

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

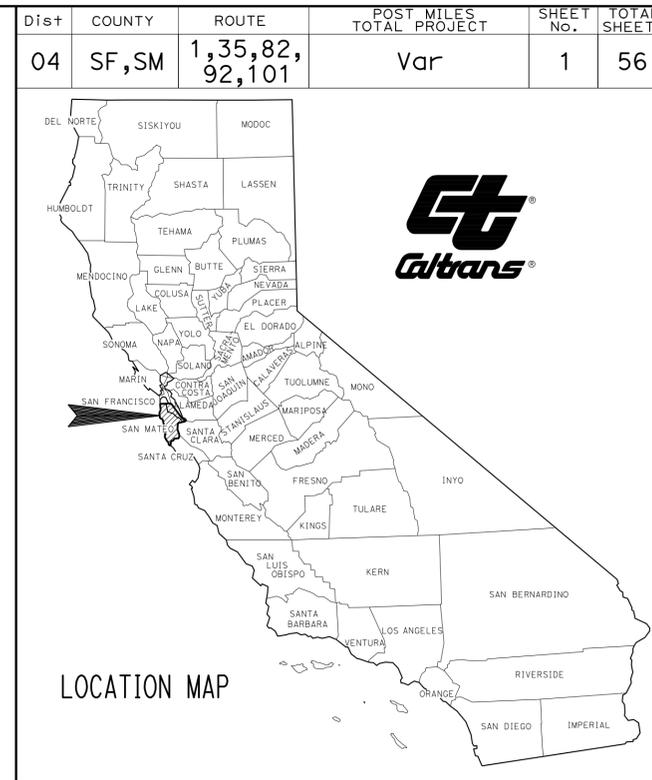
PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN SAN FRANCISCO AND SAN MATEO COUNTIES  
AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

INDEX OF PLANS

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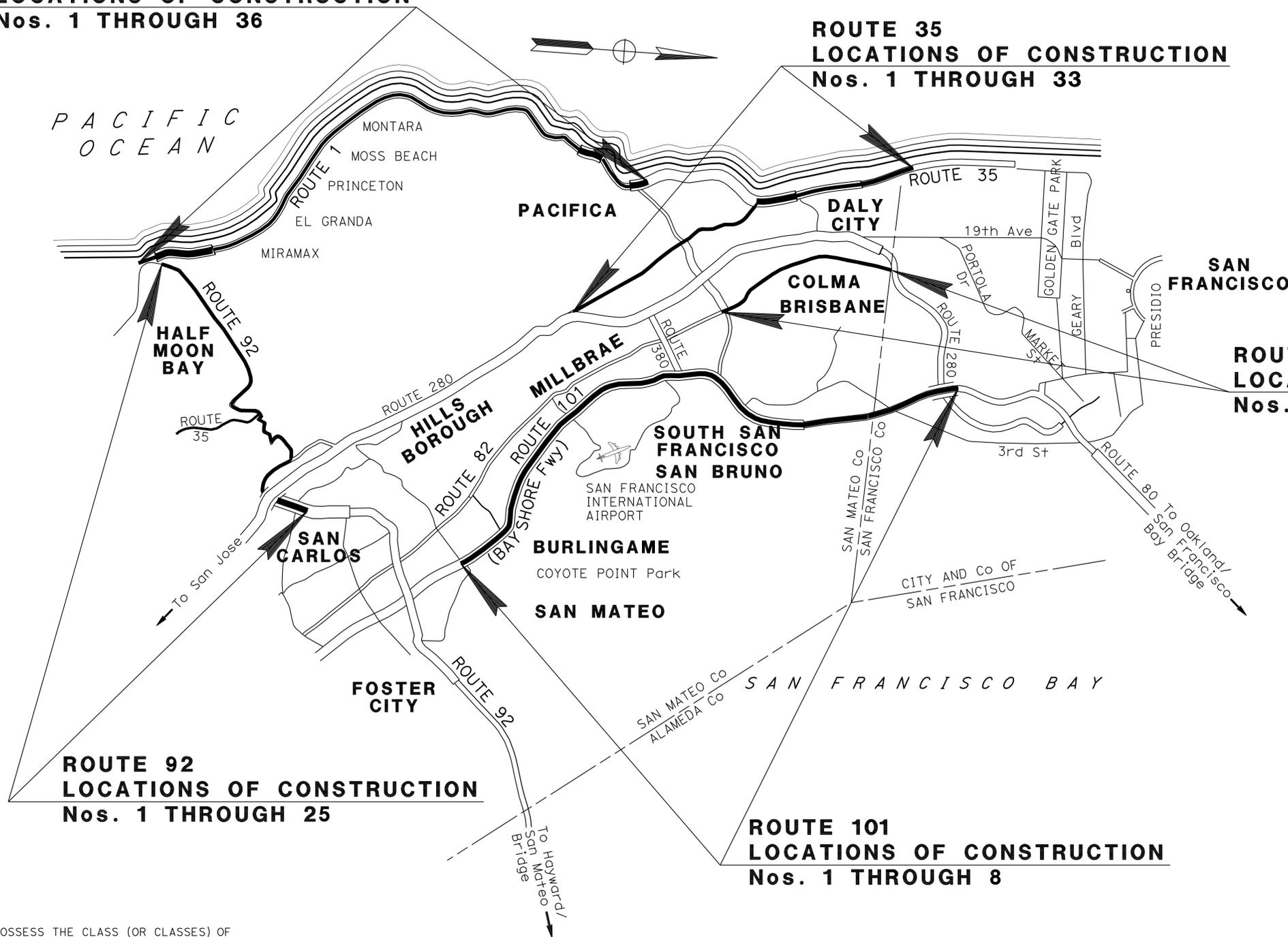
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.



**ROUTE 1  
LOCATIONS OF CONSTRUCTION  
Nos. 1 THROUGH 36**

**ROUTE 35  
LOCATIONS OF CONSTRUCTION  
Nos. 1 THROUGH 33**

**ROUTE 82  
LOCATIONS OF CONSTRUCTION  
Nos. 1 THROUGH 6**



**NOTE:**  
THE TABLE OF LOCATIONS OF CONSTRUCTION IS SHOWN ON THE LOCATIONS OF CONSTRUCTION SHEET.

**LOCATIONS OF CONSTRUCTION**

BRIDGE No.	BRIDGE NAME	ROUTE	POST MILE
35-0200G	ROUTE 35/280 SEPARATION	SM-35	23.06
35-0205R	ROUTE 35/1 SEPARATION	SM-35	28.68
35-0205L	ROUTE 35/1 SEPARATION	SM-35	28.72
35-0003	COLMA CREEK	SM-82	22.36
35-0015	PILARCITOS CREEK	SM-92	3.32
35-0207	RALSTON Ave OC	SM-92	7.93
35-0026	THIRD Ave OC	SM-101	13.46
35-0096	BROADWAY OC	SM-101	16.252

**ROUTE 92  
LOCATIONS OF CONSTRUCTION  
Nos. 1 THROUGH 25**

**ROUTE 101  
LOCATIONS OF CONSTRUCTION  
Nos. 1 THROUGH 8**

11-24-09  
PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER  
T.C. Nguyen  
No. 58137  
Exp. 6-30-10  
CIVIL  
STATE OF CALIFORNIA  
March 8, 2010  
PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

NO SCALE



PROJECT MANAGER  
AL B LEE  
DESIGN ENGINEER  
KAM LEUNG

**LOCATIONS OF CONSTRUCTION**

COUNTY	ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
SM	1-1	AT PILARCITOS CREEK 35-139	SB	28.96
SM	1-2	S OF GRAND Blvd	NB	29.36
SM	1-3	N OF GRAND Blvd	NB	29.37
SM	1-4	NEAR KEHOE Ave	NB	29.70
SM	1-5	NEAR KEHOE Ave	SB	29.70
SM	1-6	NEAR RUISEAU FRANCAIS Ave	SB	30.30
SM	1-7	NEAR RUISEAU FRANCAIS Ave	NB	30.30
SM	1-8	S OF ROOSEVELT Blvd	NB	30.82
SM	1-9	N OF ROOSEVELT Blvd	NB	31.00
SM	1-10	N OF ROOSEVELT Blvd	SB	31.00
SM	1-11	NEAR MIRAMAR Dr	SB	31.34
SM	1-12	NEAR MIRAMAR Dr	NB	31.34
SM	1-13	AT CAPISTRANO Rd	NB	33.30
SM	1-14	AT CAPISTRANO Rd	SB	33.30
SM	1-15	N OF H.M.BAY AIRPORT ENT	NB	34.10
SM	1-16	S OF VALLEMAR- ETHELDORE St	NB	35.30
SM	1-17	S OF VALLEMAR- ETHELDORE St	SB	35.30
SM	1-18	N OF VALLEMAR- ETHELDORE St	SB	35.34
SM	1-19	S OF MCNEE RANCH Rd	NB	37.10
SM	1-20	S OF MCNEE RANCH Rd	SB	37.10
SM	1-21	N OF MCNEE RANCH Rd	SB	37.54
SM	1-22	S OF GRAY WHALE COVE PARKING	SB	37.70
SM	1-23	N OF GRAY WHALE COVE PARKING	SB	38.24
SM	1-24	S OF SAN PEDRO Ave	NB	40.50
SM	1-25	S OF SAN PEDRO Ave	SB	40.74
SM	1-26	AT SAN PEDRO CR BR 35-53	NB	40.85
SM	1-27	AT SAN PEDRO CR BR 35-53	SB	40.85
SM	1-28	N OF LINDA MAR Blvd	NB	40.96
SM	1-29	N OF CRESPI Dr	SB	41.50
SM	1-30	S OF ROCKAWAY	SB	41.90
SM	1-31	N OF SAN MARLO WAY	SB	42.20
SM	1-32	S OF WESTPORT Dr	NB	43.07
SM	1-33	S OF WESTPORT Dr	SB	43.07
SM	1-35	N OF WESTPORT Dr	SB	43.09
SM	1-36	N OF WESTPORT Dr	SB	43.15

**NOTE:**  
 EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY LOCATED.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	2	56

11-24-09  
 REGISTERED CIVIL ENGINEER DATE

3-8-10  
 PLANS APPROVAL DATE

T.C. Nguyen  
 No. 58137  
 Exp. 6-30-10  
 CIVIL

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**LOCATIONS OF CONSTRUCTION**

COUNTY	ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
SF	35-1	N OF COUNTY LINE	NB	0.07
SF	35-2	NEAR OLYMPIC CLUB ENTR	SB	0.12
SF	35-3	NEAR OLYMPIC CLUB ENTR	NB	0.15
SF	35-4	S OF JOHN MUIR Dr	SB	0.20
SF	35-5	S OF JOHN MUIR Dr	NB	0.50
SF	35-6	AT JOHN MUIR Dr	NB	0.80
SM	35-7	OFF-RAMP FROM NB Rte 280	NB	23.05
SM	35-8	OFF-RAMP FROM NB Rte 280, LEFT SIDE	NB	23.06
SM	35-9	0.4 MILE N OF Jct Rte 280	SB	23.40
SM	35-10	0.7 MILE N OF Jct Rte 280	SB	23.70
SM	35-11	S OF SAN BRUNO Ave	NB	24.15
SM	35-12	N OF SAN BRUNO Ave	SB	24.36
SM	35-13	N OF SAN BRUNO Ave	NB	24.40
SM	35-14	S OF SNEATH Ave	NB	24.60
SM	35-15	S OF SNEATH Ave	NB	24.70
SM	35-16	S OF SNEATH Ave	SB	24.80
SM	35-17	S OF COLLEGE BERKSHIRE Dr	NB	25.48
SM	35-18	S OF COLLEGE BERKSHIRE Dr	SB	25.48
SM	35-19	N OF COLLEGE BERKSHIRE Dr	NB	25.50
SM	35-20	S OF SHARP PARK Rd	NB	26.00
SM	35-21	N OF SHARP PARK Rd	NB	26.30
SM	35-22	N OF SHARP PARK Rd	SB	26.40
SM	35-23	N OF GLENCOURT KING Dr	NB	27.30
SM	35-24	N OF GLENCOURT KING Dr	NB	27.42
SM	35-25	N OF HICKEY Blvd	NB	28.00
SM	35-26	N OF HICKEY Blvd	SB	28.08
SM	35-27	ON-RAMP FROM NB Rte 1	NB	28.68
SM	35-28	AT Jct WITH Rte 1	SB	28.72
SM	35-29	N OF WESTMOOR Ave	NB	29.70
SM	35-30	S OF WESTRIDGE Ave	NB	30.17
SM	35-31	N OF WESTRIDGE Ave	NB	30.27
SM	35-32	N OF JOHN DALY Blvd	NB	30.90
SM	35-33	N OF OLYMPIC WAY	NB	31.30

**LOCATIONS OF CONSTRUCTION**

**LOCATIONS OF CONSTRUCTION**

COUNTY	ROUTE-LOCATION No.	DESCRIPTION	DIRECTION	PM
SM	82-1	N OF FRANCISCO Dr	NB	19.76
SM	82-2	0.7 MILE S OF HICKEY Blvd	SB	21.21
SM	82-3	AT COLMA CREEK	NB	22.36
SM	82-4	AT COLMA CREEK	SB	22.36
SM	82-5	AT WOODLAWN SOUTH ENTRANCE	SB	23.18
SM	82-6	AT WOODLAWN NORTH ENTRANCE	SB	23.23
SM	92-1	0.83 MILE E OF Jct Rte 1	EB	0.83
SM	92-2	1 MILE E OF Jct Rte 1	EB	1.00
SM	92-4	AT DIGGERS CANYON Rd	WB	1.40
SM	92-5	E OF DIGGERS CANYON Rd	EB	1.80
SM	92-6	E OF DIGGERS CANYON Rd	WB	1.80
SM	92-7	0.6 MILE W OF PAC COAST AGG/ QUARRY Rd	WB	2.35
SM	92-11	AT PILARCITOS CREEK	EB	3.30
SM	92-12	AT PILARCITOS CREEK	WB	3.32
SM	92-13	1.1 MILE W OF Jct Rte 35 SOUTH	EB	4.10
SM	92-16	0.3 MILE W OF Jct Rte 35 SOUTH	WB	4.90
SM	92-17	0.1 MILE W OF Jct Rte 35 SOUTH	WB	5.10
SM	92-18	0.1 MILE E OF Jct Rte 35 SOUTH	EB	5.30
SM	92-19	0.2 MILE E OF Jct Rte 35 SOUTH	EB	5.40
SM	92-20	0.8 MILE E OF Jct Rte 35 SOUTH	EB	6.00
SM	92-21	NEAR CRYSTAL SPRINGS RESERVOIR	EB	6.70
SM	92-22	W OF Jct Rte 35 NORTH	EB	6.90
SM	92-23	NEAR Jct Rte 280	EB	7.20
SM	92-25	SB RALSTON Ave OVERCROSSING	EB	7.93
SF	101-1	SB OFF-RAMP TO SILVER Ave	SB	1.860
SF	101-2	WB CESAR CHAVEZ UC	NB	2.920
SM	101-3	EB 3RD Ave OC		13.461
SM	101-4	WB BROADWAY OC		16.575
SM	101-5	NB OFF OLD BAYSHORE, UNDER COLUMN EXIT SIGN	NB	23.260
SM	101-6	NB OFF OLD BAYSHORE Blvd, LEFT SIDE	NB	23.320
SM	101-7	EB SIERRA POINT OVERHEAD		23.660
SM	101-8	WB SIERRA POINT OVERHEAD		23.660

**NOTE:**  
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	3	56

11-24-09  
REGISTERED CIVIL ENGINEER DATE

3-8-10  
PLANS APPROVAL DATE

T.C. Nguyen  
No. 58137  
Exp. 6-30-10  
CIVIL

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**LOCATIONS OF CONSTRUCTION**

**NOTES:**

- EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY LOCATED.
- EXACT POSITION OF LUMBER ON MBGR SHALL BE DETERMINED BY THE ENGINEER.
- FOR DETAILS NOT SHOWN, SEE STD PLANS MAY 2006.

**ABBREVIATION:**

HMA HOT MIX ASPHALT

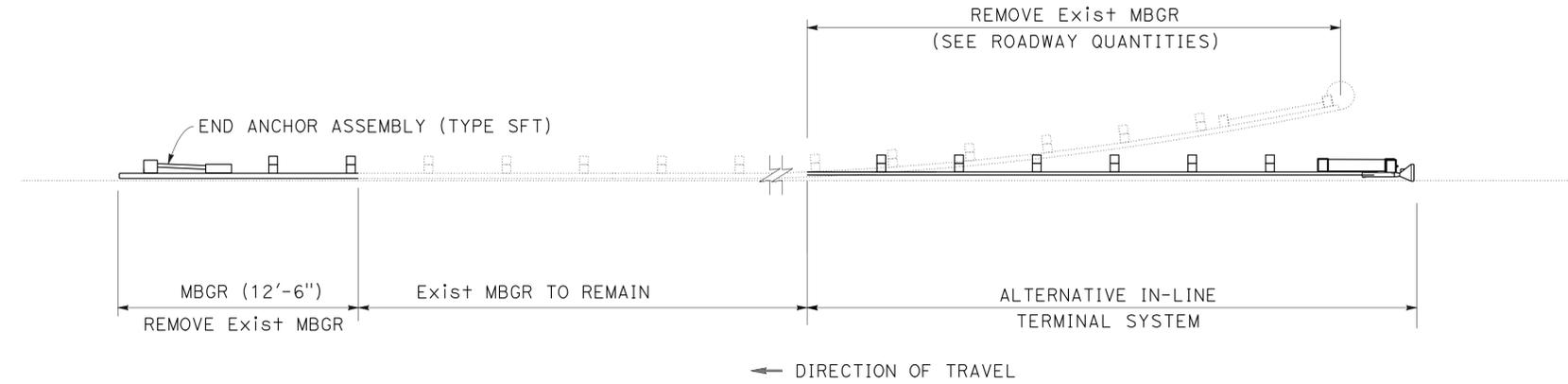
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11-24-09  
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3-8-10  
 PLANS APPROVAL DATE

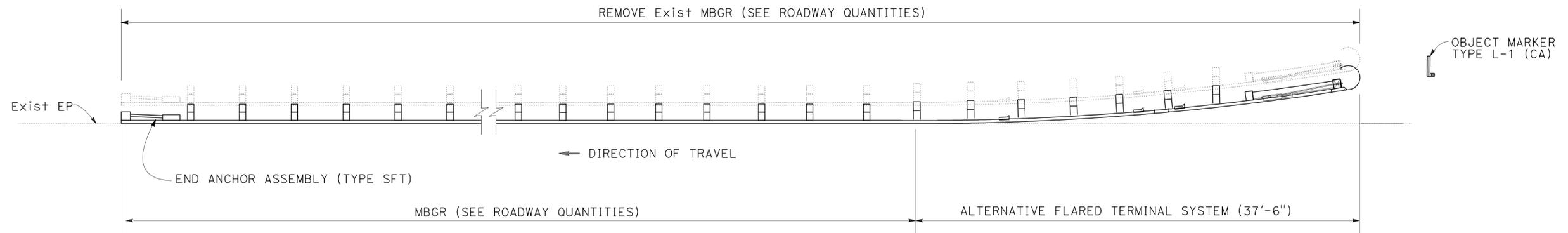
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**DETAIL A**

Loc 82-5, 82-6



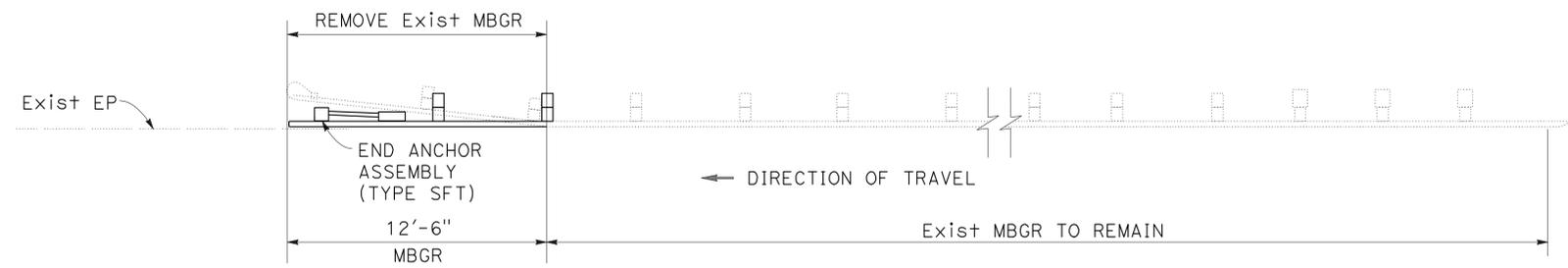
**DETAIL B**

Loc 1-36, 82-4

**CONSTRUCTION DETAILS**  
 NO SCALE

**C-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	5	56
			11-24-09	REGISTERED CIVIL ENGINEER DATE	
			3-8-10	PLANS APPROVAL DATE	
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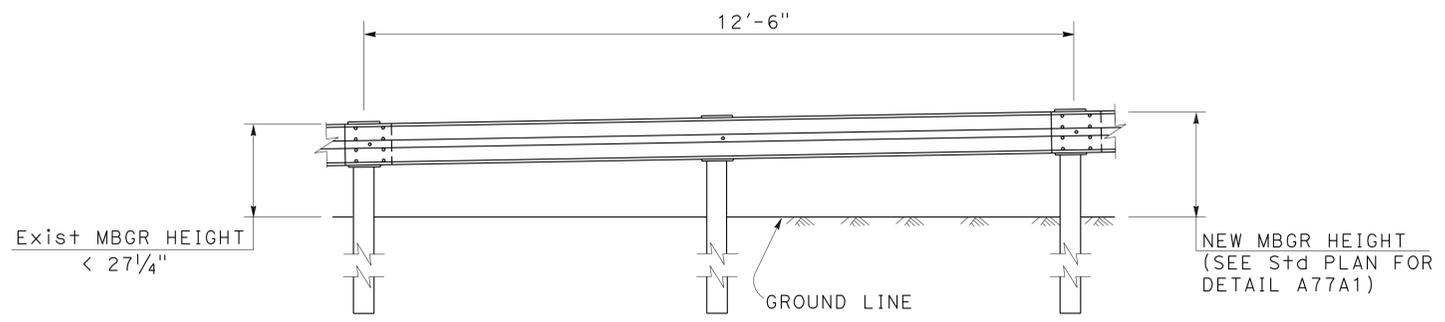
**DETAIL C**

Loc 35-4, 35-6, 35-7, 35-16, 35-26, 35-29, 82-1



**DETAIL D**

Loc 1-13, 1-14, 35-3, 101-2



**TRANSITION DETAIL**

**CONSTRUCTION DETAILS**  
NO SCALE

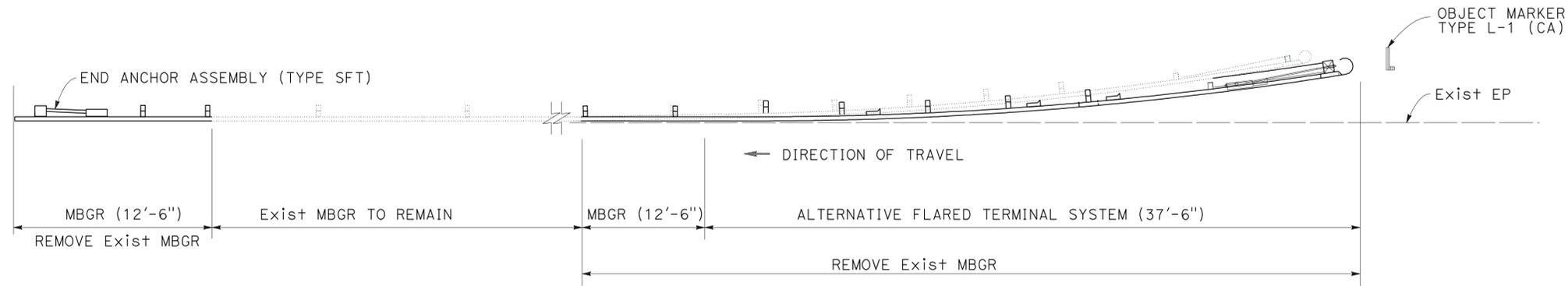
**C-2**

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

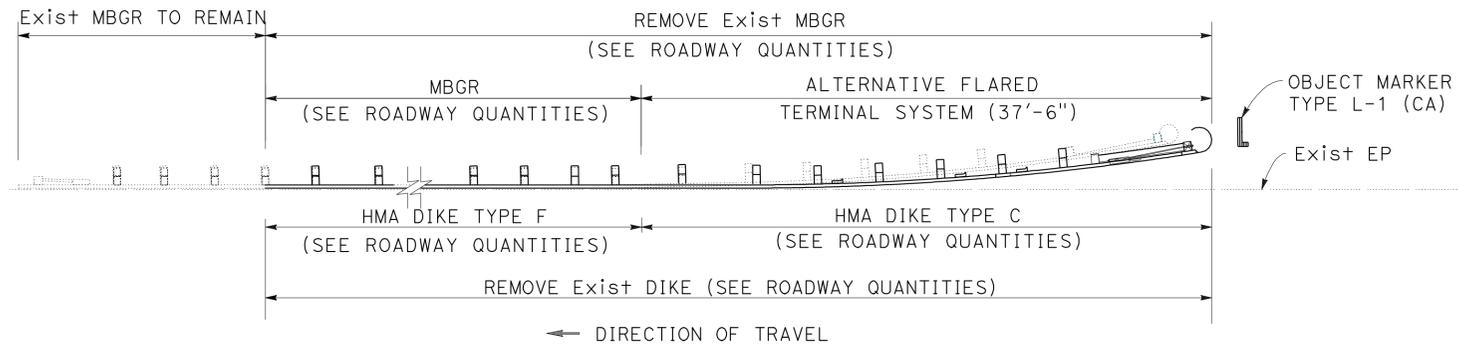
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR: KAM LEUNG  
CALCULATED/DESIGNED BY: HONMING KONG  
CHECKED BY: THANH C NGUYEN  
REVISOR: TN  
DATE: 11/23/09

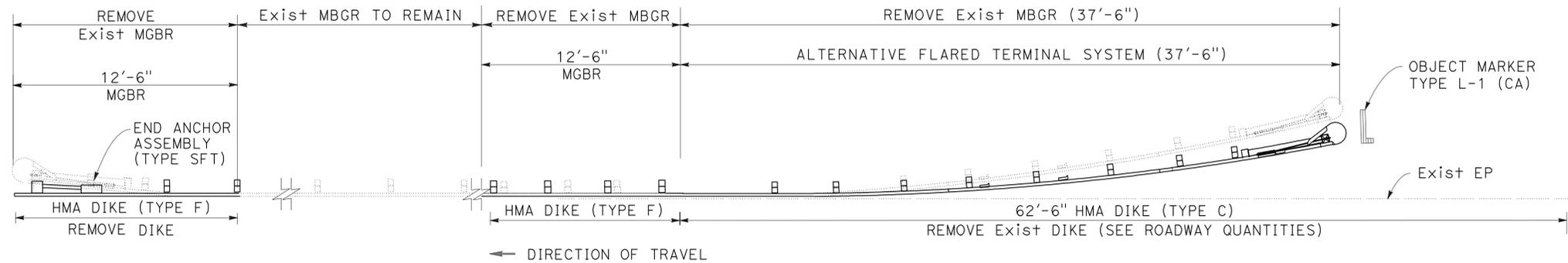
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04	SF, SM	1,35,82, 92,101	Var	6	56
			11-24-09		
			REGISTERED CIVIL ENGINEER	DATE	
			3-8-10	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



**DETAIL E**  
 Loc 1-28, 1-29, 1-30, 1-31, 35-30, 35-31, 35-32



**DETAIL F**  
 Loc 92-13



**DETAIL G**  
 Loc 1-12, 35-9, 35-12, 35-18, 35-22, 35-33

**CONSTRUCTION DETAILS**  
 NO SCALE

**C-3**

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
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 FUNCTIONAL SUPERVISOR: KAM LEUNG  
 CHECKED BY: HONMING KONG, THANH C NGUYEN  
 REVISIONS: TN 11/23/09  
 BORDER LAST REVISED 4/11/2008



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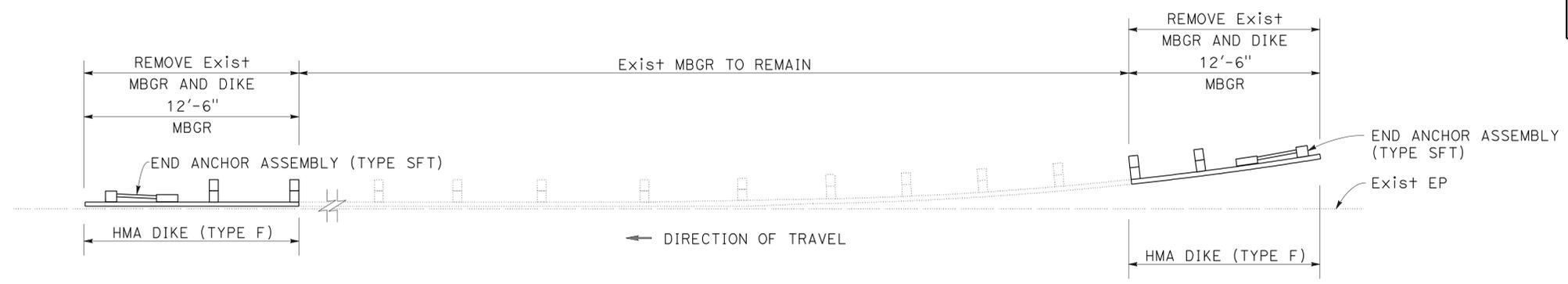
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04	SF, SM	1,35,82, 92,101	Var	7	56

11-24-09  
 REGISTERED CIVIL ENGINEER DATE

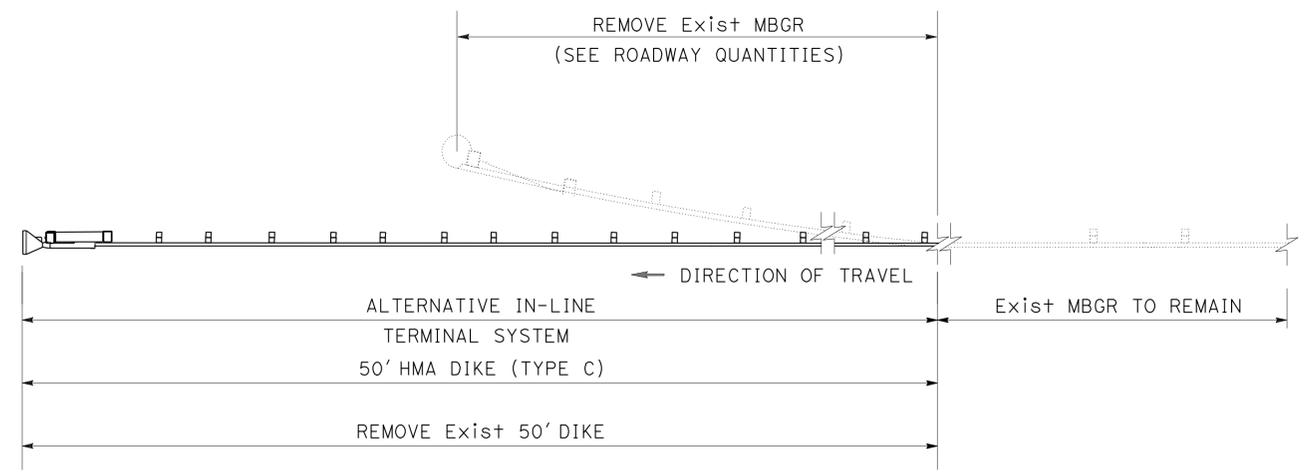
3-8-10  
 PLANS APPROVAL DATE

T.C. Nguyen  
 No. 58137  
 Exp. 6-30-10  
 CIVIL

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**DETAIL H**  
 Loc 1-33

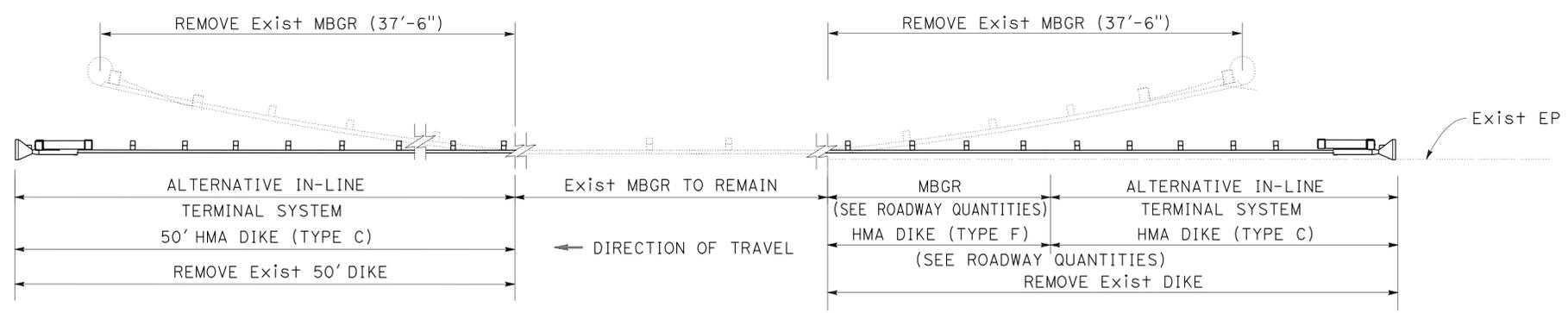
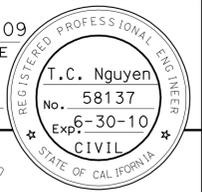


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 Loc 35-24

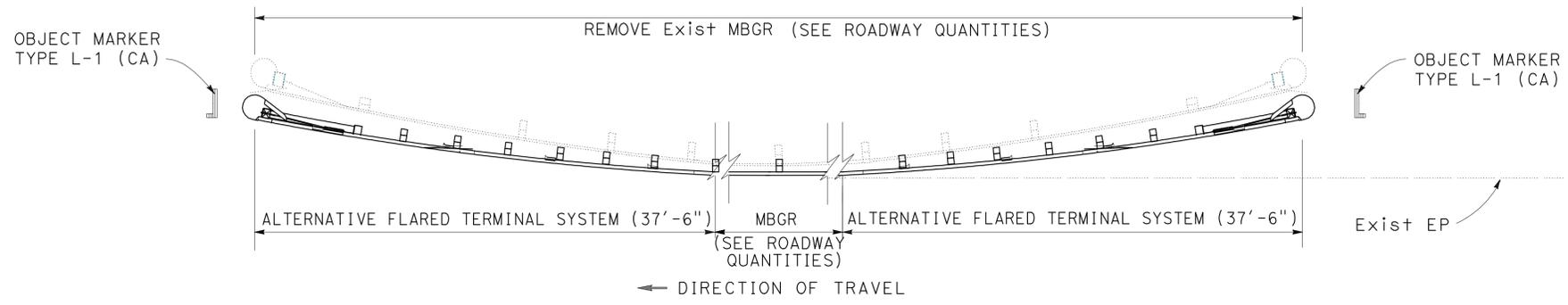
FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

**CONSTRUCTION DETAILS**  
 NO SCALE

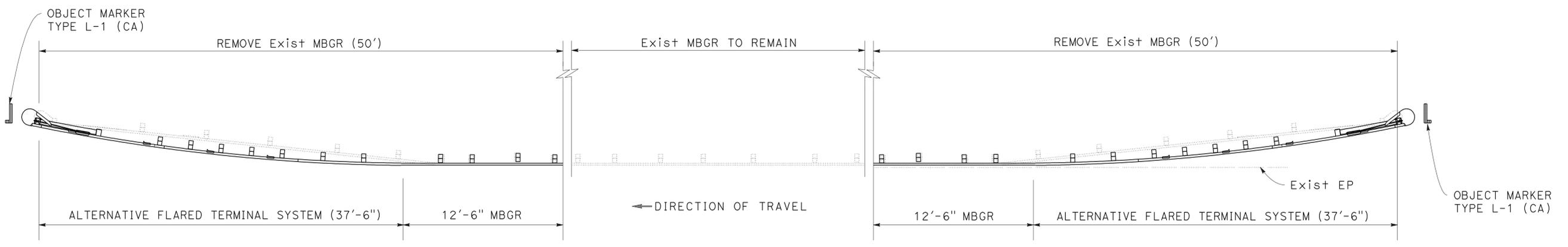
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04	SF, SM	1,35,82, 92,101	Var	8	56
			11-24-09	DATE	
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**DETAIL K**  
Loc 35-13, 35-14



**DETAIL L**  
Loc 35-11, 92-2, 92-5, 92-6, 92-21



**DETAIL M**  
Loc 1-2, 1-3, 1-4, 1-5, 1-9, 1-25, 35-19, 35-20, 35-23, 92-19, 92-22, 92-23

**CONSTRUCTION DETAILS**  
NO SCALE

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
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FUNCTIONAL SUPERVISOR: KAM LEUNG  
REVISOR: HONMING KONG, THANH C NGUYEN  
DATE: 11/23/09

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02-09-10 | TIME PLOTTED => 12:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	9	56
			11-24-09	DATE	
			3-8-10	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER T.C. Nguyen No. 58137 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA					
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**Caltrans**  
 DESIGN

TN  
 11/23/09

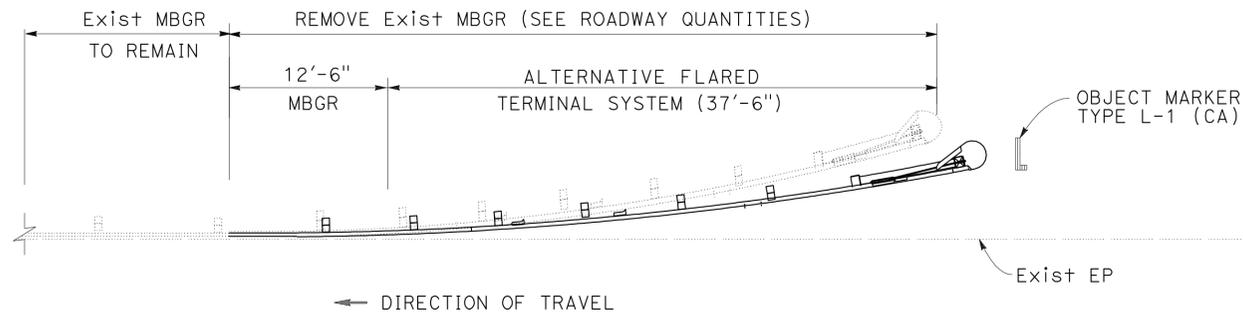
REVISOR  
 HONMING KONG  
 THANH C NGUYEN

DESIGNER  
 KAM LEUNG

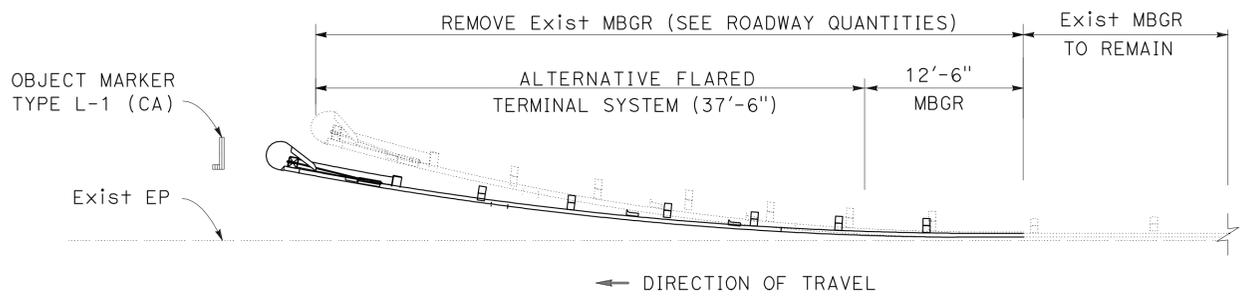
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 KAM LEUNG

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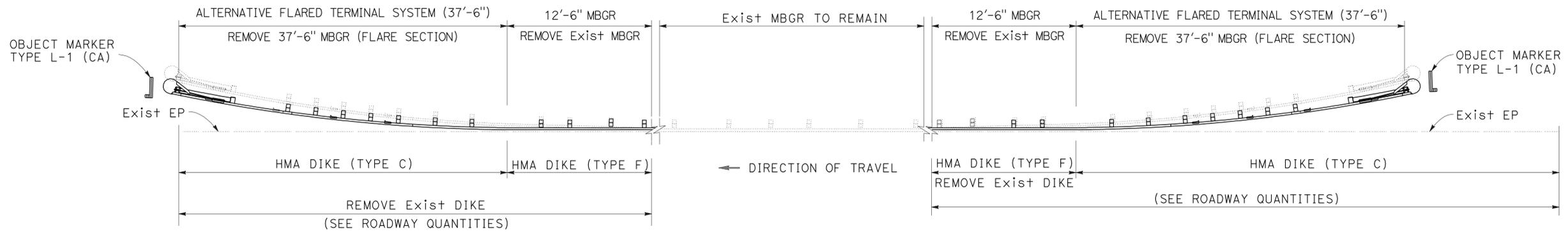
DESIGNED BY  
 HONMING KONG



**DETAIL N**  
 Loc 1-8, 1-16, 1-23, 35-5, 92-16, 92-17, 92-20, 101-1



**DETAIL O**  
 Loc 1-10, 1-18, 1-21, 1-22, 1-24, 92-1, 92-4, 92-7

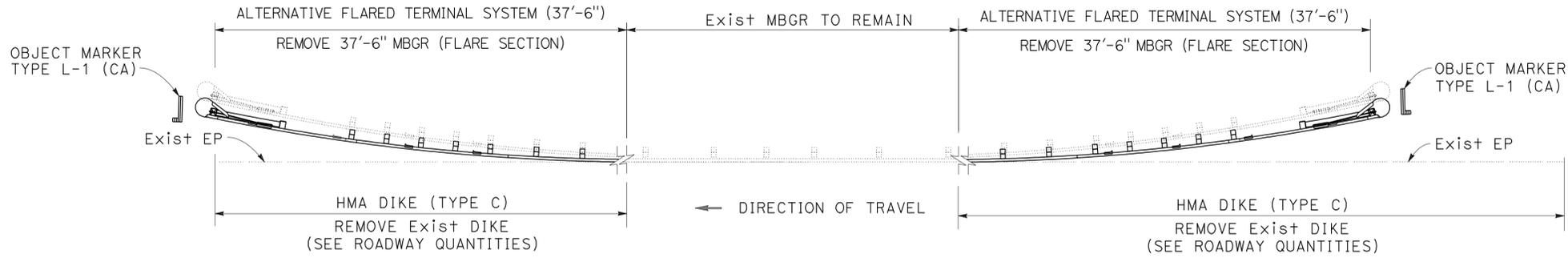


**DETAIL P**  
 Loc 1-6, 1-7, 1-17, 1-19, 1-20

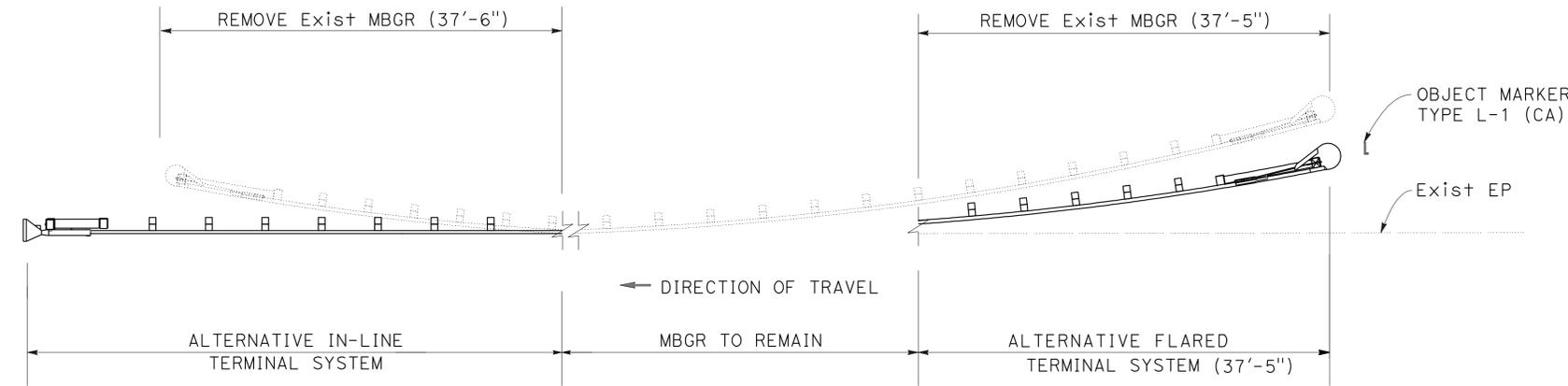
**CONSTRUCTION DETAILS**  
 NO SCALE

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

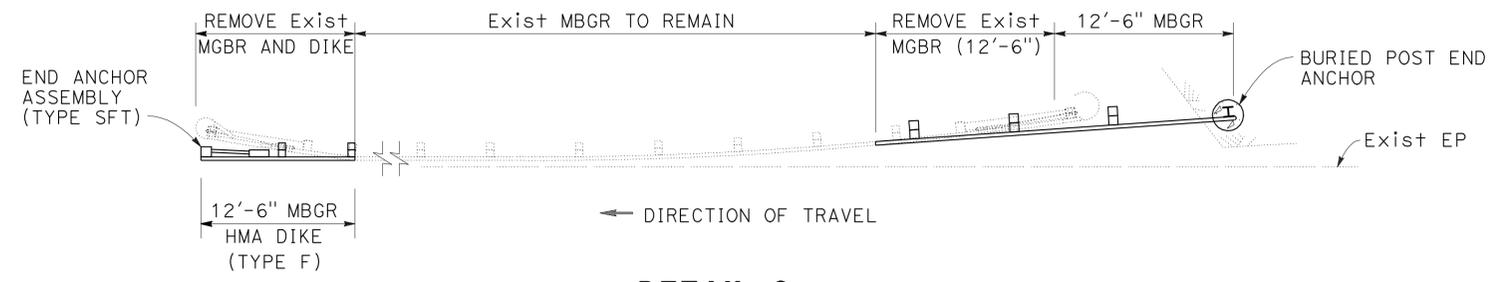
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**DETAIL Q**  
Loc 1-11



**DETAIL R**  
Loc 35-10, 35-21



**DETAIL S**  
Loc 35-25

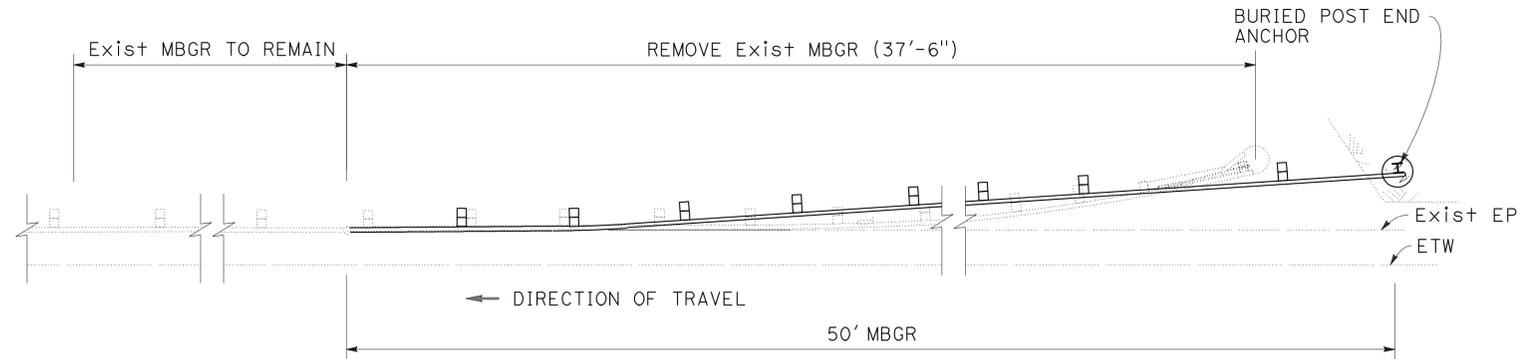
**CONSTRUCTION DETAILS**  
NO SCALE

**C-7**

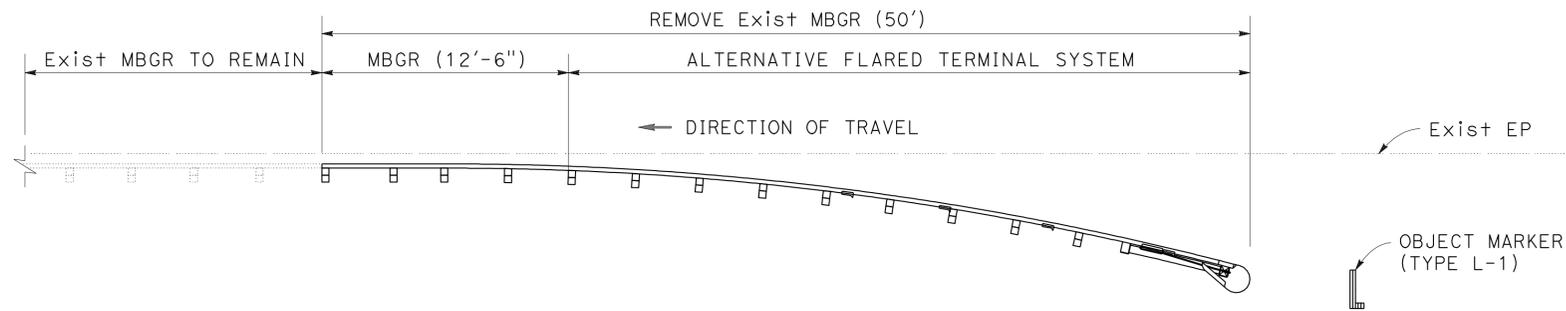
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 CHECKED BY: THANH C NGUYEN  
 HONMING KONG  
 REVISOR: THON NGUYEN  
 DATE: 11/23/09

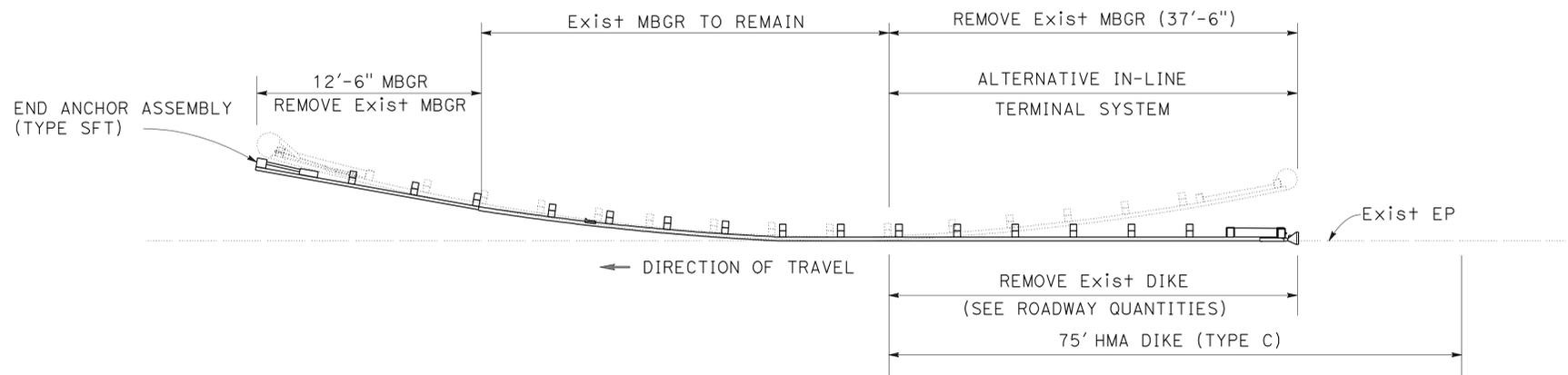
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	11	56
			11-24-09	DATE	
REGISTERED CIVIL ENGINEER					
3-8-10			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
					



**DETAIL T**  
Loc 35-1



**DETAIL U**  
Loc 101-6



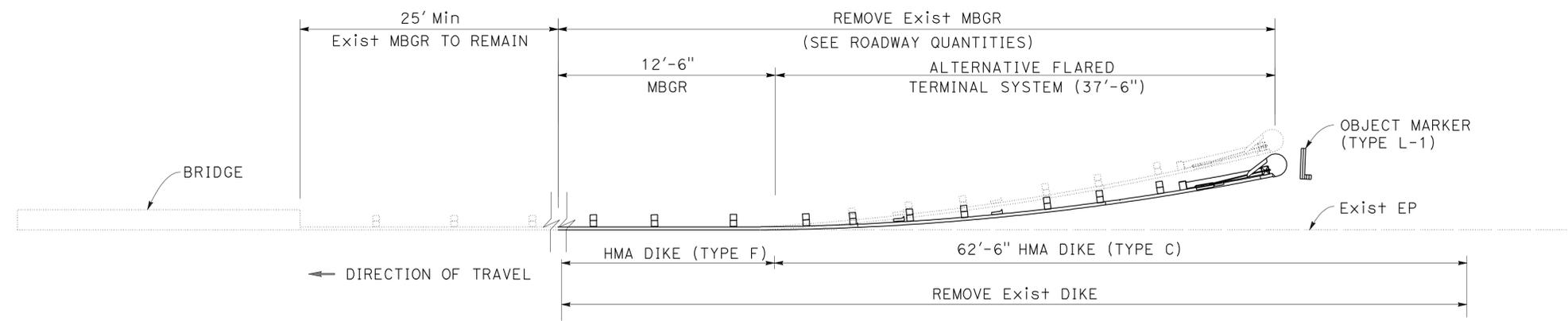
**DETAIL V**  
Loc 1-32, 1-35, 35-15

**CONSTRUCTION DETAILS**  
NO SCALE

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KAM LEUNG  
 CHECKED BY: [blank]  
 HONMING KONG  
 THANH C NGUYEN  
 REVISED BY: [blank]  
 DATE REVISED: [blank]  
 TN  
 11/23/09

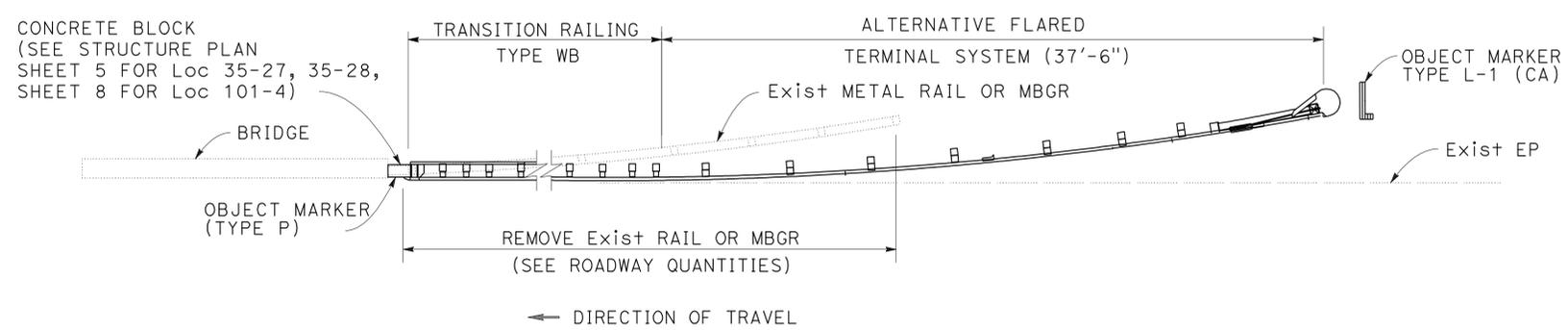
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04	SF, SM	1,35,82, 92,101	Var	12	56
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			3-8-10	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



**DETAIL W**  
Loc 1-1



**DETAIL X**  
Loc 1-26, 1-27



**DETAIL Y**  
Loc 35-27, 35-28, 101-4

**CONSTRUCTION DETAILS**  
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KAM LEUNG  
 CHECKED BY: HONMING KONG, THANH C NGUYEN  
 REVISIONS: TN 11/23/09  
 BORDER LAST REVISED 4/11/2008

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1



USERNAME => trmikesl  
DGN FILE => 40a871ga009.dgn

CU 04227

EA 0A8711

LAST REVISION | DATE PLOTTED => 10-MAR-2010  
 02-10-10 | TIME PLOTTED => 12:42

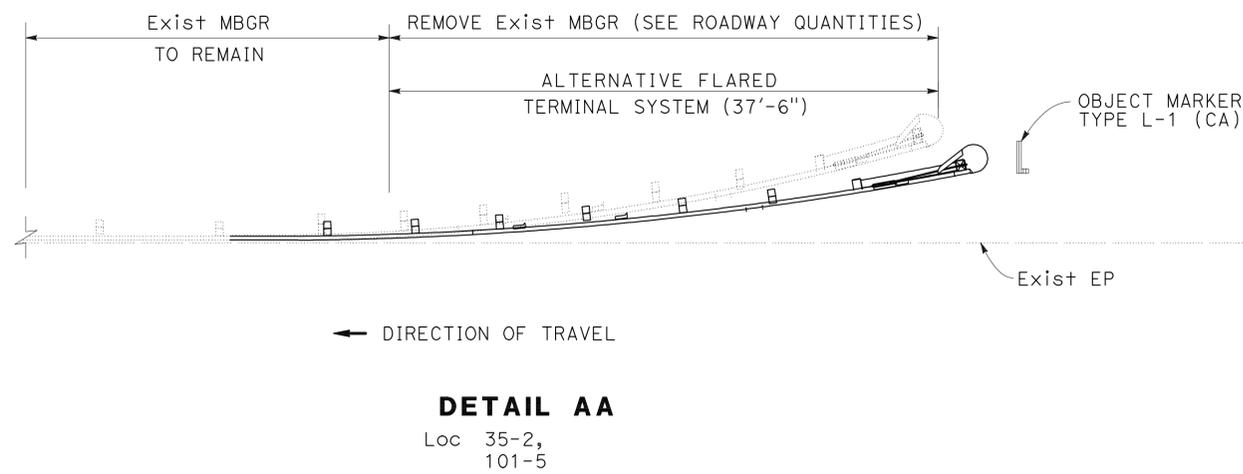
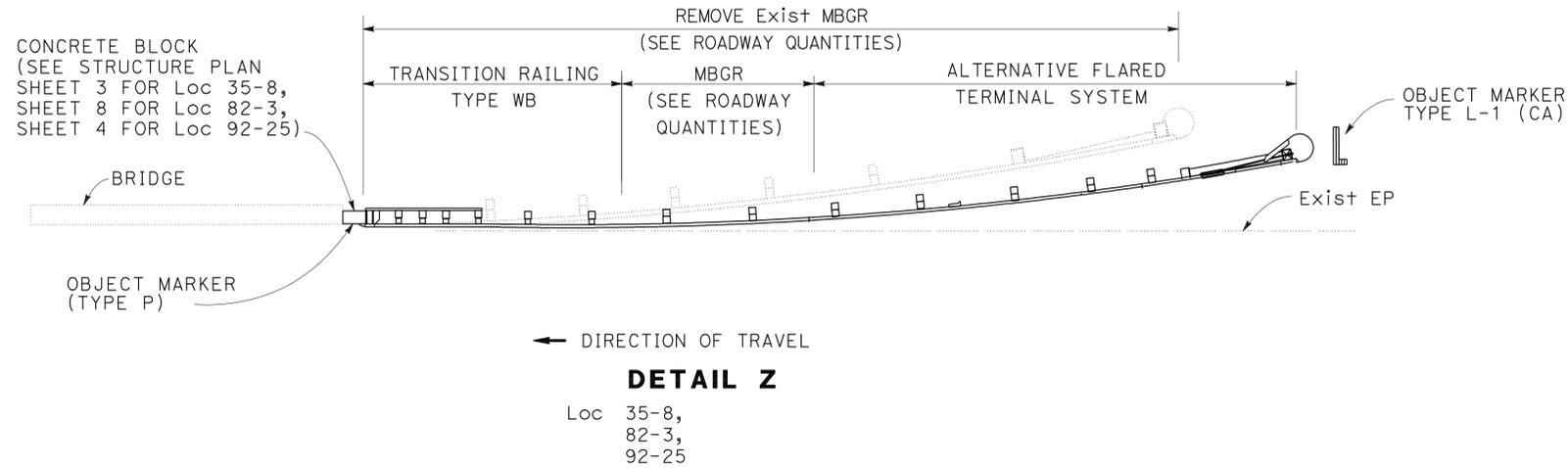
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04	SF, SM	1,35,82, 92,101	Var	13	56

11-24-09  
 REGISTERED CIVIL ENGINEER DATE

3-8-10  
 PLANS APPROVAL DATE

T.C. Nguyen  
 No. 58137  
 Exp. 6-30-10  
 CIVIL

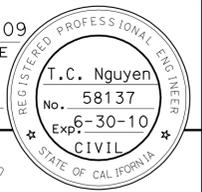
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



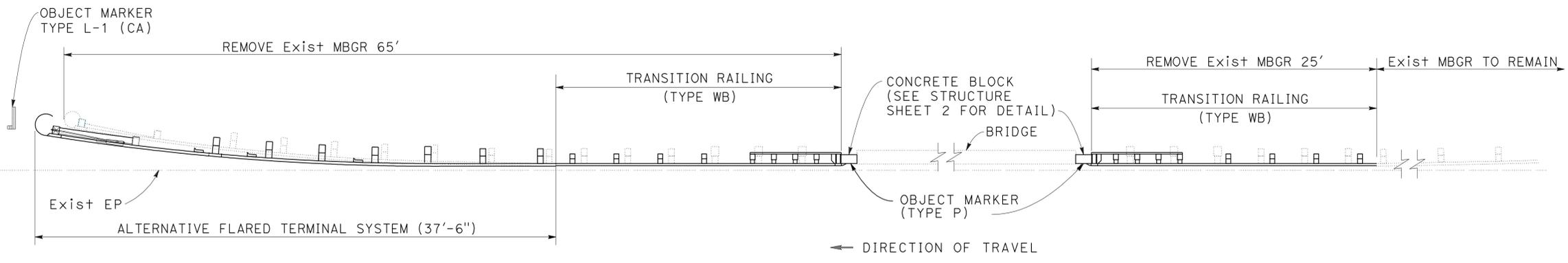
FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

**CONSTRUCTION DETAILS**  
 NO SCALE

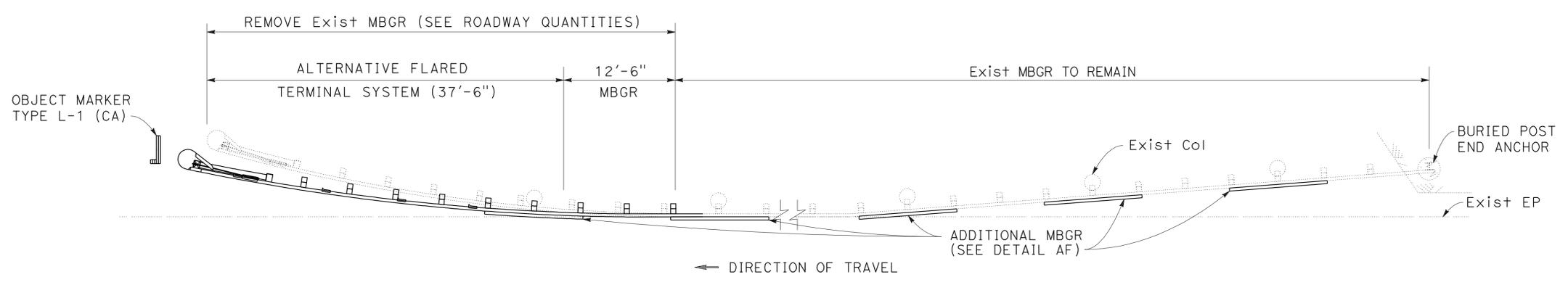
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04	SF, SM	1,35,82, 92,101	Var	14	56
			11-24-09	REGISTERED CIVIL ENGINEER DATE	
			3-8-10	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



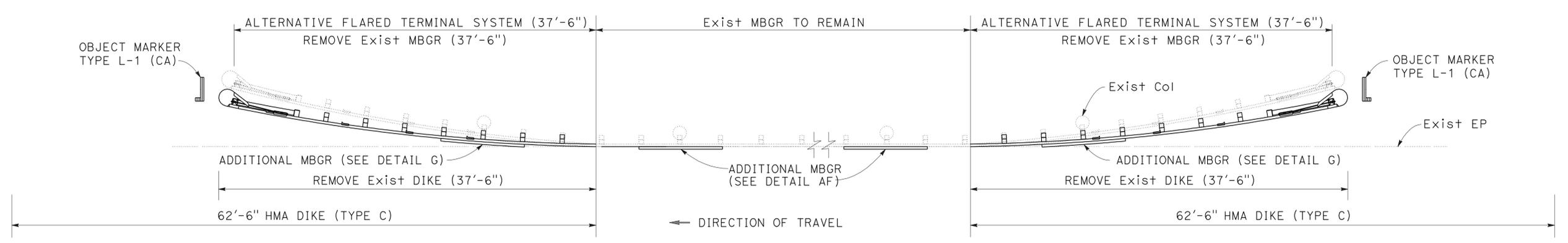
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KAM LEUNG  
 CHECKED BY: [blank]  
 DESIGNED BY: [blank]  
 HONMING KONG  
 THANH C NGUYEN  
 REVISIONS: TN 11/23/09  
 REVISIONS: [blank]



**DETAIL AC**  
Loc 92-12



**DETAIL AD**  
Loc 101-7



**DETAIL AE**  
Loc 101-8

**CONSTRUCTION DETAILS**  
NO SCALE

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1

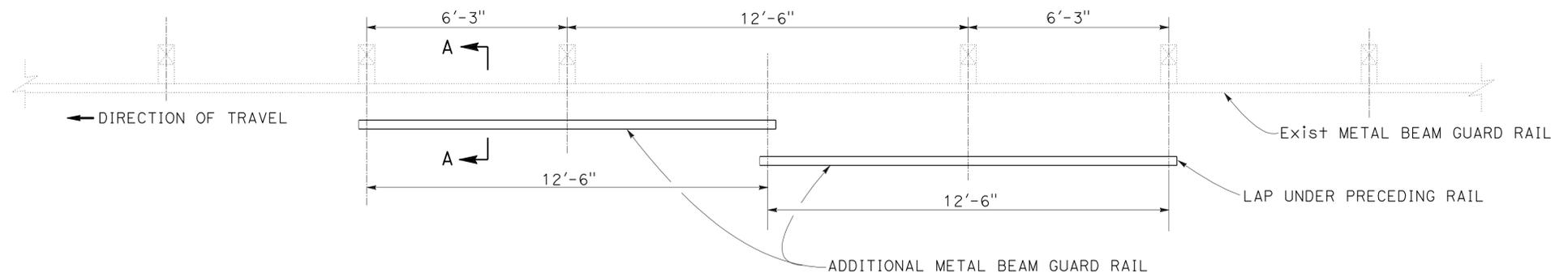
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM, SF	1,35,82, 92,101	Var	15	56

11-24-09  
REGISTERED CIVIL ENGINEER DATE  
3-8-10  
PLANS APPROVAL DATE

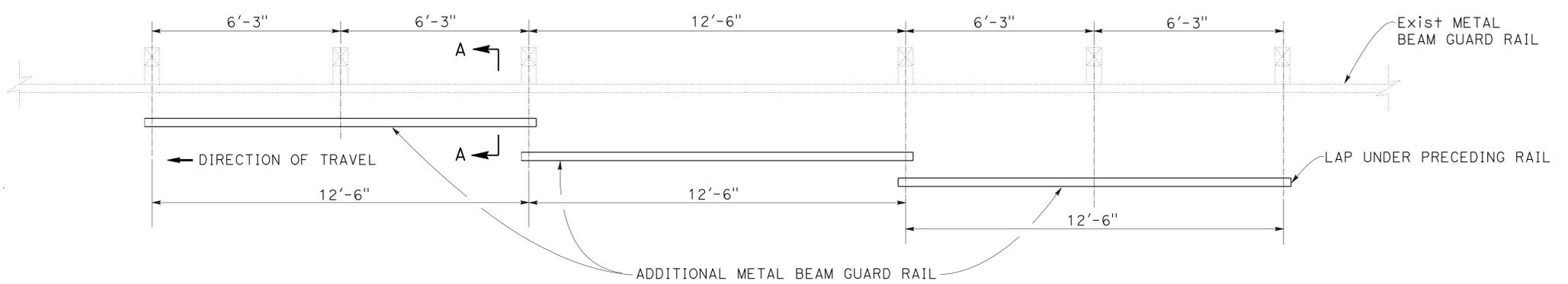
T.C. Nguyen  
No. 58137  
Exp. 6-30-10  
CIVIL

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.

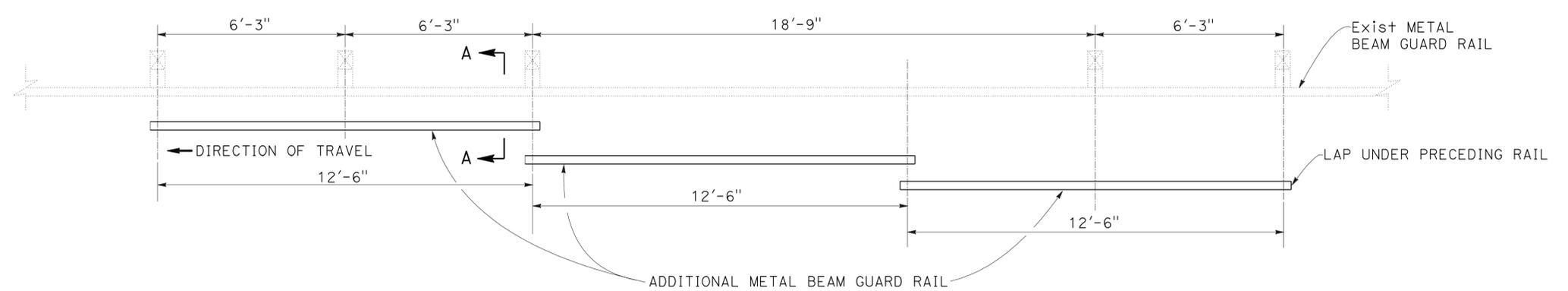
- NOTES:**
1. USE CASE 1 OR CASE 2 WHEN ONE POST IS OMITTED.
  2. USE CASE 3 WHEN TWO POSTS ARE OMITTED.
  3. FOR OTHER DETAILS, SEE STANDARD PLANS A77A, A77B AND A77C.
  4. APPLY AT LOCATION WHERE THERE' RE UNDERGROUND UTILITY CONFLICT.



**CASE 1**  
**ONE POST OMITTED (SPLICE IN CENTER)**

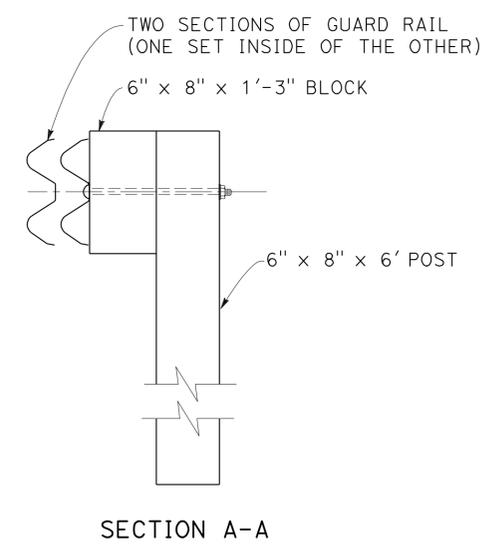


**CASE 2**  
**ONE POST OMITTED (SPLICE AT POSTS)**



**CASE 3**  
**TWO POST OMITTED**

**DETAIL AF**  
**LONG SPAN NESTED GUARD RAIL**



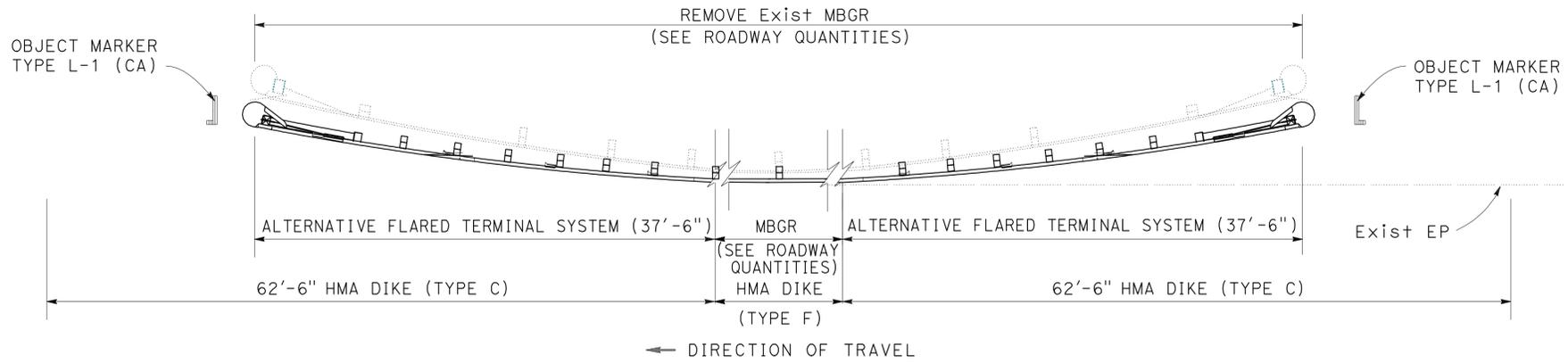
**CONSTRUCTION DETAILS**  
NO SCALE

**C-12**

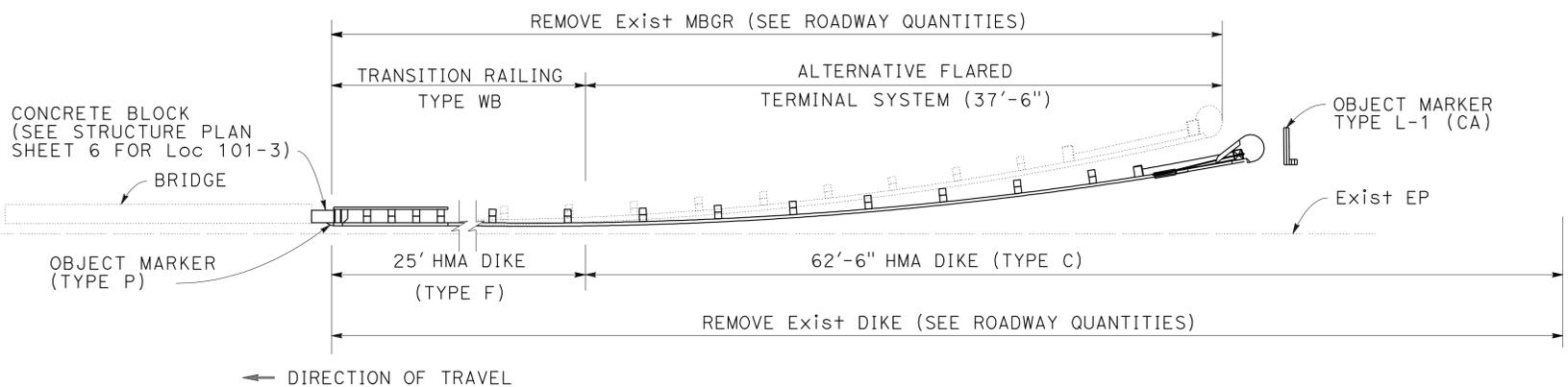
FOR NOTES, ABBREVIATIONS  
&/OR LEGEND, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
DESIGN  
FUNCTIONAL SUPERVISOR: KAM LEUNG  
CHECKED BY: THANH C NGUYEN  
REVISOR: HONMING KONG  
DATE REVISED: 11/23/09  
TN: 11/23/09

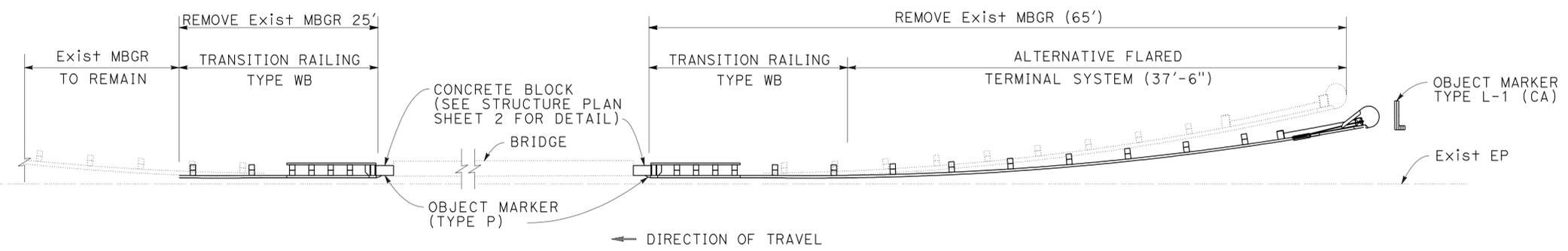
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04	SF, SM	1,35,82, 92,101	Var	16	56
			11-24-09	REGISTERED CIVIL ENGINEER DATE	
			3-8-10	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



**DETAIL AG**  
Loc 92-18



**DETAIL AH**  
Loc 101-3



**DETAIL AI**  
Loc 92-11

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KAM LEUNG  
 CALCULATED/DESIGNED BY: [blank]  
 CHECKED BY: [blank]  
 HONMING KONG  
 THANH C NGUYEN  
 REVISOR: [blank]  
 DATE REVISED: [blank]  
 TN  
 11/23/09  
 BORDER LAST REVISED 4/11/2008

**CONSTRUCTION DETAILS**  
NO SCALE

**C-13**

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-1



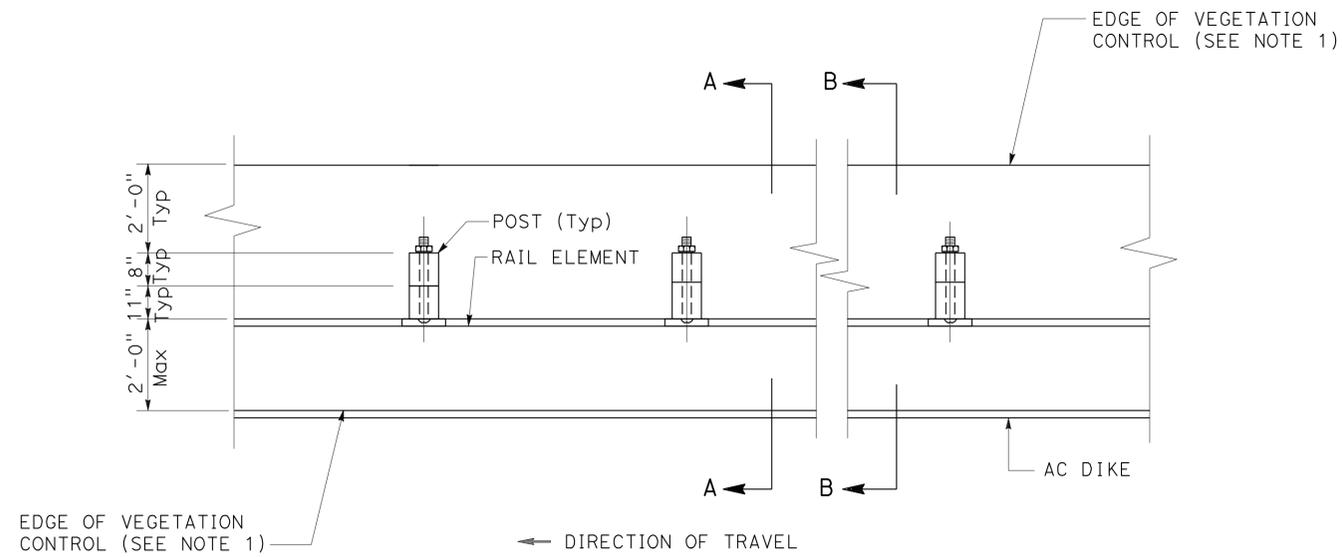
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DGN FILE => 40a871ga013.dgn

CU 04227

EA 0A8711

LAST REVISION | DATE PLOTTED => 10-MAR-2010  
 02-10-10 | TIME PLOTTED => 12:45

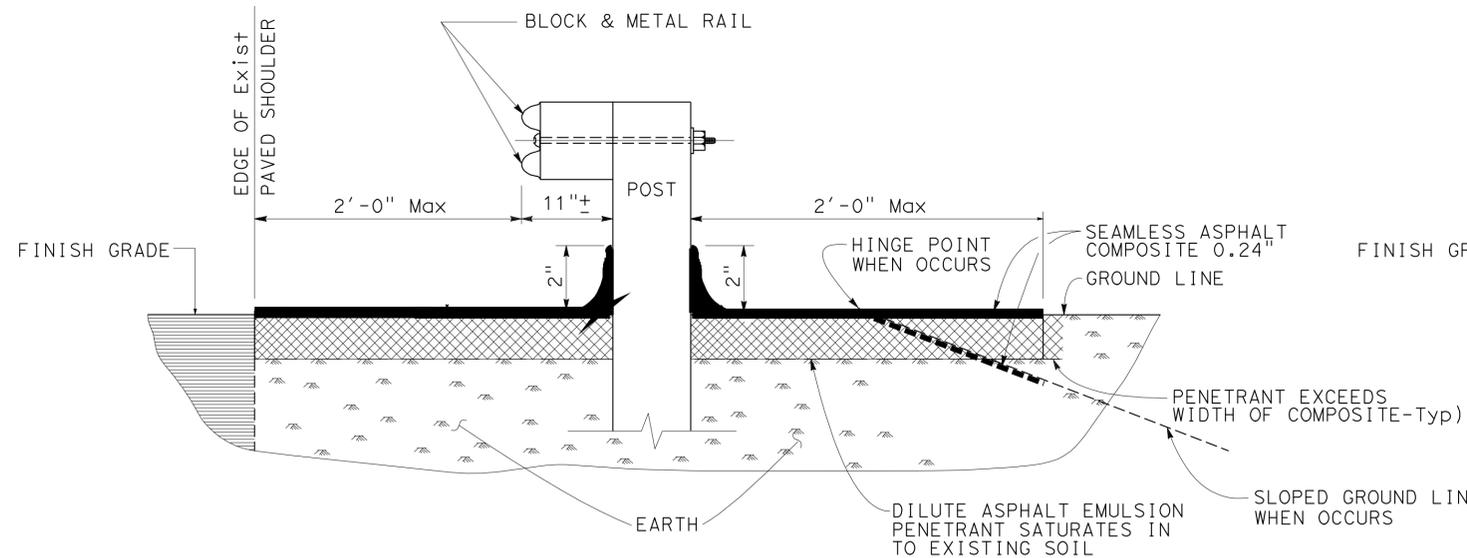
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	17	56
				11-24-09	
REGISTERED CIVIL ENGINEER				DATE	
3-8-10					
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
					



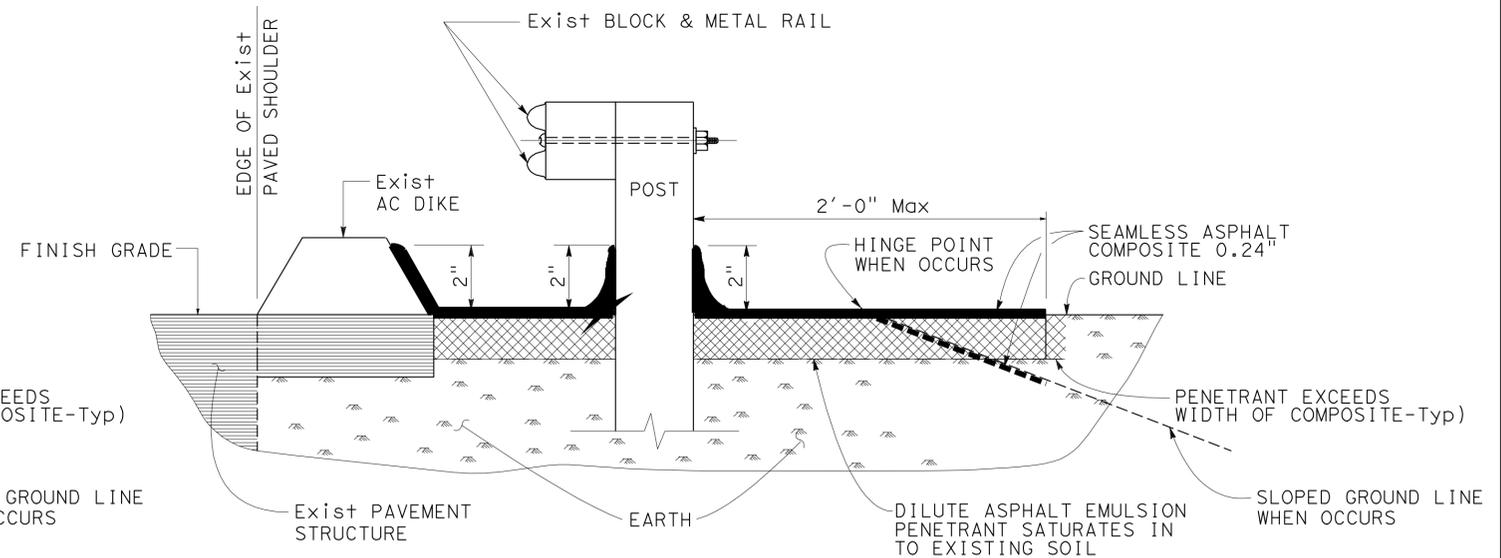
PLAN

**NOTES:**

1. THE WIDTH OF THE VEGETATION BARRIER SHOWN IS TYPICAL 24 INCHES MAXIMUM, FROM RAILING IN FRONT AND FROM POST IN THE BACK. GRUBBED SMOOTH SURFACE FREE OF VEGETATION IS REQUIRED PRIOR TO INSTALLATION.
2. IF THERE IS AN EXISTING DIKE UNDER THE RAILING OR LESS THAN 24" FROM THE FRONT OF THE RAILING, THE SEAMLESS COMPOSITE SHALL BE INSTALLED UP TO THE TOP 2 INCHES OF THE INSIDE WALL OF THE DIKE TO PROVIDE SOLID ANCHORAGE, AND PREVENT A GAP AT THE JUNCTION OF THE VEGETATION BARRIER AND DIKE.
3. WHERE PAVED SHOULDER EXISTS WITHIN 24" IN FRONT OF THE RAILING, INSTALL VEGETATION CONTROL BARRIER UP TO THE EDGE OF PAVED SHOULDER. SEAMLESS ASPHALT COMPOSITE IS NOT INTENDED FOR VEHICLE TRAFFIC.
4. DIRECTION OF ADJACENT TRAFFIC INDICATED BY ← .



SECTION A-A



SECTION B-B

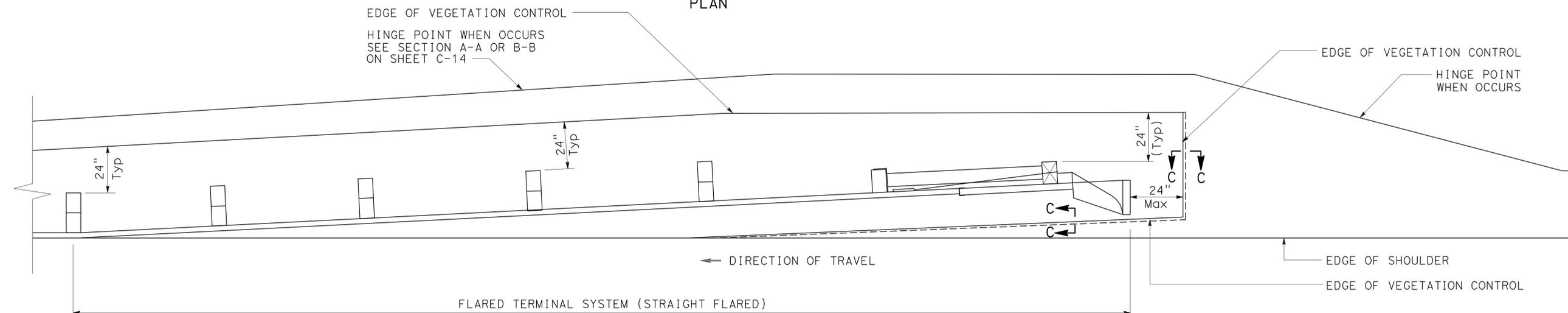
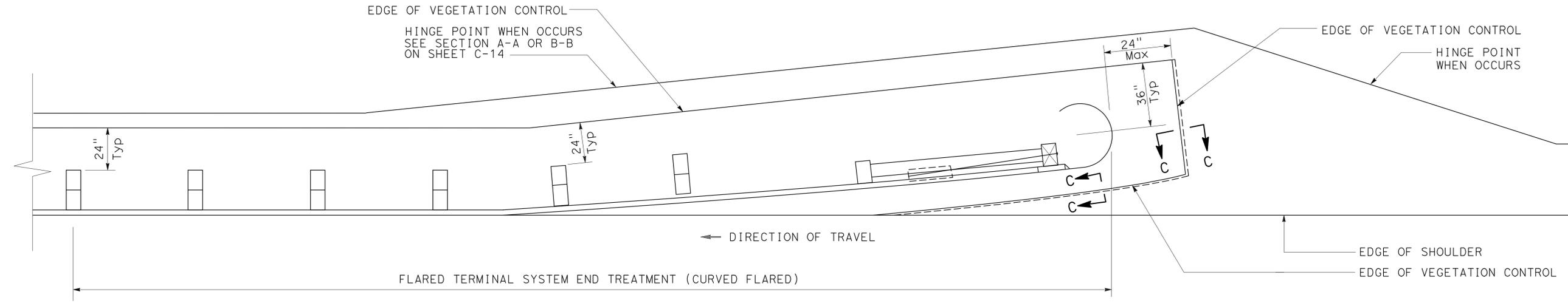
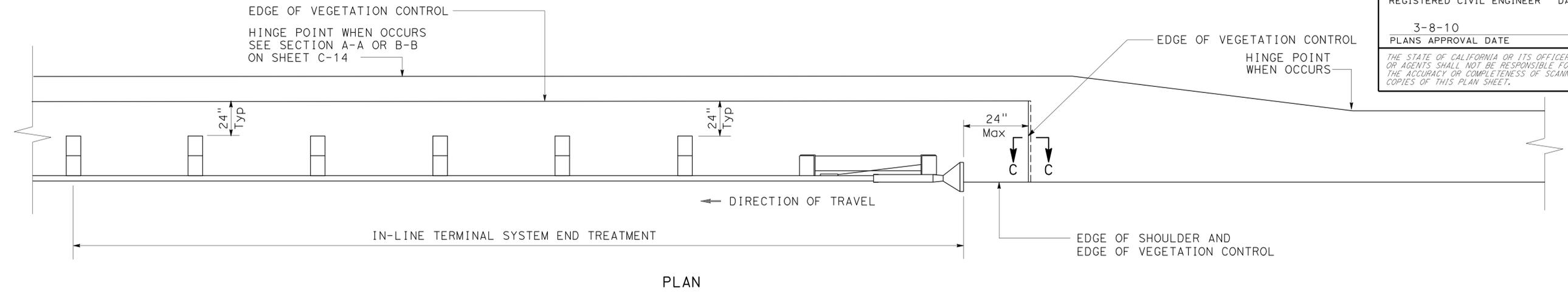
**CONSTRUCTION DETAILS  
(METAL BEAM GUARD RAILING TYPICAL  
VEGETATION CONTROL SEAMLESS  
ASPHALT COMPOSITE SECTION)**

NO SCALE

**C-14**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	18	56
			11-24-09		
REGISTERED CIVIL ENGINEER			DATE		
3-8-10			PLANS APPROVAL DATE		
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
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 FUNCTIONAL SUPERVISOR  
 KAM LEUNG  
 CALCULATED/DESIGNED BY  
 HONMING KONG  
 CHECKED BY  
 THANH C NGUYEN  
 REVISED BY  
 TN  
 DATE REVISED  
 11/23/09



**CONSTRUCTION DETAILS**  
**(METAL BEAM GUARD RAILING**  
**TYPICAL VEGETATION CONTROL**  
**FOR TERMINAL SYSTEM END TREATMENT)**  
 NO SCALE  
**C-15**

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-14



USERNAME => trmikesl  
DGN FILE => 40a871ga015.dgn

CU 04227

EA 0A8711

BORDER LAST REVISED 4/11/2008

LAST REVISION | DATE PLOTTED => 10-MAR-2010  
 02-10-10 | TIME PLOTTED => 12:45

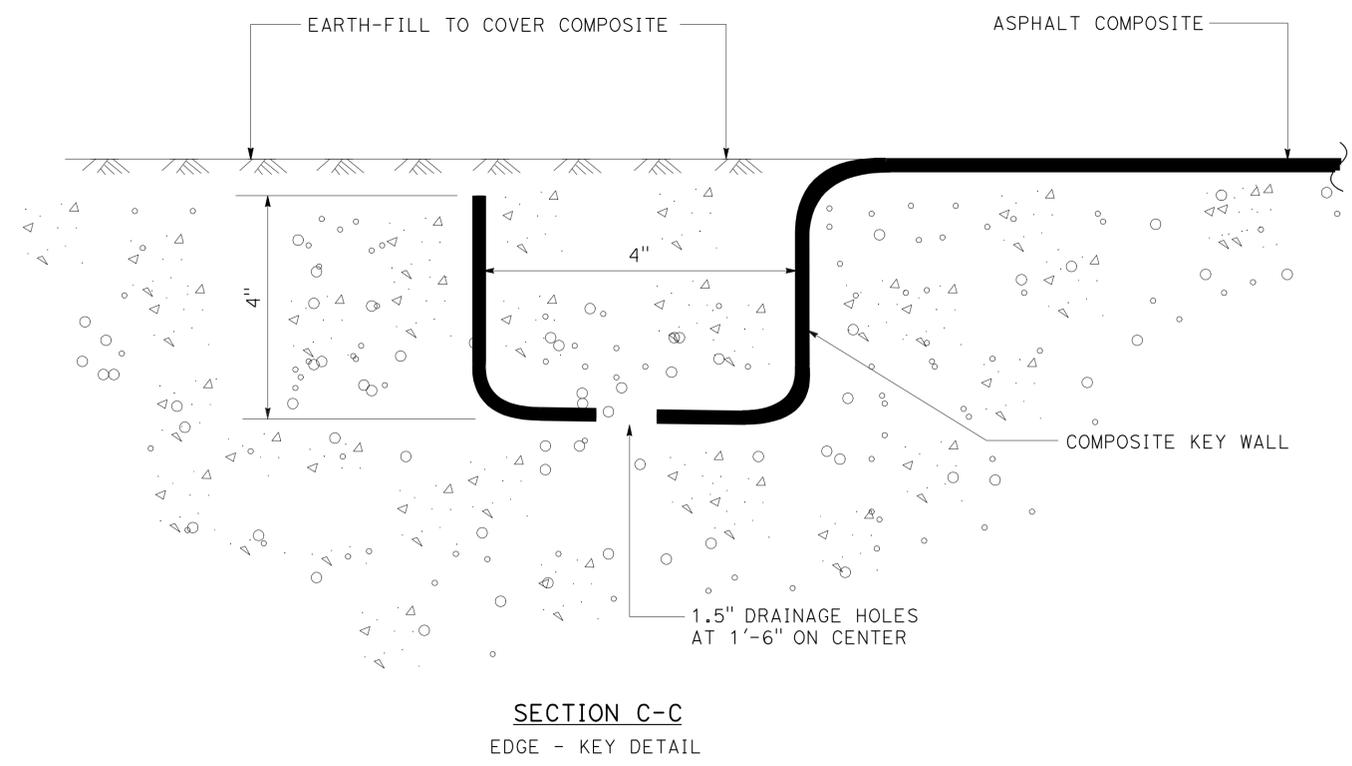
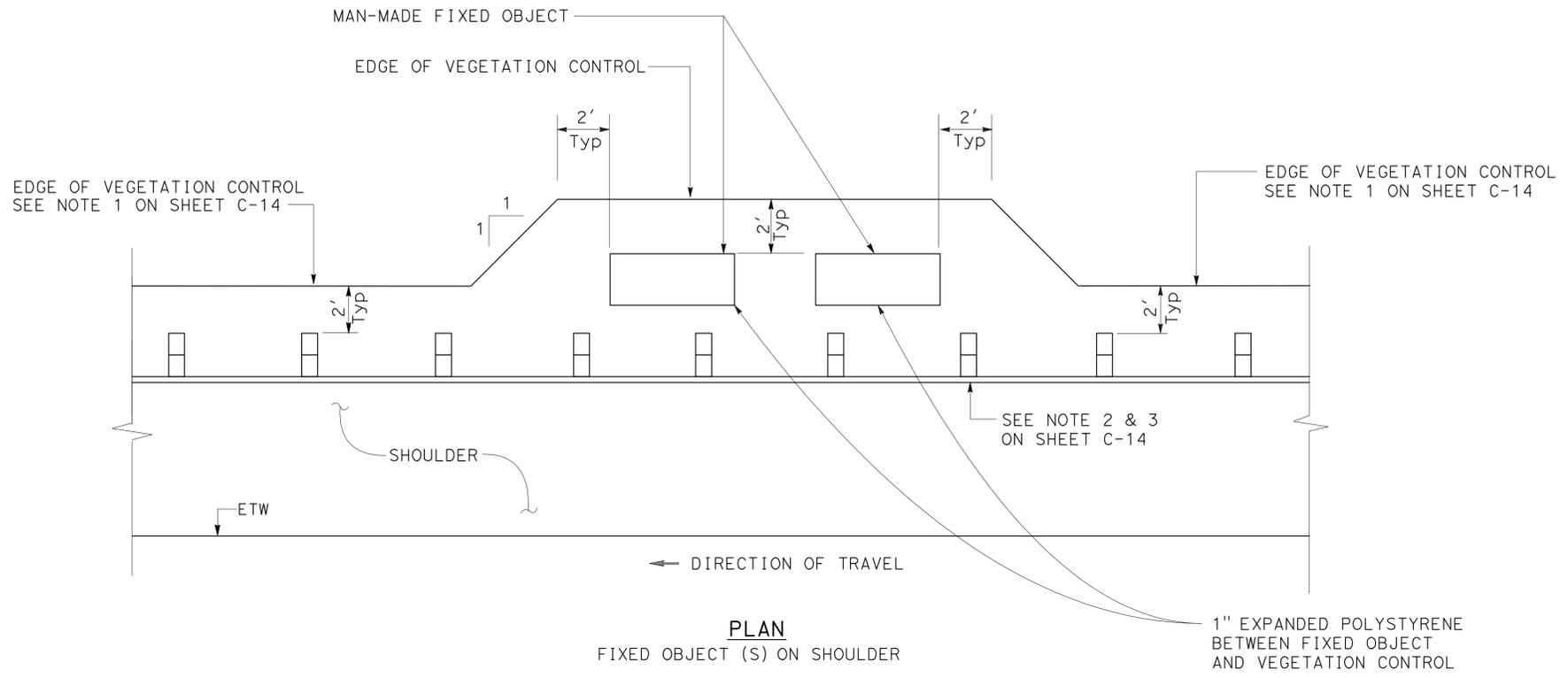
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	19	56

11-24-09  
 REGISTERED CIVIL ENGINEER DATE

3-8-10  
 PLANS APPROVAL DATE

T.C. Nguyen  
 No. 58137  
 Exp. 6-30-10  
 CIVIL

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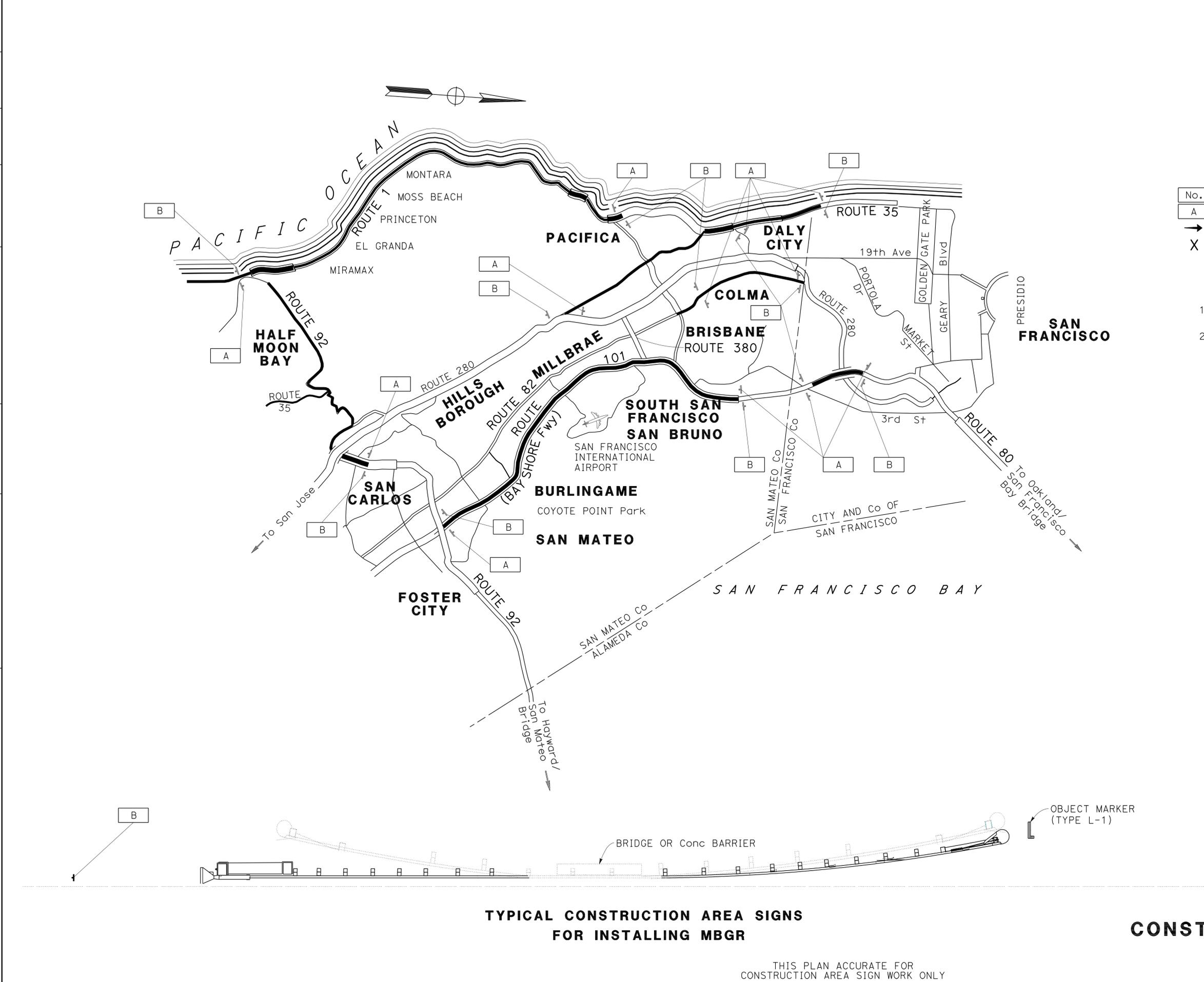
FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET C-14

**CONSTRUCTION DETAILS  
 (METAL BEAM GUARD RAILING  
 TYPICAL VEGETATION CONTROL  
 AT FIXED OBJECT)**

NO SCALE

**C-16**

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



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	20	56

*J. L. Struven* 11-30-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Jerilyn L. Struven  
 No. 49964  
 Exp. 2-31-10  
 CIVIL  
 STATE OF CALIFORNIA

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**LEGEND:**

- No. SIGN INSTALLATION NUMBER
- A CONSTRUCTION AREA SIGNS
- DIRECTION OF TRAFFIC
- X RAMP OR CONNECTOR TO BE CLOSED

**NOTES:**

1. EXACT LOCATION AND POSITION OF SIGNS TO BE DETERMINED BY THE ENGINEER.
2. DIMENSIONS FOR SIGN PANEL, LETTERING, AND POST ARE IN INCHES.

**TYPICAL CONSTRUCTION AREA SIGNS FOR INSTALLING MBGR**

**CONSTRUCTION AREA SIGNS**  
NO SCALE

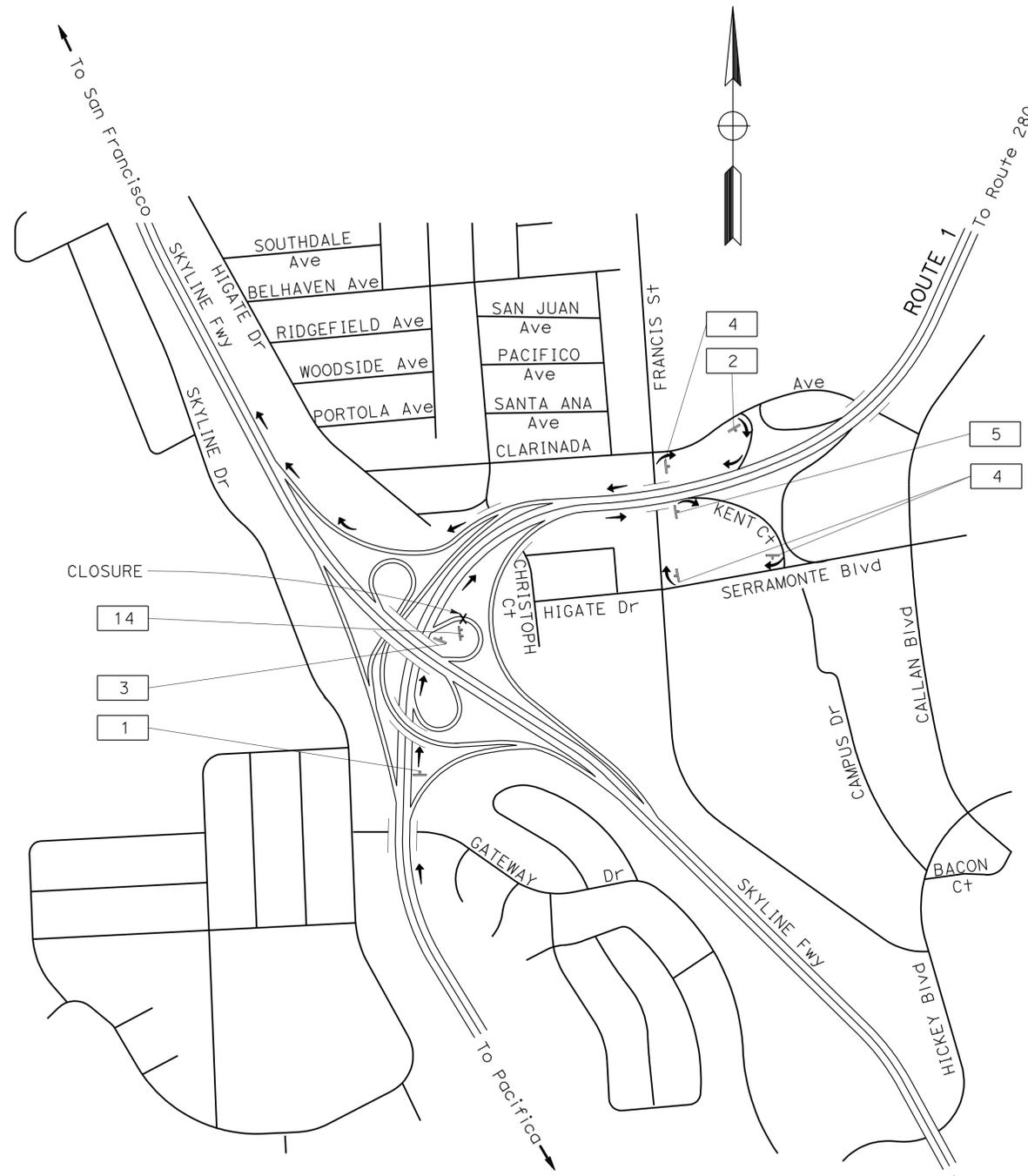
**CS-1**

FUNCTIONAL SUPERVISOR	ROLAND AU-YEUNG
CALCULATED, DESIGNED BY	CHECKED BY
STEPHEN LAU	JERILYN L. STRUVEN
REVISOR	DATE
TN	11/23/09

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	21	56

*J. L. Struven* 11-30-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Jerilyn L. Struven  
 No. 49964  
 Exp. 2-31-10  
 CIVIL  
 STATE OF CALIFORNIA



**DETOUR**  
 VIA: NB ROUTE 1;  
 OFF-RAMP TO SERRAMONTE Blvd;  
 WB SERRAMONTE Blvd;  
 NB S+ FRANCIS Blvd;  
 EB CLARINADA Ave;  
 CONNECTOR ON-RAMP TO SB ROUTE 1;  
 CONNECTOR OFF-RAMP TO NB ROUTE 35.

**DETOUR PLAN No. 1**  
 NB ROUTE 1 CONNECTOR  
 OFF-RAMP TO NB ROUTE 35  
 CLOSED

**CONSTRUCTION AREA SIGNS**  
 NO SCALE

**CS-2**

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

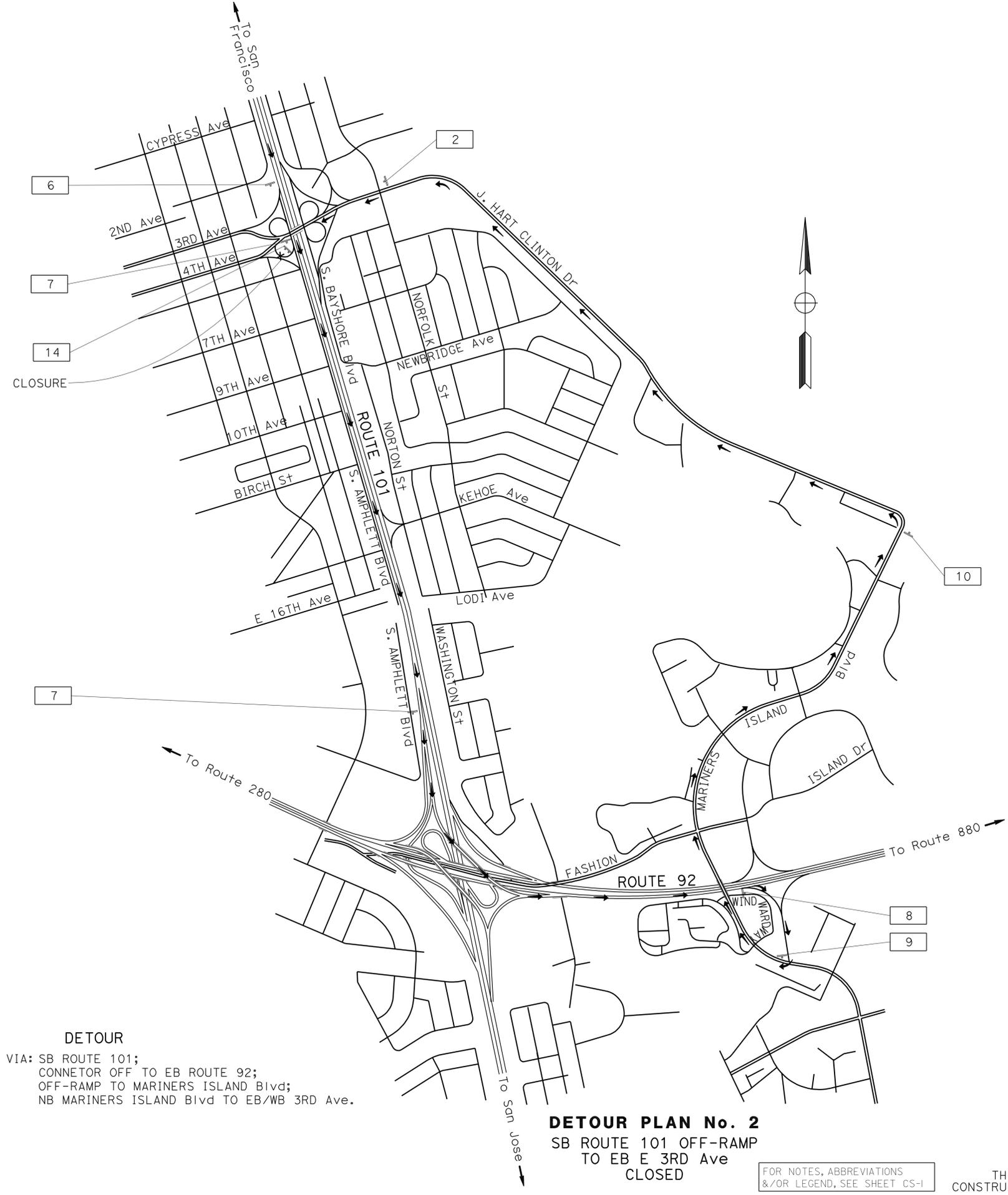


USERNAME => trmikesl  
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CU 04227

EA 0A8711

FUNCTIONAL SUPERVISOR	ROLAND AU-YEUNG
CALCULATED, DESIGNED BY	CHECKED BY
STEPHEN LAU	JERILYN L. STRUVEN
REVISOR	DATE
TN	11/23/09



**DETOUR**  
 VIA: SB ROUTE 101;  
 CONNETOR OFF TO EB ROUTE 92;  
 OFF-RAMP TO MARINERS ISLAND Blvd;  
 NB MARINERS ISLAND Blvd TO EB/WB 3RD Ave.

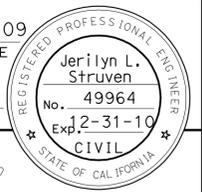
**DETOUR PLAN No. 2**  
 SB ROUTE 101 OFF-RAMP  
 TO EB E 3RD Ave  
 CLOSED

FOR NOTES, ABBREVIATIONS  
 &/OR LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR  
 CONSTRUCTION AREA SIGN WORK ONLY

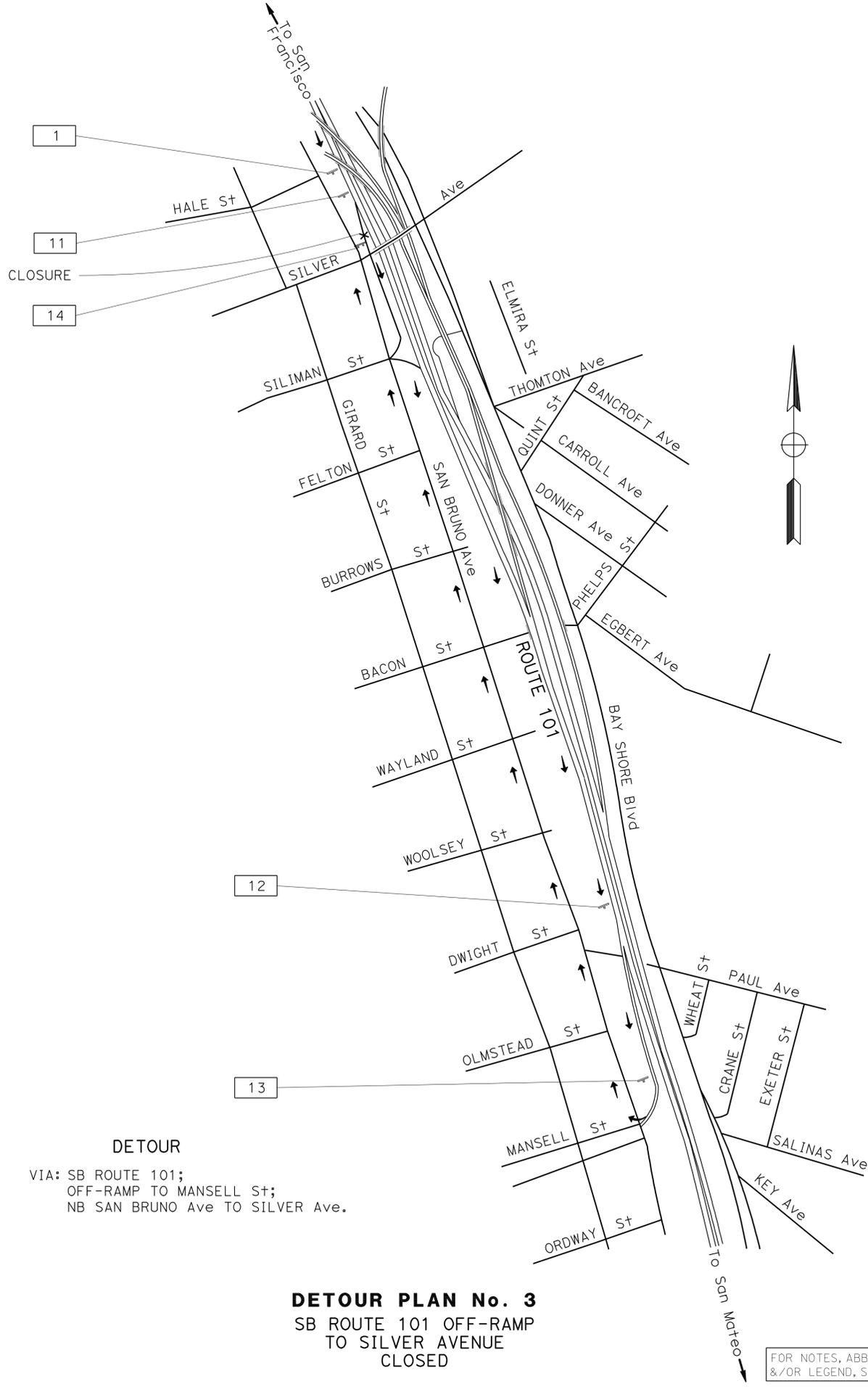
**CONSTRUCTION AREA SIGNS**  
 NO SCALE  
**CS-3**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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11-30-09 REGISTERED CIVIL ENGINEER DATE			3-8-10 PLANS APPROVAL DATE		
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN

FUNCTIONAL SUPERVISOR	ROLAND AU-YEUNG
CALCULATED, DESIGNED BY	CHECKED BY
STEPHEN LAU	JERILYN L. STRUVEN
REVISOR	DATE
TN	11/23/09



**DETOUR**  
 VIA: SB ROUTE 101;  
 OFF-RAMP TO MANSELL ST;  
 NB SAN BRUNO Ave TO SILVER Ave.

**DETOUR PLAN No. 3**  
 SB ROUTE 101 OFF-RAMP  
 TO SILVER AVENUE  
 CLOSED

FOR NOTES, ABBREVIATIONS  
 &/OR LEGEND, SEE SHEET CS-1

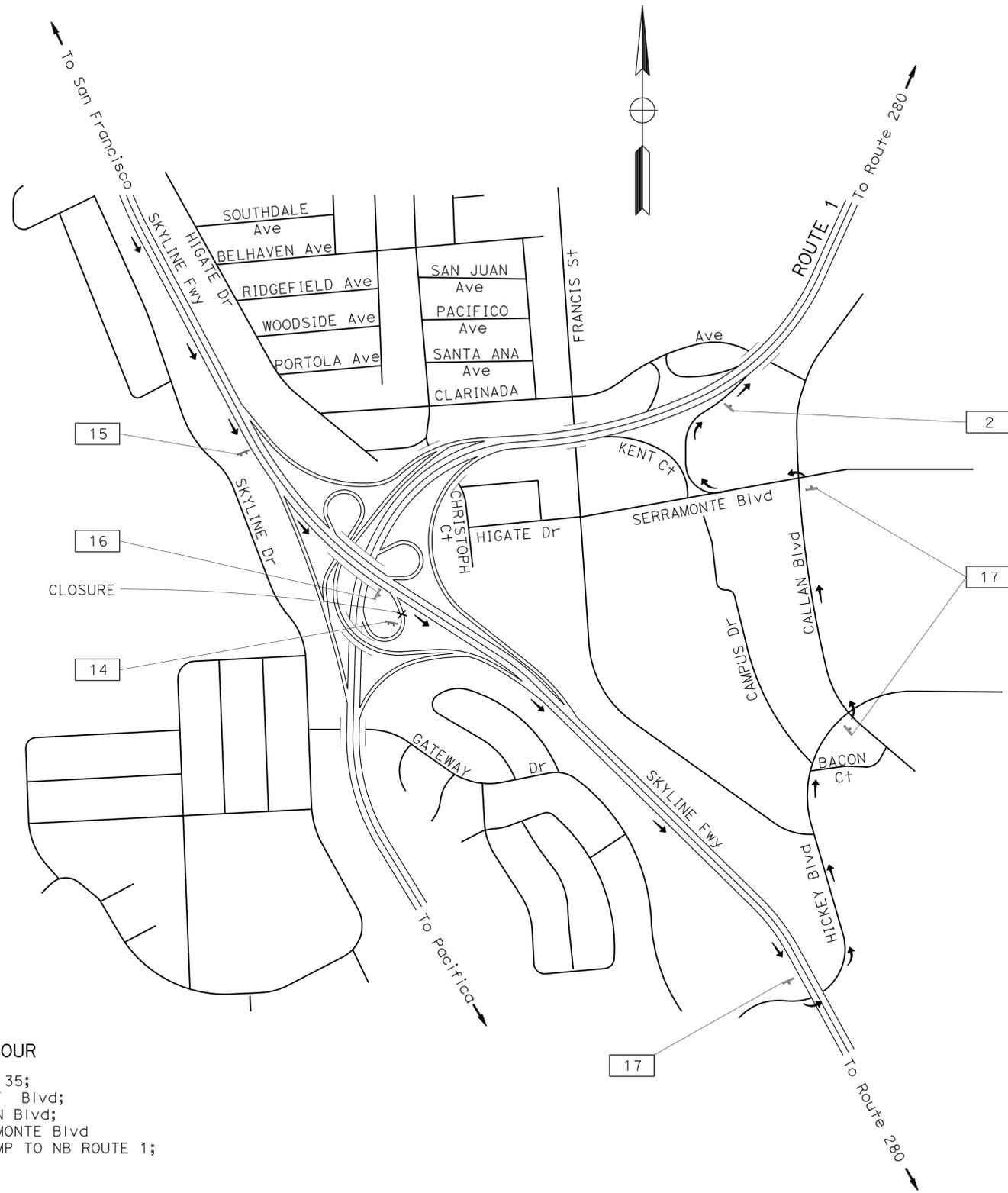
THIS PLAN ACCURATE FOR  
 CONSTRUCTION AREA SIGN WORK ONLY

**CONSTRUCTION AREA SIGNS**  
 NO SCALE  
**CS-4**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	23	56
<i>J. L. Struven</i> 11-30-09 REGISTERED CIVIL ENGINEER DATE			No. 49964 Exp. 2-31-10 CIVIL		
3-8-10			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED, DESIGNED BY	STEPHEN LAU	REVISOR	TN
DESIGN		CHECKED BY			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	24	56
		REGISTERED CIVIL ENGINEER		DATE	
		3-8-10		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.					



**DETOUR**  
 VIA: SB ROUTE 35;  
 EB HICKEY Blvd;  
 NB CALLAN Blvd;  
 WB SERRAMONTE Blvd  
 TO ON-RAMP TO NB ROUTE 1;

**DETOUR PLAN No. 4**  
 SB ROUTE 35 CONNECTOR  
 OFF-RAMP TO NB ROUTE 1  
 CLOSED

FOR NOTES, ABBREVIATIONS  
 &/OR LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR  
 CONSTRUCTION AREA SIGN WORK ONLY

**CONSTRUCTION AREA SIGNS**  
 NO SCALE

**CS-5**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	25	56

*Jerilyn L. Struven* 11-30-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Jerilyn L. Struven  
 No. 49964  
 Exp. 2-31-10  
 CIVIL  
 STATE OF CALIFORNIA

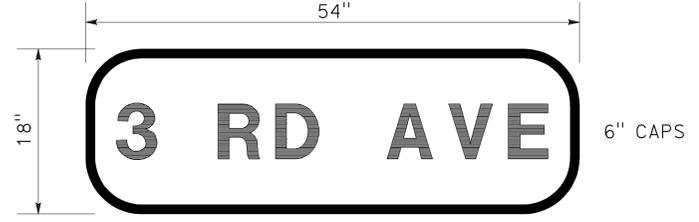
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN No.	MUTCD CODE	MESSAGE	PANEL SIZE	NUMBER OF POST AND SIZE	QUANTITY
A	W20-1	ROAD WORK AHEAD	48" x 48"	(ONE) 4" x 4"	12
B	G20-2	END ROAD WORK	48" x 24"	(ONE) 4" x 4"	12
1	W20-2	DETOUR AHEAD	48" x 48"	(ONE) 4" x 4"	2
2	M4-8A	END DETOUR	30" x 18"	(ONE) 4" x 4"	3
3	SC3(▲)	DETOUR (STRAIGHT ARROW)	48" x 18"	(ONE) 4" x 4"	1
	M3-1	NORTH	21" x 9"		
4	G28-1(35)	ROUTE SHIELD	28" x 24"	(ONE) 4" x 4"	3
	M4-10(R+)	DETOUR (RIGHT)	48" x 18"		
	M3-1	NORTH	21" x 9"		
5	G28-1(35)	ROUTE SHIELD	28" x 24"	(ONE) 4" x 4"	1
	M3-8	DETOUR	24" x 25"		
	M3-1	NORTH	21" x 9"		
6	G28-1(35)	ROUTE SHIELD	28" x 24"	(ONE) 4" x 4"	1
	M6-2(▲)	DETOUR (DIAGONAL ARROW)	21" x 15"		
7	SPEC 1	SEE SHEET CS-4	72" x 60"	(TWO) 4" x 6"	1
8	SC3(▲)	DETOUR (STRAIGHT ARROW)	48" x 18"	(ONE) 4" x 4"	2
	SPEC 2	SEE SHEET CS-4	54" x 18"		
9	M6-2(▲)	DETOUR (DIAGONAL ARROW)	21" x 15"	(ONE) 4" x 4"	1
	SPEC 2	SEE SHEET CS-4	54" x 18"		
10	M4-10(R+)	DETOUR (RIGHT)	48" x 18"	(ONE) 4" x 4"	1
	SPEC 2	SEE SHEET CS-4	54" x 18"		
11	M4-10(L+)	DETOUR (LEFT)	48" x 18"	(ONE) 4" x 4"	1
	SPEC 2	SEE SHEET CS-4	54" x 18"		
12	SC3(▲)	DETOUR (STRAIGHT ARROW)	48" x 18"	(ONE) 4" x 6"	1
	SPEC 3	SEE SHEET CS-4	48" x 30"		
13	SPEC 3	SEE SHEET CS-4	48" x 30"	(ONE) 4" x 6"	1
	M6-2(▲)	DETOUR (DIAGONAL ARROW)	21" x 15"		
14	M4-10(R+)	DETOUR (RIGHT)	48" x 18"	(ONE) 4" x 6"	1
	SPEC 3	SEE SHEET CS-4	48" x 30"		
15	SC6-4(LA)	RAMP CLOSED	60" x 48"	(TWO) 4" x 6"	4
	SPEC 4	SEE SHEET CS-4	72" x 60"		
16	SC3(▲)	DETOUR (STRAIGHT ARROW)	48" x 18"	(ONE) 4" x 6"	1
	M3-1	NORTH	21" x 9"		
	G28-1(1)	ROUTE SHIELD	21" x 18"		
17	M4-10(L+)	DETOUR (LEFT)	48" x 18"	(ONE) 4" x 6"	3
	M3-1	NORTH	21" x 9"		
	G28-1(1)	ROUTE SHIELD	21" x 18"		



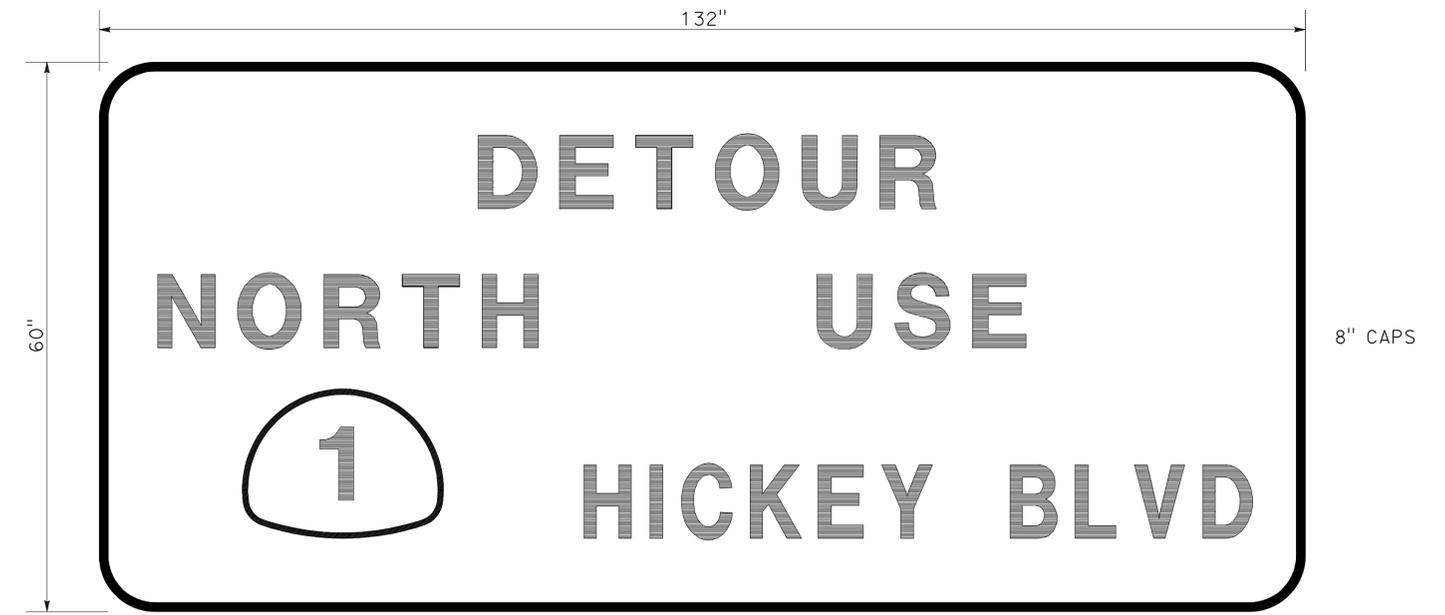
**SPEC 1**



**SPEC 2**



**SPEC 3**



**SPEC 4**

**CONSTRUCTION AREA SIGNS**  
NO SCALE

**CS-6**

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR ROLAND AU-YEUNG  
 CHECKED BY  
 CALCULATED/DESIGNED BY  
 STEPHEN LAU  
 JERILYN L. STRUVEN  
 REVISOR BY DATE REVISOR  
 TN 11/23/09



DESIGNED BY  
 HONMING KONG  
 CHECKED BY  
 THANH C NGUYEN

FUNCTIONAL SUPERVISOR  
 KAM LEUNG

REVISOR  
 TN  
 DATE REVISION  
 11/23/09

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	27	56

11-24-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE

**T.C. Nguyen**  
 No. 58137  
 Exp. 6-30-10  
 CIVIL

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### ROADWAY QUANTITIES

COUNTY	ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE		TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE METAL RAILING	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS
						LF	EA																				
SF	35-1	N OF COUNTY LINE	NB	0.07	12C		37.5												1	50.0				1			SEE DETAIL T, SHEET C-8
SF	35-2	NEAR OLYMPIC CLUB ENTR	SB	0.12	12B		37.5								1				1			1				29	SEE DETAIL AA, SHEET C-10
SF	35-3	NEAR OLYMPIC CLUB ENTR	NB	0.15	12B		50.0								1				2	12.5		1				34	SEE DETAIL D, SHEET C-2
SF	35-4	S OF JOHN MUIR Dr	SB	0.20	11B		12.5													12.5			1				SEE DETAIL C, SHEET C-2
SF	35-5	S OF JOHN MUIR Dr	NB	0.50	11B		50.0				1				1					12.5		1				34	SEE DETAIL N, SHEET C-6
SF	35-6	AT JOHN MUIR Dr	NB	0.80	11B		12.5													12.5			1				SEE DETAIL C, SHEET C-2
SUBTOTAL SF ROUTE 35							200.0								3				5	100.0		3		2		97	
SM	35-7	OFF-RAMP FROM NB Rte 280	NB	23.05	11B		12.5													12.5							SEE DETAIL C, SHEET C-2
SM	35-8	OFF-RAMP FROM NB Rte 280, LEFT SIDE	NB	23.06	12B		132.0								1	1	4			62.5	1	1					SEE DETAIL Z, SHEET C-10, AND STRUCTURE SHEET 3
SM	35-9	0.4 MILE N OF Jct Rte 280	SB	23.40	11B	62.5	62.5	62.5			0.76	62.5	25.0	1		2				25.0		1		1		34	SEE DETAIL G, SHEET C-3
SM	35-10	0.7 MILE N OF Jct Rte 280	SB	23.70	11H		75.0							1		3						1	1				SEE DETAIL R, SHEET C-7
SM	35-11	S OF SAN BRUNO Ave	NB	24.15	11E		75.0				1			2		3						2				68	SEE DETAIL L, SHEET C-5
SM	35-12	N OF SAN BRUNO Ave	SB	24.36	11B	87.5	87.5	62.5			0.76	62.5	25.0	1		3				25.0		1					SEE DETAIL G, SHEET C-3
SM	35-13	N OF SAN BRUNO Ave	NB	24.40	11D	187.5	187.5	75.0			1	1.80	100.0	87.5		6				87.5				2			SEE DETAIL K, SHEET C-5
SM	35-14	S OF SNEATH Ave	NB	24.60	11D	100.0	100.0	75.0				0.72	100.0			3							2			48	SEE DETAIL K, SHEET C-5
SHEET TOTAL							437.5	437.5	769.5			3	4.04	325.0	137.5	9	1	25	5	312.5	1	9	5	3	1	247	

### SUMMARY OF QUANTITIES



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM,SF	1,35,82,92,101	Var	28	56

11-24-09  
REGISTERED CIVIL ENGINEER DATE

3-8-10  
PLANS APPROVAL DATE

T.C. Nguyen  
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### ROADWAY QUANTITIES

COUNTY	ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE		TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE METAL RAILING	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)		PLACE HMA DIKE (TYPE F)		OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS					
						LF	EA						TON	LF	EA	LF														EA	SQYD			
						LF	EA						EA	EA	EA	EA														EA	EA			
SM	35-15	S OF SNEATH Ave	NB	24.70	11J	50.0	50.0	50.0				0.49	75.0																	54	SEE DETAIL V, SHEET C-8			
SM	35-16	S OF SNEATH Ave	SB	24.80	11C			12.5																								SEE DETAIL C, SHEET C-2		
SM	35-17	S OF COLLEGE BERKSHIRE Dr	NB	25.48				26.0																										
SM	35-18	S OF COLLEGE BERKSHIRE Dr	SB	25.48	11B	101.0	101.0	101.0			1	1.05	62.5	62.5					2													SEE DETAIL G, SHEET C-3		
SM	35-19	N OF COLLEGE BERKSHIRE Dr	NB	25.50	11E			100.0			1							2														SEE DETAIL M, SHEET C-5		
SM	35-20	S OF SHARP PARK Rd	NB	26.00	11E			100.0										2														SEE DETAIL M, SHEET C-5		
SM	35-21	N OF SHARP PARK Rd	NB	26.30	11H			75.0										1		3				1	1							SEE DETAIL R, SHEET C-7		
SM	35-22	N OF SHARP PARK Rd	SB	26.40	11B	87.5	87.5	62.5				0.76	62.5	25.0				1		2				1								SEE DETAIL G, SHEET C-3		
SM	35-23	N OF GLENCOURT KING Dr	NB	27.30	11E			100.0										2		4													SEE DETAIL M, SHEET C-5	
SM	35-24	N OF GLENCOURT KING Dr	NB	27.42	11K	50.0	50.0	37.5				0.36	50.0							2					1								SEE DETAIL J, SHEET C-4	
SM	35-25	N OF HICKEY Blvd	NB	28.00	11B	12.5	12.5	25.0				0.15		12.5						2					1	1							SEE DETAIL S, SHEET C-7	
SM	35-26	N OF HICKEY Blvd	SB	28.08	11B			12.5																									SEE DETAIL C, SHEET C-2	
SM	35-27	ON-RAMP FROM NB Rte 1	NB	28.68	12B	75.0	75.0			50	1	0.76	62.5	25.0				1	1		2			1	1							SEE DETAIL Y, SHEET C-9, AND STRUCTURE SHEET 5		
SM	35-28	AT Jct WITH Rte 1	SB	28.72	12B					50								1	1		2			1	1							SEE DETAIL Y, SHEET C-9, AND STRUCTURE SHEET 5		
SM	35-29	N OF WESTMOOR Ave	NB	29.70	11B			12.5																									SEE DETAIL C, SHEET C-2	
SM	35-30	S OF WESTRIDGE Ave	NB	30.17	11B			62.5										1			2	25.0		1									SEE DETAIL E, SHEET C-3	
SM	35-31	N OF WESTRIDGE Ave	NB	30.27	11B			62.5										1			2	25.0		1									SEE DETAIL E, SHEET C-3	
SM	35-32	N OF JOHN DALY Blvd	NB	30.90	11B			62.5										1			2	25.0		1									SEE DETAIL E, SHEET C-3	
SM	35-33	N OF OLYMPIC WAY	NB	31.30	11B	62.5	62.5	62.5				0.76	62.5	25.0				1			2	25.0		1									SEE DETAIL G, SHEET C-3	
SUBTOTAL SM ROUTE 35																																		
						876.0	876.0	1534.0		100	5	8.37	700.0	287.5	20	3	51	12	562.5	3	20	8	12	1	1	296								
SM	82-1	N OF FRANCISCO Dr	NB	19.76	11A			12.5													1	12.5												SEE DETAIL C, SHEET C-2
SM	82-2	0.7 MILE S OF HICKEY Blvd	SB	21.21				65.0																										
SM	82-3	AT COLMA CREEK Br 35-0003	NB	22.36	12B			62.5										1	1		2			1	1									SEE DETAIL Z, SHEET C-10, AND STRUCTURE SHEET 8
SM	82-4	AT COLMA CREEK Br 35-0003	SB	22.36	16B			52.0										1			3	50.0		1										SEE DETAIL B, SHEET C-1
SM	82-5	AT WOODLAWN SOUTH ENTRANCE	SB	23.18	16A			62.5													3	12.5			1	1								SEE DETAIL A, SHEET C-1
SM	82-6	AT WOODLAWN NORTH ENTRANCE	SB	23.23	16A			62.5													3	12.5			1	1								SEE DETAIL A, SHEET C-1
SUBTOTAL SM ROUTE 82																																		
								317.0													2	1		12	87.5	1	2	2	4					
SHEET TOTAL																																		
						438.5	438.5	1281.5		100	3	4.33	375.0	150.0	16	3	26	24	437.5	3	16	5	15	1	1	146								

### SUMMARY OF QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM,SF	1,35,82,92,101	Var	29	56

11-24-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE

T.C. Nguyen  
 No. 58137  
 Exp. 6-30-10  
 CIVIL

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### ROADWAY QUANTITIES

COUNTY	ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE		TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE METAL RAILING	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS	
						LF	EA	TON	LF	EA	LF	EA	EA	SQYD														
SM	92-1	0.83 MILE E OF Jct Rte 1	EB	0.83	11E			50.0			1				1		2		12.5							34	SEE DETAIL O, SHEET C-6	
SM	92-2	1 MILE E OF Jct Rte 1	EB	1.00	11E			153.0							2		6		75.0			2						SEE DETAIL L, SHEET C-5
SM	92-4	AT DIGGERS CANYON Rd	WB	1.40	11E			50.0							1		2		12.5			1						SEE DETAIL O, SHEET C-6
SM	92-5	E OF DIGGERS CANYON Rd	EB	1.80	11E			53.0							2		3		12.5			2				63	SEE DETAIL L, SHEET C-5	
SM	92-6	E OF DIGGERS CANYON Rd	WB	1.80	11E			98.0							2		4		25			2			2	68	SEE DETAIL L, SHEET C-5	
SM	92-7	0.6 MILE W OF PAC COAST AGG/ QUARRY Rd	WB	2.35	11E			50.0							1		2		12.5			1						SEE DETAIL O, SHEET C-6
SM	92-11	AT PILARCITOS CREEK Br 35-0015	EB	3.30	12B			90.0							1	2	3				2	1				63	SEE DETAIL AI, SHEET C-13 AND STRUCTURE SHEET 2	
SM	92-12	AT PILARCITOS CREEK Br 35-0015	WB	3.32	12BB			90.0							1	2	3				2	1			1	63	SEE DETAIL AC, SHEET C-11 AND STRUCTURE SHEET 2	
SM	92-13	1.1 MILE W OF Jct Rte 35 SOUTH	EB	4.10	12B	37.5	37.5	37.5			1	0.26	37.5		1		2					1						SEE DETAIL F, SHEET C-3
SM	92-16	0.3 MILE W OF Jct Rte 35 SOUTH	WB	4.90	12B			50.0			1				1			2	12.5			1						SEE DETAIL N, SHEET C-6
SM	92-17	0.1 MILE W OF Jct Rte 35 SOUTH	WB	5.10	12B			50.0			1				1			2	12.5			1						SEE DETAIL N, SHEET C-6
SM	92-18	0.1 MILE E OF Jct Rte 35 SOUTH	EB	5.30	11E			77.0			2	1.06	125.0	12.5	2		3		12.5			2				63	SEE DETAIL AG, SHEET C-13	
SM	92-19	0.2 MILE E OF Jct Rte 35 SOUTH	EB	5.40	11E			100.0			1				2		4		25.0			2			3	68	SEE DETAIL M, SHEET C-5	
SM	92-20	0.8 MILE E OF Jct Rte 35 SOUTH	EB	6.00	11H			50.0							1		2		12.5			1			2			SEE DETAIL N, SHEET C-6
SM	92-21	NEAR CRYSTAL SPRINGS RESERVOIR	EB	6.70	11E			116.0							2		4		44.0			2				78	SEE DETAIL L, SHEET C-5	
SM	92-22	W OF Jct Rte 35 NORTH	EB	6.90	11E			100.0							2		4		25.0			2						SEE DETAIL M, SHEET C-5
SM	92-23	NEAR Jct Rte 280	EB	7.20	11E			100.0							2		4		25.0			2						SEE DETAIL M, SHEET C-5
SM	92-25	SB RALSTON Ave OVERCROSSING	EB	7.93	12B			78.0				0.07			1	1		2			1	1						SEE DETAIL Z, SHEET C-10, AND STRUCTURE SHEET 4
		SUBTOTAL SM ROUTE 92						37.5	37.5	1392.5		7	1.93	162.5	12.5	26	5	48	6	319.0	5	26			8	500		
		SHEET TOTAL						37.5	37.5	1392.5		7	1.93	162.5	12.5	26	5	48	6	319.0	5	26			8	500		

### SUMMARY OF QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM,SF	1,35,82,92,101	Var	30	56

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**ROADWAY QUANTITIES**

COUNTY	ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	METAL BEAM GUARDRAILING STANDARD PLAN LAYOUT *	REMOVE AC DIKE		TEMPORARY FIBER ROLL	REMOVE MBGR	REMOVE METAL RAILING	REMOVE MARKER (N)	MINOR HMA	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	OBJECT MARKER (TYPE L-1)	OBJECT MARKER (TYPE P)	GUARD RAILING DELINEATOR (TYPE E)	GUARD RAILING DELINEATOR (TYPE F)	MBGR (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	BURIED END ANCHOR (N)	RESET ROADSIDE SIGN	VEGETATION CONTROL (SEAMLESS ASPHALT COMPOSITE)	COMMENTS	
						LF	EA	TON	LF	EA	LF	EA	SQYD															
SF	101-1	SB OFF-RAMP TO SILVER Ave	SB	1.860	11B			50.0							1			2	12.5		1						SEE DETAIL N, SHEET C-6	
SF	101-2	WB CESAR CHAVEZ UC	NB	2.920	12B			50.0							1			2	12.5		1						SEE DETAIL D, SHEET C-2	
SUBTOTAL SF ROUTE 101								100.0							2			4	25.0		2							
SM	101-3	EB 3RD Ave OC		13.461	12B	87.5	87.5	65.0			0.76	62.5	25		1	1		3		1	1						SEE DETAIL AH, SHEET C-13, AND STRUCTURE SHEET 6	
SM	101-4	WB BROADWAY OC		16.575	12B			54.0							1	1		2		1	1						SEE DETAIL AB, SHEET C-10, AND STRUCTURE SHEET 7	
SM	101-5	NB OFF OLD BAYSHORE, UNDER COLUMN EXIT SIGN	NB	23.260	11B			50.0							1			2	12.5		1						SEE DETAIL AA, SHEET C-10	
SM	101-6	NB OFF OLD BAYSHORE Blvd, LEFT SIDE	NB	23.320	12B			50.0							1			2	12.5		1						SEE DETAIL U, SHEET C-8	
SM	101-7	WB SIERRA POINT OVERHEAD		23.660	16L			50.0							1		2	75.0			1						SEE DETAIL AD, SHEET C-11	
SM	101-8	EB SIERRA POINT OVERHEAD		23.660	16E	125.0	125.0	75.0			0.89	125.0			2		4	50.0			2						SEE DETAIL AE, SHEET C-11	
SUBTOTAL SM ROUTE 101								212.5	212.5	344.0		1.65	187.5	25	7	2	6	9	150.0		2	7						
SHEET TOTAL								212.5	212.5	444.0		1.65	187.5	25	9	2	6	13	175.0		2	9						
TOTAL								1913.5	1913.5	6564.5	100	37	18.87	1787.5	500	105	11	181	56	2044.0	11	105	12	28	2	11	1723	

**SUMMARY OF QUANTITIES**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM,SF	1,35,82,92,101	Var	31	56

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 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 T.C. Nguyen  
 No. 58137  
 Exp. 6-30-10  
 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.

### STRUCTURE QUANTITIES

COUNTY	ROUTE LOCATION No.	DESCRIPTION	DIRECTION	PM	BRIDGE NUMBER	STRUCTURE EXCAVATION (N)	STRUCTURE BACKFILL (N)	MINOR CONCRETE (MINOR STRUCTURE)	DRILL AND BOND DOWEL	BAR REINFORCING STEEL (BRIDGE) (N)
SM	35-8	OFF-RAMP FROM NB Rte 280, LEFT SIDE	NB	23.060	35-0200	2.44	1.70	1.84	6.0	268.00
SM	35-27	ON-RAMP FROM NB Rte 1	NB	28.680	35-0205R	0.78	0.60	0.77	4.5	110.00
SM	35-28	Rte 1 AND 35 SEPARATION	SB	28.720	35-0205L	0.78	0.60	0.77	4.5	110.00
SM	82-3	AT COLMA CREEK	NB	22.360	35-0003	0.51	0.37	1.18	13.5	209.93
SM	92-11	AT PILARCITOS CREEK	EB	3.320	35-0015	2.22	1.62	1.46	15.0	259.34
SM	92-12	AT PILARCITOS CREEK	WB	3.320	35-0015	2.22	1.62	1.46	15.0	259.34
SM	92-35	SB RALSTON Ave OC	SB	7.930	35-0207	29.54	17.59	35.71	7.5	4360.10
SM	101-3	EB 3RD Ave OC	EB	13.461	35-0026	1.32	0.95	0.98	6.0	161.81
SM	101-4	WB BROADWAY OC	WB	16.575	35-0096	9.23	5.85	9.65	6.0	1385.90
SHEET TOTAL						49.04	30.90	53.82	78.0	7124.42

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

## SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 FUNCTIONAL SUPERVISOR: KAM LEUNG  
 CALCULATED/DESIGNED BY: NARANJEN KANEPATHIPILLAI  
 CHECKED BY: THANH C NGUYEN  
 REVISED BY: TN  
 DATE REVISED: 11/23/09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	32	56

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

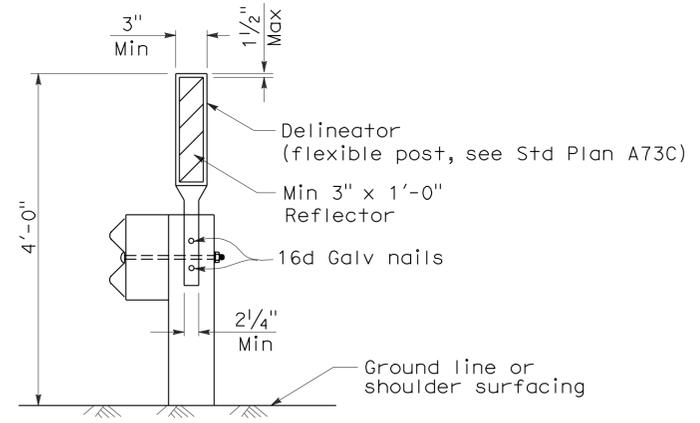
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

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

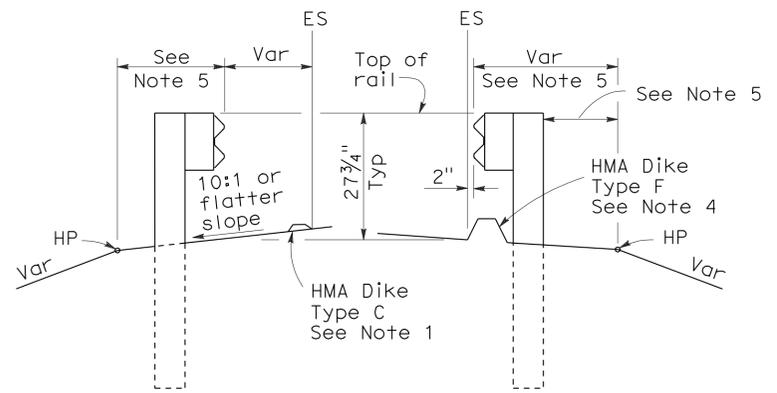
To accompany plans dated 3-8-10

**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

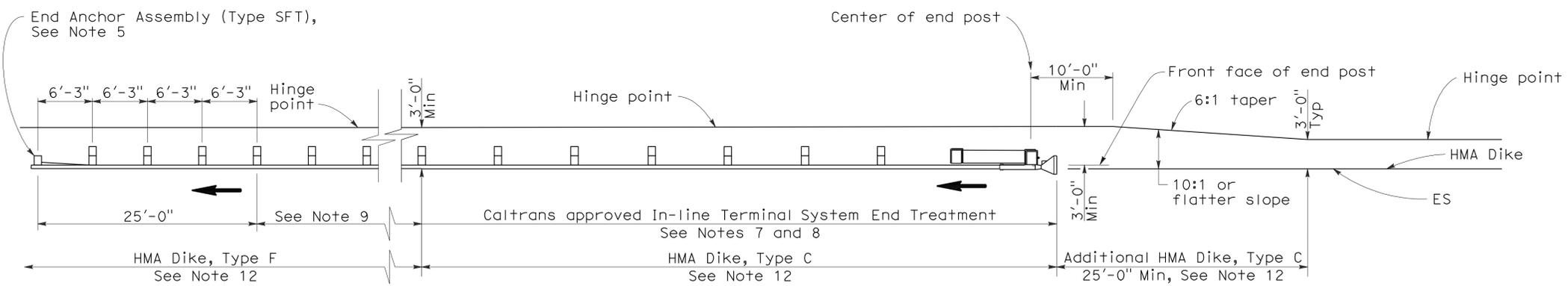
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	33	56

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

June 6, 2008  
 PLANS APPROVAL DATE

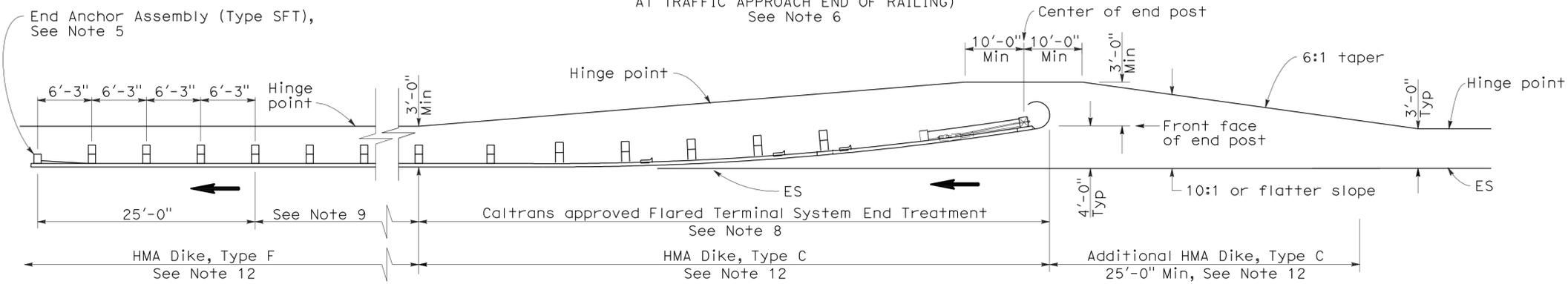
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 3-8-10



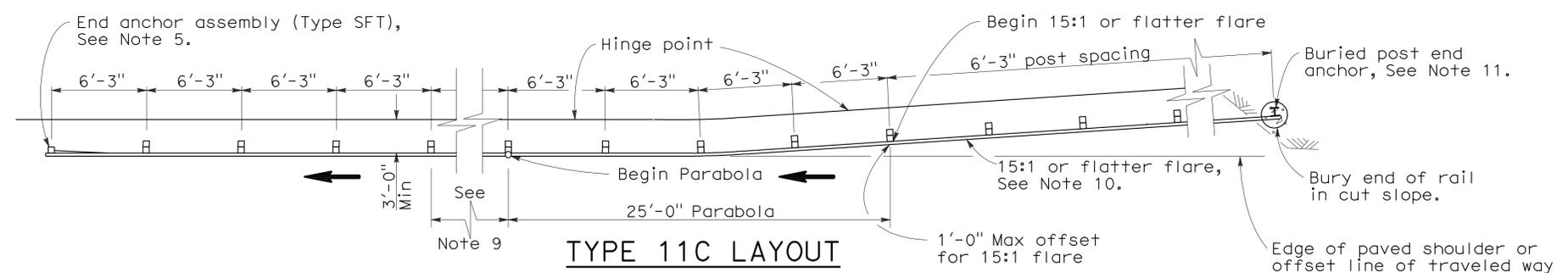
**TYPE 11A LAYOUT**

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



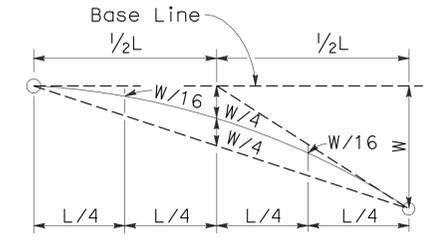
**TYPE 11B LAYOUT**

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

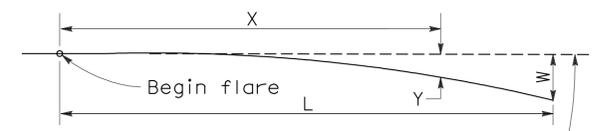


**TYPE 11C LAYOUT**

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



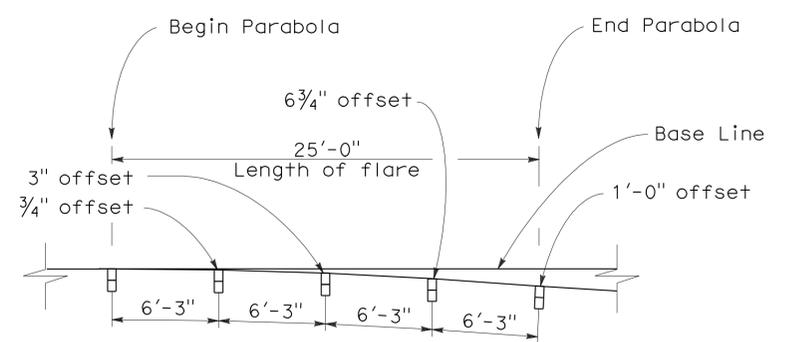
**TYPICAL PARABOLIC LAYOUT**



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

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

**PARABOLIC FLARE OFFSETS**



**TYPICAL FLARE OFFSETS FOR 1 FOOT MAX END OFFSET**

**NOTES:**

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

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

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

**REVISED STANDARD PLAN RSP A77E1**

2006 REVISED STANDARD PLAN RSP A77E1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	34	56

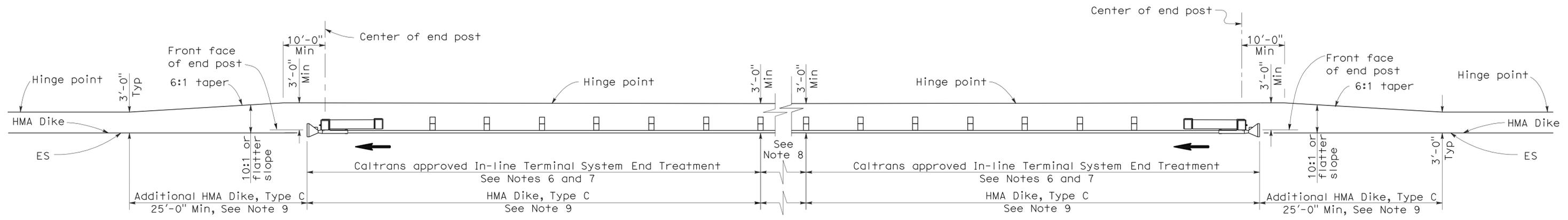
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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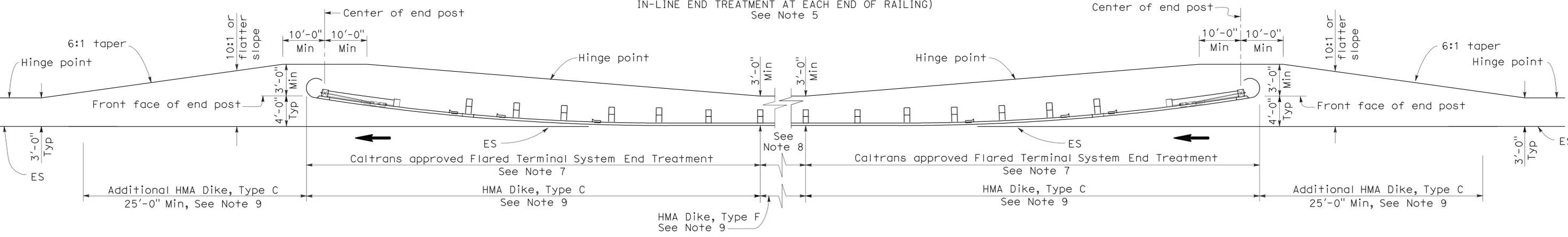
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 3-8-10



**TYPE 11D LAYOUT**

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



**TYPE 11E LAYOUT**

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

**NOTES:**

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

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

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

2006 REVISED STANDARD PLAN RSP A77E2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	35	56

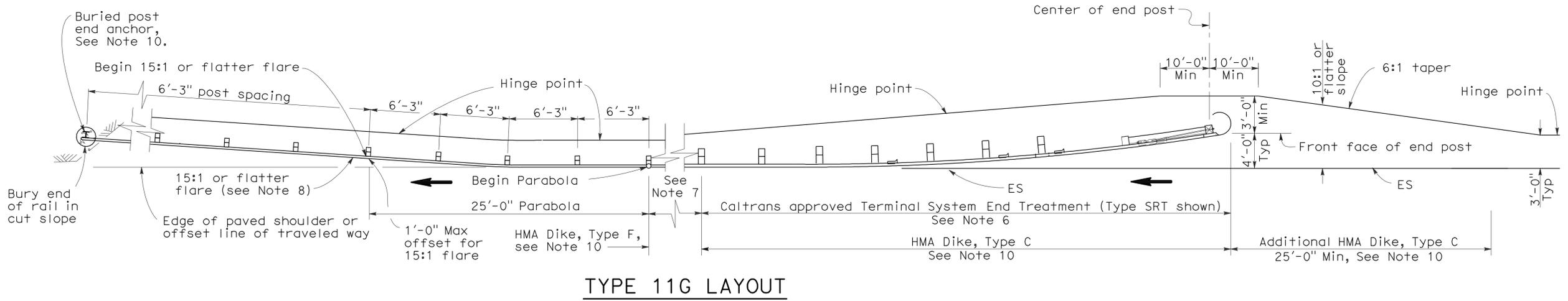
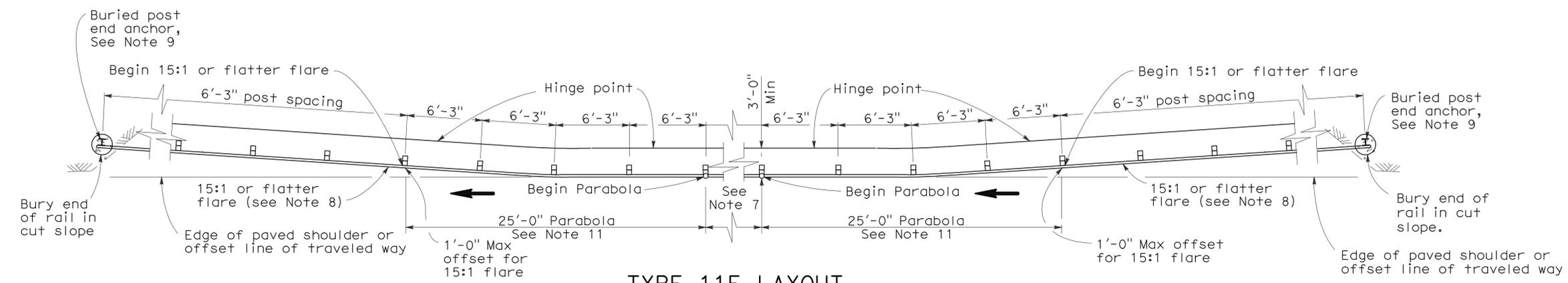
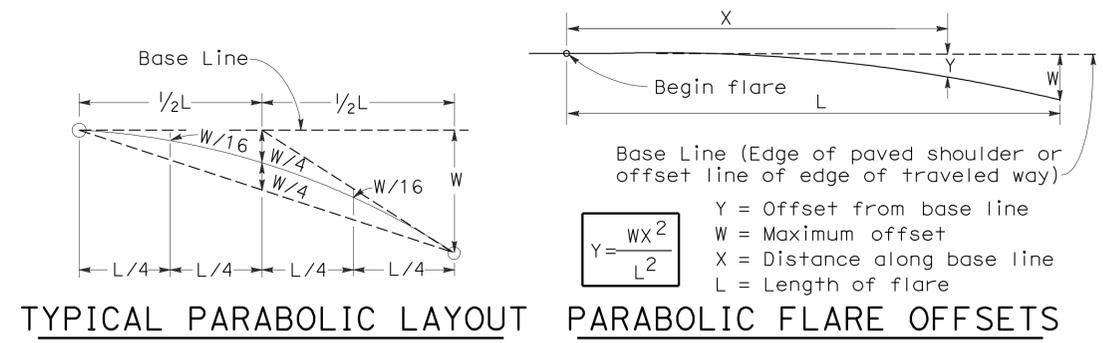
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

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 3-8-10



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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77E3**

2006 REVISED STANDARD PLAN RSP A77E3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	36	56

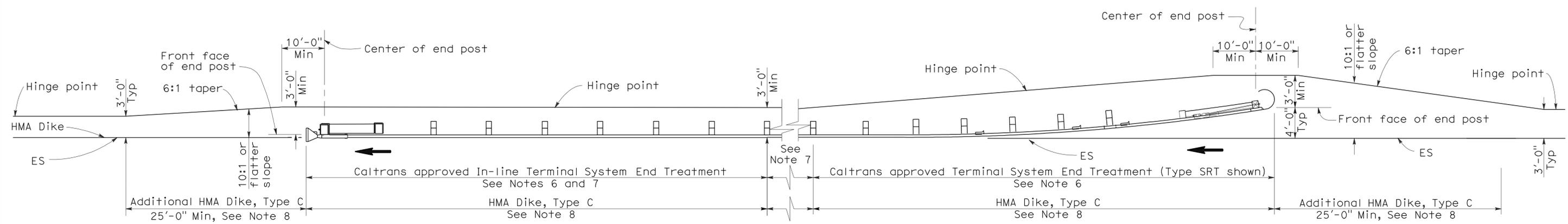
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

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To accompany plans dated 3-8-10



**TYPE 11H LAYOUT**

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

**NOTES:**

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

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

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

**REVISED STANDARD PLAN RSP A77E4**

2006 REVISED STANDARD PLAN RSP A77E4

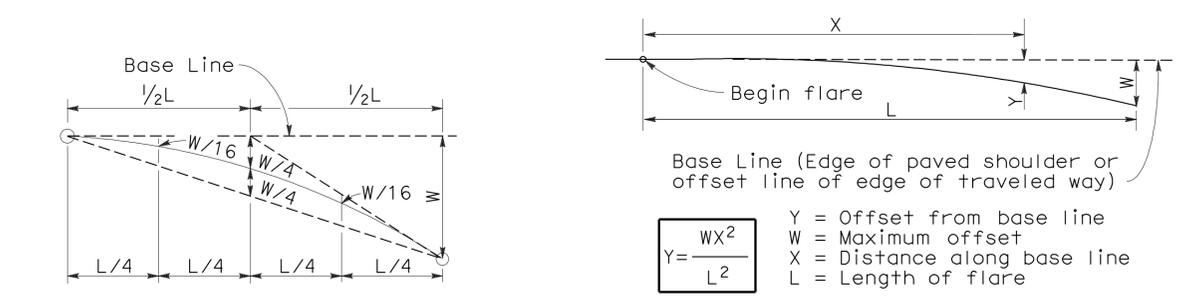
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,SM	1,35,82, 92,101	Var	37	56

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

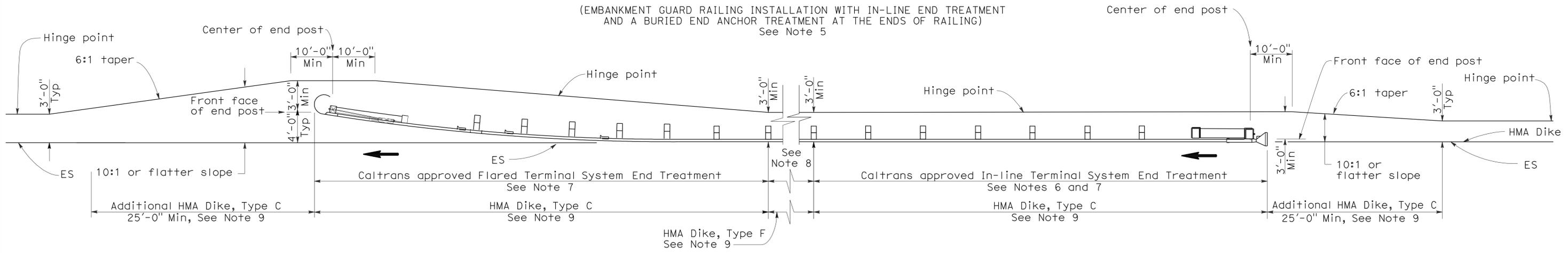
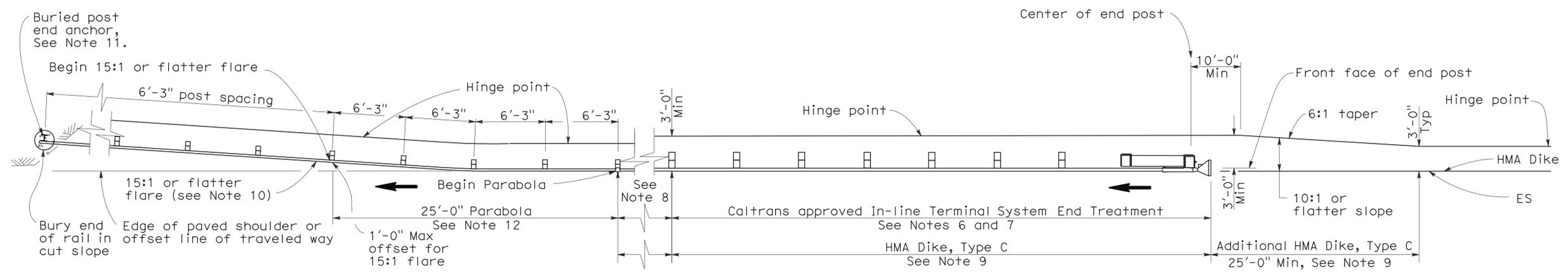
June 6, 2008  
PLANS APPROVAL DATE

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



To accompany plans dated 3-8-10



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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

2006 REVISED STANDARD PLAN RSP A77E5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	38	56

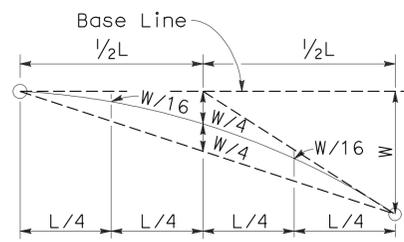
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

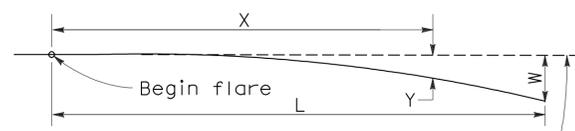
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No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 3-8-10



**TYPICAL PARABOLIC LAYOUT**

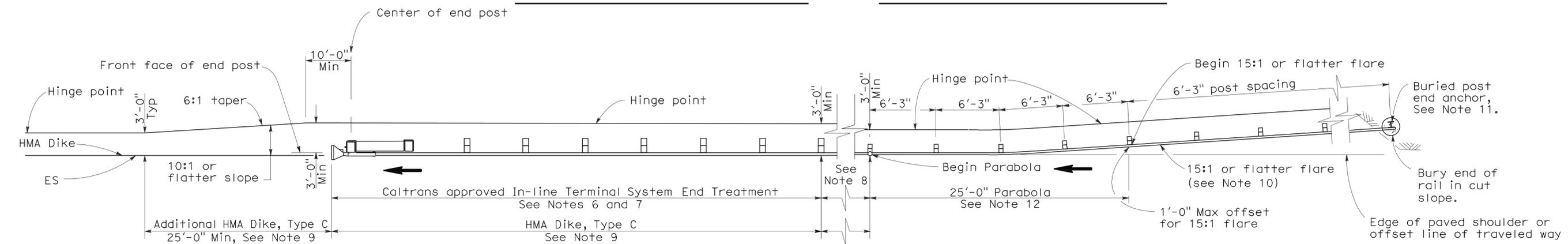


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

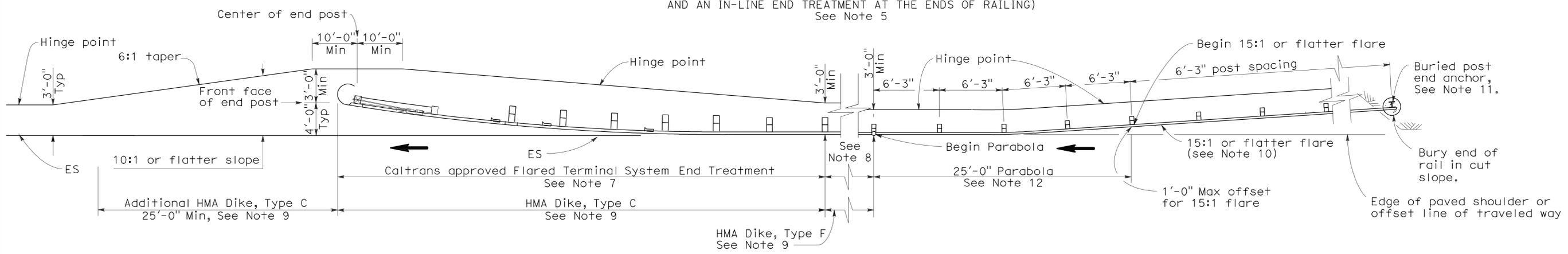
Y = Offset from base line  
W = Maximum offset  
X = Distance along base line  
L = Length of flare

**PARABOLIC FLARE OFFSETS**



**TYPE 11K LAYOUT**

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



**TYPE 11L LAYOUT**

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

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

2006 REVISED STANDARD PLAN RSP A77E6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	39	56

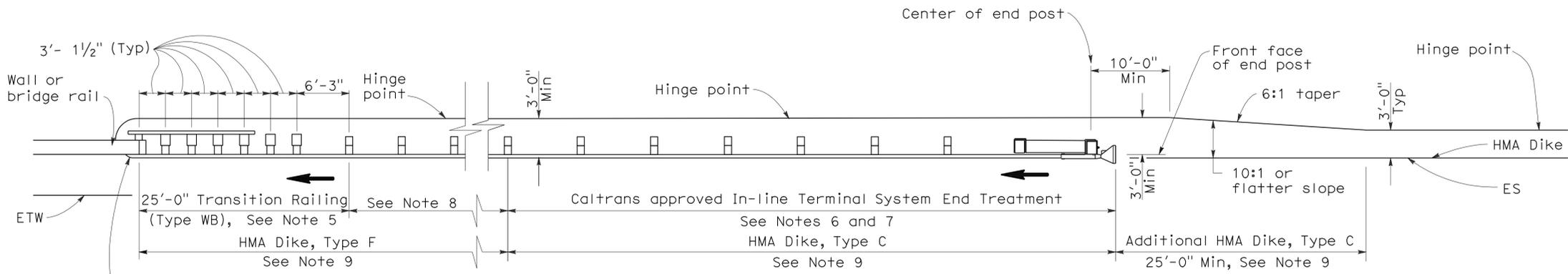
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

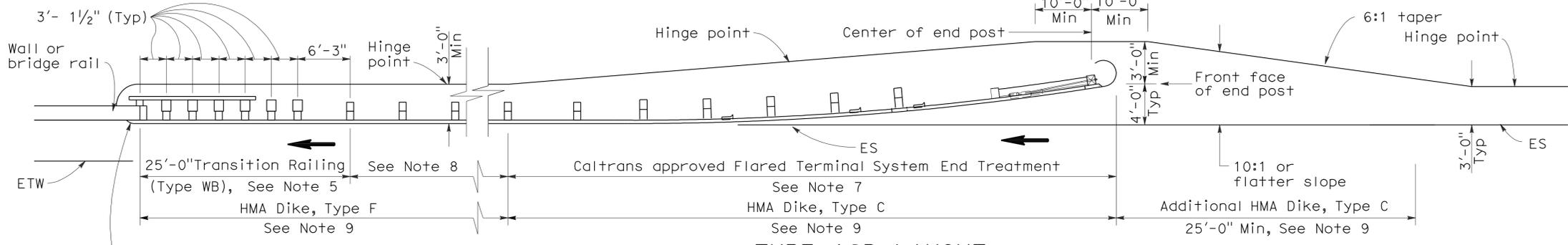
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To accompany plans dated 3-8-10



**TYPE 12A LAYOUT**

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



**TYPE 12B LAYOUT**

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

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by  $\rightarrow$ .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

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

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77F1**

2006 REVISED STANDARD PLAN RSP A77F1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,SM	1,35,82,92,101	Var	40	56

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

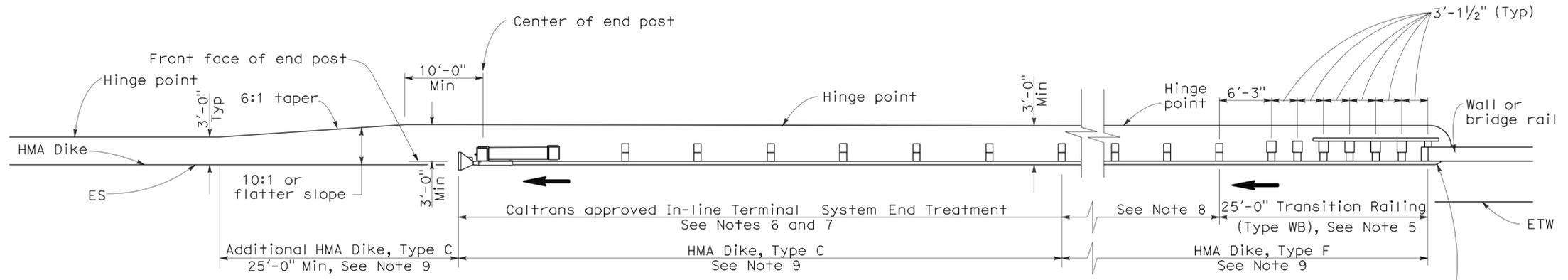
June 6, 2008  
PLANS APPROVAL DATE

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Randell D. Hiatt  
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Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

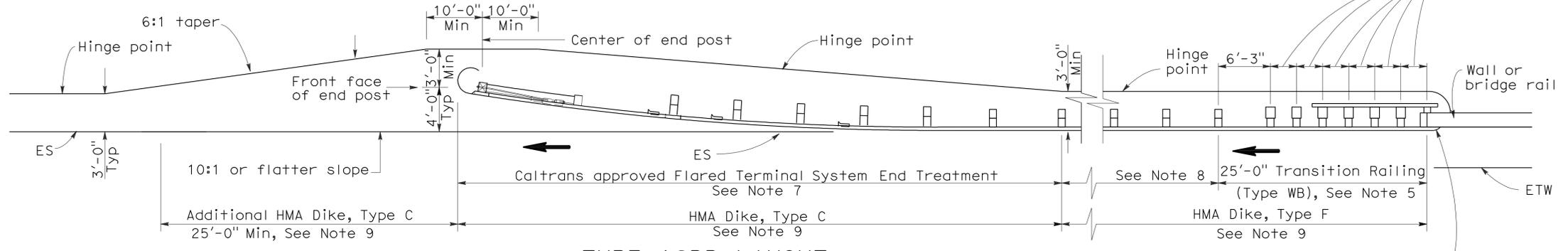
To accompany plans dated 3-8-10

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

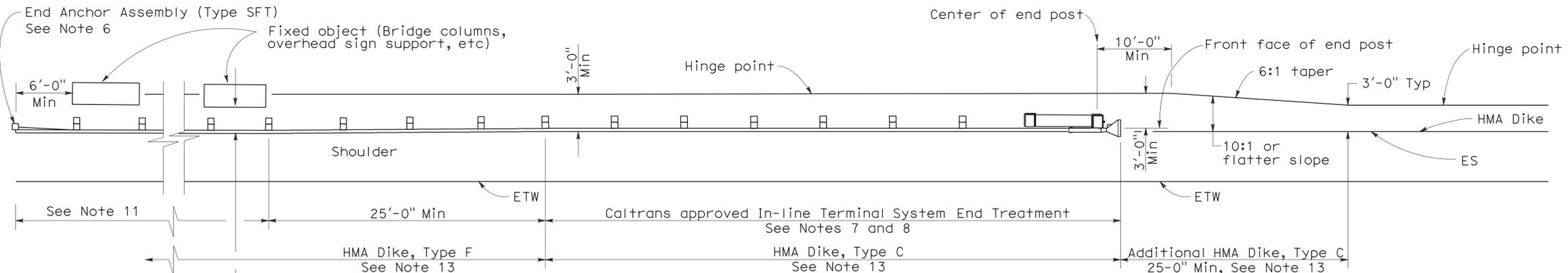
RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4  
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77F4**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	41	56

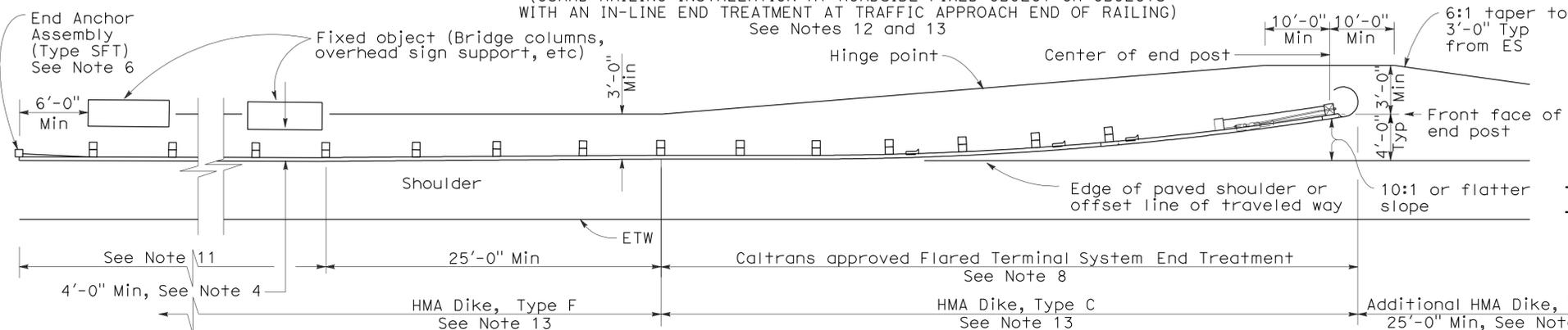
RANDALL D. HIATT  
 REGISTERED CIVIL ENGINEER  
 No. C50200  
 Exp. 6-30-09  
 CIVIL  
 STATE OF CALIFORNIA

June 6, 2008  
 PLANS APPROVAL DATE  
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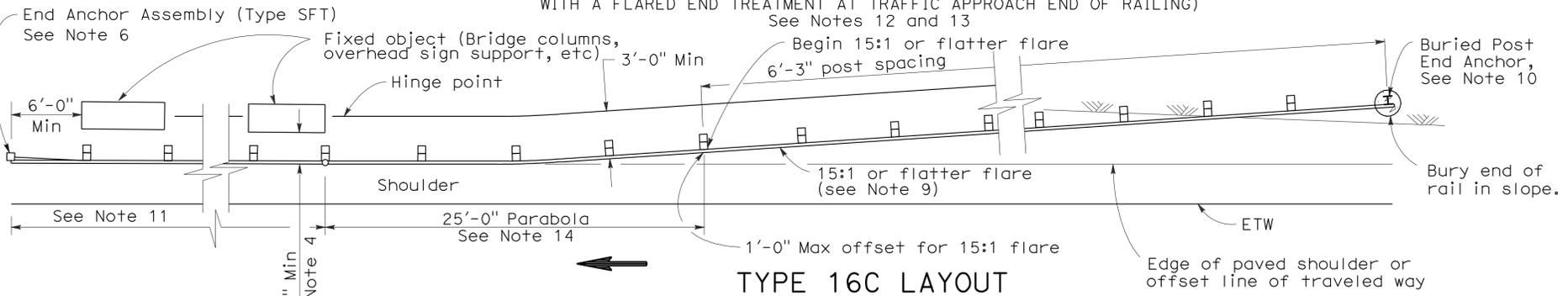
**TYPE 16A LAYOUT**

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 12 and 13



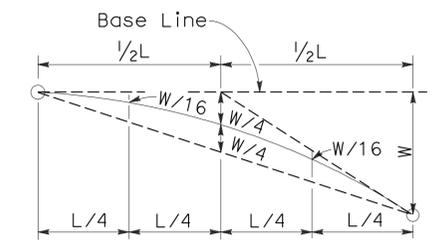
**TYPE 16B LAYOUT**

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

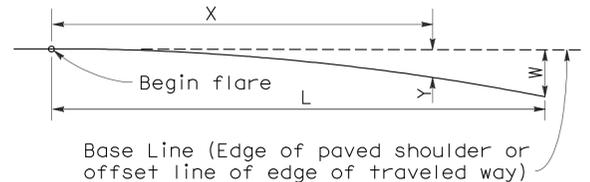


**TYPE 16C LAYOUT**

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



**TYPICAL PARABOLIC LAYOUT**

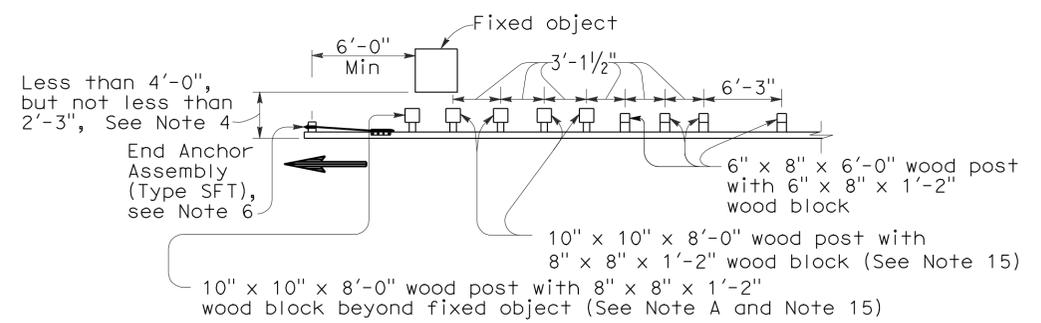


$$Y = \frac{WX^2}{L^2}$$
 Y = Offset from base line  
 W = Maximum offset  
 X = Distance along base line  
 L = Length of flare

**PARABOLIC FLARE OFFSETS**

**NOTES:**

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



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

**STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT**

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

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

NO SCALE

RSP A77G3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G3 DATED MAY 1, 2006 - PAGE 61 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77G3**

2006 REVISED STANDARD PLAN RSP A77G3



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	43	56

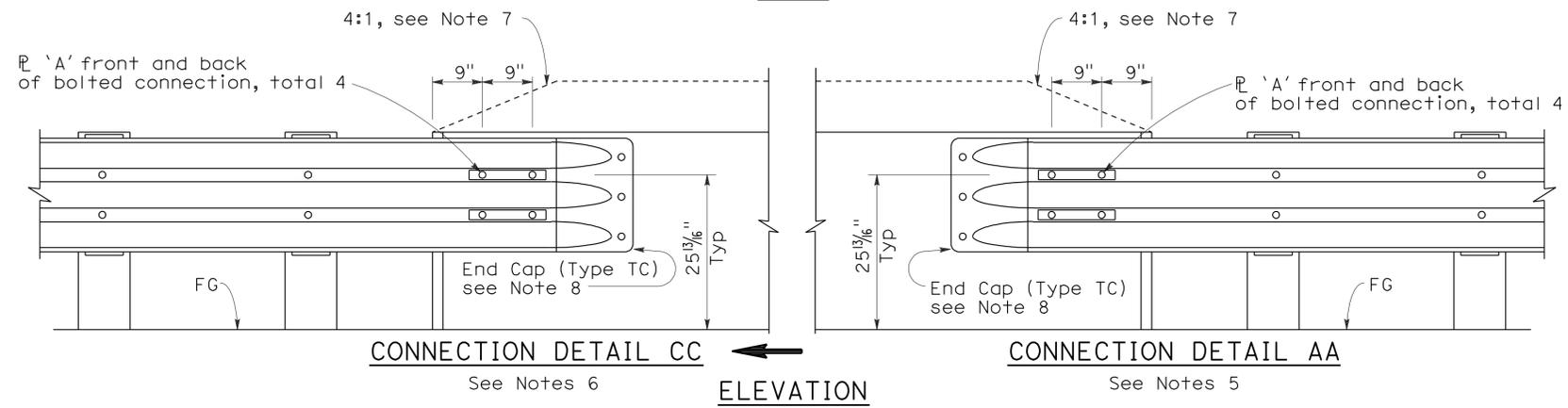
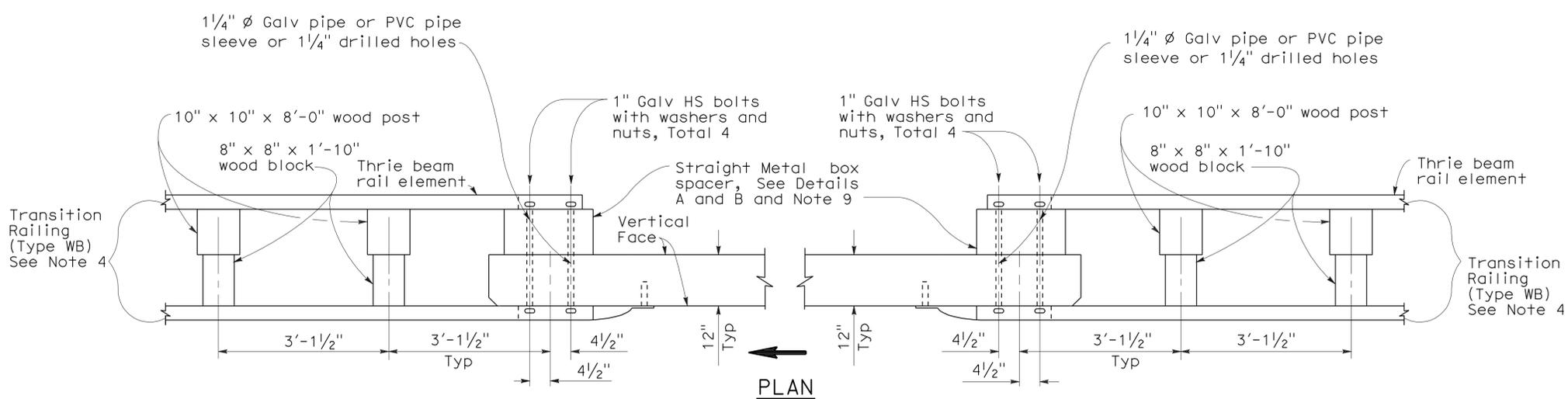
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

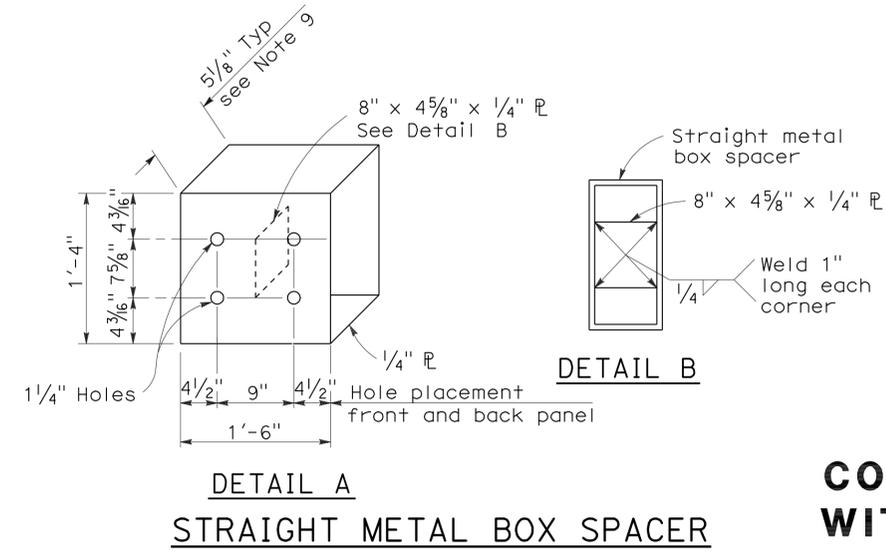
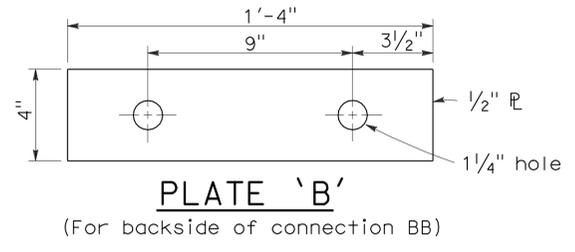
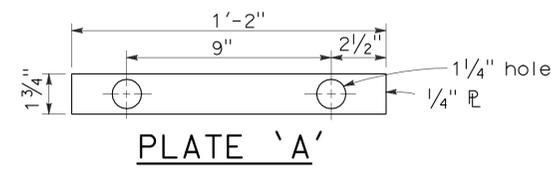
To accompany plans dated 3-8-10



**GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK**

**NOTES:**

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



**METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2**

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

2006 REVISED STANDARD PLAN RSP A77J2

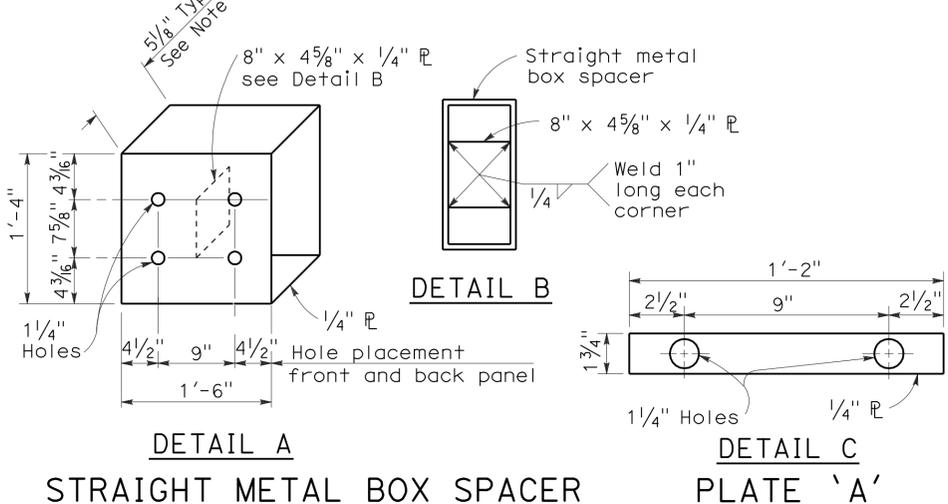
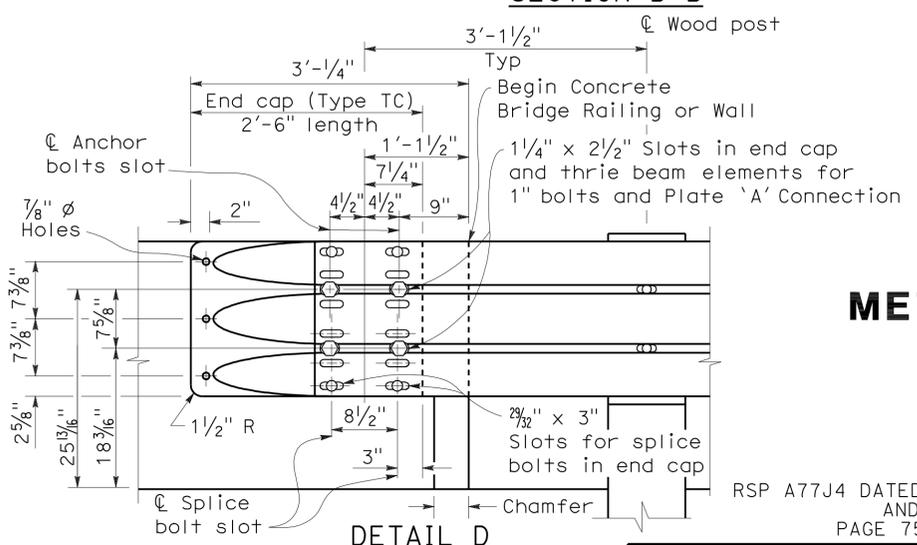
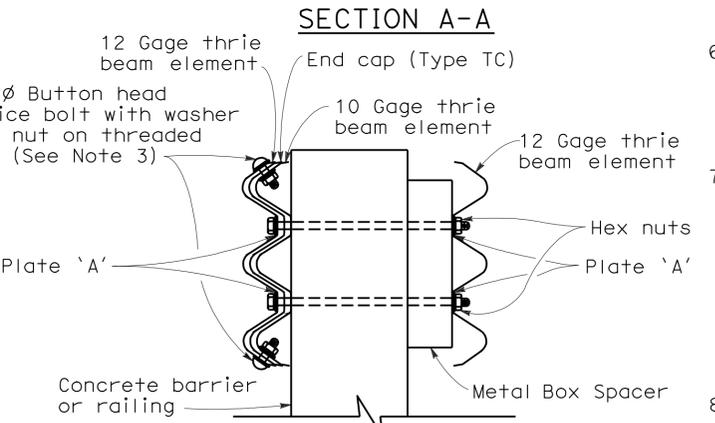
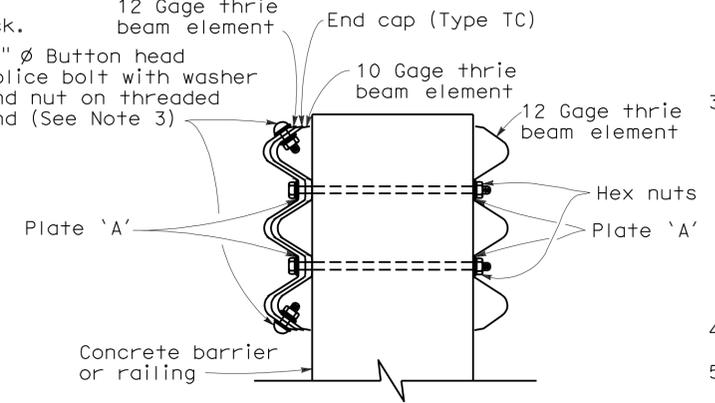
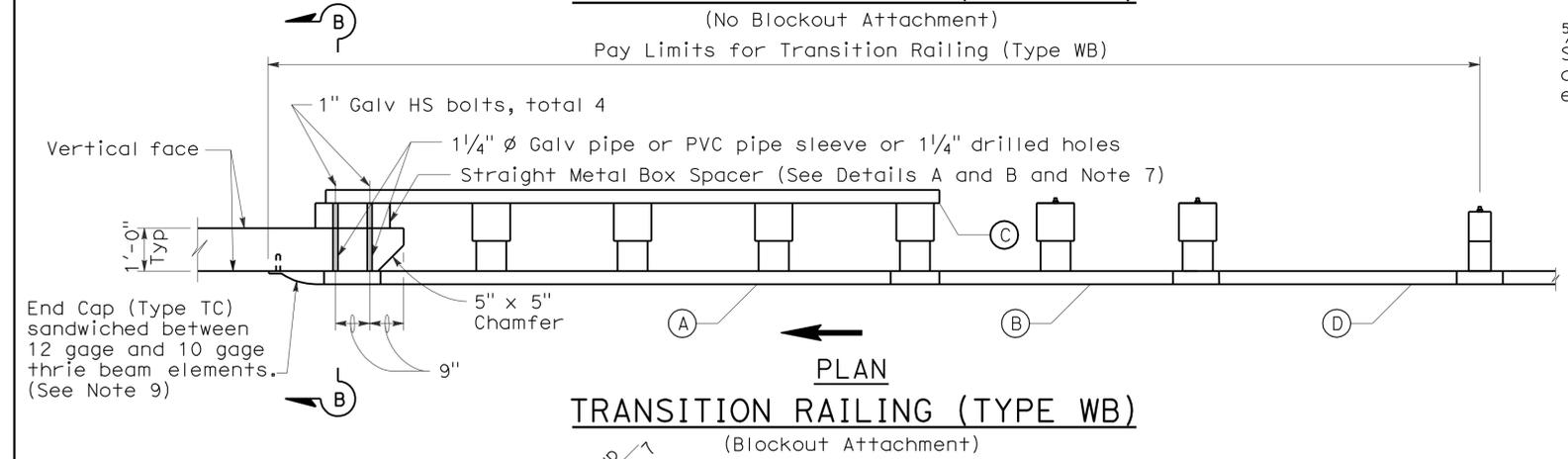
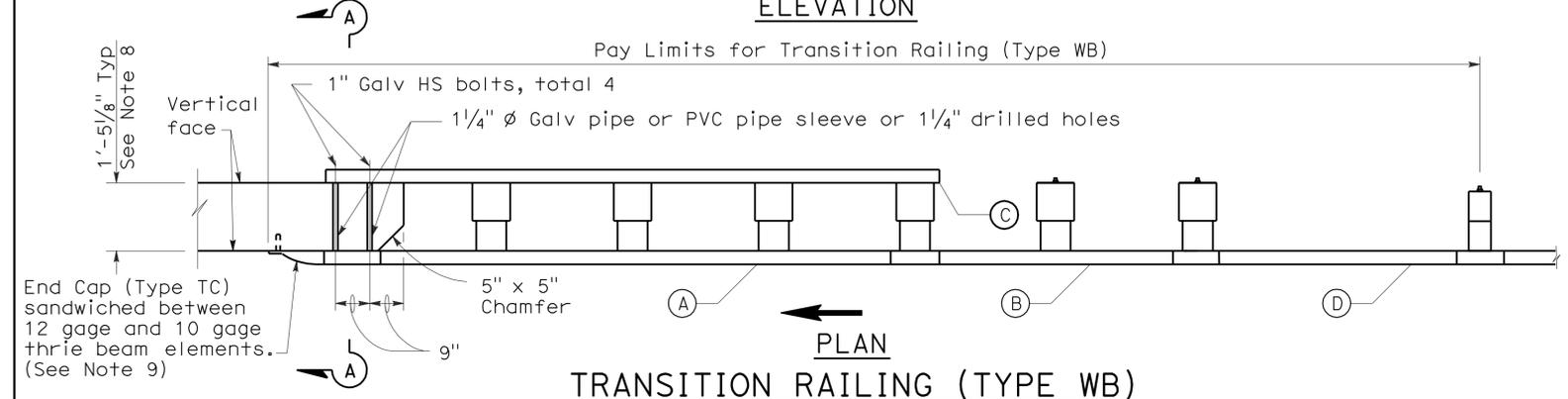
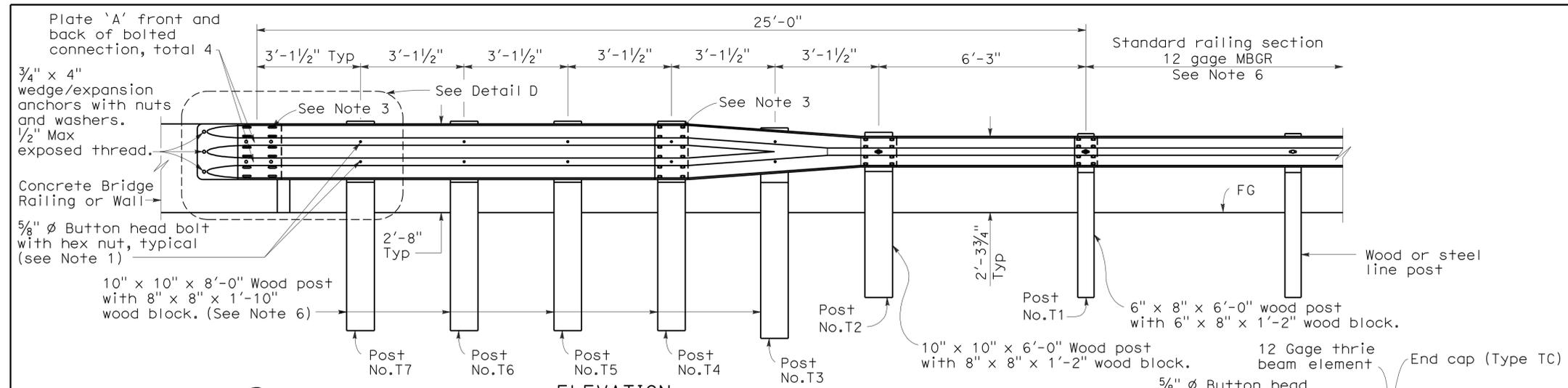
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	44	56

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 5, 2009  
PLANS APPROVAL DATE

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

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77J4**

2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,SM	1,35,82,92,101	Var	45	56

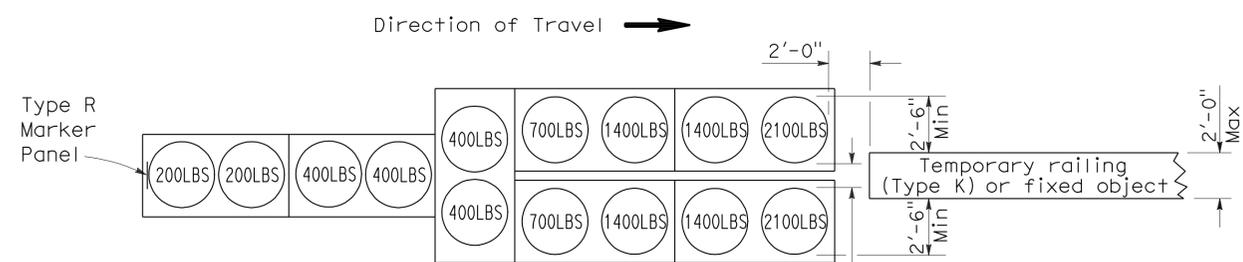
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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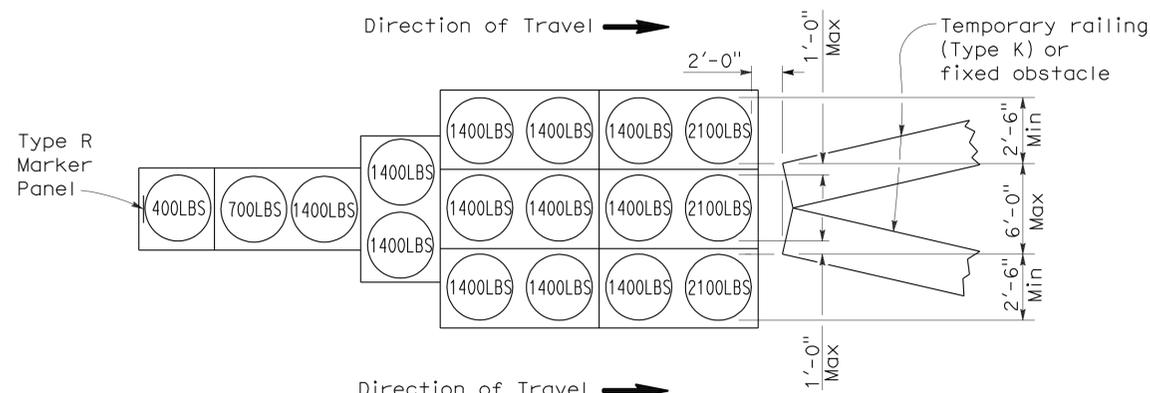
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 3-8-10



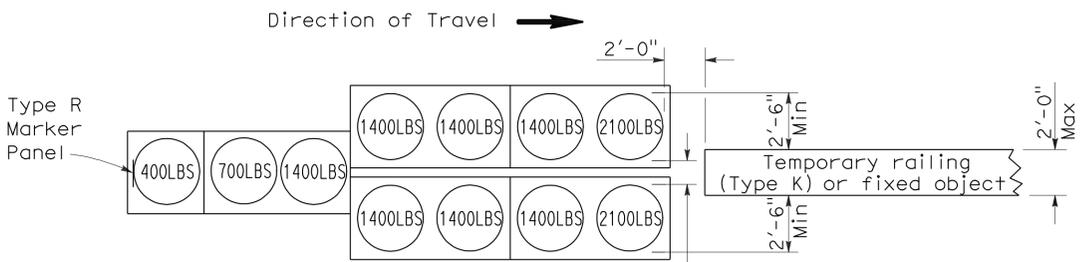
**ARRAY 'TU14'**

Approach speed 45 mph or more



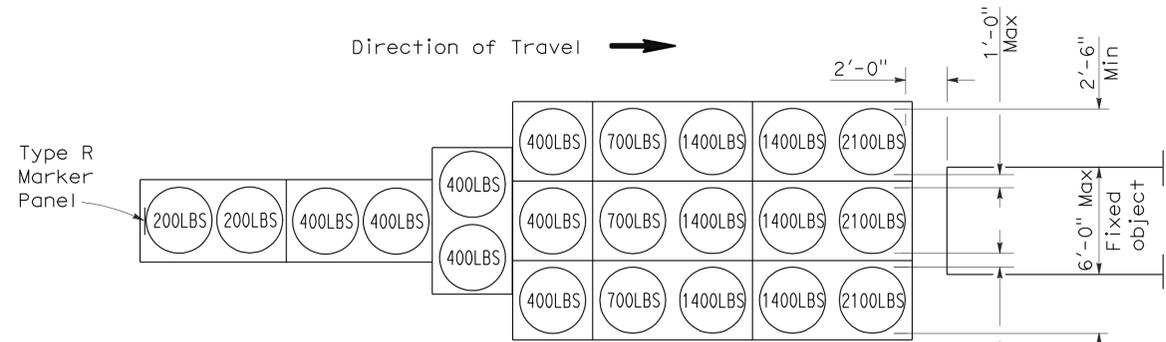
**ARRAY 'TU17'**

Approach speed less than 45 mph



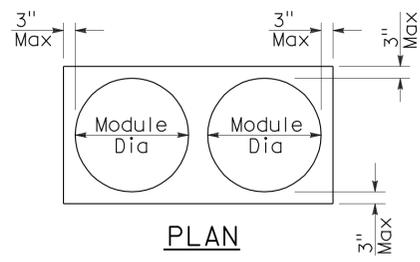
**ARRAY 'TU11'**

Approach speed less than 45 mph

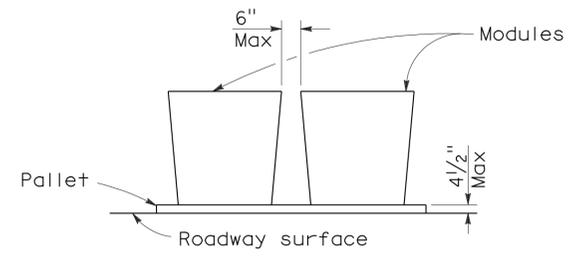


**ARRAY 'TU21'**

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.

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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
04	SF,SM	1,35,82,92,101	Var	46	56

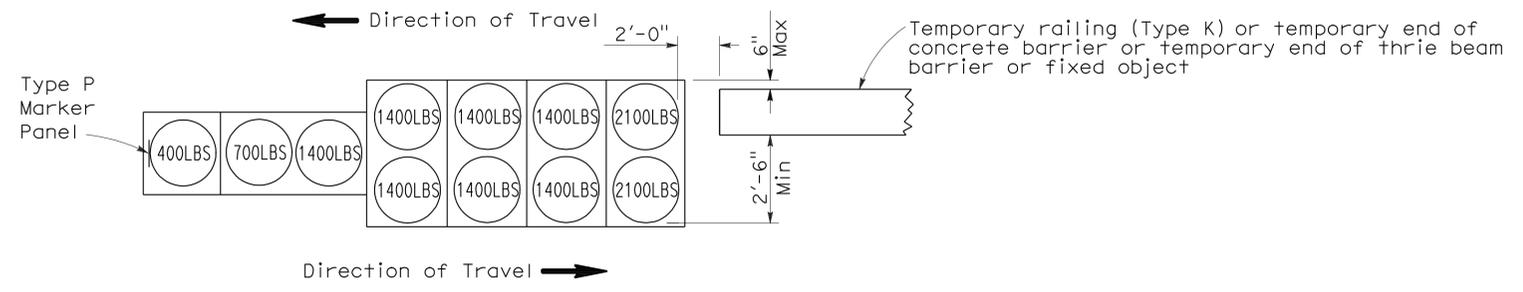
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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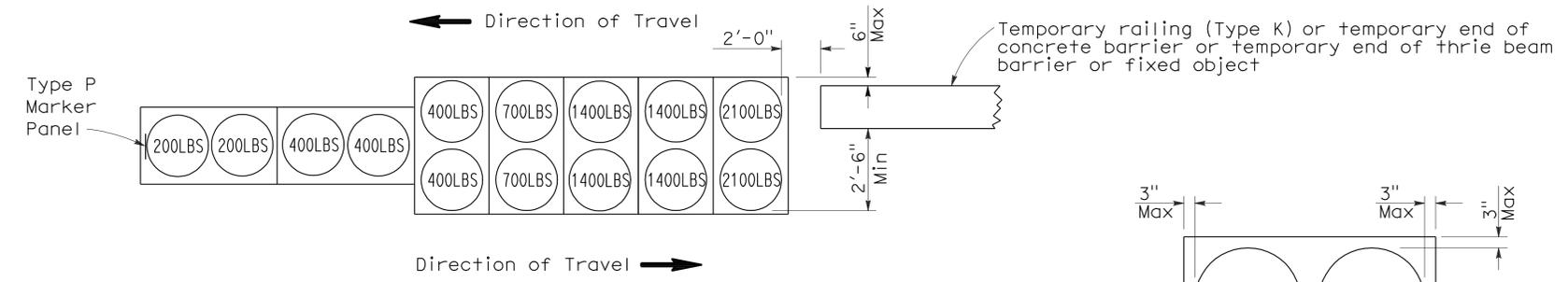
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 3-8-10



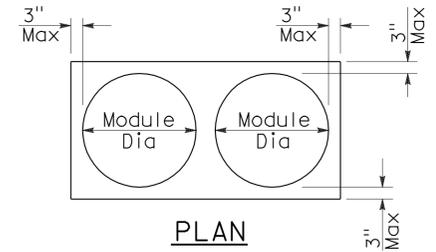
**ARRAY 'TB11'**

Approach speed less than 45 mph

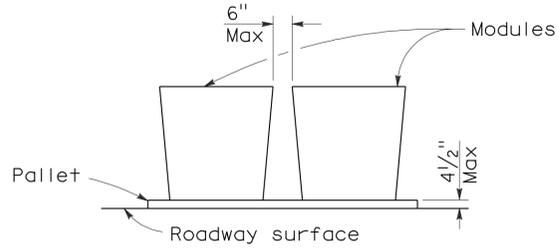


**ARRAY 'TB14'**

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
04	SF,SM	1,35,82,92,101	Var	47	56

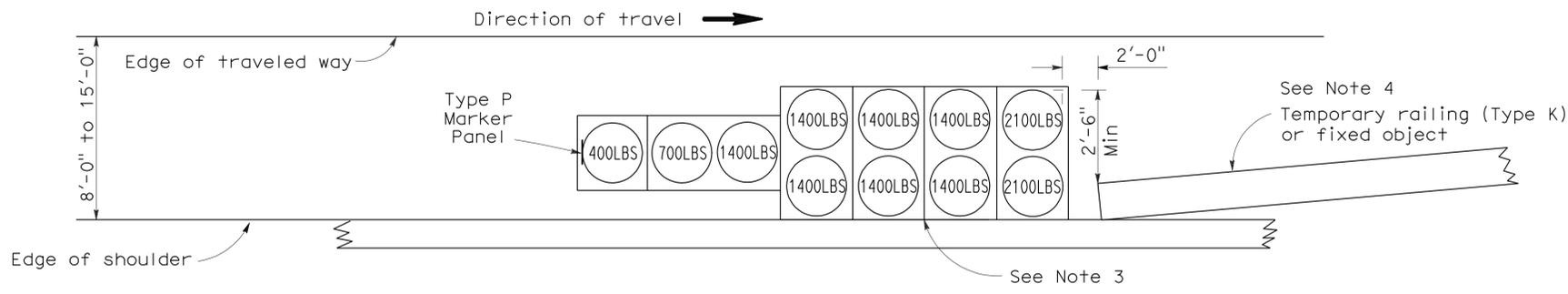
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

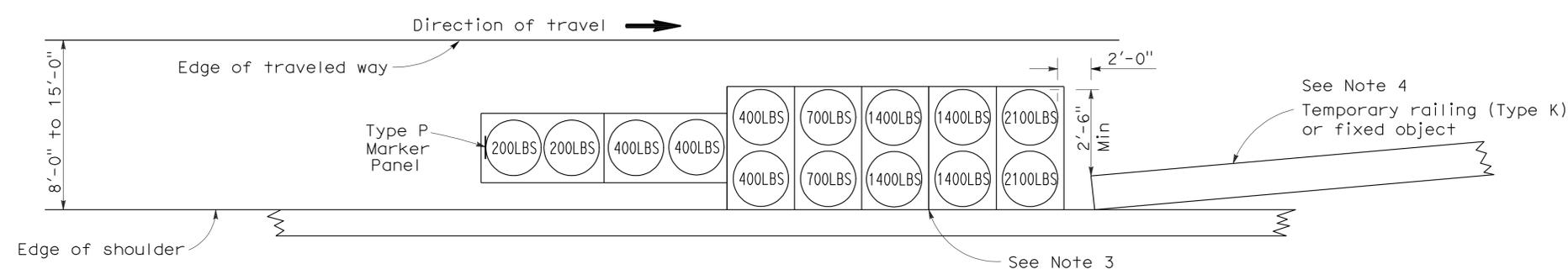
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

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

To accompany plans dated 3-8-10



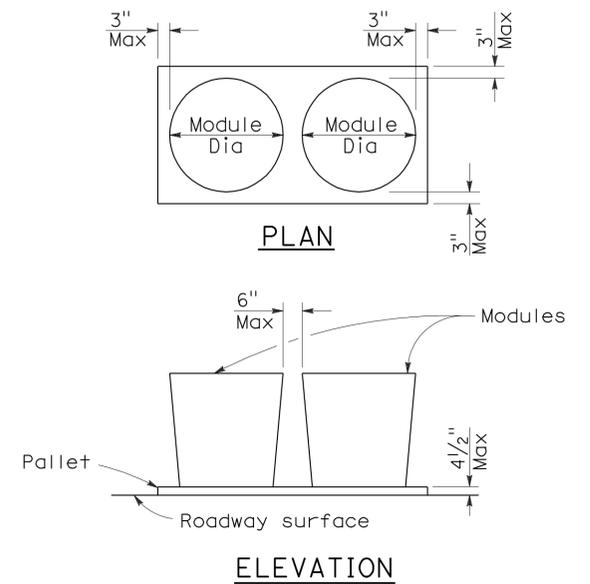
**ARRAY 'TS11'**  
Approach speed less than 45 mph  
See Note 9



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

**NOTES:**

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



**CRASH CUSHION PALLET DETAIL**  
See Note 11

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**  
NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2  
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

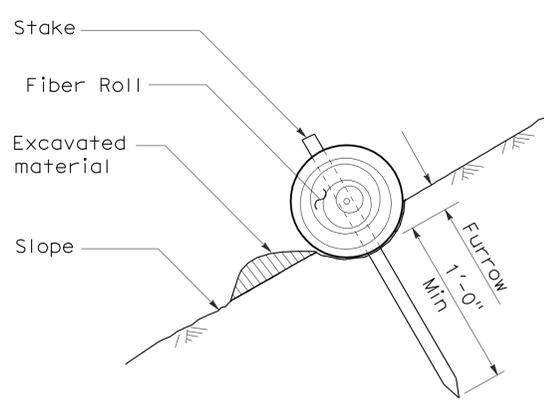
**REVISED STANDARD PLAN RSP T2**

2006 REVISED STANDARD PLAN RSP T2

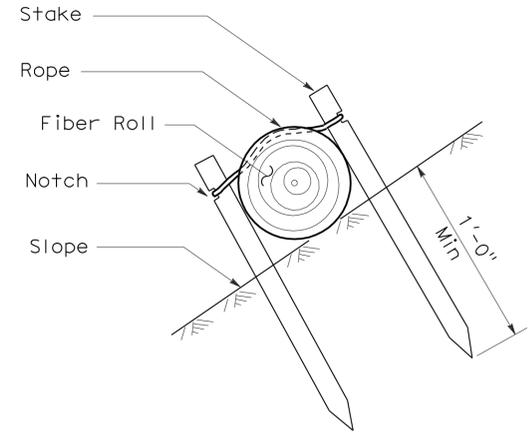
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,SM	1,35,82,92,101	Var	48	56

*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 April 3, 2009  
 PLANS APPROVAL DATE  
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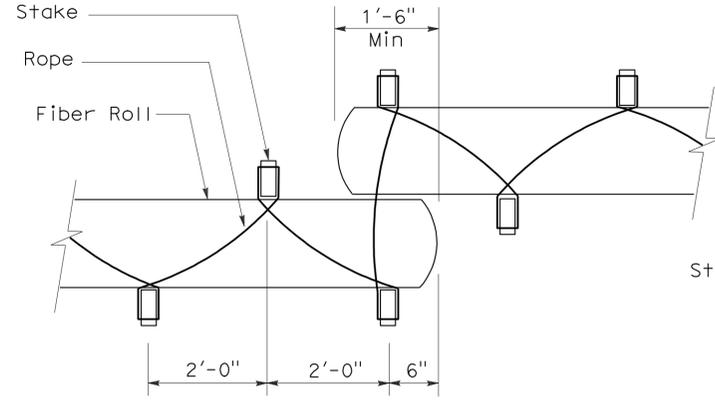
To accompany plans dated 3-8-10



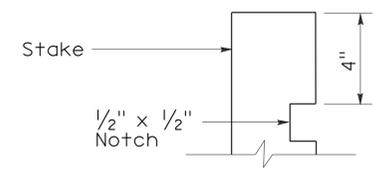
**SECTION**  
**TEMPORARY FIBER ROLL (TYPE 1)**



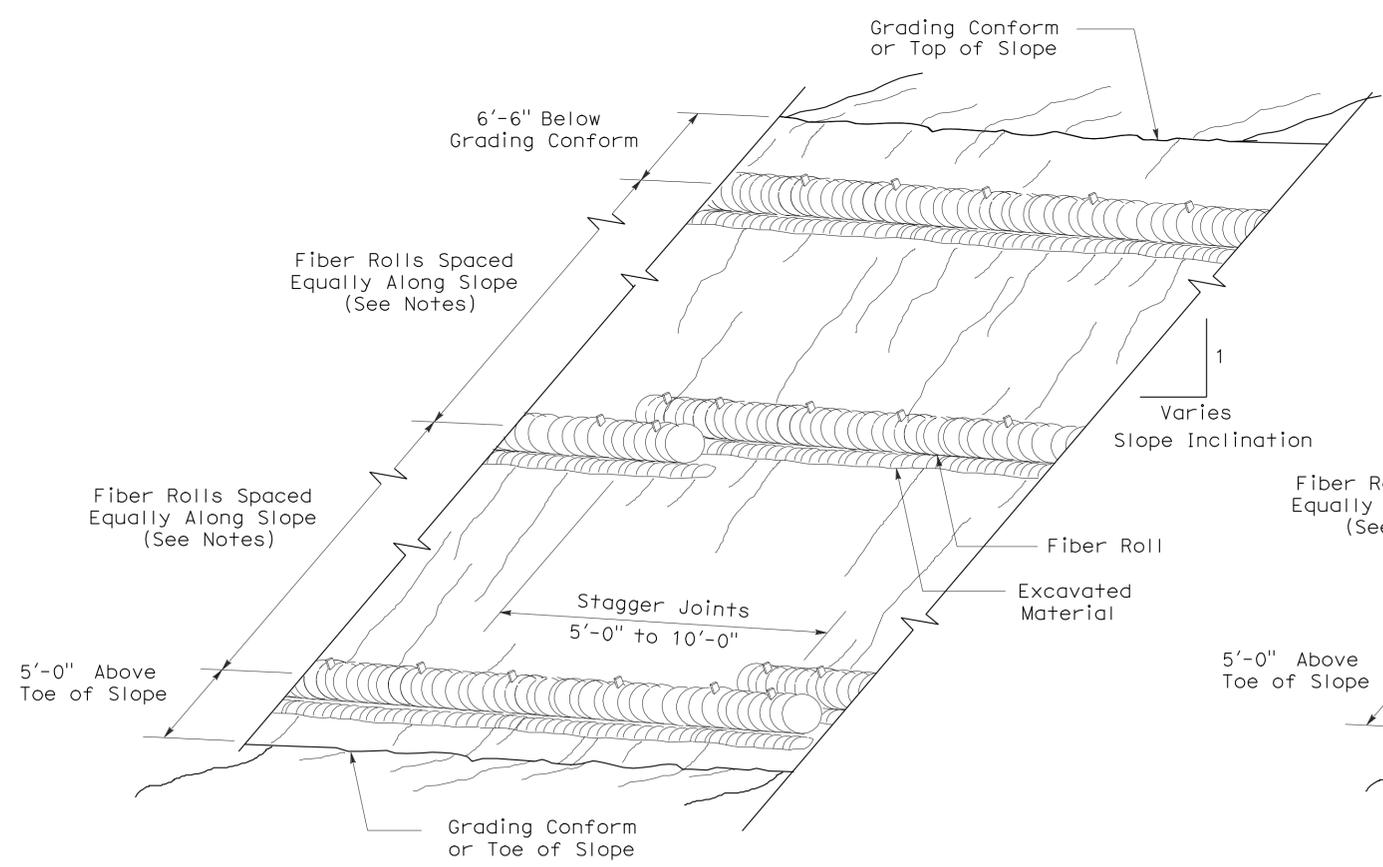
**SECTION**  
**TEMPORARY FIBER ROLL (TYPE 2)**



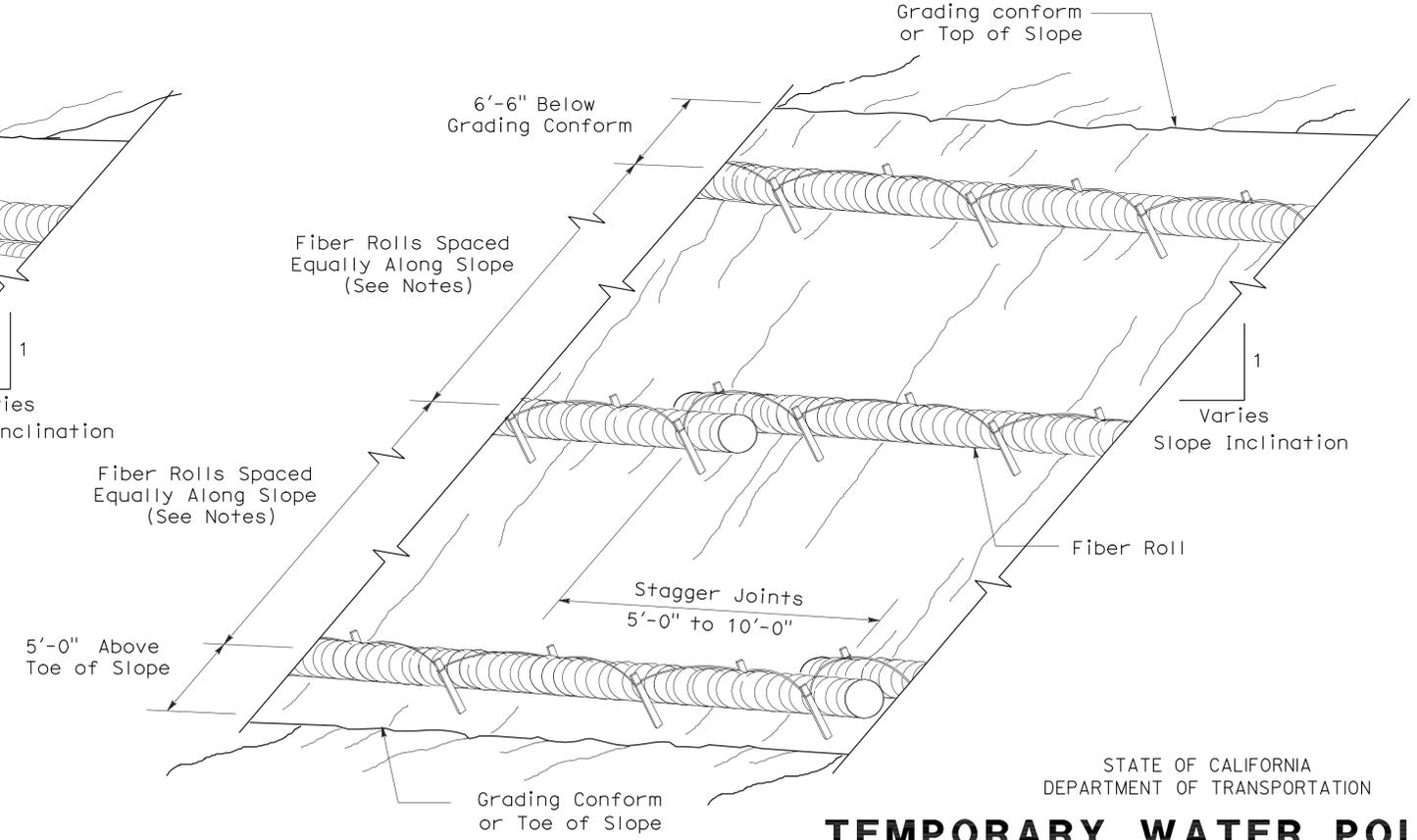
**PLAN**  
**ELEVATION**  
**STAKE NOTCH DETAIL**



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



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



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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T56**

2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, SM	1,35,82,92,101	VAR	49	56

 11-18-09  
 REGISTERED CIVIL ENGINEER DATE

3-8-10  
 PLANS APPROVAL DATE

No. C055212  
 Exp. 6/30/10  
 CIVIL

REGISTERED PROFESSIONAL ENGINEER  
 S. T. VU  
 STATE OF CALIFORNIA

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INDEX TO PLANS

Sheet No.	Title
1	Index to Plans
2	Type 1 Barrier
3	Type 10M Barrier
4	Type 5 Barrier
5	Type 9 Barrier
6	Type 25 Barrier
7	Steel Railing Barrier
8	Concrete Barrier

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
RSP A77J2	METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILING DETAILS

LEGEND

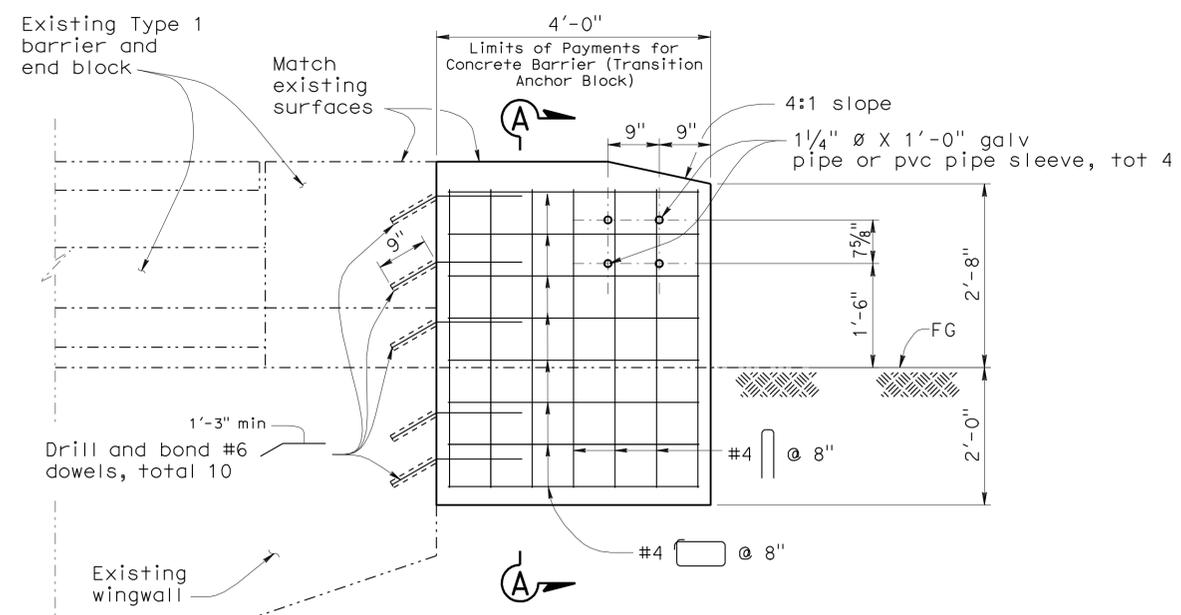
- Indicates existing structure.
- Indicates new construction.
-  Bridge removal (Portion)

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)	DESIGN	BY N. KANEPATHIPILLAI	CHECKED S VU	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>SPECIAL DESIGN BRANCH</b>	BRIDGE NO.	<b>INDEX TO PLANS</b> <b>TRANSITION ANCHOR BLOCK DETAILS</b>	
	DETAILS	BY B EDWARDS/P. WELLS	CHECKED N. KANEPATHIPILLAI			POST MILE		
	QUANTITIES	BY D. SANDHU	CHECKED Y SONG					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04227 EA 0A8711	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 9/23/09 10/02/09 11/17/09	SHEET 1 OF 8

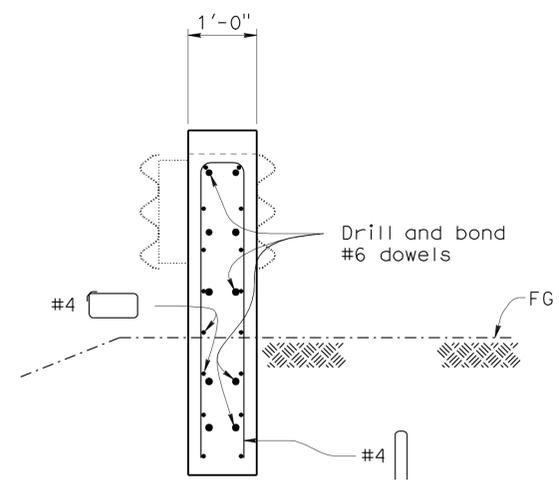
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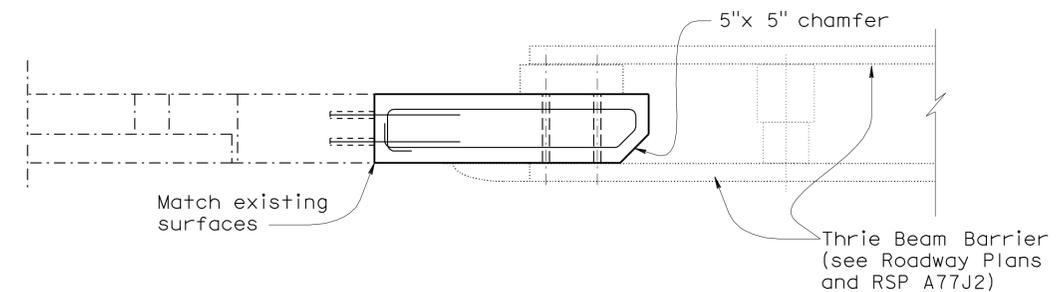
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF,SM	1,35,82,92,101	Var	50	56
			11-18-09		
REGISTERED CIVIL ENGINEER			DATE		
3-8-10			PLANS APPROVAL DATE		
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**ELEVATION**  
No scale



**SECTION A-A**  
No scale



**PLAN**  
No scale

- NOTES:**
1. For limits of excavation and backfill, see Standard Plans May 2006 A62C, SECTION E-E.
  2. Epoxy fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.

**LEGEND**

- Indicates existing structure
- Indicates new construction

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

**LOCATION TABLE OF TYPE 1 BARRIER TRANSITION ANCHOR BLOCK APPLICATIONS**

Bridge No.	Bridge Name	Route, Post Mile	Direction	No. of Connections (WB)	
				Leading End	Trailing End
35-0015	Pilarcitos Creek	92, 3.32	EB	1	1
				WB	1

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)	DESIGN	BY NKP	CHECKED S VU	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>SPECIAL DESIGN BRANCH</b>	BRIDGE NO.	<b>TYPE 1 BARRIER</b> <b>TRANSITION ANCHOR BLOCK DETAILS</b>	
	DETAILS	BY B EDWARDS	CHECKED NKP			POST MILE		
	QUANTITIES	BY D SANDHU	CHECKED Y SONG					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04227 EA 0A8711	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 3/1/09 3/2/09 3/21/09 10/21/09 11/17/09	SHEET 2 OF 8

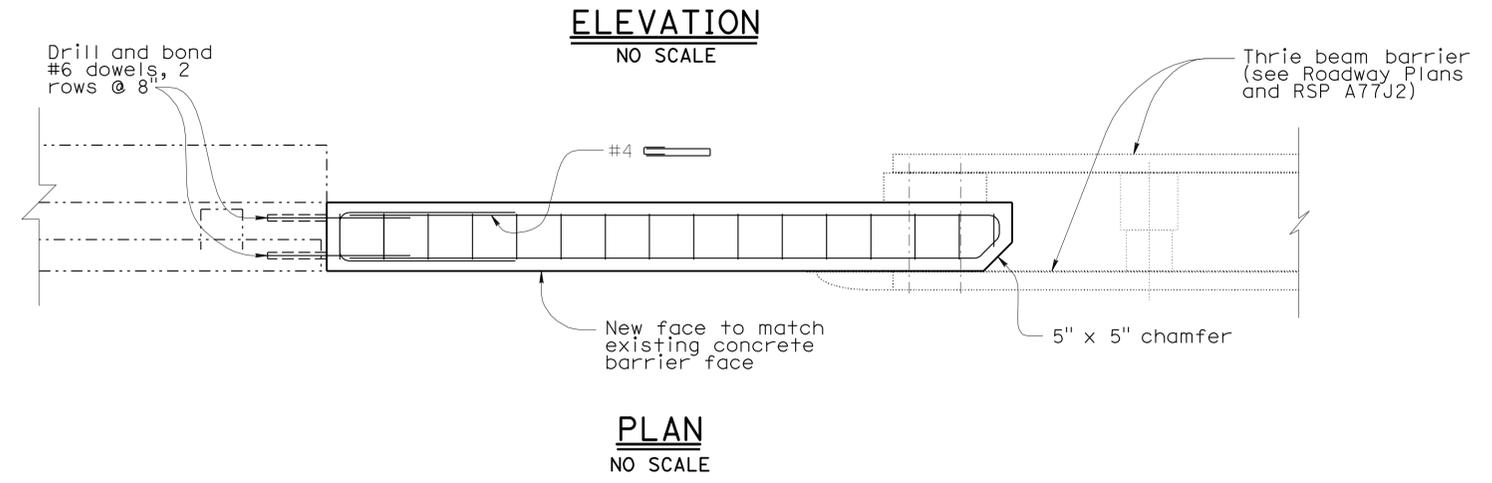
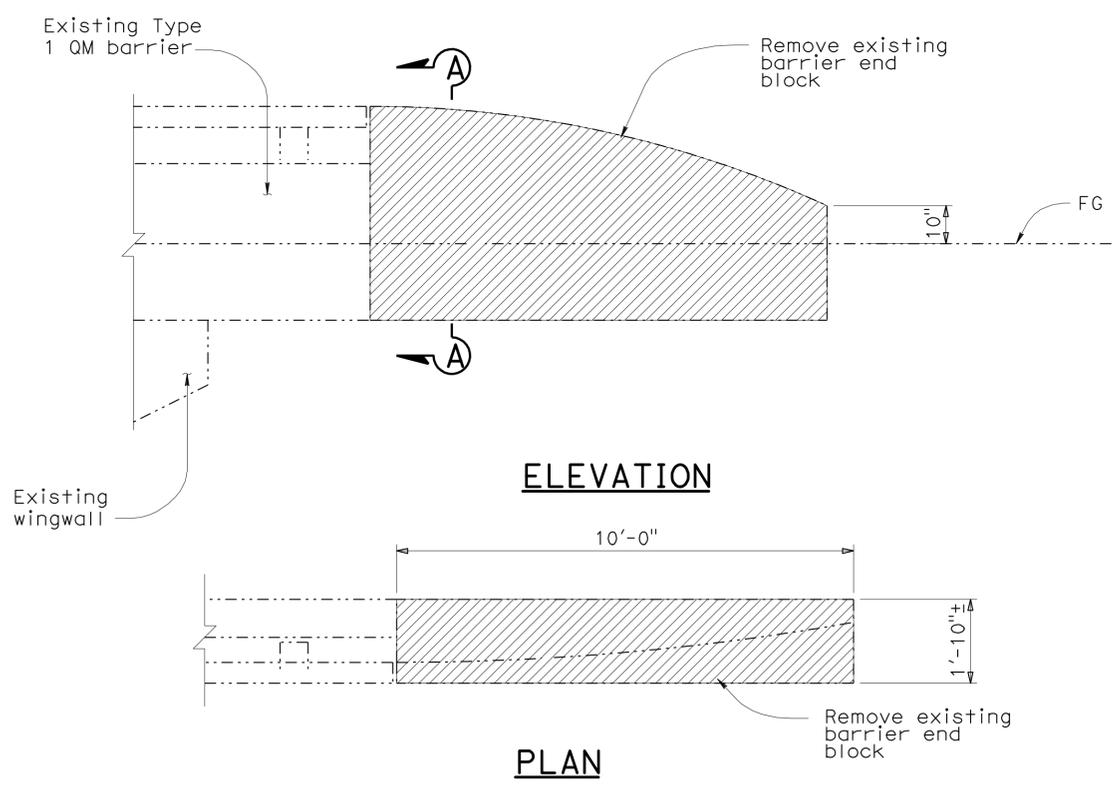
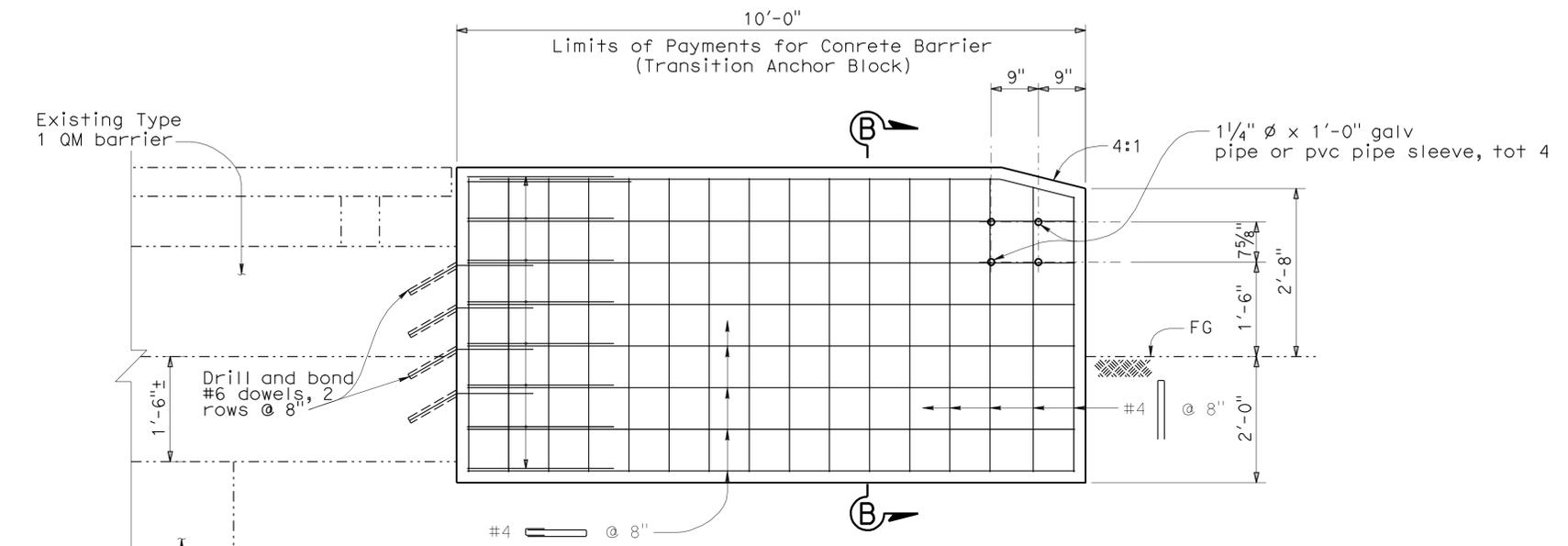
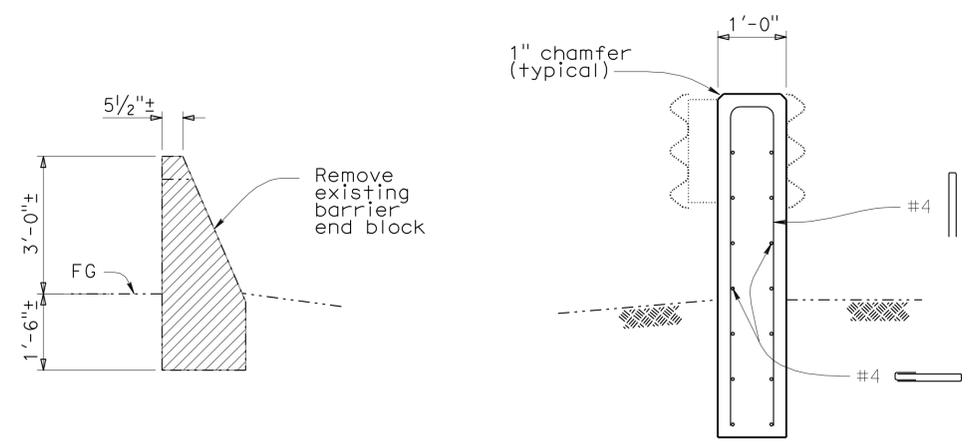
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, SM	1, 35, 82, 92, 101	Var	51	56

11-18-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE  
 No. C055212  
 Exp. 6/30/10  
 CIVIL  
 STATE OF CALIFORNIA

LOCATION TABLE OF TYPE 1 QM BARRIER  
TRANSITION ANCHOR BLOCK APPLICATIONS

Bridge #	Bridge Name	Route, Post Mile	Direction	No. of Connections (WB)	
				Leading	Trailing
35-0200G	Route 35/280 Separation	35, 23.06	NB	1	



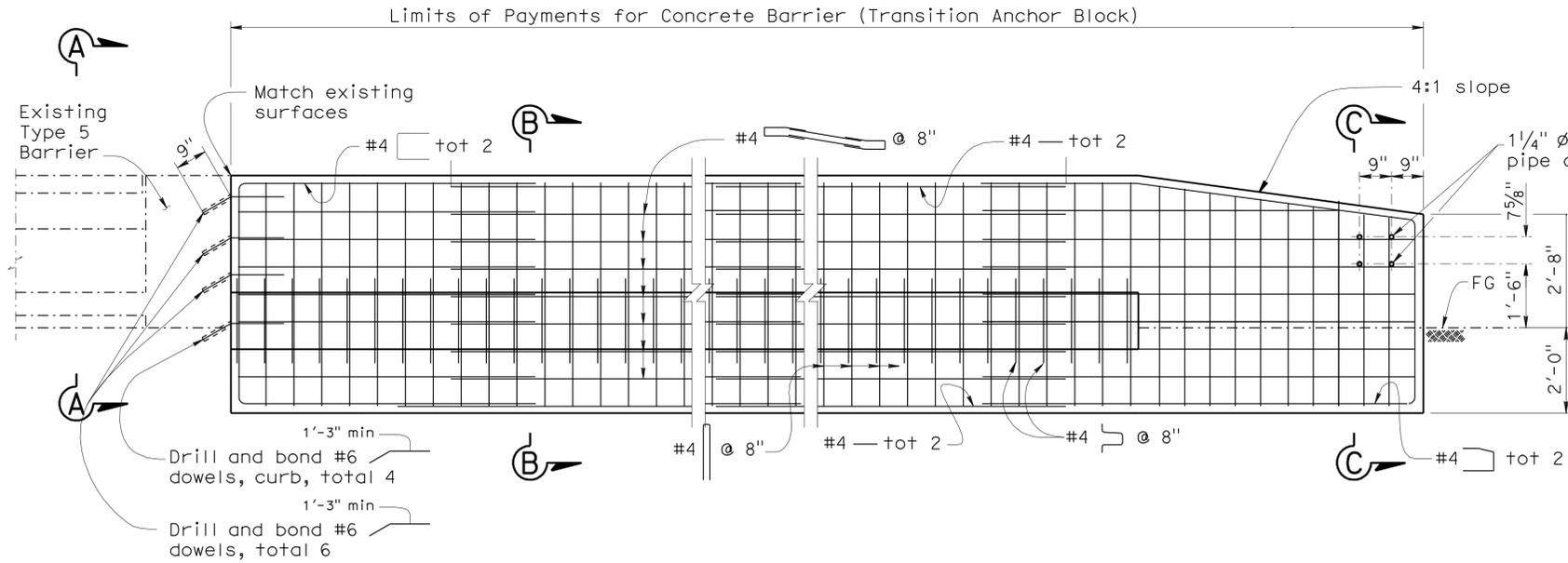
NOTE:  
1. For limits of Excavtion and Backfill, see STANDARD PLANS, MAY 2006, A62C, SECTION E-E.

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

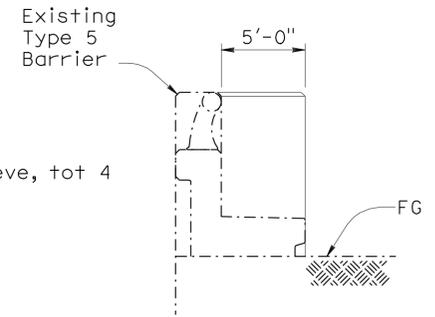
DESIGN BY N KANEPATHIPILLAI CHECKED S VU DETAILS BY P C WELLS/B EDWARDS CHECKED N KANEPATHIPILLAI QUANTITIES BY D SANDHU CHECKED Y SONG	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TYPE 1QM BARRIER TRANSITION ANCHOR BLOCK DETAILS
			POST MILE	
			REVISION DATES 9/18/09 9/21/09 9/23/09 10/08/09 10/22/09 11/17/09	
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, SM	1, 35, 82, 92, 101	Var	52	56

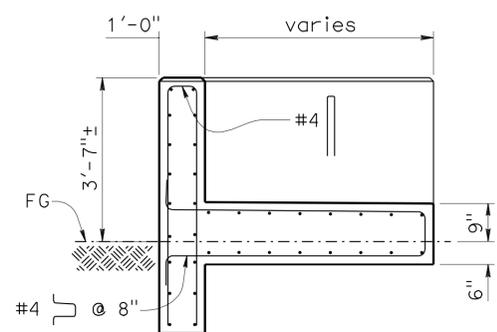
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 PLANS APPROVAL DATE  
 No. C055212  
 Exp. 6/30/10  
 CIVIL  
 STATE OF CALIFORNIA



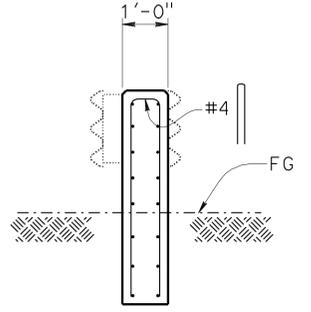
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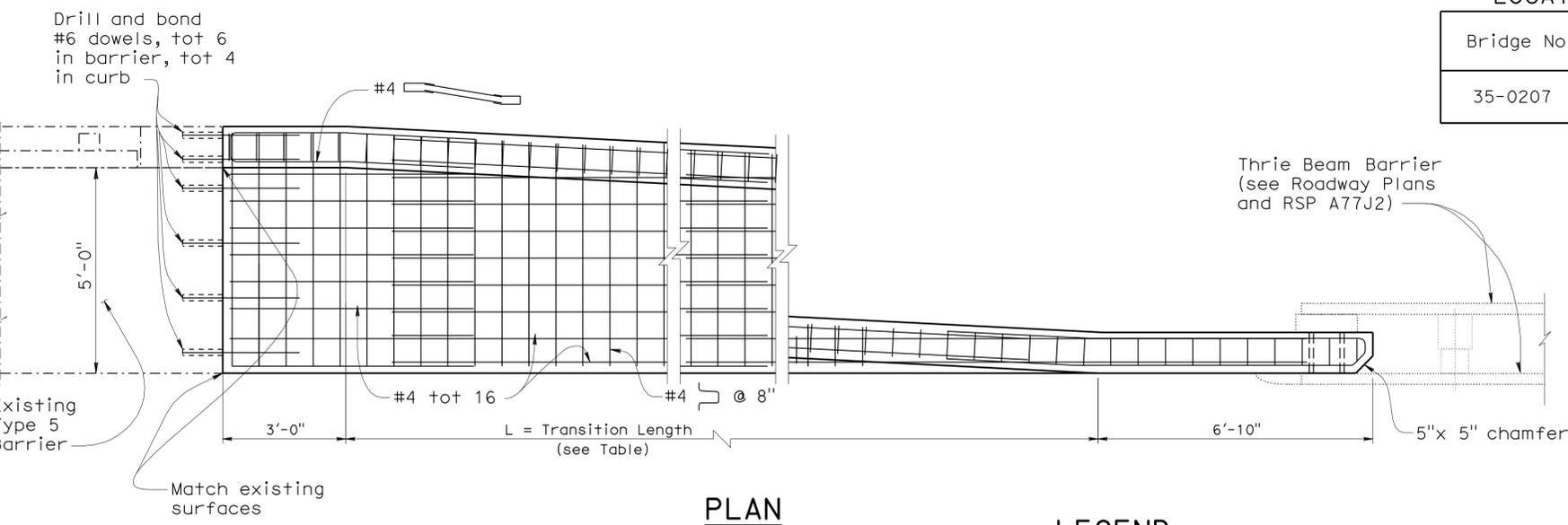
**SECTION A-A**  
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**SECTION B-B**  
no scale



**SECTION C-C**  
no scale



**PLAN**  
no scale

**LEGEND**

- Indicates existing structure
- Indicates new construction

**LOCATION TABLE OF TYPE 5 BARRIER TRANSITION ANCHOR BLOCK APPLICATIONS**

Bridge No.	Bridge Name	Route, Post Mile	Direction	No. of Connections (WB)		L (ft)
				Leading End	Trailing End	
35-0207	Ralston Avenue OC	92, 7.93	SB	1		100

**NOTES:**

- For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
- Epoxy fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
- Match to all existing barrier and sidewalk grade.

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

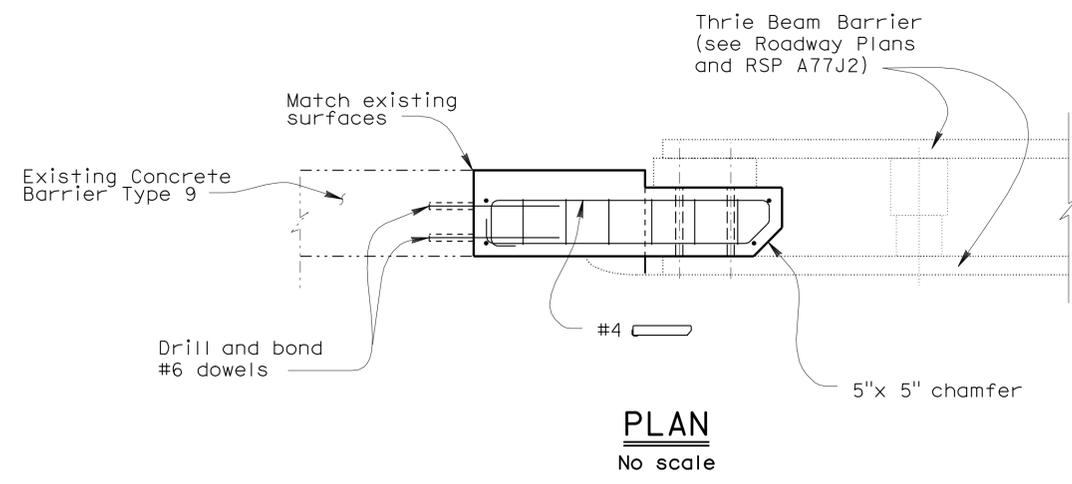
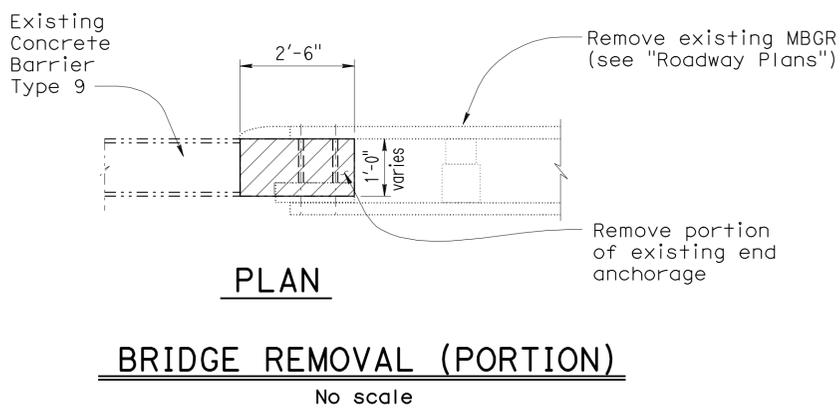
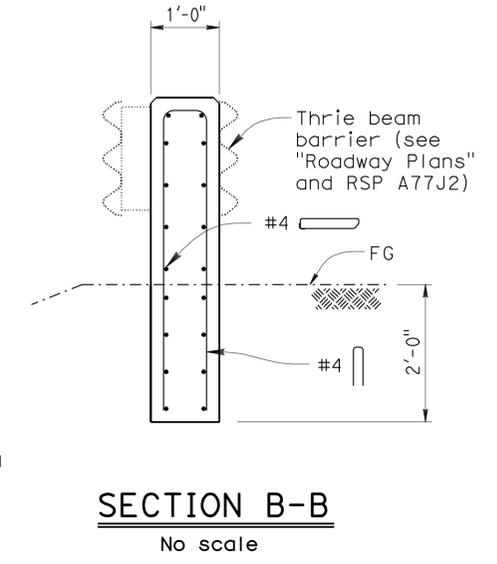
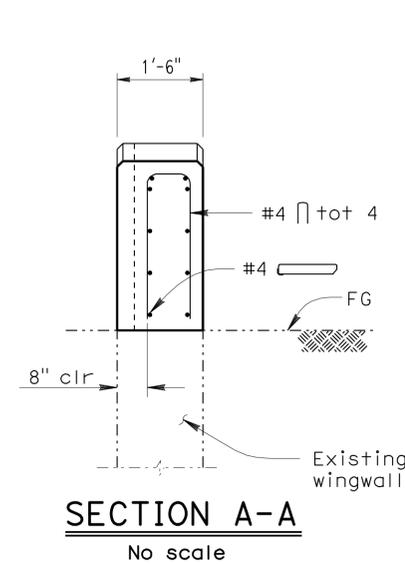
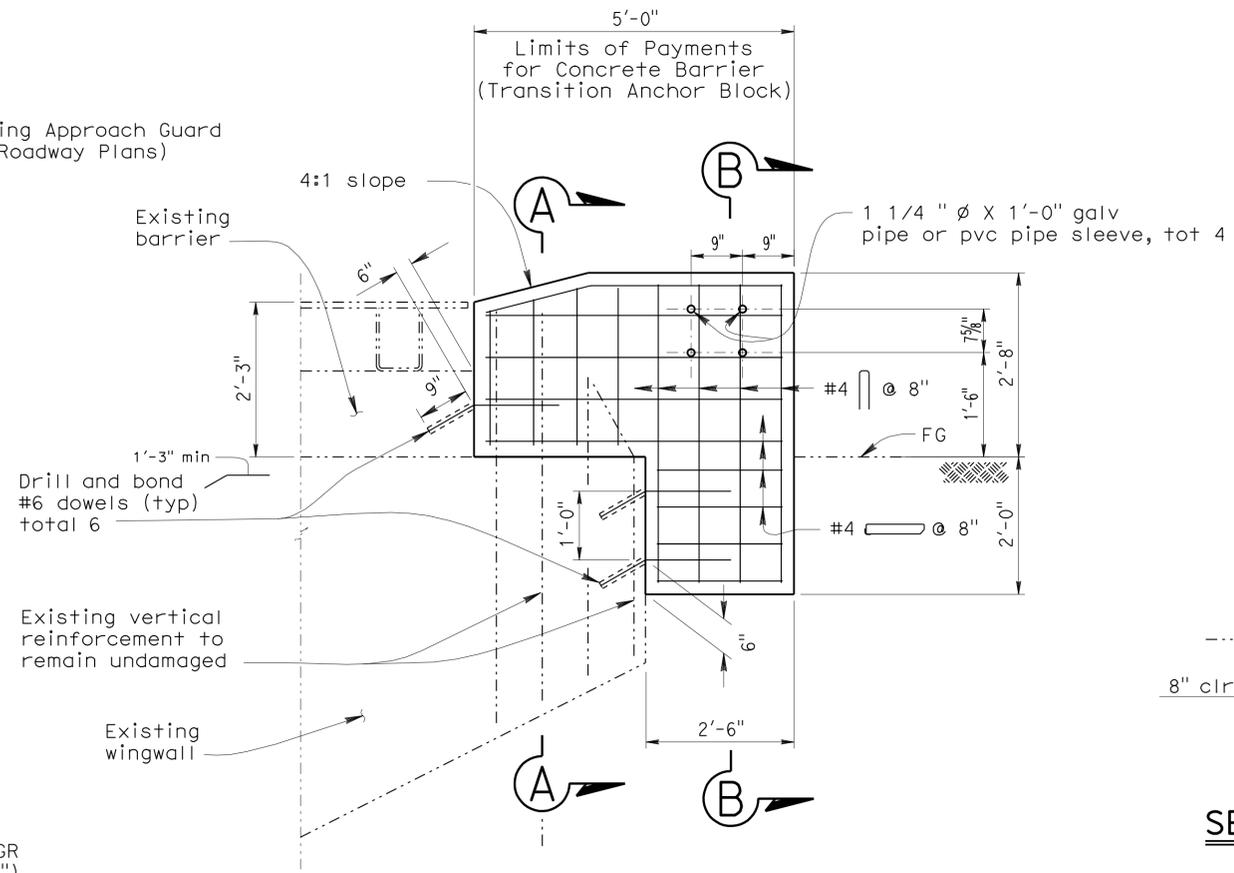
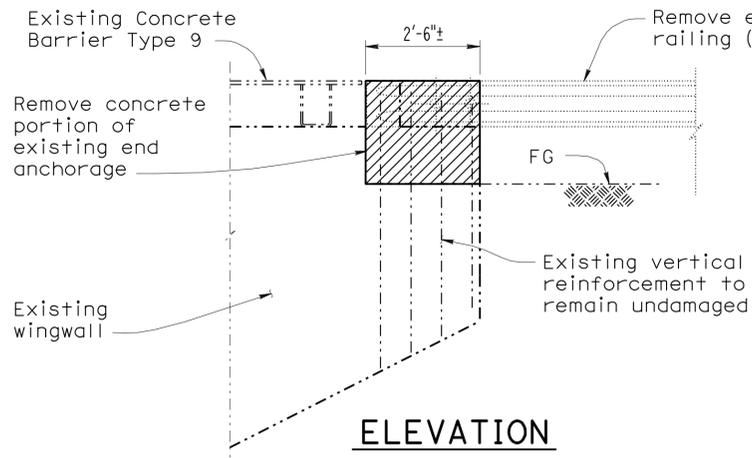
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DETAILS	BY B EDWARDS	CHECKED N KANEPATHIPILLAI
QUANTITIES	BY D SANDU	CHECKED Y SONG

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

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

BRIDGE NO.  
POST MILE

**TYPE 5 BARRIER**  
**TRANSITION ANCHOR BLOCK DETAILS**



NOTES:

- For limits of excavation and backfill, see Standard Plans May 2006 A62C, Section E-E.
- Epoxy fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.

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

**LEGEND**

- Indicates existing structure
- Indicates new construction
- ▨ Bridge removal (Portion)

LOCATION TABLE OF TYPE 9 BARRIER TRANSITION ANCHOR BLOCK APPLICATION

Bridge No.	Bridge Name	Route, Post Mile	Direction	No. of Connections
				Leading End
35-0205R	Route 35/1 Separation	35, 28.68	NB	1 Right
35-0205L	Route 35/1 Separation	35, 28.72	SB	1 Right

DESIGN	BY N KANEPATHIPILLAI	CHECKED S VU
DETAILS	BY B EDWARDS	CHECKED N KANEPATHIPILLAI
QUANTITIES	BY D SANDU	CHECKED Y SONG

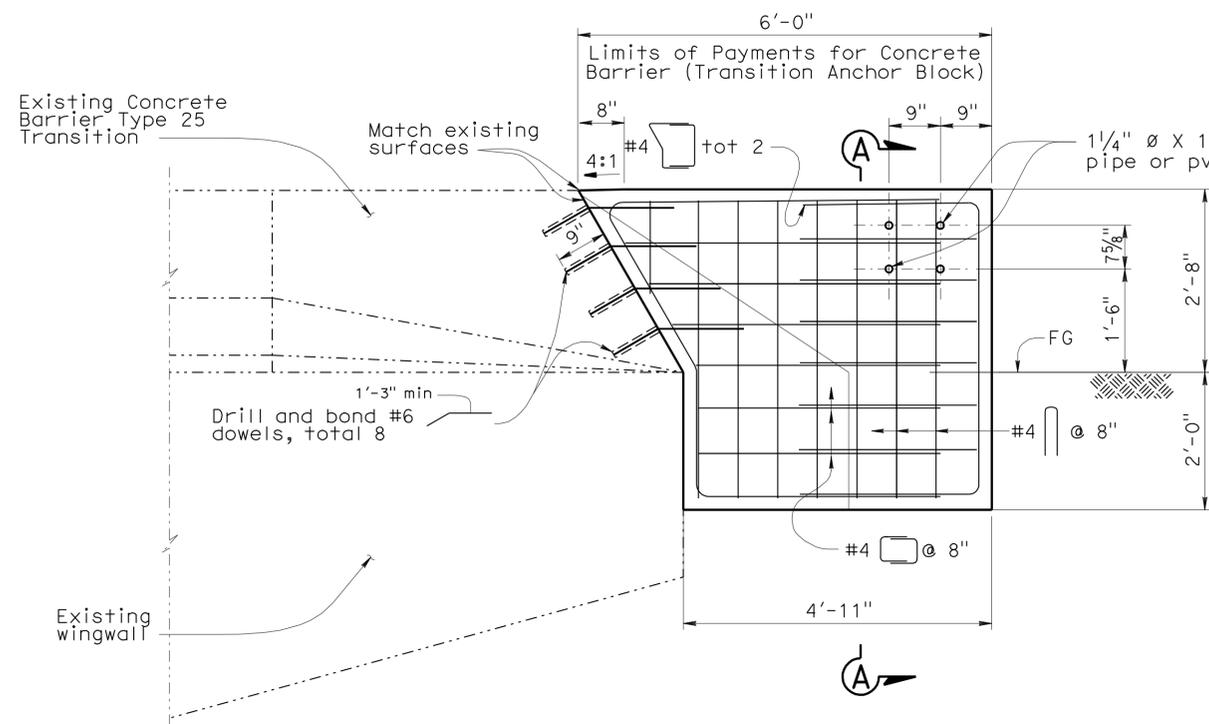
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 SPECIAL DESIGN BRANCH

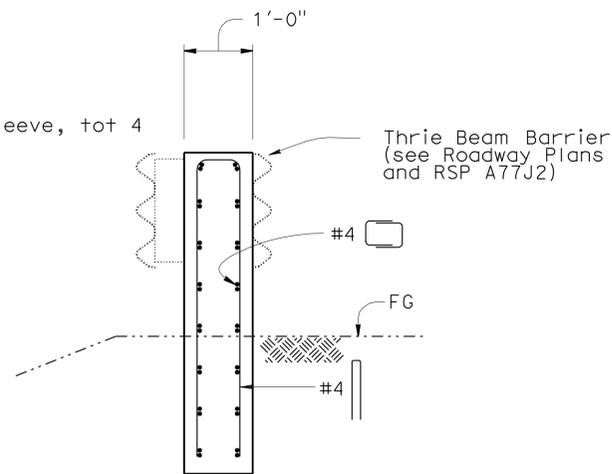
BRIDGE NO.  
 POST MILE  
**TYPE 9 BARRIER TRANSITION ANCHOR BLOCK DETAILS**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	54	56

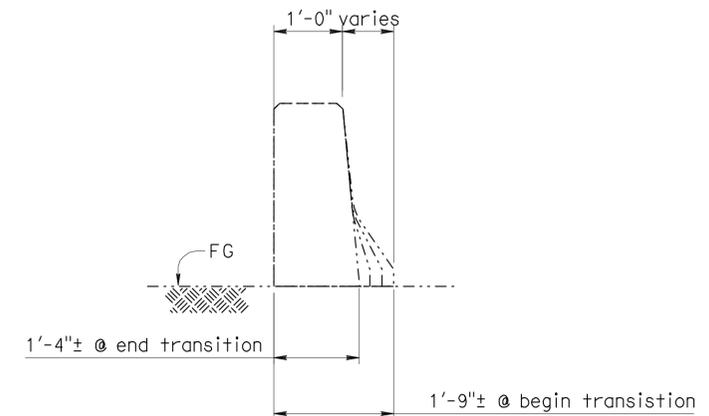
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 3-8-10  
 PLANS APPROVAL DATE  
 No. C055212  
 Exp. 6/30/10  
 CIVIL  
 STATE OF CALIFORNIA



**ELEVATION**  
No scale



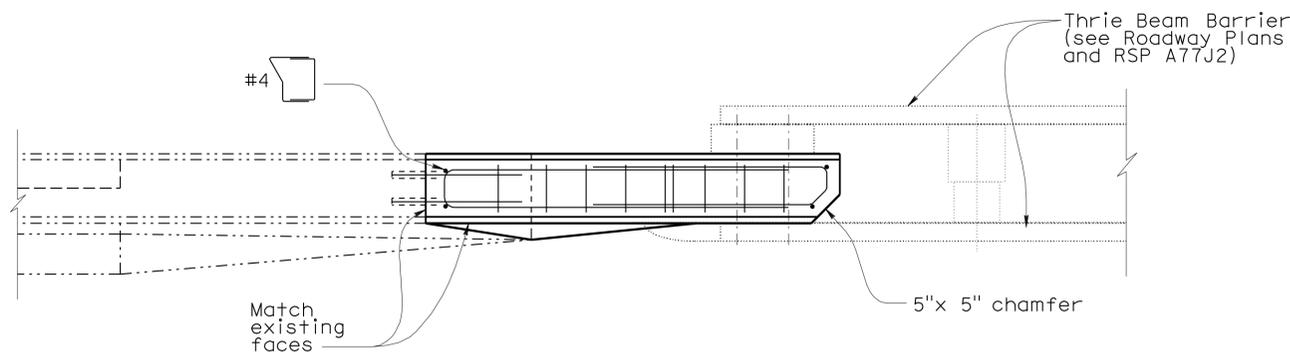
**SECTION A-A**  
No scale



**TYPICAL SECTION EXISTING CONCRETE BARRIER TYPE 25 TRANSITION**  
No scale

LOCATION TABLE OF TYPE 25 BARRIER TRANSITION ANCHOR BLOCK (TYPE WB) APPLICATIONS

Bridge No.	Bridge Name	Route, Post Mile	Direction	No. of Connections (WB)	
				Leading End	Trailing End
35-0026	Third Avenue OC	101, 13.46	EB	1	



**PLAN**  
No scale

**LEGEND**

- Indicates existing structure
- Indicates new construction

NOTES:

1. For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
2. Epoxy fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.

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

DESIGN	BY N KANATHIPILLAI	CHECKED S VU
DETAILS	BY B EDWARDS	CHECKED N KANATHIPILLAI
QUANTITIES	BY D SANDU	CHECKED Y SONG

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
SPECIAL DESIGN BRANCH

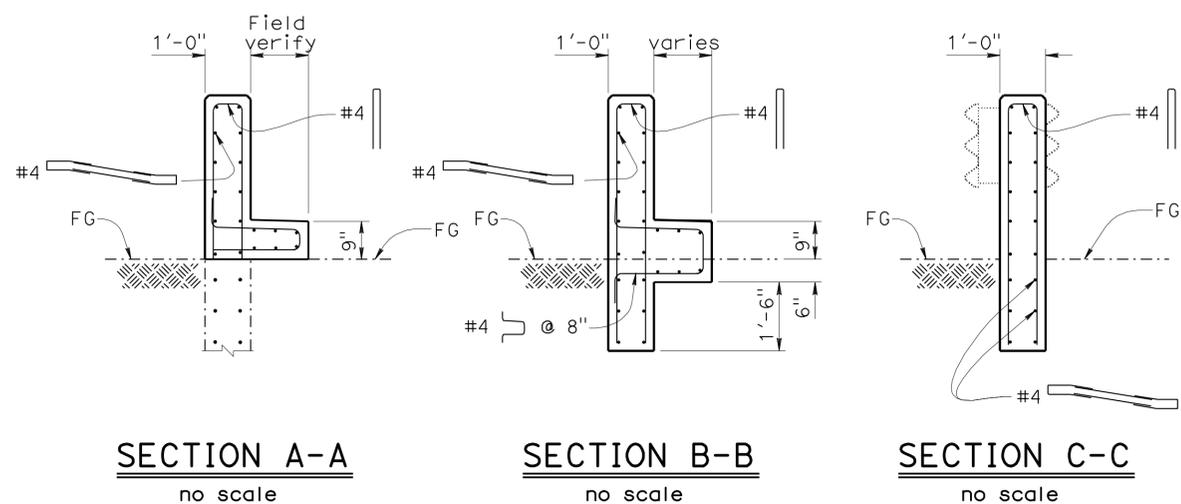
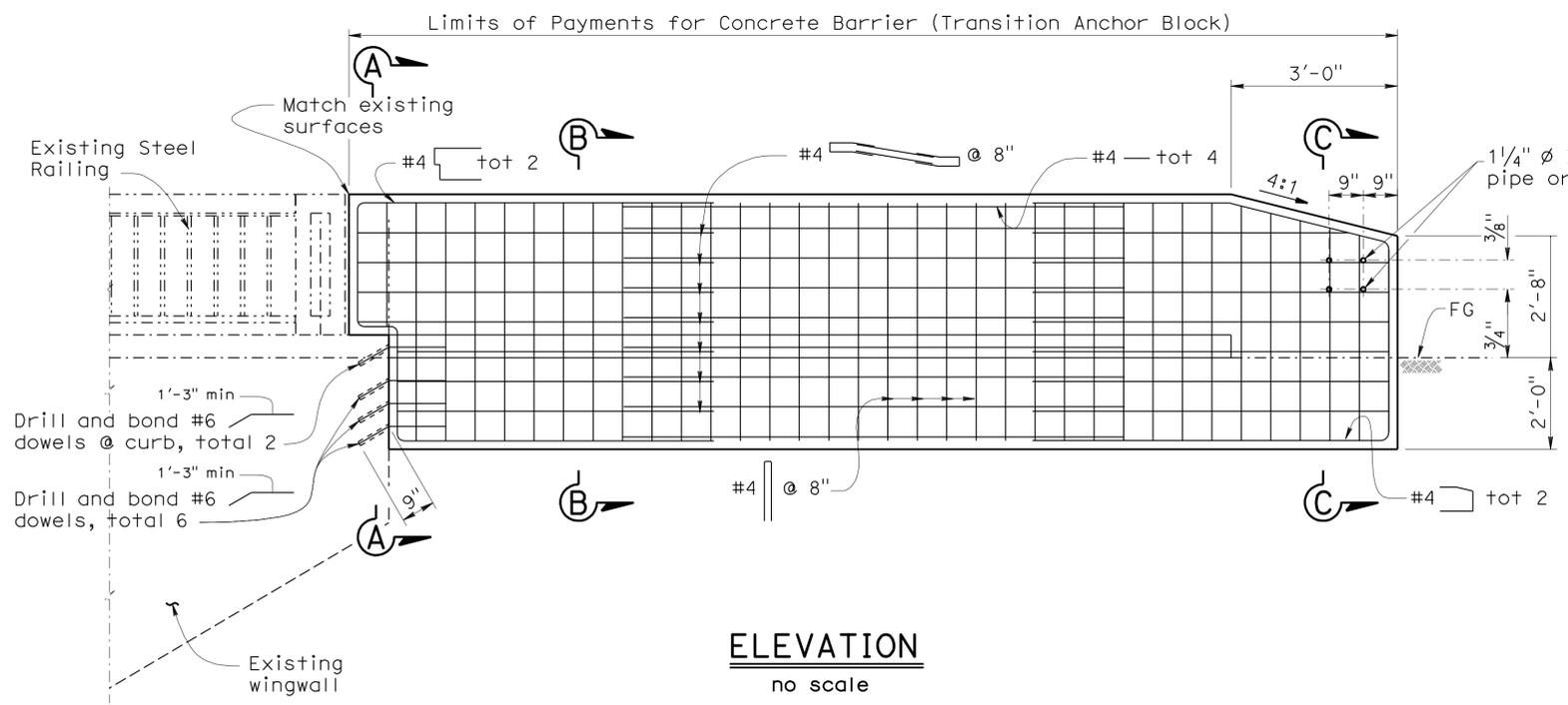
BRIDGE NO.  
POST MILE

TYPE 25 BARRIER  
TRANSITION ANCHOR BLOCK DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, SM	1,35,82, 92,101	Var	55	56

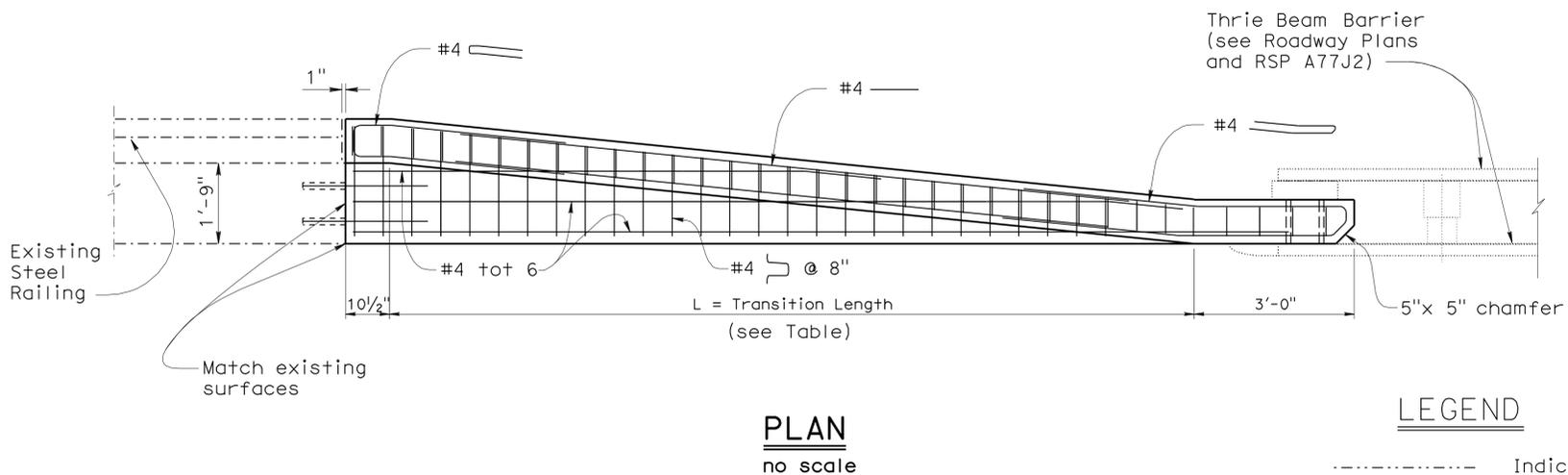
11-18-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE  
 No. C055212  
 Exp. 6/30/10  
 CIVIL  
 STATE OF CALIFORNIA

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LOCATION TABLE OF STEEL RAILING BARRIER TRANSITION ANCHOR BLOCK APPLICATIONS

Bridge No.	Bridge Name	Route, Post Mile	Direction	No. of Connections	L	Sidewalk height
				Leading End		
35-0096	Broadway 0C	101, 16.525	WB	1	35'-0"	9"



LEGEND

----- Indicates existing structure

————— Indicates new construction

- NOTES:
- For limits of excavation and backfill see Standard Plans, May 2006, A62C, Section E-E.
  - Epoxy fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.

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

DESIGN	BY N KANEPATHIPILLA	CHECKED S VU
DETAILS	BY B EDWARDS	CHECKED N KANEPATHIPILLA
QUANTITIES	BY D SANDU	CHECKED Y SONG

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
SPECIAL DESIGN BRANCH

BRIDGE NO.  
POST MILE

STEEL RAILING BARRIER  
TRANSITION ANCHOR BLOCK DETAILS

CU 04227  
EA 0A8711

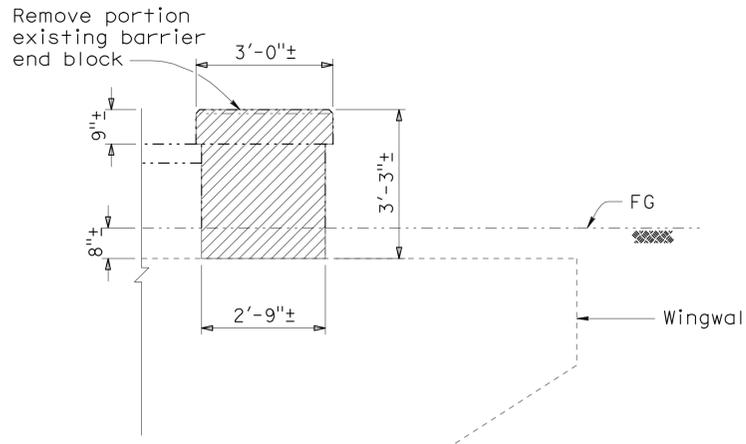
REVISION DATES

9/21/09	10/02/09	10/14/09	11/17/09				
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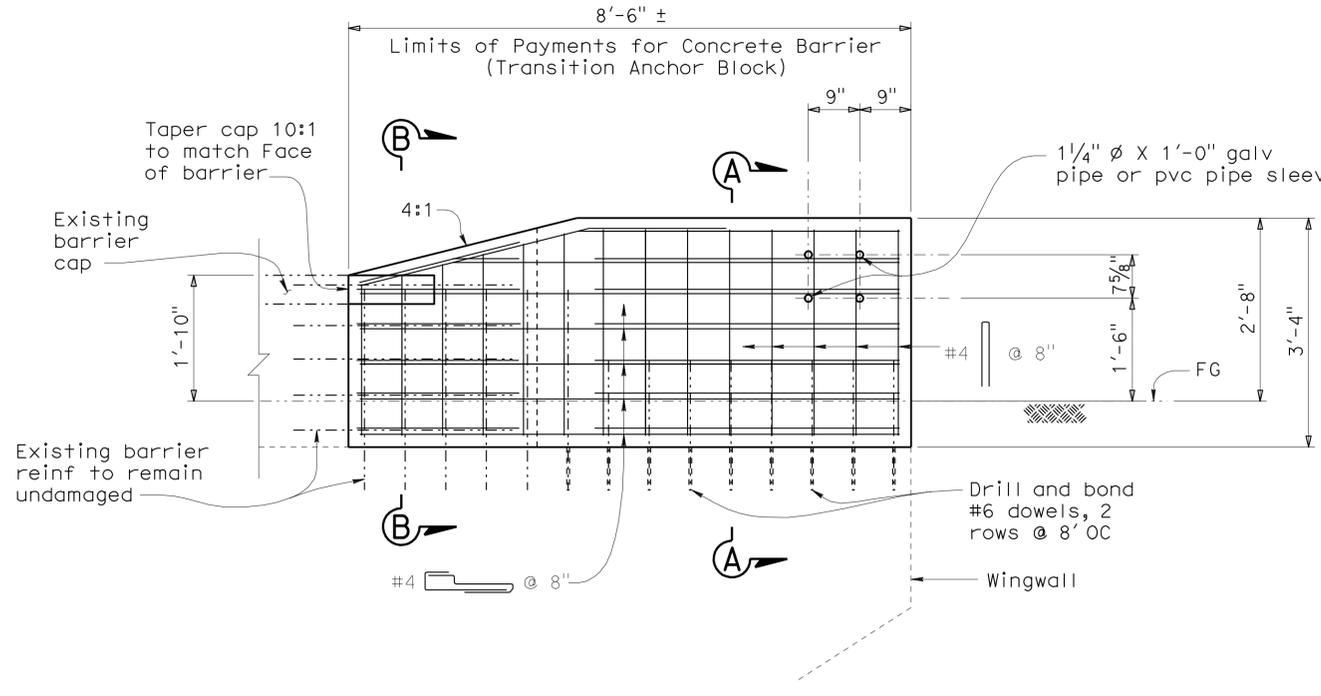
SHEET 7 OF 8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF, SM	1, 35, 82, 92, 101	Var	56	56

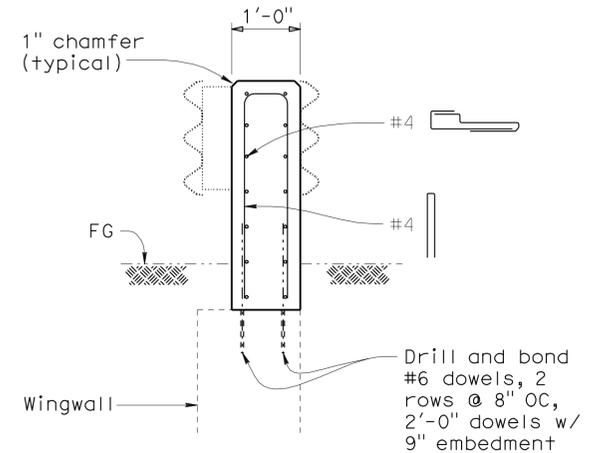
11-18-09  
 REGISTERED CIVIL ENGINEER DATE  
 3-8-10  
 PLANS APPROVAL DATE  
 No. C055212  
 Exp. 6/30/10  
 CIVIL  
 STATE OF CALIFORNIA



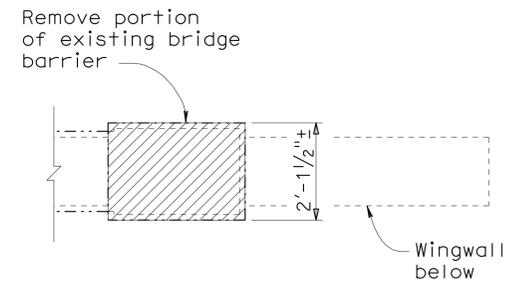
**ELEVATION**



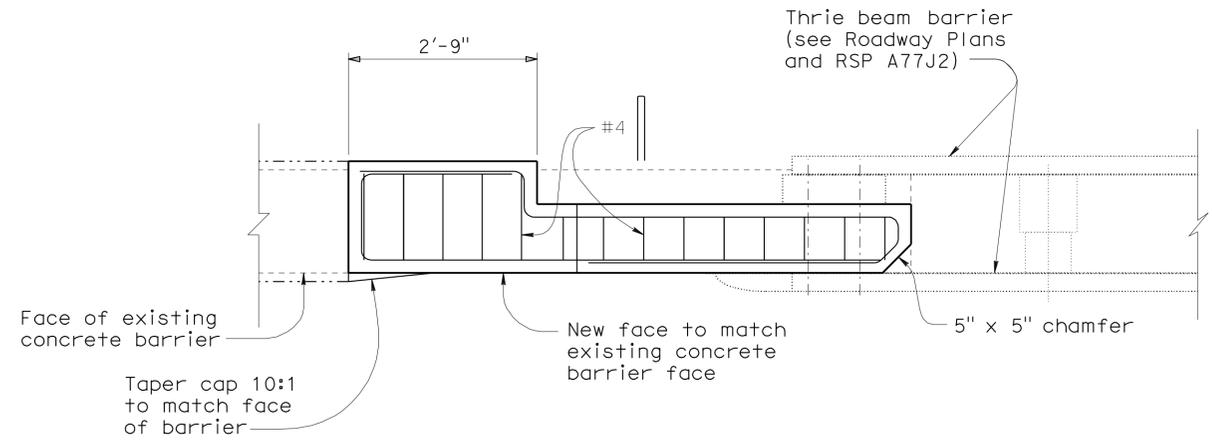
**ELEVATION**  
NO SCALE



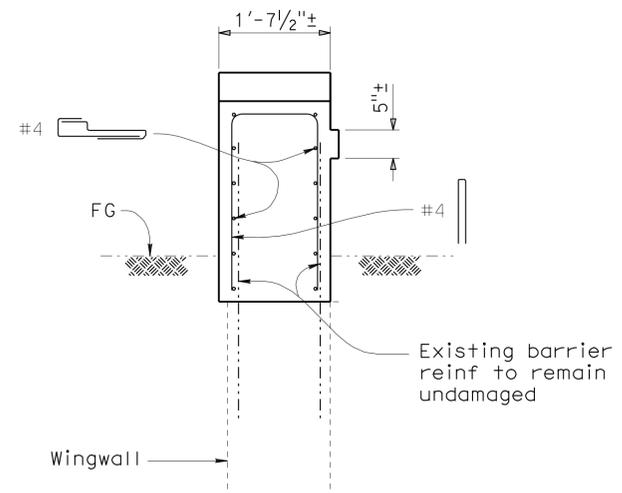
**SECTION A-A**  
NO SCALE



**PLAN**



**PLAN**  
NO SCALE



**SECTION B-B**  
NO SCALE

**BRIDGE REMOVAL (PORTION)**  
NO SCALE

LOCATION TABLE OF BARRIER TRANSITION ANCHOR BLOCK APPLICATIONS

Bridge No.	Bridge Name	Route, Post Mile	Direction	No. of Connections (WB)	
				Leading	Trailing
35-0003	Colma Creek	82, 22.36	NB	1	

NOTE:  
1. For limits of Excavtion and Backfill, see STANDARD PLANS, MAY 2006, A62C, SECTION E-E.

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

DESIGN	BY N KANEPATHIPILLAI	CHECKED S VU	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>SPECIAL DESIGN BRANCH</b>	BRIDGE NO.	<b>CONCRETE BARRIER</b> TRANSITION ANCHOR BLOCK DETAILS	
DETAILS	BY P C WELLS/B EDWARDS	CHECKED N KANEPATHIPILLAI			POST MILE		
QUANTITIES	BY D SANDHU	CHECKED Y SONG					
STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 04227 EA 0A8711	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 9/10/09 9/15/09 10/05/09 10/27/09 11/17/09	SHEET 8 OF 8