

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-3	CONSTRUCTION AREA SIGNS
4-12	TRAFFIC HANDLING DETAILS
13-14	PAVEMENT DELINEATION QUANTITIES
15-26	REVISED STANDARD PLANS

STRUCTURE PLANS  
27-36 ROUTE 5, 110 & 134 BRIDGES

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

STATE OF CALIFORNIA ACSTP-X037(178)E  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN LOS ANGELES COUNTY**  
**AT VARIOUS LOCATIONS**

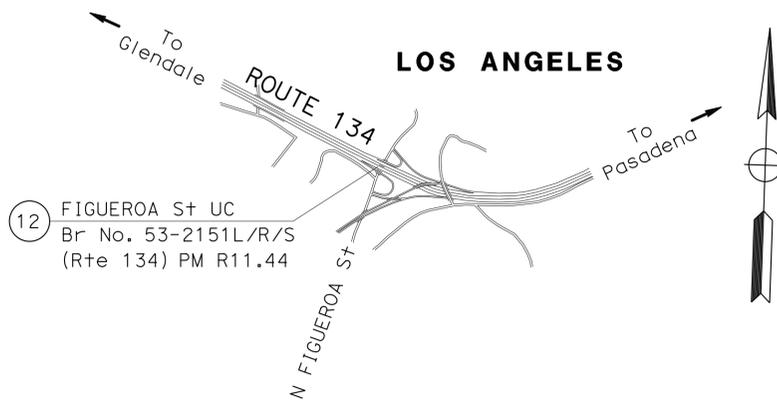
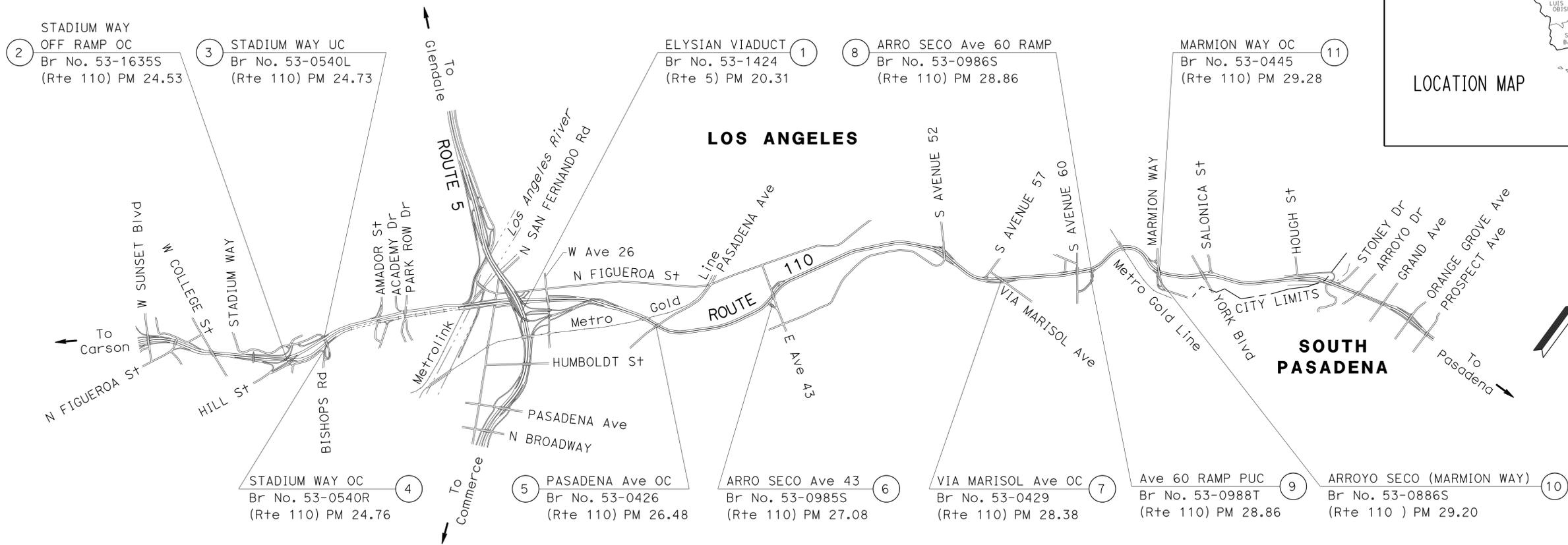
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110,134	Var	1	36





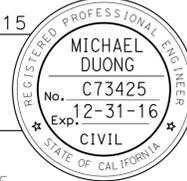
LOCATION MAP



NO SCALE

PROJECT MANAGER  
DAREK CHMIELEWSKI  
 DESIGN MANAGER  
KEVIN KWAN

 2-5-15  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
**February 9, 2015**  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

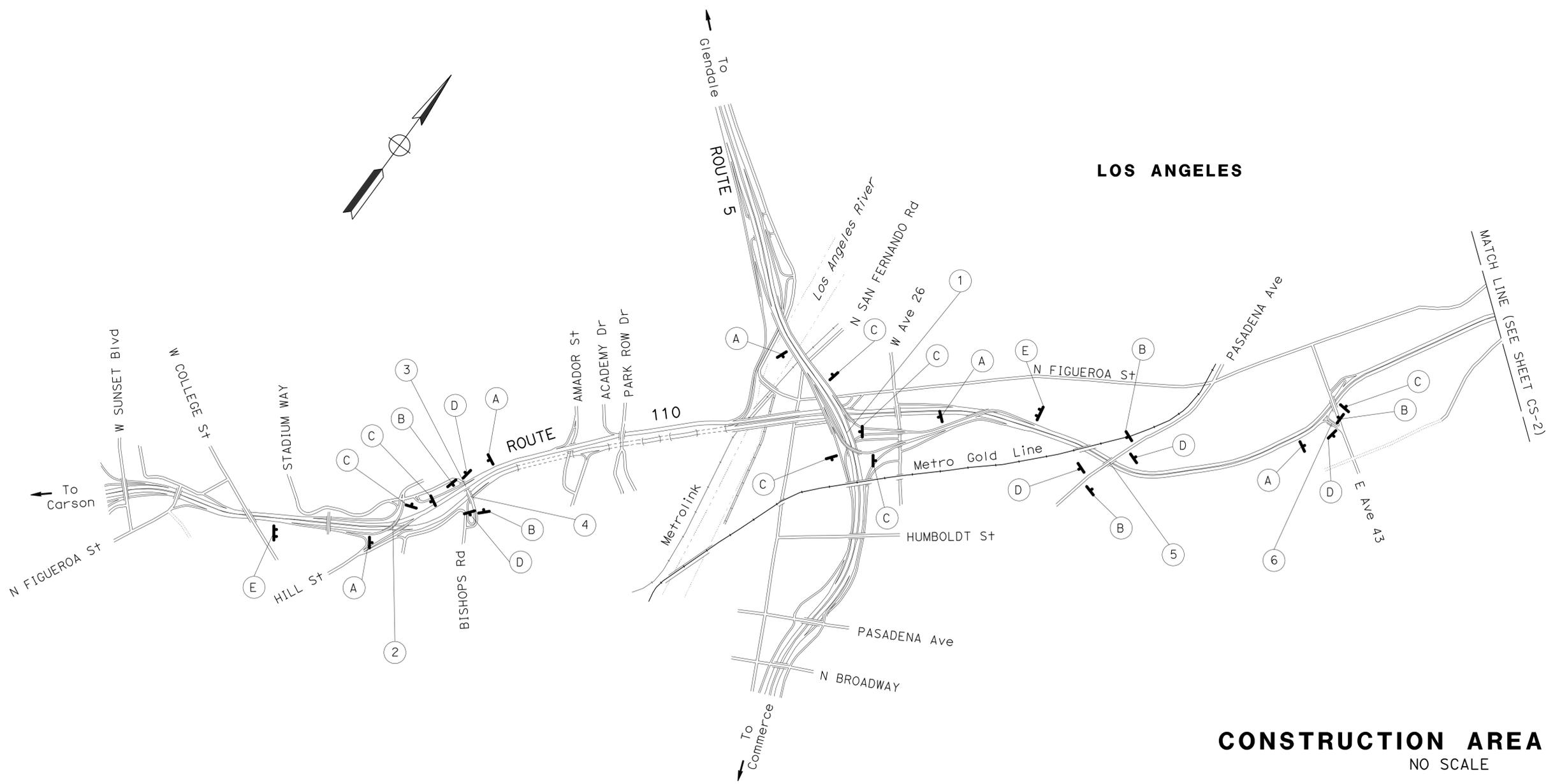


CONTRACT No.	<b>07-2W6804</b>
PROJECT ID	<b>0713000445</b>

**NOTES:**

1. EXACT LOCATION AND POSITION OF SIGNS WILL BE DETERMINED BY THE ENGINEER.
2. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.
3. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE SHEET CS-2.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS						
SIGN No. (X)	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
A	W20-1		48" X 48"	ROAD WORK AHEAD	1 - 6" X 6"	9
B	W20-1		36" X 36"	ROAD WORK AHEAD	1 - 4" X 6"	11
C	G20-2		48" X 24"	END ROAD WORK	1 - 4" X 6"	11
D	G20-2		36" X 18"	END ROAD WORK	1 - 4" X 6"	11
E		C40(CA)	144" X 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" X 8"	2



**CONSTRUCTION AREA SIGNS**  
NO SCALE

**CS-1**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE ENGINEERING  
 FUNCTIONAL SUPERVISOR: KEVIN KWAN  
 CALCULATED/DESIGNED BY: KEVIN KWAN  
 CHECKED BY: KEVIN KWAN  
 REVISIONS: MICHAEL DUONG  
 KEVIN KWAN

LAST REVISION DATE PLOTTED => 21-APR-2015  
 02-09-15 TIME PLOTTED => 12:56



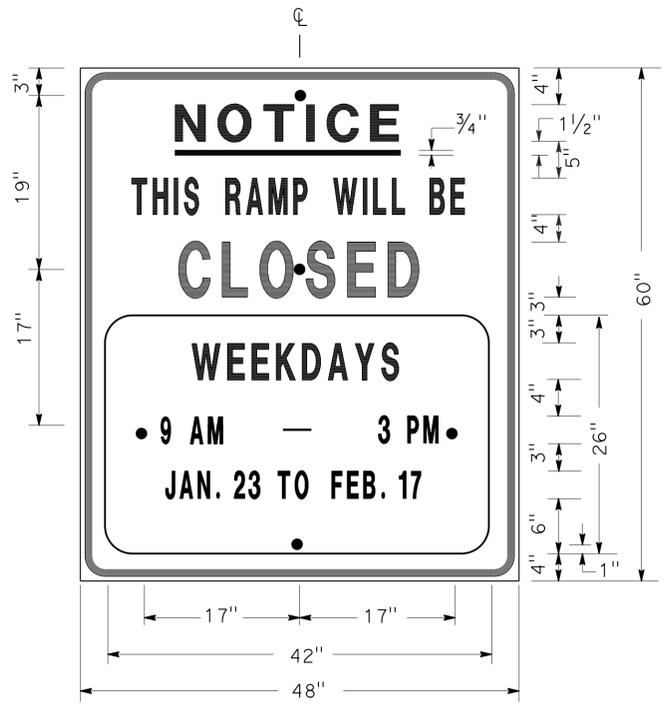
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	4	36

Ali Bamshad 1-23-15  
 REGISTERED CIVIL ENGINEER DATE

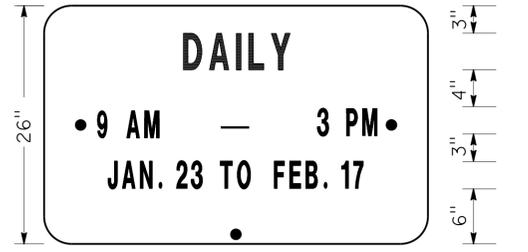
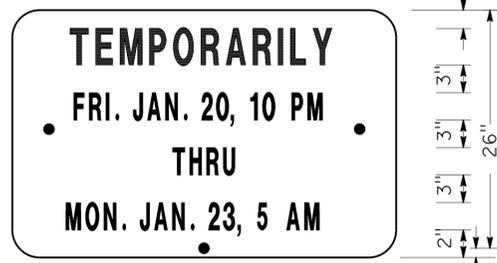
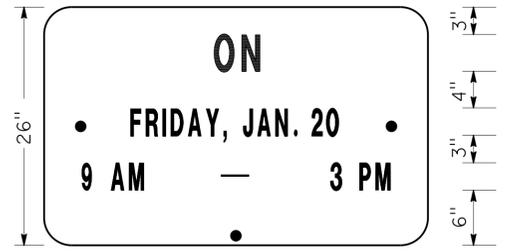
2-9-15  
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER  
 ALI R. BAMSHAD  
 No. C48134  
 Exp. 6-30-16  
 CIVIL  
 STATE OF CALIFORNIA



SIGN SP-1



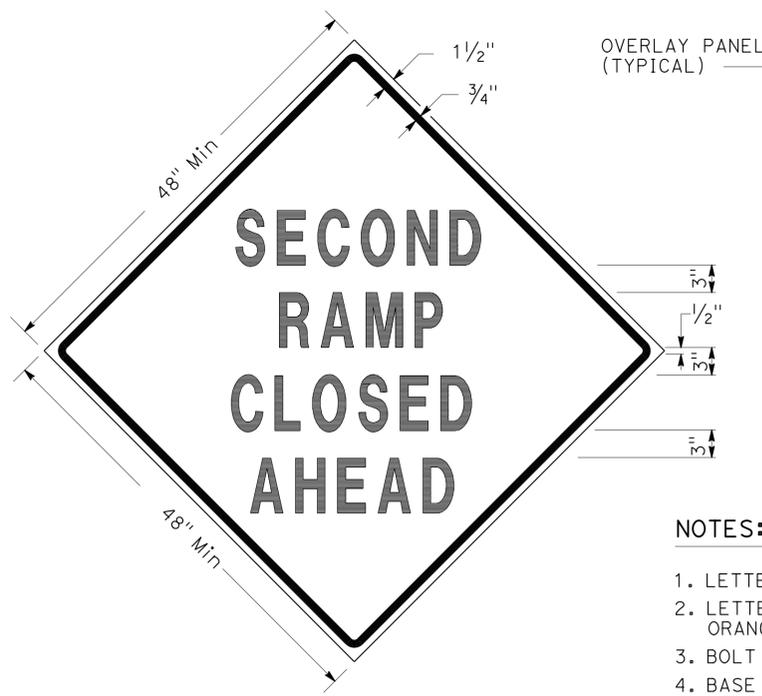
ALTERNATE OVERLAY PANELS (TYPICAL)

- NOTES: SIGN SP-1
- LETTERS AND BORDER MUST BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
  - BOLT HOLES MUST BE 3/8" DIAMETER.
  - BASE MATERIAL MUST BE ALUMINUM (MINIMUM 0.06").
  - SIGNS MUST BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.

SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5, 6, & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"

\* CONDENSED SPACING IF NECESSARY

**SPECIAL ADVANCE NOTICE PUBLICITY SIGN**



SIGN SP-3



SIGN SP-5

- NOTES: SIGNS SP-3 & SP-5
- LETTERS - 6" SERIES D.
  - LETTERS AND BORDER MUST BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
  - BOLT HOLES MUST BE 3/8" DIAMETER.
  - BASE MATERIAL MUST BE ALUMINUM (MINIMUM 0.06").
  - SIGNS MUST BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.
  - SIGN SP-5 MUST BE USED IF THE OFF-RAMP TO BE CLOSED FOLLOWS A FREEWAY OFF-CONNECTOR.

**SPECIAL SIGNS FOR EXIT RAMP CLOSURES**



SIGN SP-4

- NOTES: SIGN SP-4
- LETTERS - 6" SERIES C.
  - LETTERS AND BORDER MUST BE BLACK ON REFLECTORIZED WHITE BACKGROUND.
  - BOLT HOLES MUST BE 3/8" DIAMETER.
  - BASE MATERIAL MUST BE ALUMINUM (MINIMUM 0.06").
  - SIGNS MUST BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH REVISED STANDARD PLAN RSP T14.

**SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES**

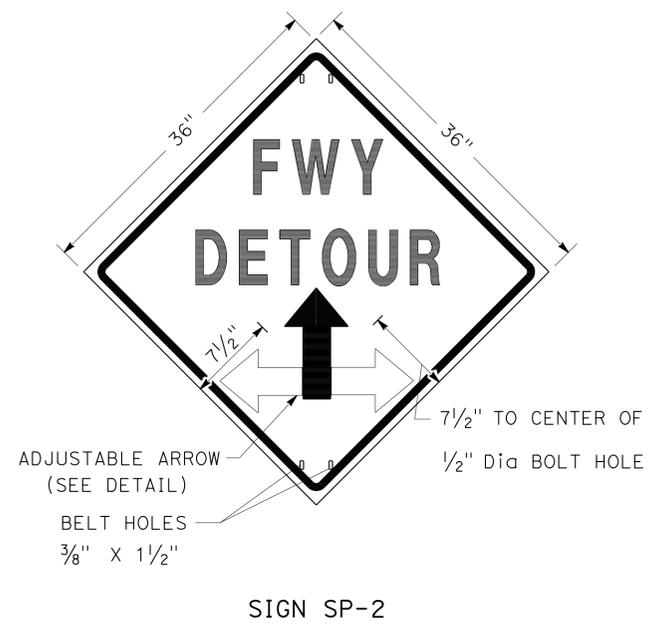
**TRAFFIC HANDLING DETAILS  
 TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURES, DETOUR SIGNS,  
 AND MISCELLANEOUS DETAILS**

SHEET 1 OF 2

NO SCALE

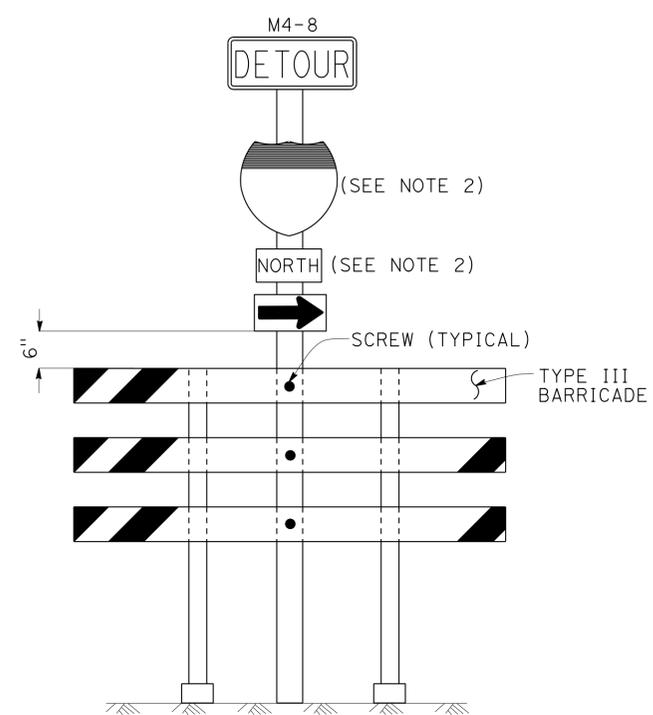
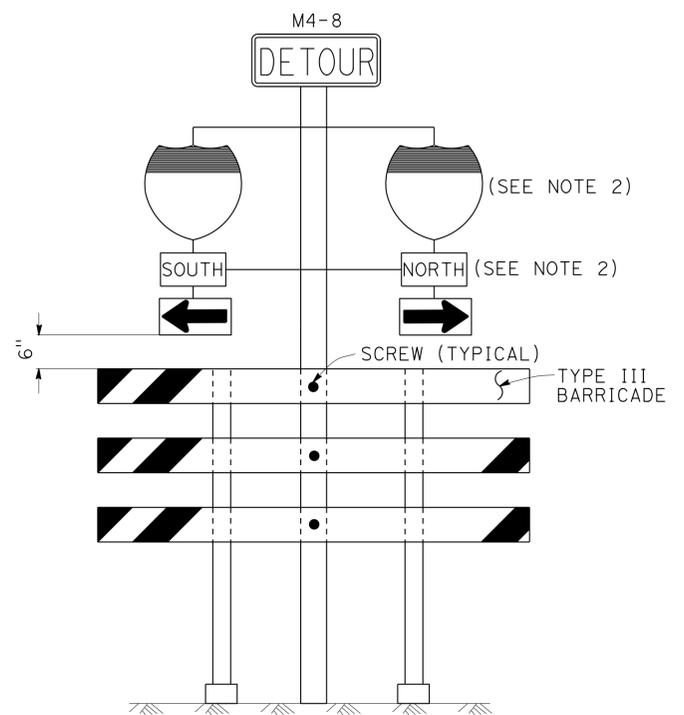
THD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DTM  
 Ali Bamshad  
 FUNCTIONAL SUPERVISOR  
 ALBERT K YU  
 REVISOR  
 JOCELYN C CHIANG  
 CHECKED BY  
 JC  
 2/14  
 DATE REVISED



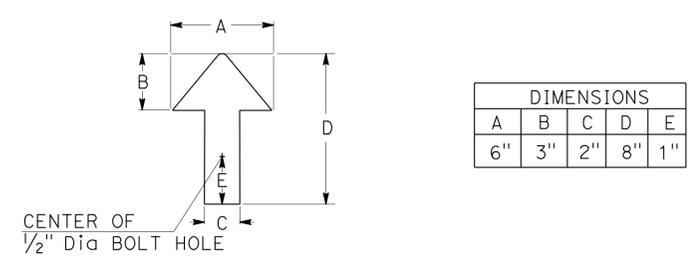
- NOTES:** SIGN SP-2
- LETTERS - 6" SERIES E.
  - LETTERS, BORDER AND ARROW - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
  - BASE MATERIAL FOR SIGNS AND ARROWS MUST BE ALUMINUM (MINIMUM 0.06").
  - BELTS (LUGGAGE STRAPS) MUST BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
  - SIGNS MUST BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND EXCEPT AS OTHERWISE SHOWN ON OTHER TRAFFIC HANDLING DETAILS PLANS.

**ABBREVIATION**  
 (CA) CALIFORNIA CODE



- NOTES:** SIGNS SP-6 & SP-7
- IN LIEU OF PLACING SIGNS ON TYPE III BARRICADES, SIGNS, INCLUDING POSTS, MAY BE PLACED INTO THE GROUND OR FASTENED ONTO ELECTROLIERS.
  - USE APPROPRIATE ROUTE MARKER [G26-2(CA), G27-2(CA), G28-2(CA)] AND CARDINAL DIRECTION [NORTH (M3-1), SOUTH (M3-3), EAST (M3-2), WEST (M3-4)].

**SPECIAL PORTABLE FREEWAY DETOUR SIGNS**



**ADJUSTABLE ARROW DETAIL**

**TRAFFIC HANDLING DETAILS**  
**TRAFFIC CONTROL SYSTEM**  
**FOR RAMP CLOSURES, DETOUR SIGNS,**  
**AND MISCELLANEOUS DETAILS**  
**SHEET 2 OF 2**  
 NO SCALE

**THD-2**

LAST REVISION DATE PLOTTED => 21-APR-2015  
 02-09-15 TIME PLOTTED => 12:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	6	36

Ali Bamshad 1-23-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-9-15  
 PLANS APPROVAL DATE

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

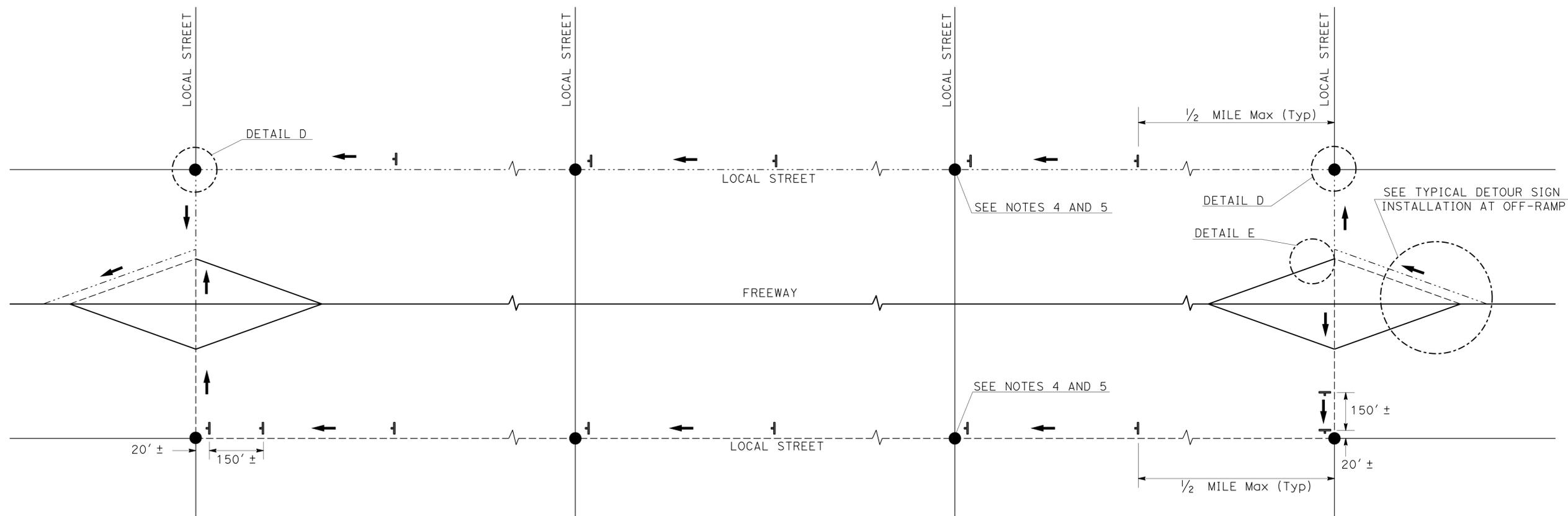
REGISTERED PROFESSIONAL ENGINEER  
 ALI R. BAMSHAD  
 No. C48134  
 Exp. 6-30-16  
 CIVIL  
 STATE OF CALIFORNIA

**LEGEND**

- ↓ SIGN SP-2
- AND/OR DESIGNATED DETOUR ROUTE
- DETOUR DIRECTION
- CONTROLLED INTERSECTION

**NOTES:**

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. SP-2 SIGNS MUST NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
4. SP-2 SIGNS MUST BE POSTED AT EACH CONTROLLED INTERSECTION (EXCEPT AT COMMERCIAL PROPERTY, RESIDENTIAL COMPLEX OR T-INTERSECTION FROM ONE-WAY STREET) ALONG THE DESIGNATED DETOUR ROUTE.
5. UNLESS OTHERWISE SHOWN ON OTHER THD PLANS, WHEN CONTROLLED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE ARE CLOSELY SPACED, PLACE SP-2 SIGNS AT CONTROLLED INTERSECTIONS AT A DISTANCE NOT TO EXCEED 1/4 MILE FROM THE PRECEDING DETOUR SIGN.
6. EXCEPT AS OTHERWISE SHOWN ON OTHER PLANS OR SPECIFIED IN THE SPECIAL PROVISIONS, SP-2 SIGNS MUST BE PLACED AS SHOWN ON THIS PLAN.



**TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE**

**TRAFFIC HANDLING DETAILS  
TRAFFIC CONTROL SYSTEM  
FOR DETOUR SIGN INSTALLATION  
ALONG DESIGNATED DETOUR ROUTE  
SHEET 1 OF 3**

NO SCALE

**THD-3**

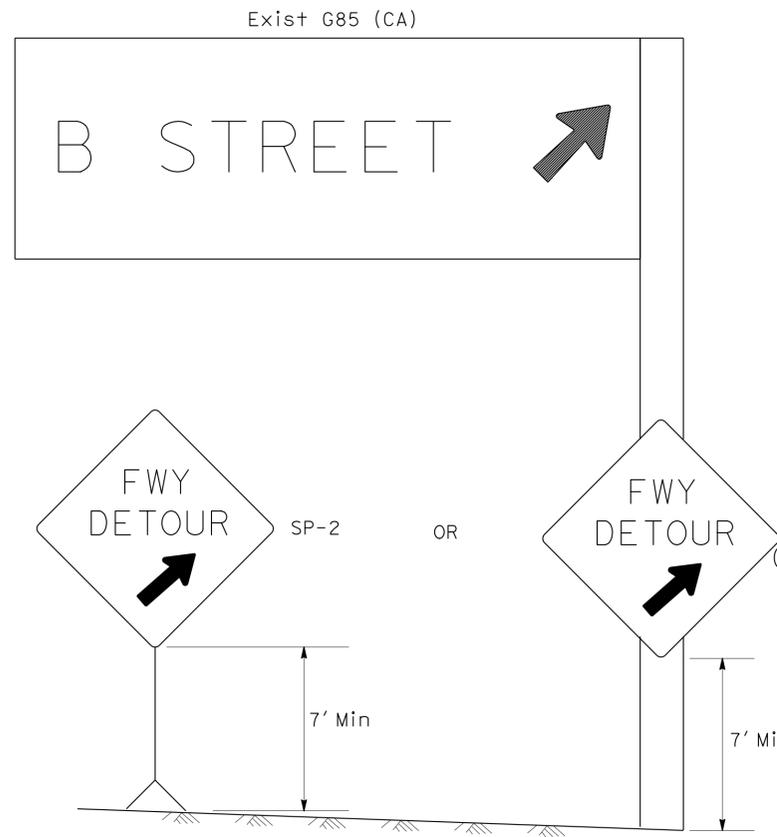
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DT M  
 FUNCTIONAL SUPERVISOR: ALI BAMSHAD  
 CHECKED BY: JOCELYN C CHIANG  
 DESIGNED BY: ALBERT K YU  
 REVISOR: JC  
 DATE: 2/14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	7	36

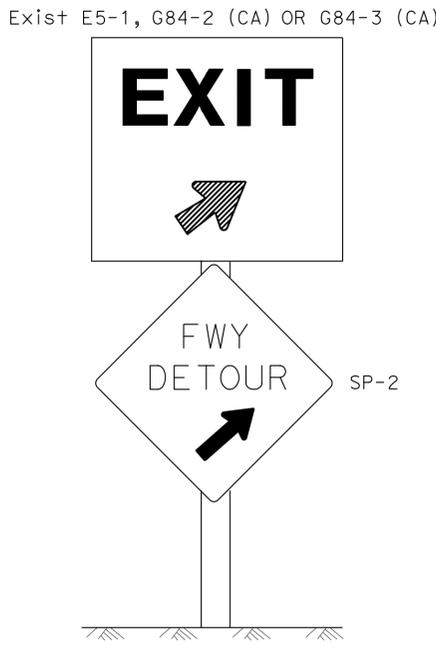
Ali Bamshad 1-23-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-9-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 ALI R. BAMSHAD  
 No. C48134  
 Exp. 6-30-16  
 CIVIL  
 STATE OF CALIFORNIA

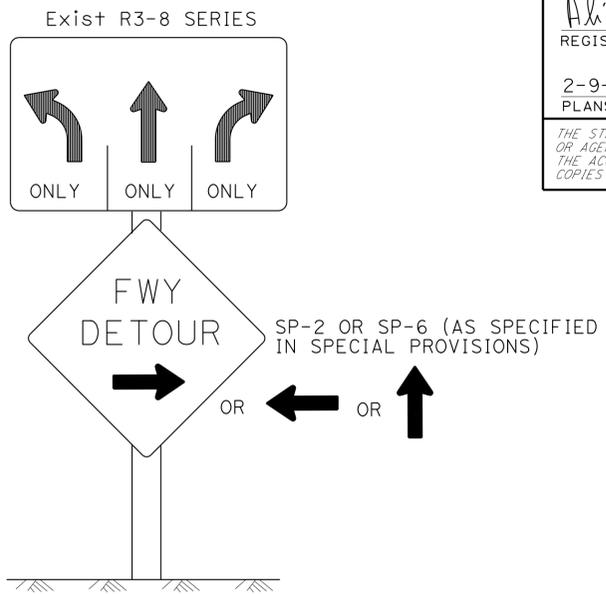
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



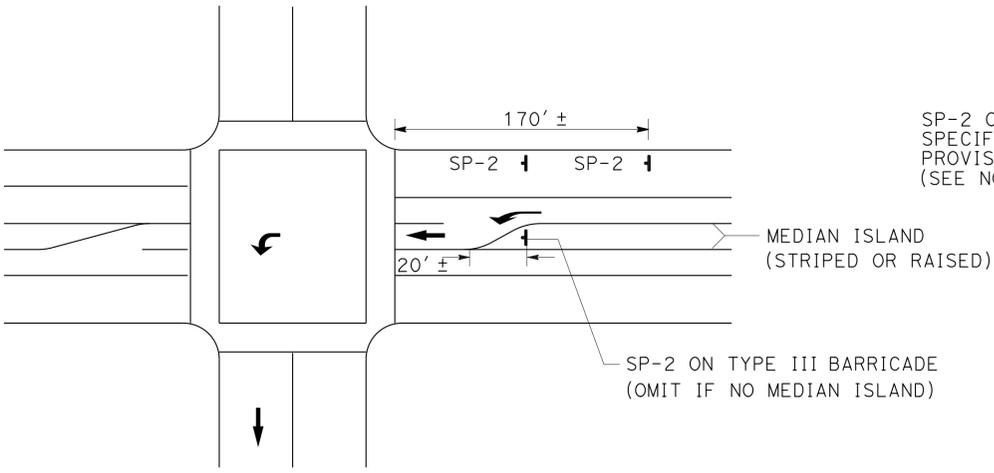
DETAIL A (SEE NOTE 3)



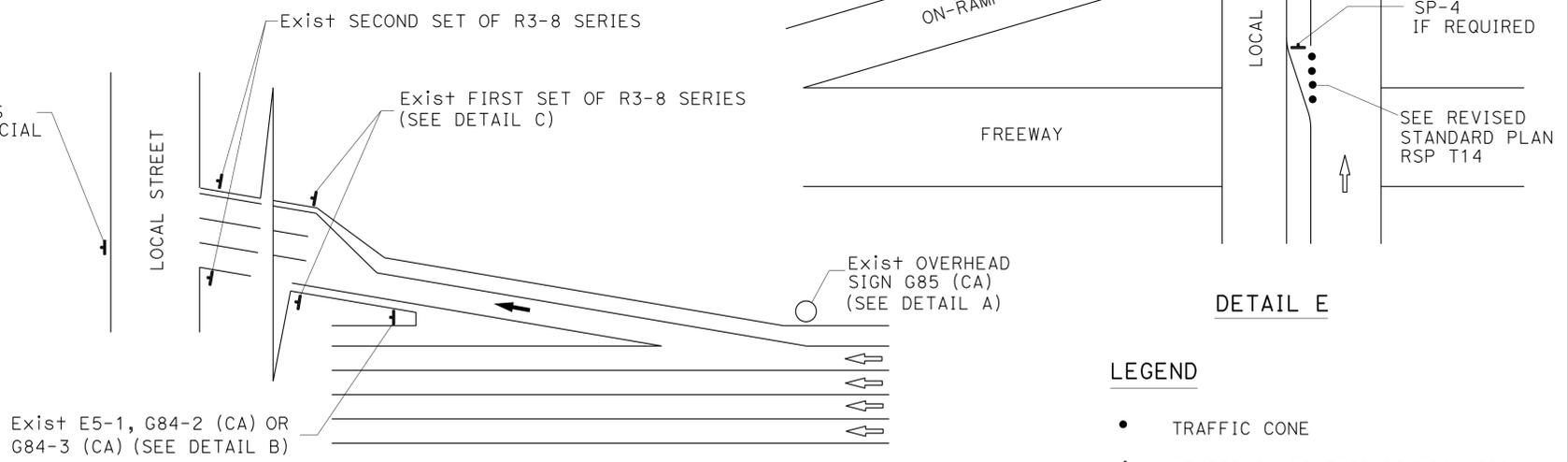
DETAIL B (SEE NOTE 3)



DETAIL C (SEE NOTES 4, 5, AND 6)



DETAIL D



DETAIL E

- LEGEND**
- TRAFFIC CONE
  - † TEMPORARY TRAFFIC CONTROL SIGN
  - ➔ DETOUR DIRECTION
  - EXISTING OVERHEAD SIGN

**TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP**

- NOTES:** SIGN SP-2
1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
  2. SP-2 SIGNS MUST NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
  3. OMIT DETAILS A AND B FOR FULL FREEWAY CLOSURES.
  4. SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-6 SIGN DETAILS.
  5. IF R3-8 SERIES SIGNS ARE NOT PRESENT AT THE OFF-RAMP, SP-2 OR SP-6 SIGNS MUST BE FASTENED ONTO EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
  6. EXCEPT FOR DETAILS A & B, OMIT SP-2 SIGNS IF RAMP HAS MANDATORY SINGLE MOVE.

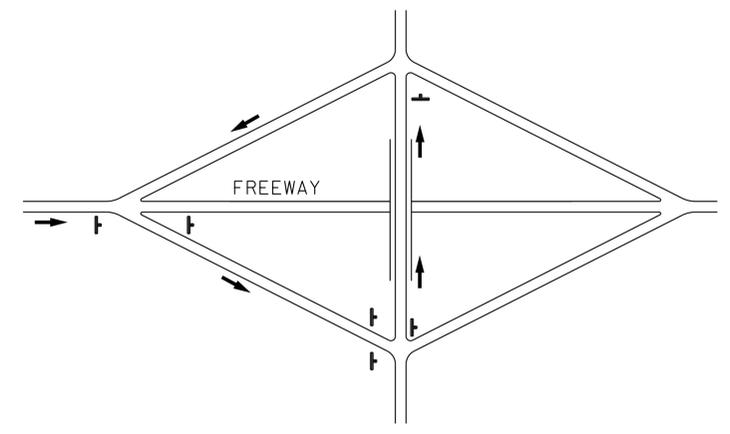
- SIGN CODE LEGEND**
- XXYY-Y: FEDERAL SIGN CODE PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
- XXYY-Y (CA): CALIFORNIA SIGN CODE PER CALIFORNIA MUTCD

**TRAFFIC HANDLING DETAILS  
TRAFFIC CONTROL SYSTEM  
FOR DETOUR SIGN INSTALLATION  
ALONG DESIGNATED DETOUR ROUTE  
SHEET 2 OF 3  
NO SCALE THD-4**

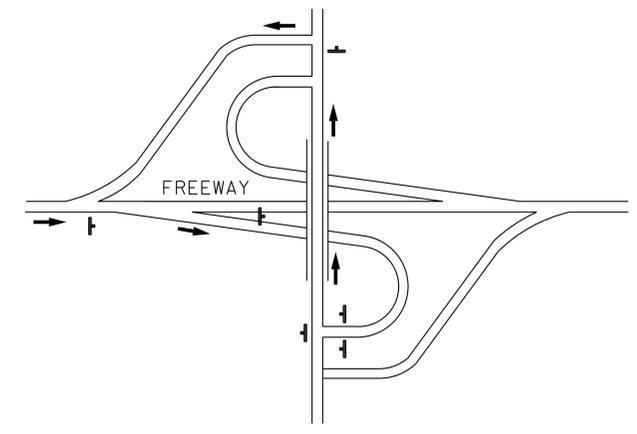
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
DTM

FUNCTIONAL SUPERVISOR: ALI BAMSHAD  
 CALCULATED/DESIGNED BY: ALI BAMSHAD  
 CHECKED BY: ALI BAMSHAD  
 REVISIONS: JC 2/14  
 REVISOR: ALBERT K YU  
 DATE: 2/14  
 REVISOR: JOCELYN C CHIANG  
 DATE: 2/14

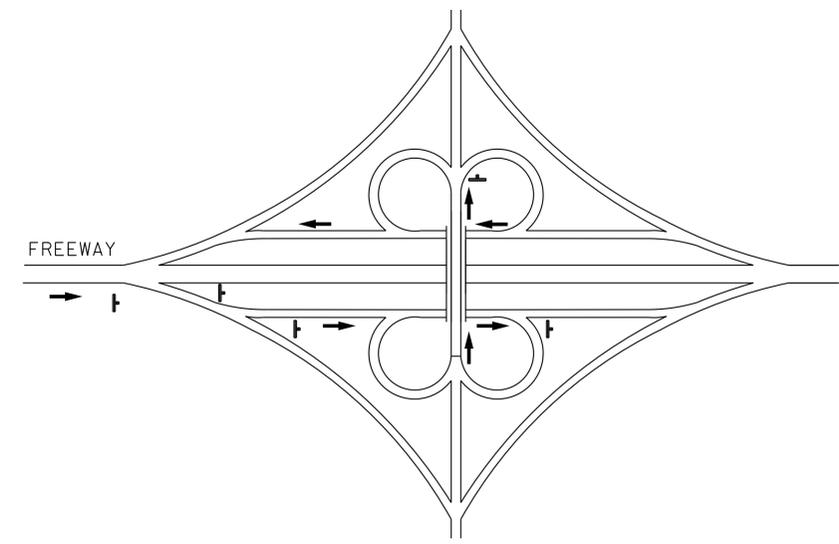
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**DTM**  
 FUNCTIONAL SUPERVISOR: ALI BAMSHAD  
 REVISIONS: JC 2/14  
 REVISOR: ALBERT K YU  
 CHECKER: JOCELYN C CHIANG  
 CALCULATED/DESIGNED BY: [Blank]  
 CHECKED BY: [Blank]



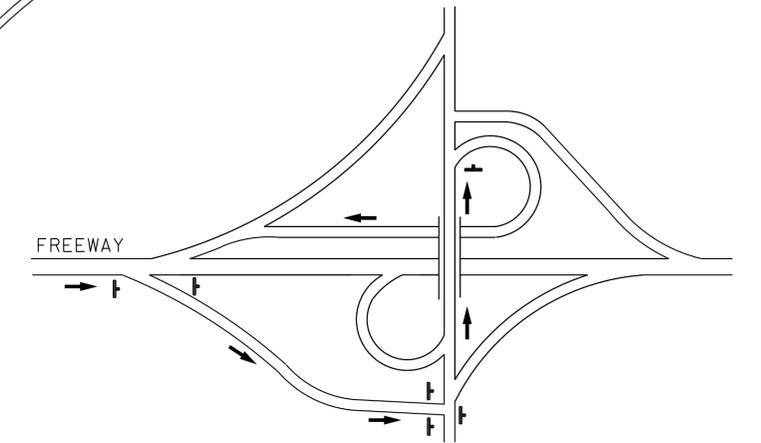
TYPE I



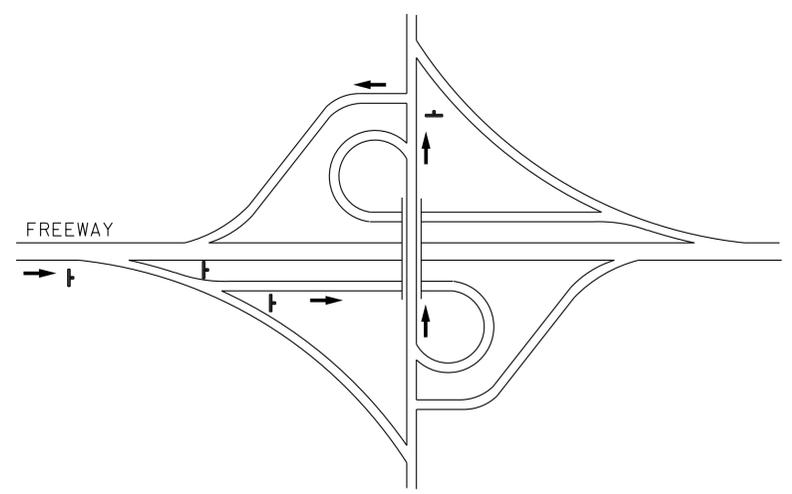
TYPE II



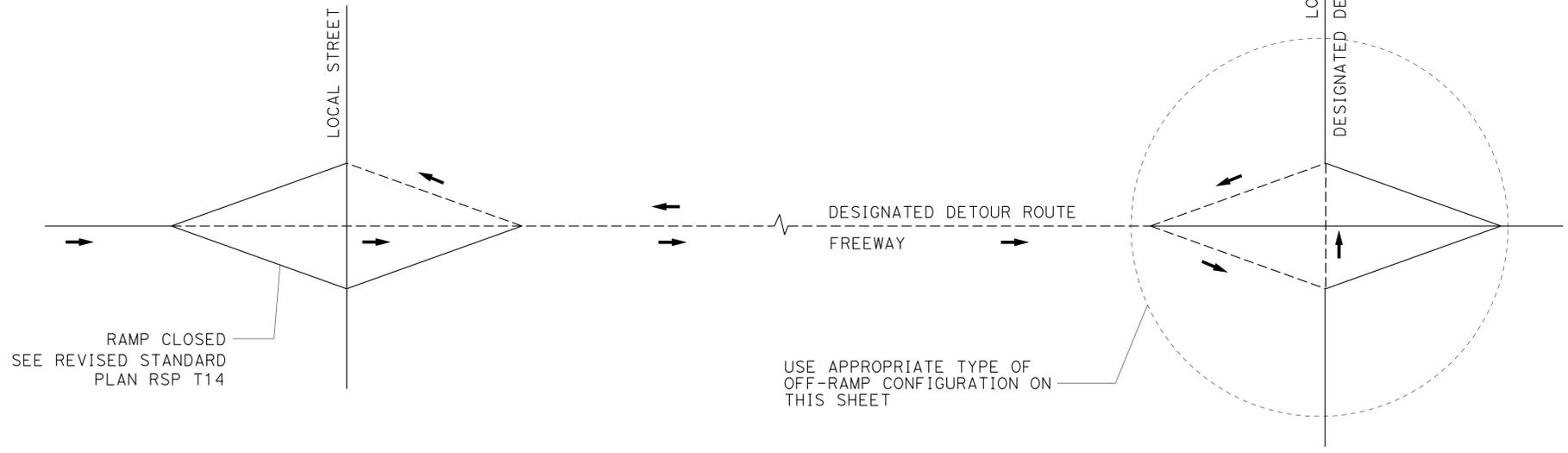
TYPE III



TYPE IV



TYPE V



TYPE OF OFF-RAMP CONFIGURATION	MINIMUM No. OF SP-2
TYPE I	6
TYPE II	6
TYPE III	5
TYPE IV	6
TYPE V	4

**TYPICAL DETOUR SIGN INSTALLATION FOR OFF-RAMP CLOSURE**

**NOTES:**

- FOR RAMP CONFIGURATIONS NOT SHOWN, THE EXACT LOCATIONS AND MINIMUM NUMBER OF SP-2 SIGNS MUST BE DETERMINED BY THE ENGINEER.
- SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-2 SIGN DETAILS.

**LEGEND**

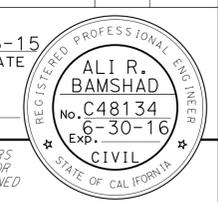
- ↑ SIGN SP-2
- DETOUR DIRECTION
- DESIGNATED DETOUR ROUTE

**TRAFFIC HANDLING DETAILS  
TRAFFIC CONTROL SYSTEM  
FOR DETOUR SIGN INSTALLATION  
ALONG DESIGNATED DETOUR ROUTE  
SHEET 3 OF 3**

NO SCALE

**THD-5**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	9	36
<i>Ali Bamshad</i> 1-23-15 REGISTERED CIVIL ENGINEER DATE					
2-9-15 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



**NOTES:**

- LANE CLOSURES MUST NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
- PCMS MUST BE ACTIVATED PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE LANE.
- A MINIMUM SIGHT DISTANCE OF 1500' MUST BE PROVIDED IN ADVANCE OF PCMS.
- VEHICLE-MOUNTED SIGN PANELS MUST BE TYPE III OR IV RETROREFLECTORIZED SHEETING, BLACK ON WHITE OR BLACK ON ORANGE WITH 8" MINIMUM SERIES D LETTERS PER CALTRANS SIGN SPECIFICATIONS.

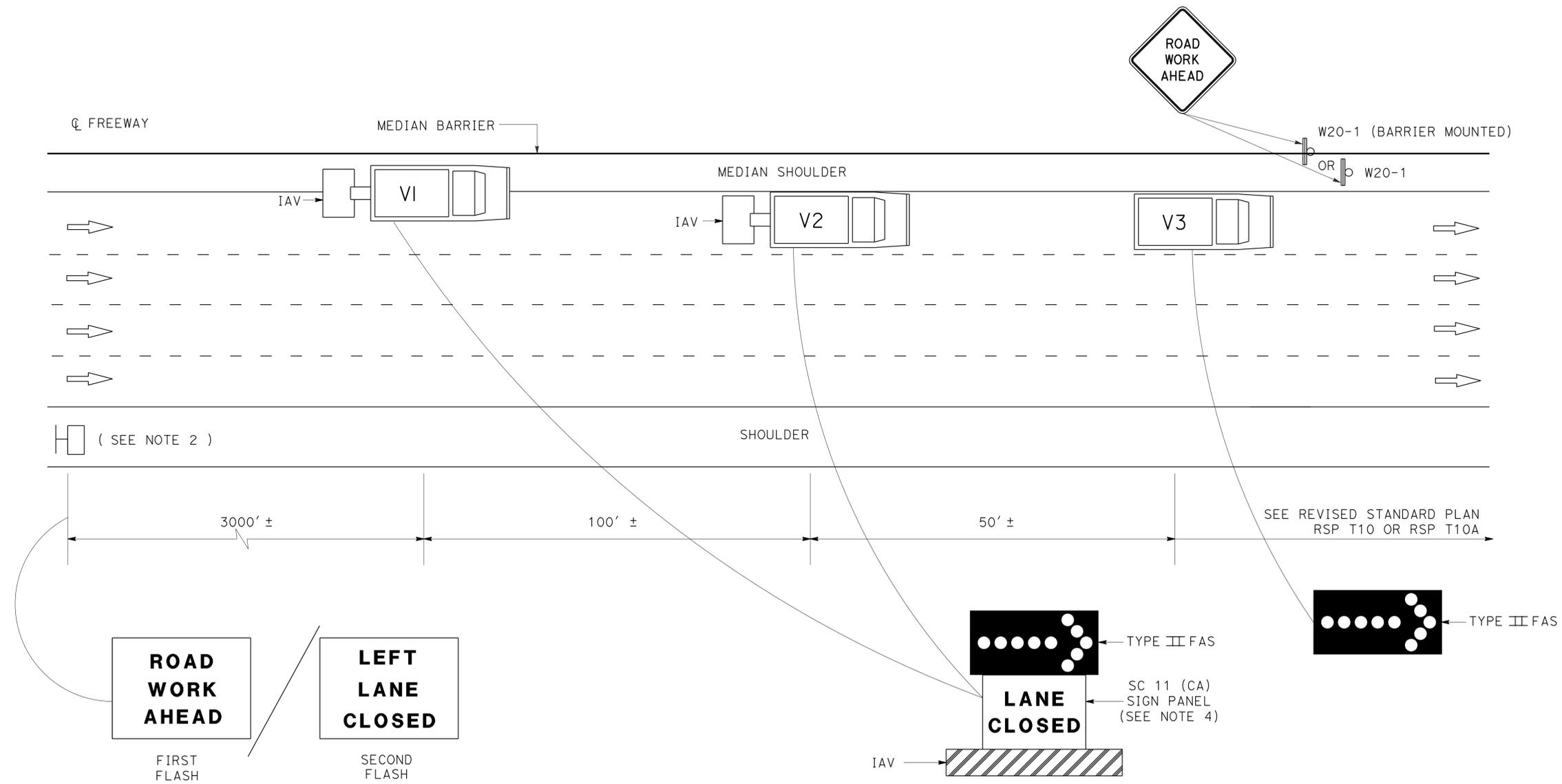
**LEGEND**

- V1, V2 SHADOW VEHICLES
- V3 WORK/APPLICATION VEHICLE
- PCMS
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)

**ABBREVIATIONS**

- IAV IMPACT ATTENUATOR VEHICLE
- (CA) CALIFORNIA CODE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Caltrans®  
 DT  
 FUNCTIONAL SUPERVISOR: ALI BAMSHAD  
 CHECKED BY: JOCELYN C CHIANG  
 REVISOR: ALBERT K YU  
 DATE: 2/14



**PCMS OR TRUCK MOUNTED CMS MESSAGE**

**TRAFFIC HANDLING DETAILS  
 TRAFFIC CONTROL SYSTEM  
 FOR MEDIAN SHOULDERS LESS THAN 8 FEET**

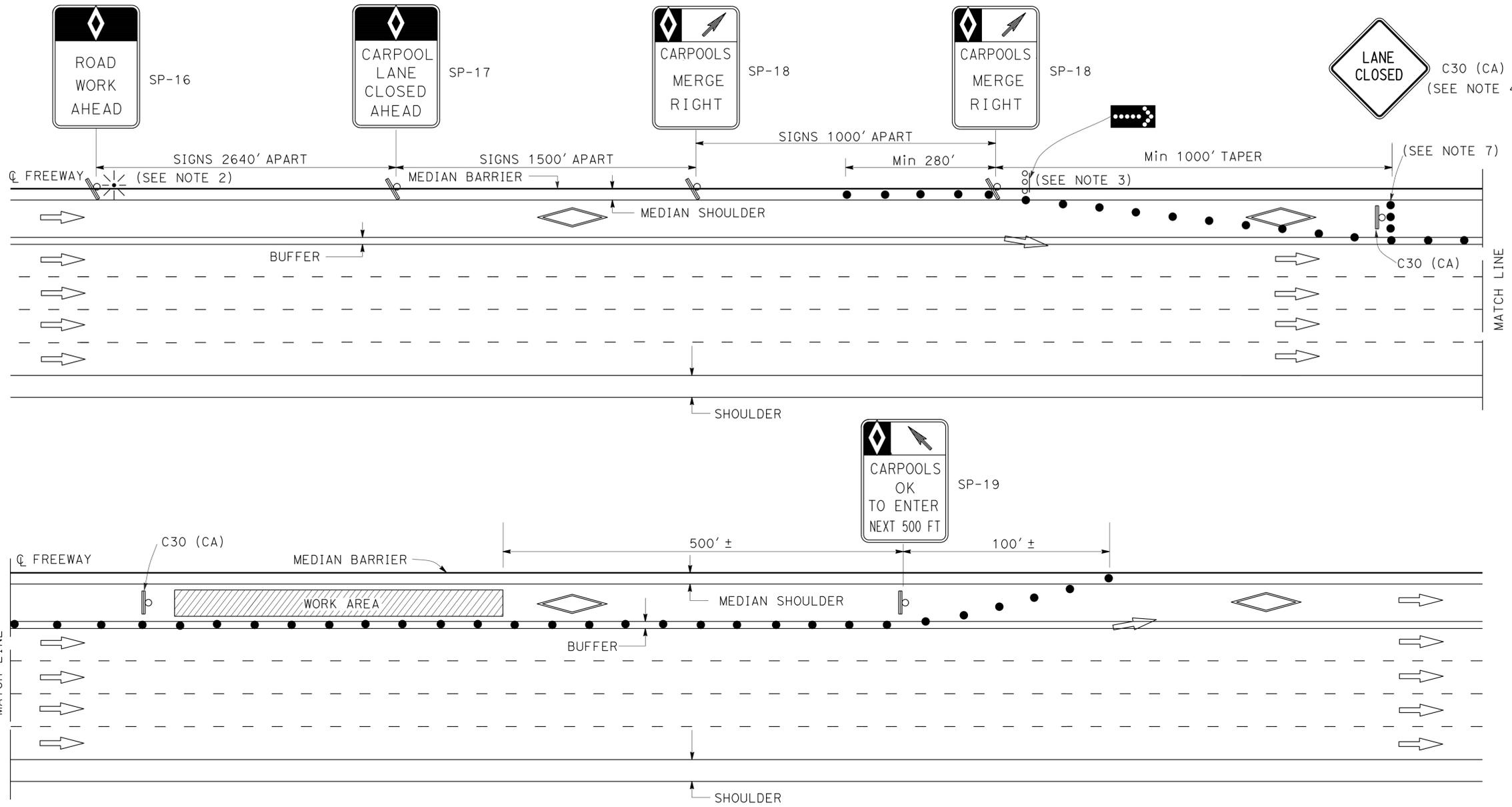
NO SCALE

**THD-6**

LAST REVISION | DATE PLOTTED => 21-APR-2015  
 02-09-15 TIME PLOTTED => 12:56



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	11	36
Ali Bamshad 1-23-15 REGISTERED CIVIL ENGINEER DATE					
2-9-15 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



- LEGEND**
- TRAFFIC CONE
  - ☀ PORTABLE FLASHING BEACON
  - ⏏ TEMPORARY TRAFFIC CONTROL SIGN
  - ⦿ FLASHING ARROW SIGN (FAS)
  - ⦿ FAS SUPPORT OR TRAILER

**ABBREVIATIONS**

(CA) CALIFORNIA CODE

**SIGN PANEL SIZE (MIN)**

SP-16	36" X 54"
SP-17	36" X 54"
SP-18	36" X 48"
SP-19	36" X 60"
C30 (CA)	30" X 30"
G20-2	48" X 24"

**NOTES: FOR CASE I AND CASE II**

1. AT LEAST ONE PERSON MUST BE ASSIGNED TO FULL TIME MAINTENANCE OF TRAFFIC CONTROL DEVICES ON NIGHT LANE CLOSURES OR DAY-TIME CLOSURES EXCEEDING 1 MILE LENGTH, INCLUDING TAPERS.
2. ADVANCE WARNING SIGN INSTALLATIONS MUST BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES. TYPE B HIGH INTENSITY FLASHING WARNING LIGHTS MUST BE USED ON SP-16 SIGN DURING NIGHT LANE CLOSURES. FLAGS AND WARNING LIGHTS MUST BE ATTACHED TO SIGNS AS APPROVED BY THE ENGINEER.
3. THE FLASHING ARROW SIGN MUST BE TYPE I.
4. PLACE C30 (CA) SIGNS EVERY 2000' THROUGHOUT THE LENGTH OF LANE CLOSURE.
5. A MINIMUM 1500' OF SIGHT DISTANCE MUST BE PROVIDED WHERE POSSIBLE FOR VEHICLES APPROACHING THE FLASHING ARROW SIGN. LANE CLOSURES MUST NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
6. PORTABLE DELINEATORS PLACED AT ONE-HALF THE SPACING INDICATED FOR TRAFFIC CONES MAY BE USED INSTEAD OF CONES FOR DAYTIME CLOSURES.
7. A MINIMUM OF 3 CONES MUST BE PLACED TRANSVERSELY ACROSS CLOSED LANES WHERE TAPERS END AND EVERY 2000'. TWO TYPE II BARRICADES MAY BE USED INSTEAD OF 3 CONES. THE ALIGNMENT OF CONES OR BARRICADES MAY BE SHIFTED FROM THE TRANSVERSE ALIGNMENT TO PROVIDE ACCESS TO WORK.
8. IF AN INGRESS/EGRESS AREA IS WITHIN 5250' UPSTREAM OR DOWNSTREAM OF THE WORK AREA, LANE CLOSURES MUST BE EXTENDED TO THAT AREA AS SHOWN IN CASE II.
9. SIGNS SP-16, 17, 18, AND 19 MAY BE OVERLAID ON EXISTING CARPOOL SIGNS IN MEDIANS AS APPROVED BY THE ENGINEER.
10. SIGNS SP-16, 17, 18, AND C30 (CA) MUST BE BLACK ON ORANGE BACKGROUND. SIGN SP-19 MUST BE BLACK ON WHITE BACKGROUND. DIAMONDS ON SIGNS MUST BE WHITE.
11. FOR CLOSURE OF LANE(S) ADJACENT TO HOV LANES, SEE CASE II.
12. THE MAXIMUM SPACING BETWEEN CONES MUST BE APPROXIMATELY 50' IN TAPERS AND 100' ON TANGENTS.

**TRAFFIC HANDLING DETAILS  
TRAFFIC CONTROL SYSTEM  
FOR HIGH OCCUPANCY VEHICLE LANES  
AT NON-INGRESS/EGRESS AREAS  
CASE I**

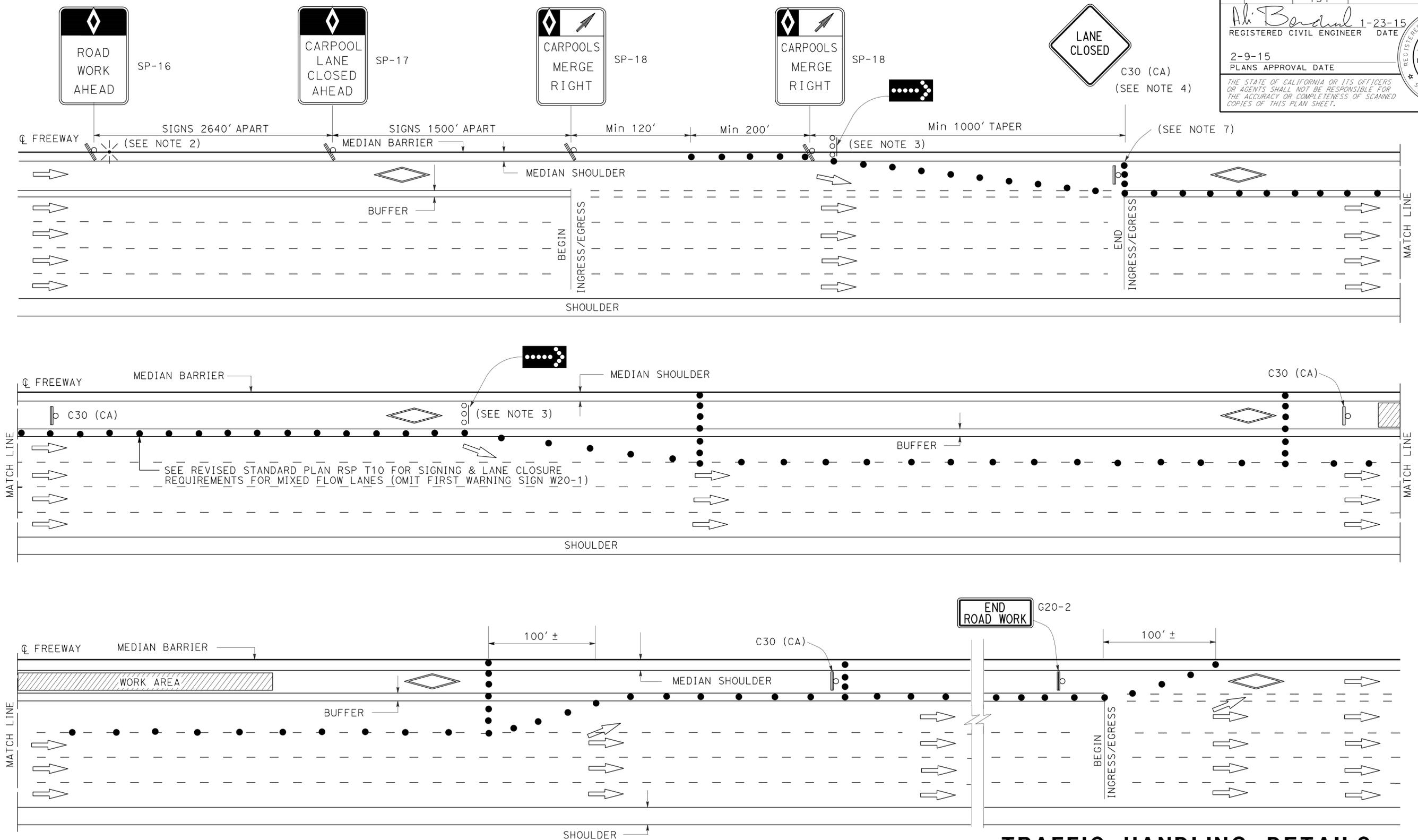
NO SCALE

**THD-8**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
DTM  
ALBERT K YU  
JOCELYN C CHIANG  
ALI BAMSHAD

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	12	36
Ali Bamshad 1-23-15 REGISTERED CIVIL ENGINEER DATE					
2-9-15 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER ALI R. BAMSHAD No. C48134 Exp. 6-30-16 CIVIL STATE OF CALIFORNIA					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DTMM  
 FUNCTIONAL SUPERVISOR: ALI BAMSHAD  
 CHECKED BY: JOCELYN C CHIANG  
 REVISIONS: JC 2/14  
 REVISIONS: ALBERT K YU, JOCELYN C CHIANG



- NOTES:**
- SEE CASE I FOR NOTES, LEGEND, SIGN PANEL, AND ABBREVIATIONS FOR THIS SHEET.
  - CLOSURES OF ONE MIXED FLOW TRAFFIC LANE ADJACENT TO HOV LANE SHOWN ON THIS SHEET. MULTIPLE MIXED FLOW LANE CLOSURES ARE SIMILAR.

**TRAFFIC HANDLING DETAILS  
 TRAFFIC CONTROL SYSTEM  
 FOR HIGH OCCUPANCY  
 VEHICLE LANES AND ADJACENT FREEWAY LANES  
 BETWEEN INGRESS/EGRESS AREAS  
 CASE II  
 NO SCALE  
 THD-9**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR  
KEVIN KWAN

CALCULATED/DESIGNED BY  
MICHAEL DUONG

CHECKED BY  
KEVIN KWAN

REVISOR BY  
MICHAEL DUONG

DATE REVISED  
DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110,134	Var	14	36

Michael Duong 2-5-15  
 REGISTERED CIVIL ENGINEER DATE

2-9-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MICHAEL DUONG  
 No. C73425  
 Exp. 12-31-16  
 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.

PAVEMENT DELINEATION QUANTITIES															
Loc No. (X)	ROUTE	BRIDGE No.	BRIDGE NAME	PM	PAVEMENT MARKER					REMOVE					
					RETROREFLECTIVE				CHANNELIZER (SURFACE MOUNTED) (LEFT IN PLACE)	YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	THERMOPLASTIC TRAFFIC STRIPE	THERMOPLASTIC PAVEMENT MARKING	PAINTED TRAFFIC STRIPE	PAVEMENT MARKER	CHANNELIZER
					TYPE A (NON-REFLECTIVE)	TYPE G/C	TYPE H	TYPE D							
1	5	53-1424	ELYSIAN VIADUCT	20.31	36	38	135			850	4,255	1,128	850	378	
2	110	53-1635S	STADIUM WAY OFF RAMP OC	24.53		12	22			503	650	66	503	56	
3	110	53-0540L	STADIUM WAY UC	24.73	20	28	4			103	608	80		52	
4	110	53-0540R	STADIUM WAY OC	24.75						272					
5	110	53-0426	PASADENA AVENUE OC	26.48						724	362	35	362		
6	110	53-0985S	ARRO SECO AVENUE 43	27.08				8		240		75	120	11	
7	110	53-0429	VIA MARISOL AVENUE OC	28.38						252	455	109			
8	110	53-0986S	ARRO SECO AVENUE 60 RAMP	28.86				14	5	512		22	256	14	5
9	110	53-0988T	AVENUE 60 RAMP PUC	28.86						48			24		
10	110	53-0886S	ARROYO SECO (MARMION WAY)	29.20		3	5				20			8	
11	110	53-0445	MARMION WAY OC	29.28				24		506				24	
12	134	53-2151L/R/S	FIGUEROA STREET UC	R11.44	100	36	20			1,322	1,421	100	562	156	
SUBTOTAL					156	117	186	46	5	5,332	7,771	1,615	2,677	699	5
TOTAL					156		349		5	5,332	7,771	1,615	2,677	699	5

**PAVEMENT DELINEATION QUANTITIES**  
**PDQ-2**

LAST REVISION | DATE PLOTTED => 21-APR-2015  
 02-09-15 | TIME PLOTTED => 12:56

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	15	36

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 2-9-15

**UNIT OF MEASUREMENT SYMBOLS:**

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

**TABLE A**

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

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

**TABLE B**

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

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP A10B

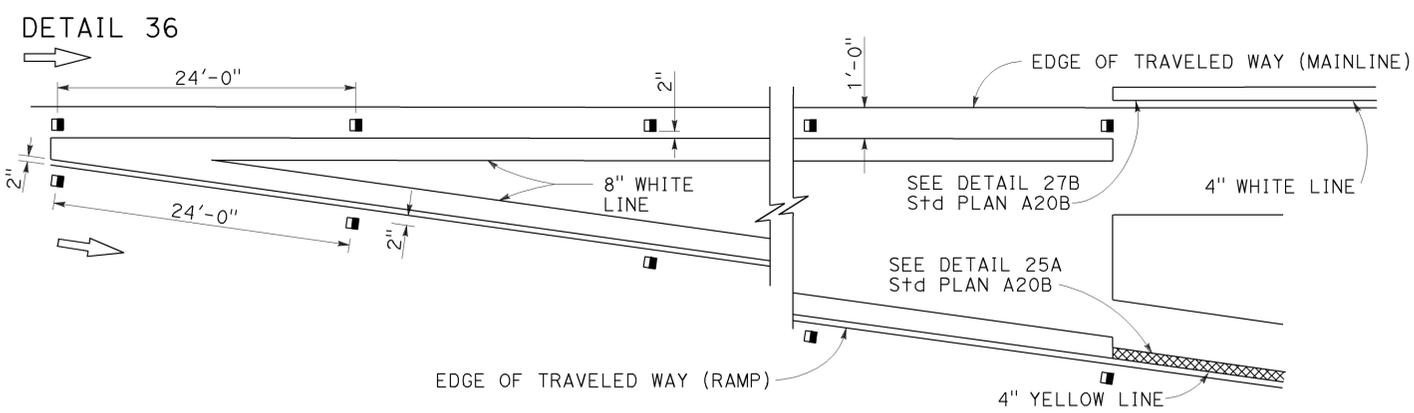
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	16	36

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

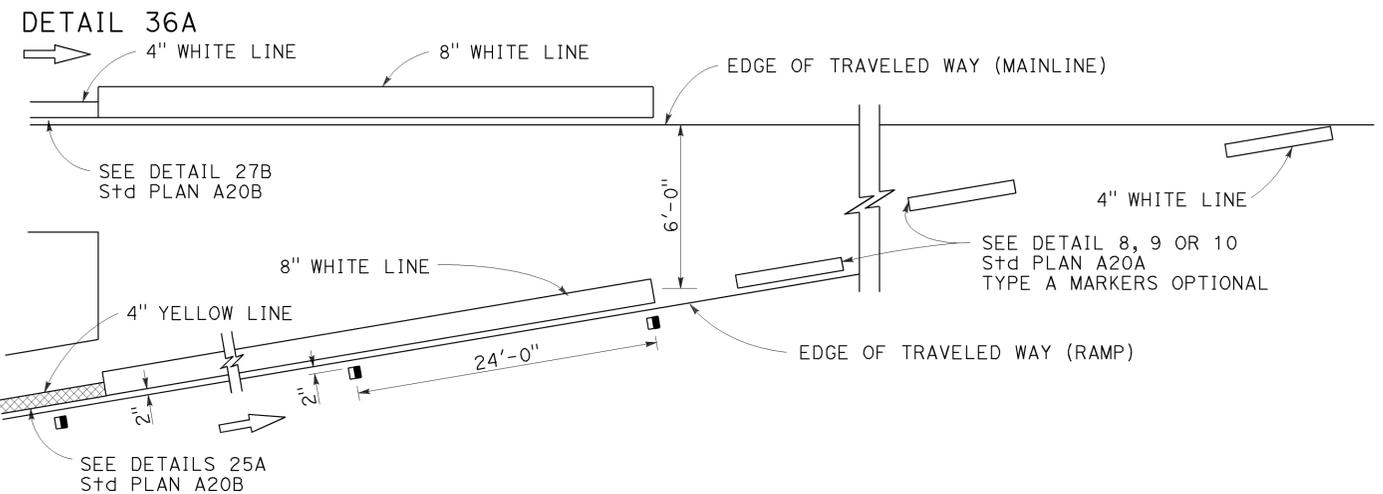
July 19, 2013  
 PLANS APPROVAL DATE

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

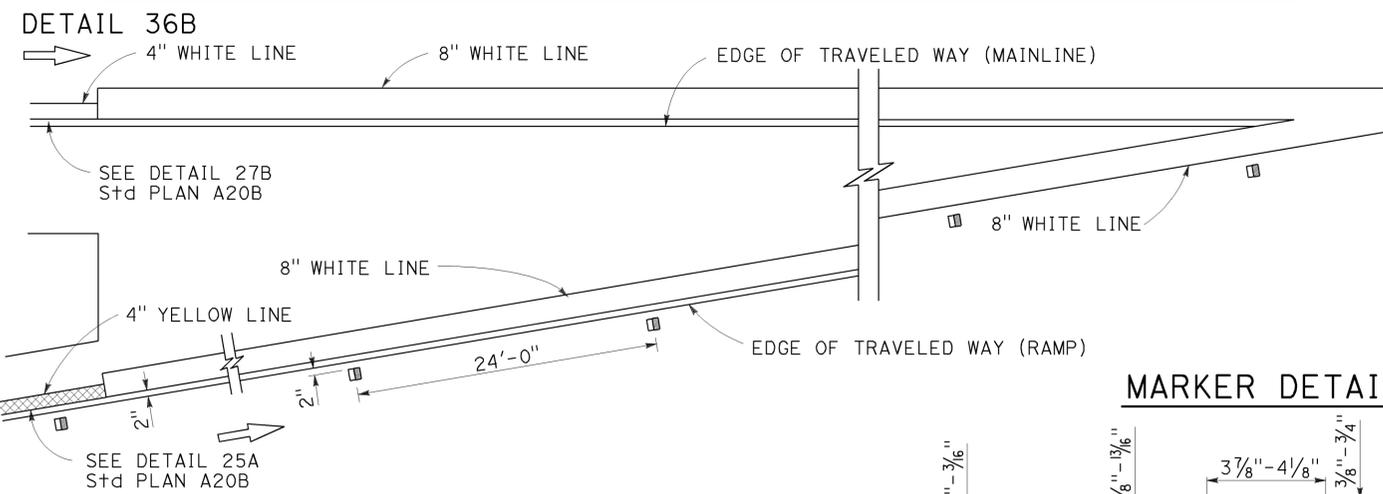
### EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



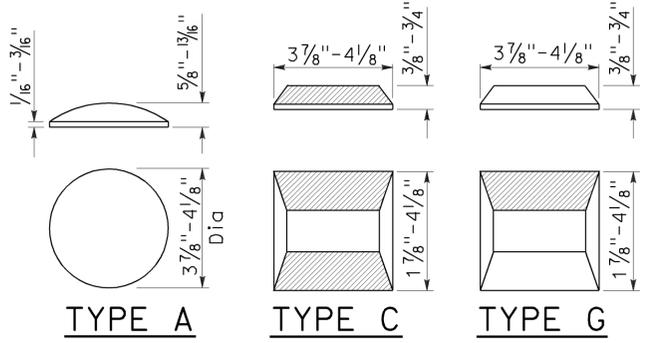
### ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT



### MARKER DETAILS

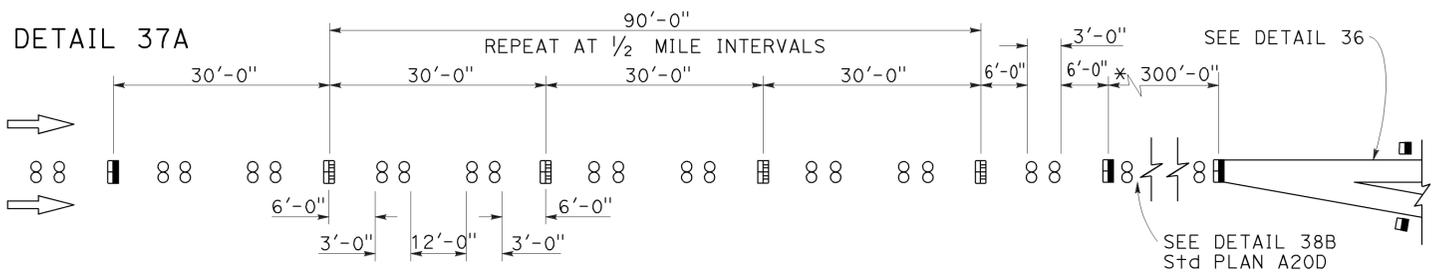
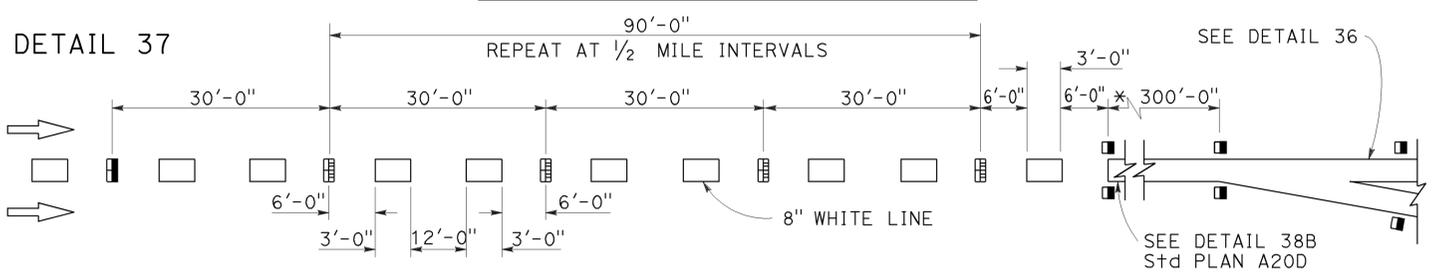
#### LEGEND:

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



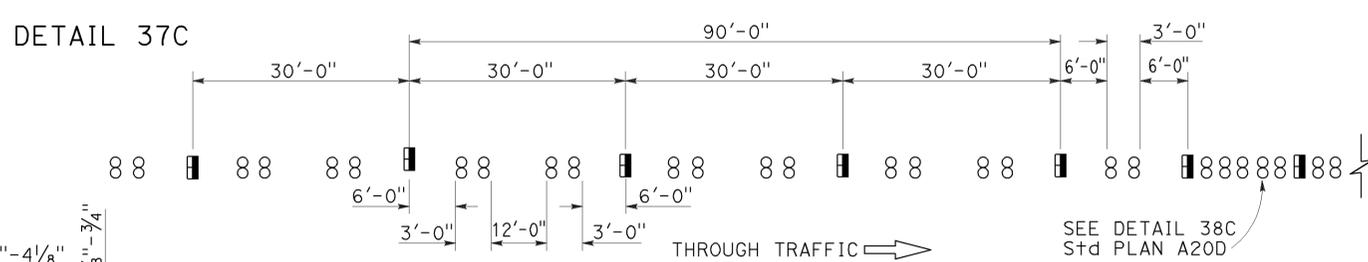
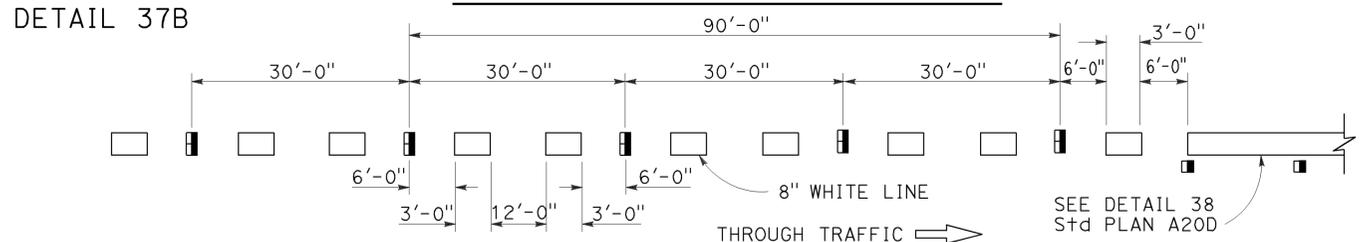
RETROREFLECTIVE FACE

### LANE DROP AT EXIT RAMPS



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

### LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKERS  
 AND TRAFFIC LINE  
 TYPICAL DETAILS**  
 NO SCALE

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

### REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

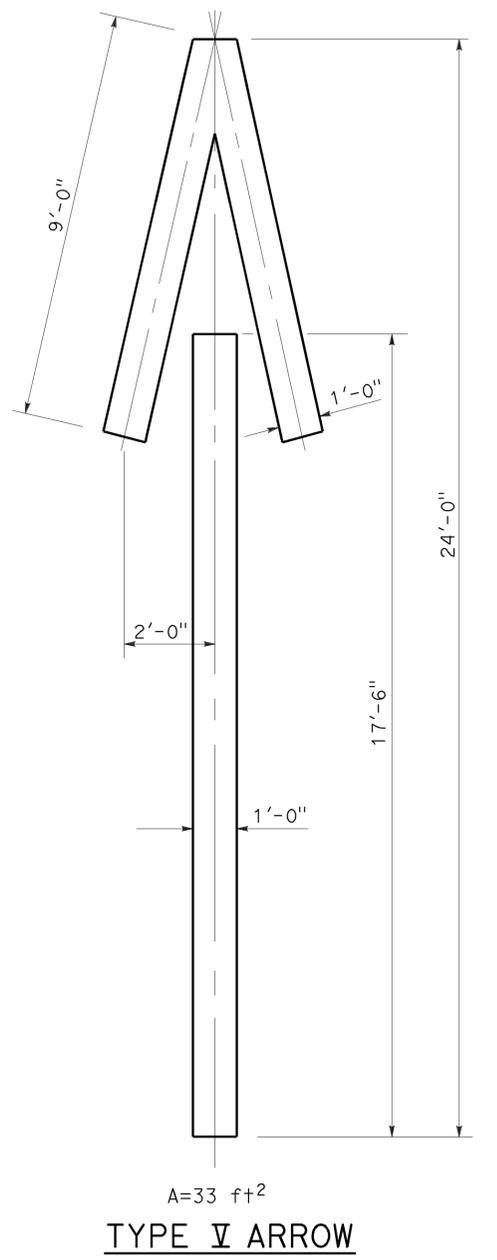
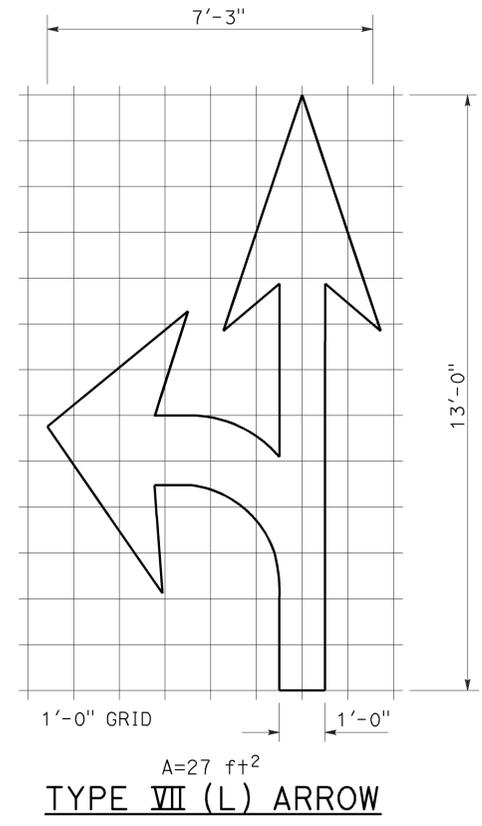
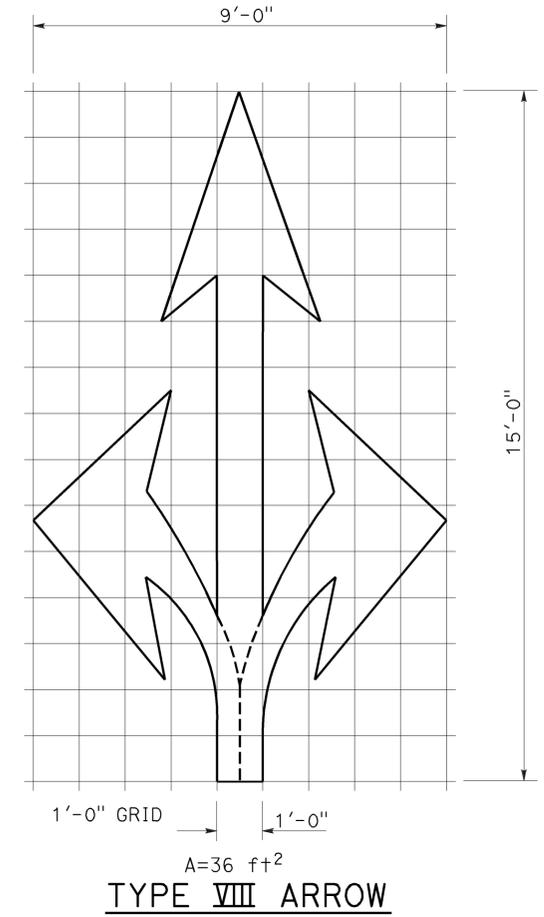
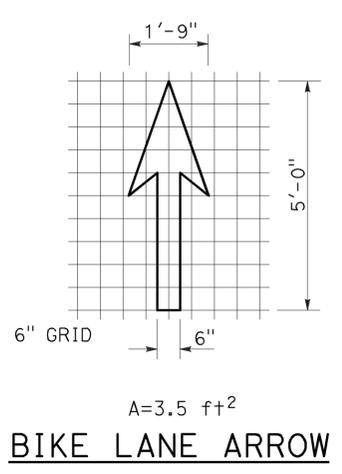
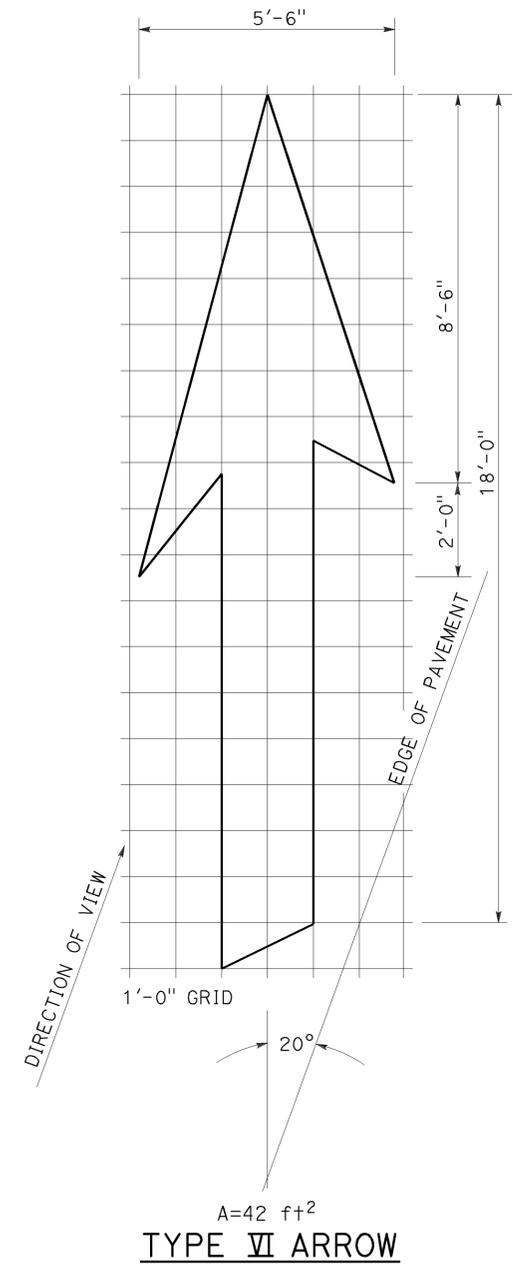
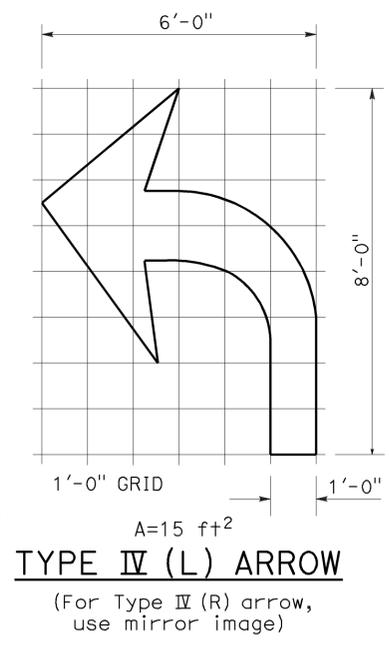
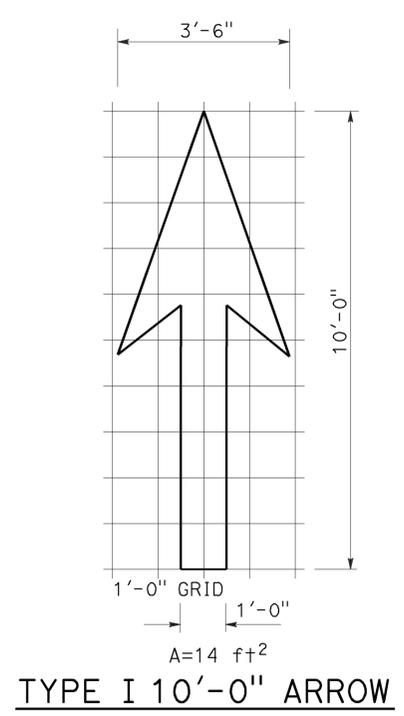
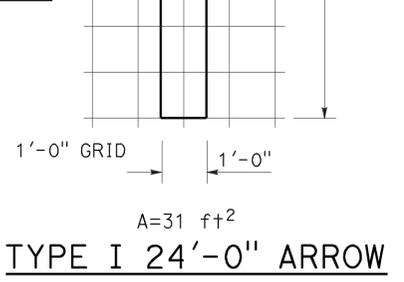
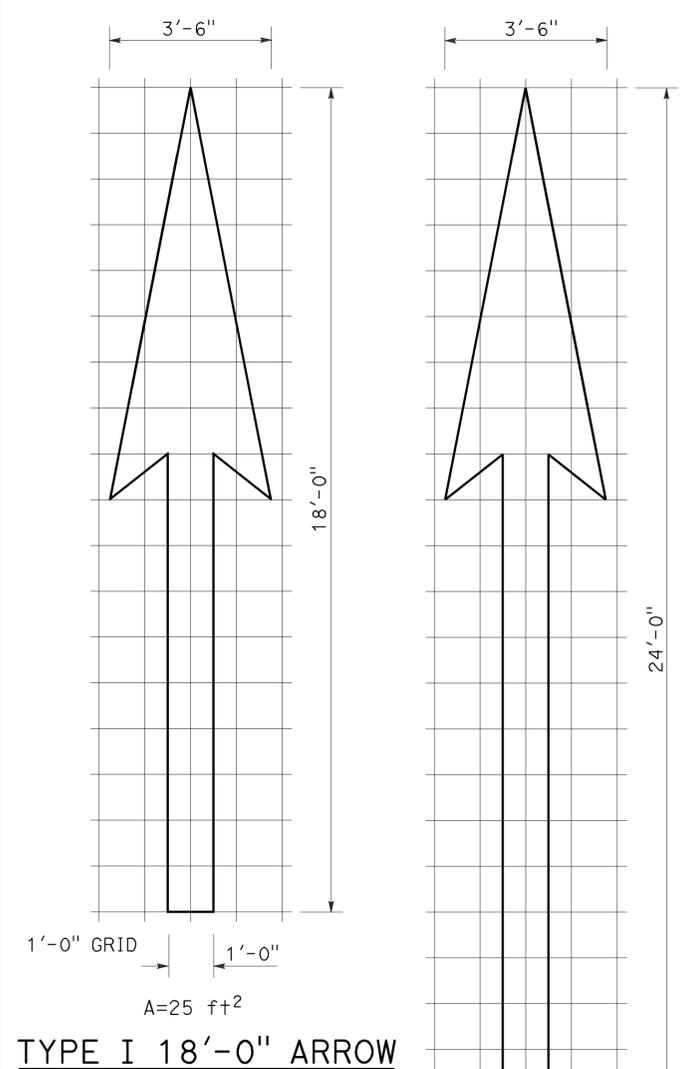
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	17	36

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

April 20, 2012  
 PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 2-9-15



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

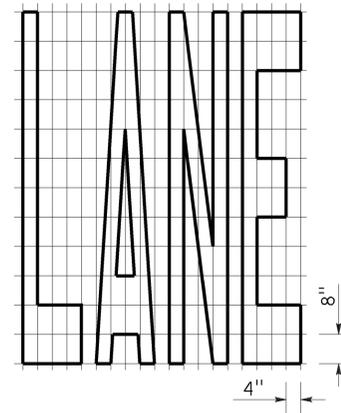
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
 ARROWS**  
 NO SCALE

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

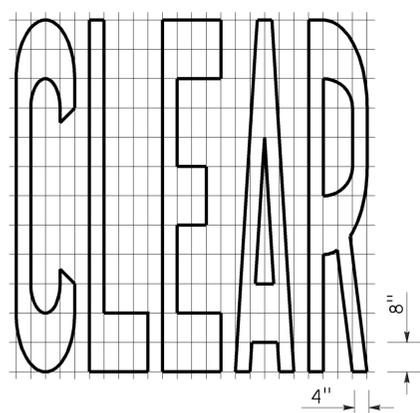


TO ACCOMPANY PLANS DATED 2-9-15

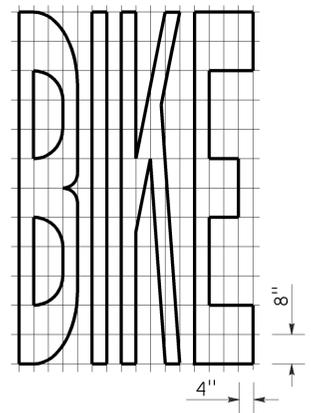
2010 REVISED STANDARD PLAN RSP A24E



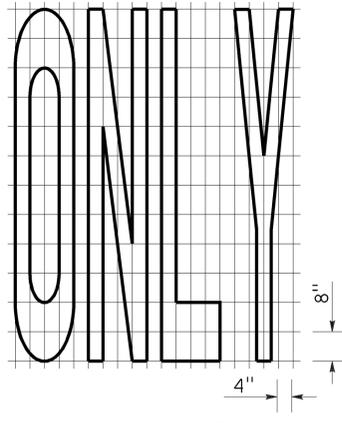
A=24 ft<sup>2</sup>



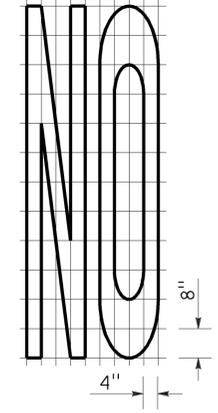
A=27 ft<sup>2</sup>



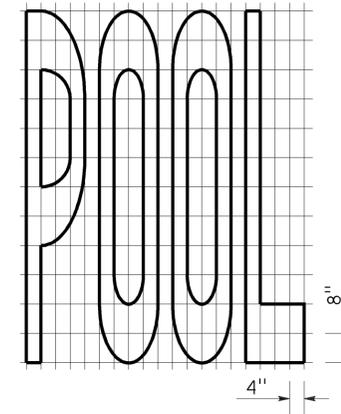
A=21 ft<sup>2</sup>



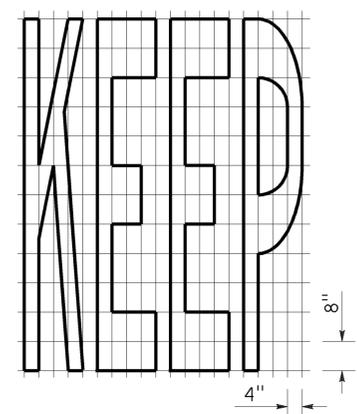
A=22 ft<sup>2</sup>



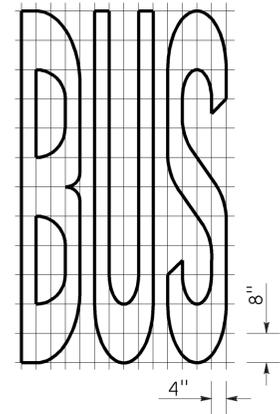
A=14 ft<sup>2</sup>



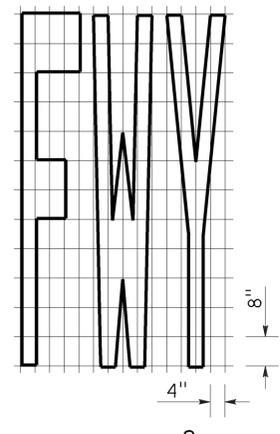
A=23 ft<sup>2</sup>



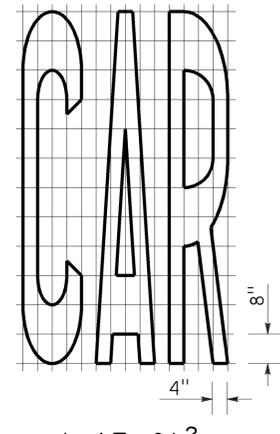
A=24 ft<sup>2</sup>



A=20 ft<sup>2</sup>

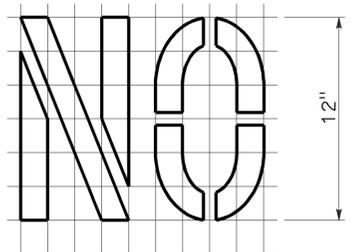


A=16 ft<sup>2</sup>



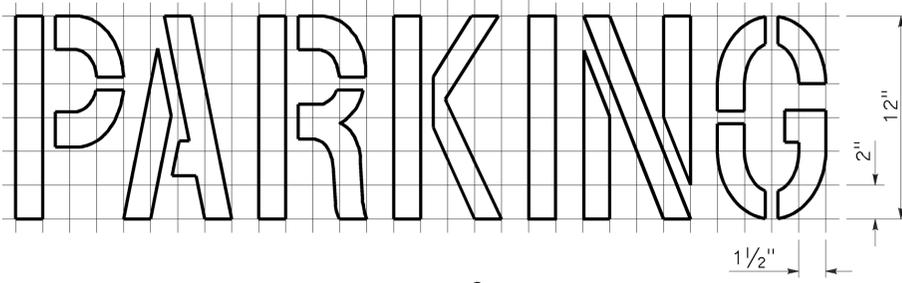
A=17 ft<sup>2</sup>

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



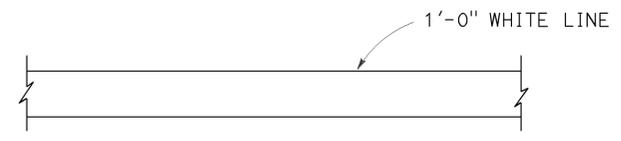
A=2 ft<sup>2</sup>

See Notes 6 and 7

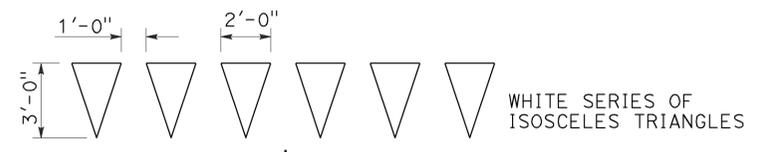


A=2 ft<sup>2</sup>

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

**NOTES:**

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

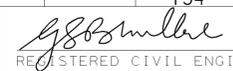
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKINGS  
WORDS, LIMIT AND YIELD LINES**

NO SCALE

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	20	36

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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

TO ACCOMPANY PLANS DATED 2-9-15

TABLE 1

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

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

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

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

TABLE 2

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

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

TABLE 3

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

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

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

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

**REVISED STANDARD PLAN RSP T9**

2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	21	36

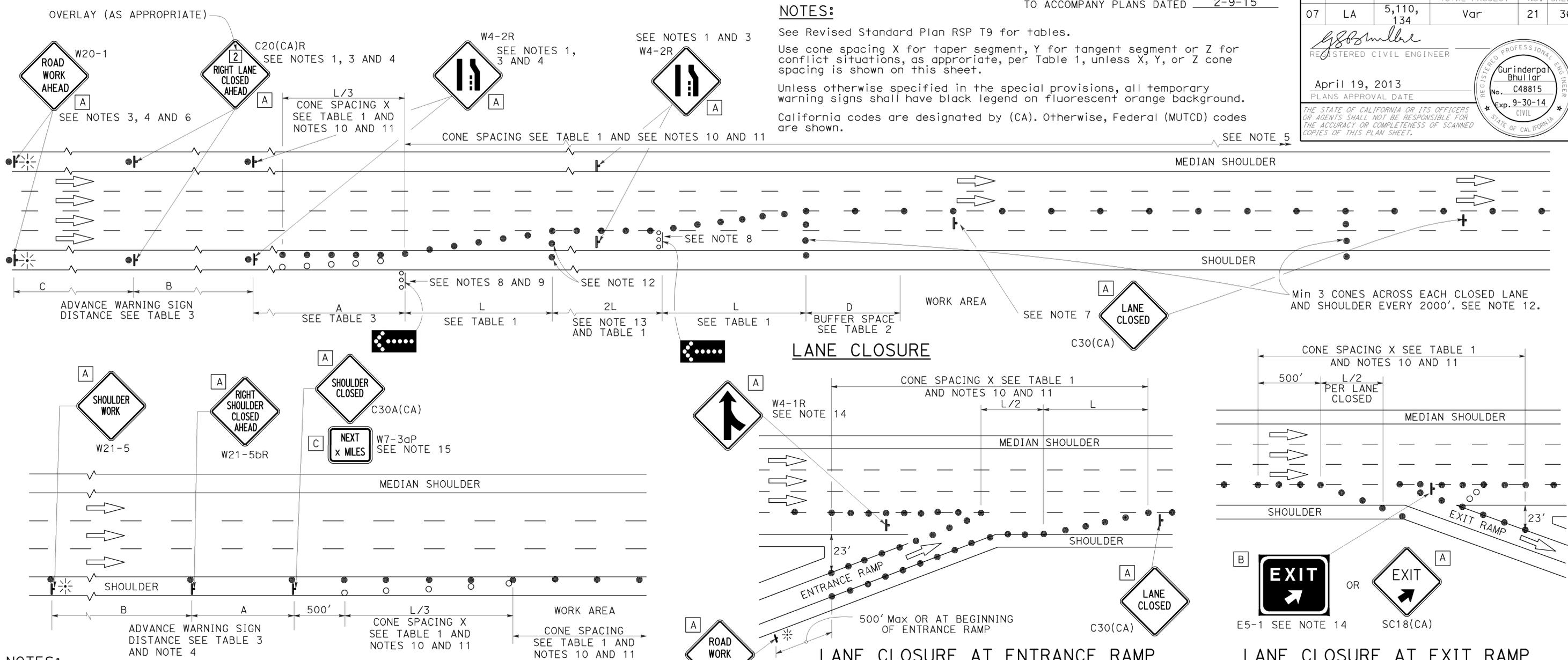
REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 2-9-15

**NOTES:**

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



**NOTES:**

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

**SHOULDER CLOSURE**

- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA)L and W4-2L signs shall be used.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

**LANE CLOSURE AT ENTRANCE RAMP**

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

**LANE CLOSURE AT EXIT RAMP**

- SIGN PANEL SIZE (Min)  
 A 48" x 48"  
 B 72" x 60"  
 C 36" x 30"

**LEGEND**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T10**

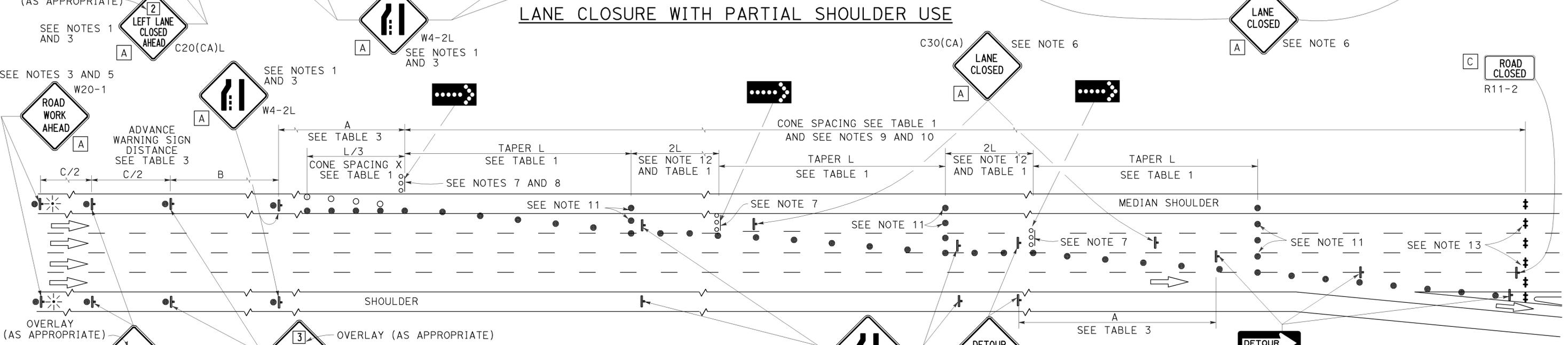
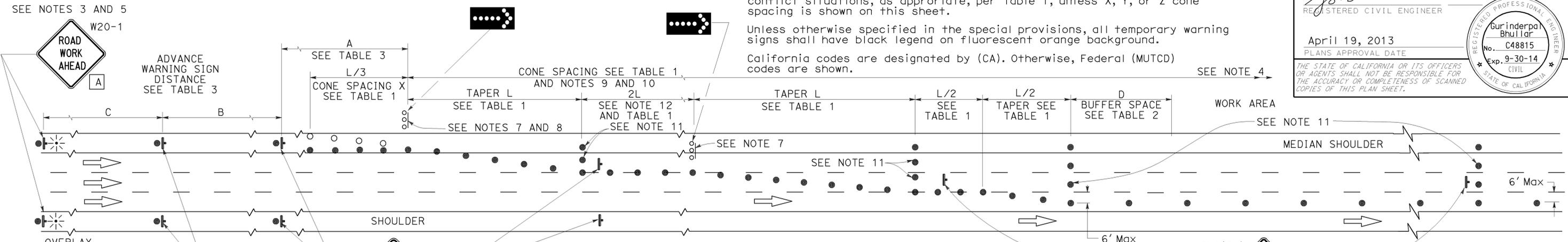
2010 REVISED STANDARD PLAN RSP T10

**NOTES:** See Revised Standard Plan RSP T9 for tables.

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

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

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



**NOTES:**

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.

- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.

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

**SIGN PANEL SIZE (Min)**

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

**LEGEND**

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

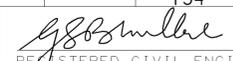
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

2010 REVISED STANDARD PLAN RSP T10A

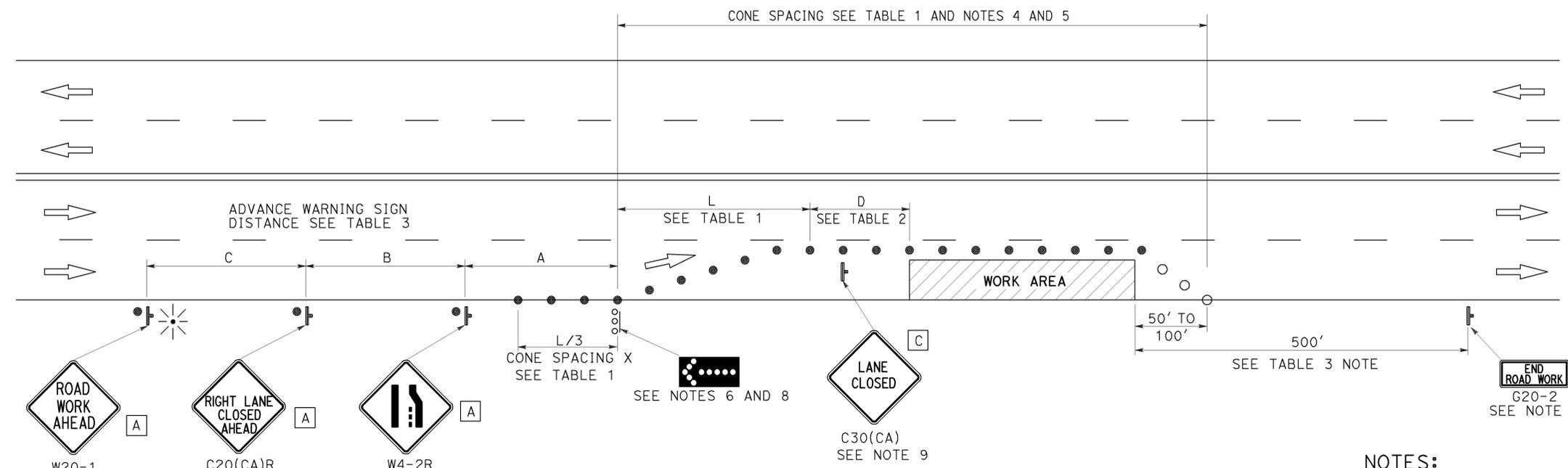
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	23	36

  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE



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

TO ACCOMPANY PLANS DATED 2-9-15



TYPICAL LANE CLOSURE

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

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

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

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

**NOTES:**

- Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

-  48" x 48"
-  36" x 18"
-  30" x 30"

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
FOR LANE CLOSURE ON  
MULTILANE CONVENTIONAL  
HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T11**

2010 REVISED STANDARD PLAN RSP T11

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

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

## LEGEND

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	24	36

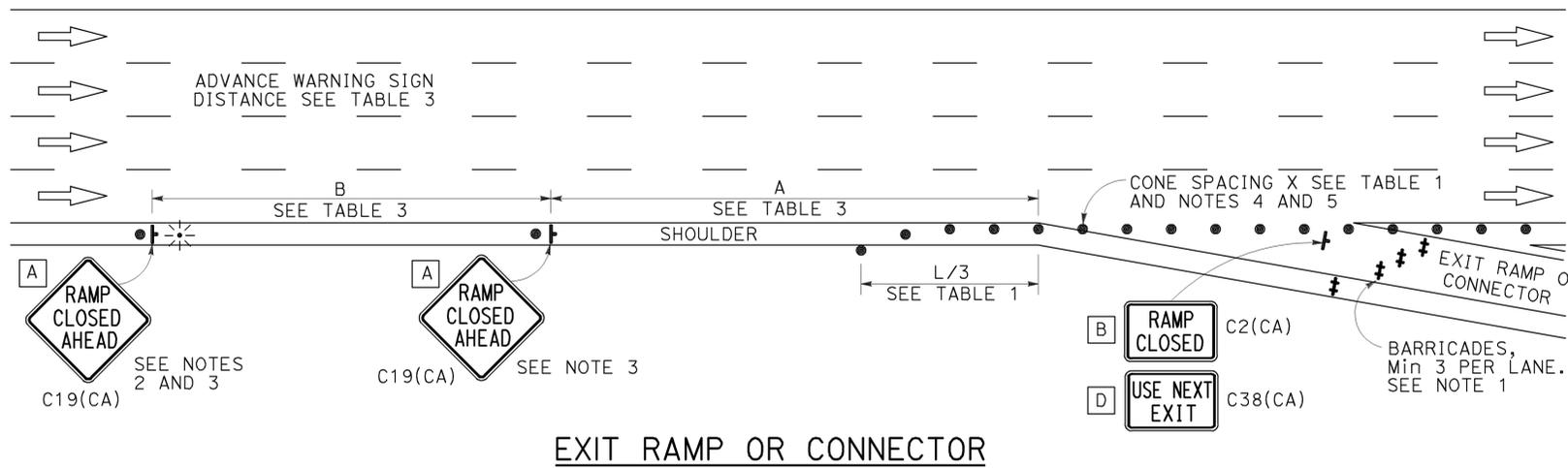
*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

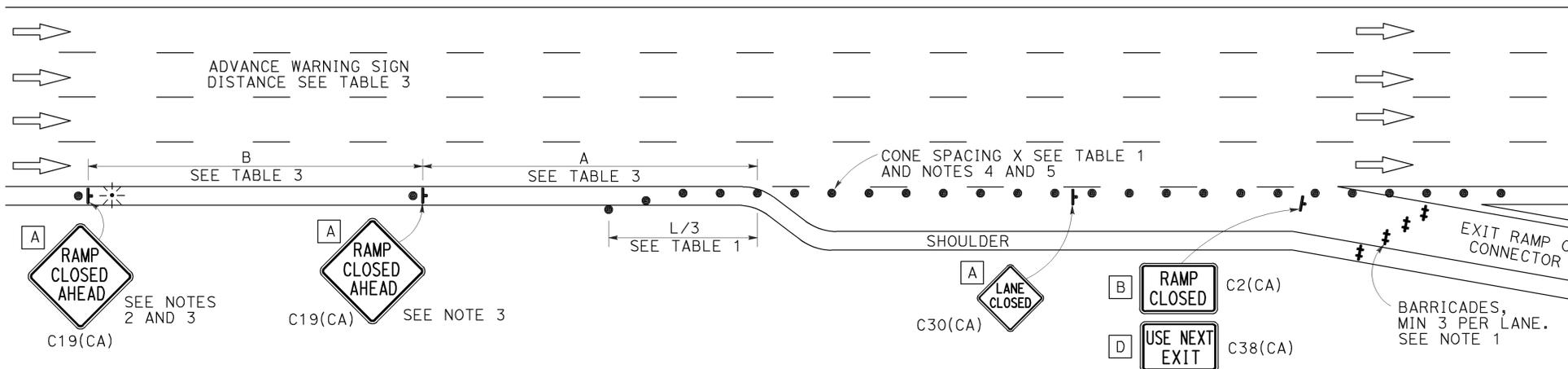
TO ACCOMPANY PLANS DATED 2-9-15

## NOTES:

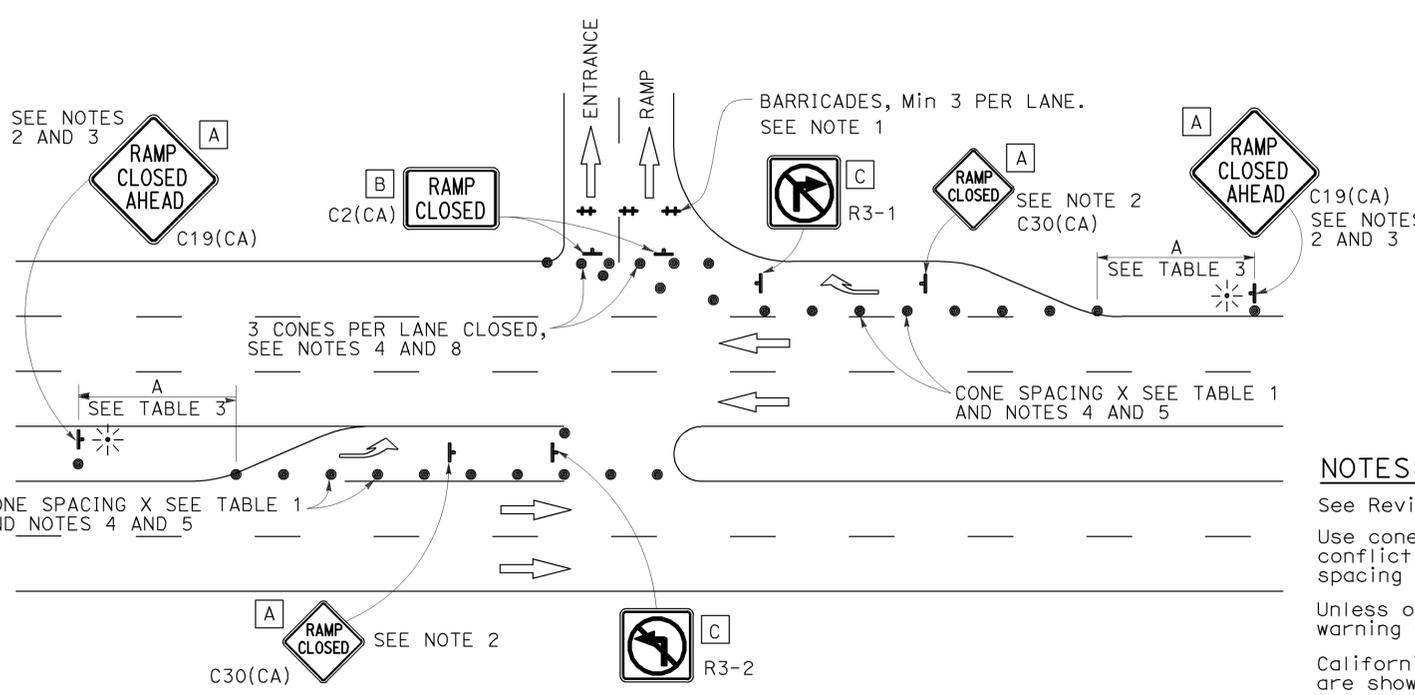
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



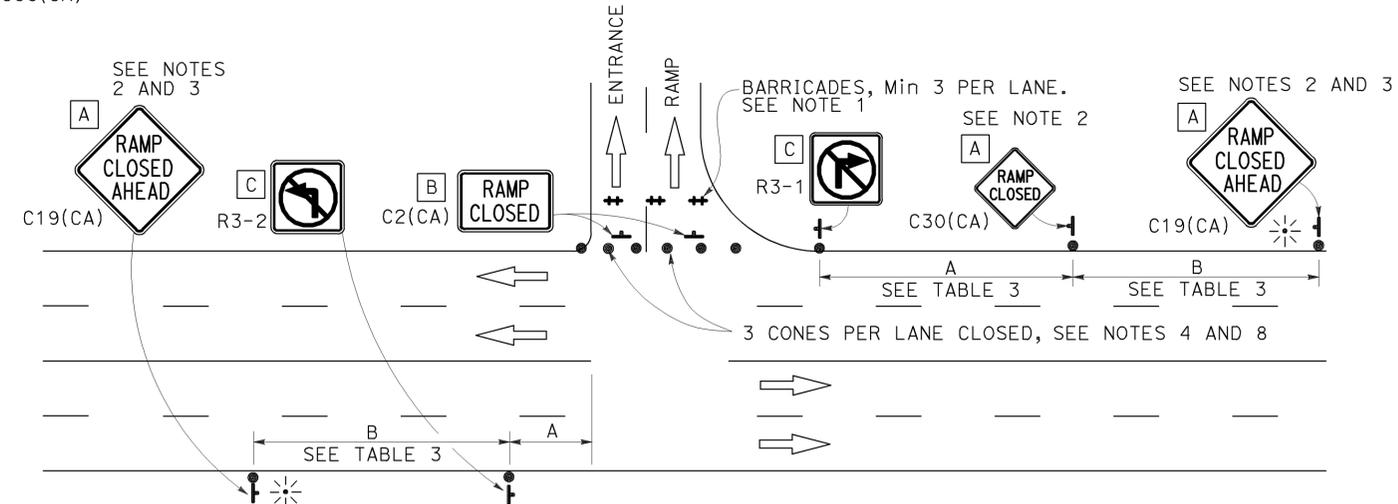
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

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

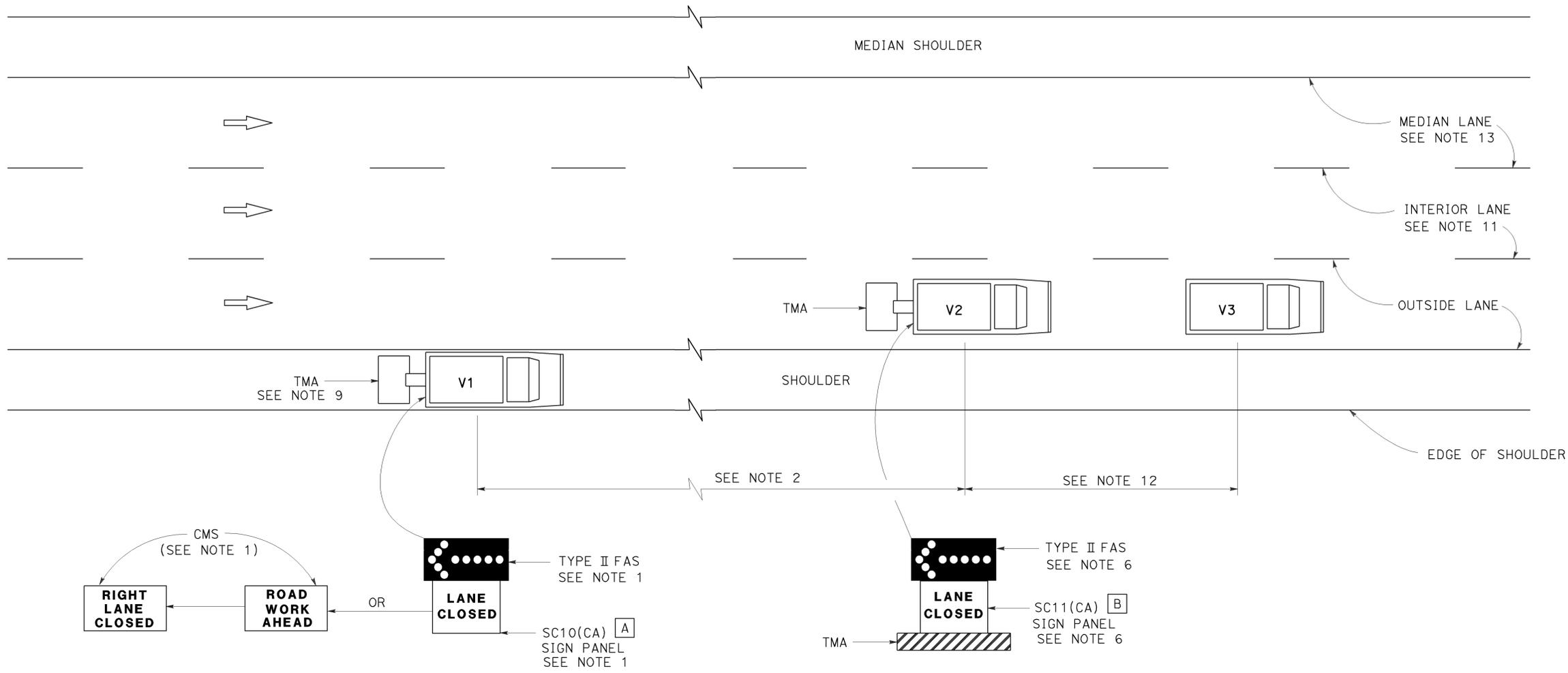
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURE**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP T14**

2010 REVISED STANDARD PLAN RSP T14

TO ACCOMPANY PLANS DATED 2-9-15



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

**SIGN PANEL SIZE (Min)**

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

**LEGEND**

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

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS**

NO SCALE

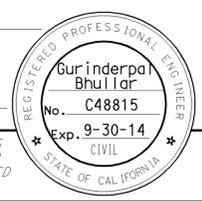
RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15 DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T15**

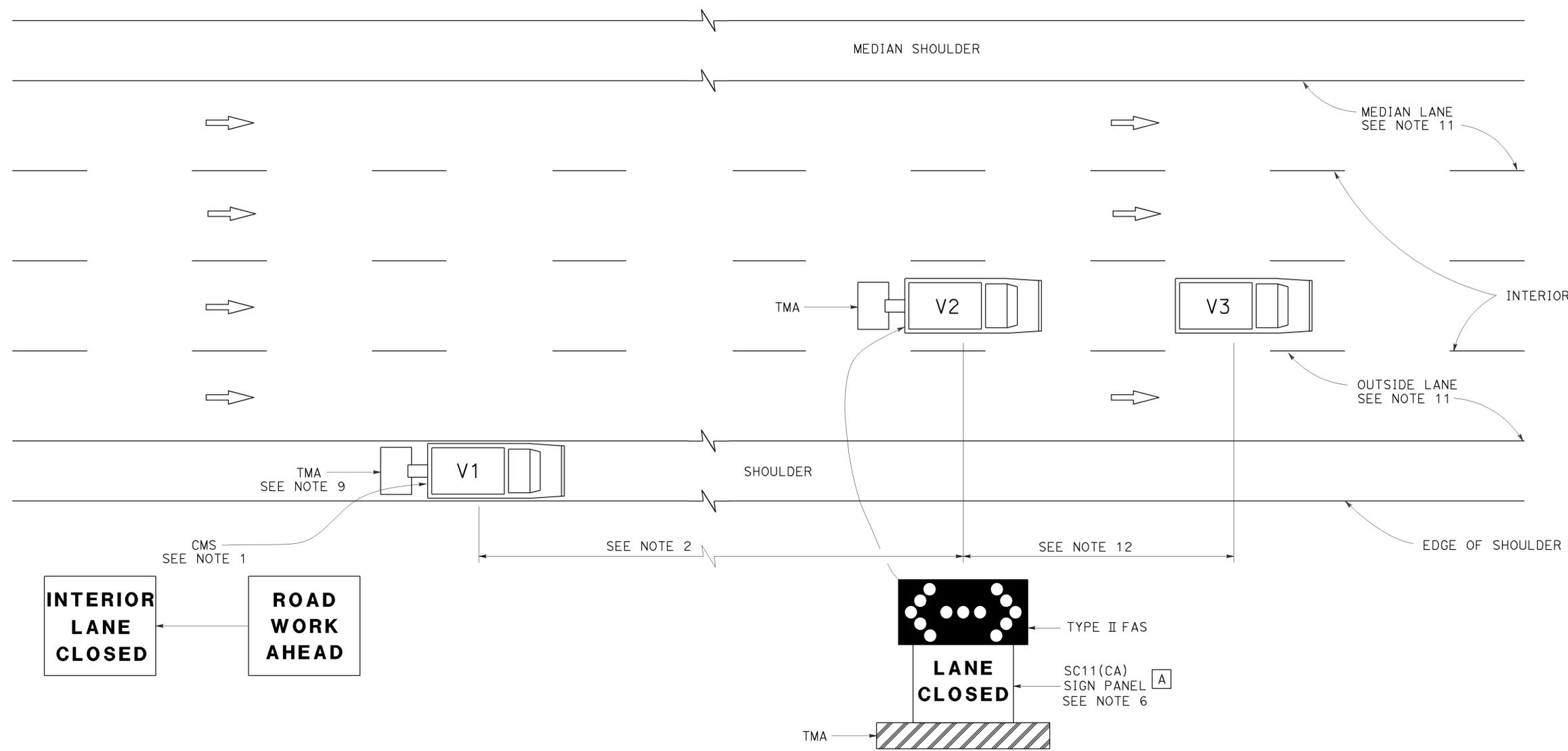
2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	26	36

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



TO ACCOMPANY PLANS DATED 2-9-15



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

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

**MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS**

NOTES:

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

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

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

**REVISED STANDARD PLAN RSP T16**

2010 REVISED STANDARD PLAN RSP T16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	27	36

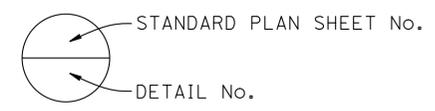
*Tim Campbell* 2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-9-15  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

**INDEX TO PLANS**

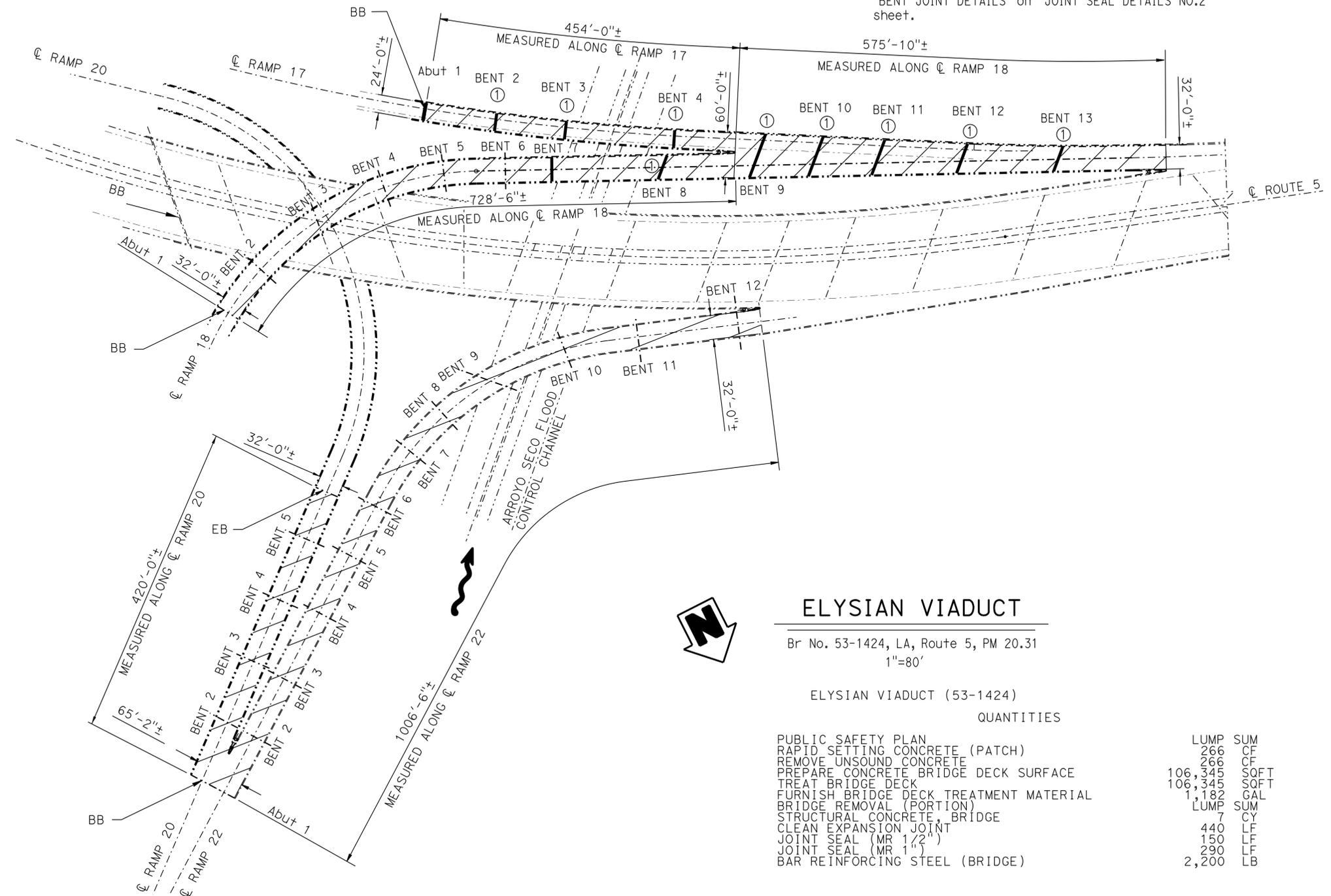
SHEET NO.	TITLE
1	GENERAL PLAN NO.1
2	GENERAL PLAN NO.2
3	GENERAL PLAN NO.3
4	GENERAL PLAN NO.4
5	GENERAL PLAN NO.5
6	GENERAL PLAN NO.6
7	GENERAL PLAN NO.7
8	JOINT SEAL DETAILS NO.1
9	JOINT SEAL DETAILS NO.2
10	BARRIER RAIL DETAILS NO.1

**STANDARD PLANS 2010**

SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")



- NOTES: (APPLY TO THIS SHEET ONLY)
- Indicates existing.
  - Indicates limits of prepare concrete bridge deck surface and treat bridge deck with methacrylate. Prior to treating the bridge deck, remove unsound concrete and patch with rapid setting concrete as shown on "JOINT AND DECK REPAIR DETAIL" on "JOINT SEAL DETAILS NO.1" sheet.
  - Indicates limits of clean expansion joint and install new joint seal. For details see "JOINT SEAL DETAILS NO.1" sheet.
  - ① For additional joint reconstruction and joint seal replacement details for Ramp 17 and Ramp 18 see "BENT JOINT DETAILS" on "JOINT SEAL DETAILS NO.2" sheet.



**RAMP 18 JOINT INFORMATION**

LOCATION	LENGTH
BENT 7	33'-0"±
BENT 8	35'-0"±
BENT 9	62'-0"±
BENT 10	57'-0"±
BENT 11	51'-0"±
BENT 12	43'-0"±
BENT 13	36'-0"±

**ELYSIAN VIADUCT**  
 Br No. 53-1424, LA, Route 5, PM 20.31  
 1"=80'

ELYSIAN VIADUCT (53-1424)

QUANTITIES

	LUMP	SUM
PUBLIC SAFETY PLAN		
RAPID SETTING CONCRETE (PATCH)	266	CF
REMOVE UNSOUND CONCRETE	266	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	106,345	SQFT
TREAT BRIDGE DECK	106,345	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	1,182	GAL
BRIDGE REMOVAL (PORTION)		
STRUCTURAL CONCRETE, BRIDGE	7	CY
CLEAN EXPANSION JOINT	440	LF
JOINT SEAL (MR 1 1/2")	150	LF
JOINT SEAL (MR 1")	290	LF
BAR REINFORCING STEEL (BRIDGE)	2,200	LB

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

*Matthew W Lee* 1-31-15  
 DESIGN ENGINEER

DESIGN	BY M. HASHIMOTO	CHECKED T. CAMPBELL	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DETAILS	BY N. KELLEY/D. WOOTEN	CHECKED T. CAMPBELL	LAYOUT	BY N. KELLEY/D. WOOTEN
QUANTITIES	BY M. HASHIMOTO	CHECKED T. CAMPBELL	SPECIFICATIONS	BY KAREN DOLL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE  
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	VARIES
POST MILE	VARIOUS

**ROUTE 5,110 & 134 BRIDGES**  
**GENERAL PLAN NO.1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	28	36

*Tim Campbell* 2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-9-15  
 PLANS APPROVAL DATE

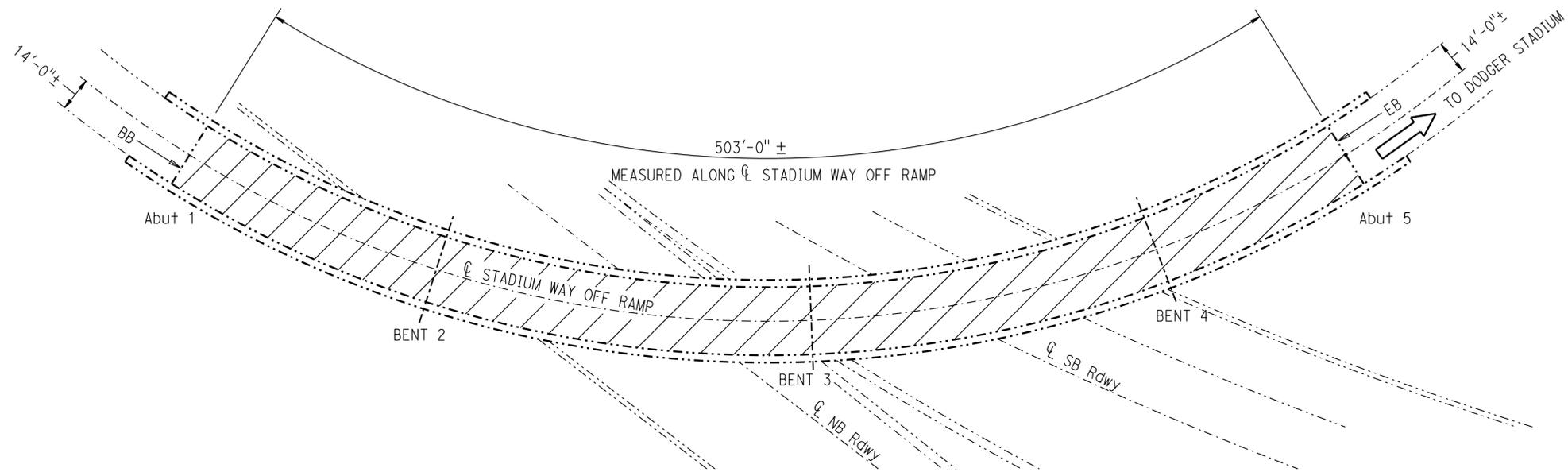
REGISTERED PROFESSIONAL ENGINEER  
 TIM CAMPBELL  
 No. 63268  
 Exp. 06-30-16  
 CIVIL  
 STATE OF CALIFORNIA

*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: (APPLY TO THIS SHEET ONLY)

----- Indicates existing.

 Indicates limits of prepare concrete bridge deck surface and treat bridge deck with methacrylate. Prior to treating the bridge deck, remove unsound concrete and patch with rapid setting concrete as shown on "JOINT AND DECK REPAIR DETAIL" on "JOINT SEAL DETAILS NO.1" sheet.



**STADIUM WAY OFF RAMP OVERCROSSING**

Br No. 53-1635S, LA, Route 110, PM 24.53  
 1"=20'

**STADIUM WAY OFF RAMP OVERCROSSING (53-1635S) QUANTITIES**

RAPID SETTING CONCRETE (PATCH)	36	CF
REMOVE UNSOUND CONCRETE	36	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	14,084	SQFT
TREAT BRIDGE DECK	14,084	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	157	GAL

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

 DESIGN ENGINEER 1-31-15	DESIGN	BY M. HASHIMOTO	CHECKED T. CAMPBELL	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	VARIABLES	<b>ROUTE 5,110 &amp; 134 BRIDGES</b> <b>GENERAL PLAN NO.2</b>	
	DETAILS	BY D. WOOTEN	CHECKED T. CAMPBELL	LAYOUT	BY N. KELLEY		CHECKED M. HASHIMOTO	POST MILE		VARIOUS
	QUANTITIES	BY M. HASHIMOTO	CHECKED T. CAMPBELL	SPECIFICATIONS	BY KAREN DOLL		PLANS AND SPECS COMPARED	KAREN DOLL		VARIOUS

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3488 PROJECT NUMBER & PHASE: 07130004451 CONTRACT NO.: 07-2W6804

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
10-07-14 12-04-14 1-28-15	2	10

FILE => 07\_2w6801\_bgp.dgn

USERNAME => s122436 DATE PLOTTED => 21-APR-2015 TIME PLOTTED => 12:56

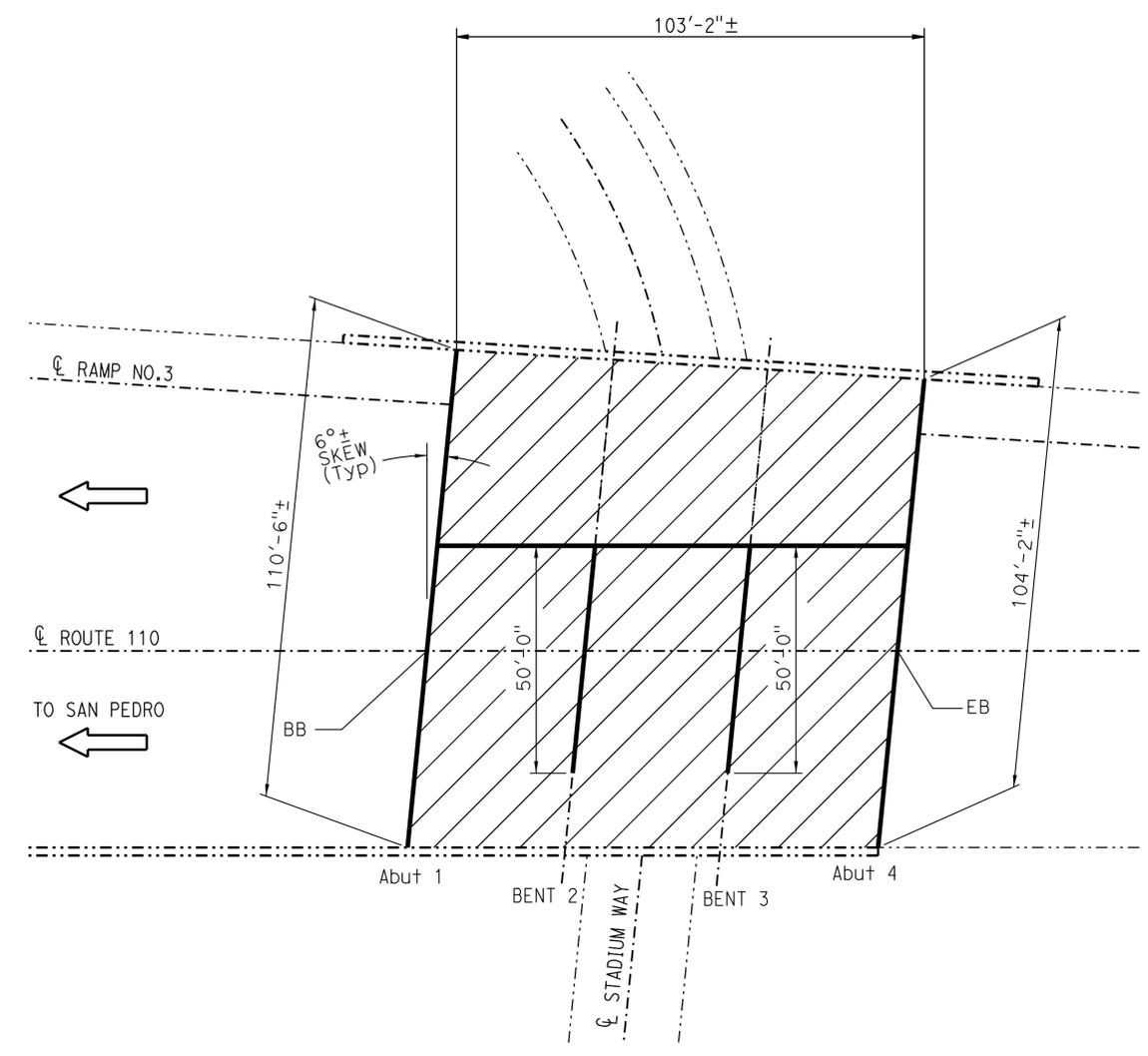
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	29	36
 REGISTERED CIVIL ENGINEER			2-2-15	DATE	
2-9-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

NOTES: (APPLY TO THIS SHEET ONLY)

----- Indicates existing.

 Indicates limits of prepare concrete bridge deck surface and treat bridge deck with methacrylate. Prior to treating the bridge deck, remove unsound concrete and patch with rapid setting concrete as shown on "JOINT AND DECK REPAIR DETAIL" on "JOINT SEAL DETAILS NO.1" sheet.

 Indicates limits of clean expansion joint and install new joint seal. For details see "JOINT SEAL DETAILS NO.1" sheet.

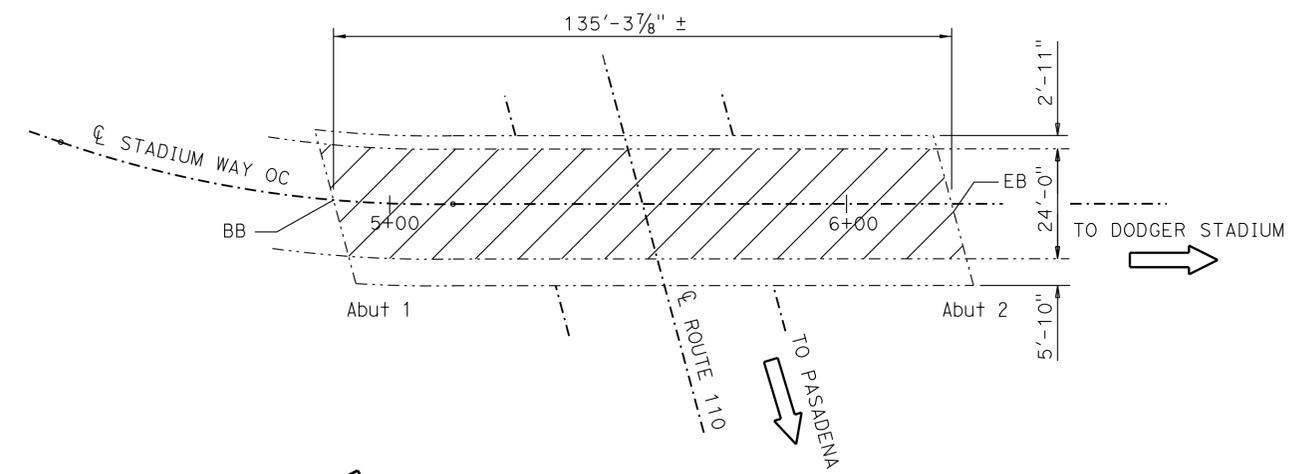


**STADIUM WAY UNDERCROSSING**  
 Br No. 53-0540L, LA, Route 110, PM 24.76  
 1"=20'

STADIUM WAY UNDERCROSSING (53-0540L)  
 QUANTITIES

RAPID SETTING CONCRETE (PATCH)	28	CF
REMOVE UNSOUND CONCRETE	28	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	11,074	SQFT
TREAT BRIDGE DECK	11,074	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	123	GAL
CLEAN EXPANSION JOINT	420	LF
JOINT SEAL (MR 1/2")	316	LF
JOINT SEAL (TYPE AL)	104	LF

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



**STADIUM WAY OVERCROSSING**  
 Br No. 53-0540R, LA, Route 110, PM 24.76  
 1"=20'

STADIUM WAY OVERCROSSING (53-0540R)  
 QUANTITIES

RAPID SETTING CONCRETE (PATCH)	8	CF
REMOVE UNSOUND CONCRETE	8	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	3,248	SQFT
TREAT BRIDGE DECK	3,248	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	37	GAL

 DESIGN ENGINEER	DESIGN	BY M. HASHIMOTO	CHECKED T. CAMPBELL	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
	DETAILS	BY N. KELLEY/D. WOOTEN	CHECKED T. CAMPBELL	LAYOUT	BY N. KELLEY
	QUANTITIES	BY M. HASHIMOTO	CHECKED T. CAMPBELL	SPECIFICATIONS	BY KAREN DOLL

<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE	BRIDGE NO.
	STRUCTURE MAINTENANCE DESIGN	VARIES
		POST MILE
		VARIOUS

<b>ROUTE 5,110 &amp; 134 BRIDGES</b>	
<b>GENERAL PLAN NO.3</b>	
REVISION DATES	SHEET OF
10-07-14 12-04-14 1-28-15	3 10

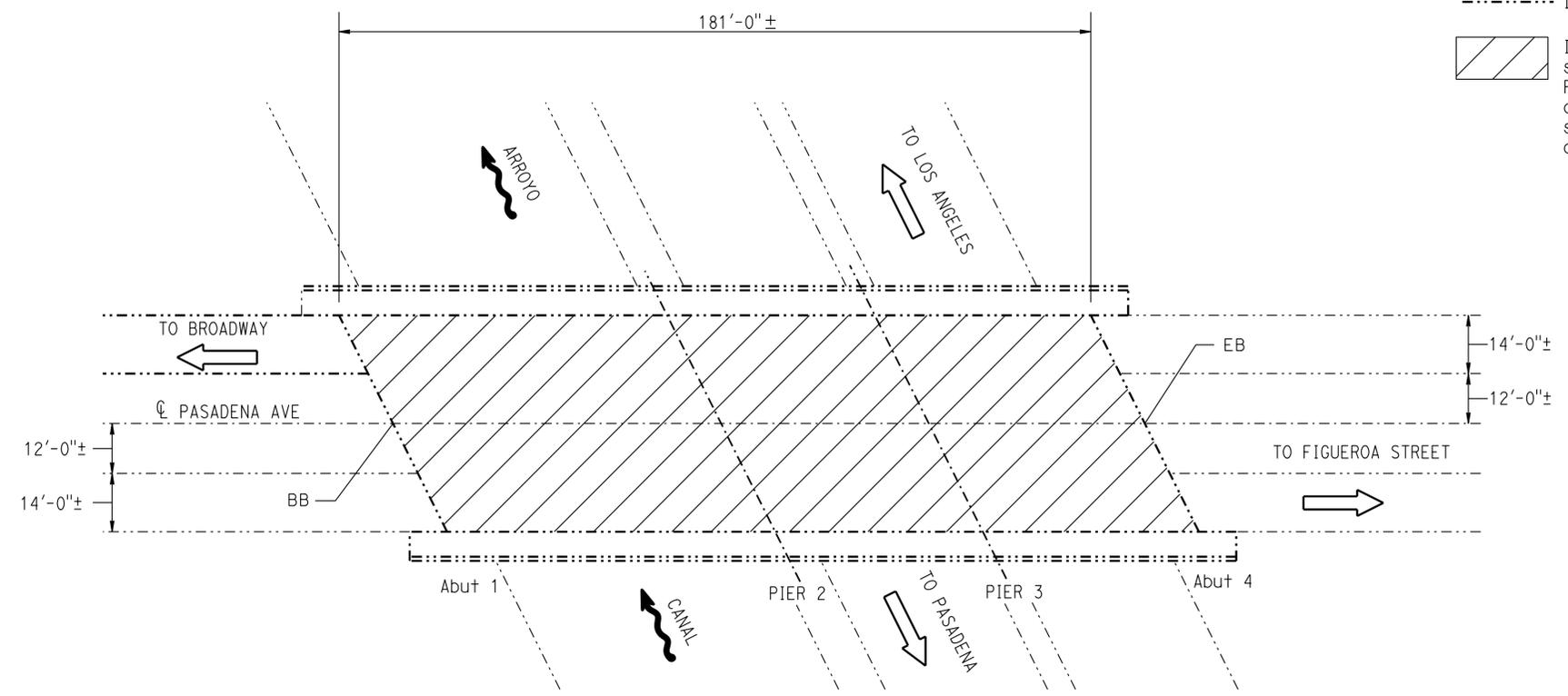
USERNAME => s122436 DATE PLOTTED => 21-APR-2015 TIME PLOTTED => 12:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	30	36

*Tim Campbell* 2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-9-15  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

NOTES: (APPLY TO THIS SHEET ONLY)

- Indicates existing.
- Indicates limits of prepare concrete bridge deck surface and treat bridge deck with methacrylate. Prior to treating the bridge deck, remove unsound concrete and patch with rapid setting concrete as shown on "JOINT AND DECK REPAIR DETAIL" on "JOINT SEAL DETAILS NO.1" sheet.

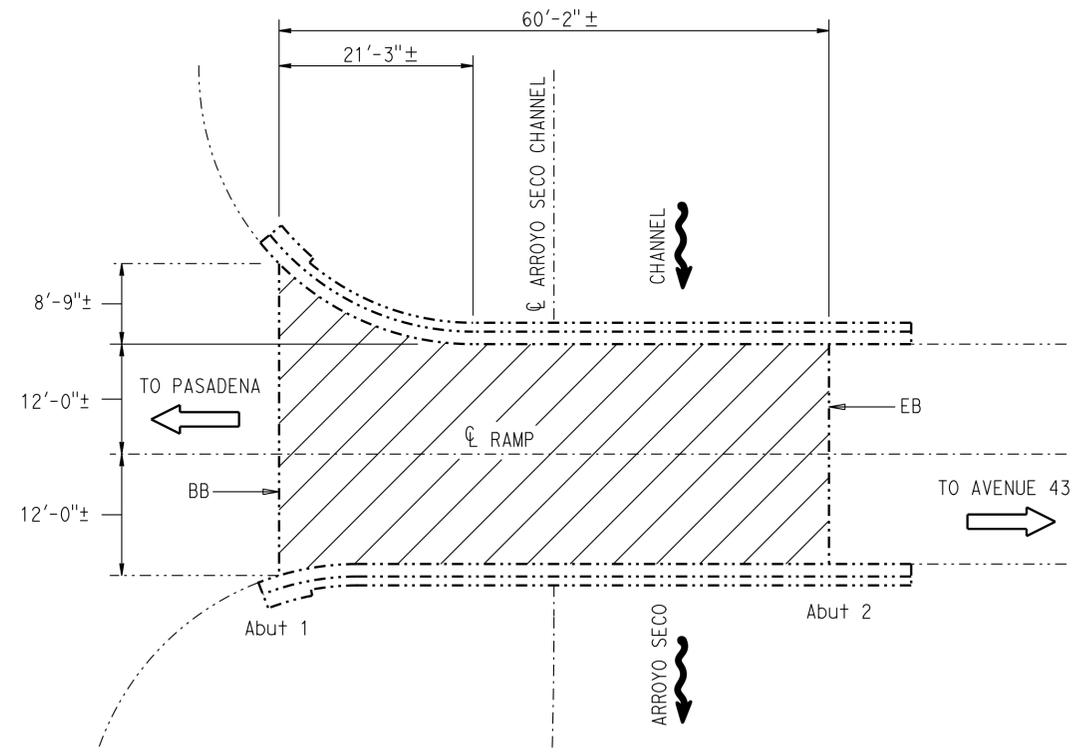


**PASADENA AVE OVERCROSSING**

Br No. 53-0426, LA, Route 110, PM 26.48  
1"=20'

PASADENA AVE OVERCROSSING (53-0426)  
QUANTITIES

	LUMP	SUM
PUBLIC SAFETY PLAN		
RAPID SETTING CONCRETE (PATCH)	24	CF
REMOVE UNSOUND CONCRETE	24	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	9,412	SQFT
TREAT BRIDGE DECK	9,412	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	105	GAL



**ARROYO SECO AVE 43**

Br No. 53-0985S, LA, Route 110, PM 27.08  
1"=10'

ARROYO SECO AVE 43 (53-0985S)  
QUANTITIES

RAPID SETTING CONCRETE (PATCH)	4	CF
REMOVE UNSOUND CONCRETE	4	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	1,537	SQFT
TREAT BRIDGE DECK	1,537	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	18	GAL

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

*Matthew W Lee* 1-31-15  
DESIGN ENGINEER

DESIGN	BY M. HASHIMOTO	CHECKED T. CAMPBELL	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DETAILS	BY N. KELLEY	CHECKED T. CAMPBELL	LAYOUT	BY N. KELLEY
QUANTITIES	BY M. HASHIMOTO	CHECKED T. CAMPBELL	SPECIFICATIONS	BY KAREN DOLL

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE  
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. VARIES  
POST MILE VARIOUS

**ROUTE 5,110 & 134 BRIDGES  
GENERAL PLAN NO.4**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	31	36

*Tim Campbell* 2-2-15  
 REGISTERED CIVIL ENGINEER DATE

2-9-15  
 PLANS APPROVAL DATE

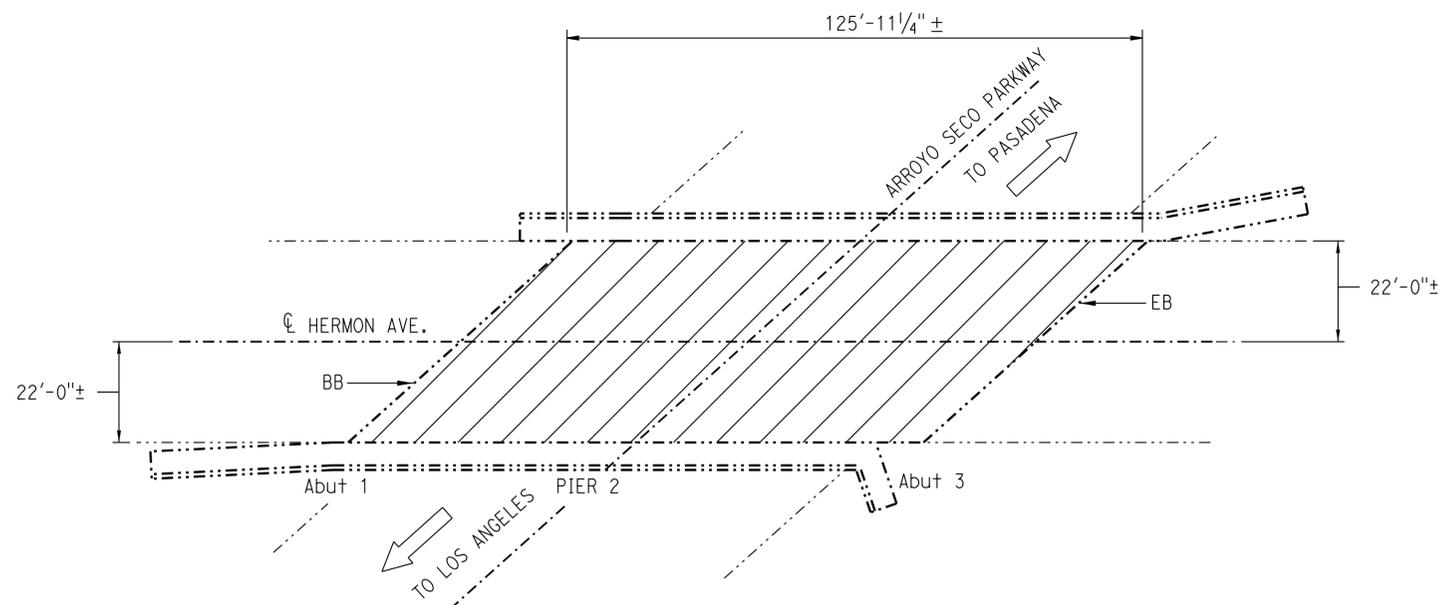
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
 Tim Campbell  
 No. 63268  
 Exp. 6-30-16  
 CIVIL  
 STATE OF CALIFORNIA

NOTES: (APPLY TO THIS SHEET ONLY)

----- Indicates existing.

 Indicates limits of prepare concrete bridge deck surface and treat bridge deck with methacrylate. Prior to treating the bridge deck, remove unsound concrete and patch with rapid setting concrete as shown on "JOINT AND DECK REPAIR DETAIL" on "JOINT SEAL DETAILS NO.1" sheet.



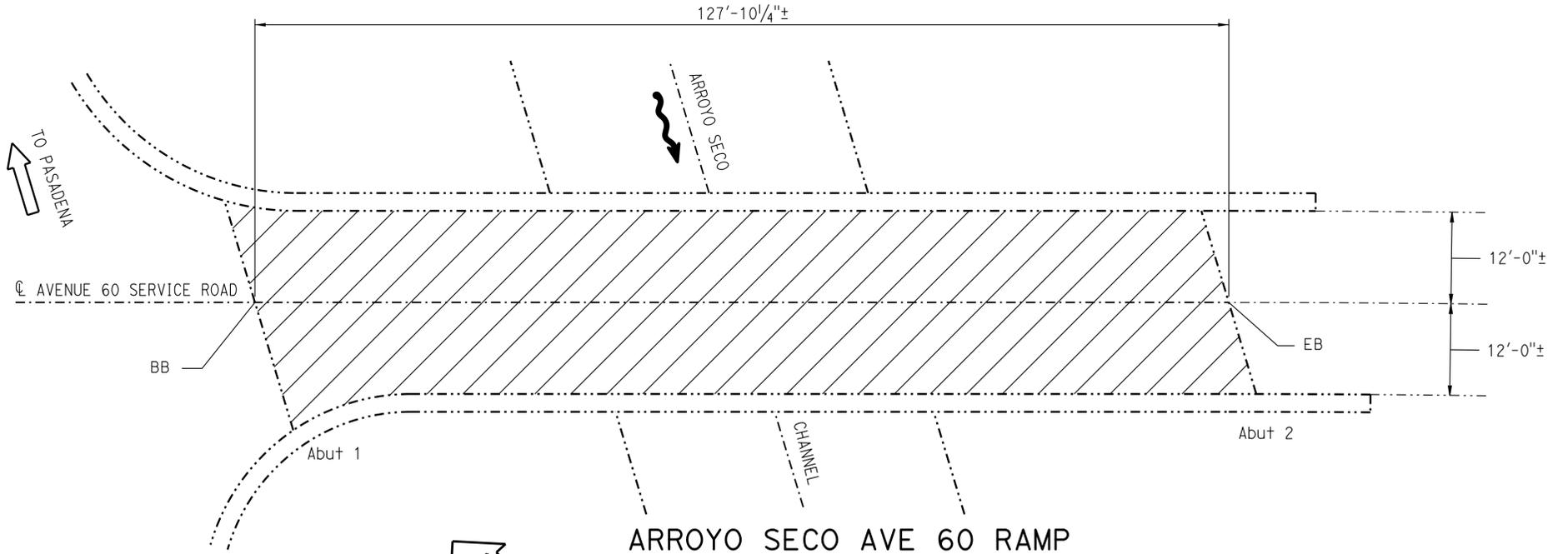
**VIA MARISOL AVE OVERCROSSING**

Br No. 53-0429, LA, Route 110, PM 28.38  
 1"=20'

VIA MARISOL AVE OVERCROSSING (53-0429)

QUANTITIES

	LUMP	SUM
PUBLIC SAFETY PLAN		
RAPID SETTING CONCRETE (PATCH)	14	CF
REMOVE UNSOUND CONCRETE	14	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	5,542	SQFT
TREAT BRIDGE DECK	5,542	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	62	GAL



**ARROYO SECO AVE 60 RAMP**

Br No. 53-0986S, LA, Route 110, PM 28.86  
 1"=10'

ARROYO SECO AVE 60 RAMP (53-0986S)

QUANTITIES

RAPID SETTING CONCRETE (PATCH)	8	CF
REMOVE UNSOUND CONCRETE	8	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	3,069	SQFT
TREAT BRIDGE DECK	3,069	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	35	GAL

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

*Matthew W Lee* 1-31-15  
 DESIGN ENGINEER

DESIGN	BY	CHECKED	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DESIGN	M. HASHIMOTO	T. CAMPBELL		
DETAILS	N. KELLEY	T. CAMPBELL	LAYOUT	BY N. KELLEY CHECKED M. HASHIMOTO
QUANTITIES	M. HASHIMOTO	T. CAMPBELL	SPECIFICATIONS	BY KAREN DOLL CHECKED T. CAMPBELL PLANS AND SPECS COMPARED KAREN DOLL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE  
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. VARIES  
 POST MILE VARIOUS  
**ROUTE 5,110 & 134 BRIDGES**  
**GENERAL PLAN NO.5**

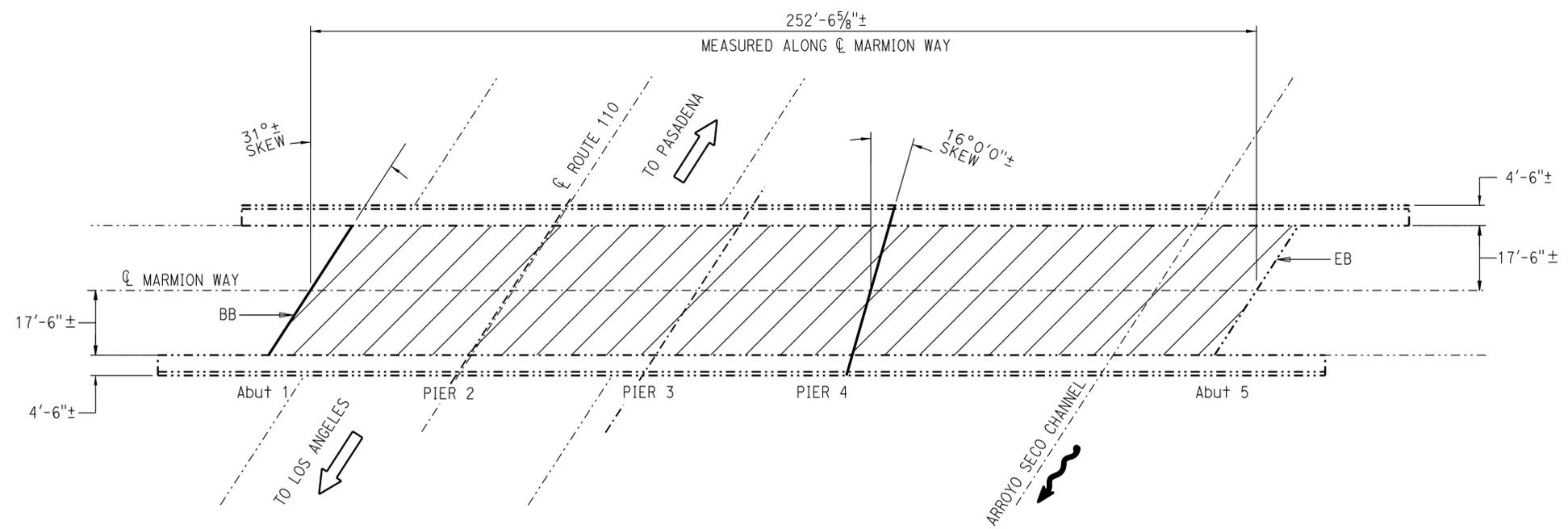
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	32	36

*Tim Campbell* 2-2-15  
 REGISTERED CIVIL ENGINEER DATE

2-9-15  
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER  
 TIM CAMPBELL  
 No. 63268  
 Exp. 06-30-14  
 CIVIL  
 STATE OF CALIFORNIA



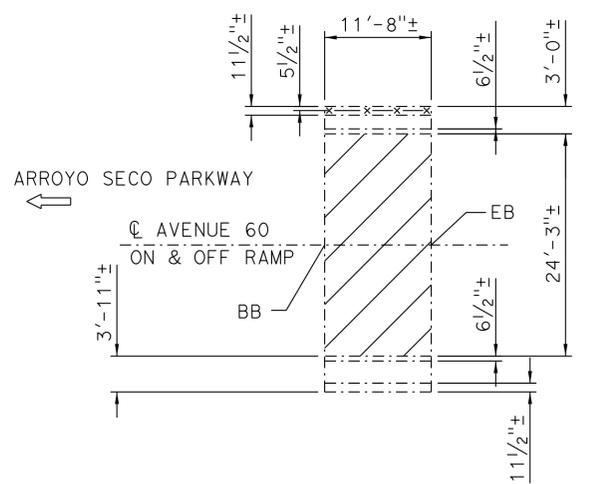
MARMION WAY OVERCROSSING (53-0445)  
QUANTITIES

**MARMION WAY OVERCROSSING**  
 Br No. 53-0445, LA, Route 110, PM 29.28  
 1"=20'

PUBLIC SAFETY PLAN  
 RAPID SETTING CONCRETE (PATCH)  
 REMOVE UNSOUND CONCRETE  
 PREPARE CONCRETE BRIDGE DECK SURFACE  
 TREAT BRIDGE DECK  
 FURNISH BRIDGE DECK TREATMENT MATERIAL  
 CLEAN EXPANSION JOINT  
 JOINT SEAL (MR 1/2")

LUMP	SUM
22	CF
8,840	SQFT
8,840	SQFT
99	GAL
91	LF
91	LF

- NOTES: (APPLY TO THIS SHEET ONLY)
- Indicates existing.
  - Indicates limits of prepare concrete bridge deck surface and treat bridge deck with methacrylate. Prior to treating the bridge deck, remove unsound concrete and patch with rapid setting concrete as shown on "JOINT AND DECK REPAIR DETAIL" on "JOINT SEAL DETAILS NO.1" sheet.
  - x-x-x- Indicates limits of new Cable Railing (Modified). For details see, "BARRIER RAIL DETAIL NO.1" sheet.
  - Indicates limits of clean expansion joint and install new joint seal. For details see "JOINT SEAL DETAILS NO.1" sheet.

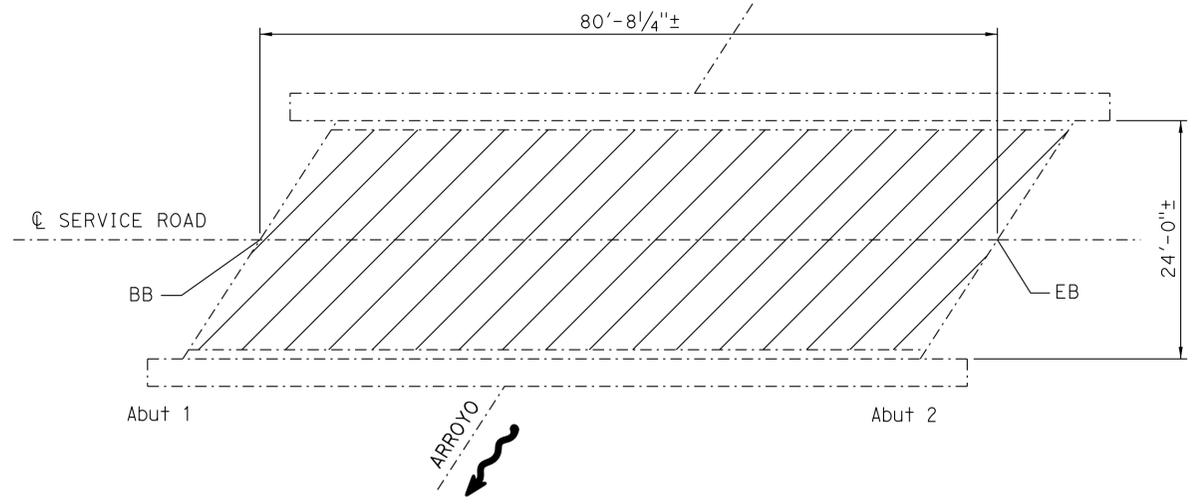


**AVENUE 60 RAMP PUC**  
 Br No. 53-0988T, LA, Route 110, PM 28.86  
 1"=10'  
 AVENUE 60 RAMP PUC (53-0988T)  
 QUANTITIES

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PUBLIC SAFETY PLAN  
 RAPID SETTING CONCRETE (PATCH)  
 REMOVE UNSOUND CONCRETE  
 PREPARE CONCRETE BRIDGE DECK SURFACE  
 TREAT BRIDGE DECK  
 FURNISH BRIDGE DECK TREATMENT MATERIAL  
 CORE CONCRETE (4")  
 CABLE RAILING (MODIFIED)

LUMP	SUM
1	CF
1	CF
283	SQFT
283	SQFT
4	GAL
3	LF
12	LF



**ARROYO SECO (MARMION WAY)**  
 Br No. 53-0886S, LA, Route 110, PM 29.2  
 1"=10'  
 ARROYO SECO (MARMION WAY) (53-0886S)  
 QUANTITIES

RAPID SETTING CONCRETE (PATCH)  
 REMOVE UNSOUND CONCRETE  
 PREPARE CONCRETE BRIDGE DECK SURFACE  
 TREAT BRIDGE DECK  
 FURNISH BRIDGE DECK TREATMENT MATERIAL

5	CF
5	CF
1,937	SQFT
1,937	SQFT
22	GAL

*Matthew W Lee* 1-31-15  
 DESIGN ENGINEER

DESIGN	BY M. HASHIMOTO	CHECKED T. CAMPBELL	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DETAILS	BY D. WOOTEN	CHECKED T. CAMPBELL	LAYOUT	BY D. WOOTEN
QUANTITIES	BY M. HASHIMOTO	CHECKED T. CAMPBELL	SPECIFICATIONS	BY KAREN DOLL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

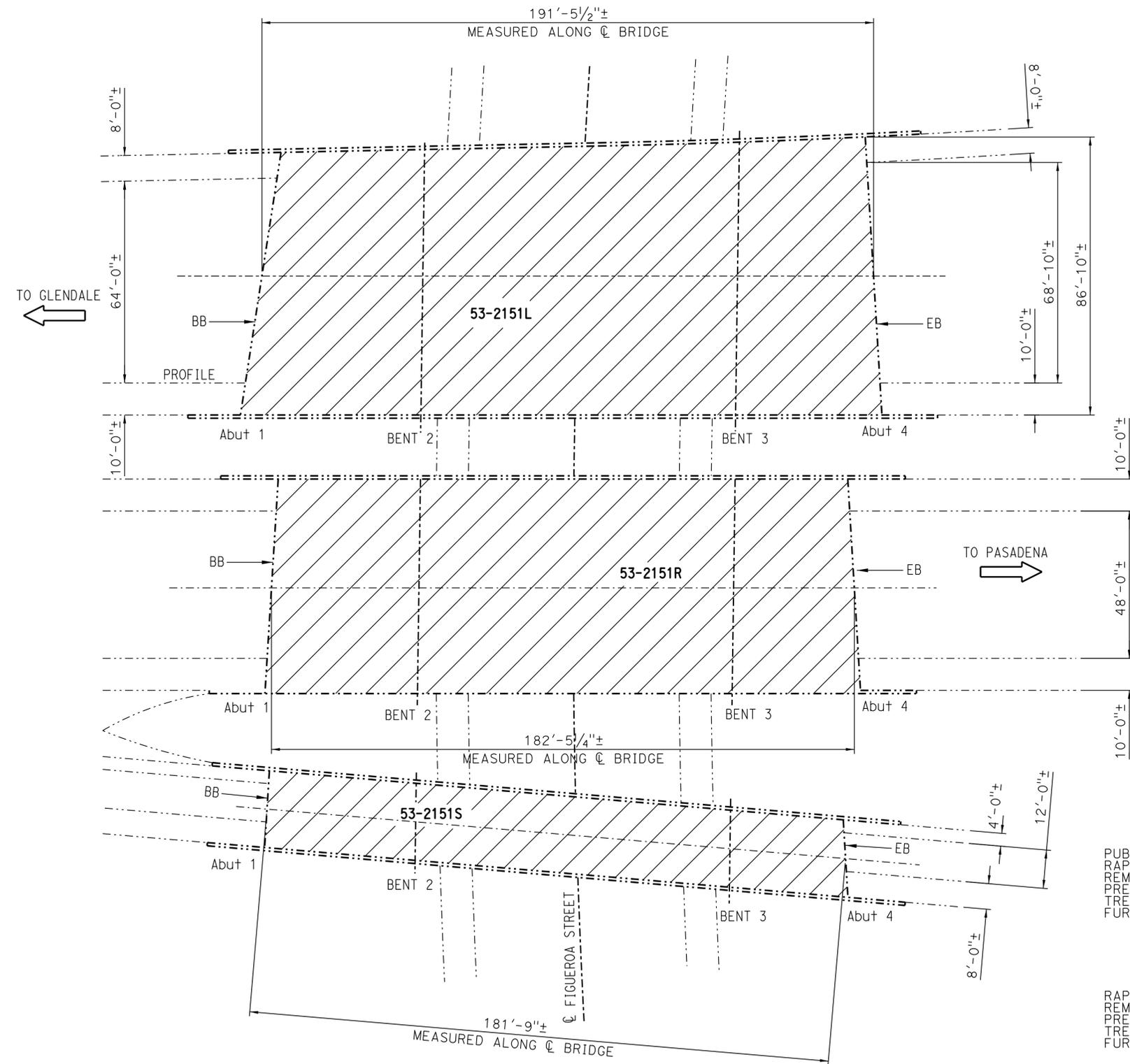
DIVISION OF MAINTENANCE  
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. VARIES  
 POST MILE VARIOUS

**ROUTE 5,110 & 134 BRIDGES**  
**GENERAL PLAN NO.6**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	33	36

*Tim Campbell* 2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-9-15  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.



NOTES: (APPLY TO THIS SHEET ONLY)

----- Indicates existing.

Indicates limits of prepare concrete bridge deck surface and treat bridge deck with methacrylate. Prior to treating the bridge deck, remove unsound concrete and patch with rapid setting concrete as shown on "JOINT AND DECK REPAIR DETAIL" on "JOINT SEAL DETAILS NO.1" sheet.

FIGUEROA ST UNDERCROSSING (53-2151L)  
QUANTITIES

	LUMP	SUM
PUBLIC SAFETY PLAN	42	CF
RAPID SETTING CONCRETE (PATCH)	42	CF
REMOVE UNSOUND CONCRETE	16,847	SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	16,847	SQFT
TREAT BRIDGE DECK	187	GAL
FURNISH BRIDGE DECK TREATMENT MATERIAL		

FIGUEROA ST UNDERCROSSING (53-2151R)  
QUANTITIES

RAPID SETTING CONCRETE (PATCH)	31	CF
REMOVE UNSOUND CONCRETE	31	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	12,406	SQFT
TREAT BRIDGE DECK	12,406	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	138	GAL

FIGUEROA ST UNDERCROSSING (53-2151S)  
QUANTITIES

RAPID SETTING CONCRETE (PATCH)	11	CF
REMOVE UNSOUND CONCRETE	11	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	4,374	SQFT
TREAT BRIDGE DECK	4,374	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	49	GAL

NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



### FIGUEROA ST UNDERCROSSING

Br No. 53-2151 L/R/S, LA, Route 134, PM R11.44  
1"=20'

*Matthew W Lee* 1-31-15  
DESIGN ENGINEER

DESIGN	BY M. HASHIMOTO	CHECKED T. CAMPBELL	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DETAILS	BY N. KELLEY	CHECKED T. CAMPBELL	LAYOUT	BY N. KELLEY
QUANTITIES	BY M. HASHIMOTO	CHECKED T. CAMPBELL	SPECIFICATIONS	BY KAREN DOLL

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE  
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. VARIES  
POST MILE VARIOUS

## ROUTE 5,110 & 134 BRIDGES GENERAL PLAN NO.7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	34	36

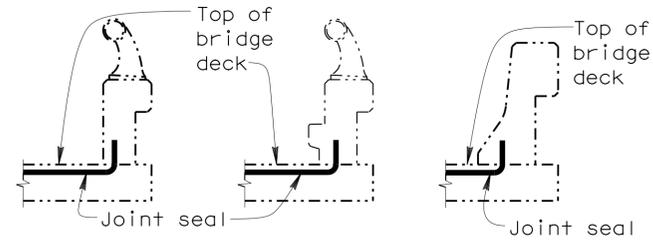
**Tim Campbell**  
 REGISTERED CIVIL ENGINEER  
 No. 63268  
 Exp. 6-30-16  
 CIVIL  
 STATE OF CALIFORNIA

2-2-15 DATE  
 2-9-15 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.*

### JOINT SEAL TABLE

BRIDGE NAME	BRIDGE NUMBER	LOCATION	MINIMUM "MR" (INCHES)	APPROXIMATE LENGTH (FEET)	EXISTING WATERSTOP	APPROX DEPTH TO CLEAN EXP JOINT (INCHES)	
ELYSIAN VIADUCT RAMP 17	53-1424	Abut 1	BB	1/2	25	YES	17
		Abut 1	BW	1/2	25	YES	17
		Bent 2	JT	1	25	YES	17
		Bent 3	JT	1	25	YES	17
		Bent 4	JT	1	25	YES	17
ELYSIAN VIADUCT RAMP 18	53-1424	Bent 7	JT	1	33	YES	17
		Bent 8	JT	1	33	YES	17
		Bent 9	JT	1	62	YES	17
		Bent 10	JT	1/2	57	YES	17
		Bent 11	JT	1	51	YES	17
		Bent 12	JT	1/2	43	NO	7
STADIUM WAY UNDERCROSSING	53-0540L	Abut 1	BB	1/2	111	NO	12
		Bent 2	BB	1/2	50	NO	12
		Bent 3	EB	1/2	50	NO	12
		Abut 4	EB	1/2	105	NO	12
MARMION WAY OVERCROSSING	53-0445	LONGITUDINAL JOINT	-	1/2	104	NO	6
		Pier 4	JT	1/2	49	NO	12



### BARRIER RAIL JOINT SEAL AT LOW SIDE OF DECK

Notes: Details shown for illustration purposes only. For use only where deck joint matches the sidewalk, curb or barrier rail joint.

#### DECK REPAIR TABLE REMOVE UNSOUND CONCRETE AND RAPID SETTING CONCRETE (PATCH)

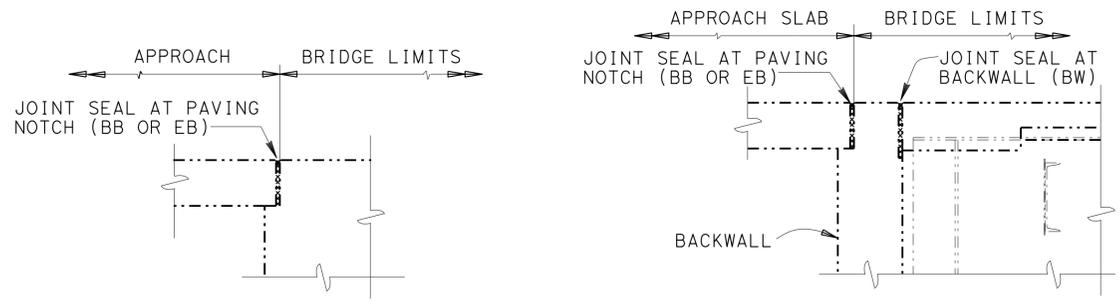
BRIDGE NAME	BRIDGE NUMBER	APPROXIMATE AREA DAMAGED (PERCENT)	APPROXIMATE DEPTH (INCHES)
ELYSIAN VIADUCT	53-1424	1	3
STADIUM WAY OFF RAMP OC	53-1635S	1	3
STADIUM WAY UC	53-0540L	1	3
STADIUM WAY OC	53-0540R	1	3
PASADENA AVENUE OC	53-0426	1	3
ARROYO SECO AVENUE 43	53-0985S	1	3
VIA MARISOL AVENUE OC	53-0429	1	3
ARROYO SECO AVENUE 60 RAMP	53-0986S	1	3
AVENUE 60 RAMP PUC	53-0988T	1	3
ARROYO SECO (MARMION WAY)	53-0886S	1	3
MARMION WAY OC	53-0445	1	3
FIGUEROA STREET UC	53-2151L/R/S	1	3

Locations to be determined by the Engineer. For details see "Deck Repair Detail - Overlay".

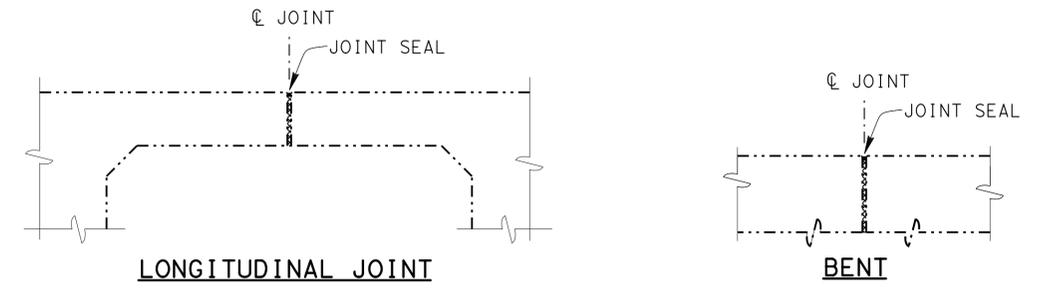
- The following notes apply to JOINT SEAL TYPE B:
- Seal must satisfy both minimum Movement Rating (MR) and minimum W1 requirements.
  - Minimum W1 is the calculated maximum width of the joint based on field measurements. After the joints have been cleaned, minimum W1 is to be calculated by the Engineer.
  - W1 shall be the smaller of the values determined as follows:
    - 0.85 times the manufacturer's designed minimum uncompressed width of the seal.
    - The width of the seal on the third successive test cycle of the pressure deflection test, when compressed to an average pressure of 3 psi.
  - Bent Type B joint seal 6" up into curb or rail on the low side of the deck where deck joint matches curb or rail joint.
  - For details not shown, see B6-21

- The following notes apply to JOINT SEAL TYPE A:
- Install Type A joint seal 3" up into rail on the low side of deck where joint matches curb or rail joint.
  - For details not shown, see B6-21

**LEGEND:**  
 BW - Abutment backwall joint  
 BB - Paving Notch at beginning of bridge  
 EB - Paving Notch at end of bridge  
 JT - Expansion Joint



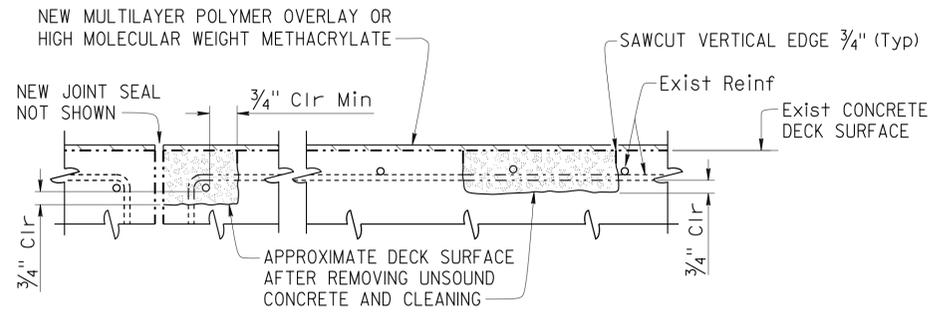
**DIAPHRAGM ABUTMENT      ABUTMENT WITH BACKWALL**



**LONGITUDINAL JOINT      BENT**

### JOINT SEAL LOCATION

NOTE: THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



### JOINT AND DECK REPAIR DETAIL

Note: Locations to be determined by the Engineer. Reinforcement may be encountered during deck concrete removal.

DESIGN	BY M. HASHIMOTO	CHECKED T CAMPBELL
DETAILS	BY D. WOOTEN	CHECKED T CAMPBELL
QUANTITIES	BY M. HASHIMOTO	CHECKED T CAMPBELL

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

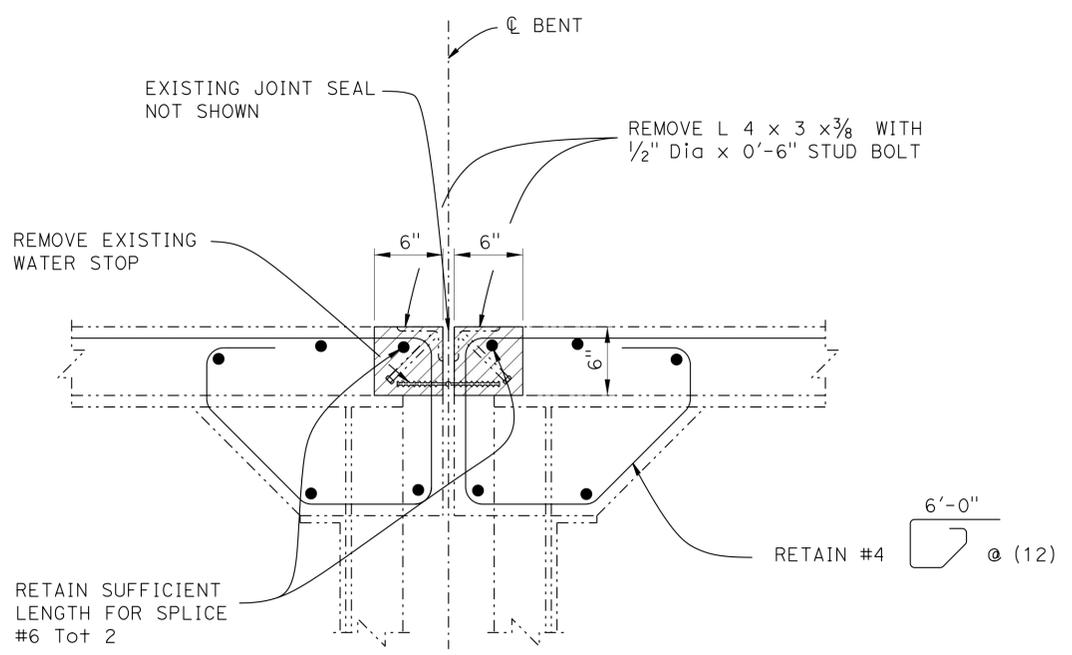
**DIVISION OF MAINTENANCE**  
**STRUCTURE MAINTENANCE DESIGN**

BRIDGE NO. VARIOUS  
 POST MILE VARIES

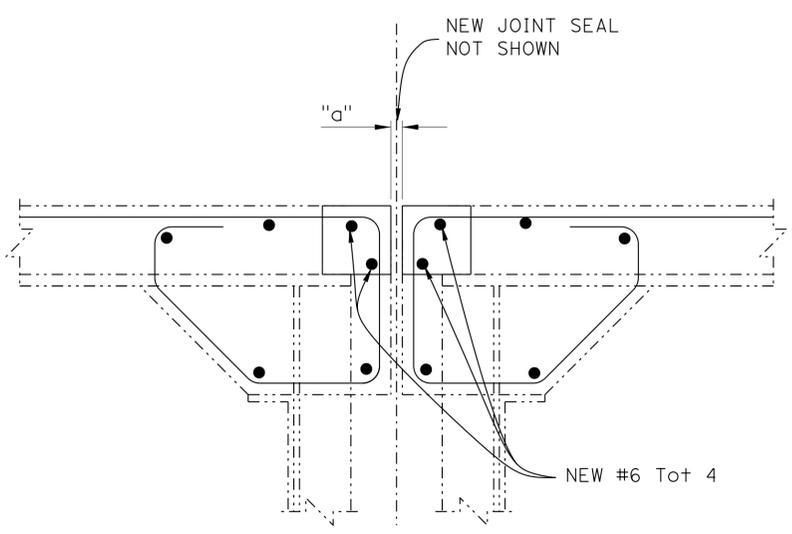
**ROUTES 5, 110 & 134 BRIDGES**  
**JOINT SEAL DETAILS NO.1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	35	36

**Tim Campbell** 2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-9-15  
 PLANS APPROVAL DATE  
 No. 63268  
 Exp. 6-30-16  
 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.



**EXISTING**



**RECONSTRUCTION**

NOTES: (APPLY TO THIS SHEET ONLY)

Indicates limits of Bridge Removal (Portion) and place structural concrete, bridge. Retain existing reinforcing steel as noted.

"a" Reconstructed gap width as determined by the engineer.

**SECTION A-A**  
 $1\frac{1}{2}'' = 1'-0''$

**GENERAL NOTES**  
**LOAD FACTOR DESIGN**

DESIGN: BRIDGE DESIGN SPECIFICATIONS (1996 AASHTO with Interims and Revisions by CALTRANS)

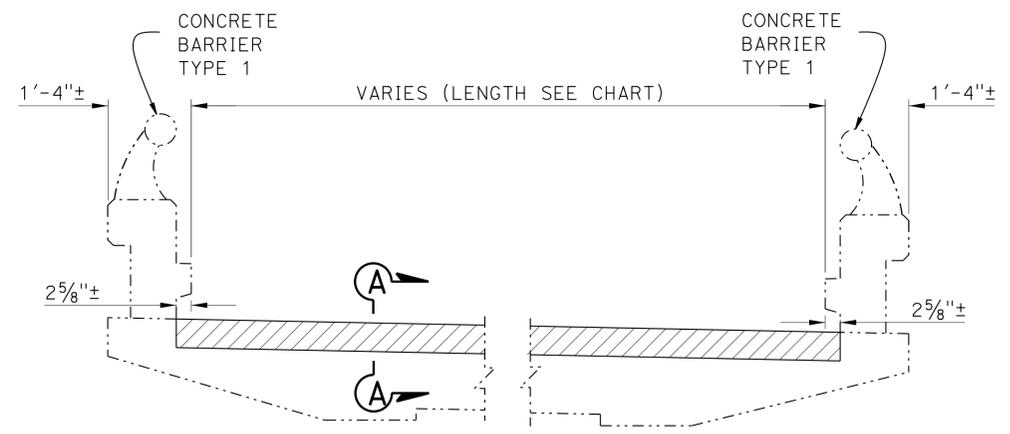
DEAD LOAD: Includes 35 psf for future wearing surface.

LIVE LOADING: HS20-44 and alternative.

REINFORCED CONCRETE:  $f_y = 60$  ksi  
 $f'_c = 3.6$  ksi  
 $n = 8$

TEMPORARY DECK PLATE LOAD CRITERIA		
MOMENT DEMAND/FOOT (kip-ft/ft)	BOLT SHEAR/FOOT (kip/ft)	BOLT TENSION (kip)
4.2	8.0	8.0

Plate deflection shall not exceed  $s/300$  (s = span in feet).  
 Maximum anchor bolt spacing = 1'-0".



**BENT JOINT DETAIL**  
 BRIDGE No. 53-1424  
 (RAMP 17 & 18)  
 $\frac{3}{4}'' = 1'-0''$

NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY M. HASHIMOTO	CHECKED T CAMPBELL
DETAILS	BY D. WOOTEN	CHECKED T CAMPBELL
QUANTITIES	BY M. HASHIMOTO	CHECKED T CAMPBELL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE  
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 53-1424  
 POST MILE 20.31

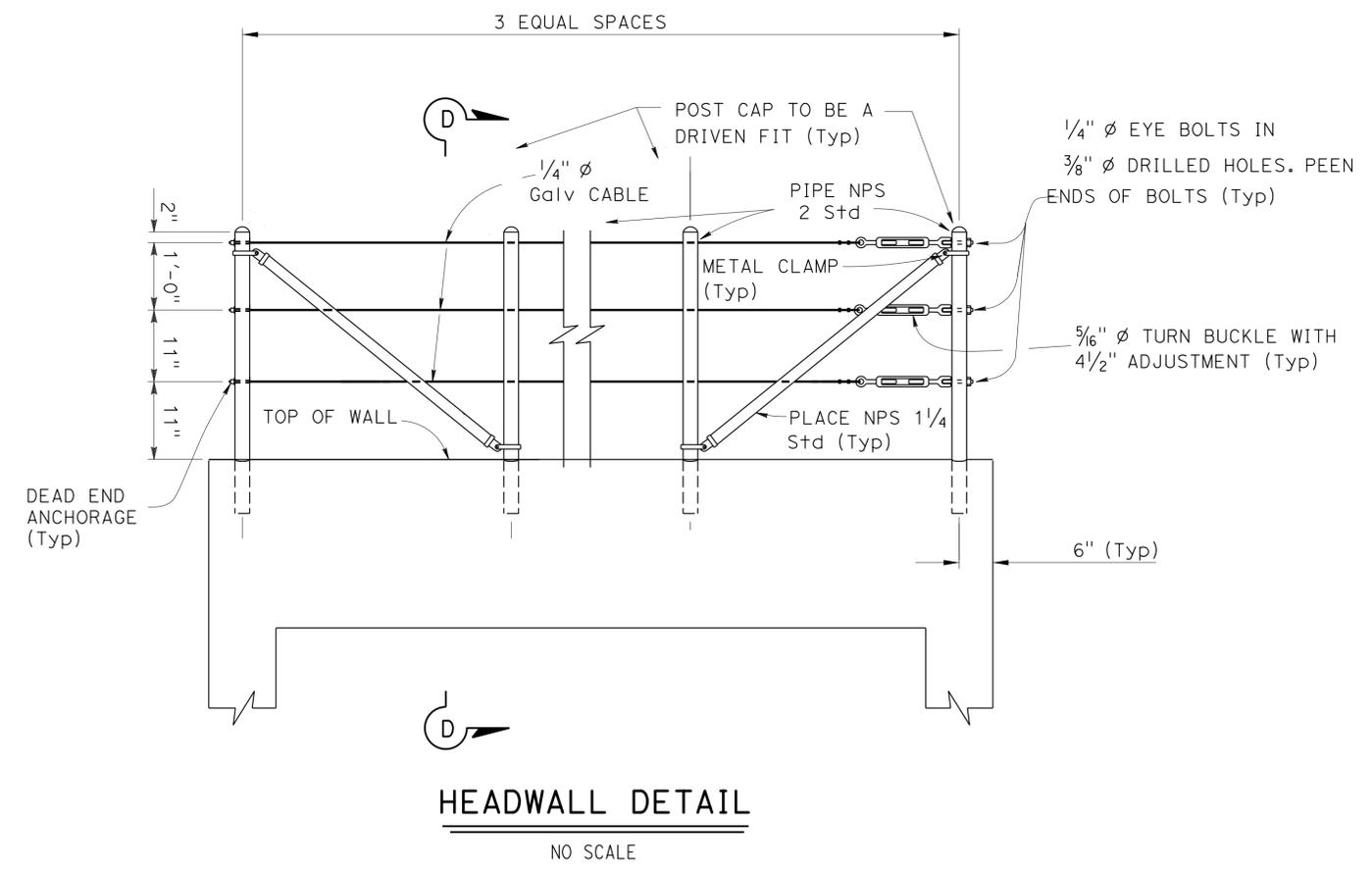
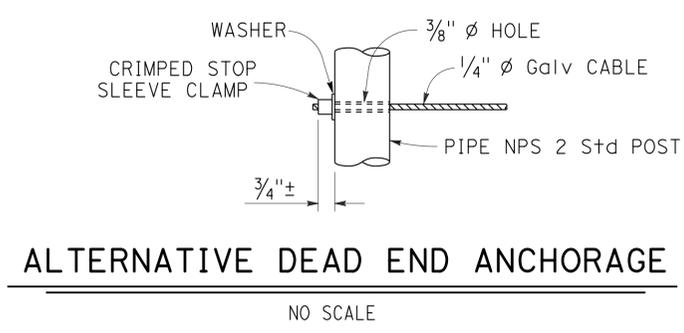
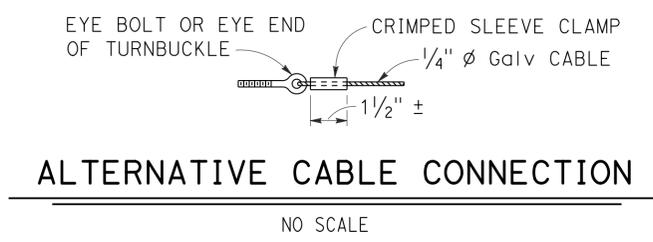
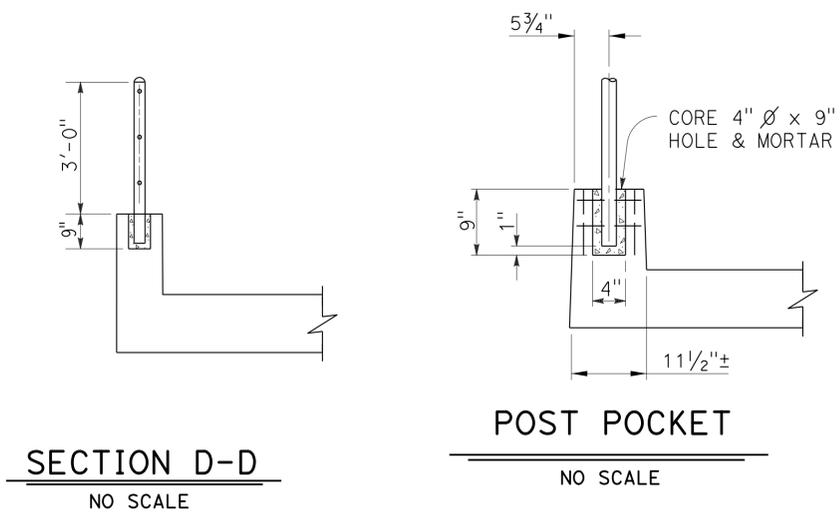
**ROUTES 5, 110 & 134 BRIDGES**  
**JOINT SEAL DETAILS NO.2**

NOTES: (APPLY TO THIS SHEET ONLY)

1. Posts to be vertical.
2. The Contractor must verify all dependent dimensions in the field before ordering or fabricating any material.
3. Post pockets to be centered in top of wall.
4. Provide thimbles at all cable loops.
5. All metal parts are to be galvanized after fabrication.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5,110, 134	Var	36	36

*Tim Campbell*  
 REGISTERED CIVIL ENGINEER DATE 2-2-15  
 2-9-15  
 PLANS APPROVAL DATE  
 No. 63268  
 Exp. 6-30-16  
 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.



NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY M. Hashimoto	CHECKED T. Campbell	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	ROUTE 5, 110 & 134 BRIDGES			
	DETAILS	BY D. Wooten	CHECKED T. Campbell			VARIOUS				
	QUANTITIES	BY M. Hashimoto	CHECKED T. Campbell			VARIES				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3488	PROJECT NUMBER & PHASE: 07130004451	CONTRACT NO.: 07-2W6804	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 10 OF 10

USERNAME => s122436 DATE PLOTTED => 21-APR-2015 TIME PLOTTED => 12:57