Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	1	26

INDEX OF PLANS

SHEET NO.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	LOCATIONS OF CONSTRUCTION
3	TYPICAL CROSS SECTIONS
4	CONSTRUCTION DETAILS
5-6	CONSTRUCTION AREA SIGNS
7-8	TRAFFIC HANDLING PLAN
9	PAVEMENT DELINEATION DETAILS AND QUANTITIES
10-12	SUMMARY OF QUANTITIES
13	ELECTRICAL PLANS
14-26	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

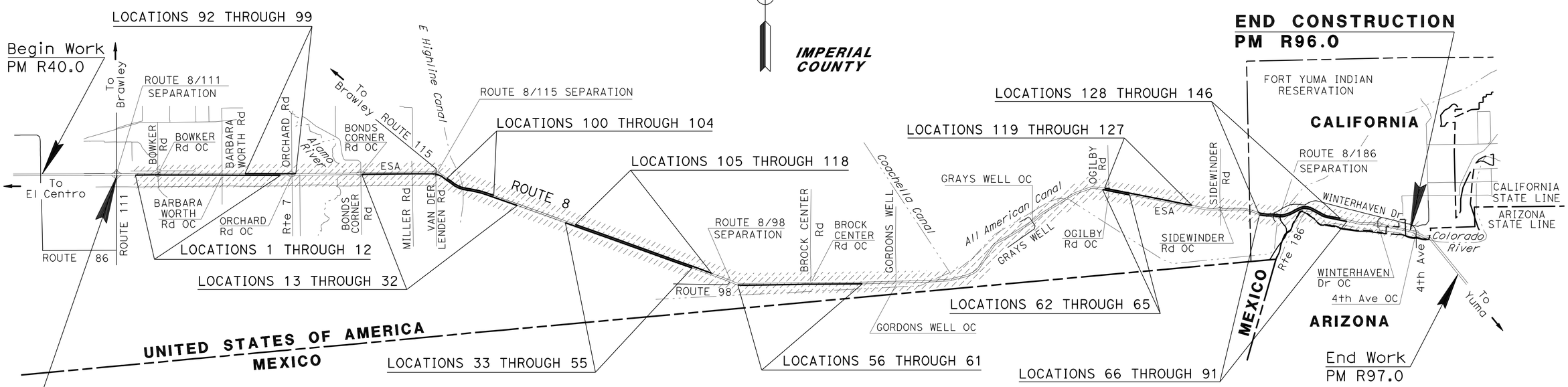
STATE HIGHWAY

IN IMPERIAL COUNTY

AT VARIOUS LOCATIONS FROM ROUTE 8/111 SEPARATION TO 0.6 MILE WEST OF 4TH AVENUE OVERCROSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

LOCATION MAP



ESA ENVIRONMENTALLY SENSITIVE AREA

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

NO SCALE

PROJECT ENGINEER DATE 03-23-11
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER PEJHAN TAYEBATI No. 65981 Exp. 06-30-12 CIVIL STATE OF CALIFORNIA

February 27, 2012
PLANS APPROVAL DATE

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

CONTRACT No.	11-2M2304
PROJECT ID	1100020039

PROJECT MANAGER ALBERTO GAYON
DESIGN ENGINEER PEJHAN TAYEBATI

LAST REVISION 03-24-11 DATE PLOTTED => 01-MAR-2012 TIME PLOTTED => 14:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	2	26

REGISTERED CIVIL ENGINEER 03-23-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PEJHAN TAYEBATI No. 65981 Exp. 06-30-12 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.

LOCATIONS OF CONSTRUCTION

Loc	POST MILE	DIRECTION	LANE	Loc	POST MILE	DIRECTION	LANE	Loc	POST MILE	DIRECTION	LANE
1	R41.70	EB	#1	55	R64.30	EB	#2	109	R61.90	WB	#1
2	R41.80		#1	56	R66.02		#2	110	R62.00		#1
3	R41.90		#1	57	R67.03		#2	111	R62.50		#2
4	R42.60		#2	58	R68.60		#2	112	R62.80		#1
5	R44.02		#2	59	R69.60		#2	113	R63.90		#1
6	R44.03		#1	60	R69.68		#2	114	R64.10		#1
7	R44.10		#1	61	R71.10		#2	115	R64.30		#1
8	R46.10		#1	62	R83.95		#2	116	R64.70		#1
9	R46.20		#2	63	R84.50		#2	117	R64.90		#1
10	R46.40		#2	64	R84.80		#2	118	R65.10		#1
11	R46.50		#2	65	R85.00		#2	119	R84.00		#1
12	R47.40		#1	66	R90.20		#2	120	R84.50		#1
13	R50.60		#2	67	R90.40		#1	121	R85.20		#1
14	R50.70		#2	68	R91.10		#2	122	R85.60		#1
15	R51.50		#2	69	R91.18		#2	123	R85.63		#1
16	R51.70		#2	70	R91.23		#2	124	R85.70		#1
17	R52.20		#1	71	R91.36		#2	125	R87.00		#1
18	R52.50		#2	72	R91.37		#2	126	R87.40		#1
19	R52.90		#2	73	R91.38		#2	127	R87.50		#1
20	R53.40		#2	74	R91.39		#2	128	R91.90		#2
21	R53.50		#2	75	R91.40		#2	129	R92.50		#2
22	R53.60		#2	76	R91.45		#2	130	R92.60		#2
23	R53.80		#2	77	R91.90		#2	131	R92.65		#2
24	R54.60		#1	78	R92.20		#2	132	R92.70		#1
25	R54.90		#1	79	R92.40		#2	133	R92.80		#1
26	R55.70		#2	80	R93.01		#2	134	R92.89		#1
27	R55.90		#1	81	R93.05		#2	135	R92.89		#2
28	R56.00		#1	82	R93.07		#2	136	R92.90		#1
29	R56.00		#2	83	R93.14		#1	137	R92.91		#2
30	R56.30		#2	84	R93.20		#1	138	R92.91		#1
31	R56.70		#2	85	R93.23		#2	139	R92.93		#2
32	R57.00		#2	86	R93.33		#2	140	R92.94		#2
33	R59.00		#1	87	R93.38		#1	141	R92.95		#1
34	R59.30		#2	88	R93.39		#2	142	R93.00		#2
35	R59.40		#1	89	R93.40		#1	143	R93.20		#2
36	R59.50		#1	90	R93.48		#2	144	R93.20		#1
37	R59.50		#2	91	R93.80		#2	145	R93.40		#1
38	R59.60		#1	92	R46.00	WB	#2	146	R93.50		#1
39	R60.10		#1	93	R46.30		#2				
40	R60.30		#1	94	R46.90		#2				
41	R60.40		#1	95	R47.00		#2				
42	R60.60		#1	96	R47.40		#1				
43	R60.90		#2	97	R47.41		#1				
44	R61.00		#2	98	R47.90		#1				
45	R61.10		#1	99	R48.00		#1				
46	R61.20		#1	100	R54.80		#1				
47	R61.90		#1	101	R55.70		#2				
48	R62.00		#1	102	R55.80		#2				
49	R62.40		#1	103	R56.00		#2				
50	R62.50		#1	104	R56.00		#1				
51	R62.60		#1	105	R59.40		#2				
52	R62.70		#1	106	R59.80		#2				
53	R63.40		#2	107	R60.40		#1				
54	R64.30		#1	108	R61.80		#1				

LOCATIONS OF CONSTRUCTION
LC-1

REVISED BY | DATE REVISED
MOHAMMED AHMED | PEJHAN TAYEBATI
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE

LAST REVISION 03-24-11 | DATE PLOTTED => 01-MAR-2012 | TIME PLOTTED => 14:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	3	26

REGISTERED CIVIL ENGINEER 03-23-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PEJHAN TAYEBATI No. 65981 Exp. 06-30-12 CIVIL STATE OF CALIFORNIA

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

NOTES:

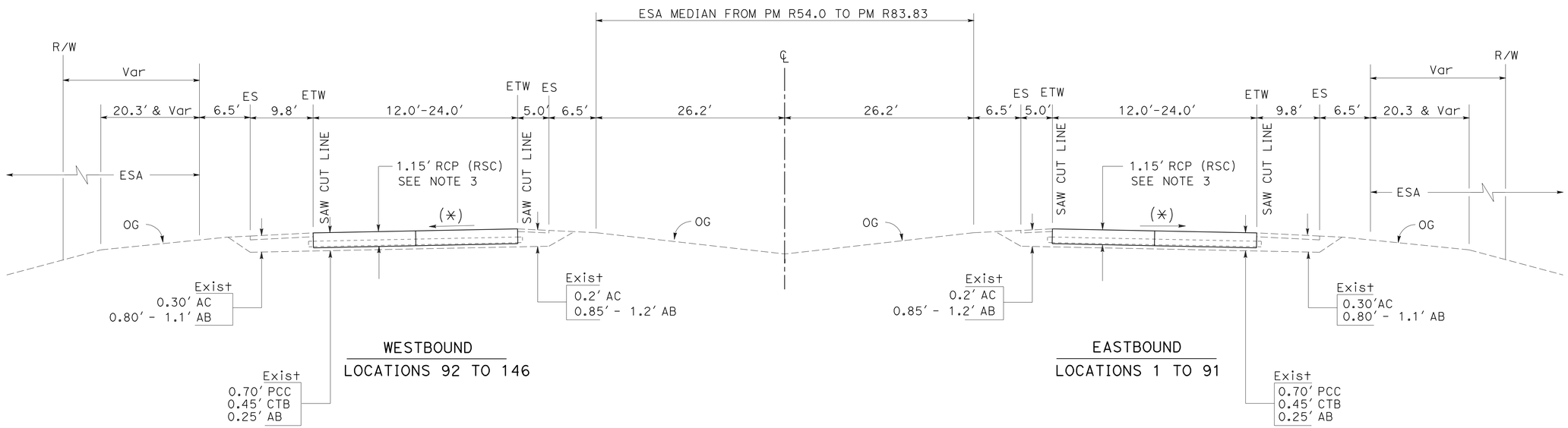
1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
3. FOR LOCATIONS AND DETAILS OF REPLACE CONCRETE PAVEMENT, (RAPID STRENGTH CONCRETE) , SEE SUMMARY OF QUANTITIES SHEET AND CONSTRUCTION DETAIL SHEET.

LEGEND:

ESA = ENVIRONMENTALLY SENSITIVE AREA
RSC = RAPID STRENGTH CONCRETE
RCP = REPLACE CONCRETE PAVEMENT
(✳) = MATCH EXISTING

DESIGN DESIGNATION (ROUTE 8)

ADT(2008)	8,300	D=51.5 %
ADT(2020)	11,400	T=19.5 %
DHV	1,620	V=70 MPH



ROUTE 8
PM R41.0 TO R96.0

TYPICAL CROSS SECTIONS

NO SCALE

X-1

MOHAMMED AHMED
PEJHAN TAYEBATI
ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE
Caltrans

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR

LAST REVISION 02-07-12 | DATE PLOTTED => 01-MAR-2012 | TIME PLOTTED => 14:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	4	26

REGISTERED CIVIL ENGINEER 03-23-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PEJHAN TAYEBATI
No. 65981
Exp. 06-30-12
CIVIL
STATE OF CALIFORNIA

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

NOTES:

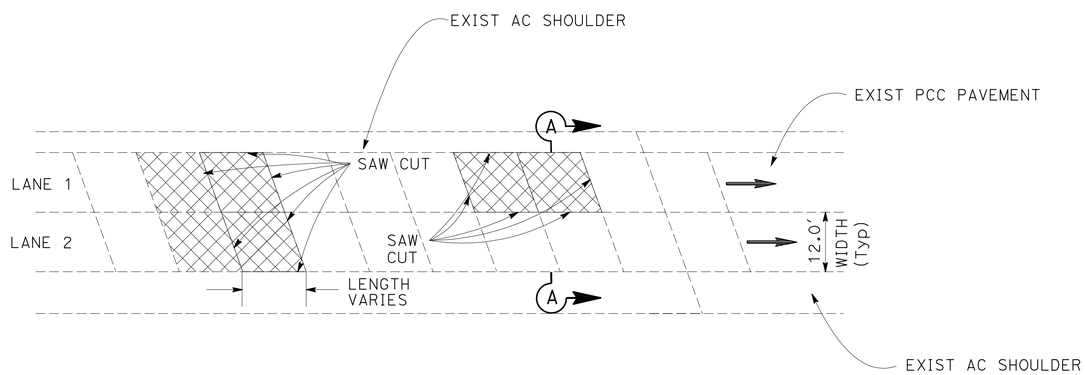
1. EXISTING UTILITIES HAVE NOT BEEN PLOTTED ON THESE PLAN SHEETS.
2. SEE SUMMARY OF QUANTITIES FOR DIMENSIONS AND LOCATIONS OF REPLACE CONCRETE PAVEMENT.

LEGEND:

REPLACE CONCRETE PAVEMENT (RSC)

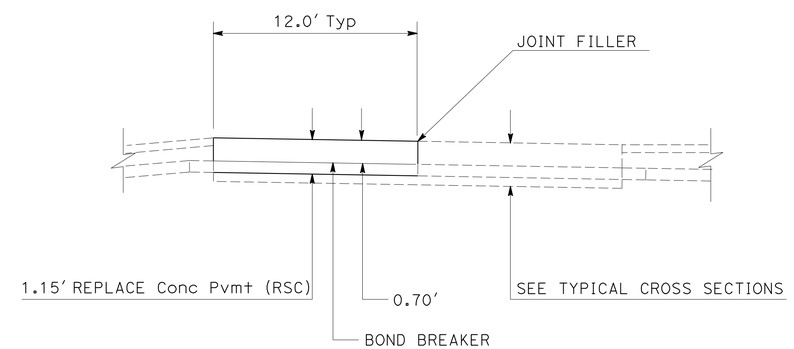
ABBREVIATION:

RSC = RAPID STRENGTH CONCRETE



PLAN

NOTE: FOR DETAILS NOT SHOWN, SEE STANDARD PLAN P8.
JOINTS NOT TO BE SEALED.



SECTION A-A

REPLACE CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)

CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
MAINTENANCE

FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: MOHAMMED AHMED
CHECKED BY: PEJHAN TAYEBATI
REVISED BY
DATE REVISED

LAST REVISION 02-07-12
DATE PLOTTED => 01-MAR-2012
TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	5	26

REGISTERED CIVIL ENGINEER 03-22-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SHAHIN T. ADIBI No. 54839 Exp. 06-30-12 CIVIL STATE OF CALIFORNIA

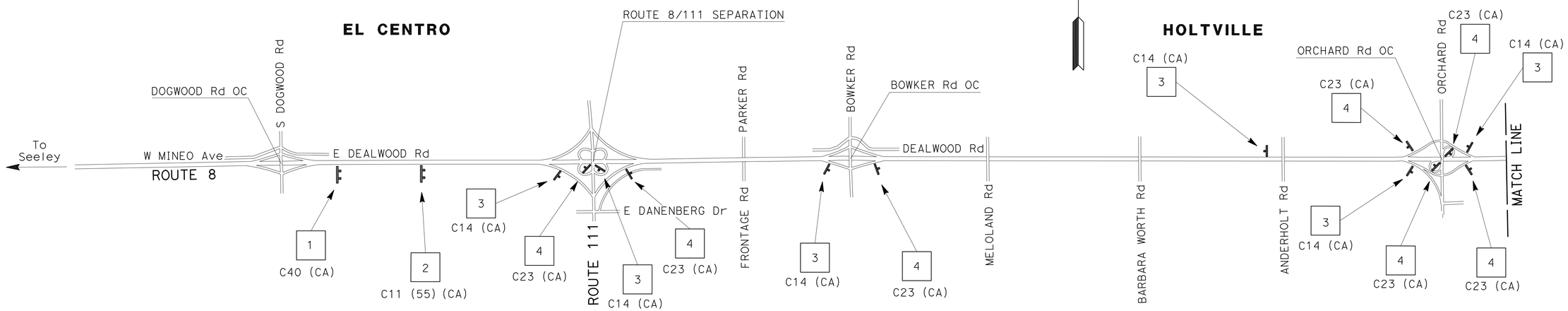
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

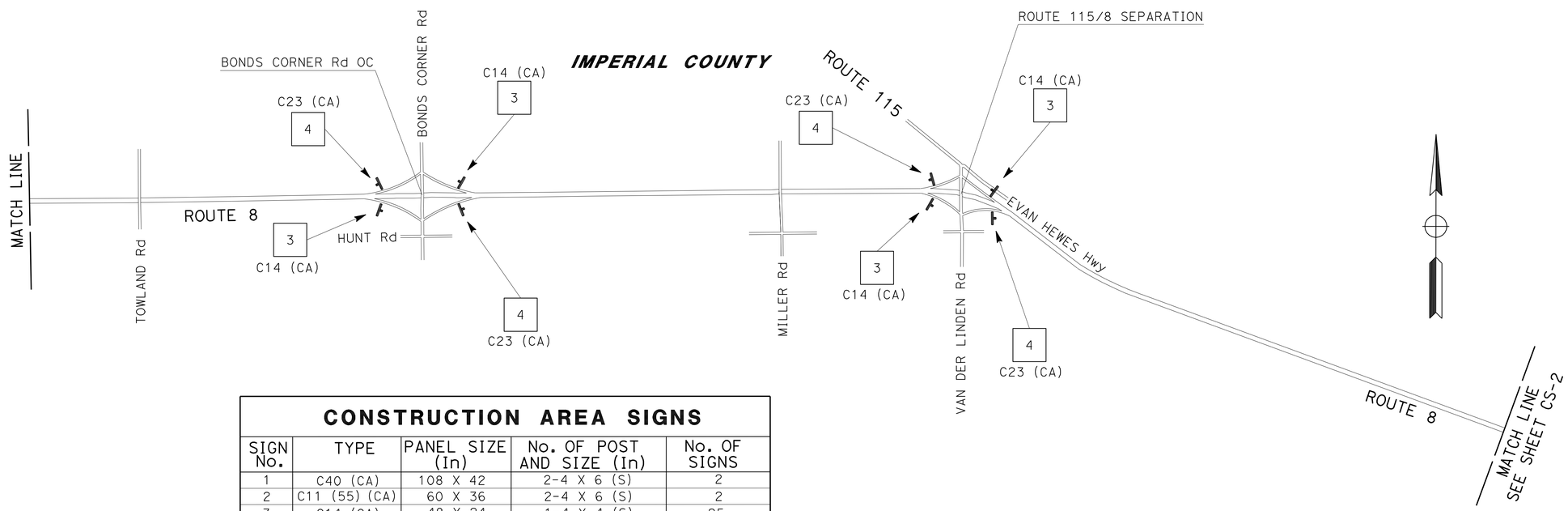
NOTES:

1. EXACT LOCATION OF CONSTRUCTION AREA SIGNS WILL BE DETERMINED BY THE ENGINEER.
2. FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA), INDICATING CALIFORNIA MUTCD.
3. EXISTING UTILITIES ARE NOT SHOWN ON THESE PLAN SHEETS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES AND ADJUST THE FIELD LOCATION OF THE SIGN POSTS IN CONSULTATION WITH THE ENGINEER.

LEGEND:

XX = CONSTRUCTION AREA SIGN





CONSTRUCTION AREA SIGNS

SIGN No.	TYPE	PANEL SIZE (In)	No. OF POST AND SIZE (In)	No. OF SIGNS
1	C40 (CA)	108 X 42	2-4 X 6 (S)	2
2	C11 (55) (CA)	60 X 36	2-4 X 6 (S)	2
3	C14 (CA)	48 X 24	1-4 X 4 (S)	25
4	C23 (CA)	48 X 48	1-4 X 6 (S)	26
			TOTAL	55

(S) DENOTES STATIONARY MOUNTED SIGN

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: CAMILLE ABOU FADEL
CALCULATED-DESIGNED BY: ROBERT EDEJER
CHECKED BY: SHAHIN ADIBI
REVISED BY
DATE REVISED

LAST REVISION 03-24-11 DATE PLOTTED => 01-MAR-2012 TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	6	26

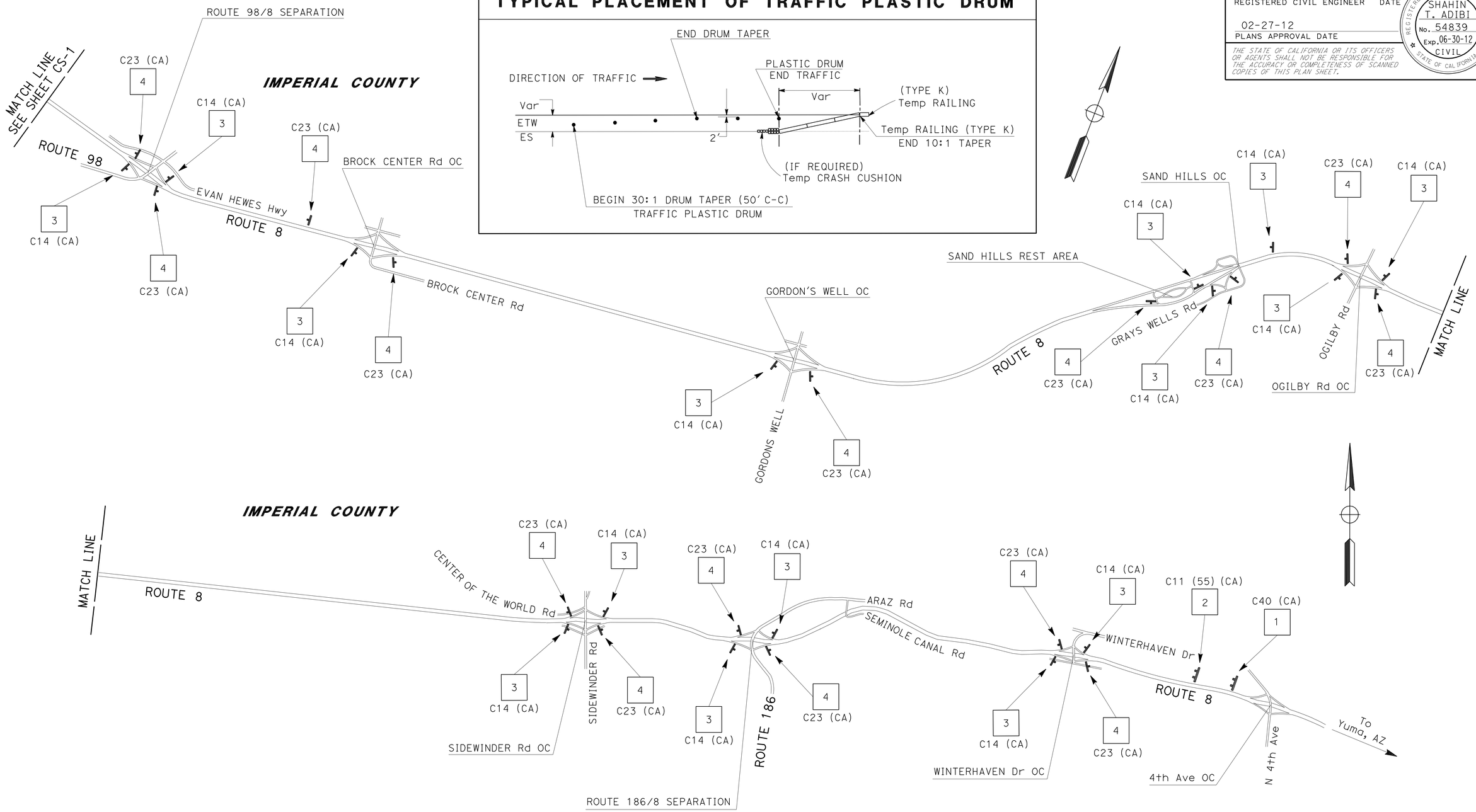
REGISTERED CIVIL ENGINEER 03-22-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SHAHIN T. ADIBI No. 54839 Exp. 06-30-12 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.

TYPICAL PLACEMENT OF TRAFFIC PLASTIC DRUM



THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS

NO SCALE

CS-2

REVISED BY	DATE REVISED
ROBERT EDEJER	SHAHIN ADIBI
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	CAMILLE ABOU FADEL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

LAST REVISION 03-24-11 | DATE PLOTTED => 01-MAR-2012 TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	7	26

REGISTERED CIVIL ENGINEER 03-22-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SHAHIN T. ADIBI No. 54839 Exp. 06-30-12 CIVIL STATE OF CALIFORNIA

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

NOTES:

1. EXACT LOCATION OF DETOUR SIGNS WILL BE DETERMINED BY THE ENGINEER.
2. FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA), INDICATING CALIFORNIA MUTCD.
3. ROTATE ARROW ON SC9 (CA) PANEL TO REFLECT DIRECTION OF DETOUR.
4. SEE CONSTRUCTION AREA SIGN PLAN FOR ADDITIONAL CONSTRUCTION AREA SIGNS.

CONSTRUCTION AREA SIGNS

SIGN No.	TYPE	PANEL SIZE (In)	No. OF POSTS AND SIZE (In)	No. OF SIGNS
5	SC9 (CA)	36 X 36	PORTABLE	19
6	M4-8a	24 X 18	PORTABLE	3
7	SPCL-1	72 X 72	PORTABLE	4
8	SPCL-2	72 X 72	PORTABLE	1
			TOTAL	27

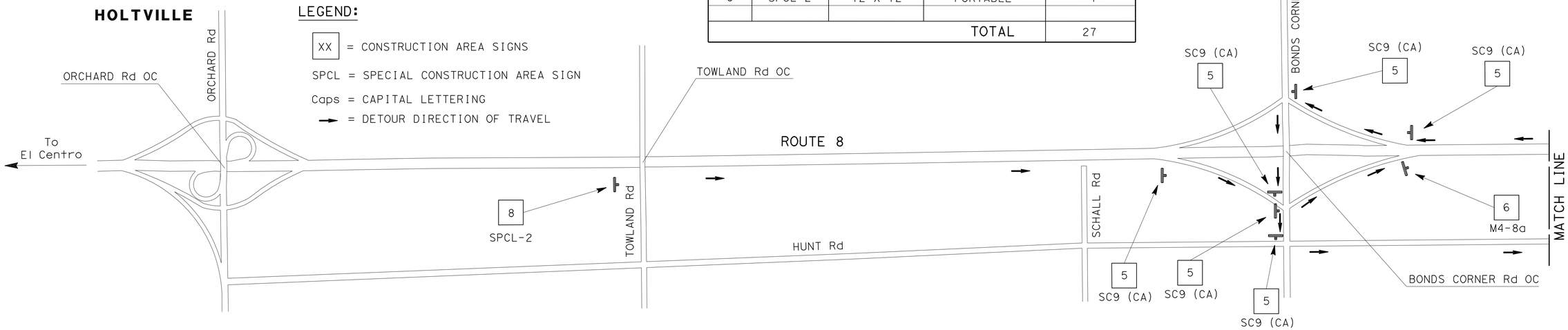
LEGEND:

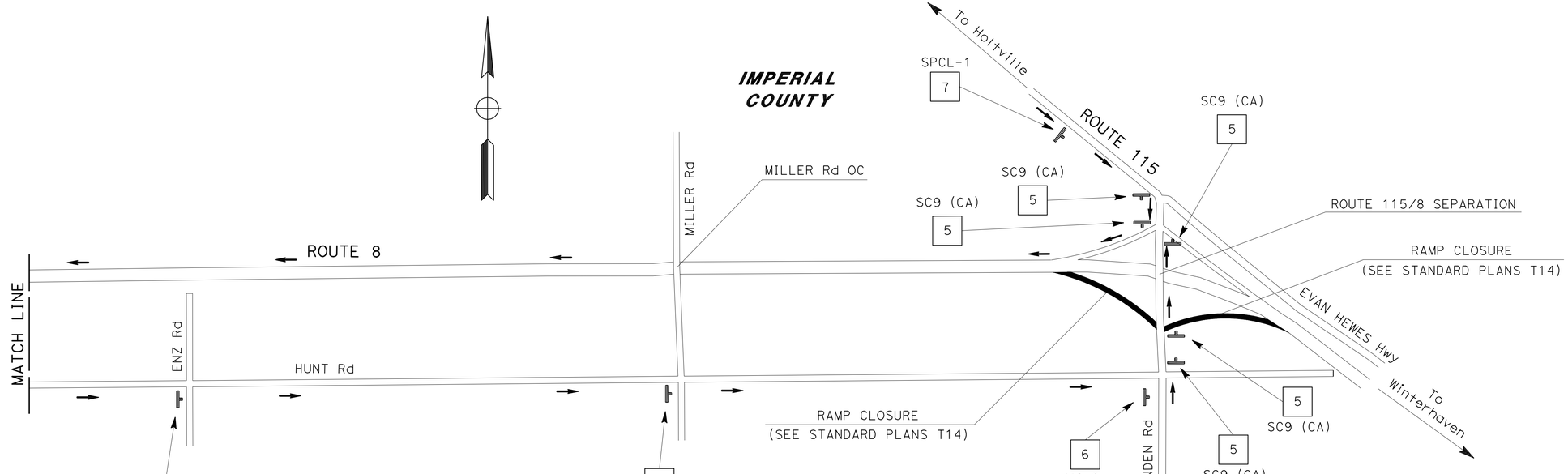
XX = CONSTRUCTION AREA SIGNS

SPCL = SPECIAL CONSTRUCTION AREA SIGN

Caps = CAPITAL LETTERING

→ = DETOUR DIRECTION OF TRAVEL





SIGN #8

SPCL-2 8" Caps

115 USE DETOUR

72" 72"

SIGN #7

SPCL-1 8" Caps

8 EAST USE DETOUR

72" 72"

EB 8 CONNECTOR TO ROUTE 115

EB 8 CONNECTOR FROM ROUTE 115

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY.

TRAFFIC HANDLING PLAN

NO SCALE

TH-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: CAMILLE ABOU FADEL

CALCULATED-DESIGNED BY: ROBERT EDEJER
CHECKED BY: SHAHIN ADIBI

REVISED BY
DATE REVISED

LAST REVISION 03-25-11
DATE PLOTTED => 01-MAR-2012
TIME PLOTTED => 14:01

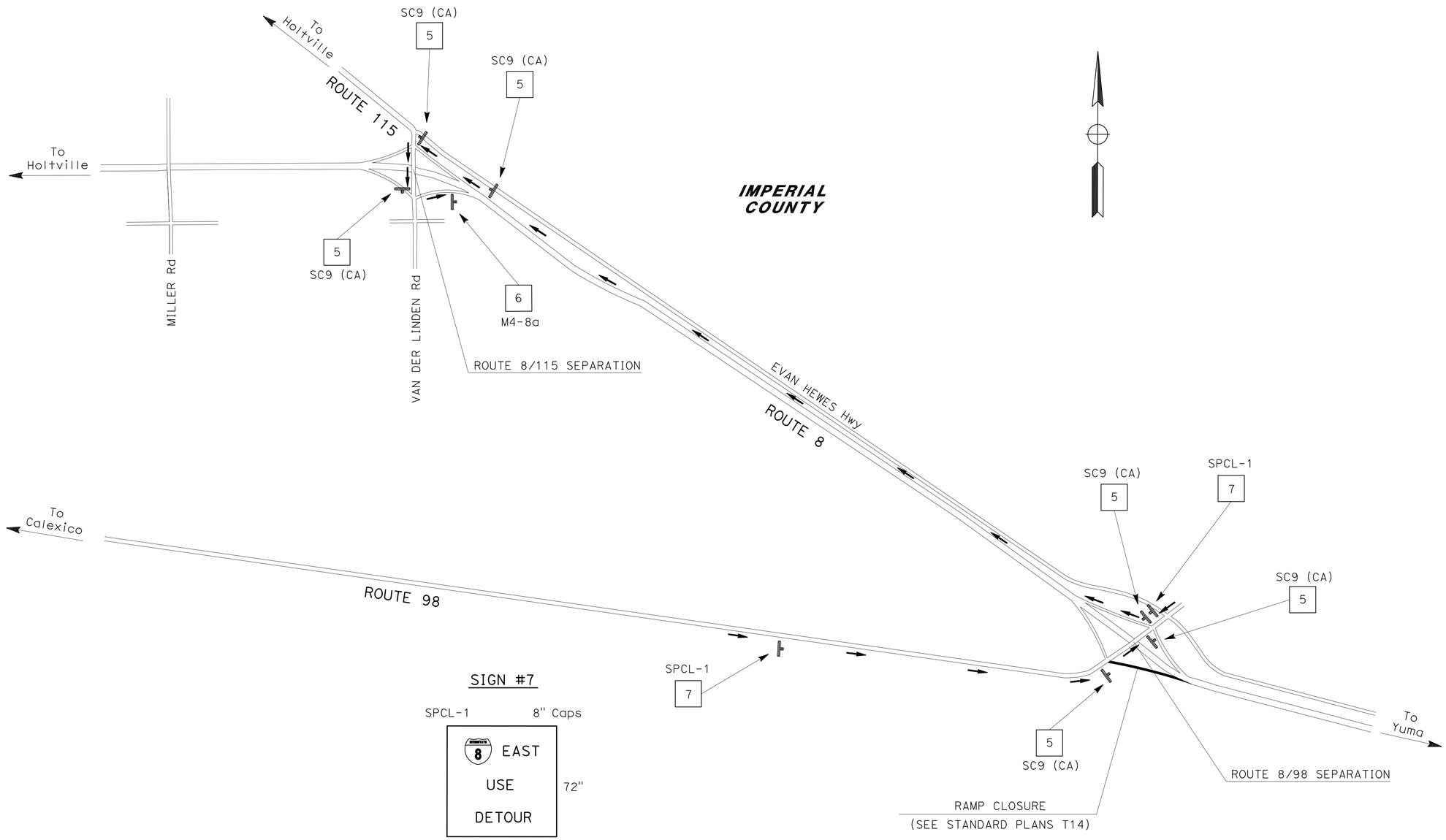
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	8	26

REGISTERED CIVIL ENGINEER 03-22-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SHAHIN T. ADIBI No. 54839 Exp. 06-30-12 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.



EB 8 CONNECTOR FROM ROUTE 98

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY.

TRAFFIC HANDLING PLAN

NO SCALE

TH-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: CAMILLE ABOU FADEL
CALCULATED-DESIGNED BY: ROBERT EDEJER
CHECKED BY: SHAHIN ADIBI
REVISED BY
DATE REVISED

LAST REVISION 03-25-11
DATE PLOTTED => 01-MAR-2012
TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	IMP	8	R41.0/R96.0	9	26

REGISTERED CIVIL ENGINEER 03-22-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SHAHIN T. ADIBI No. 54839 Exp. 06-30-12 CIVIL STATE OF CALIFORNIA

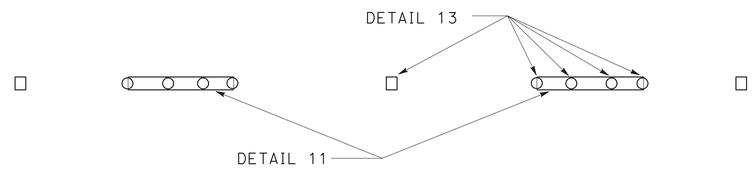
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

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

DETAIL 11/13 COMBINATION

TYPICAL



PAVEMENT DELINEATION QUANTITIES

ROUTE	DESCRIPTION	POSTMILE	DETAIL	PAVEMENT MARKER SUMMARY			TRAFFIC STRIPE SUMMARY	REMARKS
				NON-REFLECTIVE (EA)	RETROREFLECTIVE (EA)		PAINT (LF)	
				TYPE A	TYPE G	TYPE H	(2-COAT)	
				WHITE	CLEAR	YELLOW		
8	EB LANELINE	R41.70 TO R44.10	11/13	12	3		114	
		R46.10 TO R46.50	13	8	3			
		R47.40 TO R47.50	11/13	4	1		16	
		R50.60 TO R93.80	13	192	49			
	EB LEFT EDGELINE	R41.70 TO R93.80	25			17	774	
	EB RIGHT EDGELINE	R41.70 TO R93.80	27B				1,784	
	WB LANELINE	R46.00 TO R46.90	13	12	4			
		R47.00 TO R48.00	11/13	12	4		126	
		R54.80 TO R65.10	13	40	10			
		R84.00 TO R87.50	11/13	16	5		180	
		R91.90 TO R93.50	13	76	19			
	WB LEFT EDGELINE	R46.00 TO R93.50	25			19	876	
	WB RIGHT EDGELINE	R46.00 TO R93.50	27B				878	
			SUBTOTAL	372	98	36	4,748	
			TOTAL	372	134		4,748	

PAVEMENT DELINEATION DETAILS AND QUANTITIES

NO SCALE

PDD-1

REVISED BY | DATE REVISED

ROBERT EDEJER | SHAHIN T ADIBI

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: CAMILLE ABOUFADEL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® TRAFFIC DESIGN

LAST REVISION 03-28-11 | DATE PLOTTED => 01-MAR-2012 | TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	10	26

REGISTERED CIVIL ENGINEER 03-23-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PEJHAN TAYEBATI No. 65981 Exp. 06-30-12 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.

REPLACE CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)

Loc	POST MILE	DIRECTION	LANE	No. OF SLABS (N)	Avg LENGTH (N)	WIDTH (N)	DEPTH (N)	INDIVIDUAL SLAB REPLACEMENT (RSC)	DOWEL BAR (DRILL AND) BOND)
					FT	FT	FT	CY	EA
1	R41.70	EB	#1	1	18.0	12.00	1.15	9.2	16.0
2	R41.80		#1	1	18.0	12.00	1.15	9.2	16.0
3	R41.90		#1	1	18.0	12.00	1.15	9.2	16.0
4	R42.60		#2	3	20.0	12.00	1.15	30.7	32.0
5	R44.02		#2	1	18.0	12.00	1.15	9.2	16.0
6	R44.03		#1	1	18.0	12.00	1.15	9.2	16.0
7	R44.10		#1	1	18.0	12.00	1.15	9.2	16.0
8	R46.10		#1	1	18.0	12.00	1.15	9.2	16.0
9	R46.20		#2	1	15.0	12.00	1.15	7.7	16.0
10	R46.40		#2	1	10.0	12.00	1.15	5.1	16.0
11	R46.50		#2	3	10.0	12.00	1.15	15.3	32.0
12	R47.40		#1	1	16.0	12.00	1.15	8.2	16.0
13	R50.60		#2	1	18.0	12.00	1.15	9.2	16.0
14	R50.70		#2	1	18.0	12.00	1.15	9.2	16.0
15	R51.50		#2	1	18.0	12.00	1.15	9.2	16.0
16	R51.70		#2	5	18.0	12.00	1.15	46.0	48.0
17	R52.20		#1	1	18.0	12.00	1.15	9.2	16.0
18	R52.50		#2	3	18.0	12.00	1.15	27.6	32.0
19	R52.90		#2	2	16.0	12.00	1.15	16.4	24.0
20	R53.40		#2	1	16.0	12.00	1.15	8.2	16.0
21	R53.50		#2	1	16.0	12.00	1.15	8.2	16.0
22	R53.60		#2	2	15.0	12.00	1.15	15.3	24.0
23	R53.80		#2	2	15.0	12.00	1.15	15.3	24.0
24	R54.60		#1	3	16.0	12.00	1.15	24.5	32.0
25	R54.90		#1	1	16.0	12.00	1.15	8.2	16.0
26	R55.70		#2	1	18.0	12.00	1.15	9.2	16.0
27	R55.90		#1	1	18.0	12.00	1.15	9.2	16.0
28	R56.00		#1	2	16.0	12.00	1.15	16.4	24.0
29	R56.00		#2	2	16.0	12.00	1.15	16.4	24.0
30	R56.30		#2	1	16.0	12.00	1.15	8.2	16.0
31	R56.70		#2	1	20.0	12.00	1.15	10.2	16.0
32	R57.00		#2	1	17.0	12.00	1.15	8.7	16.0
33	R59.00		#1	1	18.0	12.00	1.15	9.2	16.0
34	R59.30		#2	1	18.0	12.00	1.15	9.2	16.0
35	R59.40		#1	2	18.0	12.00	1.15	18.4	24.0
36	R59.50		#1	1	18.0	12.00	1.15	9.2	16.0
37	R59.50		#2	2	18.0	12.00	1.15	18.4	24.0
38	R59.60		#1	1	18.0	12.00	1.15	9.2	16.0
39	R60.10		#1	2	12.0	12.00	1.15	12.3	24.0
40	R60.30		#1	1	16.0	12.00	1.15	8.2	16.0
41	R60.40		#1	1	18.0	12.00	1.15	9.2	16.0
42	R60.60		#1	2	18.0	12.00	1.15	18.4	24.0
43	R60.90		#2	1	18.0	12.00	1.15	9.2	16.0
44	R61.00		#2	1	18.0	12.00	1.15	9.2	16.0
45	R61.10		#1	1	18.0	12.00	1.15	9.2	16.0
46	R61.20		#1	1	18.0	12.00	1.15	9.2	16.0
47	R61.90		#1	1	18.0	12.00	1.15	9.2	16.0
48	R62.00		#1	2	16.0	12.00	1.15	16.4	24.0
49	R62.40		#1	1	16.0	12.00	1.15	8.2	16.0
50	R62.50		#1	1	16.0	12.00	1.15	8.2	16.0
51	R62.60		#1	1	16.0	12.00	1.15	8.2	16.0
52	R62.70		#1	1	18.0	12.00	1.15	9.2	16.0
53	R63.40		#2	1	18.0	12.00	1.15	9.2	16.0
54	R64.30		#1	2	20.0	12.00	1.15	20.4	24.0
					SUBTOTAL 1			663.7	1,048.0

NOTES:

1. (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
2. (RSC) - RAPID STRENGTH CONCRETE

SUMMARY OF QUANTITIES
Q-1

REVISED BY | DATE REVISED
MOHAMMED AHMED | PEJHAN TAYEBATI
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE

LAST REVISION 02-07-12 | DATE PLOTTED => 01-MAR-2012 | TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	11	26

REGISTERED CIVIL ENGINEER 03-23-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PEJHAN TAYEBATI No. 65981 Exp. 06-30-12 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.

REPLACE CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)

Loc	POST MILE	DIRECTION	LANE	No. OF SLABS (N)	Avg LENGTH (N)	WIDTH (N)	DEPTH (N)	INDIVIDUAL SLAB REPLACMENT (RSC)	DOWEL BAR (DRILL AND BOND)
					FT	FT	FT	CY	EA
55	R64.30	EB	#2	1	20.0	12.00	1.15	10.2	16.0
56	R66.02		#2	2	16.0	12.00	1.15	16.4	24.0
57	R67.03		#2	1	14.0	12.00	1.15	7.2	16.0
58	R68.60		#2	3	18.0	12.00	1.15	27.6	32.0
59	R69.60		#2	3	18.0	12.00	1.15	27.6	32.0
60	R69.68		#2	2	18.0	12.00	1.15	18.4	24.0
61	R71.10		#2	1	16.0	12.00	1.15	8.2	16.0
62	R83.95		#2	2	18.0	12.00	1.15	18.4	24.0
63	R84.50		#2	1	18.0	12.00	1.15	9.2	16.0
64	R84.80		#2	1	14.0	12.00	1.15	7.2	16.0
65	R85.00		#2	3	16.0	12.00	1.15	24.5	32.0
66	R90.20		#2	5	20.0	12.00	1.15	51.1	48.0
67	R90.40		#1	2	20.0	12.00	1.15	20.4	24.0
68	R91.10		#2	5	20.0	12.00	1.15	51.1	48.0
69	R91.18		#2	2	20.0	12.00	1.15	20.4	24.0
70	R91.23		#2	3	20.0	12.00	1.15	30.7	32.0
71	R91.36		#2	1	20.0	12.00	1.15	10.2	16.0
72	R91.37		#2	1	18.0	12.00	1.15	9.2	16.0
73	R91.38		#2	1	18.0	12.00	1.15	9.2	16.0
74	R91.39		#2	1	16.0	12.00	1.15	8.2	16.0
75	R91.40		#2	1	14.0	12.00	1.15	7.2	16.0
76	R91.45		#2	1	14.0	12.00	1.15	7.2	16.0
77	R91.90		#2	3	14.0	12.00	1.15	21.5	32.0
78	R92.20		#2	5	16.0	12.00	1.15	40.9	48.0
79	R92.40		#2	3	16.0	12.00	1.15	24.5	32.0
80	R93.01		#2	1	18.0	12.00	1.15	9.2	16.0
81	R93.05		#2	1	18.0	12.00	1.15	9.2	16.0
82	R93.07		#2	1	18.0	12.00	1.15	9.2	16.0
83	R93.14		#1	2	18.0	12.00	1.15	18.4	24.0
84	R93.20		#1	1	18.0	12.00	1.15	9.2	16.0
85	R93.23		#2	1	16.0	12.00	1.15	8.2	16.0
86	R93.33		#2	1	16.0	12.00	1.15	8.2	16.0
87	R93.38		#1	1	16.0	12.00	1.15	8.2	16.0
88	R93.39		#2	1	16.0	12.00	1.15	8.2	16.0
89	R93.40		#1	2	16.0	12.00	1.15	16.4	24.0
90	R93.48		#2	3	16.0	12.00	1.15	24.5	32.0
91	R93.80		#2	1	16.0	12.00	1.15	8.2	16.0
92	R46.00	WB	#2	1	18.0	12.00	1.15	9.2	16.0
93	R46.30		#2	5	18.0	12.00	1.15	46.0	48.0
94	R46.90		#2	1	18.0	12.00	1.15	9.2	16.0
95	R47.00		#2	2	18.0	12.00	1.15	18.4	24.0
96	R47.40		#1	2	18.0	12.00	1.15	18.4	24.0
97	R47.41		#1	1	18.0	12.00	1.15	9.2	16.0
98	R47.90		#1	1	18.0	12.00	1.15	9.2	16.0
99	R48.00		#1	1	18.0	12.00	1.15	9.2	16.0
100	R54.80		#1	2	18.0	12.00	1.15	18.4	24.0
101	R55.70		#2	1	18.0	12.00	1.15	9.2	16.0
102	R55.80		#2	1	18.0	12.00	1.15	9.2	16.0
103	R56.00		#2	1	16.0	12.00	1.15	8.2	16.0
104	R56.00		#1	1	16.0	12.00	1.15	8.2	16.0
105	R59.40		#2	1	18.0	12.00	1.15	9.2	16.0
106	R59.80		#2	1	18.0	12.00	1.15	9.2	16.0
107	R60.40		#1	2	18.0	12.00	1.15	18.4	24.0
					SUBTOTAL 2			842.6	1,176.0

NOTES:

1. (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
2. (RSC) - RAPID STRENGTH CONCRETE

SUMMARY OF QUANTITIES
Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE

FUNCTIONAL SUPERVISOR: ALBERTO GAYON
CALCULATED-DESIGNED BY: MOHAMMED AHMED
CHECKED BY: PEJHAN TAYEBATI
REVISED BY
DATE REVISED

LAST REVISION 02-07-12
DATE PLOTTED => 01-MAR-2012
TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	12	26

REGISTERED CIVIL ENGINEER 03-23-11 DATE

02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PEJHAN TAYEBATI No. 65981 Exp. 06-30-12 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.

REPLACE CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)

Loc	POST MILE	DIRECTION	LANE	No. OF SLABS (N)	Avg LENGTH (N) FT	WIDTH (N) FT	DEPTH (N) FT	INDIVIDUAL SLAB REPLACEMENT (RSC) CY	DOWEL BAR (DRILL AND BOND) EA
108	R61.80	WB	#1	2	18.0	12.00	1.15	18.4	24.0
109	R61.90		#1	1	18.0	12.00	1.15	9.2	16.0
110	R62.00		#1	1	18.0	12.00	1.15	9.2	16.0
111	R62.50		#2	1	18.0	12.00	1.15	9.2	16.0
112	R62.80		#1	1	18.0	12.00	1.15	9.2	16.0
113	R63.90		#1	1	18.0	12.00	1.15	9.2	16.0
114	R64.10		#1	1	18.0	12.00	1.15	9.2	16.0
115	R64.30		#1	2	18.0	12.00	1.15	18.4	24.0
116	R64.70		#1	2	18.0	12.00	1.15	18.4	24.0
117	R64.90		#1	1	18.0	12.00	1.15	9.2	16.0
118	R65.10		#1	2	18.0	12.00	1.15	18.4	24.0
119	R84.00		#1	1	20.0	12.00	1.15	10.2	16.0
120	R84.50		#1	1	20.0	12.00	1.15	10.2	16.0
121	R85.20		#1	1	20.0	12.00	1.15	10.2	16.0
122	R85.60		#1	1	20.0	12.00	1.15	10.2	16.0
123	R85.63		#1	1	20.0	12.00	1.15	10.2	16.0
124	R85.70		#1	1	20.0	12.00	1.15	10.2	16.0
125	R87.00		#1	1	20.0	12.00	1.15	10.2	16.0
126	R87.40		#1	1	20.0	12.00	1.15	10.2	16.0
127	R87.50		#1	1	20.0	12.00	1.15	10.2	16.0
128	R91.90		#2	1	20.0	12.00	1.15	10.2	16.0
129	R92.50		#2	5	20.0	12.00	1.15	51.1	48.0
130	R92.60		#2	2	20.0	12.00	1.15	20.4	24.0
131	R92.65		#2	1	20.0	12.00	1.15	10.2	16.0
132	R92.70		#1	1	20.0	12.00	1.15	10.2	16.0
133	R92.80		#1	1	20.0	12.00	1.15	10.2	16.0
134	R92.89		#1	3	20.0	12.00	1.15	30.7	24.0
135	R92.89		#2	5	20.0	12.00	1.15	51.1	48.0
136	R92.90		#1	1	20.0	12.00	1.15	10.2	16.0
137	R92.91		#2	3	20.0	12.00	1.15	30.7	32.0
138	R92.91		#1	1	20.0	12.00	1.15	10.2	16.0
139	R92.93		#2	2	18.0	12.00	1.15	18.4	24.0
140	R92.94		#2	3	18.0	12.00	1.15	27.6	32.0
141	R92.95		#1	2	18.0	12.00	1.15	18.4	24.0
142	R93.00		#2	6	18.0	12.00	1.15	55.2	56.0
143	R93.20		#2	4	18.0	12.00	1.15	36.8	40.0
144	R93.20		#1	1	18.0	12.00	1.15	9.2	16.0
145	R93.40		#1	2	18.0	12.00	1.15	18.4	24.0
146	R93.50		#1	2	18.0	12.00	1.15	18.4	24.0
							SUBTOTAL 3	677.4	864.0
							SUBTOTAL 2	842.6	1,176.0
							SUBTOTAL 1	663.7	1,048.0
							TOTAL	2,183.7	3,088.0

NOTES:

1. (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
2. (RSC) - RAPID STRENGTH CONCRETE

SUMMARY OF QUANTITIES

Q-3

REVISED BY | DATE REVISED
MOHAMMED AHMED | PEJHAN TAYEBATI
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALBERTO GAYON
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

LAST REVISION 02-07-12 | DATE PLOTTED => 01-MAR-2012 | TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	13	26

Enrique P. Bernal 03-23-11
REGISTERED ELECTRICAL ENGINEER DATE

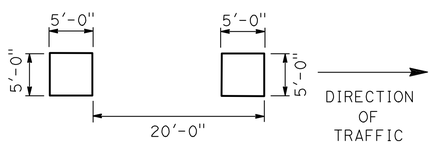
02-27-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ENRIQUE BERNAL No. 15675 Exp. 06-30-12 ELECTRICAL STATE OF CALIFORNIA

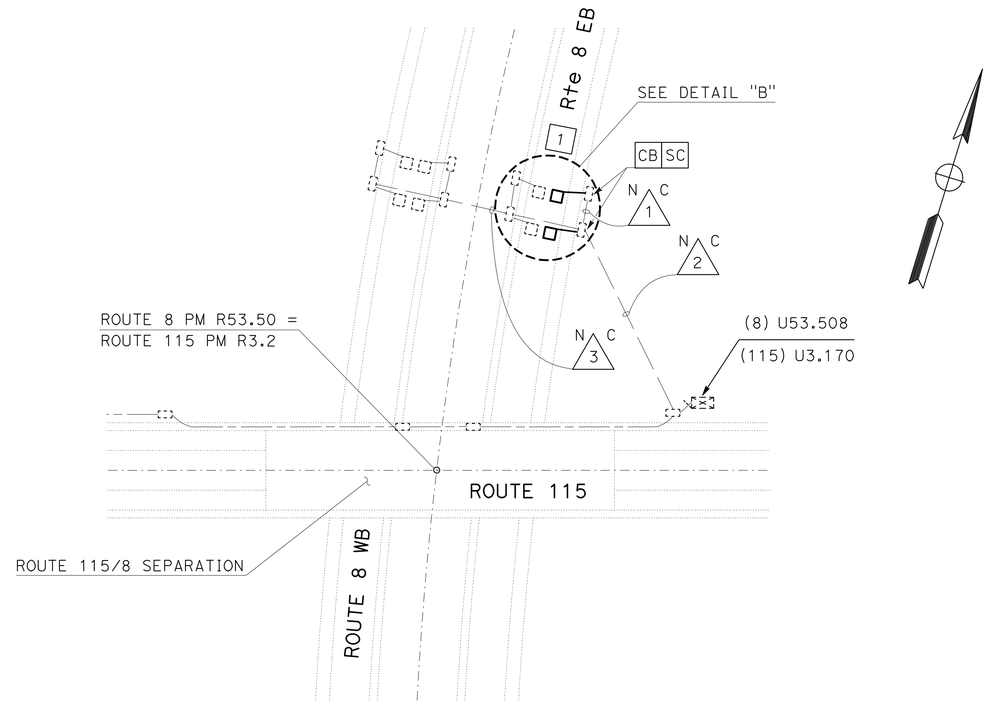
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1 - AB EXISTING LOOPS AND SEE DETAIL "B" FOR LOOP PLACEMENT.



DETAIL "B"



DETAIL "A"

EB ROUTE 8 PM 53.5

CONDUIT NOTES:

N C 1 - Exist 1½"C, 1 dlc.

N C 2 - Exist 1½"C, 8 dlc.

N C 3 - Exist 1½"C, 4 dlc.

INDUCTIVE LOOP DETECTOR

ROUTE	PM	LOCATION	FACILITIES	DIRECTION	LOCATION OF INDUCTIVE LOOP DETECTORS (N) CENTERED IN LANE			INDUCTIVE LOOP DETECTOR (EA)
					MAIN LANE LOOPS			
					#1	#2	#3	
8	R53.497	EAST OF ROUTE 115 SEE DETAIL "A"	COUNT STATION (8) U53.508 (115) U3.170	EB		(2-R†)		2
							TOTAL	2

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

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

INDUCTIVE LOOP DETECTOR

NO SCALE

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC ELECTRICAL

FUNCTIONAL SUPERVISOR: DALE J. WILSON
CALCULATED-DESIGNED BY: ANTONIO A. RODRIGUEZ
CHECKED BY: ENRIQUE BERNAL
REVISED BY / DATE REVISED

LAST REVISION 03-25-11
DATE PLOTTED => 01-MAR-2012
TIME PLOTTED => 14:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	14	26

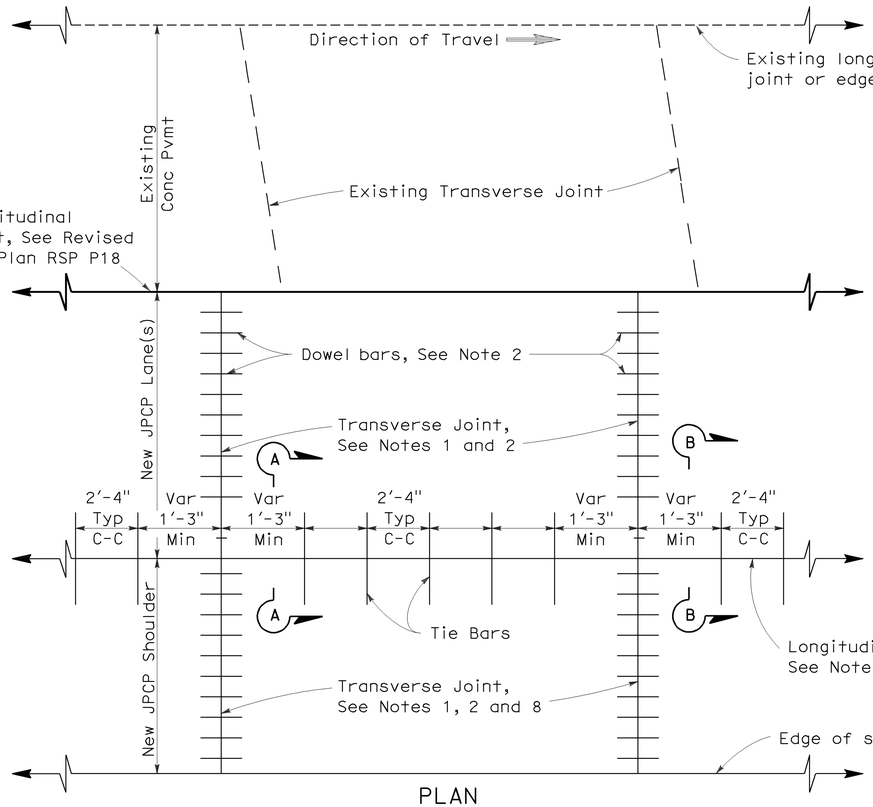
William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

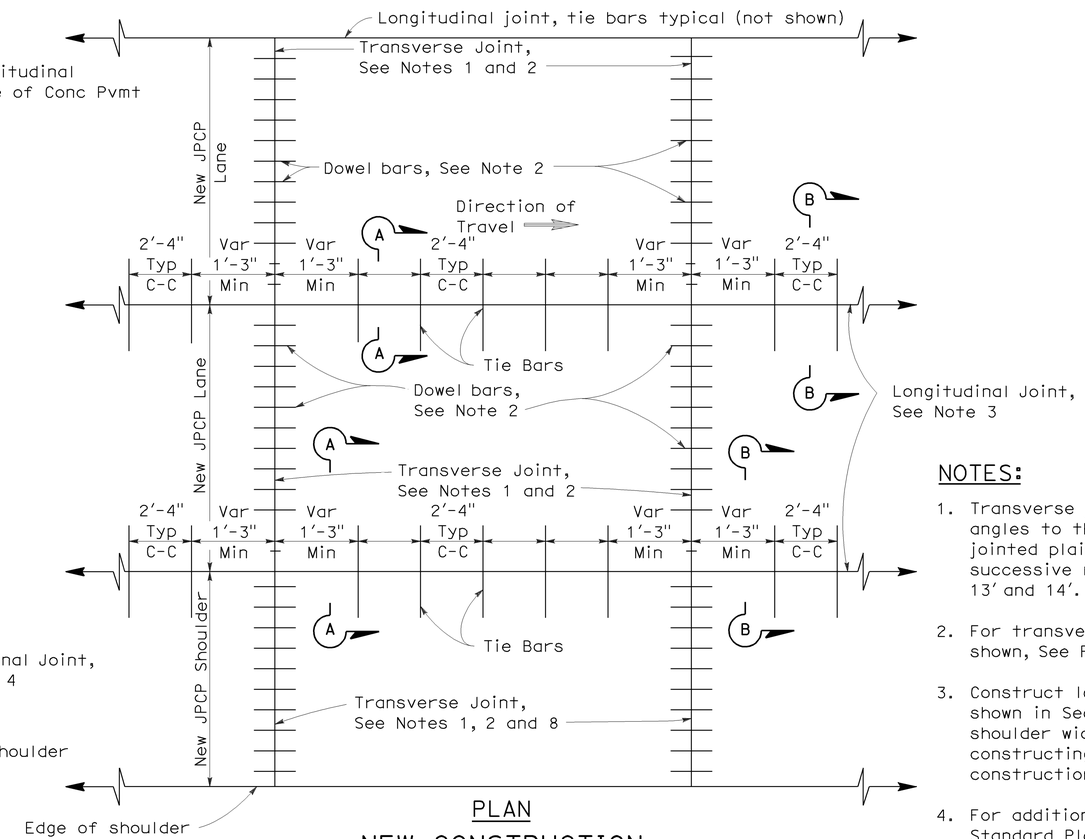
REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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

To accompany plans dated 02-27-12



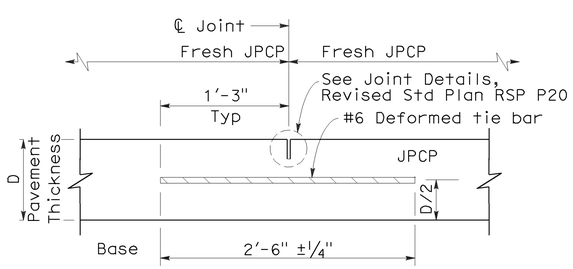
PLAN
LANE/SHOULDER ADDITION OR RECONSTRUCTION
See Notes 6 and 7



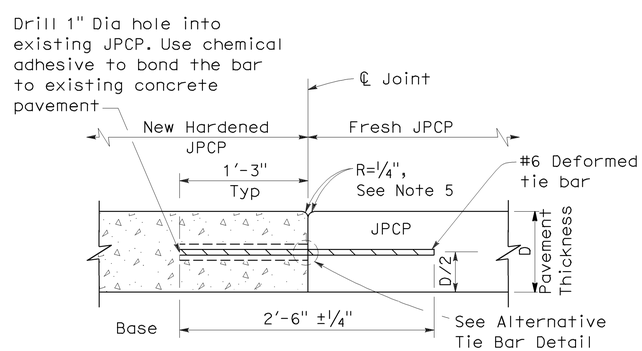
PLAN
NEW CONSTRUCTION
See Notes 6 and 7

NOTES:

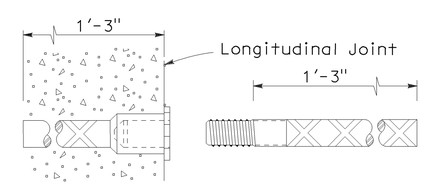
1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new jointed plain concrete pavement and spaced at successive repeated intervals of 12', 15', 13' and 14'.
2. For transverse joint and dowel bar details not shown, See Revised Standard Plan RSP P10.
3. Construct longitudinal contraction joints as shown in Section A-A when more than one lane or shoulder widths are placed at one time. If constructing one lane at a time, use longitudinal construction joint, as shown in Section B-B.
4. For additional longitudinal joint details, see Revised Standard Plan RSP P18.
5. If fresh concrete is placed adjacent to existing concrete, the top corner of the new hardened concrete does not need to be rounded to the 1/4" radius as shown.
6. Joint spacing patterns do not apply to intersections.
7. Details can also apply to inside widening.
8. Dowel bars may be omitted from shoulders when the shoulder cross slope is not the same as the adjacent traffic lane.



SECTION A-A
LONGITUDINAL CONTRACTION JOINT



SECTION B-B
LONGITUDINAL CONSTRUCTION JOINT



ALTERNATIVE TIE BAR SPLICE DETAIL
(Splice Coupler)

TIE BAR DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT

NO SCALE

RSP P1 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P1
DATED MAY 1, 2006 - PAGE 119 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P1

2006 REVISED STANDARD PLAN RSP P1

5-8-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	15	26

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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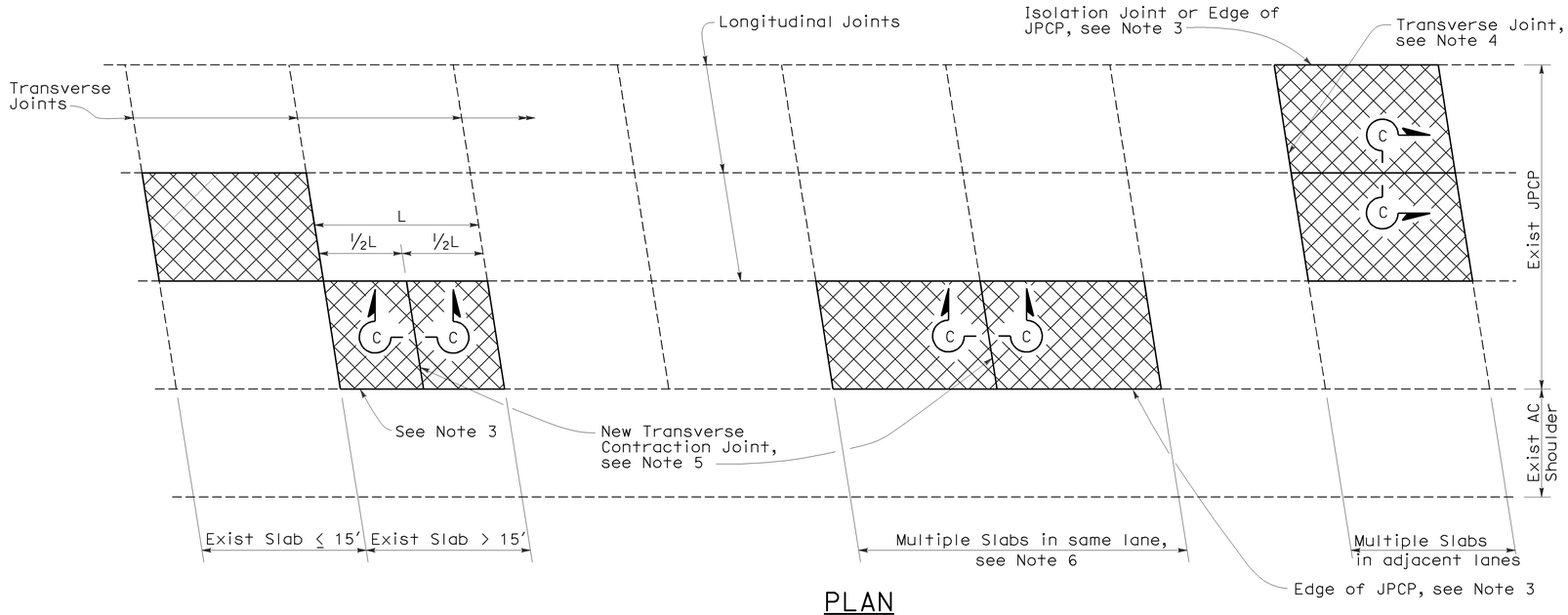
To accompany plans dated 02-27-12



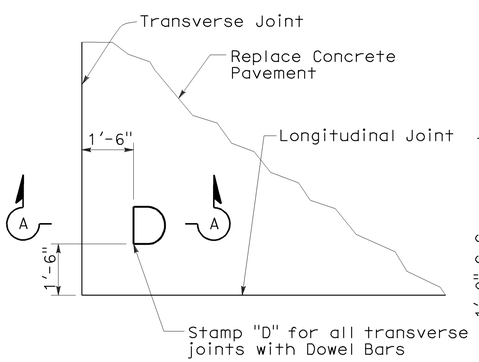
PLAN

NOTES:

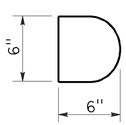
1. For details not shown, see Revised Standard Plan RSP P10.
2. Where the existing outer shoulder pavement is asphalt concrete pavement, the "a" dimension shall be 1′-0" and the "b" dimension shall be 2′-0".
3. Side forms shall be used where edge of pavement is adjacent to asphalt concrete.
4. For detail, see Transverse Construction Joint for existing concrete pavement detail on Revised Standard Plan RSP P10.
5. Transverse joint to match skew of existing joint. Omit dowel bars.
6. This Standard Plan only applicable when replacing multiple slabs in the same lane is less than 100′.

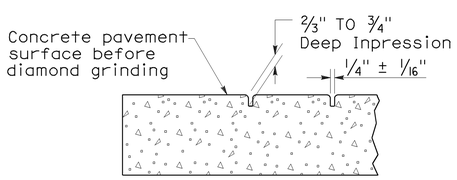
LEGEND

Replace Concrete Pavement (See Slab Layout Detail)

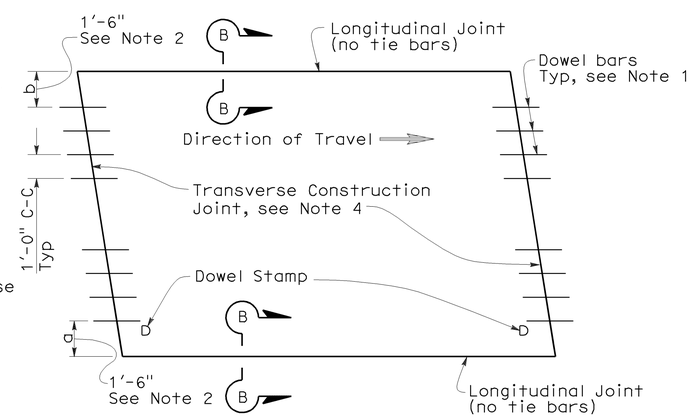


DOWEL STAMP DETAIL

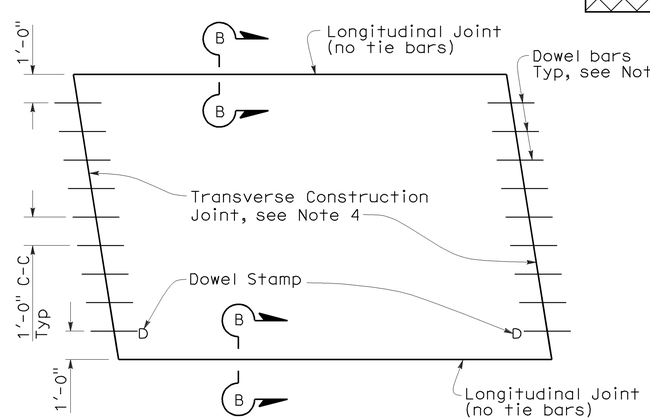




SECTION A-A

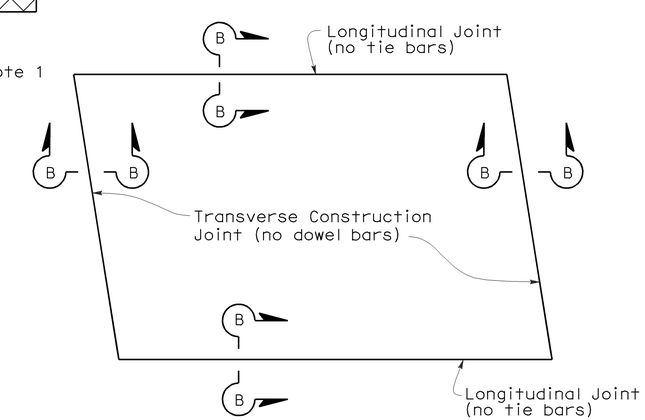


TYPE I
(traffic lane lines match longitudinal joints)

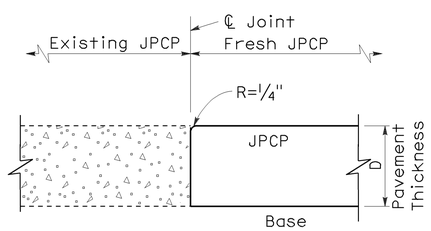


TYPE II
(traffic lane lines do not match longitudinal joints)

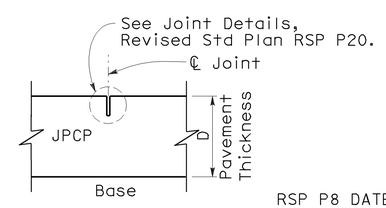
SLAB LAYOUT



TYPE III
(for short term repairs < 5 yrs design life or for slab replacements with a cracking and seating operation)



SECTION B-B



SECTION C-C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT-INDIVIDUAL SLAB REPLACEMENT

NO SCALE

RSP P8 DATED MAY 15, 2009 SUPERSEDES RSP P8 DATED SEPTEMBER 1, 2006 AND STANDARD PLAN P8 DATED MAY 1, 2006 - PAGE 123 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P8

2006 REVISED STANDARD PLAN RSP P8

5-8-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	16	26

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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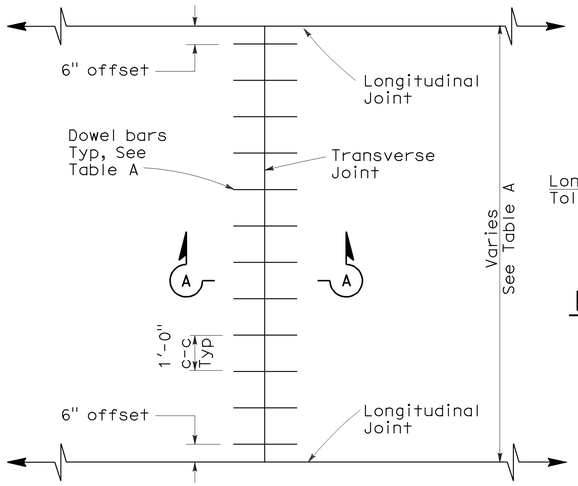
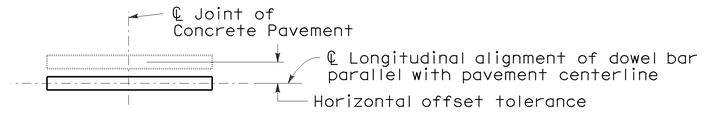
To accompany plans dated 02-27-12

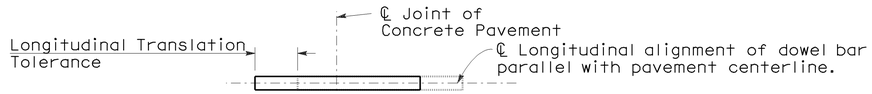


TRANSVERSE JOINT DOWEL BAR LAYOUT



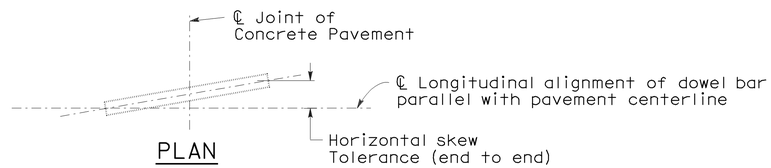
PLAN

HORIZONTAL OFFSET TOLERANCE



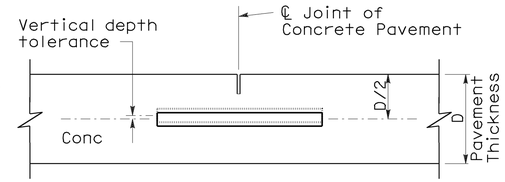
PLAN

LONGITUDINAL TRANSLATION TOLERANCE



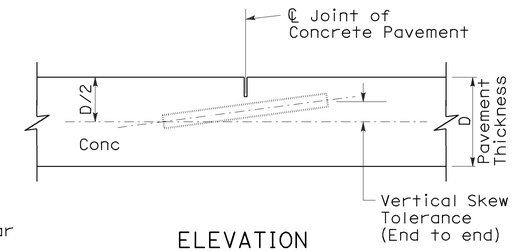
PLAN

HORIZONTAL SKEW TOLERANCE



ELEVATION

VERTICAL DEPTH TOLERANCE



ELEVATION

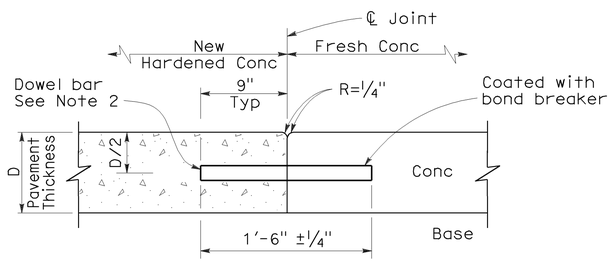
VERTICAL SKEW TOLERANCE

NOTES:

1. See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
2. 1½" Dia smooth dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1¼" Dia smooth dowel bars.
3. For widths not shown, see Project Plans.
4. If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the ¼" radius, as shown.

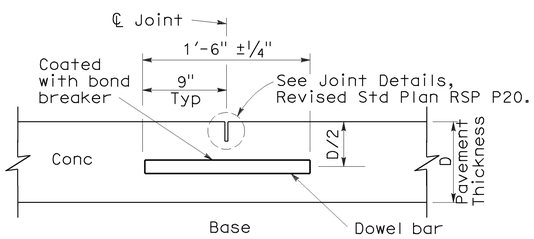
TABLE A (See Note 3)

Dowel Bar Transverse Spacing Table	
Width between Longitudinal Joints	Number of Dowels between Longitudinal Joints
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4

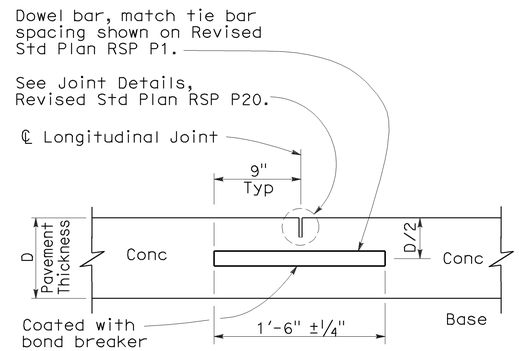


SECTION A-A

TRANSVERSE CONSTRUCTION JOINT DETAIL

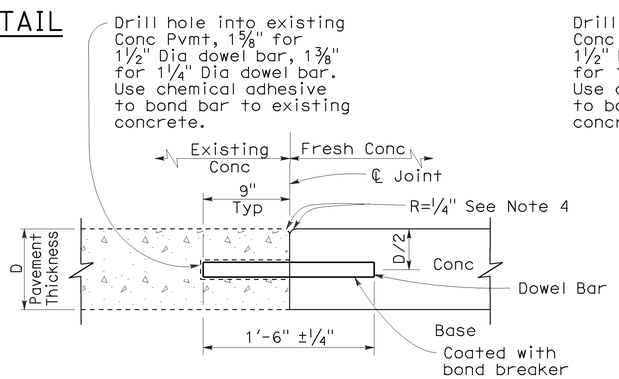


TRANSVERSE CONTRACTION JOINT



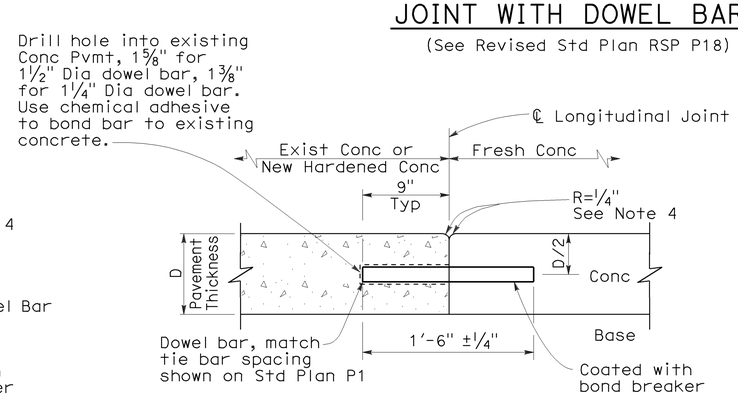
LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT

(Drill and bond locations)



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 MAY 15, 2009 SUPERSEDES STANDARD PLAN P10 DATED MAY 1, 2006 - PAGE 124 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P10

2006 REVISED STANDARD PLAN RSP P10

5-8-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	17	26

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
William K. Farnbach
No. C49042
Exp. 9-30-10
CIVIL
STATE OF CALIFORNIA

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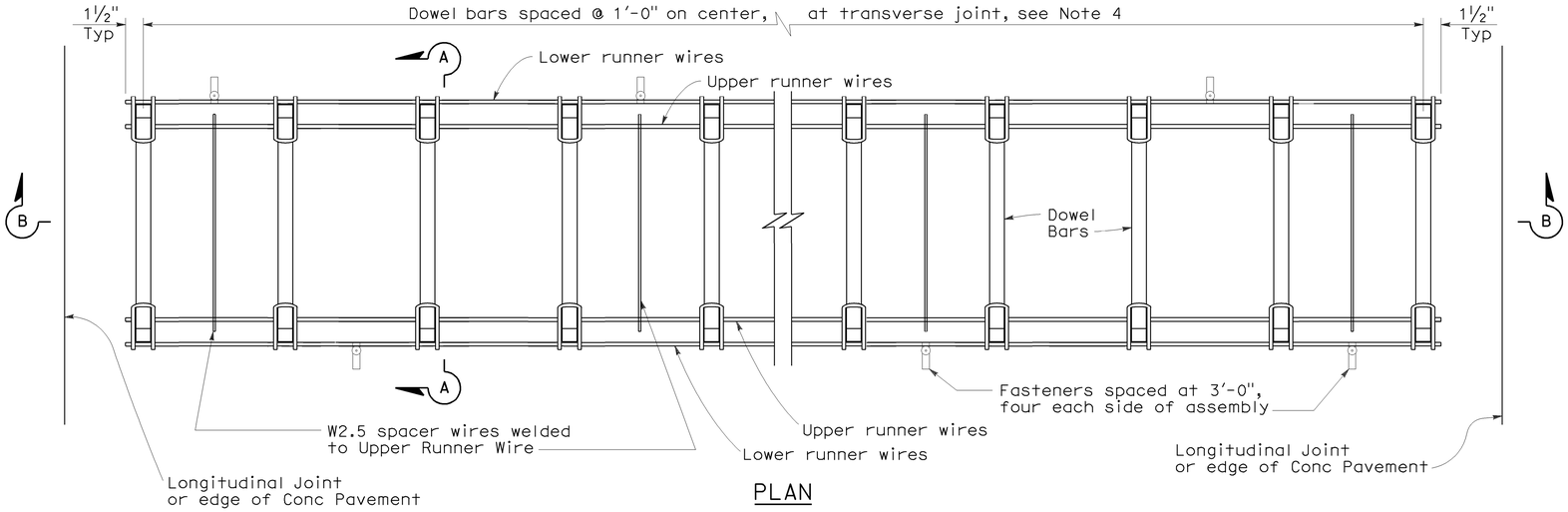
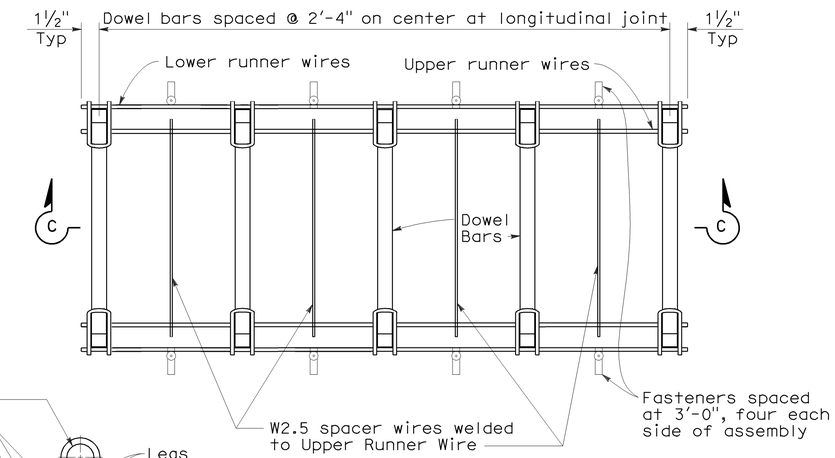
To accompany plans dated 02-27-12



PLAN

DOWEL BAR BASKET (TRANSVERSE JOINT)

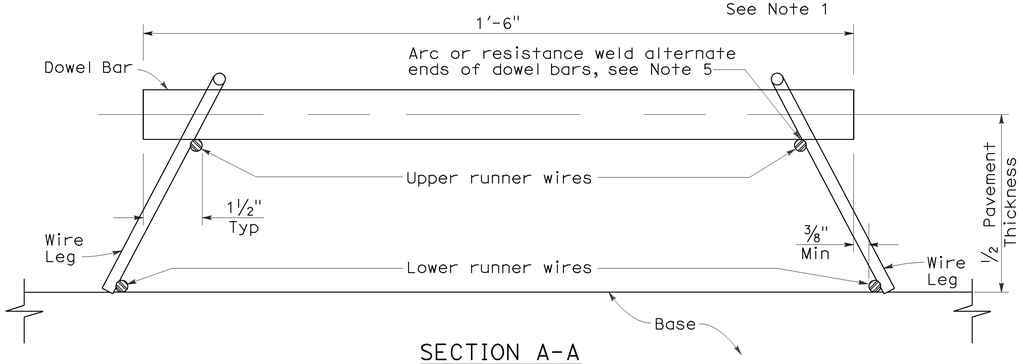
See Note 1



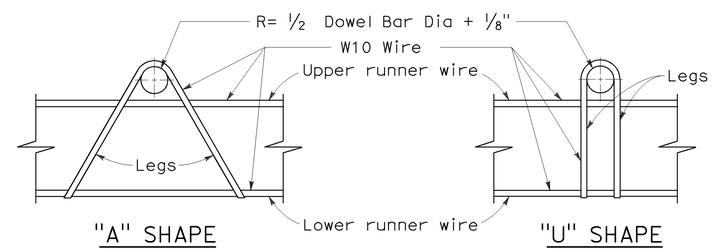
PLAN

DOWEL BAR BASKET (LONGITUDINAL JOINT)

See Note 1

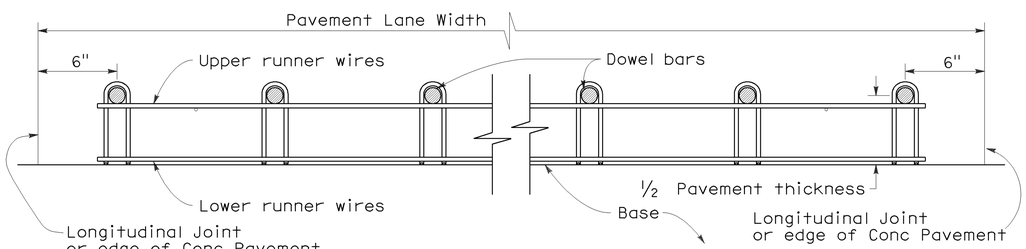


SECTION A-A



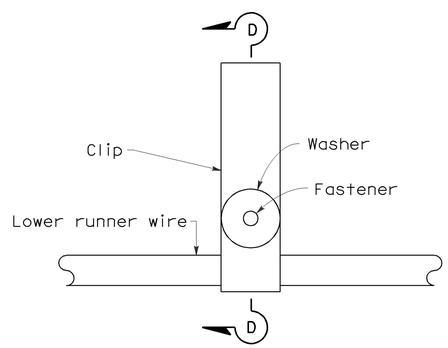
"A" SHAPE "U" SHAPE

ASSEMBLY FRAME DETAILS

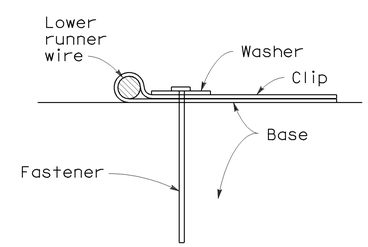


SECTION B-B

See Note 1

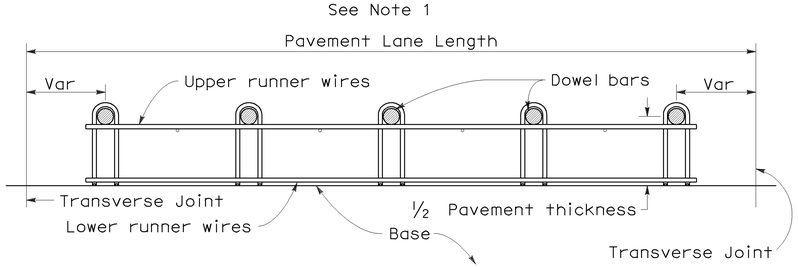


PLAN



SECTION D-D

FASTENER DETAIL



SECTION C-C

See Notes 1 and 4

NOTES:

1. "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
2. Wire sizes shown are minimum required.
3. All wire intersections are to be resistance welded.
4. Use tie bar spacing for longitudinal dowel bar locations. See Revised Std Plans RSPs P1, P2, and P3 for tie bar requirements.
5. Weld may be at top or bottom of dowel bar.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DOWEL BAR BASKET DETAILS

NO SCALE

RSP P12 DATED MAY 15, 2009 SUPERSEDES RSP P12 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P12 DATED MAY 1, 2006 - PAGE 125 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P12

2006 REVISED STANDARD PLAN RSP P12

5-8-09

NOTE:

1. Tie bars, dowel bars, and reinforcement are not shown in joint seal details, see Revised Standard Plans RSP P1, RSP P3, RSP P10, RSP P35, RSP P45, or RSP P46 as applicable.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	18	26

William K. Farnbach
REGISTERED CIVIL ENGINEER

May 15, 2009
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER William K. Farnbach No. C49042 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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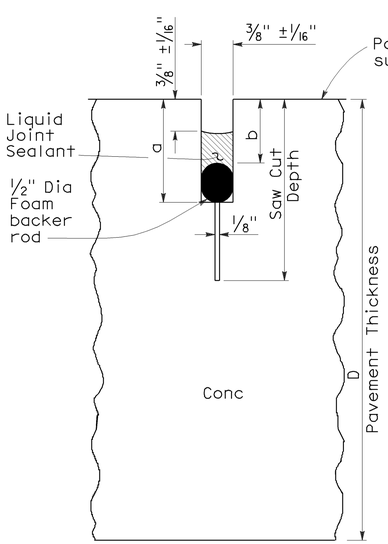
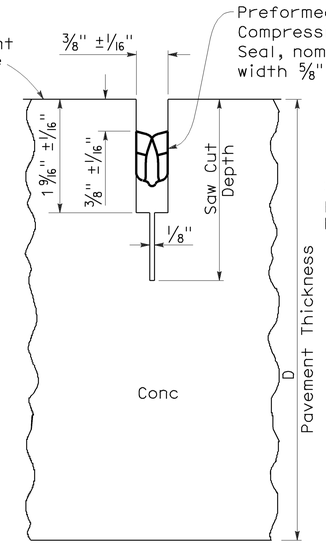
To accompany plans dated 02-27-12



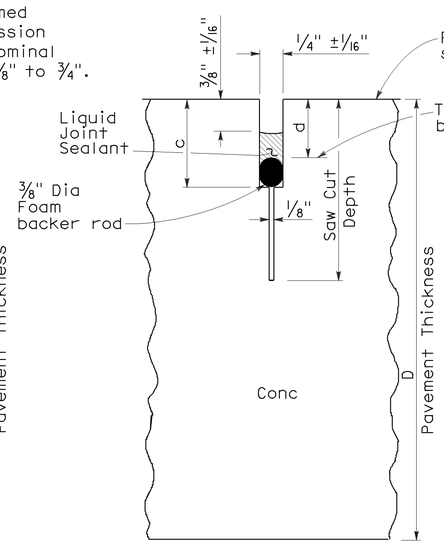
LIQUID SEALANT



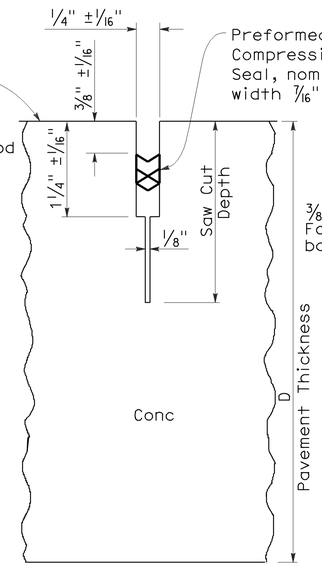
COMPRESSION SEAL

TYPE A1

Transverse Contraction Joints



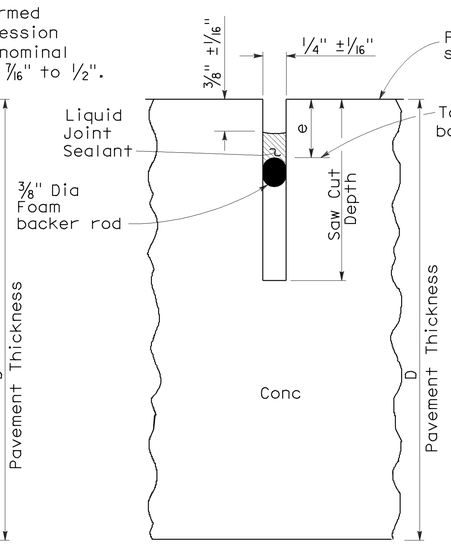
LIQUID SEALANT



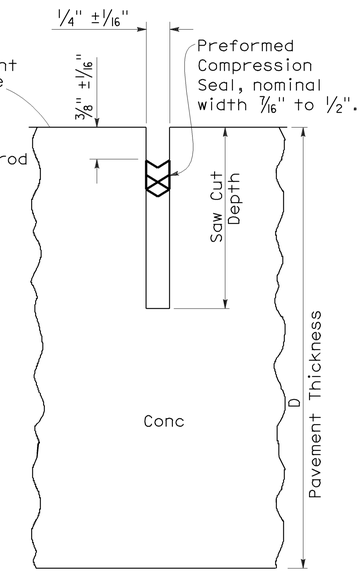
COMPRESSION SEAL

TYPE A2

Longitudinal Contraction Joints



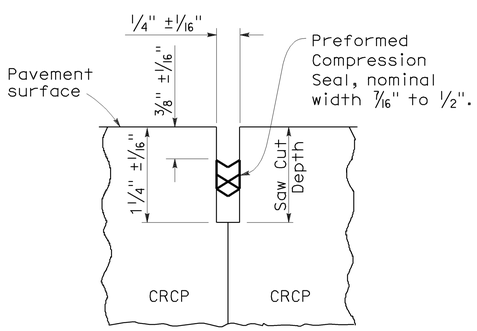
LIQUID SEALANT



COMPRESSION SEAL

TYPE B

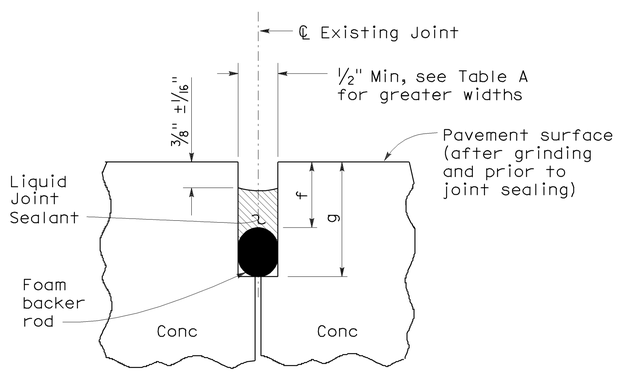
Longitudinal or Transverse Contraction Joint



COMPRESSION SEAL

TYPE C

Transverse and Longitudinal Construction Joints (For CRCP)



LIQUID SEALANT

TYPE R

Retrofit Transverse and Longitudinal Joints

LIQUID SEALANT RESERVOIR DEPTH

LIQUID SEALANT MATERIAL	3/8" Joint Width Type A1		1/4" Joint Width Type A2		1/4" Joint Width Type B
	DIMENSION		DIMENSION		DIMENSION
	a	b	c	d	e
SILCONE	1" ±1/16"	5/8" ±1/16"	15/16" ±1/16"	9/16" ±1/16"	9/16" ±1/16"
ASPHALT RUBBER	1 3/16" ±1/16"	3/4" ±1/16"	1 1/16" ±1/16"	11/16" ±1/16"	11/16" ±1/16"

TABLE A (TYPE R JOINT)

Sawn Joint Width	Backer Rod Diameter ± 1/16"	DIMENSION "f"	DIMENSION "g"
1"	1 5/16"	7/8"	2 1/4"
7/8"	1 3/16"	13/16"	2"
3/4"	1"	3/4"	1 3/4"
5/8"	7/8"	11/16"	1 1/2"
1/2"	11/16"	5/8"	1 1/4"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-JOINT DETAILS

NO SCALE

RSP P20 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P20
DATED MAY 1, 2006 - PAGE 128 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P20

2006 REVISED STANDARD PLAN RSP P20

5-8-09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	19	26

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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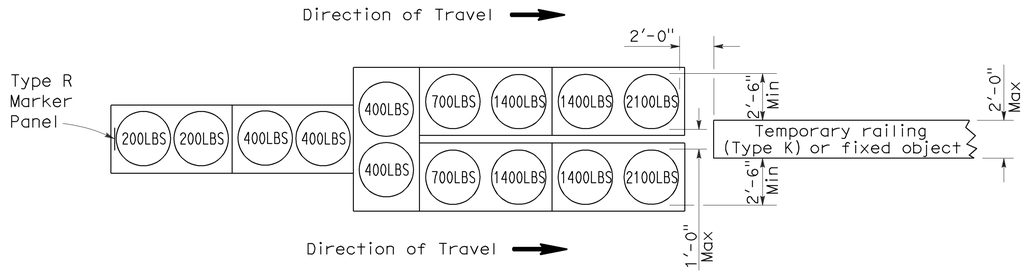
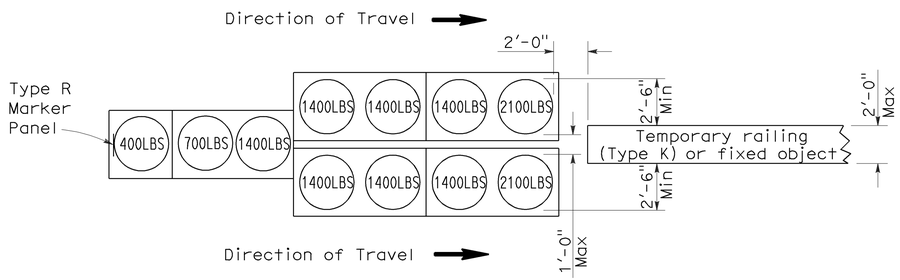
To accompany plans dated 02-27-12



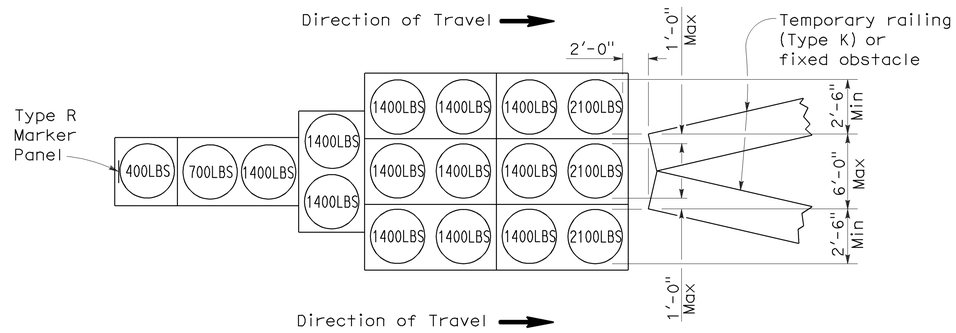
ARRAY 'TU14'

Approach speed 45 mph or more



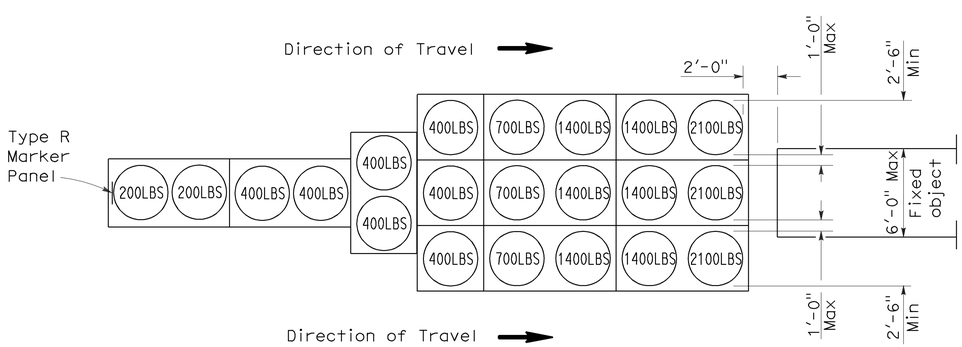
ARRAY 'TU11'

Approach speed less than 45 mph



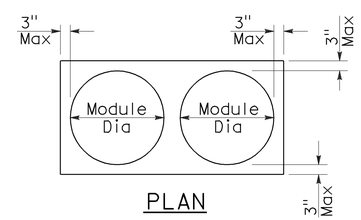
ARRAY 'TU17'

Approach speed less than 45 mph

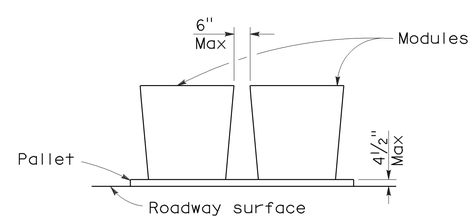


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	20	26

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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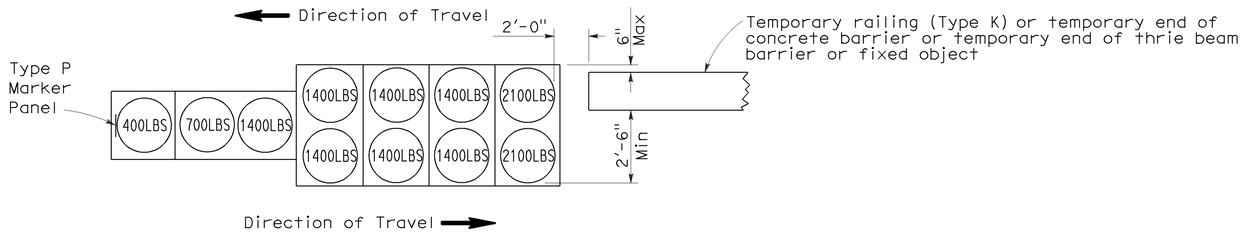
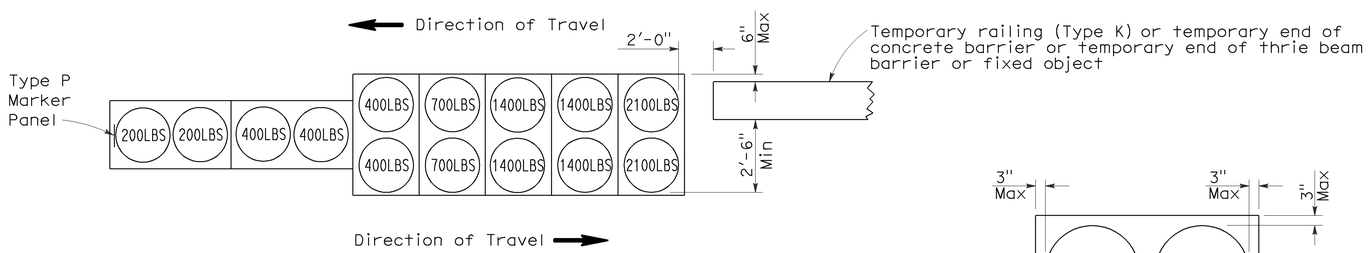
To accompany plans dated 02-27-12



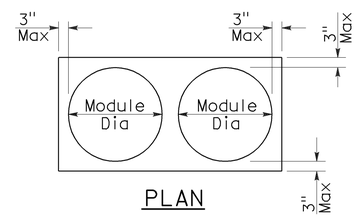
ARRAY 'TB11'

Approach speed less than 45 mph

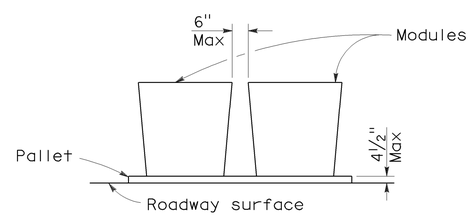


ARRAY 'TB14'

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

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	21	26

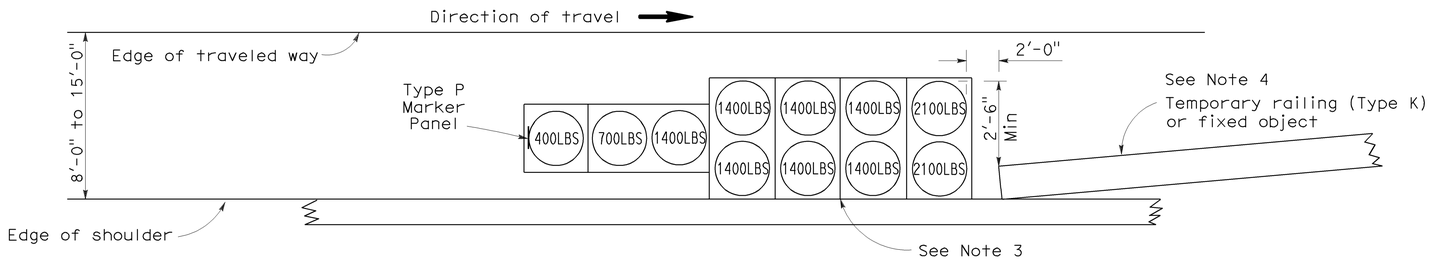
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

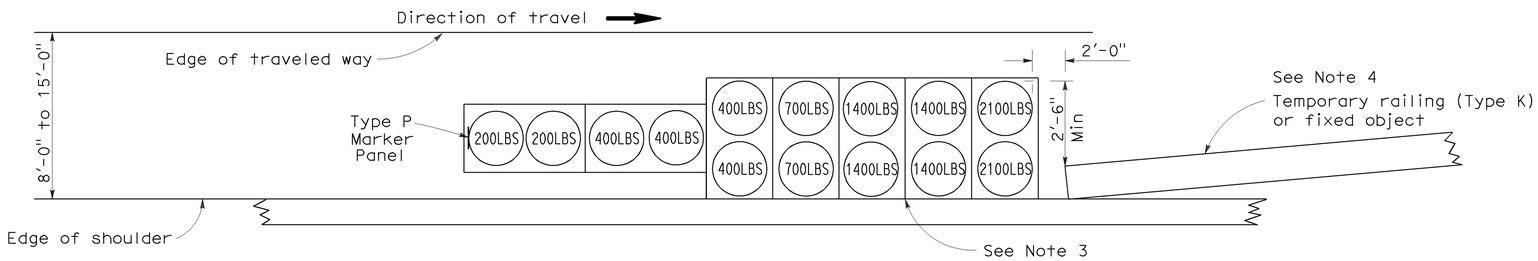
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 02-27-12



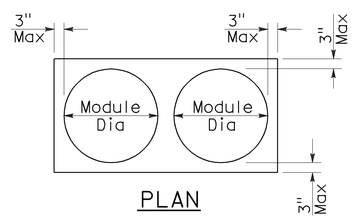
ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

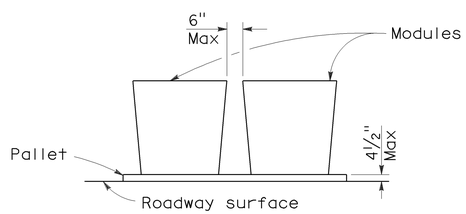


ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	22	26

REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Greg W. Edwards — No. C36386 — Exp. 6-30-08 — CIVIL — STATE OF CALIFORNIA

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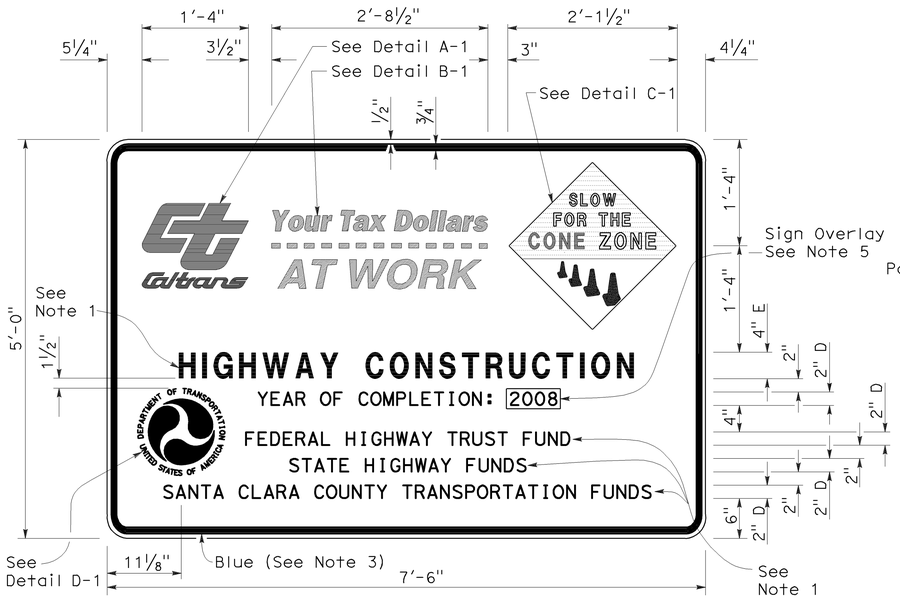
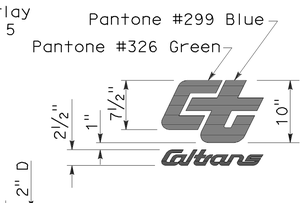
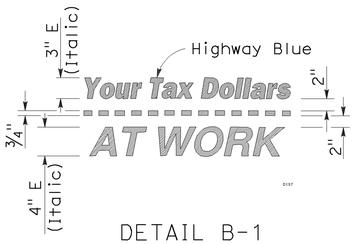
To accompany plans dated 02-27-12



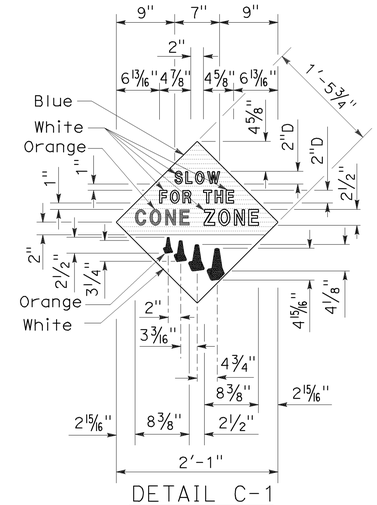
TYPE 1



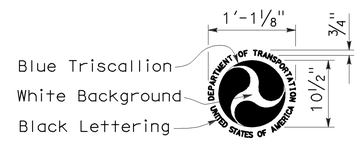
DETAIL A-1



DETAIL B-1
(See Note 3)



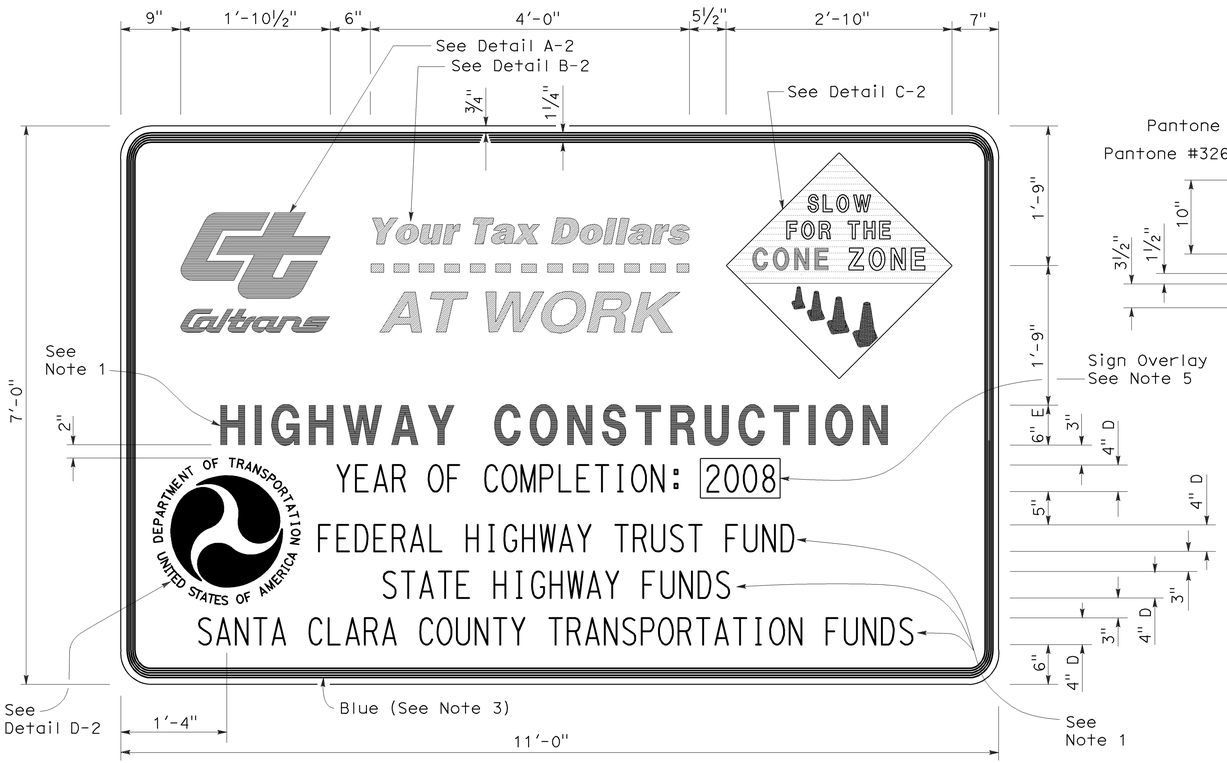
DETAIL C-1
(See Note 4)



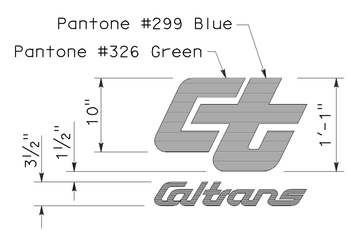
DETAIL D-1
(See Note 6)

NOTES:

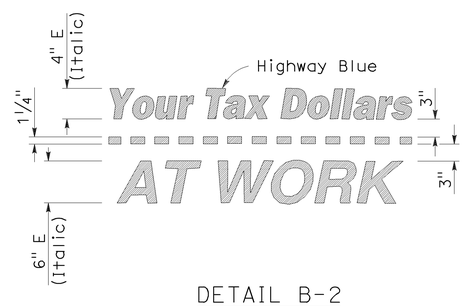
1. The sign messages shown for type of project and fund types are examples only. See the Special Provisions for the applicable type of project and fund type messages to be used.
2. Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
3. The border of the signs and details "B-1" and "B-2" shall be blue (non-reflective).
4. The diamond in details "C-1" and "C-2" shall be blue for the background of message, " SLOW FOR THE CONE ZONE", and white background for the orange cones. The color and type of font for the "SLOW FOR THE CONE ZONE" message shall be: "SLOW" white D; "FOR THE" white D; "CONE" orange Arial font; "ZONE" white Arial font.
5. Year of completion of project construction shown on the overlay is an example only. See the Special Provisions.
6. Use when the Project involves Federal Highway Trust Fund.



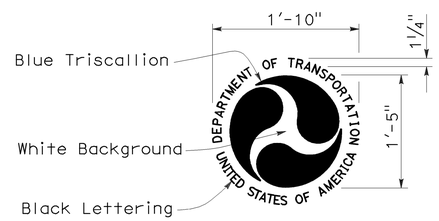
TYPE 2



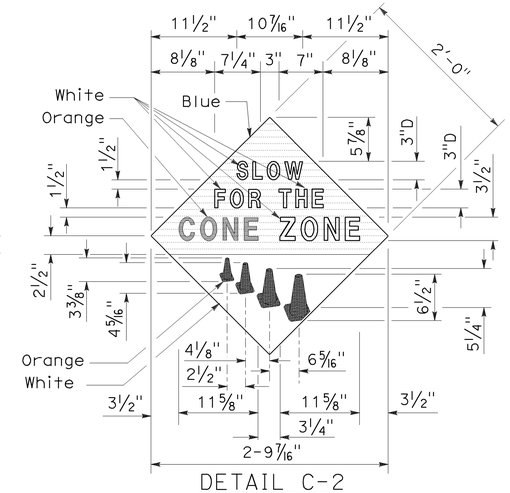
DETAIL A-2



DETAIL B-2
(See Note 3)



DETAIL D-2
(See Note 6)



DETAIL C-2
(See Note 4)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS

NO SCALE

RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN T7
DATED MAY 1, 2006 - PAGE 217 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T7

2006 REVISED STANDARD PLAN RSP T7

9-7-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	23	26

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER 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 02-27-12

ELECTROLIERS

STANDARD TYPES
15, 15D
15 STRUCTURE
21, 21D STRUCTURE
30
31
32
35
36-20A

High mast light pole

Double Arm lighting standard

Existing electrolier

Electrolier foundation (Future installation)

NOTES:

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

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

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	Imp	8	R41.0/R96.0	24	26

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER 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 02-27-12

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 (RSP ES-9A C)
R	r	Conduit riser in/on structure or service pole

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

Type of installation

TYPE H SERVICE - 28'-10" ← Pole height above grade

ILLUMINATED OVERHEAD SIGN

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

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
PV	PV	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
R	Y	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

SIGNAL EQUIPMENT Cont

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

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.
3. 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

7-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	25	26

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER 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 02-27-12

EQUIPMENT IDENTIFICATION

ILLUMINATED SIGN IDENTIFICATION NUMBER:

Sign No. 12345

10 ISL SCI 1.0

- Sign number - Place on post or structure
- Transformer rating (kVA)
- Lighting control type
- Number and type of fixtures

Do NOT place on standard or structure

ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:

12345 - 15'-0"

- Mast arm length, if shown. Do not place on standard or structure.
- Equipment number - Place on standard or structure. Existing equipment numbers are shown in parenthesis

CONDUIT AND CONDUCTOR IDENTIFICATION:

1½"C, 2#10, 15#14, 2 DLC

- Number and size of conductors and cables
- Size of conduit in inches

Ø1, Ø2, Ø2P, etc.	Traffic phase identification for signal faces, detectors and phase diagrams
1 2 3	Project note numbers
A B C	Equipment description, installation or item numbers
1 2 3	Conduit run numbers

SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):

19A - 3 - 100

- Wind velocity = 100 mph
- Case 3 arm loading
- Standard type
- Standard Plan sheet number
- Detail number or letter

MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
CMS	cms	Changeable message sign
		Closed circuit television camera
		Highway advisory radio pole and antenna
EMS	ems	Extinguishable message sign
M V	m v	Detection device M = Microwave sensor V = Video image sensor

WIRING DIAGRAM LEGEND

P	Pole
CB	Circuit breaker
A	Ampere
V	Volt
M	Metered
UM	Unmetered
NB	Neutral bus
GB	Ground bus
G	Equipment grounding conductor
N	Grounded conductor (Neutral)

- External conductor
- Conductor or bus
- Tie point
- Contactor coil
- Contactor, Contact NO
- Terminal blocks
- Contactor, Contact NC
- Enclosure bond
- Grounding electrode
- Circuit breaker
- Receptacle

PULL BOXES

PROPOSED EXISTING

Pull box-No. 5 unless otherwise indicated or noted.

3 9A(21)

Pull box-Additional designations or descriptions

3 = No. 3½ pull box
5 = No. 5 pull box
6 = No. 6 pull box
7 = No. 7 (Ceiling pull box)
8 = No. 8 (Pendant soffit pull box)
9 = No. 9 pull box
9A = No. 9A pull box

(C) = Communications pull box
(E) = Pull box with extension
(S) = Sprinkler control pull box
(21) = Anchor bolts and conduit for future installation of Type 21 Standard
(T) = Traffic pull box

VEHICLE DETECTORS

5 J 9 U

- U = Upper
- L = Lower
- Slot number in input file
- Input file (I or J)
- Phase

PROPOSED	EXISTING	
		Type A detector loop. Outline of sawcut shown.
		Type B detector loop. Outline of sawcut shown.
		Type C detector loop. Outline of sawcut shown.
		Type D detector loop. Outline of sawcut shown.
		Type E detector loop. Outline of sawcut shown.
		Type Q detector loop. Outline of sawcut shown.
		Magnetic detector
DH	dh	Detector handhole
		Microwave or video detection zone

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

7-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	8	R41.0/R96.0	26	26

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

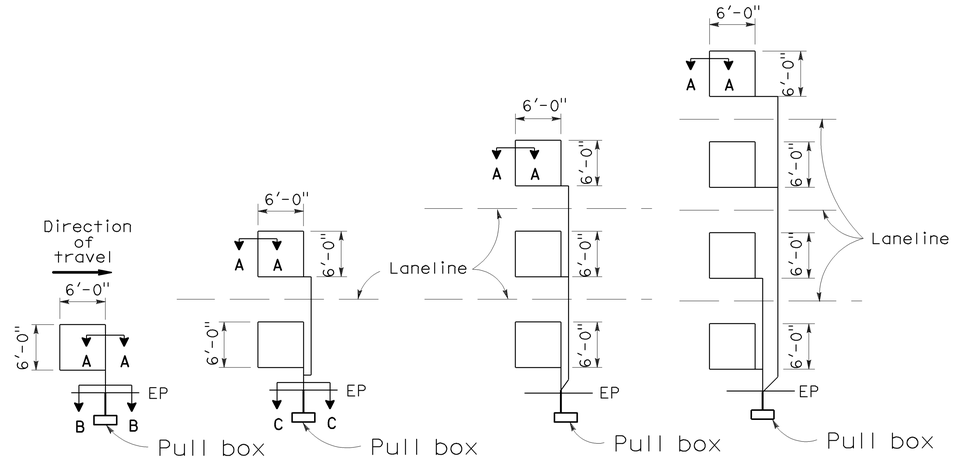
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 02-27-12

2006 REVISED STANDARD PLAN RSP ES-5A

LOOP INSTALLATION PROCEDURE

1. Loops shall be centered in lanes.
2. Saw slots in pavement for loop conductors as shown in details.
3. 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.
4. Bottom of saw slot shall be smooth with no sharp edges.
5. Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
6. Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
7. 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.
8. 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.
9. No more than 2 twisted pairs shall be installed in one sawed slot.
10. Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
11. 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.
12. Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
13. Fill slots as shown in details.
14. Splice loop conductors to lead-in-cable. Splices shall be soldered.
15. 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.
16. Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
17. Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
18. 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.

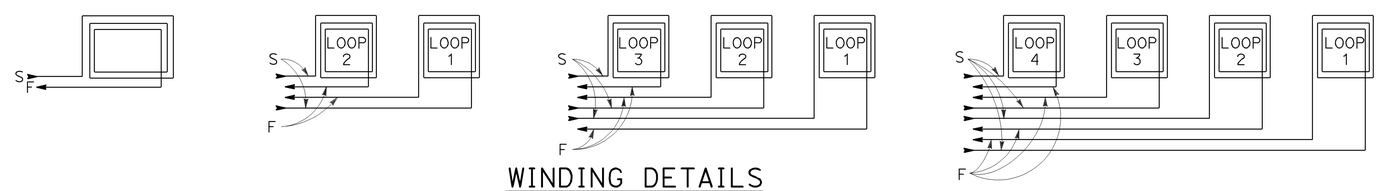


TYPE 1A INSTALLATION | TYPE 2A INSTALLATION | TYPE 3A INSTALLATION | TYPE 4A INSTALLATION

SAWCUT DETAILS

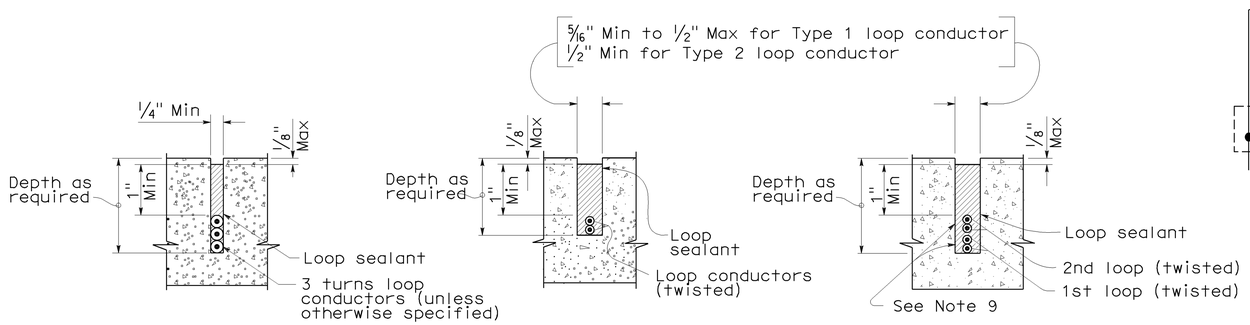
(Type A loop detector configurations illustrated)

1. 1A thru 4A = 1 Type A loop configuration in each lane.
2. 1B thru 4B = 1 Type B loop configuration in each lane.
3. 1C = 1 Type C loop configuration entering lanes as required.
4. 1D thru 4D = 1 Type D loop configuration in each lane.
5. 1E thru 4E = 1 Type E loop configuration in each lane.
6. 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)



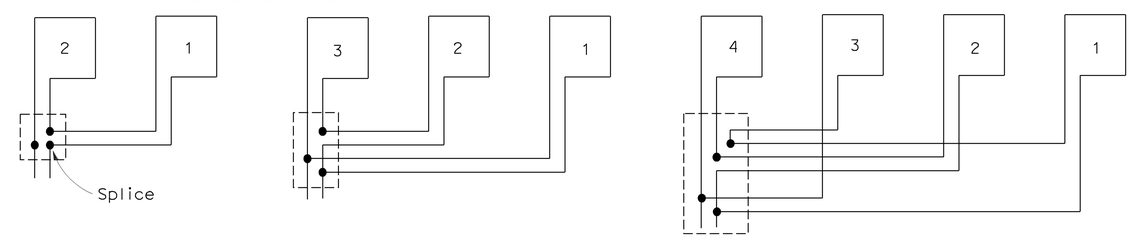
WINDING DETAILS

See Notes 6 and 7



SECTION A-A | SECTION B-B | SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

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.

REVISED STANDARD PLAN RSP ES-5A

8-17-07