



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	2	51

<i>Mark Taketa</i>		11-10-10
REGISTERED CIVIL ENGINEER	DATE	
1-24-11		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	
MARK J. TAKETA	
No.	C64391
Exp.	6-30-11
CIVIL	

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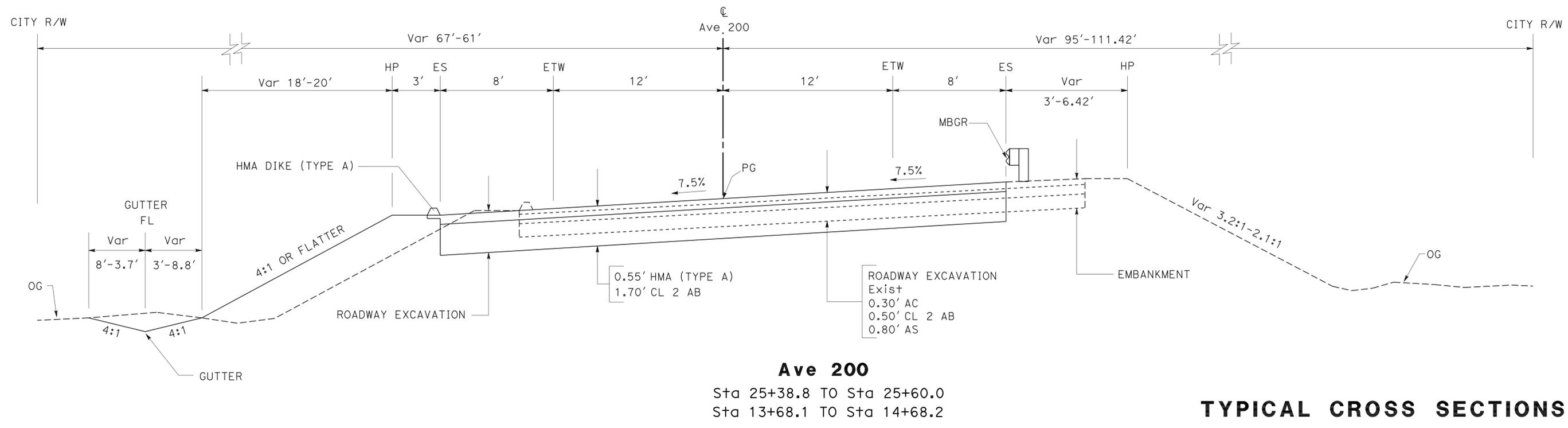
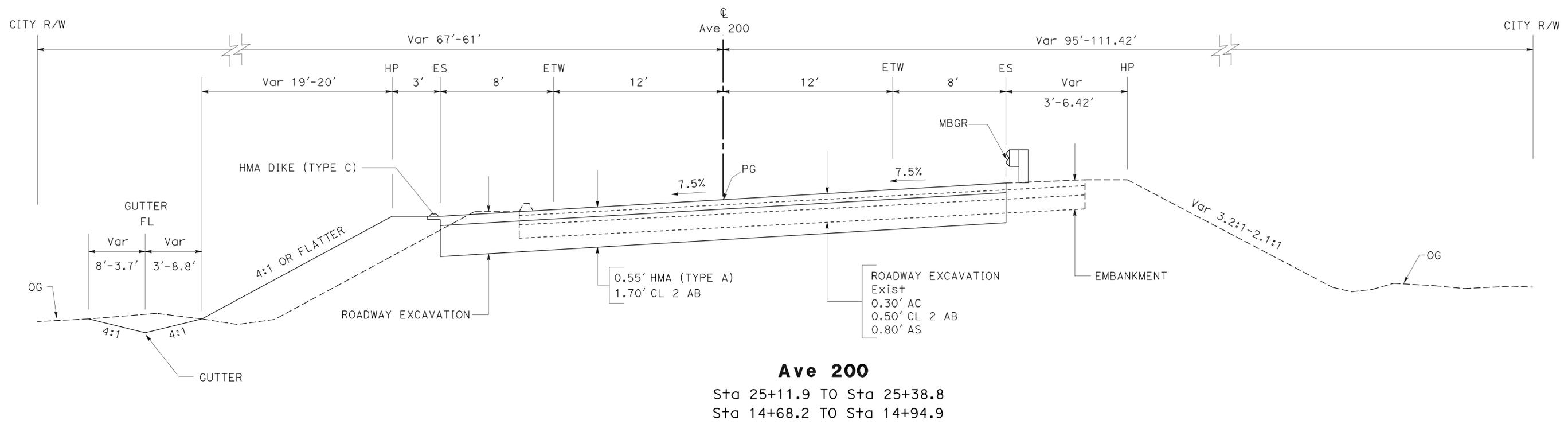
**DESIGN DESIGNATION**

ADT (2010)	3,350	D	67%
ADT (2030)	5,200	T	12%
DHV	670	V	30 mph
ESAL	4,770,000	TI <sub>20</sub>	11

**NOTES:**

1. DIMENSION OF STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRCTED BY THE ENGINEER.
3. EXACT LOCATIONS AND TYPES OF DIKE ARE SHOWN ON THE LAYOUT AND IN THE SUMMARY OF QUANTITIES SHEETS.

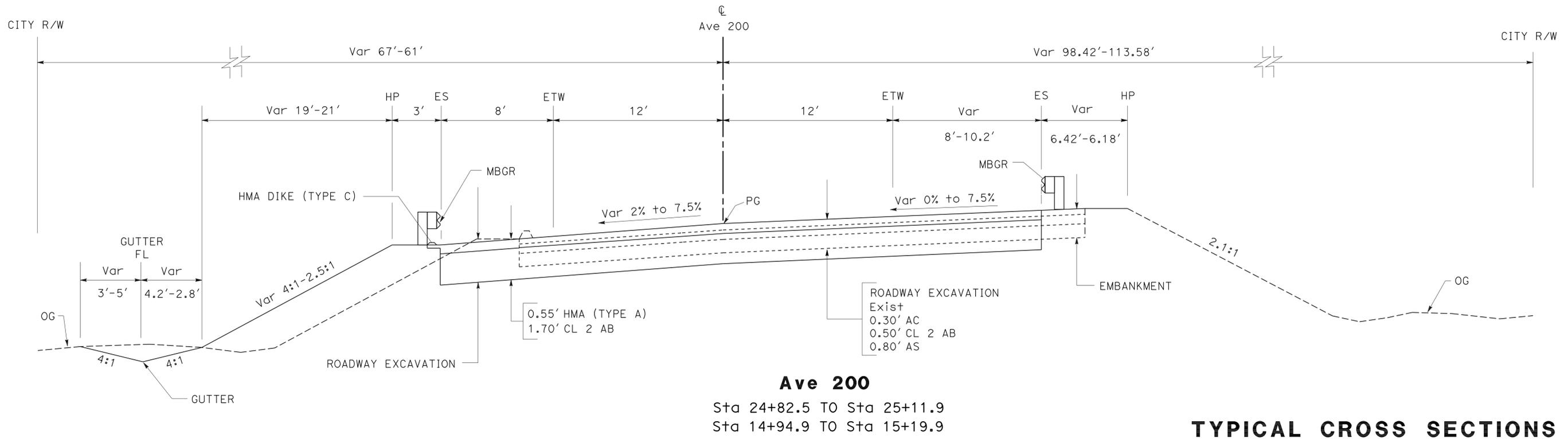
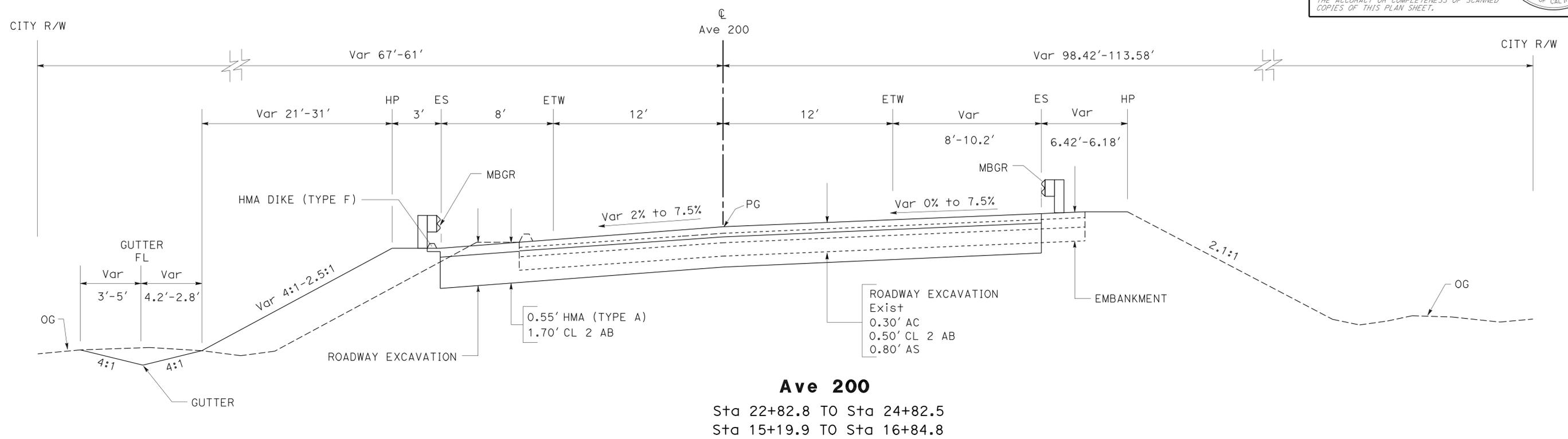
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: STEVE SAKATA  
 CALCULATED/DESIGNED BY: KEN CLAASSEN  
 CHECKED BY: MARK TAKETA  
 REVISED BY: DATE REVISED: 04/10  
 PKD: 04/10



**TYPICAL CROSS SECTIONS**  
NO SCALE  
**X-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	3	51
<i>Mark Taketa</i> 11-10-10 REGISTERED CIVIL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER <b>MARK I. TAKETA</b> No. C64391 Exp. 6-30-11 CIVIL		
1-24-11			PLANS APPROVAL DATE		
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 CALCULATED/DESIGNED BY: [blank]  
 CHECKED BY: [blank]  
 KEN CLAASSEN  
 MARK TAKETA  
 REVISED BY: [blank]  
 DATE REVISED: [blank]  
 PKD: 04/10



**TYPICAL CROSS SECTIONS**  
NO SCALE  
**X-2**

LAST REVISION DATE PLOTTED => 25-JAN-2011  
 11-10-10 TIME PLOTTED => 10:21

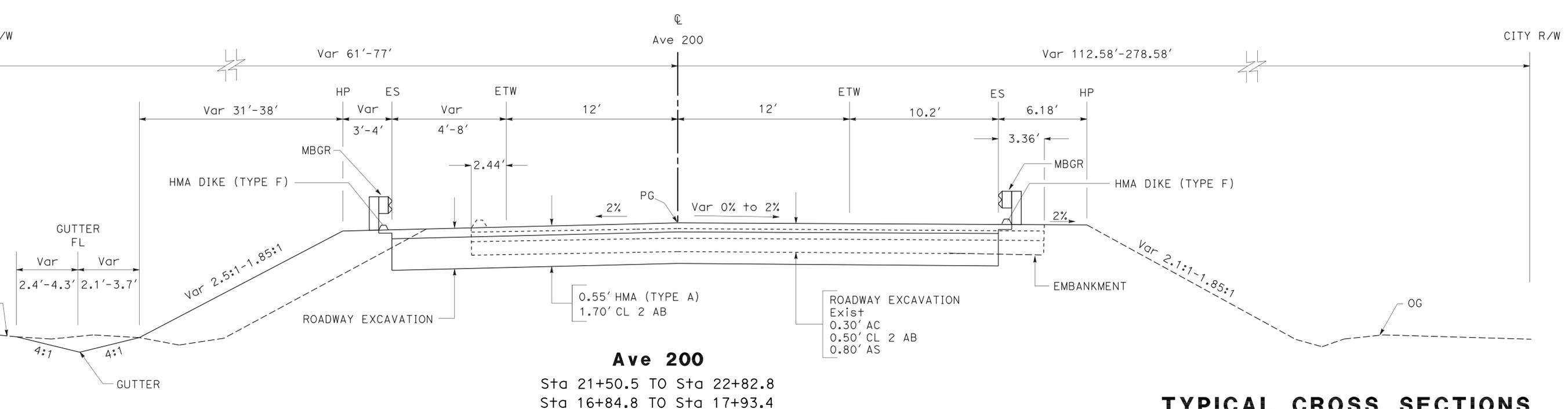
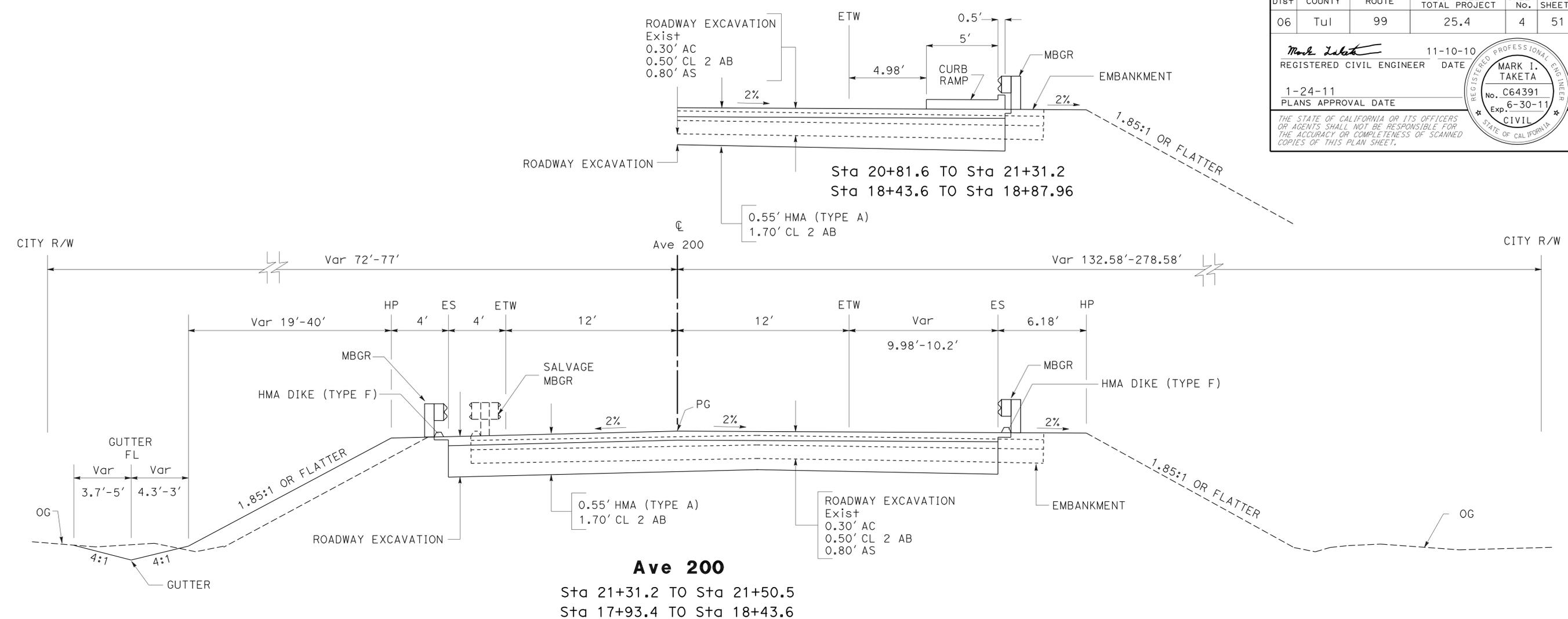
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	4	51

<i>Mark Taketa</i>		11-10-10
REGISTERED CIVIL ENGINEER	DATE	
1-24-11		
PLANS APPROVAL DATE		

**MARK I. TAKETA**  
 No. C64391  
 Exp. 6-30-11  
 CIVIL

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**TYPICAL CROSS SECTIONS**  
NO SCALE  
**X-3**

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 CALCULATED/DESIGNED BY: [Blank]  
 MARK TAKETA  
 REVISOR: [Blank] DATE: [Blank]  
 PKD: 04/10  
 PKD: 07/10

LAST REVISION DATE PLOTTED => 25-JAN-2011  
 09-03-10 TIME PLOTTED => 10:21

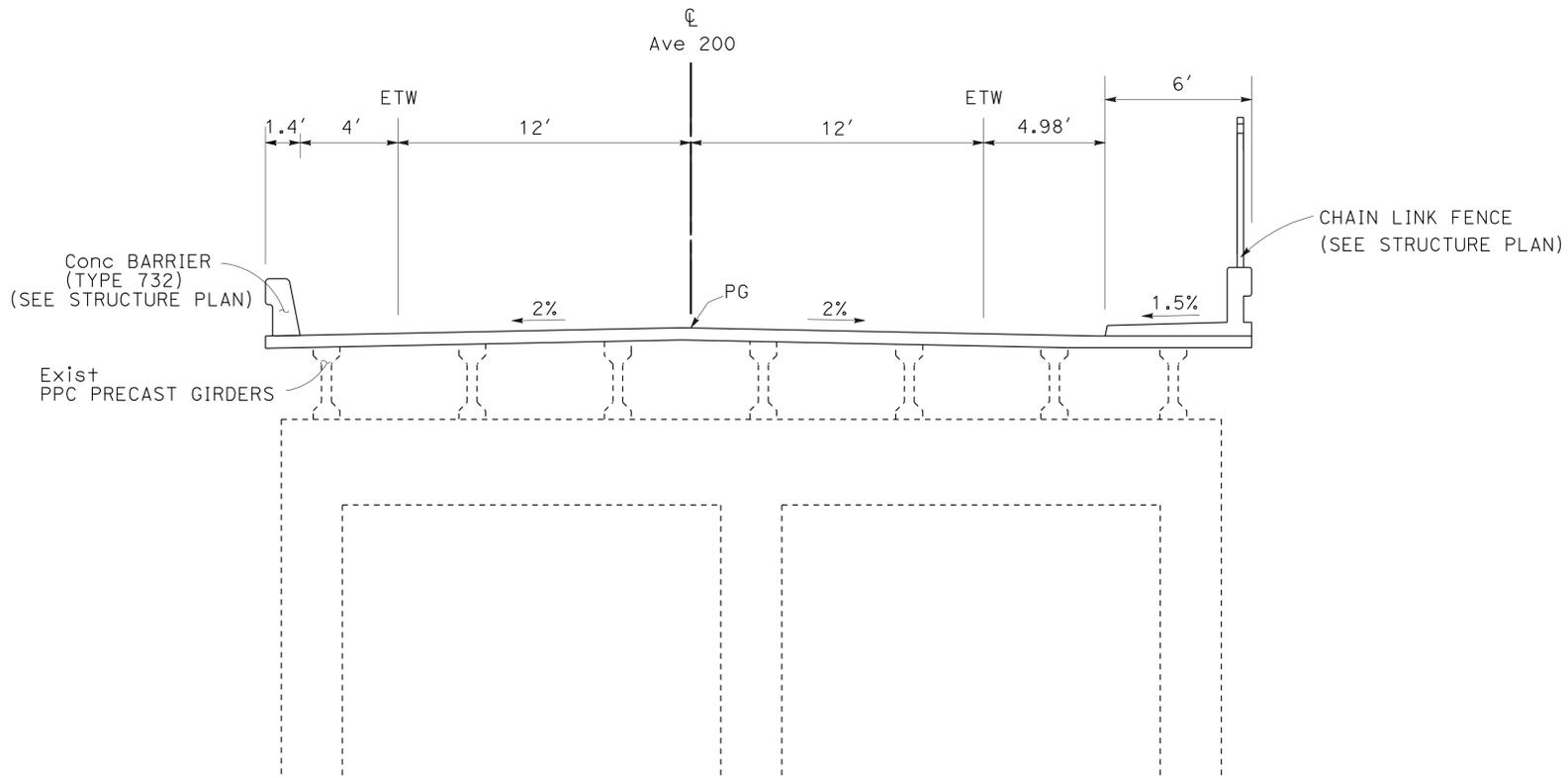
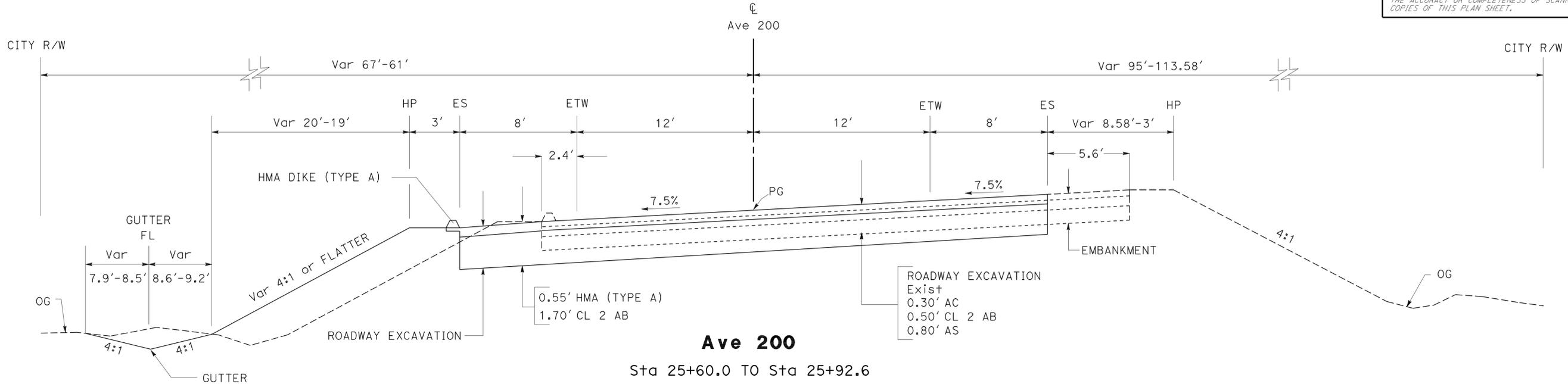
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	5	51

<i>Mark Taketa</i>	11-10-10
REGISTERED CIVIL ENGINEER	DATE
1-24-11	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER  
**MARK I. TAKETA**  
 No. C64391  
 Exp. 6-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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REPLACEMENT CROSS SECTION  
**Ave 200 OVERCROSSING (Br No. 46-193)**  
 Sta 18+87.96 TO Sta 20+81.56

**TYPICAL CROSS SECTIONS**  
 NO SCALE  
**X-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
<b>Caltrans</b>
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FUNCTIONAL SUPERVISOR
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CHECKED BY
KEN CLAASSEN
MARK TAKETA
REVISOR
DATE
PKD
DATE
PKD
DATE

LAST REVISION DATE PLOTTED => 25-JAN-2011  
 09-06-10 TIME PLOTTED => 10:21

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	6	51

11-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 1-24-11  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MARK I. TAKETA  
 No. C64391  
 Exp. 6-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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**NOTES:**

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- \*SEE Q-2 SHEET FOR STATIONING.

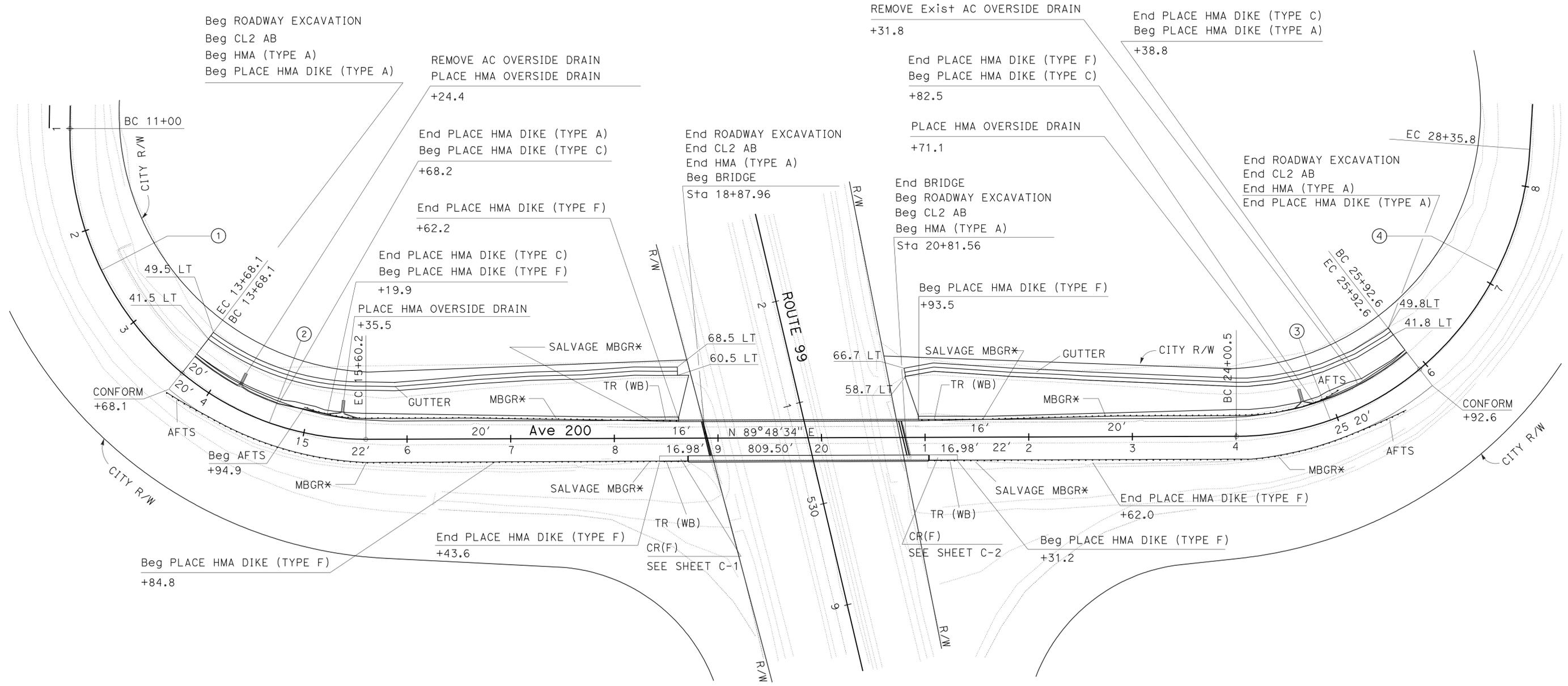
**ABBREVIATIONS:**

- AFTS ALTERNATIVE FLARED TERMINAL SYSTEM  
 TR(WB) TRANSITION RAILING (TYPE WB)  
 CR(F) CURB RAMP (CASE F)

**CURVE DATA**

No.	R	Δ	T	L
①	300.00'	51°12'02"	143.74'	268.09'
②	276.00'	39°52'53"	100.13'	192.11'
③	276.00'	39°52'52"	100.13'	192.11'
④	300.00'	46°27'36"	128.77'	243.26'

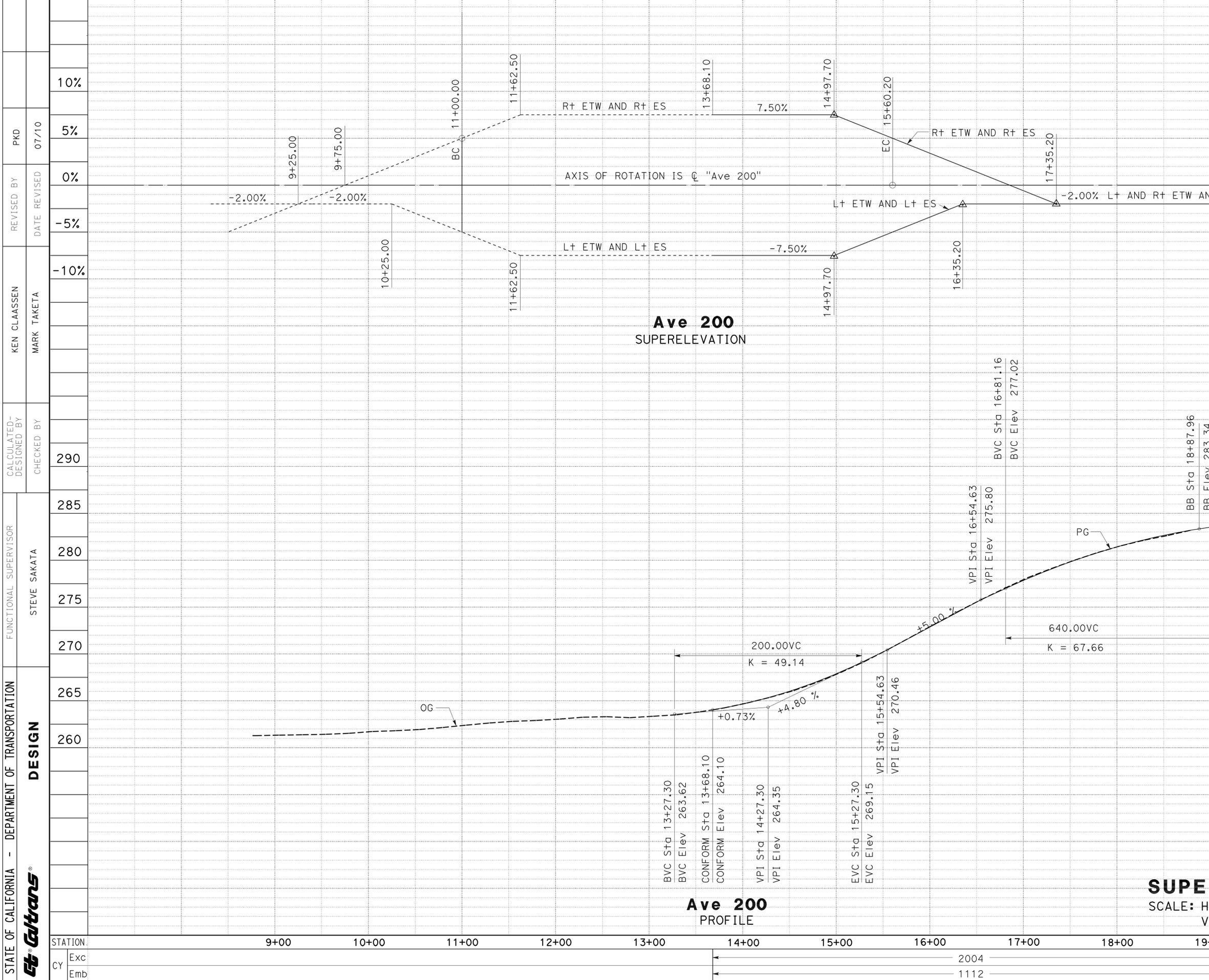
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 KEN CLAASSEN MARK TAKETA  
 REVISED BY DATE REVISED  
 PKD 04/10  
 PKD 07/10



**LAYOUT**

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

LAST REVISION DATE PLOTTED => 25-JAN-2011  
 09-06-10 TIME PLOTTED => 10:52



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	7	51
			11-10-10	DATE	
REGISTERED CIVIL ENGINEER			1-24-11 PLANS APPROVAL DATE		
10%			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.		
5%					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

FUNCTIONAL SUPERVISOR	DESIGNED BY	CHECKED BY	REVISOR	DATE	PKD
STEVE SAKATA	STEVE SAKATA	STEVE SAKATA	MARK TAKETA	07/10	07/10
KEN CLAASSEN	MARK TAKETA	MARK TAKETA	MARK TAKETA	07/10	07/10

STATION	9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00	19+00	TOTAL
Exc												2004
Emb												1112

UNIT 1474 PROJECT NUMBER & PHASE 0600000271

SCALE: Horiz 1" = 50'  
Vert 1" = 10'

PROFILE AND SUPERELEVATION DIAGRAM PS-1

09-07-10 DATE PLOTTED => 25-JAN-2011  
10:52 TIME PLOTTED => 10:52

USERNAME => frpierce  
DGN FILE => 60c490fb001.dgn

RELATIVE BORDER SCALE IS IN INCHES

0 1 2 3

UNIT 1474 PROJECT NUMBER & PHASE 0600000271

09-07-10 DATE PLOTTED => 25-JAN-2011  
10:52 TIME PLOTTED => 10:52

USERNAME => frpierce  
DGN FILE => 60c490fb001.dgn

RELATIVE BORDER SCALE IS IN INCHES

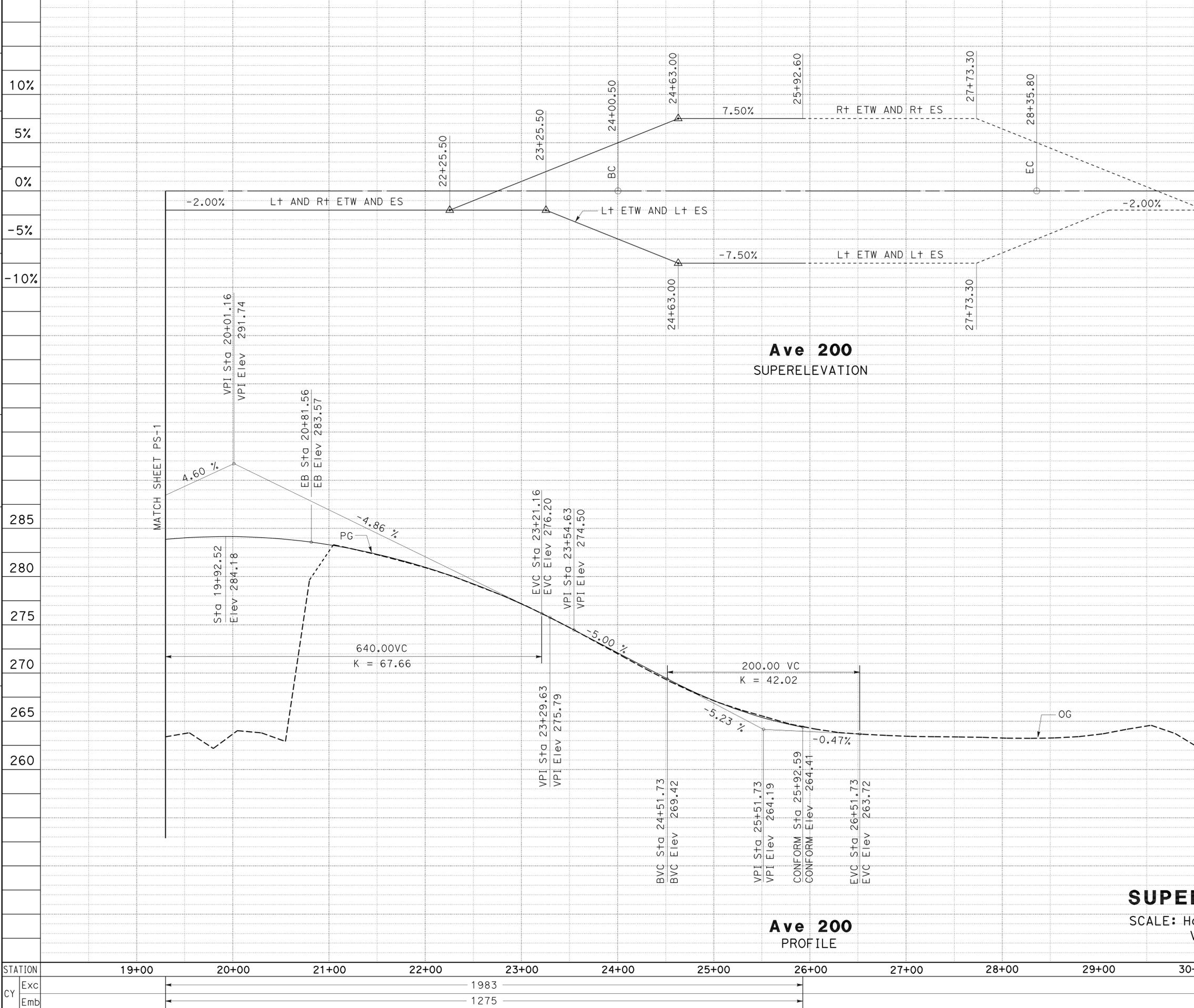
0 1 2 3

UNIT 1474 PROJECT NUMBER & PHASE 0600000271

09-07-10 DATE PLOTTED => 25-JAN-2011  
10:52 TIME PLOTTED => 10:52

USERNAME => frpierce  
DGN FILE => 60c490fb001.dgn

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: STEVE SAKATA  
 CALCULATED/DESIGNED BY: KEN CLAASSEN  
 CHECKED BY: MARK TAKETA  
 REVISED BY: DATE REVISED: PKD: 07/10



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	8	51
Mark Taketa REGISTERED CIVIL ENGINEER No. C64391 Exp. 6-30-11 CIVIL			11-10-10 DATE 1-24-11 PLANS APPROVAL DATE		
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**PROFILE AND SUPERELEVATION DIAGRAM PS-2**  
 SCALE: Horiz 1" = 50'  
 Vert 1" = 10'

STATION	19+00	20+00	21+00	22+00	23+00	24+00	25+00	26+00	27+00	28+00	29+00	30+00	TOTAL
Exc					1983								3987
Emb					1275								2387

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	9	51

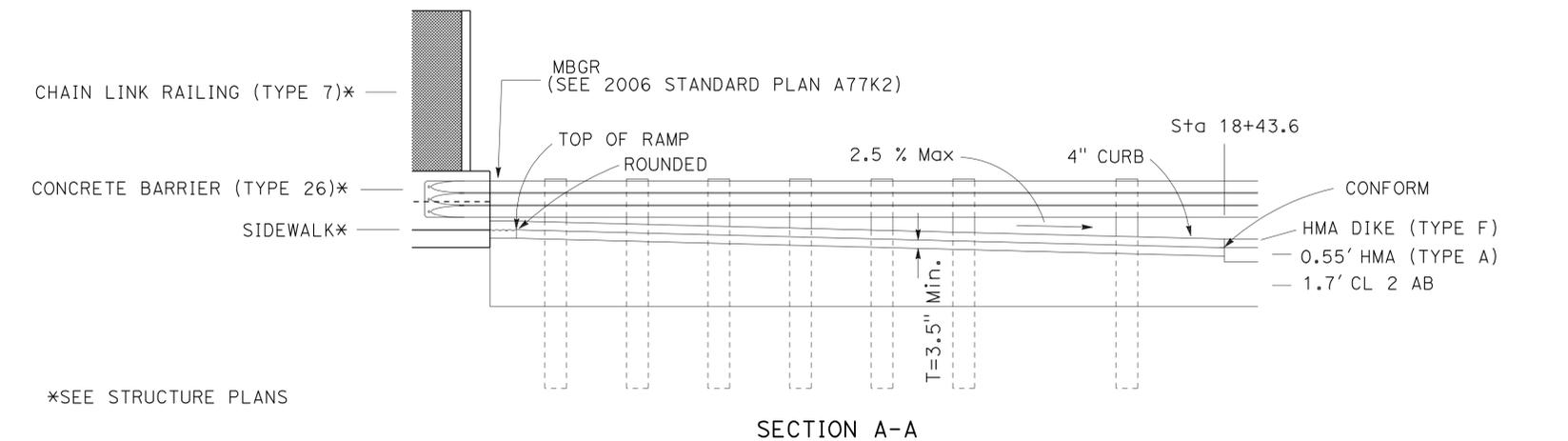
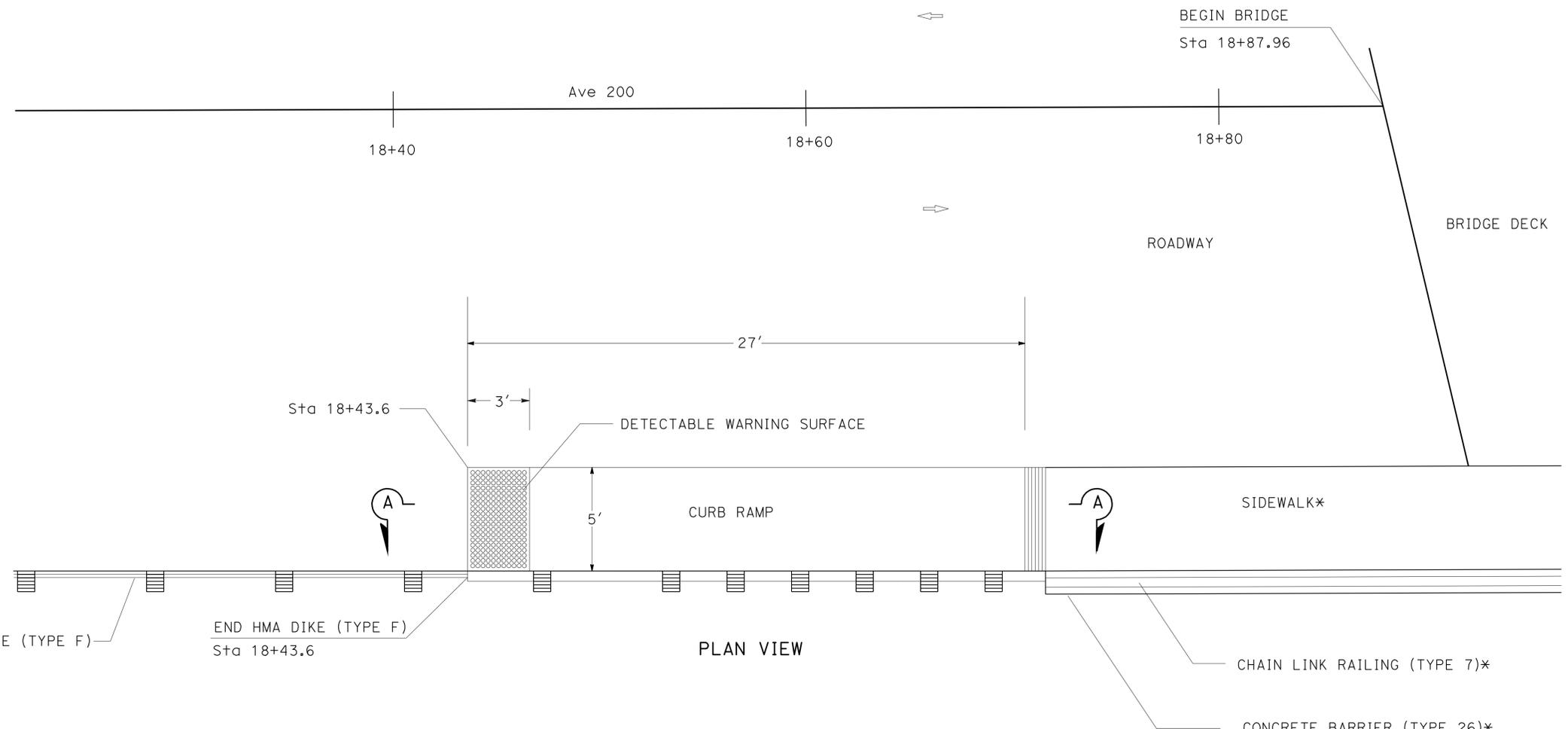
  

<i>Mark Taketa</i>	11-10-10
REGISTERED CIVIL ENGINEER	DATE
1-24-11	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	MARK I. TAKETA
No. C64391	Exp. 6-30-11
CIVIL	

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\*SEE STRUCTURE PLANS

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CALCULATED/DESIGNED BY  
 CHECKED BY

KEN CLAASSEN  
 MARK TAKETA

REVISED BY  
 DATE REVISED

PKD  
 07/10

**CONSTRUCTION DETAILS**  
 NO SCALE  
**C-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	10	51

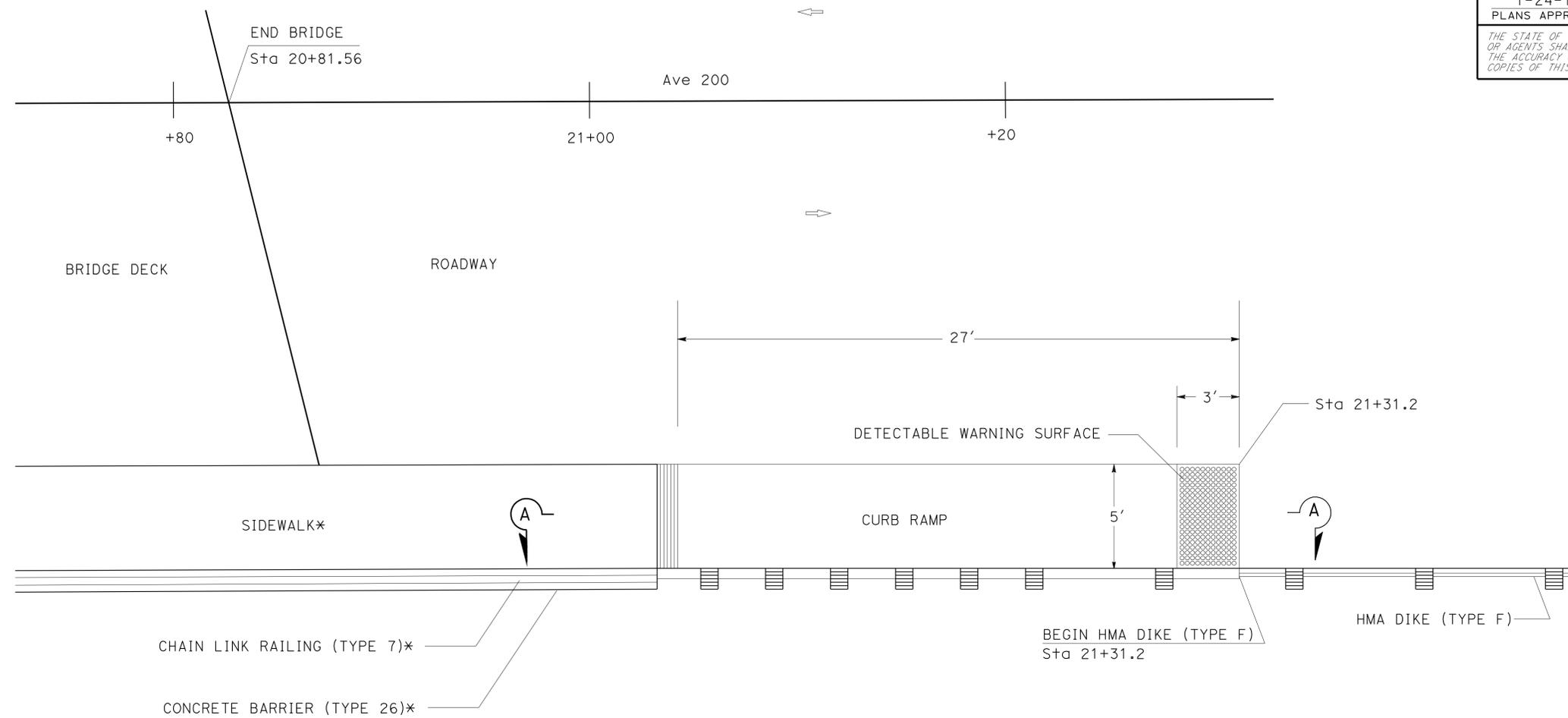
  

<i>Mark Taketa</i>	11-10-10
REGISTERED CIVIL ENGINEER	DATE
1-24-11	
PLANS APPROVAL DATE	

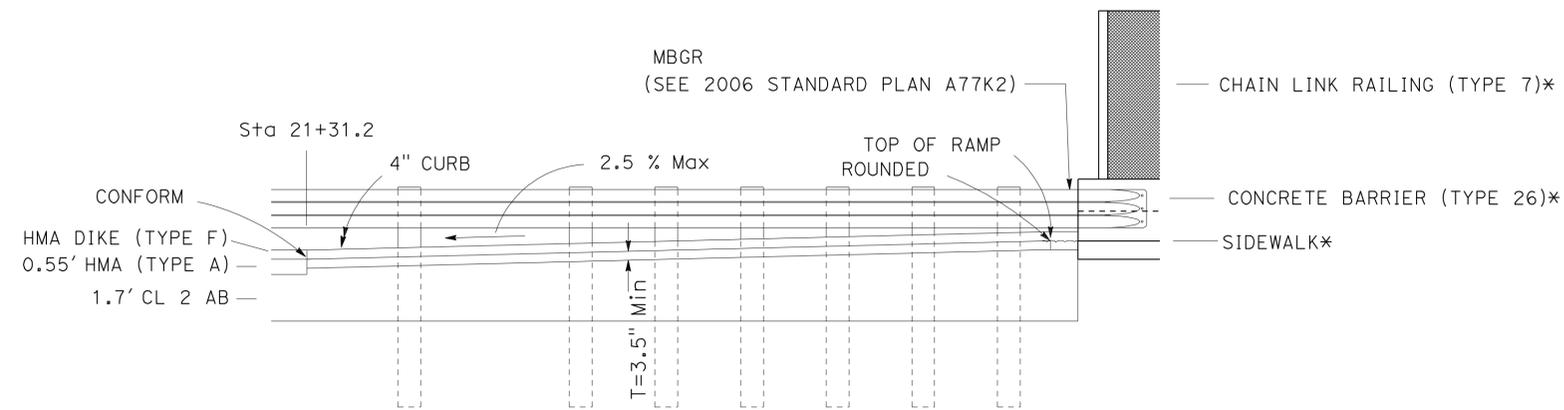
  

REGISTERED PROFESSIONAL ENGINEER
MARK I. TAKETA
No. C64391
Exp. 6-30-11
CIVIL

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PLAN VIEW



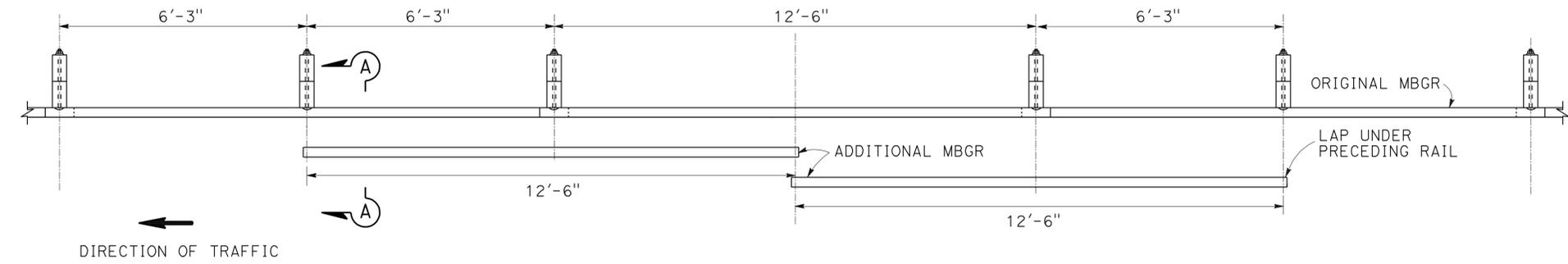
SECTION A-A

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

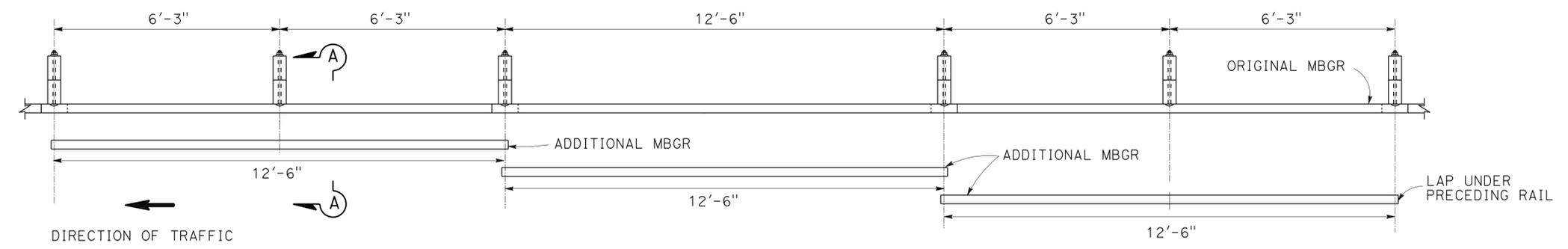
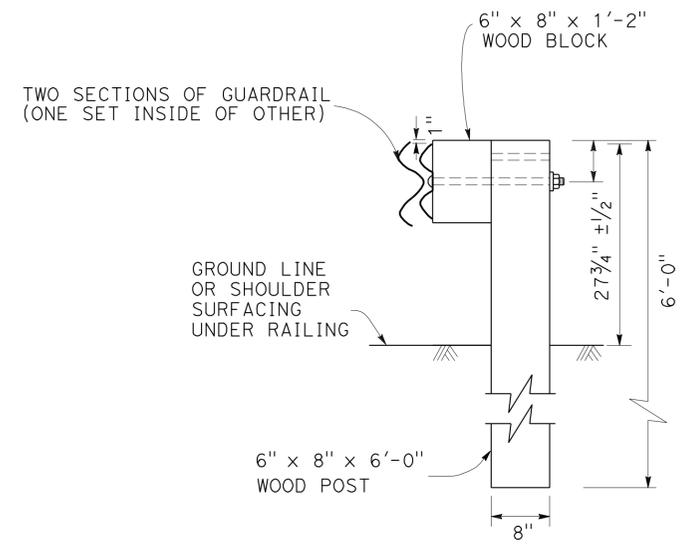
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	STEVE SAKATA
CALCULATED/DESIGNED BY	CHECKED BY
KEN CLAASSEN	MARK TAKETA
REVISOR	DATE
PKD	06/10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	11	51
<i>Mark Taketa</i> 11-10-10 REGISTERED CIVIL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER <b>MARK I. TAKETA</b> No. C64391 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA		
1-24-11			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**NOTES:**  
 1. USE CASE 1 OR CASE 2 WHEN ONE POST IS OMITTED.  
 2. FOR OTHER DETAILS, SEE STANDARD PLANS A77A, B, C.



**PLAN**  
**CASE 1**  
 ONE POST OMITTED (SPLICE IN CENTER)  
**METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS**



**PLAN**  
**CASE 2**  
 ONE POST OMITTED (SPLICE AT POSTS)  
**METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS**

**CONSTRUCTION DETAILS**

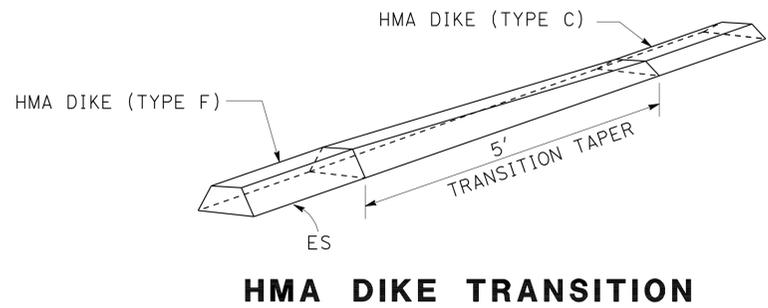
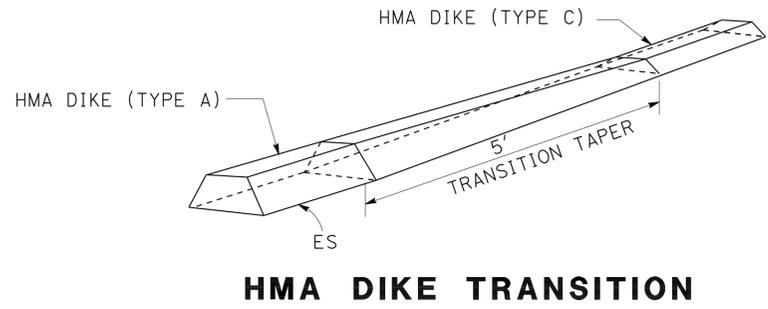
NO SCALE

**C-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	STEVE SAKATA
CALCULATED/DESIGNED BY	CHECKED BY
KEN CLAASSEN	MARK TAKETA
REVISOR	DATE
PKD	06/10
PKD	09/10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED, DESIGNED BY	KEN CLAASSEN	REVISOR	PKD
Caltrans®	DESIGN	CHECKED BY	STEVE SAKATA	DATE	06/10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	12	51
<i>Mark Taketa</i> 11-10-10 REGISTERED CIVIL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER <b>MARK I. TAKETA</b> No. C64391 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA		
1-24-11 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



**CONSTRUCTION DETAILS**  
 NO SCALE  
**C-4**

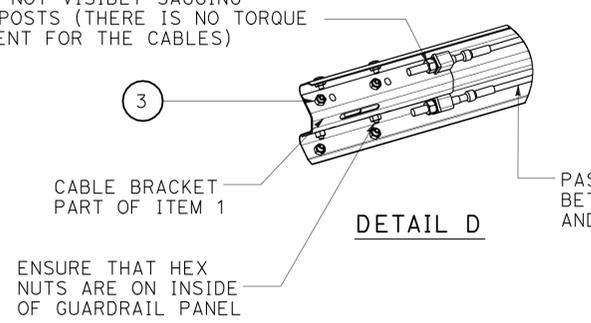
LAST REVISION | DATE PLOTTED => 25-JAN-2011  
 11-10-10 | TIME PLOTTED => 10:53

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	13	51
<i>Mark Taketa</i> REGISTERED CIVIL ENGINEER			11-10-10 DATE	REGISTERED PROFESSIONAL ENGINEER <b>MARK I. TAKETA</b> No. C64391 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA	
1-24-11 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**NOTES:**

1. SEE MANUFACTURER PLANS FOR ADDITIONAL DETAILS AND DIMENSIONS NOT SHOWN.
2. SYSTEM TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
3. ONLY TIGHTEN THE CABLE ASSEMBLIES USING THE NUTS AT THE CABLE BRACKET (SEE DETAIL D). DO NOT TIGHTEN THE CABLES AT THE FRONT OF THE GROUND ANCHOR.
4. WHEN DRIVING STEEL POST, ENSURE THAT A DRIVING CAP WITH TIMBER OR PLASTIC INSERT IS USED TO PREVENT DAMAGE TO THE GALVANIZING TO THE TOP OF THE STEEL POST.

TIGHTEN CABLE ASSEMBLIES UNTIL THEY ARE NOT VISIBLY SAGGING BETWEEN POSTS (THERE IS NO TORQUE REQUIREMENT FOR THE CABLES)



REMOVE ANGLE BRACKET WHEN SLIDING GUARDRAIL 1 WITH SLIDER PANEL OVER GUARDRAIL 2, REATTACH ANGLE BRACKET

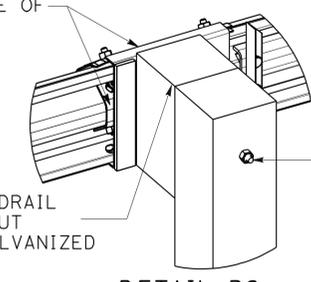
ATTACH SLIDER BRACKET PART OF ITEM 1 TO END OF GUARDRAIL PANEL AS SHOWN, ENSURE THAT HEX NUTS ARE AWAY FROM TRAFFIC SIDE

SLIDE GUARDRAIL PANEL PART OF ITEM 1 OVER END OF GUARDRAIL 1 SECURE IN PLACE USING HARDWARE PROVIDED, ENSURE THAT HEX NUTS ARE ON TRAFFIC SIDE

SLIDER PANEL ON TRAFFIC SIDE  
SLIDER BRACKET ON INSIDE OF GUARDRAIL PANEL

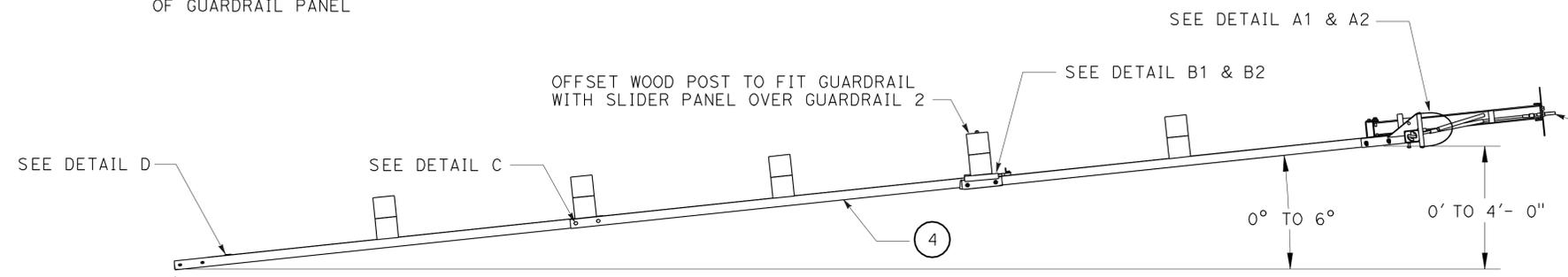
**DETAIL B1**

BEFORE INSTALLATION OF GUARDRAIL TO BLOCKOUTS, SECURE BLOCKOUT FROM ROTATION WITH A 16d GALVANIZED NAIL. (ALL POSTS)



USE GUARDRAIL HARDWARE PROVIDED PART OF ITEM 3 TO SECURE BLOCKOUT TO POST. GUARDRAIL IS NOT BOLTED TO THE BLOCKOUT OR POST.

USING A PRY BAR TURN FRICTION PLATE PART OF ITEM 1 COUNTER CLOCKWISE UNTIL IT IS COMPLETELY AGAINST LOCKING MECHANISM, SECURE IN PLACE USING 4 BOLTS PART OF ITEM 2 ON SIDE OF IMPACT HEAD WELDMENT



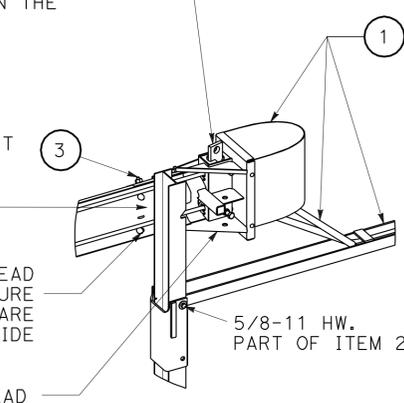
**FLARED TERMINAL SYSTEM DETAIL**

PASS CABLE ASSEMBLY UNDER THE STEEL STRAP ON THE GROUND STRUT AND FORWARD THROUGH THE HOLES AT FRONT END OF GROUND STRUT. THEN PASS CABLE ASSEMBLY THROUGH LOWER HOLE IN IMPACT HEAD WELDMENT AND THROUGH FRICTION PLATE AND OUT THE BACK SIDE OF THE IMPACT HEAD. (REPEAT FOR SECOND CABLE ASSEMBLY TO PASS THROUGH UPPER HOLE IN IMPACT HEAD WELDMENT)

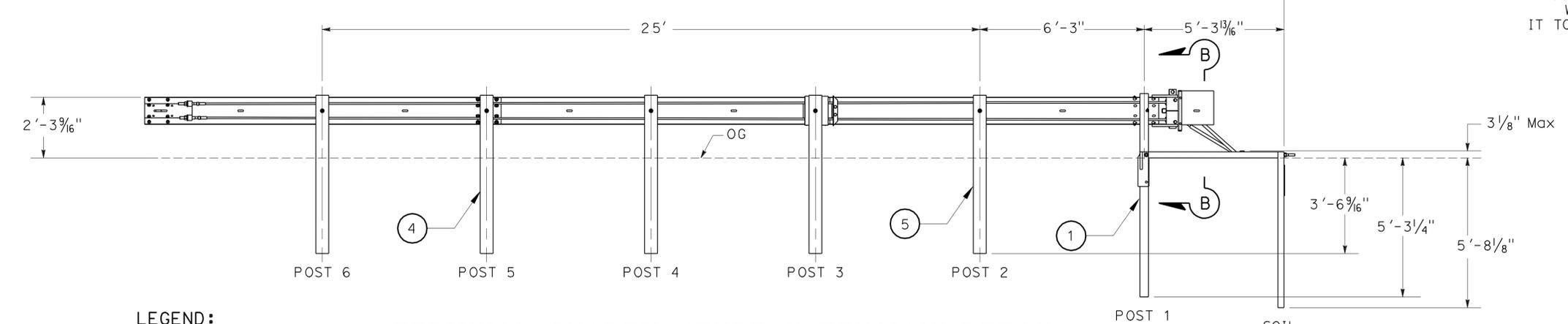
NO BLOCKOUT AT POST 1

WHEN MOUNTING IMPACT HEAD WELDMENT TO GUARDRAIL ENSURE THAT HEX NUTS PART OF ITEM 3 ARE ON TRAFFIC SIDE

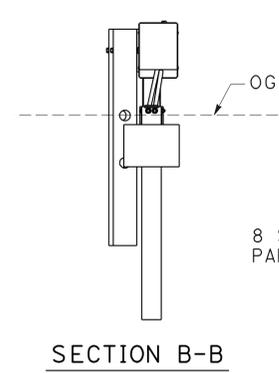
USE BLOCKOUTS TO HOLD HEAD WELDMENT UP WHILE BOLTING IT TO THE GUARDRAIL PANEL AND POST 1



**DETAIL A1**



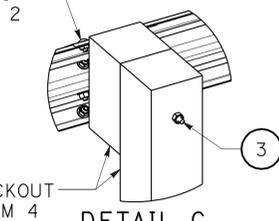
**TERMINAL SYSTEM (TYPE X-TENSION) DETAIL**



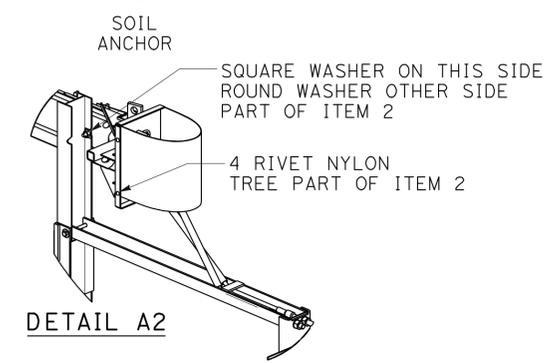
**SECTION B-B**

8 SHEAR BOLTS PART OF ITEM 2

POST & BLOCKOUT PART OF ITEM 4



**DETAIL C**



**DETAIL A2**

**LEGEND:**

ITEM	DESCRIPTION
1	TERMINAL SYSTEM (TYPE X-TENSION) COMPONENT KIT
2	TERMINAL SYSTEM (TYPE X-TENSION) HARDWARE KIT
3	TERMINAL SYSTEM (TYPE X-TENSION) SYSTEM HARDWARE KIT
4	TERMINAL SYSTEM (TYPE X-TENSION) GUARDRAIL COMPONENT KIT 3
5	TERMINAL SYSTEM (TYPE X-TENSION) WOOD POST

**CONSTRUCTION DETAILS**

NO SCALE

**C-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN  
 FUNCTIONAL SUPERVISOR STEVE SAKATA  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 KEN CLAASSEN MARK TAKATA  
 REVISED BY DATE  
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	14	51

<i>Mark Taketa</i>	11-10-10
REGISTERED CIVIL ENGINEER	DATE
1-24-11	
PLANS APPROVAL DATE	

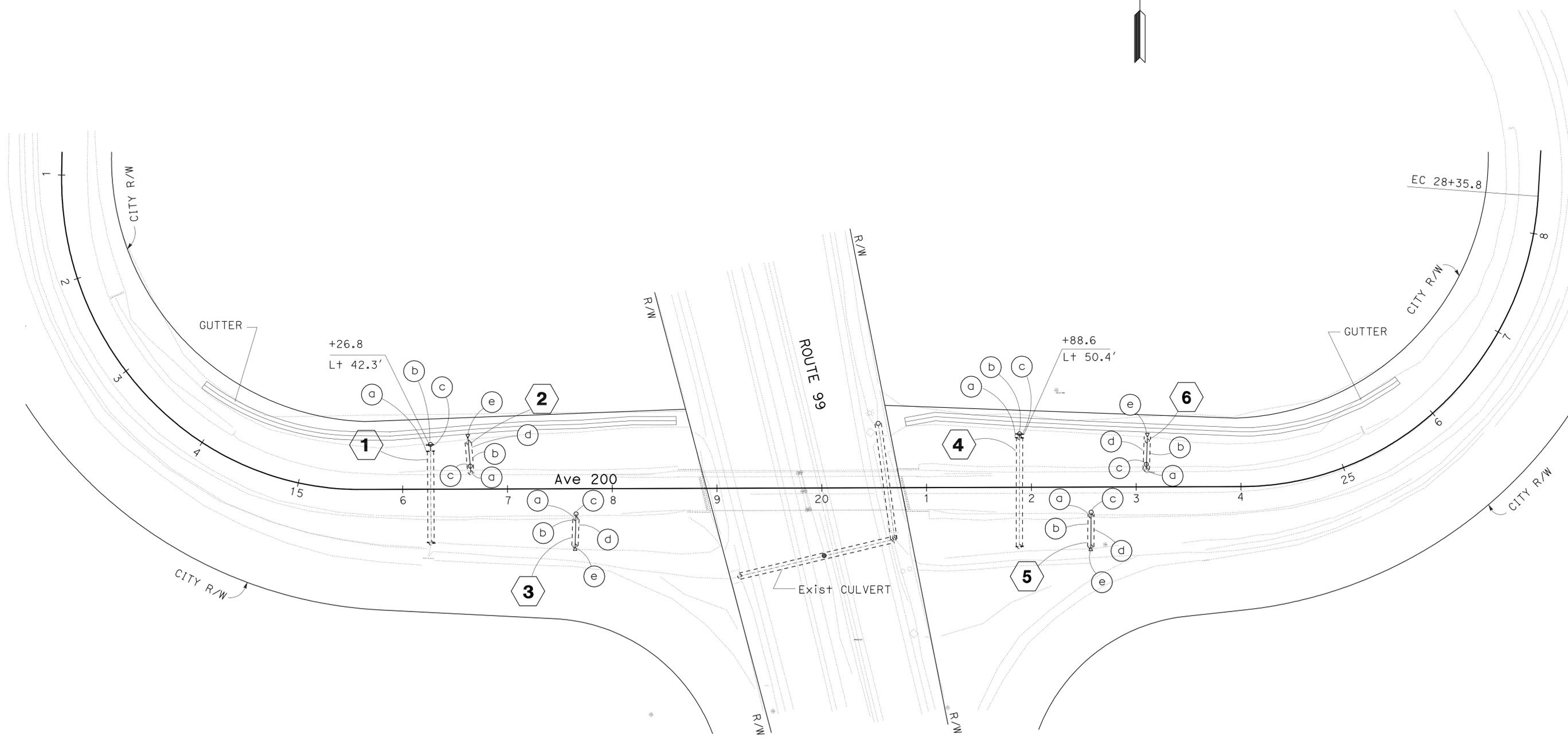
  

REGISTERED PROFESSIONAL ENGINEER
MARK I. TAKETA
No. C64391
Exp. 6-30-11
CIVIL

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**

-  DRAINAGE SYSTEM No.
-  DRAINAGE UNIT



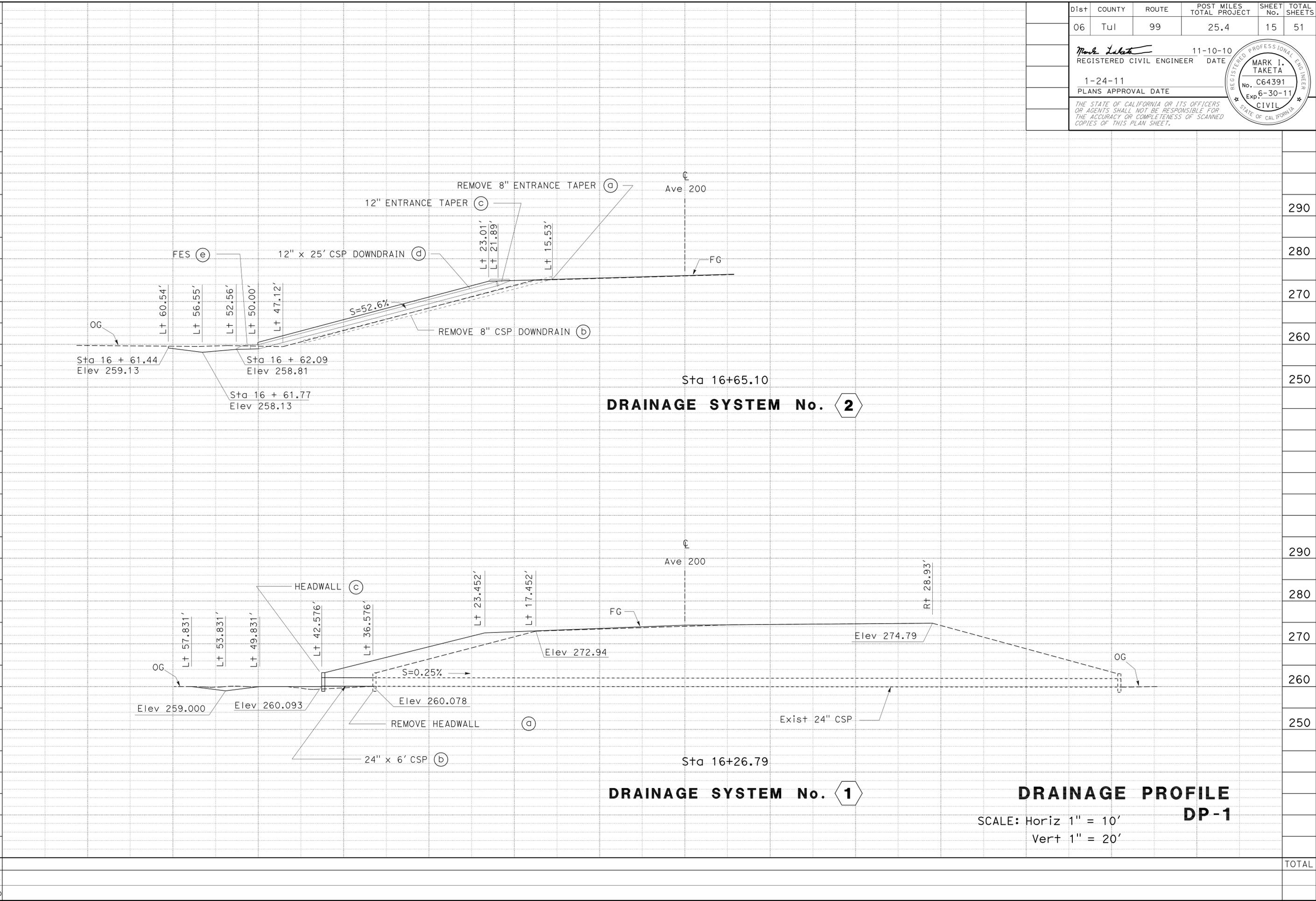
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: STEVE SAKATA  
 CALCULATED/DESIGNED BY: KEN CLAASSEN  
 CHECKED BY: MARK TAKETA  
 REVISED BY: KEN CLAASSEN  
 DATE REVISED: 06/10  
 PKD: 06/10

THIS PLAN IS ACCURATE FOR DRAINAGE WORK ONLY.

**DRAINAGE PLAN**  
 SCALE: 1" = 50'  
**D-1**

LAST REVISION | DATE PLOTTED => 25-JAN-2011  
 11-10-10 | TIME PLOTTED => 13:39

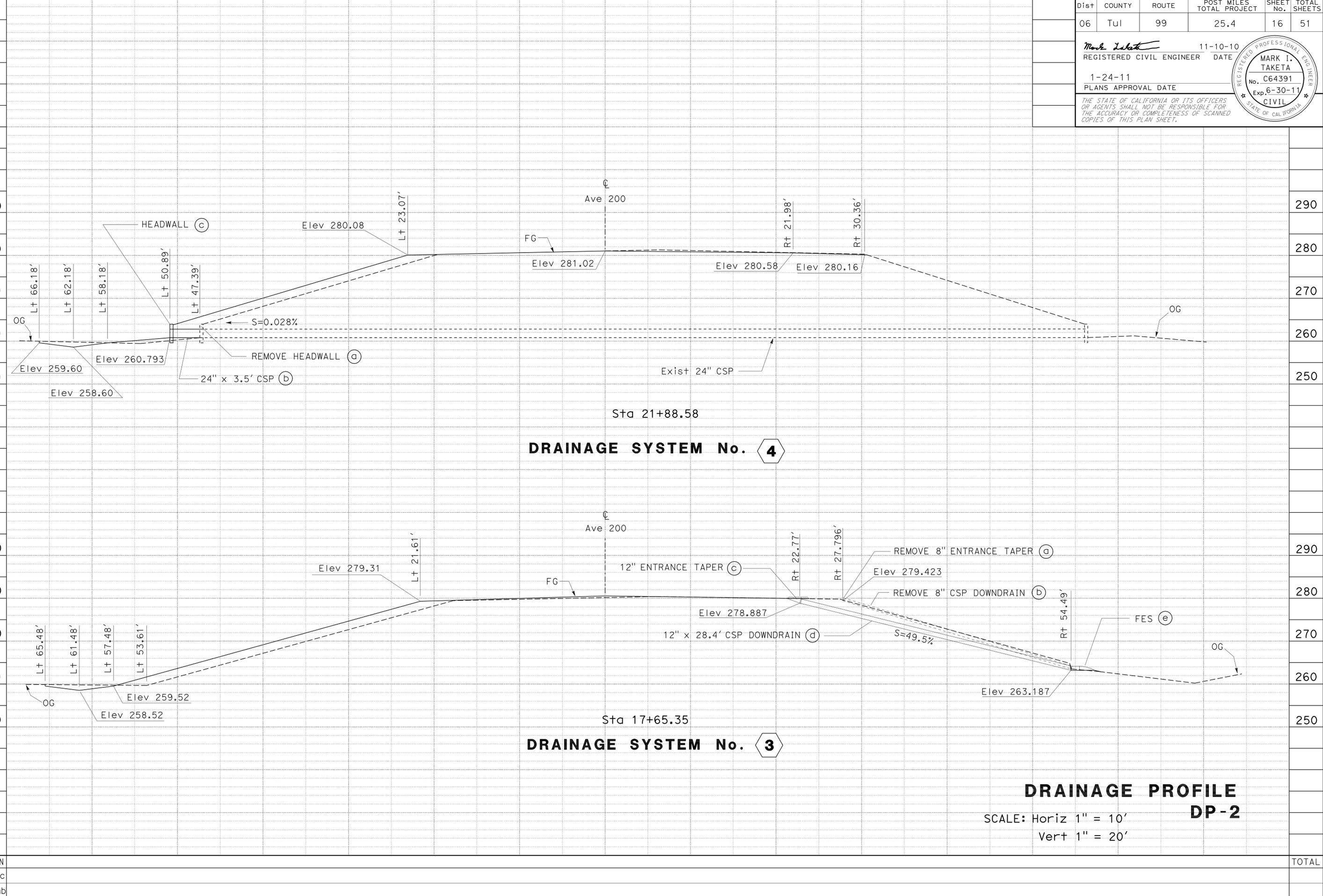
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION <b>Caltrans</b> DESIGN	FUNCTIONAL SUPERVISOR STEVE SAKATA		CALCULATED/DESIGNED BY		CHECKED BY		KEN CLAASSEN MARK TAKETA	REVISED BY DATE REVISED	PKD 09/10
	STATION	Exc	Emb						



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	15	51
<i>Mark Taketa</i> REGISTERED CIVIL ENGINEER 1-24-11 PLANS APPROVAL DATE			11-10-10 DATE		
REGISTERED PROFESSIONAL ENGINEER <b>MARK I. TAKETA</b> No. C64391 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

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

FUNCTIONAL SUPERVISOR: STEVE SAKATA  
 CALCULATED/DESIGNED BY: [Blank]  
 CHECKED BY: [Blank]  
 KEN CLAASSEN  
 MARK TAKETA  
 REVISIONS: [Blank]  
 PKD: 09/10

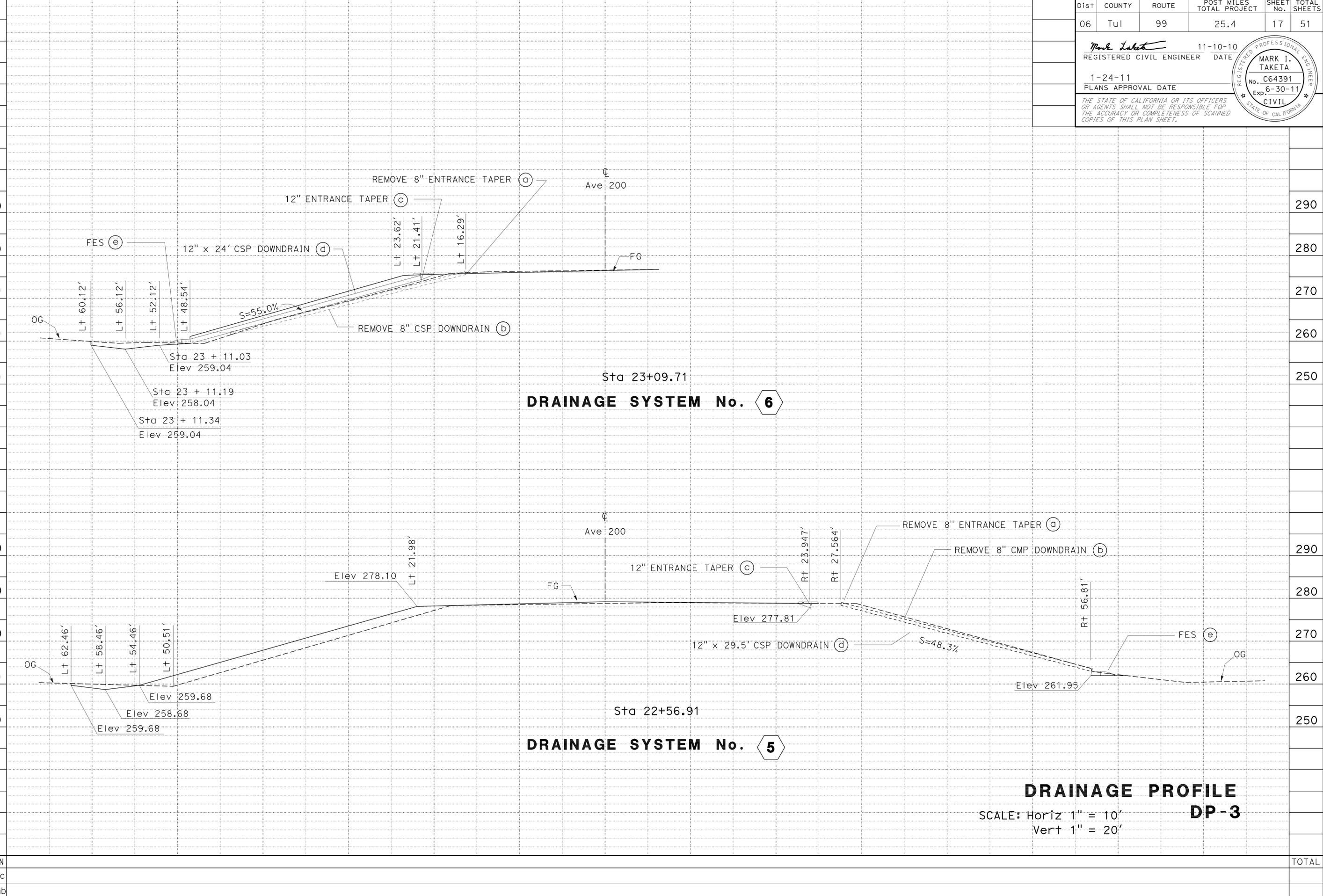


**DRAINAGE PROFILE DP-2**  
 SCALE: Horiz 1" = 10'  
 Vert 1" = 20'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	16	51
Mark Taketa REGISTERED CIVIL ENGINEER No. C64391 Exp. 6-30-11 CIVIL			11-10-10 DATE 1-24-11 PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

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

FUNCTIONAL SUPERVISOR: STEVE SAKATA  
 CHECKED BY: MARK TAKETA  
 DESIGNED BY: KEN CLAASSEN  
 REVISIONS: PKD 09/10



**DRAINAGE PROFILE DP-3**  
 SCALE: Horiz 1" = 10'  
 Vert 1" = 20'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	17	51
Mark Taketa REGISTERED CIVIL ENGINEER			11-10-10	DATE	
1-24-11 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



PKD  
07/10

REVISOR BY  
DATE REVISED

KEN CLAASSEN  
MARK TAKETA

CALCULATED/DESIGNED BY  
CHECKED BY

FUNCTIONAL SUPERVISOR  
STEVE SAKATA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	18	51

11-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 1-24-11  
 PLANS APPROVAL DATE

MARK I. TAKETA  
 No. C64391  
 Exp. 6-30-11  
 CIVIL

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### DRAINAGE QUANTITIES

DRAINAGE PLAN SHEET No.	DRAINAGE SYSTEM No.	DRAINAGE UNIT	REMOVE HEADWALL	24" CORRUGATED STEEL PIPE (.138" THICK)	MINOR CONCRETE (MINOR STRUCTURE)	BAR REINFORCING STEEL (N)	REMOVE ENTRANCE TAPER (8")	REMOVE DOWNDRAIN (8" CORRUGATED STEEL PIPE)	12" ENTRANCE TAPER	12" CORRUGATED STEEL PIPE DOWNDRAIN	12" STEEL FLARED END SECTION	DESCRIPTION	STATION	DRAINAGE PLAN SHEET No.	DRAINAGE SYSTEM No.	DRAINAGE UNIT
			EA	LF	CY	LB	EA	LF	EA	LF	EA					
D-1	1	a	1									REMOVE HEADWALL 8.5' L x 3.7' H	16+26.8, 36.1' Lt	D-1	1	a
		b		6.0								EXTEND CULVERT 24" CSP	16+26.8 Lt			b
		c			1.2	75.0							CONSTRUCT HEADWALL 8.5' L x 3.7' H			16+26.8, 42.1' Lt
D-1	2	a					1					REMOVE ENTRANCE TAPER	16+65.2, 15.2' Lt	D-1	2	a
		b						24.0				REMOVE DOWNDRAIN PIPE	16+65.2, 17.2' Lt			b
		c							1			PLACE ENTRANCE TAPER	16+64.5, 21.9' Lt			c
		d								25.0		PLACE DOWNDRAIN PIPE	16+64.5, 23.9' Lt			d
		e									1	PLACE FLARED END SECTION	16+62.3, 50.0' Lt			e
D-1	3	a					1					REMOVE ENTRANCE TAPER	17+65.1, 27.8' Rt	D-1	3	a
		b						23.1				REMOVE DOWNDRAIN PIPE	17+65.1, 34.7' Rt			b
		c							1			PLACE ENTRANCE TAPER	17+65.3, 22.7' Rt			c
		d								28.4		PLACE DOWNDRAIN PIPE	17+65.3, 25.9' Rt			d
		e									1	PLACE FLARED END SECTION	17+64.4, 55.0' Rt			e
D-1	4	a	1									REMOVE HEADWALL 8.5' L x 3.7' H	21+88.6, 47.1' Lt	D-1	4	a
		b		3.5								EXTEND CULVERT 24" CSP	21+88.6 Lt			b
		c			1.2	75.0							CONSTRUCT HEADWALL 8.5' L x 3.7' H			21+88.6, 50.6' Lt
D-1	5	a					1					REMOVE ENTRANCE TAPER	22+56.9, 27.6' Rt	D-1	5	a
		b						25.3				REMOVE DOWNDRAIN PIPE	22+56.9, 34.7' Rt			b
		c							1			PLACE ENTRANCE TAPER	22+56.9, 23.9' Rt			c
		d								29.5		PLACE DOWNDRAIN PIPE	22+56.9, 25.9' Rt			d
		e									1	PLACE FLARED END SECTION	22+56.6, 58.1' Rt			e
D-1	6	a					1					REMOVE ENTRANCE TAPER	23+09.6, 16.3' Lt	D-1	6	a
		b						23.0				REMOVE DOWNDRAIN PIPE	23+09.6, 18.3' Lt			b
		c							1			PLACE ENTRANCE TAPER	23+09.6, 21.4' Lt			c
		d								24.0		PLACE DOWNDRAIN PIPE	23+09.6, 23.4' Lt			d
		e									1	PLACE FLARED END SECTION	23+10.9, 48.5' Lt			e
TOTAL			2	9.5	2.4		4	95.4	4	106.9	4					

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

### DRAINAGE QUANTITIES DQ-1

LAST REVISION DATE PLOTTED => 25-JAN-2011  
 11-10-10 TIME PLOTTED => 10:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	19	51

<i>Mark Taketa</i>	11-10-10
REGISTERED CIVIL ENGINEER	DATE
1-24-11	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
MARK I. TAKETA
No. C64391
Exp. 6-30-11
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.

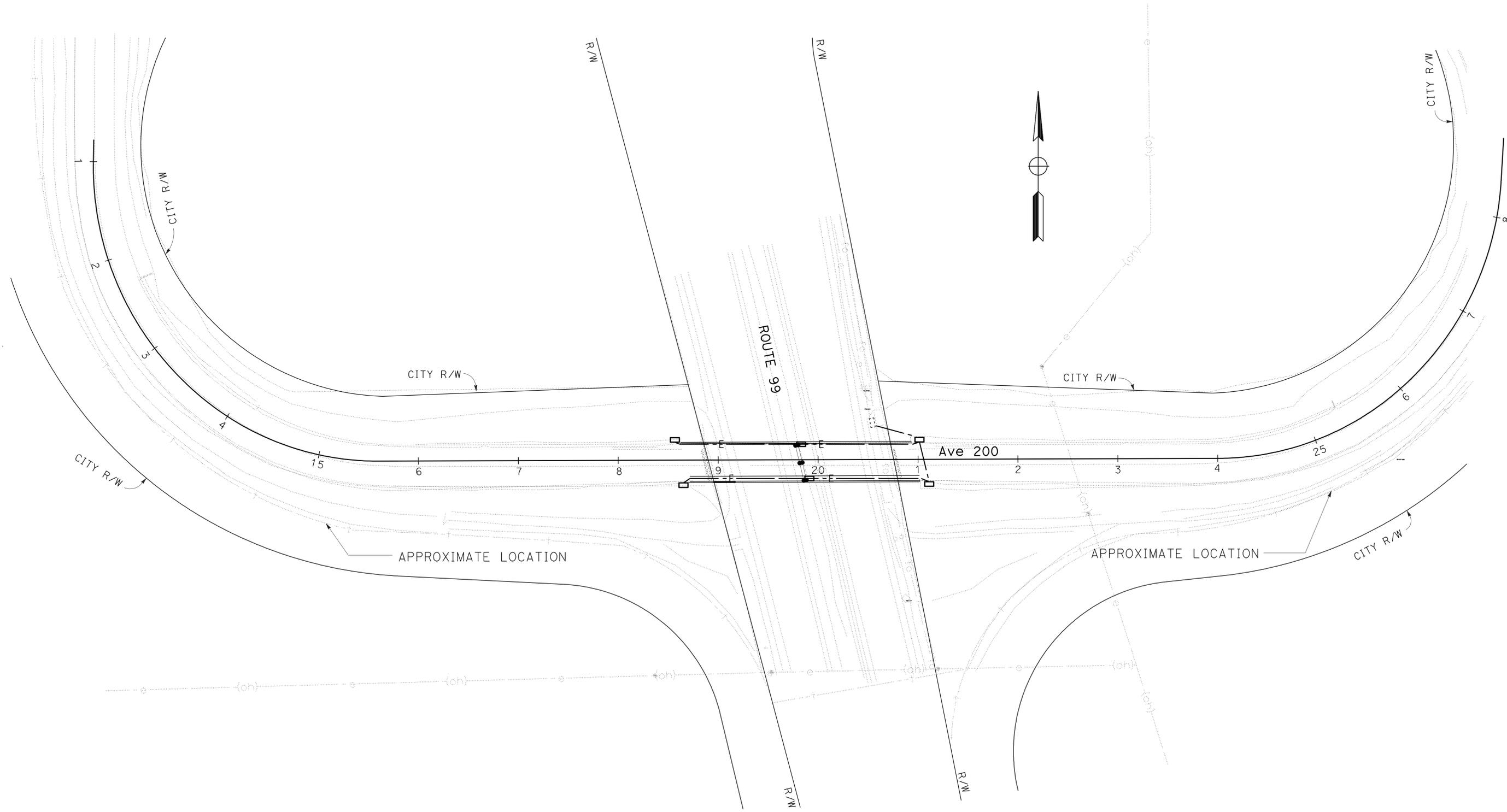
**NOTES:**

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT DISTRICT OFFICE.
- LOCATIONS OF UTILITY FACILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- UTILITY OWNERSHIP ON THIS PROJECT:  
 ELECTRIC - SOUTHERN CALIFORNIA EDISON COMPANY (SCE)  
 CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)  
 TELEPHONE - AMERICAN TELEPHONE & TELEGRAPH (AT&T)

**LEGEND**

- E- -E- New ELECTRICAL
- e- -e- Exist ELECTRICAL (CALTRANS)
- oh- -oh- Exist OVERHEAD ELECTRICAL (SCE)
- fo- -fo- Exist FIBER OPTIC (AT&T)
- t- -t- Exist TELEPHONE (AT&T)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	STEVE SAKATA
		CALCULATED/DESIGNED BY	CHECKED BY
Caltrans	KEN CLAASSEN	REVISOR	MARK TAKETA
		DATE	07/10



THIS PLAN ACCURATE FOR UTILITY WORK ONLY.

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

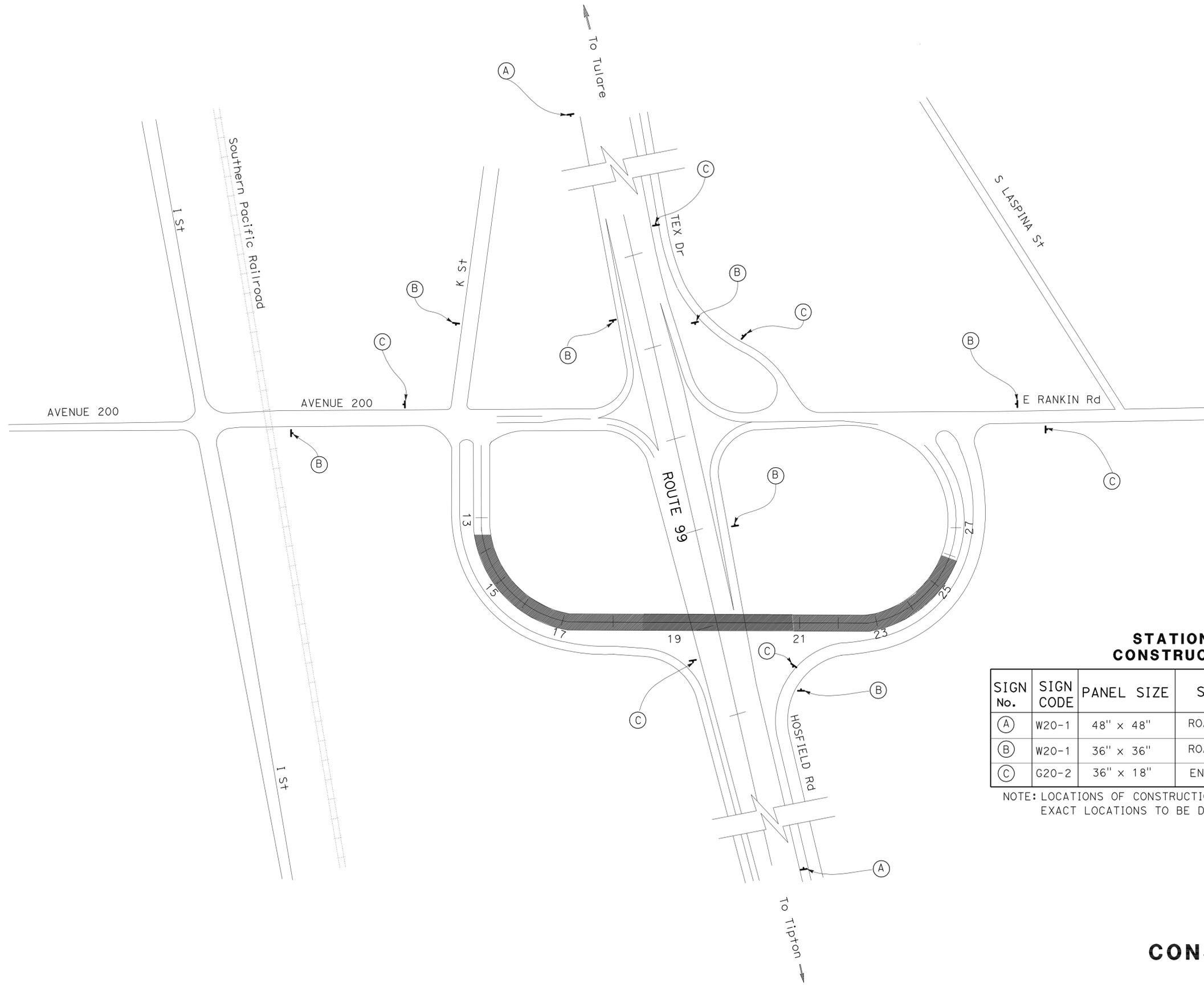


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	20	51

MAZIN AL-ALI 09-09-10  
 REGISTERED CIVIL ENGINEER DATE  
 1-24-11  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MAZIN H. AL-ALI  
 No. 65523  
 Exp. 9/30/11  
 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.



**STATIONARY MOUNTED  
CONSTRUCTION AREA SIGNS**

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	Qty	POST SIZE	No. OF POSTS
(A)	W20-1	48" x 48"	ROAD WORK AHEAD	2	6" x 6"	1
(B)	W20-1	36" x 36"	ROAD WORK AHEAD	7	4" x 6"	1
(C)	G20-2	36" x 18"	END ROAD WORK	6	4" x 6"	1

NOTE: LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE.  
EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

**CONSTRUCTION AREA SIGNS  
CS-1**

NO SCALE

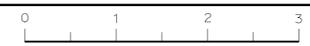
THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGNS ONLY.

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
--	--------------------------------------	-------------------------------	----------------------------

USERNAME => s135318  
 DGN FILE => 60C4901a001.dgn

RELATIVE BORDER SCALE  
 IS IN INCHES



UNIT 1513

PROJECT NUMBER & PHASE

0600000271

LAST REVISION | DATE PLOTTED => 25-JAN-2011  
 11-10-10 | TIME PLOTTED => 10:37

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

FUNCTIONAL SUPERVISOR  
 STEVE SAKATA

CALCULATED/DESIGNED BY  
 CHECKED BY

KEN CLAASSEN  
 MARK TAKETA

REVISED BY  
 DATE REVISED

PKD  
 07/10

**NOTE:**

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

**LEGEND:**

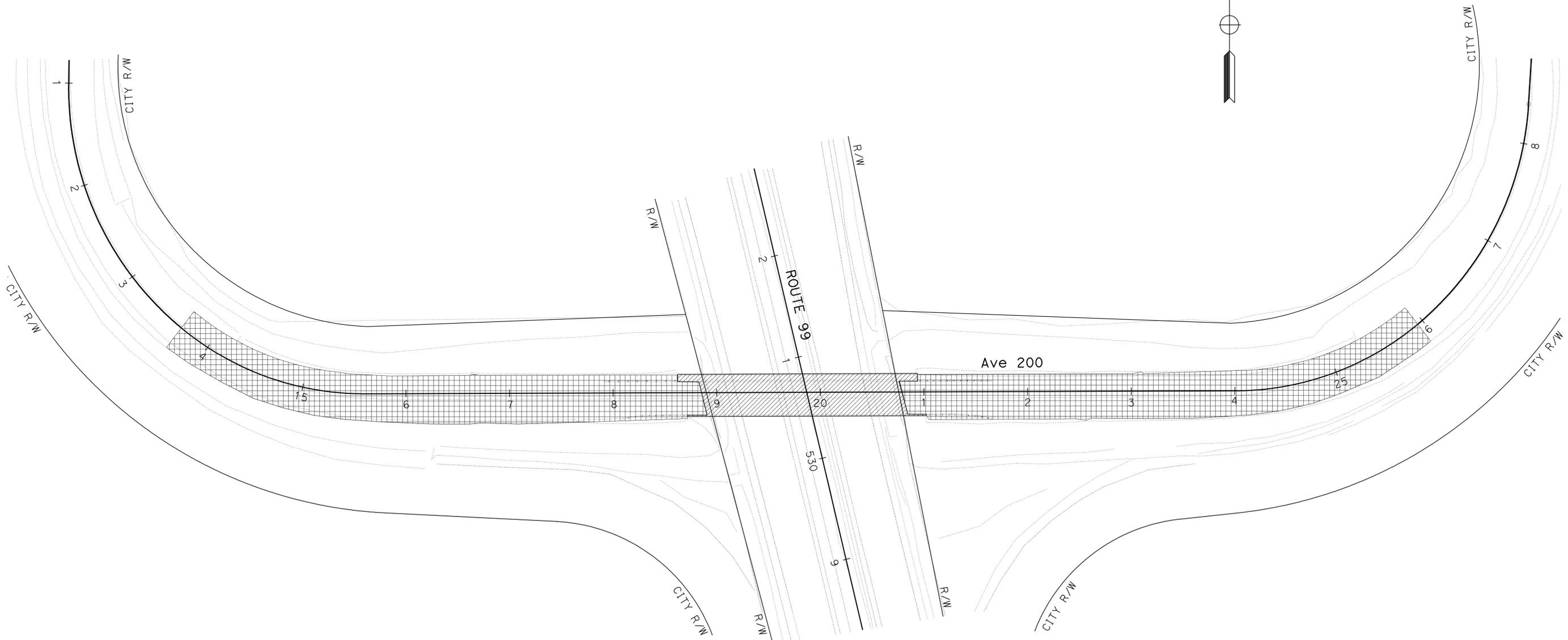
-  STAGE 1 REPLACE BRIDGE DECK
-  STAGE 2 REPLACE ROADWAY STRUCTURAL SECTION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	21	51

Mark Taketa 11-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 1-24-11  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MARK I. TAKETA  
 No. C64391  
 Exp. 6-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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**STAGE CONSTRUCTION**  
 NO SCALE  
**SC-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI  
 CALCULATED/DESIGNED BY: HASEEB YOUSAF  
 CHECKED BY: MAZIN AL-ALI  
 REVISIONS: REVISED BY: MAZIN AL-ALI, DATE: 11-10-10  
 DATE REVISED: HASEEB YOUSAF

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	22	51

9/21-AL1 11-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 1-24-11  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MAZIN H. AL-ALI  
 No. 65523  
 Exp. 9/30/11  
 CIVIL  
 STATE OF CALIFORNIA

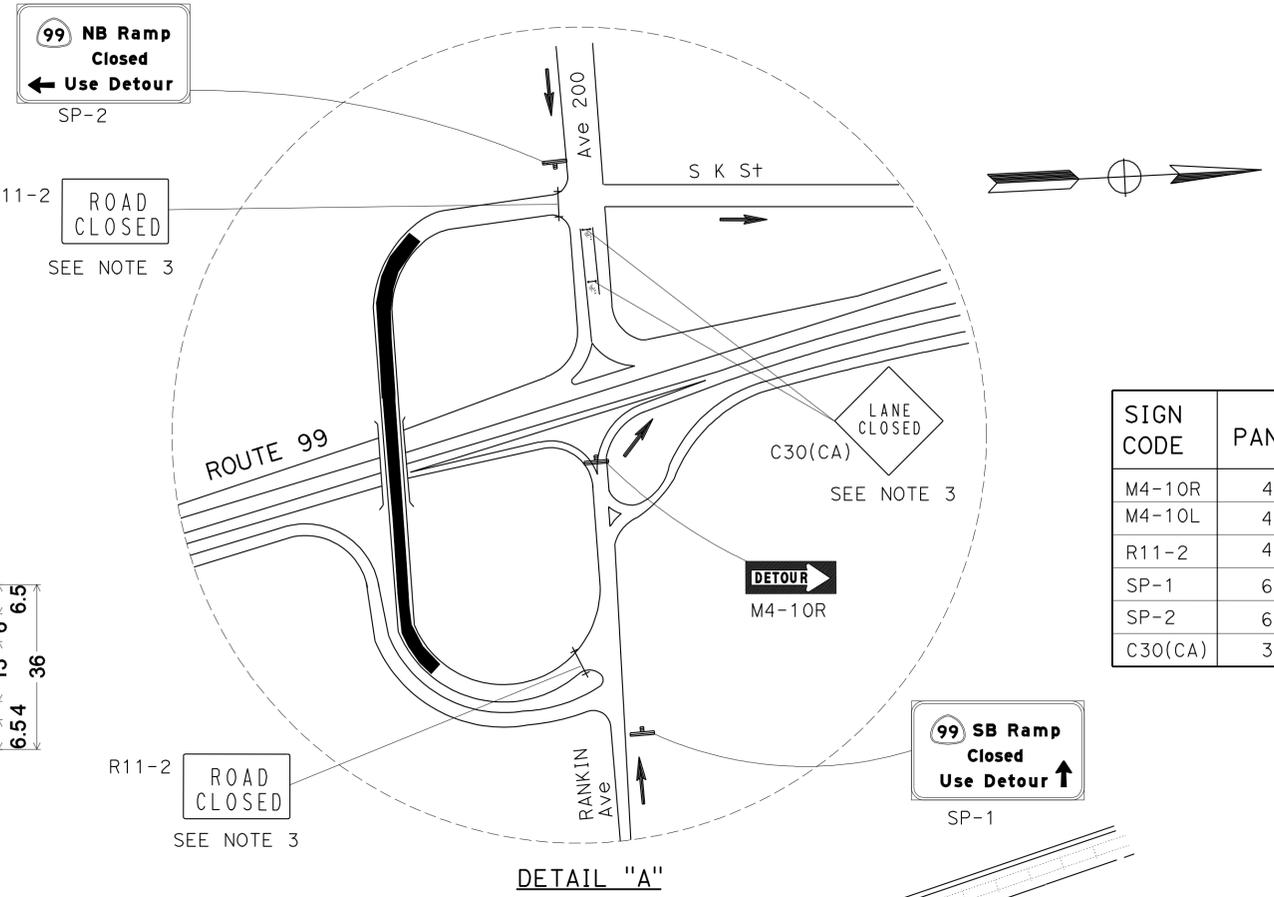
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**LEGEND:**

- DIRECTION OF TRAFFIC
- BARRICADE (TYPE III)
- CONSTRUCTION AREA SIGN
- WORK AREA

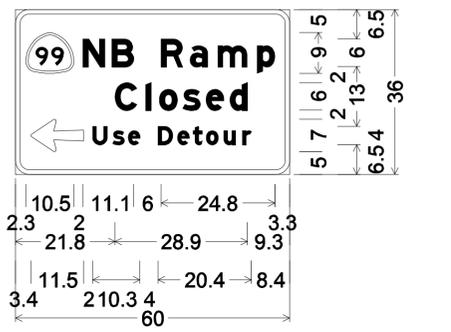
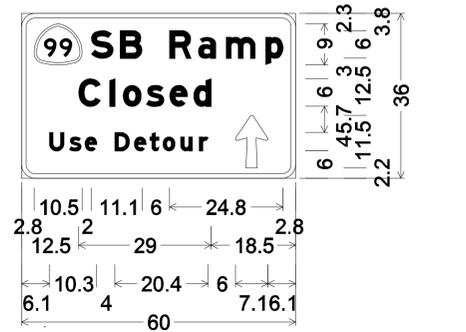
**NOTES:**

1. LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE, EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. SEE SHEET CS-1 FOR ADDITIONAL CONSTRUCTION AREA SIGNS.
3. PLACE BARRICADE (TYPE III) Min 3 PER LANE. MOUNT SIGN R11-2 AND C30(CA) ON CENTER BARRICADE.



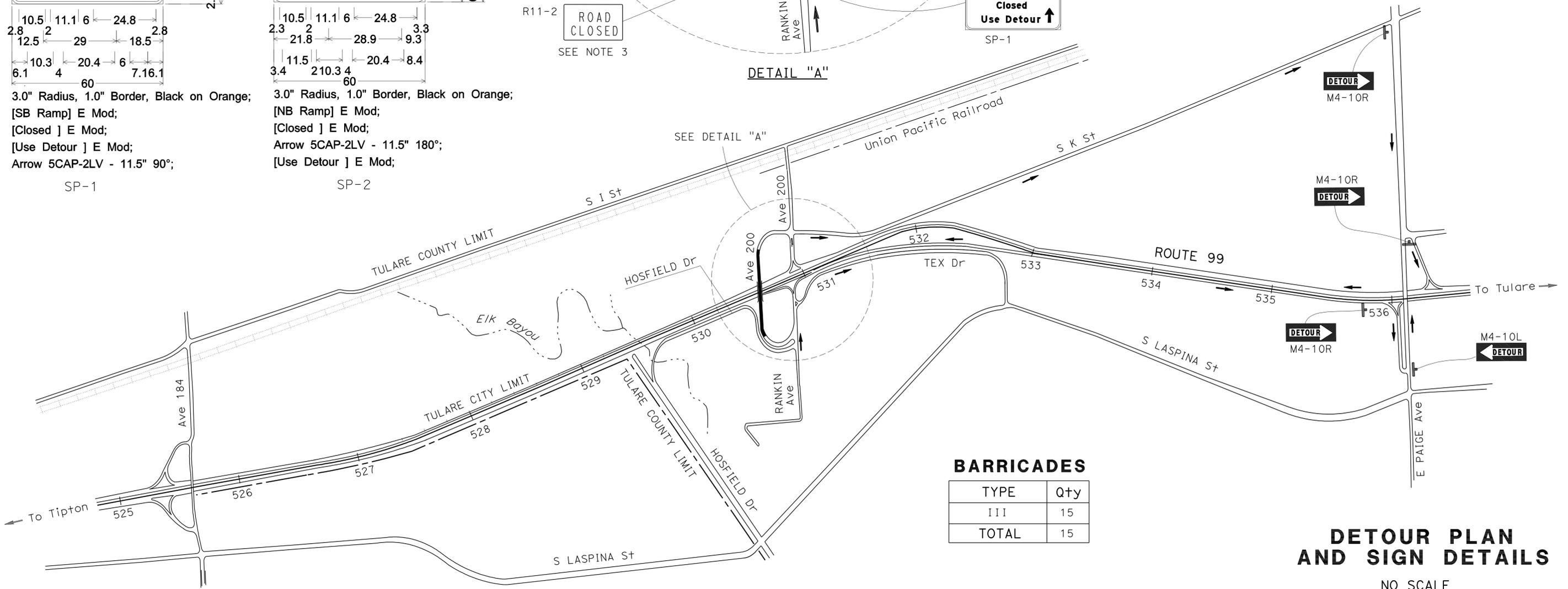
**CONSTRUCTION AREA SIGNS (DETOUR)**

SIGN CODE	PANEL SIZE	SIGN MESSAGE	Qty	MOUNTING METHOD	POST SIZE	No. OF POSTS
M4-10R	48" x 18"	DETOUR (RIGHT)	4	POST	4" x 4"	1
M4-10L	48" x 18"	DETOUR (LEFT)	1	POST	4" x 4"	1
R11-2	48" x 30"	ROAD CLOSED	2	BARRICADE		
SP-1	60" x 36"	SEE DETAILS	1	POST	6" x 6"	1
SP-2	60" x 36"	SEE DETAILS	1	POST	6" x 6"	1
C30(CA)	30" x 30"	LANE CLOSED	2	BARRICADE		



3.0" Radius, 1.0" Border, Black on Orange;  
 [SB Ramp] E Mod;  
 [Closed] E Mod;  
 [Use Detour] E Mod;  
 Arrow 5CAP-2LV - 11.5" 90°;  
 SP-1

3.0" Radius, 1.0" Border, Black on Orange;  
 [NB Ramp] E Mod;  
 [Closed] E Mod;  
 Arrow 5CAP-2LV - 11.5" 180°;  
 [Use Detour] E Mod;  
 SP-2



**BARRICADES**

TYPE	Qty
III	15
TOTAL	15

**DETOUR PLAN AND SIGN DETAILS**

NO SCALE

**DE-1**

THIS PLAN ACCURATE FOR DETOUR WORK ONLY

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

**ROADSIDE SIGN QUANTITIES**

SHEET No.	SIGN No.	SIGN CODE	PANEL SIZE	No. OF POST AND SIZE	SINGLE FACED	BACKGROUND		LEGEND		GRAFFITI FLOW	PREMIUM	FURNISH SINGLE SHEET ALUMINUM SIGN (0.063" UNFRAMED)			
						SHEETING COLOR	RETROREFLECTIVITY ASTM TYPE	SHEETING COLOR	RETROREFLECTIVITY ASTM TYPE			SQFT	ROADSIDE SIGN ONE POST	REMOVE ROADSIDE SIGN	
PD-1	1	W1-2	30" x 30"	1-4" x 6"	x	YELLOW		BLACK	III	x		6.3	1		
		R2-1(30)	24" x 30"			WHITE		BLACK	III	x	5.0				
	2	W1-2	30" x 30"	1-4" x 6"	x	YELLOW		BLACK	III	x		6.3	1		
		R2-1(30)	24" x 30"			WHITE		BLACK	III	x	5.0				
	3	W1-2												1	
		R2-1(35)													
	4	W1-2													1
		R2-1(35)													
TOTAL											22.6	2	2		

- LEGEND:**
- XX TRAFFIC STRIPE DETAIL No.
  - ← DIRECTION OF TRAFFIC
  - ▶ OBJECT MARKER TYPE "P"
  - REMOVE ROADSIDE SIGN
  - ⊥ ROADSIDE SIGN

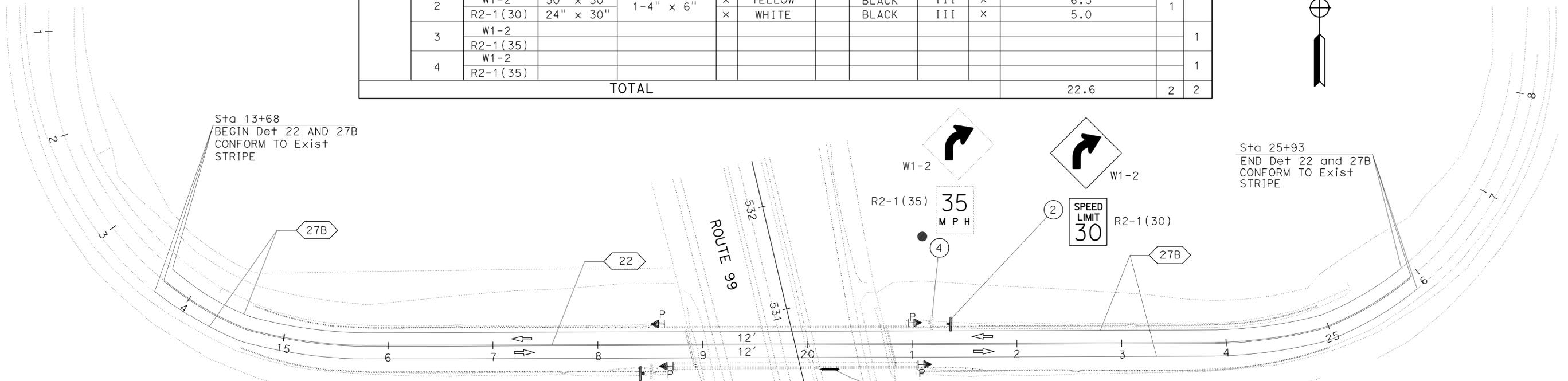
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	23	51

MAZIN AL-ALI 11-10-10  
 REGISTERED CIVIL ENGINEER DATE

1-24-11  
 PLANS APPROVAL DATE

MAZIN H. AL-ALI  
 No. 65523  
 Exp. 9/30/11  
 CIVIL

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**OVERHEAD SIGN STRUCTURE QUANTITIES**

SHEET No.	SIGN No.	REMOVE SIGN STRUCTURE
		EA
PD-1	A	1
TOTAL		1

**OBJECT MARKER**

SHEET No.	TYPE P
	EACH
PD-1	4
TOTAL	4

**PAVEMENT DELINEATION**

LOCATION Sta TO Sta	DETAIL No.	PAVEMENT MARKER RETRO-REFLECTIVE	PAINT TRAFFIC STRIPE (2-COAT)	
			EA	LF
13+68 TO 25+93	22	102	1,225	
(13+68 TO 25+93)x2	27B			2,450
TOTAL		102	3,675	

**PAVEMENT DELINEATION AND SIGN QUANTITIES**

SCALE: 1" = 50'

**PD-1**

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGNS WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	24	51

*Mark Taketa* 11-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 1-24-11  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MARK I. TAKETA  
 No. C64391  
 Exp. 6-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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### EROSION CONTROL

STATION TO STATION**	EROSION CONTROL (TYPE I)			FIBER ROLL
	COMPOST BLANKET	AREA (N)	PURE LIVE SEED (N)	
	CY	ACRE	LBS	
13+68.10 TO 18+62.15	62.49	0.46	11.73	1554
20+93.60 TO 25+90.60	62.49	0.46	11.73	1554
<b>TOTAL</b>	124.98			3108

\*\* EXACT LOCATION TO BE DETERMINED BY THE ENGINEER

### PLACE HOT MIX ASPHALT DIKE

STATION TO STATION	TYPE A	TYPE C	TYPE F	HMA		
				TYPE A	TYPE C	TYPE F
				LF	LF	LF
13+68.1 TO 14+68.2 Lt	100.1			2.7		
14+68.2 TO 15+19.9 Lt		47.9			0.37	
15+19.9 TO 18+62.2 Lt			332.7			4.4
16+84.8 TO 18+43.6 Rt			158.8			2.1
20+93.5 TO 24+82.5 Lt			376.2			5.0
21+31.2 TO 22+62.0 Rt			130.8			1.8
24+82.5 TO 25+38.8 Lt		52.0			0.40	
25+38.8 TO 25+92.6 Lt	53.8			1.5		
<b>SUBTOTAL</b>				4.2	0.77	13.3
<b>TOTAL</b>	153.9	99.9	998.5		18.27*	

\*QUANTITY INCLUDED IN ROADWAY QUANTITIES TABLE

### REMOVE AC OVERSIDE DRAIN

LOCATION	QUANTITY (EA)
14+24.4 Lt	1
25+31.8 Lt	1
<b>TOTAL</b>	2

### ROADWAY QUANTITIES (Ave 200)

STATION TO STATION	ROADWAY EXCAVATION	EMBANKMENT (N)	HMA (TYPE A)	CLASS 2 AB	TACK COAT (N)	COMMENTS
	CY	CY	TON	CY	TON	
13+68.1 TO 18+87.96	1934.7	1112	869.3	1321.2	1.75	EMBANKMENT WORK L+ SIDE ONLY
13+68.1 TO 18+87.96 Lt	69.7					ROADWAY EXCAVATION AT GUTTER
20+81.56 TO 25+92.6	1911.5	1275	852.2	1297.9	1.72	EMBANKMENT WORK L+ SIDE ONLY
20+81.56 TO 25+92.6 Lt	71.4					ROADWAY EXCAVATION AT GUTTER
FROM HMA DIKE TABLE			18.3			
FROM HMA (Misc AREA)			8.1			
<b>TOTAL</b>	3987.3	2387	1747.9	2619.1		

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

## SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR STEVE SAKATA  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 KEN CLAASSEN  
 MARK TAKETA  
 REVISED BY  
 DATE REVISED  
 PKD  
 06/10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	25	51

*Mark Taketa* 11-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 1-24-11  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MARK I. TAKETA  
 No. C64391  
 Exp. 6-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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**METAL BEAM GUARD RAILING**

STATION TO STATION	WORK AREA DESCRIPTION	MBGR (WOOD POST)	ALTERNATIVE FLARED TERMINAL SYSTEM	SALVAGE MBGR	SALVAGE TERMINAL SECTION	GUARD RAILING LAYOUT (N)	TRANSITION RAILING (WB)
		LF	EA	LF	EA	TYPE	EA
13+68.1 TO 14+02.9	Ave 200, 24.0' Rt		1			12B	
14+02.9 TO 18+46.5	Ave 200, 19.6' Rt	455.2				12B	
14+94.9 TO 15+35.6	Ave 200, 24.0' Lt		1			12B	
15+35.6 TO 18+37.3	Ave 200, 20.0' Lt	300.0				12B	
17+93.5 TO 18+37.3	Ave 200 Lt				1		
18+09.0 TO 18+46.5	Ave 200 Rt				1		
18+37.3 TO 18+62.3	Ave 200 Lt			25			
18+46.5 TO 18+71.5	Ave 200 Rt			25			
18+37.3 TO 18+62.3	Ave 200 Lt					12B	1
18+46.5 TO 18+71.5	Ave 200 Rt					12B	1
20+93.6 TO 21+18.6	Ave 200 Lt					12B	1
20+93.6 TO 21+18.6	Ave 200 Lt			25			
21+18.6 TO 24+71.3	Ave 200, 16.0' Lt	347.6				12B	
21+03.2 TO 21+28.2	Ave 200 Rt					12B	1
21+03.2 TO 21+28.2	Ave 200 Rt			25			
21+28.2 TO 25+25.0	Ave 200, 21.9' Rt	406.3					
21+18.6 TO 21+62.3	AVE 200 Lt				1	12B	
21+28.2 TO 21+65.7	Ave 200 Rt				1	12B	
24+71.3 TO 25+11.8	Ave 200, 20.0' Lt		1			12B	
25+25.0 TO 25+60.0	Ave 200, 21.3' Rt		1			12B	
<b>TOTAL</b>		1509.1	4	100	4		4

**PLACE HMA (TYPE A)  
(Misc AREA)**

STATION TO STATION	AREA (SQYD)	COMMENTS	**HMA (TON)
14+24.4 Lt	6.1	CONSTRUCT OVERSIDE DRAIN	1.0
15+35.2 Lt	16.7	CONSTRUCT OVERSIDE DRAIN	4.1
24+71.1 Lt	12.0	CONSTRUCT OVERSIDE DRAIN	3.0
<b>TOTAL</b>	34.8		8.1

\*\*QUANTITY INCLUDED IN ROADWAY QUANTITY TABLE.

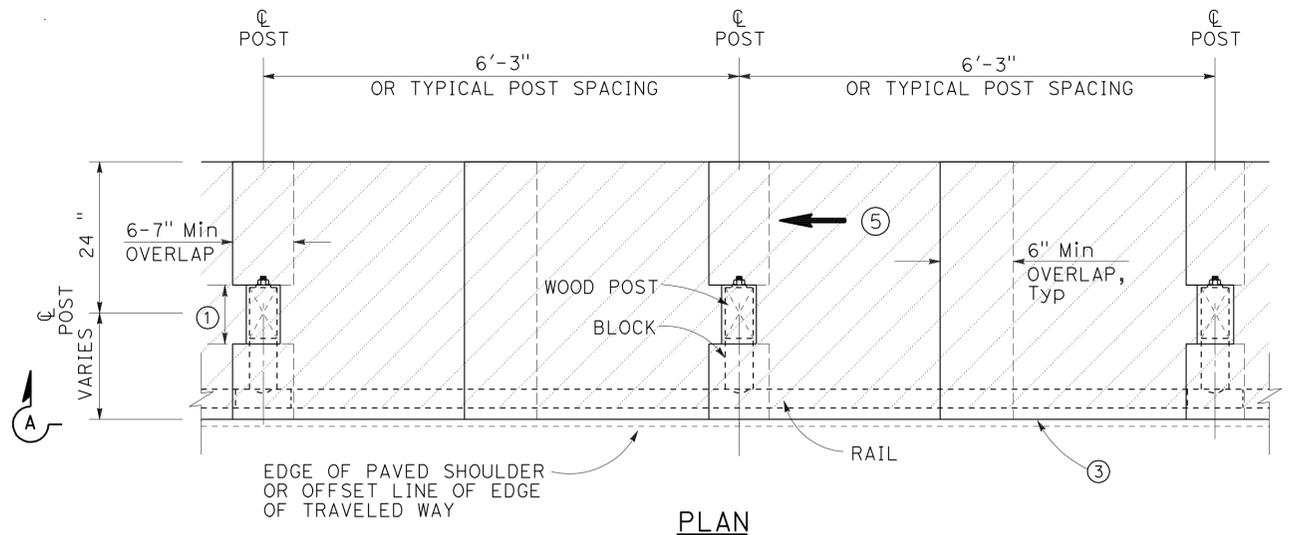
**MINOR CONCRETE  
(CURB RAMP)**

STATION TO STATION	QUANTITY
	CY
18+43.6 TO 18+71.6 Rt	1.63
21+03.2 TO 21+ 31.2 Rt	1.63
<b>TOTAL</b>	3.26

**SUMMARY OF QUANTITIES  
Q-2**

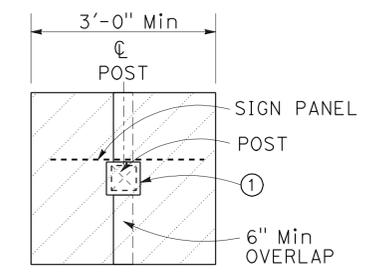
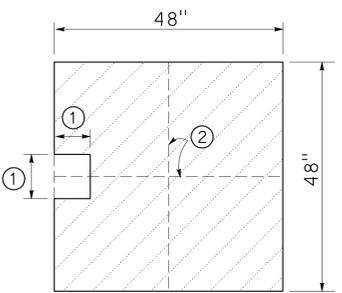
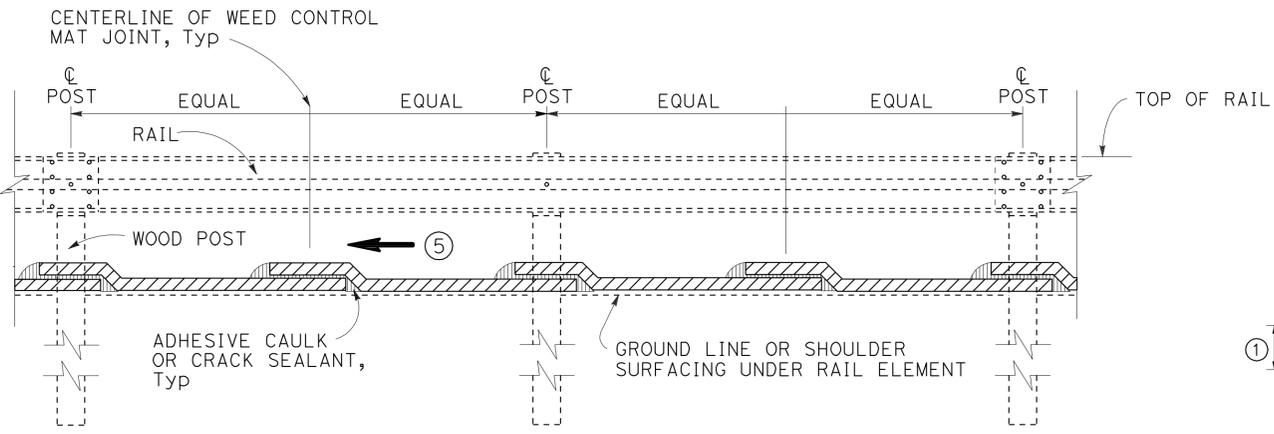
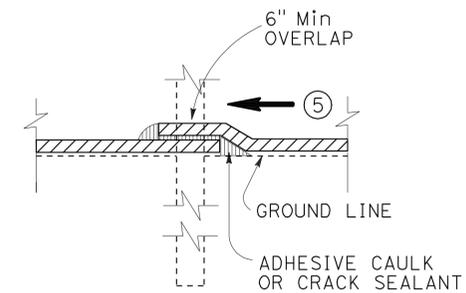
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR STEVE SAKATA  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 KEN CLAASSEN  
 MARK TAKETA  
 REVISED BY  
 DATE REVISED  
 PKD  
 07/10

LAST REVISION DATE PLOTTED => 25-JAN-2011  
 11-10-10 TIME PLOTTED => 13:17



**WEED CONTROL MAT (RUBBER)**

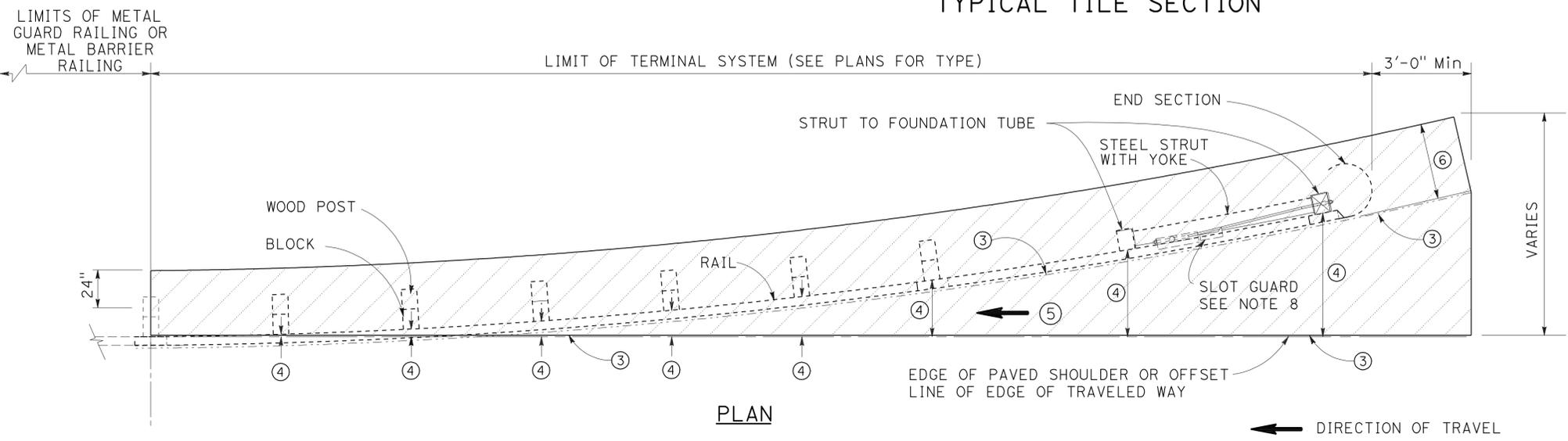
LOCATION	STATION	Rt/Lt	QUANTITY SQYD
Ave 200 OC	13+68.1 TO 18+71.6	X	191.5
	14+95.1 TO 18+62.2	X	131.5
	20+93.5 TO 25+11.8	X	146.5
	21+03.2 TO 25+46.6	X	165.5
	ROADSIDE SIGNS		2.0
	TOTAL		637.0



**WEED CONTROL MAT (RUBBER) UNDER MBGR**

**WEED CONTROL MAT (RUBBER) TYPICAL TILE SECTION**

**WEED CONTROL MAT (RUBBER) UNDER ROADSIDE SIGN**



**LEGEND:**

WEED CONTROL MAT (RUBBER)

**NOTES:**

- CUTOUT DIMENSIONS TO FIT SNUGLY AROUND WOOD OR METAL POST FOR MBGR. (SEE PLANS FOR EXACT SIZE AND DIMENSIONS)
- WEED CONTROL MAT (RUBBER) TILE MAY BE COMPRISED OF FOUR - 24" x 24" TILE MATS.
- TRIM WEED CONTROL MAT (RUBBER) FLUSH WITH EDGE OF SHOULDER, PAVEMENT OR WEED MAT. FILL JOINTS AND OPENINGS WITH ADHESIVE CAULKING OR CRACK SEALANT.
- SEE STANDARD PLANS FOR CORRESPONDING POST OFFSET DIMENSIONS FOR TERMINAL SYSTEM.
- LAP WEED CONTROL MAT IN DIRECTION OF WATER FLOW.
- DIMENSION: 3'-0" OR GREATER. ALIGN WITH RAIL AT END SECTION.

**WEED CONTROL MAT (RUBBER) AT MBGR TERMINAL SYSTEM**

**LANDSCAPE DETAILS**

NO SCALE

**LD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 HENRY BARNES  
 RICHARD COLE  
 ELBERT COX  
 LANDSCAPE ARCHITECTURE

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

FUNCTIONAL SUPERVISOR  
 ALI BAKHDOUD

CALCULATED/DESIGNED BY  
 CHECKED BY

NORMA M. GALLEGOS  
 DANIEL T. VO

REVISED BY  
 DATE REVISED

**LEGEND:**

1 Exist 120/240 V, 1Ø, 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 06460990025500L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	---
100	240	2	MAIN BREAKER	NO	---
40	120	1	SPARE	YES	---
40	240	2	HIGHWAY LIGHTING	YES	IV
40	240	2	SPARE 3	YES	---
15	120	1	SPARE 3	YES	2

2 RC Exist TYPE V PHOTOELECTRIC CONTROL.  
 3 RC Exist NAMEPLATE, ADD NEW NAMEPLATE.

**NOTES:**

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL PULL BOXES SHALL BE No. 5(E) UNLESS OTHERWISE STATED.

**ABBREVIATIONS:**

SCE - SOUTHERN CALIFORNIA EDISON  
 CTID - CALTRANS IDENTIFICATION

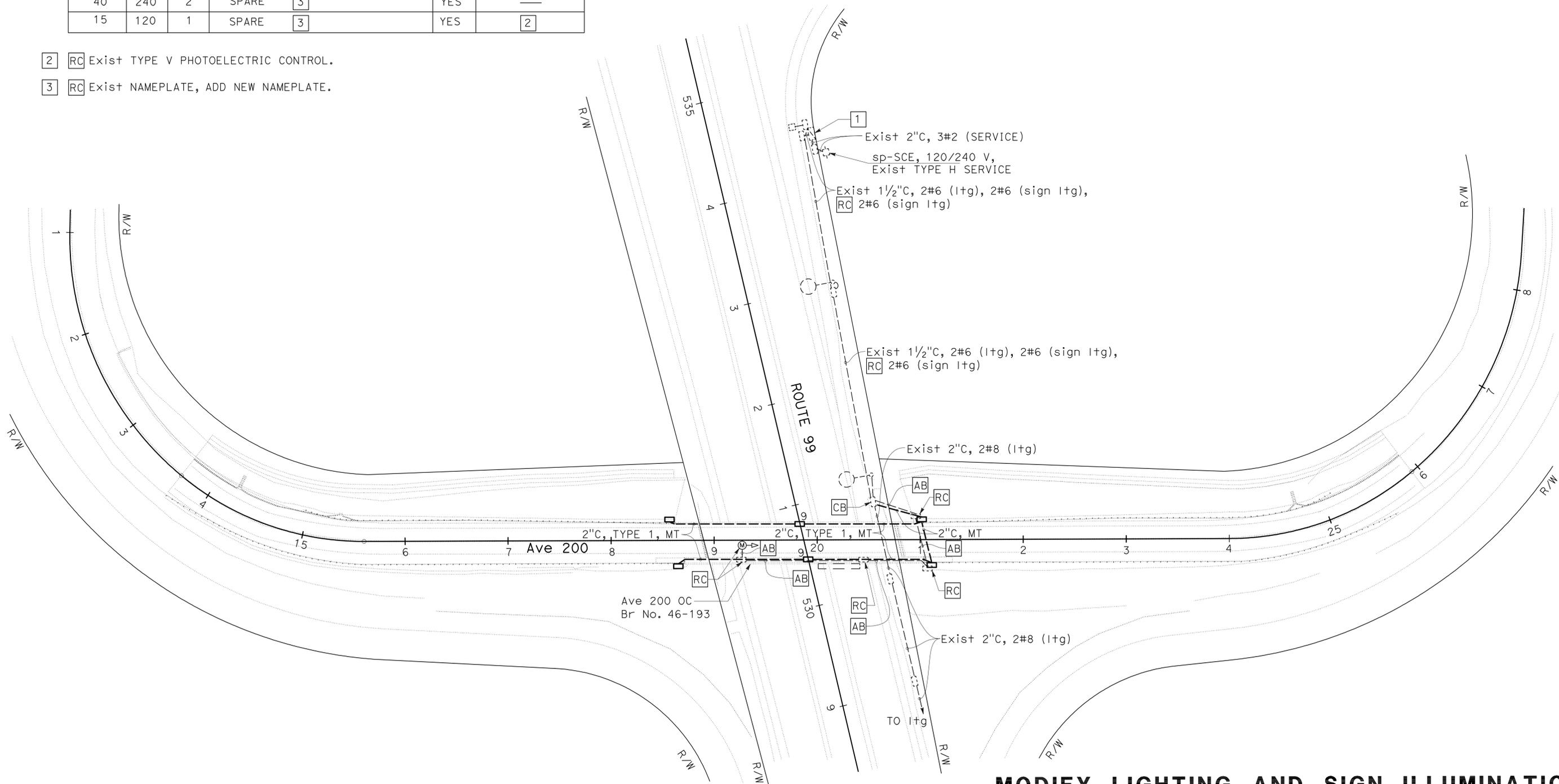
Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	25.4	27	51

Norma M. Gallegos 10-27-10  
 REGISTERED ELECTRICAL ENGINEER DATE

1-24-11  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
 NORMA M. GALLEGOS  
 No. 19105  
 Exp. 6-30-12  
 ELECTRICAL  
 STATE OF CALIFORNIA



**MODIFY LIGHTING AND SIGN ILLUMINATION**

SCALE: 1" = 50'

**E-1**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	28	51

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

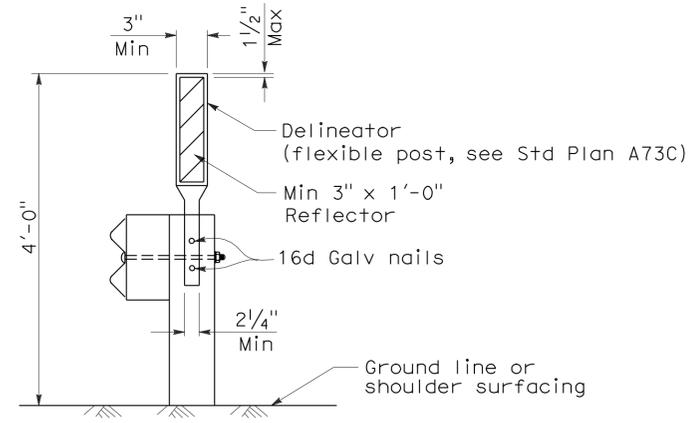
June 6, 2008  
PLANS APPROVAL DATE

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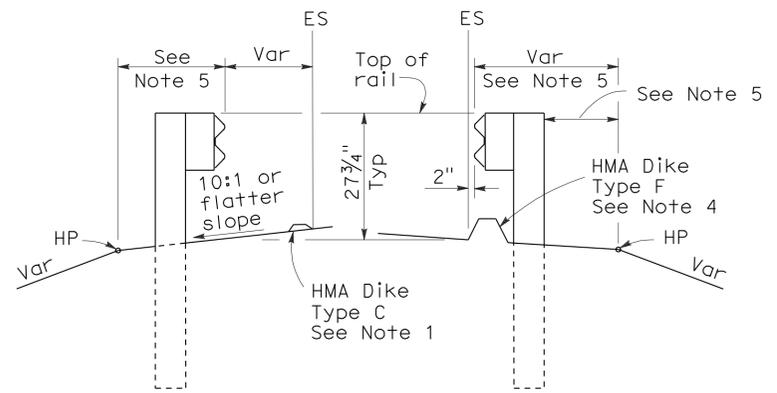
To accompany plans dated 1-24-11

**NOTES:**

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



**GUARD RAILING DELINEATION**  
See Note 3



**DIKE POSITIONING**  
See Note 1

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77C4**

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	29	51

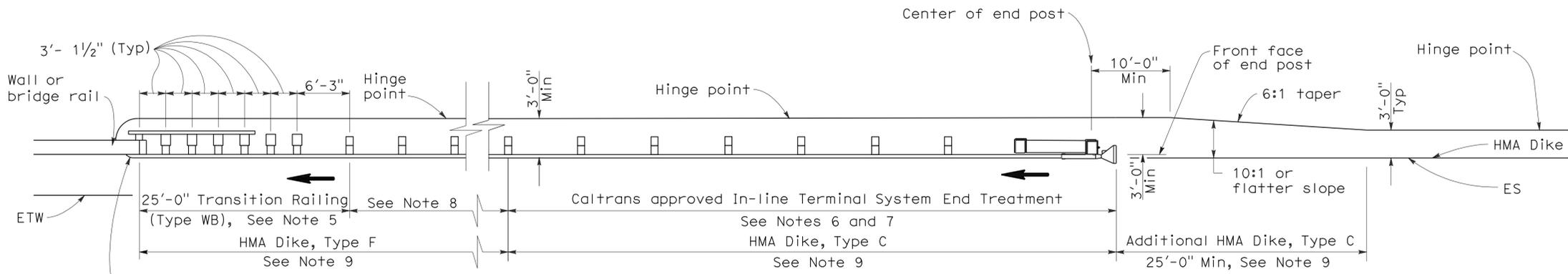
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

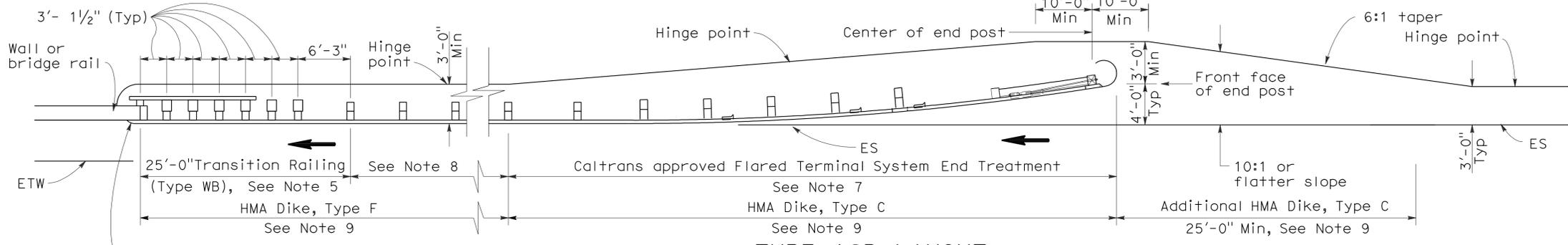
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To accompany plans dated 1-24-11



**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.

2006 REVISED STANDARD PLAN RSP A77F1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	30	51

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

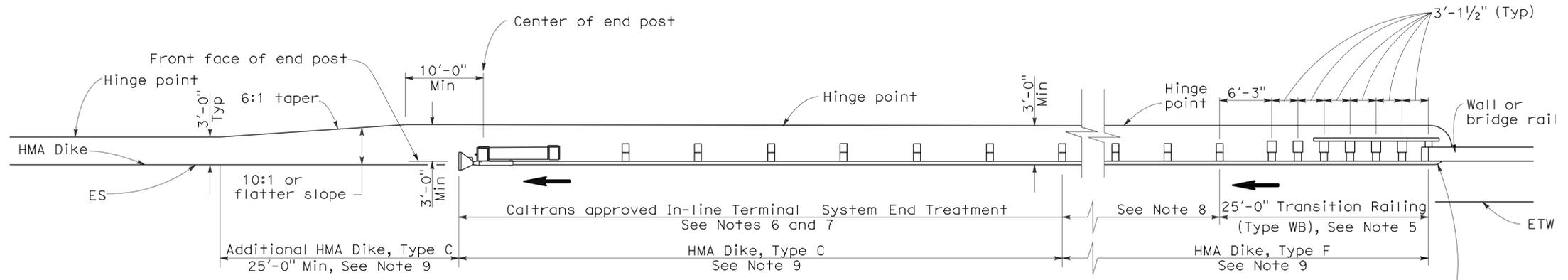
June 6, 2008  
PLANS APPROVAL DATE

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

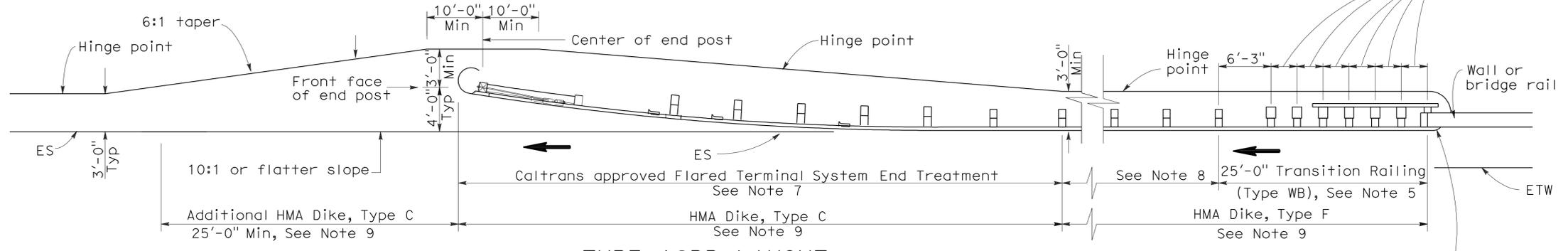
To accompany plans dated 1-24-11

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  $\rightarrow$ .
- 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**

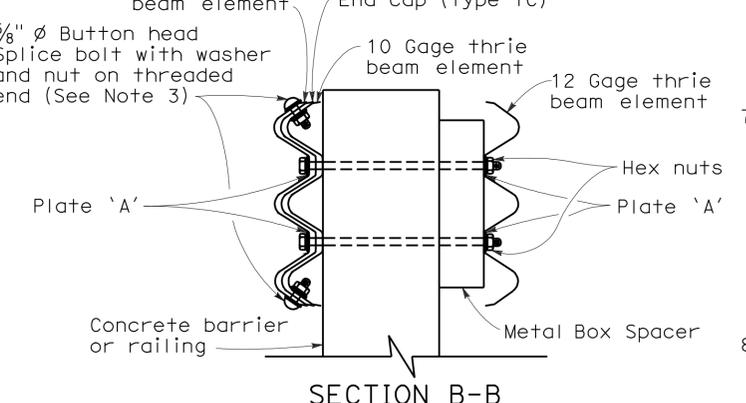
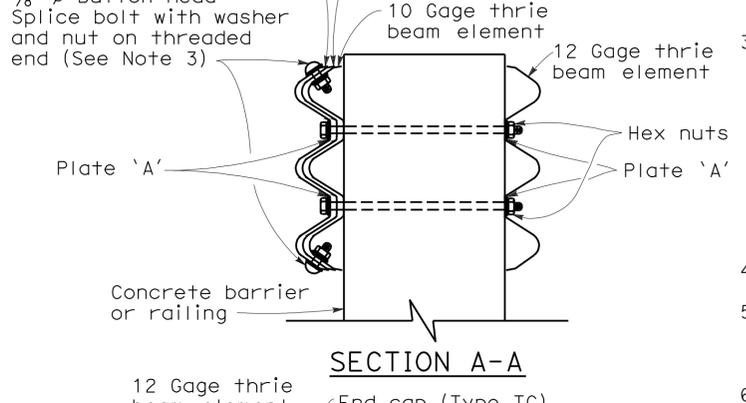
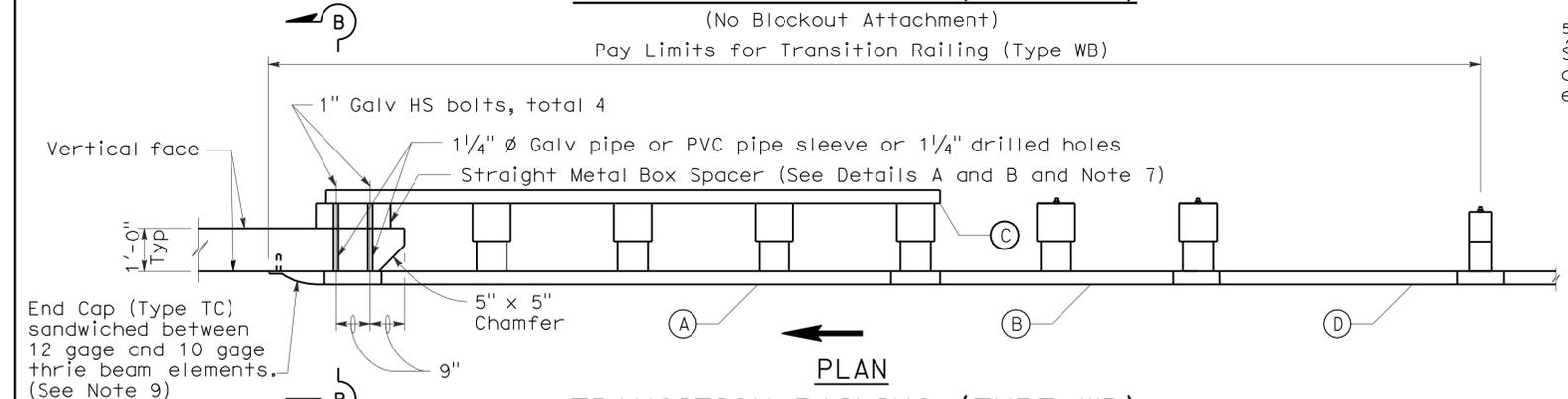
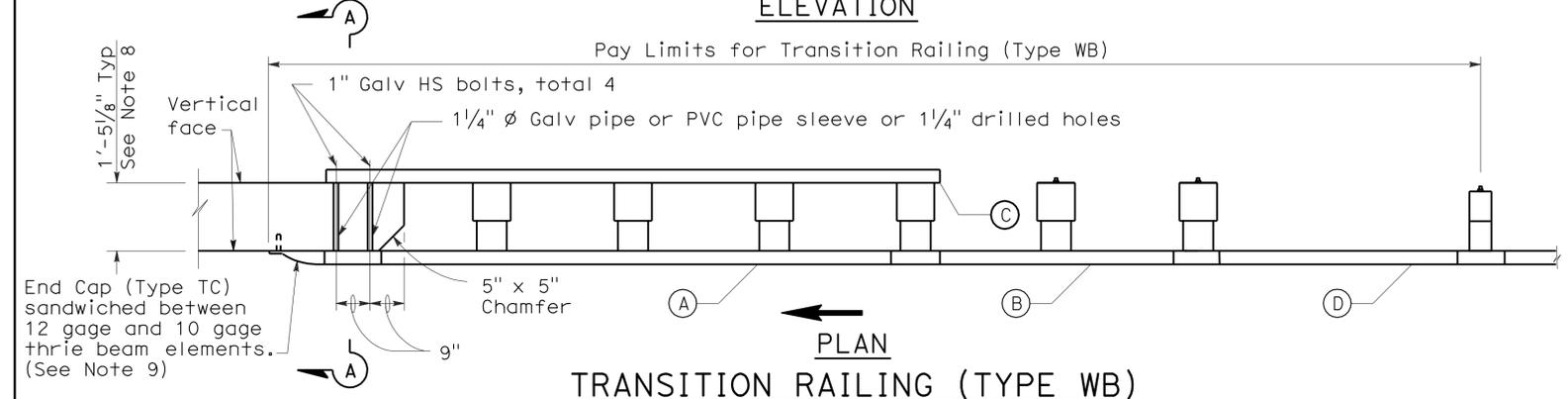
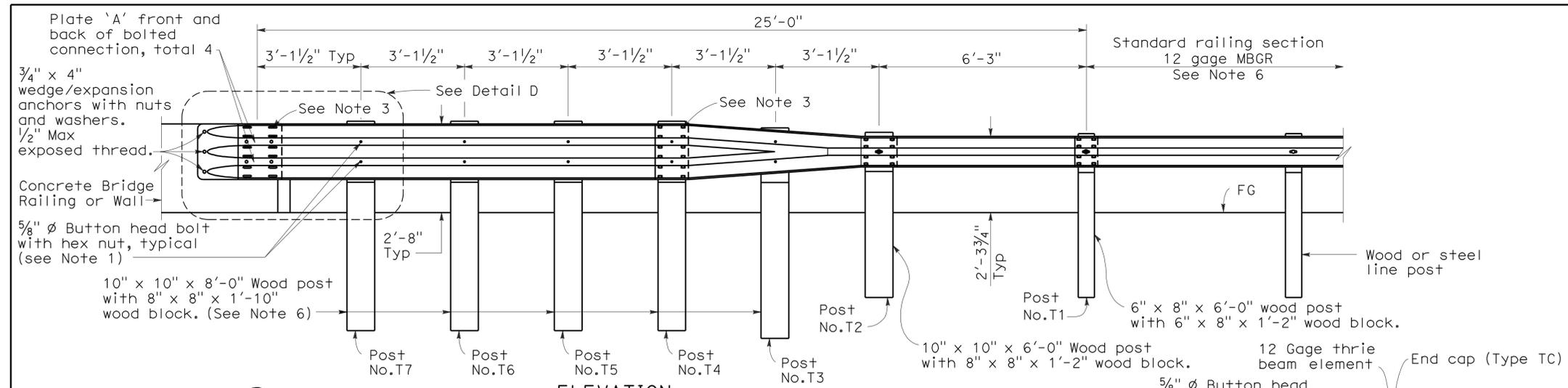
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	31	51

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 5, 2009  
PLANS APPROVAL DATE

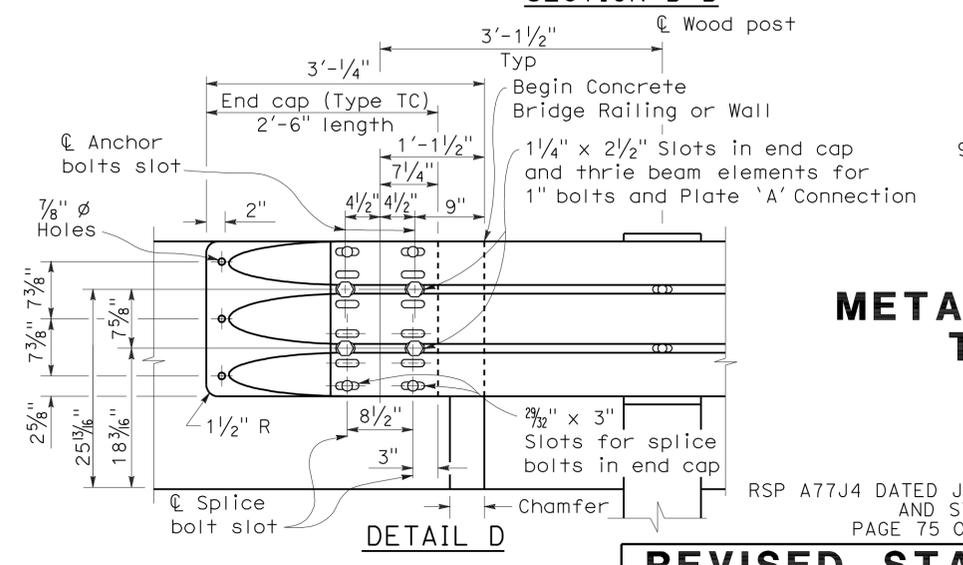
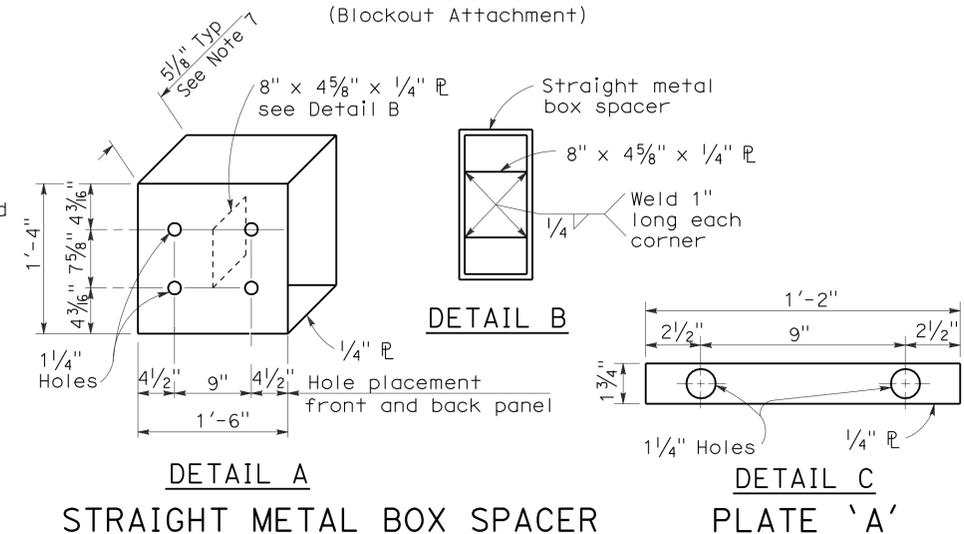
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA



- NOTES:** To accompany plans dated 1-24-11
- Use 5/8 "  $\phi$  Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
  - The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
  - Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 "  $\phi$ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
  - Direction of adjacent traffic indicated by  $\rightarrow$ .
  - The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
  - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
  - The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
  - Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
  - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

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



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

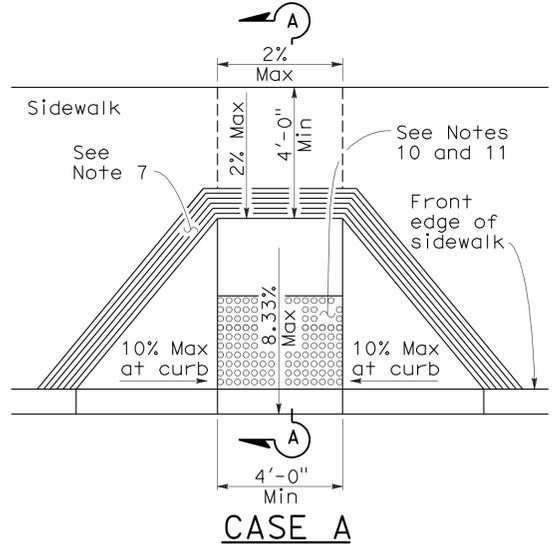
RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008  
AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -  
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J4

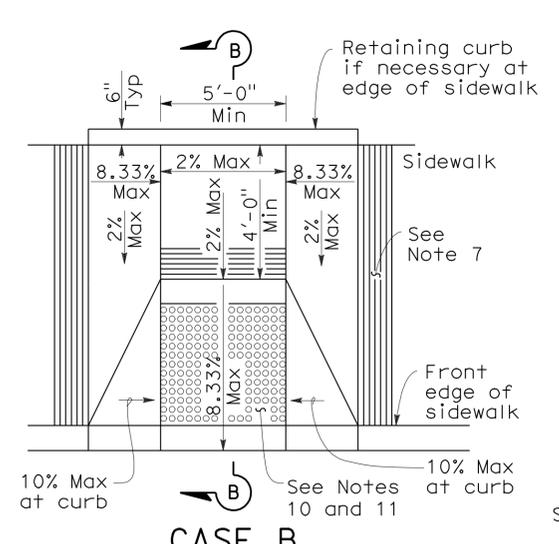
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06	Tul	99	25.4	32	51

H. David Cordova  
 REGISTERED CIVIL ENGINEER  
 September 1, 2006  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

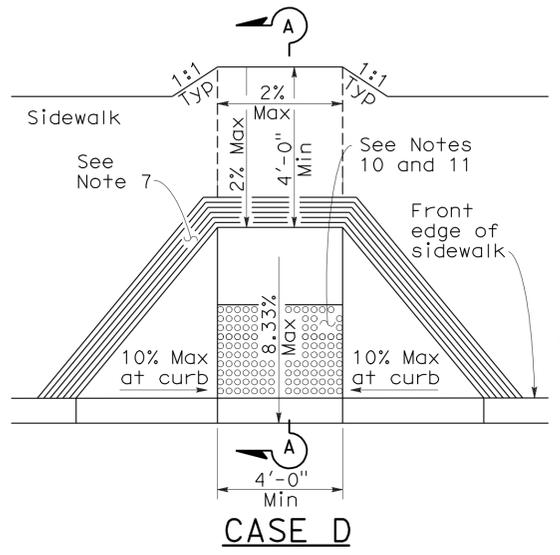
REGISTERED PROFESSIONAL ENGINEER  
 Hector David Cordova  
 No. C41957  
 Exp. 3-31-08  
 CIVIL  
 STATE OF CALIFORNIA



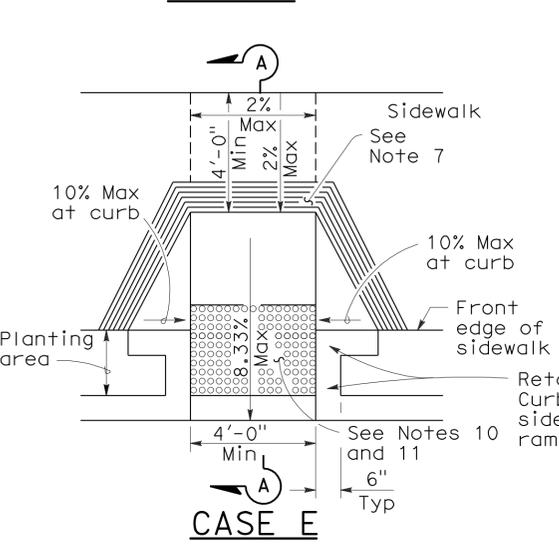
**CASE A**



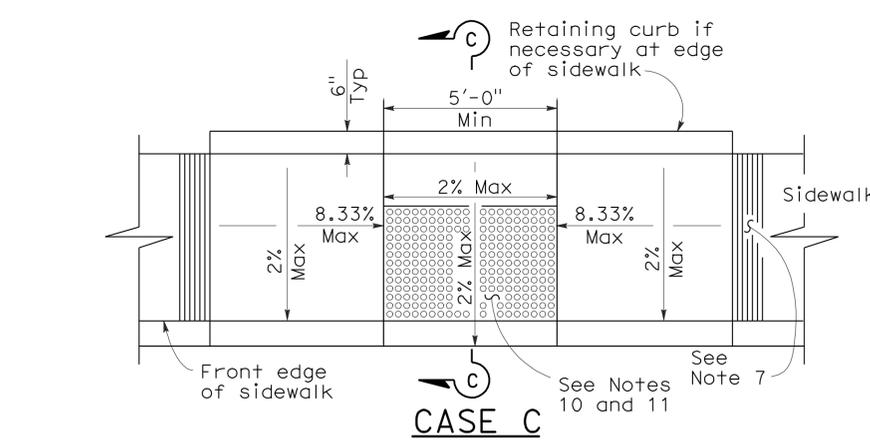
**CASE B**



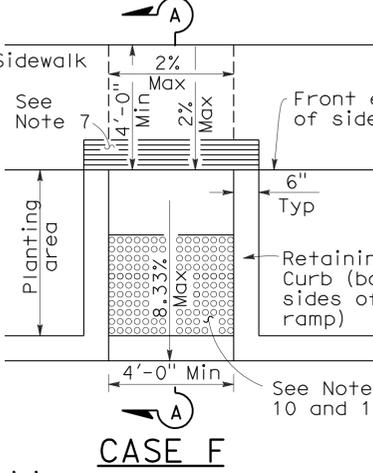
**CASE D**



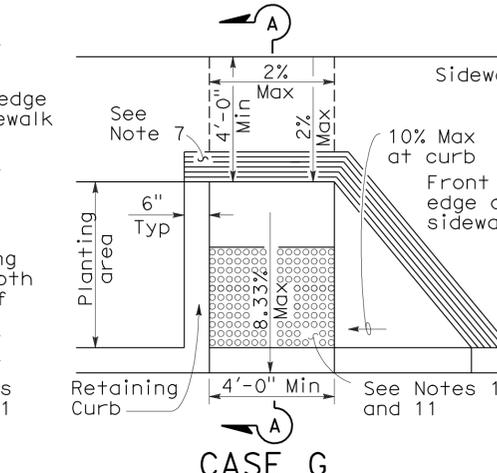
**CASE E**



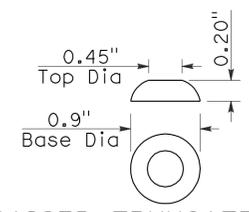
**CASE C**



**CASE F**



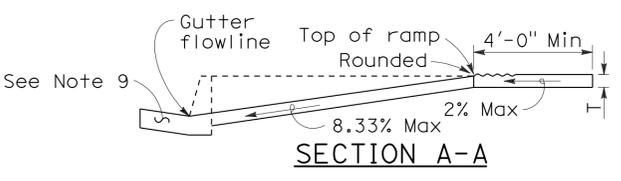
**CASE G**



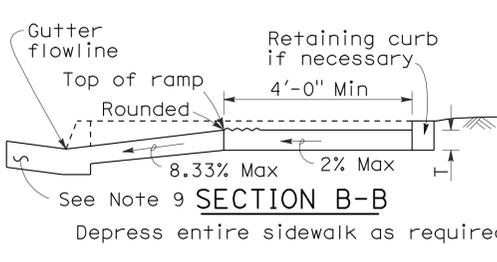
**RAISED TRUNCATED DOME**

**NOTES:**

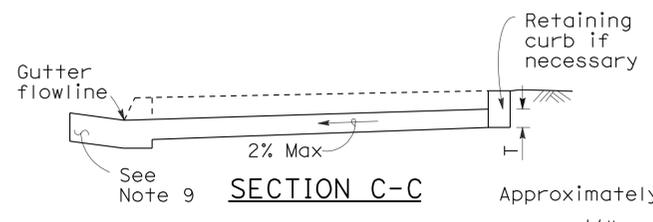
- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions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



**SECTION A-A**



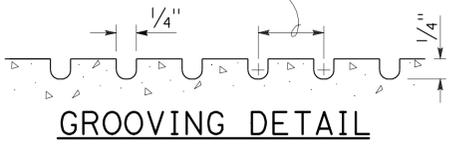
**SECTION B-B**



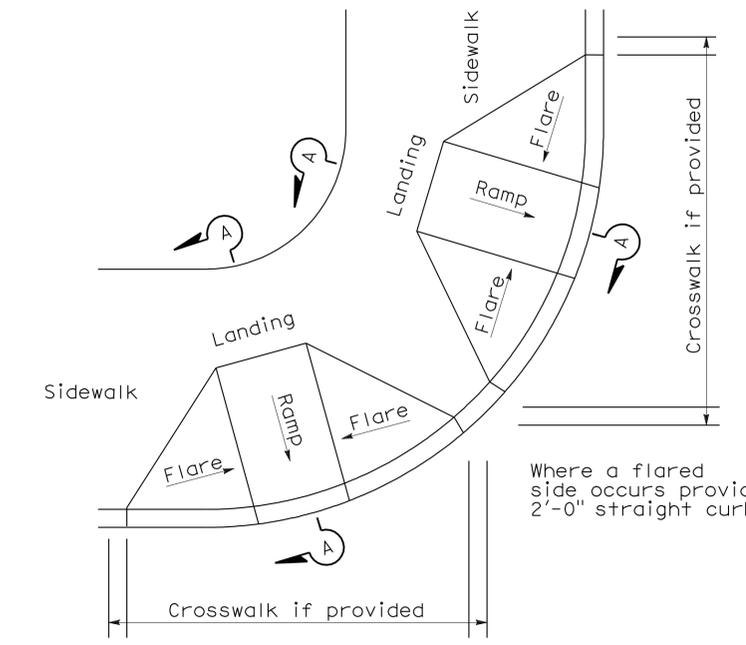
**SECTION C-C**



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



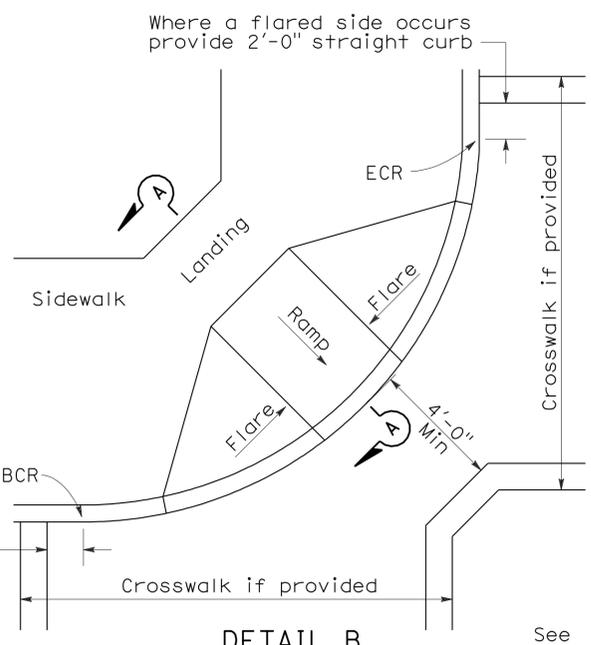
**GROOVING DETAIL**



**DETAIL A**

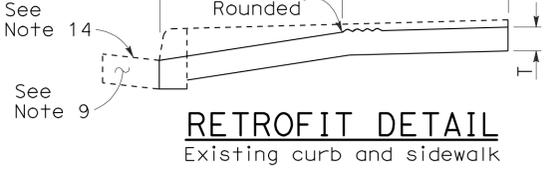
**TYPICAL TWO-RAMP CORNER INSTALLATION**

See Note 1



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

See Notes 1 and 3



**RETROFIT DETAIL**

Existing curb and sidewalk

2006 REVISED STANDARD PLAN RSP A88A

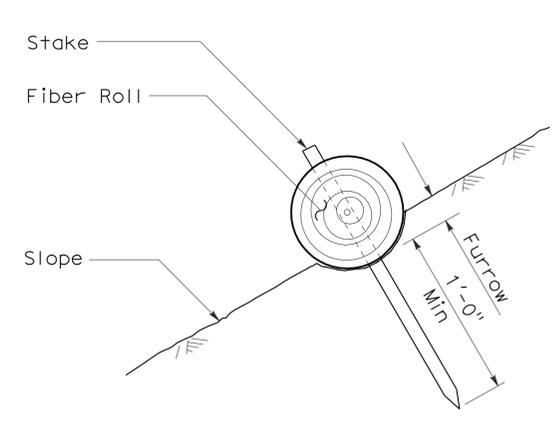
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	33	51

*Gregory A. Balzer*  
 LICENSED LANDSCAPE ARCHITECT  
 April 3, 2009  
 PLANS APPROVAL DATE  
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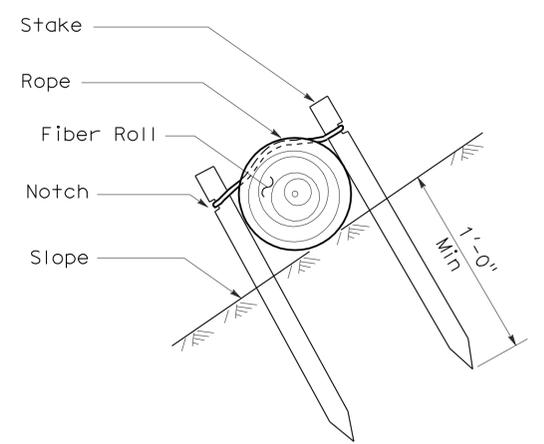
To accompany plans dated 1-24-11

**NOTES:**

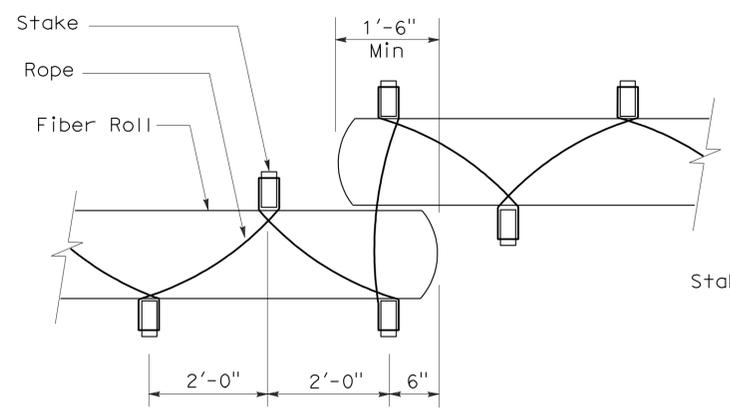
1. Fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



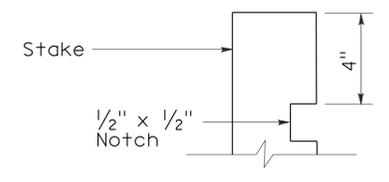
**SECTION**  
**FIBER ROLL**  
**(TYPE 1)**



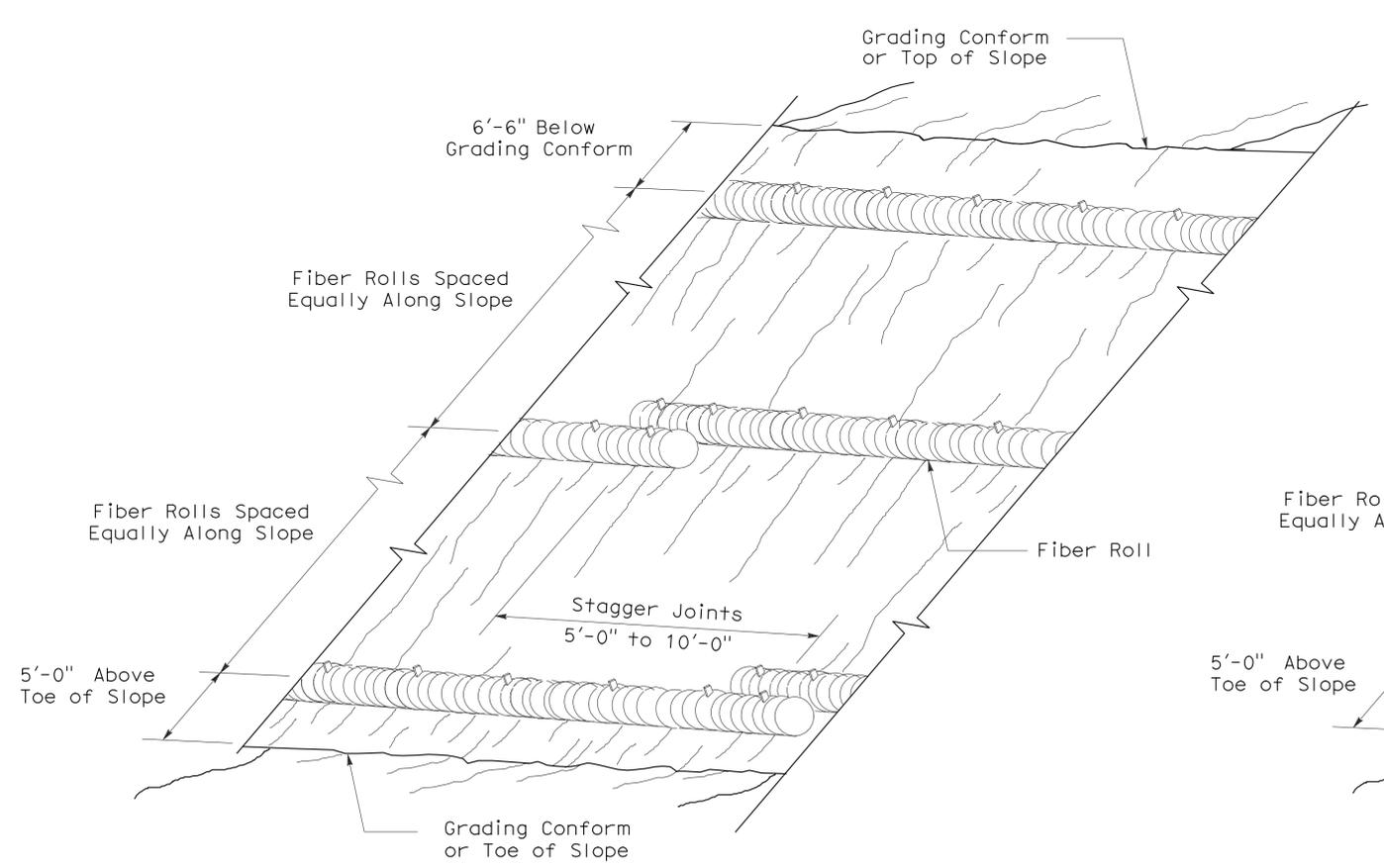
**SECTION**



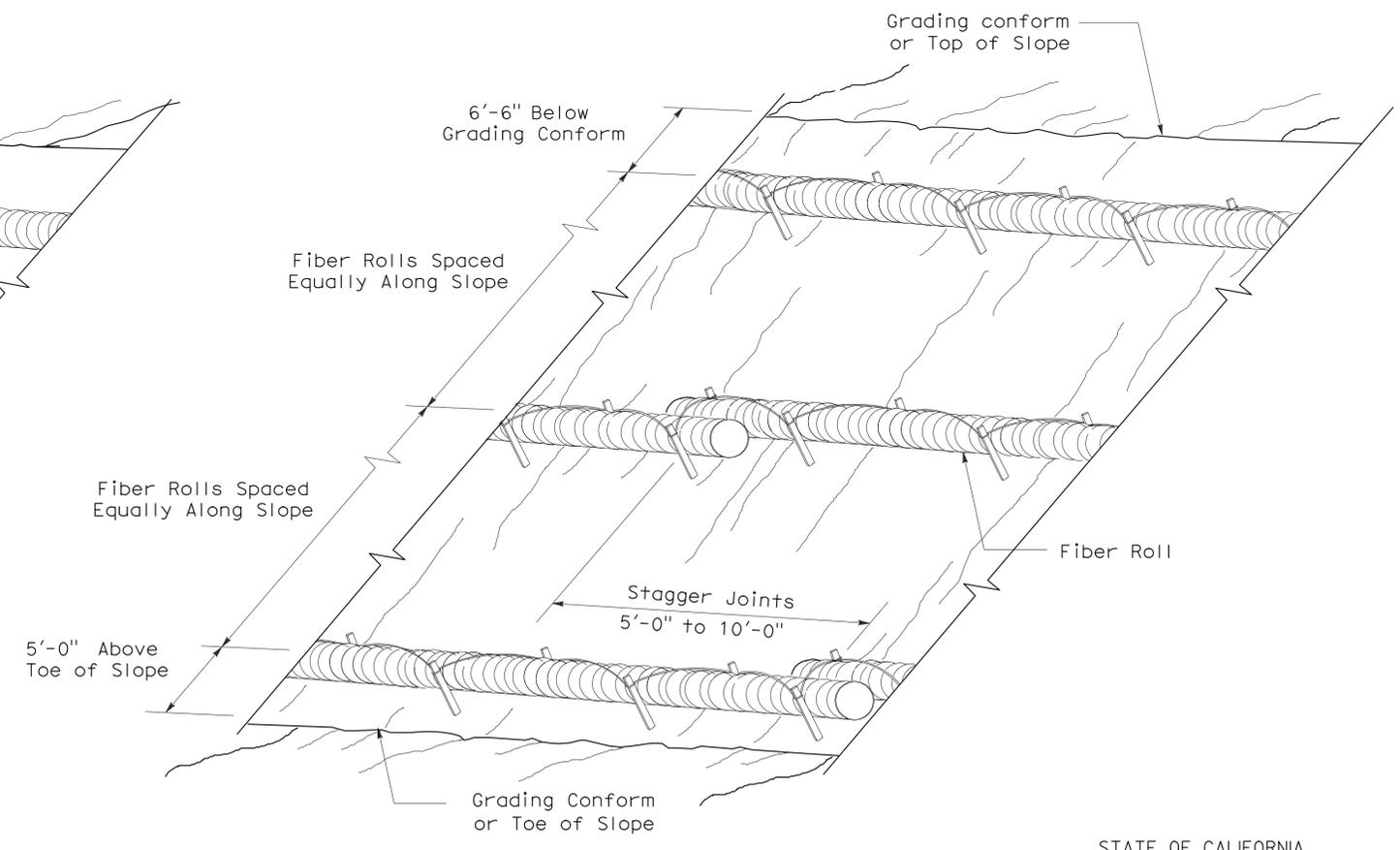
**PLAN**



**ELEVATION**  
**STAKE NOTCH DETAIL**



**PERSPECTIVE**  
**FIBER ROLL (TYPE 1)**



**PERSPECTIVE**  
**FIBER ROLL (TYPE 2)**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**EROSION CONTROL DETAILS**  
**(FIBER ROLL)**

NO SCALE  
RNSP H51 DATED APRIL 3, 2009 SUPERSEDES NSP H51 DATED DECEMBER 1, 2006 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED NEW STANDARD PLAN RNSP H51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	34	51

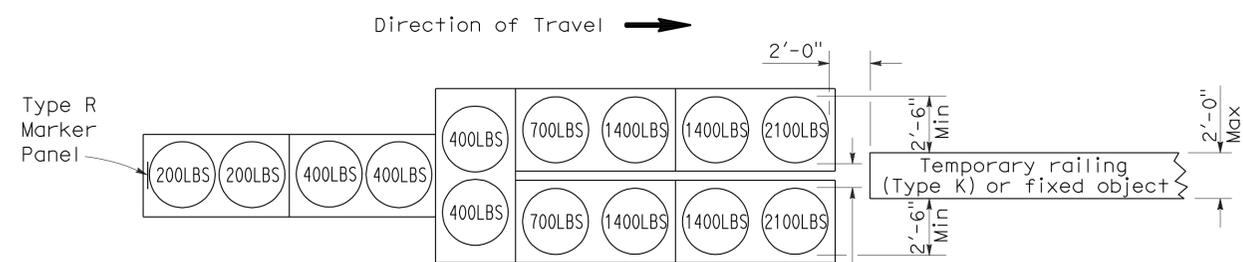
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

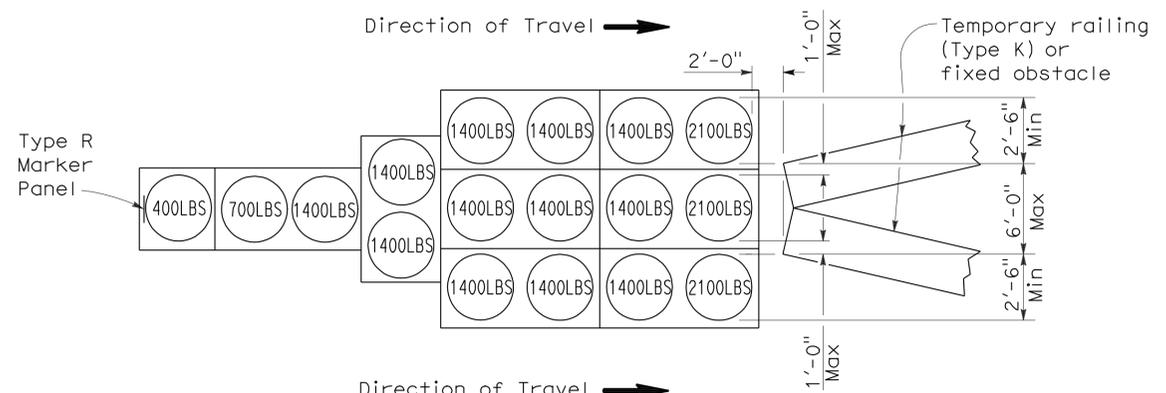
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To accompany plans dated 1-24-11



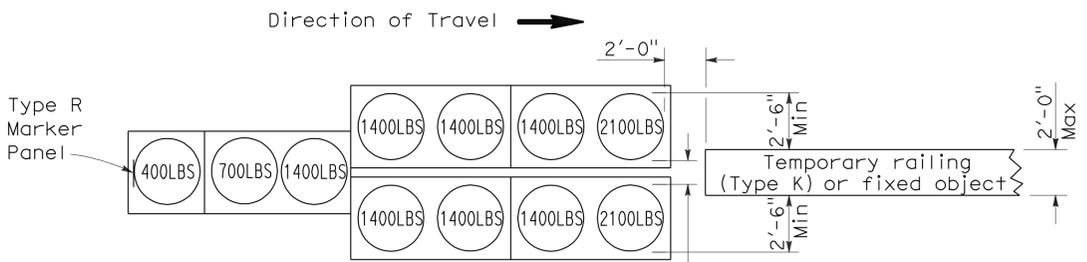
**ARRAY 'TU14'**

Approach speed 45 mph or more



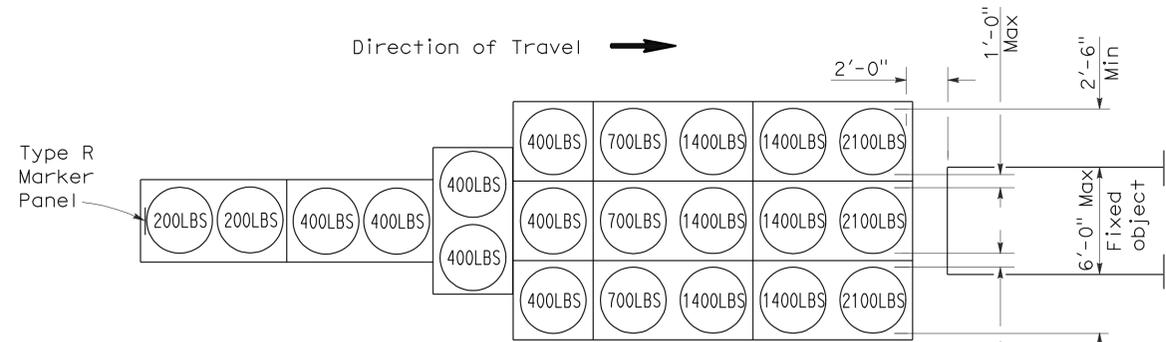
**ARRAY 'TU17'**

Approach speed less than 45 mph



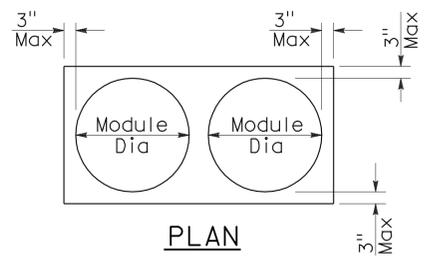
**ARRAY 'TU11'**

Approach speed less than 45 mph

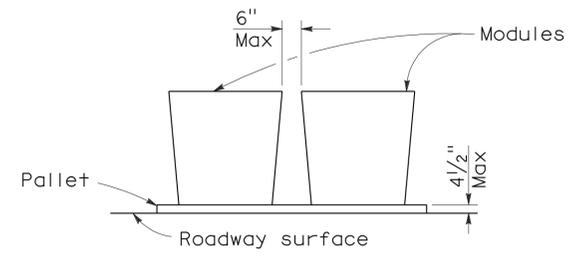


**ARRAY 'TU21'**

Approach speed 45 mph or more



**PLAN**



**ELEVATION**

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T1A**

2006 REVISED STANDARD PLAN RSP T1A

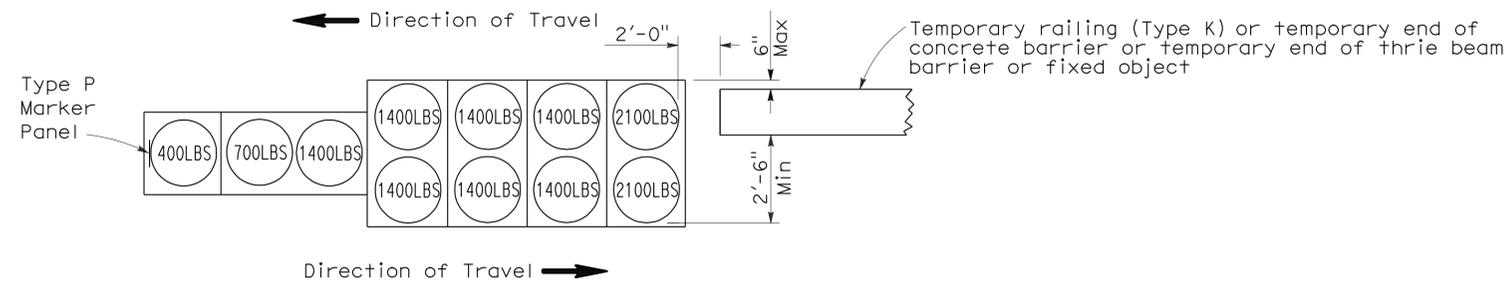
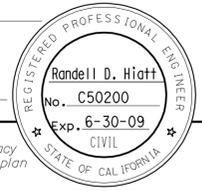
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	35	51

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

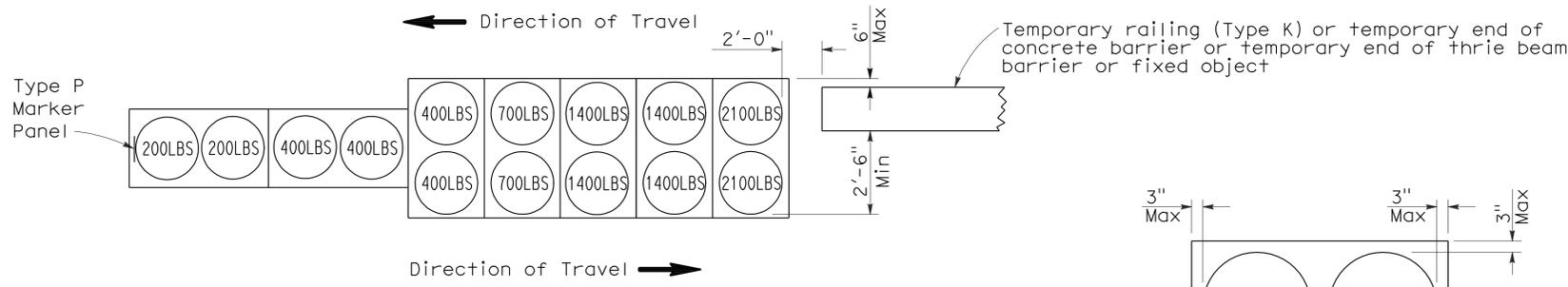
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

To accompany plans dated 1-24-11



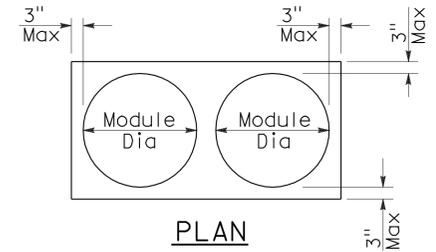
**ARRAY 'TB11'**

Approach speed less than 45 mph

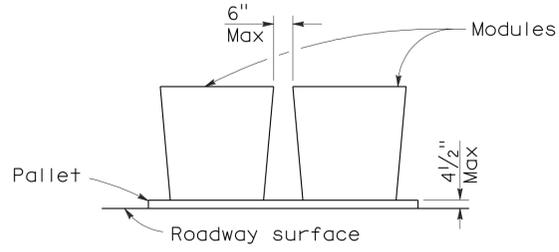


**ARRAY 'TB14'**

Approach speed 45 mph or more



PLAN



ELEVATION

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T1B**

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	36	51

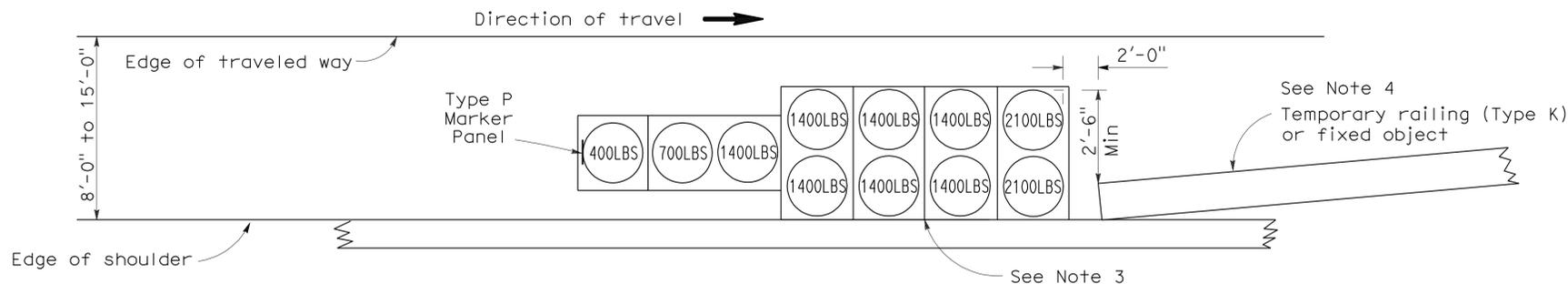
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

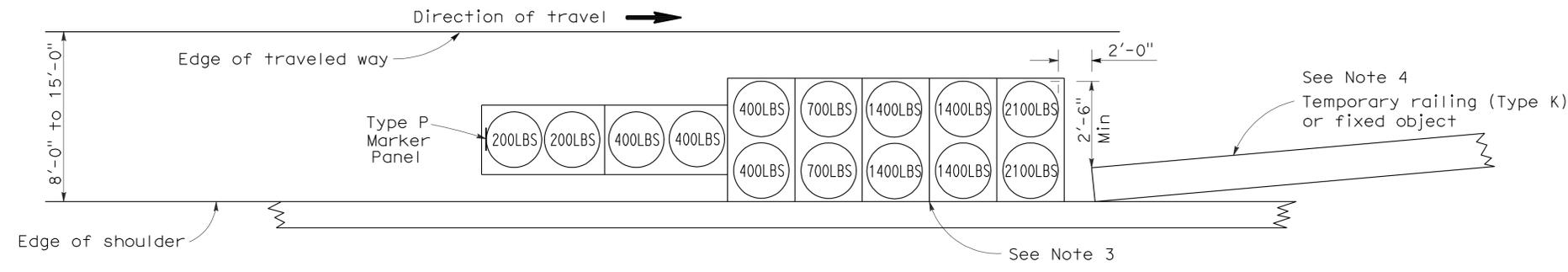
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

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

To accompany plans dated 1-24-11



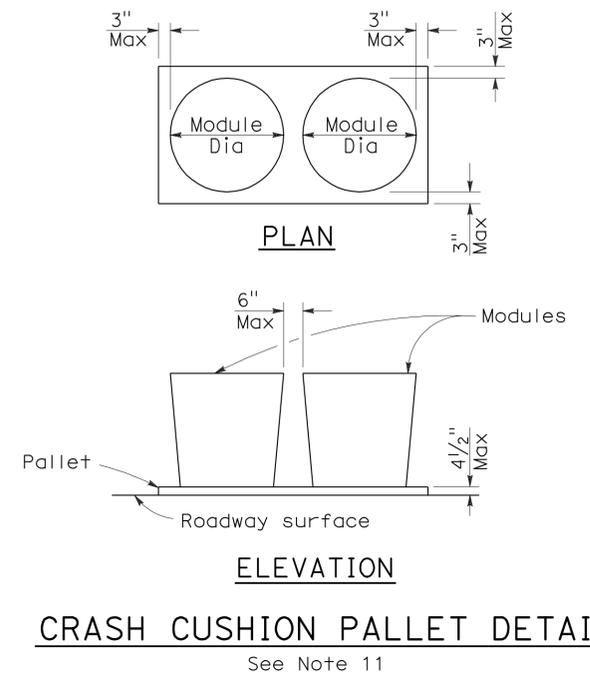
**ARRAY 'TS11'**  
Approach speed less than 45 mph  
See Note 9



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

**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. 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.
4. 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.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. 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.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. Use of pallets is optional.



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**

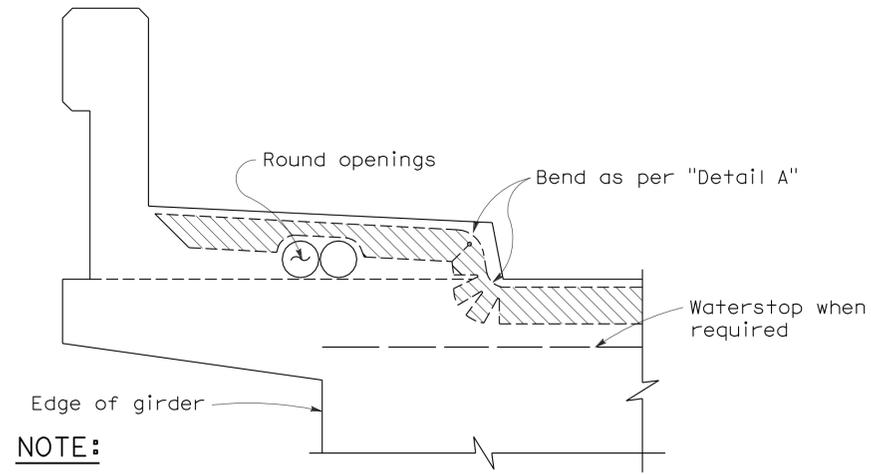
NO SCALE

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**

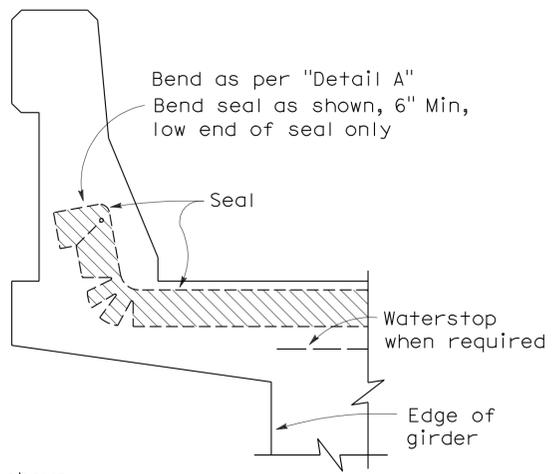
2006 REVISED STANDARD PLAN RSP T2



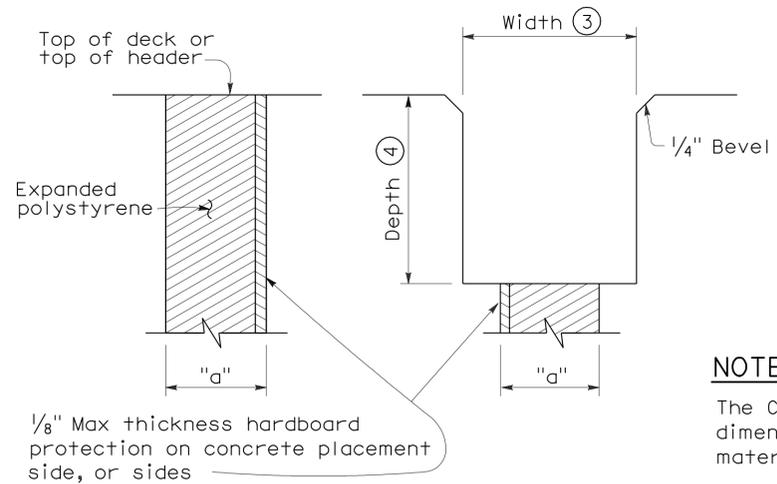


**NOTE:**  
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

**CONCRETE BARRIER AND SIDEWALK**



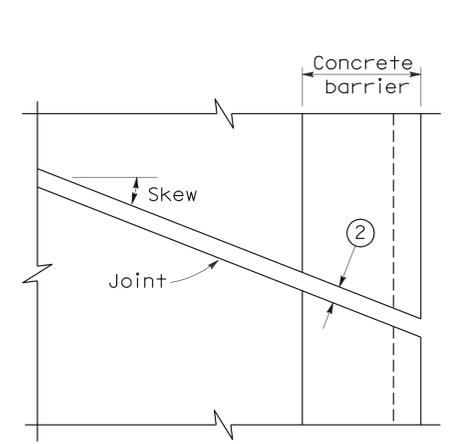
**CONCRETE BARRIER**



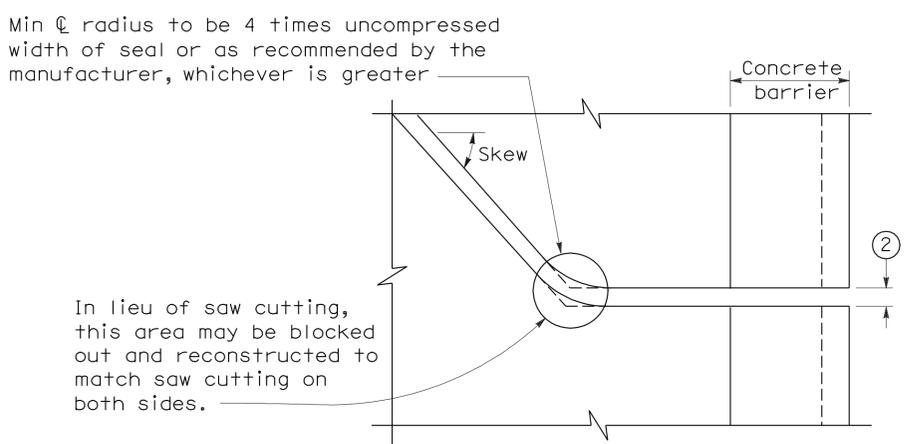
**FORMING DETAIL SAWCUT DETAIL**

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

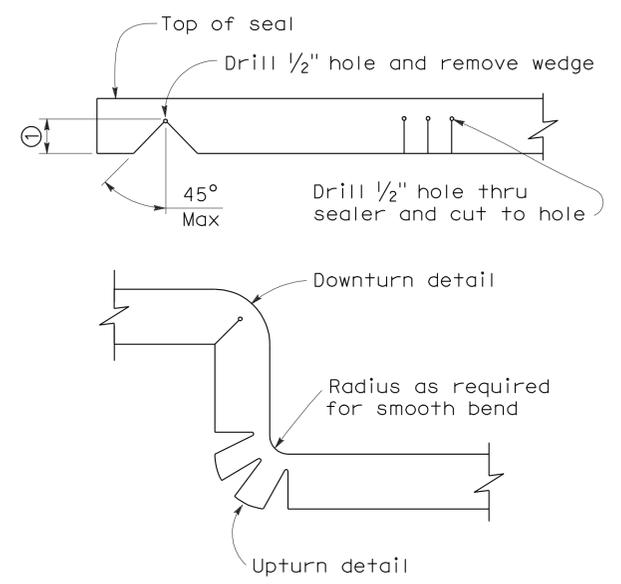
**JOINT SEALS DETAILS**



**PLAN OF JOINT (SKEW ≤ 20°)**



**PLAN OF JOINT (SKEW > 20°)**



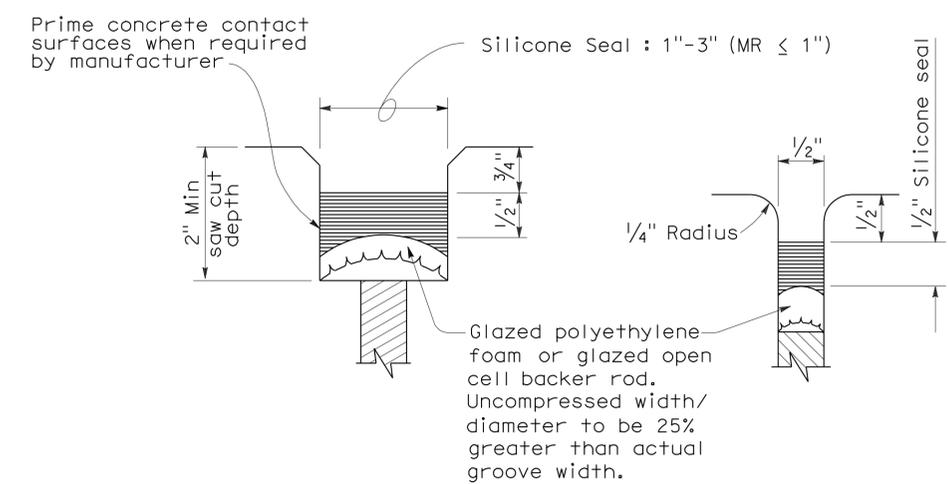
**DETAIL A**

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

**DIMENSIONS "a" OF JOINT REQUIRED**

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

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

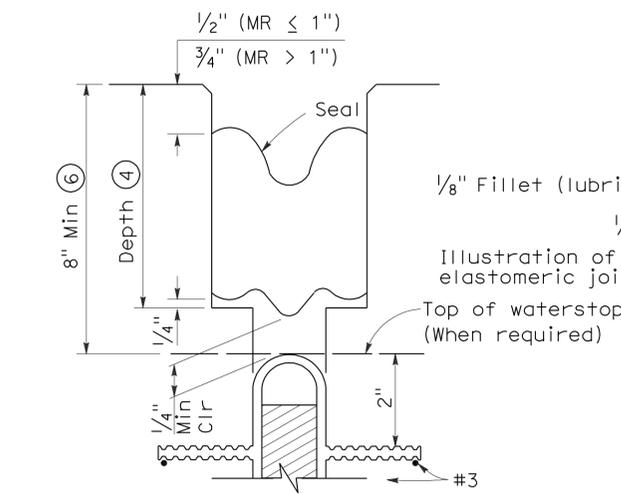


**TYPE A SEAL**

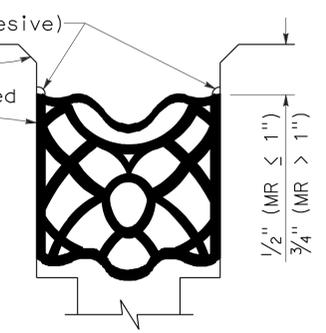
Movement rating : Silicone = 1" Max

**TYPE AL SEAL**

Longitudinal joints only



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



**TYPE B SEAL**

Movement Rating ≤ 2"

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

**REVISED STANDARD PLAN RSP B6-21**

2006 REVISED STANDARD PLAN RSP B6-21

# ELECTROLIERS

STANDARD TYPES	Symbol	Description
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		<b>NOTES:</b> 1. Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified. 2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified. 3. Variations noted adjacent to symbol on project plans.
32		
35		
36-20A		

- Electrolier (see project notes or project plans)
- Luminaire on wood pole

## 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, top attachment
MAS-4B	mas-4B	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4C	mas-4C	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, top attachment
MAS-5B	mas-5B	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
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	25.4	39	51

REGISTERED ELECTRICAL ENGINEER  
 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 1-24-11

## 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	25.4	40	51

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

### 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

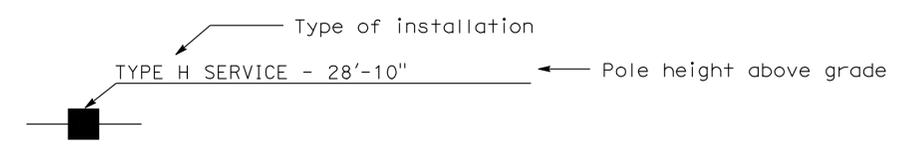
### SIGNAL EQUIPMENT

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

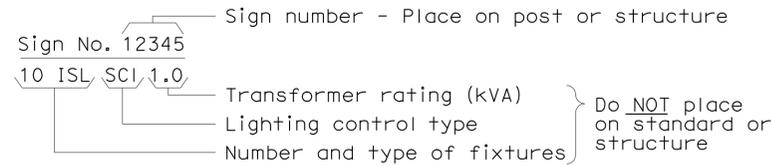
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

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

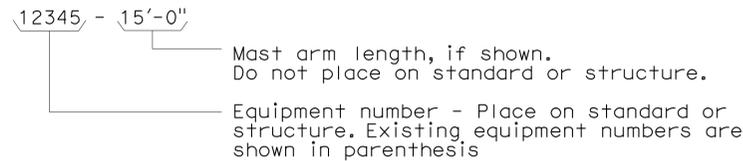
2006 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

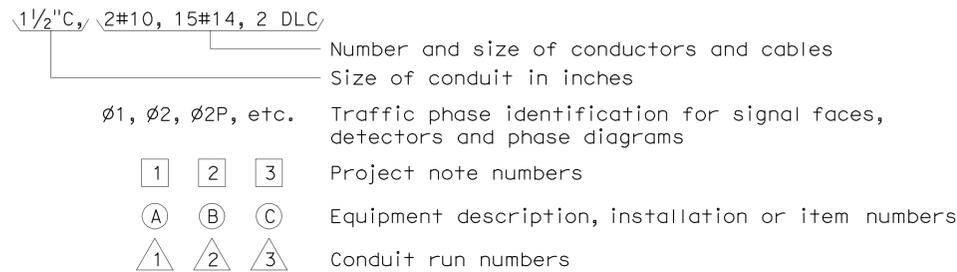
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



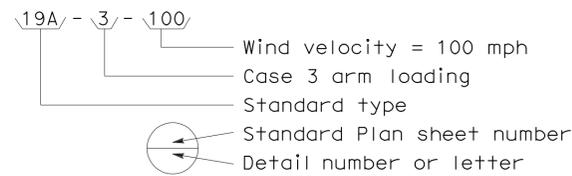
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



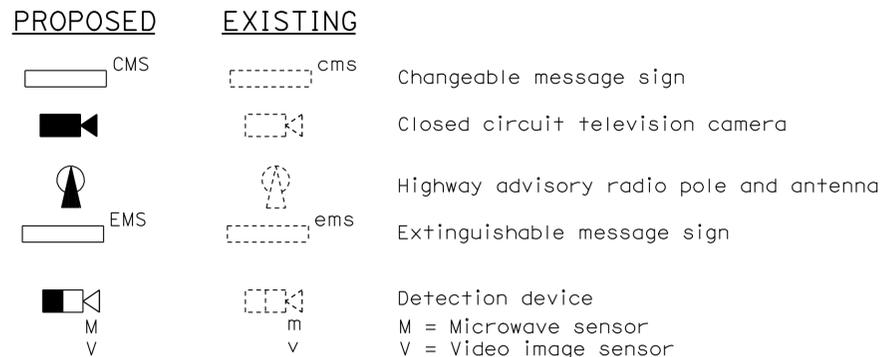
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



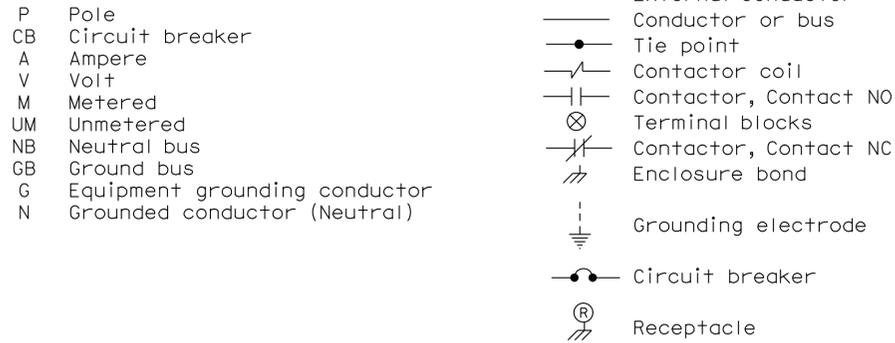
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



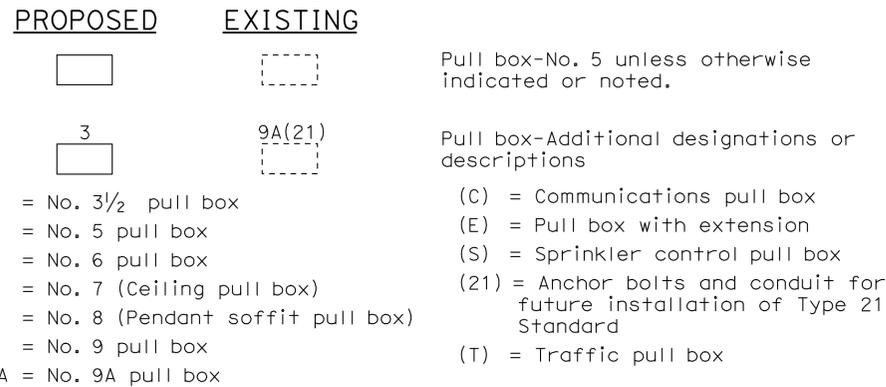
### MISCELLANEOUS EQUIPMENT



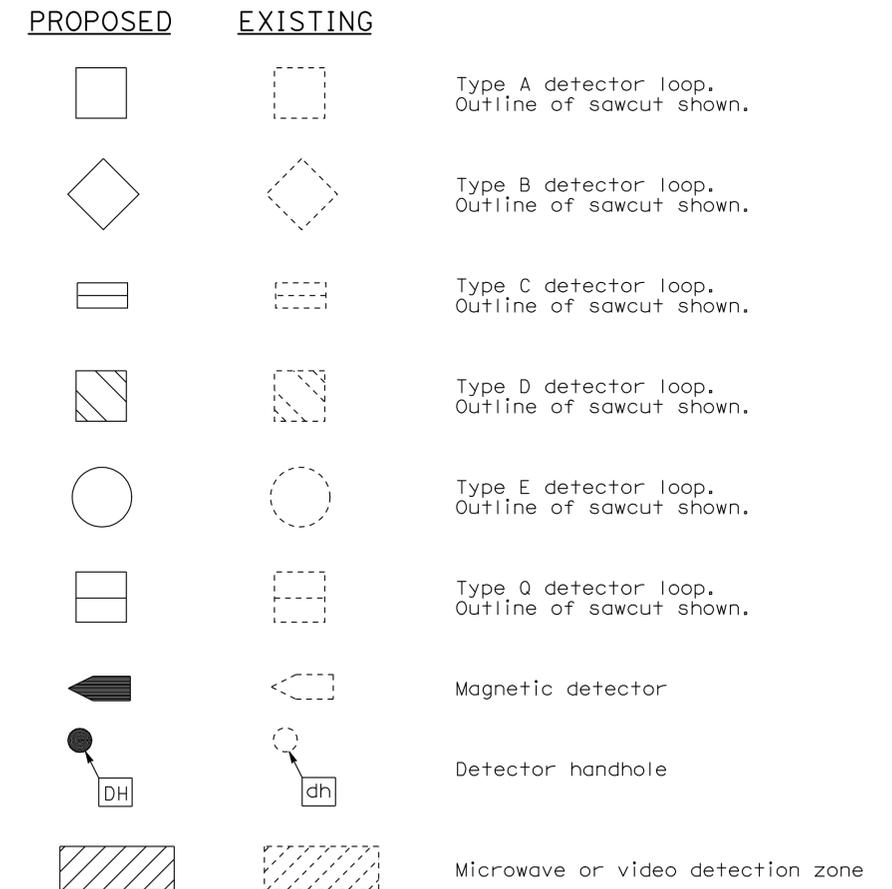
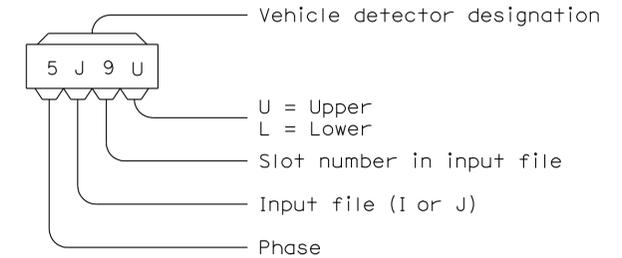
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



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

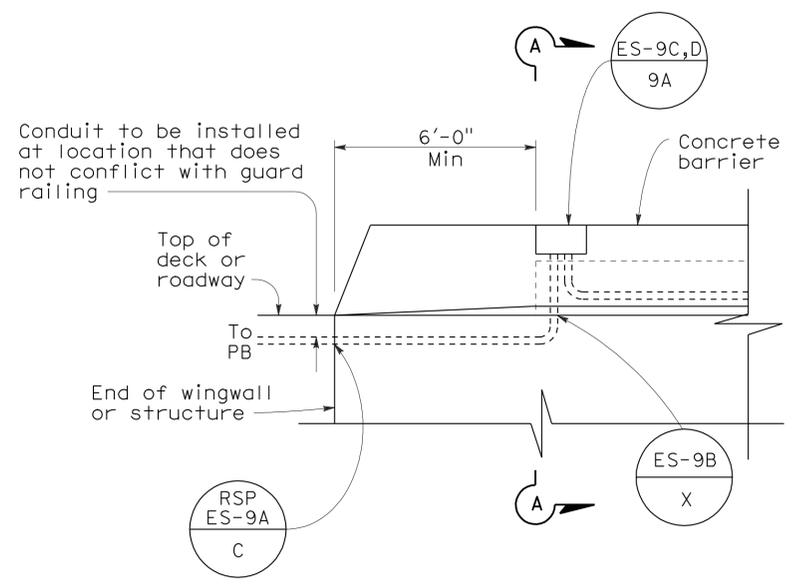
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	42	51

REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
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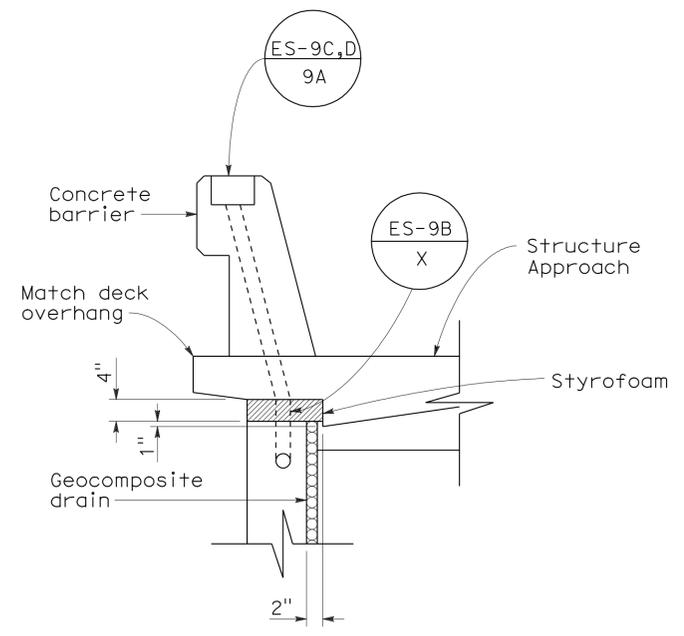
REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

To accompany plans dated 1-24-11

2006 REVISED STANDARD PLAN RSP ES-9A

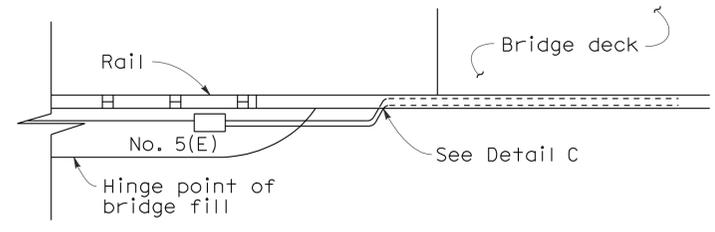


**SIDEVIEW**

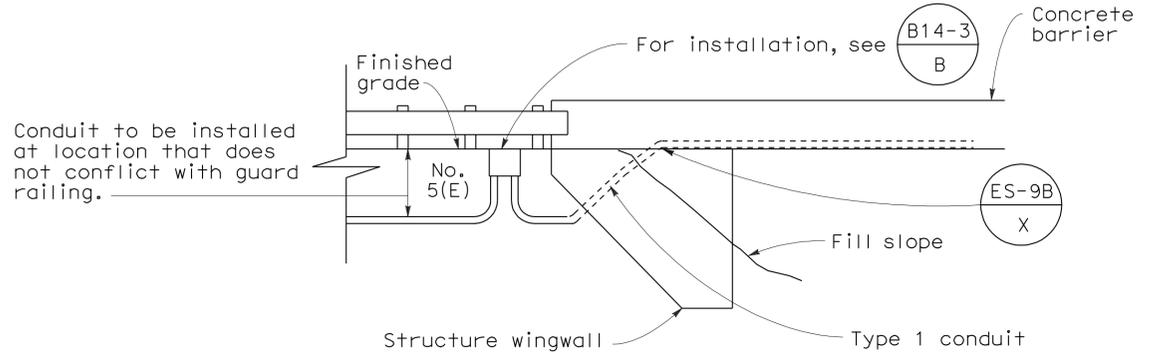


**SECTION A-A**

**DETAIL A  
CONDUIT TERMINATION**

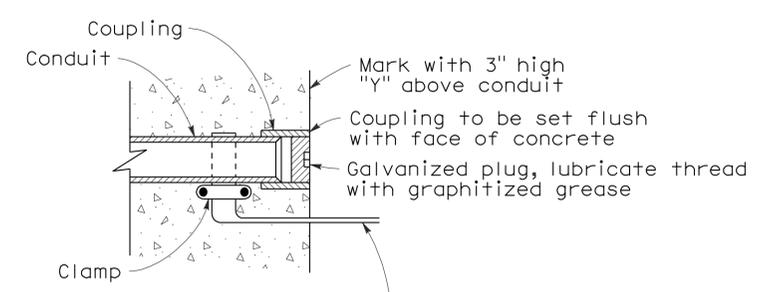


**TOP VIEW**



**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**

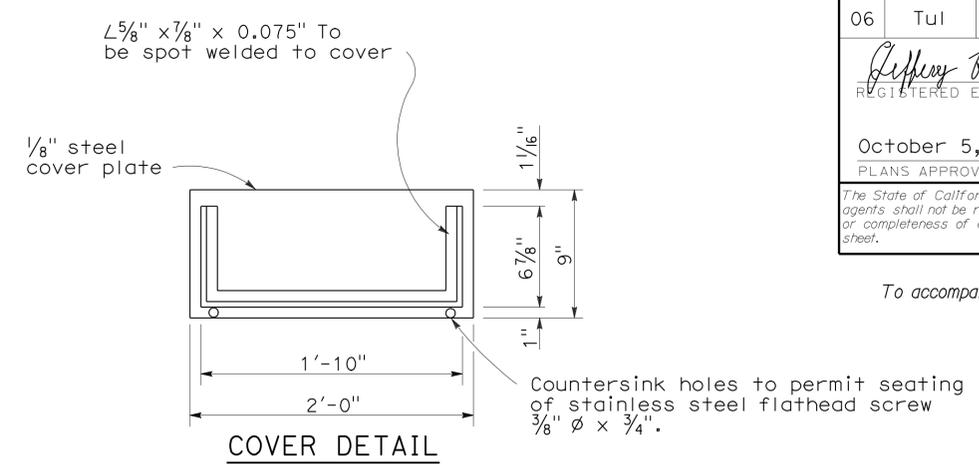
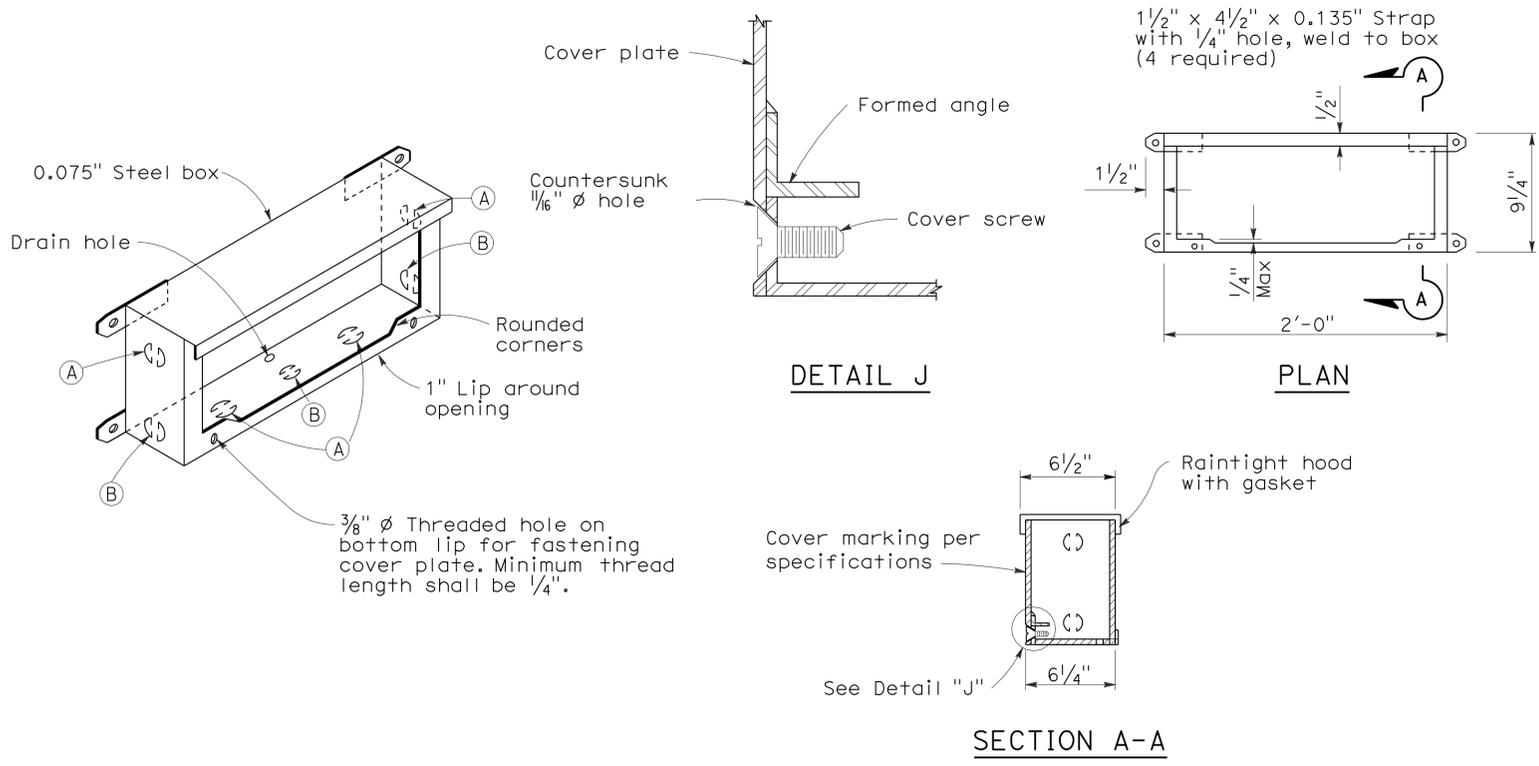
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	25.4	43	51

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

October 5, 2007  
 PLANS APPROVAL DATE

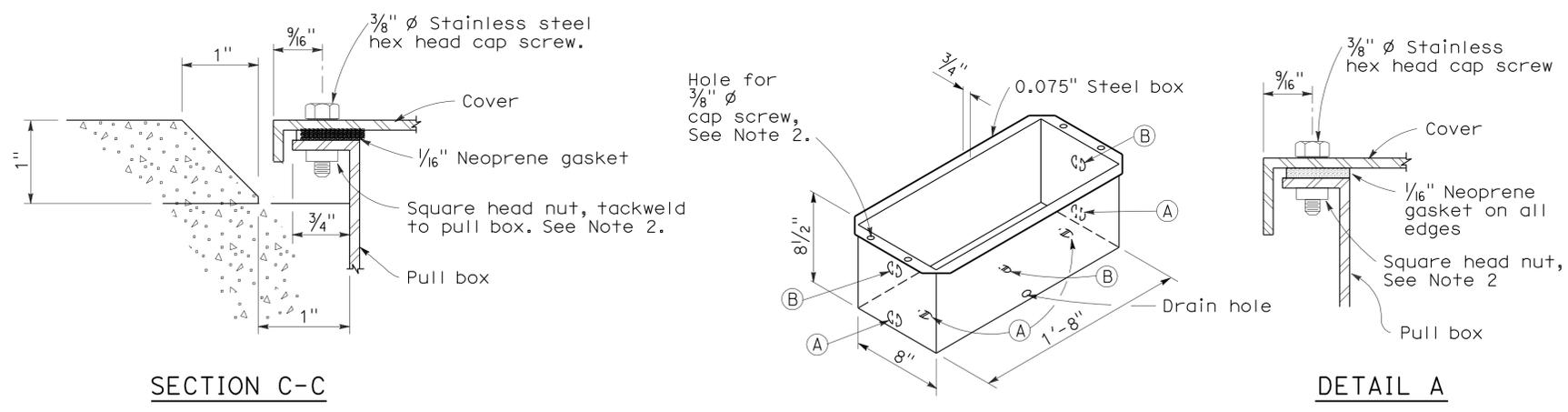
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 1-24-11



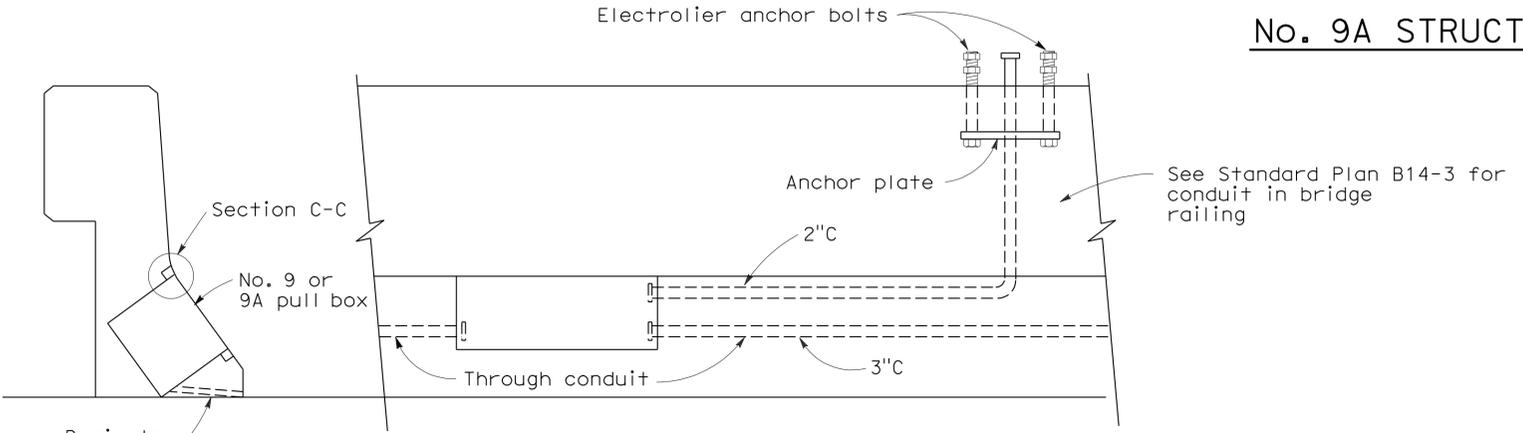
**INSTALLATION NOTE:**  
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

**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.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	25.4	44	51

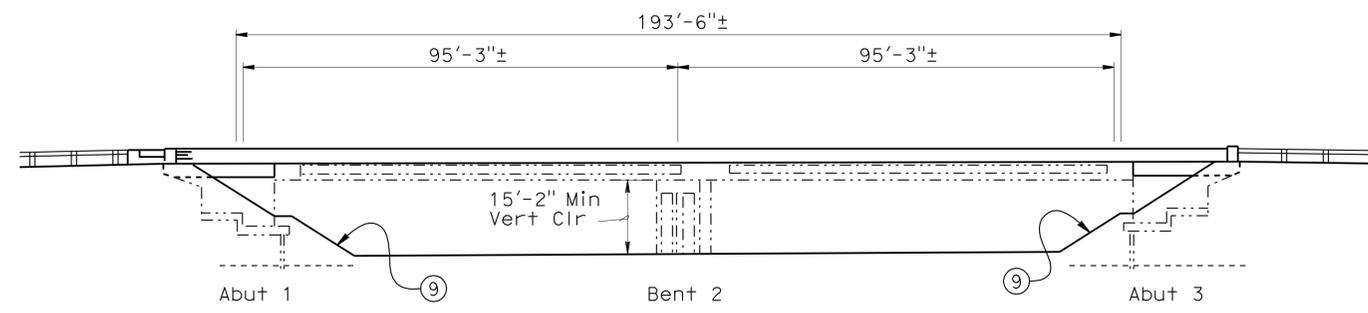
<b>David P. Murray</b> REGISTERED CIVIL ENGINEER		DATE: X 1-24-11 PLANS APPROVAL DATE
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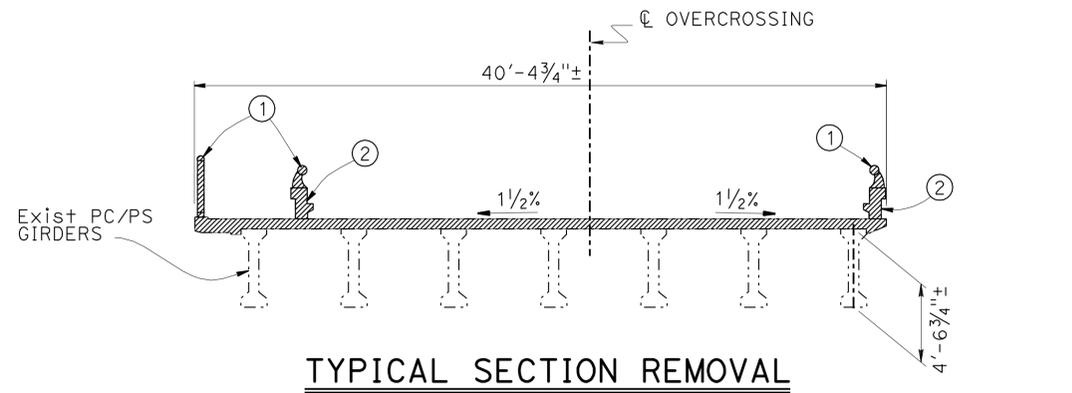
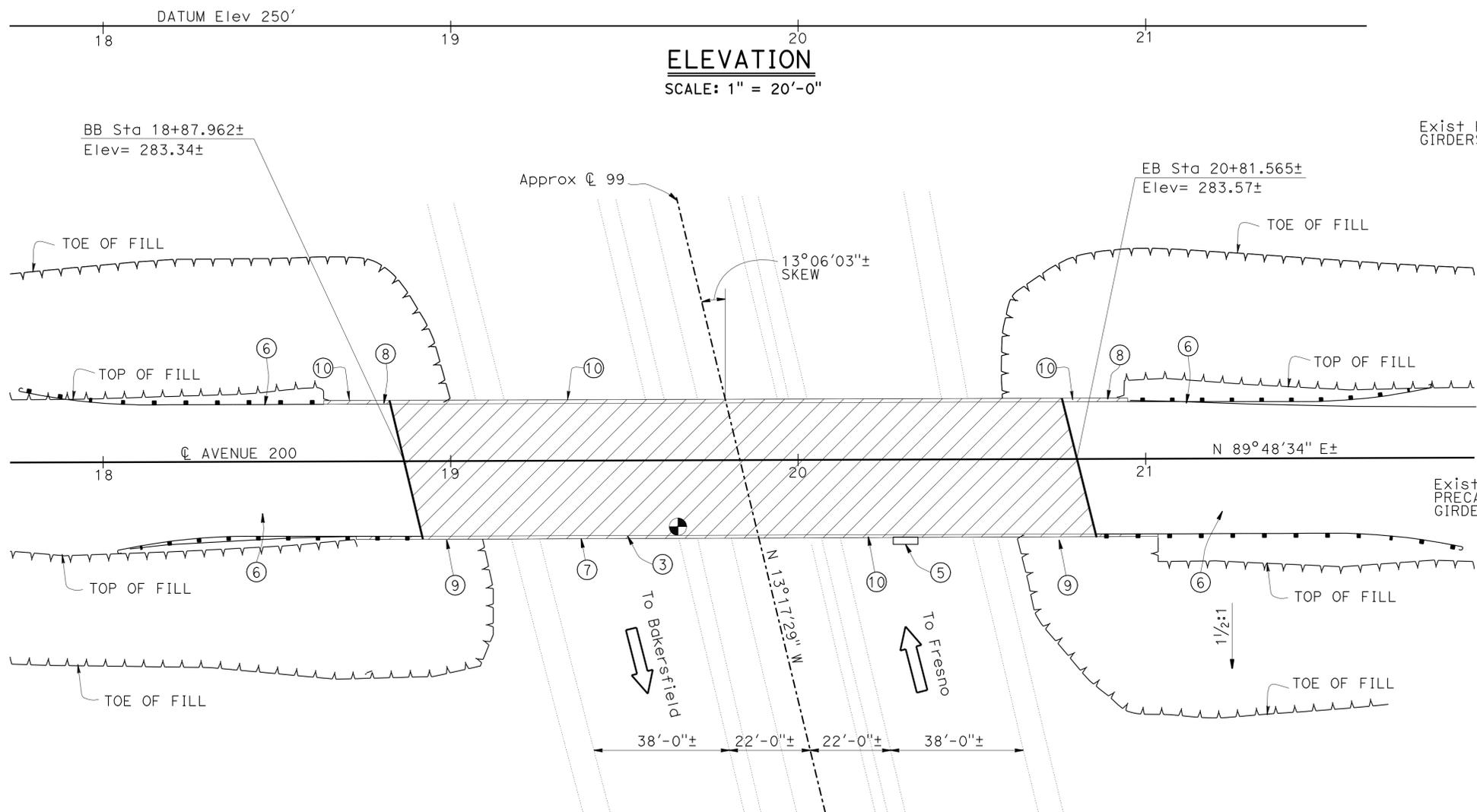
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.	
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**QUANTITIES**

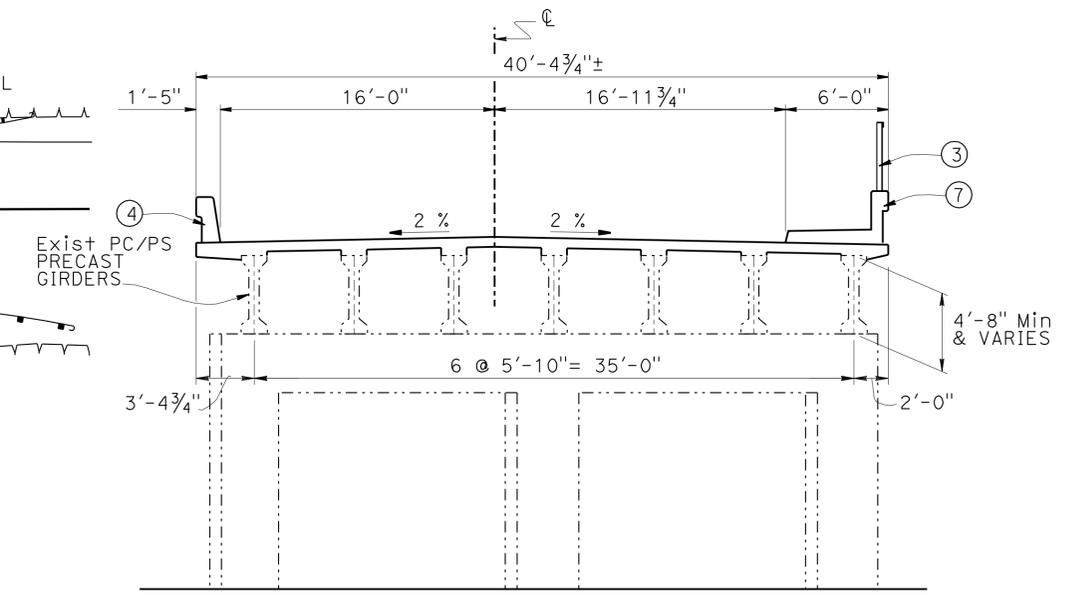
SALVAGE METAL BRIDGE RAILING	232	LF
BRIDGE REMOVAL (PORTION)	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE	198	CY
JOINT SEAL (MR 1")	83	LF
BAR REINFORCING STEEL (BRIDGE)	87,000	LB
PREPARE AND PAINT CONCRETE	683	SQFT
SLOPE PAVING (CONCRETE)	29	CY
CHAIN LINK RAILING (TYPE 7)	235	LF
CONCRETE BARRIER (TYPE 26)	194	LF
CONCRETE BARRIER (TYPE 732)	194	LF
CONCRETE BARRIER (TYPE 732A)	42	LF



**ELEVATION**  
SCALE: 1" = 20'-0"



**TYPICAL SECTION REMOVAL**  
SCALE: 3/16" = 1'



**TYPICAL SECTION**  
SCALE: 3/16" = 1'

**PLAN**  
SCALE: 1" = 20'-0"



**LEGEND:**

- INDICATES NEW STRUCTURE
- - - INDICATES EXISTING STRUCTURE
- INDICATES LOCATION OF JOINT SEAL REMOVAL AND PLACE NEW JOINT SEAL MR= 1"
- ▨ BRIDGE REMOVAL (PORTION)
- DENOTES POINT OF MINIMUM VERTICAL CLEARANCE

**NOTES:**

- ① SALVAGE TUBULAR HAND RAIL AND PIPE RAILING.
- ② CONCRETE BARRIER TYPE 1.
- ③ CHAIN LINK RAILING TYPE 7.
- ④ CONCRETE BARRIER TYPE 732.
- ⑤ REMOVE SIGN, SEE "ROAD PLANS".
- ⑥ MBGR BY DISTRICT, SEE "ROAD PLANS".
- ⑦ CONCRETE BARRIER TYPE 26.
- ⑧ CONCRETE BARRIER TYPE 732A.
- ⑨ SLOPE PAVING.
- ⑩ PARTIALLY PAINTED BARRIER.

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

X DESIGN ENGINEER	DESIGN	BY CORY COWDEN	CHECKED DAVID P. MURRAY	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 18</b>	BRIDGE NO.	46-0193	<b>AVENUE 200 OC</b> <b>GENERAL PLAN</b>
	DETAILS	BY MINH TRAN	CHECKED DAVID P. MURRAY	LAYOUT	BY MINH TRAN			POST MILE	25.4	
	QUANTITIES	BY CORY COWDEN	CHECKED DAVID P. MURRAY	SPECIFICATIONS	BY X			PLANS AND SPECS COMPARED X	REVISION DATES	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	25.4	45	51

<i>David P. Murray</i>		X
REGISTERED CIVIL ENGINEER	DATE	
1-24-11		
PLANS APPROVAL DATE		

No. C71259		REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA CIVIL
Exp. 12-31-10		

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**INDEX TO PLANS**

SHEET No.	SHEET TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	ABUTMENT DETAILS
4	BENT DETAILS
5	DIAPHRAGM DETAILS
6	TYPICAL SECTION
7	DECK LAYOUT
8	SLOPE PAVING - FULL SLOPE

**GENERAL NOTES  
LOAD AND RESISTANCE FACTOR DESIGN**

**DESIGN:** AASHTO LRFD DESIGN SPECIFICATIONS, THIRD EDITION WITH INTERIMS THROUGH 2006 AND THE CALIFORNIA AMENDMENTS THE V3.06.01.

**SEISMIC DESIGN:** CALTRANS SEISMIC DESIGN CRITERIA (SDC), VERSION 1.4 DATED JUNE 2006

**DEAD LOAD:** LIMITED TO 15 psf FOR FUTURE WEARING SURFACE.

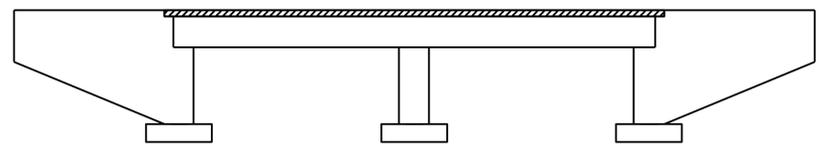
**LIVE LOADING:** HL93 AND PERMIT DESIGN LOAD.

**SEISMIC LOADING:** SDC ARS CURVE FOR SOIL PROFILE D (M=6.5± .25)  
PEAK ROCK ACCELERATION = 0.2 g

**CONCRETE:**  
fy = 60 ksi  
F'C = SEE "CONCRETE STRENGTH AND TYPE LIMITS"  
n = 8  
SEE PRESTRESSING NOTES.

**STRUCTURAL STEEL (new construction):**  
fy = ASTM A709 Grade 50

**STRUCTURAL STEEL (ASSUMED FOR EVALUATION OF EXISTING STRUCTURE):**  
ASTM A7  
fy = 39 ksi



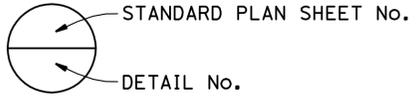
□ EXISTING STRUCTURAL CONCRETE, BRIDGE  
▨ STRUCTURAL CONCRETE, BRIDGE (4 ksi, AT 28 DAYS)

**CONCRETE STRENGTH AND TYPE LIMITS**

NO SCALE

**STANDARD PLANS DATED MAY 2006**

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS
B11-52	CHAIN LINK RAILING TYPE 7
B11-54	CONCRETE BARRIER TYPE 26
B11-55	CONCRETE BARRIER TYPE 732
T3	TEMPORARY RAILING (TYPE K)



STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY CORY COWDEN	CHECKED DAVID P. MURRAY	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	AVENUE 200 OC				
	DETAILS	BY MINH TRAN	CHECKED DAVID P. MURRAY			46-0193	INDEX TO PLANS				
	QUANTITIES	BY CORY COWDEN	CHECKED DAVID P. MURRAY			POST MILE	25.4				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 06 EA 0C4901	DISREGARD PRINTS BEARING EARLIER REVISION DATES				SHEET 2 OF 8

FILE => 06-0c4901-a-1tp.dgn  
DATE PLOTTED => 25-JAN-2011  
TIME PLOTTED => 13:15  
USERNAME => HSTFK

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	25.4	46	51

David P. Murray  
 REGISTERED CIVIL ENGINEER X  
 DATE  
 1-24-11  
 PLANS APPROVAL DATE  
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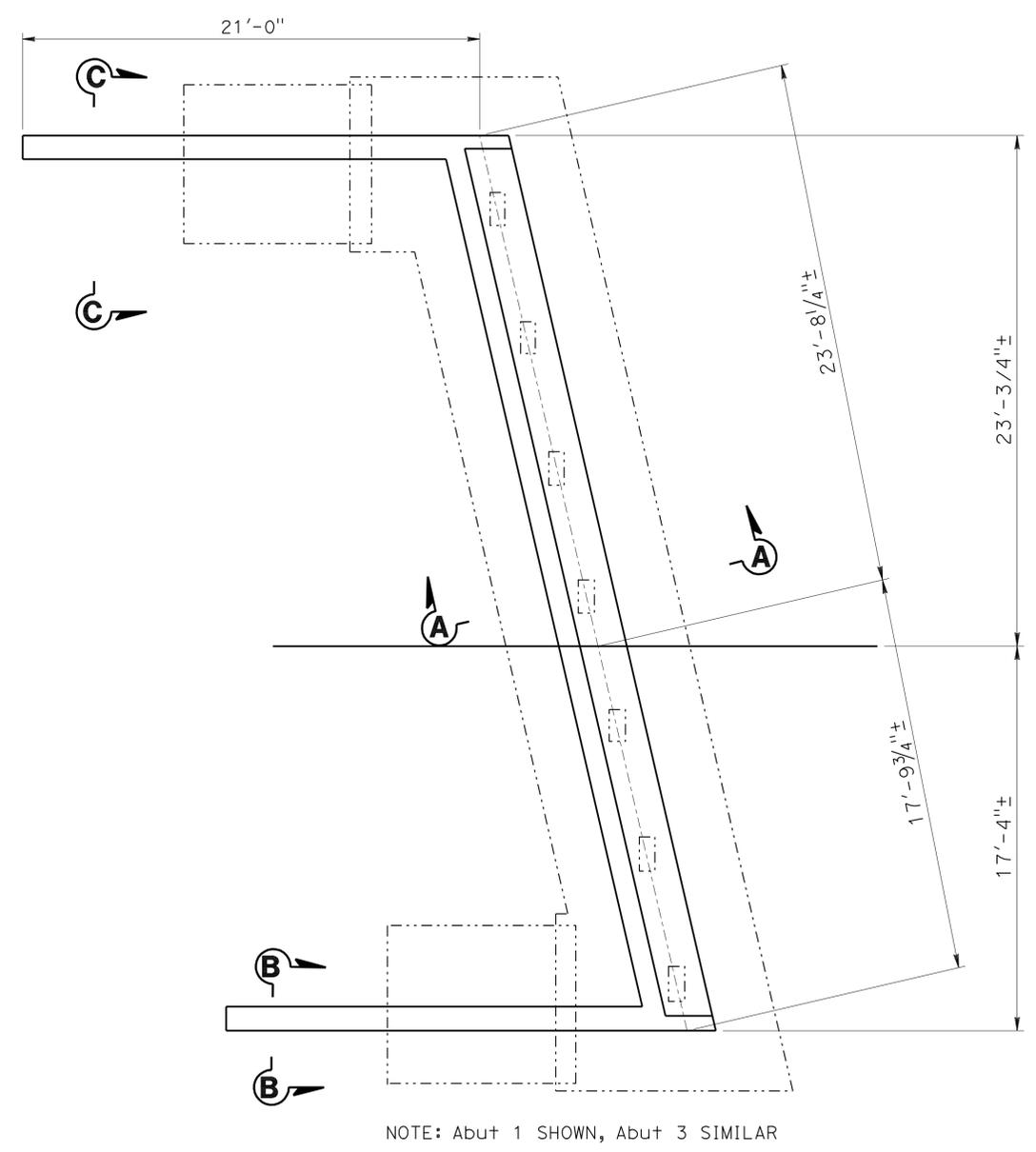
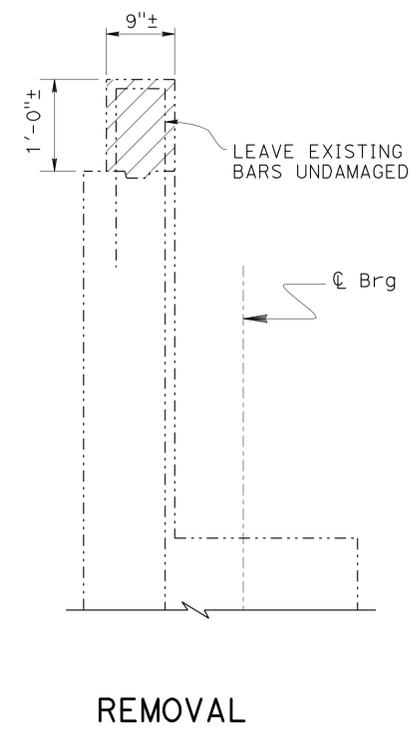
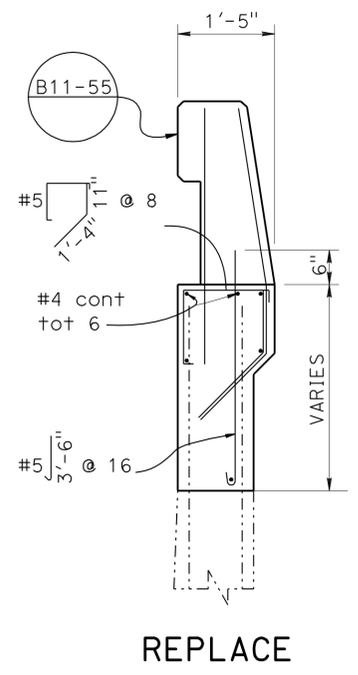
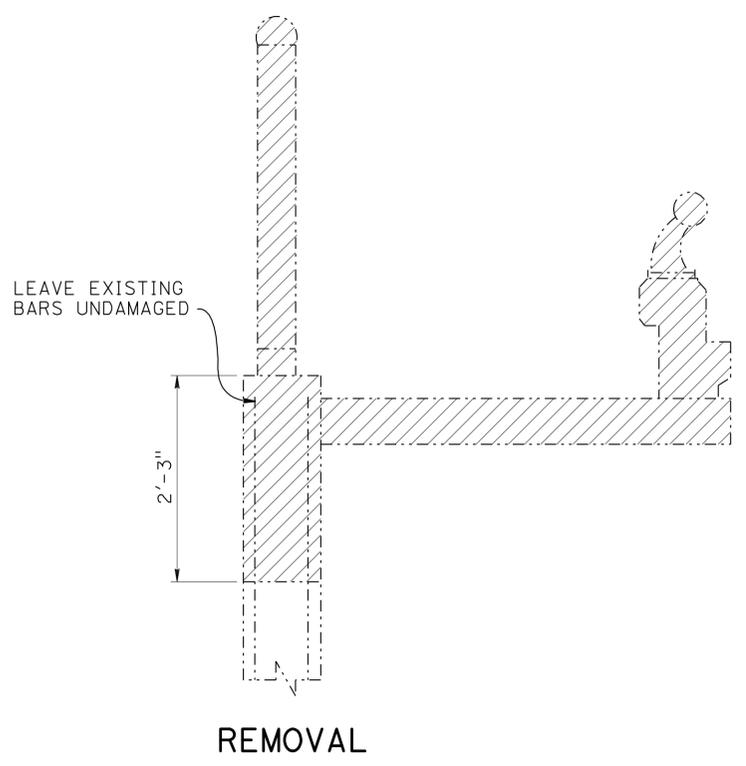
REGISTERED PROFESSIONAL ENGINEER  
 David P. Murray  
 No. C71259  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

**LEGEND:**

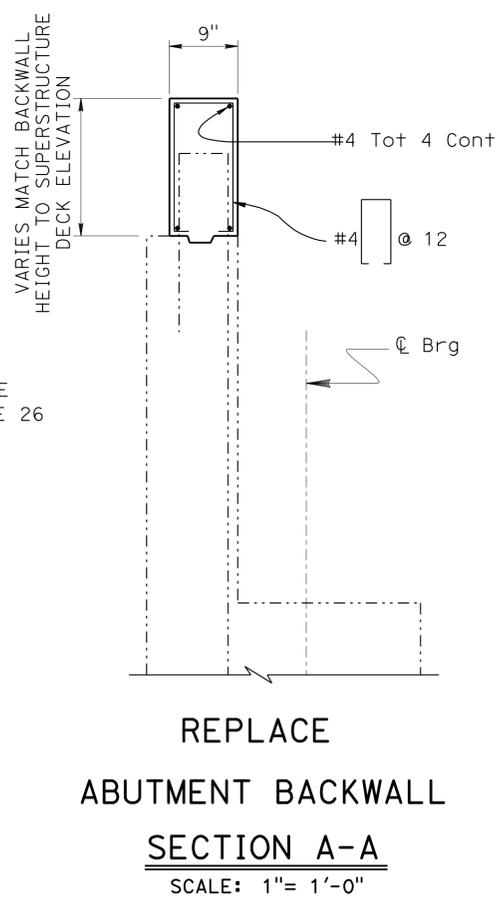
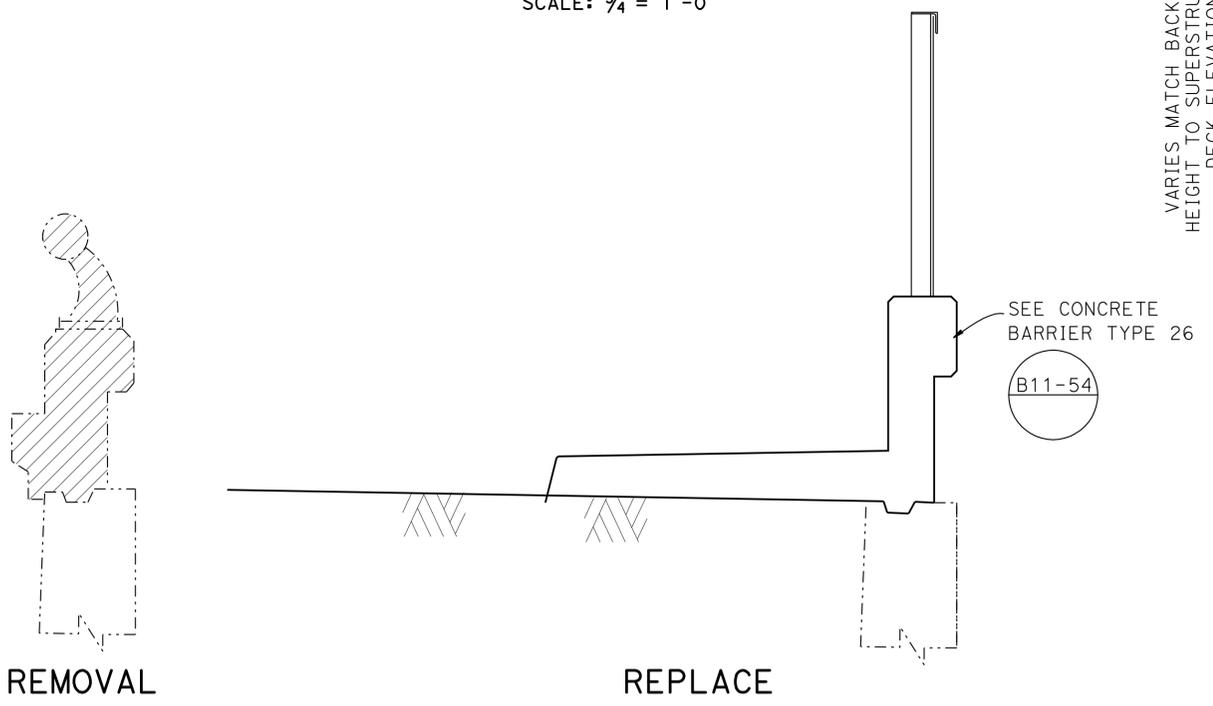
— INDICATES NEW STRUCTURE

- - - INDICATES EXISTING STRUCTURE

▨ BRIDGE REMOVAL



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



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

**SECTION A-A**  
SCALE: 1" = 1'-0"

**ABUTMENT PLAN**  
SCALE: 1/4" = 1'-0"

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

DESIGN	BY CORY COWDEN	CHECKED DAVID P. MURRAY
DETAILS	BY MINH TRAN	CHECKED DAVID P. MURRAY
QUANTITIES	BY CORY COWDEN	CHECKED DAVID P. MURRAY

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

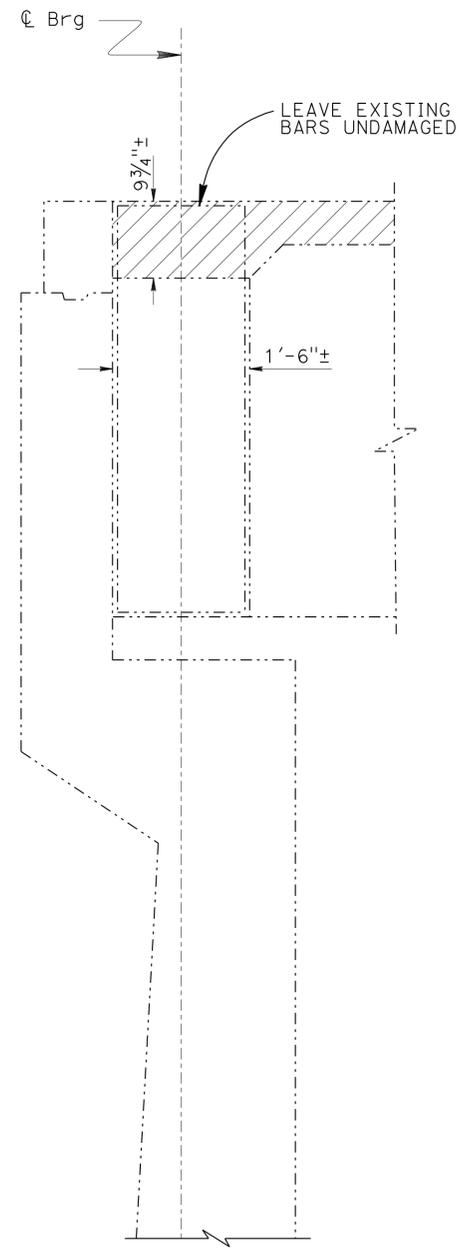
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 18

BRIDGE NO.	46-0193
POST MILE	25.4

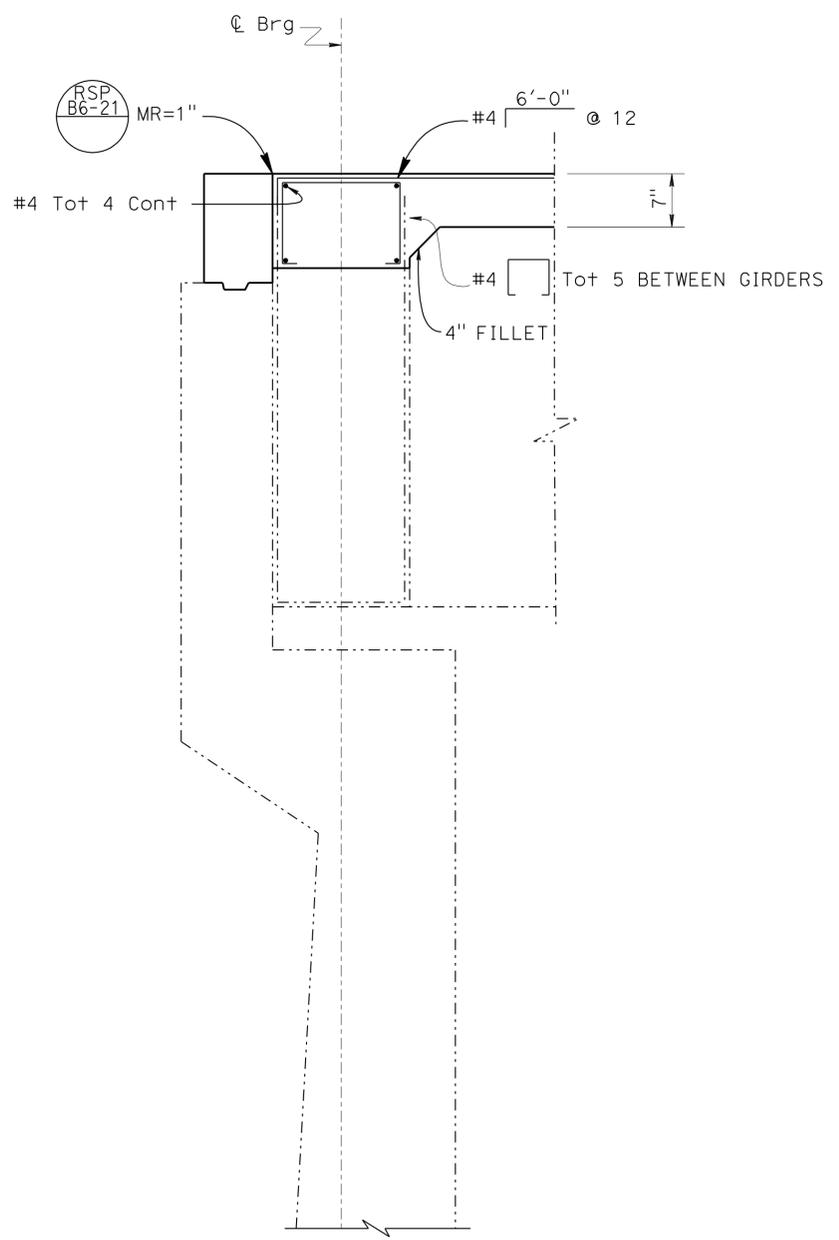
AVENUE 200 OC  
ABUTMENT DETAILS



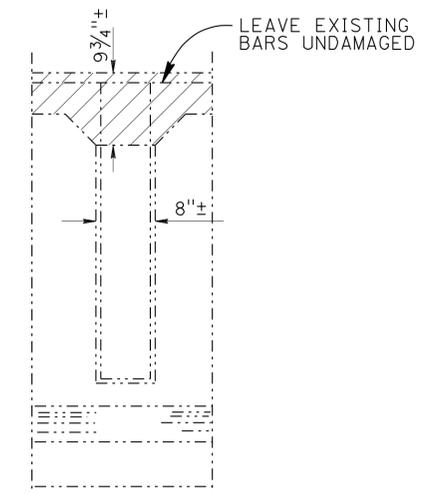
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	25.4	48	51
David P. Murray REGISTERED CIVIL ENGINEER		X	DATE		
1-24-11			PLANS APPROVAL DATE		
<i>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</i>					



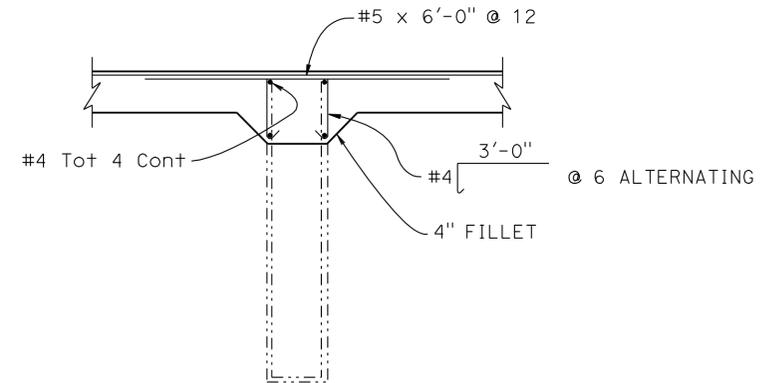
**END DIAPHRAGM REMOVAL**  
SCALE: 1" = 1'-0"



**END DIAPHRAGM DETAIL**  
SCALE: 1" = 1'-0"



**PARTIAL INTERMEDIATE DIAPHRAGM REMOVAL**  
SCALE: 1/2" = 1'-0"



**INTERMEDIATE DIAPHRAGM**  
SCALE: 1/2" = 1'-0"

**LEGEND:**

	INDICATES NEW STRUCTURE
	INDICATES EXISTING STRUCTURE
	BRIDGE REMOVAL

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

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DETAILS	BY MINH TRAN	CHECKED DAVID P. MURRAY
QUANTITIES	BY CORY COWDEN	CHECKED DAVID P. MURRAY

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

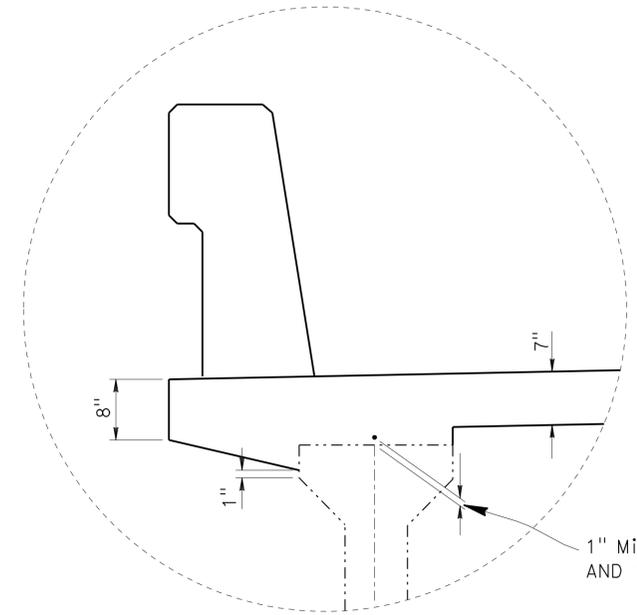
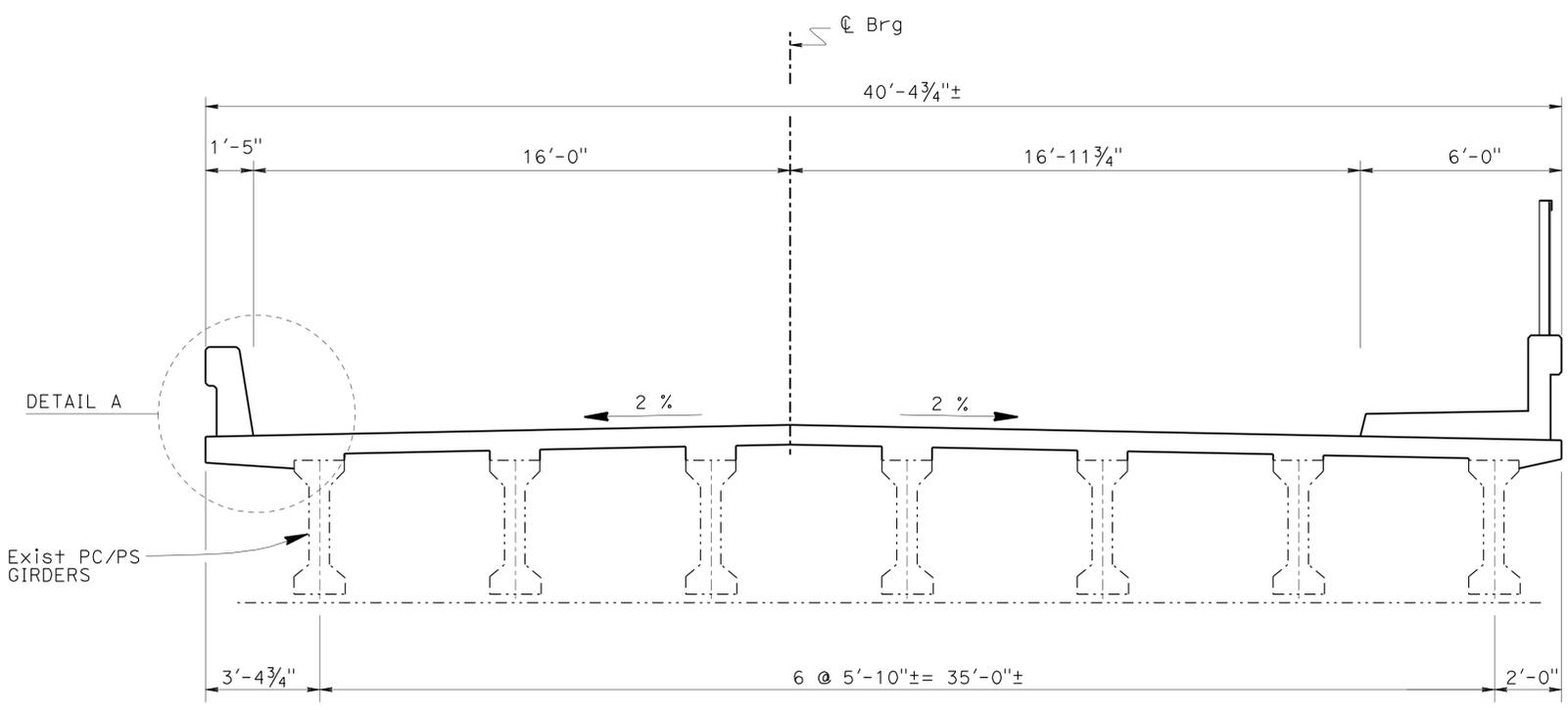
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 18

BRIDGE NO.	46-0193
POST MILE	25.4

AVENUE 200 OC  
DIAPHRAGM DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	25.4	49	51

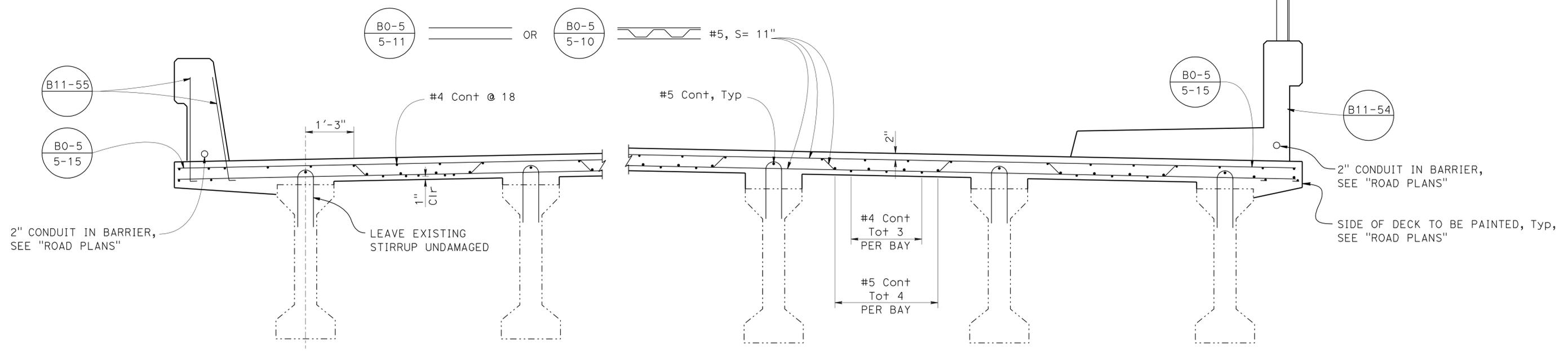
**David P. Murray**  
 REGISTERED CIVIL ENGINEER X  
 DATE \_\_\_\_\_  
 1-24-11  
 PLANS APPROVAL DATE  
 No. C71259  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA



**TYPICAL SECTION RECONSTRUCTION**  
SCALE: 3/8" = 1'

**DETAIL A**  
SCALE: 1" = 1'-0"

- NOTES:**
- FOR ADDITIONAL TOP REINFORCEMENT SEE "DECK LAYOUT" SHEET.
  - ROUGHEN EXISTING CONCRETE SURFACE TO 1/4" DEEP BEFORE PLACING NEW CONCRETE.



**PART TYPICAL SECTION RECONSTRUCTION**  
SCALE: 3/4" = 1'-0"

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

DESIGN	BY CORY COWDEN	CHECKED DAVID P. MURRAY
DETAILS	BY MINH TRAN	CHECKED DAVID P. MURRAY
QUANTITIES	BY CORY COWDEN	CHECKED DAVID P. MURRAY

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 18**

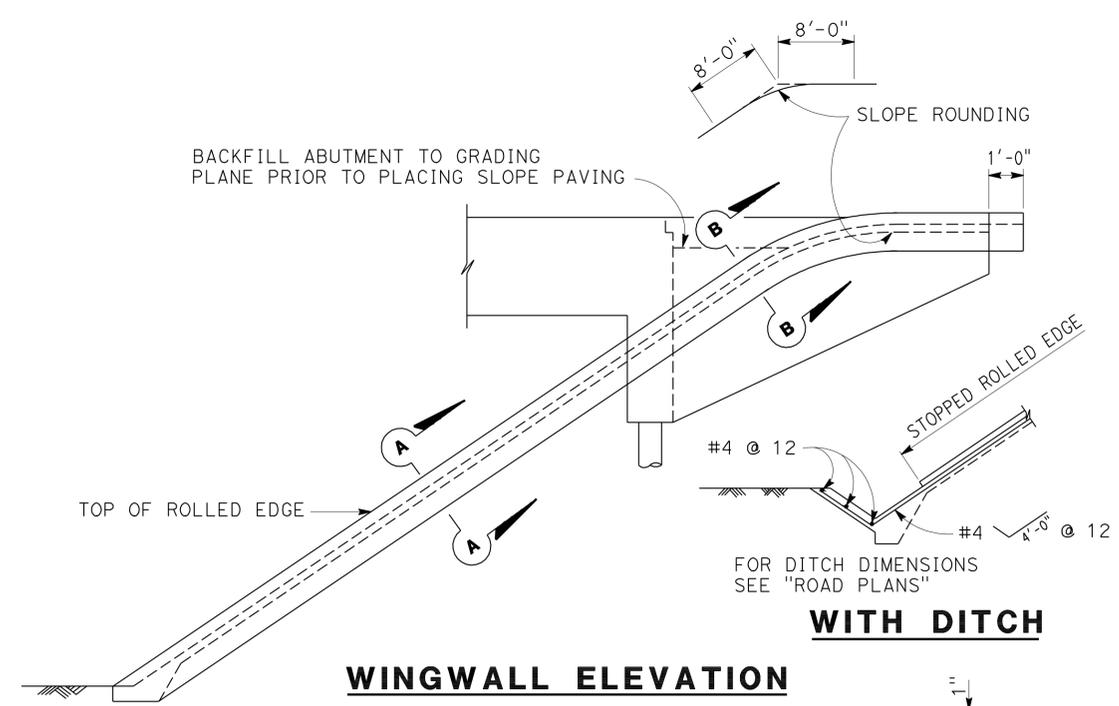
BRIDGE NO.	46-0193
POST MILE	25.4

AVENUE 200 OC  
 TYPICAL SECTION

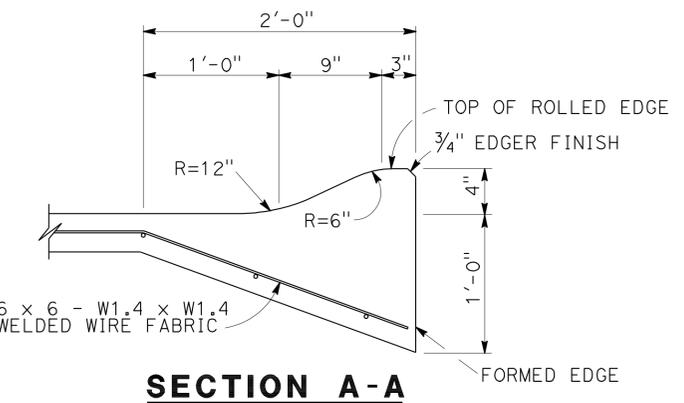


DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	25.4		51	51

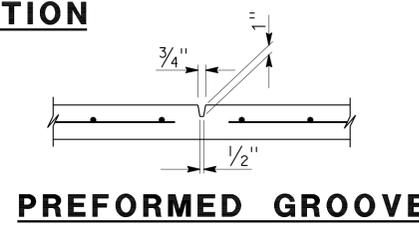
David P. Murray  
 REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 1-24-11  
 PLANS APPROVAL DATE \_\_\_\_\_  
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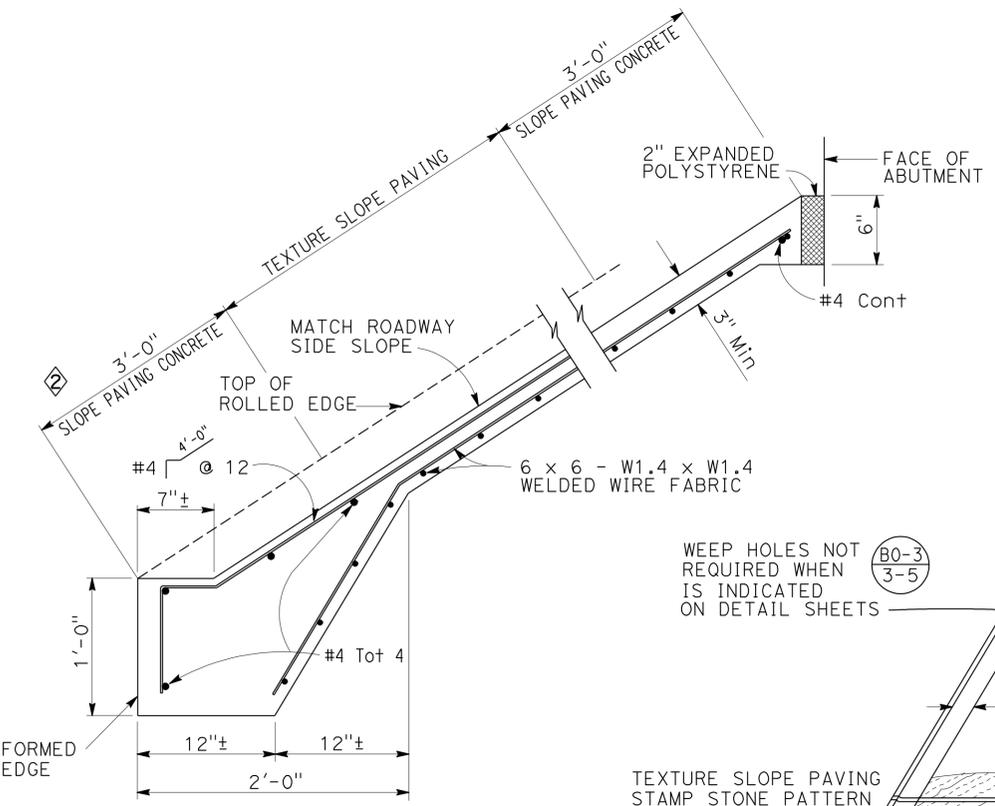
**WINGWALL ELEVATION**



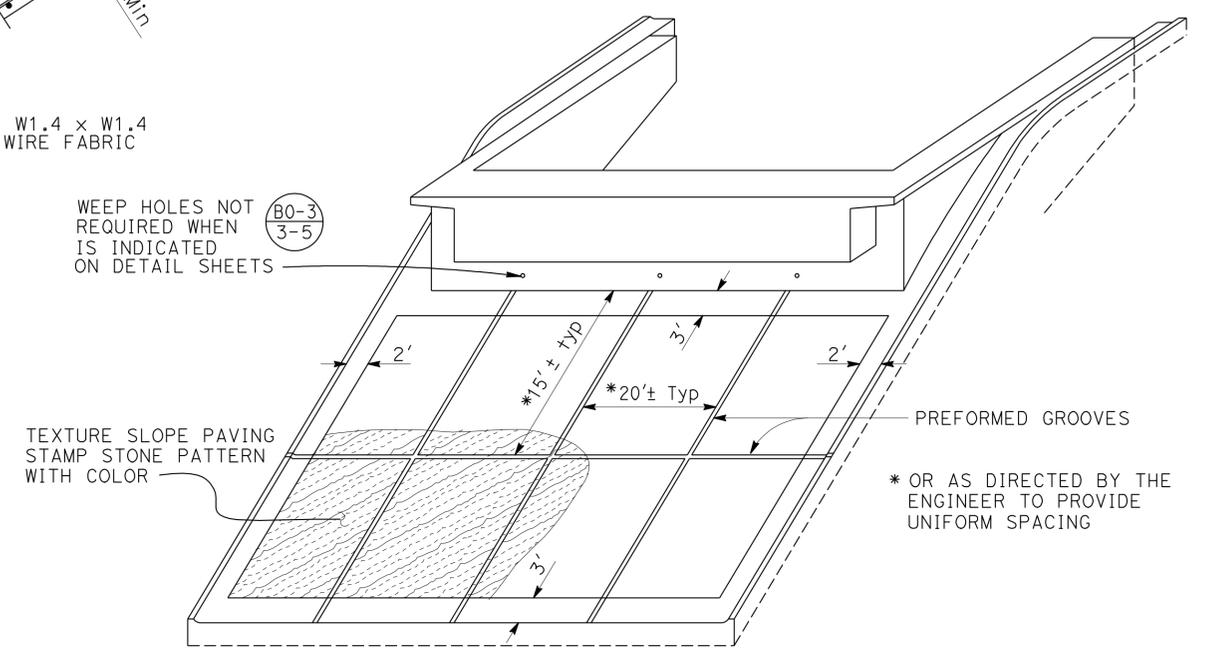
**SECTION A-A**



**PREFORMED GROOVE**



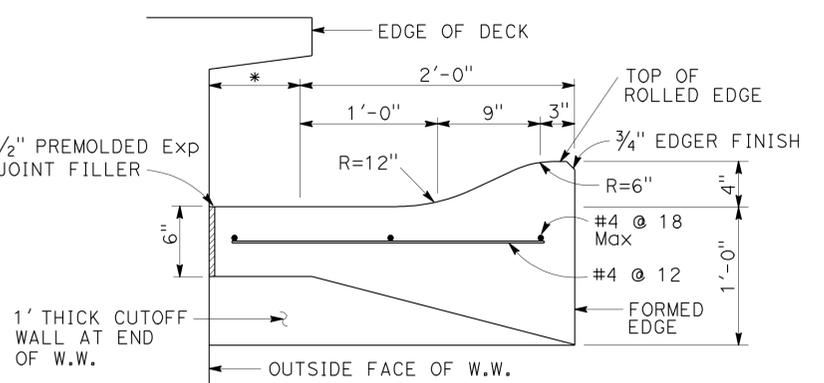
**TYPICAL SECTION CONCRETE PAVING**



**PICTORIAL VIEW OF TYPICAL INSTALLATION**

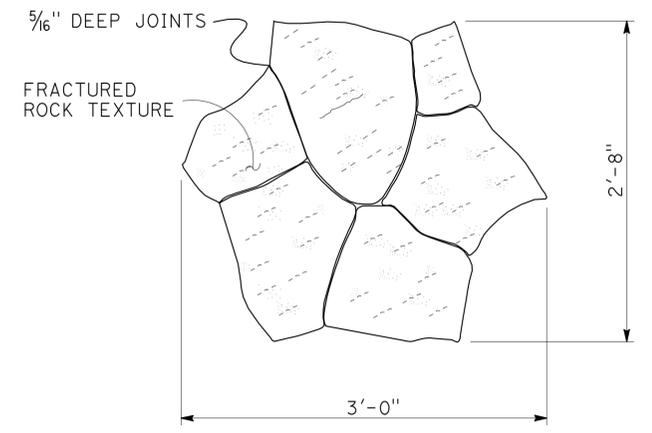
**TEXTURE PAVING COLOR**

COLOR	FED. COLOR#	APPLICATION
TAN	20475	BASE COLOR
BRICK RED	20109	FLASH 30% COVERAGE

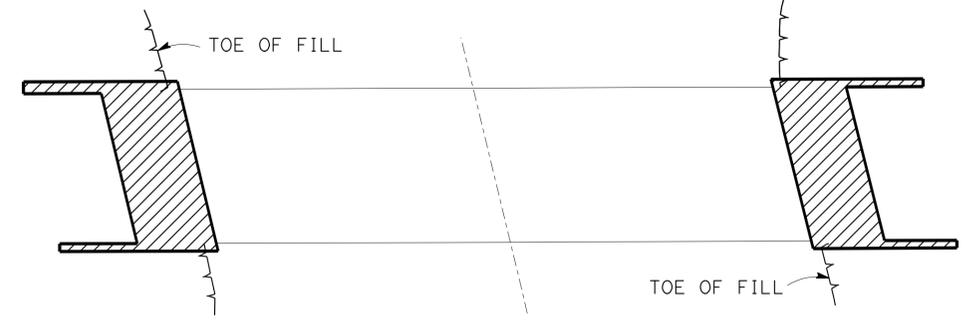


**SECTION B-B**

\* THIS DIMENSION BECOMES ZERO WHEN EDGE OF DECK IS AT OUTSIDE FACE OF W.W.



**STAMP STONE PATTERN**



**LIMITS OF SLOPE PAVING & DRAINAGE LAYOUT**

LIMITS OF SLOPE PAVING

NO SCALE

STANDARD DRAWING			
RELEASE DATE	DESIGN	BY	CHECKED
	DETAILS	BY D. Wooten	CHECKED
FILE NO. <b>xs4-210</b>	SUBMITTED	BY Dan Adams	DRAWING DATE 6/07
DS OSD 2147A (CADD) (REV. 4/07)		RELEASED BY Susan Hida	OFFICE CHIEF

- ① Drainage details removed
- ② Added details
- ③ Modified details

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	46-0193	<b>AVENUE 200 OC</b> <b>SLOPE PAVING - FULL SLOPE</b>
POST MILE	25.4	