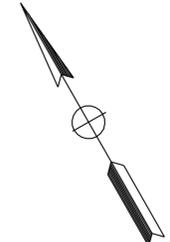


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1301	2028

Dilara Zaman 2-7-11
REGISTERED ELECTRICAL ENGINEER DATE

4-25-11
PLANS APPROVAL DATE

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



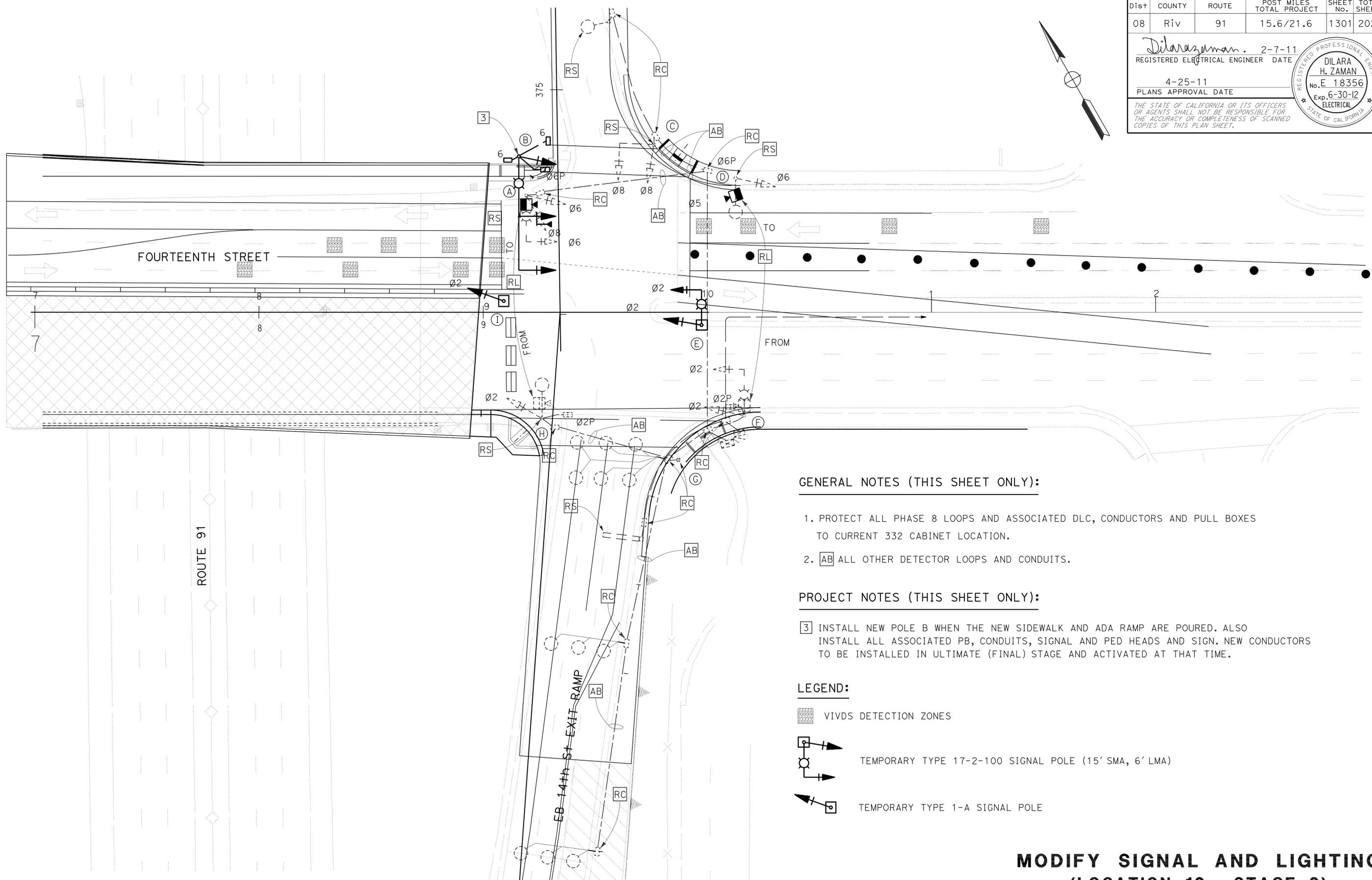
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A

FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ

CALCULATED/DESIGNED BY: CHECKED BY:

HARRY UMEMOTO
DILARA ZAMAN

REVISED BY: DATE REVISED:



GENERAL NOTES (THIS SHEET ONLY):

1. PROTECT ALL PHASE 8 LOOPS AND ASSOCIATED DLC, CONDUCTORS AND PULL BOXES TO CURRENT 332 CABINET LOCATION.
2. **AB** ALL OTHER DETECTOR LOOPS AND CONDUITS.

PROJECT NOTES (THIS SHEET ONLY):

- 3** INSTALL NEW POLE B WHEN THE NEW SIDEWALK AND ADA RAMP ARE POURED. ALSO INSTALL ALL ASSOCIATED PB, CONDUITS, SIGNAL AND PED HEADS AND SIGN. NEW CONDUCTORS TO BE INSTALLED IN ULTIMATE (FINAL) STAGE AND ACTIVATED AT THAT TIME.

LEGEND:

- VIVDS DETECTION ZONES
- TEMPORARY TYPE 17-2-100 SIGNAL POLE (15' SMA, 6' LMA)
- TEMPORARY TYPE 1-A SIGNAL POLE

**MODIFY SIGNAL AND LIGHTING
(LOCATION 10 - STAGE 2)**

SCALE 1" = 20'
E-140

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1302	2028

Dilara Zaman 2-7-11
REGISTERED ELECTRICAL ENGINEER DATE

4-25-11
PLANS APPROVAL DATE

DILARA H. ZAMAN
No. E 18356
Exp. 6-30-12
ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A

FUNCTIONAL SUPERVISOR
DAVID A GONZALEZ

CALCULATED/DESIGNED BY
CHECKED BY

HARRY UMEMOTO
DILARA ZAMAN

REVISED BY
DATE REVISED

POLE AND EQUIPMENT SCHEDULE

NO.	STANDARD			VEH SIG. MTG.		PED SIGNAL MTG	PPB		HPS LUMIN (W)	SPECIAL REQUIREMENTS
	TYPE	SMA (M)	LMA (M)	MAST ARM	POLE		Ø	ARROW		
Ⓐ	17-2-80 (E)	20	15	1-MAS	SV-1-T	SP-1-T	6	→	200	
Ⓑ	29A-5-100(N)	50	12	2-MAS	SV-1-T	SP-1-T	6	→	275	F=24
Ⓒ	16-1-80 (E)	20	15	1-MAS	SV-1-T	SP-1-T	6	←	-	
Ⓓ	15TS (E)	-	15	-	SV-1-T	-	-	-	200	
Ⓔ	17-2-100(T)	15	6	SV-1-T	SV-1-T	SP-1-T	-	-	165	
Ⓕ	17-2-80 (E)	20	15	1-MAS	SV-1-T	SP-1-T	-	-	200	
Ⓖ	PPBP	-	-	-	-	-	2	→	-	
Ⓗ	15TS	-	15	-	SV-1-T	SP-1-T	2	←	165	
Ⓘ	1-A (T)	-	-	-	TV-1-T	-	-	-	-	

ALL POLES ARE EXISTING EXCEPT AS NOTED AND ARE EQUIVALENT TO THAT AS SHOWN.

(N) = NEW SIGNAL POLE

(T) = TEMPORARY SIGNAL POLE

(E) = EXISTING POLE

NOTE:

REPLACE Exist 200 W HPS LUMINAIRE WITH 165 W.

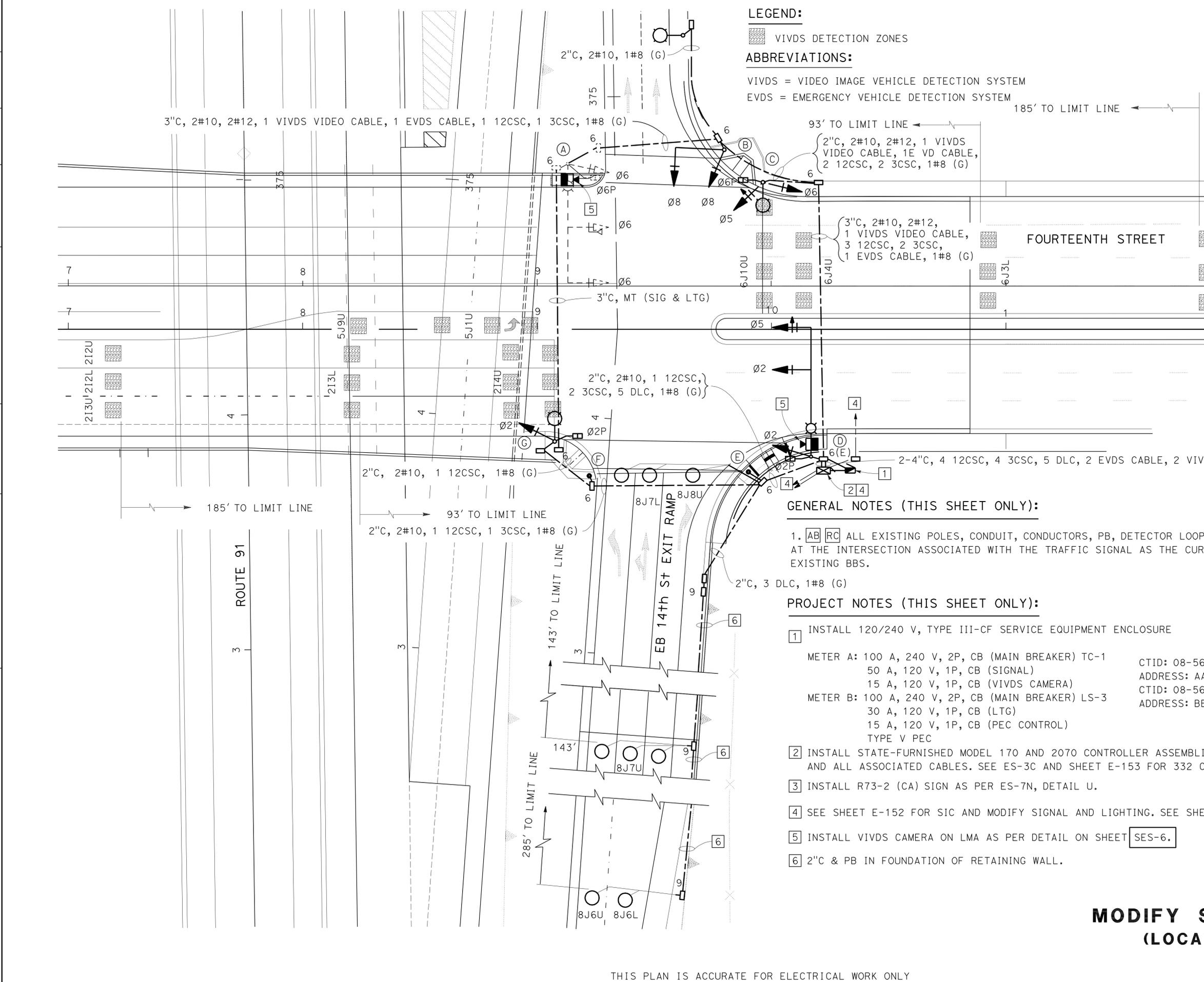
MODIFY SIGNAL AND LIGHTING (LOCATION 10 - STAGE 2)

NO SCALE

E-141

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1303	2028

Dilara Zaman 2-7-11
 REGISTERED ELECTRICAL ENGINEER DATE

4-25-11
 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.

DILARA H. ZAMAN
 No. E 18356
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

LEGEND:
 [Hatched Box] VIVDS DETECTION ZONES

ABBREVIATIONS:
 VIVDS = VIDEO IMAGE VEHICLE DETECTION SYSTEM
 EVDS = EMERGENCY VEHICLE DETECTION SYSTEM

GENERAL NOTES (THIS SHEET ONLY):

1. [AB] [RC] ALL EXISTING POLES, CONDUIT, CONDUCTORS, PB, DETECTOR LOOPS, SERVICE CABINET, AND 332 CABINET AT THE INTERSECTION ASSOCIATED WITH THE TRAFFIC SIGNAL AS THE CURRENT ELEVATION WILL CHANGE. [RR] THE EXISTING BBS.

PROJECT NOTES (THIS SHEET ONLY):

- 1. INSTALL 120/240 V, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE
- METER A: 100 A, 240 V, 2P, CB (MAIN BREAKER) TC-1
 50 A, 120 V, 1P, CB (SIGNAL)
 15 A, 120 V, 1P, CB (VIVDS CAMERA)
 CTID: 08-56-091-0-020.000-M (METER A)
 ADDRESS: AAAA 14TH St, Riv, CA 92507
- METER B: 100 A, 240 V, 2P, CB (MAIN BREAKER) LS-3
 30 A, 120 V, 1P, CB (LTG)
 15 A, 120 V, 1P, CB (PEC CONTROL)
 TYPE V PEC
 CTID: 08-56-091-0-020.001-M (METER B)
 ADDRESS: BBBB 14TH St, Riv, CA 92507
- 2. INSTALL STATE-FURNISHED MODEL 170 AND 2070 CONTROLLER ASSEMBLIES, BATTERY BACK-UP SYSTEM, EVDS AND VIVDS AND ALL ASSOCIATED CABLES. SEE ES-3C AND SHEET E-153 FOR 332 CONTROLLER CABINET AND FOUNDATION DETAILS.
- 3. INSTALL R73-2 (CA) SIGN AS PER ES-7N, DETAIL U.
- 4. SEE SHEET E-152 FOR SIC AND MODIFY SIGNAL AND LIGHTING. SEE SHEET E-104 DETAIL C FOR ETHERNET INSTALLION.
- 5. INSTALL VIVDS CAMERA ON LMA AS PER DETAIL ON SHEET [SES-6].
- 6. 2"C & PB IN FOUNDATION OF RETAINING WALL.

**MODIFY SIGNAL AND LIGHTING
 (LOCATION 10 - ULTIMATE)**

SCALE: 1" = 20'
E-142

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1304	2028

Dilara Zaman 2-7-11
REGISTERED ELECTRICAL ENGINEER DATE

4-25-11
PLANS APPROVAL DATE

DILARA H. ZAMAN
No. E 18356
Exp. 6-30-12
ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER
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.

GENERAL NOTE:

- EXACT LOCATION OF EQUIPMENT WILL BE APPROVED BY THE ENGINEER.

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG. MTG.		PED SIGNAL MTG	PPB		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
	TYPE	SMA (F+)	LMA (F+)	MAST ARM	POLE		Ø	ARROW		
Ⓐ	29A-5-100	50	12	2-MAS	SV-1-T	SP-1-T	6	→	235	F=24; VIVDS CAMERA ON LMA
Ⓑ	16-2-100	15	-	1-MAS	SV-1-T	-	6	←		
Ⓒ	15TS	-	12	-	SV-1-T	SP-1-T	-	-	165	
Ⓓ	29A-5-100	55	15	2-MAS	SV-1-T	SP-1-T	-	-	235	F=18; VIVDS CAMERA ON LMA
Ⓔ	PPBP	-	-	-	-	-	2	→		
Ⓕ	PPBP	-	-	-	-	-	2	←		
Ⓖ	15TS	-	12	-	SV-1-T	SP-1-T	-	-	165	

NOTE: ALL POLES ARE NEW.

PPBP = PEDESTRIAN PUSH BUTTON POLE

* FOR POLE A, REFER TO SHEET E-140.

**MODIFY SIGNAL AND LIGHTING
(LOCATION 10 - ULTIMATE)**

NO SCALE

E-143

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

RELATIVE BORDER SCALE
IS IN INCHES



USERNAME => trphils
DGN FILE => 844840uat143.dgn

CU 08395

EA 448401

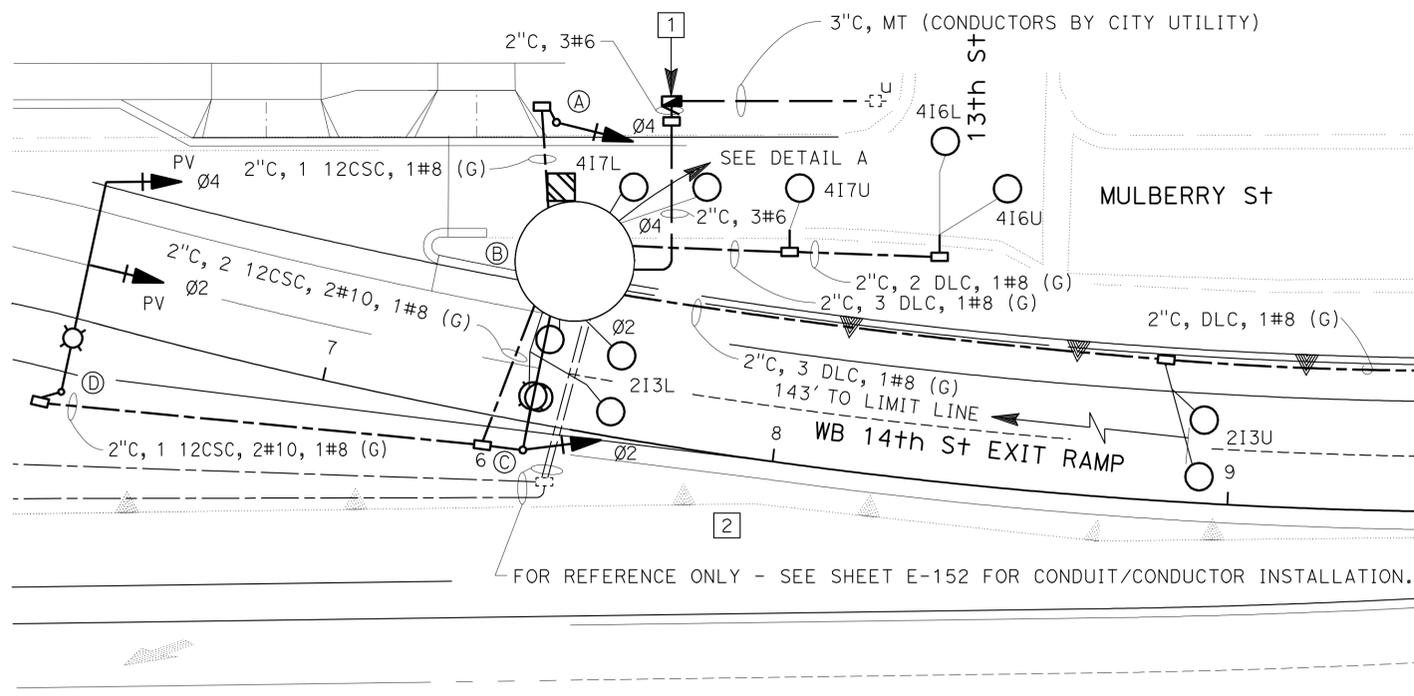
BORDER LAST REVISED 4/11/2008

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR DAVID A GONZALEZ
 CALCULATED/DESIGNED BY CHECKED BY
 HARRY UMEMOTO DILARA ZAMAN
 REVISED BY DATE REVISED

LAST REVISION DATE PLOTTED => 30-APR-2011
 02-07-11 TIME PLOTTED => 10:13

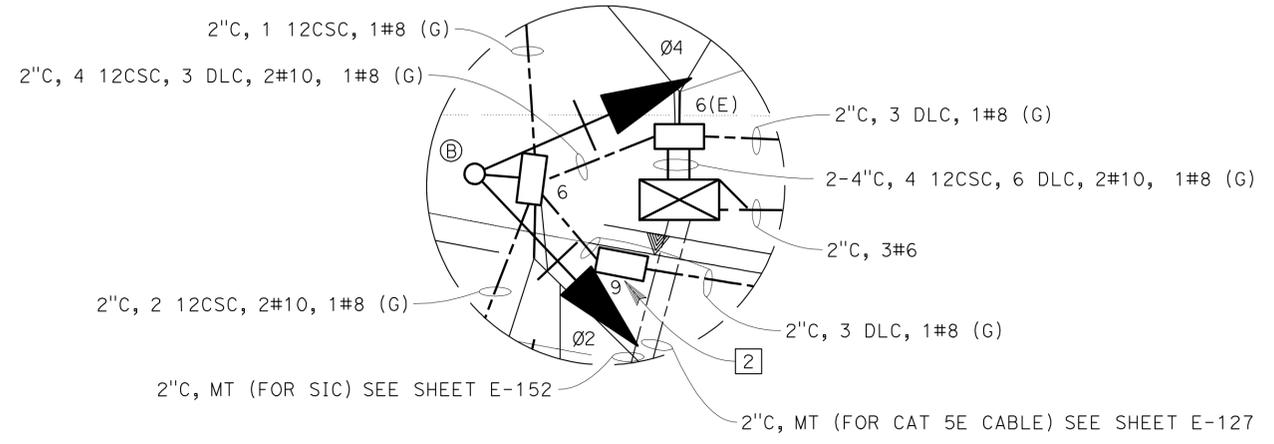
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1305	2028

Dilara Zaman 2-7-11
 REGISTERED ELECTRICAL ENGINEER DATE
 4-25-11
 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.



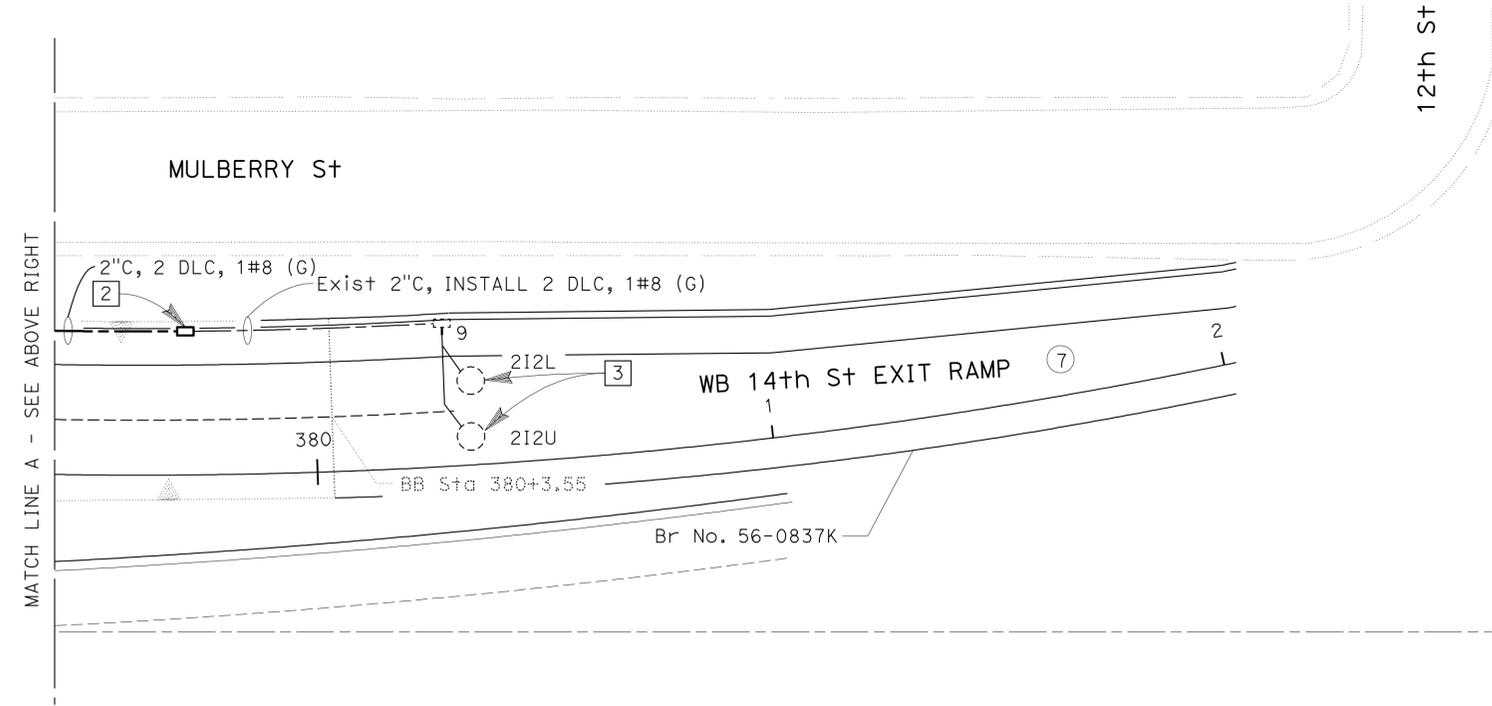
MATCH LINE A - SEE BELOW LEFT

DETAIL A



GENERAL NOTE (THIS SHEET ONLY):

1. THE TYPE D LOOP (FOR BICYCLE DETECTION) SHALL BE WIRED IN SERIES WITH TWO TYPE E LOOPS THAT ARE CONNECTED IN PARALLEL.



PROJECT NOTES (THIS SHEET ONLY):

1. INSTALL 120/240 V, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE
 METER A: 100 A, 240 V, 2P, CB (MAIN BREAKER) 50 A, 120 V, 1P, CB (SIGNAL)
 METER B: 100 A, 240 V, 2P, CB (MAIN BREAKER) 30 A, 120 V, 1P, CB (LTG) 15 A, 120 V, 1P, CB (PEC CONTROL)
 CTID: 08-56-091-0-020.039-M ADDRESS: 4323 MULBERRY ST, RIVERSIDE, CA
 CTID: 08-56-091-0-020.040-M ADDRESS: 4323 MULBERRY ST, RIVERSIDE, CA
2. CONDUIT AND No. 9 PB INSTALLED IN FOUNDATION OF RETAINING WALL. SEE SHEET E-160 FOR DETAILS.
3. PREFORMED INDUCTIVE LOOP DETECTOR INSTALLED DURING BRIDGE CONSTRUCTION.

SIGNAL AND LIGHTING
(LOCATION 11 - WB 14th St EXIT RAMP)
 SCALE: 1" = 20'
E-144

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ
 CALCULATED/DESIGNED BY: HARRY UMEMOTO
 CHECKED BY: DILARA ZAMAN
 REVISED BY: HARRY UMEMOTO
 DATE REVISED:

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



USERNAME => trphils
DGN FILE => 844840ua144.dgn

CU 08395 EA 448401

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1306	2028

Dilara Zaman 2-7-11
REGISTERED ELECTRICAL ENGINEER DATE

4-25-11
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.

GENERAL NOTE:

- EXACT LOCATION OF EQUIPMENT WILL BE APPROVED BY THE ENGINEER.

POLE AND EQUIPMENT SCHEDULE

NO.	STANDARD			VEH SIG MTG		PED SIGNAL MTG	PPB		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
	TYPE	SMA (F+)	LMA (F+)	MAST ARM	POLE		Ø	ARROW		
(A)	1-A	-	-	-	TV-1-T	-	-	-	-	
(B)	1-A	-	-	-	TV-2-T	-	-	-	-	
(C)	15TS	-	12	-	TV-1-T	-	-	-	165	
(D)	29-5-100	50	12	2-MAS	-	-	-	-	165	F=20'
(E)	15	-	12	-	-	-	-	-	165	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ
 CALCULATED/DESIGNED BY: HARRY UMEMOTO
 CHECKED BY: DILARA ZAMAN
 REVISED BY: HARRY UMEMOTO
 DATE REVISED: DILARA ZAMAN

SIGNAL AND LIGHTING
(LOCATION 11 - WB 14th St EXIT RAMP)
 NO SCALE
E-145

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1307	2028

Dilara Zaman 2-7-11
 REGISTERED ELECTRICAL ENGINEER DATE
 4-25-11
 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.

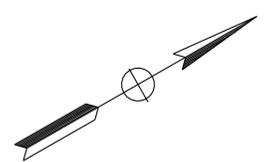
REGISTERED PROFESSIONAL ENGINEER
 DILARA H. ZAMAN
 No. E 18356
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

GENERAL NOTES: THIS SHEET ONLY

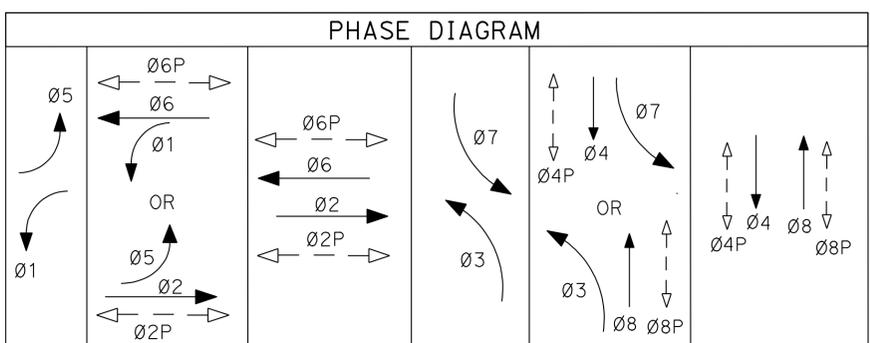
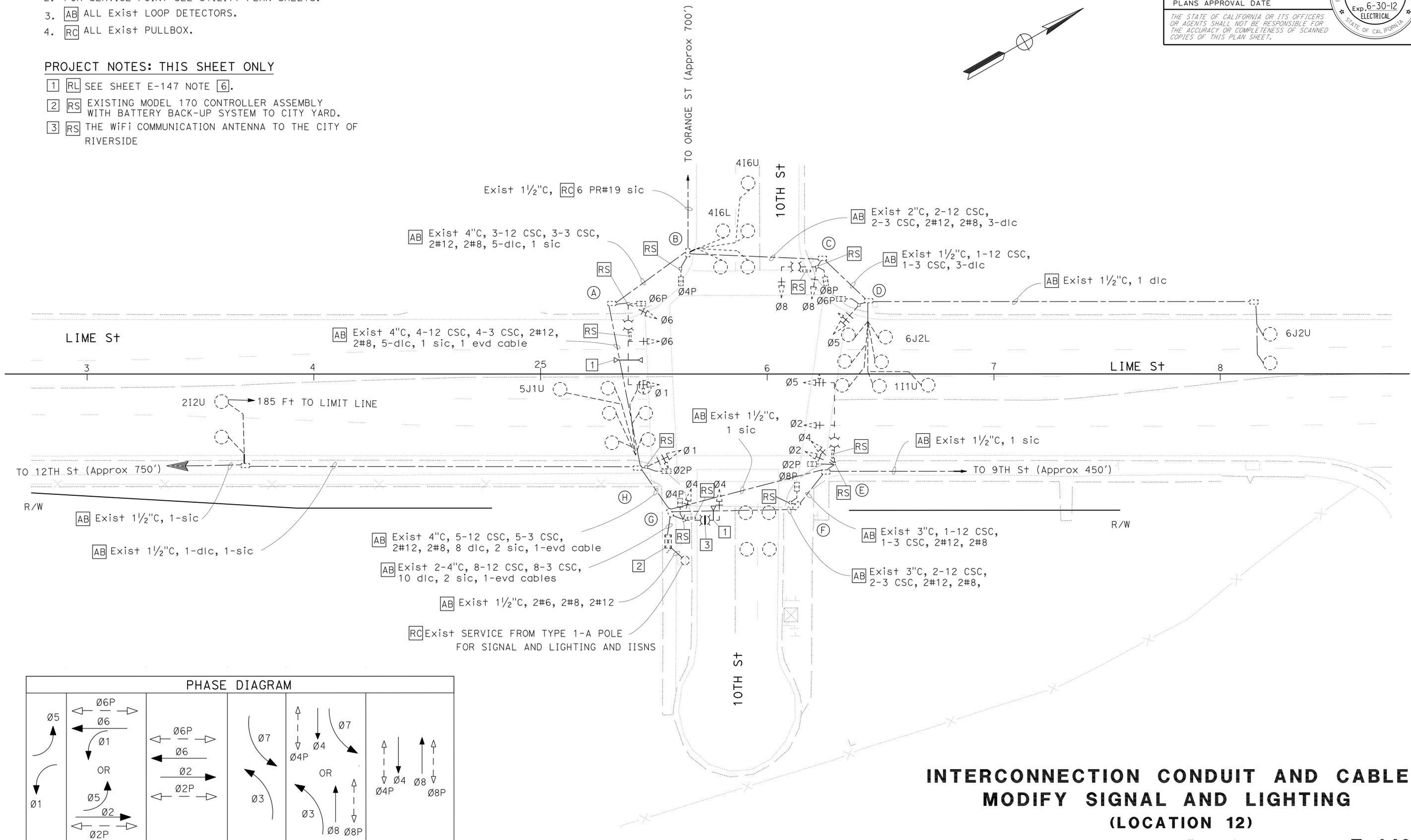
- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
- FOR SERVICE POINT SEE UTILITY PLAN SHEETS.
- AB ALL Exist LOOP DETECTORS.
- RC ALL Exist PULLBOX.

PROJECT NOTES: THIS SHEET ONLY

- RL SEE SHEET E-147 NOTE 6.
- RS EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH BATTERY BACK-UP SYSTEM TO CITY YARD.
- RS THE WiFi COMMUNICATION ANTENNA TO THE CITY OF RIVERSIDE



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR DAVID A GONZALEZ
 CALCULATED/DESIGNED BY CHECKED BY
 NASIMA HYDER DILARA ZAMAN
 REVISED BY DATE REVISED
 DZ 08/2010
 BORDER LAST REVISED 4/11/2008



**INTERCONNECTION CONDUIT AND CABLE
 MODIFY SIGNAL AND LIGHTING
 (LOCATION 12)**

SCALE: 1" = 20' **E-146**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



LAST REVISION DATE PLOTTED => 30-APR-2011
 02-07-11 TIME PLOTTED => 10:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1310	2028

Dilara Zaman 2-7-11
 REGISTERED ELECTRICAL ENGINEER DATE
 4-25-11
 PLANS APPROVAL DATE

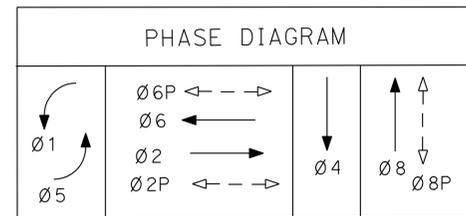
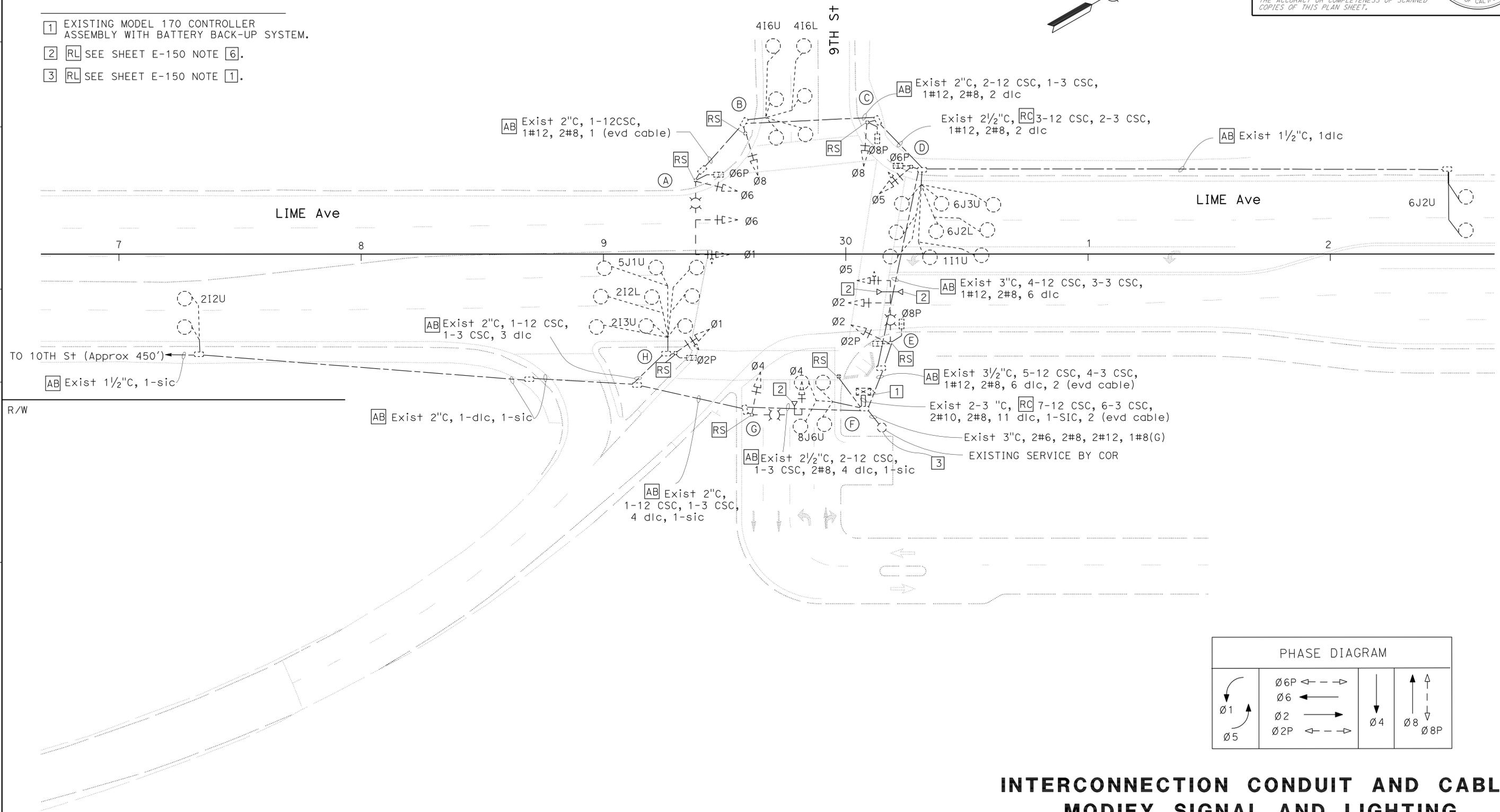
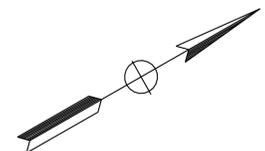
REGISTERED PROFESSIONAL ENGINEER
 DILARA H. ZAMAN
 No. E 18356
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

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

GENERAL NOTES: THIS SHEET ONLY

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
- AB** ALL Exist LOOPS.
- RC** ALL Exist PULLBOX.

- EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH BATTERY BACK-UP SYSTEM.
- RL** SEE SHEET E-150 NOTE **6**.
- RL** SEE SHEET E-150 NOTE **1**.



**INTERCONNECTION CONDUIT AND CABLE
MODIFY SIGNAL AND LIGHTING
(LOCATION 13)**

SCALE: 1" = 20'

E-149

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ
 CALCULATED/DESIGNED BY: NASIMA HYDER
 CHECKED BY: DILARA ZAMAN
 REVISED BY: [] DATE REVISED: []

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



USERNAME => trphils
DGN FILE => 844840ua149.dgn

CU 08395

EA 448401

BORDER LAST REVISED 4/11/2008

LAST REVISION: [] DATE PLOTTED => 30-APR-2011
 02-07-11 TIME PLOTTED => 10:14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1311	2028

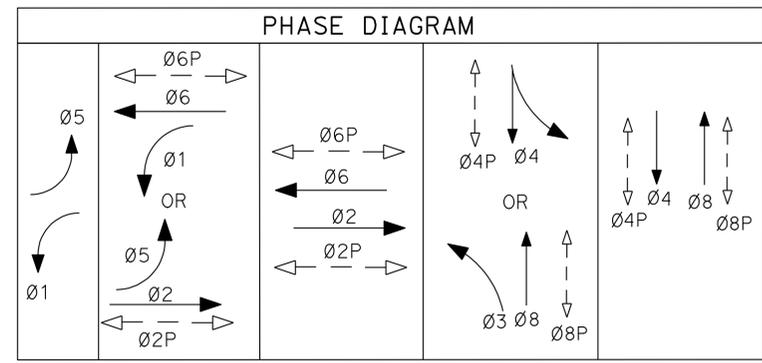
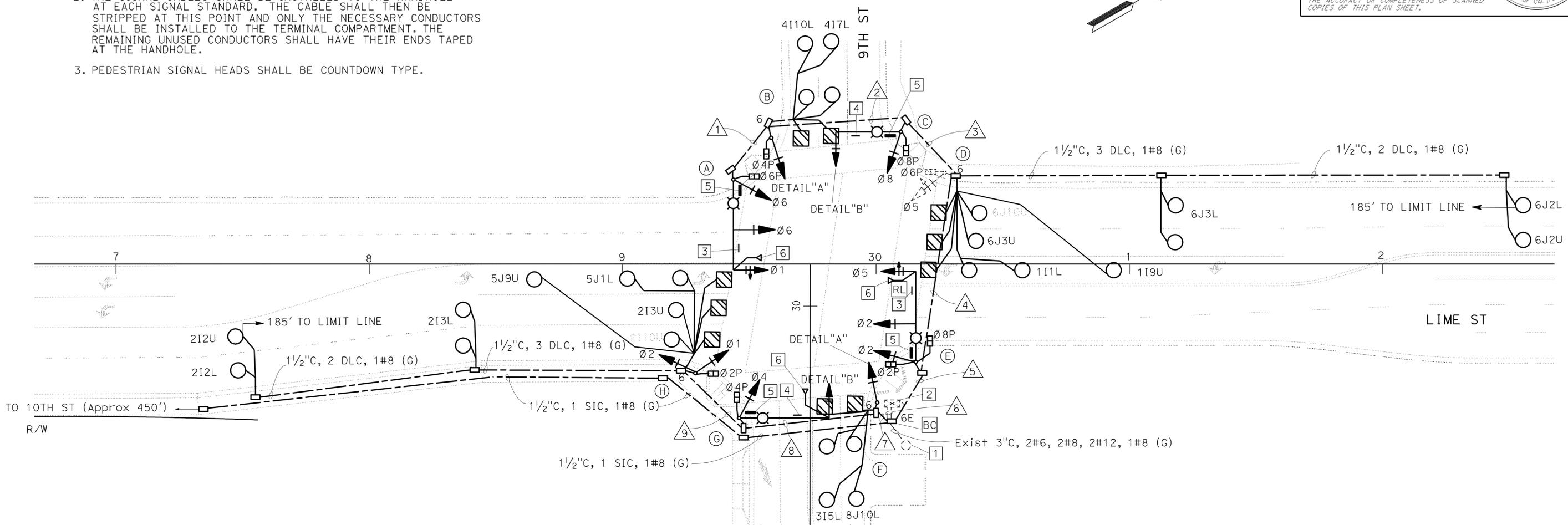
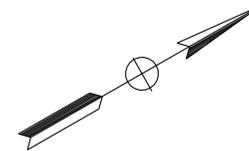
Dilara Zaman 2-7-11
 REGISTERED ELECTRICAL ENGINEER DATE
 4-25-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DILARA H. ZAMAN
 No. E 18356
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

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

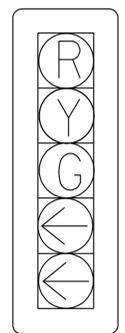
GENERAL NOTES: THIS SHEET ONLY

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
- THE SIGNAL CABLES SHALL BE INSTALLED TO THE HANDHOLE AT EACH SIGNAL STANDARD. THE CABLE SHALL THEN BE STRIPPED AT THIS POINT AND ONLY THE NECESSARY CONDUCTORS SHALL BE INSTALLED TO THE TERMINAL COMPARTMENT. THE REMAINING UNUSED CONDUCTORS SHALL HAVE THEIR ENDS TAPED AT THE HANDHOLE.
- PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN TYPE.

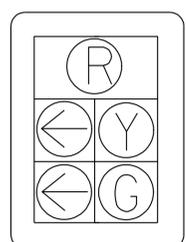


PROJECT NOTES: THIS SHEET ONLY

- REINSTALL 10' TYPE 1-A POLE WITH BREAKERS (120V SIGNAL, 120V IISN AND 240V STREET LIGHT SERVICE). CONTRACTOR SHALL CONTACT ENGINEER FOR BREAKERS THREE WORKING DAYS PRIOR TO INSTALLATION. REFER TO SHEET E-149.
- EXISTING MODEL 170E CONTROLLER ASSEMBLY WITH BATTERY BACK-UP SYSTEM.
- INSTALL R73-3 (CA) SIGN AS PER ES-7N, DETAIL U.
- INSTALL R10-12 SIGN AS PER ES-7N, DETAIL U.
- INSTALL INTERNALLY ILLUMINATED STREET NAME SIGN.
- RL EVD (AS PER ES-4E) FROM SHEET E-149. CONTRACTOR SHALL NOTIFY THE ENGINEER THREE WORKING DAYS PRIOR TO THE INSTALLATION.



DETAIL "A"



DETAIL "B"

**INTERCONNECTION CONDUIT AND CABLE
MODIFY SIGNAL AND LIGHTING
(LOCATION 13)**

SCALE: 1" = 20'

E-150

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



USERNAME => trphils
DGN FILE => 844840ua150.dgn

CU 08395

EA 448401

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR DAVID A GONZALEZ
 CALCULATED/DESIGNED BY CHECKED BY
 NASIMA HYDER DILARA ZAMAN
 REVISED BY DATE REVISED
 DZ 08/2010
 GENERAL NOTES: THIS SHEET ONLY

LAST REVISION DATE PLOTTED => 30-APR-2011
 02-07-11 TIME PLOTTED => 10:14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1312	2028

Dilara Zaman 2-7-11
REGISTERED ELECTRICAL ENGINEER DATE

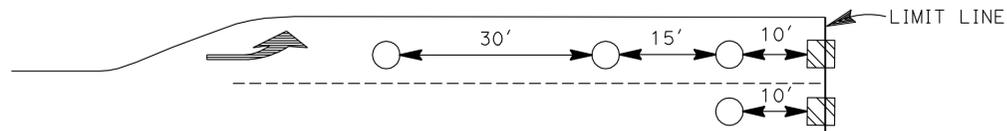
4-25-11
PLANS APPROVAL DATE

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.

CONDUIT AND CONDUCTOR SCHEDULE

CABLE, AWG, AND DLC SCHEDULE		CONDUIT RUN NUMBER										
* CABLE TYPE	S t d	PHASE	1	2	3	4	5	6	7	8	9	
VEH-PED 12CSC	A	1, 6, 6P	4	1	1	1	1	1	1	1	1	
	B	3, 4P	6	1	1	1	1	1	1	1	1	
	C	3, 8, 8P	6	1	1	1	1	1	1	1	1	
	D	5, 6P	8	1	1	1	1	1	1	1	1	
	E	2, 5, 2P, 8P	8	1	1	1	1	1	1	1	1	
PPB 3CSC	F	4	2					1	1	1	1	
	G	4, 4P	2					1	1	1	1	
	H	1, 2, 2P	4					1	1	1	1	
TOTAL			1	1	2	3	4	5	8	3	2	1
AWG	CIRCUIT											
#12	IISNS		2	2	2	2	2	2	2	2		
#8	LUMINAIRE		2	2	2	2	2		2	2		
#6	SIGNAL SERVICE						2					
#8	GROUND		1	1	1	1	1	2	1	1	1	
EVD	EVD		1	1	2	2	3	4	1	1		
LOOP DETECTOR												
DLC	Ø1					2	2	2				
	Ø2							5	5	5	5	
	Ø3							1	1			
	Ø4			2	2	2	2	2				
	Ø5							2	2	2	2	
	Ø6					5	5	5				
	Ø8							1	1			
TOTAL DLC				2	2	9	9	18	9	7	7	
CONDUIT SIZE (in)			2(N)	2(N)	2½(N)	3(N)	4(N)	2-3(E)	3(N)	3(N)	2(N)	

(N) = NEW CONDUIT
(E) = EXISTING CONDUIT



TYPICAL DETECTOR SETBACKS

POLE AND EQUIPMENT SCHEDULE

No.	TYPE	STANDARD		VEH SIG MTG		PED SIGNAL MTG	PPB		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS	INTERNALLY ILLUMINATED STREET NAME SIGN
		SMA	LMA	MAST ARM	POLE		Ø	ARROW			
A	24-4-100 (N)	35'	12'	2-MAS	SV-1-T	SP-1-T	Ø4	←	165	F=15'	9TH St
B	1-A (N)				TV-1-T	SP-1-T	Ø6	→			
C	19-3-100 (N)	25'	12'	1-MAS	SV-1-T	SP-1-T	Ø6	←	165		LIME St
D	1-A (E)				TV-1-T	SP-1-T	Ø8	→			
E	24-4-100 (N)	35'	12'	2-MAS	SV-1-T	SP-2-T	Ø8	←	165	F=20'	9TH St
F	1-A (N)				TV-1-T		Ø2	→			
G	24-3-100 (N)	35'	12'	1-MAS	SV-1-T	SP-1-T	Ø2	←	165		LIME St
H	1-A (N)				TV-2-T	SP-1-T	Ø4	→			

SEE SHEETS SQ-20 AND SQ-21 FOR SIGN QUANTITIES AND SD-21 FOR DETAILS.

(N) = NEW EQUIPMENT
(E) = EXISTING EQUIPMENT

MODIFY SIGNAL AND LIGHTING

(LOCATION 13)

NO SCALE

E-151

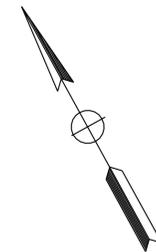
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1313	2028

Dilara Zaman 2-7-11
REGISTERED ELECTRICAL ENGINEER DATE

4-25-11
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.

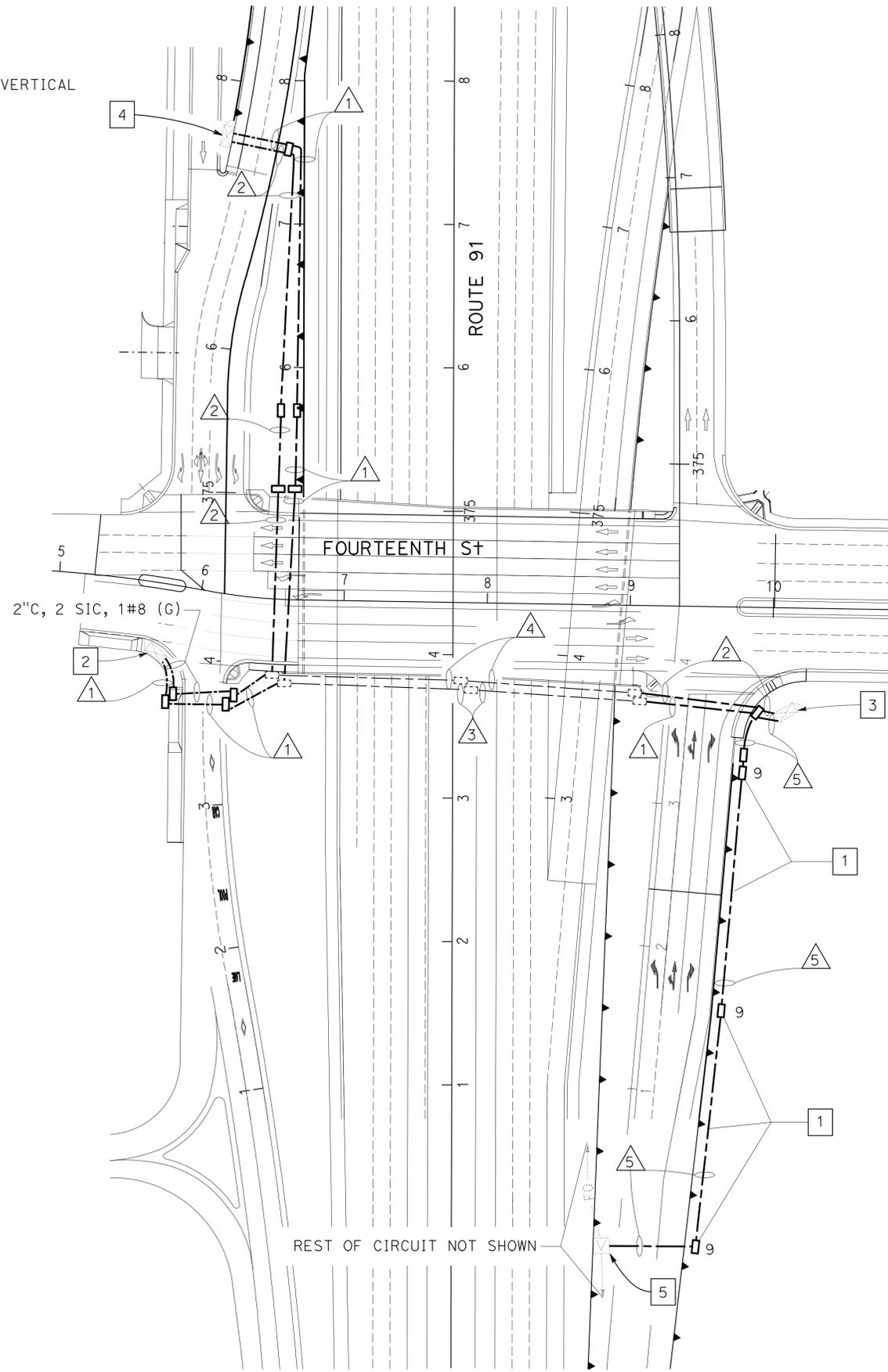


PROJECT NOTES (THIS SHEET ONLY):

- 1 CONDUIT IN FOUNDATION OF RETAINING WALL AND No. 9 PB IN VERTICAL SURFACE FACING EXIT RAMP.
- 2 SHOWN FOR REFERENCE ONLY (SEE SHEET E-136 FOR DETAILS).
- 3 SHOWN FOR REFERENCE ONLY (SEE SHEET E-142 FOR DETAILS).
- 4 SHOWN FOR REFERENCE ONLY (SEE SHEET E-144 FOR DETAILS).
- 5 SHOWN FOR REFERENCE ONLY (SEE SHEET E-91 FOR DETAILS).

CONDUIT RUNS:

- 1 2"C, 1 CAT 5E CABLE
- 2 2"C, 1 SIC, 1#8 (G)
- 3 Exist 2"C, ADD 1 CAT 5E CABLE
- 4 Exist 2"C, ADD 1 SIC, 1#8 (G)
- 5 2"C, 1 TYPE 'D' FOC



REST OF CIRCUIT NOT SHOWN

INTERCONNECTION CONDUIT AND CABLE

SCALE: 1" = 50'

E-152

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ
 CALCULATED/DESIGNED BY: HARRY UMEMOTO
 CHECKED BY: DILARA ZAMAN
 REVISED BY: HARRY UMEMOTO
 DATE REVISED: HARRY UMEMOTO

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



USERNAME => trphils
DGN FILE => 844840uat152.dgn

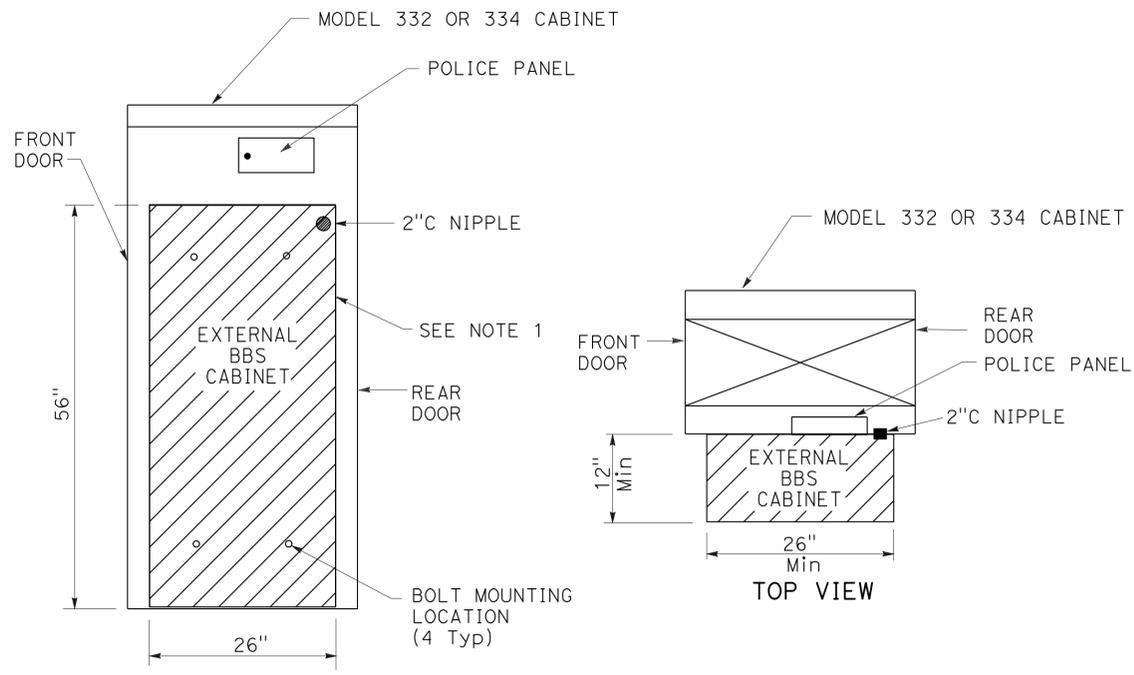
CU 08395

EA 448401

BORDER LAST REVISED 4/11/2008

LAST REVISION: DATE PLOTTED => 30-APR-2011
 02-07-11 TIME PLOTTED => 10:14

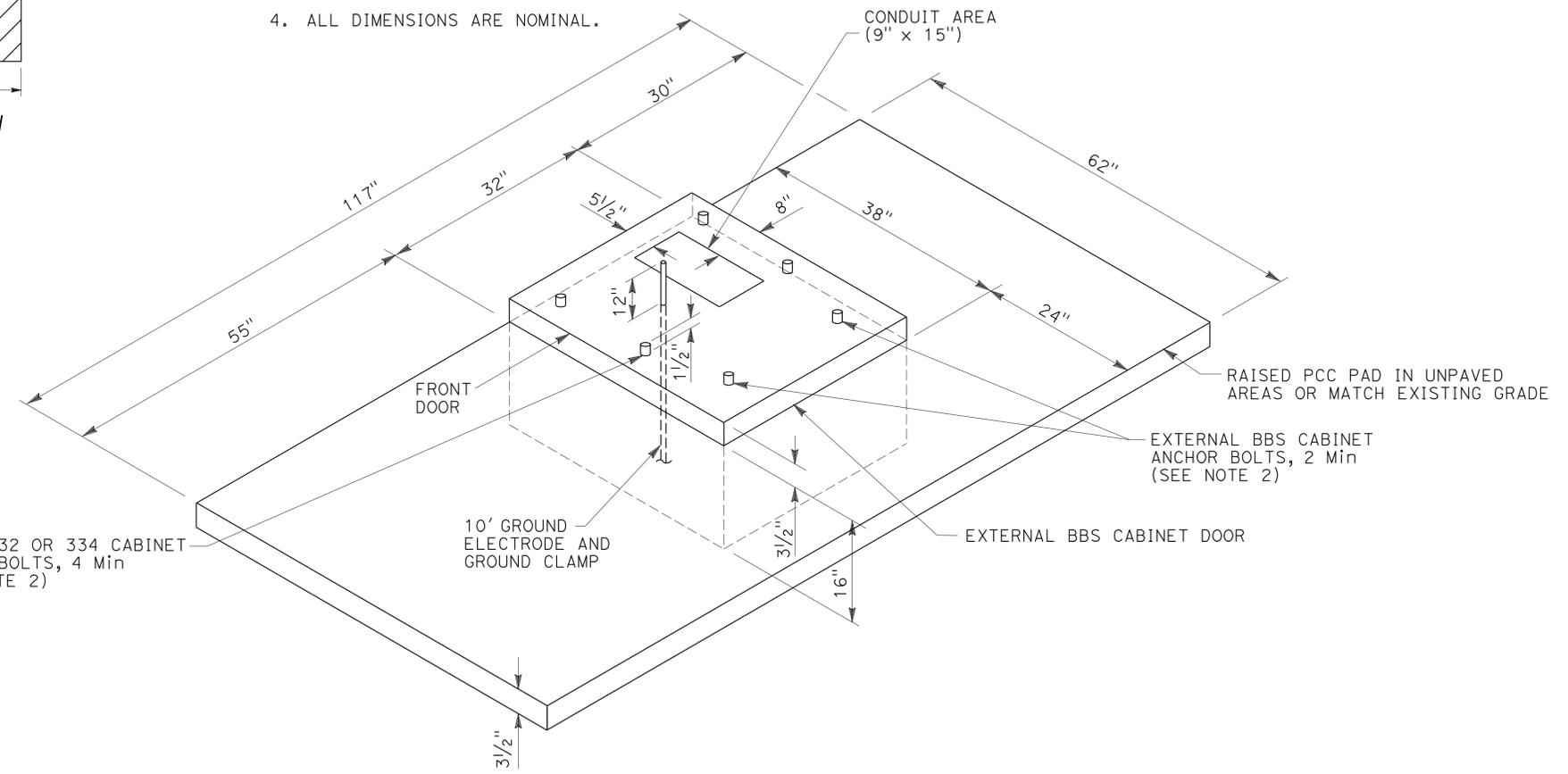
Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1314	2028
Theresa Gabriel REGISTERED CIVIL ENGINEER			2-7-11 DATE		
4-25-11 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



EXTERNAL BBS CABINET MOUNTED TO THE MODEL 332 OR 334 CABINET

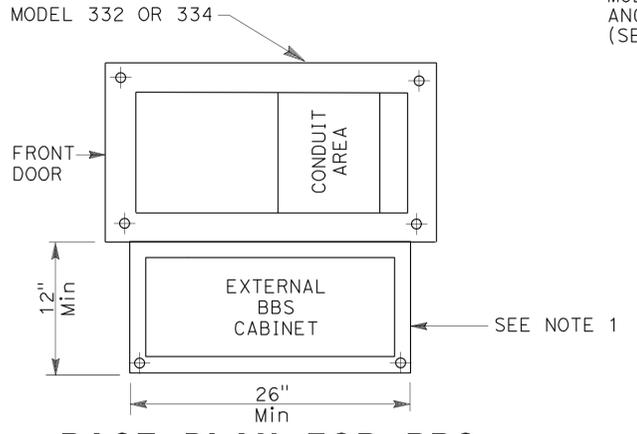
NOTE: (THIS SHEET ONLY)

1. THE EXTERNAL BBS CABINET SHALL BE MOUNTED TO THE MODEL 332 OR 334 CABINET WITH FOUR 18-8 STAINLESS STEEL HEX HEAD, FULLY-THREADED, 3/8"-16 X 1" BOLTS; TWO WASHERS PER BOLT, DESIGNED FOR 3/8" BOLTS AND ARE 18-8 STAINLESS STEEL, 1" OUTSIDE DIAMETER, ROUND, AND FLAT; AND ONE K-LOCK NUT PER BOLT THAT IS 18-8 STAINLESS STEEL AND A HEX-NUT. THE ENGINEER WILL HAVE TO APPROVE THE BOLT MOUNTING LOCATION PRIOR TO INSTALLATION.
2. THE ANCHOR BOLTS SHALL BE 3/4" Dia X 15" WITH A 2"-90° BEND. THE CABINET MANUFACTURER'S SPECIFICATION SHALL DETERMINE THE LOCATION OF THE ANCHOR BOLTS IN THE FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE THE ANCHOR BOLTS AND ITS LOCATION IN THE FOUNDATION PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF THE BBS CABINET PRIOR TO CONSTRUCTING THE FOUNDATION OF THE MODIFIED PORTION OF THE S+D MODEL 332 AND 334 CABINET FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE ANY NECESSARY DEVIATIONS PRIOR TO CONSTRUCTION.
4. ALL DIMENSIONS ARE NOMINAL.



MODIFIED MODEL 332 AND 334 CABINET FOUNDATION DETAIL FOR BATTERY BACKUP SYSTEM (BBS)

(FOR DIMENSIONS AND DETAILS NOT SHOWN AND ADDITIONAL NOTES, SEE SHEET ES-3C OF THE STANDARD PLANS FOR MODEL 332 AND 334 CABINETS)



BASE PLAN FOR BBS MOUNTED TO THE MODEL 332 OR 334 CABINET

(FOR DIMENSIONS AND DETAILS NOT SHOWN, SEE SHEET A6-1 TO A6-4, CABINET HOUSING DETAILS OF THE TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATION (TEES))

MODIFY SIGNAL AND LIGHTING (BBS FOUNDATION DETAILS)

NO SCALE

E-153

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



USERNAME => trphilis
DGN FILE => 844840ua153.dgn

CU 08395

EA 448401

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A. GONZALEZ
 CALCULATED/DESIGNED BY: DILARA ZAMAN
 CHECKED BY:
 REVISOR: THERESA A. GABRIEL
 DATE REVISOR:

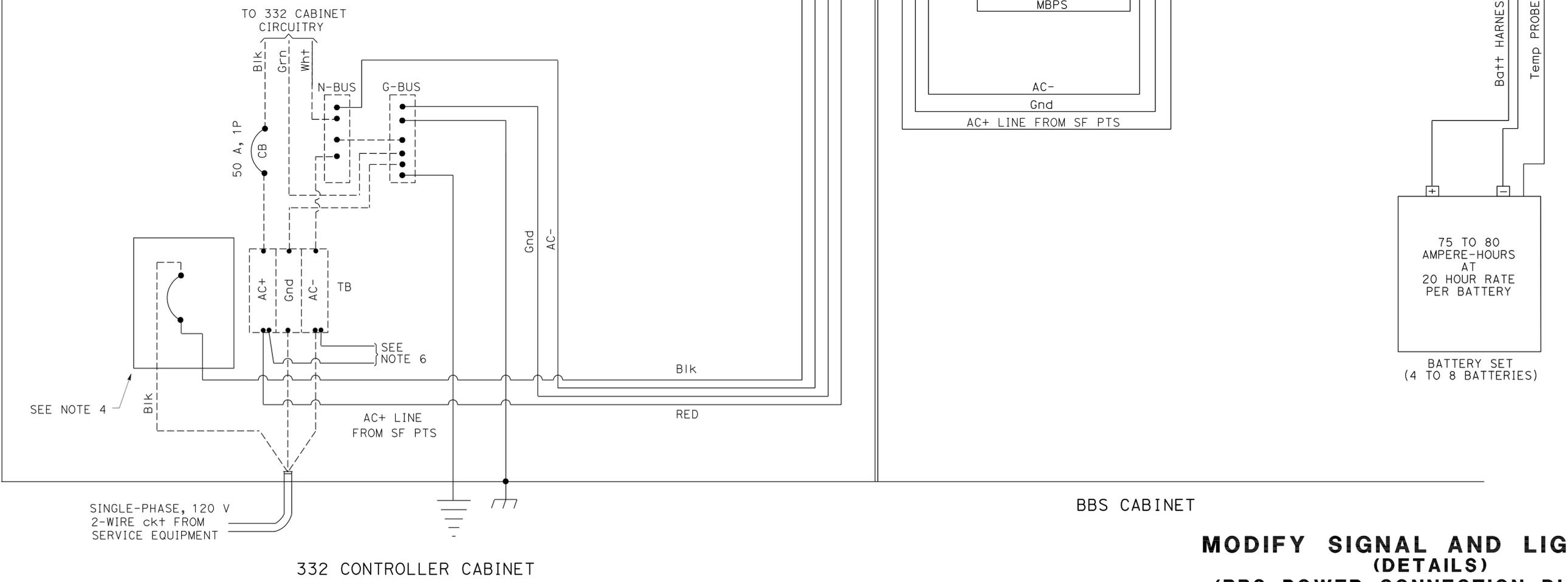
Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1315	2028
Theresa Gabriel REGISTERED CIVIL ENGINEER			2-7-11 DATE		
4-25-11 PLANS APPROVAL DATE			THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.		

LEGEND: (THIS SHEET ONLY)

- PTS = POWER TRANSFER SWITCH
- UPS = UNINTERRUPTIBLE POWER SUPPLY
- UPSC = UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
- UPSM = UPS MODE
- BP = BYPASS
- MBPS = MANUAL BYPASS SWITCH
- AC+ = UNGROUNDED CONDUCTOR
- AC- = GROUNDED CONDUCTOR
- C = COMMON
- Grn = GREEN
- Blk = BLACK
- Wh+ = WHITE
- SF = STATE-FURNISHED
- TB = TERMINAL BOARD
- Cn+I = CONTROL
- Gnd = GROUND
- Temp = TEMPERATURE
- Bat+ = BATTERY

NOTES: (THIS SHEET ONLY)

1. TYPE A REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER A.
2. CASE-1 REFERS TO THE SITUATION WHEN THE ENTIRE BBS EQUIPMENT INCLUDING THE BATTERIES ARE INSTALLED IN THE BBS CABINET.
3. THE LOCATION OF THE 2" C NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
5. A TEMPERATURE PROBE SHALL BE ATTACHED TO THE BATTERY BY TAPE OR ATTACHED TO THE NEGATIVE TERMINAL OF THE BATTERY.
6. THE ELECTRICAL POWER FOR THE COOLING FAN FOR THE BBS CABINET SHALL BE TAPPED FROM THE BOTTOM OF THE TB IN THE 332 CABINET.
7. THE CONTRACTOR SHALL PROVIDE A 9-WIRE WIRING HARNESS OR BUNDLED 9 MULTICOLOR CONDUCTORS, #18 AWG WIRES FROM THE RELAY ON THE INVERTER/CHARGER UNIT TO THE CONTROLLER. THE ENDS OF THE CONDUCTORS SHALL BE INSULATED WITH TAPE AND A SIX-FOOT COIL ON EACH END.



**MODIFY SIGNAL AND LIGHTING
(DETAILS)
(BBS POWER CONNECTION DIAGRAM,
TYPE A, CASE-1)
NO SCALE**

E-154

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A. GONZALEZ
 REVISIONS: THERESA A. GABRIEL, DILARA ZAMAN, CALCULATED/DESIGNED BY, CHECKED BY, REVISED BY, DATE REVISED

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1316	2028

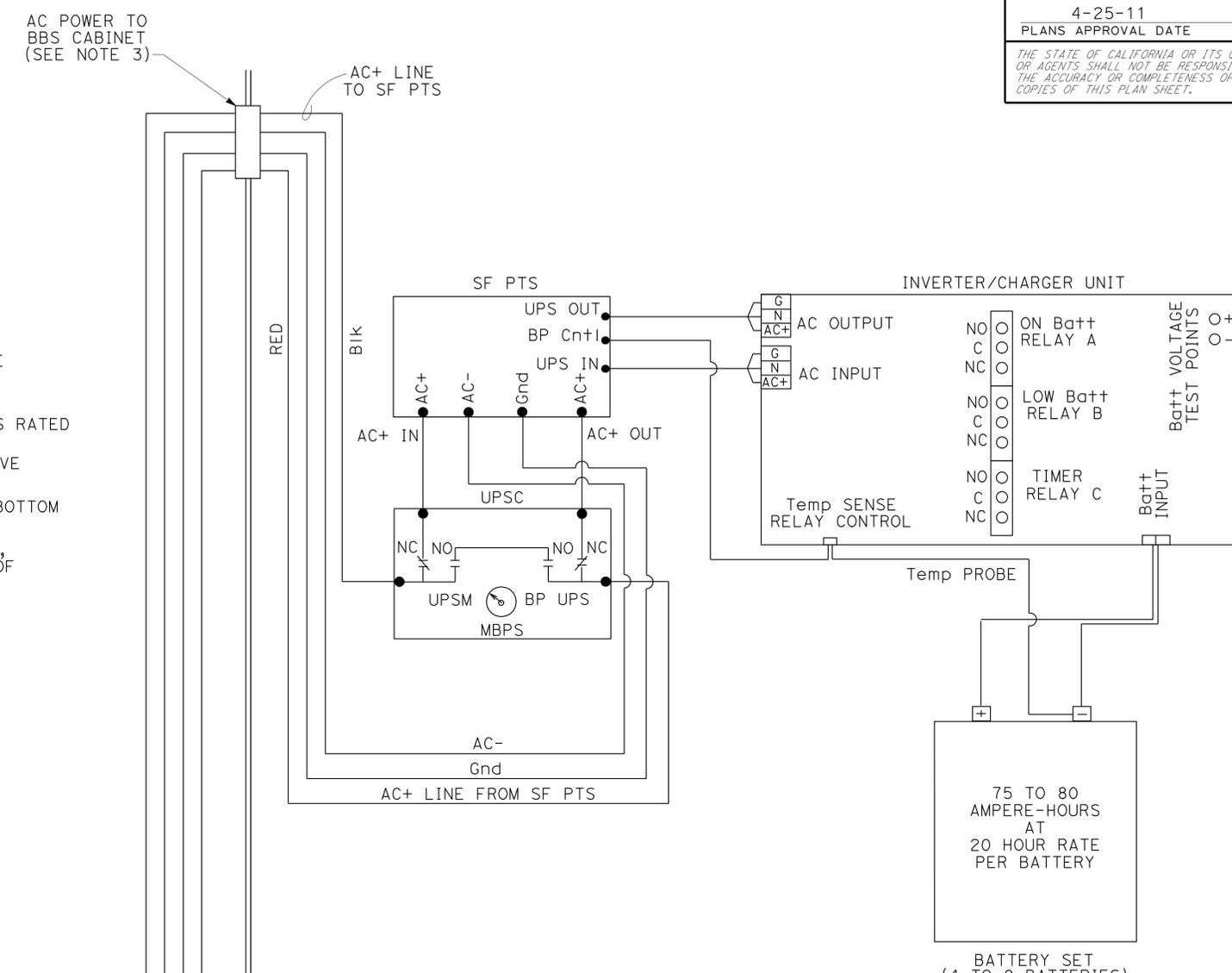
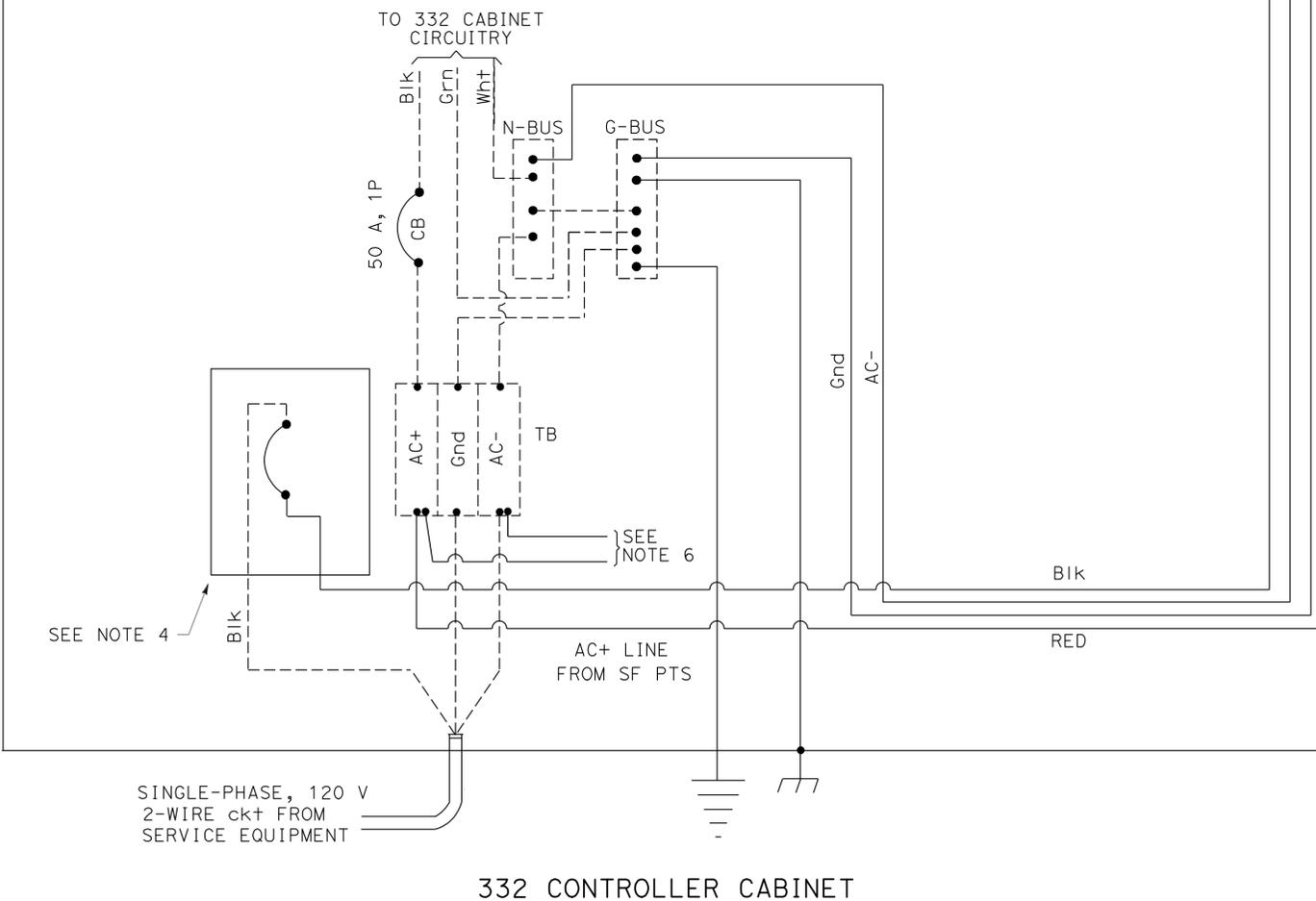
<i>Theresa Gabriel</i> 2-7-11 REGISTERED CIVIL ENGINEER DATE	
4-25-11 PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

LEGEND: (THIS SHEET ONLY)

- PTS = POWER TRANSFER SWITCH
- UPS = UNINTERRUPTIBLE POWER SUPPLY
- UPSC = UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
- UPSM = UPS MODE
- BP = BYPASS
- MBPS = MANUAL BYPASS SWITCH
- AC+ = UNGROUNDED CONDUCTOR
- AC- = GROUNDED CONDUCTOR
- C = COMMON
- Grn = GREEN
- Blk = BLACK
- Wht = WHITE
- SF = STATE-FURNISHED
- Batt = BATTERY
- Temp = TEMPERATURE
- TB = TERMINAL BOARD
- Cntl = CONTROL
- Gnd = GROUND

NOTES: (THIS SHEET ONLY)

1. TYPE B REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER B.
2. CASE-1 REFERS TO THE SITUATION WHEN THE ENTIRE BBS EQUIPMENT INCLUDING THE BATTERIES ARE INSTALLED IN THE BBS CABINET.
3. THE LOCATION OF THE 2" NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
5. A TEMPERATURE PROBE SHALL BE ATTACHED TO THE BATTERY BY TAPE OR ATTACHED TO THE NEGATIVE TERMINAL OF THE BATTERY.
6. THE ELECTRICAL POWER FOR THE COOLING FAN FOR THE BBS CABINET SHALL BE TAPPED FROM THE BOTTOM OF THE TB IN THE 332 CABINET.
7. THE CONTRACTOR SHALL PROVIDE A 9-WIRE WIRING HARNESS OR BUNDLED 9 MULTICOLOR CONDUCTORS, #18 AWG WIRES FROM THE RELAY ON THE INVERTER/CHARGER UNIT TO THE CONTROLLER. THE ENDS OF THE CONDUCTORS SHALL BE INSULATED WITH TAPE AND A SIX-FOOT COIL ON EACH END.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A. GONZALEZ
 REVISIONS: THERESA A. GABRIEL, DILARA ZAMAN, CALCULATED/DESIGNED BY, CHECKED BY

MODIFY SIGNAL AND LIGHTING
(DETAILS)
(BBS POWER CONNECTION DIAGRAM,
TYPE B, CASE-1)
 NO SCALE **E-155**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1317	2028

Dilara Zaman 2-7-11
 REGISTERED ELECTRICAL ENGINEER DATE
 4-25-11
 PLANS APPROVAL DATE

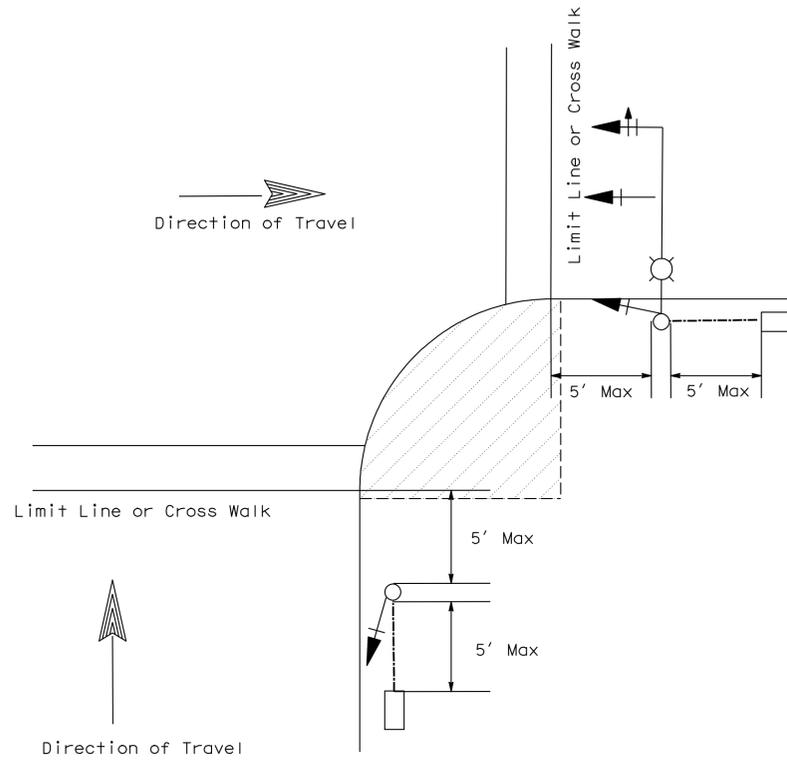
REGISTERED PROFESSIONAL ENGINEER
 DILARA
 H. ZAMAN
 No. E 18356
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

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

NOTES

- NO PULL BOXES, CABINETS, SIGNAL AND STANDARDS OR ANY ELECTRICAL OR NON-ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN THE CURB RAMP AREA OR FUTURE CURB RAMP AREA.
- NO PULL BOXES SHALL BE INSTALLED BETWEEN THE SIGNAL OR SIGNAL AND LIGHTING STANDARD AND THE CROSS WALKS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LOCATIONS OF CURB RAMPS, CROSS WALK AREA AND TYPE OF CURB RAMPS BEFORE INSTALLING SIGNAL FOUNDATIONS.

 CURB RAMP AREA OR FUTURE CURB RAMP AREAS



DETAIL OF LOCATION OF PULL BOX TO PED BUTTON AND LIMIT LINE

**MODIFY SIGNAL AND LIGHTING
(SIGNAL STANDARD AND PULL BOX LOCATION DETAIL)
NO SCALE**

E-156

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

RELATIVE BORDER SCALE
IS IN INCHES



USERNAME => trphils
DGN FILE => 844840ua156.dgn

CU 08395

EA 448401

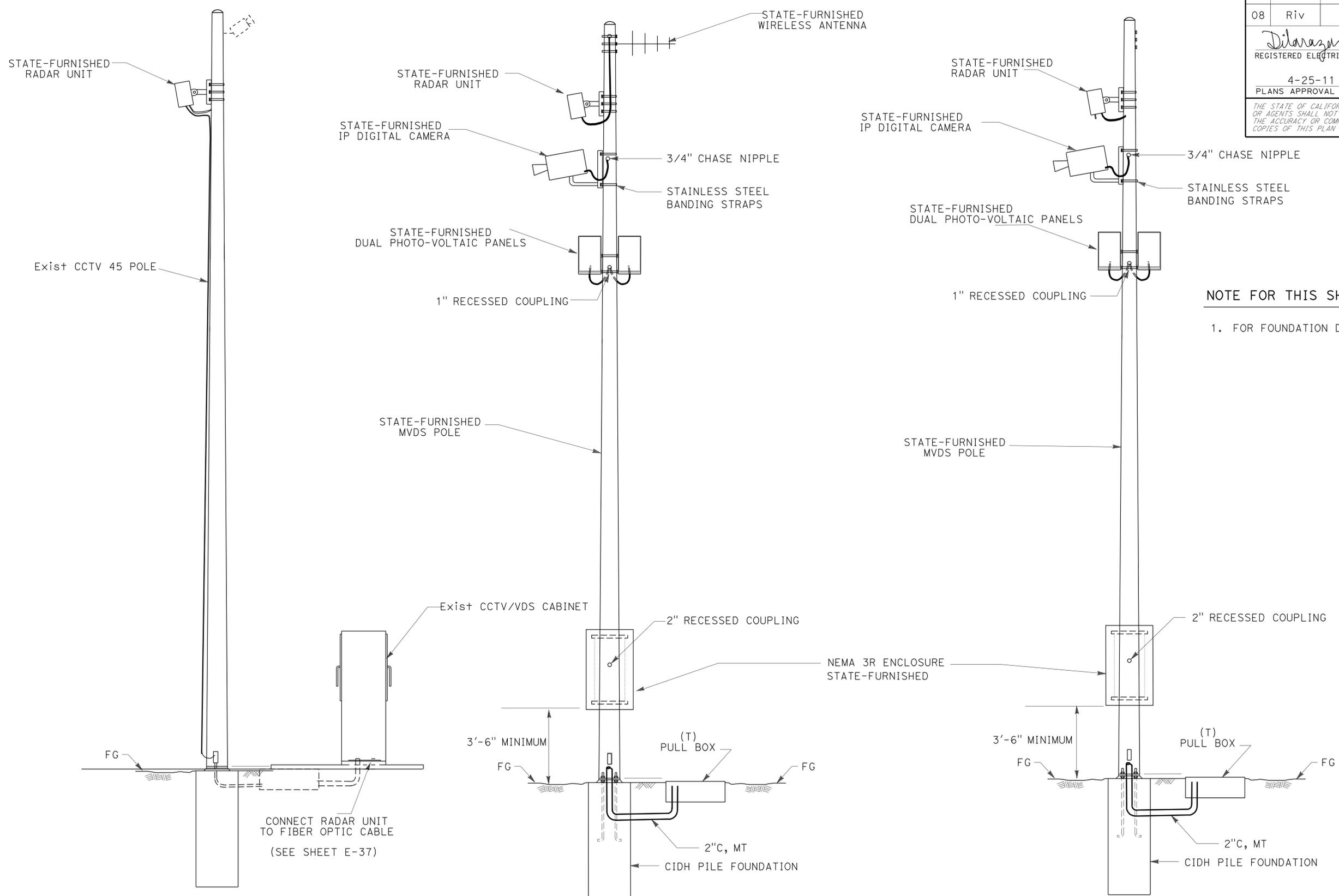
BORDER LAST REVISED 4/11/2008

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
Caltrans ELECTRICAL DESIGN A	DAVID A GONZALEZ	HARRY UMEMOTO	DILARA ZAMAN	

LAST REVISION | DATE PLOTTED => 30-APR-2011
02-07-11 | TIME PLOTTED => 10:15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1318	2028
<i>Dilara Zaman</i> 2-7-11 REGISTERED ELECTRICAL ENGINEER DATE					
4-25-11				PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISIONS	DATE
Caltrans ELECTRICAL DESIGN A	DAVID A GONZALEZ	CHECKED BY	DZ	08/05/10



NOTE FOR THIS SHEET ONLY:
 1. FOR FOUNDATION DETAILS, SEE SHEET SES-1

MVDS INSTALLED ON Exist CCTV STANDARD
 (CONNECT RADAR UNIT TO FIBER)
 (LOCATION 2)

MVDS INSTALLED ON CCTV STANDARD
 (LOCATIONS 3,4,5 & 6)

MVDS INSTALLED ON CCTV STANDARD
 (LOCATIONS 1 & 7)

**TEMPORARY DETECTION SYSTEM
 (DETAILS)**

NO SCALE

E-157

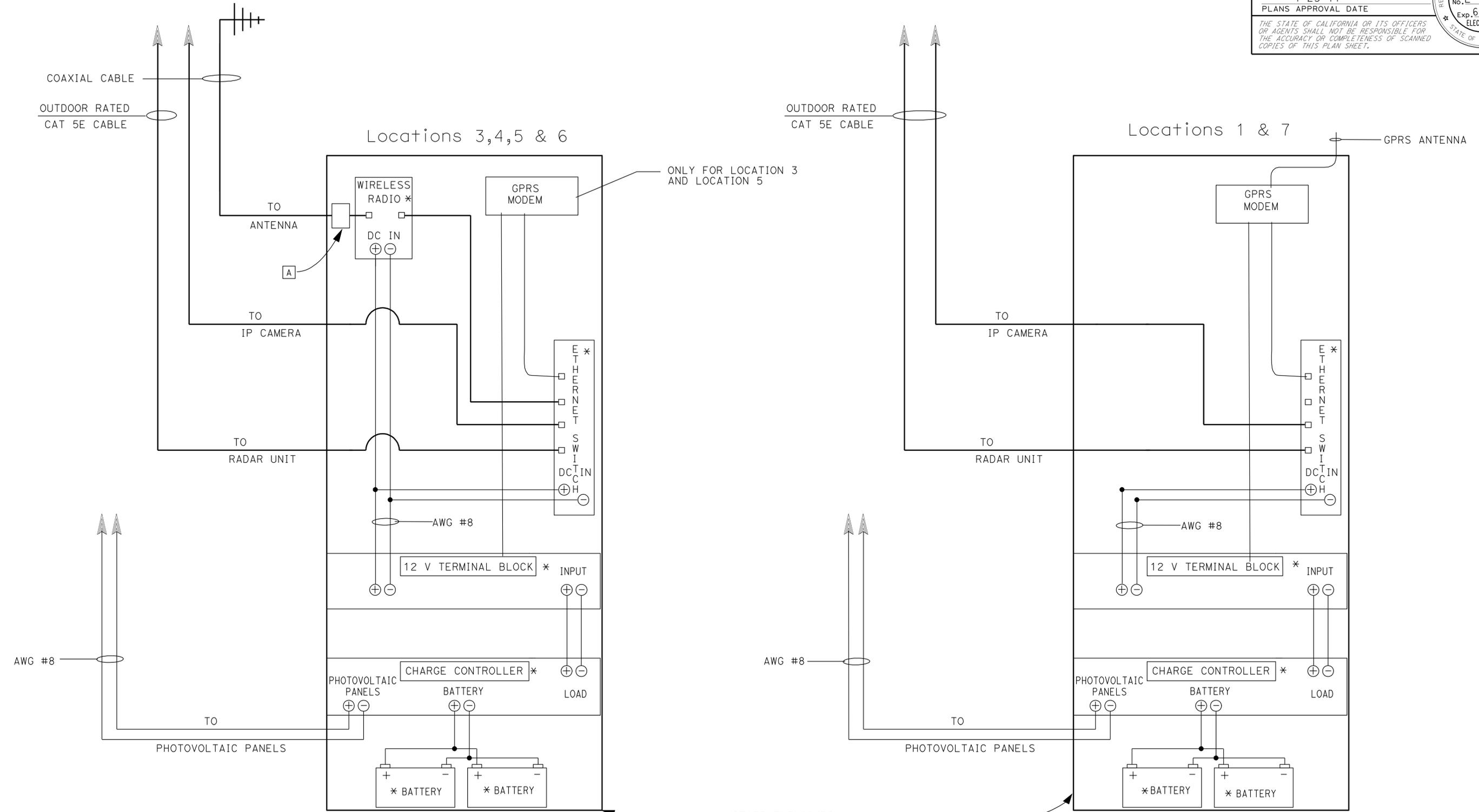
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1319	2028
<i>Dilara Zaman</i> REGISTERED ELECTRICAL ENGINEER DATE 2-7-11			4-25-11 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.					

PROJECT NOTES: THIS SHEET ONLY

- [A] LIGHTING ARRESTOR
- * STATE-FURNISHED



STATE FURNISHED
NEMA 3R ENCLOSURE

**TEMPORARY DETECTION SYSTEM
(DETAILS)**

NO SCALE

E-158

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



USERNAME => trphils
DGN FILE => 844840uat158.dgn

CU 08395

EA 448401

BORDER LAST REVISED 4/11/2008

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A
 FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ
 CHECKED BY: MICHAEL APANTE
 DESIGNED BY: DILARA ZAMAN
 DATE REVISED: 08/05/10
 REVISIONS: DZ

LAST REVISION: DATE PLOTTED => 30-APR-2011
 TIME PLOTTED => 10:15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1320	2028

Dilara Zaman 2-7-11
REGISTERED ELECTRICAL ENGINEER DATE

4-25-11
PLANS APPROVAL DATE

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A

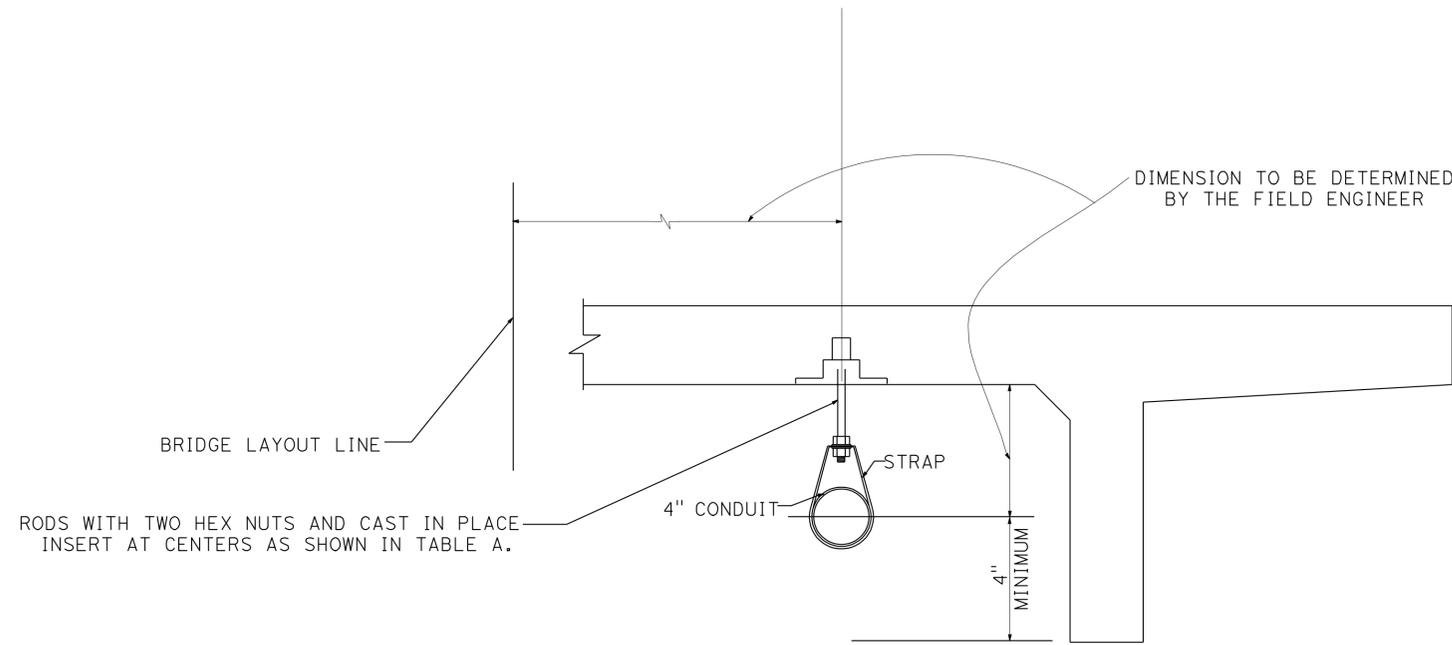
FUNCTIONAL SUPERVISOR
DAVID A GONZALEZ

CALCULATED/DESIGNED BY
CHECKED BY

DILARA ZAMAN
MICHAEL APANTE

REVISED BY
DATE REVISED

DZ
08/05/10



DETAIL A
(CONDUIT HANGER SUPPORT DETAILS)

CONDUIT	SIZE 4"
ROD	0.8" Ø
STRAP	0.1" X 1.5"
SUPPORT SPACING	10 FEET

TABLE A

**MODIFY FIBER OPTIC COMMUNICATION SYSTEM
(STRUCTURE ELECTRICAL DETAILS)
(FIBER OPTIC CONDUIT PLACEMENT)**

NO SCALE

E-159

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY



USERNAME => trphils
DGN FILE => 844840ua159.dgn

CU 08395

EA 448401

BORDER LAST REVISED 4/11/2008

LAST REVISION | DATE PLOTTED => 30-APR-2011
02-07-11 TIME PLOTTED => 10:15

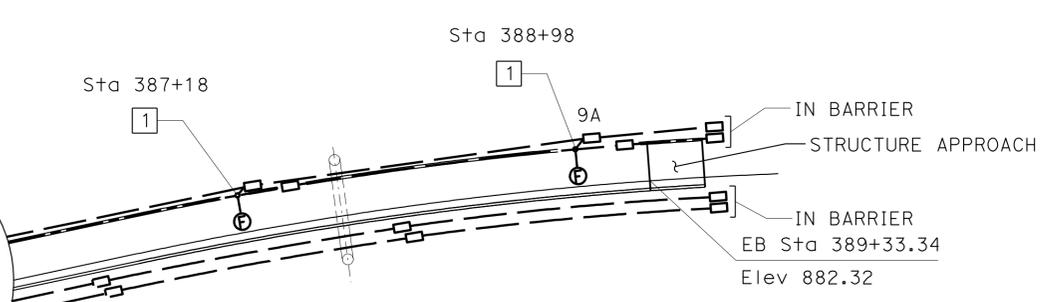
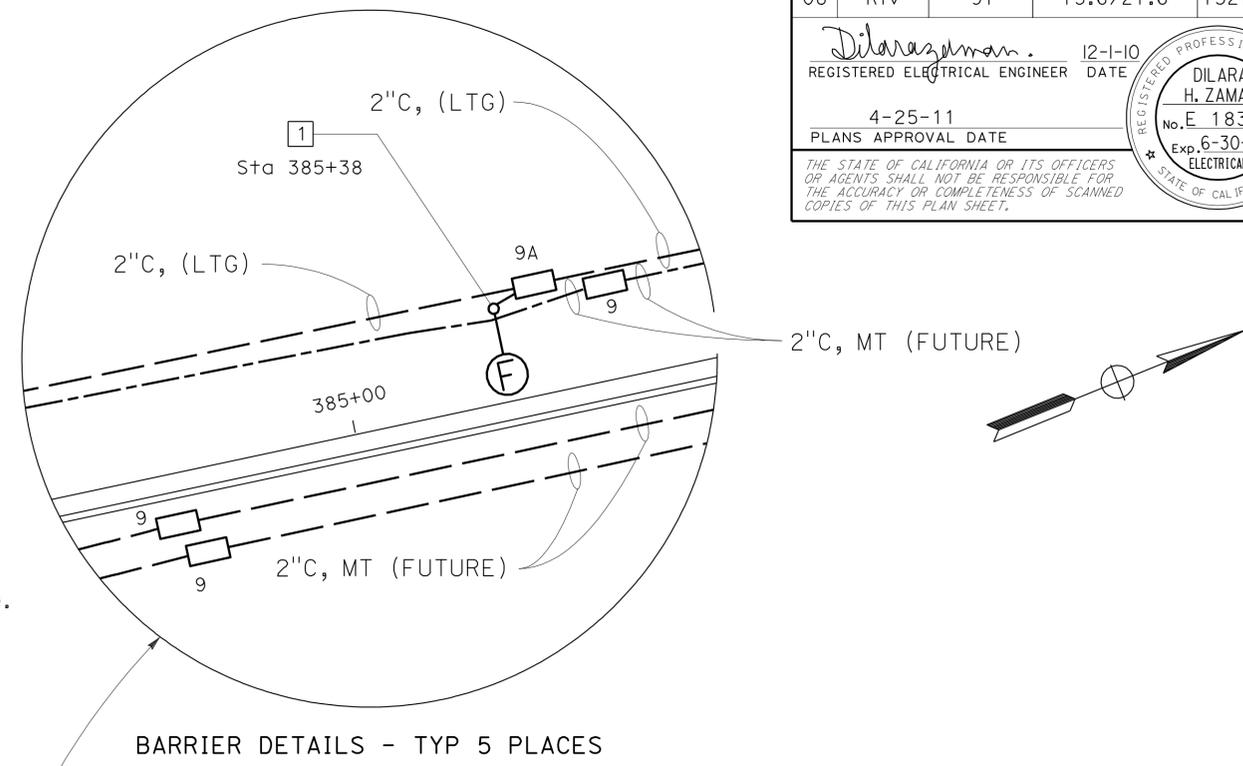
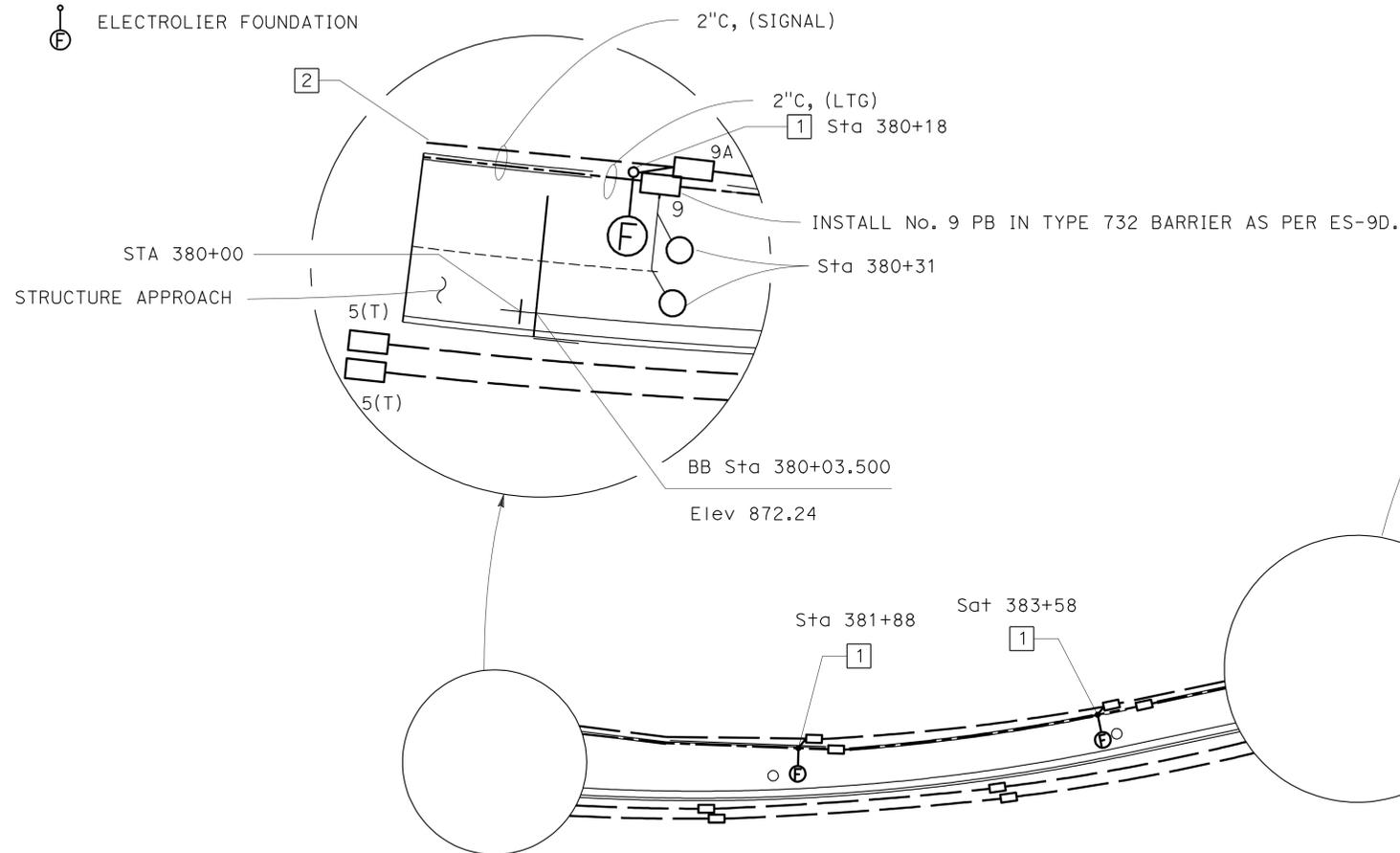
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1321	2028
Dilara Zaman REGISTERED ELECTRICAL ENGINEER DATE 12-1-10					
4-25-11			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

GENERAL NOTES (THIS SHEET ONLY):

1. INSTALL EXPANSION-DEFLECTION FITTINGS (DETAIL XY) AS PER ES-9B FOR ALL CONDUITS AT BRIDGE EXPANSION JOINT.
2. ALL CONDUITS IN BRIDGE MUST TERMINATE IN PULL BOXES OUTSIDE THE BRIDGE AS PER ES-9A EXCEPT WHEN ADJACENT TO RETAINING WALL. THE TERMINATING PB SHALL BE No. 5(T) AND THE LOCATION SHALL BE DETERMINED BY THE ENGINEER.
3. ALL PULL BOXES SHALL BE SPACED NO MORE THAN 180 FEET (Max) APART.

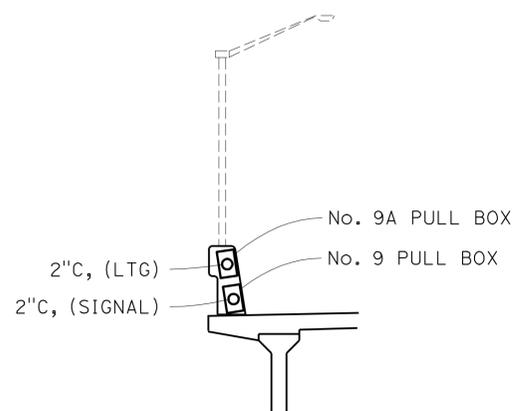
LEGEND (THIS SHEET ONLY):

- PREFORMED INDUCTIVE LOOP DETECTOR
- ELECTROLIER FOUNDATION

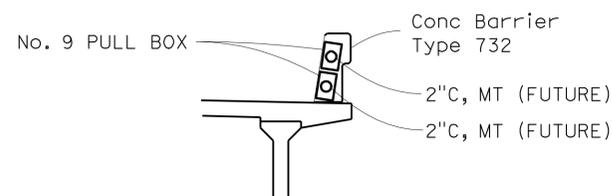


PROJECT NOTES (THIS SHEET ONLY):

1. INSTALL ELECTROLIER ANCHOR BOLTS IN BARRIER AS PER B11-55 AT STA INDICATED AND INSTALL No. 9A PULL BOX APPROXIMATELY 3'-4" NORTH OF ELECTROLIER FOUNDATION AS PER ES-9D AT EACH LOCATION.
2. ROUTE CONDUIT INTO No. 9 PULL BOX IN THE FOUNDATION OF THE RETAINING WALL TO THE SOUTH OF THE BRIDGE.



BRIDGE DETAIL - WEST BARRIER



BRIDGE DETAIL - EAST BARRIER

**2" CONDUIT FUTURE (BRIDGE)
 MODIFY LIGHTING AND SIGN ILLUMINATION
 SIGNAL AND LIGHTING (LOCATION 11)
 (STRUCTURE ELECTRICAL DETAILS)
 (WB 14th St EXIT RAMP Br No. 56-0837K)**

NO SCALE

E-160

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

RELATIVE BORDER SCALE
 IS IN INCHES



USERNAME => trphil
 DGN FILE => 844840uat160.dgn

CU 08395

EA 448401

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN A

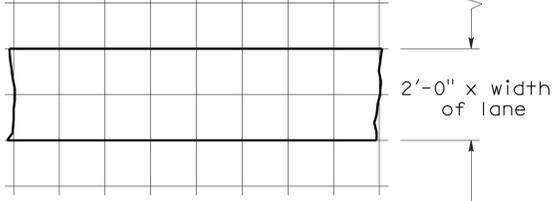
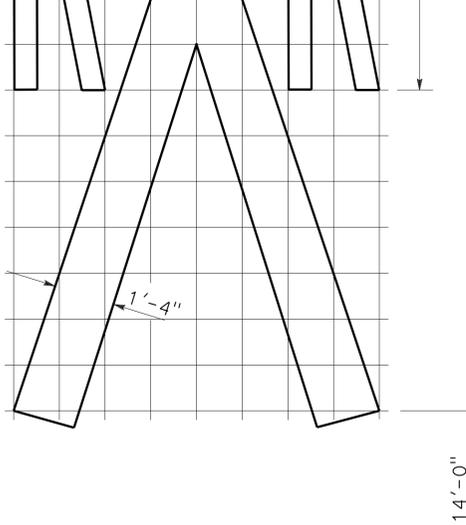
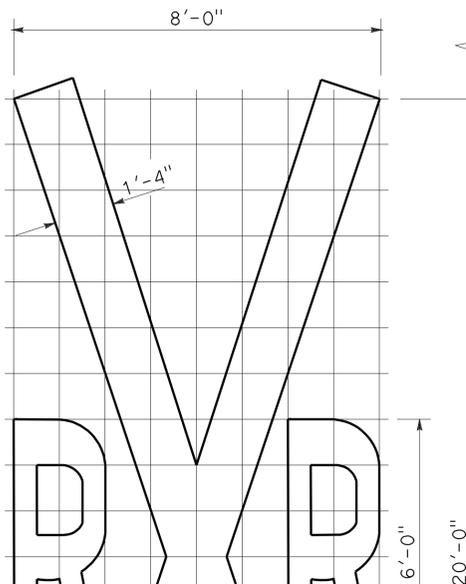
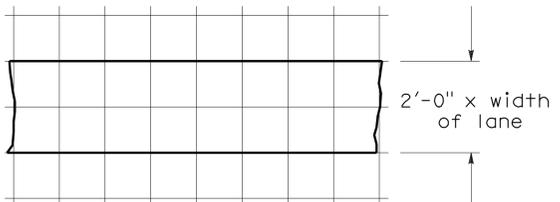
FUNCTIONAL SUPERVISOR
 DAVID A GONZALEZ

CALCULATED/DESIGNED BY
 CHECKED BY

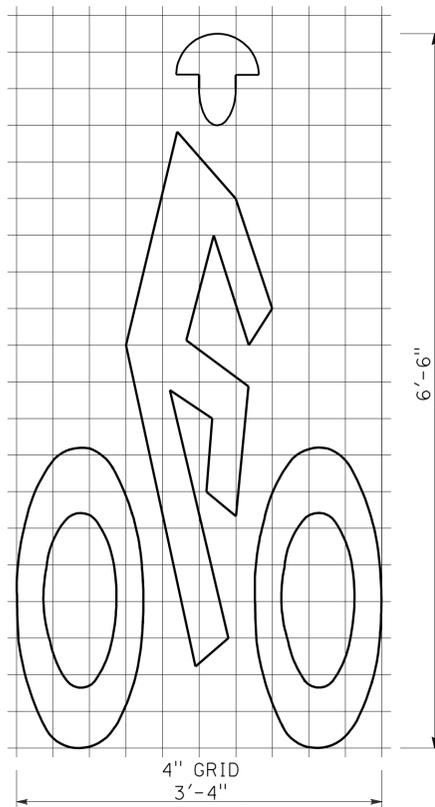
HARRY UMEMOTO
 DILARA ZAMAN

REVISED BY
 DATE REVISED

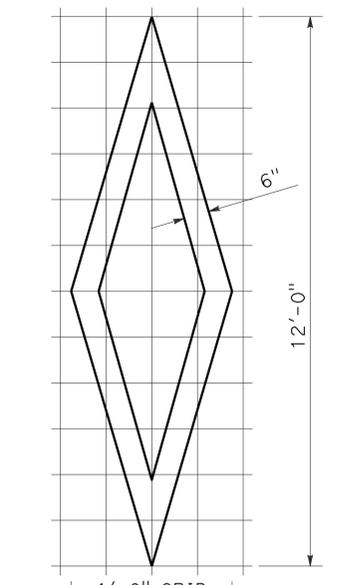
To accompany plans dated 4-25-11



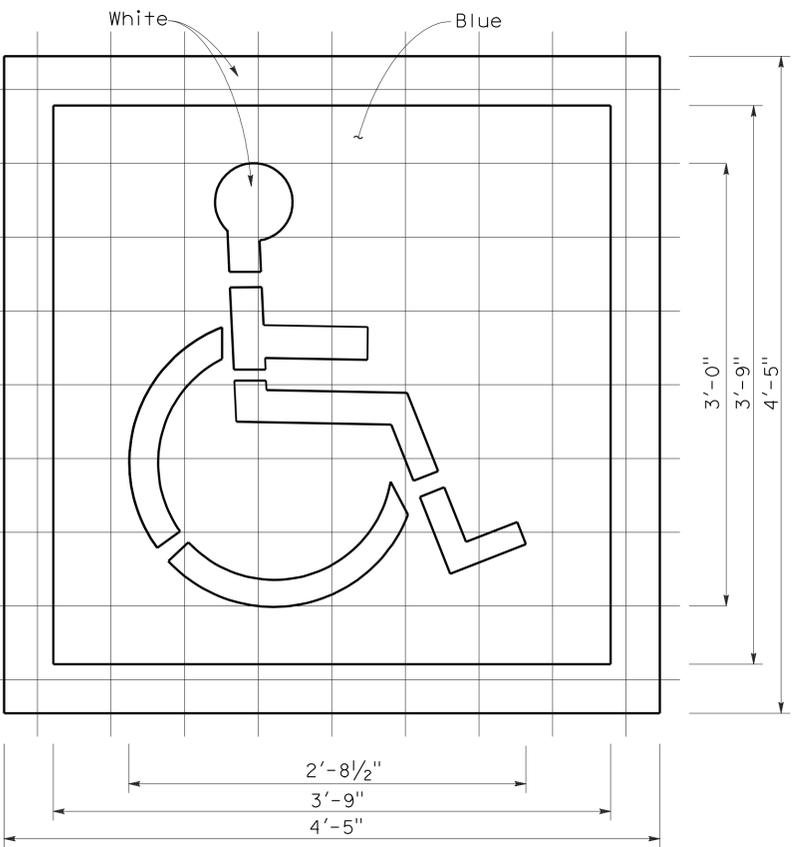
RAILROAD CROSSING SYMBOL
✕70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



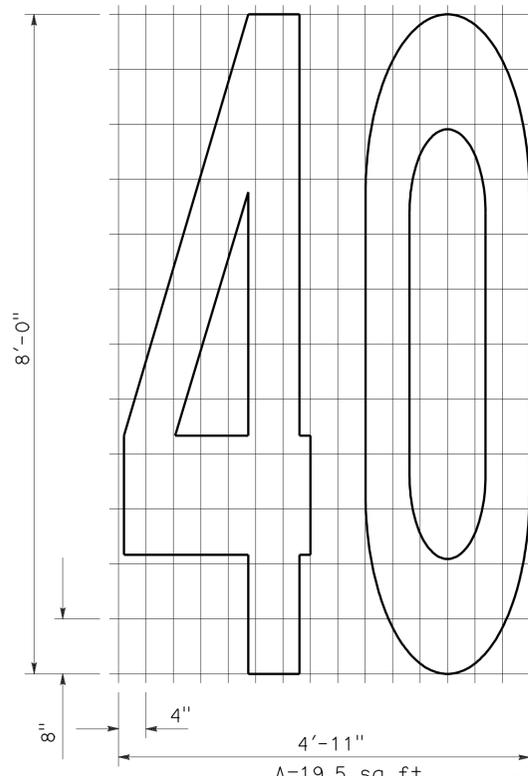
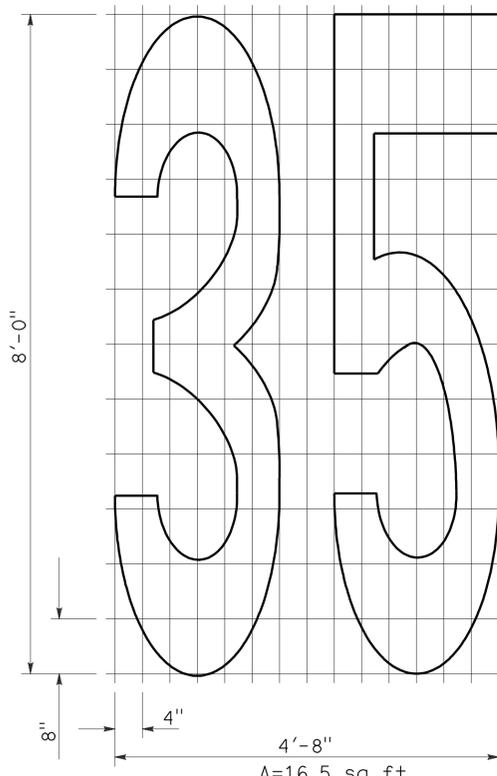
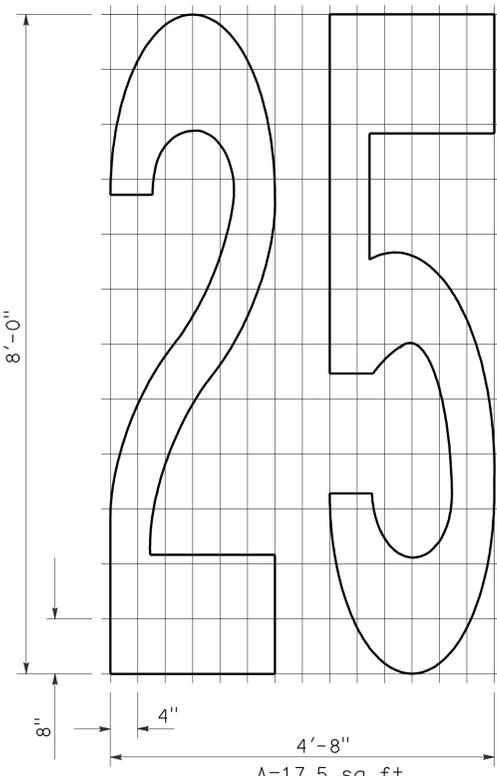
BIKE LANE SYMBOL



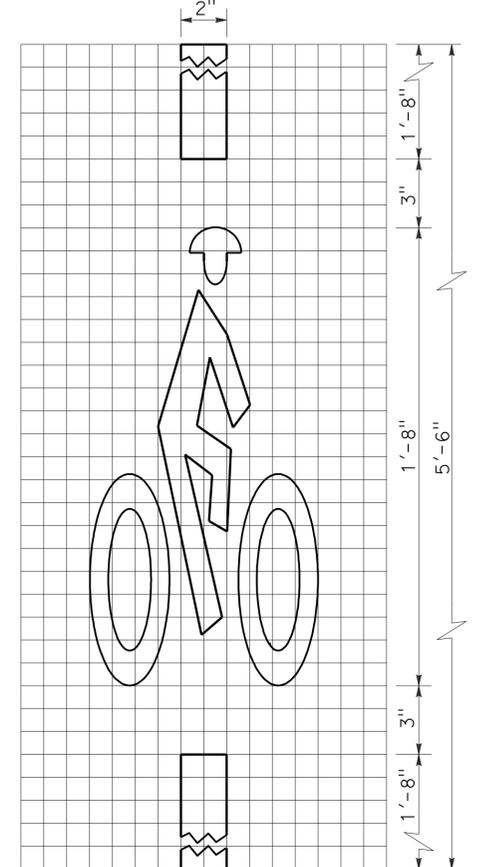
DIAMOND SYMBOL



INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING



NUMERALS



BICYCLE LOOP DETECTOR SYMBOL

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1323	2028

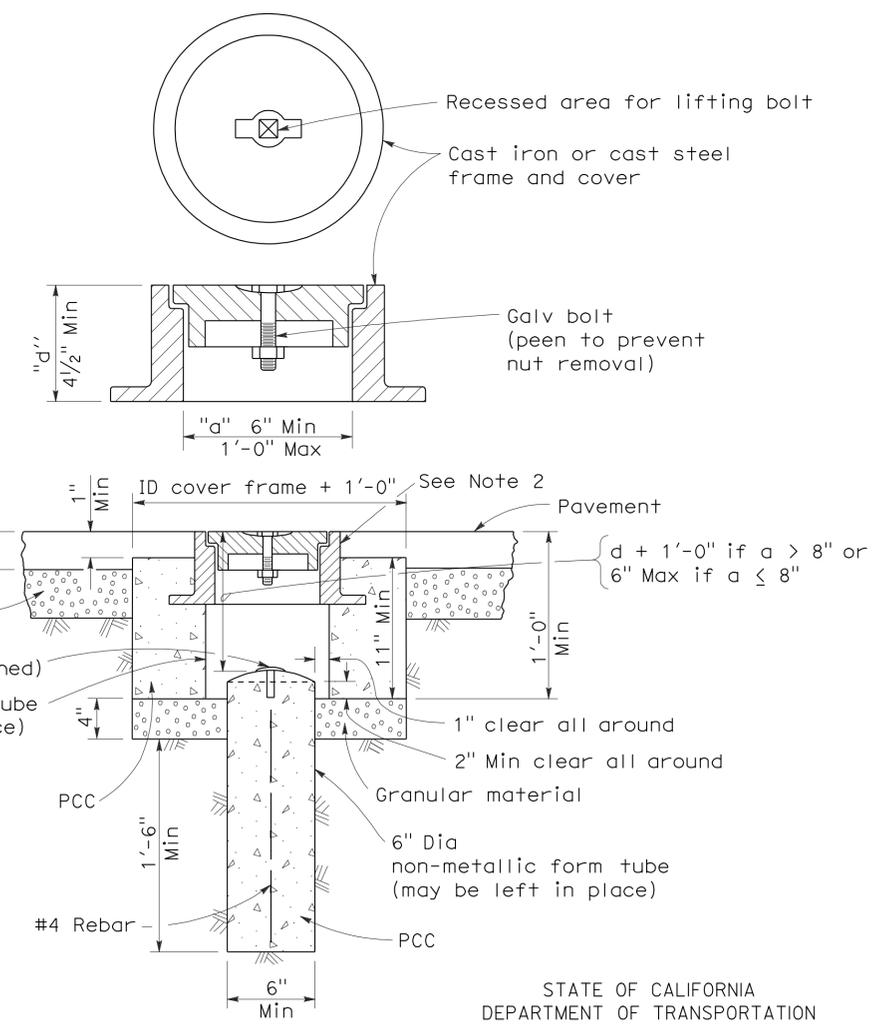
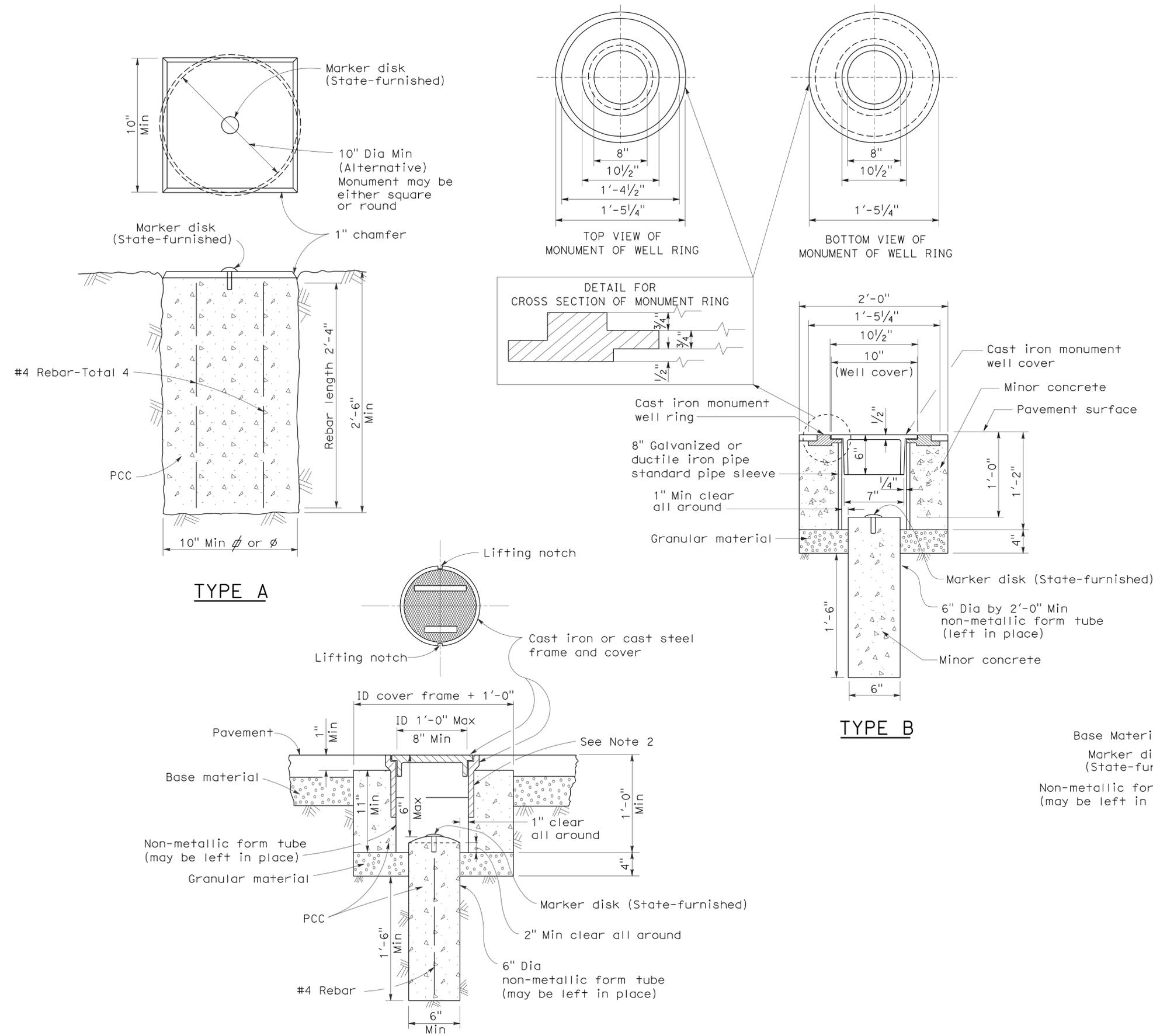
Mark S. Turner
 PROFESSIONAL LAND SURVEYOR
 LICENSED LAND SURVEYOR
 Mark S. Turner
 No. 6228
 Exp. 3-31-08
 STATE OF CALIFORNIA

June 30, 2006
 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.

To accompany plans dated 4-25-11

NOTES:

1. The configuration of the cast iron or cast steel frame and cover may vary from that shown.
2. Frame shall be embedded in the concrete a minimum of 3".
3. Type D monument shall be either Alternative No. 1 or Alternative No. 2 at the contractor's option.
4. All portland cement concrete shall be Class 2 or minor concrete with 1" maximum aggregate.



TYPE D SURVEY MONUMENTS
 Alternative No. 2
 NO SCALE

RSP A74 DATED JUNE 30, 2006 SUPERSEDES STANDARD PLAN DATED MAY 1, 2006 - PAGE 28 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A74

2006 REVISED STANDARD PLAN RSP A74

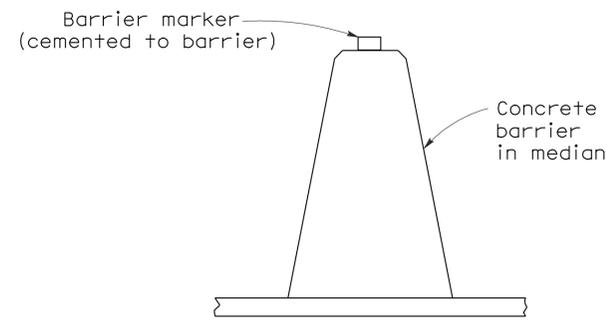
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1324	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

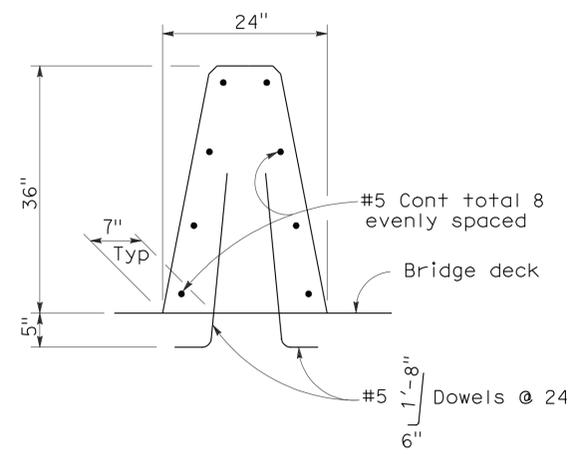
June 6, 2008
PLANS APPROVAL DATE

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.

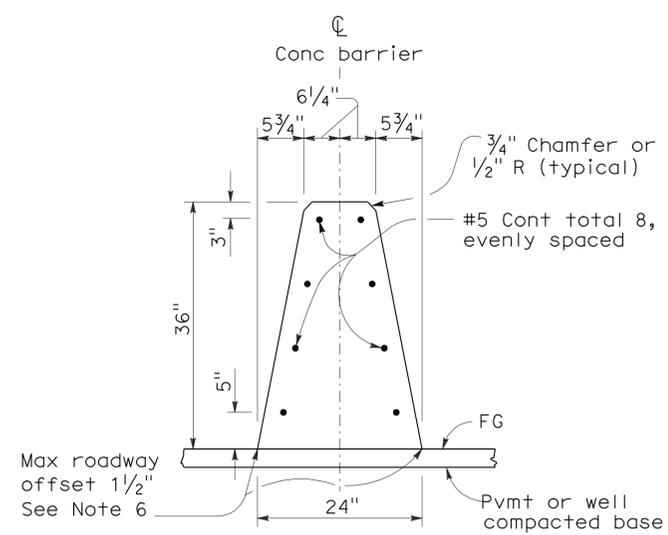
To accompany plans dated 4-25-11



CONCRETE BARRIER TYPE 60 DELINEATION
See Notes 7 and 8



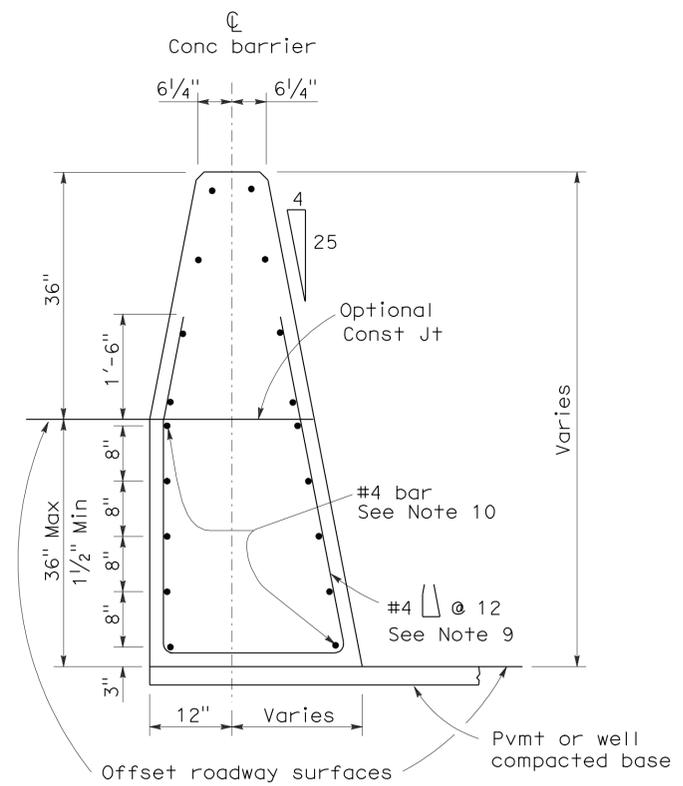
CONCRETE BARRIER TYPE 60A
Details similar to Type 60 except as noted.



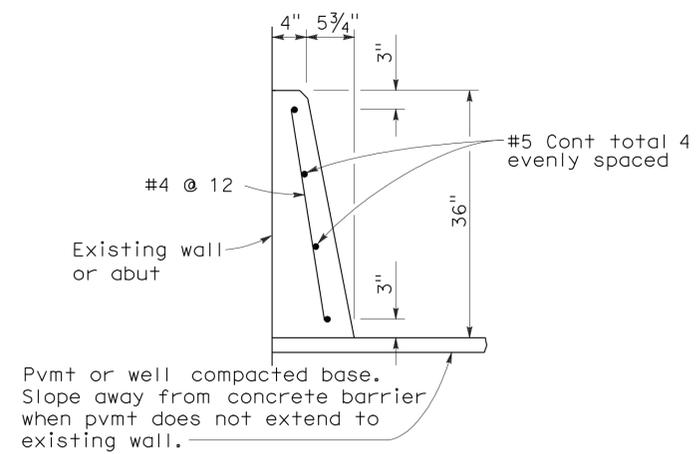
CONCRETE BARRIER TYPE 60

NOTES:

- See Standard Plan A76B for details of Concrete Barrier Type 60 end anchors, connection to structures and transitions to Concrete Barrier Type 50 and Concrete Barrier Type 60S.
- See Standard Plan A76C for Concrete Barrier Type 60 transitions at bridge column and sign pedestals.
- Where glare screen is required on Concrete Barrier Type 60, use Concrete Barrier Type 60G.
- Where the concrete barrier is added to the face of existing concrete structure, match existing weep holes.
- Expansion joints in concrete barrier shall be located at all deck, pavement and principal wall joints. Expansion joint filler material shall be the same size as joint or 1/2" minimum.
- Where roadway offset is greater than 1 1/2", see Concrete Barrier Type 60C.
- Barrier delineation to be used when required by the Special Provisions.
- Spacing of barrier markers to match spacing of raised pavement markers on the adjacent median edgeline pavement delineation.
- Reinforcing stirrup not required for roadway offsets less than 1'-0".
- For roadway surfaces offset greater than 1 1/2" to 3", no rebars required. For roadway surfaces offset greater than 3" to 8" use two #4 rebars at 3" above the lower roadway surface. For roadway surfaces offset greater than 8" to 12", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at 8" above the lower roadway surface. For roadway surfaces offset greater than 12" to 36", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at every 8" increment vertical spacing above the first two #4 rebars.



CONCRETE BARRIER TYPE 60C
Details similar to Type 60 except as noted. Concrete barrier end anchor when necessary. 36" roadway surfaces offset shown.



CONCRETE BARRIER TYPE 60D

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE BARRIER TYPE 60
NO SCALE

RSP A76A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A76A
DATED MAY 1, 2006 - PAGE 29 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A76A

2006 REVISED STANDARD PLAN RSP A76A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1325	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

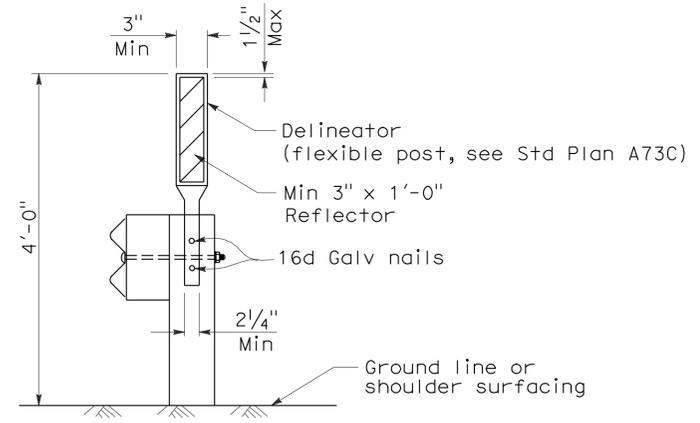
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



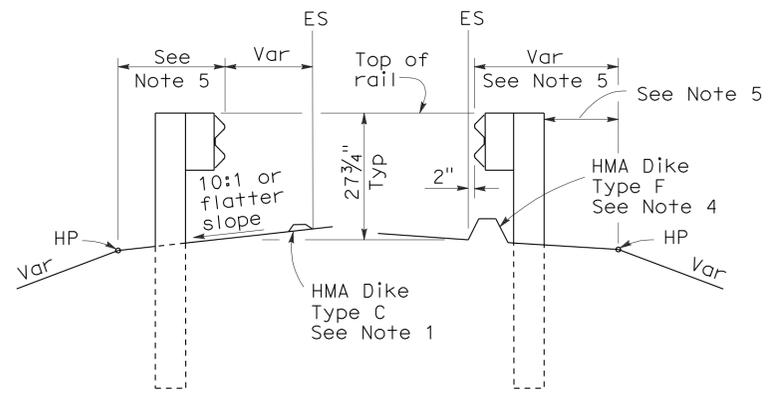
To accompany plans dated 4-25-11

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

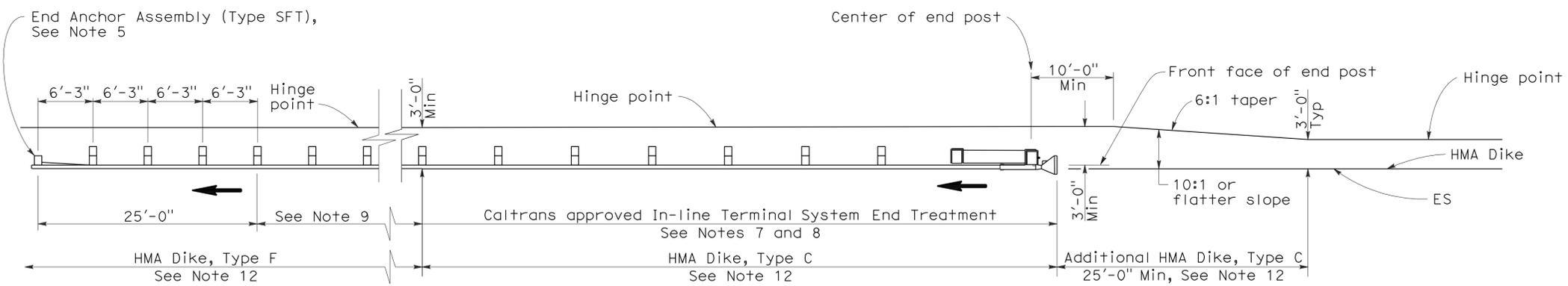
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1326	2028

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 No. C50200
 Exp. 6-30-09
 CIVIL
 STATE OF CALIFORNIA

June 6, 2008
 PLANS APPROVAL DATE

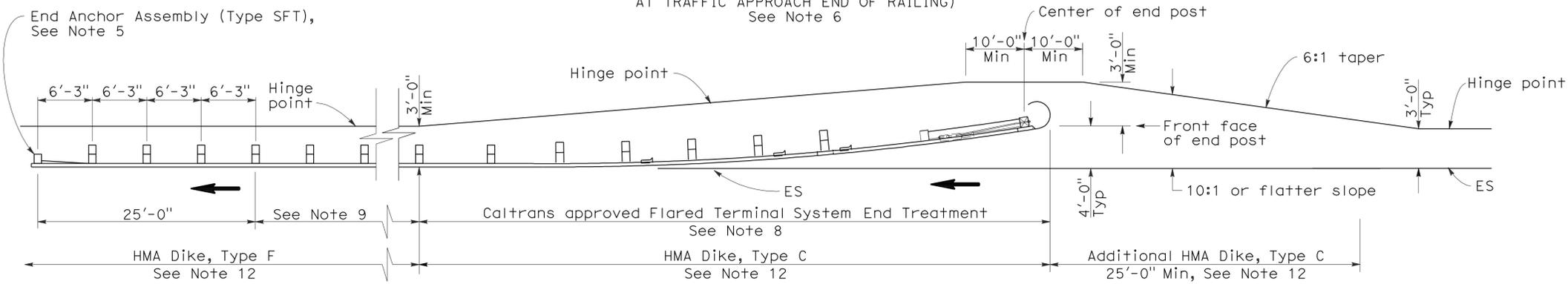
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-25-11



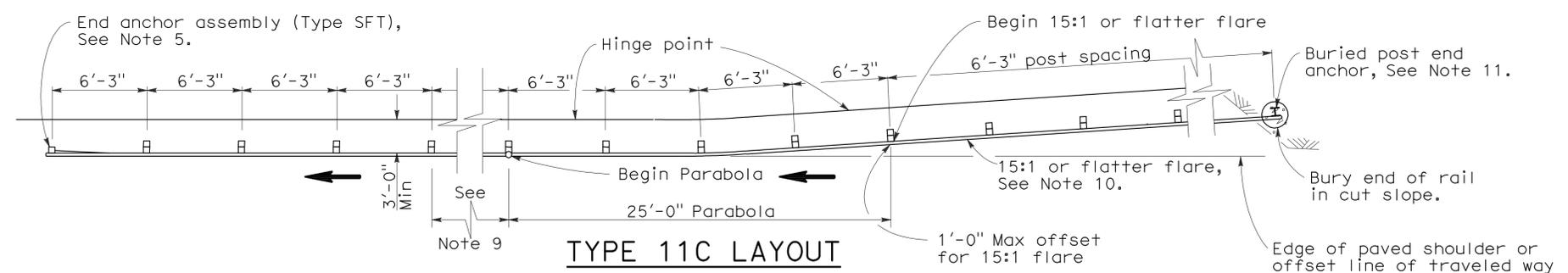
TYPE 11A LAYOUT

(EMBANKMENT GUARD INSTALLATION WITH IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Note 6



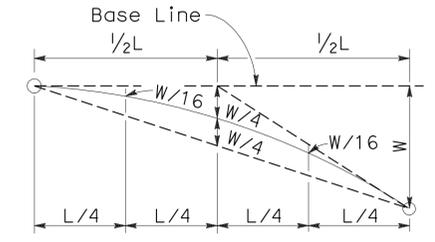
TYPE 11B LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Note 6

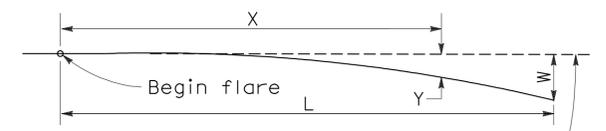


TYPE 11C LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Notes 6 and 12



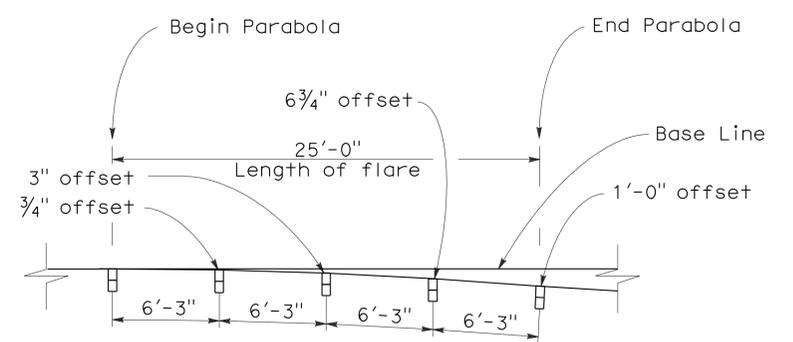
TYPICAL PARABOLIC LAYOUT



Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$Y = \frac{WX^2}{L^2}$
 Y = Offset from base line
 W = Maximum offset
 X = Distance along base line
 L = Length of flare

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT MAX END OFFSET

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- Layout Types 11A, 11B or 11C are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR EMBANKMENTS
NO SCALE

RSP A77E1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E1 DATED MAY 1, 2006 - PAGE 48 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1327	2028

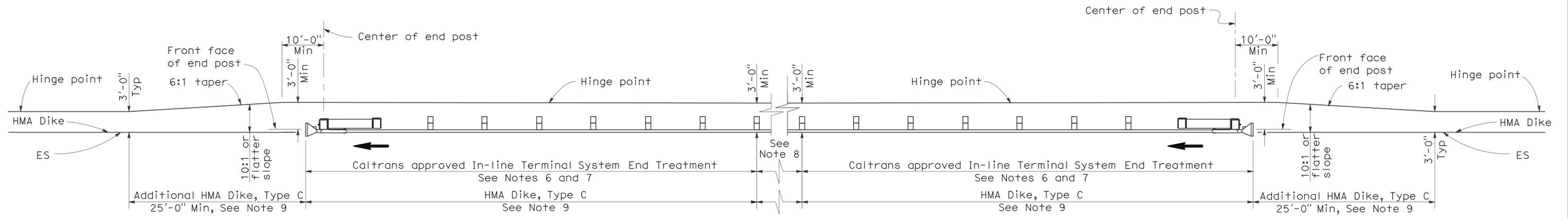
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
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.

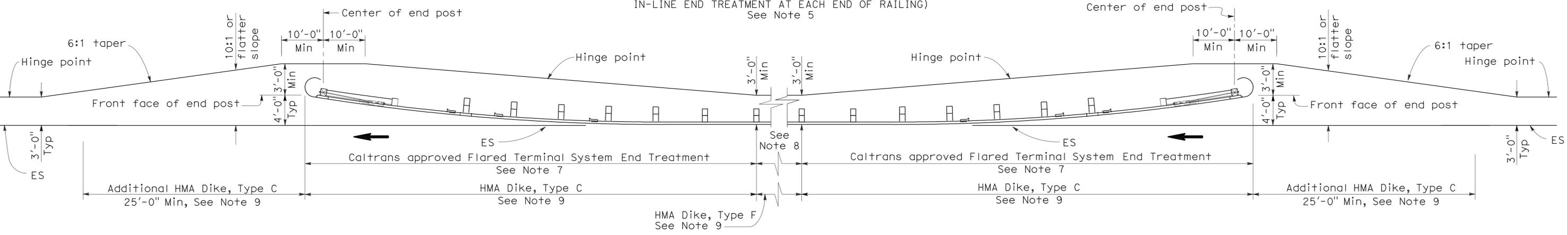
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 4-25-11



TYPE 11D LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AT EACH END OF RAILING)
See Note 5



TYPE 11E LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT EACH END OF RAILING)
See Note 5

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE
RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1328	2028

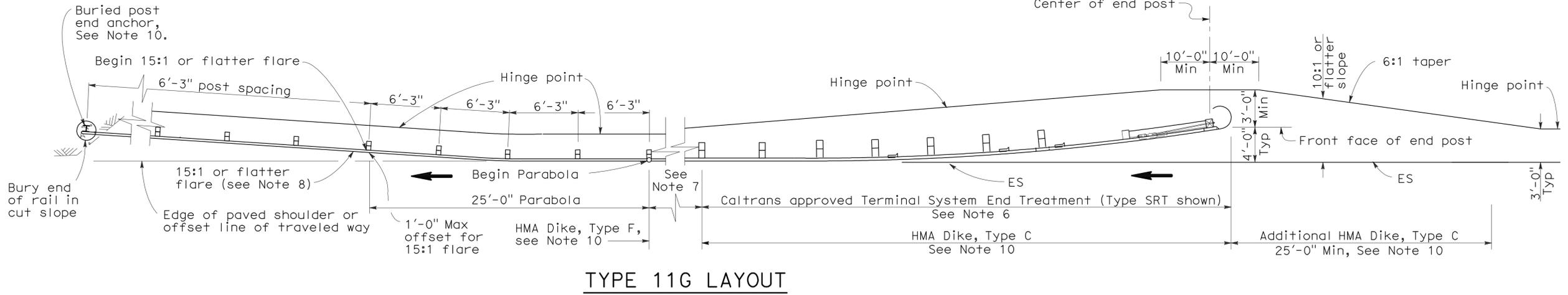
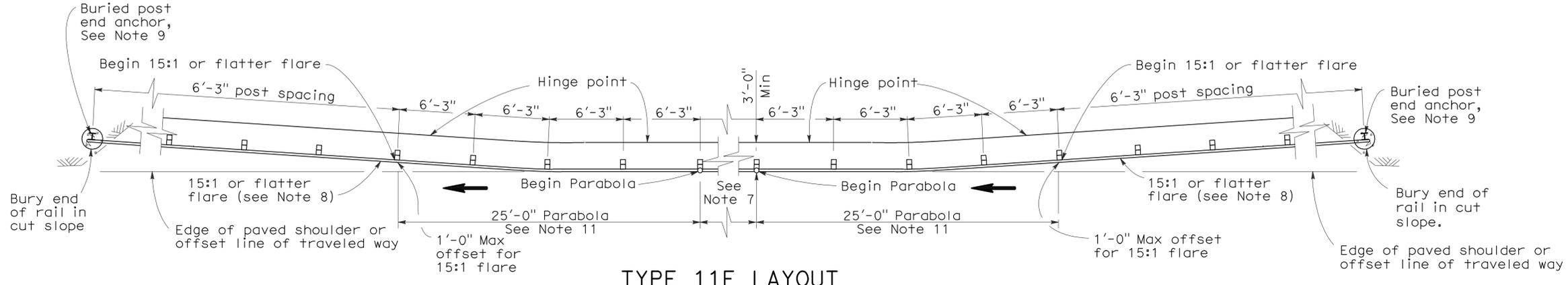
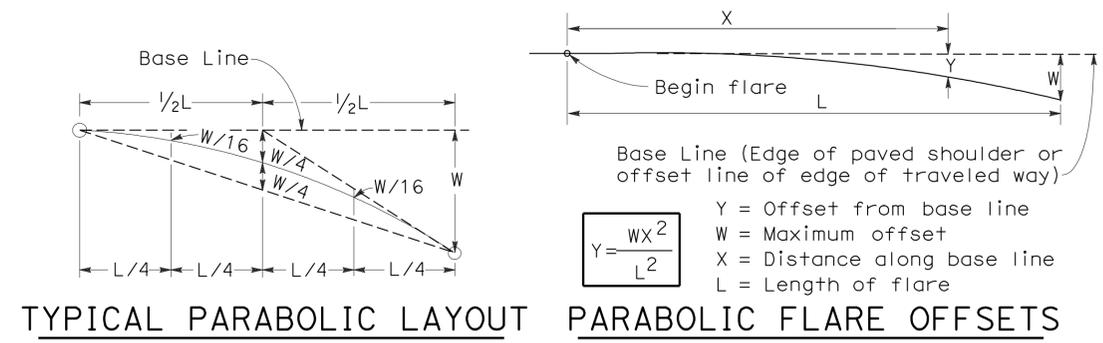
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
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
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 4-25-11



NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11F and 11G Layouts, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E3
DATED MAY 1, 2006 - PAGE 50 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E3

2006 REVISED STANDARD PLAN RSP A77E3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1329	2028

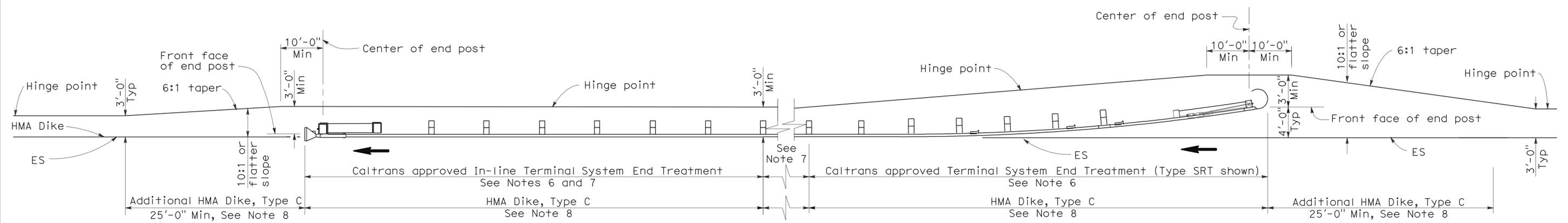
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-09
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.

To accompany plans dated 4-25-11



TYPE 11H LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AND AN IN-LINE TREATMENT AT THE ENDS OF RAILING)
See Notes 5 and 8

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. Direction of adjacent traffic indicated by →.
5. Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
6. The type of terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
8. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**
NO SCALE

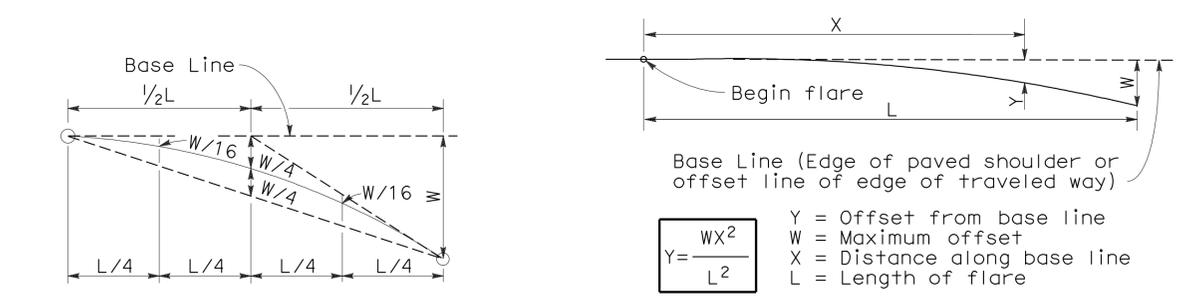
RSP A77E4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E4
DATED MAY 1, 2006 - PAGE 51 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E4

2006 REVISED STANDARD PLAN RSP A77E4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1330	2028

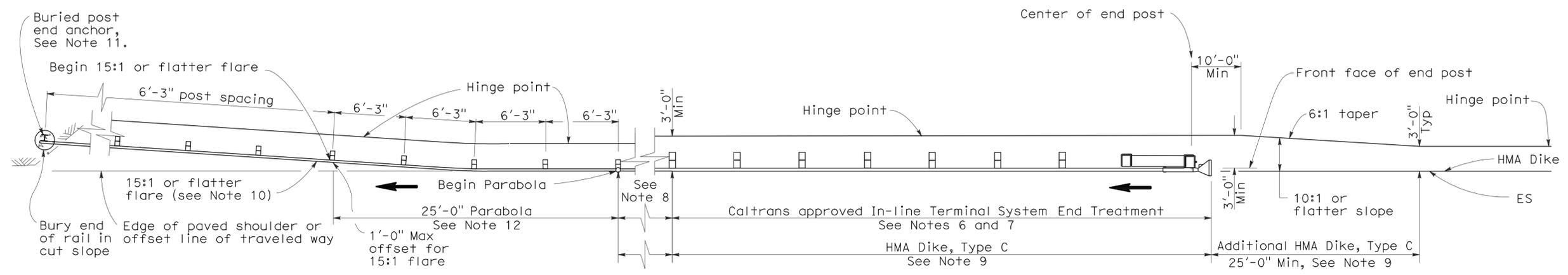
RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



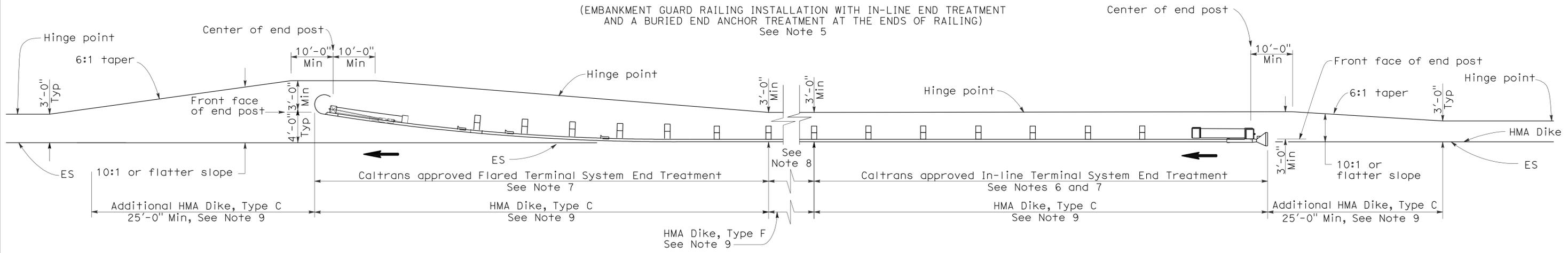
TYPICAL PARABOLIC LAYOUT

PARABOLIC FLARE OFFSETS

To accompany plans dated 4-25-11



TYPE 11I LAYOUT



TYPE 11J LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11I Layout, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS
 NO SCALE
 RSP A77E5 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E5
 DATED MAY 1, 2006 - PAGE 52 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1331	2028

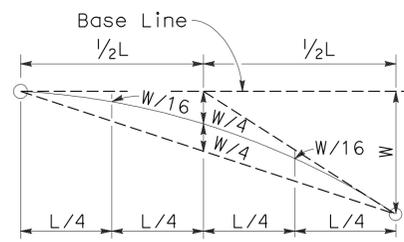
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

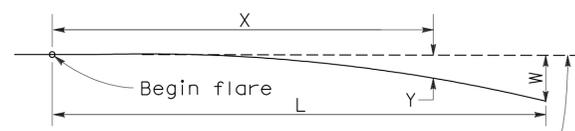
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 4-25-11



TYPICAL PARABOLIC LAYOUT

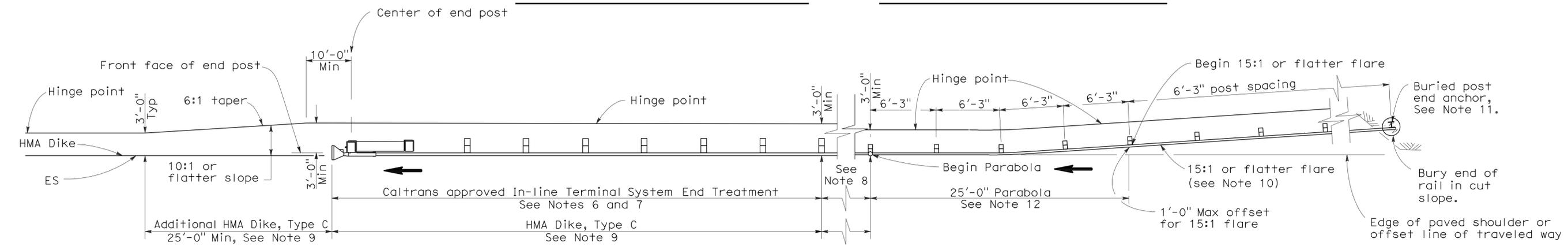


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

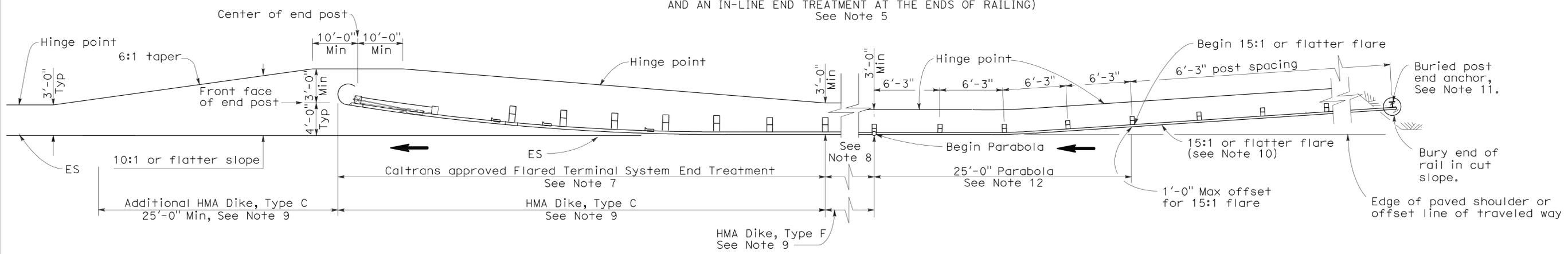
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11K LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND AN IN-LINE END TREATMENT AT THE ENDS OF RAILING)
See Note 5



TYPE 11L LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING)
See Note 5

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11K and 11L Layouts, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E6
DATED MAY 1, 2006 - PAGE 53 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E6

2006 REVISED STANDARD PLAN RSP A77E6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1332	2028

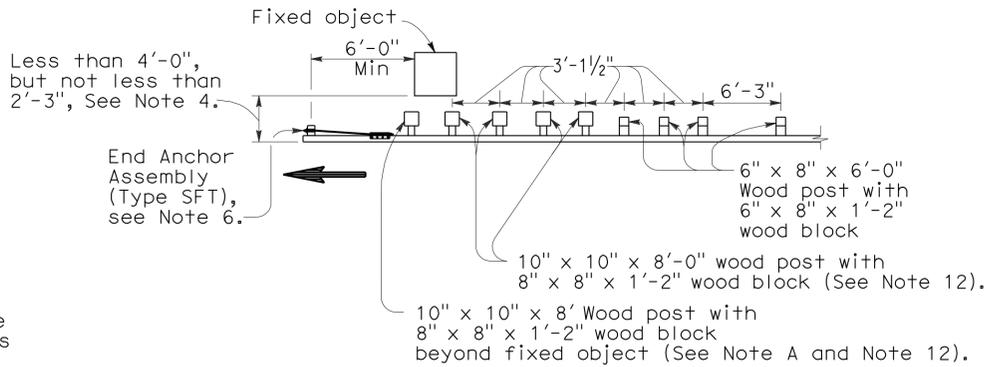
RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 No. C50200
 Exp. 6-30-09
 CIVIL
 STATE OF CALIFORNIA

June 6, 2008
 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.

NOTES:

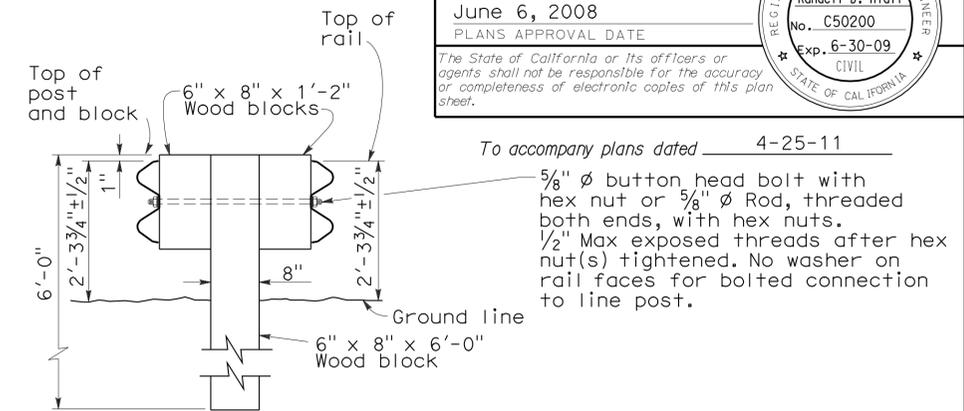
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- For details of Rail Tensioning Assembly, see Standard Plan A77H2.
- The type of crash cushion to be used will be shown on the Project Plans.
- Type 14A layout is typically used on multilane freeways or expressways to shield fixed objects where a median type barrier is not constructed between the separated roadbeds.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- The 15:1 or flatter flare is measured off of the edge of traveled way.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



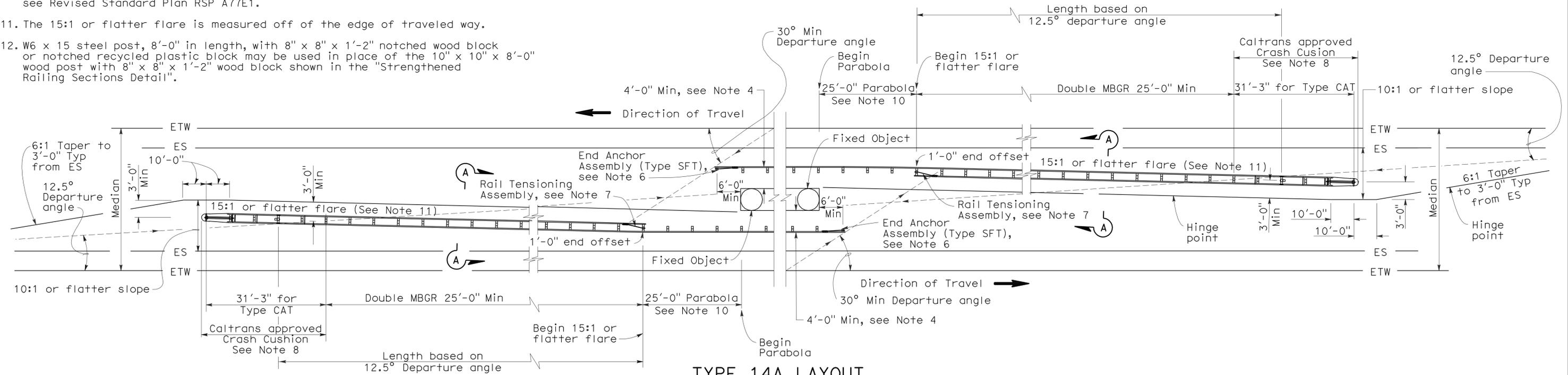
NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Type 14A layout where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3", See Note 4.

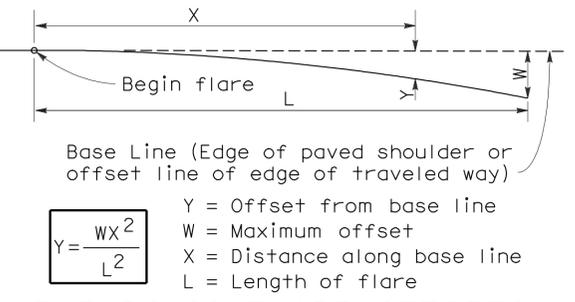


**SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING**

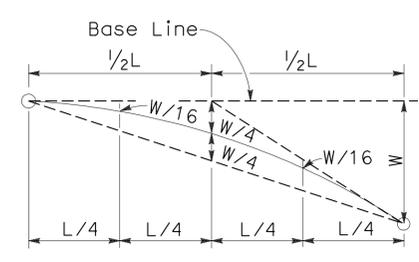


TYPE 14A LAYOUT

See Note 9



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
 TYPICAL LAYOUTS FOR
 FIXED OBJECTS
 BETWEEN SEPARATE ROADBEDS
 (TWO-WAY TRAFFIC)**

NO SCALE

RSP A77G1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G1 DATED MAY 1, 2006 - PAGE 59 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G1

2006 REVISED STANDARD PLAN RSP A77G1

NOTES:

1. Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
2. Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
4. A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing section with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
5. Direction of adjacent traffic indicated by → .

6. For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
7. Type of crash cushion to be used will be shown on the Project Plans.
8. Type 15A layout is typically used on multilane freeways or expressways to shield fixed objects in the area between separated one-way roadbeds.
9. For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
10. The 15:1 or flatter flare is measured off of the edge of the traveled way.
11. W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

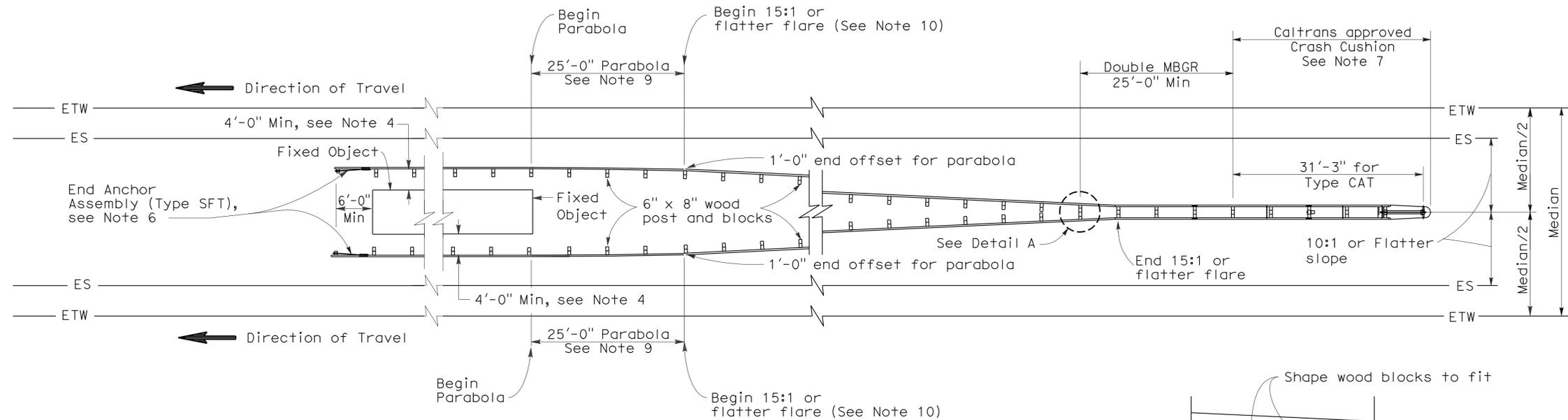
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1333	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

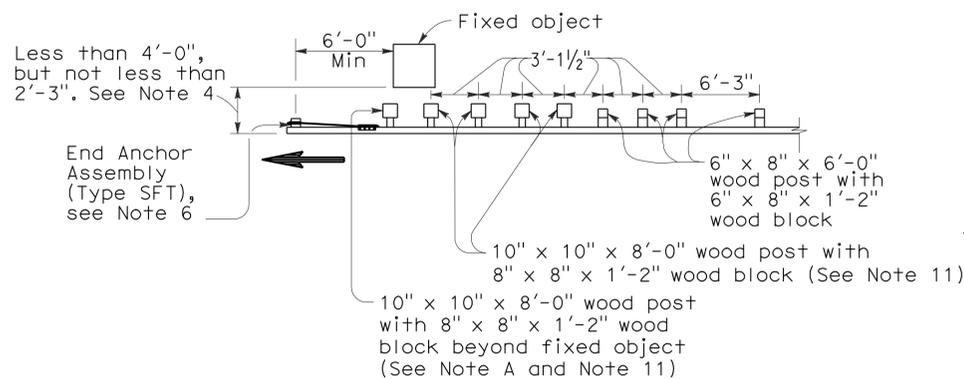
June 6, 2008
PLANS APPROVAL DATE

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.

To accompany plans dated 4-25-11

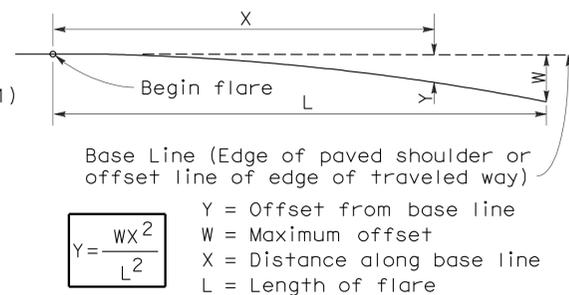


TYPE 15A LAYOUT
See Note 9

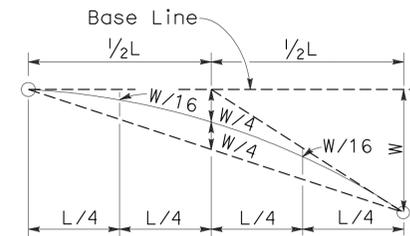


STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

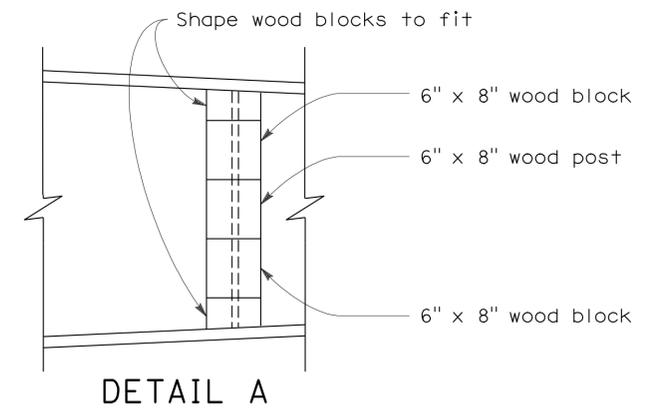
Use strengthened railing sections with Type 15A layout where minimum clearance between the face of the guard railing and the fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
FIXED OBJECTS
BETWEEN SEPARATE ROADBEDS
(ONE-WAY TRAFFIC)**

NO SCALE

RSP A77G2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G2
DATED MAY 1, 2006 - PAGE 60 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G2

2006 REVISED STANDARD PLAN RSP A77G2

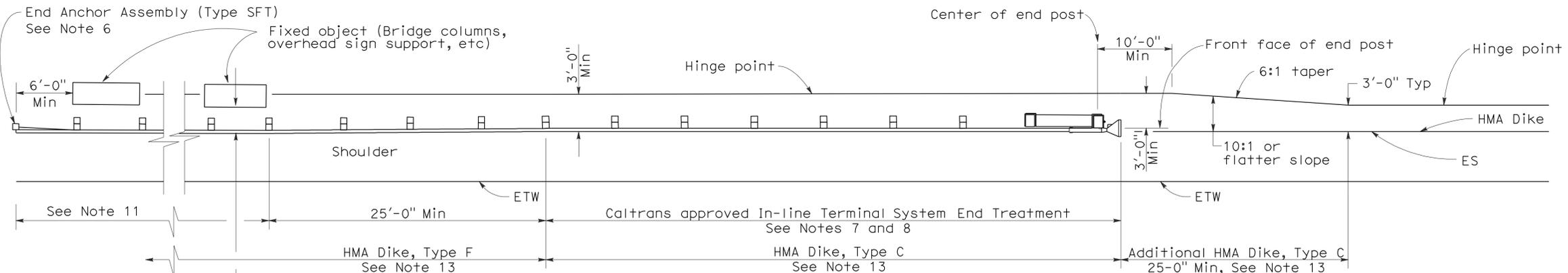
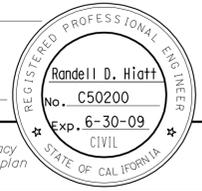
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1334	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

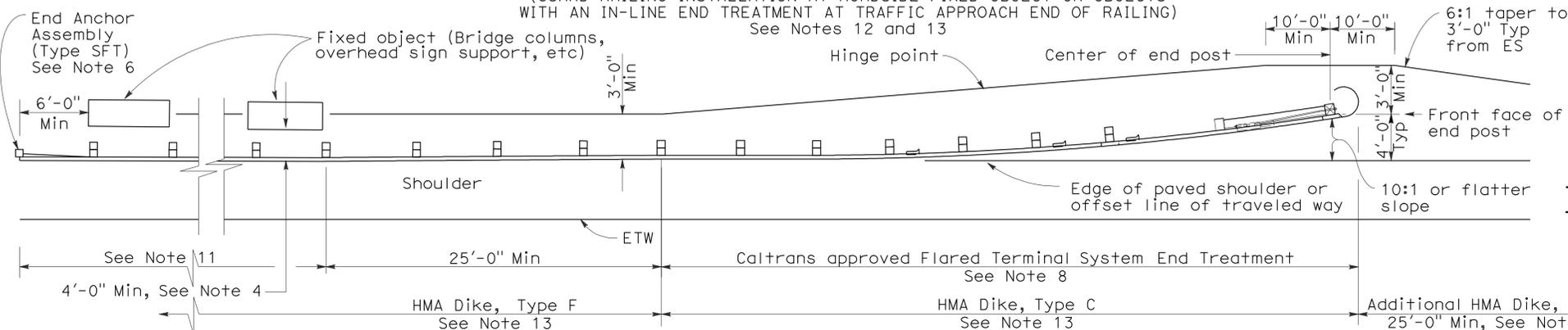
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-25-11



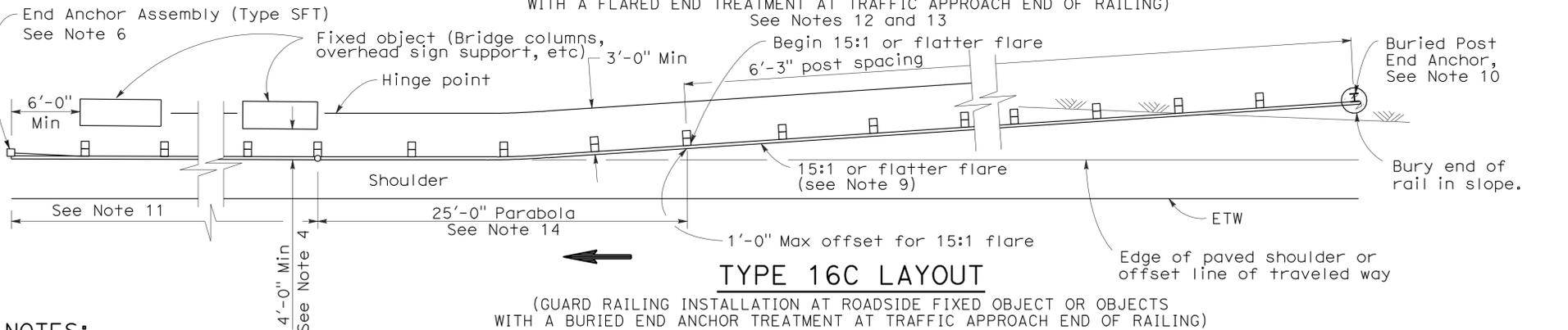
TYPE 16A LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 7 and 8



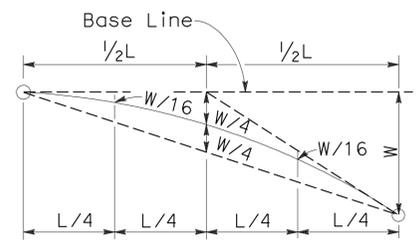
TYPE 16B LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13

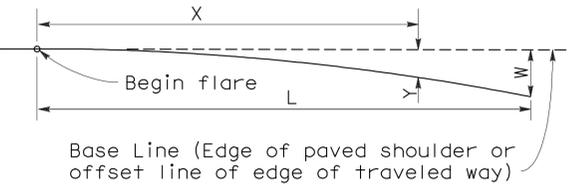


TYPE 16C LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



TYPICAL PARABOLIC LAYOUT

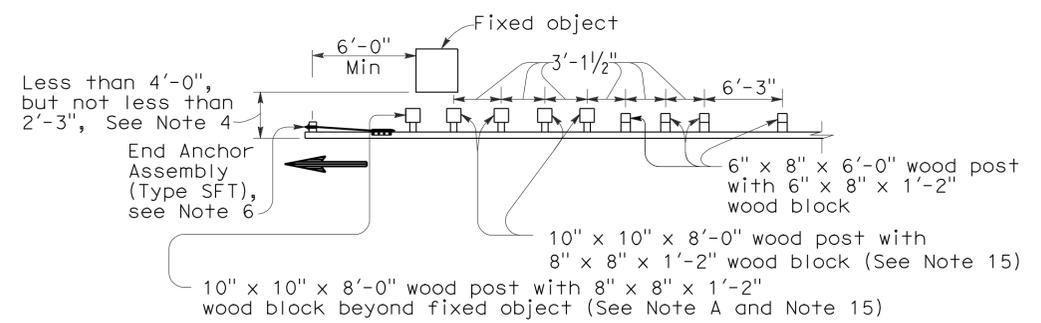


Base Line (Edge of paved shoulder or offset line of edge of traveled way)
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the Buried Post End Anchor used with Type 16C Layout, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for only one direction of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A:

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

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Types 16A, 16B or 16C Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE
RSP A77G3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G3 DATED MAY 1, 2006 - PAGE 61 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G3

2006 REVISED STANDARD PLAN RSP A77G3

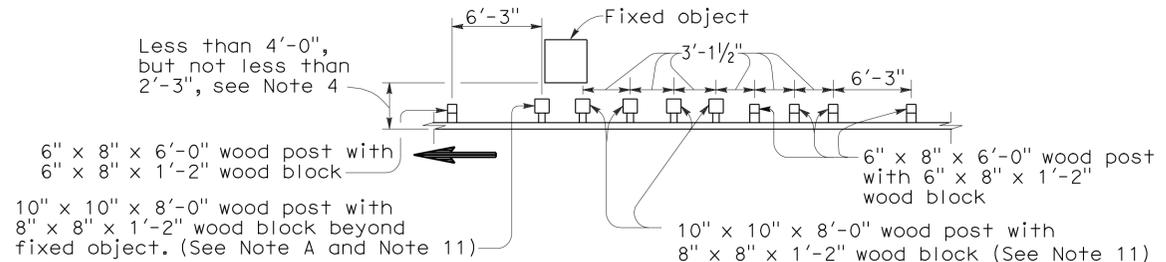
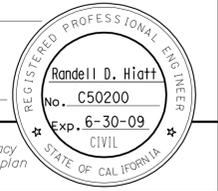
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1335	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
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.

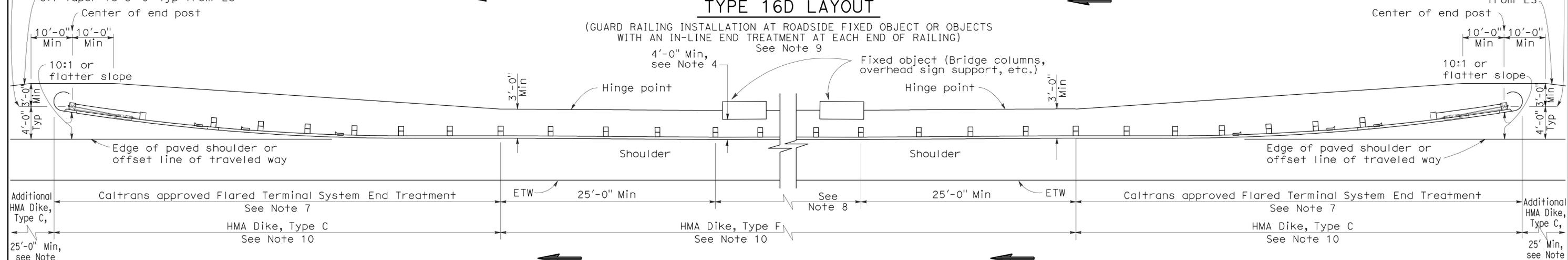
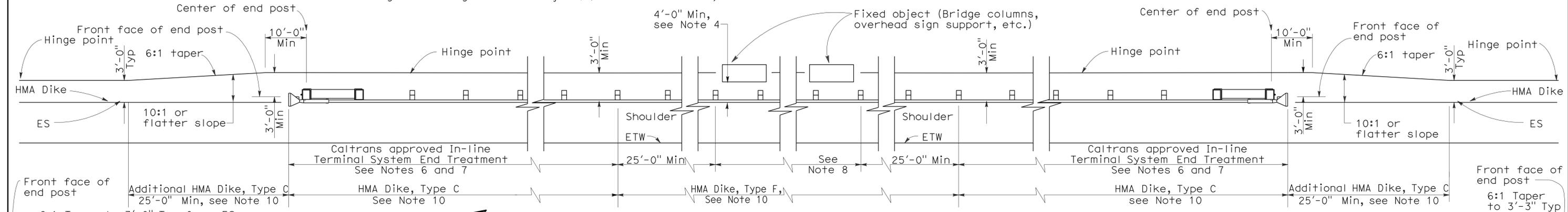
To accompany plans dated 4-25-11



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

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Layout Types 16D or 16E where minimum clearance between the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



- NOTES:**
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
 - Guard railing post spacing to be 6'-3", except as otherwise noted.
 - Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
 - A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
 - Direction of adjacent traffic indicated by →.

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.

11. W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail."

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G4 DATED MAY 1, 2006 - PAGE 62 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77G4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1336	2028

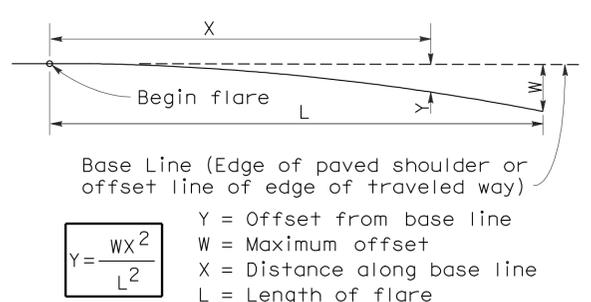
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
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.

To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP A77G5

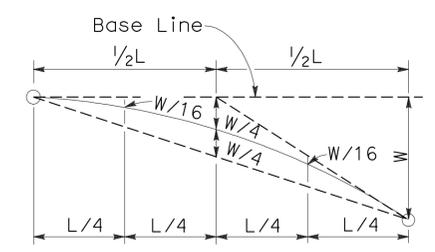


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

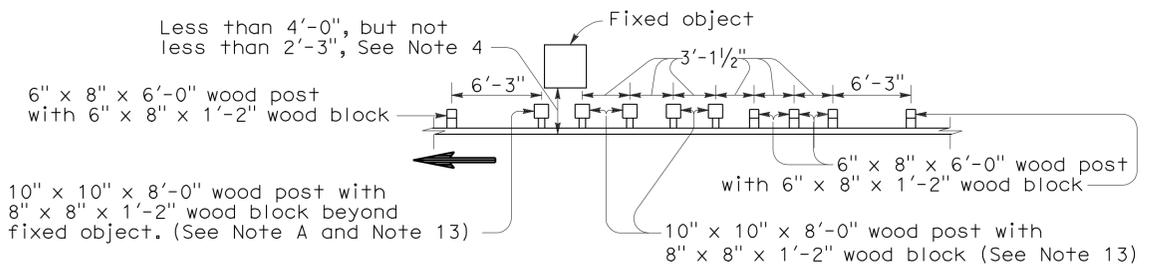
$Y = \frac{WX^2}{L^2}$

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



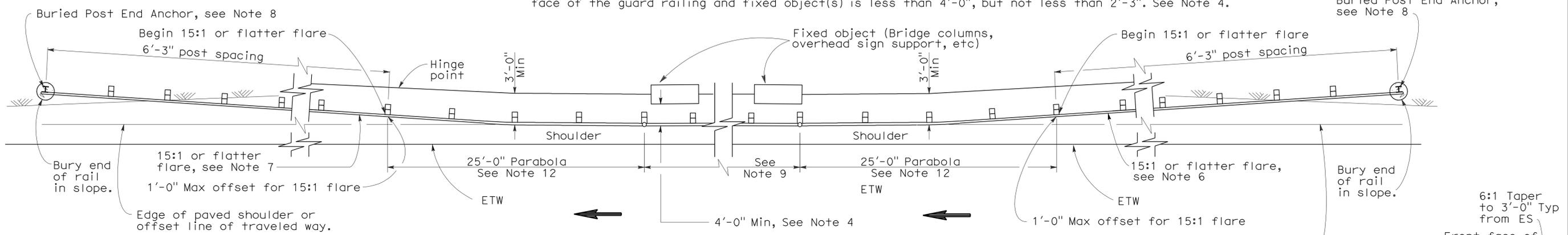
TYPICAL PARABOLIC LAYOUT



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

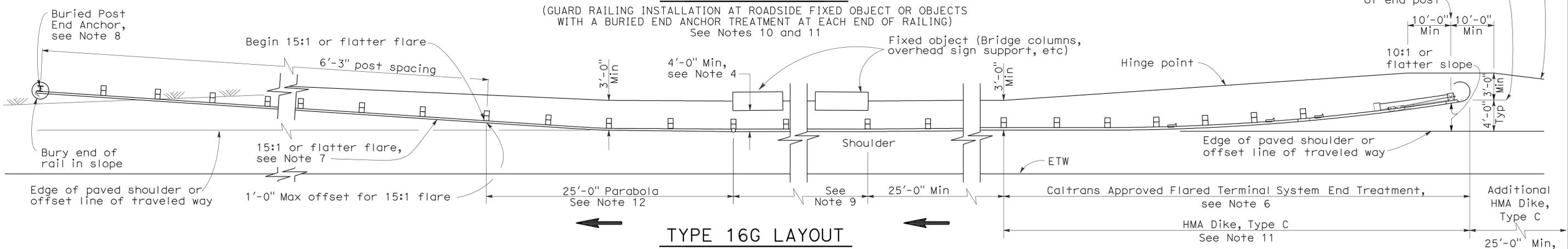
STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Layout Types 16F or 16G where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16F LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT EACH END OF RAILING) See Notes 10 and 11



TYPE 16G LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AND A BURIED END ANCHOR TREATMENT AT THE ENDS OF RAILING) See Notes 10 and 11

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 8" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.

- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare for the buried post anchor is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the Buried Post End Anchor details, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, are typically used on highways where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.

- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**
NO SCALE

RSP A77G5 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G5
DATED MAY 1, 2006 - PAGE 63 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1337	2028

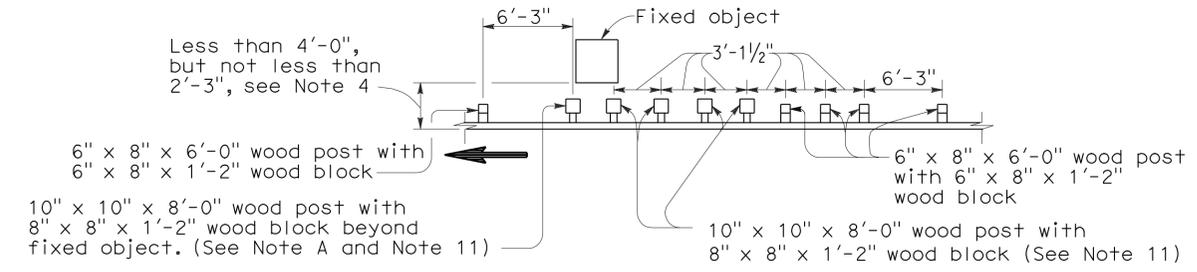
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
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.

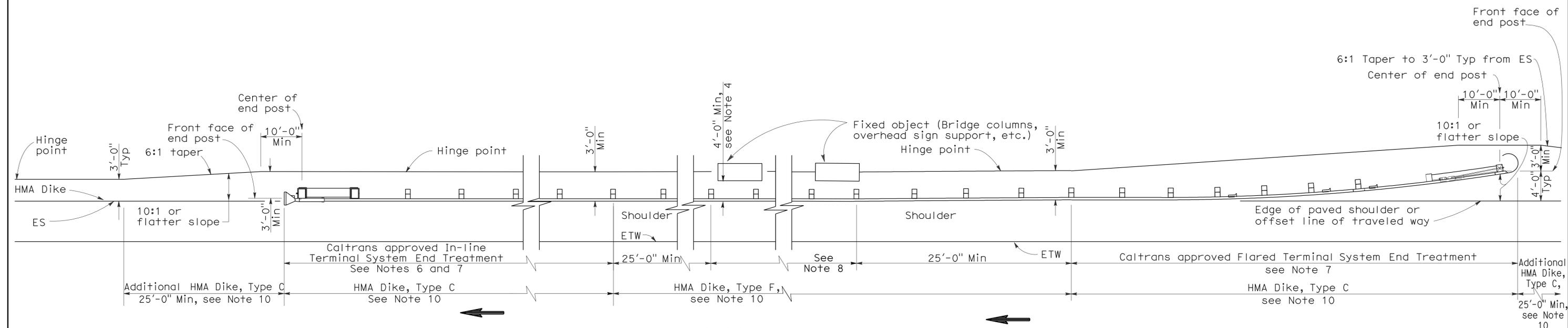
To accompany plans dated 4-25-11



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

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Layout Type 16H where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16H LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AND AN IN-LINE TREATMENT AT THE ENDS OF RAILING)
See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object, located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE
RSP A77G6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G6
DATED MAY 1, 2006 - PAGE 64 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G6

2006 REVISED STANDARD PLAN RSP A77G6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1338	2028

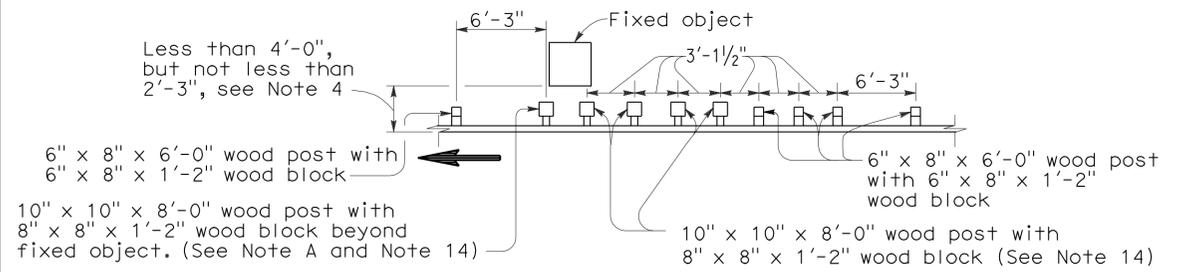
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
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.

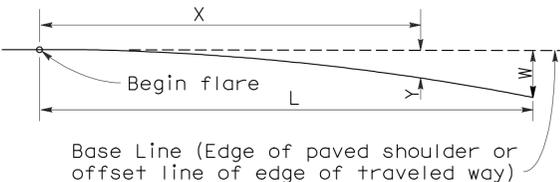
To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP A77G7



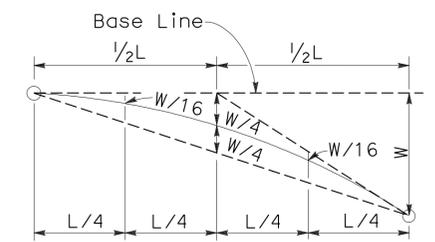
Note A. For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT



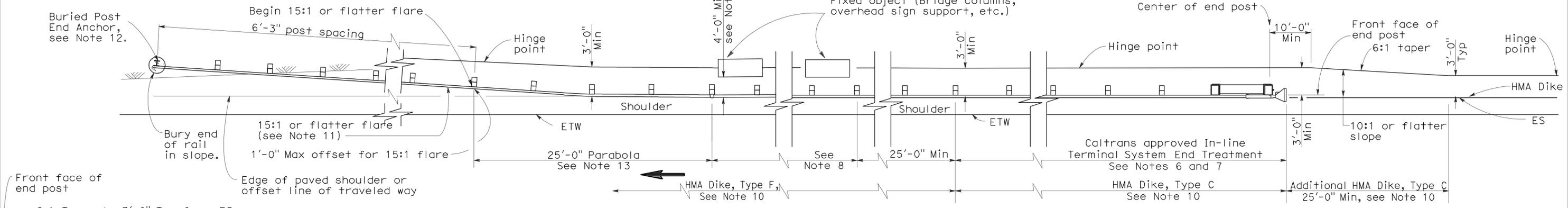
Y = $\frac{WX^2}{L^2}$
 Y = Offset from base line
 W = Maximum offset
 X = Distance along base line
 L = Length of flare

PARABOLIC FLARE OFFSETS



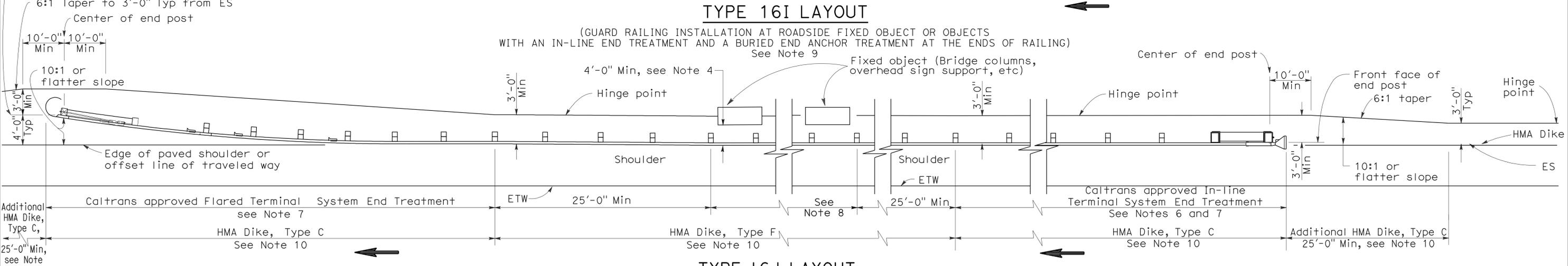
TYPICAL PARABOLIC LAYOUT

Use strengthened railing sections with Layout Types 16I or 16J Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16I LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AND A BURIED END ANCHOR TREATMENT AT THE ENDS OF RAILING) See Note 9



TYPE 16J LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING) See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans, are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare for the buried post anchor is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".

- For details of Buried Post End Anchor details, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard RSP Plan A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS
NO SCALE

RSP A77G7 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G7
DATED MAY 1, 2006 - PAGE 65 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G7

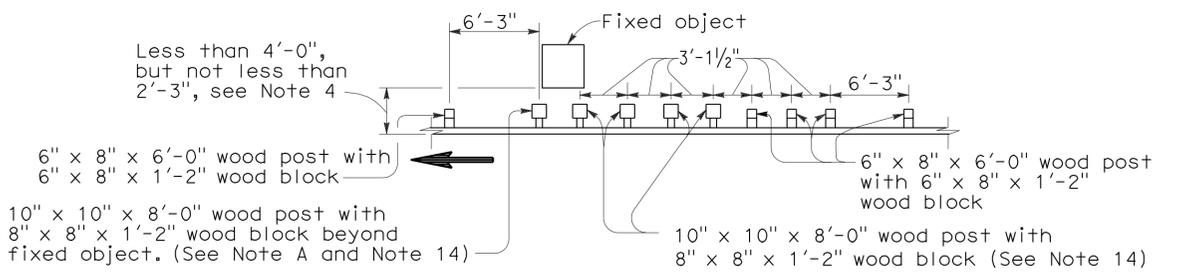
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1339	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

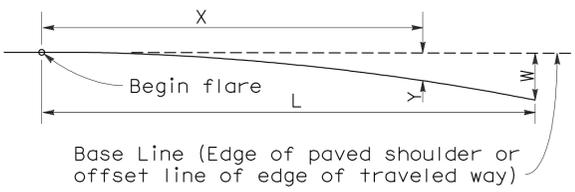
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



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

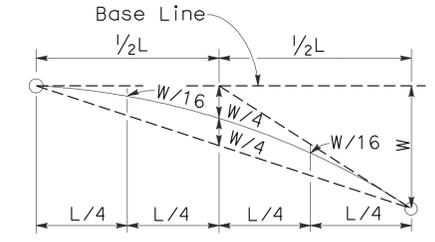
STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT



Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

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

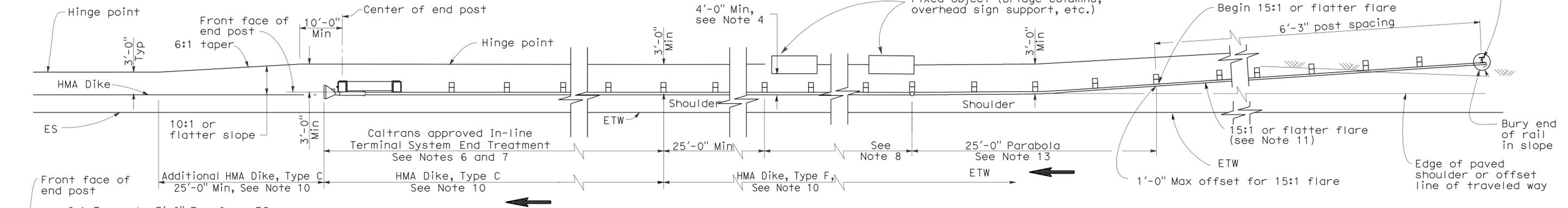
PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

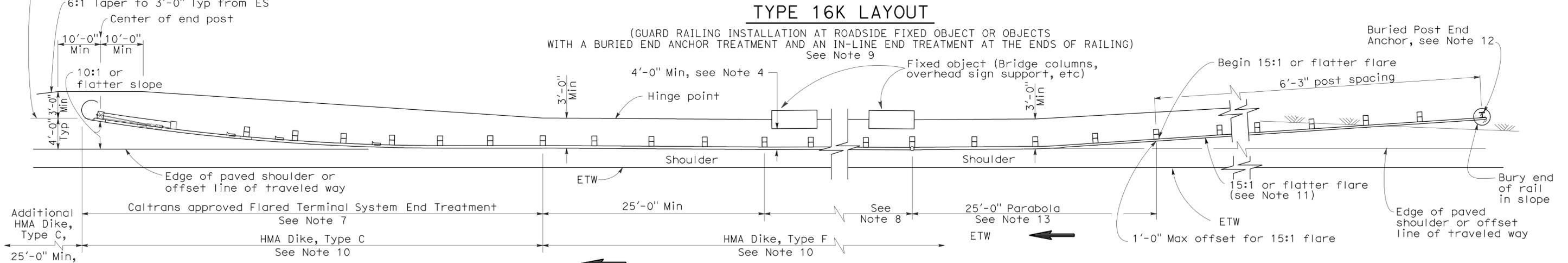
To accompany plans dated 4-25-11

Use strengthened railing sections with Layout Types 16K or 16L Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



TYPE 16K LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AND AN IN-LINE END TREATMENT AT THE ENDS OF RAILING) See Note 9



TYPE 16L LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING) See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing at 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.

- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77G Series of Revised Standard Plans are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- The 15:1 or flatter flare for the buried post anchor is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".

- For details of Buried Post End Anchor details, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard RSP Plan A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**

NO SCALE
RSP A77G8 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G8
DATED MAY 1, 2006 - PAGE 66 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G8

2006 REVISED STANDARD PLAN RSP A77G8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1340	2028

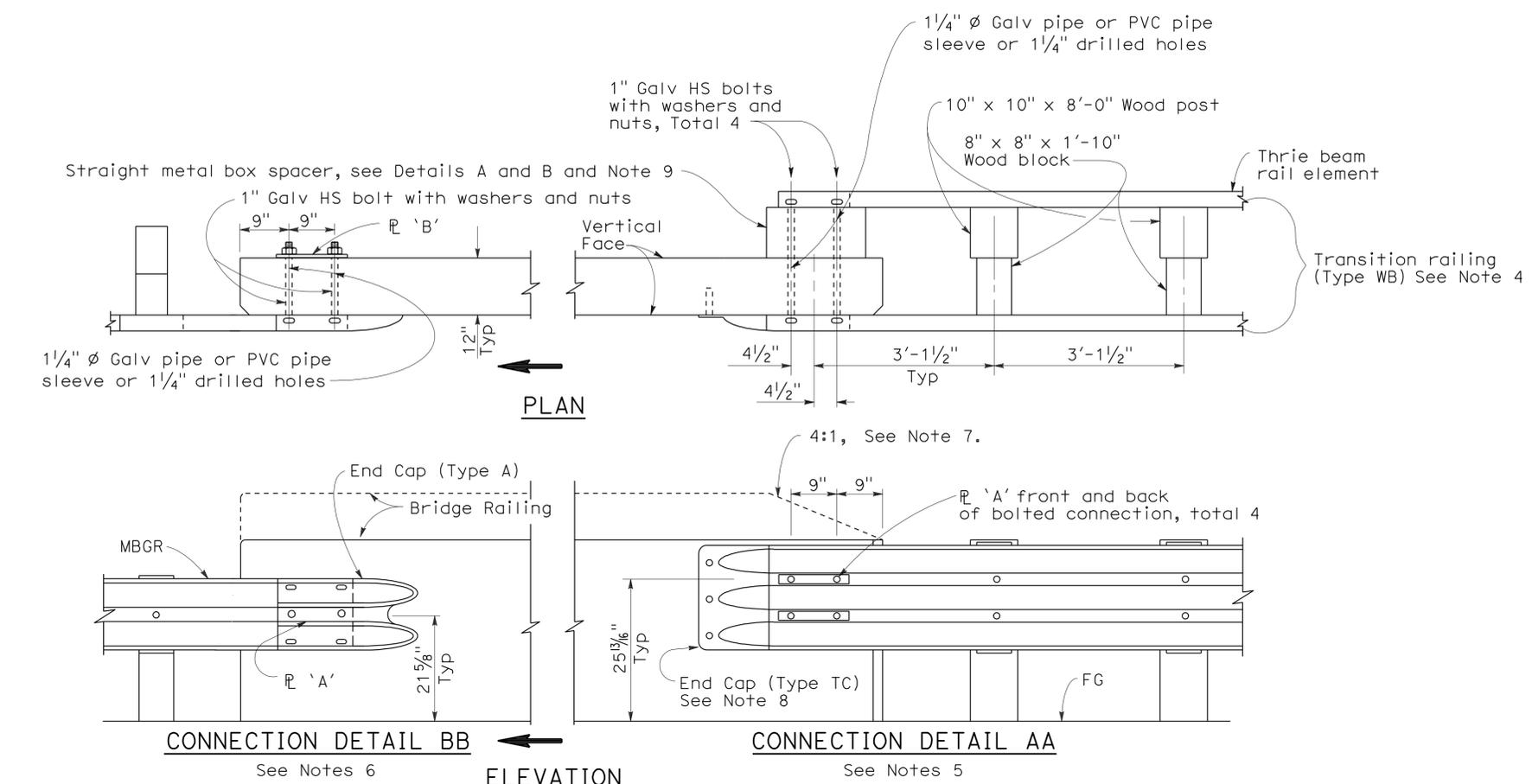
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
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
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

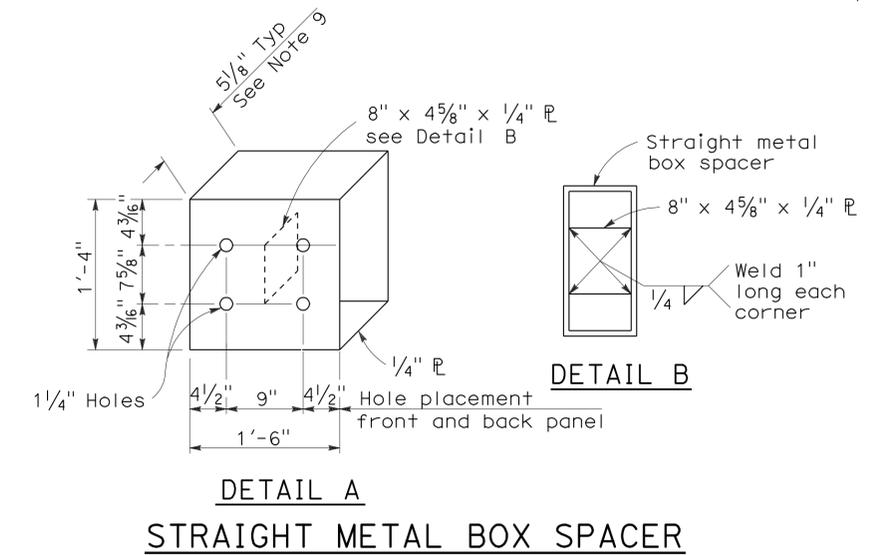
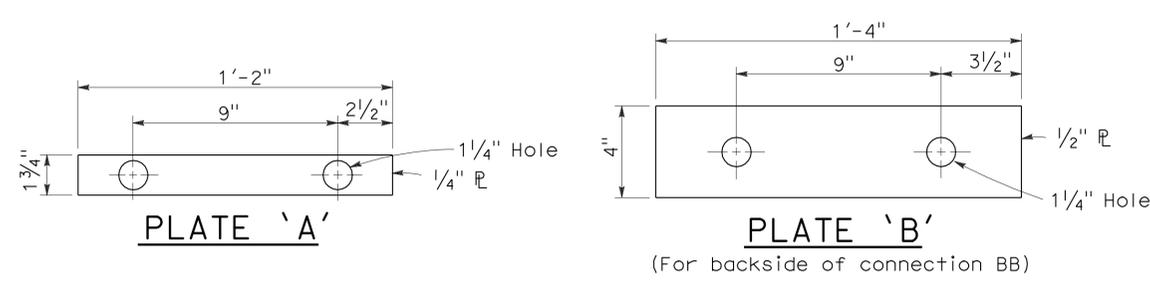
To accompany plans dated 4-25-11



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.1

NO SCALE

RSP A77J1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J1 DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1341	2028

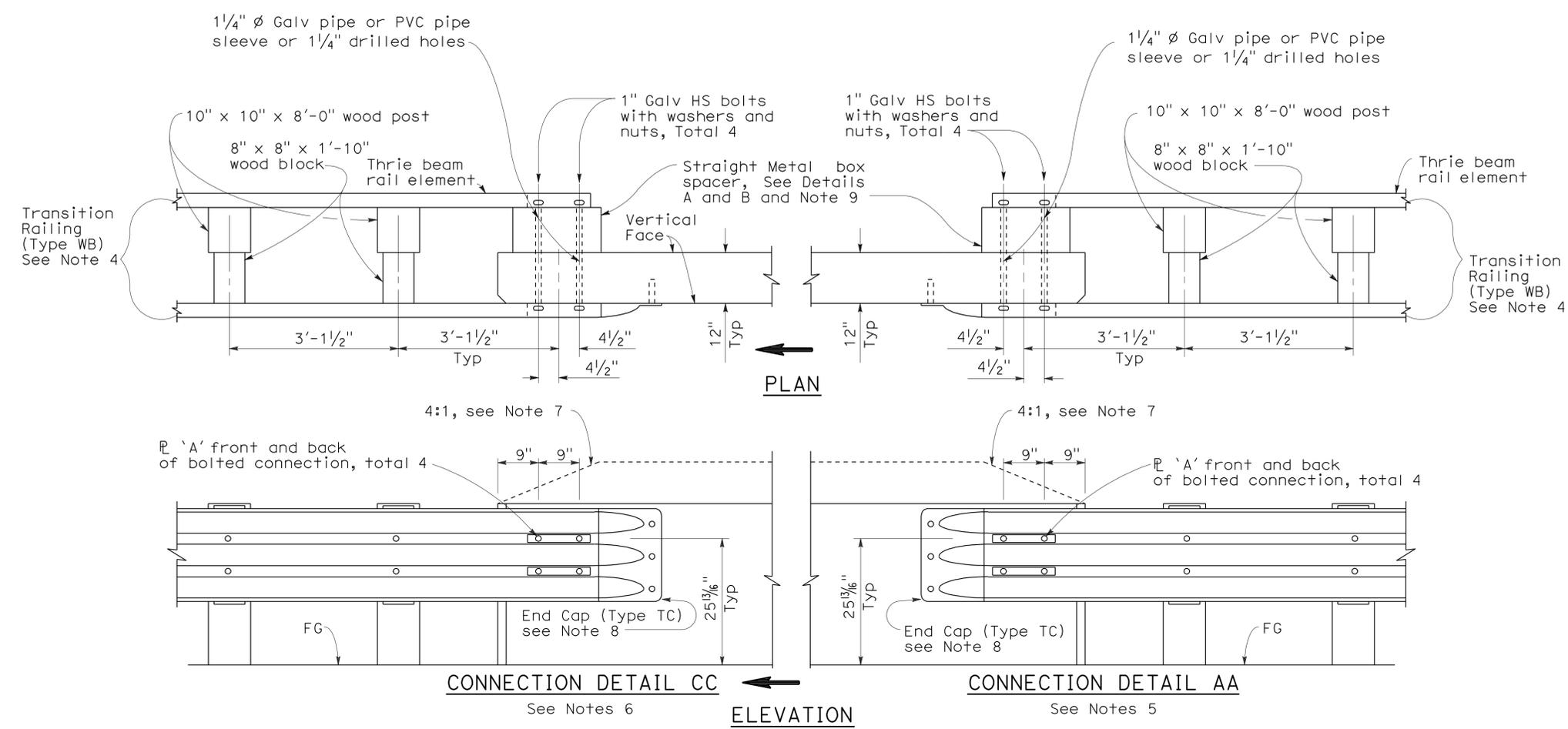
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
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
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

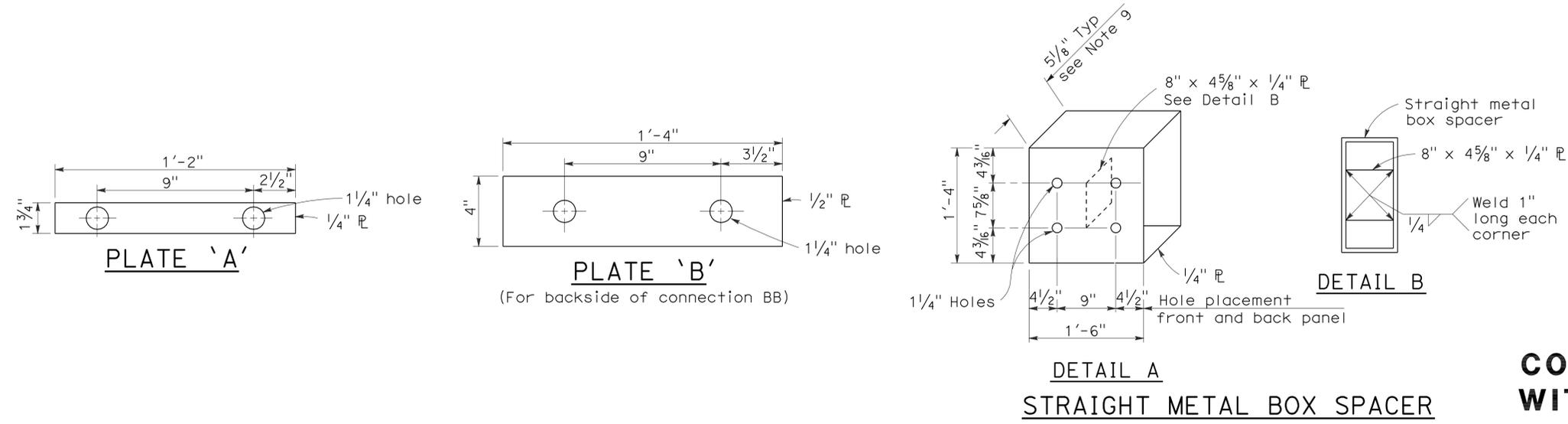
To accompany plans dated 4-25-11



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.



**DETAIL A
STRAIGHT METAL BOX SPACER**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
CONNECTIONS TO BRIDGE RAILINGS
WITHOUT SIDEWALKS DETAILS No.2**

NO SCALE
RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

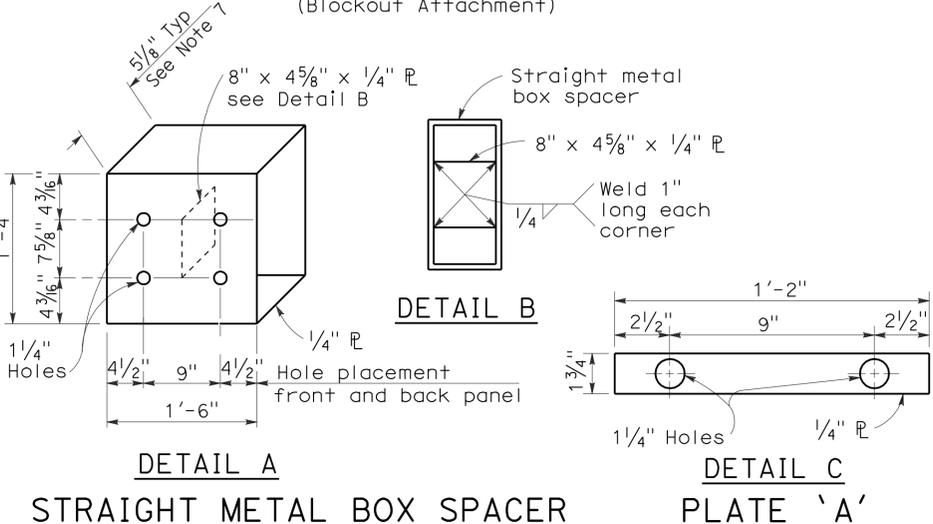
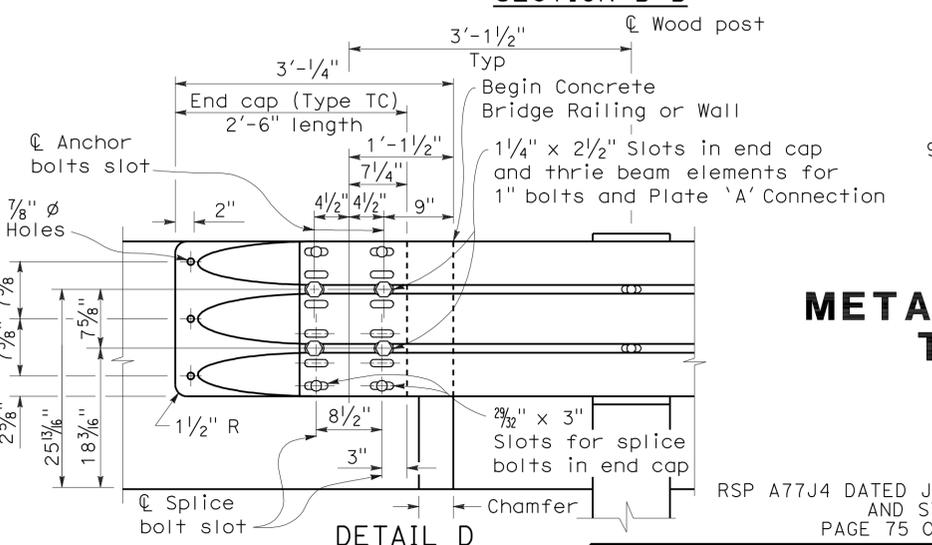
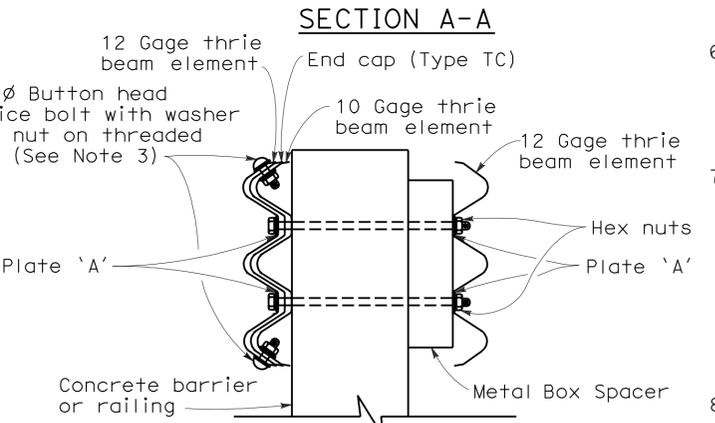
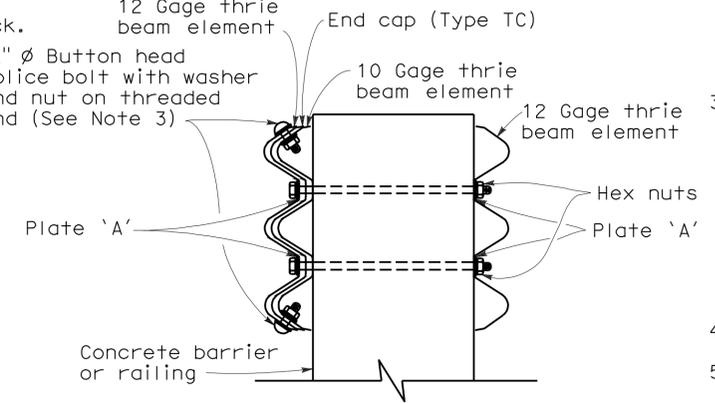
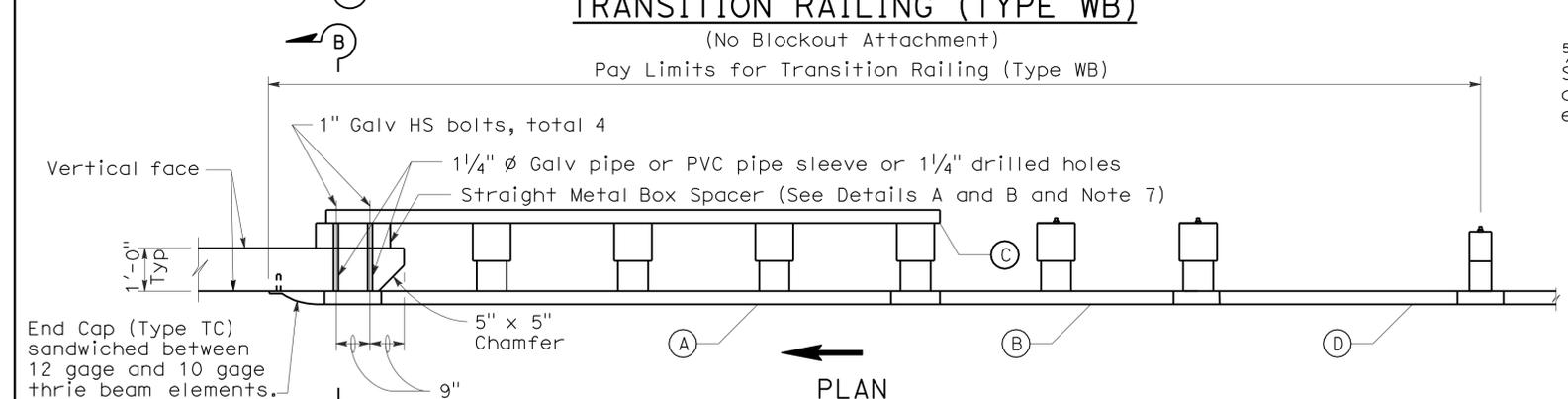
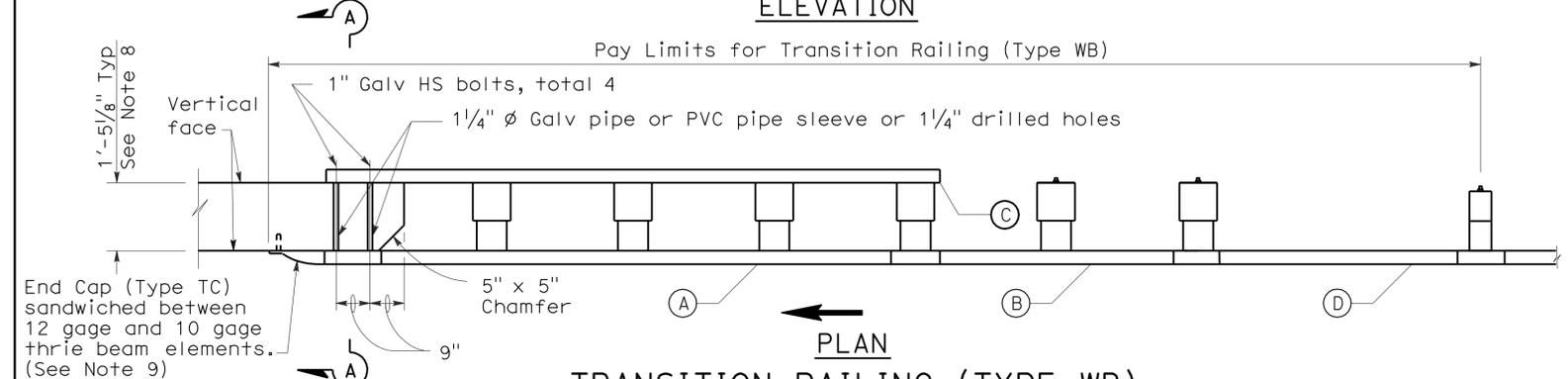
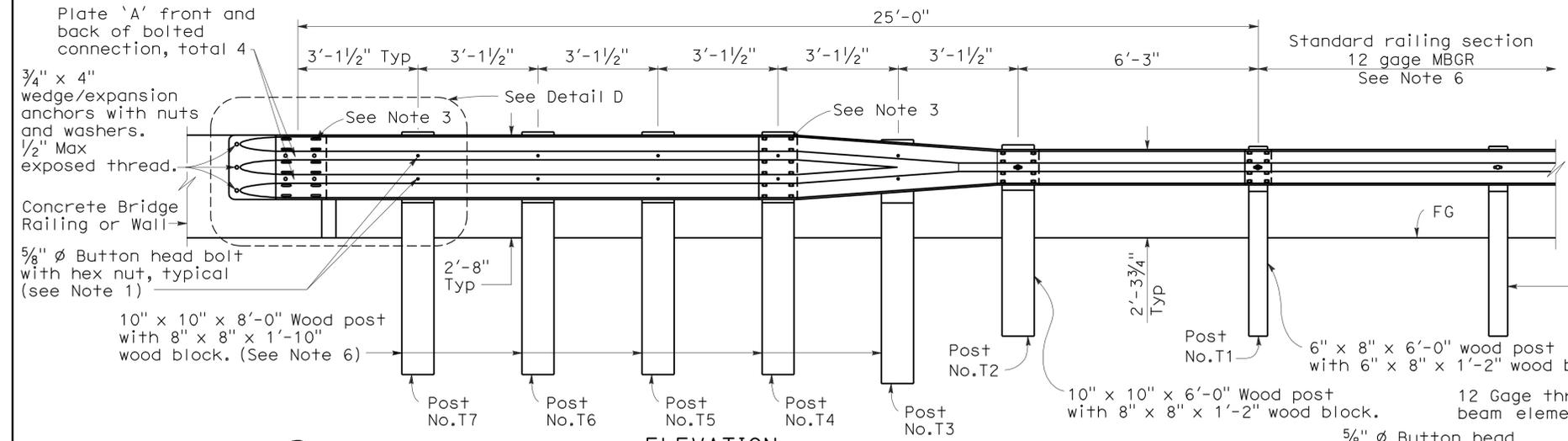
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1342	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
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
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage "W" beam to thrie beam element.
 - (C) One 12 gage thrie beam element.
 - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick
12 gage = 0.108" thick

- NOTES:** To accompany plans dated 4-25-11
1. Use 5/8 " ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 3. Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 " ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
 4. Direction of adjacent traffic indicated by \rightarrow .
 5. The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 6. Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
 7. The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
 8. Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 9. End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

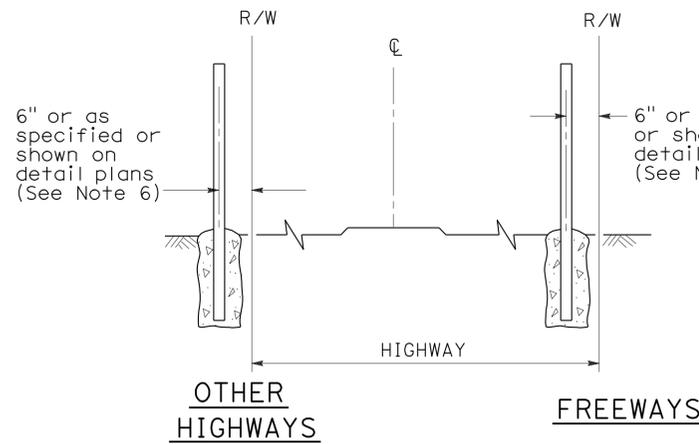
**METAL BEAM GUARD RAILING
TRANSITION RAILING
(TYPE WB)**

NO SCALE

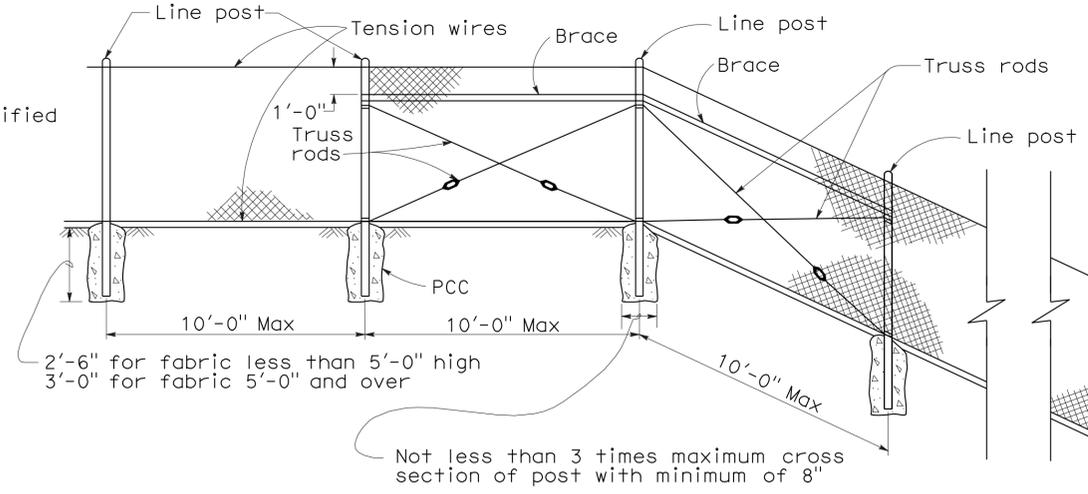
RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008
AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

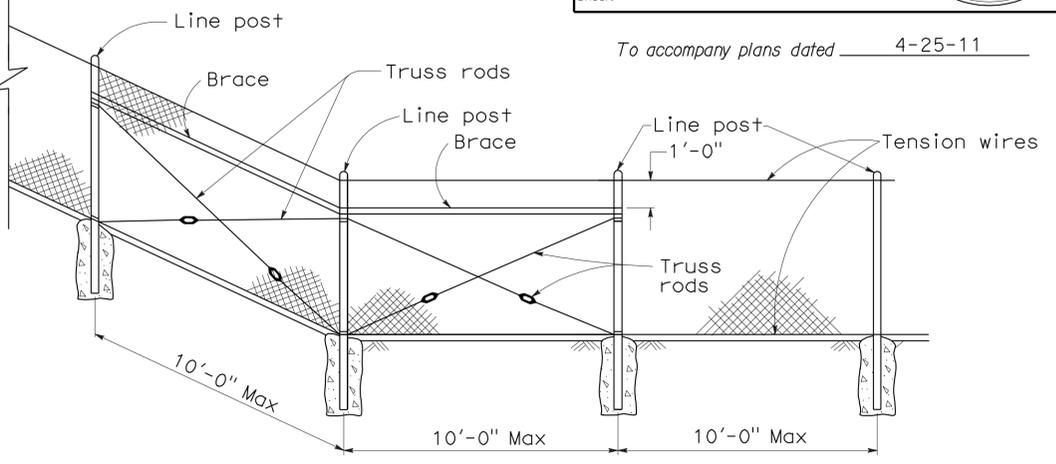
2006 REVISED STANDARD PLAN RSP A77J4



FENCE LOCATION

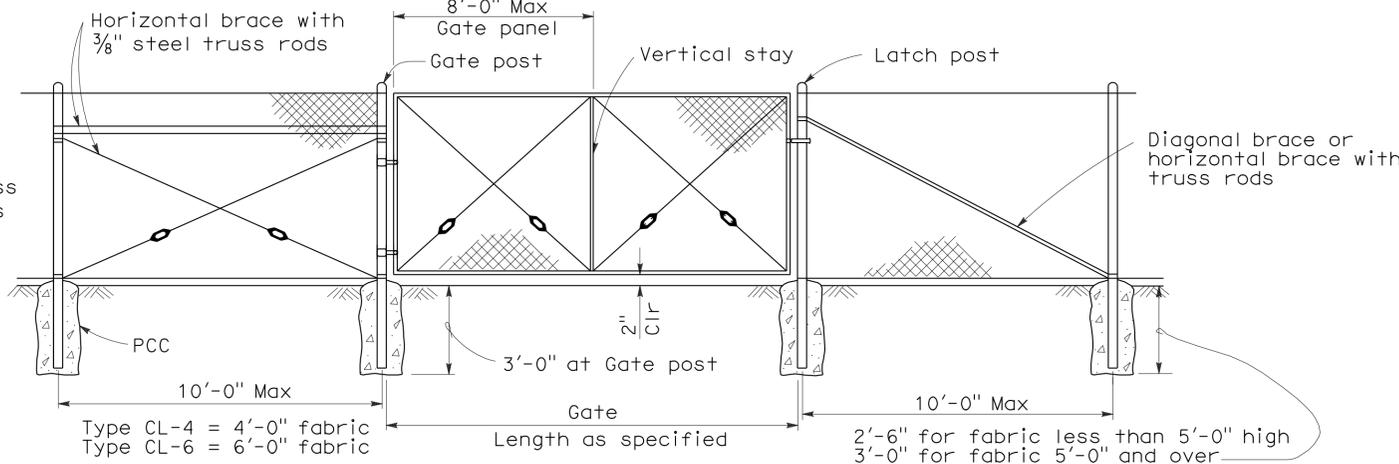
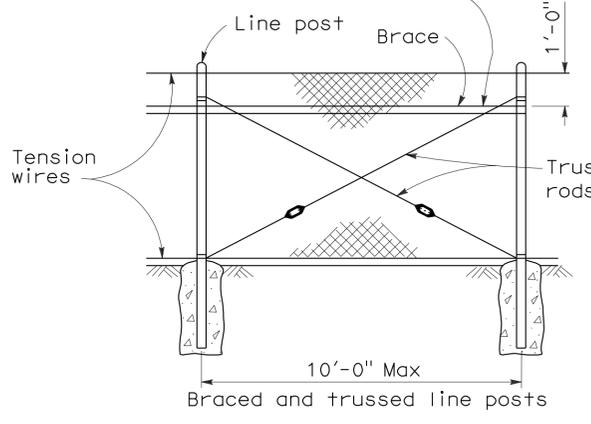


CHAIN LINK FENCE ON SHARP BREAK IN GRADE



To accompany plans dated 4-25-11

Brace to be removed after all other fence construction is completed unless otherwise directed by the Engineer



CHAIN LINK GATE INSTALLATION

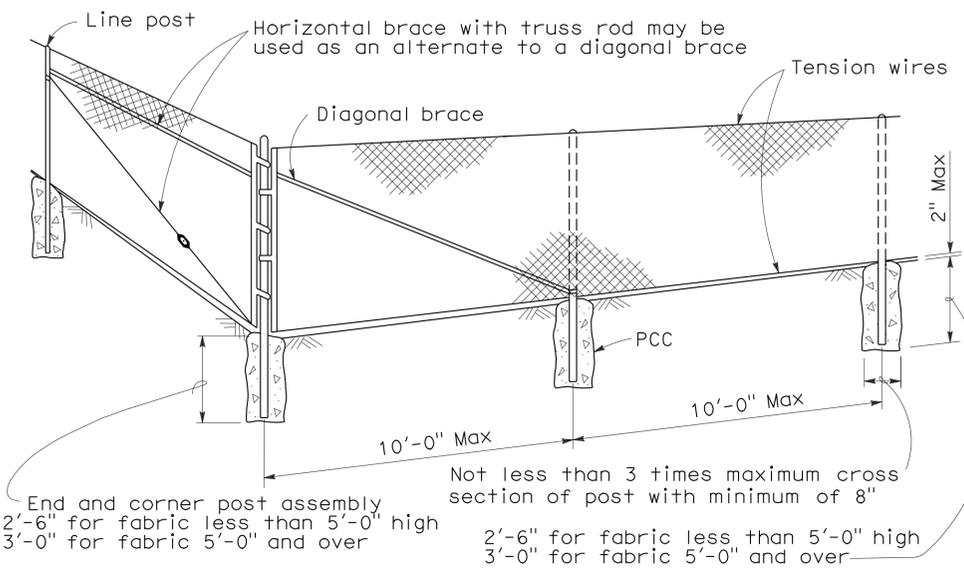
GATE POST			
FENCE HEIGHT	GATE WIDTHS	NOMINAL ID	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'-0"	2 1/2"	4.95 LB
	Over 6'-0" thru 12'-0"	4"	10.79 LB
	Over 12'-0" thru 18'-0"	5"	14.62 LB
	Over 18'-0" to 24'-0" Max	6"	18.97 LB
Over 6'-0"	Up thru 6'-0"	3"	7.58 LB
	Over 6'-0" thru 12'-0"	5"	14.62 LB
	Over 12'-0" thru 18'-0"	6"	18.97 LB
	Over 18'-0" to 24'-0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.

NOTES:

- The below table shows examples of post and brace sections which may comply with the Specifications.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
- Options exercised shall be uniform on any one project.
- Dimensions shown are nominal.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED		ROUND ID	H	ROLL FORMED	
6' & less	1 1/2"	1 7/8" x 1 5/8"	1 7/8" x 1 5/8"	2"	3 1/2" x 3 1/2"	2" x 1 3/4"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"
Over 6'	2"	2 1/4" x 2"	2" x 1 3/4"	2 1/2"	3 1/2" x 3 1/2"	2 1/2" x 2 1/2"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"



CORNER POST

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
 NO SCALE

RSP A85 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN A85
 DATED MAY 1, 2006 - PAGE 111 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A85

2006 REVISED STANDARD PLAN RSP A85

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1344	2028

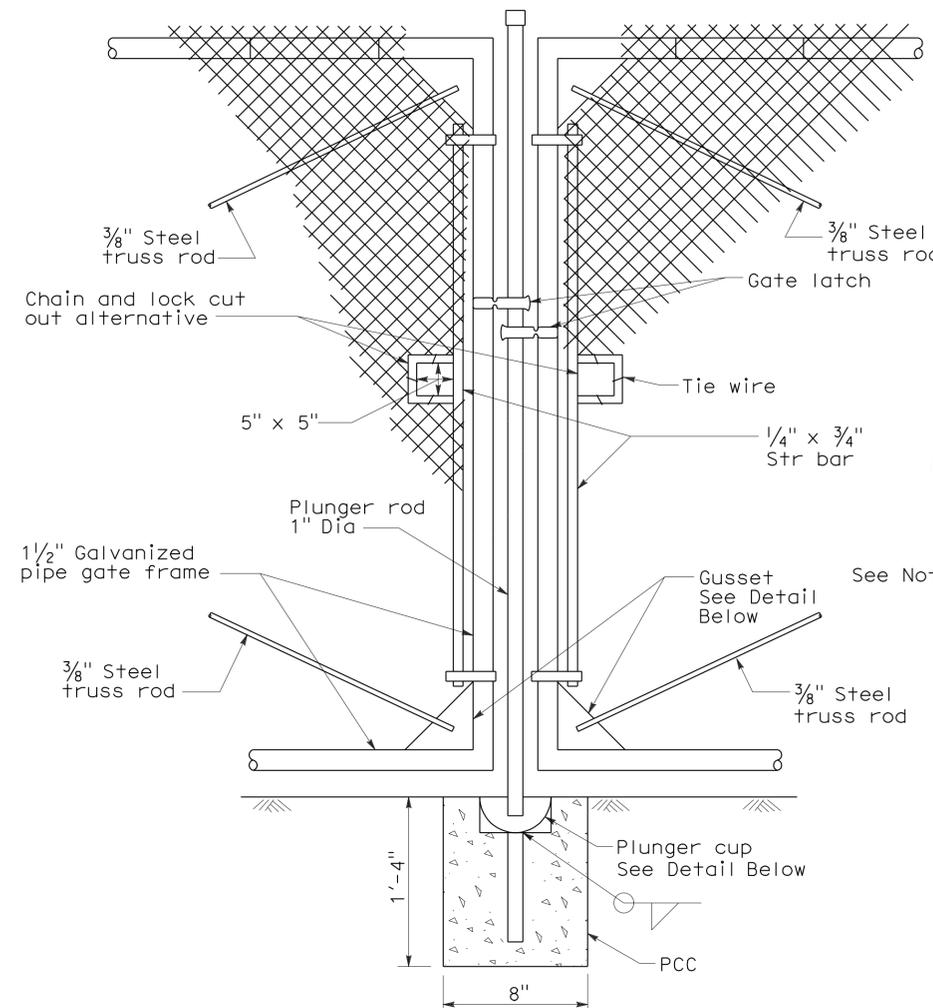
Glenn DeCou
 REGISTERED CIVIL ENGINEER
 No. C34547
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

June 5, 2009
 PLANS APPROVAL DATE

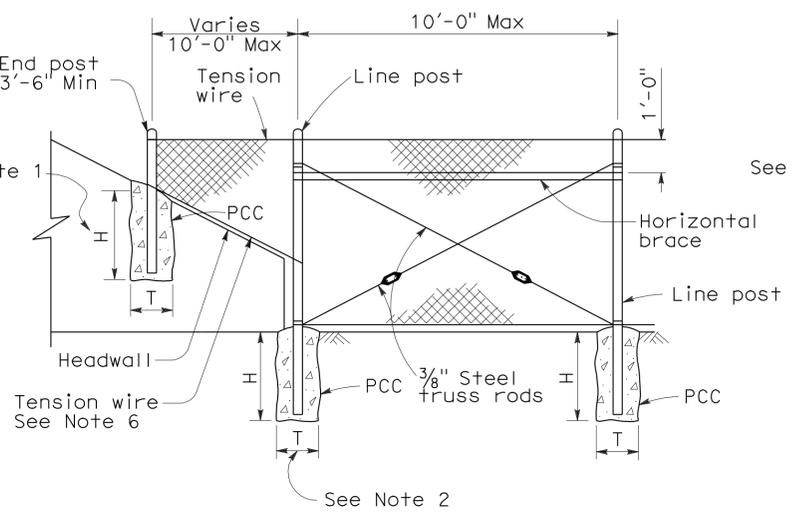
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-25-11

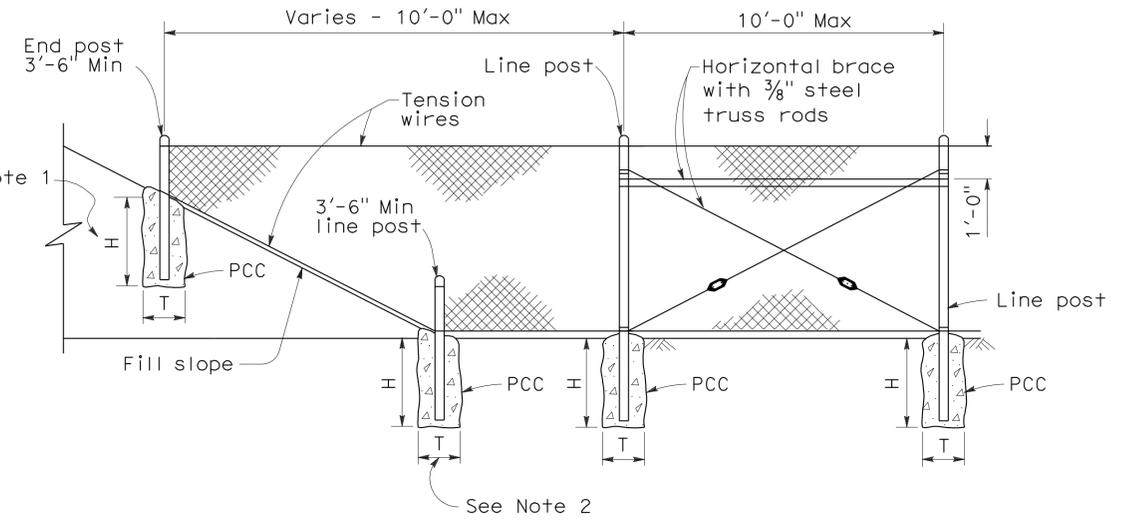
- NOTES:**
- H is 2'-6" for fabric less than 5'-0" high.
H is 3'-0" for fabric 5'-0" and over.
 - T is not less than 3 times maximum cross section of post with minimum of 8".
 - Arms with barbed wire to be used where shown on plans.
 - See Revised Standard Plan RSP A85 for Chain Link Fencing dimensions.
 - Reinforcing must comply with ASTM A 706.
 - See Detail A on New Standard Plan NSP A86B for connection at headwall.



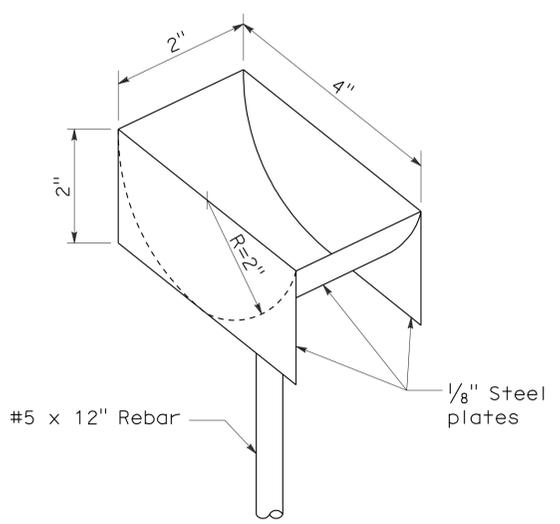
**TYPICAL DOUBLE GATE
REMOVABLE CENTER POST**



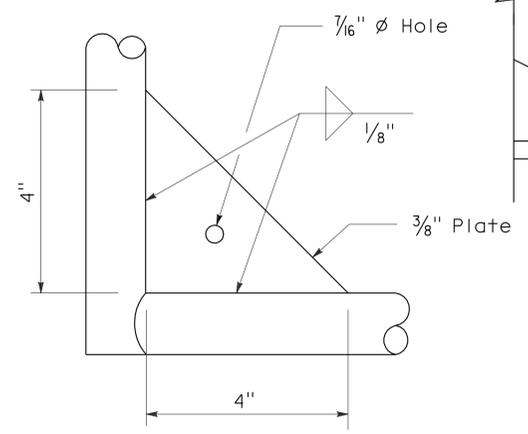
METHOD OF TYING FENCE TO HEADWALL



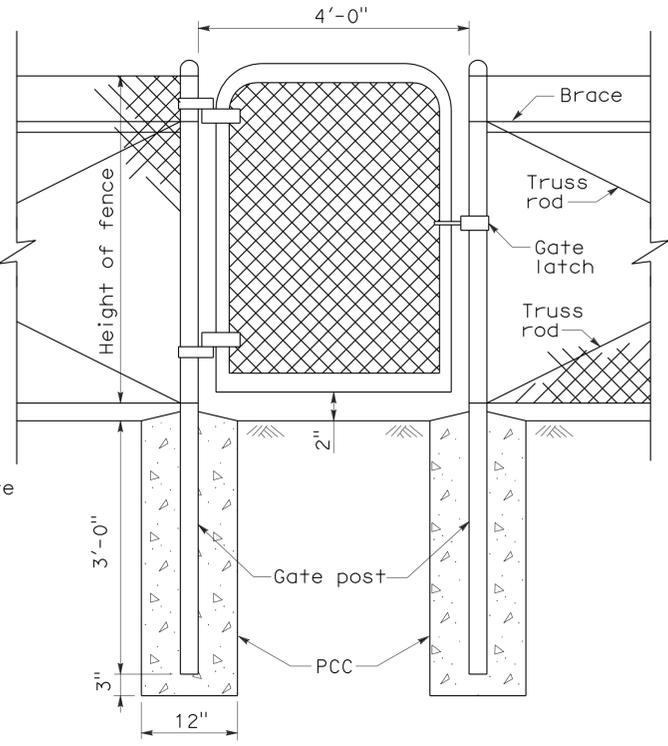
METHOD OF ERECTING FENCE FOR FILL SLOPE



PLUNGER CUP DETAIL



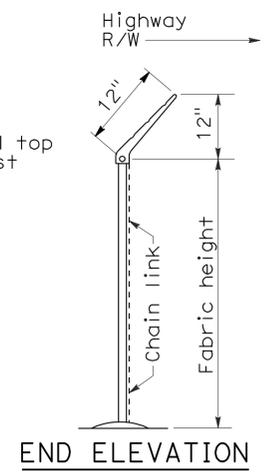
GUSSET DETAIL



WALK GATE

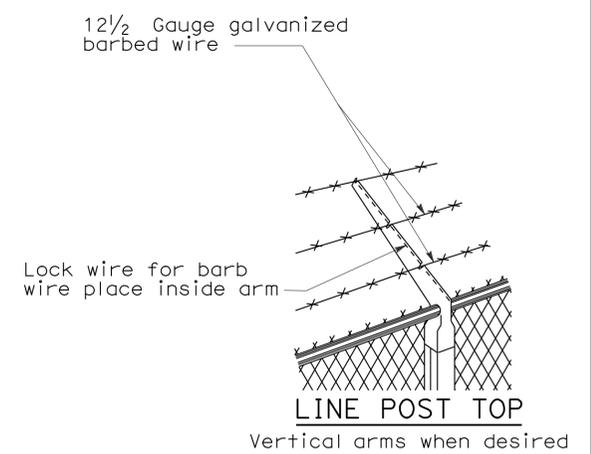


POST TOP END



END ELEVATION

BARBED WIRE POST TOP
See Note 3



LINE POST TOP

Vertical arms when desired

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

NSP A85A DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A85A

2006 NEW STANDARD PLAN NSP A85A

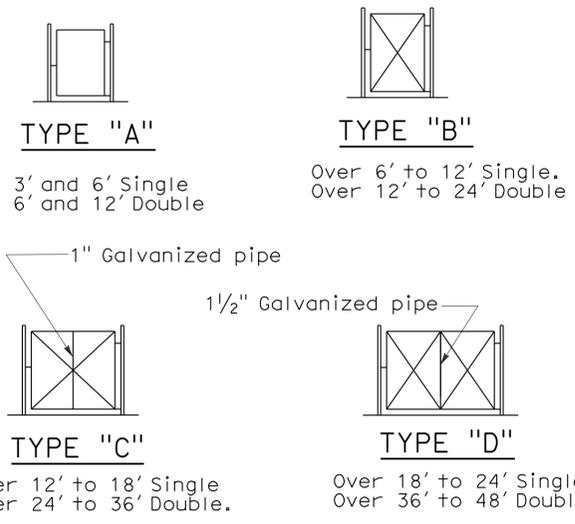
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1345	2028

Glenn DeCou
 REGISTERED CIVIL ENGINEER
 No. C34547
 Exp. 9-30-09
 STATE OF CALIFORNIA

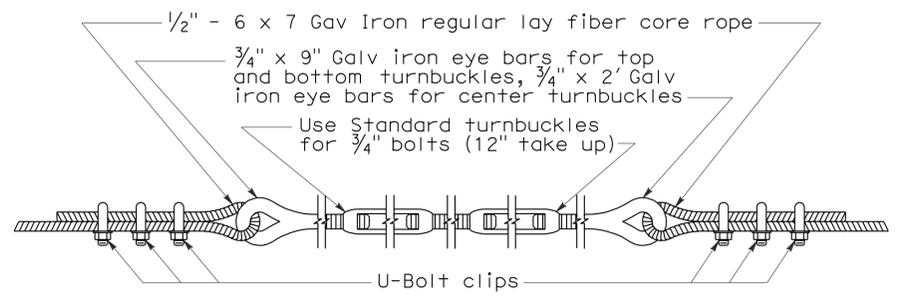
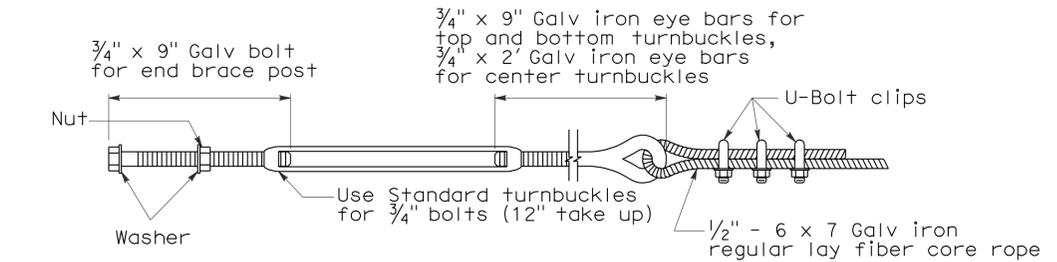
June 5, 2009
 PLANS APPROVAL DATE

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.

To accompany plans dated 4-25-11

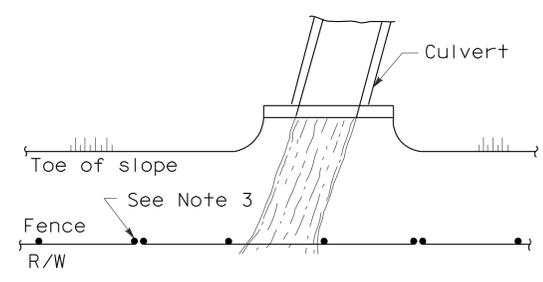


TYPICAL FRAMEWORK SHOWING NUMBER OF BAYS IN GATE

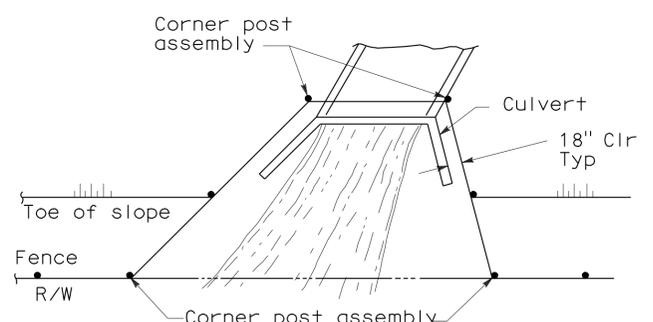


NOTES:

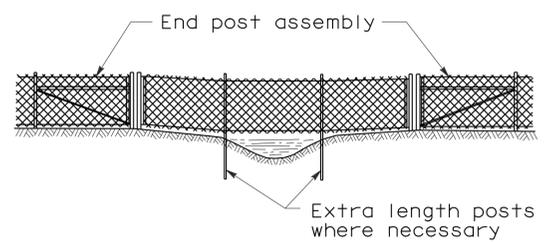
- All material for abutment connection to be galvanized.
- The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
- When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved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



PLAN

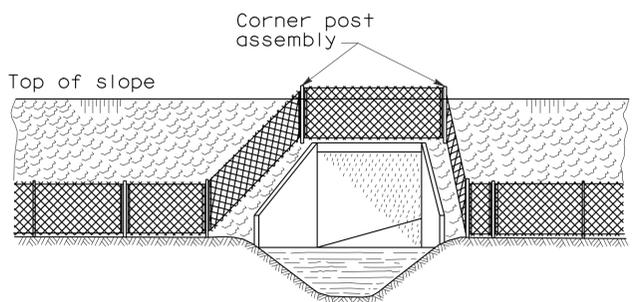


PLAN



ELEVATION

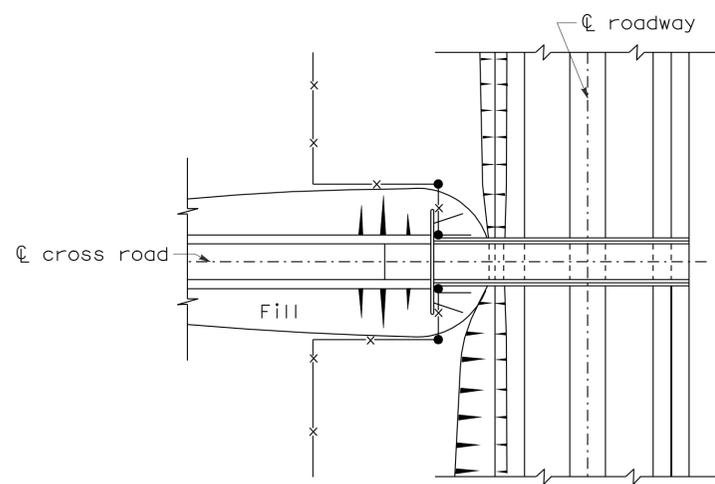
INSTALLATION OVER STREAM



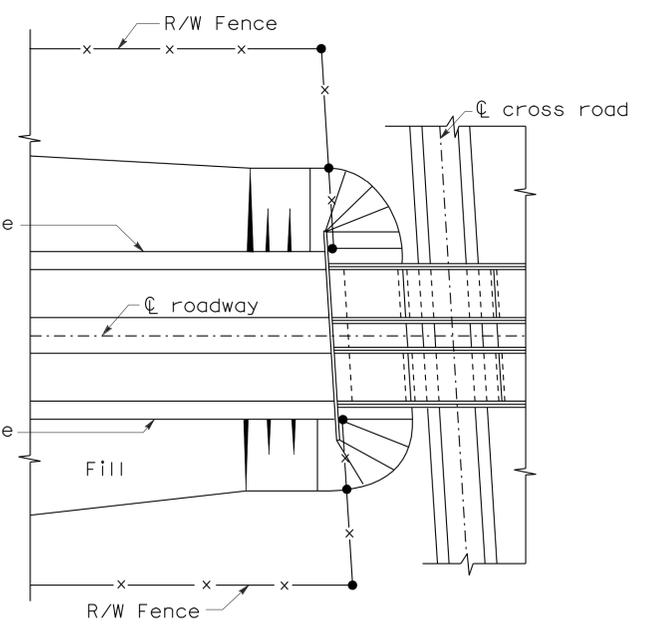
ELEVATION

INSTALLATION AROUND HEADWALL

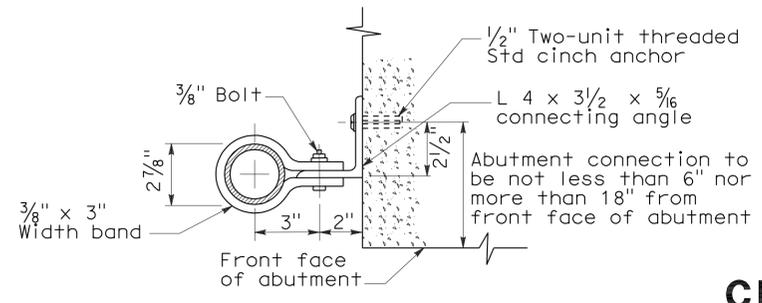
See Note 4



PLAN OF ROADWAY - UNDERPASS



PLAN OF ROADWAY - OVERPASS



ABUTMENT CONNECTION

TYPICAL INSTALLATION AT BRIDGES

CHAIN LINK FENCE DETAILS

NO SCALE

NSP A85B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A85B

2006 NEW STANDARD PLAN NSP A85B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1346	2028

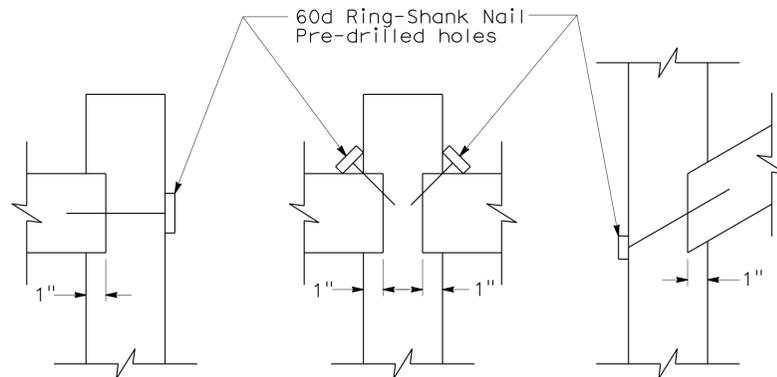
Glenn DeCou
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

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
 Glenn DeCou
 No. C34547
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

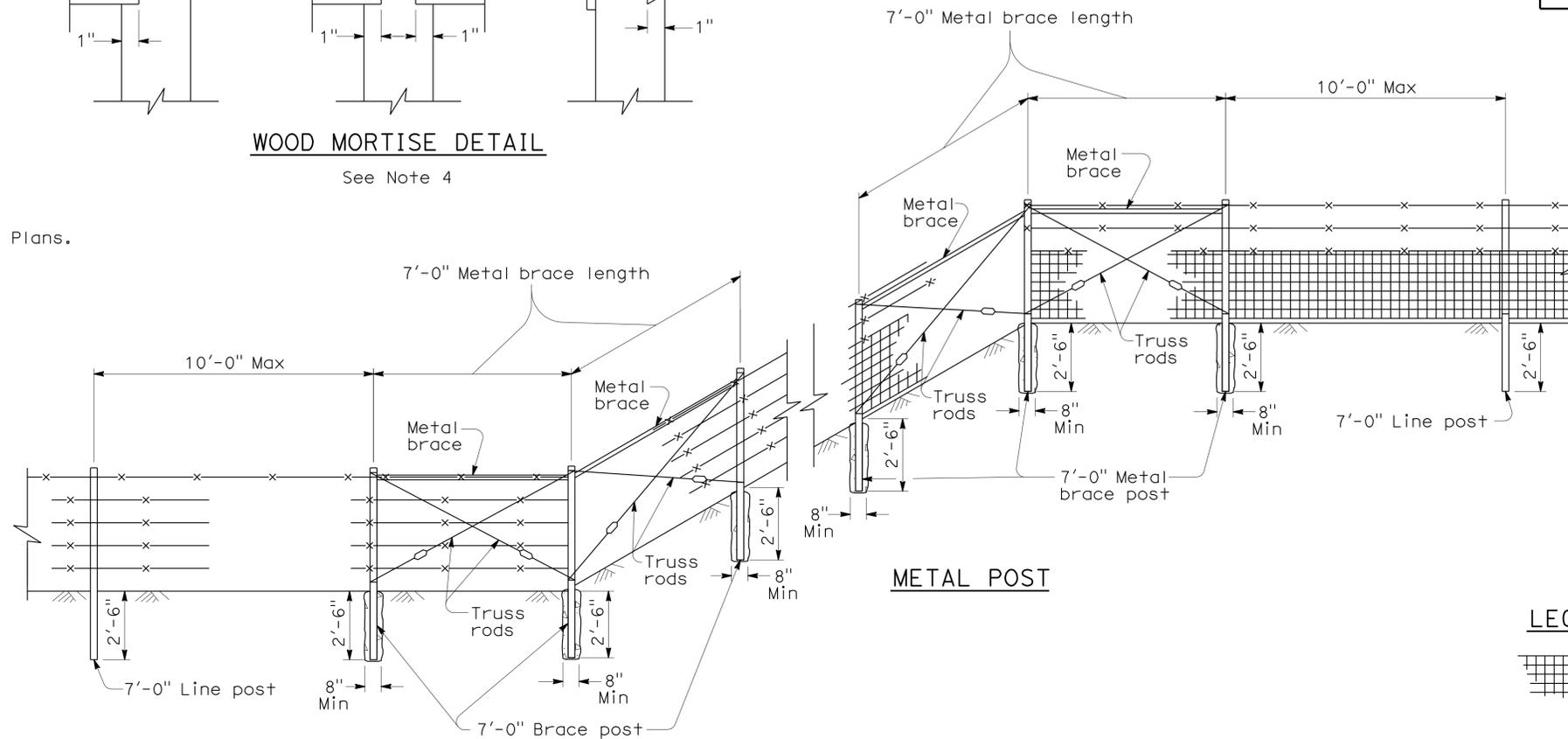
NOTES:

1. Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
2. Line post spacing for wood post equals 12'-0" maximum. Line post spacing for metal post equals 10'-0" maximum.
3. See Standard Plan A86 for Barbed Wire and Wire Mesh dimensions and for steel post and wood post dimensions and weight.
4. Use wood posts when specified in the Special Provisions or shown on the Project Plans.



WOOD MORTISE DETAIL

See Note 4

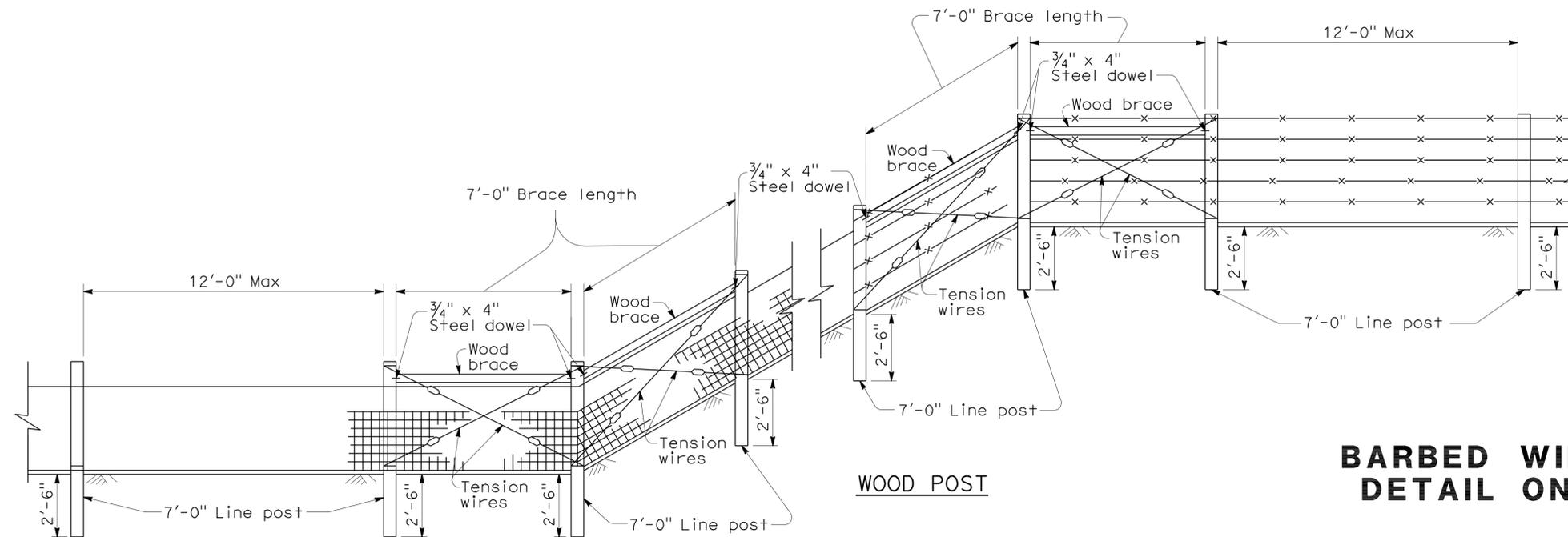


METAL POST

To accompany plans dated 4-25-11

LEGEND

-  Wire Mesh fencing
-  Barbed Wire fencing



WOOD POST

FENCE ON SHARP BREAK IN GRADE

**BARBED WIRE AND WIRE MESH FENCE
DETAIL ON SHARP BREAK IN GRADE**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

NSP A86A DATED JUNE 5, 2009 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A86A

2006 NEW STANDARD PLAN NSP A86A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1347	2028

REGISTERED CIVIL ENGINEER
 Glenn DeCou
 No. C34547
 Exp. 9-30-09
 STATE OF CALIFORNIA

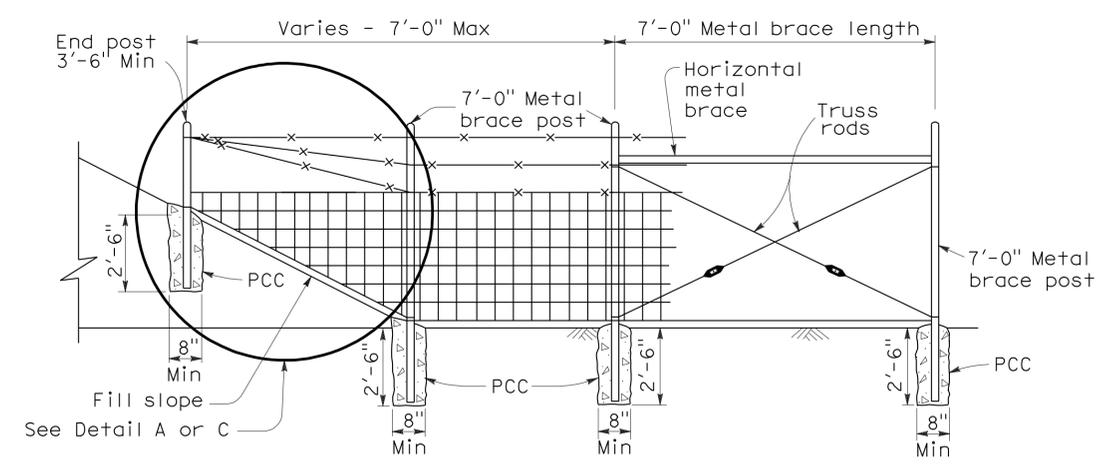
June 5, 2009
 PLANS APPROVAL DATE

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.

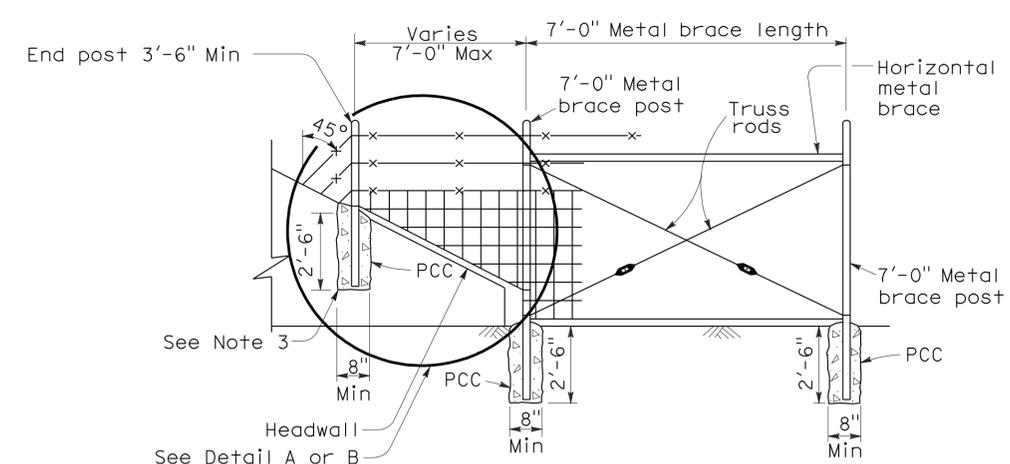
To accompany plans dated 4-25-11

NOTES:

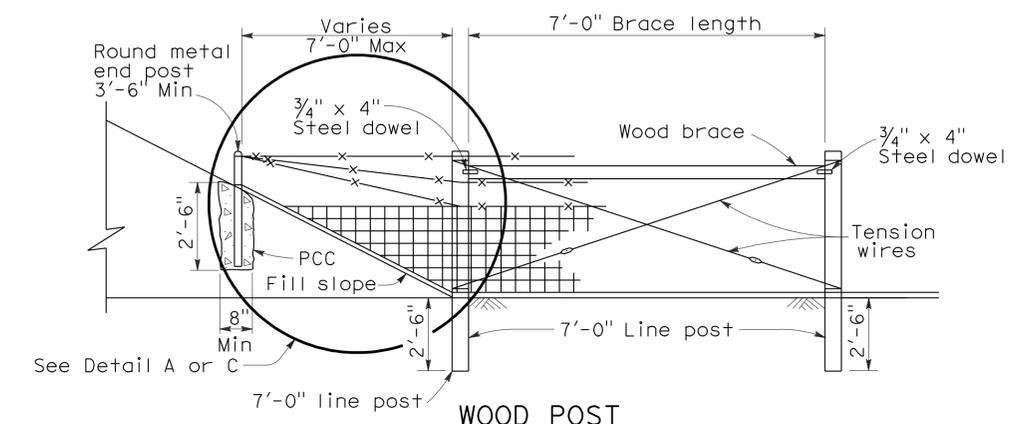
1. Wire Mesh fencing shown, can also use Barbed Wire fencing.
2. See Standard Plan A86 for Wire Mesh and Barbed Wire fence dimensions.
3. See Standard Plan B11-7 Alternative Anchorage Detail for connection at headwall. Round metal post to be used for all fence types.



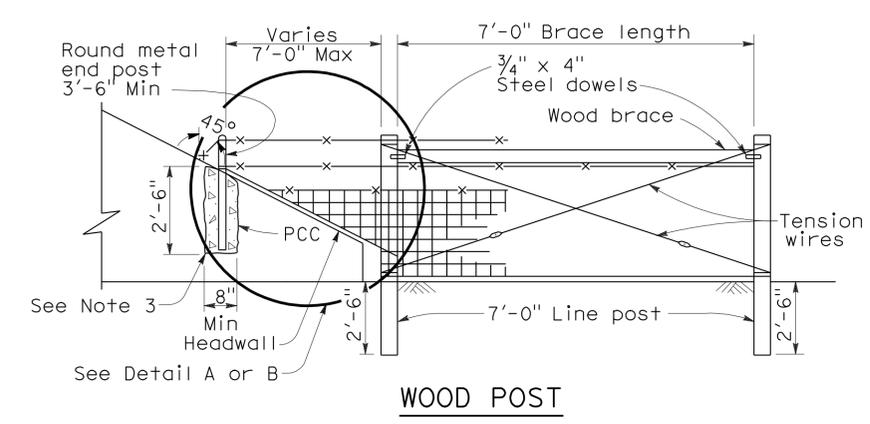
METAL POST



METAL POST



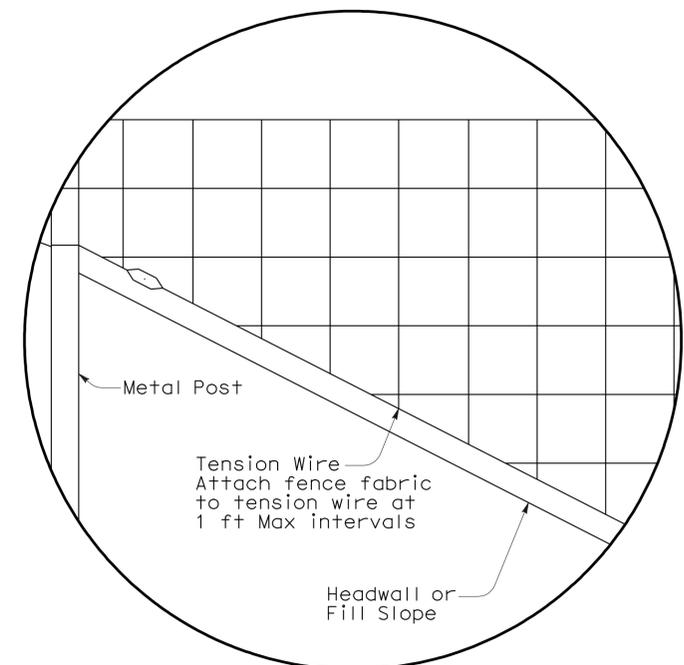
WOOD POST



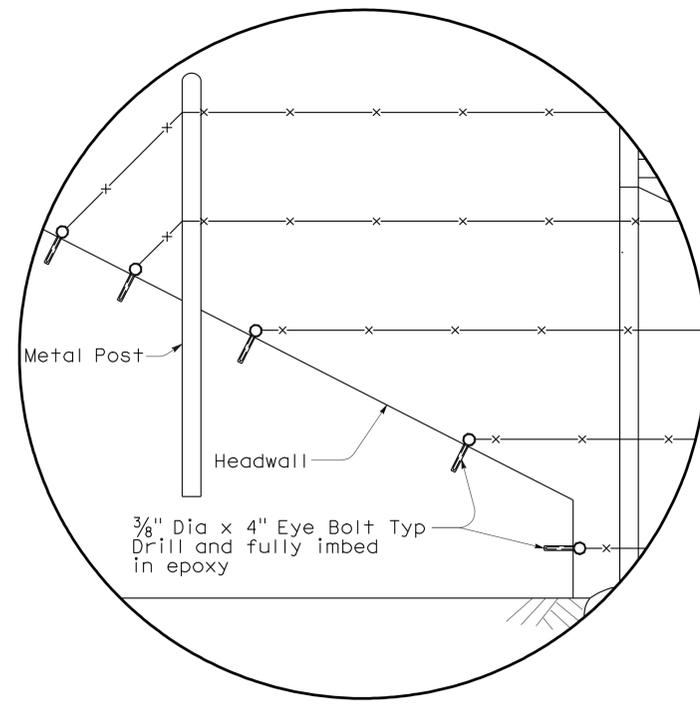
WOOD POST

METHOD OF ERECTING FENCE FOR FILL SLOPE

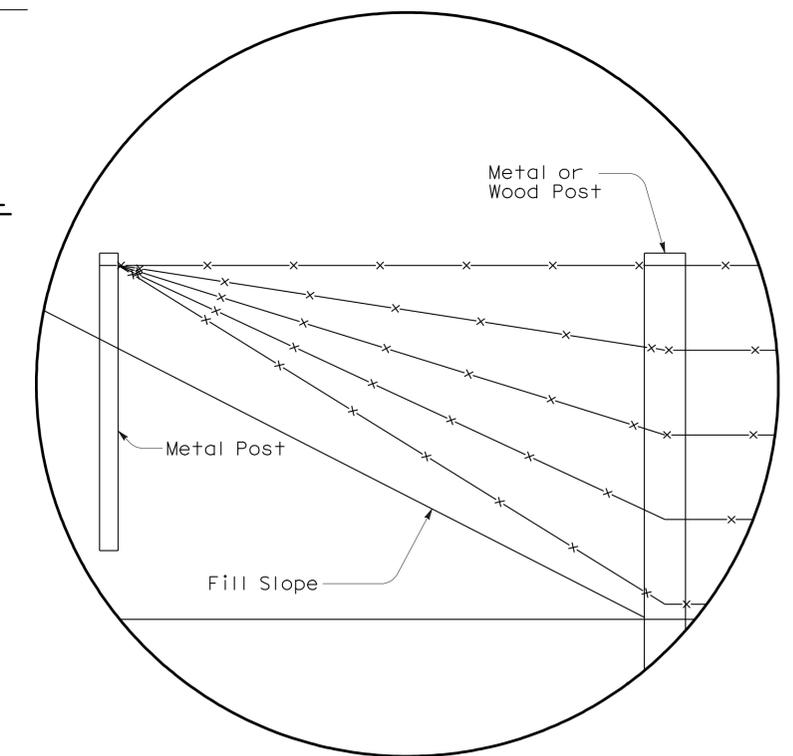
METHOD OF TYING FENCE TO HEADWALL



DETAIL A



DETAIL B



DETAIL C

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
BARBED WIRE AND WIRE MESH FENCE DETAILS

NSP A86B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A86B

2006 NEW STANDARD PLAN NSP A86B

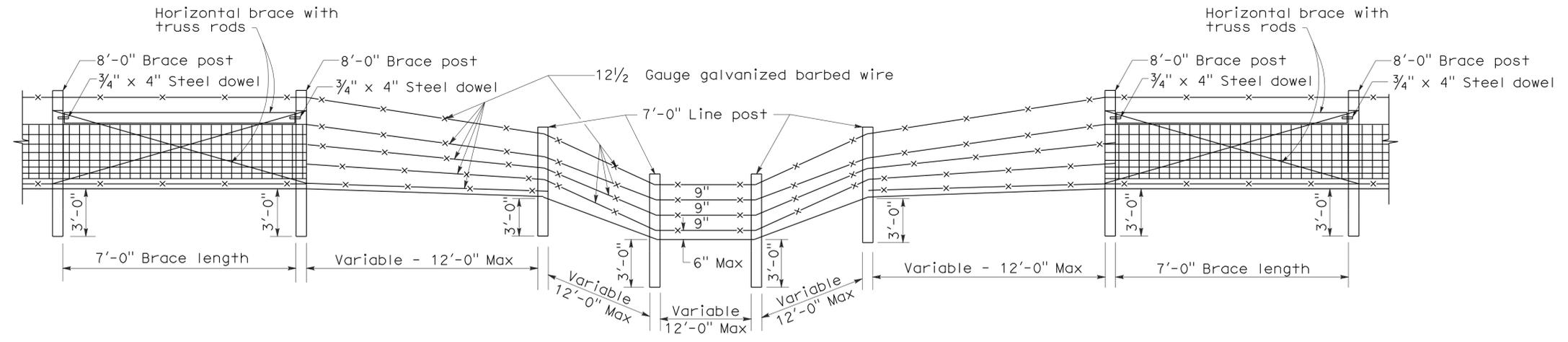
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1348	2028

REGISTERED CIVIL ENGINEER
 Glenn DeCou
 No. C34547
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

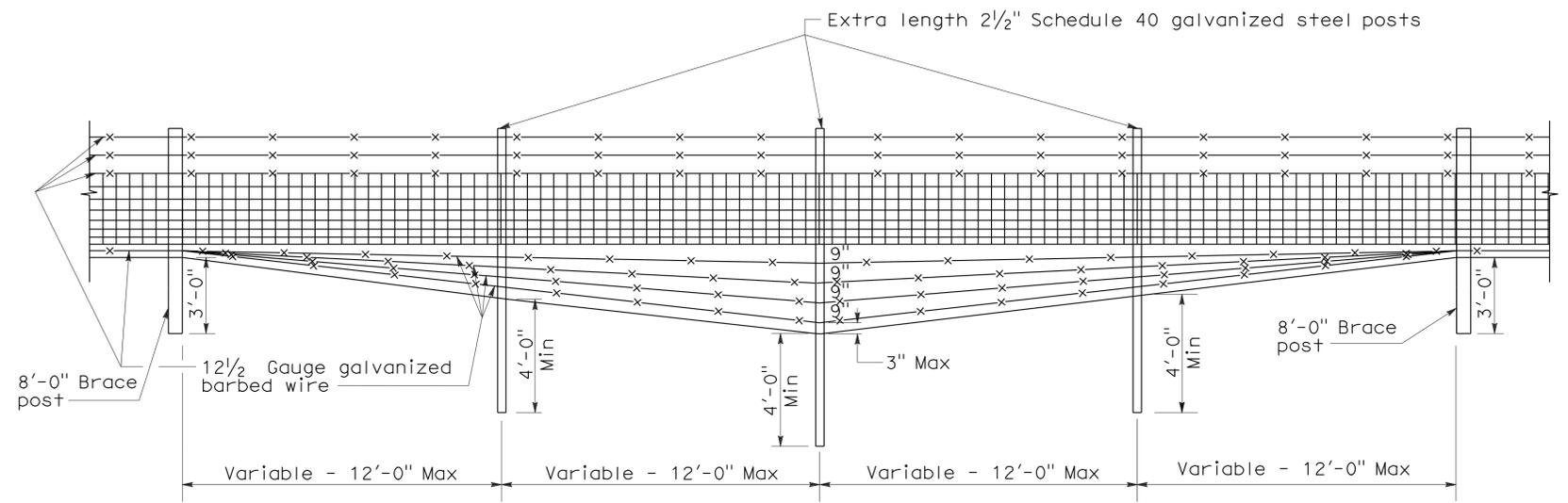
June 5, 2009
 PLANS APPROVAL DATE

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.

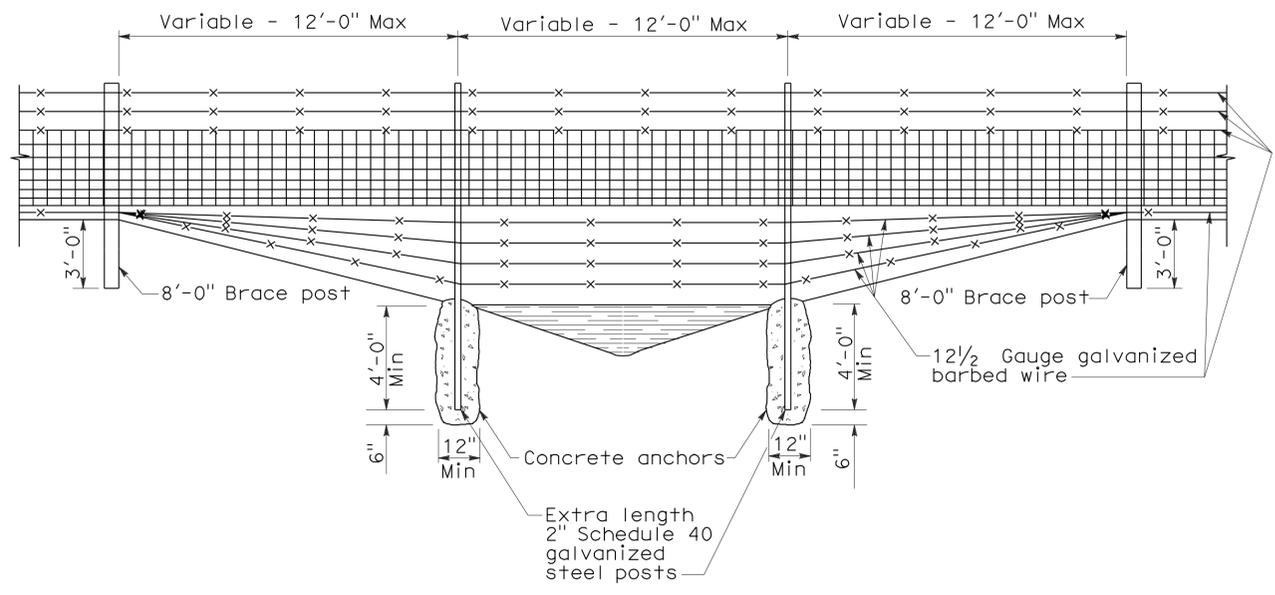
To accompany plans dated 4-25-11



TYPE I



TYPE II



TYPE III

DITCH CROSSINGS

NOTES:

1. Type I Ditch Crossing shows wood posts. Steel posts may be used in place of wood.
2. Ditch crossing show Wire Mesh fencing. Barbed Wire fencing may be used in place of Wire Mesh.
3. See Standard Plan A86 for Wire Mesh and Barbed Wire fence dimensions.
4. See Standard Plan A86 for steel post installation.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

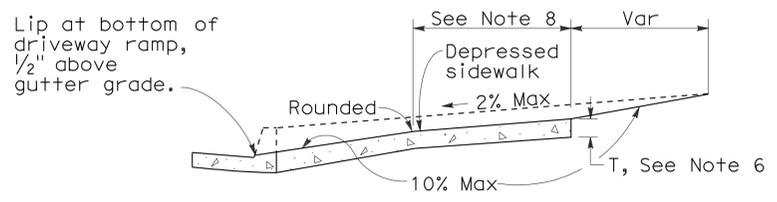
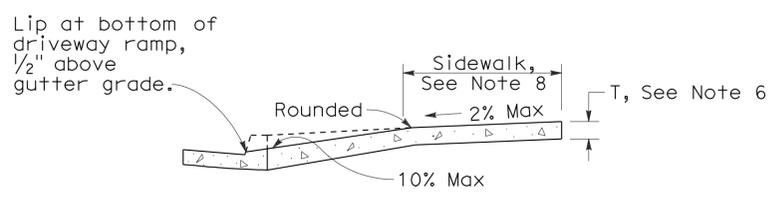
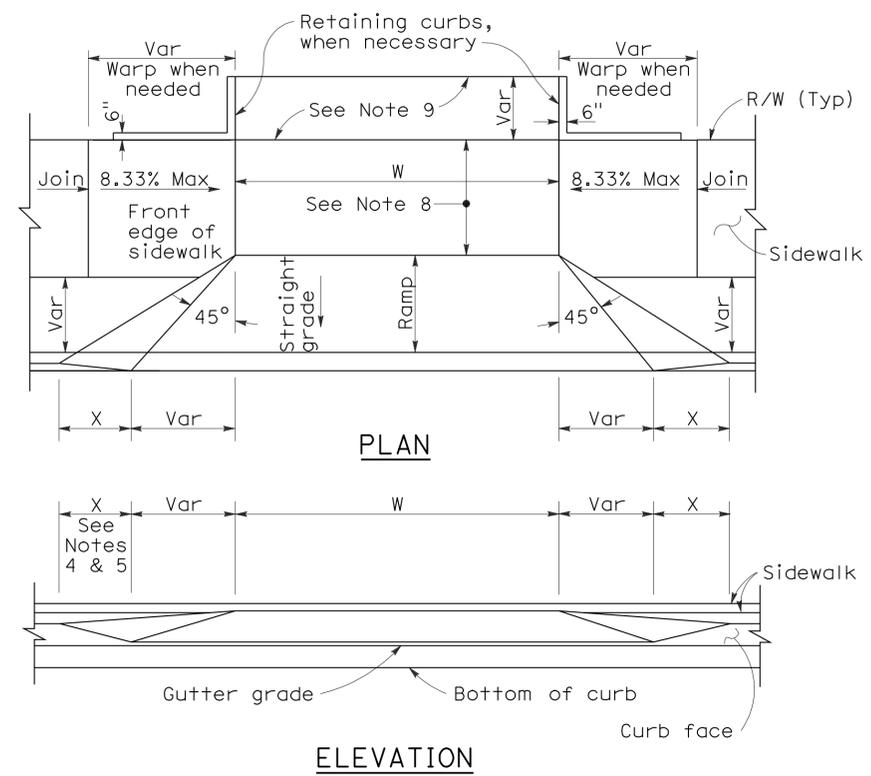
BARBED WIRE AND WIRE MESH FENCE DETAILS AT DITCH CROSSING

NO SCALE

NSP A86C DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A86C

2006 NEW STANDARD PLAN NSP A86C



SECTIONS

CURB QUANTITIES

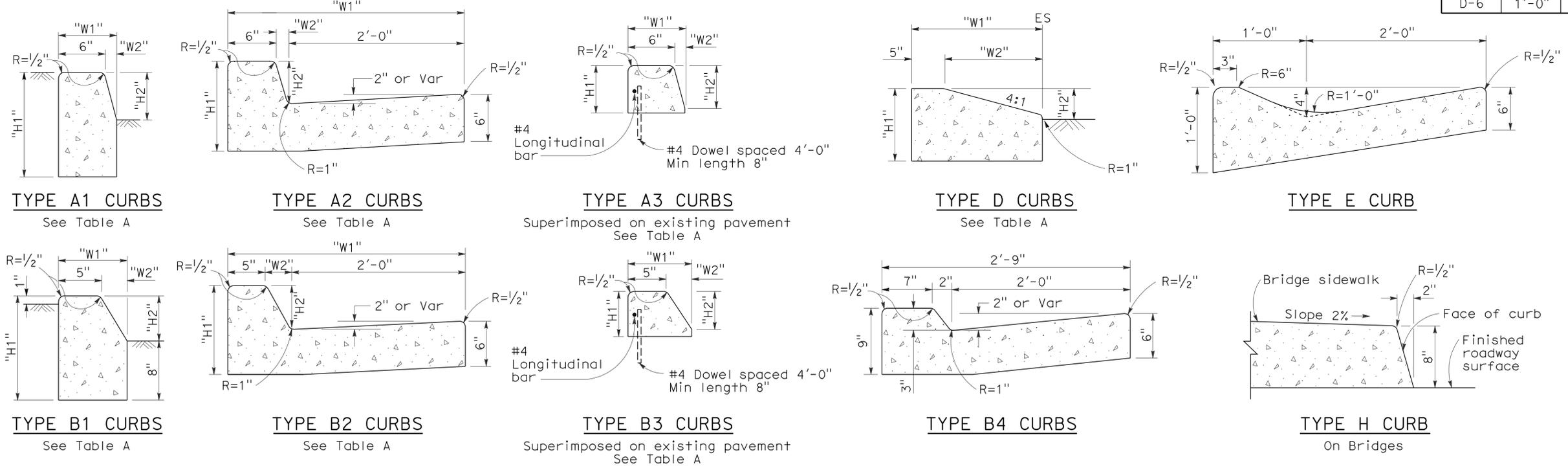
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

TABLE A

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

To accompany plans dated 4-25-11

DRIVEWAYS



NOTES:

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

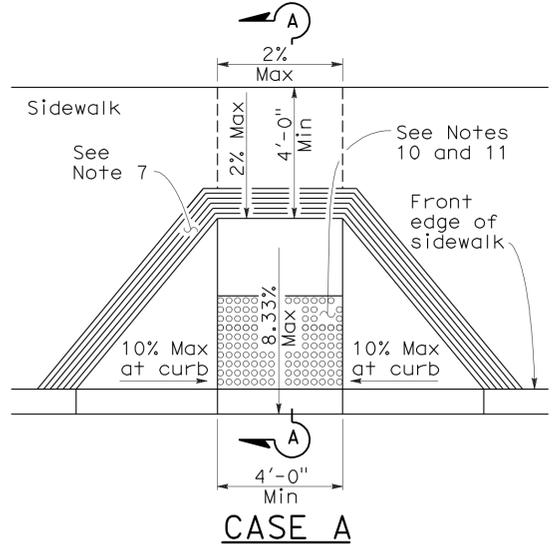
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CURBS AND DRIVEWAYS
NO SCALE

2006 REVISED STANDARD PLAN RSP A87A

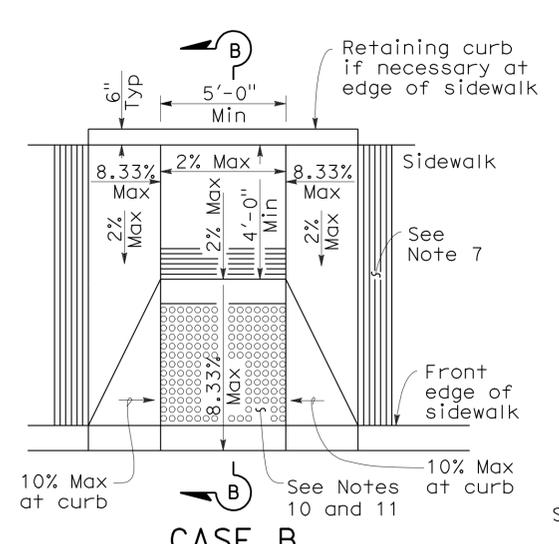
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1350	2028

H. David Cordova
 REGISTERED CIVIL ENGINEER
 September 1, 2006
 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.

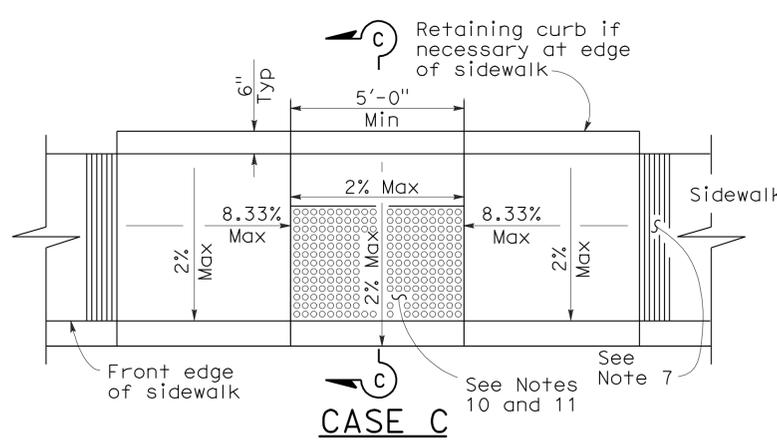
REGISTERED PROFESSIONAL ENGINEER
 Hector David Cordova
 No. C41957
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA



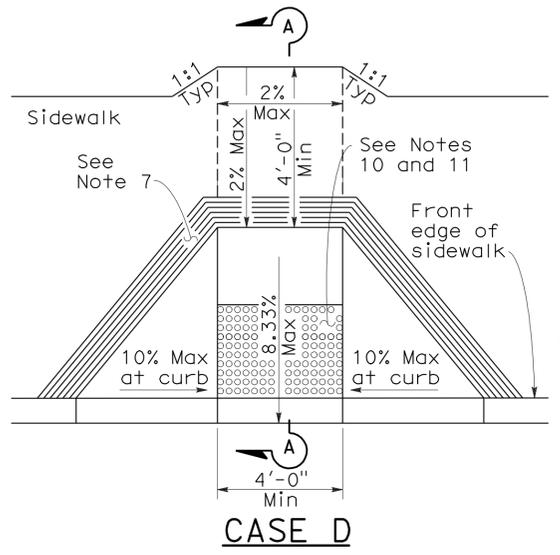
CASE A



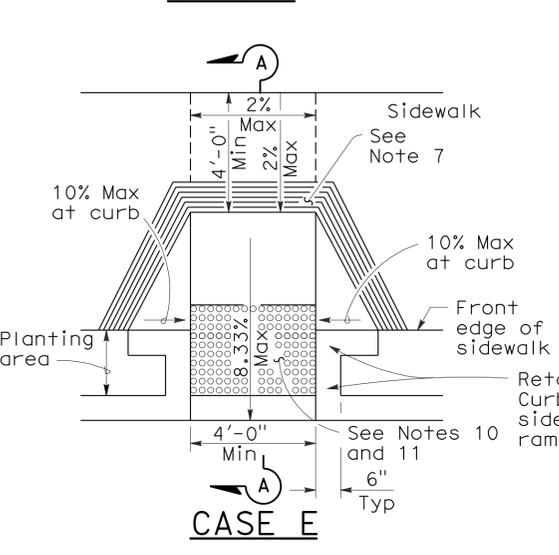
CASE B



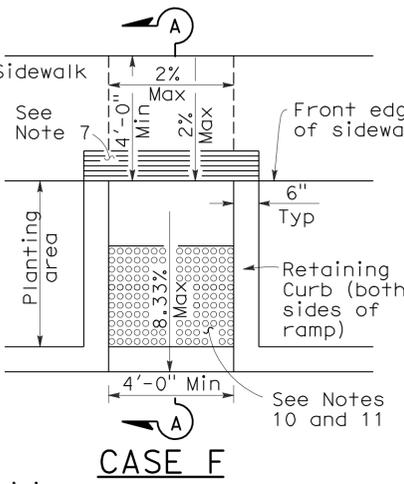
CASE C



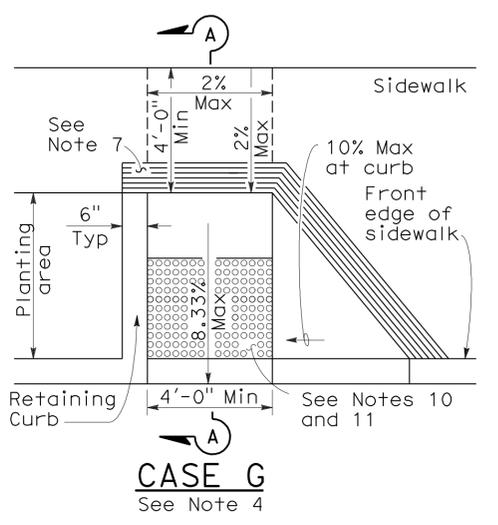
CASE D



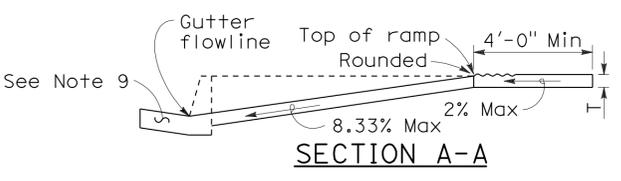
CASE E



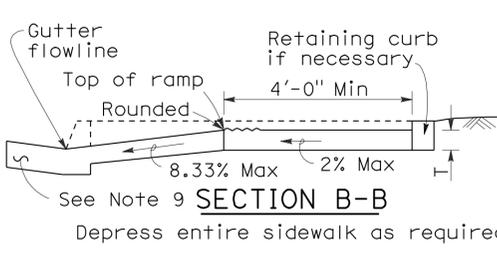
CASE F



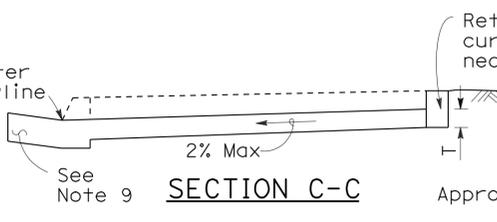
CASE G



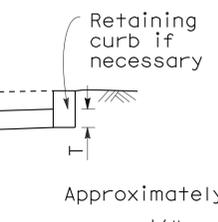
SECTION A-A



SECTION B-B



SECTION C-C



GROOVING DETAIL

1.67" to 2.35"
Center to
center spacing

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

See Note 10

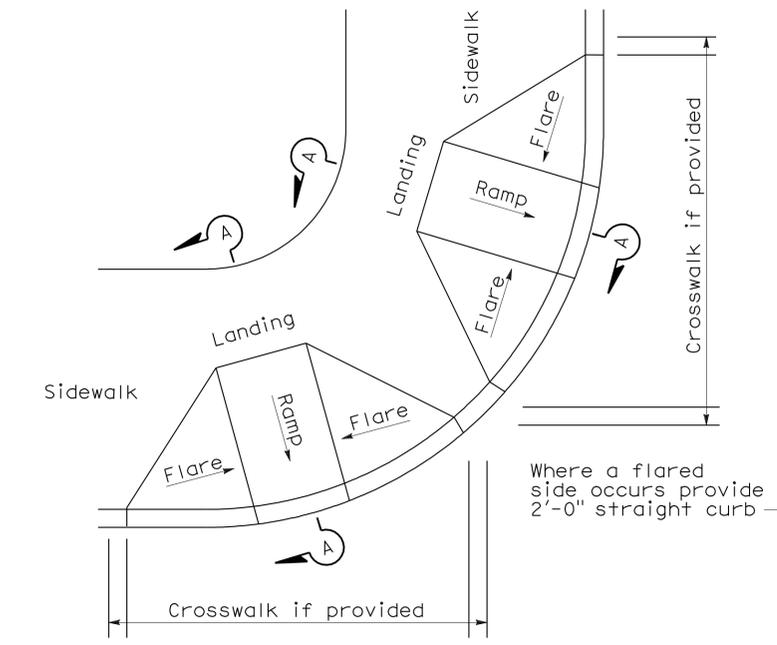
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

RSP A88A DATED SEPTEMBER 1, 2006 SUPERSEDES STANDARD PLAN A88A
DATED MAY 1, 2006 - PAGE 115 OF THE STANDARD PLANS BOOK DATED MAY 2006.

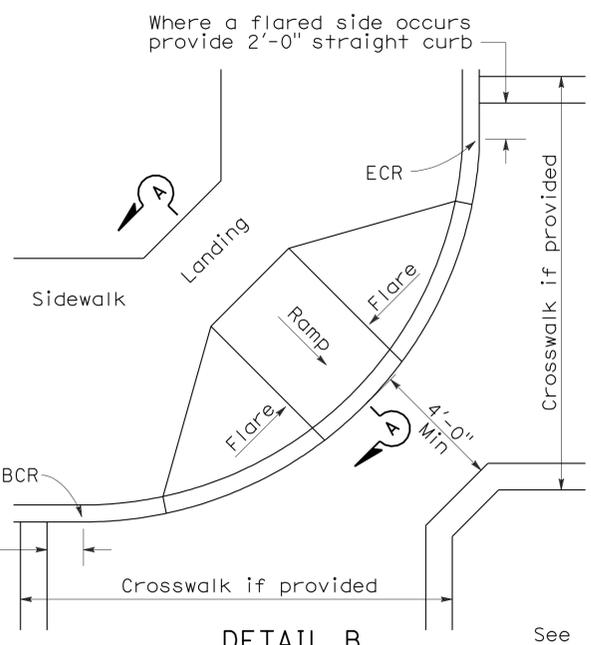
REVISED STANDARD PLAN RSP A88A



DETAIL A

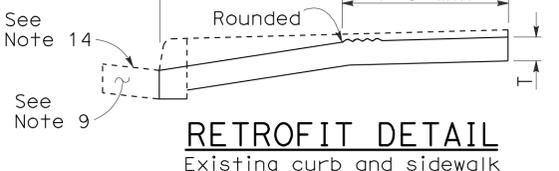
TYPICAL TWO-RAMP CORNER INSTALLATION

See Note 1



**DETAIL B
TYPICAL ONE-RAMP
CORNER INSTALLATION**

See Notes 1 and 3



RETROFIT DETAIL

Existing curb and sidewalk

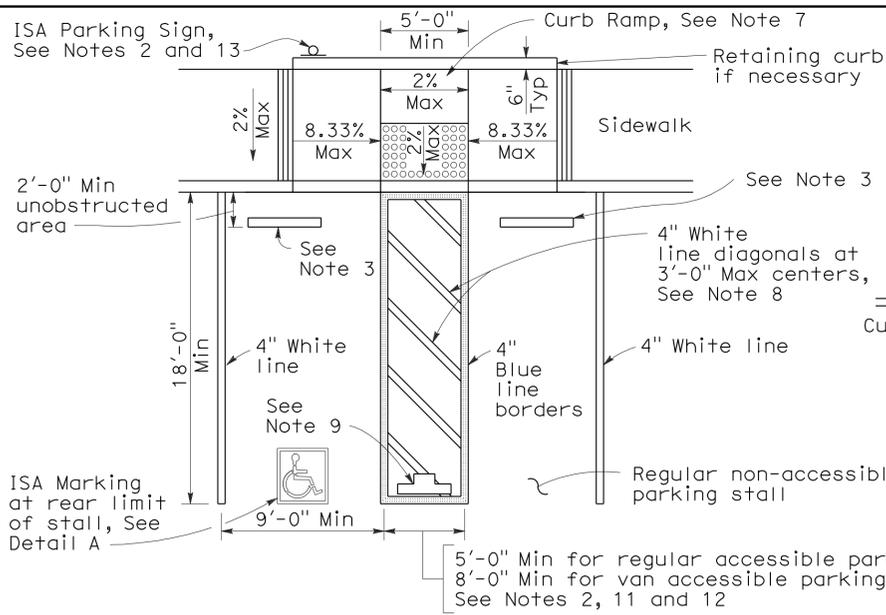
NOTES:

- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-0" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-0".
- Side slope of ramp flares vary uniformly from a maximum of 10% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush and free of abrupt changes.
- Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp or accessible route shall not exceed 5 percent within 4'-0" of the top and bottom of the curb ramp.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.

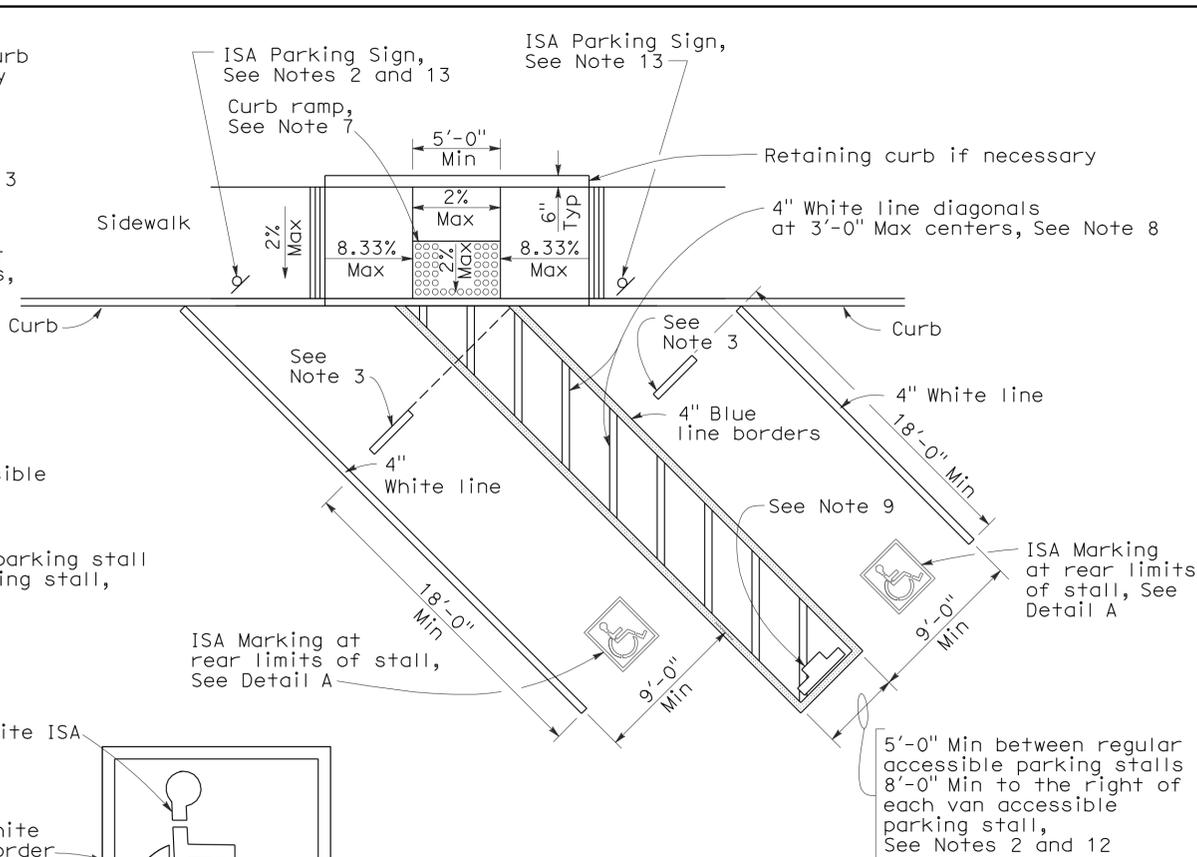
To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP A88A

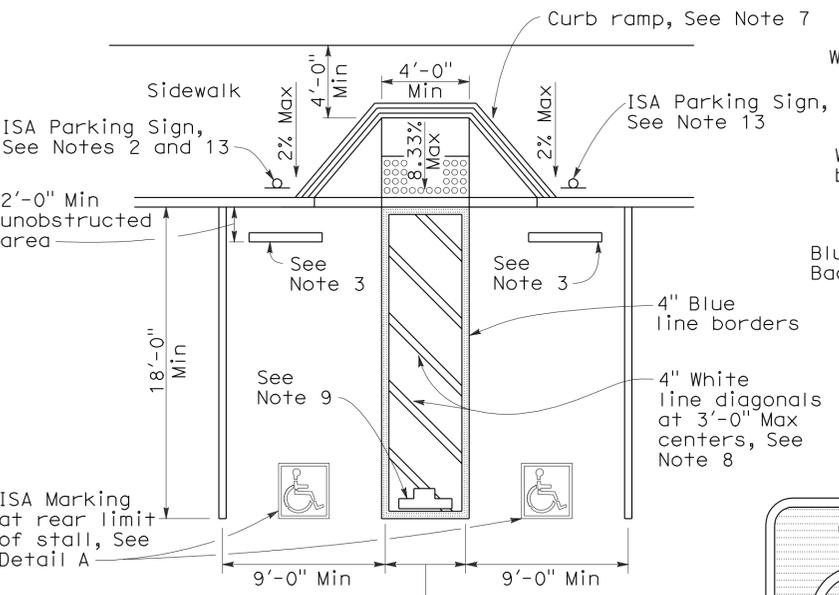
To accompany plans dated 4-25-11



SINGLE PARKING STALL



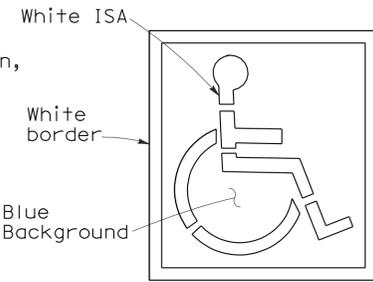
DIAGONAL DOUBLE PARKING STALLS



DOUBLE PARKING STALL

TABLE A

Total Number of Parking Spaces or Stalls	Minimum Number of Disabled Accessible Parking Spaces or Stalls
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2 percent of total
Greater than 1001	20 plus 1 for each 100 or fraction thereof over 1001



ISA MARKING
See Revised Std Plan RSP A24C

DETAIL A



SIGN R99 (CA)



SIGN R99C (CA)
See Note 6



SIGN R100B (CA)
See Note 10



SIGN R7-8b
See Notes 2 and 6

PLAQUE R99B (CA)
SIGN R99 (CA) with PLAQUE R99B (CA)
See Note 6

OFF-STREET PARKING SIGNS

(Parking lot or garage)
See Note 6

NOTES:

1. Accessible parking spaces serving a particular building shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. In parking facilities that do not serve a particular building, accessible parking shall be located on the shortest accessible route of travel to an accessible pedestrian entrance of the parking facility.
2. One in every eight accessible off-street parking stalls, but not less than one, shall be served by an accessible aisle of 8'-0" minimum width and shall be signed van accessible. The R7-8b sign shall be mounted below the R99B (CA) plaque or the R99C (CA) sign.
3. In each parking stall, a curb or bumper shall be provided and located to prevent encroachment of vehicles over the required width of walkways. Parking stalls shall be so located that persons with disabilities are not compelled to wheel or walk behind parked cars other than their own.
4. Surface slopes of accessible off-street parking stalls shall be the minimum possible and shall not exceed 2 percent in any direction.
5. Table A shall be used to determine the required number of accessible parking stalls in each parking lot or garage.
6. Where Plaque R99B (CA), Sign R99C (CA) or Sign R7-8b are installed, the bottom of the sign or plaque panel shall be a minimum of 7'-0" above the surrounding surface.
7. Curb ramps shall conform to the details shown on Revised Standard Plan RSP A88A.
8. Blue paint, instead of white may be used for marking accessibility aisles in areas where snow may cause white markings to not be visible.
9. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high and located so that it is visible to traffic enforcement officials. See Revised Standard Plan RSP A90B for details of the "NO PARKING" pavement marking.
10. A R100B (CA) sign shall be posted in a conspicuous place at each entrance to off-street parking facilities or immediately adjacent to and visible from each stall. The sign shall include the address where the towed vehicle may be reclaimed and the telephone number of the local traffic law enforcement agency.
11. Where a single (non-van) accessible parking space is provided, the loading and unloading access aisle shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
12. Where a van accessible parking space is provided, the loading and unloading access aisle shall be 8'-0" wide minimum, and shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
13. Accessible Parking Only Sign shall be Sign R99C (CA) or Sign R99 (CA) with Plaque R99B (CA).

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ACCESSIBLE PARKING OFF-STREET

NO SCALE

RSP A90A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A90A
DATED MAY 1, 2006 - PAGE 117 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A90A

2006 REVISED STANDARD PLAN RSP A90A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1352	2028

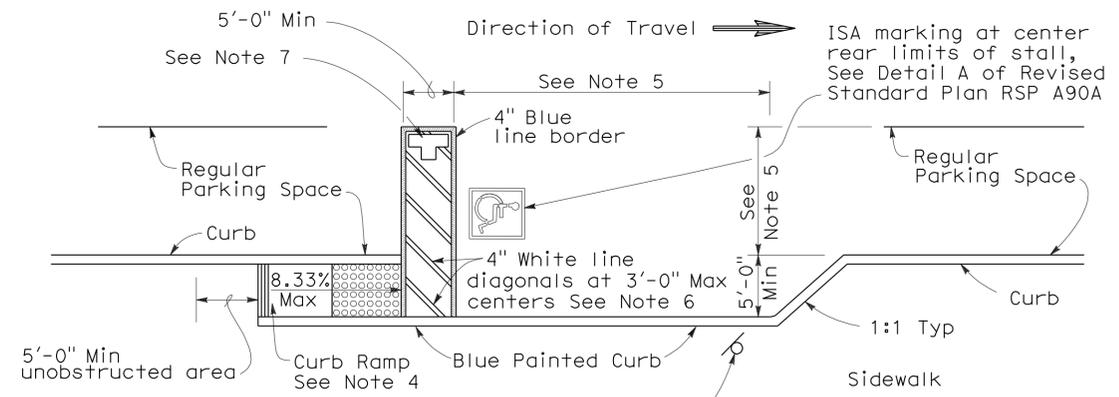
H. David Cordova
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

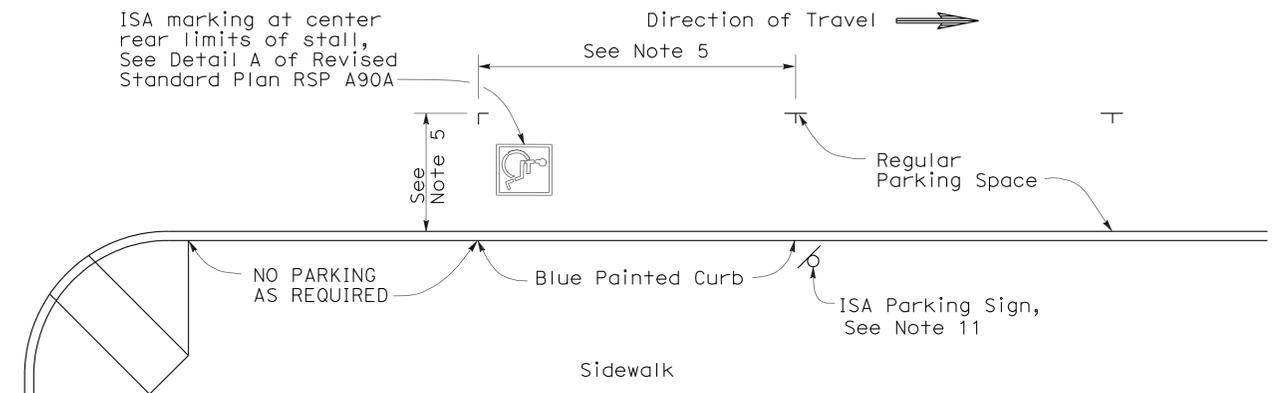
Hector David Cordova
REGISTERED PROFESSIONAL ENGINEER
No. C41957
Exp. 3-31-10
CIVIL
STATE OF CALIFORNIA

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.

To accompany plans dated 4-25-11



CONVENTIONAL
(See Note 9)



RESTRICTED RIGHT OF WAY WIDTH
ON-STREET PARKING
(Parallel parking)
(See Note 10)

**NO
PARKING**

PAVEMENT MARKING
See Note 7



SIGN R99 (CA)



PLAQUE R99B (CA)
SIGN R99 (CA) with PLAQUE R99B (CA)
See Note 3



SIGN R99C (CA)
See Note 3

NOTES:

1. Parking spaces shall be so located that persons with disabilities are not compelled to wheel or walk behind parked cars other than their own.
2. Surface slopes of accessible on-street parking spaces shall be the minimum feasible.
3. Where Plaque R99B (CA) or Sign R99C (CA) are installed, the bottom of the sign or plaque panel shall be a minimum of 7'-0" above the surrounding surface.
4. Curb ramps shall conform to the details shown on Revised Standard Plan RSP A88A.
5. Accessible on-street parking spaces shall not be smaller in length or width than that specified by the local jurisdiction for other parking spaces, but not less than 20'-0" in length and not less than 8'-0" in width.
6. Blue paint, instead of white may be used for marking accessibility aisles in areas where snow may cause white markings to not be visible.
7. 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. See Standard Plan A24E for square foot area for painting the words "NO PARKING".
8. There shall be no obstructions on the sidewalk adjacent to and for the full length of the parking space, except for the ISA parking sign shown.
9. The Conventional detail should be the primary choice of accessible on-street parking. However, if the sidewalk lacks adequate space to construct a standard curb ramp, the Restricted Right of Way detail should be used.
10. If the Restricted Right of Way width detail is selected and it conflicts with a bus stop or other uses, this detail may apply to the other end of the block.
11. Accessible Parking Only Sign shall be Sign R99C (CA) or Sign R99 (CA) with Plaque R99B (CA).

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ACCESSIBLE PARKING
ON-STREET**

NO SCALE

RSP A90B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A90B
DATED MAY 1, 2006 - PAGE 118 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A90B

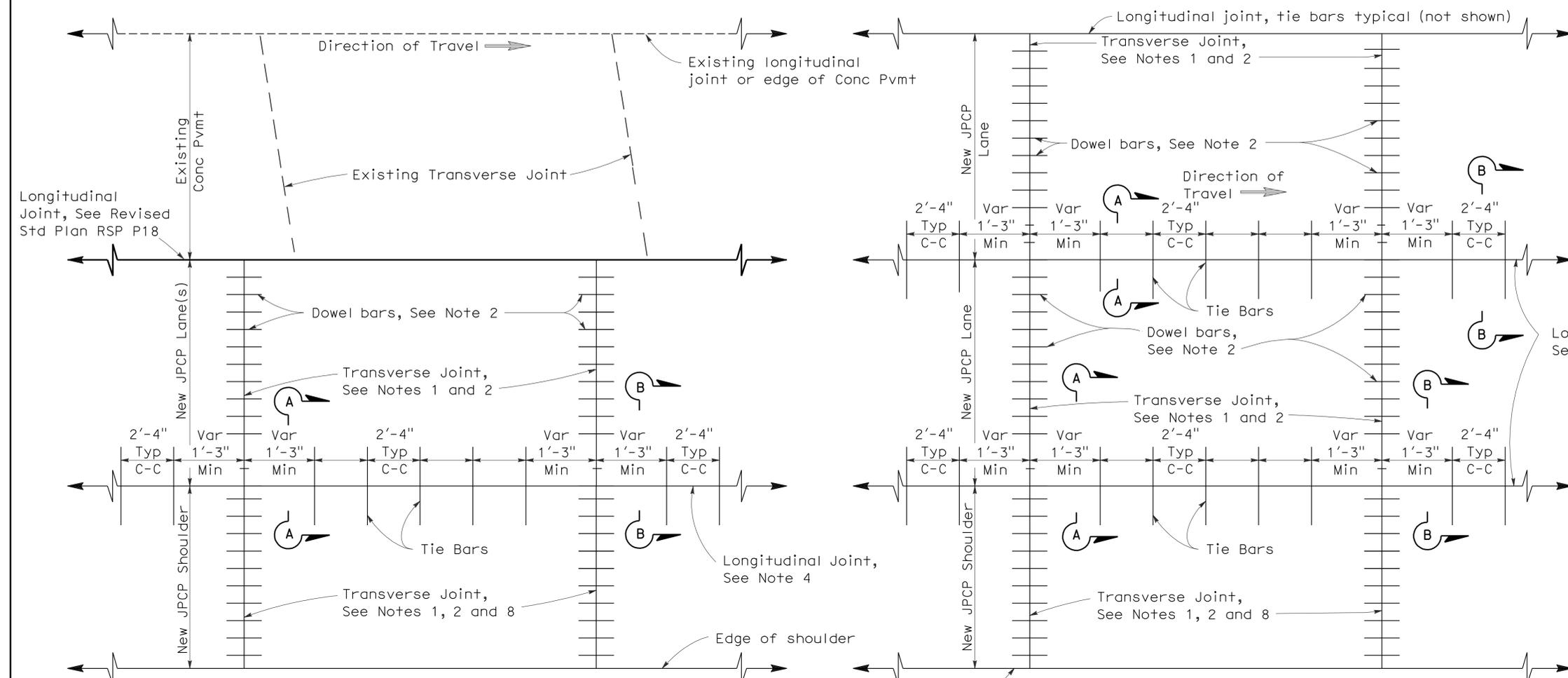
ISA = International Symbol of Accessibility

2006 REVISED STANDARD PLAN RSP A90B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1353	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 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
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 4-25-11



PLAN
LANE/SHOULDER ADDITION OR RECONSTRUCTION

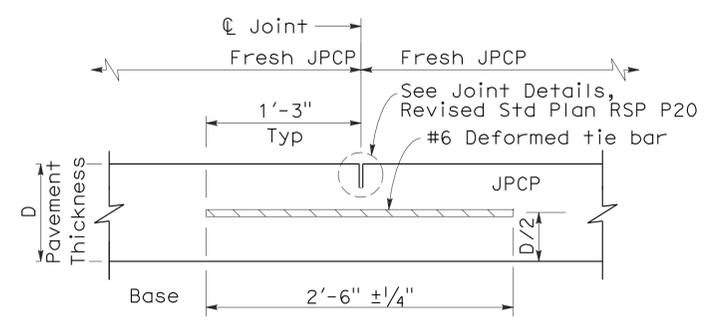
See Notes 6 and 7

PLAN
NEW CONSTRUCTION

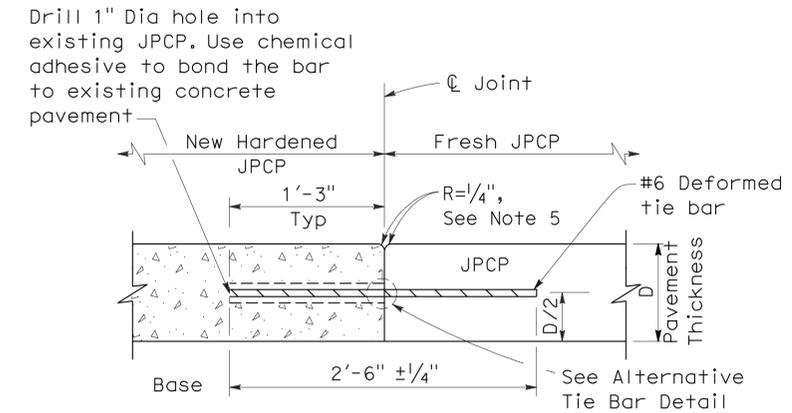
See Notes 6 and 7

NOTES:

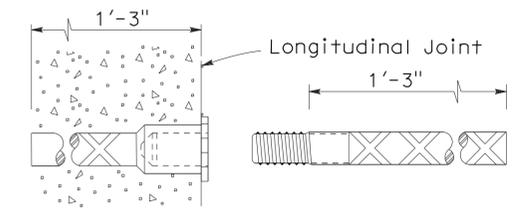
1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new jointed plain concrete pavement and spaced at successive repeated intervals of 12', 15', 13' and 14'.
2. For transverse joint and dowel bar details not shown, See Revised Standard Plan RSP P10.
3. Construct longitudinal contraction joints as shown in Section A-A when more than one lane or shoulder widths are placed at one time. If constructing one lane at a time, use longitudinal construction joint, as shown in Section B-B.
4. For additional longitudinal joint details, see Revised Standard Plan RSP P18.
5. If fresh concrete is placed adjacent to existing concrete, the top corner of the new hardened concrete does not need to be rounded to the 1/4" radius as shown.
6. Joint spacing patterns do not apply to intersections.
7. Details can also apply to inside widening.
8. Dowel bars may be omitted from shoulders when the shoulder cross slope is not the same as the adjacent traffic lane.



SECTION A-A
LONGITUDINAL CONTRACTION JOINT



SECTION B-B
LONGITUDINAL CONSTRUCTION JOINT



ALTERNATIVE TIE BAR SPLICE DETAIL
(Splice Coupler)

TIE BAR DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
JOINED PLAIN CONCRETE PAVEMENT

NO SCALE

RSP P1 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P1
DATED MAY 1, 2006 - PAGE 119 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P1

2006 REVISED STANDARD PLAN RSP P1

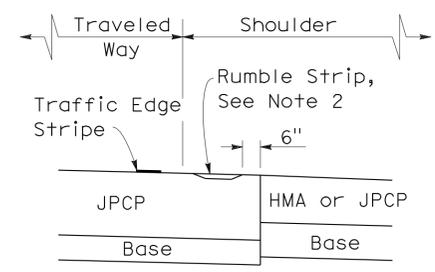
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1354	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 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.

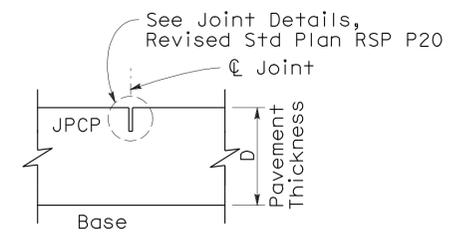
REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 4-25-11

- NOTES:**
1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new Jointed Plain Concrete Pavement and spaced at successive repeated intervals of 12', 15', 13' and 14'.
 2. For locations of rumble strips, see project plans. For rumble strip details not shown, see Standard Plans A40A and A40B.
 3. Joint spacing patterns do not apply to intersections.



DETAIL "A"



**SECTION C-C
TRANSVERSE/LONGITUDINAL JOINT**
(no dowel bars/tie bars)

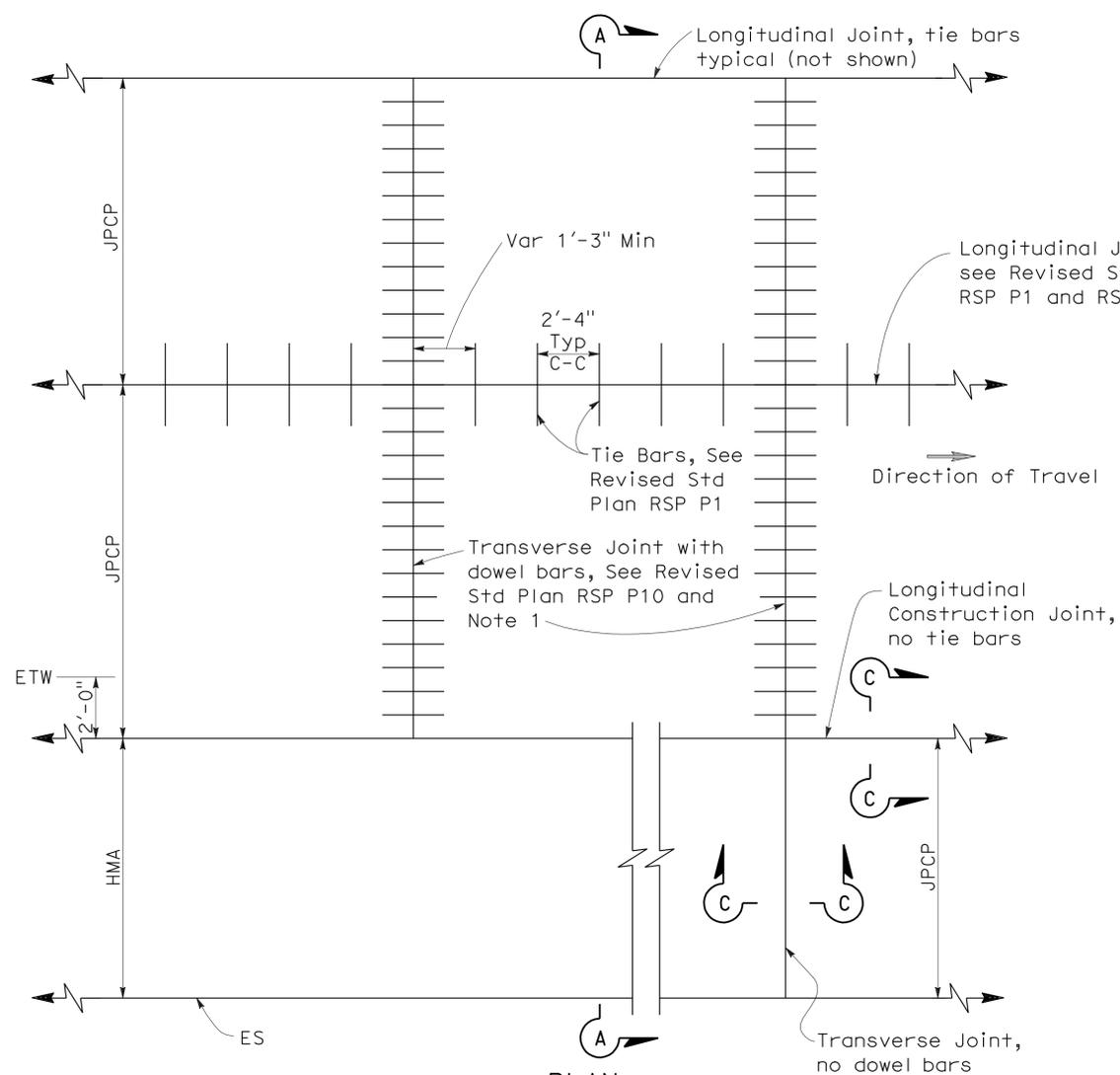
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**JOINTED PLAIN CONCRETE
PAVEMENT-WIDENED SLAB DETAILS**

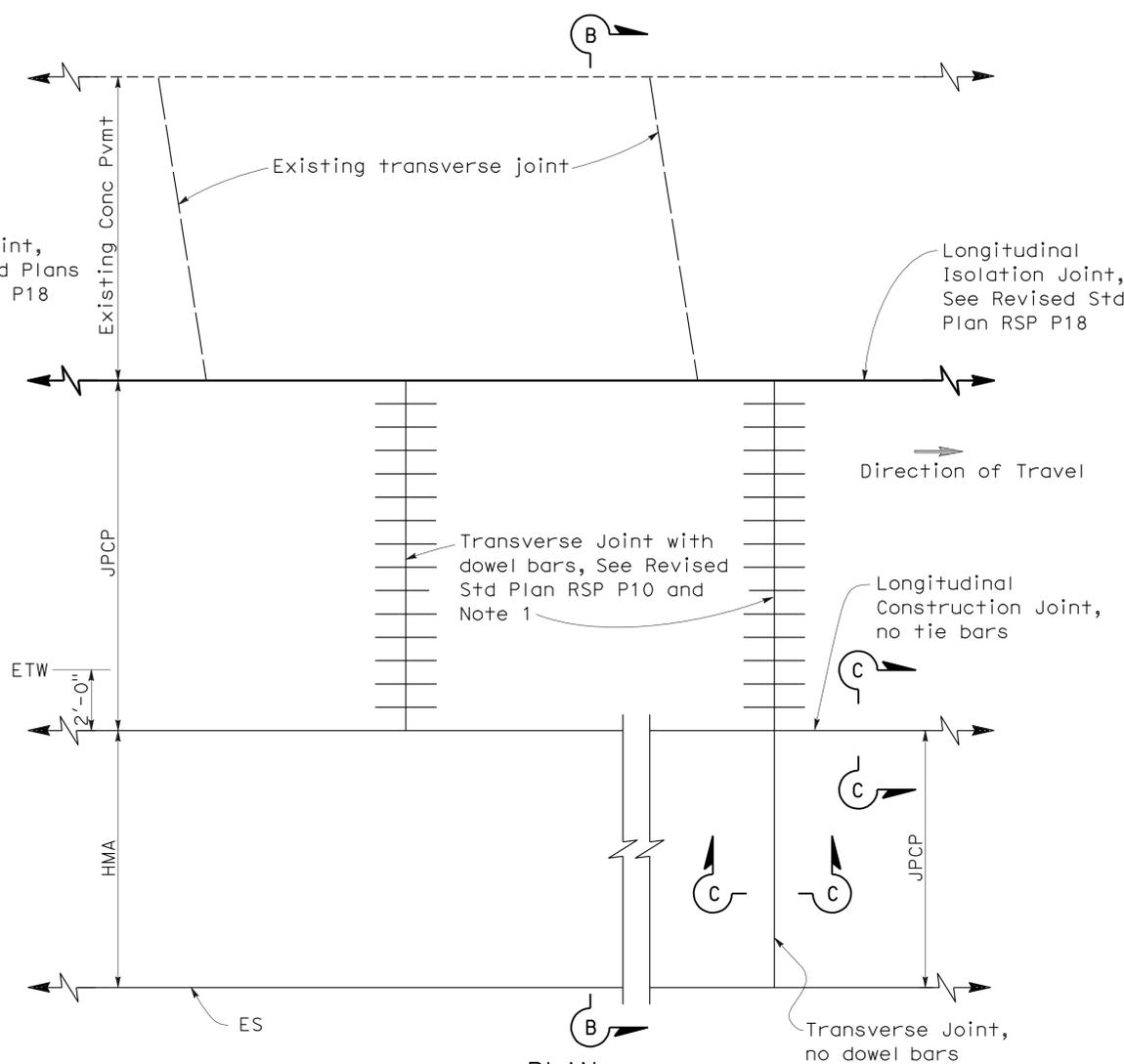
NO SCALE

RSP P2 DATED JUNE 5, 2009 SUPERCEDES STANDARD PLAN P2
DATED MAY 1, 2006 - PAGE 120 OF THE STANDARD PLANS BOOK DATED MAY 2006.

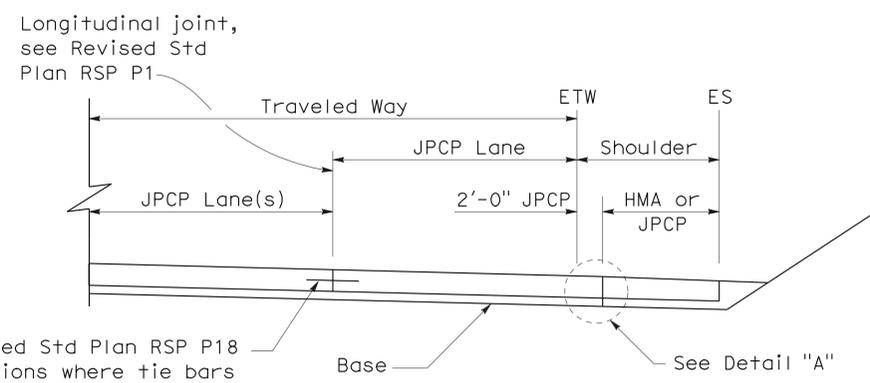
REVISED STANDARD PLAN RSP P2



**PLAN
NEW CONSTRUCTION**

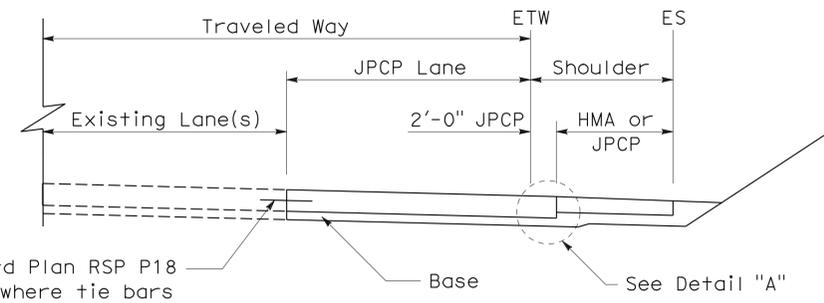


**PLAN
LANE/SHOULDER ADDITION OR RECONSTRUCTION**



SECTION A-A

See Revised Std Plan RSP P18 for locations where tie bars are used at longitudinal joint



SECTION B-B

See Revised Std Plan RSP P18 for locations where tie bars are used at longitudinal joint

2006 REVISED STANDARD PLAN RSP P2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1355	2028

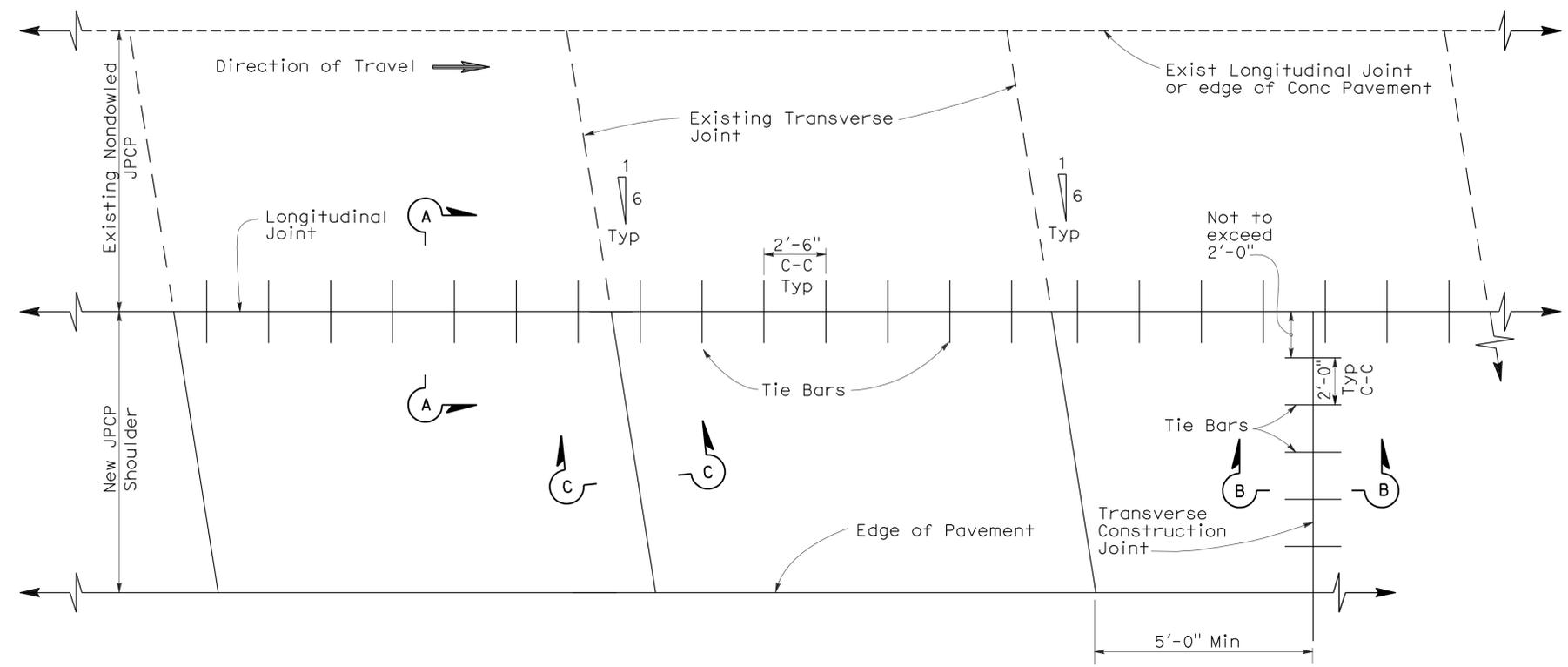
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-10
 STATE OF CALIFORNIA

May 15, 2009
 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.

To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP P3



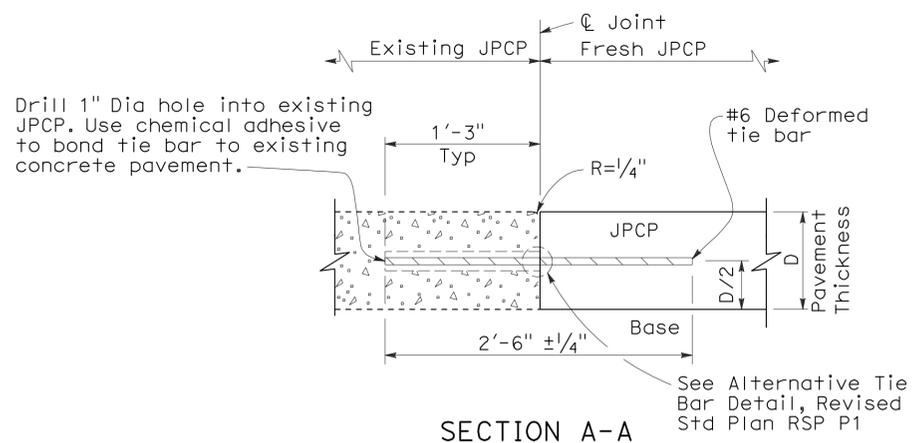
PLAN

NOTES:

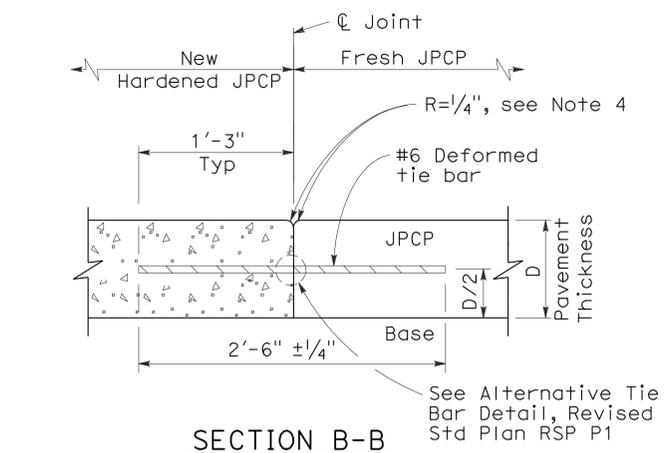
1. New transverse contraction joints shall match the skewed offset and spacing of the adjacent existing contraction joints, as shown.
2. Transverse construction joints, with tie bars spaced as shown, shall be installed at the end of paving operations. Transverse construction joints shall be placed at least 5'-0" from any contraction joint.
3. This Standard Plan only applicable for constructing a nondoweled Jointed Plain Concrete Pavement shoulder next to existing nondoweled Jointed Plain Concrete Pavement lane.
4. If fresh concrete is placed adjacent to existing concrete, the top corner of the new hardened concrete does not need to be rounded to the 1/4" radius as shown.

TABLE A

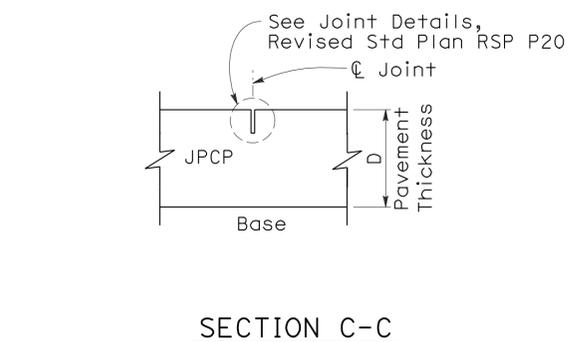
Tie Bar Spacing		
Slab Length	Total Tie Bars per Slab	Clearance Tie Bar to Transverse Joint
9'-0"	3	1'-3"
9'-6"	3	1'-4 1/2"
12'-0"	5	1'-4"
13'-0"	5	1'-10"
14'-0"	5	2'-3 3/4"
15'-0"	6	1'-8"



SECTION A-A
LONGITUDINAL JOINT
(Between fresh and hardened concrete)



SECTION B-B
TRANSVERSE CONSTRUCTION JOINT



SECTION C-C
TRANSVERSE CONTRACTION JOINT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINTED PLAIN CONCRETE PAVEMENT-NONDOWELED SHOULDER ADDITION/RECONSTRUCTION

NO SCALE
 RSP P3 DATED MAY 15, 2009 SUPERSEDES RSP P3 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P3 DATED MAY 1, 2006 - PAGE 121 OF THE STANDARD PLANS BOOK DATED MAY 2006.

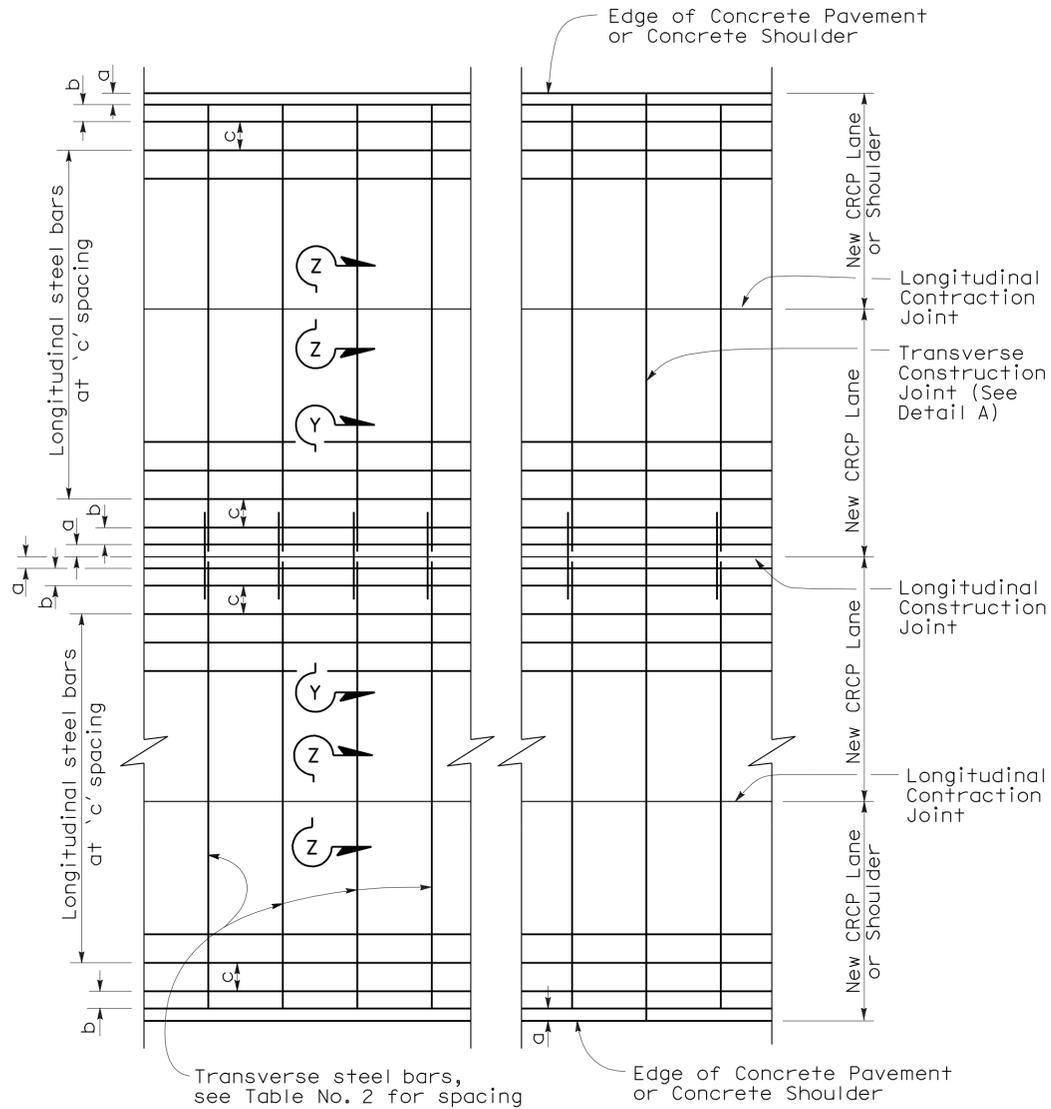
REVISED STANDARD PLAN RSP P3

TABLE No. 1 LONGITUDINAL STEEL

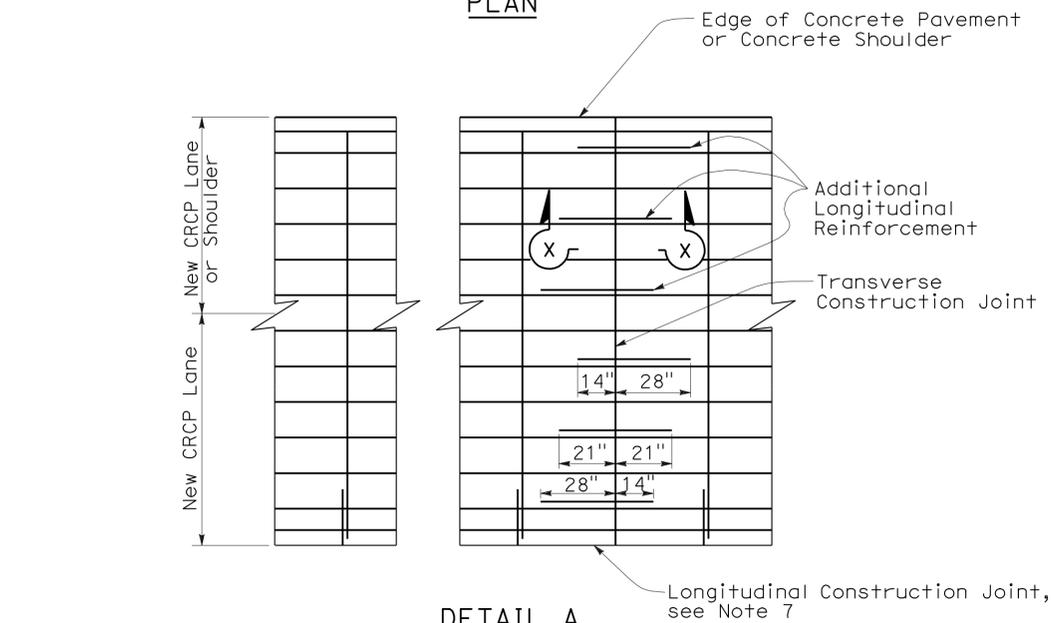
Slab Thickness and Bar Size	First Spacing at Edge or Joint	Second Spacing from Edge or Joint	Regular Steel Bars	Additional Reinforcement at Transverse Construction Joint	Cir		
D	Bar Size	Spacing a	Spacing b	Spacing c	Spacing $2 \times c$	Length L	X
.80'	#6	3" TO 4"	3" TO 8"	8"	16"	42"	4"
.85'	#6	3" TO 4"	3" TO 7"	7"	14"	42"	4"
.90'	#6	3" TO 4"	3" TO 6.5"	6.5"	13"	42"	4"
.95'	#6	3" TO 4"	3" TO 6"	6.5"	13"	42"	4"
1.00'	#6	3" TO 4"	3" TO 6"	6"	12"	42"	4.25"
1.05'	#6	3" TO 4"	3" TO 5.5"	6"	12"	42"	4.5"
1.10'	#6	3" TO 4"	3" TO 5.5"	5.5"	11"	42"	4.75"

TABLE No. 2 TRANSVERSE STEEL

Slab Thickness and Bar Size	Pvmt Width (From Edge of Conc Pvmt or Conc Shld to Nearest Edge of Conc Pvmt or Conc Shld)							
	$\leq 48'$	$\leq 60'$	$\leq 72'$	$\leq 84'$	$\leq 96'$	$\leq 108'$	$\leq 120'$	
D	Bar Size	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	
.80'	#6	3'	3'	3'	2.5'	2'	2'	1.5'
.85'	#6	3'	3'	2.5'	2.5'	2'	1.5'	1.5'
.90'	#6	3'	2.5'	2.5'	2'	2'	1.5'	1.5'
.95'	#6	3'	2.5'	2'	2'	1.5'	1.5'	1'
1.00'	#6	3'	2.5'	2'	2'	1.5'	1.5'	1'
1.05'	#6	2.5'	2.5'	2'	1.5'	1.5'	1.5'	1'
1.10'	#6	2.5'	2.5'	2'	1.5'	1.5'	1.5'	1'

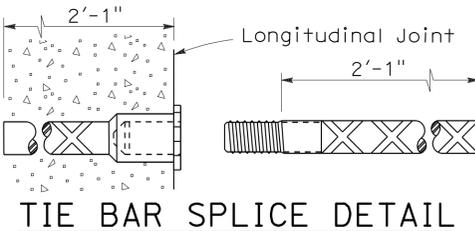


PLAN



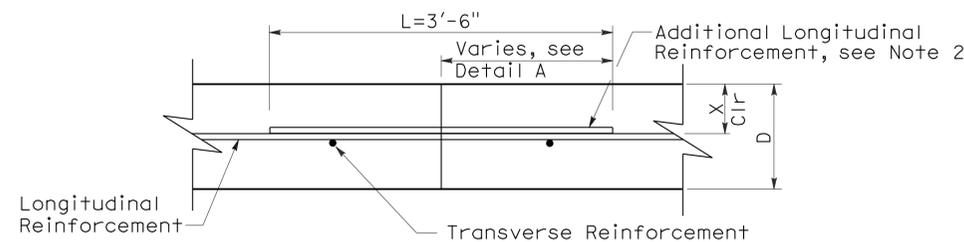
DETAIL A

ADDITIONAL LONGITUDINAL REINFORCEMENT AT TRANSVERSE CONSTRUCTION JOINT



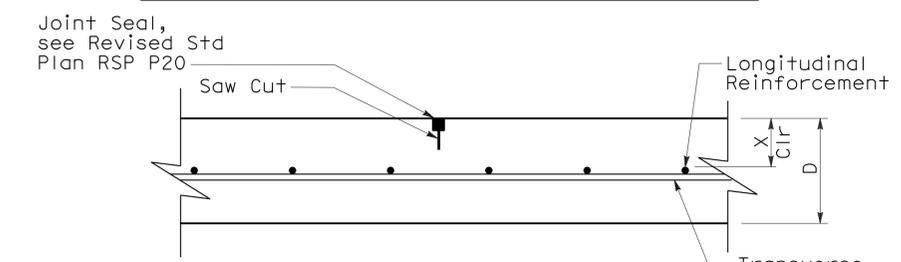
TIE BAR SPLICE DETAIL

(Splice Coupler)



SECTION X-X

TRANSVERSE CONSTRUCTION JOINT

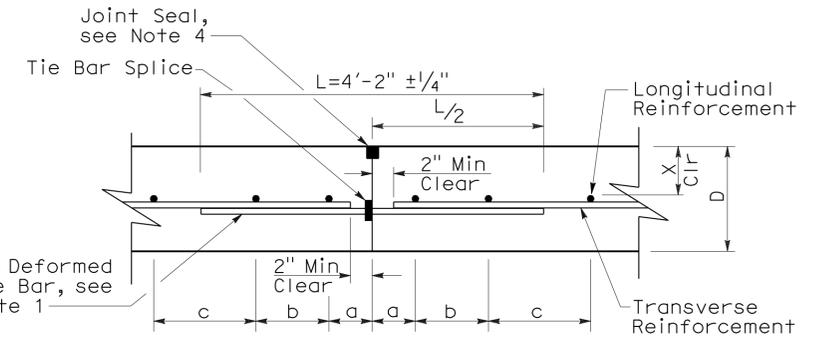


SECTION Z-Z

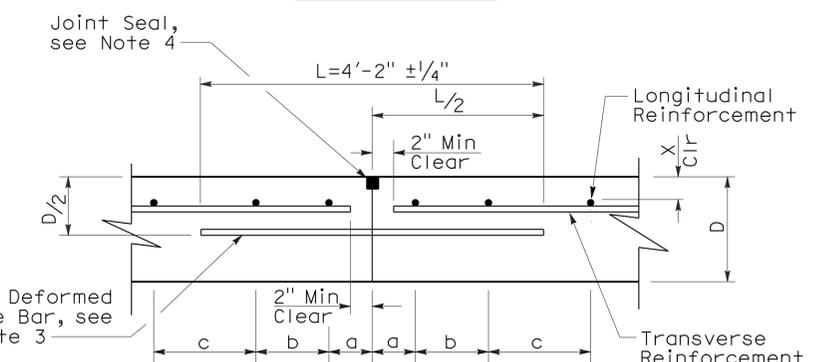
LONGITUDINAL CONTRACTION JOINT

- NOTES:**
- Place tie bar in the same plane as transverse reinforcements.
 - Place additional longitudinal reinforcement in the same horizontal plane as the longitudinal reinforcement without horizontal space.
 - Place tie bar parallel to and within 2" of transverse reinforcement.
 - Joint seals at longitudinal construction joints shall conform to the details shown on Revised Standard Plan RSP P20 for Type C joint.
 - Tie bar spacing shall be equal to transverse bar spacing.
 - Reinforcing bar splices shall be a minimum of 25".
 - Additional longitudinal reinforcement symmetrical about longitudinal construction joint.

To accompany plans dated 4-25-11



SECTION Y-Y



ALTERNATE

LONGITUDINAL CONSTRUCTION JOINT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT**

NO SCALE

RNSP P4 DATED JUNE 5, 2009 SUPERSEDES NSP P4 DATED MAY 15, 2009 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

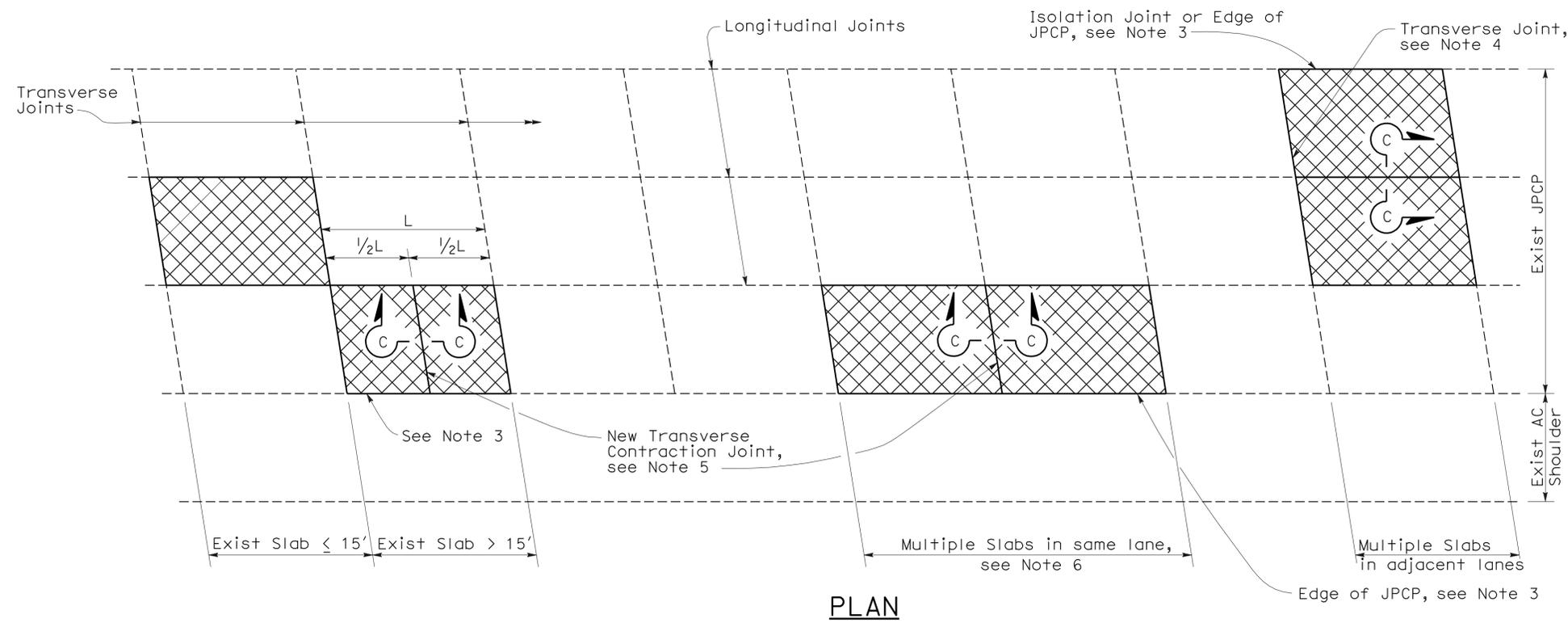
2006 REVISED NEW STANDARD PLAN RNSP P4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1357	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 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
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

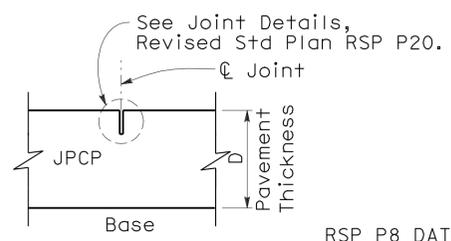
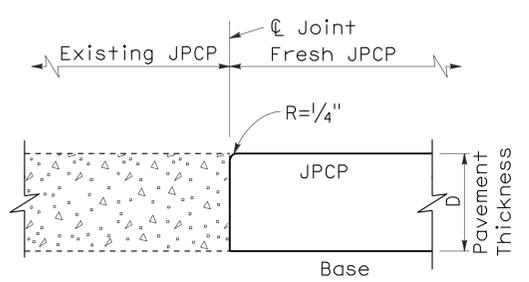
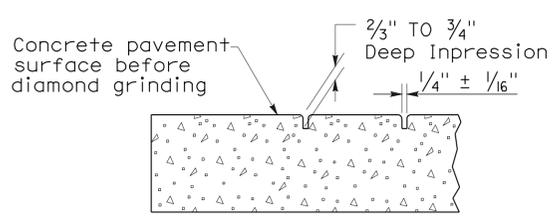
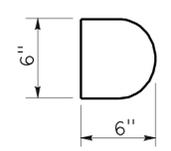
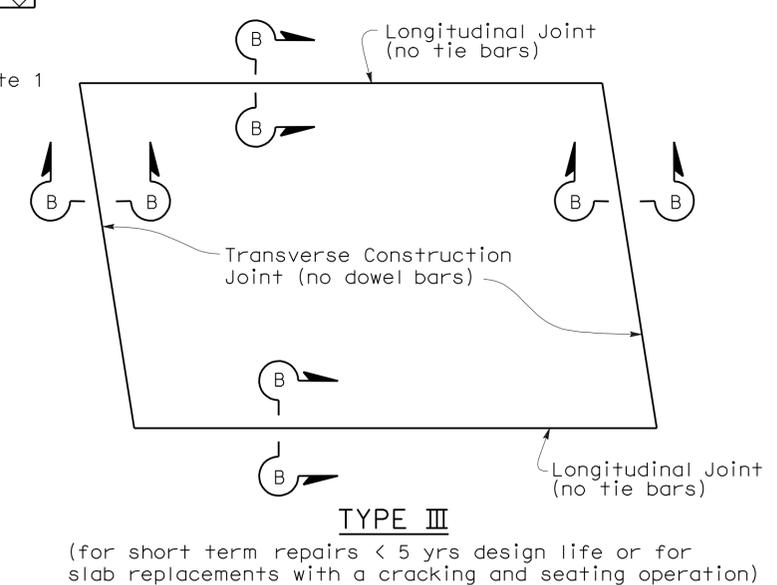
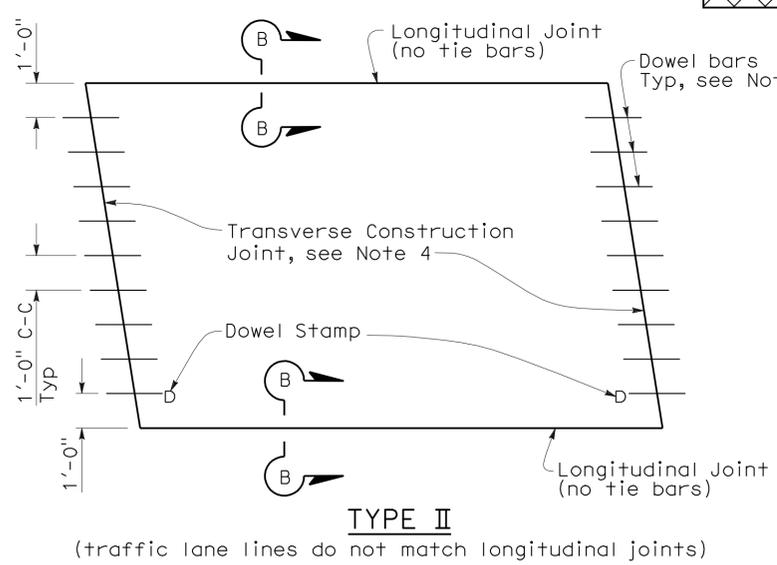
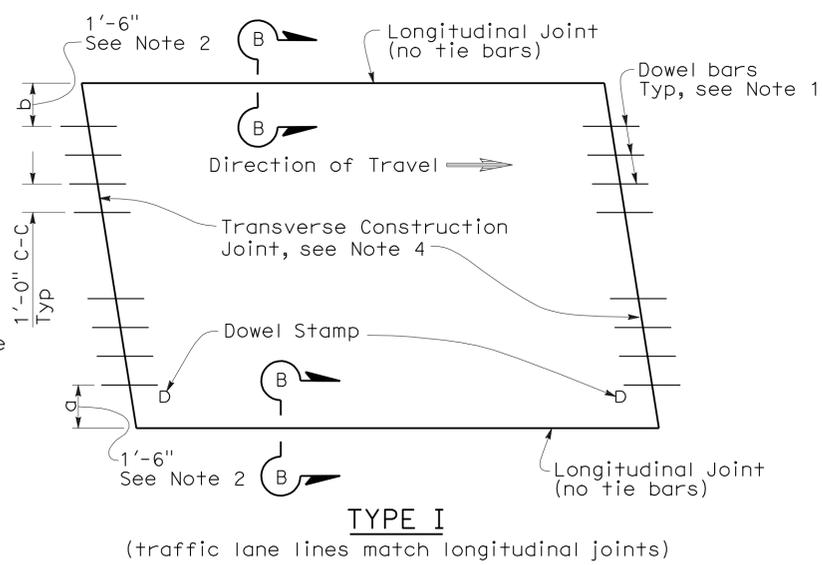
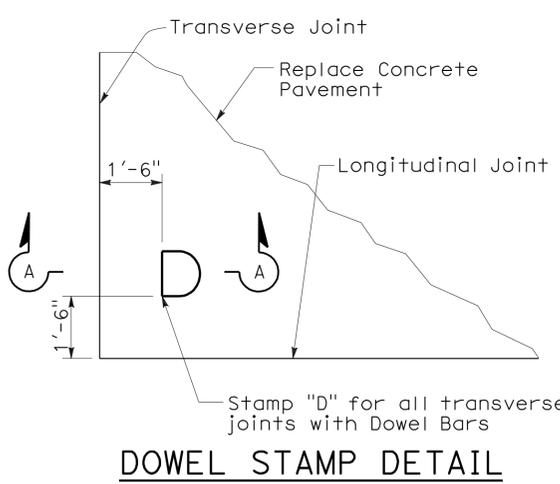
To accompany plans dated 4-25-11



NOTES:

- For details not shown, see Revised Standard Plan RSP P10.
- Where the existing outer shoulder pavement is asphalt concrete pavement, the "a" dimension shall be 1'-0" and the "b" dimension shall be 2'-0".
- Side forms shall be used where edge of pavement is adjacent to asphalt concrete.
- For detail, see Transverse Construction Joint for existing concrete pavement detail on Revised Standard Plan RSP P10.
- Transverse joint to match skew of existing joint. Omit dowel bars.
- This Standard Plan only applicable when replacing multiple slabs in the same lane is less than 100'.

LEGEND

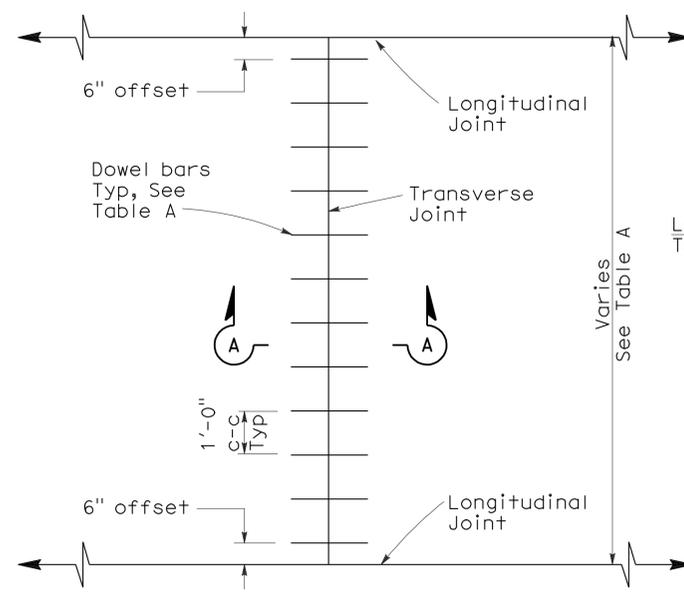


STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINTED PLAIN CONCRETE PAVEMENT-INDIVIDUAL SLAB REPLACEMENT
 NO SCALE

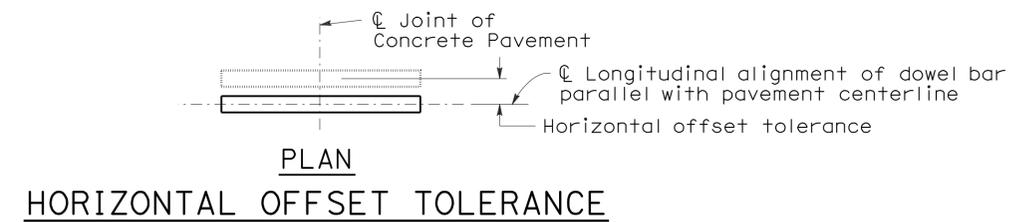
RSP P8 DATED MAY 15, 2009 SUPERSEDES RSP P8 DATED SEPTEMBER 1, 2006 AND STANDARD PLAN P8 DATED MAY 1, 2006 - PAGE 123 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P8

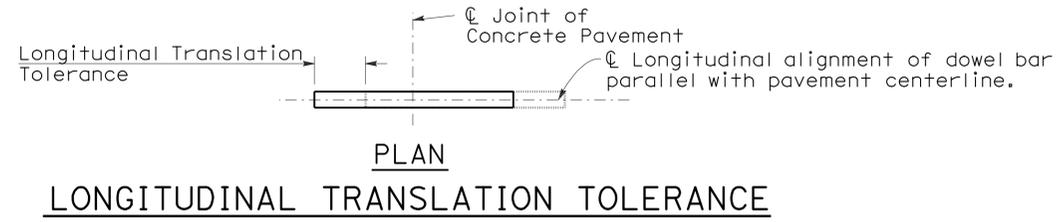
2006 REVISED STANDARD PLAN RSP P8



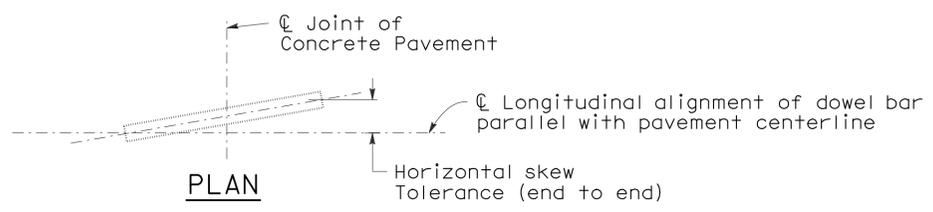
TRANSVERSE JOINT DOWEL BAR LAYOUT



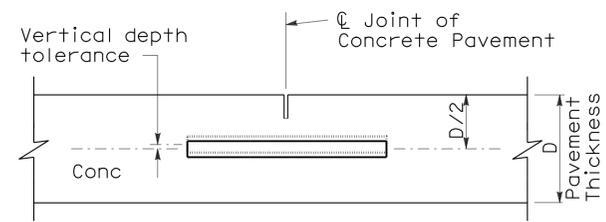
HORIZONTAL OFFSET TOLERANCE



LONGITUDINAL TRANSLATION TOLERANCE

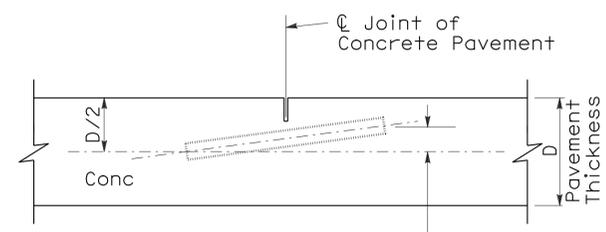


HORIZONTAL SKEW TOLERANCE



ELEVATION

VERTICAL DEPTH TOLERANCE



ELEVATION

VERTICAL SKEW TOLERANCE

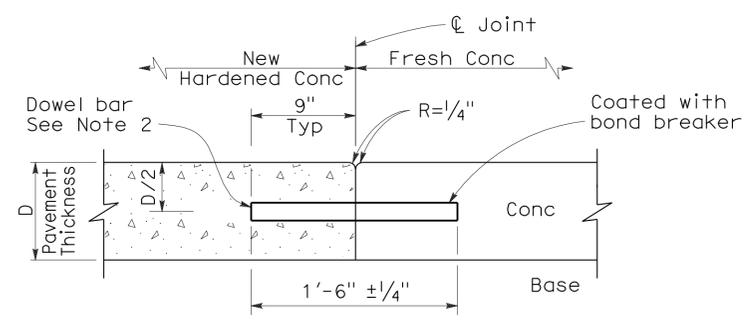
To accompany plans dated 4-25-11

NOTES:

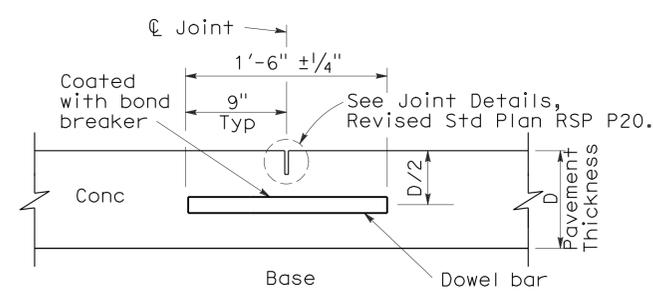
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
- 1 1/2" Dia smooth dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1 1/4" Dia smooth dowel bars.
- For widths not shown, see Project Plans.
- If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the 1/4" radius, as shown.

TABLE A (See Note 3)

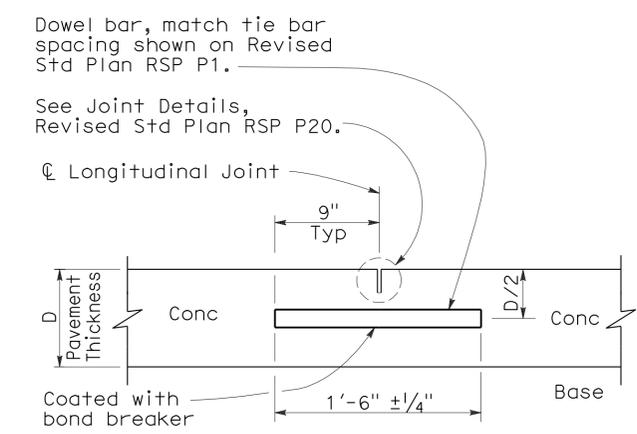
Dowel Bar Transverse Spacing Table	
Width between Longitudinal Joints	Number of Dowels between Longitudinal Joints
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4



SECTION A-A TRANSVERSE CONSTRUCTION JOINT DETAIL

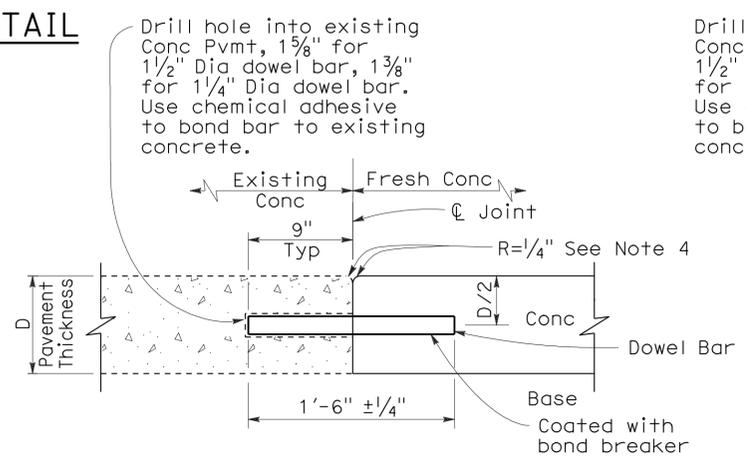


TRANSVERSE CONTRACTION JOINT



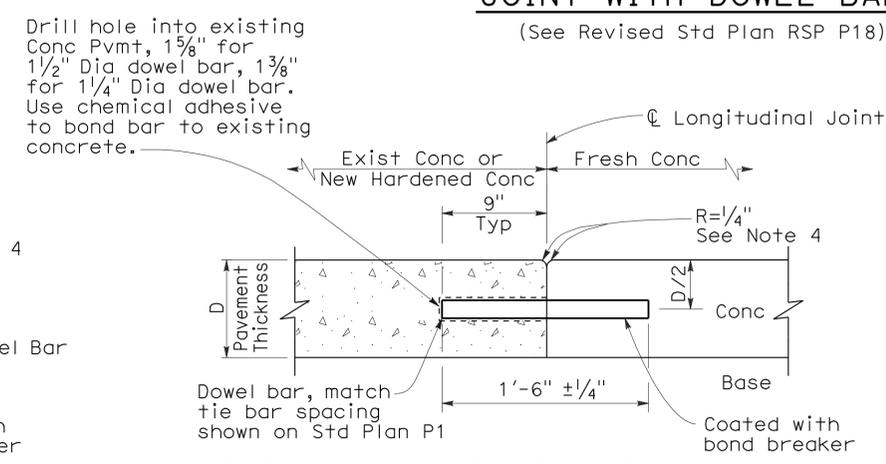
LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT

(Drill and bond locations)



LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)

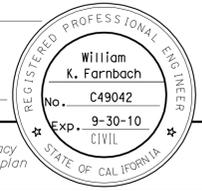
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT-DOWEL BAR DETAILS
NO SCALE

RSP P10 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P10 DATED MAY 1, 2006 - PAGE 124 OF THE STANDARD PLANS BOOK DATED MAY 2006.

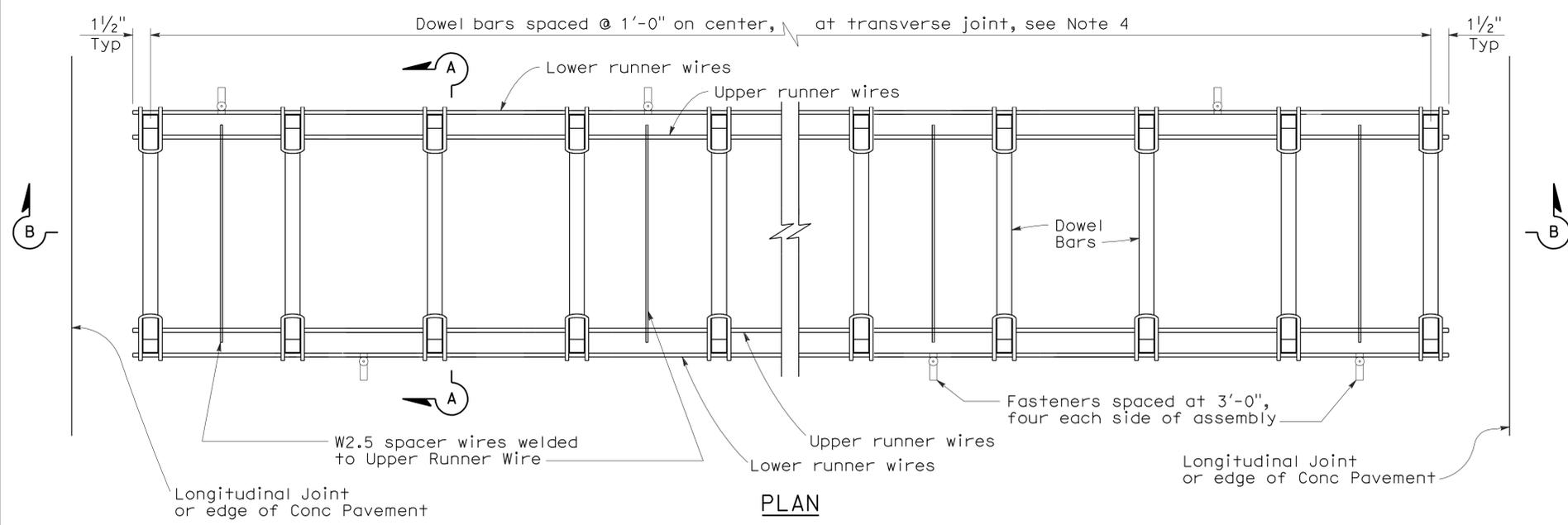
2006 REVISED STANDARD PLAN RSP P10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1359	2028

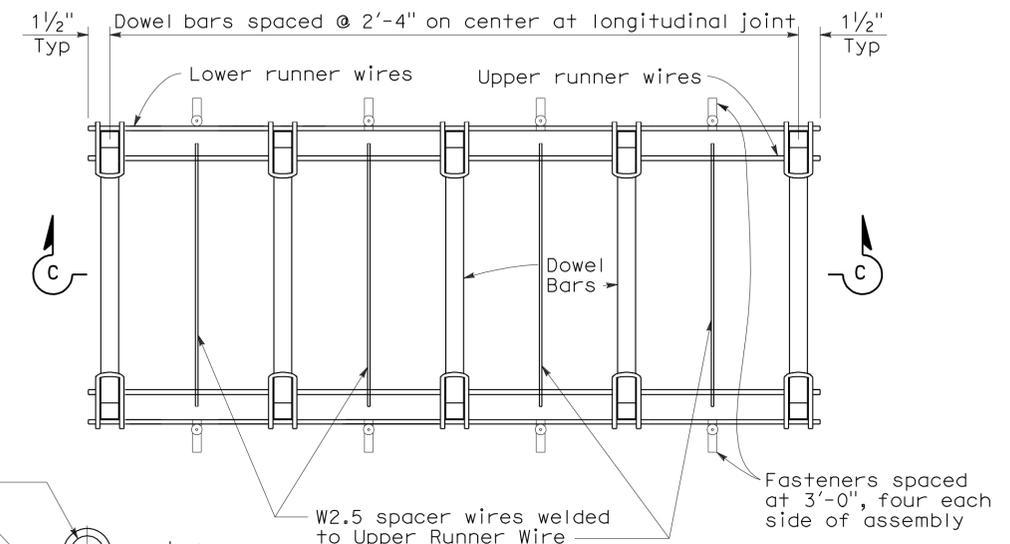
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



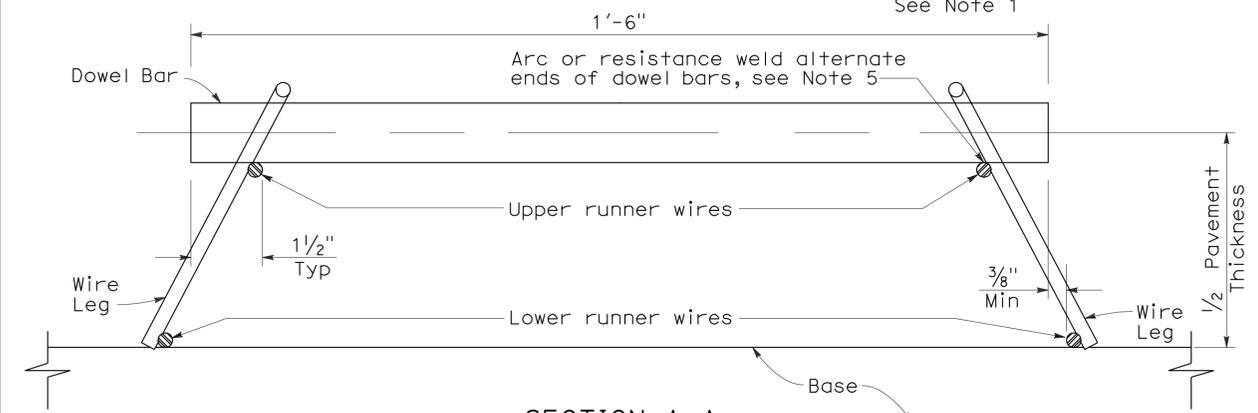
To accompany plans dated 4-25-11



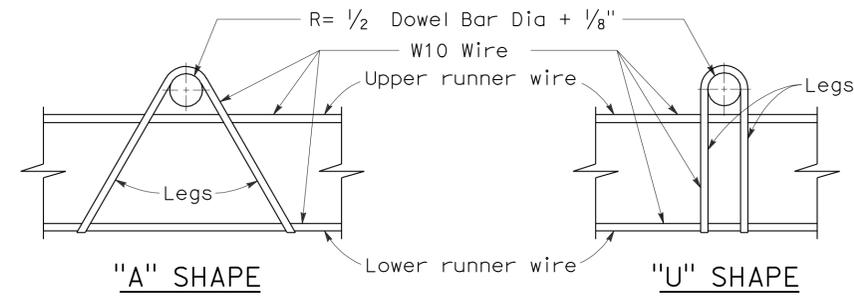
PLAN
DOWEL BAR BASKET
(TRANSVERSE JOINT)
See Note 1



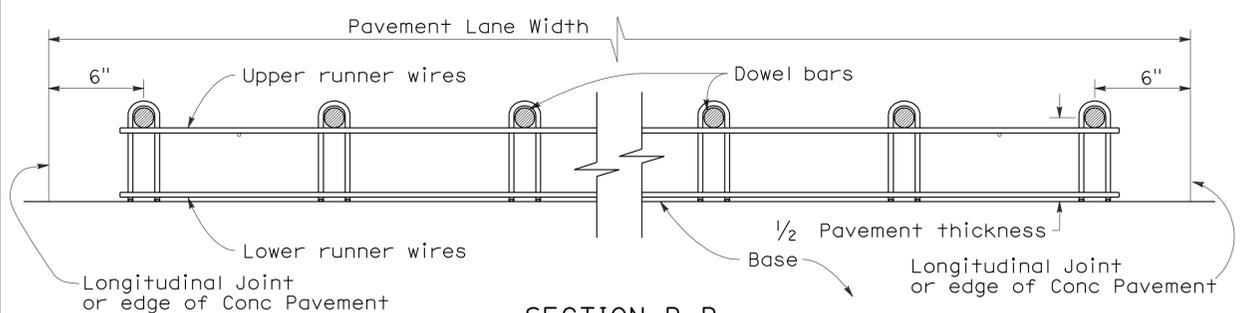
PLAN
DOWEL BAR BASKET
(LONGITUDINAL JOINT)
See Note 1



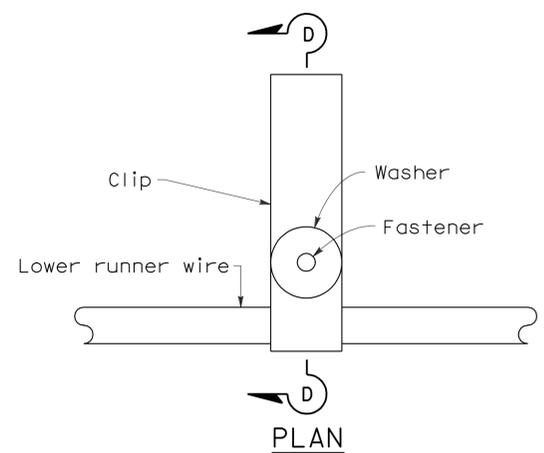
SECTION A-A



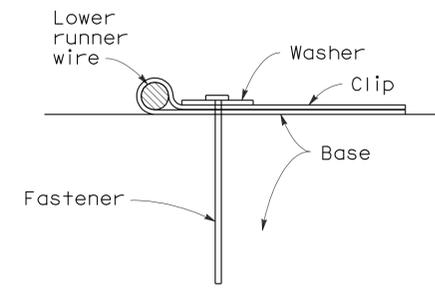
ASSEMBLY FRAME DETAILS



SECTION B-B
See Note 1



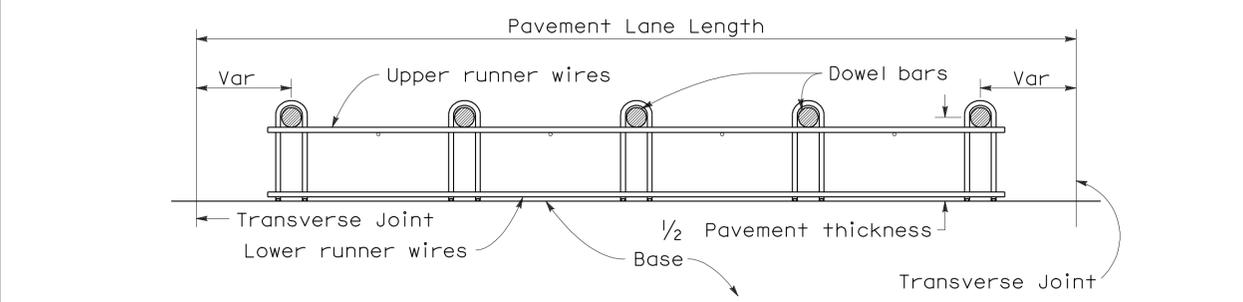
FASTENER DETAIL



SECTION D-D

NOTES:

- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
- Wire sizes shown are minimum required.
- All wire intersections are to be resistance welded.
- Use tie bar spacing for longitudinal dowel bar locations. See Revised Std Plans RSPs P1, P2, and P3 for tie bar requirements.
- Weld may be at top or bottom of dowel bar.



SECTION C-C
See Notes 1 and 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-
DOWEL BAR BASKET
DETAILS

NO SCALE

RSP P12 DATED MAY 15, 2009 SUPERSEDES RSP P12 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P12 DATED MAY 1, 2006 - PAGE 125 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P12

2006 REVISED STANDARD PLAN RSP P12

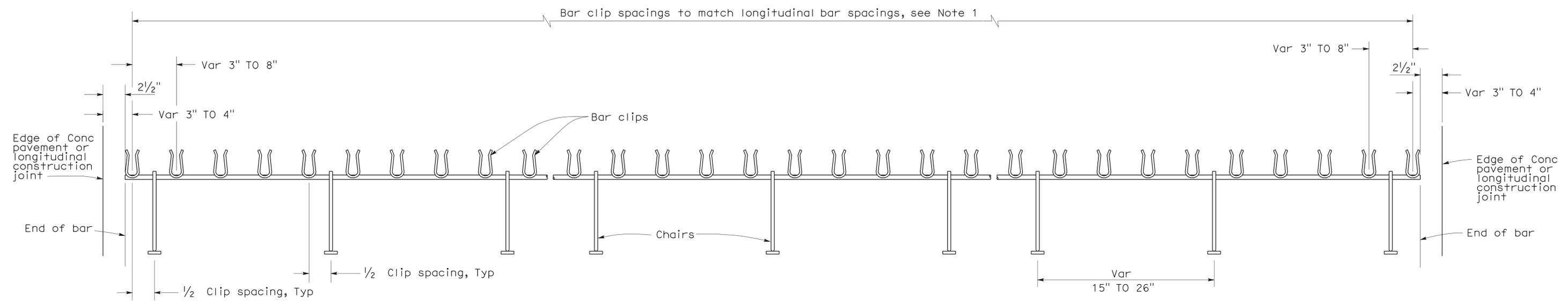
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1360	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

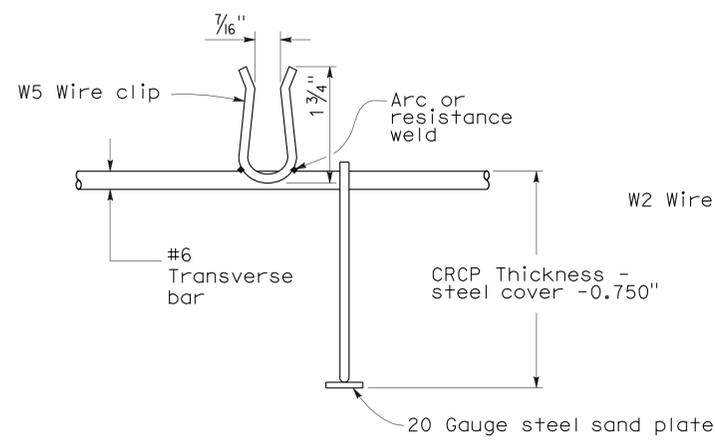
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. 49042
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

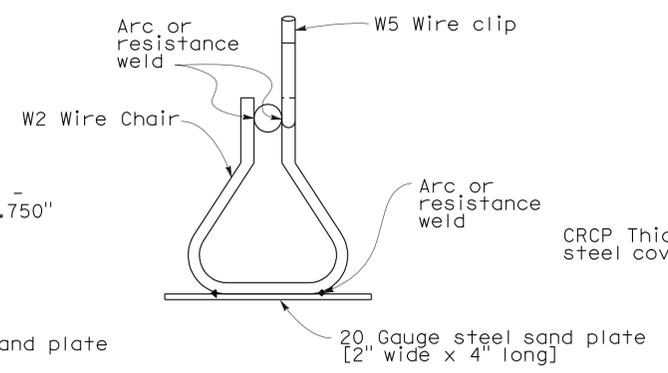
To accompany plans dated 4-25-11



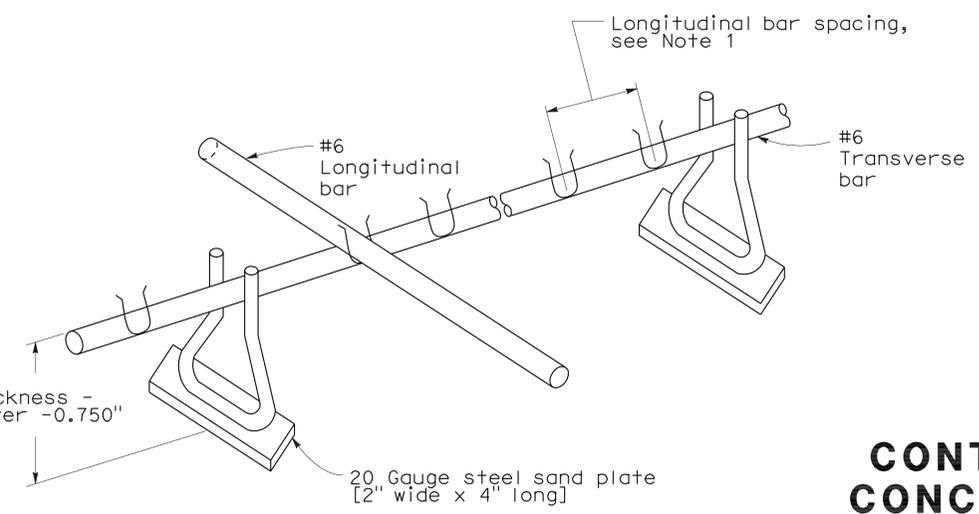
TRANSVERSE BAR ASSEMBLY



#6 BAR CLIP DETAIL



CHAIR DETAIL



ISOMETRIC VIEW OF CHAIR ASSEMBLY

- NOTES:**
1. See New Standard Plan NSP 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.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT-SINGLE
 PIECE TRANSVERSE BAR
 ASSEMBLY**
 NO SCALE

NSP P13 DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP P13

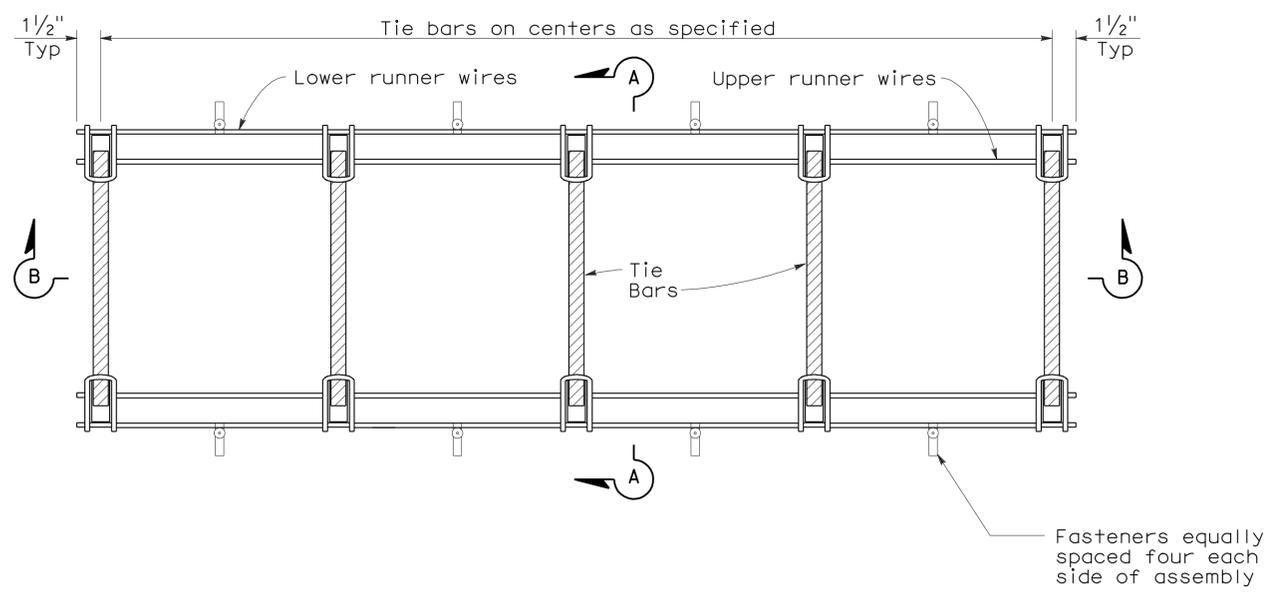
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1361	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 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.

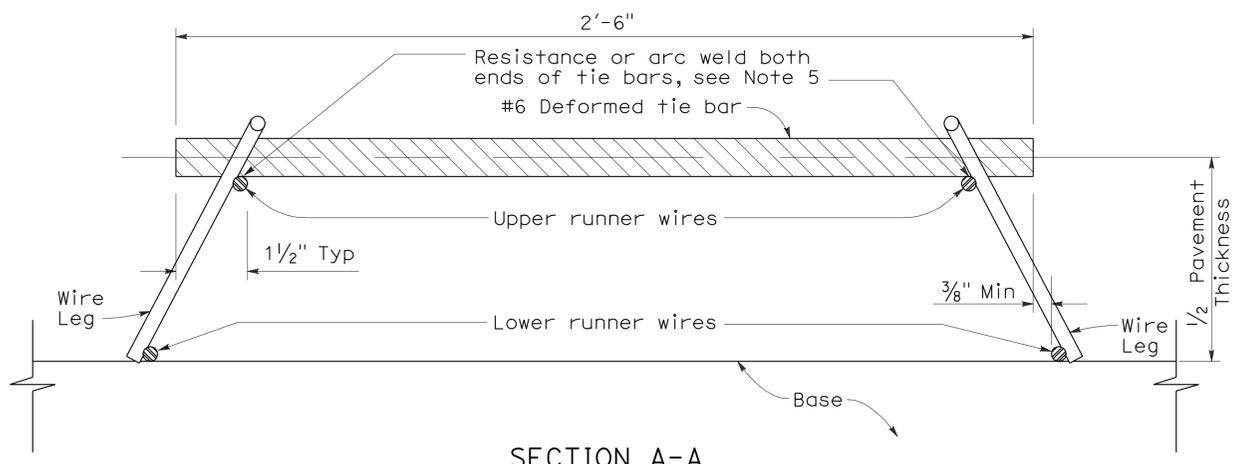
REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 4-25-11

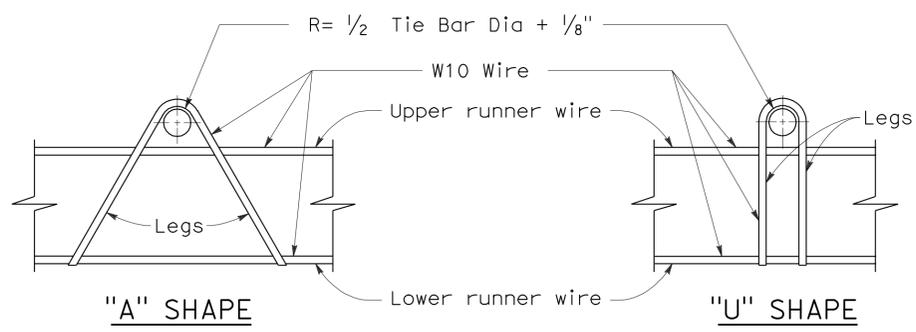


PLAN
TIE BAR BASKET
 (TIE BARS AT LONGITUDINAL JOINT)
 See Note 1

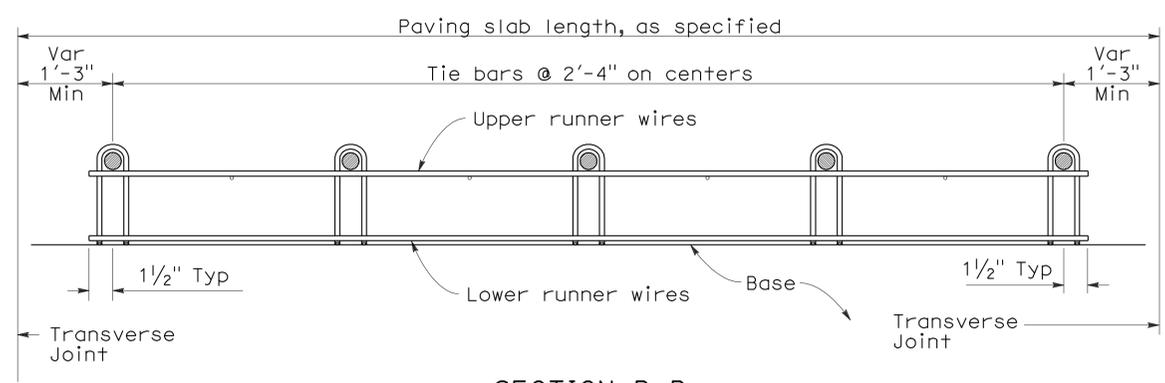
- NOTES:**
- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
 - Wire sizes shown are minimum required.
 - All wire intersections are to be resistance welded.
 - Not for use on nondoweled skewed jointed plain concrete pavement.
 - Weld may be at top or bottom of tie bar.



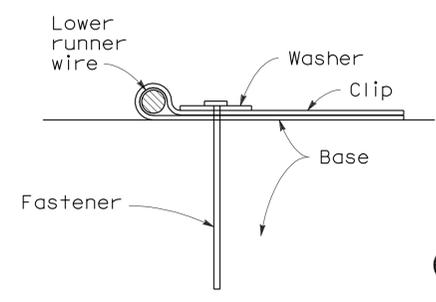
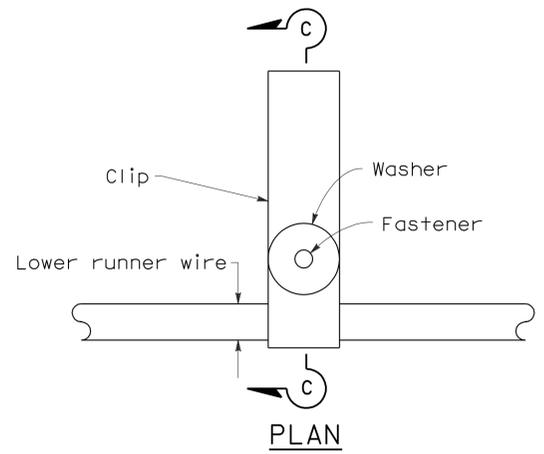
SECTION A-A



ASSEMBLY FRAME DETAILS



SECTION B-B
 See Note 1



FASTENER DETAIL

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

RSP P17 DATED MAY 15, 2009 SUPERSEDES RSP P17 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P17 DATED MAY 1, 2006 - PAGE 126 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P17

2006 REVISED STANDARD PLAN RSP P17

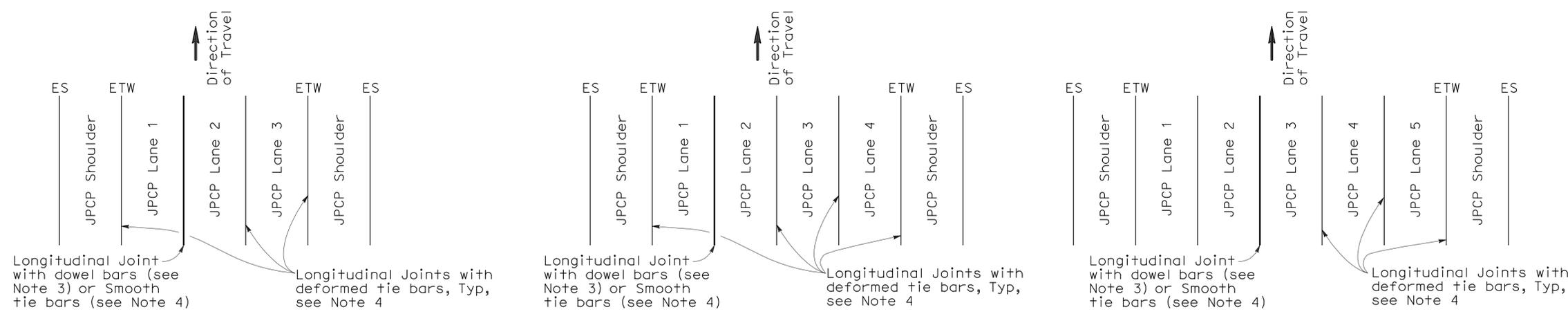
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1362	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

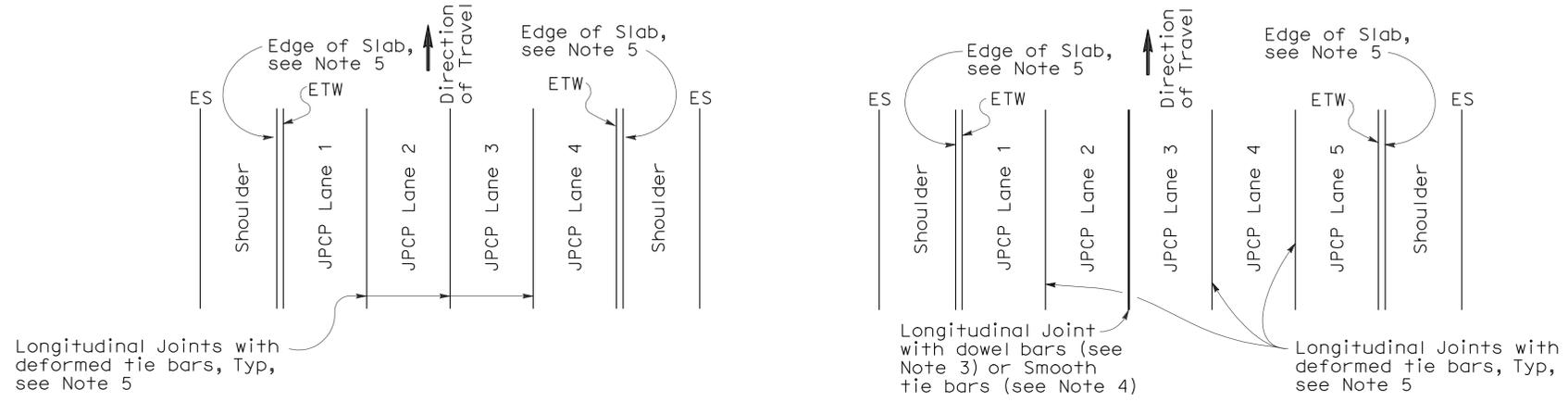
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP P18

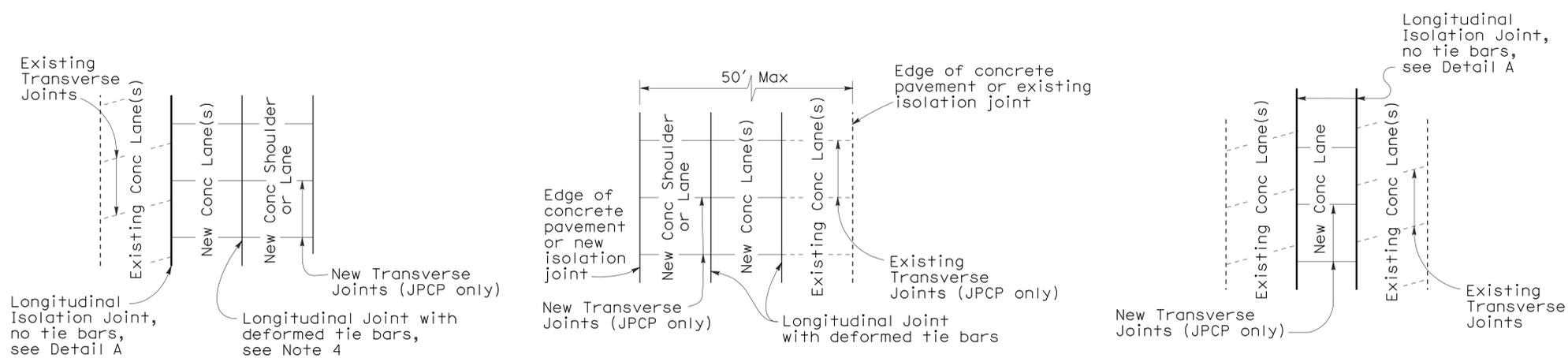


3 LANES WITH TIED CONCRETE SHOULDERS PLAN
 4 LANES WITH TIED CONCRETE SHOULDERS PLAN
 5 LANES WITH TIED CONCRETE SHOULDERS PLAN



4 LANES OR LESS WITH WIDENED SLAB PLAN
 5 LANES WITH WIDENED SLAB PLAN

NEW CONSTRUCTION
Location of Longitudinal Joints (For JPCP)



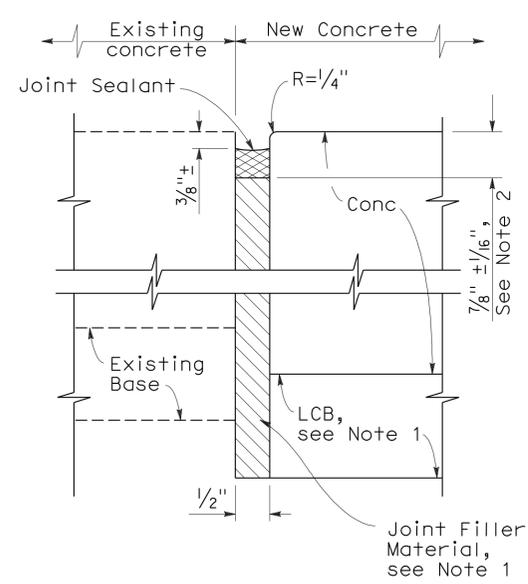
CASE 1 PLAN
 CASE 2 PLAN
 CASE 3 (INTERIOR LANE REPLACEMENT) PLAN

Transverse Joints do not align between new and existing
 Transverse Joints align between new and existing
 Transverse Joints do not align between new and existing

LANE/SHOULDER ADDITION OR RECONSTRUCTION
(For JPCP and CRCP)

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 5/8" ± 1/16" dimension for silicone sealant.
- See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
- See Revised Standard Plan RSP P1.
- See Revised Standard Plan RSP P2.



DETAIL A
ISOLATION JOINT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 LANE SCHEMATICS
 AND ISOLATION JOINT DETAIL**

NO SCALE

RSP P18 DATED JUNE 5, 2009 SUPERSEDES RSP P18 DATED MAY 15, 2009, RSP P18 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P18 DATED MAY 1, 2006 - PAGE 127 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P18

NOTE:

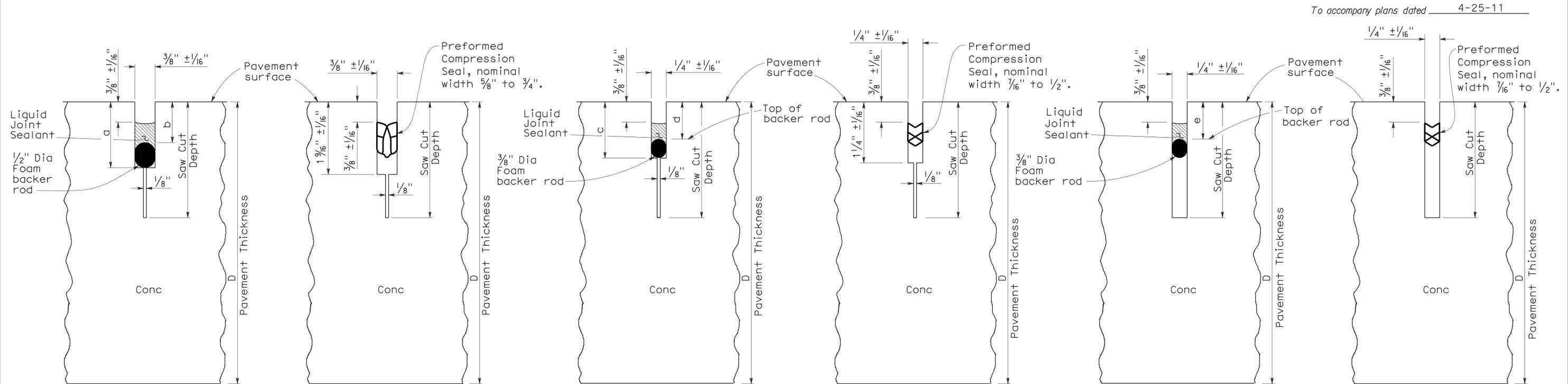
1. Tie bars, dowel bars, and reinforcement are not shown in joint seal details, see Revised Standard Plans RSP P1, RSP P3, RSP P10, RSP P35, RSP P45, or RSP P46 as applicable.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1363	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

May 15, 2009
 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.



LIQUID SEALANT

COMPRESSION SEAL

LIQUID SEALANT

COMPRESSION SEAL

LIQUID SEALANT

COMPRESSION SEAL

TYPE A1

TYPE A2

TYPE B

Transverse Contraction Joints

Longitudinal Contraction Joints

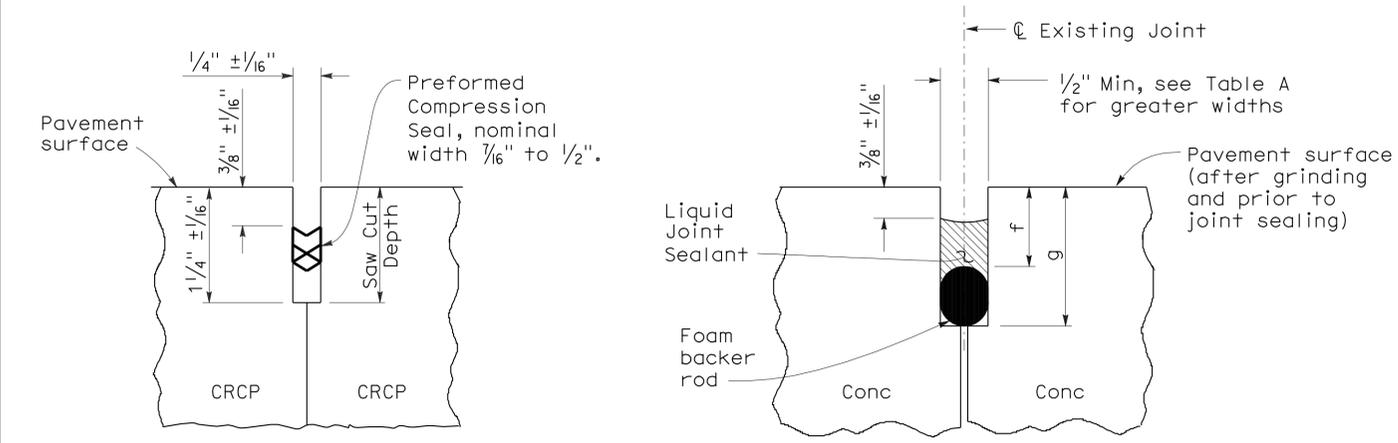
Longitudinal or Transverse Contraction Joint

LIQUID SEALANT RESERVOIR DEPTH

LIQUID SEALANT MATERIAL	3/8" Joint Width Type A1		1/4" Joint Width Type A2		1/4" Joint Width Type B
	DIMENSION		DIMENSION		DIMENSION
	a	b	c	d	e
SILICONE	1" ± 1/16"	5/8" ± 1/16"	15/16" ± 1/16"	9/16" ± 1/16"	9/16" ± 1/16"
ASPHALT RUBBER	1 3/16" ± 1/16"	3/4" ± 1/16"	1 1/16" ± 1/16"	11/16" ± 1/16"	11/16" ± 1/16"

TABLE A (TYPE R JOINT)

Sawn Joint Width	Backer Rod Diameter ± 1/16"	DIMENSION "f"	DIMENSION "g"
1"	1 5/16"	7/8"	2 1/4"
7/8"	1 3/16"	13/16"	2"
3/4"	1"	3/4"	1 3/4"
5/8"	7/8"	11/16"	1 1/2"
1/2"	11/16"	5/8"	1 1/4"



COMPRESSION SEAL

LIQUID SEALANT

TYPE C

TYPE R

Transverse and Longitudinal Construction Joints (For CRCP)

Retrofit Transverse and Longitudinal Joints

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT-JOINT DETAILS

NO SCALE

RSP P20 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P20 DATED MAY 1, 2006 - PAGE 128 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P20

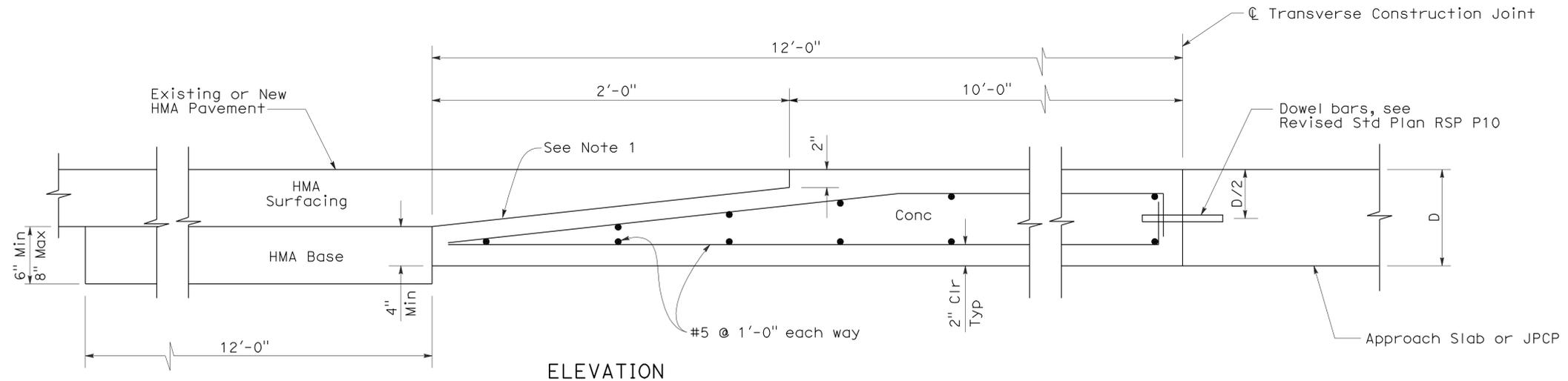
2006 REVISED STANDARD PLAN RSP P20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1364	2028

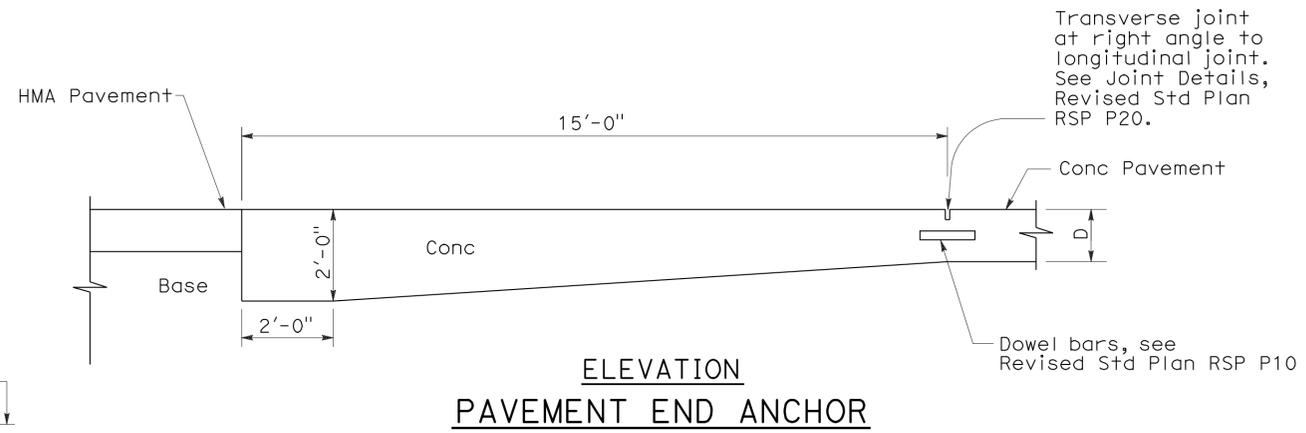
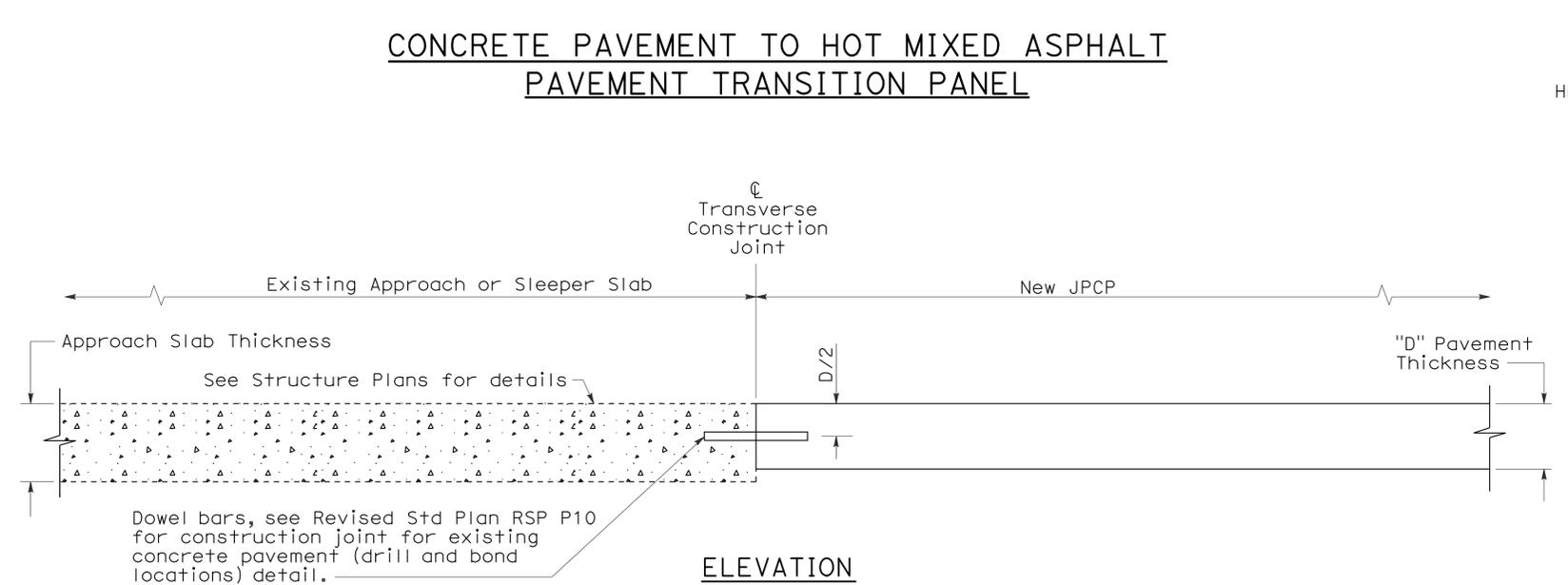
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

May 15, 2009
 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.

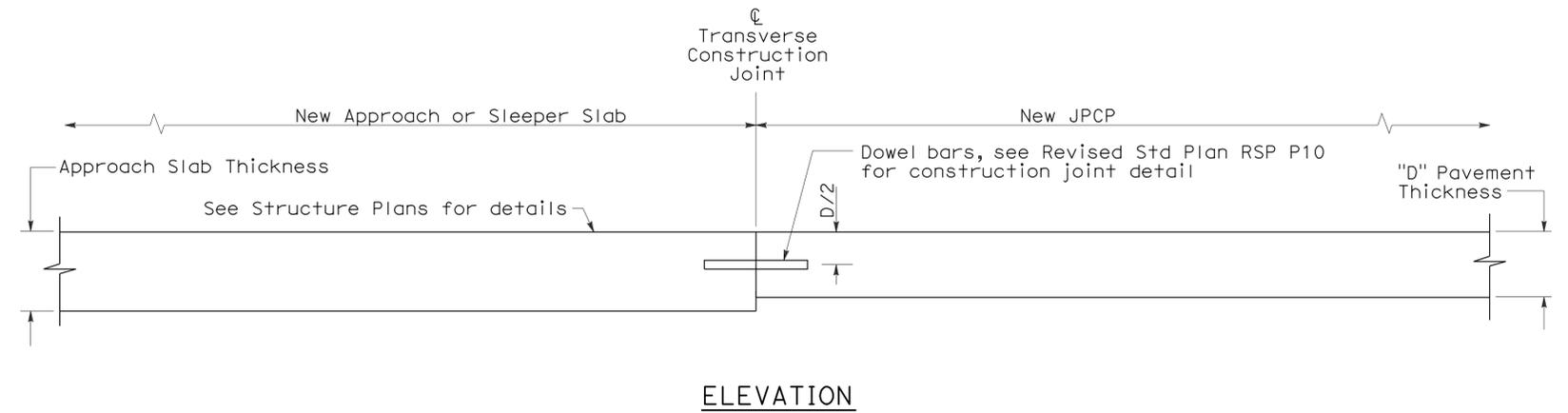


CONCRETE PAVEMENT TO HOT MIXED ASPHALT PAVEMENT TRANSITION PANEL



PAVEMENT END ANCHOR

NOTE:
1. Heavy broom finish.



CONCRETE PAVEMENT TRANSITION TO APPROACH OR SLEEPER SLAB

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**JOINTED PLAIN CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**

NO SCALE

RSP P30 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P30
DATED MAY 1, 2006 - PAGE 129 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P30

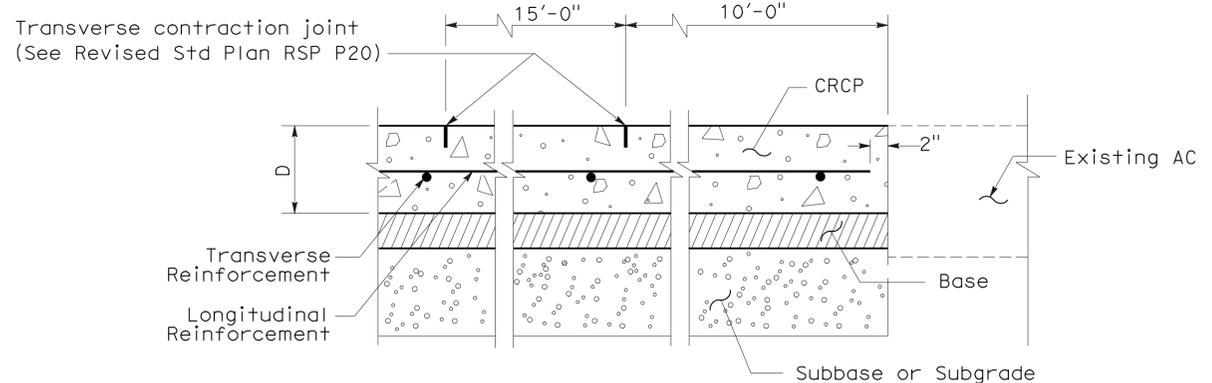
2006 REVISED STANDARD PLAN RSP P30

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1365	2028

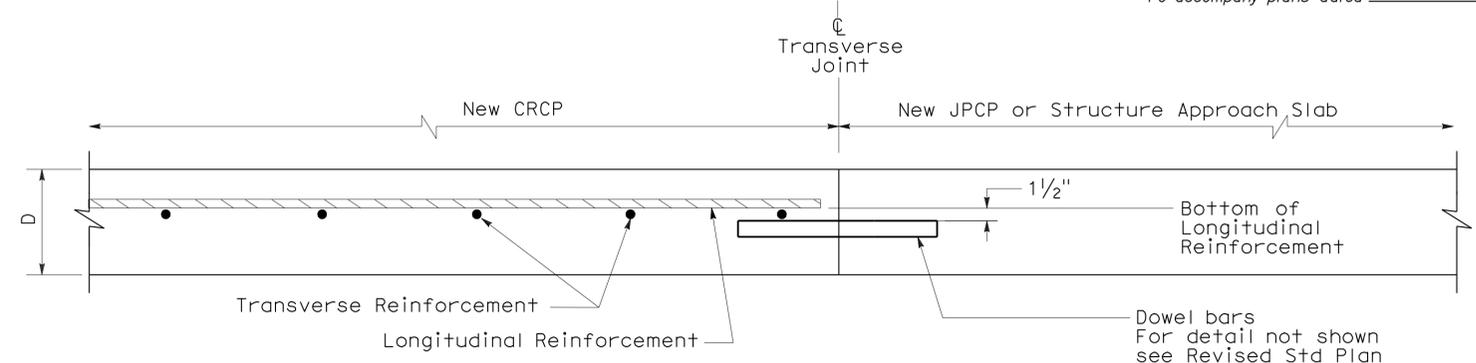
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. 49042
 Exp. 09-30-10
 STATE OF CALIFORNIA

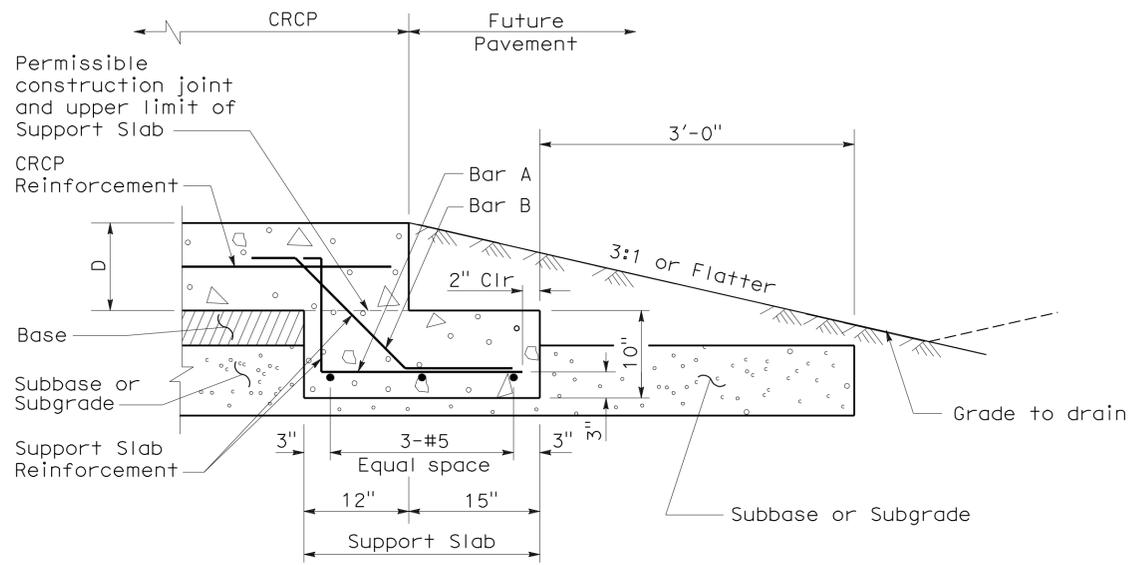
To accompany plans dated 4-25-11



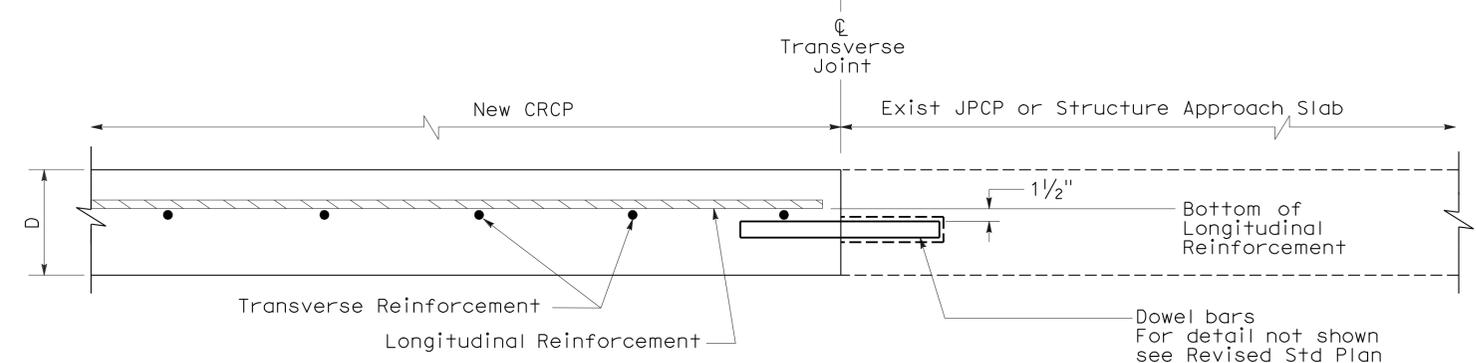
TERMINAL JOINT TYPE A
(For Existing AC)



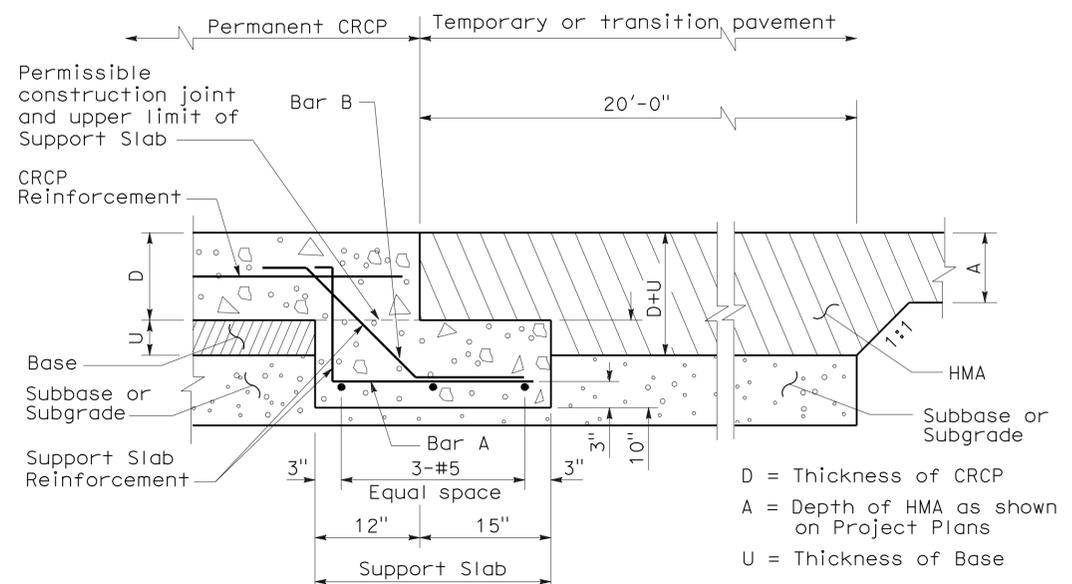
TERMINAL JOINT TYPE E
(For New JPCP or Structure Approach Slabs)



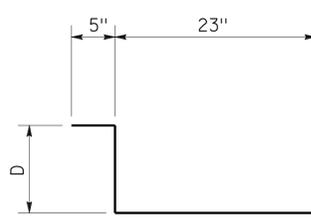
TERMINAL JOINT TYPE B
(For Future Pavement)



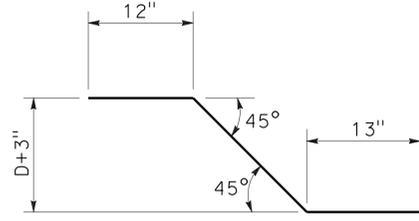
TERMINAL JOINT TYPE D
(For Existing JPCP or Structure Approach Slabs)



TERMINAL JOINT TYPE C
(For Temporary HMA Pavement)



BAR "A" (#5)
AT 12" C-C



BAR "B" (#5)
AT 12" C-C

D = Thickness of CRCP
 A = Depth of HMA as shown on Project Plans
 U = Thickness of Base

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT - TERMINAL JOINT DETAILS
 NO SCALE

NSP P31A DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP P31A

2006 NEW STANDARD PLAN NSP P31A

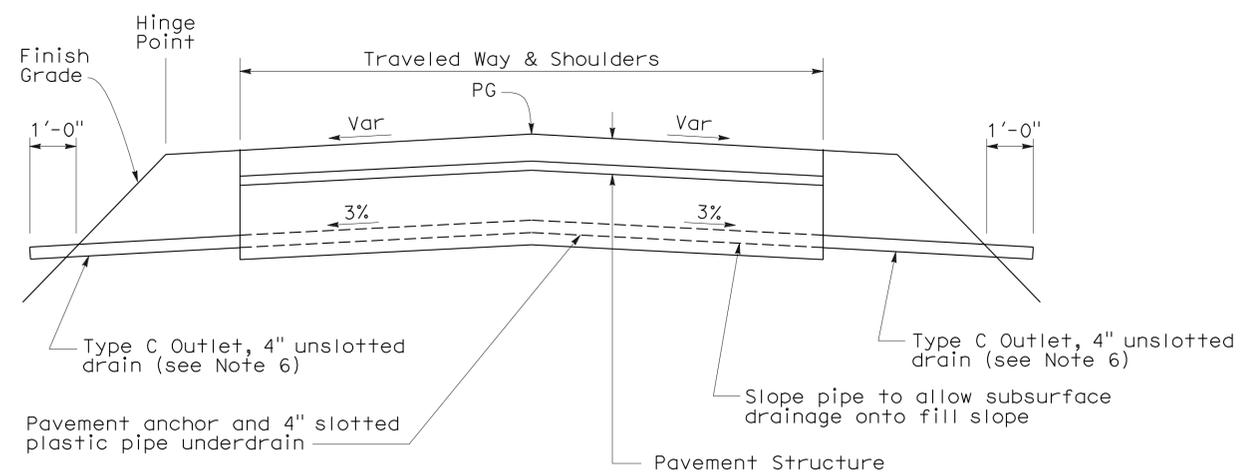
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1366	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. 49042
 Exp. 09-30-10
 STATE OF CALIFORNIA

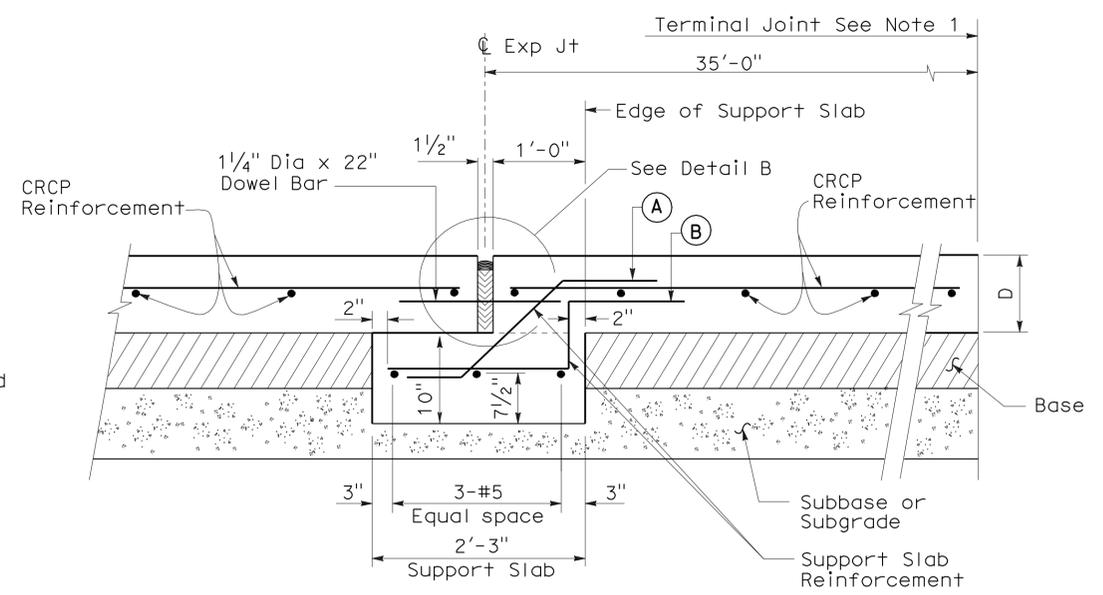
June 5, 2009
 PLANS APPROVAL DATE

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.

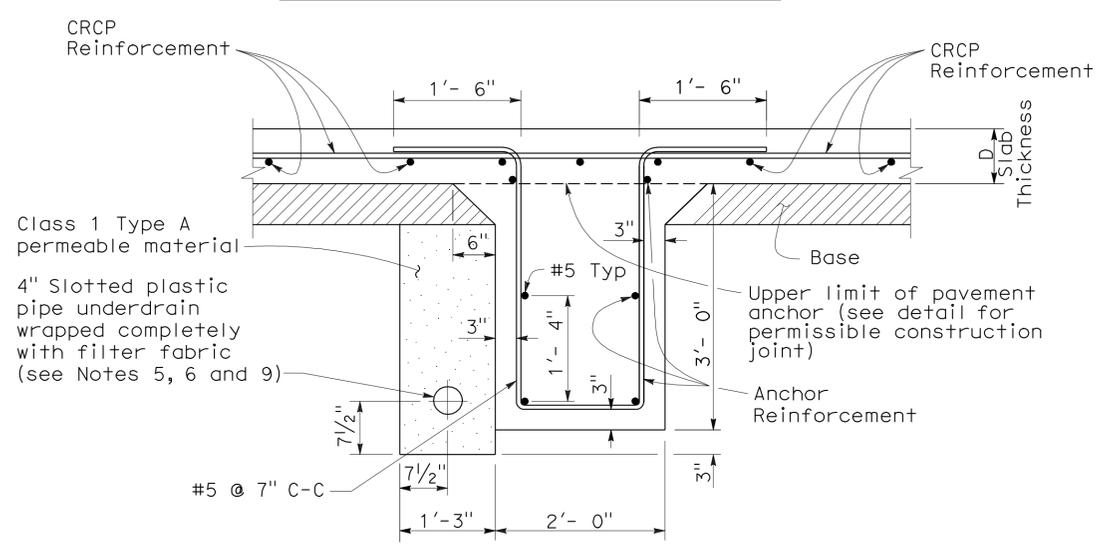
To accompany plans dated 4-25-11



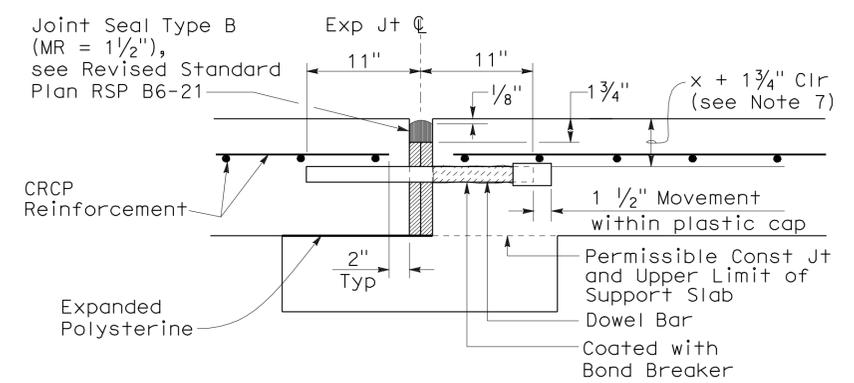
PAVEMENT ANCHOR PROFILE



EXPANSION JOINT TYPE AN



PAVEMENT ANCHOR

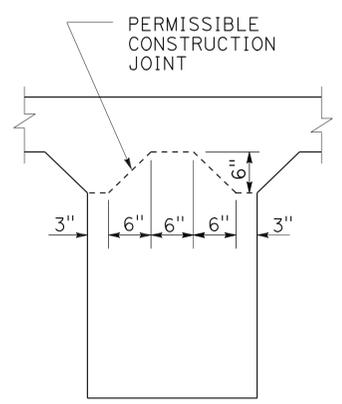


DETAIL B

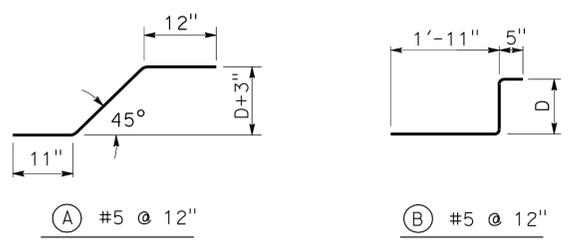
(For layout, tolerances, and other details not shown, see Revised Standard Plan RSP P10.)

NOTES:

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



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
 NSP P31B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP P31B

2006 NEW STANDARD PLAN NSP P31B

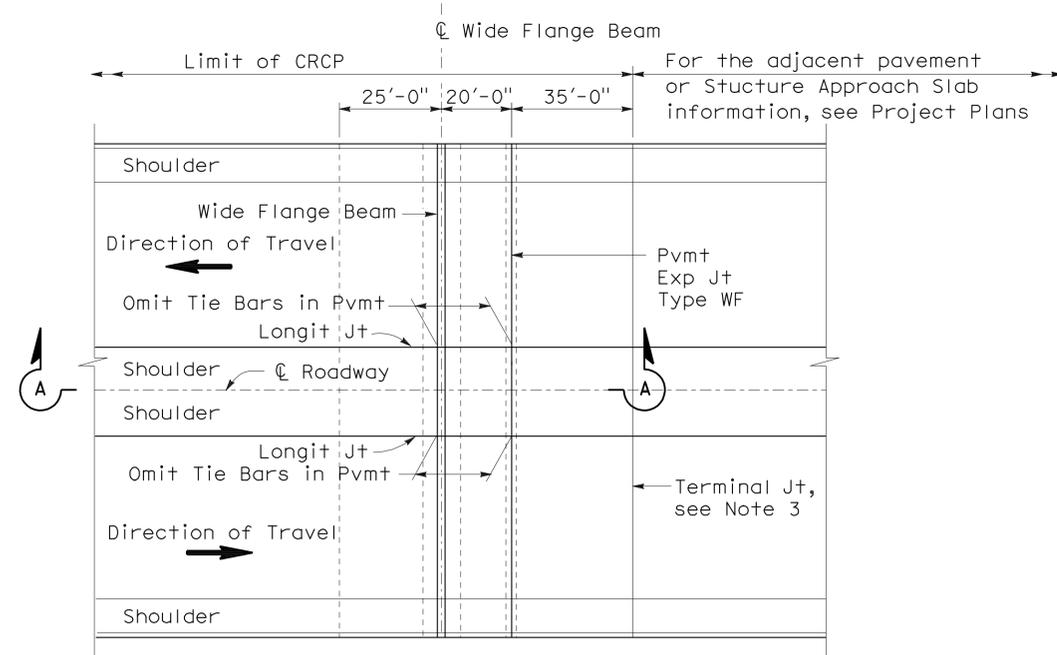
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1367	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. 49042
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

June 5, 2009
 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.

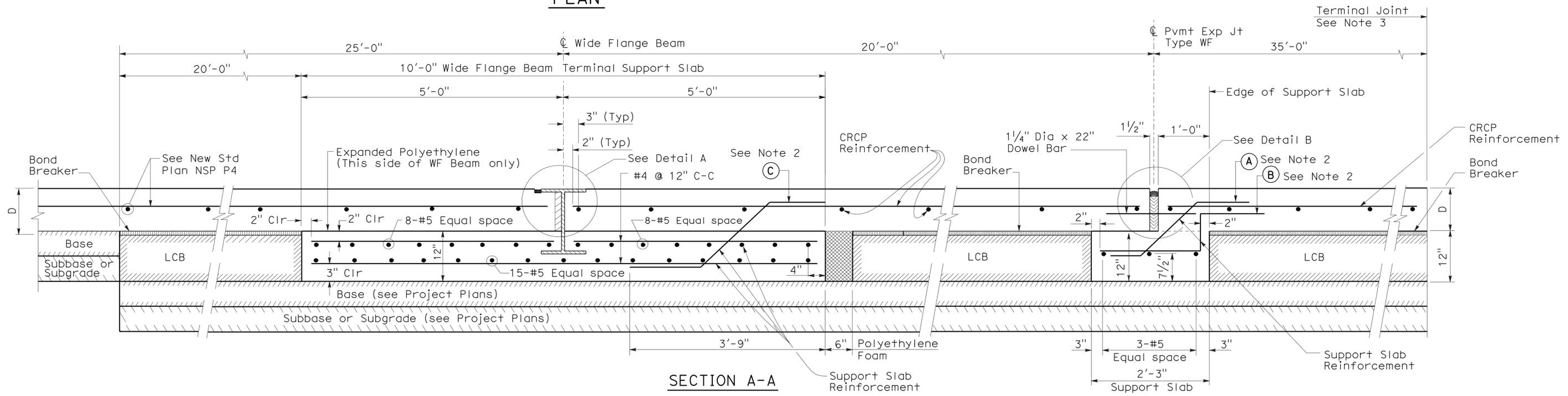
To accompany plans dated 4-25-11



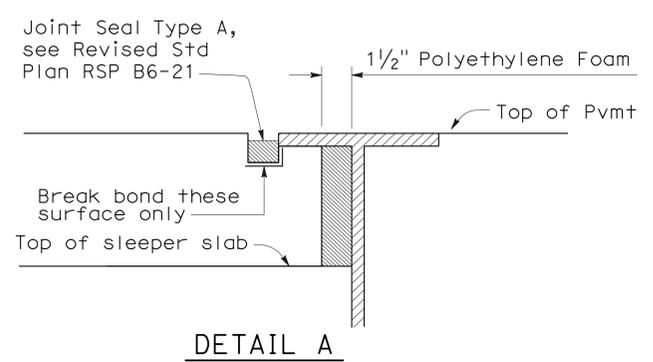
PLAN

NOTES:

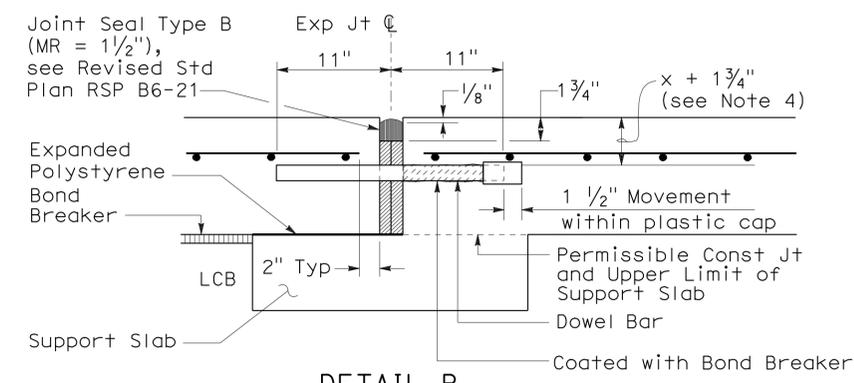
- For additional details on reinforcement member quantities of the wide flange beam terminal and Pavement Expansion Joint Type WF, see New Standard Plan NSP P32B.
 - For reinforcement (A), (B), and (C) Details, see New Standard Plan NSP P32B.
 - For the Pavement Terminal Joint Details, see New Standard Plan NSP P31A. For Pavement Terminal Joint Type, see Project Plans.
 - See New Standard Plan NSP P4 for "x".
- D = Thickness of CRCP



SECTION A-A



DETAIL A

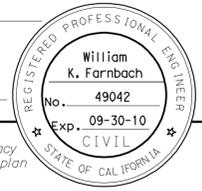


DETAIL B

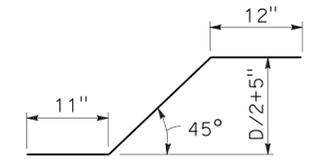
(For layout, tolerances, and other details not shown see Revised Std Plan RSP P10.)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT -
 WIDE FLANGE BEAM TERMINALS**
 NO SCALE
 NSP P32A DATED JUNE 5, 2009 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006
NEW STANDARD PLAN NSP P32A

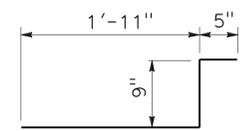
2006 NEW STANDARD PLAN NSP P32A



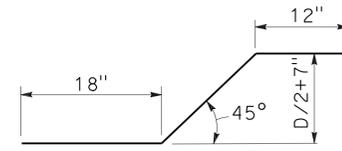
To accompany plans dated 4-25-11



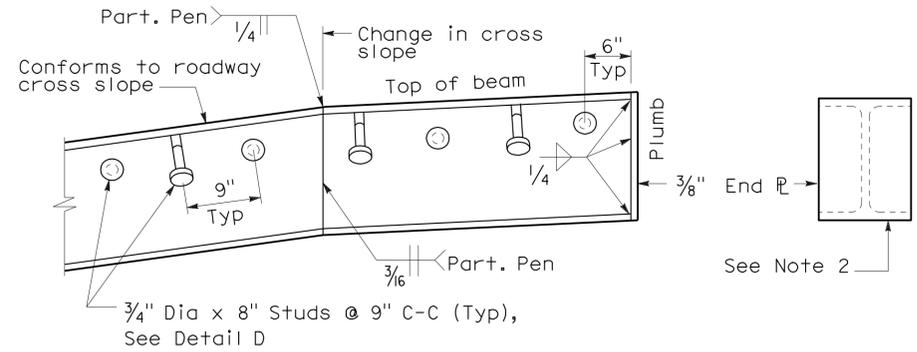
(A) #5 @ 12"



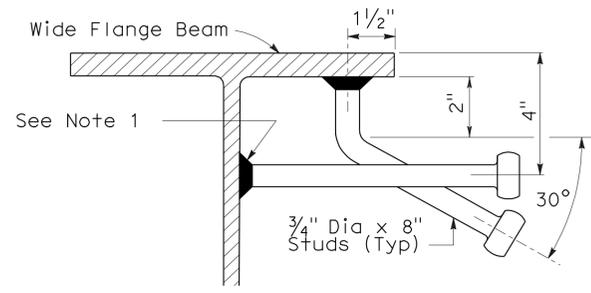
(B) #5 @ 12"



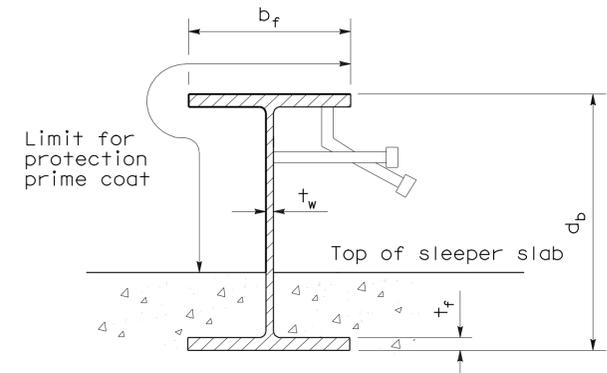
(C) #4 @ 12"



WIDE FLANGE DETAIL



DETAIL D



WIDE FLANGE PAINTING DETAIL

SEE "TABLE OF BEAM SIZES"

LEGEND:

- b_f - flange width
- t_f - flange thickness
- t_w - web thickness
- d_b - 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	4.81CY	4.81CY	4.81CY	4.81CY	4.81CY	4.81CY
Terminal Slab	Reinforcing Steel	552.2 LBS	552.4 LBS	552.6 LBS	552.8 LBS	553.0 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	101.6 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

TABLE OF BEAM SIZES

PAVEMENT THICKNESS	WIDE FLANGE BEAM DESIGNATION	d _b	b _f	t _f	t _w
.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

NSP P32B DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006

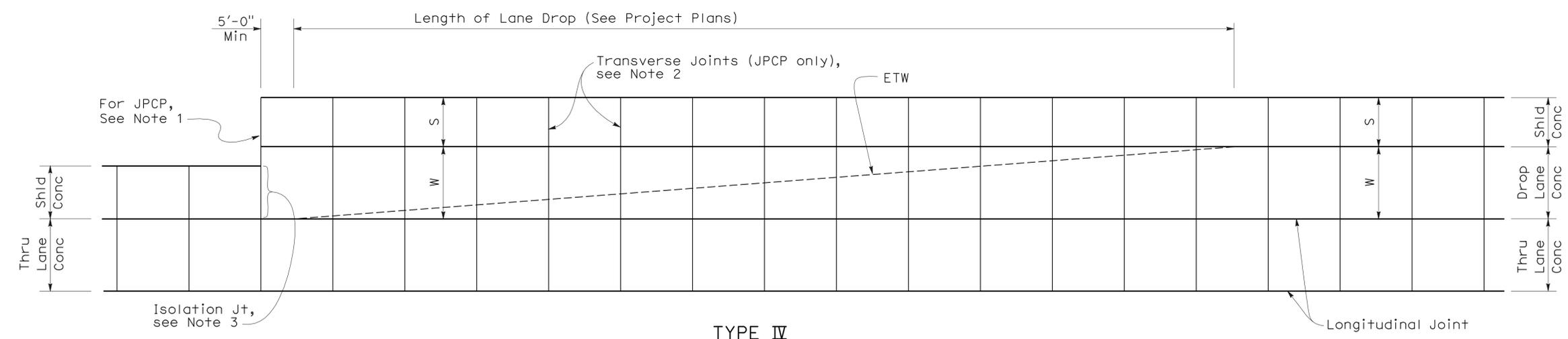
NEW STANDARD PLAN NSP P32B

2006 NEW STANDARD PLAN NSP P32B

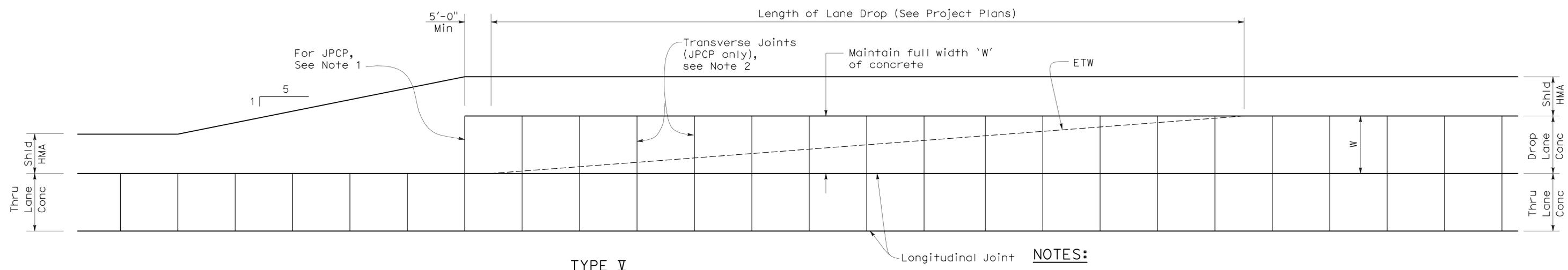
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1369	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 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.

To accompany plans dated 4-25-11

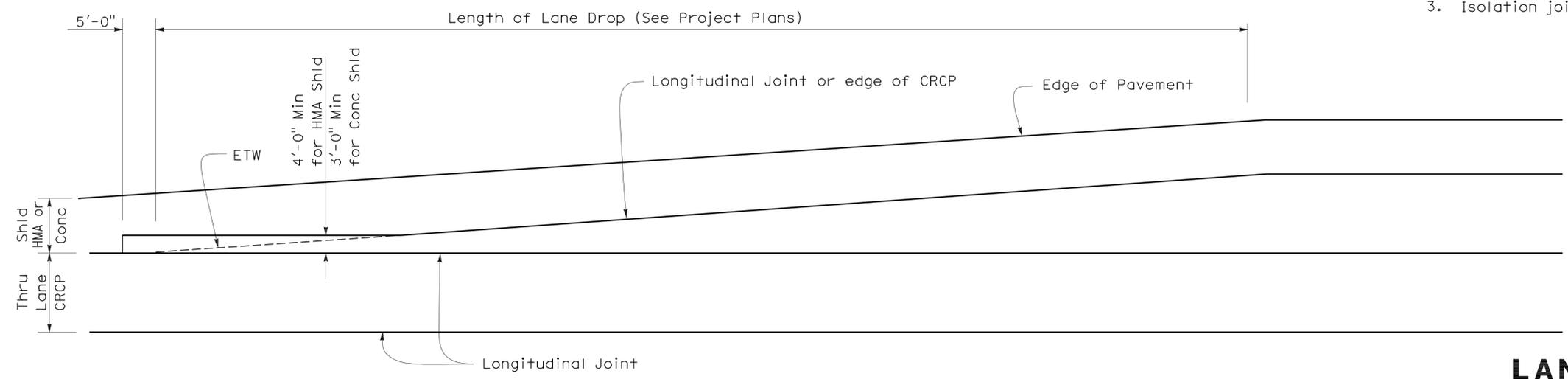


TYPE IV
JOINED PLAIN AND CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
 (See Revised Std Plans RSP P1, RSP P2, or New Std Plan NSP P4 for details not shown)



TYPE V
JOINED PLAIN AND CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
 (See Revised Std Plans RSP P1, RSP P2, or New Std Plan NSP P4 for details not shown)

- NOTES:**
1. Location of transverse joint to match transverse joint of adjacent lane.
 2. Place transverse joint of lane and shoulder perpendicular to longitudinal joint of through lane.
 3. Isolation joint detail shown on Revised Standard Plan RSP P18.



TYPE VI
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
 (See New Std Plan NSP P4 for details not shown)

LEGEND
 S - Shoulder width
 W - Lane width

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT -
LANE DROP PAVING DETAILS No. 2
 NO SCALE
 NSP P34 DATED MAY 15, 2009 SUPPLEMENTS THE
 STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP P34

2006 NEW STANDARD PLAN NSP P34

NOTES:

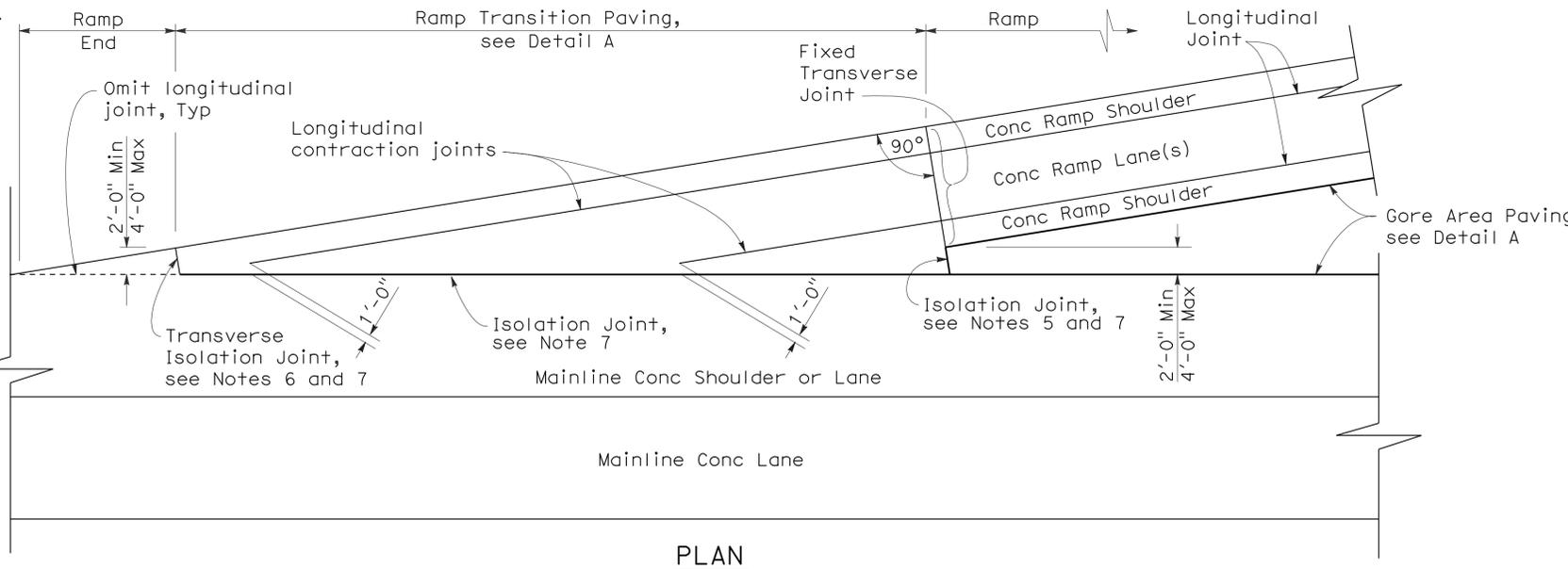
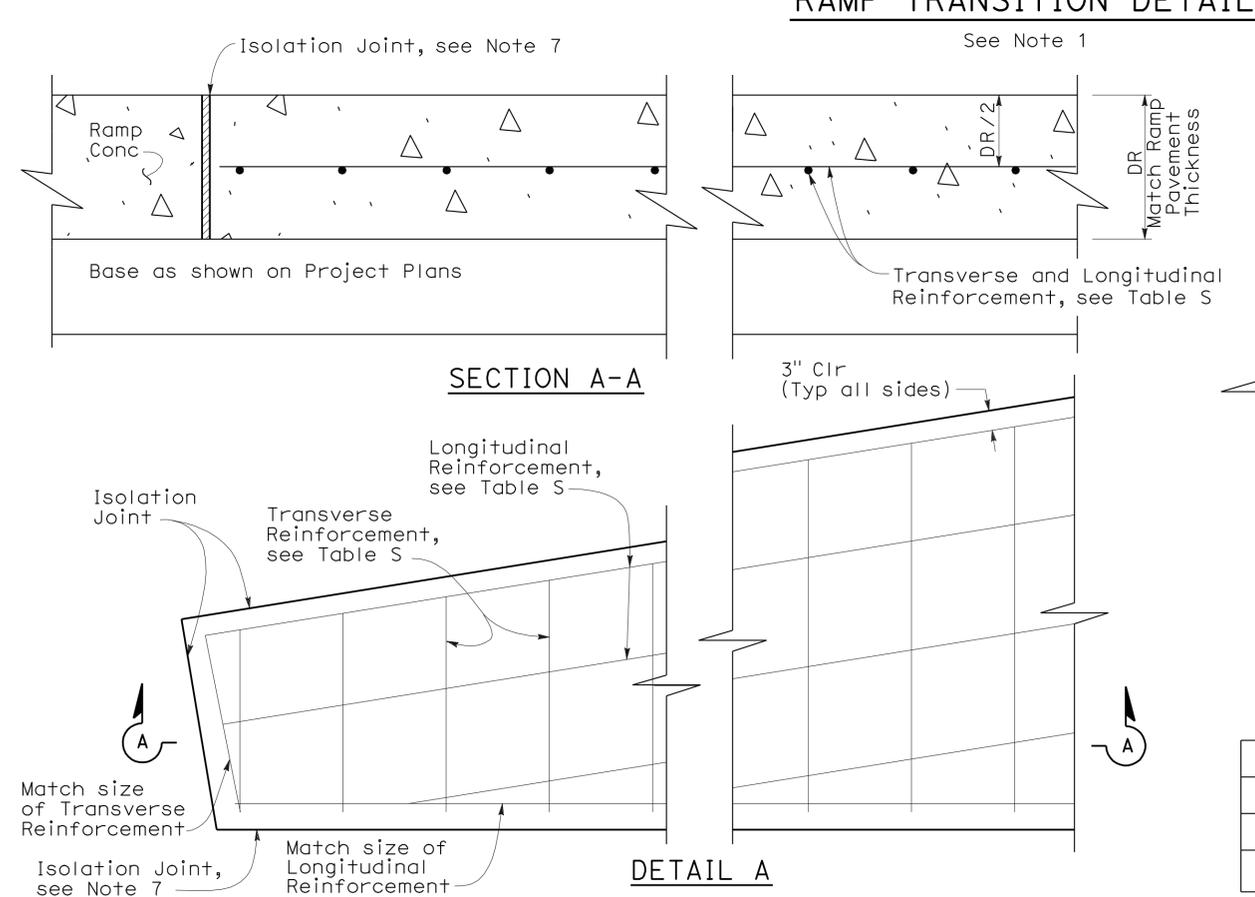
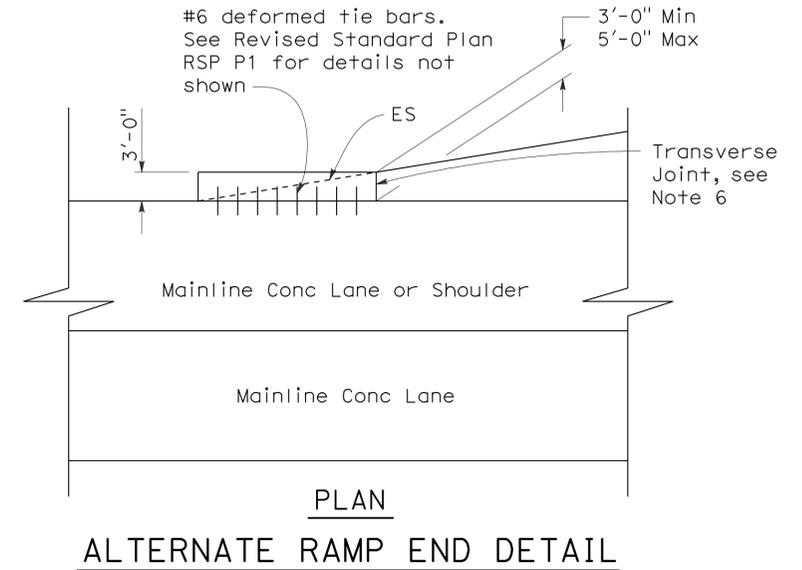
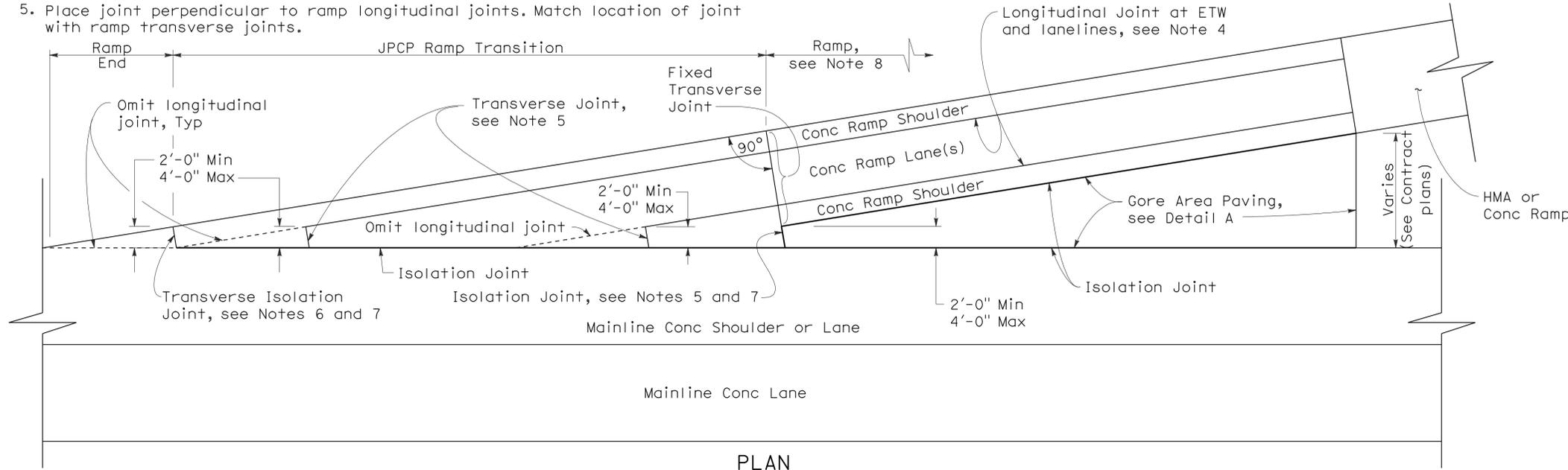
1. Details for gore area paving are applicable to both exit and entrance ramps.
2. Transverse Joint Layouts are not shown. Refer to Revised Standard Plan RSP P1 or Project Plans for details regarding joint layouts, tie bars, and dowel bars not shown.
3. WWF 4 x 4 - W4.0 x W4.0 can be used in place of steel reinforcement for gore area paving only.
4. Omit longitudinal joint when concrete on ramp shoulder is less than 3'-0".
5. Place joint perpendicular to ramp longitudinal joints. Match location of joint with ramp transverse joints.
6. Place joint perpendicular to ramp longitudinal joints. Match location of joint with mainline transverse joints.
7. Isolation joint detail shown on Revised Standard Plan RSP P18.
8. For jointed plain concrete pavement, transverse joints to be spaced from fixed transverse joint and shall follow spacing pattern on Revised Standard Plan RSP P1. Minimum spacing shall be 6 feet.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1370	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

May 15, 2009
 PLANS APPROVAL DATE

To accompany plans dated 4-25-11



STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-RAMP TRANSITION PAVING DETAILS

NO SCALE

RSP P35 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P35 DATED MAY 1, 2006 - PAGE 131 OF THE STANDARD PLANS BOOK DATED MAY 2006.

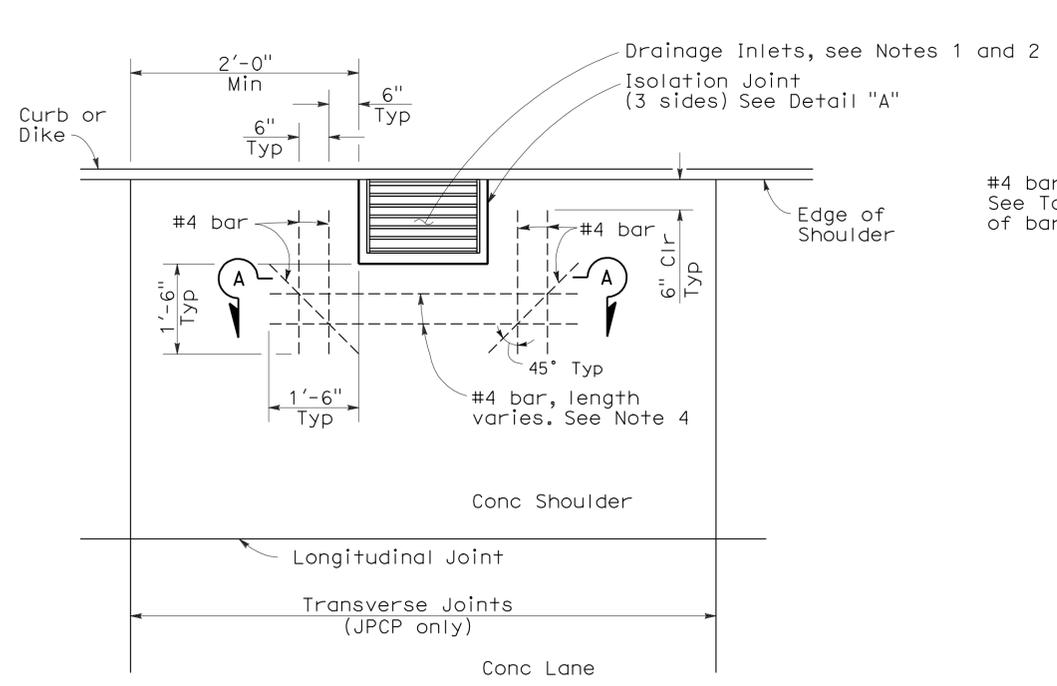
REVISED STANDARD PLAN RSP P35

TABLE S (For JPCP and CRCP)

Location	Transverse Reinf	Longitudinal Reinf
Gore Area Paving	#4 @ 1'-0" *	#4 @ 1'-0" *
Ramp Transition (JPCP)	#6 @ 1'-6"	#6 @ 9"
Ramp Transition (CRCP)	See NSP P4, Table No. 2	See NSP P4, Table No. 1

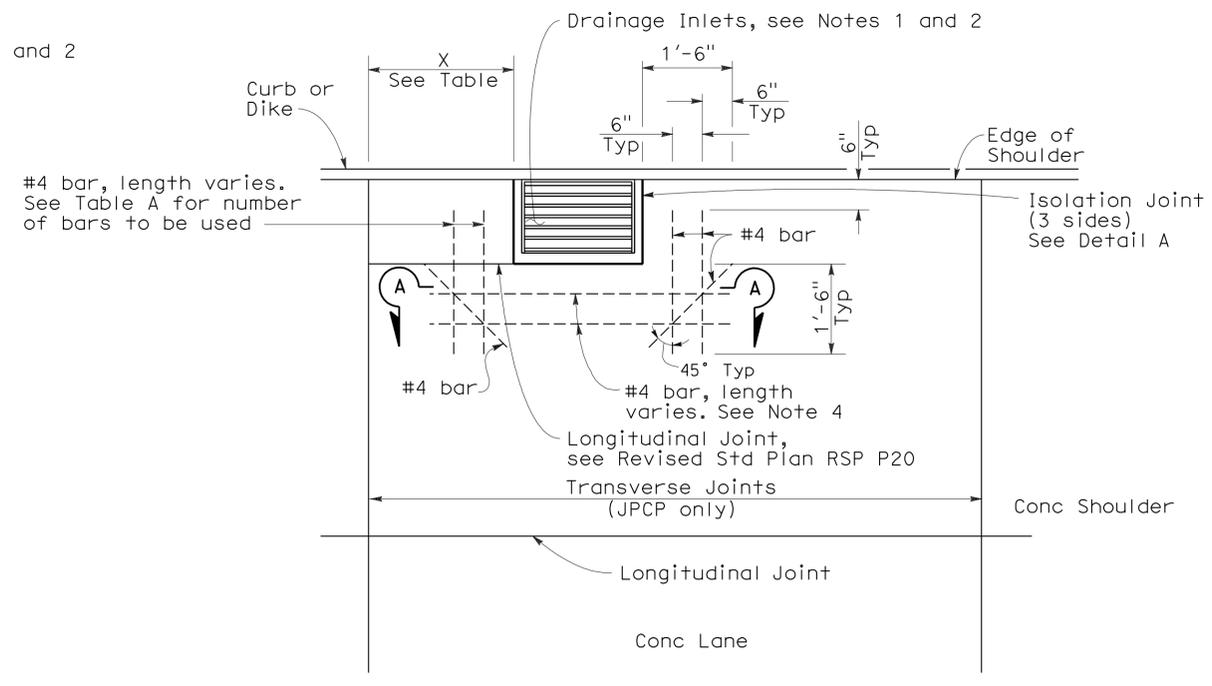
* See Note 3

2006 REVISED STANDARD PLAN RSP P35



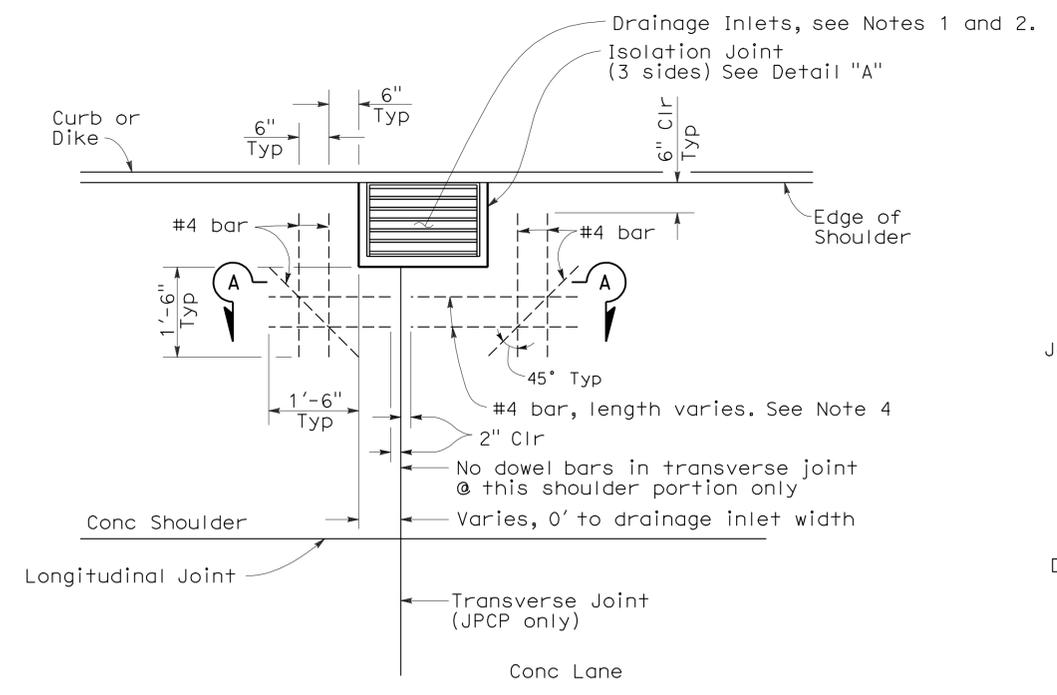
CASE 1

Transverse joint more than 2'-0" clear of drainage inlet wall or no transverse joint



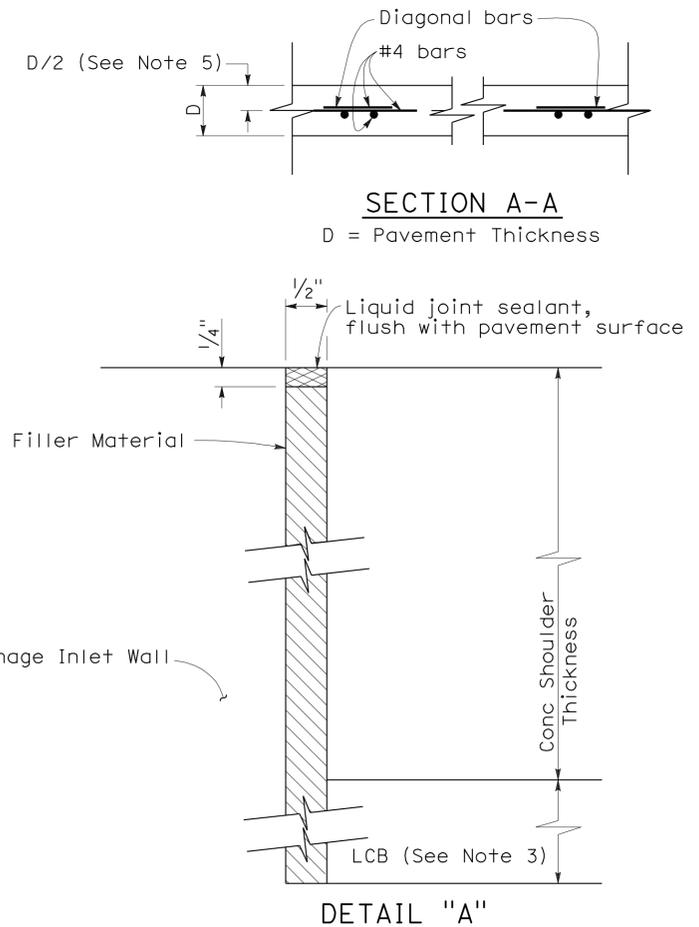
CASE 3

Transverse joint within 2'-0" of drainage inlet wall, or matches drainage inlet wall.



CASE 2

Transverse joint intersects drainage inlet, or matches drainage inlet wall.



ISOLATION JOINT AROUND DRAINAGE INLET

NOTES:

1. Refer to Project Plans for location and Type of drainage inlets.
2. Top of inlet shall be flush with shoulder surface.
3. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
5. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.
6. Dowel and tie bars not shown, see Revised Standard Plan RSP P1.

TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 9"	1 @ X/2
9" or less	None

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 DRAINAGE INLET
 DETAILS No. 1**
 NO SCALE

RSP P45 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P45
 DATED MAY 1, 2006 - PAGE 132 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P45

2006 REVISED STANDARD PLAN RSP P45

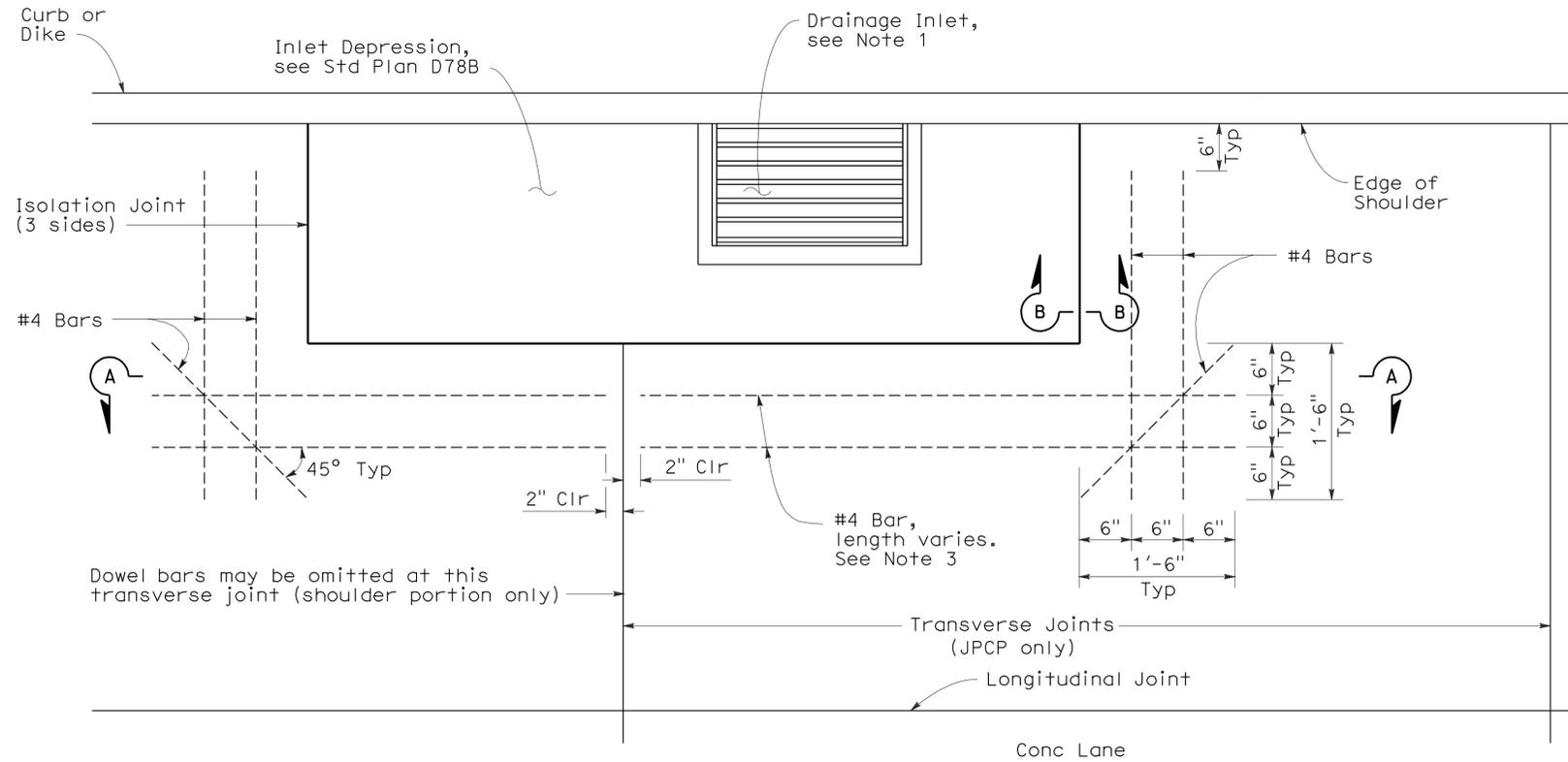
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1372	2028

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 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.

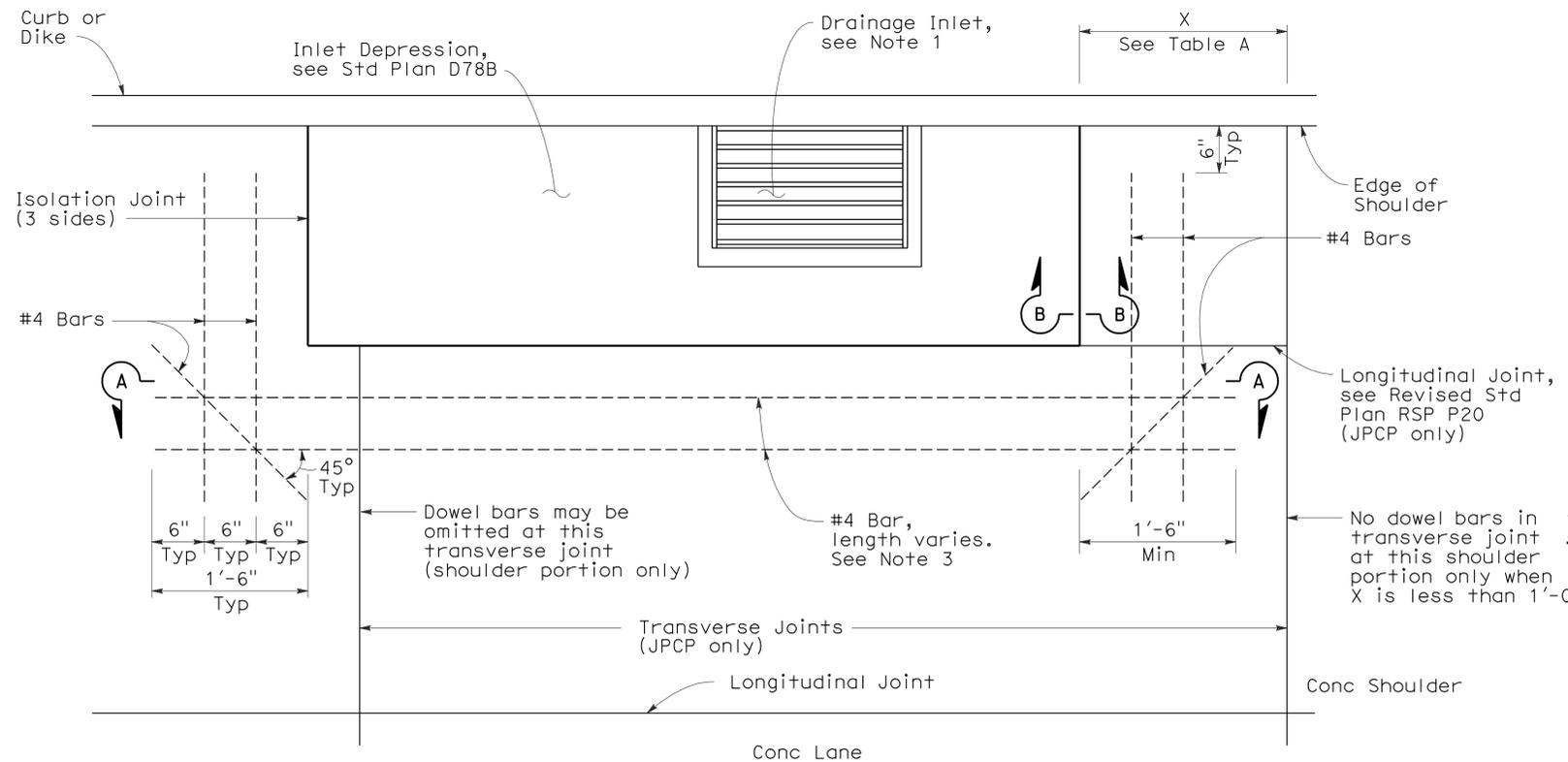
To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP P46



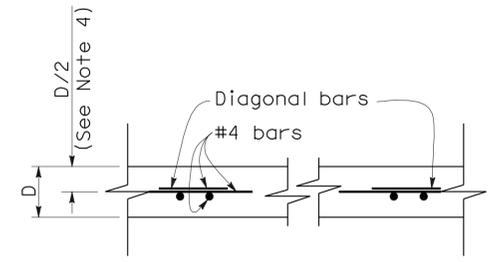
CASE A

Transverse Joint intersects inlet depression or no transverse joints.



CASE B

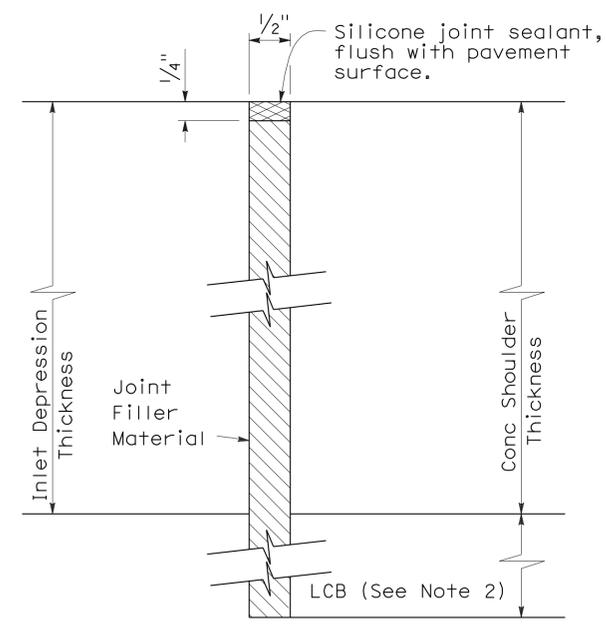
Transverse Joint within 2'-0" of edge of inlet depression.



SECTION A-A
D = Pavement Thickness

TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 1'-0"	1
1'-0" or less	None



SECTION B-B

NOTES:

1. Refer to Project Plans for location and type of drainage inlets.
2. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
3. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.

ISOLATION JOINT AROUND INLET DEPRESSION

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 DRAINAGE INLET
 DETAILS No. 2**
 NO SCALE

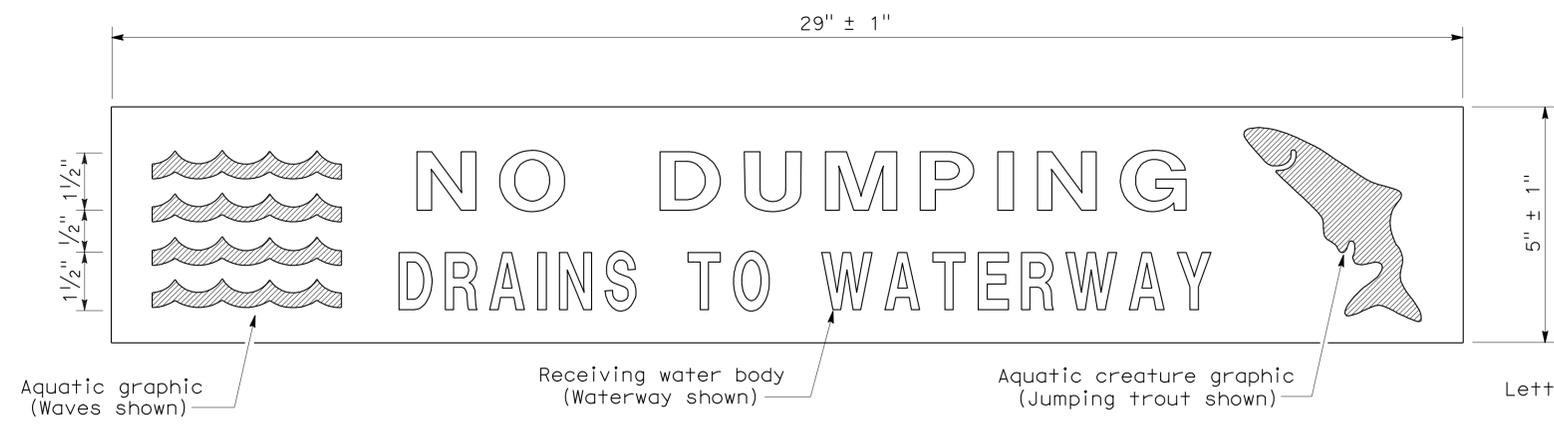
RSP P46 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P46
 DATED MAY 1, 2006 - PAGE 133 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P46

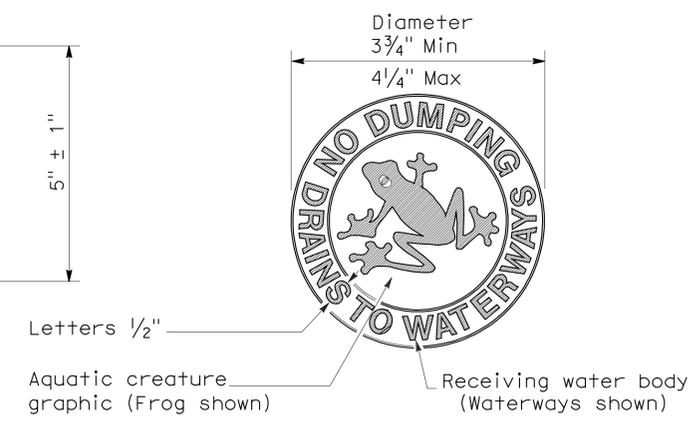
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1373	2028

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 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.

To accompany plans dated 4-25-11



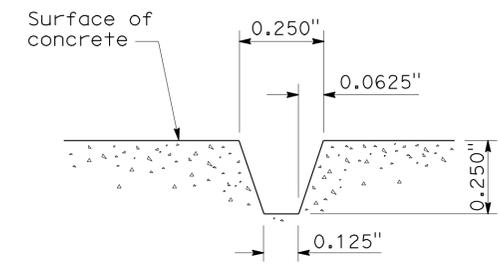
PLAN
DRAINAGE INLET MARKER
(PREFABRICATED THERMOPLASTIC)



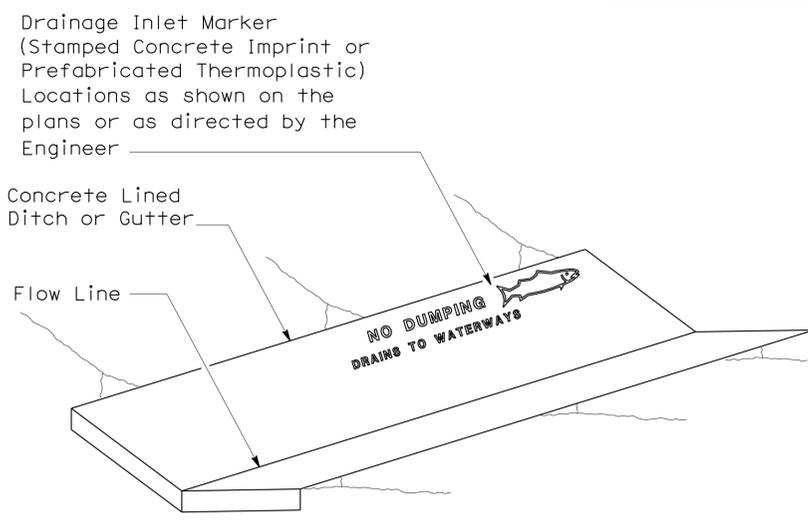
PLAN
DRAINAGE INLET MARKER
(MEDALLION)



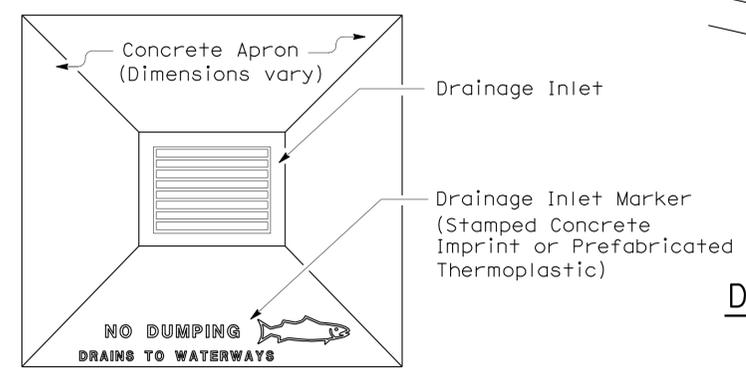
PLAN
DRAINAGE INLET MARKER
(STAMPED CONCRETE IMPRINT)



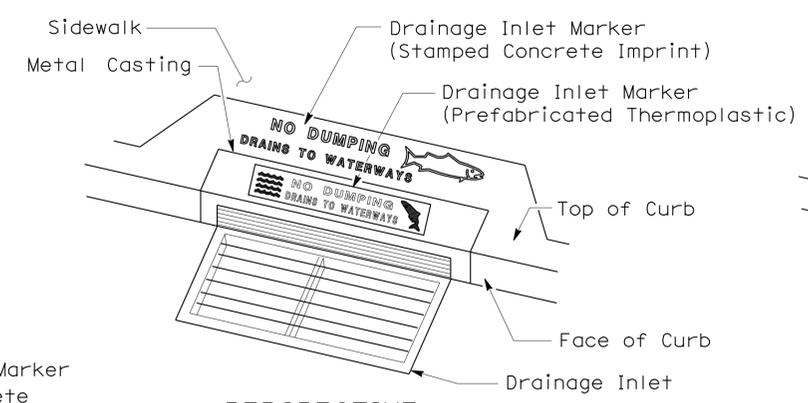
SECTION A-A
STAMPED CONCRETE
IMPRINT DETAIL



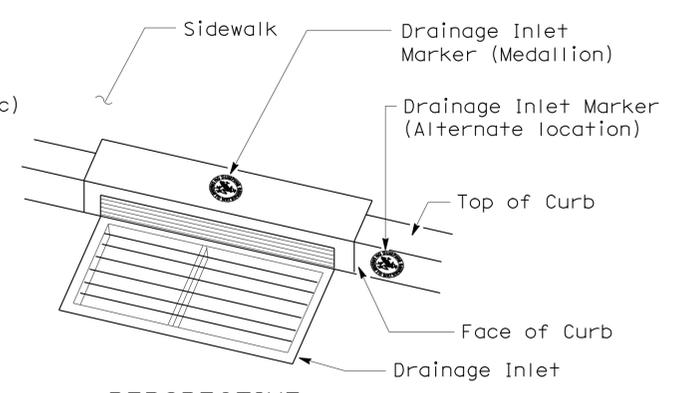
PERSPECTIVE
DRAINAGE INLET MARKER ON
CONCRETE LINED DITCH



PLAN
DRAINAGE INLET MARKER ON
DRAINAGE INLET APRON

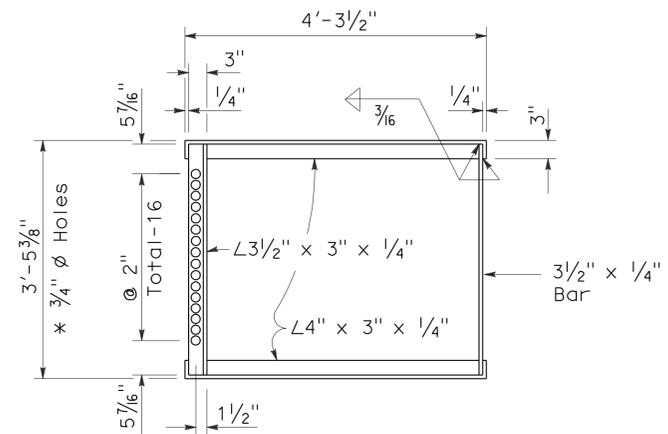
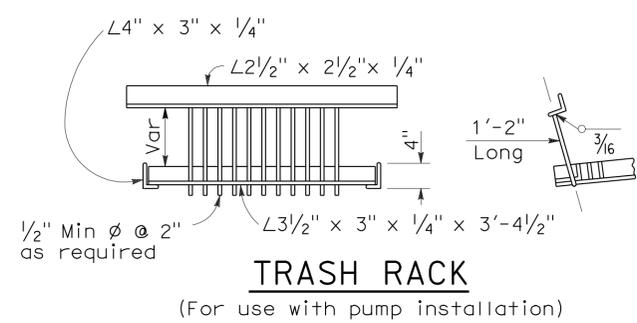
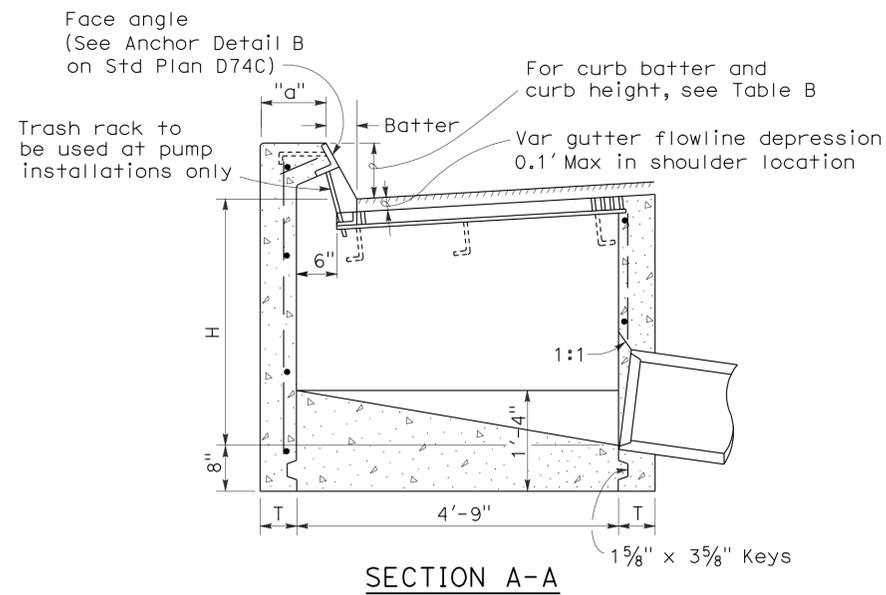
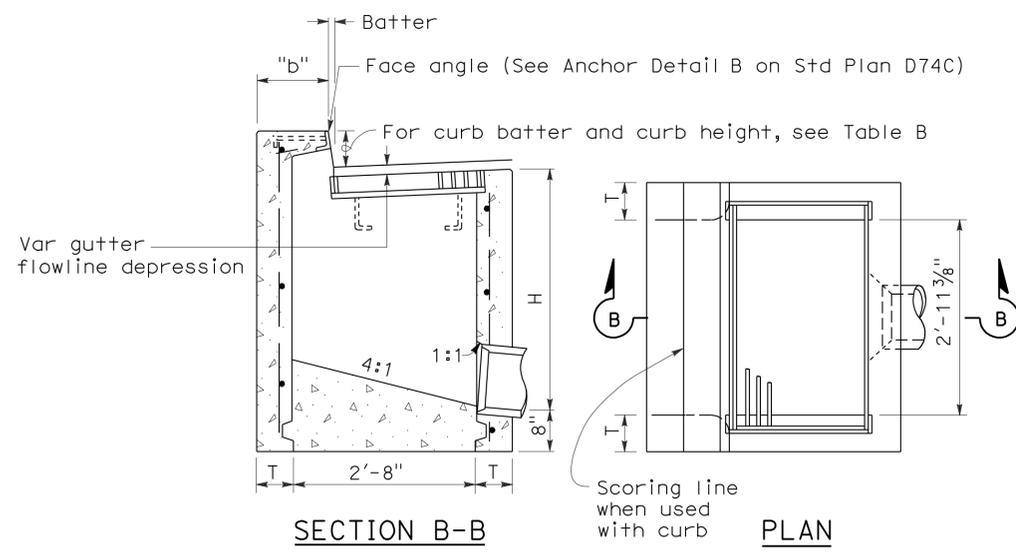


PERSPECTIVE
DRAINAGE INLET MARKER ON
DRAINAGE INLET



PERSPECTIVE
DRAINAGE INLET MARKER (MEDALLION)
ON DRAINAGE INLET

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DRAINAGE INLET MARKERS
NO SCALE
NSP D71 DATED APRIL 3, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.



* 3/4" ϕ Holes required only with trash rack

TABLE A

CONCRETE QUANTITIES

TYPE	H=3'-0" TO 8'-0" (T=6")	H=8'-1" TO 20'-0" (T=8")	
	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
GO	1.24	3.39	0.346
GDO	1.62	4.36	0.446

Table based on 8" floor slab, no deduction for pipe openings, and curb type giving highest quantity of concrete. No deductions or adjustments are to be made to these quantities because of pipe openings, different floor alternatives or different curb type.

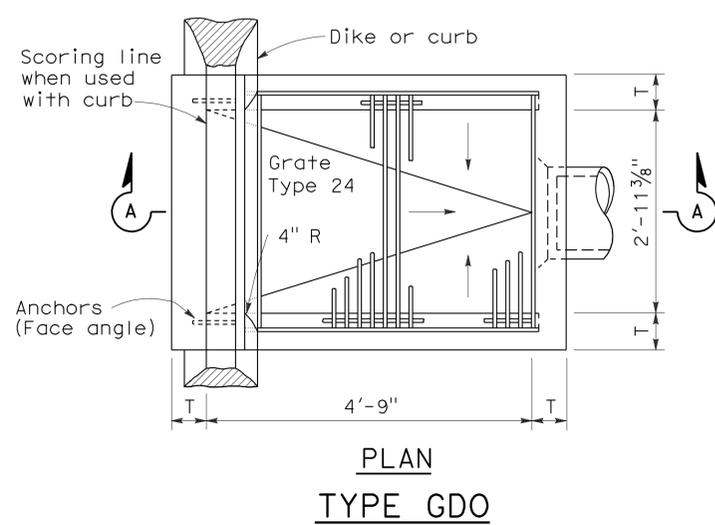


TABLE B

CURB TYPE	NORMAL CURB HEIGHT	CURB BATTER	"a" DIMENSION	"b" DIMENSION
A1-6	6"	1 1/2"	T+7 1/2"	T+6 1/2"
A1-8	8"	2"	T+7"	T+6"
B1-6	6"	4"	T+5"	T+4"
Type A Dike	6"	3"	T+6"	T+5"

NOTES:

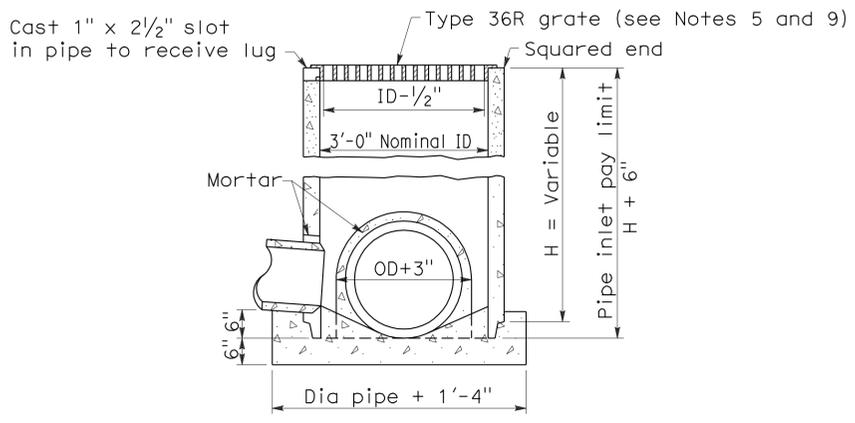
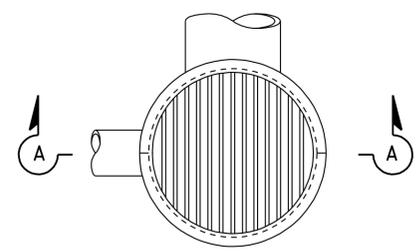
- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
- For "T" wall thickness, see Table A below.
- Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 @ 18" \pm 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.
- 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. Step inserts may be substituted for the bar steps. Step Inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
- When shown on the project plans, place a 3/4" plain round protection bar horizontally across the length of the opening and bend back 4" into the inlet wall on each side.
- Pipe(s) can be placed in any wall.
- Curb section shall match adjacent curb.
- Basin floors shall have wood trowel finish and shall slope toward the outlet pipe as shown.
- Galvanizing - See Standard Specifications or Special Provisions.
- See Standard Plan D77A and D77B for grate and frame details and weights of miscellaneous iron and Steel.
- See Standard Plan D78A for gutter depression details.
- Full 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.
- Cast-in-place or precast alternative is optional with contractor. See Standard Specifications.
- 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 pipe connections conforming to details for Type GCP inlets on Standard Plan D75B. See Standard Specifications for mortar composition.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
DRAINAGE INLETS
 NO SCALE

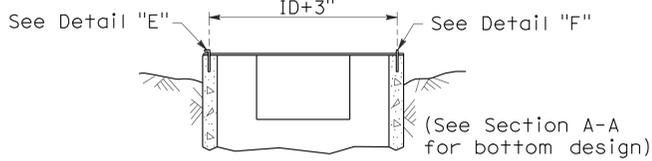
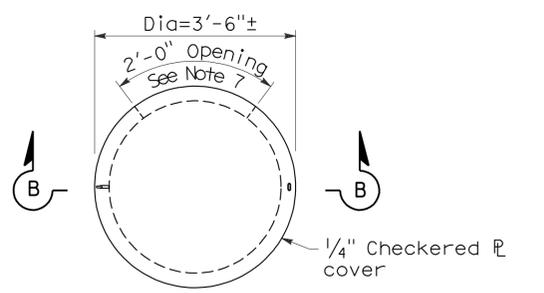
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1376	2028

Raymond Don Tsztso
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 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.

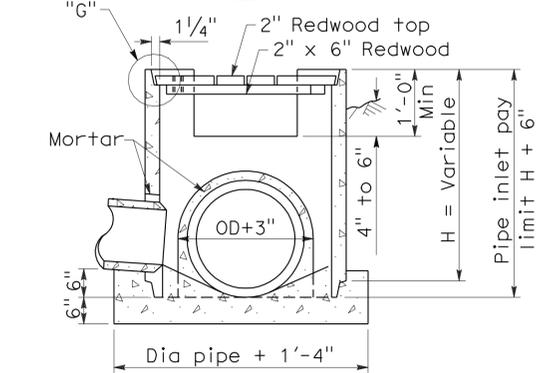
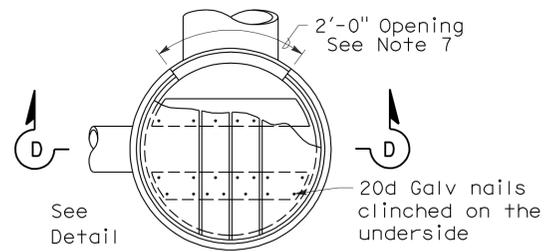
2006 REVISED STANDARD PLAN RSP D75B



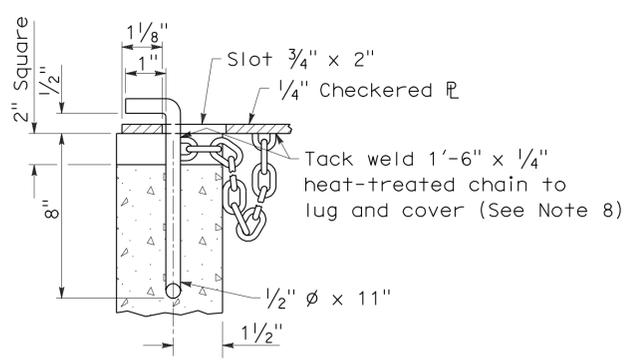
SECTION A-A
TYPE GCP
CONCRETE PIPE INLET WITH GRATE



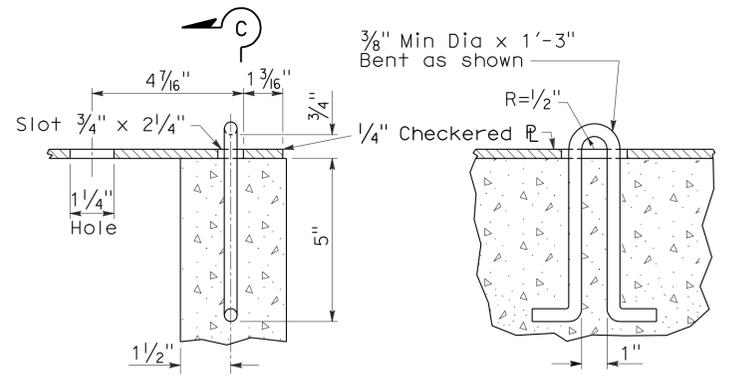
SECTION B-B
TYPE OCP or OCPI
CONCRETE PIPE INLET WITH STEEL COVER
(See Note 6)



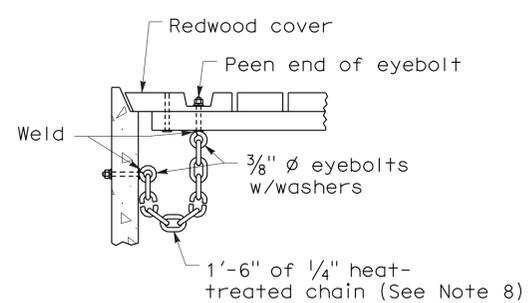
SECTION D-D
TYPE OCP or OCPI
CONCRETE PIPE INLET WITH REDWOOD COVER
(See Notes 6 and 10)



DETAIL "E"



SECTION C-C
DETAIL "F"



DETAIL "G"

NOTES:

- For details of steel pipe inlets, see Standard Plan D75A.
- For details of ladder and steps and when ladder or steps are required, see Standard Plan D75C.
- Inlet pipes shall not protrude into basin.
- Except for inlets used for junction boxes, basin floors shall have minimum slope of 4:1 from all directions toward outlet pipe, and a wood trowel finish.
- See Revised Standard Plan RSP D77A and Standard Plan D77B for Grate and Frame Details and Weights of Miscellaneous Iron and Steel.
- Designation of Type OCPI pipe inlets on plans indicates trash racks are to be furnished and installed on all side openings. See Standard Plan D75C for Trash Rack details.
- More than one side opening may be required. Location and number as ordered by the Engineer. Opening may be cast in pipe.
- Chain to be provided when specified.
- Place pipe so bars of grate will be parallel with main surface flow.
- Redwood covers shall only be placed at locations designated on the plans.

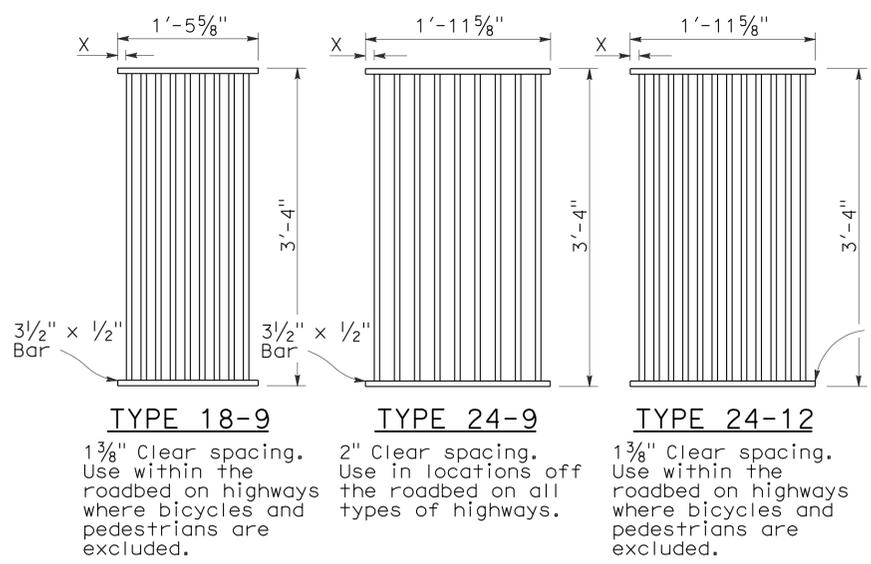
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PIPE INLETS

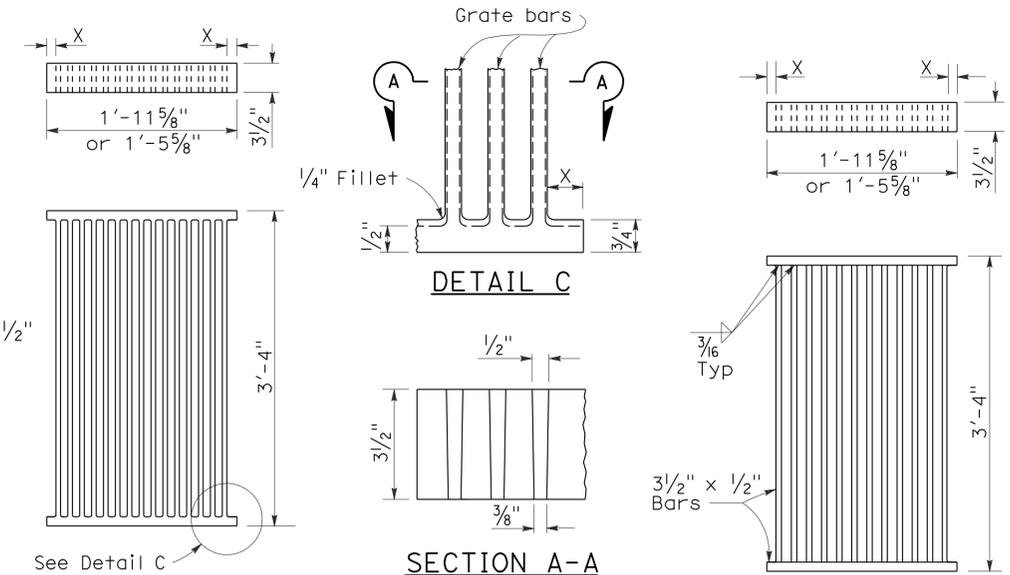
NO SCALE

RSP D75B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D75B
DATED MAY 1, 2006 - PAGE 153 OF THE STANDARD PLANS BOOK DATED MAY 2006.

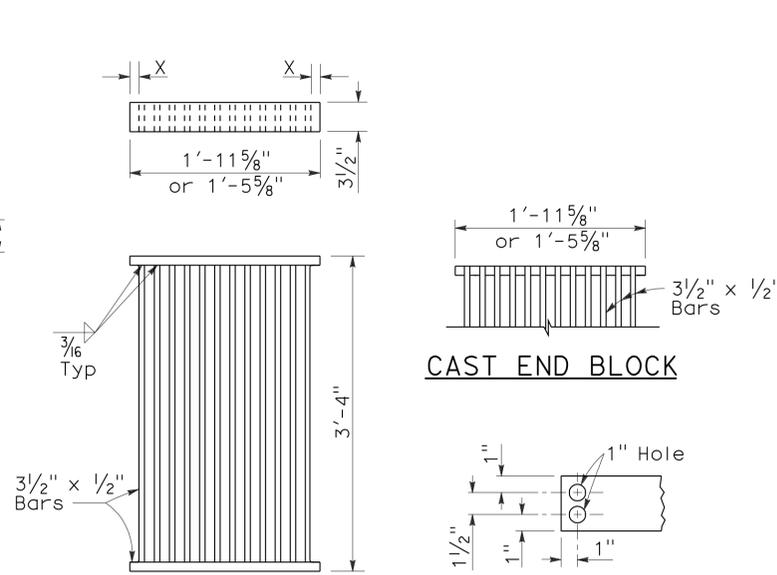
REVISED STANDARD PLAN RSP D75B



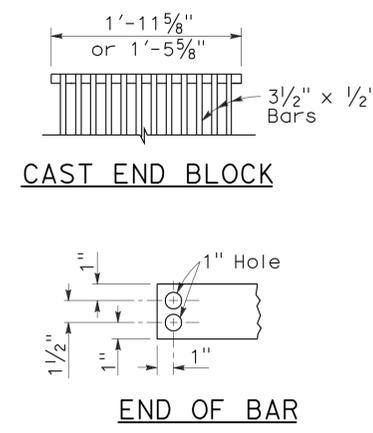
RECTANGULAR GRATE DETAILS
(See table below)



ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE



ALTERNATIVE WELDED GRATE

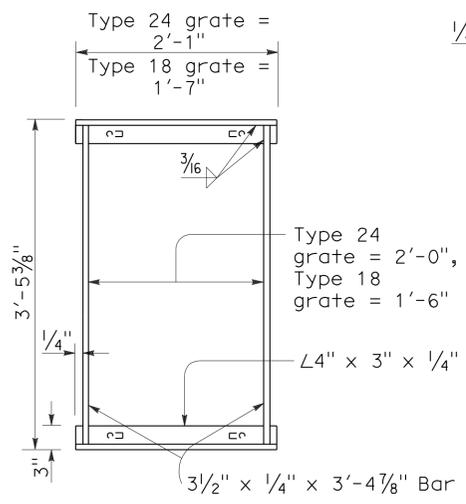


CAST END BLOCK

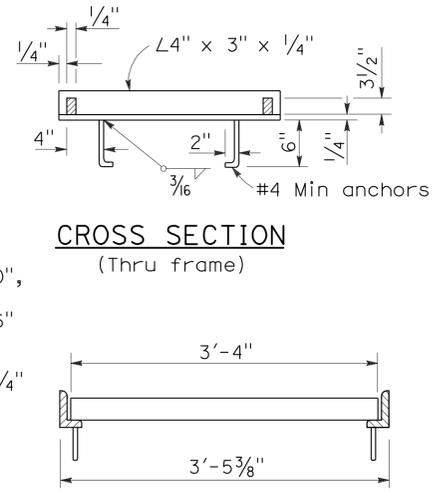
END OF BAR

NOTES:

1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
4. Rounded top of bars optional on all grates.
5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).

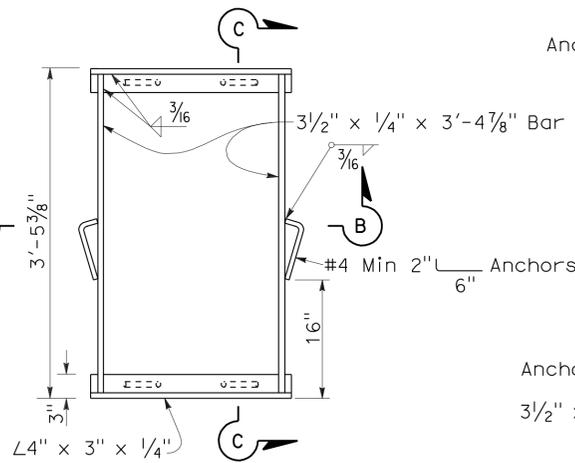


TYPICAL FRAME

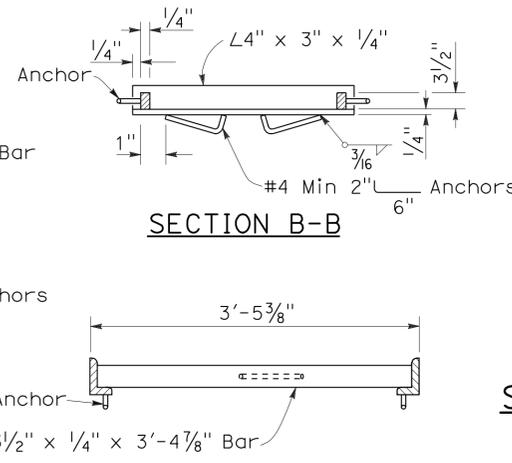


CROSS SECTION (Thru frame)

LONGITUDINAL SECTION (Thru frame and grate)



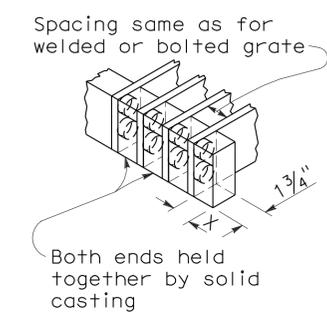
TYPICAL FRAME



SECTION B-B

SECTION C-C

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



ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE

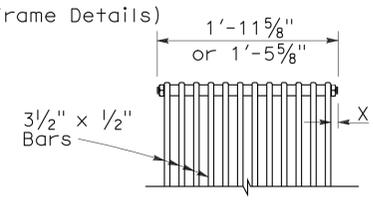
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

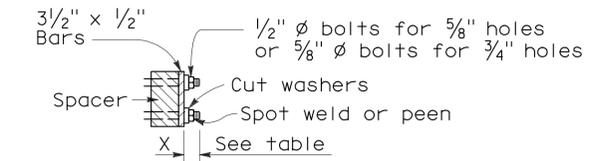
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

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	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

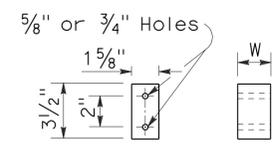


BOLTED END BLOCK

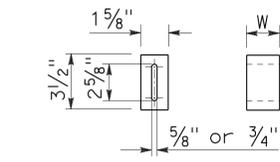


BOLTING DETAIL

ALTERNATIVE BOLTED GRATE



BAR SPACER



ALTERNATIVE SPACER

W = 1 3/8" or 2"

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

(See General Notes, No 8)

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)				ANGLE								
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND		
				CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP	CSP		
TWO PIECE INTEGRAL FLANGE	1 1/2' x 1/4"	6"-10"	7"	0.052"-0.079"	0.048"-0.060"	0.052"	0.060"							2-3/8"	2-3/8"					
				12"-18"	7"	0.052"-0.079"										2-1/2"				
				2 2/3" x 1/2"	12"-24"	7"	0.052"-0.079"	0.060"-0.105"	0.064"	0.060"							2-1/2"	2-1/2"		
UNIVERSAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"						2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/2"	
		42"-60"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"							2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		THROUGH 72"	12"	0.052"-0.168"	0.164"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"		
		78"-84"	16 1/4"	0.168"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi									
ANNULAR	2 2/3" x 1/2"	THROUGH 36"	7"	0.064"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	2-1/2"	2-1/2"	3-3/8"	3-3/8"	3-1/2"		
		42"-72"	12"	0.064"-0.168"	0.075"-0.164"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"		
		78"-84"	12"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
		48"-90"	14"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
		96"-120"	14"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		4-3/8"				
HELICAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/2"		
		42"-72"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"		
		78"-84"	12"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
		48"-90"	14"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
HUGGER	2 2/3" x 1/2"	REROLLED END	12"-54"	4"	0.052"-0.109"		0.052"					2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"		
			60"-66"	4"	0.109"		0.064"						2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"			3-1/2"		
			36"-48"	4"	0.138"		0.064"						2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"			3-1/2"		
			THROUGH 72"	10 1/2"	0.052"-0.168"		0.052"		0.079"	1/2"	7/8"	32 ksi								
			78"-84"	10 1/2"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi								
	3" x 1"	REROLLED END	48"-90"	10 1/2"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi								
			96"-120"	10 1/2"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi								
			48"-66"	7 1/2"	0.064"-0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"	
			72"-90"	7 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi	2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"	
			48"-90"	7 1/2"	0.064"-0.138"		0.064"		0.079"	1/2"	7/8"	32 ksi								
5" x 1"	REROLLED END	48"-120"	12" SEE	0.064"-0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi									
		48"-84"	12" NOTE	0.138"		0.064"		0.079"	1/2"	7/8"	32 ksi									
		90"-120"	12" 11	0.138"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi									
												2" x 2" x 3/16"		3-1/2"		3-3/8"				

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)				ANGLE						
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP					SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		42"-60"	12"	0.064"-0.109"	0.075"-0.105"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		66"-72"	12"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		78"-114"	12"	0.079"-0.109"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
HUGGER	2 2/3" x 1/2" * REROLLED END	24"-72"	10 1/2"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi							
		78"-84"	10 1/2"	0.109"		0.079"		0.109"	1/2"	7/8"	45 ksi							

* See Note 14.

14. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

- NOTES:** To accompany plans dated 4-25-11
- All ferrous metal coupling band connection hardware shall be galvanized or electro-plated in accordance with the Standard Specifications.
 - For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
 - Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
 - Use 1/4" gage line dimension on attached angle leg for rivets and spot welds.
 - Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
 - Dimensions, thicknesses and strengths shown are minimum.
 - For pipe arches use same width band as for round pipe of equal periphery.
 - Fillet welds of equivalent strength may be substituted for spot welds or rivets.
 - Spot welds shall develop minimum required strength of strap.
 - Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
 - In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
 - Two piece bands are required for pipes greater than 42" diameter.
 - The 2 1/4" x 2" x 0.109" thick galvanized die-formed angle connector may be used in lieu of the 2" x 2" x 3/16" angle connector for standard joints only on pipes through 72" diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CORRUGATED METAL PIPE
COUPLING DETAILS No. 5
STANDARD JOINT**
NO SCALE

RSP D97E DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97E
DATED MAY 1, 2006 - PAGE 187 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1378	2028

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
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.

2006 REVISED STANDARD PLAN RSP D97E

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAND THICKNESS				BAR AND STRAP (CSP ONLY)				ANGLE							
				CSP		CAP		CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No. - Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
				CSP	CAP	CSP	CAP	CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP	CSP	
TWO PIECE INTEGRAL FLANGE	1 1/2" x 1/4"	6"-10"	7"	0.064"-0.079"	0.060"	0.064"	0.060"									2-3/8"	2-3/8"						
UNIVERSAL	2 2/3" x 1/2"	12"-24"	12"		0.060"-0.105"		0.060"										3-1/2"						
ANNULAR	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"									2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		42"-60"	12"	0.064"-0.079"		0.064"										2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
		42"-60"	12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"									2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"		
		66"-72"	24"		0.164"		0.105"									2" x 2" x 1/4"		5-1/2"		7-3/8"		5-1/2"	
		66"-84"	24"	0.109"-0.168"		0.064"										2" x 2" x 1/4"		5-1/2"		7-3/8"			
		42"-54"	12"		0.060"-0.105"		0.060"									2" x 2" x 3/16"		3-1/2"		3-3/8"		3-3/8"	
	3" x 1"	48"-60"	14"	0.064"-0.079"		0.064"										2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
		48"-60"	14"	0.109"		0.064"										2" x 2" x 3/16"		3-1/2"		5-3/8"			
		66"-120"	25"	0.064"-0.109"		0.064"										2" x 2" x 3/16"		5-1/2"		9-3/8"			
		42"-60"	14"		0.060"-0.105"		0.060"									2" x 2" x 3/16"		3-1/2"		5-3/8"			
		42"-60"	14"		0.135"		0.075"									2" x 2" x 1/4"		3-1/2"		5-3/8"			
		66"-96"	25"		0.060"-0.135"		0.060"									2" x 2" x 1/4"		5-1/2"		7-3/8"			
	HELICAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"									2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
			42"-54"	12"		0.060"-0.105"		0.060"									2" x 2" x 3/16"		3-1/2"		3-3/8"		3-3/8"
42"-60"			12"	0.064"-0.079"		0.064"										2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
42"-60"			12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"									2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"		
66"-84"			24"	0.109"-0.168"		0.064"										2" x 2" x 1/4"		5-1/2"		7-3/8"			
66"-72"			24"		0.164"		0.105"									2" x 2" x 1/4"		5-1/2"		7-3/8"		5-3/8"	
3" x 1"		48"-60"	14"	0.064"-0.079"		0.064"										2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
		48"-60"	14"	0.109"		0.064"										2" x 2" x 3/16"		3-1/2"		5-3/8"			
		66"-120"	25"	0.064"-0.109"		0.064"										2" x 2" x 3/16"		5-1/2"		9-3/8"			
		42"-60"	14"		0.060"-0.105"		0.060"									2" x 2" x 3/16"		3-1/2"		5-3/8"			
		42"-60"	14"		0.135"		0.075"									2" x 2" x 1/4"		3-1/2"		5-3/8"			
		66"-96"	25"		0.060"-0.135"		0.060"									2" x 2" x 1/4"		5-1/2"		7-3/8"			
		96"-108"	25"		0.135"		0.075"									2" x 2" x 1/4"		5-1/2"		7-3/8"		7-3/8"	
		HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 48"	10 1/2"	0.109"		0.064"									0.079"	1/2"	7/8"	32 ksi			
54"-66"	10 1/2"			0.109"		0.064"										DOUBLE 0.079"	1/2"	7/8"	32 ksi				
THROUGH 54"	10 1/2"			0.064"-0.079"		0.064"										0.079"	1/2"	7/8"	32 ksi				
THROUGH 60"	10 1/2"			0.138"		0.079"										DOUBLE 0.079"	1/2"	7/8"	32 ksi				
66"-72"	10 1/2"			0.138"		0.109"										DOUBLE 0.079"	1/2"	7/8"	32 ksi				
THROUGH 72"	10 1/2"		0.168"		0.109"										DOUBLE 0.109"	1/2"	7/8"	45 ksi					
3" x 1" REROLLED END	48"-84"		10 1/2"	0.109"		0.079"										DOUBLE 0.079"	1/2"	7/8"	32 ksi				
	48"-90"		10 1/2"	0.064"-0.079"		0.064"										DOUBLE 0.079"	1/2"	7/8"	32 ksi				
	96"-102"		10 1/2"	0.079"		0.079"										DOUBLE 0.079"	1/2"	7/8"	32 ksi				
	90"-120"		10 1/2"	0.109"		0.109"										DOUBLE 0.109"	1/2"	7/8"	45 ksi				

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1379	2028

Raymond Don Tsztou
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztou
No. C37332
Exp. 6-30-08
CIVIL

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

To accompany plans dated 4-25-11

NOTES:

- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
- For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
- Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
- Use 1/4" gage line dimension on attached angle leg for rivets and spot welds.
- Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
- Dimensions, thicknesses and strengths shown are minimum.
- For pipe arches use same width band as for round pipe of equal periphery.
- Fillet welds of equivalent strength may be substituted for spot welds or rivets.
- Spot welds shall develop minimum required strength of strap.
- Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
- In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
- Two piece bands are required for pipes greater than 42" diameter.

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAND THICKNESS				BAR AND STRAP (SSRP ONLY)				ANGLE						
				SSRP		ASRP		SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP					SSRP	ASRP	SSRP	ASRP	SSRP		
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.064"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"				
		42"-60"	12"	0.064"-0.079"	0.075"-0.105"	0.064"	0.075"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"				
		42"-60"	12"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		3-1/2"		5-3/8"						
		66"-84"	24"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		5-1/2"		7-3/8"						
HUGGER	2 2/3" x 1/2" * REROLLED END	24"-54"	10 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi											
		24"-48"	10 1/2"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi											
		54"-66"	10 1/2"	0.109"		0.064"		Double 0.079"	1/2"	7/8"	32 ksi											

* See Note 13.

13. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

CORRUGATED METAL PIPE COUPLING DETAILS No. 6 POSITIVE JOINT

NO SCALE

RSP D97F DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97F DATED MAY 1, 2006 - PAGE 188 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97F

2006 REVISED STANDARD PLAN RSP D97F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1380	2028

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
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.

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)			ANGLE									
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND			
				CSP	CAP	CSP	CAP				CSP	CAP	CSP	CAP	CSP	CAP	CSP			
TWO PIECE INTEGRAL FLANGE	1 1/2' x 1/4"	6"	7"	0.064"-0.168"		0.052"														
	1 1/2' x 1/4"	8"-10"	7"	0.064"-0.168"		0.060"-0.164"		0.064"	0.060"											
ANNULAR	2 2/3" x 1/2"	THROUGH 24"	12"	0.064"-0.168"		0.060"-0.164"		0.064"	0.060"											
HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 24"	10 1/2"	0.064"-0.168"		0.064"		0.079"	1/2"	7/8"										

- NOTES:** To accompany plans dated 4-25-11
- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
 - For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
 - Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
 - Use 1 1/4" gage line dimension on attached angle leg for rivets and spot welds.
 - Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
 - Dimensions, thicknesses and strengths shown are minimum.
 - For pipe arches use same width band as for round pipe of equal periphery.
 - Fillet welds of equivalent strenght may be substituted for spot welds or rivets.
 - Spot welds shall develop minimum required strength of strap.
 - Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
 - For downdrain applications, two piece integral flange couplers shall have factory applied sleeve type rubber gaskets with a minimum length of 7" measured along the length of the pipe.

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)			ANGLE									
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND			
SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP				SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP			
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"	12"	0.064"-0.168"		0.060"-0.164"		0.064"	0.060"											
HUGGER	2 2/3" x 1/2" * REROLLED END	24"	10 1/2"	0.064"-0.168"		0.064"		0.079"	1/2"	7/8"										

* See Note 12.

12. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CORRUGATED METAL PIPE
COUPLING DETAILS No. 7
DOWNDRAIN**

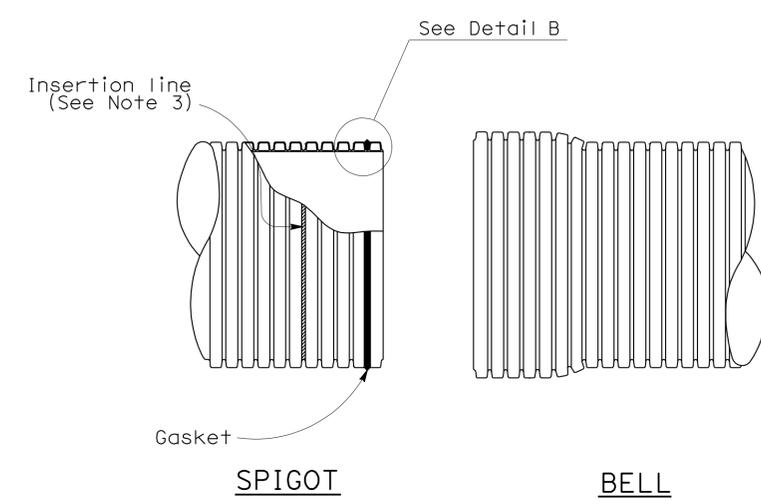
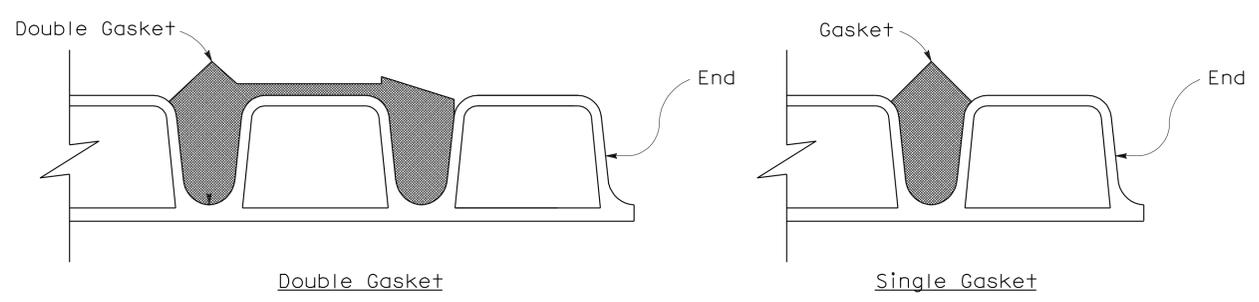
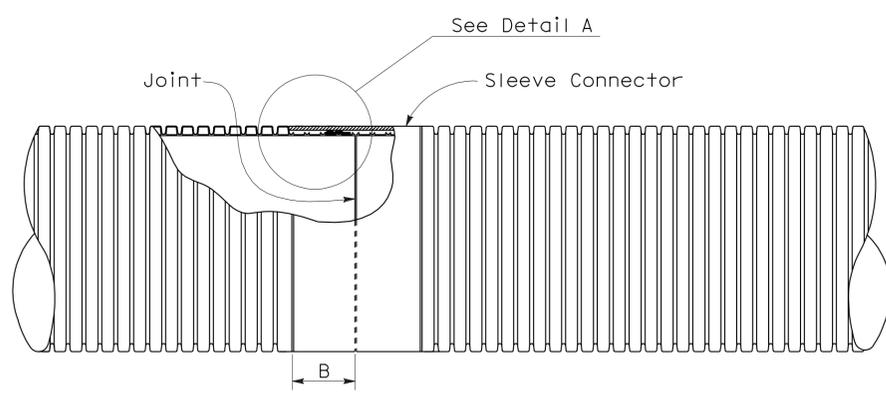
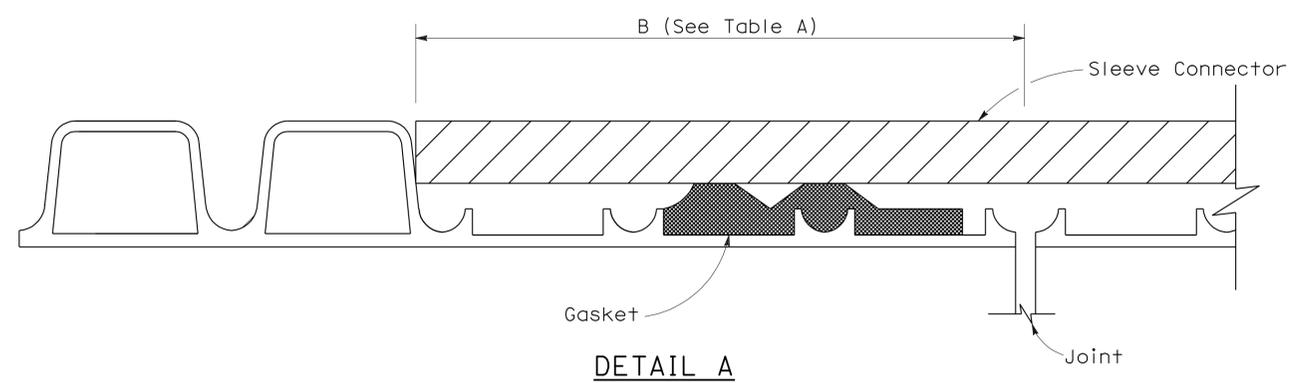
NO SCALE

RSP D97G DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97G
DATED MAY 1, 2006 - PAGE 189 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97G

2006 REVISED STANDARD PLAN RSP D97G

To accompany plans dated 4-25-11



- NOTES:**
- For pipe sections installed on straight alignment, the pipe sections shall be joined to achieve maximum joint overlap at all points on the periphery as indicated in Table A where the plans call for positive or watertight joints. Maximum joint overlap is recommended where the plans call for standard joints, but in no case shall the joint overlap be less than 3/2".
 - For pipe sections installed on curved alignment, the maximum angle of deflection from straight alignment at any joint shall not exceed two degrees. Where the plans call for watertightness, field testing for compliance is required. Where plans call for positive joints, the pipe sections shall be joined to achieve Table A Dimensions on one side of the joint. Joints classified as standard shall have no less than 3/2" joint overlap at any point on the periphery.
 - Factory applied insertion line limit shall be placed on spigot.
 - Liner insert to be used inside of existing pipe.

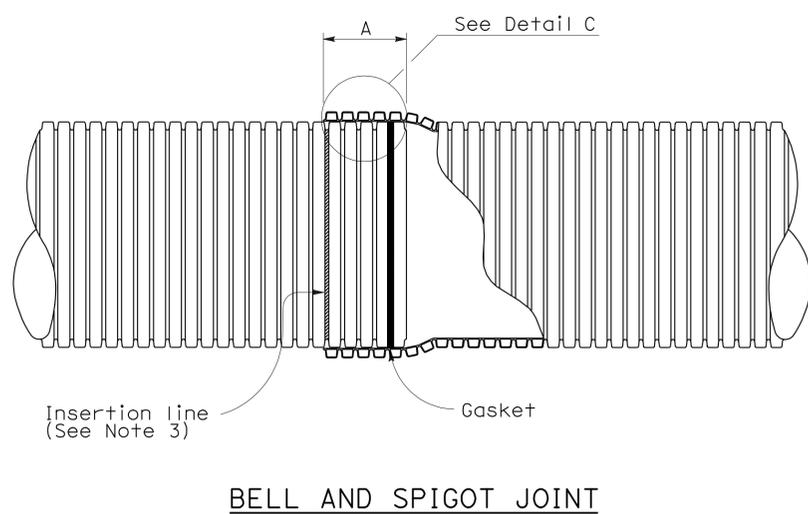
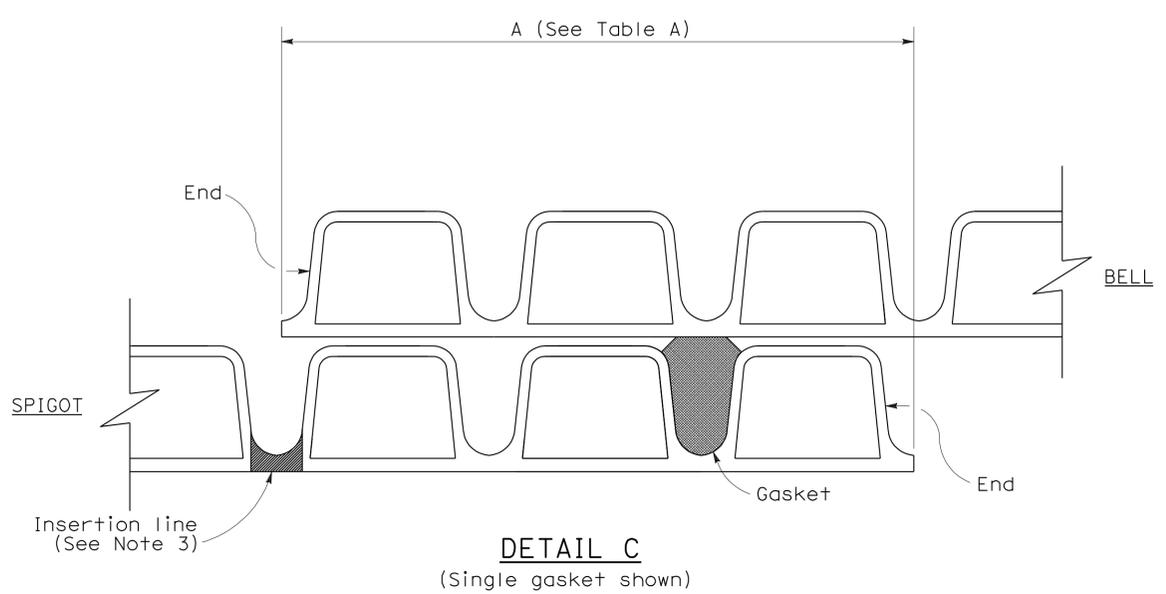


TABLE A

JOINT OVERLAP DIMENSIONS		
PIPE Dia (NOMINAL)	A	B
12"	5 3/4"	4 1/4"
15"	6 3/4"	5 5/8"
18"	6 3/4"	5 5/8"
21"	8 1/2"	5 5/8"
24"	8 1/2"	6 1/8"
30"	8 1/2"	7 1/8"
36"	8 1/2"	8 1/8"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CORRUGATED POLYVINYL CHLORIDE PIPE
 WITH SMOOTH INTERIOR
 STANDARD AND POSITIVE JOINTS**

NO SCALE
 NSP D97I DATED MARCH 7, 2008 SUPPLEMENTS THE STANDARD
 PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP D97I

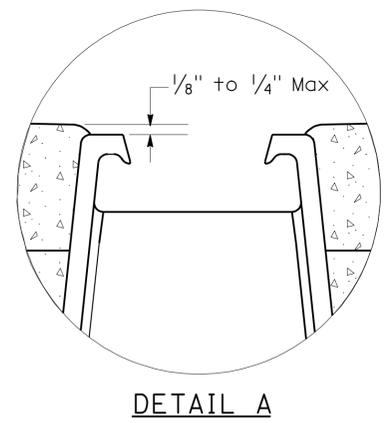
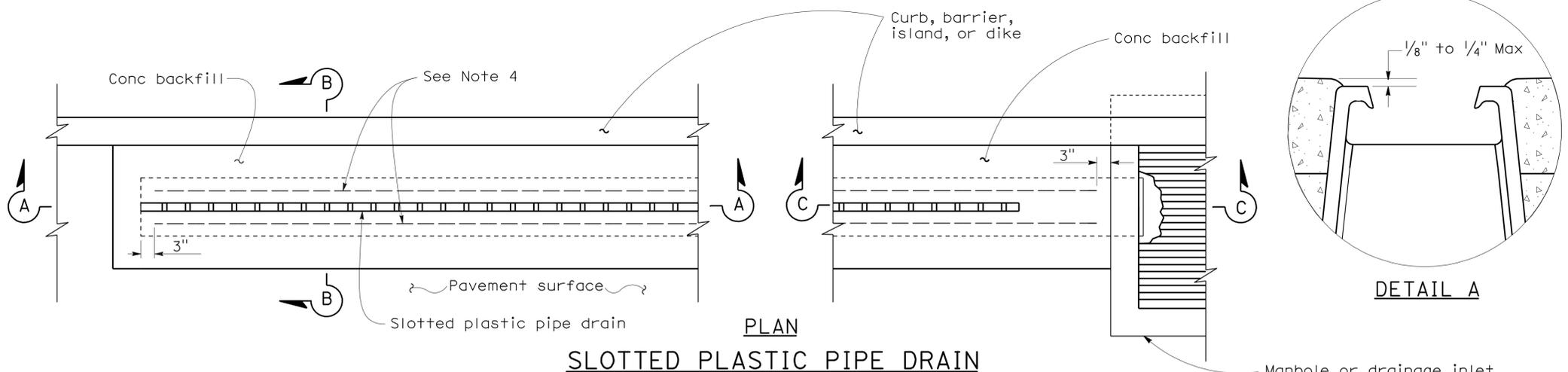
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1382	2028

Raymond Don Tsztsoo
 REGISTERED CIVIL ENGINEER
 No. C37332
 Exp. 6-30-08
 CIVIL
 STATE OF CALIFORNIA

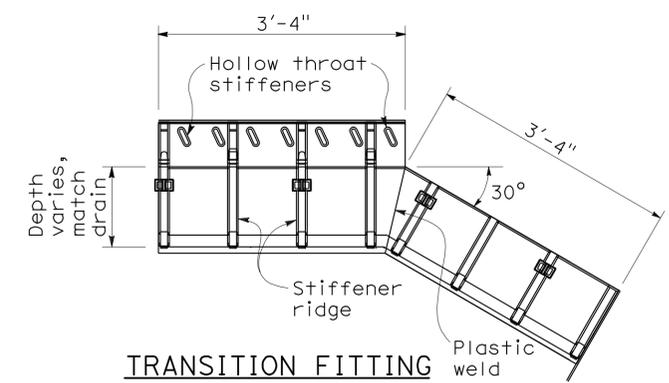
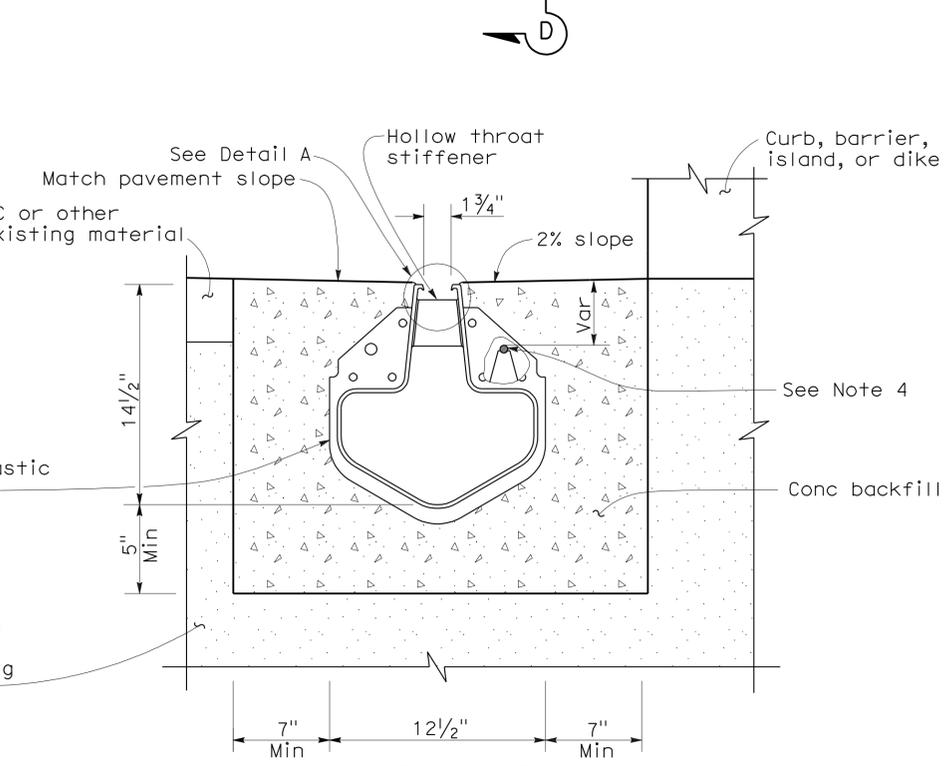
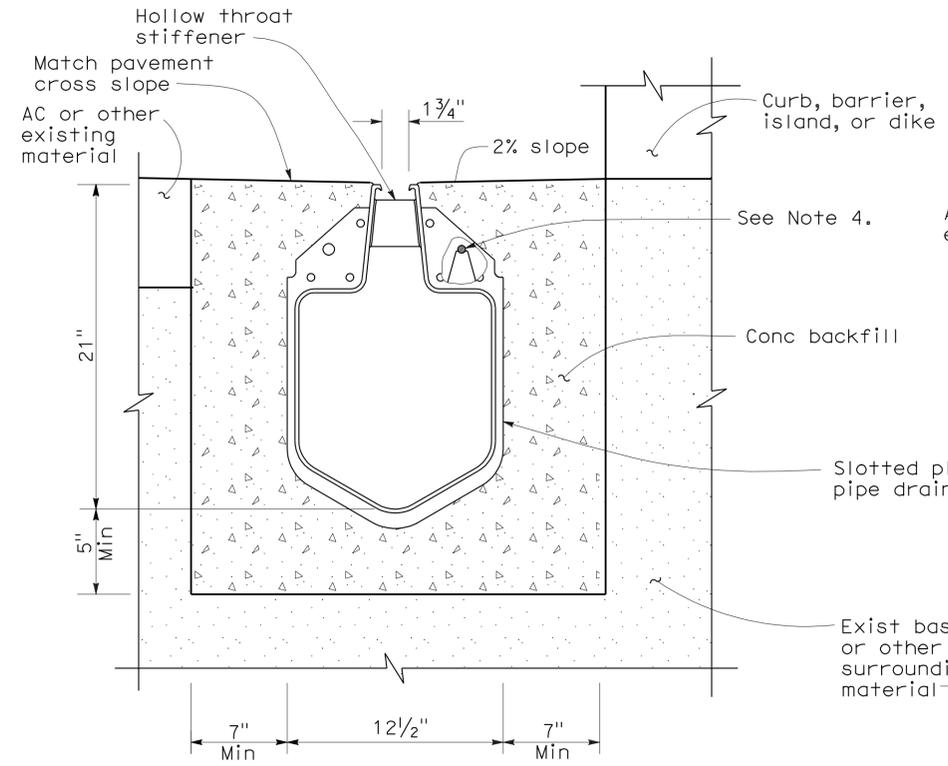
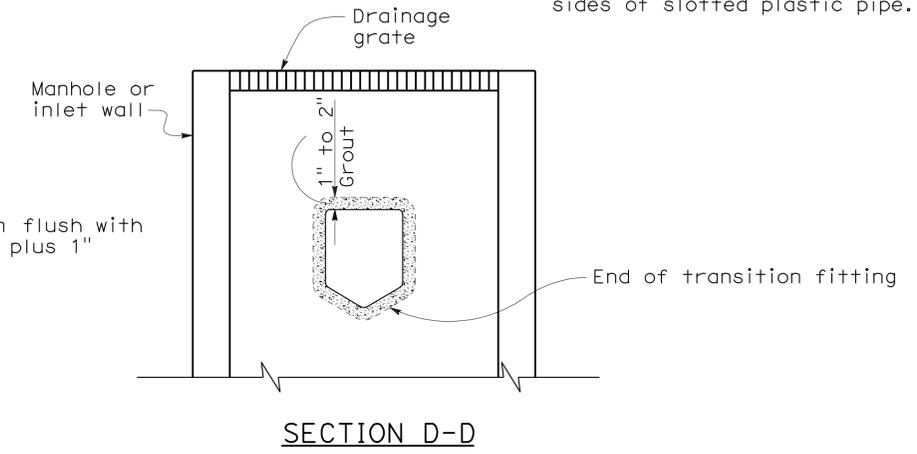
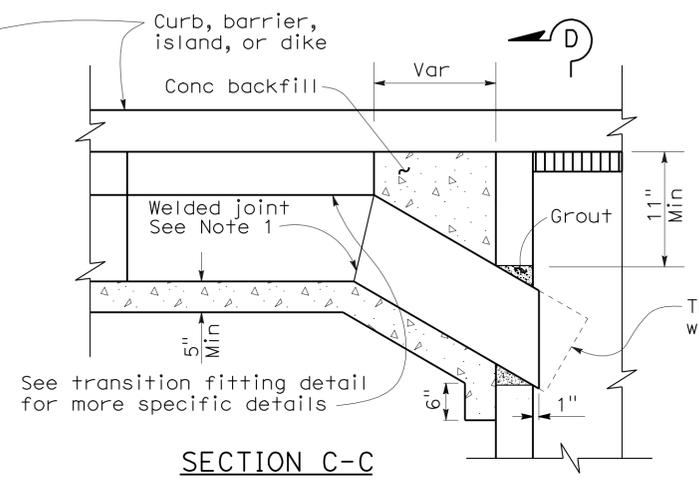
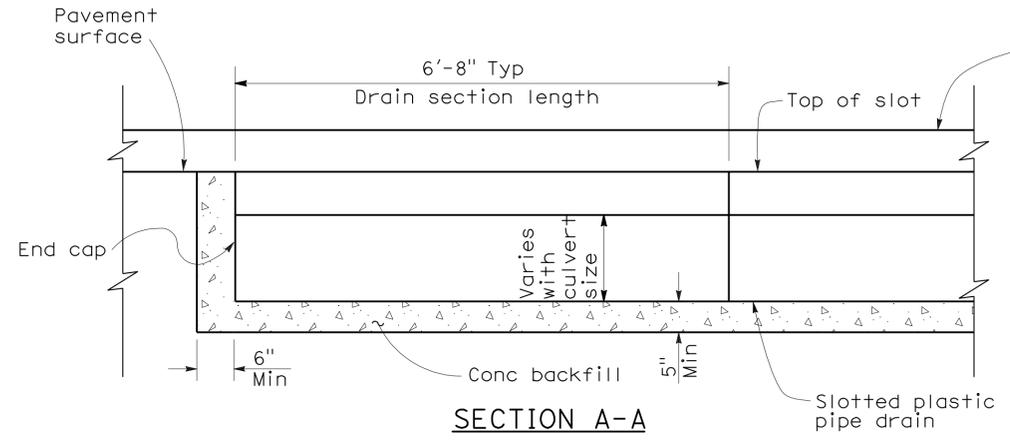
January 18, 2008
 PLANS APPROVAL DATE

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.

To accompany plans dated 4-25-11



- NOTES:**
1. Plastic weld shall be factory fabricated.
 2. When Heel Resistant Grate is to be used, see New Standard Plan NSP D98E for details.
 3. Exterior wall stiffener ridges and details not shown on section views. See transition fitting detail for typical exterior ridges and throat stiffeners.
 4. Lateral support, #4 bar, to be placed on both sides of slotted plastic pipe.



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
SLOTTED PLASTIC PIPE DRAIN DETAILS
 NO SCALE
 NSP D98D DATED JANUARY 18, 2008 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP D98D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1383	2028

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 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.

To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP H1

A

AB aggregate base
 ABS acrylonitrile-butadiene-styrene
 AC asphalt concrete
 Adj adjacent/adjustable
 AIC auxiliary irrigation controller
 Alt alternative
 AMEND amendment
 ARV air release valve
 AUTO automatic
 AUX auxiliary
 AVB atmospheric vacuum breaker

B

B&B balled and burlapped
 B/B brass/bronze
 B/B/PL brass/bronze/plastic
 B/PL brass/plastic
 BFM bonded fiber matrix
 Bit C+D bituminous coated
 BP booster pump
 BPA backflow preventer assembly
 BPAE backflow preventer assembly in enclosure
 BPE backflow preventer enclosure
 BV ball valve

C

CAP corrugated aluminum pipe
 CARV combination air release valve
 CCA cam coupler assembly
 CEC controller enclosure cabinet
 CHDPE corrugated high density polyethylene
 CL chain link
 CNC control and neutral conductors
 Conc concrete
 Cond conduit
 CSP corrugated steel pipe
 CST center strip
 CV check valve

D

Dia diameter
 DIP ductile iron pipe
 DN diameter nominal

E

EA each
 Elect electric/electrical
 Elev elevation
 ENCL enclosure
 EP edge of pavement
 ES edge of shoulder
 EST end strip
 ESTB establishment
 ETW edge of traveled way

F

F full circle
 F/P full/part circle
 FAU filter assembly unit
 FCV flow control valve
 FERT fertilizer
 FG finished grade
 FIPT female iron pipe thread
 FIS fertilizer injector system
 FL flow line
 FM flow monitor
 FS flow sensor
 Ft foot/feet
 FV flush valve

G

GAL Gallon(s)
 Galv galvanized
 GARV garden valve
 GPH gallons per hour
 GPM gallons per minute
 GSP galvanized steel pipe
 GV gate valve

H

H half circle
 HB hose bib
 HDPE high density polyethylene
 HP horsepower/hinge point
 HPL high pressure line
 Hwy highway

I

IC irrigation controller
 ICC irrigation controller(s) in controller enclosure cabinet
 ID inside diameter
 In inches
 IFS irrigation filtration system
 IPS iron pipe size
 IPT iron pipe thread
 Irr irrigation

L

L length
 LF linear foot

M

Max maximum
 MBGR metal beam guard railing
 MCV manual control valve
 MIC master irrigation controller
 Min minimum
 MIPT male iron pipe thread
 Misc miscellaneous
 M+I material
 MVP maintenance vehicle pullout

N

NCN no common name
 NL nozzle line
 No. number
 NPT national pipe thread

O

O/C on center
 OD outside diameter
 Oz ounce

P

P part circle
 PB pull box
 PCC portland cement concrete
 PE polyethylene
 PK+ packet
 PL plastic
 PLT plant/planting
 PLT ESTB plant establishment
 PM post mile
 PR pressure rated
 PRLV pressure relief valve
 PSFM polymer stabilized fiber matrix
 PSI pounds per square inch
 PRV pressure reducing valve
 PVC polyvinyl chloride
 Pvm+ pavement

Q

Q quarter circle
 QCV quick coupling valve

R

R radius
 RCP reinforced concrete pipe
 RCV remote control valve
 RCVM remote control valve (master)
 RCVMF remote control valve (master) w/ flow meter
 RCW recycled/reclaimed water
 RECP rolled erosion control product
 REQ required
 R/W right of way

S

S slip
 SCC sprinkler control conduit
 SCH schedule
 SF state-furnished
 Shld shoulder
 SQFT square foot/feet
 SQYD square yard(s)
 SST side strip
 Sta station
 Std standard
 SW sidewalk/sound wall

T

T third circle/thread
 TLS truck loading standpipe
 TQ three quarter circle
 TRM turf reinforcement mat
 TRVD traveled
 TT two third circle
 Typ typical

U

UG underground

V

VAU valve assembly unit

W

W width
 W/ with
 WM water meter
 WS wye strainer
 WSP welded steel pipe
 WWM welded wire mesh

NOTE:
 FOR ADDITIONAL ABBREVIATIONS,
 SEE STANDARD PLANS A10A AND A10B.

**PLANTING AND IRRIGATION
 ABBREVIATIONS**

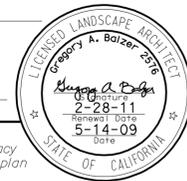
NO SCALE

RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1
 DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1384	2028

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 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.

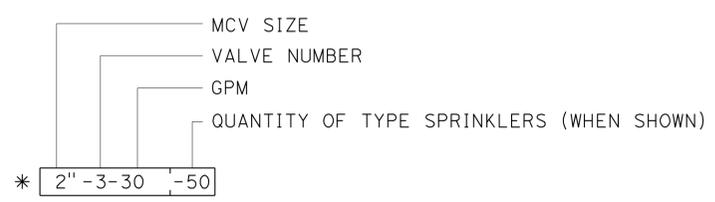
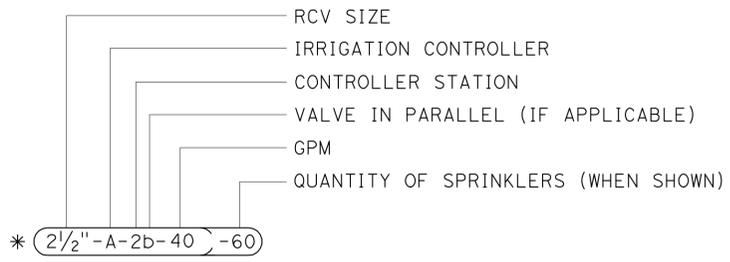


To accompany plans dated 4-25-11

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



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

PLANTING AND IRRIGATION SYMBOLS

NO SCALE

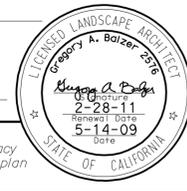
RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

2006 REVISED STANDARD PLAN RSP H2

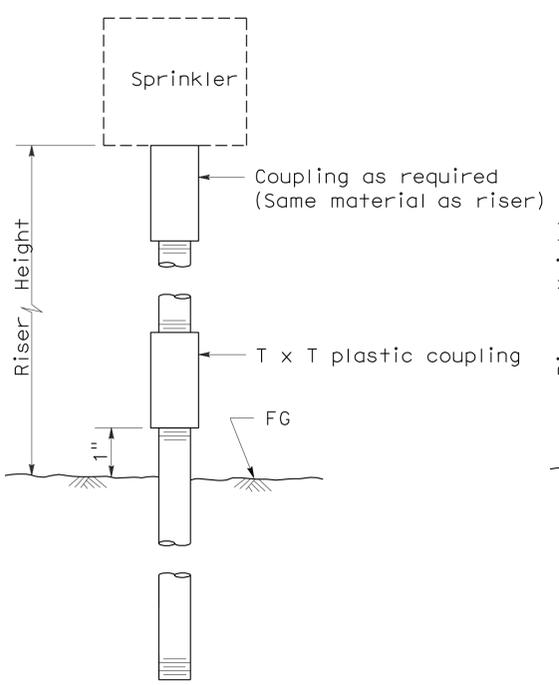
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1385	2028

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 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.

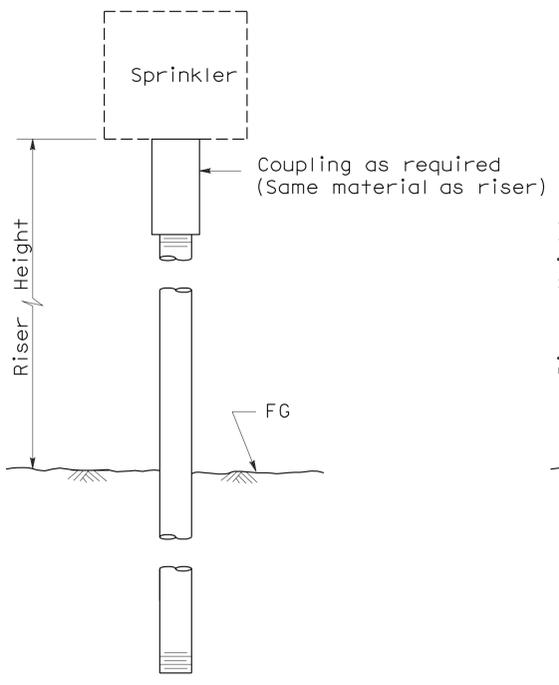


To accompany plans dated 4-25-11

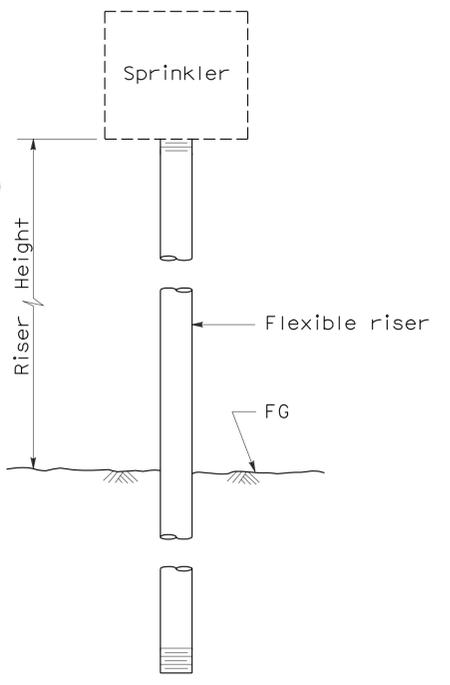
2006 REVISED STANDARD PLAN RSP H5



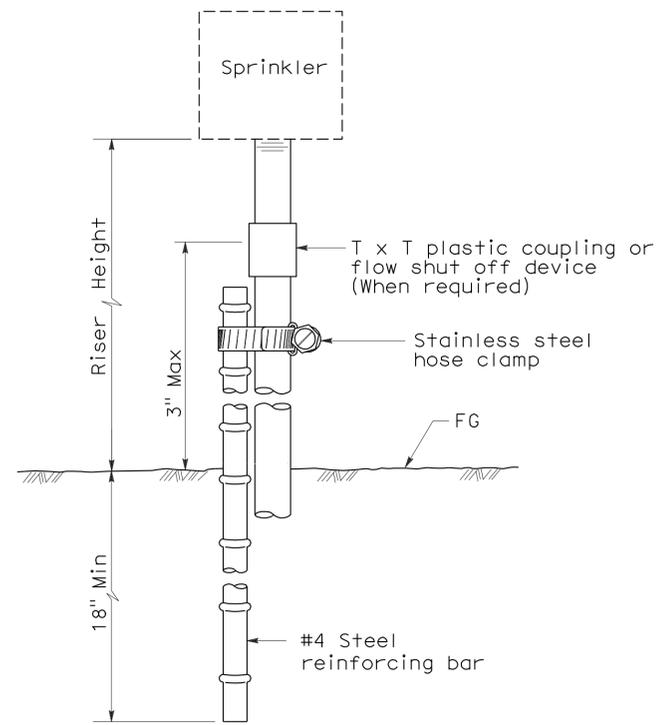
ELEVATION
RISER TYPE I



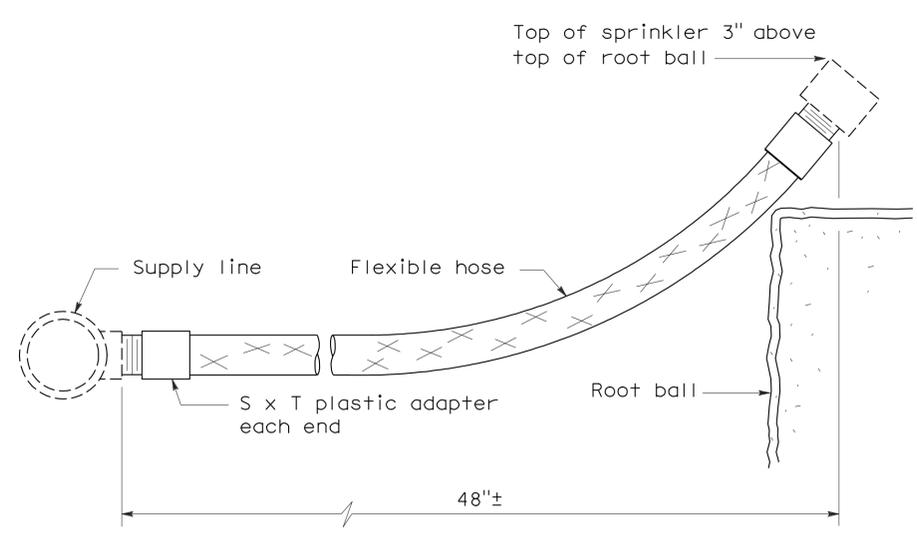
ELEVATION
RISER TYPE II



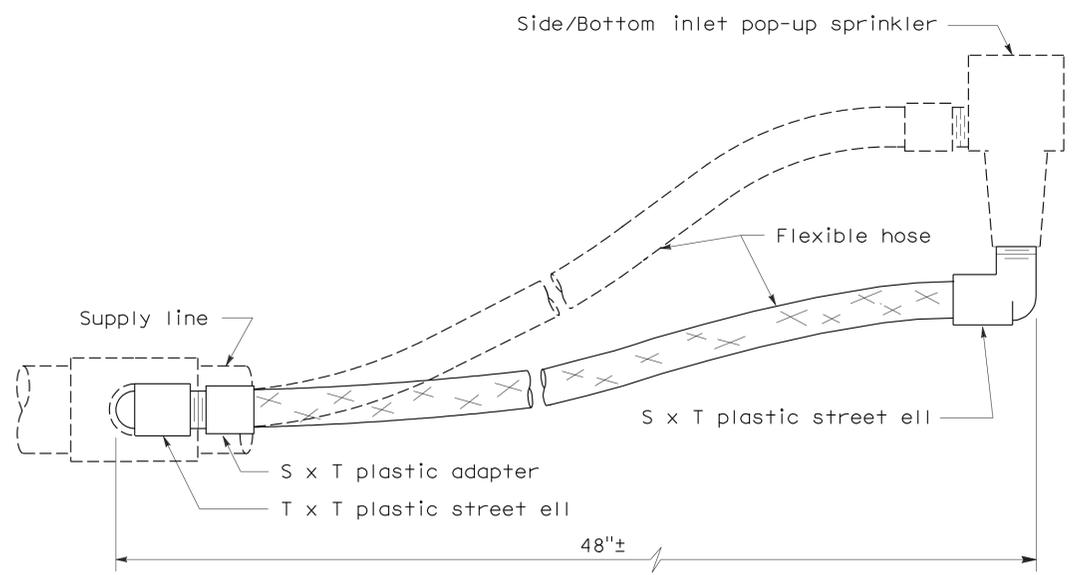
ELEVATION
RISER TYPE III



ELEVATION
RISER TYPE IV



ELEVATION
RISER TYPE V



ELEVATION
RISER TYPE VI

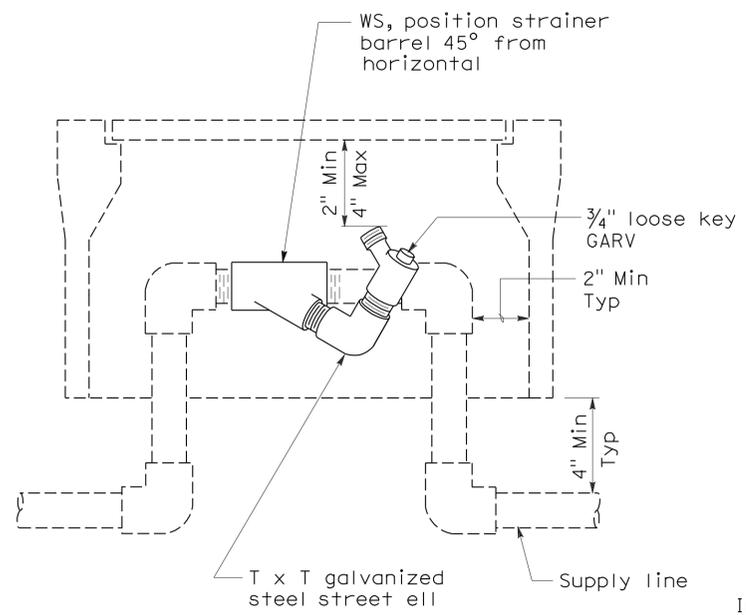
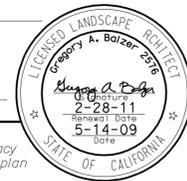
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

RSP H5 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H5
DATED MAY 1, 2006 - PAGE 205 OF THE STANDARD PLANS BOOK DATED MAY 2006.

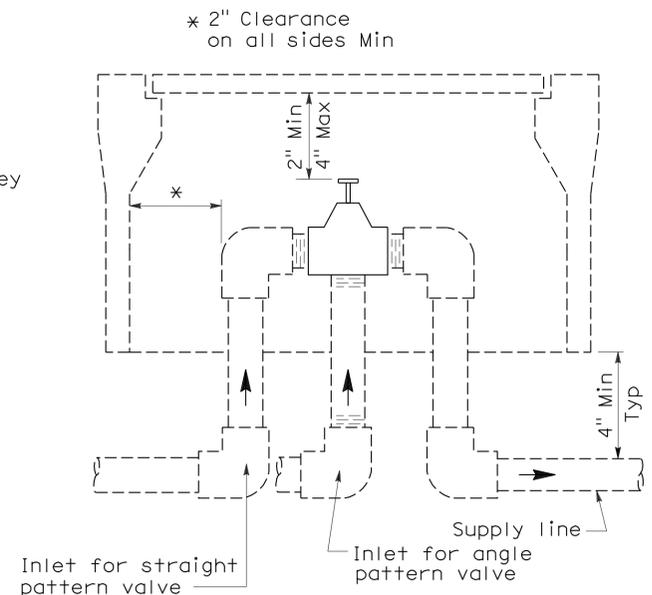
REVISED STANDARD PLAN RSP H5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1386	2028

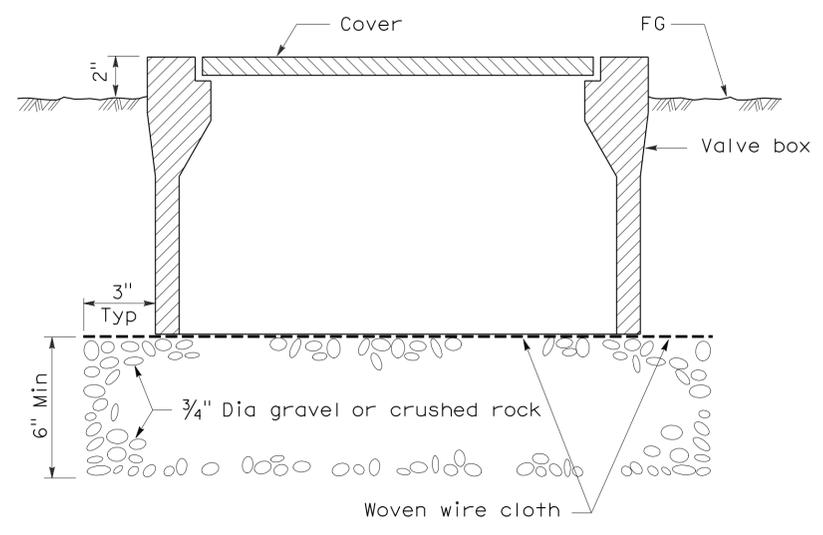
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



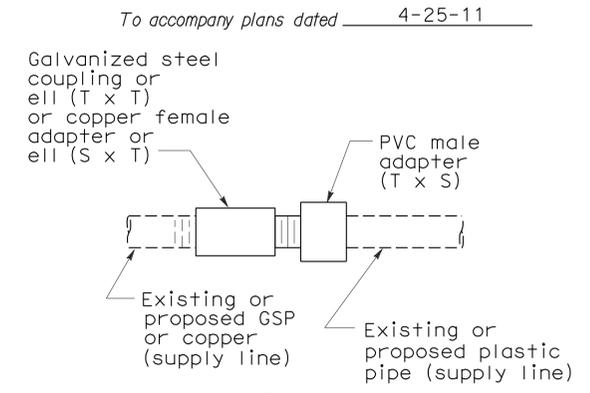
**ELEVATION
WYE STRAINER**



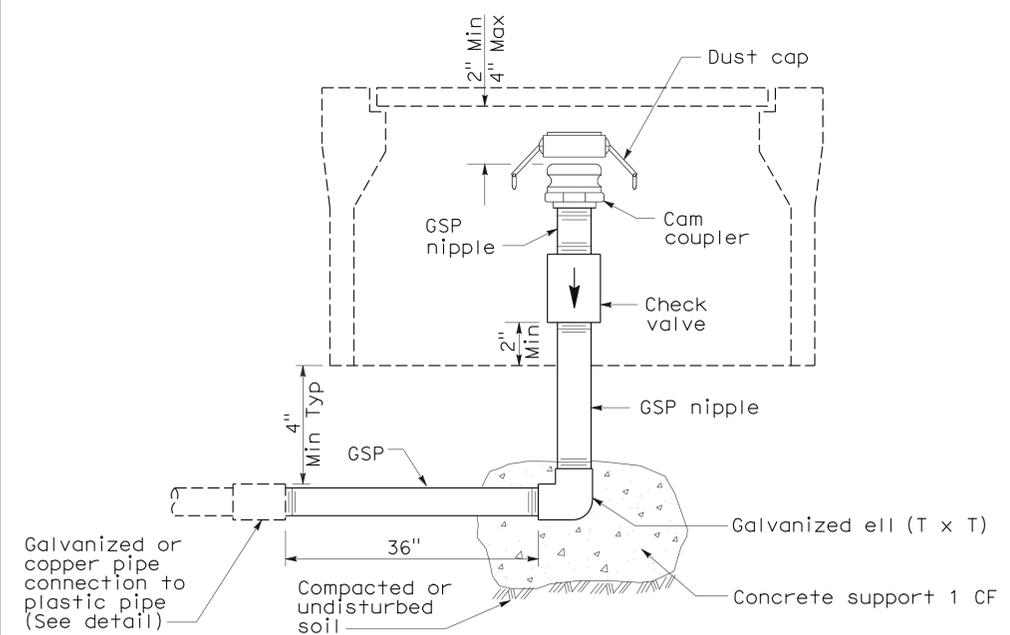
**ELEVATION
VALVE**



**SECTION
VALVE BOX**

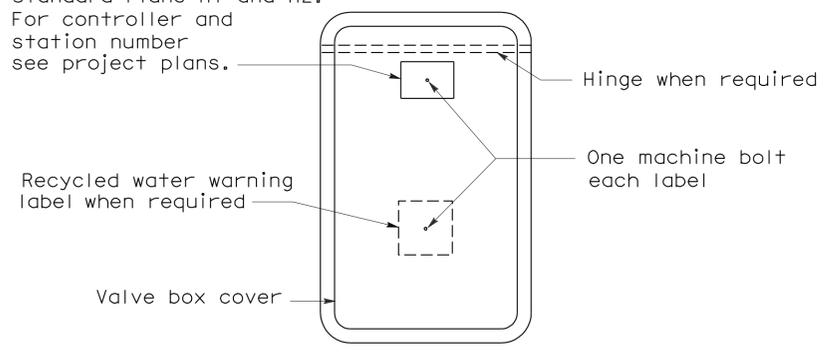


**PLAN
GALVANIZED OR COPPER PIPE
CONNECTION TO PLASTIC PIPE**

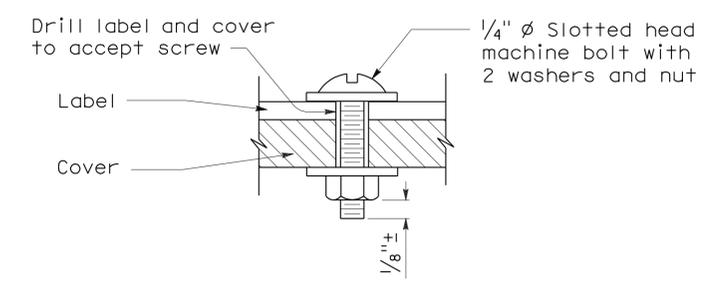


**ELEVATION
CAM COUPLER ASSEMBLY**

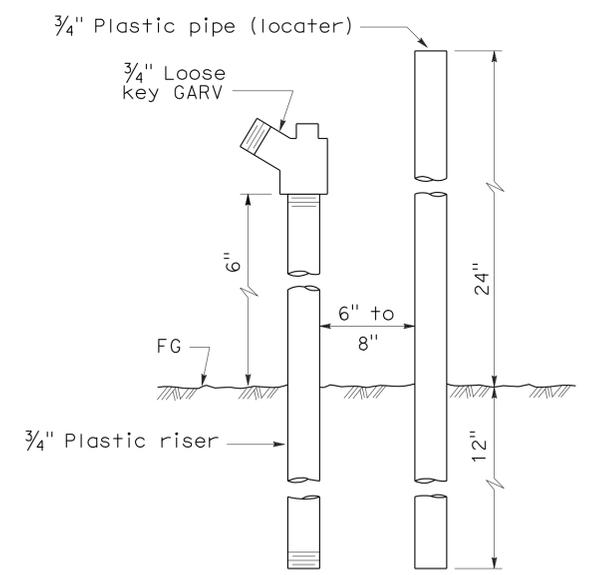
Identification label:
 For abbreviations see Revised Standard Plans H1 and H2.
 For controller and station number see project plans.



PLAN



**SECTION
VALVE BOX IDENTIFICATION**



**ELEVATION
FLUSH VALVE**

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**PLANTING AND IRRIGATION
 DETAILS**

NO SCALE

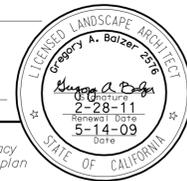
RSP H7 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H7
 DATED MAY 1, 2006 - PAGE 207 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H7

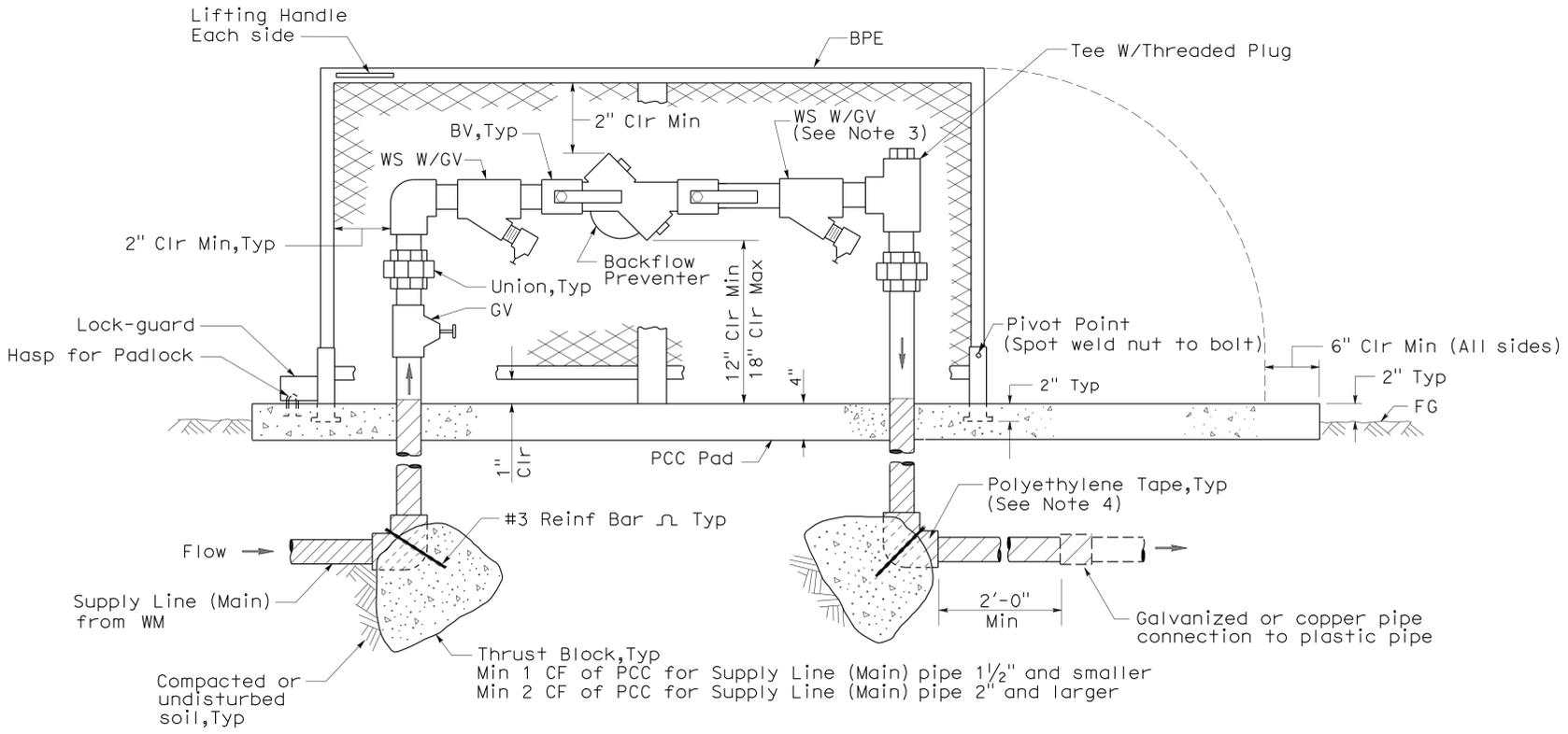
2006 REVISED STANDARD PLAN RSP H7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1387	2028

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 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.



To accompany plans dated 4-25-11

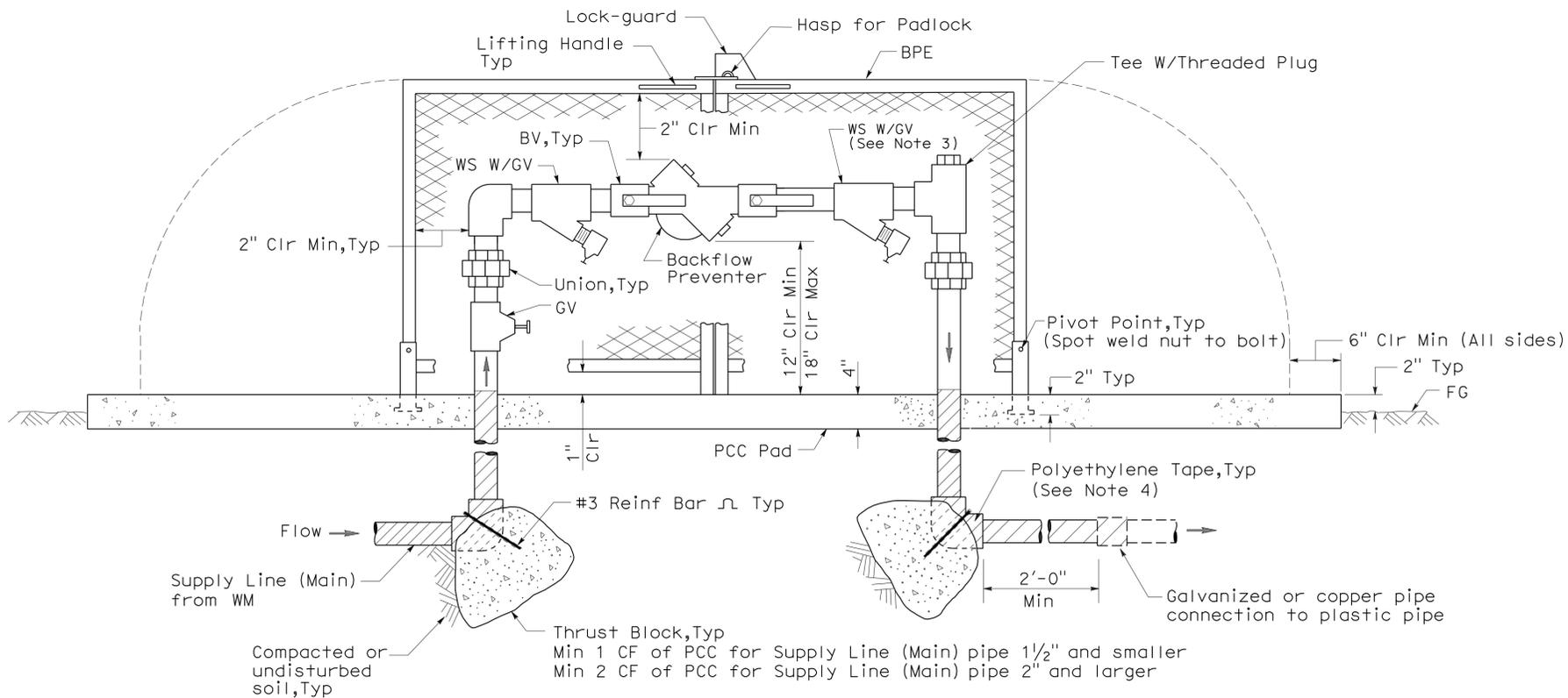


ELEVATION

BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (ONE PIECE)

NOTES:

1. Wye strainer and fittings must be the same size as the backflow preventer shown on the plans.
2. Backflow preventer assembly manifold pipe must be the same pipe as the supply line (main) pipe to be installed from the water meter to the backflow preventer assembly.
3. Wye strainer location shown downstream of the backflow preventer is for District 11 projects only.
4. All metal in contact with soil and Portland Cement Concrete must be polyethylene wrapped using 2" wide plastic backed adhesive tape 20 mil thick with 1/2" overlap.



ELEVATION

BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (TWO PIECE)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
 DETAILS**

NO SCALE

RSP H8 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H8
 DATED MAY 1, 2006 - PAGE 208 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H8

2006 REVISED STANDARD PLAN RSP H8

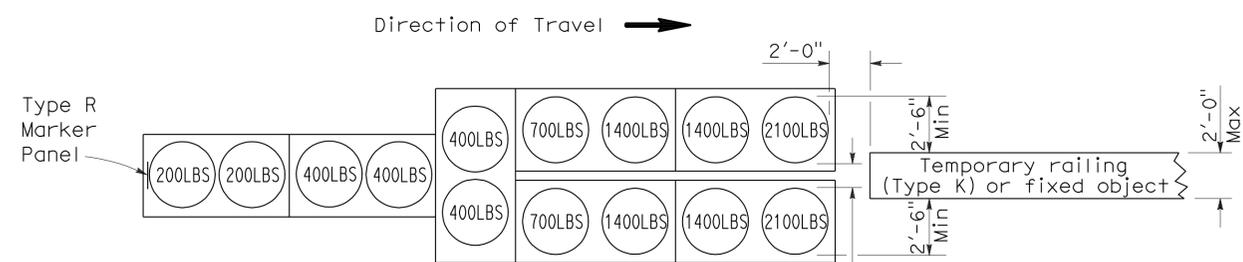
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1388	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

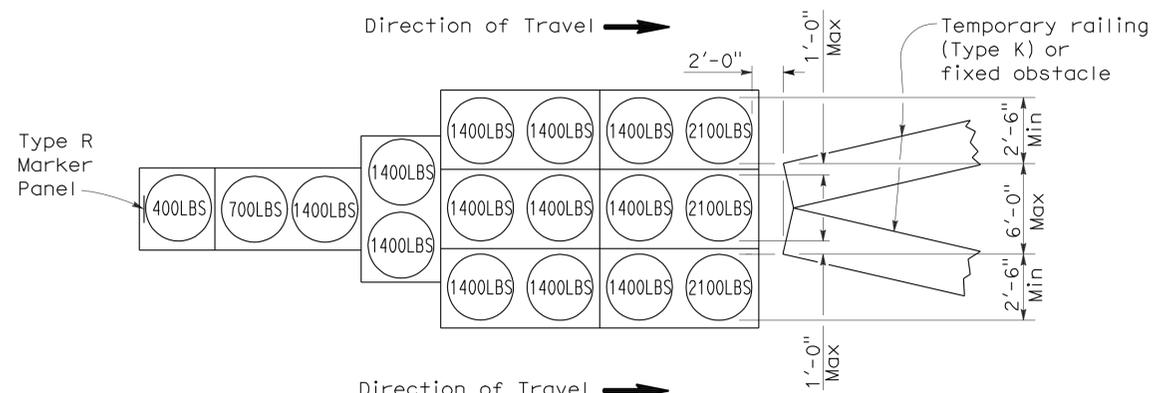
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-25-11



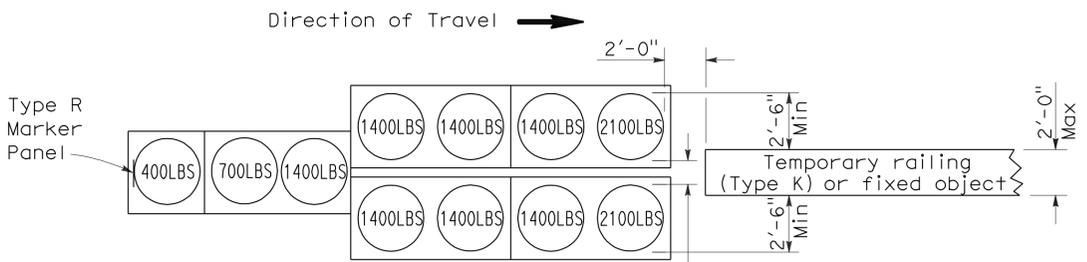
ARRAY 'TU14'

Approach speed 45 mph or more



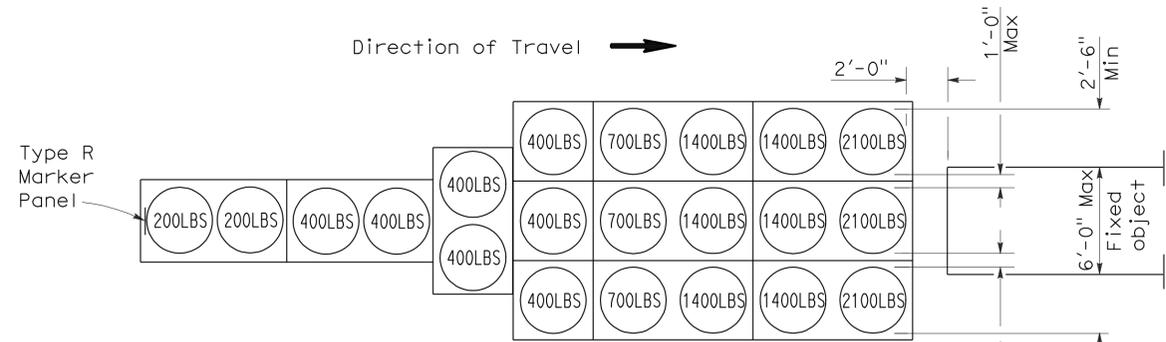
ARRAY 'TU17'

Approach speed less than 45 mph



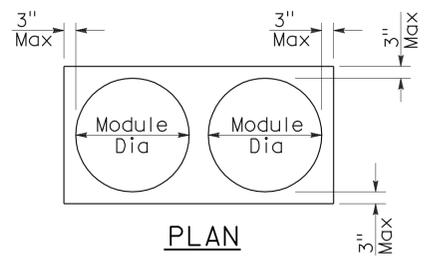
ARRAY 'TU11'

Approach speed less than 45 mph

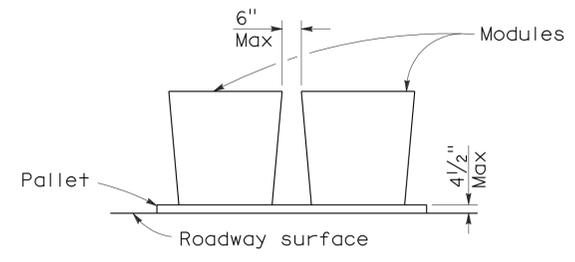


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

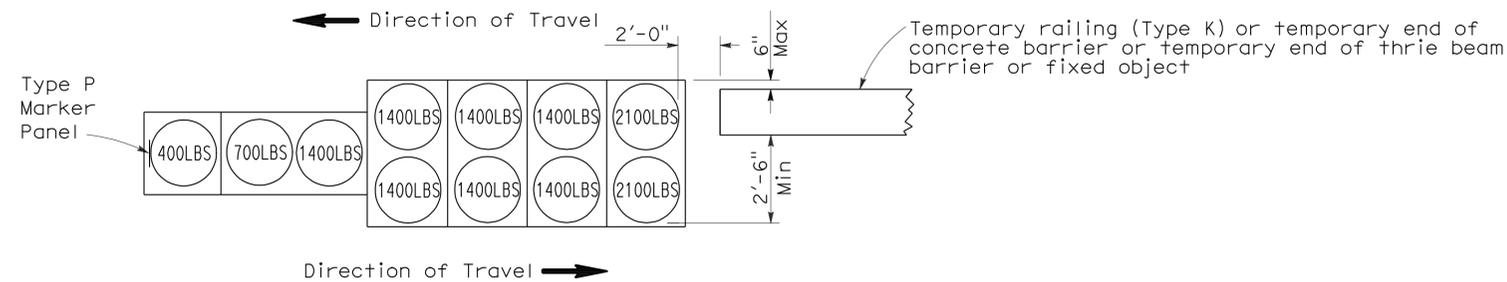
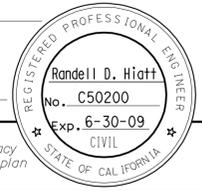
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1389	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

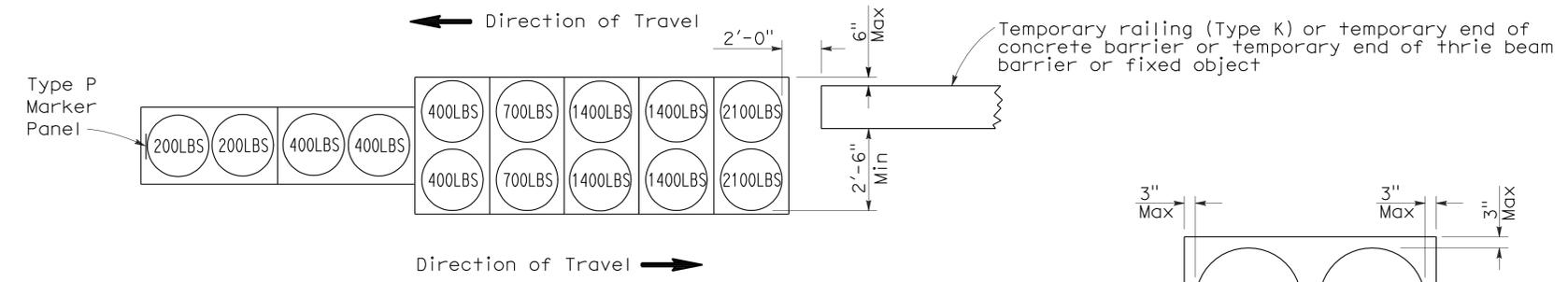
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-25-11



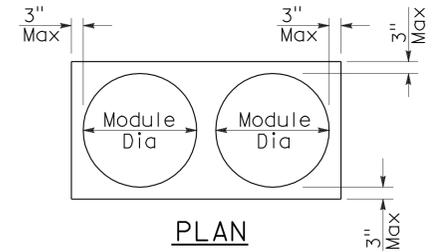
ARRAY 'TB11'

Approach speed less than 45 mph

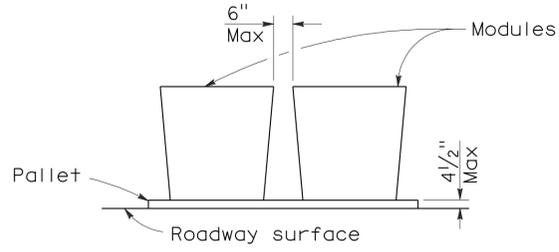


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

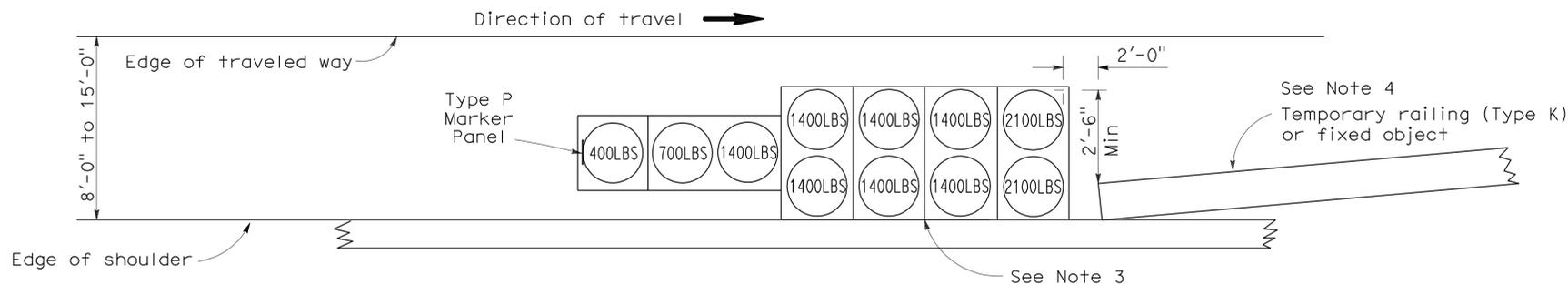
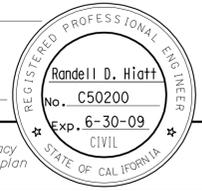
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1390	2028

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

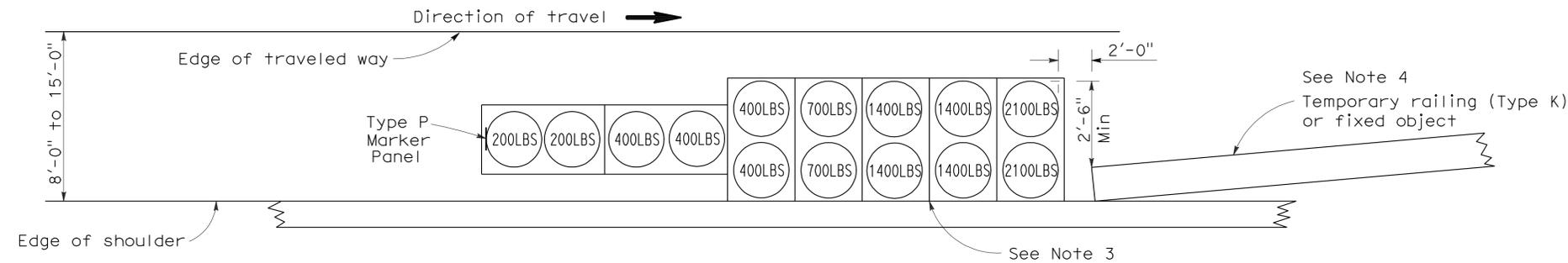
June 6, 2008
PLANS APPROVAL DATE

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.

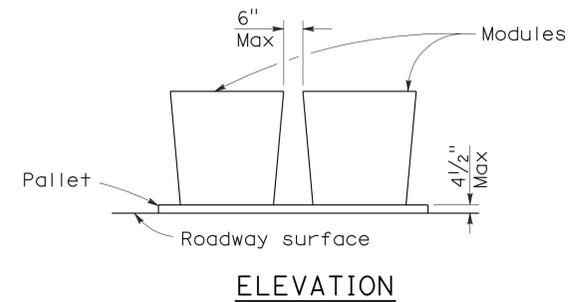
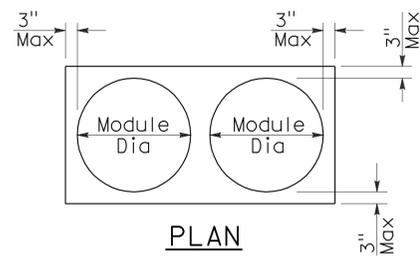
To accompany plans dated 4-25-11



ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

- (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE
RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

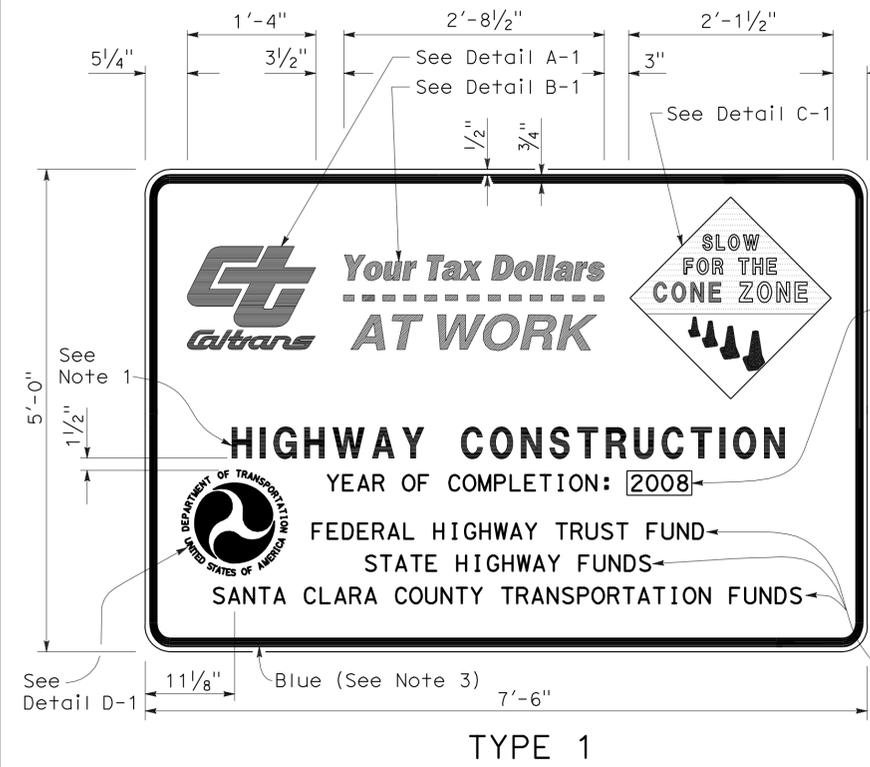
2006 REVISED STANDARD PLAN RSP T2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1391	2028

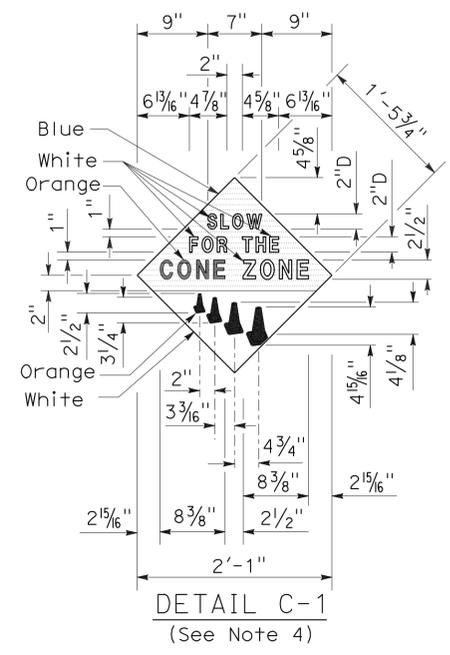
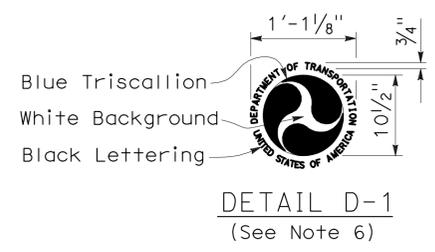
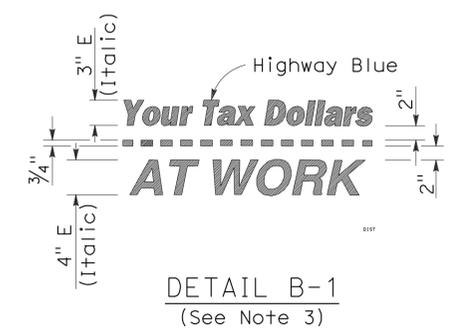
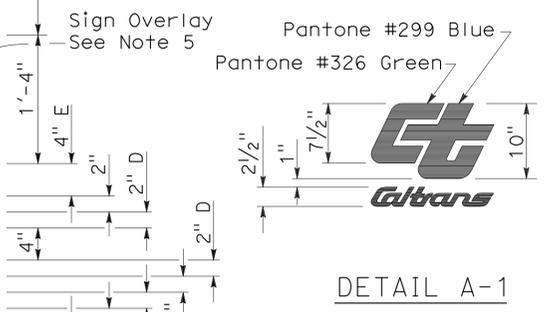
Greg W. Edwards
 REGISTERED CIVIL ENGINEER
 November 17, 2006
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 Greg W. Edwards
 No. C36386
 Exp. 6-30-08
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 4-25-11



TYPE 1

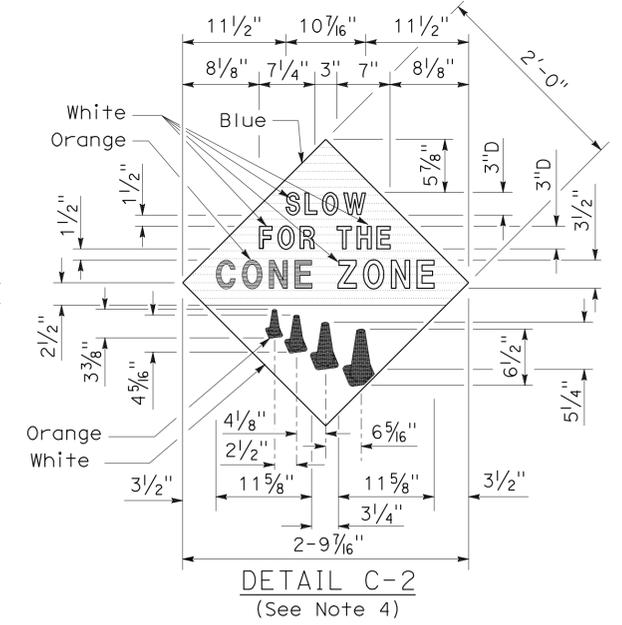
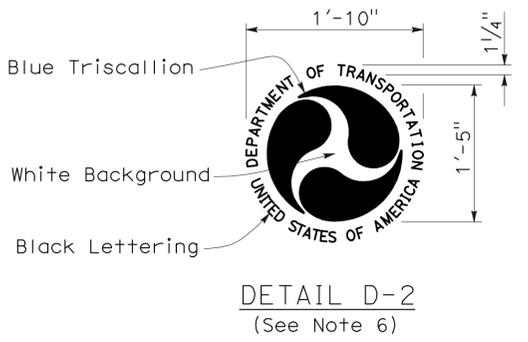
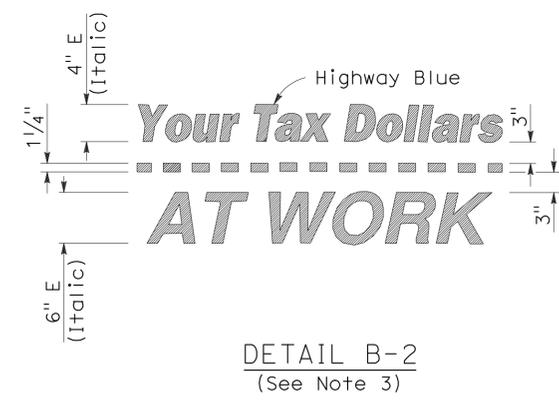
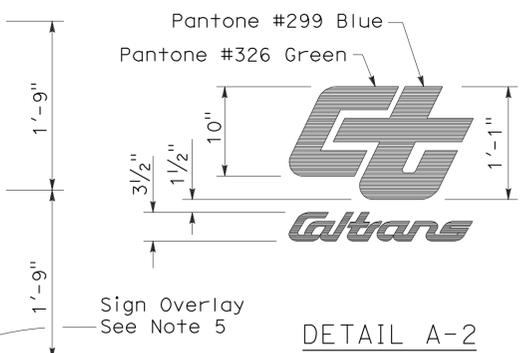


NOTES:

- The sign messages shown for type of project and fund types are examples only. See the Special Provisions for the applicable type of project and fund type messages to be used.
- Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
- The border of the signs and details "B-1" and "B-2" shall be blue (non-reflective).
- The diamond in details "C-1" and "C-2" shall be blue for the background of message, "SLOW FOR THE CONE ZONE", and white background for the orange cones. The color and type of font for the "SLOW FOR THE CONE ZONE" message shall be: "SLOW" white D; "FOR THE" white D; "CONE" orange Arial font; "ZONE" white Arial font.
- Year of completion of project construction shown on the overlay is an example only. See the Special Provisions.
- Use when the Project involves Federal Highway Trust Fund.



TYPE 2



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS

NO SCALE

RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN T7 DATED MAY 1, 2006 - PAGE 217 OF THE STANDARD PLANS BOOK DATED MAY 2006.

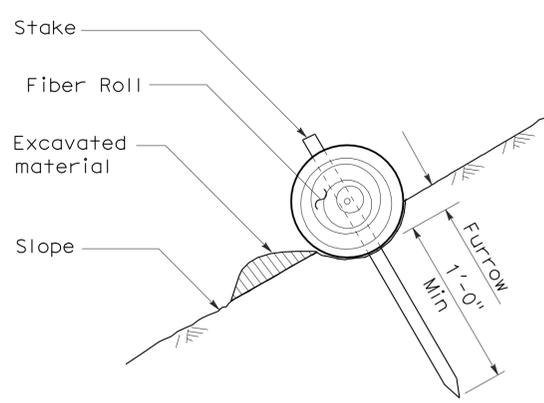
REVISED STANDARD PLAN RSP T7

2006 REVISED STANDARD PLAN RSP T7

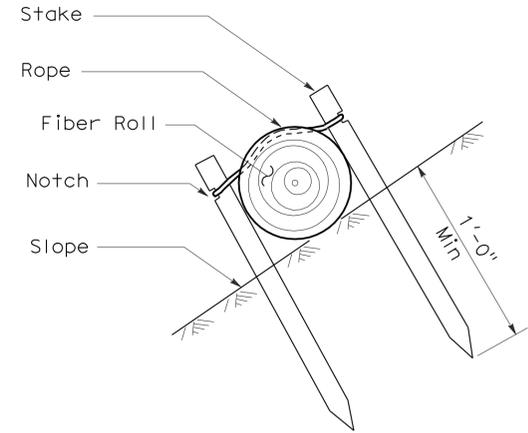
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1392	2028

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 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.

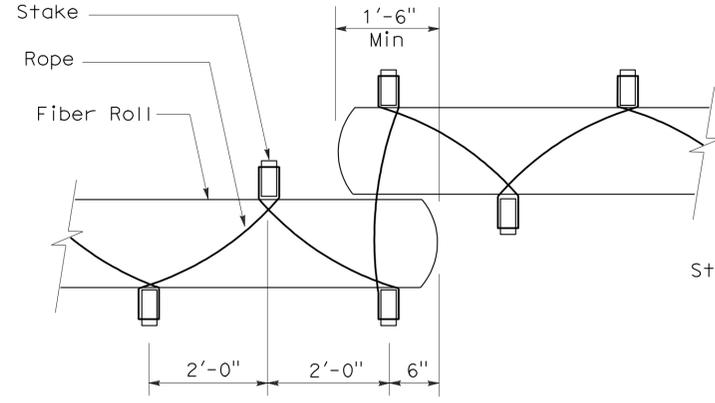
To accompany plans dated 4-25-11



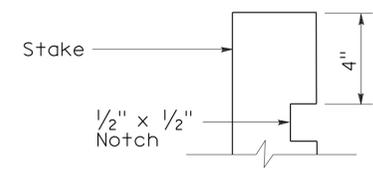
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



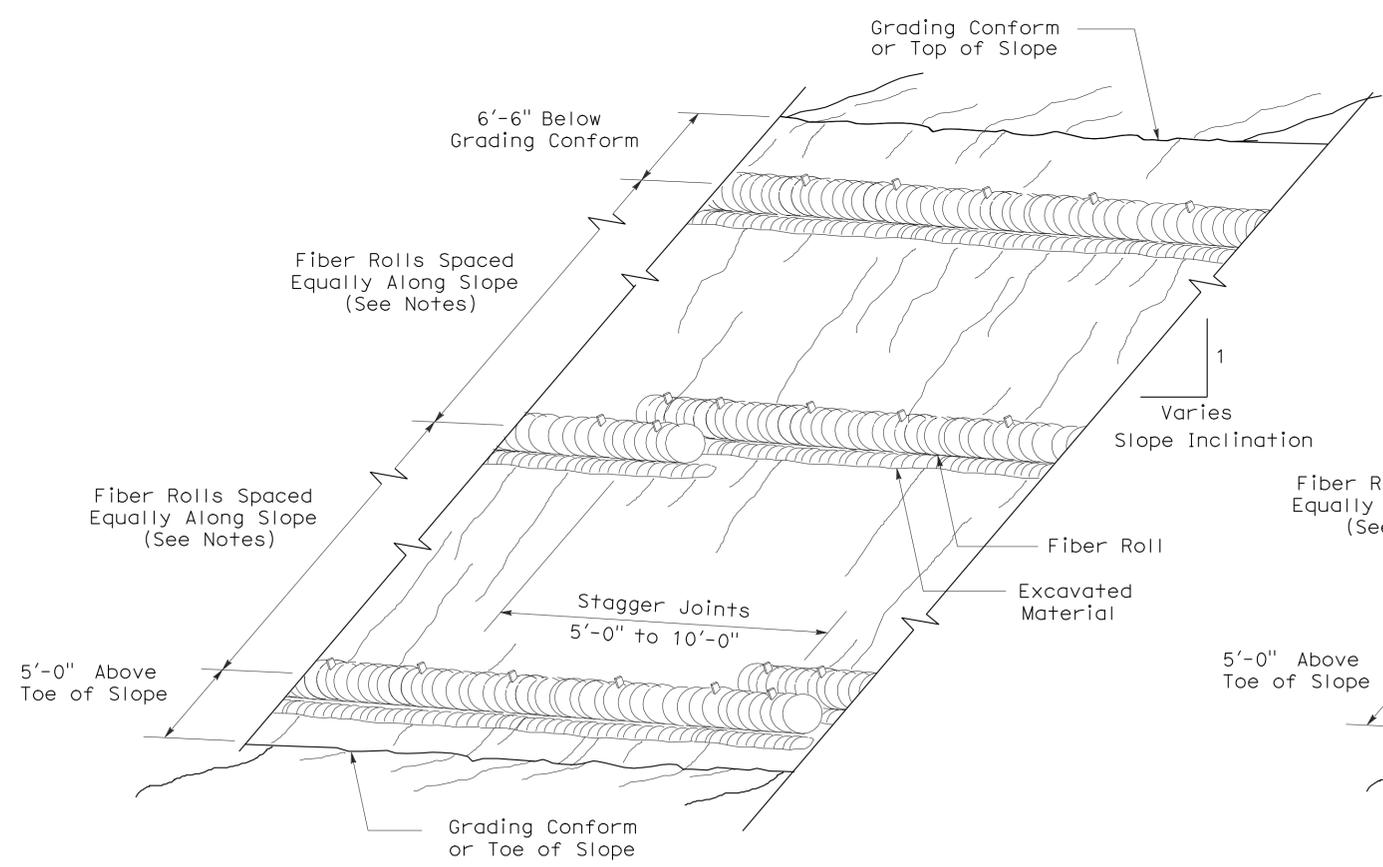
SECTION
TEMPORARY FIBER ROLL (TYPE 2)



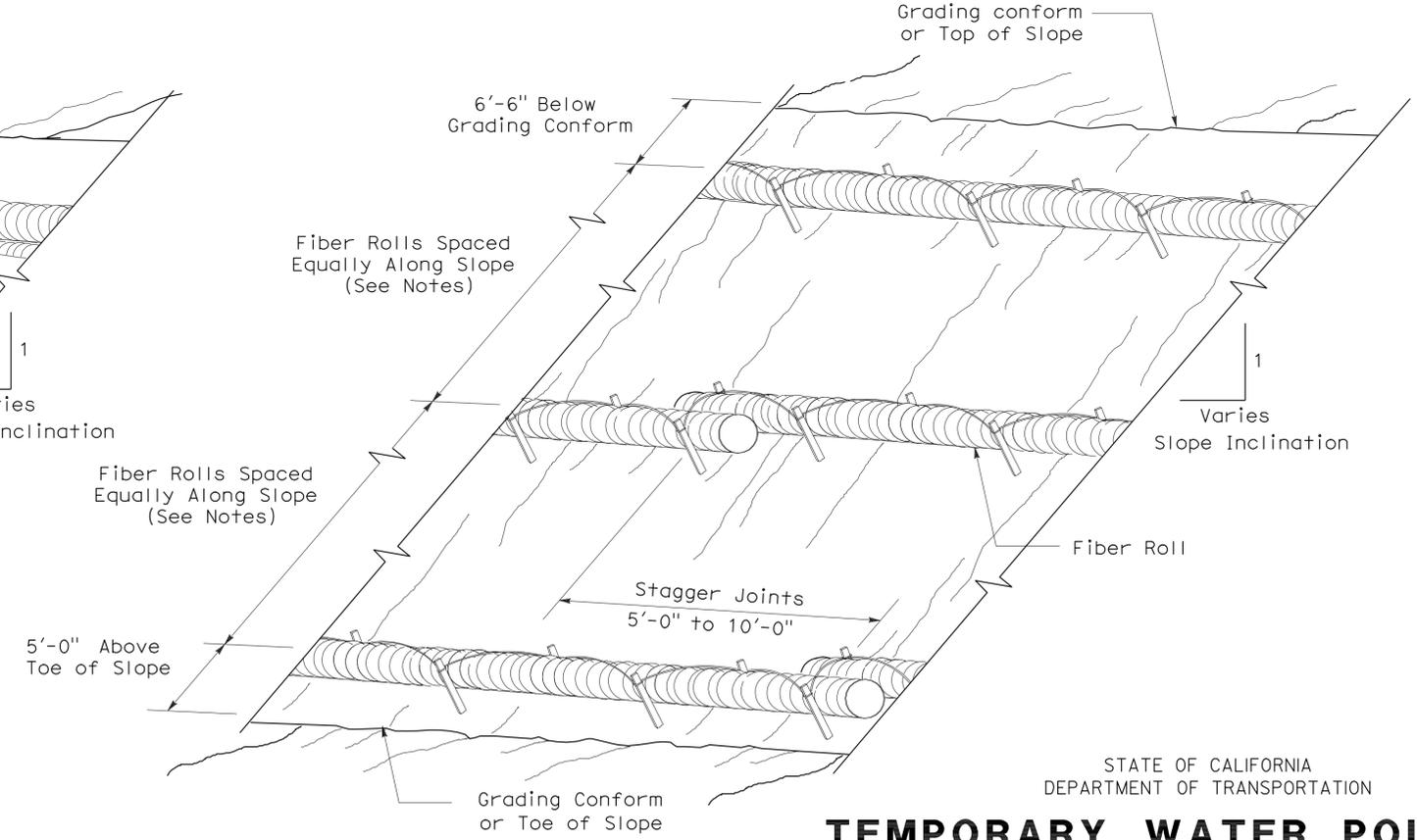
PLAN
ELEVATION
STAKE NOTCH DETAIL



- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
 2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

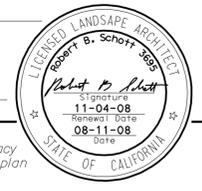
RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

2006 REVISED STANDARD PLAN RSP T56

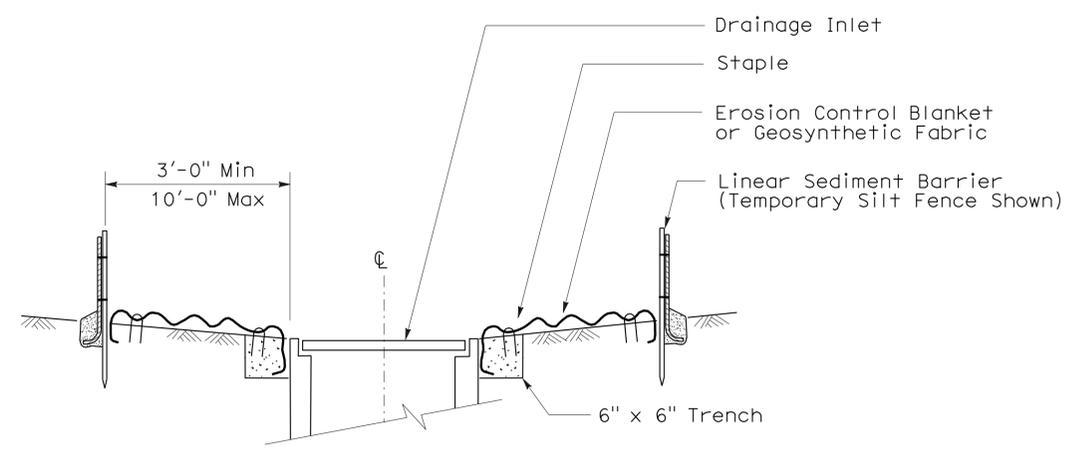
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1393	2028

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 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.

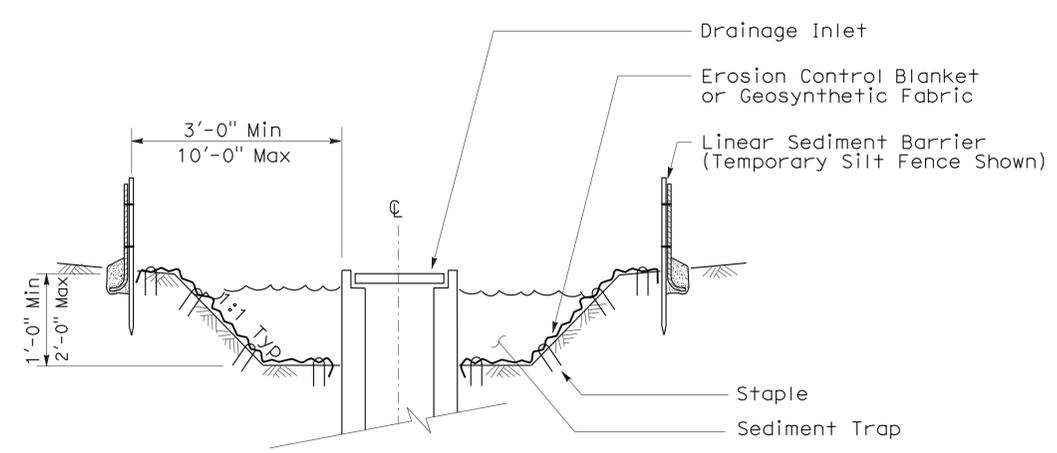


To accompany plans dated 4-25-11

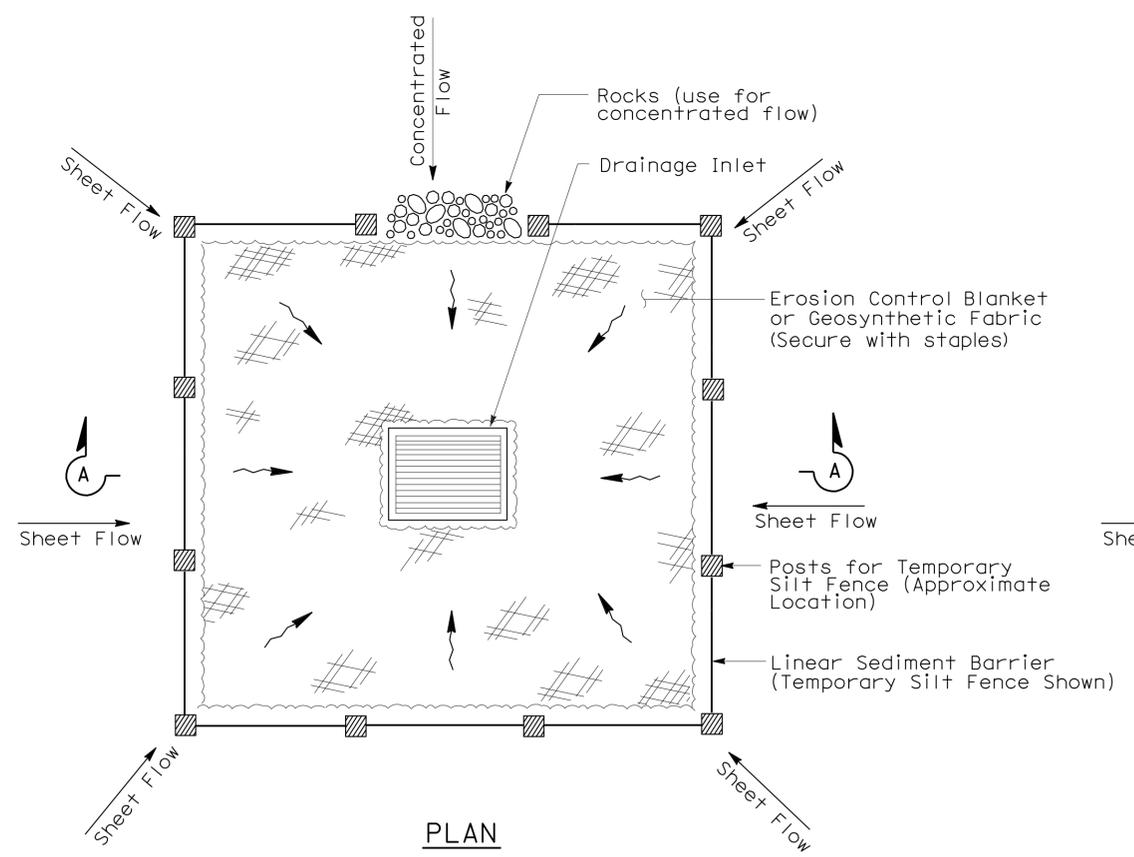
- NOTES:**
1. See Standard Plan T51 for Temporary Silt Fence.
 2. Dimensions may vary to fit field conditions.



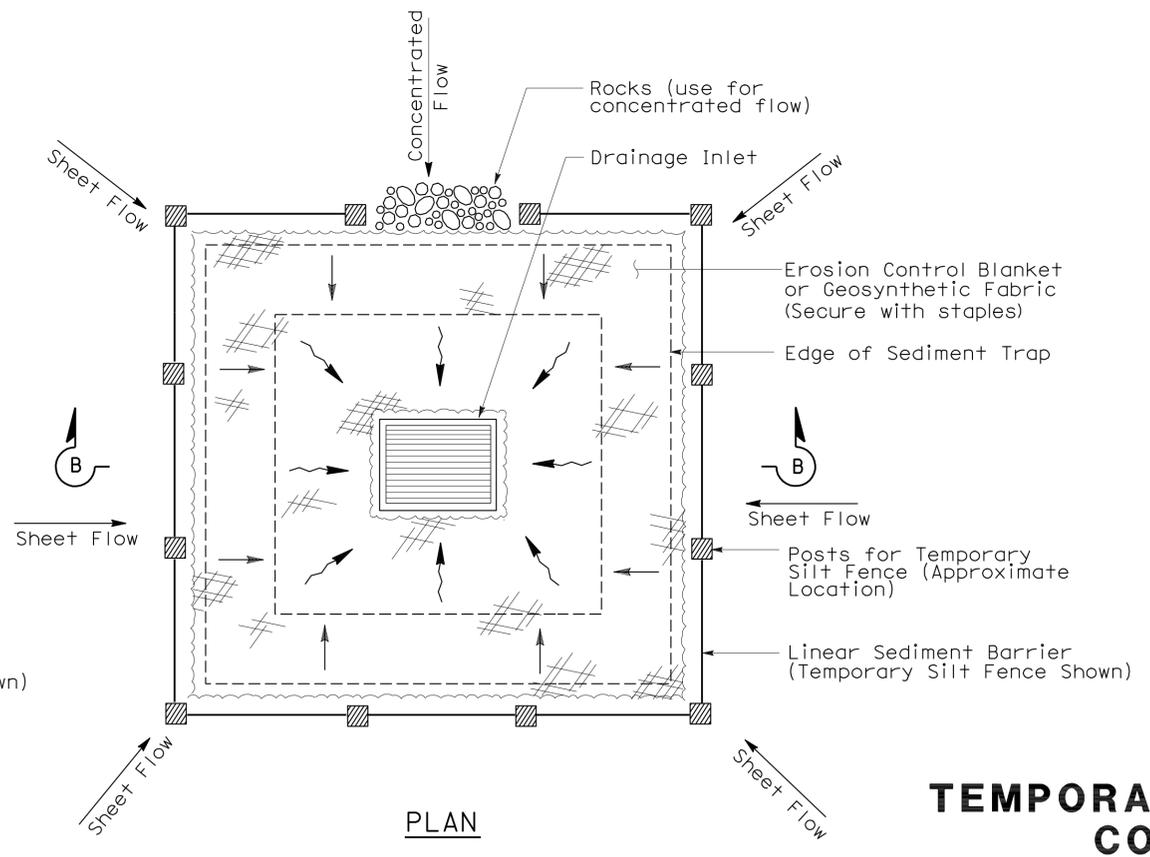
SECTION A-A



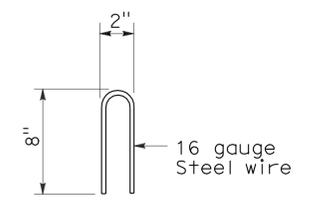
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)



STAPLE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T61

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1394	2028

Robert B. Schott
LICENSED LANDSCAPE ARCHITECT

August 15, 2008
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.

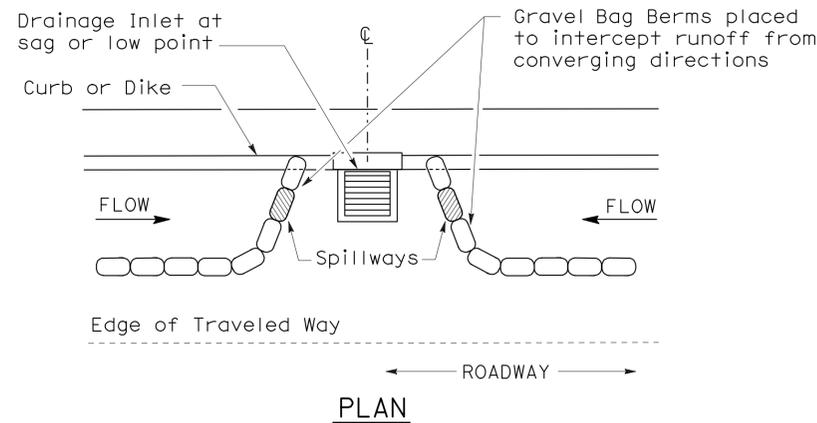
To accompany plans dated 4-25-11



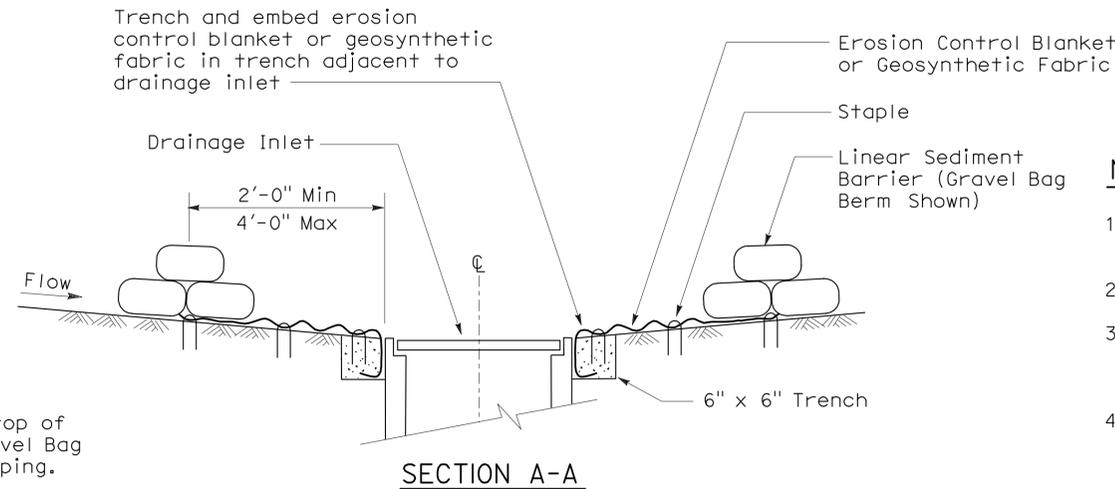
GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

For slope of less than 1%, install barriers only if erosion/sediment is prevalent



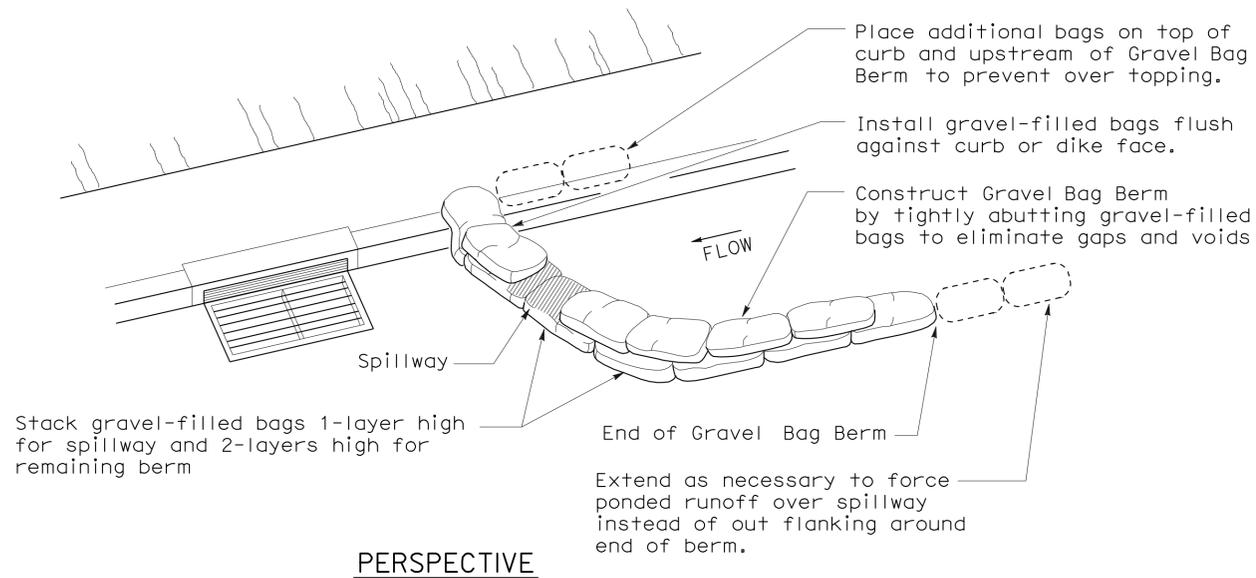
CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)



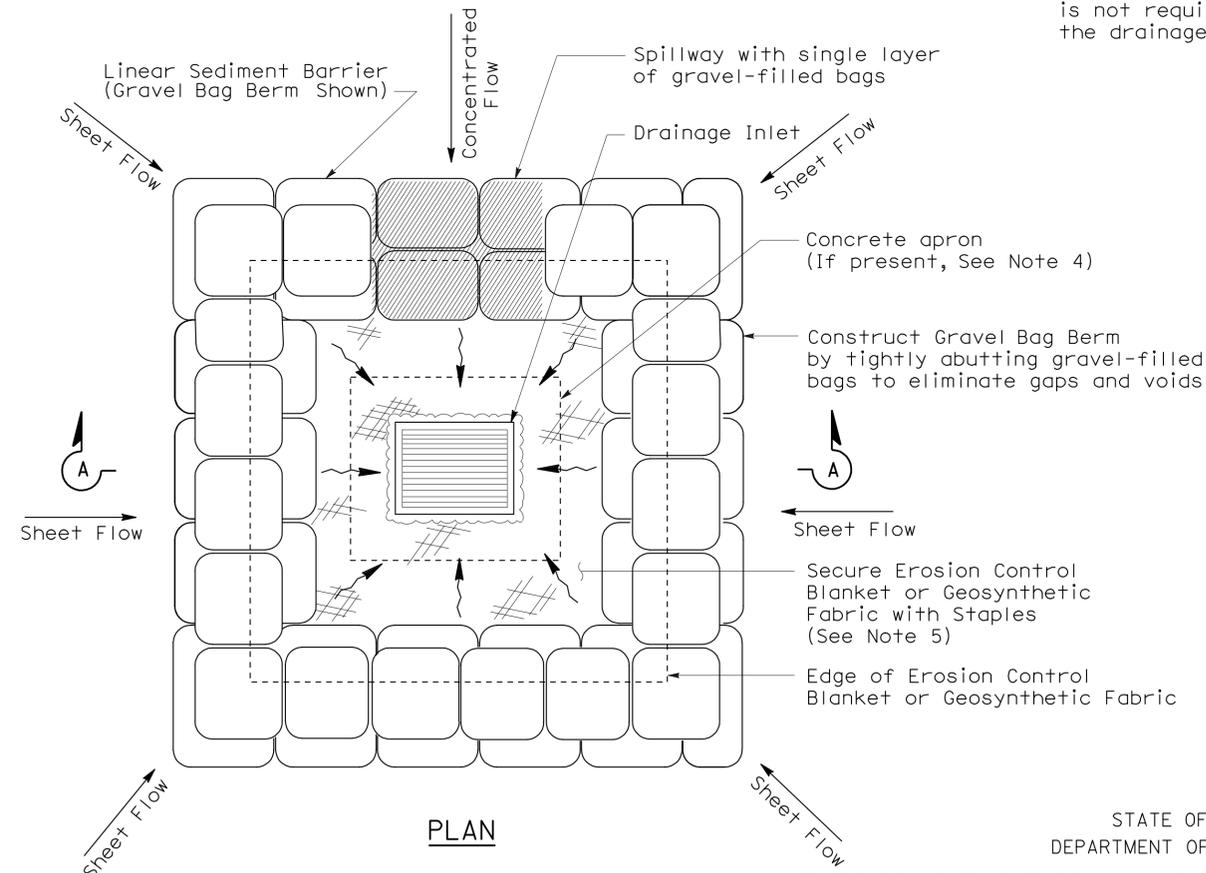
SECTION A-A

NOTES:

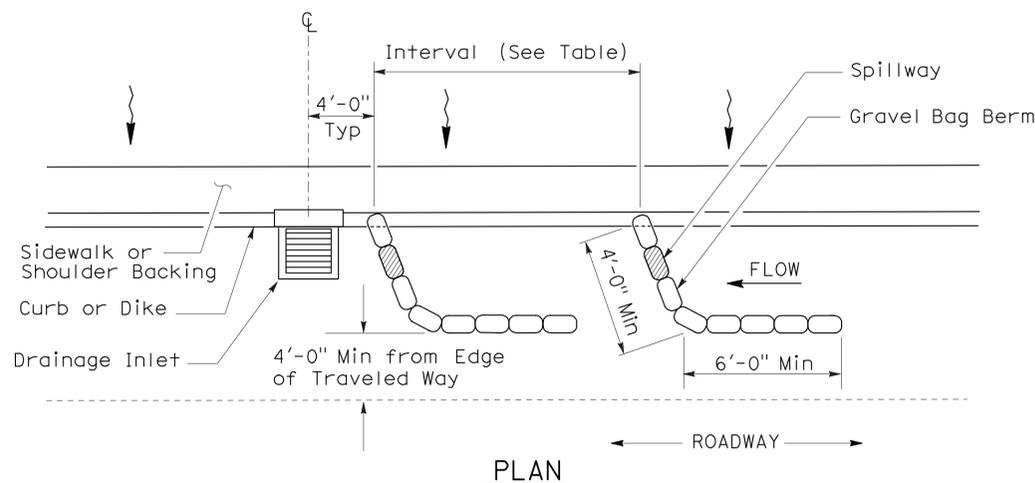
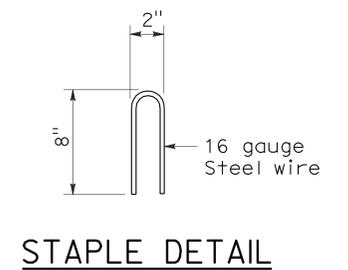
1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



PERSPECTIVE



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A) (GRAVEL BAG BERM)

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

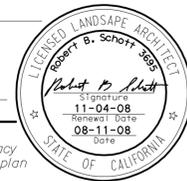
NO SCALE
NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T62

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1395	2028

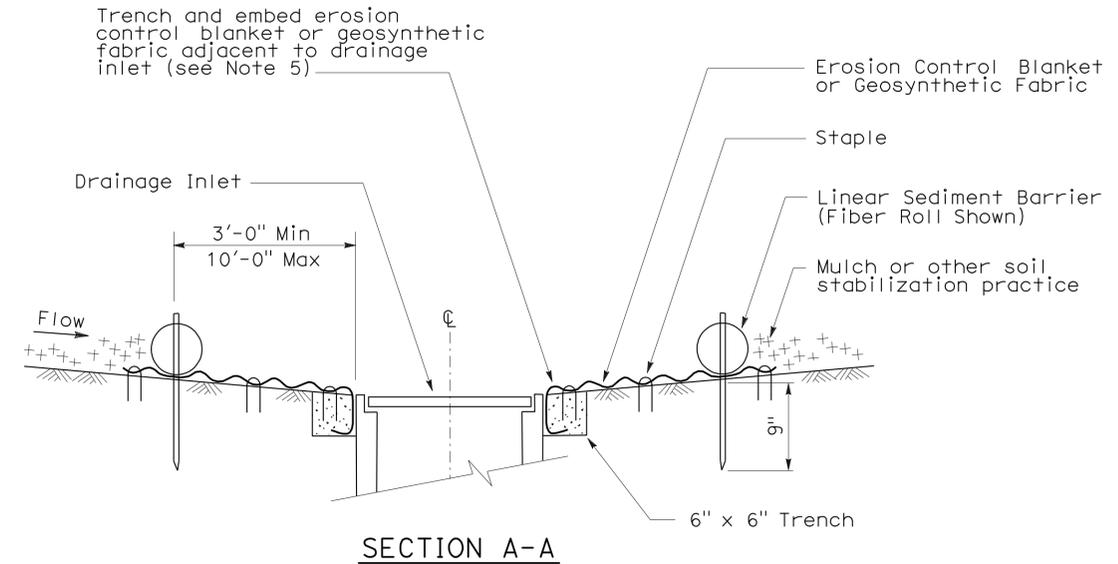
August 15, 2008
 PLANS APPROVAL DATE

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.

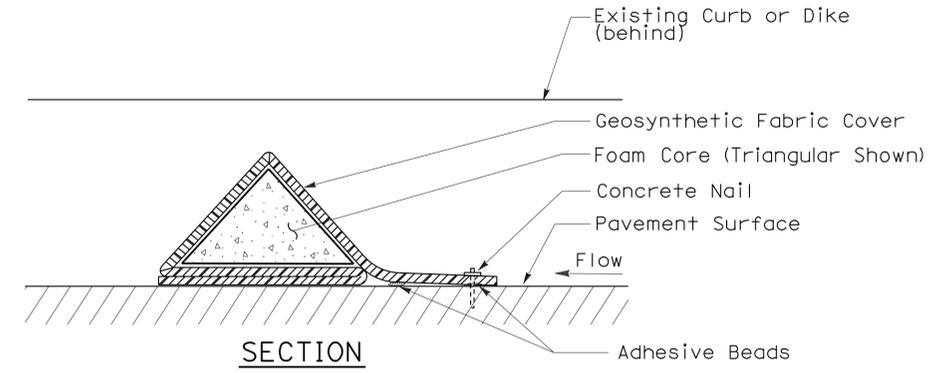


FLEXIBLE SEDIMENT BARRIER SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'



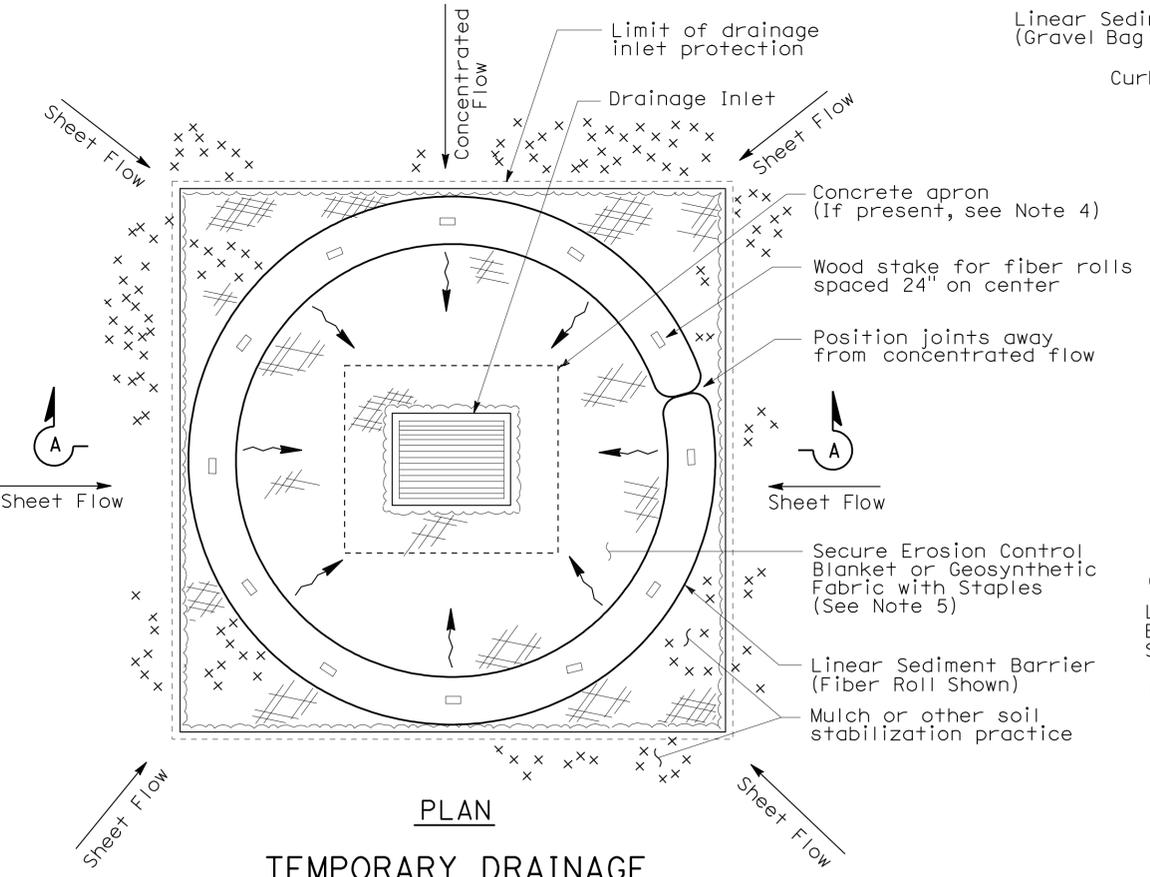
SECTION A-A



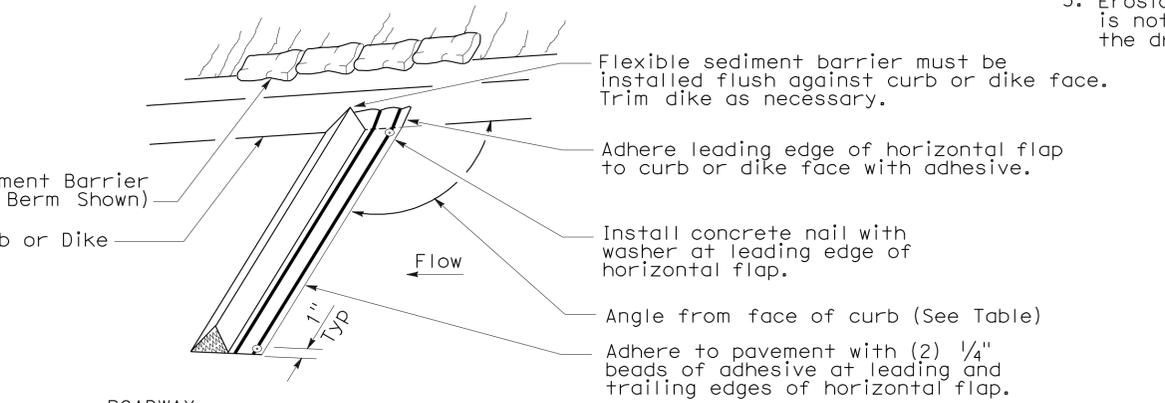
SECTION FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)

NOTES:

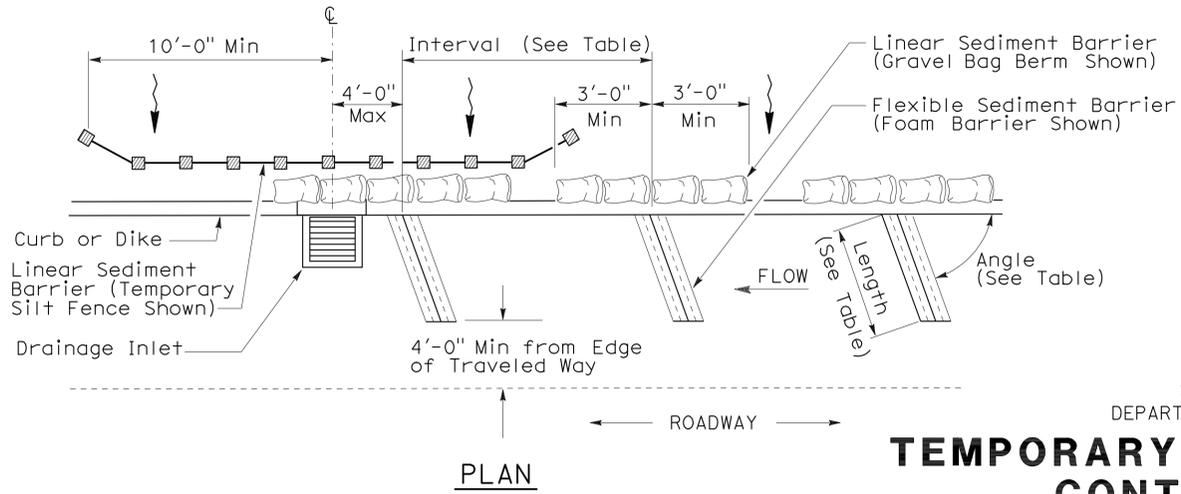
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.



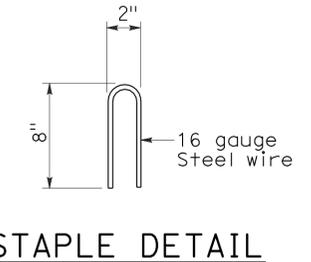
PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)



PERSPECTIVE



PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4B) FLEXIBLE SEDIMENT BARRIER



STAPLE DETAIL

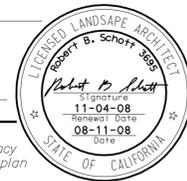
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE
 NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

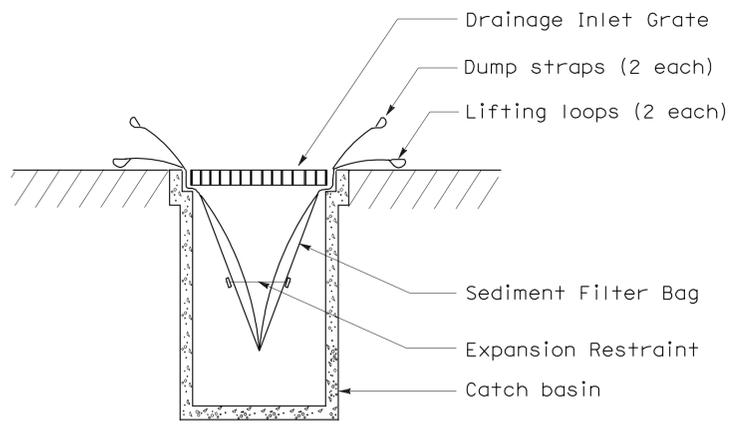
2006 NEW STANDARD PLAN NSP T63

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1396	2028

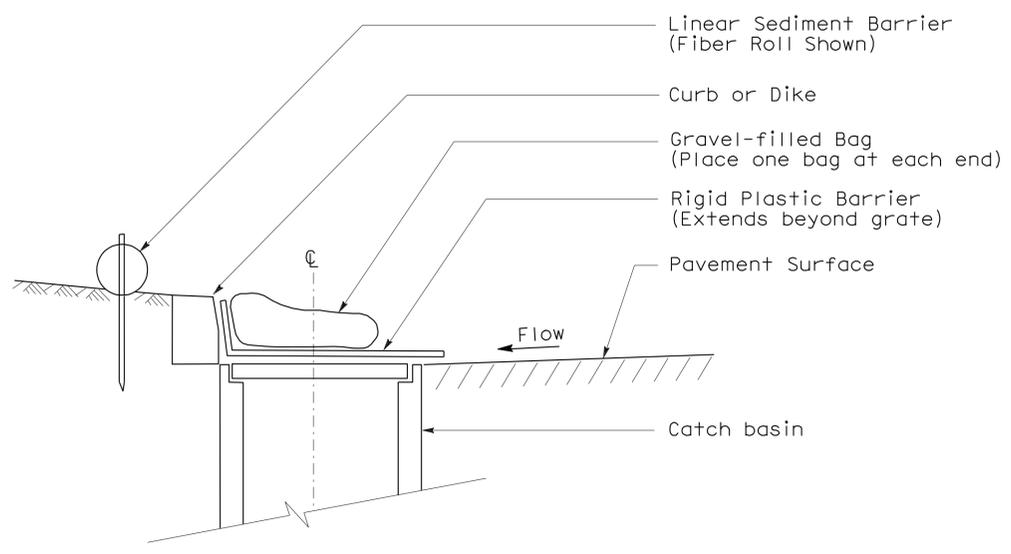
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



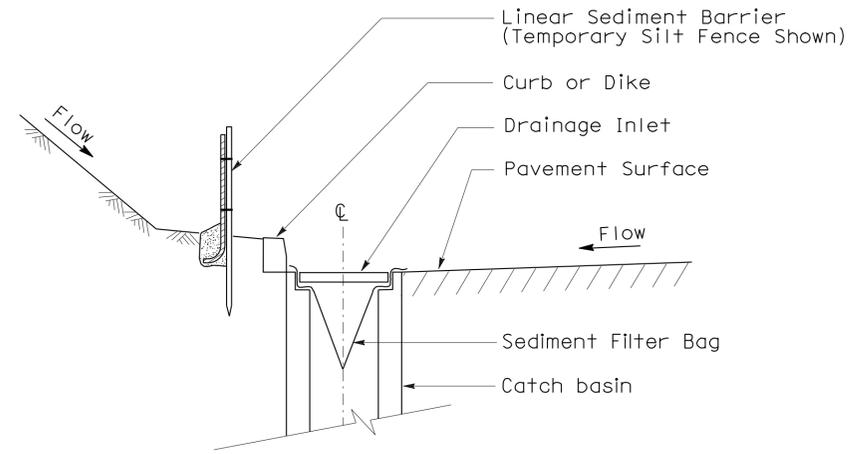
To accompany plans dated 4-25-11



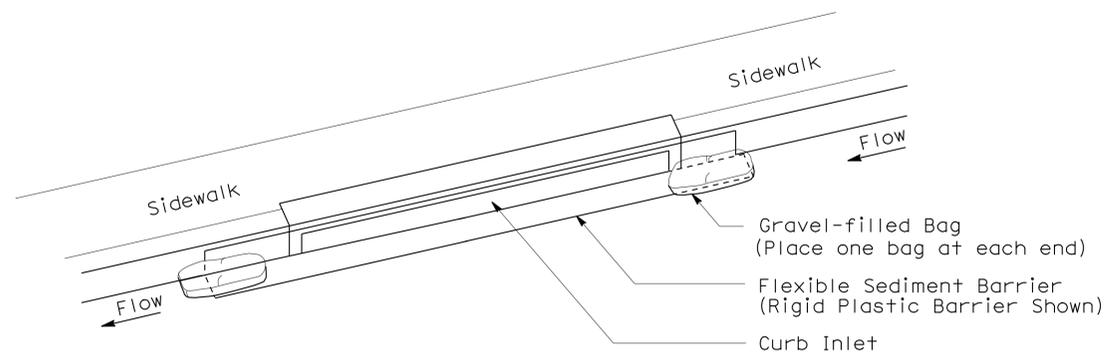
SECTION B-B
SEDIMENT FILTER BAG DETAIL



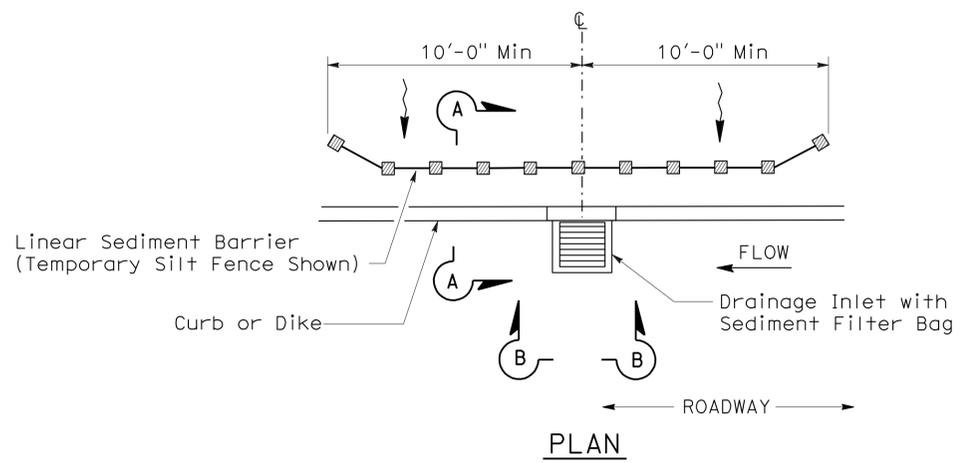
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



PERSPECTIVE
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6B)
(CURB INLET WITHOUT GRATE)



PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 5)
(SEDIMENT FILTER BAG)

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

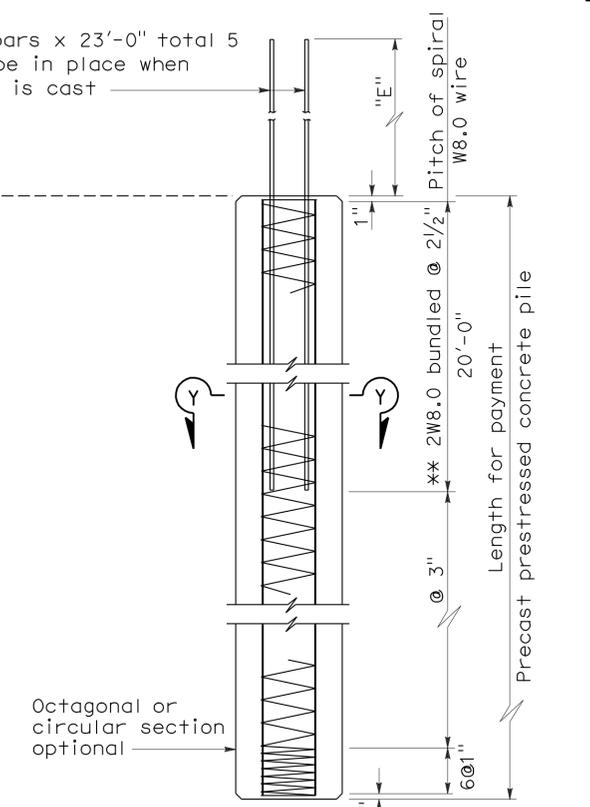
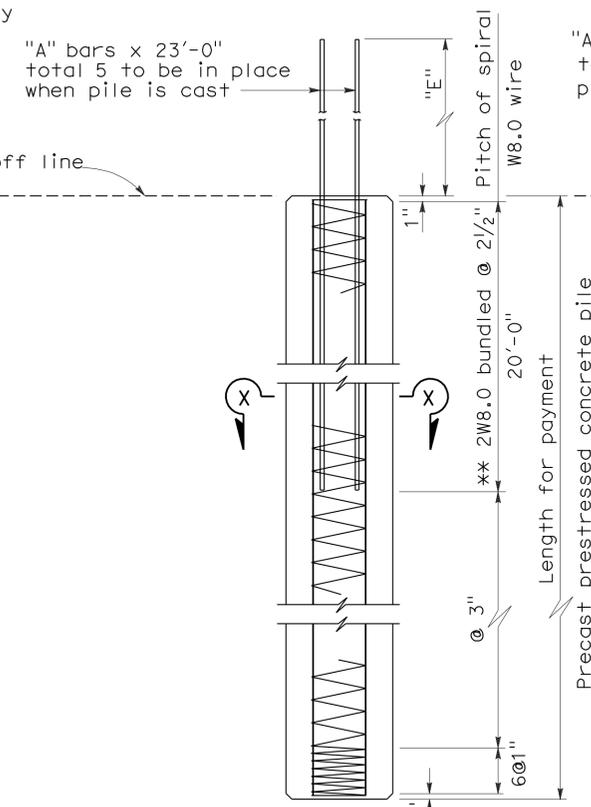
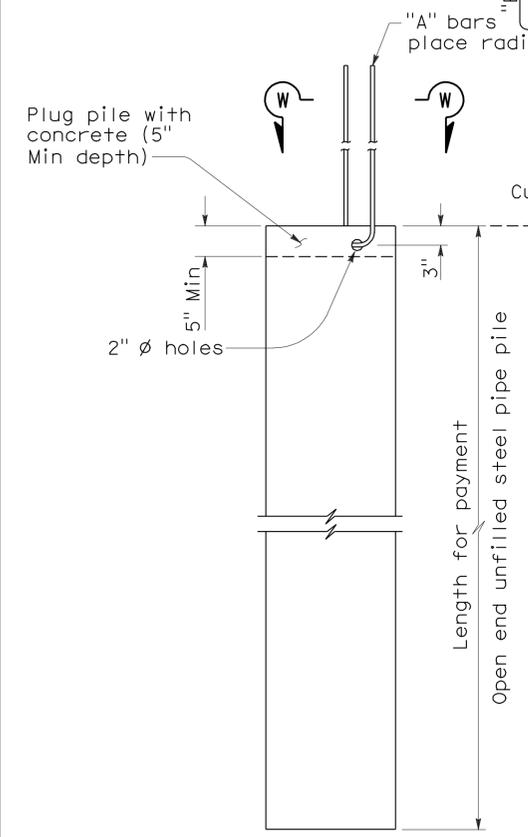
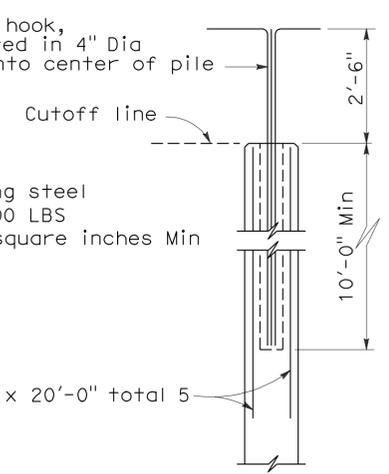
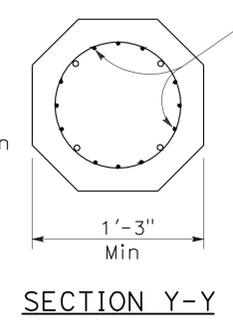
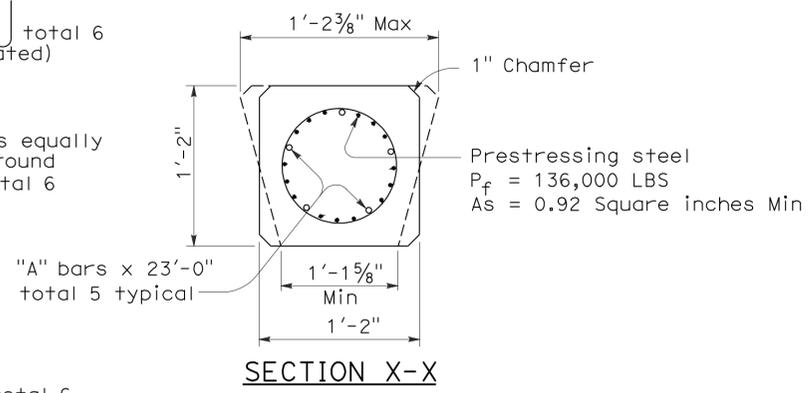
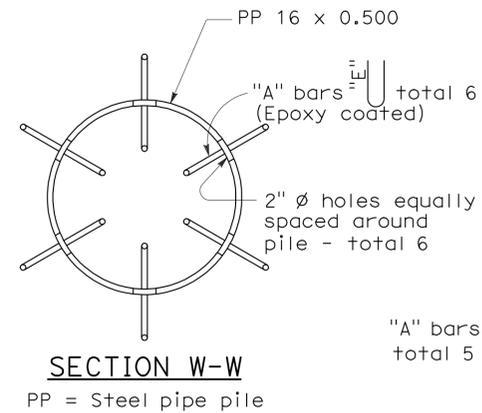
NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T64

2006 NEW STANDARD PLAN NSP T64

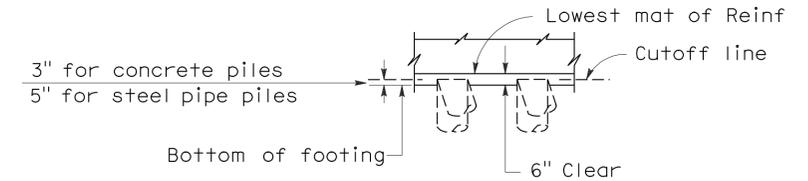
To accompany plans dated 4-25-11

2006 REVISED STANDARD PLAN RSP B2-8



	Nominal Resistance (Tension) *	
	Not Required	Required
"A" bars	#6	#8
"E" Dimension	2'-0"	2'-10"

* See Pile Data Table in the Project Plans for Nominal Resistance (Tension) Requirements



DESIGN NOTES:

DESIGN CAPACITY :

- Compression = 200 kip (Service state)
- = 400 kip (Nominal axial strength)
- Tension = 80 kip (Service state)
- = 200 kip (Nominal axial strength)

REINFORCED CONCRETE

f_c = 4,000 psi
f_y = 60,000 psi

PRECAST PRESTRESSED PILES

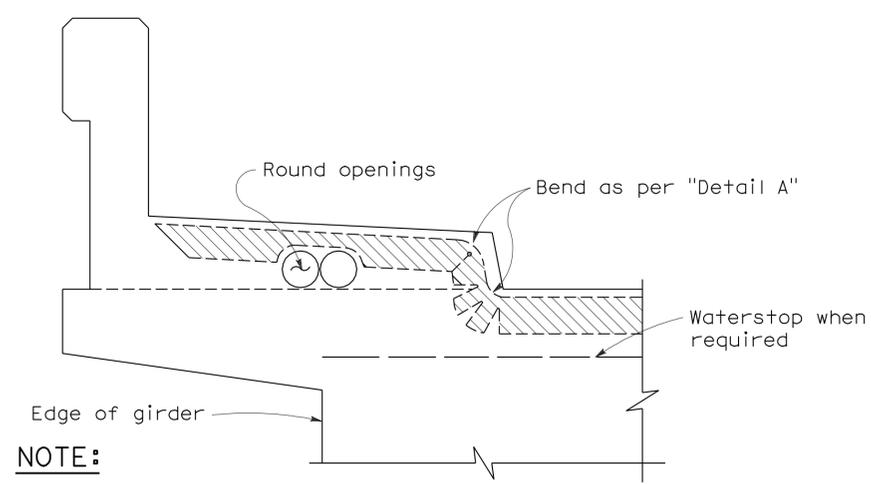
P_f = Prestress Force (After losses)
Concrete Strength f_c @ 28 days = 7,000 psi
f_ci @ transfer = 4,000 psi

STEEL PIPE PILE

F_y (minimum yield strength) = 45,000 psi
F_u (minimum tensile strength) = 66,000 psi

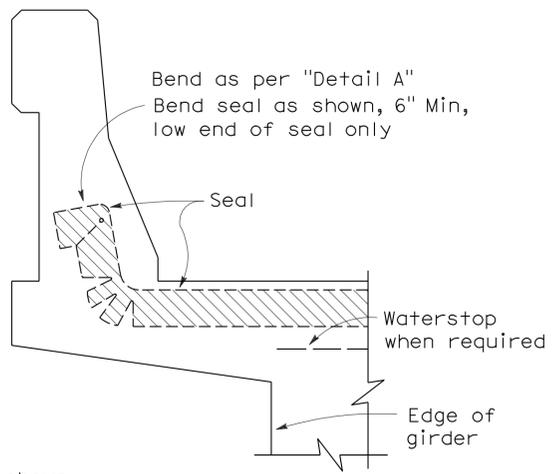
NOTES:

- Pile reinforcement extending into footing shall be hooked as required to provide clearance to top of footing.
- Lapped splices in spiral pile reinforcement shall be lapped 80 wire diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.
- At the Contractor's option, alternative steel pipe with at least the diameter and wall thickness shown on these plans may be used. The diameter shall not exceed 1'-6".
- Alternative "W" piles shall not be used for corrosive environments.
- Maximum cut-off length at the top of the Alternative "X" and Alternative "Y" piles is 10'-0".

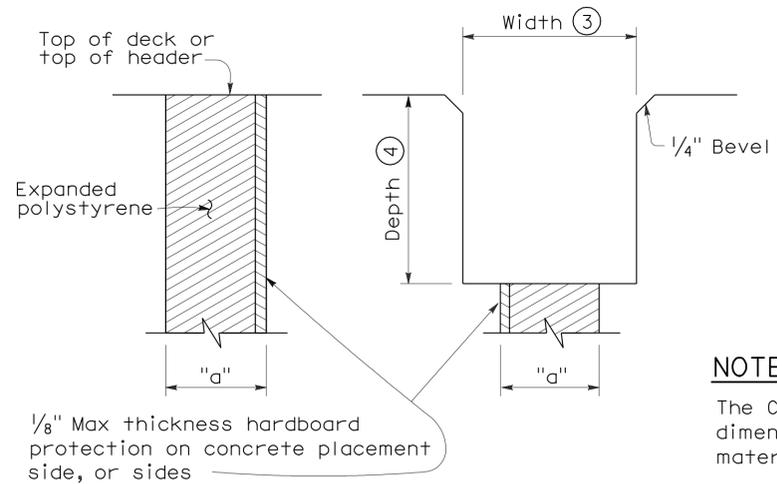


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



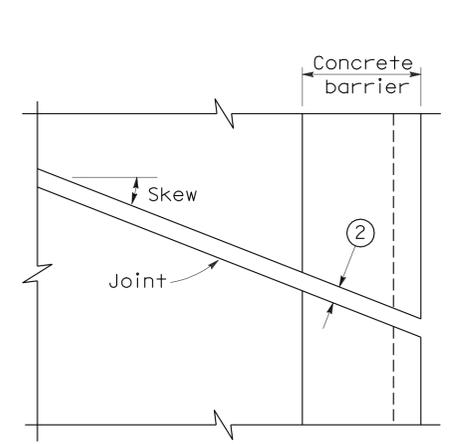
CONCRETE BARRIER



FORMING DETAIL SAWCUT DETAIL

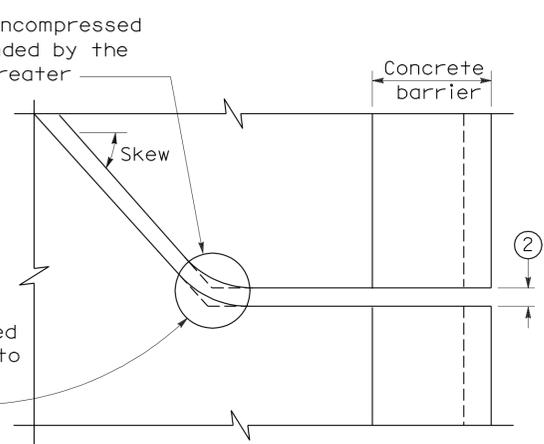
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS



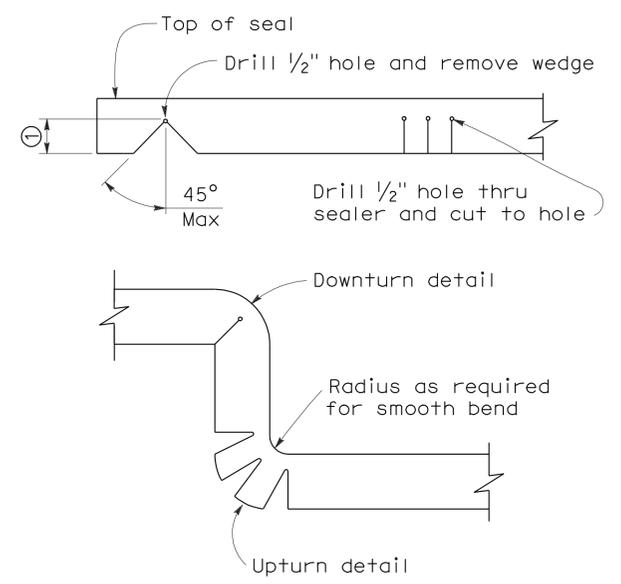
PLAN OF JOINT (SKEW ≤ 20°)

Min ϕ radius to be 4 times uncompressed width of seal or as recommended by the manufacturer, whichever is greater



PLAN OF JOINT (SKEW > 20°)

In lieu of saw cutting, this area may be blocked out and reconstructed to match saw cutting on both sides.



DETAIL A

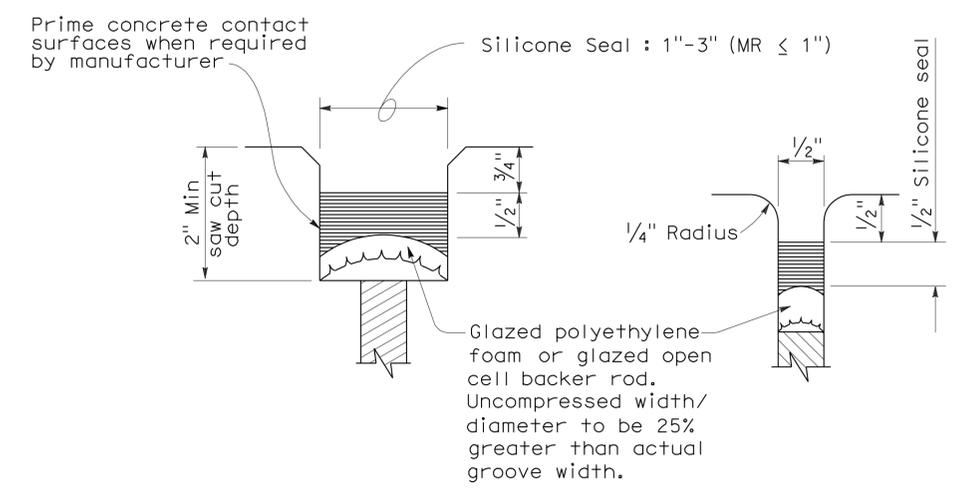
NOTES:

- Make smooth cuts from the bottom of seal to 1 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
- Opening in barrier to match width of sawn deck joint.
- Sawcut groove widths shall be as ordered by the Engineer.
- Depth of sawcut: Type A - Depth to be 2" minimum.
 Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
- MR (movement rating) as shown on other plan sheets.
- Other depths must be approved by the Engineer.

DIMENSIONS "a" OF JOINT REQUIRED

Movement Rating (MR) ⑤	Bridge Type	"a" Dimension		
		Deck Concrete Placed		
		Winter	Fall-Spring	Summer
2"	All except CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	All except CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	All except CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	All except CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")
 NO SCALE

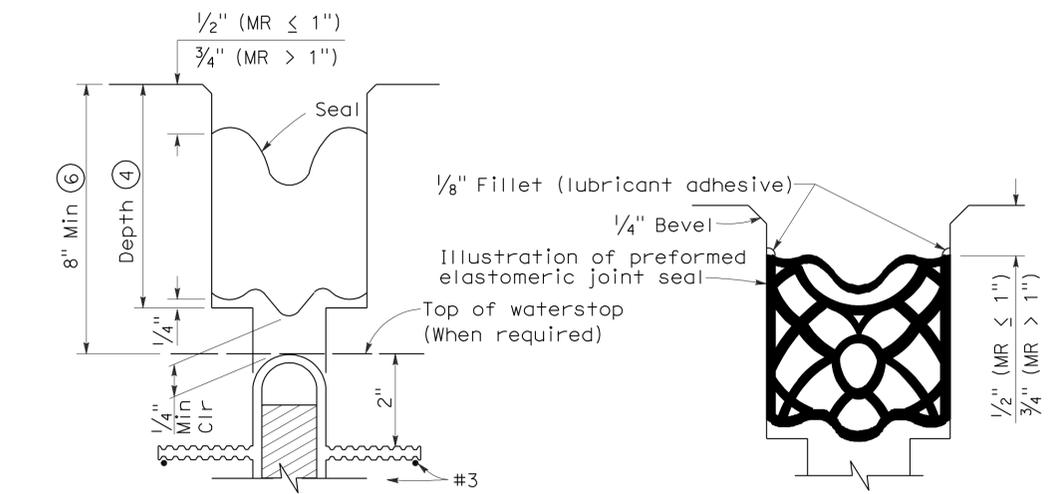


TYPE A SEAL

Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)

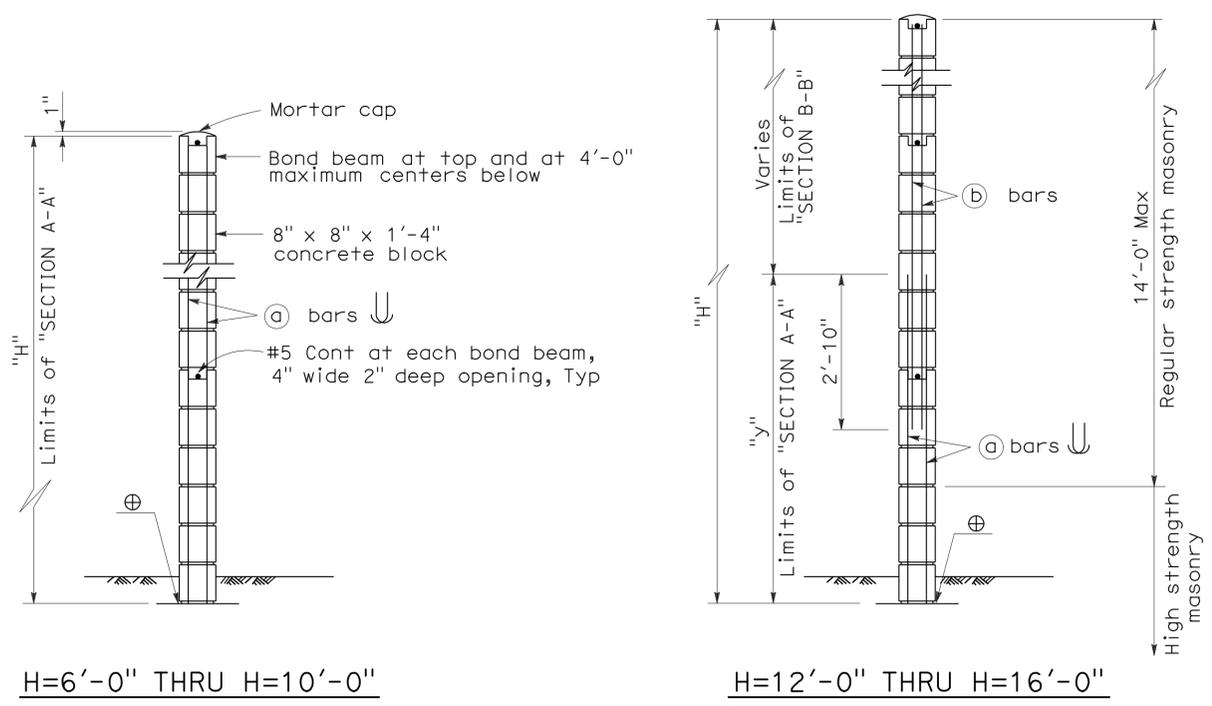
TYPE B SEAL

Movement Rating ≤ 2"

RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B6-21

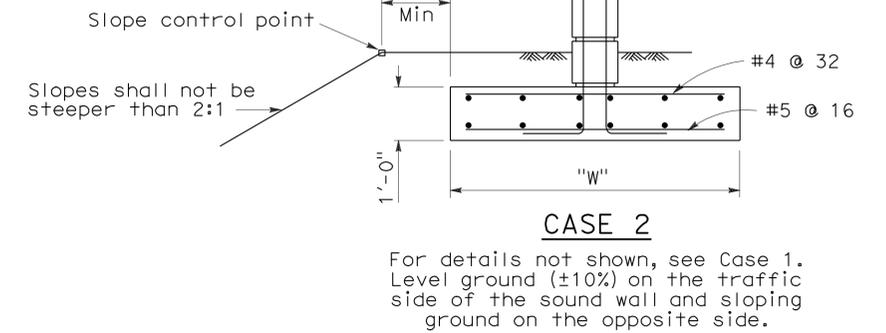
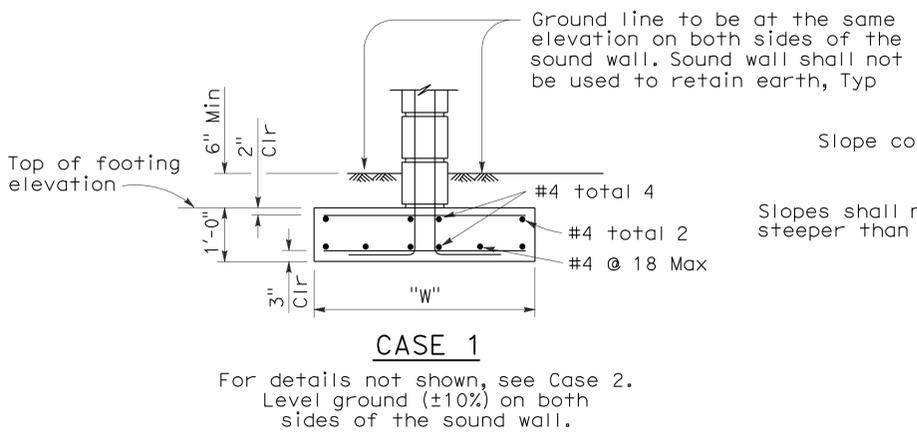
2006 REVISED STANDARD PLAN RSP B6-21



H=6'-0" THRU H=10'-0"
H=12'-0" THRU H=16'-0"
 For details not shown, see H=6'-0" thru H=10'-0".

TYPICAL SECTION

⊕ Full mortar bed at bottom of wall



SPREAD FOOTING SECTION

TRENCH FOOTING

Maximum H	CASE 1			CASE 2		Maximum H
	φ = 25 Min	φ = 30 Min	φ = 35 Min	φ = 30 Min	φ = 35 Min	
	D	D	D	D	D	
6'-0"	5'-0"	4'-3"	3'-6"	6'-6"	5'-0"	6'-0"
8'-0"	6'-0"	5'-0"	4'-3"	7'-9"	6'-0"	8'-0"
10'-0"	6'-9"	5'-9"	5'-0"	8'-9"	6'-9"	10'-0"
12'-0"	7'-9"	6'-6"	5'-6"	9'-9"	7'-9"	12'-0"
14'-0"	8'-6"	7'-3"	6'-0"	10'-9"	8'-6"	14'-0"
16'-0"	9'-3"	7'-9"	6'-6"	11'-9"	9'-3"	16'-0"

Case 1 - Level ground (±10%) on both sides of the sound wall.
 Case 2 - Level ground (±10%) on traffic side of the sound wall and sloping ground on opposite side.

SOUND WALL REINFORCEMENT TABLE

Maximum H	(a) bars @ 1'-4" Max	(b) bars @ 1'-4" Max	"y"	f'm (psi)	Compressive Strength of CMU (psi)	Maximum H
6'-0"	#4	---	---	1500	1900	6'-0"
8'-0"	#4	---	---	1500	1900	8'-0"
10'-0"	#4	---	---	1500	1900	10'-0"
12'-0"	#5	#4	6'-0"	1500	1900	12'-0"
14'-0"	#6	#4	8'-0"	1500	1900	14'-0"
16'-0"	#6	#4	10'-0"	2000	2800	16'-0"

GENERAL NOTES:

- A. For type of block and joint finish, see other sheets.
- B. When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond and beams.
- C. Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- D. For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H".
- E. Masonry strengths are listed in the "SOUND WALL REINFORCEMENT TABLE".

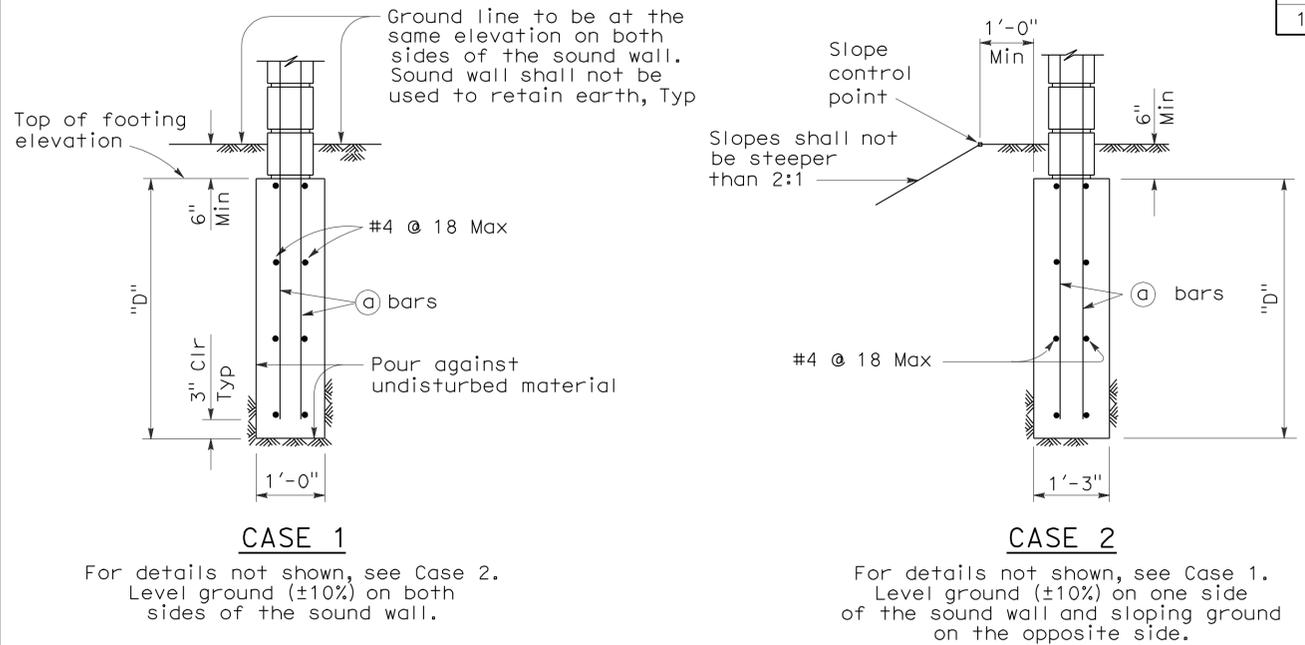
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SOUND WALL MASONRY BLOCK ON FOOTING DETAILS (1)

NO SCALE

RSP B15-1 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B15-1 DATED MAY 1, 2006 - PAGE 291 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B15-1



For details not shown, see Case 2.
 Level ground (±10%) on both sides of the sound wall.
 For details not shown, see Case 1.
 Level ground (±10%) on one side of the sound wall and sloping ground on the opposite side.

TRENCH FOOTING SECTION

SPREAD FOOTING

Maximum H	W
6'-0"	3'-0"
8'-0"	4'-0"
10'-0"	5'-0"
12'-0"	5'-9"
14'-0"	6'-6"
16'-0"	7'-6"

2006 REVISED STANDARD PLAN RSP B15-1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	91	15.6/21.6	1400	2028

Douglas J. Dunrud
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Douglas J. Dunrud
REGISTERED PROFESSIONAL ENGINEER
No. C47240
Exp. 12-31-07
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.

To accompany plans dated 4-25-11

GENERAL NOTES:

- A. For type of block and joint finish, see other sheets.
- B. When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.
- C. Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- D. For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H".
- E. Masonry strengths are listed in the "SOUND WALL REINFORCEMENT TABLE". See Standard Plan B15-3.

DESIGN NOTES:

DESIGN

Uniform Building Code, 1997 Edition
and the Bridge Design Specifications.

DESIGN WIND LOAD

20 psf

DESIGN SEISMIC LOAD

0.57 Dead load

REINFORCED CONCRETE

f'c = 3.6 ksi
fy = 60 ksi

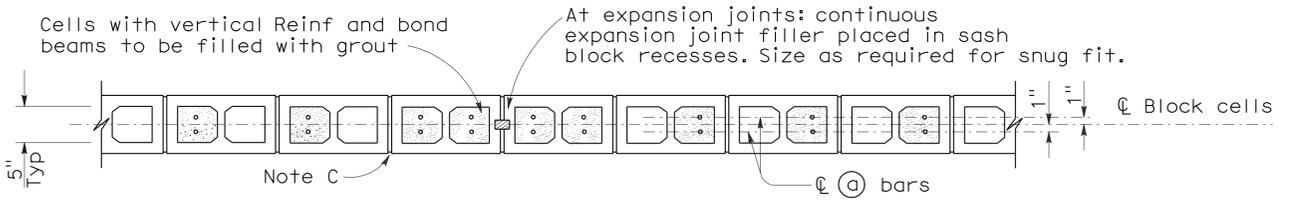
CONCRETE MASONRY

REGULAR STRENGTH

f'm = 1500 psi
fb = 495 psi
fs = 24,000 psi
n = 25.8

HIGH STRENGTH

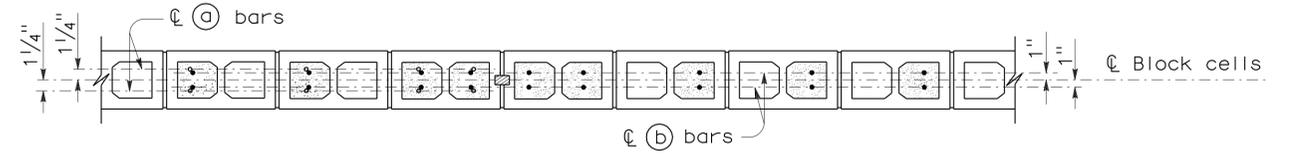
f'm = 2000 psi	f'm = 2500 psi
fb = 660 psi	fb = 830 psi
fs = 24,000 psi	fs = 24,000 psi
n = 19.3	n = 15.5



SECTION A-A

For details not shown, see other sections.

H=6'-0" THRU H=10'-0"



SECTION A-A

For details not shown, see other sections.

H=12'-0" THRU H=16'-0"

SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**SOUND WALL
MASONRY BLOCK ON PILE CAP
DETAILS (2)**

NO SCALE

RSP B15-4 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B15-4
DATED MAY 1, 2006 - PAGE 294 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B15-4

2006 REVISED STANDARD PLAN RSP B15-4