

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.

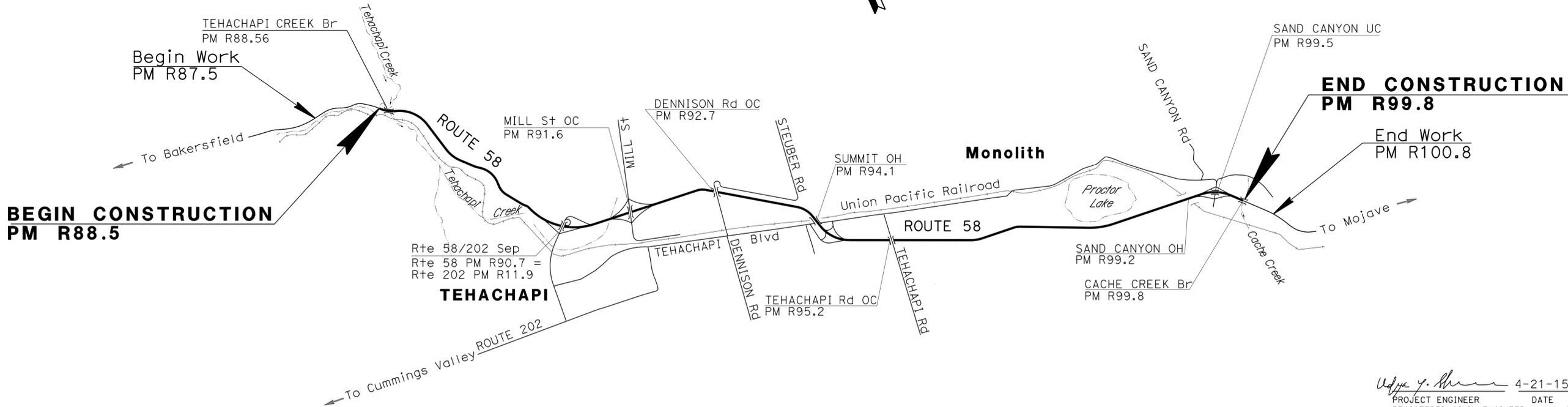
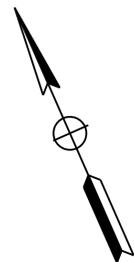
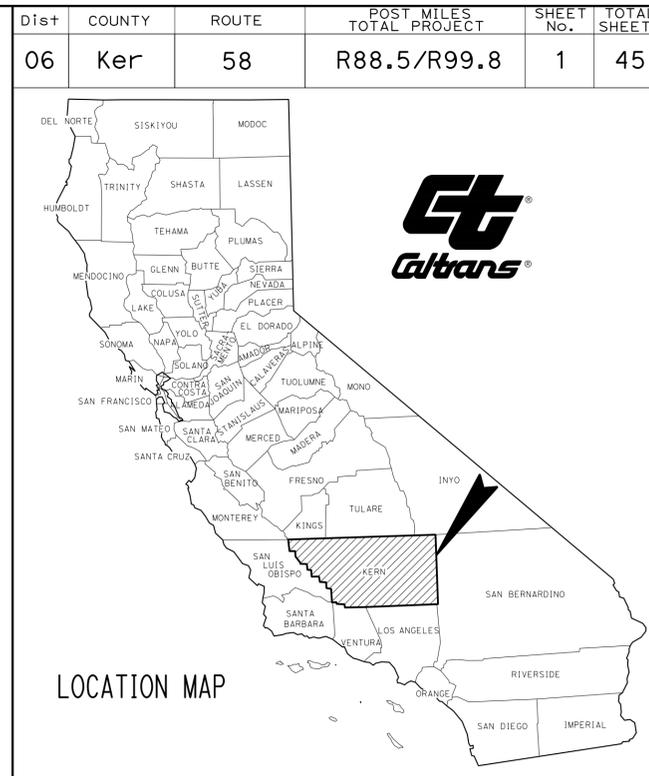
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ACNHP - P058(124)E

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN KERN COUNTY IN AND NEAR TEHACHAPI FROM
0.1 MILE WEST OF TEHACHAPI CREEK BRIDGE
TO CACHE CREEK BRIDGE

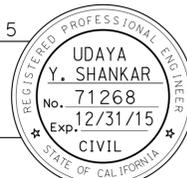


NO SCALE

PROJECT MANAGER
MINERVA RODRIGUEZ

DESIGN MANAGER
GURBHAY BRAR

Udaya Y. Shankar 4-21-15
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER



May 4, 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.	06-OR1504
PROJECT ID	0614000041

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

DATE PLOTTED => 22-JUN-2015
TIME PLOTTED => 12:58
04-21-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	2	45

REGISTERED CIVIL ENGINEER	DATE
UDAYA Y. SHANKAR	4-21-15
No. 71268	
Exp. 12/31/15	
CIVIL	

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NOTES:

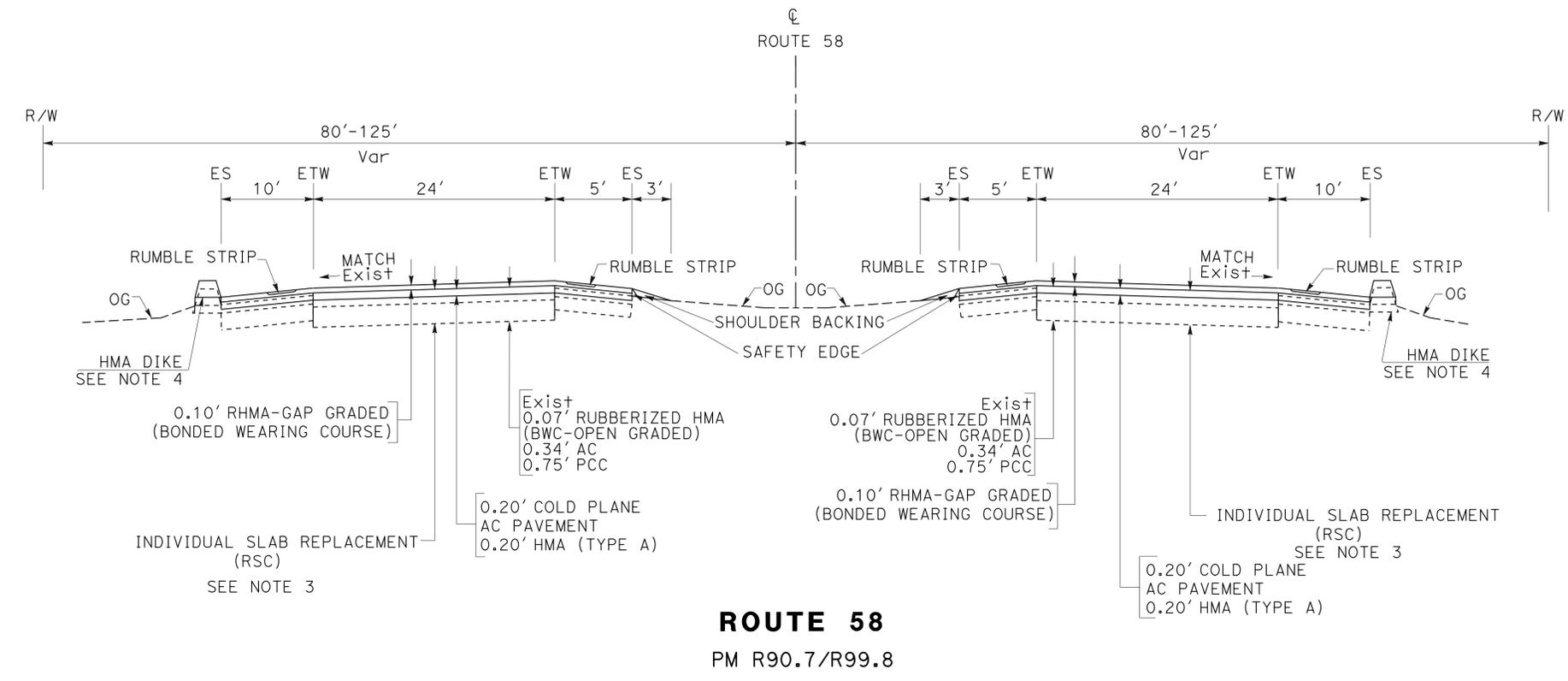
1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER
3. FOR LOCATIONS AND QUANTITIES OF INDIVIDUAL SLAB REPLACEMENT (RAPID STRENGTH CONCRETE) AND HMA (TYPE A) SEE SHEET Q-3 AND FOR CONSTRUCTION DETAILS SEE SHEET C-1
4. FOR LOCATIONS AND QUANTITIES HMA DIKE SEE SHEET Q-2

ABBREVIATIONS:

BWC - BONDED WEARING COURSE
RSC - RAPID STRENGTH CONCRETE

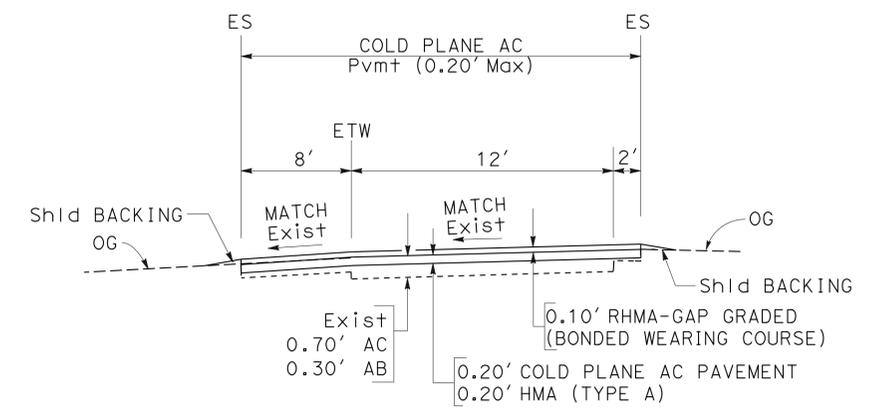
PAVEMENT CLIMATE REGION

INLAND VALLEY

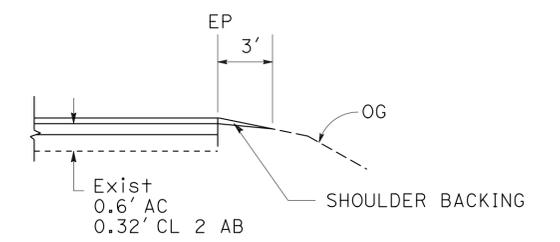


ROUTE 58

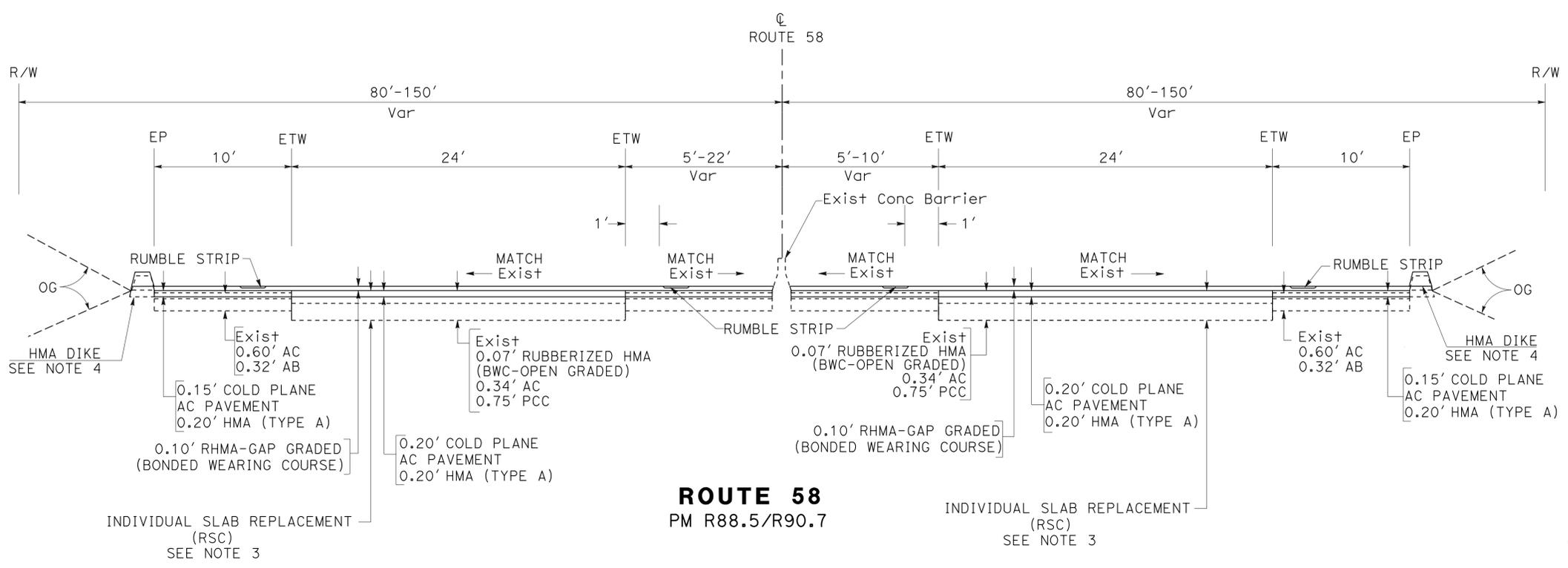
PM R90.7/R99.8



EB AND WB ON, OFF RAMPs AT Rte 202, MILL St and SUMMIT OH



Typ Shld BACKING DETAIL FOR INSIDE AND OUTSIDE Shld



ROUTE 58

PM R88.5/R90.7

TYPICAL CROSS SECTIONS X-1

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: GURBHAY BRAR
 CALCULATED/DESIGNED BY: GURDEEP BRAR
 CHECKED BY: UDAYA SHANKAR
 REVISED BY: [] DATE REVISED: []

USERNAME => s119704
DGN FILE => 0614000041ca001.dgn



UNIT 1437

PROJECT NUMBER & PHASE

06140000411

LAST REVISION: DATE PLOTTED => 22-JUN-2015
 04-21-15 TIME PLOTTED => 12:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	3	45

Udaya Y. Shankar 4-21-15
 REGISTERED CIVIL ENGINEER DATE
 5-4-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 UDAYA Y. SHANKAR
 No. 71268
 Exp. 12/31/15
 CIVIL
 STATE OF CALIFORNIA

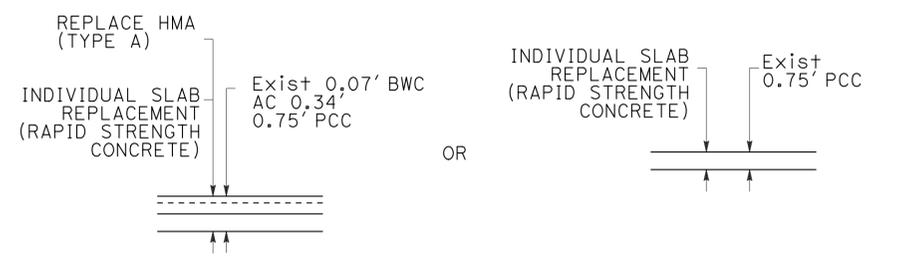
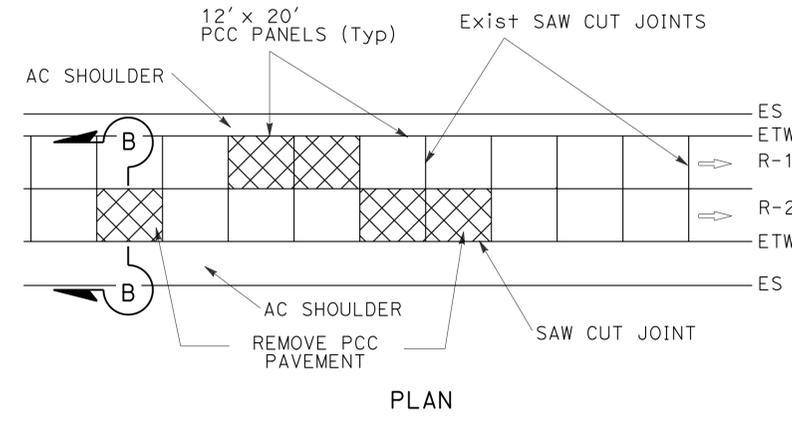
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND:

-  FAILED AREAS
-  COLD PLANE AC Pvm+ (0.10' Max)
-  SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)

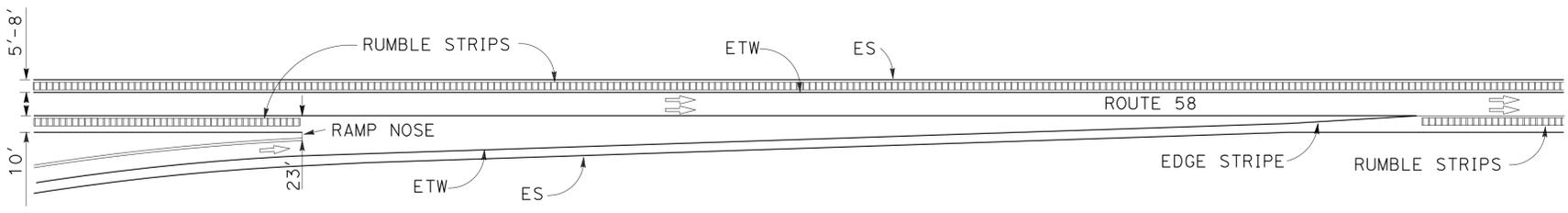
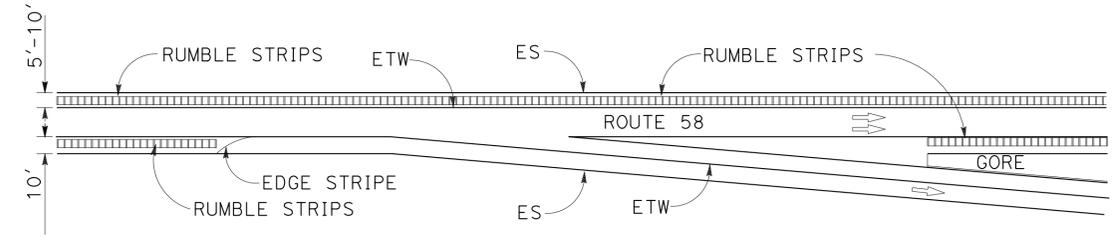
ABBREVIATIONS:

BWC - BONDED WEARING COURSE



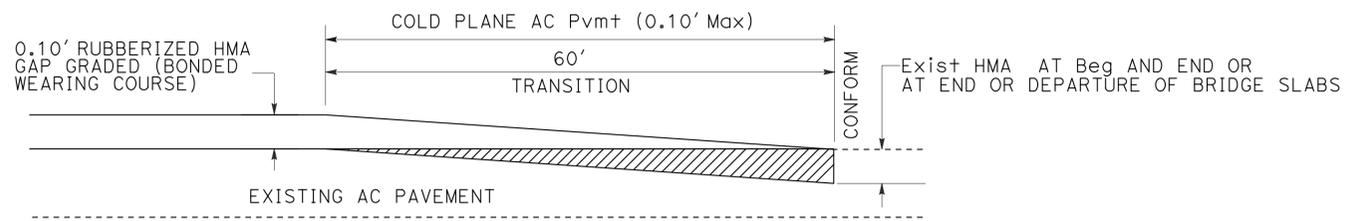
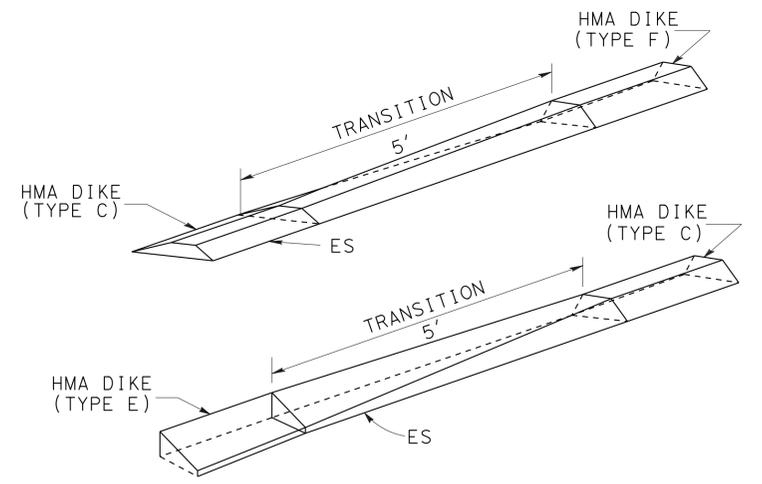
REPAIR FAILED AREAS DETAIL

NOTE: FOR LOCATIONS SEE SHEET Q-3



TYPICAL ON RAMP RUMBLE STRIP

NOTE: FOR ADDITIONAL RUMBLE STRIP DETAILS SEE S+D PLANS, A40B



CONSTRUCTION DETAILS

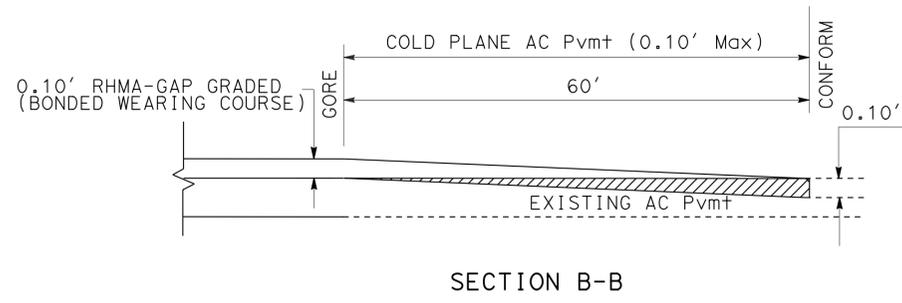
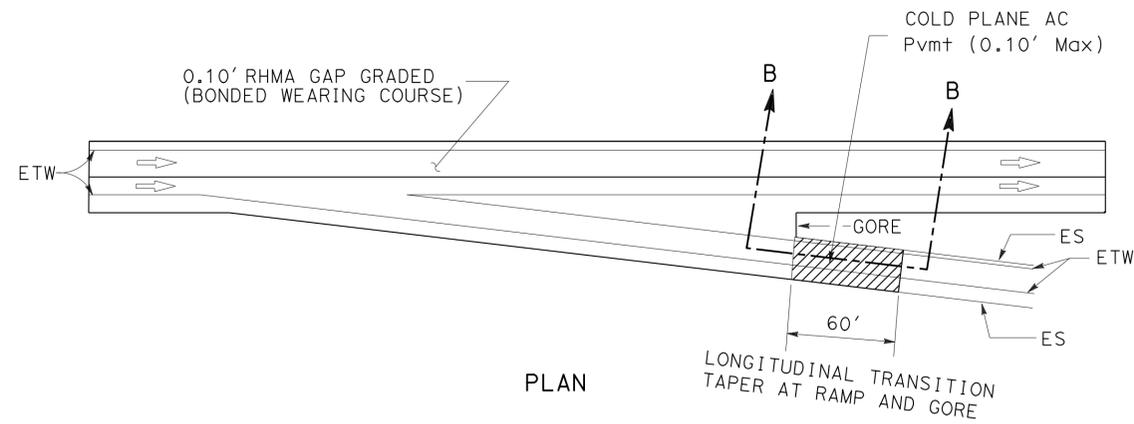
NO SCALE **C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 GURDEEP BRAR
 UDAYA SHANKAR
 GURBHAY BRAR
 GURDEEP BRAR
 UDAYA SHANKAR
 GURBHAY BRAR

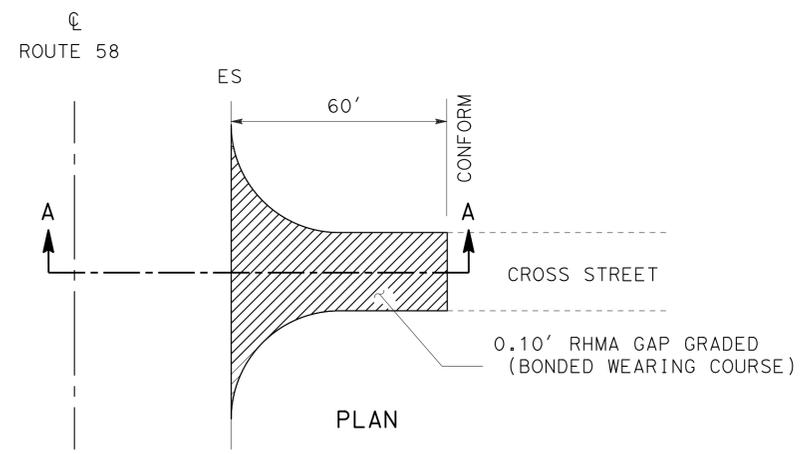
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	4	45

Udaya Y. Shankar 4-21-15
 REGISTERED CIVIL ENGINEER DATE
 5-4-15
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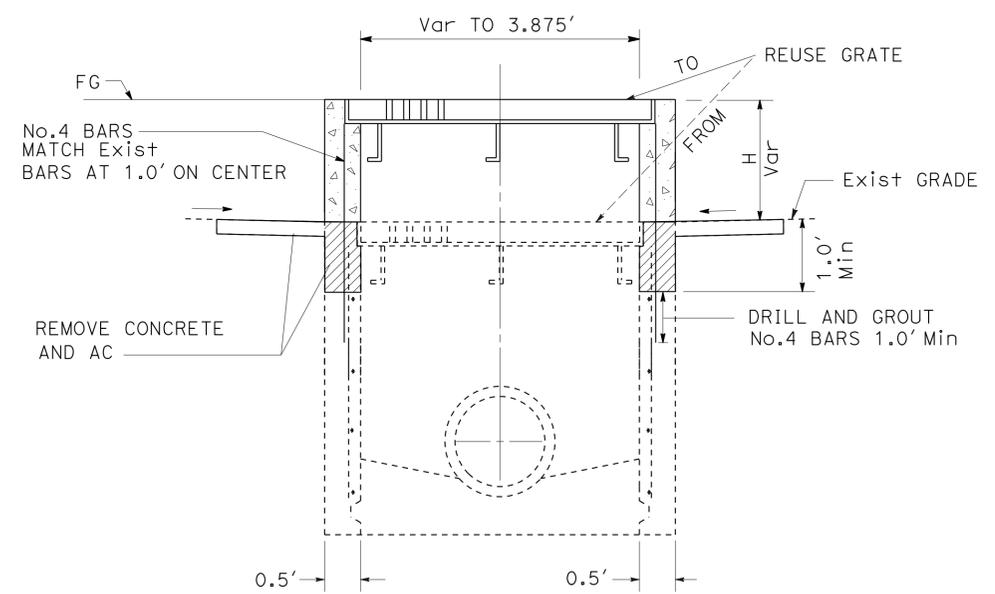
REGISTERED PROFESSIONAL ENGINEER
 UDAYA Y. SHANKAR
 No. 71268
 Exp. 12/31/15
 CIVIL
 STATE OF CALIFORNIA



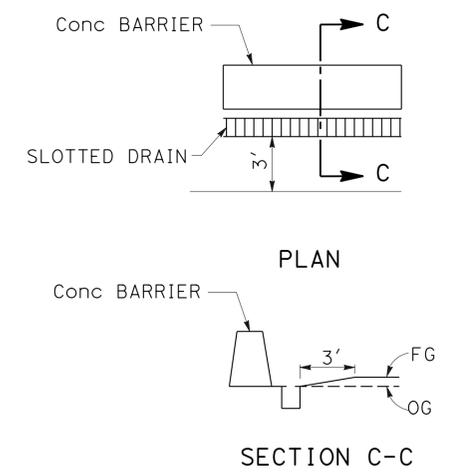
TRANSITION DETAIL AT RAMP (SAND CANYON)
(OFF-RAMP SHOWN, ON-RAMP SIMILAR)



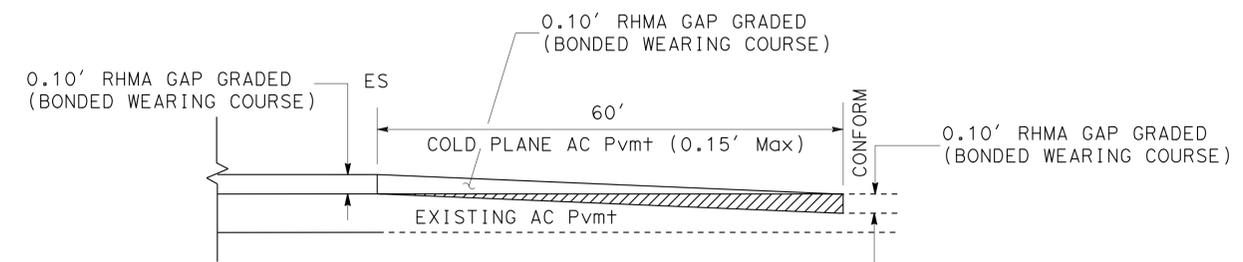
TYPICAL TRANSITION TAPER AT ROAD CONNECTION FROM BEGIN AND END OF RAMPS



ADJUST INLET TO GRADE



TRANSITION AT SLOTTED DRAIN
(BETWEEN PM R88.5 AND R90.5)



SECTION A-A

CONSTRUCTION DETAILS
NO SCALE
C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: GURBHAY BRAR
 CALCULATED/DESIGNED BY: UDAYA SHANKAR
 CHECKED BY: WEI-LUNG CHANG
 REVISED BY: UDAYA SHANKAR
 DATE REVISED: WEI-LUNG CHANG

**STATIONARY MOUNTED
CONSTRUCTION AREA SIGNS**

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
A	W20-1	60" x 60"	ROAD WORK AHEAD	2-6" x 6"	2
B	W20-1	36" x 36"	ROAD WORK AHEAD	1-4" x 6"	7
C	W20-2	36" x 18"	END ROAD WORK	1-4" x 4"	2
D	C40(CA)	102" x 42"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2-6" x 6"	2

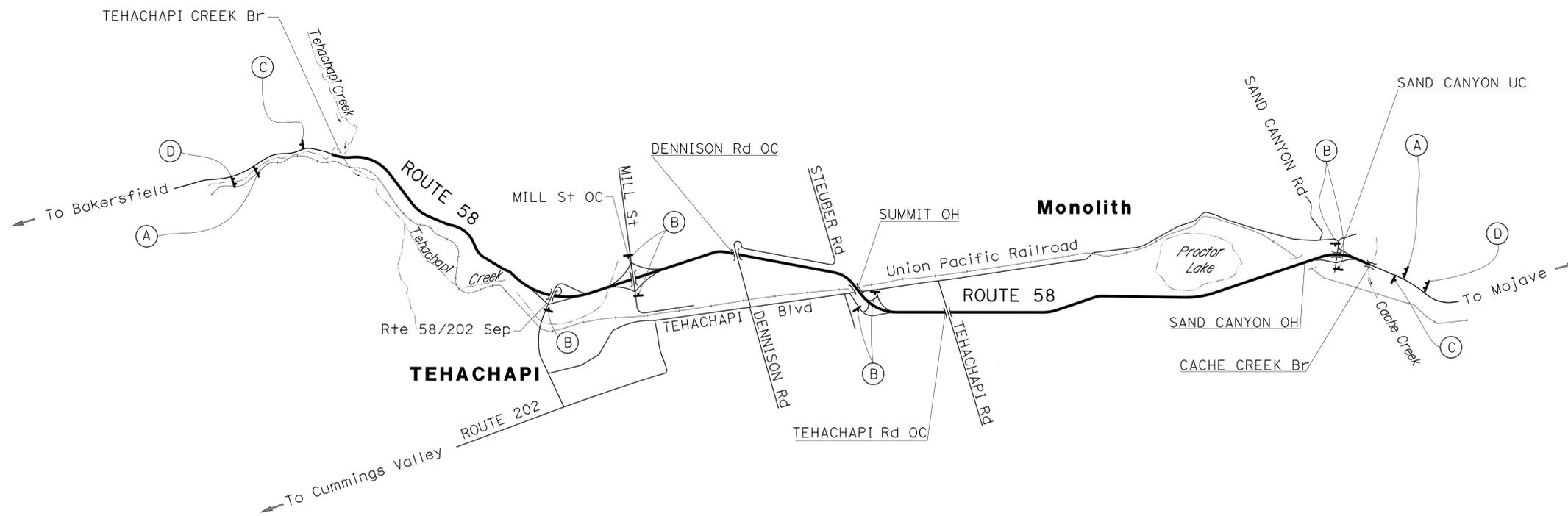
NOTES: 1. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. FOR SIGN "C40" (TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES), ALL LETTERS MUST BE BLACK ON WHITE BACKGROUND.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	5	45

9/21/15 - ALI 3-2-15
 REGISTERED CIVIL ENGINEER DATE
 5-4-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 MAZIN H. AL-ALI
 No. 65523
 Exp. 9/30/15
 CIVIL
 STATE OF CALIFORNIA

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



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

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

PAVEMENT DELINEATION QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	6	45

MAZIN H. AL-ALI 3-2-15
 REGISTERED CIVIL ENGINEER DATE

5-4-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
MAZIN H. AL-ALI
 No. 65523
 Exp. 9/30/15
 CIVIL
 STATE OF CALIFORNIA

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ROUTE	LOCATION		DIRECTION	DETAIL No.	PAVEMENT MARKER (RETROREFLECTIVE-RECESSED)				THERMOPLASTIC TRAFFIC STRIPE					THERMOPLASTIC PAVEMENT MARKING		
					TYPE C	TYPE D	TYPE G	TYPE H	SOLID YELLOW	SOLID WHITE	SOLID WHITE	(BROKEN 36-12)	(BROKEN 17-7)			
									EA	EA	EA	EA	4" LF	4" LF	8" LF	4" LF
FROM	TO															
58	PM R88.5	PM R99.8	EB	12			1,244						59,664	2-TYPE V ARROWS	66	
58	PM R88.5	PM R99.8	EB	27B						59,664				1-LIMIT LINE	60	
58	PM R88.5	PM R99.8	EB	25				1,244		59,664				3-STOP	66	
58	PM R88.5	PM R99.8	WB	12			1,244					59,664		1-AHEAD	31	
58	PM R88.5	PM R99.8	WB	27B						59,664						
58	PM R88.5	PM R99.8	WB	25				1,244		59,664						
58/202 Sep EB OFF-RAMP			EB	14A	4							600	144			
			EB	36			26									
			EB	25A				45	1,050							
			EB	27B						1,350						
			EB	38A							100					
58/202 Sep EB ON-RAMP			EB	25A				54	1,271					1-TYPE I ARROW (24')	31	
			EB	27B						1,471						
			EB	36A			18				400					
			EB	8								100				
58/202 Sep WB OFF-RAMP			WB	14A	4							700	144	2-TYPE V ARROWS	66	
			WB	36			30									
			WB	25A				40	950			1,144				
			WB	27B							1,300			1-TYPE I ARROW (24')	31	
58/202 Sep WB ON-RAMP			WB	25A				47	1,100							
			WB	27B							1,300					
			WB	36A			18					400				
			WB	8									200			
58/MILL St OC EB OFF-RAMP			EB	14A	4								144	2-TYPE V ARROWS	66	
			EB	36			22				500			1-LIMIT LINE	60	
			EB	25A				43	1,000					3-STOP	66	
			EB	27B							1,250			1-AHEAD	31	
			EB	38A								150				
58/MILL St OC EB ON-RAMP			EB	25A				57	1,350					1-TYPE I ARROW (24')	31	
			EB	27B						1,550						
			EB	36A			18					400				
			EB	8									150			
58/MILL St OC WB OFF-RAMP			WB	14A	4								144	2-TYPE V ARROWS	66	
			WB	36			25					540		1-LIMIT LINE	60	
			WB	25A				49	1,150					3-STOP	66	
			WB	27B							1,420			1-AHEAD	31	
			WB	38A								150				
58/MILL St OC WB ON-RAMP			WB	25A				51	1,200					1-TYPE I ARROW (24')	31	
			WB	27B						1,400						
			WB	36A			18					400				
			WB	8									200			
58/SUMMIT OH WB OFF-RAMP			WB	14A	4								144	2-TYPE V ARROWS	66	
			WB	36			25					540		1-LIMIT LINE	60	
			WB	25A				51	1,200					2-STOP	44	
			WB	27B						1,400				1-AHEAD	31	
			WB	27B							1,300					
58/SUMMIT OH WB ON-RAMP			WB	36A			26					600				
			WB	8									200			
			WB	14A	4									2-TYPE V ARROWS	66	
			WB	36			25						540	1-LIMIT LINE	30	
			WB	22			93		1,100					2-STOP	44	
58/SUMMIT OH EB OFF-RAMP			EB	27B						1,800				1-AHEAD	31	
			EB	25A				65	1,450							
			EB	38A							150					
			EB	25A			35							1-TYPE I ARROW (24')	31	
			EB	27B						2,600						
58/SUMMIT OH EB ON RAMP			EB	36A			26					600				
			EB	8									300			
			EB	8												
SUBTOTAL							24	93	2,800	3,024	132,949	137,313	6,770	120,192	1,150	1,293
TOTAL								5,941			270,262	6,770	120,192	1,150		1,293

DELINEATOR (CLASS 1)

LOCATION	CLASS 1	
	TYPE	EACH
PM R96.00 TO PM R99.8	I	10
TOTAL		10

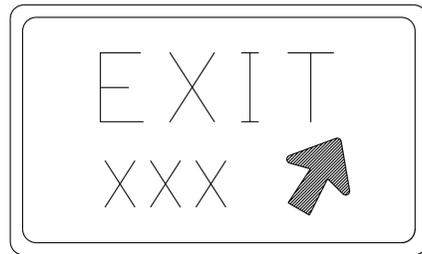
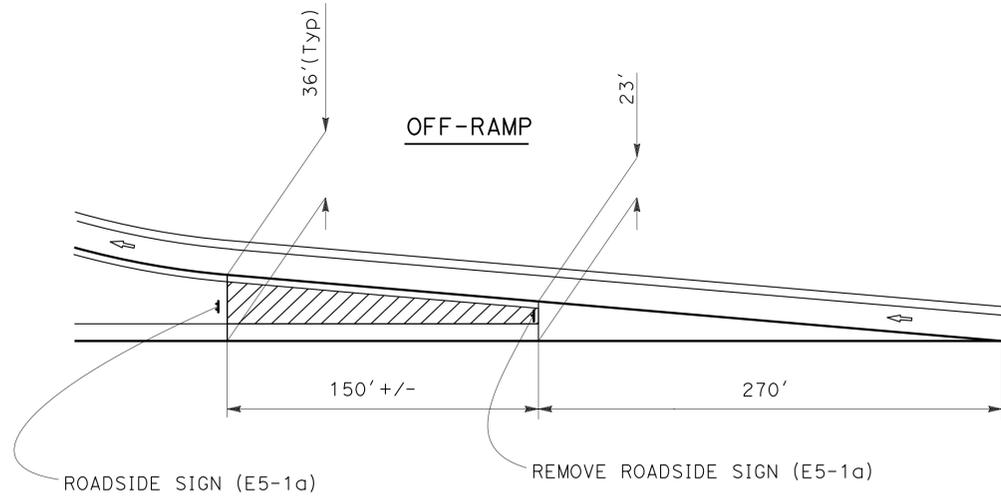
PAVEMENT DELINEATION QUANTITIES

PDQ-1

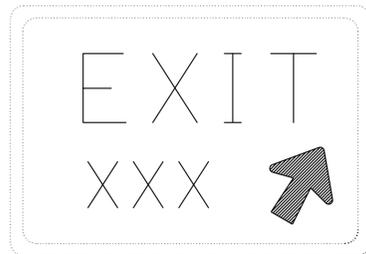
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	7	45

9(A) - ALI 3-2-15
 REGISTERED CIVIL ENGINEER DATE
 5-4-15
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12" LETTERS
 18" NUMERALS
 60" x 90"



SIGN QUANTITIES

APPROXIMATE LOCATION PM	ORIENTATION	SIGN CODE	SIGN MESSAGE	No. OF POST AND SIZE		BACKGROUND		LEGEND		PREMIUM GRAFFITI FILM	RETROREFLECTIVE SHEETING (TYPE XI) SQFT	FURNISH SINGLE SHEET ALUMINUM SIGN (0.080"-FRAMED) FOR RETROREFLECTIVE SHEETING(TYPE XI) SQFT	ROADSIDE SIGN - TWO POST EA	REMOVE ROADSIDE SIGN EA	RESET ROADSIDE SIGN (ONE POST) EA	TREATED WOOD WASTE LB
				EA-INCHES	INCHES	SHEETING COLOR	RETROREFLECTIVITY ASTM TYPE	SHEETING COLOR	RETROREFLECTIVITY ASTM TYPE							
R90.54	FEBT	E5-1a	EXIT 148 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R91.47	FEBT	E5-1a	EXIT 149 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R94.26	FEBT	E5-1a	EXIT 151 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R99.33	FEBT	E5-1a	EXIT 156 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R90.99	FWBT	E5-1a	EXIT 148 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R91.90	FWBT	E5-1a	EXIT 149 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R95.08	FWBT	E5-1a	EXIT 151 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R100.26	FWBT	E5-1a	EXIT 156 WITH ARROW	2 - 6 x 6	60 x 90	GREEN	XI	WHITE	XI	X	37.5	37.5	1	1		68.6
R90.00	FWBT	W7-1b, W7-3a													1	
TOTAL											300.0	300.0	8	8	1	548.8*

* QUANTITY INCLUDED IN Q SHEET

SIGN DETAILS AND QUANTITIES

NO SCALE

SQ-1

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

FUNCTIONAL SUPERVISOR: MOHAMMED QATAMI

DESIGNED BY: SARAH LESNIKOWSKI

CHECKED BY: MAZIN AL ALI

REVISIONS: REVISED BY: DATE

REVISOR BY
 UDAYA SHANKAR
 DATE REVISION
 GURDEEP BRAR

CALCULATED-DESIGNED BY
 UDAYA SHANKAR
 CHECKED BY
 GURDEEP BRAR

FUNCTIONAL SUPERVISOR
 GURBHAY BRAR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	8	45

Udaya Y. Shankar 4-21-15
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 No. 71268
 Exp. 12/31/15
 CIVIL
 STATE OF CALIFORNIA

5-4-15
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ROADWAY QUANTITIES SUMMARY

LOCATION * PM TO PM	DIRECTION	LANE No. MEDIAN OR SHOULDERS	COLD PLANE ASPHALT CONCRETE PAVEMENT	HOT MIX ASPHALT (TYPE A)	RHMA-GAP GRADED (BONDED WEARING COURSE) **	TACK COAT	ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE)	SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)	SHOULDER BACKING	INDIVIDUAL SLAB REPLACEMENT (RSC)	PLACE HMA (MISC AREA)
			SQYD	TON	TON	TON	TON	STA	TON	CY	SQYD
R88.50 TO R90.30	EB	1 & 2 & SHOULDERS	43,824	5,916	2,958	20.08	36.51	1,122			
R90.30 TO R90.68	EB	1 & 2 & SHOULDERS	8,695	1,174	587	3.99	7.26				
R90.72 TO R92.72	EB	1 & 2 & SHOULDERS	45,760	6,178	3,089	20.96	38.11				
R92.82 TO R94.12	EB	1 & 2 & SHOULDERS	29,744	4,015	2,008	13.64	24.80				
R94.26 TO R99.23	EB	1 & 2 & SHOULDERS	113,714	15,351	7,676	52.12	94.77				
R99.36 TO R99.45	EB	1 & 2 & SHOULDERS	2,059	278	139	0.94	1.71				
R99.54 TO R99.78	EB	1 & 2 & SHOULDERS	5,491	741	371	2.51	4.57				
R88.50 TO R90.30	WB	1 & 2 & SHOULDERS	43,824	5,916	2,958	20.08	36.51	1,127			
R90.30 TO R90.67	WB	1, 2, MEDIAN & SHOULDERS	12,156	1,641	821	5.58	10.14				
R90.78 TO R92.72	WB	1 & 2 & SHOULDERS	44,387	5,992	2,996	20.35	37.00				
R92.77 TO R94.11	WB	1 & 2 & SHOULDERS	30,659	4,139	2,070	14.05	25.54				
R94.25 TO R99.21	WB	1 & 2 & SHOULDERS	113,485	15,320	7,660	52.01	94.57				
R99.35 TO R99.45	WB	1 & 2 & SHOULDERS	2,288	309	155	1.05	1.91				
R99.55 TO R99.77	WB	1 & 2 & SHOULDERS	5,033	680	340	2.31	4.20				
ROUTE 202 ON & OFF-RAMPS	EB & WB		13,718	1,852	926	6.28	11.43				
MILL S+ ON & OFF-RAMPS	EB & WB		15,688	2,118	1,059	7.20	13.09				
TEHACHAPI Blvd ON & OFF-RAMPS	EB & WB		16,561	2,236	1,118	7.59	13.80				
DRAINAGE QUANTITIES FROM SHEET Q-4				8.2							123.25
HMA DIKES FROM SHEET Q-2				305.93							
INDIVIDUAL SLAB REPLACEMENT (RSC) REPAIR FAILED AREAS FROM SHEET Q-3				1,630.98						1,994.37	
COLD PLANE AC AT TRANSITION TAPER FROM SHEET Q-3			10,938								
SHOULDER BACKING FROM SHEET Q-2									3,600		
TOTAL			558,024	75,801.11	36,931	250.74	455.92	2,249	3,600	1,994.37	123.25

* APPROXIMATE LOCATIONS ONLY. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 ** SAFETY EDGE QUANTITIES ARE INCLUDED

ABBREVIATION:

RSC - RAPID STRENGTH CONCRETE

SUMMARY OF QUANTITIES Q-1

HMA DIKES

LOCATION	REMOVE AC DIKE	PLACE HMA DIKE (TYPE A)	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE F)	PLACE HMA DIKE (TYPE E)	* HMA TYPE (A)
	LF	LF	LF	LF	LF	TON
EB PM R88.500 TO R88.537	195	195				1.30
EB PM R88.580 TO R88.710	687				687	4.41
EB PM R88.722 TO R88.803	424				424	2.72
EB PM R88.172 TO R89.176	21				21	0.13
EB PM R89.301 TO R89.491	1,003			1,003		3.27
EB PM R89.515 TO R89.593	412	412				2.75
EB PM R89.633 TO R89.660	142	142				0.95
EB PM R89.660 TO R90.051	2,065	935		325	805	12.47
EB PM R90.186 TO R90.279	491				491	3.16
EB PM R90.560 TO R90.842	1,490	1,490				9.94
EB PM R91.000 TO R91.073	385				385	2.47
EB PM R91.269 TO R91.438	892				892	5.73
EB PM R92.948 TO R94.140	6,294		62		6,232	40.16
EB PM R94.673 TO R94.762	470				470	3.02
EB PM R96.413 TO R96.501	465				465	2.99
EB PM R96.953 TO R97.170	1,146				1,146	7.36
EB PM R97.359 TO R97.720	1,907				1,907	12.25
EB PM R97.829 TO R98.270	2,328	2,328				15.54
EB PM R98.348 TO R98.603	1,346				1,346	8.65
EB PM R98.719 TO R98.842	650				650	4.18
EB PM R99.090 TO R99.264	919				919	5.91
EB PM R99.343 TO R99.458	607				607	3.90
EB PM R99.505 TO R99.622	618				618	3.97
WB PM R88.500 TO R88.557	300				300	1.93
WB PM R88.577 TO R88.693	612				612	3.93
WB PM R88.753 TO R88.814	322	322				2.15
WB PM R88.846 TO R89.017	903				903	5.80
WB PM R89.040 TO R89.943	4,768		211	950	3,607	26.67
WB PM R89.892 TO R89.962	370	370				2.47
WB PM R90.047 TO R90.115	360	360				2.40
WB PM R90.651 TO R90.737	454				454	2.92
WB PM R90.753 TO R90942	998				998	6.41
WB PM R91.084 TO R91.403	1,684	1,684				11.24
WB PM R93.935 TO R94.086	797	797				5.32
WB PM R94.646 TO R94.906	1,372				1,372	8.82
WB PM R96.333 TO R96.848	2,720				2,720	17.48
WB PM R97.247 TO R97.536	1,525				1,525	9.80
WB PM R98.166 TO R98.908	3,918				3,918	25.18
WB PM R98.977 TO R99.168	1,008				1,008	6.48
WB PM R99.494 TO R99.780	1,510				1,510	9.70
TOTAL	48,578	9,035	273	2,278	36,992	305.93

* QUANTITY IS INCLUDED IN ROADWAY QUANTITIES SUMMARY SHEET Q-1.

SHOULDER BACKING

EASTBOUND AND WESTBOUND		
** LOCATION PM TO PM	SHOULDER	SHOULDER BACKING TON
R88.5 TO R99.8	OUTSIDE	1,492
R90.7 TO R99.8	INSIDE	2,108
TOTAL		*3,600

** APPROXIMATE LOCATIONS ONLY, EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

* QUANTITY IS INCLUDED IN ROADWAY QUANTITIES SUMMARY SHEET Q-1.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	9	45

4-21-15
REGISTERED CIVIL ENGINEER DATE

5-4-15
PLANS APPROVAL DATE

UDAYA Y. SHANKAR
No. 71268
Exp. 12/31/15
CIVIL

REGISTERED PROFESSIONAL ENGINEER
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.

GUARDRAIL QUANTITIES

LOCATION	LAYOUT TYPE	GUARDRAIL QUANTITIES								
		MIDWEST GUARDRAIL SYSTEM (STEEL POST)	REMOVE GUARDRAIL	REMOVE** TRANSITION RAILING	END ANCHOR ASSEMBLY (TYPE SFT)	TRANSITION RAILING (TYPE WB-31)	END ANCHOR ASSEMBLY (TYPE CA)	BURIED POST END ANCHOR (N)		
		LF	LF	LF	EA	EA	EA	EA		
EASTBOUND LOCATIONS *										
TEHACHAPI CREEK Br APPROACH PM R88.554 TO PM R88.573	R+	12D	75	100	25		1	1		
PM R88.803 TO PM R89.172	R+	16B	1,950	1,950		2				
PM R89.180 TO PM R89.515	R+	12B	1,800	1,800		2				
PM R89.593 TO PM R89.633	R+	16B	225	225		1				1
PM R89.660 TO PM R89.723	R+	12D	325	325						1
PM R99.255 TO PM R99.266 SAND CANYON OH	R+	12D	37.5	62.5	25		1			
PM R99.244 TO PM R99.254 SAND CANYON OH MEDIAN	R+		37.5	62.5	25		1			
SUBTOTAL				4,525	75	5	3	1		
WESTBOUND LOCATIONS *										
TEHACHAPI CREEK Br APPROACH PM R88.565 TO PM R88.577	L+	12B	37.5	62.5	25	1	1			
PM R89.114 TO PM R89.126	L+	16B	37.5	62.5	25	1	1			
PM R89.337 TO PM R89.508	L+	12B	900	900				1	1	
PM R89.832 TO PM R89.879	L+	16B	250	250						2
PM R89.943 TO PM R90.053	L+	12B	587.5	587.5						2
PM R90.109 TO PM R90.242	L+	12B	662.5	662.5				1	1	
PM R93.792 TO PM R93.934	L+	16B	725	725		1				1
PM R99.289 TO PM R99.299 SAND CANYON OH	L+	16B	37.5	62.5	25		1			
PM R99.287 TO PM R99.298 SAND CANYON OH MEDIAN	L+	12B	37.5	62.5	25		1			
SUBTOTAL				3,375	100	3	4	2		
TOTAL			7,725	7,900		8	7	3		

* APPROXIMATE LOCATIONS ONLY, EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

** QUANTITY INCLUDED IN THE REMOVE GUARDRAIL ITEM.

SUMMARY OF QUANTITIES Q-2

COLD PLANE AC PAVEMENT AT TRANSITION TAPER

LOCATION	COLD PLANE AC Pvm† (0.10' Max)	LOCATION	COLD PLANE AC Pvm† (0.10' Max)
	SQYD		SQYD
EB PM R88.50	277	WB PM R94.11	260
EB PM R90.68	260	WB PM R94.25	260
EB PM R90.72	260	WB PM R99.21	260
EB PM R92.72	260	WB PM R99.35	260
EB PM R92.82	260	WB PM R99.45	260
EB PM R94.12	260	WB PM R99.55	260
EB PM R94.26	260	WB PM R99.77	260
EB PM R99.23	260	EB ROUTE 202 OFF-RAMP	315
EB PM R99.36	260	EB ROUTE 202 ON-RAMP	320
EB PM R99.45	260	WB ROUTE 202 OFF-RAMP	145
EB PM R99.54	260	WB ROUTE 202 ON-RAMP	145
EB PM R99.78	260	EB MILL S+ OFF-RAMP	522
WB PM R88.50	277	EB MILL S+ ON-RAMP	412
WB PM R90.67	373	WB MILL S+ OFF-RAMP	360
WB PM R90.78	260	WB MILL S+ ON-RAMP	356
WB PM R92.72	260	EB TEHACHAPI Blvd ON & OFF-RAMP	454
WB PM R92.77	260	WB TEHACHAPI Blvd ON & OFF-RAMP	935
		EB & WB SAND CANYON ON & OFF-RAMP	587
SUBTOTAL	4,567	SUBTOTAL	6,371
* TOTAL			10,938

* QUANTITIES ARE INCLUDED IN ROADWAY QUANTITY SUMMARY SHEET Q-1.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	10	45

Udaya Y. Shankar 4-21-15
REGISTERED CIVIL ENGINEER DATE

5-4-15
PLANS APPROVAL DATE

UDAYA Y. SHANKAR
No. 71268
Exp. 12/31/15
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.

DRILL AND BOND (DOWEL BAR)

EASTBOUND AND WESTBOUND	
LOCATION	DOWEL BAR
	EA
WESTBOUND BETWEEN PM R90.60 TO R96.9	360
EASTBOUND BETWEEN PM R88.80 TO R98.8	2,760
TOTAL	3,120

INDIVIDUAL SLAB REPLACEMENT (RSC) REPAIR FAILED AREAS **

WESTBOUND					EASTBOUND																			
LOCATION	LANE No.	LENGTH OF PANEL (S)(N)	RSC	HMA * (TYPE A)	LOCATION	LANE No.	LENGTH OF PANEL (S)(N)	RSC	HMA * (TYPE A)	LOCATION	LANE No.	LENGTH OF PANEL (S)(N)	RSC	HMA * (TYPE A)	LOCATION	LANE No.	LENGTH OF PANEL (S)(N)	RSC	HMA * (TYPE A)	LOCATION	LANE No.	LENGTH OF PANEL (S)(N)	RSC	HMA * (TYPE A)
PM		FT	CY	TON	PM		FT	CY	TON	PM		FT	CY	TON	PM		FT	CY	TON	PM		FT	CY	TON
R90.675	1&2	60	40.02		R88.875	2	20	6.67	7.38	R94.950	2	100	33.35	36.90	R96.045	2	20	6.67	7.38	R97.344	2	40	13.34	14.76
R90.695	1&2	60	40.02		R89.015	2	20	6.67	7.38	R94.967	2	60	20.01	22.14	R96.145	2	40	13.34	14.76	R97.362	2	20	6.67	7.38
R90.735	1&2	60	40.02		R89.441	2	20	6.67	7.38	R95.000	2	80	26.68	29.52	R96.165	2	40	13.34	14.76	R97.373	2	20	6.67	7.38
R90.750	1&2	40	26.68	29.52	R90.680	1&2	40	26.68		R95.100	2	20	6.67	7.38	R96.212	2	40	13.34	14.76	R97.384	2	20	6.67	7.38
R90.794	1&2	40	26.68	29.52	R90.695	1&2	40	26.68		R95.136	2	40	13.34	14.76	R96.438	2	20	6.67	7.38	R97.433	2	20	6.67	7.38
R91.765	2	20	6.67	7.38	R90.700	1&2	40	26.68		R95.162	2	40	13.34	14.76	R96.455	2	80	26.68	29.52	R97.438	2	20	6.67	7.38
R91.716	2	20	6.67	7.38	R90.710	1&2	40	26.68		R95.221	2	40	13.34	14.76	R96.503	2	20	6.67	7.38	R97.446	2	20	6.67	7.38
R91.771	2	40	13.34	14.76	R90.720	1&2	40	26.68		R95.277	2	40	13.34	14.76	R96.503	2	20	6.67	7.38	R97.559	2	60	20.01	22.14
R91.784	2	40	13.34	14.76	R91.265	2	60	20.01	22.14	R95.421	2	40	13.34	14.76	R96.540	2	60	20.01	22.14	R98.295	2	20	6.67	7.38
R92.910	2	40	13.34	14.76	R91.342	2	100	33.35	36.90	R95.449	2	40	13.34	14.76	R96.602	2	20	6.67	7.38	R98.295	2	20	6.67	7.38
R93.000	2	40	13.34	14.76	R91.492	2	100	33.35	36.90	R95.517	2	60	20.01	22.14	R96.644	2	60	20.01	22.14	R98.755	2	80	26.68	29.52
R94.174	2	120	40.02	44.28	R91.542	2	100	33.35	36.90	R95.582	2	60	20.01	22.14	R96.667	2	40	13.34	14.76					
R94.250	2	60	20.01	22.14	R91.542	2	100	33.35	36.90	R95.582	2	60	20.01	22.14	R96.685	2	20	6.67	7.38					
R94.797	2	20	6.67	7.38	R91.653	2	100	33.35	36.90	R95.597	2	60	20.01	22.14	R96.702	2	20	6.67	7.38					
R95.370	2	80	26.68	29.52	R91.778	2	40	13.34	14.76	R95.608	2	40	13.34	14.76	R96.744	2	20	6.67	7.38					
R95.434	2	60	20.01	22.14	R91.794	2	60	20.01	22.14	R95.622	2	40	13.34	14.76	R96.744	2	20	6.67	7.38					
R95.486	2	20	6.67	7.38	R92.800	2	40	13.34	14.76	R95.636	2	60	20.01	22.14	R96.831	2	20	6.67	7.38					
R95.510	2	40	13.34	14.76	R94.012	2	60	20.01	22.14	R95.646	2	60	20.01	22.14	R97.012	1&2	40	26.68	29.52					
R95.645	2	20	6.67	7.38	R94.056	2	60	20.01	22.14	R95.659	2	40	13.34	14.76	R97.067	2	20	6.67	7.38					
R95.847	2	20	6.67	7.38	R94.080	2	60	20.01	22.14	R95.682	2	60	20.01	22.14	R97.079	2	20	6.67	7.38					
R96.144	2	20	6.67	7.38	R94.112	1&2	100	66.71		R95.785	2	20	6.67	7.38	R97.095	2	20	6.67	7.38					
R96.167	2	20	6.67	7.38	R94.142	1&2	100	66.71		R95.795	2	20	6.67	7.38	R97.106	2	20	6.67	7.38					
R96.200	2	20	6.67	7.38	R94.180	1&2	100	66.71		R95.805	2	20	6.67	7.38	R97.131	2	20	6.67	7.38					
R96.689	2	20	6.67	7.38	R94.220	1&2	100	66.71		R95.838	2	20	6.67	7.38	R97.159	2	20	6.67	7.38					
R96.723	2	40	13.34	14.76	R94.696	2	40	13.34	14.76	R95.948	2	20	6.67	7.38	R97.196	2	20	6.67	7.38					
R96.778	2	40	13.34	14.76	R94.755	2	60	20.01	22.14	R95.956	2	20	6.67	7.38	R97.292	2	20	6.67	7.38					
R96.823	2	100	33.35	36.90	R94.799	2	60	20.01	22.14	R95.995	2	20	6.67	7.38	R97.327	2	20	6.67	7.38					
					R94.913	2	60	20.01	22.14	R96.003	2	20	6.67	7.38	R97.332	2	20	6.67	7.38					
SUBTOTAL			473.57	391.14	SUBTOTAL			753.75	391.14	SUBTOTAL			380.19	420.66	SUBTOTAL			273.47	302.58	SUBTOTAL			113.39	125.46
TOTAL			1,994.37	1,630.98																				

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
 ** APPROXIMATE LOCATIONS ONLY, EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
 * QUANTITIES ARE INCLUDED IN ROADWAY QUANTITY SUMMARY SHEET Q-1.

**SUMMARY OF QUANTITIES
Q-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

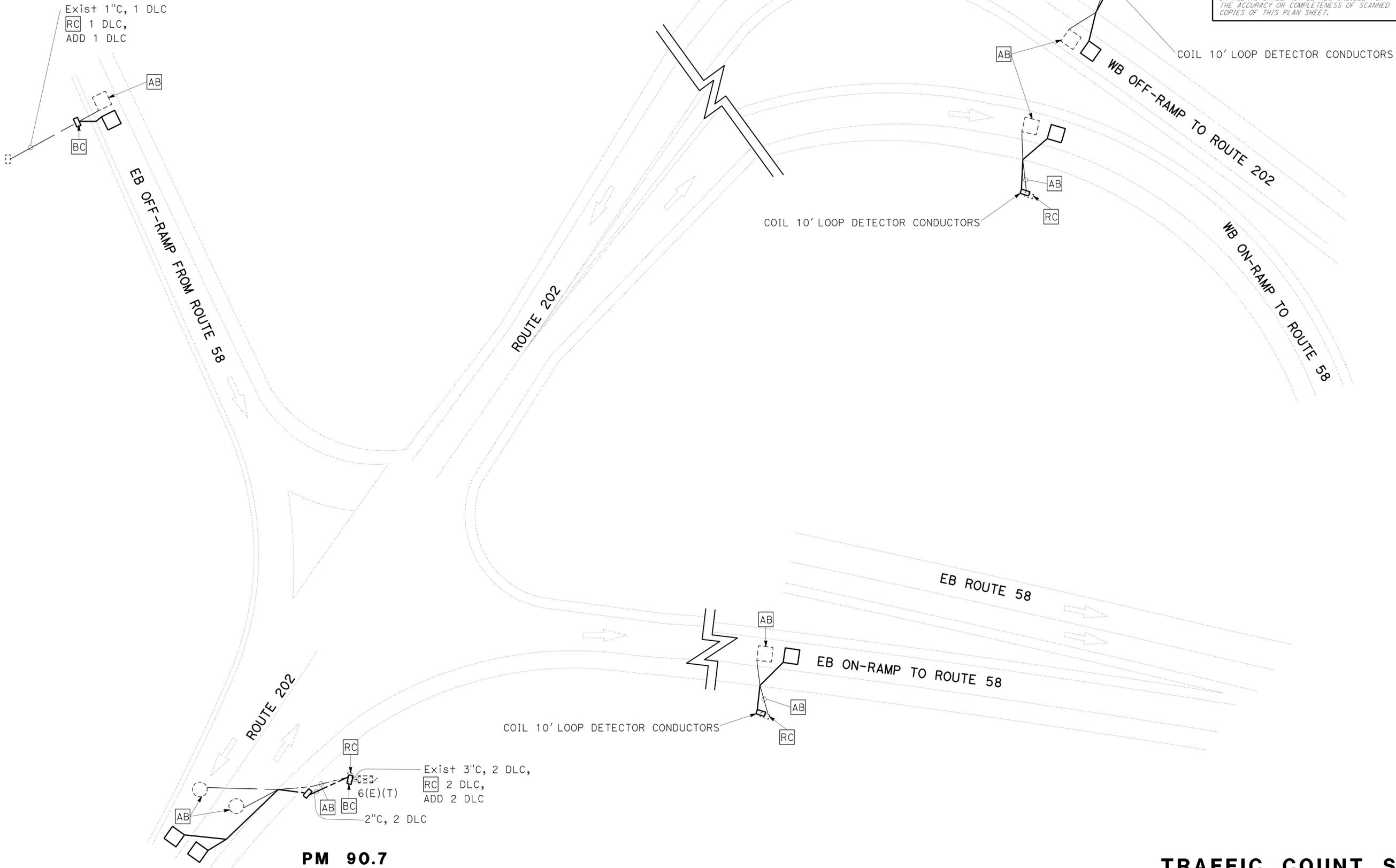
FUNCTIONAL SUPERVISOR	ALY BAKHDOUD
CALCULATED/DESIGNED BY	YOHANNES CHALLA
CHECKED BY	MONA ATTALLAH
REVISOR	YC
DATE	04-06-15

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL PULL BOXES MUST BE 5(E)(T) UNLESS OTHERWISE NOTED.
3. ALL LOOP DETECTOR CONDUCTORS MUST HAVE FOUR TURNS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	12	45

Monna Attallah 4-21-15
 REGISTERED ELECTRICAL ENGINEER DATE
 5-4-15
 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.



PM 90.7

APPROVED FOR ELECTRICAL WORK ONLY

TRAFFIC COUNT STATION
 SCALE: 1"=20'
E-1

LAST REVISION DATE PLOTTED => 22-JUN-2015
 04-21-15 TIME PLOTTED => 12:58

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR ALT BAKHDOUD	CALCULATED-DESIGNED BY YOHANNES CHALLA	REVISOR YOHANNES CHALLA	DATE 04-06-15
	CHECKED BY MONA ATTALLAH	DATE REVISOR 04-06-15	

NOTES:

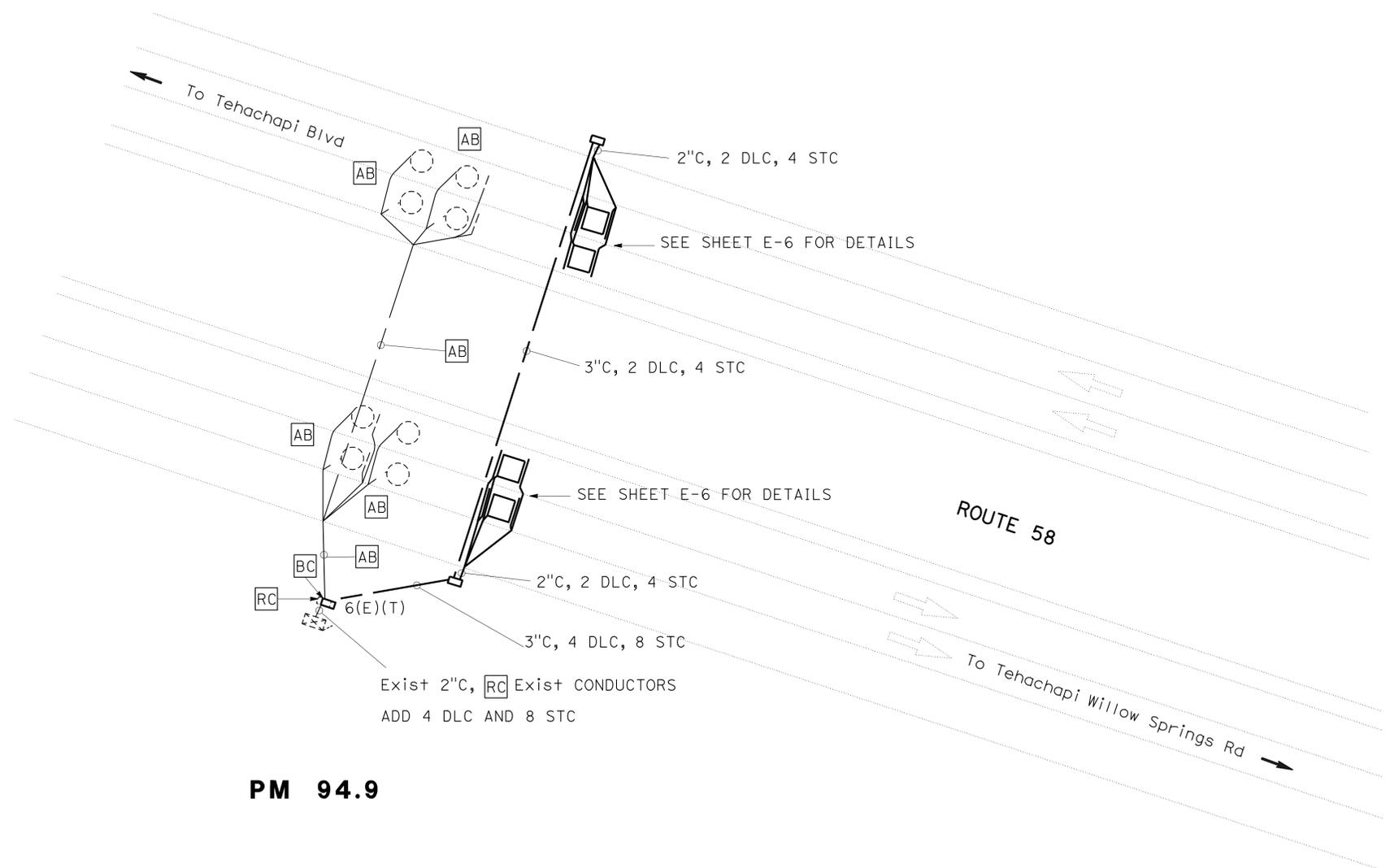
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL PULL BOXES MUST BE 5(E)(T) UNLESS OTHERWISE NOTED.
- ALL LOOP DETECTOR CONDUCTORS MUST HAVE FOUR TURNS.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	13	45

4-21-15
 REGISTERED ELECTRICAL ENGINEER DATE
 5-4-15
 PLANS APPROVAL DATE

MONA N. ATTALLAH
 No. 18407
 Exp. 6/30/16
 ELECTRICAL
 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.



PM 94.9

APPROVED FOR ELECTRICAL WORK ONLY

VEHICLE CLASSIFICATION STATION
 SCALE: 1"=20'
E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR	ALI BAKHDOUD
CALCULATED/DESIGNED BY	YOHANNES CHALLA
CHECKED BY	MONA ATTALLAH
REVISOR	YC
DATE	04-06-15

NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL PULL BOXES MUST BE 5(E)(T) UNLESS OTHERWISE NOTED.
- ALL LOOP DETECTOR CONDUCTORS MUST HAVE FOUR TURNS.

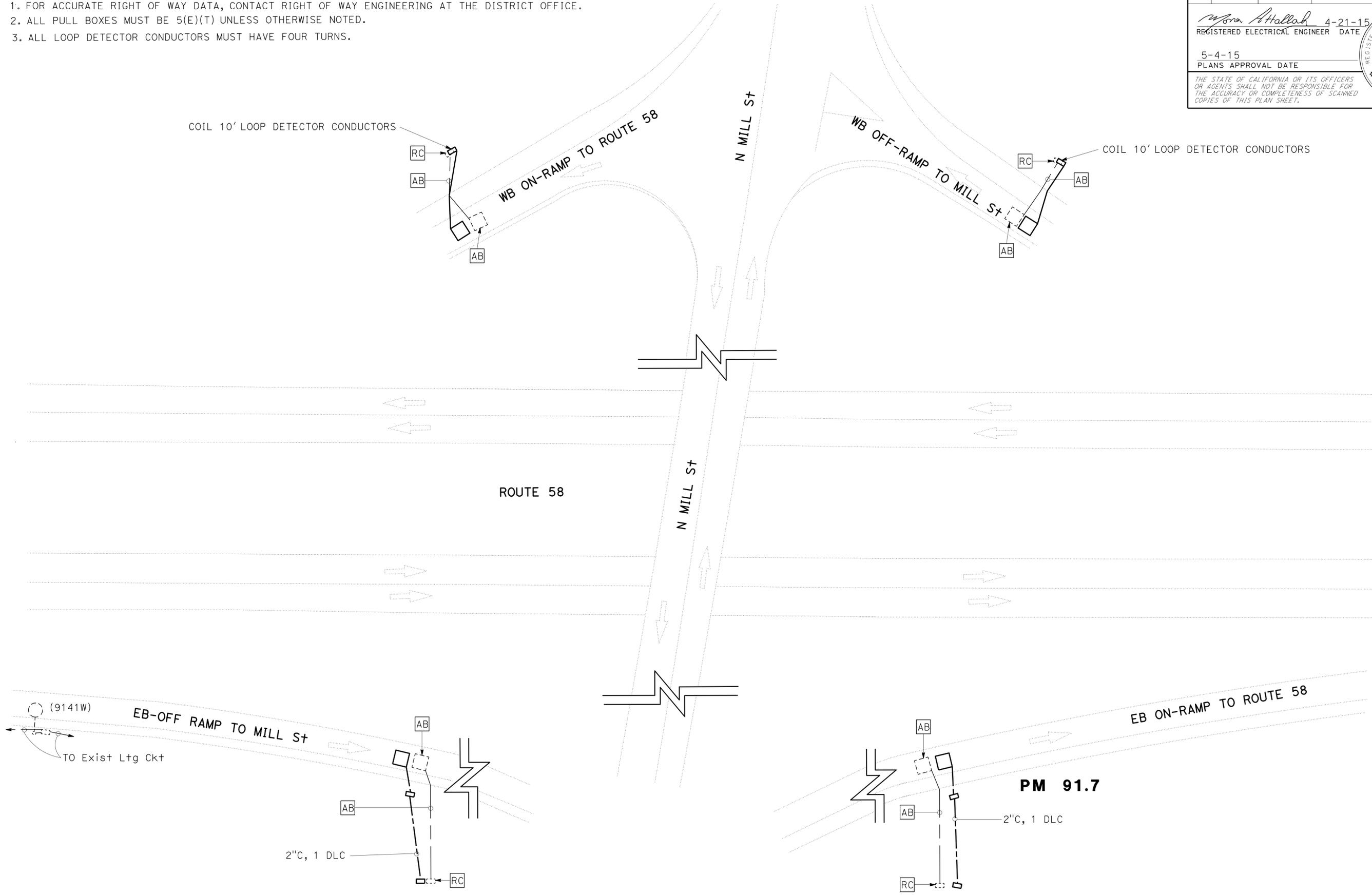
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	14	45

5-4-15
 PLANS APPROVAL DATE

4-21-15
 REGISTERED ELECTRICAL ENGINEER DATE

MONA N. ATTALLAH
 No. 18407
 Exp. 6/30/16
 ELECTRICAL

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.



APPROVED FOR ELECTRICAL WORK ONLY

TRAFFIC COUNT STATION
 SCALE: 1"=20'
E-3

LAST REVISION: DATE PLOTTED => 22-JUN-2015
 04-21-15 TIME PLOTTED => 12:58

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
	ALI BAKHDOUD	YOHANNES CHALLA	YOHANNES CHALLA	04-06-15
ELECTRICAL DESIGN	CHECKED BY	REGISTERED ELECTRICAL ENGINEER	DATE	
	MONA ATTALLAH	MONA ATTALLAH	4-21-15	

NOTES:

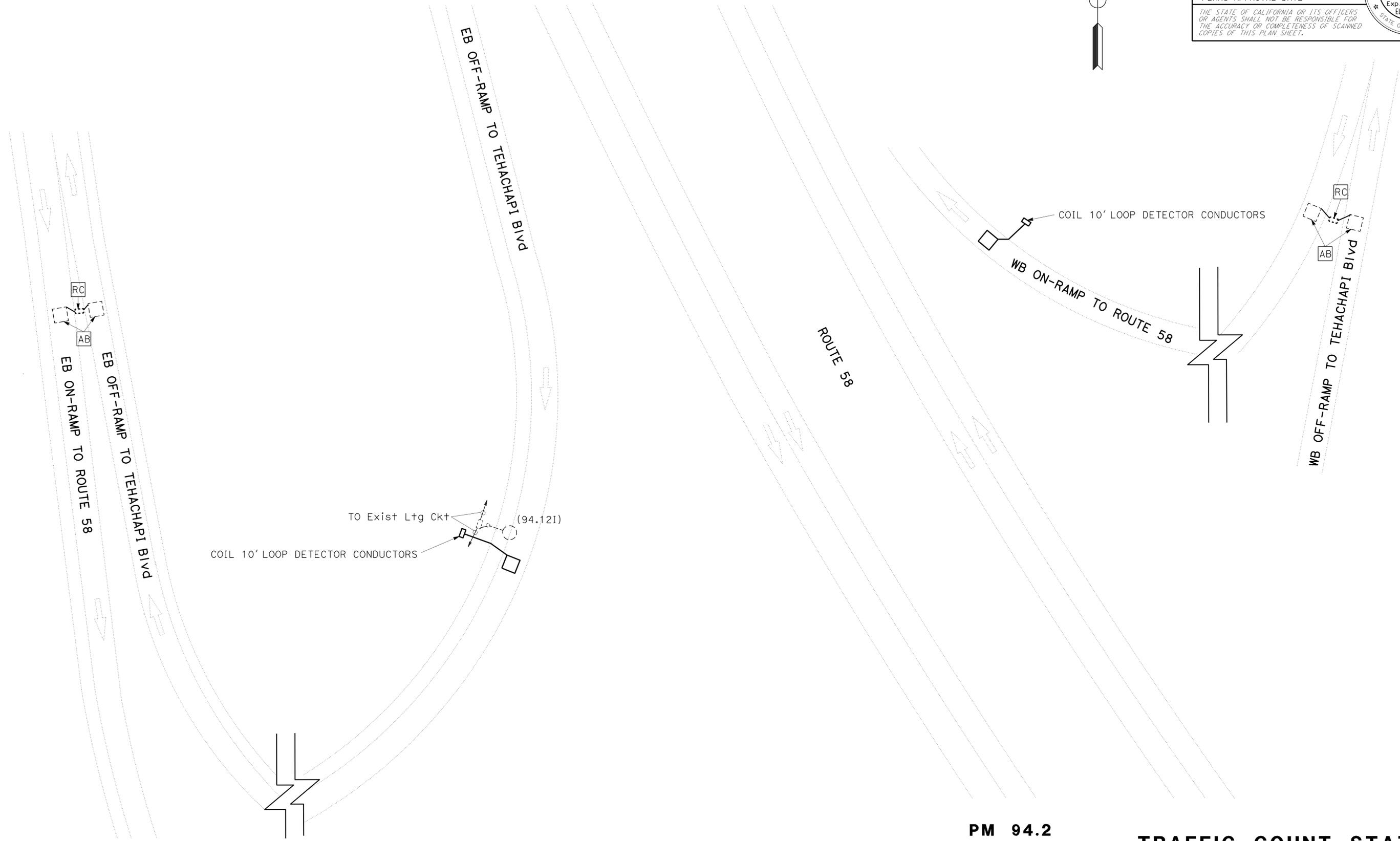
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL PULL BOXES MUST BE 5(E)(T) UNLESS OTHERWISE NOTED.
- ALL LOOP DETECTOR CONDUCTORS MUST HAVE FOUR TURNS.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	15	45

4-21-15
 REGISTERED ELECTRICAL ENGINEER DATE
 5-4-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 MONA N. ATTALLAH
 No. 18407
 Exp. 6/30/16
 ELECTRICAL
 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.



APPROVED FOR ELECTRICAL WORK ONLY

PM 94.2

TRAFFIC COUNT STATION
E-4
SCALE: 1"=20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR	DATE
	ALT BAKHDOUD	YOHANNES CHALLA	YC	04-06-15
Caltrans ELECTRICAL DESIGN	CHECKED BY	DESIGNED BY	DATE	REVISION
	MONA ATTALLAH	YOHANNES CHALLA	04-06-15	

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL PULL BOXES MUST BE 5(E)(T) UNLESS OTHERWISE NOTED.
3. ALL LOOP DETECTOR CONDUCTORS MUST HAVE FOUR TURNS.

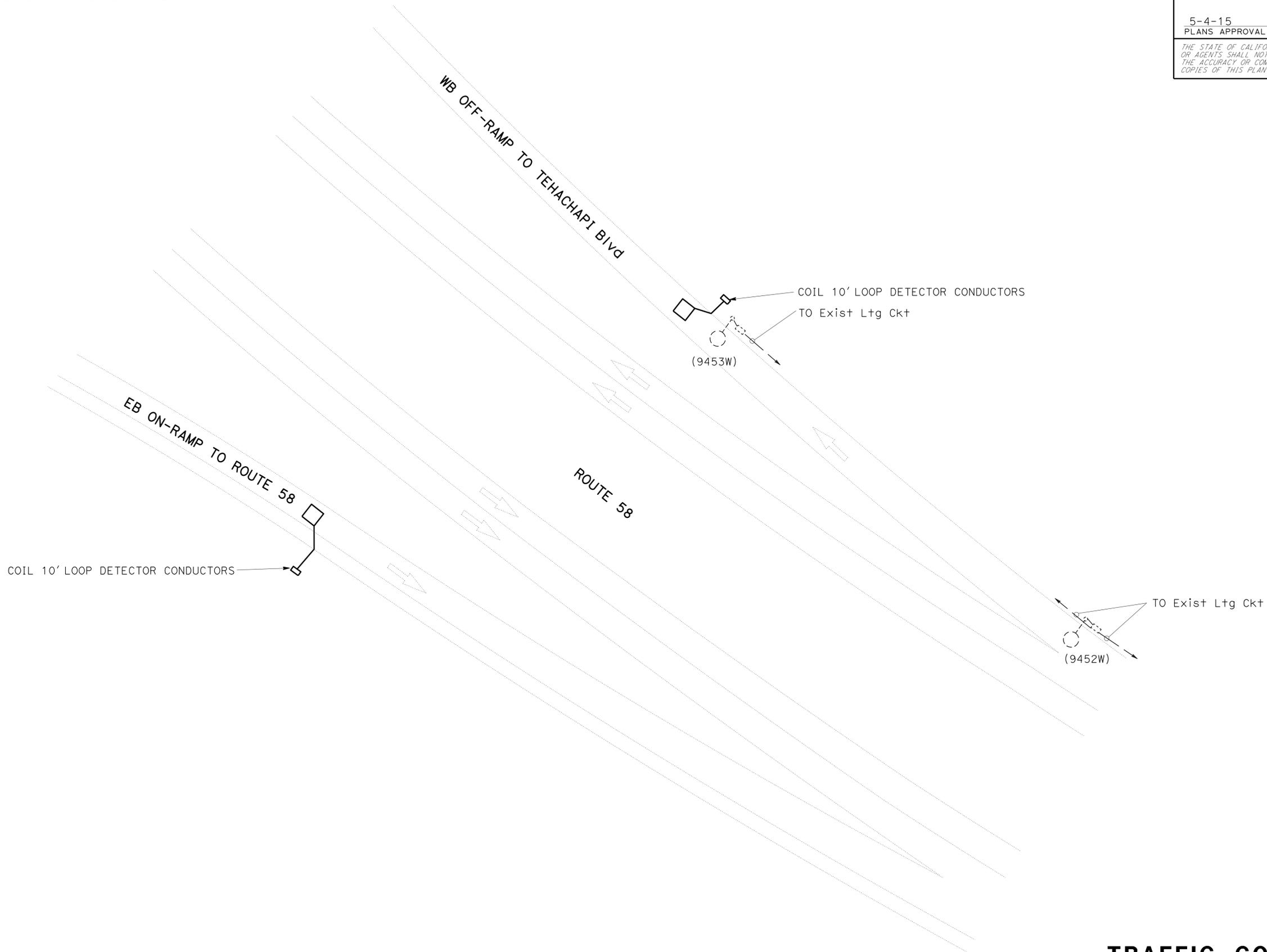
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	16	45

Mona Attallah 4-21-15
 REGISTERED ELECTRICAL ENGINEER DATE

5-4-15
 PLANS APPROVAL DATE

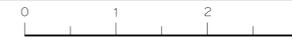
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 MONA N. ATTALLAH
 No. 18407
 Exp. 6/30/16
 ELECTRICAL
 STATE OF CALIFORNIA



APPROVED FOR ELECTRICAL WORK ONLY

TRAFFIC COUNT STATION
 SCALE: 1"=20'
E-5



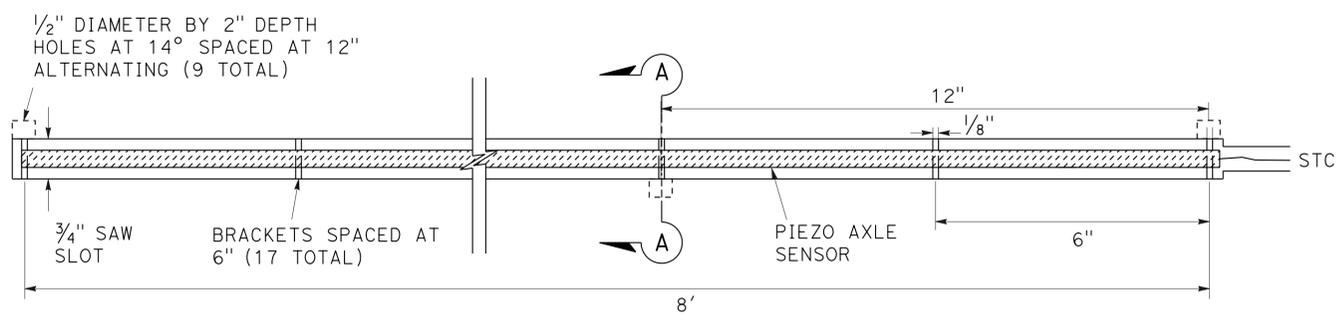
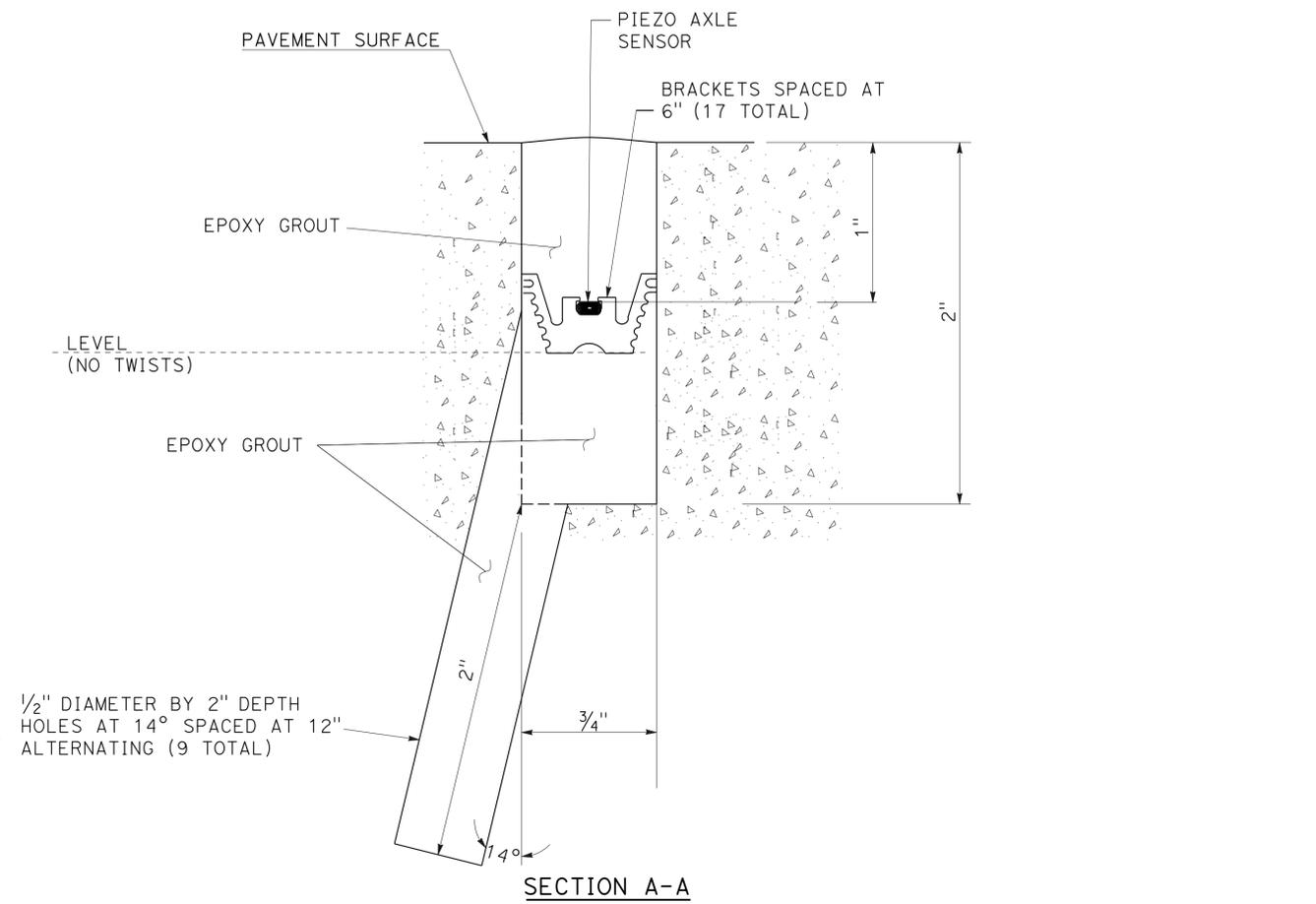
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	17	45

MONA ATTALLAH 4-21-15
 REGISTERED ELECTRICAL ENGINEER DATE
 5-4-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 MONA N. ATTALLAH
 No. 18407
 Exp. 6/30/16
 ELECTRICAL
 STATE OF CALIFORNIA

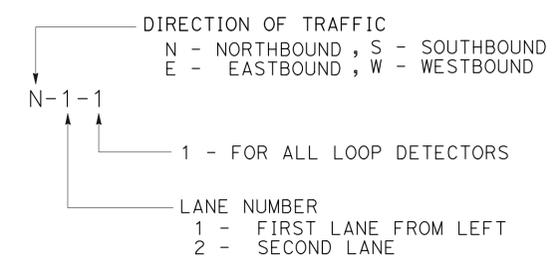
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALT BAKHDOUD
 CALCULATED/DESIGNED BY: YOHANNES CHALLA
 CHECKED BY: MONA ATTALLAH
 REVISED BY: YC
 DATE REVISED: 04-06-15

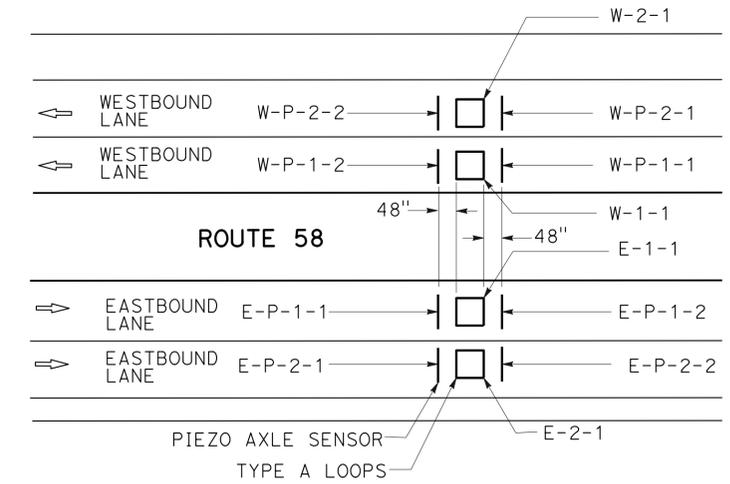
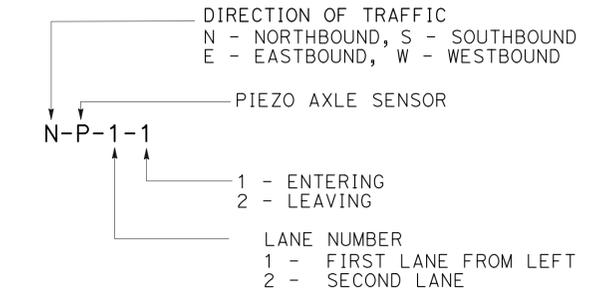


PIEZO AXLE SENSOR INSTALLATION
 TOP VIEW

LOOP DETECTOR SENSOR DESIGNATION



PIEZO AXLE SENSOR DESIGNATION



**LOOP DETECTOR AND PIEZO AXLE SENSOR
 PLACEMENT AND DESIGNATION**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR
 ALI BAKHDOUD

CALCULATED-DESIGNED BY
 CHECKED BY
 YOHANNES CHALLA
 MONA ATTALLAH

REVISOR BY
 DATE REVISED
 YC
 04-06-15

NOTE:

THE QUANTITIES SHOWN IN TABLES ARE NOT SEPARATE PAY ITEMS, FOR INFORMATION ONLY.
 FOR COMPLETE ELECTRICAL WORK, SEE ELECTRICAL PLAN SHEETS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	18	45

 4-21-15
 REGISTERED ELECTRICAL ENGINEER DATE

5-4-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 MONA N. ATTALLAH
 No. 18407
 Exp. 6/30/16
 ELECTRICAL
 STATE OF CALIFORNIA

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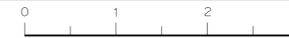
VEHICLE CLASSIFICATION STATION

SHEET No.	No. 5(E)(T) PB	No. 6(E)(T) PB	TYPE A LOOP DETECTOR	PIEZO AXLE SENSOR WITH STC	2" TYPE 3	3" TYPE 3	DLC
	EA			LF			
E-2	2	1	4	8	20	160	600

TRAFFIC COUNT STATION

SHEET No.	No. 5(E)(T) PB	No. 6(E)(T) PB	TYPE A LOOP DETECTORS	2" TYPE 3	DLC
	EA			LF	
E-1	5	1	6	30	100
E-3	4		4	10	100
E-4	2		2		
E-5	2		2		

**ELECTRICAL QUANTITIES
 E-7**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	19	45

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Grace M. Tsushima
REGISTERED PROFESSIONAL ENGINEER
No. C49814
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 5-4-15

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
ø	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

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	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
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	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

M

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
	Qty QUANTITY
	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

Q

R

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
SL	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	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

S

T

TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
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 Sec	CROSS SECTION
Xing	CROSSING
Yr	YEAR
Yrs	YEARS

T continued

U

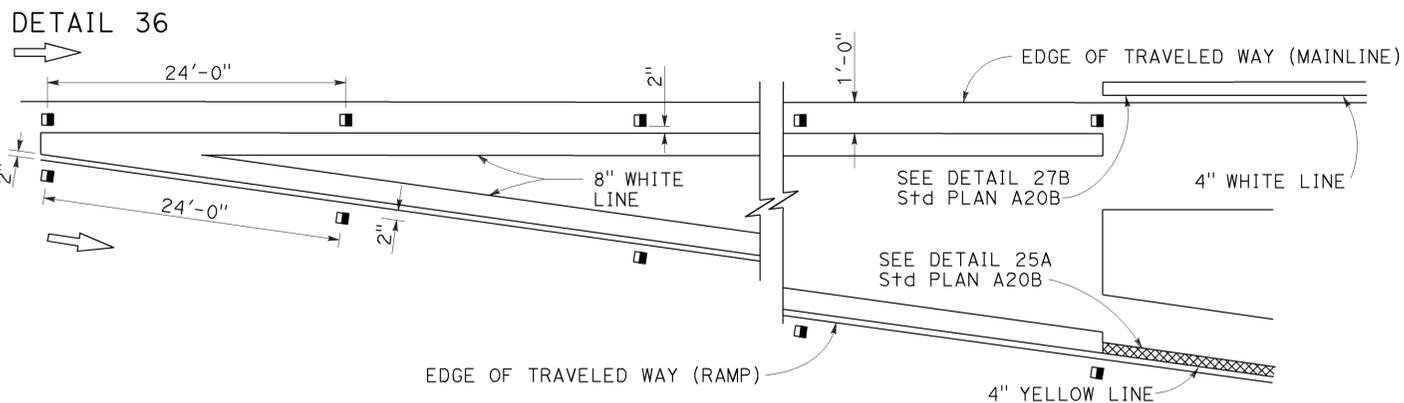
V

W

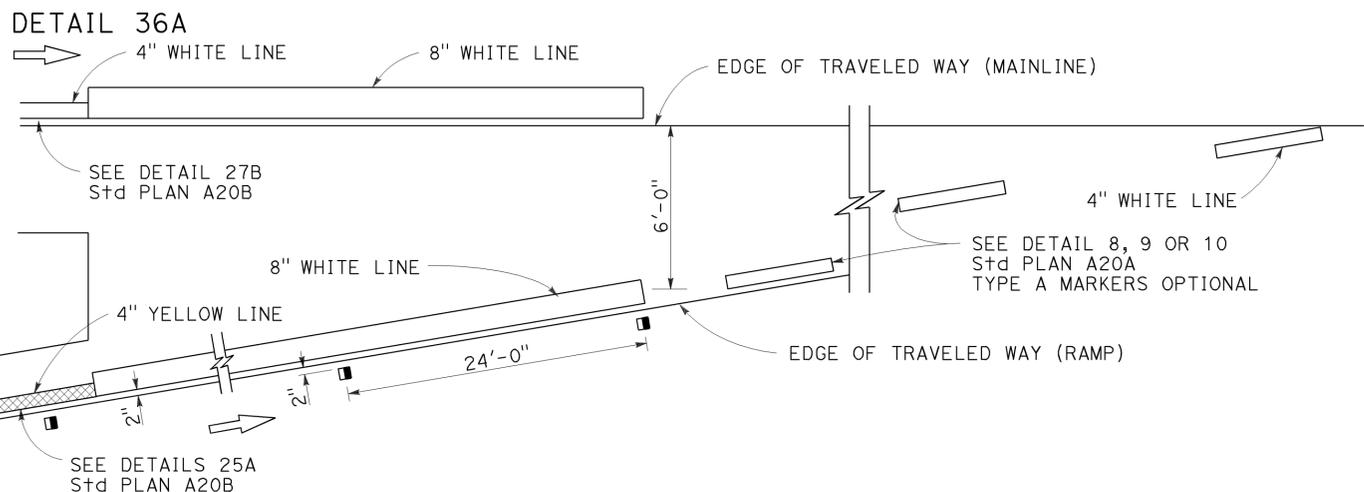
X

Y

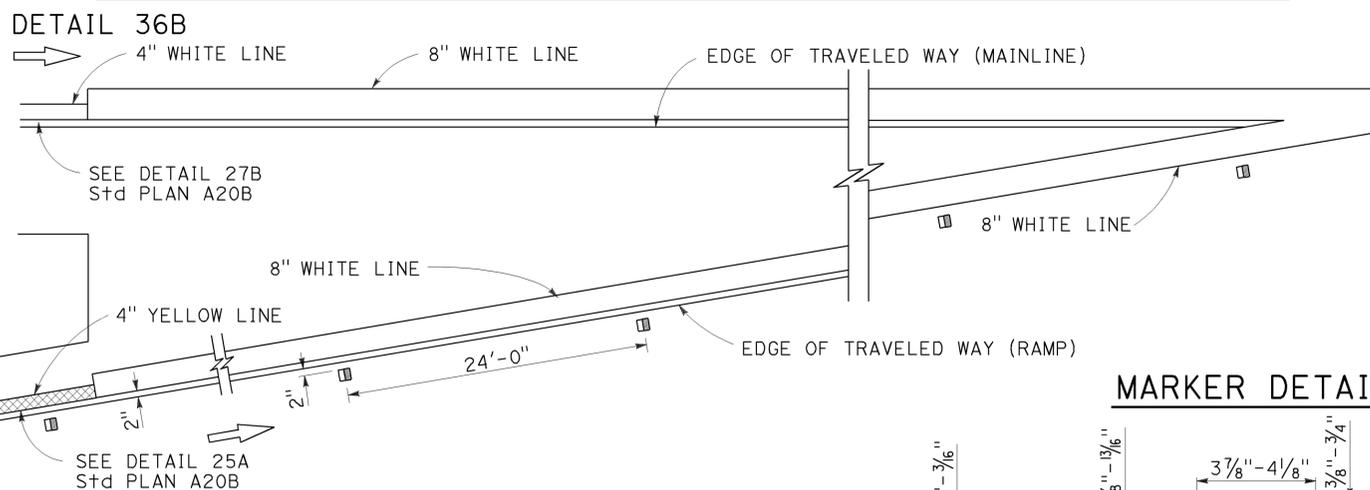
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

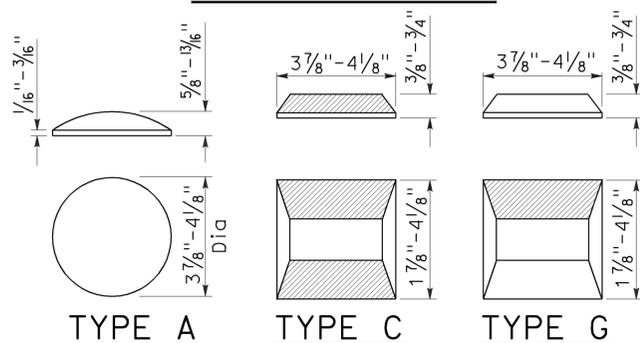


MARKER DETAILS

LEGEND:

MARKERS

- TYPE A WHITE NON-REFLECTIVE
- ◻ TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE



RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	20	45

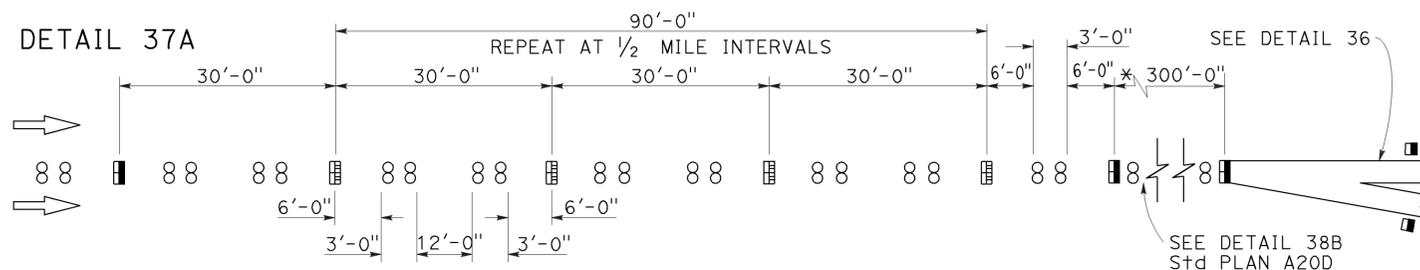
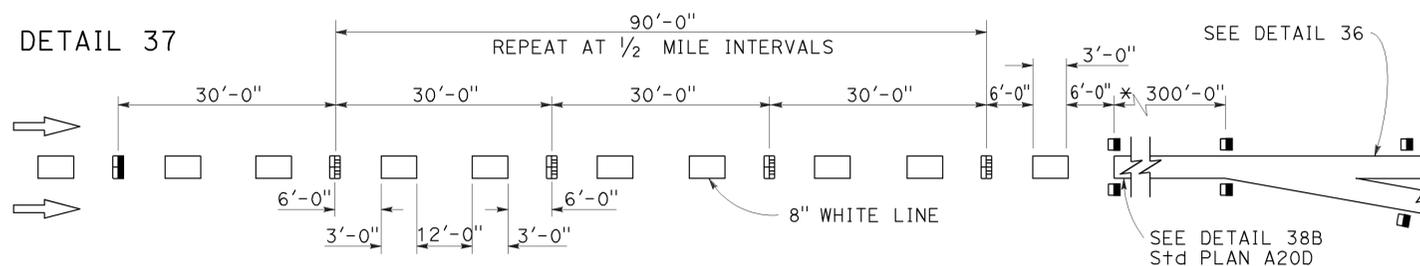
Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 No. C40375
 Exp. 3-31-15
 CIVIL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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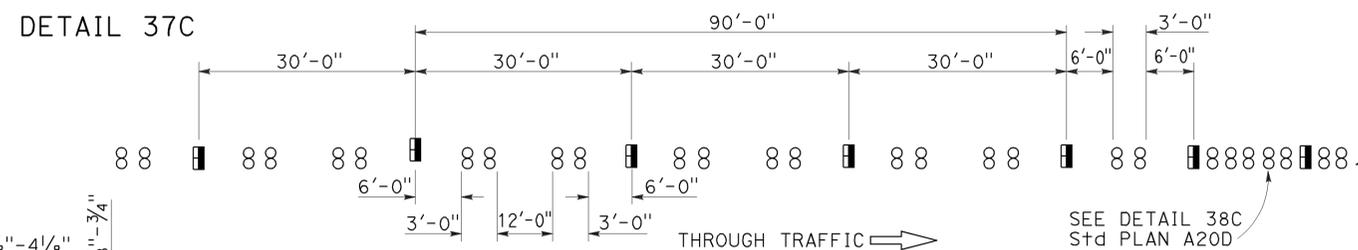
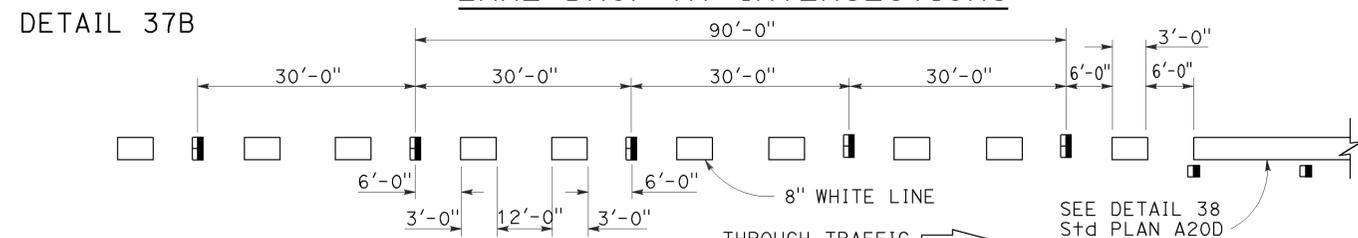
TO ACCOMPANY PLANS DATED 5-4-15

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

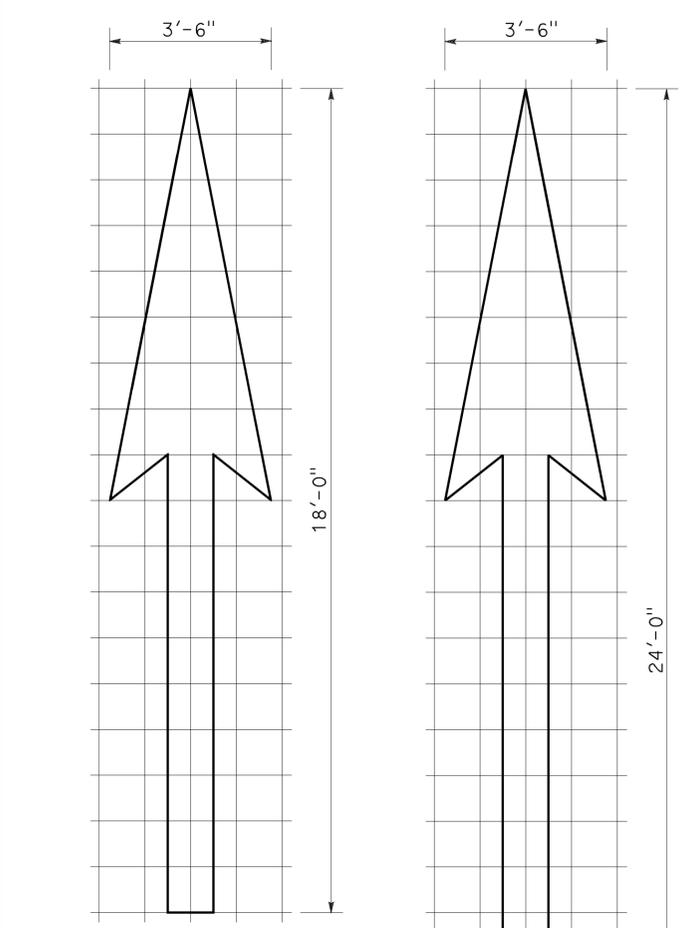
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	21	45

Registered Professional Engineer
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

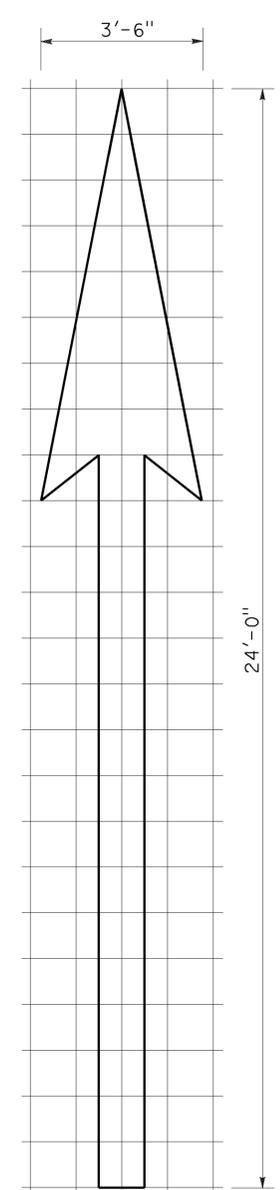
April 20, 2012
 PLANS APPROVAL DATE

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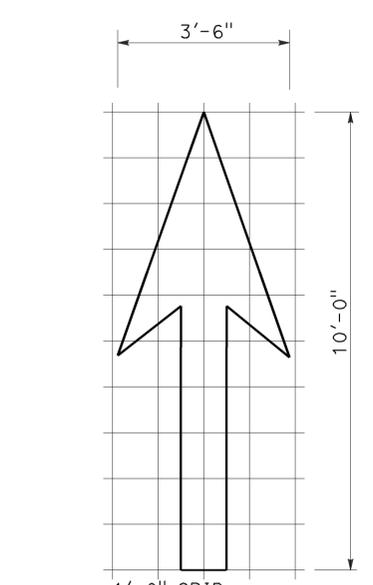
TO ACCOMPANY PLANS DATED 5-4-15



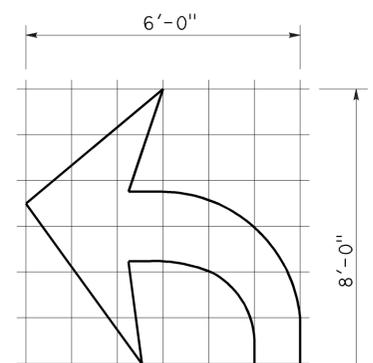
TYPE I 18'-0" ARROW
A=25 ft²



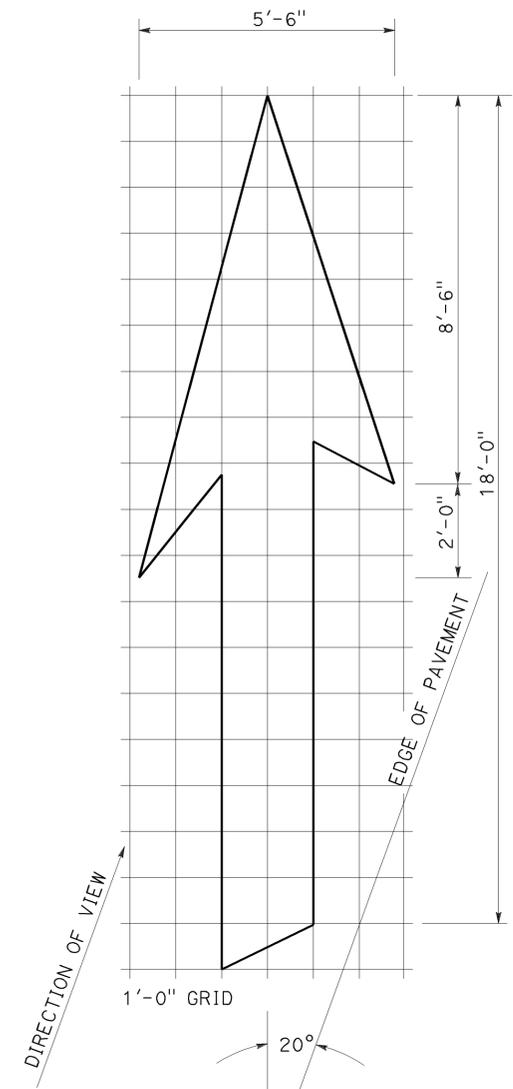
TYPE I 24'-0" ARROW
A=31 ft²



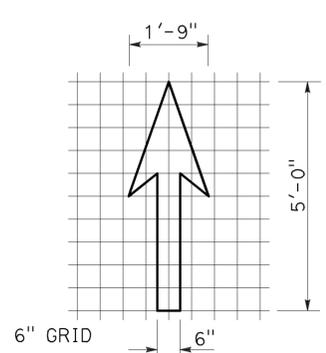
TYPE I 10'-0" ARROW
A=14 ft²



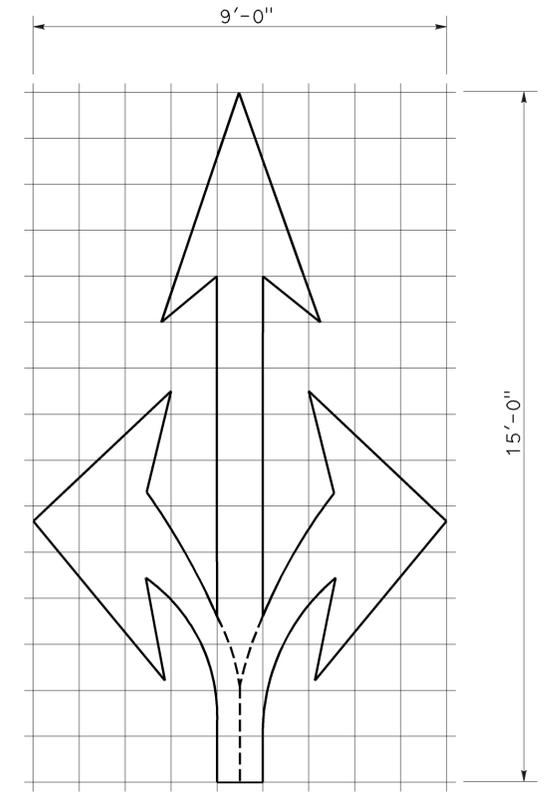
TYPE IV (L) ARROW
A=15 ft²
(For Type IV (R) arrow, use mirror image)



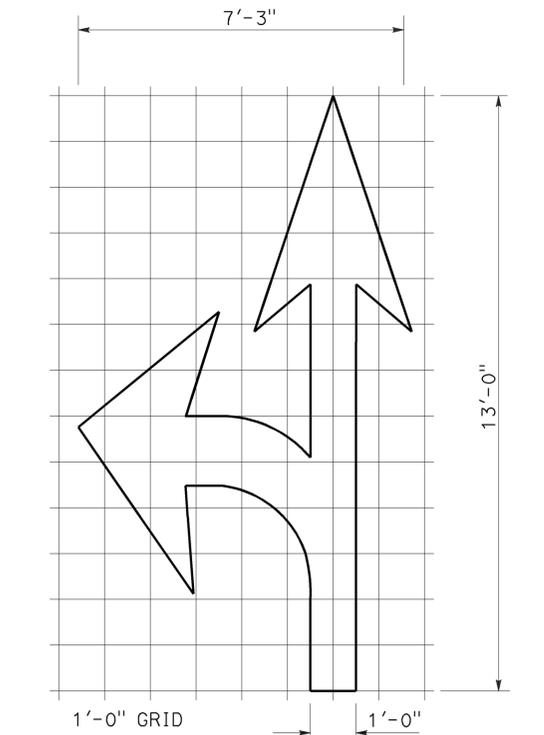
TYPE VI ARROW
A=42 ft²
Right lane drop arrow
(For left lane, use mirror image)



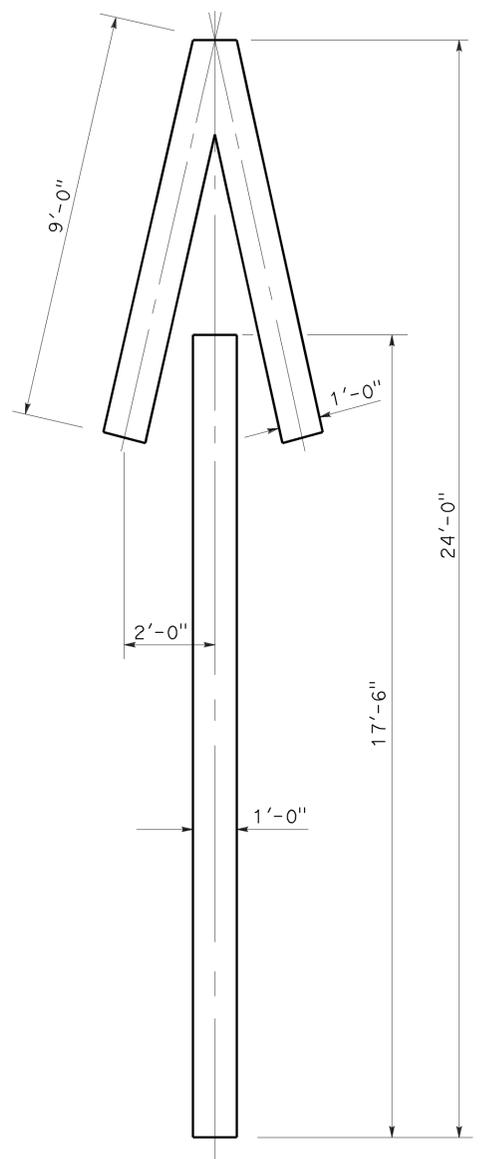
BIKE LANE ARROW
A=3.5 ft²



TYPE VIII ARROW
A=36 ft²



TYPE VII (L) ARROW
A=27 ft²
(For Type VII (R) arrow, use mirror image)



TYPE V ARROW
A=33 ft²

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

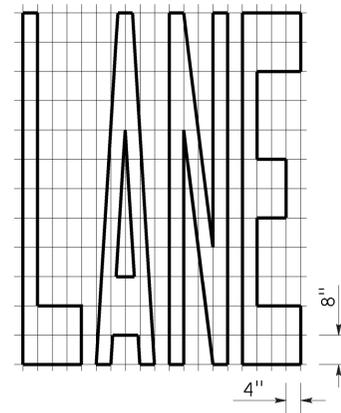
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

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

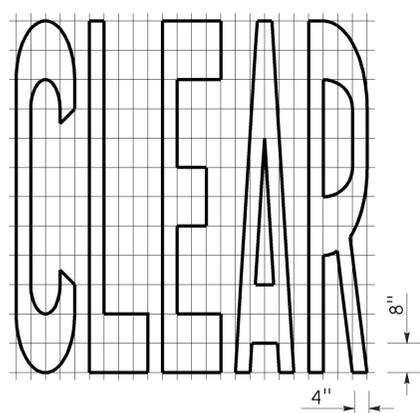
REVISED STANDARD PLAN RSP A24A

2010 REVISED STANDARD PLAN RSP A24A

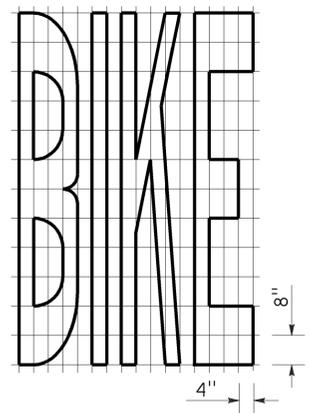
TO ACCOMPANY PLANS DATED 5-4-15



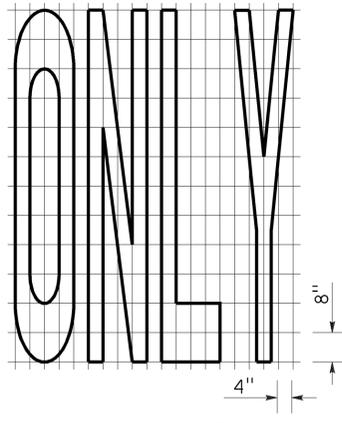
A=24 ft²



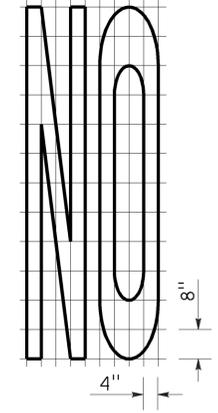
A=27 ft²



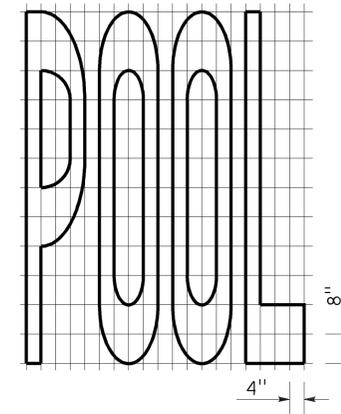
A=21 ft²



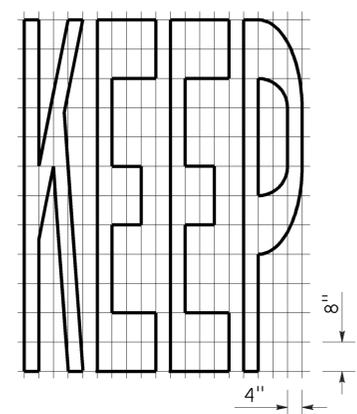
A=22 ft²



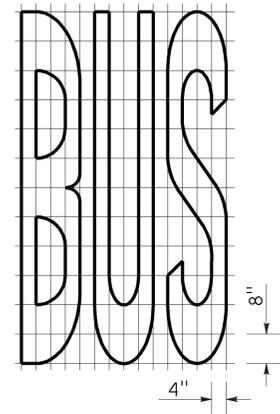
A=14 ft²



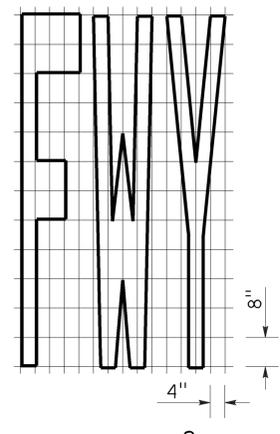
A=23 ft²



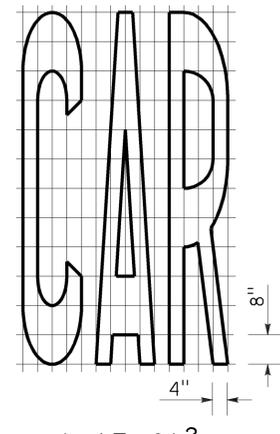
A=24 ft²



A=20 ft²

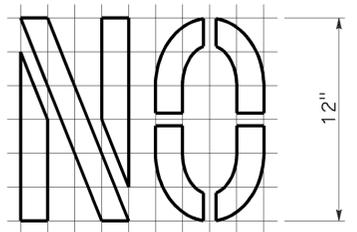


A=16 ft²



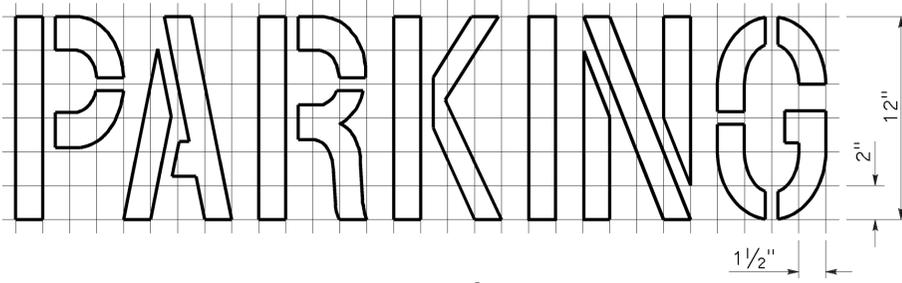
A=17 ft²

WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



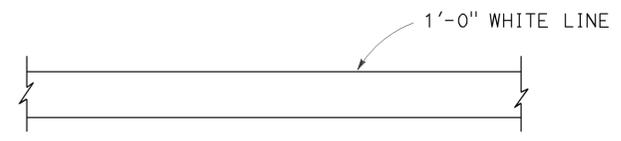
A=2 ft²

See Notes 6 and 7

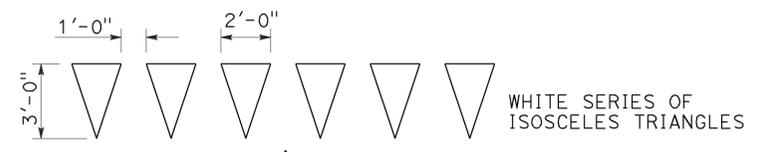


A=2 ft²

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
 WORDS, LIMIT AND YIELD LINES**
 NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
 DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	23	45

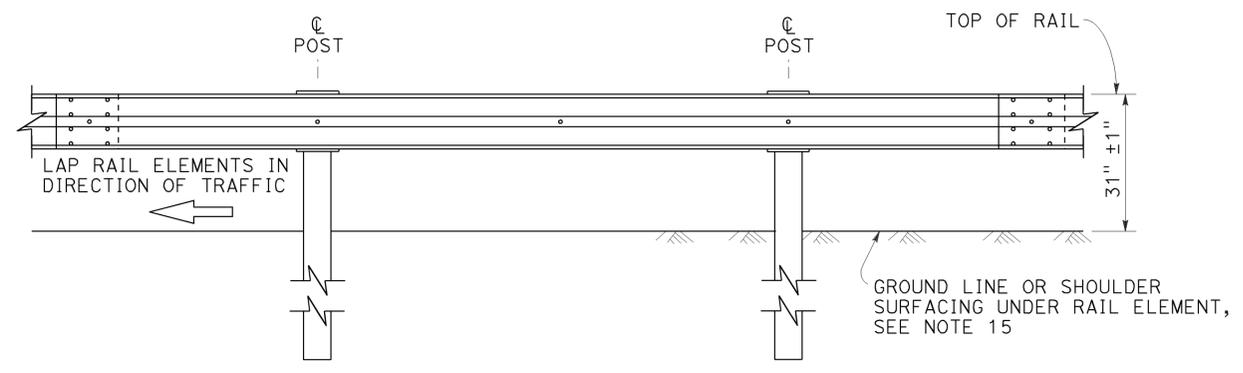
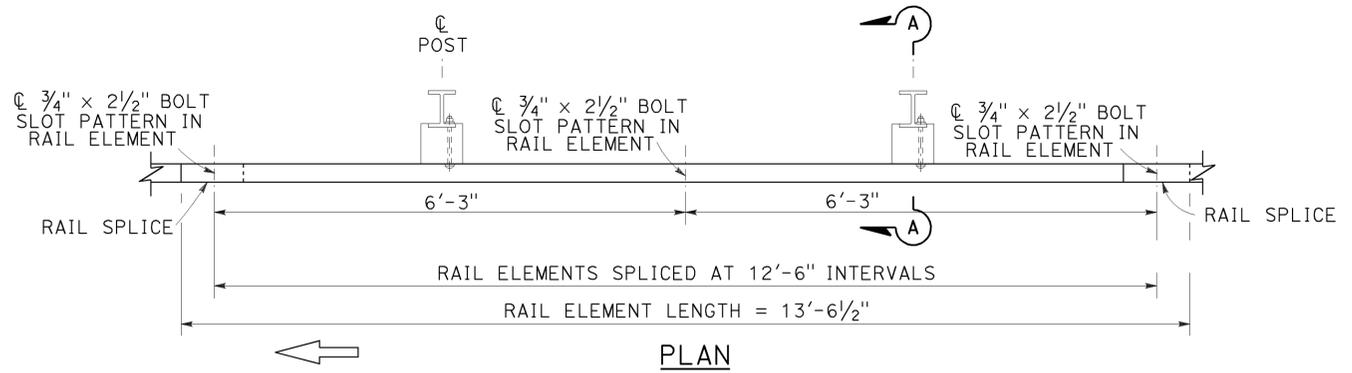
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

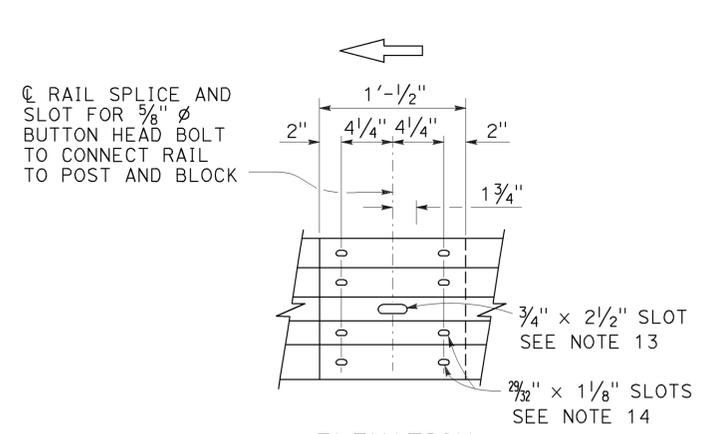
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TO ACCOMPANY PLANS DATED 5-4-15

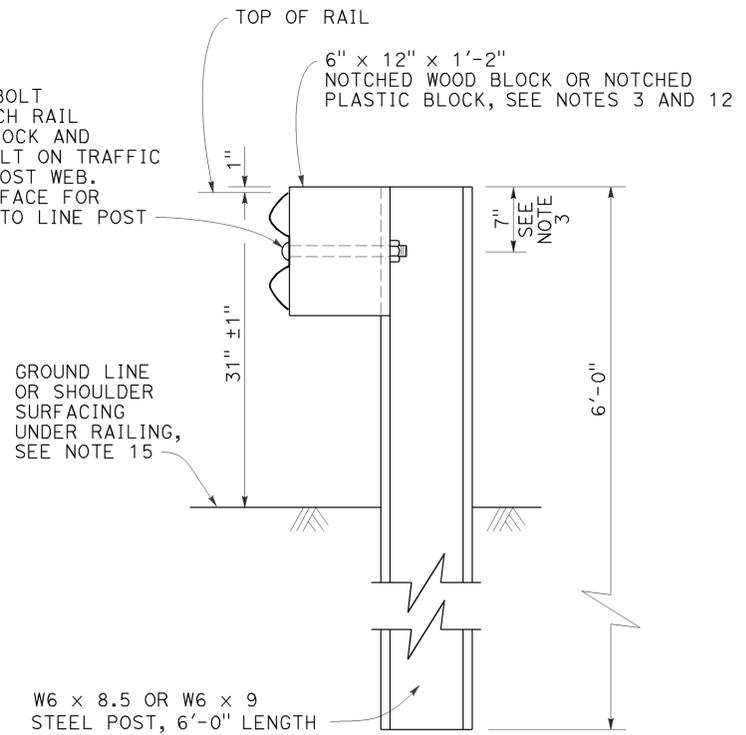
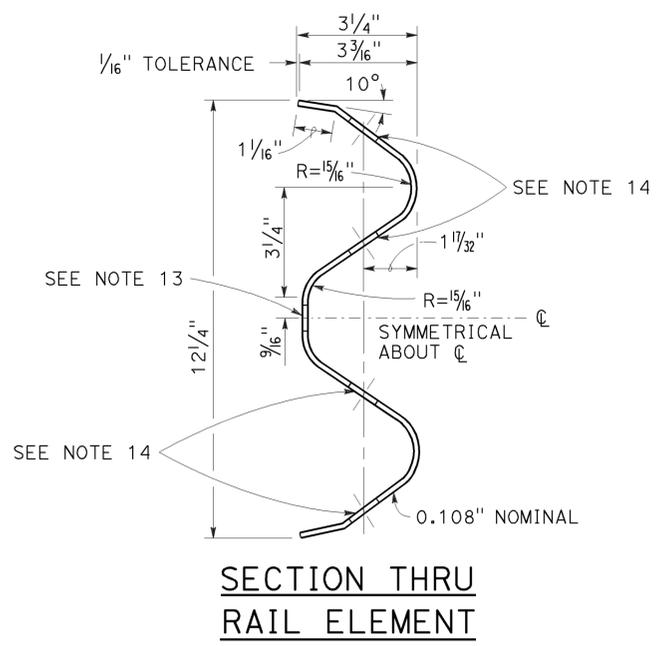
2010 REVISED STANDARD PLAN RSP A77L2



MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



- Connect the overlapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 7/32" x 1 1/8" slots and bolted together with 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 STEEL LINE POST INSTALLATION
See Note 4

NOTES:

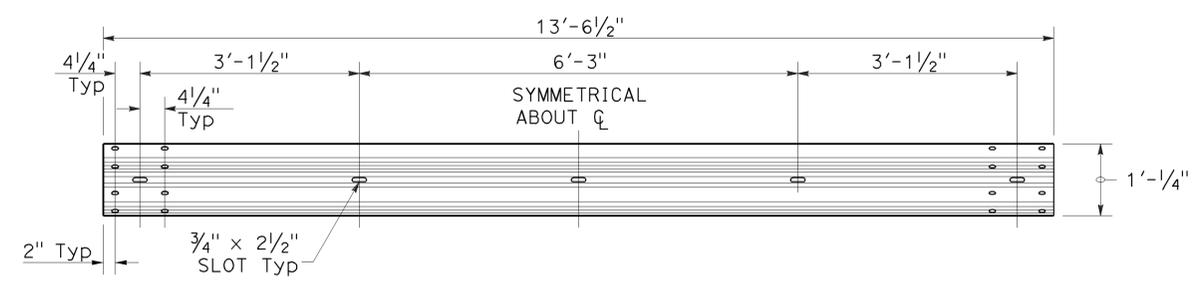
- For details of wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- For additional 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 railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

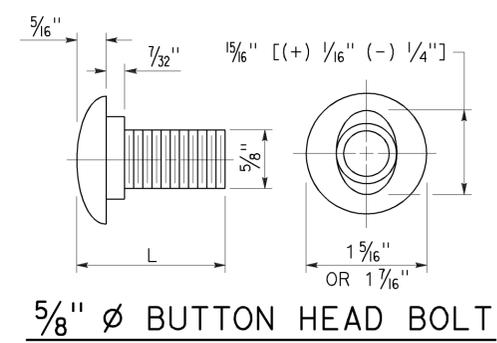
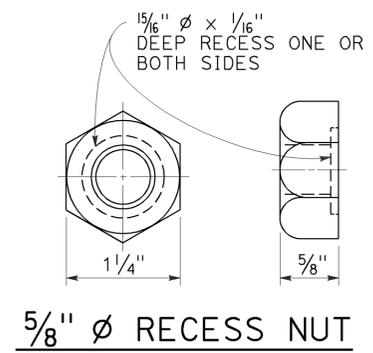
TO ACCOMPANY PLANS DATED 5-4-15



TYPICAL RAIL ELEMENT

NOTE:

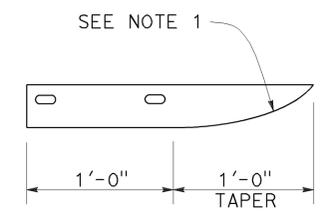
1. Slotted holes for splice bolts to overlap ends of rail element.



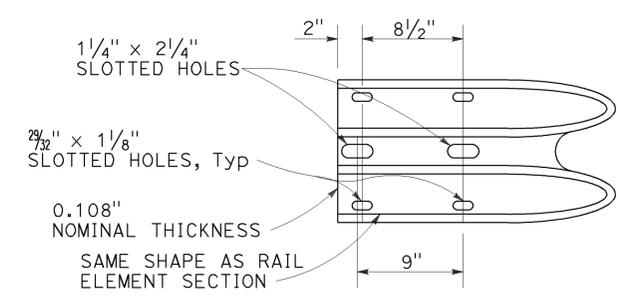
BUTTON HEAD BOLT

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
06	Ker	58	R88.5/R99.8	25	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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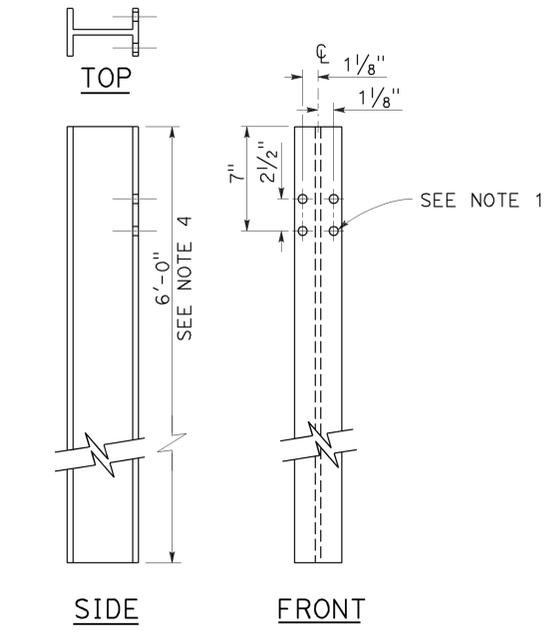
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 5-4-15

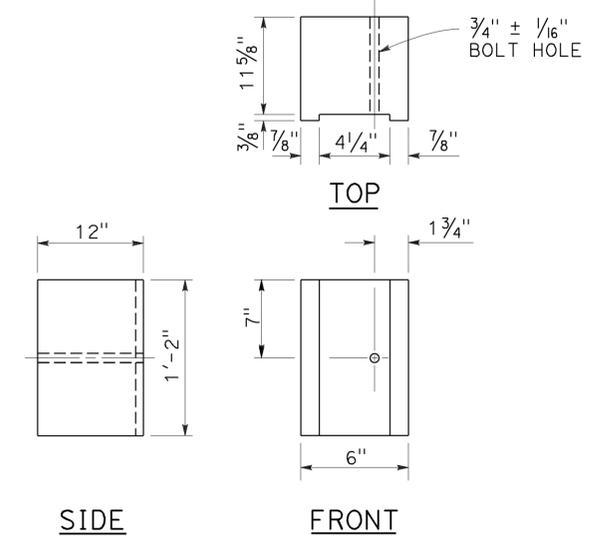
NOTES:

1. All holes in steel post shall be $\frac{13}{16}$ " Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.

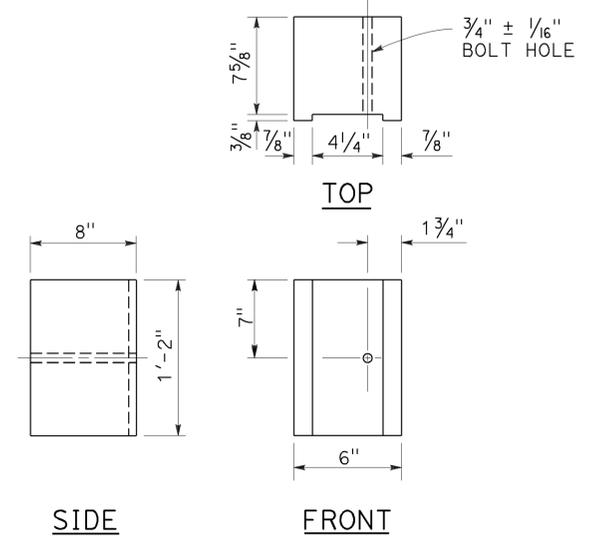
2010 REVISED STANDARD PLAN RSP A77N2



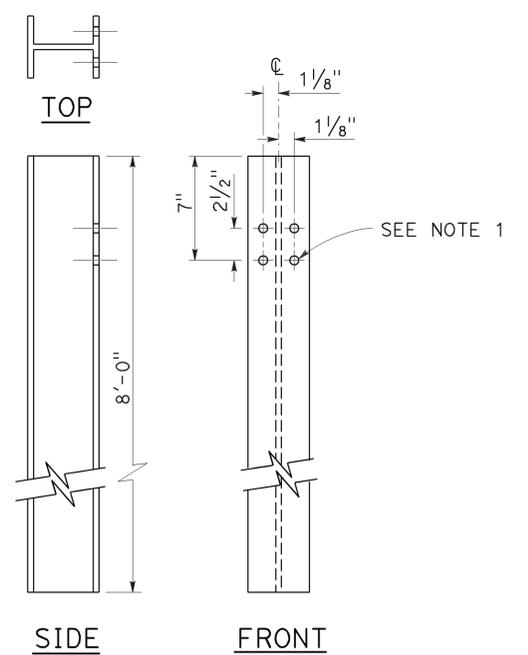
**W6 x 9 OR W6 x 8.5
STEEL POST**
See Note 4



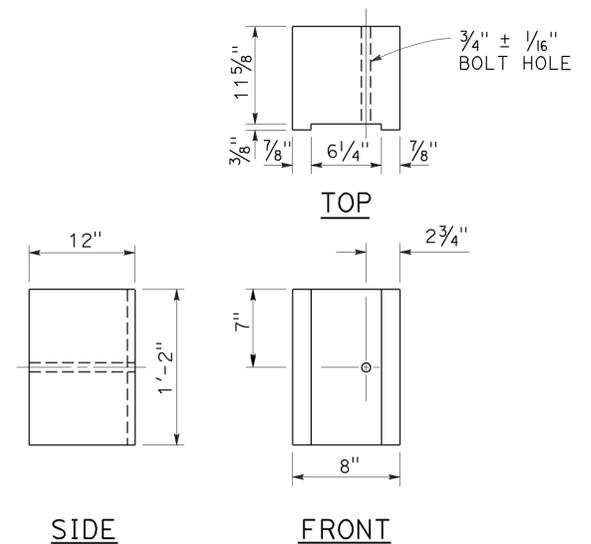
**6" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



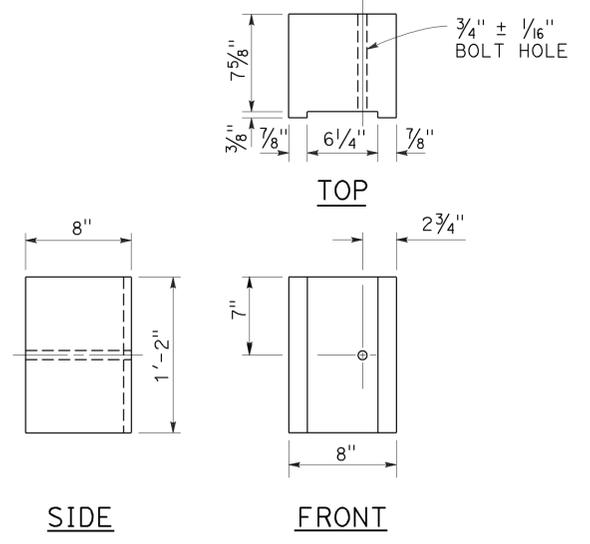
**6" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5



**W6 x 15
STEEL POST**
See Note 6



**8" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



**8" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	26	45

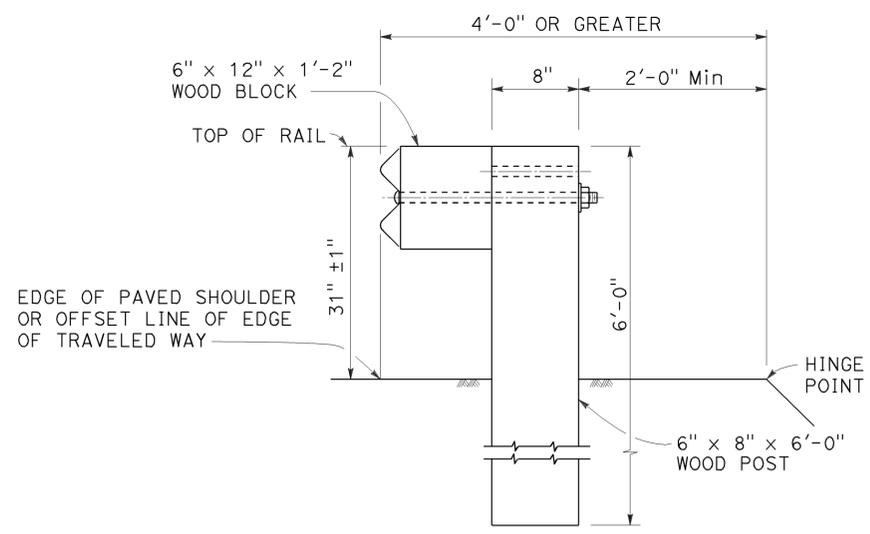
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

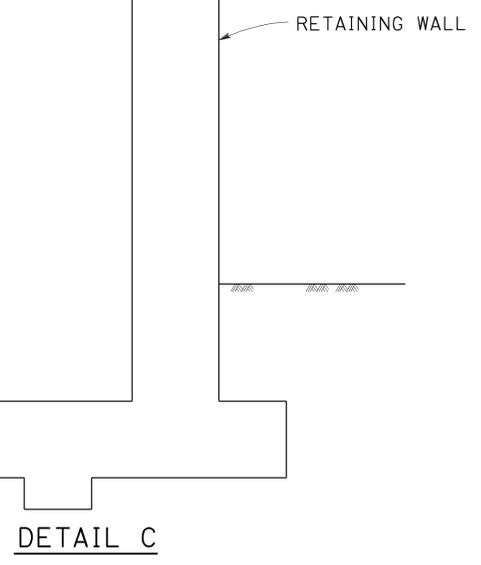
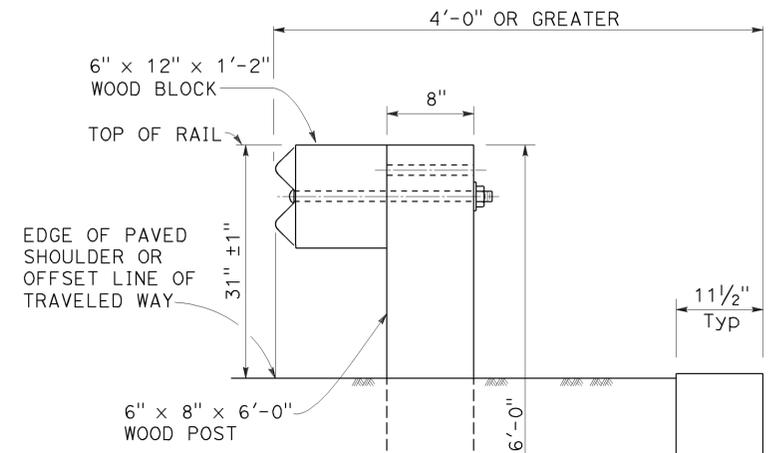
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STATE OF CALIFORNIA

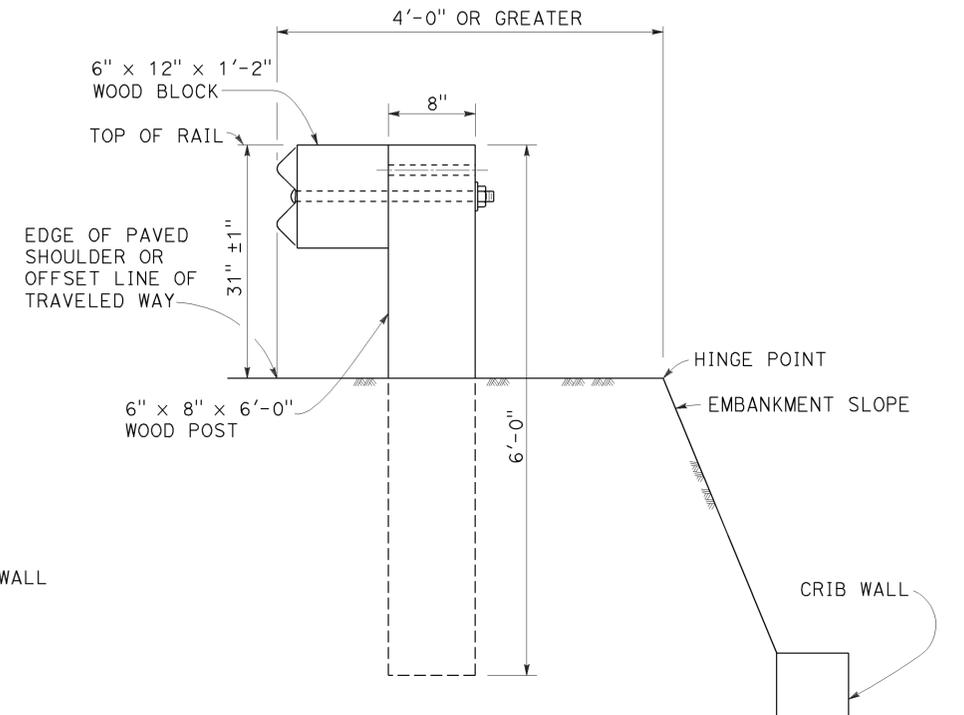
TO ACCOMPANY PLANS DATED 5-4-15



DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1



DETAIL D

INSTALLATION AT EARTH RETAINING WALLS

POST EMBEDMENT

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
06	Ker	58	R88.5/R99.8	27	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

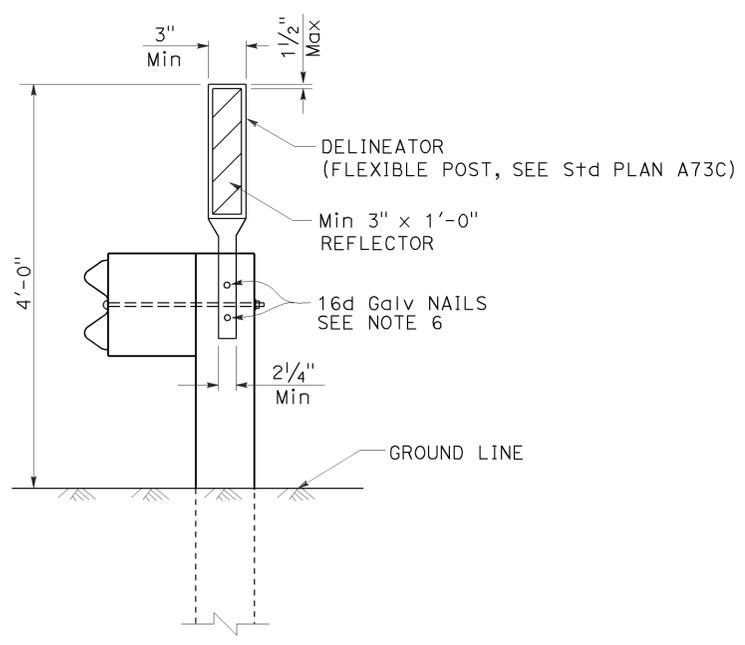
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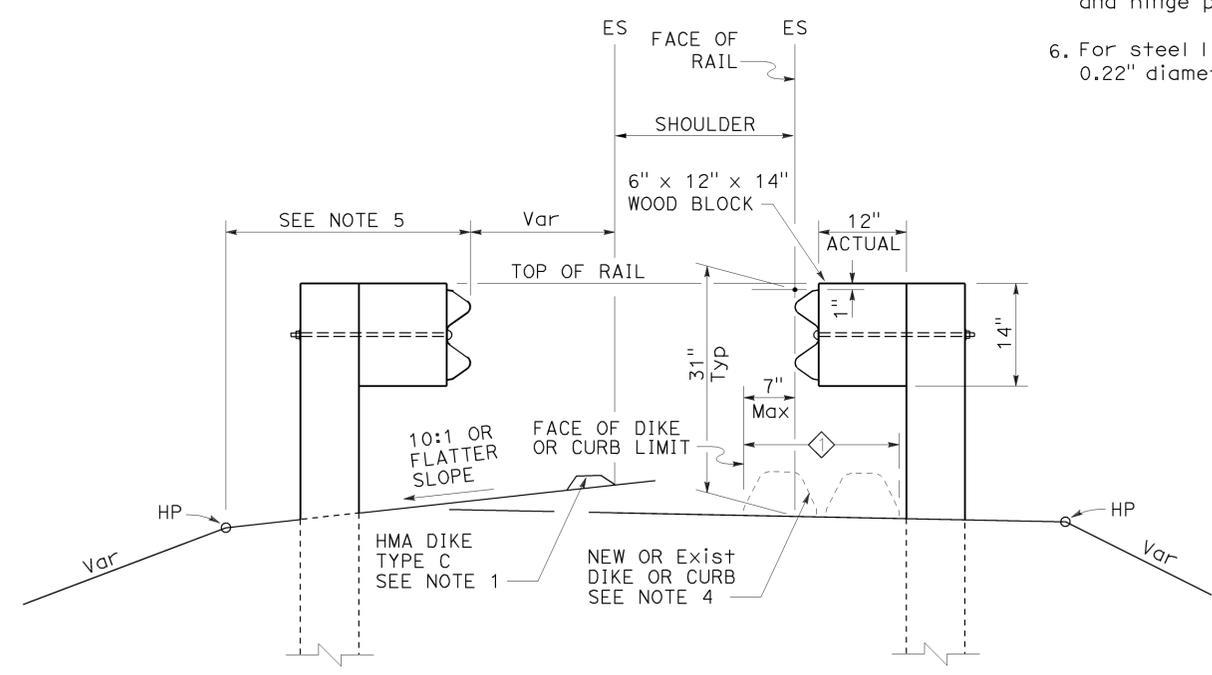
TO ACCOMPANY PLANS DATED 5-4-15

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**
NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	28	45

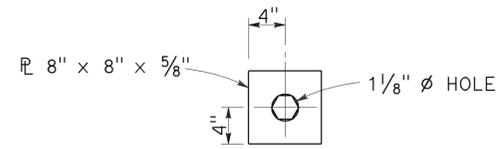
Randell D. Hiatt
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November 15, 2013
PLANS APPROVAL DATE

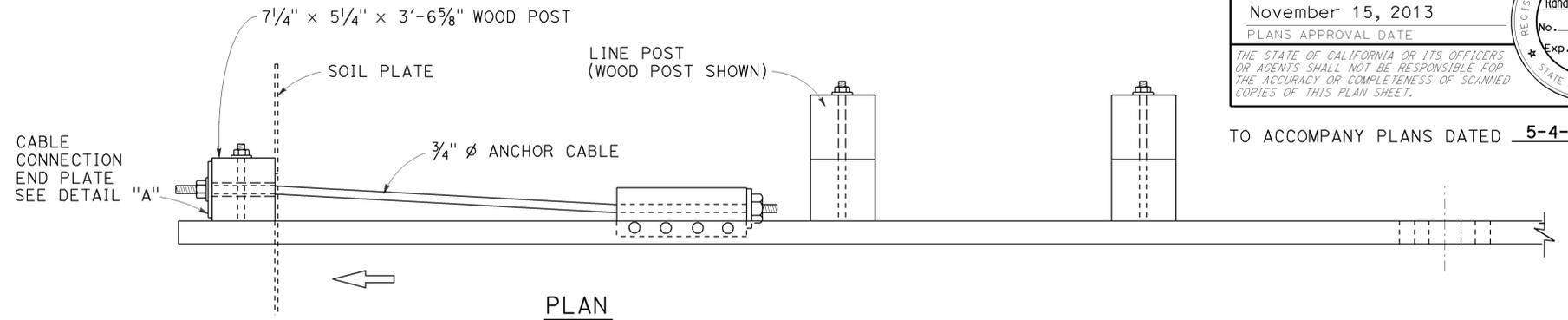
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TO ACCOMPANY PLANS DATED 5-4-15

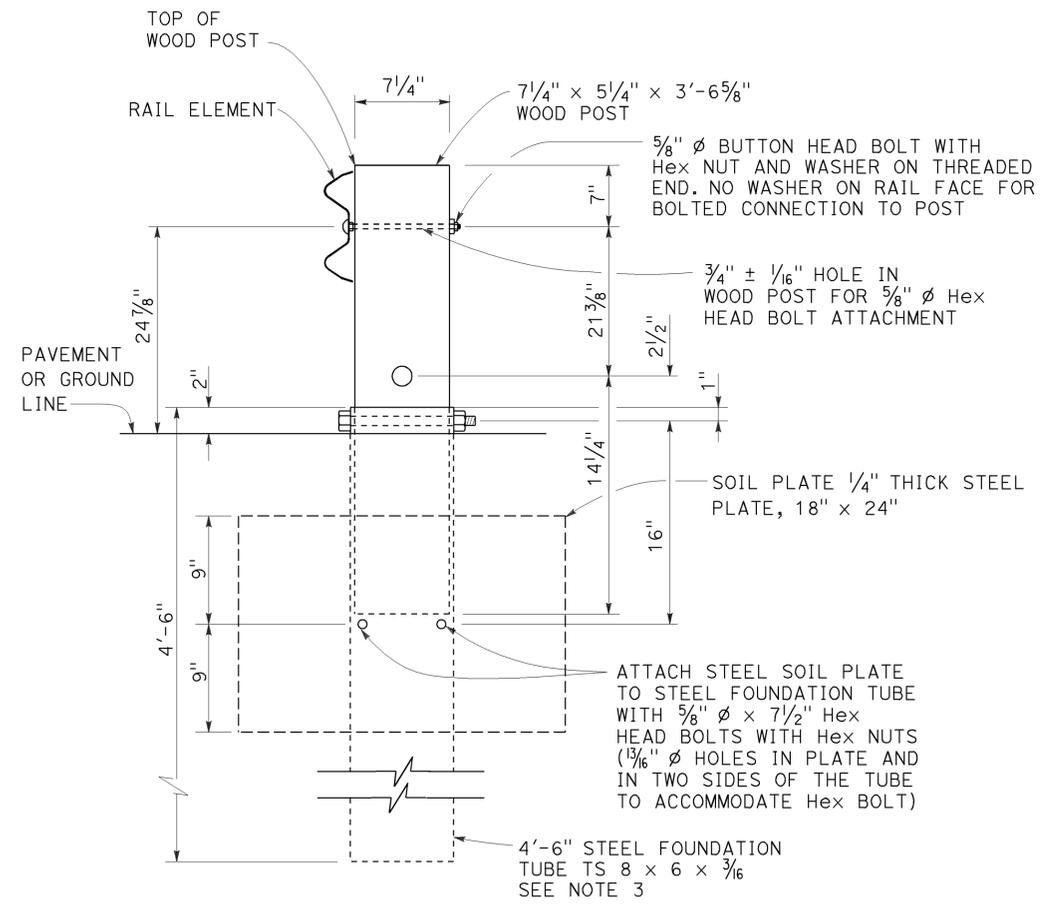
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
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Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA



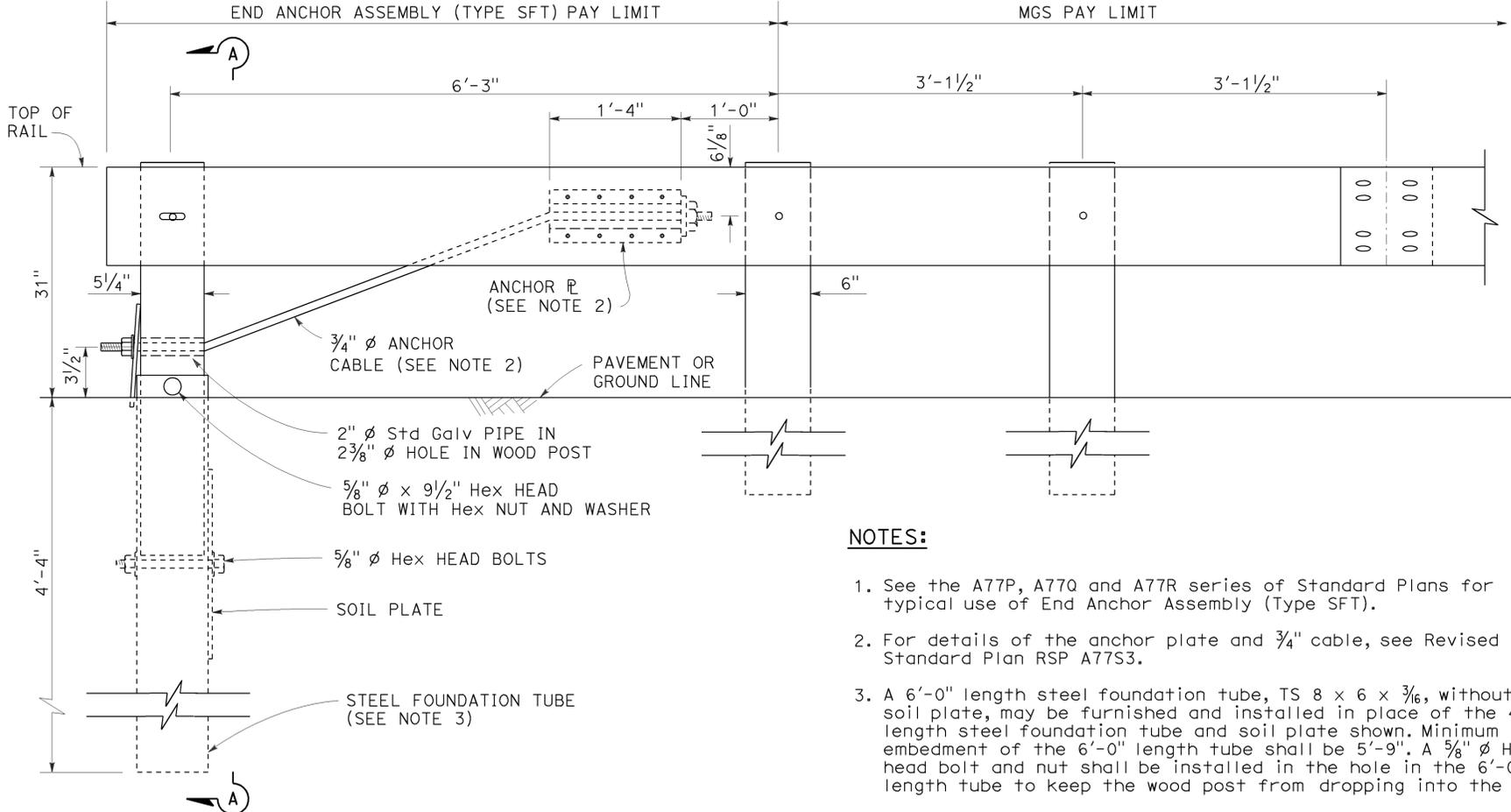
DETAIL "A"
CABLE CONNECTION
END PLATE



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

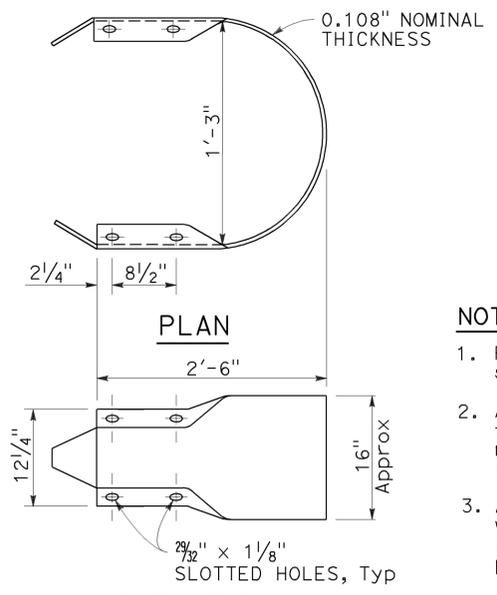
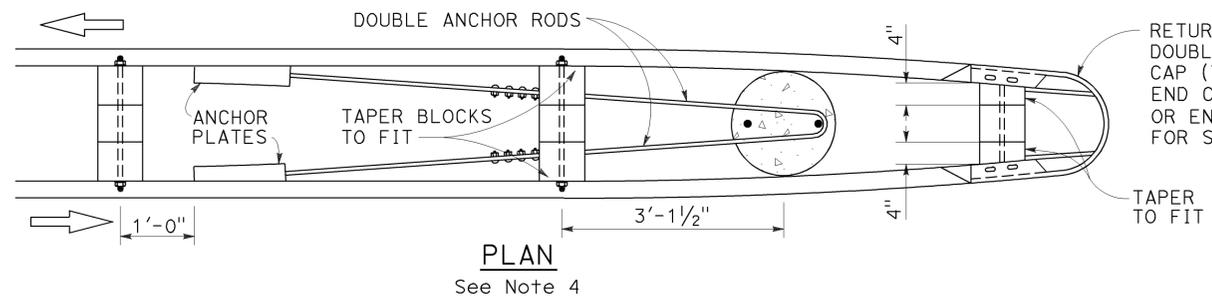
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	29	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

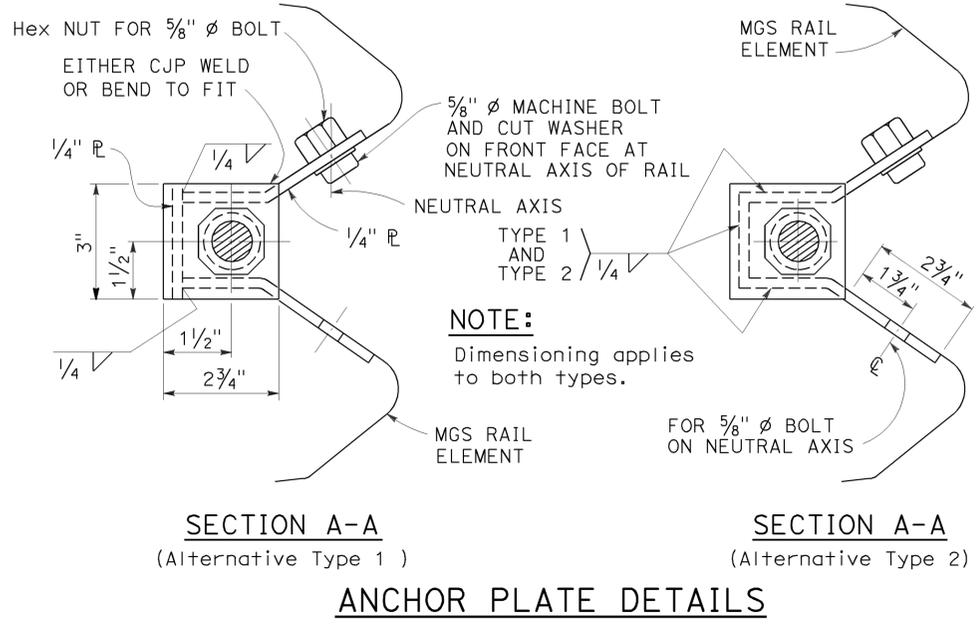
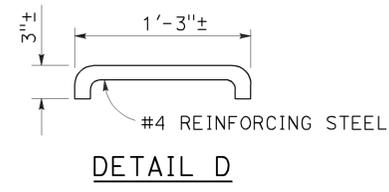
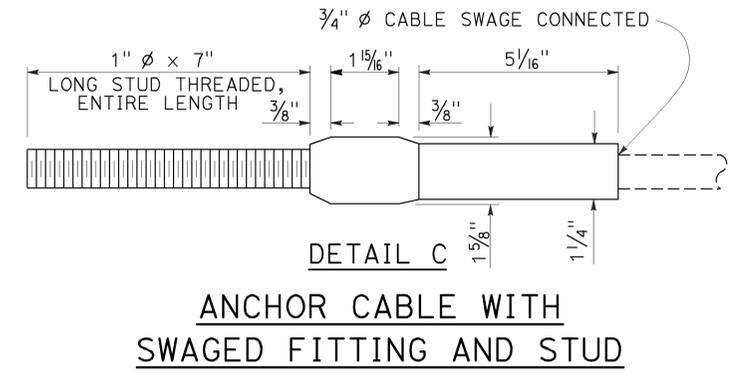
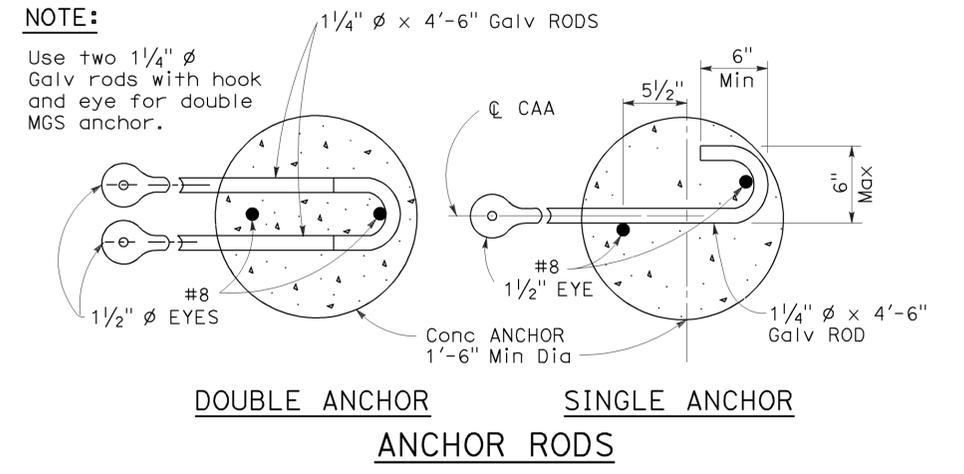
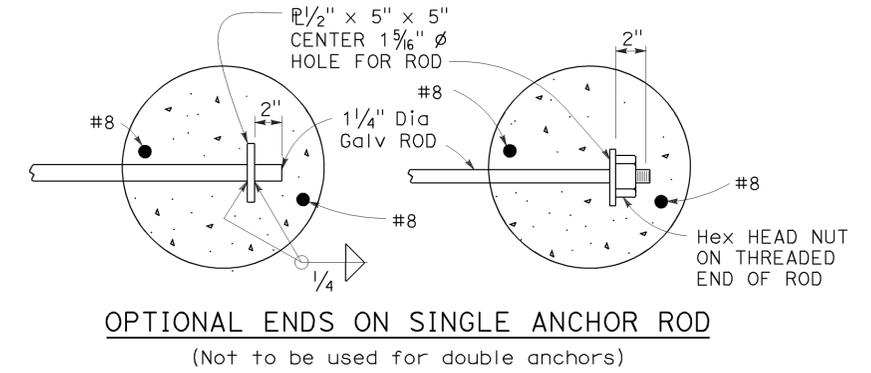
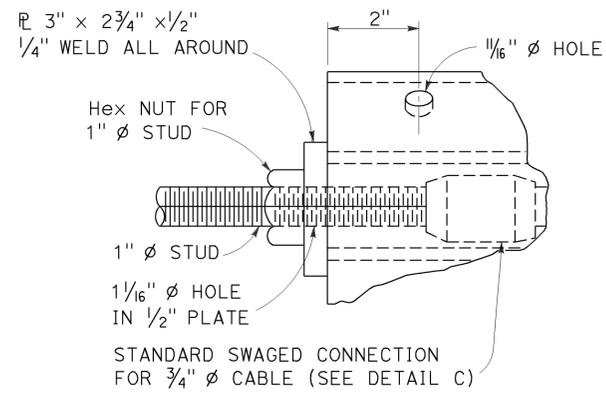
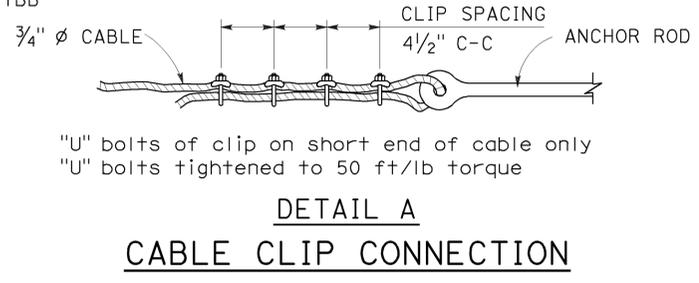
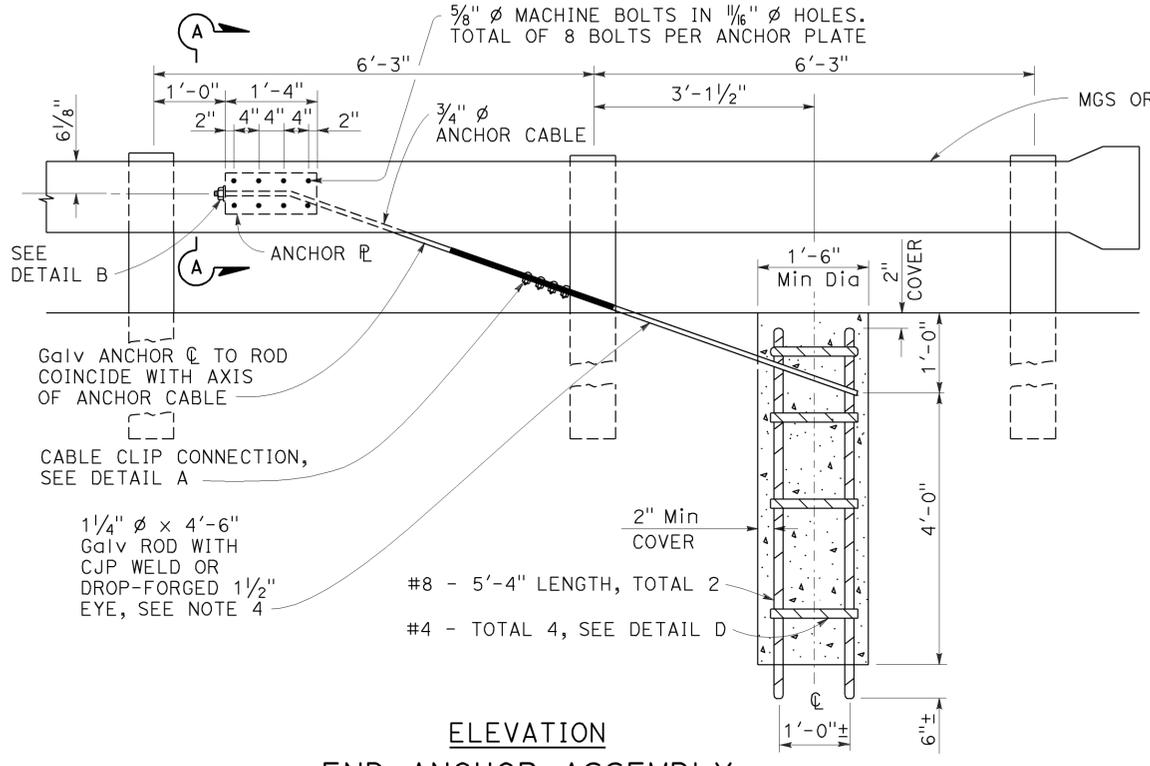
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STATE OF CALIFORNIA



TO ACCOMPANY PLANS DATED **5-4-15**

- NOTES:**
- For typical use of this type of end anchor, see Revised Standard Plan RSP A78E2.
 - Anchor cable to be parallel to railing for straight runs of rail. Anchor cable may have angle point at anchor plate if railing is curved.
 - Anchor rod hooks to be in contact with anchor reinforcement when concrete is placed. Wire ties may be used to position anchor rods.
 - Single sided railing installations require only one anchor plate, anchor rod and anchor cable. Single sided railing will not have a rail element or blockouts on backside of line posts as shown in the plan view.



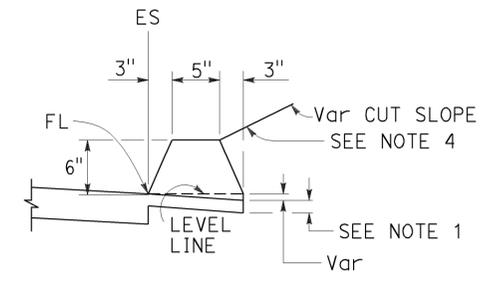
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL RAILING END ANCHOR ASSEMBLY (TYPE CA)
NO SCALE

RSP A77T1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77T1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

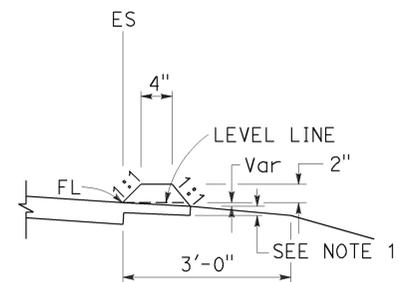
REVISED STANDARD PLAN RSP A77T1

2010 REVISED STANDARD PLAN RSP A77T1

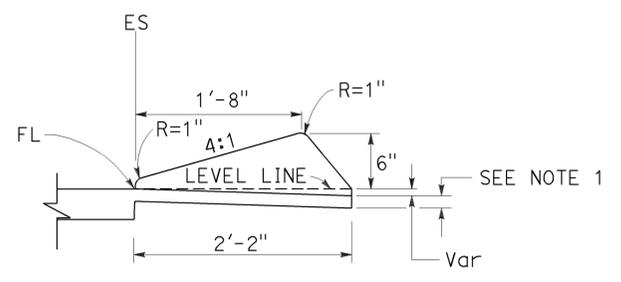
TO ACCOMPANY PLANS DATED 5-4-15



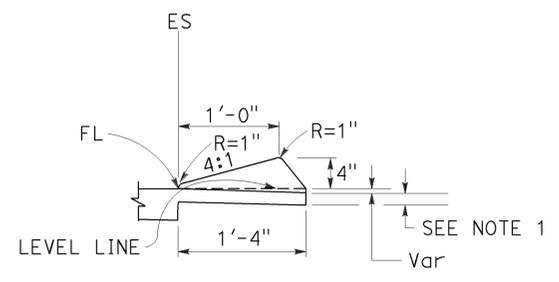
TYPE A
See Note 3



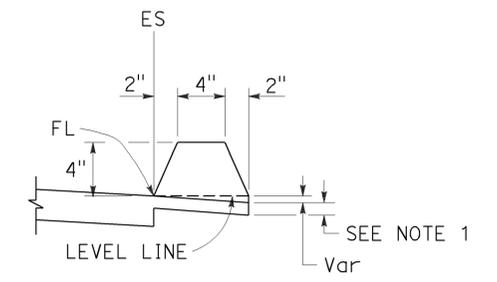
TYPE C



TYPE D

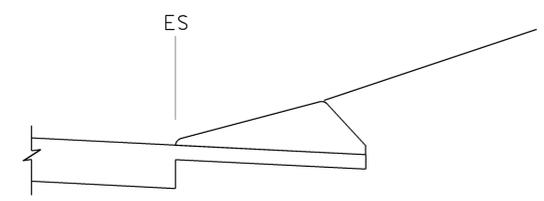


TYPE E

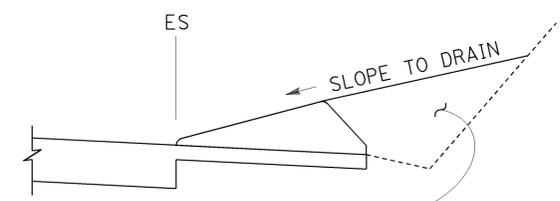


TYPE F
See Note 5

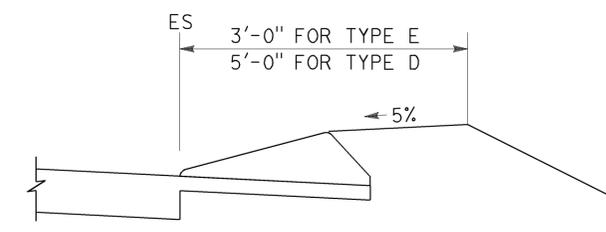
DIKES



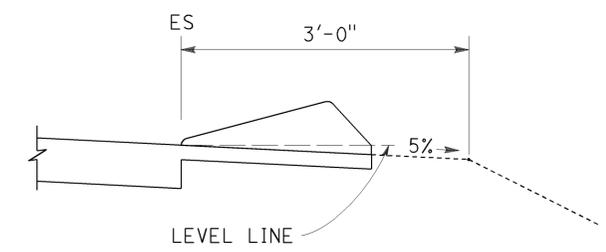
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

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.

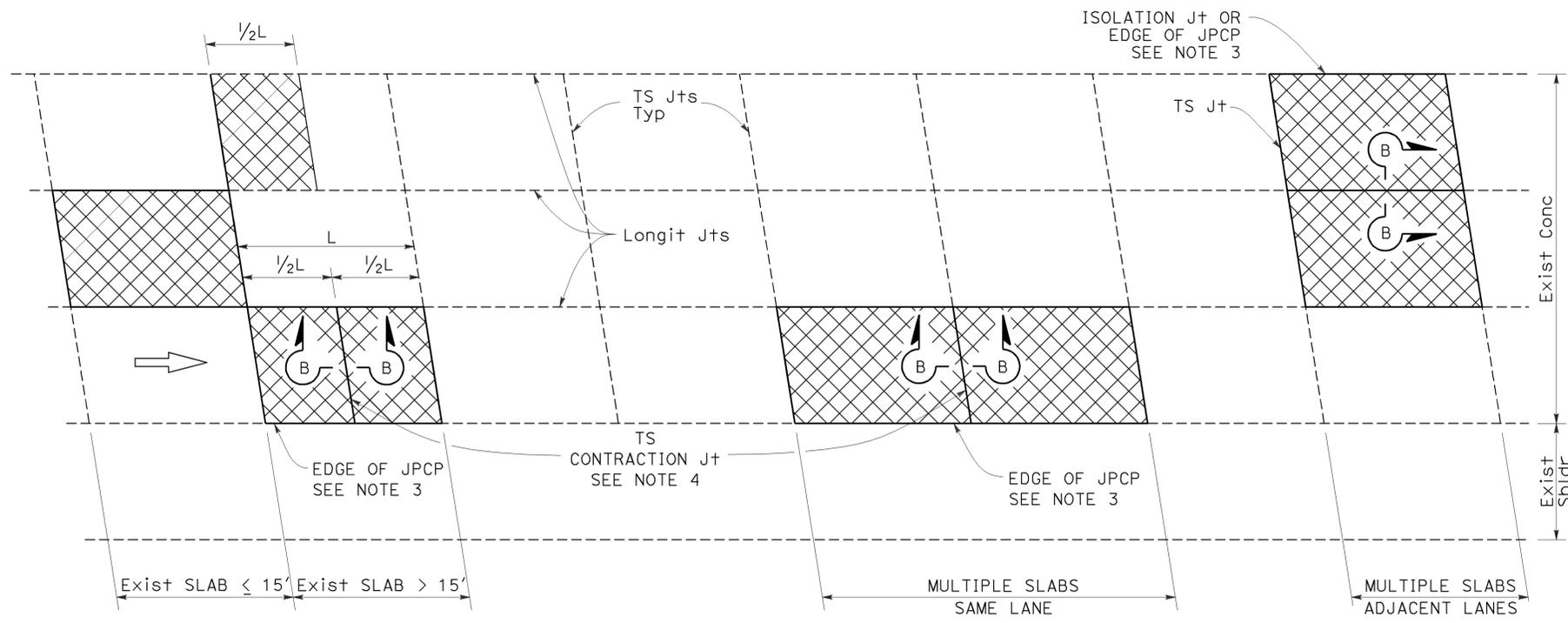
REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	31	45

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 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.

REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA



PLAN

LEGEND:

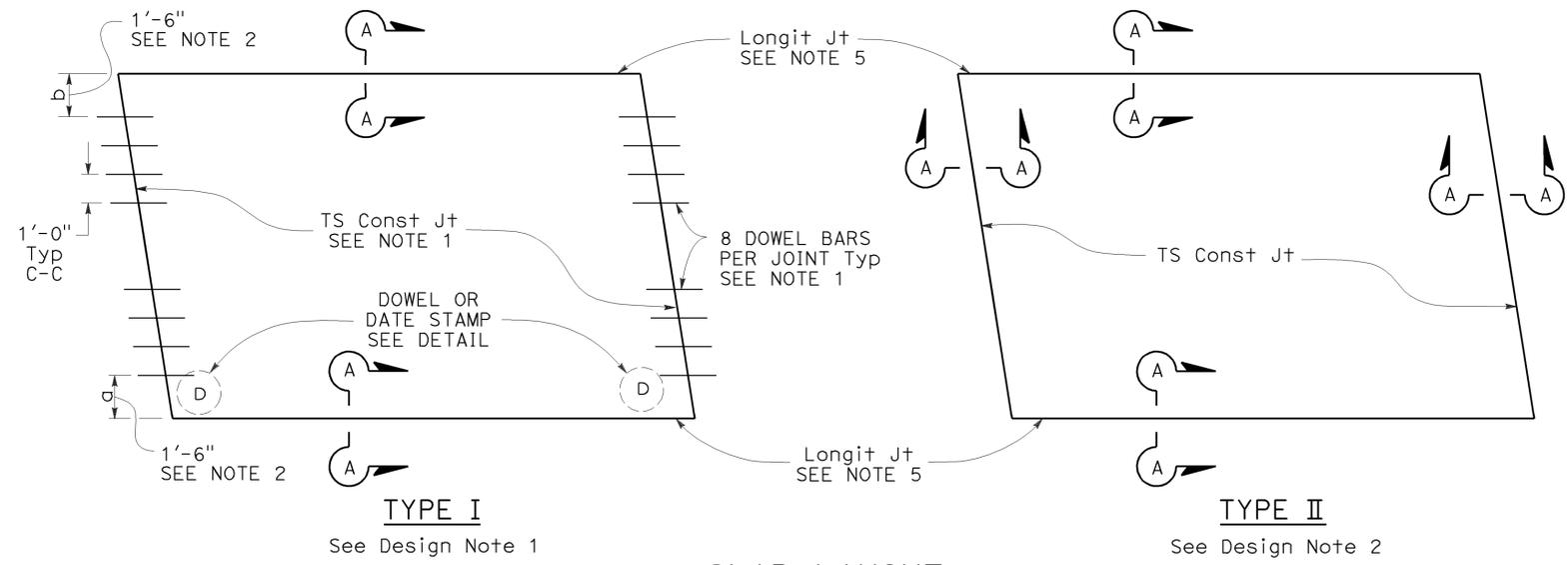
- RSC RAPID STRENGTH CONCRETE
- INDIVIDUAL SLAB REPLACEMENT WITH RSC

NOTES:

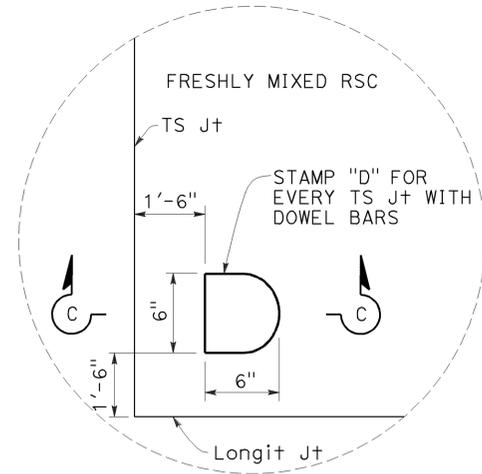
1. For details not shown, see Revised Standard Plan RSP P10.
2. Where the existing outside shoulder is asphalt concrete pavement, "a" = 1'-0" and "b" = 2'-0".
3. Use side forms where edge of RSC pavement is adjacent to asphalt concrete.
4. Transverse contraction joint to match skew of existing joint. Omit dowel bars.
5. Do not place tie bars at longitudinal joints.

DESIGN NOTES:

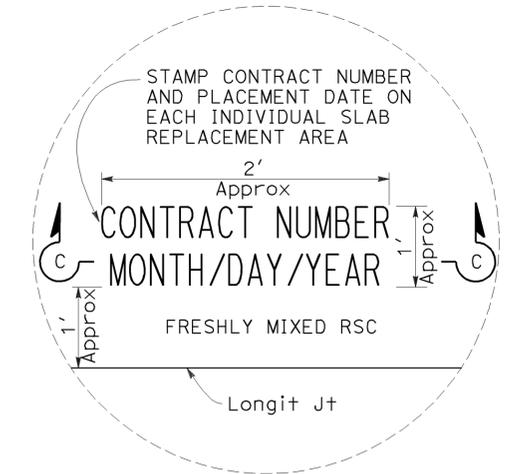
1. For concrete slab repair with at least 5 years design life.
2. For short term repairs < 5 yrs design life or for slab replacements with cracking and seating.



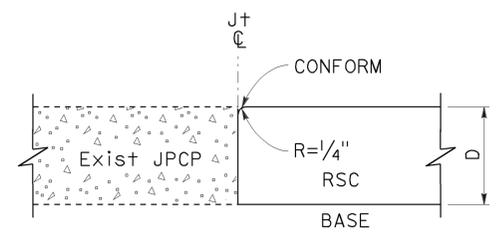
SLAB LAYOUT



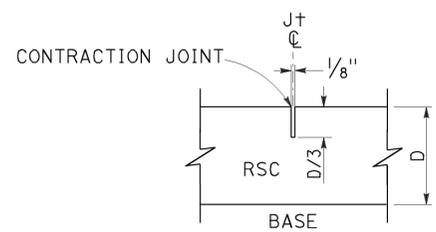
DOWEL STAMP DETAIL



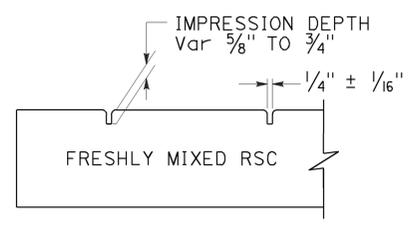
DATE STAMP DETAIL



SECTION A-A



SECTION B-B



SECTION C-C

INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE

NO SCALE

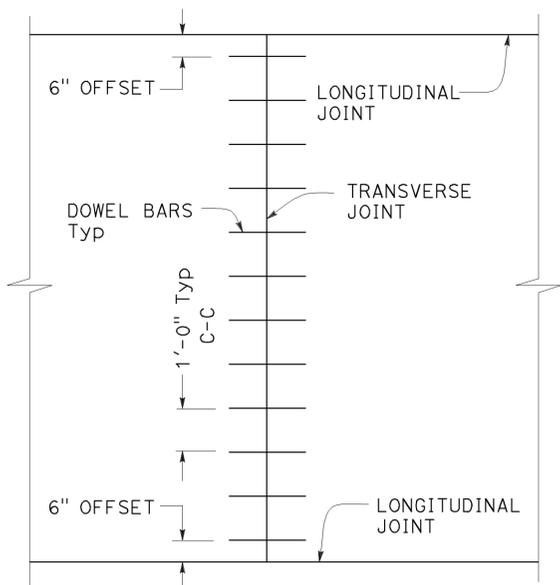
RSP P8 DATED JULY 19, 2013 SUPERSEDES RSP P8 DATED APRIL 20, 2012 AND STANDARD PLAN P8 DATED MAY 20, 2011 - PAGE 130 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P8

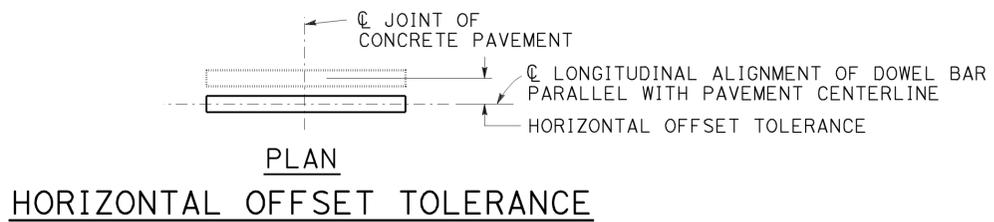
2010 REVISED STANDARD PLAN RSP P8

TO ACCOMPANY PLANS DATED 5-4-15

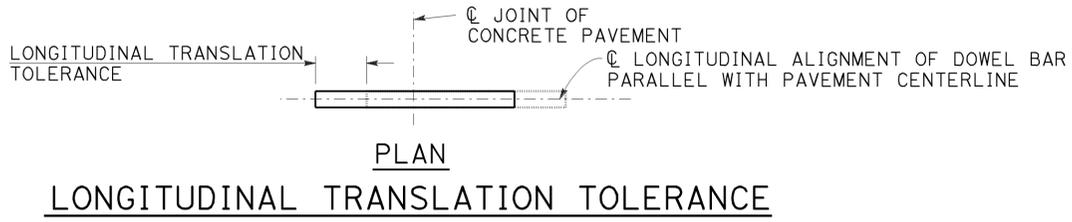
- NOTES:**
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
 - Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
 - May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.



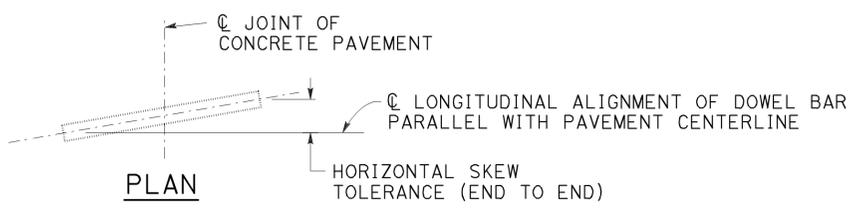
**TRANSVERSE JOINT
DOWEL BAR LAYOUT**



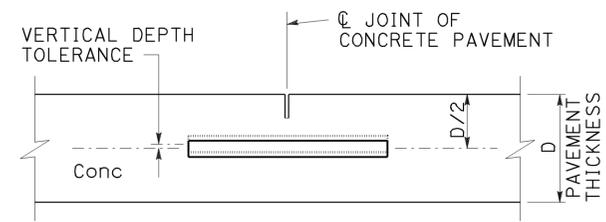
**PLAN
HORIZONTAL OFFSET TOLERANCE**



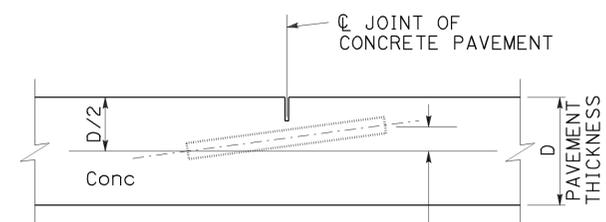
**PLAN
LONGITUDINAL TRANSLATION TOLERANCE**



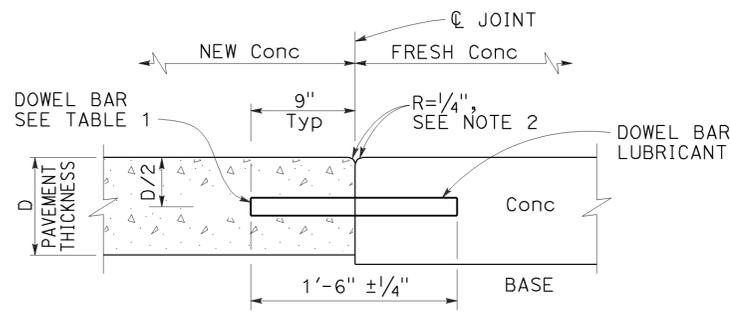
**PLAN
HORIZONTAL SKEW TOLERANCE**



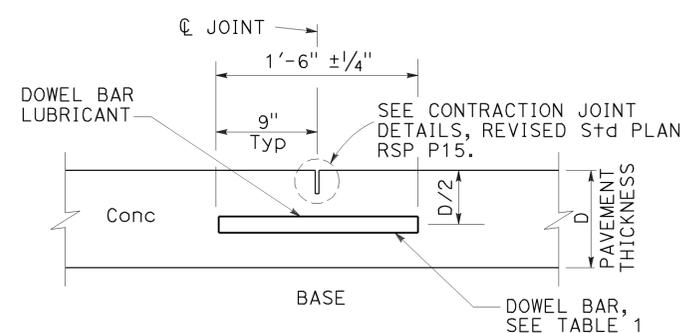
**ELEVATION
VERTICAL DEPTH TOLERANCE**



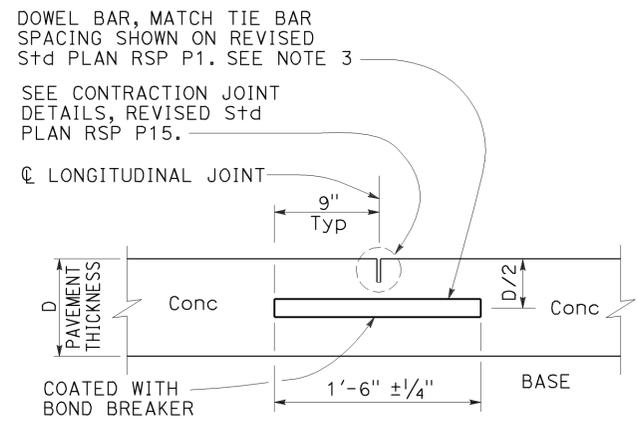
**ELEVATION
VERTICAL SKEW TOLERANCE**



**TRANSVERSE
CONSTRUCTION JOINT DETAIL**



TRANSVERSE CONTRACTION JOINT

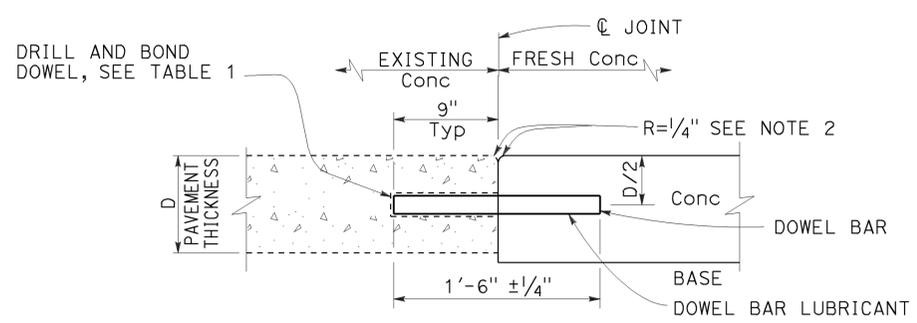


**LONGITUDINAL CONTRACTION
JOINT WITH DOWEL BARS**
See Revised Std Plan RSP P18

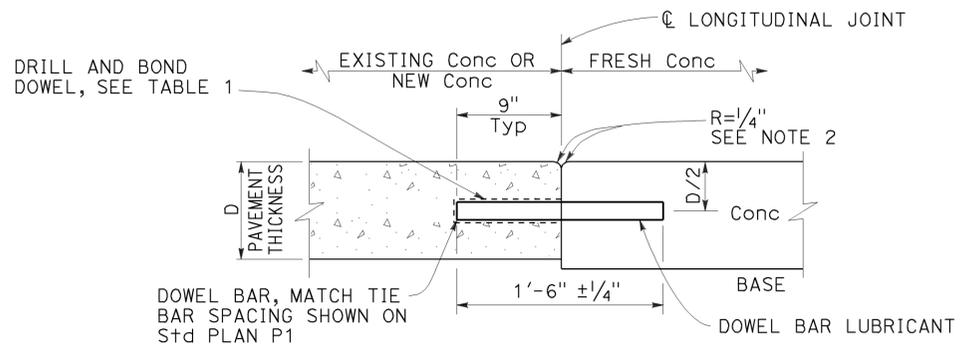
**TABLE 1
DOWEL BAR DIAMETER TABLE**

PAVEMENT THICKNESS	0.65'	> 0.65' - 0.85'	> 0.85'
MINIMUM DOWEL * BAR DIAMETER	1"	1 1/4"	1 1/2"

* The drilled hole diameter must be 1/8" to 3/16" larger than the bar diameter.



**TRANSVERSE CONSTRUCTION JOINT
FOR EXISTING CONCRETE PAVEMENT**



**LONGITUDINAL CONSTRUCTION JOINT
WITH DOWEL BARS**
See Revised Std Plan RSP P18

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT
DOWEL BAR
DETAILS**

NO SCALE

RSP P10 DATED JULY 19, 2013 SUPERSEDES RSP P10 DATED APRIL 20, 2012 AND STANDARD PLAN P10 DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

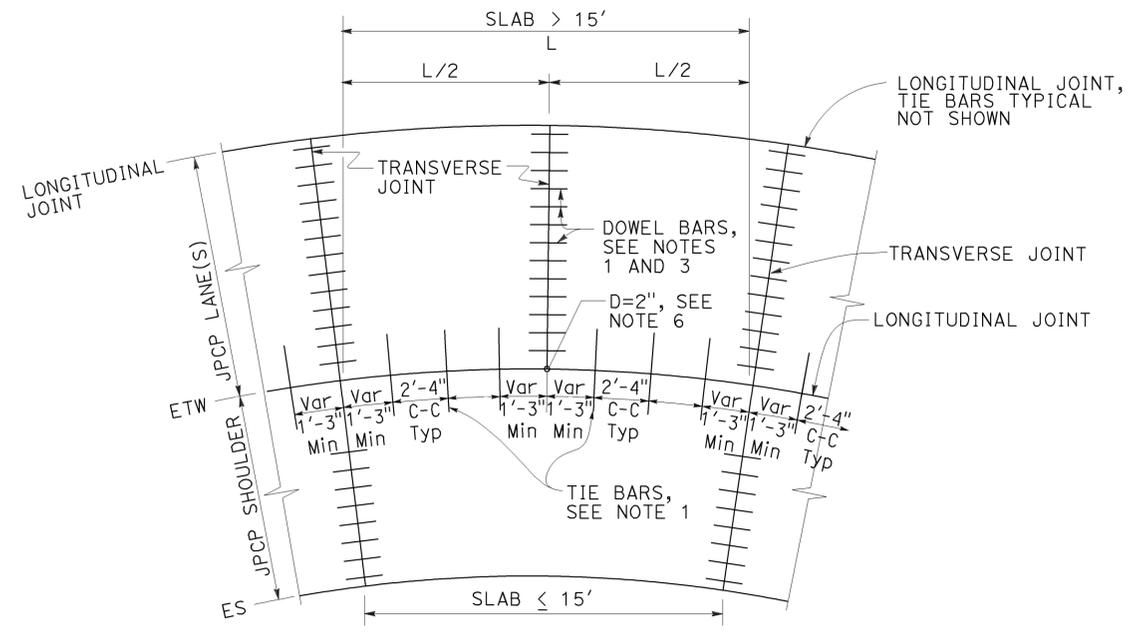
2010 REVISED STANDARD PLAN RSP P10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	33	45

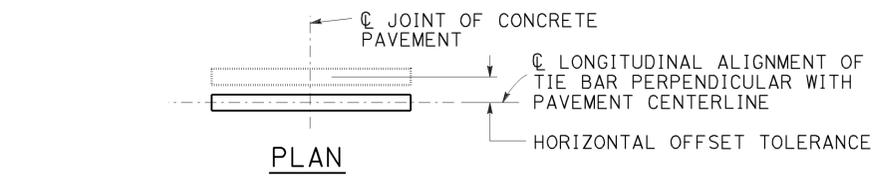
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

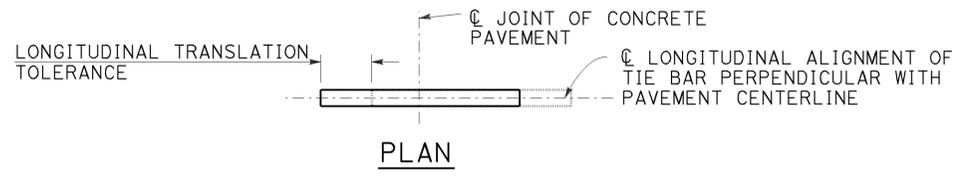
TO ACCOMPANY PLANS DATED 5-4-15



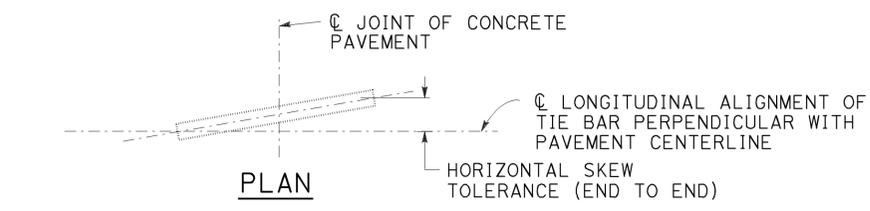
TIE BAR LAYOUT IN CURVED LANES



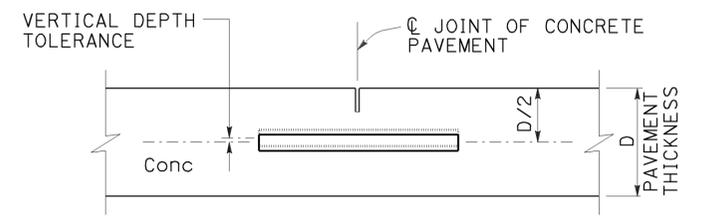
HORIZONTAL OFFSET TOLERANCE



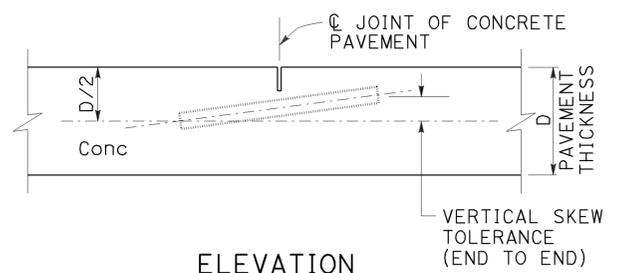
LONGITUDINAL TRANSLATION TOLERANCE



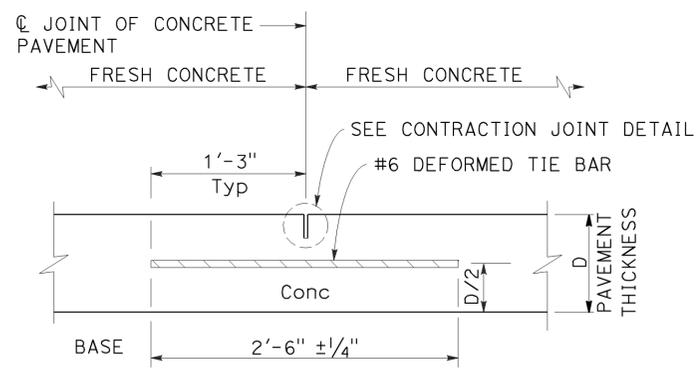
HORIZONTAL SKEW TOLERANCE



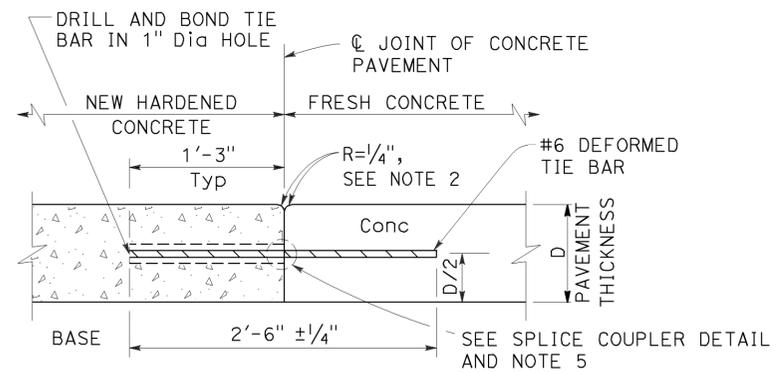
VERTICAL DEPTH TOLERANCE



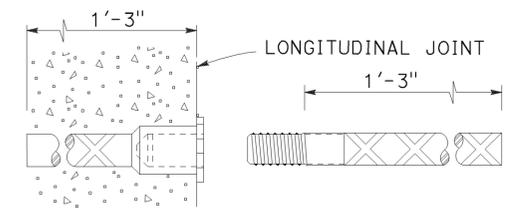
VERTICAL SKEW TOLERANCE



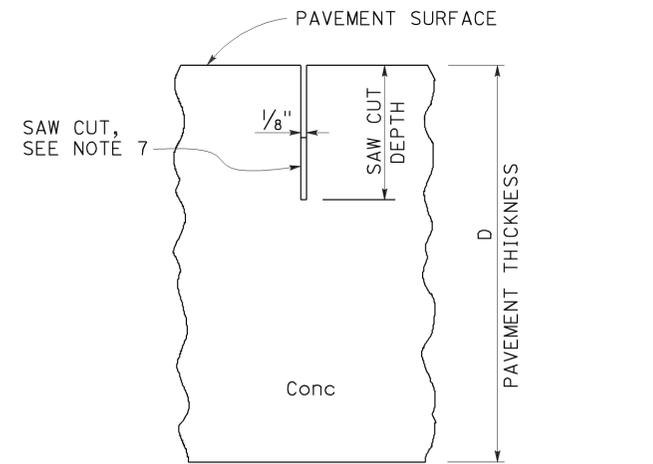
LONGITUDINAL CONTRACTION JOINT



LONGITUDINAL CONSTRUCTION JOINT



ALTERNATIVE SPLICE COUPLER



CONTRACTION JOINT DETAIL

- NOTES:**
1. See Revised Standard Plan RSP P1 for typical dowel bar and tie bar placement and locations.
 2. Where new pavement is placed against existing concrete pavement, rounding the corner is not required.
 3. For dowel bar sizes, See Revised Standard Plan RSP P10.
 4. Tie bar details apply to inside widenings.
 5. Use either drill and bond or splice couplers.
 6. Full depth drilled hole. Fill hole with filler material.
 7. The bottom of the saw cut must be at least 0.5" clear of any dowel bar, tie bar and bar reinforcement.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT-TIE BAR DETAILS
NO SCALE

RSP P15 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP P15

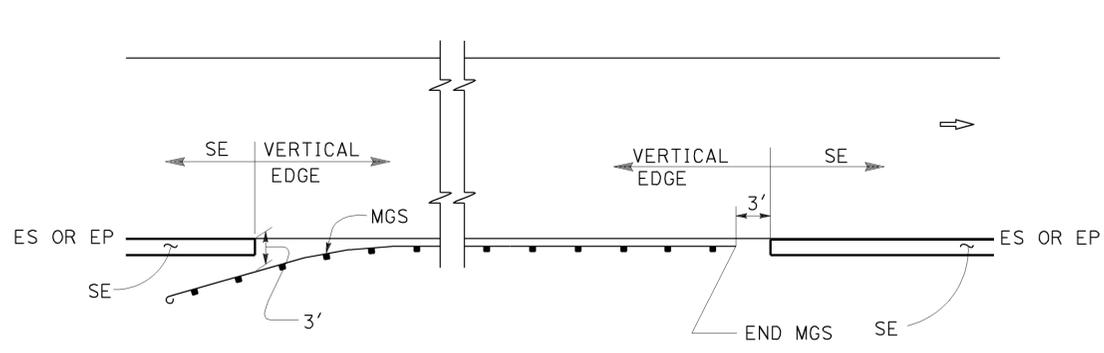
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	34	45

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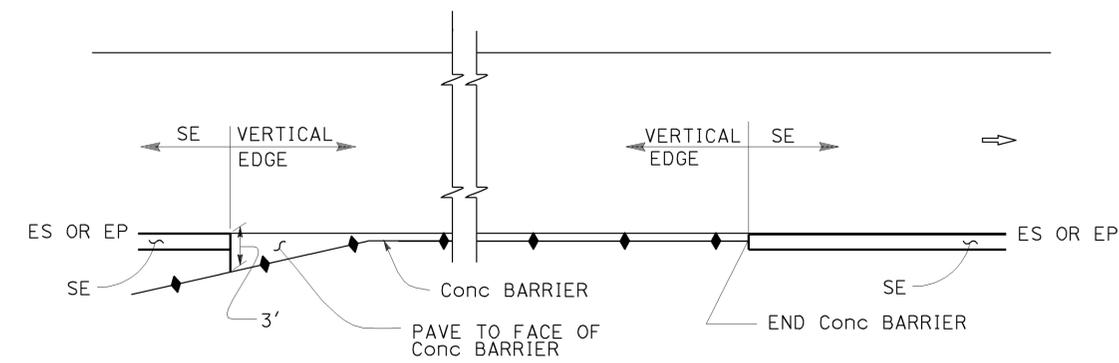
REGISTERED PROFESSIONAL ENGINEER
 Cornelis M. Hakim
 No. C55610
 Exp. 12-31-14
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 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 5-4-15

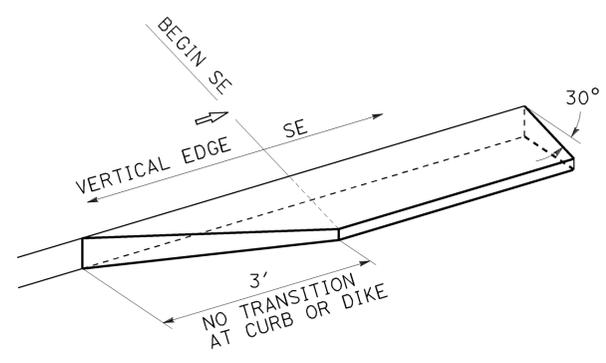
ABBREVIATIONS:
SE SAFETY EDGE



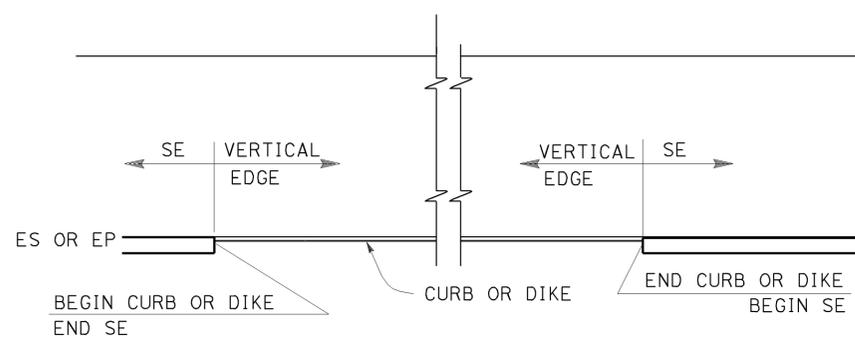
MGS



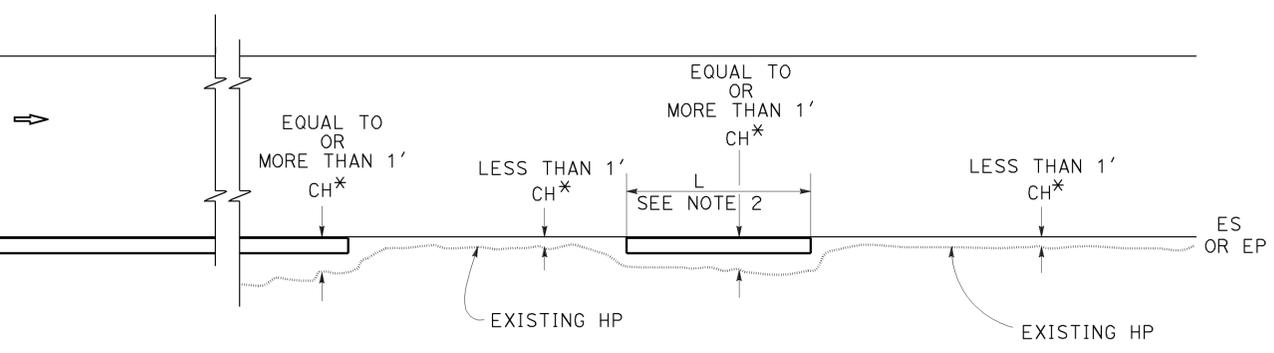
CONCRETE BARRIER



TRANSITION DETAIL FOR CONCRETE ONLY

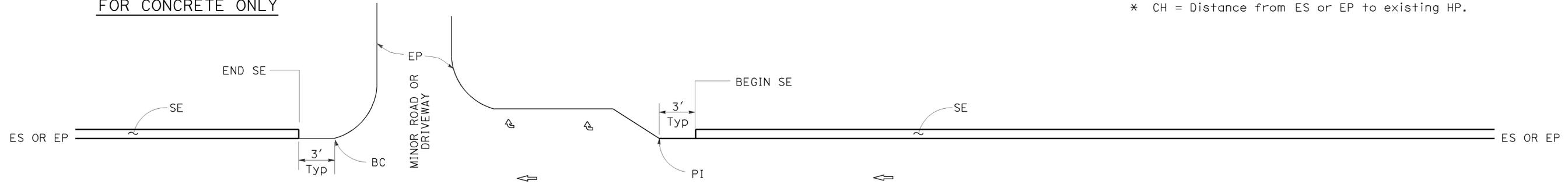


CURB OR DIKE



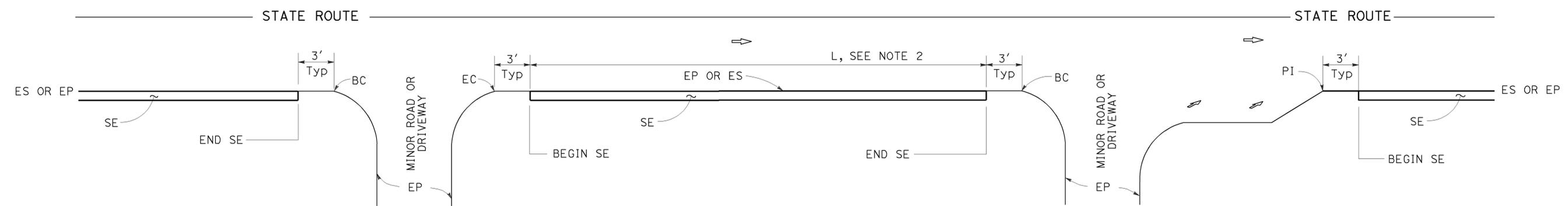
NARROW SIDE SLOPE

* 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:

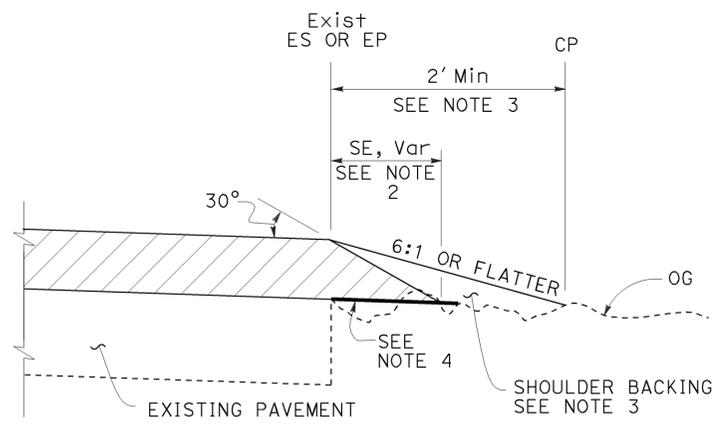
1. For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
2. Safety edge is optional when L is less than 30'.

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

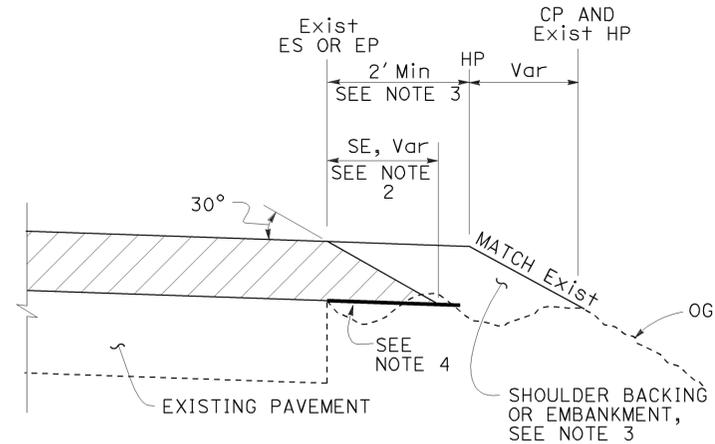
REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

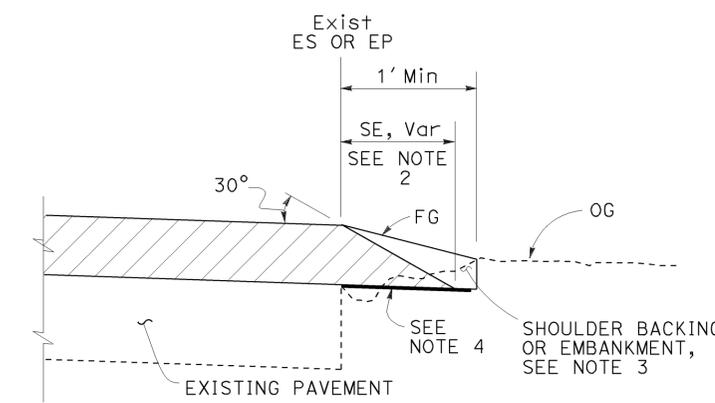
2010 REVISED STANDARD PLAN RSP P75



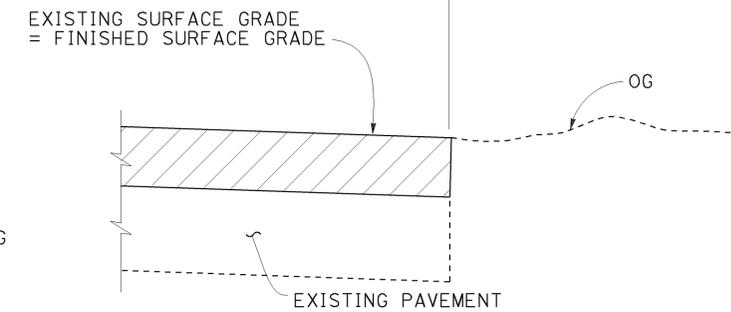
CASE A
Safety Edge



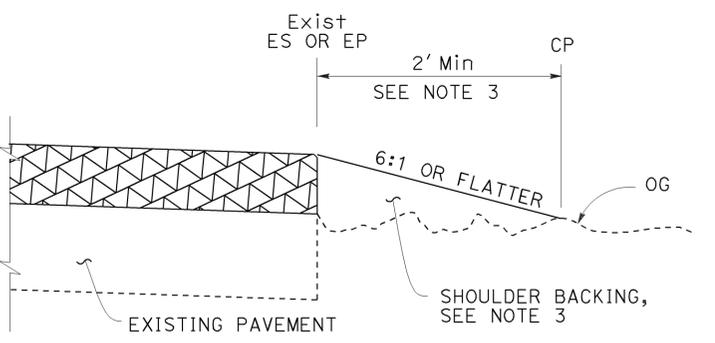
CASE B
Safety Edge



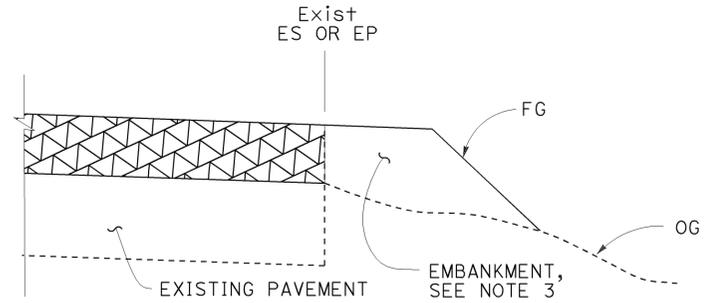
CASE C
Safety Edge



CASE D
Vertical Edge



CASE E
Vertical Edge



CASE F
Vertical Edge
* See Table A and Revised Std Plan RSP P74

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

LEGEND:

- HMA OVERLAY
- HMA OR CONCRETE OVERLAY
- CONCRETE OVERLAY

ABBREVIATIONS:

- SE SAFETY EDGE
- TT TOTAL THICKNESS OF SE

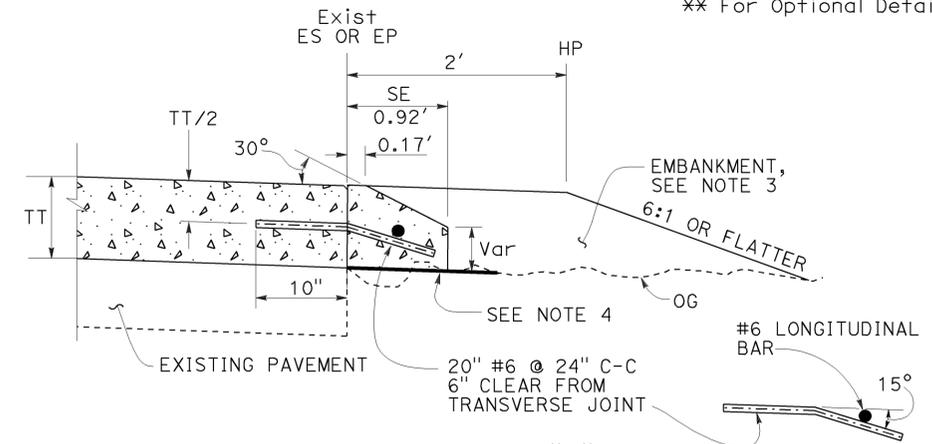
TABLE A
EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

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

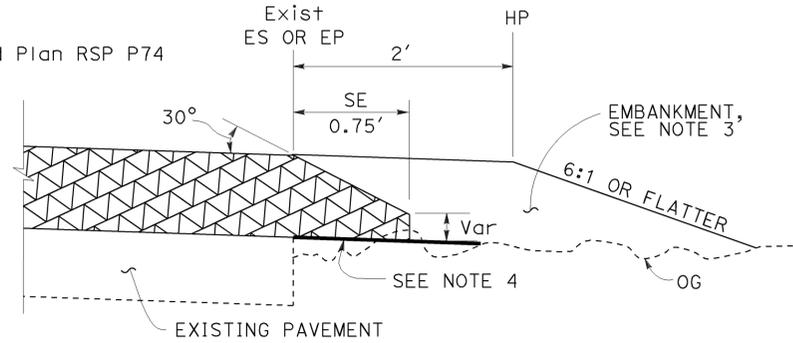
TO ACCOMPANY PLANS DATED 5-4-15
ADDITIONAL HMA OR CONCRETE QUANTITIES FOR SE/SIDE/MILE

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
	1.20'	292.1	144.3	184.2

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



OPTIONAL DETAIL "A"
 For concrete overlay
 See Note 5



DETAIL "A"
 For HMA overlay thickness more than 0.43' or concrete overlay

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

TO ACCOMPANY PLANS DATED 5-4-15

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.

2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	37	45

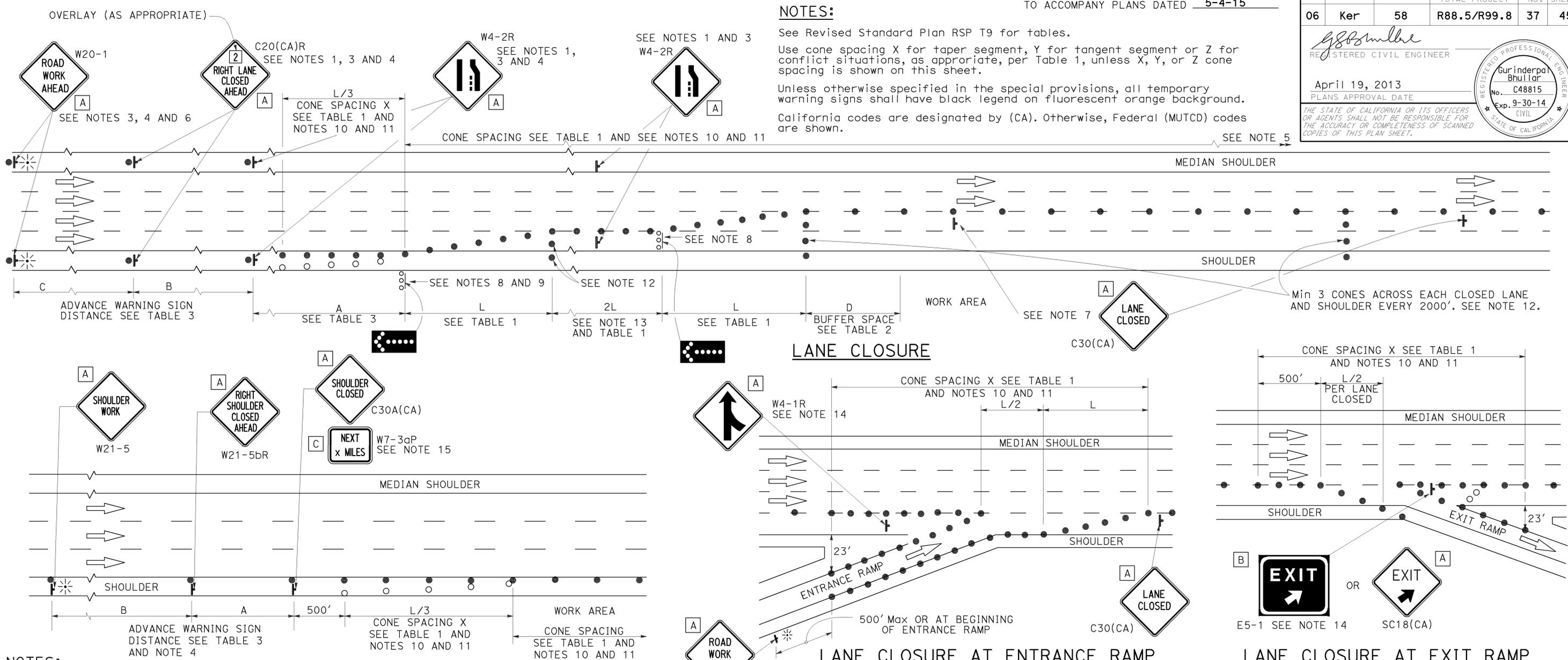
REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 5-4-15

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.



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 x 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.

W20-1 SEE NOTE 4

- 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

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
06	Ker	58	R88.5/R99.8	38	45

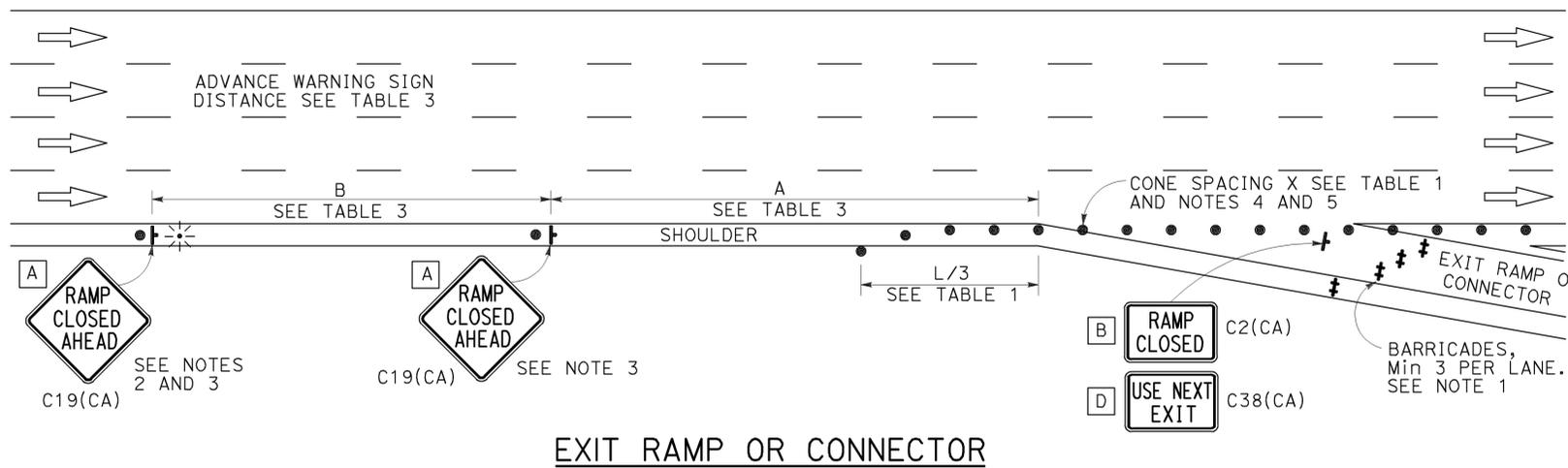
Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

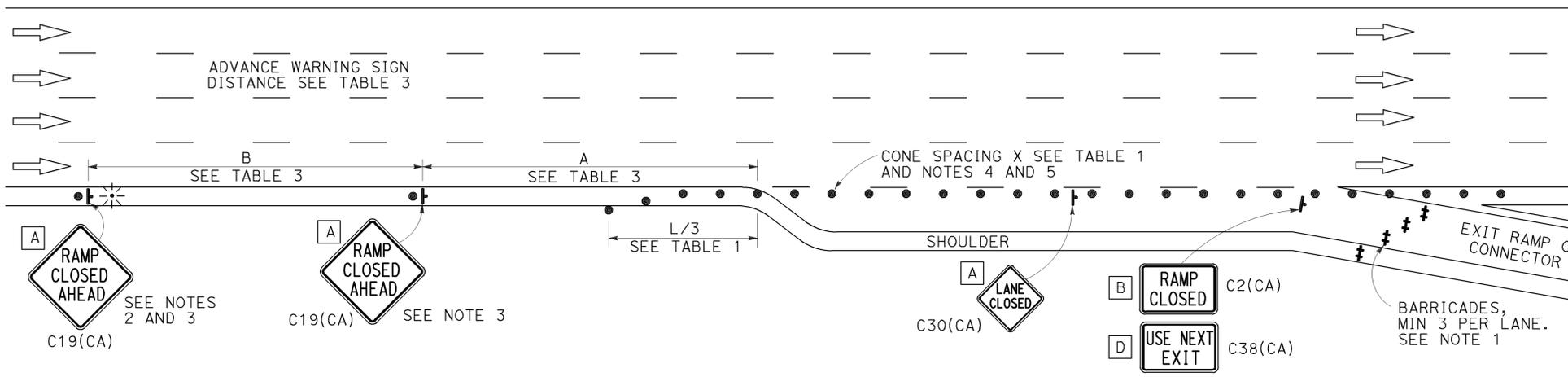
TO ACCOMPANY PLANS DATED **5-4-15**

NOTES:

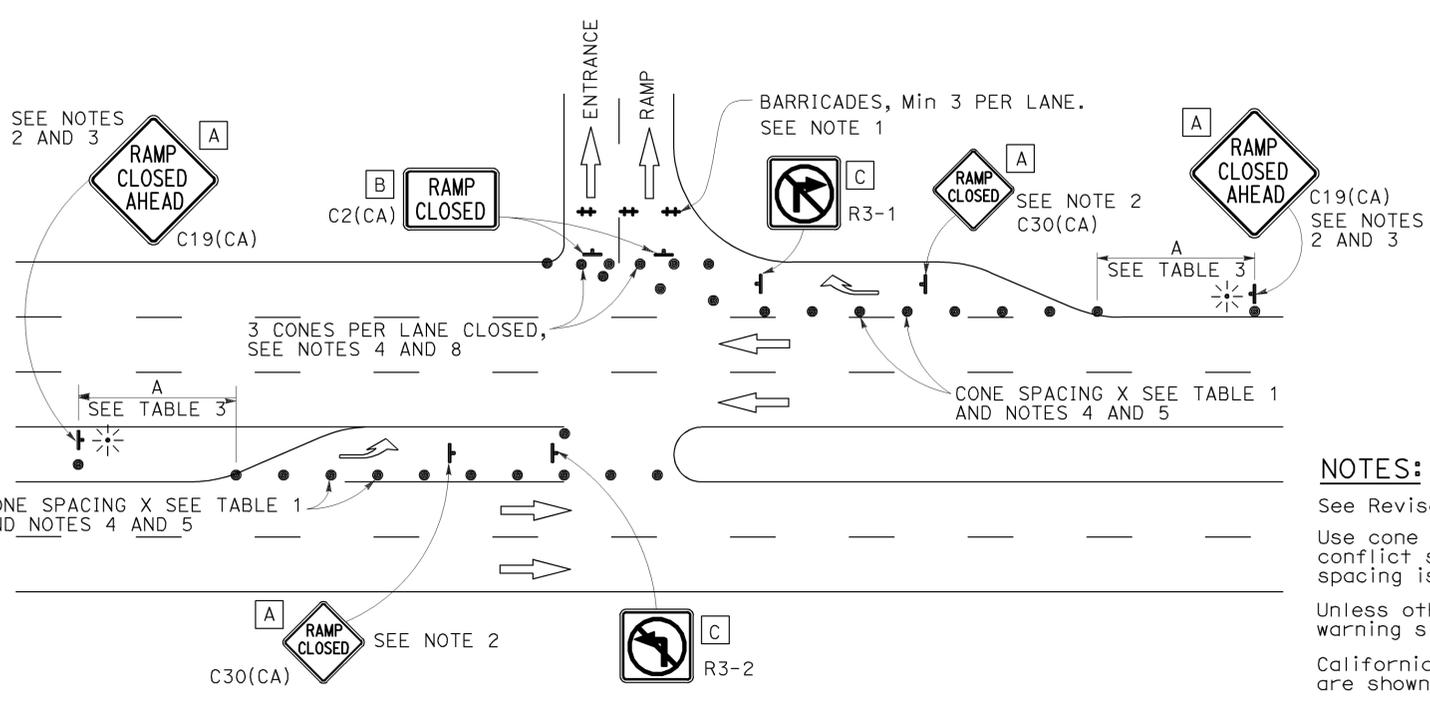
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed 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.
- 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.
- All cones used for ramp 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 ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



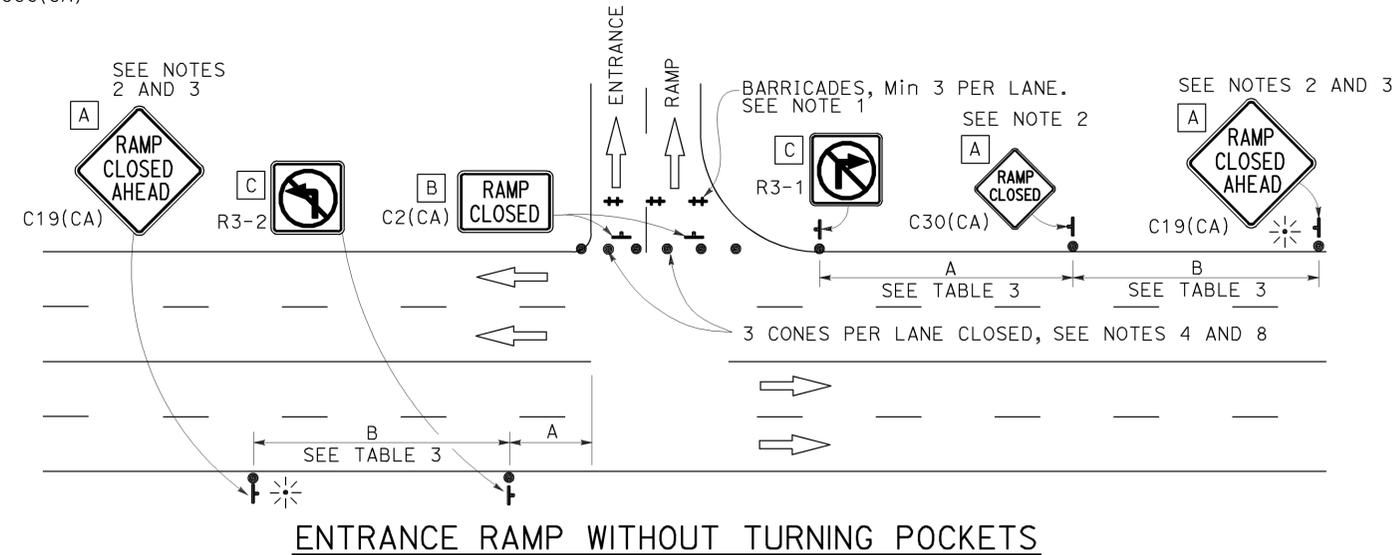
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

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.

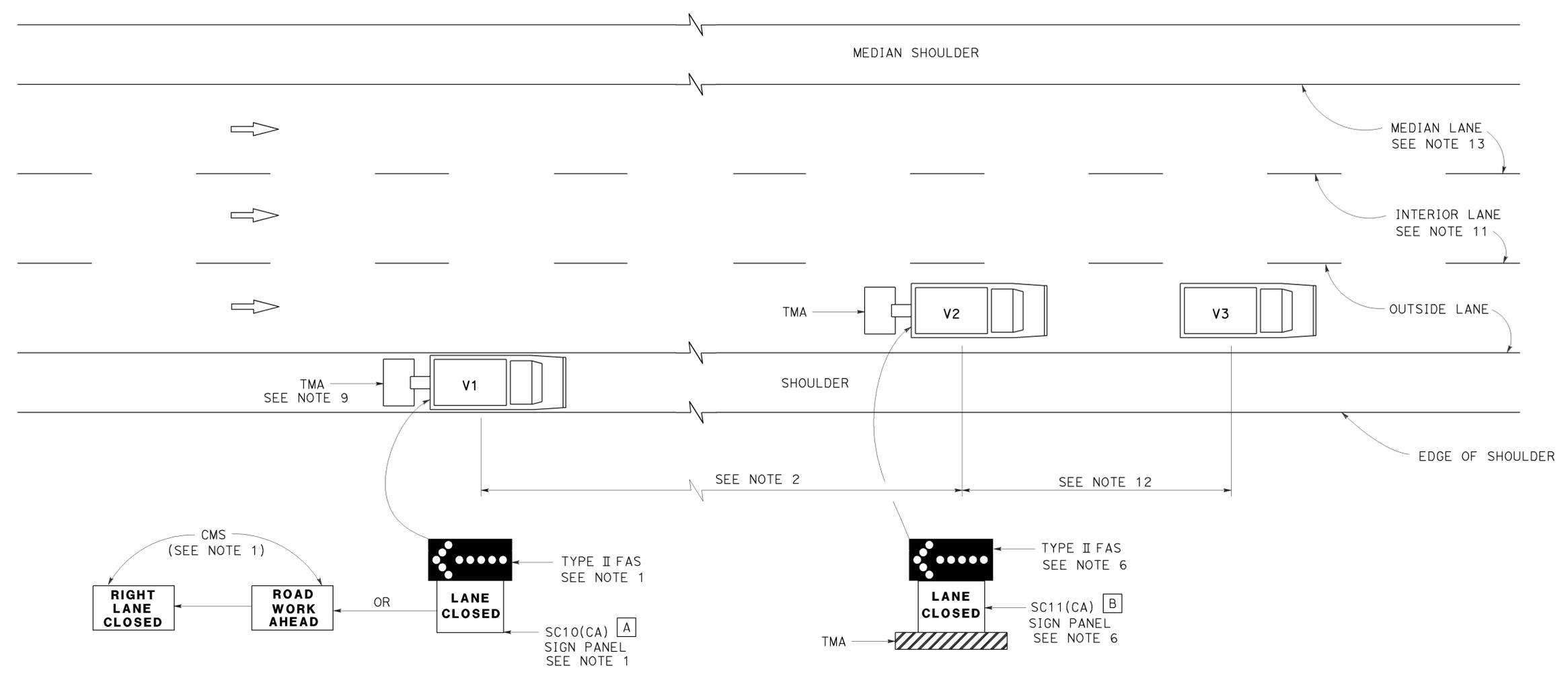
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURE**
 NO SCALE

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

2010 REVISED STANDARD PLAN RSP T14

TO ACCOMPANY PLANS DATED 5-4-15



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

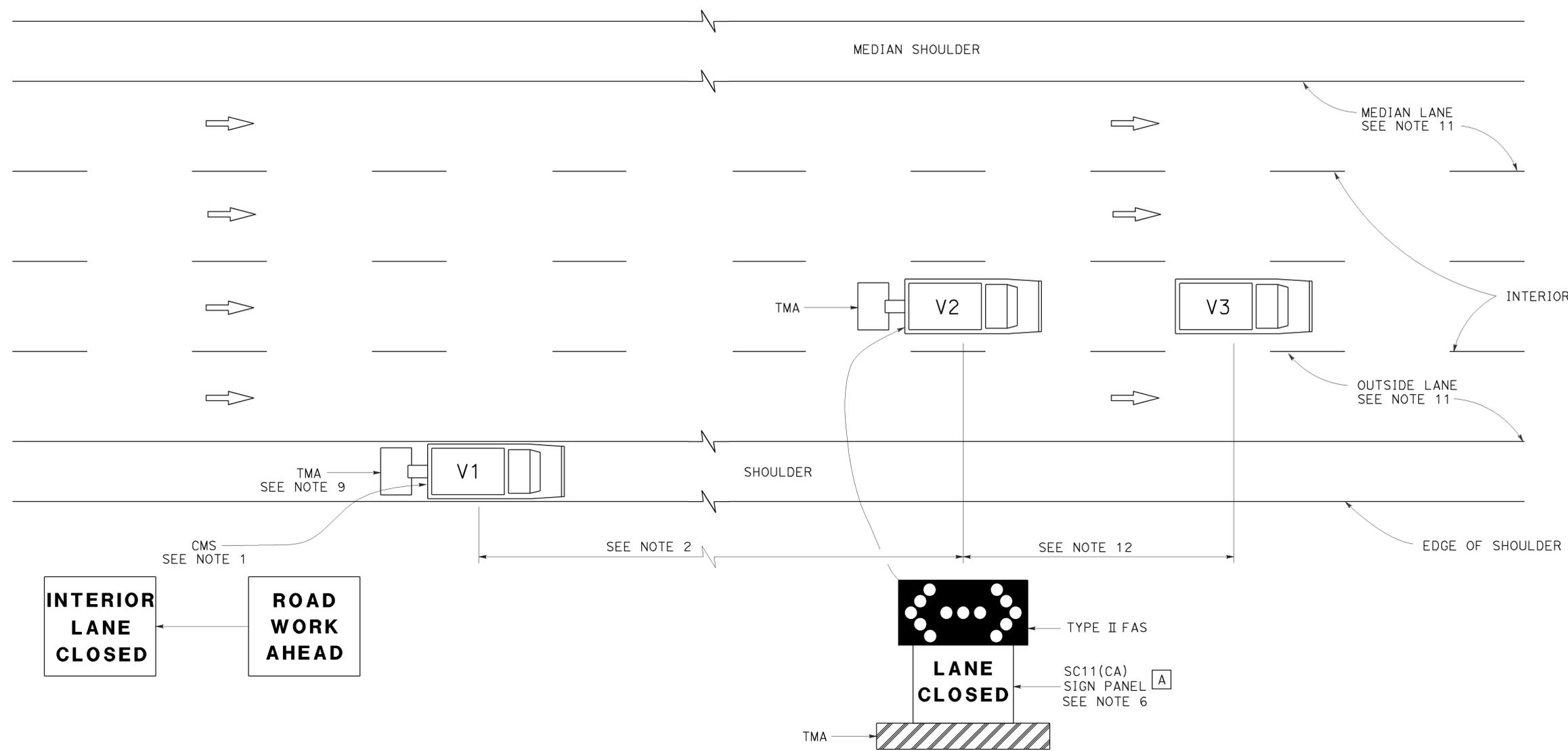
2010 REVISED STANDARD PLAN RSP T15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	40	45

Registered Civil Engineer
 April 19, 2013
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 5-4-15



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

LEGEND:

AB	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
BC	INSTALL PULL BOX IN EXISTING CONDUIT RUN
BP	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
CC	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
CF	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
DH	DETECTOR HANDHOLE
FA	FOUNDATION TO BE ABANDONED
IS	INSTALL SIGN ON SIGNAL MAST ARM
NS	NO SLIP BASE ON STANDARD
PEC	PHOTOELECTRIC CONTROL
PEU	PHOTOELECTRIC UNIT
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RE	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
RL	RELOCATE EQUIPMENT
RR	REMOVE AND REUSE EQUIPMENT
RS	REMOVE AND SALVAGE EQUIPMENT
SC	SPLICE NEW TO EXISTING CONDUCTORS
SD	SERVICE DISCONNECT
TSP	TELEPHONE SERVICE POINT

MISCELLANEOUS ELECTROLIERS

<u>NEW</u>	<u>EXISTING</u>	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

NOTES:

- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
- LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ck+	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
Ctid	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

STANDARD ELECTROLIER

<u>NEW</u>	<u>EXISTING</u>	<u>STANDARD TYPE</u>
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	41	45

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 5-4-15

SOFFIT AND WALL MOUNTED LUMINAIRES

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:

Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
Hz	HERTZ

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	42	45

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REGISTERED ELECTRICAL ENGINEER

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TO ACCOMPANY PLANS DATED 5-4-15

CONDUIT

NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

SIGNAL EQUIPMENT

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

SERVICE EQUIPMENT

NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

POLE-MOUNTED SERVICE DESIGNATION

	TYPE H SERVICE, 28'-10"	TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE
--	-------------------------	--

FLASHING BEACON

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

NOTES:

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

ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

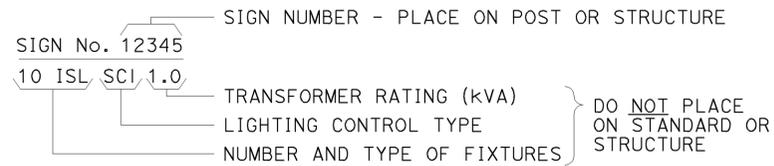
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

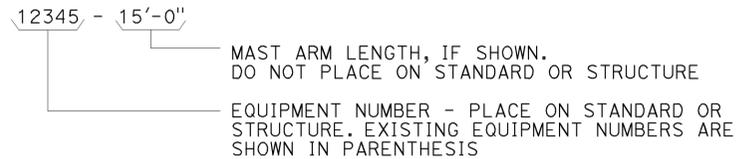
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

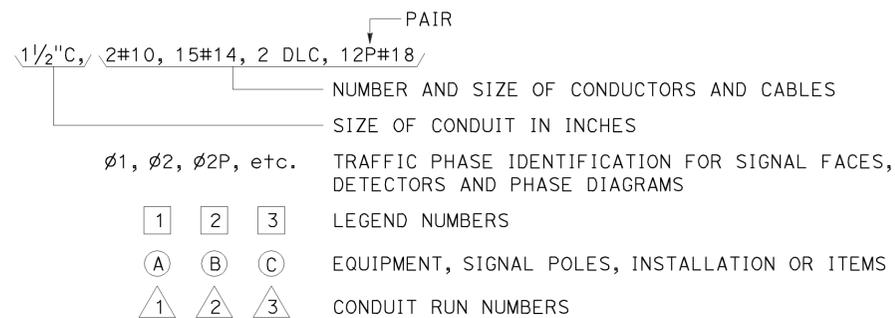
ILLUMINATED SIGN IDENTIFICATION NUMBER:



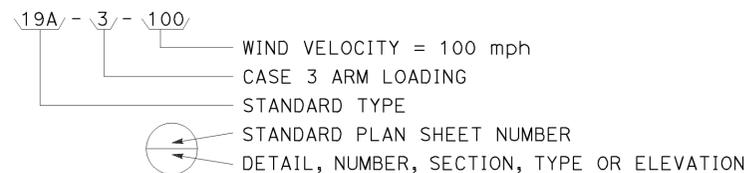
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



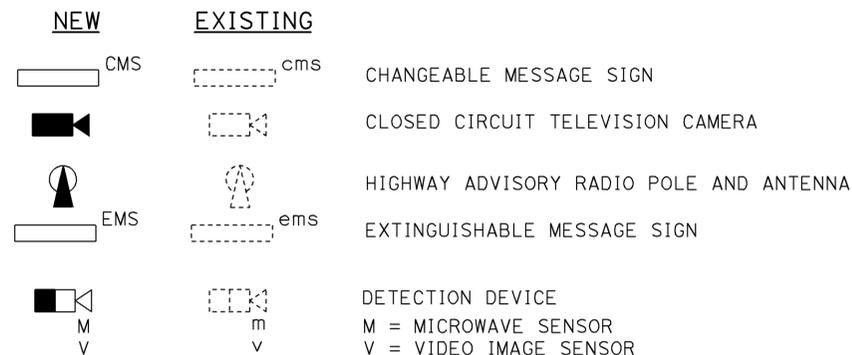
CONDUIT AND CONDUCTOR IDENTIFICATION:



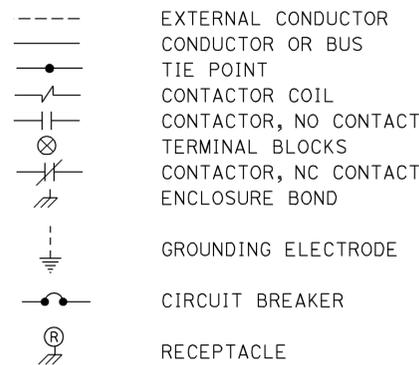
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



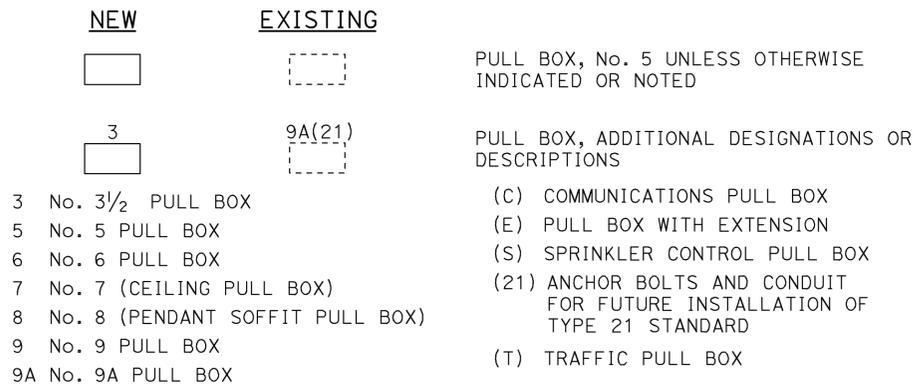
MISCELLANEOUS EQUIPMENT



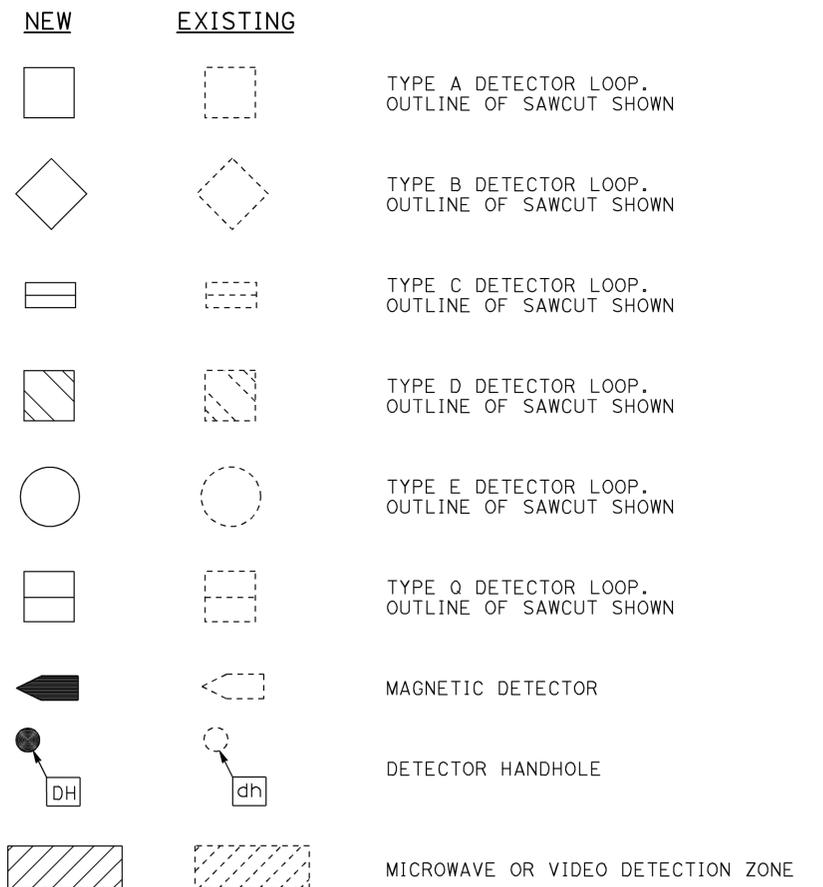
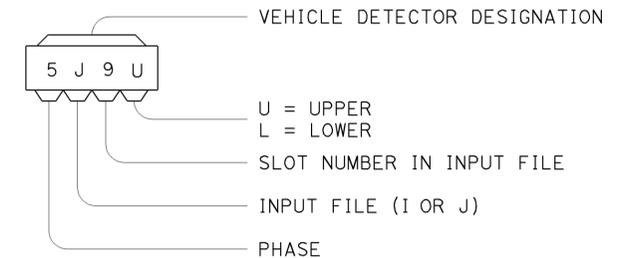
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

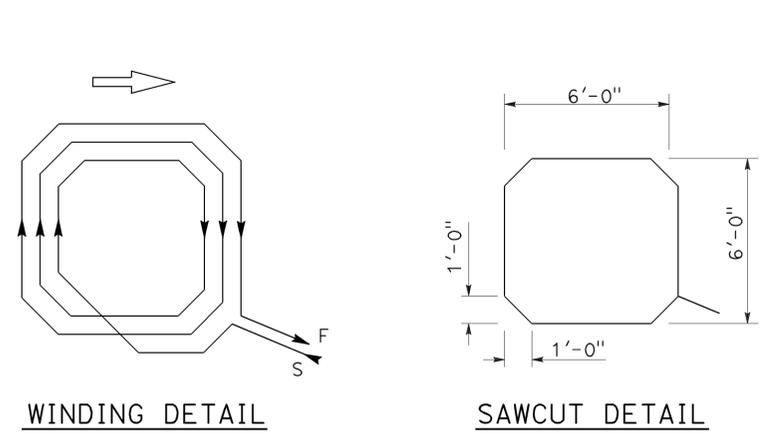
REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

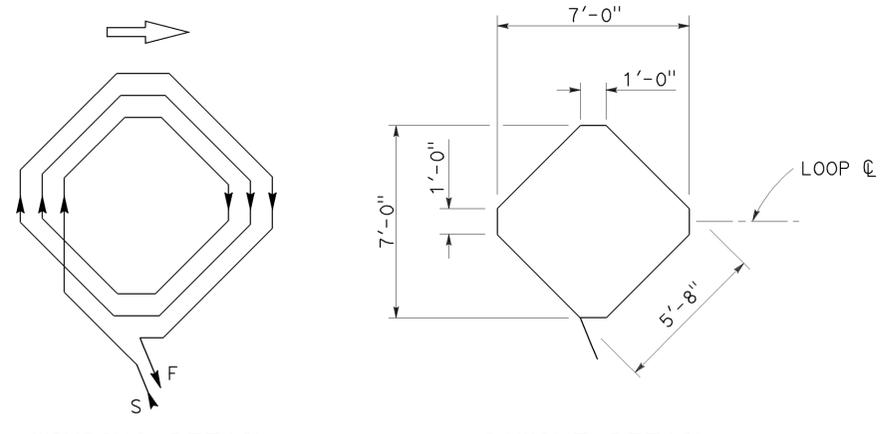
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	44	45
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

TO ACCOMPANY PLANS DATED 5-4-15

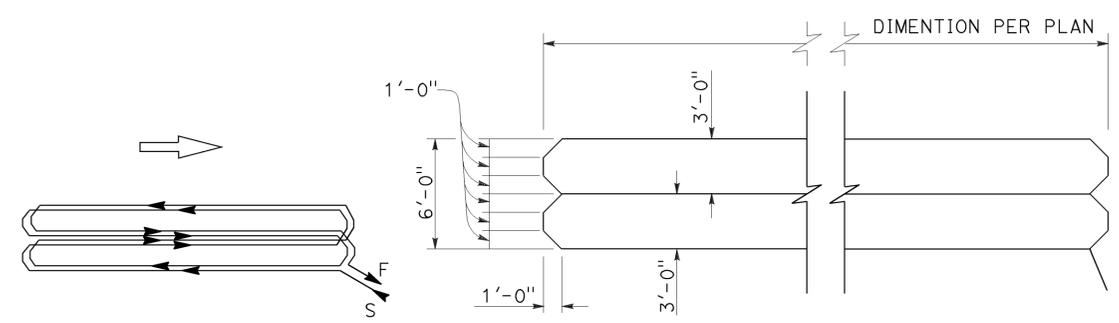
2010 REVISED STANDARD PLAN RSP ES-5B



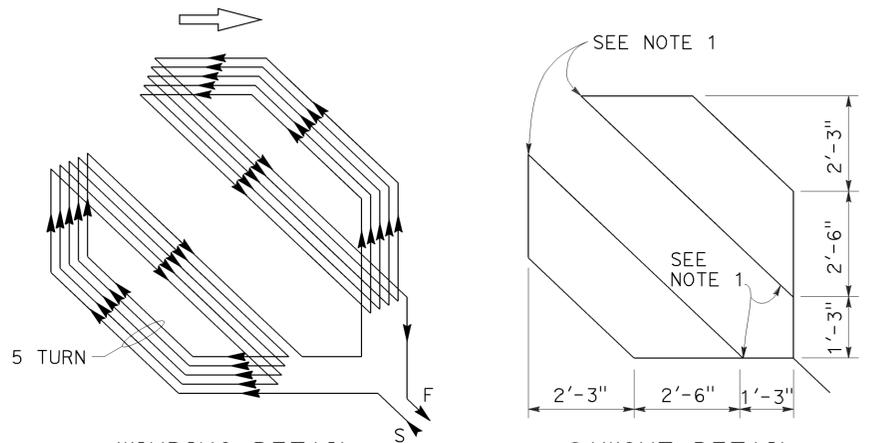
WINDING DETAIL SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



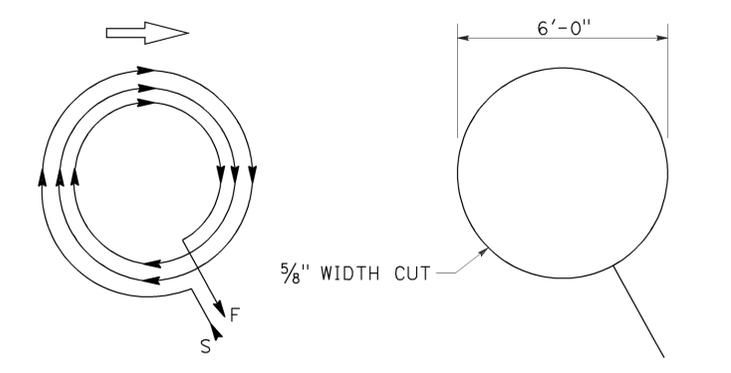
WINDING DETAIL SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



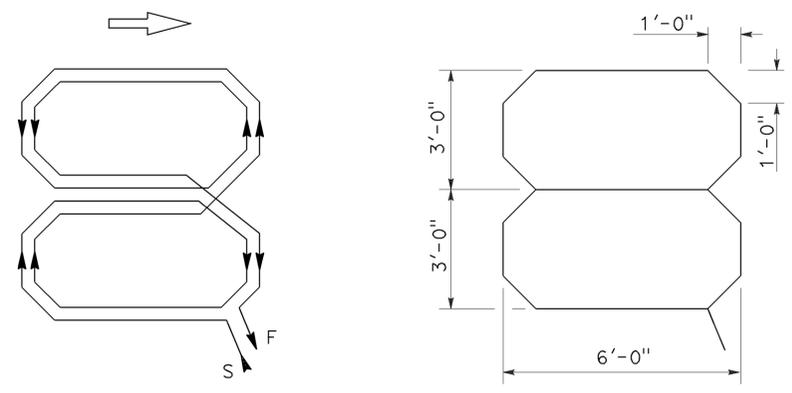
WINDING DETAIL SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



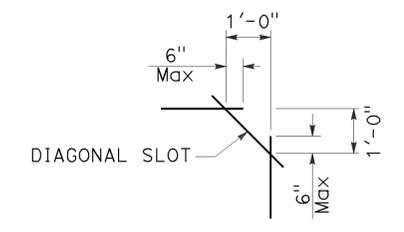
WINDING DETAIL SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (DETECTORS)
 NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

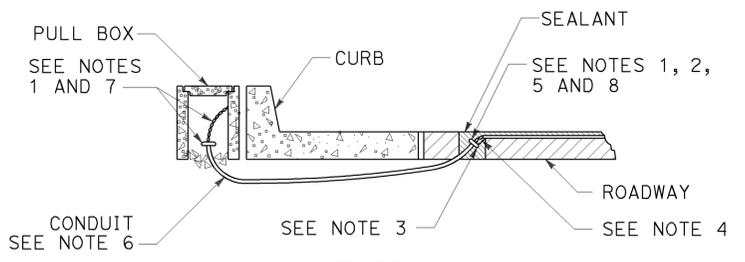
REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker	58	R88.5/R99.8	45	45

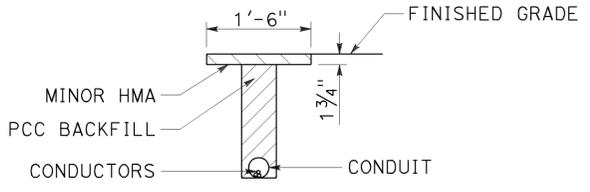
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

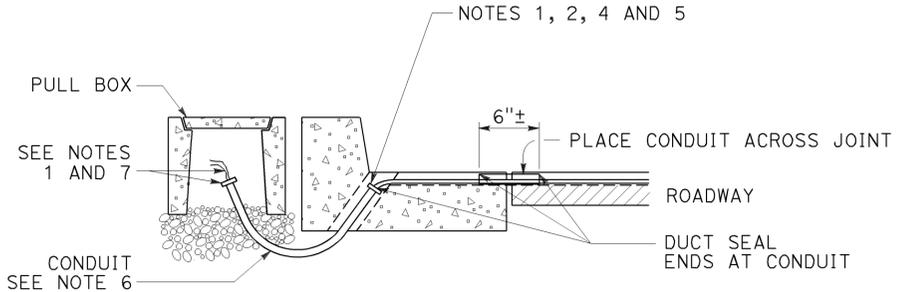
TO ACCOMPANY PLANS DATED 5-4-15



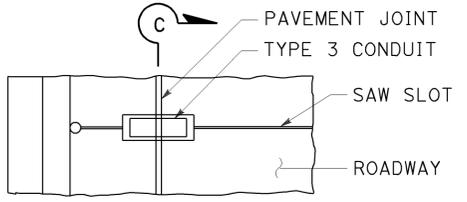
TYPE A
CURB TERMINATION DETAIL



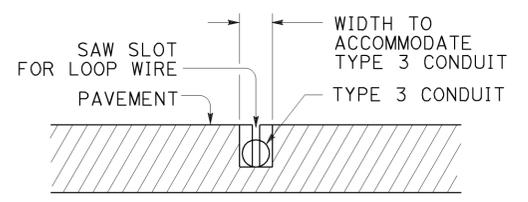
"T" TRENCH
DETAIL T



CROSS SECTION

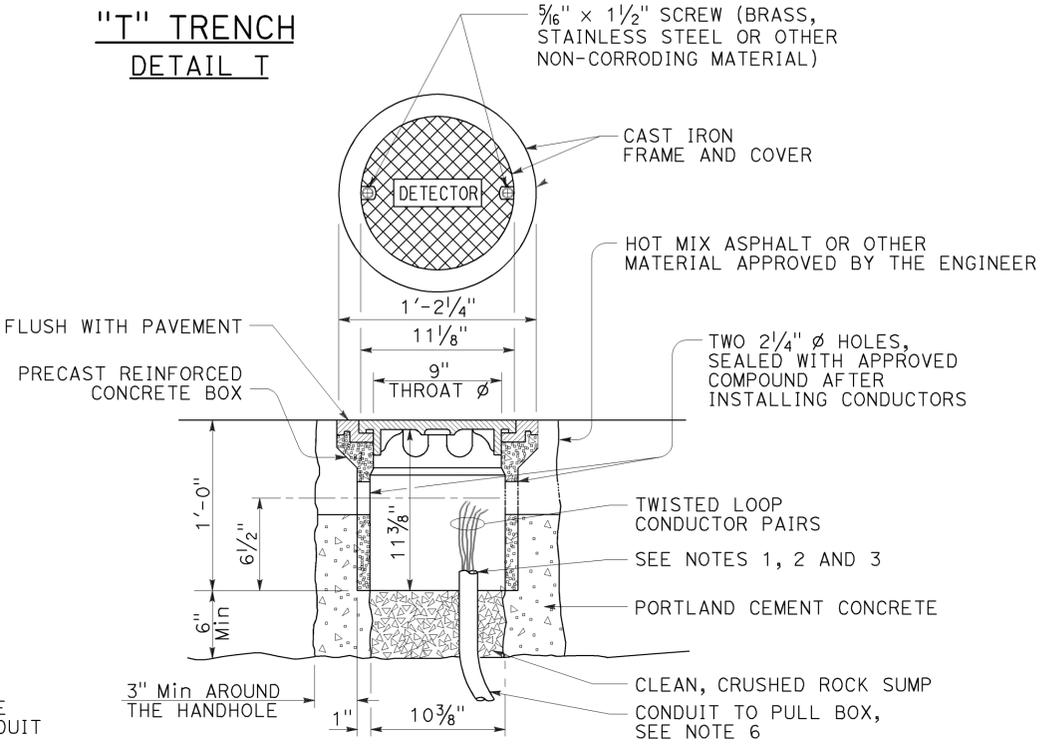


PLAN VIEW

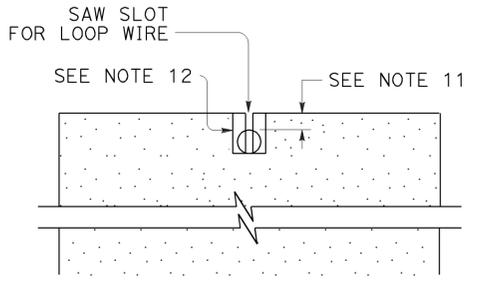


SECTION C-C

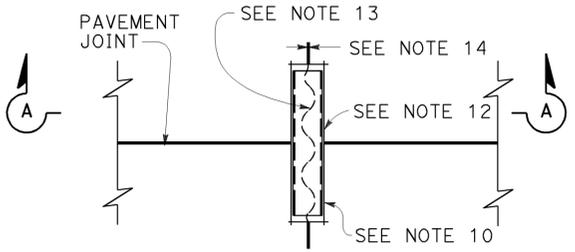
TYPE B
CURB TERMINATION DETAIL



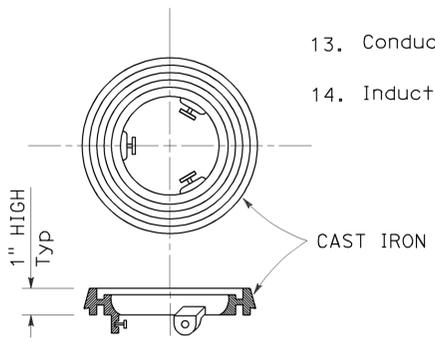
DETECTOR HANDHOLE DETAIL



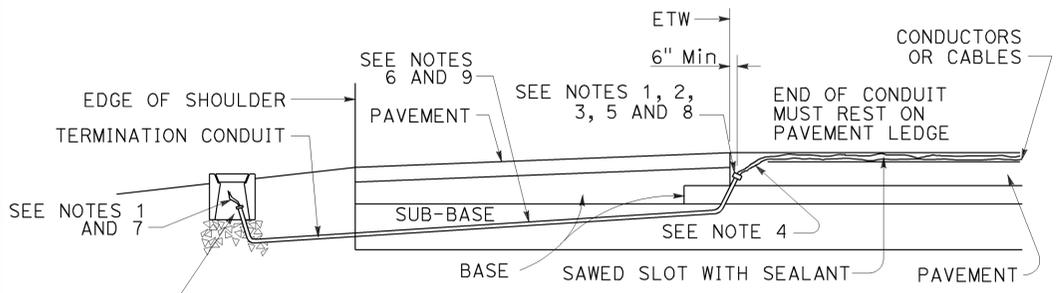
SECTION A-A



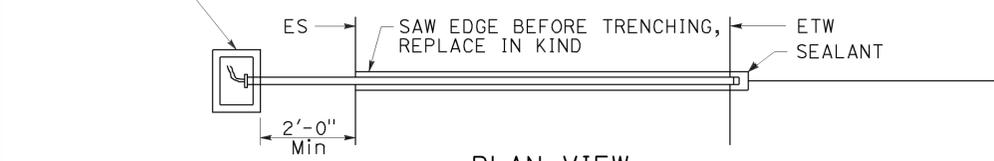
PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



LOCKING GRADE RING



CROSS SECTION



PLAN VIEW
SHOULDER TERMINATION DETAILS

NOTES:

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- | | |
|-----------------|-----------------|
| Conduit size | Loop conductors |
| 1"C minimum | 1 to 2 pairs |
| 1 1/2"C minimum | 3 to 4 pairs |
| 2"C minimum | 5 or more pairs |
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)
NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D
DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D