

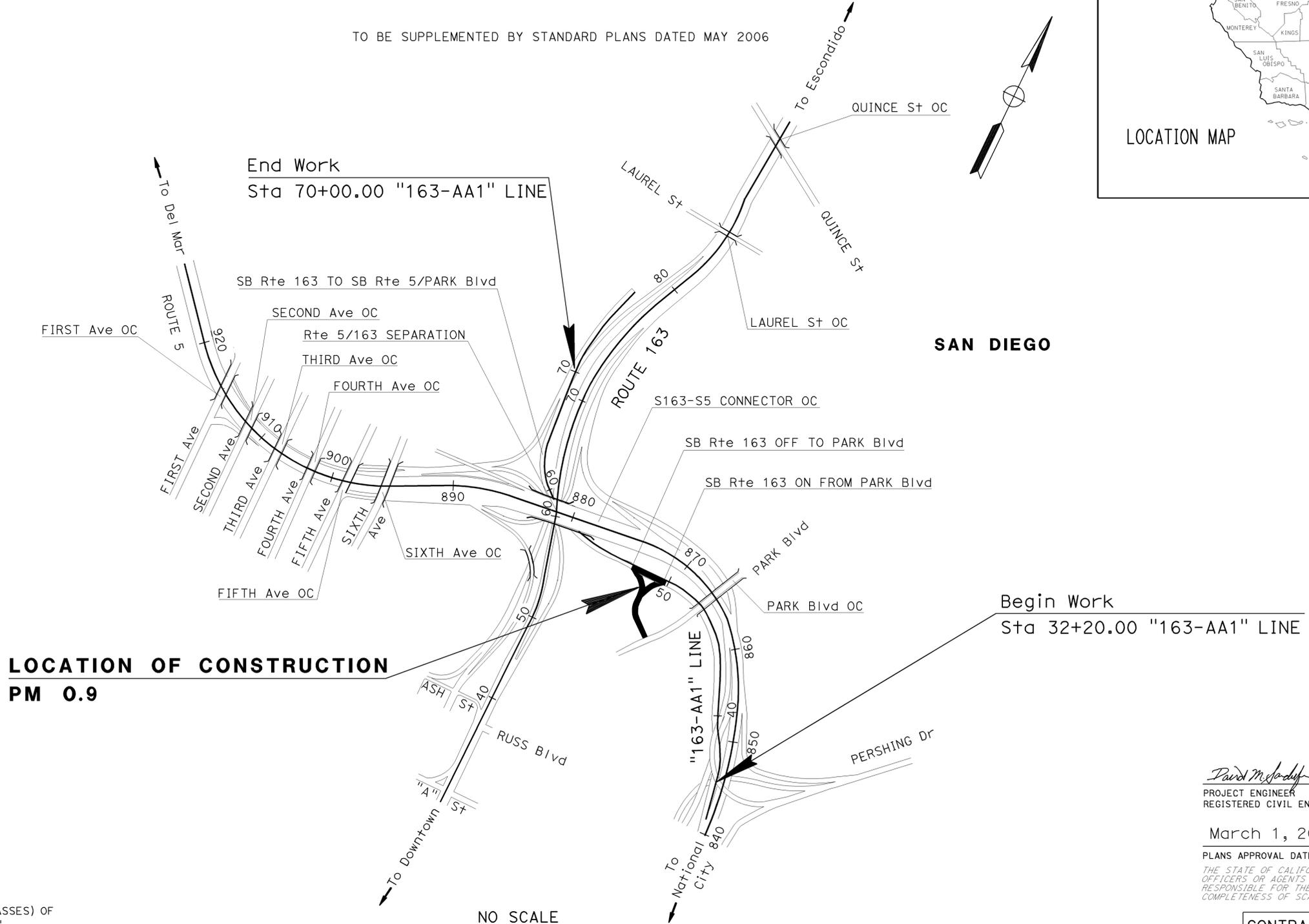
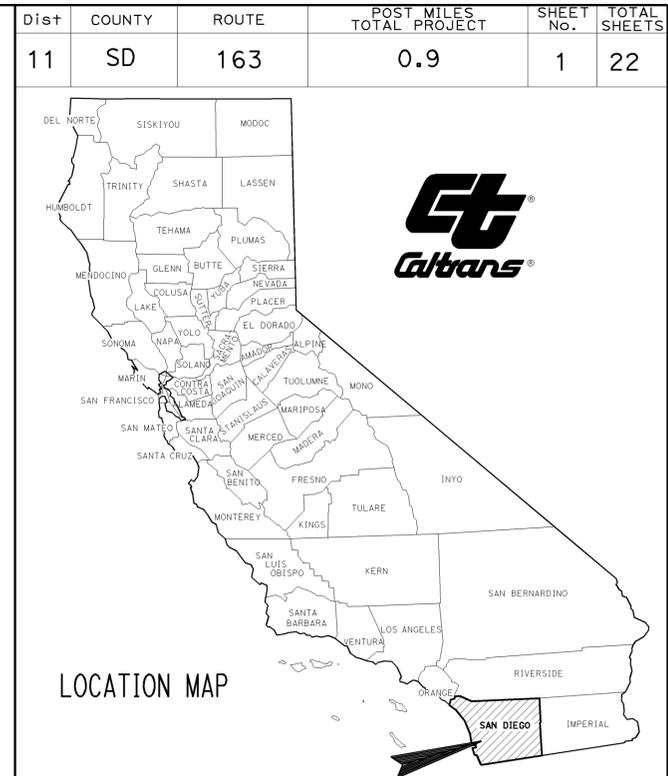
INDEX OF PLANS

Sheet No.	Description
1	Title and Location Map
2-3	Typical Cross Sections
4	Layout
5	Construction Details
6	Construction Area Signs
7	Pavement Delineation Quantities
8	Sign Quantities
9	Summary of Quantities
10-11	Electrical Plans
12-22	New and Revised Standard Plans

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN DIEGO COUNTY
IN SAN DIEGO
AT ROUTE 5/163 SEPARATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



LOCATION OF CONSTRUCTION
PM 0.9

NO SCALE

PROJECT MANAGER DAVID M POUND
DESIGN ENGINEER DAVE M SANDERFER

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

David M. Sanderfer 02-24-10
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
 No. C29666
 Exp. 3-31-11
 CIVIL
 STATE OF CALIFORNIA

March 1, 2010
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	2	22

<i>David M. Sanderfer</i>	02-24-10
REGISTERED CIVIL ENGINEER	DATE
03-01-10	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
DAVE M. SANDERFER
No. C29666
Exp. 3/31/11
CIVIL
STATE OF CALIFORNIA

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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. FOG SEAL COAT SHALL BE APPLIED TO ALL AC SURFACES EXCEPT TRAVELED WAYS.
 4. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
 5. FOR LOCATION OF DIKE AND MBGR AND DIKE TYPE, SEE LAYOUT SHEET.

DESIGN DESIGNATION

(SB SR163 OFF RAMP TO PARK Blvd) (SB SR163 ON RAMP FROM PARK Blvd)

2007 ADT = 5590	D = 59%	2007 ADT = 3823	D = 57%
2030 ADT = 6300	T = N/A	2030 ADT = 4300	T = N/A
DHV = 1010	V = 45 MPH	DHV = 610	V = 45 MPH

(SB SR163 TO SB ROUTE 5)

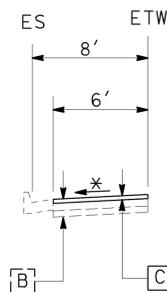
2007 ADT = 16677	D = 56%
2030 ADT = 22800	T = N/A
DHV = 3850	V = 45 MPH

TYPICAL STRUCTURAL SECTIONS

- [A] Exist
0.67' PCC
0.33' CTB CLASS B
0.33' AB CLASS 2
0.67' AS CLASS 2
- [B] Exist
0.25' AC
0.50' AB CLASS 2
0.42' AS CLASS 4
- [C] 0.25' HOT MIX ASPHALT (TYPE A)

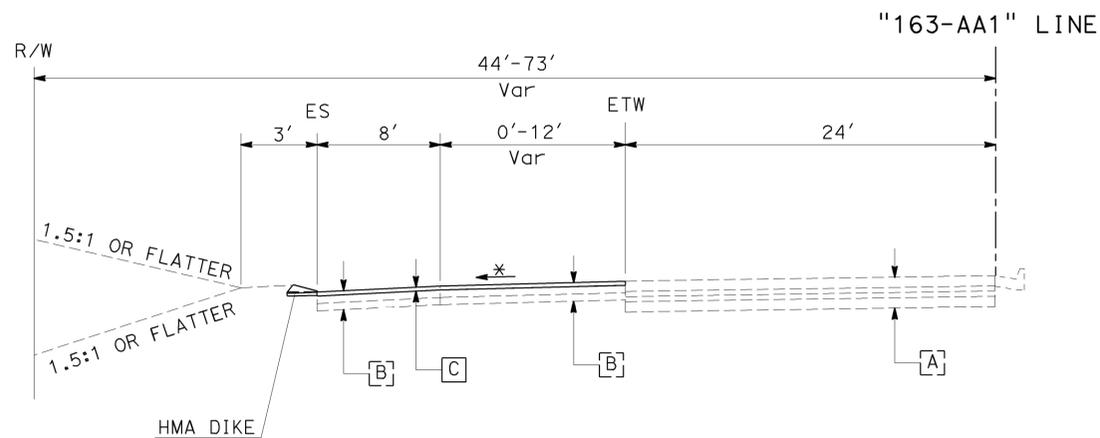
LEGEND:

- * = MATCH EXISTING
- MPH = MILES PER HOUR



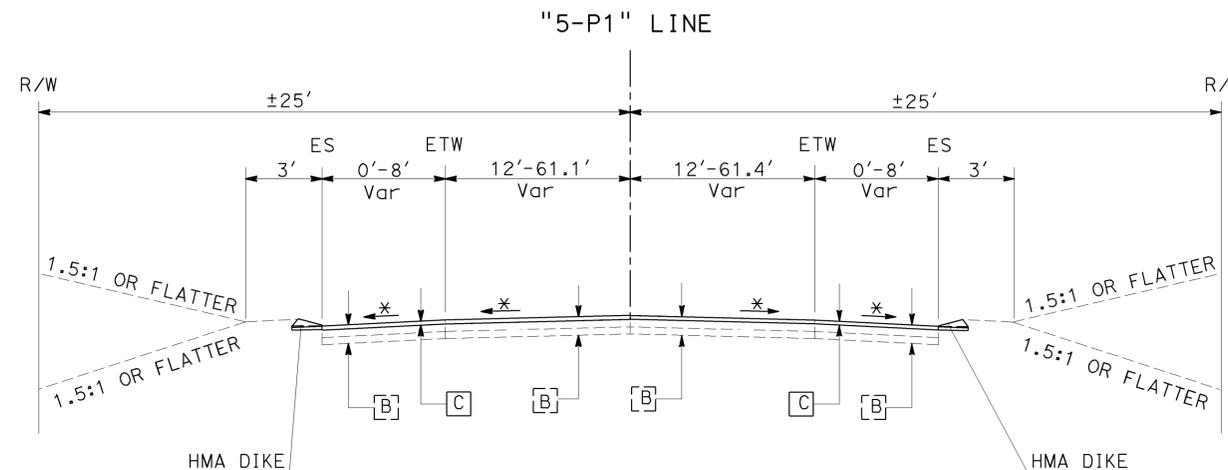
SB Rte 163 TO SB Rte 5

Sta 51+06.83 TO 54+78.71 "163-AA1" LINE



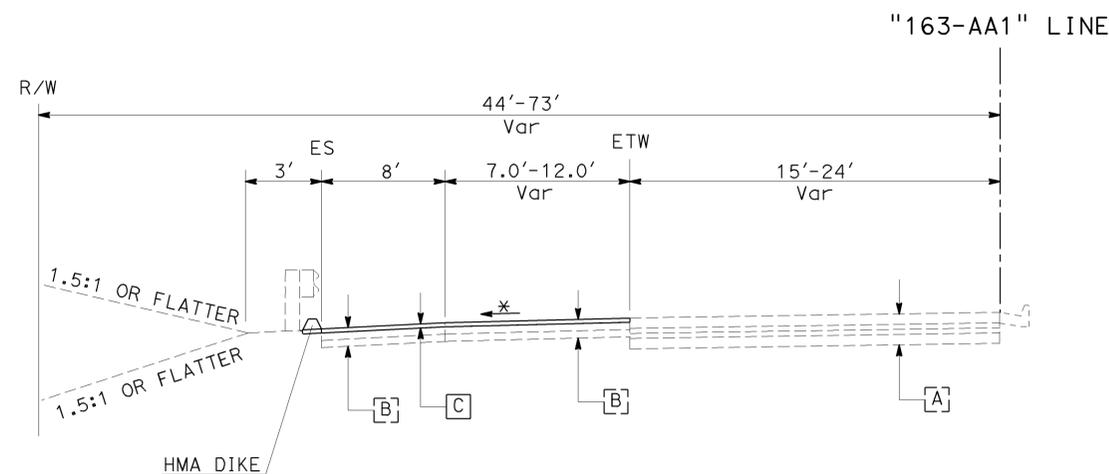
SB Rte 163 TO SB Rte 5

Sta 47+19.11 TO 50+47.30 "163-AA1" LINE



**OFF/ON RAMPS
PARK Blvd**

Sta 46+77.36 TO 51+10.50 "5-P1" LINE



SB Rte 163 TO SB Rte 5

Sta 55+94.99 TO 57+32.79 "163-AA1" LINE

TYPICAL CROSS SECTIONS

NO SCALE

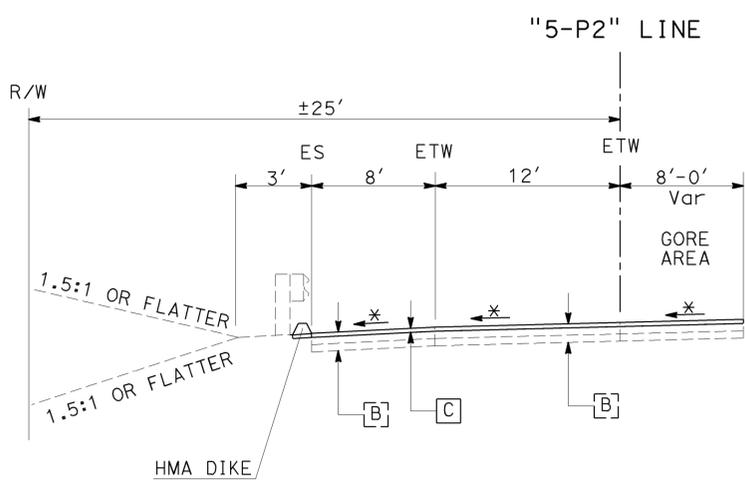
X-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	3	22

David M. Sanderfer 02-24-10
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 03-01-10
 PLANS APPROVAL DATE

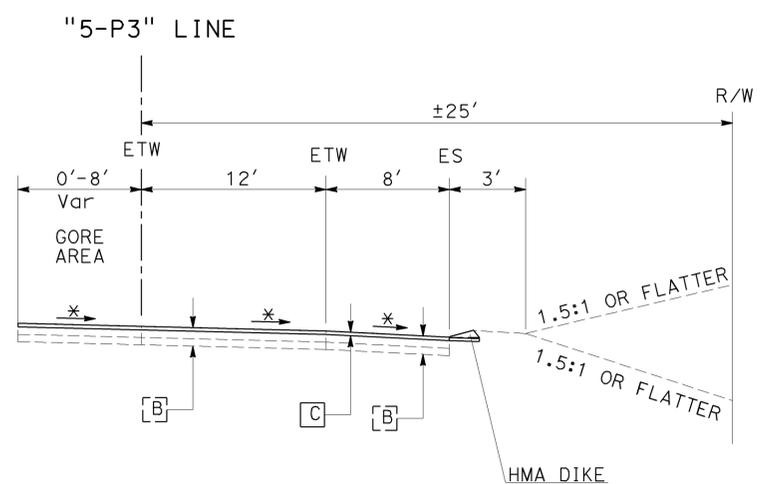
REGISTERED PROFESSIONAL ENGINEER
DAVE M. SANDERFER
 No. C29666
 Exp. 3/31/11
 CIVIL
 STATE OF CALIFORNIA

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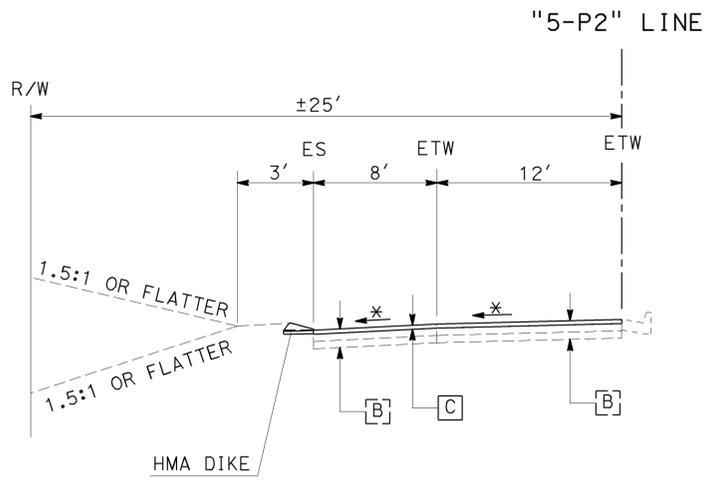
SB Rte 163 OFF RAMP GORE AREA

Sta 54+74.57 TO 55+94.99 "5-P2" LINE



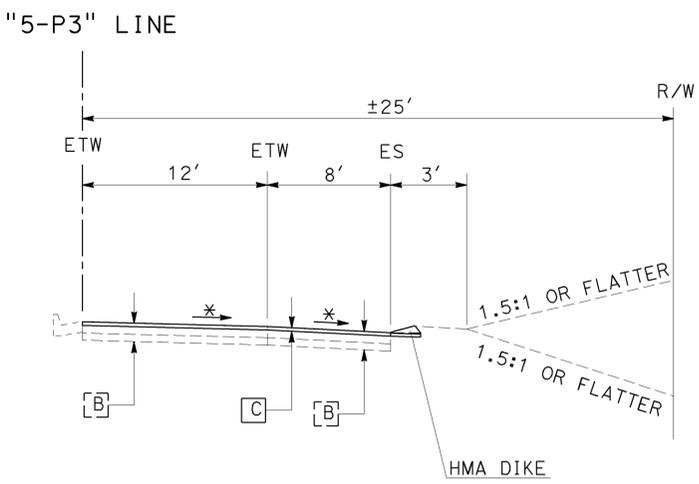
SB Rte 163 ON RAMP GORE AREA

Sta 53+90.87 TO 54+51.37 "5-P3" LINE



SB Rte 163 OFF RAMP TO PARK Blvd

Sta 51+10.50 TO 54+74.57 "5-P2" LINE



SB Rte 163 ON RAMP FROM PARK Blvd

Sta 51+10.50 TO 53+90.87 "5-P3" LINE

TYPICAL CROSS SECTIONS

NO SCALE

X-2

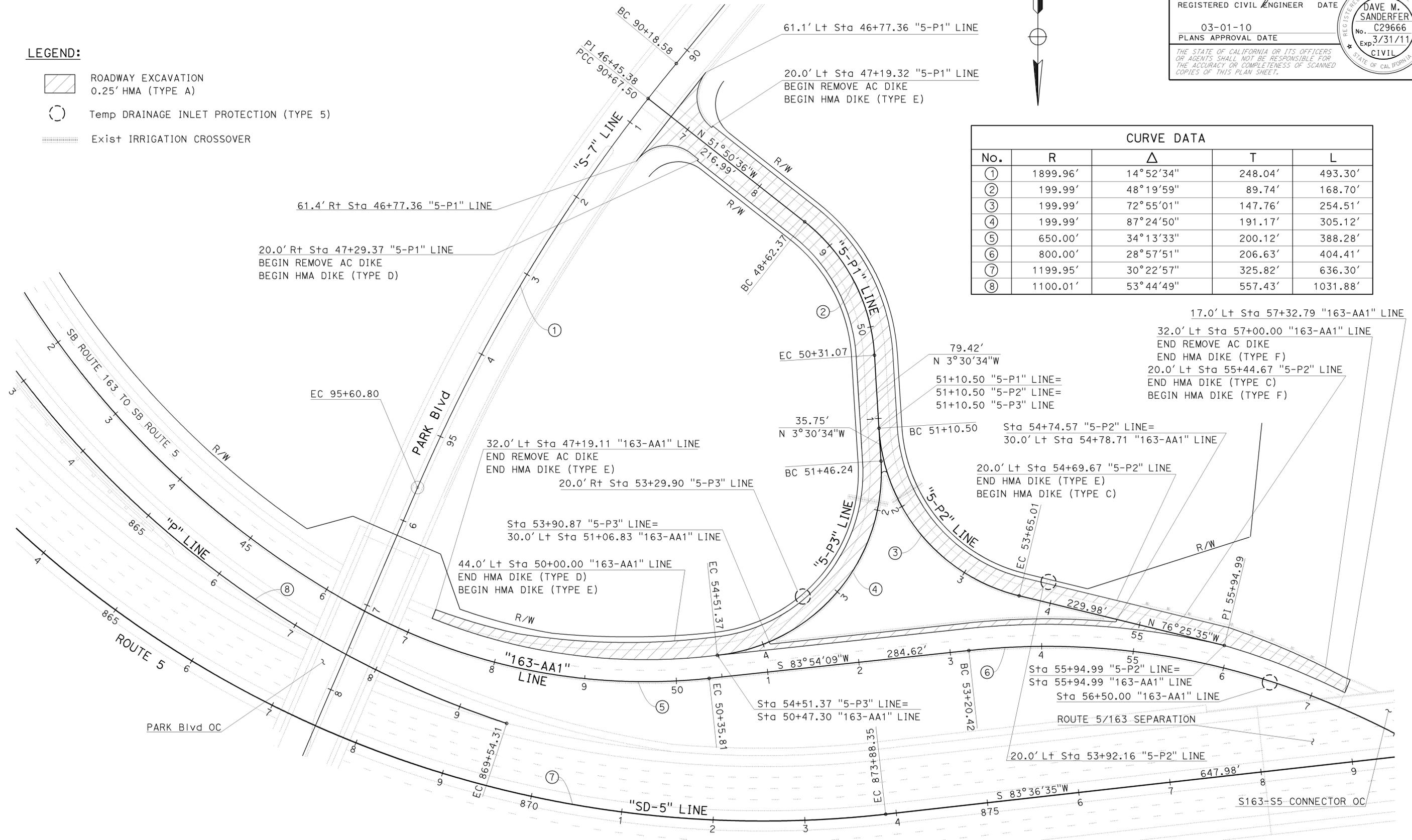
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - **Caltrans** - MINOR PROJECTS
 FUNCTIONAL SUPERVISOR: DAVID M POUND
 CHECKED BY: GERRY CRUZ, THIN BUI
 DESIGNED BY: GERRY CRUZ, THIN BUI
 REVISIONS: REVISED BY: GERRY CRUZ, THIN BUI; DATE REVISED:

NOTES: 1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

LEGEND:

-  ROADWAY EXCAVATION
0.25' HMA (TYPE A)
-  Temp DRAINAGE INLET PROTECTION (TYPE 5)
-  Exist IRRIGATION CROSSOVER

CURVE DATA				
No.	R	Δ	T	L
①	1899.96'	14°52'34"	248.04'	493.30'
②	199.99'	48°19'59"	89.74'	168.70'
③	199.99'	72°55'01"	147.76'	254.51'
④	199.99'	87°24'50"	191.17'	305.12'
⑤	650.00'	34°13'33"	200.12'	388.28'
⑥	800.00'	28°57'51"	206.63'	404.41'
⑦	1199.95'	30°22'57"	325.82'	636.30'
⑧	1100.01'	53°44'49"	557.43'	1031.88'



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

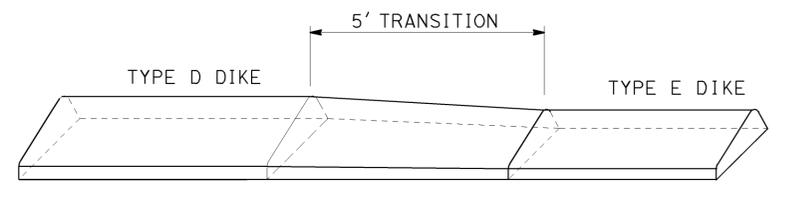
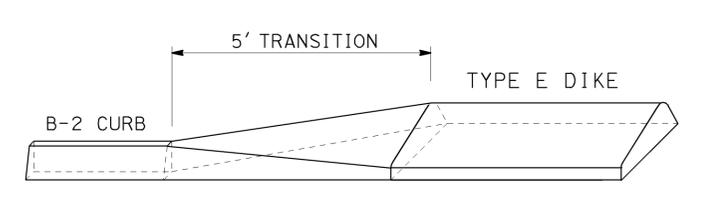
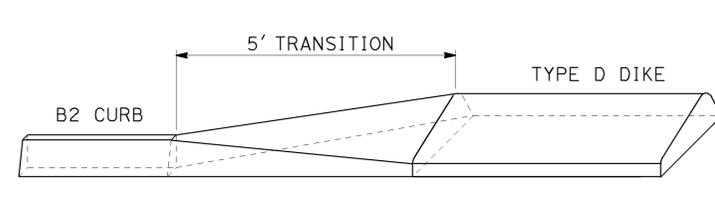
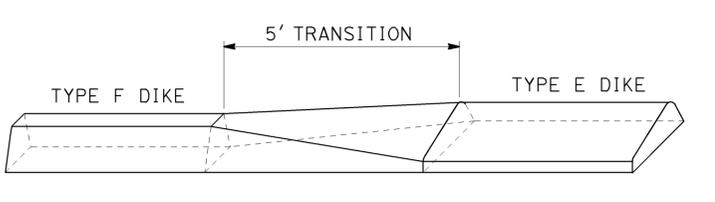
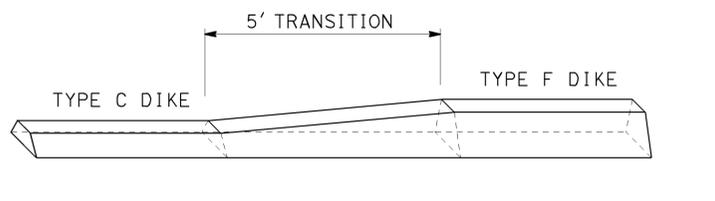
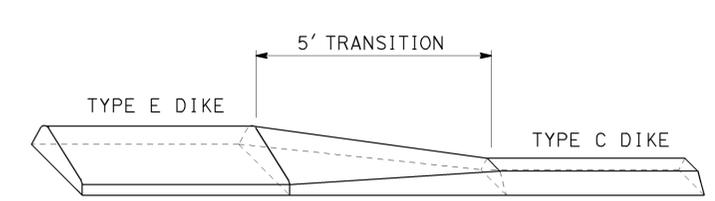
REVISIONS: REVISED BY GERRY CRUZ THIN BUI
 CALCULATED/DESIGNED BY DAVID M POUND
 CHECKED BY
 FUNCTIONAL SUPERVISOR
 DEPARTMENT OF TRANSPORTATION
 MINOR PROJECTS
 STATE OF CALIFORNIA
 Caltrans

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	5	22

David M. Sanderfer 02-24-10
 REGISTERED CIVIL ENGINEER DATE
 03-01-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DAVE M. SANDERFER
 No. C29666
 Exp. 3/31/11
 CIVIL
 STATE OF CALIFORNIA

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DIKE TRANSITION DETAILS
(ISOMETRIC)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - **MINOR PROJECTS**
Caltrans
 FUNCTIONAL SUPERVISOR: DAVID M POUND
 CALCULATED/DESIGNED BY: GERRY CRUZ
 CHECKED BY: THIN BUI
 REVISED BY: DATE
 REVISIONS:

CONSTRUCTION DETAILS
 NO SCALE
C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL
 CALCULATED-DESIGNED BY: CHECKED BY:
 PARVIS NAHAVANDJIAN
 SHAHIN T ADIBI
 REVISED BY: DATE REVISED:

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	6	22

02-25-10
 REGISTERED CIVIL ENGINEER DATE
 03-01-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 SHAHIN T. ADIBI
 No. 54839
 Exp. 06/30/10
 CIVIL
 STATE OF CALIFORNIA

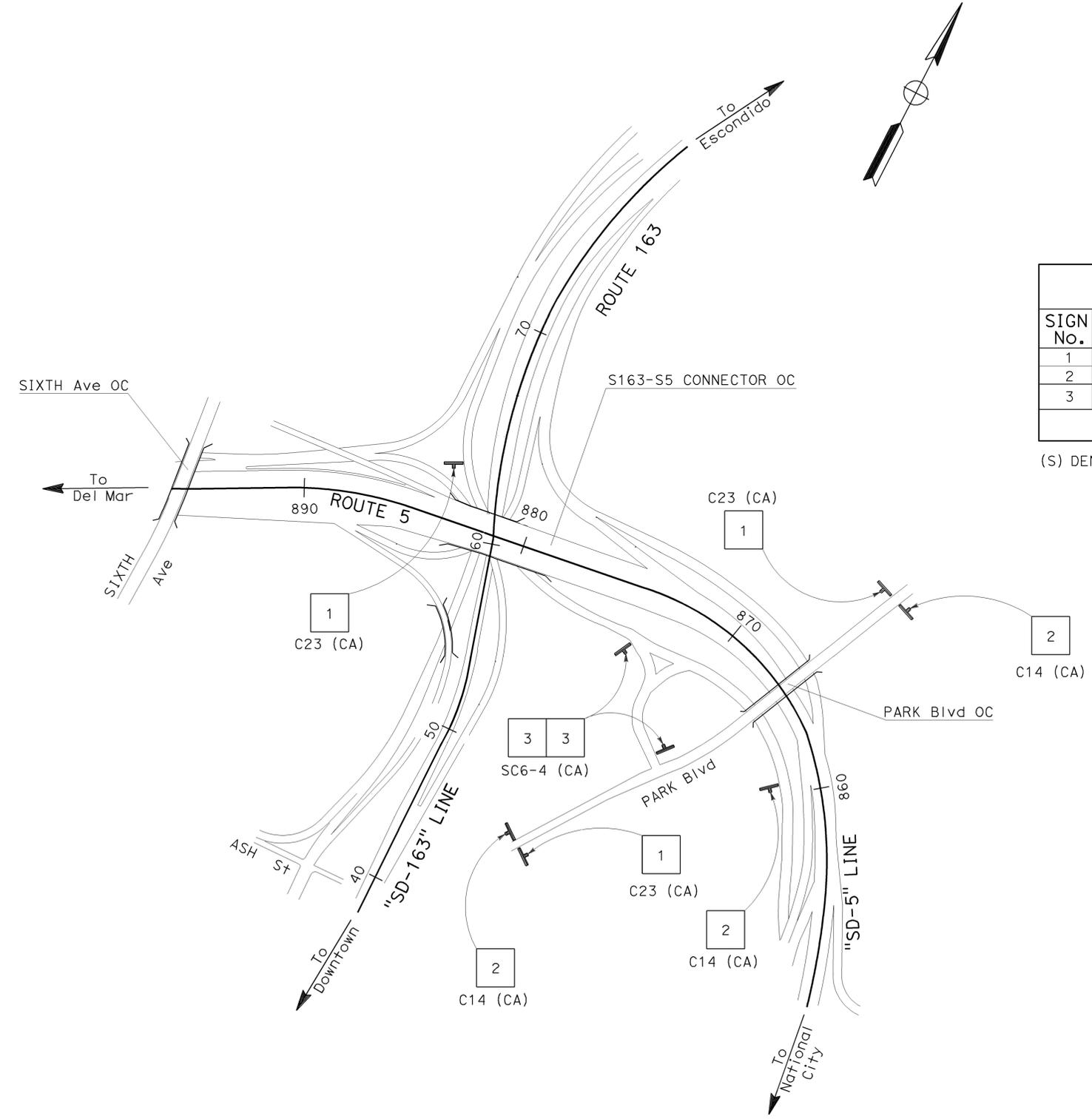
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NOTES:

- EXACT LOCATION OF CONSTRUCTION AREA SIGNS SHALL BE DETERMINED BY THE ENGINEER.
- FEDERAL MUTCD SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) INDICATING STANDARD CALIFORNIA SIGN SPECIFICATIONS ARE USED.
- EXISTING UTILITIES ARE NOT SHOWN ON THESE PLAN SHEETS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND ADJUST THE FIELD LOCATION OF SIGN POSTS IN CONSULTATION WITH THE ENGINEER.

LEGEND:

XX = CONSTRUCTION AREA SIGN



CONSTRUCTION AREA SIGNS				
SIGN No.	TYPE	PANEL SIZE (INCH)	No. OF POST AND SIZE (INCH)	No. OF SIGNS
1	C23 (CA)	48 X 48	1-4 X 6 (S)	3
2	C14 (CA)	48 X 24	1-4 X 4 (S)	3
3	SC6-4 (CA)	48 X 60	PORTABLE	2
TOTAL				8

(S) DENOTES STATIONARY MOUNTED SIGN

CONSTRUCTION AREA SIGNS
 NO SCALE
CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	7	22

02-25-10
REGISTERED CIVIL ENGINEER DATE

03-01-10
PLANS APPROVAL DATE

SHAHIN T. ADIBI
No. 54839
Exp. 06/30/10
CIVIL
STATE OF CALIFORNIA

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NOTES:

1. PAVEMENT DELINEATION SHALL BE REPLACED IN-KIND UNLESS OTHERWISE INDICATED.

* PLACE ONE TYPE I ARROW AT THE BEGINING OF THE RAMP AND ONE MORE ARROW WITH THE TAIL STARTING AT APPROXIMATE STATION "50+31.07".

** PLACE TYPE V ARROW HEAD ENDING AT APPROXIMATE STATION "52+00"

DELINEATOR (CLASS 1)				
ROUTE	LOCATION	TYPE F	TYPE G	REMARKS
		EA	EA	
163	OFF RAMP TO PARK Blvd	10	3	INSTALL DELINEATOR 100 Ft C-C
163	ON RAMP FROM PARK Blvd	10	3	INSTALL DELINEATOR 100 Ft C-C
	SUBTOTAL	20	6	
	TOTAL	26		

THERMOPLASTIC PAVEMENT MARKING									
ROUTE	LOCATION	TYPE V ARROW	TYPE III(L) ARROW	TYPE III(B) ARROW	TYPE I ARROW (24')	SIGNAL	AHEAD	LIMIT LINE AND CROSSWALK 12 INCH	REMARKS
		SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	
163	OFF RAMP TO PARK Blvd	**33	84	146		32	31	24	
163	ON RAMP FROM PARK Blvd				*62				NEW
	SUBTOTAL	**33	84	146	*62	32	31	24	
	TOTAL	412							

ROUTE	LOCATION	DETAIL NUMBER	PAVEMENT MARKER SUMMARY				TRAFFIC STRIPE SUMMARY			REMARKS	
			NON REFLECTIVE	RETROREFLECTIVE			PAINT (LF)	THERMOPLASTIC (LF)			
			TYPE A	TYPE D	TYPE H	TYPE G		8"	4" BROKEN		
			WHITE	YELLOW	YELLOW	CLEAR	EA	EA	EA		EA
163	OFF RAMP	N/A	2								IRRIGATION CROSSOVER
163	OFF RAMP	8/10	30			10			200		
163	OFF RAMP	22		50			600				THIS QUANTITY INCLUDED ON RAMP STRIPING
163	OFF RAMP	22 Mod		9			90				
163	OFF RAMP	25A			9		200				
163	OFF RAMP	27			7		300				
163	OFF RAMP	27B					1081				
163	OFF RAMP	38				28		624			
163	OFF RAMP	38				15		350			THIS QUANTITY INCLUDED MAINLANE STRIPING
163	ON RAMP	n/a	2								IRRIGATION CROSSOVER
163	ON RAMP	8/10	10			4			75		THIS STRIPE BEGINS WHEN DETAIL 36A ENDS
163	ON RAMP	22 Mod		9			90				
163	ON RAMP	25A					300				
163	ON RAMP	27			7		300				
163	ON RAMP	27B					550				
163	ON RAMP	36A				3		60			
163	MAIN LANE	11/13				22	1020				
163	MAIN LANE	25 Mod			22		1020				
163	MAIN LANE	27B					550				
	SUBTOTAL		44	68	45	82	6101	1034	275		
	TOTAL		239				6101	1309			

**PAVEMENT DELINEATION QUANTITIES
PDQ-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	8	22

02-25-10
REGISTERED CIVIL ENGINEER DATE

03-01-10
PLANS APPROVAL DATE

SHAHIN T ADIBI
No. 54839
Exp. 06/30/10
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NOTES:

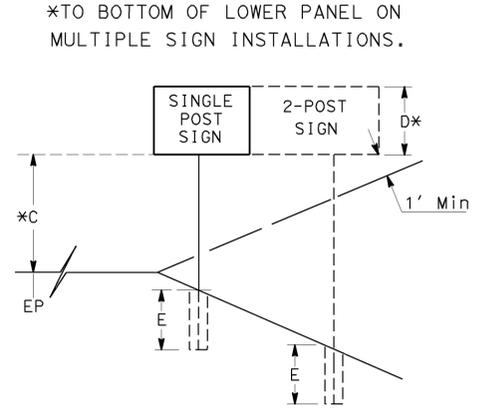
- FEDERAL (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) INDICATING STANDARD CALIFORNIA SIGN SPECIFICATIONS.
- MINIMUM POST LENGTHS WERE CALCULATED ASSUMING A LEVEL GROUND SURFACE FROM THE EP. ENSURE "C" DIMENSION IS MET. POST LENGTHS MAY VARY DUE TO SITE CONDITIONS.
- EXACT LOCATIONS OF SIGNS AND POSTS SHALL BE DETERMINED BY THE ENGINEER.
- REFER TO "FURNISH ROADSIDE SIGN PANEL" CHART FOR FURTHER INFORMATION.

ROADSIDE SIGN QUANTITIES

SIGN No.	ROUTE	CODE	PANEL SIZE		D	C	E	Min POST LENGTH	POST SIZE				ROADSIDE SIGN		RESET	RELOCATE	REMOVE	REMARKS
			Horiz	Vert					4X4	4X6	6X6	6X8	ONE POST	TWO POST				
			INCHES X INCHES		LF	LF	LF	LF	INCHES X INCHES				EA	EA	EA	EA	EA	
	SR-163	G92 (CA)	48	30													1	REMOVE TOTEM AT Approx 30.0' Rt STA 46+90 "5-P1" LINE (ON-RAMP)
	SR-163	G27-2 (CA)	24	24														
	SR-163	G48-1 (CA)	21	9														
	SR-163	G44 (CA)	21	15														
	SR-163	R11 (CA)	36	36													1	REMOVE TOTEM AT Approx 30.0' Rt STA 52+00 "5-P2" LINE (OFF-RAMP)
	SR-163	R11A-1 (CA)	36	36														
	SR-163	G92 (CA)	48	30													1	REMOVE TOTEM AT Approx 30.0' Rt STA 51+50 "5-P3" LINE (ON-RAMP)
	SR-163	G27-2 (CA)	24	24														
	SR-163	G48-1 (CA)	21	9														
	SR-163	G44 (CA)	21	15														
	SR-163	G92 (CA)	48	30	2.5	6.0	5.0	13.5				X	1					REPLACE TOTEM AT Approx 30.0' Rt STA 46+90 "5-P1" LINE (ON-RAMP)
	SR-163	G27-2 (CA)	24	24														
	SR-163	G48-1 (CA)	21	9														
	SR-163	G44 (CA)	21	15														
	SR-163	R11 (CA)	36	36	3.0	6.0	5.0	14.0				X	1					REPLACE TOTEM AT Approx 30.0' Rt STA 52+00 "5-P2" LINE (OFF-RAMP)
	SR-163	R11A-1 (CA)	36	36														
	SR-163	G92 (CA)	48	30	2.5	6.0	5.0	9.0				X	1					REPLACE TOTEM AT Approx 30.0' Rt STA 51+50 "5-P3" LINE (ON-RAMP)
	SR-163	G27-2 (CA)	24	24														
	SR-163	G48-1 (CA)	21	9														
	SR-163	G44 (CA)	21	15														
TOTAL												3				3		

FURNISH ROADSIDE SIGN PANEL

SIGN No.	CODE	PANEL SIZE		BACKGROUND SHEETING COLOR	RETRO-REFLECTIVE ASTM TYPE	LEGEND SHEETING COLOR	REFLECTIVE ASTM TYPE	BLACK (NON-REFLECTIVE)	SIGN PANEL			REMARKS		
		Horiz	Vert						SINGLE SHEET ALUMINUM (SQFT)		PROTECTIVE OVERLAY			
									UNFRAMED		SOC		SF	PF
	G92 (CA)	48	30	Grn	IV	Wht	IV		0.063 INCHES	10.0			X	
	G27-2 (CA)	24	24	Blu	III	Wht	III		4.0				X	
	G48-1 (CA)	21	9	Blu	III	Wht	IV		1.3				X	
	G44 (CA)	21	15	Blu	III	Wht	III		2.2				X	
	R11 (CA)	36	36	Wht	VIII	Red	VIII		9.0				X	
	R11A-1 (CA)	36	36	Wht	VIII	Red	VIII		9.0				X	
SUBTOTAL									25.5	10.0				
TOTAL									35.5					



SIGN QUANTITIES
SQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - TRAFFIC DESIGN
 Camille Aboufadel
 Functional Supervisor
 Checked by
 Robert Edejer
 Shahin Adibi
 Revised by
 Date Revised

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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David M. Sanderfer 02-24-10
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03-01-10
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DAVE M. SANDERFER
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 STATE OF CALIFORNIA

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CONSTRUCTION QUANTITIES															
SHEET	LINE	BEGIN STATION	END STATION	SURFACE AREA (N)			ROADWAY EXCAVATION (0.25')	HOT MIX ASPHALT (TYPE A)	REMOVE AC DIKE (N)	PLACE HOT MIX ASPHALT DIKE				ASPHALTIC EMULSION (FOG SEAL COAT) (TON)	TACK COAT (TON)
				SHOULDER (SQFT)	TRAVELED WAY (SQFT)	GORE AREA (SQFT)	(CY)	(TON)	(LF)	(TYPE C) (LF)	(TYPE D) (LF)	(TYPE E) (LF)	(TYPE F) (LF)	(TON)	(TON)
L-1	163-AA1	47+19.11	51+06.83	2625.5	1969.1		42.5	82.5	328.2		47.3	280.9		0.1	0.1
	163-AA1	51+06.83	54+78.71	2231.3			20.7	40.1						0.1	0.1
	163-AA1	54+78.71	57+32.79	1102.4	1309.1		22.3	43.3	105.0				105.0	0.0	0.1
	5-P1	46+77.36	48+62.37		7400.4		68.5	132.9	276.0		133.0	143.0			0.2
	5-P1	48+62.37	51+10.50	1985.0	2977.6		46.0	89.1	496.2		248.1	248.1		0.1	0.1
	5-P2	51+10.50	55+94.99	3875.9	5813.9	465.1	94.0	182.5	484.5	75.0		359.2	50.3	0.1	0.3
	5-P3	51+10.50	54+51.37	2727.0	4090.4	238.1	65.3	126.8	340.9		340.9			0.1	0.2
	SUB-TOTAL							359.3	697.2	2030.8	75.0	769.3	1031.2	155.3	0.5
HMA DIKE							29.1	74.5							
TOTAL							388.4	771.7			2030.8			0.5	1.1

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

HOT MIX ASPHALT DIKE				
	TYPE C (TON)	TYPE D (TON)	TYPE E (TON)	TYPE F (TON)
HMA DIKE	0.6	45.1	26.8	2.0
TOTAL	74.5			

WATER POLLUTION CONTROL	
STATION	TEMPORARY DRAINAGE INLET PROTECTION
	(TYPE 5)
Sta 53+29.90 "5-P3" LINE	1
Sta 53+92.16 "5-P2" LINE	1
Sta 56+50.00 "163-AA1" LINE	1
TOTAL	3

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL
 FUNCTIONAL SUPERVISOR DALE J. WILSON
 CHECKED BY ENRIQUE BERNAL
 DESIGNED BY ANTONIO RODRIGUEZ
 REVISIONS: 03-01-10, 02-25-10, 03-01-10
 REVISOR: ENRIQUE BERNAL
 DATE: 03-01-10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	10	22

Enrique P. Bernal 02-25-10
 REGISTERED ELECTRICAL ENGINEER DATE
 03-01-10
 PLANS APPROVAL DATE

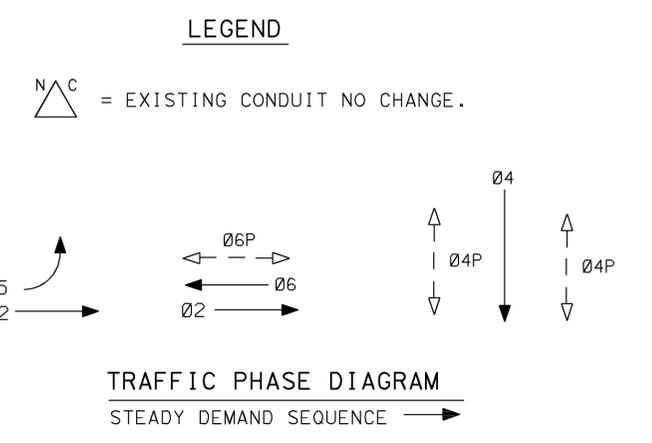
ENRIQUE P. BERNAL
 No. 15675
 Exp. 06-30-10
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

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

CONDUIT AND CONDUCTOR SCHEDULE

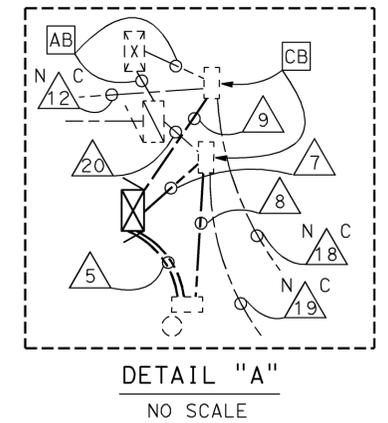
AWG SIZE OR CABLE TYPE	PHASE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN SCHEDULE																	
			3" 1	3" 2	3" 3	2" 4	2-3" 5	2" 6	2" 7	2" 8	2" 9									
No. 14 CABLES		POLE - A																		
CONDUCTORS	CONDUCTORS	B			2	2	2	2	2											
		C	1	2	1	2														
		D		1	1															
		E					1	1												
		F							1	1										
TOTAL CABLES-3 CONDUCTOR/12 CONDUCTOR			1	2	2	3	2	2	1	6	7									
8		SIGNAL POWER																2		
10		LIGHTING	2	2	2													2		
4		IRRIGATION				2												2		
TYPE B DLC	Ø2	LOOP DETECTOR		2				2												
	Ø4	LOOP DETECTOR						2	2	2										
	Ø6	LOOP DETECTOR						2	2											
SIC																		**3		
EVC			1	2				3												
VIDEO CABLE	Ø2/Ø5		1	1				1												
HARNESS	Ø4			1				1												
	Ø6							1												
TOTAL CONDUCTORS/CABLES			7	13	10	3	25	2	2	4	3									

** - REUSED SIC.



NOTE:
 1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

- ### NOTES
- 1 - [AB] Exist LOOPS.
 - 2 - [RC] PULL BOX AND REPLACE WITH No. 6 OR 6(E) PULL BOX AS SHOWN.
 - 3 - VIDEO IMAGE SENSOR, ON SMA.
 - 4 - [RC] TYPE 1-A POLE AND APPURTENANCES. [FA] .
 - 5 - VDU, VIDEO DISPLAY AND COMMUNICATION CARD. IN Exist CABINET.
 - 6 - [AB] Exist LOOPS. PLACE TYPE E DETECTOR LOOPS IN THE SAME PLACE.
 - 7 - TYPE 15-12' LMA, 200 W HPS. A=20', B=4'



CONDUIT NOTES

- △¹⁰ - Exist 1 1/2" C, [RC] ALL CABLES AND CONDUCTORS ADD 2 DLC.
- △¹¹ - Exist 1" C, [RC] ALL CABLES ADD 2 DLC.
- △¹² - Exist 2" C, 2 sic (City).
- △¹³ - Exist 2" C, 1 sic (City).
- △¹⁴ - Exist 2" C, 2#8 (Itg).
- △¹⁵ - Exist 2" C, 4 dlc, 2#4 (Irr), [RC] 4 dlc ADD 2 DLC.
- △¹⁶ - Exist 1 1/2" C, 2 dlc, 2#4 (Irr), [RC] 2 dlc ADD 2 DLC.
- △¹⁷ - Exist 1 1/2" C, 2#4 (Irr).
- △¹⁸ - Exist 2" C, 1 sic.
- △¹⁹ - Exist 2" C, 2#6.
- △²⁰ - Exist 2" C, 2#6. ADD 2#4 (Irr), 2#8 (SIG), 2#10 (LTG).
- △²¹ - Exist 1 1/2" C, 2#8 (sig), 2#6 (Itg).
- △²² - 2" C, 2#10 (Itg).

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

MODIFY SIGNAL AND LIGHTING
 SCALE 1"=20'
E-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	0.9	11	22

Enrique P. Bernal 02-25-10
 REGISTERED CIVIL ENGINEER DATE
 03-01-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 ENRIQUE P. BERNAL
 No. 15675
 Exp. 06/30/10
 ELECTRICAL
 STATE OF CALIFORNIA

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NOTE:

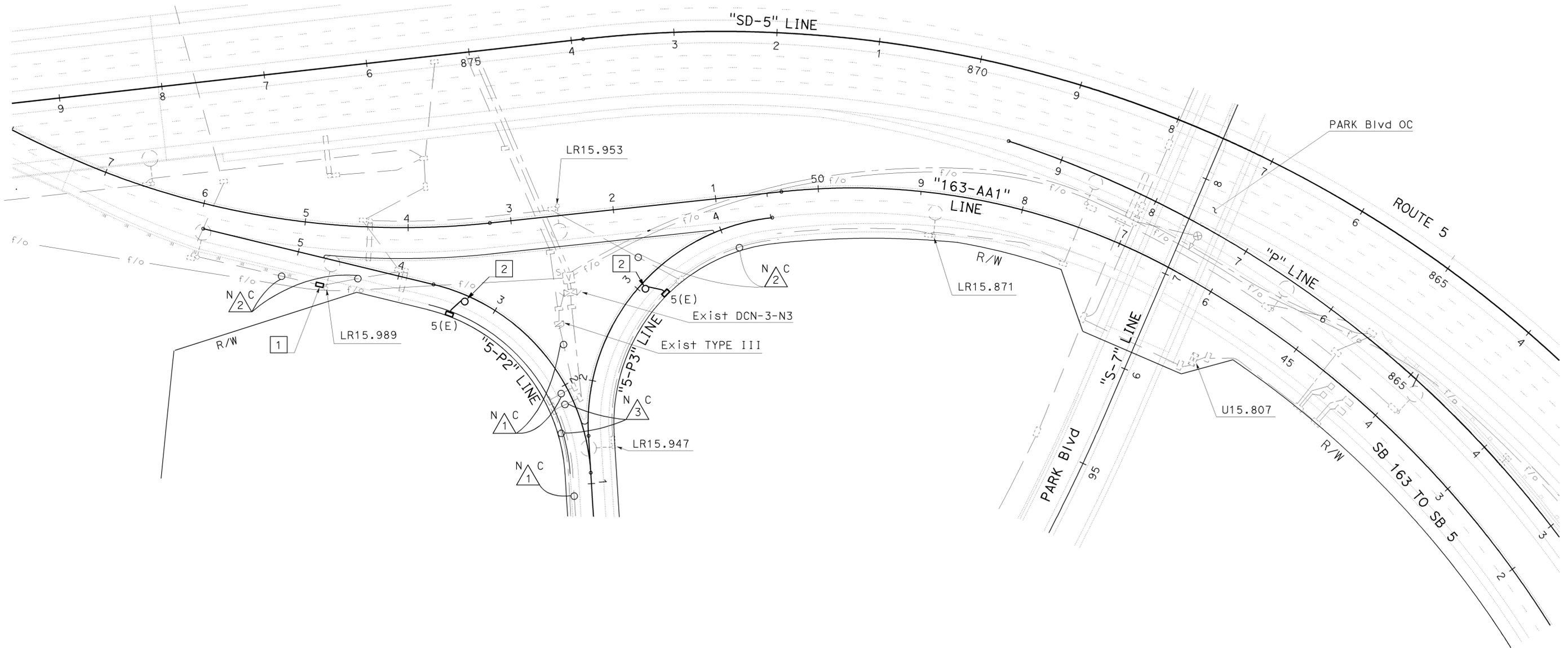
1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

NOTE

- 1 - RC PULL BOX AND REPLACE WITH No.5 PULL BOX.
- 2 - TYPE E LOOP, CENTER IN LANE.

CONDUIT NOTES

- N 1 C - Exist 53C, 2#6 (power, 480 v).
- N 2 C - Exist 41C, 2#8 (lighting & sign).
- N 3 C - Exist 53C, 1 sic.



INDUCTIVE LOOP DETECTOR PULL BOX

SCALE 1"=50'

E-2

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL
 FUNCTIONAL SUPERVISOR DALE WILSON
 CALCULATED/DESIGNED BY ENRIQUE BERNAL
 REVISIONS: 03-01-10
 ANTONIO RODRIGUEZ ENRIQUE BERNAL
 REVISOR DATE
 REVISIONS: 03-01-10



USERNAME => s127400
 DGN FILE => b40170u002.dgn

CU 11231
 EA 401701

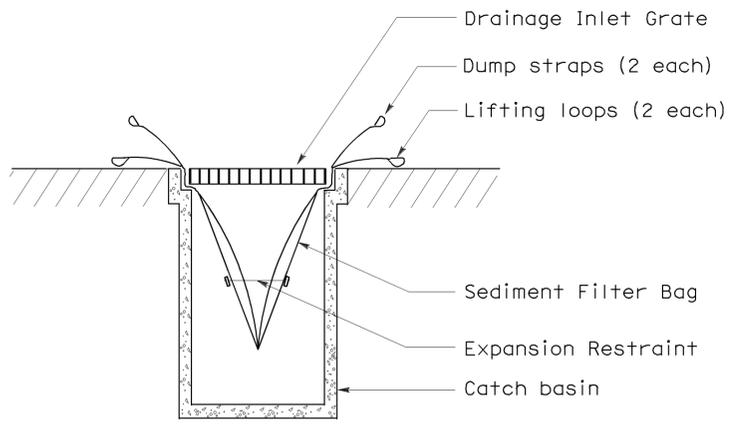
LAST REVISION: DATE PLOTTED => 02-MAR-2010
 03-01-10 TIME PLOTTED => 15:04

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	12	22

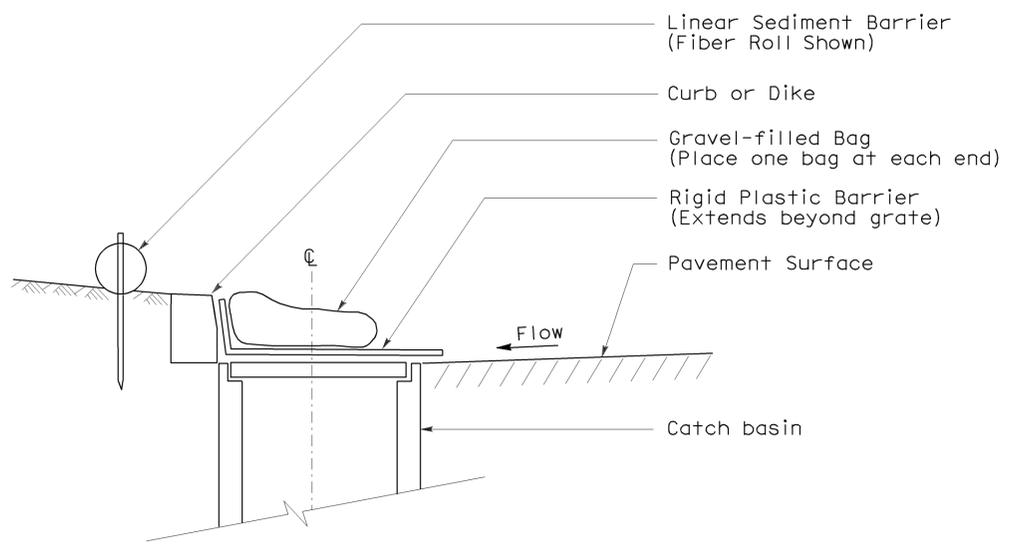
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



To accompany plans dated 03-01-10

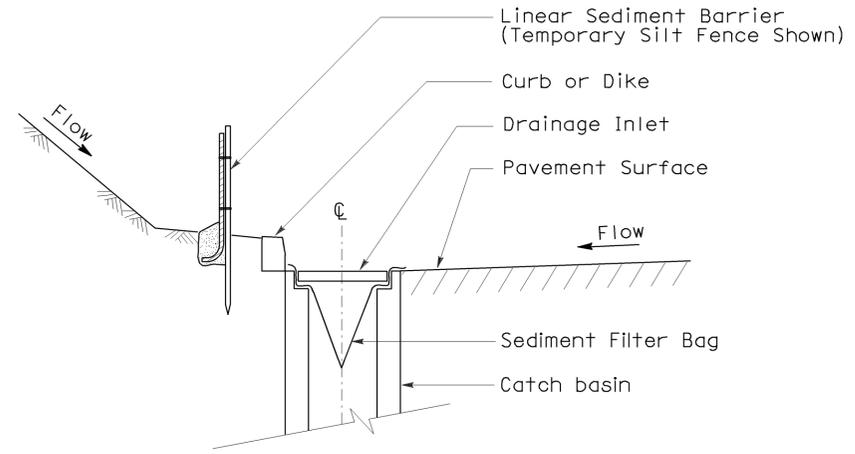


SECTION B-B
SEDIMENT FILTER BAG DETAIL

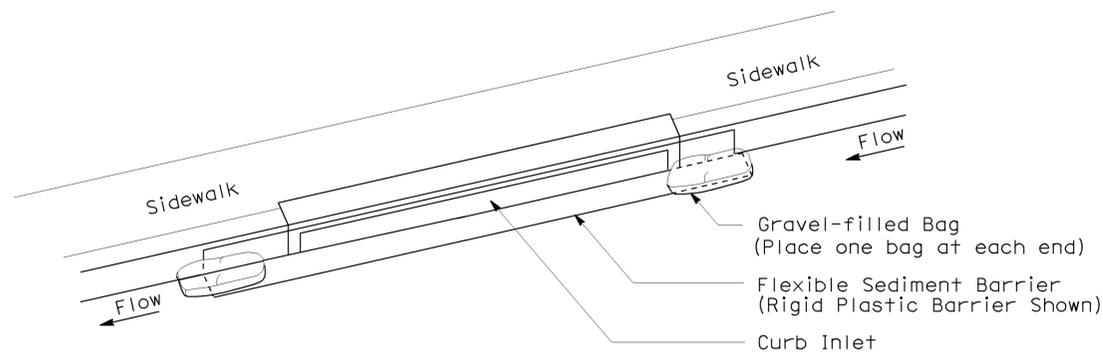


SECTION
TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)

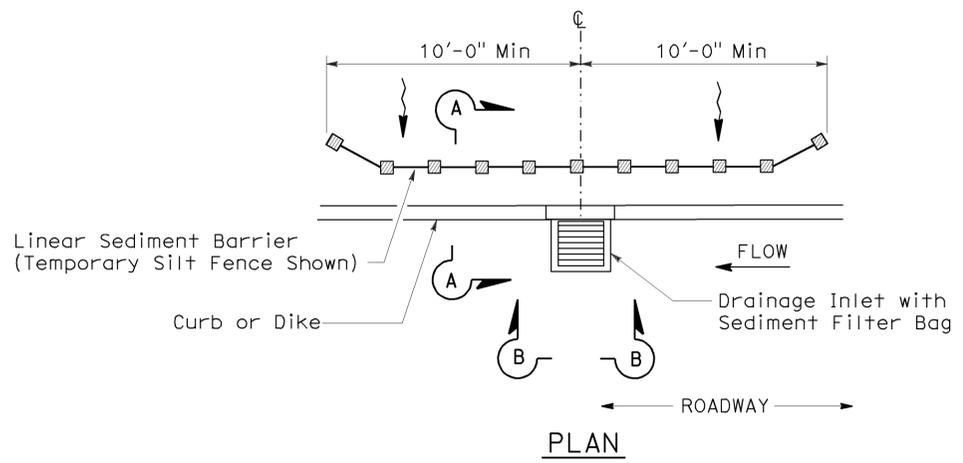
- NOTES:**
1. See Standard Plan T51 for Temporary Silt Fence.
 2. Dimensions may vary to fit field conditions.



SECTION A-A



PERSPECTIVE
TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6B)
(CURB INLET WITHOUT GRATE)



PLAN
TEMPORARY DRAINAGE INLET PROTECTION (TYPE 5)
(SEDIMENT FILTER BAG)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T64

2006 NEW STANDARD PLAN NSP T64

ELECTROLIERS

STANDARD TYPES		
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		
32		
35		
36-20A		

NOTES:

- Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
- Variations noted adjacent to symbol on project plans.

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

STANDARD NOTES:

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

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	13	22

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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

To accompany plans dated 03-01-10

SOFFIT AND WALL MOUNTED LUMINAIRES

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

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	14	22

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

CONDUIT

PROPOSED	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 in/on structure or service pole

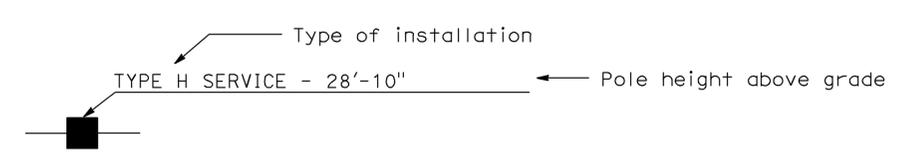
SIGNAL EQUIPMENT

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

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

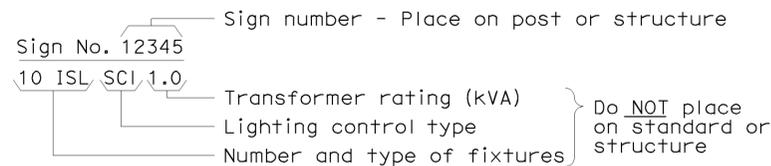
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

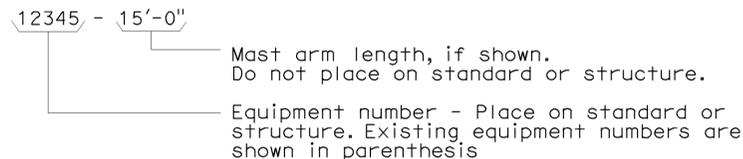
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

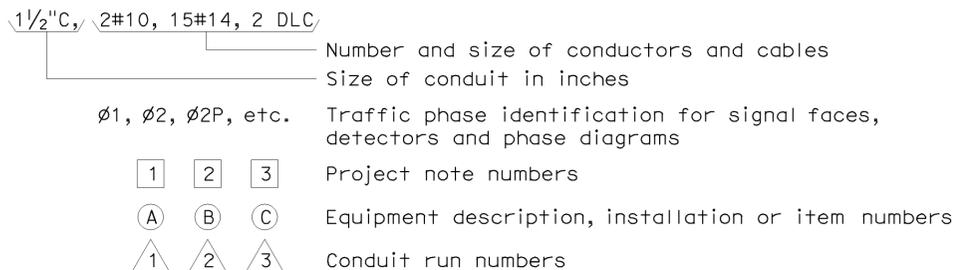
ILLUMINATED SIGN IDENTIFICATION NUMBER:



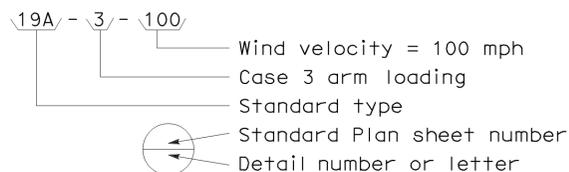
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



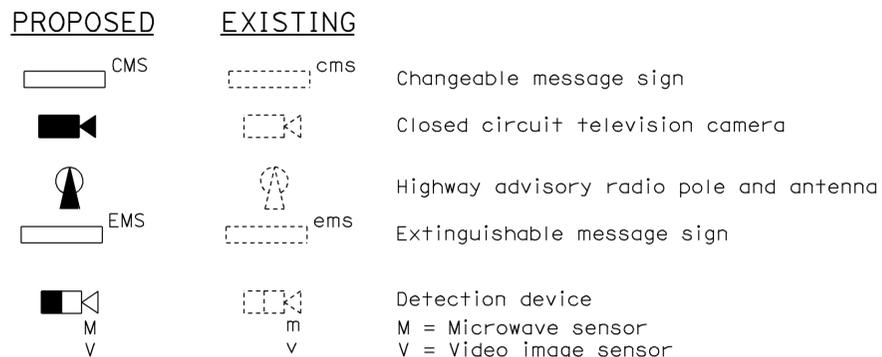
CONDUIT AND CONDUCTOR IDENTIFICATION:



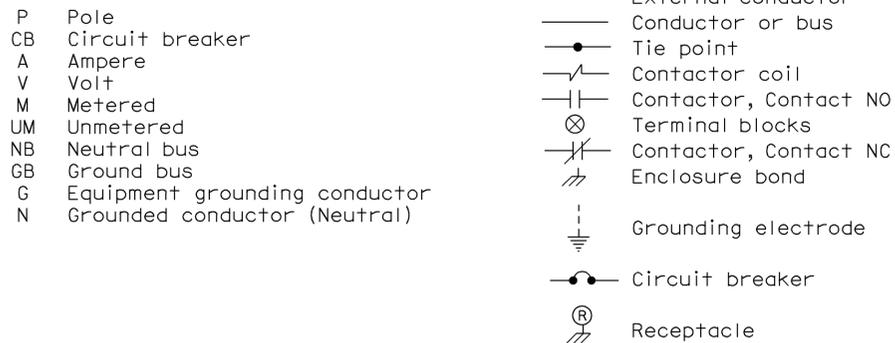
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



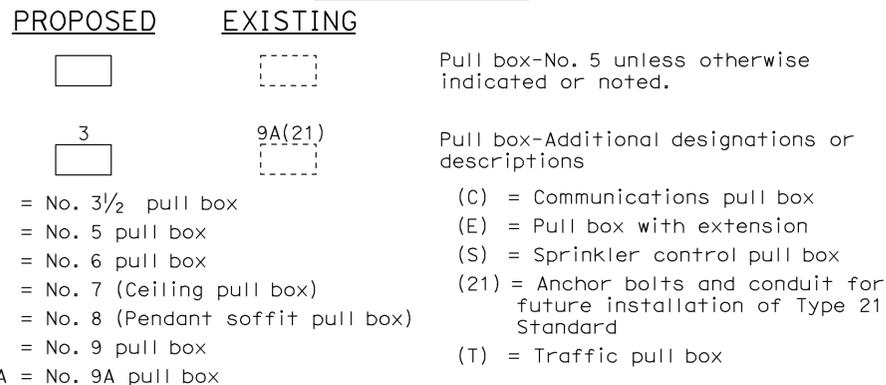
MISCELLANEOUS EQUIPMENT



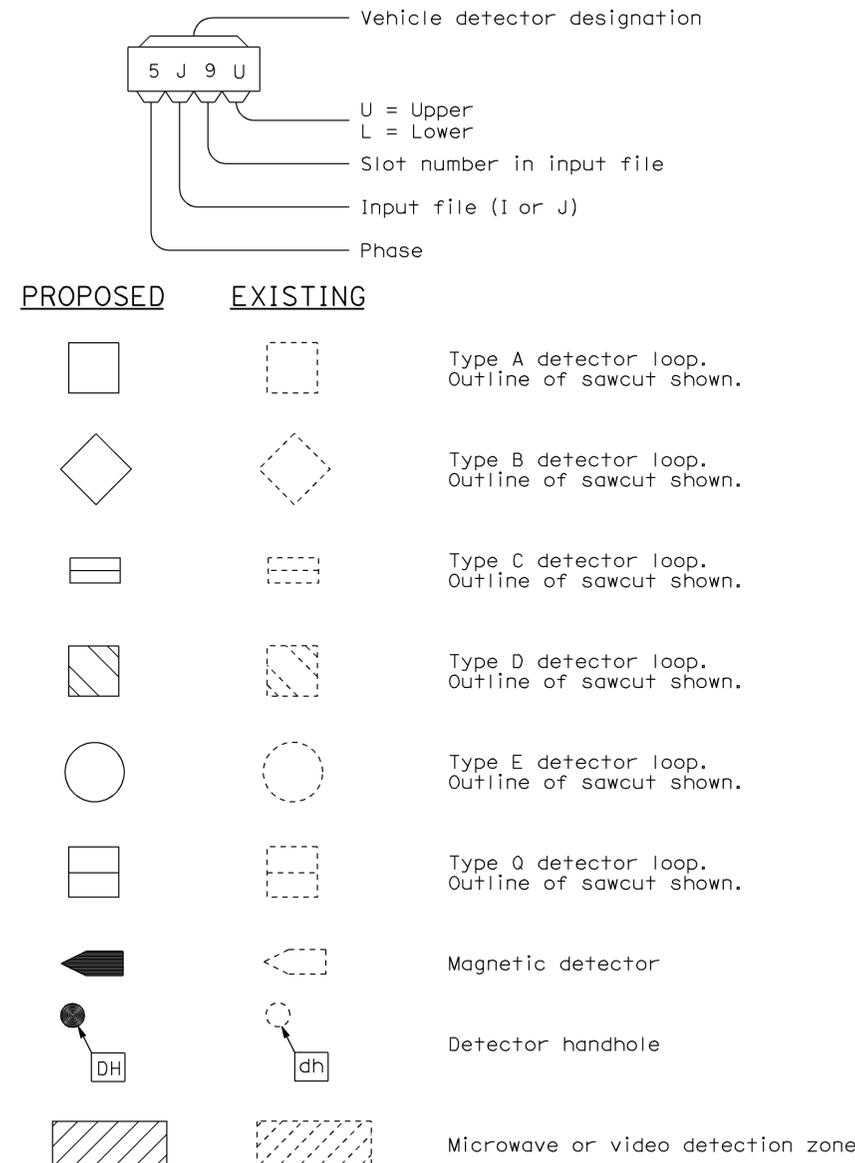
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1C

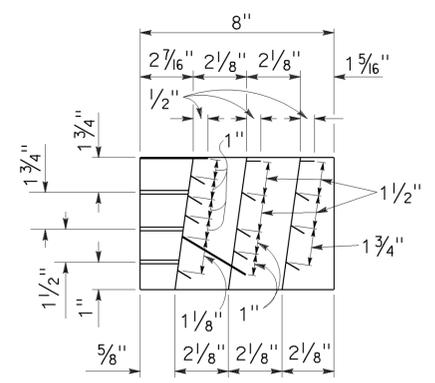
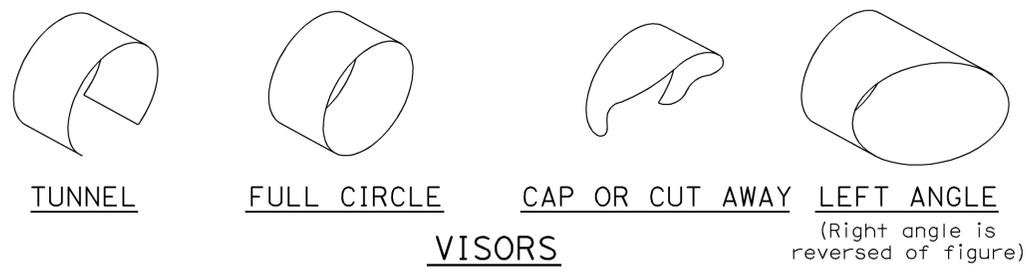
2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	16	22

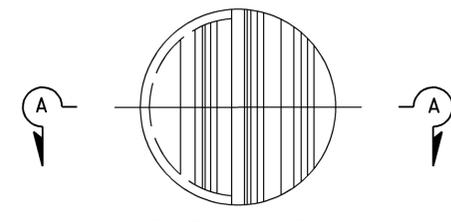
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 03-01-10



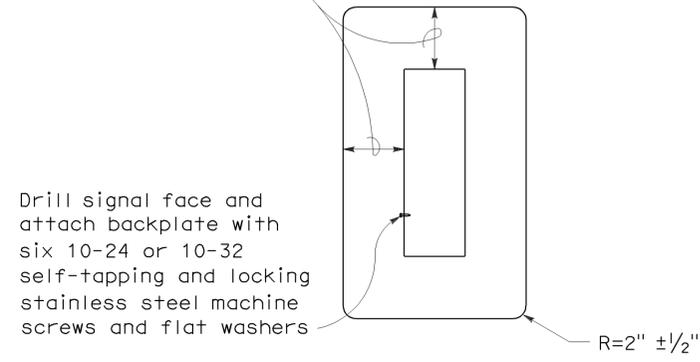
SECTION A-A



FRONT VIEW
DIRECTIONAL LOUVER

Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.

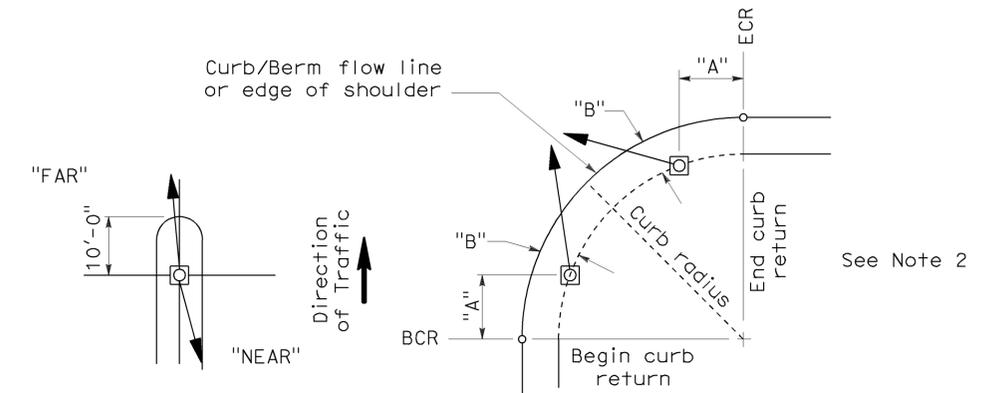
8" ± 1/2" for 8" sections
 5 1/2" ± 1/2" for 12" sections



8" AND 12" SECTIONS

BACKPLATE

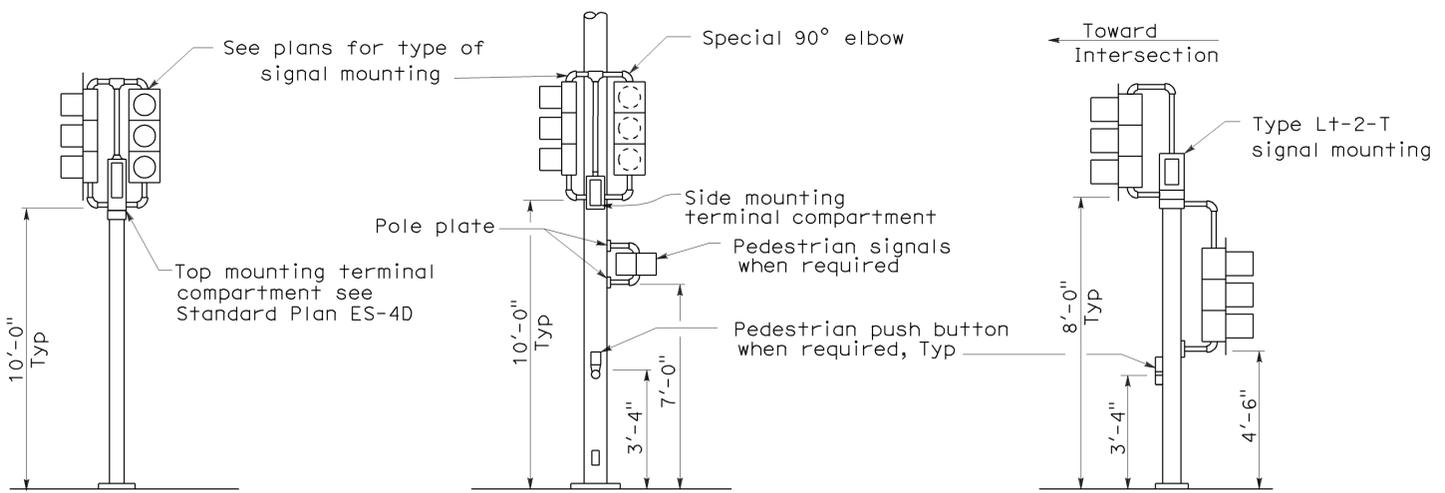
1/16" minimum thickness
 3001-14 aluminum, or plastic when specified



NOTES:

1. Typical signal pole placement unless dimensioned on plans.
2. For "A" and "B" dimensions, see Pole Schedule, or as directed by the Engineer.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)

Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

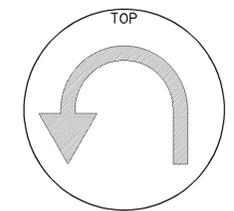
SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

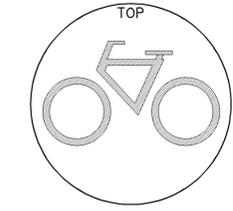
LEFT TURN LANE SIGNAL

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans

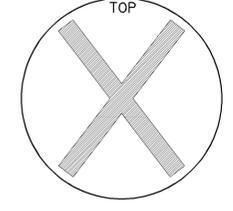
TYPICAL SIGNAL INSTALLATIONS



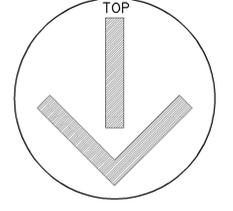
U-TURN SIGNAL FACE



BICYCLE SIGNAL FACE



LANE CONTROL SIGNAL FACE



LANE CONTROL SIGNAL FACE

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4C DATED MAY 1, 2006 - PAGE 420 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-4C

2006 REVISED STANDARD PLAN RSP ES-4C

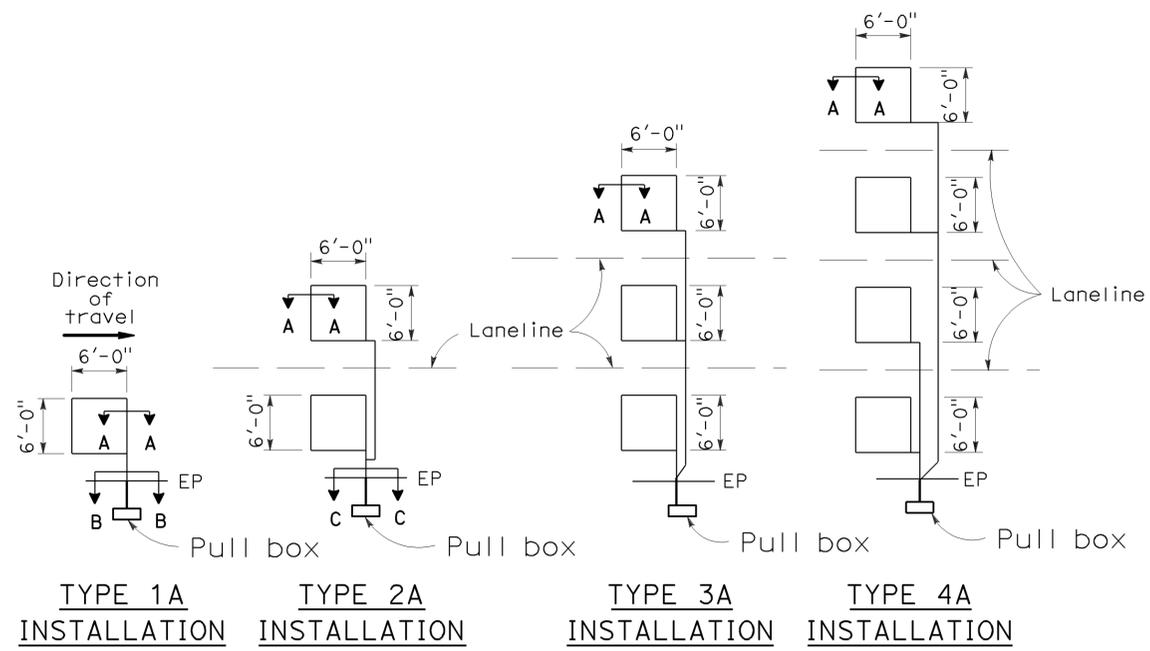
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	17	22

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 03-01-10

LOOP INSTALLATION PROCEDURE

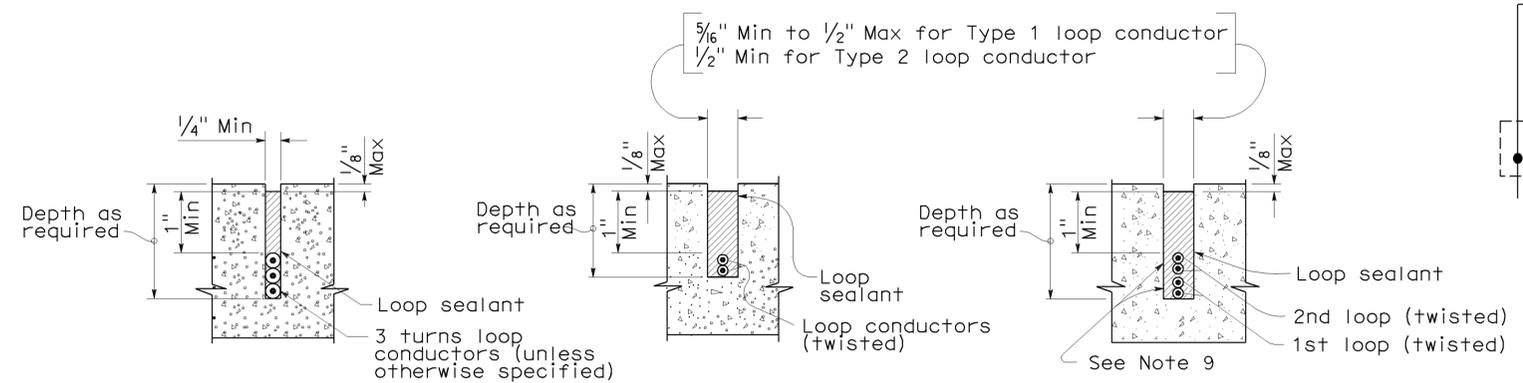
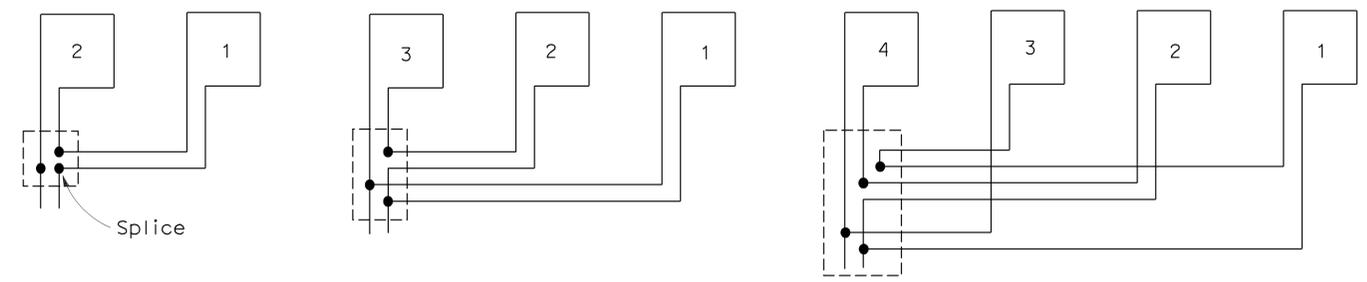
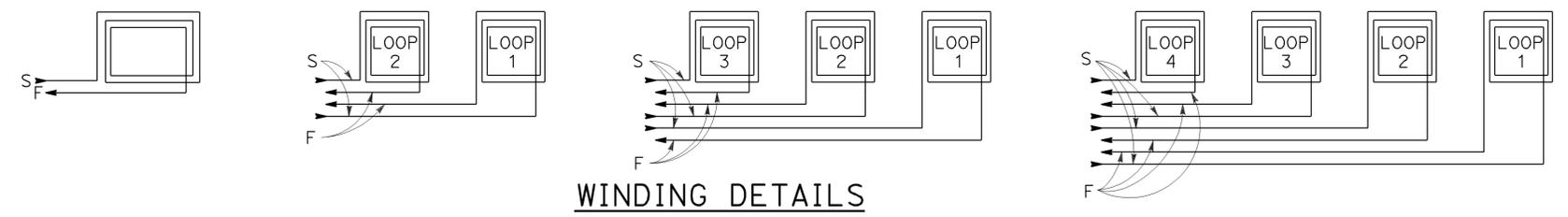
- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



SAWCUT DETAILS

(Type A loop detector configurations illustrated)

- 1A thru 4A = 1 Type A loop configuration in each lane.
- 1B thru 4B = 1 Type B loop configuration in each lane.
- 1C = 1 Type C loop configuration entering lanes as required.
- 1D thru 4D = 1 Type D loop configuration in each lane.
- 1E thru 4E = 1 Type E loop configuration in each lane.
- 1Q thru 4Q = 1 Type Q loop configuration in each lane.
(Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



SECTION A-A
 SECTION B-B
 SECTION C-C
 SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

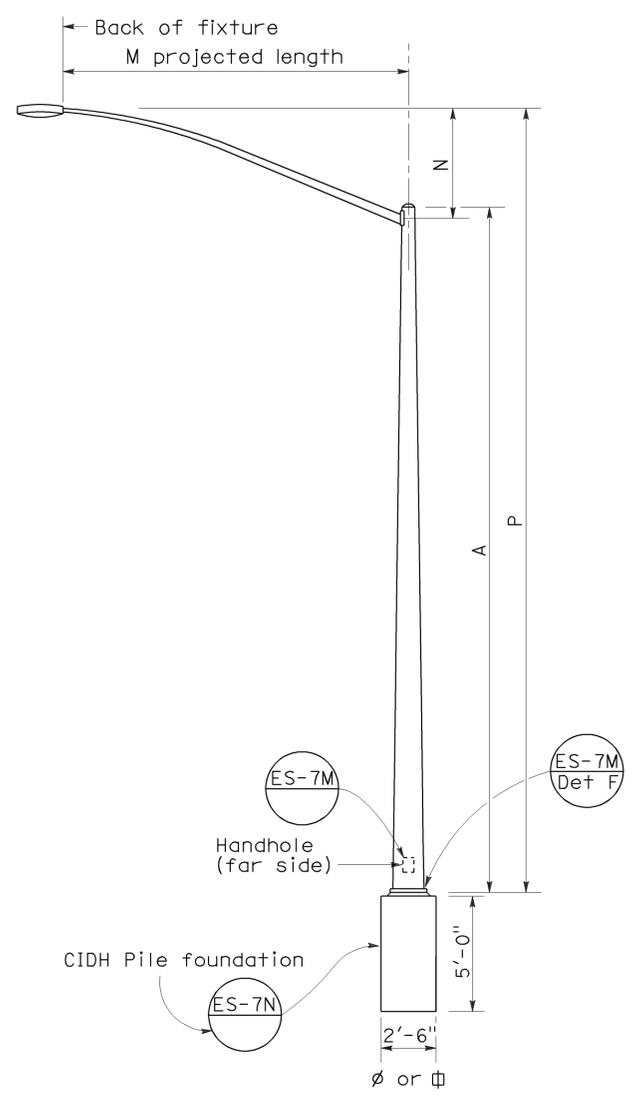
ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

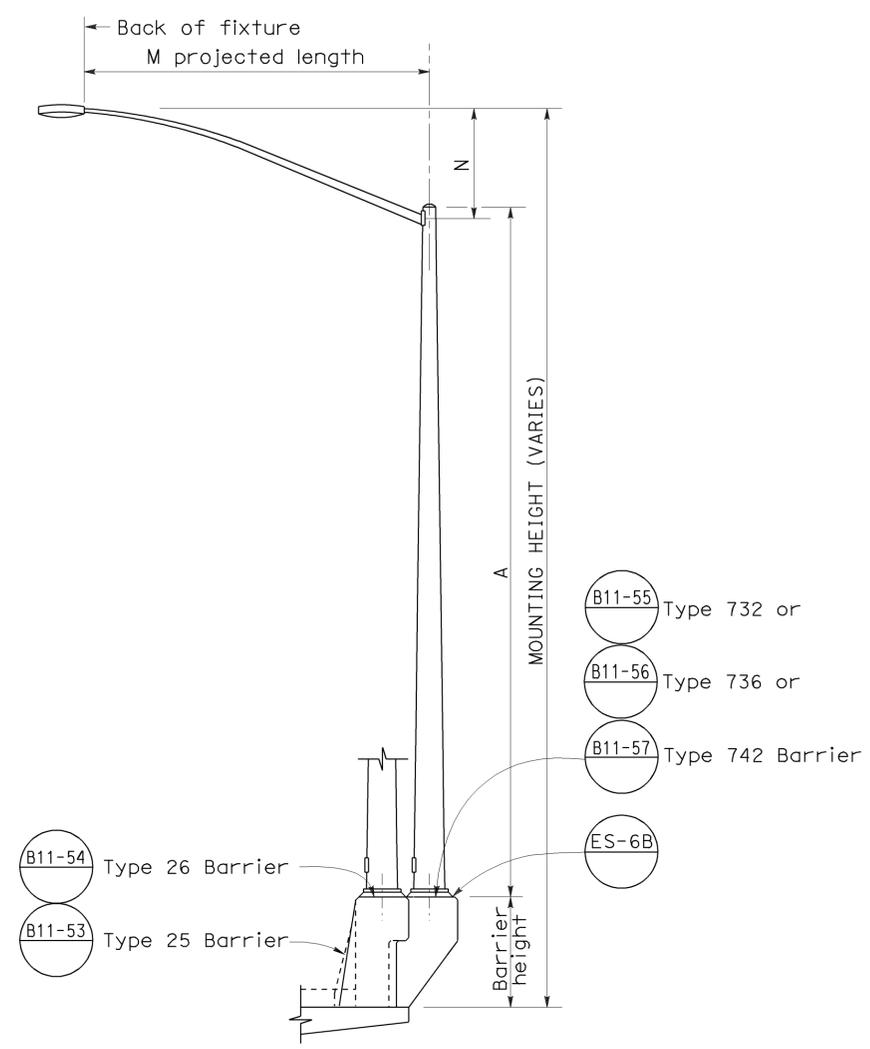
NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

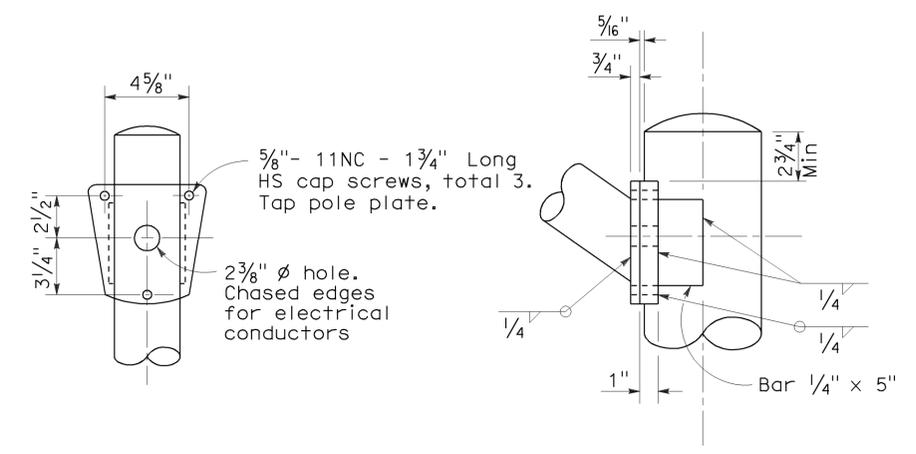
To accompany plans dated 03-01-10



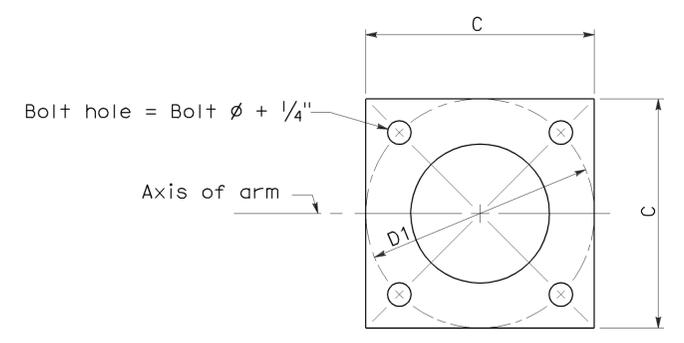
ELEVATION
TYPE 15 AND TYPE 21



ELEVATION
TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED



DETAIL R
LUMINAIRE ARM CONNECTION



BASE PLATE

POLE TYPE	POLE DATA				BASE PLATE DATA				LUMINAIRE ARM
	A Height	Min OD		Wall Thickness	C	D1 Bolt Circle	Thick-ness	Anchor Bolts Size	
15	30'	8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1" ø x 3'-0" x 4"*	6' - 15' 12'
21	35'	8 5/8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1 1/4" ø x 3'-0" x 4"*	6' - 15' 12'

* For barrier rail bolts, see Standard Plan ES-6B.

LUMINAIRE ARM DATA					
M Projected Length	N Rise	Min OD At Pole	Nominal Thickness	P	
				Type 15	Type 21
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"	0.1196"	32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"	0.1196"	32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"	0.1196"	33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"	0.1196"	34'-3"±	39'-3"±

NOTES:

- Indicates arm length to be used unless otherwise noted on the plans.
- For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Standard Plan ES-6F.
- For additional notes, see Standard Plan ES-7M and ES-7N.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(LIGHTING STANDARD
TYPES 15 AND 21)
 NO SCALE

RSP ES-6A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-6A DATED MAY 1, 2006 - PAGE 427 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-6A

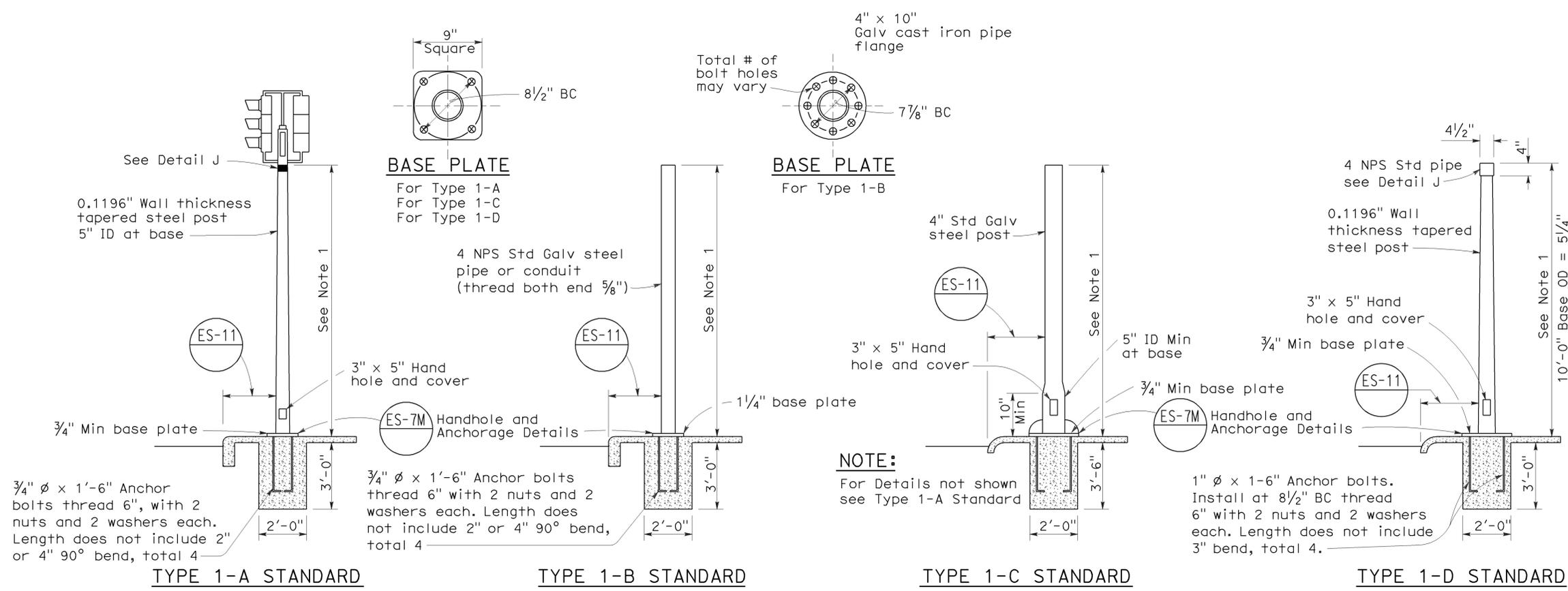
2006 REVISED STANDARD PLAN RSP ES-6A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	19	22

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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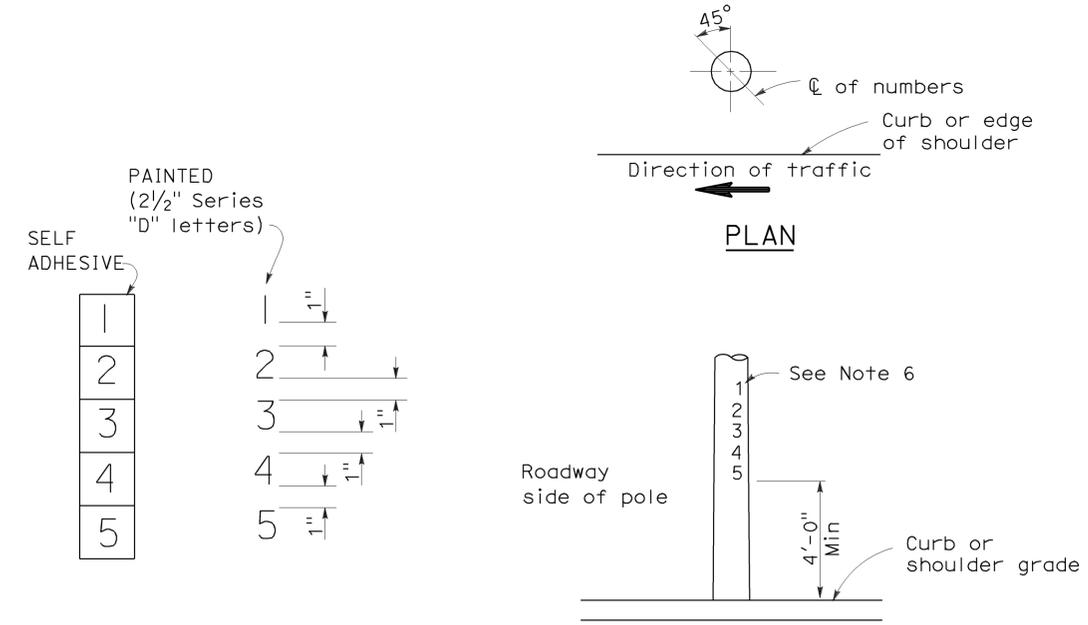
REGISTERED PROFESSIONAL ENGINEER
 Stanley P. Johnson
 No. C57793
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 03-01-10

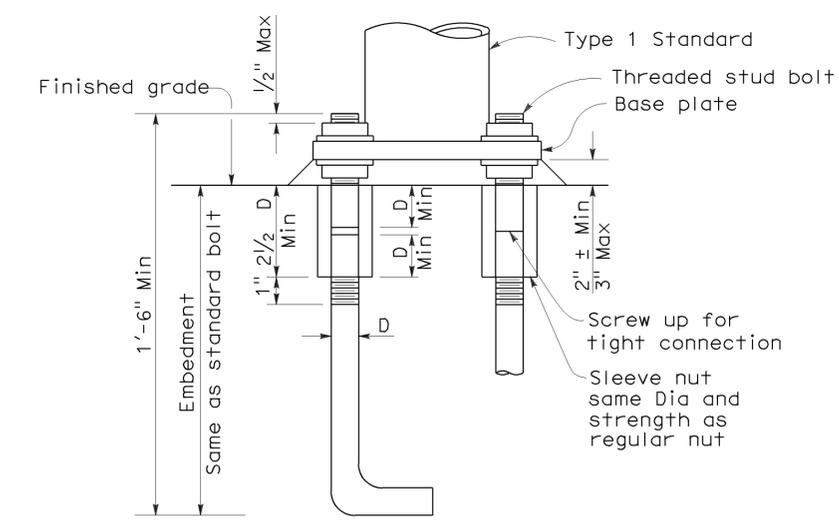


- NOTES:**
- Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless otherwise noted on plans.
 - Top of standards shall be 4 1/2" OD.
 - Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
 - Anchor bolts shall be bonded to conduit or grounding conductor.
 - Conduit between standard and adjacent pull box shall be 2" minimum.
 - Paint numbers on roadway side facing traffic when electrolier or post is left of direction of traffic.

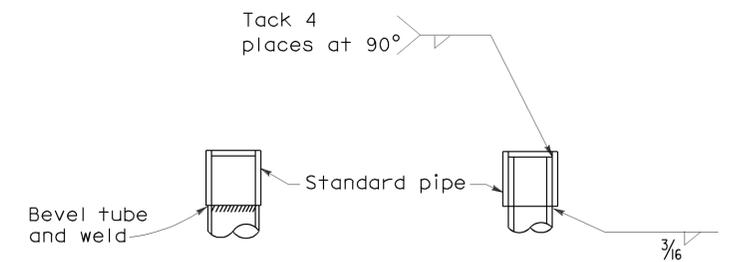
TYPE 1 SIGNAL STANDARDS



LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS



Sleeve nuts to be used only when shown or specified on Project Plans
D = Diameter of anchor bolt



Tube may be inserted into pipe or butted as required

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD TYPE 1 STANDARD AND EQUIPMENT NUMBERING)

NO SCALE

RSP ES-7B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-7B DATED MAY 1, 2006 - PAGE 438 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-7B

2006 REVISED STANDARD PLAN RSP ES-7B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	20	22

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

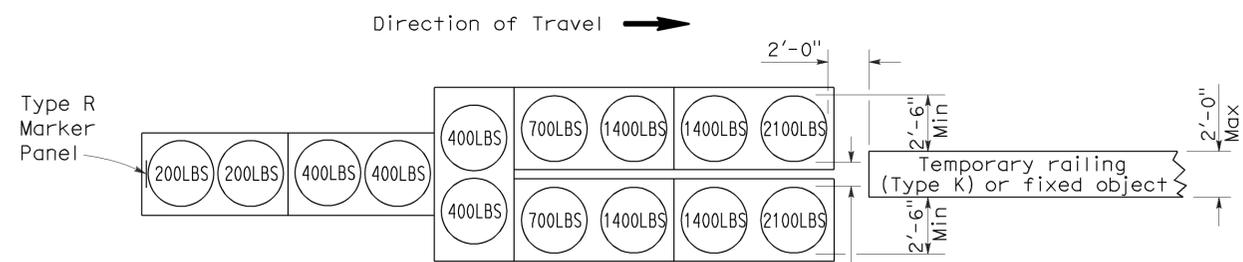
June 6, 2008
PLANS APPROVAL DATE

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

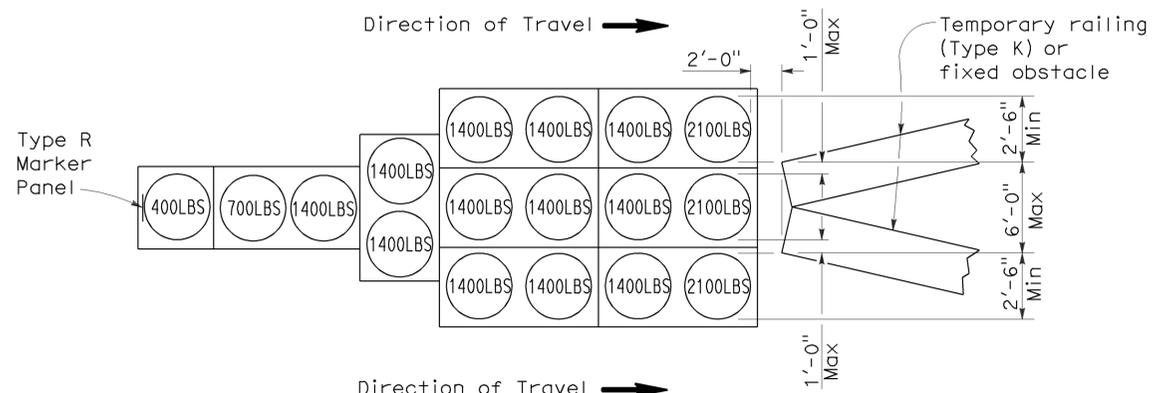
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To accompany plans dated 03-01-10

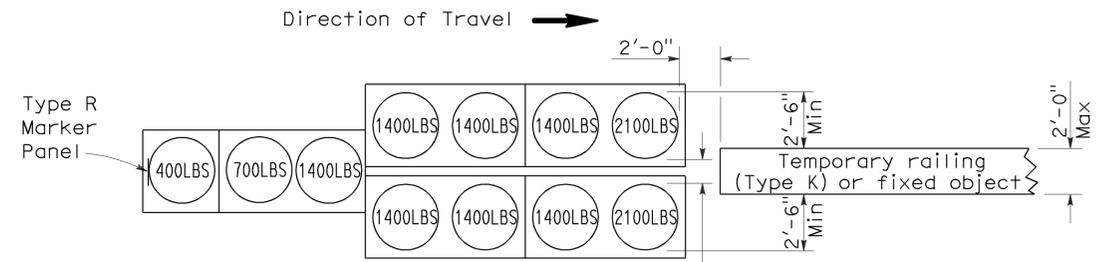
2006 REVISED STANDARD PLAN RSP T1A



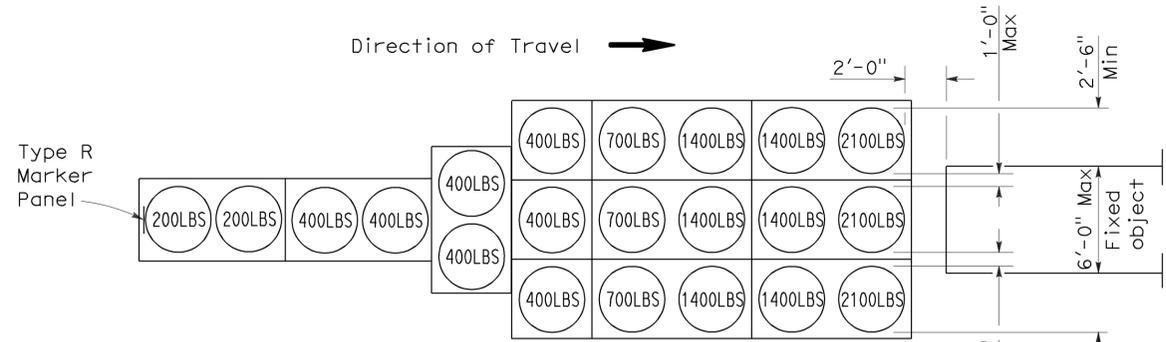
ARRAY 'TU14'
Approach speed 45 mph or more



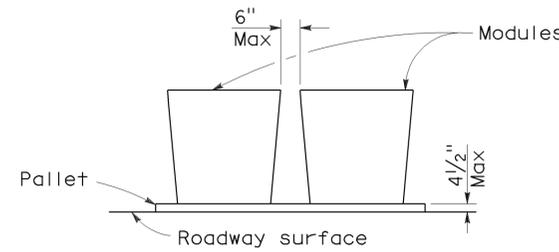
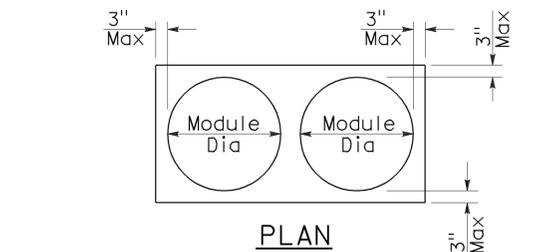
ARRAY 'TU17'
Approach speed less than 45 mph



ARRAY 'TU11'
Approach speed less than 45 mph



ARRAY 'TU21'
Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	21	22

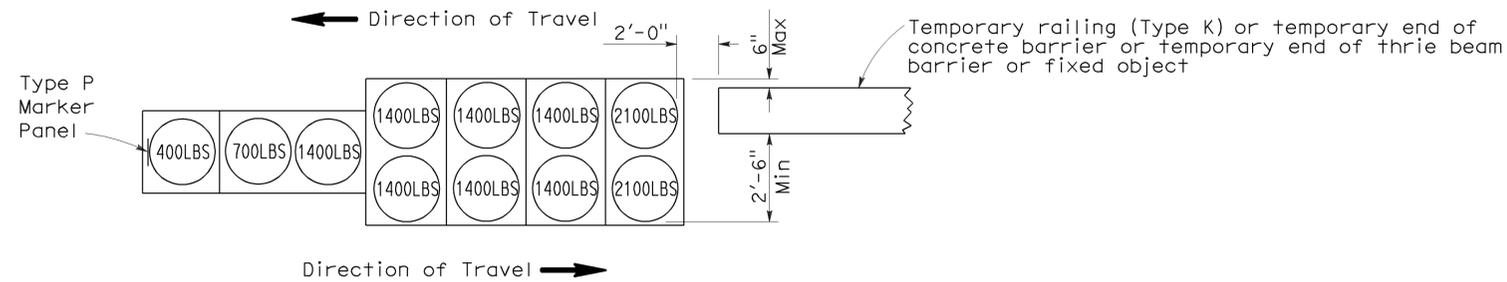
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

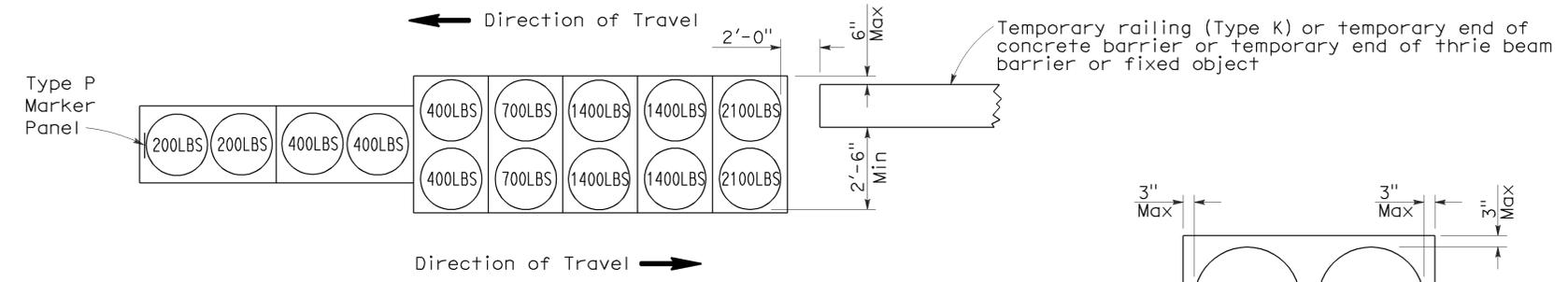
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To accompany plans dated 03-01-10



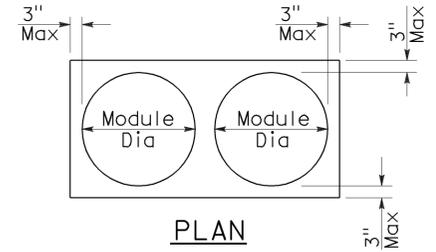
ARRAY 'TB11'

Approach speed less than 45 mph

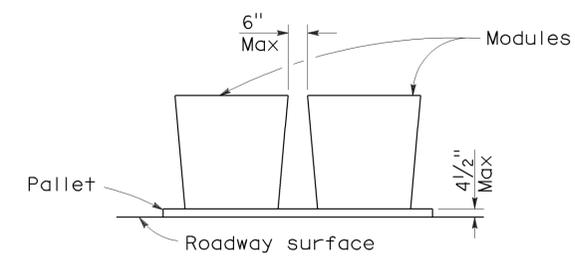


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	0.9	22	22

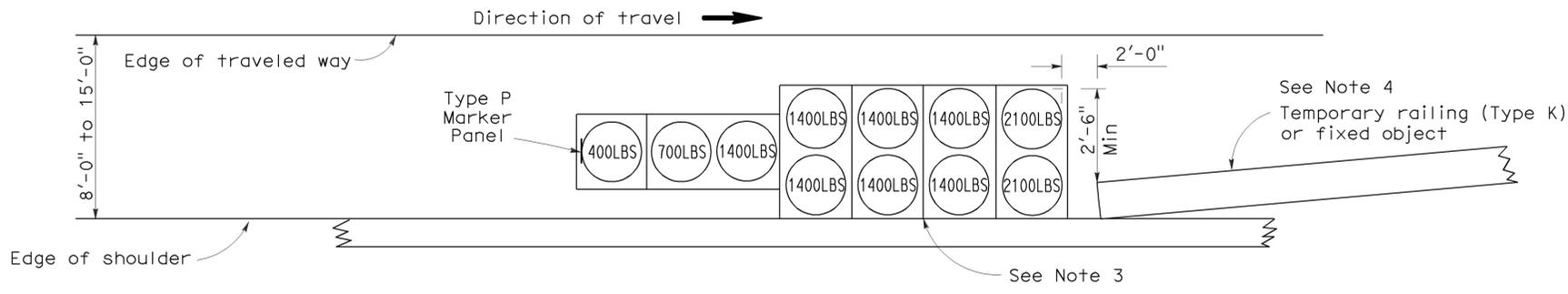
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

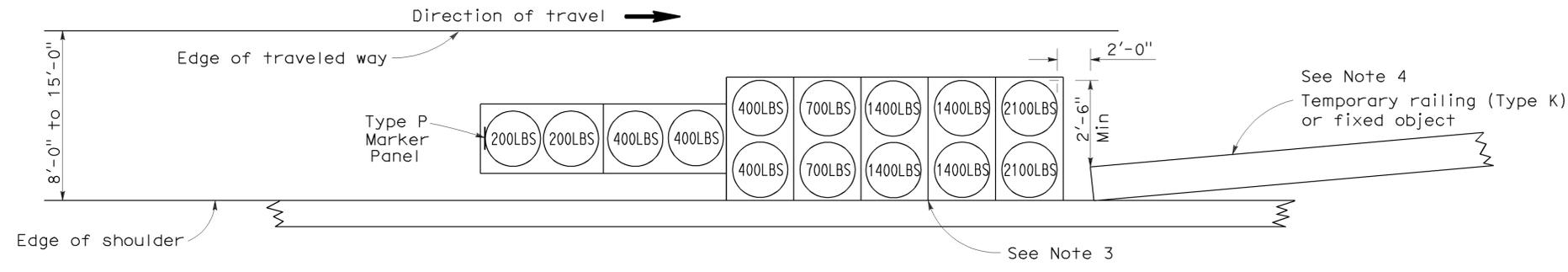
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 03-01-10



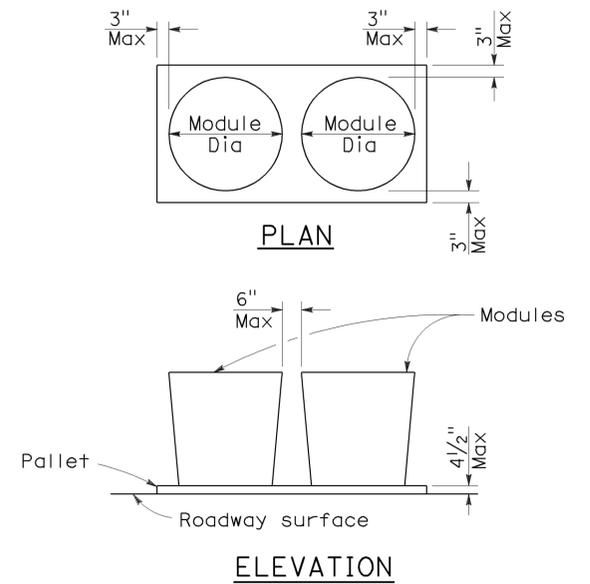
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



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

NOTES:

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



CRASH CUSHION PALLET DETAIL
See Note 11

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE
RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2