

INDEX OF PLANS

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

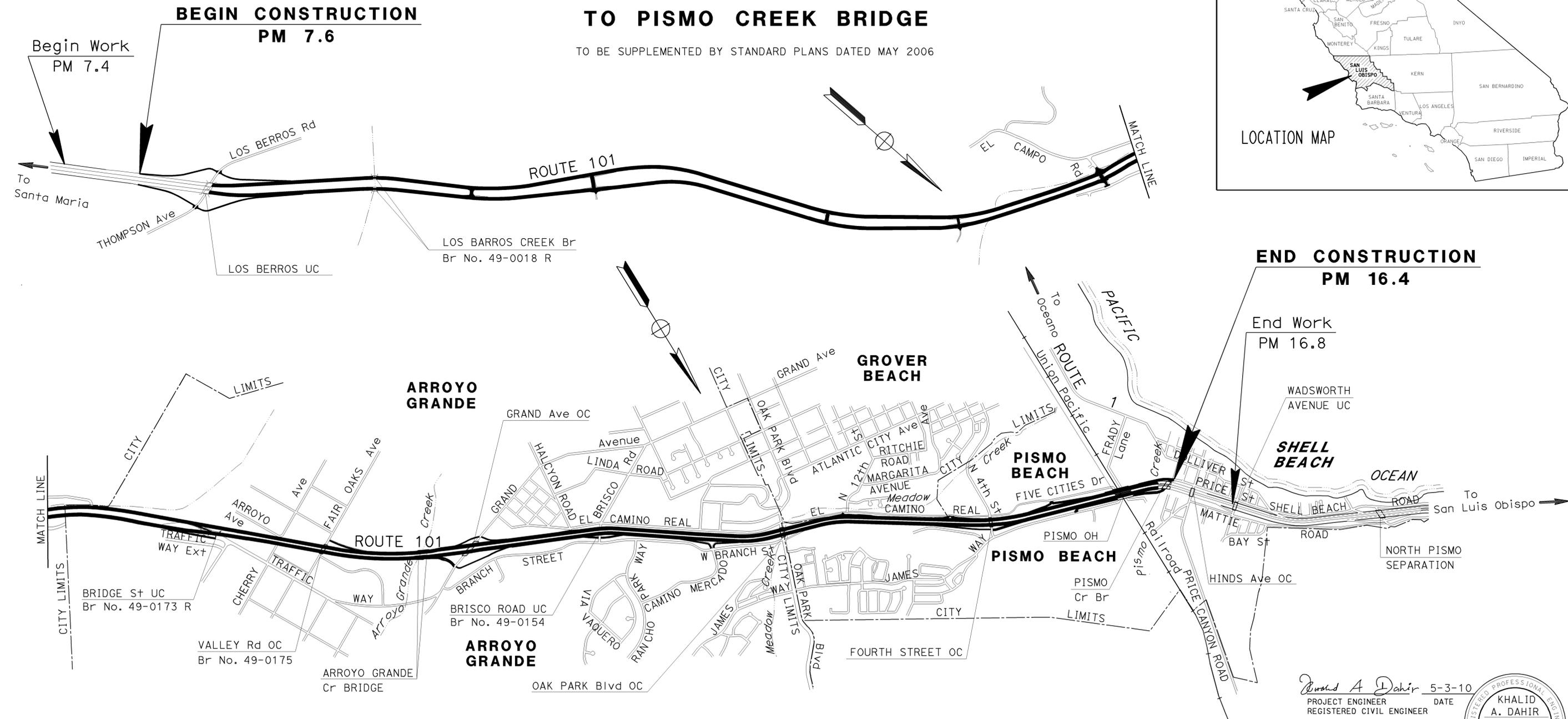
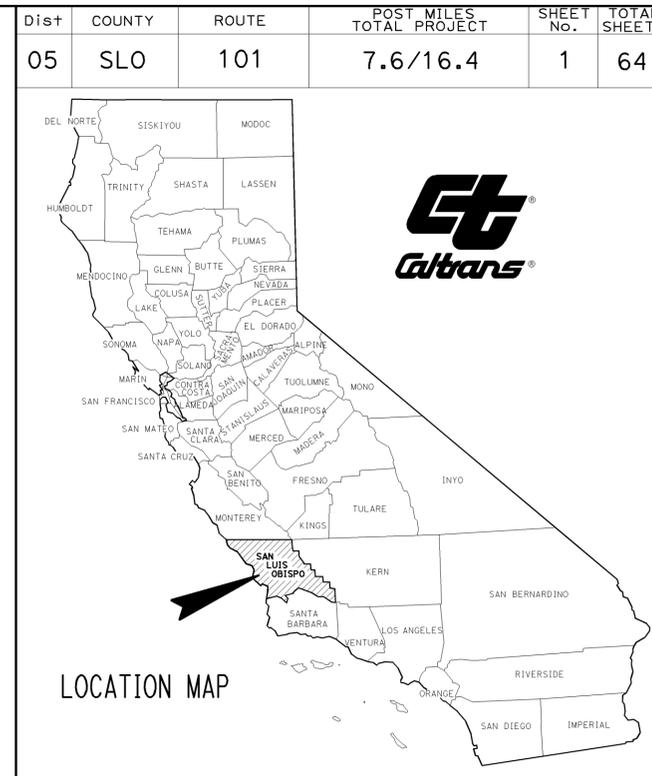
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ACNH-Q101(177)E

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN SAN LUIS OBISPO COUNTY
IN AND NEAR ARROYO GRANDE AND PISMO BEACH
FROM LOS BERROS UNDERCROSSING
TO PISMO CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT MANAGER
JOHN LUCHETTA

DESIGN ENGINEER
SCOTT SHAVER

David A. Dahir 5-3-10
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER



May 3, 2010
PLANS APPROVAL DATE

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

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

NO SCALE

NOTES:

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- FOR LOCATIONS AND TYPE OF HMA DIKE, CURBS, MBGR WORK, SHOULDER BACKING, AND RUMBLE STRIP, SEE Q-SHEETS
- EXISTING UTILITIES NOT SHOWN ON PLANS
- FOR HMA SURFACING ON BRIDGE SEE BRIDGE HMA SURFACING TABLE ON SHEET X-2.
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- MAINTAIN SIDE GUTTER

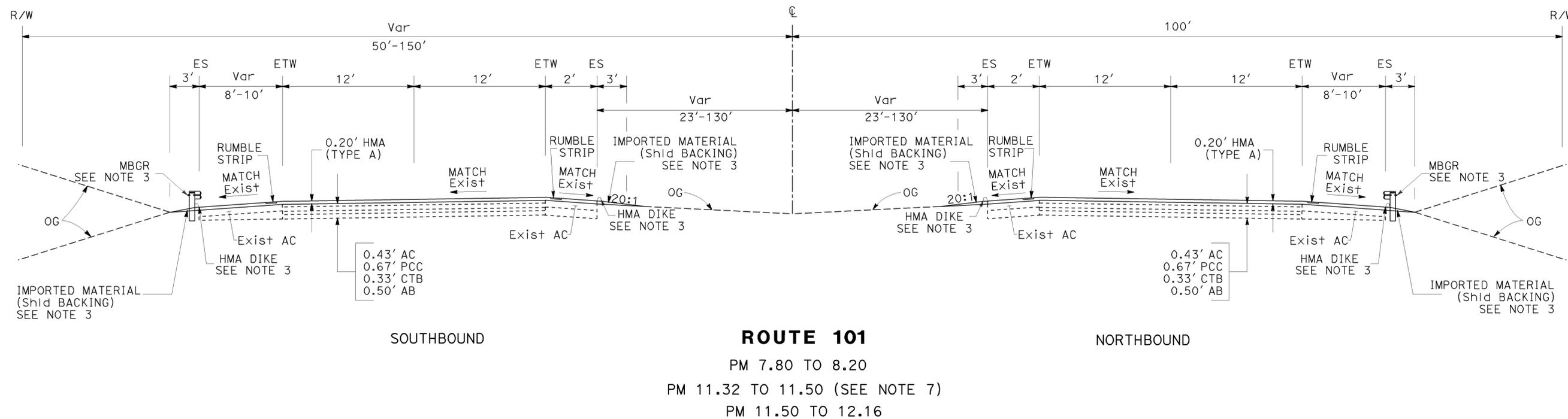
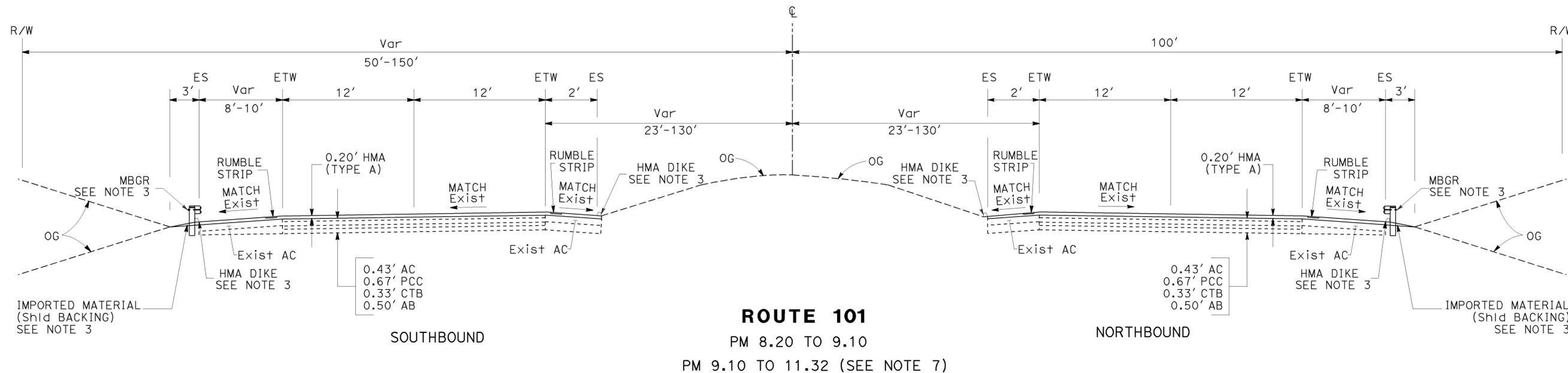
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	2	64

Donald A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE

5-3-10
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
KHALID A. DAHIR
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA



TYPICAL CROSS SECTIONS

NO SCALE **X-1**

EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY IDENTIFIED



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DGN FILE => 50N060ca001.dgn

CU 06250

EA 0N0601

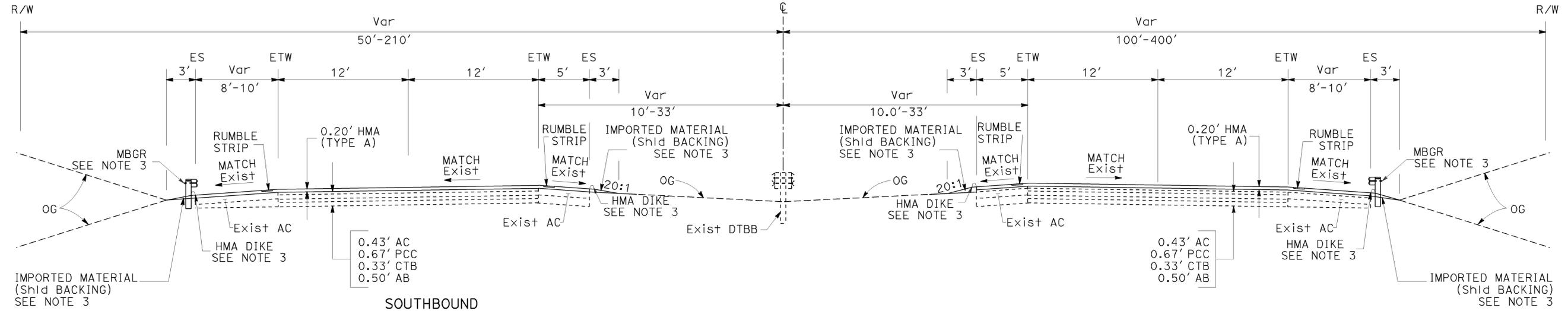
BORDER LAST REVISED 4/11/2008

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06-DESIGN
 FUNCTIONAL SUPERVISOR: SCOTT SHAVER
 CALCULATED/DESIGNED BY: JOHNNY REYES
 CHECKED BY: KHALID DAHIR
 REVISED BY: [] DATE: []

LAST REVISION: 05-3-10
 DATE PLOTTED => 06-MAY-2010
 TIME PLOTTED => 11:03

BRIDGE HMA SURFACING

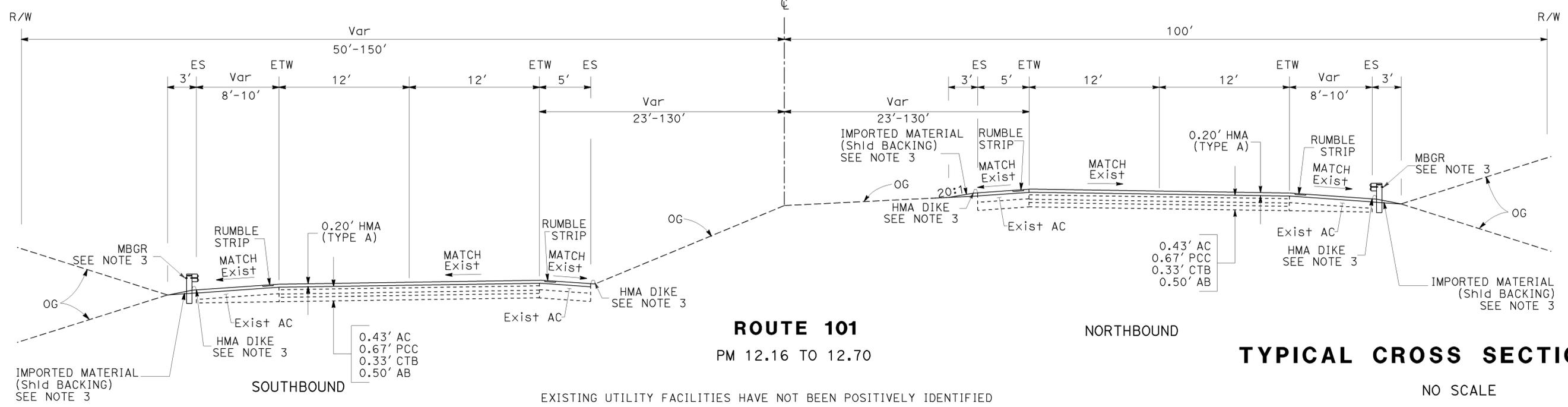
BRIDGE No.	POST MILE
49-0018 R	8.52
49-0173 R	12.52
49-0175 L	13.02
49-0175 R	13.02
49-0154 L	13.75
49-0154 R	13.75
49-15 K	16.40
49-15 L	16.40



ROUTE 101

SOUTHBOUND
 PM 12.70 TO 13.05
 PM 13.08 TO 13.39
 PM 13.49 TO 14.10
 PM 14.10 TO 14.40 (SEE NOTE 7)
 PM 14.40 TO 15.05

NORTHBOUND
 PM 12.70 TO 14.82
 PM 15.54 TO 16.01



ROUTE 101

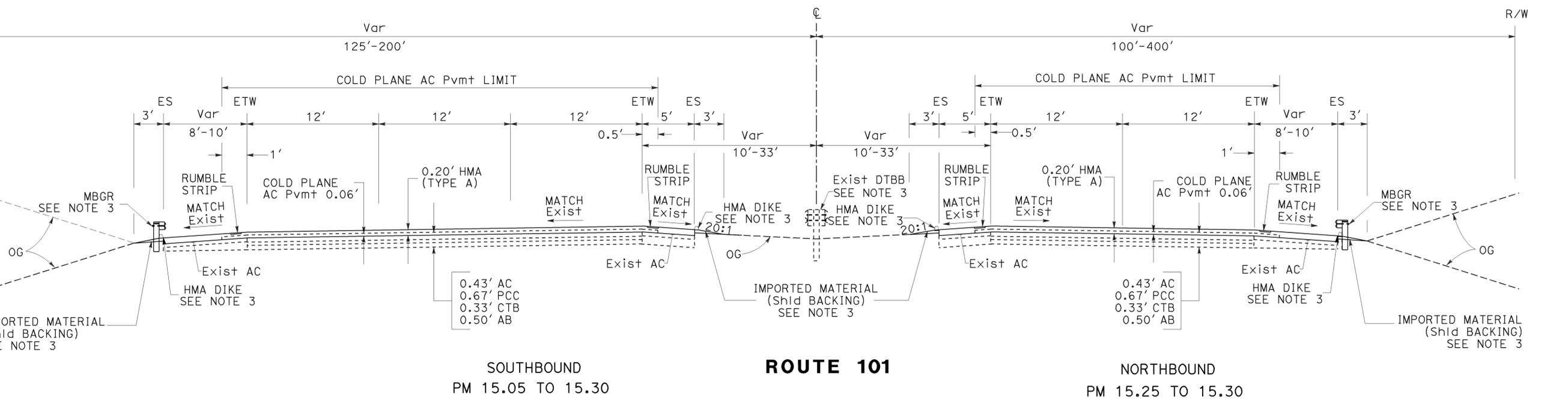
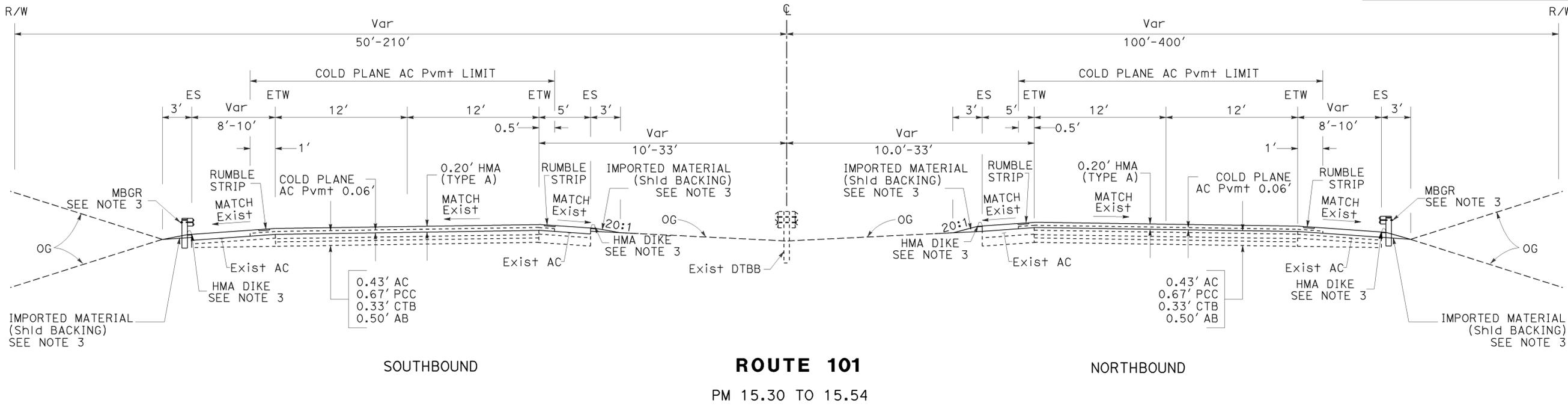
SOUTHBOUND
 PM 12.16 TO 12.70

NORTHBOUND
TYPICAL CROSS SECTIONS
 NO SCALE
X-2

EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY IDENTIFIED

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 FUNCTIONAL SUPERVISOR: SCOTT SHAVER
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 REVISED BY: DATE
 REVISIONS:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	4	64
<i>Ronald A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE			KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL		
5-3-10			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>					



TYPICAL CROSS SECTIONS

NO SCALE **X-3**

EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY IDENTIFIED

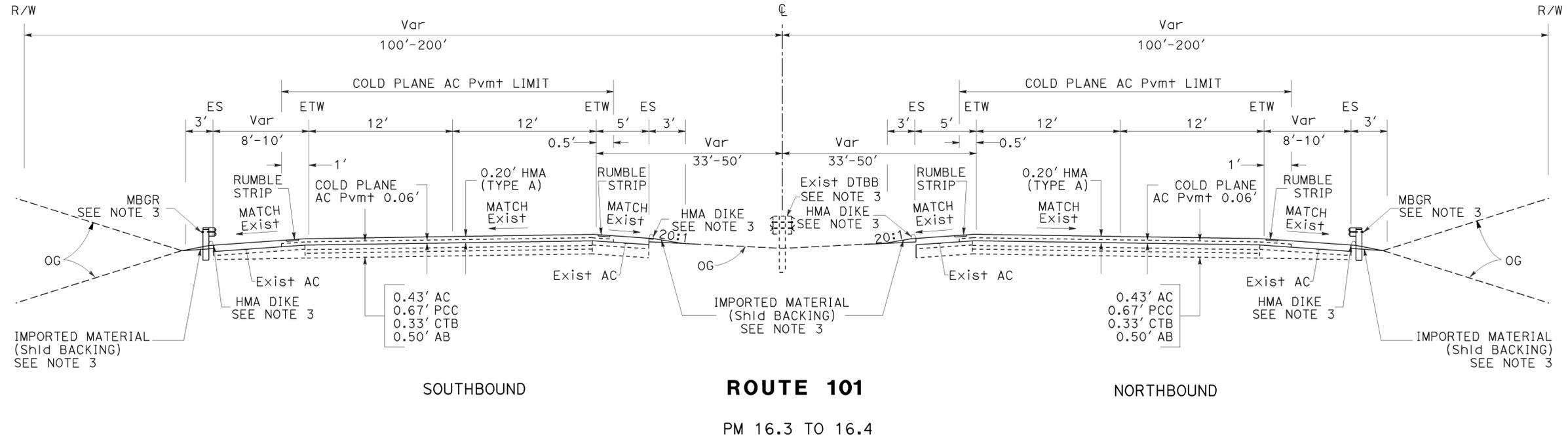
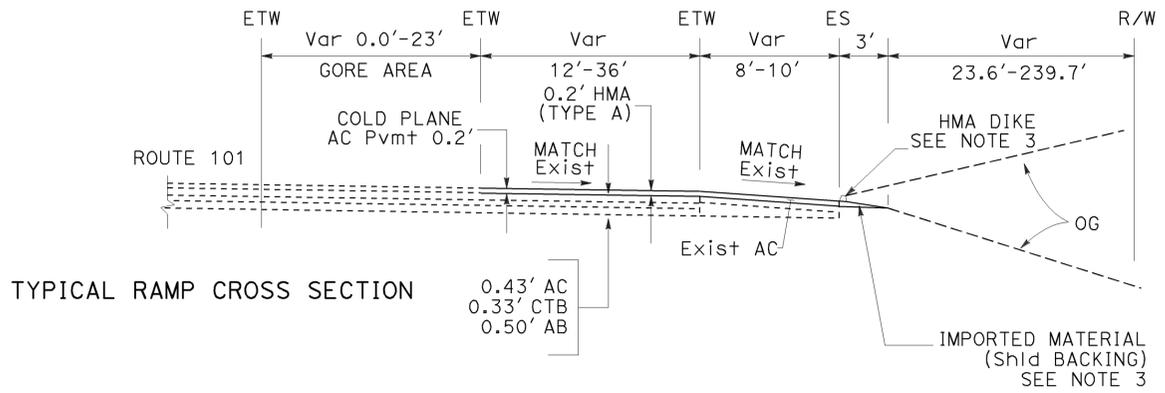
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06-DESIGN
 FUNCTIONAL SUPERVISOR: SCOTT SHAVER
 DESIGNED BY: JOHNNY REYES, KHALID DAHIR
 CHECKED BY: [blank]
 REVISIONS: [blank]
 REVISOR: [blank]
 DATE: [blank]
 REVISION: [blank]
 DATE: [blank]



DATE PLOTTED => 06-MAY-2010
 TIME PLOTTED => 11:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	6	64
<i>Khalid A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE			KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL		
5-3-10			PLANS APPROVAL DATE		
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REVISOR	DATE	REVISION
JOHNNY REYES		
KHALID DAHIR		
CALCULATED/DESIGNED BY	CHECKED BY	
SCOTT SHAVER		
FUNCTIONAL SUPERVISOR		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		
Caltrans		
06 - DESIGN		



TYPICAL CROSS SECTIONS

EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY IDENTIFIED

NO SCALE **X-5**

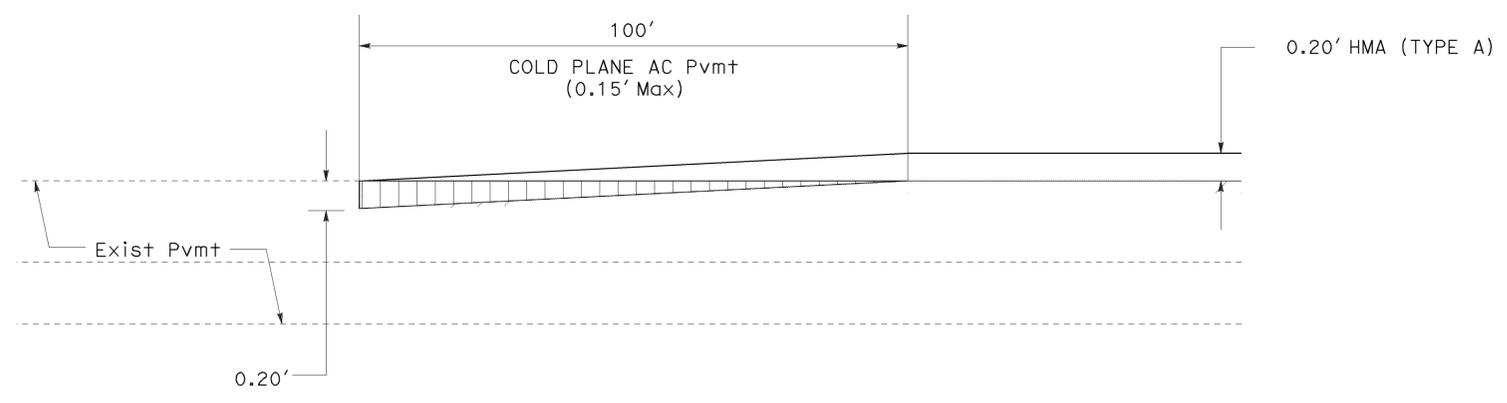
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	7	64

Ronald A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

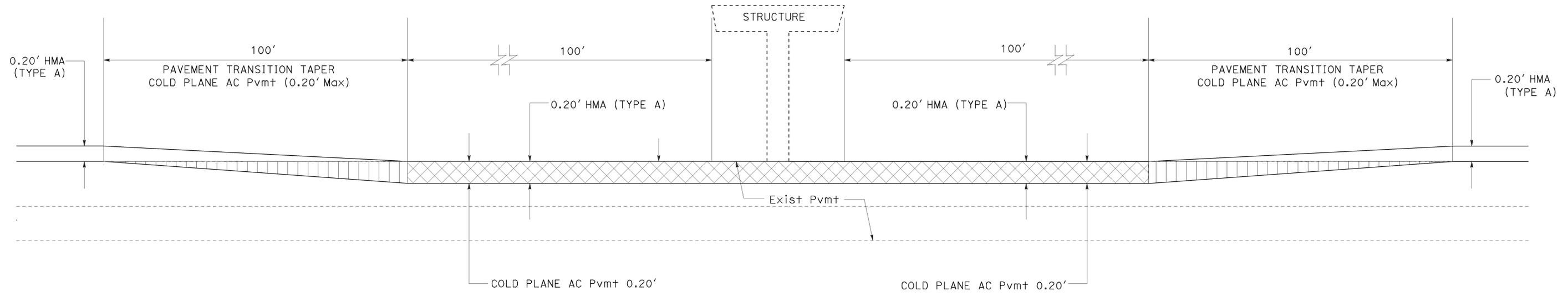
REGISTERED PROFESSIONAL ENGINEER
 KHALID A. DAHIR
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA

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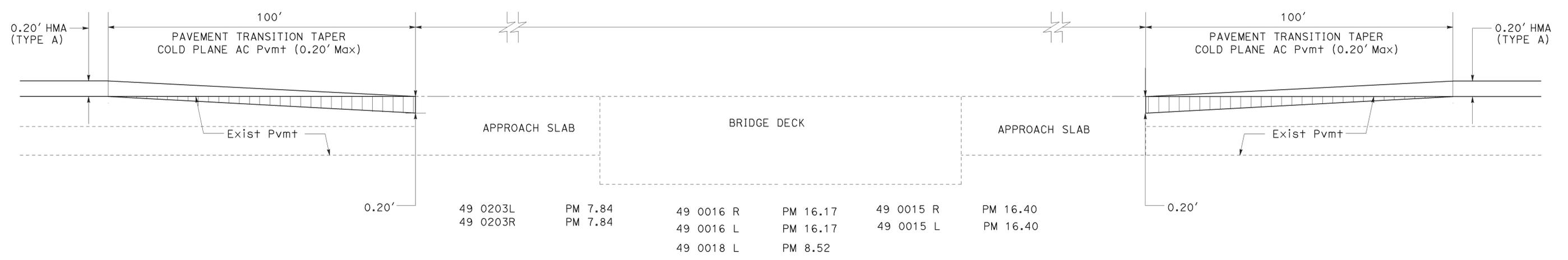
- LEGEND**
-  COLD PLANE AC Pvmt
 -  COLD PLANE AC Pvmt 0.20' AND PAVE 0.20' HMA (TYPE A)
 -  REPAIR FAILED AREAS
 -  0.20' HMA (TYPE A)



TYPICAL HMA TRANSITION TAPER



HMA SURFACING TO MAINTAIN VERTICAL CLEARANCE UNDER OVERCROSSING STRUCTURE



LONGITUDINAL HMA OVERLAY TRANSITION TAPER AT UNDERCROSSING STRUCTURE

CONSTRUCTION DETAILS

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

NO SCALE **C-1**

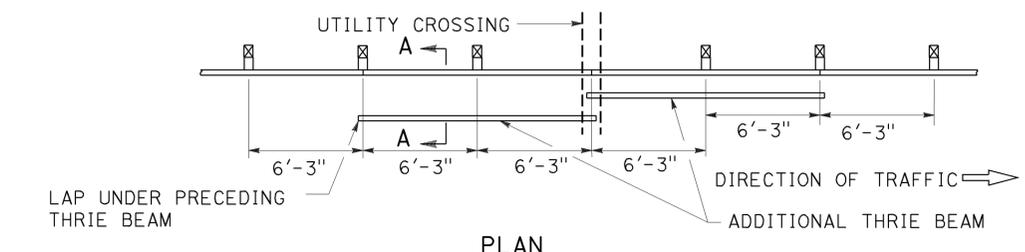
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 06-DESIGN
 SCOTT SHAVER
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 KHALID DAHIR
 ALBERT VITELA
 REVISOR BY
 DATE REVISED

LAST REVISION | DATE PLOTTED => 06-MAY-2010
 04-21-10 TIME PLOTTED => 11:04

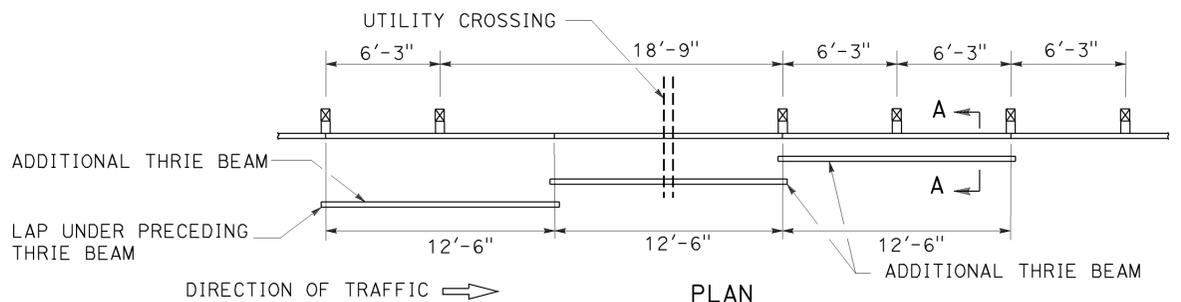
- NOTES: 1. USE CASE 1 OR 2 WHEN ONE POST IS OMITTED.
 2. USE CASE 3 WHEN TWO POSTS ARE OMITTED.
 3. SEE STANDARD PLANS FOR DETAILS NOT SHOWN.
 4. ADJUST POST SPACING TO AVOID UTILITIES.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	8	64
<i>Ronald A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE			KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL		
5-3-10			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>					

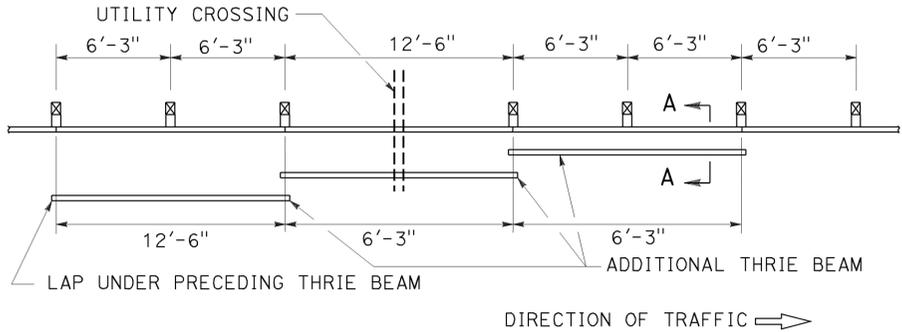
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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 FUNCTIONAL SUPERVISOR: SCOTT SHAVER
 CALCULATED/DESIGNED BY: KHALID DAHIR
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 REVISIONS:



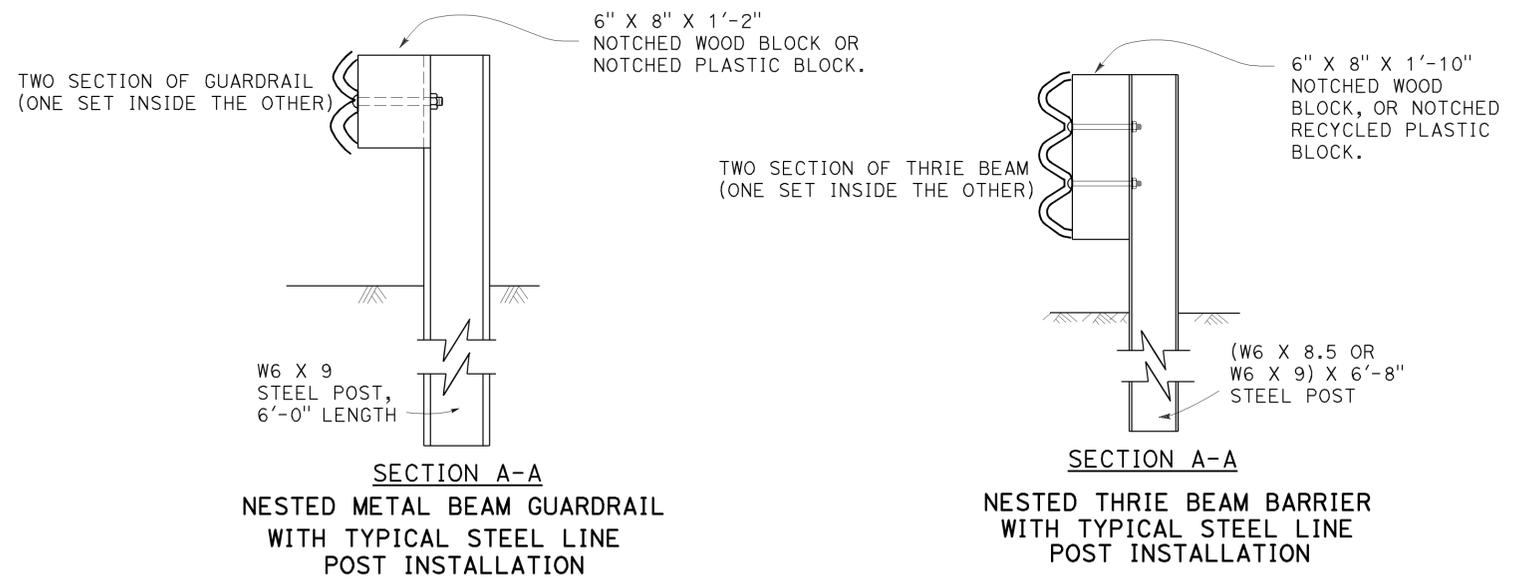
**NESTED THRIE BEAM OR METAL BEAM GUARD RAILING
 CASE 1 - ONE POST OMITTED (SPlice IN CENTER)**



**NESTED THRIE BEAM OR METAL BEAM GUARD RAILING
 CASE 3 - TWO POST OMITTED**



**NESTED THRIE BEAM OR METAL BEAM GUARD RAILING
 CASE 2 - ONE POST OMITTED (SPlice AT POSTS)**



CONSTRUCTION DETAILS

NO SCALE

C-2

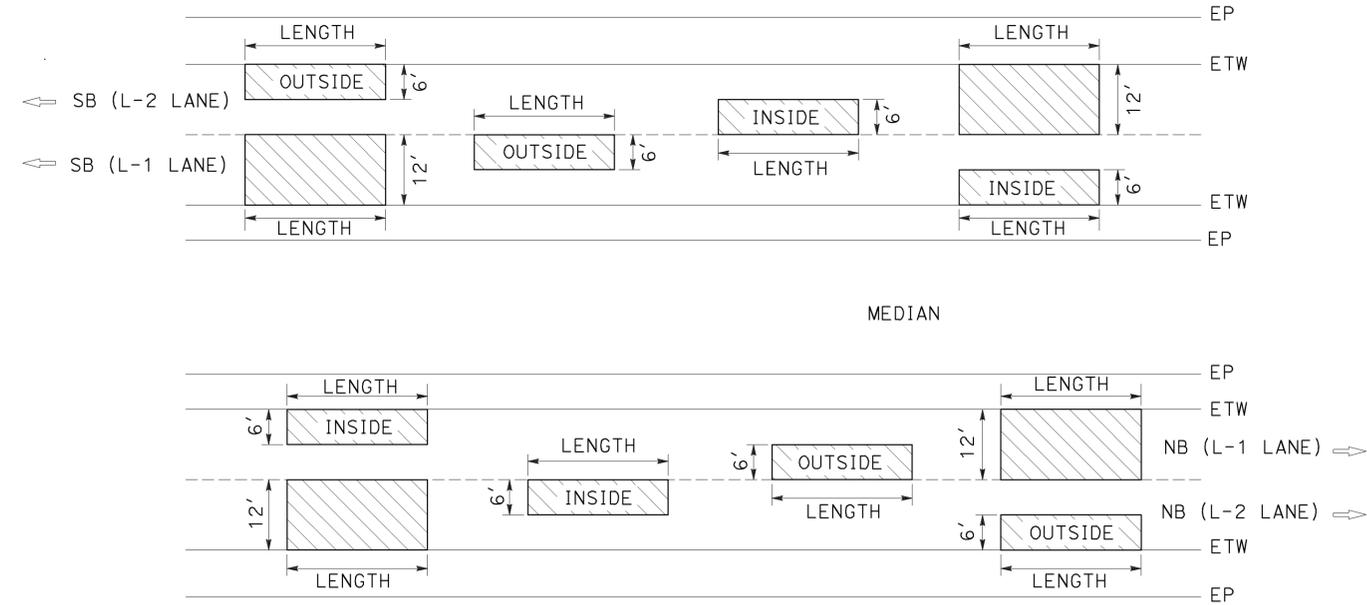
EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06-DESIGN
 SCOTT SHAVER
 FUNCTIONAL SUPERVISOR
 KHALID DAHIR
 JOHNNY REYES
 REVISOR
 DATE REVISOR
 DATE REVISOR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	10	64

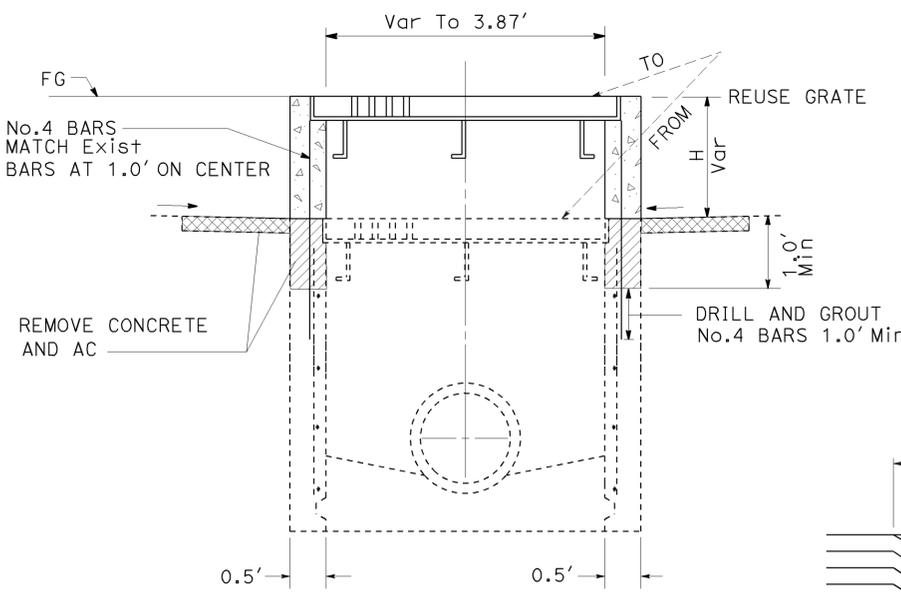
4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 KHALID A. DAHIR
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA

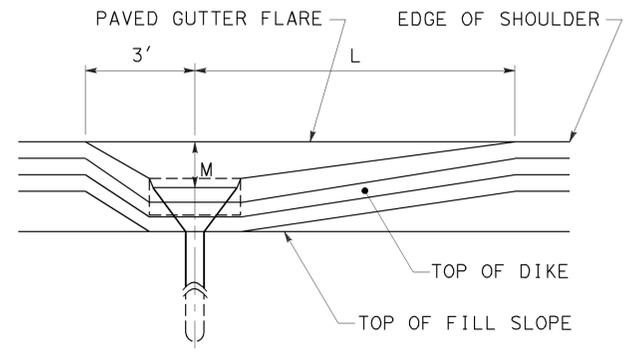


NOTE: EXACT LOCATIONS, WIDTH, DEPTH, AND LENGTH TO BE DETERMINED BY THE ENGINEER. SEE Q-6

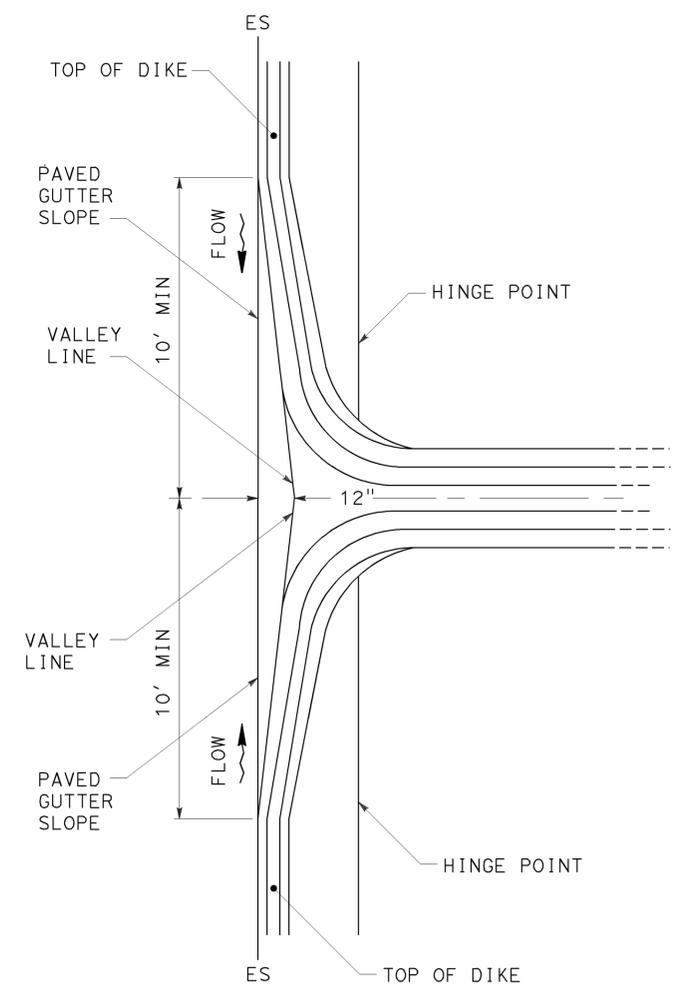
REPAIR FAILED AREA LOCATIONS



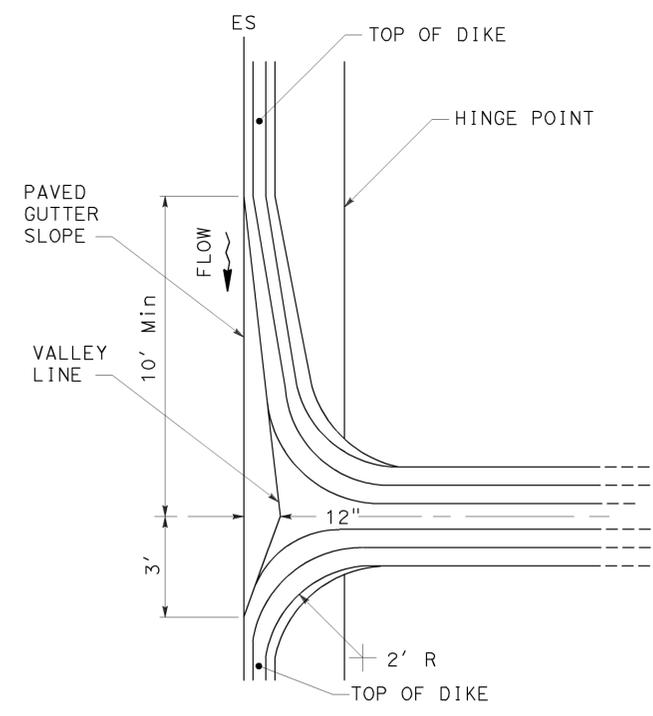
ADJUST INLET TO GRADE



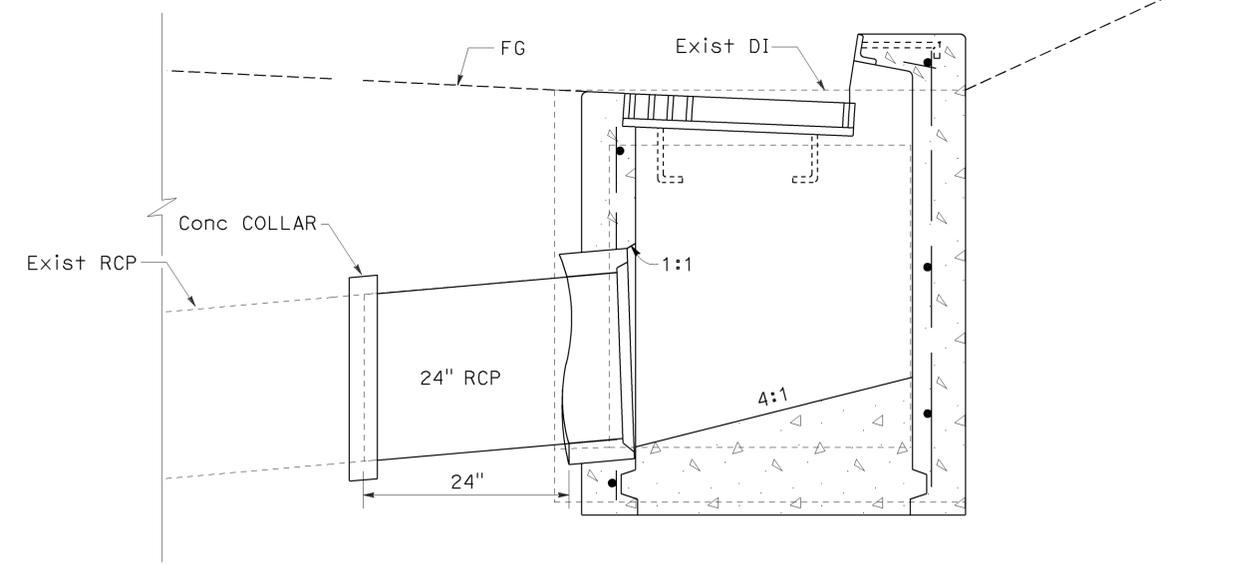
RECONSTRUCT PIPE DOWNDRAIN DETAIL



DETAIL A - HMA DIKE
 MODIFY HMA OVERSIDE DRAIN DETAIL



DETAIL B - TYPE A DIKE
 MODIFY HMA OVERSIDE DRAIN DETAIL



REPLACE Exist DI WITH TYPE GO DI

SB Rte 101, Rt Shld - PM 12.79

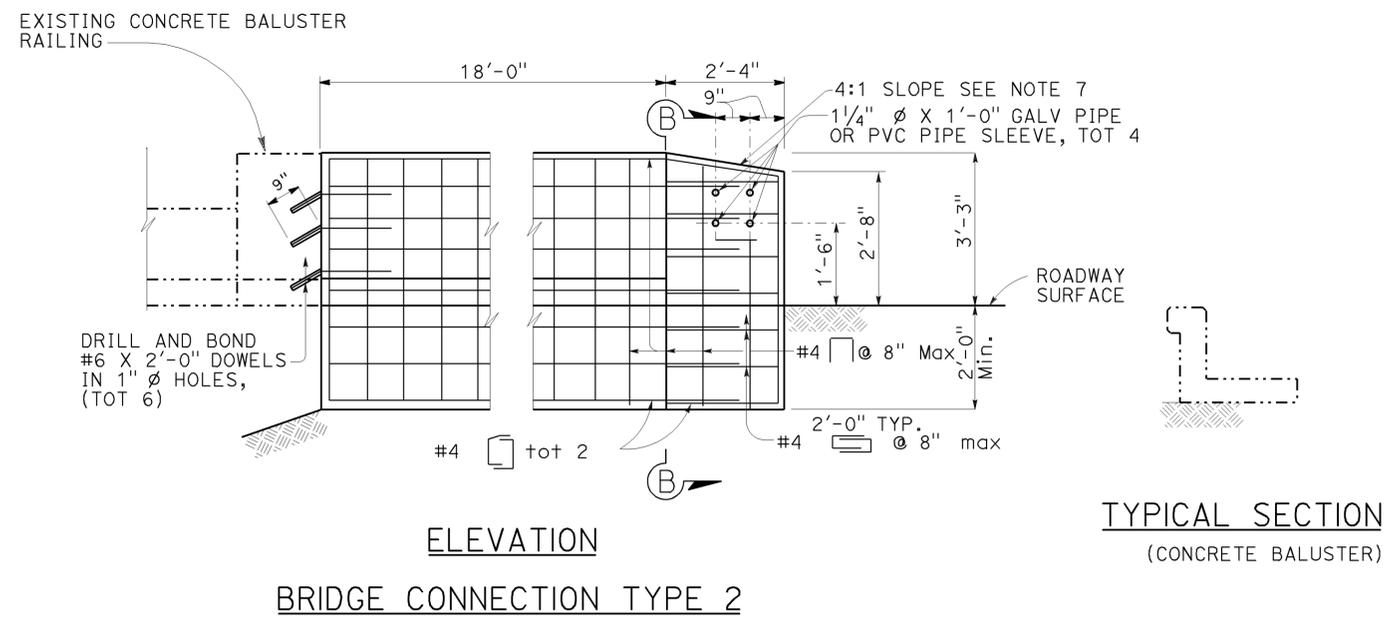
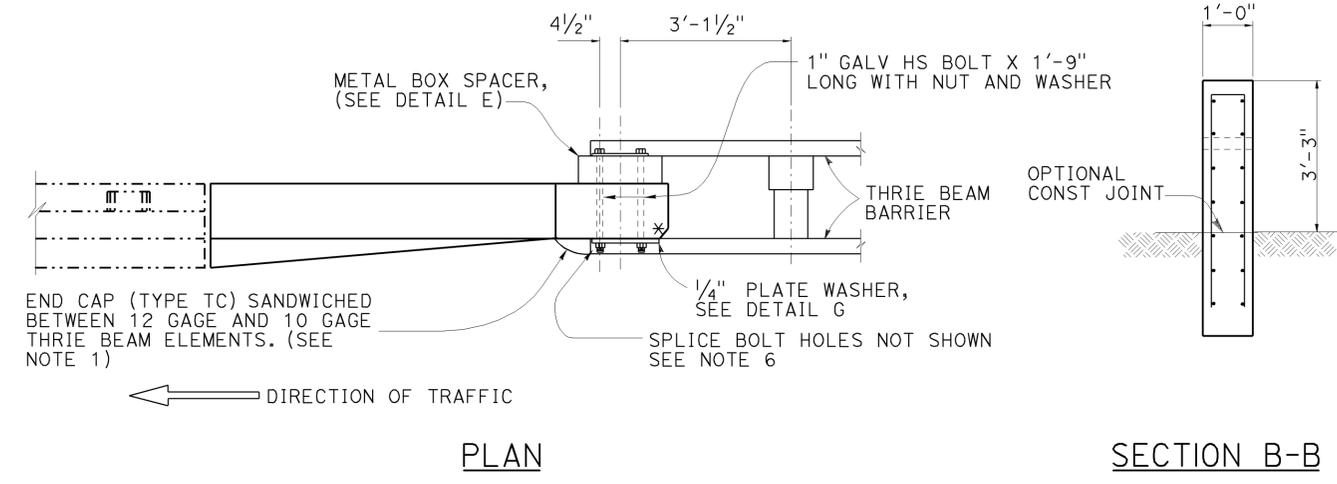
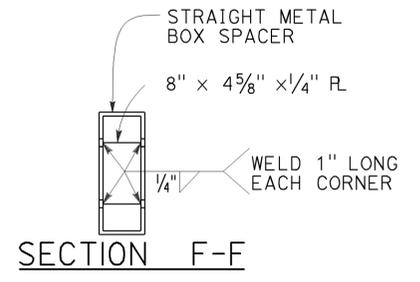
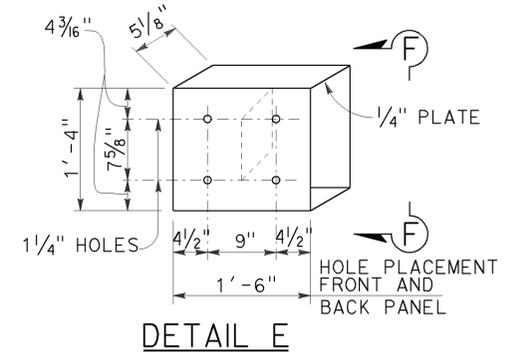
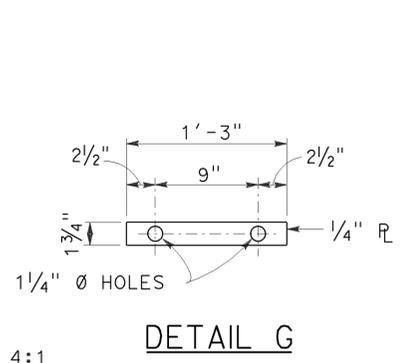
CONSTRUCTION DETAILS

NO SCALE

C-4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	11	64
Registered Professional Engineer KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL			4-30-10 REGISTERED CIVIL ENGINEER DATE 5-3-10 PLANS APPROVAL DATE		
<small>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.</small>					

- NOTES:
- FOR DETAILS NOT SHOWN, SEE STANDARD PLANS, MAY 2006.
 - DEPENDENT DIMENSIONS WILL BE VERIFIED IN THE FIELD BEFORE FABRICATING ANY END CONNECTION TO CONFORM WITH EXISTING PAVED CONDITIONS.
 - WHEN END SECTION IS CALLED FOR, MODIFY TYPICAL TERMINAL SECTION TO FIT. SEE DETAIL E
 - ALL PLATES AND BOLTS ARE GALVANIZED
 - CUT AND REMOVE PORTION OF TYPE 2 AND BARS AS REQUIRED.
 - EXTERIOR SPLICE BOLT HOLES SHALL BE THE STANDARD $\frac{9}{16}$ " x $1\frac{1}{8}$ " SLOT SIZE FOR RAIL SPLICES AT POST #T4 AND THE CONNECTION TO THE CONCRETE BARRIER OR RAILING. INTERIOR SPLICE BOLT HOLES MAY BE INCREASED UP TO $1\frac{1}{4}$ " DIA. WASHERS SHALL BE USED WITH SPLICE BOLTS ON BACK SIDE OF RAIL ELEMENT AT POST #T4 AND CONNECTION TO THE CONCRETE BARRIER OR RAILING.
 - TAPER THE TOP OF THE END OF THE BRIDGE RAILING AT 4:1 TO MATCH THE TOP ELEVATION OF THE THRIE BEAM RAIL ELEMENT.
 - CUT AND REMOVE THAT PORTION OF TYPE 2 AS REQUIRED EXISTING REINFORCEMENT TO REMAIN AS SHOWN.
 - WING WALL REINFORCEMENT TO REMAIN.



EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

CONSTRUCTION DETAILS
C-5

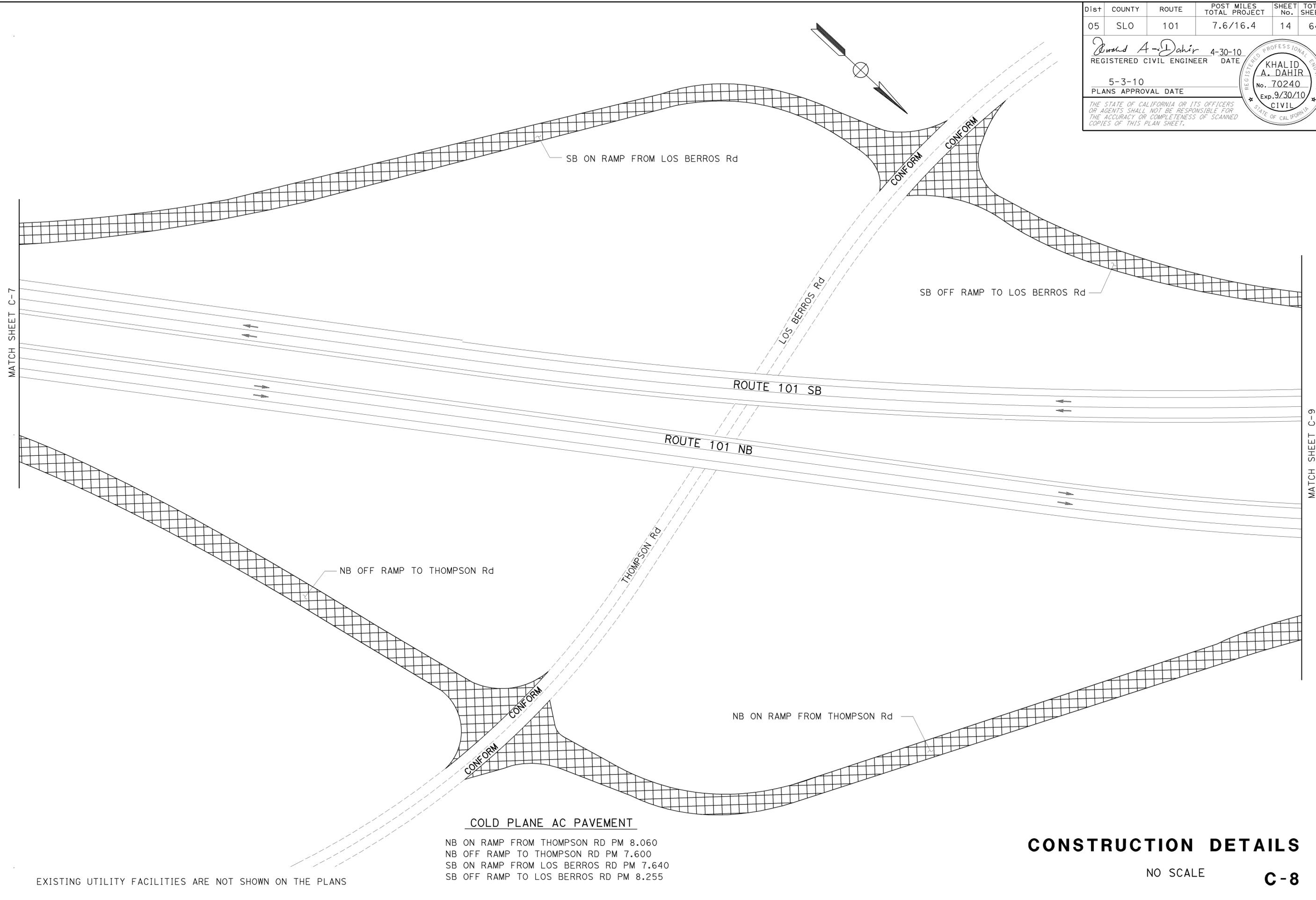
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	14	64

Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
KHALID A. DAHIR
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA

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Caltrans	SCOTT SHAVER	CHECKED BY	ALBERT VITELA
06 - DESIGN			KHALID DAHIR
			DATE REVISED



COLD PLANE AC PAVEMENT

NB ON RAMP FROM THOMPSON RD PM 8.060
 NB OFF RAMP TO THOMPSON RD PM 7.600
 SB ON RAMP FROM LOS BERROS RD PM 7.640
 SB OFF RAMP TO LOS BERROS RD PM 8.255

CONSTRUCTION DETAILS

NO SCALE

C-8

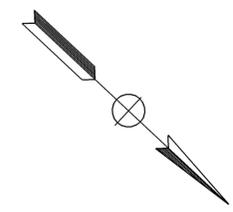
LAST REVISION | DATE PLOTTED => 06-MAY-2010
 04-21-10 TIME PLOTTED => 11:04

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	15	64

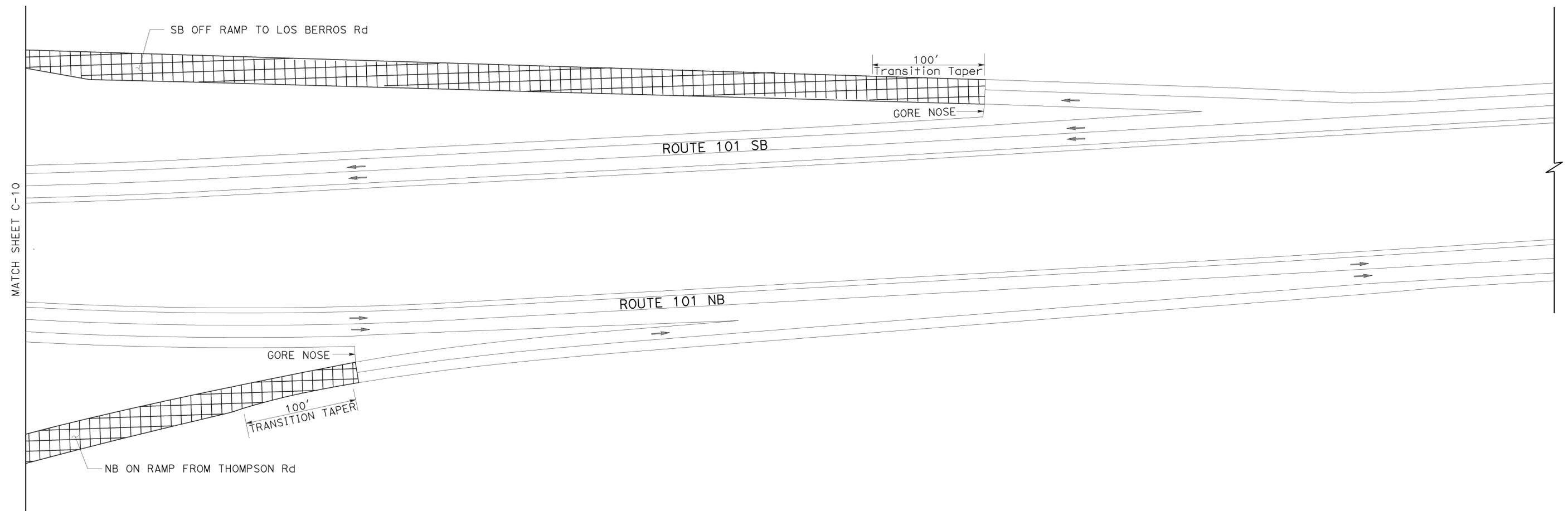
Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
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REGISTERED PROFESSIONAL ENGINEER
KHALID A. DAHIR
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Caltrans	SCOTT SHAVER	CHECKED BY	ALBERT VITELA
06 - DESIGN			KHALID DAHIR
			DATE
			REVISOR
			DATE
			REVISOR
			DATE



CONSTRUCTION DETAILS

NO SCALE **C-9**

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

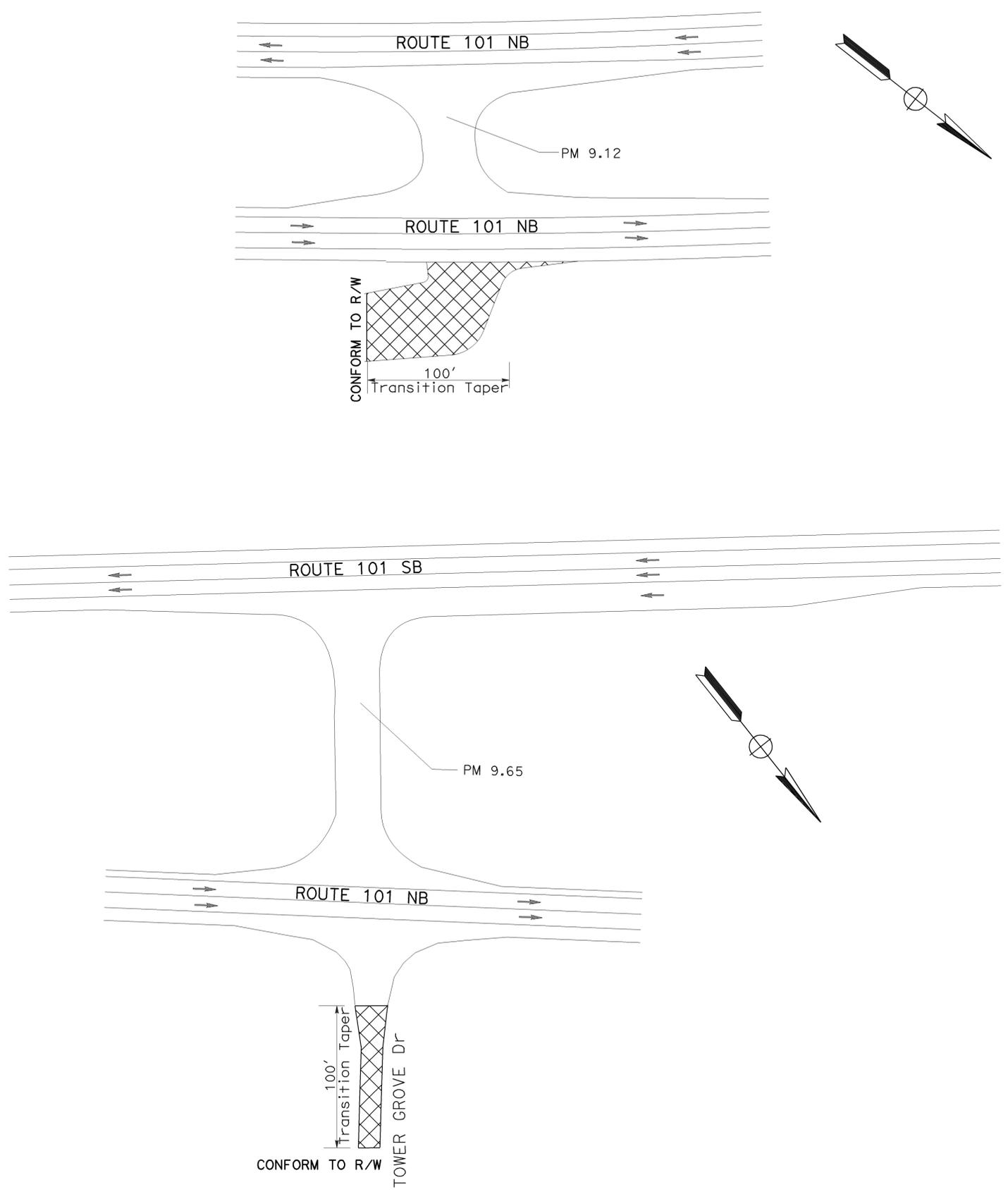
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION Caltrans 06 - DESIGN	FUNCTIONAL SUPERVISOR	SCOTT SHAVER	CALCULATED/DESIGNED BY	CHECKED BY	ALBERT VITELA	REVISOR	DATE
					KHALID DAHIR		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	16	64

Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

CONSTRUCTION DETAILS
 NO SCALE
C-10

LAST REVISION | DATE PLOTTED => 06-MAY-2010
 04-21-10 TIME PLOTTED => 11:04

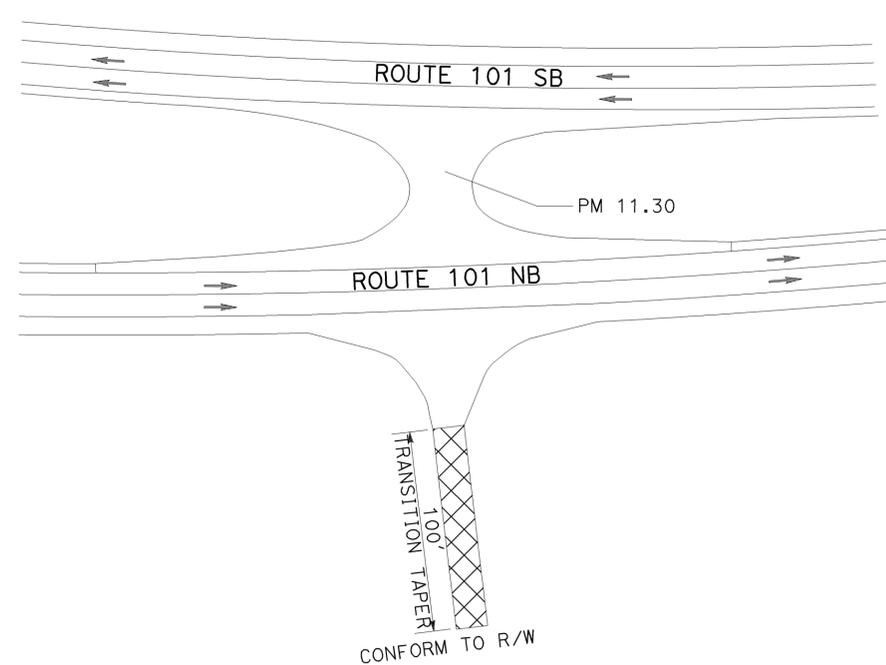
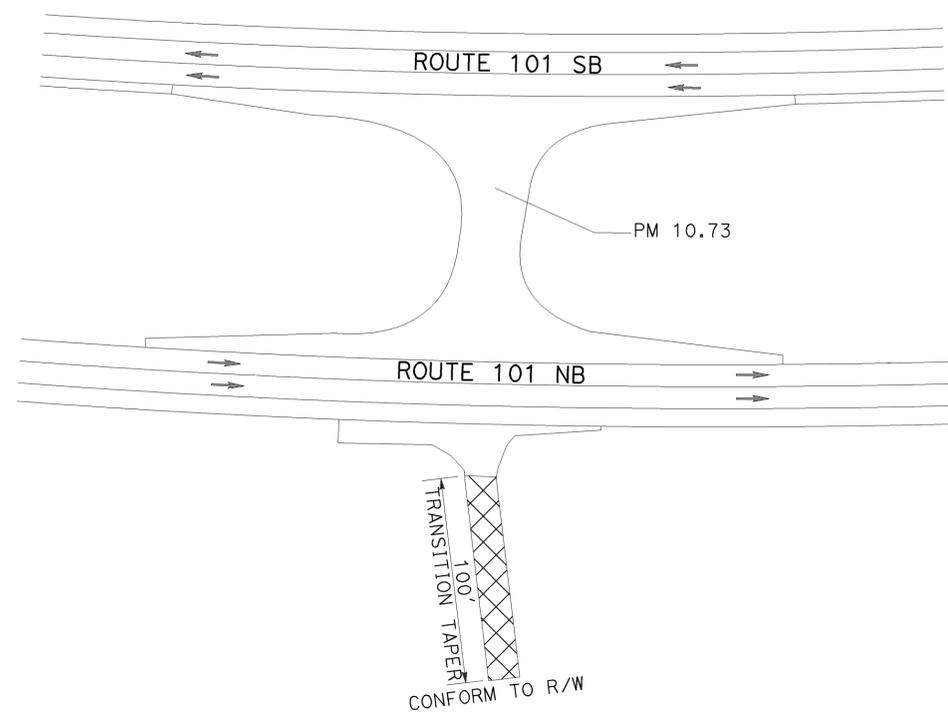
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	17	64

Donald A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
KHALID A. DAHIR
 No. 70240
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	SCOTT SHAVER	CHECKED BY	ALBERT VITELA
06 - DESIGN			KHALID DAHIR
			REVISOR
			DATE
			REVISED



EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

CONSTRUCTION DETAILS

NO SCALE **C-11**

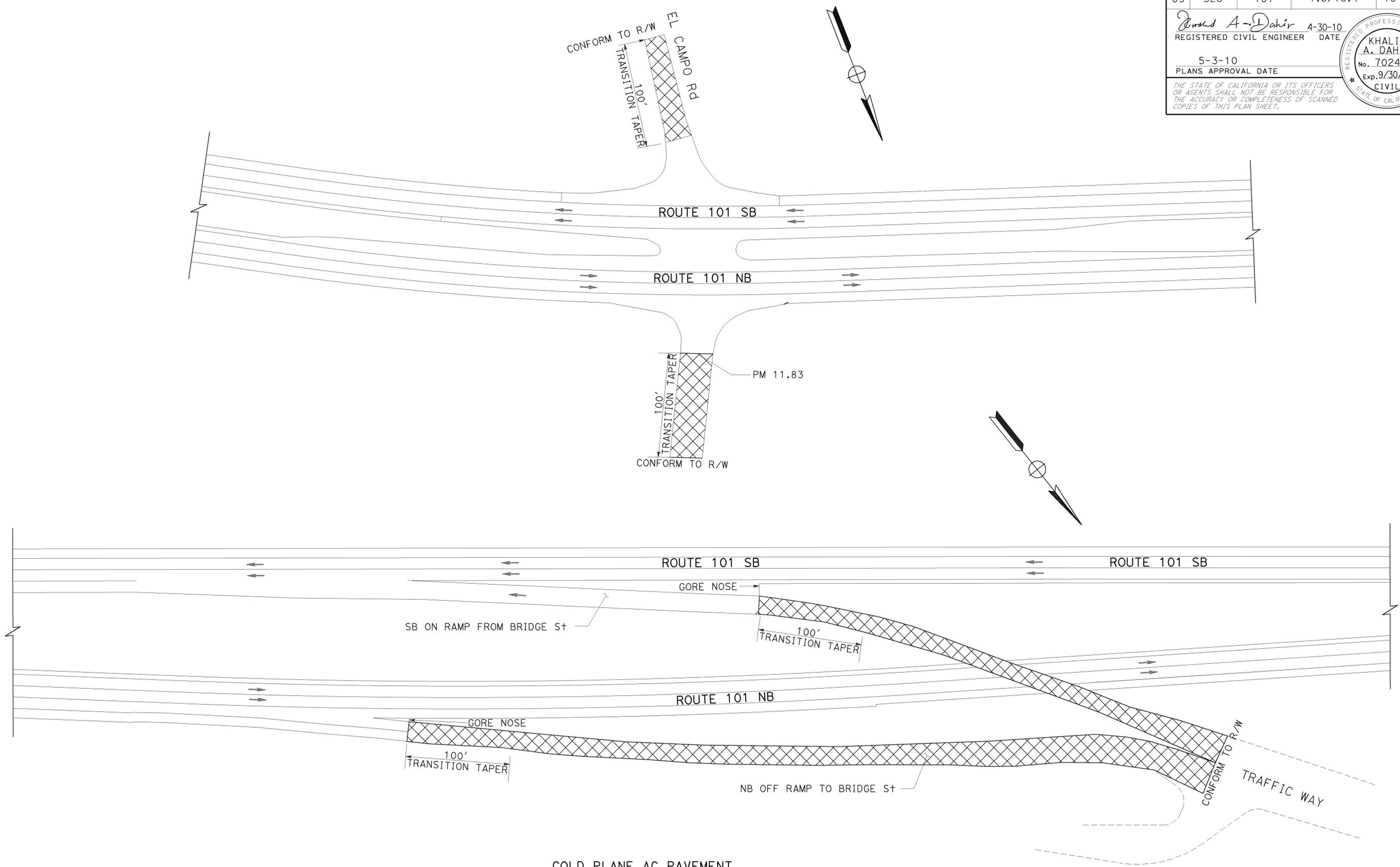
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - 06-DESIGN
Caltrans
 FUNCTIONAL SUPERVISOR: SCOTT SHAVER
 CALCULATED/DESIGNED BY: CHECKED BY:
 ALBERT VITELA KHALID DAHIR
 REVISED BY: DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	18	64

KHALID A. DAHIR
 REGISTERED CIVIL ENGINEER
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA

4-30-10 DATE
 5-3-10 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.

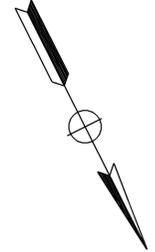


COLD PLANE AC PAVEMENT
 SB ON RAMP FROM TRAFFIC WAY - PM 12.50
 NB OFF RAMP TO TRAFFIC WAY - PM 12.50

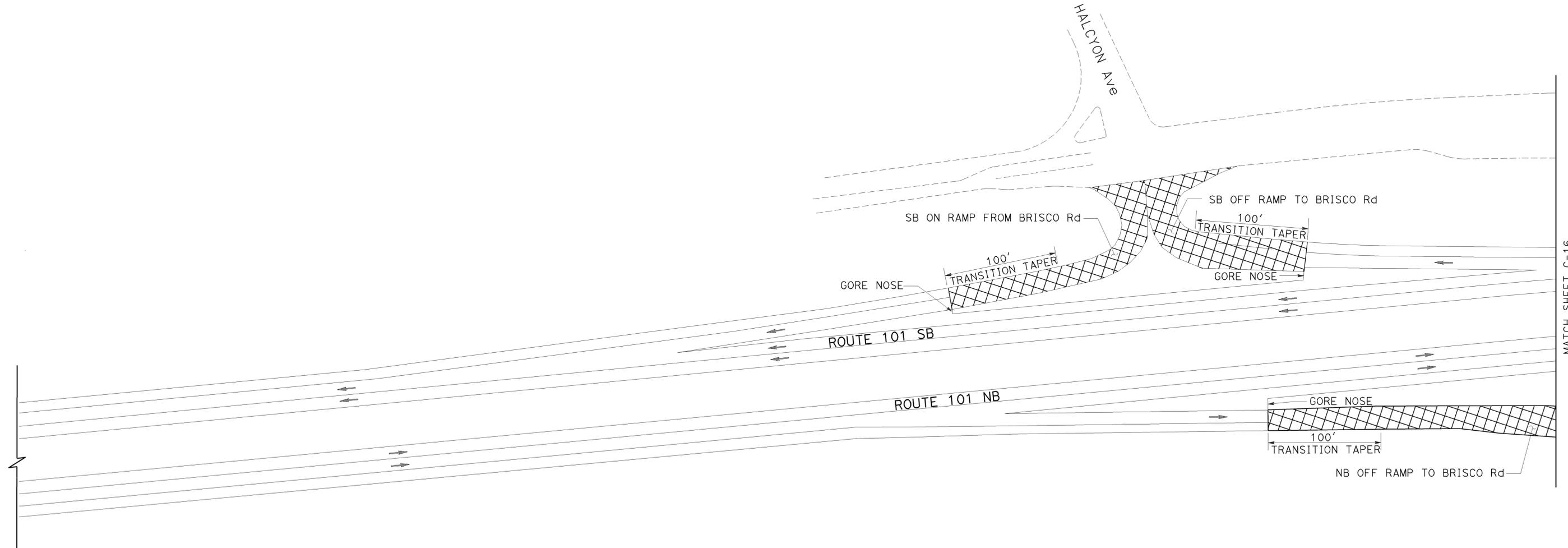
CONSTRUCTION DETAILS
 NO SCALE
C-12

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	21	64
<i>Donald A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE			KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL		
5-3-10			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>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans 06-DESIGN	SCOTT SHAVER	CHECKED BY	ALBERT VITELA
			KHALID DAHIR
			REVISOR
			DATE
			REVISED



COLD PLANE AC PAVEMENT POSTMILE
 SB ON RAMP FROM BRISCO Rd - PM 13.56
 NB OFF RAMP TO BRISCO Rd - PM 13.64
 SB OFF RAMP TO BRISCO Rd - PM 13.68

CONSTRUCTION DETAILS
 NO SCALE
C-15

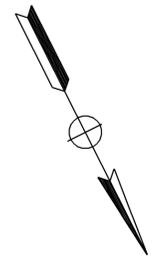
EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	23	64

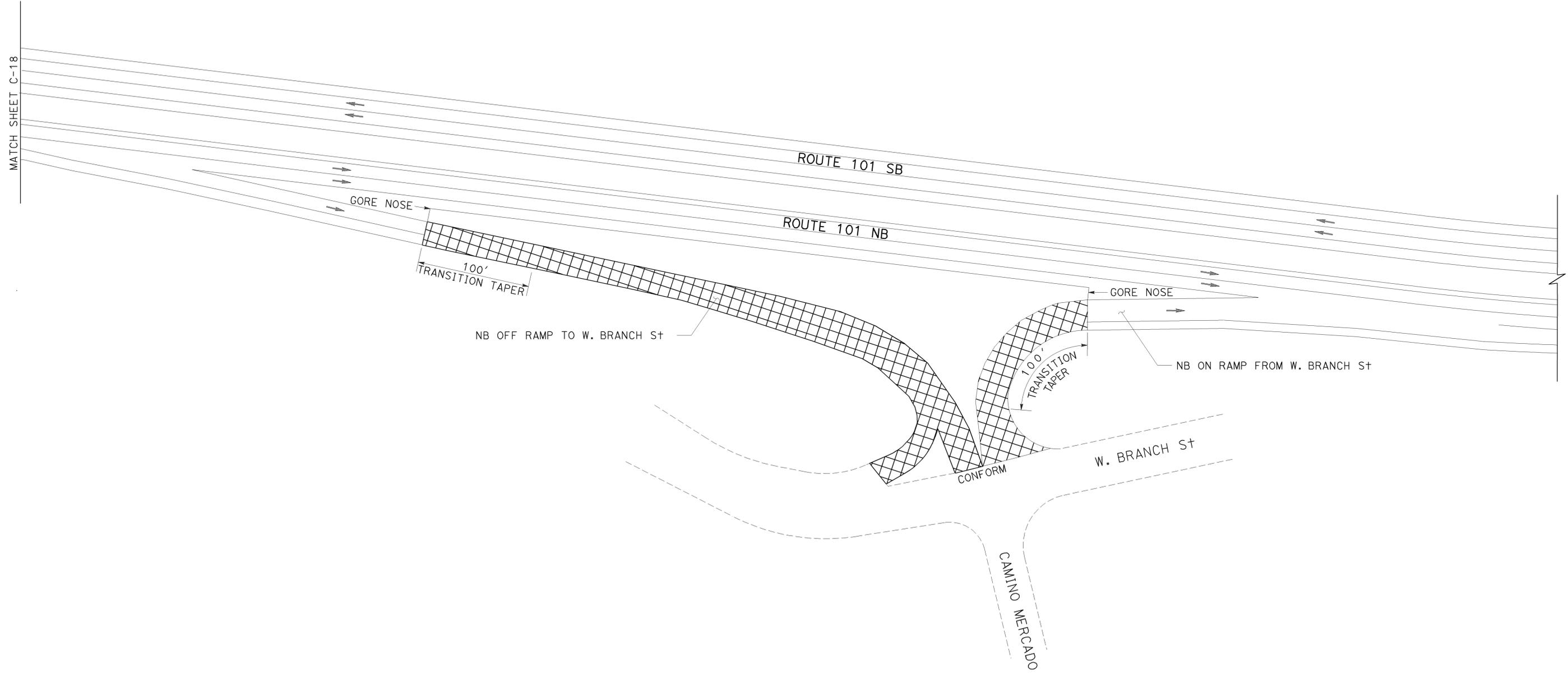
Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
KHALID A. DAHIR
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA

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



STATE OF CALIFORNIA	DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISED BY
Caltrans	06 - DESIGN	SCOTT SHAVER	CHECKED BY	ALBERT VITELA
				KHALID DAHIR
				DATE
				REVISED



COLD PLANE AC PAVEMENT
 NB OFF RAMP TO W BRANCH/CAMINO - PM 14.18
 NB ON RAMP FROM W BRANCH/CAMINO - PM 14.30

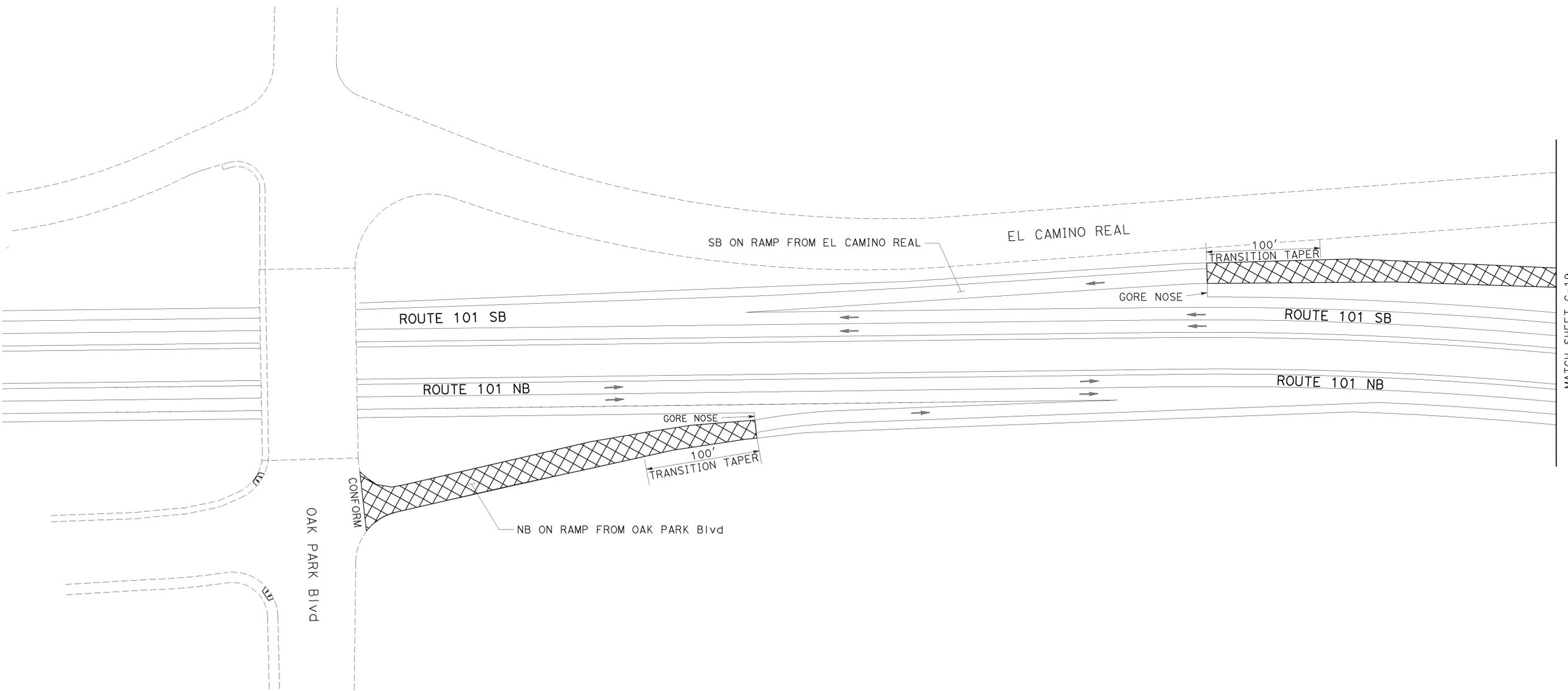
CONSTRUCTION DETAILS
 NO SCALE
C-17

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	24	64
<i>Khalid A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE			KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL		
5-3-10			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>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	SCOTT SHAVER	JOHNNY REYES	JOHNNY REYES
06 - DESIGN		CHECKED BY	DATE
		KHALID DAHIR	



MATCH SHEET C-19

COLD PLANE AC PAVEMENT

NB ON RAMP FROM OAK PARK BLVD. PM 14.73
 SB ON RAMP FROM EL CAMINO REAL PM 14.78

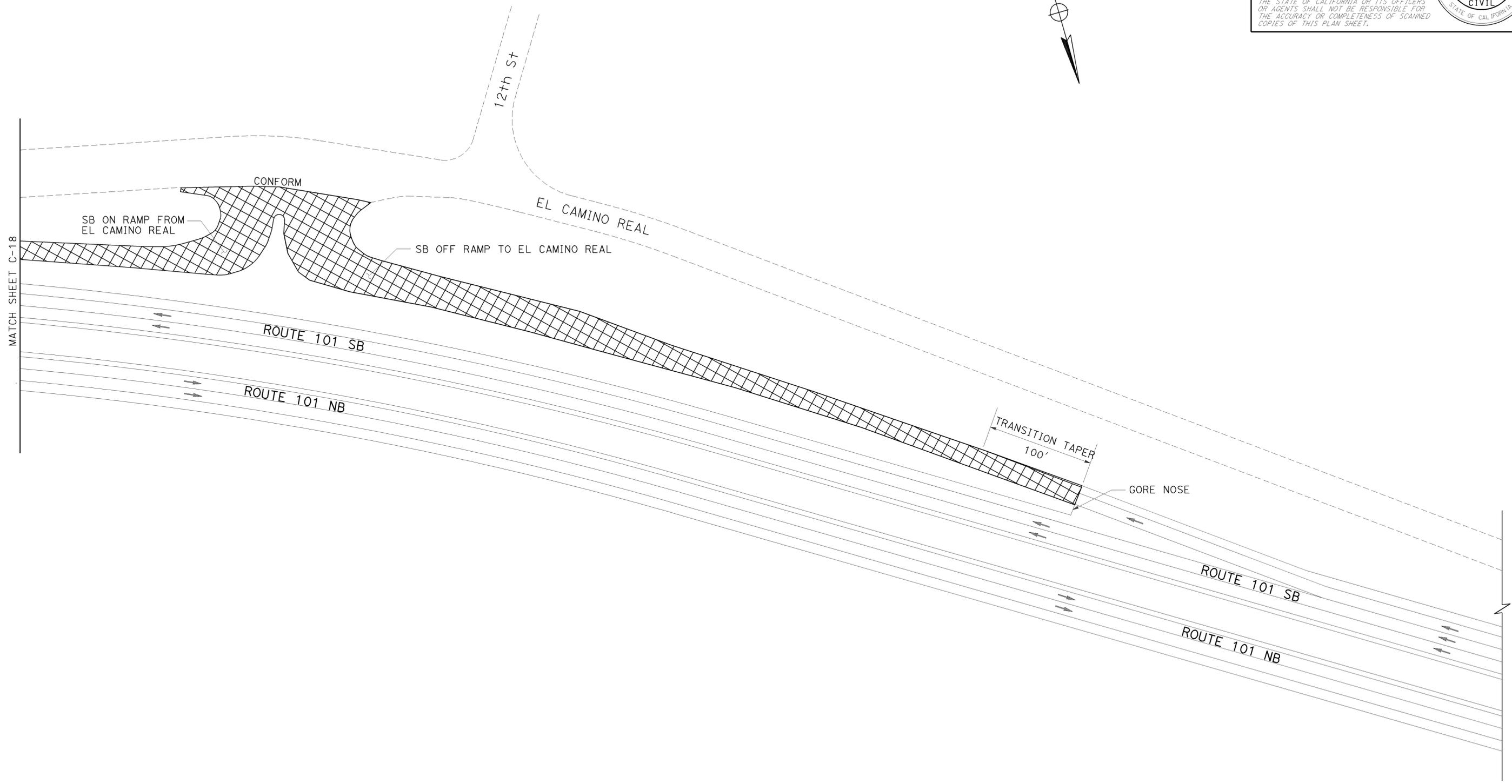
CONSTRUCTION DETAILS

NO SCALE **C-18**

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	25	64
<i>Khalid A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE			5-3-10 PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL STATE OF CALIFORNIA			THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.		



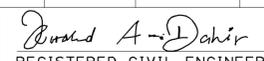
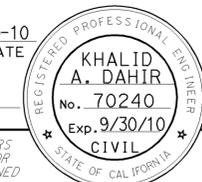
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
Caltrans	SCOTT SHAVER	ALBERT VITELA	ALBERT VITELA
06 - DESIGN	CHECKED BY	DATE	REVISION

COLD PLANE AC PAVEMENT POSTMILE
 SB OFF RAMP TO EL CAMINO REAL - PM 15.05
 SB ON RAMP FROM EL CAMINO REAL - PM 14.78

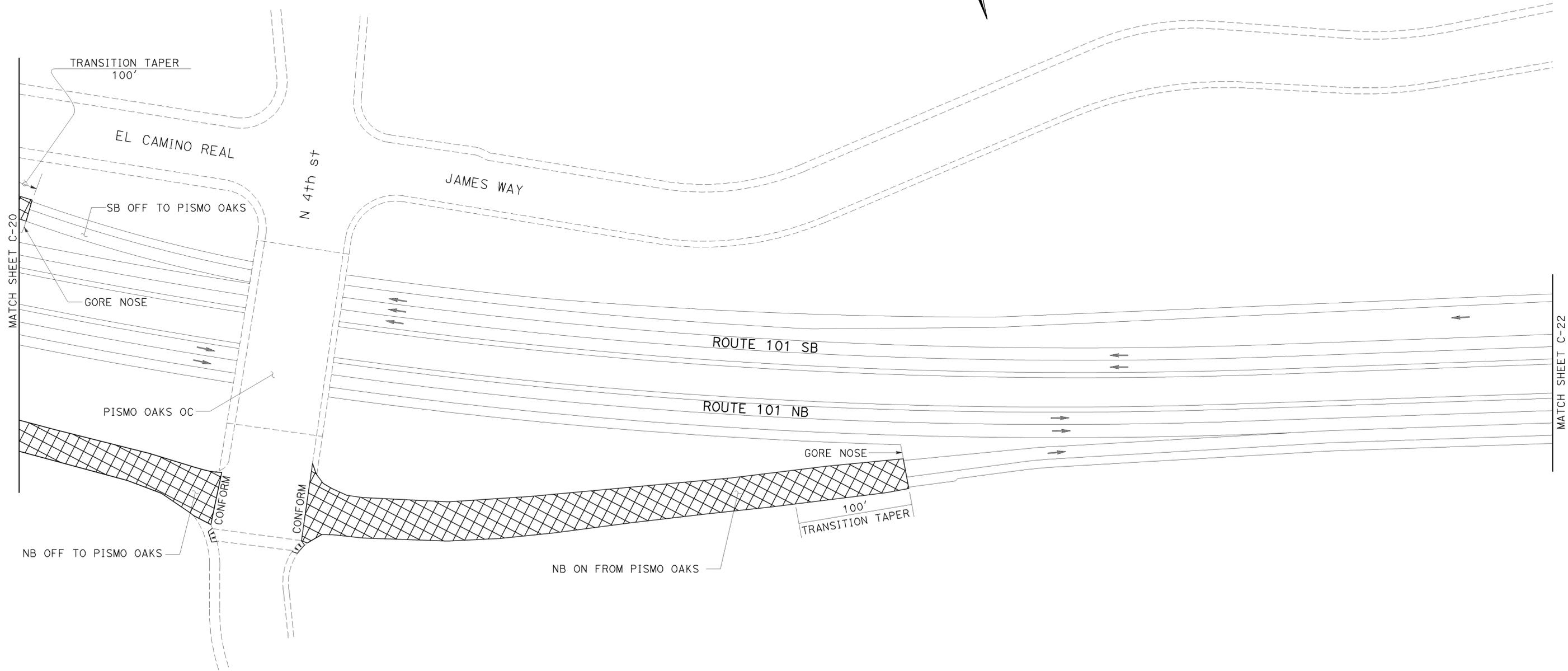
CONSTRUCTION DETAILS

NO SCALE **C-19**

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.5	27	64
 REGISTERED CIVIL ENGINEER			4-30-10 DATE		
5-3-10 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>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
Caltrans	SCOTT SHAVER	ALBERT VITELA	ALBERT VITELA
06 - DESIGN		CHECKED BY	KHALID DAHIR



COLD PLANE AC PAVEMENT POSTMILE
 NB OFF-RAMP TO PISMO OAKS - PM 15.37
 NB ON-RAMP FROM PISMO OAKS - PM 15.76
 SB OFF-RAMP TO PISMO OAKS - PM 15.86

CONSTRUCTION DETAILS
 NO SCALE **C-21**

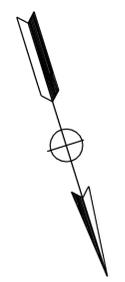
EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	28	64

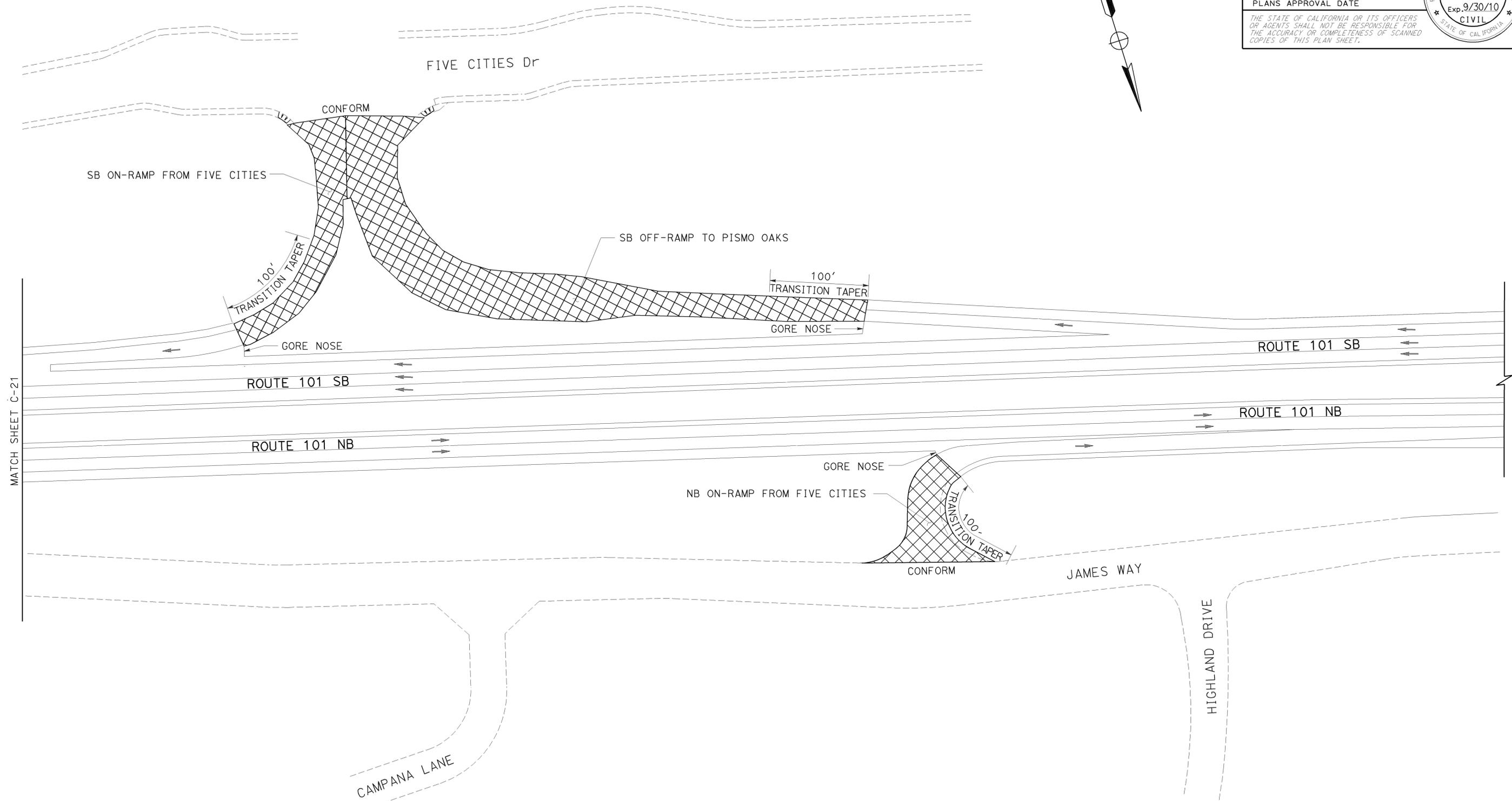
Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

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
KHALID A. DAHIR
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
Caltrans	SCOTT SHAVER	ALBERT VITELA	ALBERT VITELA
06 - DESIGN		KHALID DAHIR	KHALID DAHIR
		CHECKED BY	DATE REVISOR



COLD PLANE AC PAVEMENT POSTMILE

NB ON-RAMP FROM FIVE CITIES PM 16.02
 SB OFF-RAMP TO PISMO OAKS PM 15.86
 SB ON-RAMP FROM FIVE CITIES PM 16.05

CONSTRUCTION DETAILS

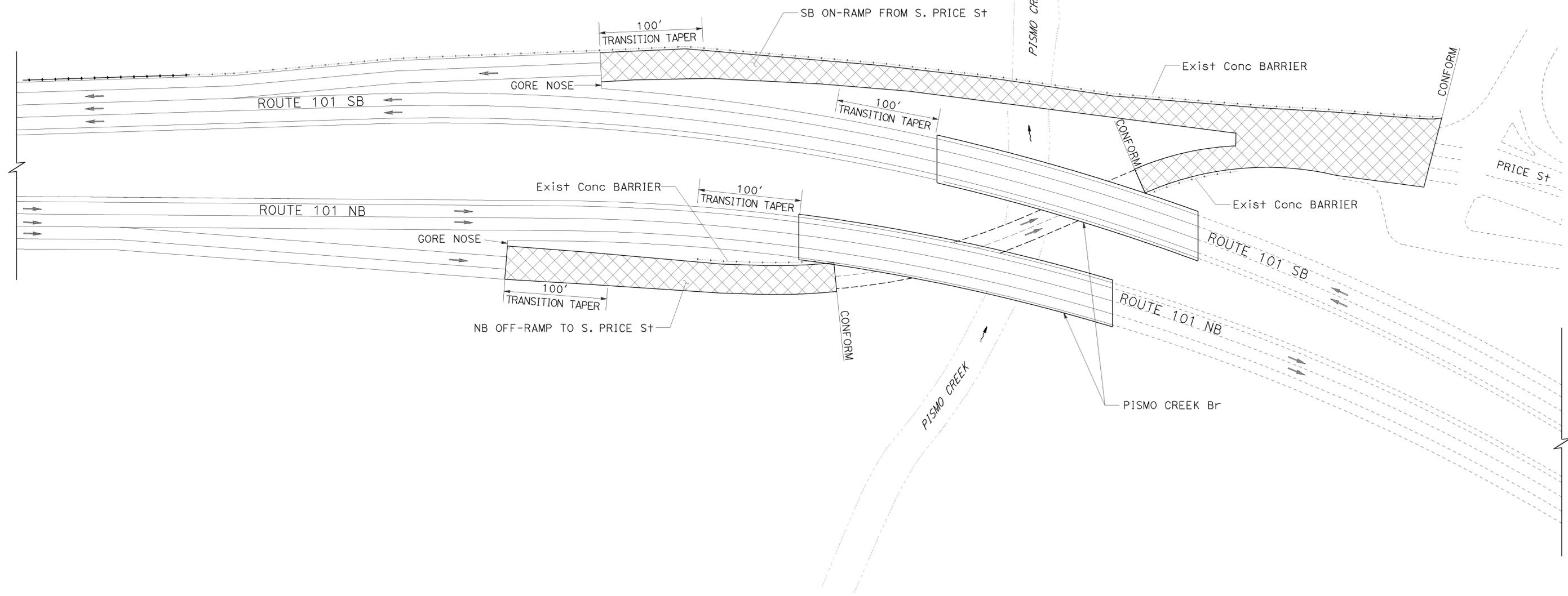
NO SCALE **C-22**

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	29	64
<i>Khalid A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE			KHALID A. DAHIR No. 70240 Exp. 9/30/10 CIVIL		
5-3-10			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>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06 - DESIGN
 FUNCTIONAL SUPERVISOR: SCOTT SHAVER
 CALCULATED/DESIGNED BY: ALBERT VITELA
 CHECKED BY: KHALID DAHIR
 REVISED BY: ALBERT VITELA
 DATE REVISED: KHALID DAHIR



COLD PLANE AC PAVEMENT POSTMILE
 NB OFF-RAMP TO S. PRICE ST - PM 16.32
 SB ON-RAMP FROM S. PRICE ST - PM 16.33

CONSTRUCTION DETAILS
 NO SCALE
C-23

EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THE PLANS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	31	64

9(A)-AL1 04-20-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

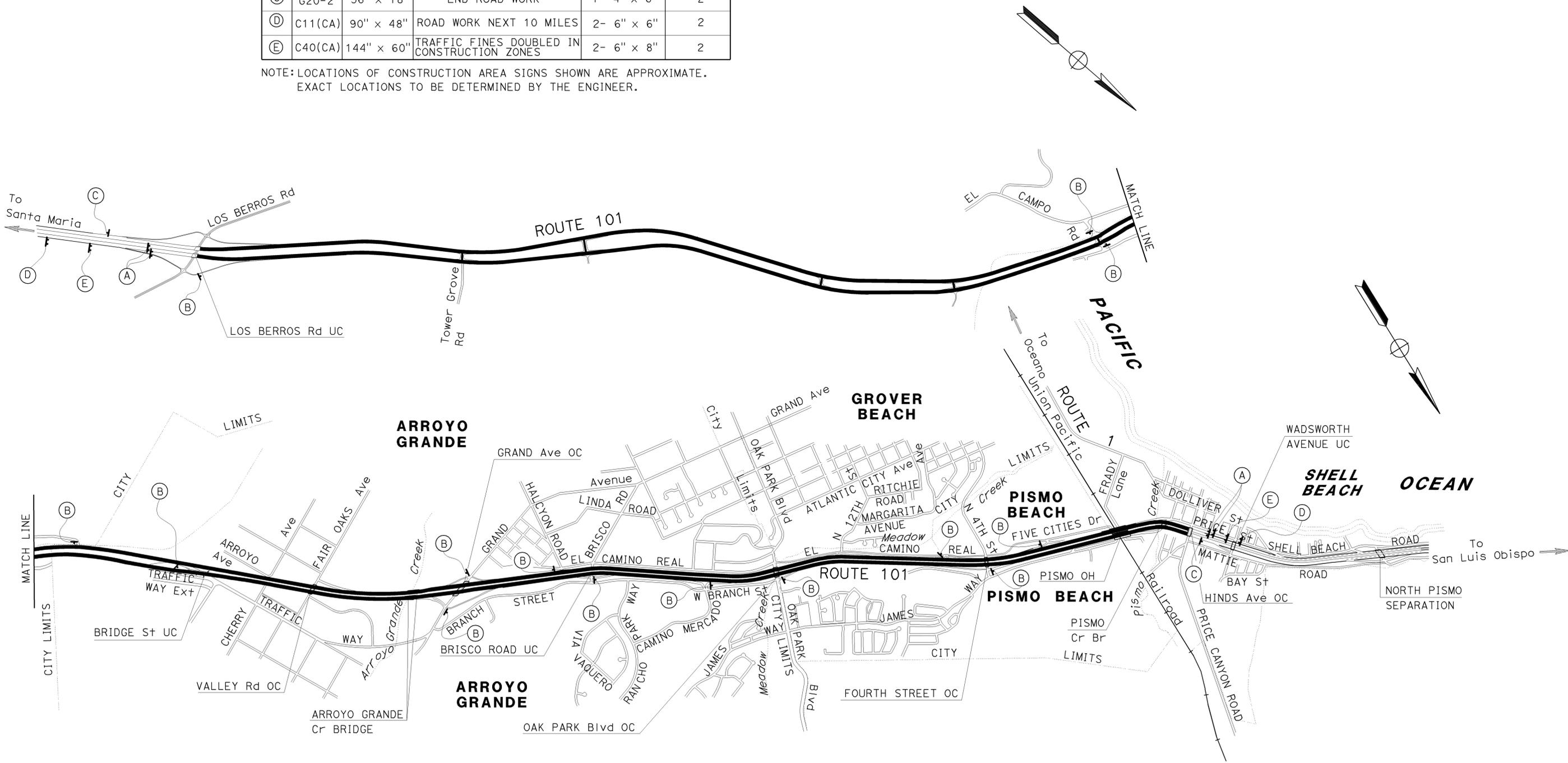
REGISTERED PROFESSIONAL ENGINEER
 MAZIN H. AL-ALI
 No. 65523
 Exp 9/30/11
 CIVIL
 STATE OF CALIFORNIA

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

**STATIONARY MOUNTED
 CONSTRUCTION AREA SIGNS**

SIGN No.	SIGN CODE	PANEL SIZE (inch)	SIGN MESSAGE	No. OF POST AND SIZE(in)	No. OF SIGNS
(A)	W20-1	60" x 60"	ROAD WORK AHEAD	2- 6" x 6"	4
(B)	W20-1	48" x 48"	ROAD WORK AHEAD	1- 6" x 6"	14
(C)	G20-2	36" x 18"	END ROAD WORK	1- 4" x 6"	2
(D)	C11(CA)	90" x 48"	ROAD WORK NEXT 10 MILES	2- 6" x 6"	2
(E)	C40(CA)	144" x 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2- 6" x 8"	2

NOTE: LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.



**CONSTRUCTION AREA SIGNS
 CS-1**

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGNS ONLY.

NO SCALE

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	33	64
<i>MAZ - ALI</i> 04-20-10 REGISTERED CIVIL ENGINEER DATE					
5-3-10			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>					

PAVEMENT DELINEATION QUANTITIES

ROUTE 101 LOCATION	DIRECTION	DETAIL No.	PAVEMENT MARKER				REMOVE PAVEMENT MARKERS (N)	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)					THERMOPLASTIC PAVEMENT MARKING		
			(RETROREFLECTIVE)			(NON-REFLECTIVE)		4" SOLID	4" (BROKEN 17'-7')	4" (BROKEN 36'-12')	8" SOLID	8" (BROKEN 12'-3')	DESCRIPTION	SQFT	
			TYPE C	TYPE G	TYPE H	TYPE A		EA	EA	EA	EA	EA			
GRAND Ave/ROUTE 101 SB OFF RAMP	SB	25A			36		36	830						1-SIGNAL	32
		27B						830						1-AHEAD	31
		36		6			6				150			4-TYPE III (L) ARROW	168
		14A	8											1-TYPE I ARROW	31
CAMINO MERCADO/ROUTE 101 NB OFF RAMP	NB	25A			40		40	940						CHEVRON	200
		27B						940						1-SIGNAL	32
		36		10			10				200			1-AHEAD	31
		14A	8											1-TYPE I ARROW	31
CAMINO MERCADO/ROUTE 101 NB ON RAMP	NB	25A			23		23	520						1-TYPE I ARROW	31
		27B						520						1-AHEAD	31
		25A			49		49	1,140						2-TYPE VII (L) ARROW	54
		27B						1,140						2-TYPE IV (L) ARROW	30
12th St/ROUTE 101 SB OFF RAMP	SB	25A												1-TYPE I ARROW	31
		27B												1-AHEAD	31
		36												2-TYPE III (L) ARROW	84
		14A	8											2-TYPE II (L) ARROW	90
12th St/ROUTE 101 SB ON RAMP	SB	25A			40		40	970						2-TYPE I ARROW	62
		27B						970						1-TYPE I ARROW	31
		25A			26		26	600						1-TYPE I ARROW	31
		27B						600						1-AHEAD	31
12th St/ROUTE 101 NB ON RAMP	NB	25A			68		68	1,600						1-SIGNAL	32
		27B						1,600						1-AHEAD	31
		36		10			10				200			1-TYPE I ARROW	31
		14A	8											2-TYPE III (L) ARROW	84
4th St/ROUTE 101 NB OFF RAMP	NB	25A												2-TYPE III (L) ARROW	84
		27B												2-TYPE II (L) ARROW	90
		36												2-TYPE I ARROW	62
		14A	8											1-TYPE I ARROW	31
4th St/ROUTE 101 NB ON RAMP	NB	25A			34		34	800						1-TYPE I ARROW	31
		27B						800						1-AHEAD	31
		25A			25		25	580						2-TYPE III (L) ARROW	84
		27B						580						2-TYPE II (L) ARROW	90
4th St/ROUTE 101 SB OFF RAMP	SB	25A			37		37	870						1-STOP	22
		27B						870						1-AHEAD	31
		36												1-TYPE I ARROW	31
		14A	8											2-TYPE III (L) ARROW	84
FIVE CITIES/ROUTE 101 SB OFF RAMP	SB	25A			38		38	870						DIAGNOAL LINES (WHITE)	100
		27B						870						1-SIGNAL	32
		36		18			18				400			1-AHEAD	31
		14A	4											1-TYPE I ARROW	31
FIVE CITIES/ROUTE 101 SB ON RAMP	SB	25A			22		22	500						2-TYPE III (L) ARROW	84
		27B						500						4-TYPE II (L) ARROW	180
		25A			10		10	220						1-TYPE I ARROW	31
		27B						220						1-AHEAD	31
PRICE Rd/ROUTE 101 NB OFF RAMP	NB	25A			56		56	1,320						3-STOP	66
		27B						1,320						1-AHEAD	31
		14A	4											1-TYPE I ARROW	31
		27B			48		48	1,130						2-TYPE I ARROW	62
PRICE Rd/ROUTE 101 SB ON RAMP	SB	25A						1,130						2-TYPE I ARROW	62
		27B						1,130						1-TYPE I ARROW	31
		36												2-TYPE I ARROW	62
		14A	4											1-TYPE I ARROW	31
SUBTOTAL			48	180	416			25,780			950				2,093
SUBTOTAL PDQ-1				5,218						319,143					3,841
TOTAL				5,862						345,873					5,934

(N) NOT A PAY ITEM. FOR INFORMATION ONLY

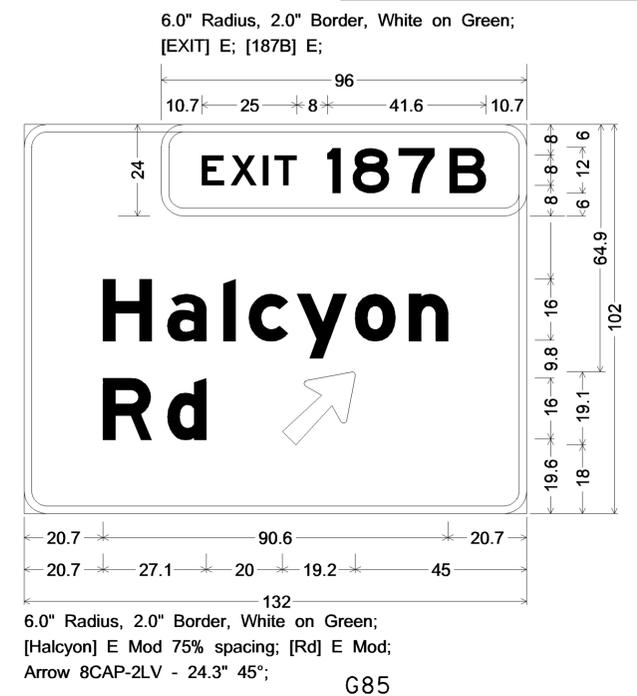
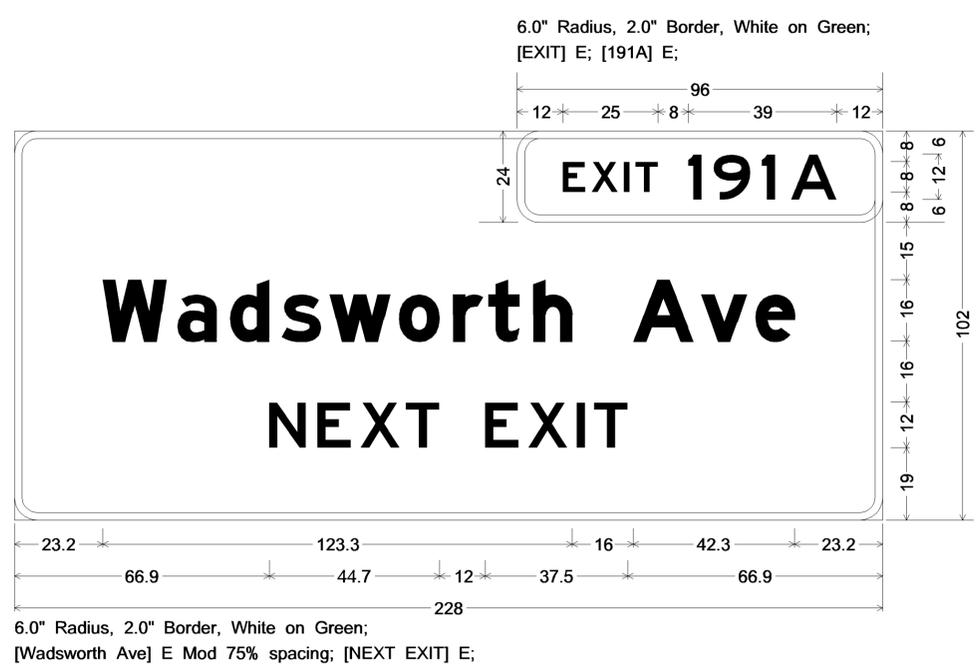
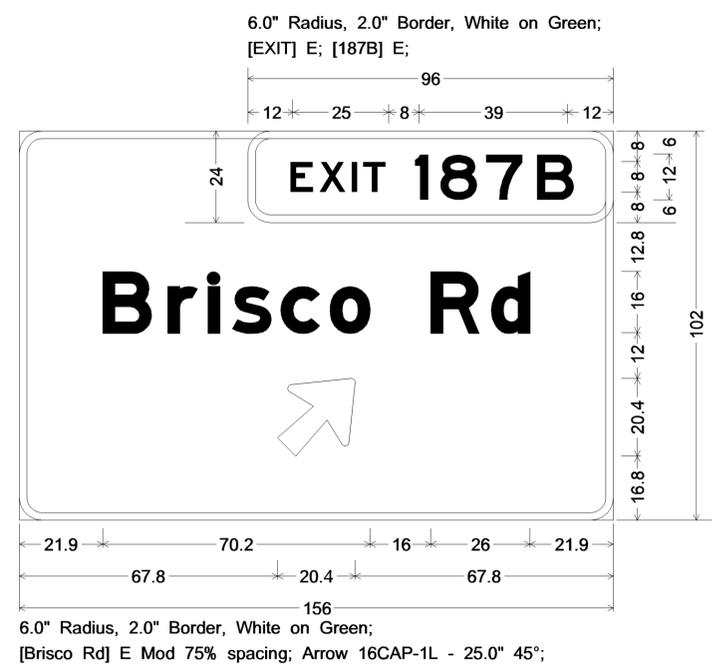
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

 FUNCTIONAL SUPERVISOR: MOHAMMED QATAMI
 CALCULATED/DESIGNED BY: HASEEB YOUSAF
 CHECKED BY: MAZIN AL-ALI
 REVISED BY: [blank]
 DATE REVISED: [blank]

PAVEMENT DELINEATION QUANTITIES

PDQ-2

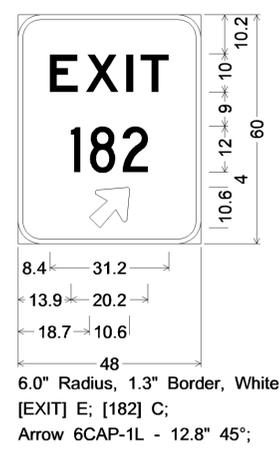
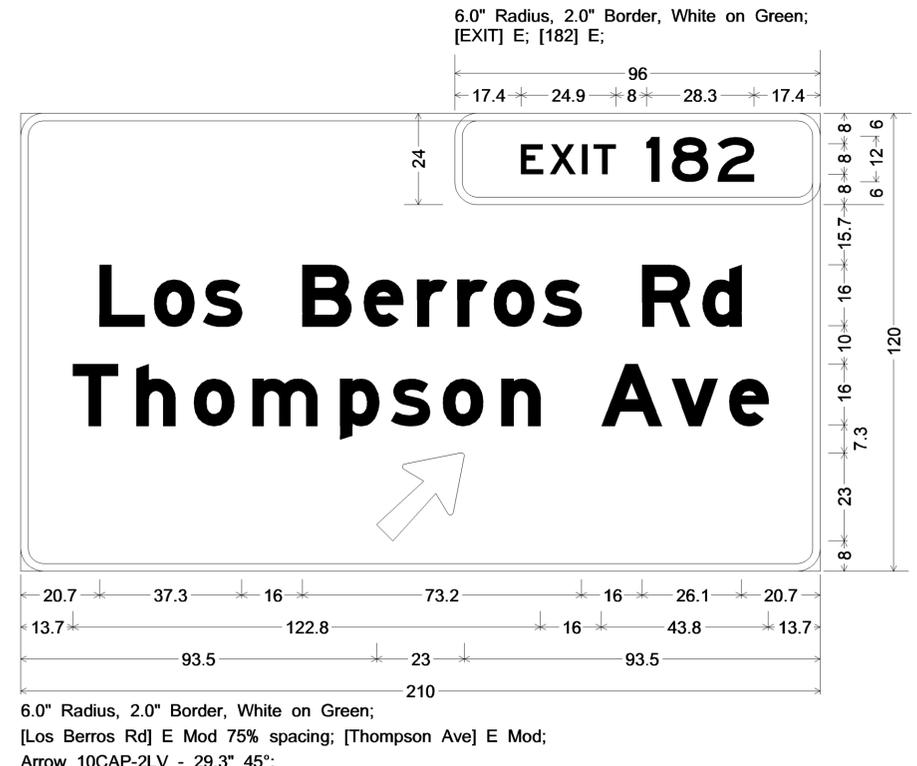
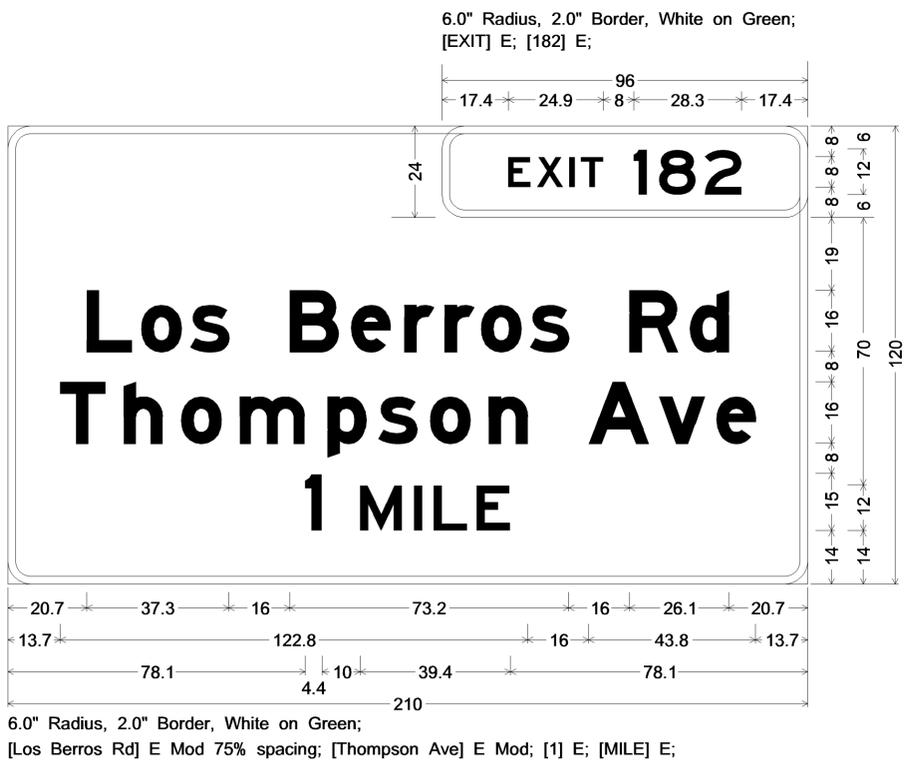
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	34	64
MAZIN - ALI			04-20-10	DATE	
REGISTERED CIVIL ENGINEER			PLANS APPROVAL DATE		
5-3-10					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OFF THIS PLAN SHEET.</small>					



G85
① FNBT ON ROUTE 101 AT PM 13.58

G86
② FNBT ON ROUTE 101 AT PM 16.30

G85
③ FSBT ON ROUTE 101 AT PM 13.83



G83
④ FSBT ON ROUTE 101 AT PM 9.03

G85
⑤ FSBT ON ROUTE 101 AT PM 8.38

G84
⑥ FSBT ON ROUTE 101 AT PM 8.29

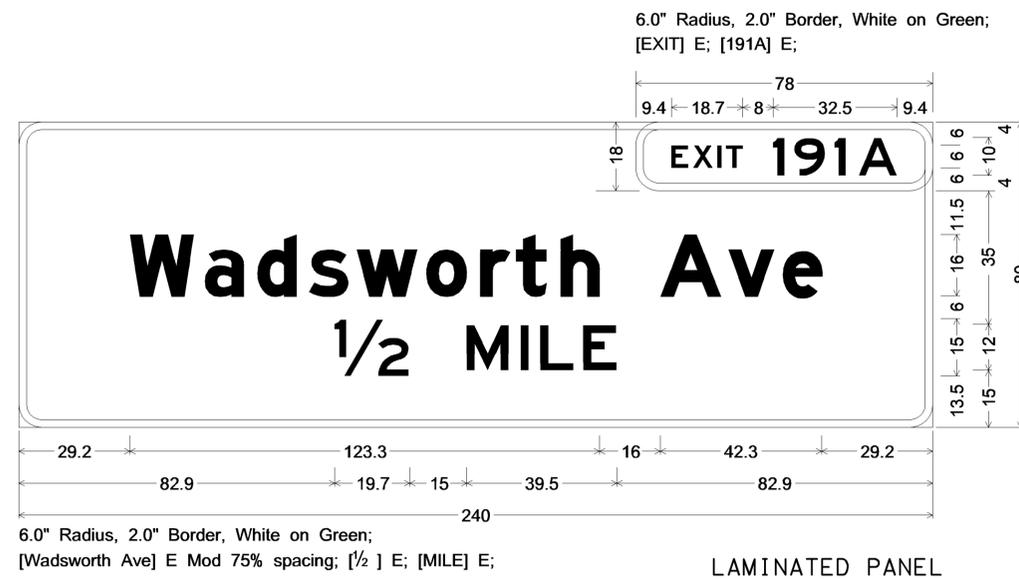
NOTE: ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN

THIS PLAN ACCURATE FOR SIGN WORK ONLY

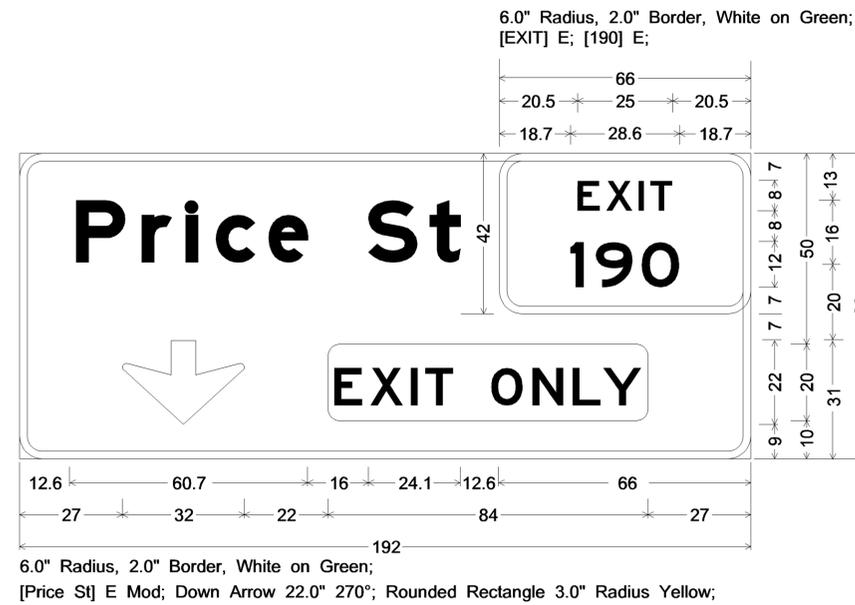
SIGN DETAILS
NO SCALE **SD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
 CALCULATED/DESIGNED BY: HASSEEB YOUSAF
 CHECKED BY: MAZIN AL-ALI
 REVISIONS: REVISOR: HASSEEB YOUSAF, DATE: [REDACTED]
 REVISOR: MAZIN AL-ALI, DATE: [REDACTED]

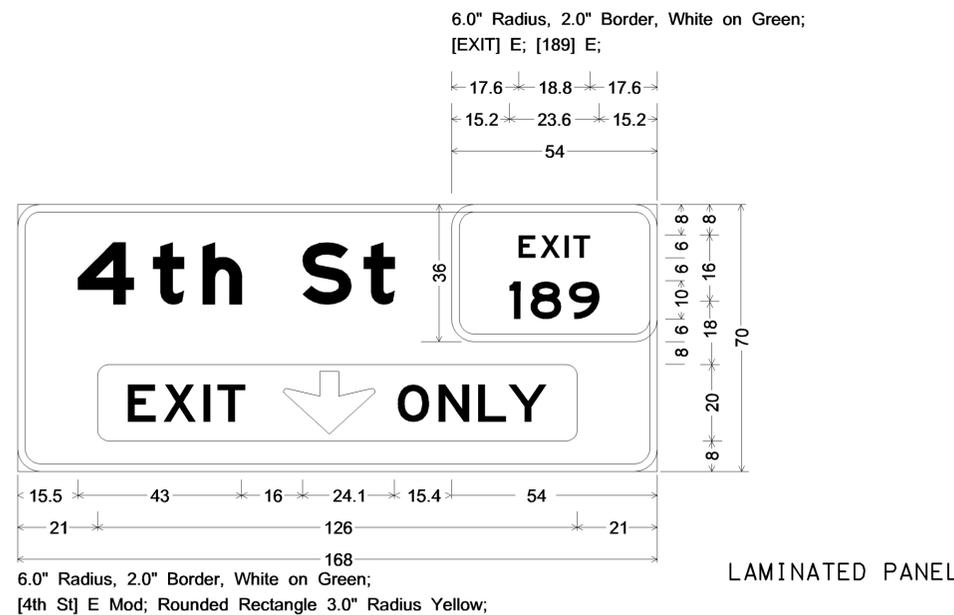
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	35	64
<i>HAZ - ALI</i> 04-20-10 REGISTERED CIVIL ENGINEER DATE 5-3-10 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



G83
 2 FNB T ON ROUTE 101 AT PM 16.06



G85
 1 FNB T ON ROUTE 101 AT PM 16.06



G85
 3 FSB T ON ROUTE 101 AT PM 15.58

NOTE: ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN

THIS PLAN ACCURATE FOR SIGN WORK ONLY

SIGN DETAILS
NO SCALE
SD-2

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.8/16.4	36	64
MAZIN ALI			04-20-10		
REGISTERED CIVIL ENGINEER			DATE		
5-3-10			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>					

ROADSIDE SIGN QUANTITIES

SHEET No.	SIGN No.	SIGN LOCATION	SIGN CODE	LAMINATED WOOD POST TYPE M		No. OF POST AND POST SIZE (in x in)	PANEL SIZE (in x in)	BACKGROUND		LEGEND		GRAFFITI FLOW PREMIUM	FURNISHED SINGLE SHEET ALUMINUM SIGN		ROADSIDE SIGN - ONE POST	INSTALL ROADSIDE SIGN (LAMINATED WOOD BOX POST)	REMOVE ROADSIDE SIGN (LAMINATED WOOD BOX POST)	REMOVE ROADSIDE SIGN
				L+	R+			SHEETING COLOR	Retroreflectivity ASTM TYPE	SHEETING COLOR	Retroreflectivity ASTM TYPE		UNFRAMED	SQFT				
SD-1	1	FNBT ON ROUTE 101 AT PM 13.58	G85	11.3'	14'		156" X 102"	GREEN	III	WHITE	IV	X	110.5					
	2	FNBT ON ROUTE 101 AT PM 16.30	G86	11.3'	15.4'		228" X 102"	GREEN	III	WHITE	IV	X	161.5					
	3	FSBT ON ROUTE 101 AT PM 13.83	G85	11.3'	13.5'		132" X 102"	GREEN	III	WHITE	IV	X	93.5					
	4	FSBT ON ROUTE 101 AT PM 9.03	G83	12'	15.6'		210" X 120"	GREEN	III	WHITE	IV	X	175					
	5	FSBT ON ROUTE 101 AT PM 8.38	G85	12'	15.6'		210" X 120"	GREEN	III	WHITE	IV	X	175					
	6	FSBT ON ROUTE 101 AT PM 8.29	G84			1-6" X 6"	60" X 48"	GREEN	III	WHITE	IV	X	20		1			
TOTAL													736	1	5	5	1	

OVERHEAD SIGN STRUCTURE QUANTITIES

SHEET No.	SIGN No.	SIGN CODE	LOCATION	PANEL SIZE (in x in)	OVERHEAD SIGN PANEL		BACKGROUND		LEGEND		GRAFFITI FLOW		FURNISH LAMINATED PANEL SIGN (1"-TYPE A)	INSTALL SIGN PANEL ON EXISTING FRAME
					SINGLE FACED	DOUBLE FACED	SHEETING COLOR	RETROREFLECTIVITY ASTM TYPE	SHEETING COLOR	RETROREFLECTIVITY ASTM TYPE	STANDARD	PREMIUM		
SD-2	1	G85	FNBT ON ROUTE 101 AT PM 16.06	192" x 80"	X		GREEN	IV	WHITE	IV	IV	106.7	1	
	2	G83		240" x 80"	X		GREEN	IV	WHITE	IV	IV	133.34	1	
	1	G85	FSBT ON ROUTE 101 AT PM 15.58	168" x 70"	X		GREEN	IV	WHITE	IV	IV	81.67	1	
SUBTOTAL													321.67	3

NOTE: ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN

SIGN QUANTITIES

NO SCALE

SQ-1

ROADWAY QUANTITIES

LOCATION	DIRECTION	HOT MIX ASPHALT (TYPE A)	TACK COAT	COLD PLANE AC PAVEMENT	IMPORTED MATERIAL (SHOULDER BACKING)	REMOVE AC	PLACE HMA (Misc AREA)
		TON	TON	SQYD	TON	SQFT	SQYD
PM 7.8 TO 16.5 (MAIN LINE)	NB/SB	55,850	161		6900		
PM 11.83 TO 16.5 (RUMBLE STRIP)	NB/SB	190		10,958			
PM 15.05 TO 15.3 (MAIN LINE)	NB			5720			
PM 15.05 TO 15.3 (MAIN LINE)	SB			7480			
PM 15.3 TO 15.54 (MAIN LINE)	NB/SB			10982			
PM 16.2 TO 16.3 (MAIN LINE)	NB/SB			5984			
PM 16.3 TO 16.5 (MAIN LINE)	NB/SB			9152			
PM 7.60 (OFF-RAMP)	NB	570	1.7	4240			
PM 7.64 (ON-RAMP)	SB	800	2.4	5960			
PM 8.06 (ON-RAMP)	NB	790	2.3	5900			
PM 8.26 (OFF-RAMP)	SB	640	1.9	4790			
PM 12.50 (OFF-RAMP)	NB	570	1.7	4230			
PM 12.50 (ON-RAMP)	SB	400	1.2	2950			
PM 12.93 (OFF-RAMP)	SB	360	1.0	2640			
PM 13.06 (OFF-RAMP)	NB	270	0.8	2000			
PM 13.10 (ON-RAMP)	SB	360	1.1	2660			
PM 13.31 (ON-RAMP)	NB	590	1.7	4410			
PM 13.32 (OFF-RAMP)	SB	360	1.0	2650			
PM 13.56 (ON-RAMP)	SB	270	0.8	2000			
PM 13.64 (OFF-RAMP)	NB	370	1.1	2730			
PM 13.68 (OFF-RAMP)	SB	250	0.7	1850			
PM 13.92 (ON-RAMP)	NB	400	1.2	2980			
PM 14.18 (OFF-RAMP)	NB	460	1.4	3440			
PM 14.30 (ON-RAMP)	NB	440	1.3	3300			
PM 14.73 (ON-RAMP)	NB	320	0.9	2350			
PM 14.78 (ON-RAMP)	SB	550	1.6	4060			
PM 15.05 (OFF-RAMP)	SB	530	1.6	4000			
PM 15.36 (ON-RAMP)	SB	240	0.7	1790			
PM 15.37 (OFF-RAMP)	NB	630	1.9	4740			
PM 15.76 (ON-RAMP)	NB	580	1.7	4330			
PM 15.86 (OFF-RAMP)	SB	570	1.7	4260			
PM 15.86 (OFF-RAMP)	SB	550	1.6	4090			
PM 16.02 (ON-RAMP)	NB	160	0.5	1230			
PM 16.05 (ON-RAMP)	SB	300	0.9	2250			
PM 16.32 (OFF-RAMP)	NB	330	1.0	2450			
PM 16.33 (ON-RAMP)	SB	520	1.5	3910			
PM 9.12 (INTERSECTION)		210	0.6				
PM 9.65 (INTERSECTION)		440	1.3				
PM 10.73 (INTERSECTION)		270	0.8				
PM 11.30 (INTERSECTION)		200	0.6				
PM 11.83 (INTERSECTION)		470	1.4				
HMA DIKES (TYPE A,C,E,& F)	NB/SB	1608.1					
HMA OVERSIDE DRAINS	NB/SB	10.5				525	68
DOWNDRAINS	NB/SB	5.4				208	24.3
REPAIR FAILED AREA	NB/SB	8212.9	13.9	35,235.6			
TOTAL		80,647	218.5	183,702	6900	733	92.3

RUMBLE STRIP

STATION	NB		SB	
	INSIDE Shld	OUTSIDE Shld	INSIDE Shld	OUTSIDE Shld
	STA	STA	STA	STA
PM 7.8 TO PM 16.5	440	420	440	420
TOTAL	1720			

DRAINAGE QUANTITIES

PM	DIRECTION	DI TYPE	HEIGHT OF INLET "H"	FRAME AND GRATE (24-12X)	MINOR CONCRETE (MINOR STRUCTURE)	Misc IRON AND STEEL	CONCRETE COLLAR	24" RCP	ADJUST INLET	REMOVE INLET	ADJUST SLOTTED DRAIN TO GRADE
			(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
			LF	EA	CY	LB	EA	LF	EA	EA	LF
8.09	NB	G1 OR G2							1		
8.31	NB	G1 OR G2							1		
11.96	NB	G1 OR G2							1		
12.79	SB	GO	4	1	1.5	239	1	2		1	
12.90	SB	G1 OR G2							1		
13.19	NB/SB	GDO							2		
14.19	SB	G1 OR G2							1		
14.29	SB	G1 OR G2							1		
14.45	SB	G1 OR G2							1		
14.56	SB	G1 OR G2							1		
14.67	SB	G1 OR G2							1		20
14.69	SB	GDO							1		20
14.72	SB	G1 OR G3							1		
15.40	NB/SB	G1 OR G2							2		
15.44	NB	G1 OR G2							1		
15.75	NB	G1 OR G2							2		
15.85	SB	G1 OR G2							1		
15.93	SB	G1 OR G2							2		
MBGR, TBB, AND END TREATMENTS					14.3						
TOTAL					15.8	239		2	21	1	40

** THE EXACT HEIGHT OF INLET TO BE VERIFIED DURING CONSTRUCTION

SUMMARY OF QUANTITIES Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	37	64

Donald A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
KHALID A. DAHIR
 No. 70240
 Exp. 9/30/10
 CIVIL
 STATE OF CALIFORNIA

5-3-10
PLANS APPROVAL DATE

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	38	64

Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE
 5-3-10
 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.

HOT MIX ASPHALT DIKE

LOCATION		DIRECTION	PLACE HMA DIKE (TYPE A)	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE E)	PLACE HMA DIKE (TYPE F)	REMOVE HMA DIKE	HMA (TYPE A)	REMARKS
Beg PM	END PM		LF	LF	LF	LF	LF	TON	
8.00	8.35	NB			1848		1848	48.0	INSIDE SHOULDER
8.09	8.31	NB			1162		1162	30.2	OUTSIDE SHOULDER
8.31	8.35	NB	211				211	5.7	OUTSIDE SHOULDER
8.35	8.53	NB			950		950	24.7	OUTSIDE SHOULDER
8.35	8.42	NB			370		370	9.6	INSIDE SHOULDER
8.63	8.78	NB	792				792	21.4	OUTSIDE SHOULDER
8.63	8.70	NB	370				370	10.0	INSIDE SHOULDER
8.78	9.15	NB			1954		1954	50.7	OUTSIDE SHOULDER
9.17	9.36	NB					1003		INSIDE SHOULDER
9.36	9.45	NB					475		INSIDE SHOULDER
9.37	9.45	NB			422		422	11.0	OUTSIDE SHOULDER
9.46	9.68	NB			1162		1162	30.2	INSIDE SHOULDER
9.59	9.68	NB			475		475	12.3	OUTSIDE SHOULDER
9.69	9.74	NB			264		264	6.9	INSIDE SHOULDER
9.85	9.90	NB			264		264	6.9	INSIDE SHOULDER
9.90	10.07	NB			898		898	23.3	OUTSIDE SHOULDER
10.11	10.16	NB	264				264	7.1	INSIDE SHOULDER
10.18	10.28	NB			528		528	13.7	OUTSIDE SHOULDER
10.51	10.57	NB	317				317	8.5	INSIDE SHOULDER
10.57	10.73	NB			845		845	21.9	INSIDE SHOULDER
10.75	10.88	NB					686		INSIDE SHOULDER
10.99	11.01	NB			845		106	21.9	INSIDE SHOULDER
11.02	11.07	NB			264		264	6.9	OUTSIDE SHOULDER
11.04	11.07	NB			158		158	4.1	INSIDE SHOULDER
11.08	11.21	NB	686				686	18.5	OUTSIDE SHOULDER
11.14	11.20	NB	317				317	8.5	INSIDE SHOULDER
11.21	11.29	NB					422		INSIDE SHOULDER
11.31	11.32	NB			53		53	1.4	INSIDE SHOULDER
11.42	11.75	NB			1742		1742	45.3	OUTSIDE SHOULDER
11.85	11.87	NB			106		106	2.7	OUTSIDE SHOULDER
11.88	11.91	NB			158		158	4.1	OUTSIDE SHOULDER
11.91	12.14	NB					1214		OUTSIDE SHOULDER
12.30	12.42	NB	634					17.1	OUTSIDE SHOULDER
12.45	12.48	NB	158				158	4.3	OUTSIDE SHOULDER
12.62	12.72	NB			528		528	13.7	OUTSIDE SHOULDER
12.76	12.84	NB	422				422	11.4	OUTSIDE SHOULDER
13.14	13.19	NB	264				264	7.1	OUTSIDE SHOULDER
13.34	13.38	NB	211				211	5.7	OUTSIDE SHOULDER
13.40	13.48	NB	422				422	11.4	OUTSIDE SHOULDER
13.54	13.70	NB	845				845	22.8	OUTSIDE SHOULDER
14.16	14.24	NB			422		422	11.0	OUTSIDE SHOULDER
14.36	14.41	NB			264		264	6.9	OUTSIDE SHOULDER
14.67	14.75	NB			422		422	11.0	OUTSIDE SHOULDER
15.40	15.44	NB			211		211	5.5	OUTSIDE SHOULDER
15.44	15.75	NB	1637				1637	44.1	OUTSIDE SHOULDER
16.06	16.19	NB			686		686	17.8	OUTSIDE SHOULDER
16.19	16.21	NB		106			106	0.8	OUTSIDE SHOULDER
16.21	16.24	NB				158	158	2.1	OUTSIDE SHOULDER
16.29	16.39	NB			528		528	13.7	OUTSIDE SHOULDER
16.40	16.42	NB		106			106	0.8	OUTSIDE SHOULDER
16.42	16.45	NB				158	158	2.1	OUTSIDE SHOULDER
SHEET SUBTOTAL			7550	212	17529	316	28,034	664.8	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 06 - DESIGN
 FUNCTIONAL SUPERVISOR: SCOTT SHAVER
 CALCULATED/DESIGNED BY: JOHNNY REYES
 CHECKED BY: KHALID DAHIR
 REVISED BY: DATE REVISION

SUMMARY OF QUANTITIES Q-2

LAST REVISION | DATE PLOTTED => 06-MAY-2010
 05-03-10 TIME PLOTTED => 11:05

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	39	64

Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE

5-3-10
 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.

HOT MIX ASPHALT DIKE

LOCATION		DIRECTION	PLACE HMA DIKE (TYPE A)	PLACE HMA DIKE (TYPE C)	PLACE HMA DIKE (TYPE E)	PLACE HMA DIKE (TYPE F)	REMOVE AC DIKE	* HMA (TYPE A) TON	REMARKS
Beg PM	END PM		LF	LF	LF	LF	LF		
8.34	8.40	SB	317				317	8.5	OUTSIDE SHOULDER
8.40	8.60	SB			1056		1056	27.4	OUTSIDE SHOULDER
8.62	8.67	SB				264	264	3.5	OUTSIDE SHOULDER
8.67	9.06	SB	2059				2059	55.5	INSIDE SHOULDER
8.69	8.81	SB			634		634	16.5	OUTSIDE SHOULDER
8.81	8.90	SB	475				475	12.8	OUTSIDE SHOULDER
8.90	9.24	SB			1795		1795	46.6	OUTSIDE SHOULDER
9.06	9.10	SB			211		211	5.5	INSIDE SHOULDER
9.22	9.24	SB			106		106	2.7	INSIDE SHOULDER
9.24	9.44	SB	1056				1056	28.5	INSIDE SHOULDER
9.24	9.49	SB	1320				1320	35.6	OUTSIDE SHOULDER
9.52	9.64	SB			634		634	16.5	INSIDE SHOULDER
9.60	9.83	SB			1214		1214	31.5	OUTSIDE SHOULDER
9.71	9.74	SB			158		158	4.1	INSIDE SHOULDER
9.75	10.12	SB			1954		1954	50.7	INSIDE SHOULDER
9.83	9.95	SB	634				634	17.1	OUTSIDE SHOULDER
10.12	10.66	SB	2851				2851	76.9	INSIDE SHOULDER
10.13	10.22	SB			475		475	12.3	OUTSIDE SHOULDER
10.25	10.28	SB			158		158	4.1	OUTSIDE SHOULDER
10.28	10.47	SB			1003		1003	26.1	OUTSIDE SHOULDER
10.47	10.66	SB	1003				1003	27.1	OUTSIDE SHOULDER
10.66	10.70	SB			211		211	5.5	INSIDE SHOULDER
10.66	10.91	SB			1320		1320	34.3	OUTSIDE SHOULDER
10.91	11.27	SB	1901				1901	51.3	INSIDE SHOULDER
10.91	11.06	SB	792				792	21.4	OUTSIDE SHOULDER
11.06	11.10	SB			211		211	5.5	OUTSIDE SHOULDER
11.12	11.27	SB	792				792	21.4	OUTSIDE SHOULDER
11.27	11.65	SB			2006		2006	52.1	OUTSIDE SHOULDER
11.79	11.91	SB			634		634	16.5	OUTSIDE SHOULDER
11.91	11.96	SB			264		264	6.9	OUTSIDE SHOULDER
12.74	12.90	SB	845				845	22.8	OUTSIDE SHOULDER
13.13	13.14	SB				53	53	0.7	OUTSIDE SHOULDER
13.14	13.15	SB		53			53	0.4	OUTSIDE SHOULDER
13.15	13.18	SB			158		158	4.1	OUTSIDE SHOULDER
14.00	14.80	SB	4224				4224	113.9	OUTSIDE SHOULDER
14.80	14.82	SB				106	106	1.4	OUTSIDE SHOULDER
15.17	15.35	SB				950	950	12.5	OUTSIDE SHOULDER
15.42	15.46	SB			211		211	5.5	OUTSIDE SHOULDER
15.61	15.94	SB			1742		1742	45.3	OUTSIDE SHOULDER
16.05	16.12	SB			370		370	9.6	OUTSIDE SHOULDER
16.47	16.49	SB			106		106	2.7	INSIDE SHOULDER
SHEET SUBTOTAL			18269	53	16631	1373	36326	943.3	
TOTAL			25,819	265	34,160	1689	64,360	1608.1	

* QUANTITY INCLUDED ON ROADWAY QUANTITIES TABLE ON SHEET Q-1

SUMMARY OF QUANTITIES Q-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	40	64
<i>Ronald A. Dahir</i> 4-30-10 REGISTERED CIVIL ENGINEER DATE					
5-3-10 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>					

HMA OVERSIDE DRAINS

PM	DIRECTION	* REMOVE AC	* PLACE HMA (Misc AREA)	* HMA (TYPE A)	REMARKS
		SQFT	SQYD	TON	
8.08	NB	15	2	0.3	INSIDE SHOULDER
8.23	NB	15	2	0.3	INSIDE SHOULDER
8.33	NB	15	2	0.3	INSIDE SHOULDER
8.63	NB	15	2	0.3	INSIDE SHOULDER
8.74	NB	15	2	0.3	OUTSIDE SHOULDER
8.80	NB	15	2	0.3	OUTSIDE SHOULDER
9.00	NB	15	2	0.3	OUTSIDE SHOULDER
9.36	NB	15	2	0.3	INSIDE SHOULDER
9.68	NB	15	2	0.3	OUTSIDE SHOULDER
10.11	NB	15	2	0.3	INSIDE SHOULDER
10.57	NB	15	2	0.3	INSIDE SHOULDER
11.21	NB	15	2	0.3	OUTSIDE SHOULDER
11.75	NB	15	2	0.3	OUTSIDE SHOULDER
12.14	NB	15	2	0.3	OUTSIDE SHOULDER
12.45	NB	15	2	0.3	OUTSIDE SHOULDER
12.62	NB	15	2	0.3	OUTSIDE SHOULDER
12.72	NB	15	2	0.3	OUTSIDE SHOULDER
8.41	SB	15	2	0.3	OUTSIDE SHOULDER
8.76	SB	15	2	0.3	OUTSIDE SHOULDER
9.00	SB	15	2	0.3	OUTSIDE SHOULDER
9.44	SB	15	2	0.3	INSIDE SHOULDER
9.50	SB	15	2	0.3	OUTSIDE SHOULDER
9.60	SB	15	2	0.3	OUTSIDE SHOULDER
9.85	SB	15	2	0.3	OUTSIDE SHOULDER
9.95	SB	15	2	0.3	OUTSIDE SHOULDER
10.28	SB	15	2	0.3	OUTSIDE SHOULDER
10.30	SB	15	2	0.3	INSIDE SHOULDER
10.66	SB	30	3	0.6	INSIDE AND OUTSIDE SHOULDERS
10.80	SB	15	2	0.3	OUTSIDE SHOULDER
10.91	SB	30	3	0.6	INSIDE AND OUTSIDE SHOULDERS
11.27	SB	15	2	0.3	OUTSIDE SHOULDER
11.54	SB	15	2	0.3	OUTSIDE SHOULDER
11.96	SB	15	2	0.3	OUTSIDE SHOULDER
TOTAL		525	68	10.5	

* QUANTITY INCLUDED ON ROADWAY QUANTITIES TABLE ON SHEET Q-1

DOWNDRAINS

PM	DIRECTION	* REMOVE AC	* PLACE HMA (Misc AREA)	* HMA (TYPE A)	12" CSP (.079' THICK)	12" ANCHOR ASSEMBLY	REMARKS
		SQFT	SQYD	TON	LF	EA	
8.39	NB	8	0.9	0.2			OUTSIDE SHOULDER
9.13	NB	8	0.9	0.2			OUTSIDE SHOULDER
9.52	NB	8	0.9	0.2			INSIDE SHOULDER
9.67	NB	8	0.9	0.2			INSIDE SHOULDER
9.69	NB	8	0.9	0.2			INSIDE SHOULDER
9.86	NB	8	0.9	0.2			INSIDE SHOULDER
9.9	NB	8	0.9	0.2			OUTSIDE SHOULDER
10.28	NB	8	0.9	0.2			OUTSIDE SHOULDER
10.69	NB	8	0.9	0.2			INSIDE SHOULDER
10.78	NB	8	0.9	0.2			INSIDE SHOULDER
10.99	NB	8	0.9	0.2			INSIDE SHOULDER
11.27	NB	8	0.9	0.2			INSIDE SHOULDER
11.86	NB	8	0.9	0.2			OUTSIDE SHOULDER
11.88	NB	8	0.9	0.2			OUTSIDE SHOULDER
16.06	NB	8	0.9	0.2			OUTSIDE SHOULDER
16.21	NB		0.9	0.2	30	1	OUTSIDE SHOULDER
8.49	SB	8	0.9	0.2			OUTSIDE SHOULDER
8.58	SB	8	0.9	0.2			OUTSIDE SHOULDER
9.16	SB	8	0.9	0.2			OUTSIDE SHOULDER
9.85	SB	8	0.9	0.2			INSIDE SHOULDER
10.25	SB	8	0.9	0.2			OUTSIDE SHOULDER
10.74	SB	8	0.9	0.2			OUTSIDE SHOULDER
10.76	SB	8	0.9	0.2			OUTSIDE SHOULDER
13.16	SB	8	0.9	0.2			OUTSIDE SHOULDER
15.35	SB	8	0.9	0.2			OUTSIDE SHOULDER
16.08	SB	8	0.9	0.2			OUTSIDE SHOULDER
16.47	SB	8	0.9	0.2			INSIDE SHOULDER
TOTAL		208	24.3	5.4	30	1	

* QUANTITY INCLUDED ON ROADWAY QUANTITIES TABLE ON SHEET Q-1

SUMMARY OF QUANTITIES Q-4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	41	64

Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE

5-3-10
 PLANS APPROVAL DATE

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MBGR, THRIE BEAM BARRIER, AND END TREATMENTS

LOCATION	PM	DIRECTION	RECONSTRUCT METAL BEAM GUARD RAILING																	REMARKS
			LF	EA	EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA		
LOS BERROS UC APPROACH	7.85	SB	207	1							1						1		INSIDE Shld	
LOS BERROS UC APPROACH	7.85	SB	102	1	1														OUTSIDE Shld	
LOS BERROS CREEK Br APPROACH	8.52	NB	50								1				1			1.6	INSIDE Shld (STANDARD BLOCK)	
LOS BERROS CREEK Br APPROACH	8.52	SB	317	1							1								OUTSIDE Shld	
BrIDGE St UC DEPARTURE	12.52	NB						100	840							1			INSIDE Shld	
BrIDGE St UC APPROACH	12.52	NB	1154	1								1				1			INSIDE Shld	
BrIDGE St UC APPROACH	12.52	NB	249	1							1					1			OUTSIDE Shld	
VALLEY Rd OC APPROACH	12.82	NB	49	1			1												OUTSIDE Shld	
VALLEY Rd OC APPROACH	12.82	SB	49	1			1												OUTSIDE Shld	
ARROYO GRANDE CR APPROACH	13.02	NB										1		1			450	5	OUTSIDE Shld	
ARROYO GRANDE CR APPROACH	13.02	NB							1									5	INSIDE Shld	
JCT 227 Br 49-176 APPROACH	13.17	SB	266	1	1														OUTSIDE Shld	
JCT 227 Br 49-176 APPROACH	13.17	NB	38									1		1				1.6	OUTSIDE Shld (STANDARD BLOCK)	
NEAR GRAND AVE SIGN	13.42	SB	50		1								1						OUTSIDE Shld	
BrISCO Rd UC APPROACH	13.75	NB	174	1	1														OUTSIDE Shld	
BrISCO Rd UC APPROACH	13.75	SB	384	1	1														OUTSIDE Shld	
	15.00	SB	1320								1		1						OUTSIDE Shld	
NEAR "OAK PARK Rd" SIGN	15.30	SB			1								1				1056		OUTSIDE Shld	
PISMO OH APPROACH	16.20	NB	150								1			1		1	1.7		OUTSIDE Shld (TYPE 27 CONNECTION)	
PISMO OH APPROACH	16.23	NB						138	1								2.6		INSIDE Shld (Br TYPE 2 CONNECTION)	
PISMO OH APPROACH	16.23	SB							1								1.7		INSIDE Shld (TYPE 27 CONNECTION)	
VILLA CREEK Br APPROACH	16.45	NB	137							1				1			1.7		OUTSIDE Shld (TYPE 27 CONNECTION)	
VILLA CREEK Br APPROACH	16.45	NB							1										INSIDE Shld	
VILLA CREEK Br DEPARTURE	16.45	SB							200										INSIDE Shld	
VILLA CREEK Br APPROACH	16.50	SB							1									1.7	INSIDE Shld (TYPE 27 CONNECTION)	
VILLA CREEK Br APPROACH	16.50	SB			1											487	1.7		OUTSIDE Shld (TYPE 27 CONNECTION)	
TOTAL			4696	10	7			100	1178	5	7	3	3	6	3	1993	14.3	10		

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION PURPOSES ONLY
 * QUANTITY INCLUDED ON DRAINAGE QUANTITIES TABLE ON SHEET Q-1

SUMMARY OF QUANTITIES Q-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 06-DESIGN
 SCOTT SHAVER
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 JOHNNY REYES
 REVISOR BY
 KHALID DAHIR
 DATE REVISOR

LAST REVISION DATE PLOTTED => 06-MAY-2010
 05-03-10 TIME PLOTTED => 11:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	42	64

Khalid A. Dahir 4-30-10
 REGISTERED CIVIL ENGINEER DATE

5-3-10
 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.

REPAIR FAILED AREA

NORTHBOUND											SOUTHBOUND													
Beg PM	END PM	COLD PLANE AC PAVEMENT 0.33'								TACK COAT	HMA (TYPE A)	Beg PM	END PM	COLD PLANE AC PAVEMENT 0.33'								TACK COAT	HMA (TYPE A)	
		No. 1 LANE				No. 2 LANE								No. 1 LANE				No. 2 LANE						
		12'	6'	INSIDE	OUTSIDE	12'	6'	INSIDE	OUTSIDE					TON	TON	12'	6'	INSIDE	OUTSIDE	12'	6'			INSIDE
7.99	8.03									0.06	33.6	7.98	8.25	1929.0							0.10	449.6		
8.05	8.06									0.01	8.2	7.99	8.14	1034.9							0.50	241.2		
8.19	8.20		52.8	X						0.02	12.3	8.31	8.40						330.9		X	0.20	77.1	
8.23	8.24		31.7	X						0.01	7.4	8.35	8.41	443.5								0.14	103.4	
8.31	8.34		77.4	X						0.03	18.1	8.51	8.62	732.2								0.09	170.7	
8.34	8.49									0.21	121.4	8.52	8.73	1471.4								0.23	343.0	
8.37	8.38		49.3	X						0.02	11.5	9.14	9.18	281.6								0.23	65.6	
8.47	8.48		38.7	X						0.02	9.0	9.24	9.37	908.2								0.11	211.7	
8.51	8.53	176.0								0.07	41.0	9.30	9.38	528.0								0.55	123.1	
8.93	8.95								45.8	X		0.02	10.7	9.45	9.63	1274.2						0.10	297.0	
9.21	9.26								161.9		X	0.06	37.7	9.50	9.56	394.2						0.13	91.9	
9.29	9.32								88.0		X	0.03	20.5	9.75	10.05	2112.0						0.10	492.3	
9.33	9.35								45.8		X	0.02	10.7	10.04	10.06				102.1		X	0.08	23.8	
9.39	9.40		38.7	X						0.02	9.0	10.10	10.22	865.9								0.05	201.8	
9.41	9.46								366.1			0.14	85.3	10.43	10.45				81.0		X	0.21	18.9	
9.44	9.46		66.9	X						0.03	15.6	10.48	10.62					513.9		X	0.05	119.8		
9.49	9.50		21.1	X						0.01	4.9	10.66	10.68					95.0		X	0.37	22.2		
9.54	9.62		299.2	X						0.12	69.7	10.74	10.80					211.2		X	0.17	49.2		
10.06	10.07								49.3			0.02	11.5	10.82	10.84				52.8		X	0.13	12.3	
10.13	10.14		28.2	X						0.01	6.6	10.88	10.91					116.2		X	0.11	27.1		
10.15	10.25		341.4	X						0.13	79.6	11.19	11.38	1337.6							0.53	311.8		
10.18	10.19								49.3	X		0.02	11.5	11.38	11.47				299.2		X	0.09	69.7	
10.25	10.28								102.1	X		0.04	23.8	11.50	11.53			225.3				0.12	52.5	
10.48	10.50								91.5			0.04	21.3	11.51	11.70	1351.7						0.53	315.1	
10.49	10.50	21.1								0.01	4.9	11.67	11.75					278.1		X	0.05	64.8		
11.15	11.20								161.9	X		0.06	37.7	11.75	11.80			323.8				0.02	75.5	
11.23	11.31								249.9		X	0.10	58.3	11.75	11.82	436.5						0.08	101.7	
11.38	11.43								169.0	X		0.07	39.4	11.84	11.97	929.3						0.04	216.6	
11.38	11.40		42.2	X						0.02	9.8	11.96	12.11					521.0		X	0.20	121.4		
11.52	11.54	176.0								0.07	41.0	12.05	12.09			133.8	X					0.03	31.2	
11.65	11.80								538.6		X	0.21	125.5	12.14	12.16	119.7						0.34	27.9	
11.75	11.77	140.8								0.06	32.8	12.15	12.21			211.2	X					0.04	49.2	
11.96	12.01								186.6		X	0.07	43.5	12.16	12.23			260.5		X	0.83	60.7		
11.98	12.03		186.6		X					0.07	43.5	12.29	12.49	1393.9								0.50	324.9	
12.04	12.10								225.3		X	0.09	52.5	12.30	12.35	323.8						0.16	75.5	
12.12	12.20								281.6		X	0.11	65.6	12.38	12.41	246.4						0.21	57.4	
12.23	12.29								366.1			0.14	85.3	12.56	12.64				278.1		X	0.36	64.8	
12.47	12.48	63.4								0.03	14.8	12.64	12.73	584.3								0.11	136.2	
12.52	12.55	204.2								0.08	47.6	12.76	12.84	584.3								0.58	136.2	
12.53	12.55								176.0			0.07	41.0	12.86	12.90	232.3						0.29	54.2	
12.74	12.90	1133.4								0.45	264.2	12.92	12.97	359.0								0.18	83.7	
12.77	12.79								140.8			0.06	32.8	12.94	13.02	513.9						0.13	119.8	
12.90	13.08								1246.1			0.49	290.5	13.10	13.28			1267.2				0.76	295.4	
13.15	13.23								619.5			0.24	144.4	13.88	13.95				249.9		X	0.41	58.3	
15.08	15.09		45.8	X						0.02	10.7													
SUBTOTAL		1914.9	1320.0						3055.4	3006.3				20,387.8	345.0			1816.3	3389.9			10.2	6046.2	
*TOTAL COLD PLANE		35,235.6																						
*TOTAL TACK COAT		13.9																						
*TOTAL HMA		8212.9																						

* QUANTITY INCLUDED ON ROADWAY QUANTITIES TABLE ON SHEET Q-1

SUMMARY OF QUANTITIES Q-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06-DESIGN
 SCOTT SHAVER
 CHECKED BY
 DESIGNED BY
 JOHNNY REYES
 KHALID DAHIR
 REVISOR
 DATE
 REVISION

LAST REVISION | DATE PLOTTED => 06-MAY-2010
 05-03-10 | TIME PLOTTED => 11:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	43	64

Xavier Alfaro 4-30-10
 REGISTERED ELECTRICAL ENGINEER DATE

5-3-10
 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
XAVIER I. ALFARO
 No. E17488
 Exp. 6-30-11
 ELECTRICAL
 STATE OF CALIFORNIA

LEGEND: (FOR SHEETS E-1 TO E-4)

- EXACT LOCATION OF ALL PROPOSED COUNT LOOP DETECTORS WILL BE DETERMINED BY THE ENGINEER. SEE DETAIL A ON THIS SHEET.
- LOOP DETECTOR SETBACK FROM LIMIT LINE WILL BE DETERMINED BY THE ENGINEER.
- TYPE D AND TYPE C LOOP DETECTORS SHALL BE SPACED TEN FEET APART.
- RC Exist ppb, INSTALL NEW TYPE B PPB ON Exist SIG POLE.

NOTES: (FOR SHEETS E-1 TO E-4)

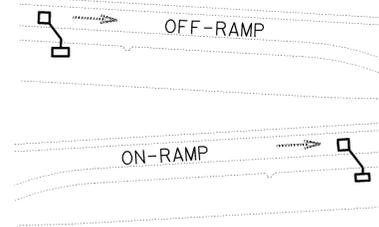
- THE CONTRACTOR SHALL CONFIRM LOOP DETECTOR DESIGNATIONS WITH THE ENGINEER PRIOR TO INSTALLATION.
- TYPE C LOOP DETECTORS SHALL BE 45 FEET IN LENGTH AND 6 FEET IN WIDTH UNLESS OTHERWISE SPECIFIED.
- RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN. THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.
- AB Exist LOOP DETECTORS NOT REUSED.

ABBREVIATIONS:

AT&T AMERICAN TELEPHONE AND TELEGRAPH
 PG&E PACIFIC GAS AND ELECTRIC

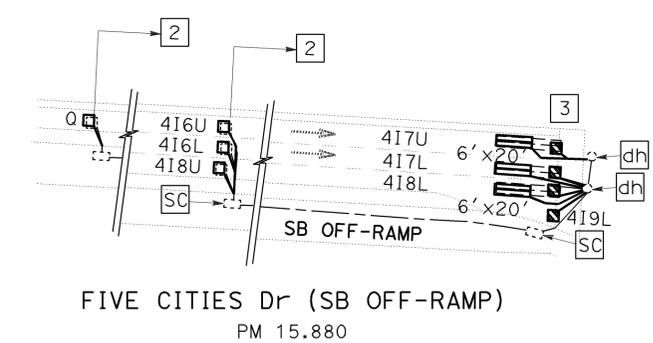
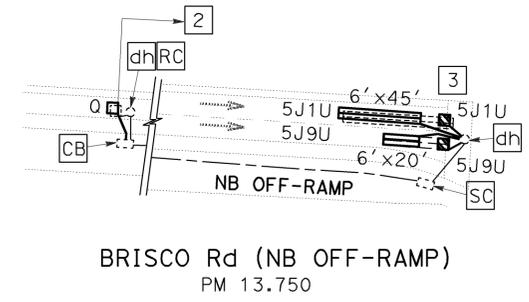
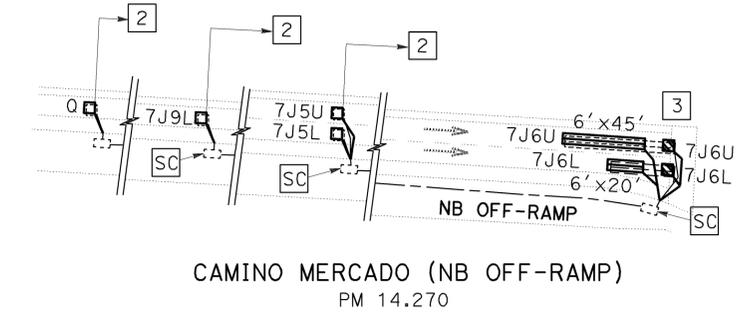
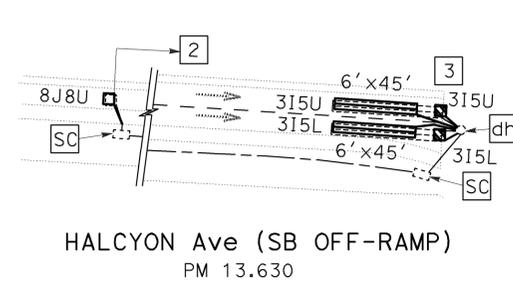
LOOP DETECTOR LOCATION TABLE

LOCATION No.	Approx PM	LOCATION DESCRIPTION
1	8.255	LOS BERROS Rd SB OFF-RAMP
2	8.060	LOS BERROS Rd NB ON-RAMP
3	12.430	TRAFFIC WAY NB OFF-RAMP
4	12.420	TRAFFIC WAY SB ON-RAMP
5	12.930	FAIR OAKS Ave SB OFF-RAMP
6	13.100	GRAND Ave SB ON-RAMP
7	13.680	HALCYON Rd SB OFF-RAMP
8	14.730	OAK PARK Rd NB ON-RAMP
9	14.480	12th St SB ON-RAMP
10	15.045	FOURTH St SB OFF-RAMP
11	15.760	FOURTH St NB ON-RAMP
12	16.020	JAMES WAY NB ON-RAMP



DETAIL A

TYPICAL LOOP DETECTOR INSTALLATION



Exist TRAFFIC SIGNAL LOOP DETECTOR REPLACEMENT LOCATIONS

INDUCTIVE LOOP DETECTOR E-1

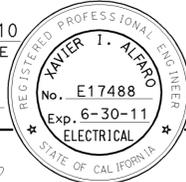
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	44	64

4-30-10
 REGISTERED ELECTRICAL ENGINEER DATE
 5-3-10
 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.

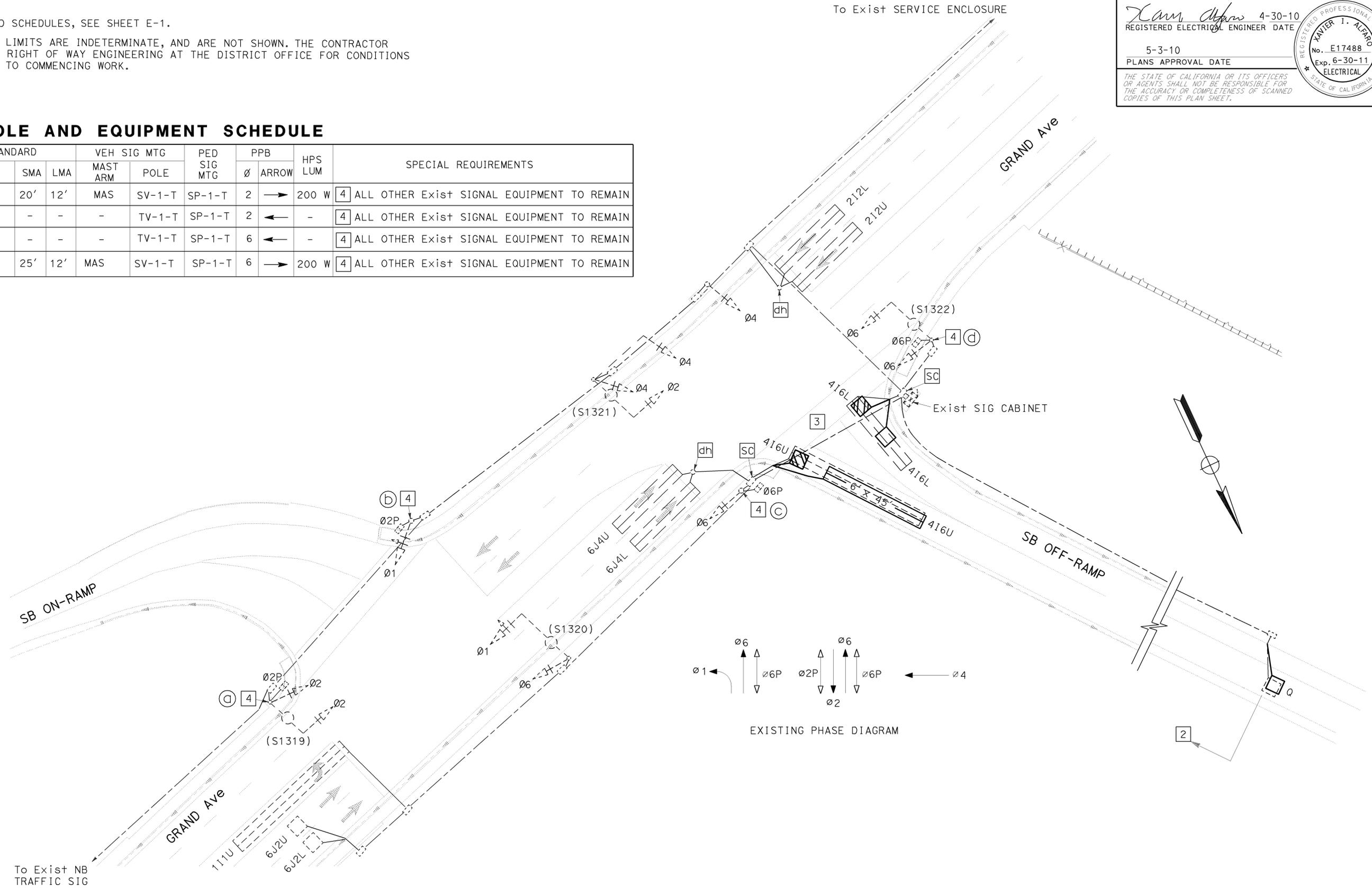


NOTES:

- FOR NOTES AND SCHEDULES, SEE SHEET E-1.
- RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN. THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.

Exist POLE AND EQUIPMENT SCHEDULE

No.	STANDARD		VEH SIG MTG		PED SIG MTG	PPB		HPS LUM	SPECIAL REQUIREMENTS	
	TYPE	SMA	LMA	MAST ARM		POLE	Ø			ARROW
(a)	17-1-70	20'	12'	MAS	SV-1-T	SP-1-T	2	→	200 W	4 ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN
(b)	1-A	-	-	-	TV-1-T	SP-1-T	2	←	-	4 ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN
(c)	1-A	-	-	-	TV-1-T	SP-1-T	6	←	-	4 ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN
(d)	19-1-70	25'	12'	MAS	SV-1-T	SP-1-T	6	→	200 W	4 ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN

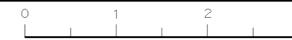


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Electrical DESIGN
 XAVIER ALFARO
 RAJPREET SINGH
 ALI BAKHDOUD

**MODIFY SIGNAL
INDUCTIVE LOOP DETECTOR
E-2**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

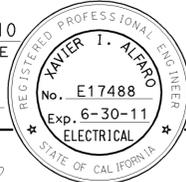
SCALE: 1"=20'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	101	7.6/16.4	45	64

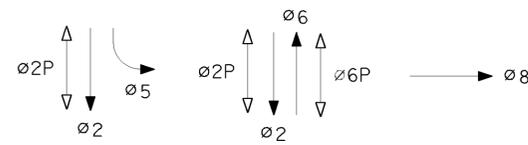
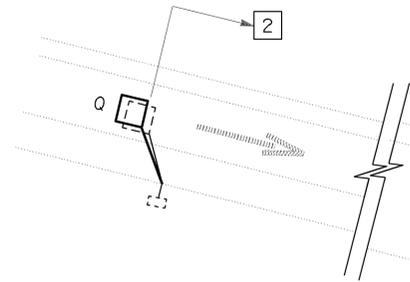
4-30-10
 REGISTERED ELECTRICAL ENGINEER DATE
 5-3-10
 PLANS APPROVAL DATE

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.

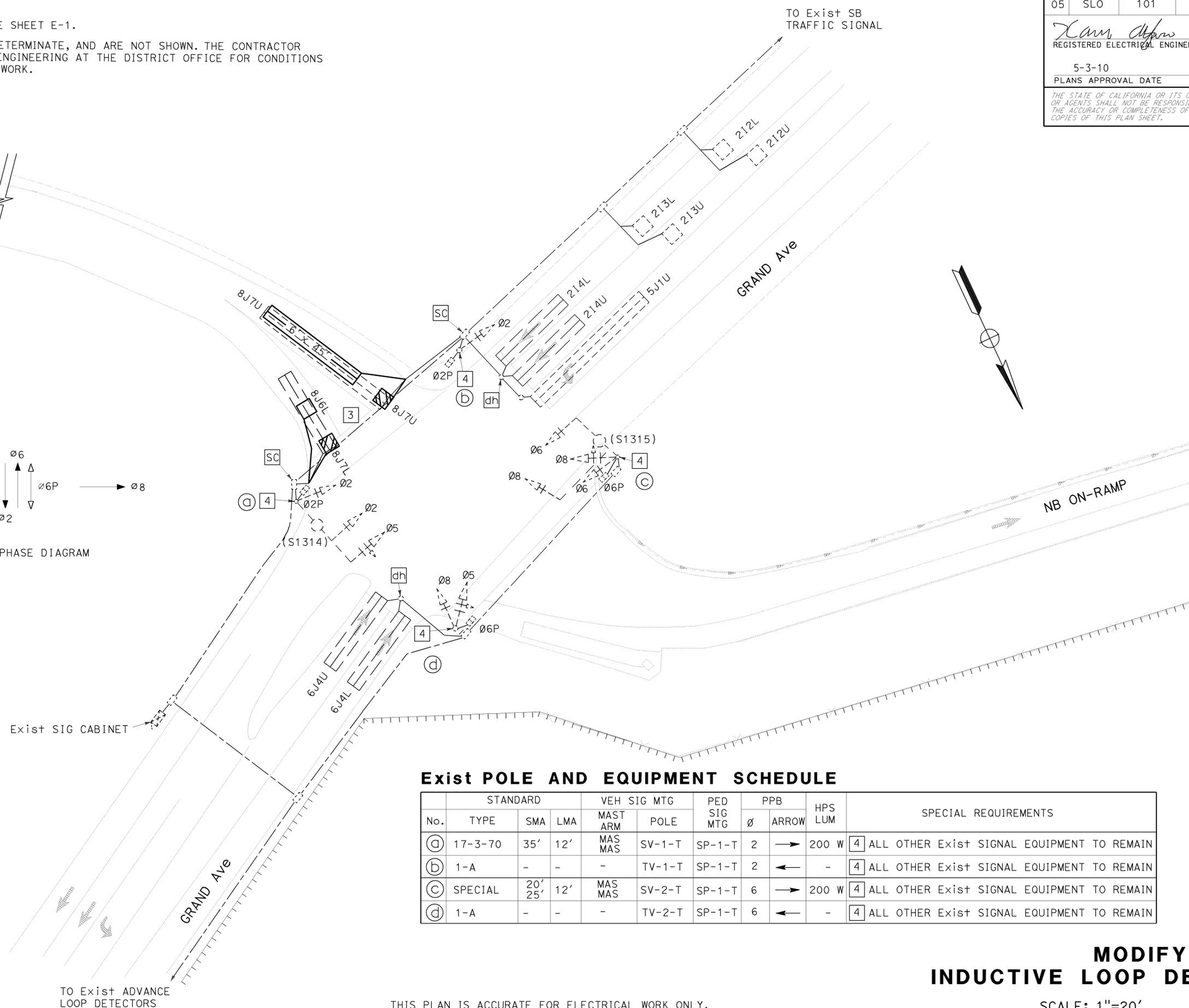


NOTES:

- FOR NOTES AND SCHEDULES, SEE SHEET E-1.
- RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN. THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.



EXISTING PHASE DIAGRAM



Exist POLE AND EQUIPMENT SCHEDULE

No.	TYPE	STANDARD		VEH SIG MAST ARM	SIG MOUNTING	PPB		HPS LUM	SPECIAL REQUIREMENTS	
		SMA	LMA			Ø	ARROW			
(a)	17-3-70	35'	12'	MAS MAS	SV-1-T	SP-1-T	2	→	200 W	[4] ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN
(b)	1-A	-	-	-	TV-1-T	SP-1-T	2	←	-	[4] ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN
(c)	SPECIAL	20' 25'	12'	MAS MAS	SV-2-T	SP-1-T	6	→	200 W	[4] ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN
(d)	1-A	-	-	-	TV-2-T	SP-1-T	6	←	-	[4] ALL OTHER Exist SIGNAL EQUIPMENT TO REMAIN

**MODIFY SIGNAL
INDUCTIVE LOOP DETECTOR**
E-3

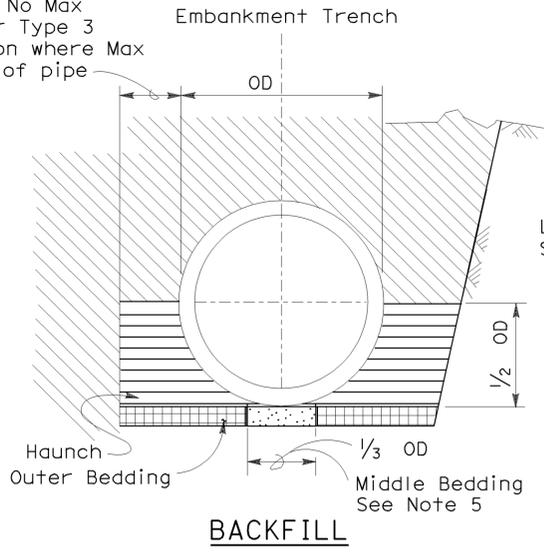
SCALE: 1"=20'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



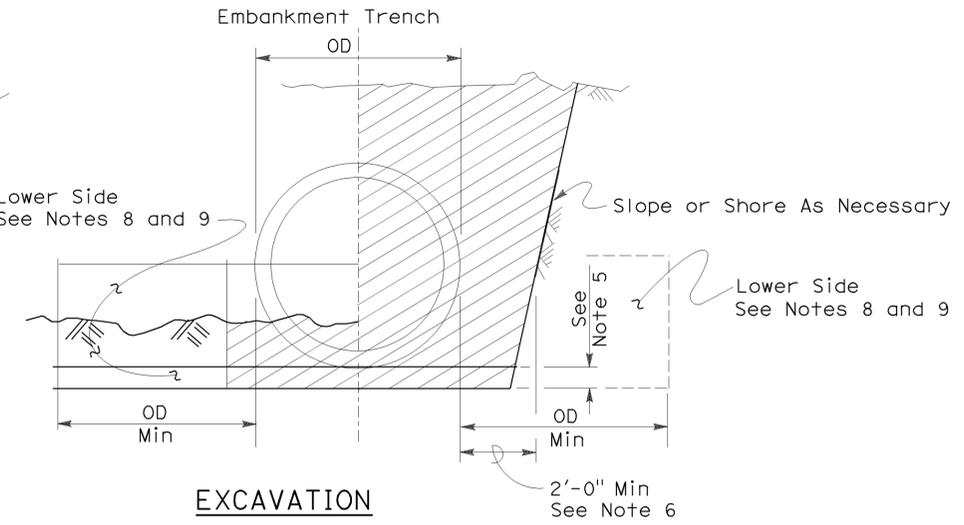
2006 REVISED STANDARD PLAN RSP A62DA

2'-0" Min; No Max except for Type 3 Installation where Max Equals OD of pipe



BACKFILL

- Roadway Embankment
- Structure Backfill (Culvert) See Note 6
- Structure Backfill (Culvert) See Note 6
- Loose Backfill



EXCAVATION

- Excavation Structure (Culvert)

TYPE 1 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 30 and the maximum percentage passing the 75 μm sieve size shall be 12.

TYPE 2 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 25.

TYPE 3 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 85 percent relative compaction. 90 percent relative compaction will be required where the fill over the pipe is less than 4'-0" or 1/2 OD.

NOTES:

- Unless otherwise shown on the plans or specified in the special provision, the Contractor shall have the option of selecting the class of RCP and the type of installation to be used, provided the height of cover does not exceed the value shown for the RCP selected.
 Example: 24" RCP culvert with maximum cover of 19'-0" the options are:
 a) Class III or stronger with Installation Type 1.
 b) Class III Special or stronger with Installation Type 2.
 c) Class IV Special or stronger with Installation Type 3.
 Cover is defined as the maximum vertical distance from top of the pipe to finished grade within the length of any given culvert.
- The class of RCP and Installation Type selected shall be the same throughout the length of any given culvert.
- The "length of any culvert" is defined as the culvert between:
 a) Successive drainage structure (inlets, junction boxes, headwalls, etc.).
 b) A drainage structure and the inlet or outlet end of the culvert.
 c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
- Oval and arch shaped RCP shall not be used.
- 1/25 OD Min, not less than 3".
- Slurry cement backfill may be substituted for backfill in the outer bedding and haunch areas. If slurry is used the outer and middle beddings shall be omitted. Prior to installation the soil under the middle 1/3 of the outside diameter of the pipe shall be softened by scarifying or other means to a minimum depth of 1/25 OD, but not less than 3". Where slurry cement backfill is used clear distance to trench wall may be reduced as set forth in Section 19-3.062 of the Standard Specifications.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
- Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in Section 19-2.02 of the Standard Specifications. See Note 9.
- Where the pipe is placed in a trench, if the trench walls are sloped at 5 vertical to 1 horizontal or steeper for at least 90 percent of the trench height or up to not less than 12" from the grading plane, the firmness of the soil in the lower side need not be considered.
- Non-reinforced precast concrete pipe sizes 3'-0" or smaller may be placed under installation Types 1, 2 or 3.

INSTALLATION TYPE 1

MINIMUM CLASS AND D-LOAD	COVER	
	108" Dia AND SMALLER	OVER 108" Dia
Class II 1000D	14.9'	12.9'
Class III 1350D	15.0' - 20.9'	13.0' - 18.9'
Class III Special 1700D	21.0' - 26.9'	19.0' - 24.9'
Class IV 2000D	27.0' - 31.9'	25.0' - 29.9'
Class IV Special 2500D	32.0' - 40.9'	30.0' - 38.9'
Class V 3000D	41.0' - 49.9'	39.0' - 46.9'
Class V Special 3600D	50.0' - 59.0'	47.0' - 58.0'

INSTALLATION TYPE 2

MINIMUM CLASS AND D-LOAD	COVER
Class II 1000D	9.9'
Class III 1350D	10.0' - 14.9'
Class III Special 1700D	15.0' - 19.9'
Class IV 2000D	20.0' - 24.9'
Class IV Special 2500D	25.0' - 31.9'
Class V 3000D	32.0' - 38.9'
Class V Special 3600D	39.0' - 47.0'

INSTALLATION TYPE 3

MINIMUM CLASS AND D-LOAD	COVER	
	48" Dia AND SMALLER	OVER 48" Dia
Class II 1000D	7.9'	5.9'
Class III 1350D	8.0' - 10.9'	6.0' - 8.9'
Class III Special 1700D	11.0' - 14.9'	9.0' - 12.9'
Class IV 2000D	15.0' - 17.9'	13.0' - 15.9'
Class IV Special 2500D	18.0' - 21.9'	16.0' - 19.9'
Class V 3000D	22.0' - 26.9'	20.0' - 24.9'
Class V Special 3600D	30.0' - 33.0'	25.0' - 31.0'

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**EXCAVATION AND BACKFILL
CONCRETE PIPE CULVERTS**

NO SCALE

RSP A62DA DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A62DA
DATED MAY 1, 2006 - PAGE 20 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A62DA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	48	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

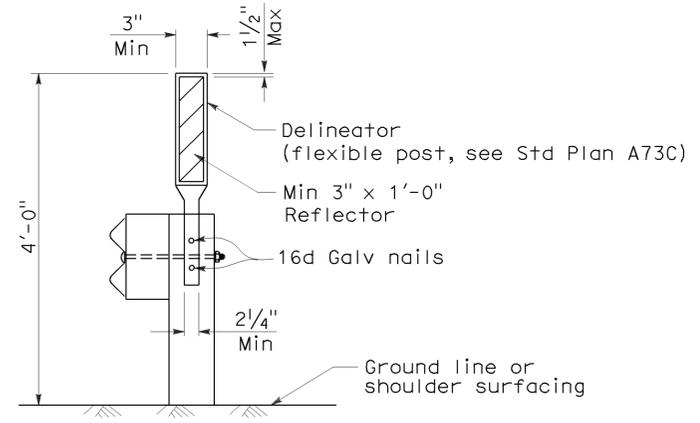
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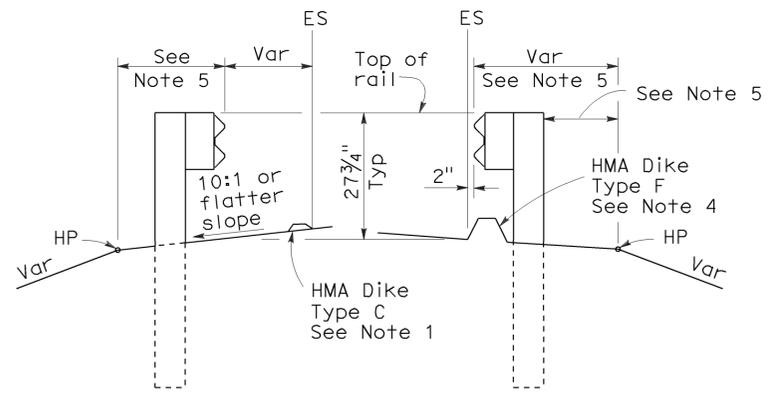
To accompany plans dated 5-3-10

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	49	64

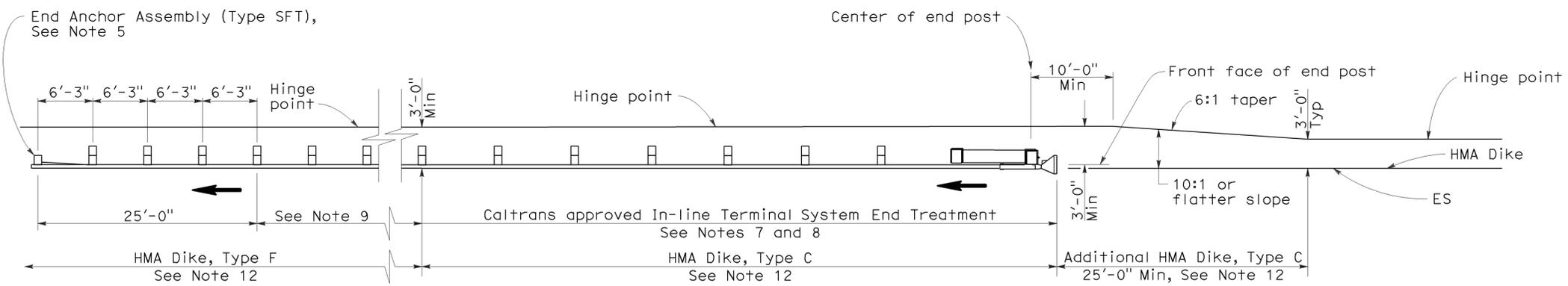
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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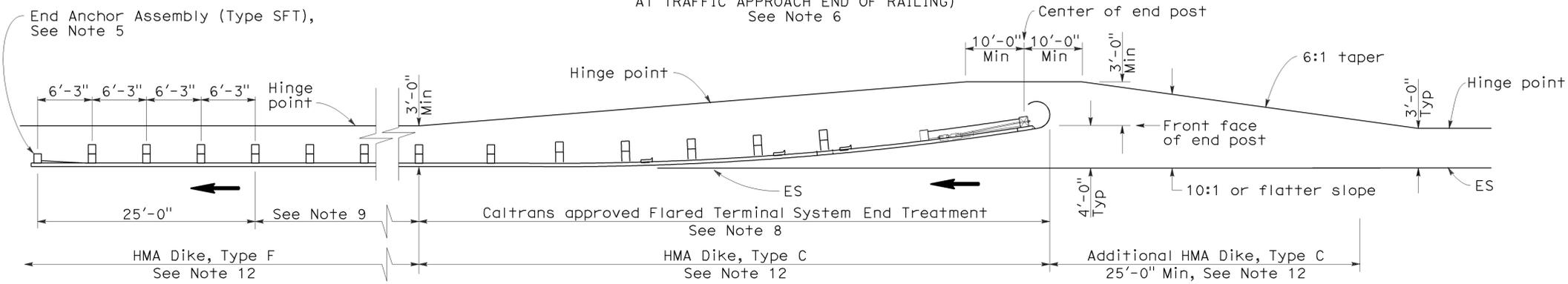
To accompany plans dated 5-3-10

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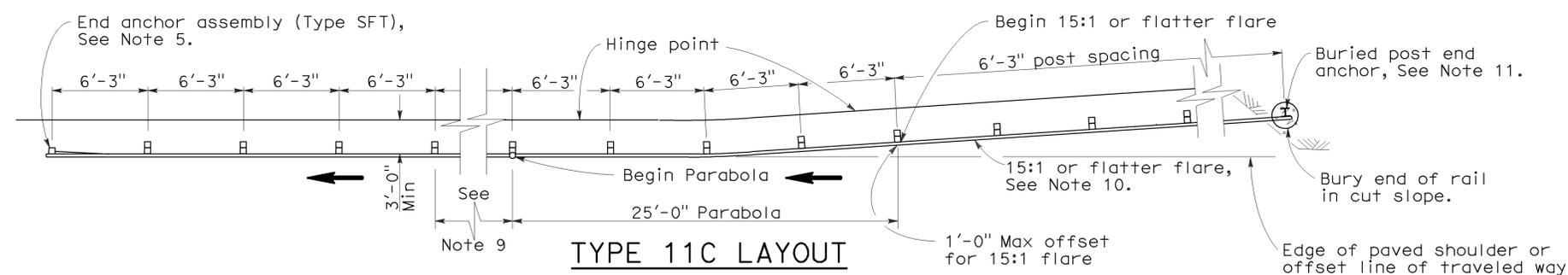
TYPE 11A LAYOUT

(EMBANKMENT GUARD INSTALLATION WITH IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Note 6



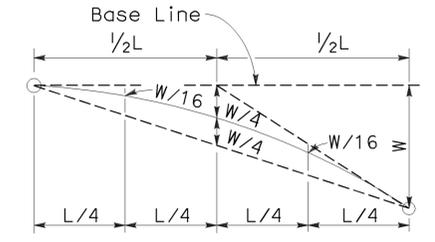
TYPE 11B LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Note 6

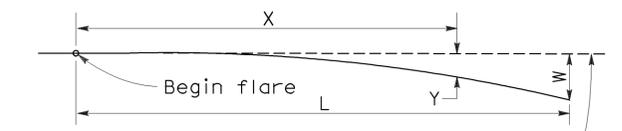


TYPE 11C LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 6 and 12



TYPICAL PARABOLIC LAYOUT

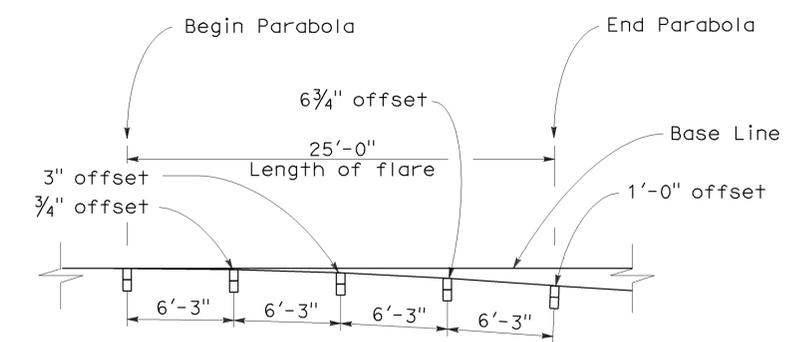


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$$Y = \frac{WX^2}{L^2}$$

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT MAX END OFFSET

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- Layout Types 11A, 11B or 11C are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**
NO SCALE

RSP A77E1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E1
DATED MAY 1, 2006 - PAGE 48 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	50	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

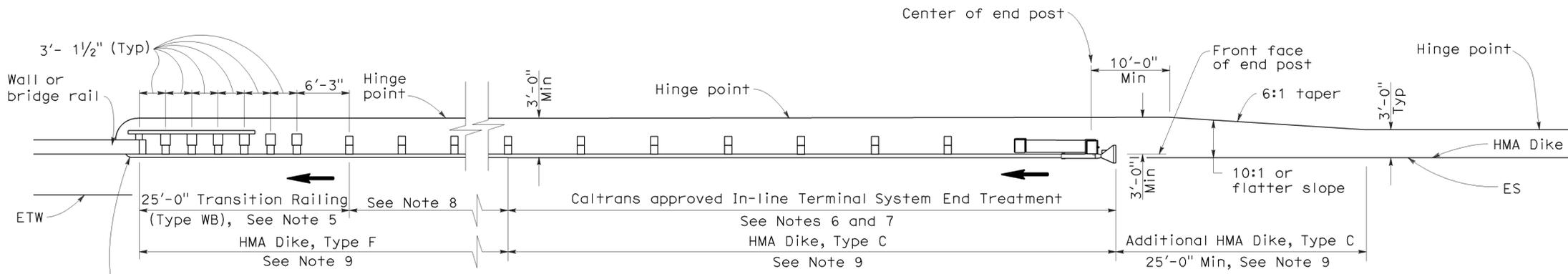
June 6, 2008
PLANS APPROVAL DATE

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

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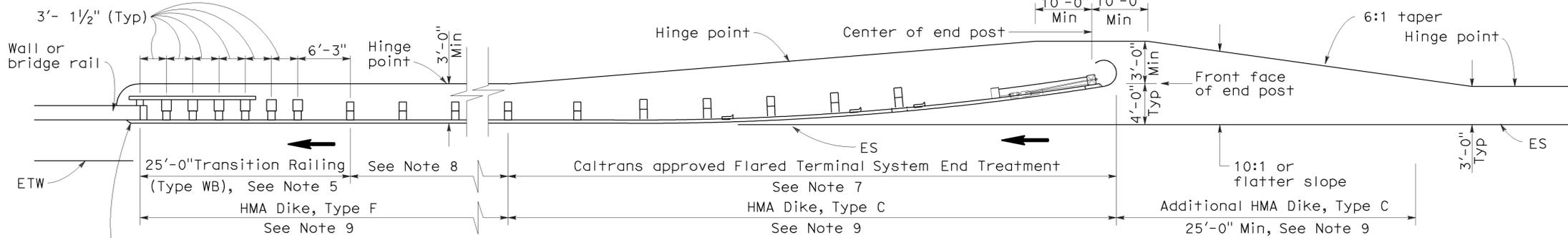
To accompany plans dated 5-3-10

2006 REVISED STANDARD PLAN RSP A77F1



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F1

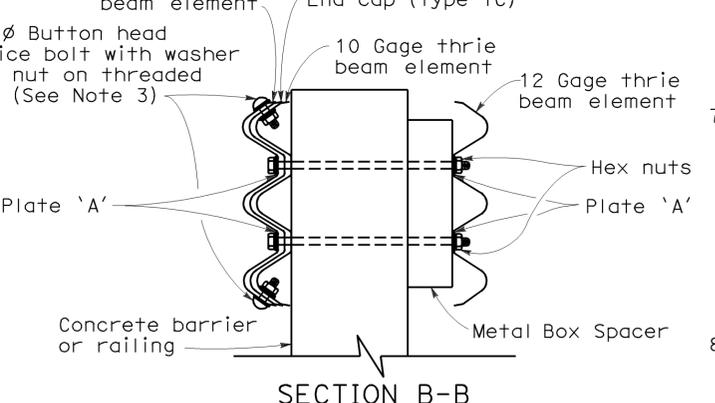
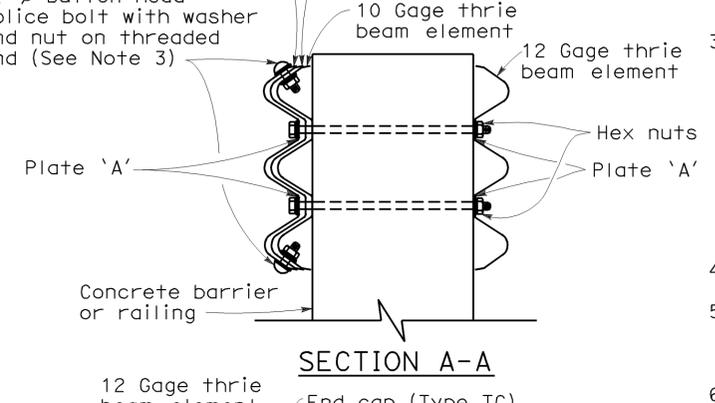
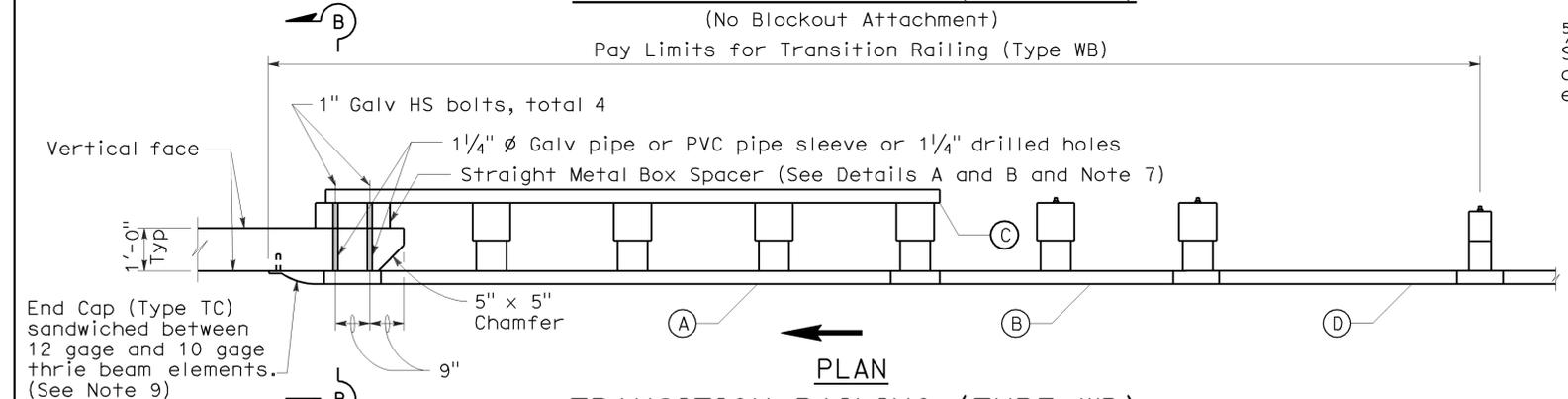
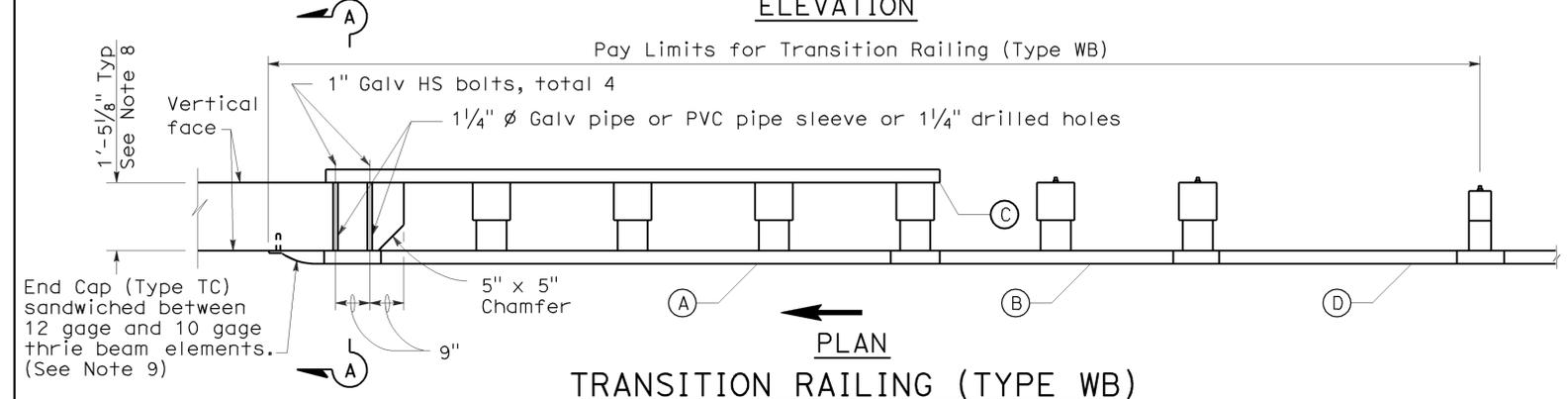
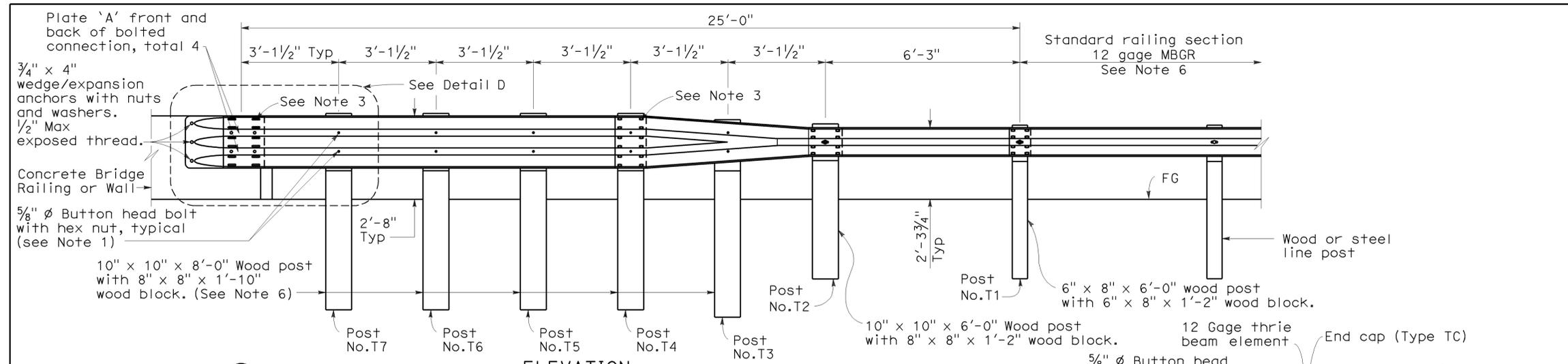
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	51	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

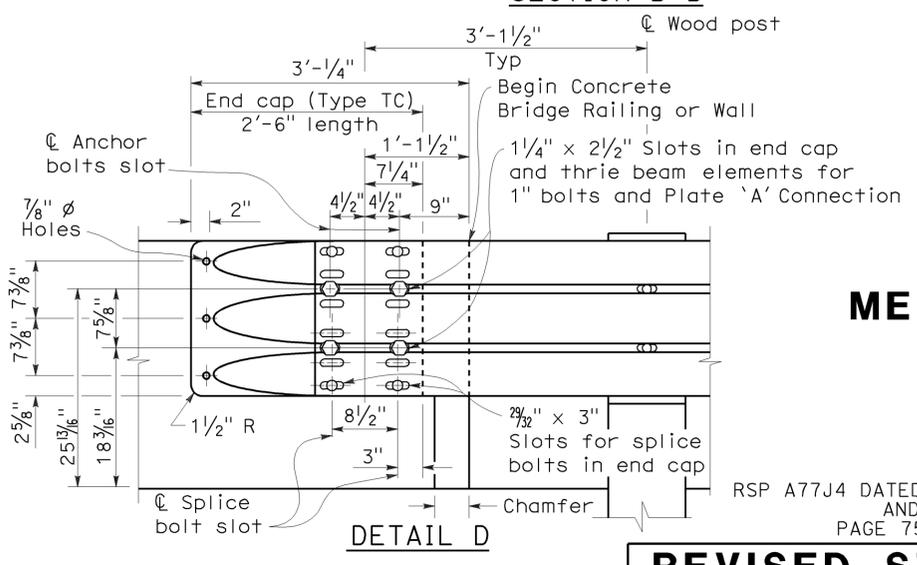
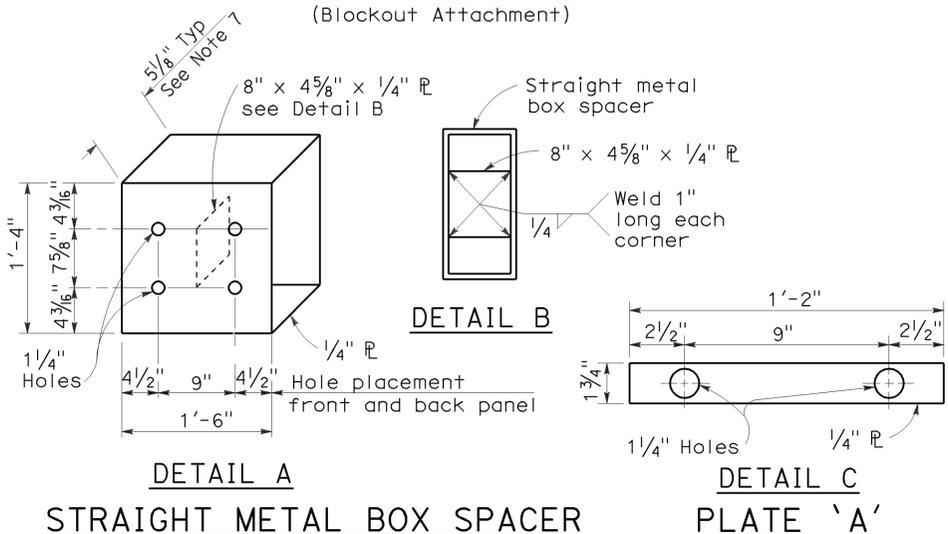
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- NOTES:** To accompany plans dated 5-3-10
- Use 5/8 " ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 - Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 " ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
 - Direction of adjacent traffic indicated by \rightarrow .
 - The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
 - The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
 - Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage "W" beam to thrie beam element.
 - (C) One 12 gage thrie beam element.
 - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick
12 gage = 0.108" thick



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)

NO SCALE

RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008 AND STANDARD PLAN A77J4 DATED MAY 1, 2006 - PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

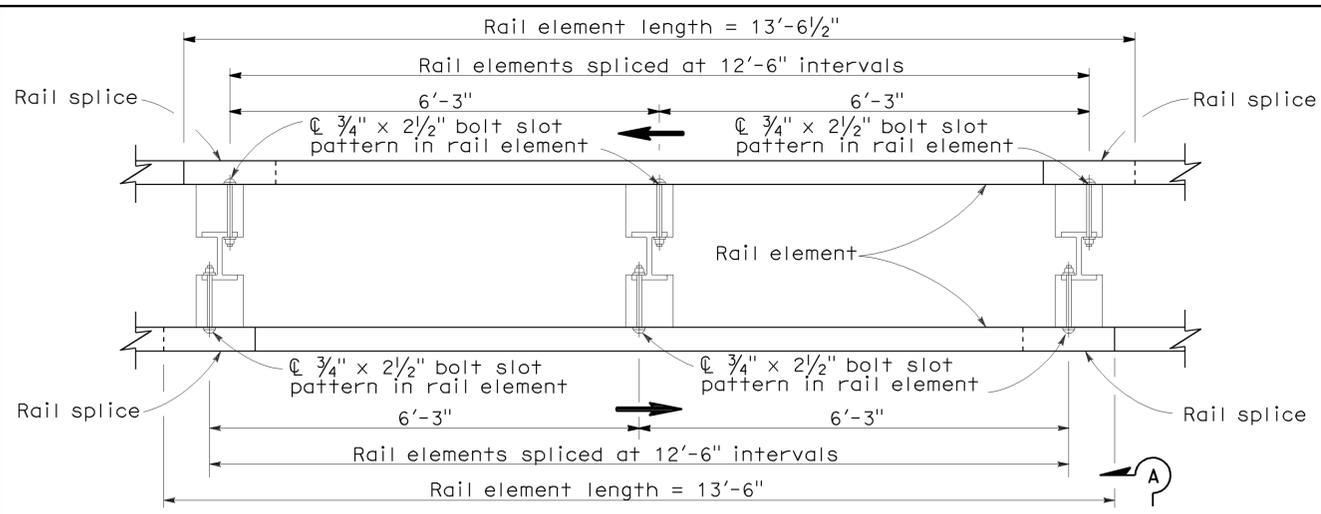
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	52	64

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REGISTERED CIVIL ENGINEER

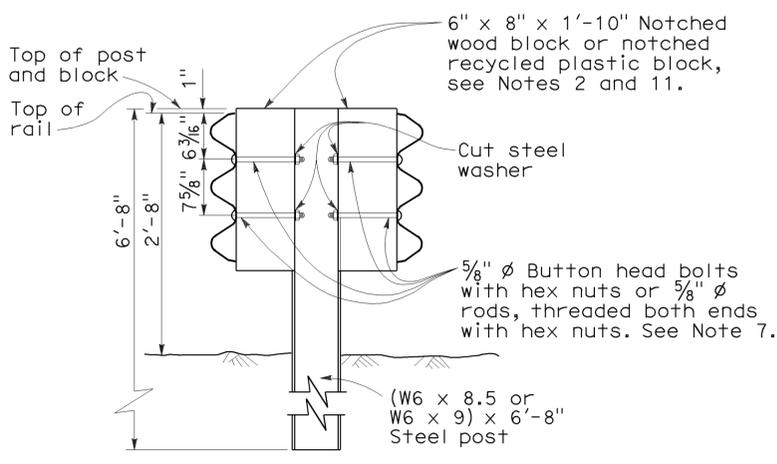
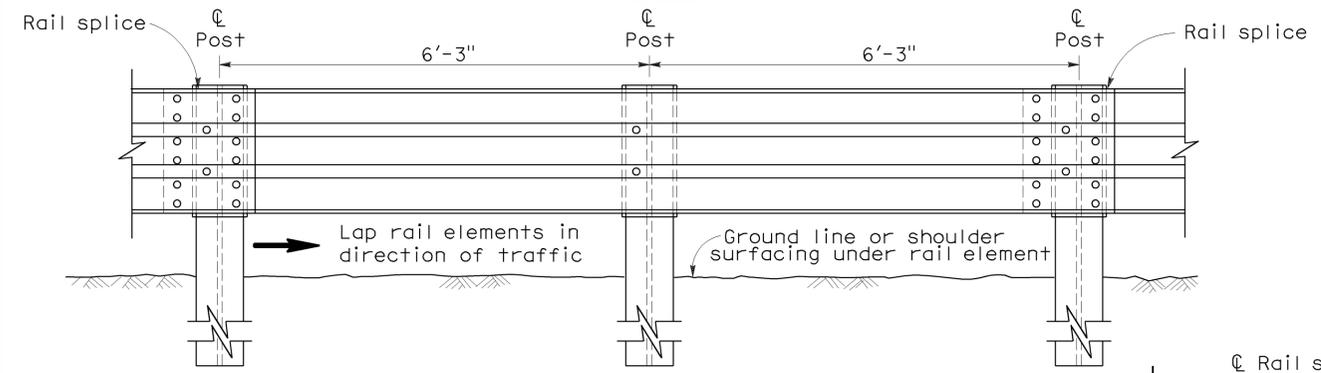
June 6, 2008
PLANS APPROVAL DATE

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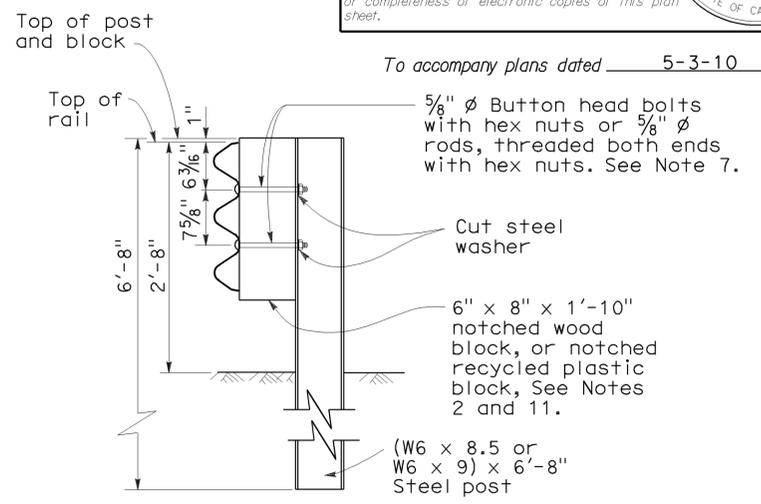
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DOUBLE THRIE BEAM BARRIER
(Steel post with notched wood or notched plastic blocks)
See Note 1

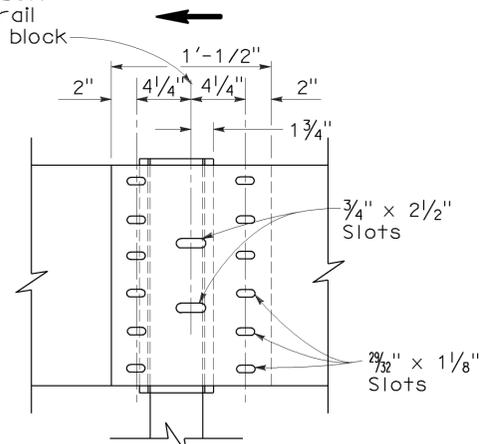


SECTION A-A
TYPICAL STEEL LINE POST INSTALLATION



SECTION B-B
TYPICAL STEEL LINE POST INSTALLATION

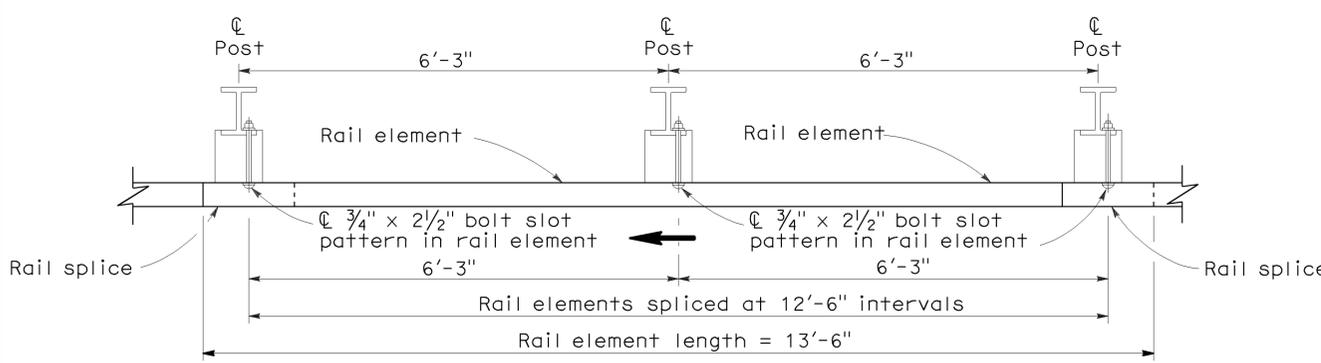
⊙ Rail splice and slots for 5/8" ⌀ button head bolt to connect rail to post and block



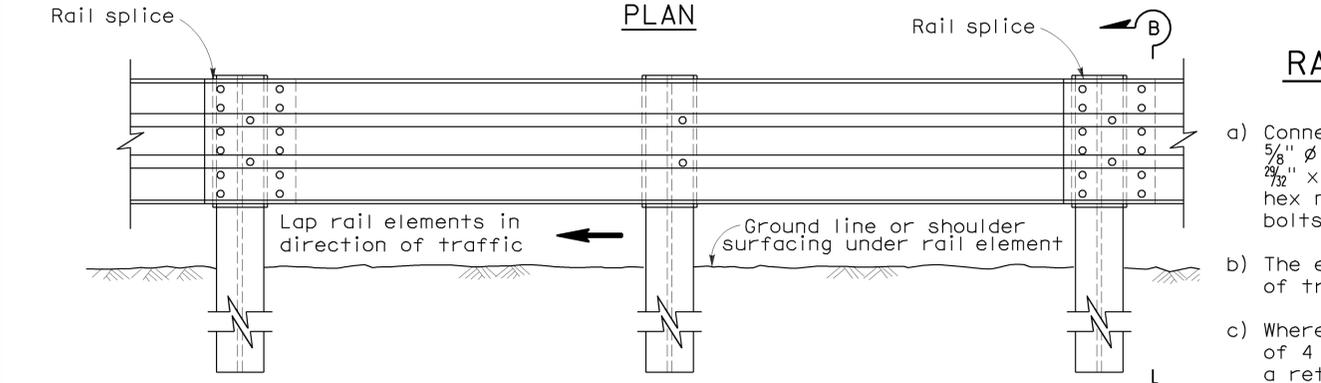
RAIL ELEMENT SPLICE DETAIL

NOTES:

- For details of the cross section of the thrie beam rail element and details for wood post with wood block installations, see Standard Plan A78A.
- For details of standard hardware, posts and blocks used to construct thrie beam barrier, see Revised Standard Plan RSP A78C1 and Standard Plan A78C2.
- Thrie beam barrier post spacing to be 6'-3" center to center, except as otherwise noted.
- Top of barrier rail to be 2'-8" above ground line or shoulder surfacing under the rail element.
- For barrier end treatments and barrier connections, see Standard Plans A78E1, A78E2 and A78E3, Revised Standard Plans RSPs A78F1 and A78F2, Standard Plan A78G and Revised Standard Plan RSP A78H.
- For connection to Concrete Barrier, see Revised Standard Plan RSP A78I.
- Attach rail element to block and steel post with 2 bolts or rods on approaching traffic side of block and post web. No washer on rail face for rod or bolted connections to line post.
- For details of thrie beam barrier on bridges, see Standard Plan A78D2. For details of thrie beam barrier at fixed objects, see Standard Plan A78D1.
- Direction of traffic indicated by →.
- Notched face of block faces steel post.



SINGLE THRIE BEAM BARRIER
(Steel post with notched wood or notched plastic blocks)
See Note 1



- Connect the overlapped ends of the thrie beam rail elements with 5/8" ⌀ x 1 1/8" button head oval shoulder bolts inserted into the 2 7/32" x 1 1/8" slots and bolted together with 5/8" ⌀ x 1 1/8" recessed hex nuts. Recess of hex nut points toward rail element. A total of 12 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used. Where a return cap is to be attached to the ends of rail elements, a total of 8 of the above described splice bolts and nuts are to be used.

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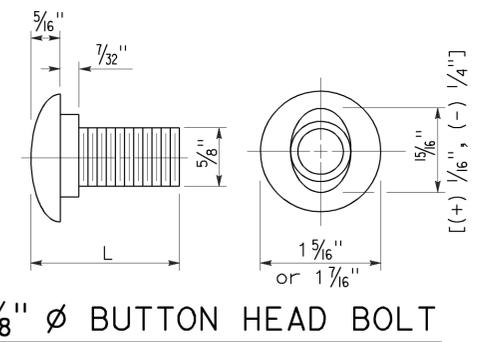
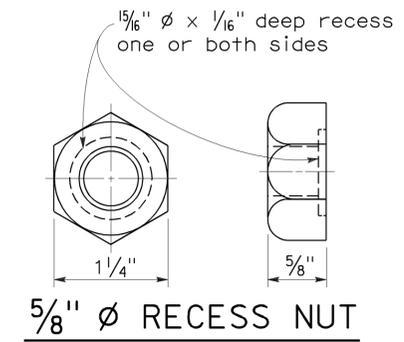
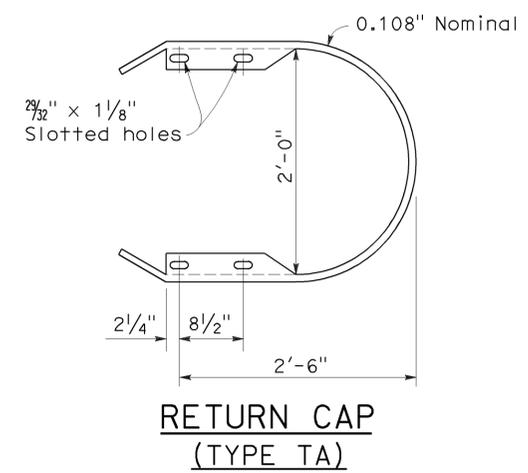
THRIE BEAM BARRIER
STANDARD BARRIER RAILING
SECTION (STEEL POST
WITH NOTCHED WOOD BLOCK
OR NOTCHED RECYCLED
PLASTIC BLOCK)
NO SCALE

RSP A78B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78B
DATED MAY 1, 2006 - PAGE 84 OF THE STANDARD PLANS BOOK DATED MAY 2006.

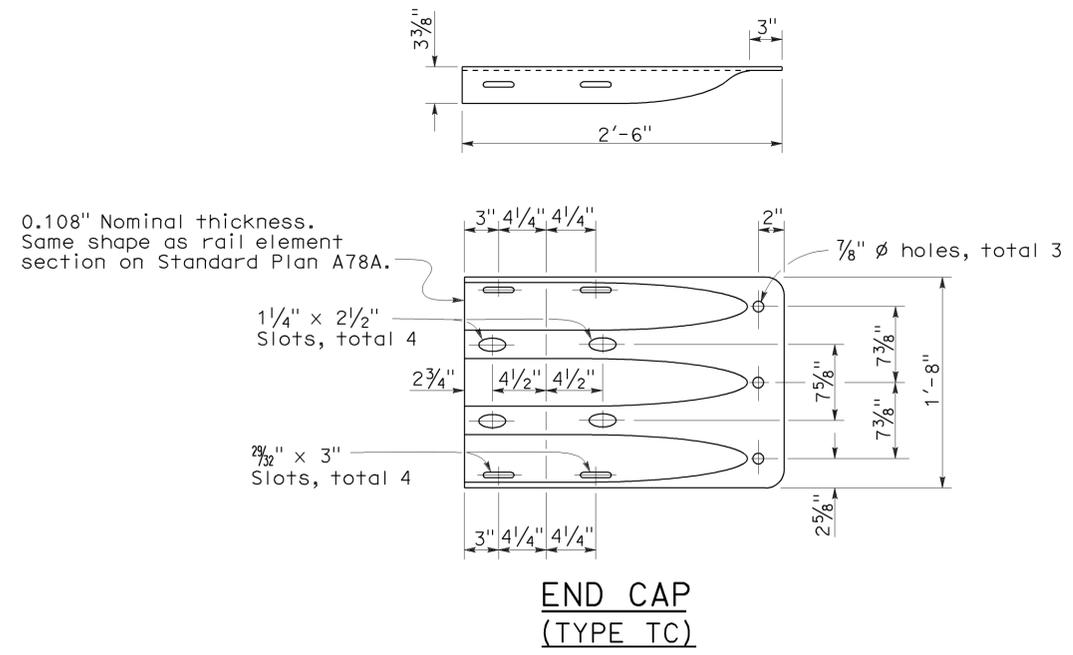
REVISED STANDARD PLAN RSP A78B

2006 REVISED STANDARD PLAN RSP A78B

To accompany plans dated 5-3-10



L	THREAD LENGTH
1 1/4"	full thread length
2"	full thread length
9/2"	4" Min thread length
18"	4" Min thread length



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**THRIE BEAM BARRIER
STANDARD HARDWARE DETAILS**

NO SCALE

RSP A78C1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78C1
DATED MAY 1, 2006 - PAGE 85 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A78C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	54	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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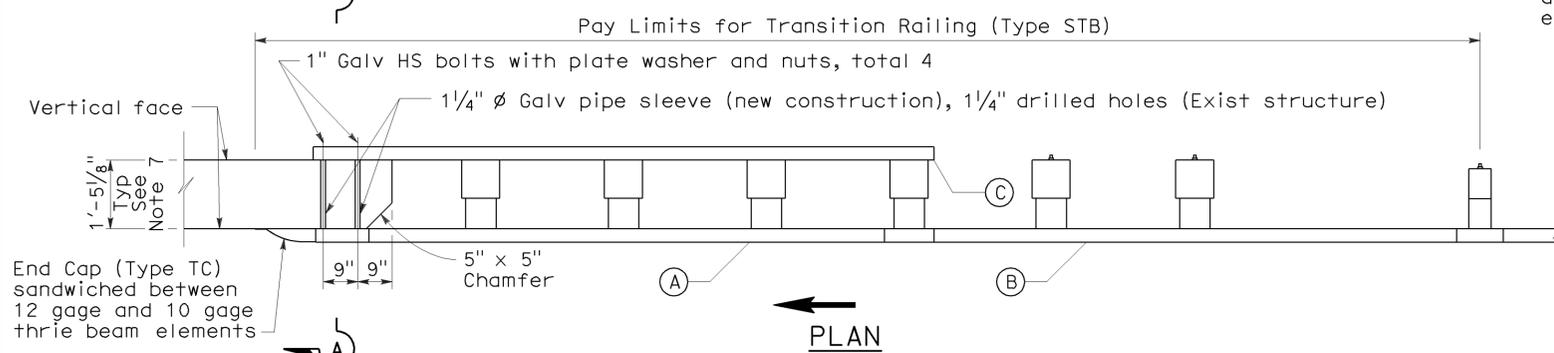
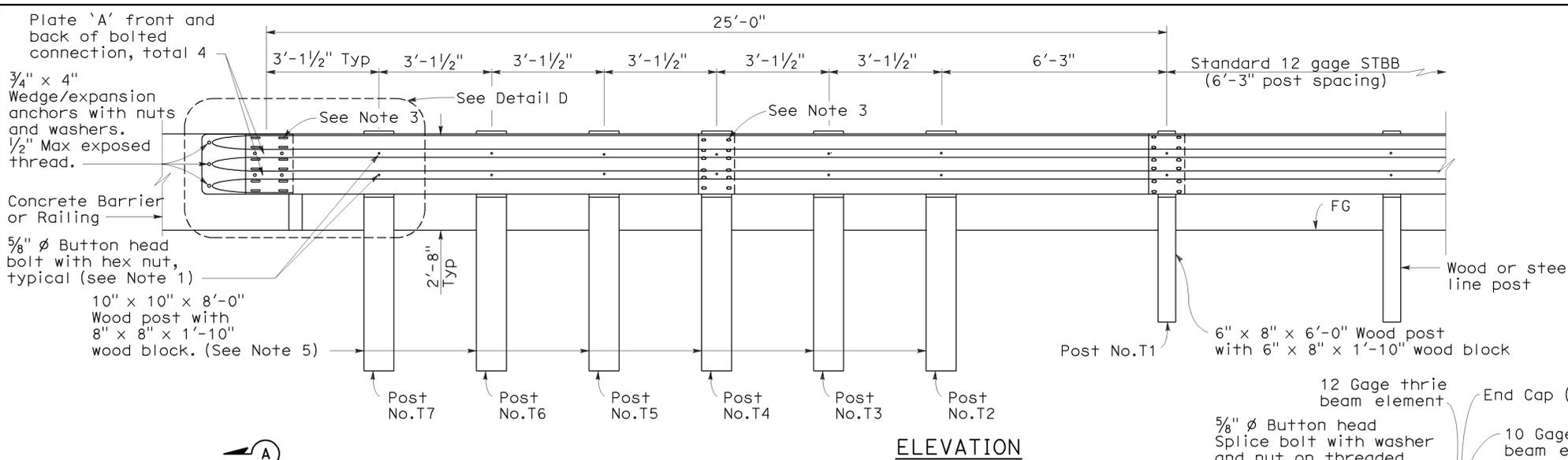
To accompany plans dated 5-3-10

LEGEND

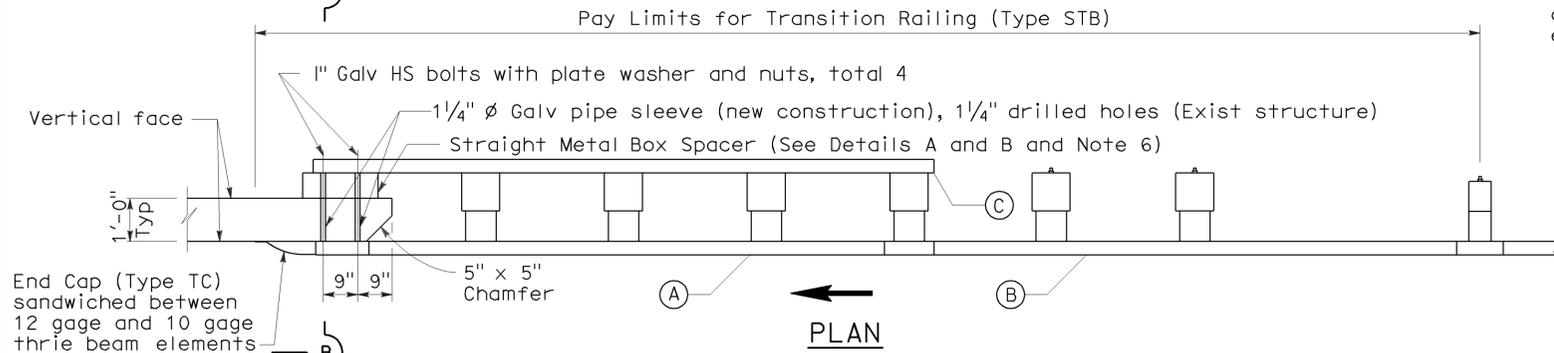
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage thrie beam element.
 - (C) One 12 gage thrie beam element.
- 10 gage = 0.135" thick
12 gage = 0.108" thick

NOTES:

- Use 5/8" ø Button head bolts and hex nuts for connection to posts. No washer on rail face for bolted connections to post.
- The nested rail elements, end cap and single 10 gage thrie beam element, may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
- Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 3/32" x 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1/4" ø. Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
- Direction of adjacent traffic indicated by →.
- The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
- The depth of the metal box spacer varies from the 5/8" to 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1/2" metal plates similar to Plate 'A' are to be used as spacers.
- Where the width of the concrete railing or wall is greater than 17/8", wood blocks are to be used to fill the space created between the backside of Post No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
- For details of End Cap (Type TC), see Revised Standard Plan RSP A78C1.



TRANSITION RAILING (TYPE STB)
(No Blockout Attachment)



TRANSITION RAILING (TYPE STB)
(Blockout Attachment)

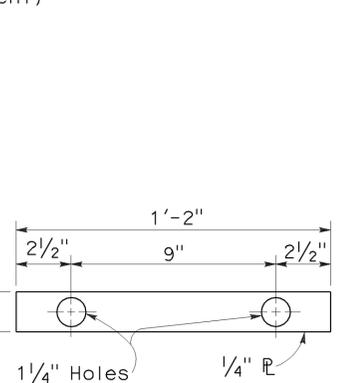
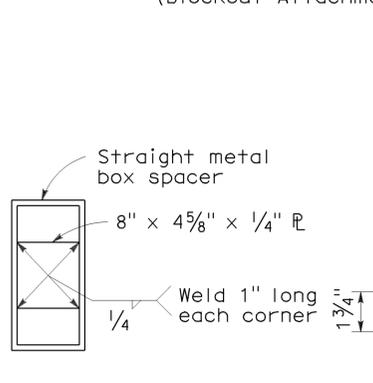
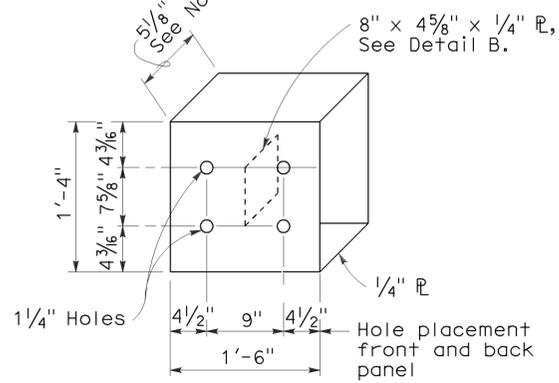
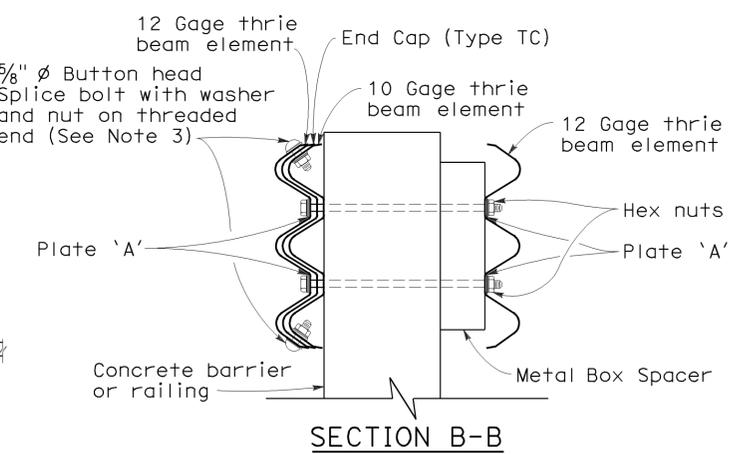
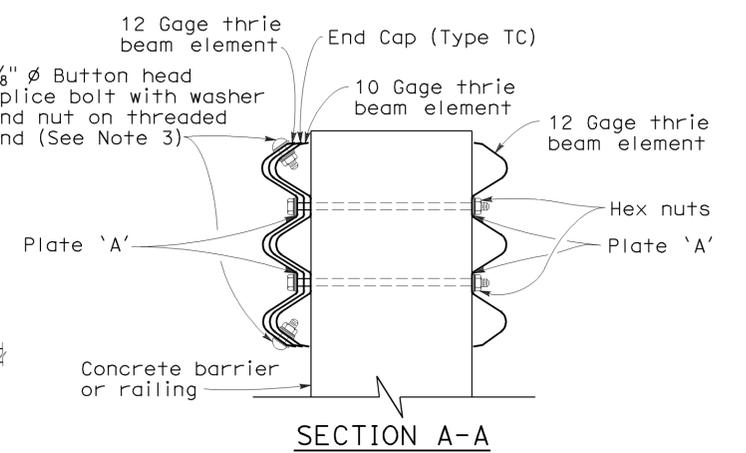
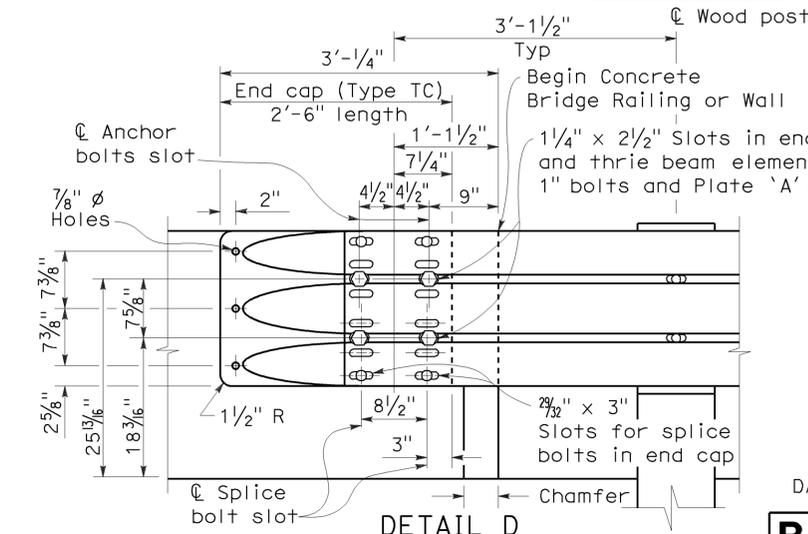


PLATE 'A'



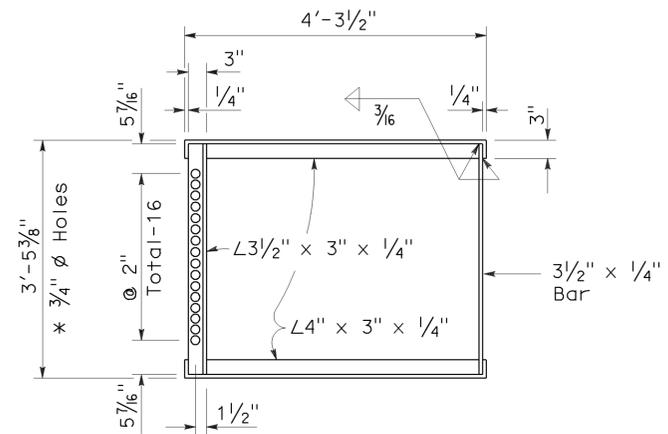
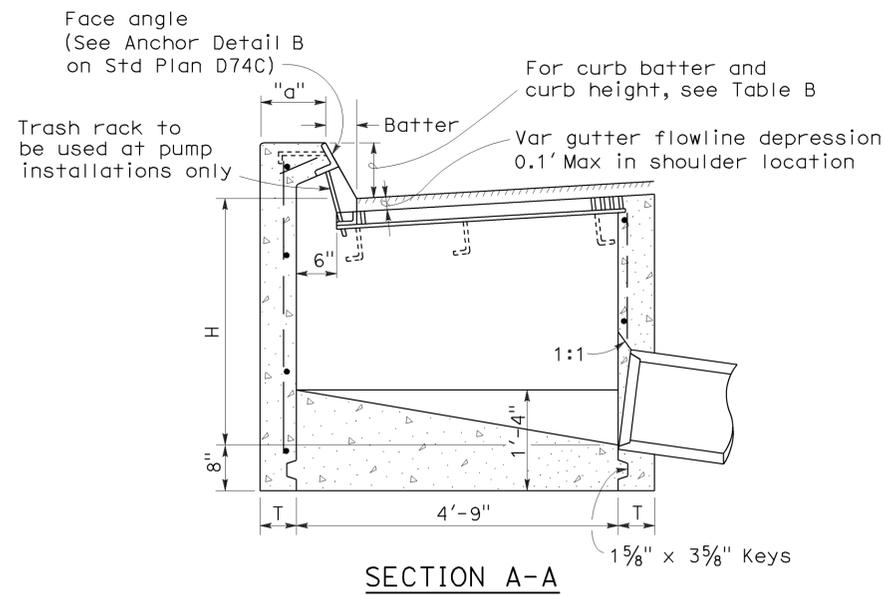
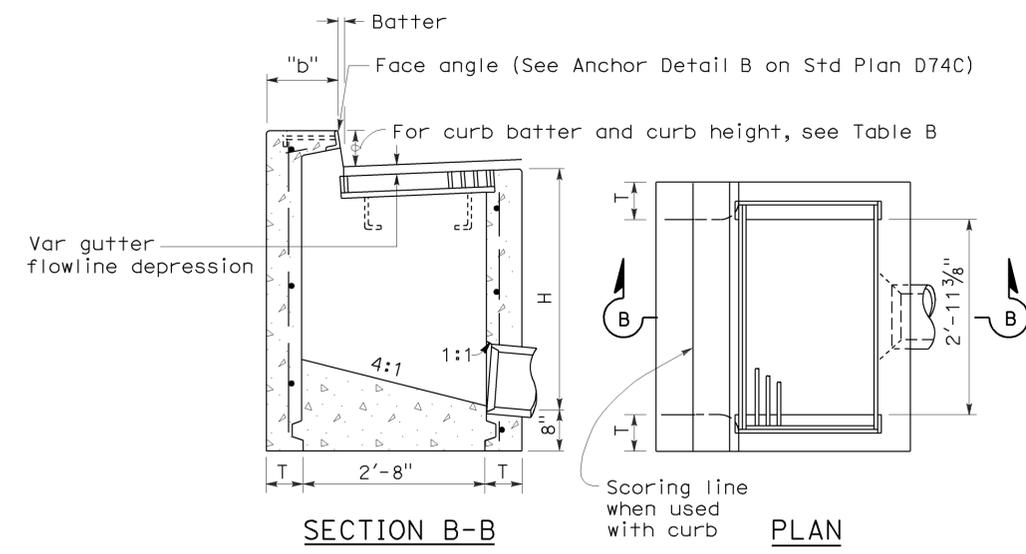
SINGLE THRIE BEAM BARRIER TRANSITION RAILING (TYPE STB)

NO SCALE

RSP A78J DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78J DATED MAY 1, 2006 - PAGE 97 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A78J

To accompany plans dated 5-3-10



* 3/4" ϕ Holes required only with trash rack

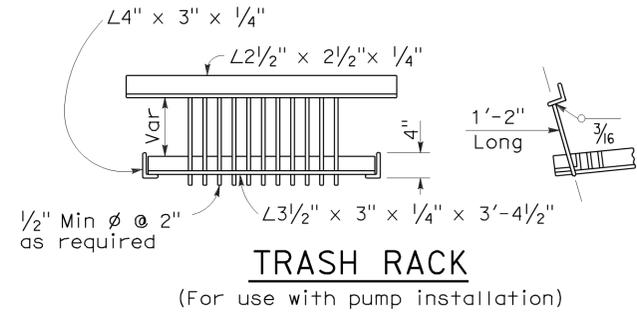


TABLE A
 CONCRETE QUANTITIES

TYPE	H=3'-0" TO 8'-0" (T=6")		H=8'-1" TO 20'-0" (T=8")	
	H=3'-0" (CY)	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
GO	1.24	0.245	3.39	0.346
GDO	1.62	0.322	4.36	0.446

Table based on 8" floor slab, no deduction for pipe openings, and curb type giving highest quantity of concrete. No deductions or adjustments are to be made to these quantities because of pipe openings, different floor alternatives or different curb type.

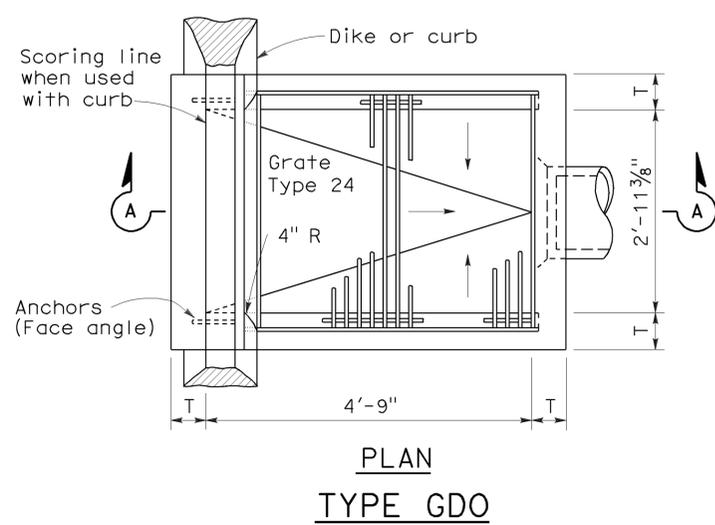


TABLE B

CURB TYPE	NORMAL CURB HEIGHT	CURB BATTER	"a" DIMENSION	"b" DIMENSION
A1-6	6"	1 1/2"	T+7 1/2"	T+6 1/2"
A1-8	8"	2"	T+7"	T+6"
B1-6	6"	4"	T+5"	T+4"
Type A Dike	6"	3"	T+6"	T+5"

NOTES:

- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undeepressed.
- For "T" wall thickness, see Table A below.
- Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 @ 18"± centers placed 1/2" clear to inside of box unless otherwise shown.
- Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom.
- Steps - None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below top of inlet. The distance between steps shall not exceed 1'-0" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Step inserts may be substituted for the bar steps. Step Inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
- When shown on the project plans, place a 3/4" plain round protection bar horizontally across the length of the opening and bend back 4" into the inlet wall on each side.
- Pipe(s) can be placed in any wall.
- Curb section shall match adjacent curb.
- Basin floors shall have wood trowel finish and shall slope toward the outlet pipe as shown.
- Galvanizing - See Standard Specifications or Special Provisions.
- See Standard Plan D77A and D77B for grate and frame details and weights of miscellaneous iron and Steel.
- See Standard Plan D78A for gutter depression details.
- Full penetration butt welds may be substituted for the fillet welds on all anchors.
- Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
- Cast-in-place or precast alternative is optional with contractor. See Standard Specifications.
- Cast-in-place inlets to be formed around all pipes/stubs intersecting the inlet and concrete poured in one continuous operation. Precast inlets shall have mortared pipe connections conforming to details for Type GCP inlets on Standard Plan D75B. See Standard Specifications for mortar composition.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
DRAINAGE INLETS
 NO SCALE

RSP D74B DATED JUNE 15, 2007 SUPERSEDES STANDARD PLAN D74B DATED MAY 1, 2006 - PAGE 150 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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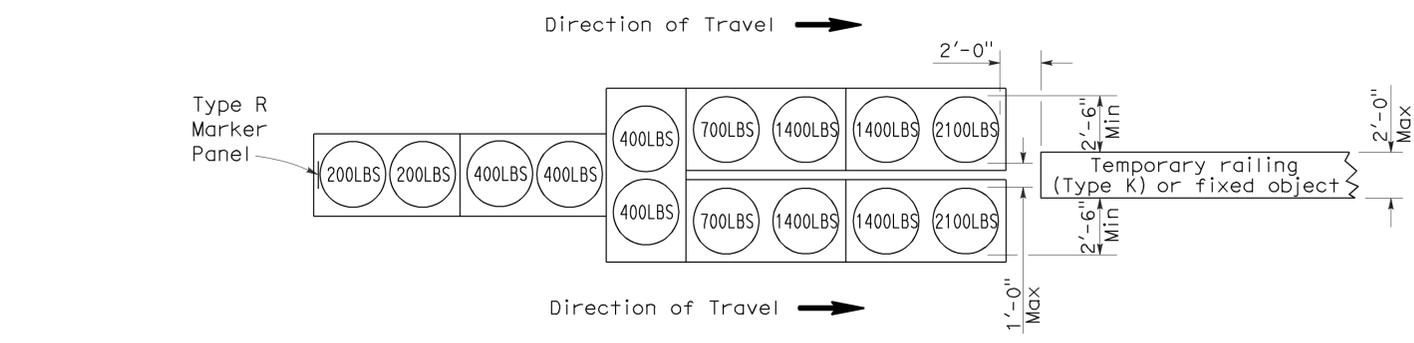
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

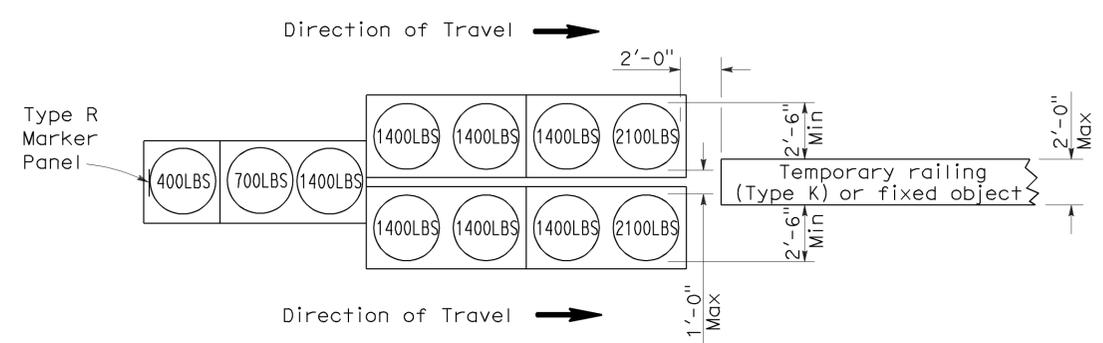
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To accompany plans dated 5-3-10



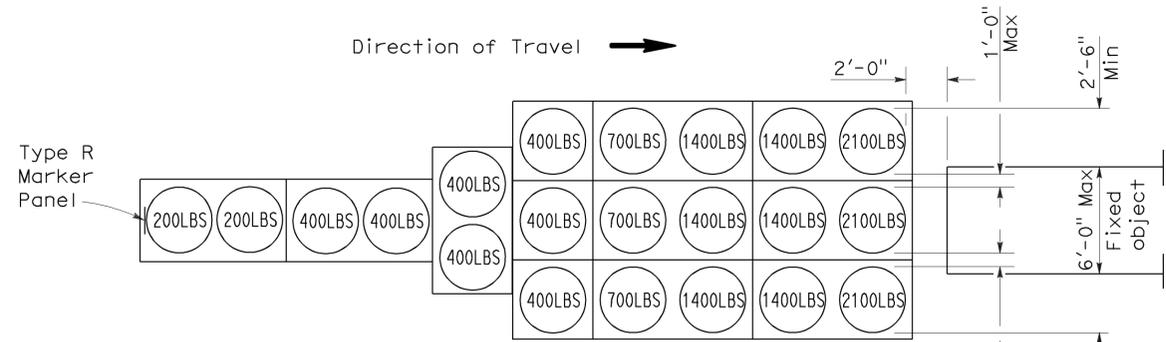
ARRAY 'TU14'

Approach speed 45 mph or more



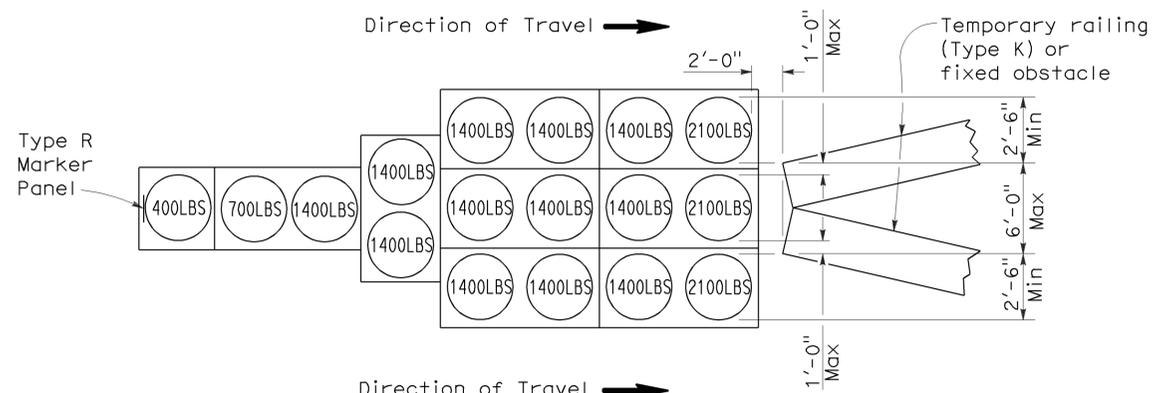
ARRAY 'TU11'

Approach speed less than 45 mph



ARRAY 'TU21'

Approach speed 45 mph or more

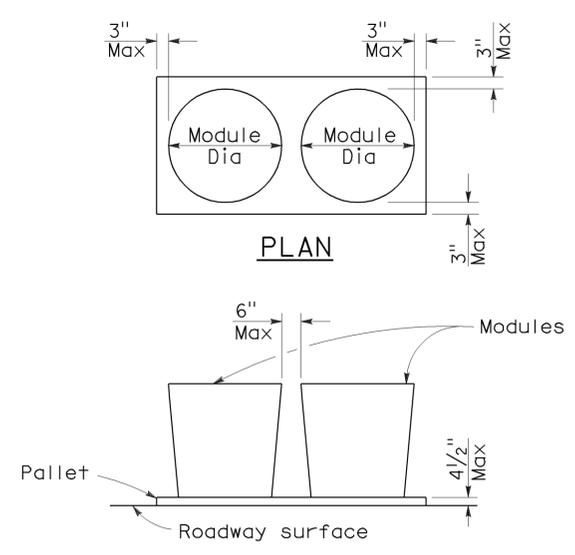


ARRAY 'TU17'

Approach speed less than 45 mph

NOTES:

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



CRASH CUSHION PALLET DETAIL
See Note 7

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

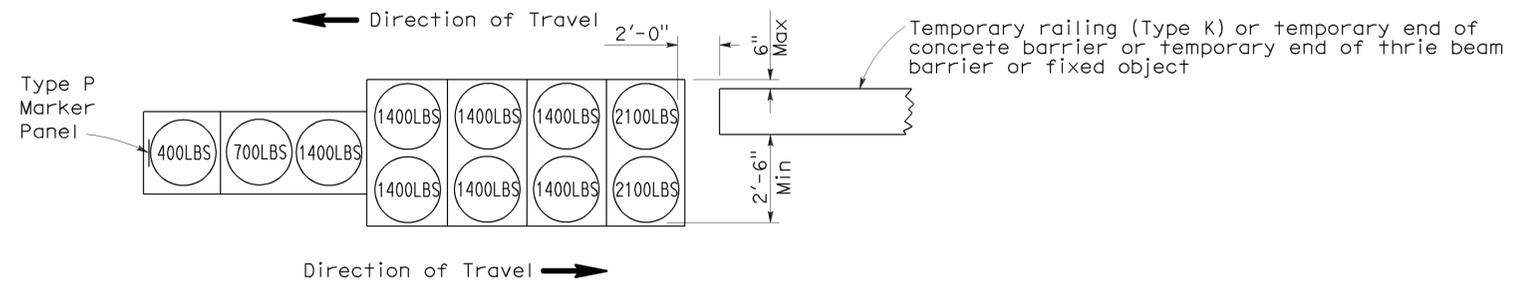
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	57	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

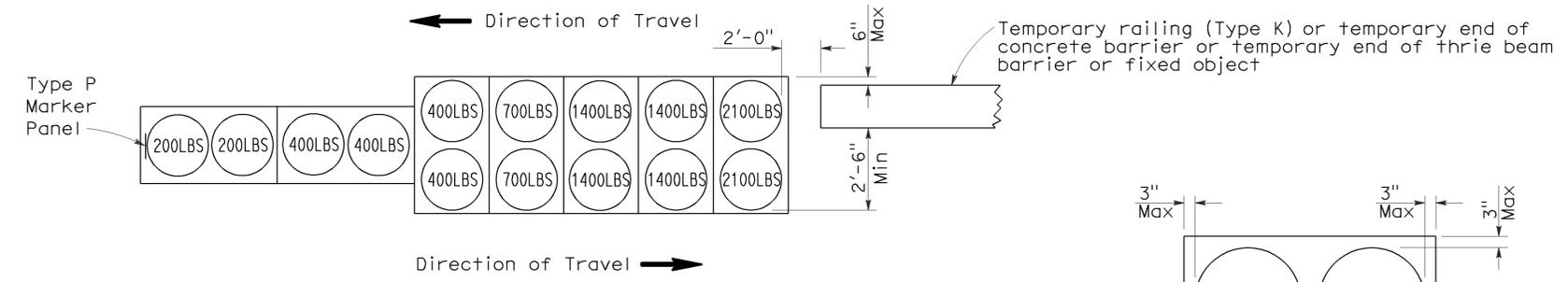
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To accompany plans dated 5-3-10



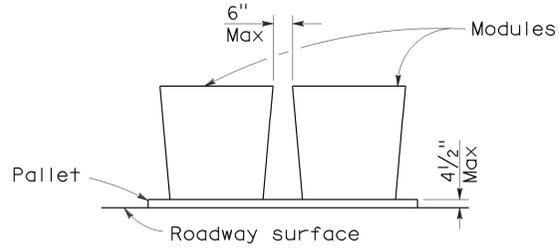
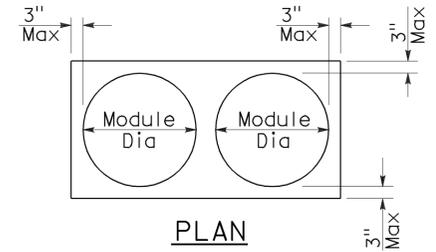
ARRAY 'TB11'

Approach speed less than 45 mph



ARRAY 'TB14'

Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**
NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	58	64

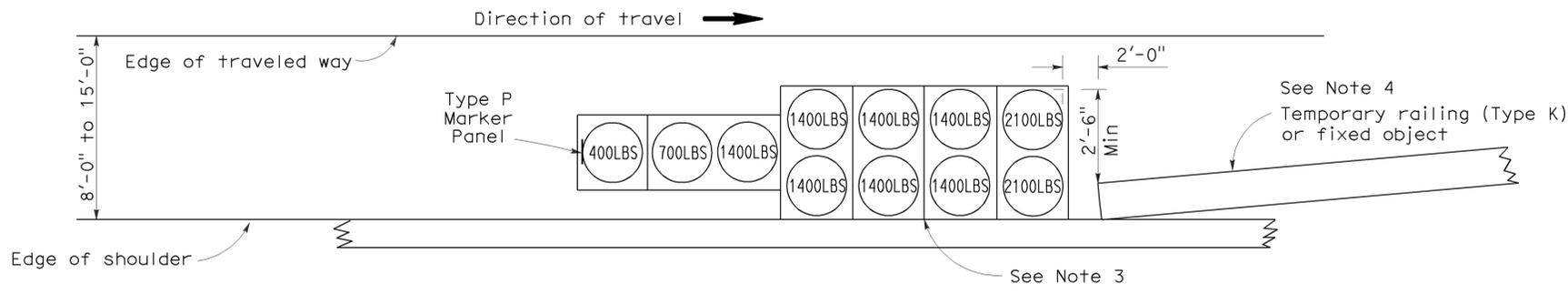
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

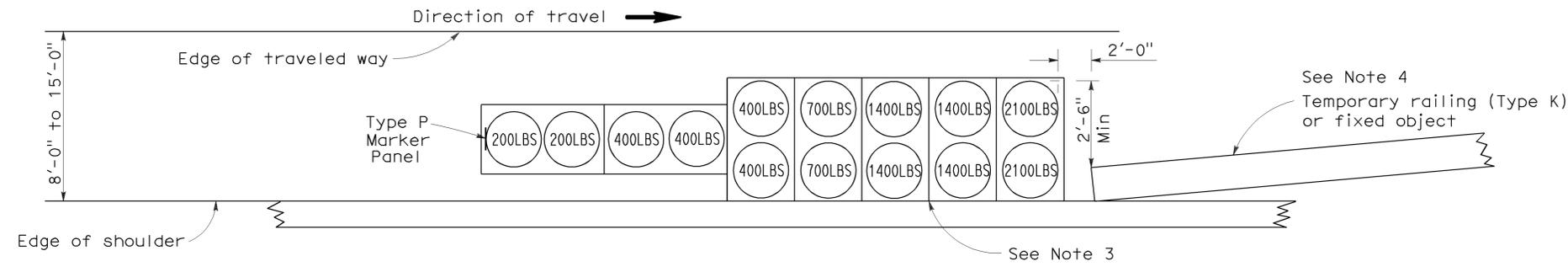
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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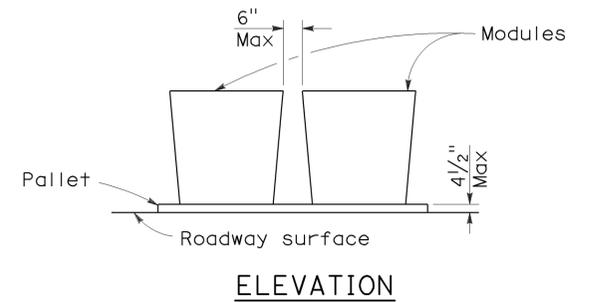
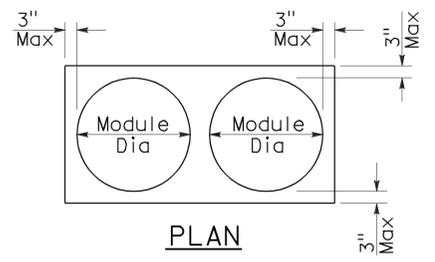
To accompany plans dated 5-3-10



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



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



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

ELECTROLIERS

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

NOTES:

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

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

STANDARD NOTES:

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

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	60	64

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 5-3-10

SOFFIT AND WALL MOUNTED LUMINAIRES

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

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	61	64

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

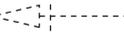
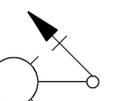
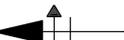
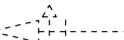
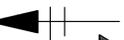
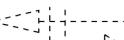
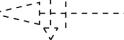
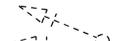
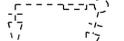
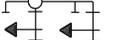
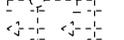
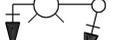
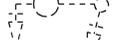
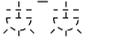
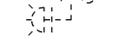
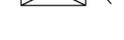
October 5, 2007
 PLANS APPROVAL DATE

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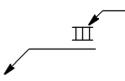
CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination 
		Conduit riser in/on structure or service pole

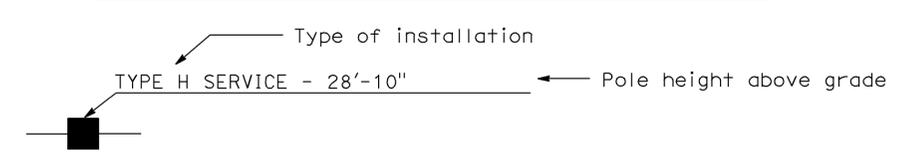
SIGNAL EQUIPMENT

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

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

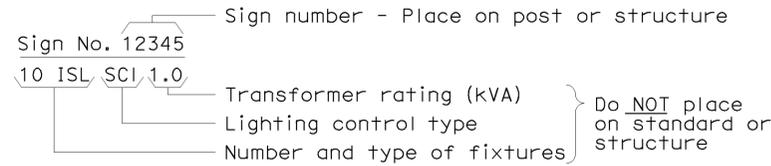
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

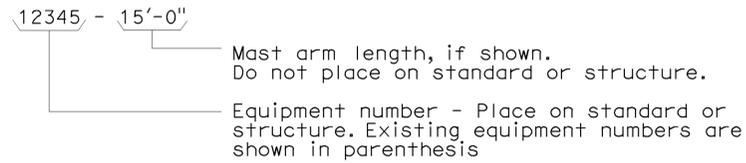
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

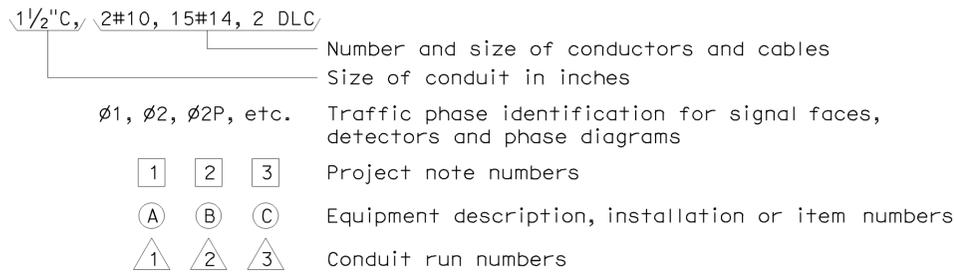
ILLUMINATED SIGN IDENTIFICATION NUMBER:



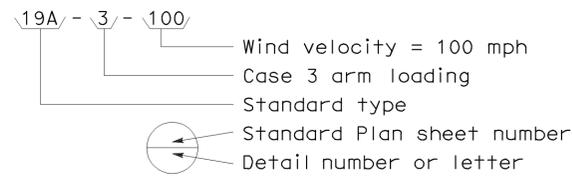
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



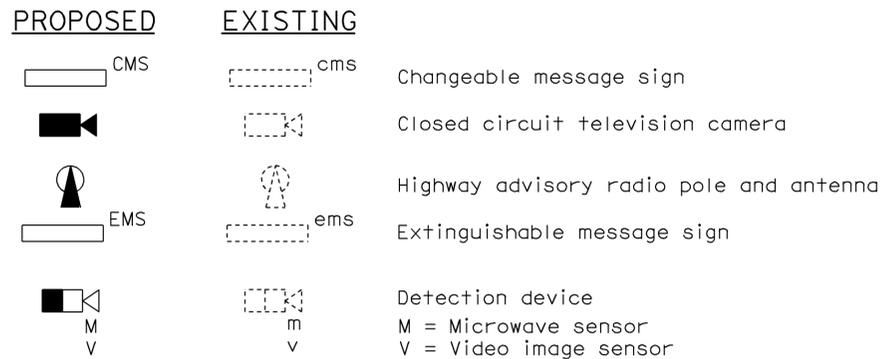
CONDUIT AND CONDUCTOR IDENTIFICATION:



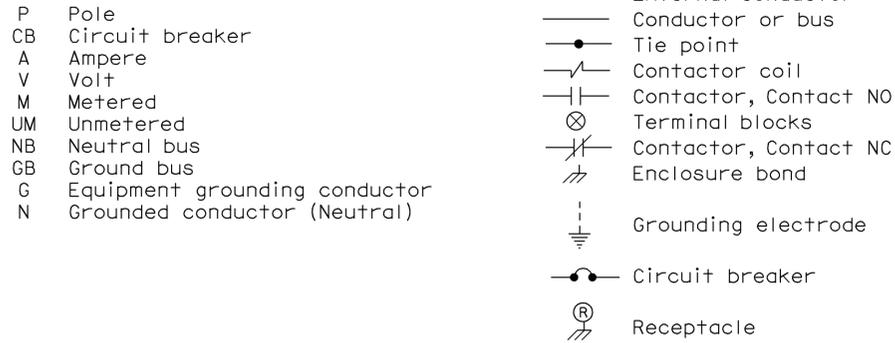
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



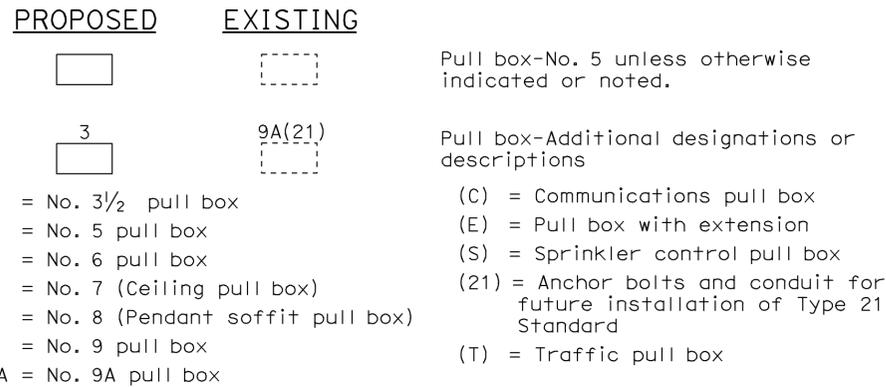
MISCELLANEOUS EQUIPMENT



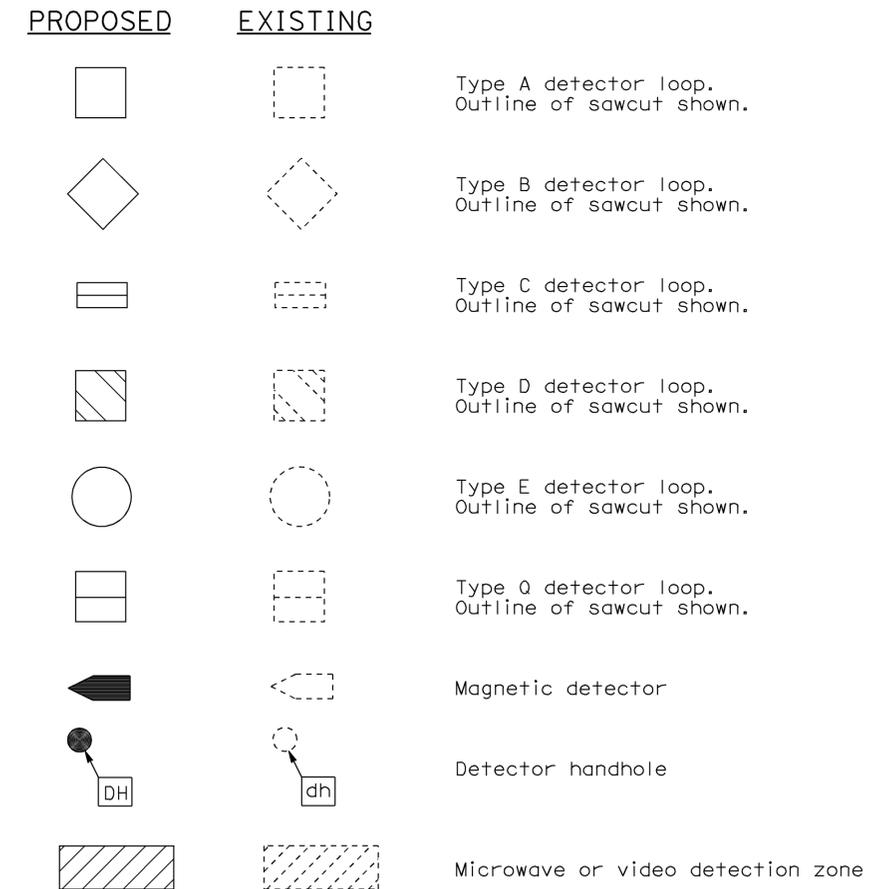
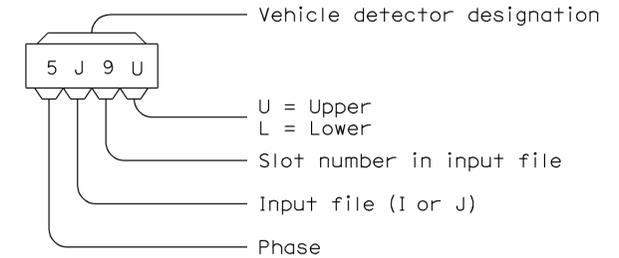
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

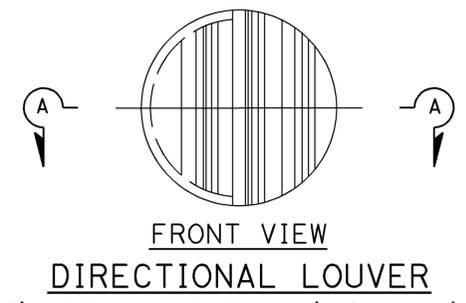
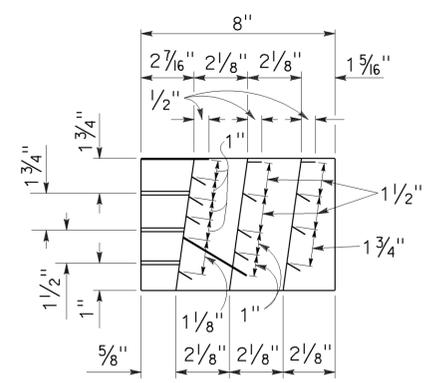
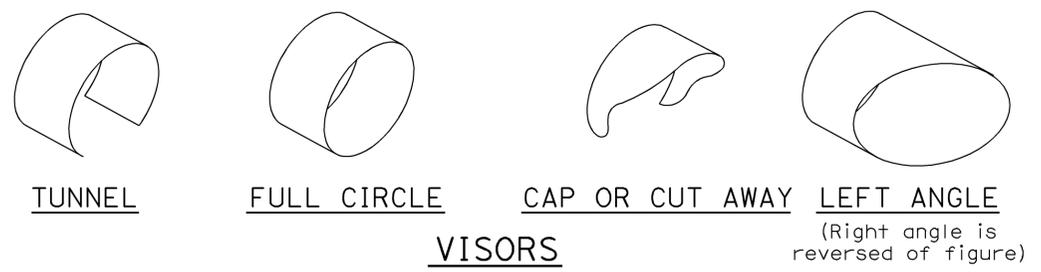
ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

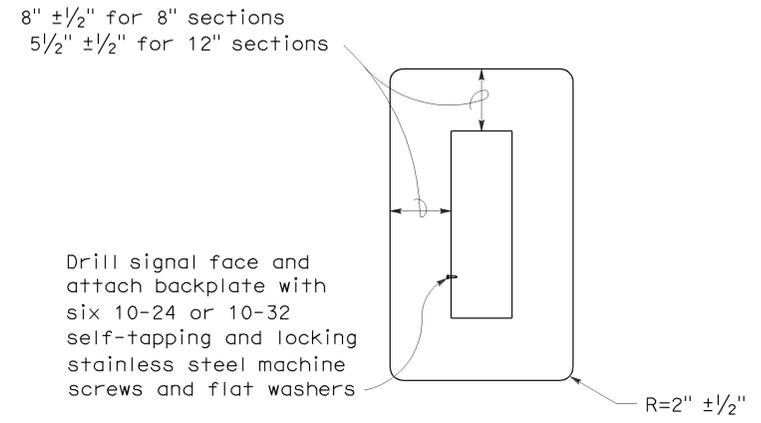
RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
 DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	63	64

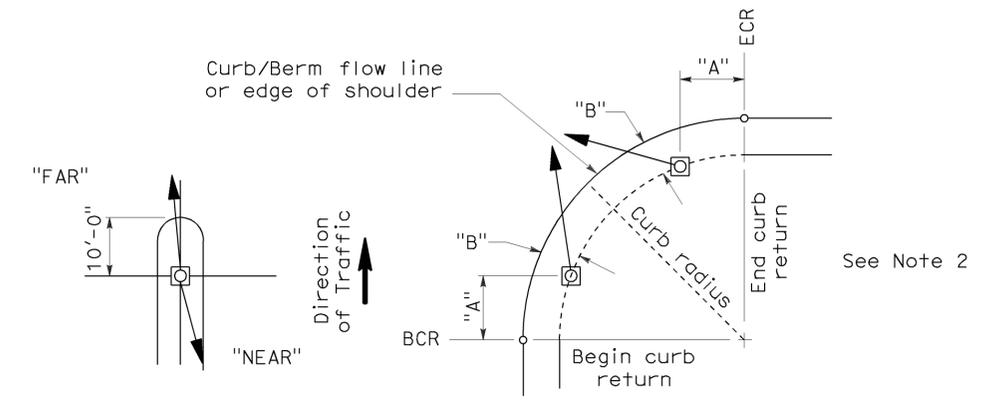
Jeffrey B. McPae
 REGISTERED ELECTRICAL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA



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

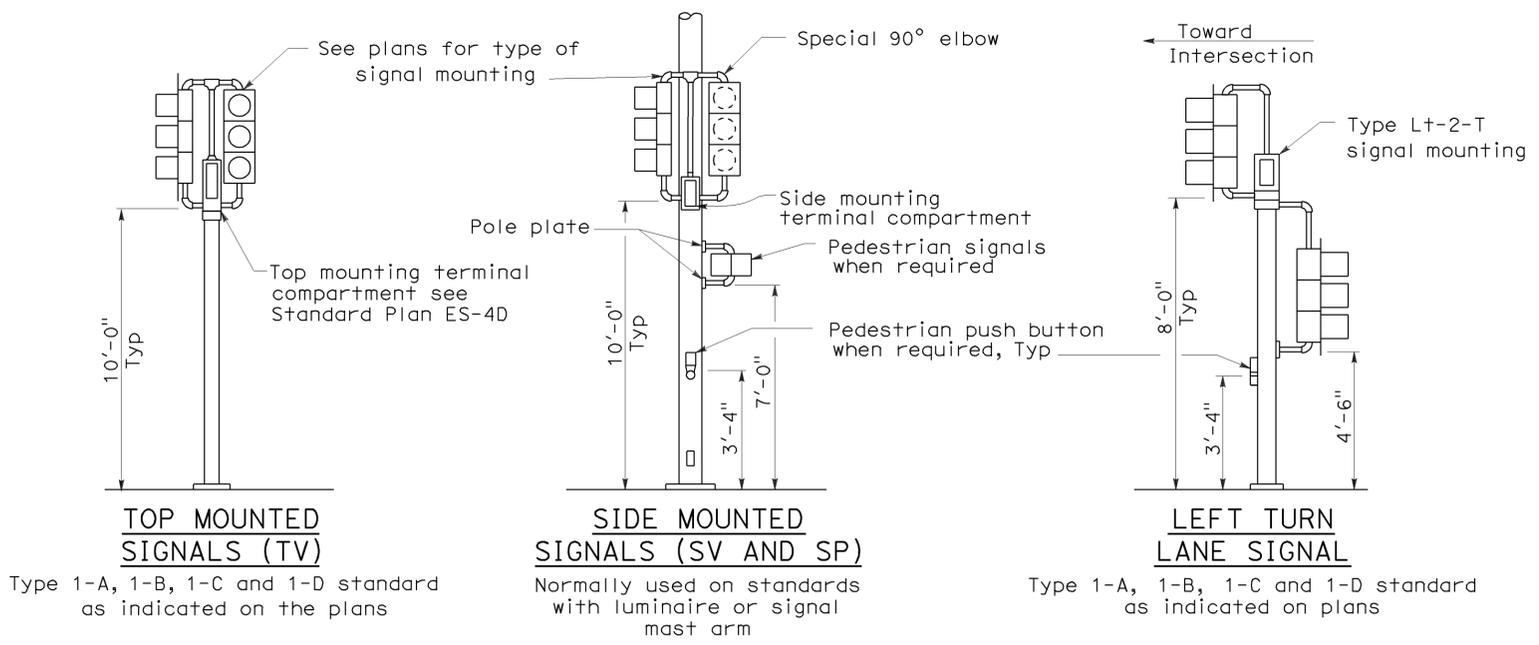


8" AND 12" SECTIONS
BACKPLATE
 1/16" minimum thickness
 3001-14 aluminum, or plastic when specified

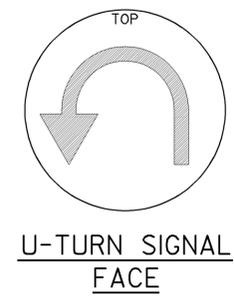


- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
 2. For "A" and "B" dimensions, see Pole Schedule, or as directed by the Engineer.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TYPICAL SIGNAL INSTALLATIONS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-4C

2006 REVISED STANDARD PLAN RSP ES-4C

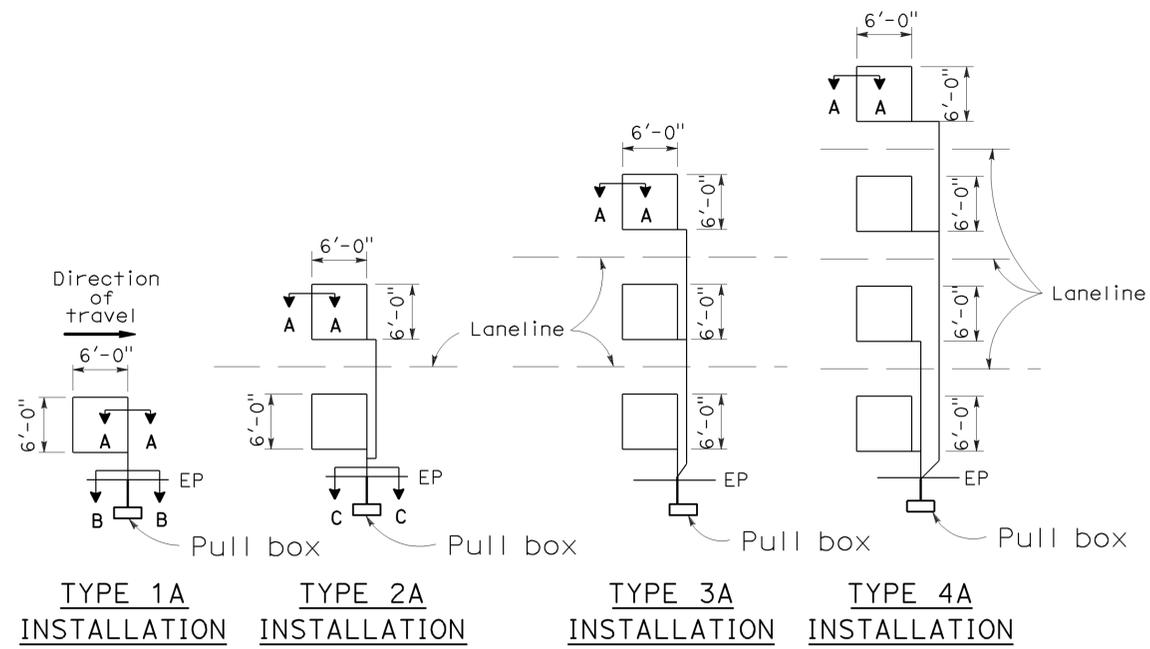
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SLO	101	7.6/16.4	64	64

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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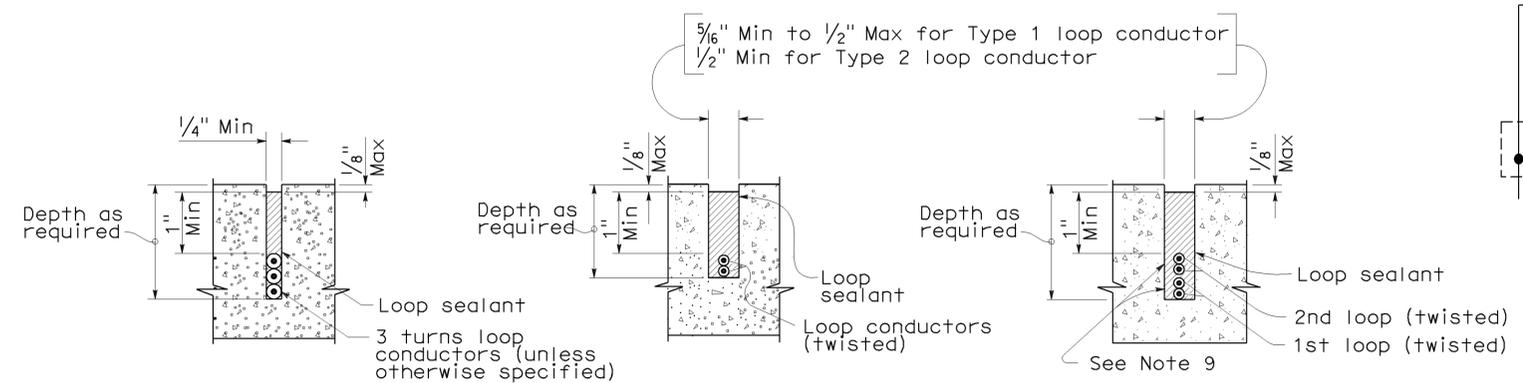
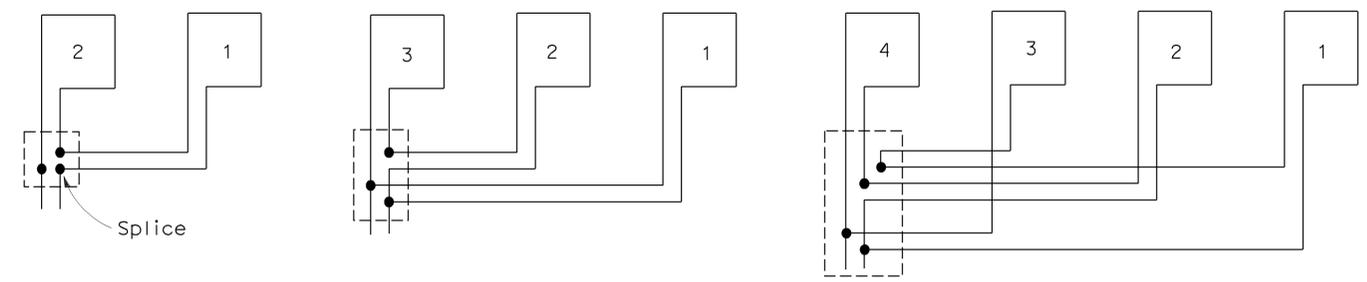
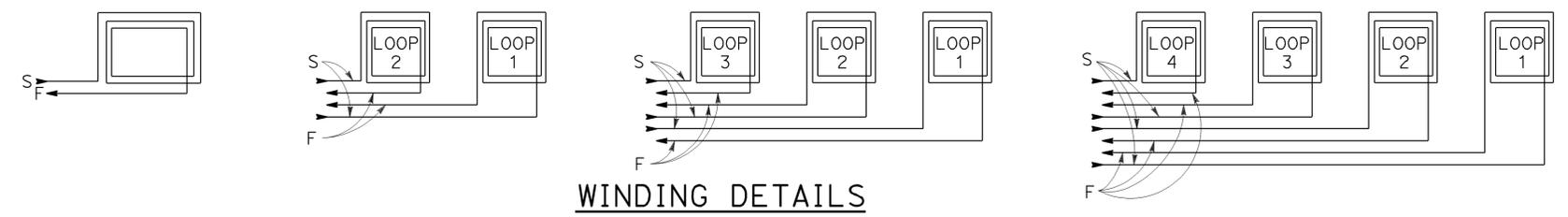
REGISTERED PROFESSIONAL ENGINEER
Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

LOOP INSTALLATION PROCEDURE

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



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



ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

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

REVISED STANDARD PLAN RSP ES-5A

2006 REVISED STANDARD PLAN RSP ES-5A