

INDEX OF PLANS

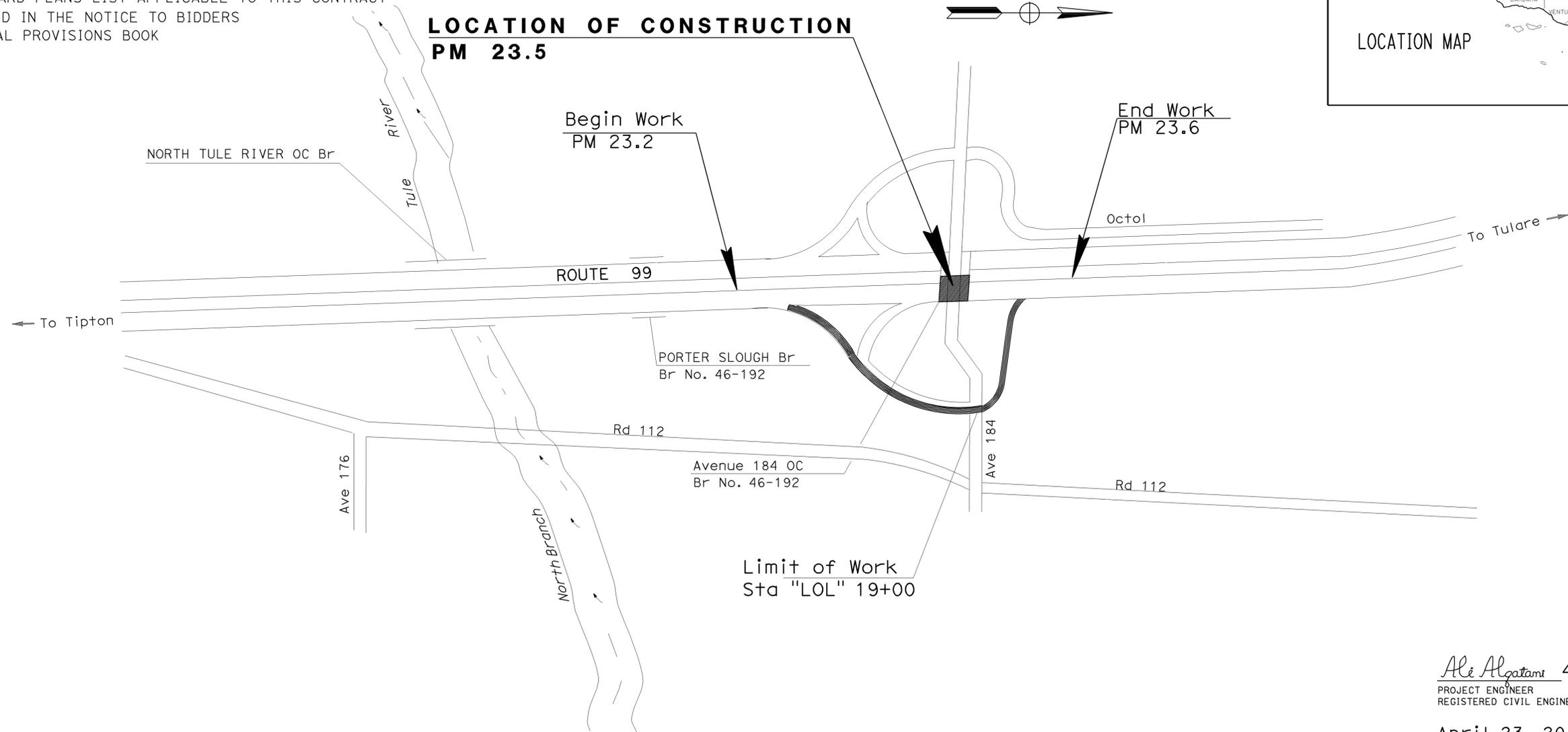
SHEET No.	DESCRIPTION
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40-50	AVENUE 184 OVERCROSSING
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK	

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY
 IN TULARE COUNTY
 IN TULARE
 AT AVENUE 184 OVERCROSSING**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	1	50

LOCATION MAP



PROJECT MANAGER
STEVEN MILTON
 DESIGN ENGINEER
ALI ALOATAMI

Ali Alqatami 4/17/12
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
April 23, 2012
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



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

NO SCALE

CONTRACT No.	06-ON8504
PROJECT ID	0600020669

DATE PLOTTED => 13-JUL-2012 TIME PLOTTED => 11:17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	2	50

Ali Alqatami	4/17/12
REGISTERED CIVIL ENGINEER	DATE
4-23-12	
PLANS APPROVAL DATE	

ALI ALQATAMI
No. 52024
Exp. 12-31-14
CIVIL

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

- NOTES:**
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTION) ARE SUBJECT TO TOLARENCS SPECIFICED IN THE STANDARD SPECIFICATIONS.
 - SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

Caltrans

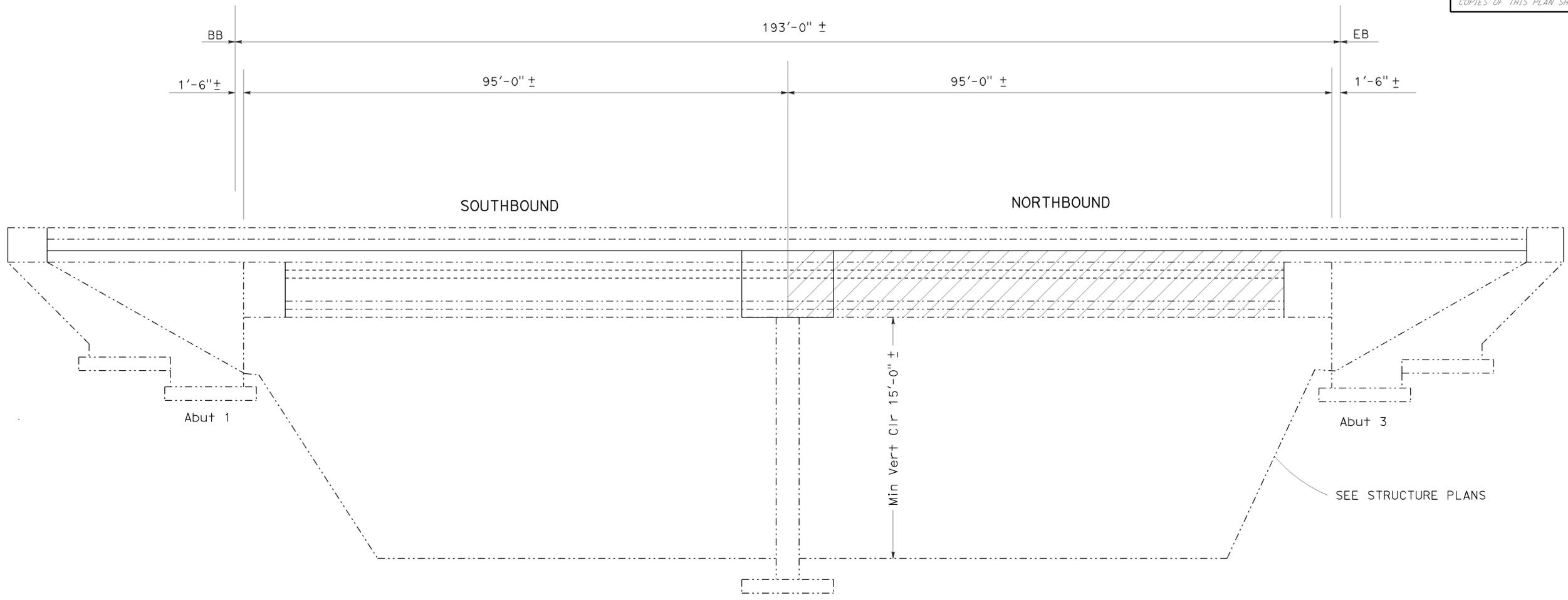
FUNCTIONAL SUPERVISOR: RORY QUINCE

CHECKED BY: ALI ALQATAMI

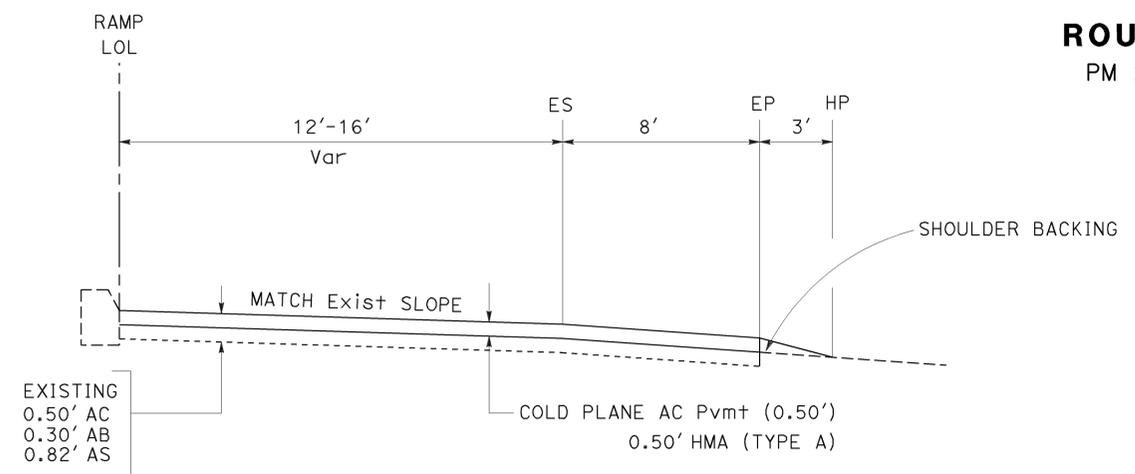
DESIGNED BY: MOHAMMAD HASHEM

REVISOR: F. Morales

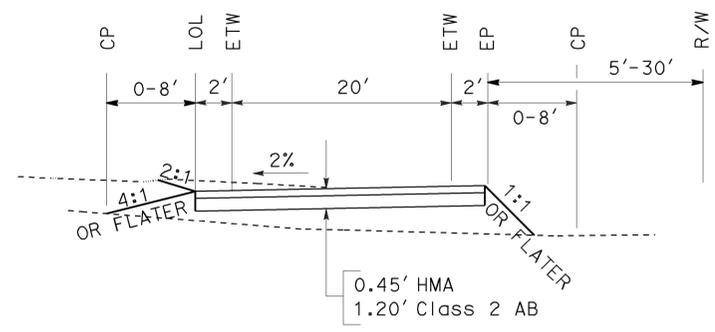
DATE: 05-09-12



ROUTE 99
PM 23.45



NB Ave 184 OFF-RAMP
STA 9+76.14 TO 19+17.23



TEMPORARY ON-RAMP DETOUR
STA 19+17.23 TO 24+60.00

TYPICAL CROSS SECTIONS
X-1

NO SCALE

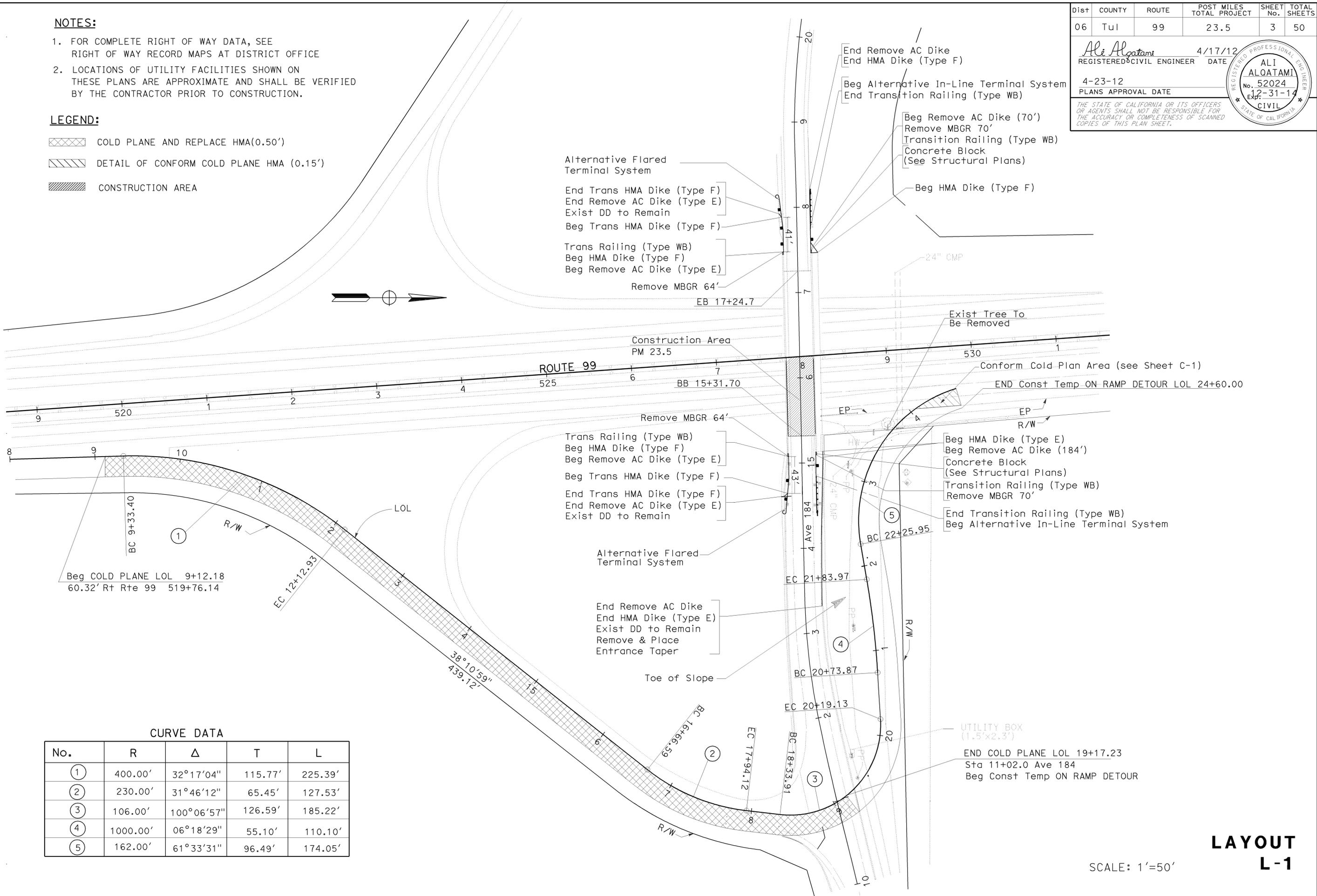
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	3	50

Ali Alqatami 4/17/12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 PLANS APPROVAL DATE
 No. 52024
 Exp. 12-31-14
 CIVIL
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

- NOTES:**
- FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE
 - LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

- LEGEND:**
- COLD PLANE AND REPLACE HMA(0.50')
 - DETAIL OF CONFORM COLD PLANE HMA (0.15')
 - CONSTRUCTION AREA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 Caltrans
 FUNCTIONAL SUPERVISOR RORY QUINCE
 CALCULATED/DESIGNED BY CHECKED BY
 MOHAMMAD HASHEM ALI ALOATAMI
 REVISED BY DATE REVISED
 F. Morales 05-09-12



CURVE DATA

No.	R	Δ	T	L
①	400.00'	32°17'04"	115.77'	225.39'
②	230.00'	31°46'12"	65.45'	127.53'
③	106.00'	100°06'57"	126.59'	185.22'
④	1000.00'	06°18'29"	55.10'	110.10'
⑤	162.00'	61°33'31"	96.49'	174.05'

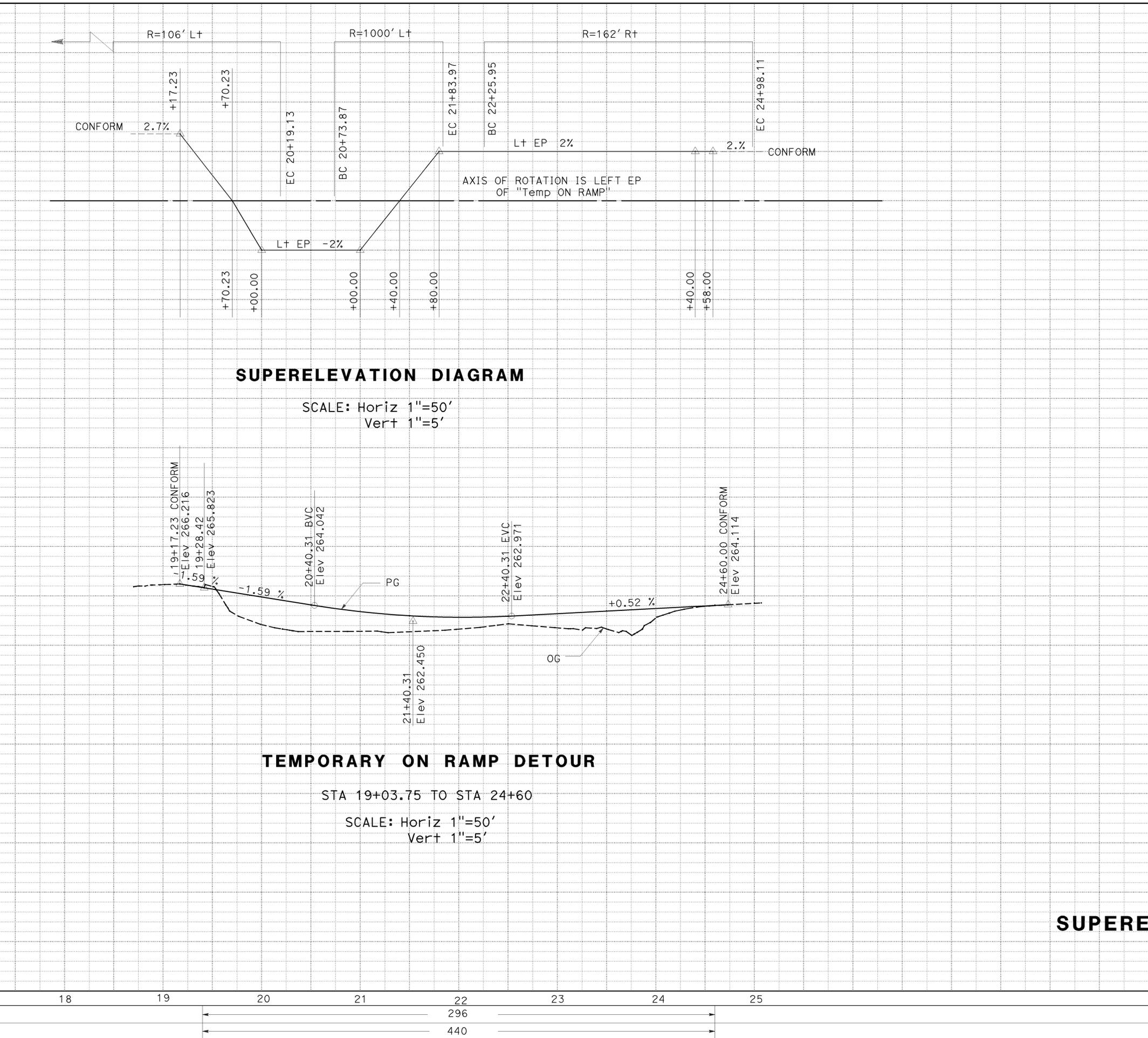
LAYOUT L-1

SCALE: 1'=50'

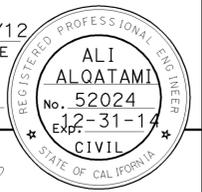
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR: RORY QUINCE
 MOHAMMAD HASHEM
 ALI ALOATAMI
 F. Morales
 05-09-12

STATION: 18, 19, 20, 21, 22, 23, 24, 25
 CY: Exc 296, Emb 440



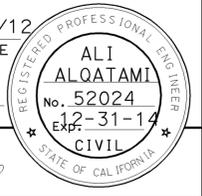
Dist	COUNTY	ROUTE	POST MILES PROJECT	SHEET No.	SHEETS
06	Tul	99	23.5	4	50
Ali Alqatami			4/17/12	REGISTERED CIVIL ENGINEER DATE	
4-23-12			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



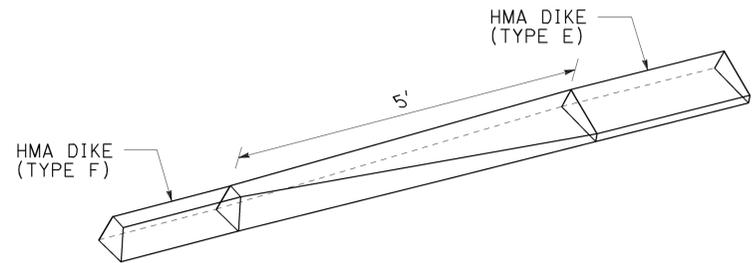
PROFILE AND SUPERELEVATION DIAGRAM PS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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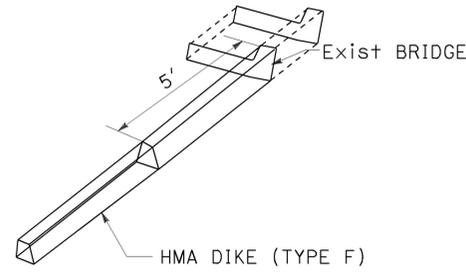
Ali Alqatami 4/17/12
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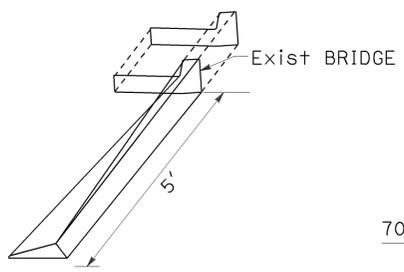
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR RORY QUINCE
 CALCULATED/DESIGNED BY CHECKED BY
 MOHAMMAD HASHEM ALI ALOATAMI
 REVISED BY DATE REVISED
 F. Morales 05-09-12



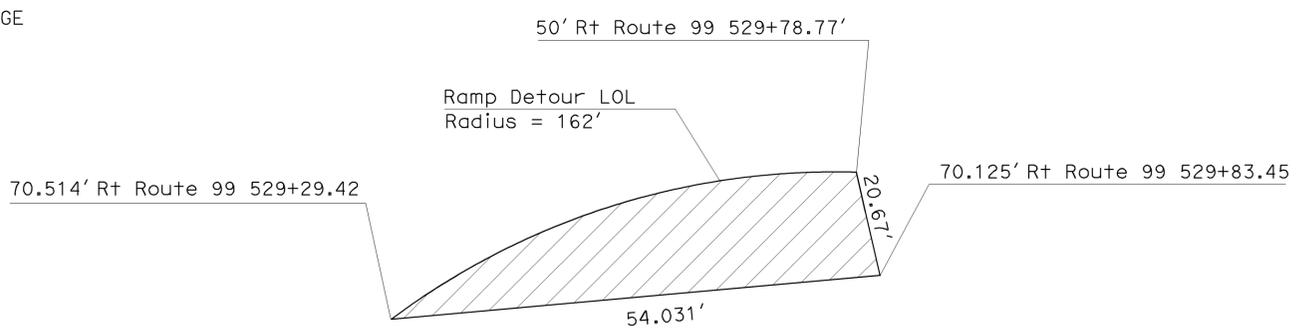
HMA DIKE TRANSITION
FROM (TYPE F) TO (TYPE E)



TRANSITION DETAIL
FROM Exist BRIDGE TO HMA DIKE (TYPE F)



TRANSITION DETAIL
FROM Exist BRIDGE TO HMA DIKE (TYPE E)



CONFORM COLD PLANE HMA AREA

CONSTRUCTION DETAILS

NO SCALE **C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: RORY QUINCE
 CALCULATED/DESIGNED BY: ALI ALQATAMI
 CHECKED BY: ALI ALQATAMI
 MOHAMMAD HASHEM
 REVISED BY: F. Morales
 DATE REVISED: 05-09-12

LEGEND:
 TFR TEMPORARY FIBER ROLL

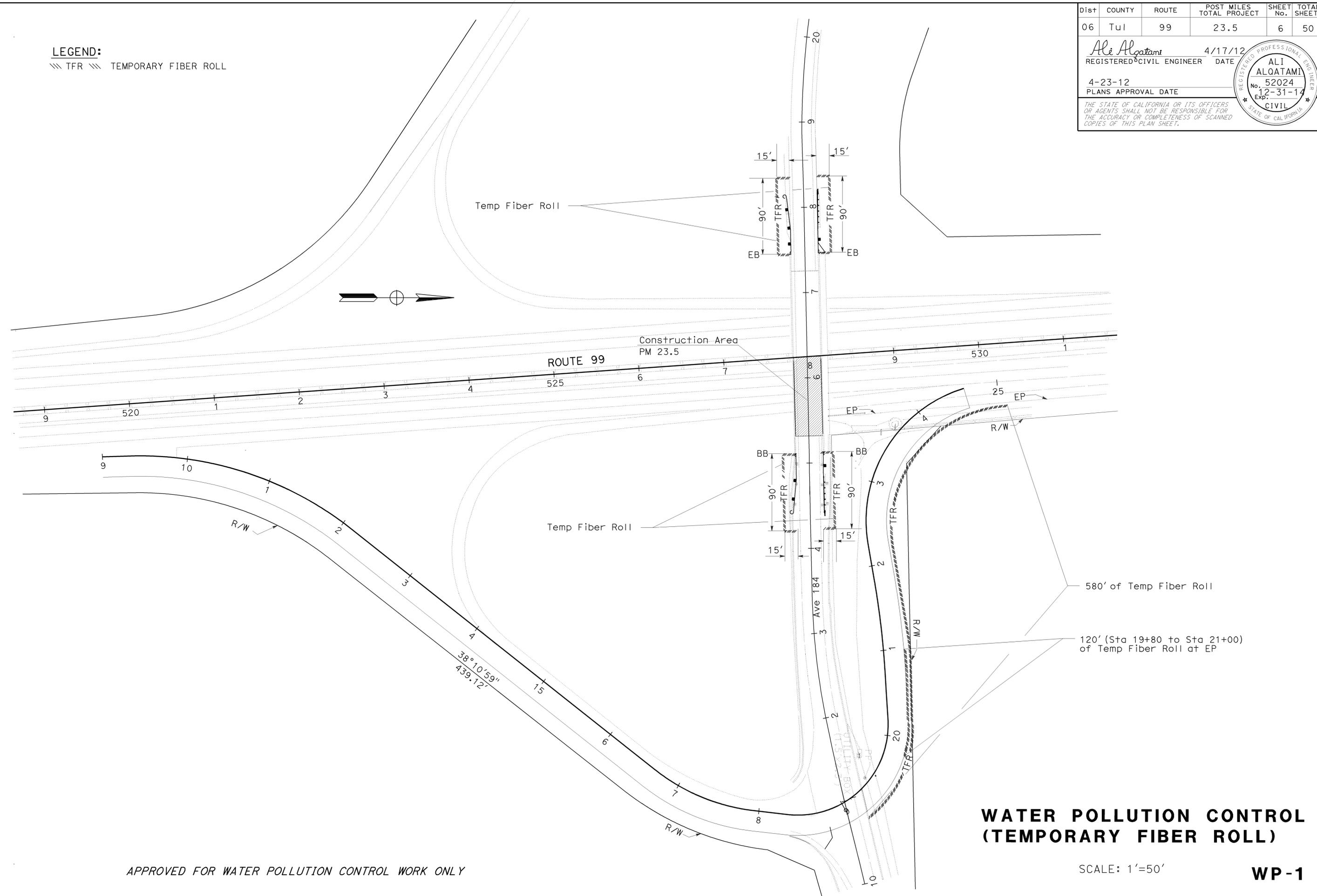
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	6	50

Ali Alqatami 4/17/12
 REGISTERED CIVIL ENGINEER DATE

4-23-12
 PLANS APPROVAL DATE

ALI ALQATAMI
 No. 52024
 Exp. 12-31-14
 CIVIL

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APPROVED FOR WATER POLLUTION CONTROL WORK ONLY

**WATER POLLUTION CONTROL
 (TEMPORARY FIBER ROLL)**

SCALE: 1"=50'
WP-1

LAST REVISION | DATE PLOTTED => 13-JUL-2012
 04-04-12 TIME PLOTTED => 11:17

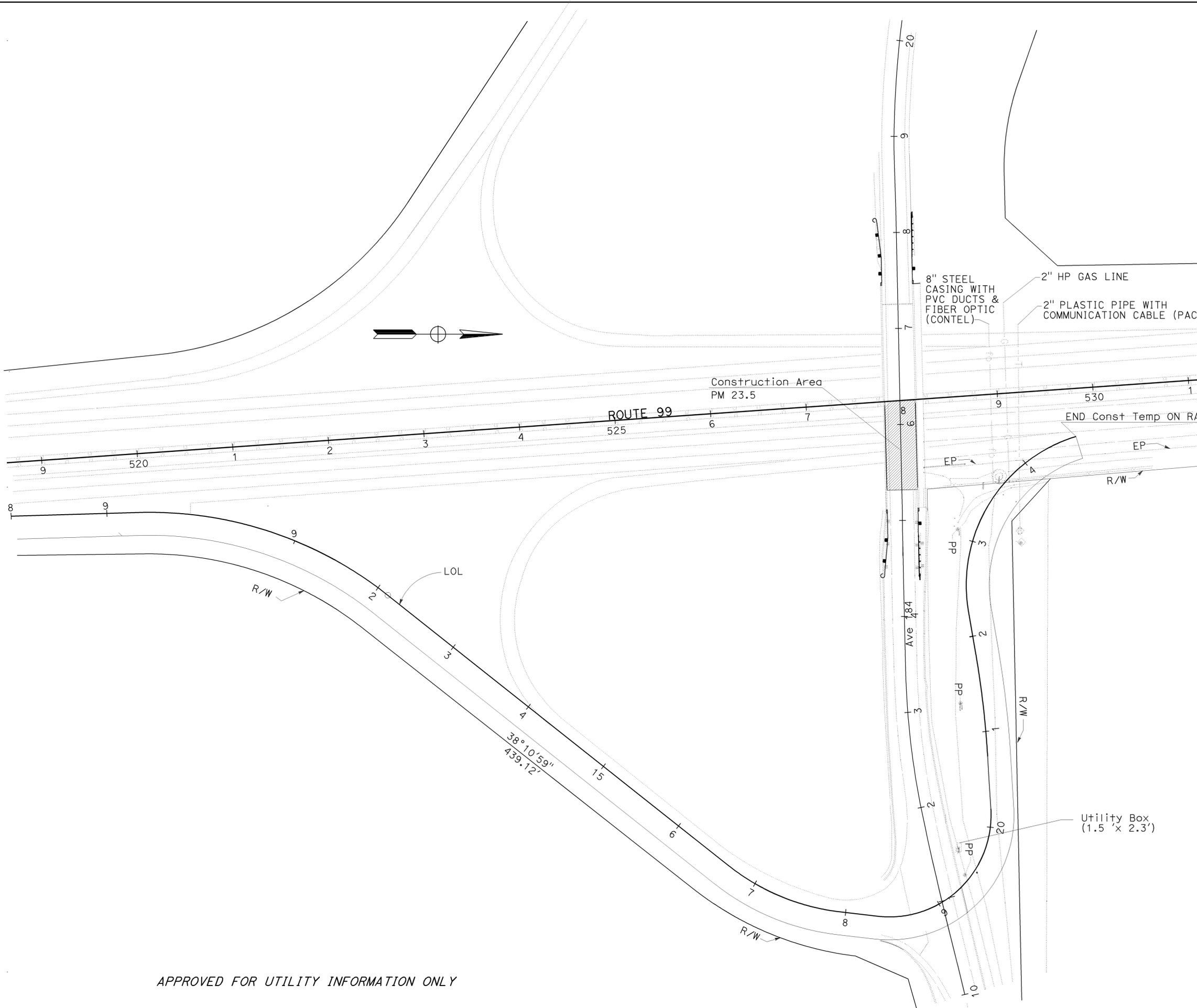
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	7	50

Ali Alqatami 4/17/12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 ALI ALQATAMI
 No. 52024
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans	RORY QUINCE	MOHAMMAD HASHEM	F. Morcises	05-09-12
DESIGN		CHECKED BY		
		ALI ALQATAMI		



APPROVED FOR UTILITY INFORMATION ONLY

UTILITY PLAN
U-1

SCALE: 1' = 50'

LAST REVISION | DATE PLOTTED => 13-JUL-2012
 04-04-12 TIME PLOTTED => 11:17

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POST AND SIZE	EACH
(A)	W20-1	60" x 60"	ROAD WORK AHEAD	2-6" x 6"	2
(B)	W20-1	36" x 36"	ROAD WORK AHEAD	1-4" x 6"	4
(C)	G20-2	36" x 18"	END ROAD WORK	1-4" x 4"	4

NOTES:

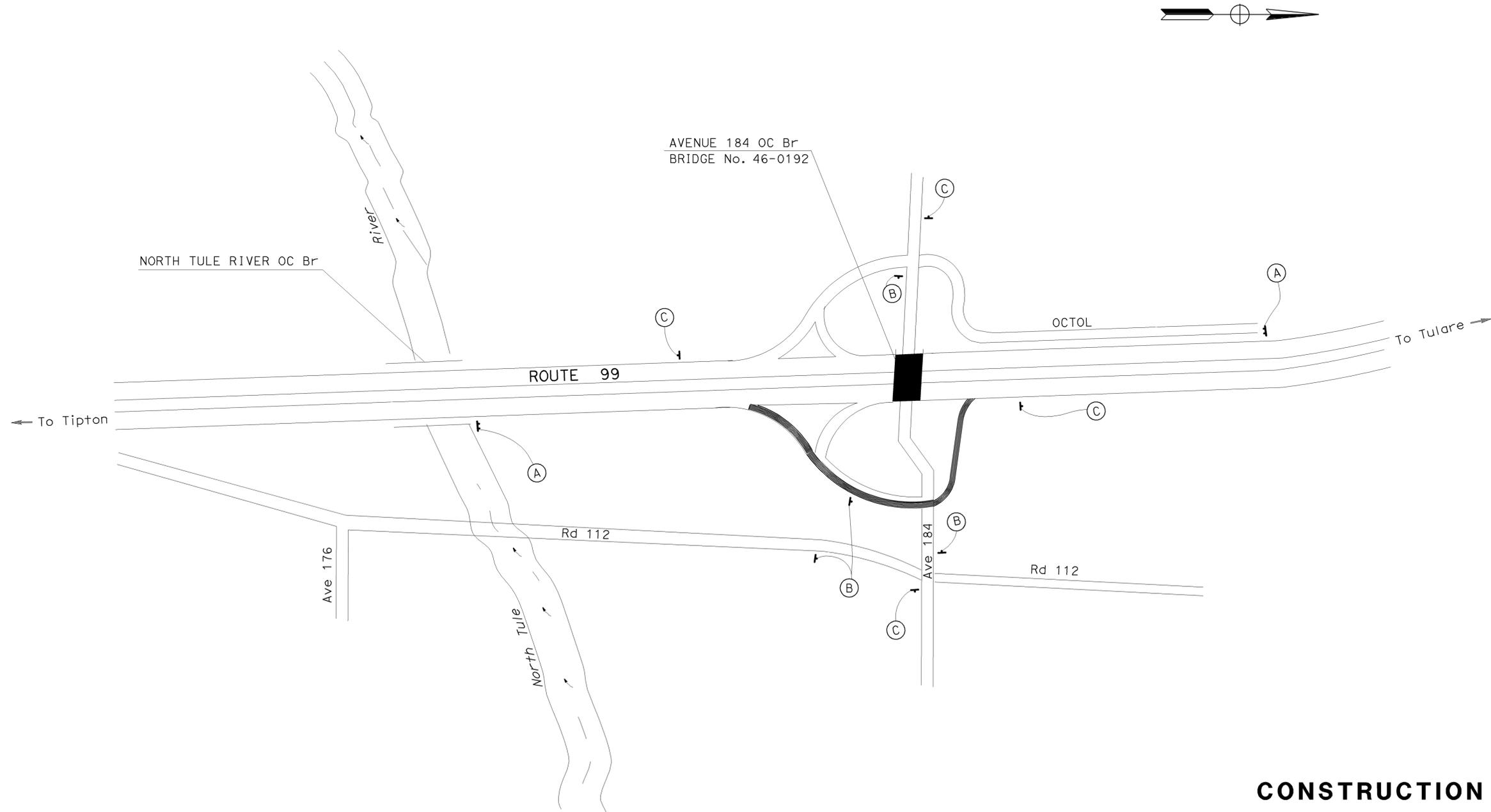
1. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. SEE SHEET THQ-1 FOR ADDITIONAL CONSTRUCTION AREA SIGNS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	8	50

MAZIN H. AL-ALI 04-04-12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
MAZIN H. AL-ALI
 No. 65523
 Exp. 9/30/13
 CIVIL
 STATE OF CALIFORNIA

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



CONSTRUCTION AREA SIGNS

CS-1

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA	DEPARTMENT OF TRANSPORTATION	Caltrans	TRAFFIC DESIGN	FUNCTIONAL SUPERVISOR	MOHAMMED OATAMI	CALCULATED/DESIGNED BY	CHECKED BY	MAZIN AL-ALI	HASEEB YOUSAF	REVISED BY	DATE REVISED
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LAST REVISION | DATE PLOTTED => 13-JUL-2012
 04-04-12 | TIME PLOTTED => 11:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	9	50

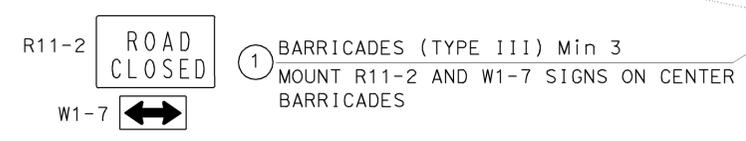
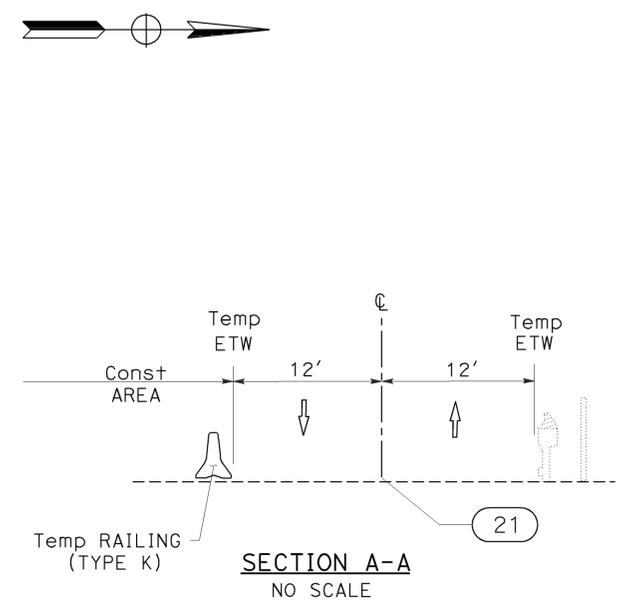
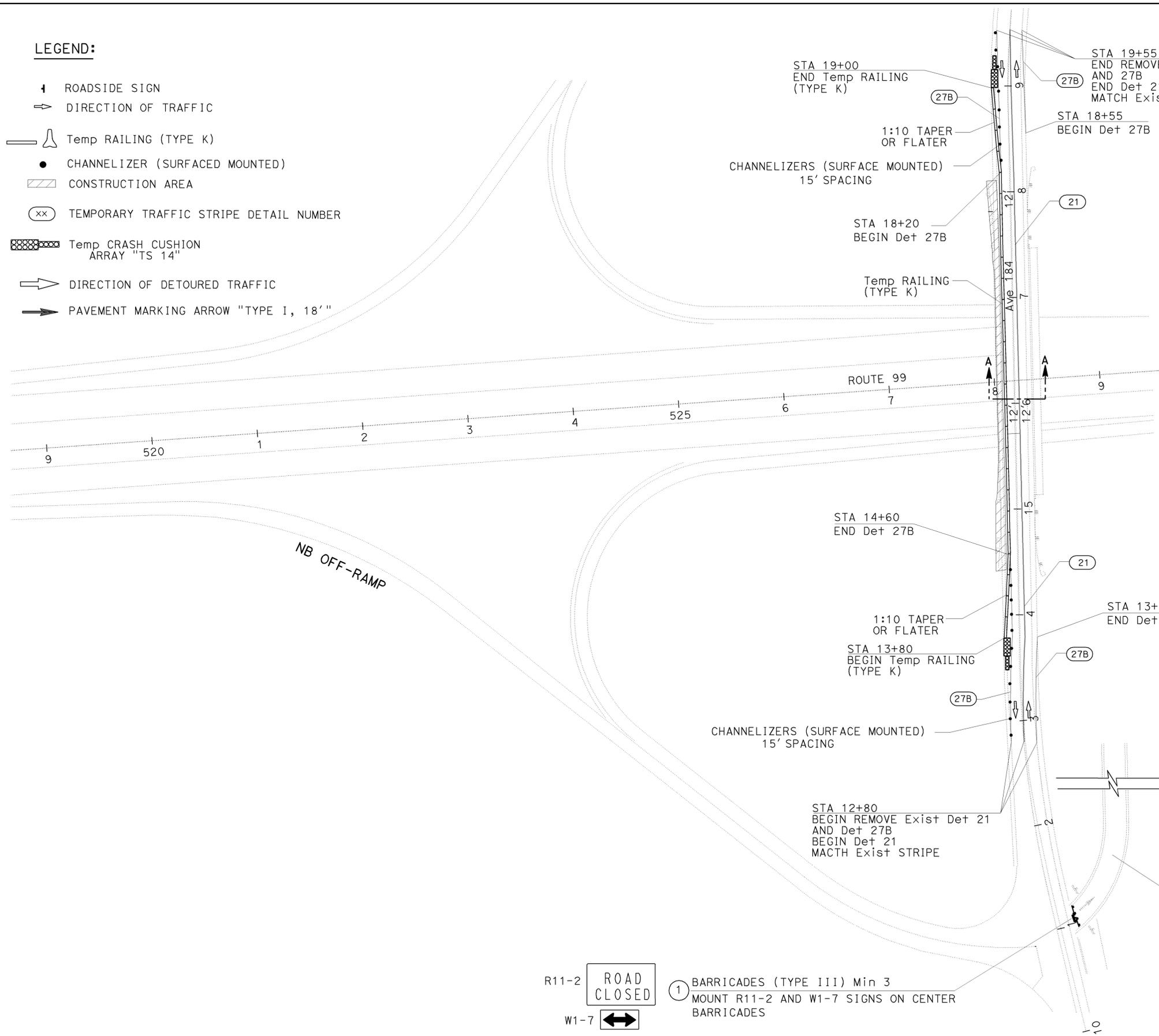
97A2-AL1 04-04-12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 MAZIN H. AL-ALI
 No. 65523
 Exp. 9/30/13
 CIVIL
 STATE OF CALIFORNIA

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

LEGEND:

- ROADSIDE SIGN
- DIRECTION OF TRAFFIC
- Temp RAILING (TYPE K)
- CHANNELIZER (SURFACE MOUNTED)
- CONSTRUCTION AREA
- TEMPORARY TRAFFIC STRIPE DETAIL NUMBER
- Temp CRASH CUSHION ARRAY "TS 14"
- DIRECTION OF DETOURED TRAFFIC
- PAVEMENT MARKING ARROW "TYPE I, 18"



TRAFFIC HANDLING PLAN (STAGE 1)

SCALE: 1"=50' TH-1

APPROVED FOR TRAFFIC HANDLING WORK ONLY

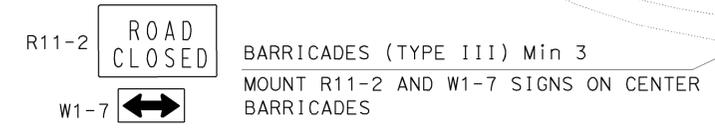
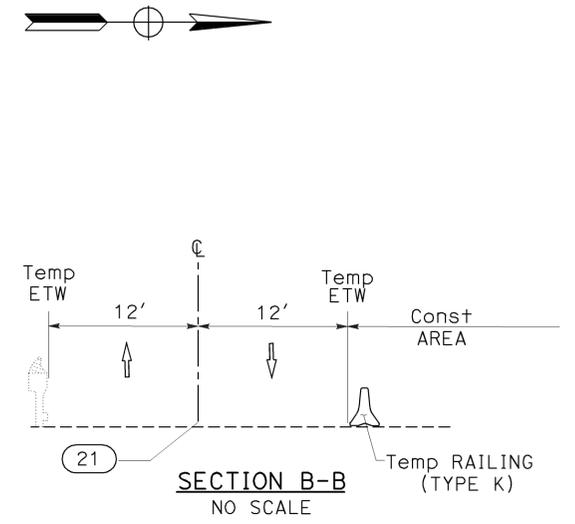
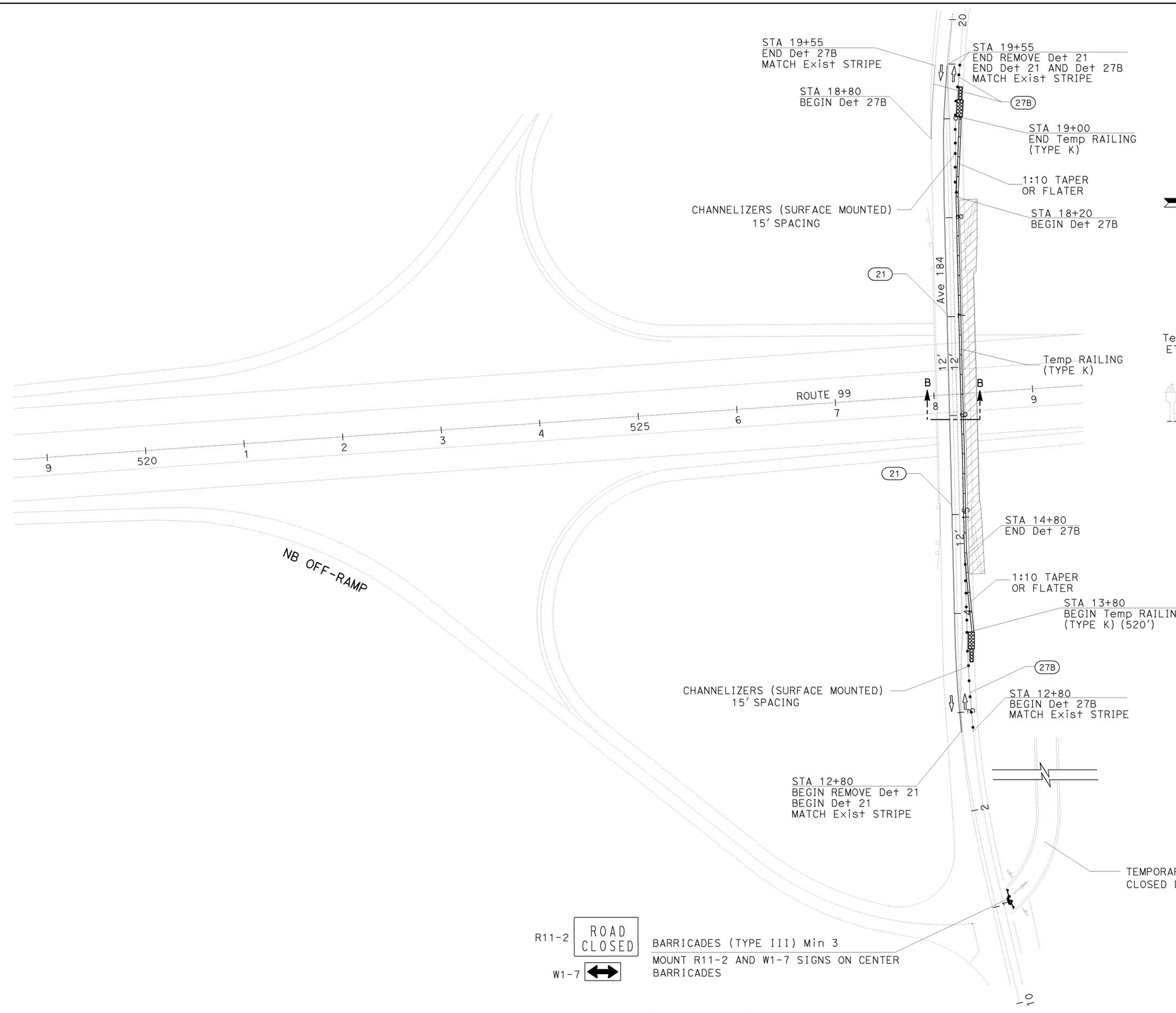
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans
 FUNCTIONAL SUPERVISOR
 MOHAMMED OATAMI
 CALCULATED/DESIGNED BY
 CHECKED BY
 MAZIN AL-ALI
 HASEEB YOUSAF
 REVISOR BY
 DATE REVISOR
 DATE

LAST REVISION | DATE PLOTTED => 13-JUL-2012
 04-04-12 TIME PLOTTED => 11:17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	10	50

H.A. - ALI 04-04-12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 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
 MAZIN H. AL-ALI
 No. 65523
 Exp 9/30/13
 CIVIL
 STATE OF CALIFORNIA



TRAFFIC HANDLING PLAN (STAGE 2)
 SCALE: 1"=50' TH-2

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	MAZIN AL-ALI	REVISOR
Caltrans	MOHAMMED OATAMI	HASEEB YOUSAF	DATE
TRAFFIC DESIGN	CHECKED BY	DESIGNED BY	DATE

LAST REVISION | DATE PLOTTED => 13-JUL-2012
 04-04-12 TIME PLOTTED => 11:17

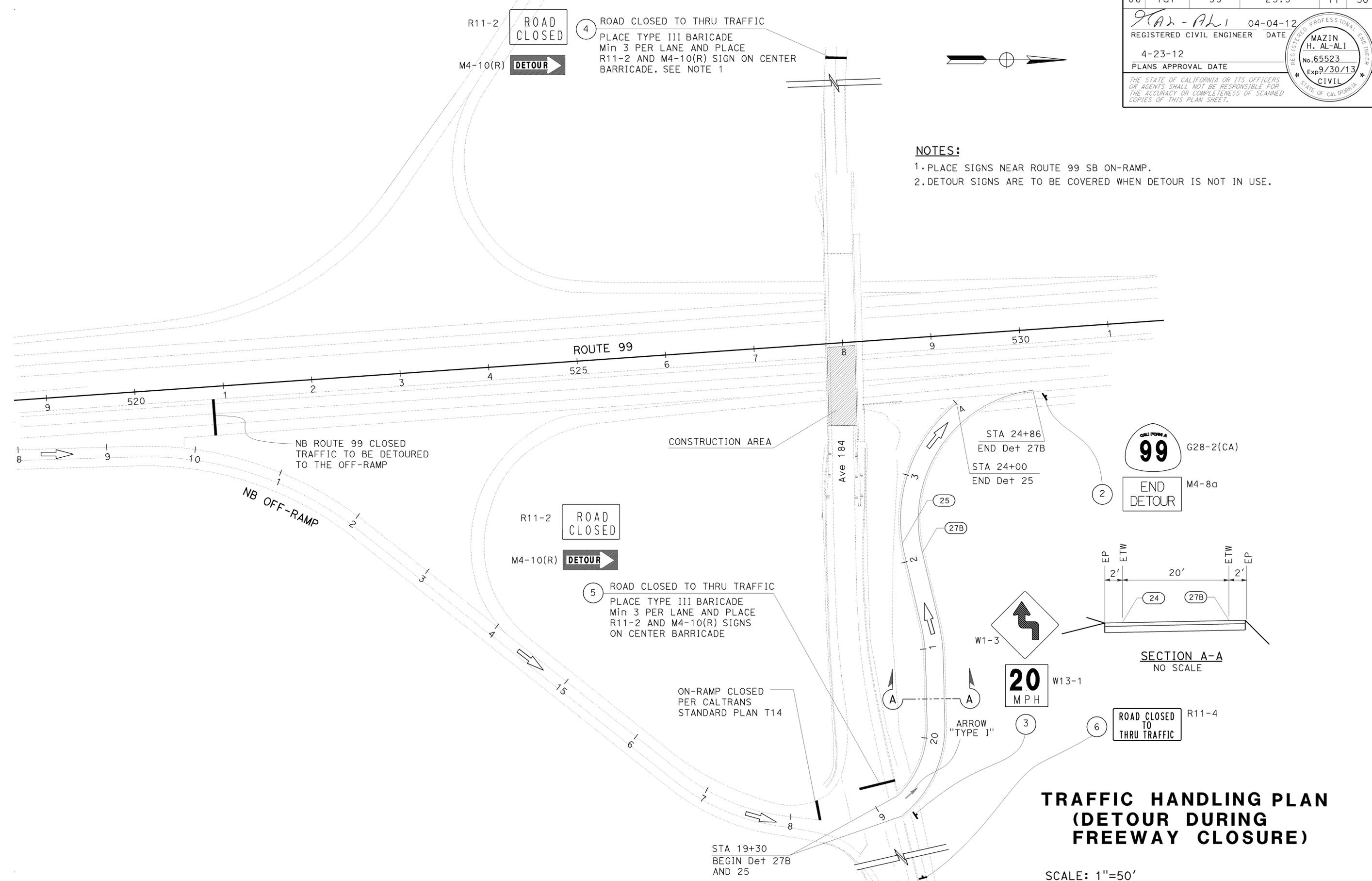
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	11	50

H.A. - ALI 04-04-12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 MAZIN H. AL-ALI
 No. 65523
 Exp 9/30/13
 CIVIL
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
 CALCULATED/DESIGNED BY: [] CHECKED BY: []
 MAZIN AL-ALI
 HASEEB YOUSAF
 REVISED BY: [] DATE: []
 REVISOR: [] DATE: []



NOTES:
 1. PLACE SIGNS NEAR ROUTE 99 SB ON-RAMP.
 2. DETOUR SIGNS ARE TO BE COVERED WHEN DETOUR IS NOT IN USE.

APPROVED FOR DETOUR WORK ONLY

**TRAFFIC HANDLING PLAN
 (DETOUR DURING
 FREEWAY CLOSURE)**

SCALE: 1"=50'

TH-3

LAST REVISION | DATE PLOTTED => 13-JUL-2012
 04-04-12 TIME PLOTTED => 11:17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	12	50

97A2-AL1 04-04-12
REGISTERED CIVIL ENGINEER DATE
4-23-12
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.

CONSTRUCTION AREA SIGNS (TRAFFIC HANDLING)

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POST AND SIZE	EACH
①	R11-2	48" x 30"	SEE SHEET TH-1	MOUNTED ON BARRICADES	1
	W1-7	48" x 24"			1
②	G28-2(CA)	21" x 18"	SEE SHEET TH-3	1-4" x 6"	1
	M4-8a	21" x 18"			1
③	W1-3(L)	36" x 36"		1-4" x 6"	1
	W13-1	30" x 30"			1
④	R11-2	48" x 30"		MOUNTED ON BARRICADES	1
	M4-10(R)	48" x 18"			1
⑤	R11-2	48" x 30"		MOUNTED ON BARRICADES	1
	M4-10(R)	48" x 18"			1
⑥	R11-4	60" X 30'		MOUNTED ON BARRICADES	1

NOTE:
1. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. SEE SHEET CS-1 FOR ADDITIONAL CONSTRUCTION AREA SIGNS.

TEMPORARY RAILING (TYPE K)

SHEET No.	LOCATION	LF
TH-1	STA 13+80 TO 19+00	520
TH-2	STA 13+80 TO 19+00	520
TOTAL		1040

TEMPORARY PAVEMENT DELINEATION

SHEET No.	LOCATION	DETAIL No.	TEMPORARY TRAFFIC STRIPE (PAINT)		TEMPORARY PAVEMENT MARKER	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE PAINTED TRAFFIC STRIPE	TEMPORARY PAVEMENT MARKING (PAINT)	SQFT
			YELLOW LF	WHITE LF	TYPE H EA	LF	LF		
			LF	LF	EA	LF	LF		
TH-1	STA 12+80 TO STA 19+55	21				1350			
	STA 12+80 TO STA 19+55	21	1350				1350		
	STA 12+80 TO STA 19+55	27B				1350			
	STA 12+80 TO STA 13+80	27B		100			100		
	STA 12+80 TO STA 14+60	27B		180			180		
	STA 18+20 TO STA 19+55	27B		135			135		
TH-2	STA 18+55 TO STA 19+55	27B		100			100		
	STA 12+80 TO STA 19+55	21	1350				1350		
	STA 12+80 TO STA 14+80	27B		200			200		
	STA 18+20 TO STA 19+55	27B		135			135		
TH-3	STA 18+80 TO STA 19+55	27B		75			75		
	STA 19+30 TO STA 24+00	25	470		11			TYPE 1 ARROW	14
	STA 19+30 TO STA 24+86	27B		556					
TOTAL			4651		11	2700	3625		14

TEMPORARY CRASH CUSHION MODULE

SHEET No.	EA
TH-1	28
TH-2	28
TOTAL	56

CHANNELIZER (SURFACE MOUNTED)

SHEET No.	EA
TH-1	21
TH-2	23
TOTAL	44

TRAFFIC HANDLING QUANTITIES

THQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
MAZIN AL-ALI
HASEEB YOUSAF
REVISOR: HASEEB YOUSAF
DATE: 04-04-12
DESIGNED BY: HASEEB YOUSAF
CHECKED BY: HASEEB YOUSAF

LAST REVISION: DATE PLOTTED => 13-JUL-2012
04-04-12 TIME PLOTTED => 11:17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	13	50

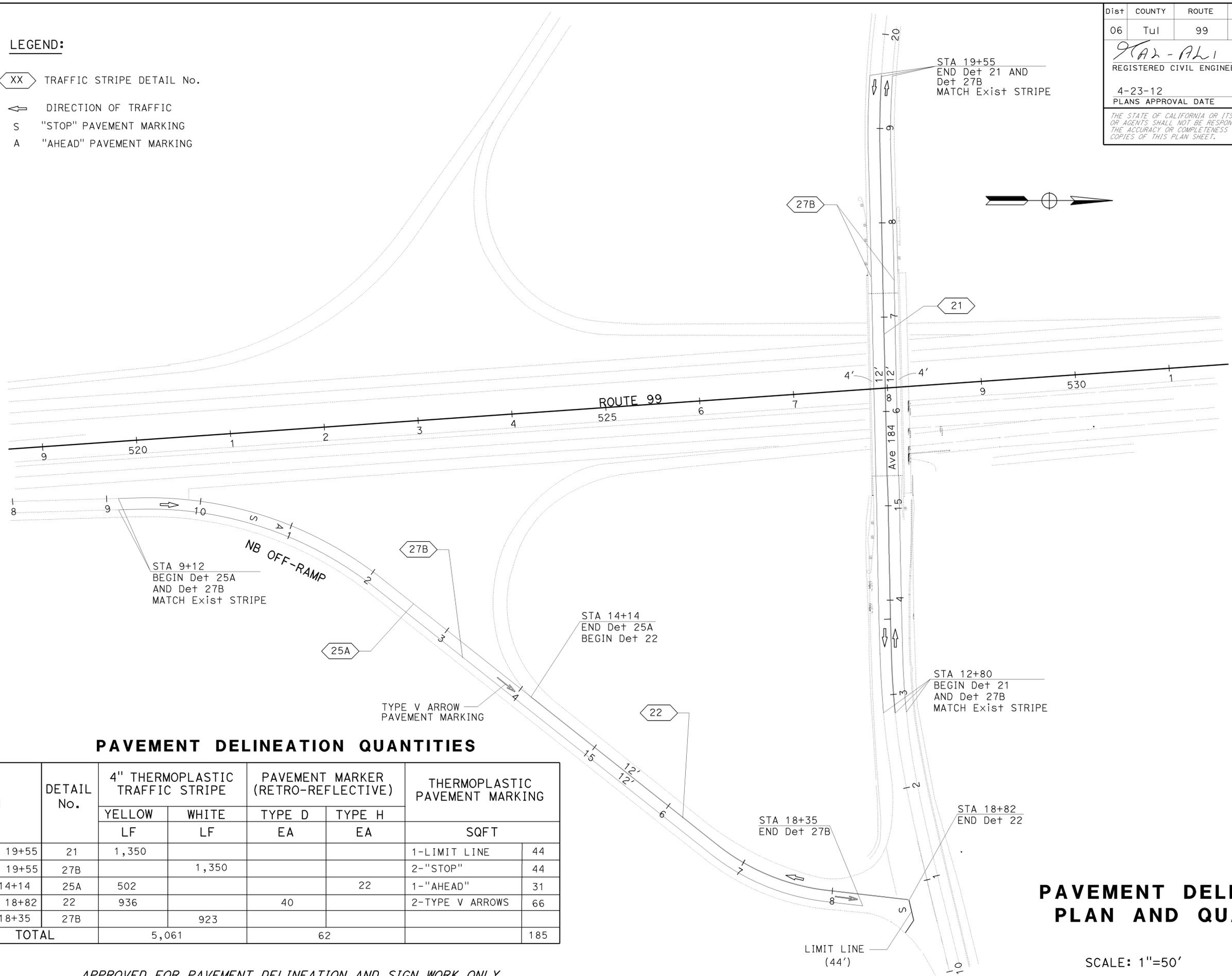
HAZ-ALI 04-04-12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 MAZIN H. AL-ALI
 No. 65523
 Exp. 9/30/13
 CIVIL

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

LEGEND:

- XX TRAFFIC STRIPE DETAIL No.
- ↔ DIRECTION OF TRAFFIC
- S "STOP" PAVEMENT MARKING
- A "AHEAD" PAVEMENT MARKING



PAVEMENT DELINEATION QUANTITIES

LOCATION	DETAIL No.	4" THERMOPLASTIC TRAFFIC STRIPE		PAVEMENT MARKER (RETRO-REFLECTIVE)		THERMOPLASTIC PAVEMENT MARKING	
		YELLOW	WHITE	TYPE D	TYPE H	SQFT	
		LF	LF	EA	EA		
STA 12+80 TO 19+55	21	1,350				1-LIMIT LINE	44
STA 12+80 TO 19+55	27B		1,350			2-"STOP"	44
STA 9+12 TO 14+14	25A	502			22	1-"AHEAD"	31
STA 14+14 TO 18+82	22	936		40		2-TYPE V ARROWS	66
STA 9+12 TO 18+35	27B		923				
TOTAL		5,061		62			185

PAVEMENT DELINEATION PLAN AND QUANTITIES

SCALE: 1"=50'

PD-1

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 MAZIN AL-ALI
 HASEEB YOUSAF
 REVISED BY: [Blank]
 DATE REVISED: [Blank]

LAST REVISION: DATE PLOTTED => 13-JUL-2012
 04-04-12 TIME PLOTTED => 11:17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	14	50

Ali Alqatami 4/17/12
 REGISTERED CIVIL ENGINEER DATE
 4-23-12
 PLANS APPROVAL DATE

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METAL BEAM GUARD RAILING

Dir	LOCATION	PM	Exist LAYOUT TYPE (N)	REMOVE MBGR				LAYOUT TYPE (N)
				LF	EA	EA	EA	
WB	Ave 184 OC Br No. 46-192 APPROACH	23.5		70	1		1	12A
WB	Ave 184 OC Br No. 46-192 DEPARTURE	23.5		70	1		1	12AA
EB	Ave 184 OC Br No. 46-192 APPROACH	23.5	1A	64	1	1		12B
EB	Ave 184 OC Br No. 46-192 DEPARTURE	23.5	1A	64	1	1		12BB
TOTAL				268	4	2	2	

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

TEMPORARY FIBER ROLL

DIRECTION	Temp FIBER ROLL (LF)
SOUTHEAST CORNER Ave 184 OC	120
SOUTHWEST CORNER Ave 184 OC	120
NORTHEAST CORNER Ave 184 OC	120
NORTHWEST CORNER Ave 184 OC	120
ALONG R+ SIDE Temp ON-RAMP DETOUR	580
ALONG R+ EP Temp ON-RAMP DETOUR	120
TOTAL	1180

EROSION CONTROL

LOCATION	COMPOSIT BLANKET (CY)
TEMPORARY ON-RAMP DETOUR	90
TOTAL	90

CLASS 2 AGGREGATE BASE

LOCATION	CY
TEMPORARY ON-RAMP DETOUR	575
TOTAL	575

HOT MIX ASPHALT DIKE

Dir	LOCATION	PM	REMOVE AC DIKE	PALCE HMA DIKE (TYPE F)	PALCE HMA DIKE (TYPE E)	HOT MIX ASPHALT (TYPE A)
			LF	LF	LF	TON **
EB	Ave 184 OC Br No. 46-192 APPROACH	23.5	46	46		0.60
EB	Ave 184 OC Br No. 46-192 DEPARTURE	23.5	44	45		0.60
WB	Ave 184 OC Br No. 46-192 APPROACH		184		184	4.61
WB	Ave 184 OC Br No. 46-192 DEPARTURE		70	77		1.03
TOTAL			344	168	184	6.84

** QUANTITY INCLUDED IN HOTMIX ASPHALT (TYPE A) TABLE

HOT MIX ASPHALT (TYPE A)

LOCATION	HOT MIX ASPHALT (TYPE A)	TACK COAT
	TON	TON
TEMPORARY ON-RAMP DETOUR	440.00	0.80
NB OFF-RAMP ROUTE 99 TO Ave 184	940.00	1.60
HOT MIX ASPHALT DIKE	6.84	
TOTAL	1386.84	2.40

EARTHWORK

LOCATION	(*) ROADWAY EXCAVATION	EMBANKMENT	IMPORTED BORROW
	CY	CY	CY
TEMPORARY ON-RAMP DETOUR	1200		
REMOVE Exist SOIL Sta 19+40 TO 24+00	200	800	600
TOTAL	1400	800	600

(*) EXCAVATION INCLUDE REMOVAL OF Temp ON RAMP DETOUR AFTER THE END OF Const.

SHOULDER BACKING

LOCATION	TON
NB OFF-RAMP ROUTE 99 TO Ave 184	50
TOTAL	50

COLD PLANE ASPHALT CONCRETE PAVEMENT

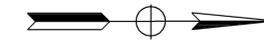
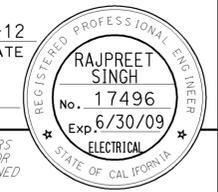
LOCATION	SQYD
NB OFF-RAMP ROUTE 99 TO Ave 184	2700
TOTAL	2700

SUMMARY OF QUANTITIES

Q-1

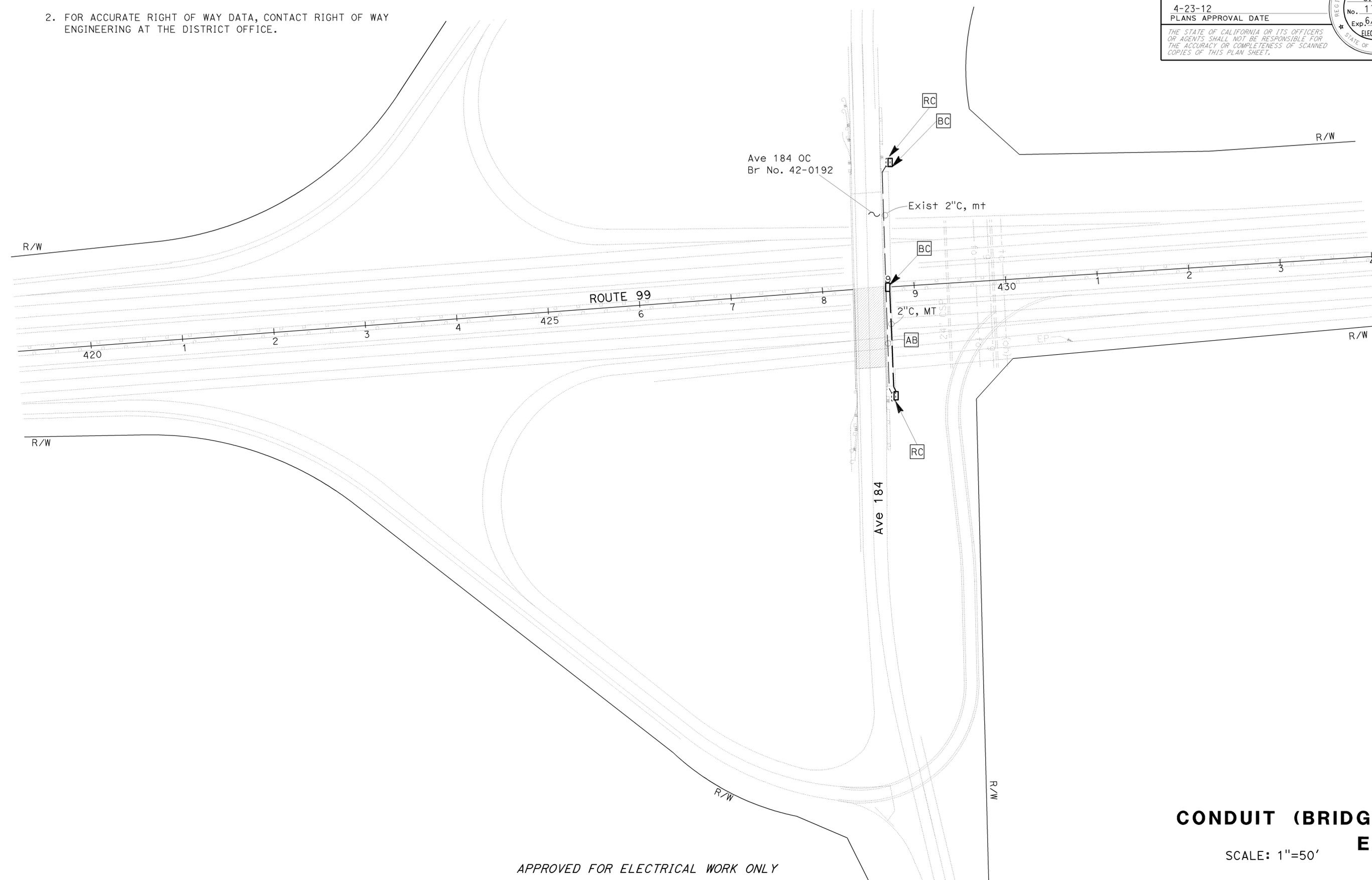
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 F. Morales 05-09-12
 MOHAMMAD HASHEM ALI ALOATAMI
 RORY QUINCE
 Et Caltrans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	15	50
<i>Rajpreet Singh</i> REGISTERED ELECTRICAL ENGINEER DATE			4-20-12		
4-23-12 PLANS APPROVAL DATE					
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- NOTES:**
1. ALL PULL BOXES SHALL BE No. 5(E) UNLESS OTHERWISE NOTED.
 2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR BY
Caltrans ELECTRICAL DESIGN	ALT BAKHDOUD	CHECKED BY	DATE REVISED
		GURVINDERJIT S. BAINS	
		RAJPREET SINGH	



APPROVED FOR ELECTRICAL WORK ONLY

CONDUIT (BRIDGE)
E-1
 SCALE: 1"=50'

LAST REVISION | DATE PLOTTED => 13-JUL-2012
 04-20-12 TIME PLOTTED => 11:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	16	50

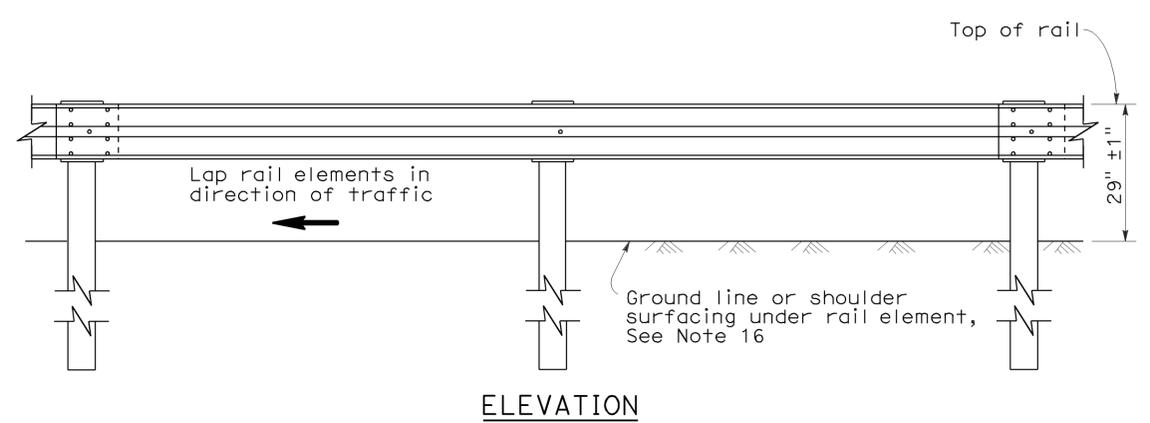
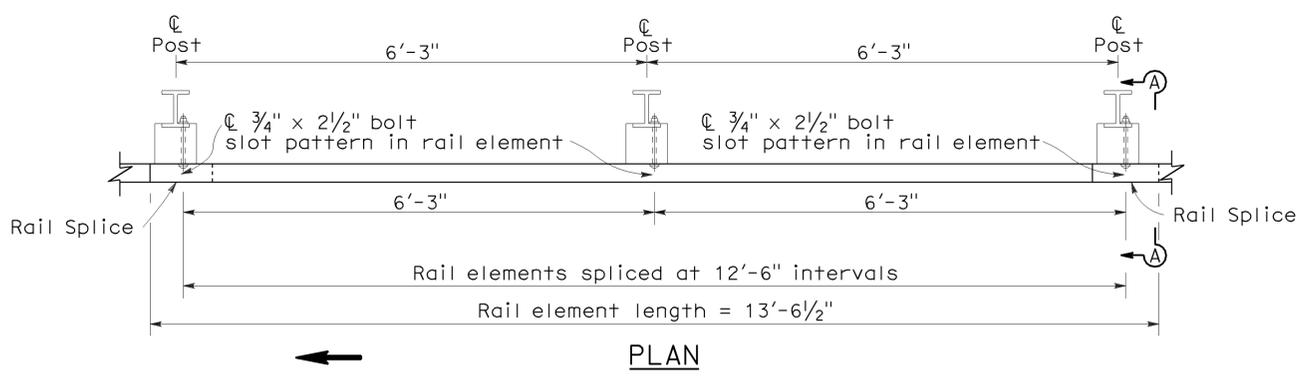
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

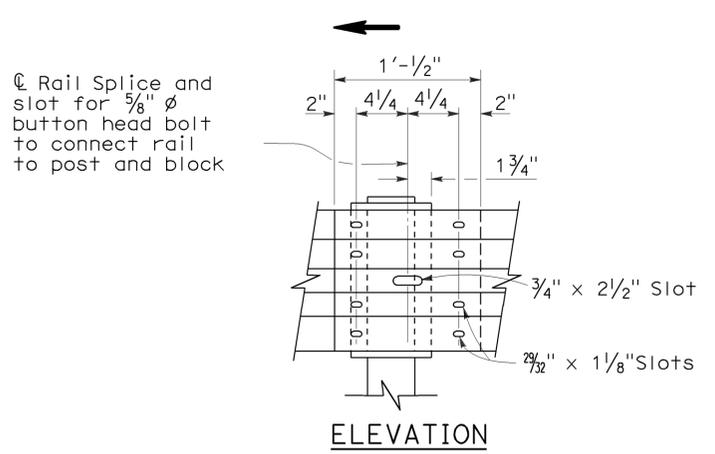
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To accompany plans dated 4-23-12

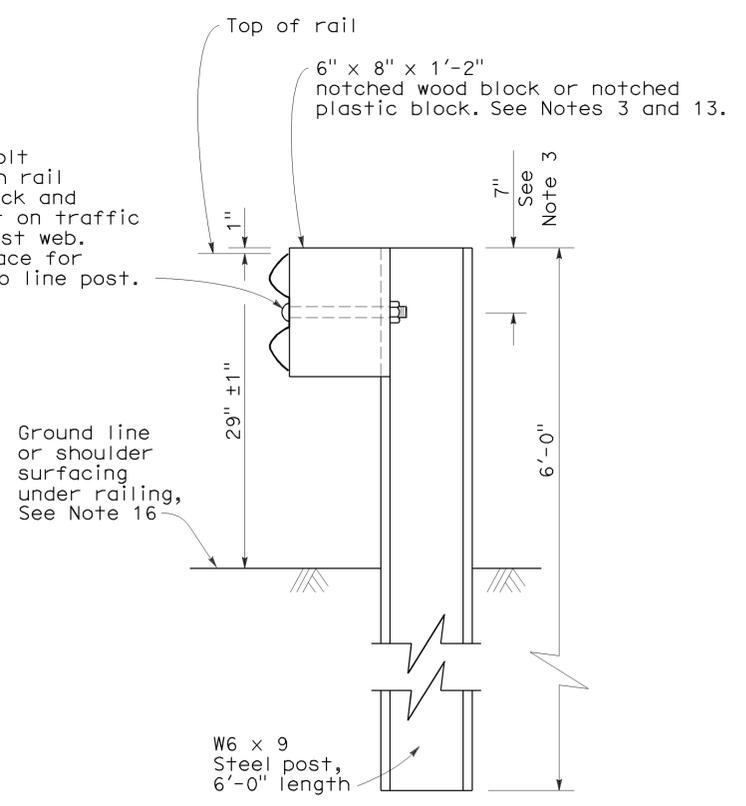
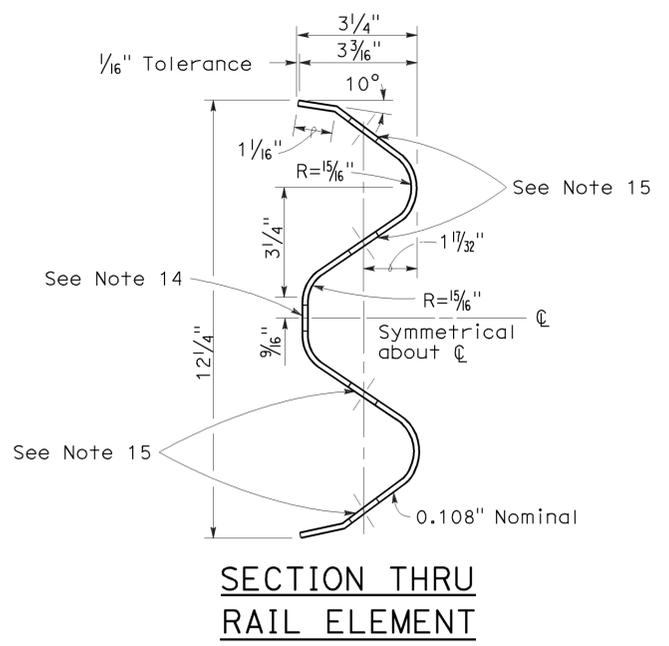
2006 REVISED STANDARD PLAN RSP A77A2



METAL BEAM GUARD RAILING WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



- Connect the overlapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{27}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



NOTES:

- For details of wood post installations, see Standard Plan A77A1.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of steel posts and notched wood blocks used to construct guard railing, see Standard Plan A77C2.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For dike positioning and guard railing delineation details, see Standard Plan A77C4.
- Direction of adjacent traffic indicated by \rightarrow .
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(STEEL POST WITH NOTCHED
WOOD OR NOTCHED
RECYCLED PLASTIC BLOCK)**

NO SCALE

RSP A77A2 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A2
DATED MAY 1, 2006 - PAGE 42 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A2

To accompany plans dated 4-23-12

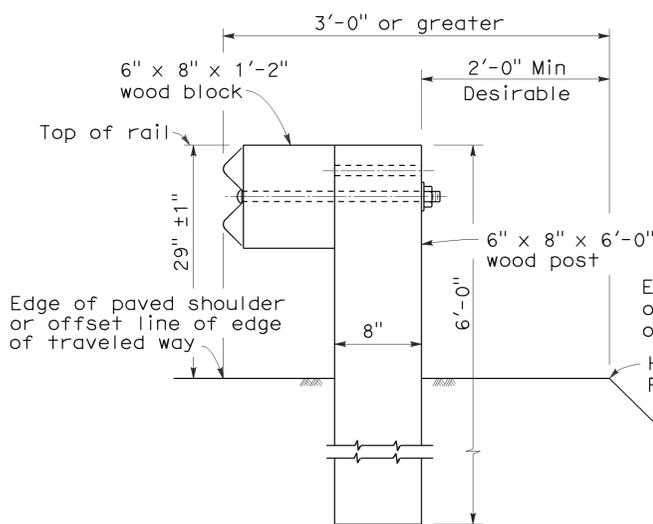
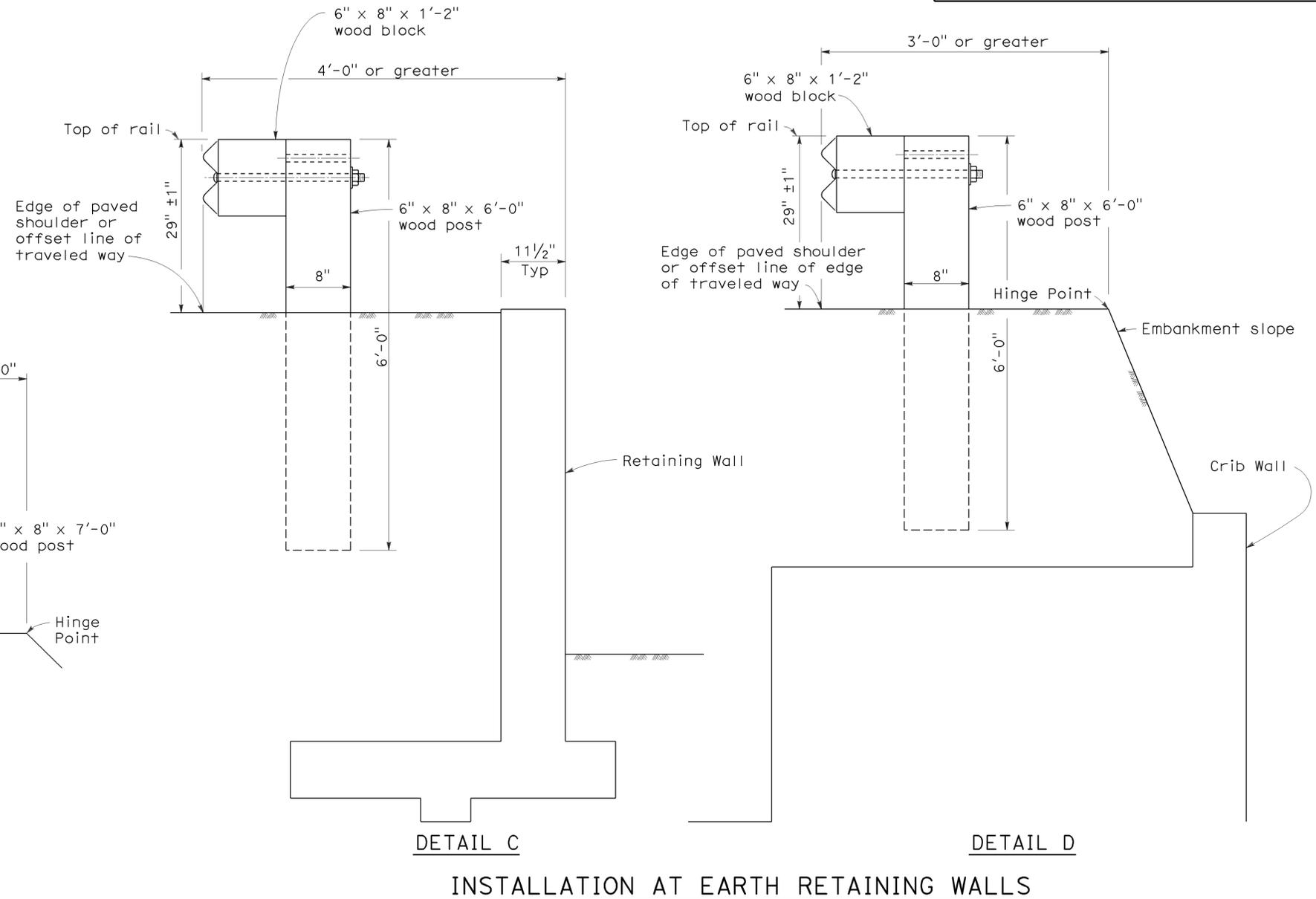
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	17	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

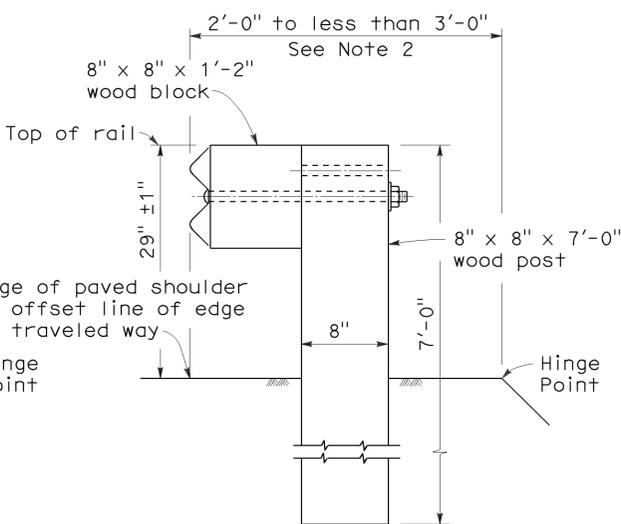
May 20, 2011
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

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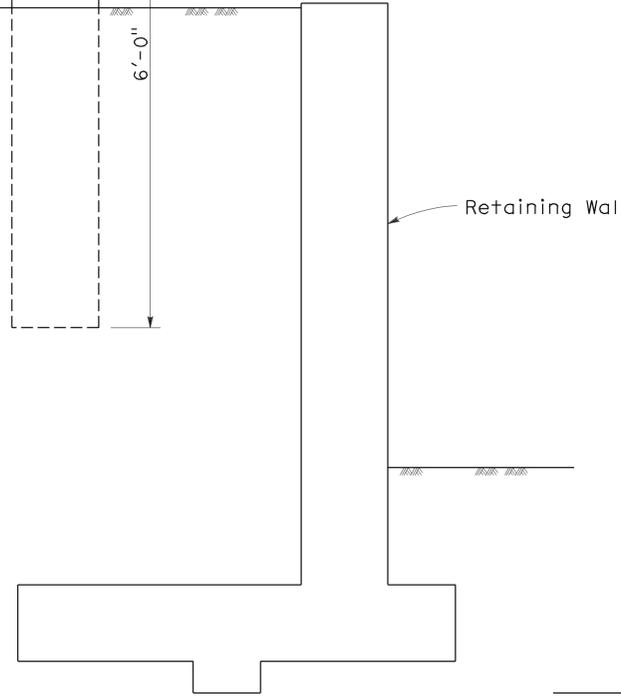


DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1

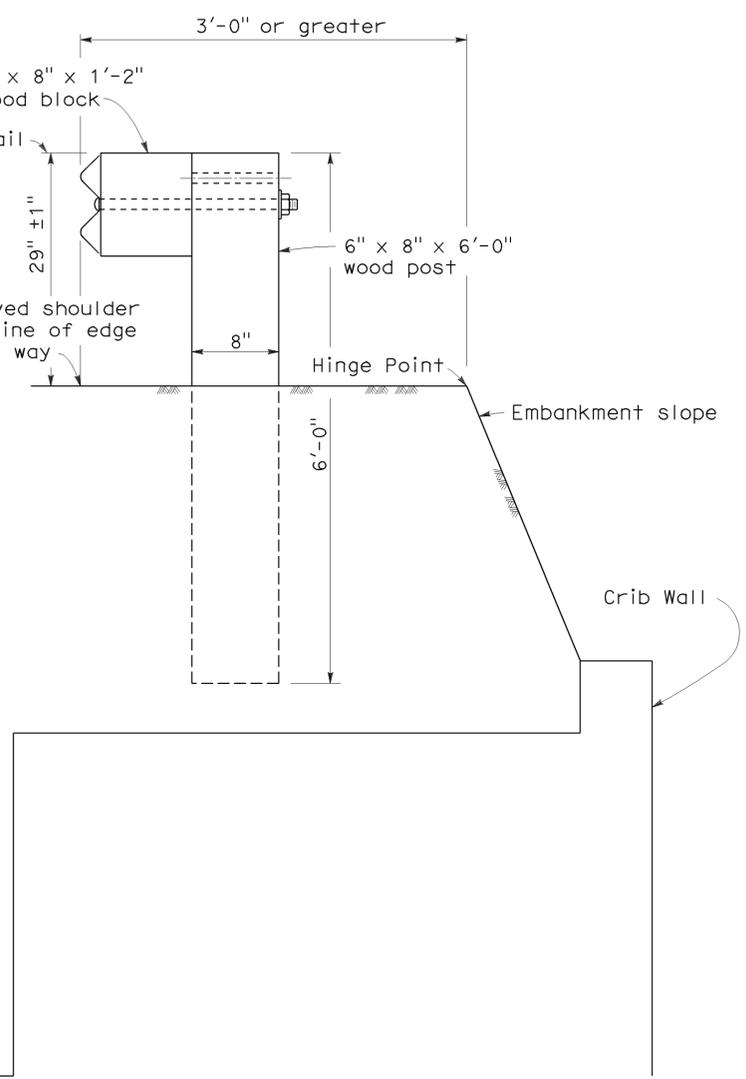


DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT



DETAIL C



DETAIL D

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 9 steel post, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 9 steel post, 7'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Standard Plans A77A1 and A77A2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-0", see the Project Plans for special details.
3. For dike positioning with guard railing installations, see Standard Plan A77C4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77C3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77C3
DATED MAY 1, 2006 - PAGE 46 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C3

2006 REVISED STANDARD PLAN RSP A77C3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	18	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

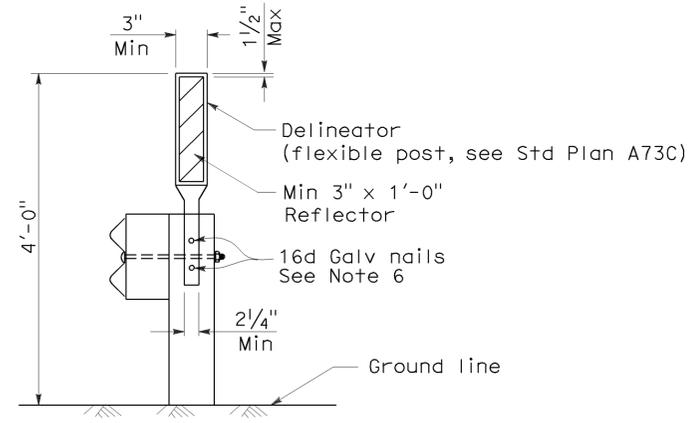
May 20, 2011
PLANS APPROVAL DATE

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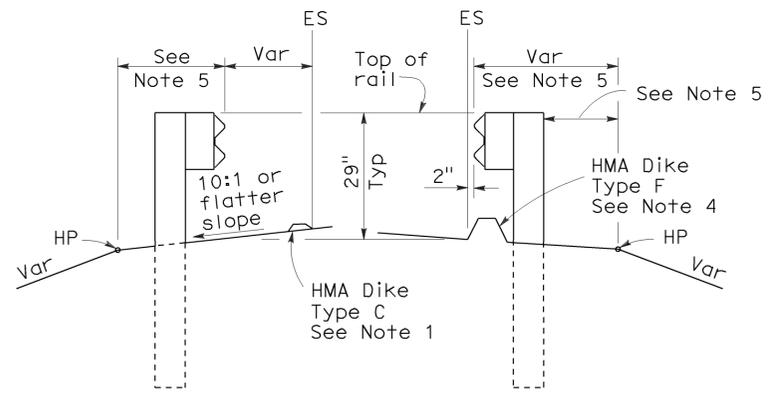
To accompany plans dated 4-23-12

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 Standard Plans A87A and A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



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

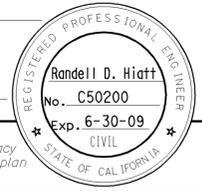
RSP A77C4 DATED MAY 20, 2011 SUPERSEDES RSP A77C4 DATED JUNE 6, 2008 AND STANDARD PLAN A77C4 DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

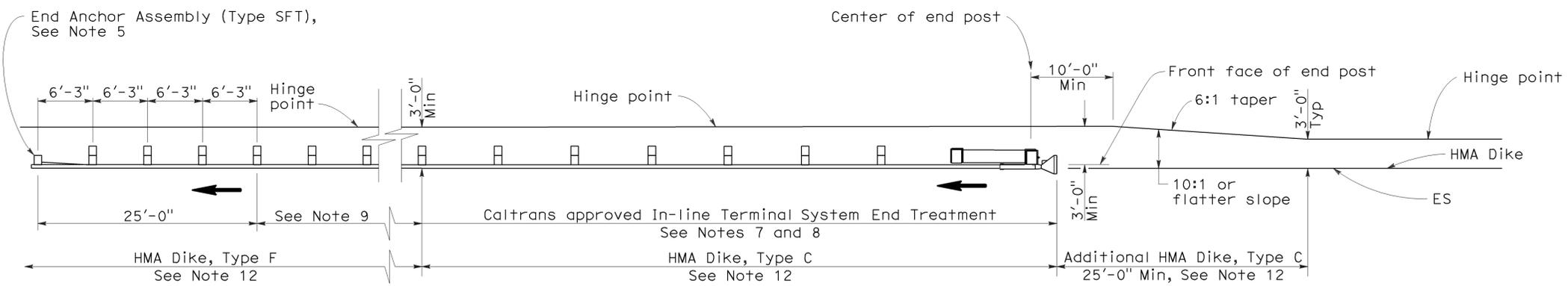
2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	19	50

Randell D. Hiatt
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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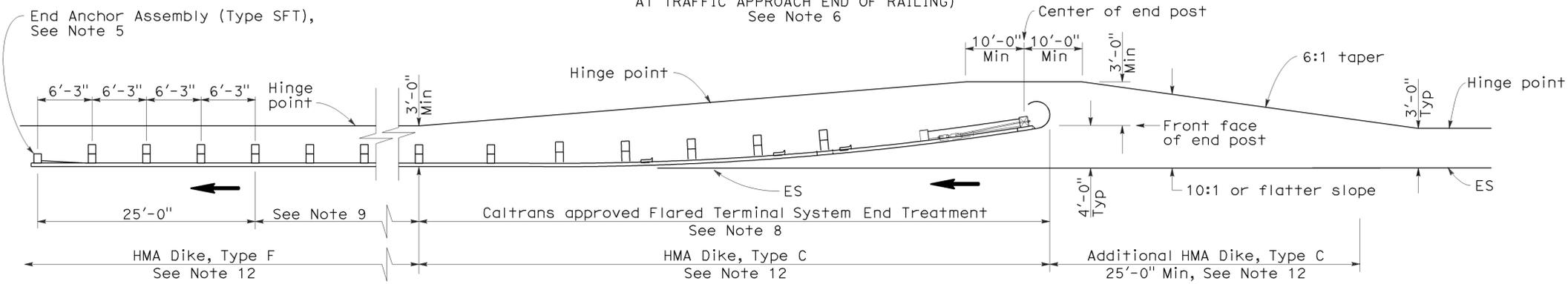


To accompany plans dated 4-23-12



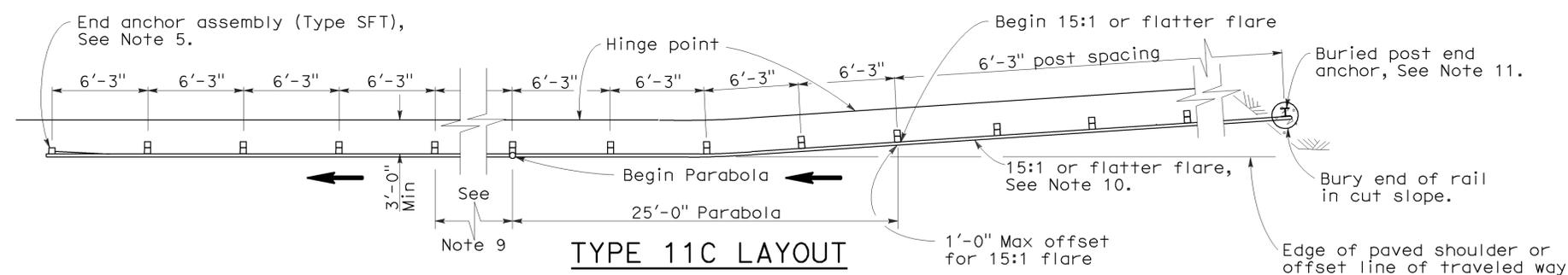
TYPE 11A LAYOUT

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



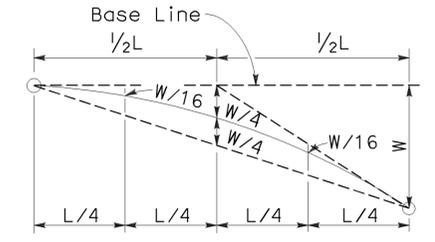
TYPE 11B LAYOUT

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

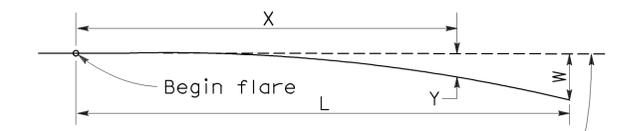


TYPE 11C LAYOUT

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

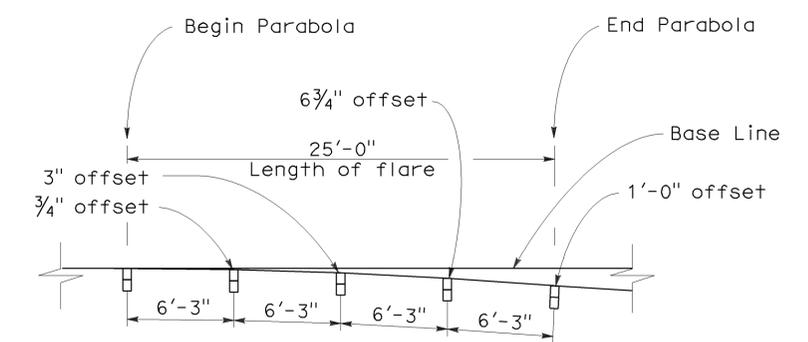


TYPICAL PARABOLIC LAYOUT



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

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.

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 \rightarrow .
- 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.

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

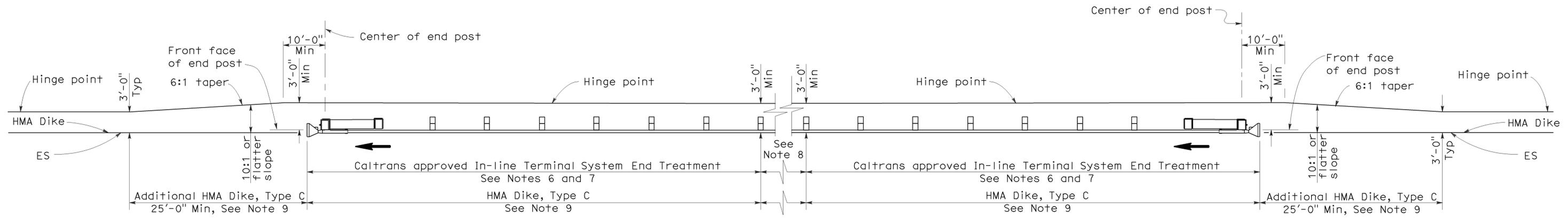
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	20	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

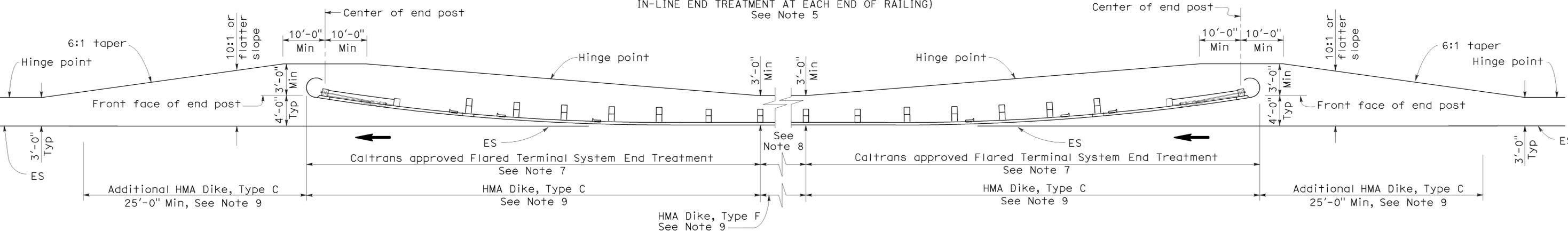
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To accompany plans dated 4-23-12



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 .
- 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.

REVISED STANDARD PLAN RSP A77E2

2006 REVISED STANDARD PLAN RSP A77E2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	21	50

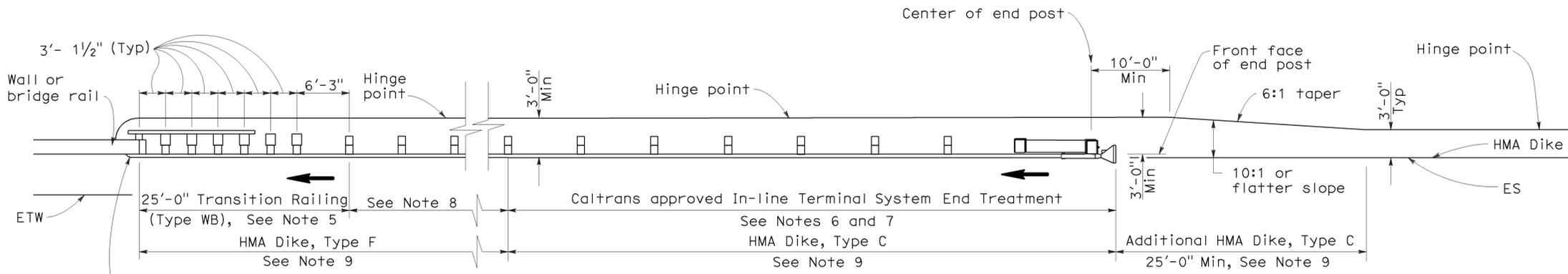
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

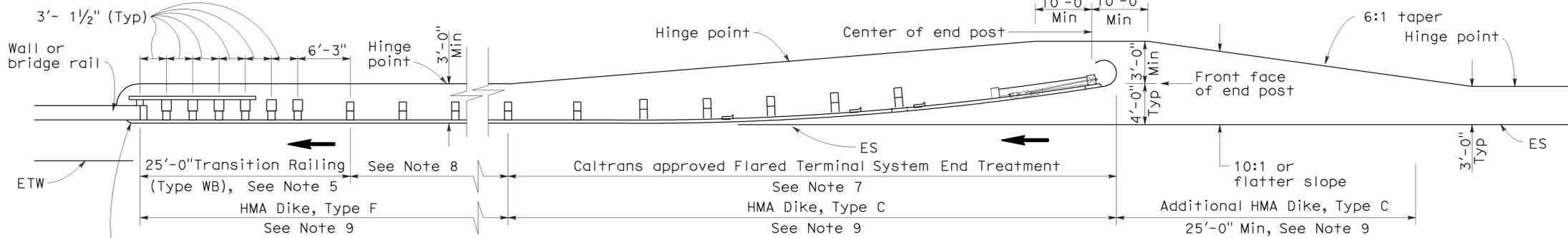
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To accompany plans dated 4-23-12



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
06	Tul	99	23.5	22	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

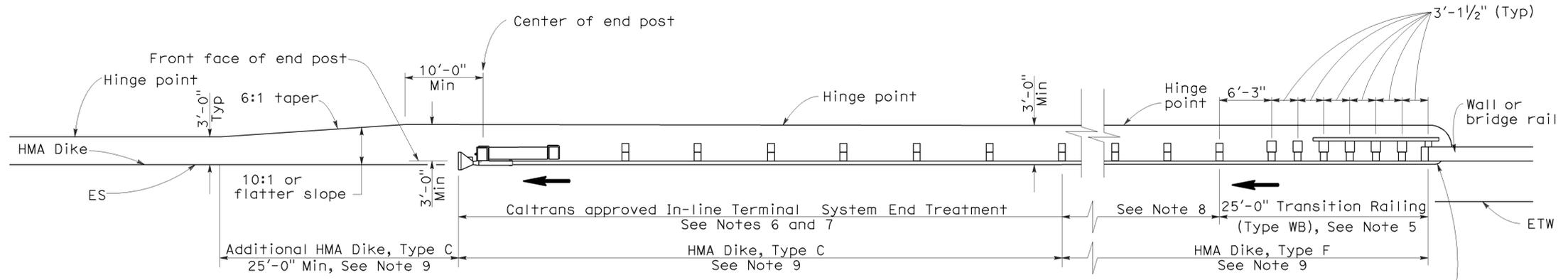
June 6, 2008
PLANS APPROVAL DATE

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

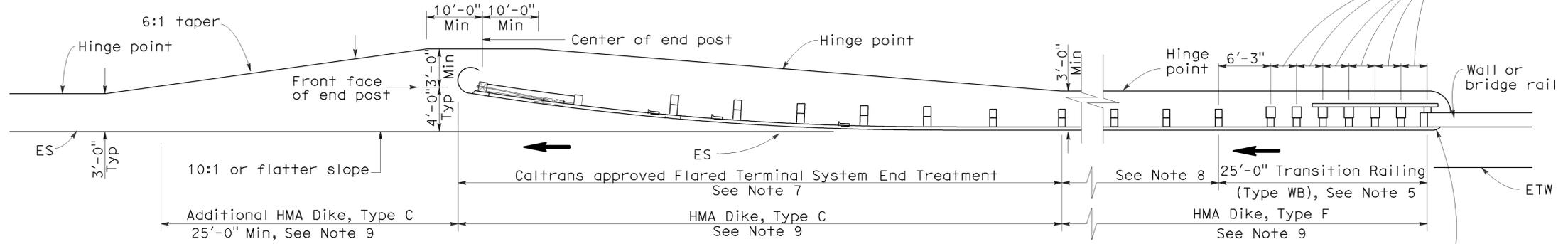
To accompany plans dated 4-23-12

2006 REVISED STANDARD PLAN RSP A77F4



TYPE 12AA LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10



TYPE 12BB LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 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 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.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System 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.
- Dependent on site conditions (embankment height, side slopes, 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 treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77J2 and Connection Detail HH on Standard Plans A77k2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	23	50

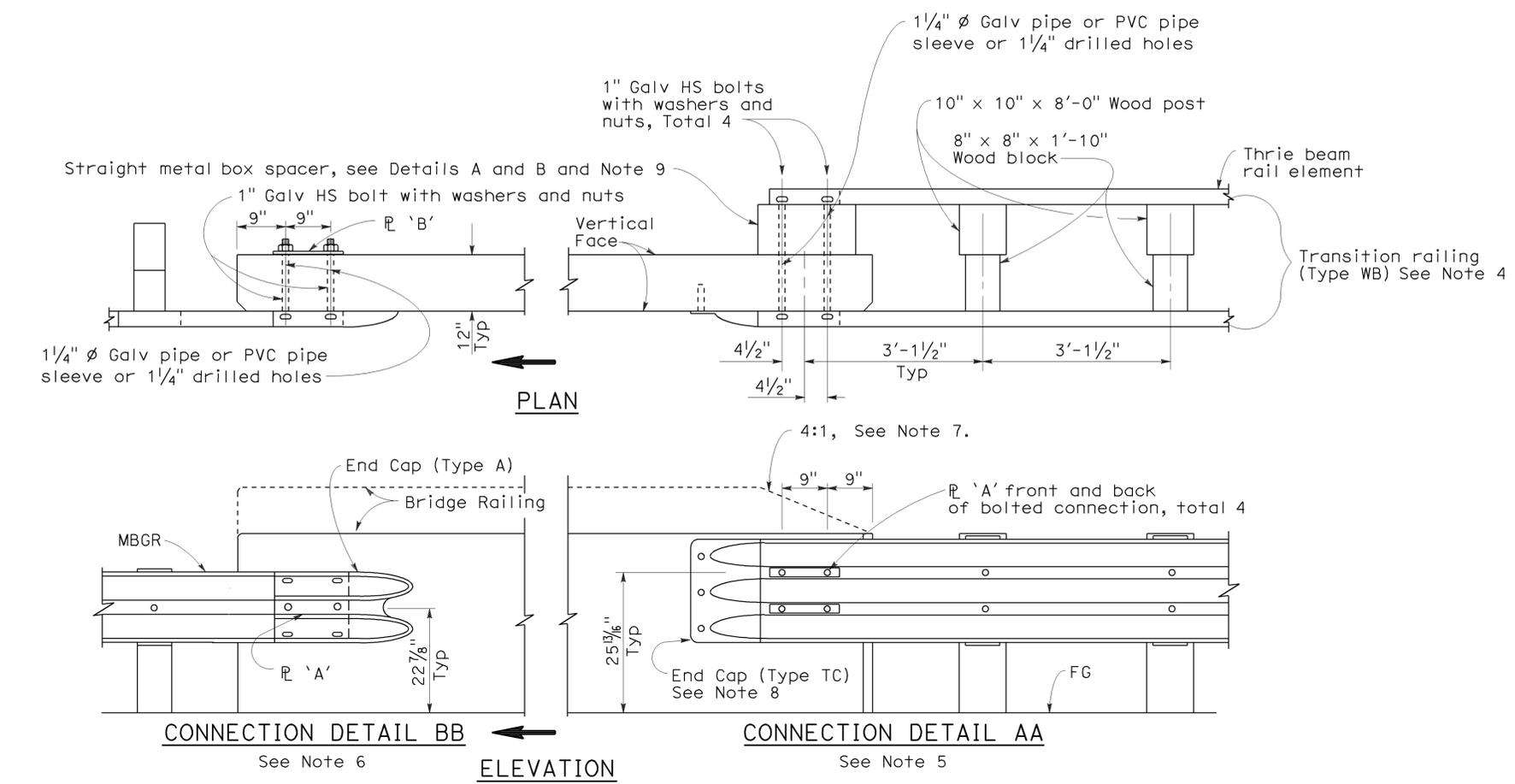
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

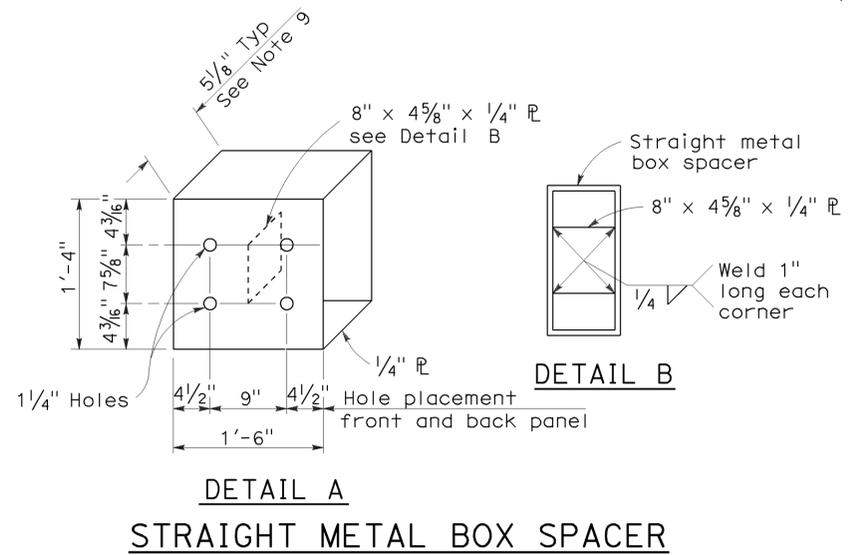
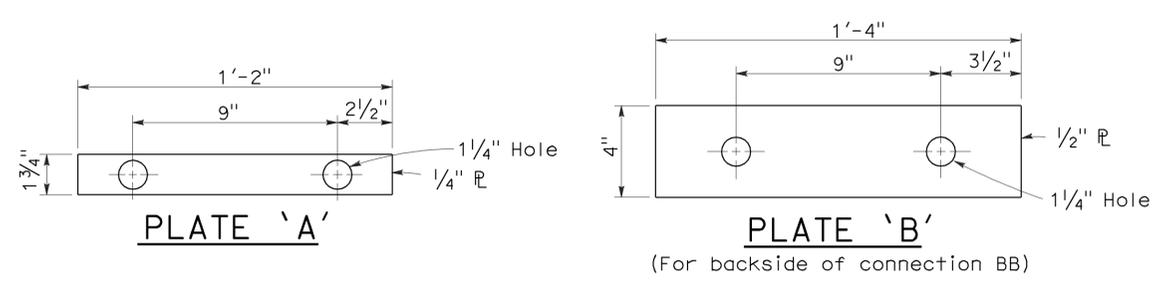
To accompany plans dated 4-23-12



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 MAY 20, 2011 SUPERSEDES RSP A77J1 DATED JUNE 6, 2008 AND 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
06	Tul	99	23.5	24	50

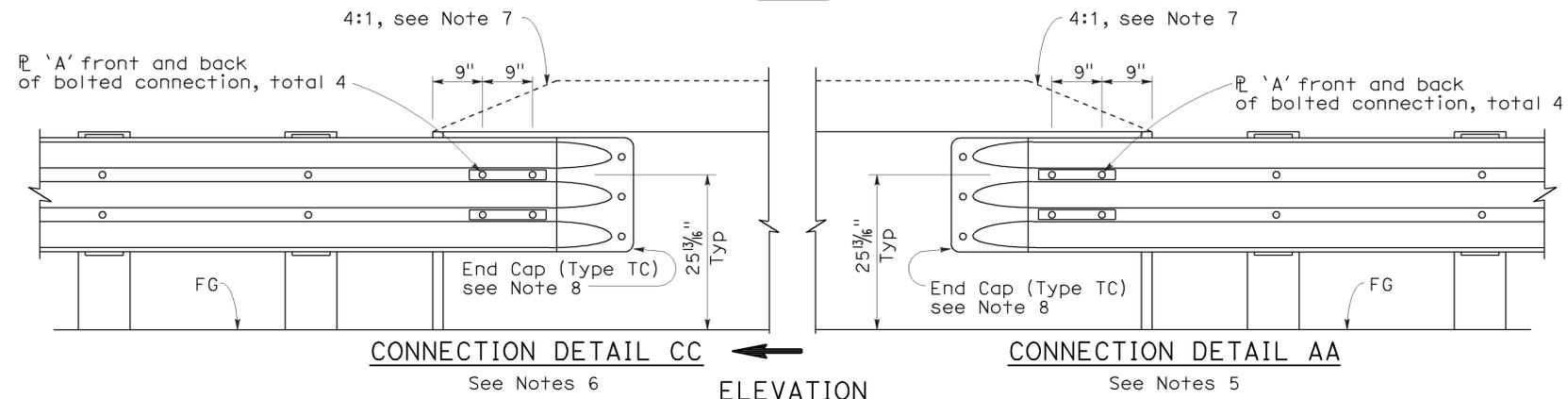
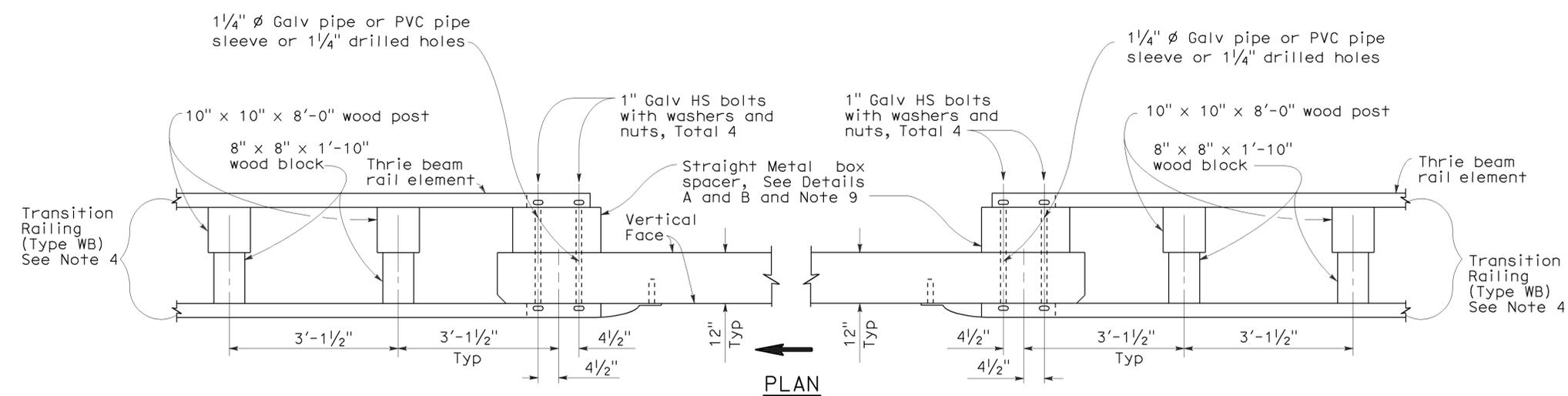
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

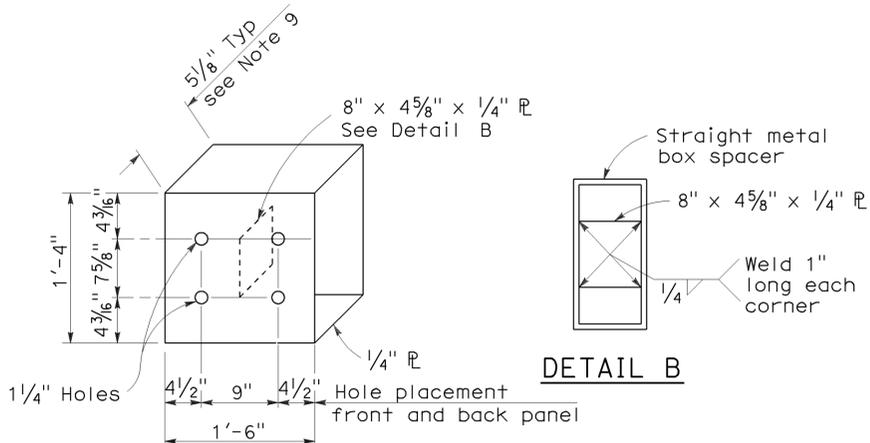
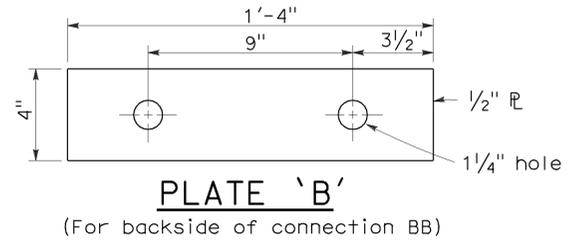
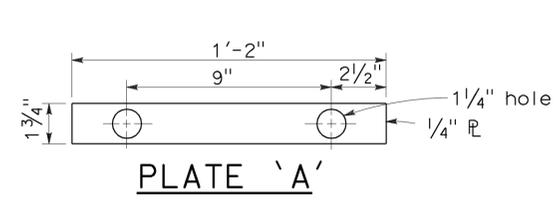
To accompany plans dated 4-23-12



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
06	Tul	99	23.5	26	50

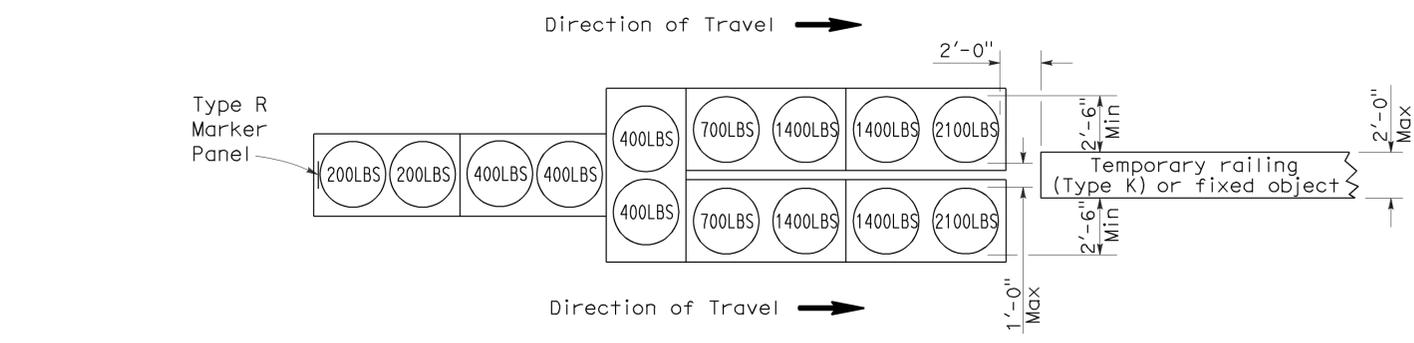
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

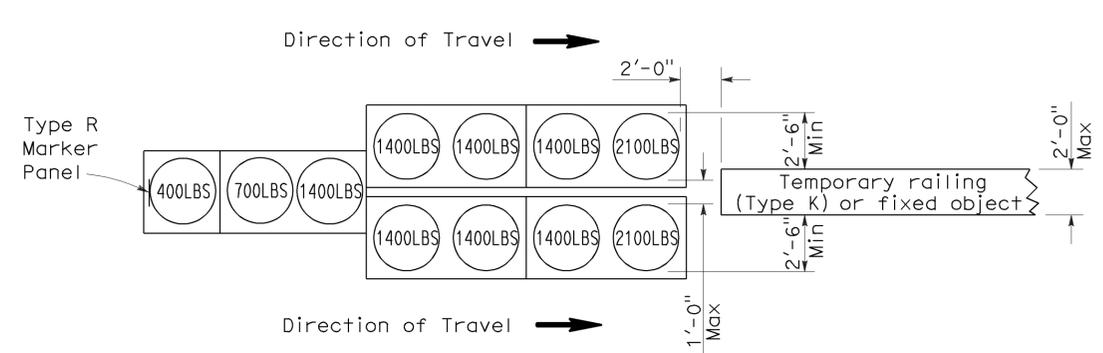
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-23-12



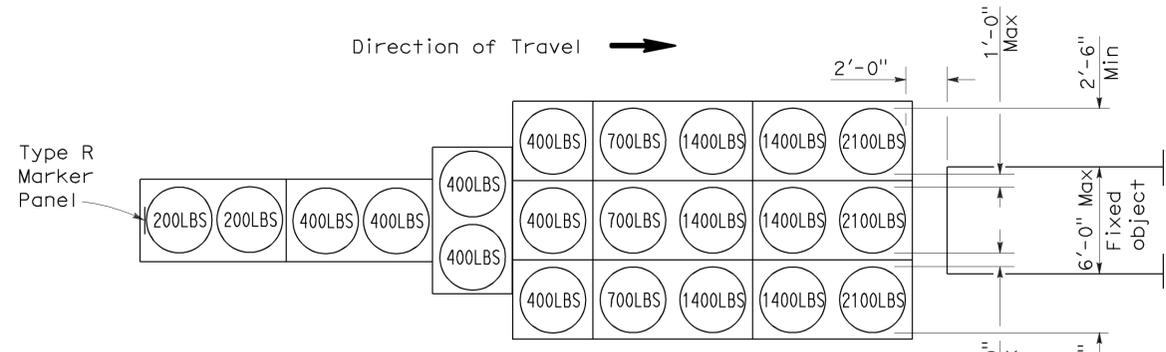
ARRAY 'TU14'

Approach speed 45 mph or more



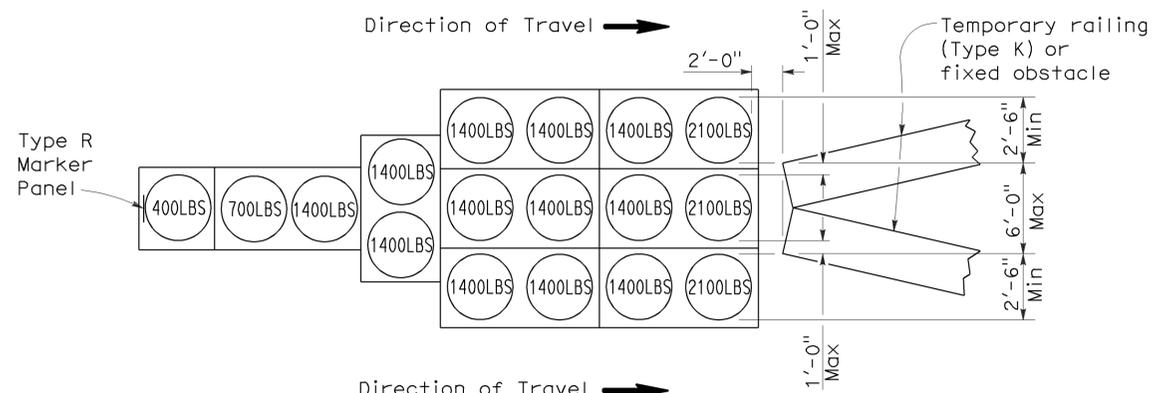
ARRAY 'TU11'

Approach speed less than 45 mph



ARRAY 'TU21'

Approach speed 45 mph or more

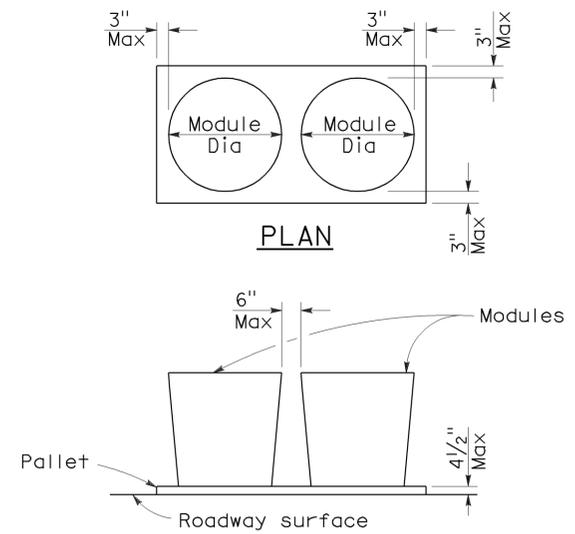


ARRAY 'TU17'

Approach speed less than 45 mph

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.



CRASH CUSHION PALLET DETAIL

See Note 7

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
06	Tul	99	23.5	27	50

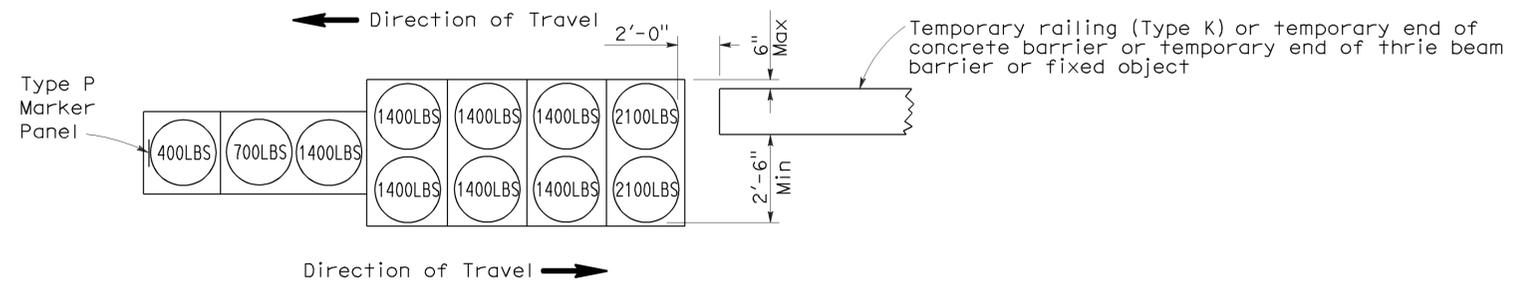
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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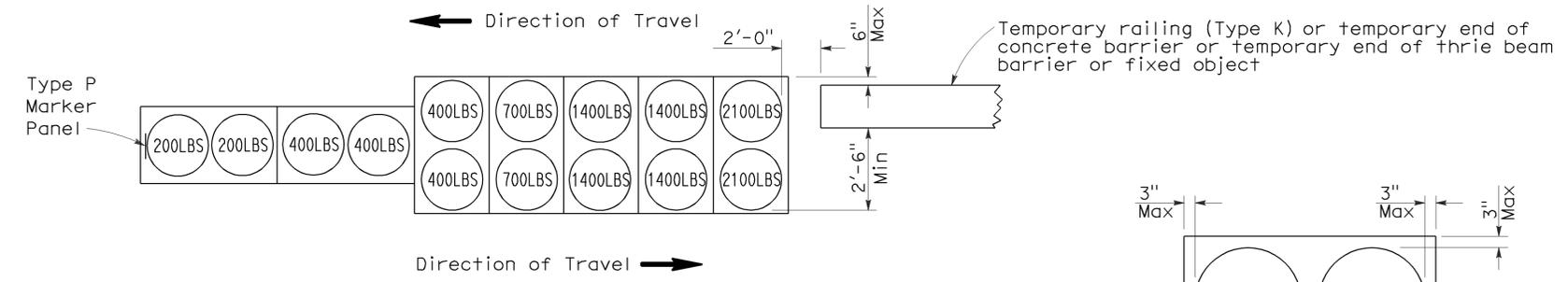
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 4-23-12



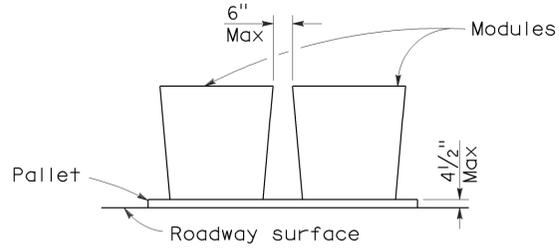
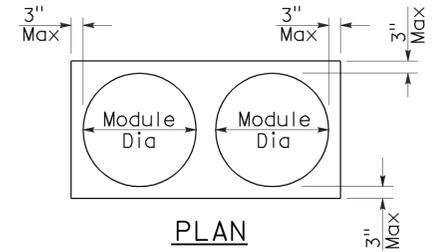
ARRAY 'TB11'

Approach speed less than 45 mph



ARRAY 'TB14'

Approach speed 45 mph or more



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

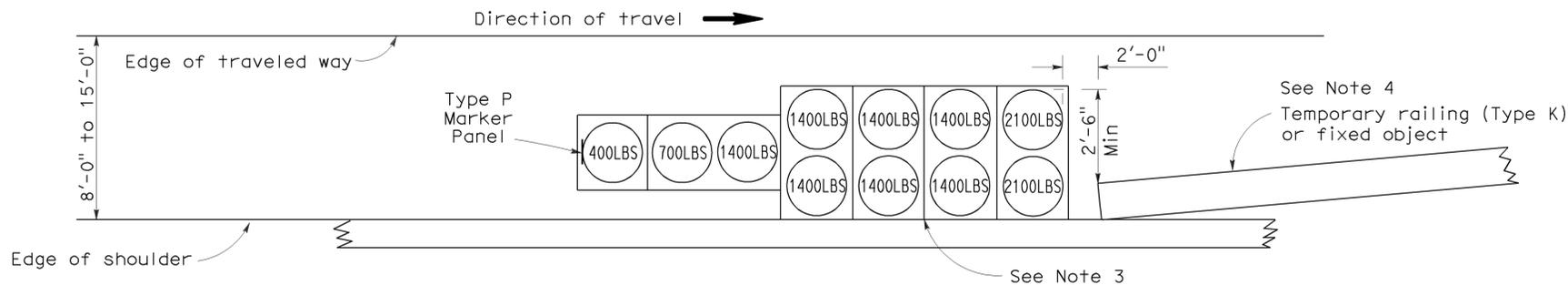
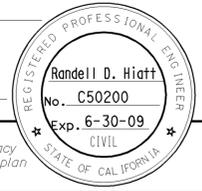
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	28	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

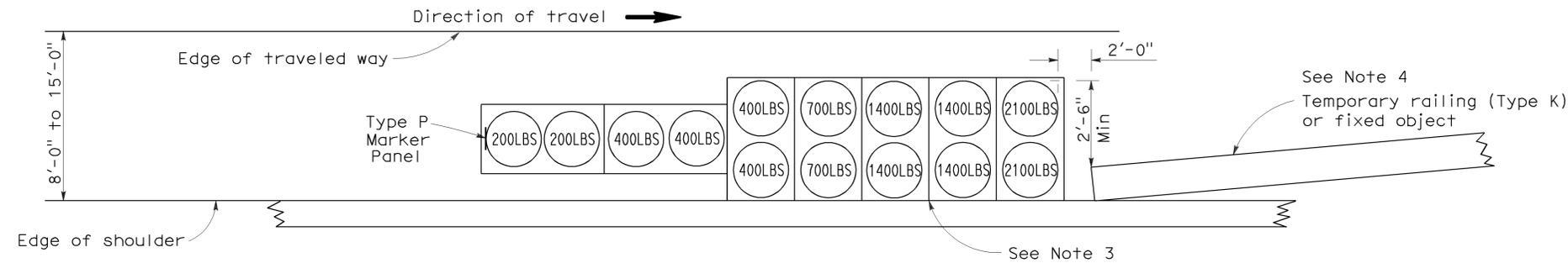
June 6, 2008
PLANS APPROVAL DATE

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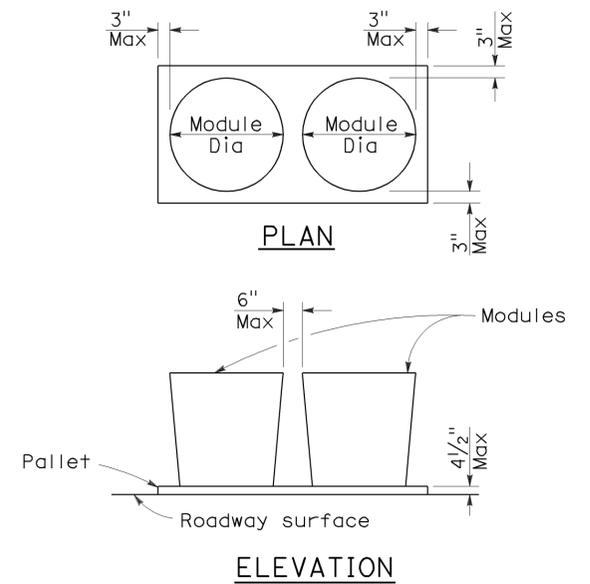
To accompany plans dated 4-23-12



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

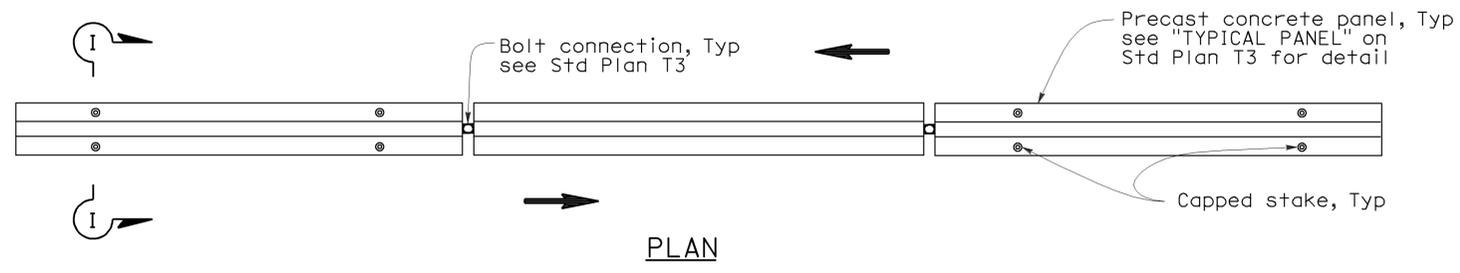
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	29	50

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

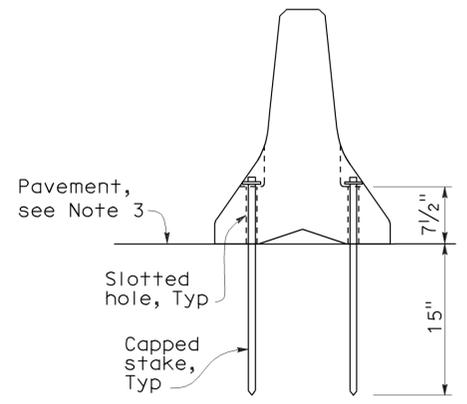
May 20, 2011
PLANS APPROVAL DATE

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To accompany plans dated 4-23-12

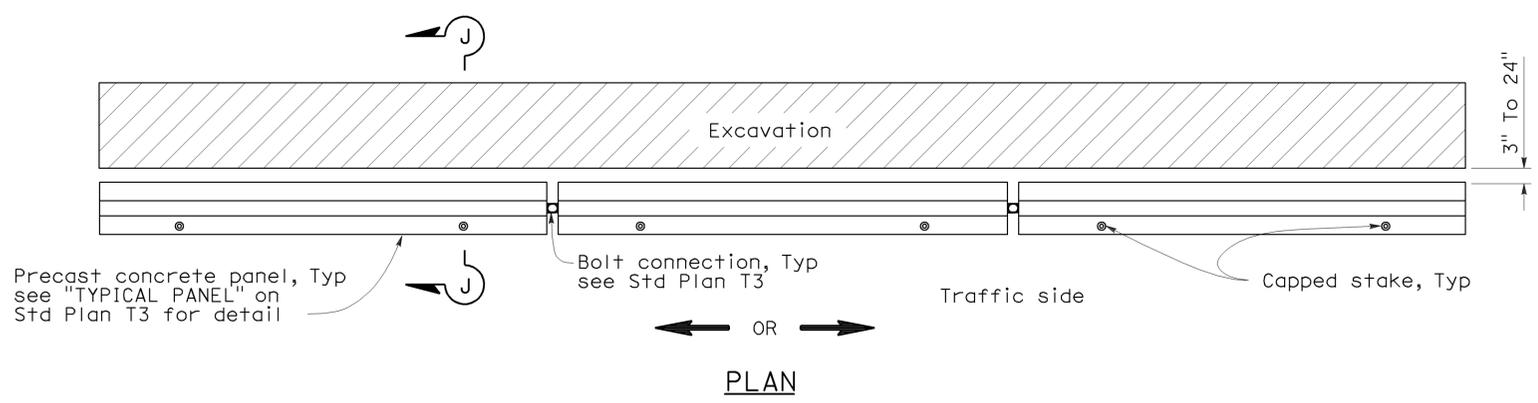


RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1

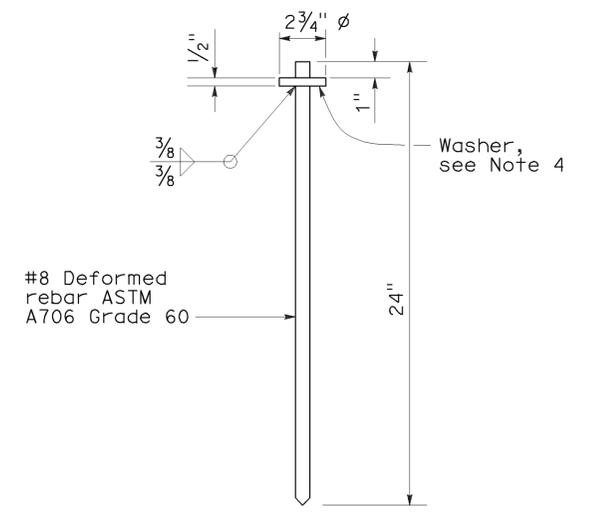
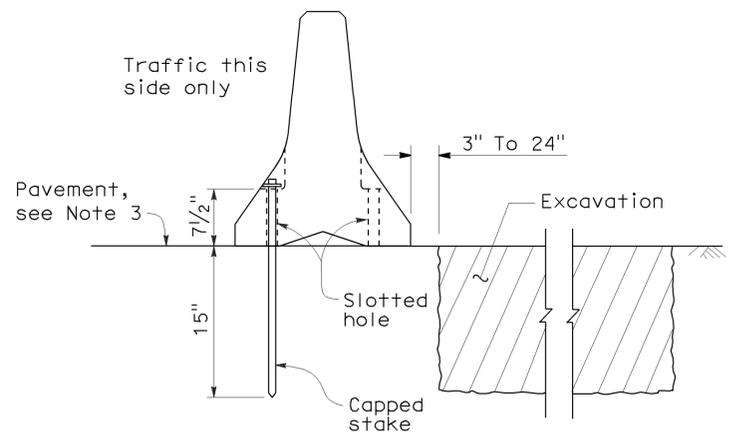


NOTES:

1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt concrete pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by \Rightarrow .



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION
See Note 2



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

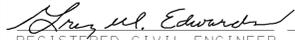
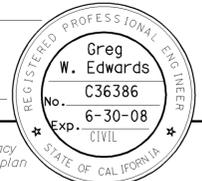
**TEMPORARY RAILING
(TYPE K)**

NO SCALE

NSP T3A DATED MAY 20, 2011 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T3A

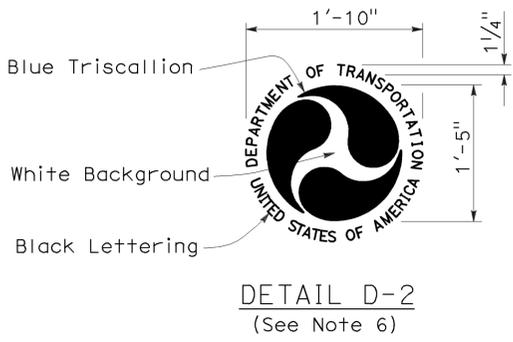
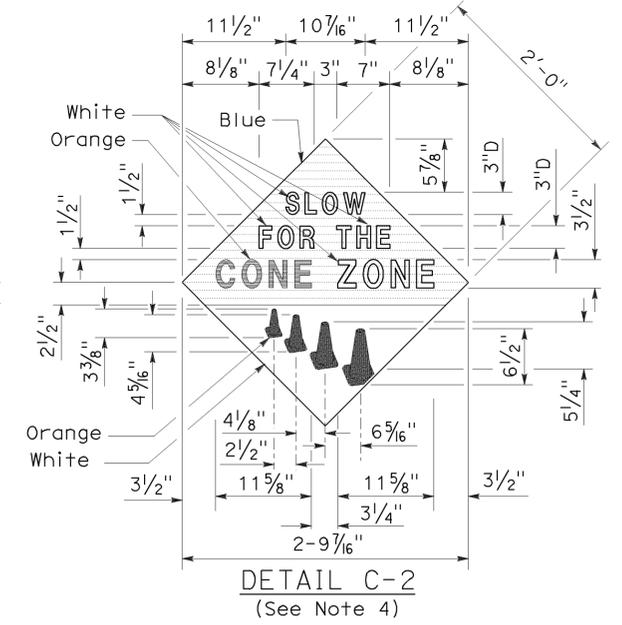
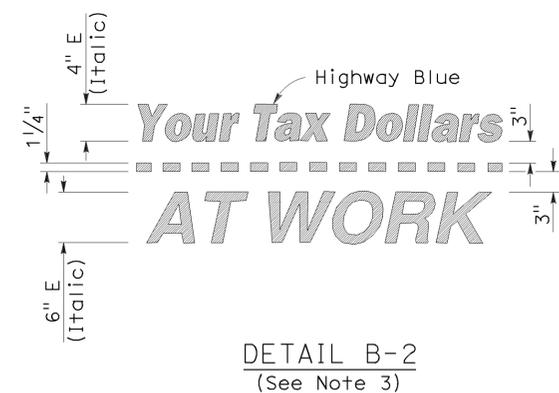
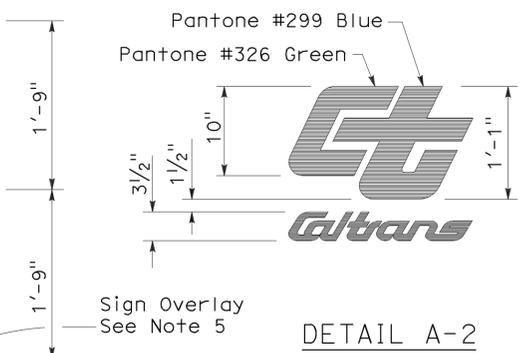
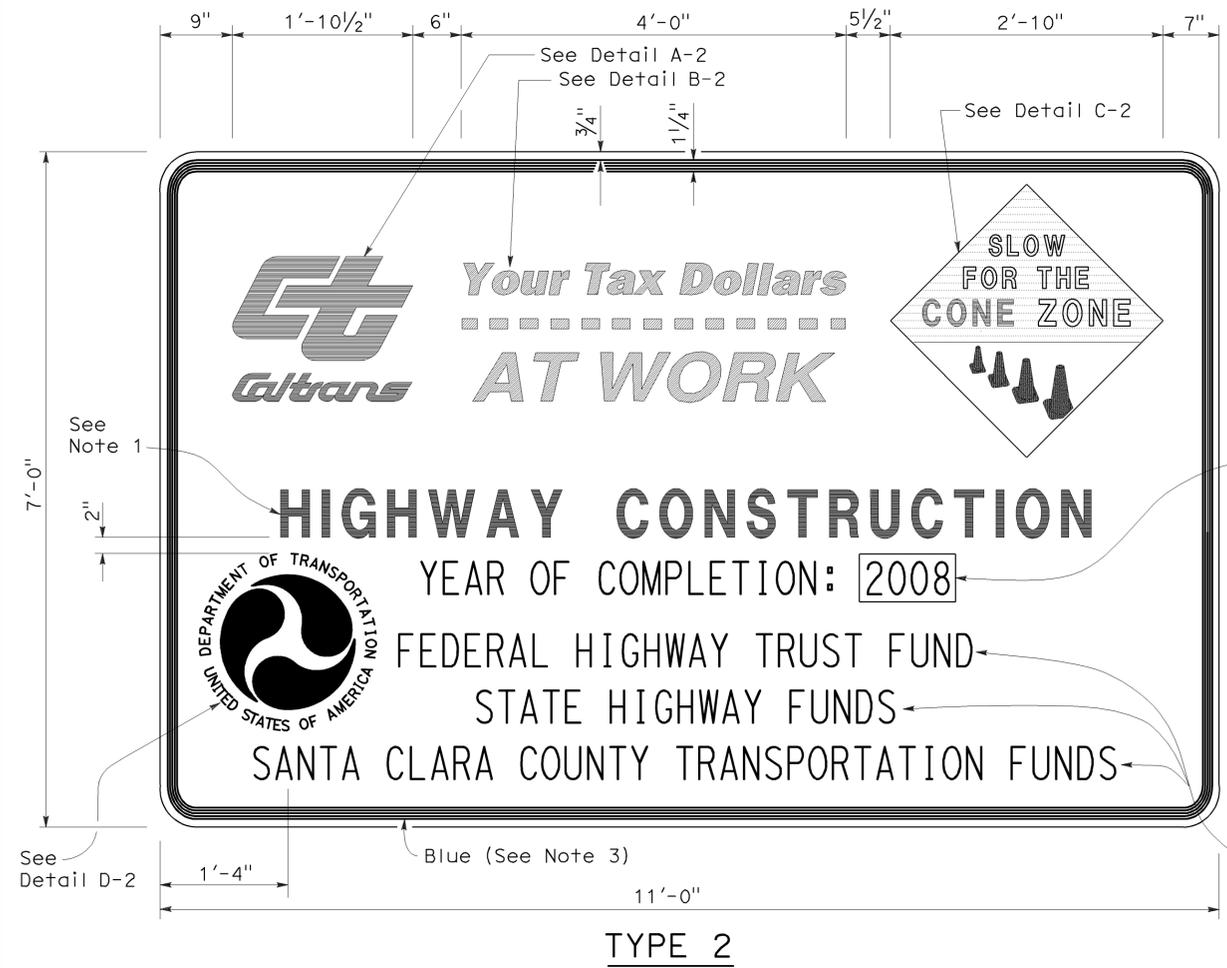
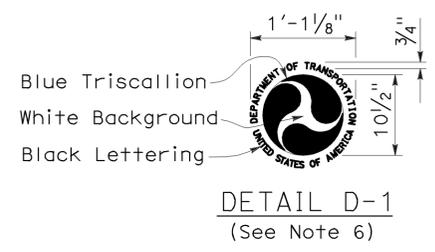
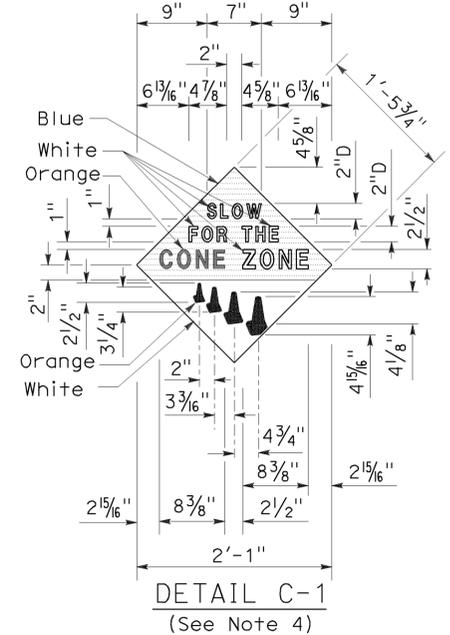
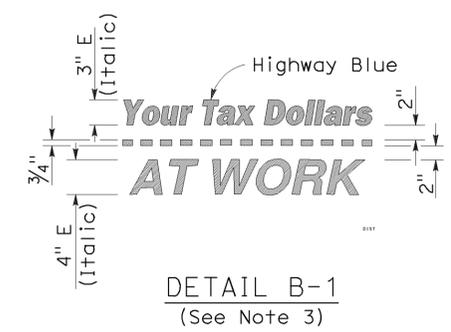
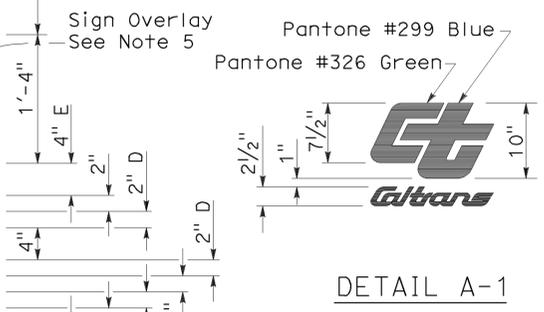
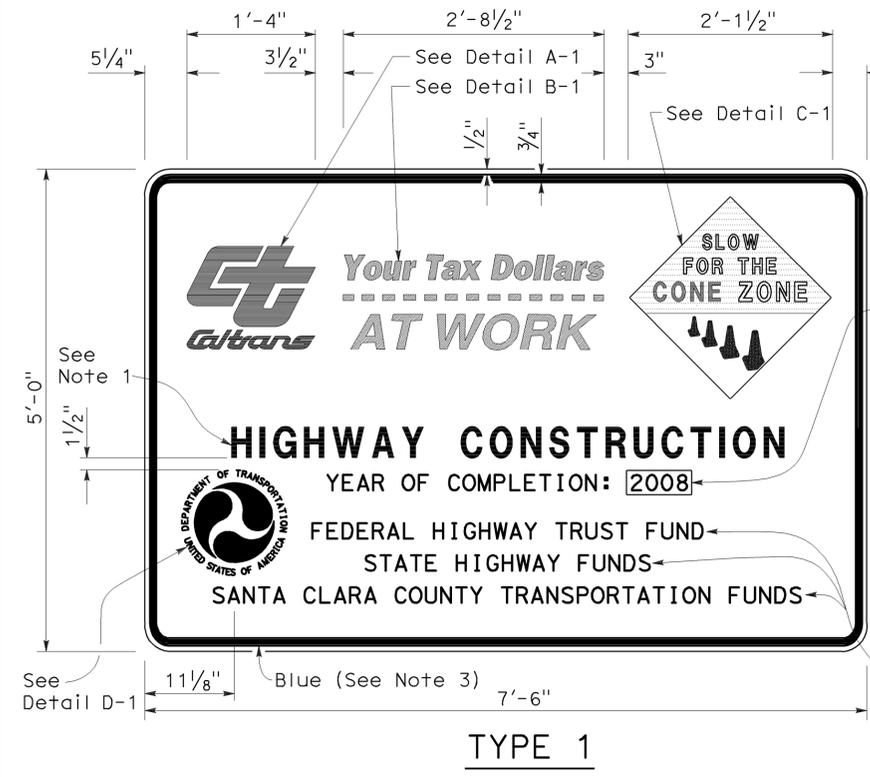
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	30	50

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

To accompany plans dated 4-23-12

NOTES:

1. 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.
2. Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
3. The border of the signs and details "B-1" and "B-2" shall be blue (non-reflective).
4. 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.
5. Year of completion of project construction shown on the overlay is an example only. See the Special Provisions.
6. Use when the Project involves Federal Highway Trust Fund.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS

NO SCALE

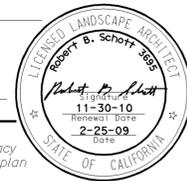
RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN T7 DATED MAY 1, 2006 - PAGE 217 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T7

2006 REVISED STANDARD PLAN RSP T7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	31	50

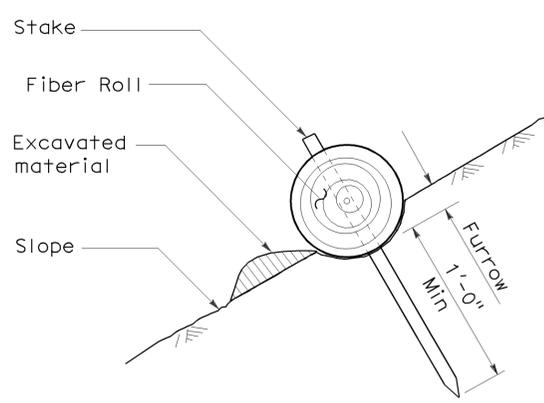
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



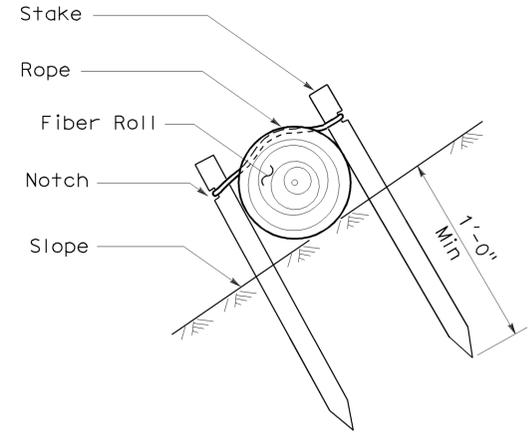
To accompany plans dated 4-23-12

NOTES:

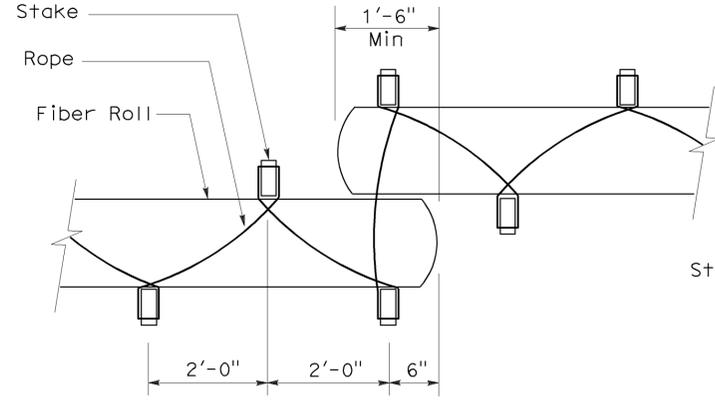
1. Temporary fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



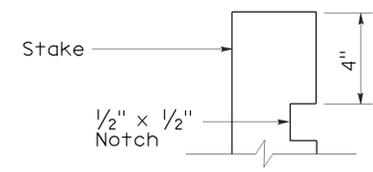
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



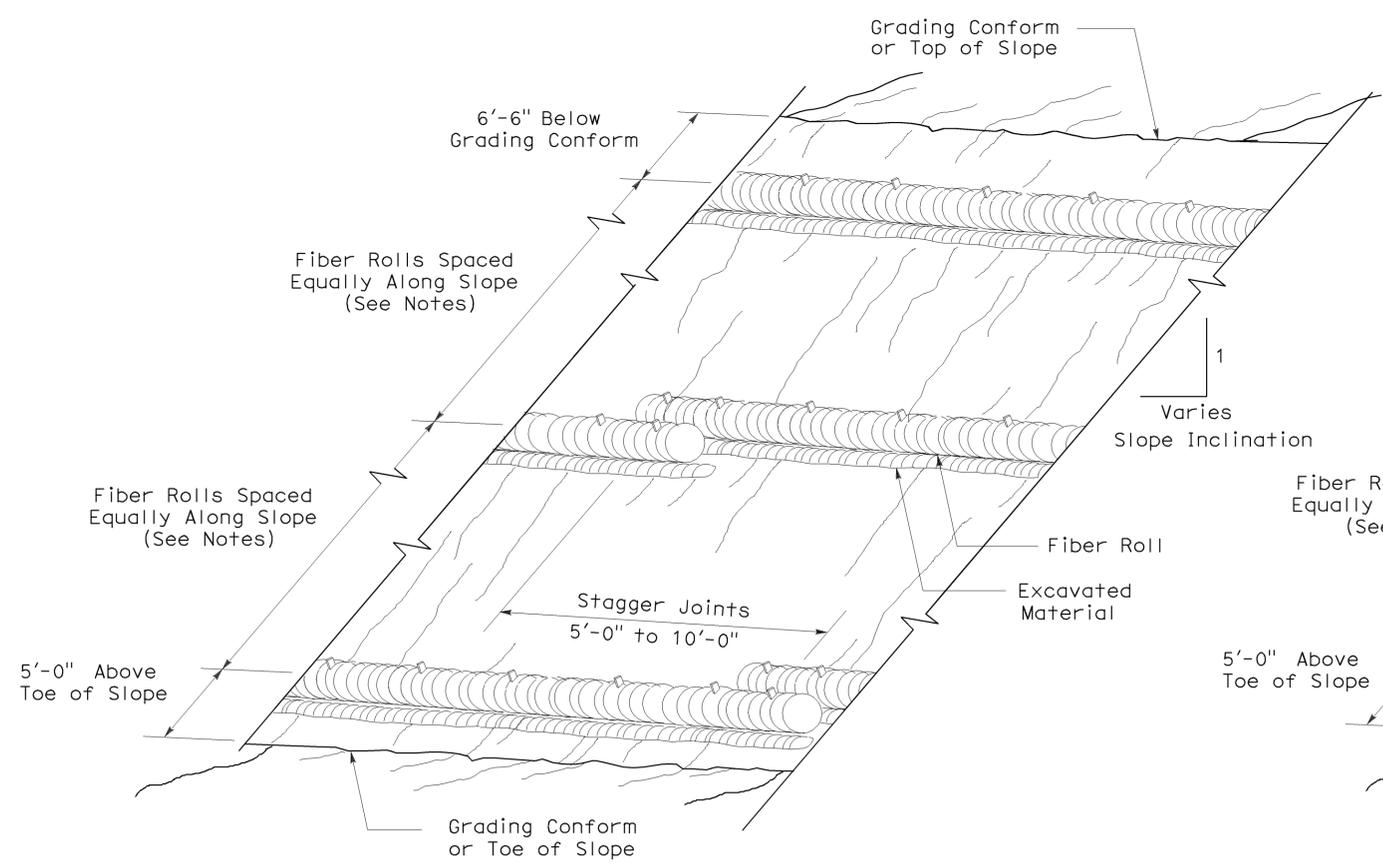
SECTION
TEMPORARY FIBER ROLL (TYPE 2)



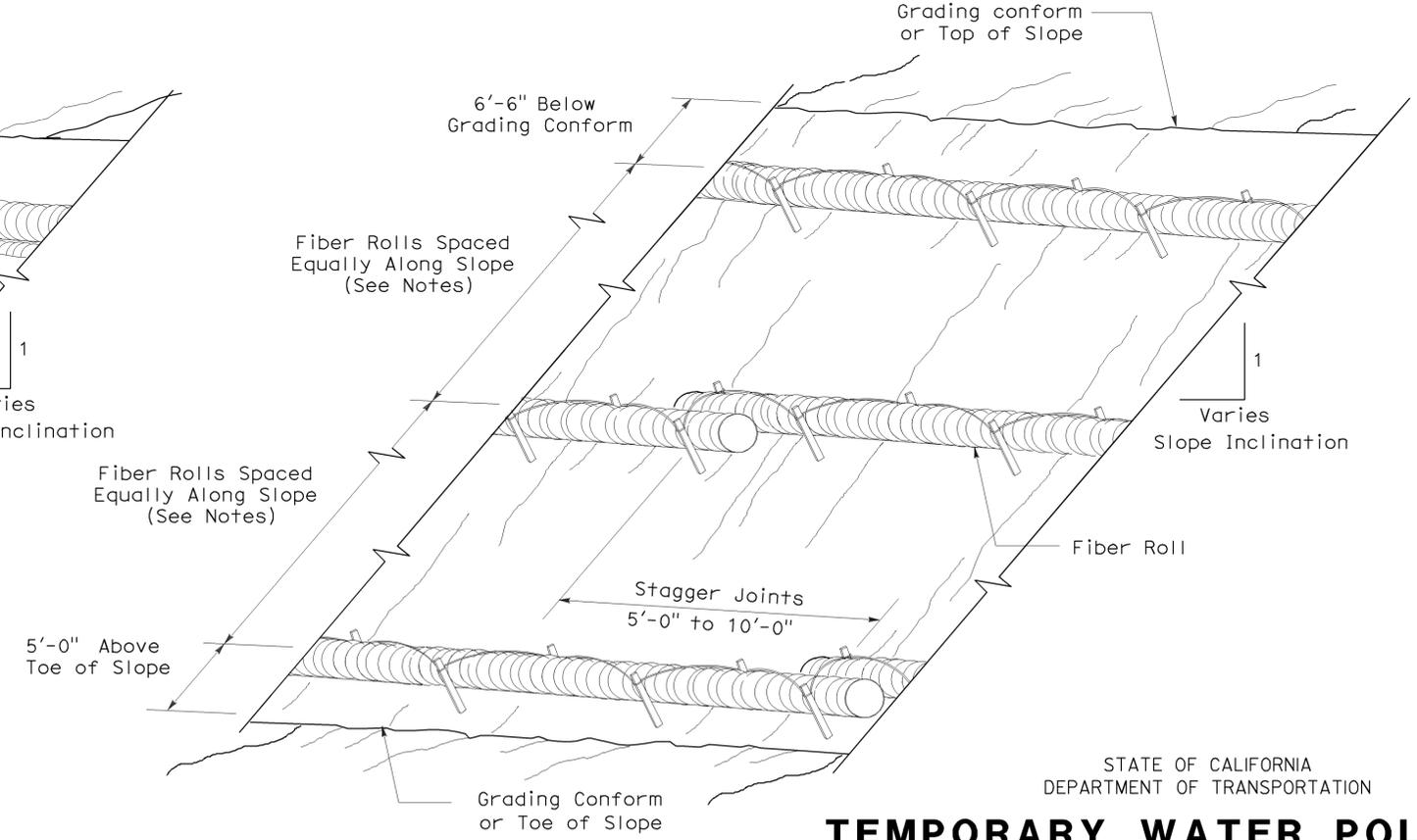
PLAN



ELEVATION
STAKE NOTCH DETAIL



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)

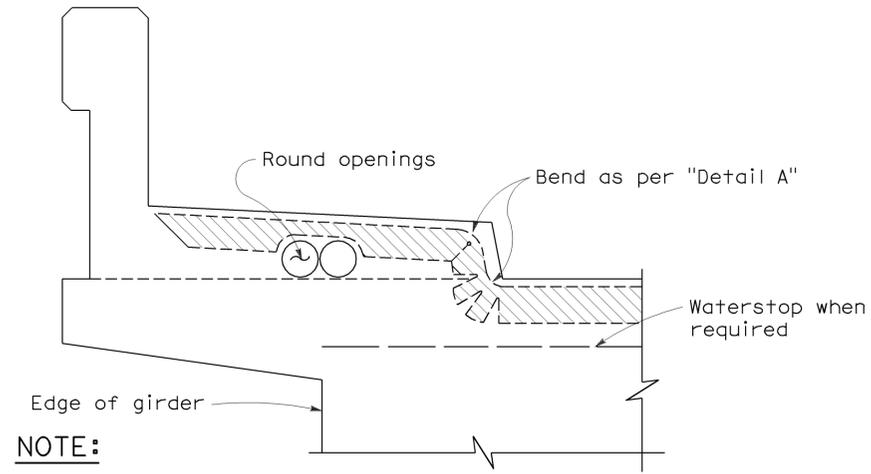
NO SCALE

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

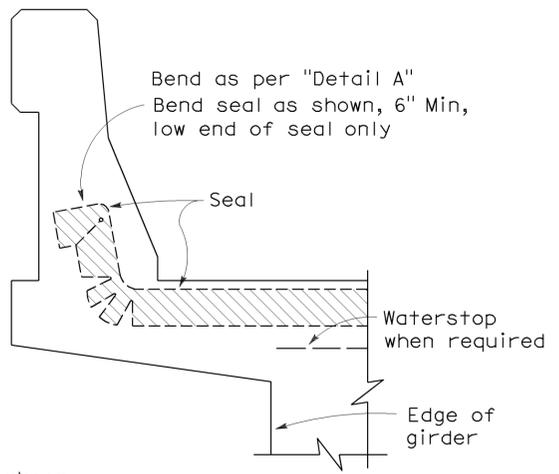
232

2006 REVISED STANDARD PLAN RSP T56

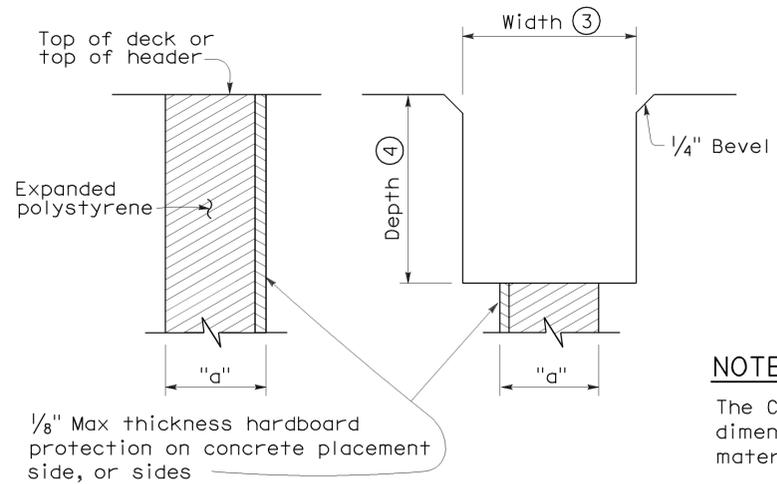


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



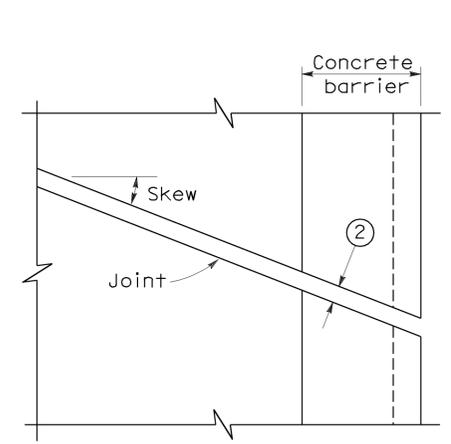
CONCRETE BARRIER



FORMING DETAIL SAWCUT DETAIL

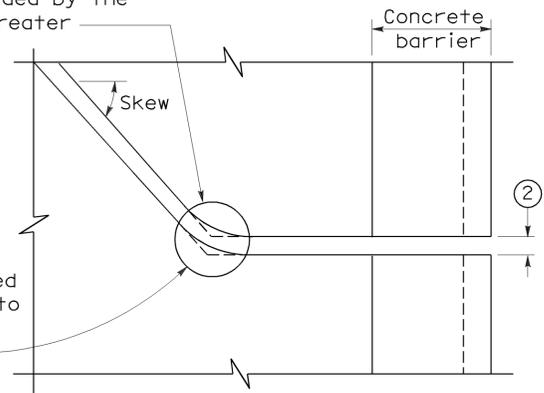
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS



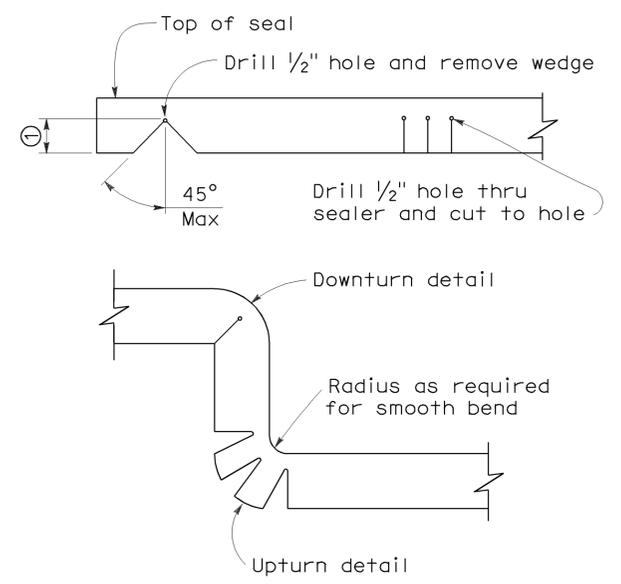
PLAN OF JOINT (SKEW ≤ 20°)

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.



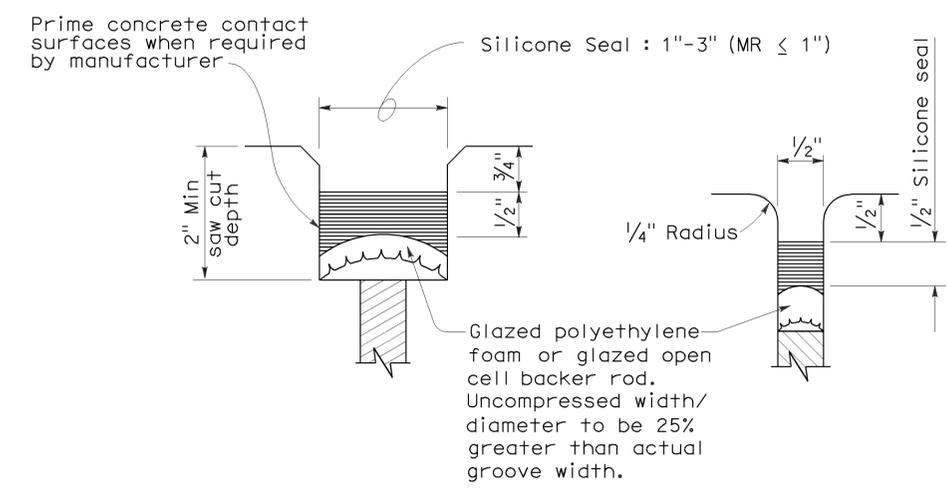
DETAIL A

- 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

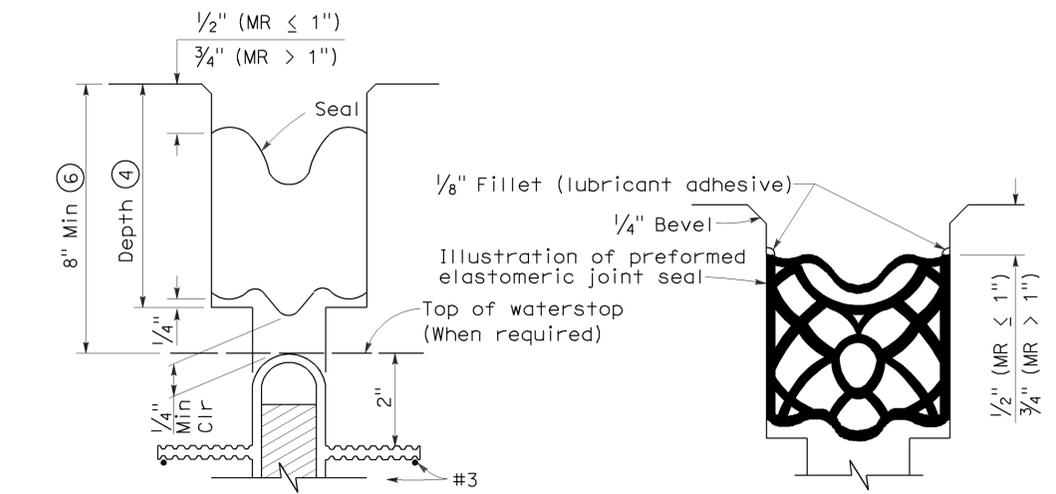


TYPE A SEAL

Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)

TYPE B SEAL

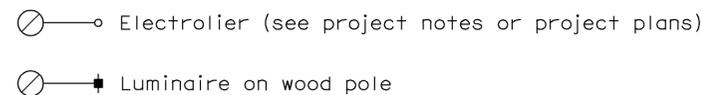
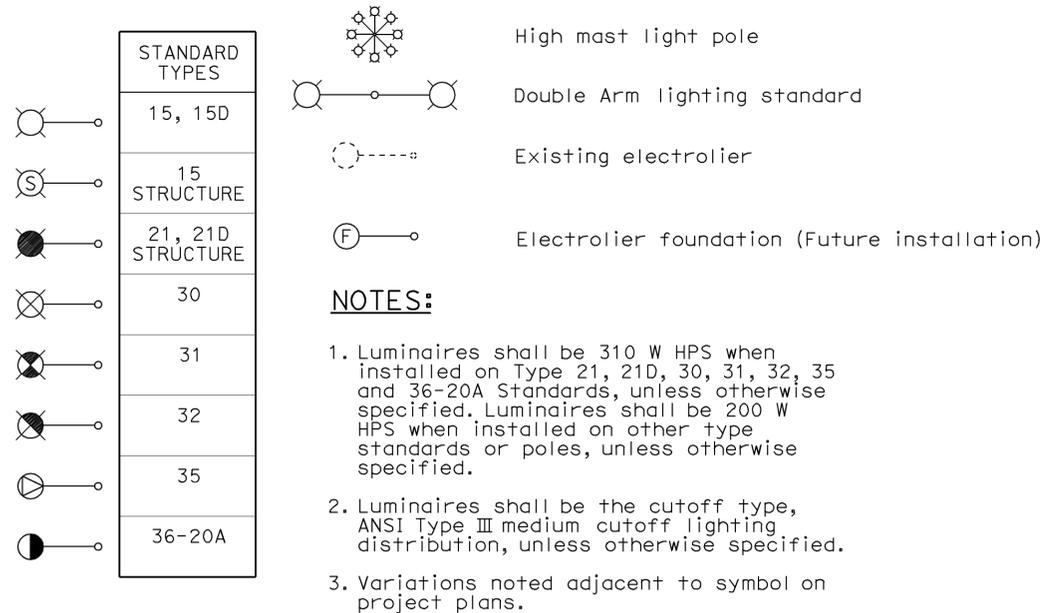
Movement Rating ≤ 2"

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

ELECTROLIERS



STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	33	50

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
REGISTERED PROFESSIONAL ENGINEER
No. E14512
Exp. 6-30-08
ELECTRICAL
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 4-23-12

SOFFIT AND WALL MOUNTED LUMINAIRES

- Pendant, 70 W HPS unless otherwise specified.
- Flush, 70 W HPS unless otherwise specified.
- Wall surface, 70 W HPS unless otherwise specified.
- Existing soffit or wall luminaire to remain unmodified.
- Existing soffit or wall luminaire to be modified as specified.

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	34	50

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

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To accompany plans dated 4-23-12

CONDUIT

PROPOSED	EXISTING	
		Lighting Conduit, unless otherwise indicated or noted
		Traffic signal conduit
		Communication conduit
		Telephone conduit
		Fire alarm conduit
		Fiber optic conduit
		Conduit termination
		Conduit riser in/on structure or service pole

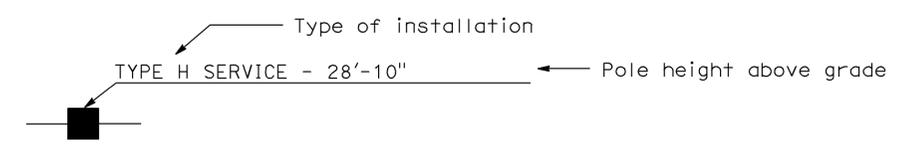
SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

SERVICE EQUIPMENT

PROPOSED	EXISTING	
		Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

NOTES:

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)
 NO SCALE

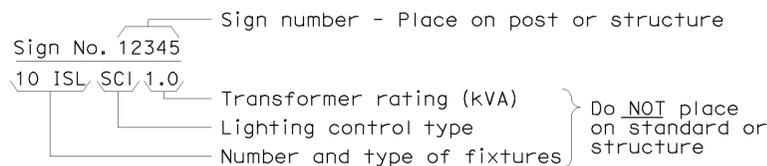
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

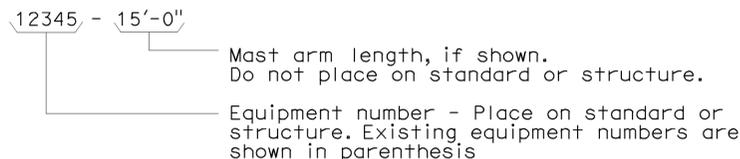
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

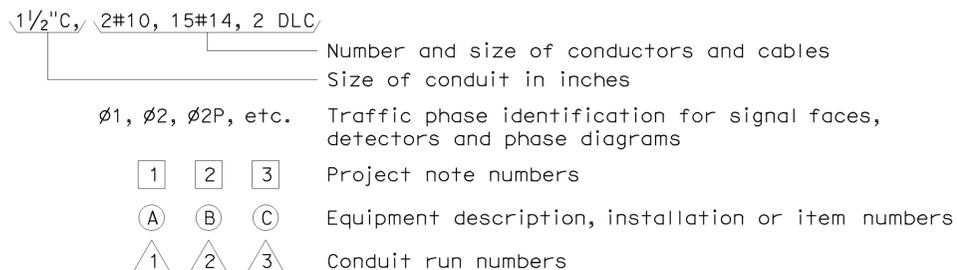
ILLUMINATED SIGN IDENTIFICATION NUMBER:



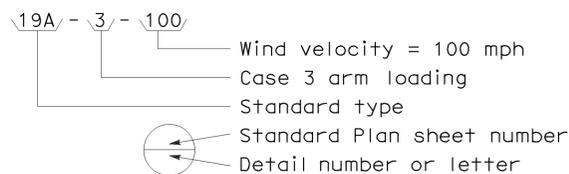
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
CMS	cms	Changeable message sign
		Closed circuit television camera
EMS	ems	Highway advisory radio pole and antenna
		Extinguishable message sign
M V	m v	Detection device M = Microwave sensor V = Video image sensor

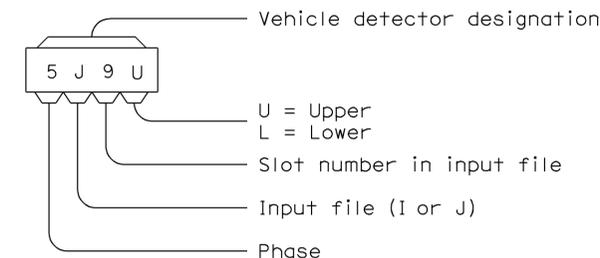
WIRING DIAGRAM LEGEND

P	Pole	----	External conductor
CB	Circuit breaker	—	Conductor or bus
A	Ampere	—●—	Tie point
V	Volt	—/—	Contactor coil
M	Metered	— —	Contactor, Contact NO
UM	Unmetered	— —	Terminal blocks
NB	Neutral bus	— —	Contactor, Contact NC
GB	Ground bus	— —	Enclosure bond
G	Equipment grounding conductor	— —	Grounding electrode
N	Grounded conductor (Neutral)	— —	Circuit breaker
		Ⓜ	Receptacle

PULL BOXES

PROPOSED	EXISTING	
		Pull box-No. 5 unless otherwise indicated or noted.
		Pull box-Additional designations or descriptions
3		(C) = Communications pull box
5		(E) = Pull box with extension
6		(S) = Sprinkler control pull box
7		(21) = Anchor bolts and conduit for future installation of Type 21 Standard
8		(T) = Traffic pull box
9		
9A		

VEHICLE DETECTORS



PROPOSED	EXISTING	
		Type A detector loop. Outline of sawcut shown.
		Type B detector loop. Outline of sawcut shown.
		Type C detector loop. Outline of sawcut shown.
		Type D detector loop. Outline of sawcut shown.
		Type E detector loop. Outline of sawcut shown.
		Type Q detector loop. Outline of sawcut shown.
		Magnetic detector
		Detector handhole
		Microwave or video detection zone

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

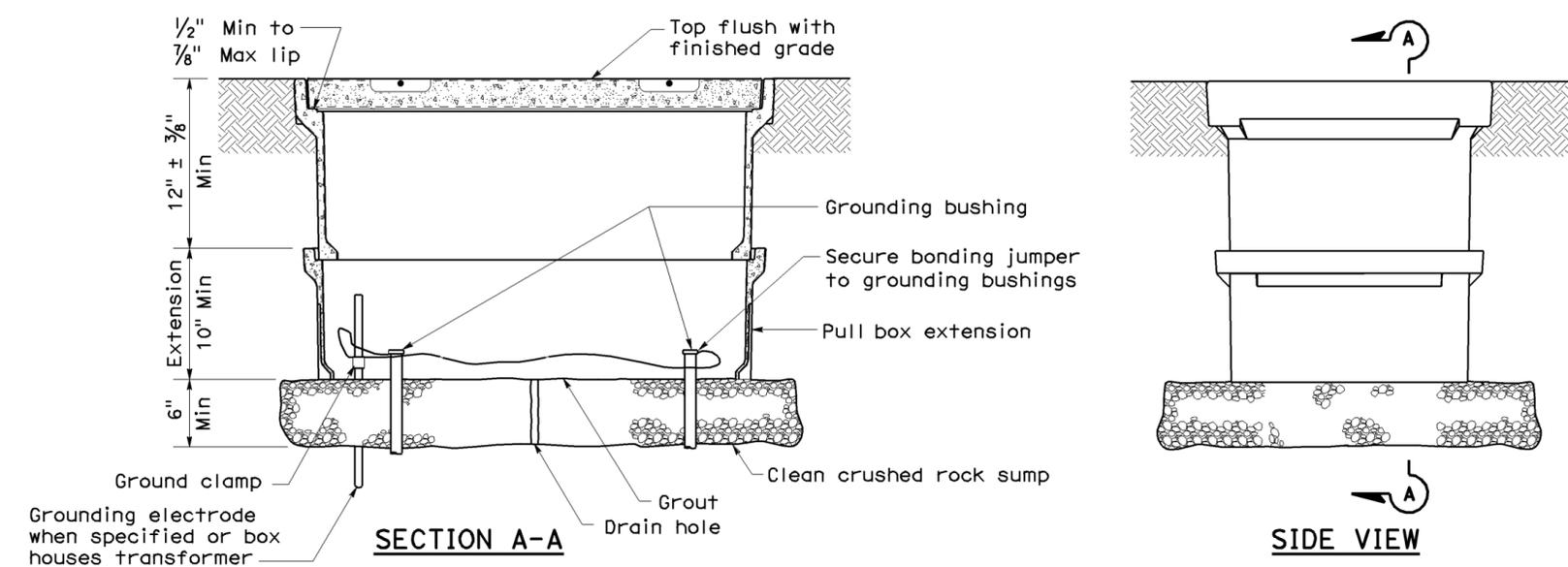
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	36	50

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

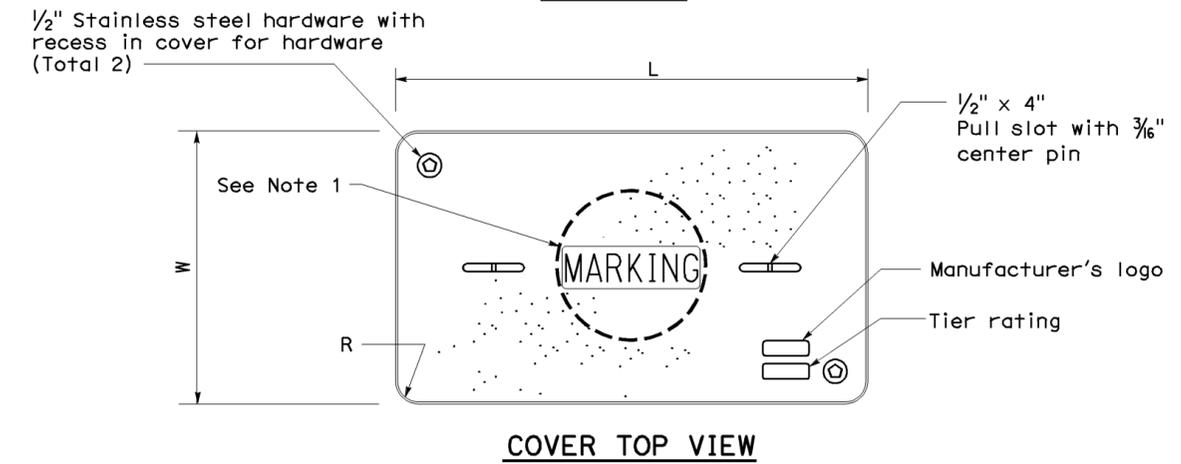
January 20, 2012
 PLANS APPROVAL DATE

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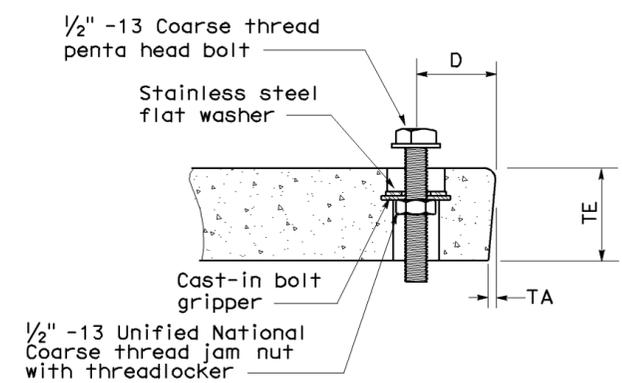
To accompany plans dated 4-23-12



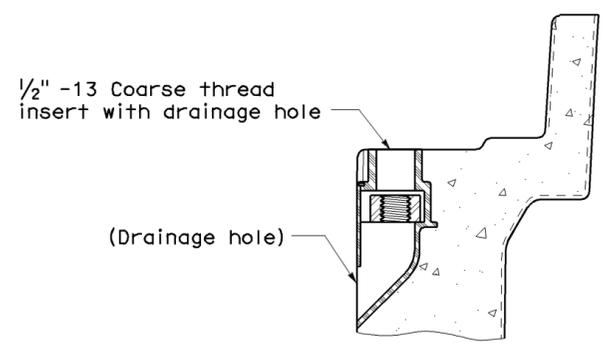
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
(Or similar)



TYPICAL THREADED INSERT
(Or similar)

NOTES ON PULL BOXES:

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

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	Minimum Depth Box	Minimum Depth Extension	Maximum Weight	L	W	R	TE	TA	D	Maximum Weight
No. 3/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

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

NSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

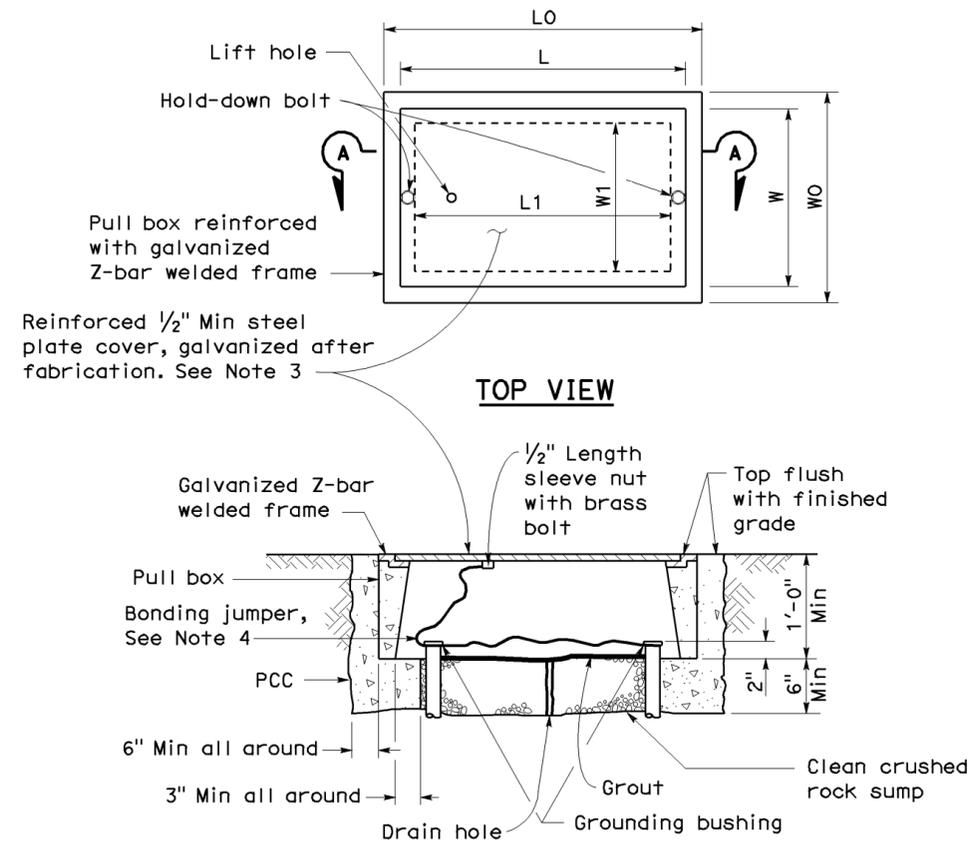
2006 NEW STANDARD PLAN NSP ES-8A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	37	50

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 January 20, 2012
 PLANS APPROVAL DATE

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2006 NEW STANDARD PLAN NSP ES-8B



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

NOTES ON PULL BOXES:

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

To accompany plans dated 4-23-12

PULL BOX	BOX						COVER					
	Minimum * Thickness	Minimum Depth Box and Extension	W0	L0	L1	W1	L **	W **	R	Edge Thickness	Edge Taper	
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5"± 1"	1'-8 7/8"±	1'-2 1/2"±	10 5/8"± 1"	1'-8"±	1'-1 3/4"±	0"	1/2"	None	
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	1/2"	None	
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	1/2"	None	

* Excluding conduit web ** Top dimension

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

NSP ES-8B DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	38	50

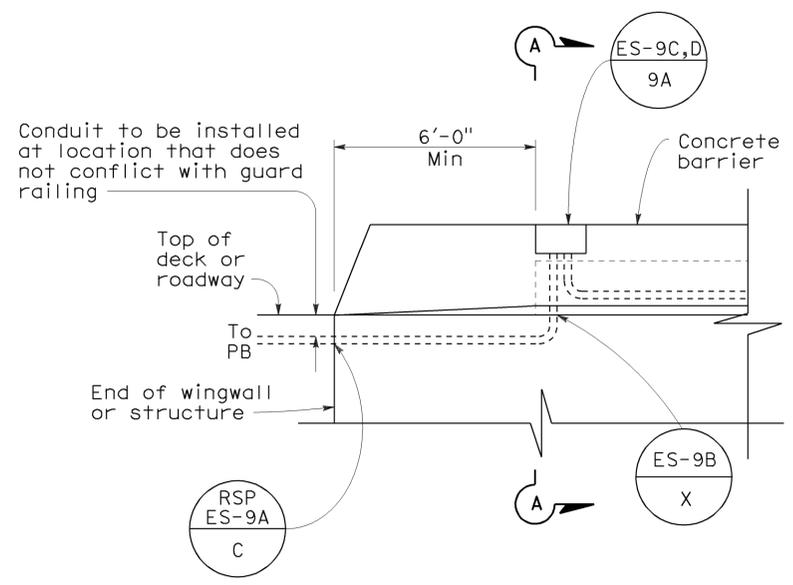
REGISTERED ELECTRICAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

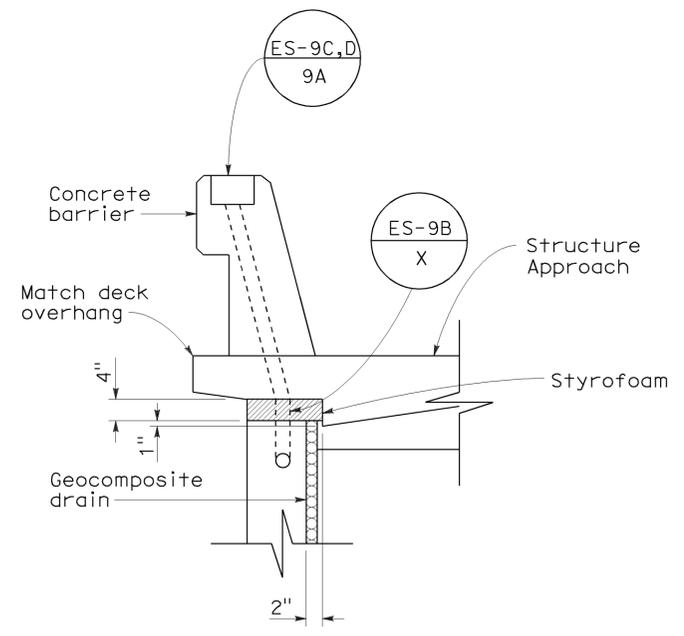
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-23-12

2006 REVISED STANDARD PLAN RSP ES-9A

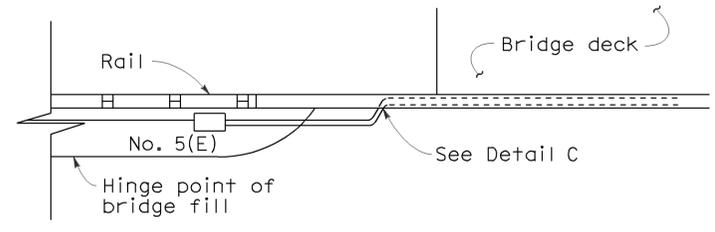


SIDEVIEW

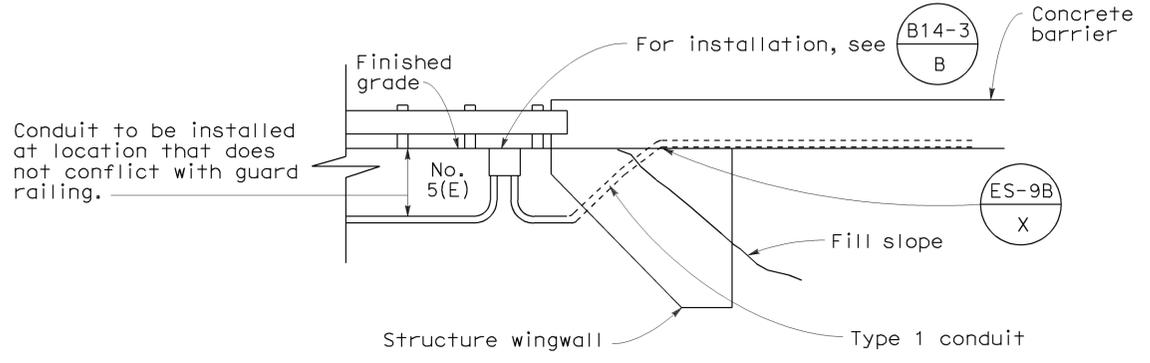


SECTION A-A

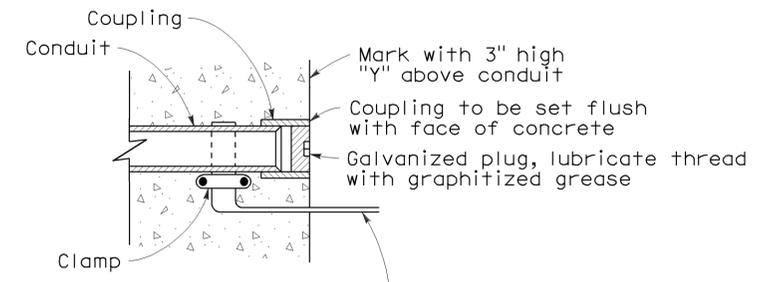
**DETAIL A
CONDUIT TERMINATION**



TOP VIEW



**SIDE VIEW
DETAIL I
CONDUIT TERMINATION**



**DETAIL C
CONDUIT TERMINATION**

Copper bonding strap install only at structure construction joint, extend at least 6" from face of concrete

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(ELECTRICAL DETAILS
STRUCTURE INSTALLATIONS)**

NO SCALE

RSP ES-9A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9A DATED MAY 1, 2006 - PAGE 454 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-9A

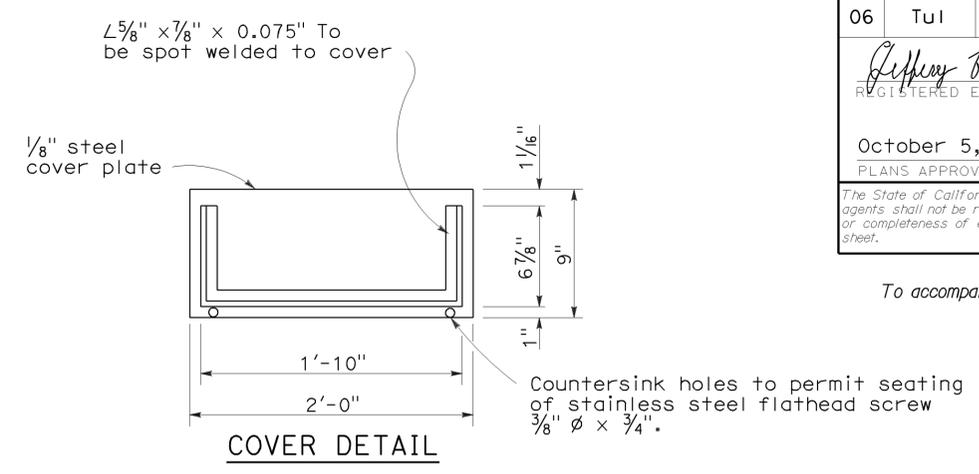
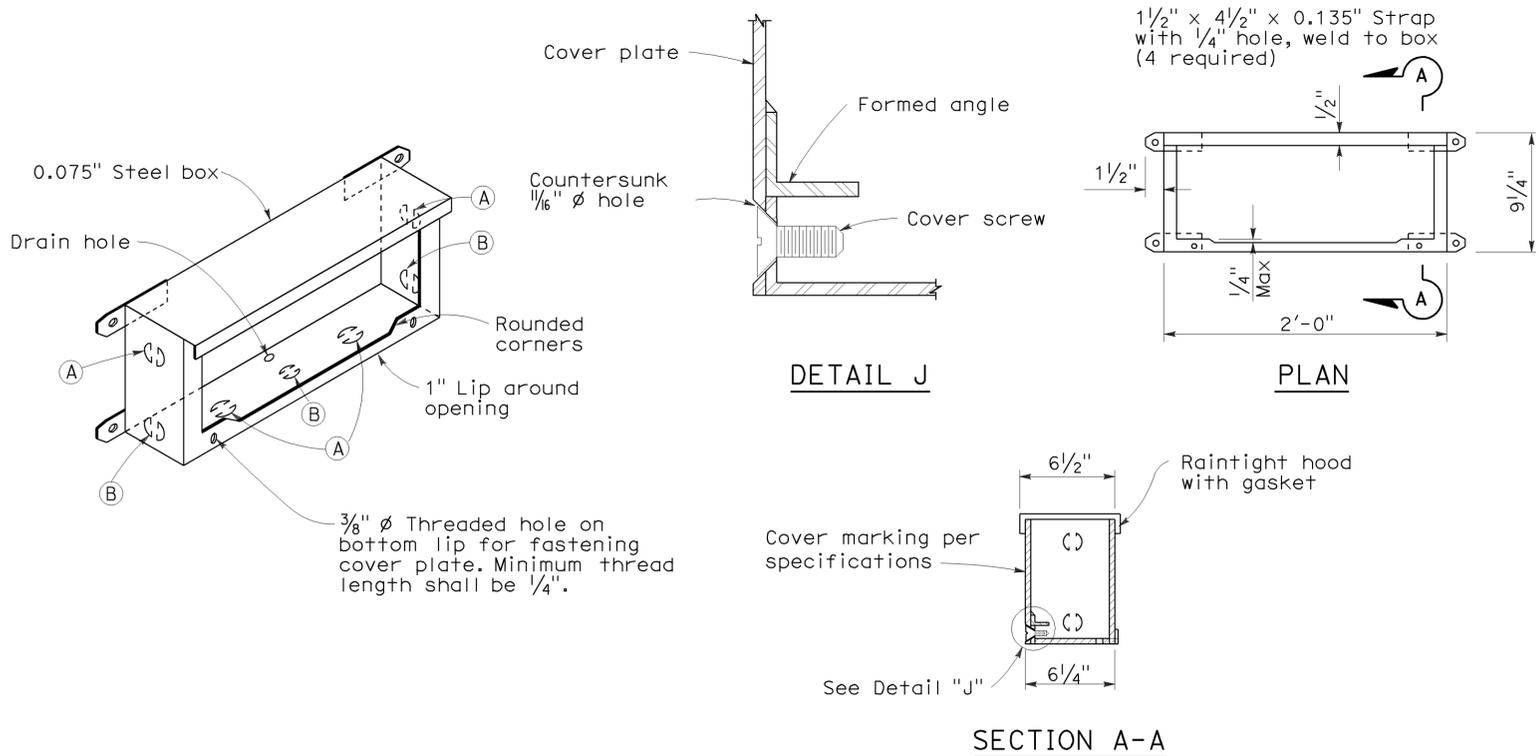
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	39	50

REGISTERED ELECTRICAL ENGINEER
Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

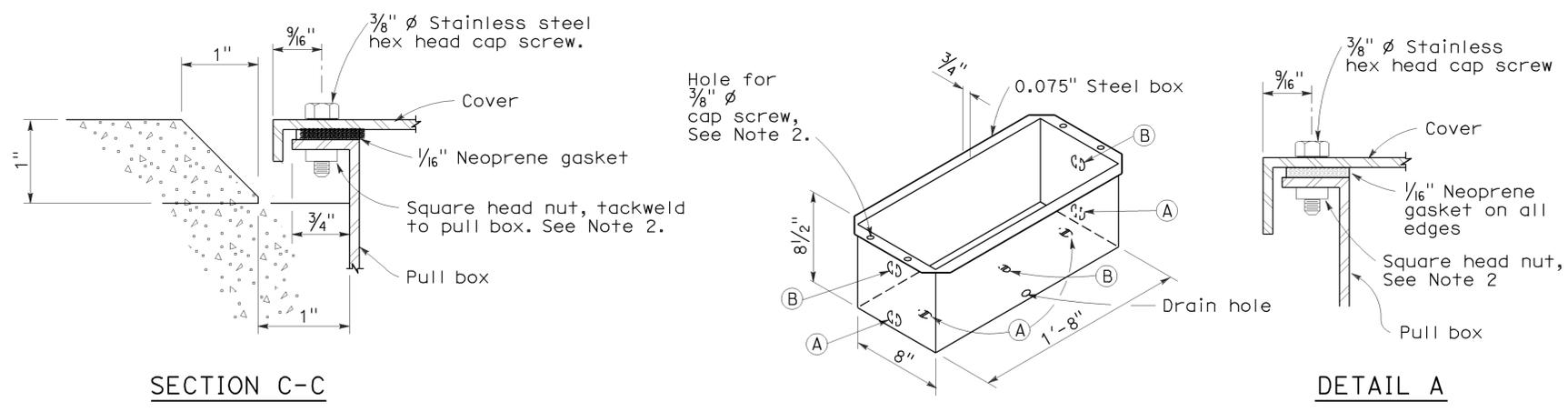
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 4-23-12



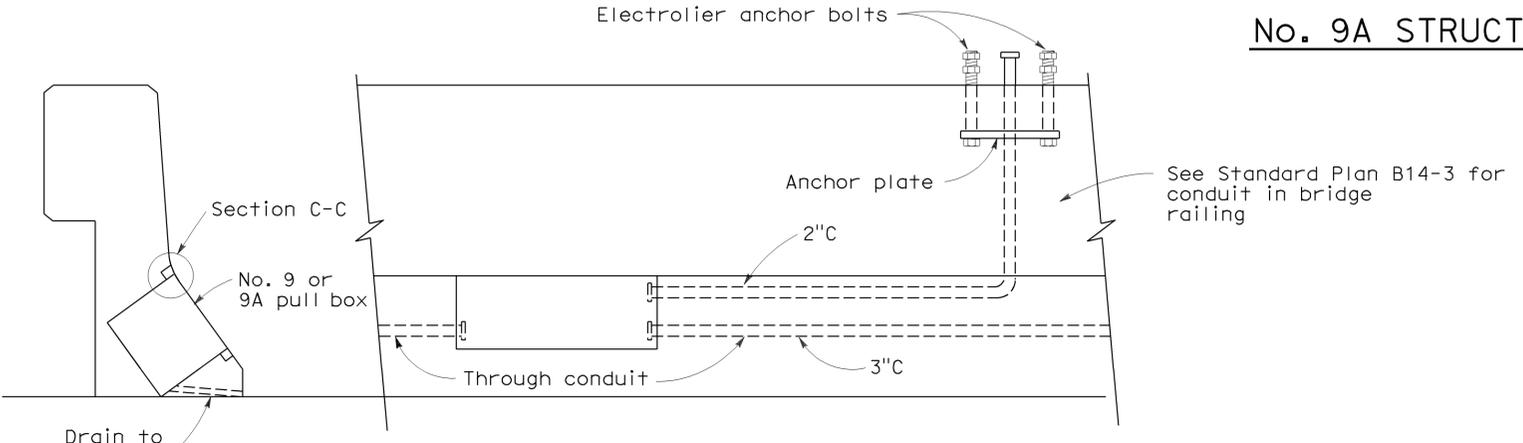
INSTALLATION NOTE:
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

No. 9 STRUCTURE PULL BOX



- NOTES:** No. 9 and 9A Pull Box
- Corner joints shall be lapped and secured by spot welding or riveting.
 - Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
 - Tack weld square nut to bottom of flange (Total 4), or
 - Tack weld a 1/4" x 5/8" x 8" bar beneath flange (Total 2).
 - Pound knockouts flat after punching.
 - Multiple size knockouts shall not be permitted.
 - Pull box covers shall be marked as shown on Standard Plan ES-8.

No. 9A STRUCTURE PULL BOX



INSTALLATION IN SLOPING PARAPETS

For reinforcement in area of electrolier, see railing sheets. For electrolier anchor bolts, see Standard Plan ES-6B.

- KNOCKOUT SCHEDULE**
No. 9 AND 9A PULL BOX
- (A) 2"C, 1 each end, 2 on bottom.
 - (B) 3"C, 1 each end, 1 on bottom.

ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)

NO SCALE
 RSP ES-9C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9C DATED MAY 1, 2006 - PAGE 456 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-9C

QUANTITIES		LUMP SUM
BRIDGE REMOVAL (PORTION)		
RECONSTRUCT METAL RAILING (TYPE 1)	190	LF
RECONSTRUCT STEEL PIPE RAILING (TYPE 3)	95	LF
STRUCTURAL CONCRETE, BRIDGE	32	CY
STRUCTURAL CONCRETE, BARRIER END BLOCK	3	CY
CLEAN EXPANSION JOINT	28	LF
INJECT CRACK (EPOXY)	12	LF
FURNISH PRECAST PRESTRESSED CONCRETE GIRDER (90'-100')	2	EA
ERECT PRECAST PRESTRESSED CONCRETE GIRDER	2	EA
REPAIR SPALLED SURFACE AREA	11	SQFT
COMPOSITE GIRDER STRENGTHENING	170	SQFT
JOINT SEAL (MR 1")	38	LF
BAR REINFORCING STEEL (BRIDGE)	7,780	LB
CONCRETE BARRIER (TYPE 1)	190	LF

NOTES: (APPLY TO THIS SHEET ONLY)

Indicates limits of remove existing concrete deck, diaphragms, girders and concrete barriers and place new concrete deck, diaphragms, precast prestressed concrete girders and concrete barriers.

① Remove and reset existing steel pipe railing Type 3 in Span 2. For details, see PIPE RAILING DETAILS sheet.

② Remove and reset existing metal railing Type 1 in Span 2. For details, see BARRIER RAILING DETAILS NO.1 and NO. 2 sheets.

③ Indicates location of construct barrier end blocks. See THRIE BEAM CONNECTION DETAILS sheet.

1 - 7 Indicates existing girder designation.

Indicates location of remove and clean existing joint seal and place new joint seal, type B. For details, see TYPICAL CONSTRUCTION STAGING sheet.

NOTES: (APPLY TO ALL SHEETS)

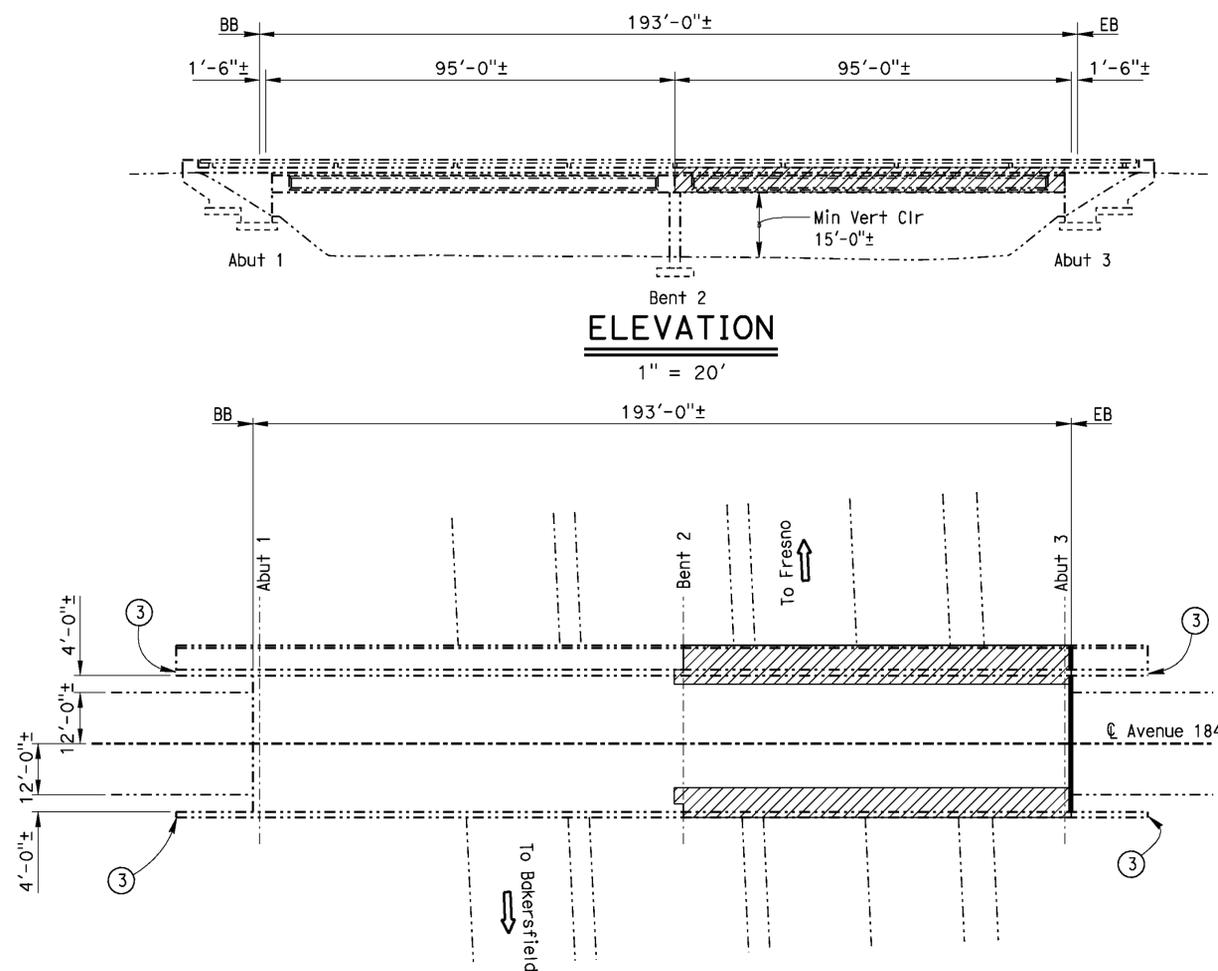
Indicates existing.

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

STANDARD PLAN SHEET NUMBER
 DETAIL NUMBER

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	40	50

REGISTERED CIVIL ENGINEER *H. Moazami* 4-15-11 DATE
 PLANS APPROVAL DATE 4-23-12
 REGISTERED PROFESSIONAL ENGINEER
 HOSEIN MOAZAMI
 No. C 60058
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
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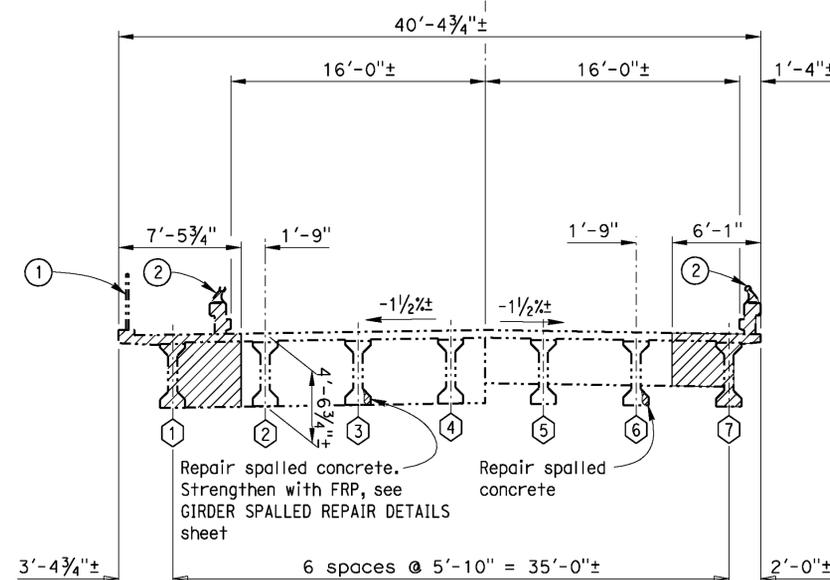


ELEVATION

1" = 20'

PLAN

1" = 20'



AT END DIAPHRAGM AT INTERMEDIATE DIAPHRAGM

TYPICAL SECTION AT SPAN 2

3/16" = 1'-0"

**GENERAL NOTES
LOAD FACTOR DESIGN**

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

LIVE LOADING: HS20-44 and alternative and permit design load

REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c = 4000$ psi
 $n = 8$

Transverse Deck Slabs (Working Stress Design)

$f_s = 20$ ksi

$f_c = 1200$ psi

$n = 9$

PRESTRESSED CONCRETE: See "PRESTRESSING NOTES" on PRESTRESSED GIRDER DETAILS sheet

HS THREADED ROD: ASTM A325, Type 1

CONCRETE TYPE LIMITS

Deck Superstructure, Sidewalk & Diaphragm Structure Concrete: 4000 psi @ 28 days

Prestressed Precast I-Girder Concrete Compressive Strength: 5000 psi @ 28 days

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	GIRDER REPAIR DETAILS NO.1
3	GIRDER REPAIR DETAILS NO. 2
4	GIRDER REPAIR DETAILS NO. 3
5	PRESTRESSED GIRDER DETAILS
6	GIRDER SPALLED REPAIR DETAILS
7	TYPICAL CONSTRUCTION STAGING
8	BARRIER RAILING DETAILS NO. 1
9	BARRIER RAILING DETAILS NO. 2
10	METAL RAILING DETAILS
11	THRIE BEAM CONNECTION DETAILS

STANDARD PLANS DATED MAY 2006

SHEET NO.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
B0-5	BRIDGE DETAILS
RSP 6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
T3	TEMPORARY RAILING (TYPE K)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.
46-0192
POST MILE
23.5

**AVENUE 184 OVERCROSSING
GENERAL PLAN**

4-15-11 *Michael J. Lee*
DESIGN ENGINEER

DESIGN BY K. Truong
DETAILS BY M. Hallstrom
QUANTITIES BY K. Truong

CHECKED H. Moazami
CHECKED H. Moazami
CHECKED H. Moazami

LOAD FACTOR DESIGN
LAYOUT BY M. Hallstrom
SPECIFICATIONS BY Dang/Jiang

LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
CHECKED H. Moazami
PLANS AND SPECS COMPARED J. Jiang

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 3488
PROJECT NUMBER & PHASE: 0600020699 1 CONTRACT NO.: 06-0n8501

DISREGARD PRINTS BEARING EARLIER REVISION DATES

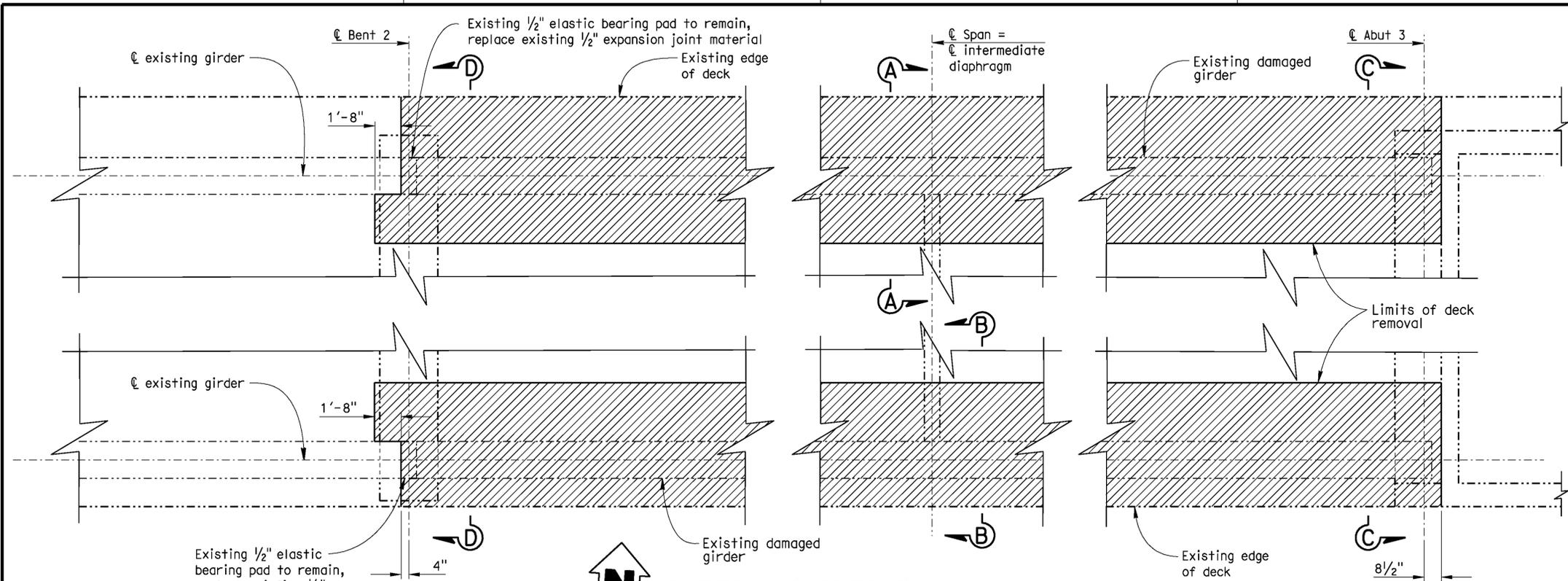
REVISION DATES	SHEET	OF
3-11 3-11 4-11-11	1	11

FILE => 06-0n8501_01_gp01.dgn

TIME PLOTTED => 11:08 USERNAME => 6137417 DATE PLOTTED => 03-FEB-2012

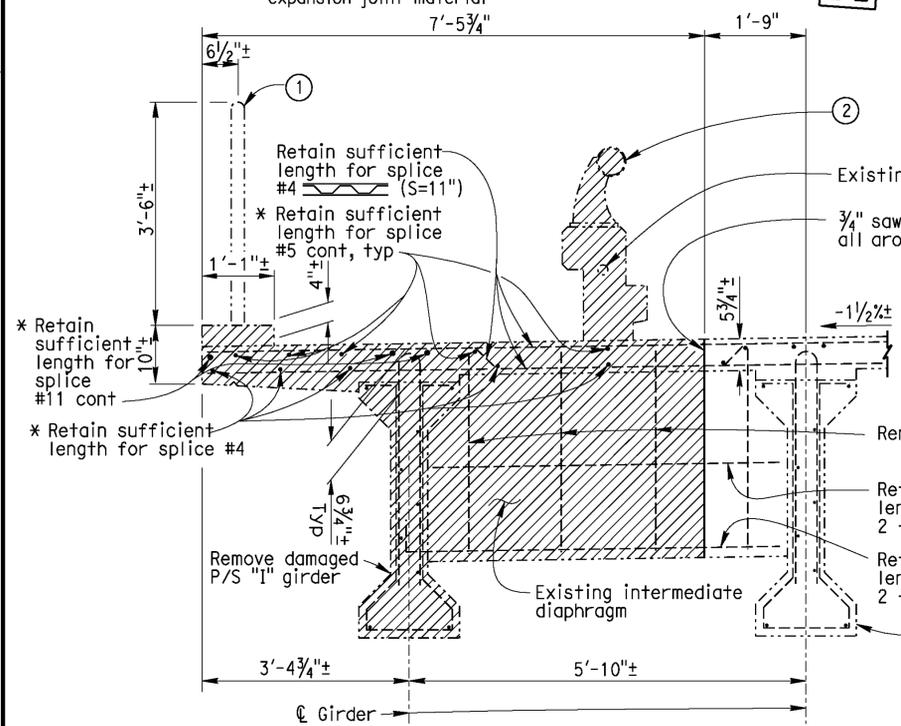
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	41	50

REGISTERED CIVIL ENGINEER
 DATE 4-15-11
 4-23-12
 PLANS APPROVAL DATE
 HOSSEIN MOAZAMI
 No. C 60058
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA



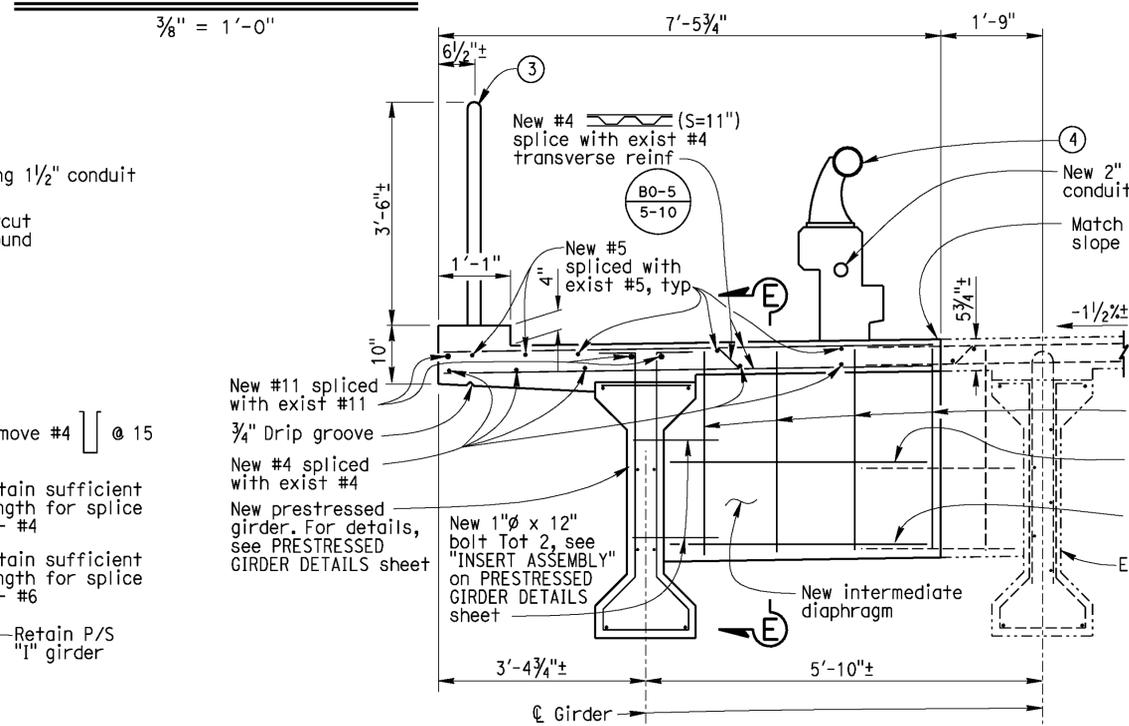
N PARTIAL GIRDER PLAN
 $\frac{3}{8}'' = 1'-0''$

- NOTES: (APPLY TO THIS SHEET ONLY)
- ▨ Indicates limits of remove existing concrete deck, diaphragms, girders and concrete barriers and place new concrete deck, diaphragms, precast prestressed concrete girders and concrete barriers.
 - ① Remove and retain steel pipe railing Type 3 for reconstruction. For details, see STEEL PIPE RAILING DETAILS sheet.
 - ② Remove and retain steel metal railing Type 1 for reconstruction. For details, see BARRIER RAILING DETAILS NO. 1 and NO. 2 sheets.
 - ③ Reset existing steel pipe railing Type 3. For details, see STEEL PIPE RAILING DETAILS sheet.
 - ④ Reset existing steel metal railing Type 1. For details, see BARRIER RAILING DETAILS NO. 1 and NO. 2 sheets.
 - * Retain all longitudinal bars 12'-0" from \bar{C} bent. No splices permitted near \bar{C} bent. Splices shall be staggering.

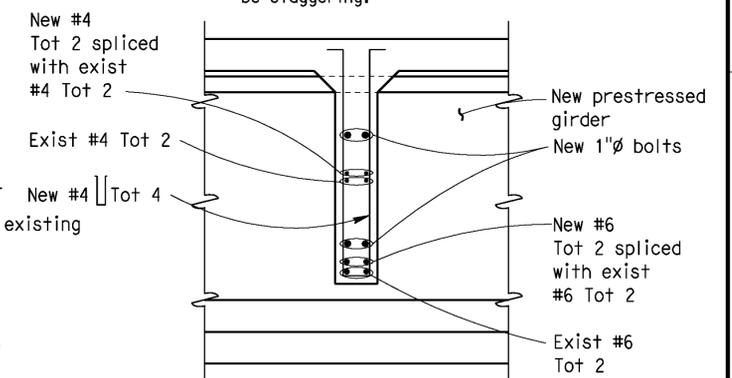


EXISTING

SECTION A-A
 $\frac{3}{4}'' = 1'-0''$



RECONSTRUCTION



SECTION E-E
 $\frac{3}{4}'' = 1'-0''$

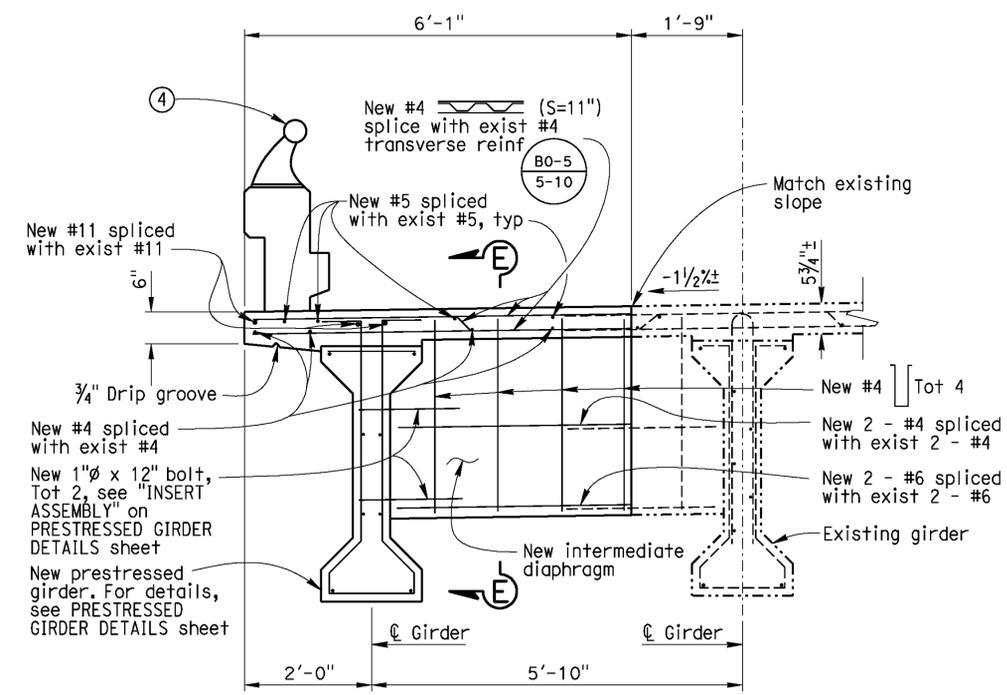
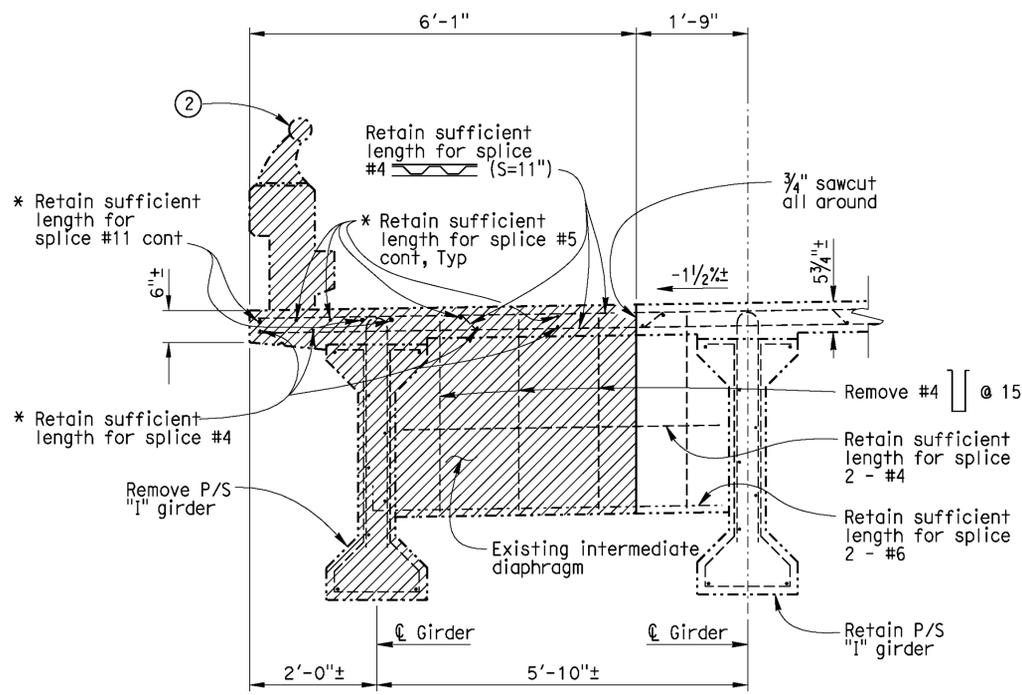
DESIGN	BY	K. Truong	CHECKED	H. Moazami	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING
	DETAILS	M. Hallstrom	CHECKED	H. Moazami			
	QUANTITIES	K. Truong	CHECKED	H. Moazami			
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION					DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN		GIRDER REPAIR DETAILS NO. 1
UNIT: 3488 PROJECT NUMBER & PHASE: 0600020699 1					POST MILE 23.5		
STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10)					CONTRACT NO.: 06-0N8501		REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 2 OF 11

DATE PLOTTED => 03-FEB-2012
 TIME PLOTTED => 11:08
 USERNAME => 8137417

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	42	50

REGISTERED CIVIL ENGINEER 4-15-11 DATE
 4-23-12 PLANS APPROVAL DATE
 HOSEIN MOAZAMI
 No. C 60058
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

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EXISTING

RECONSTRUCTION

SECTION B-B

3/4" = 1'-0"

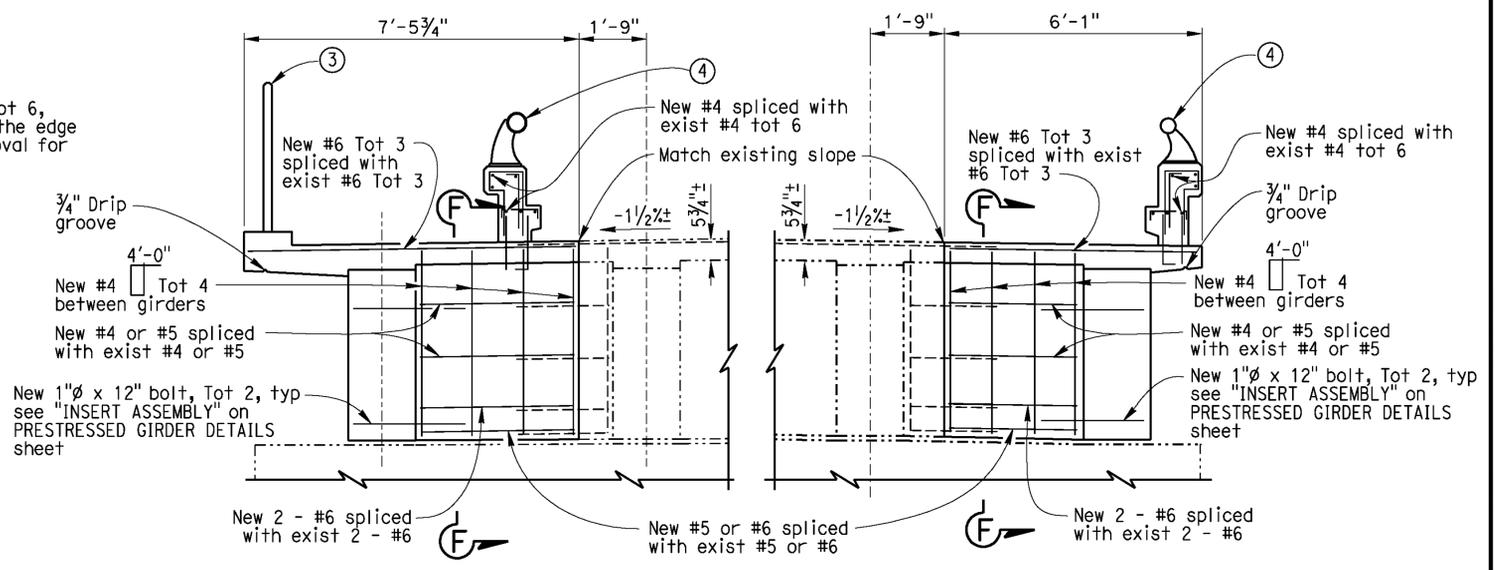
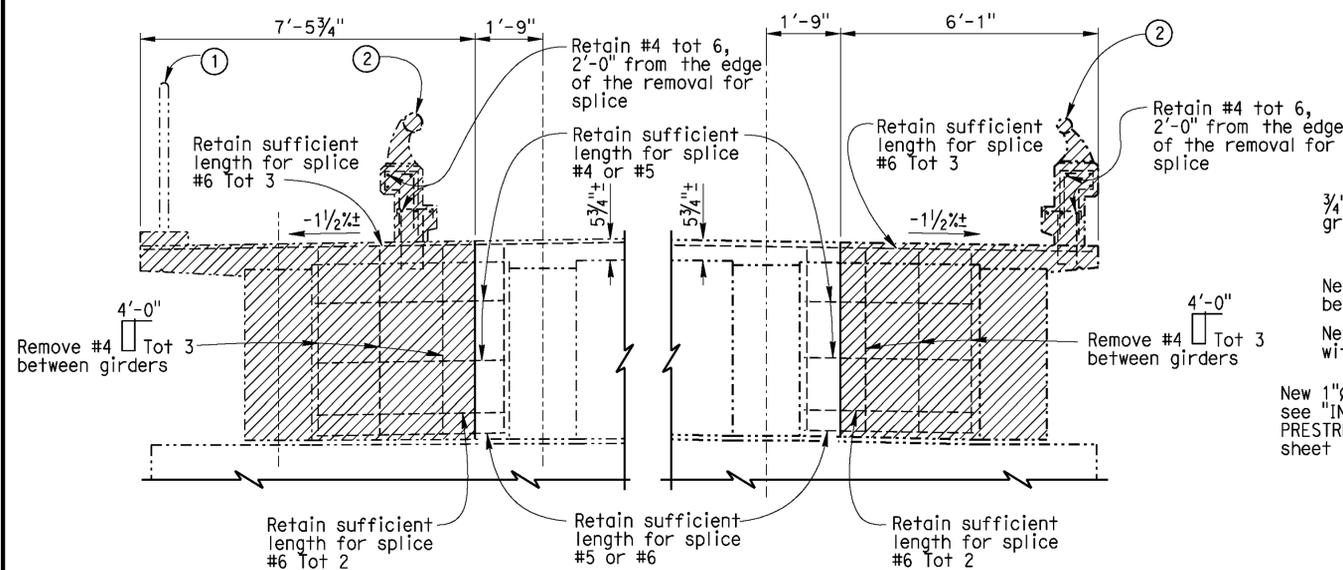
NOTES: (APPLY TO THIS SHEET ONLY)

Indicates limits of remove existing concrete deck, diaphragms, girders and concrete barriers and place new concrete deck, diaphragms, precast prestressed concrete girders and concrete barriers.

- ① Remove and retain steel pipe railing Type 3 for reconstruction. For details, see STEEL PIPE RAILING DETAILS sheet.
 - ② Remove and retain steel metal railing Type 1 for reconstruction. For details, see BARRIER RAILING DETAILS NO. 1 and NO. 2 sheets.
 - ③ Reset existing steel pipe railing Type 3. For details, see STEEL PIPE RAILING DETAILS sheet.
 - ④ Reset existing steel metal railing Type 1. For details, see BARRIER RAILING DETAILS NO. 1 and NO. 2 sheets.
- * Retain all longitudinal bars 12'-0" from \bar{C} bent. No splices permitted near \bar{C} bent. Splices shall be staggering.

See GIRDER REPAIR DETAILS NO. 1 sheet for "SECTION E-E".

See GIRDER REPAIR DETAILS NO. 3 sheet for "SECTION F-F".



EXISTING

RECONSTRUCTION

SECTION C-C

TYPICAL FOR END DIAPHRAGM AT ABUTMENT 3
 1/2" = 1'-0"

Note:
 For details not shown, see "SECTION A-A" and "SECTION B-B"

DESIGN	BY K. Truong	CHECKED H. Moazami
DETAILS	BY M. Hallstrom	CHECKED H. Moazami
QUANTITIES	BY K. Truong	CHECKED H. Moazami

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 46-0192
 POST MILE 23.5
AVENUE 184 OVERCROSSING
GIRDER REPAIR DETAILS NO. 2

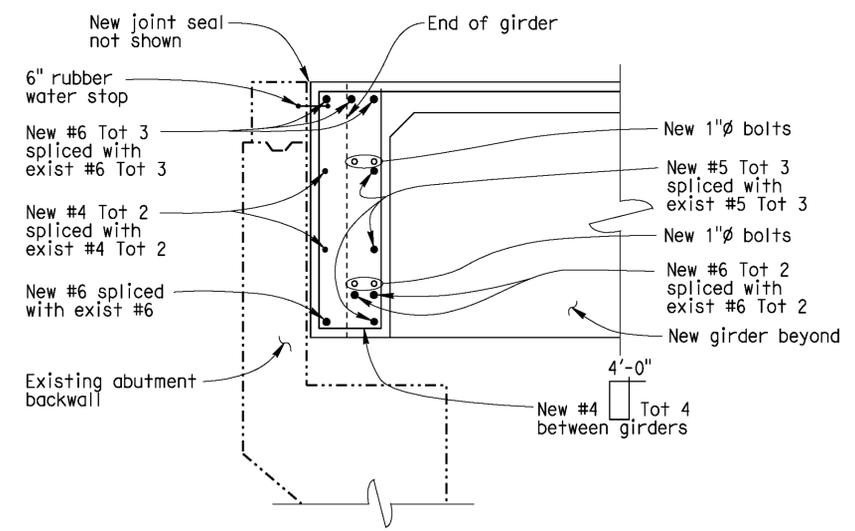
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	43	50

REGISTERED CIVIL ENGINEER 4-15-11 DATE

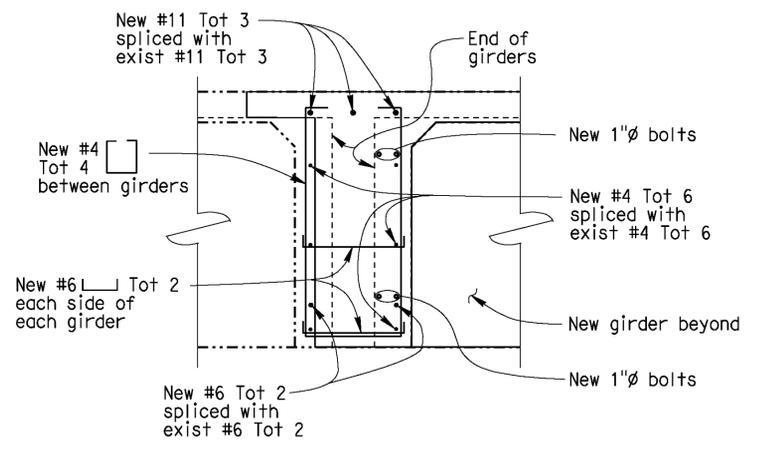
4-23-12 PLANS APPROVAL DATE

HOSSEIN MOAZAMI
No. C 60058
Exp. 6-30-12
CIVIL

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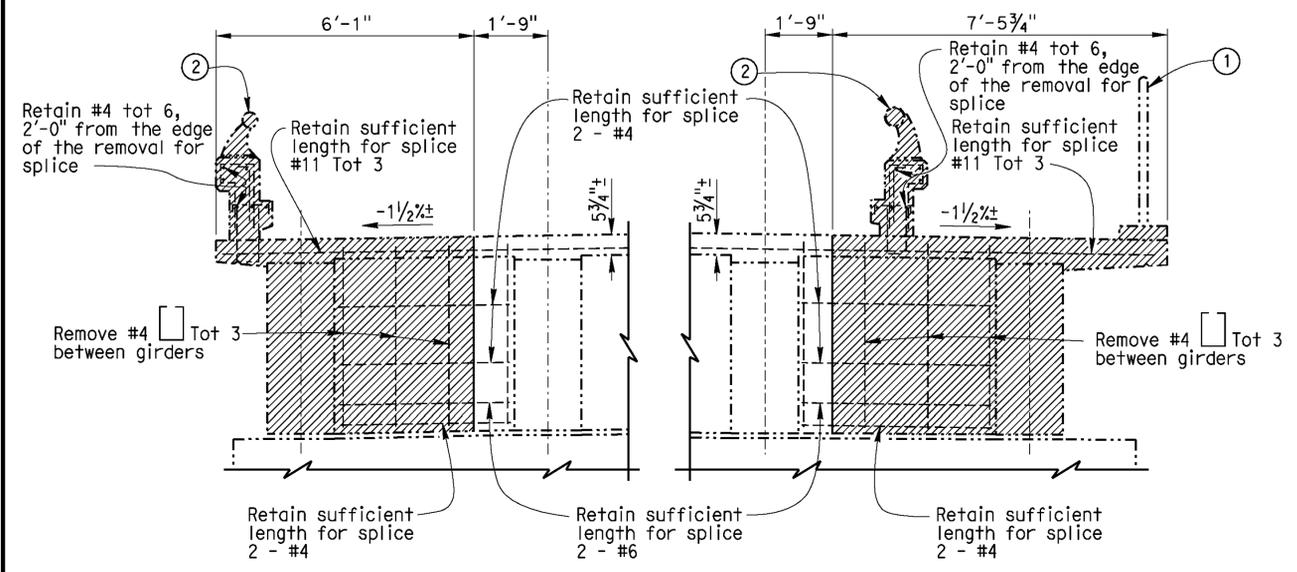


SECTION F-F
3/4" = 1'-0"

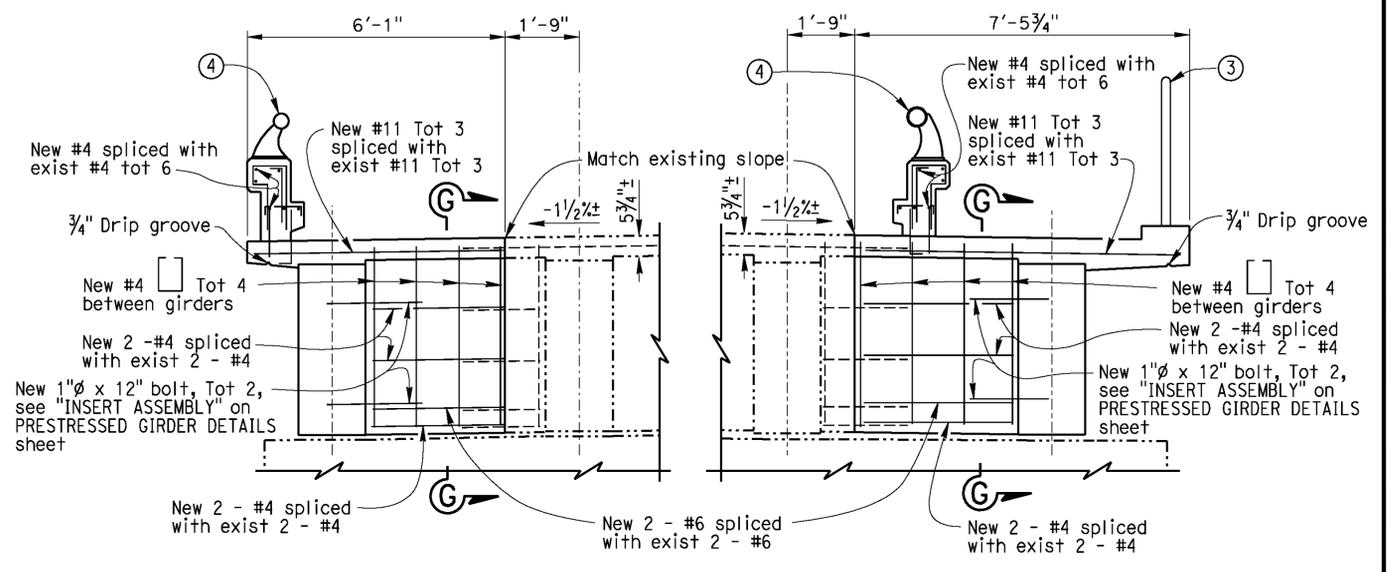


SECTION G-G
3/4" = 1'-0"

- NOTES: (APPLY TO THIS SHEET ONLY)**
- ① Indicates limits of remove existing concrete deck, diaphragms, girders and concrete barriers and place new concrete deck, diaphragms, precast prestressed concrete girders and concrete barriers.
 - ① Remove and retain steel pipe railing Type 3 for reconstruction. For details, see STEEL PIPE RAILING DETAILS sheet.
 - ② Remove and retain steel metal railing Type 1 for reconstruction. For details, see BARRIER RAILING DETAILS NO. 1 and NO. 2 sheets.
 - ③ Reset existing steel pipe railing Type 3. For details, see STEEL PIPE RAILING DETAILS sheet.
 - ④ Reset existing steel metal railing Type 1. For details, see BARRIER RAILING DETAILS NO. 1 and NO. 2 sheets.
- For joint seal details, see TYPICAL CONSTRUCTION STAGING sheet.



EXISTING
Note:
For details not shown, see "SECTION A-A" and "SECTION B-B"



SECTION D-D
TYPICAL FOR END DIAPHRAGM AT BENT 2
1/2" = 1'-0"

RECONSTRUCTION
Note:
For details not shown, see "SECTION A-A" and "SECTION B-B"

DESIGN	BY	K. Truong	CHECKED	H. Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING GIRDER REPAIR DETAILS NO. 3
	DETAILS	M. Hallstrom	CHECKED	H. Moazami			POST MILE	23.5	
	QUANTITIES	K. Truong	CHECKED	H. Moazami			UNIT: 3488 PROJECT NUMBER & PHASE: 0600020699 1	CONTRACT NO.: 06-0N8501	
STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10)									
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS									
FILE => 06-0n8501_04_girrep-dets03.dgn									

DATE PLOTTED => 03-FEB-2012 TIME PLOTTED => 11:08 USERNAME => 8137417

PRESTRESSING NOTES

Working force: The force required at center of span after all losses.

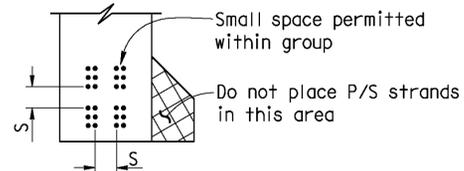
Concrete strength : f'_{ci} is at time of initial stressing, f'_c is at 28 days, PSI.

Camber: Girder camber immediately after the deck and sidewalk have been placed.

Screed line elevations for deck concrete will be determined by the Engineer.

Contractor may interpolate "P" and "X" values between limits shown, as approved by the Engineer.

Girder location or designation and length	Jacking Force (P) in Kips		Concrete Strength		Girder camber at $\frac{1}{4}$ span
	"X"		f'_{ci}	f'_c	
Girder Nos. 1 & 7 95'-0"	3"	606	5,000 psi		$\frac{3}{4}$ "
	4"	626			
	5"	646			

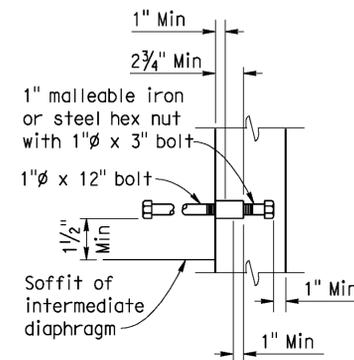


SPACING NOTES:

1. Strands may be bundled in groups consisting of 3 vertically, 2 horizontally, and separated at the ends.
2. The min distance "S" between groups or individual strands is $1\frac{1}{2}$ " for $\frac{3}{8}$ " strands, $1\frac{3}{4}$ " for $\frac{1}{2}$ " strands and $\frac{1}{2}$ " strands, and 2" for 0.6" strands.
3. "S" is measured between centers of adjacent strands.
4. Approval of Engineer is required for deviation.

CLEARANCES FOR PRETENSIONED STRANDS

NO SCALE



INSERT ASSEMBLY

NO SCALE

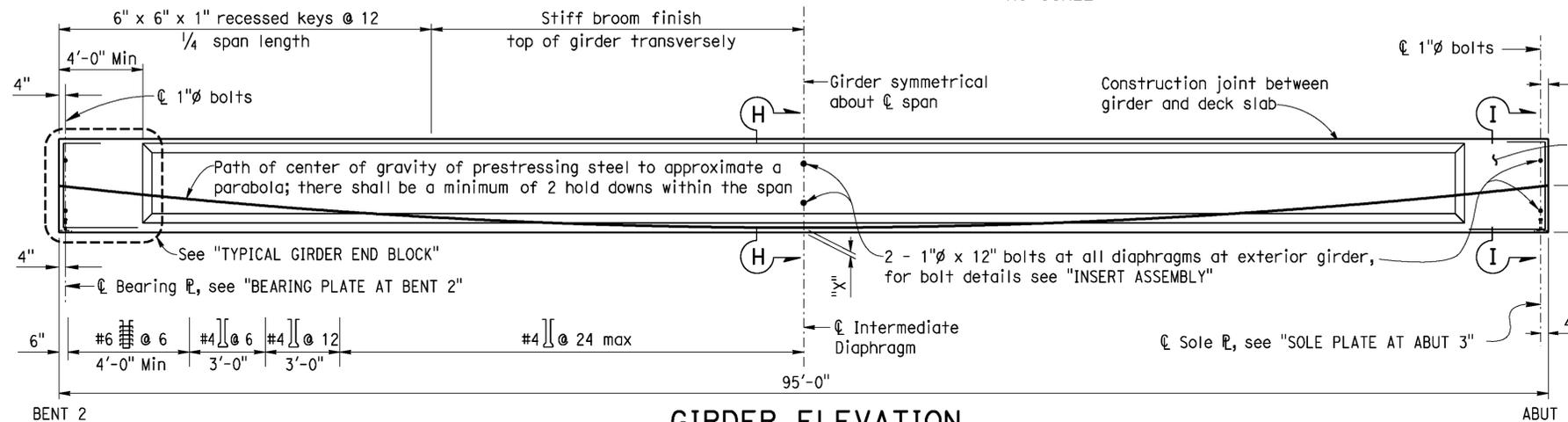
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	44	50

REGISTERED CIVIL ENGINEER 4-15-11 DATE
 4-23-12 PLANS APPROVAL DATE
 HOSSEIN MOAZAMI
 No. C 60058
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

NOTES: (Notes apply to this sheet only)

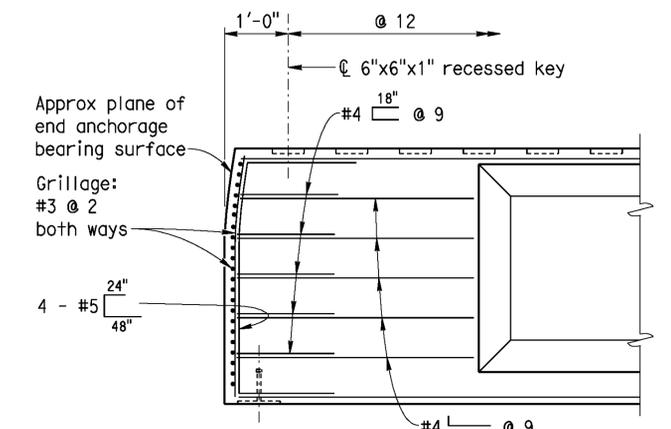
For details at intermediate diaphragm and end diaphragms see GIRDER REPAIR DETAILS NO. 1 and GIRDER REPAIR DETAILS NO. 3 sheets.

Details shown are for prestressed girders. The Contractor may submit details for post-tensioning which shall be subject to the approval of the Engineer.



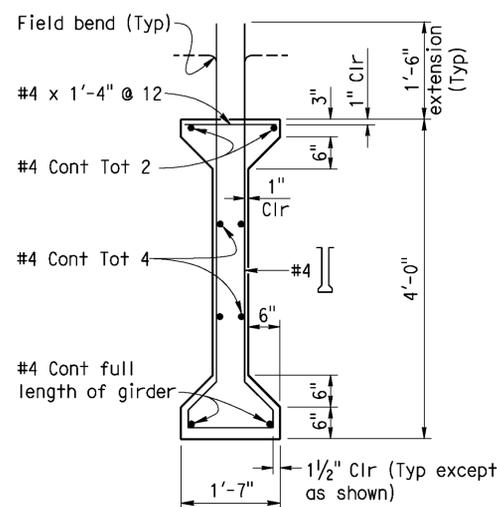
GIRDER ELEVATION

NO SCALE



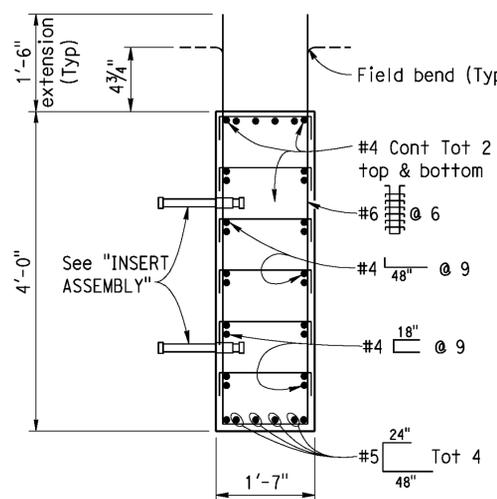
TYPICAL GIRDER END BLOCK

NO SCALE



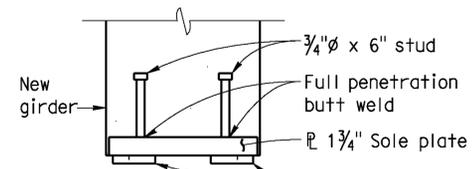
SECTION H-H

NO SCALE

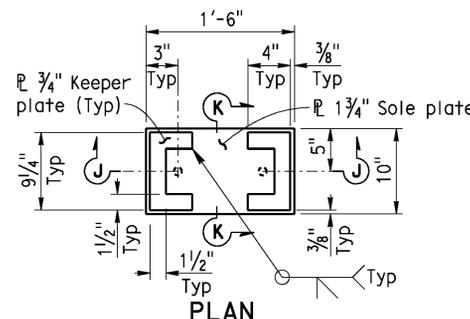


SECTION I-I

NO SCALE

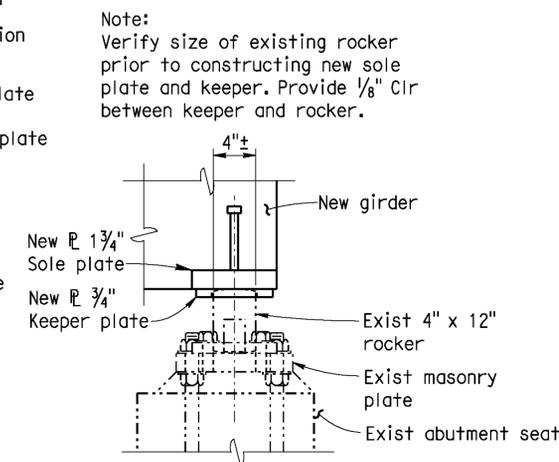


SECTION J-J

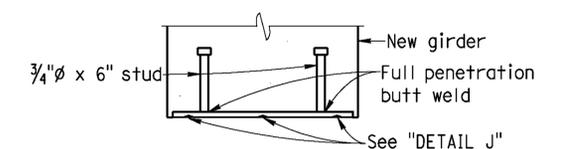


SOLE PLATE AT ABUT 3

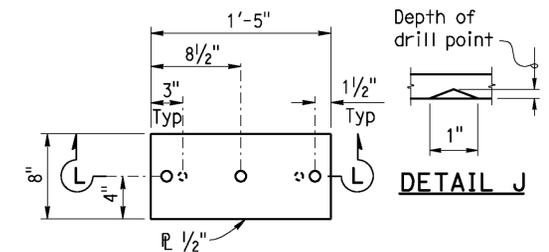
(GALVANIZE AFTER FABRICATION)
NO SCALE



SECTION K-K



SECTION L-L



BEARING PLATE AT BENT 2

(GALVANIZE AFTER FABRICATION)
NO SCALE

DESIGN	BY K. Truong	CHECKED H. Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING PRESTRESSED GIRDER DETAILS	
DETAILS	BY M. Hallstrom	CHECKED H. Moazami		DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	POST MILE		23.5
QUANTITIES	BY K. Truong	CHECKED H. Moazami		UNIT: 3488 PROJECT NUMBER & PHASE: 0600020699 1	CONTRACT NO.:		06-0N8501

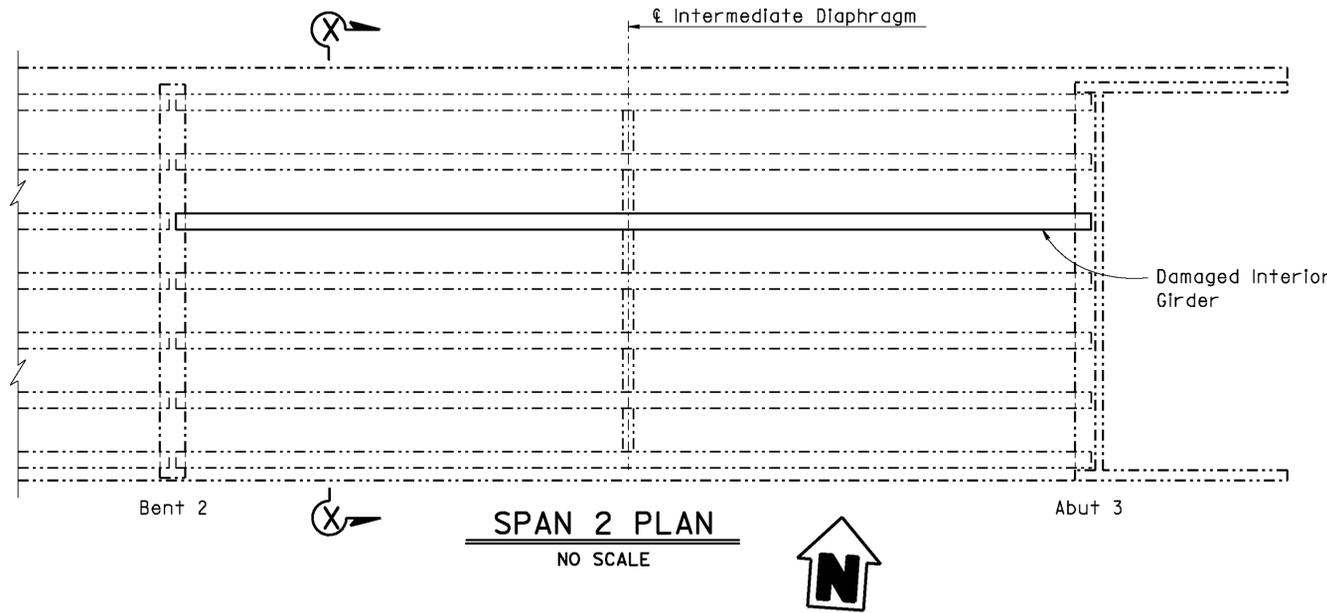
STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	1-7-11	SHEET	5	OF	11
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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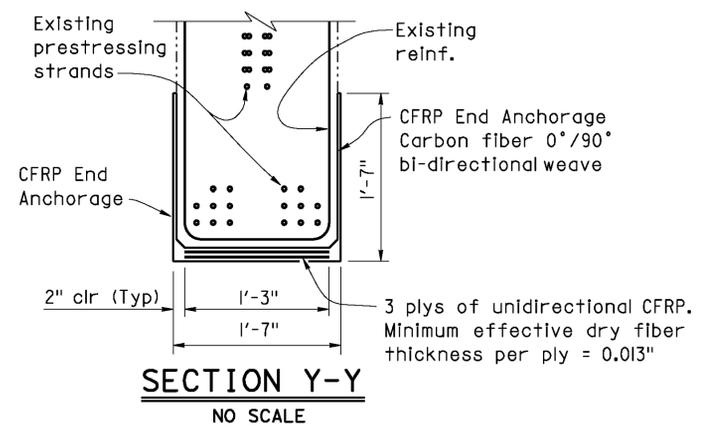
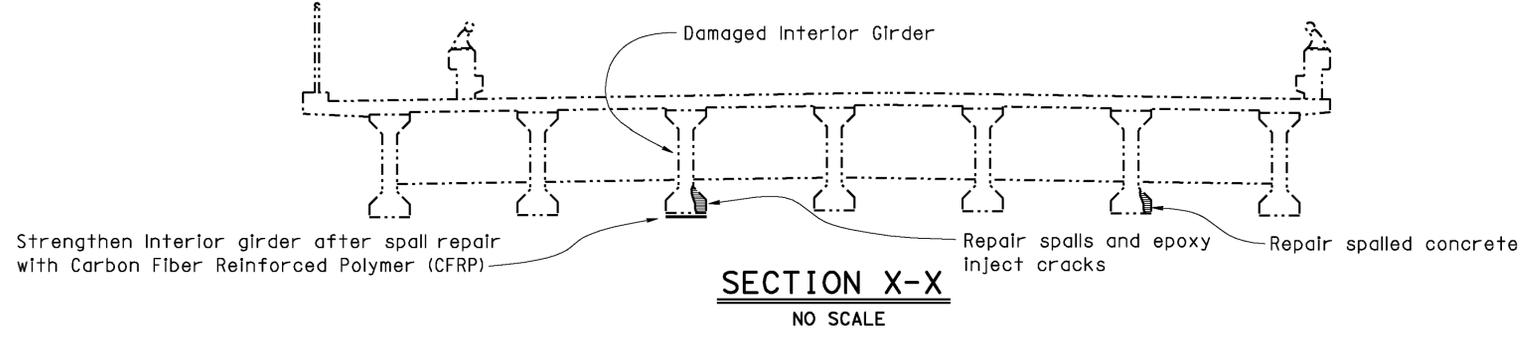
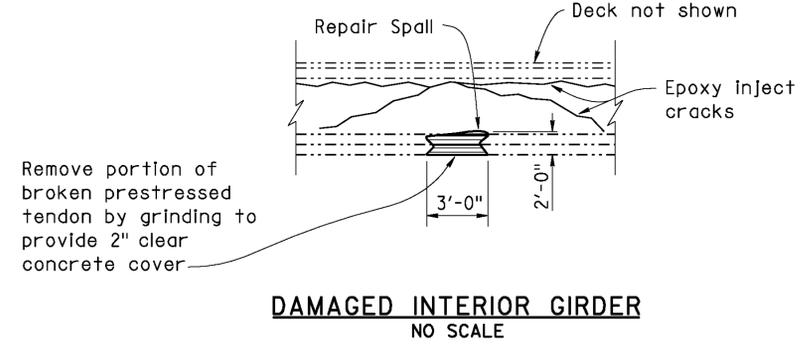
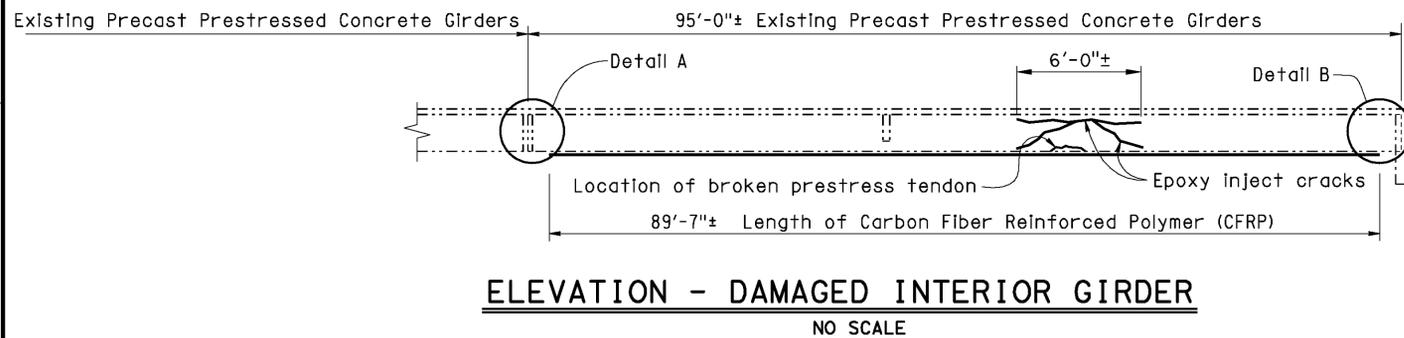
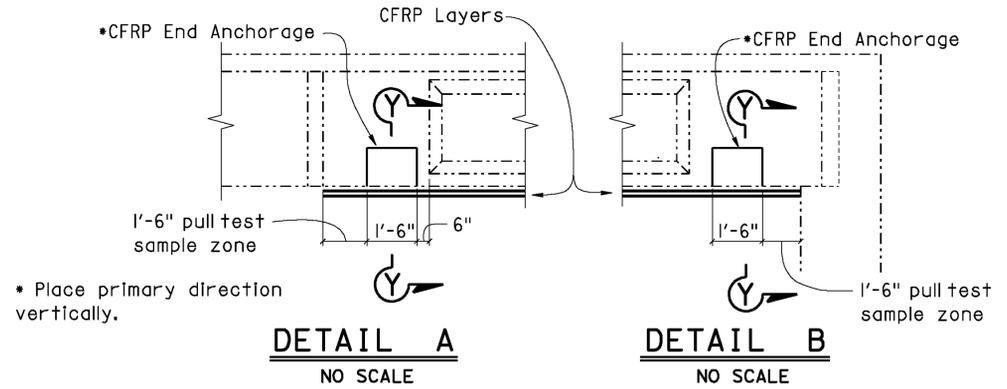
REGISTERED CIVIL ENGINEER	DATE
<i>Hossein Moazami</i>	4-15-11
PLANS APPROVAL DATE	
4-23-12	

REGISTERED PROFESSIONAL ENGINEER
HOSSEIN MOAZAMI
No. C 60058
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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NOTES:
CFRP = Carbon Fiber Reinforced Polymer (wet lay-up)



DESIGN	BY	K. Truong	CHECKED	H. Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING GIRDER SPALLED REPAIR DETAILS		
	DETAILS	M. Hallstrom	CHECKED	H. Moazami			POST MILE	23.5			
	QUANTITIES	K. Truong	CHECKED	H. Moazami			UNIT: 3488 PROJECT NUMBER & PHASE: 0600020699 1	CONTRACT NO.: 06-0N8501		REVISION DATES	1-7-11

STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10)

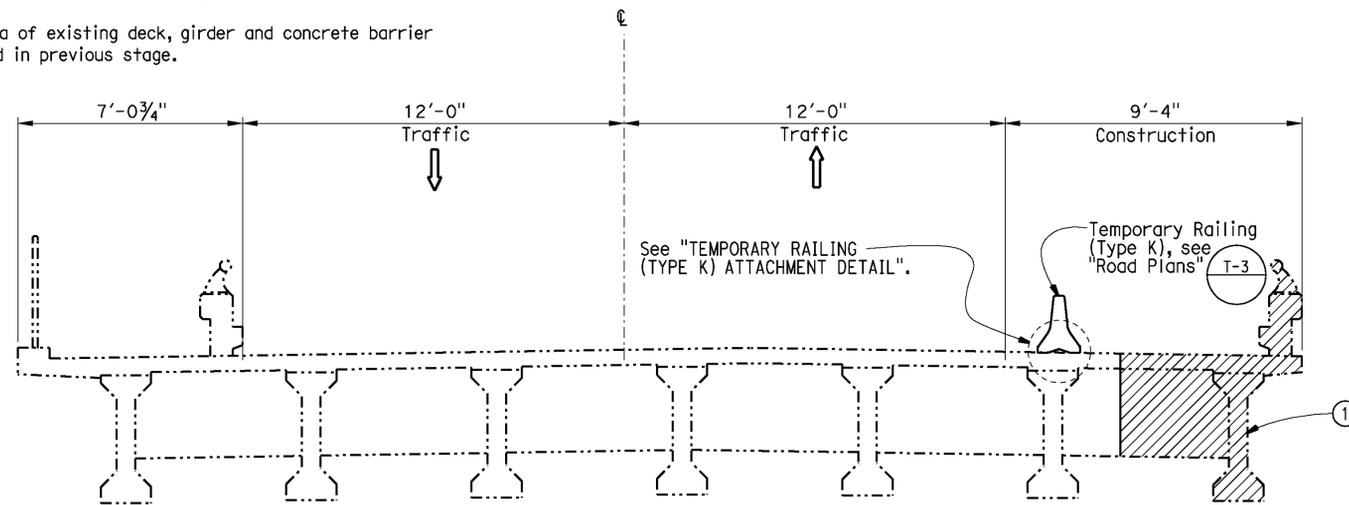
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE => 06-0n8501_06_girrepdet.dgn

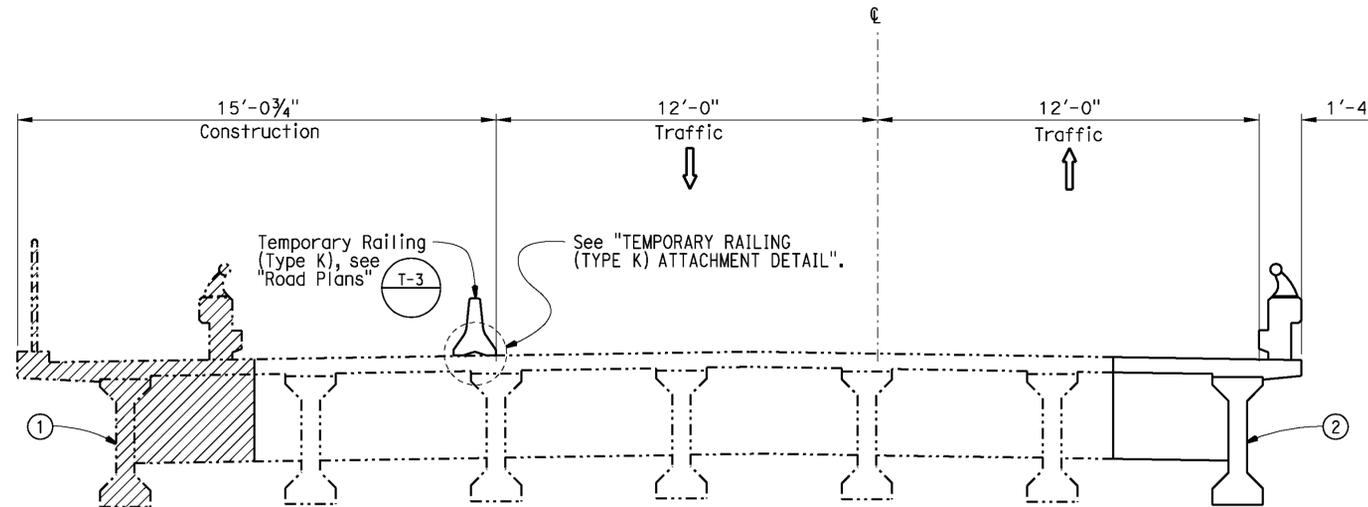
DATE PLOTTED => 03-FEB-2012 TIME PLOTTED => 11:09 USERNAME => 8137417

NOTES: (APPLY TO THIS SHEET ONLY)

- ① Indicates area of existing deck, girder and concrete barrier to be reconstructed in current stage.
- ② Indicates area of existing deck, girder and concrete barrier reconstructed in previous stage.



STAGE 1



STAGE 2

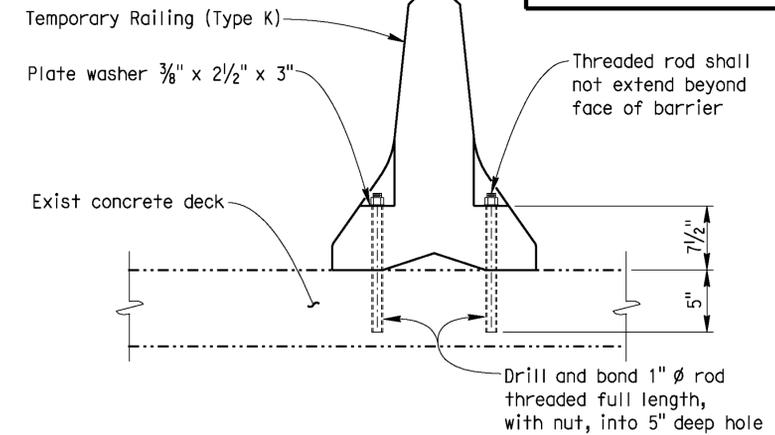
CONSTRUCTION STAGING TYPICAL SECTION

3/8" = 1'-0"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	46	50

REGISTERED CIVIL ENGINEER
 DATE: 4-15-11
 PLANS APPROVAL DATE: 4-23-12
 HOSSEIN MOAZAMI
 No. C 60058
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

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TEMPORARY RAILING (TYPE K) ATTACHMENT DETAIL

NO SCALE

The following notes apply to JOINT SEAL TYPE B:

- 1) Seal must satisfy both minimum Movement Rating (MR) and minimum W1 requirements.
- 2) 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 recalculated by the Engineer.
- 3) W1 shall be the smaller of the values determined as follows:
 - A) 0.85 times the manufacturer's designed minimum uncompressed width of the seal.
 - B) 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.
- 4) Bend 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.
- 5) For details not shown see RSP B6-21

LOCATION	MINIMUM "MR" (inches)	APPROXIMATE LENGTH (feet)	EXISTING WATERSTOP
Abut 3	1	38.0	Yes

DESIGN	BY	K. Truong	CHECKED	H. Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING TYPICAL CONSTRUCTION STAGING
	DETAILS	M. Hallstrom	CHECKED	H. Moazami			POST MILE	23.5	
	QUANTITIES	K. Truong	CHECKED	H. Moazami			UNIT: 3488 PROJECT NUMBER & PHASE: 0600020699 1	CONTRACT NO.: 06-0N8501	

STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

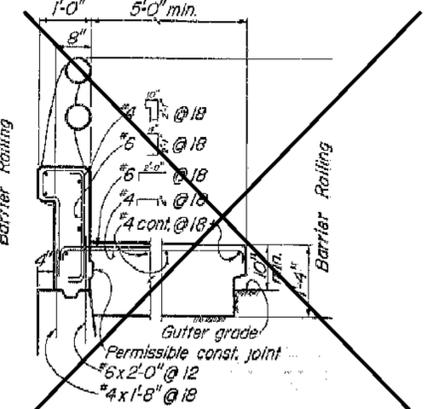
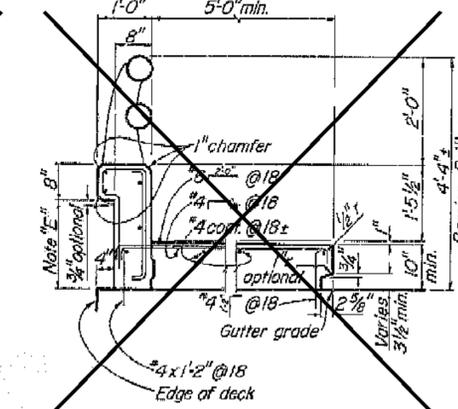
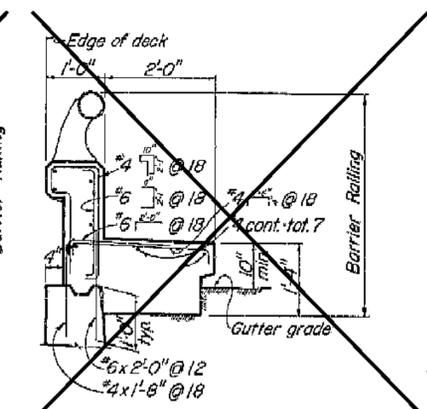
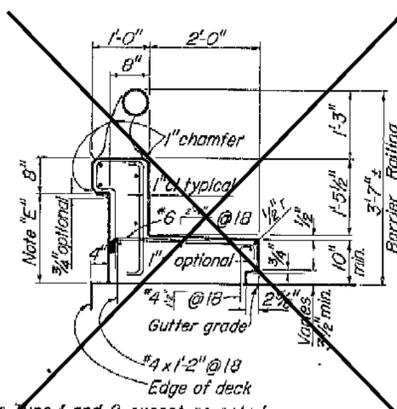
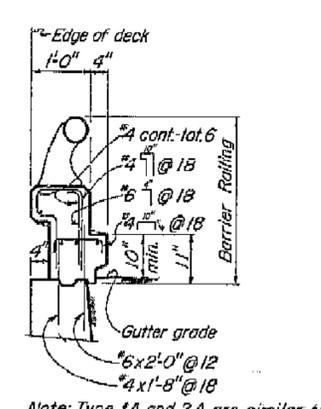
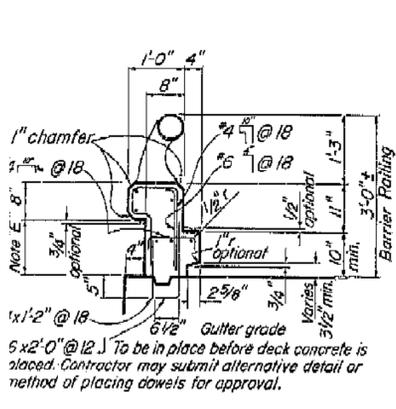
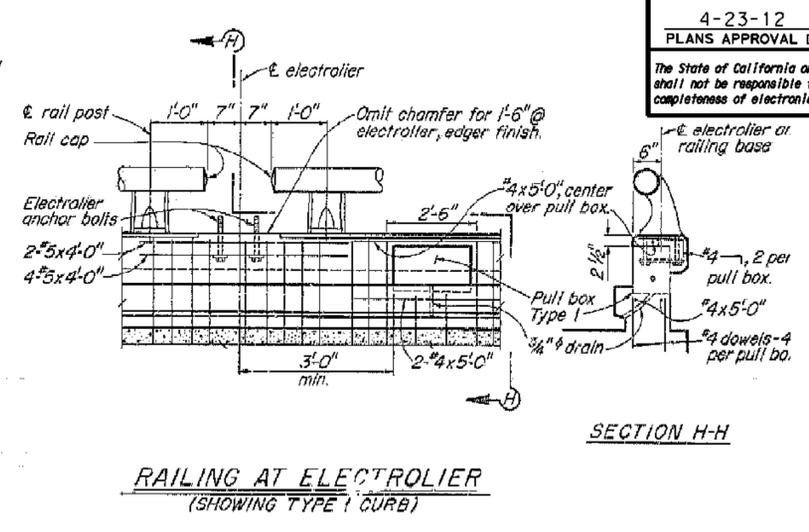
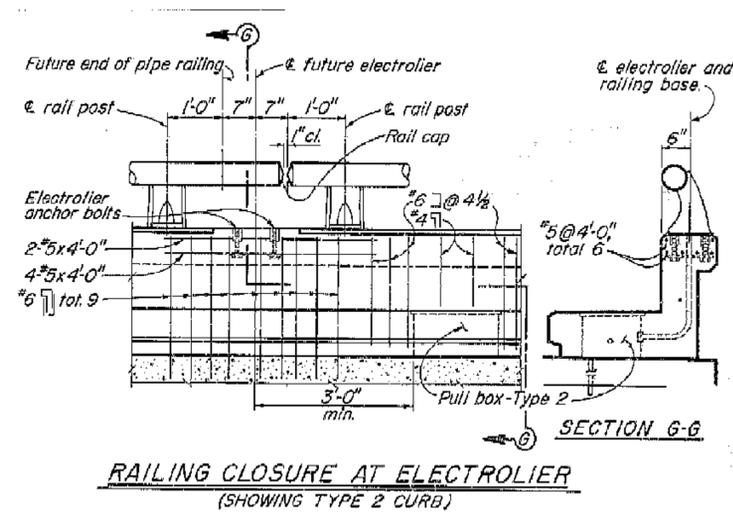
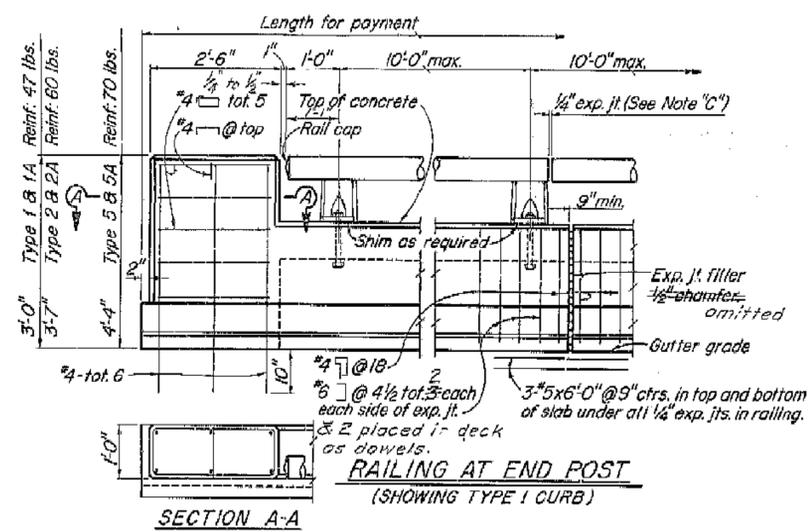
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USERNAME => 8137417 DATE PLOTTED => 03-FEB-2012 TIME PLOTTED => 11:09

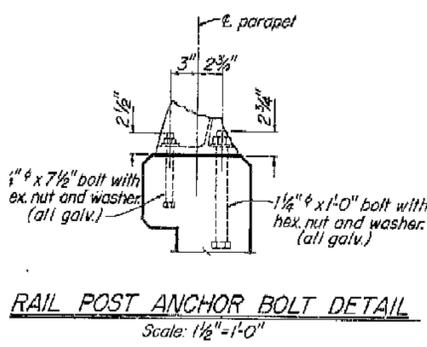
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	47	50

REGISTERED CIVIL ENGINEER
 DATE 4-15-11
 4-23-12
 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
 HOSSEIN MOAZAMI
 No. C 60058
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

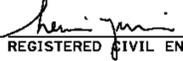
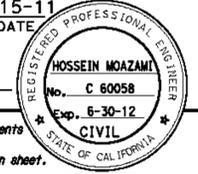


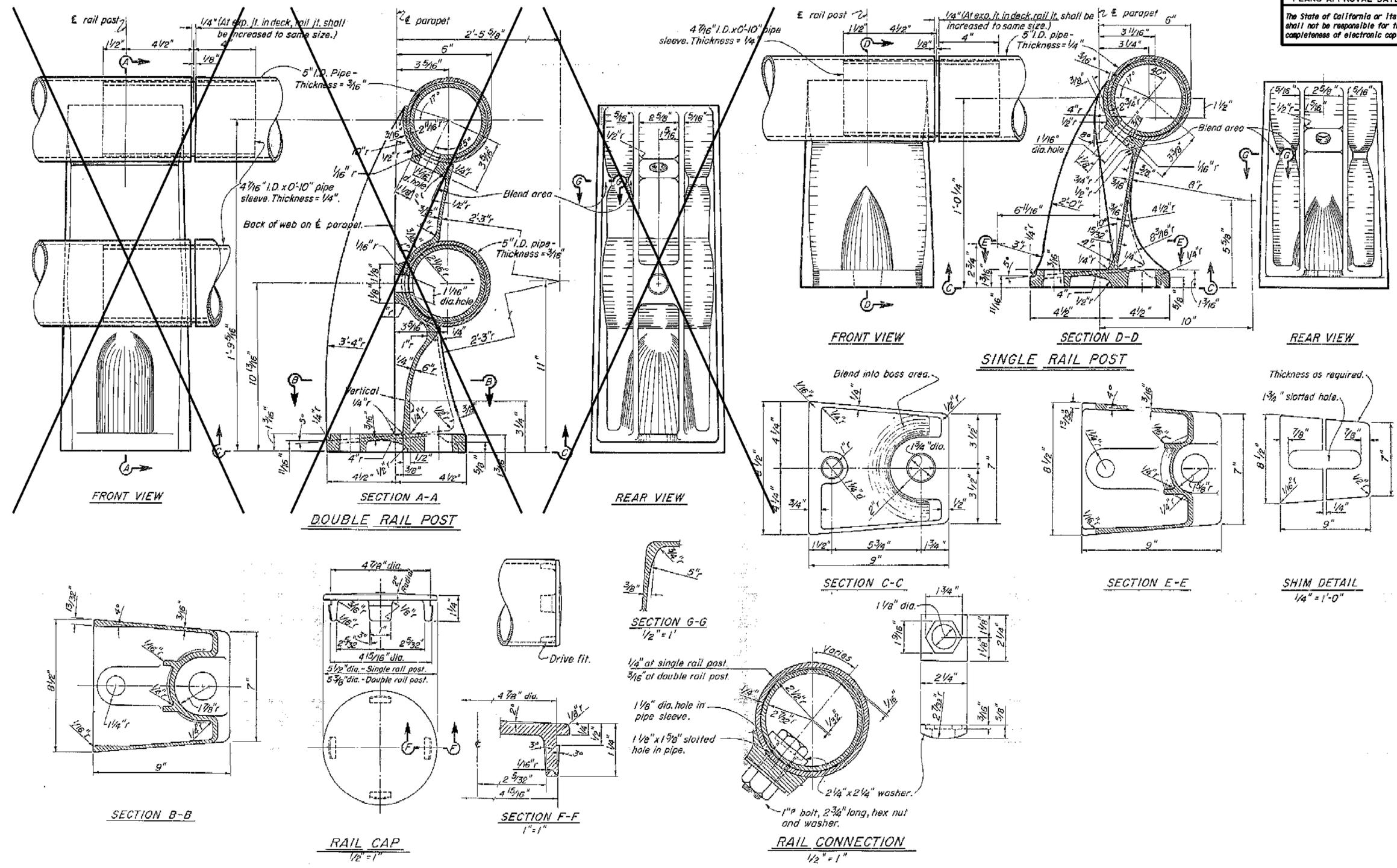
TYPICAL CURB AND RAIL SECTIONS



DESIGN	BY	K. Truong	CHECKED	H. Moazami	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING
	DETAILS	M. Hallstrom	CHECKED	H. Moazami			
	QUANTITIES	K. Truong	CHECKED	H. Moazami			
STATE OF CALIFORNIA				DIVISION OF MAINTENANCE		AVENUE 184 OVERCROSSING	
DEPARTMENT OF TRANSPORTATION				STRUCTURE MAINTENANCE DESIGN		BARRIER RAILING DETAILS NO. 1	
UNIT: 3488				PROJECT NUMBER & PHASE: 0600020699 1		CONTRACT NO.: 06-0N8501	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
0 1 2 3				1-7-11		SHEET 8 OF 11	

DATE PLOTTED => 03-FEB-2012 TIME PLOTTED => 11:09 USERNAME => 6137417

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	48	50
 REGISTERED CIVIL ENGINEER			4-15-11 DATE		
4-23-12 PLANS APPROVAL DATE					
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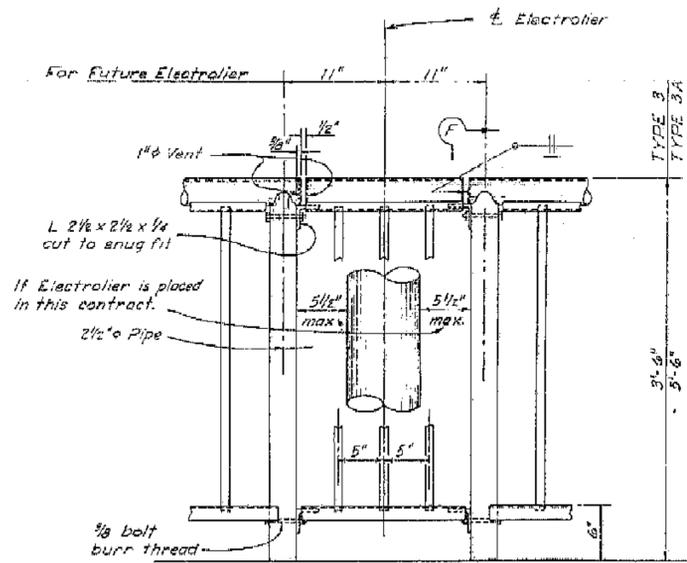


STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY K. Truong	CHECKED H. Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING BARRIER RAILING DETAILS NO. 2	
	DETAILS	BY M. Hallstrom	CHECKED H. Moazami		DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	POST MILE		23.5
	QUANTITIES	BY K. Truong	CHECKED H. Moazami		UNIT: 3488 PROJECT NUMBER & PHASE: 0600020699 1	CONTRACT NO.: 06-0N8501		REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES		1-7-11	

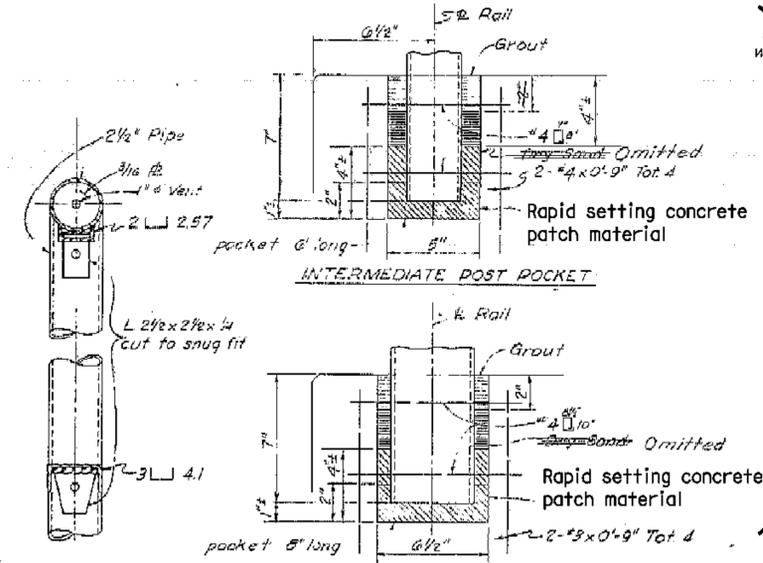
USERNAME: 6137417 DATE PLOTTED: 03-FEB-2012 TIME PLOTTED: 11:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	23.5	49	50

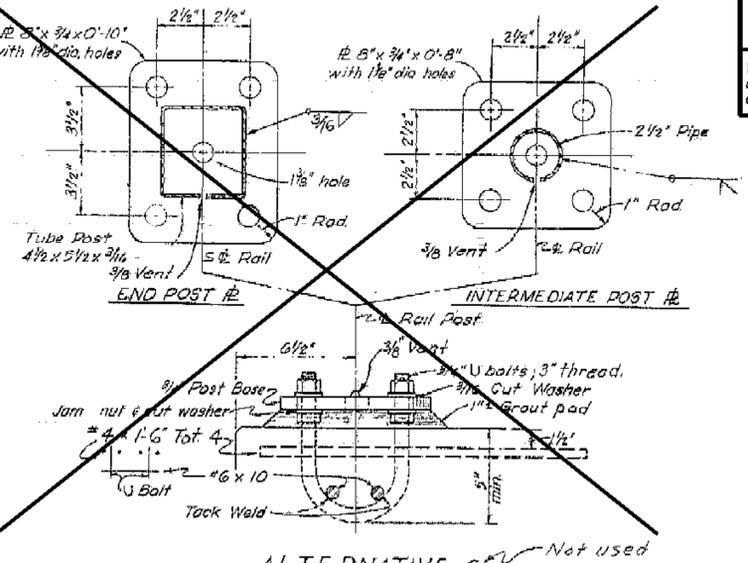
REGISTERED CIVIL ENGINEER
 DATE 4-15-11
 4-23-12
 PLANS APPROVAL DATE
 REGISTERED PROFESSIONAL ENGINEER
 HOSEIN MOAZAMI
 No. C 60058
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
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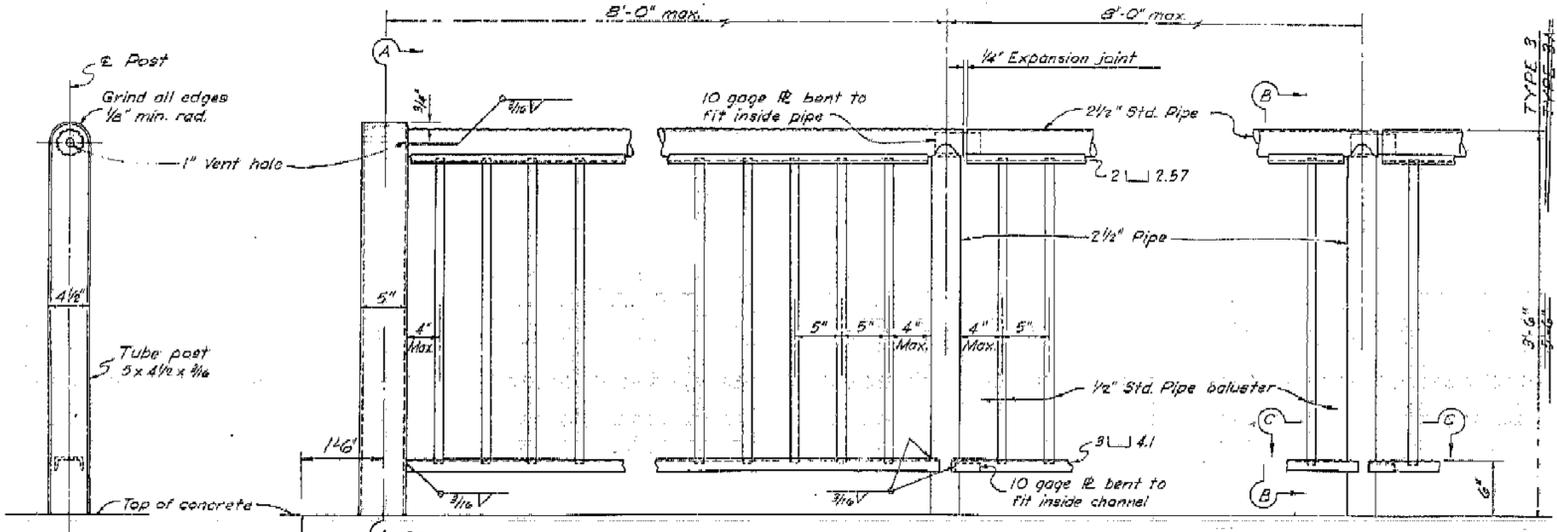
RAILING CLOSURE DETAIL - D
 Scale: 1/2" = 1'-0"



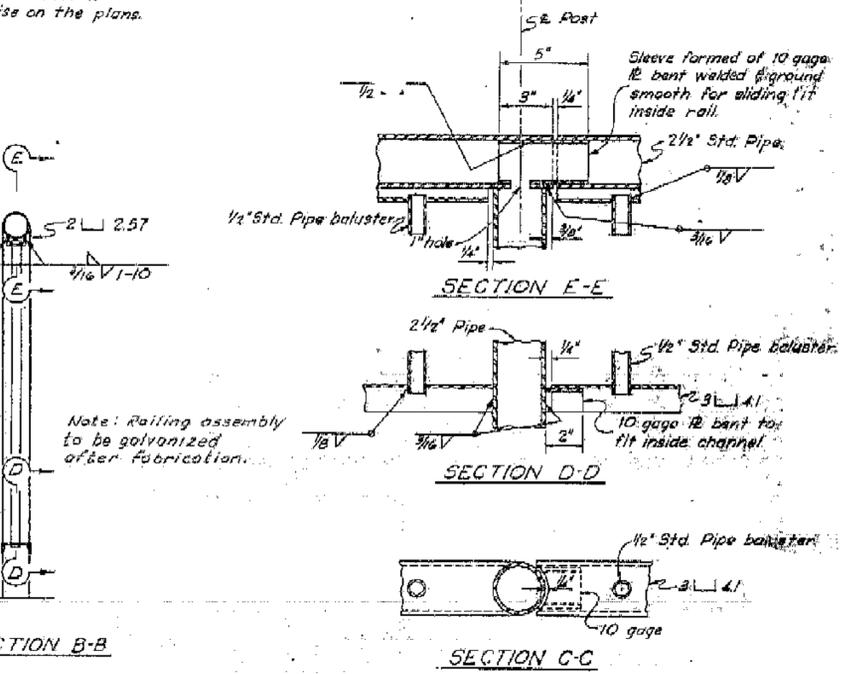
ANCHORAGE DETAIL
 Note: Use Alternative R if depth of concrete is 10" or greater, unless noted otherwise on the plans.



ALTERNATIVE S Not used



ELEVATION
 Scale: 1/2" = 1'-0"



SECTION E-E

SECTION D-D

SECTION C-C

DESIGN	BY	K. Truong	CHECKED	H. Moazami	BRIDGE NO.	46-0192	AVENUE 184 OVERCROSSING		
	DETAILS	M. Hallstrom	CHECKED	H. Moazami		POST MILE		23.5	STEEL PIPE RAILING DETAILS
	QUANTITIES	K. Truong	CHECKED	H. Moazami		UNIT: 3488		PROJECT NUMBER & PHASE: 0600020699 1	
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION					DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN		REVISION DATES		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 10 OF 11		

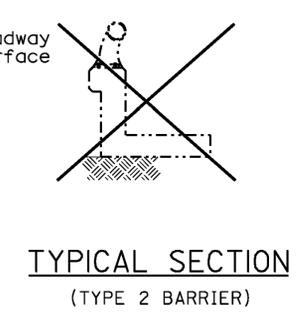
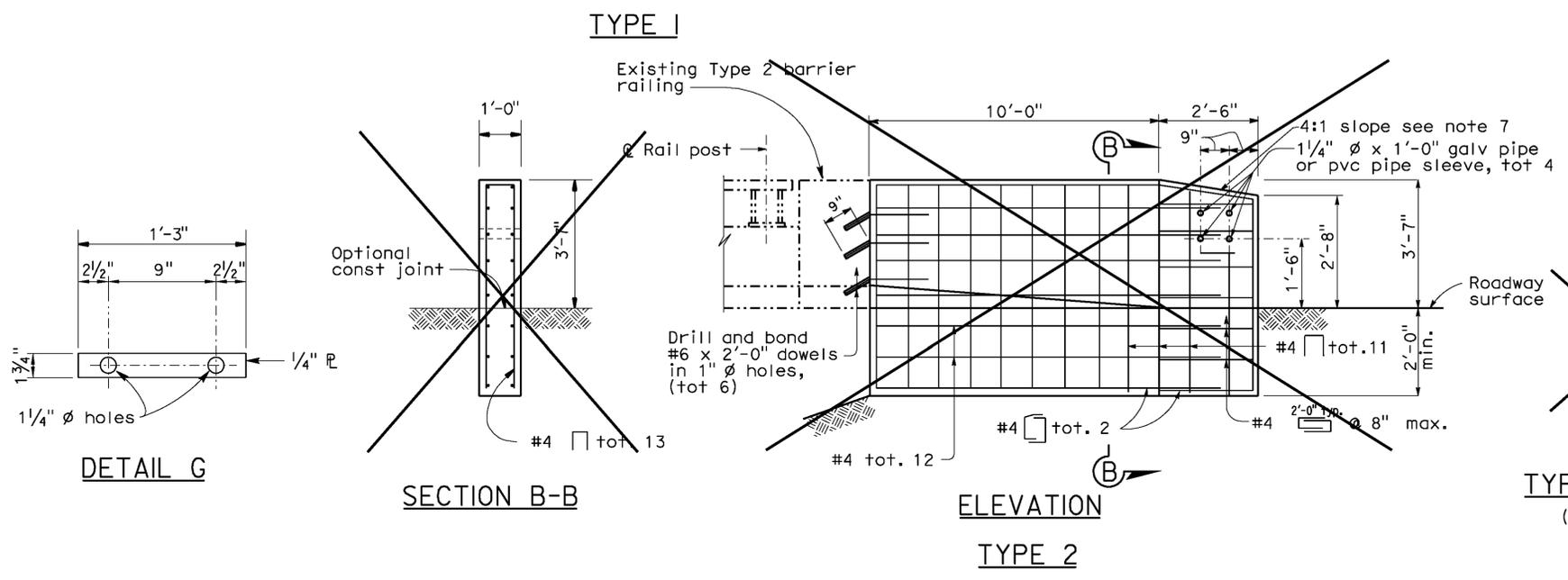
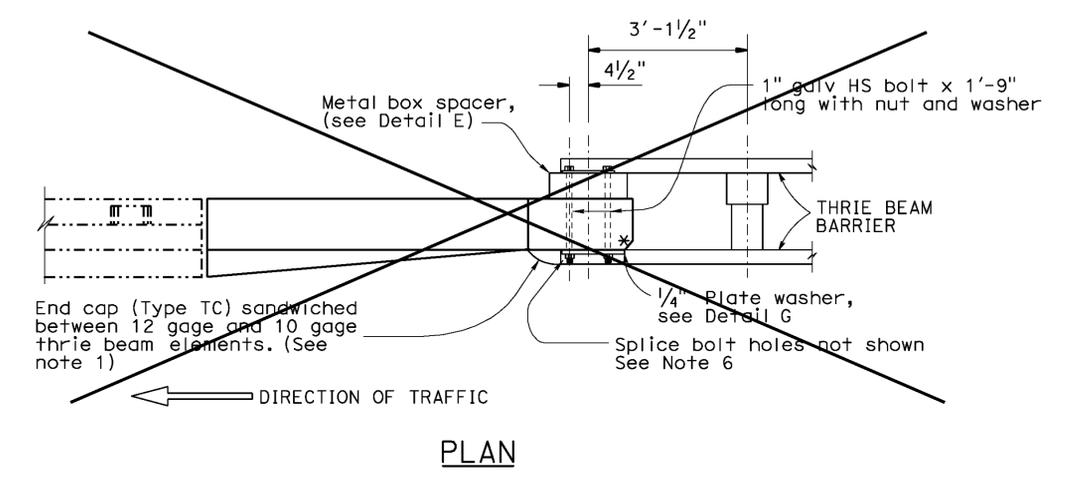
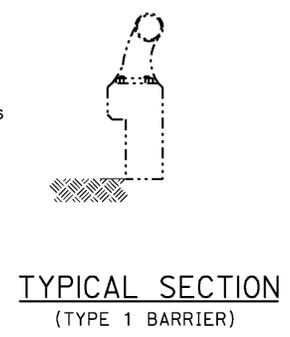
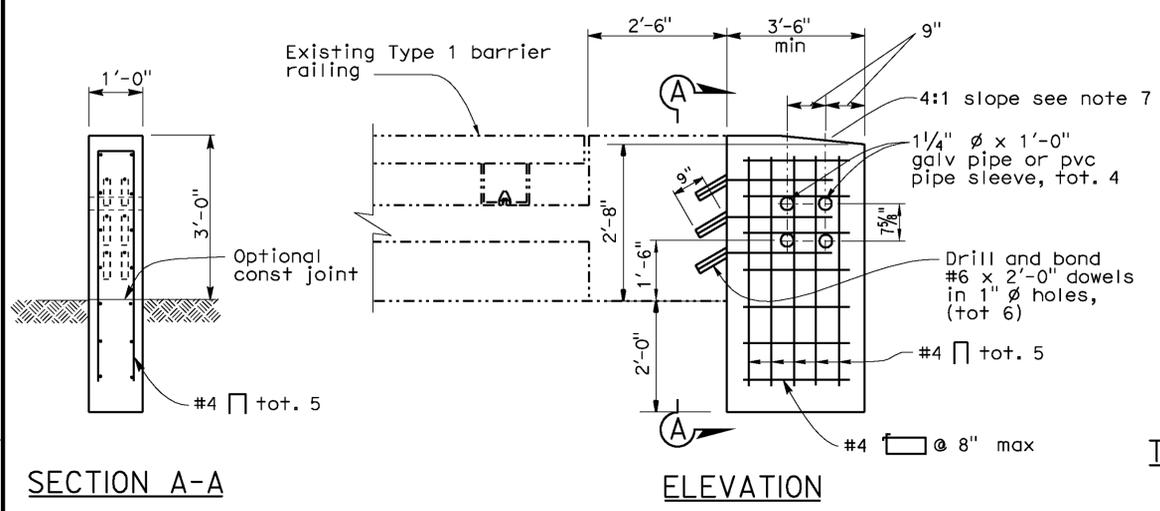
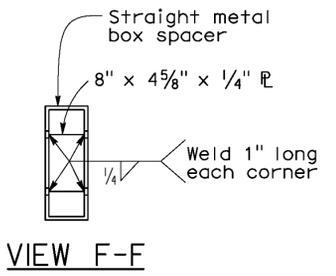
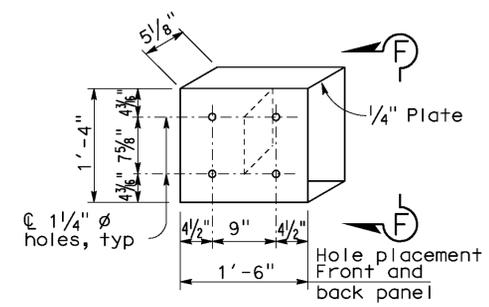
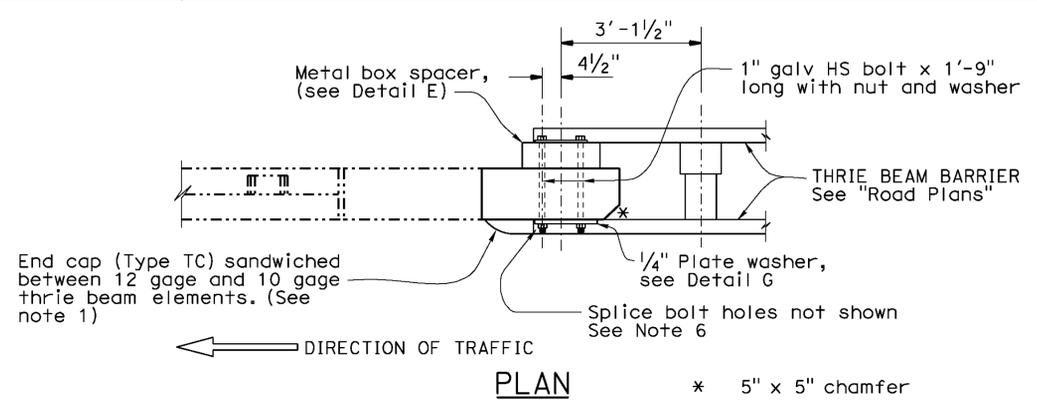
STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10)

FILE => 06-0n8501_10_piperail-dete.dgn

DATE PLOTTED => 03-FEB-2012 TIME PLOTTED => 11:09 USERNAME => 6137417

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	23.5	50	50

4-15-11
 REGISTERED ENGINEER - CIVIL
 4-23-12
 PLANS APPROVAL DATE
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- NOTES:**
- For details not shown, see Standard Plans, July 2006.
 - Dependent dimensions will be verified in the field before fabricating any end connection to conform with existing paved conditions.
 - When end section is called for, modify typical terminal section to fit. See Detail E
 - All plates and bolts are galvanized.
 - Cut and remove portion of Type 1, 2 and BAGR as required.
 - Exterior splice bolt holes shall be the standard 7/8" x 1 1/8" slot size for rail splices at post #T4 and the connection to the concrete barrier or railing. Interior splice bolt holes may be increased up to 1 1/4" dia. Washers 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 4:1 to match the top elevation of the thrie beam rail element.

STANDARD DRAWING FILE NO. xs16-400e APPROVED BY <u>T. SATTER</u> RESPONSIBLE TECHNICAL SPECIALIST APPROVAL DATE <u>4-15-08</u> RELEASED BY <u>ROBERTO LACALLE</u> RESPONSIBLE OFFICE CHIEF RELEASE DATE <u>4-15-08</u>			STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES BRIDGE NO. 46-0192 POST MILE 23.5		AVENUE 184 OVERCROSSING THRIE BEAM CONNECTION DETAILS				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 06 EA 0N8501		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 11 OF 11	

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 USERNAME => s137417
 DATE PLOTTED => 03-FEB-2012 11:09
 06-On8501_11_thr1ebeam