

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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN JOAQUIN COUNTY
IN AND NEAR STOCKTON
FROM DOWNING AVENUE UNDERCROSSING
TO CHARTER WAY UNDERCROSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	1	33

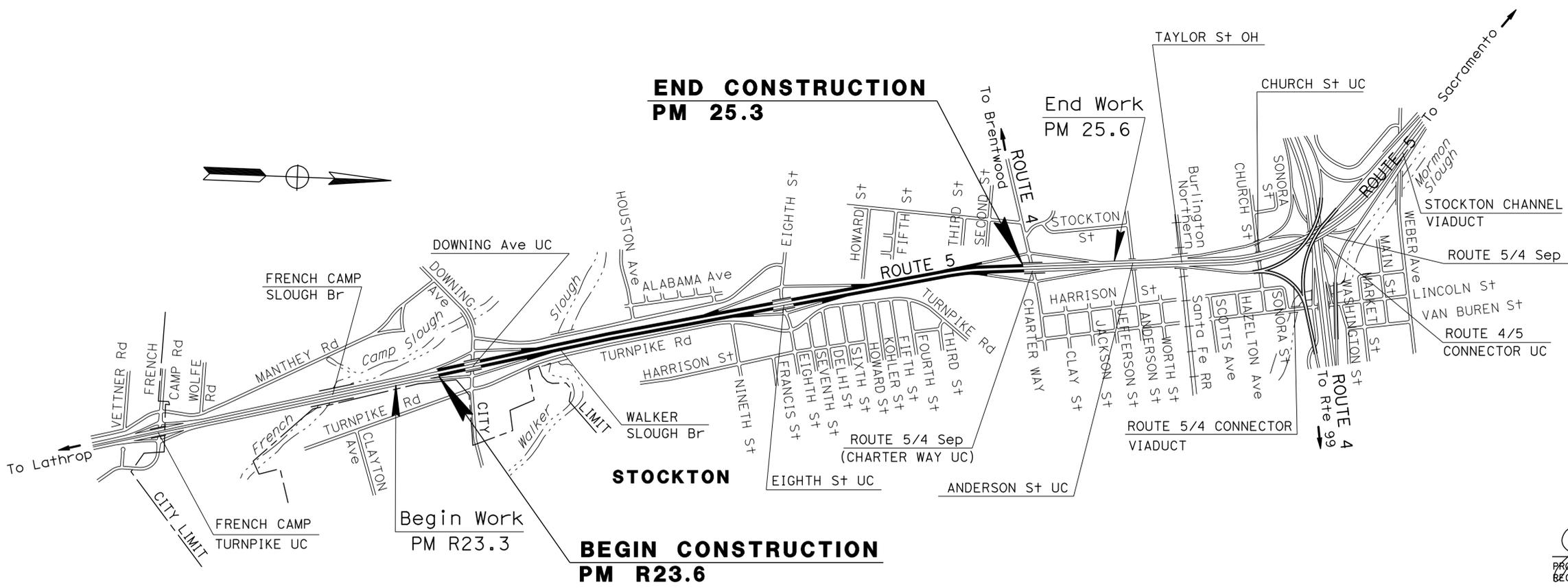




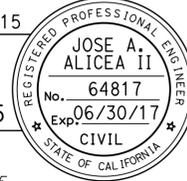
LOCATION MAP

PROJECT MANAGER
ALVIN MANGINDIN

DESIGN MANAGER
ALVIN MANGINDIN



 9/10/15
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
September 14, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



CONTRACT No.	10-1E4504
PROJECT ID	1015000100

DATE PLOTTED => 27-OCT-2015 TIME PLOTTED => 12:57

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
4. FOR COLD PLANE AC PAVEMENT DIMENSIONS AND LOCATIONS, SEE SUMMARY OF QUANTITIES SHEET.
5. FOR HMA DIKE LOCATIONS, SEE SUMMARY OF QUANTITIES SHEET.
6. FOR GUARDRAIL LOCATIONS, SEE SUMMARY OF QUANTITIES SHEET.

ABBREVIATION:

RHMA-G - RUBBERIZED HOT MIX ASPHALT (GAP GRADED)

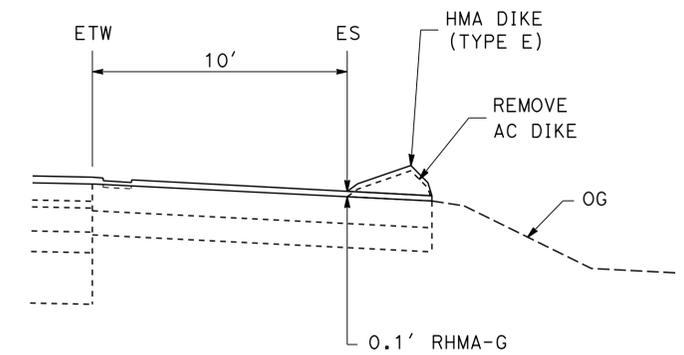
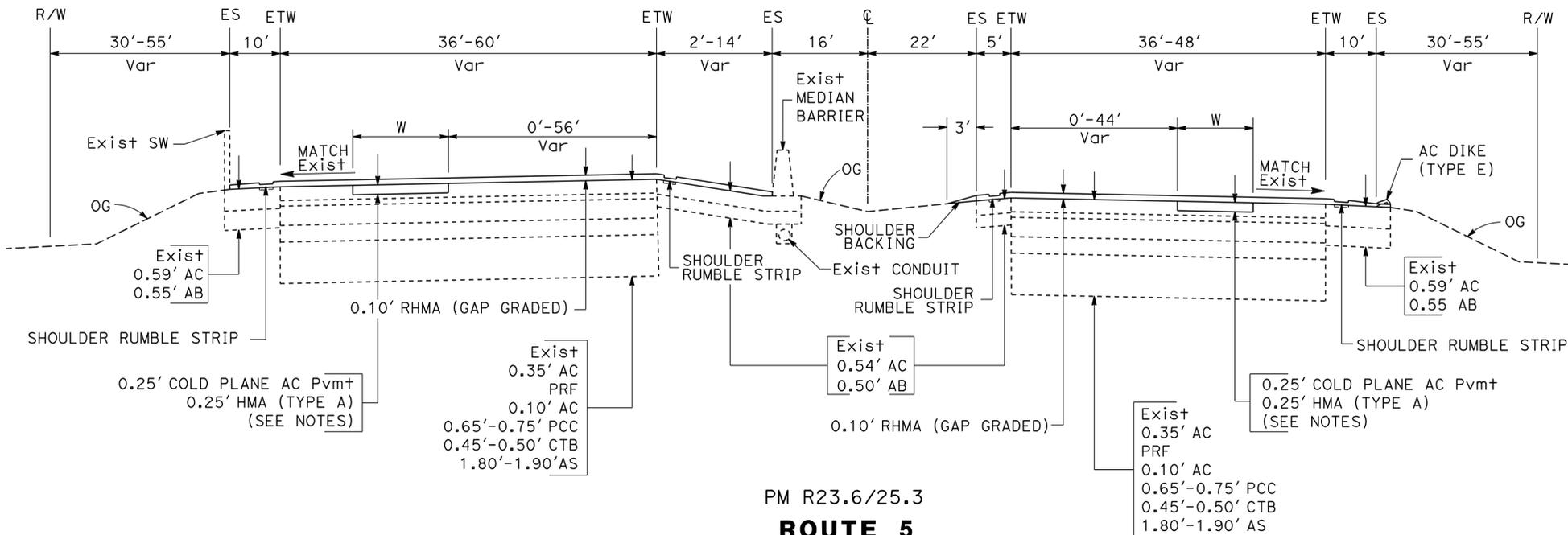
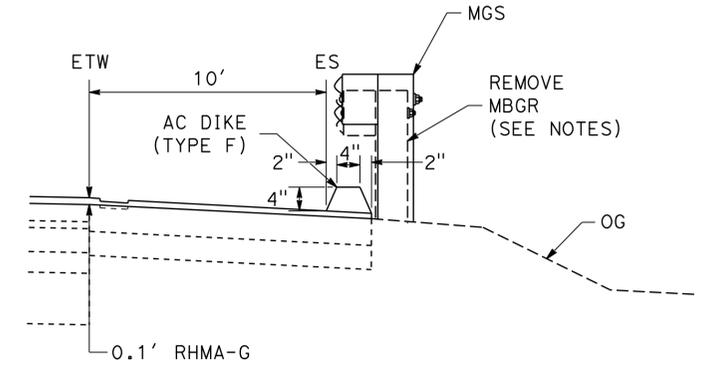
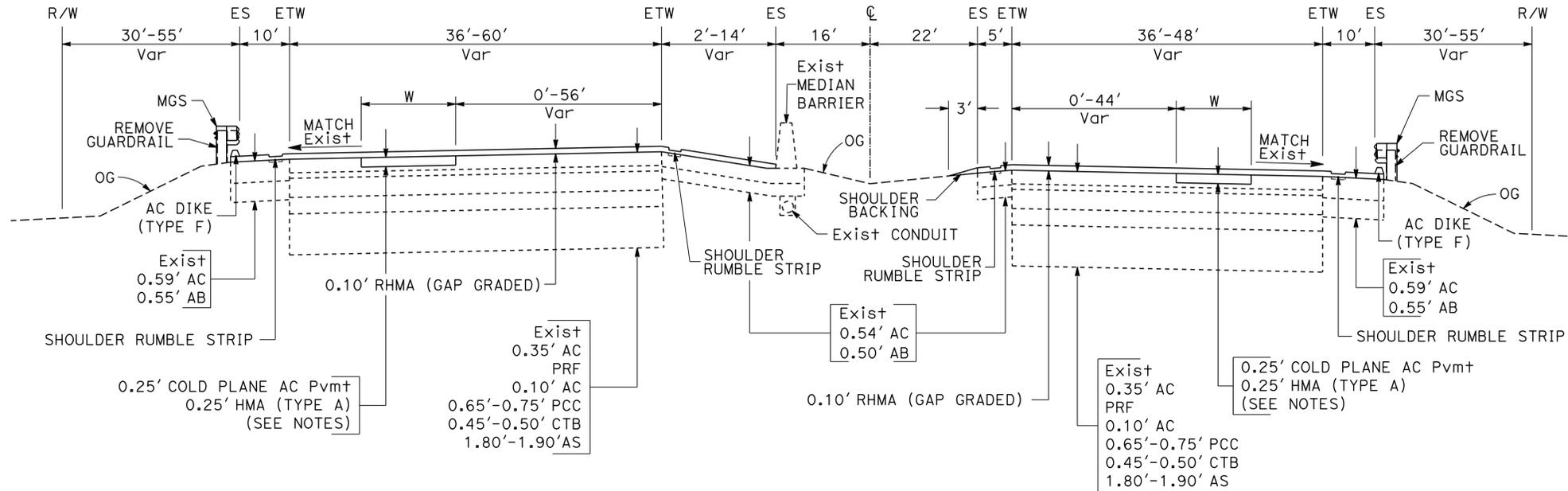
PAVEMENT CLIMATE REGION
INLAND VALLEY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	2	33

Jose A. Alicea II 9/10/15
 REGISTERED CIVIL ENGINEER DATE
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

9-14-15
PLANS APPROVAL DATE

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PM R23.6/25.3
ROUTE 5

TYPICAL CROSS SECTIONS

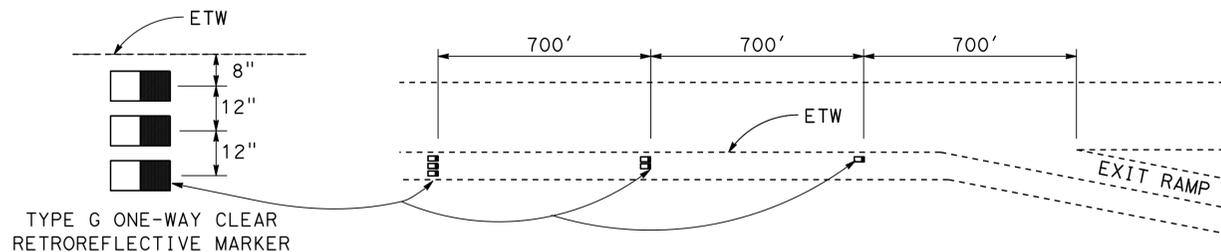
NO SCALE

X-1

THOA TABADA
 JOSE ALICEA
 ALVIN MANGINDIN
 REVISOR
 DATE
 09-24-15
 REVISIONS: TT, 09-24-15

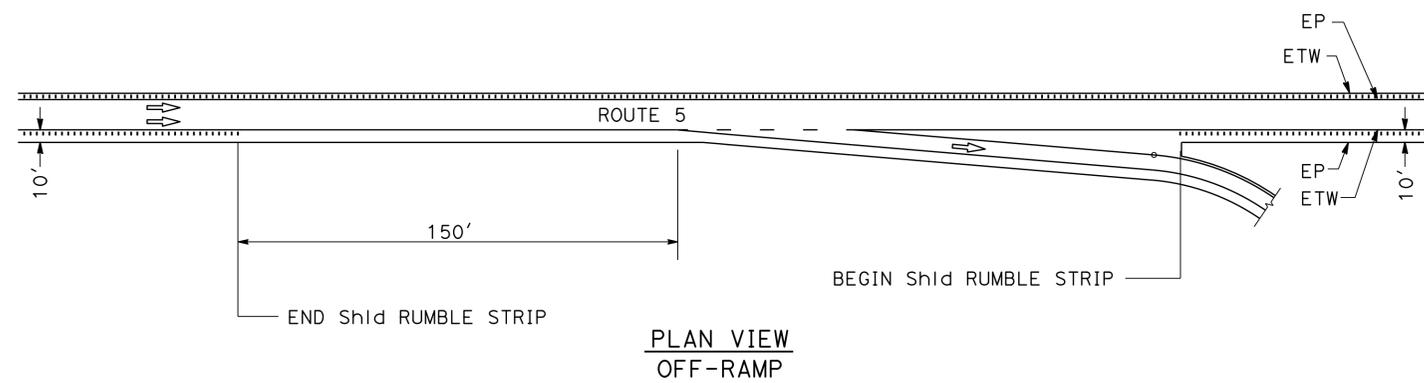
NOTES (THIS SHEET ONLY):

1. AIRCRAFT PATROL PAVEMENT MARKING SHALL BE PLACED ON THE SHOULDER IN THE NORTHBOUND DIRECTION ONLY.
2. ALL MARKINGS FOR THIS DETAIL SHALL BE WHITE.

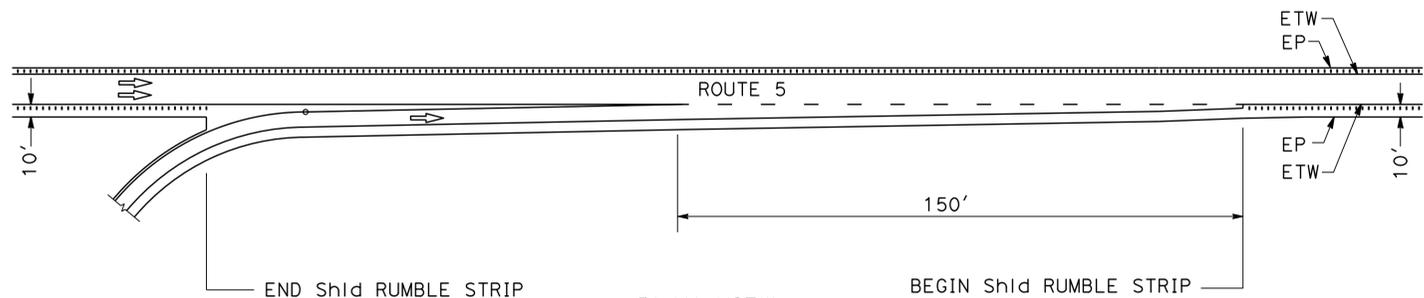


ADVANCE EXIT RAMP MARKER DETAIL

USE 3, 2, 1, COMBINATION AS SHOWN



**PLAN VIEW
OFF-RAMP**



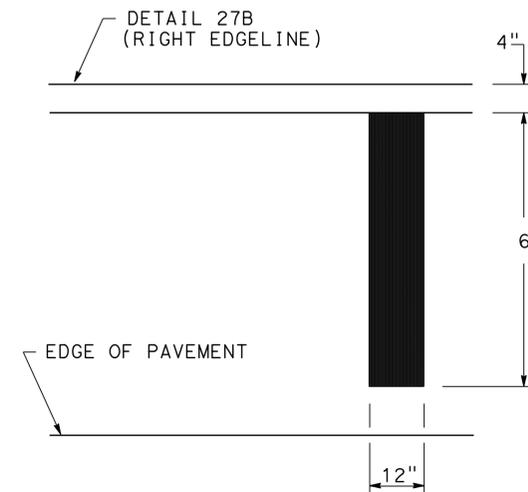
**PLAN VIEW
ON-RAMP**

RUMBLE STRIP AT ON & OFF RAMPS

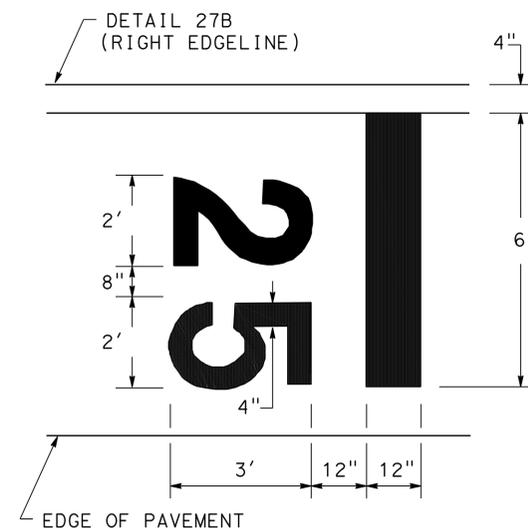
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	4	33

REGISTERED CIVIL ENGINEER DATE 9/10/15
 JOSE A. ALICEA II
 No. 64817
 Exp 6/30/17
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

9-14-15
 PLANS APPROVAL DATE
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AREA = 6 SQFT
 AIRCRAFT PATROL PAVEMENT MARKING
 Rte 5 NB-PM 24.0



AREA = 6 SQFT
 AREA = 6.40 SQFT
 AIRCRAFT PATROL PAVEMENT MARKING
 Rte 5 NB-PM 25.0

CONSTRUCTION DETAILS

NO SCALE

C-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	6	33

J. Alicea II 9/10/15
 REGISTERED CIVIL ENGINEER DATE
 9-14-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

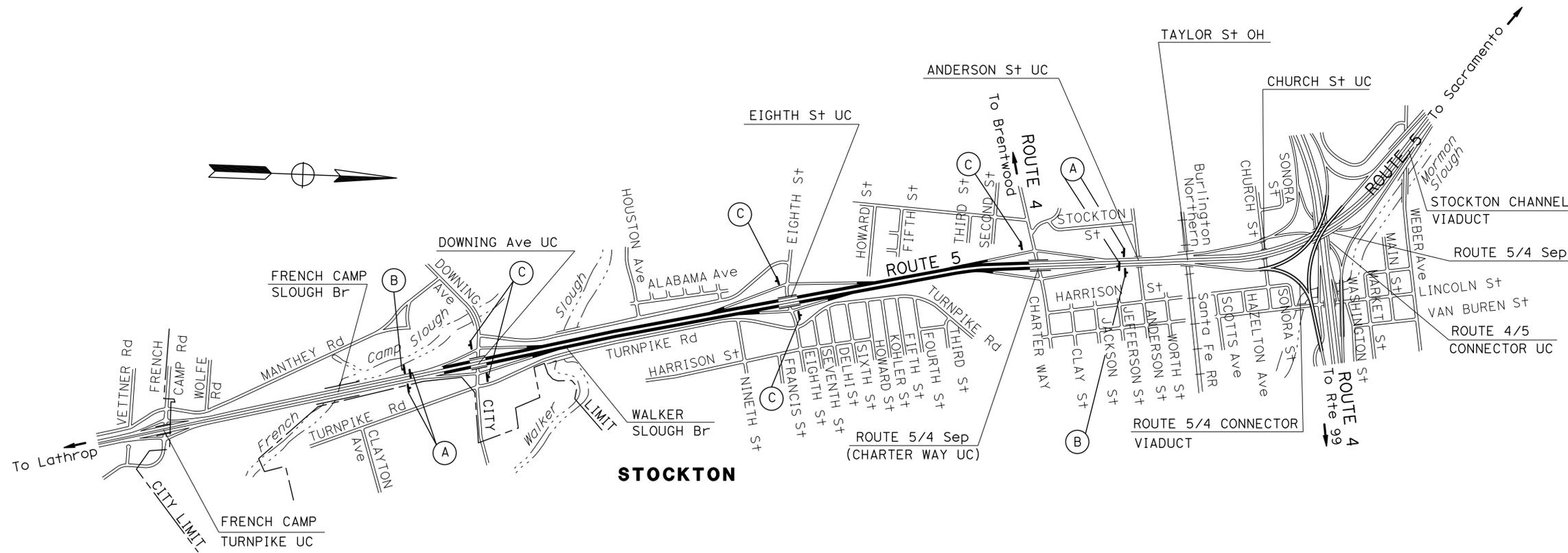
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN	SIGN CODE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS	SIGN MESSAGE
(A)	W20-1	48" x 48"	1 - 4" x 6"	4	ROAD WORK AHEAD
(B)	G20-2	48" x 24"	1 - 4" x 4"	2	END ROAD WORK
(C)	W20-1	36" x 36"	1 - 4" x 6"	5	ROAD WORK AHEAD

NOTES:

- EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
- FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE MOTORIST INFORMATION PLAN SHEETS.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 THOA TABADA
 JOSE ALICEA
 REVISOR: JOSE ALICEA
 DATE: 09-24-15
 TT
 09-24-15

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS

NO SCALE CS-1

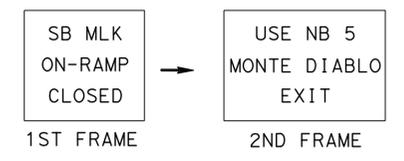
LAST REVISION DATE PLOTTED => 27-OCT-2015
 09-24-15 TIME PLOTTED => 12:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	7	33

REGISTERED CIVIL ENGINEER DATE 9/10/15
 JOSE A. ALICEA II No. 64817 Exp. 6/30/17 CIVIL
 PLANS APPROVAL DATE 9-14-15

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- NOTES:**
1. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
 2. * ADVANCED SPECIAL MESSAGE ADVISORY SIGN AT RAMP.
 3. WHEN DETOUR IS NOT IN USE, COVER ALL CONFLICTING ROADSIDE SIGNS EXCEPT SC6-4.
 4. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MOTORIST INFORMATION SHEET 2.
 5. DURING THE ROUTE 5 CLOSURE, THE PCMS SHOULD READ:



CONSTRUCTION AREA SIGNS (MOTORIST INFORMATION)

SIGN	SIGN CODE	PANEL SIZE	No. OF SIGNS	No. OF POSTS AND SIZE	SIGN MESSAGE
(A)*	SC6-4(CA)	48" x 60"	1	1 - 6" x 6"	"RAMP CLOSED INFO"
(B)	M4-8	24" x 12"	2	1 - 4" x 4"	DETOUR
	M4-5	24" x 12"			TO
	M3-3	24" x 12"			SOUTH
	G27-1(5)(CA)	24" x 24"			"5" SHIELD
(C)	M4-10(R+)	48" x 18"	1	1 - 4" x 4"	DETOUR (ARROW)
(D)	M4-10(L+)	48" x 18"	1	1 - 4" x 4"	DETOUR (ARROW)
(E)	M4-10(R+)	48" x 18"	1	1 - 4" x 4"	DETOUR (ARROW)
	M4-5	24" x 12"			TO
	M3-3	24" x 12"			SOUTH
	G27-1(5)(CA)	24" x 24"			"5" SHIELD
(F)	M4-8a	24" x 18"	1	1 - 4" x 4"	END DETOUR

TRAFFIC DETOUR PLAN

1. SB ON-RAMP TO ROUTE 5 FROM MLK Jr Blvd CLOSED
2. TAKE NB ON-RAMP TO ROUTE 5 FROM MLK Jr Blvd
3. CONTINUE NB ROUTE 5
4. TAKE NB ROUTE 5 MONTE DIBALO AVENUE OFF-RAMP
5. TAKE LEFT ONTO MONTE DIABLO AVENUE
6. TAKE LEFT ONTO SB ROUTE 5 ON-RAMP FROM MONTE DIABLO
7. CONTINUE SB ROUTE 5



MOTORIST INFORMATION PLAN
 (SB ROUTE 5 ON-RAMP FROM MLK Jr Blvd)
 MI-1

APPROVED FOR MOTORIST INFORMATION WORK ONLY

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 CALCULATED/DESIGNED BY: THOA TABADA
 CHECKED BY: JOSE ALICEA
 REVISED BY: TT
 DATE REVISED: 09-24-15
 USERNAME => s120300
 DGN FILE => a1E4501b001.dgn

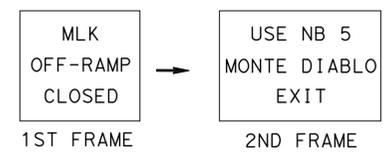
LAST REVISION DATE PLOTTED => 27-OCT-2015
 09-24-15 TIME PLOTTED => 12:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	8	33

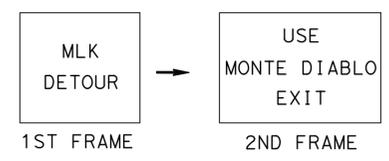
REGISTERED CIVIL ENGINEER DATE 9/10/15
 JOSE A. ALICEA II No. 64817 Exp. 6/30/17 CIVIL
 PLANS APPROVAL DATE 9-14-15
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NOTES (THIS SHEET ONLY):

- FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MOTORIST INFORMATION SHEET 1.
- DURING THE ROUTE 5 CLOSURE, THE PCMS 1 SHOULD READ:



- DURING THE ROUTE 5 CLOSURE, THE PCMS 2 AND PCMS 3 SHOULD READ:

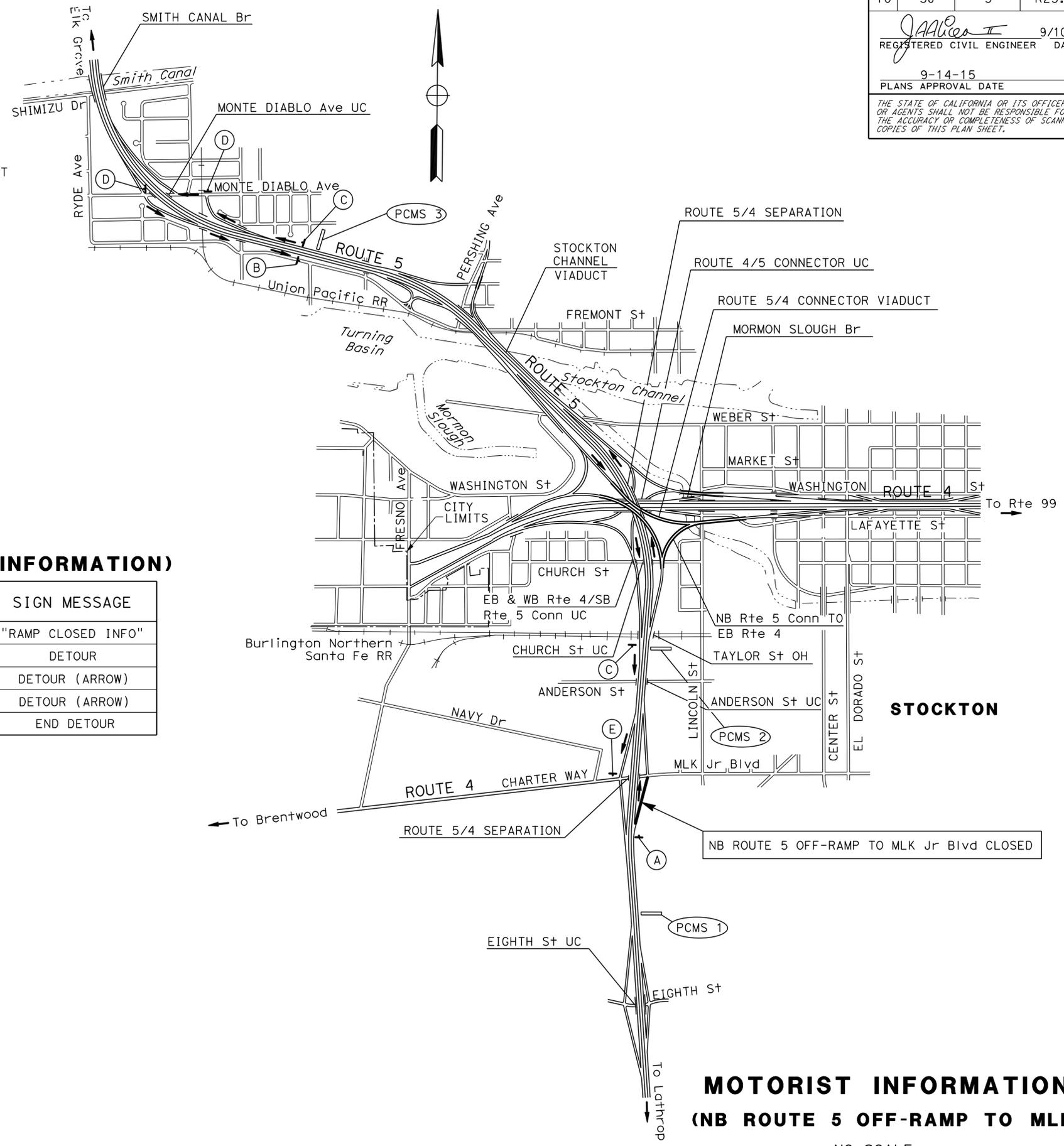


CONSTRUCTION AREA SIGNS (MOTORIST INFORMATION)

SIGN	SIGN CODE	PANEL SIZE	No. OF SIGNS	No. OF POSTS AND SIZE	SIGN MESSAGE
(A)*	SC6-4(CA)	48" x 60"	1	1 - 6" x 6"	"RAMP CLOSED INFO"
(B)	M4-8	24" x 12"	1	1 - 4" x 4"	DETOUR
(C)	M4-10(R+)	48" x 18"	2	1 - 4" x 4"	DETOUR (ARROW)
(D)	M4-10(L+)	48" x 18"	2	1 - 4" x 4"	DETOUR (ARROW)
(E)	M4-8a	24" x 18"	1	1 - 4" x 4"	END DETOUR

TRAFFIC DETOUR PLAN

- NB ROUTE 5 TO MLK Jr Blvd CLOSED
- CONTINUE NB ROUTE 5
- TAKE NB ROUTE 5 MONTE DIABLO AVENUE OFF-RAMP
- TAKE LEFT ONTO MONTE DIABLO AVENUE
- TAKE LEFT ONTO SB ROUTE 5 ON-RAMP FROM MONTE DIABLO
- CONTINUE SB ROUTE 5
- TAKE SB ROUTE 5 TO MLK Jr Blvd OFF-RAMP



MOTORIST INFORMATION PLAN
(NB ROUTE 5 OFF-RAMP TO MLK Jr Blvd)
 MI-2
 NO SCALE

APPROVED FOR MOTORIST INFORMATION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 CALCULATED/DESIGNED BY: JOSE ALICEA
 CHECKED BY: THOA TABADA
 REVISED BY: JOSE ALICEA
 DATE REVISED: 09-24-15
 TT: 09-24-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	9	33

9/10/15
 REGISTERED CIVIL ENGINEER DATE
 9-14-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

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NOTES:

- * - TOTAL INCLUDED IN ROADWAY ITEMS TABLE.
- (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
- TRAFFIC MANAGEMENT SYSTEM ELEMENTS LOCATIONS ARE APPROXIMATE.

ABBREVIATIONS:

- RHMA-G - RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
 S/O - SOUTH OF
 N/O - NORTH OF

MIDWEST GUARDRAIL SYSTEM QUANTITIES

LOCATION			LAYOUT TYPE (N)	REMOVE GUARDRAIL	TREATED WOOD WASTE	REMOVE TERMINAL SECTION (N)	ALTERNATIVE FLARED TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	VEGETATION CONTROL (MINOR CONCRETE)	GUARDRAILING DELINEATOR	OBJECT MARKER (TYPE L)
PM/PM	DIRECTION	SIDE	NEW	LF	LB	EA	EA	EA	LF	SQYD	EA	EA
24.41/24.43	NB	R+	16B	105	1640	1	1	1	67.5	69	5	1
24.92/24.94	NB	R+	16B	65	1148	1	1	1	37.5	49	3	1
25.10/25.12	NB	R+	16B	65	1148	1	1	1	37.5	49	3	1
24.88/24.90	SB	R+	16B	65	1148	1	1	1	37.5	49	3	1
TOTAL				300	5084		4	4	180	216	14	4

TRAFFIC MANAGEMENT SYSTEM ELEMENTS (EXISTING)

PM	LOCATION	SIDE	ELEMENT	DETECTION TYPE
R23.60	NB ON-RAMP FROM DOWNING AVENUE	NB	TMS	LOOPS
R23.61	S/O DOWING AVENUE UC	SB	TMS	MVDS
R23.64	NB AT DOWNING AVENUE	NB	SIGNAL	LOOPS
R23.64	SB ON-RAMP FROM DOWNING AVENUE	SB	TMS	LOOPS
R23.65	SB AT DOWNING AVENUE	SB	SIGNAL	LOOPS
R23.74	NB OFF-RAMP TO DOWNING AVENUE	NB	TMS	LOOPS
R23.78	N/O FRENCH CAMP SLOUGH	NB	TMS	MVDS
R23.82	NB ON-RAMP FROM DOWNING AVENUE	NB	TMS	LOOPS
R23.93	S/O DOWNING AVENUE OFF-RAMP	SB	TMS	MVDS
24.10	N/O DOWNING AVENUE UC	NB	TMS	MVDS
24.52	SB OFF-RAMP TO EIGHTH STREET	SB	TMS	LOOPS
24.55	NB OFF-RAMP TO EIGHTH STREET	NB	TMS	LOOPS
24.58	S/O EIGHTH STREET UC	SB	TMS	MVDS
24.60	SB ON-RAMP FROM EIGHTH STREET	SB	TMS	LOOPS
24.66	NB AT EIGHTH STREET	NB	SIGNAL	LOOPS
24.67	SB AT EIGHTH STREET	SB	SIGNAL	LOOPS
24.68	NB ON-RAMP FROM EIGHTH STREET	NB	TMS	LOOPS
24.75	N/O EIGHTH STREET UC	NB	TMS	MVDS
25.00	S/O CHARTER WAY	NB	TMS	LOOPS
25.00	S/O CHARTER WAY	SB	TMS	LOOPS
25.26	S/O CHARTER WAY	NB	CCTV	N/A
25.26	S/O CHARTER WAY	NB	CMS	N/A
25.29	NB OFF-RAMP TO CHARTER WAY	NB	TMS	LOOPS
25.29	S/O CHARTER WAY	SB	TMS	MVDS
25.30	SB ON-RAMP FROM CHARTER WAY	SB	TMS	LOOPS

DIKE QUANTITIES

LOCATION		REMOVE AC DIKE	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE E)	PLACE HMA DIKE (TYPE F)	HMA
PM/PM	SIDE	LF	LF	LF	LF	TON
R23.60/R23.66	NB	252		252		7
R23.69/R23.85	NB	845		845		23
R23.85/R23.93	NB	358		358		10
23.96/24.64	NB	3421		3421		91
24.68/25.35	NB	3343		3343		89
24.41/24.43	NB	130	62.5		67.5	2
24.92/24.94	NB	100	62.5		37.5	1
25.10/25.12	NB	100	62.5		37.5	1
R23.60/R23.65	SB	199		199		6
R23.69/R23.93	SB	1138		1138		30
23.96/24.13	SB	898		898		24
24.51/24.63	SB	634		634		17
24.67/25.35	SB	3226		3226		85
24.88/24.90	SB	100	62.5		37.5	1
TOTAL		14,744	250	14,314	180	387*

SHOULDER RUMBLE STRIPE (HMA, GROUND-IN INDENTATIONS)

LOCATION			STATION
PM/PM	DIRECTION	SIDE	
R23.60/R23.66	NB	R+/L+	7
R23.69/R23.85	NB	R+	9
R23.69/R23.94	NB	L+	14
23.97/24.42	NB	R+	24
23.97/24.64	NB	L+	36
24.51/24.64	NB	R+	7
24.68/24.81	NB	R+	7
24.68/25.35	NB	L+	36
24.94/25.10	NB	R+	9
25.21/23.35	NB	R+	8
R23.60/R23.65	SB	R+/L+	6
R23.69/R23.85	SB	R+	9
R23.69/R23.93	SB	L+	13
23.96/24.32	SB	R+	20
23.96/24.63	SB	L+	36
24.51/24.63	SB	R+	7
24.67/24.81	SB	R+	8
24.87/25.11	SB	R+	13
24.67/25.35	SB	L+	36
25.22/25.35	SB	R+	7
TOTAL			312

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 MAINTENANCE
 FUNCTIONAL SUPERVISOR ALVIN MANGINDIN
 THOA TABADA JOSE ALICEA
 REVISOR BY DATE REVISOR
 TT 09-24-15
 CALCULATED/DESIGNED BY CHECKED BY

LAST REVISION DATE PLOTTED => 27-OCT-2015
 09-24-15 TIME PLOTTED => 12:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	10	33

9/10/15
 REGISTERED CIVIL ENGINEER DATE
 9-14-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

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LONGITUDINAL CONFORM TAPERS

LOCATION			LENGTH	WIDTH	COLD PLANE AC Pvm†	RHMA-G
PM	SIDE	DESCRIPTION			SQYD	
R23.6	NB	Rte 5 (BEGIN CONSTRUCTION)	50'	51'	284	19
R23.6	SB	Rte 5 (BEGIN CONSTRUCTION)	50'	60'	334	23
TOTAL					618*	42*

REPAIR FAILED AREAS

LOCATION		LENGTH	WIDTH	COLD PLANE AC Pvm†	HMA (TYPE A)
PM/PM	SIDE			SQYD	TON
R23.68/R23.70	SB	100'	36'	400	68
23.96/23.98	SB	100'	36'	400	68
24.67/24.69	SB	100'	36'	400	68
24.80/24.81	SB	50'	12'	67	12
24.86/24.90	SB	225'	12'	300	51
24.91/24.95	SB	225'	12'	300	51
24.00/25.20	SB	150'	12'	200	34
24.97/24.99	SB	100'	12'	134	23
25.13/25.15	SB	75'	12'	100	17
25.16/25.22	SB	300'	12'	400	68
TOTAL				2701*	460*

REPAIR FAILED AREA LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS, LENGTHS, AND WIDTHS SHALL BE DETERMINED BY THE ENGINEER.

CONFORM TAPERS AT BRIDGES

LOCATION				LENGTH	WIDTH	COLD PLANE AC Pvm†	RHMA-G
PM	BRIDGE NUMBER	SIDE	DESCRIPTION			SQYD	
R23.66	290222L	SB	DOWNING AVENUE UC APPROACH	50'	60'	334	23
			DOWNING AVENUE UC DEPARTURE	110'	60'	734	49
R23.66	290222R	NB	DOWNING AVENUE UC APPROACH	150'	51'	850	57
			DOWNING AVENUE UC DEPARTURE	50'	51'	284	19
R23.93	290223L	SB	WALKER SLOUGH APPROACH	50'	60'	334	23
			WALKER SLOUGH DEPARTURE	50'	60'	334	23
R23.93	290223R	NB	WALKER SLOUGH APPROACH	150'	65'	1084	73
			WALKER SLOUGH DEPARTURE	50'	60'	334	23
24.64	290224L	SB	EIGHTH STREET UC APPROACH	50'	60'	334	23
			EIGHTH STREET UC DEPARTURE	50'	60'	334	23
24.64	290224R	NB	EIGHTH STREET UC APPROACH	150'	51'	850	57
			EIGHTH STREET UC DEPARTURE	50'	51'	284	19
25.35	290225L	SB	CHARTER WAY UC DEPARTURE	250'	72'	2000	134
25.35	290225R	NB	CHARTER WAY UC APPROACH	150'	63'	1050	70
TOTAL						9140*	616*

CONFORM TAPERS AT ON-RAMPS AND OFF-RAMPS

LOCATION			LENGTH	WIDTH	COLD PLANE AC Pvm†	RHMA-G
PM	SIDE	DESCRIPTION			SQYD	
R23.85	SB	SB OFF-RAMP TO DOWNING AVENUE	50'	25'	139	10
R23.86	NB	NB ON-RAMP FROM DOWNING AVENUE	50'	28'	156	11
24.49	SB	SB ON-RAMP FROM 8TH STREET	50'	28'	156	11
24.50	NB	NB OFF-RAMP TO 8TH STREET	50'	25'	139	10
24.82	NB	NB ON-RAMP FROM 8TH STREET	50'	25'	139	10
24.82	SB	SB OFF-RAMP TO 8TH STREET	50'	28'	156	11
25.20	NB	NB OFF-RAMP TO CHARTER WAY	50'	36'	200	14
25.20	SB	SB ON-RAMP FROM CHARTER WAY	50'	25'	139	10
TOTAL					1224*	87*

ROADWAY ITEMS

LOCATION	COLD PLANE AC PAVEMENT	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	HOT MIX ASPHALT (TYPE A)	TACK COAT	SHOULDER BACKING
	SQYD	TON	TON	TON	TON
R23.6/25.3 (TRAVEL LANES)		8,600		14	200
LONGITUDINAL CONFORM TAPERS	618	42		1	
CONFORM TAPERS AT ON-RAMPS AND OFF-RAMPS	1,224	87		1	
CONFORM TAPERS AT BRIDGES	9,140	616		2	
REPAIR FAILED AREAS	2,701		460	1	
FROM DIKE QUANTITIES			387	3	
TOTAL	13,683	9345	847	22	200

SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 THOA TABADA
 JOSE ALICEA
 CALCULATED/DESIGNED BY: JOSE ALICEA
 CHECKED BY: JOSE ALICEA
 REVISED BY: TT
 DATE REVISED: 09-24-15

ADJUST FRAME AND GRATE TO GRADE

LOCATION			EA
Dir	PM	DESCRIPTION	
NORTHBOUND	R23.76	RIGHT SHOULDER	1
	23.84	GORE	1
	R23.86	GORE	1
	24.14	RIGHT SHOULDER	1
	24.40	RIGHT SHOULDER	1
	24.50	GORE	1
	24.80	GORE	1
	24.82	GORE	1
	24.86	RIGHT SHOULDER	1
	25.07	RIGHT SHOULDER	1
	25.20	GORE	1
	SOUTHBOUND	R23.5	GORE
R23.76		RIGHT SHOULDER	1
R23.85		GORE	1
24.14		RIGHT SHOULDER	1
24.50		GORE	1
24.52		GORE	1
24.82		GORE	1
24.86	RIGHT SHOULDER	1	
25.20	RIGHT SHOULDER	1	
TOTAL			20

PRESERVE/PROTECT MONUMENT

LOCATION	DIRECTION	TYPE	EA (N)
PM			
R23.6	NB	BRASS DISK	1
R23.6	SB	BRASS DISK	1
24.0	SB	BRASS DISK	1
24.5	NB	BRASS DISK	1
24.5	SB	BRASS DISK	1
25.3	SB	BRASS DISK	1
25.35	SB	BRASS DISK	1
25.35	NB	BRASS DISK	1

ADJUST MONUMENT COVER

LOCATION	DIRECTION	TYPE	EA
PM			
24.2	SB	MONUMENT WELL	1
24.8	SB	MONUMENT WELL	1
24.9	SB	MONUMENT WELL	1
TOTAL			3

REMOVE PAVEMENT DELINEATION ITEMS

LOCATION	REMOVE THERMOPLASTIC TRAFFIC STRIPE				REMOVE PAVEMENT MARKER	REMOVE THERMOPLASTIC PAVEMENT MARKING			
	DETAIL 36	DETAIL 36A	DETAIL 37	DETAIL 38B		SIGNAL	AHEAD	TYPE VI ARROW	AIRCRAFT PATROL
	LF					EA	SQFT		
PM R23.6/25.3	4,480	1,940	5,808	850	1667	64	62	126	19
TOTAL	13,078				1667	271			

PAVEMENT DELINEATION ITEMS

LOCATION	4" THERMOPLASTIC TRAFFIC STRIPE						8" THERMOPLASTIC TRAFFIC STRIPE			PAVEMENT MARKER (RETROREFLECTIVE)										THERMOPLASTIC PAVEMENT MARKING							
	YELLOW		WHITE	WHITE (BROKEN 17-7)		WHITE (BROKEN 36-12)		WHITE			WHITE (BROKEN 12-3)			TYPE C		TYPE G					TYPE H			SIGNAL	AHEAD	TYPE VI ARROW	AIRCRAFT PATROL
	DETAIL 25	DETAIL 25A	DETAIL 27B	DETAIL 8	DETAIL 9	DETAIL 12	DETAIL 14A	DETAIL 36	DETAIL 36A	DETAIL 38B	DETAIL 37	DETAIL 37	DETAIL 14A	DETAIL 9	DETAIL 12	DETAIL 36	DETAIL 36A	DETAIL 38B	ADVANCE EXIT RAMP	DETAIL 25	DETAIL 25A						
PM R23.6/25.3	17,685		400	19,055		315	355	34,560	3456	4480	1940	850	5808	196	96	9	735	99	55	38	24	383	32	64	62	126	19
TOTAL	37,140			670		38,016		7270			5808			1667										271			

SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE
 FUNCTIONAL SUPERVISOR ALVIN MANGINDIN
 THOA TABADA JOSE ALICEA
 REVISOR BY DATE 09-24-15
 TT
 CALCULATED/DESIGNED BY CHECKED BY
 USERNAME => s120300
 DGN FILE => a1E450pa003.dgn
 BORDER LAST REVISED 7/2/2010
 RELATIVE BORDER SCALE IS IN INCHES
 UNIT 2593
 PROJECT NUMBER & PHASE 10150001001

LAST REVISION DATE PLOTTED => 27-OCT-2015
 09-24-15 TIME PLOTTED => 12:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	12	33

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 9-14-15

UNIT OF MEASUREMENT SYMBOLS:

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
∅	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

	M
Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
Mt	MOUNTAIN, MOUNT
MtI	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT
	N
N	NORTH
NB	NORTHBOUND
No.	NUMBER (MUST HAVE PERIOD)
Nos.	NUMBERS (MUST HAVE PERIOD)
NPS	NOMINAL PIPE SIZE
NS	NEAR SIDE
NSP	NEW STANDARD PLAN
NTS	NOT TO SCALE
	O
Obir	OBLITERATE
OC	OVERCROSSING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OGAC	OPEN GRADED ASPHALT CONCRETE
OGFC	OPEN GRADED FRICTION COURSE
OH	OVERHEAD
OHWM	ORDINARY HIGH WATER MARK
O-O	OUT TO OUT
Opp	OPPOSITE
OSD	OVERSIDE DRAIN
	P
p	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE, PRECAST
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm MtI	PERMEABLE MATERIAL

	P continued
PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
PL, PL	PLATE
P/L	PROPERTY LINE
PM	POST MILE, TIME FROM NOON TO MIDNIGHT
PN	PAVING NOTCH
POC	POINT OF HORIZONTAL CURVE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	PIPE PILE, PLASTIC PIPE, POWER POLE
PPL	PREFORMED PERMEABLE LINER
PPP	PERFORATED PLASTIC PIPE
PRC	POINT OF REVERSE CURVE
PRF	PAVEMENT REINFORCING FABRIC
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT
	Q
Qty	QUANTITY
	R
R	RADIUS
R & D	REMOVE AND DISPOSE
R & S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
Rd	ROAD
Reinf	REINFORCED, REINFORCEMENT, REINFORCING
Rel	RELOCATE
Repl	REPLACEMENT
Ret	RETAINING
Rev	REVISED, REVISION
Rdwy	ROADWAY
RHMA	RUBBERIZED HOT MIX ASPHALT
Riv	RIVER
RM	ROAD-MIXED
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN
Rt	RIGHT
Rte	ROUTE
RW	REDWOOD, RETAINING WALL
R/W	RIGHT OF WAY
Rwy	RAILWAY

	S
S	SOUTH, SUPPLEMENT
SAE	STRUCTURE APPROACH EMBANKMENT
Salv	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SAND CUSHION
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
Sec	SECOND, SECTION
Sep	SEPARATION
SG	SUBGRADE
Shld	SHOULDER
Sht	SHEET
Sim	SIMILAR
ℒ	STATION LINE
SM	SELECTED MATERIAL
Spec	SPECIAL, SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
St	STREET
Sta	STATION
STBB	SINGLE THRIE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK, SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES
	T
T	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
TeI	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

	T continued
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
	U
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
	V
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
	W
W	WEST, WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE
	X
X Sec	CROSS SECTION
Xing	CROSSING
	Y
Yr	YEAR
Yrs	YEARS

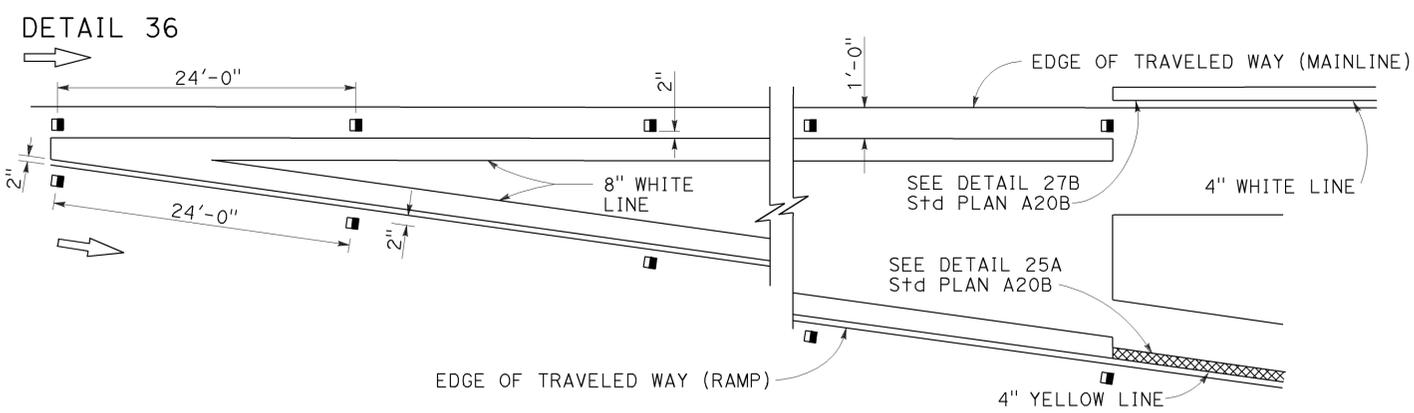
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	13	33

Registered Professional Engineer
Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 No. C40375
 Exp. 3-31-15
 CIVIL
 STATE OF CALIFORNIA

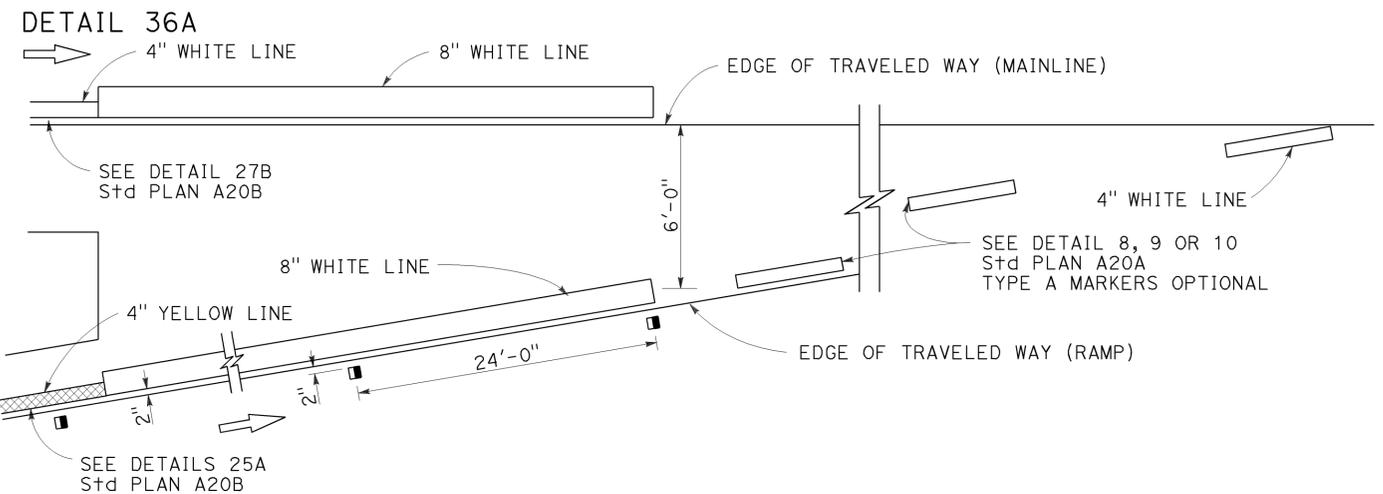
July 19, 2013
 PLANS APPROVAL DATE

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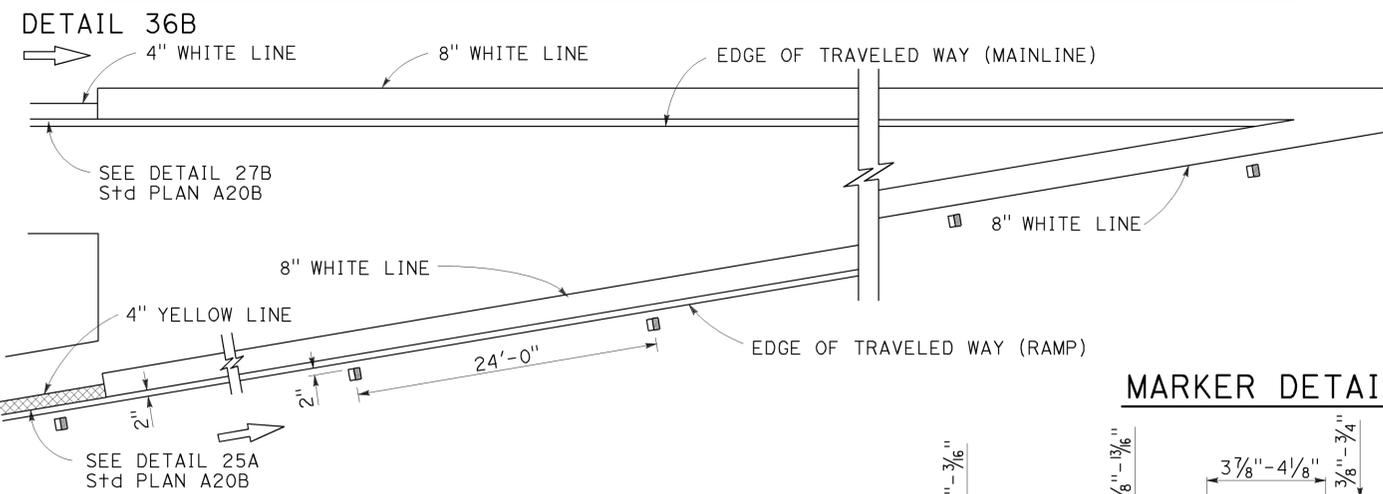
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

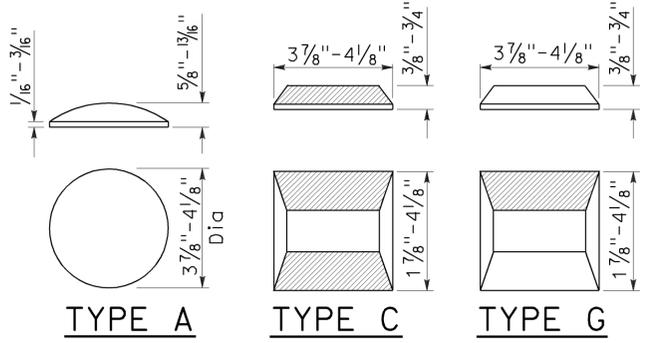


ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

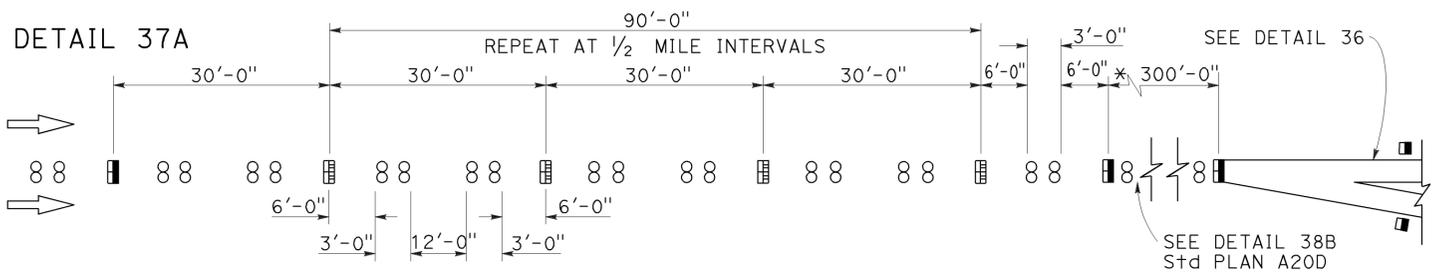
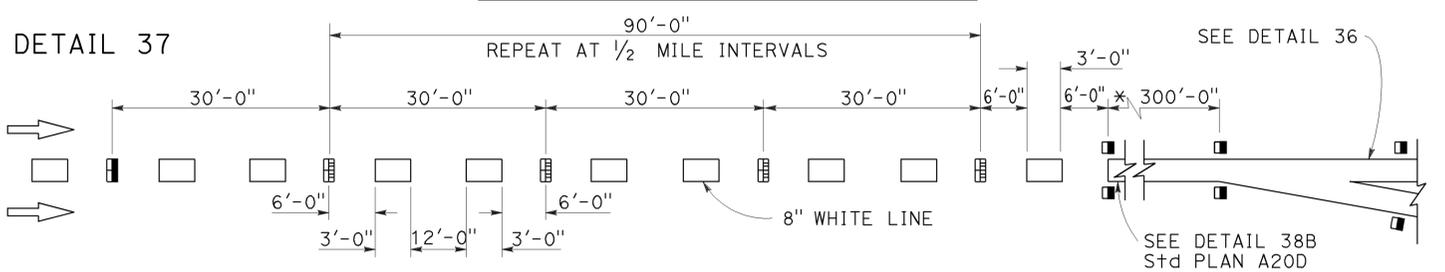


MARKER DETAILS

- LEGEND:**
- MARKERS
- TYPE A WHITE NON-REFLECTIVE
 - ◻ TYPE C RED-CLEAR RETROREFLECTIVE
 - TYPE G ONE-WAY CLEAR RETROREFLECTIVE

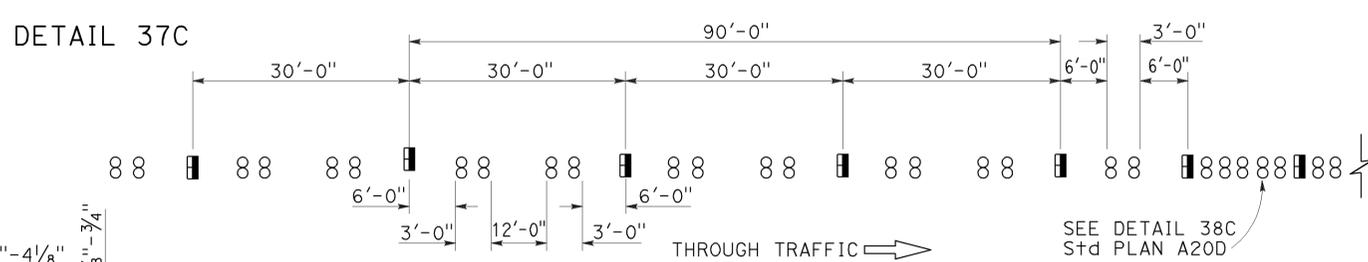
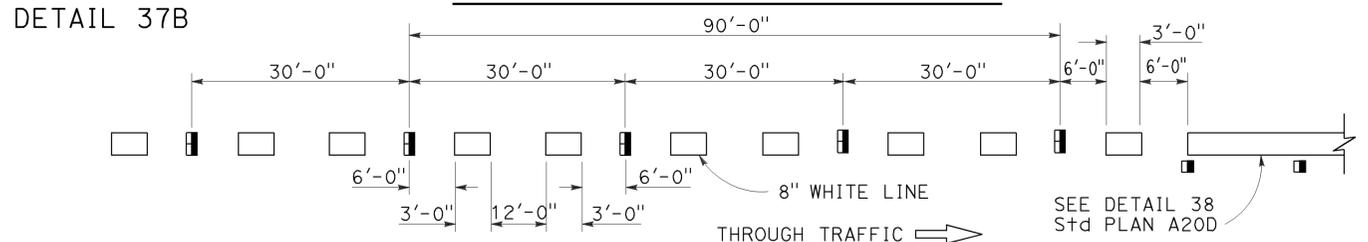


LANE DROP AT EXIT RAMP



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

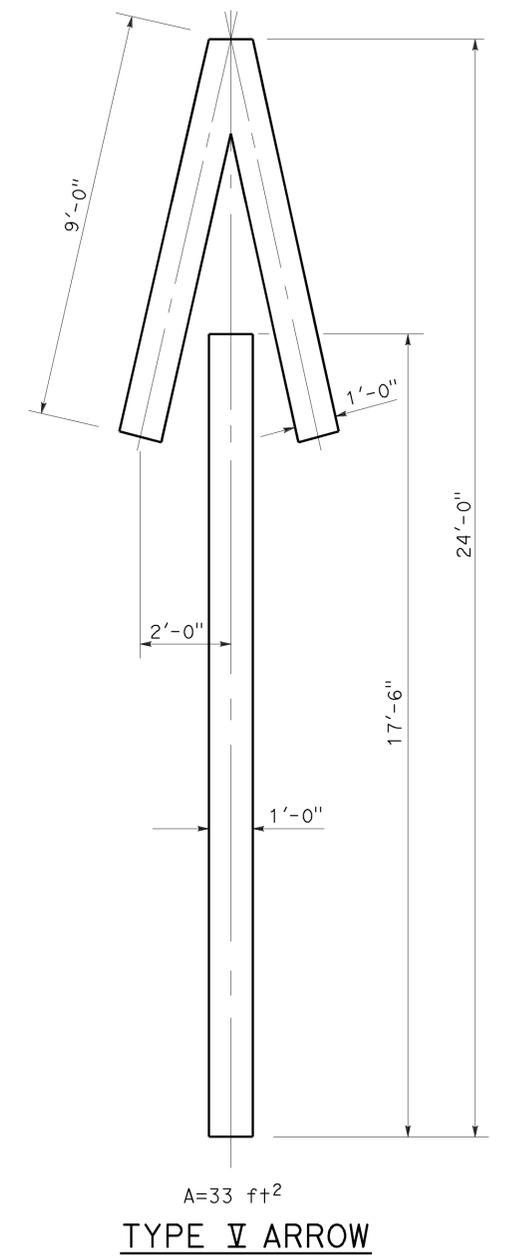
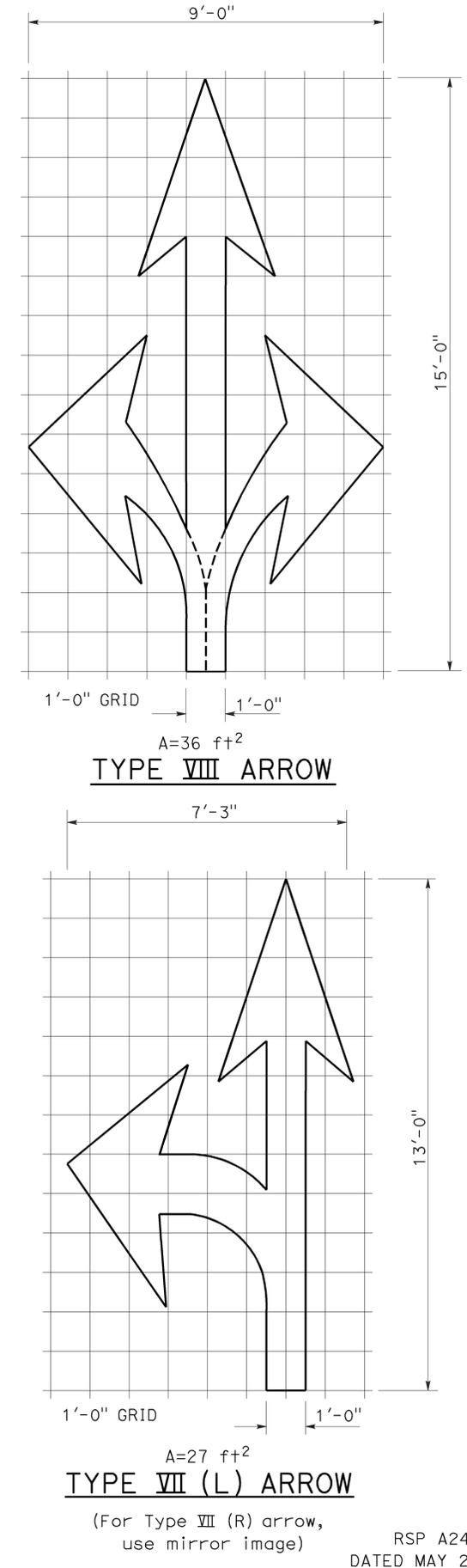
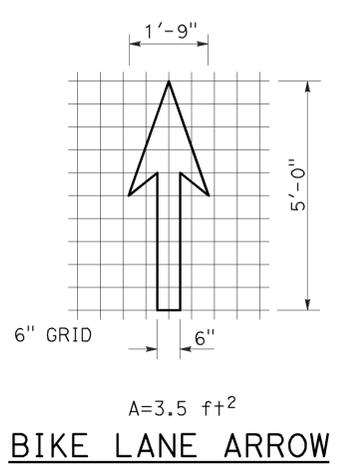
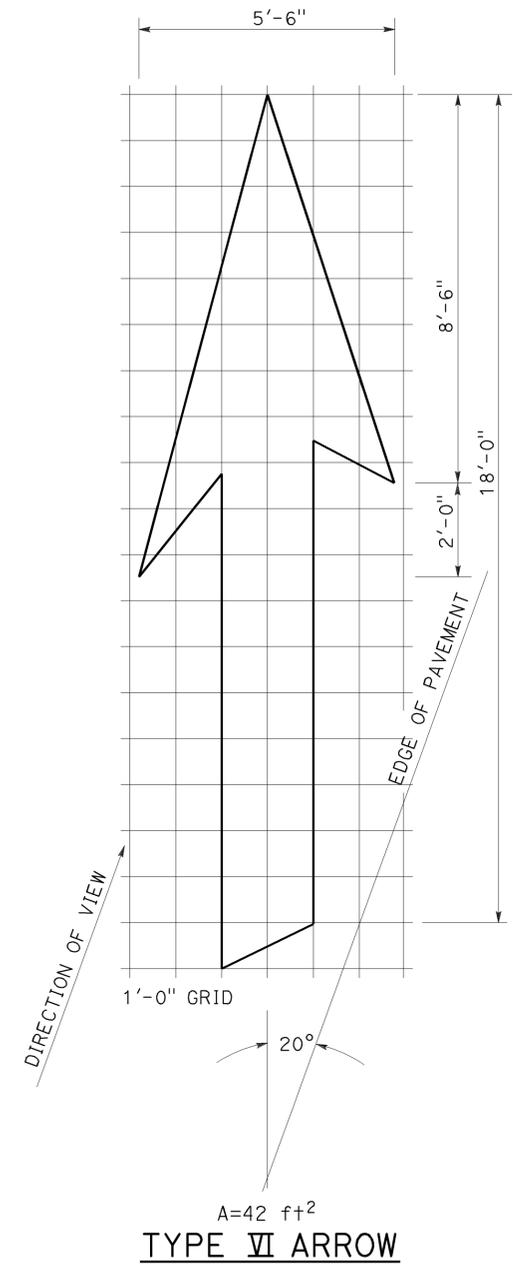
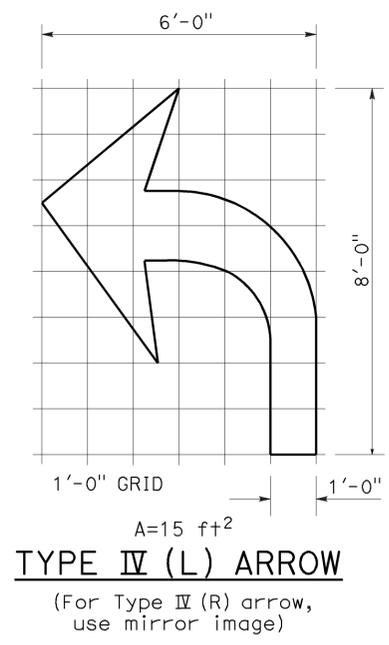
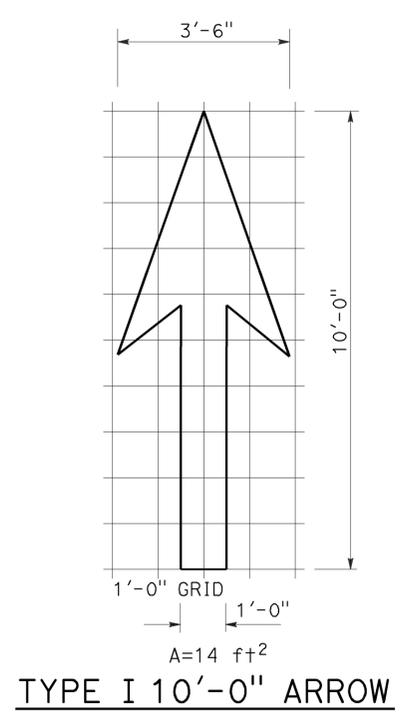
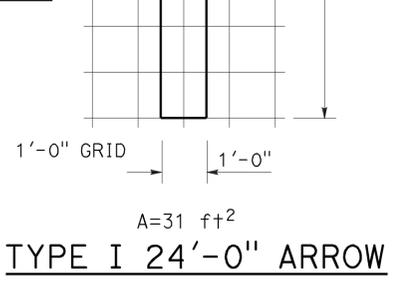
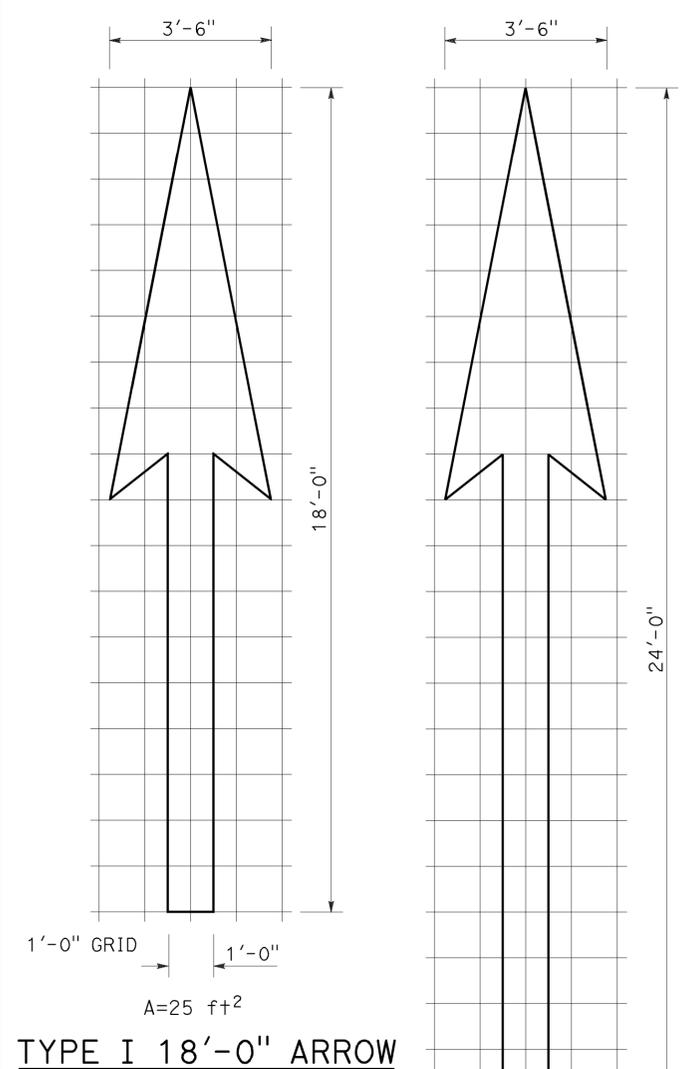
2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	14	33

Robert L. McLaughlin
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 9-14-15



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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24A

2010 REVISED STANDARD PLAN RSP A24A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	15	33

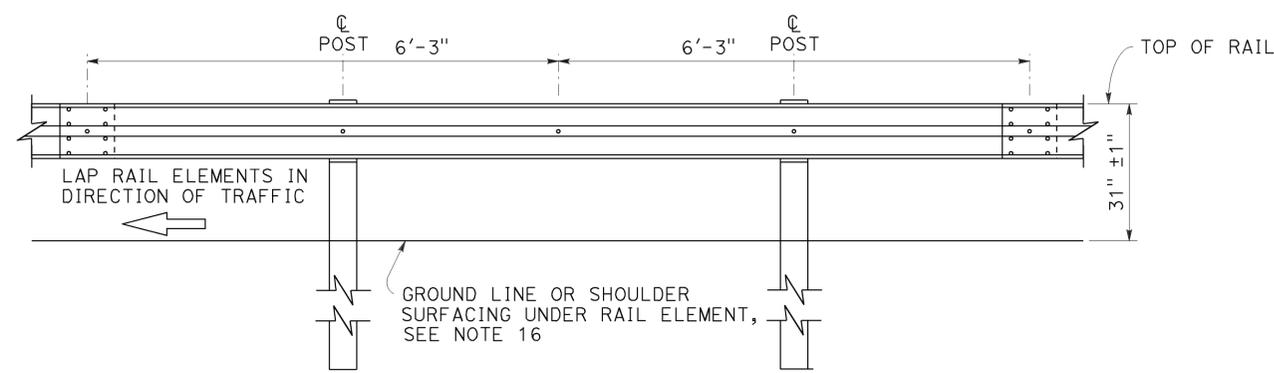
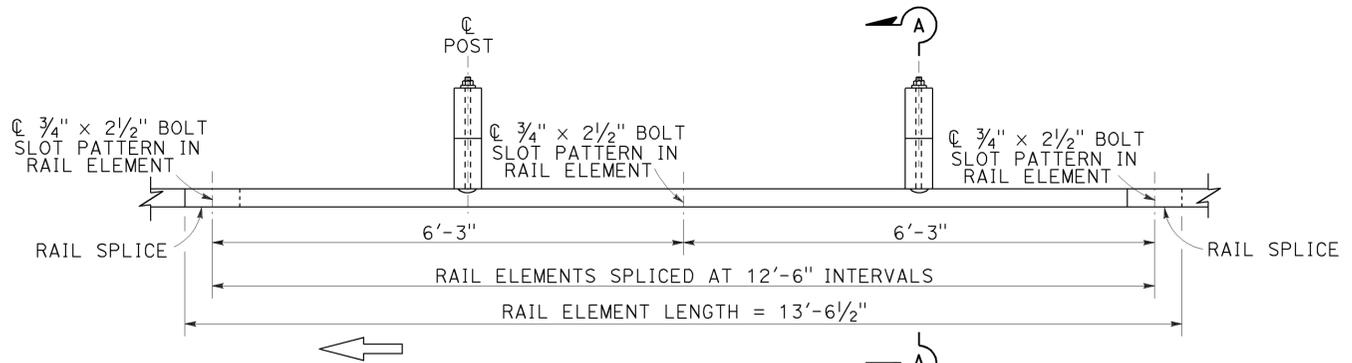
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

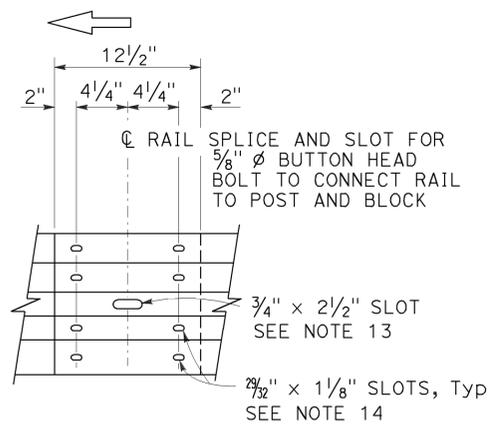
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

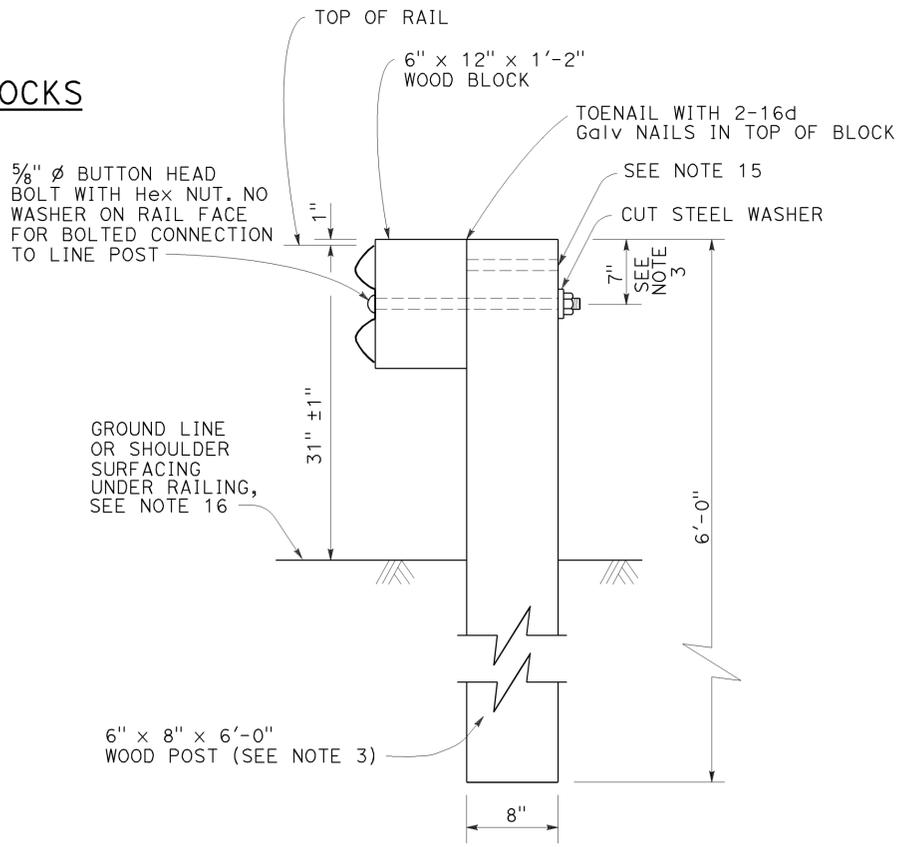
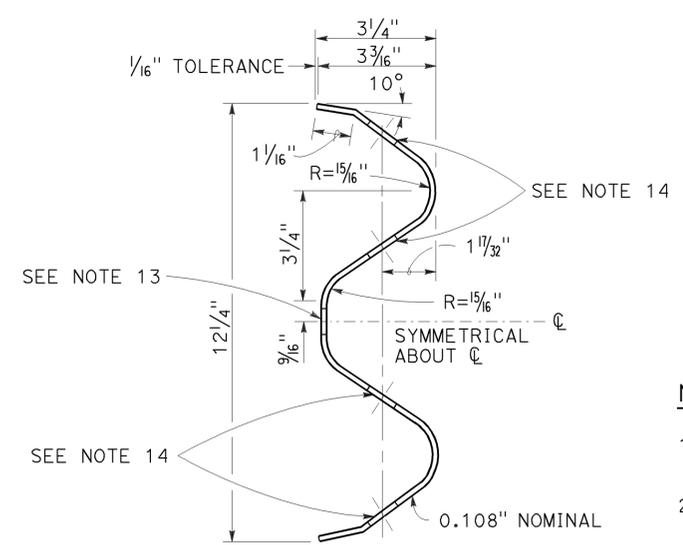
TO ACCOMPANY PLANS DATED 9-14-15



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ \times $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " \times $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION A-A
TYPICAL WOOD LINE POST INSTALLATION
See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

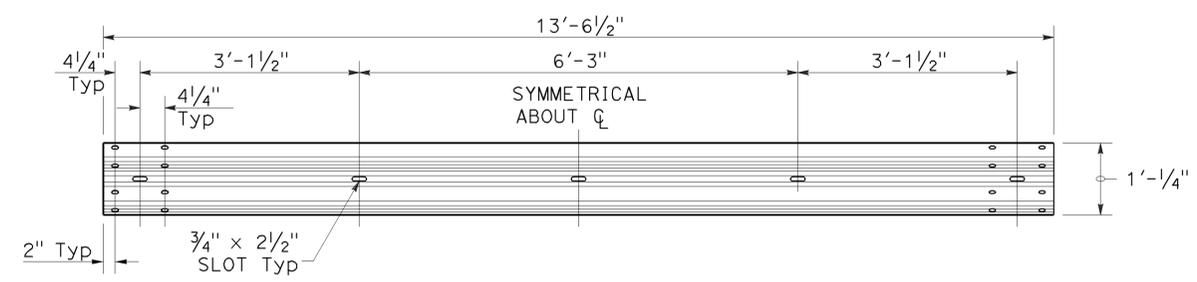
NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

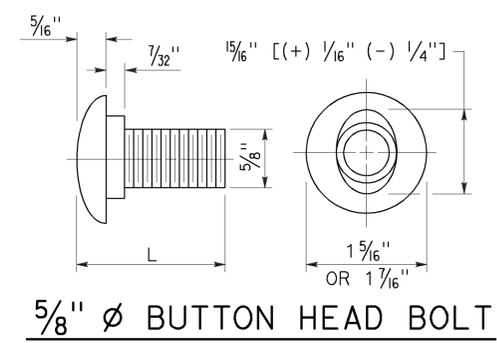
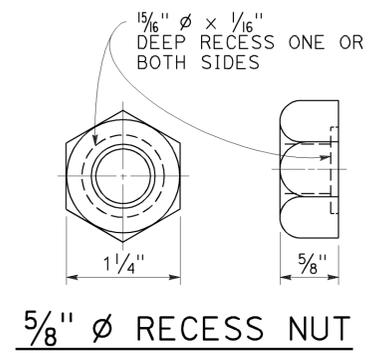
TO ACCOMPANY PLANS DATED 9-14-15



TYPICAL RAIL ELEMENT

NOTE:

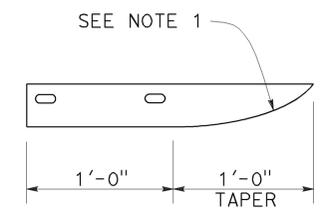
1. Slotted holes for splice bolts to overlap ends of rail element.



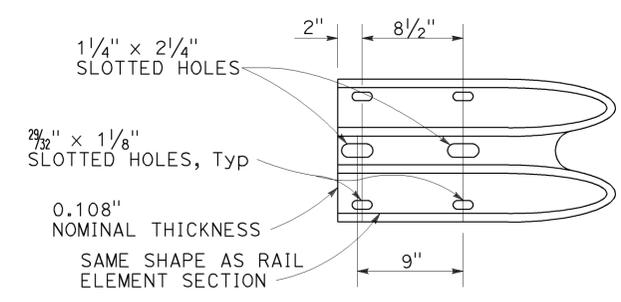
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



**ELEVATION
END CAP
(TYPE A)**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

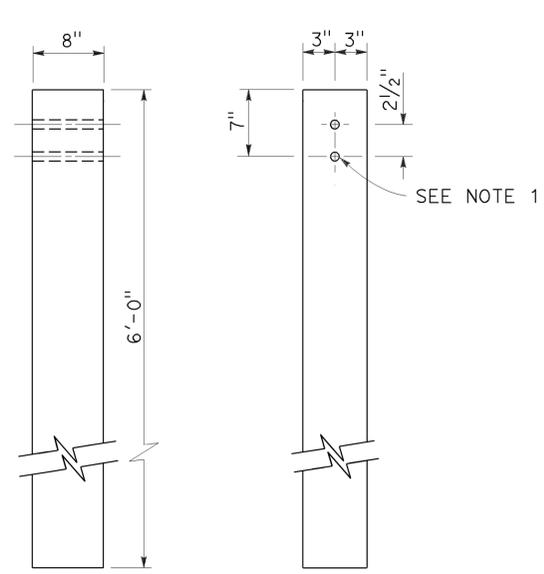
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	17	33

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

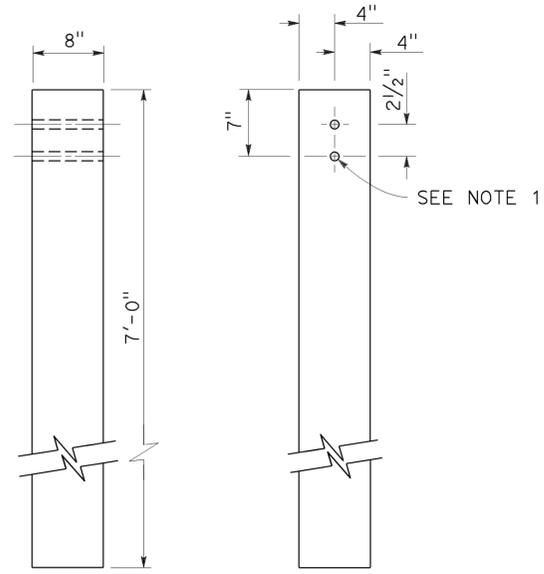
July 19, 2013
PLANS APPROVAL DATE

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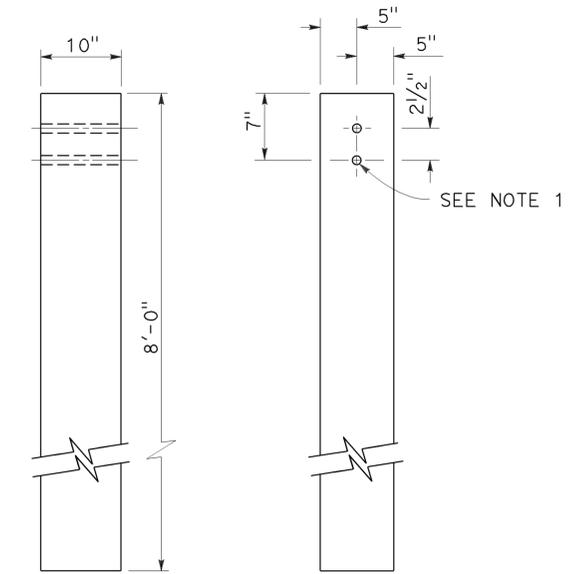
TO ACCOMPANY PLANS DATED 9-14-15



SIDE FRONT
6" x 8" WOOD POST
See Note 3



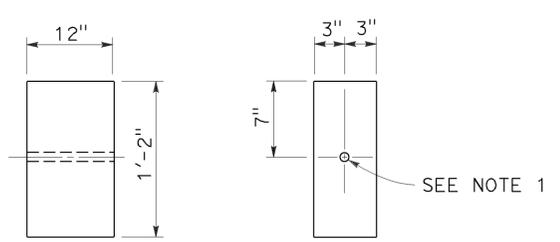
SIDE FRONT
8" x 8" WOOD POST
See Note 4



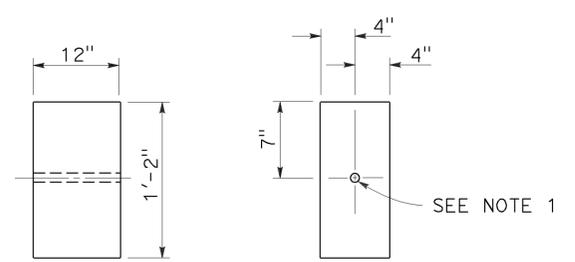
SIDE FRONT
10" x 10" WOOD POST
See Note 5

NOTES:

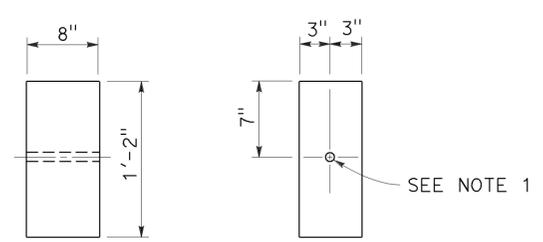
1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



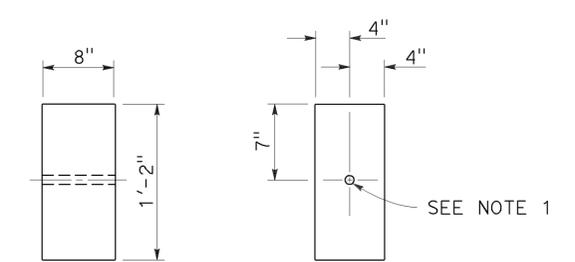
SIDE FRONT
6" x 12" WOOD BLOCK
See Note 3



SIDE FRONT
8" x 12" WOOD BLOCK



SIDE FRONT
6" x 8" WOOD BLOCK
Only for use with metal beam guard rail see Note 6



SIDE FRONT
8" x 8" WOOD BLOCK
Only for use with metal beam guard rail see Note 6

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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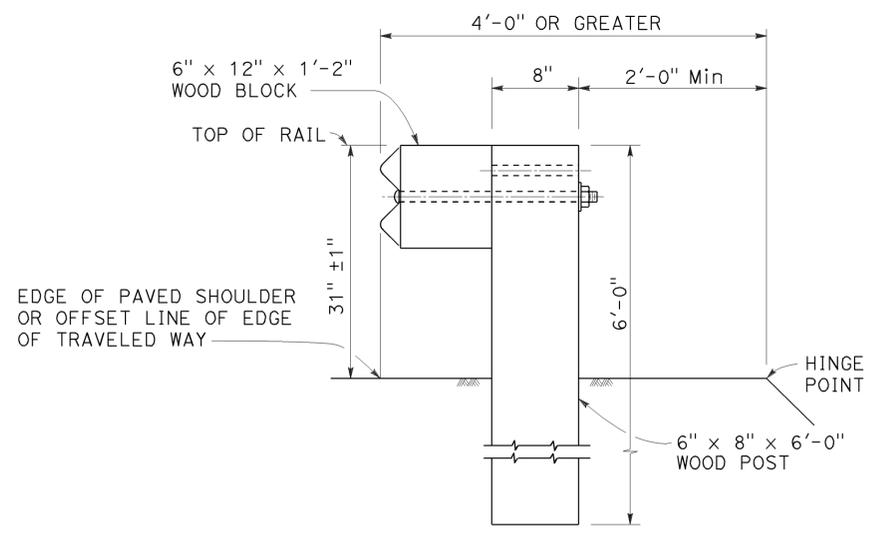
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

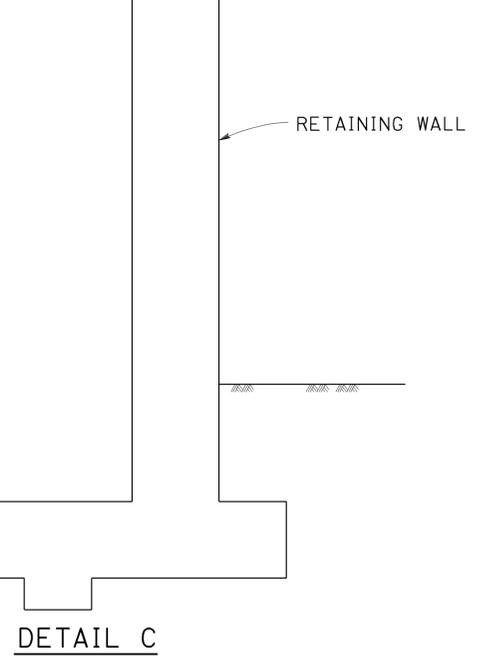
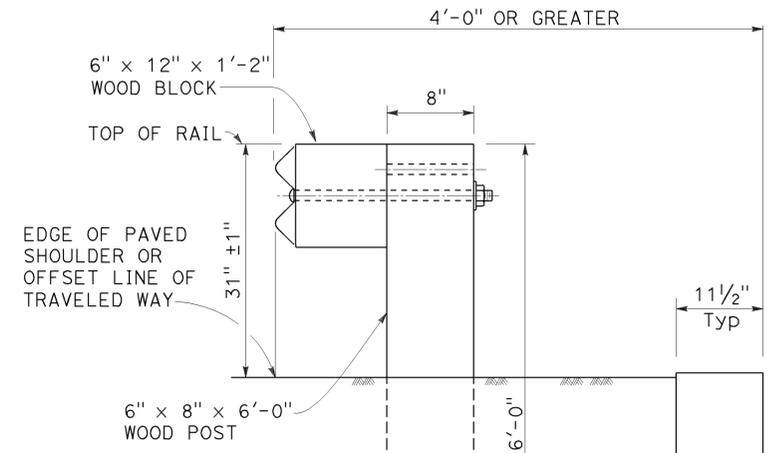
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

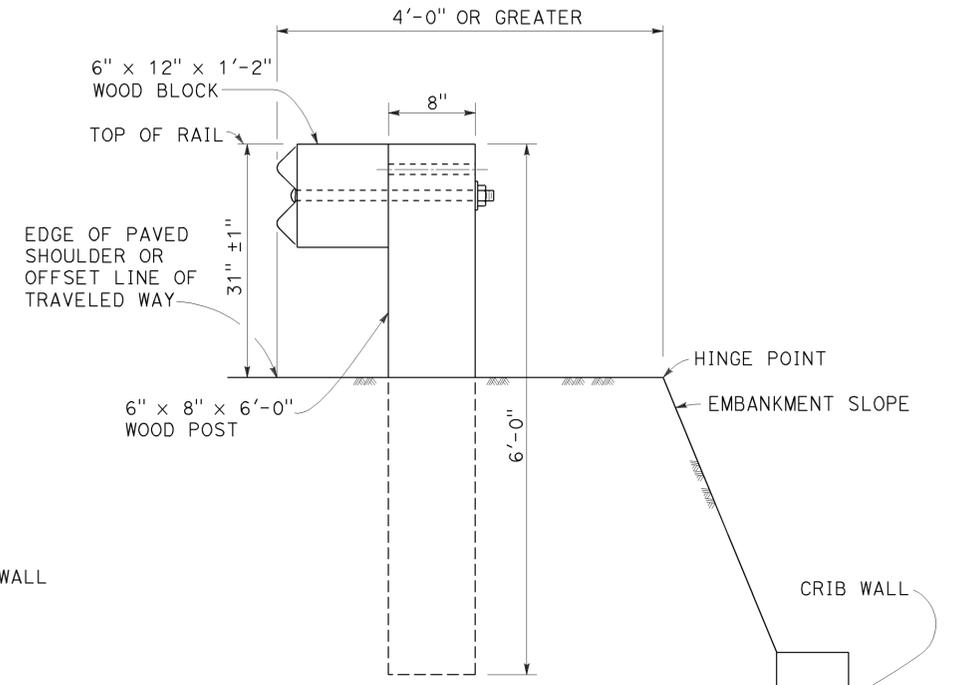
TO ACCOMPANY PLANS DATED 9-14-15



DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1



DETAIL D
INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	20	33

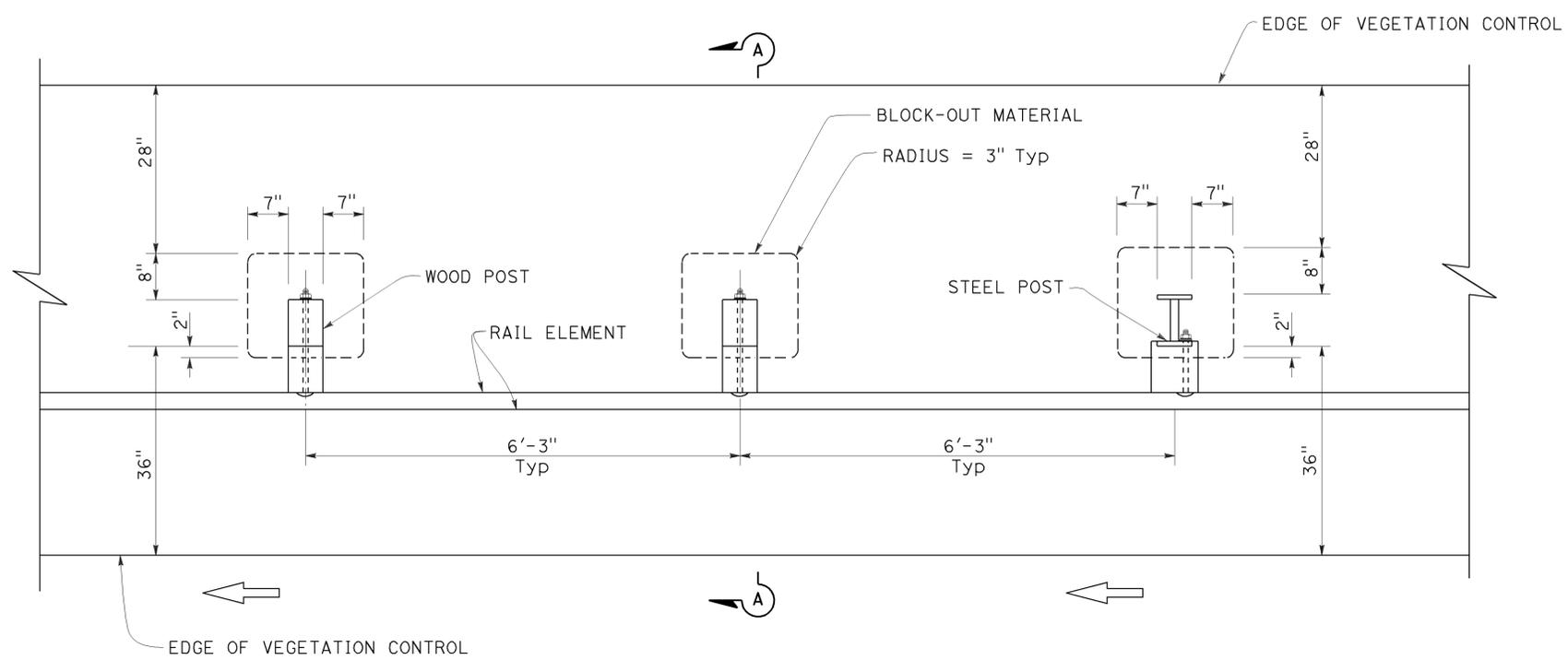
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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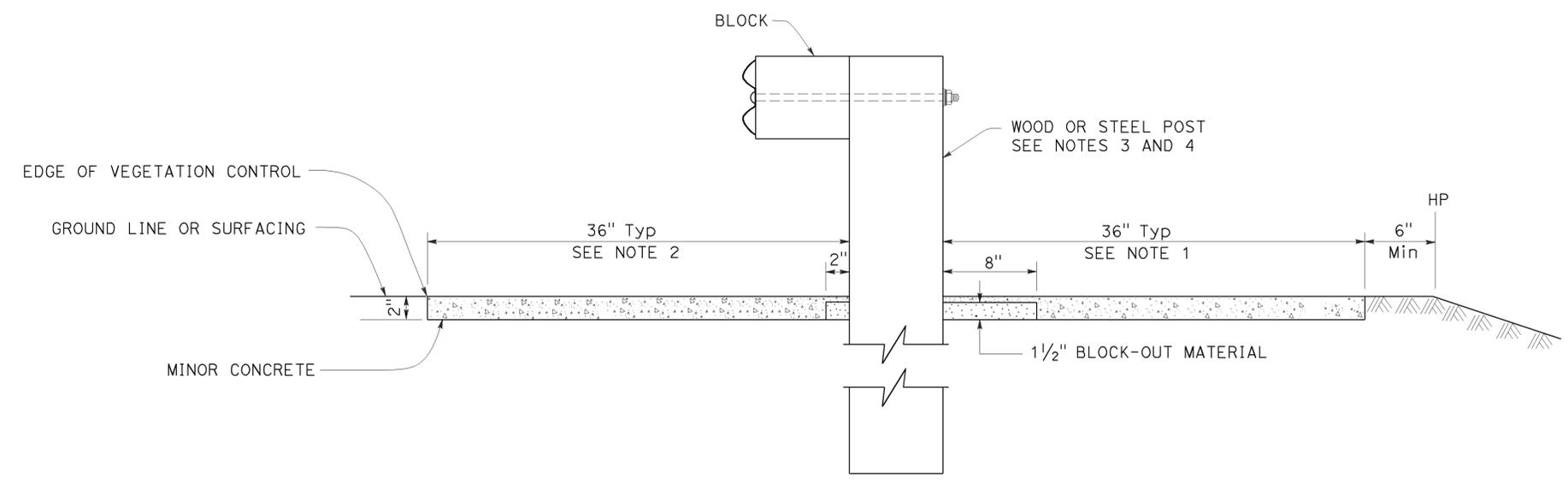
TO ACCOMPANY PLANS DATED 9-14-15



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	21	33

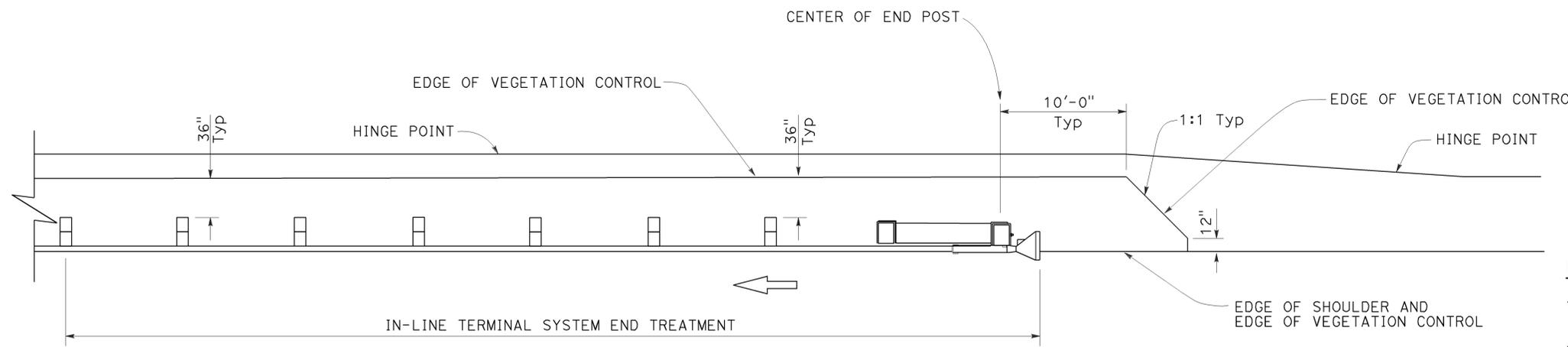
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REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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STATE OF CALIFORNIA

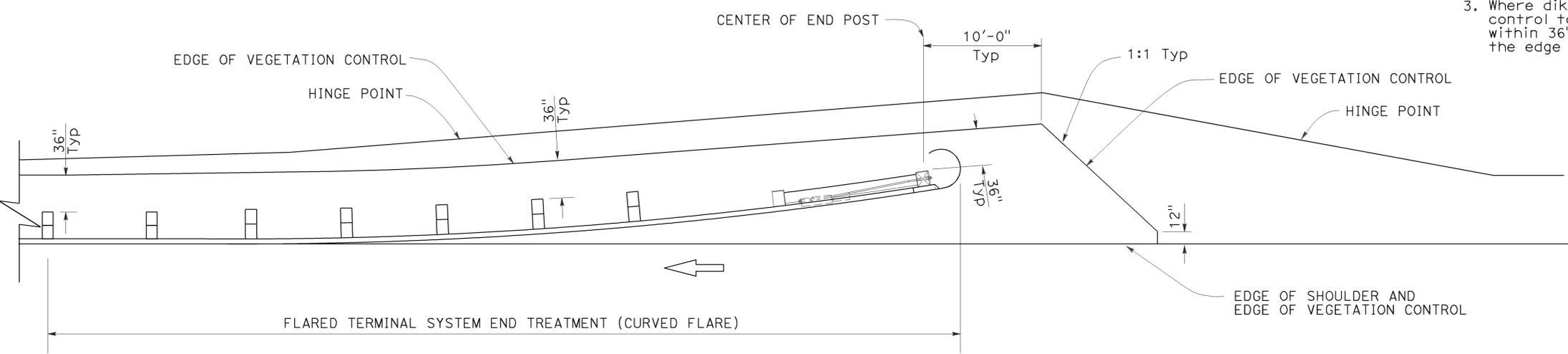
TO ACCOMPANY PLANS DATED 9-14-15



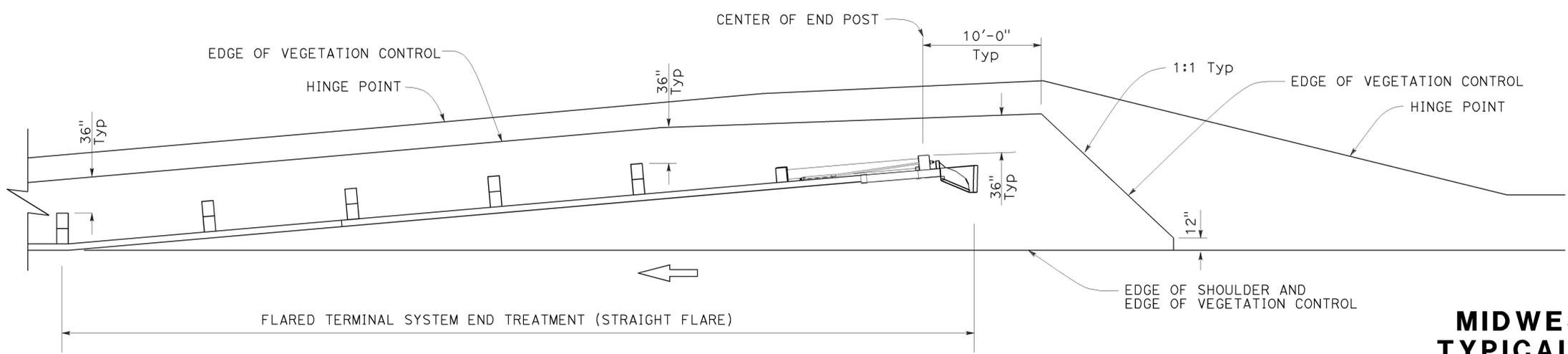
PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

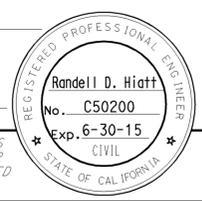
2010 REVISED STANDARD PLAN RSP A77N6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	22	33

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

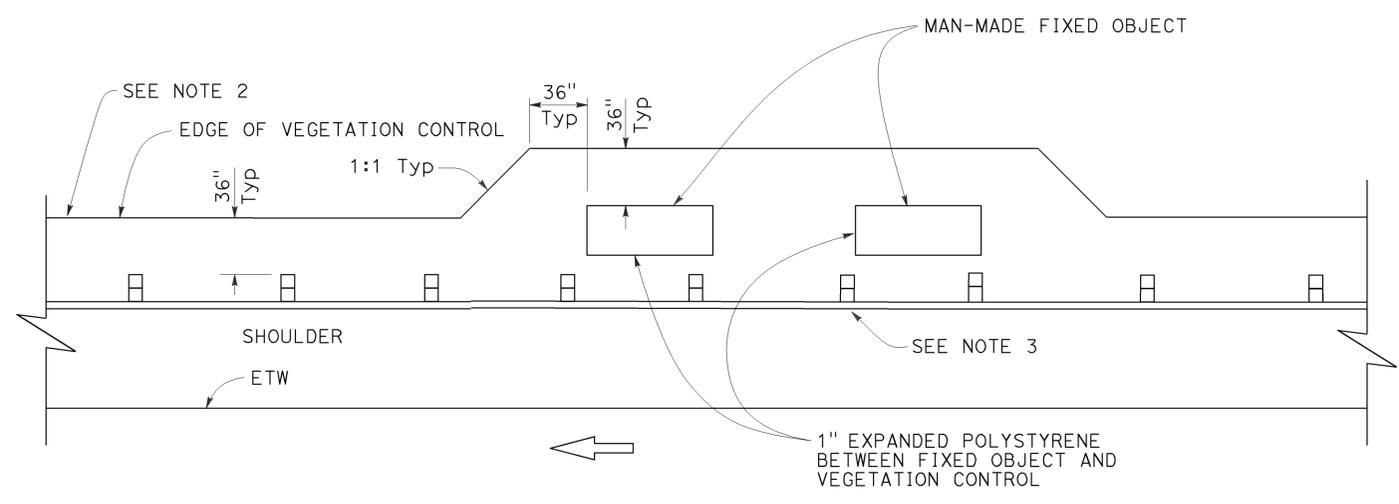
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TO ACCOMPANY PLANS DATED 9-14-15

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN
Fixed object(s) on shoulder

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N8 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N8

2010 REVISED STANDARD PLAN RSP A77N8

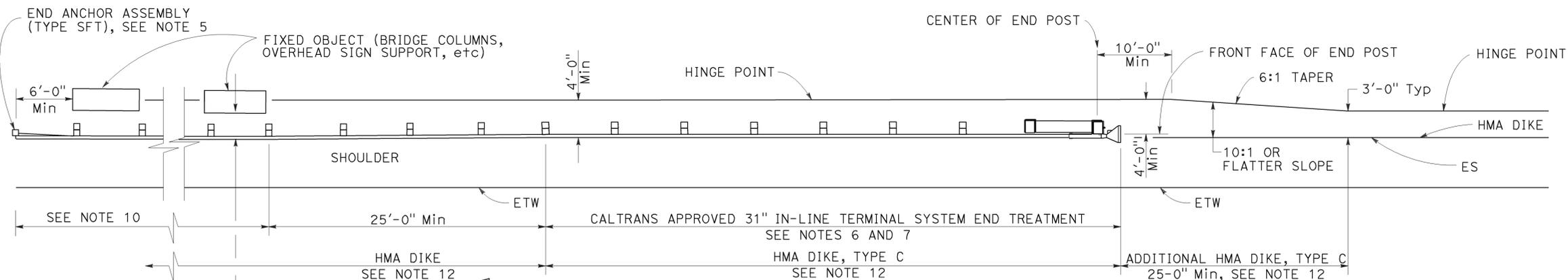
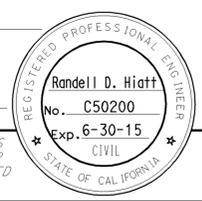
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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Randell D. Hiatt
REGISTERED CIVIL ENGINEER

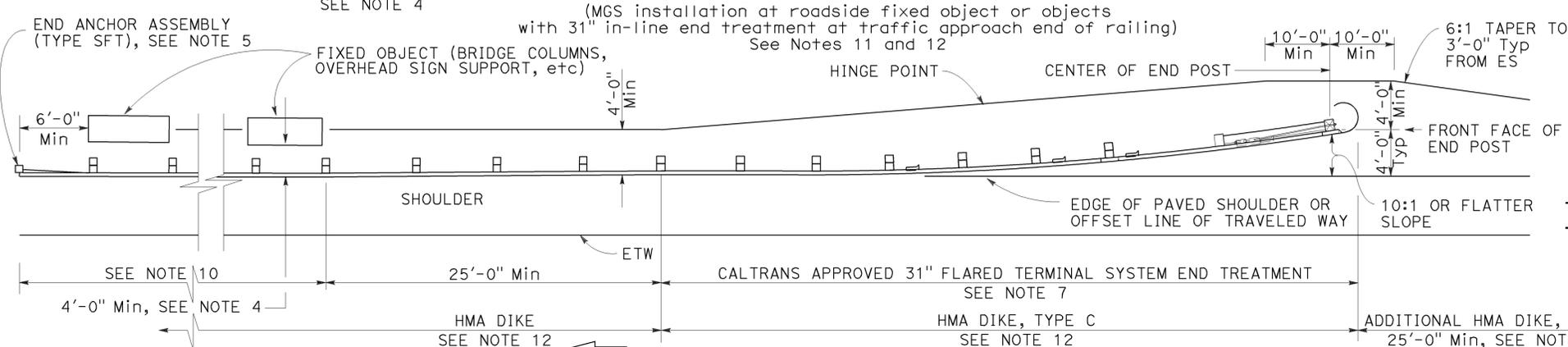
July 19, 2013
PLANS APPROVAL DATE

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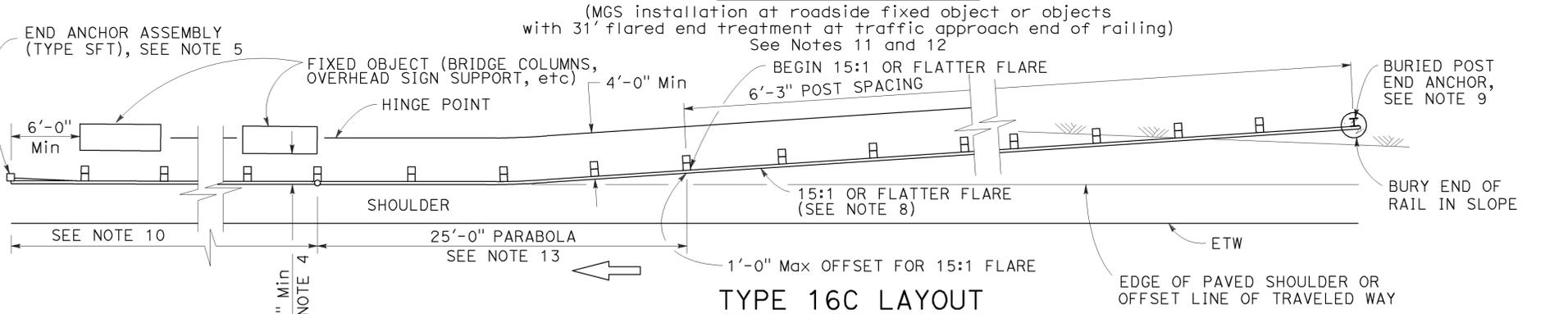
TO ACCOMPANY PLANS DATED 9-14-15



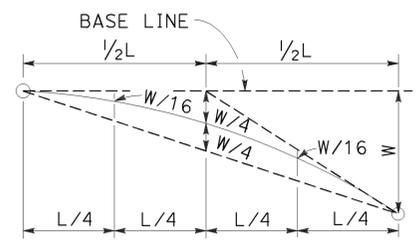
TYPE 16A LAYOUT



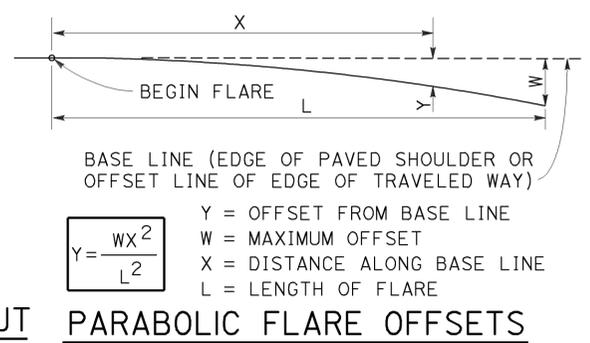
TYPE 16B LAYOUT



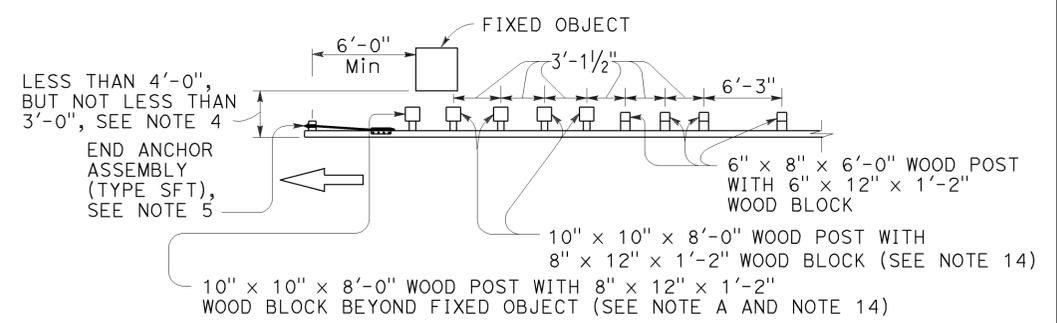
TYPE 16C LAYOUT



TYPICAL PARABOLIC LAYOUT



PARABOLIC FLARE OFFSETS



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 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" 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 12" 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 MGS sections with post spacing of 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object" 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 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" 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 MGS 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 Revised Standard Plan RSP A77T2.
- As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS 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 MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for only one direction of traffic.
- Where placement of dike is required with MGS, see Revised Standard Plan RSP A77N4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" 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 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**

NO SCALE

RSP A77R3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R3

2010 REVISED STANDARD PLAN RSP A77R3

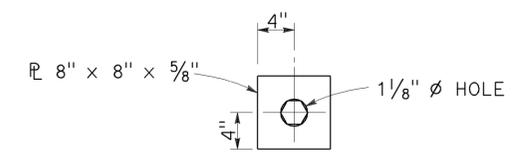
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	24	33

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

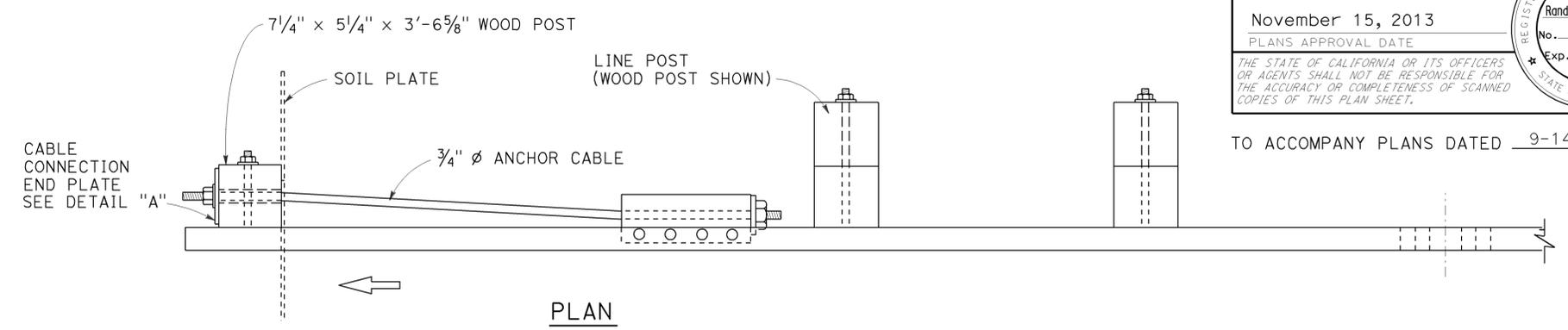
November 15, 2013
PLANS APPROVAL DATE

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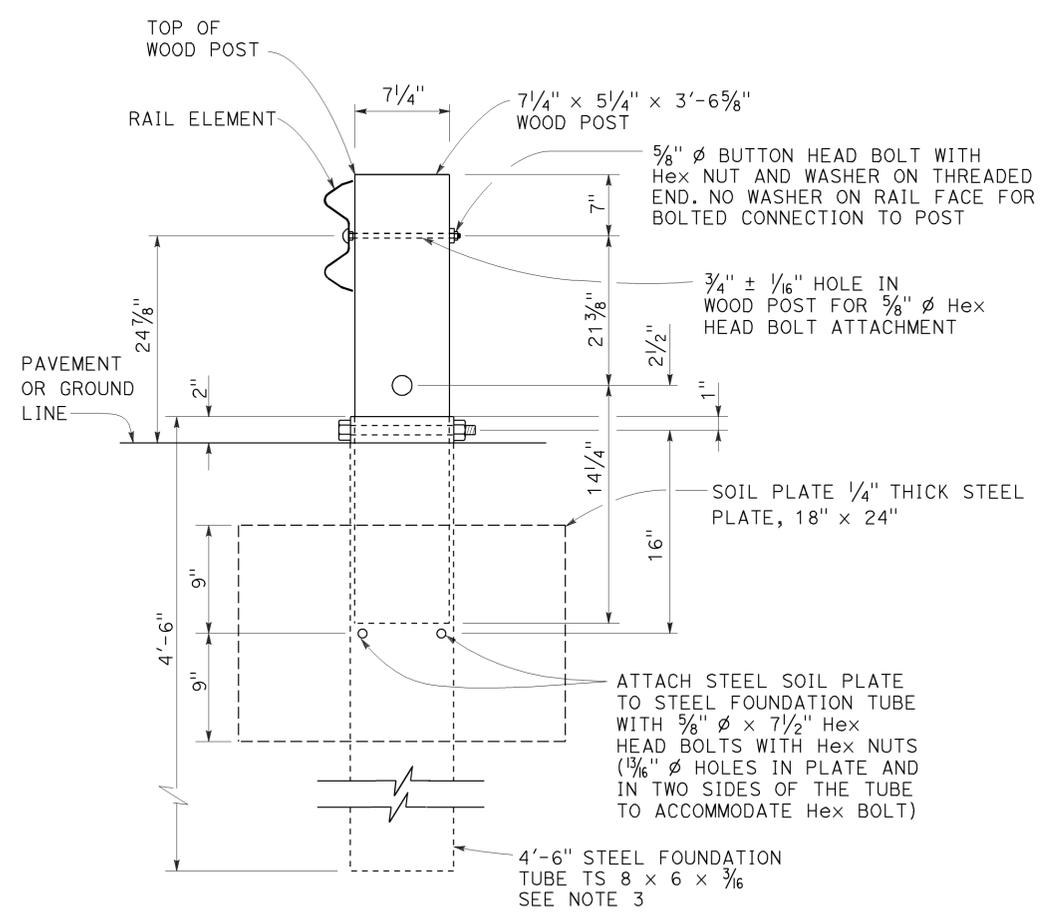
TO ACCOMPANY PLANS DATED 9-14-15



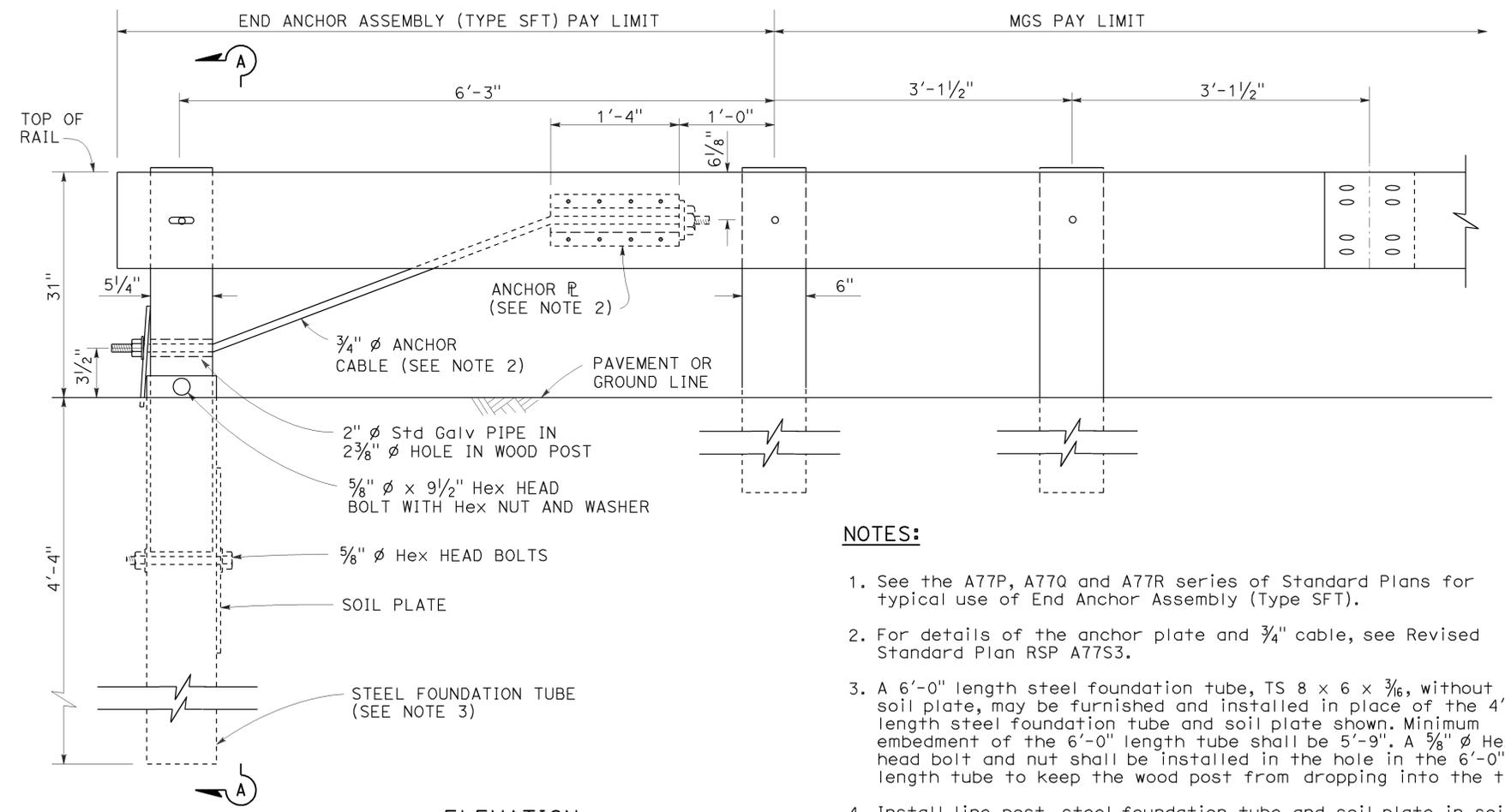
DETAIL "A"
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION

END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

1. See the A77P, A77Q and A77R series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MIDWEST GUARDRAIL SYSTEM
END ANCHOR ASSEMBLY
(TYPE SFT)

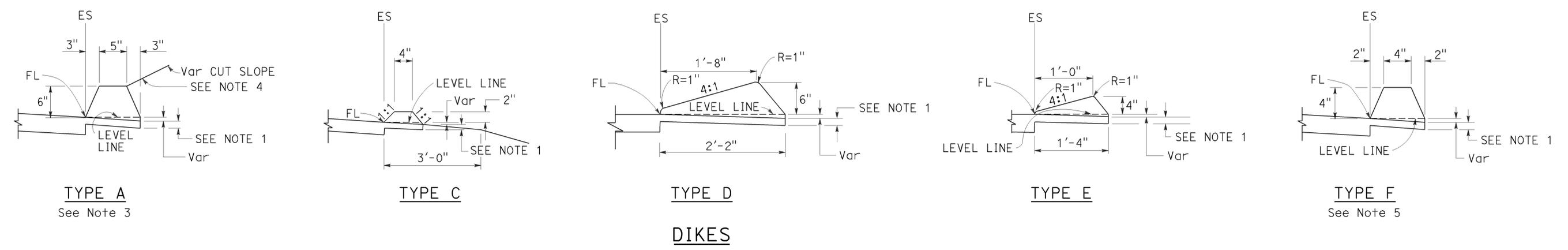
NO SCALE

RSP A77S1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S1

2010 REVISED STANDARD PLAN RSP A77S1

TO ACCOMPANY PLANS DATED 9-14-15



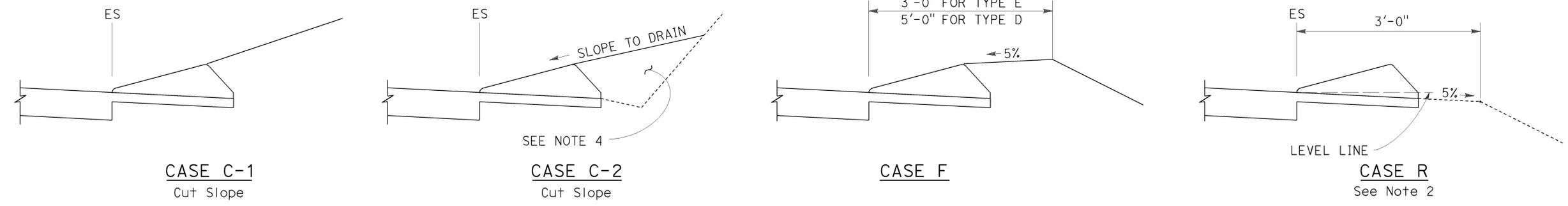
TYPE A
See Note 3

TYPE C

TYPE D

TYPE E

TYPE F
See Note 5



CASE C-1
Cut Slope

CASE C-2
Cut Slope

CASE F

CASE R
See Note 2

NOTES:

1. For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

**DIKE
QUANTITIES**

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

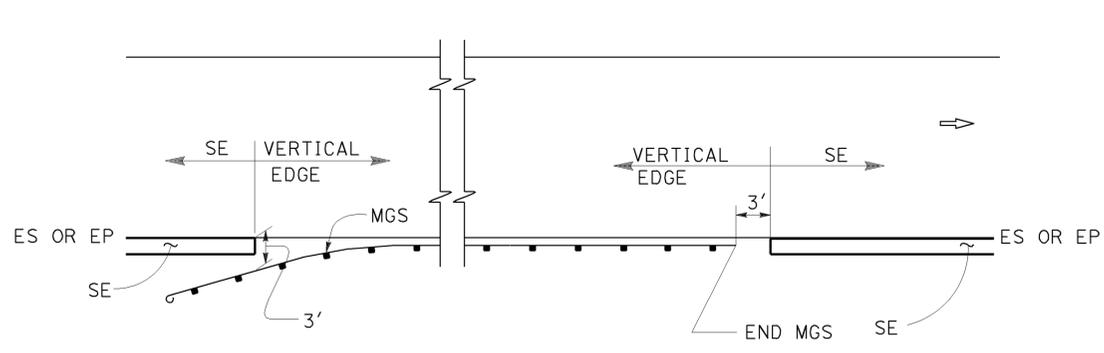
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	26	33

REGISTERED CIVIL ENGINEER
 November 15, 2013
 PLANS APPROVAL DATE
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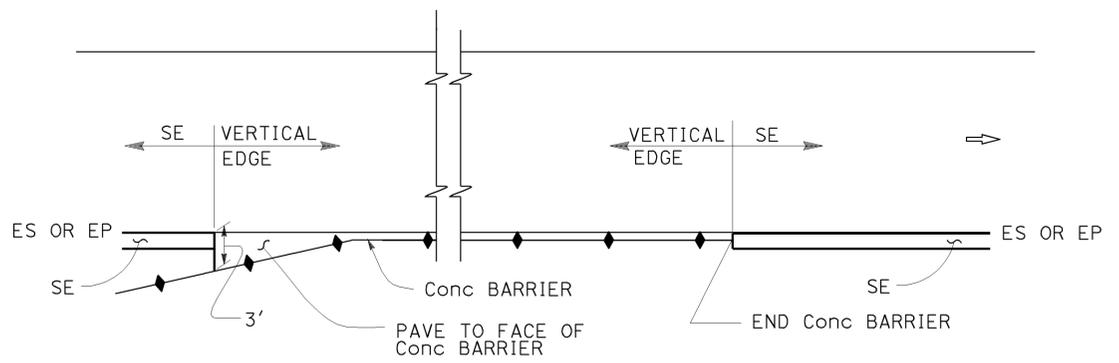
REGISTERED PROFESSIONAL ENGINEER
 Cornelis M. Hakim
 No. C55610
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 9-14-15

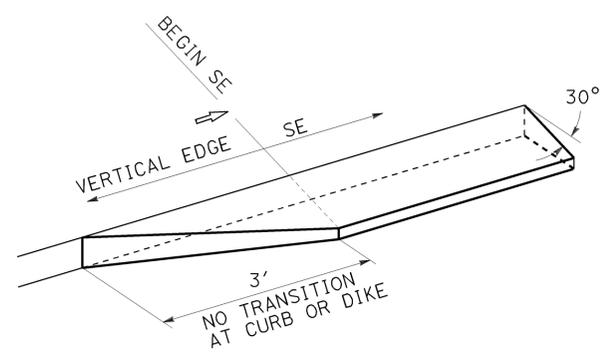
ABBREVIATIONS:
SE SAFETY EDGE



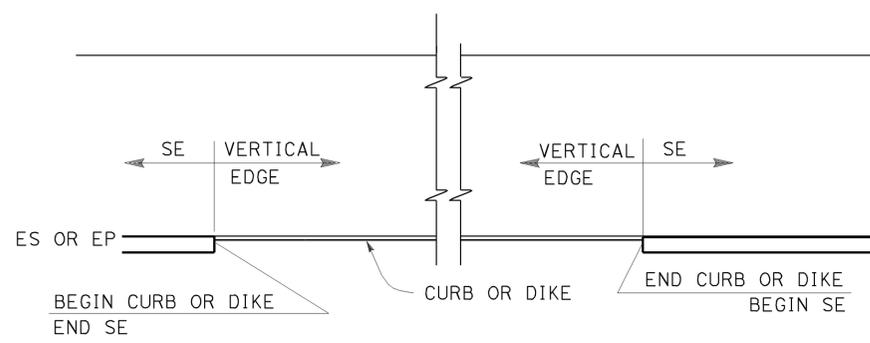
MGS



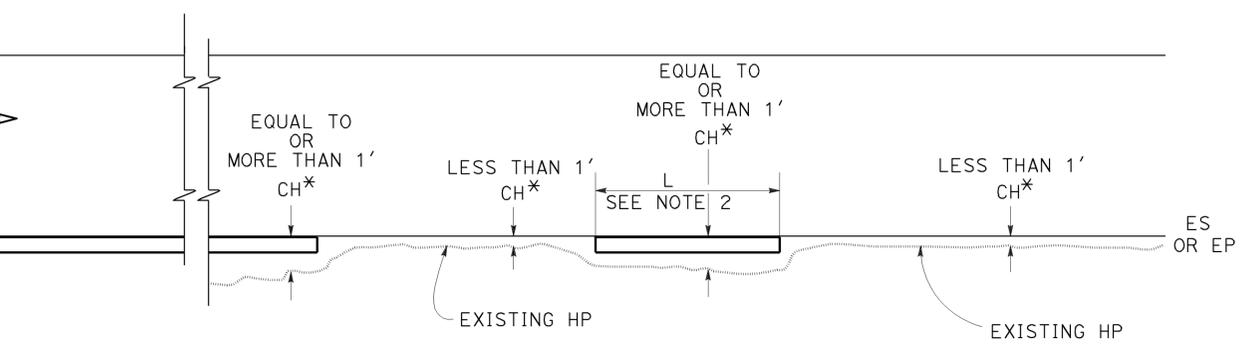
CONCRETE BARRIER



TRANSITION DETAIL FOR CONCRETE ONLY

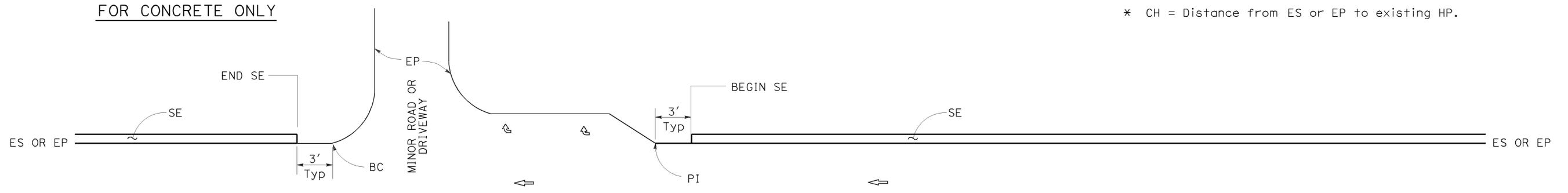


CURB OR DIKE



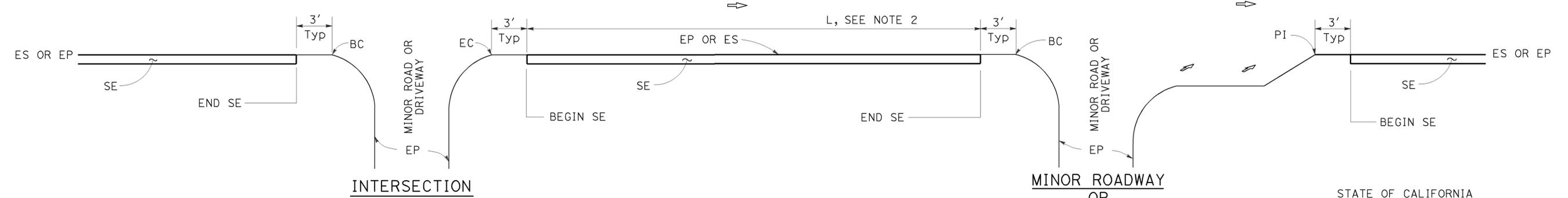
NARROW SIDE SLOPE

* CH = Distance from ES or EP to existing HP.



STATE ROUTE

STATE ROUTE



INTERSECTION

DRIVEWAY AND INTERSECTION

MINOR ROADWAY OR DRIVEWAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS

NO SCALE

- NOTES:**
- For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
 - Safety edge is optional when L is less than 30'.

RSP P74 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

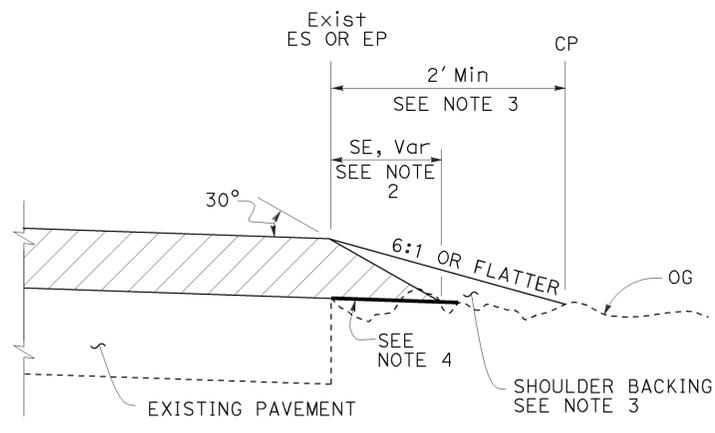
REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

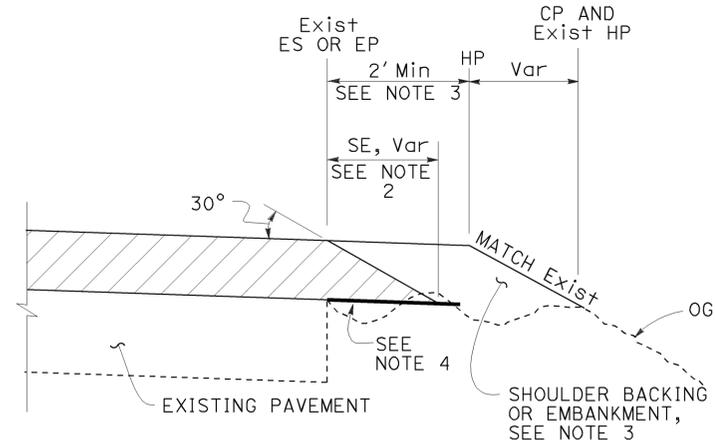
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	27	33



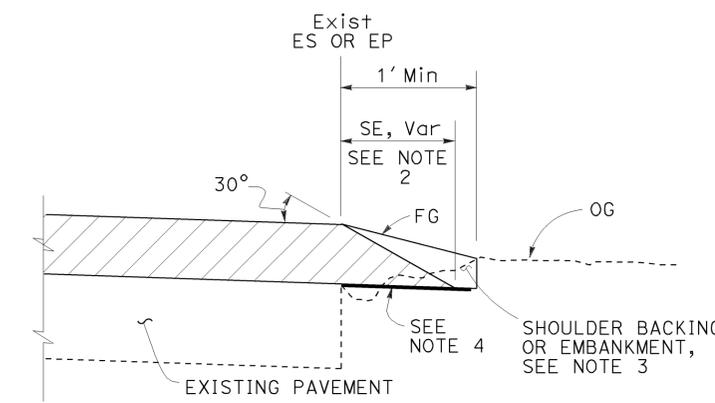
 REGISTERED CIVIL ENGINEER
 November 15, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



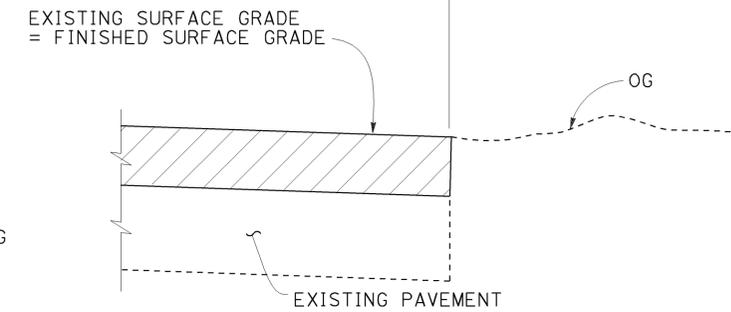
CASE A
Safety Edge



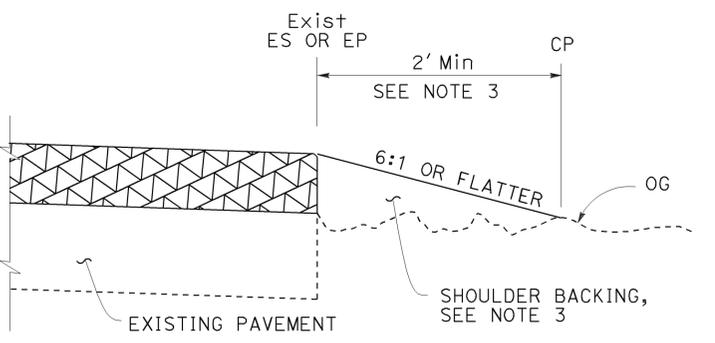
CASE B
Safety Edge



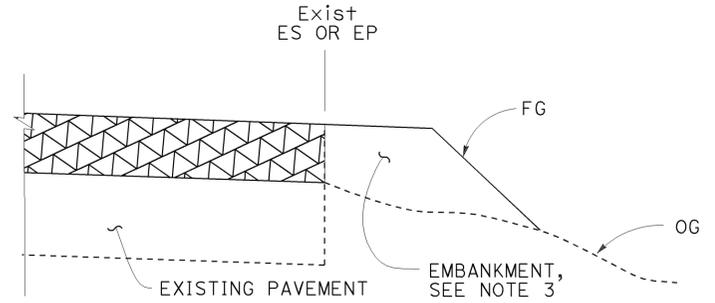
CASE C
Safety Edge



CASE D
Vertical Edge



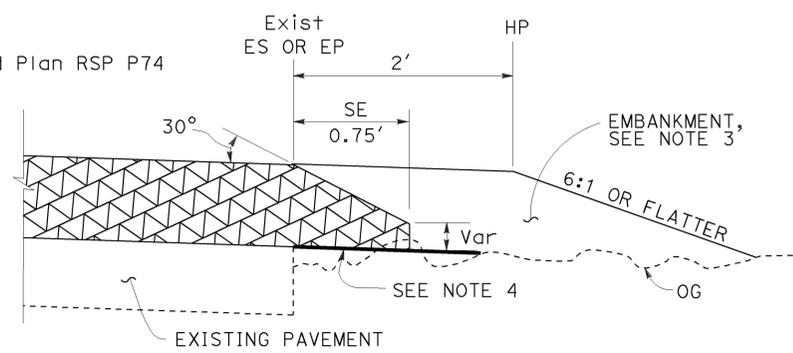
CASE E
Vertical Edge



CASE F
Vertical Edge

* See Table A and Revised Std Plan RSP P74

- NOTES:**
1. For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74.
 2. Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
 3. For locations and limits of shoulder backing or embankment see project plans.
 4. Grade existing ground to place safety edge. 1' minimum width
 5. Safety edge transverse joint must match overlay transverse joint. End of #6 longitudinal bar must be 2" ± 1/2" clear from transverse joint.
 6. Safety edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.



DETAIL "A"

For HMA overlay thickness more than 0.43' or concrete overlay

LEGEND:

-  HMA OVERLAY
-  HMA OR CONCRETE OVERLAY
-  CONCRETE OVERLAY

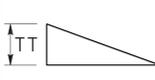
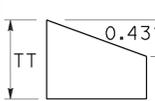
ABBREVIATIONS:

- SE SAFETY EDGE
- TT TOTAL THICKNESS OF SE

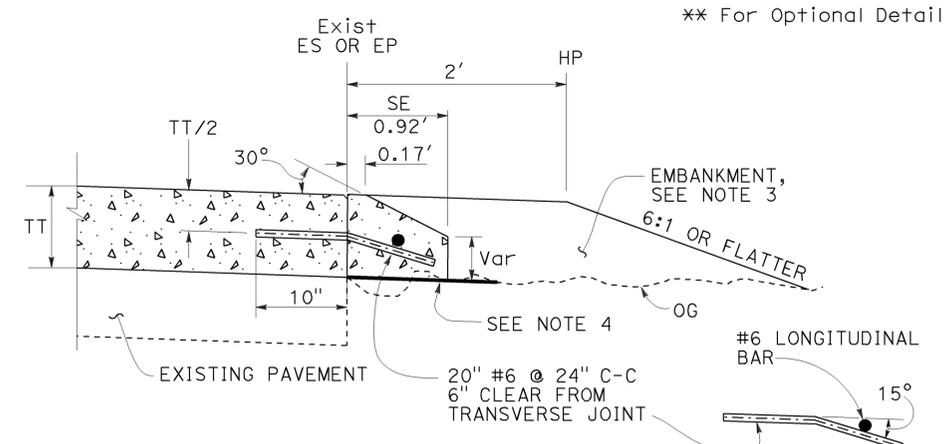
TABLE A
EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

FIELD CONDITION	OVERLAY THICKNESS	
	LESS THAN 0.15'	0.15' OR MORE
Exist SLOPE 6:1 OR FLATTER	CASE E	CASE A
Exist SLOPE 3:1 TO 6:1	CASE E	CASE B
Exist SLOPE STEEPER THAN 3:1	CASE F	CASE F
CUT SECTION (REPLACE, COLD PLANE, MILL PAVEMENT)	CASE D	CASE C

ADDITIONAL HMA OR CONCRETE QUANTITIES FOR SE/SIDE/MILE

TYPICAL CROSS SECTION	TT	TOTAL ADDITIONAL MATERIAL FOR SE/SIDE/MILE		
		HMA (TON)	CONCRETE (CY)*	CONCRETE (CY)**
	0.15'	NA	NA	NA
	0.20'	13.7	NA	NA
	0.30'	30.9	NA	NA
	0.40'	54.9	NA	NA
	0.45'	69.4	NA	NA
	0.50'	84.2	NA	NA
	0.60'	113.9	NA	NA
	0.70'	143.6	70.9	94.2
	0.80'	173.3	85.6	112.2
	0.90'	203.0	100.3	130.2
	1.00'	232.7	114.9	148.2
	1.10'	262.4	129.6	166.2
1.20'	292.1	144.3	184.2	

* For Detail "A"
** For Optional Detail "A"



OPTIONAL DETAIL "A"
For concrete overlay
See Note 5

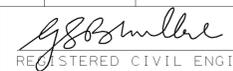
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PAVEMENT EDGE TREATMENTS- OVERLAYS
NO SCALE

RSP P75 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P75 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P75

2010 REVISED STANDARD PLAN RSP P75

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	28	33


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 9-14-15

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

* - For other offsets, use the following merging taper length formula for L:
 For speed of 40 mph or less, $L = WS^2/60$
 For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
 W = Width of offset in feet
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph
 ** - Longitudinal buffer space or flagger station spacing
 *** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM TABLES
 FOR LANE AND RAMP CLOSURES**
 NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T9

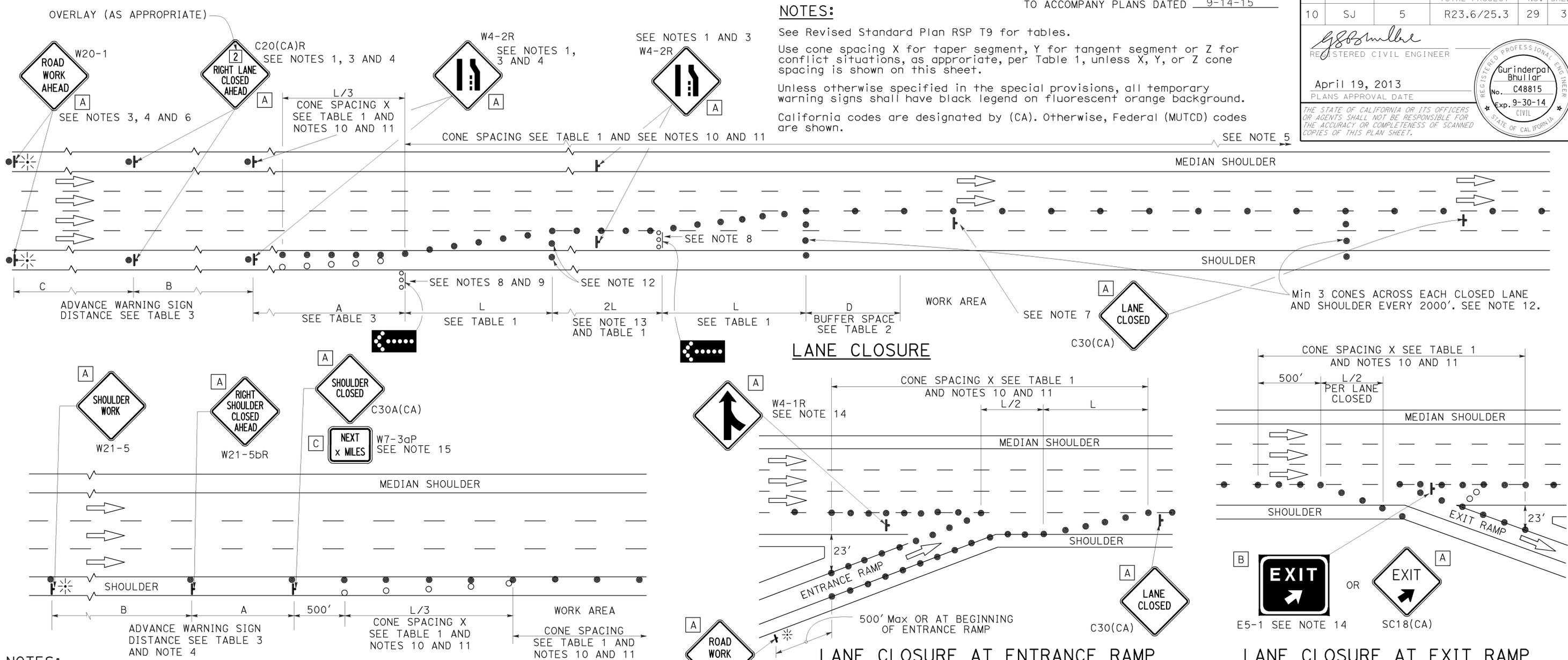
2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	29	33

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 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.



- NOTES:**
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
 - At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
 - Duplicate sign installations are not required:
 - On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
 - Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 - A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

- SHOULDER CLOSURE**
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) "NEXT _____ MILES" sign for the first advance warning sign.
 - Place a C30(CA) sign every 2000' throughout length of lane closure.
 - One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
 - A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
 - All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 - Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
- A W7-3aP "NEXT _____ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ⬢ FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 72" x 60"
- C 36" x 30"

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS
 NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	30	33

REGISTERED CIVIL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

April 19, 2013
 PLANS APPROVAL DATE

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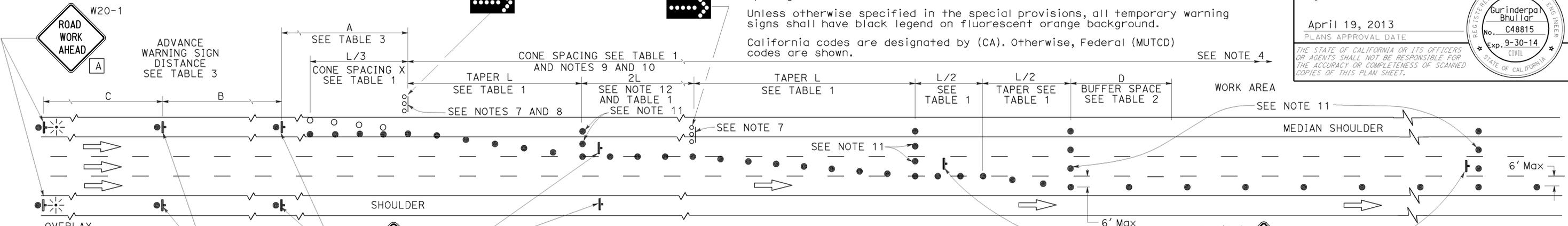
NOTES: See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

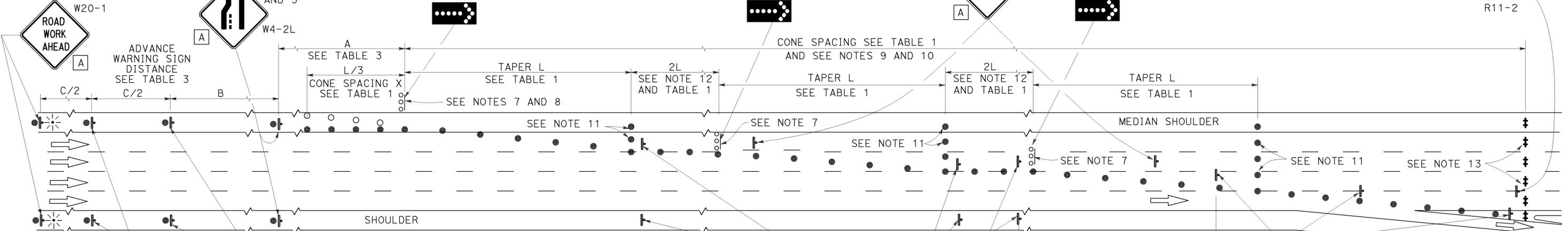
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

SEE NOTES 3 AND 5



LANE CLOSURE WITH PARTIAL SHOULDER USE

SEE NOTES 3 AND 5



COMPLETE CLOSURE

NOTES:

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.

- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 18"
- C 48" x 30"

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURES ON
 FREEWAYS AND EXPRESSWAYS**

NO SCALE

RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10A

2010 REVISED STANDARD PLAN RSP T10A

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

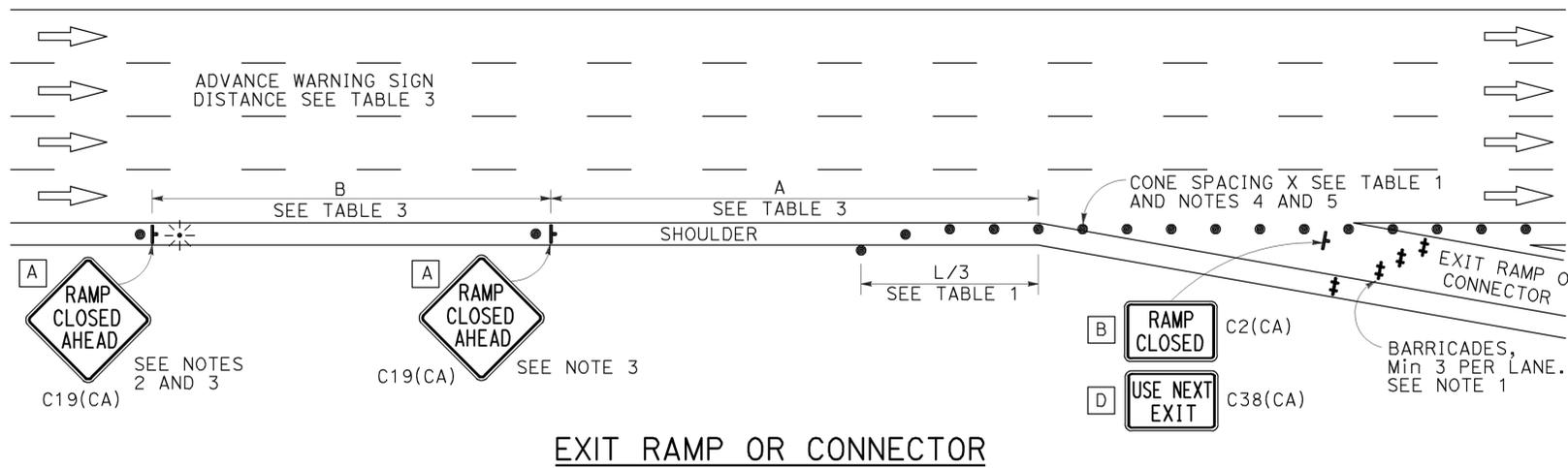
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	31	33

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

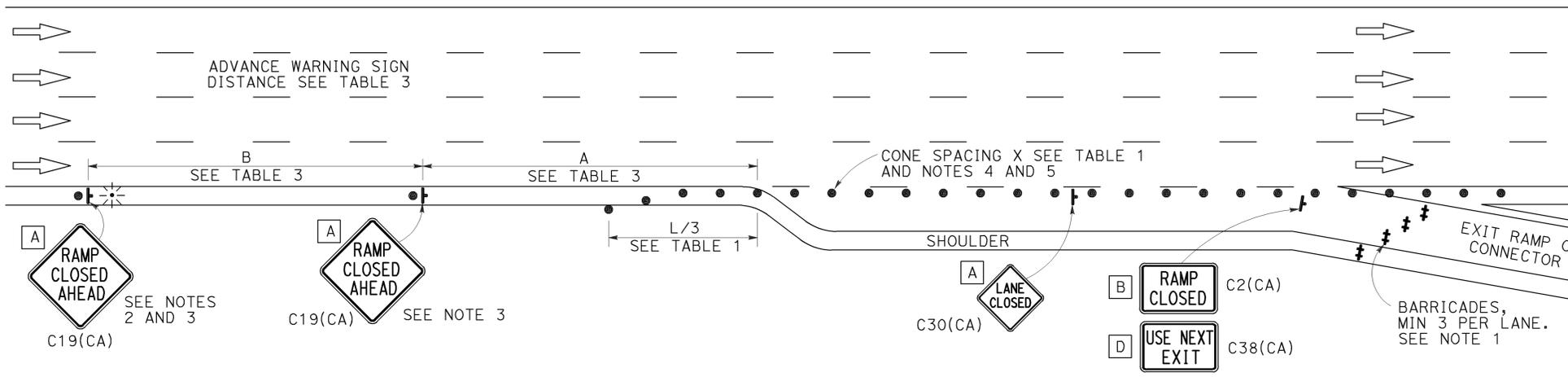
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TO ACCOMPANY PLANS DATED 9-14-15

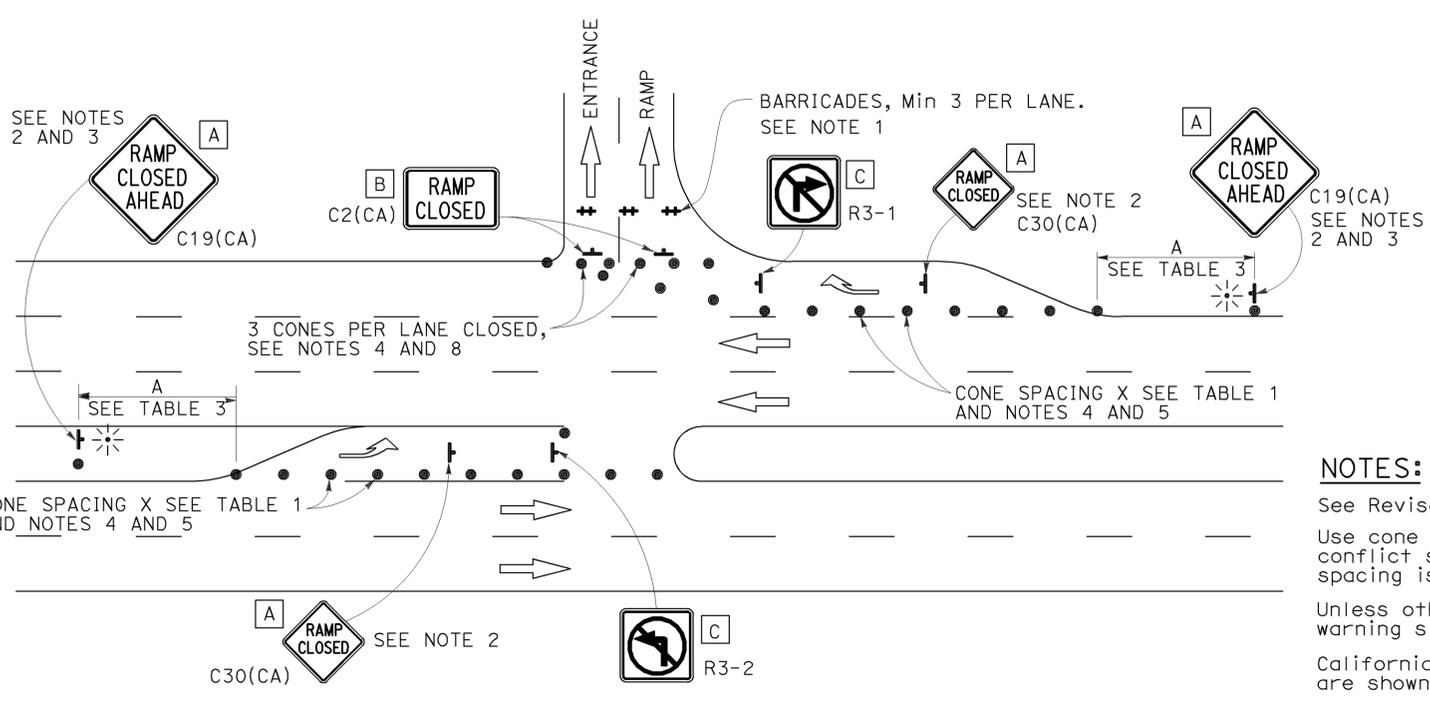
2010 REVISED STANDARD PLAN RSP T14



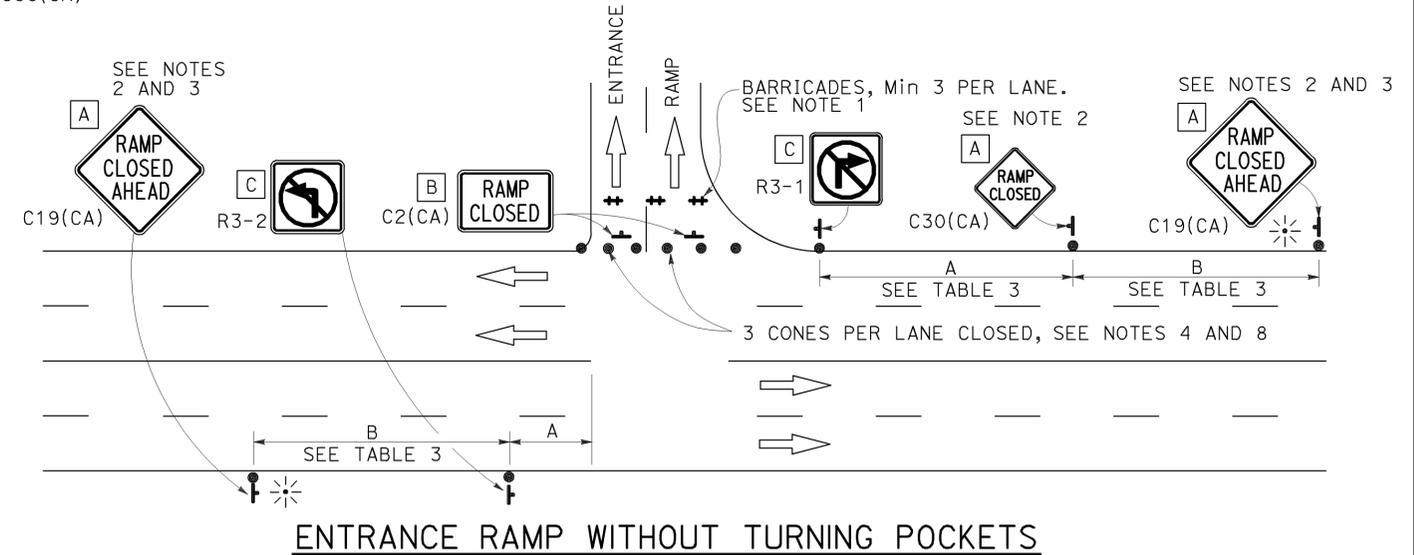
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

1. See Revised Standard Plan RSP T9 for tables.
2. Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
3. Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
4. California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

NOTES:

1. Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
2. In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
3. Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

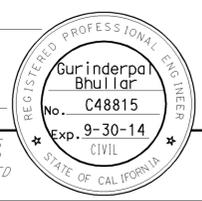
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURE

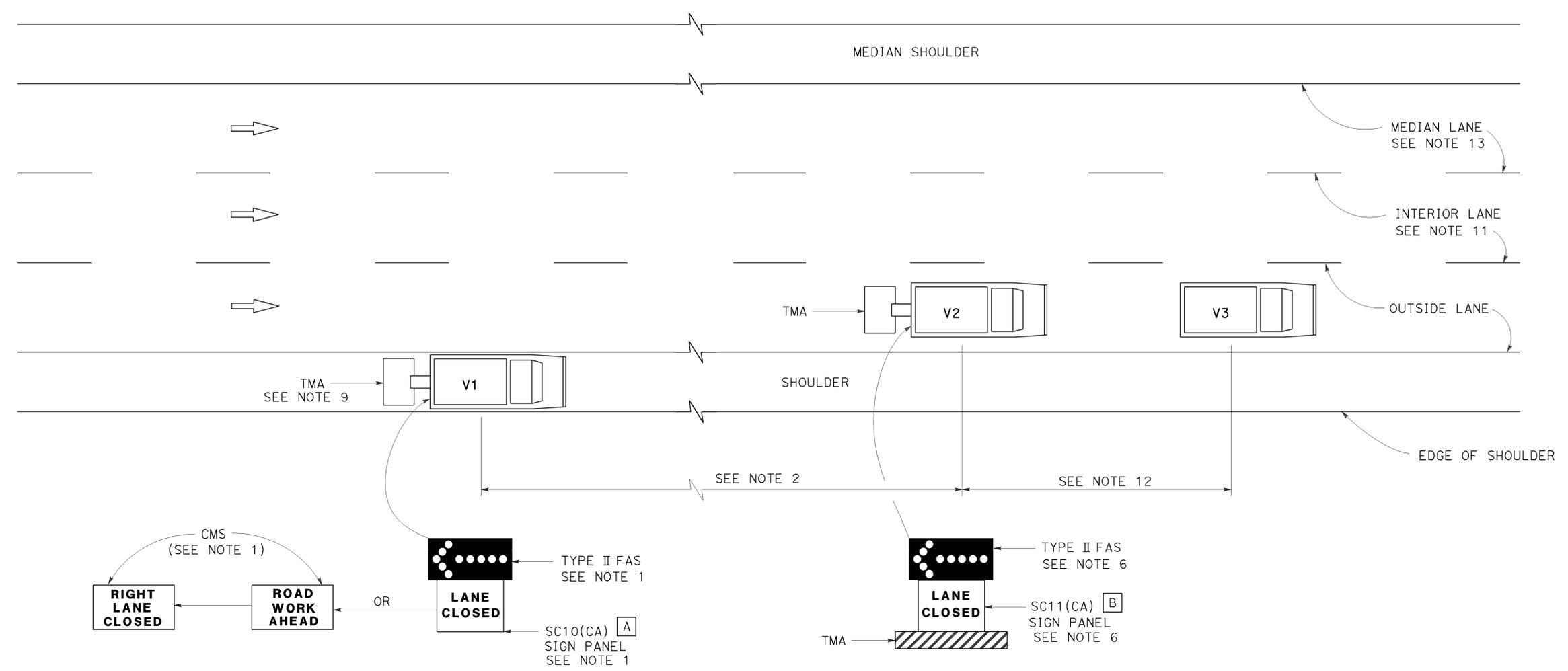
NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T14



TO ACCOMPANY PLANS DATED 9-14-15



SIGN PANEL SIZE (Min)

- A 66" x 36"
- B 54" x 42"

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
-  FLASHING ARROW SIGN (FAS)
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

MOVING LANE CLOSURE ON MEDIAN LANE OR OUTSIDE LANE OF MULTILANE HIGHWAYS

NOTES:

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15 DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

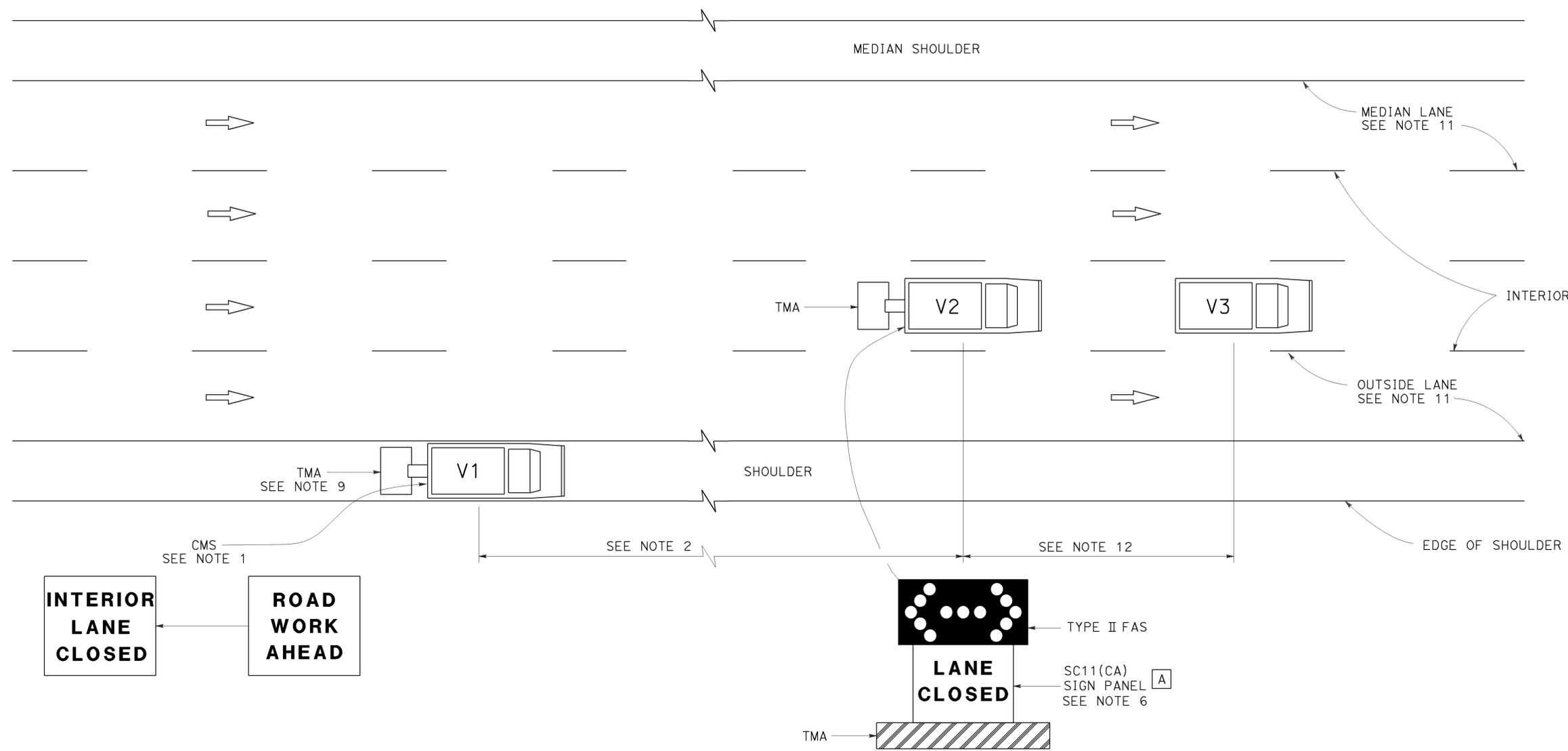
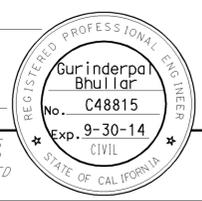
REVISED STANDARD PLAN RSP T15

2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R23.6/25.3	33	33

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 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.

TO ACCOMPANY PLANS DATED 9-14-15



SIGN PANEL SIZE (Min)

[A] 54" x 42"

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
-  FLASHING ARROW SIGN (FAS) IN FLASHING DOUBLE ARROW MODE
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR MOVING LANE CLOSURE
 ON MULTILANE HIGHWAYS**
 NO SCALE

RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16
 DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T16

2010 REVISED STANDARD PLAN RSP T16