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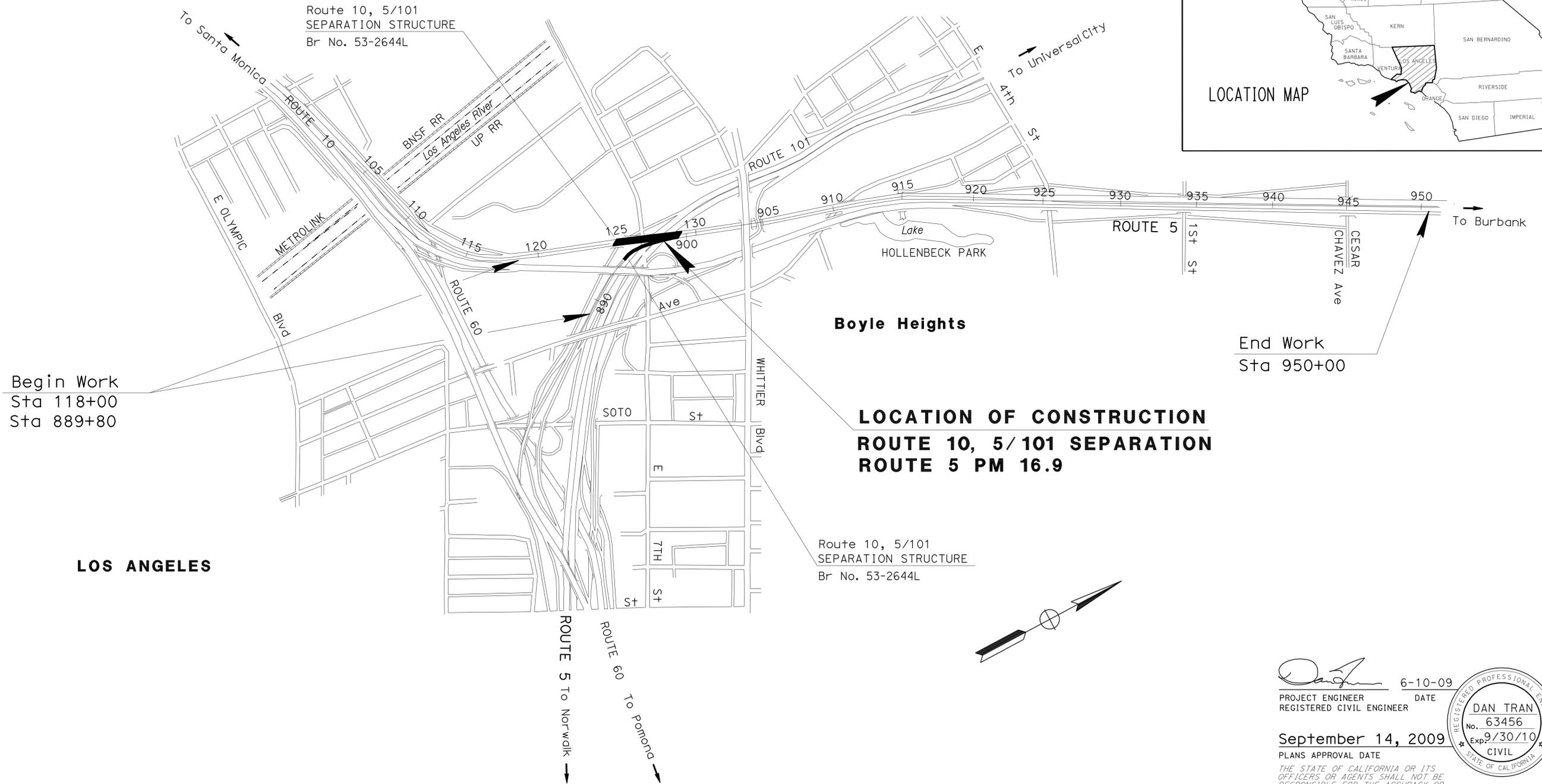
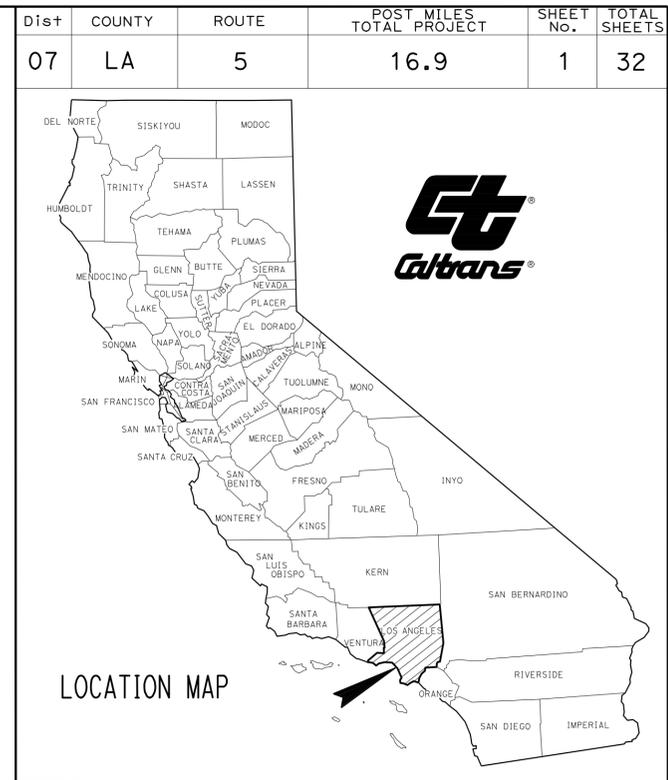
STRUCTURE PLANS

27-32 ROUTE 10, 5/101 SEPARATION (REPAIR STEEL)

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

STATE OF CALIFORNIA ACIM-005-3(030)E  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN LOS ANGELES COUNTY**  
**IN LOS ANGELES**  
**AT ROUTE 10, 5/101 SEPARATION**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT MANAGER <b>HANY MESSIHA</b>
DESIGN ENGINEER <b>DAN TRAN</b>

**LOS ANGELES**

Route 10, 5/101  
SEPARATION STRUCTURE  
Br No. 53-2644L

NO SCALE

*[Signature]* 6-10-09  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER

September 14, 2009  
 PLANS APPROVAL DATE



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

CONTRACT No. **07-248904**



**NOTE:**

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

**LEGEND:**

- DIRECTION OF TRAFFIC →
- DELINEATOR (CLASS 1) ●
- ANCHOR BLOCK BARRIER —
- Exist FIBER OPTIC CONDUIT —○—

**CURVE DATA**

No.	R	Δ	T	L
①	21500.00'	1°23'26"	260.91'	521.79'
②	600.00'	53°54'38"	305.13'	564.55'
③	1999.77'	21°20'55"	376.93'	745.13'
⑤	1799.97'	35°10'25"	570.53'	1104.99'

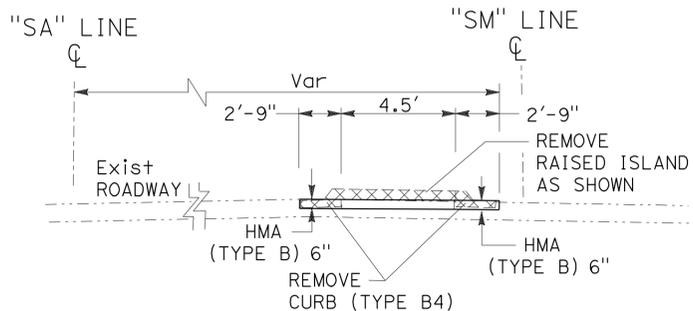
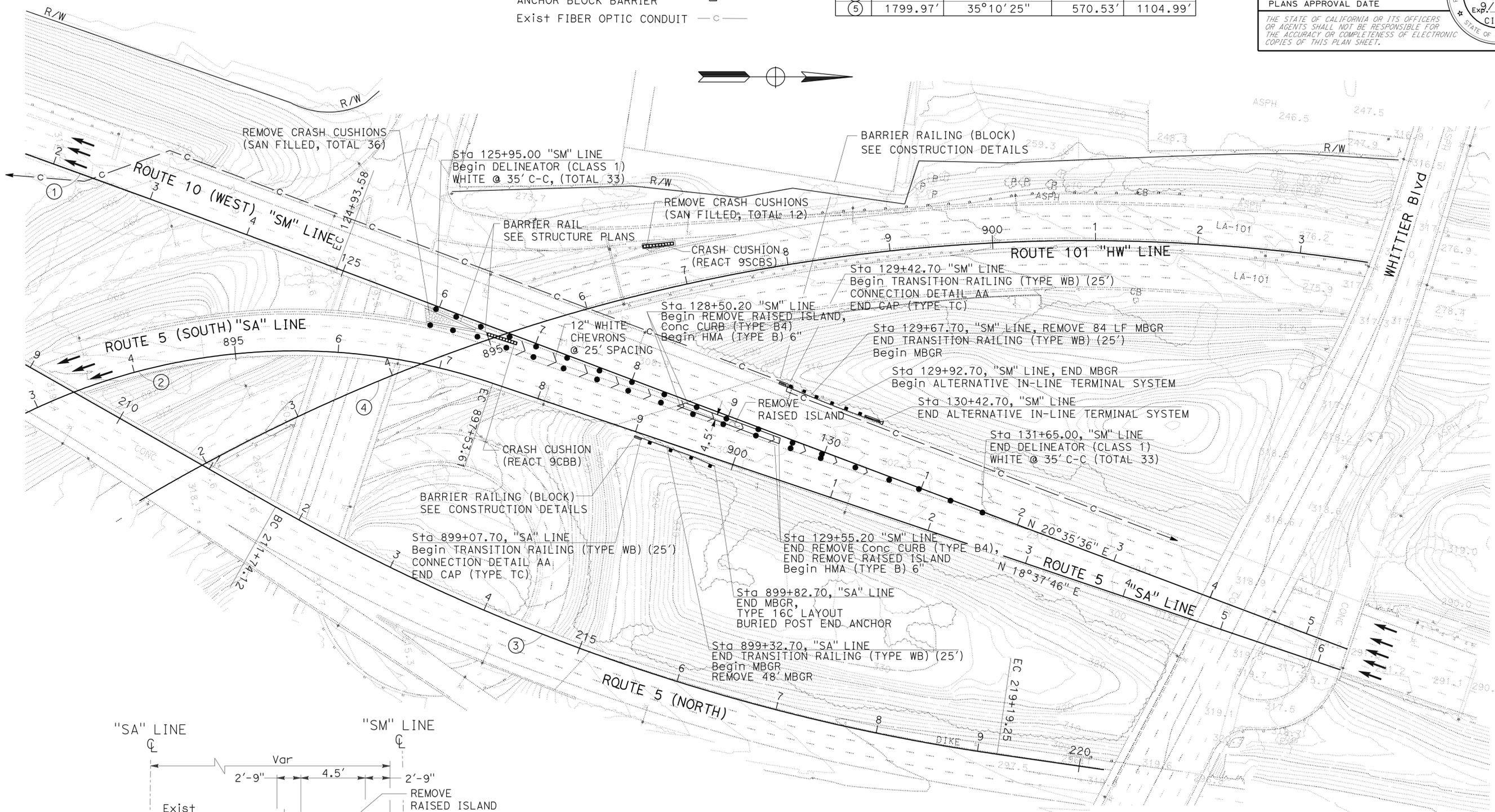
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	16.9	2	32

6-10-09  
REGISTERED CIVIL ENGINEER DATE

9-14-09  
PLANS APPROVAL DATE

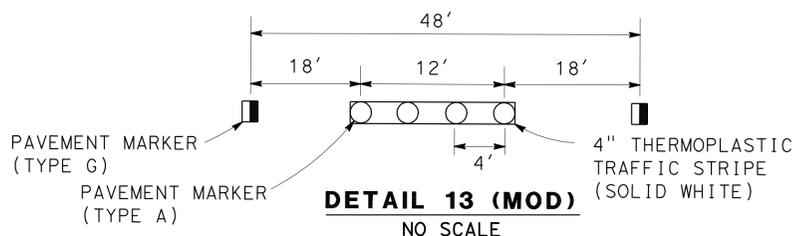
**DAN TRAN**  
No. 63456  
Exp. 9/30/10  
CIVIL

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.



**TYPICAL SECTION**

SB MEDIAN ISLAND (REMOVED)  
Sta 128+50.20 to Sta 129+60.20 "SM" LINE



**DETAIL 13 (MOD)**  
NO SCALE

**LAYOUT**  
SCALE: 1"=50'

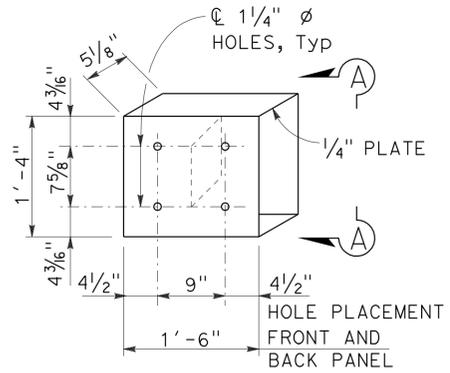
**L-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	16.9	3	32
			6-10-09	REGISTERED CIVIL ENGINEER DATE	
			9-14-09	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.					

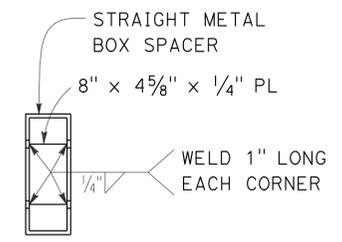


**NOTES:**

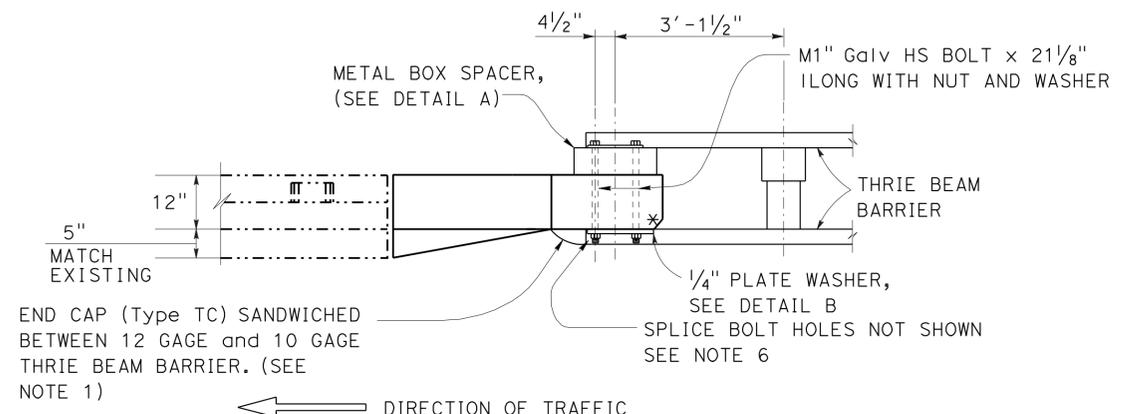
- FOR DETAILS NOT SHOWN, SEE STANDARD PLANS.
- DEPENDENT DIMENSIONS SHALL BE VERIFIED IN THE FIELD. BEFORE FABRICATING ANY END CONNECTION TO CONFORM WITH EXISTING CONDITIONS.
- WHEN END SECTION IS CALLED FOR, MODIFY TYPICAL TERMINAL SECTION TO FIT. SEE DETAIL A.
- PLATES AND BOLTS ARE GALVANIZED.
- CUT AND REMOVE PORTION OF BARRIER RAILING AND MBGR AS REQUIRED.
- EXTERIOR SPLICING BOLT HOLES SHALL BE THE STANDARD  $\frac{7}{32}$ " x  $\frac{1}{8}$ " SLOT SIZE FOR RAIL SLICES AT POST #T4 AND THE CONNECTION TO THE CONCRETE BARRIER OR RAILING. INTERIOR SPLICE BOLT HOLES MAY BE INCREASED UP TO  $\frac{1}{8}$ " DIAMETER. WASHER SHALL BE USED WITH SPLICE BOLTS ON BACK SIDE OF RAIL ELEMENT AT POST #T4 AND CONNECTION TO THE CONCRETE BARRIER OR RAILING.
- TAPER THE TOP OF THE END OF THE BRIDGE RAILING AT 1:4 TO MATCH THE TOP ELEVATION OF THE THRIE BEAM RAIL ELEMENT.



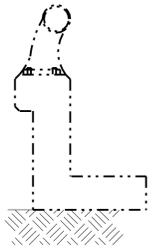
**DETAIL A**



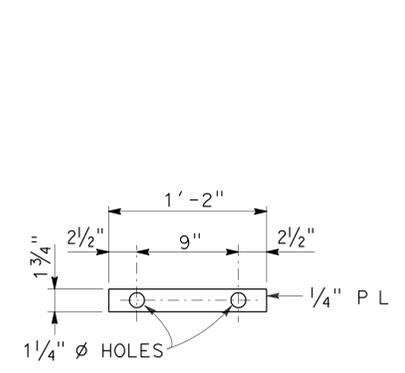
**VIEW A-A**



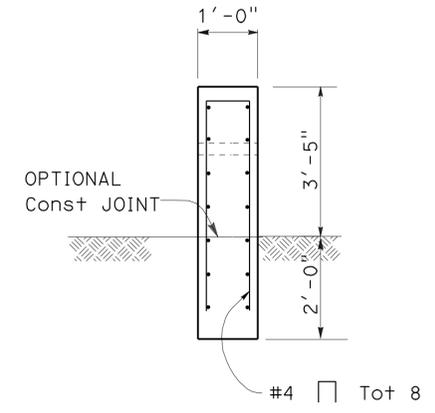
**PLAN**



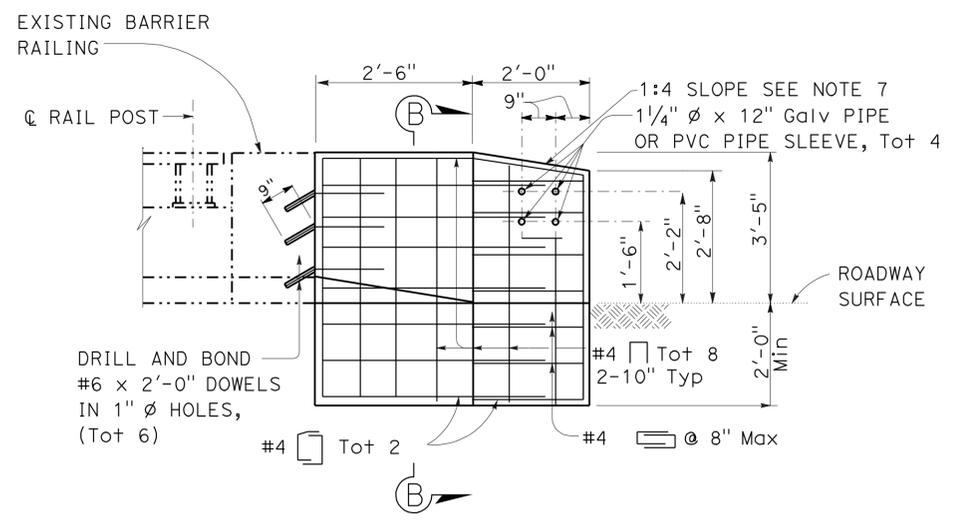
**TYPICAL BARRIER RAILING SECTION**



**DETAIL B**



**SECTION B-B**



**ELEVATION**

**CONSTRUCTION DETAILS  
ANCHOR BLOCK TRANSITION  
RAILING CONNECTION**

NO SCALE **C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
<b>Caltrans</b> OFFICE OF DESIGN B	OJI KALU	DAN TRAN	
		NASSER RAZFAR	



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

FUNCTIONAL SUPERVISOR  
 OJI KALU

CALCULATED-DESIGNED BY  
 CHECKED BY

DAN TRAN  
 NASSER RAZFAR

REVISED BY  
 DATE REVISED

**NOTE:**

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,  
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

**LEGEND:**

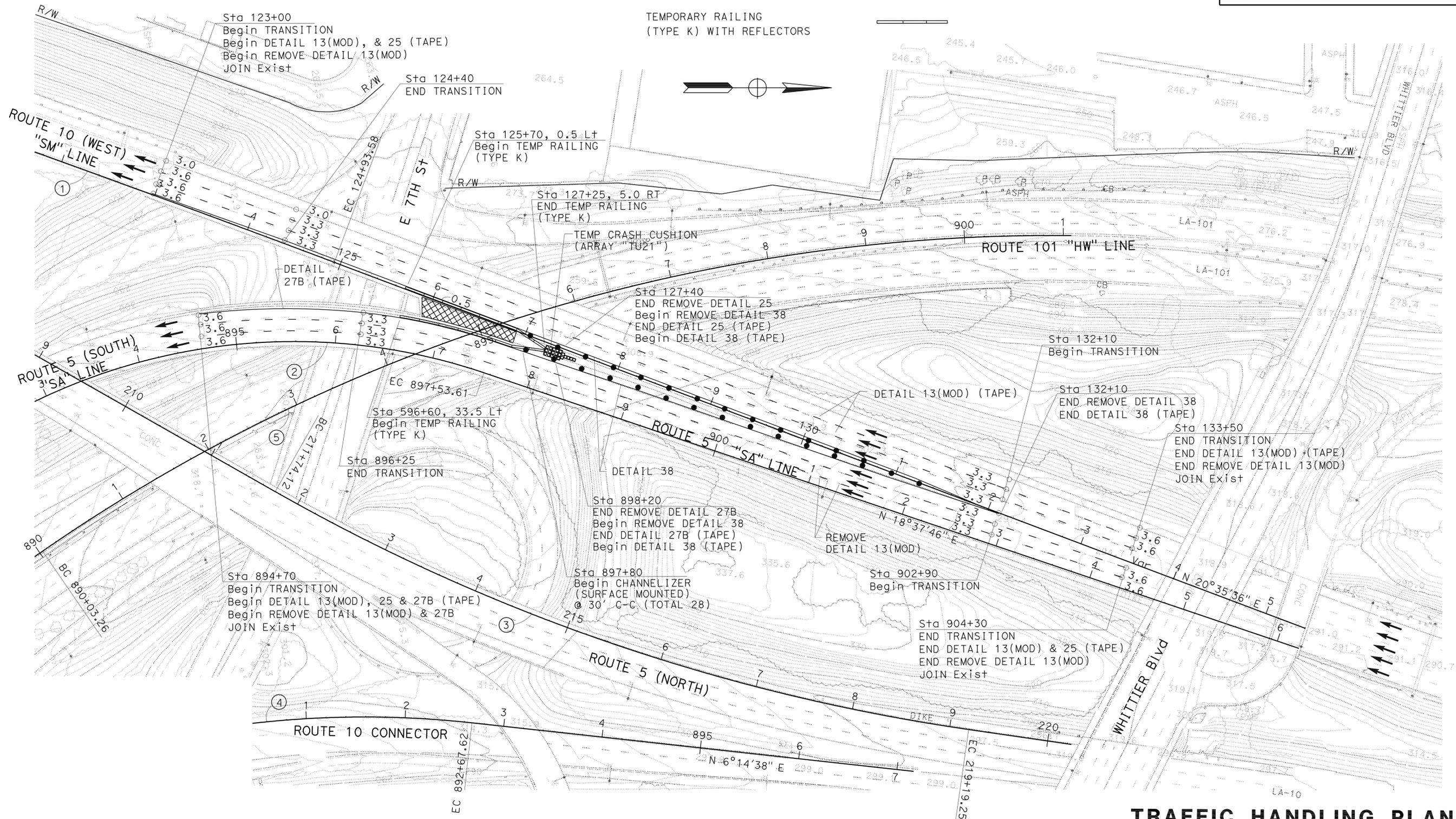
- WORK AREA 
- DIRECTION OF TRAFFIC 
- TEMPORARY CRASH CUSHION MODULE 
- CHANNELIZER (SURFACE MOUNTED) 
- TEMPORARY RAILING (TYPE K) WITH REFLECTORS 

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	5	32

REGISTERED CIVIL ENGINEER DATE 6-10-09  
 9-14-09  
 PLANS APPROVAL DATE

**DAN TRAN**  
 No. 63456  
 Exp. 9/30/10  
 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.



**TRAFFIC HANDLING PLAN**

SCALE: 1"=50'

**TH-1**

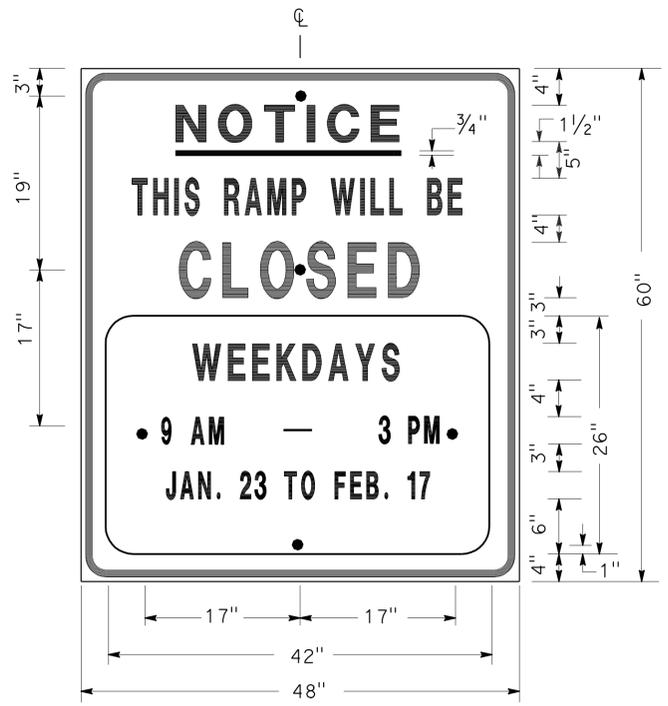
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	6	32

*Duke M Huynh* 9-3-08  
 REGISTERED CIVIL ENGINEER DATE

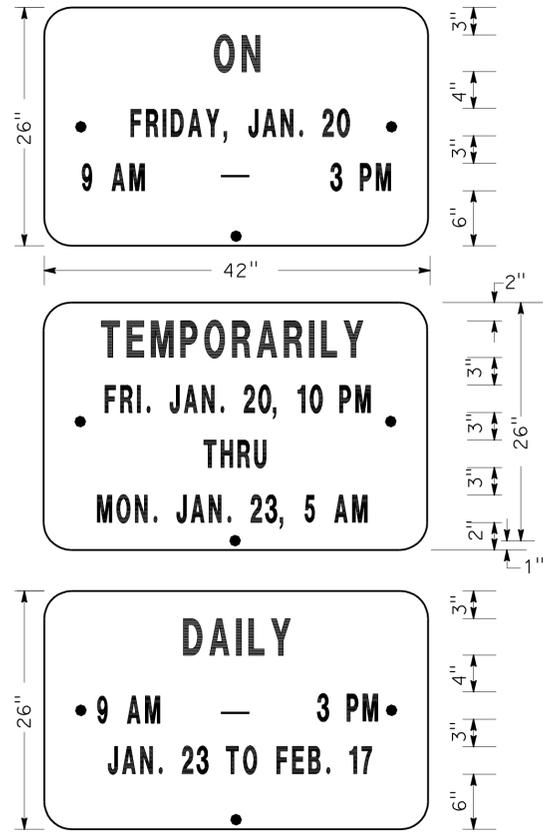
9-14-09  
 PLANS APPROVAL DATE

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  
 DUKE HUYNH  
 No. 65591  
 Exp. 9-30-09  
 CIVIL  
 STATE OF CALIFORNIA



SIGN SP-1



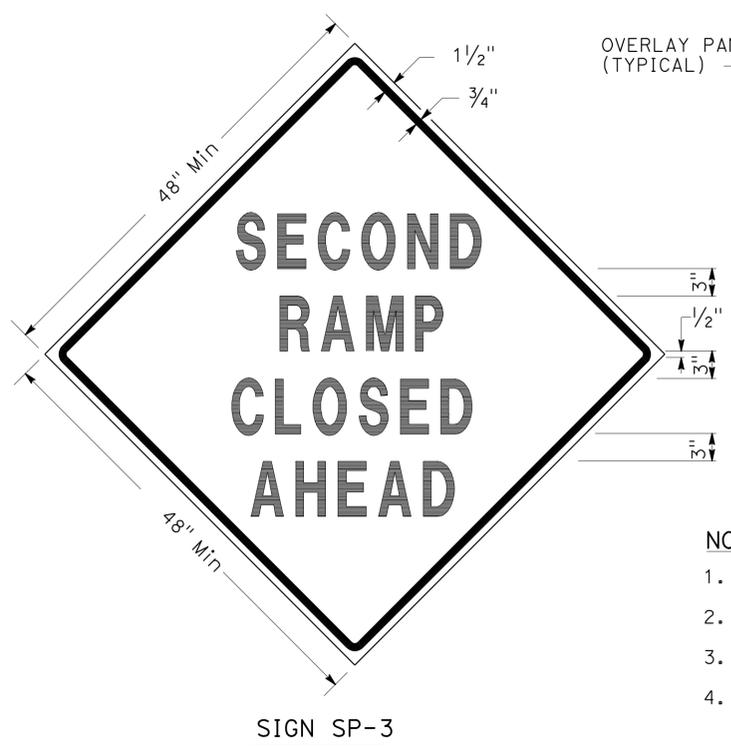
ALTERNATE OVERLAY PANELS (TYPICAL)

- NOTES: (SIGN SP-1)
- SIGNS SHALL HAVE ORANGE RETROREFLECTORIZED BACKGROUND WITH BLACK BORDER AND LETTERS.
  - BOLT HOLES SHALL BE 3/8" DIAMETER.
  - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
  - SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND.

SIZE	BORDER	MARGIN	LETTER SIZE					CORNER RADIUS
	WIDTH	WIDTH	LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5,6 & 7*	
48" x 60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42" x 26"	OVERLAY						3D	1 1/2"

\* CONDENSED SPACING IF NECESSARY

**SPECIAL ADVANCE NOTICE PUBLICITY SIGN**



SIGN SP-3



SIGN SP-5

- NOTES: (SIGNS SP-3 & SP-5)
- LETTERS - 6" SERIES D.
  - LETTERS AND BORDERS - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
  - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
  - SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND.

**SPECIAL SIGN FOR EXIT RAMP CLOSURES**



SIGN SP-4

- NOTES: (SIGN SP-4)
- LETTERS - 6" SERIES C.
  - LETTERS AND BORDERS - BLACK ON RETROREFLECTORIZED WHITE BACKGROUND.
  - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
  - SIGNS SHALL BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH STANDARD PLAN T14.

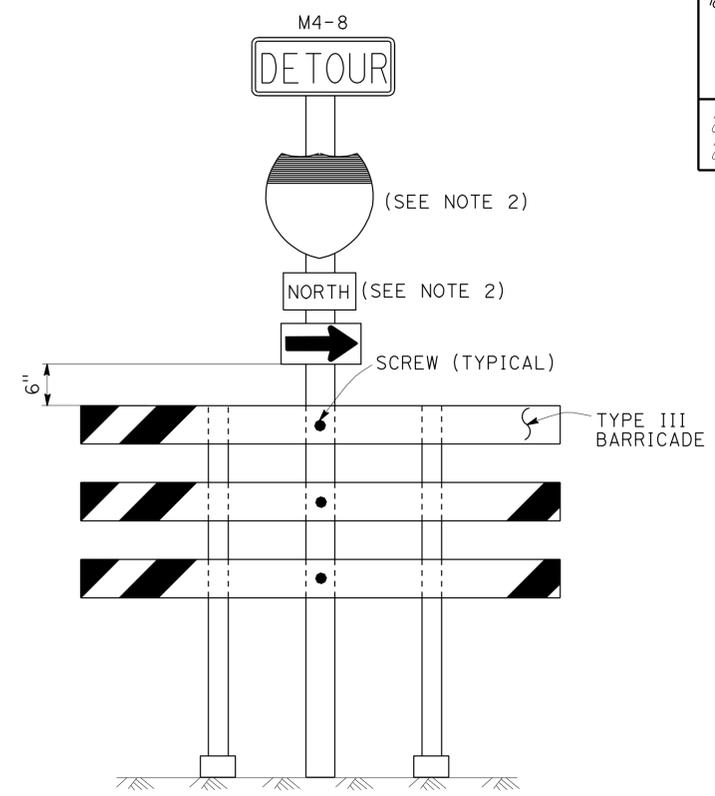
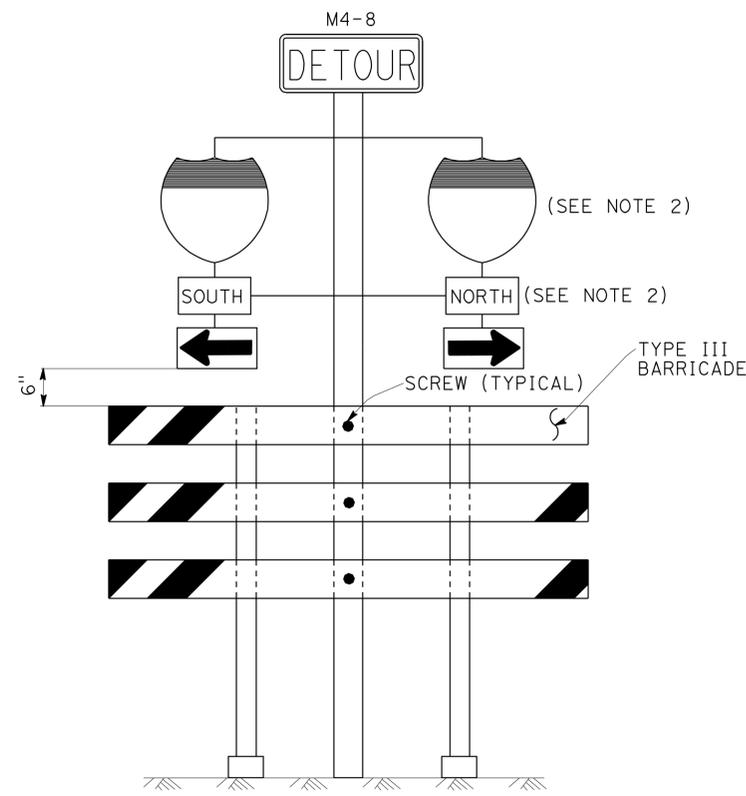
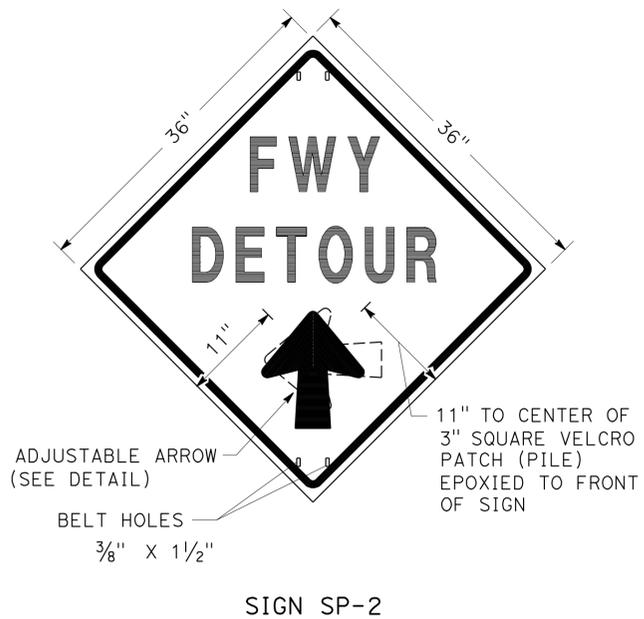
**SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES**

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

SHEET 1 OF 2

NO SCALE

THD-1



**NOTES:** (SIGN SP-2)

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

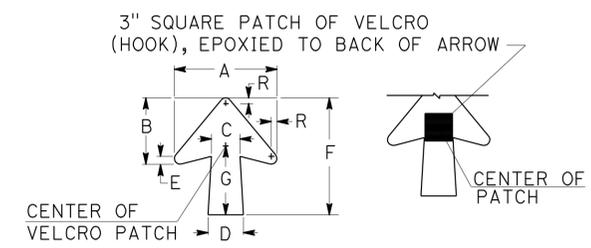
**ABBREVIATION**

(CA) CALIFORNIA CODE

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

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

**SPECIAL PORTABLE FREEWAY DETOUR SIGNS**



DIMENSIONS							
A	B	C	D	E	F	G	R
11 1/4"	7 1/4"	3 1/8"	4"	7/8"	13"	7 1/2"	5/8"

SPECIAL PORTABLE FREEWAY DETOUR SIGN

**ADJUSTABLE ARROW DETAIL**

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

**THD-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DTM  
 FUNCTIONAL SUPERVISOR DENIS S. KATAYAMA  
 CHECKED BY  
 CALCULATED-DESIGNED BY  
 REVISOR BY ALBERT K YU DATE REVISED 7/08  
 JOCELYN C CHIANG  
 JC 8/08

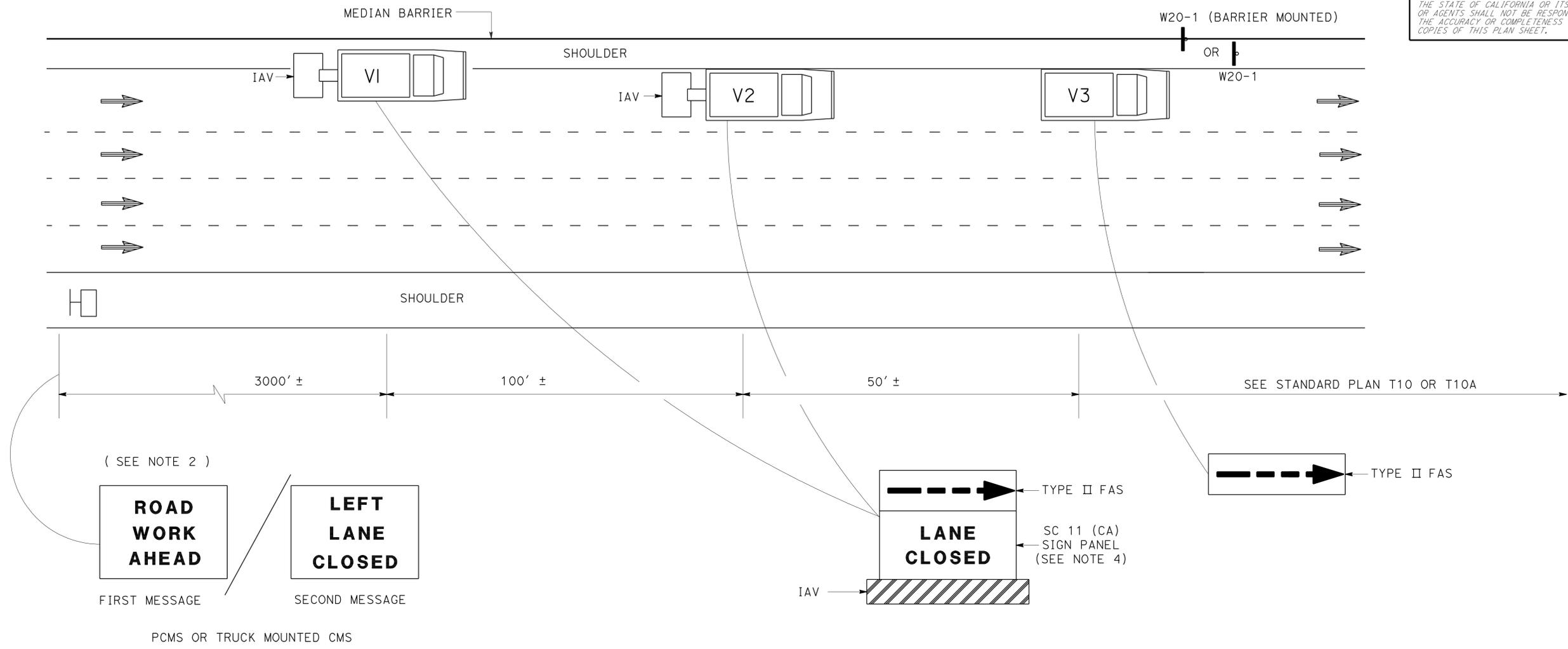
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	16.9	8	32

*Duke M Huynh* 8-19-08  
REGISTERED CIVIL ENGINEER DATE

9-14-09  
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  
DUKE HUYNH  
No. 65591  
Exp. 9-30-09  
CIVIL  
STATE OF CALIFORNIA



**NOTES:**

- LANE CLOSURES SHALL NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
- PCMS SHALL BE ACTIVATED PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE LANE.
- A MINIMUM SIGHT DISTANCE OF 1500' SHALL BE PROVIDED IN ADVANCE OF PCMS.
- VEHICLE-MOUNTED SIGN PANELS SHALL BE TYPE III OR IV RETROREFLECTORIZED SHEETING, BLACK ON WHITE OR BLACK ON ORANGE WITH 8" MINIMUM SERIES D LETTERS PER CALTRANS SIGN SPECIFICATIONS.

**LEGEND**

- V1, V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- DIRECTION OF TRAVEL
- ▬ CONSTRUCTION AREA SIGN

**ABBREVIATIONS**

- FAS FLASHING ARROW SIGN
- IAV IMPACT ATTENUATOR VEHICLE
- CMS CHANGEABLE MESSAGE SIGN
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- (CA) CALIFORNIA CODE

**TRAFFIC HANDLING DETAILS  
TRAFFIC CONTROL SYSTEM  
FOR MEDIAN SHOULDERS LESS THAN 8 FEET**

NO SCALE

**THD-3**

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

FUNCTIONAL SUPERVISOR  
DENIS S. KATAYAMA

CALCULATED-DESIGNED BY  
CHECKED BY

ALBERT K YU  
JOCELYN C CHIANG

REVISOR BY  
DATE REVISED

JC  
8/08

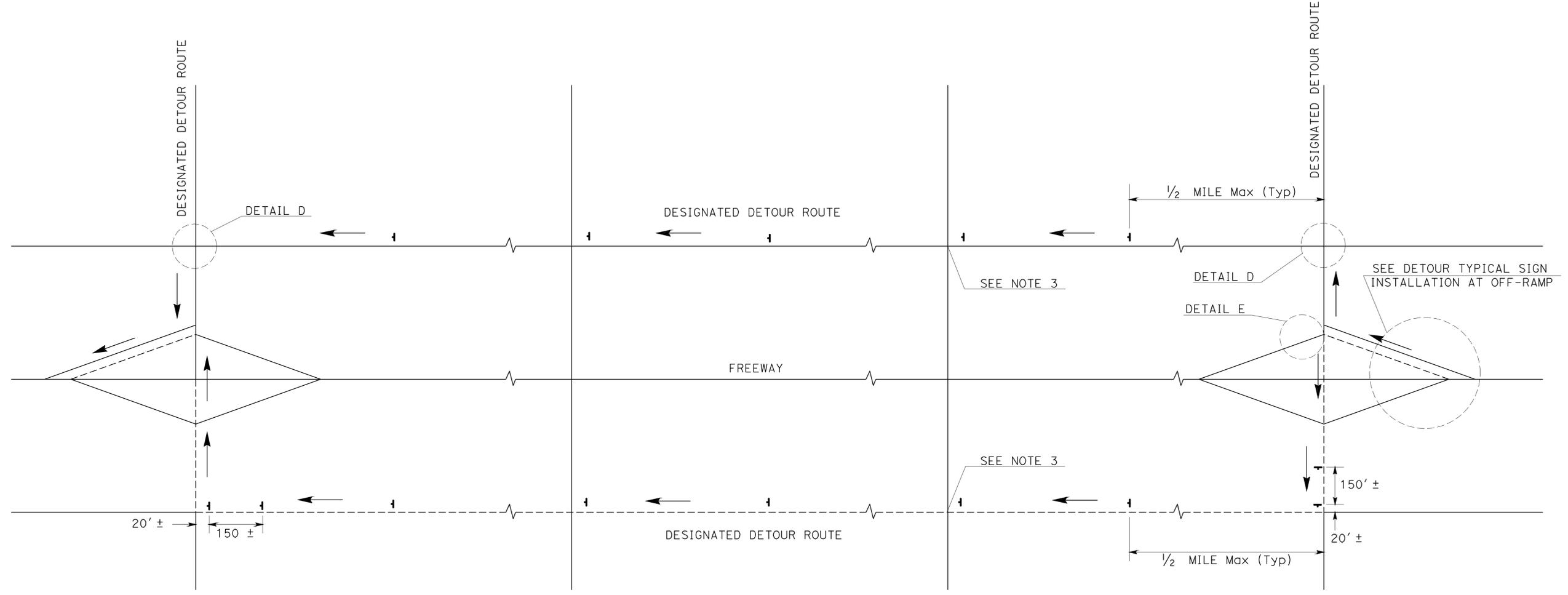
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	16.9	9	32

Duke M. Huynh 8-19-08  
 REGISTERED CIVIL ENGINEER DATE  
 9-14-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 DUKE HUYNH  
 No. 65591  
 Exp. 9-30-09  
 CIVIL  
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR	DATE
DTM	DENIS S. KATAYAMA	ALBERT K YU	JC	7/08
Et Caltrans	CHECKED BY	REVISOR	JC	8/08
	JOCELYN C CHIANG	DATE REVISED		



**TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE**

**LEGEND**

┆	SIGN SP-2
—	AND/OR DESIGNATED DETOUR ROUTE
→	DIRECTION OF TRAVEL

- NOTES:**
1. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
  2. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
  3. SP-2 SIGNS SHALL BE POSTED AT SIGNALIZED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE OR 1/2 MILE MAXIMUM APART.

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

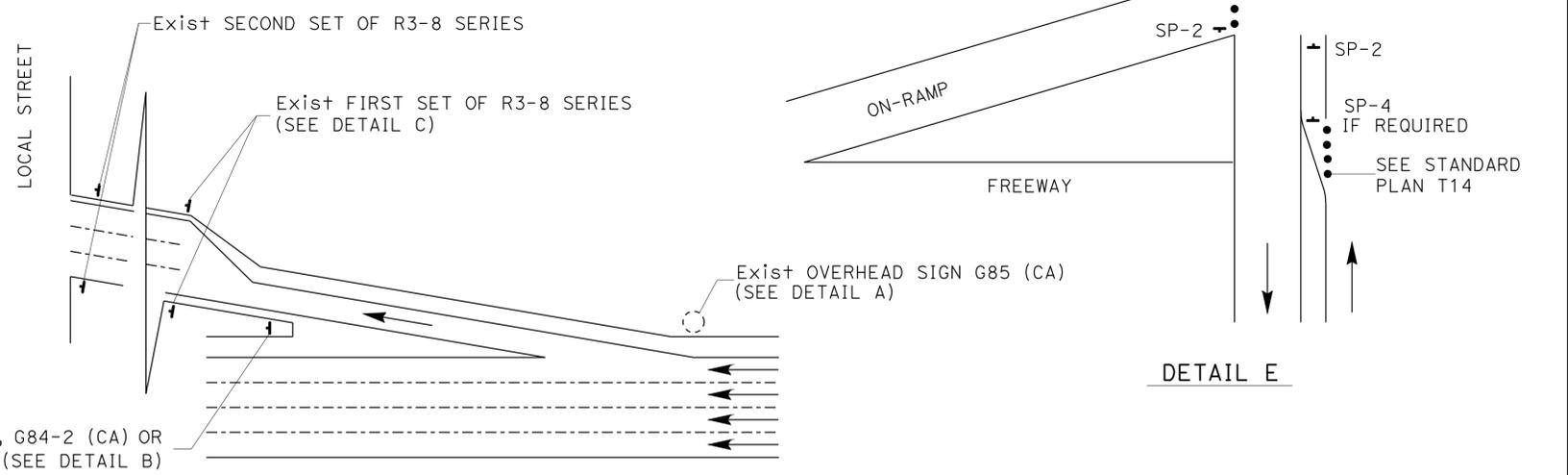
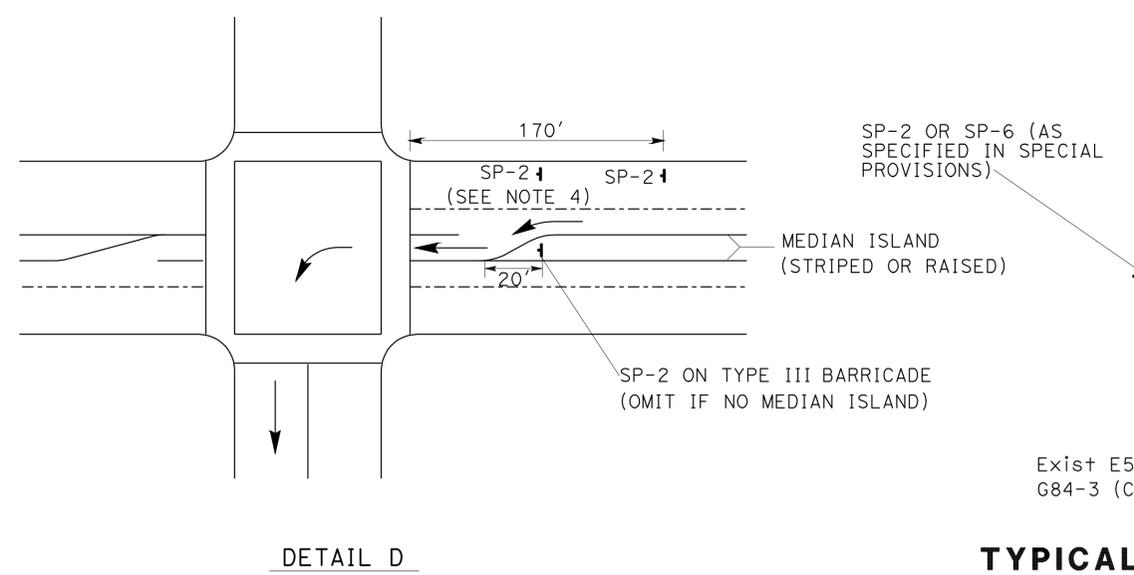
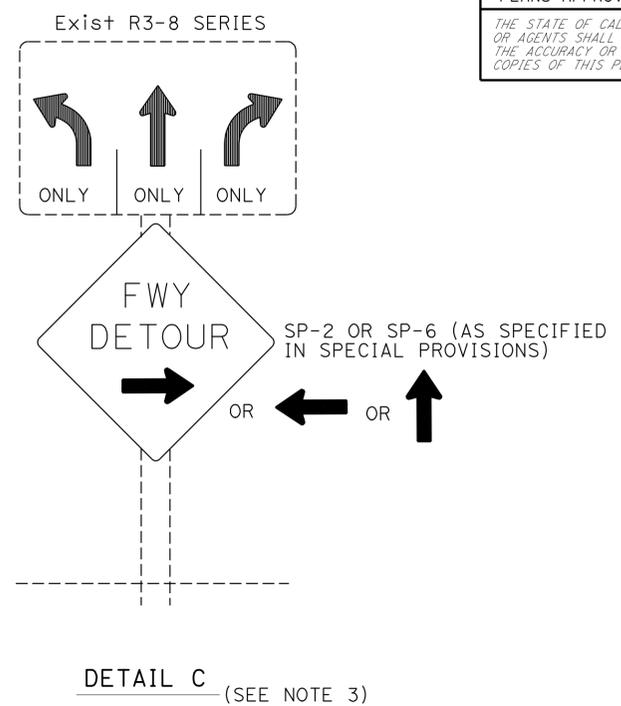
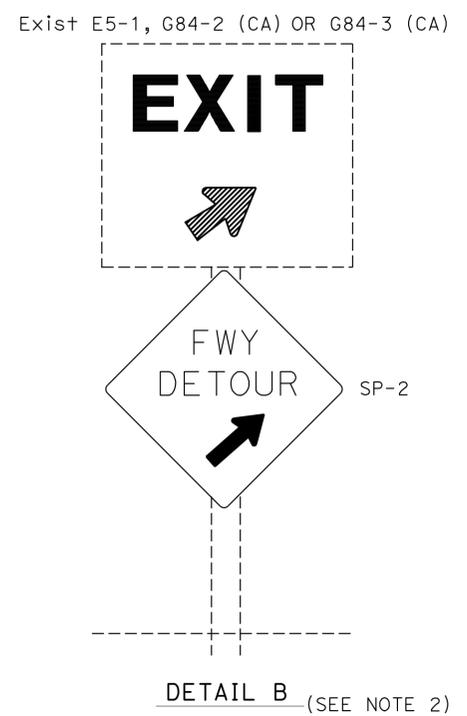
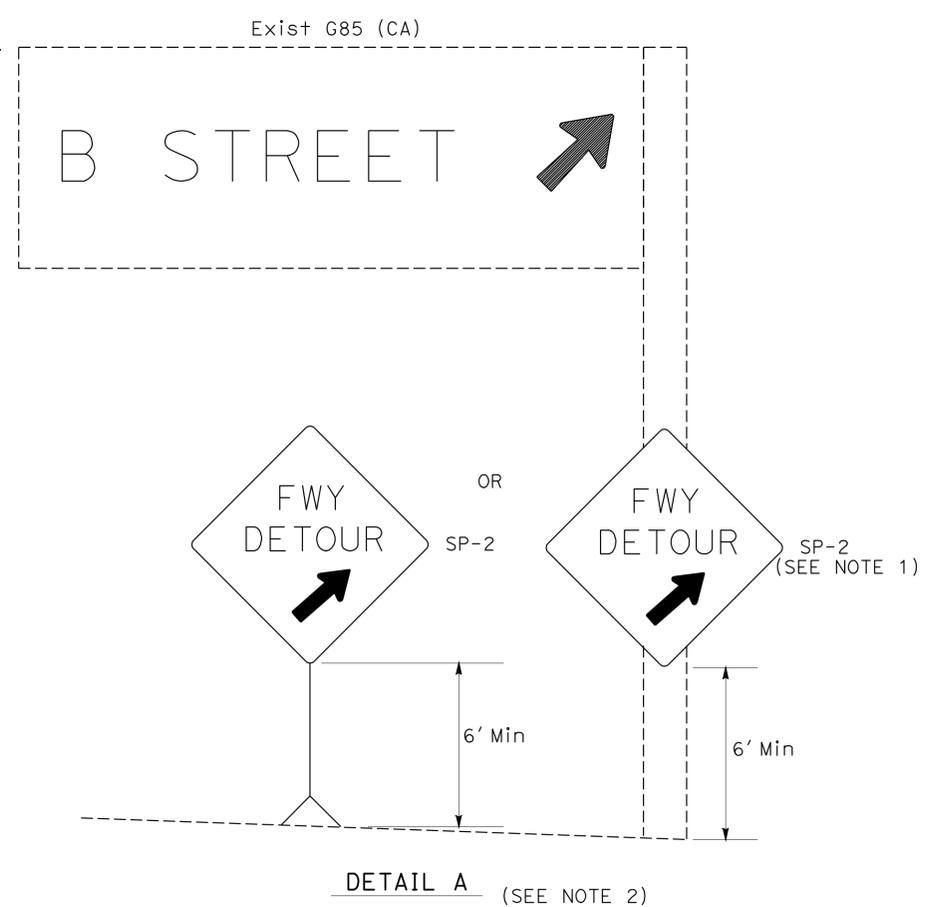
**THD-4**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	16.9	10	32

Duke M. Huynh 08-19-08  
 REGISTERED CIVIL ENGINEER DATE  
 9-14-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 DUKE HUYNH  
 No. 65591  
 Exp. 9-30-09  
 CIVIL  
 STATE OF CALIFORNIA

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**TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP**

- NOTES:**
1. SP-2 MAY BE STRAPPED ON EXISTING ELECTROLIER SIGNAL POSTS OR SIGN POSTS.
  2. OMIT DETAIL A AND DETAIL B FOR FULL FREEWAY CLOSURES.
  3. SEE TRAFFIC HANDLING DETAILS PLAN-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS AND MISCELLANEOUS DETAILS SHEET 2 OF 2 FOR SP-6.
  4. OMIT IF MEDIAN ISLAND EXIST.

**ABBREVIATION:**  
 (CA) CALIFORNIA CODE

- LEGEND:**
- CONE
  - ⚡ PORTABLE SIGN
  - DIRECTION OF TRAVEL
  - EXISTING OVERHEAD SIGN

**TRAFFIC HANDLING DETAILS  
 TRAFFIC CONTROL SYSTEM  
 FOR DETOUR SIGN INSTALLATION  
 SHEET 2 OF 2  
 NO SCALE**

**THD-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DTM  
 FUNCTIONAL SUPERVISOR: DENIS S. KATAYAMA  
 CALCULATED/DESIGNED BY: ALBERT K. YU  
 CHECKED BY: JOCELYN C. CHIANG  
 REVISED BY: JC (7/08)  
 JC (8/08)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5	16.9	11	32

REGISTERED CIVIL ENGINEER DAN TRAN No. 63456 Exp. 9/30/10 CIVIL

6-10-09 DATE

9-14-09 PLANS APPROVAL DATE

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**TRAFFIC HANDLING QUANTITIES**

SHEET No.	DESCRIPTION	REMOVE				TEMPORARY TRAFFIC STRIPE (TAPE)				TEMPORARY RAILING (TYPE K)	TEMPORARY CRASH CUSHIONS MODULE	CHANNELIZERS (SURFACE MOUNTED)	
		THERMOPLASTIC TRAFFIC STRIPE				PAVEMENT MARKER							
		De+ 25	De+ 13 (Mod)	De+ 27B	De+ 38		De+ 25	De+ 27B	De+ 13 (Mod)				De+ 38
		4" SOLID YELLOW (HAZARDOUS WASTE)	4" BROKEN WHITE (36 - 12)	4" SOLID WHITE	8" SOLID WHITE		4" SOLID YELLOW	4" SOLID WHITE	4" WHITE (BROKEN 36 - 12)	8" SOLID WHITE			
		LF	LF	LF	LF	EA	LF	LF	LF	LF	LF	EA	EA
TH-1	Sta 123+00 to Sta 133+50	440	525	-	940	320	440	-	2100	940	-	-	-
TH-1	Sta 894+70 to Sta 904+30	-	480	350	940	265	960	350	1920	940	-	-	-
TH-1	Sta 127+40	-	-	-	-	-	-	-	-	-	21	-	-
TH-1	Sta 897+80 to Sta 902+05	-	-	-	-	-	-	-	-	-	-	28	-
TH-1	Sta 125+70 to Sta 127+25	-	-	-	-	-	-	-	-	-	320	-	-
TOTAL		440	3235		585	7650				320	21	28	

**PAVEMENT DELINEATION QUANTITIES**

SHEET No.	DESCRIPTION	THERMOPLASTIC TRAFFIC STRIPE				THERMOPLASTIC PAVEMENT MARKING	PAVEMENT MARKER		
		De+ 13 (Mod)	De+ 25	De+ 27B	De+ 38		RETRO-REFLECTIVE		NON-REFLECTIVE
							TYPE G	TYPE H	
		4" WHITE (BROKEN 36 - 12)	4" SOLID YELLOW	4" SOLID WHITE	8" SOLID YELLOW	SQFT	EA	EA	EA
		LF	LF	LF	LF		EA	EA	EA
L-1	Sta 123+00 to Sta 133+50	2100	-	1050	-	-	45	-	190
L-1	Sta 127+40 to Sta 132+10	-	-	-	470	188	20	-	-
L-1	Sta 123+00 to Sta 127+40	-	440	-	-	-	-	10	-
L-1	Sta 894+70 to Sta 904+30	1920	960	-	-	-	40	20	165
L-1	Sta 898+20 to Sta 902+90	-	-	-	470	-	20	-	-
L-1	Sta 894+70 to Sta 898+20	-	-	350	-	-	-	-	-
TOTAL		4020	2800		940	188	155		355

**TEMPORARY WATER POLLUTION CONTROL QUANTITIES**

TEMPORARY GRAVEL BAG BERM	TEMPORARY FIBER ROLL	TEMPORARY DRAINAGE INLET PROTECTION	
LF	LF	TYPE 3A	TYPE 5
320	1050	5	3
8			

**ROADWAY QUANTITIES SUMMARY**

SHEET No.	REMOVE MBGR	MBGR	TRANSITION RAILING (TYPE WB)	END CAP (TYPE TC)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	DELINEATOR (CLASS 1) WHITE	MINOR CONCRETE (MINOR STRUCTURE)		ROADWAY EXCAVATION		CRASH CUSHIONS (REACT 9SCBS)	CRASH CUSHIONS (REACT 9CBB)	REMOVE CRASH CUSHION	REMOVE CURB	HOT MIX ASPHALT (TYPE B)
							BARRIER RAILING (BLOCK)	REMOVE RAISED ISLAND (BETWEEN CURBS)	CONCRETE CURB						
L-1	132	75	2	2	1	33	2	17.5	12.0	1	1	48	210	38.2	
TOTAL	132	75	2	2	1	33	2	29.5		1	1	48	210	38.2	

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

**SUMMARY OF QUANTITIES**

Q-1

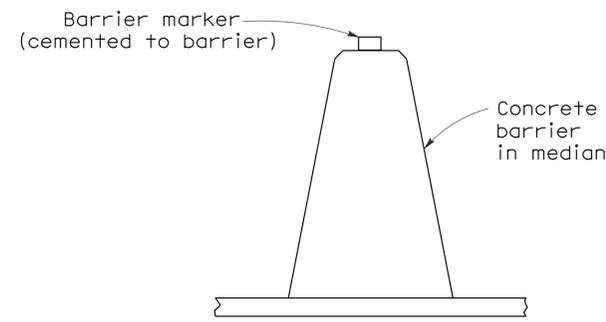
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	12	32

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

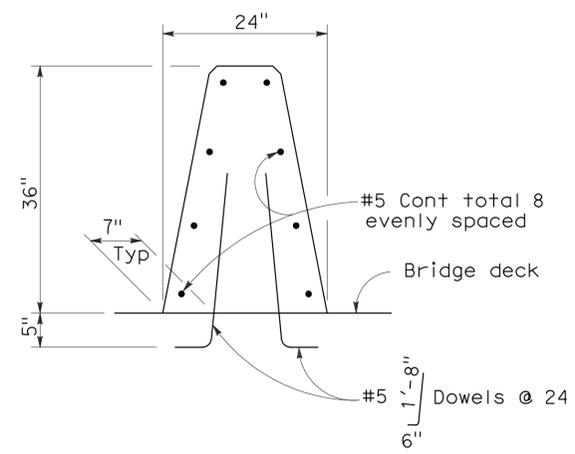
June 6, 2008  
PLANS APPROVAL DATE

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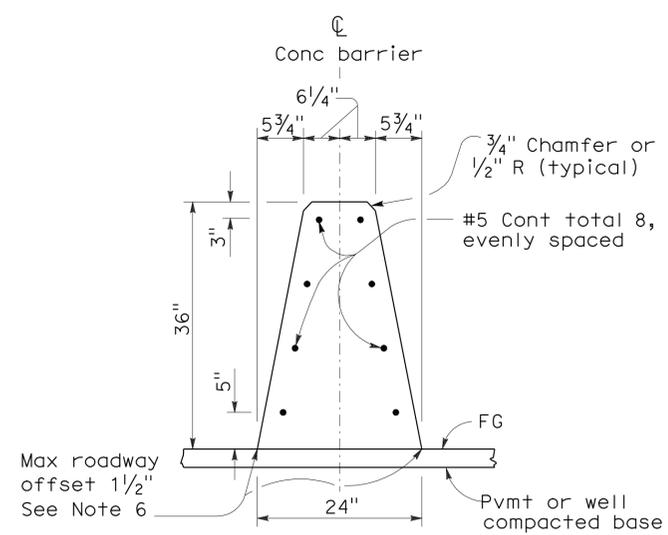
To accompany plans dated 9-14-09



**CONCRETE BARRIER TYPE 60 DELINEATION**  
See Notes 7 and 8



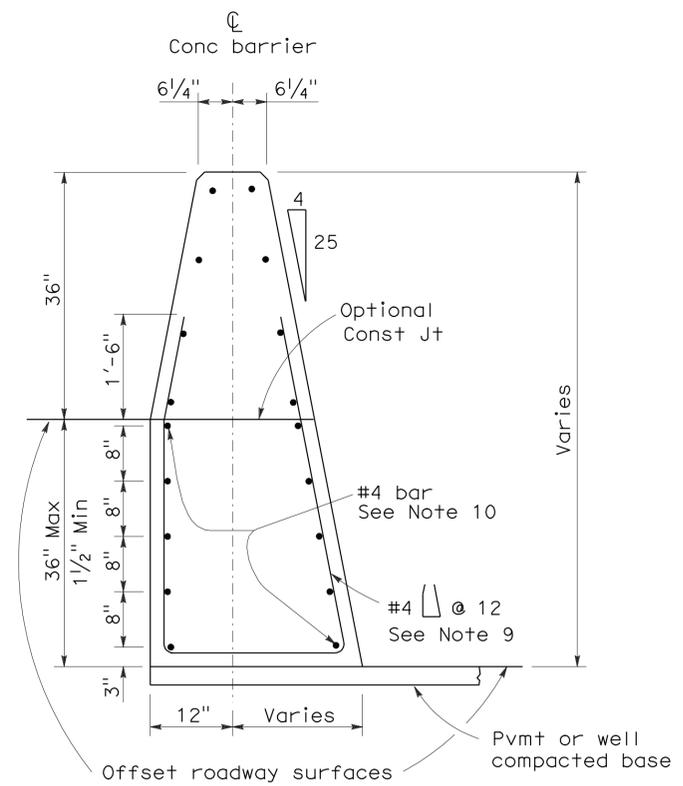
**CONCRETE BARRIER TYPE 60A**  
Details similar to Type 60 except as noted.



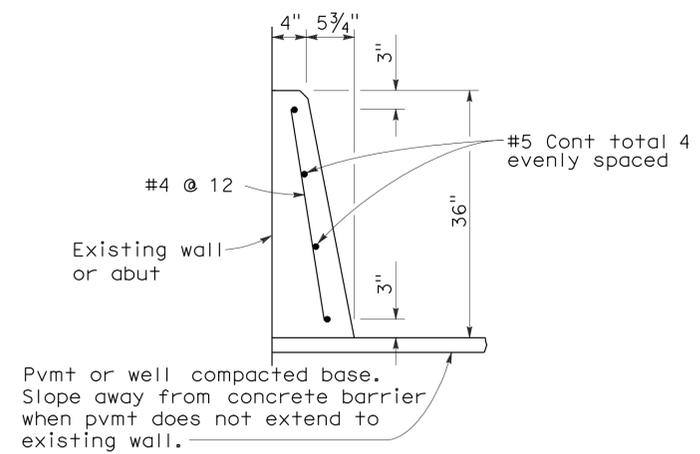
**CONCRETE BARRIER TYPE 60**

**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.

2006 REVISED STANDARD PLAN RSP A76A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	13	32

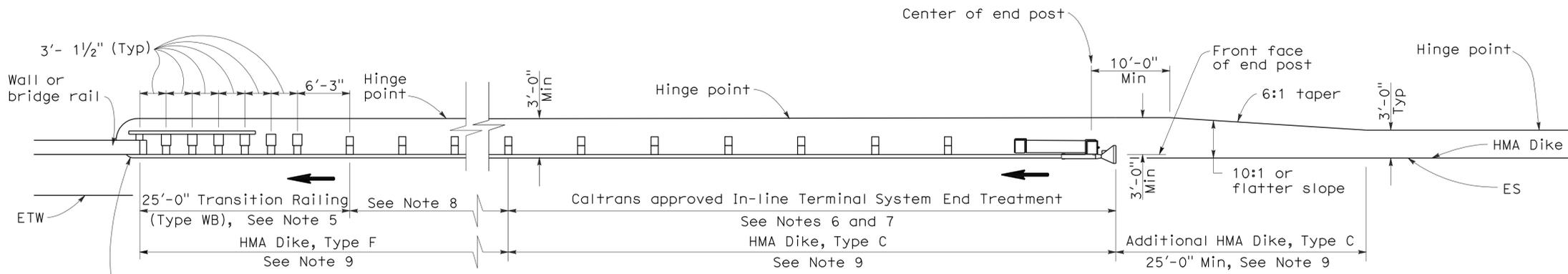
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

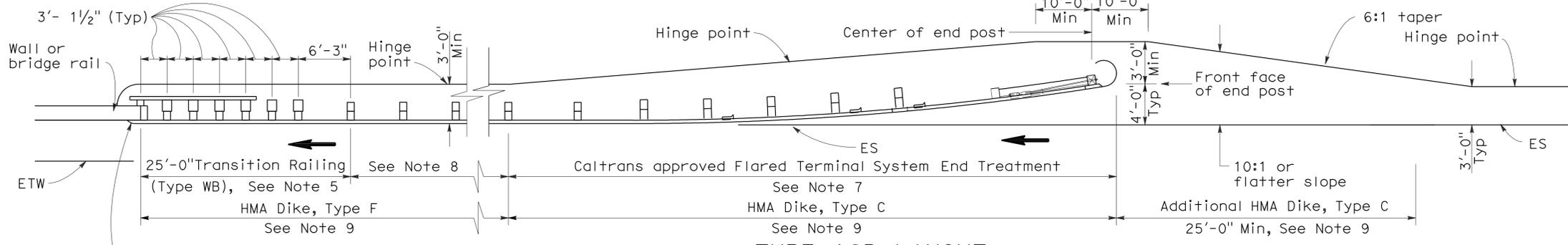
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To accompany plans dated 9-14-09



**TYPE 12A LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 10



**TYPE 12B LAYOUT**

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 10

**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 posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by  $\rightarrow$ .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- 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, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
  - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
  - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
  - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
  - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
STRUCTURE APPROACH**

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1  
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77F1**

2006 REVISED STANDARD PLAN RSP A77F1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	14	32

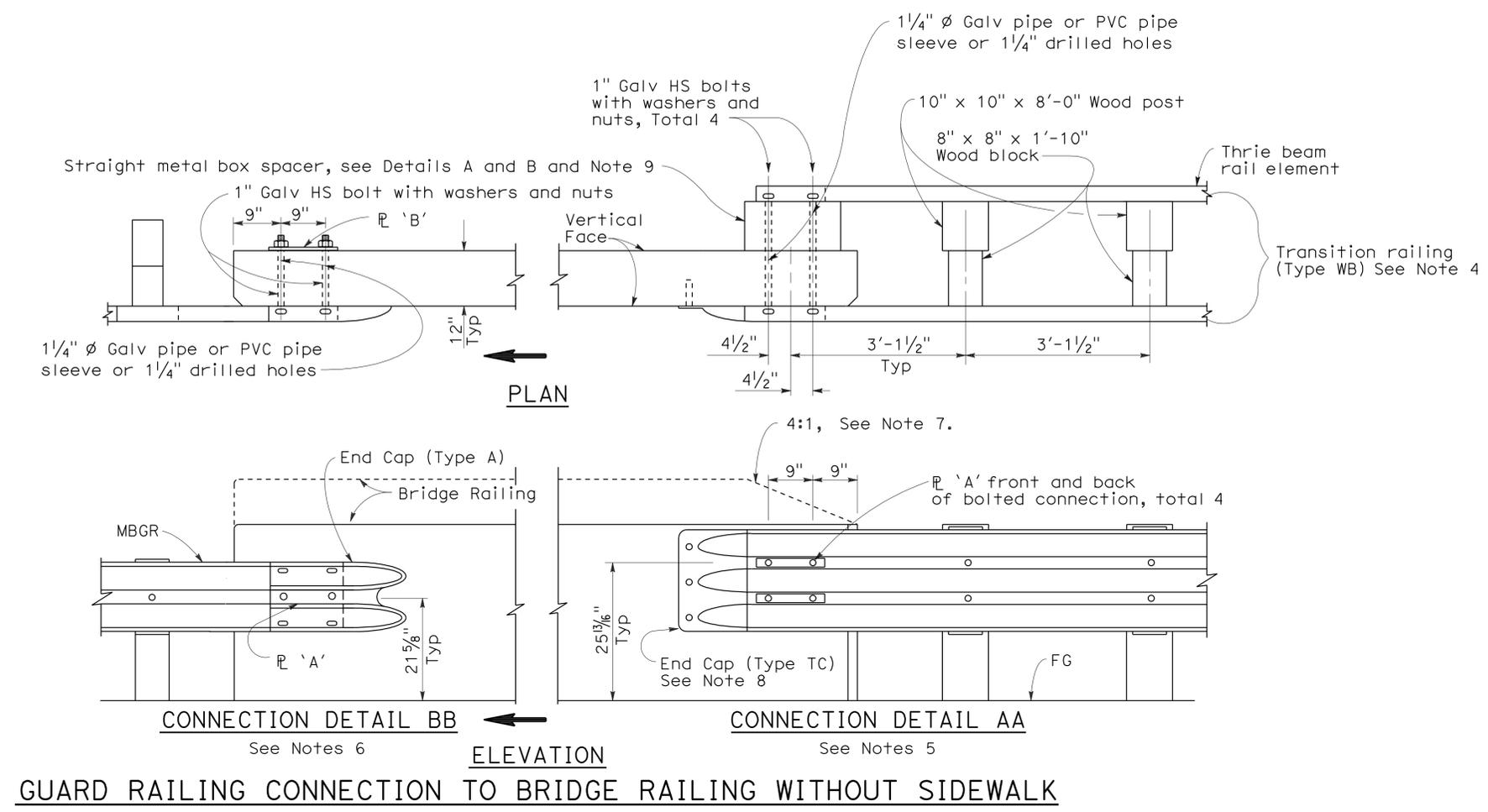
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

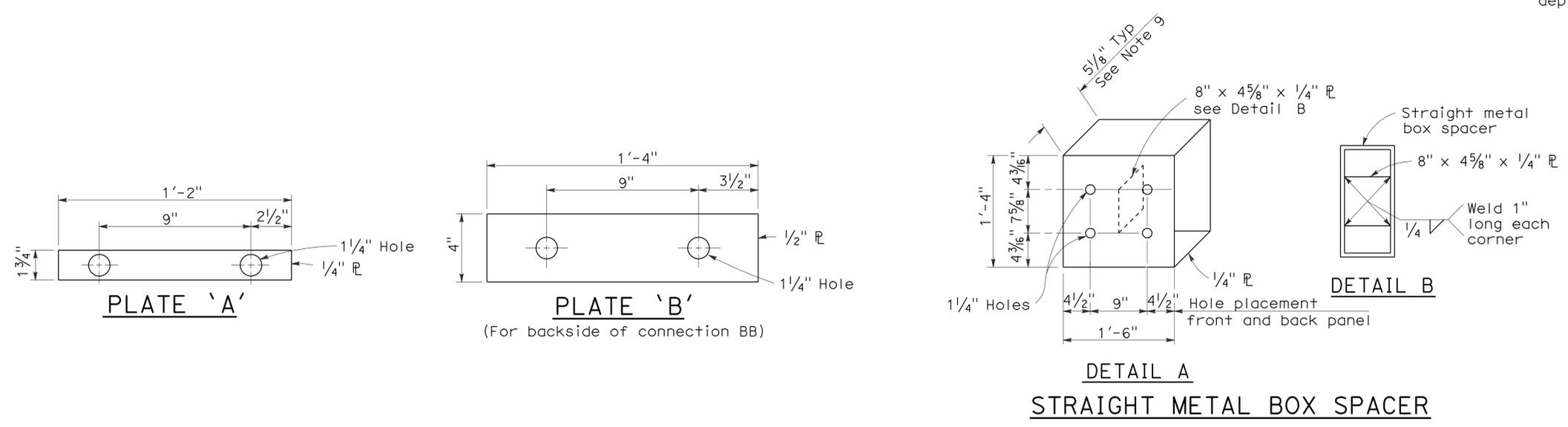
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To accompany plans dated 9-14-09



**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
07	LA	5	16.9	15	32

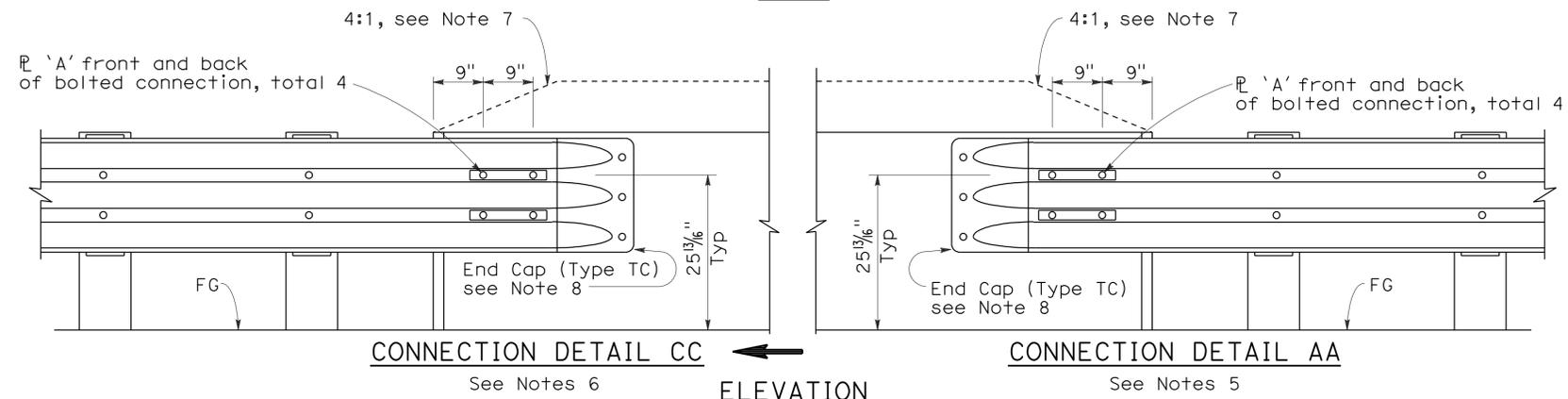
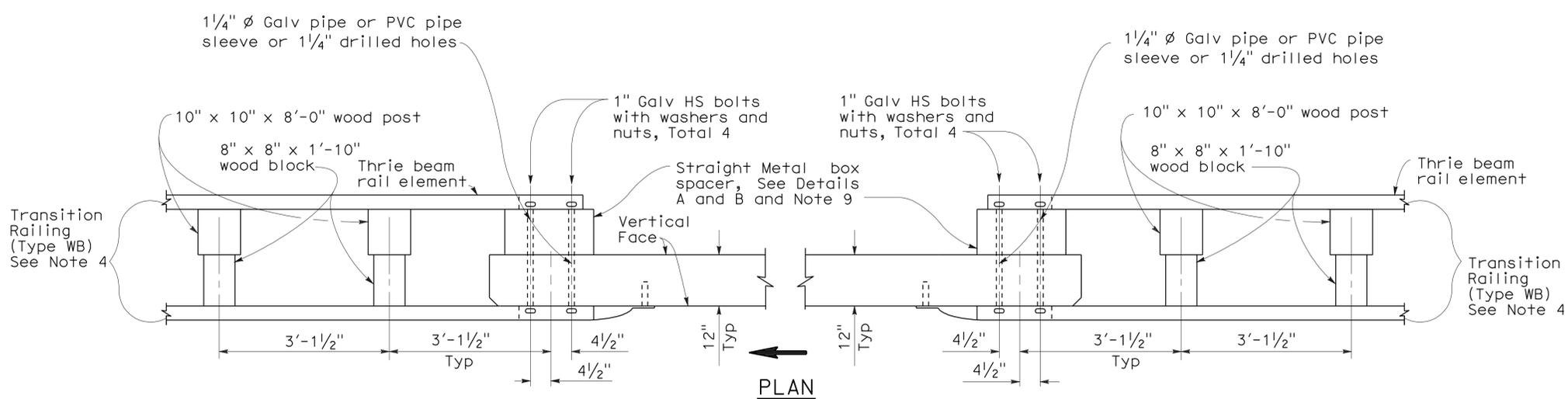
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

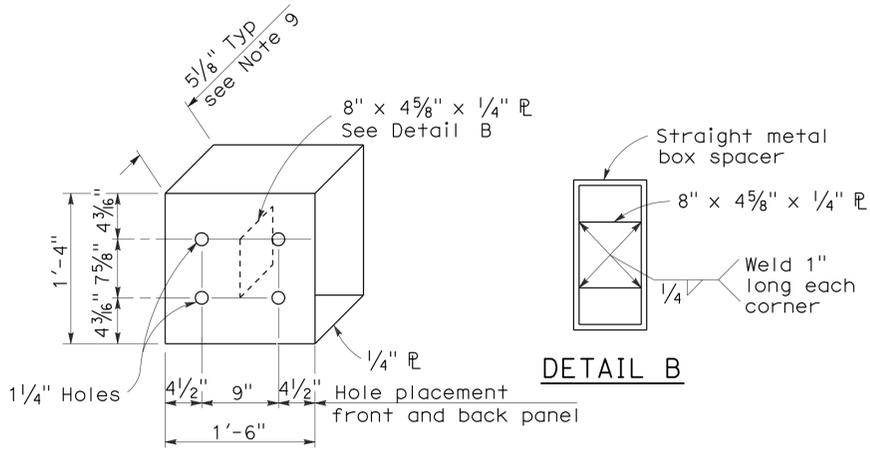
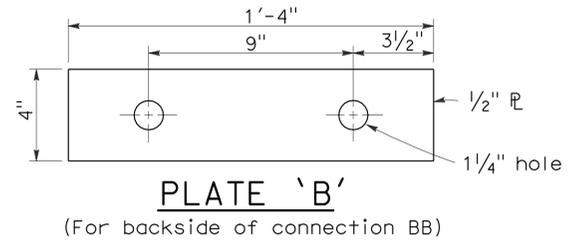
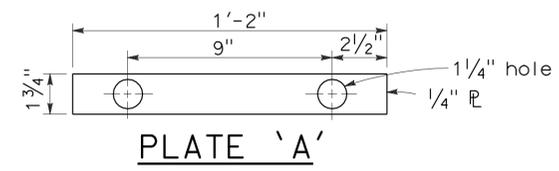
To accompany plans dated 9-14-09



**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

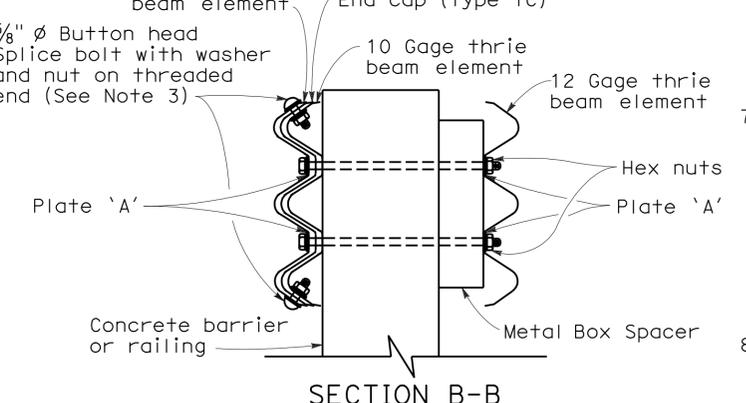
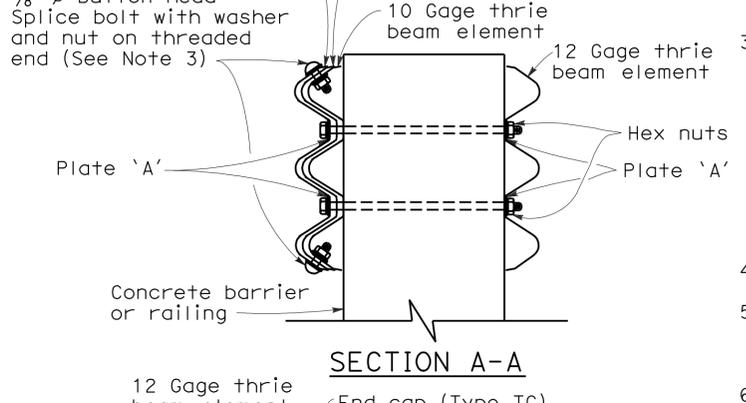
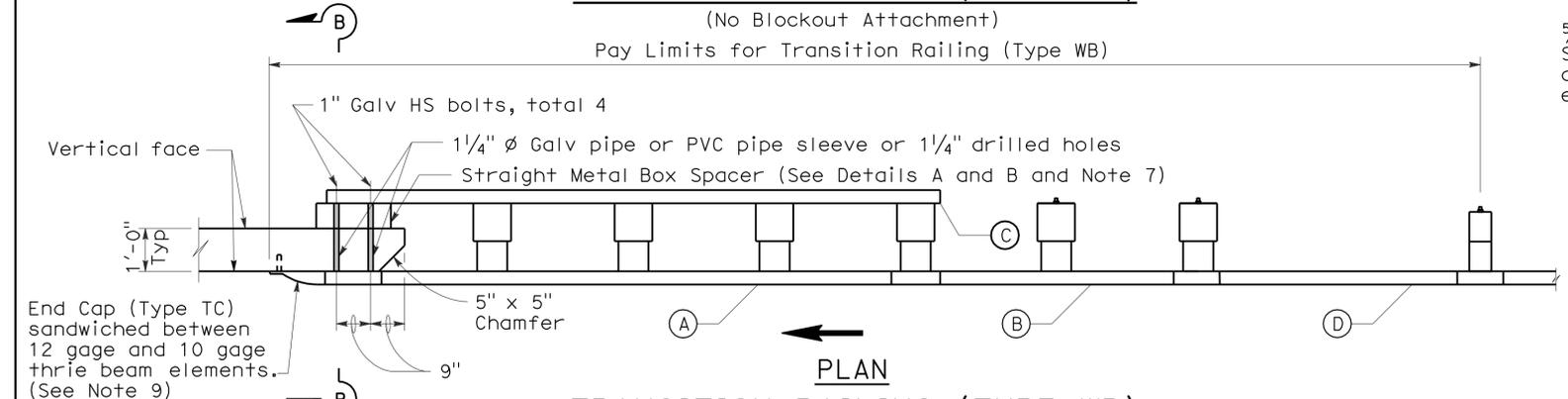
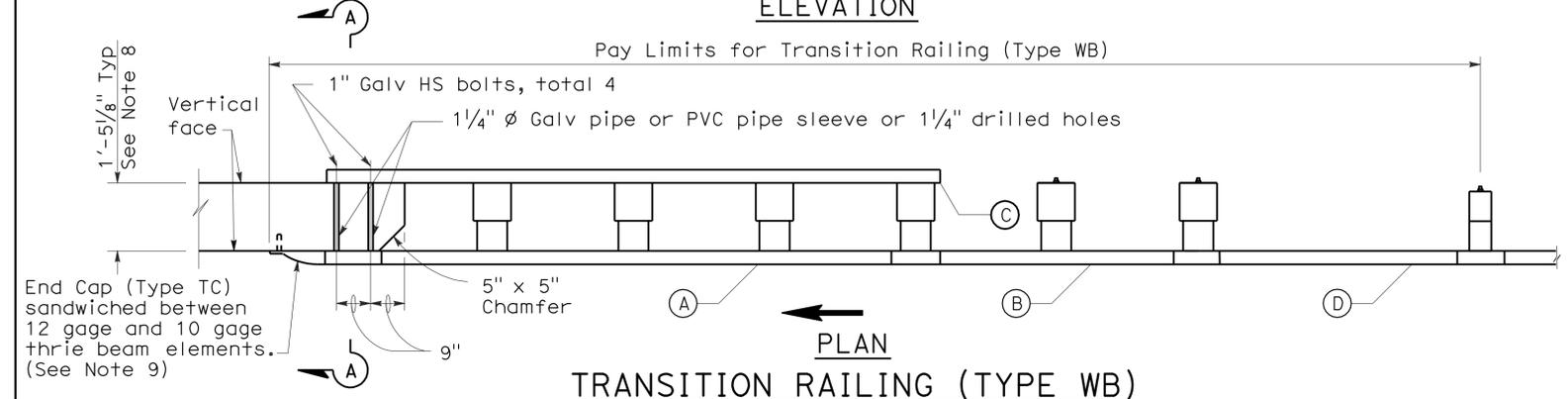
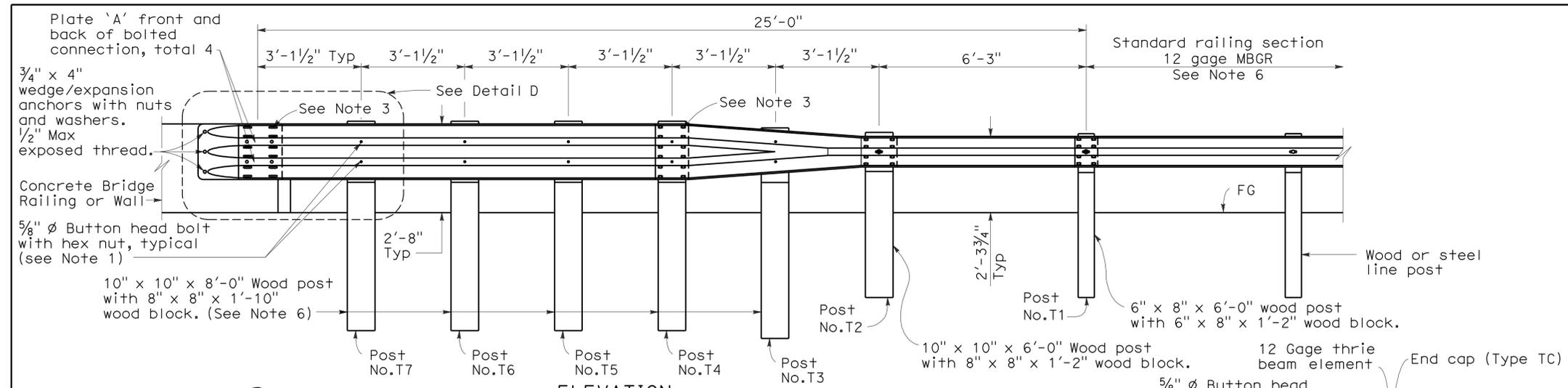
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	16	32

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 5, 2009  
PLANS APPROVAL DATE

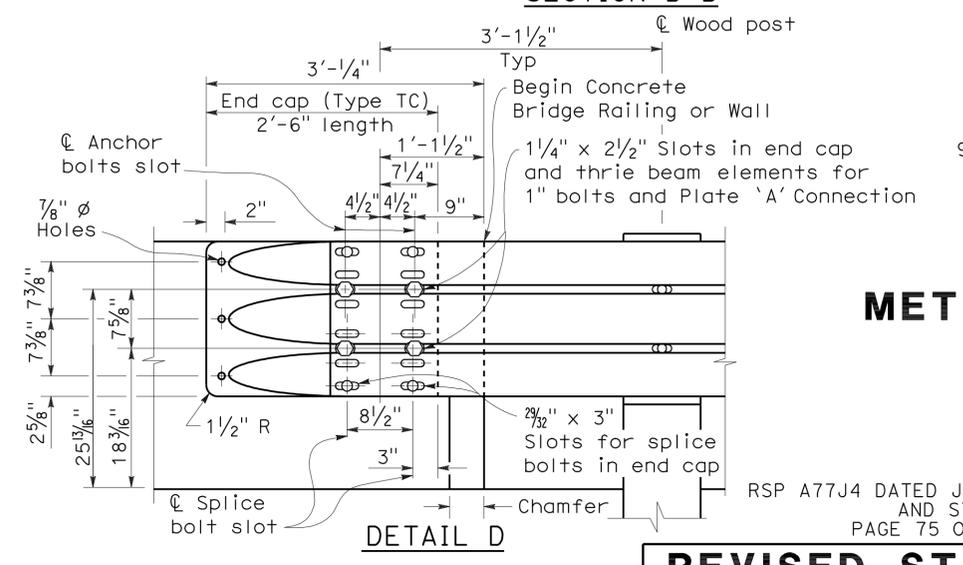
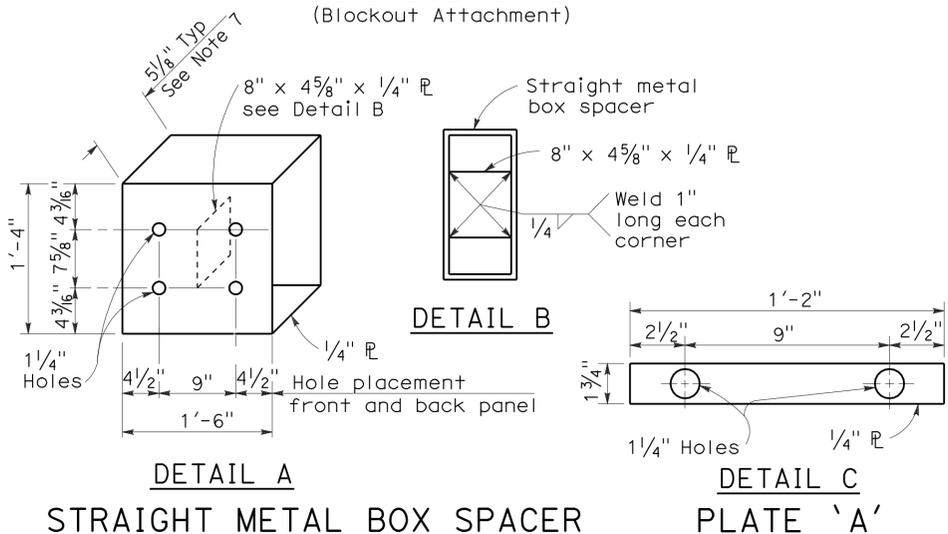
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA



- NOTES:** To accompany plans dated 9-14-09
- Use 5/8 "  $\phi$  Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
  - The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
  - Exterior splice bolt holes for rail element splices at Post No.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 "  $\phi$ . 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.
  - Direction of adjacent traffic indicated by  $\rightarrow$ .
  - The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
  - 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.
  - 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.
  - 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.
  - 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.

- 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



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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	17	32

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

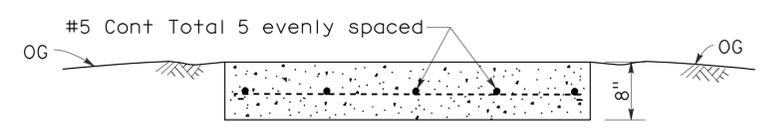
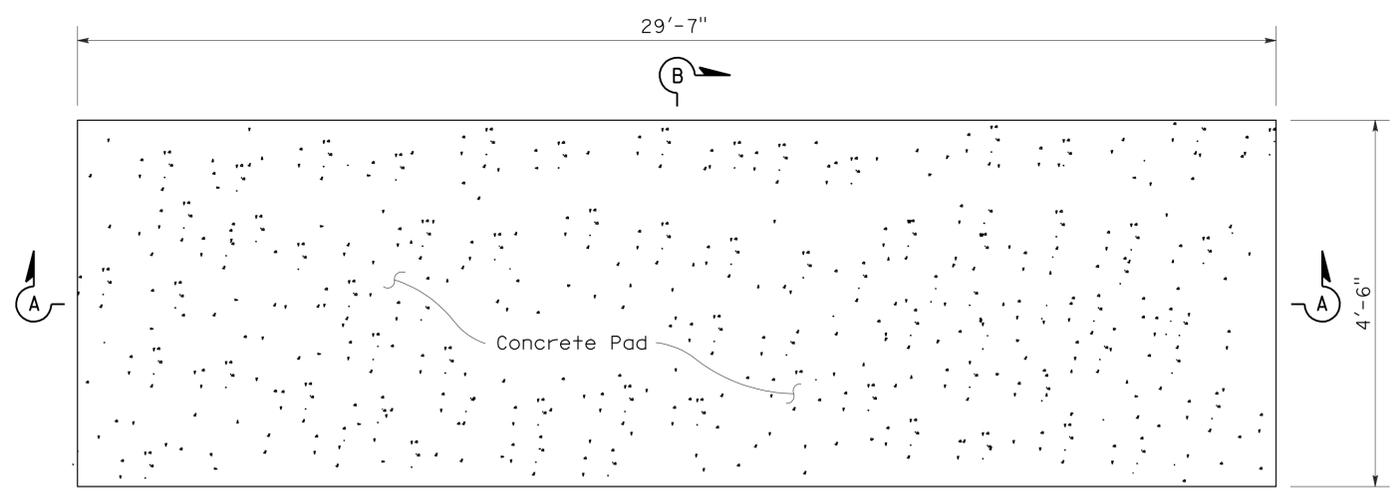
June 6, 2008  
PLANS APPROVAL DATE

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CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 9-14-09

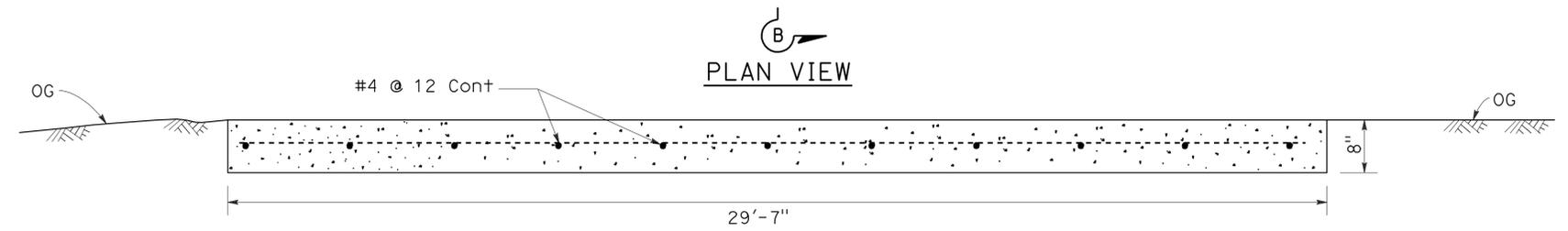
2006 REVISED STANDARD PLAN RSP A82C1



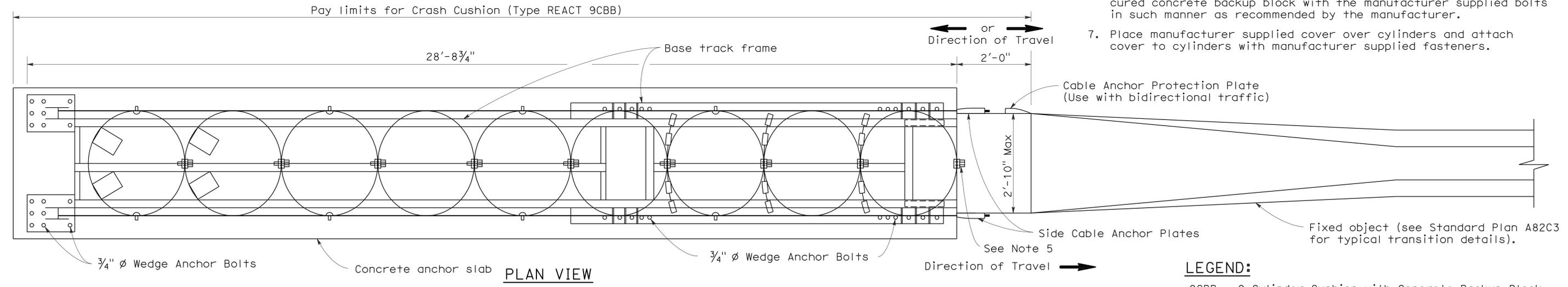
SECTION B-B

**NOTES:**

1. For additional details of this crash cushion, refer to manufacturer's installation instructions.
2. For details of the REACT Crash Cushion with self contained backup support (no concrete backup block), see Standard Plan A82D1.
3. The base track frame with cylinders attached comes from the manufacturer as a completely pre-assembled unit.
4. Place the crash cushion unit on the cured concrete anchor slab and use the base track frame of the crash cushion as a template for drilling anchor bolt holes. Drill holes in slab and attach crash cushion with wedge anchor bolts supplied by the manufacturer.
5. Attach last cylinder to concrete backup block with manufacturer supplied fastener in such manner as recommended by the manufacturer.
6. Attach the manufacturer supplied side cable anchor plates to the cured concrete backup block with the manufacturer supplied bolts in such manner as recommended by the manufacturer.
7. Place manufacturer supplied cover over cylinders and attach cover to cylinders with manufacturer supplied fasteners.

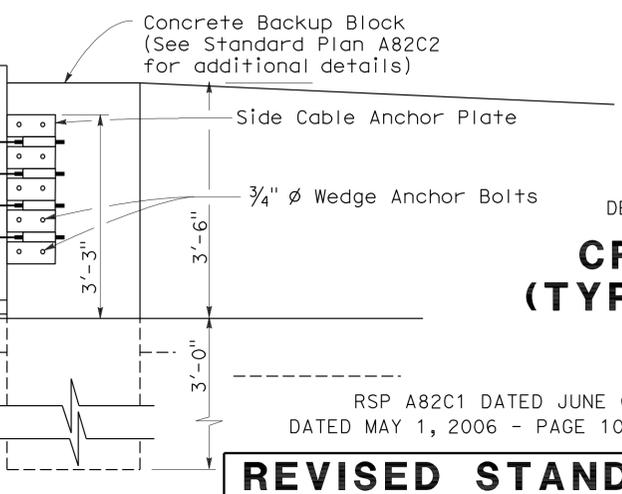
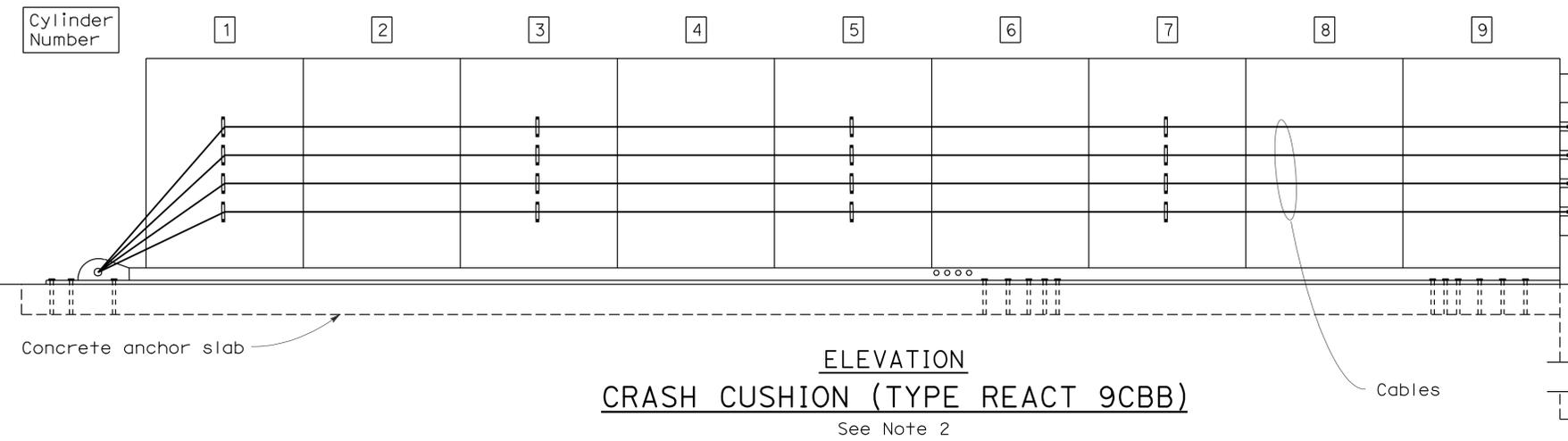


SECTION A-A  
CONCRETE ANCHOR SLAB



**LEGEND:**

9CBB = 9 Cylinder Cushion with Concrete Backup Block



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CRASH CUSHION  
(TYPE REACT 9CBB)**

NO SCALE

RSP A82C1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A82C1  
DATED MAY 1, 2006 - PAGE 104 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A82C1**

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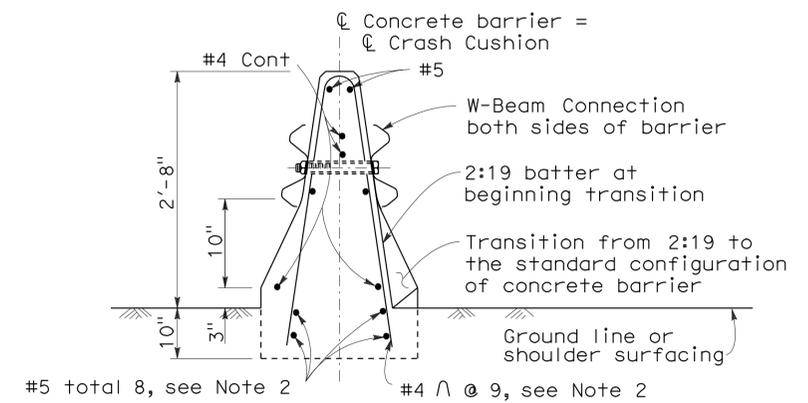
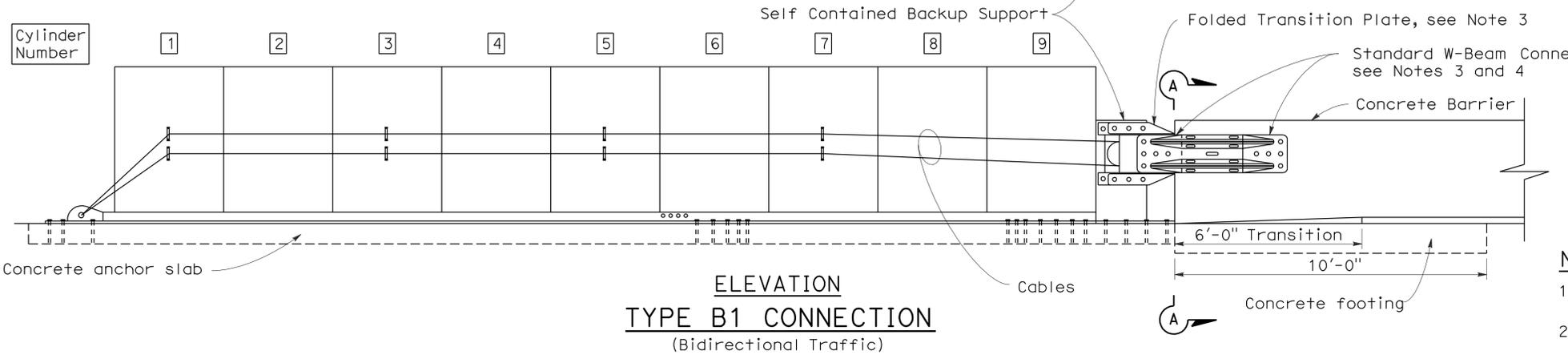
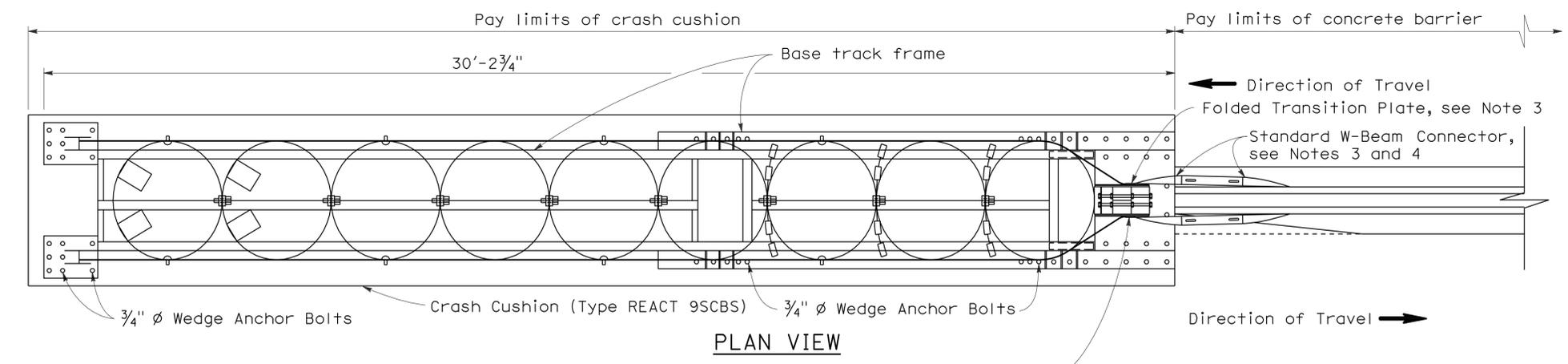
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

October 20, 2006  
PLANS APPROVAL DATE

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Randell D. Hiatt  
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STATE OF CALIFORNIA

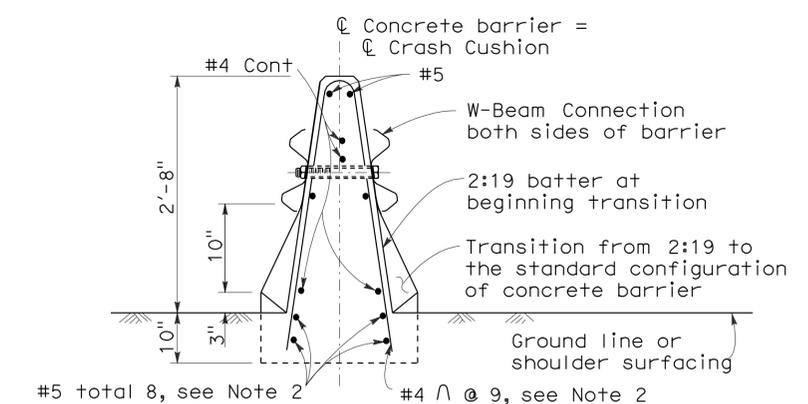
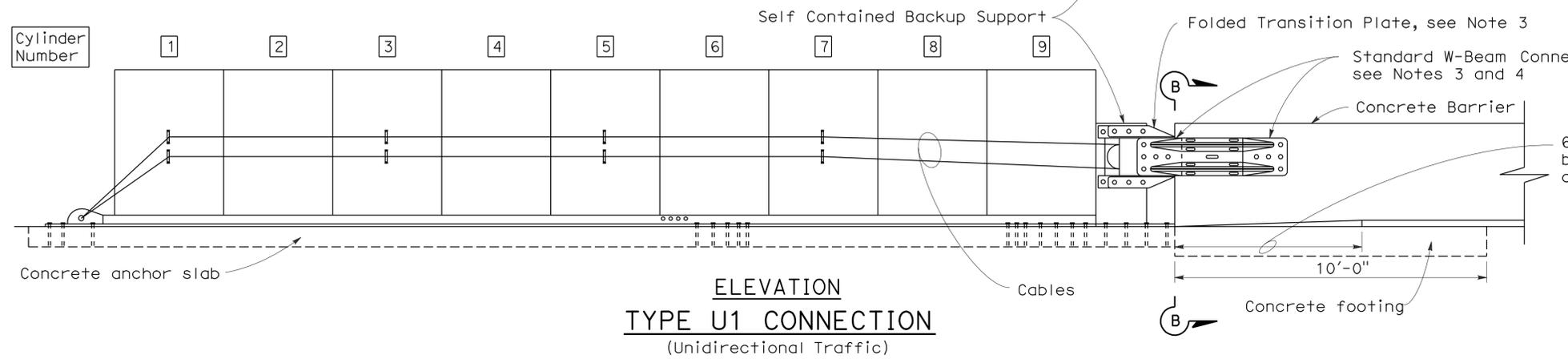
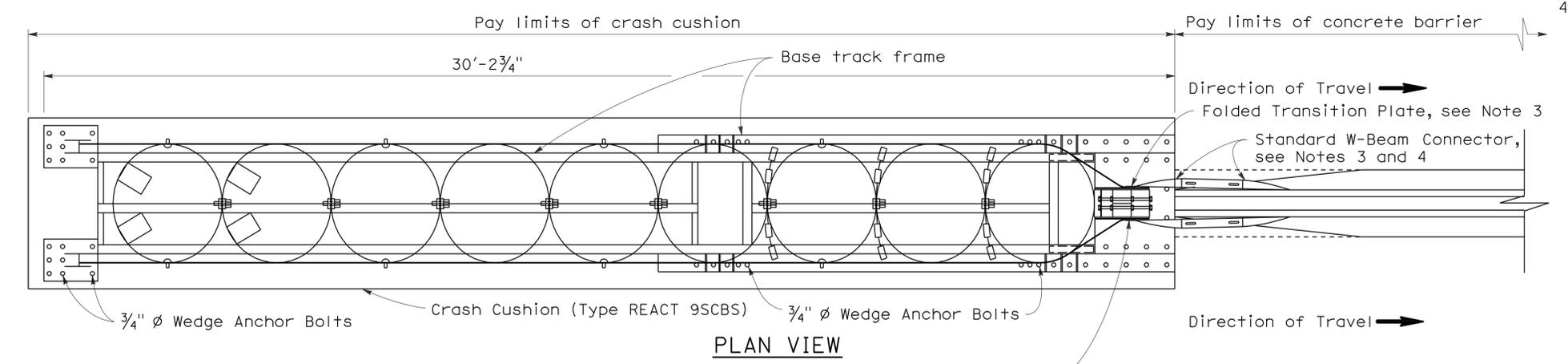
To accompany plans dated 9-14-09



**SECTION A-A**  
(Type 50 Barrier shown)

**NOTES:**

1. For additional details of Crash Cushion (Type REACT 9SCBS), see Standard Plan A82D1.
2. Place this reinforcement for the full 10'-0" length of the terminus of the concrete barrier.
3. Attach manufacturer supplied folded transition plates and W-Beam connectors to backup support with manufacturer supplied bolts.
4. Attach W-Beam Connectors to barrier with manufacturer supplied anchor bolts in the manner recommended by the manufacturer.



**SECTION B-B**  
(Type 50 Barrier shown)

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CRASH CUSHION  
(TYPE REACT 9SCBS)  
CONNECTION TO  
CONCRETE BARRIER**

NO SCALE

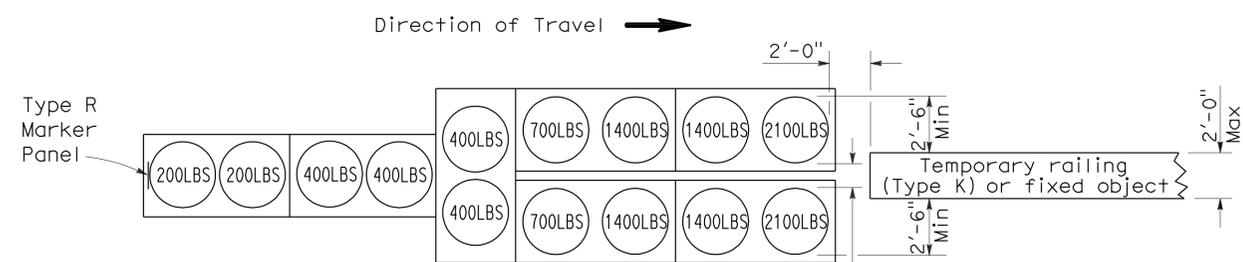
RSP A82D2 DATED OCTOBER 20, 2006 SUPERSEDES STANDARD PLAN A82D1  
DATED MAY 1, 2006 - PAGE 108 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A82D2**

2006 REVISED STANDARD PLAN RSP A82D2

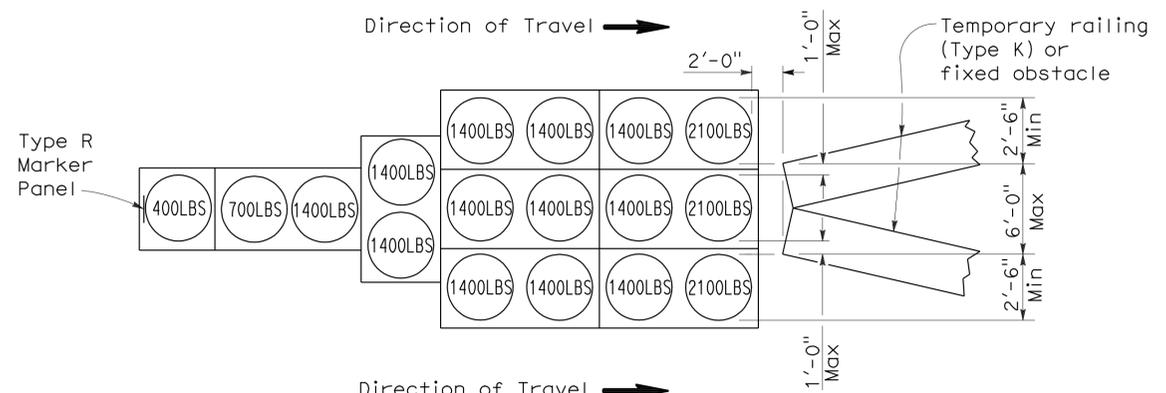
To accompany plans dated 9-14-09

2006 REVISED STANDARD PLAN RSP T1A



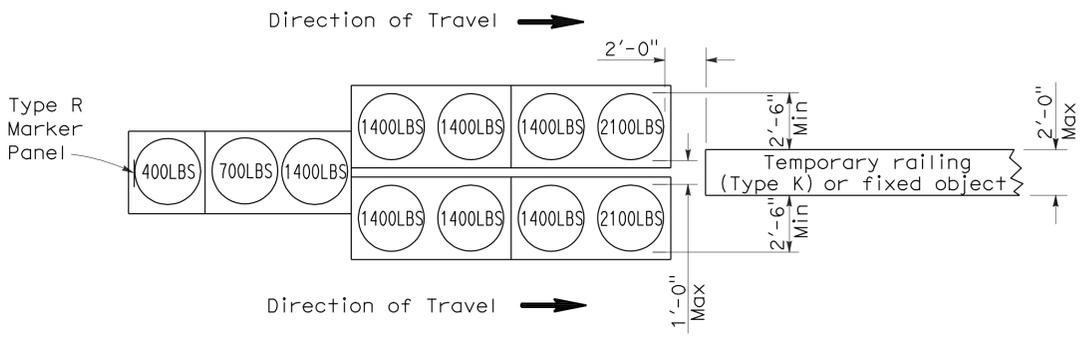
**ARRAY 'TU14'**

Approach speed 45 mph or more



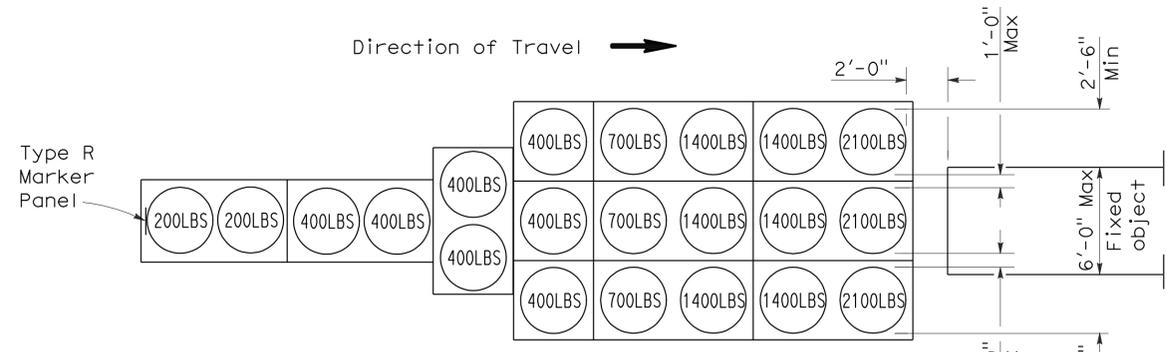
**ARRAY 'TU17'**

Approach speed less than 45 mph



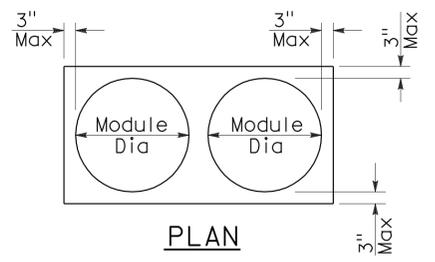
**ARRAY 'TU11'**

Approach speed less than 45 mph

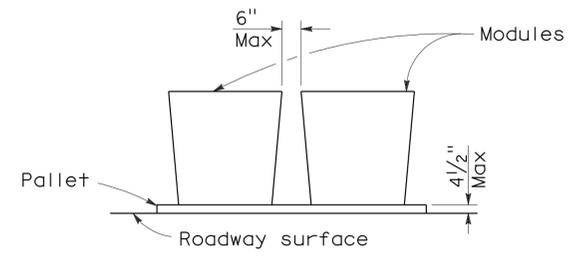


**ARRAY 'TU21'**

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**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	20	32

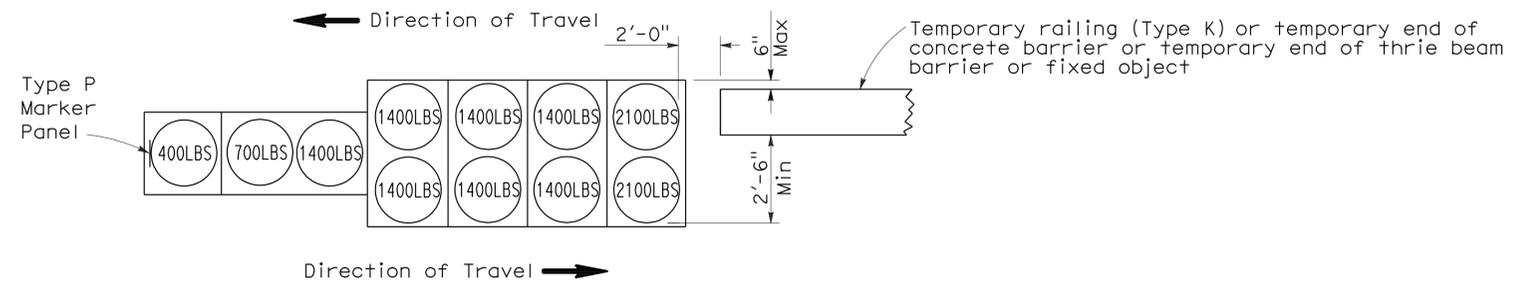
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

*Randell D. Hiatt*  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

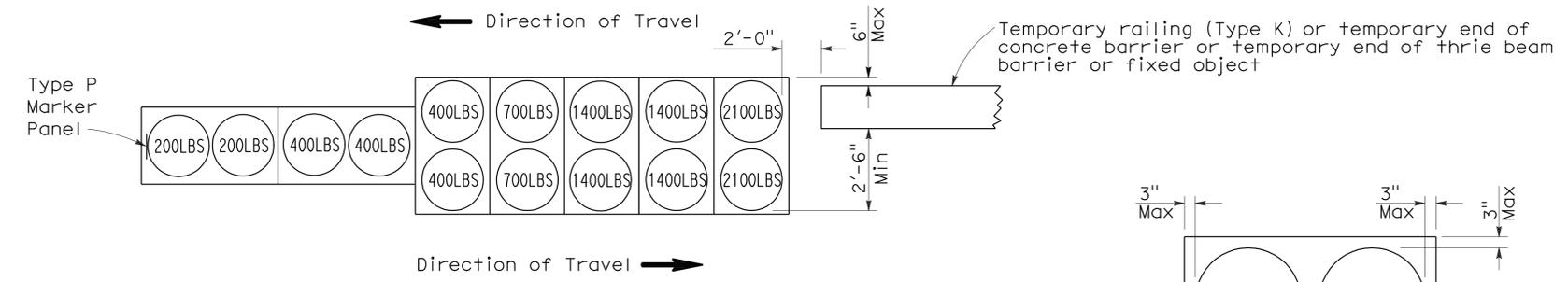
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 9-14-09



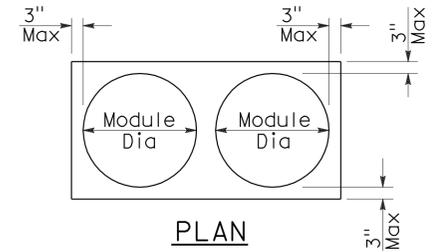
**ARRAY 'TB11'**

Approach speed less than 45 mph

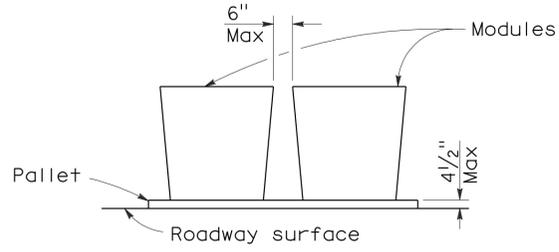


**ARRAY 'TB14'**

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
07	LA	5	16.9	21	32

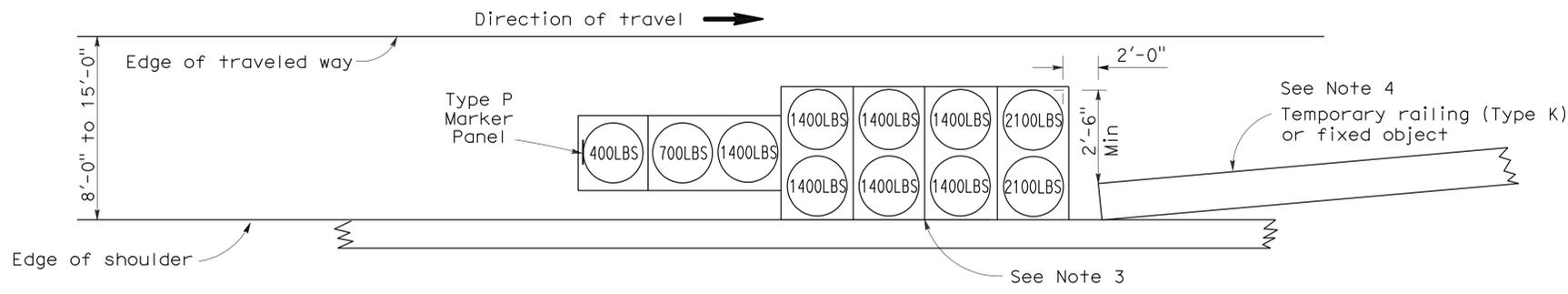
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

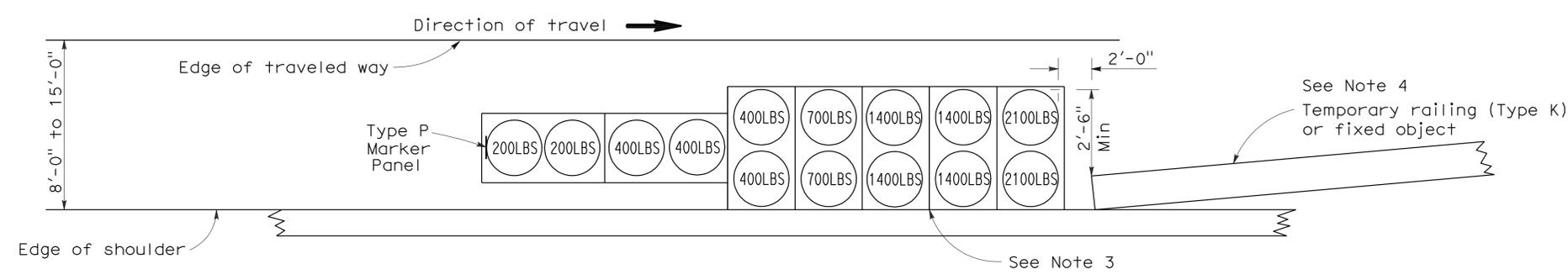
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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 9-14-09



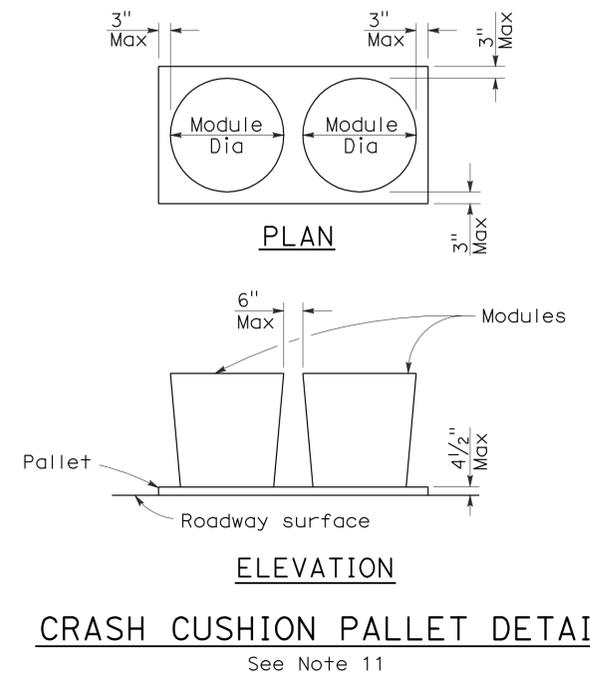
**ARRAY 'TS11'**  
Approach speed less than 45 mph  
See Note 9



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

**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.

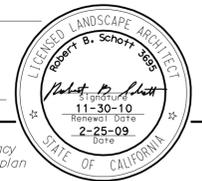
**REVISED STANDARD PLAN RSP T2**

2006 REVISED STANDARD PLAN RSP T2

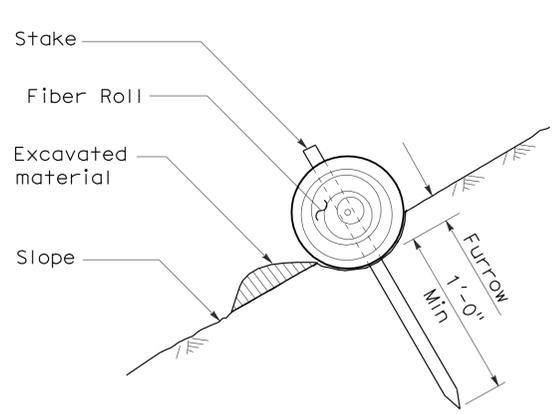


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	23	32

*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 April 3, 2009  
 PLANS APPROVAL DATE  
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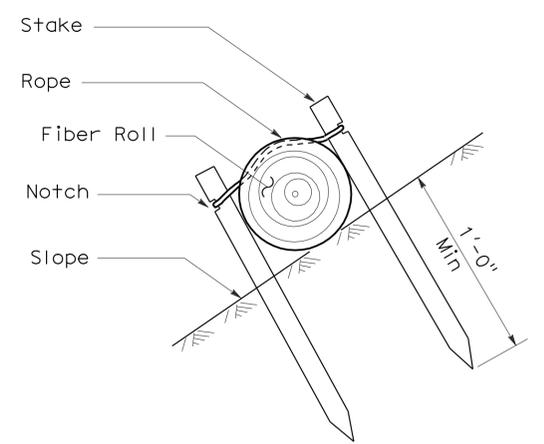


To accompany plans dated 9-14-09



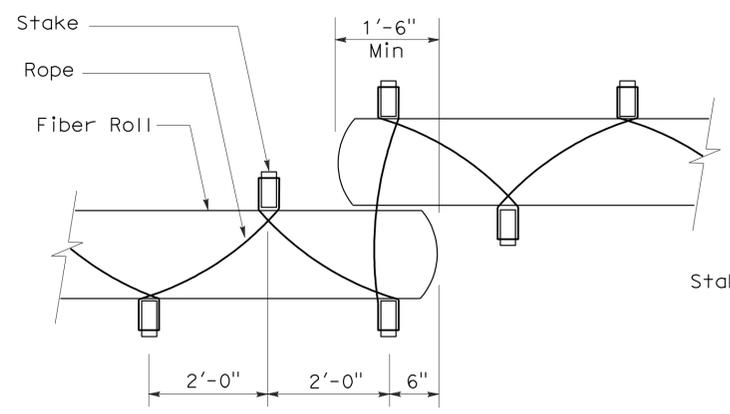
**SECTION**

**TEMPORARY FIBER ROLL (TYPE 1)**

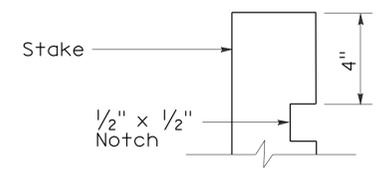


**SECTION**

**TEMPORARY FIBER ROLL (TYPE 2)**



**PLAN**

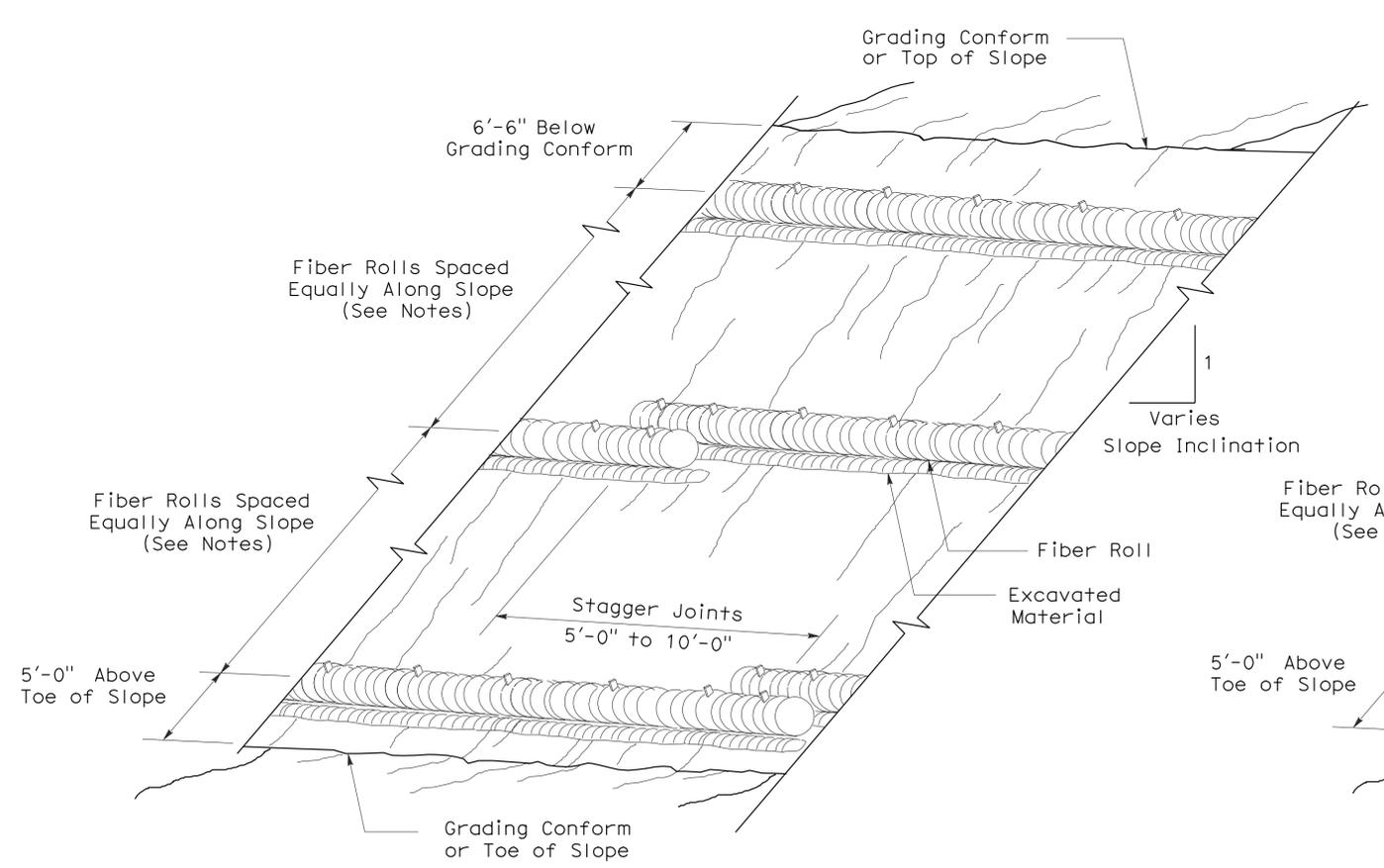


**ELEVATION**

**STAKE NOTCH DETAIL**

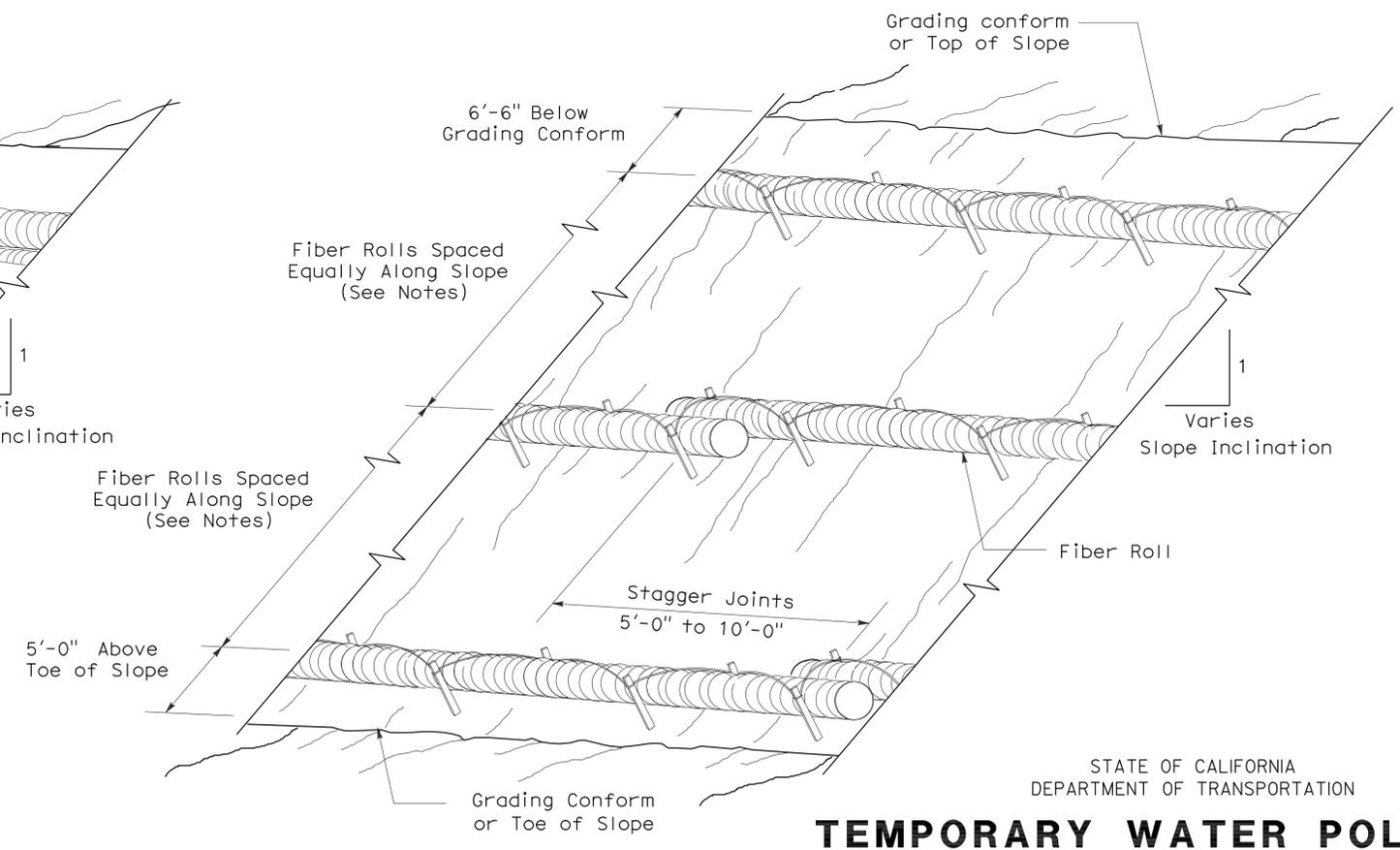
**NOTES:**

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**

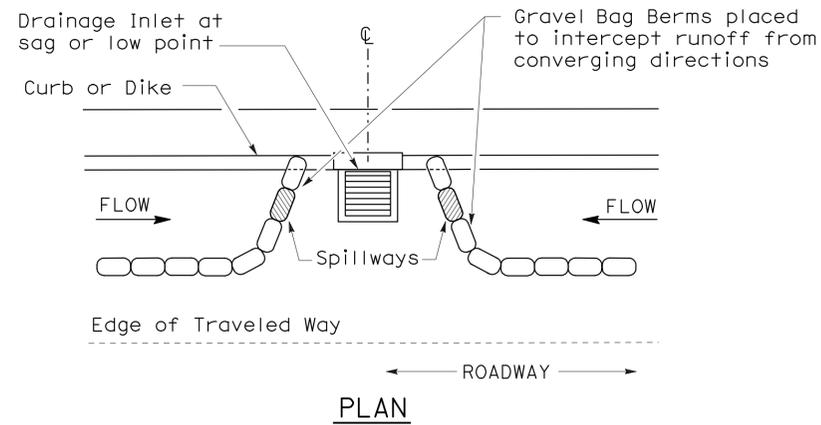
**2006 REVISED STANDARD PLAN RSP T56**



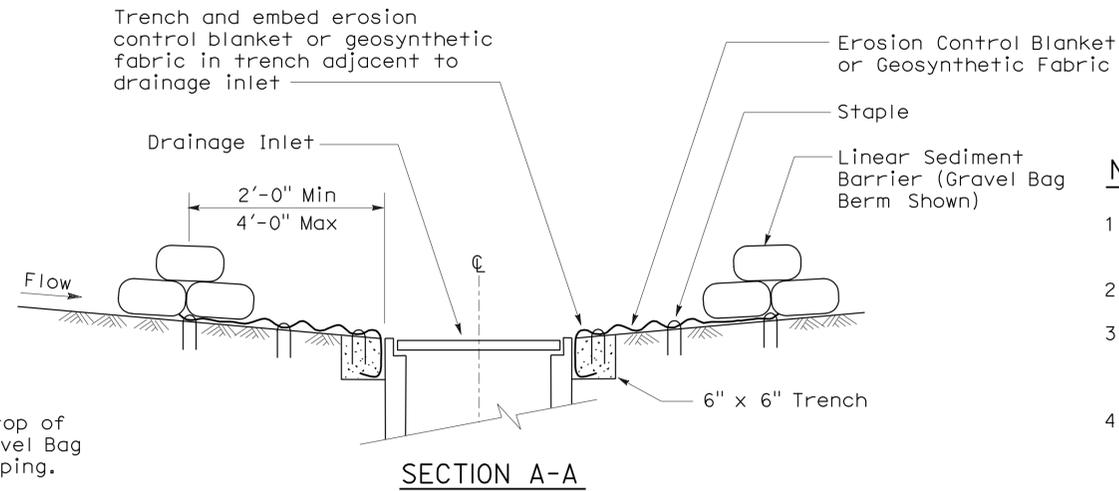
### GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

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



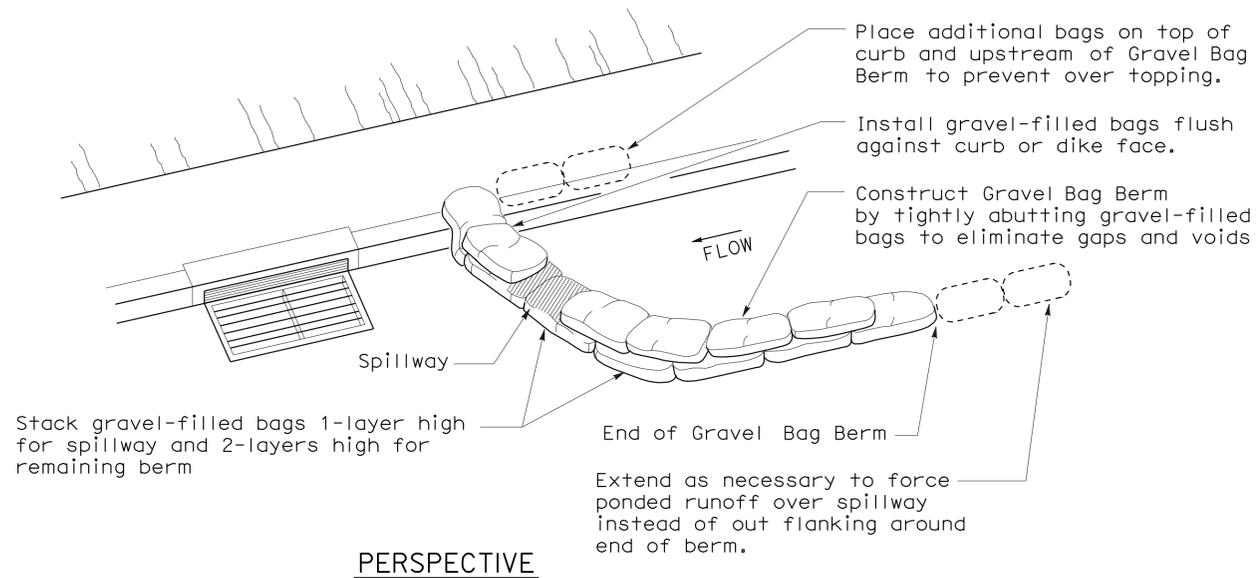
**CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)**



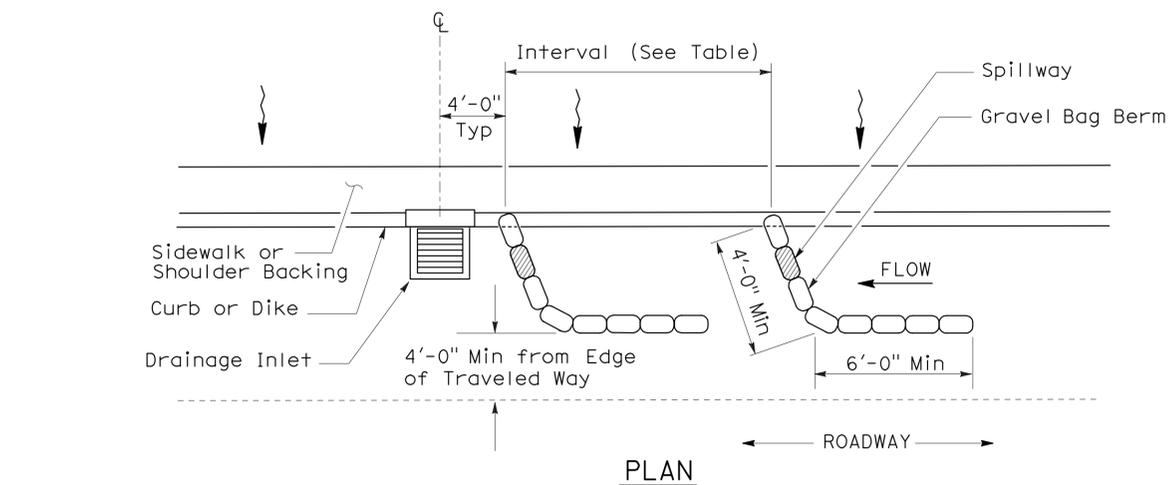
**SECTION A-A**

**NOTES:**

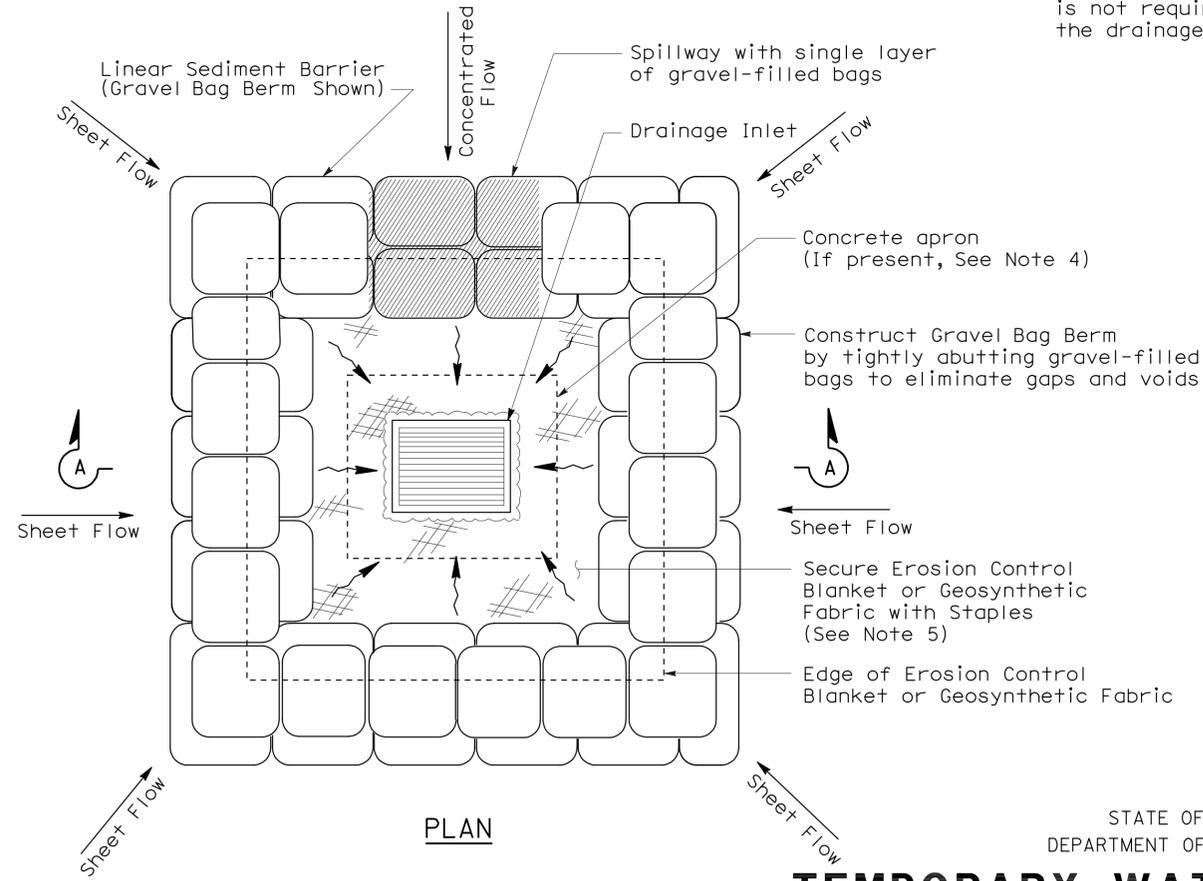
1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.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



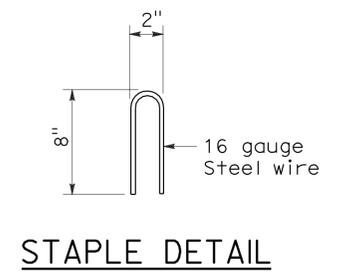
**PERSPECTIVE**



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



**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)**



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

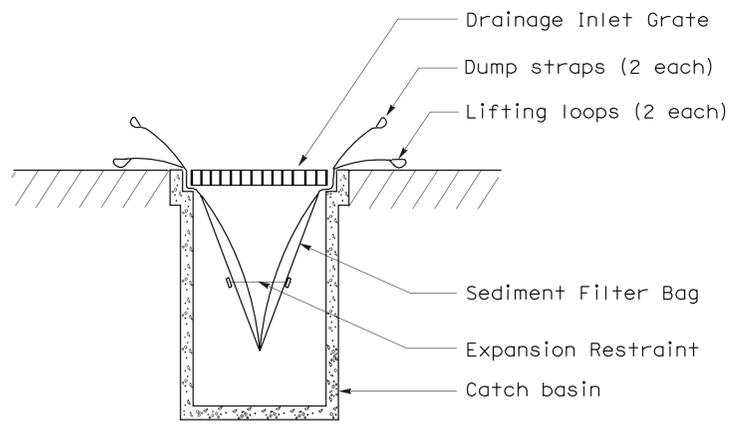
NO SCALE  
NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	25	32

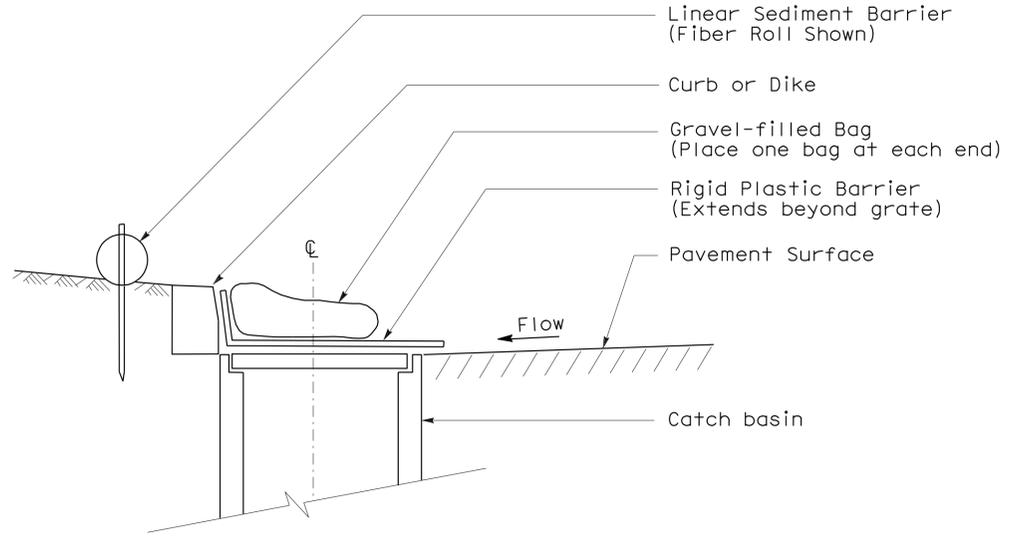
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



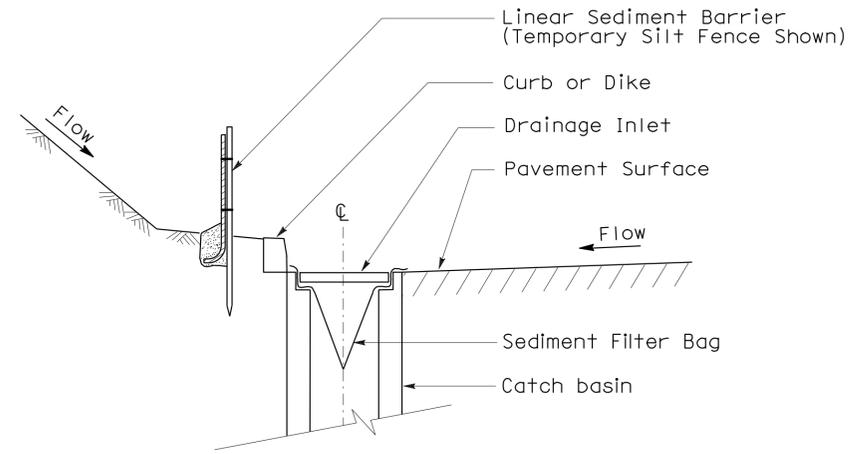
To accompany plans dated 9-14-09



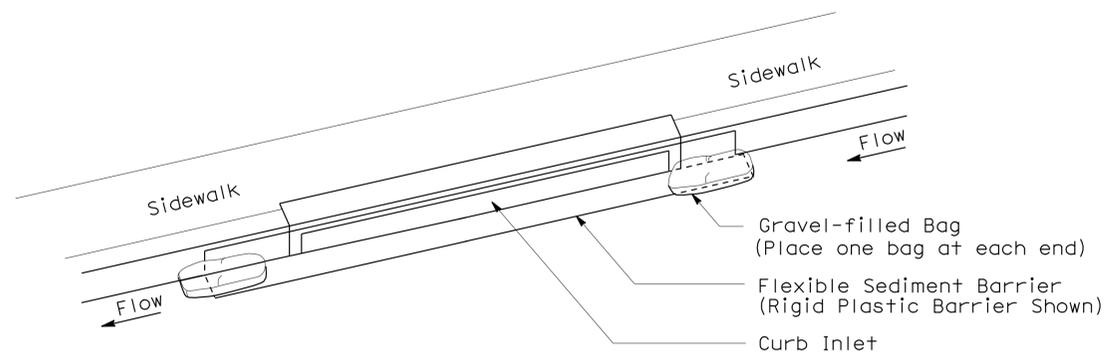
**SECTION B-B**  
**SEDIMENT FILTER BAG DETAIL**



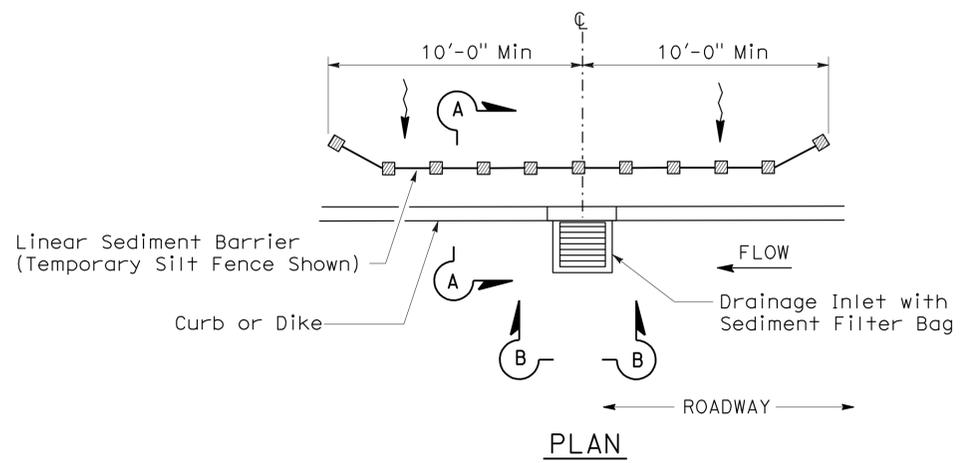
**SECTION**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 6A)**  
**(CATCH BASIN WITH GRATE)**



**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:**

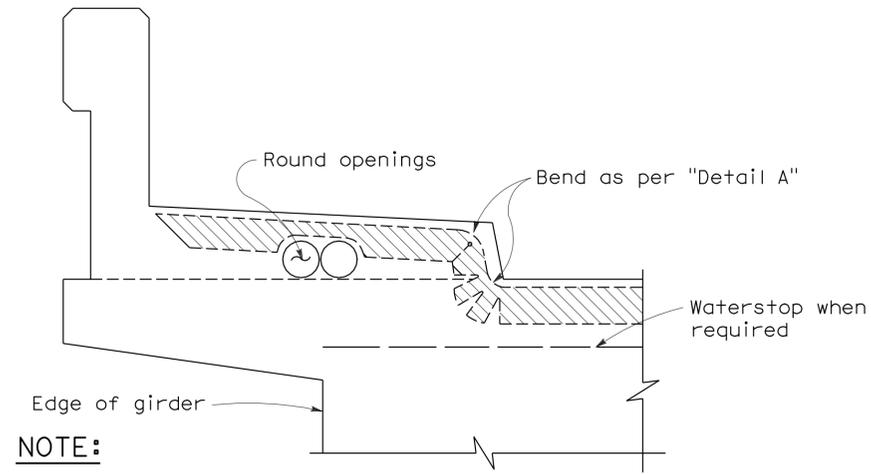
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

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.

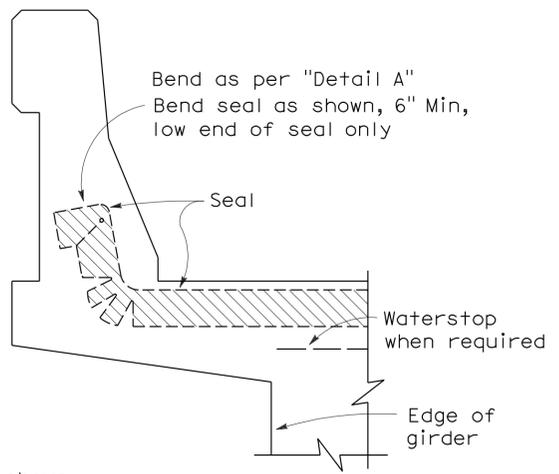
**NEW STANDARD PLAN NSP T64**

**2006 NEW STANDARD PLAN NSP T64**

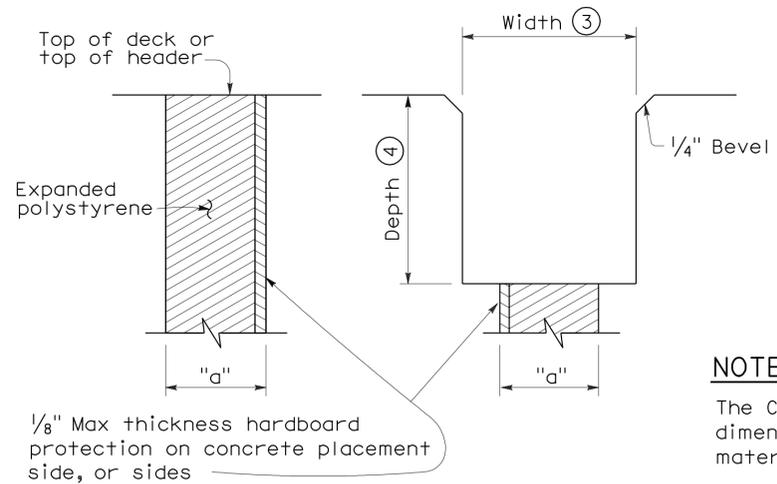


**NOTE:**  
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

**CONCRETE BARRIER AND SIDEWALK**



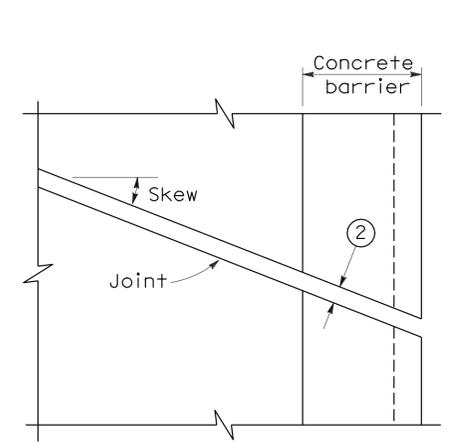
**CONCRETE BARRIER**



**FORMING DETAIL SAWCUT DETAIL**

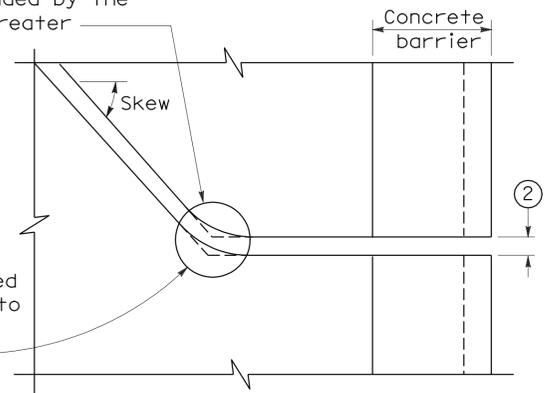
**NOTE:**  
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

**JOINT SEALS DETAILS**



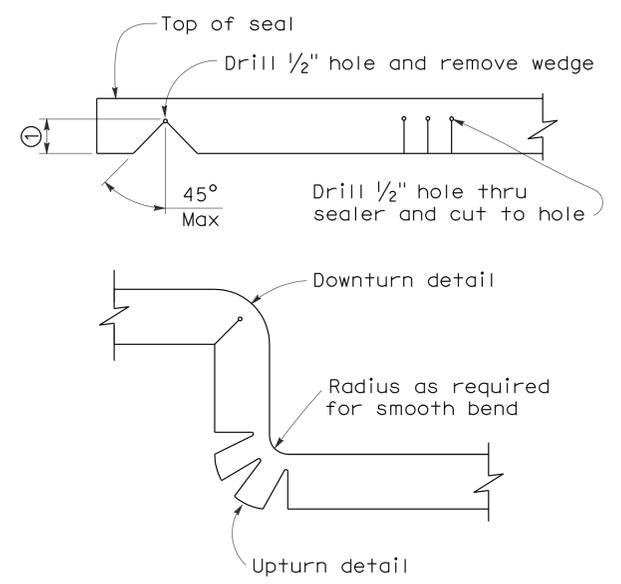
**PLAN OF JOINT (SKEW ≤ 20°)**

Min  $\phi$  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.



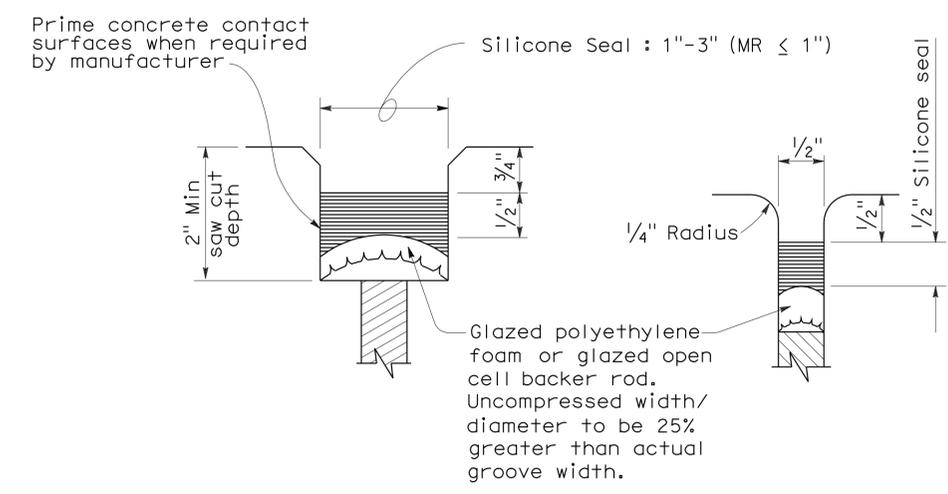
**DETAIL A**

- 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 (W<sub>2</sub>) 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

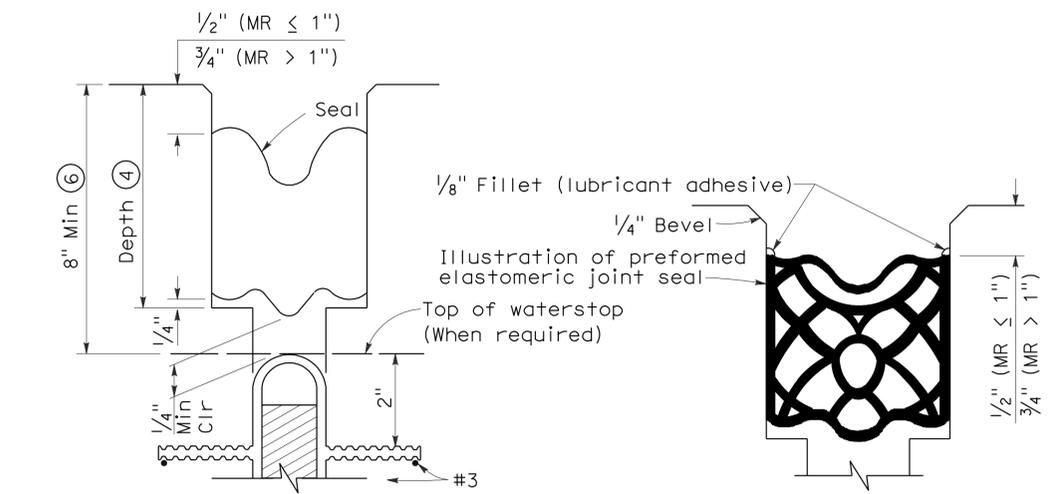


**TYPE A SEAL**

Movement rating : Silicone = 1" Max

**TYPE AL SEAL**

Longitudinal joints only



**TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W<sub>2</sub>)**

**TYPE B SEAL**

Movement Rating ≤ 2"

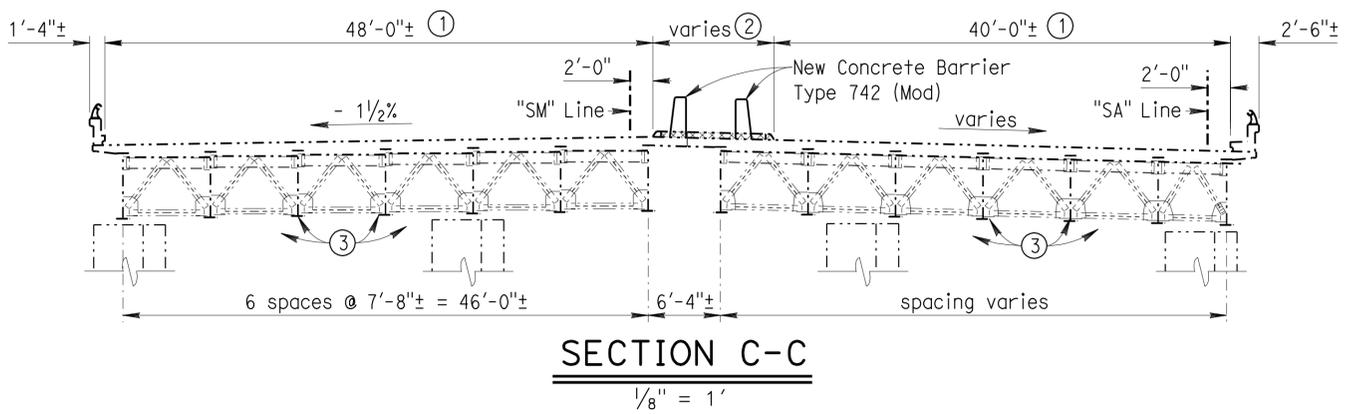
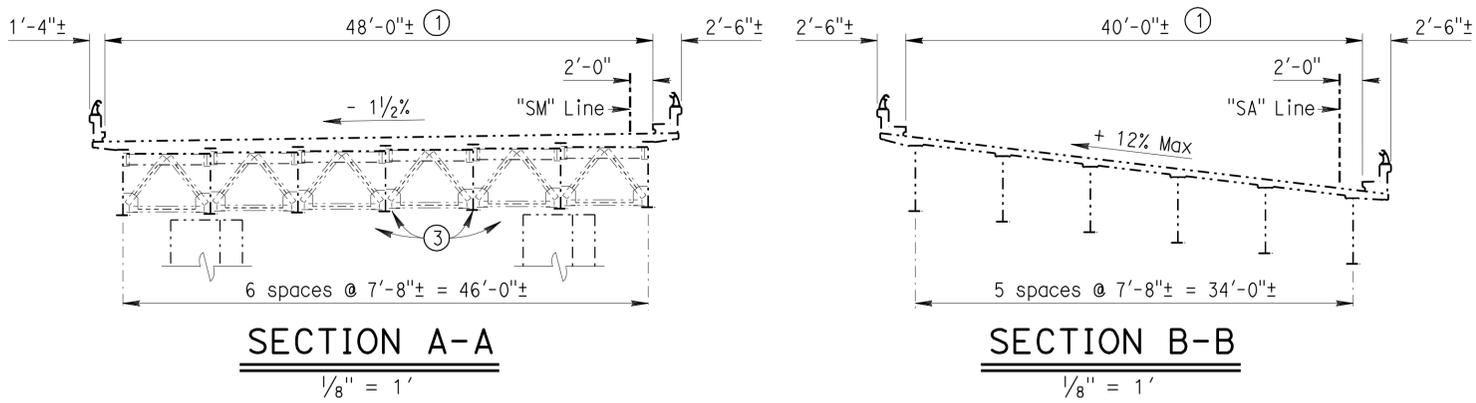
RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP B6-21**

2006 REVISED STANDARD PLAN RSP B6-21

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	27	32

Arlene Frank 9-2-2009  
 REGISTERED CIVIL ENGINEER DATE  
 9-14-09  
 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.



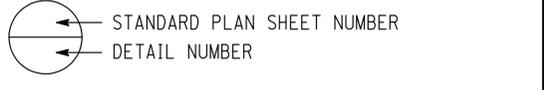
**QUANTITIES**

REMOVE UNSOUND CONCRETE	240	CF
CLEAN BRIDGE DECK	49,100	SQFT
BRIDGE REMOVAL (PORTION)	LUMP	SUM
CLEAN EXPANSION JOINT	1,305	LF
RAPID SETTING CONCRETE (PATCH)	240	CF
REFINISH BRIDGE DECK	3,050	SQFT
JOINT SEAL (MR 1/2")	639	LF
JOINT SEAL (MR 1")	318	LF
JOINT SEAL (MR 1 1/2")	79	LF
JOINT SEAL (TYPE AL)	268	LF
TREAT BRIDGE DECK	49,100	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	614	GAL
PUBLIC SAFETY PLAN	LUMP	SUM
STRUCTURAL STEEL (BRIDGE)	1,260	LB
CLEAN STRUCTURAL STEEL (EXISTING BRIDGE)	LUMP	SUM
PAINT STRUCTURAL STEEL (EXISTING BRIDGE)	LUMP	SUM
CLEAN AND PAINT STRUCTURAL STEEL	LUMP	SUM
SPOT BLAST CLEAN AND PAINT UNDERCOAT	4,800	SQFT
WORK AREA MONITORING	LUMP	SUM
CONCRETE BARRIER (TYPE 742 MOD)	145	LF

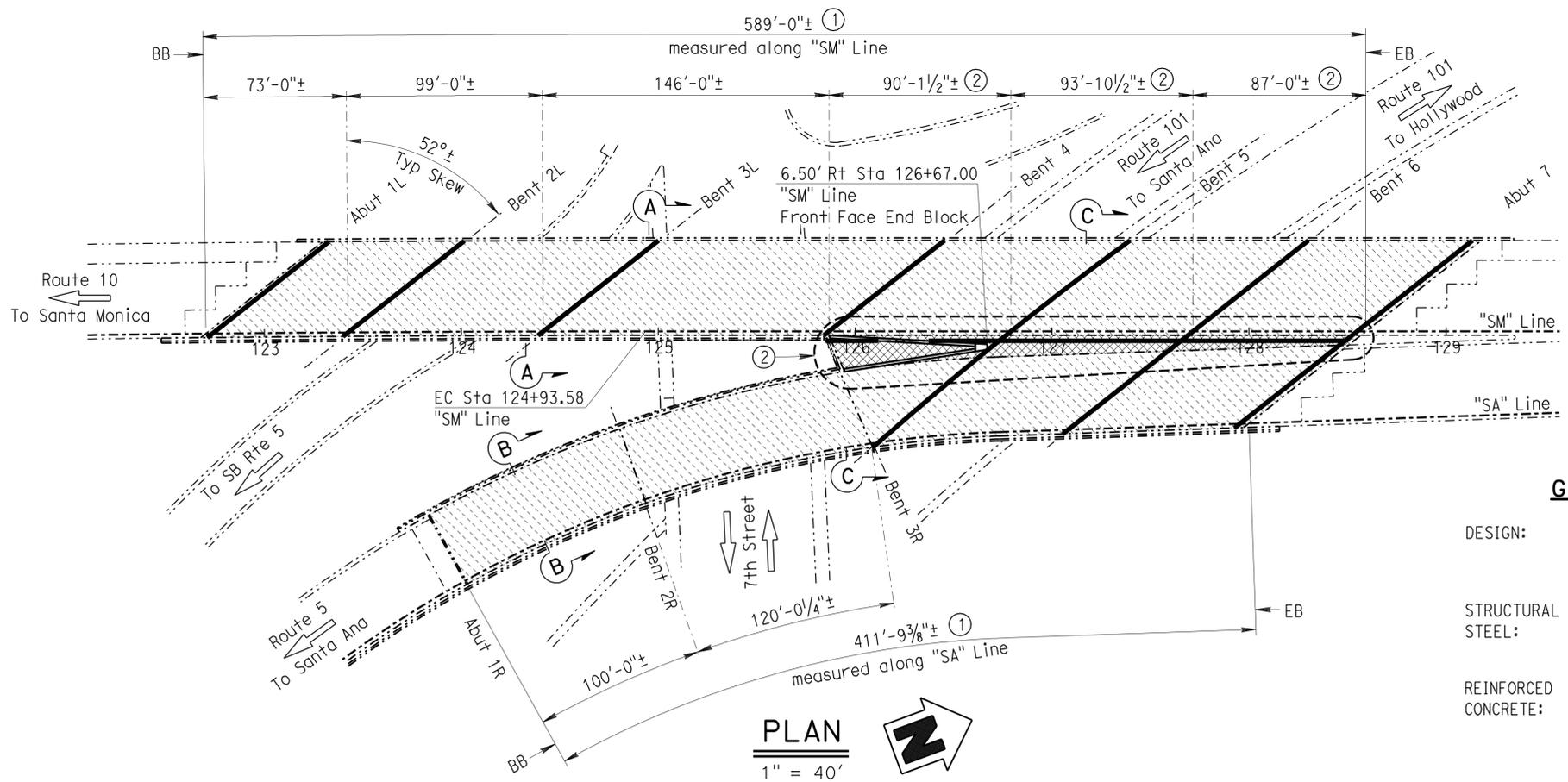
**NOTES:** (APPLY TO ALL SHEETS)

----- Indicates existing structure.

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



- NOTES:** (APPLY TO THIS SHEET ONLY)
- ① Indicates limits of clean and treat existing concrete with methacrylate. Also indicates limits of clean and paint structural steel (superstructure only). Spot blast clean and paint 2% of bottom flange sides at locations to be determined by the Engineer.
  - ② Indicates limits of remove existing concrete curb and asphaltic concrete, place new Concrete Barrier Type 742 (Mod) and refinish existing concrete deck. See "NEW CONCRETE BARRIER TYPE 742 (MOD) - PLAN" on BARRIER RAIL DETAILS NO. 1 sheet.
  - ③ Indicates location of place new clip angle between existing gusset and girder bottom flange at existing end crossframes in Spans 1L, 2L, 3L, 4, 5 and 6. For details see GIRDER REPAIR DETAILS NO. 1 and GIRDER REPAIR DETAILS NO. 2 sheets.
- Indicates locations of remove existing joint seal and place new joint seal. For details see JOINT SEAL DETAILS sheet.



**GENERAL NOTES**

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

STRUCTURAL STEEL: fy = ASTM A709 Grade 50 (New)  
fy = 39 ksi (Existing)

REINFORCED CONCRETE: fy = 60 ksi  
f'c = 3.6 ksi  
n = 8

**INDEX TO PLANS**

SHEET NO.	TITLE
1	GENERAL PLAN
2	GIRDER REPAIR DETAILS NO. 1
3	GIRDER REPAIR DETAILS NO. 2
4	BARRIER RAIL DETAILS NO. 1
5	BARRIER RAIL DETAILS NO. 2
6	JOINT SEAL DETAILS

SHEET NO.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B11-57	CONCRETE BARRIER TYPE 742

**STANDARD PLANS DATED MAY 2006**

 DESIGN ENGINEER 9-2-2009	DESIGN BY Arlene Frank	CHECKED F. Espinoza	LAYOUT BY G.F. Bidwell	CHECKED Arlene Frank	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 53-2644L	<b>ROUTE 10, 5/101 SEPARATION (REPAIR STEEL)</b> <b>GENERAL PLAN</b>
	DETAILS BY G.F. Bidwell	CHECKED F. Espinoza	BY John Strootman	PLANS AND SPECIFICATIONS COMPARED John Strootman		POST MILE 16.90	
QUANTITIES BY Arlene Frank	CHECKED F. Espinoza	SPECIFICATIONS		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07244 EA 248901	REVISION DATES	SHEET 1 OF 6

STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)

DISREGARD PRINTS BEARING EARLIER REVISION DATES

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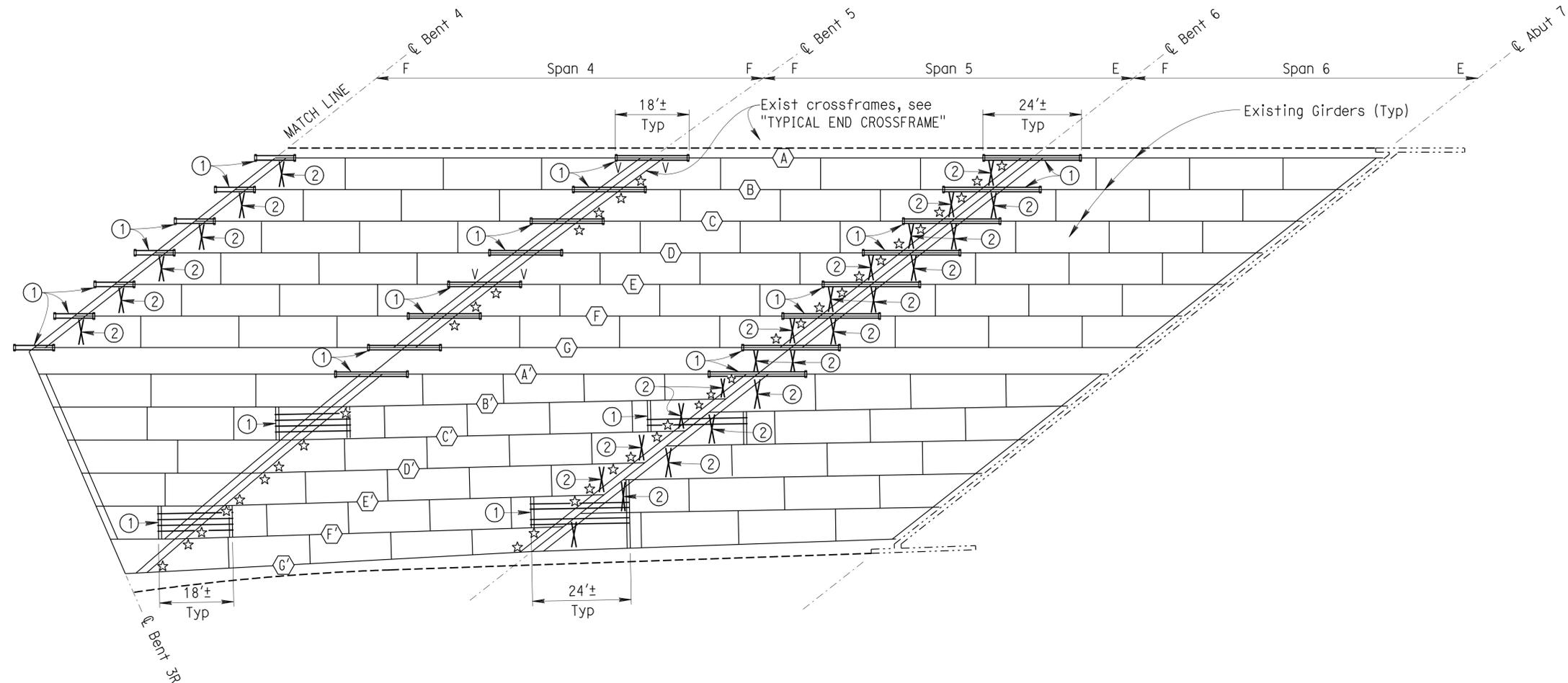
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	28	32

*Arlene Frank* 9-2-2009  
 REGISTERED CIVIL ENGINEER DATE

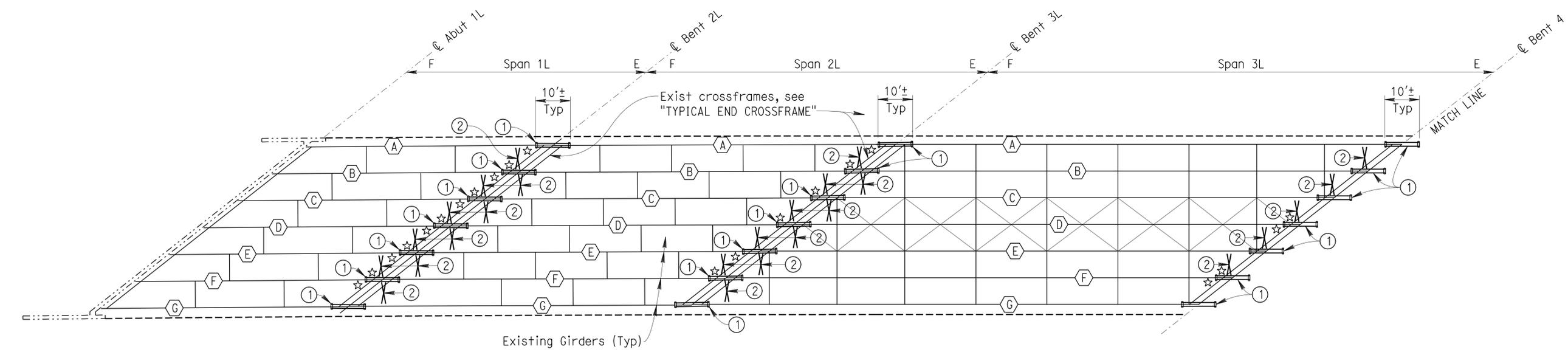
9-14-09  
 PLANS APPROVAL DATE

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  
 ARLENE FRANK  
 No. C 55562  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA



- NOTES: (APPLY TO THIS SHEET ONLY)
- (X) Indicates existing girder designation.
  - (1) Indicates location of existing bracket-type longitudinal restrainer unit.
  - (2) Indicates location of existing diagonal bracing. Typical at all girders at Bents 2L, 3L, 4 and 6.
  - V Indicates location of existing vertical restrainers (bent cap to column).
  - ☆ Indicates location of place new clip angle between existing gusset and girder bottom flange at existing crossframe in Spans 1L, 2L, 3L, 4, 5 and 6, total 60 locations.
  - E Expansion
  - F Fixed
- See GIRDER REPAIR DETAILS NO. 2 sheet for "TYPICAL END CROSSFRAME."



**PARTIAL EXISTING GIRDER LAYOUT**  
 NO SCALE

STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)	DESIGN BY	Arlene Frank	CHECKED	F. Espinoza	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	53-2644L	ROUTE 10, 5/101 SEPARATION (REPAIR STEEL) GIRDER REPAIR DETAILS NO. 1						
	DETAILS BY	G.F. Bidwell	CHECKED	F. Espinoza			POST MILE	16.90							
	QUANTITIES BY	Arlene Frank	CHECKED	F. Espinoza			CU 07244 EA 248901								
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1"> <tr> <th>REVISION DATES</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>9-24-08 10-1-08 11-17-08 1-8-09 6-30-09 8-26-09</td> <td>2</td> <td>6</td> </tr> </table>			REVISION DATES	SHEET	OF	9-24-08 10-1-08 11-17-08 1-8-09 6-30-09 8-26-09	2	6
REVISION DATES	SHEET	OF													
9-24-08 10-1-08 11-17-08 1-8-09 6-30-09 8-26-09	2	6													

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	29	32

Arlene Frank 9-2-2009  
 REGISTERED CIVIL ENGINEER DATE  
 9-14-09  
 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  
 ARLENE FRANK  
 No. C 55562  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

NOTE: (APPLY TO THIS SHEET ONLY)

"a" Clearance of horizontal restrainer cable from edge of girder flange at Bents 2L, 3L, 4, 5 and 6 is approximately 2"± to 7"±.

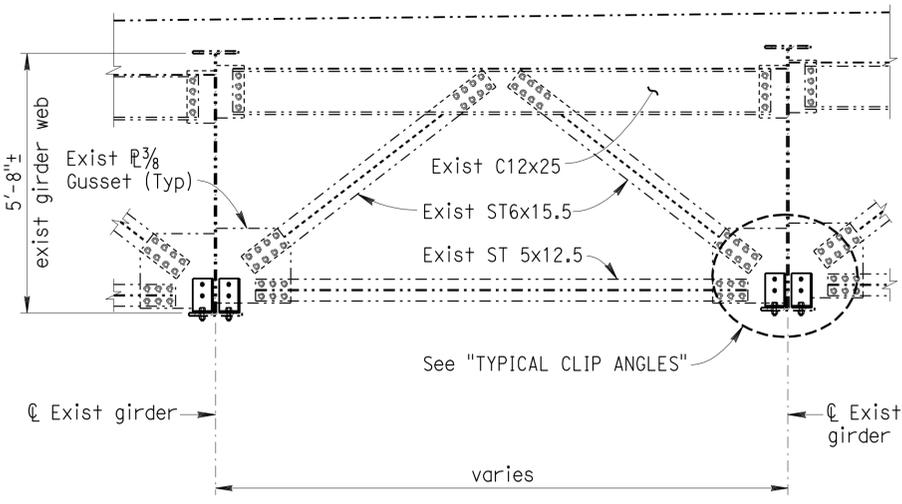
### EXISTING GUSSET ANGLE TABLE

BENT	SPAN	GIRDER	ANGLE
2L	1L	A B C D E F G	37.7°±
3L	2L	A B C D E F G	37.9°±
4	3L	A B C D E F G	38.1°±
5	5	A B C D	36.9°±
		E F G	38.1°±
		A'	39.4°±
		B' C'	37.9°±
		D' E' F'	39.2°±
6	5	A B C D E F G A'	38.1°±
		B' C' D' E' F'	36.6°±
		G'	34.8°±

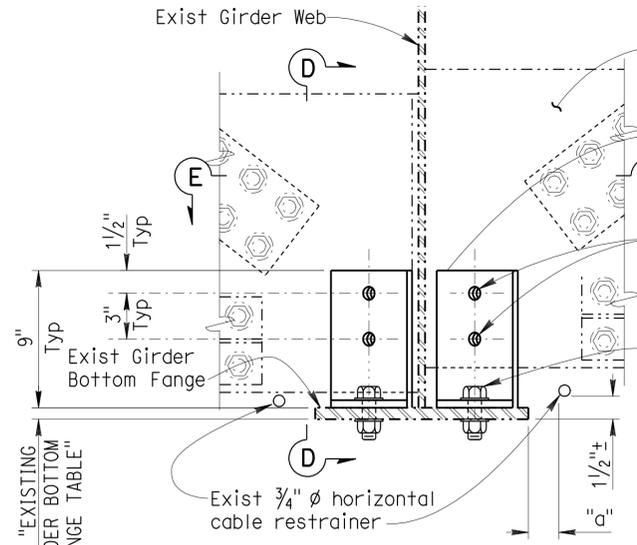
### EXISTING GIRDER BOTTOM FLANGE TABLE

SPAN	GIRDER	BOTTOM FLANGE	
		THICKNESS (inches)	WIDTH (inches)
1L	A B C D E F G	0.625	12.0
2L	A G	0.75	14.0
	B C D E F	0.625	14.0
3	D F	0.75	22.0
5	A B C D E F G	0.625	12.0
	A' B' C' D' E' F' G'	0.625	12.0

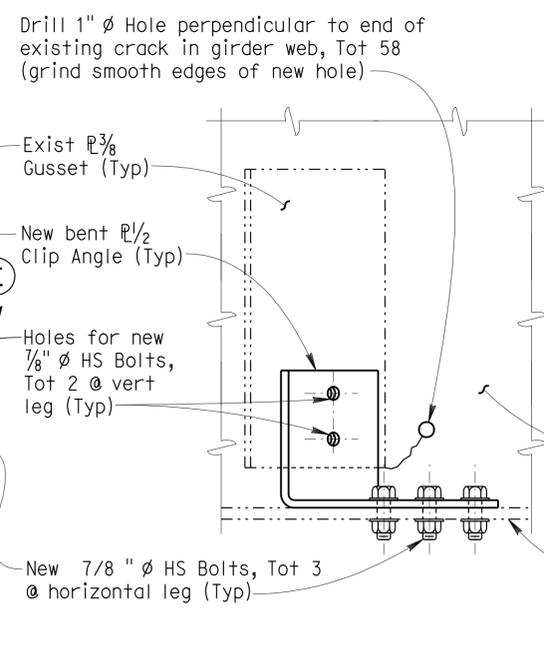
NOTES:  
 For girder designations see "PARTIAL EXISTING GIRDER LAYOUT" on GIRDER REPAIR DETAILS NO. 1 sheet.  
 All dimensions in table are ±.



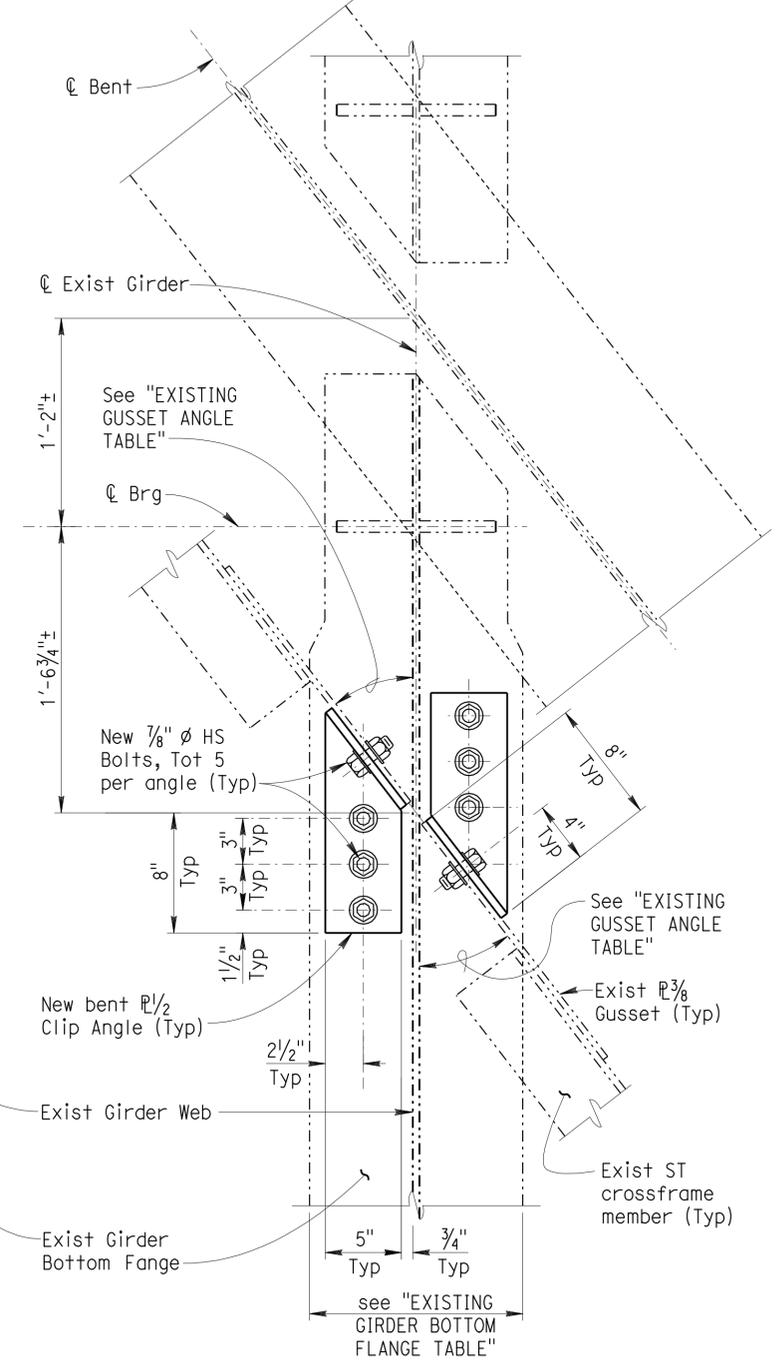
**TYPICAL END CROSSFRAME**  
 1/2" = 1'



**TYPICAL CLIP ANGLES**  
 2" = 1'



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



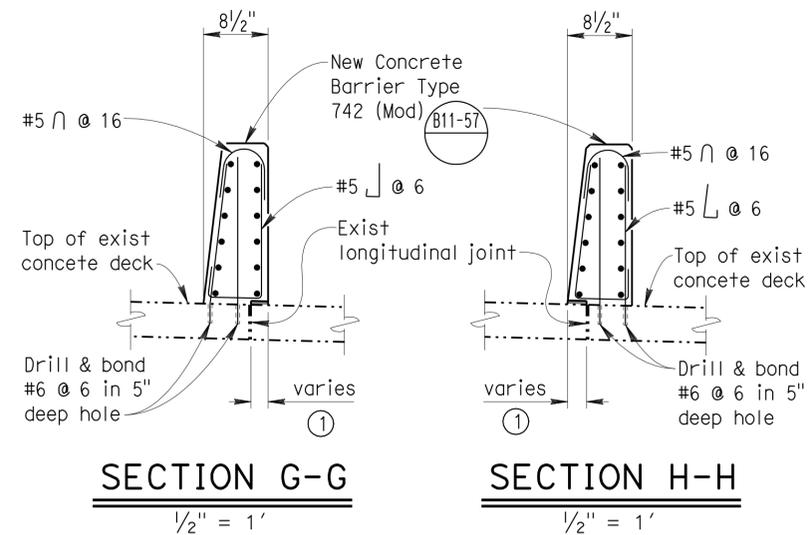
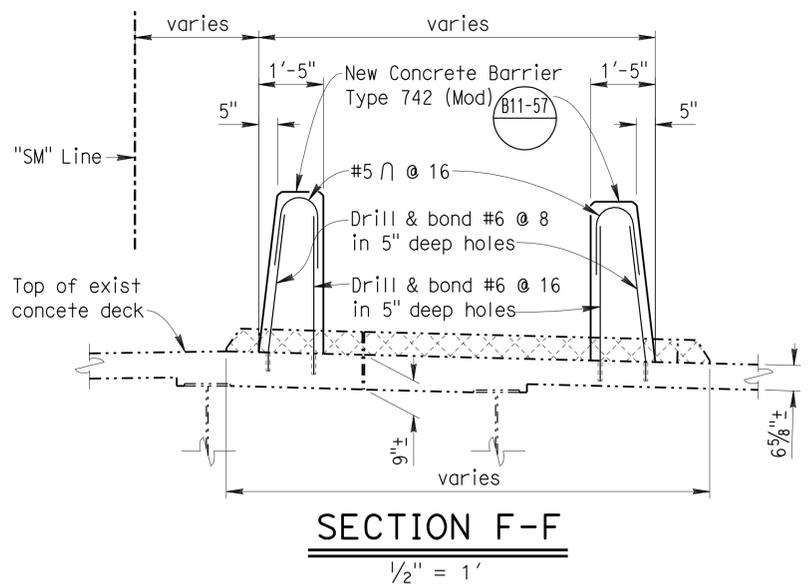
**SECTION E-E**  
 2" = 1'

DESIGN BY Arlene Frank CHECKED F. Espinoza DETAILS BY G.F. Bidwell CHECKED F. Espinoza QUANTITIES BY Arlene Frank CHECKED F. Espinoza	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE <b>STRUCTURE MAINTENANCE DESIGN</b>	BRIDGE NO. 53-2644L POST MILE 16.90	<b>ROUTE 10, 5/101 SEPARATION (REPAIR STEEL)</b> <b>GIRDER REPAIR DETAILS NO. 2</b>
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 07244 EA 248901	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 9-24-08 10-1-08 11-17-08 1-8-09 6-30-09 8-26-09	SHEET 3 OF 6
	STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)			

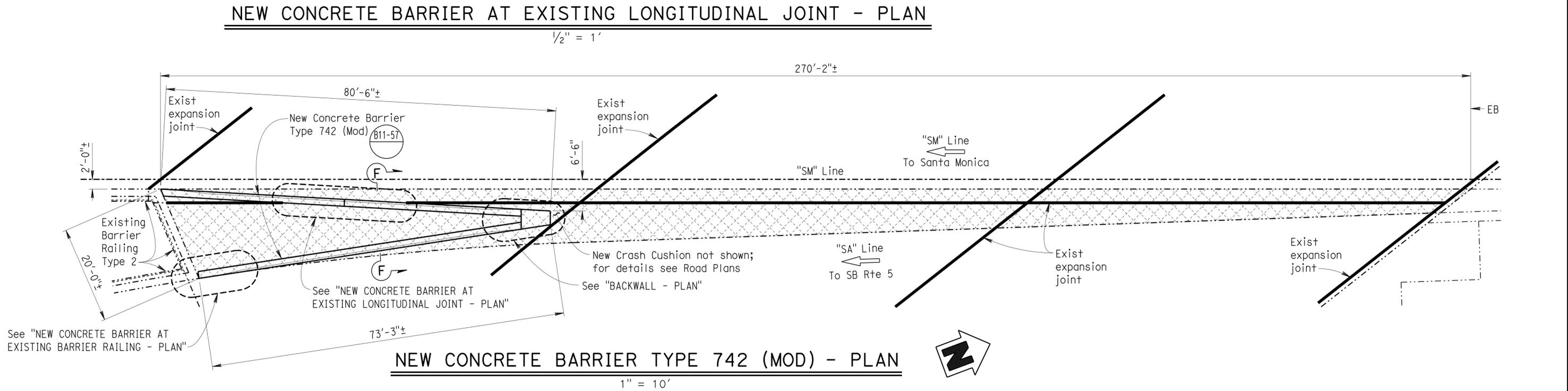
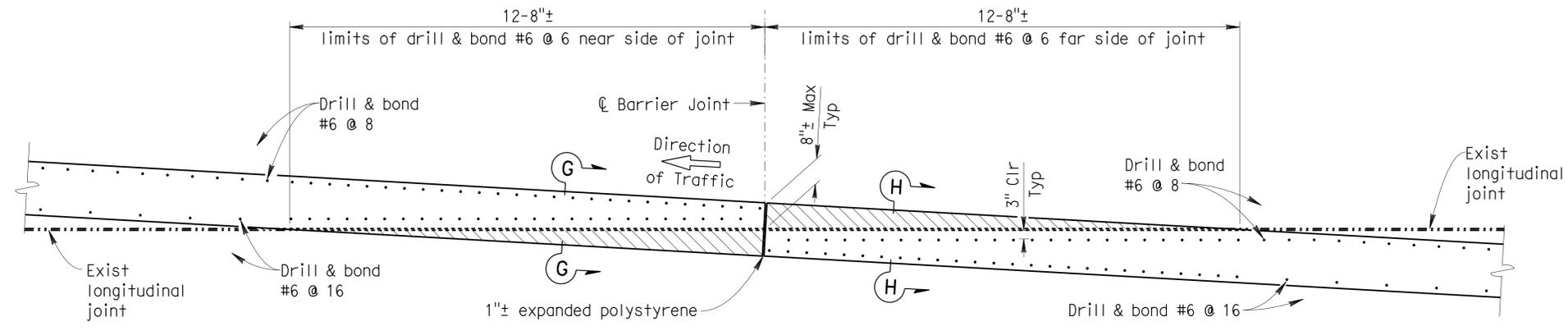
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	30	32

Arlene Frank 9-2-2009  
 REGISTERED CIVIL ENGINEER DATE  
 9-14-09  
 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  
 ARLENE FRANK  
 No. C 55562  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA



- NOTES: (APPLY TO THIS SHEET ONLY)**
- Indicates limits of remove existing concrete curb and asphaltic concrete and finish existing concrete deck.
  - Indicates limits of 0.04" thick galvanized sheet metal over 1" thick neoprene strip. Coat top of strip with grease.
  - Indicates locations of remove existing joint seal and place new joint seal. For details see JOINT SEAL DETAILS sheet.



DESIGN	BY Arlene Frank	CHECKED Khanh Truong
DETAILS	BY G.F. Bidwell	CHECKED Khanh Truong
QUANTITIES	BY Arlene Frank	CHECKED Khanh Truong

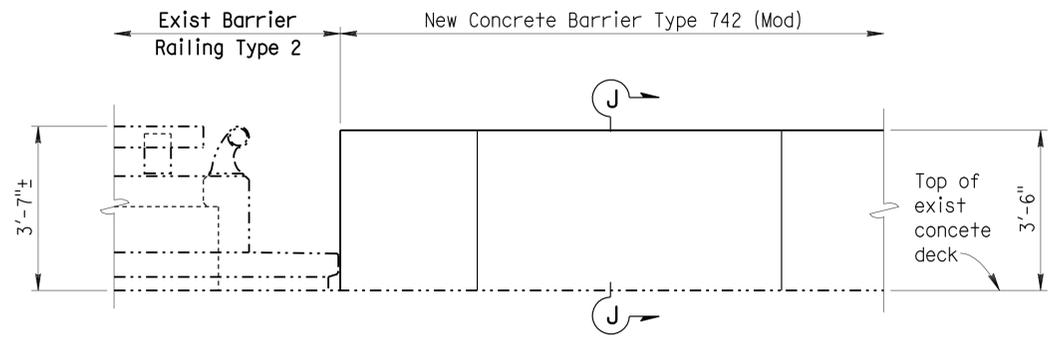
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF MAINTENANCE  
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-2644L	<b>ROUTE 10, 5/101 SEPARATION (REPAIR STEEL)</b>
POST MILE	16.90	
<b>BARRIER RAIL DETAILS NO. 1</b>		

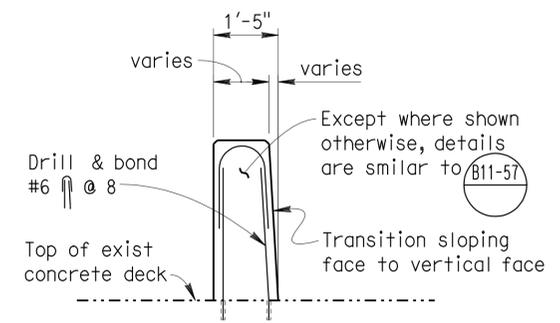
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	31	32

Arlene Frank 9-2-2009  
 REGISTERED CIVIL ENGINEER DATE  
 9-14-09  
 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.

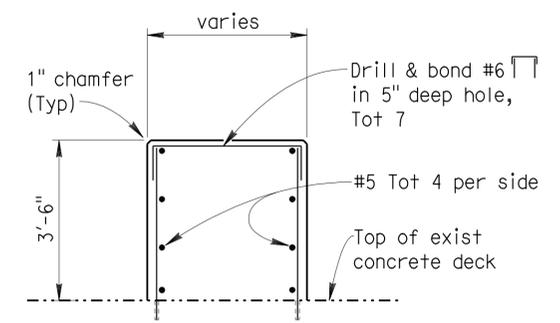
REGISTERED PROFESSIONAL ENGINEER  
 ARLENE FRANK  
 No. C 55562  
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 CIVIL  
 STATE OF CALIFORNIA



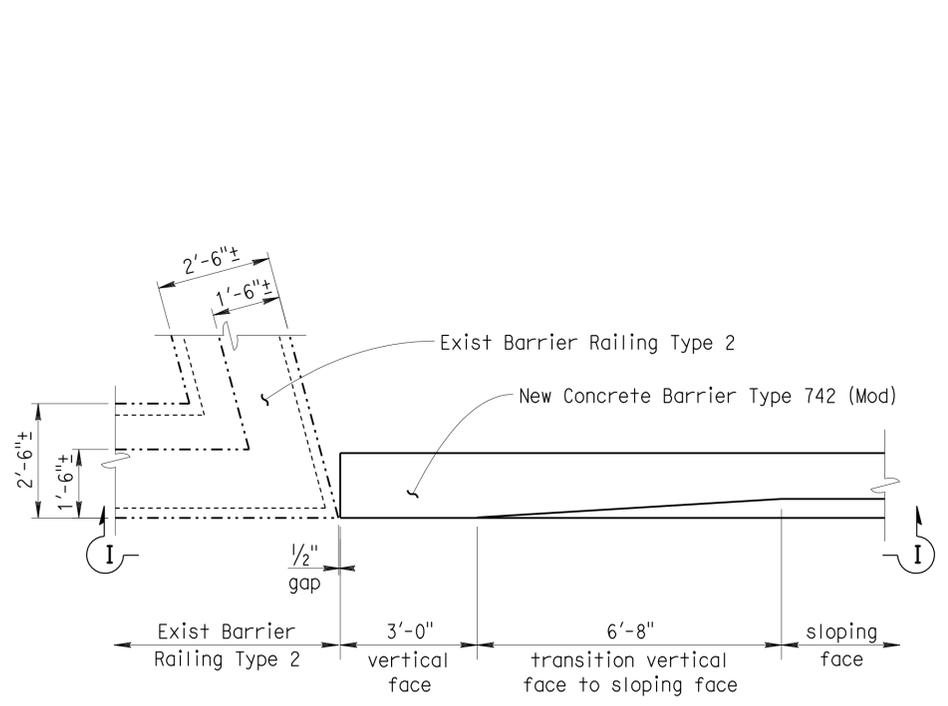
**PARTIAL ELEVATION I-I**  
 $\frac{1}{2}'' = 1'$



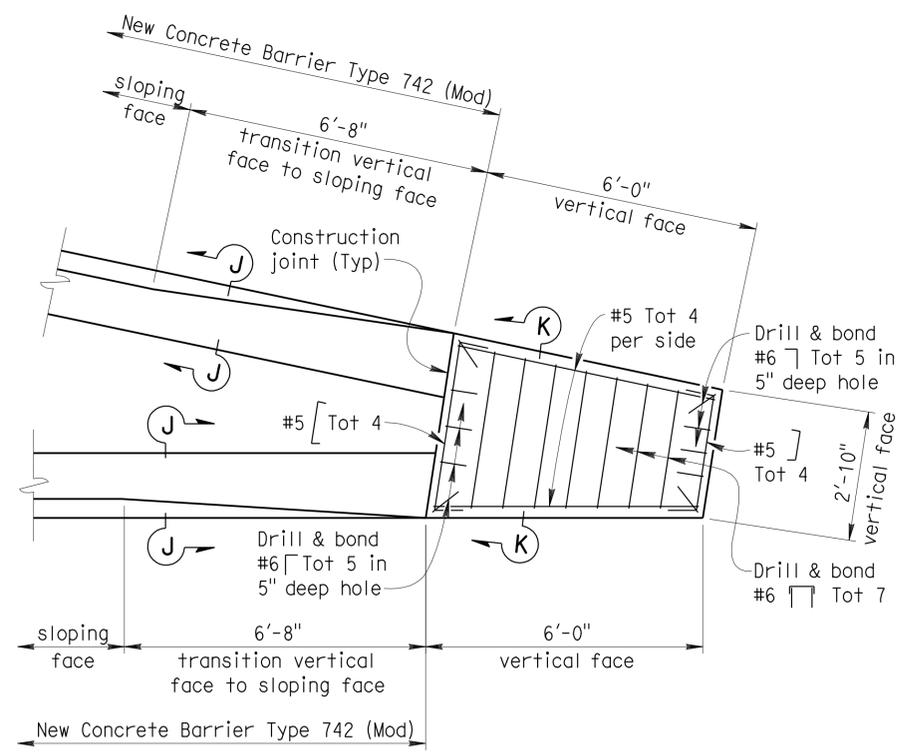
**SECTION J-J**  
 $\frac{1}{2}'' = 1'$



**SECTION K-K**  
 $\frac{1}{2}'' = 1'$



**NEW CONCRETE BARRIER AT EXISTING BARRIER RAILING - PLAN**  
 DETAILS SHOWN ALONG "SA" LINE, DETAILS SIMILAR ALONG "SM" LINE  
 $\frac{1}{2}'' = 1'$



**BACKWALL - PLAN**  
 $\frac{1}{2}'' = 1'$

DESIGN	BY Arlene Frank	CHECKED Khanh Truong
DETAILS	BY G.F. Bidwell	CHECKED Khanh Truong
QUANTITIES	BY Arlene Frank	CHECKED Khanh Truong

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE  
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 53-2644L  
 POST MILE 16.90

**ROUTE 10, 5/101 SEPARATION (REPAIR STEEL)**  
**BARRIER RAIL DETAILS NO. 2**

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	16.9	32	32

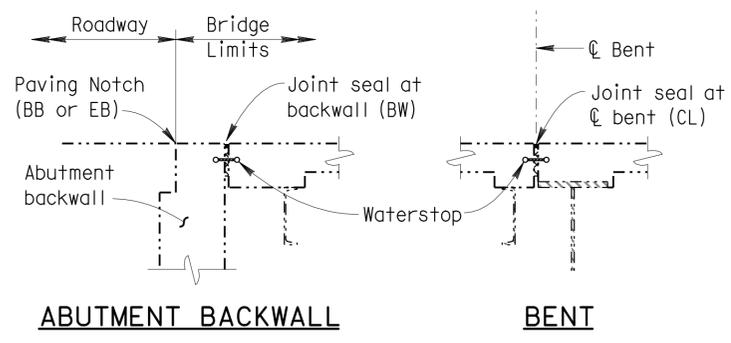
*Arlene Frank* 9-2-2009  
REGISTERED CIVIL ENGINEER DATE

9-14-09  
PLANS APPROVAL DATE

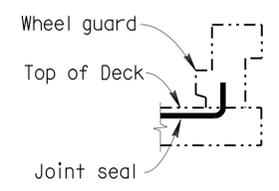
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

JOINT SEAL TABLE					
LOCATION		MINIMUM "MR" (inches)	APPROXIMATE LENGTH (feet)	EXISTING WATERSTOP	APPROX DEPTH TO CLEAN EXPANSION JOINT (inches)
Abutment 1L	BW	1/2	78.0	Yes	6.0
Bent 2L	CL	1/2	78.0	Yes	5.3
Bent 3L	CL	1	78.0	Yes	5.3
Bent 4L	CL	1 1/2	78.0	Yes	5.3
Bent 5	CL	1/2	165.0	Yes	5.3
Bent 6	CL	1	159.0	Yes	5.3
Abutment 7	BW	1/2	154.0	Yes	6.0
Longitudinal	AL	AL	269.5	Yes	3.0

LEGEND:  
BW = Backwall  
CL = Centerline Joint



**JOINT SEAL LOCATION**  
NO SCALE



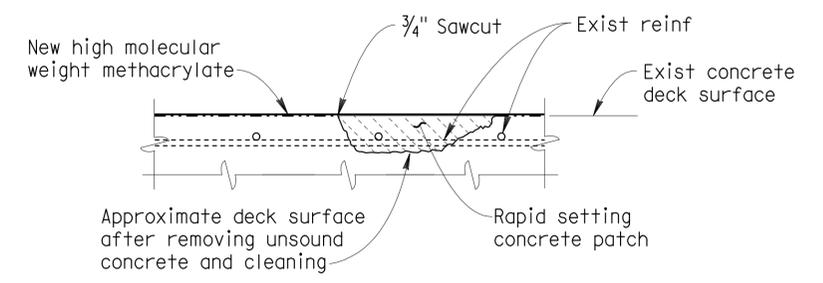
**JOINT SEAL AT LOW SIDE OF DECK**  
Details shown for illustration purposes only. For use only where deck joint matches the barrier rail joint.  
NO SCALE

The following note applies to JOINT SEAL TYPE A:  
Install Type A joint seal 3" up into curb or rail on the low side of the deck where joint matches curb or rail joint. For details not shown see

- The following notes apply to JOINT SEAL TYPE B:
- Seal must satisfy both minimum Movement Rating (MR) and minimum W1 requirements.
  - Minimum W1 is the calculated maximum width of the joint based on field measurements. After the joints have been cleaned, minimum W1 is to be calculated by the Engineer.
  - W1 shall be the smaller of the values determined as follows:
    - 0.85 times the manufacturer's designed minimum uncompressed width of the seal.
    - The width of the seal on the third successive test cycle of the pressure deflection test, when compressed to an average pressure of 3 psi.
  - Bent Type B joint seal 6" up into curb or rail on the low side of the deck where deck joint matches curb or rail joint.
  - For details not shown see

DECK REPAIR TABLE	
REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE	
APPROXIMATE AREA DAMAGED (PERCENT)	APPROXIMATE DEPTH (INCHES)
2	3

Repair locations to be determined by the Engineer.  
For details see "DECK REPAIR DETAIL".



**DECK REPAIR DETAIL**  
Reinforcement may be encountered during deck concrete removal.  
NO SCALE

DESIGN	BY	Arlene Frank	CHECKED	F. Espinoza	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	53-2644L	ROUTE 10, 5/101 SEPARATION (REPAIR STEEL) JOINT SEAL DETAILS	
	DETAILS	BY	G.F. Bidwell	CHECKED			F. Espinoza	POST MILE		16.90
	QUANTITIES	BY	Arlene Frank	CHECKED			F. Espinoza	CU 07244 EA 248901		REVISION DATES
STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	SHEET	6	OF	6

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