

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**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN MARIN COUNTY**  
**FROM ROUTE 101**  
**TO 0.2 MILE NORTH OF CALLE DEL ARROYO**

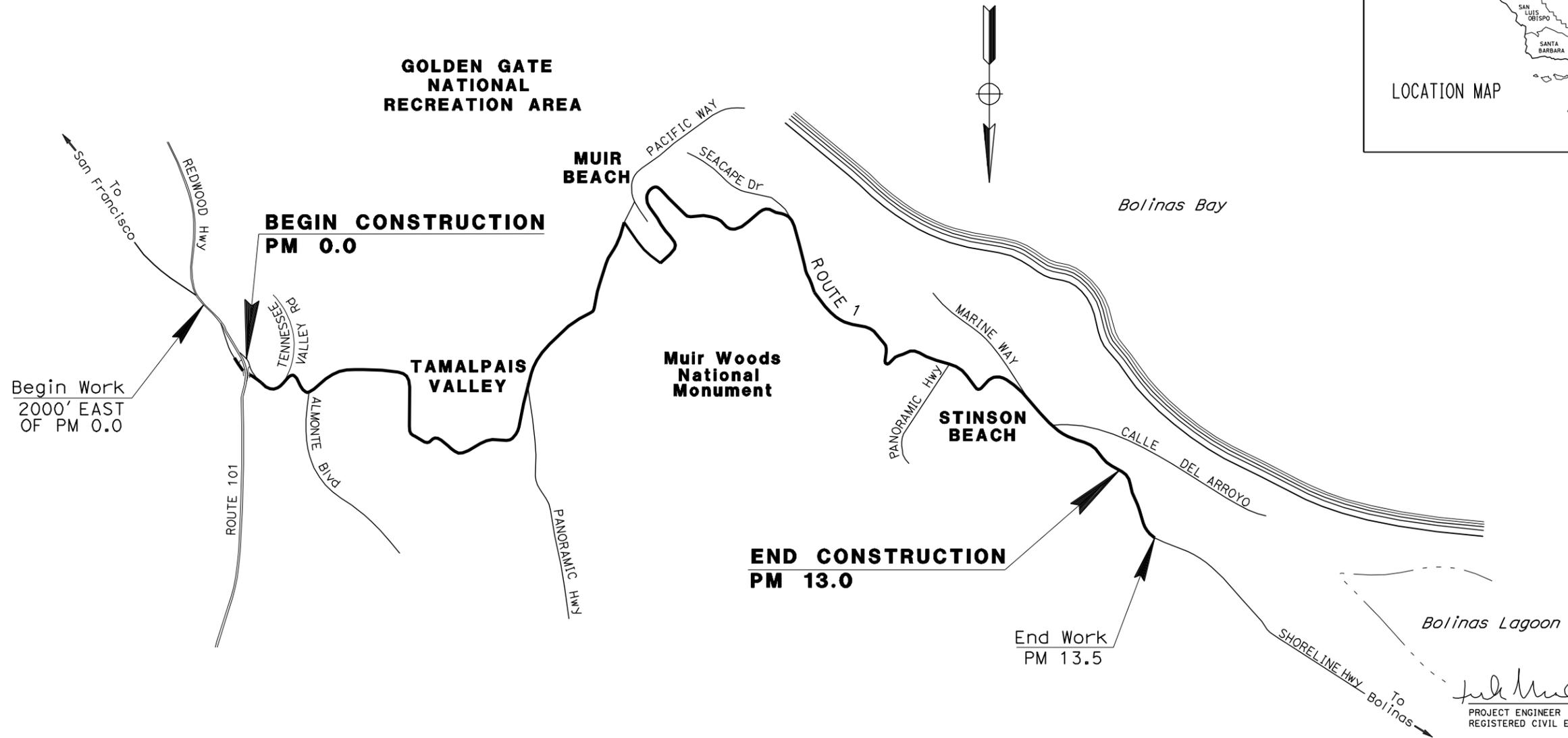
TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	1	24





LOCATION MAP



PROJECT MANAGER RAMSES SARGISS	DESIGN ENGINEER RONNIE CHUA
-----------------------------------	--------------------------------

 1/30/12  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
 January 30, 2012  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Terek Naward  
 No. 66808  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

CONTRACT No.	<b>04-2E5104</b>
PROJECT ID	<b>0400021100</b>

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

NO SCALE

RELATIVE BORDER SCALE 0 1 2 3  
IS IN INCHES

USERNAME => s136183  
 DGN FILE => 0400021100ab001.dgn

DATE PLOTTED => 01-FEB-2012  
 TIME PLOTTED => 13:21  
 LAST REVISION: 01-30-12

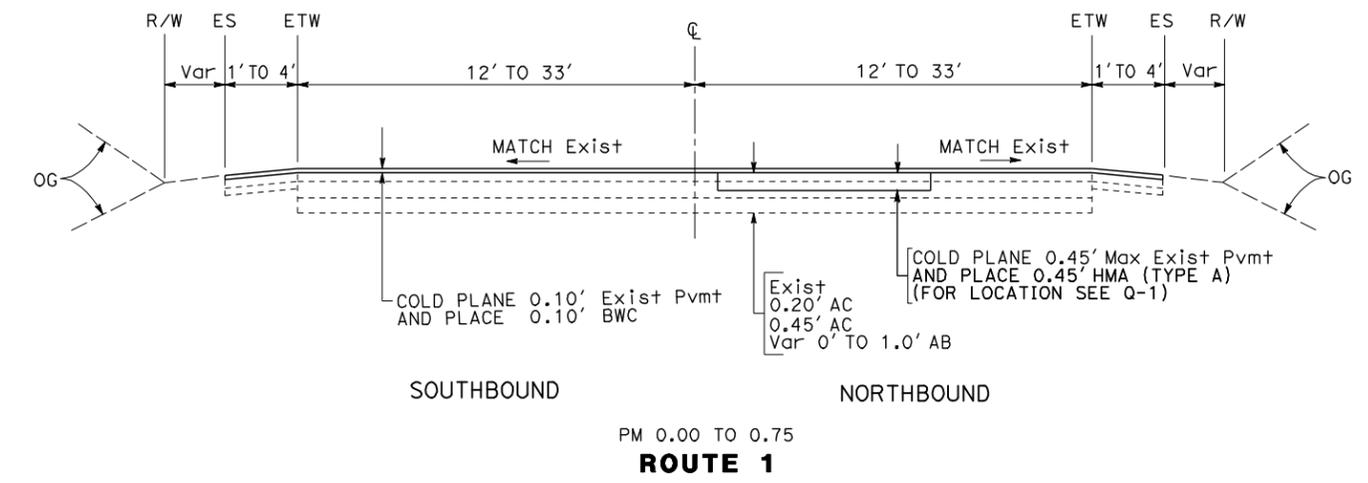
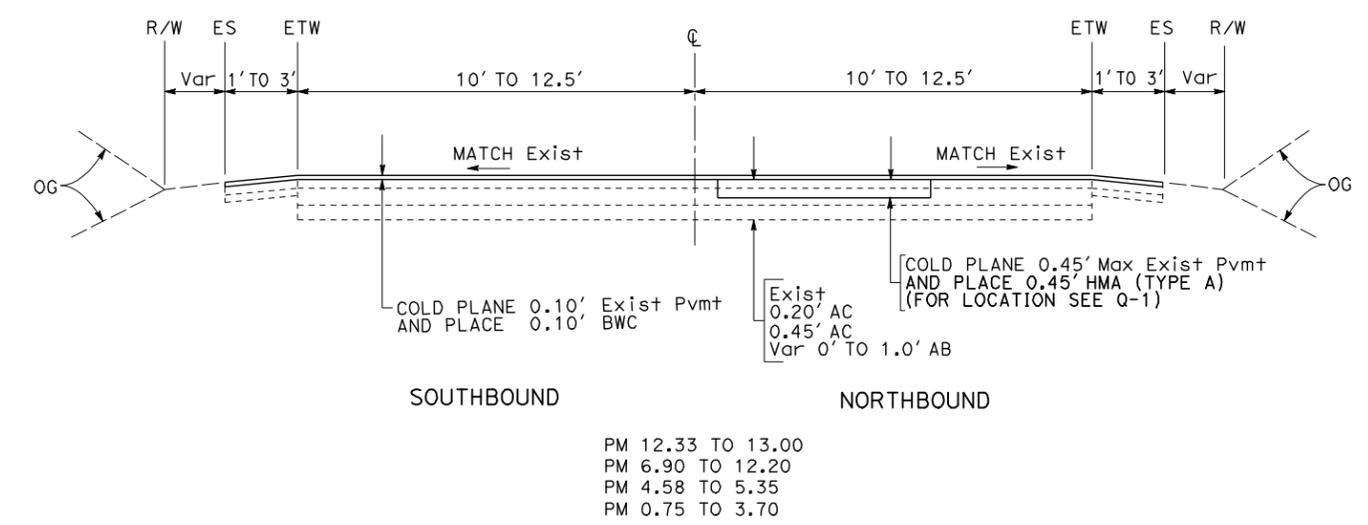
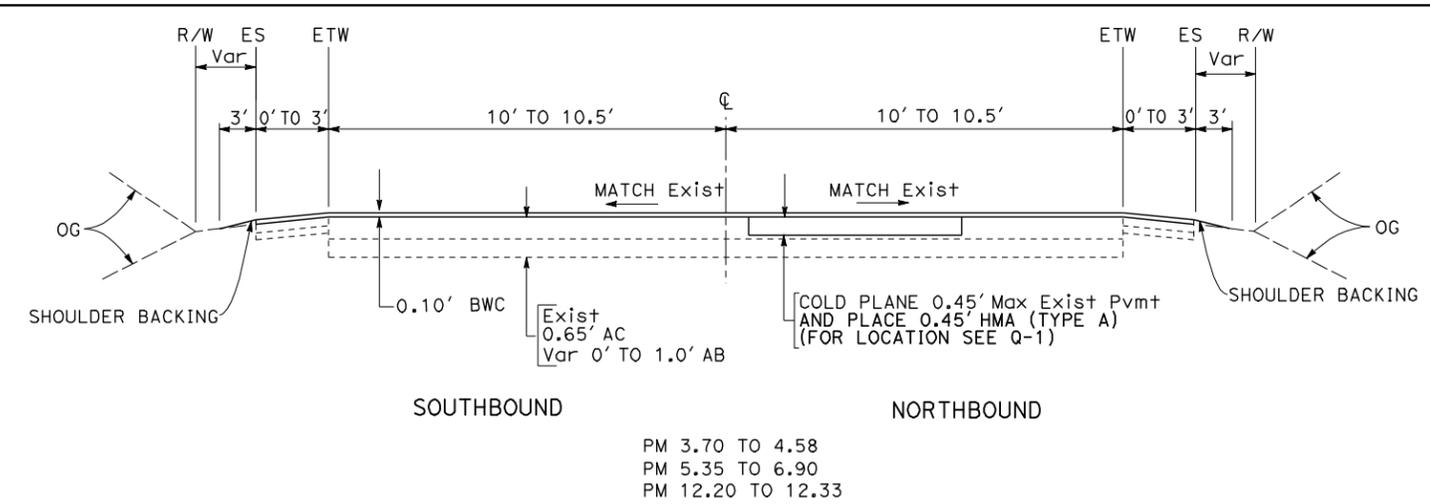
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**DESIGN**

FUNCTIONAL SUPERVISOR: RONNIE CHUA  
 CHECKED BY: RONNIE CHUA  
 TEREK NAWARD  
 REVISIONS: 1/30/12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	2	24

REGISTERED CIVIL ENGINEER: Terek Naward  
 No. 66808  
 Exp. 9-30-12  
 DATE: 1/30/12  
 PLANS APPROVAL DATE: 1-30-12

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.



**ABBREVIATION**  
 BWC BONDED WEARING COURSE

- NOTES**
- FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT THE DISTRICT OFFICE.
  - ALL EXISTING PAVEMENT DELINEATION REMOVED SHALL BE REPLACED AT THE SAME LOCATION AS THE EXISTING.
  - DIMENSIONS OF THE STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
  - NO WORK SHALL BE DONE ON THE WALKER CREEK.
  - EXISTING UTILITY FACILITIES ARE NOT PLOTTED ON THESE PLANS.
  - CONTRACTOR IS RESPONSIBLE TO PROVIDE POSITIVE DRAINAGE FROM ALL ROADWAY AREA AT ALL TIMES. ADDITIONAL ITEMS SHALL BE IDENTIFIED BY THE CONTRACTOR AND CONSTRUCTED AT THE APPROPRIATE TIMES TO MEET THE REQUIREMENTS.

**TYPICAL CROSS SECTIONS**  
 NO SCALE  
**X-1**

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

FUNCTIONAL SUPERVISOR: RONNIE CHUA  
 CHECKED BY: RONNIE CHUA  
 TEREK NAWARD  
 REVISOR: RONNIE CHUA  
 DATE: 1/30/12  
 TN

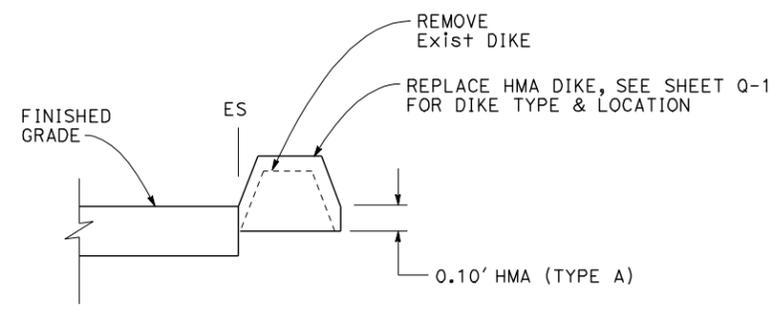
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	3	24

REGISTERED CIVIL ENGINEER DATE: 1/30/12  
 Terek Naward  
 No. 66808  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

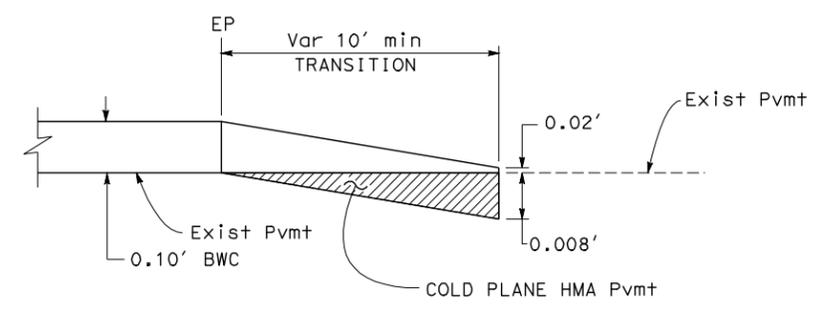
PLANS APPROVAL DATE: 1-30-12

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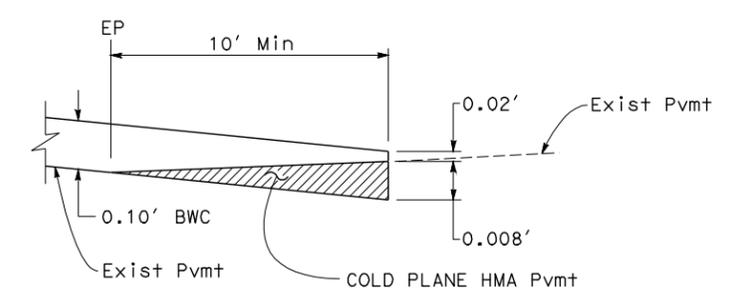
**NOTE**  
 EXACT LIMITS OF PAVEMENT CONFORMS AT CROSS STREETS AND DRIVEWAYS TO BE DETERMINED BY THE ENGINEER.



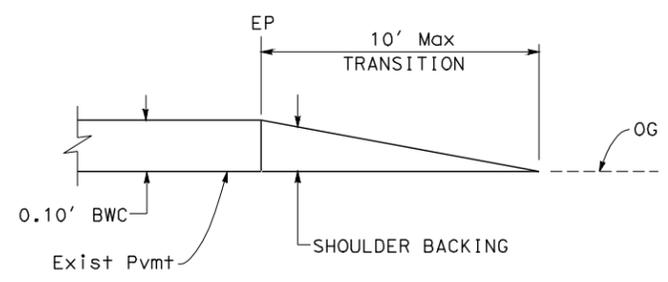
**PAVING AT DIKE**



**PAVED DRIVEWAY TRANSITION**



**PAVEMENT CONFORM AT CROSS STREETS**



**UNPAVED DRIVEWAY TRANSITION**

**CONSTRUCTION DETAILS**  
 NO SCALE

**C-1**

LAST REVISION: 01-30-12 DATE PLOTTED => 01-FEB-2012 TIME PLOTTED => 13:22

### STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
A	W20-1	36" x 36"	ROAD WORK AHEAD	1 - 4" x 6"	8
B	G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	8
C	C40(CA)	72" x 36"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 4" x 6"	2
D	W20-2	48" x 48"	DETOUR AHEAD	1 - 4" x 6"	2
E	M4-8a	24" x 18"	END DETOUR	1 - 4" x 4"	1
F	M4-8	30" x 15"	DETOUR	1 - 4" x 6"	1
	G26-2(101)(CA)	28" x 24"	ROUTE SHEILD 101		
	M3-3	24" x 12"	SOUTH		
G	M6-3(↑)	21" x 15"	UP ARROW	1 - 4" x 6"	1
	M4-8	30" x 15"	DETOUR		
	G26-2(101)(CA)	28" x 24"	ROUTE SHEILD 101		
	M3-3	24" x 12"	SOUTH		
H	M6-1(→)	21" x 15"	RIGHT ARROW	1 - 4" x 6"	1
	M4-8	30" x 15"	DETOUR		
	G26-2(101)(CA)	28" x 24"	ROUTE SHEILD 101		
	M3-3	24" x 12"	SOUTH		
	M6-1(←)	21" x 15"	LEFT ARROW	1 - 4" x 6"	1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	4	24

*Jerilyn L. Struven* 1/30/12  
 REGISTERED CIVIL ENGINEER DATE  
 1-30-12  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Jerilyn L. Struven  
 No. 49964  
 Exp. 2-31-12  
 CIVIL  
 STATE OF CALIFORNIA

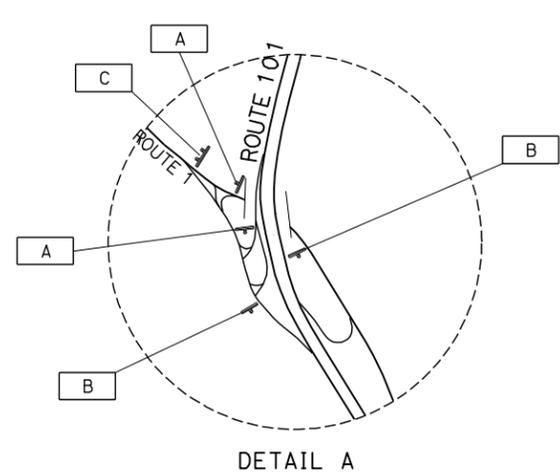
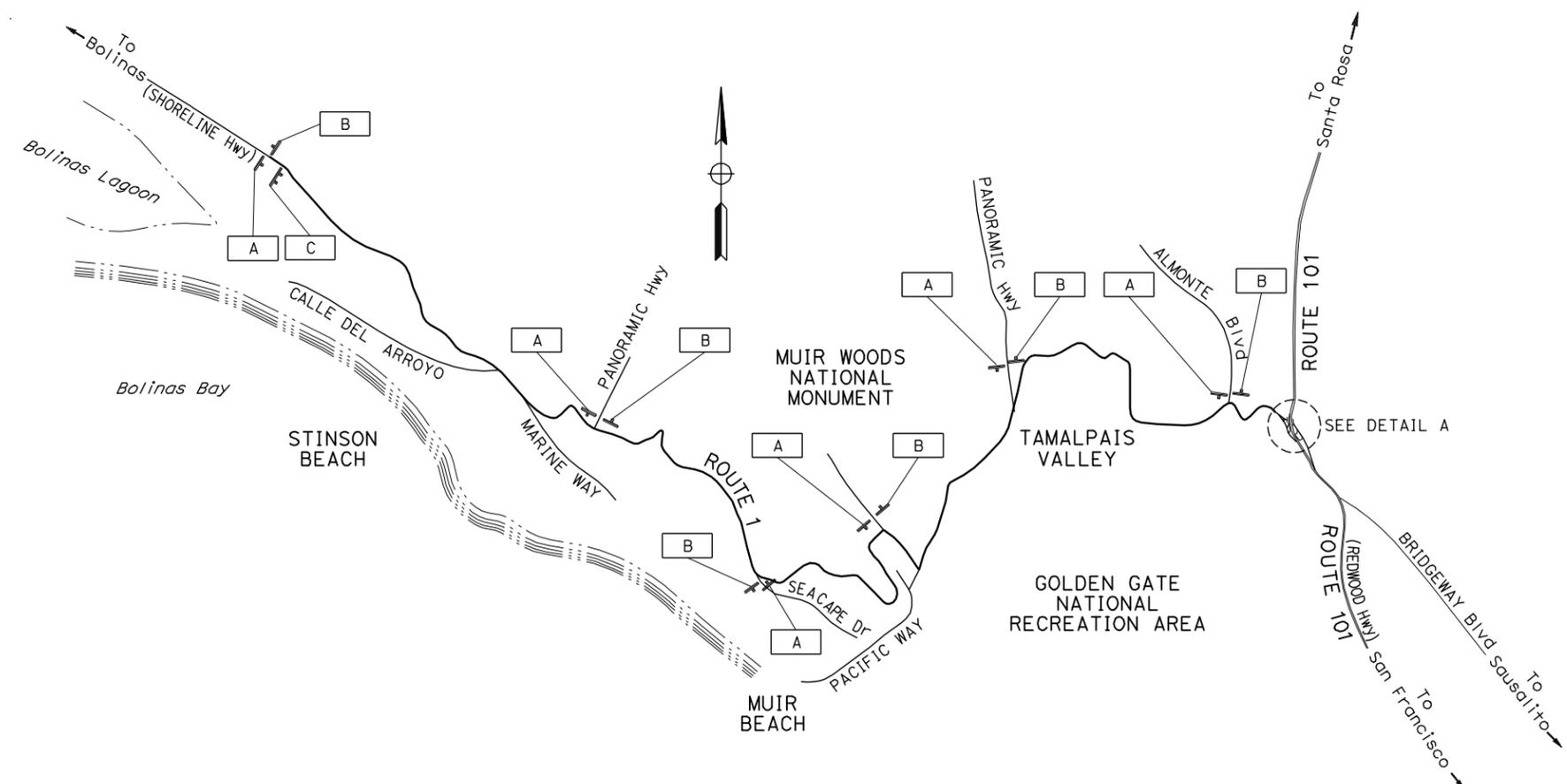
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#### LEGEND

A CONSTRUCTION AREA SIGN LETTER

#### NOTES

- EXACT LOCATION AND POSITION OF CONSTRUCTION AREA SIGN TO BE DETERMINED BY THE ENGINEER.
- CONSTRUCTION AREA SIGNS TO BE STATIONARY MOUNTED.



### CONSTRUCTION AREA SIGNS

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

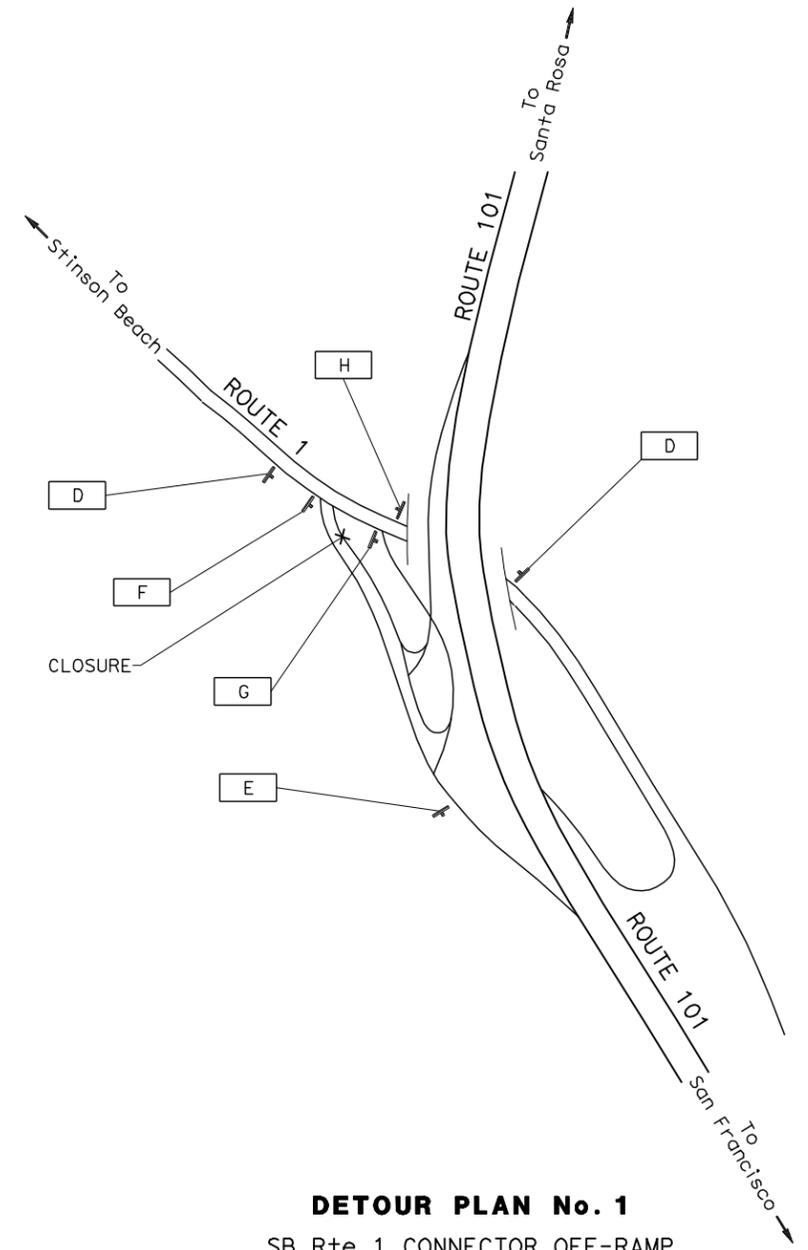
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC  
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG  
 CALCULATED/DESIGNED BY: HENRY TAM  
 CHECKED BY: JERILYN L. STRUVEN  
 REVISIONS: HT 1/30/12  
 DATE REVISED: 1/30/12

LAST REVISION: 01-30-12    DATE PLOTTED => 01-FEB-2012    TIME PLOTTED => 13:22

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	5	24

*Jerilyn L. Struven* 1/30/12  
 REGISTERED CIVIL ENGINEER DATE  
 1-30-12  
 PLANS APPROVAL DATE

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**DETOUR PLAN No. 1**  
 SB Rte 1 CONNECTOR OFF-RAMP  
 TO SB ROUTE 101  
 CLOSED

VIA:  
 SB SHORELINE Hwy;  
 Rt TO SHORELINE Hwy TO  
 PARK AND RIDE LOT;  
 Lt TO SB Rte 101 ON-RAMP.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC**  
 FUNCTIONAL SUPERVISOR  
 ROLAND AU-YEUNG  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 HENRY TAM  
 JERILYN L. STRUVEN  
 REVISIONS: HT 1/30/12  
 REVISOR: HT  
 DATE: 1/30/12

**CONSTRUCTION AREA SIGNS  
 (DETOUR PLAN)  
 NO SCALE**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

**CS-2**

LAST REVISION: 01-30-12   
 DATE PLOTTED => 01-FEB-2012   
 TIME PLOTTED => 13:22

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

FUNCTIONAL SUPERVISOR  
 RONNIE CHUA

CALCULATED-DESIGNED BY  
 CHECKED BY

TEREK NAWARD  
 RONNIE CHUA

REVISOR BY  
 DATE REVISED

TN  
 1/30/12

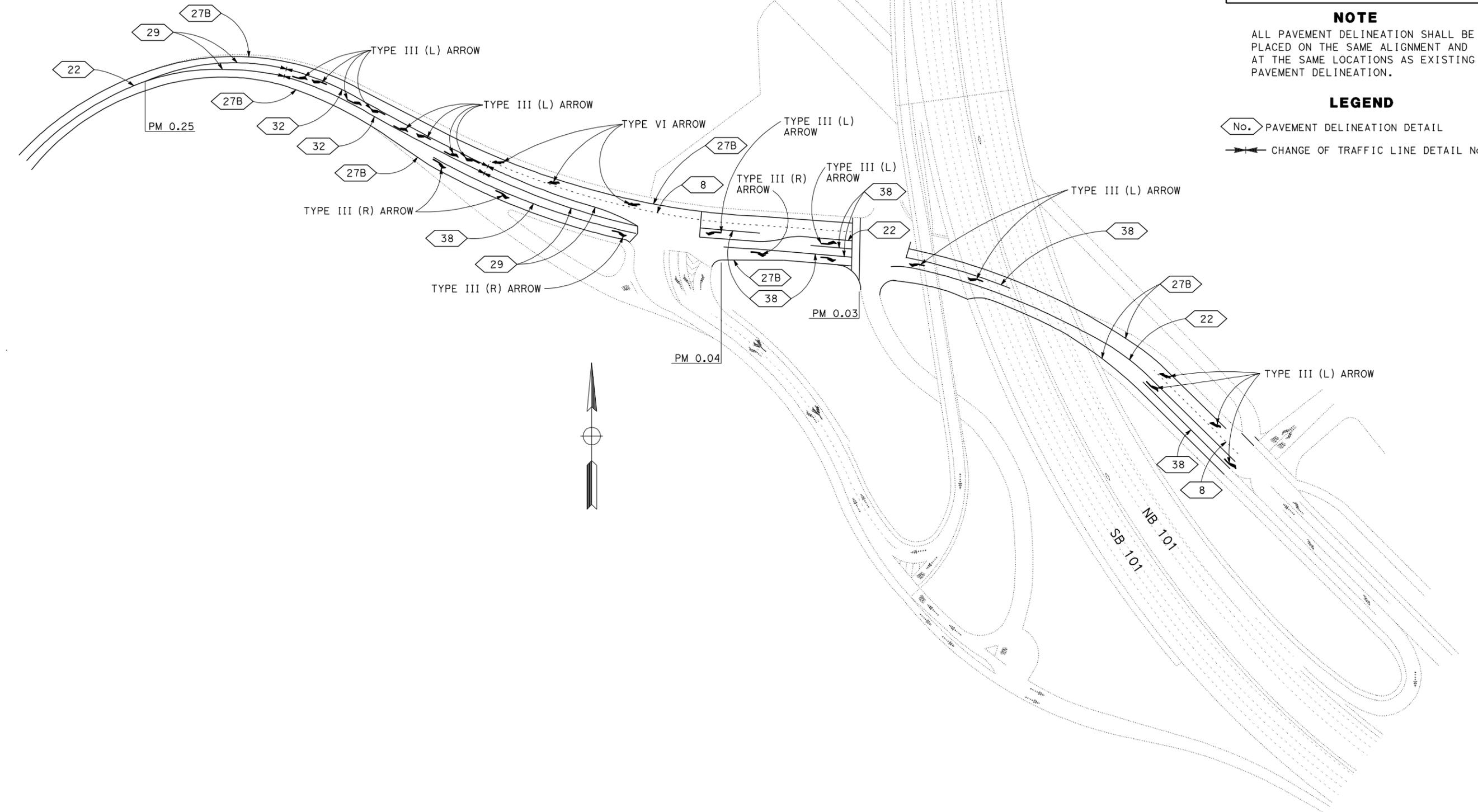
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	6	24

REGISTERED CIVIL ENGINEER DATE 1/30/12

PLANS APPROVAL DATE 1-30-12

REGISTERED PROFESSIONAL ENGINEER  
 Terek Naward  
 No. 66808  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

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



**NOTE**  
 ALL PAVEMENT DELINEATION SHALL BE PLACED ON THE SAME ALIGNMENT AND AT THE SAME LOCATIONS AS EXISTING PAVEMENT DELINEATION.

**LEGEND**  
 No. PAVEMENT DELINEATION DETAIL  
 CHANGE OF TRAFFIC LINE DETAIL No.

**PAVEMENT DELINEATION PLAN**  
 NO SCALE

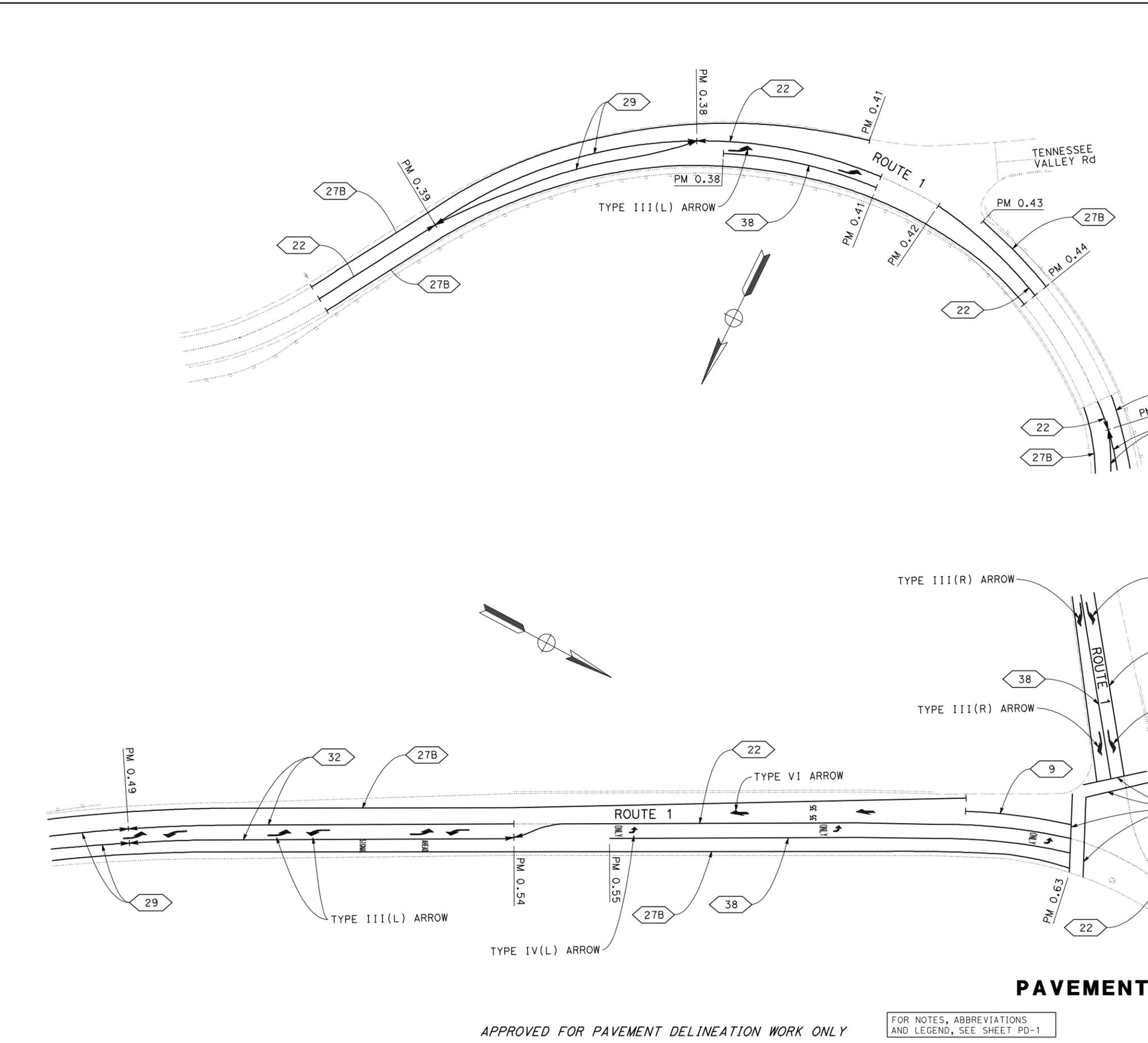
**PD-1**

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

LAST REVISION DATE PLOTTED => 01-FEB-2012 TIME PLOTTED => 13:22

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

FUNCTIONAL SUPERVISOR: RONNIE CHUA  
 TEREK NAWARD  
 REVISIONS: TN 1/30/12  
 REVISOR: RONNIE CHUA  
 DATE: 1/30/12



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	7	24

REGISTERED CIVIL ENGINEER DATE: 1/30/12  
 Terek Naward  
 No. 66808  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 1-30-12

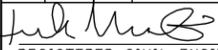
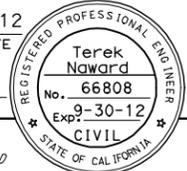
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APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET PD-1

**PAVEMENT DELINEATION PLAN**  
 SCALE: 1" = 50'

**PD-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	8	24
			1/30/12		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE			1-30-12		
					
<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>					

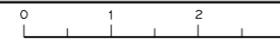
### TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

SHEET No.	PM	DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE						PAVEMENT MARKER (RETROREFLECTIVE)		THERMOPLASTIC PAVEMENT MARKING				REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	REMOVE PAVEMENT MARKER	
			4" WHITE	4" YELLOW	8" WHITE	4" YELLOW (BROKEN 36'-12')	4" WHITE (BROKEN 12'-3')	4" WHITE (BROKEN 17'-7')	TYPE D	TYPE G	ARROWS	WORDS	NUMBERS	CROSSWALK MARKING				
			LF						EA		SQFT							LF
PD-1	0.00 TO 0.75	10' Lt & 10' Rt	27B	7540														
		10' Lt & 10' Rt	27C				248											
		CENTER LINE	22		4284			195									195	
			29		3020			69									69	
			32		1402	1402											81	
			38			1736			81								81	
			8					201									4	
			9					120	4								4	
	LIMIT LINE			671														
	PAVEMENT MARKING							1470	114	17	108							
PD-2	0.75 TO 12.0	10' Lt & 10' Rt	27B	117060										25661				
		10' Lt & 10' Rt	27C			1652												
		CENTER LINE	22		117060			4908							25661		4908	
			29		1120			27									27	
			38			72		4									4	
			38A			632												
		LIMIT LINE			276													
		PAVEMENT MARKING							84	459	51	156						
	12.0 TO 12.3	10' Lt & 10' Rt	27B	3168											1056			
		CENTER LINE	22		2366			105								1056	105	
		29		1604			37									37		
		38			200		10									10		
	PAVEMENT MARKING							168										
12.3 TO 13.0	10' Lt & 10' Rt	27B	6690											317				
	10' Lt & 10' Rt	27C			427													
	CENTER LINE	22		6584			282								317	282		
		29		1100			25									25		
		32		164	164		13									13		
	LIMIT LINE			103														
	PAVEMENT MARKING							84	158									
SUBTOTAL				134458	138704	3690	1566	2327	321	5742	99	1806	731	68	264	27034	27034	5841
TOTAL				273162	3690	1566	2327	321		5841				2869		27034	27034	5841

## PAVEMENT DELINEATION QUANTITIES

**PDQ-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: RONNIE CHUA  
 CHECKED BY: RONNIE CHUA  
 TEREK NAWARD  
 REVISOR: RONNIE CHUA  
 DATE REVISOR: 1/30/12  
 TN



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR  
 RONNIE CHUA  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 TEREK NAWARD  
 RONNIE CHUA  
 REVISIONS:  
 TN 1/30/12  
 REVISIONS BY DATE REVISIONS  
 DATE PLOTTED => 01-FEB-2012  
 TIME PLOTTED => 13:22

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	9	24

1/30/12  
 REGISTERED CIVIL ENGINEER DATE  
 Terek Naward  
 No. 66808  
 Exp. 9-30-12  
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 STATE OF CALIFORNIA  
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**ROADWAY QUANTITIES (MAINLINE) COLD PLANE AC PAVEMENT (0.45' Max)**

PM	DIRECTION	WIDTH	LENGTH	DEPTH	COLD PLANE ASPHALT CONCRETE PAVEMENT (0.45' Max)	HOT MIX ASPHALT (TYPE A)	TACK COAT
		F+	LF	F+	SQYD	TON	
200 EAST OF PM 0.0	SB	10	200	0.45	222	71	0.08
0.035 TO 0.058	NB	35	120	0.45	467	149	0.18
1.454 TO 1.486	SB/NB	23	170	0.45	434	139	0.16
1.465 TO 1.495	SB	11	120	0.45	147	47	0.06
1.580 TO 1.589	SB/NB	22	80	0.45	196	62	0.07
1.591 TO 1.594	SB	10	20	0.45	22	7	0.01
2.000 TO 2.013	SB/NB	20	80	0.45	178	57	0.07
2.063 TO 2.098	SB	10	170	0.45	189	60	0.07
2.011 TO 2.019	SB	10	50	0.45	56	18	0.02
2.330 TO 2.340	SB/NB	20	50	0.45	122	35	0.04
2.670 TO 2.700	SB	10	160	0.45	178	57	0.07
2.772 TO 2.785	SB/NB	20	80	0.45	178	57	0.07
3.050 TO 3.070	SB/NB	20	80	0.45	178	57	0.07
3.095 TO 3.120	NB	10	50	0.45	56	18	0.02
3.500 TO 3.510	NB	10	80	0.45	89	28	0.03
3.700 TO 3.861	SB	10	850	0.45	944	301	0.36
3.910 TO 3.952	SB	10	110	0.45	122	39	0.05
5.170 TO 5.200	SB	10	125	0.45	139	44	0.05
6.291 TO 6.350	SB	10	130	0.45	144	46	0.05
7.150 TO 7.750	SB/NB	20	3200	0.45	7110	2268	2.69
12.750 TO 12.770	SB	10	530	0.45	589	188	0.22
<b>TOTAL</b>					11759	3747	4.49

**CRACK TREATMENT**

PM	LNMI
0.0 TO 13.0	10

**ROADWAY QUANTITY SUMMARY**

PM	LOCATION	HOT MIX ASPHALT (BONDED WEARING COURSE-GAP GRADED)	HOT MIX ASPHALT (TYPE A)	COLD PLANE ASPHALT CONCRETE PAVEMENT	ASPHALTIC EMULSION MEMBRANE	SHOULDER BACKING
		TON	SQYD	TON	TON	TON
0.00 TO 0.75	SB/NB (MAINLINE)	1949	220	26942	19.8	0
0.75 TO 3.70	SB/NB (MAINLINE)	3732	641	52283	34.1	18
3.70 TO 4.58	SB/NB (MAINLINE)	836	340	2143	9.4	10
4.58 TO 5.35	SB/NB (MAINLINE)	732	44	10979	8.2	8
5.35 TO 6.90	SB/NB (MAINLINE)	1473	46	144	16.5	0
6.90 TO 12.20	SB/NB (MAINLINE)	5457	2268	87945	61.1	119
12.20 TO 12.33	SB/NB (MAINLINE)	134	0	0	1.5	0
12.33 TO 13.00	SB/NB (MAINLINE)	716	188	11201	7.7	10
<b>TOTAL</b>		15029	3747	191637	158.3	165

**PLACE HOT MIX ASPHALT DIKE**

PM	LOCATION	REMOVE AC DIKE	PLACE HMA DIKE (TYPE E)	HMA (TYPE E)
		LF	LF	TON
1.941 TO 1.957	SB	85	85	2.2
2.038 TO 2.052	SB	75	75	2.0
<b>TOTAL</b>		160	160	4.2

**SUMMARY OF QUANTITIES**

**GENERAL NOTES**

- NO ABOVE GROUND ELECTRICAL WORK SHALL BE PERFORMED ON ANY SYSTEM WITHIN THE PROJECT SITE UNTIL ALL CONTRACTOR-FURNISHED ELECTRICAL MATERIALS FOR THAT INDIVIDUAL SYSTEM HAVE BEEN TESTED AND DELIVERED TO CONTRACTOR.
- WHERE ONE OR MORE TRAFFIC SIGNAL DETECTOR(S) CONSIST OF A SEQUENCE OF 4 LOOPS IN A SINGLE LANE , THE FRONT LOOP CLOSEST TO THE LIMIT LINE OR CROSSWALK SHALL BE LOCATED 1 FOOT FROM THE LINE. THE SET OF 3 LOOPS OR 4 LOOPS ASSIGNED TO THE SAME LOOP DETECTOR LEAD -IN CABLE (DLC) SHALL BE CONNECTED IN SERIES FOR TRAFFIC SIGNAL SYSTEM ONLY AND NOT FOR RAMP METERING SYSTEM.
- AT LEAST THREE WORKING DAYS PRIOR TO PERFORMING ANY WORK ON EACH EXISTING SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF TRANSPORTATION, ELECTRICAL AND SIGNAL MAINTENANCE SUPERINTENDENT, PHONE (415) 330-6500.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE LOOP DETECTORS TO BE REPLACED PRIOR TO REPAVING.
- ALL LOOP DETECTORS AT EACH LOCATION SHALL BE REPLACED AND TESTED WITHIN THE TIME ALLOTTED FOR TRAFFIC SIGNAL SYSTEM SHUTDOWN AT THAT LOCATION.
- THE CONTRACTOR SHALL PROVIDE TWO REPORTS PER LOCATION ON THE STATUS OF EACH DETECTOR LOOP REPLACEMENT SHOWING CONTINUITY AND INSULATION RESISTANCE READINGS. DETECTOR LOOP REPLACEMENT SHOWING CONTINUITY AND INSULATION RESISTANCE READINGS. THE REPORTS SHALL BE SUBMITTED TO THE ENGINEER, ONE BEFORE STARTING WORK AND THE OTHER AFTER WORK HAS BEEN COMPLETED AT EACH LOCATION.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	10	24

REGISTERED ELECTRICAL ENGINEER DATE 1/30/12  
 PLANS APPROVAL DATE 1-30-12

*M. Now*  
 REGISTERED PROFESSIONAL ENGINEER  
 Mahmood Noii  
 No. 13717  
 Exp. 6-30-13  
 ELECT  
 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.

**ELECTRICAL INDEX**

- E-1 ELECTRICAL INDEX, NOTES AND LOOP DETECTOR REPLACEMENT
- E-2 ELECTRICAL DETAILS

**LOOP DETECTOR REPLACEMENT**

COUNTY - ROUTE - PM	ROUTE 101 SB ON/OFF-RAMPS TO ROUTE 1						ROUTE 1, PARK AND RIDE ENTRANCE AND CALTRANS MAINTENANCE STATION						ROUTE 1 AND ALMONTE Blvd																										
	Mrn 1 0.3 (LOCATION 1)						Mrn 1 0.3 (LOCATION 2)						Mrn 1 0.6 (LOCATION 3)																										
	ADVANCE DETECTOR			INTERSECTION DETECTOR			ADVANCE DETECTOR			INTERSECTION DETECTOR			ADVANCE DETECTOR			INTERSECTION DETECTOR																							
	RAMPS	SB	NB	RAMPS	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB																					
LANE NUMBER (FROM LEFT WITH RESPECT TO DIRECTION OF TRAFFIC. SEE E-2 FOR LANE DESCRIPTION)	1T	2T	1T	2T	1T	2T	1L	2L	3R	4R	1L	2T	1L	2T	3T	1T	-	1T	-	1L	2T	3T	1L	2T	-	-	-	-	1L	2T	-	1T	2R	-	1T	2T	-	-	
DISTANCE FROM LIMIT LINE (FEET)	197	197	197	197	197	197	-	-	-	-	-	-	-	-	-	197	-	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
DETECTORS	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	C	-	C	-	A	A	A	A	A	-	-	-	-	A	A	-	A	A	-	A	A	-	-	
PULL BOX LOCATION:	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A	B	-	B	-	B	B	B	B	B	-	-	-	-	B	B	-	B	B	-	X	-	-		
HANDHOLE LOCATION:	A	A	A	A	A	A	C	A	A	C	A	A	A	A	A	A	-	A	-	A	A	A	A	A	-	-	-	-	A	A	-	A	A	-	A	A	-	-	
DETECTOR TYPE AND QUANTITY	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	1	-	1	-	3	3	3	3	3	-	-	-	-	3	3	-	3	3	-	3	3	-	-	
DETECTOR CONFIGURATION (SEE DETAIL ON E-2)	b	b	b	b	b	b	f	c	c	d	e	a	-	a	-	h	f	-	-	-	-	-	-	-	-	-	-	i	-	j	-	i	-	-	-				
PULL BOX REPLACEMENT (Y=YES N=NO)	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	-	N	-	N	N	N	N	N	-	-	-	-	N	-	N	-	N	-	-	-	1		
HANDHOLE REPLACEMENT (Y=YES N=NO)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	-	Y	-	Y	Y	Y	Y	Y	-	-	-	-	Y	-	Y	-	Y	-	-	-	16		
LOOP DETECTOR TOTAL	1	1	1	1	1	1	4	4	4	4	4	4	4	4	4	1	-	1	-	4	4	4	4	4	-	-	-	-	4	4	-	4	4	-	4	4	-	-	88
COMMENTS																																							

**ELECTRICAL**  
 (INDEX, NOTES AND LOOP DETECTOR REPLACEMENT)  
**E-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

**Caltrans**

HAWA GARGIZI  
 MAHMOOD NOII

REVISOR: LAI HONG CHUI

REVISIONS:

REVISION NO. | DESCRIPTION

1 | 1/30/12 | HAWA GARGIZI

LAST REVISION: 01-30-12 | DATE PLOTTED => 01-FEB-2012 | TIME PLOTTED => 13:22

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 ELECTRICAL

FUNCTIONAL SUPERVISOR  
 LAI HONG CHUI

REVISOR  
 HAWA GARGIZI

REVISIONS  
 1/30/12

DATE REVISIONS  
 1/30/12

DESIGNED BY  
 MAHMOOD NOJI

CHECKED BY

DATE REVISIONS

REVISIONS

**LEGEND**

ETW EDGE OF TRAVEL LED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mtn	1	0.0/13.0	11	24

REGISTERED ELECTRICAL ENGINEER DATE 1/30/12  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 13717  
 Exp. 6-30-13  
 ELECT  
 STATE OF CALIFORNIA

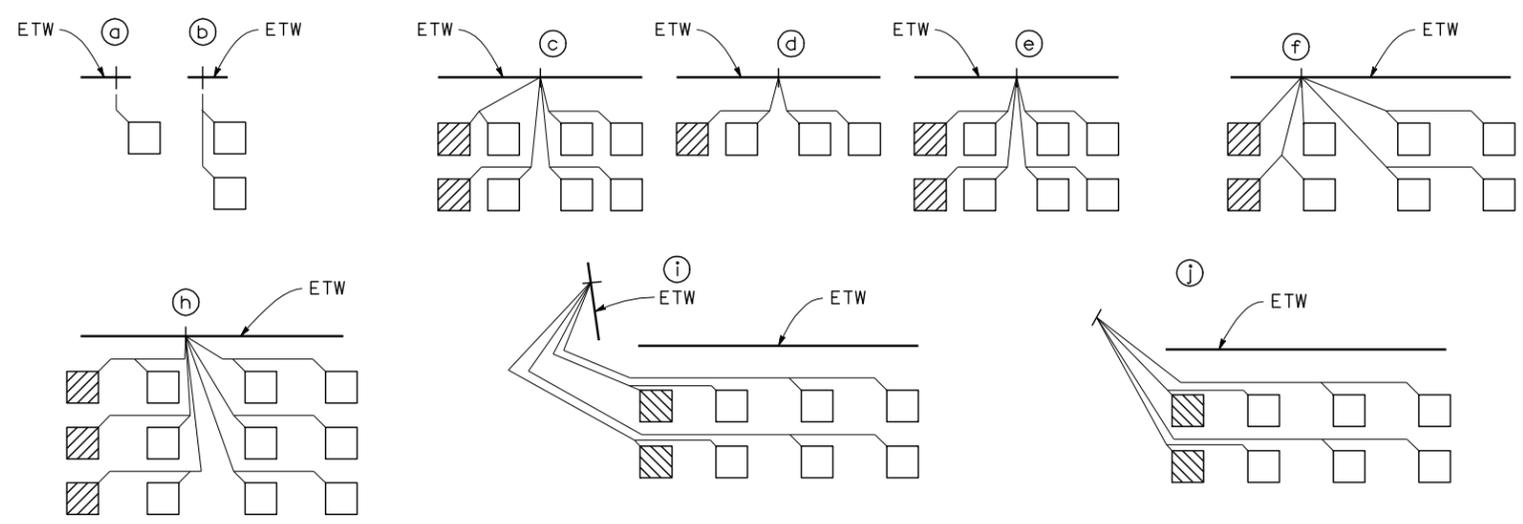
PLANS APPROVAL DATE 1-30-12

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.

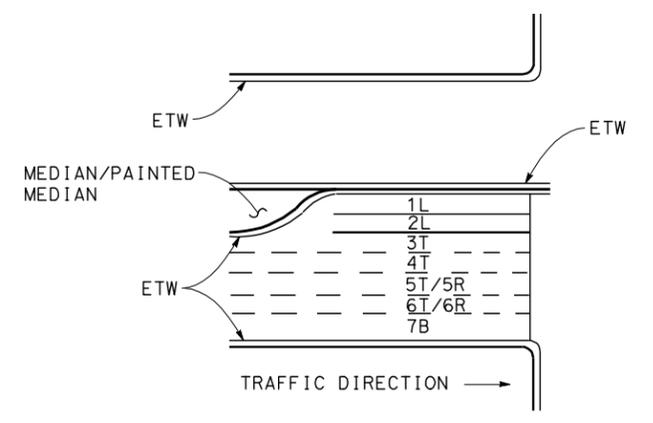
**LANE DESCRIPTION**

NUMBER OF LANES FROM LEFT WITH RESPECT TO TRAFFIC DIRECTION:

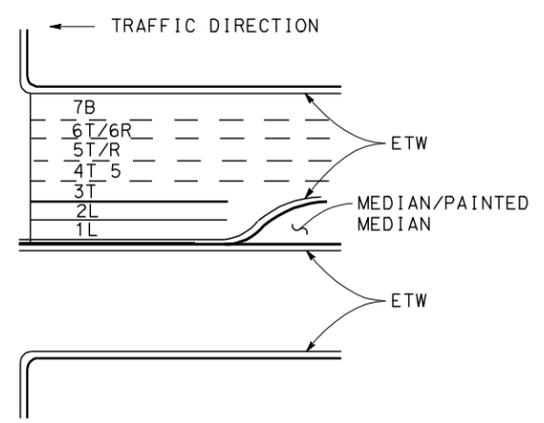
- 1= FIRST LANE FROM LEFT
- 2= SECOND LANE FROM LEFT
- 3= THIRD LANE FROM LEFT
- 4= FOURTH LANE FROM LEFT
- 5= FIFTH LANE FROM LEFT
- T= THROUGH TRAFFIC MOVEMENT
- L= LEFT TURN TRAFFIC MOVEMENT
- R= RIGHT TURN TRAFFIC MOVEMENT
- B= BICYCLE LANE



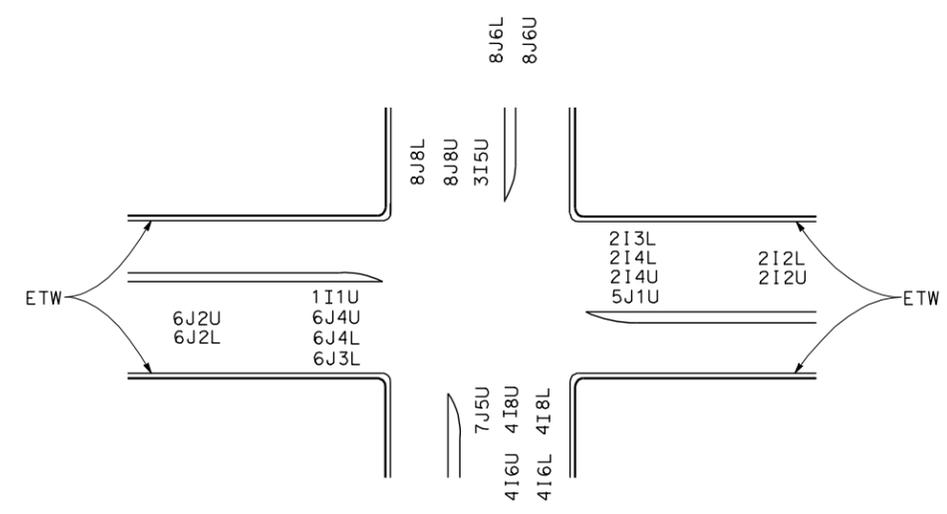
**TYPICAL DETECTOR CONFIGURATIONS**



**LANE CONFIGURATION (TYPICAL)**



**DETECTOR IDENTIFICATION (TYPICAL)**



**ELECTRICAL DETAILS  
 (LOOP DETECTOR REPLACEMENT)**

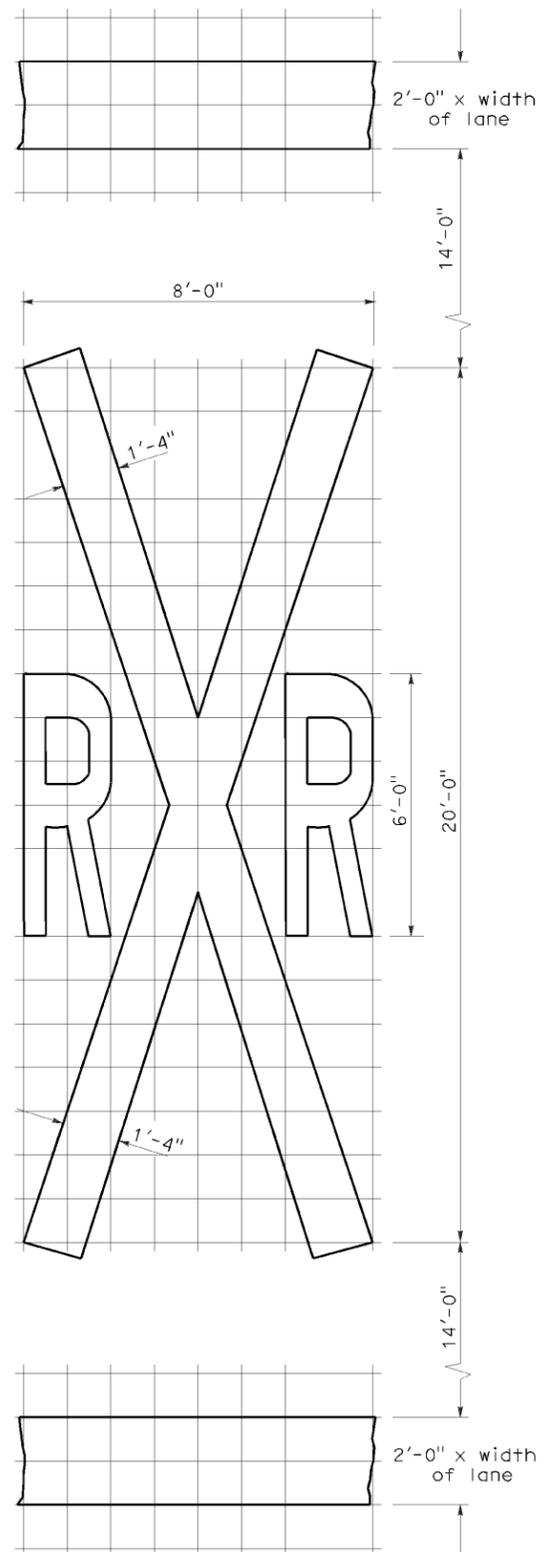
NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	12	24

*Donald E. Howe*  
 REGISTERED CIVIL ENGINEER  
 June 6, 2008  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

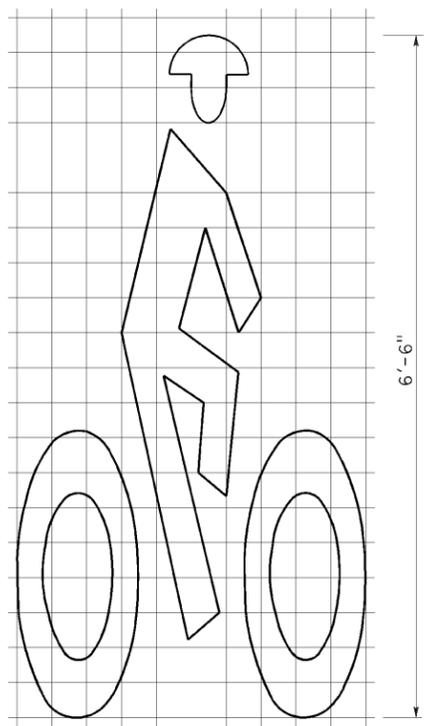
REGISTERED PROFESSIONAL ENGINEER  
 Donald E. Howe  
 No. C46402  
 Exp. 3-31-09  
 CIVIL  
 STATE OF CALIFORNIA

To accompany plans dated 1-30-12



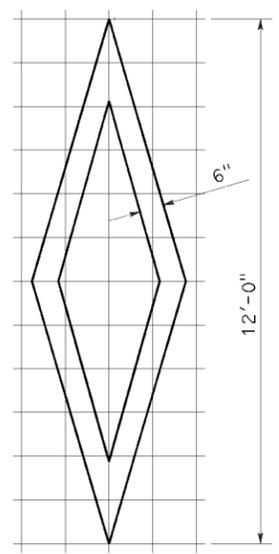
**RAILROAD CROSSING SYMBOL**

✕70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



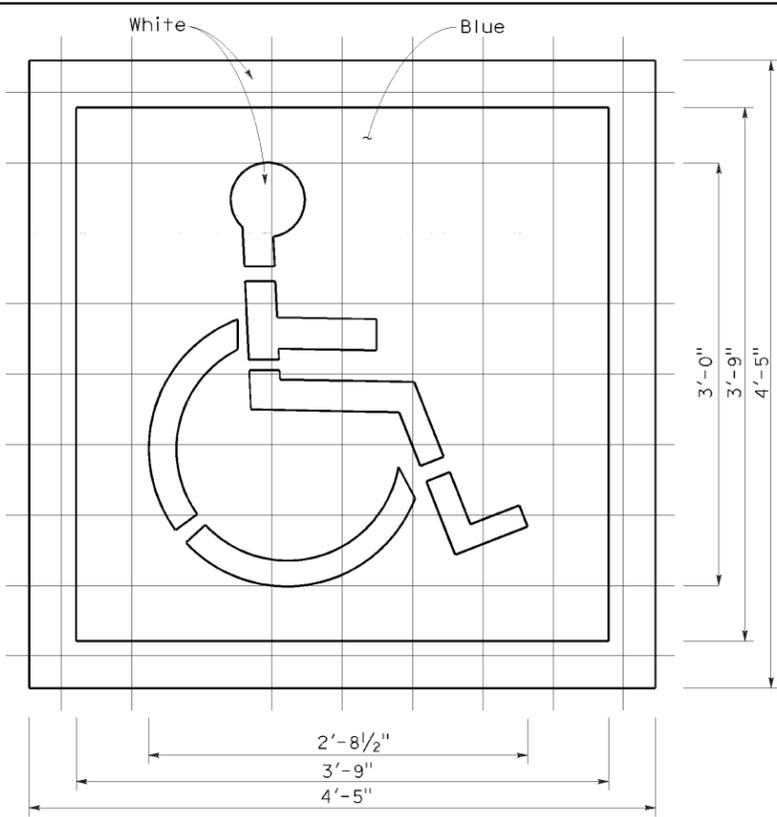
**BIKE LANE SYMBOL**

A=7 sq ft



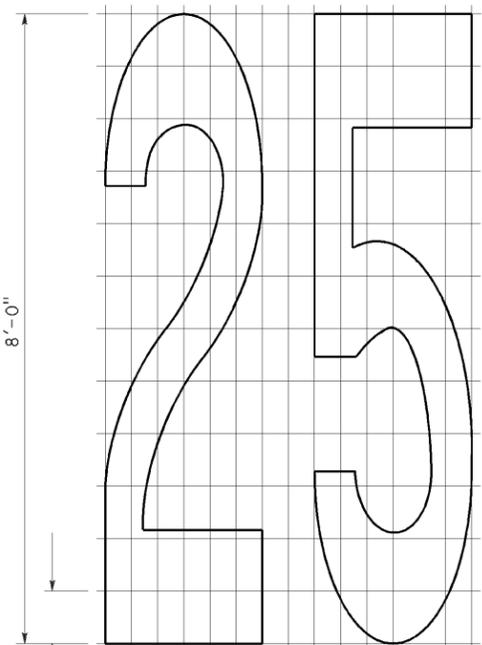
**DIAMOND SYMBOL**

A=11 sq ft

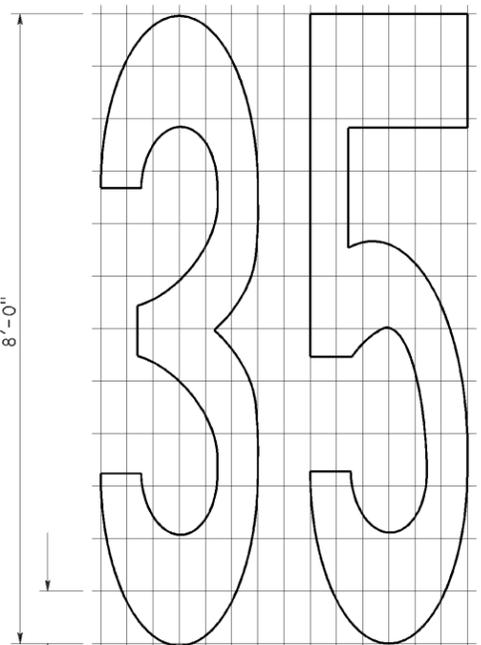


**INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING**

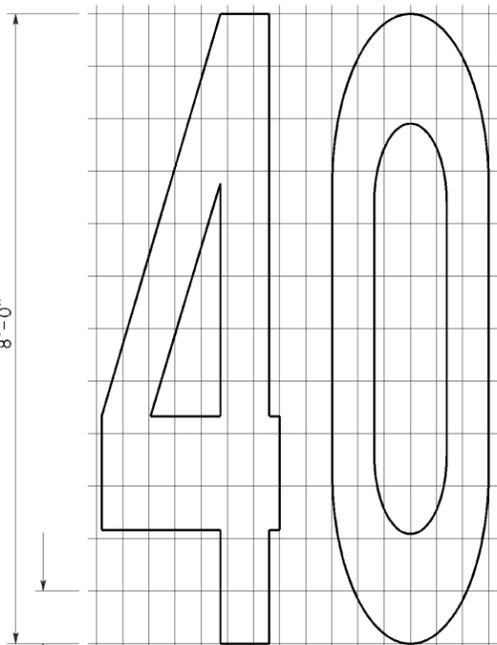
A (White) = 9 sq ft  
A (Blue) = 14 sq ft



A=17.5 sq ft

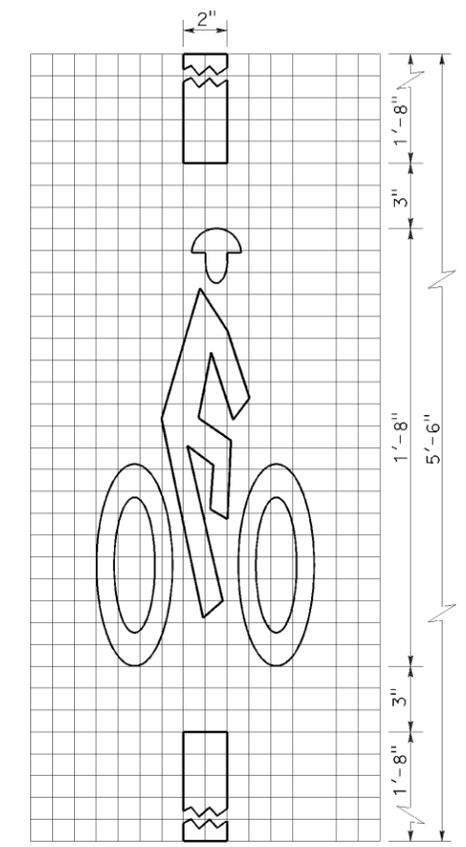


A=16.5 sq ft



A=19.5 sq ft

**NUMERALS**



**BICYCLE LOOP DETECTOR SYMBOL**

A=2 sq ft

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS SYMBOLS AND NUMERALS**

NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A24C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	13	24

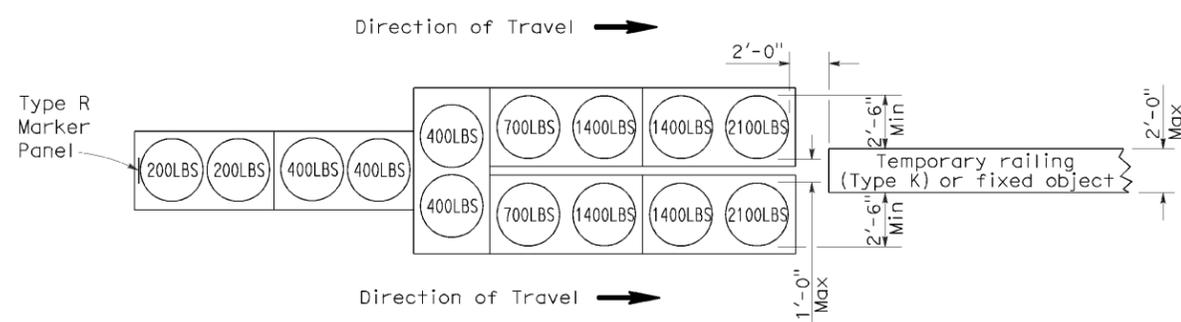
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

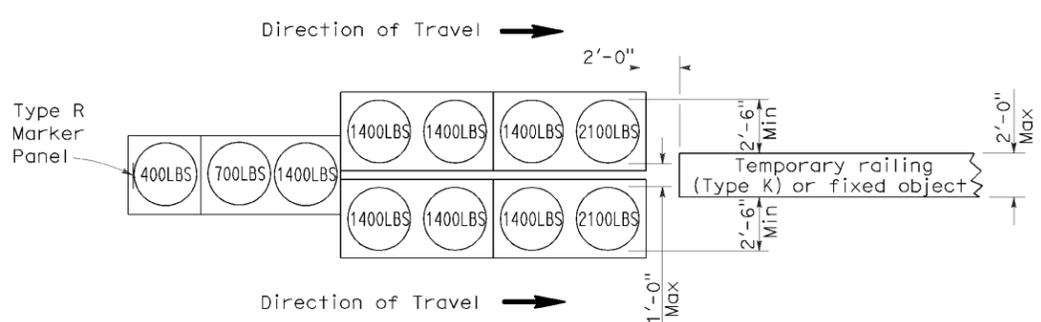
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

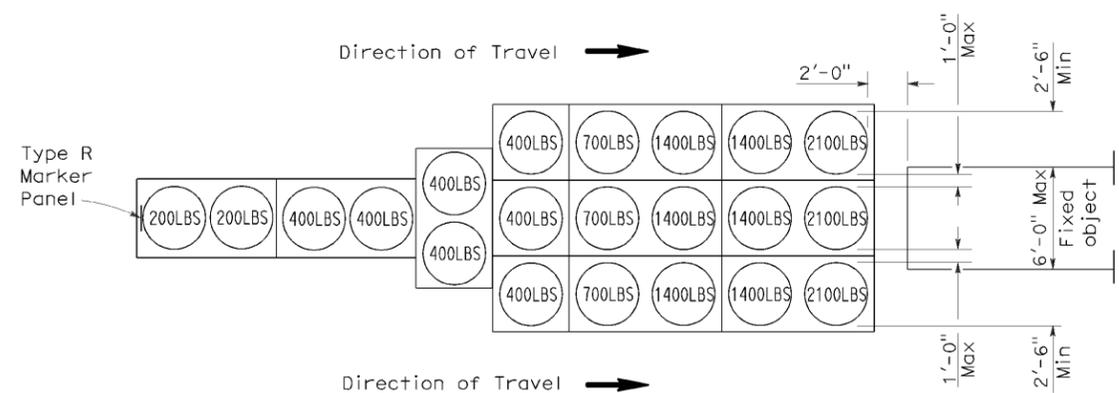
To accompany plans dated 1-30-12



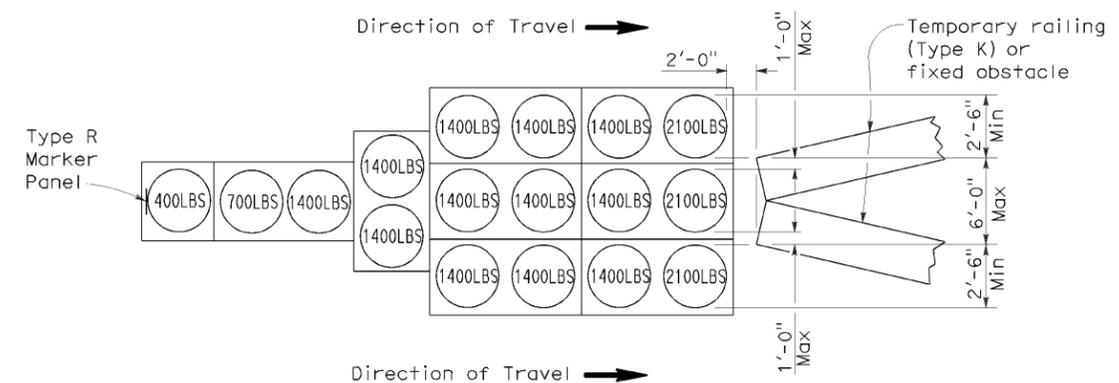
**ARRAY 'TU14'**  
Approach speed 45 mph or more



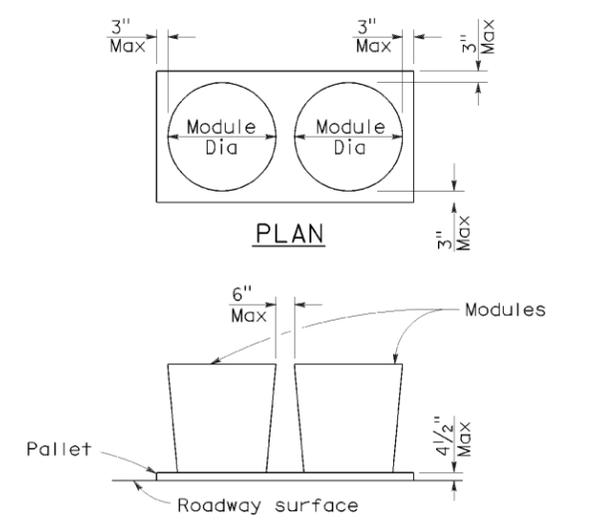
**ARRAY 'TU11'**  
Approach speed less than 45 mph



**ARRAY 'TU21'**  
Approach speed 45 mph or more



**ARRAY 'TU17'**  
Approach speed less than 45 mph



**CRASH CUSHION PALLET DETAIL**  
See Note 7

**NOTES:**

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

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T1A**

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	14	24

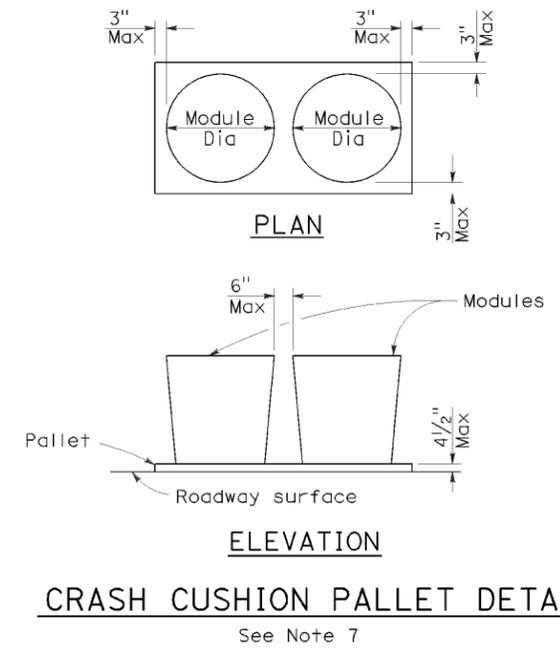
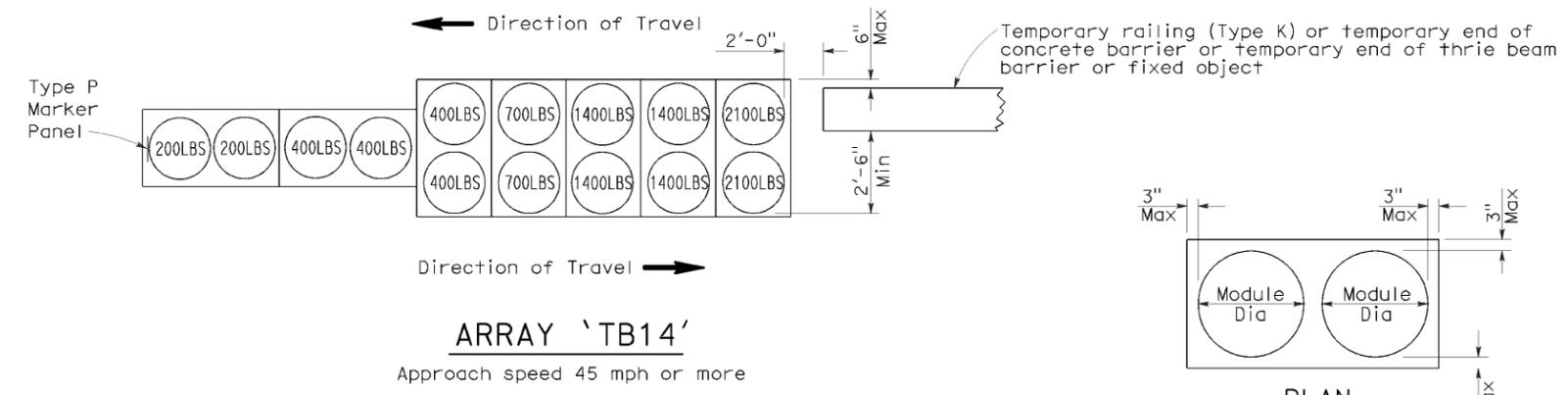
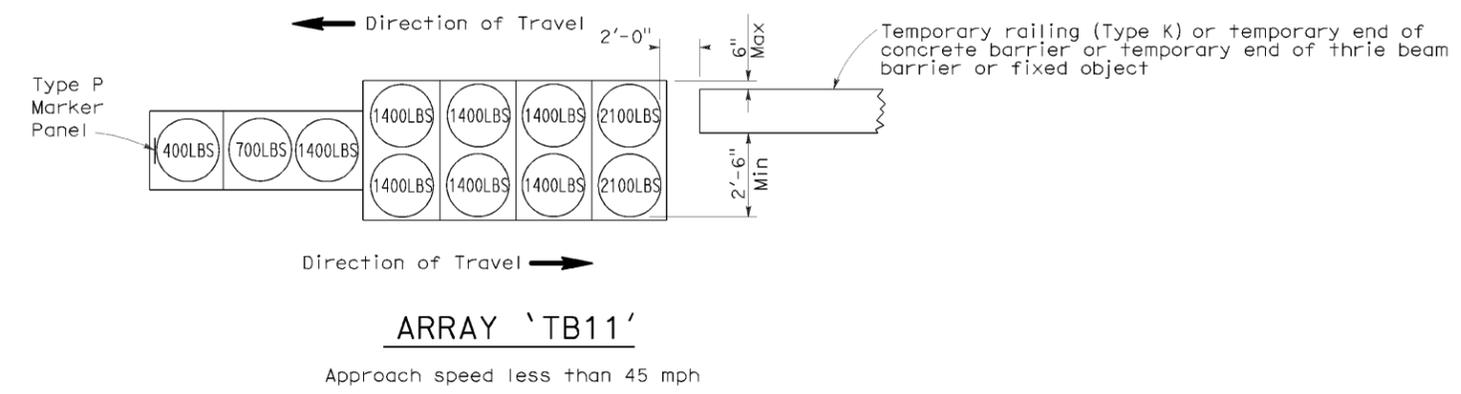
Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

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

To accompany plans dated 1-30-12



**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
04	Mrn	1	0.0/13.0	15	24

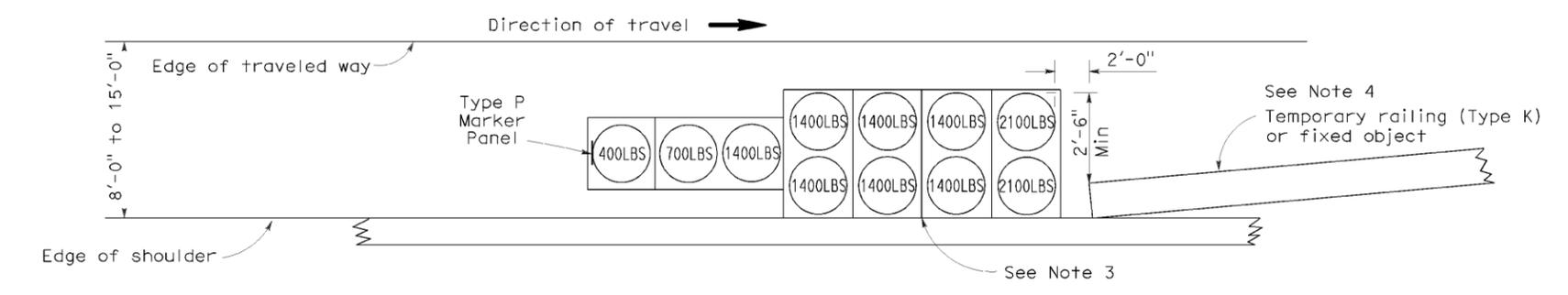
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

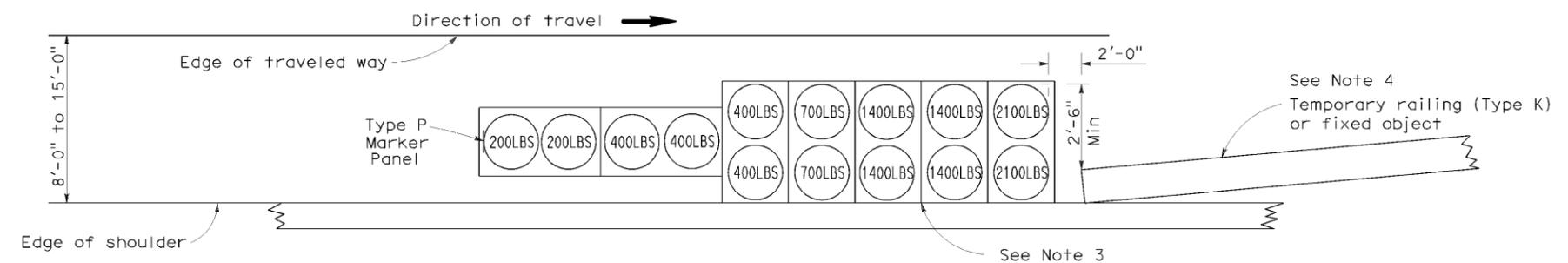
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

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

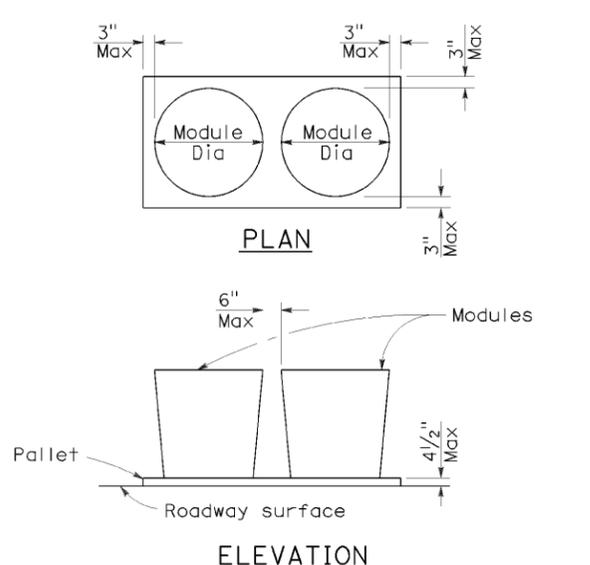
To accompany plans dated 1-30-12



**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.

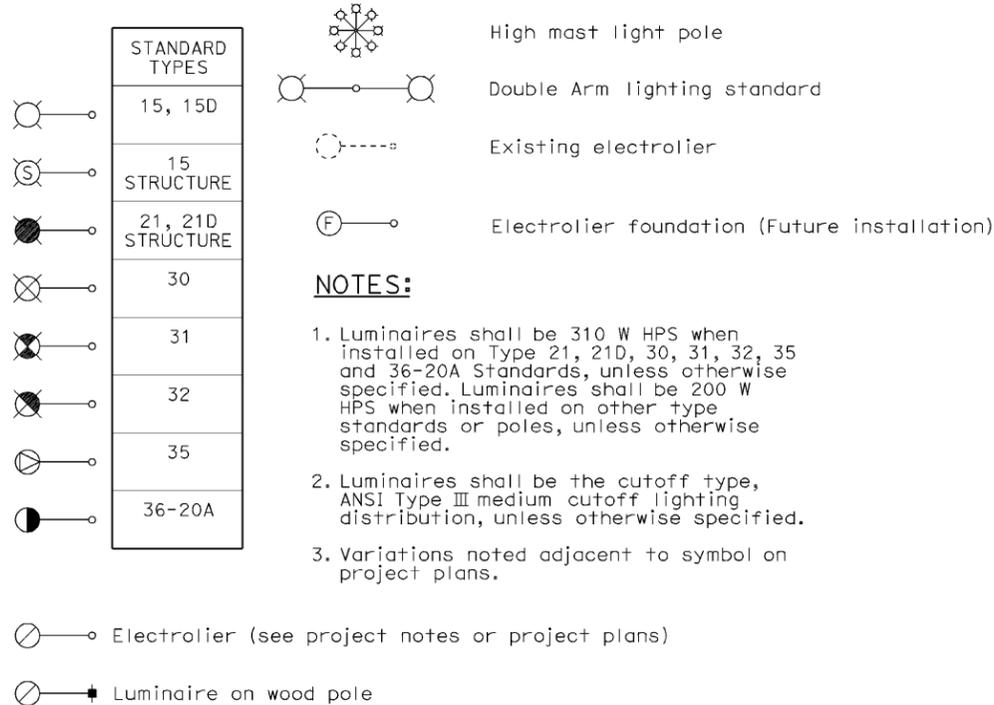
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**

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 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
04	Mrn	1	0.0/13.0	21	24

*Jeffery G. McRae*  
REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
PLANS APPROVAL DATE

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

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

To accompany plans dated 1-30-12

## 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
04	Mrn	1	0.0/13.0	22	24

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

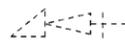
October 5, 2007  
 PLANS APPROVAL DATE

To accompany plans dated 1-30-12

### CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination 
		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)

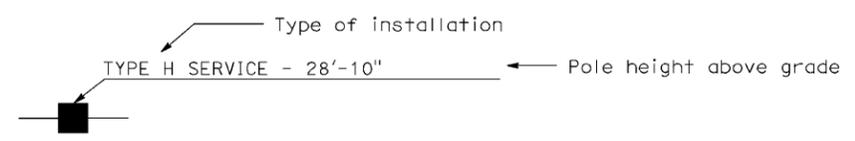
### SIGNAL EQUIPMENT Cont

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

### SERVICE EQUIPMENT

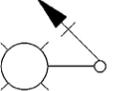
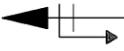
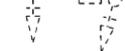
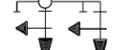
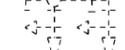
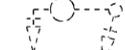
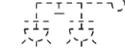
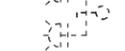
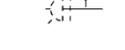
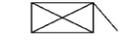
PROPOSED	EXISTING	
---OH---	---oh---	Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

### 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

		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

### 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

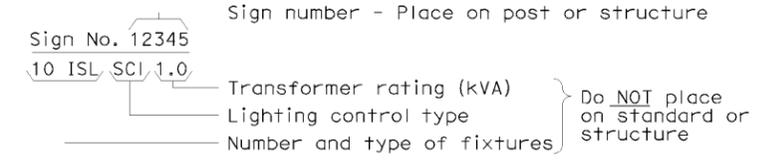
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	23	24

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

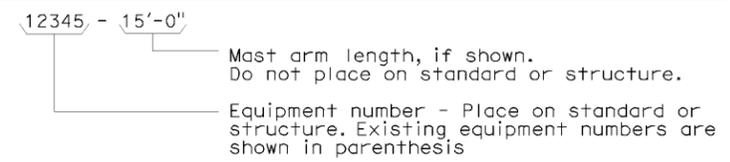
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

### EQUIPMENT IDENTIFICATION

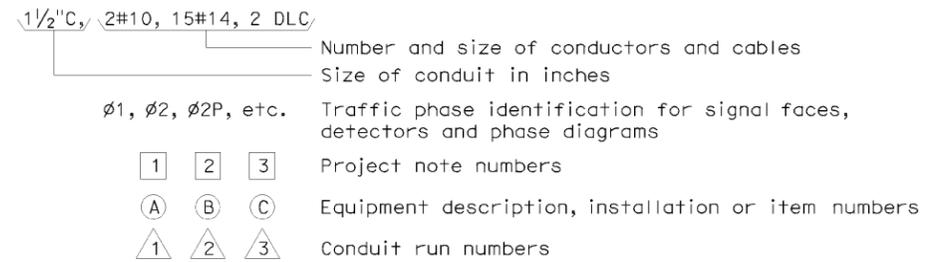
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



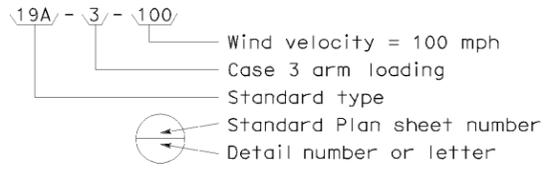
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



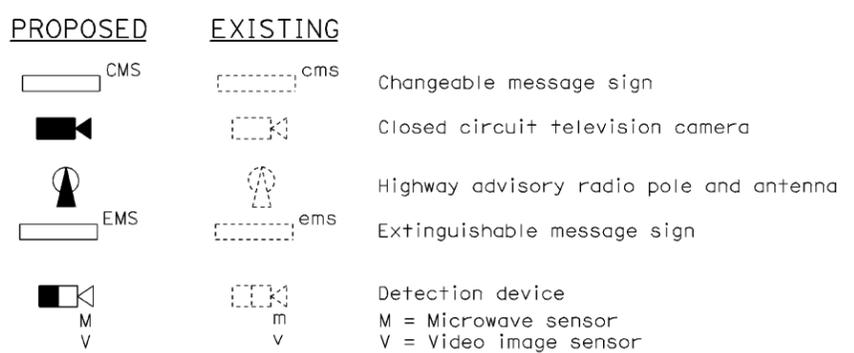
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



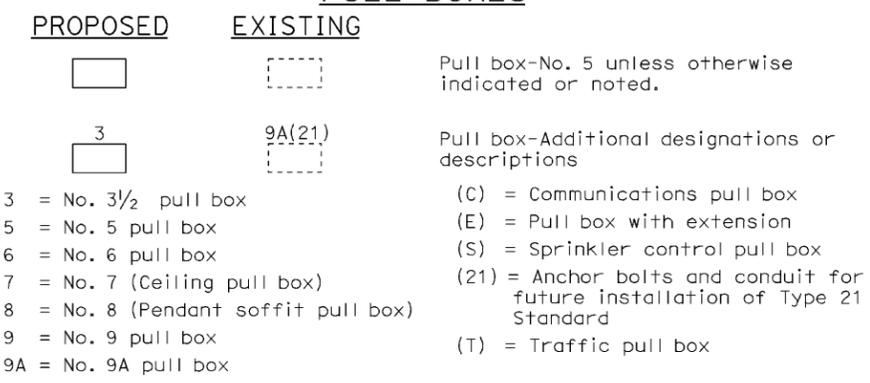
### MISCELLANEOUS EQUIPMENT



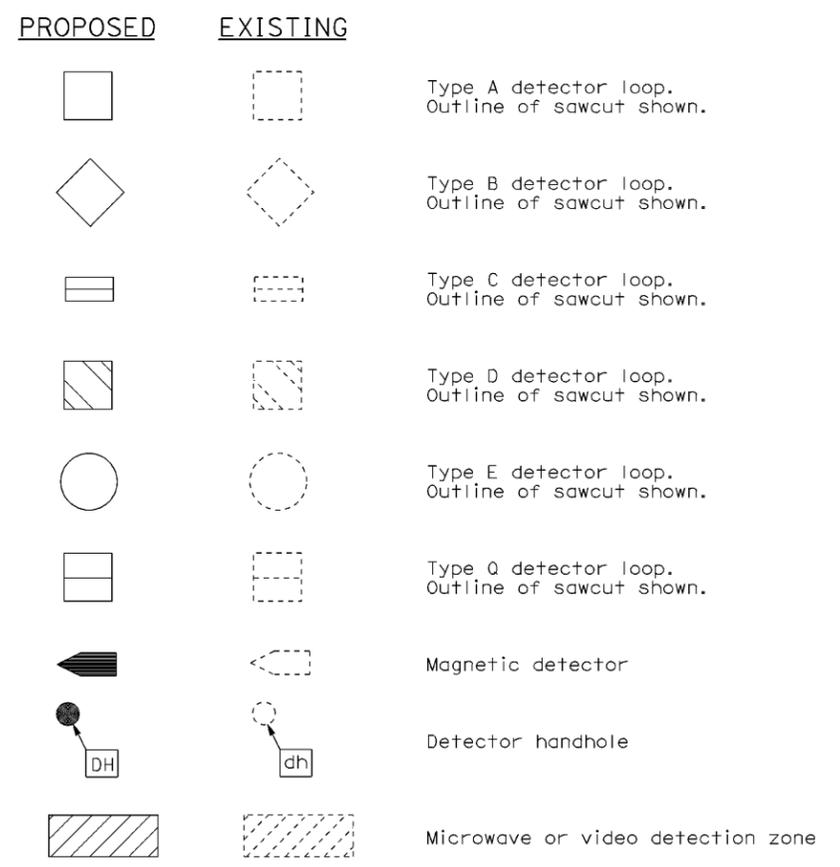
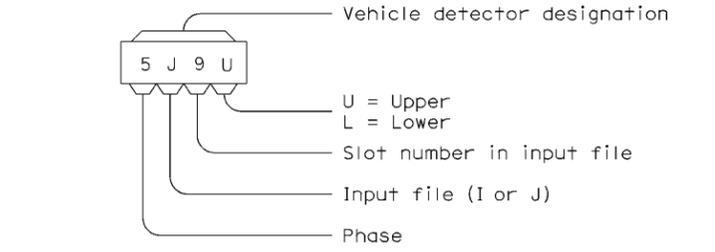
### WIRING DIAGRAM LEGEND

- P Pole
  - CB Circuit breaker
  - A Ampere
  - V Volt
  - M Metered
  - UM Unmetered
  - NB Neutral bus
  - GB Ground bus
  - G Equipment grounding conductor
  - N Grounded conductor (Neutral)
- External conductor
  - Conductor or bus
  - Tie point
  - Contactor coil
  - Contactor, Contact NO
  - Terminal blocks
  - Contactor, Contact NC
  - Enclosure bond
  - Grounding electrode
  - Circuit breaker
  - Receptacle

### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

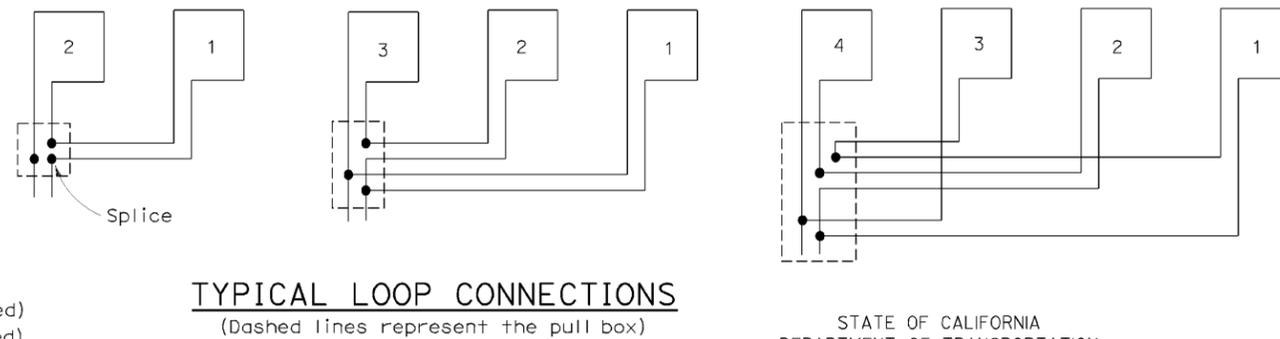
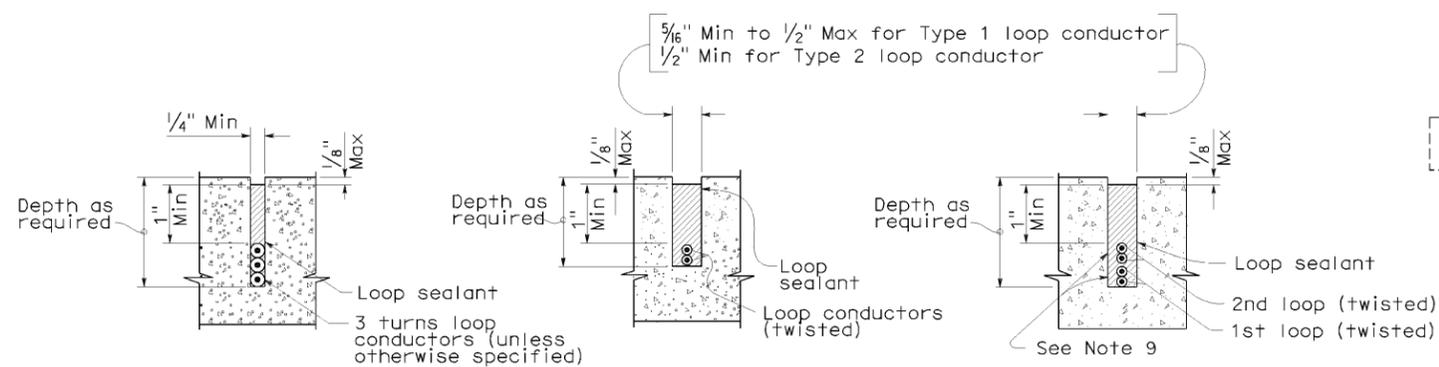
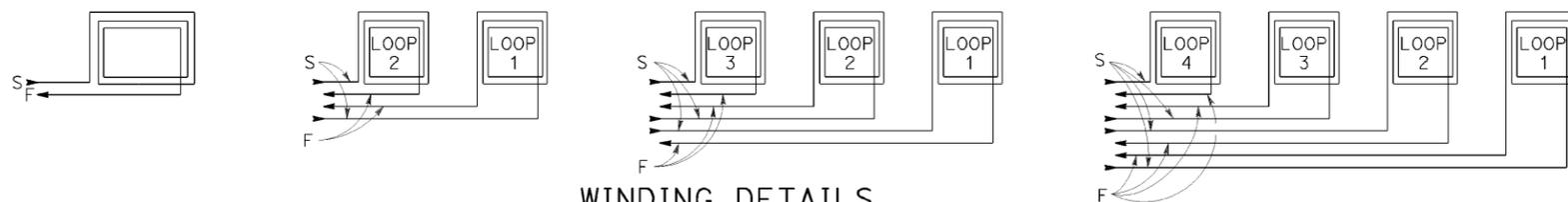
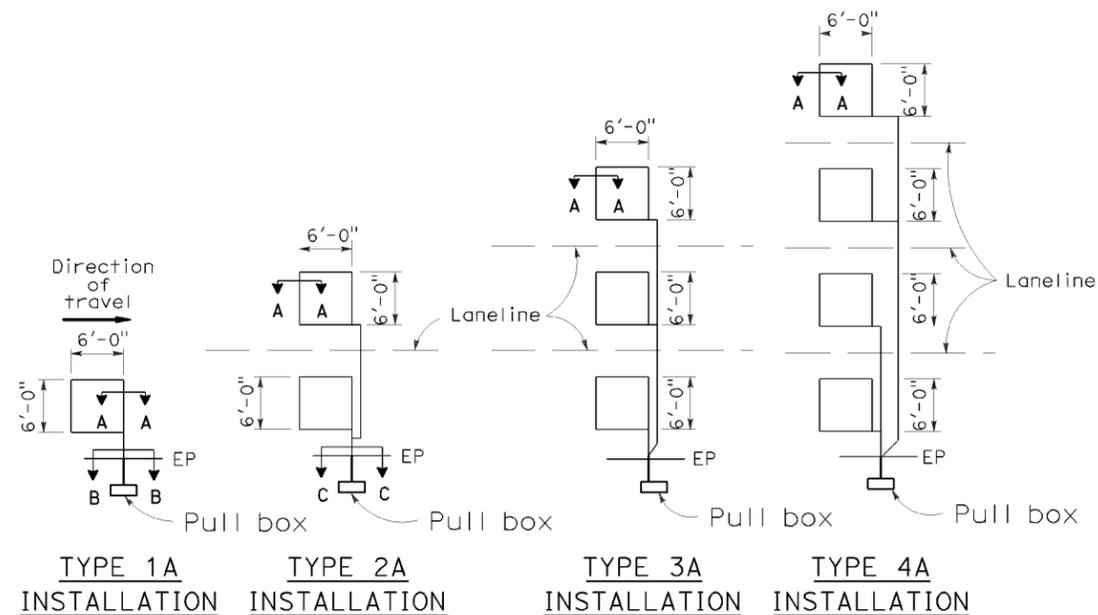
RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

## REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

# 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.



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-5A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	24	24

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

To accompany plans dated 1-30-12

2006 REVISED STANDARD PLAN RSP ES-5A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	16	24

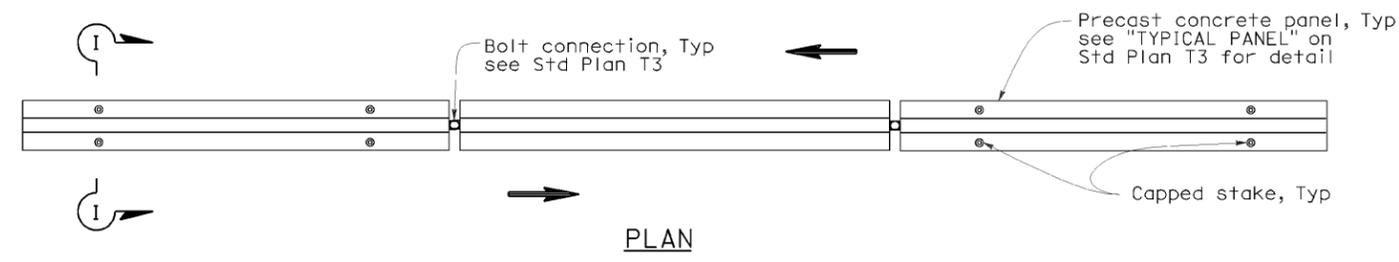
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

May 20, 2011  
PLANS APPROVAL DATE

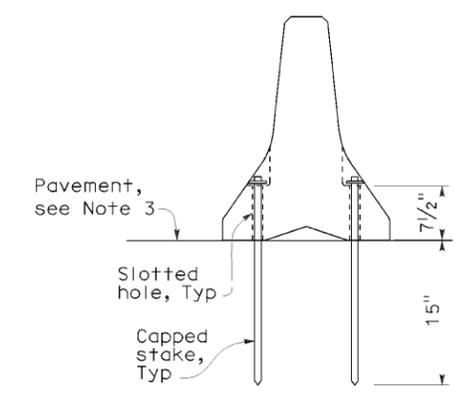
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-11  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 1-30-12



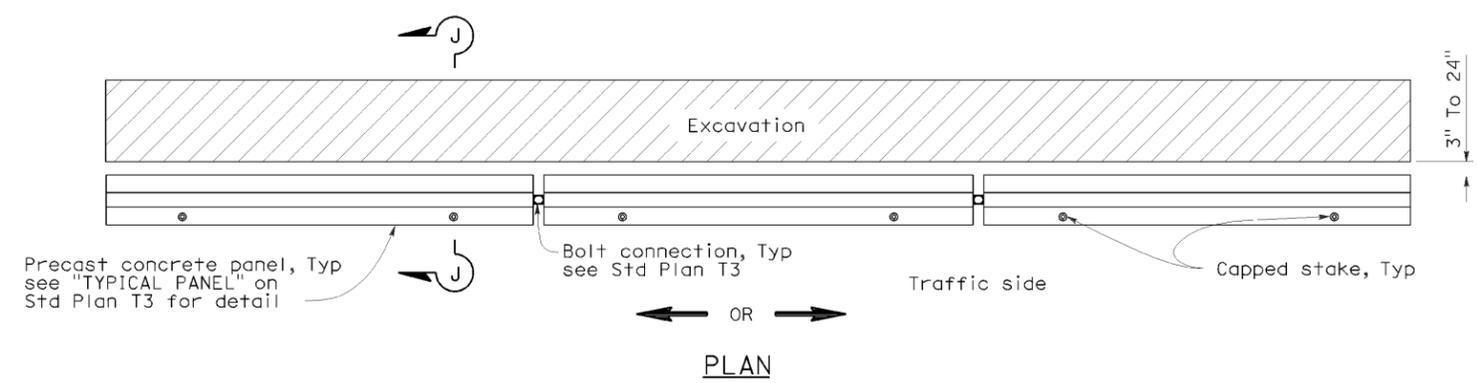
**RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC**  
See Note 1



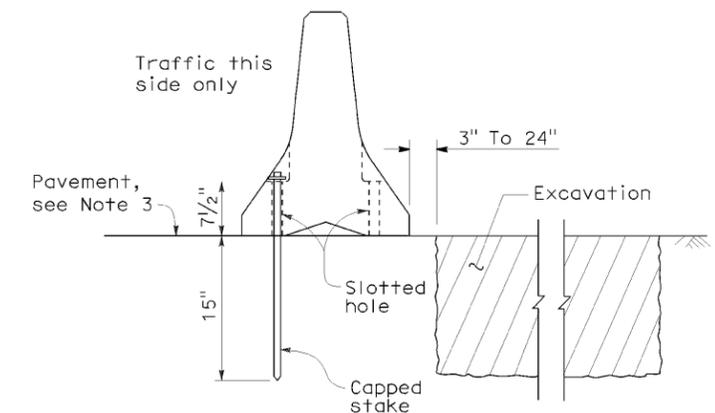
**SECTION I-I**

**NOTES:**

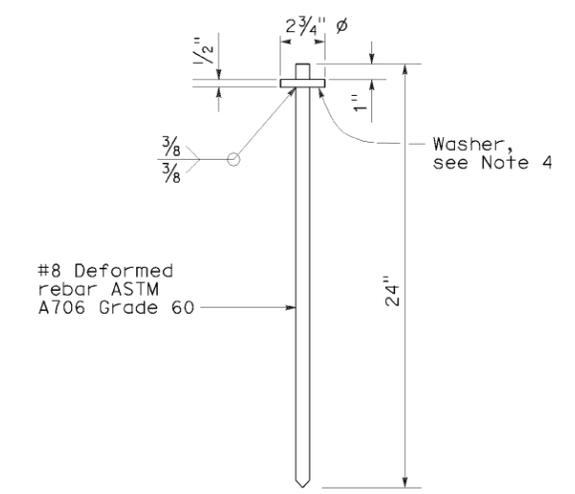
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt concrete pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by



**RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION**  
See Note 2



**SECTION J-J**



**CAPPED STAKE DETAIL**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY RAILING  
(TYPE K)**  
NO SCALE

NSP T3A DATED MAY 20, 2011 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

**NEW STANDARD PLAN NSP T3A**

2006 NEW STANDARD PLAN NSP T3A

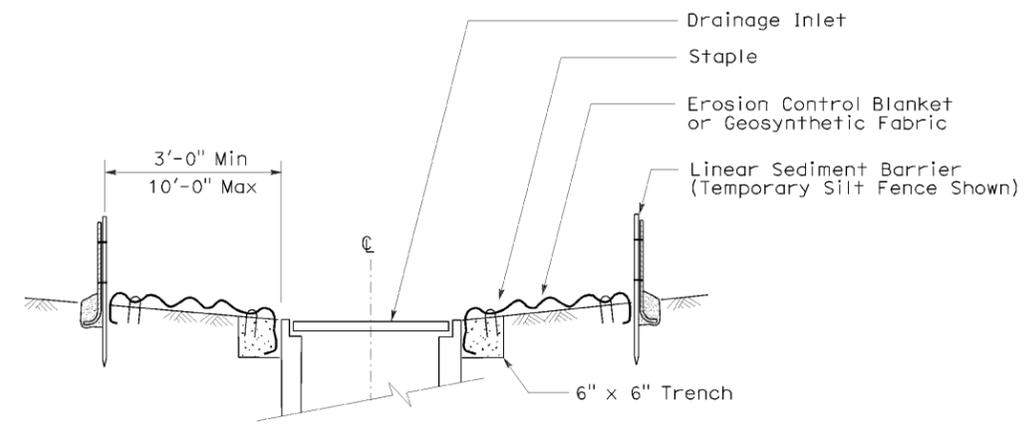
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	17	24

*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT

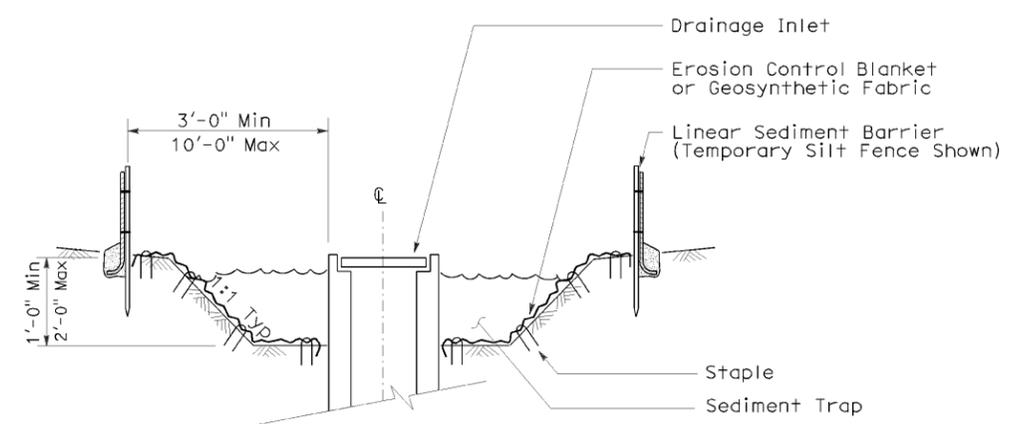
August 15, 2008  
 PLANS Approval DATE

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To accompany plans dated 1-30-12

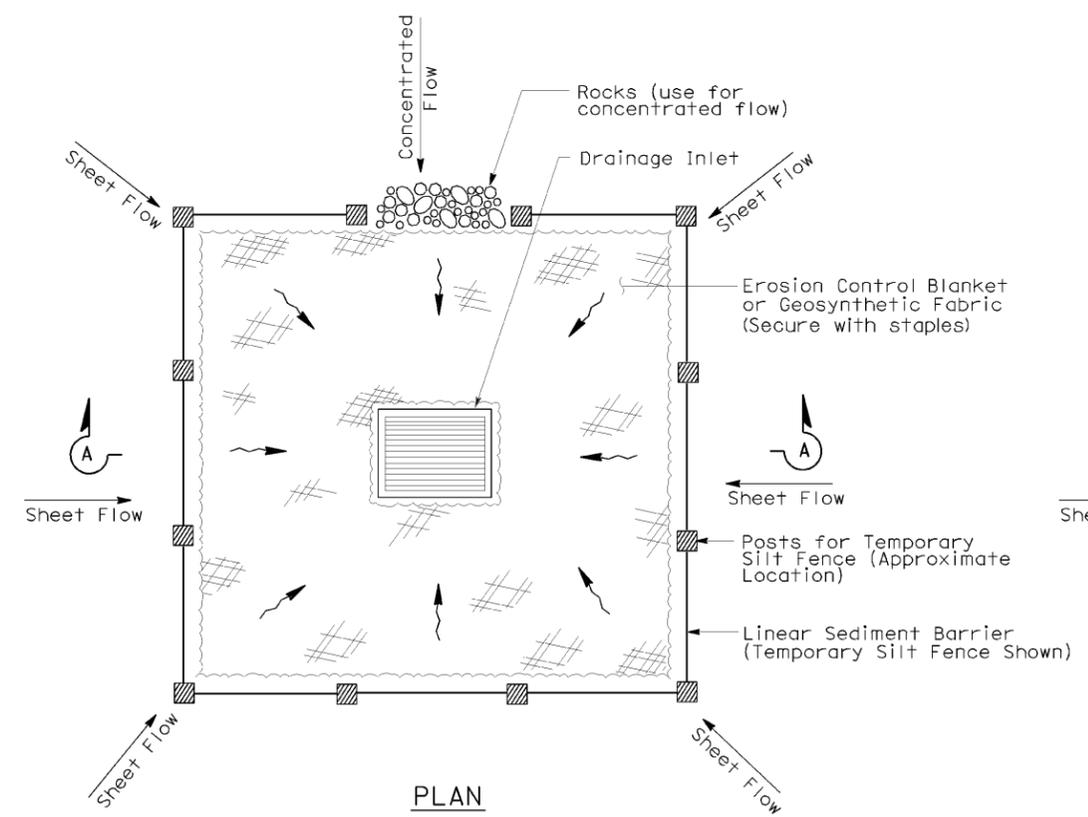


SECTION A-A

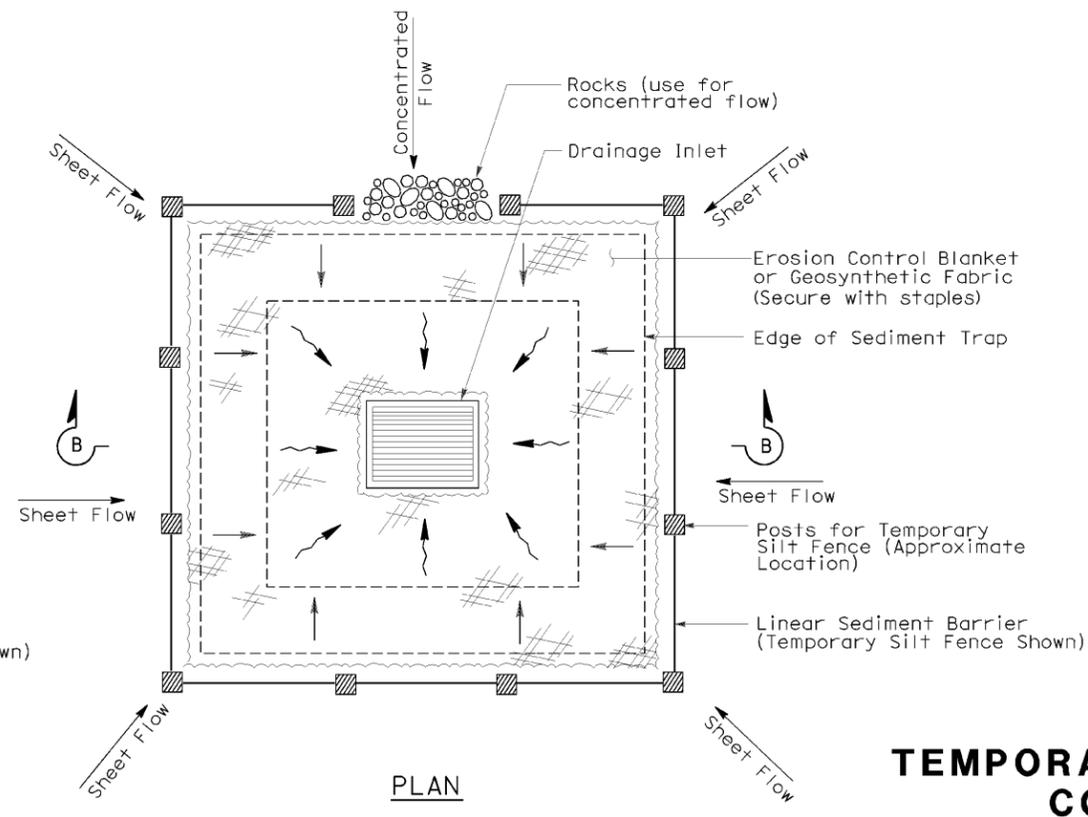


SECTION B-B

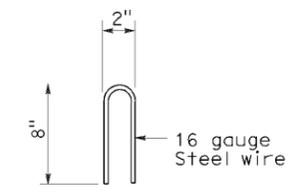
- NOTES:**
1. See Standard Plan T51 for Temporary Silt Fence.
  2. Dimensions may vary to fit field conditions.



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)



STAPLE DETAIL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

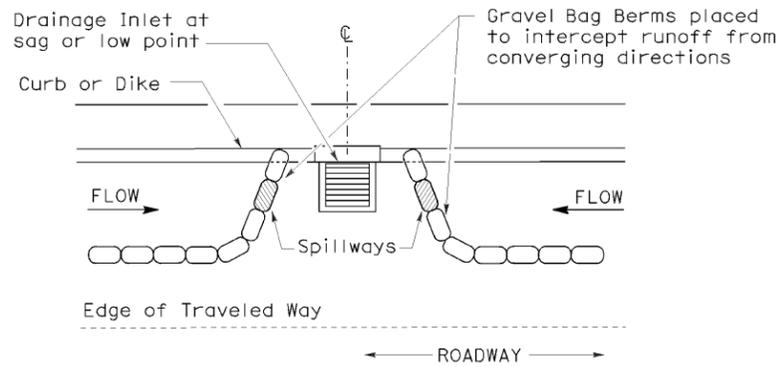
**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)**

NO SCALE

Nsp t61 dated august 15, 2008 supplements the standard plans book dated may 2006.

**NEW STANDARD PLAN NSP T61**

2006 NEW STANDARD PLAN NSP T61

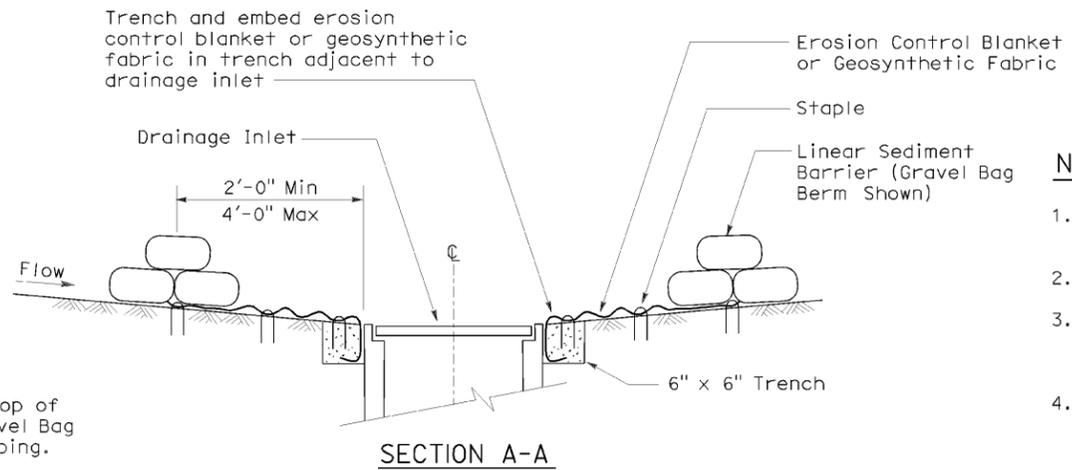


**PLAN**  
**CONFIGURATION FOR SAG POINT INLET**  
**(GRAVEL BAG BERM)**

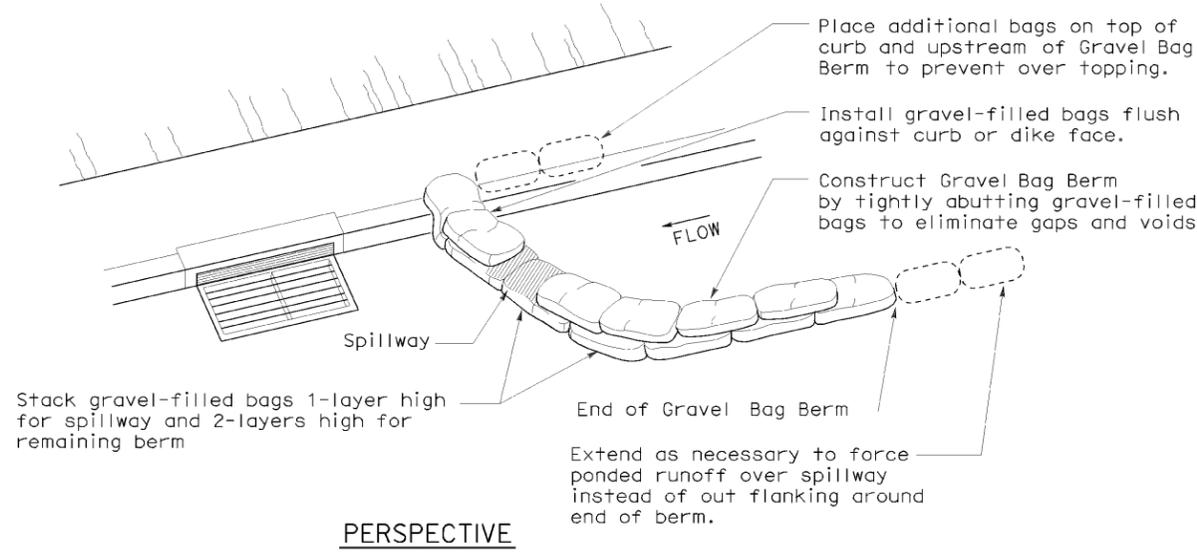
**GRAVEL BAG BERM (TYPE 3A) SPACING TABLE**

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

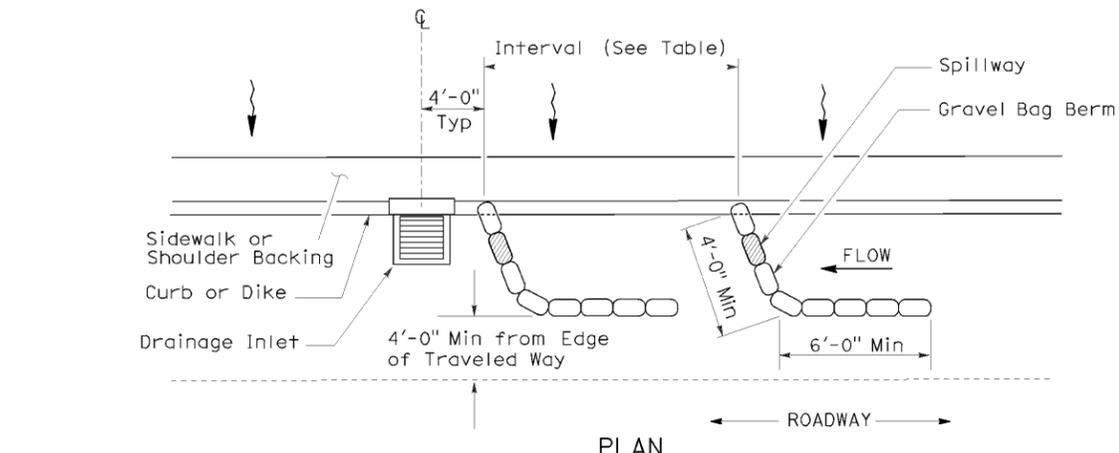
For slope of less than 1%, install barriers only if erosion/sediment is prevalent



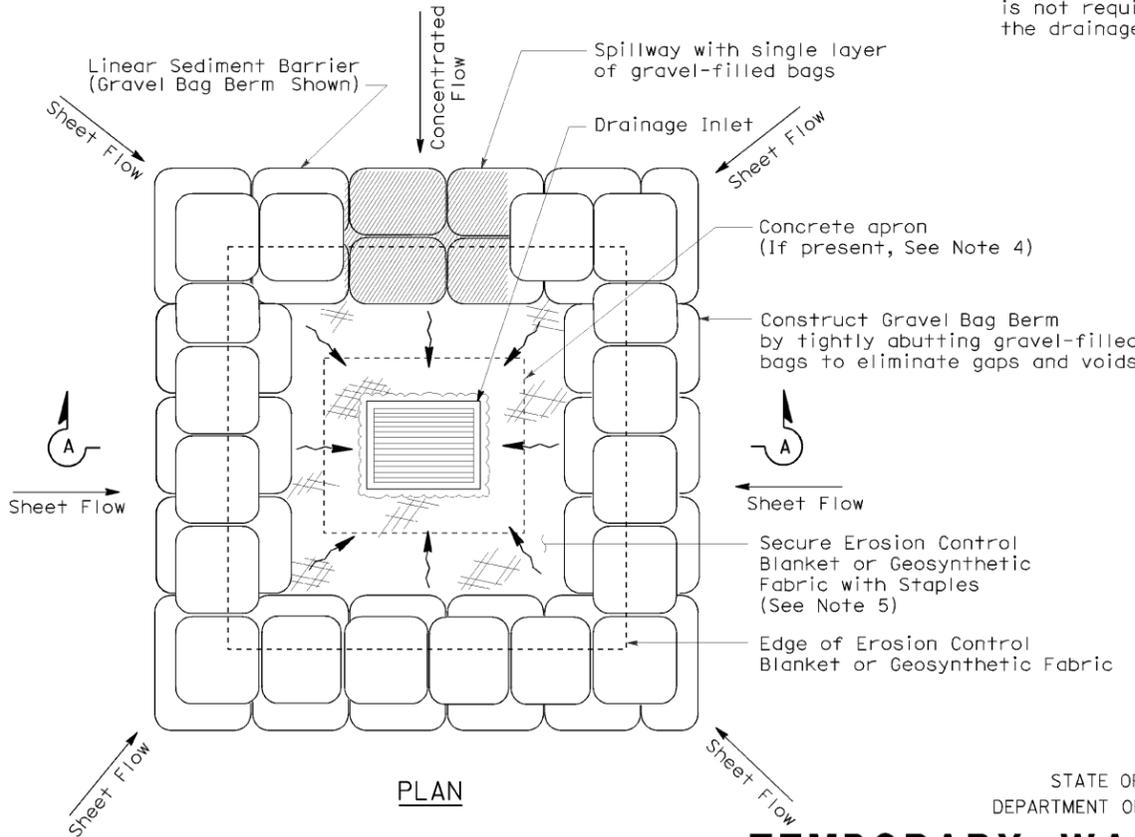
**SECTION A-A**



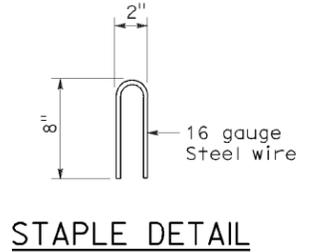
**PERSPECTIVE**



**PLAN**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 3A)**  
**(GRAVEL BAG BERM)**



**PLAN**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 3B)**



**STAPLE DETAIL**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	18	24

*Robert B. Schott*  
LICENSED LANDSCAPE ARCHITECT

August 15, 2008  
PLANS APPROVAL DATE

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

LICENSED LANDSCAPE ARCHITECT  
Robert B. Schott 3689  
Signature  
11-04-08  
10-11-08  
Date

To accompany plans dated 1-30-12

- NOTES:**
1. Place safety cones adjacent to drainage inlet protection.
  2. Dimensions may vary to fit field conditions.
  3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
  4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
  5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION**  
**CONTROL DETAILS**  
**(TEMPORARY DRAINAGE**  
**INLET PROTECTION)**

NO SCALE  
NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T62

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'

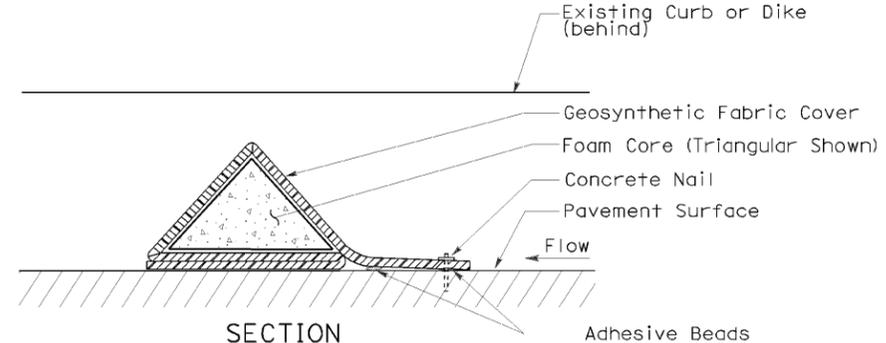
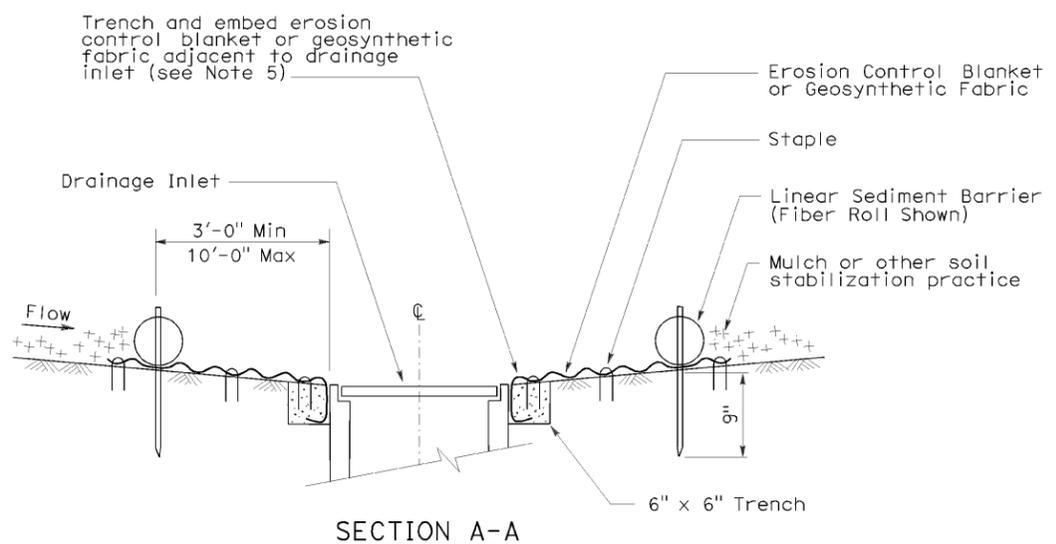
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	19	24

Robert B. Schott  
LICENSED LANDSCAPE ARCHITECT

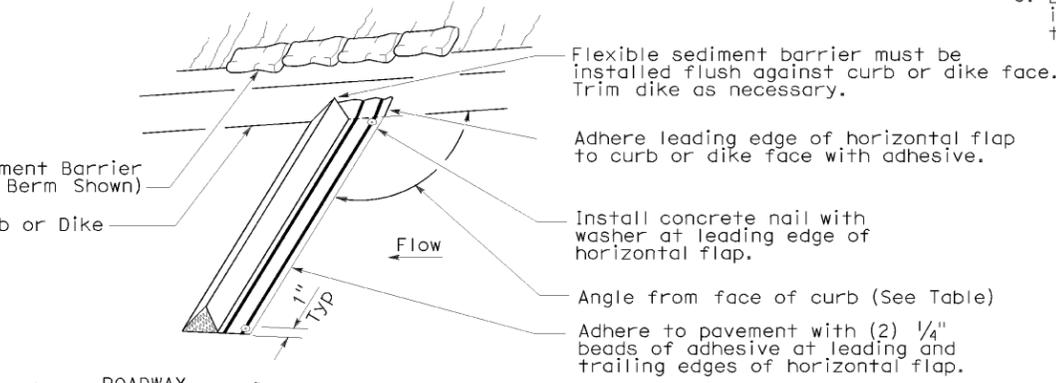
August 15, 2008  
PLANS APPROVAL DATE

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

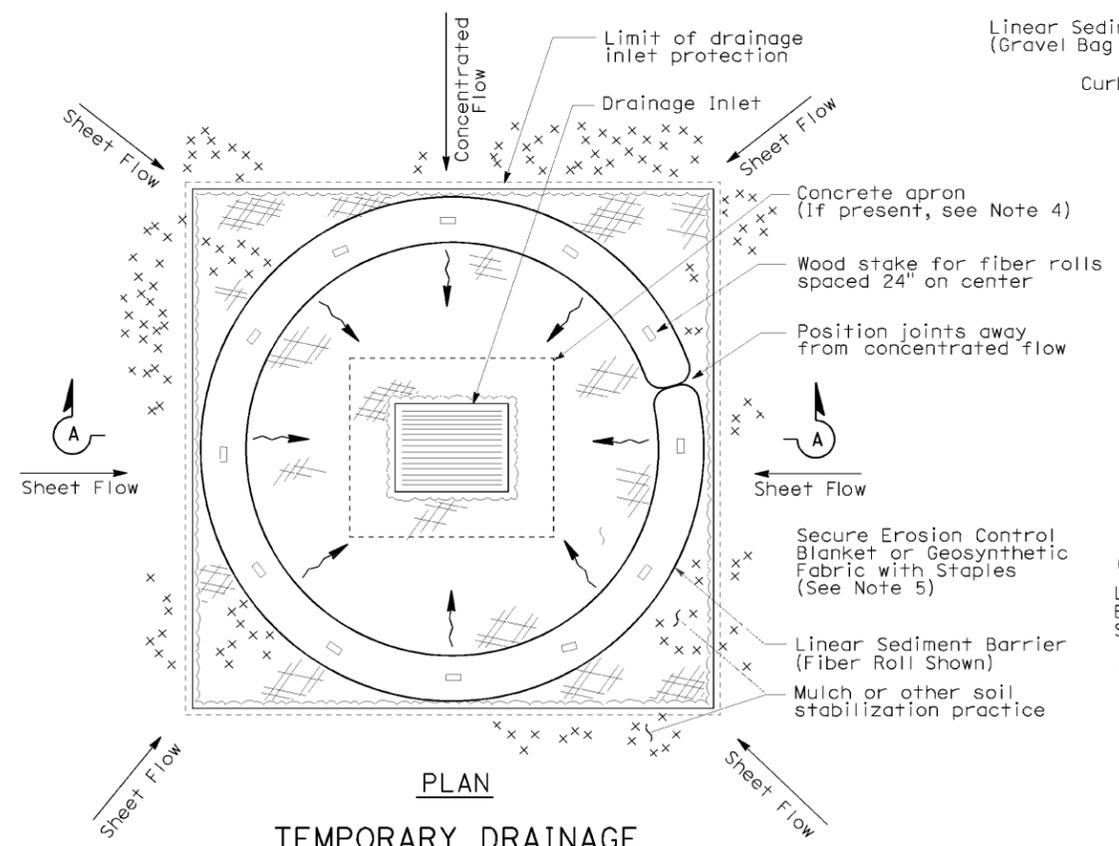
11-04-08  
08-11-08



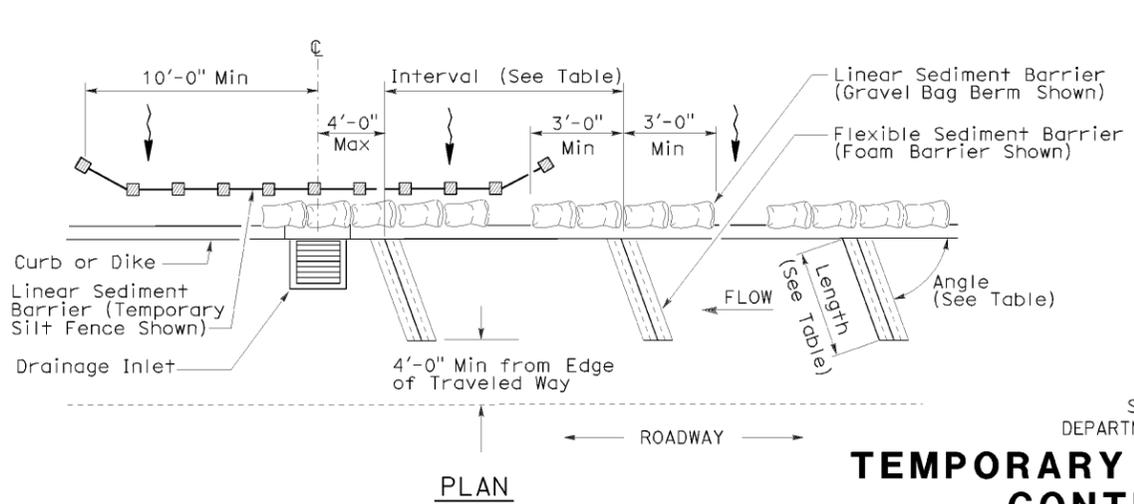
SECTION  
FLEXIBLE SEDIMENT BARRIER DETAIL  
(FOAM BARRIER SHOWN)



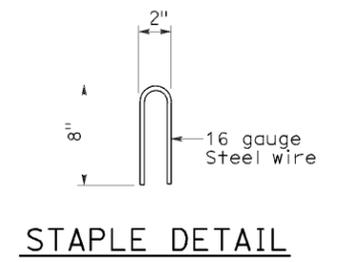
PERSPECTIVE



PLAN  
TEMPORARY DRAINAGE  
INLET PROTECTION (TYPE 4A)



PLAN  
TEMPORARY DRAINAGE  
INLET PROTECTION (TYPE 4B)  
FLEXIBLE SEDIMENT BARRIER



STAPLE DETAIL

- NOTES:
- See Standard Plan T51 for Temporary Silt Fence.
  - Dimensions may vary to fit field conditions.
  - Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
  - Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
  - Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION  
CONTROL DETAILS  
(TEMPORARY DRAINAGE  
INLET PROTECTION)**  
NO SCALE

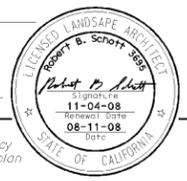
NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

**NEW STANDARD PLAN NSP T63**

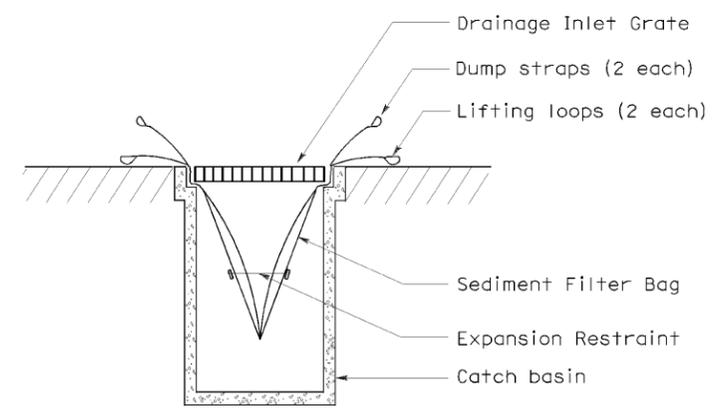
2006 NEW STANDARD PLAN NSP T63

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	1	0.0/13.0	20	24

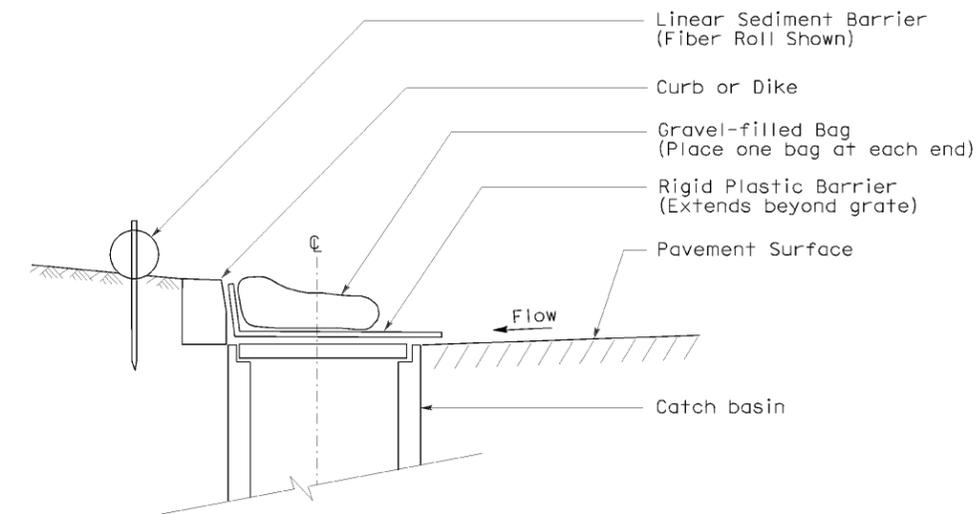
Robert B. Schott  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



To accompany plans dated 1-30-12

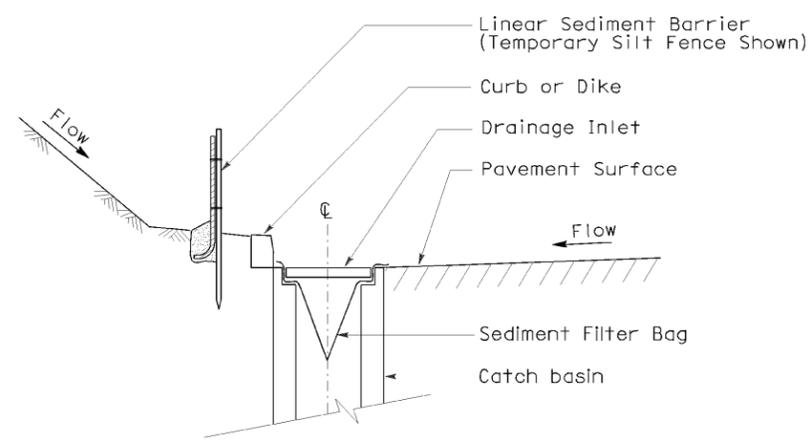


**SECTION B-B**  
**SEDIMENT FILTER BAG DETAIL**

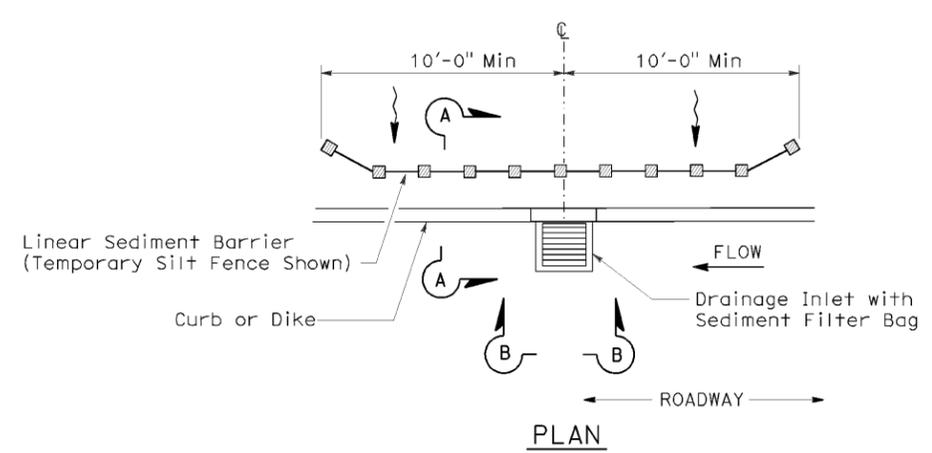


**SECTION**  
**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6A)**  
**(CATCH BASIN WITH GRATE)**

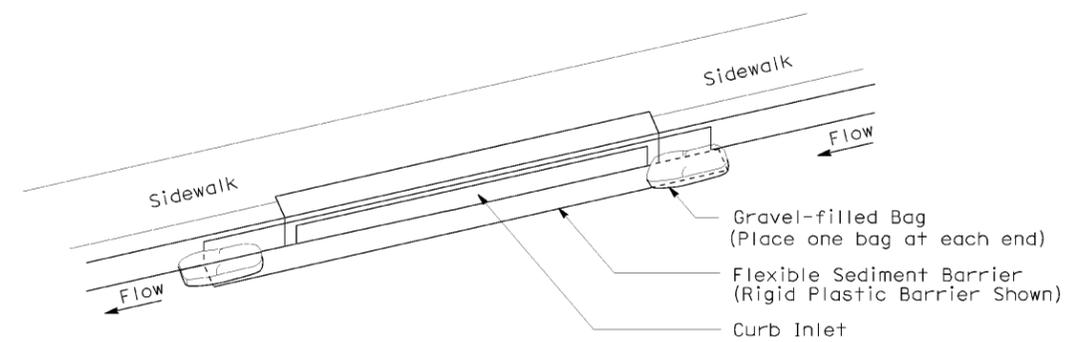
- NOTES:**
1. See Standard Plan T51 for Temporary Silt Fence.
  2. Dimensions may vary to fit field conditions.



**SECTION A-A**



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



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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS**  
**(TEMPORARY DRAINAGE INLET PROTECTION)**

NO SCALE  
NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T64