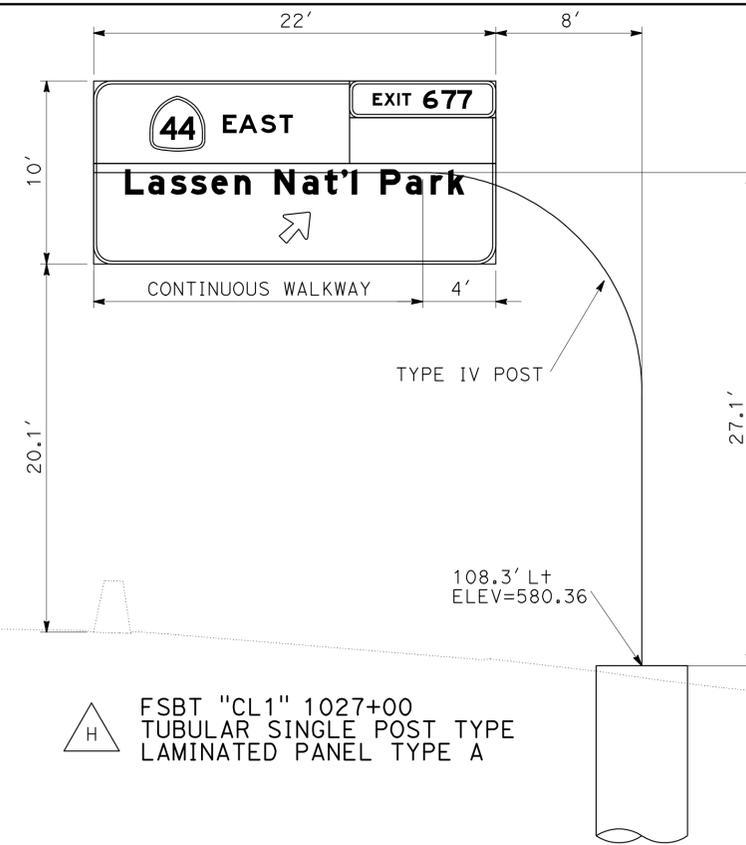
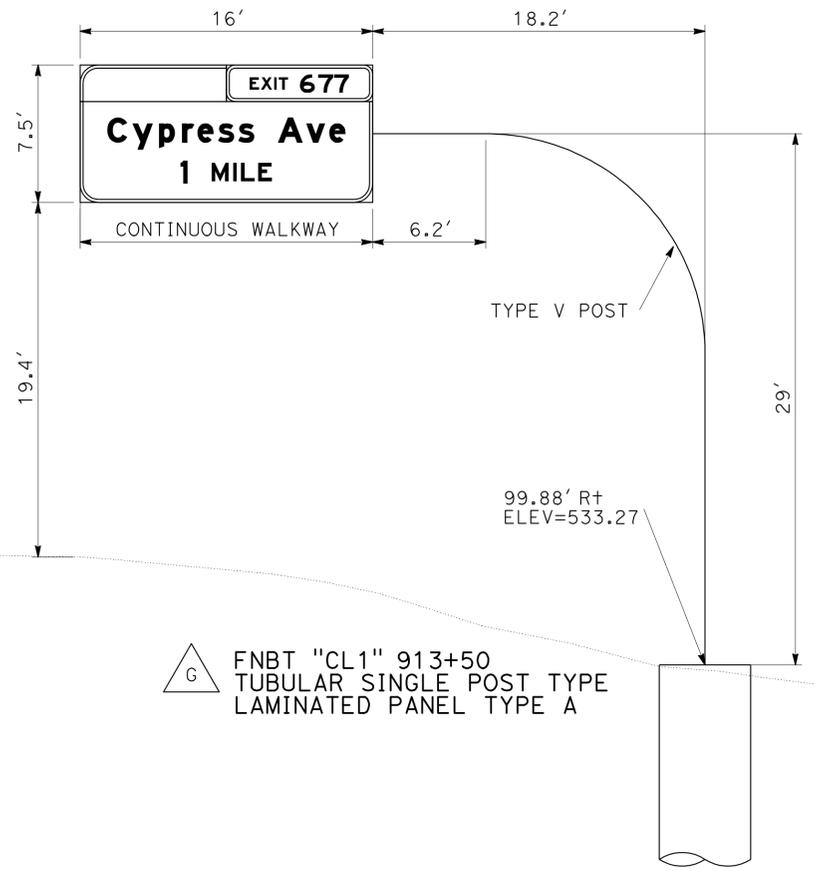


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	203	311

Frank J. Rivas 10-15-10
 REGISTERED CIVIL ENGINEER DATE
 12-13-10
 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
 FRANK RIVAS
 No. C53592
 Exp. 6-30-11
 CIVIL
 STATE OF CALIFORNIA

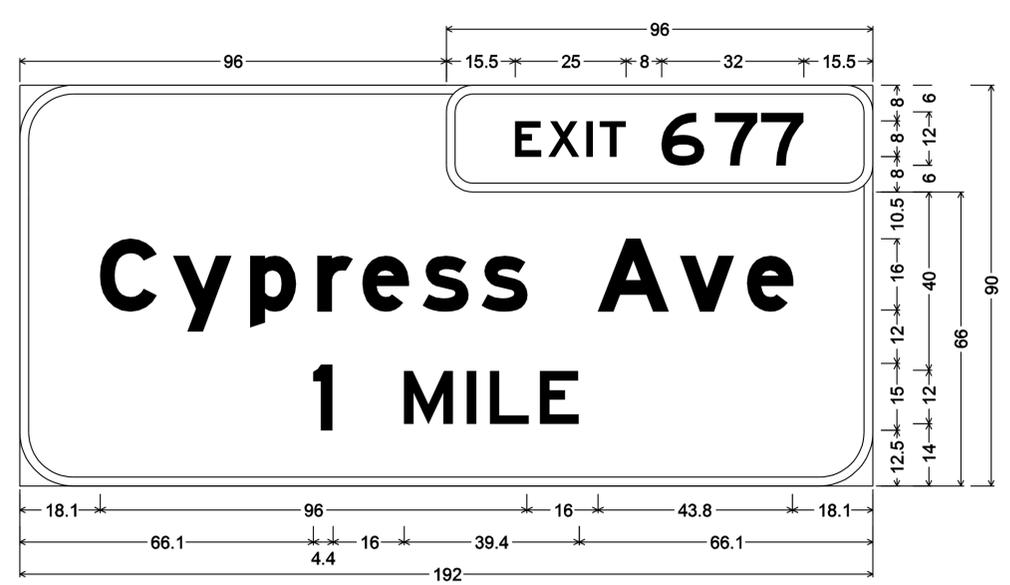


G FNB "CL1" 913+50
TUBULAR SINGLE POST TYPE
LAMINATED PANEL TYPE A

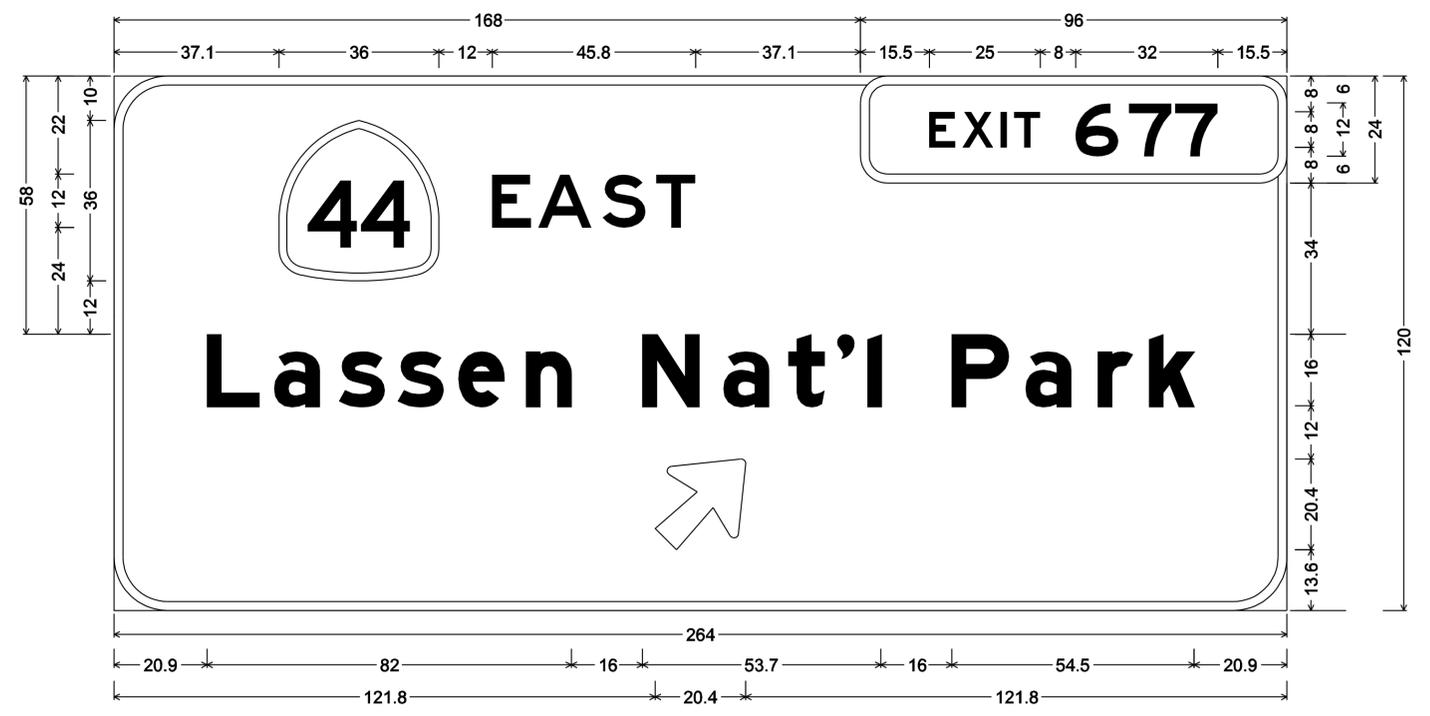
H FSBT "CL1" 1027+00
TUBULAR SINGLE POST TYPE
LAMINATED PANEL TYPE A

H
G85(CA)

G
G83(CA)



6.0" RADIUS, 2.0" BORDER, WHITE ON GREEN;
 [EXIT] E; [677] E;
 12.0" RADIUS, 2.0" BORDER, WHITE ON GREEN;
 [Cypress Ave] E Mod; [1] E; [MILE] E;



6.0" RADIUS, 2.0" BORDER, WHITE ON GREEN;
 [EXIT] E; [677] E;
 12.0" RADIUS, 2.0" BORDER, WHITE ON GREEN;
 [EAST] E;
 [Lassen Nat'l Park] E Mod; ARROW 16CAP-1L - 25.0" 45°;

**ADDITIVE 3
SIGN DETAILS**
NO SCALE **SD-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 TRAFFIC OPS
 FRANK RIVAS
 JEFF STEPPAT
 ROB STINGER
 07-29-10 15:50

\S\02601\CAD\PS\ES\subm1\F02-4c4011\24c401od001.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
 C. GAIDO
 FRANK RIVAS/JOLENA ASTIN
 CHRIS GAIDO
 JOHN MARTIN
 C. GAIDO
 11-19-10

NOTE:

CALIFORNIA SIGN CODES ARE DESIGNATED BY (CA), OTHERWISE, FEDERAL
 MUTCD SIGN CODES ARE SHOWN.

CONTRACTOR FURNISHED SIGNS

No.	SIGN CODE	SIGN SIZE L x D (In x In)	SINGLE FACED	SIGN FACING MATERIAL				SIGN PANEL SUBSTRATE MATERIAL (SQFT)		DESCRIPTION (REMARKS)
				BACKGROUND		LEGEND		ROADSIDE	OVERHEAD	
				SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	UNFRAMED	LAMINATED TYPE A	
								ALUMINUM		
2-3	W4-2(LT)	48 x 48	X	YELLOW	III	BLACK	II	16	MERGE	
2-4	W4-2(LT)	48 x 48	X	YELLOW	III	BLACK	II	16	MERGE	
2-6	W9-1	48 x 48	X	YELLOW	III	BLACK	II	16	LEFT LANE ENDS	
11-3	W9-1	48 x 48	X	YELLOW	III	BLACK	II	16	LEFT LANE ENDS	
11-4	W9-1	48 x 48	X	YELLOW	III	BLACK	II	16	LEFT LANE ENDS	
12-1	W4-2(LT)	48 x 48	X	YELLOW	III	BLACK	II	16	MERGE	
12-2	W4-2(LT)	48 x 48	X	YELLOW	III	BLACK	II	16	MERGE	
A	G85(CA)	192 x 100	X	GREEN	III	WHITE	III	133.3	EXIT 677, CYPRESS AVE, EXIT ONLY 45° ARROW	
B	G83(CA)	180 x 90	X	GREEN	III	WHITE	III	112.5	EXIT 677, CYPRESS AVE, EXIT 270° ARROW ONLY	
I	G78(CA)	144 x 40	X	GREEN	III	WHITE	III	40	180° ARROW, SOUTH ROUTE 5, SACRAMENTO	
TOTAL (SQFT)								112	285.8	

ABBREVIATIONS:

L LENGTH OF SIGN
 D DEPTH OF SIGN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	204	311

10-15-10
 REGISTERED CIVIL ENGINEER DATE

12-13-10
 PLANS APPROVAL DATE

CHRIS S. GAIDO
 No. C62535
 Exp 12-31-11
 CIVIL

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.

ROADSIDE SIGNS

SHEET No.	SIGN No. #-#	SIGN CODE	PANEL SIZE (INCH x INCH)	(N) POST SIZE AND LENGTH (FT)	ROADSIDE SIGN			DESCRIPTION/REMARKS
					ROADSIDE SIGN	REMOVE ROADSIDE SIGN	RELOCATE ROADSIDE SIGN	
					METAL POST	ONE POST	ONE POST	
PD-2	2-1	R2-4(CA) R48-1(CA)					1	65 ZONE AHEAD RADAR ENFORCED
	2-2	R2-4(CA) R48-1(CA)					1	65 ZONE AHEAD RADAR ENFORCED
	2-3	W4-2(LT)	48 X 48	14	1			MERGE
	2-4	W4-2(LT)	48 X 48	14	1			MERGE
	2-5	R2-1 R48-1(CA)					1	SPEED LIMIT 65 RADAR ENFORCED
	2-6	W9-1	48 X 48	14	1			LEFT LANE ENDS
PD-7	7-1	G78-1(CA)					1	SOUTH INTERSTATE CALIFORNIA 5 SHIELD, SACRAMENTO
	7-2	R3-1					1	RIGHT TURN PROHIBITION
PD-8	8-1	G85-11(CA) W61C(CA)					1	EXIT 677 CYPRESS AVE EXIT ONLY
	8-2	R3-3					1	NO TURNS, OFFICIAL VEHICLES EXEMPT
	8-3	R3-3					1	NO TURNS, OFFICIAL VEHICLES EXEMPT
	8-4	G83(CA)					1	EXIT 677, CYPRESS AVE, EXIT ONLY
PD-10	10-1	W75-2(CA)		14			1	LANE ENDS MERGE LEFT
	11-1	W4-2(RT)	48 X 48	14			1	MERGE
PD-11	11-2	W4-2(RT)	48 X 48	14			1	MERGE
	11-3	W9-1	48 X 48	14	1			LEFT LANE ENDS
	11-4	W9-1	48 X 48	14	1			LEFT LANE ENDS
PD-12	12-1	W4-2(LT)	48 X 48	14	1			MERGE
	12-2	W4-2(LT)	48 X 48	14	1			MERGE
TOTAL					7	11	1	

OVERHEAD SIGNS

#	STATION "CL1"	60" CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)	FURNISH SIGN STRUCTURE (TUBULAR)	INSTALL SIGN STRUCTURE (TUBULAR)
		FT	LBS	LBS
A	987+50	33	13,711	13,711
B	1007+00	33	13,434	13,434
TOTAL		66	27,145	27,145

BRIDGE MOUNTED SIGNS

#	SHEET	FURNISH SIGN STRUCTURE (BRIDGE MOUNTED WITHOUT WALKWAY)	INSTALL SIGN STRUCTURE (BRIDGE MOUNTED WITHOUT WALKWAY)
		LBS	LBS
I	PD-7	340	340
TOTAL		340	340

SIGN QUANTITIES
SQ-1

P:\proj\2\02\4c401\des\1gm\PS&E\24c401pa001.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR JOHN MARTIN
 CALCULATED/DESIGNED BY CHECKED BY
 TRAVIS GURNEY CHRIS GAIDO
 REVISED BY DATE REVISED
 x x x x

ROADWAY ITEMS

STATION				LOCATION	COLD PLANE ASPHALT CONCRETE PAVEMENT	REMOVE CONCRETE	ROADWAY EXCAVATION	ROADWAY EMBANKMENT (N)	IMPORTED MATERIAL (SHOULDER BACKING)	SUBGRADE ENHANCEMENT GEOTEXTILE	CLASS 2 AGGREGATE BASE	REPLACE ASPHALT CONCRETE SURFACING	HOT MIX ASPHALT	RUBBERIZED HOT MIX ASPHALT (OPEN GRADED HIGH BINDER)	SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)	TACK COAT	MINOR CONCRETE (CURB AND GUTTER)	MINOR CONCRETE (SIDEWALK)	MINOR CONCRETE (TEXTURED PAVING)	
				NB/SB	SQYD	CY	CY	CY	TON	SQYD	CY	CY	TON	TON	STA	SQYD	TON	CY	CY	SQFT	
"CL1"	801+90.00	TO	"CL1"	842+50.00	NB/SB	21,334		12,472	12,574	1,157	19,622	12,195	98	11,452	3,458	162		50			2169
"CL1"	842+50.00	TO	"CL1"	884+50.00	NB/SB	22,400		13,683	11,014	1,146	20,533	12,723	102	11,962	3,604	168		53			1630
"CL1"	884+50.00	TO	"CL1"	924+50.00	NB/SB	21,334		13,641	9,094	1,141	19,556	12,073	98	11,420	3,265	160		50			
"CL1"	924+50.00	TO	"CL1"	971+78.55	NB/SB	25,218		15,012	13,924	1,290	23,118	14,411	114	13,466	4,005	190		59			4167
"CL1"	974+07.40	TO	"CL1"	1006+50.00	NB/SB	18,574		12,735	5,540	7,58	14,425	9,008	70	8,762	2,834	116		41			2719
"CL1"	1006+50.00	TO	"CL1"	1046+50.00	NB/SB	12,670		5,298	23	35	4,702	2,900	38	3,717	1,941	62		44			
"CL1"	1046+50.00	TO	"CL1"	1082+50.00	NB/SB	10,129		6,753	5,401	547	7,473	4,623	43	4,663	1,002	72		44			
"S1" LINE							25	220	7		80					83		16	73		
"S13" LINE								10	23	6	14							8	18		
DRAINAGE QUANTITY SHEET DQ-31														10.7							
SUBTOTAL FROM HMA DIKE QUANTITY														100.6							
TOTAL						131,659	25	79,824	57,600	6,080	109,429	68,027	563	65,564	20,109	930	111.6	341	24	91	10,685

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

ADJUST FIBER OPTIC SPLICE VAULT COVER TO GRADE

LOCATION					EA
** "CL1"	801+90	TO	"CL1"	1082+00	21
TOTAL					21

** EXACT LOCATION(S) DETERMINED BY THE ENGINEER

SURVEY MONUMENT (TYPE A)

LOCATION					EA
** "CL1"	801+90	TO	"CL1"	1082+00	12
TOTAL					12

** EXACT LOCATION(S) DETERMINED BY THE ENGINEER

HIGH TENSION CABLE BARRIER

STATION				LOCATION	RECONSTRUCT HIGH TENSION CABLE BARRIER	HIGH TENSION CABLE BARRIER	HIGH TENSION CABLE BARRIER TERMINAL SYSTEM
				Rt/L+	LF	LF	EA
"CL1"	801+75.0	TO	"CL1"	851+80.0	Rt/L+		2
"CL1"	851+75.0	TO	"CL1"	893+85.0	Rt/L+	4210	2
"CL1"	893+60.0	TO	"CL1"	970+60.0	Rt/L+	7700	2
"CL1"	960+10.0	TO	"CL1"	971+60.0	Rt		
"CL1"	974+50.0	TO	"CL1"	998+25.0	Rt		
"CL1"	975+50.0	TO	"CL1"	998+50.0	R+	2300	2
"CL1"	998+18.0	TO	"CL1"	1005+55.0	Rt/L+	737	2
"CL1"	1065+00.0	TO	"CL1"	1070+90.0	Rt	590	2
"CL1"	1070+65.0	TO	"CL1"	1084+50.0	Rt/L+	1385	2
TOTAL					14947	6980	14

SUMMARY OF QUANTITIES Q-1

LAST REVISION DATE PLOTTED => 14-DEC-2010
 10-19-10 TIME PLOTTED => 15:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	206	311

10-15-10
REGISTERED CIVIL ENGINEER DATE

12-13-10
PLANS APPROVAL DATE

CHRIS S. GAIDO
No. C62535
Exp 12-31-11
CIVIL

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METAL BEAM GUARD RAILING

SHEET NO.	ALIGNMENT	STATION		L+/RT	REMOVE METAL BEAM GUARD RAILING	METAL BEAM GUARD RAILING (WOOD POST)	DOUBLE METAL BEAM GUARD RAILING (WOOD POST)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	TERMINAL SYSTEM (TYPE CAT)	END ANCHOR ASSEMBLY (TYPE SFT)	RAIL TENSIONING ASSEMBLY	END CAP (TYPE A)
		FROM	TO										
		LF	EA										
L-4	CL1	849+44	851+82	R+	200								
L-4	CL1	850+39	852+11	L+	200								
L-4	CL1	850+39	852+11	L+		130	25			1	1	1	
L-7	CL1	891+46	893+06	L+	125								
L-7	CL1	891+46	893+06	L+		55	25			1	1	1	
L-11	CL1	945+82	948+06	L+	225								
L-11	CL1	945+82	948+06	L+		90	25			1	1	1	
L-12	CL1	959+75	960+65	L+	200								
L-12	CL1	959+98	961+05	L+		50	25			1	1	1	
L-13	CL1	968+60	971+93	R+	325								
L-13	CL1	968+60	971+93	R+			275	1		1		1	
L-13	CL1	973+90	977+11	L+	325								
L-13	CL1	973+90	977+11	L+			275	1		1		1	
L-13	CL1	973+92	975+75	R+		125		1		1			1
L-14	CL1	987+43	988+25	L+		32			1				
TOTAL					1600	482	650	3	1	6	5	6	1

STORM WATER PREVENTION

ITEM	UNIT	QTY
TEMPORARY FIBER ROLL	LF	3000
TEMPORARY CONSTRUCTION ENTRANCE	EA	5
TEMPORARY CHECK DAM	LF	400
MOVE-IN/MOVE-OUT (Temp EROSION CONTROL)	EA	2
TEMPORARY DRAINAGE INLET PROTECTION	EA	50
TEMPORARY HYDRAULIC MULCH (POLYMER STABILIZED FIBER MATRIX)	SQYD	48,400
TEMPORARY SOIL BINDER	SQYD	104,000
RAIN EVENT ACTION PLAN	EA	92
STORM WATER ANNUAL REPORT	EA	3
STORM WATER SAMPLING ANALYSIS DAY	EA	42

EROSION CONTROL

ITEM	UNIT	QTY
SEED (EROSION CONTROL)	(N) LB	2540
FIBER (EROSION CONTROL)	(N) LB	65000
FERTILIZER (EROSION CONTROL)	(N) LB	5000
STABILIZING EMULSION	(N) LB	4000
EROSION CONTROL (HYDROSEED) (ACRE)	ACRE	20

VEGETATION CONTROL (MINOR CONCRETE)

STATION	LOCATION	VEGETATION CONTROL (MINOR CONCRETE)	COMMENTS	
				L+/RT
"CL1"	801+75 TO "CL1" 851+80	L+/RT	2224	VEG CONTROL HTCB
"CL1"	851+75 TO "CL1" 893+85	L+/RT	1871	VEG CONTROL HTCB
"CL1"	893+60 TO "CL1" 945+00	L+/RT	2284	VEG CONTROL HTCB
"CL1"	945+00 TO "CL1" 970+60	RT	1707	VEG CONTROL HTCB, VC IS 6' WIDE
"CL1"	975+50 TO "CL1" 998+50	RT	1022	VEG CONTROL HTCB
"CL1"	998+18 TO "CL1" 1005+55	L+	328	VEG CONTROL HTCB
"CL1"	1065+00 TO "CL1" 1070+90	R+	262	VEG CONTROL HTCB
"CL1"	1070+65 TO "CL1" 1084+50	L+/RT	616	VEG CONTROL HTCB
"CL1"	850+39 TO "CL1" 852+11	L+	113	VEG CONTROL MBGR
"CL1"	891+46 TO "CL1" 893+06	L+	74	VEG CONTROL MBGR
"CL1"	945+82 TO "CL1" 948+06	L+	80	VEG CONTROL MBGR
"CL1"	959+98 TO "CL1" 961+05	L+	71	VEG CONTROL MBGR
"CL1"	968+60 TO "CL1" 971+93	R+	188	VEG CONTROL MBGR
"CL1"	973+90 TO "CL1" 977+11	L+	188	VEG CONTROL MBGR
"CL1"	973+92 TO "CL1" 975+75	R+	77	VEG CONTROL MBGR
"CL1"	987+43 TO "CL1" 988+25	L+	16	VEG CONTROL MBGR
DRAINAGE QUANTITY SHEET DQ-33				794.6
TOTAL				11915.6

HOT MIX ASPHALT DIKE

STATION	DIRECTION	LOCATION SHOULDER	REMOVE ASPHALT CONCRETE DIKE	HOT MIX ASPHALT	PLACE HOT MIX ASPHALT DIKE (TYPE A)	PLACE HOT MIX ASPHALT DIKE (TYPE D)	PLACE HOT MIX ASPHALT DIKE (TYPE E)	PLACE HOT MIX ASPHALT DIKE (TYPE F)		
									NB/SB	R+/L+
"CL1"	832+50.0 TO "CL1" 836+70.0	NB	R+	420.0	11.8			420.0		
"CL1"	851+00.0 TO "CL1" 851+65.0	NB	R+		0.9			65.0		
"CL1"	854+80.0 TO "CL1" 857+50.0	SB	R+	270.0	7.9	270.0				
"CL1"	861+00.0 TO "CL1" 864+45.0	SB	R+	345.0	10.1	345.0				
"CL1"	987+33.0 TO "CL1" 988+35.0	SB	R+	102.0	1.5			102.0		
"CL1"	1000+75.0 TO "CL1" 1004+90.0	NB	L+		26.3		415			
"CL1"	1032+70.0 TO "CL1" 1033+40.0	SB	R+		1.0			70.0		
"CL1"	1050+05.0 TO "CL1" 1050+80.0	SB	R+	75.0	2.1			75.0		
"CL1"	1058+94.0 TO "CL1" 1065+00.0	NB	L+		38.3		606			
"CL1"	1059+00.0 TO "CL1" 1059+40.0	SB	R+	40.0						
"CL1"	1078+00.0 TO "CL1" 1078+50.0	NB	R+	50.0	0.7	50.0				
DRAINAGE QUANTITY SHEET DQ-31							22.4			
TOTAL					1302.0	100.6*	687.4	1021	495.0	237.0

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE. SEE ROADWAY ITEMS TABLE SHEET Q-1

SUMMARY OF QUANTITIES Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 TRAVIS GURNEY/JOLENA ASTIN
 CHRIS GAIDO
 JOHN MARTIN
 FUNCTIONAL SUPERVISOR
 CALCULATED/DESIGNED BY
 CHECKED BY
 REVISOR BY
 DATE REVISOR
 DATE REVISOR

NOTE:
(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

ROADWAY ITEMS

STATION	LOCATION	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	
		ADJUST SPLICE VAULT COVER TO GRADE	COLD PLANE ASPHALT CONCRETE PAVEMENT	ROADWAY EXCAVATION	ROADWAY EMBANKMENT	IMPORTED MATERIAL (SHOULDER BACKING)	SUBGRADE ENHANCEMENT GEOTEXTILE	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT	RUBBERIZED HOT MIX ASPHALT (OPEN GRADED HIGH BINDER)	SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)	TACK COAT	HIGH TENSION CABLE BARRIER	HIGH TENSION CABLE BARRIER TERMINAL SYSTEM	VEGETATION CONTROL (MINOR CONCRETE)	
		EA	SQYD	CY	CY	TON	SQYD	CY	TON	TON	STA	TON	LF	EA	SQYD	
ADDITIVE BID 1 COMPONENTS	"CL1" 782+00 TO 802+50	NB/SB	2	10,933	6466	6230*	560	10,022	6180	5838	1665	82	33	1990	2	1097

* ROADWAY EMBANKMENT QUANTITY INCLUDE 10% SHRINKAGE FACTOR.

TRAFFIC STRIPE AND PAVEMENT MARKERS

STATION	LOCATION	(N)	(N)				(N)			
		YELLOW	WHITE				PAVEMENT MARKER (RETROREFLECTIVE)			
		4"	4"	4"	4" (BROKEN 36-12)		TYPE C	TYPE G	TYPE H	
		DETAIL	DETAIL	DETAIL	DETAIL	DETAIL	EA	EA	EA	
		25	27	27B	12	14A				
		LF	LF	LF	LF	LF				
ADDITIVE BID 1 COMPONENTS	"CL1" 778+00 TO 821+47.5	NB/SB	2988	960	3948	7904	144	4	172	66
TOTAL			7896			8048		242		

REMOVE THERMOPLASTIC TRAFFIC STRIPE

STATION	LOCATION	(N)	(N)	
		DETAIL 12	DETAIL 27B	
		LF	LF	
ADDITIVE BID 1 COMPONENTS	"CL1" 777+80 TO 801+90	NB/SB	915	3660
TOTAL			4575	

TRAFFIC CONTROL DEVICES

STATION	LOCATION	(N)	
		TEMPORARY RAILING (TYPE K)	
		LF	
ADDITIVE BID 1 COMPONENTS	"CL1" 780+60 TO 801+90	NB	1870
	"CL1" 783+00 TO 801+90	SB	1790
TOTAL			3660

TRAFFIC HANDLING QUANTITIES

STATION	LOCATION	(N)				(N)		
		TEMPORARY TRAFFIC STRIPE (PAINT)				TEMPORARY PAVEMENT MARKER		
		DETAIL 12	DETAIL 14A	DETAIL 25	DETAIL 27B	TYPE G	TYPE C	TYPE H
		EA	EA	EA	EA	EA	EA	
		DETAIL 12	DETAIL 14A	DETAIL 25	DETAIL 27B	DETAIL 12	DETAIL 14A	DETAIL 25
ADDITIVE BID 1 COMPONENTS	"CL1" 777+80 TO 801+90 NB/SB	LF	LF	LF	LF	EA	EA	EA
		3756	144	3900	3900	82	4	86
TOTAL		11,700				172		

MARKER (CULVERT)

DRAINAGE SYSTEM No. AND UNIT No.	ALIGNMENT	STATION	POST MILE	LEFT	MEDIAN	RIGHT	(N)	(N)
							MARKER (CULVERT)	MARKER (CULVERT, CABLE BARRIER MOUNTED)
							EA	EA
A1a	"CL1"	785+01	10.90	X			1	
A1a	"CL1"	785+01	10.90		X			1
A2a	"CL1"	795+51	11.10	X			1	
A2a	"CL1"	795+51	11.10		X			1
TOTAL							2	2

ADDITIVE BID COMPONENTS-1

ADDITIVE BID COMPONENTS-1	LS
"CL1" 782+00 TO 802+50	1

METAL BEAM GUARD RAILING

STATION	LOCATION	(N)	(N)	(N)	(N)	(N)	
		REMOVE METAL BEAM GUARD RAILING	METAL BEAM GUARD RAILING (WOOD POST)	DOUBLE METAL BEAM GUARD RAILING (WOOD POST)	TERMINAL SYSTEM (TYPE CAT)	END ANCHOR ASSEMBLY (TYPE SFT)	
		LF	LF	LF	EA	EA	
ADDITIVE BID 1 COMPONENTS	"CL1" 781+28 TO 783+41	NB/SB	225	175	50	2	2

DRAINAGE QUANTITIES

STATION	LOCATION	(N)	(N)	(N)	(N)	(N)	(N)	
		REMOVE FES	MINOR CONCRETE (MINOR STRUCTURE)	18" REINFORCED CONCRETE PIPE (CLASS II, RUBBER GASKET JOINT)	36" PRECAST CONCRETE PIPE INLET	MISCELLANEOUS IRON AND STEEL	VEGETATION CONTROL (MINOR CONCRETE)	
		EA	CY	LF	LF	LB	SQYD	
ADDITIVE BID 1 COMPONENTS	"CL1" 782+00 TO 802+50	NB/SB	2	1.4	19.0	6.36	472	22.8

ADDITIVE 1 SUMMARY OF QUANTITIES Q-3

P:\proj\2\02\4c401\des\1gm\PS&E\24c401pa004.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CDTRANS
 DESIGN
 FUNCTIONAL SUPERVISOR JOHN MARTIN
 CALCULATED/DESIGNED BY TRAVIS GURNEY/JOLENA ASTIN
 CHECKED BY CHRIS GAIDO
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

NOTE:

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

ROADSIDE SIGNS

SHEET No.	SIGN No. #-#	SIGN CODE	PANEL SIZE (INCH x INCH)	(N)		DESCRIPTION REMARKS
				POST SIZE AND LENGTH (FT)	ROADSIDE SIGN	
				METAL POST 2 1/2" x 2 1/2"	ONE POST EA	
S-1	A1-1	G83(CA)			1	BEHELLI LANE, CHURN CREEK
	A1-2	G85(CA)			1	BEHELLI LANE, CHURN CREEK
PD-14	2-3	W4-2(LT)	48 X 48	14	1	MERGE RIGHT
	2-4	W4-2(LT)	48 X 48	14	1	MERGE RIGHT
	2-6	W9-1	48 X 48	14	1	LEFT LANE ENDS
TOTAL				3	2	

OVERHEAD SIGNS

STATION "CL1"	60" CAST-IN-DRILLED-HOLE CONCRETE PILE (SIGN FOUNDATION)		(N)	(N)
	FT	LBS	FURNISH SIGN STRUCTURE (TUBULAR)	INSTALL SIGN STRUCTURE (TUBULAR)
C	780+00	33	14,535	14,535
D	834+50	33	16,639	16,639
TOTAL		66	31,174	31,174

CONTRACTOR FURNISHED SIGNS

SIGN No.	SIGN CODE	SIGN SIZE L x D (In x In)	SINGLE FACED	DOUBLE FACED	SIGN FACING MATERIAL				(N)			DESCRIPTION (REMARKS)		
					BACKGROUND		LEGEND		SIGN PANEL SUBSTRATE MATERIAL (SQFT)		ROADSIDE SINGLE SHEET ALUMINUM (UNFRAMED)		OVERHEAD	
					SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	0.080"	LAMINATED TYPE A	FORMED w/o RSPF			
C	G83(CA)	240 x 120	X		GREEN	III	WHITE	III		200			EXIT 675, CHURN CREEK RD, S BONNYVIEW RD, 1 MILE	
D	G85(CA)	240 x 120	X		GREEN	III	WHITE	III		200			EXIT 675, CHURN CREEK RD, S BONNYVIEW RD, 45° ARROW	
2-3	W4-2(LT)	48 X 48	X		YELLOW	III	BLACK	II		16				
2-4	W4-2(LT)	48 X 48	X		YELLOW	III	BLACK	II		16				
2-6	W9-1	48 X 48	X		YELLOW	III	BLACK	II		16				
TOTAL (SQFT)									48	400				

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	208	311

10-15-10
 REGISTERED CIVIL ENGINEER DATE

12-13-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 CHRIS S. GAIDO
 No. C62535
 Exp. 12-31-11
 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.

SURVEY MONUMENT (TYPE A)

LOCATION					(N)
					EA
** "CL1"	782+00	TO	"CL1"	802+50	1
TOTAL					1

** EXACT LOCATION TO BE DETERMINED BY THE ENGINEER

STORM WATER PREVENTION

ITEM	UNIT	QTY
TEMPORARY FIBER ROLL	(N) LF	200
TEMPORARY CONSTRUCTION ENTRANCE	(N) EA	1
TEMPORARY CHECK DAM	(N) LF	84
TEMPORARY DRAINAGE INLET PROTECTION	(N) EA	3
TEMPORARY SOIL BINDER	(N) SQYD	9200
TEMPORARY HYDRAULIC MULCH (POLYMER STABILIZED FIBER MATRIX)	(N) SQYD	3900

EROSION CONTROL

ITEM	UNIT	QTY
SEED (EROSION CONTROL)	(N) LB	203
FIBER (EROSION CONTROL)	(N) LB	4800
FERTILIZER (EROSION CONTROL)	(N) LB	400
STABILIZING EMULSION	(N) LB	320
EROSION CONTROL (HYDROSEED)	(N) ACRE	1.6

ELECTRICAL

ITEM (N)	UNIT	QTY
MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION	LS	1
TRAFFIC MONITORING STATION	LS	1

ADDITIVE 1
SUMMARY OF QUANTITIES
Q-4



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Et Caltrans
 FUNCTIONAL SUPERVISOR JOHN MARTIN
 CALCULATED/DESIGNED BY TRAVIS GURNEY/JOLENA ASTIN
 CHECKED BY CHRIS GAIDO
 REVISOR DATE REVISION
 DATE REVISION
 DATE PLOTTED => 14-DEC-2010
 TIME PLOTTED => 15:51

NOTE:

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

ROADWAY ITEMS

STATION	LOCATION	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
		ADJUST SPLICE VAULT COVER TO GRADE	COLD PLANE ASPHALT CONCRETE PAVEMENT	ROADWAY EXCAVATION	ROADWAY EMBANKMENT	IMPORTED MATERIAL (SHOULDER BACKING)	SUBGRADE ENHANCEMENT GEOTEXTILE	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT	RUBBERIZED HOT MIX ASPHALT (OPEN GRADED HIGH BINDER)	SHOULDER RUMBLE STRIP (AC, GROUND-IN INDENTATIONS)	TACK COAT	HIGH TENSION CABLE BARRIER	HIGH TENSION CABLE BARRIER TERMINAL SYSTEM	VEGETATION CONTROL (MINOR CONCRETE)	
ADDITIVE BID 2 COMPONENTS	"CL1" 764+00 TO 782+00	EA	SQYD	CY	CY	TON	SQYD	CY	TON	TON	STA	TON	LF	EA	SQYD	
		1	9600	5777	4882*	454	8800	5427	5126	1462	72	29	1920	2	853	

* ROADWAY EMBANKMENT QUANTITY INCLUDE 10% SHRINKAGE FACTOR.

TRAFFIC STRIPE AND PAVEMENT MARKERS

STATION	LOCATION	(N)	WHITE (N)				PAVEMENT MARKER (RETROREFLECTIVE) (N)			
		YELLOW	4"	4"	4"	4" (BROKEN 36-12)	TYPE C	TYPE G	TYPE H	
		4"	4"	4"	4" (BROKEN 36-12)	TYPE C	TYPE G	TYPE H		
ADDITIVE BID 2 COMPONENTS	"CL1" 760+00 TO 800+97.5	LF	LF	LF	LF	EA	EA	EA		
		2640	960	3600	7010	288	7	148	76	
TOTAL		7200				7298			231	

REMOVE THERMOPLASTIC TRAFFIC STRIPE

STATION	(N)	(N)	(N)
	DETAIL 12	DETAIL 14A	DETAIL 27B
ADDITIVE BID 2 COMPONENTS	LF	LF	LF
	701	36	2900
TOTAL		3637	

TRAFFIC CONTROL DEVICES

STATION	(N)	(N)
	TEMPORARY RAILING (TYPE K)	MARKER TYPE "P"
ADDITIVE BID 2 COMPONENTS	LF	EA
"CL1" 761+60 TO 782+00 NB	1900	1
"CL1" 761+60 TO 782+00 SB	1900	
TOTAL		3800

TRAFFIC HANDLING QUANTITIES

STATION	TEMPORARY TRAFFIC STRIPE (PAINT) (N)				TEMPORARY PAVEMENT MARKER (N)			
	DETAIL 12	DETAIL 14A	DETAIL 25	DETAIL 27B	TYPE C	TYPE G	TYPE H	
	DETAIL 12	DETAIL 14A	DETAIL 25	DETAIL 27B	TYPE C	TYPE G	TYPE H	
ADDITIVE BID 2 COMPONENTS	LF	LF	LF	LF	EA	EA	EA	
	3756	144	3900	3900	4	82	86	
TOTAL		11,700				172		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	209	311

10-15-10
 REGISTERED CIVIL ENGINEER DATE
 12-13-10
 PLANS APPROVAL DATE

CHRIS S. GAIDO
 No. C62535
 Exp 12-31-11
 CIVIL

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.

ADDITIVE BID COMPONENTS-2

ADDITIVE BID COMPONENTS-2	LS
"CL1" 764+00 TO 782+00	1

DRAINAGE QUANTITIES

STATION	LOCATION	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
		REMOVE FES	REMOVE CULVERT	MINOR CONCRETE (MINOR STRUCTURE)	18" REINFORCED CONCRETE PIPE (CLASS II, RUBBER GASKET JOINT)	36" PRECAST CONCRETE PIPE INLET	MINOR CONCRETE (BACKFILL)	MISCELLANEOUS IRON AND STEEL	VEGETATION CONTROL (MINOR CONCRETE)
ADDITIVE BID 2 COMPONENTS	"CL1" 763+50 TO 782+00	EA	LF	CY	LF	LF	CY	LB	SQYD
		3	28.4	2.1	65.5	7.79	4.4	708	37.3

MARKER (CULVERT)

DRAINAGE SYSTEM No. AND UNIT No.	ALIGNMENT	STATION	POST MILE	LEFT	MEDIAN	RIGHT	(N)	(N)
							MARKER (CULVERT)	MARKER (CULVERT, CABLE BARRIER MOUNTED)
A3	"CL1"	763+50	10.49	X			1	
A3	"CL1"	763+50	10.49		X			1
A4	"CL1"	769+00	10.60	X			1	
A4	"CL1"	769+00	10.60		X			1
A5	"CL1"	777+00	10.75	X			1	
A5	"CL1"	777+00	10.75		X			1
TOTAL							3	3

ADDITIVE 2 SUMMARY OF QUANTITIES Q-5

P:\proj\2\02\4c401\des\1gm\PS&E\24c401pa006.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 JOHN MARTIN
 FUNCTIONAL SUPERVISOR
 TRAVIS GURNEY
 CHRIS GAIDO
 REVISOR
 DATE
 REVISIONS

NOTE:

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	210	311

10-15-10
 REGISTERED CIVIL ENGINEER DATE

12-13-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 CHRIS S. GAIDO
 No. C62535
 Exp. 12-31-11
 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.

SURVEY MONUMENT (TYPE A)

LOCATION				(N) EA
** "CL1"	764+00	TO	"CL1" 782+00	2
TOTAL				2

** EXACT LOCATION TO BE DETERMINED BY THE ENGINEER

EROSION CONTROL

ITEM	UNIT	QTY
SEED (EROSION CONTROL)	(N) LB	190
FIBER (EROSION CONTROL)	(N) LB	4875
FERTILIZER (EROSION CONTROL)	(N) LB	375
STABILIZING EMULSION	(N) LB	300
EROSION CONTROL (HDYROSEED)	(N) ACRE	1.5

STORM WATER PREVENTION

ITEM	UNIT	QTY
TEMPORARY FIBER ROLL	(N) LF	200
TEMPORARY CONSTRUCTION ENTRANCE	(N) EA	1
TEMPORARY CHECK DAM	(N) LF	70
TEMPORARY DRAINAGE INLET PROTECTION	(N) EA	2
TEMPORARY SOIL BINDER	(N) SQYD	9200
TEMPORARY HYDRAULIC MULCH (POLYMER STABLIZED FIBER MATRIX)	(N) SQYD	3650

ROADSIDE SIGNS

SHEET No.	SIGN No. #-#	SIGN CODE	PANEL SIZE (INCH x INCH)	(N) POST SIZE AND LENGTH (FT)	(N) ROADSIDE SIGN	DESCRIPTION
				METAL POST	ONE POST	
				2 1/2" x 2 1/2"	EA	
PD-15	2-3	W4-2(LT)	48 x 48	14	1	MERGE RIGHT
	2-4	W4-2(LT)	48 x 48	14	1	MERGE RIGHT
	2-6	W9-1	48 x 48	14	1	LEFT LANE ENDS
TOTAL					3	

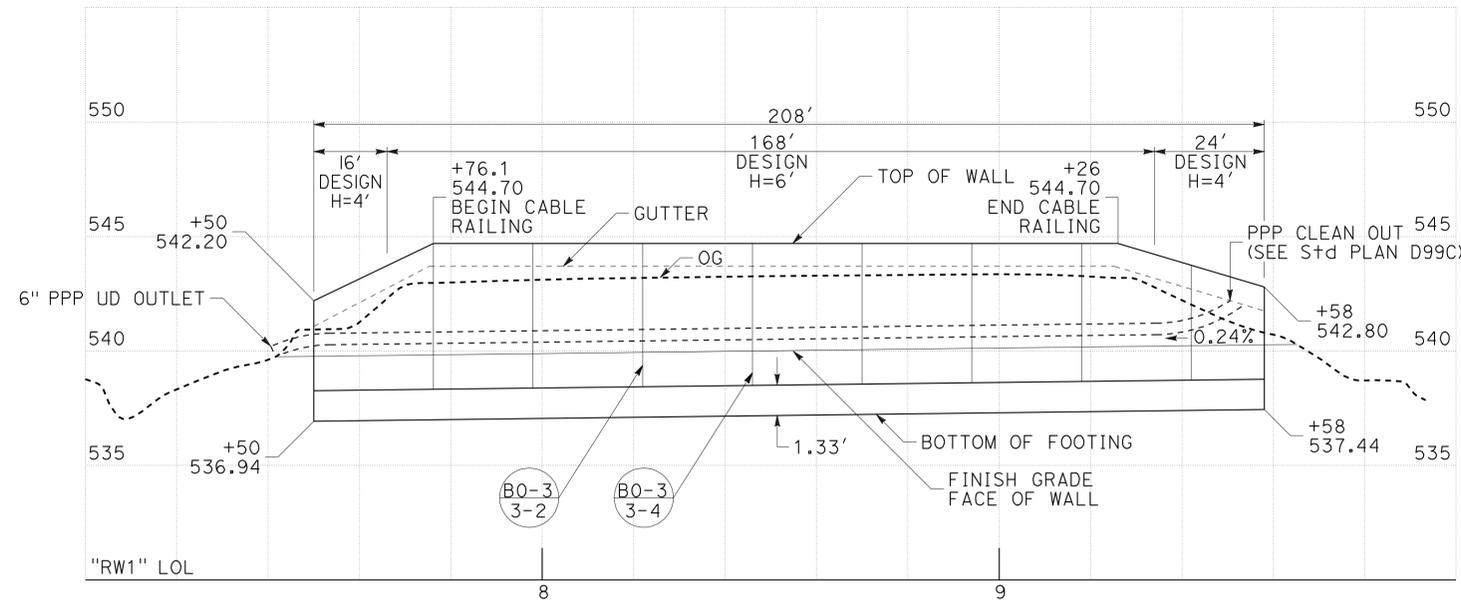
CONTRACTOR FURNISHED SIGNS

No.	SIGN CODE	SIGN SIZE L x D (In x In)	SINGLE FACED	DOUBLE FACED	SIGN FACING MATERIAL				(N) SIGN PANEL SUBSTRATE MATERIAL (SQFT)	DESCRIPTION REMARK
					BACKGROUND		LEGEND		ROADSIDE SINGLE SHEET ALUMINUM (UNFRAMED)	
					SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE		
2-3	W4-2(LT)	48 x 48	X		YELLOW	III	BLACK	II	16	MERGE RIGHT
2-4	W4-2(LT)	48 x 48	X		YELLOW	III	BLACK	II	16	MERGE RIGHT
2-6	W9-1	48 x 48	X		YELLOW	III	BLACK	II	16	LEFT LANE ENDS
TOTAL (SQFT)									48	

ADDITIVE 2
SUMMARY OF QUANTITIES
Q-6

LAST REVISION | DATE PLOTTED => 14-DEC-2010
 08-23-10 | TIME PLOTTED => 11:44

NOTE: CABLE RAILING NOT SHOWN IN THIS VIEW



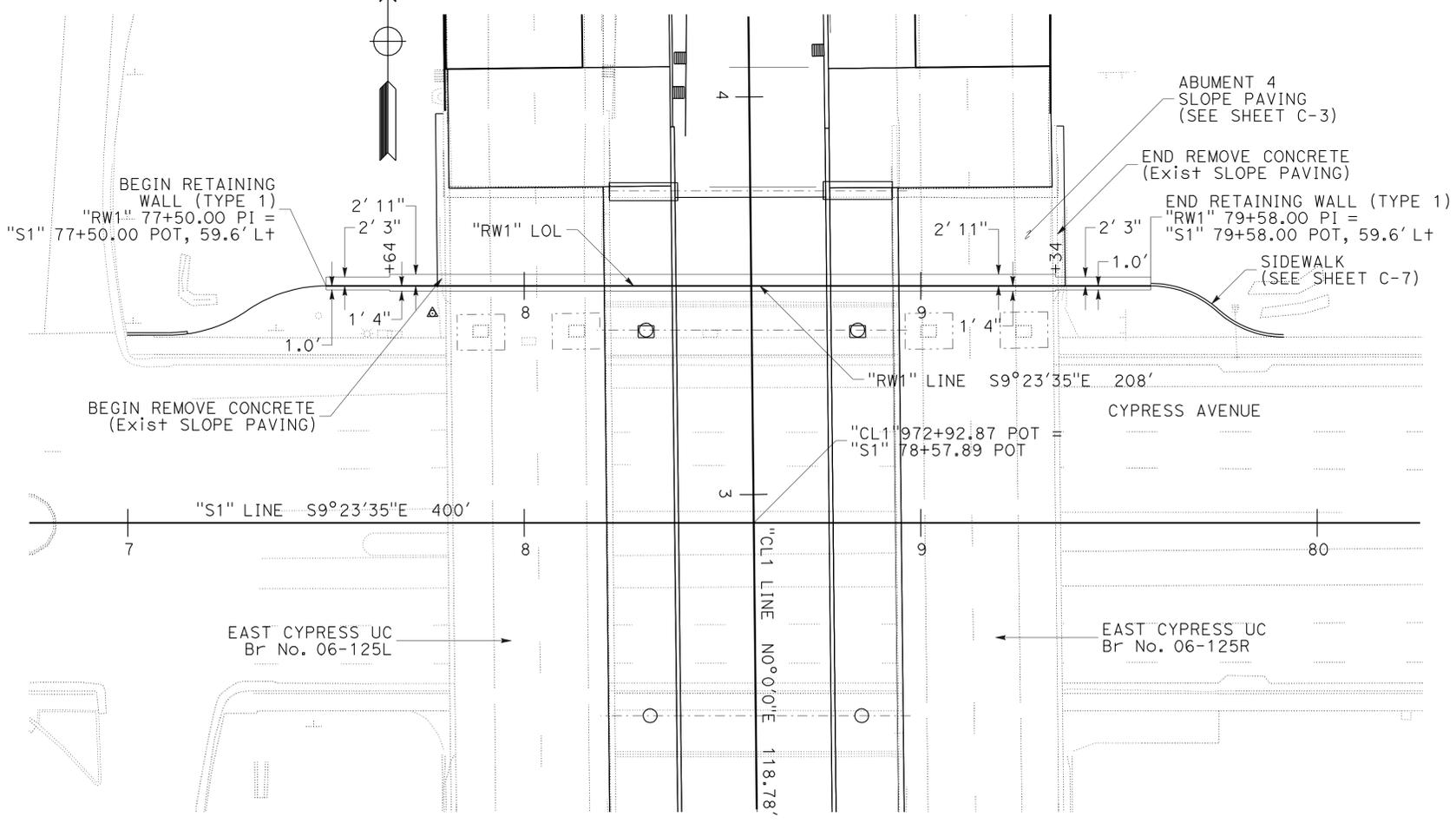
ELEVATION
 SCALE: Horiz 1" = 20'
 Vert 1" = 5'

RETAINING WALL "RW1" QUANTITIES

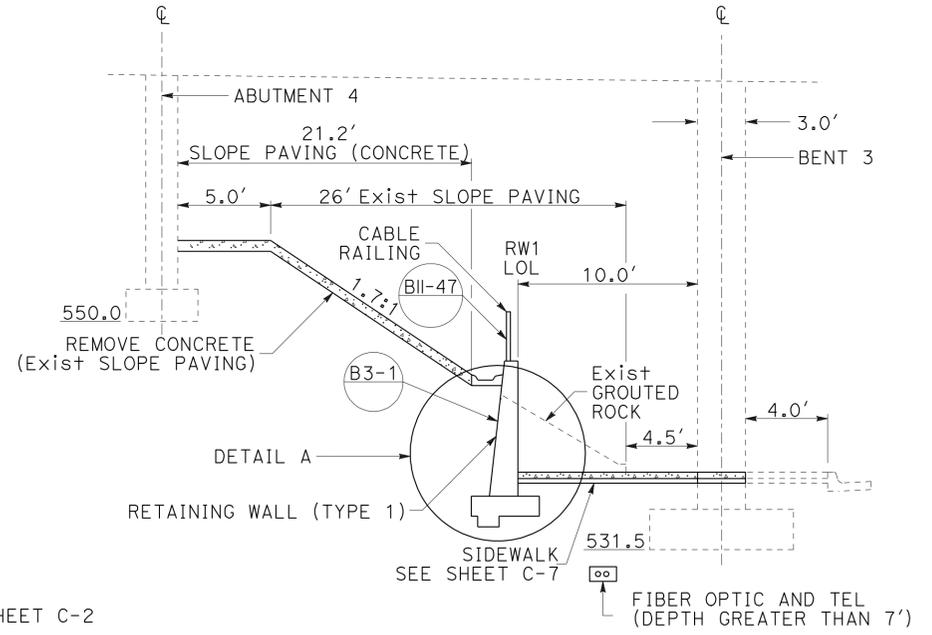
STRUCTURE EXCAVATION (RETAINING WALL)	REMOVE SLOPE PAVING	STRUCTURE BACKFILL (RETAINING WALL)	MINOR CONCRETE (WALL)	SLOPE PAVING (CONCRETE)	ARCHITECTURAL TREATMENT (COBBLESTONE TEXTURE)	BAR REINFORCING STEEL (RETAINING WALL)	FILTER FABRIC	PERMEABLE MATERIAL	CABLE RAILING	6" PPP UD	ANTI-GRAFFITI COATING
CY	CY	CY	CY	CY	SQFT	LB	SQYD	CY	LF	LF	SQFT
298	45	97	92	104*	952	7,830	162#	19#	168	208	952

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE, SEE STRUCTURES PLANS.
 # ADDITIONAL QUANTITIES SHOWN ELSEWHERE, SEE DQ-32 AND DQ-33 FOR TOTAL QUANTITY.

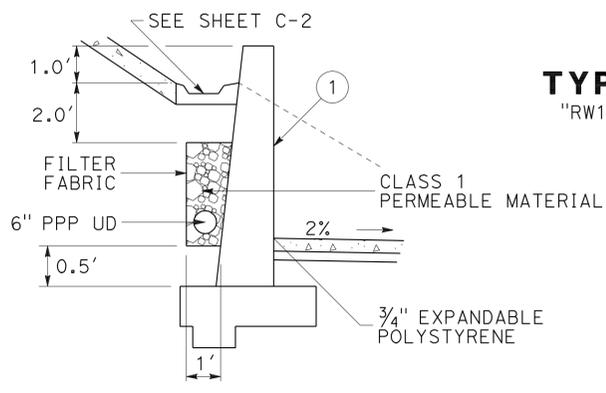
- NOTES:**
- FOR ARCHITECTURAL DETAILS SEE SHEET R-2.
 - ABUTMENT 1 DETAILS SHOWN ON STRUCTURE PLANS.
- LEGEND**
- STANDARD PLAN SHEET No.
 - DETAIL No.
 - 1 ARCHITECTURAL TREATMENT (COBBLESTONE TEXTURE)



PLAN
 SCALE: 1" = 20'



TYPICAL SECTION
 "RW1" 77+50.00 TO 79+58.00
 NO SCALE



DETAIL A
 NO SCALE

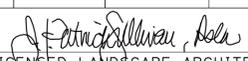
RETAINING WALL RW1
RETAINING WALL PLAN
 SCALE AS SHOWN

C. GAIDO 11-18-10
 MICHAEL SULLIVAN
 JOHN MARTIN
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 USERNAME => frrmnguye
 DGN FILE => 24c401qa001.dgn
 BORDER LAST REVISED 7/2/2010
 RELATIVE BORDER SCALE IS IN INCHES
 UNIT 0315
 PROJECT NUMBER & PHASE
 02000004581

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY

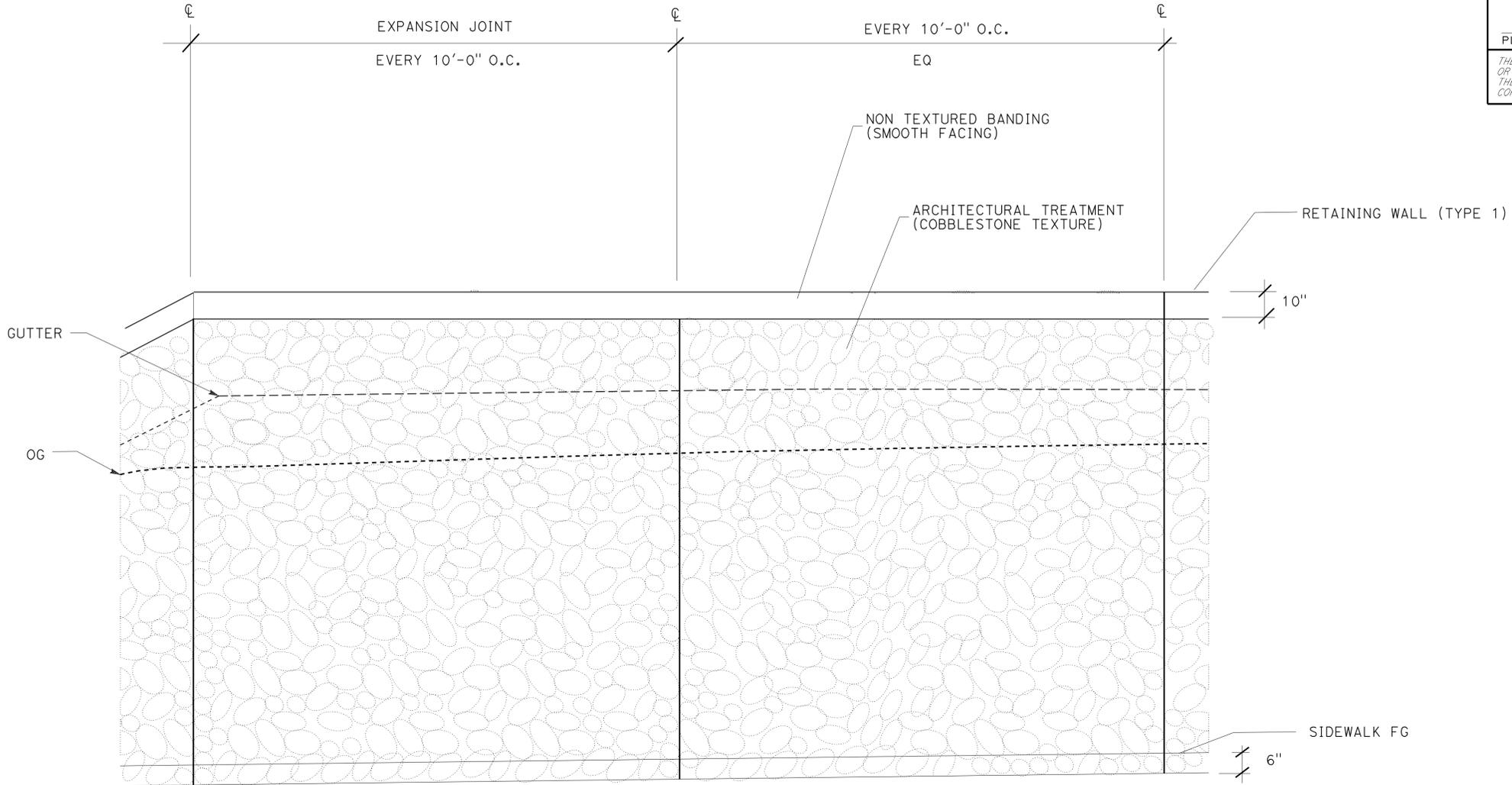
LAST REVISION DATE PLOTTED => 14-DEC-2010
 10-11-10 TIME PLOTTED => 11:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	213	311

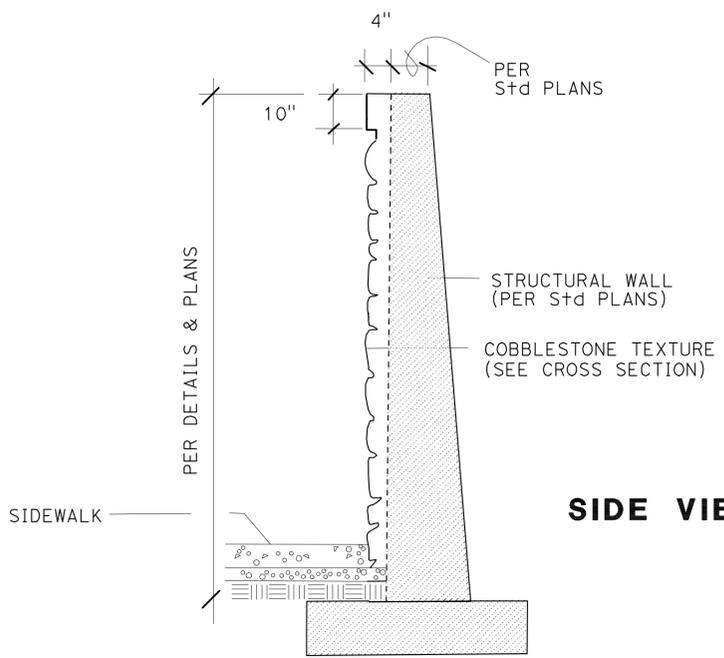
 LICENSED LANDSCAPE ARCHITECT		
12-13-10 PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>		

NOTES:

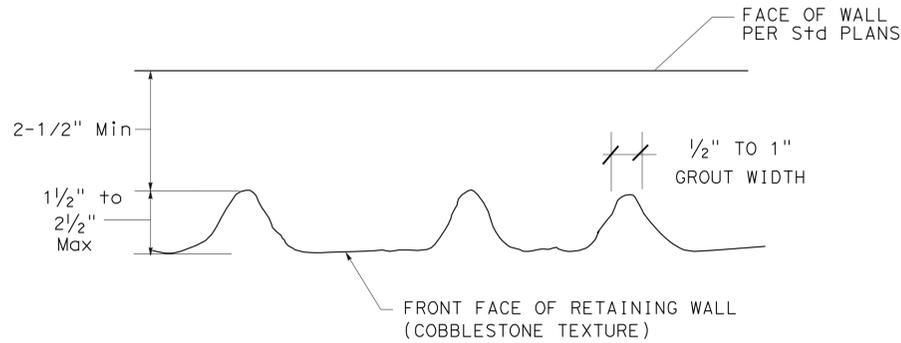
- CABLE RAILING NOT SHOWN IN THIS VIEW
- COBBLESTONE TEXTURE SHALL EXTEND 6" BELOW FG.



ELEVATION
NO SCALE
REFER TO SHEET R-1



SIDE VIEW



CROSS SECTION
COBBLESTONE TEXTURE

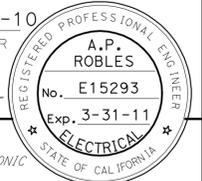
**RETAINING WALL RW1
RETAINING WALL DETAILS
ARCHITECTURAL TREATMENT
R-2**

THIS SHEET ACCURATE FOR LANDSCAPE WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	LANDSCAPE ARCHITECTURE	SENIOR LANDSCAPE ARCHITECT	CALCULATED-DESIGNED BY	REVISOR	DATE
		RON FLORY	RON FLORY	J. PATRICK SULLIVAN	12-13-10
			CHECKED BY		

LAST REVISION DATE PLOTTED => 14-DEC-2010 TIME PLOTTED => 11:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	214	311
ART		10-15-10			
REGISTERED ELECTRICAL ENGINEER					
12-13-10					
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>					



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

NOTES: (SHEETS E-1 AND E-2)

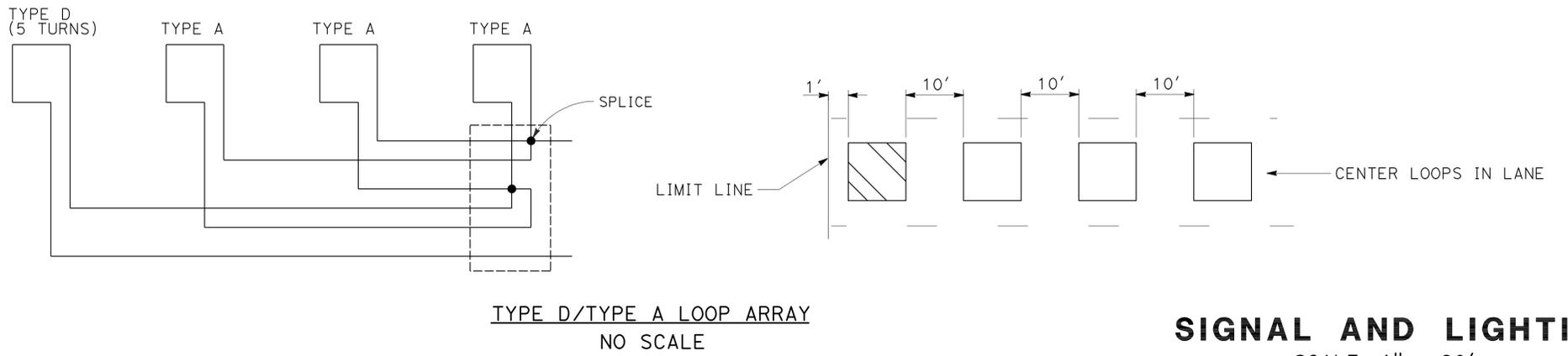
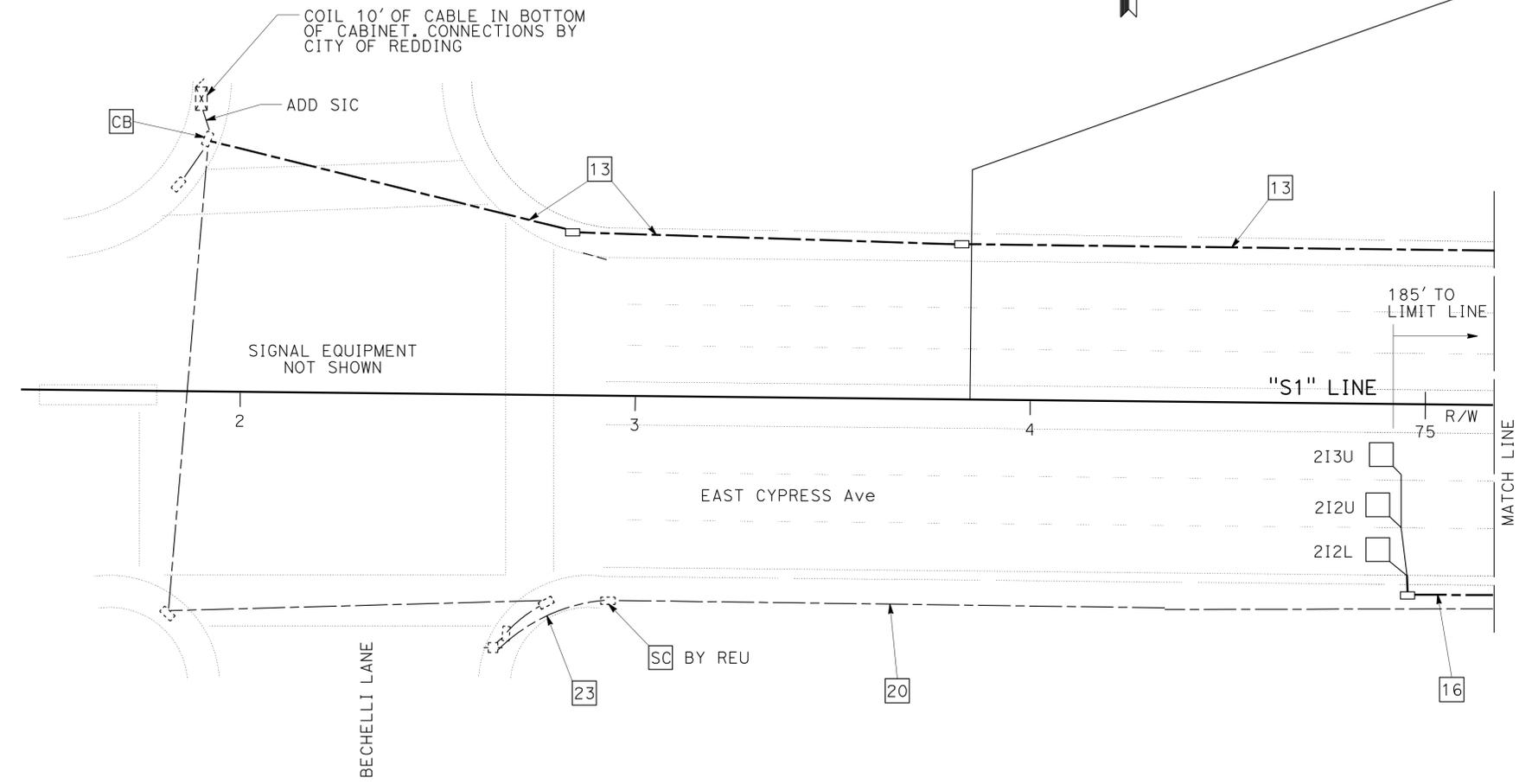
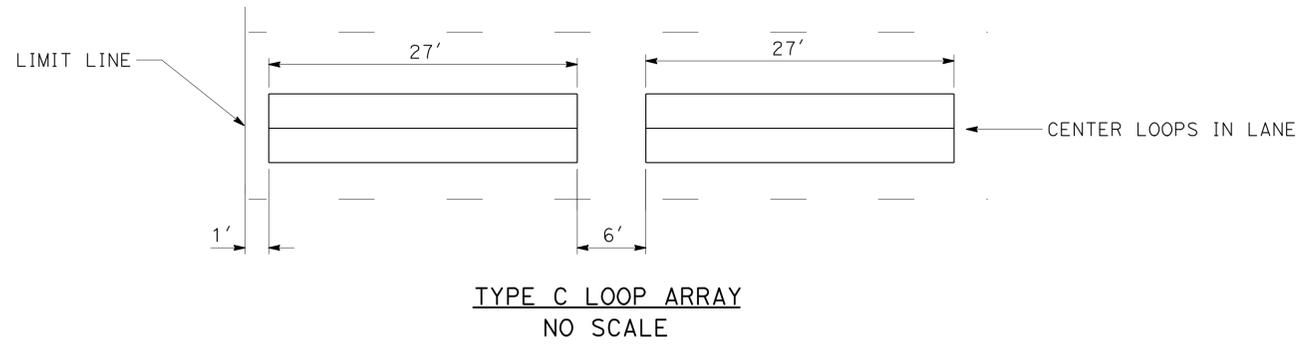
- 1 TYPE III-AF SERVICE EQUIPMENT ENCLOSURE. SEE WIRING DIAGRAM, SHEET E-6. CALTRANS ID No. 0206005R014450.
- 2 TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITHOUT METERING SECTION (SUBPANEL). SEE WIRING DIAGRAM, SHEET E-6.
- 3 INSTALL STATE-FURNISHED TRAFFIC SIGNAL CONTROL ASSEMBLY WITH BATTERY BACKUP SYSTEM (BBS). PROVIDE BBS ENCLOSURE AND BATTERIES. SEE SHEETS E-13 AND E-14.
- 4 INSTALL STATE-FURNISHED SYSTEM MASTER CONTROLLER CABINET.
- 5 2"C, 2#6 (SIGNAL), 2#8 (SYSTEM MASTER), 1#6 G.
- 6 2"C, 2#6 (SIGNAL), 1#6 G.
- 7 2"C, 2#8 (SYSTEM MASTER), 1#8 G.
- 8 3"C, 3 SIC.
- 9 3"C, 11 DLC, SIC.
- 10 3"C, 11 DLC, 2 SIC.
- 11 2"C, 3#6 (SUBPANEL), 2#8 (LTG), 1#6 G.
- 12 2"C, 1 DLC, SIC.
- 13 1 1/2"C, SIC.
- 14 1 1/2"C, 2#6 (NB SIGNAL), 2#8 (LTG), 1#6 G.
- 15 1 1/2"C, 2#6 (NB SIGNAL), 2#8 (LTG), 1#6 G. 1 1/2"C, SIC.
- 16 1 1/2"C, 3 DLC.
- 17 THESE PULL BOXES ALSO USED FOR SOFFIT LIGHTING. SEE SHEET E-7.
- 18 1 1/2"C, 2#8 (LTG), 3 DLC, 1#8 G.
- 19 2"C, 2#8 (LTG), 7 DLC, 1#8 G.
- 20 EXISTING 2"C, INSTALL 1/0 TRIPLEX (2-1/0 AND 1#2 XLP-USE)
- 21 2"C, 1/0 TRIPLEX (2-1/0 AND 1#2 XLP-USE)
- 22 2"C, 3#6 (SUBPANEL), 2#6 (NB RAMPS SIGNAL), 2#8 (NB RAMPS LTG), 1#6 G.
- 23 Exist 4"C, INSTALL 3#1/0 (SERVICE).
- 24 1 1/2"C, 6 DLC.

LEGEND:

- Exist LOOP/AXLE SENSOR ARRAY
- LOOP/AXLE SENSOR ARRAY
- OBJECT MARKER (TYPE PB) AND PULL BOX PAVING, SEE DETAIL ON E-12
- Exist SPLICE VAULT

ABBREVIATIONS:

- cab - CABINET
- COR - CITY OF REDDING
- FOHDPE - FIBER OPTIC HIGH DENSITY POLYETHYLENE
- REU - REDDING ELECTRIC UTILITY
- STC - SCREENED TRANSMISSION CABLE



SIGNAL AND LIGHTING
SCALE: 1" = 20'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 ELECTRICAL DESIGN
 ARTURO ROBLES
 JAMES M. HANNIGAN
 ROB STINGER
 11-5-10
 16:14

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

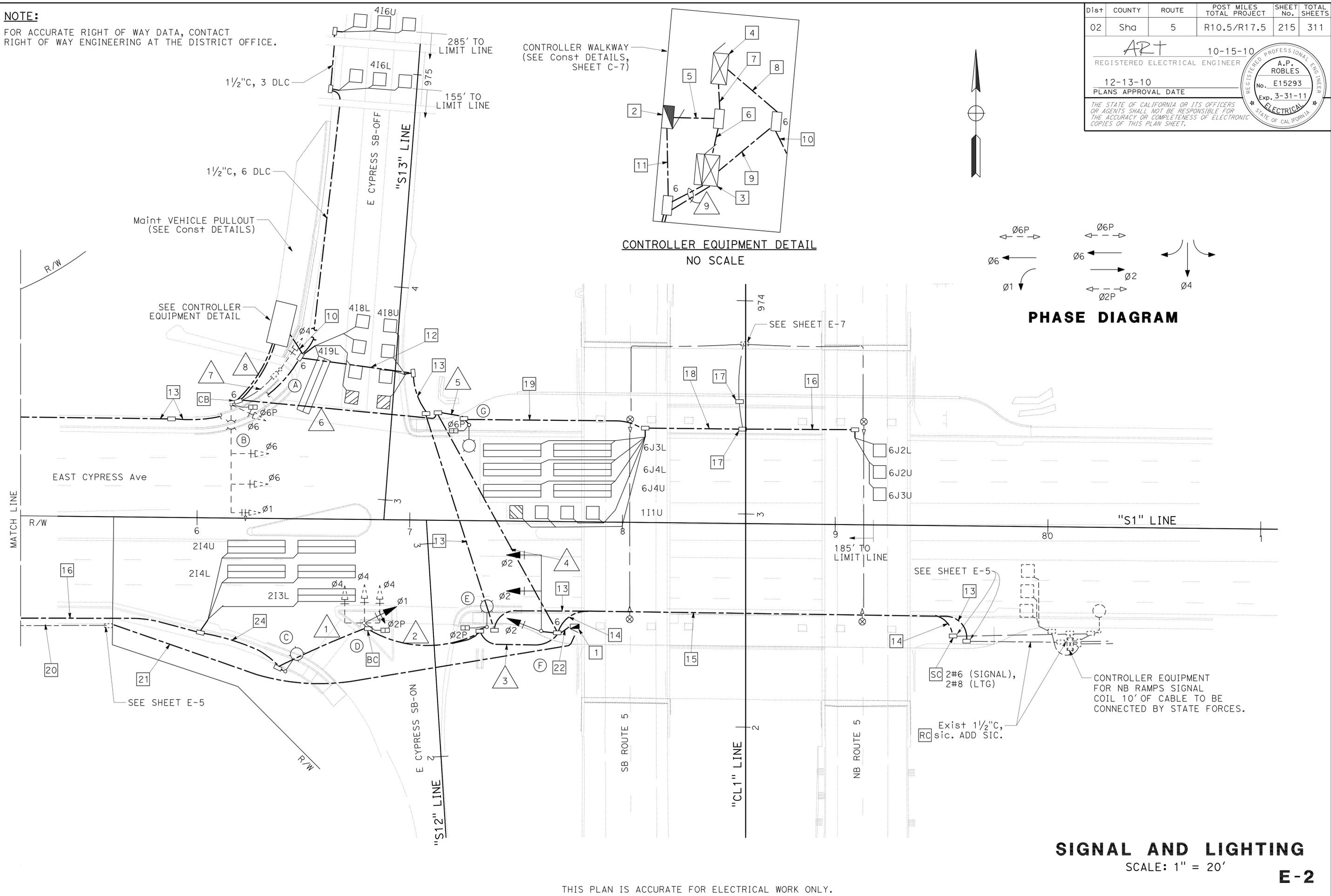
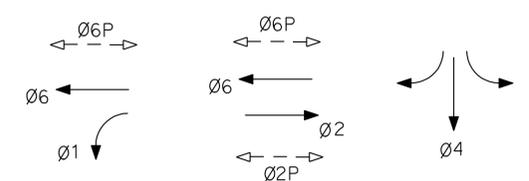
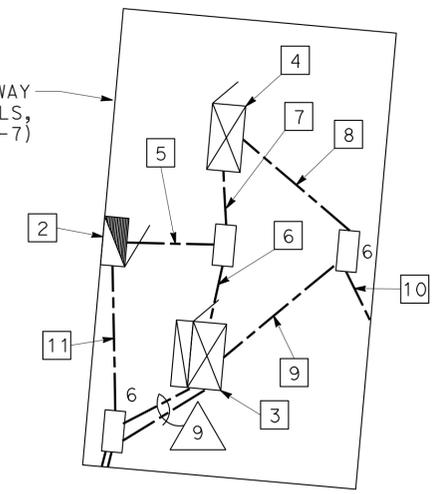
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	215	311

ART 10-15-10
 REGISTERED ELECTRICAL ENGINEER
 12-13-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 A.P. ROBLES
 No. E15293
 Exp. 3-31-11
 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.



SIGNAL AND LIGHTING
 SCALE: 1" = 20'
E-2

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS TO BE MAINTAINED

TYPE	Co-Rte-PM	DESCRIPTION
FIBER OPTIC	Sha-05-PM R11.20/R17.50	IN MEDIAN
CCTV	Sha-05-PM R12.15	S BONNYVIEW Rd OC
CCTV	Sha-05-PM R13.9	HARTNELL Ave OC
CCTV	Sha-05-PM R15.42	ROUTE 5/44 Sep
EQUIPMENT HOUSE	SHA-05-PM R15.5	SW QUADRANT OF ROUTE 5/44 Sep
HAR	Sha-05-PM R16.13	HILLTOP Dr W OF HILLTOP Dr OC
CCTV	Sha-05-PM R17.30	ROUTE 5/299 Sep

EXISTING TRAFFIC MONITORING STATIONS TO BE PROTECTED IN PLACE

ID No.	LOCATION	TYPE	DESCRIPTION	EQUIPMENT
R210	Sha-5-R12.114	RAMP	S BONNYVIEW NB OFF-RAMP (200' S OF CHURN CR Rd CL)	2 LOOPS
R214	Sha-5-R14.37	RAMP	CYPRESS St NB OFF-RAMP (480' S OF CYPRESS St CL)	3 LOOPS
R216	Sha-5-R14.64	RAMP	CYPRESS St SB OFF-RAMP (943' N OF CYPRESS St CL)	1 LOOP
R217	Sha-5-R14.62	RAMP	CYPRESS St NB ON-RAMP (834' N OF CYPRESS St CL)	1 LOOP
R1	Sha-5-R15.71	RAMP	NB Conn TO WB ROUTE 44	1 LOOP
R4	Sha-5-R15.39	RAMP	SB Conn TO EB ROUTE 44 (77' FROM END OF PAVED GORE)	1 LOOP
R5	Sha-5-R15.71	RAMP	SB Conn TO WB ROUTE 44	1 LOOP
R6	Sha-5-R17.231	RAMP	ROUTE 299/LAKE Blvd SB ON-RAMP	2 LOOPS

CONDUCTOR AND CONDUIT SCHEDULE

CONDUCTOR	CONDUCTOR RUN	CONDUIT RUN															
		1	2	3	4	5	6	7	8	9							
3CSC PPB	(A) 4								1	1	1						
	(B) 6	6P,1,6							1	1	1						
	(C) 2	2P,1,4	1	1	1	1	1	1	1	1	1						
	(D) 2	2P		1	1	1	1	1	1	1	1						
12CSC VEH	(E) 2								1	1	1						
	(F) 2								1	1	1						
	(G) 6	6P							1	1	1						
TOTAL			1	1	2	2	2	3	1	1	3	4	1	4	6	4	6
No. 6 AWG	SUBPANEL					3				3				3			
No. 6 AWG	LIGHTING		2	2	2			2		2				2			
No. 8 AWG	SB SIGNAL																2
DLC	Ø1							2		2				2			2
	Ø2		6	6	6	6				6				6			6
	Ø4*																
	Ø6							6		6				6			6
TOTAL			6	6	6	6		8		14			14			14	14
CONDUIT SIZE			2"	3"	3"	4"		3"		4"			(E)	2-4"		2-4"	

* SEE NOTES 9 AND 10, SHEET E-1.
(E) - Exist

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL MTG	PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	TYPE	SMA	LMA	MAST ARM	POLE		Ø	ARROW		
(E) (A)	1-B				TP-1-T					
(E) (B)	29-5-80	50'	15'	MAT (2) MAS	SV-1-T	SP-1-T (N)	6 (N)	→ (N)	200 W	
(E) (C)	15		12'							
(E) (D)	33	10', 15'		MAS (2)	SV-2-TB (N)	SP-1-T (N)	2 (N)	← (N)		
(E) (E)	15TS		12'			SP-1-T	2	→	200 W	
(E) (F)	23-3-100	35'		MAS (2)	SV-1-T					
(E) (G)	15TS		12'			SP-1-T	6	←	200 W	

(E) - Exist
(N) - NEW

SIGNAL AND LIGHTING E-3

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 ARTURO ROBLES
 JAMES M. HANNIGAN
 ROB STINGER
 REVISIONS: 10-20-10 DATE PLOTTED => 17-DEC-2010 TIME PLOTTED => 10:12

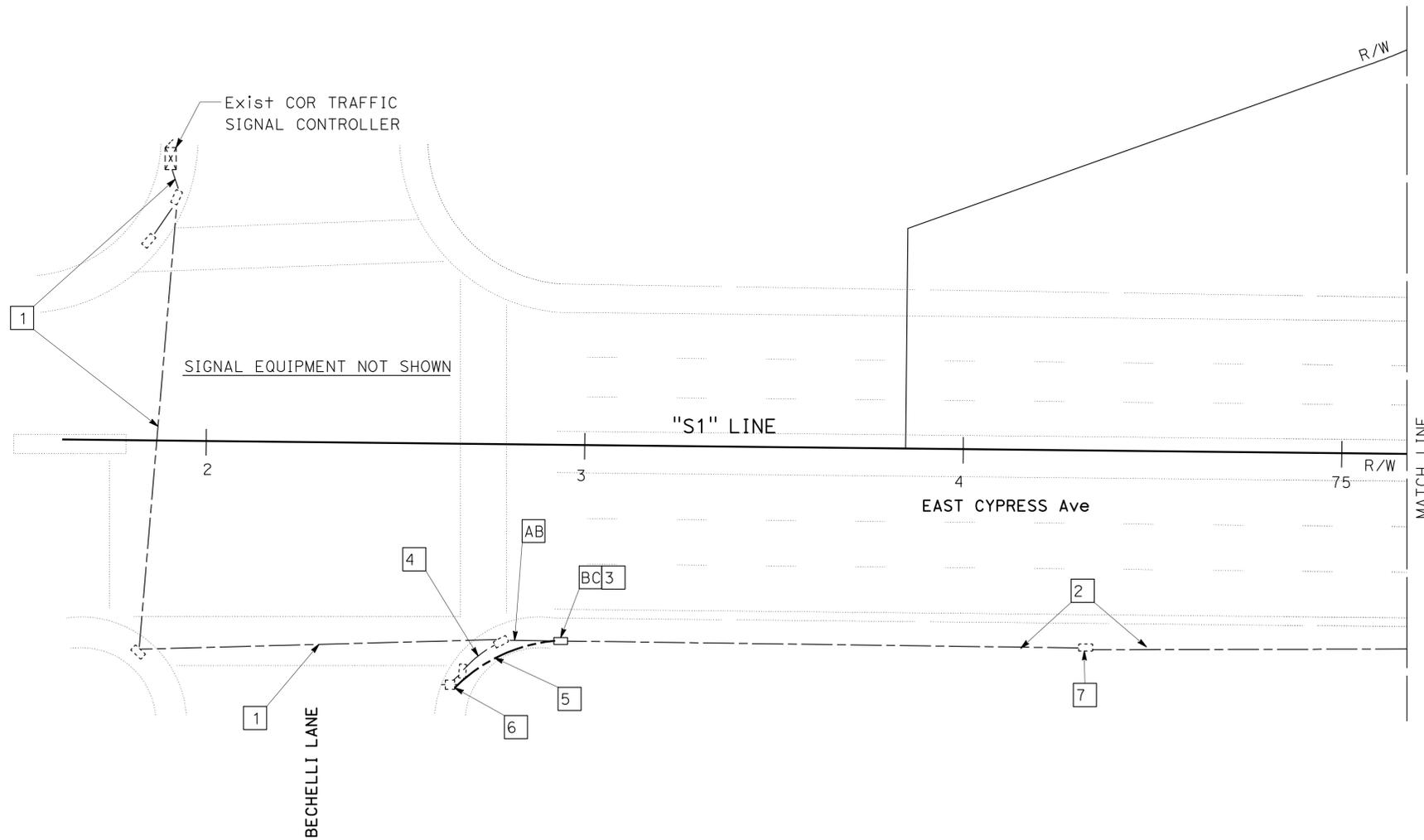
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	217	311
ART			10-15-10		
REGISTERED ELECTRICAL ENGINEER			A.P. ROBLES		
12-13-10			No. E15293		
PLANS APPROVAL DATE			Exp. 3-31-11		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>					

NOTE:

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

NOTES (THIS SHEET):

- 1 RC sic FROM SIGNAL CONDUIT.
- 2 Exist 2"C TO REMAIN. RC sic, 2#10, AND 3#2.
- 3 PROVIDE REU 2E BOX.
- 4 RC 3#2. SIGNAL SERVICE, LIGHTING CONDUCTORS (BECELLI Ln) TO REMAIN.
- 5 4"C, MT.
- 6 INTERCEPT CONDUIT SWEEP AT BASE OF POLE.
- 7 RC PB. JOIN CONDUITS.



SIGNAL AND LIGHTING (REMOVAL)

SCALE: 1" = 20'

E - 4

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	ARTURO ROBLES	REVISOR	DATE
Caltrans ELECTRICAL DESIGN	JAMES M. HANNIGAN	DESIGNER	
FUNCTIONAL SUPERVISOR		CHECKED BY	
ROB STINGER		DESIGNED BY	

LAST REVISION | DATE PLOTTED => 17-DEC-2010 07-26-10 TIME PLOTTED => 10:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	220	311

ART 10-15-10	
REGISTERED ELECTRICAL ENGINEER	
12-13-10	
PLANS APPROVAL DATE	

A.P. ROBLES	
No. E15293	
Exp. 3-31-11	

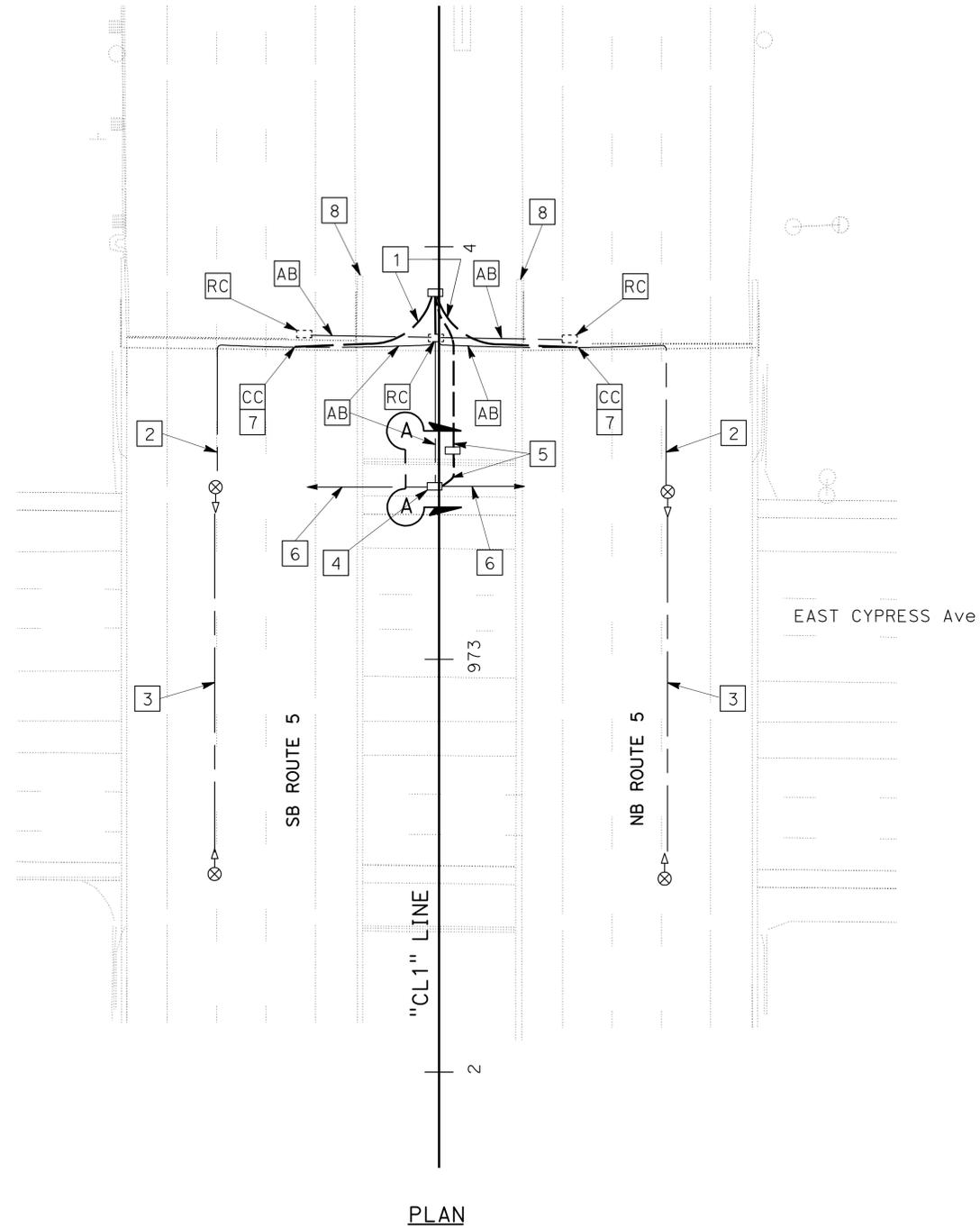
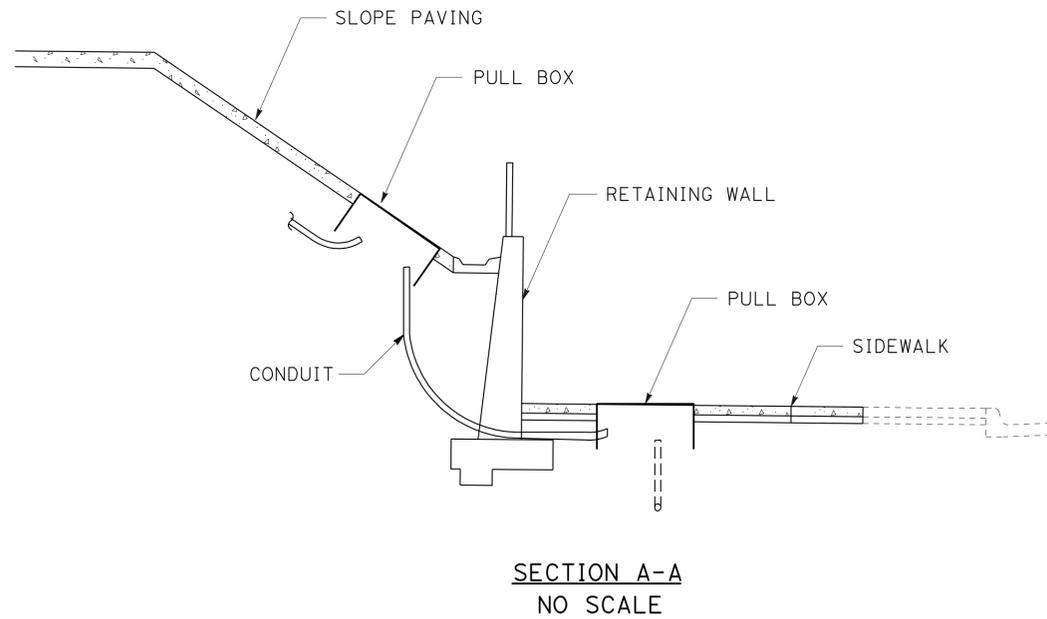
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

NOTE:

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

NOTES: (THIS SHEET)

- 1 1/2"C, 4#10, #10 G.
- 2 Exist 1/2"C, REPLACE 4#10, ADD 1#10 G.
- 3 Exist 1/2"C, REPLACE 2#10, CONTINUE 1#10 G.
- 4 SEE SIGNAL AND LIGHTING PLAN, SHEET E-2.
- 5 1/2"C, 2#8, 1#8 G.
- 6 SEE SIGNAL AND LIGHTING PLAN.
- 7 LOCATE CONDUIT OUTSIDE EXISTING WINGWALL. CUT AND CAP CONDUIT, LEAVING 1' EXPOSED. PROTECT DURING EXCAVATION. CONNECT NEW CONDUIT, EXTENDING IT THROUGH EMBANKMENT AND NEW WINGWALL, TO NEW PULL BOX.
- 8 NEW WING WALL. SEE BRIDGE PLANS.



LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 20'

E-7

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

P:\proj\2\02\4c401\des\1gn\PS&E\24c401\ua007.dgn

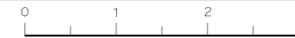
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR
ROB STINGER

CALCULATED, DESIGNED BY
CHECKED BY

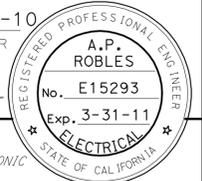
ARTURO ROBLES
JAMES M. HANNIGAN

REVISED BY
DATE REVISED



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	222	311

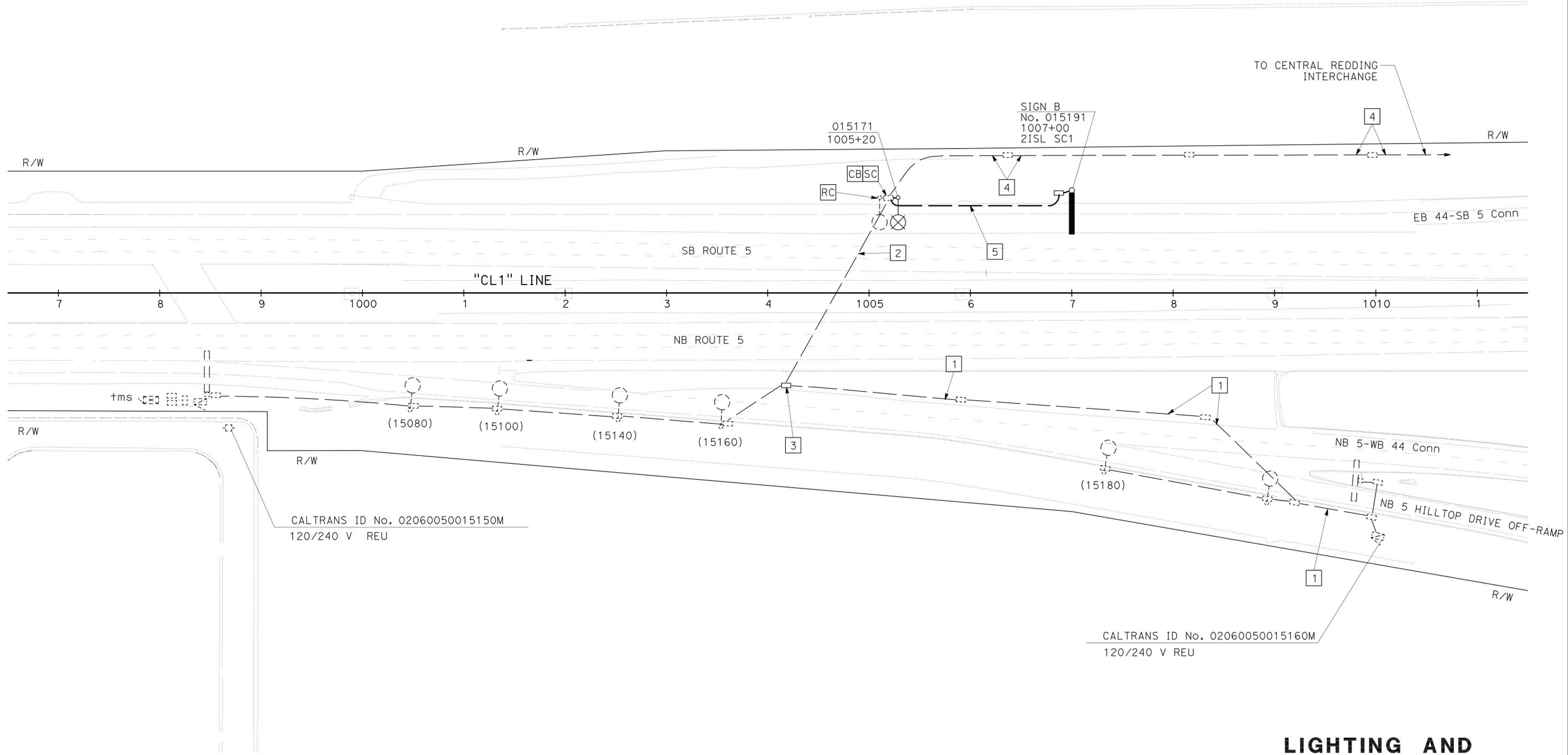
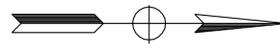
ART		10-15-10
REGISTERED ELECTRICAL ENGINEER		
12-13-10		PLANS APPROVAL DATE
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>		



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

NOTES (THIS SHEET):

- 1 EXISTING 1½"C, 2#2/0. ADD 2#14 (TEST SWITCH).
- 2 EXISTING 1½"C, 2#1/0. ADD 2#14 (TEST SWITCH).
- 3 REPLACE PB WITH No. 5(T) PB.
- 4 EXISTING 1½"C, 2#1.
- 5 1½"C, 2#6, 2#14 (TEST SWITCH), 1#6 G.



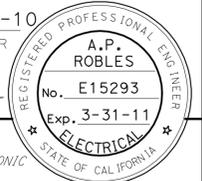
LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 20' **E-9**

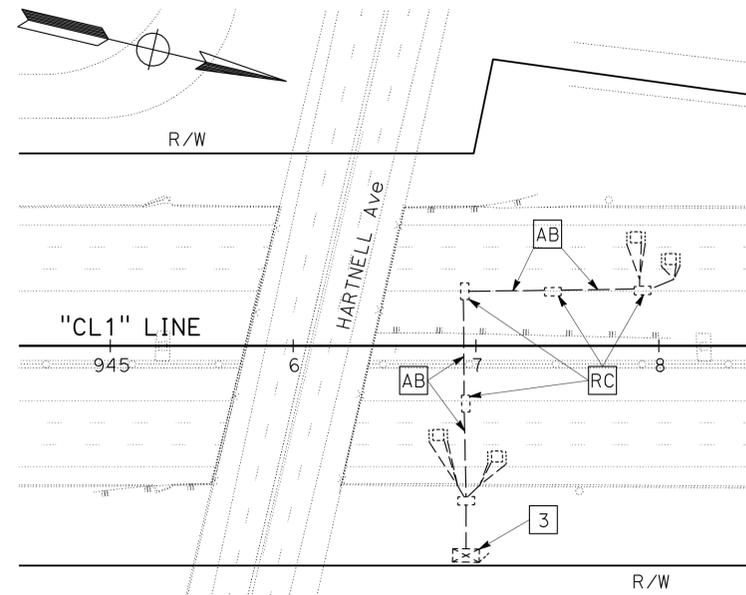
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	223	311
ART			10-15-10		
REGISTERED ELECTRICAL ENGINEER					
12-13-10					
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>					



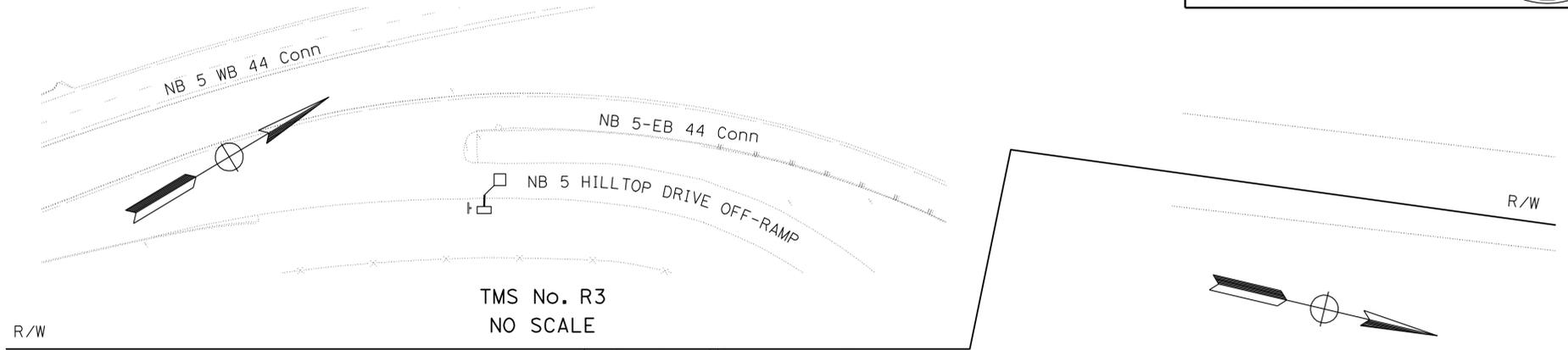
NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



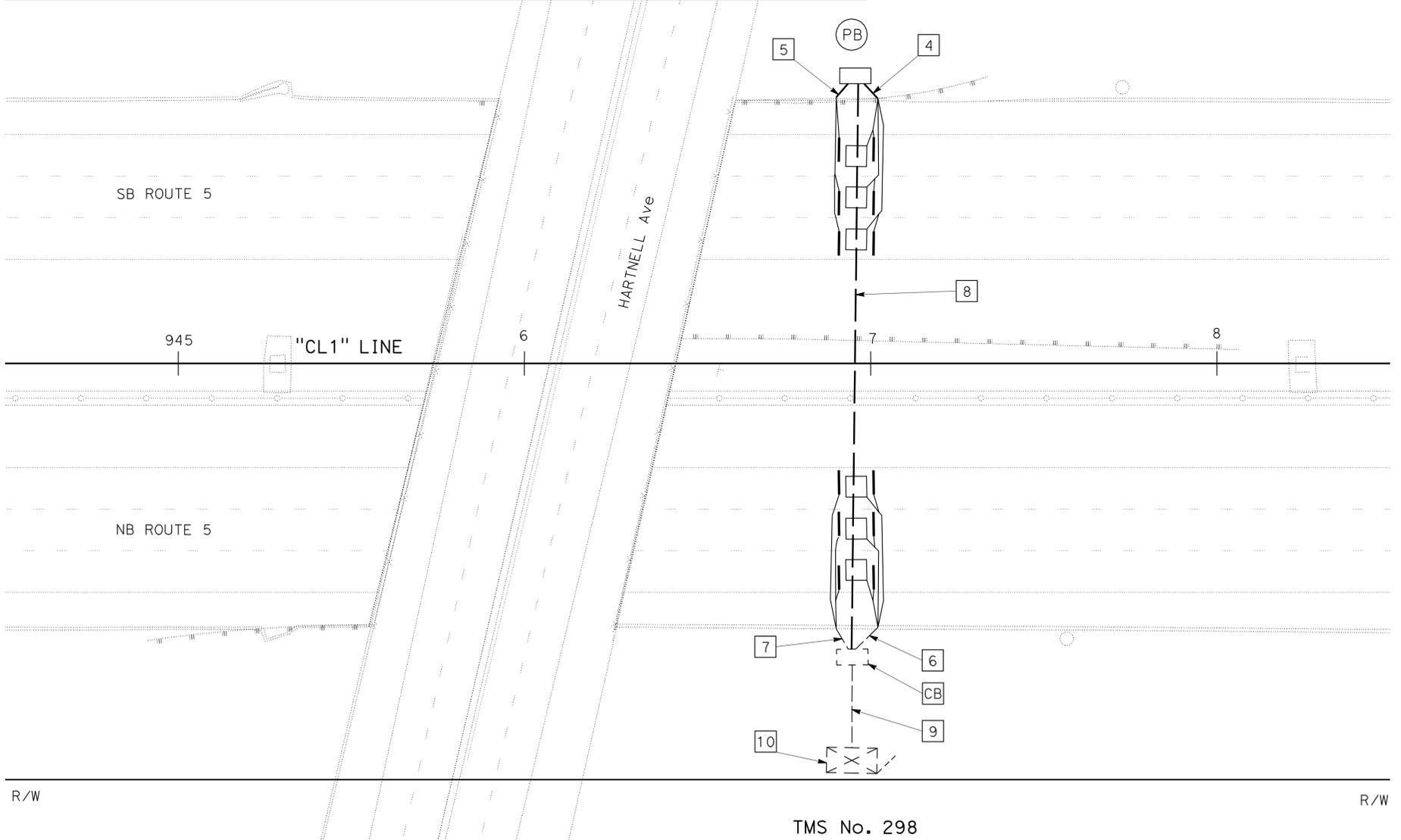
TMS No. 298
REMOVAL PLAN
SCALE: 1" = 50'

NOTES (THIS SHEET):

1. [AB] Exist LOOP/AXLE SENSOR ARRAYS.
2. EXACT LOCATION OF LOOP/AXLE SENSOR ARRAYS WILL BE DETERMINED BY THE ENGINEER.
3. TMS CABINET TO REMAIN.
4. 2"C, LOOP CONDUCTORS, 3 STC.
5. 2"C, 3 STC.
6. Exist 2"C, REPLACE Exist CABLES WITH LOOP CONDUCTORS, 3 STC.
7. Exist 2"C, REPLACE Exist CABLES WITH 3 STC.
8. 2"C, 3 DLC, 6 STC.
9. Exist 2"C, REPLACE Exist CABLES WITH 6 DLC, 12 STC.
10. COIL 10' OF CABLES IN CABINET.
11. SEE AXLE SENSOR INSTALLATION DETAILS, SHEET E-11.



TMS No. R3
NO SCALE



TMS No. 298

PLAN
SCALE: 1" = 20'

TRAFFIC MONITORING STATION
SCALE: AS SHOWN
E-10

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ROB STINGER
 CALCULATED/DESIGNED BY: JAMES M. HANNIGAN
 CHECKED BY:
 REVISED BY: ARTURO ROBLES
 DATE REVISED:
 USERNAME => rrmikesl
 DGN FILE => 24c401ua010.dgn
 BORDER LAST REVISED 7/2/2010



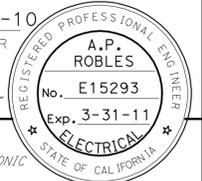
UNIT 0147

PROJECT NUMBER & PHASE

02000004581

LAST REVISION DATE PLOTTED => 17-DEC-2010
 07-26-10 TIME PLOTTED => 10:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	224	311
			ART 10-15-10		
			REGISTERED ELECTRICAL ENGINEER		
			12-13-10		
			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>					

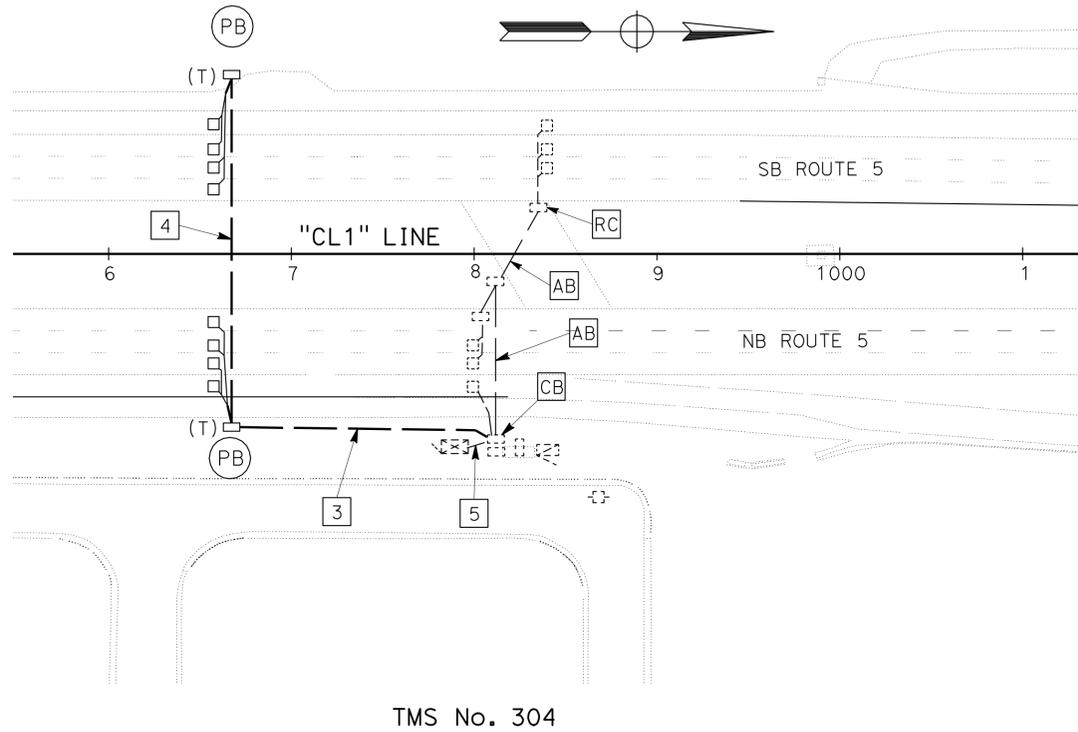


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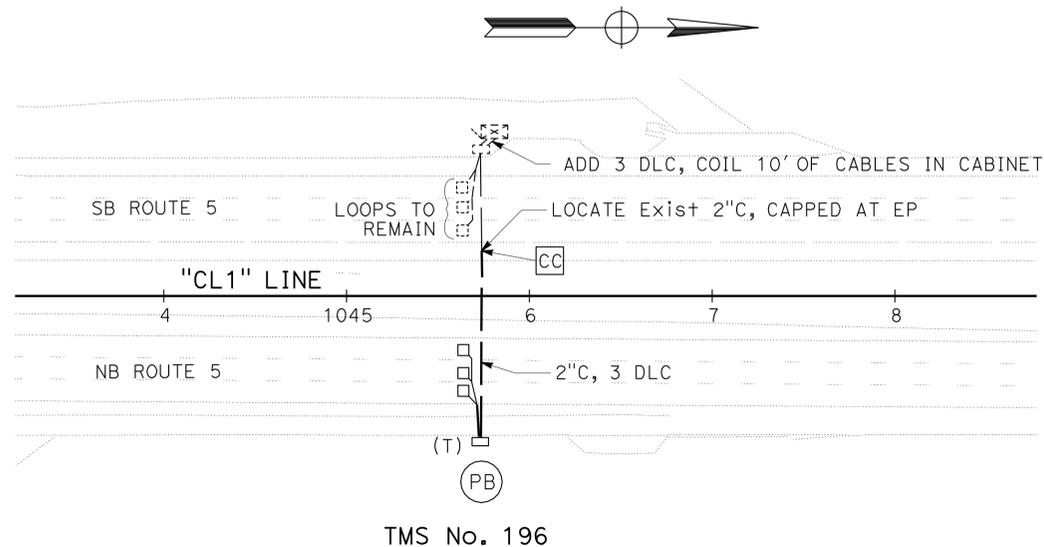
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

NOTES (THIS SHEET):

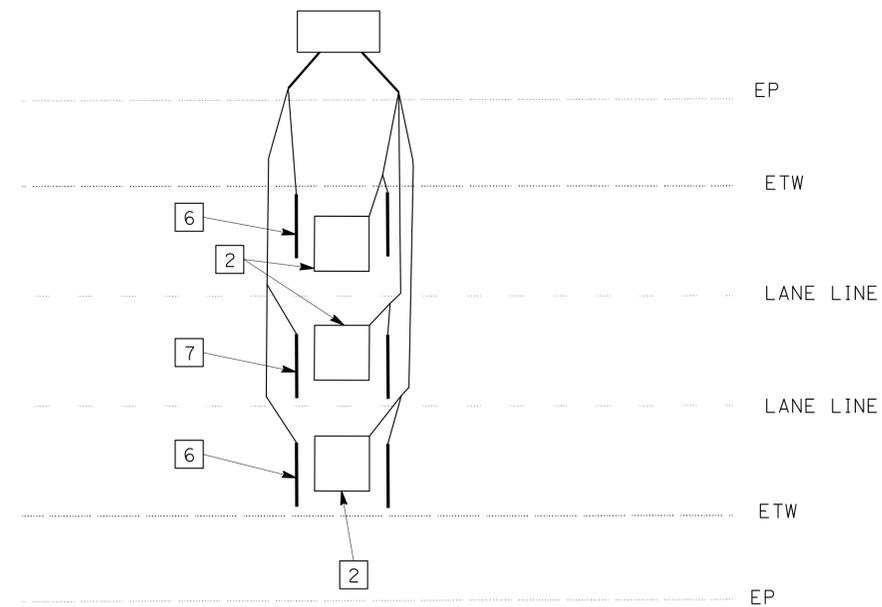
1. [AB] Exist LOOPS UNLESS OTHERWISE SHOWN.
2. CENTER TYPE A LOOP IN LANE.
3. 2" C, 8 DLC.
4. 2" C, 4 DLC.
5. Exist 3" C, REPLACE 6 dlc WITH 8 DLC.
6. INSTALL AXLE SENSOR 2' FROM LOOP AND 2" FROM ETW.
7. INSTALL AXLE SENSOR 2' FROM LOOP AND 2" FROM LANE LINE.



TMS No. 304



TMS No. 196



AXLE SENSOR INSTALLATION
NO SCALE

TRAFFIC MONITORING STATION
SCALE: 1" = 50'
E-11

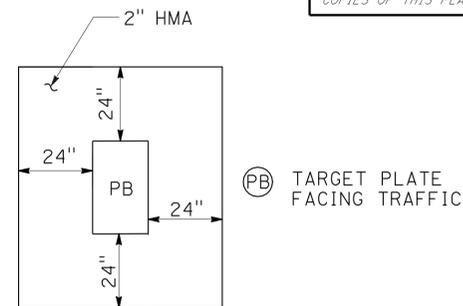
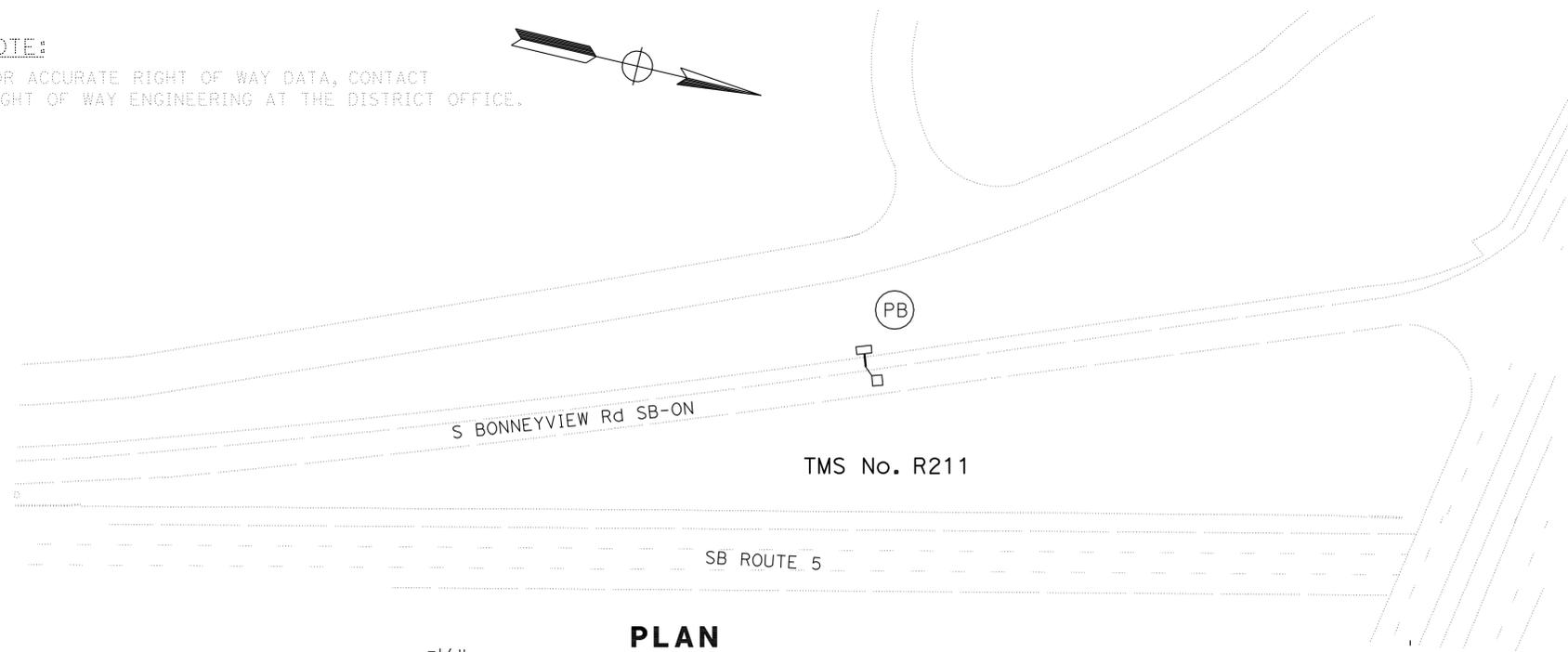
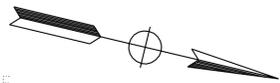
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 ARTURO ROBLES
 JAMES M. HANNIGAN
 ROB STINGER
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

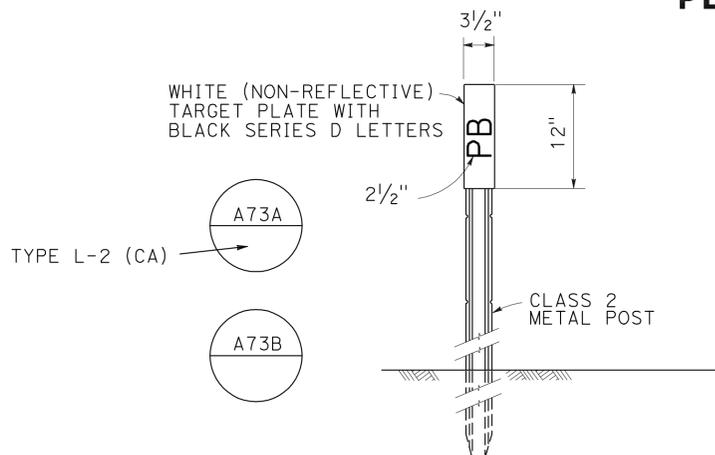
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	225	311
ART			10-15-10		
REGISTERED ELECTRICAL ENGINEER			A.P. ROBLES		
12-13-10			No. E15293		
PLANS APPROVAL DATE			Exp. 3-31-11		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>					

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



PULL BOX PAVING
NO SCALE

PLAN

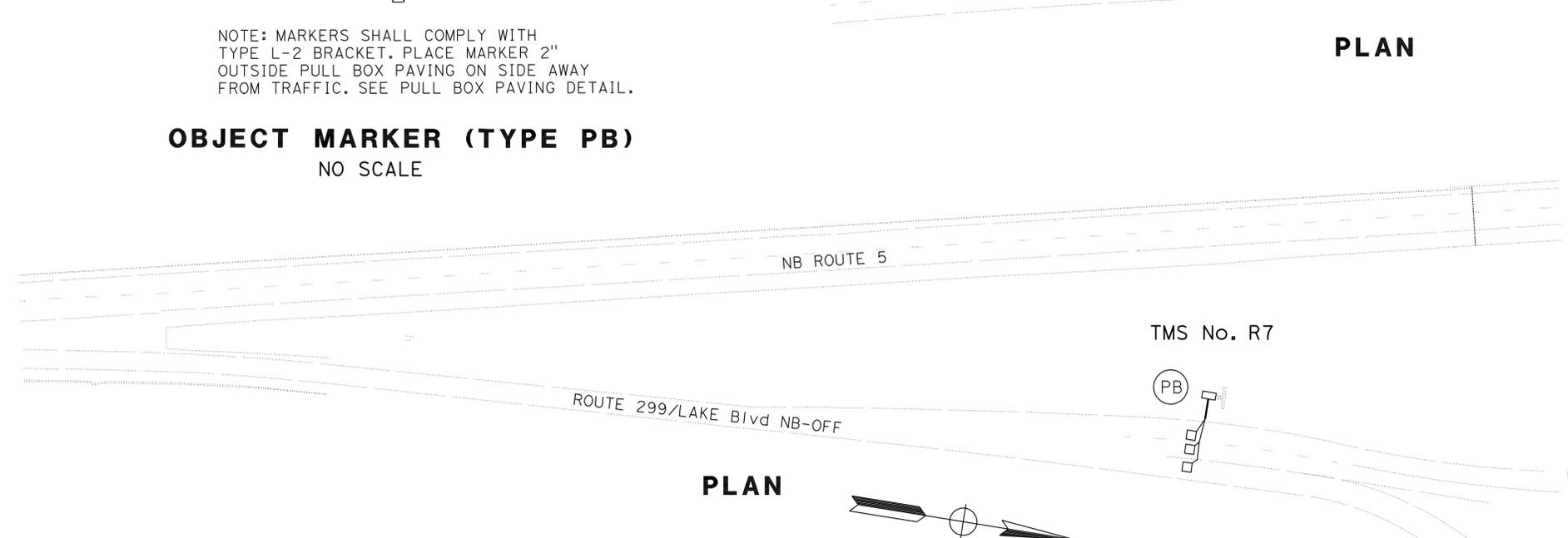
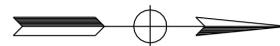


NOTE: MARKERS SHALL COMPLY WITH
TYPE L-2 BRACKET. PLACE MARKER 2"
OUTSIDE PULL BOX PAVING ON SIDE AWAY
FROM TRAFFIC. SEE PULL BOX PAVING DETAIL.

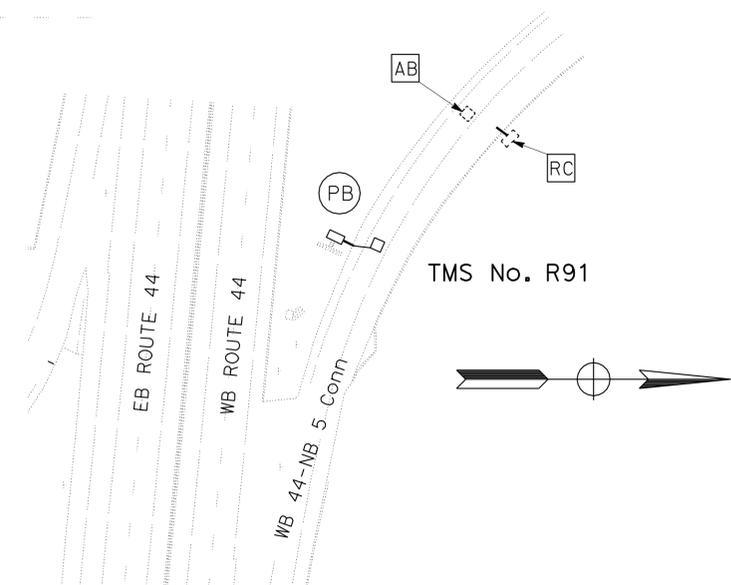
OBJECT MARKER (TYPE PB)
NO SCALE



PLAN



PLAN



PLAN



TRAFFIC MONITORING STATION

SCALE: 1" = 50'

E-12

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



x

x

x

x

x

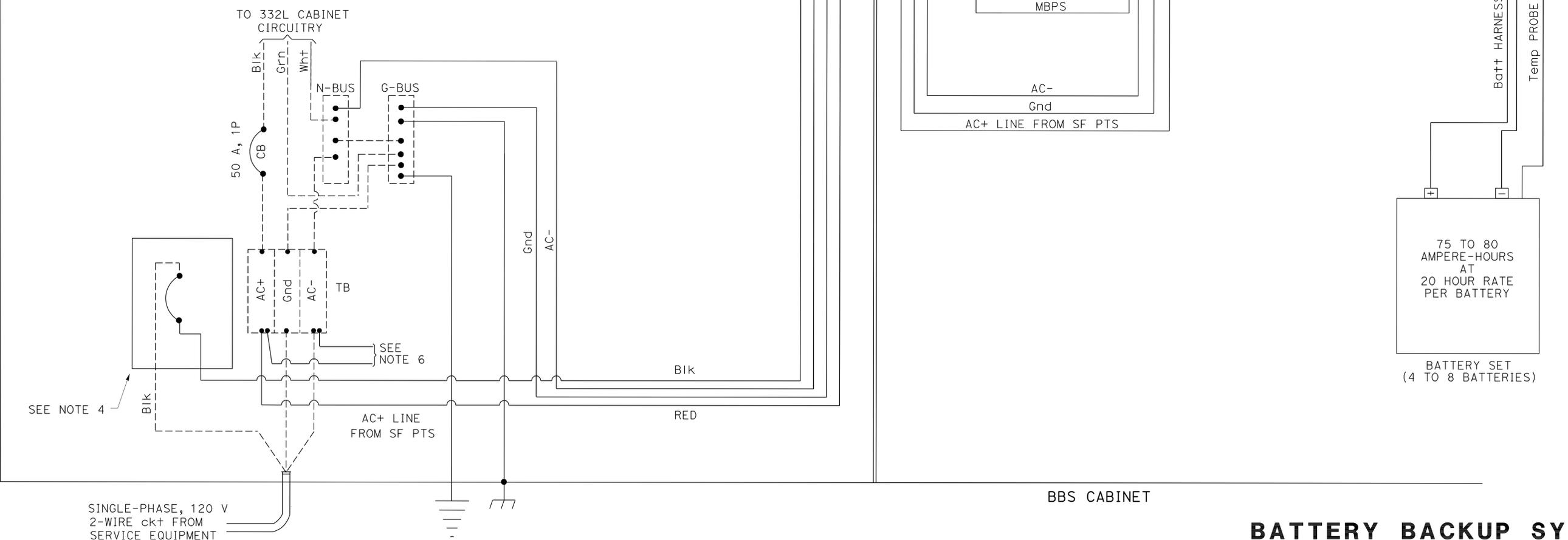
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	226	311
ART			08-04-10		
REGISTERED ELECTRICAL ENGINEER			A.P. ROBLES		
12-13-10			No. E15293		
PLANS APPROVAL DATE			Exp. 3-31-11		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>					

LEGEND: (THIS SHEET ONLY)

- PTS = POWER TRANSFER SWITCH
- UPS = UNINTERRUPTIBLE POWER SUPPLY
- UPSC = UNINTERRUPTIBLE POWER SUPPLY CONTROLLER
- UPSM = UPS MODE
- BP = BYPASS
- MBPS = MANUAL BYPASS SWITCH
- AC+ = UNGROUNDED CONDUCTOR
- AC- = GROUNDED CONDUCTOR
- C = COMMON
- Grn = GREEN
- Blk = BLACK
- Wh+ = WHITE
- SF = STATE-FURNISHED
- TB = TERMINAL BOARD
- Cntl = CONTROL
- Gnd = GROUND
- Temp = TEMPERATURE
- Batt+ = BATTERY
- BBS = BACKUP BATTERY SYSTEM

NOTES: (THIS SHEET ONLY)

1. TYPE A REFERS TO THE BBS EQUIPMENT FROM MANUFACTURER A.
2. CASE-1 REFERS TO THE SITUATION WHEN THE ENTIRE BBS EQUIPMENT INCLUDING THE BATTERIES ARE INSTALLED IN THE BBS CABINET.
3. THE LOCATION OF THE 2" C NIPPLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA-1 ENCLOSURE WITH 30 A, 1P, 120/240 VOLTS RATED CIRCUIT BREAKER MANUFACTURED PER UL STANDARD 489.
5. A TEMPERATURE PROBE SHALL BE ATTACHED TO THE BATTERY BY TAPE OR ATTACHED TO THE NEGATIVE TERMINAL OF THE BATTERY.
6. THE ELECTRICAL POWER FOR THE COOLING FAN FOR THE BBS CABINET SHALL BE TAPPED FROM THE BOTTOM OF THE TB IN THE 332 CABINET.
7. THE CONTRACTOR SHALL PROVIDE A 9-WIRE WIRING HARNESS OR BUNDLED 9 MULTICOLOR CONDUCTORS, #18 AWG WIRES FROM THE RELAY ON THE INVERTER/CHARGER UNIT TO THE CONTROLLER. THE ENDS OF THE CONDUCTORS SHALL BE INSULATED WITH TAPE AND A SIX-FOOT COIL ON EACH END.



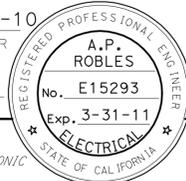
**BATTERY BACKUP SYSTEM
(DETAILS)**
NO SCALE

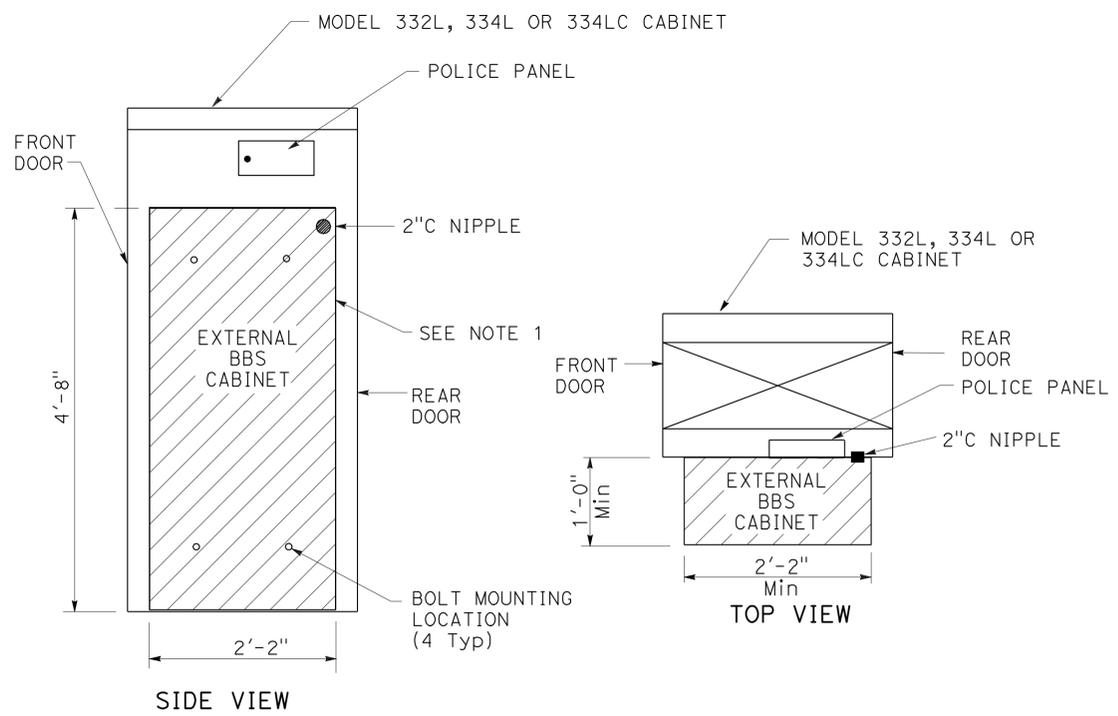
E-13

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

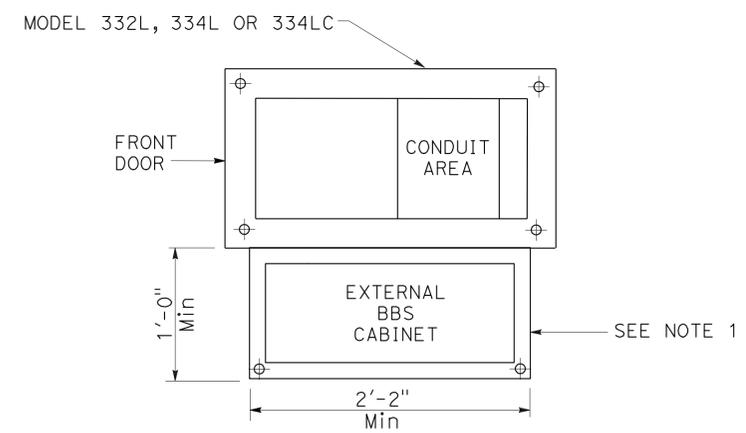


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ROB STINGER
 CALCULATED/DESIGNED BY: THERESA A. GABRIEL
 CHECKED BY: JAMES M. HANNIGAN
 REVISIONS: 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	227	311
ART		10-15-10			
REGISTERED ELECTRICAL ENGINEER					
12-13-10 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.					



EXTERNAL BBS CABINET MOUNTED TO THE MODEL 332L, 334L OR 334LC CABINET

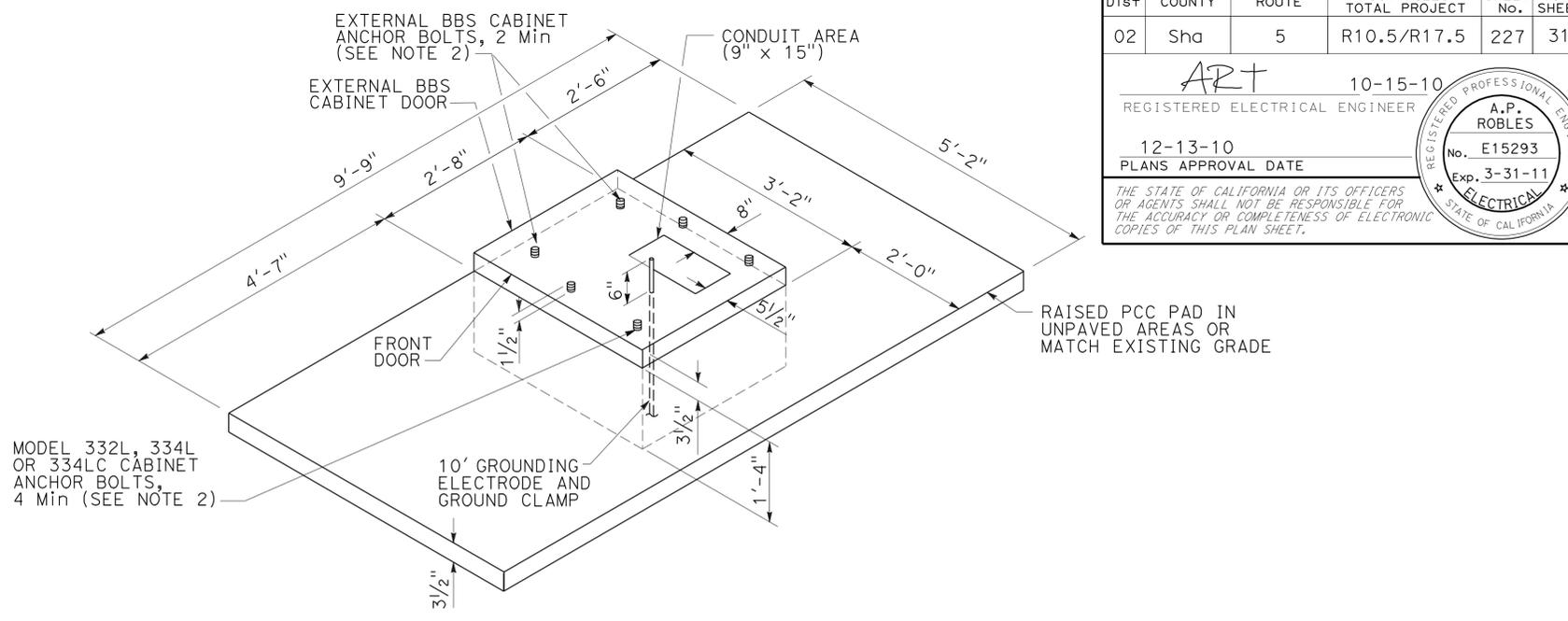


BASE PLAN FOR BBS MOUNTED TO THE MODEL 332L, 334L OR 334LC CABINET

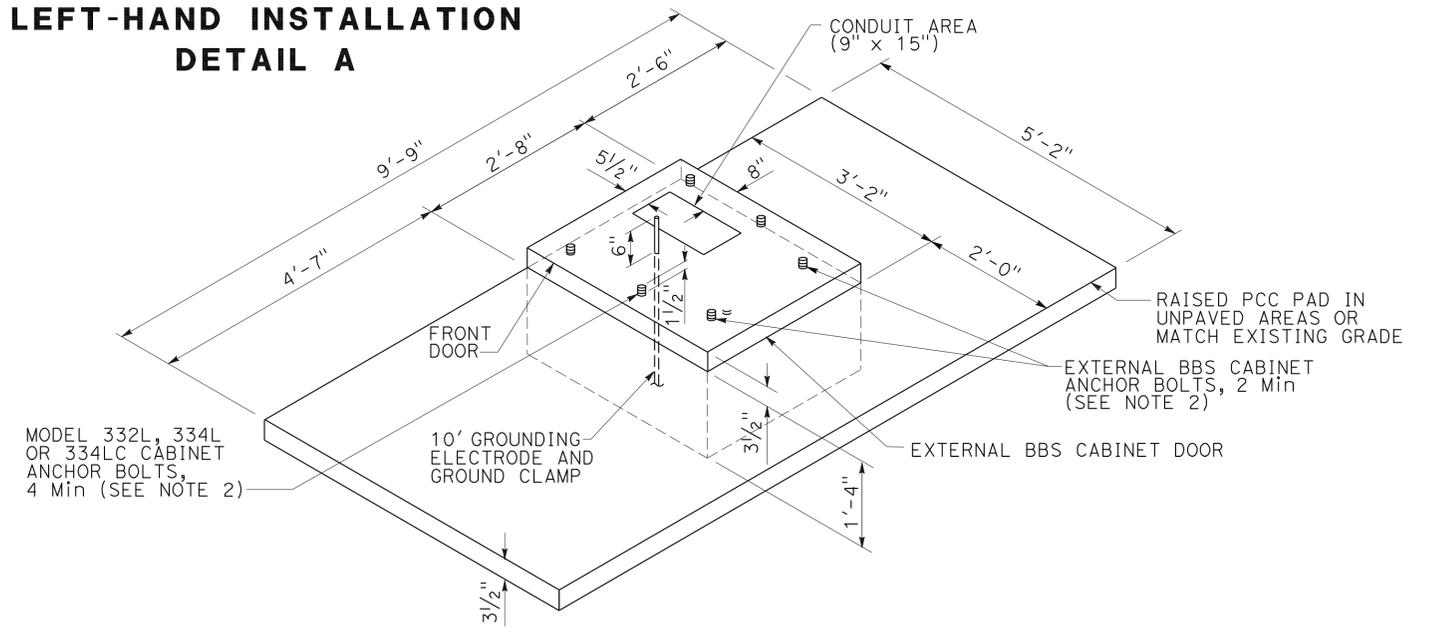
(FOR DIMENSIONS AND DETAILS NOT SHOWN, SEE SHEET A6-1 TO A6-4, CABINET HOUSING DETAILS OF THE TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATION (TEES))

NOTE: (THIS SHEET ONLY)

1. THE EXTERNAL BBS CABINET SHALL BE MOUNTED TO THE MODEL 332L, 334L OR 334LC CABINET WITH FOUR 18-8 STAINLESS STEEL Hex HEAD, FULLY-THREADED, 3/8"-16 x 1" BOLTS; TWO WASHERS PER BOLT, DESIGNED FOR 3/8" BOLTS AND ARE 18-8 STAINLESS STEEL, 1" OUTSIDE DIAMETER, ROUND, AND FLAT; AND ONE K-LOCK NUT PER BOLT THAT IS 18-8 STAINLESS STEEL AND A Hex-NUT. THE ENGINEER WILL HAVE TO APPROVE THE BOLT MOUNTING LOCATION PRIOR TO INSTALLATION.
2. THE ANCHOR BOLTS SHALL BE 3/4" Dia x 15" WITH A 2"-90° BEND. THE CABINET MANUFACTURER'S SPECIFICATION SHALL DETERMINE THE LOCATION OF THE ANCHOR BOLTS IN THE FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE THE ANCHOR BOLTS AND ITS LOCATION IN THE FOUNDATION PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF THE BBS CABINET PRIOR TO CONSTRUCTING THE FOUNDATION OF THE Std MODEL 332L, 334L OR 334LC CABINET FOUNDATION. THE ENGINEER WILL HAVE TO APPROVE ANY NECESSARY DEVIATIONS PRIOR TO CONSTRUCTION.
4. ALL DIMENSIONS ARE NOMINAL.



LEFT-HAND INSTALLATION DETAIL A



RIGHT-HAND INSTALLATION DETAIL B

MODIFIED MODEL 332L, 334L OR 334LC CABINET FOUNDATION DETAIL FOR BATTERY BACKUP SYSTEM (BBS)
(FOR ADDITIONAL NOTES, SEE SHEET ES-3C OF THE STANDARD PLANS FOR MODEL 332L, 334L OR 334LC CABINETS)

BATTERY BACKUP SYSTEM (DETAILS)
NO SCALE **E-14**

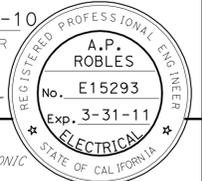
THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - ELECTRICAL DESIGN
 THERESA A. GABRIEL
 JAMES M. HANNIGAN
 ROB STINGER
 USERNAME => rrmikes1
 DGN FILE => 24c401ua014.dgn
 BORDER LAST REVISED 7/2/2010
 P:\proj\2\02\4c401\des\1gm\PS&E\24c401ua014.dgn

LAST REVISION DATE PLOTTED => 17-DEC-2010
 08-04-10 TIME PLOTTED => 10:14

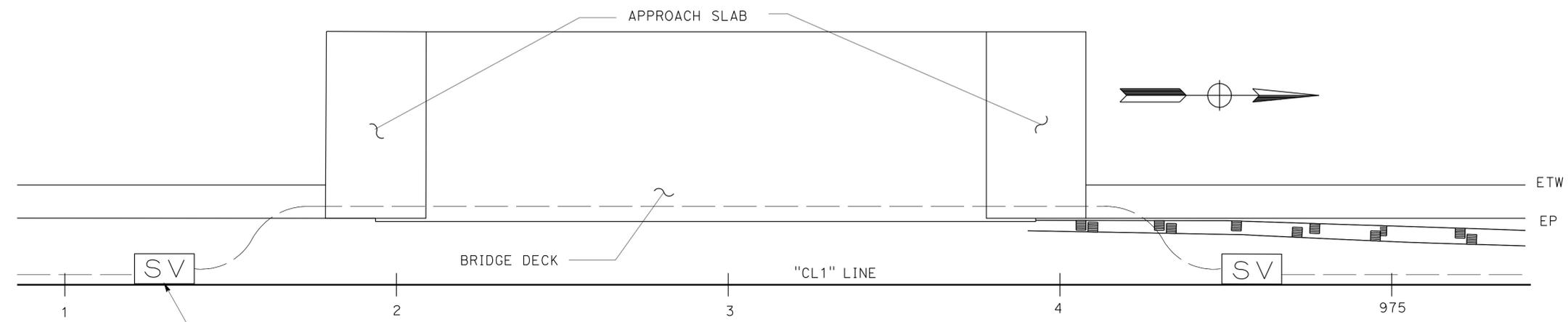


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	228	311
			ART	10-15-10	
			REGISTERED ELECTRICAL ENGINEER		
			12-13-10		
			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.					

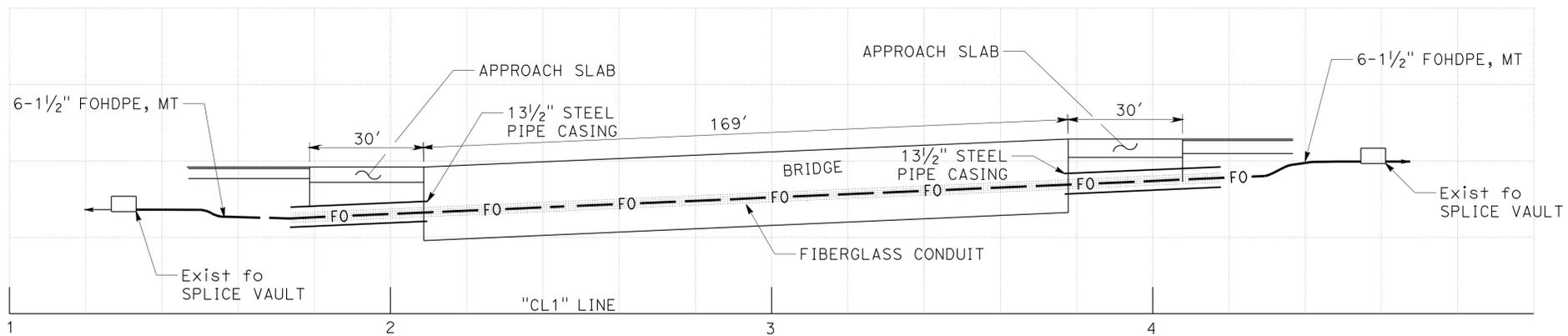


NOTES: (THIS SHEET)

- SEE SHEET E-16 FOR SECTION A-A AND SECTION B-B.
- SEE UTILITY DETAILS-STRUCTURES PLAN FOR CONDUIT HANGER DETAILS.



PLAN



PROFILE*

BRIDGE ENTRANCE/EXIT DETAIL

* SHOWN FOR INSTALLATION OF FIBERGLASS CONDUIT AND FOHDPE ONLY

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

FIBER OPTIC CONDUIT

SCALE: 1" = 20'

E-15

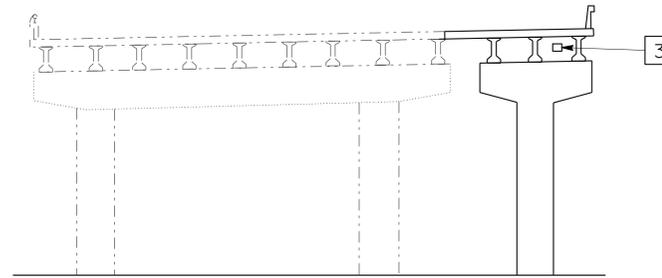
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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ROB STINGER
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 ARTURO ROBLES
 JAMES M. HANNIGAN
 REVISED BY: [blank]
 DATE REVISED: [blank]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	229	311

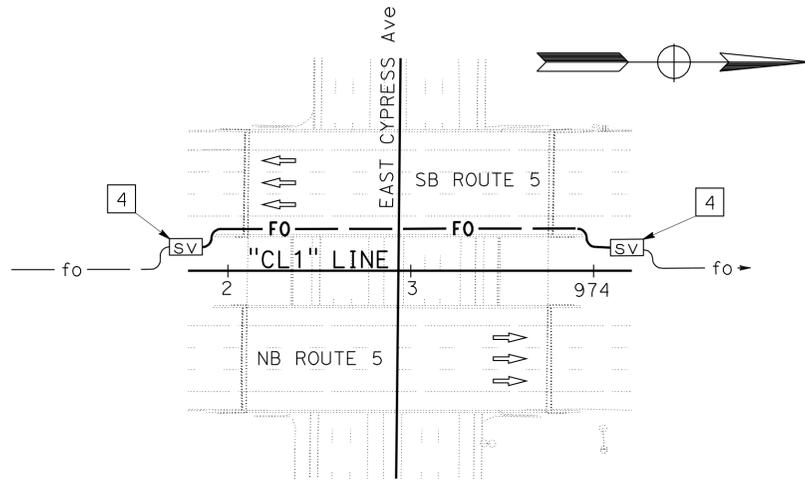
ART	
REGISTERED ELECTRICAL ENGINEER	10-15-10
No. E15293	
Exp. 3-31-11	
12-13-10	
PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.	

NOTES: (THIS SHEET)

- 1 1½"C, FOHDPE, MT. Typ OF 6.
- 2 HANG 8" FIBERGLASS CONDUIT FROM BOTTOM OF BRIDGE DECK. ROUTE THROUGH UTILITY OPENINGS. SEE UTILILY DETAIL-STRUCTURE PLAN.
- 3 1'-6" x 1'-6" UTILITY OPENING.
- 4 INSTALL 6-1½"C FOHDPE INTO EXISTING fo SPLICE VAULT.

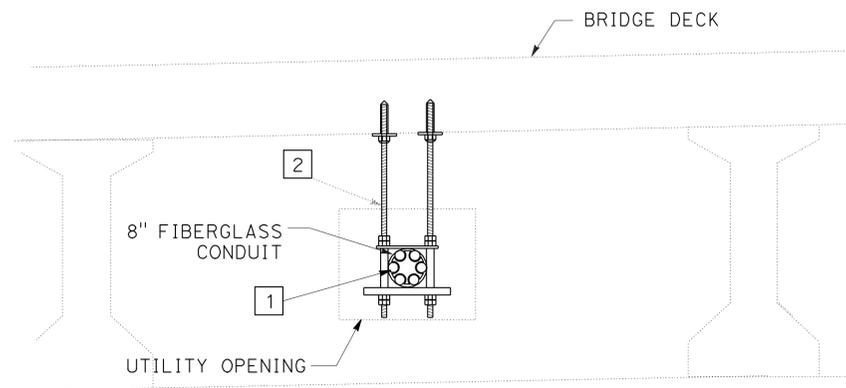


**CYPRESS AVENUE OC (Br No. 6-125L)
TYPICAL SECTION**



**CONNECTION TO EXISTING
SPLICE VAULTS**

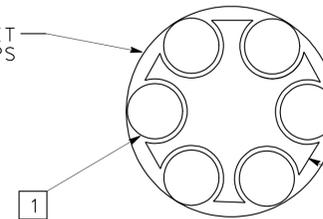
SEE SHEET E-15



CONDUIT HANGER

SEE UTILITY DETAIL-STRUCTURE PLANS

8" FIBERGLASS CONDUIT
SEAL WITH END CAPS



SPACER-USE EVERY 5'

**FIBER OPTIC CONDUIT
DETAIL**

FIBER OPTIC CONDUIT

NO SCALE

E-16

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



UNIT 0147

PROJECT NUMBER & PHASE

02000004581

USERNAME => frmikes1
DGN FILE => 24c401ua016.dgn

BORDER LAST REVISED 7/2/2010

P:\proj\2\02\4c401\des\1gn\PS&E\24c401ua016.dgn

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Electrical DESIGN

FUNCTIONAL SUPERVISOR
ROB STINGER

CALCULATED/DESIGNED BY
CHECKED BY

ARTURO ROBLES
JAMES M. HANNIGAN

REVISED BY
DATE REVISED

x

x

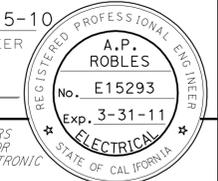
x

x

x

LAST REVISION | DATE PLOTTED => 17-DEC-2010
10-20-10 | TIME PLOTTED => 10:14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	230	311
ART		10-15-10			
REGISTERED ELECTRICAL ENGINEER					
12-13-10					
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>					



NOTE:

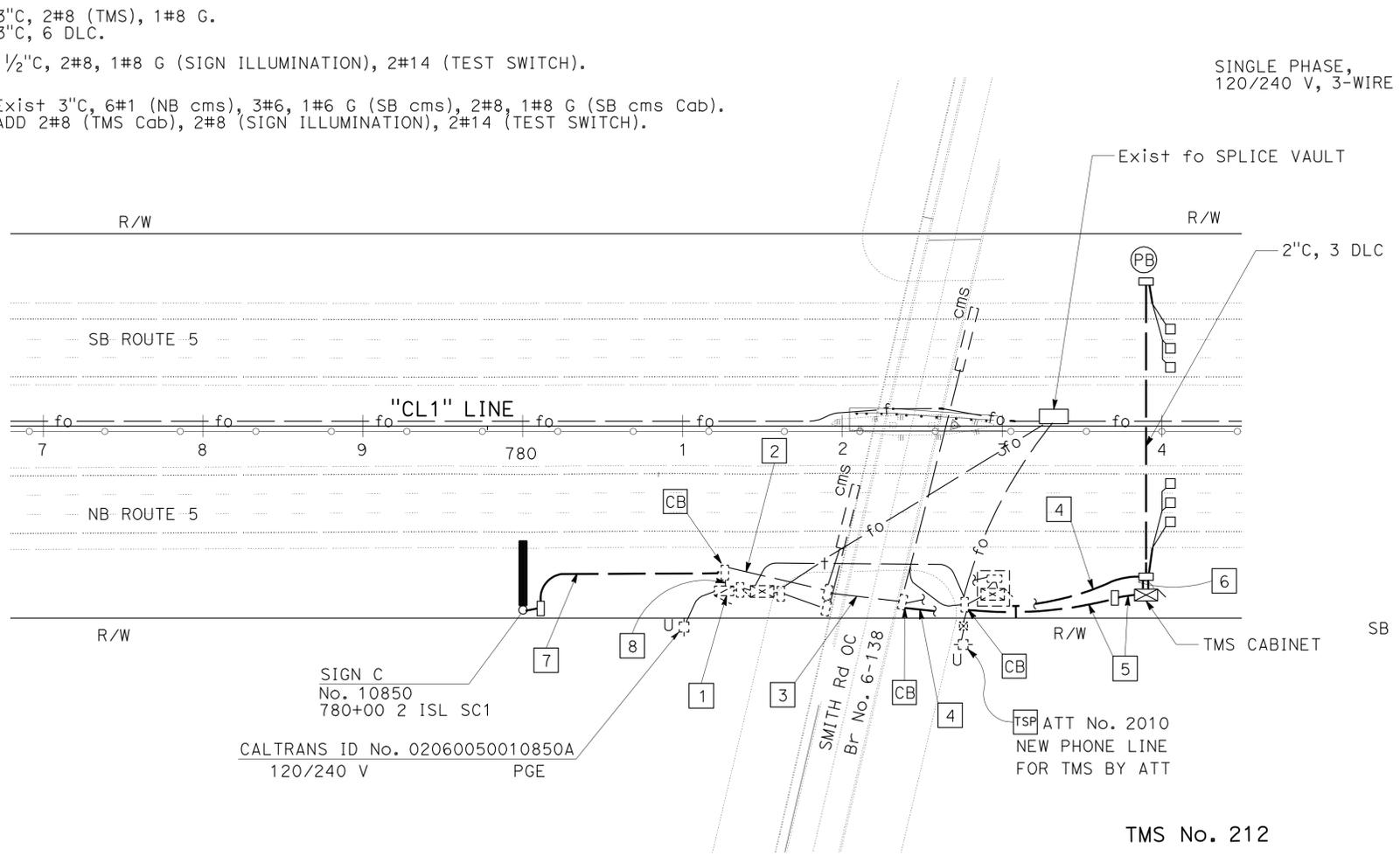
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

NOTES (THIS SHEET):

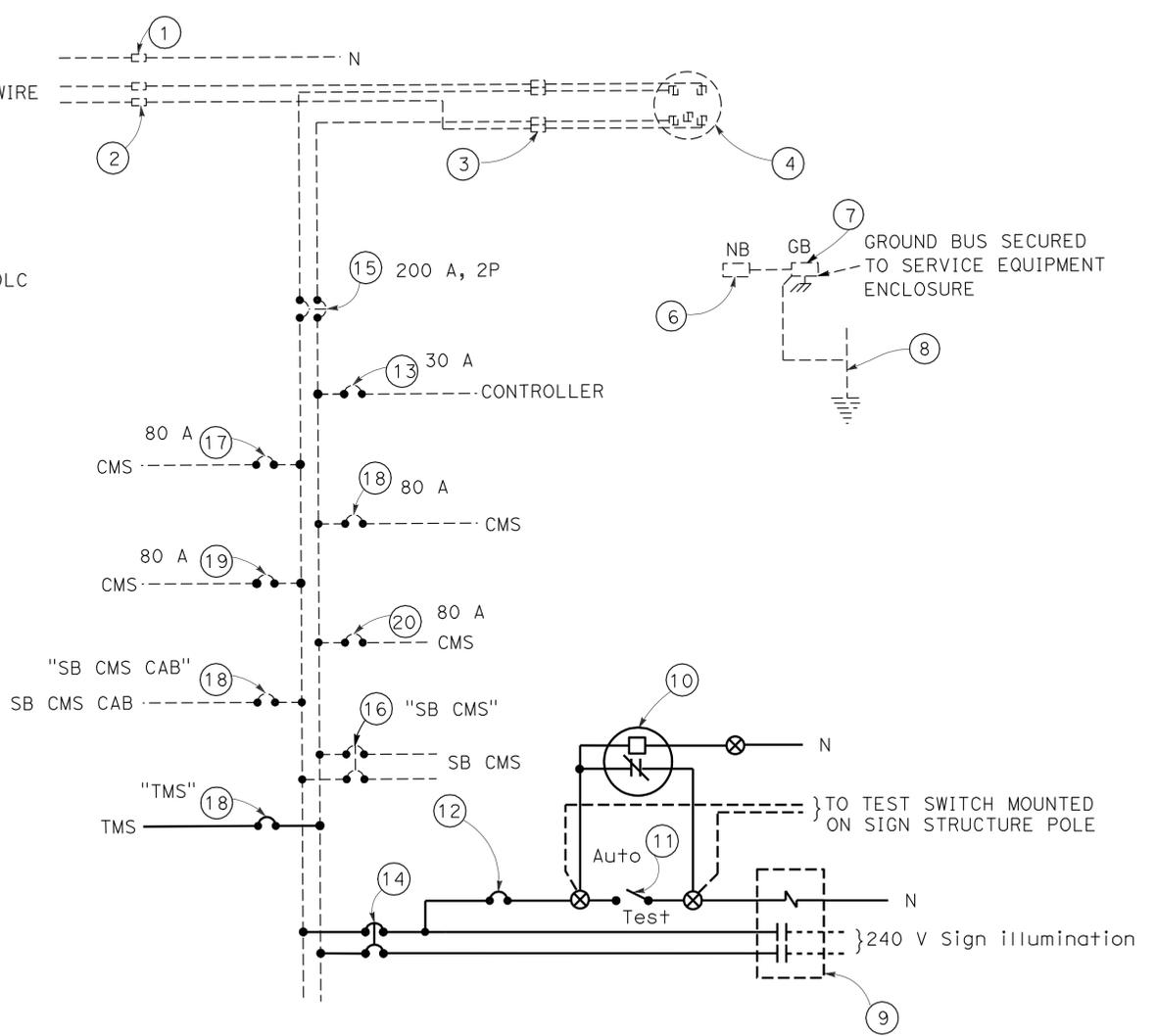
- 1 Exist SERVICE EQUIPMENT ENCLOSURE. SEE WIRING DIAGRAM AND INSTALL NEW EQUIPMENT SHOWN.
- 2 Exist 3"C, 6#1 (NB cms), 3#6, 1#6 G (SB cms), 2#8, 1#8 G (SB cms Cab). ADD 2#8 (TMS Cab).
- 3 Exist 1½"C, 3#6, 1#6 G (SB cms), 2#8, 1#8 G (SB cms Cab). ADD 2#8 (TMS Cab).
- 4 1½"C, 2#8, 1#8 G.
- 5 2"C, TELEPHONE CABLE.
- 6 3"C, 2#8 (TMS), 1#8 G. 3"C, 6 DLC.
- 7 1½"C, 2#8, 1#8 G (SIGN ILLUMINATION), 2#14 (TEST SWITCH).
- 8 Exist 3"C, 6#1 (NB cms), 3#6, 1#6 G (SB cms), 2#8, 1#8 G (SB cms Cab). ADD 2#8 (TMS Cab), 2#8 (SIGN ILLUMINATION), 2#14 (TEST SWITCH).

EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS TO BE MAINTAINED

TYPE	Co-Rt-PM	DESCRIPTION
FIBER OPTIC	Sha-5-PM R10.82/R11.20	IN MEDIAN
CMS	Sha-5-PM R10.86	ON SMITH Rd OC FOR NB TRAFFIC
CMS	Sha-5-PM R10.86	ON SMITH Rd OC FOR SB TRAFFIC



SINGLE PHASE, 120/240 V, 3-WIRE



SERVICE WIRING DIAGRAM
SEE Std PLAN RSP ES-2D FOR DETAILS NOT SHOWN

**ADDITIVE 1
TRAFFIC MONITORING STATION
SIGN ILLUMINATION**

SCALE: 1" = 50'

E-17

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 ELECTRICAL DESIGN
 ARTURO ROBLES
 JAMES M. HANNIGAN
 ROB STINGER
 CALTRANS ID No. 02060050010850A
 120/240 V PGE
 SIGN C No. 10850 780+00 2 ISL SC1
 SMITH Rd OC Br No. 6-138
 TSP ATT No. 2010 NEW PHONE LINE FOR TMS BY ATT
 TMS No. 212

USERNAME => frmikesl
DGN FILE => 24c401ua017.dgn



UNIT 0147

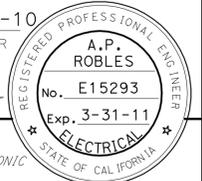
PROJECT NUMBER & PHASE

02000004581

BORDER LAST REVISED 7/2/2010

LAST REVISION | DATE PLOTTED => 17-DEC-2010
 07-26-10 TIME PLOTTED => 10:14

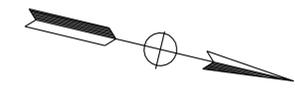
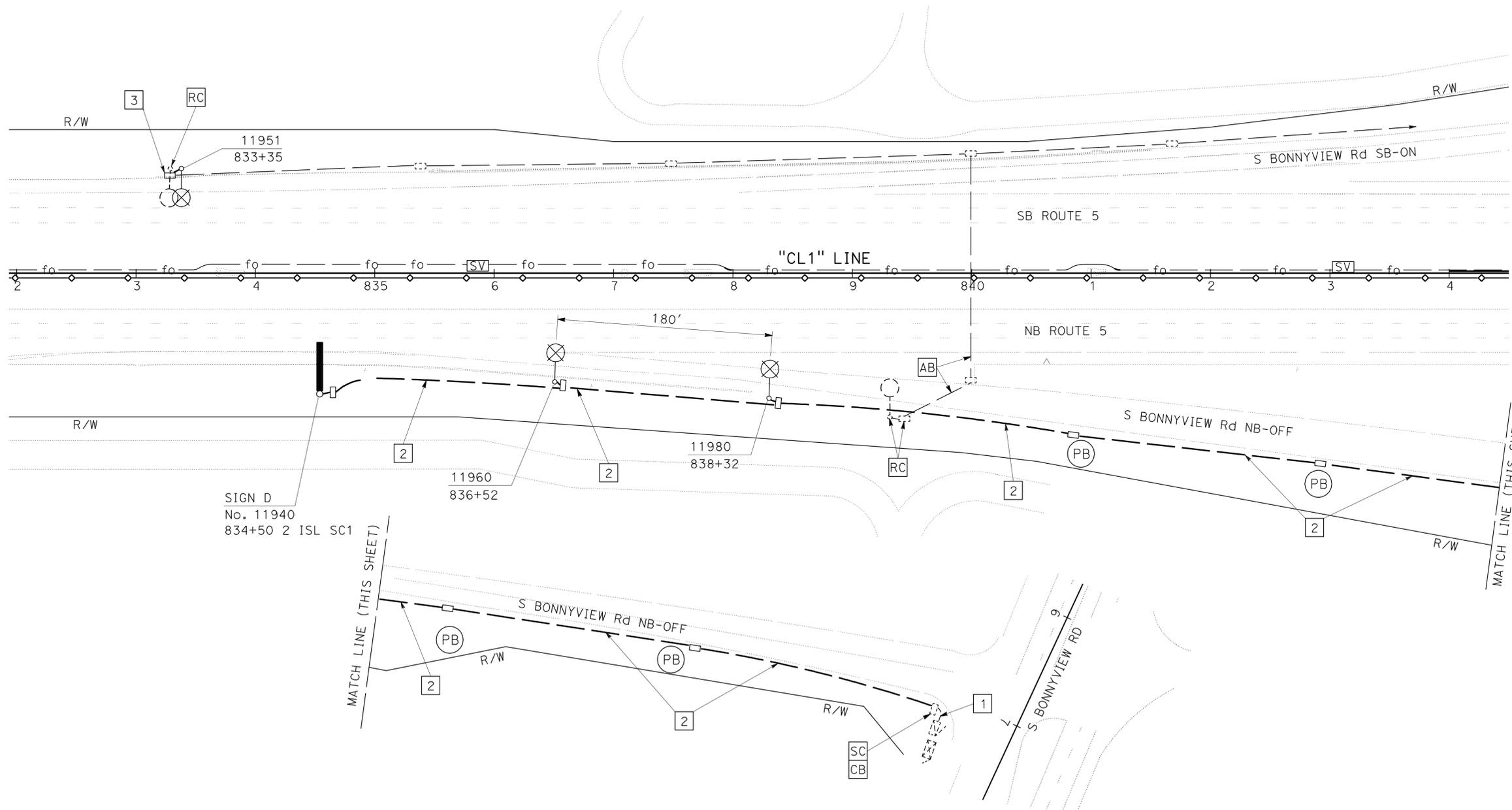
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	231	311
ART			10-15-10		
REGISTERED ELECTRICAL ENGINEER					
12-13-10					
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.</small>					



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

NOTES (THIS SHEET):

- 1 ADD 2#14 (TEST SWITCH), 1#8 G.
- 2 1 1/2" C, 2#8, 2#14 (TEST SWITCH), 1#8 G.
- 3 REPLACE PB WITH No. 5 PB.



CALTRANS ID No. 02060050012160
120/240 V REU

**ADDITIVE 1
LIGHTING AND
SIGN ILLUMINATION**
SCALE: 1" = 50' **E-18**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 ARTURO ROBLES
 JAMES M. HANNIGAN
 ROB STINGER
 REVISIONS: 10-20-10 DATE PLOTTED => 17-DEC-2010 TIME PLOTTED => 10:14

P:\proj2\02\4c401\des\ign\PS&E\24c401\ua019.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR
 ROB STINGER
 CALCULATED/DESIGNED BY
 CHECKED BY
 ARTURO ROBLES
 JAMES M. HANNIGAN
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	232	311

ART 10-15-10
 REGISTERED ELECTRICAL ENGINEER
 12-13-10
 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.

EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS TO BE MAINTAINED

TYPE	Co-Rte-PM	DESCRIPTION
FIBER OPTIC	Sha-5-PM R10.48/R10.82	IN MEDIAN
CMS	Sha-5-PM R10.86	ON SMITH Rd OC FOR NB TRAFFIC
CMS	Sha-5-PM R10.86	ON SMITH Rd OC FOR SB TRAFFIC

**ADDITIVE 2
ELECTRICAL**
 NO SCALE **E-19**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION | DATE PLOTTED => 17-DEC-2010
 07-26-10 TIME PLOTTED => 10:14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	233	311

ART		10-15-10
REGISTERED ELECTRICAL ENGINEER		
12-13-10		PLANS APPROVAL DATE

A.P. ROBLES	
No. E15293	
Exp. 3-31-11	

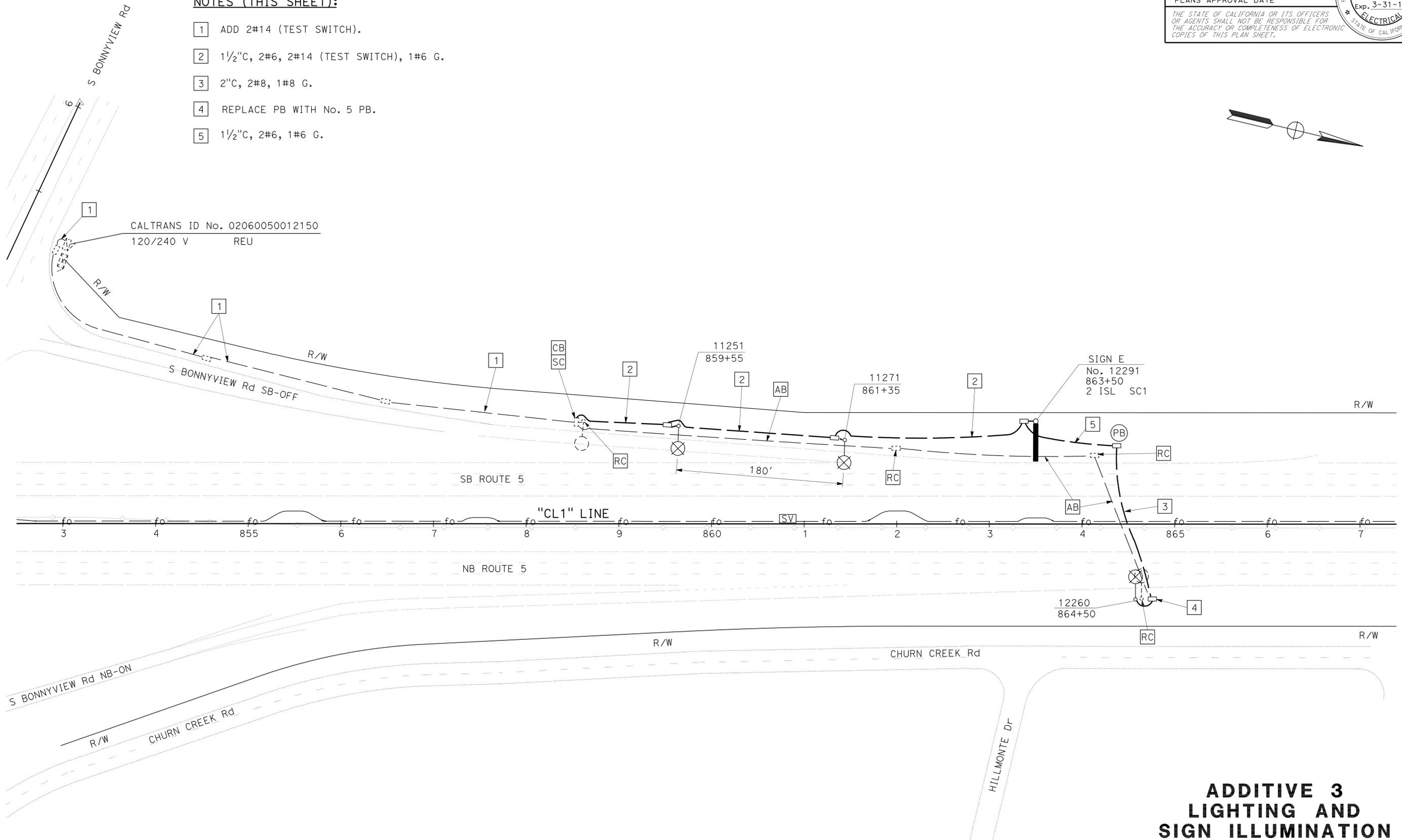
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

NOTE:

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

NOTES (THIS SHEET):

- 1 ADD 2#14 (TEST SWITCH).
- 2 1½"C, 2#6, 2#14 (TEST SWITCH), 1#6 G.
- 3 2"C, 2#8, 1#8 G.
- 4 REPLACE PB WITH No. 5 PB.
- 5 1½"C, 2#6, 1#6 G.



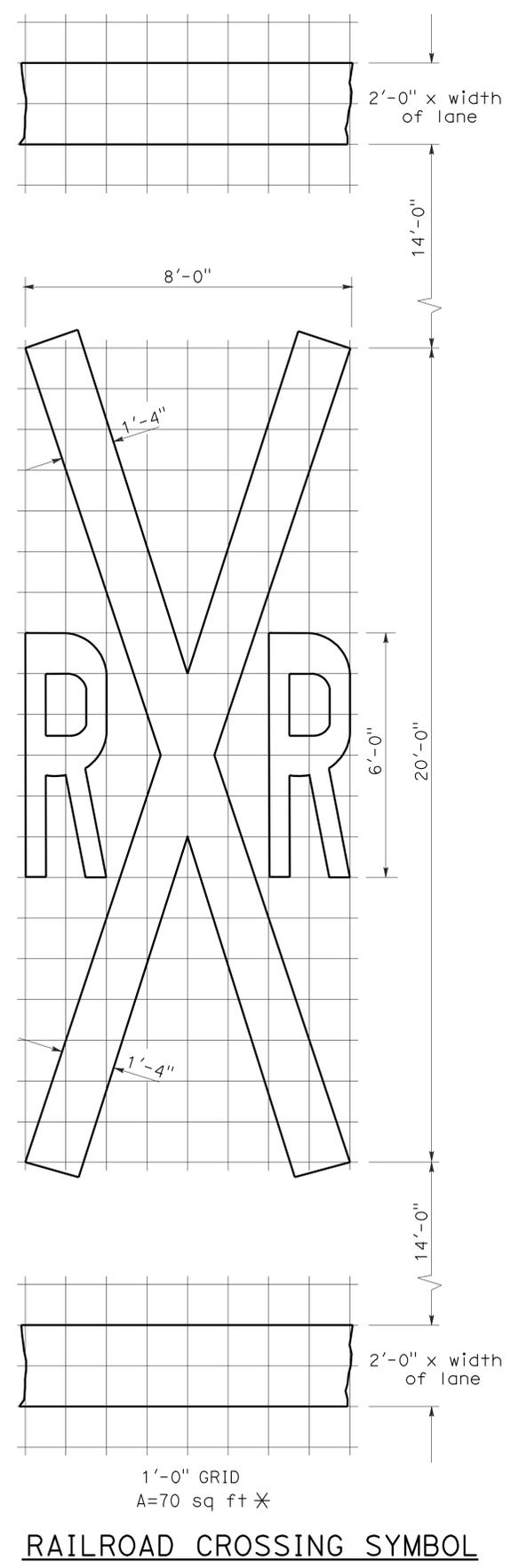
**ADDITIVE 3
LIGHTING AND
SIGN ILLUMINATION**
SCALE: 1" = 50' **E-20**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

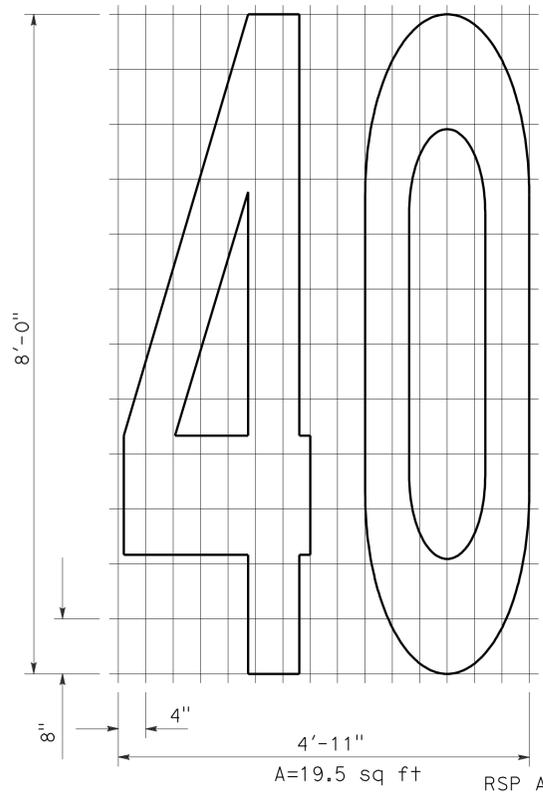
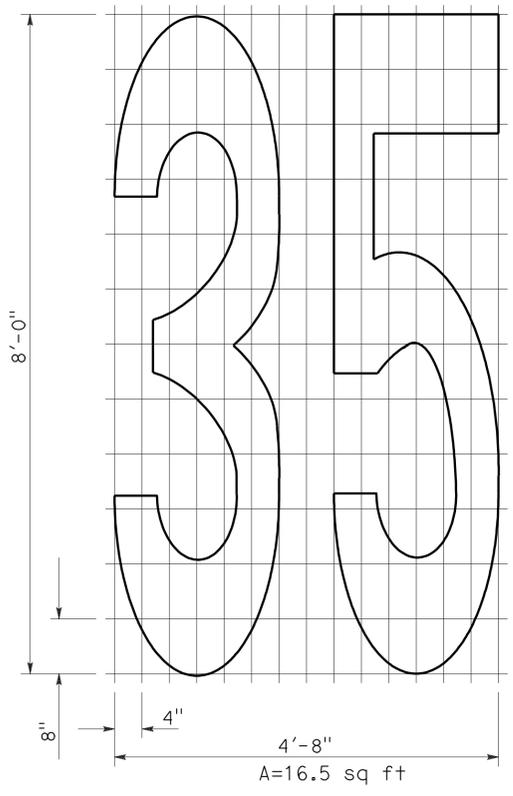
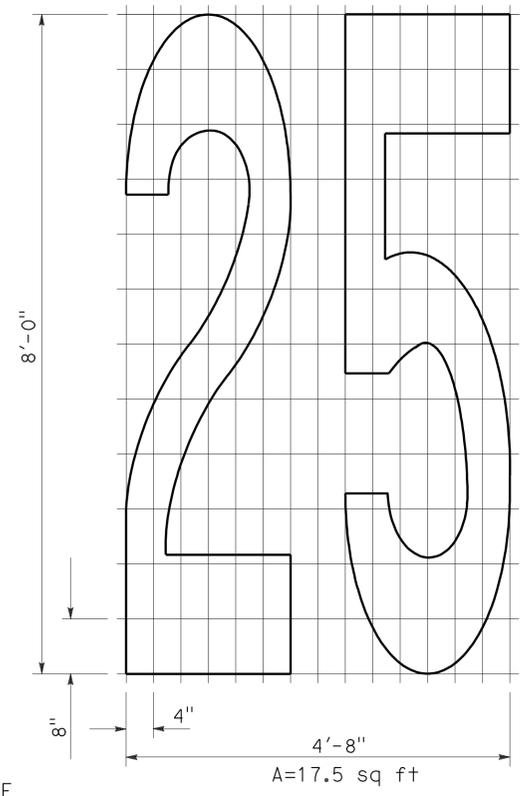
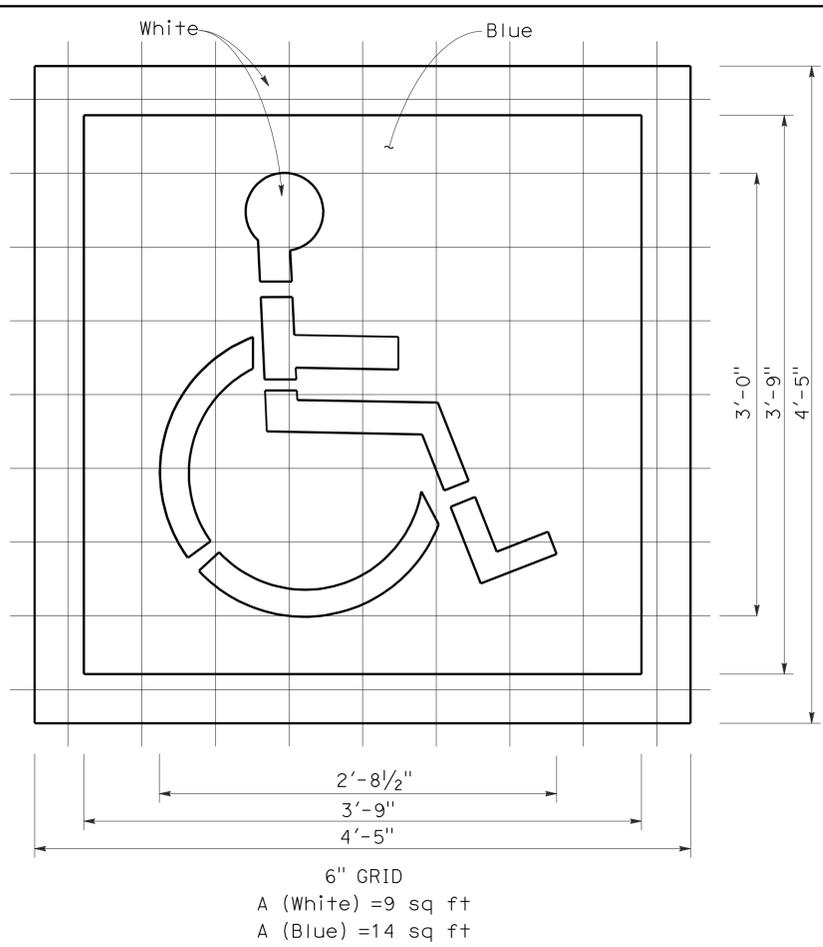
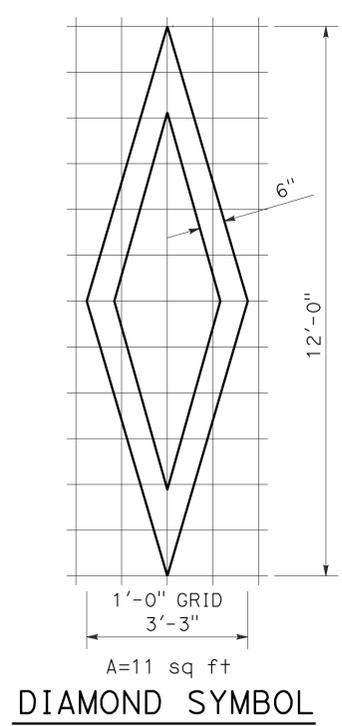
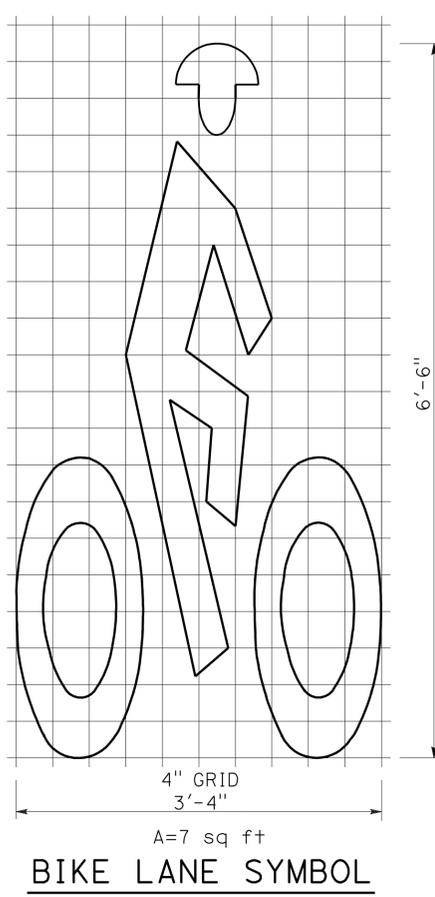


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Electrical DESIGN
 ARTURO ROBLES
 JAMES M. HANNIGAN
 ROB STINGER
 07-26-10 DATE PLOTTED => 17-DEC-2010
 10:14 TIME PLOTTED => 10:14

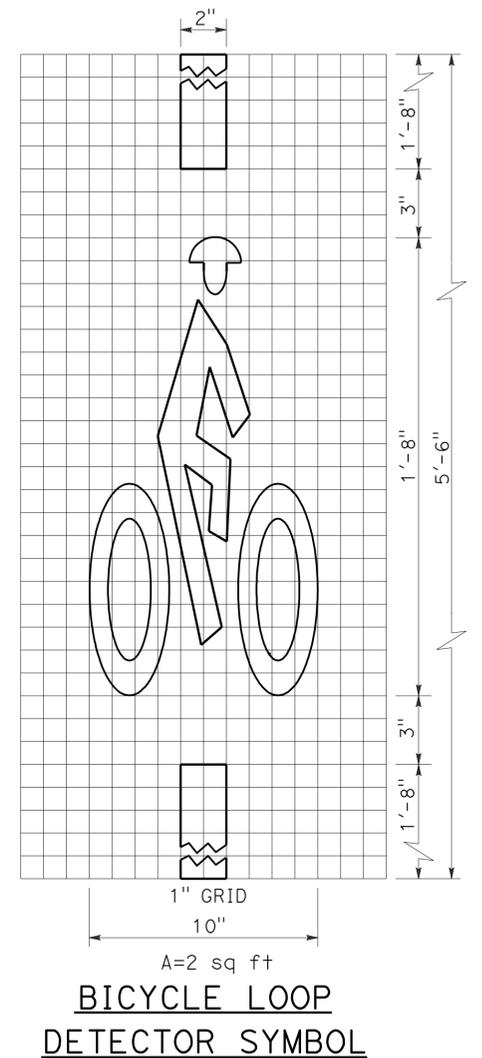
To accompany plans dated 12-13-10



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



NUMERALS



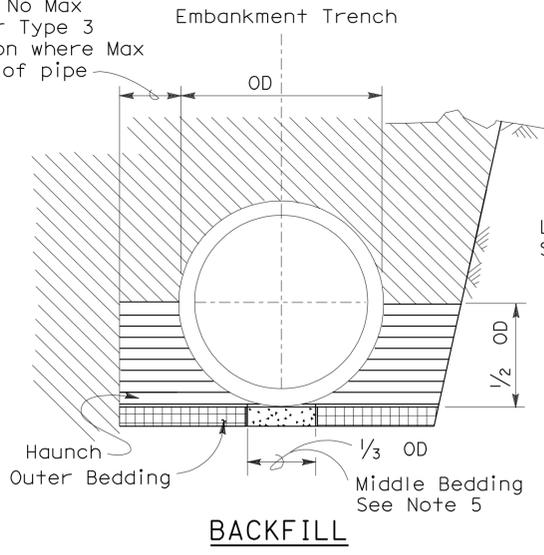
NOTE:
1. Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS

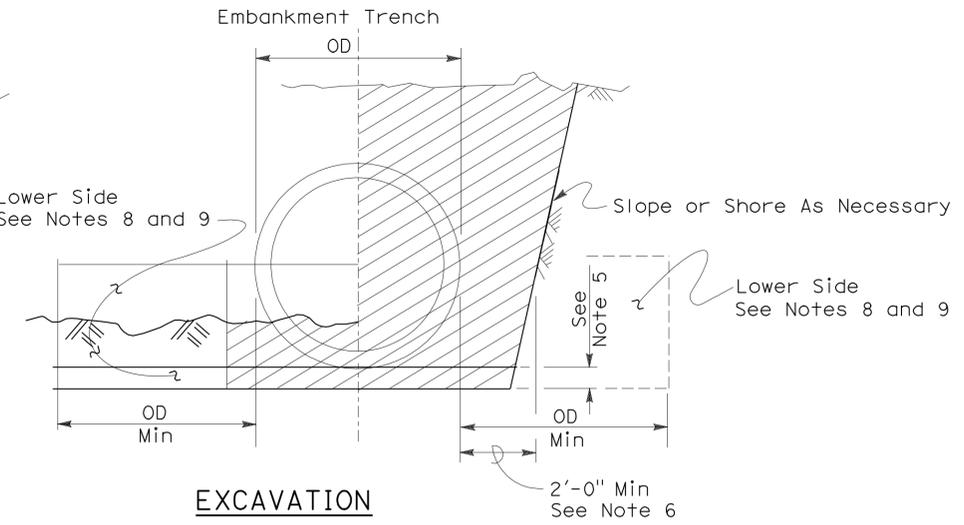
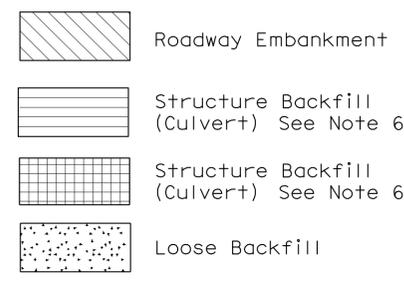
NO SCALE

2006 REVISED STANDARD PLAN RSP A62DA

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



BACKFILL



EXCAVATION



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
02	Sha	5	R10.5/R17.5	238	311

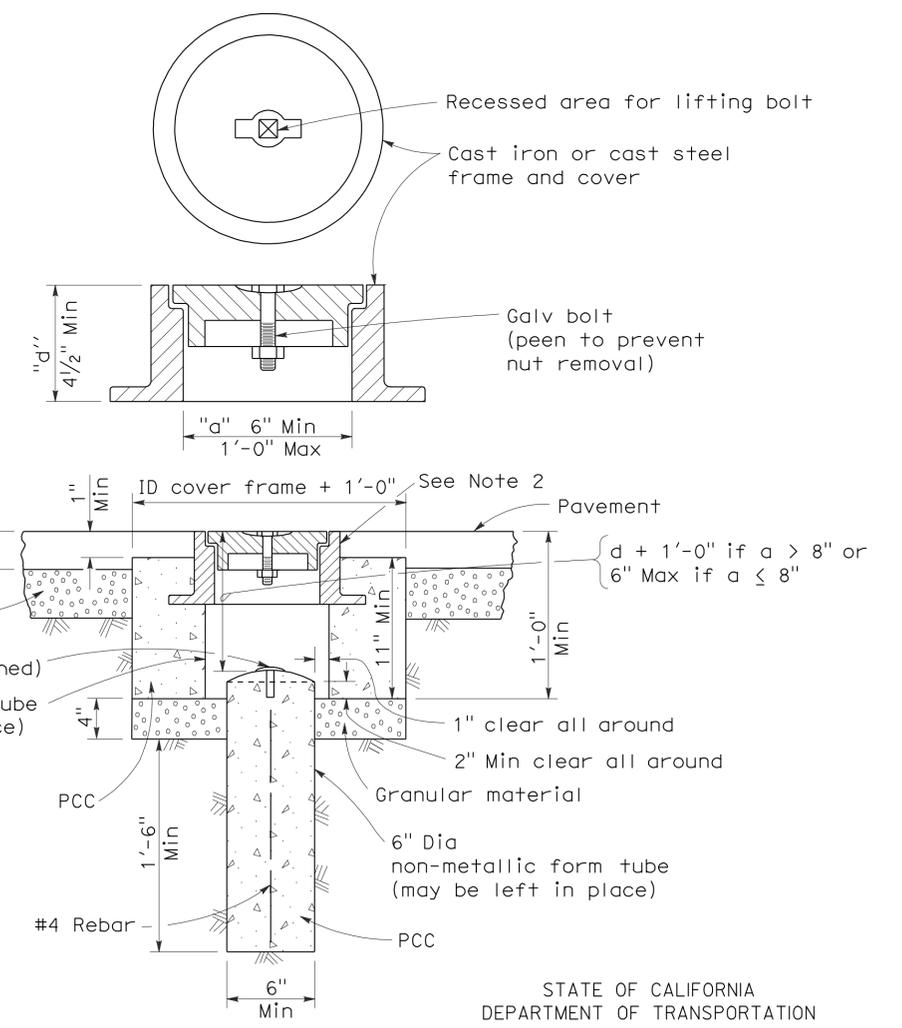
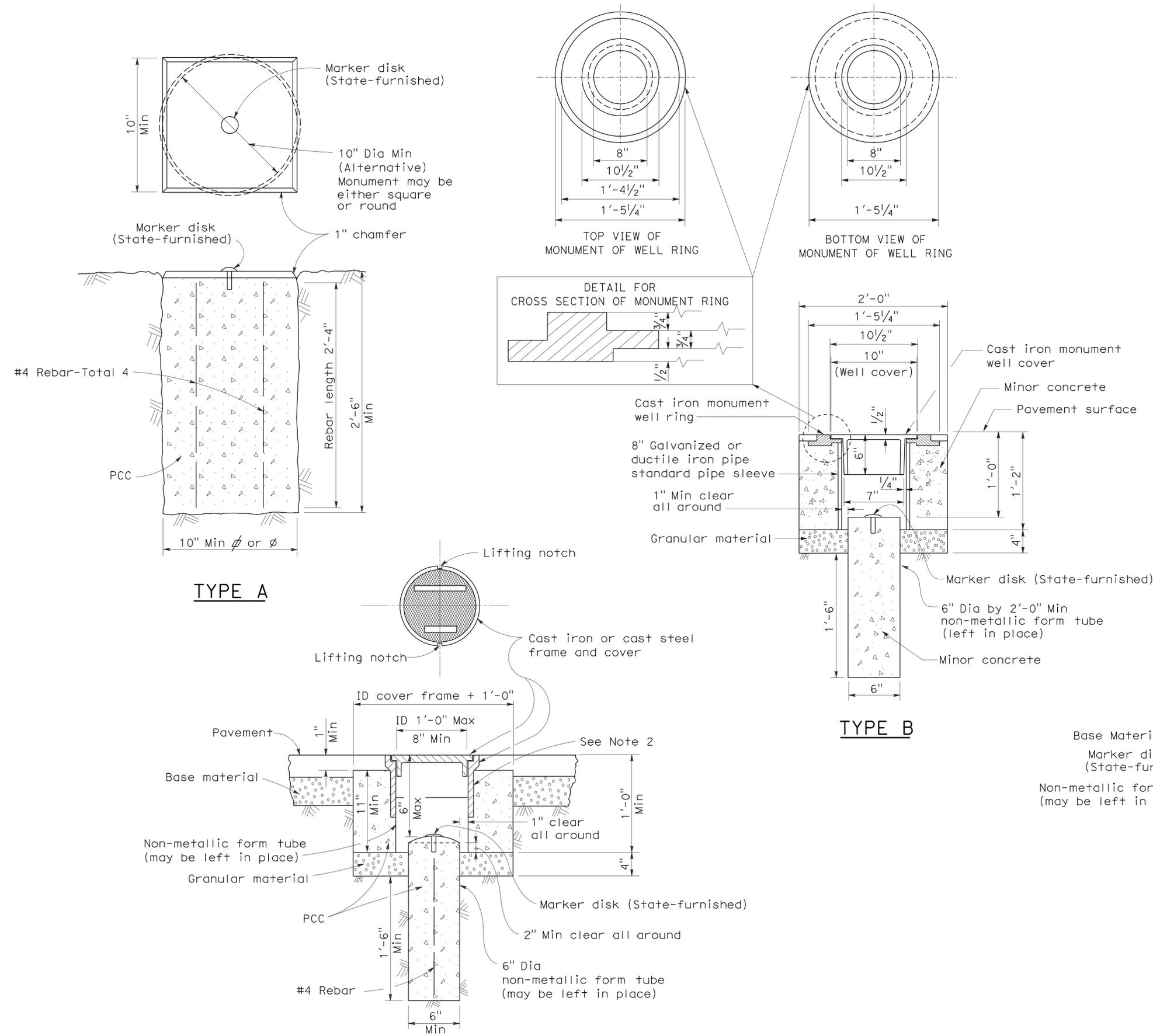
Mark S. Turner
 PROFESSIONAL LAND SURVEYOR
 June 30, 2006
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

LICENSED LAND SURVEYOR
 Mark S. Turner
 No. 6228
 Exp. 3-31-08
 STATE OF CALIFORNIA

To accompany plans dated 12-13-10

NOTES:

1. The configuration of the cast iron or cast steel frame and cover may vary from that shown.
2. Frame shall be embedded in the concrete a minimum of 3".
3. Type D monument shall be either Alternative No. 1 or Alternative No. 2 at the contractor's option.
4. All portland cement concrete shall be Class 2 or minor concrete with 1" maximum aggregate.



TYPE D SURVEY MONUMENTS
 Alternative No. 2
 NO SCALE

RSP A74 DATED JUNE 30, 2006 SUPERSEDES STANDARD PLAN DATED MAY 1, 2006 - PAGE 28 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A74

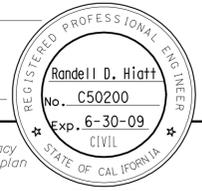
2006 REVISED STANDARD PLAN RSP A74

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	239	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

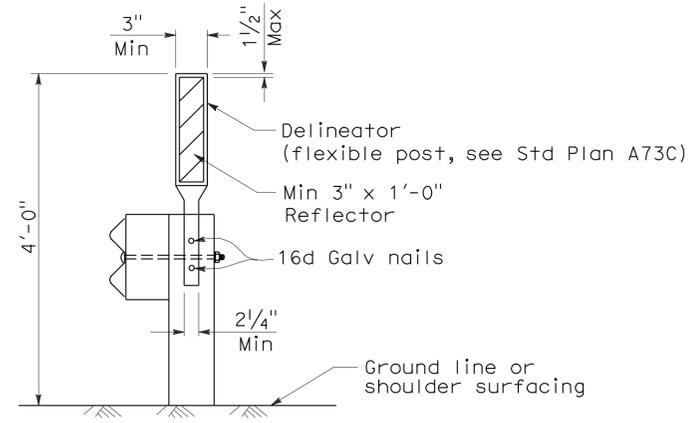
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



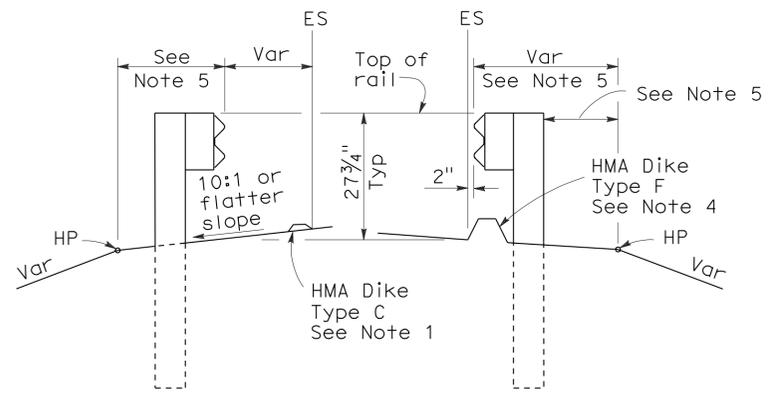
To accompany plans dated 12-13-10

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
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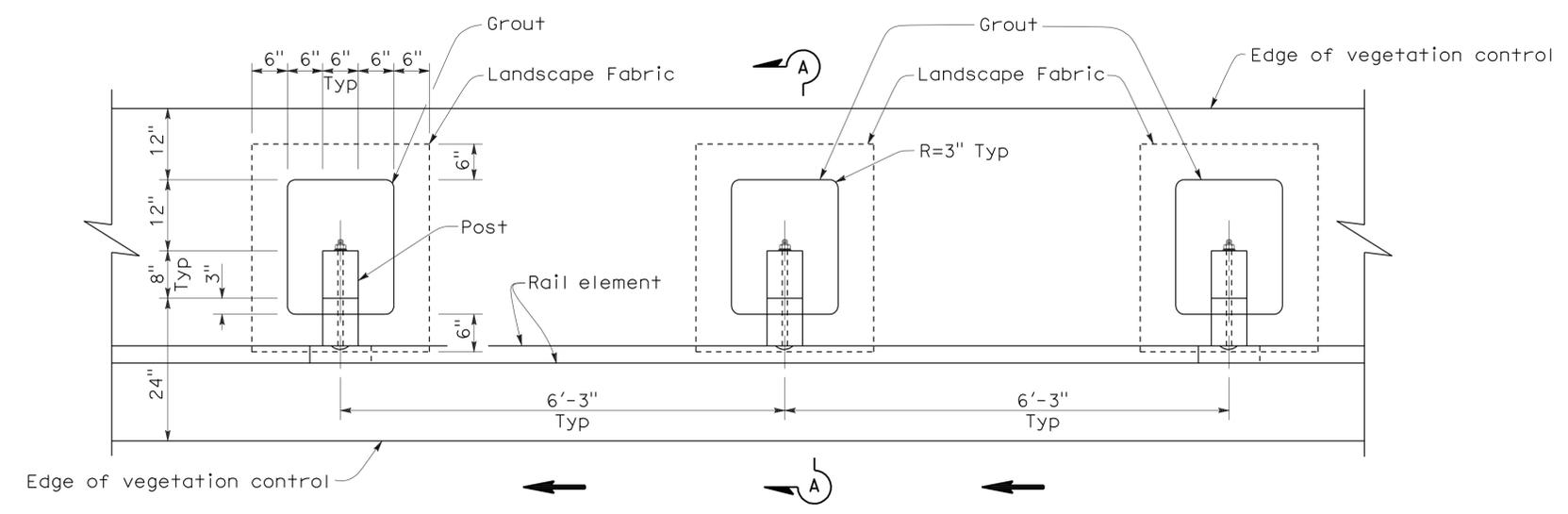
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

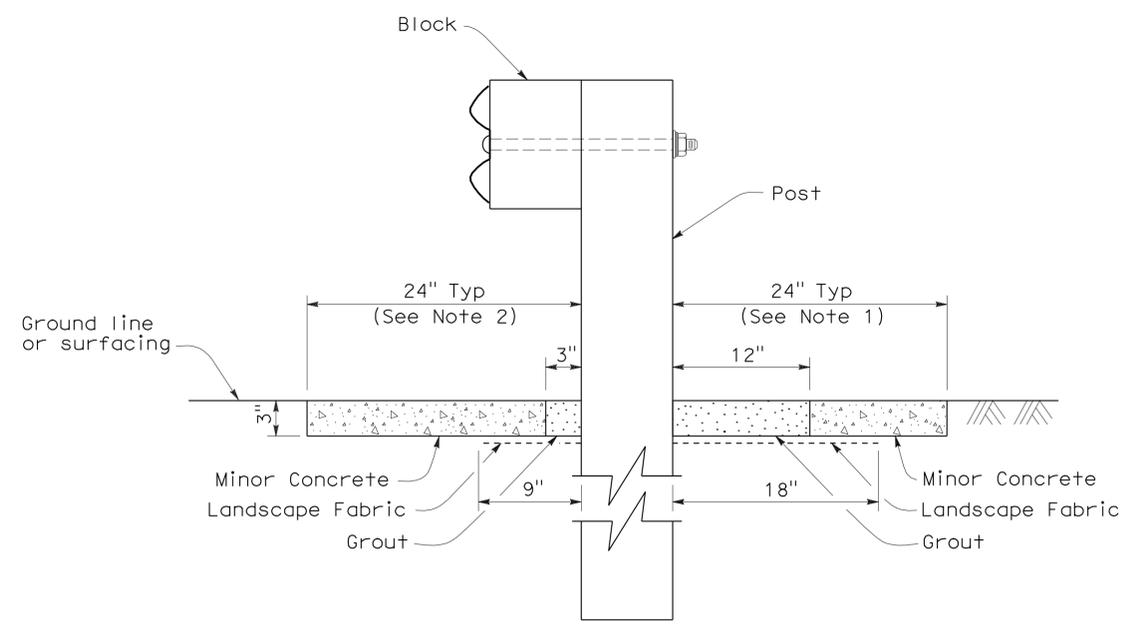
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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

To accompany plans dated 12-13-10



PLAN



SECTION A-A

NOTES:

1. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ← .

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

NSP A77C5 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C5

2006 NEW STANDARD PLAN NSP A77C5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	241	311

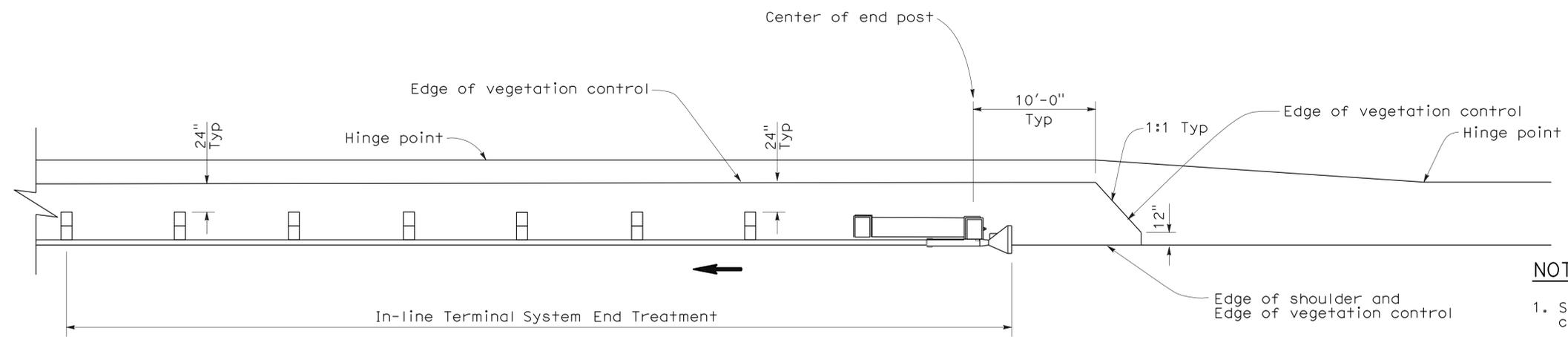
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

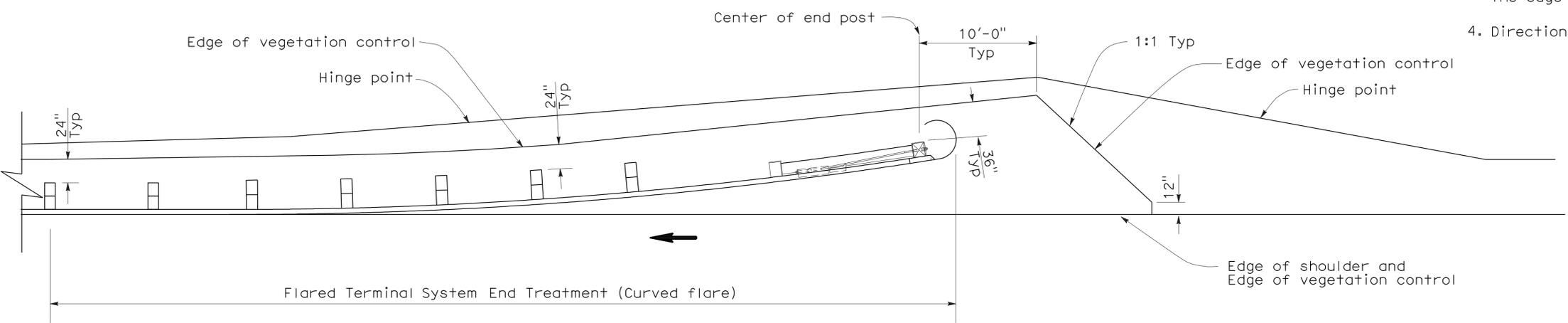
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To accompany plans dated 12-13-10

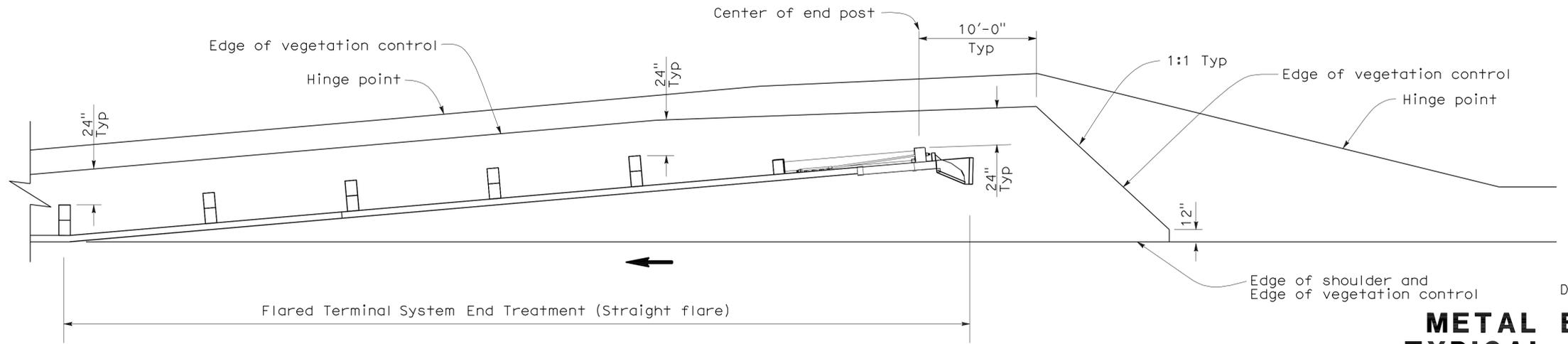
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA



PLAN



PLAN



PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE
NSP A77C6 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C6

2006 NEW STANDARD PLAN NSP A77C6

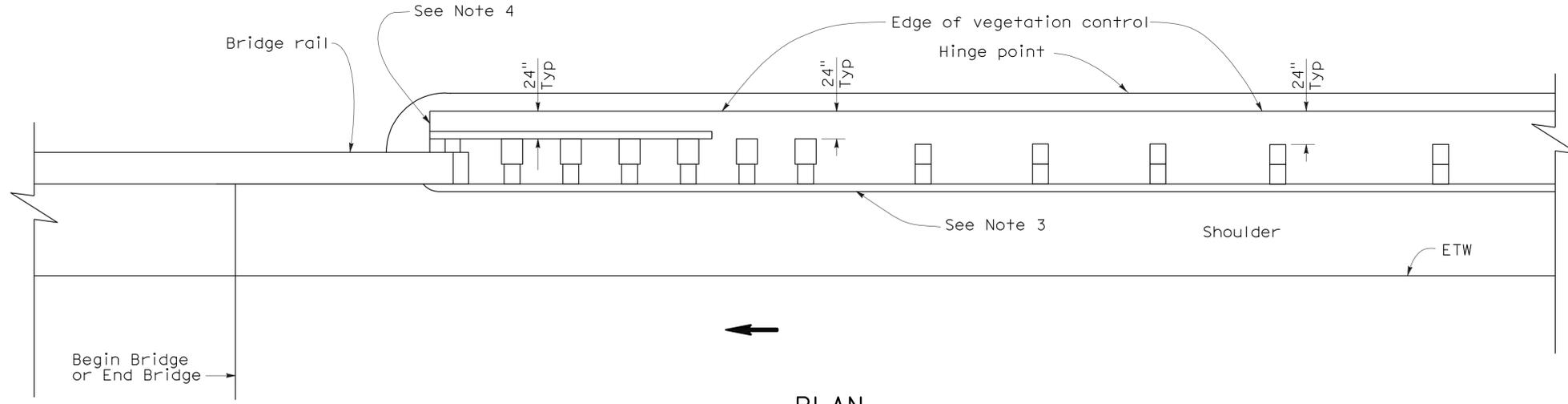
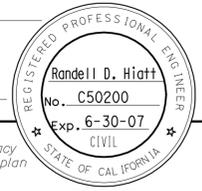
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	242	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

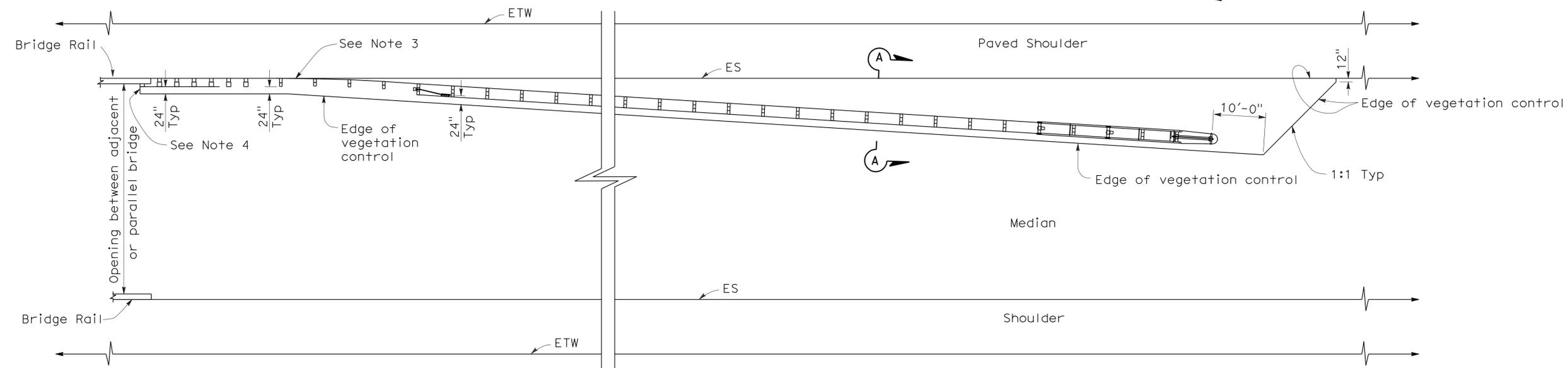
October 20, 2006
PLANS APPROVAL DATE

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To accompany plans dated 12-13-10



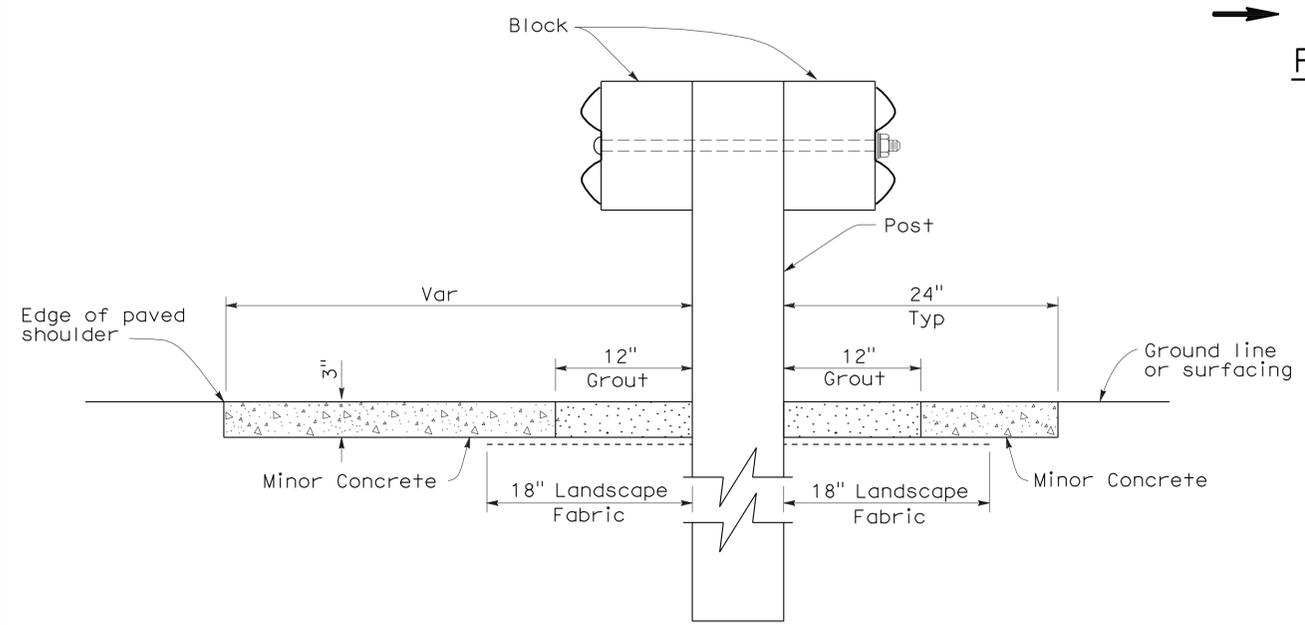
PLAN



PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.
5. Direction of adjacent traffic indicated by ←.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH
AND DEPARTURE**

NO SCALE
NSP A77C7 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

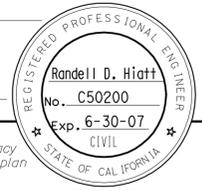
2006 NEW STANDARD PLAN NSP A77C7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	243	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

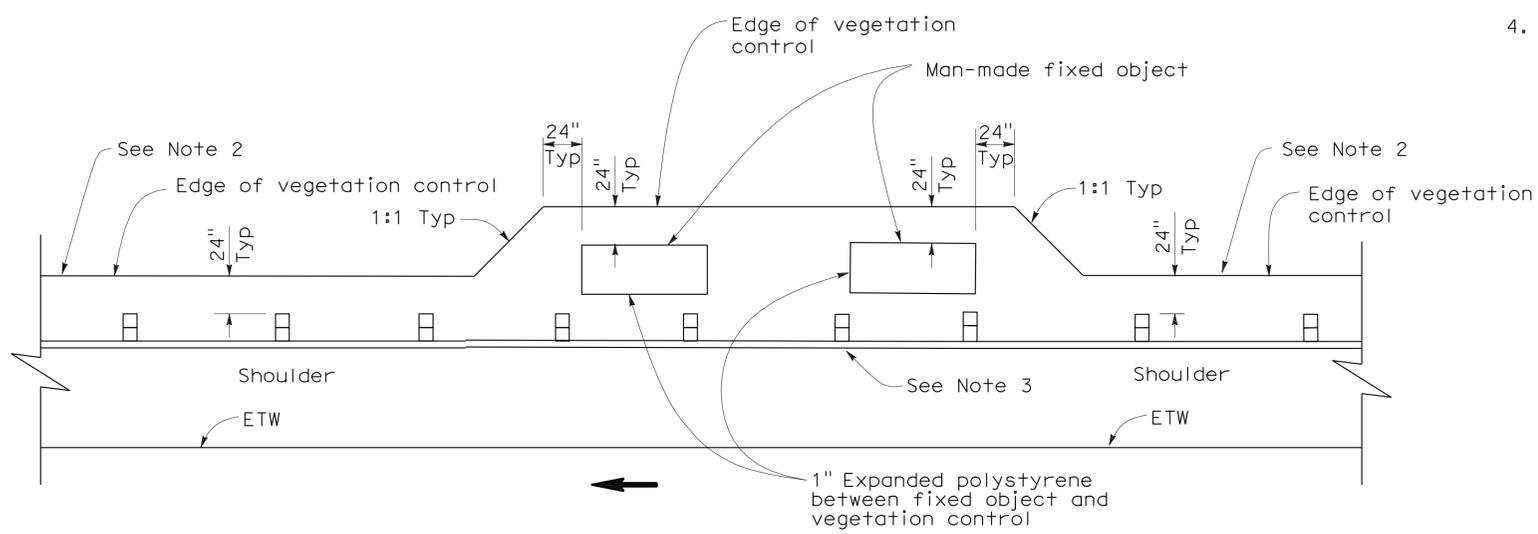
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



To accompany plans dated 12-13-10

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.



PLAN
FIXED OBJECT(S) ON SHOULDER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE
NSP A77C8 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C8

2006 NEW STANDARD PLAN NSP A77C8

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ←.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	244	311

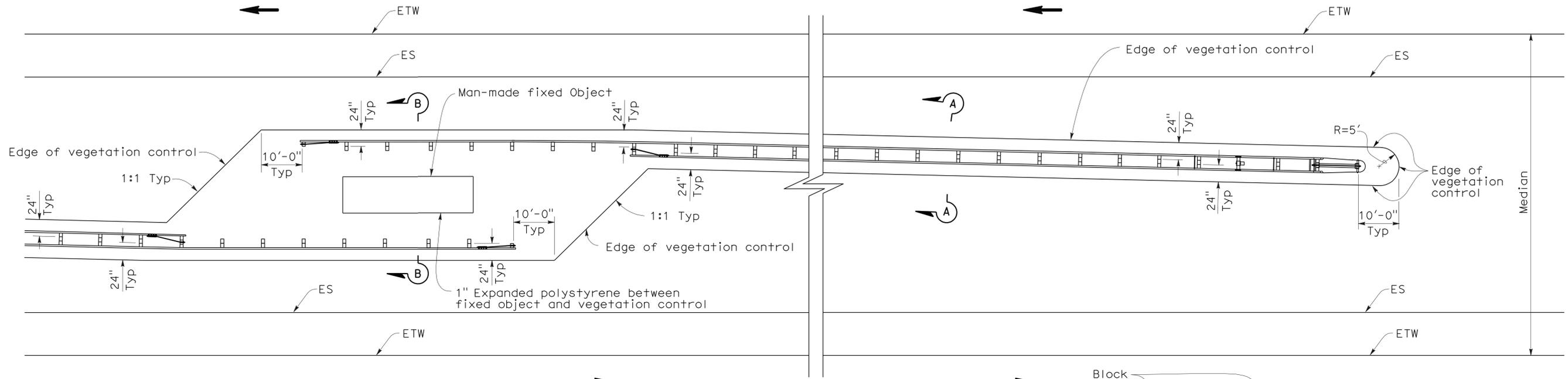
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

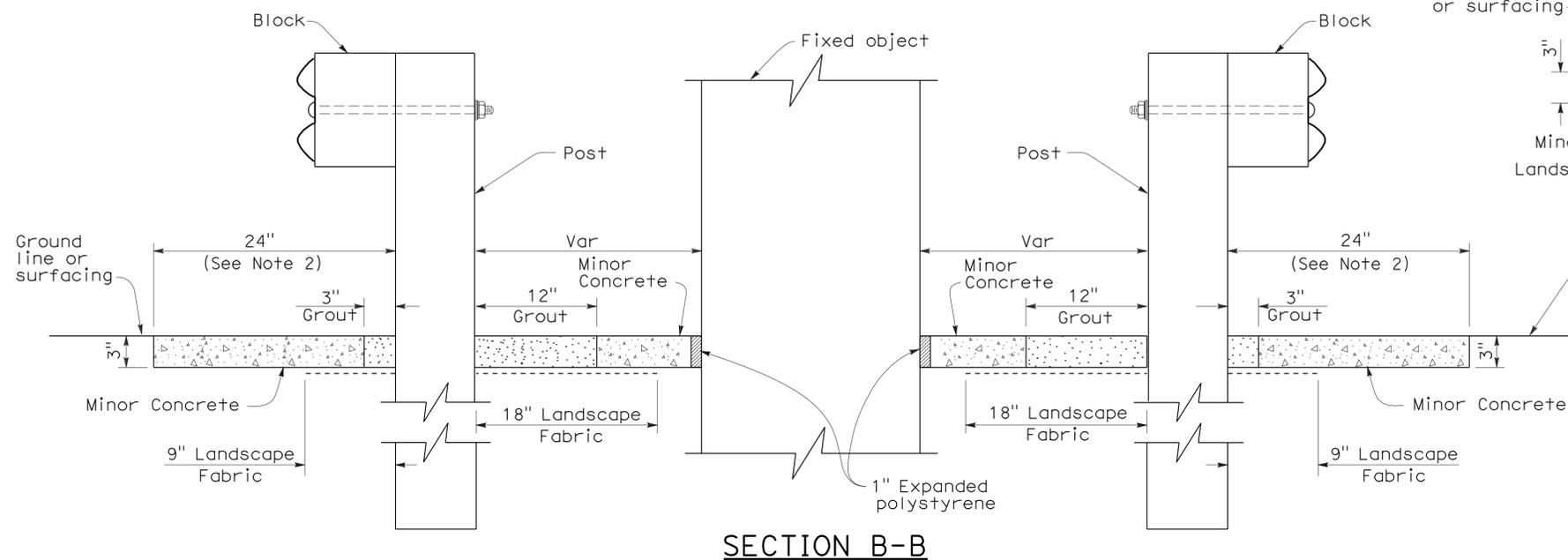
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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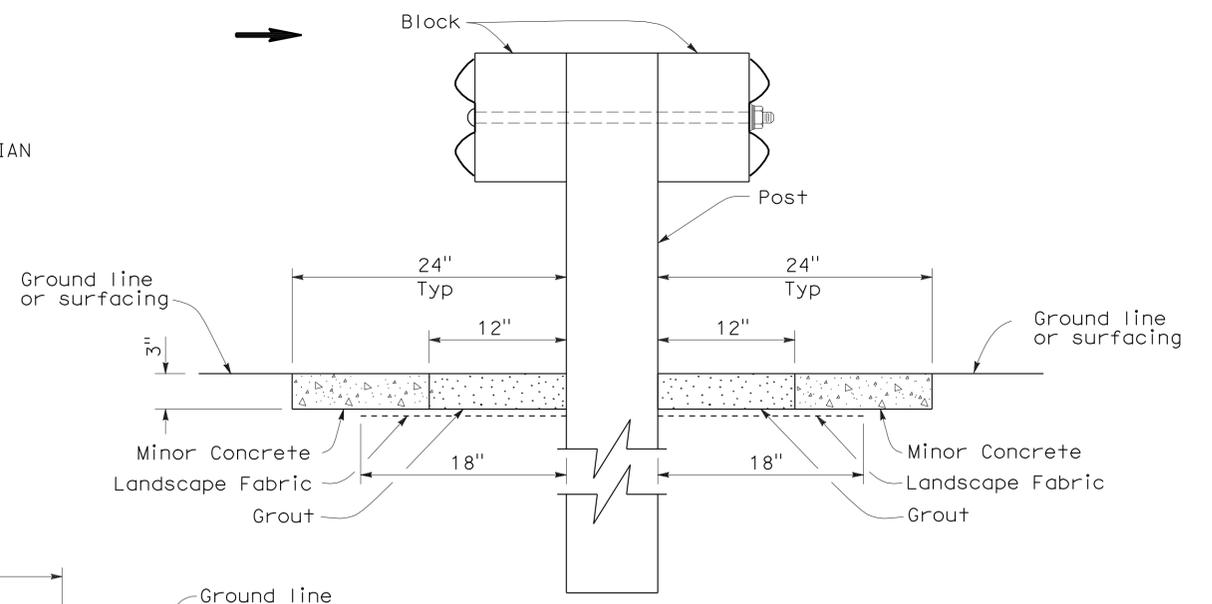
To accompany plans dated 12-13-10



PLAN
FIXED OBJECT(S) IN MEDIAN



SECTION B-B



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE
NSP A77C9 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

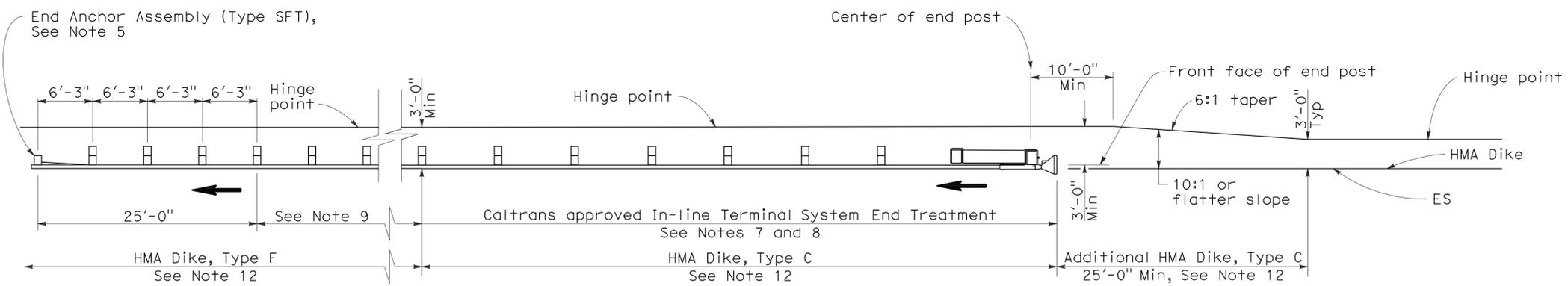
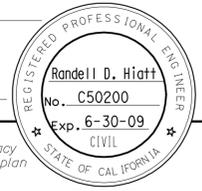
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	246	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

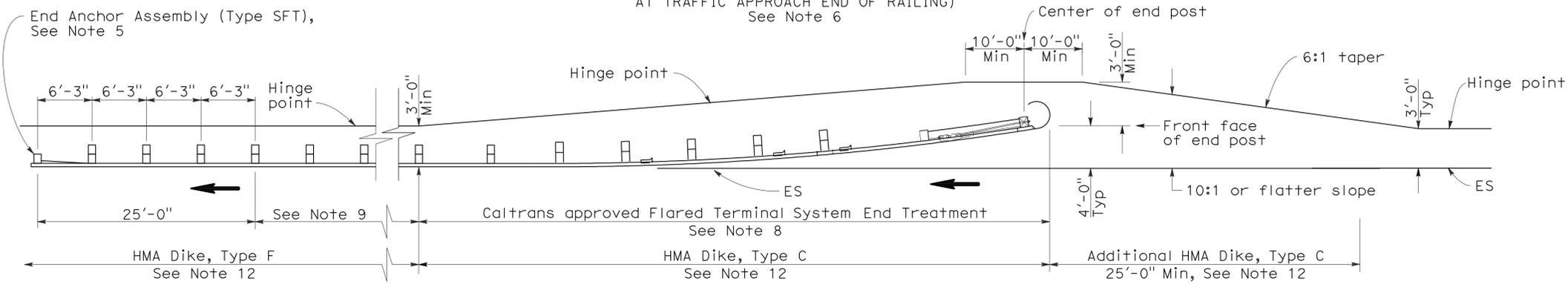
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To accompany plans dated 12-13-10



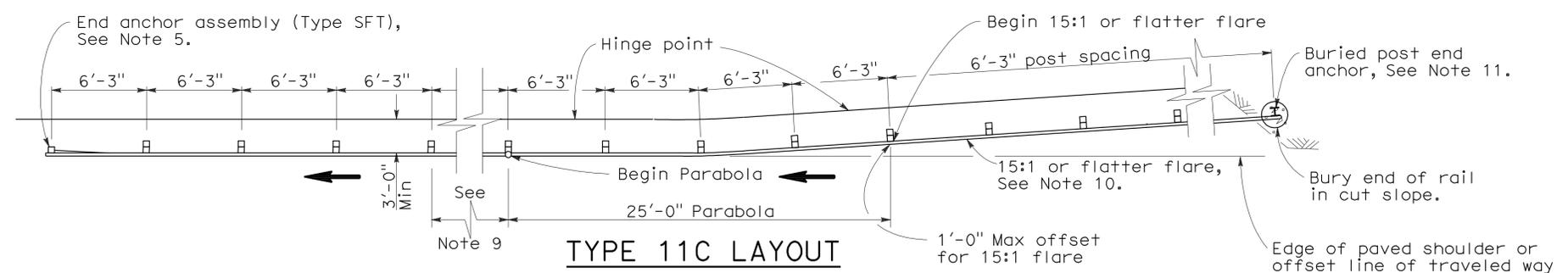
TYPE 11A LAYOUT

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



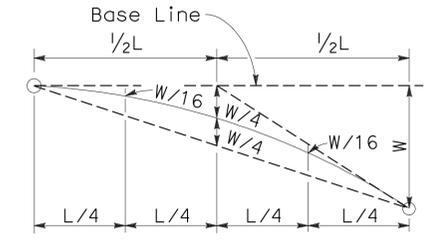
TYPE 11B LAYOUT

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

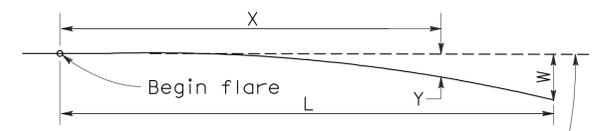


TYPE 11C LAYOUT

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



TYPICAL PARABOLIC LAYOUT

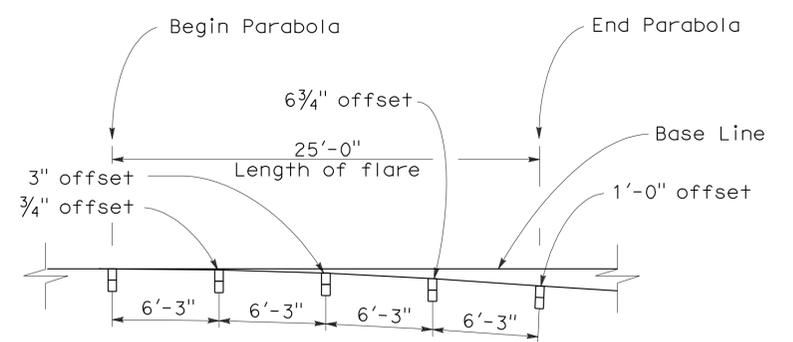


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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 →.
- 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
02	Sha	5	R10.5/R17.5	247	311

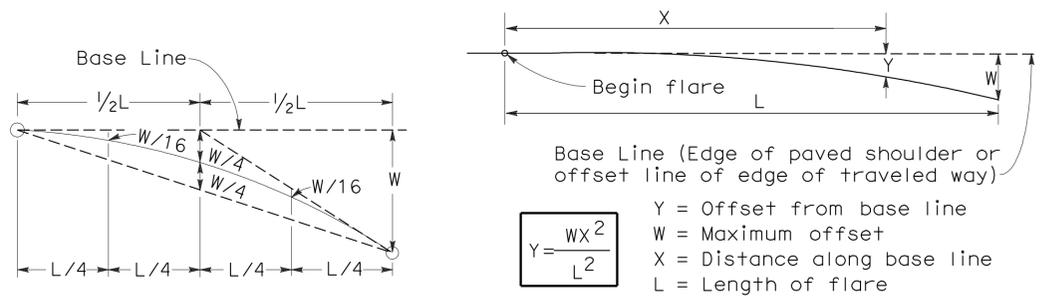
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

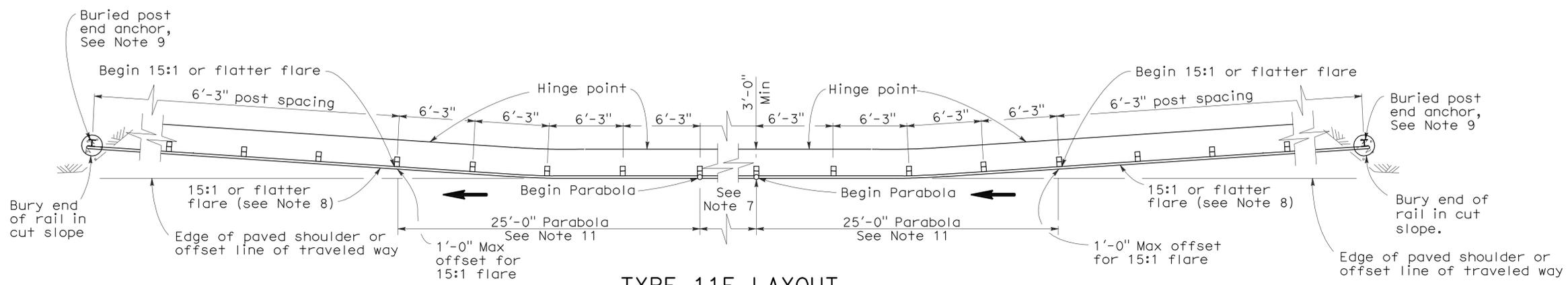
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To accompany plans dated 12-13-10

2006 REVISED STANDARD PLAN RSP A77E3

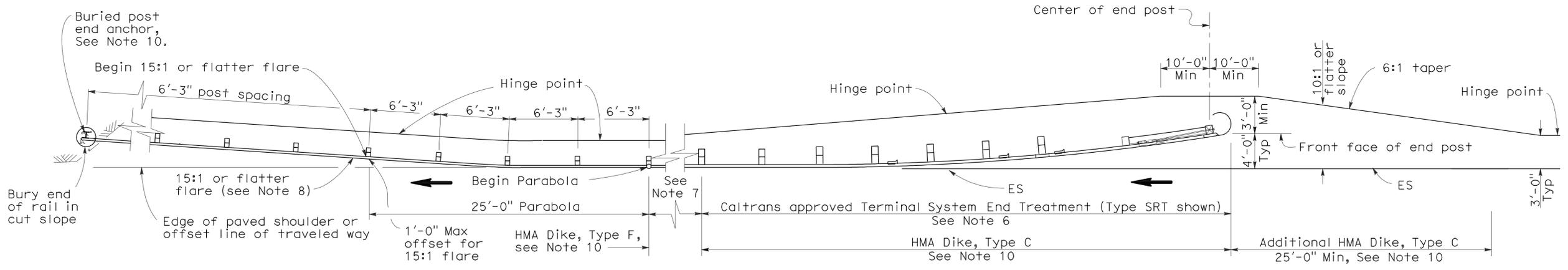


TYPICAL PARABOLIC LAYOUT PARABOLIC FLARE OFFSETS



TYPE 11F LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AT EACH END OF RAILING)
See Notes 5 and 10



TYPE 11G LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AND A BURIED END ANCHOR TREATMENT AT THE ENDS OF RAILING)
See Notes 5 and 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 post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- 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 11F and 11G Layouts, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E3
DATED MAY 1, 2006 - PAGE 50 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	248	311

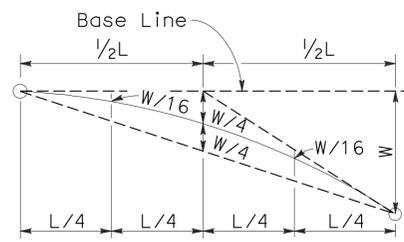
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

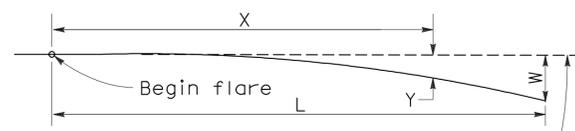
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 12-13-10



TYPICAL PARABOLIC LAYOUT

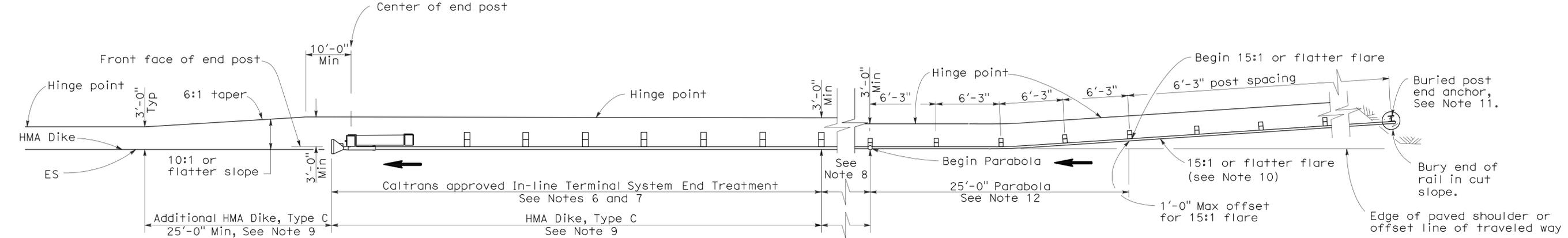


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

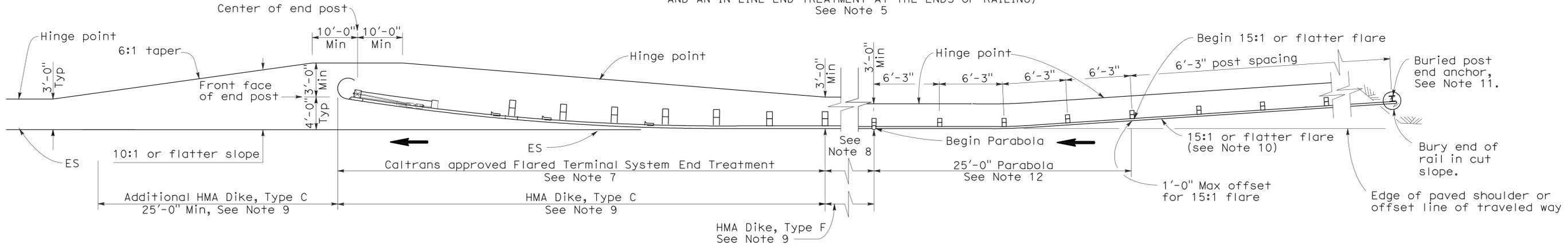
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPE 11K LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND AN IN-LINE END TREATMENT AT THE ENDS OF RAILING)
See Note 5



TYPE 11L LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING)
See Note 5

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 post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions 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.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- 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 11K and 11L Layouts, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E6
DATED MAY 1, 2006 - PAGE 53 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E6

2006 REVISED STANDARD PLAN RSP A77E6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	249	311

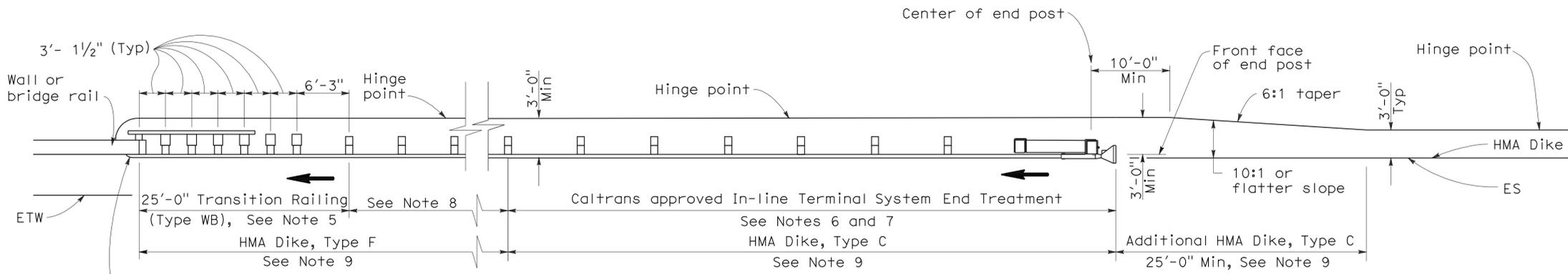
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

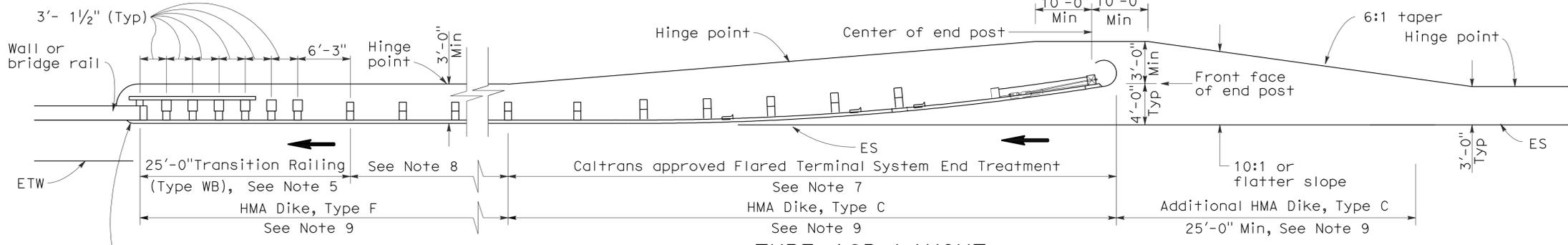
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To accompany plans dated 12-13-10



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

2006 REVISED STANDARD PLAN RSP A77F1

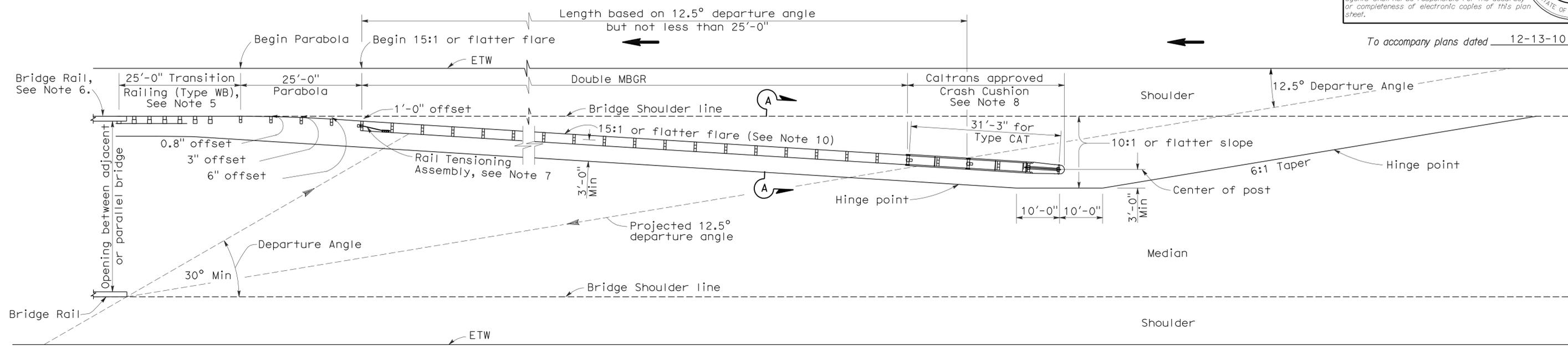
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	250	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

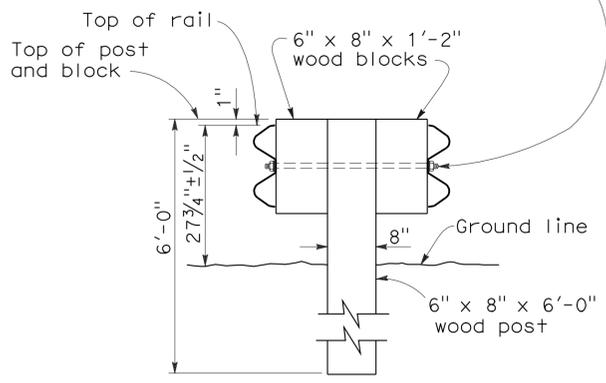


To accompany plans dated 12-13-10

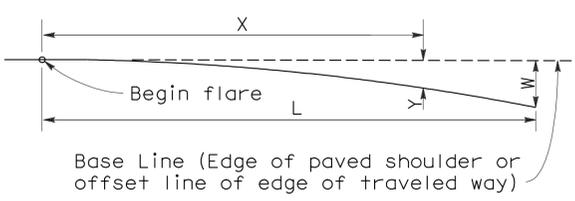
TYPE 12E LAYOUT

See Note 10

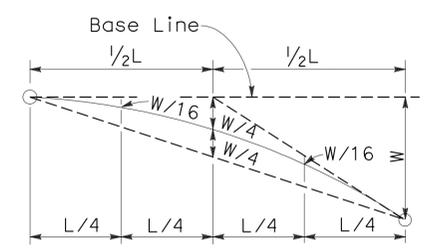
5/8" Ø Button head bolt with hex nut or 5/8" Ø Rod, threaded both ends, with hex nuts. 1/2" Max exposed threads after hex nut(s) tightened. No washer on rail faces for bolted connection to line post.



SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details, see Standard Plan A77J4.
- For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77J1.
- For Rail Tensioning Assembly details, see Standard Plan A77H2.
- The type of Crash Cushion to be used will be shown on the Project Plans.
- Type 12E Layout is typically used left of approaching traffic at the end of each structure on multilane freeways or expressways where a median type barrier is not constructed between separated roadbeds.
- The 15:1 or flatter flare is measured off of the edge of traveled way.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH

NO SCALE

RSP A77F3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F3
DATED MAY 1, 2006 - PAGE 56 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77F3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	251	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

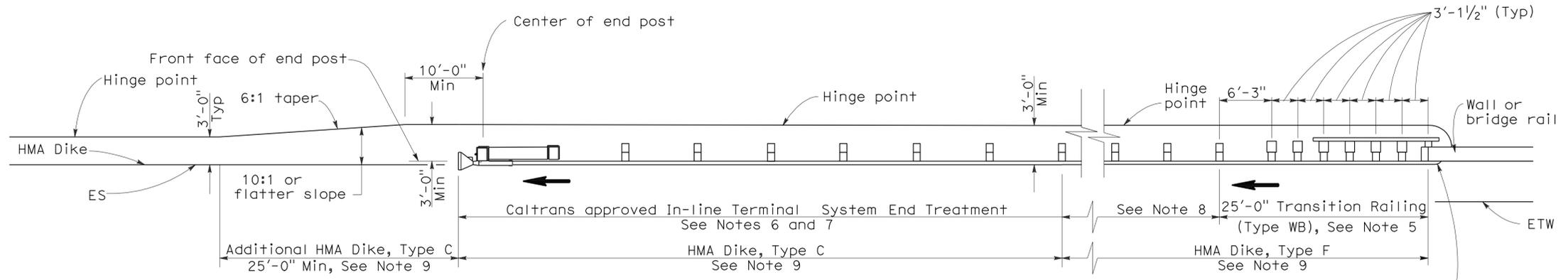
June 6, 2008
PLANS APPROVAL DATE

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

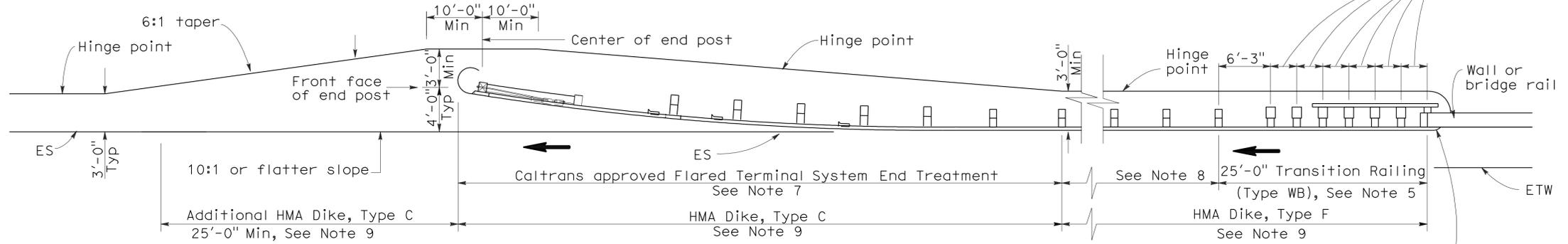
To accompany plans dated 12-13-10

2006 REVISED STANDARD PLAN RSP A77F4



TYPE 12AA LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10



TYPE 12BB LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 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 notched recycled 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 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, 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 treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77J2 and Connection Detail HH on Standard Plans A77k2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F4

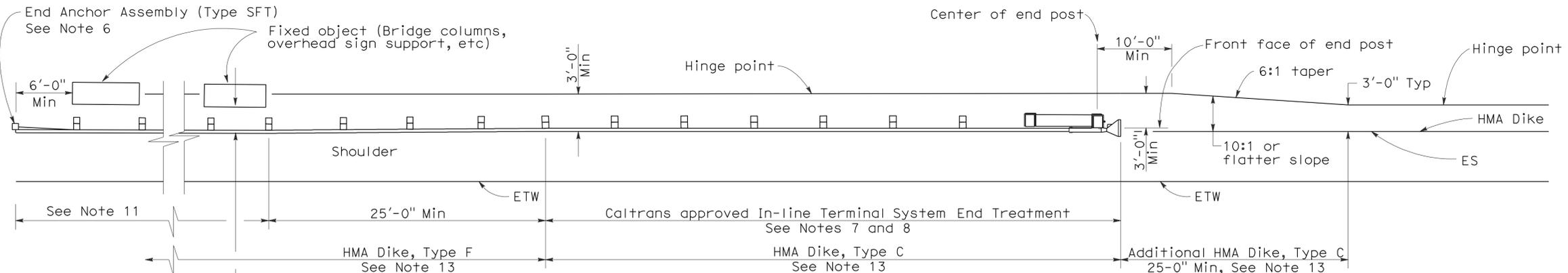
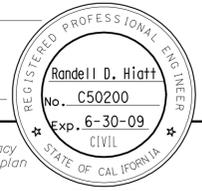
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	253	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

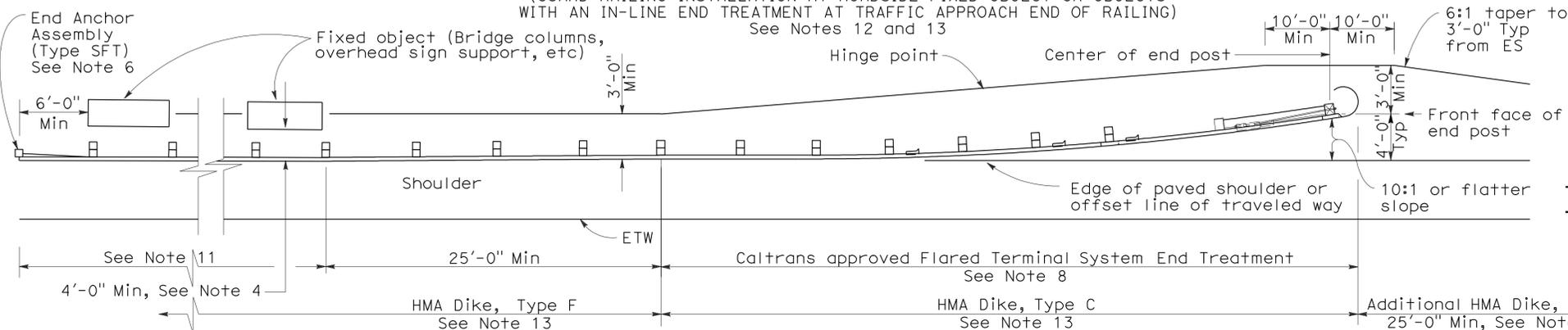
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To accompany plans dated 12-13-10



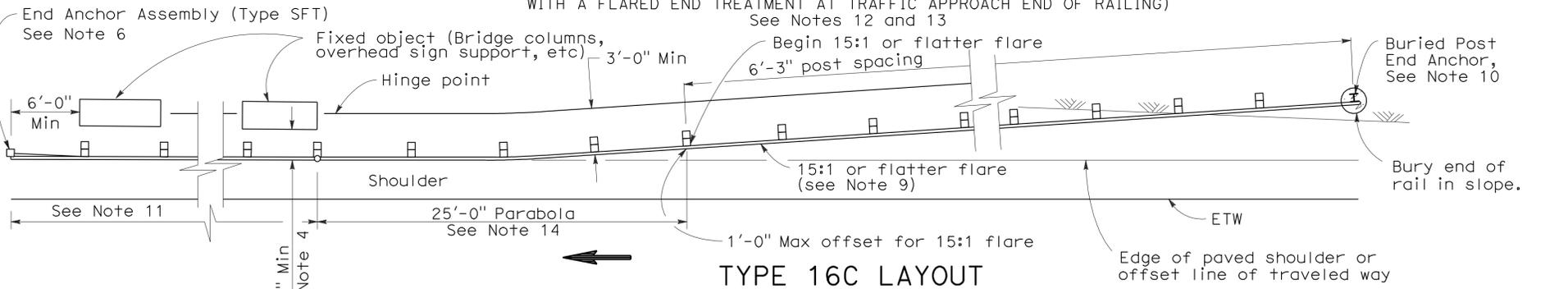
TYPE 16A LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 7 and 8



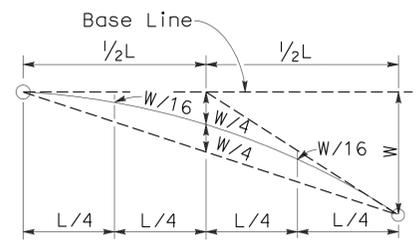
TYPE 16B LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13

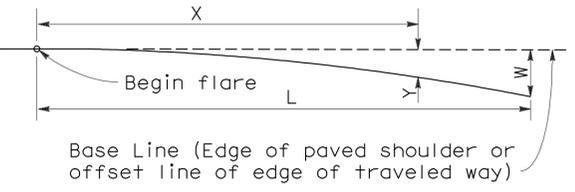


TYPE 16C LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



TYPICAL PARABOLIC LAYOUT



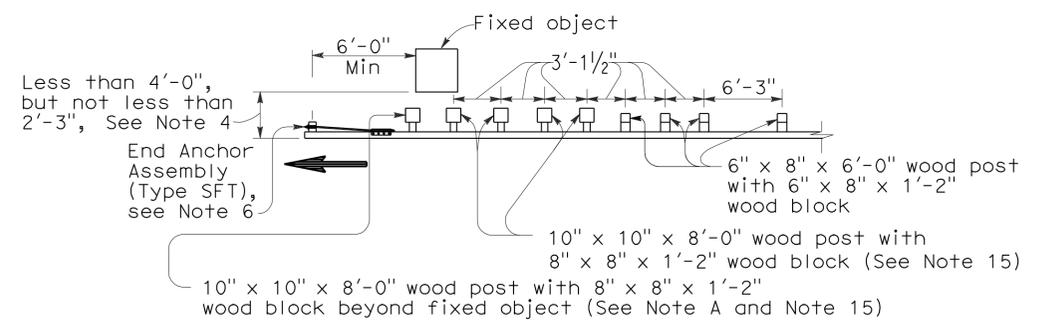
Base Line (Edge of paved shoulder or offset line of edge of traveled way)
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS

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

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout 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 16C Layout, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for only one direction of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A:

For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Types 16A, 16B or 16C Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**

NO SCALE

RSP A77G3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G3
DATED MAY 1, 2006 - PAGE 61 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G3

2006 REVISED STANDARD PLAN RSP A77G3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	254	311

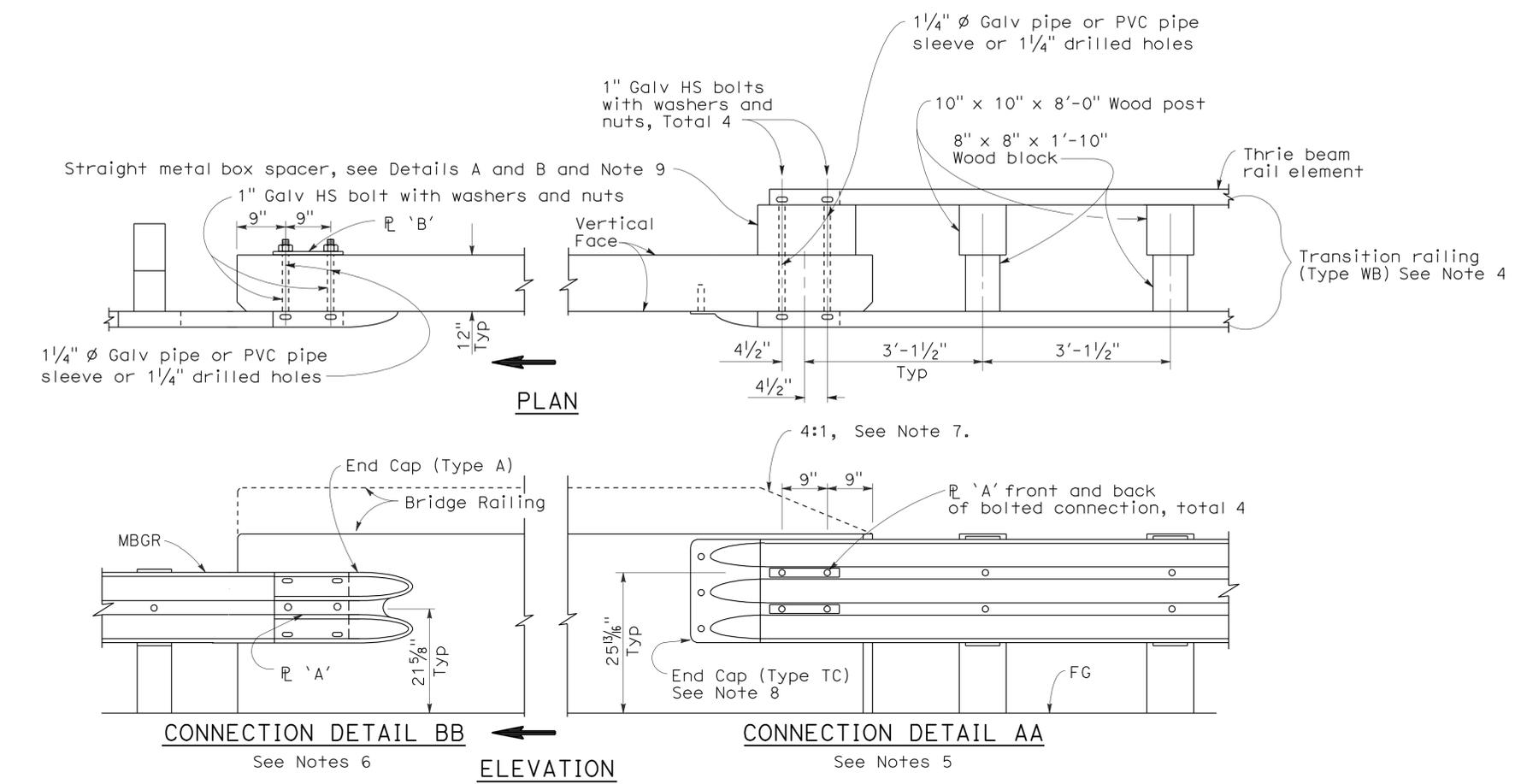
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

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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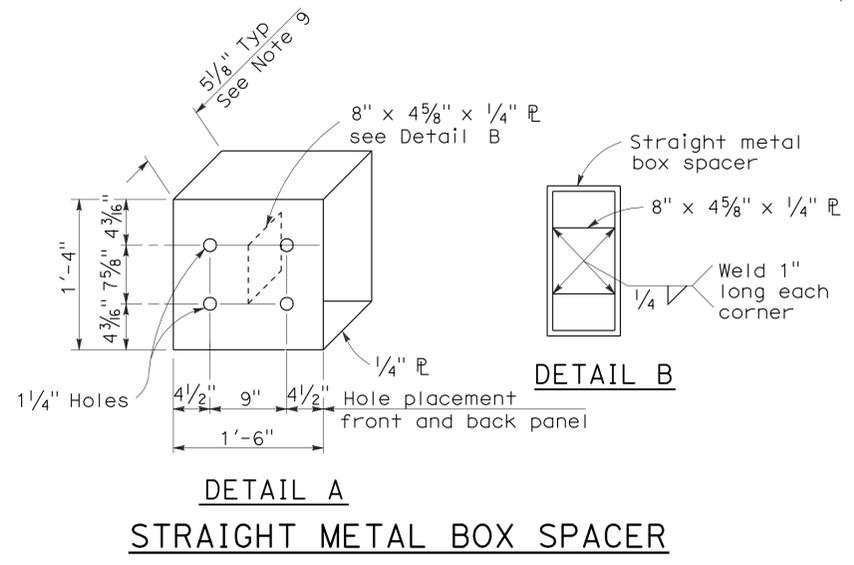
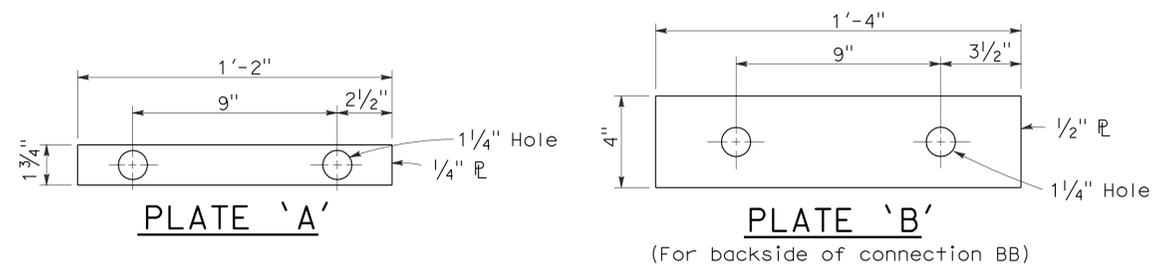
To accompany plans dated 12-13-10



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
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METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.1

NO SCALE

RSP A77J1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J1 DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	255	311

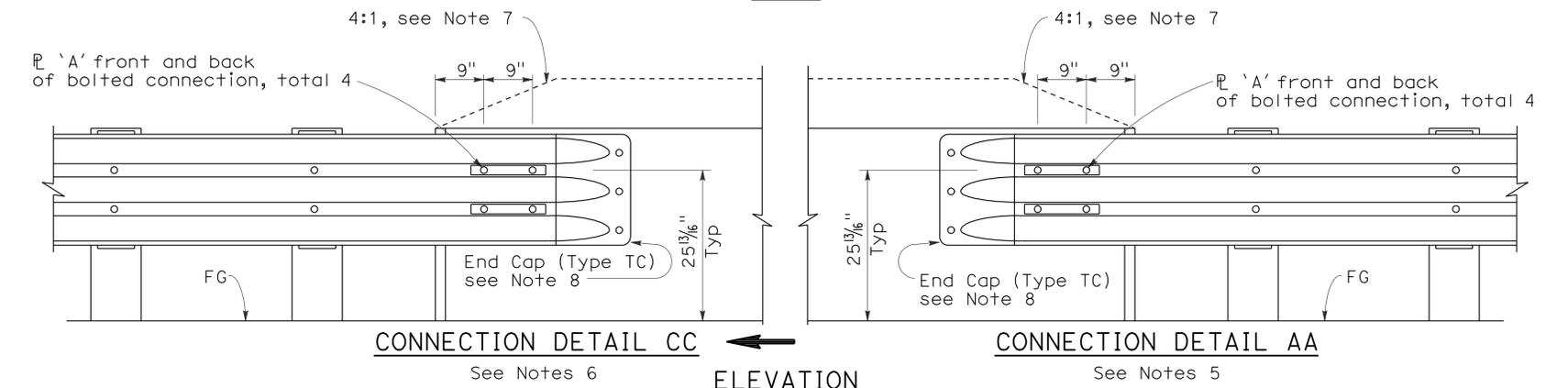
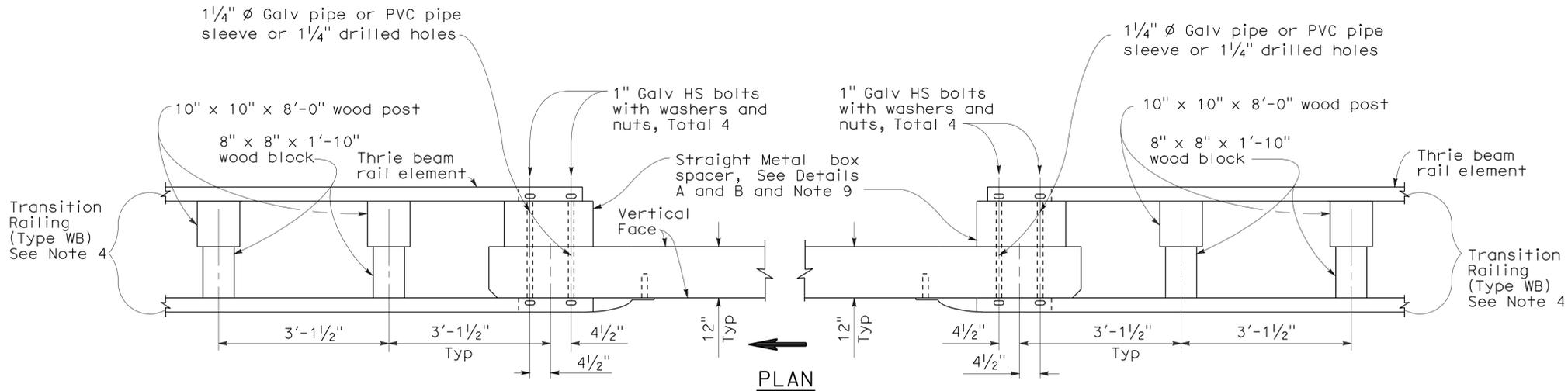
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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No. C50200
Exp. 6-30-09
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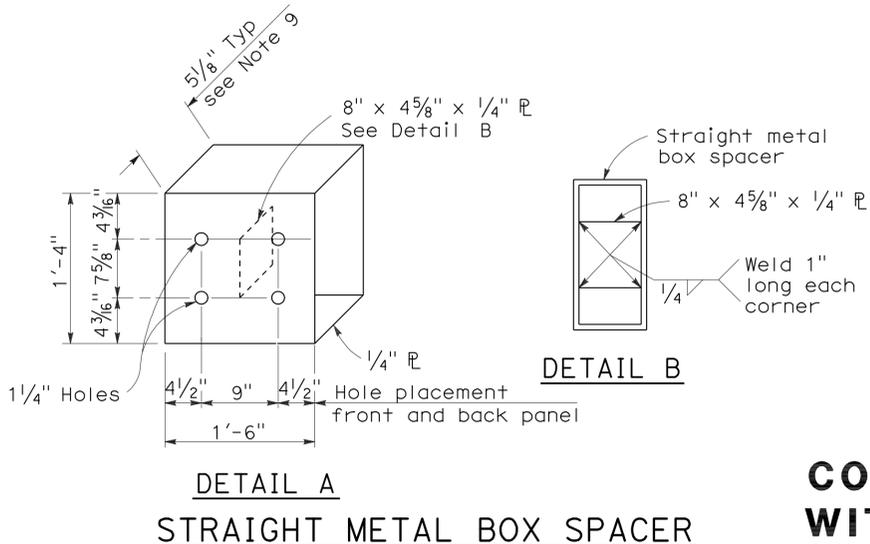
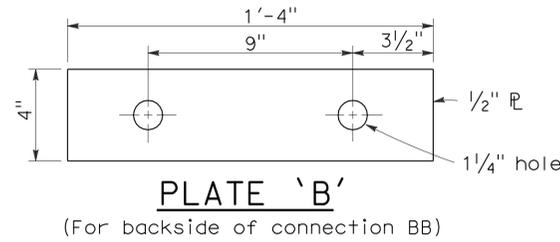
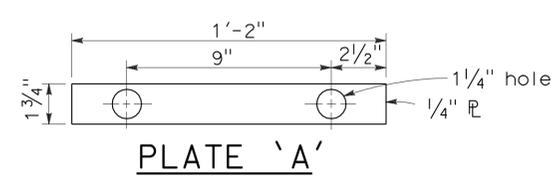
To accompany plans dated 12-13-10



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2

NO SCALE
RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

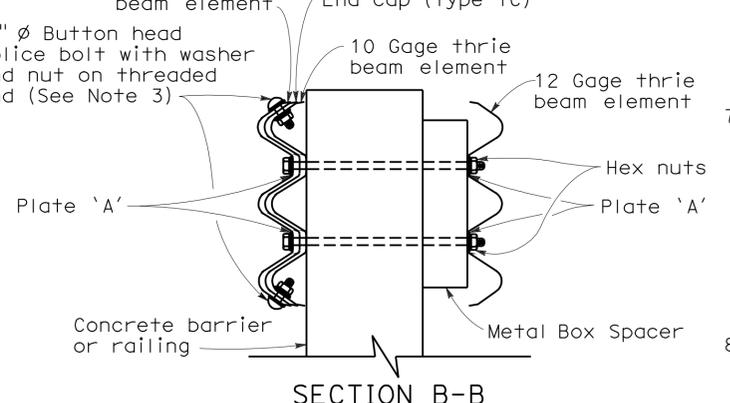
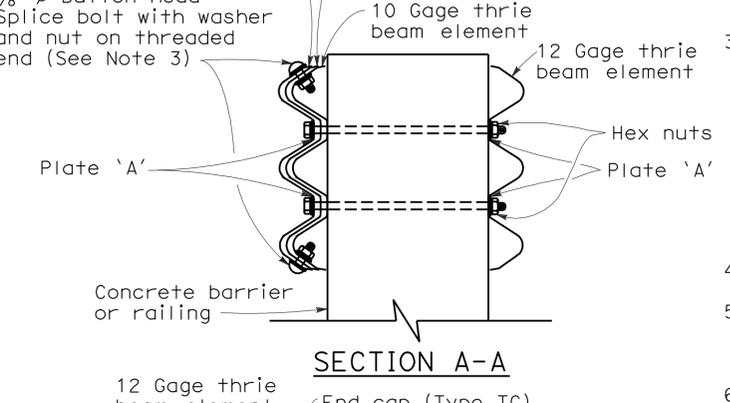
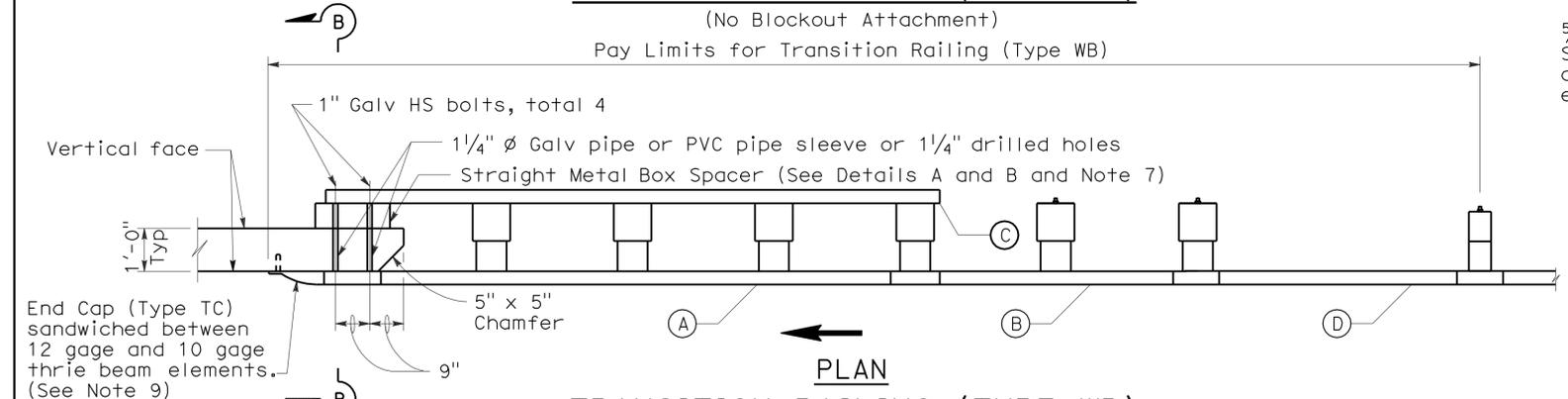
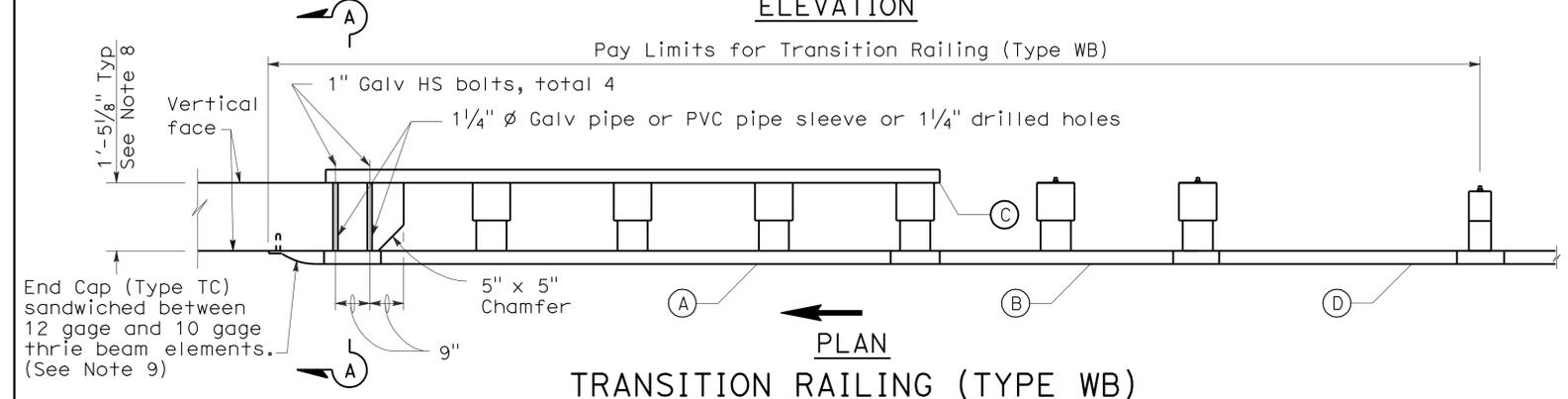
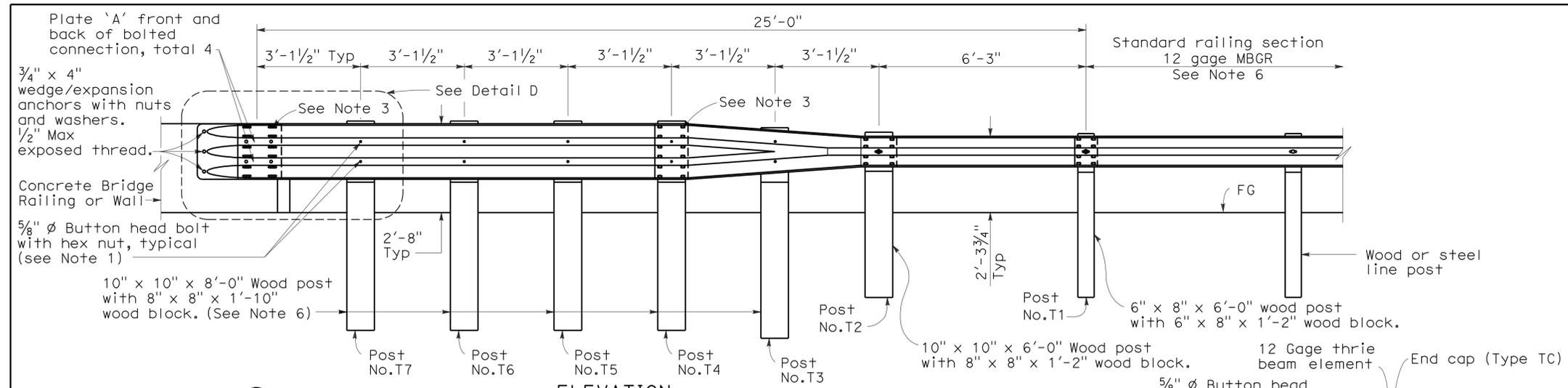
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	256	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

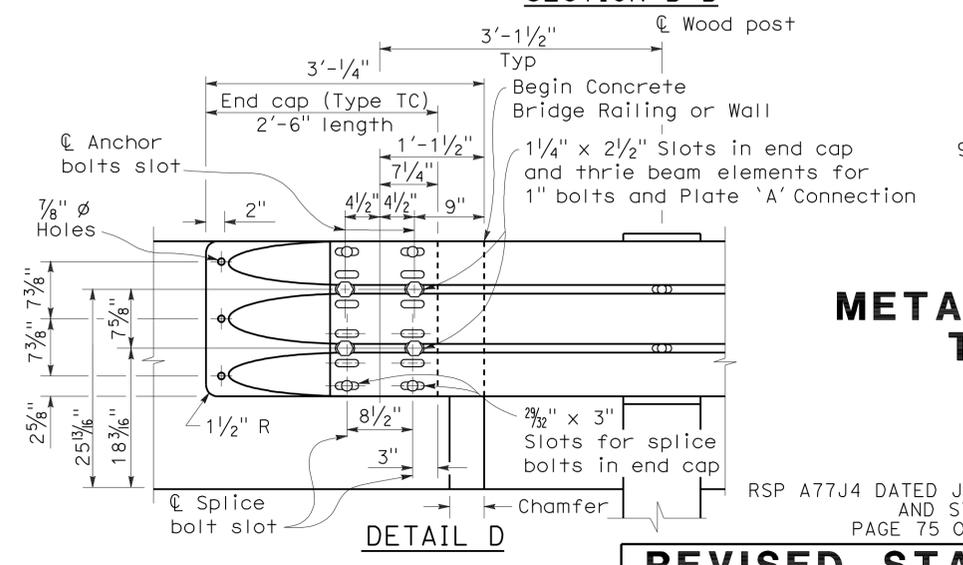
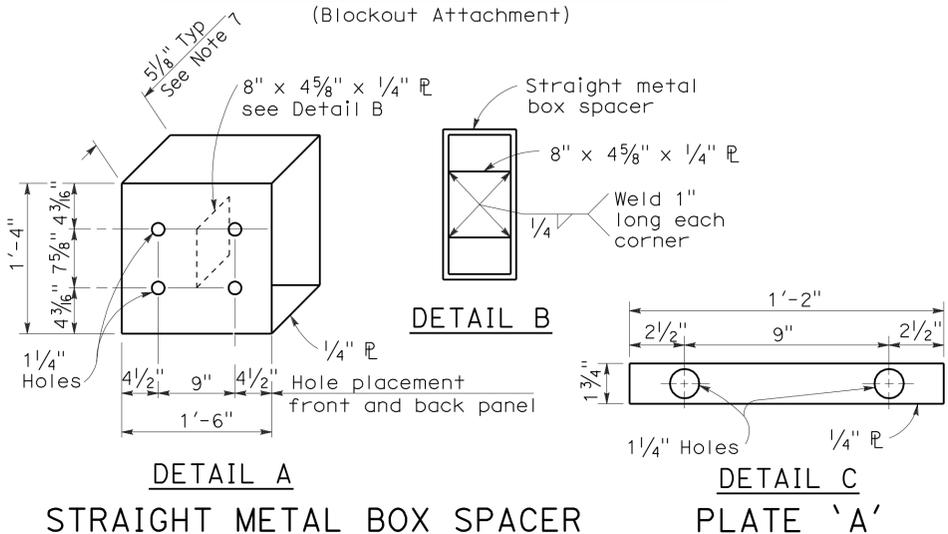
June 5, 2009
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
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- 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



- NOTES:** To accompany plans dated 12-13-10
1. Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. 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.
 3. 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.
 4. Direction of adjacent traffic indicated by \rightarrow .
 5. The top elevation of Post Nos. T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 6. 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.
 7. 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.
 8. 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.
 9. 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.

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.

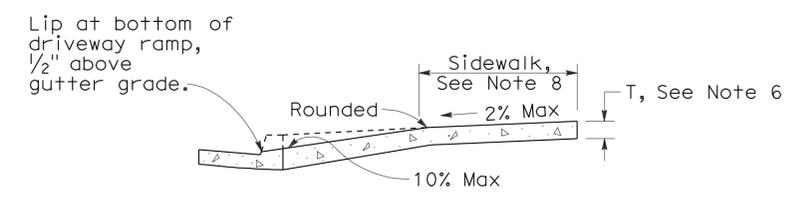
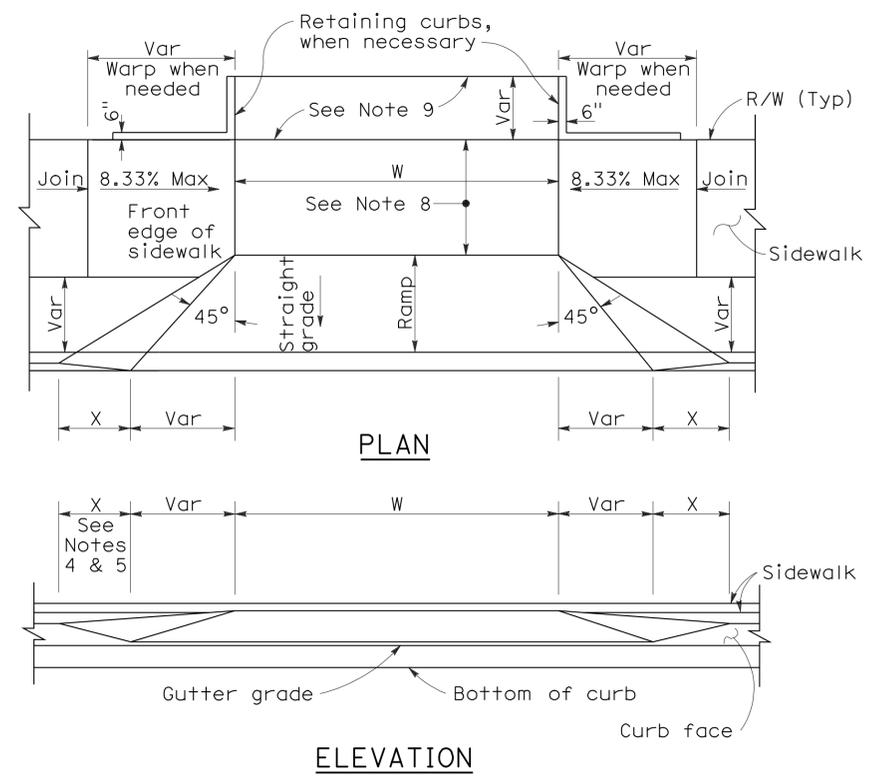
REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	257	311

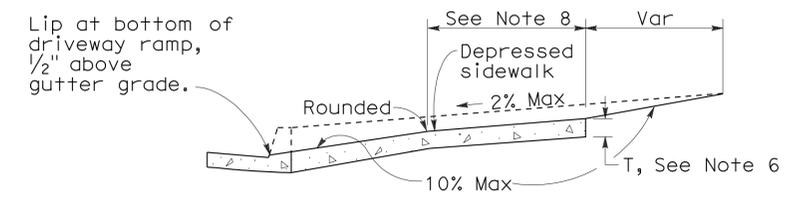
REGISTERED CIVIL ENGINEER
 November 17, 2006
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Michael Janzen
 No. 44788
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 STATE OF CALIFORNIA



CASE A

Typical driveway, sidewalk not depressed



CASE B

Driveway with depressed sidewalk

SECTIONS

CURB QUANTITIES

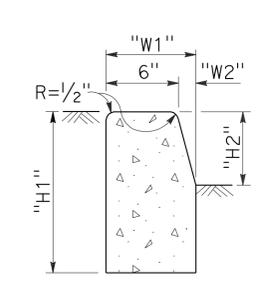
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-8"

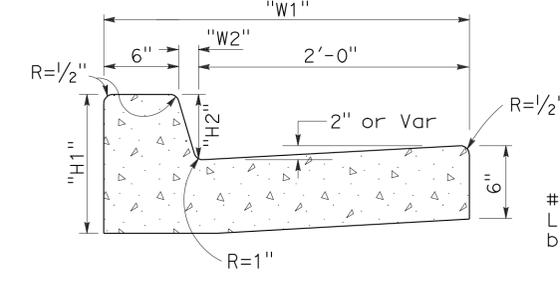
To accompany plans dated 12-13-10

DRIVEWAYS



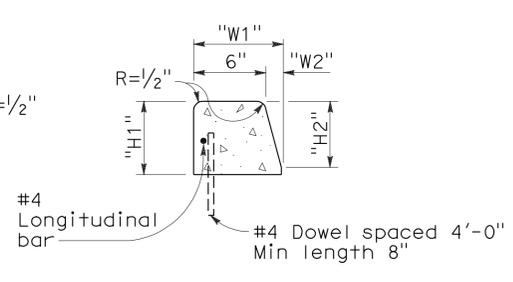
TYPE A1 CURBS

See Table A



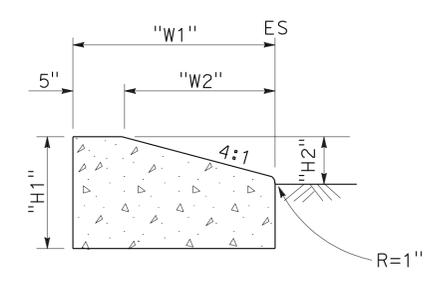
TYPE A2 CURBS

See Table A



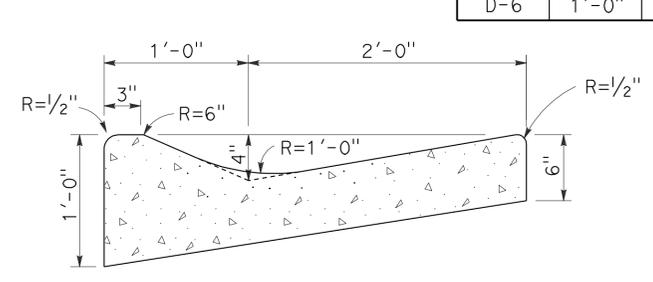
TYPE A3 CURBS

Superimposed on existing pavement
See Table A

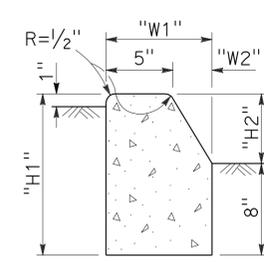


TYPE D CURBS

See Table A

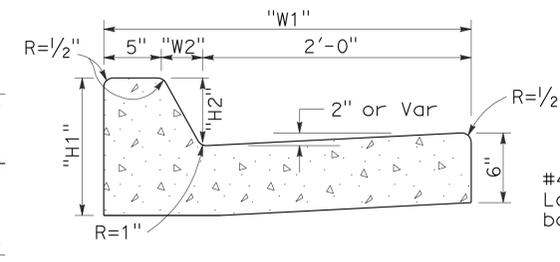


TYPE E CURB



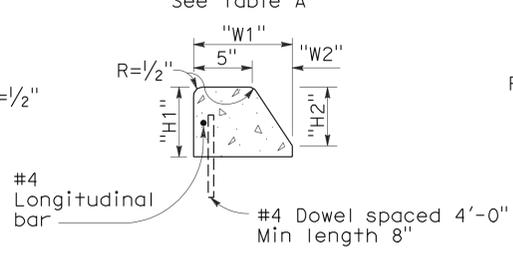
TYPE B1 CURBS

See Table A



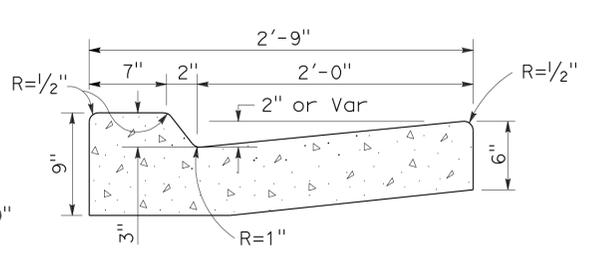
TYPE B2 CURBS

See Table A

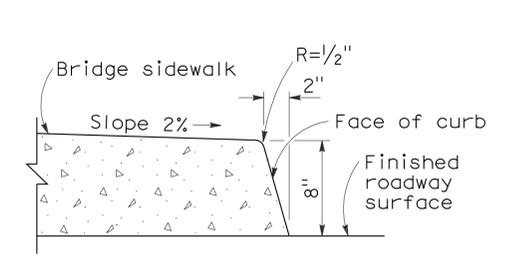


TYPE B3 CURBS

Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB

On Bridges

NOTES:

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

CURBS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A
DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.

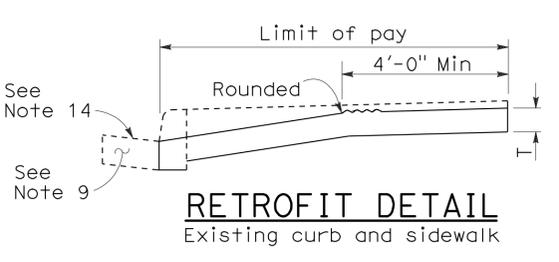
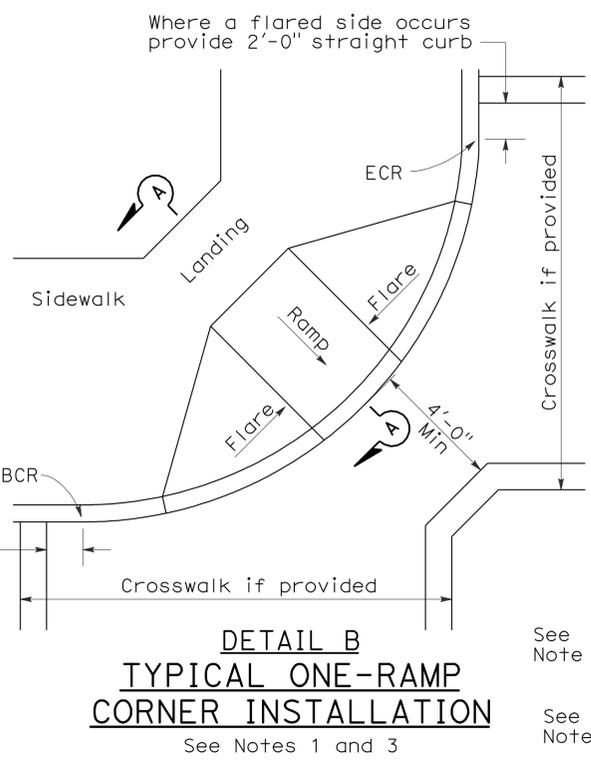
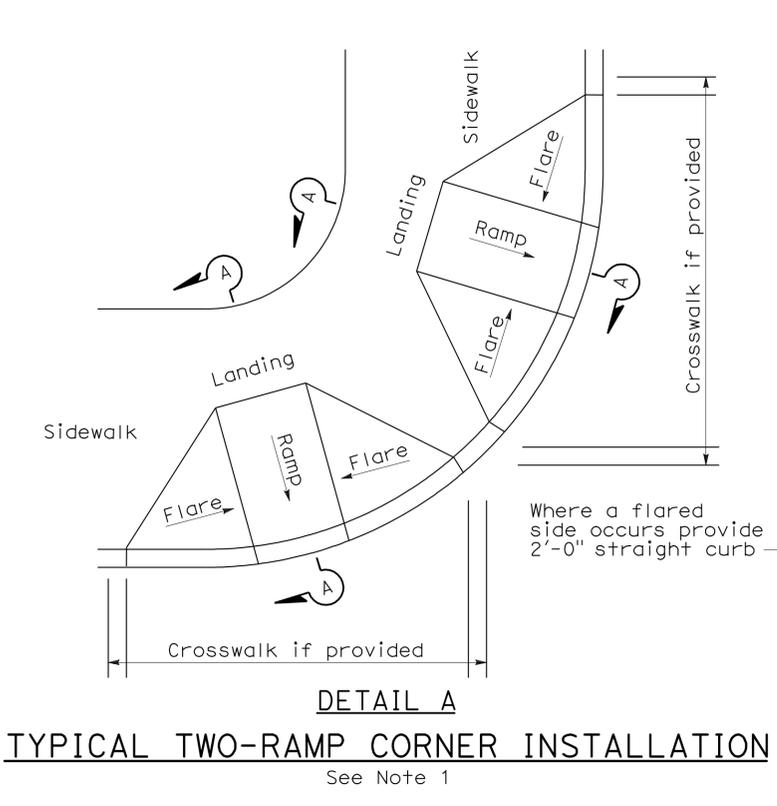
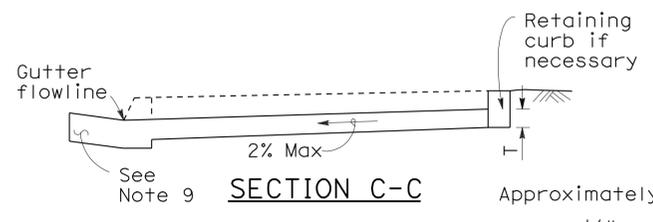
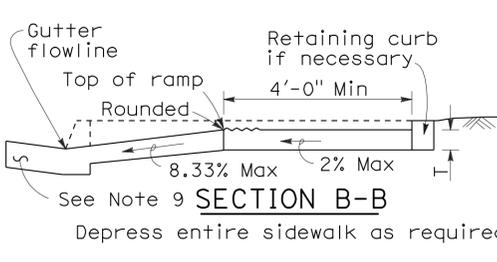
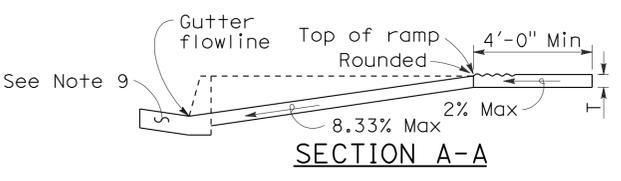
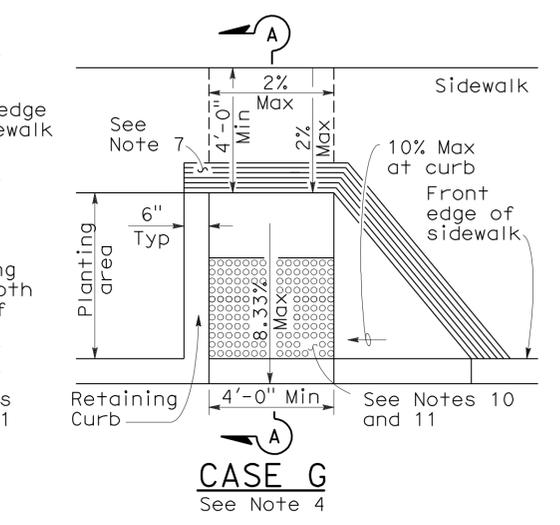
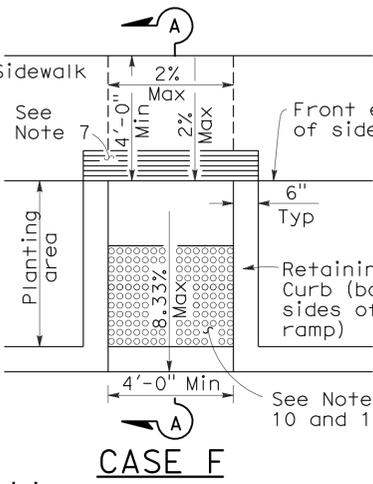
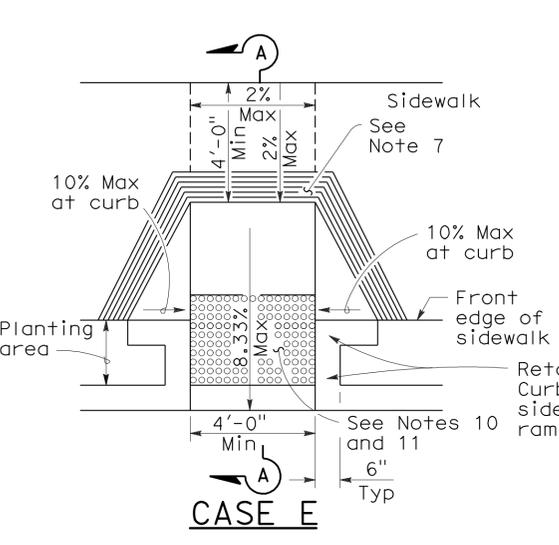
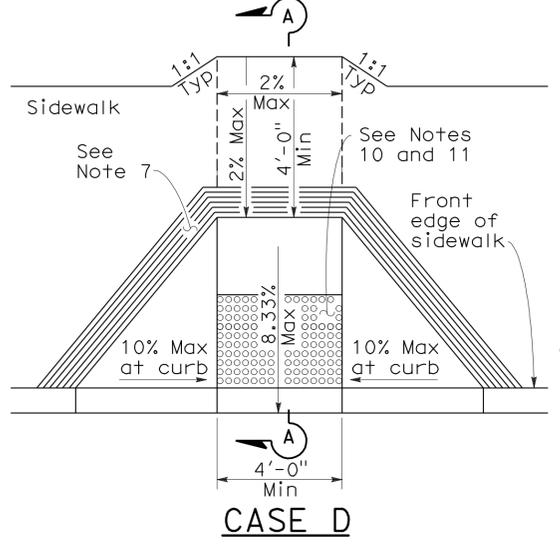
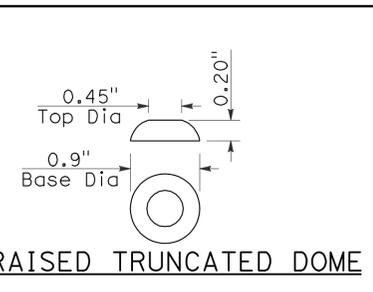
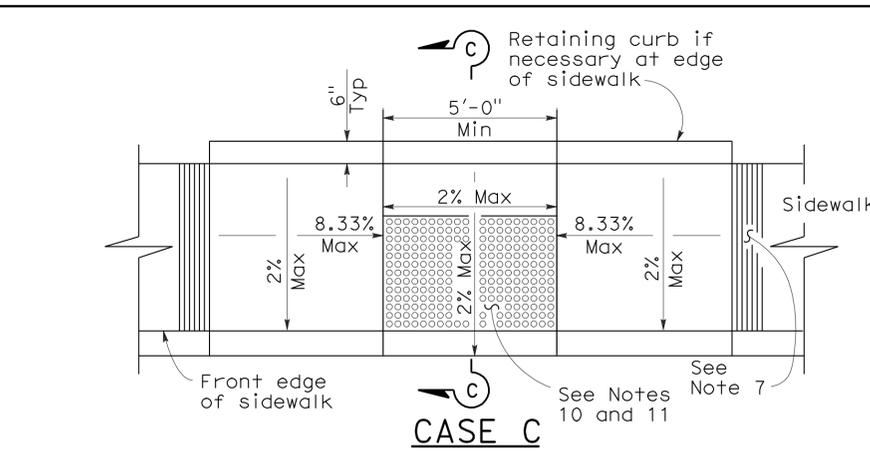
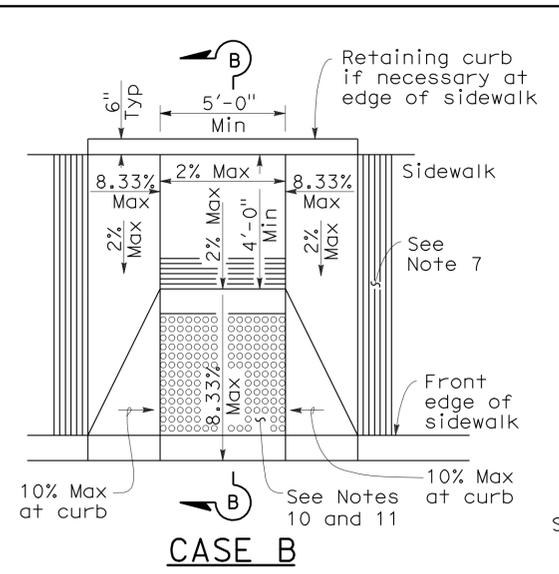
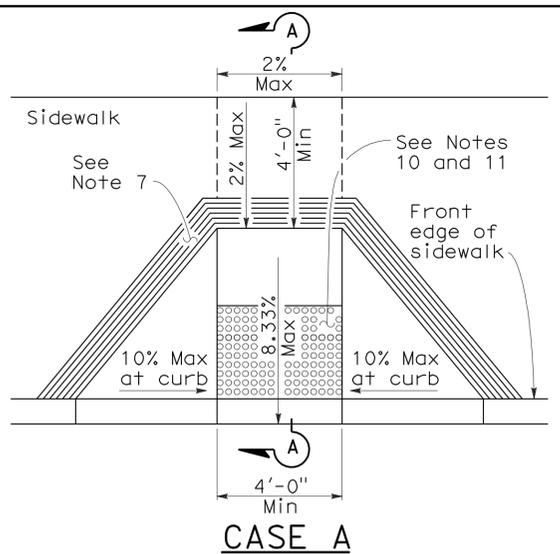
REVISED STANDARD PLAN RSP A87A

2006 REVISED STANDARD PLAN RSP A87A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	258	311

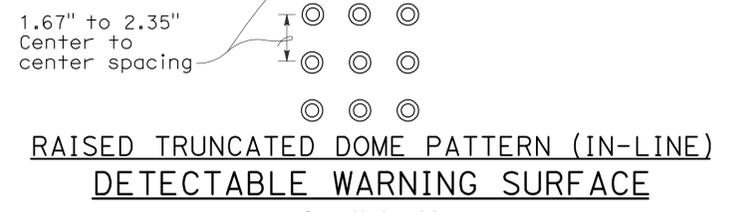
H. David Cordova
 REGISTERED CIVIL ENGINEER
 September 1, 2006
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
Hector David Cordova
 No. C41957
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA



NOTES:

- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-0" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-0".
- Side slope of ramp flares vary uniformly from a maximum of 10% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush and free of abrupt changes.
- Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp or accessible route shall not exceed 5 percent within 4'-0" of the top and bottom of the curb ramp.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.



CURB RAMP DETAILS
NO SCALE

RSP A88A DATED SEPTEMBER 1, 2006 SUPERSEDES STANDARD PLAN A88A DATED MAY 1, 2006 - PAGE 115 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A88A

2006 REVISED STANDARD PLAN RSP A88A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	259	311

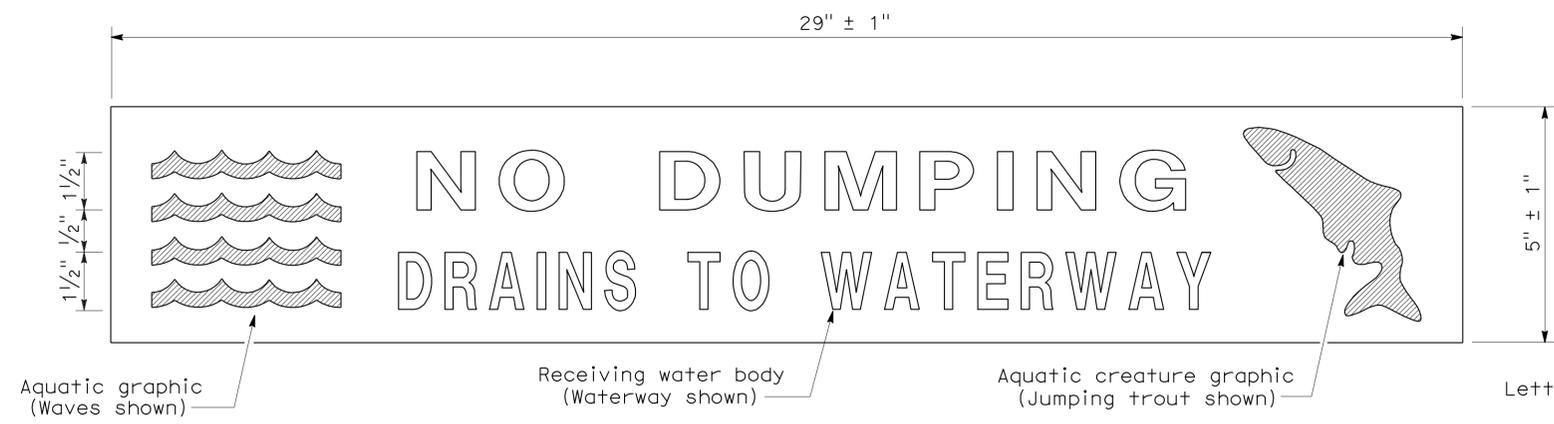
Robert B. Schett
LICENSED LANDSCAPE ARCHITECT

April 3, 2009
PLANS APPROVAL DATE

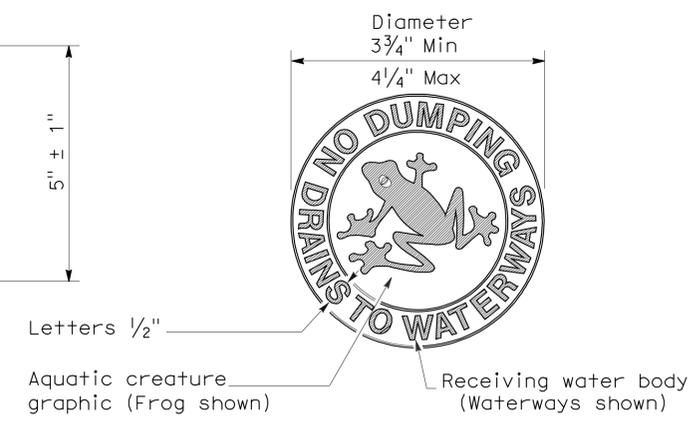
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

STATE OF CALIFORNIA
LICENSED LANDSCAPE ARCHITECT
Robert B. Schett
11-30-10
2-25-09
date

To accompany plans dated 12-13-10



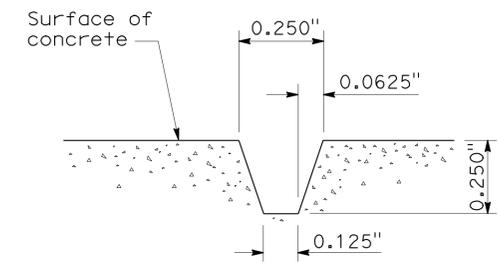
PLAN
DRAINAGE INLET MARKER
(PREFABRICATED THERMOPLASTIC)



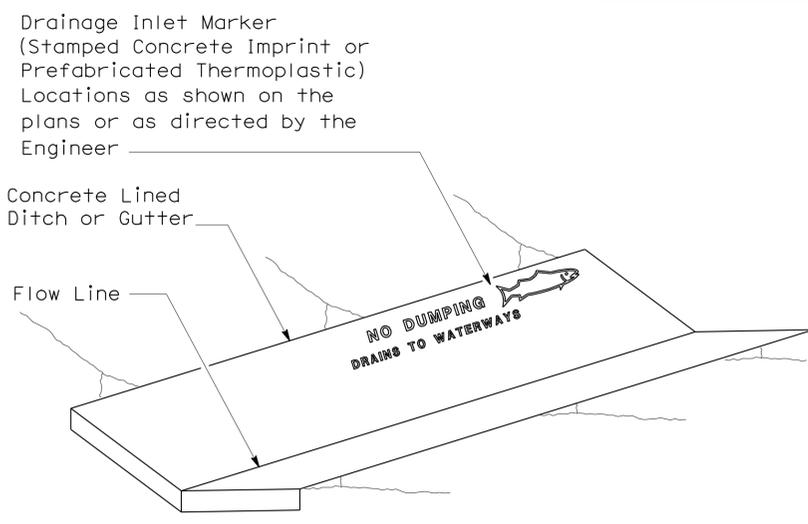
PLAN
DRAINAGE INLET MARKER
(MEDALLION)



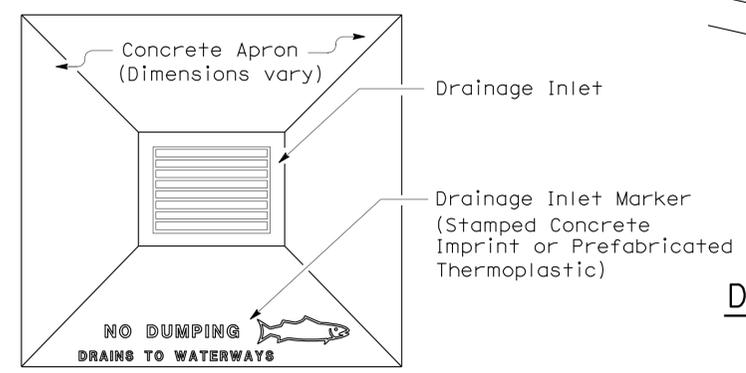
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DRAINAGE INLET MARKER
(STAMPED CONCRETE IMPRINT)



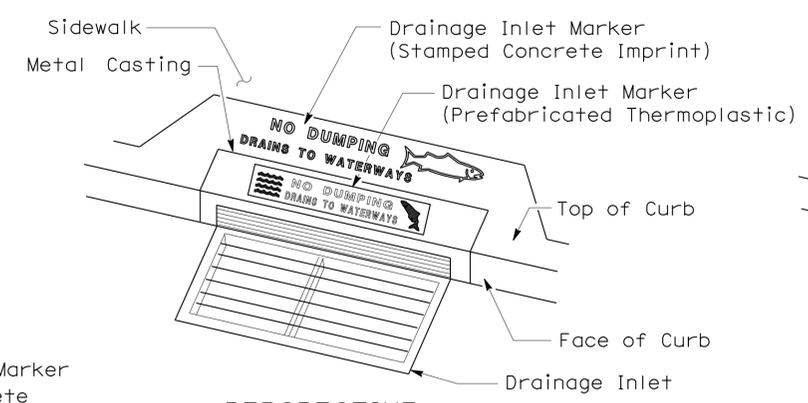
SECTION A-A
STAMPED CONCRETE
IMPRINT DETAIL



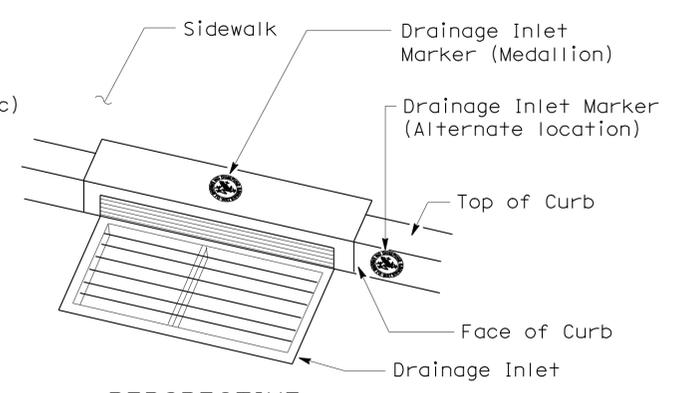
PERSPECTIVE
DRAINAGE INLET MARKER ON
CONCRETE LINED DITCH



PLAN
DRAINAGE INLET MARKER ON
DRAINAGE INLET APRON

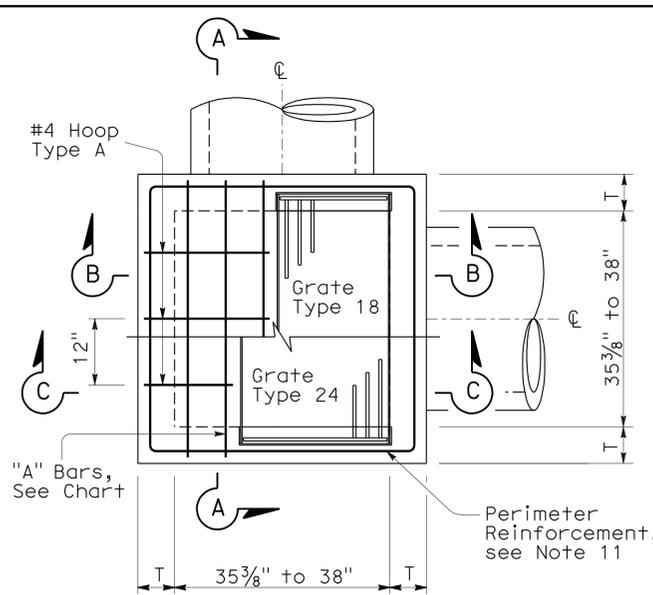


PERSPECTIVE
DRAINAGE INLET MARKER ON
DRAINAGE INLET

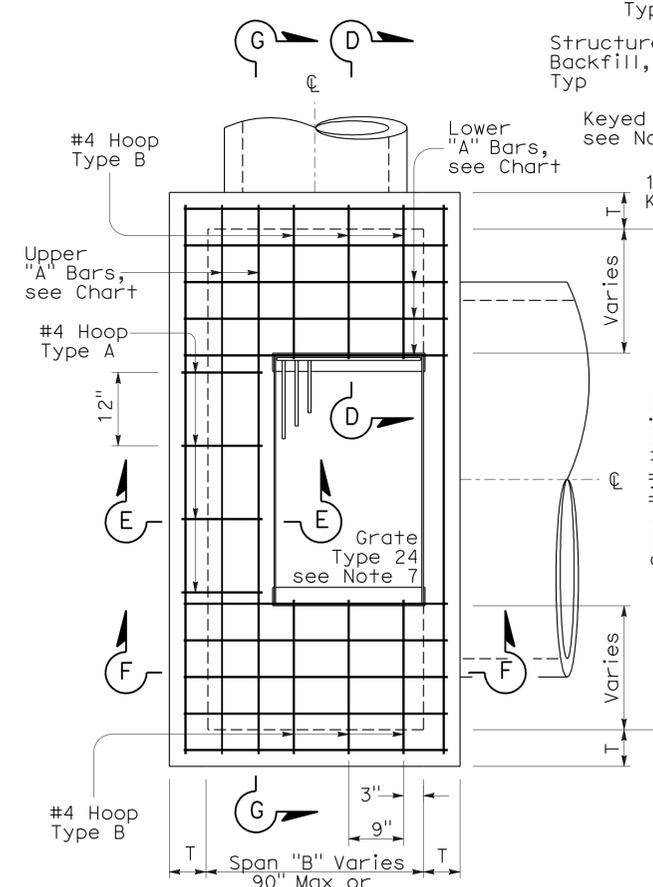


PERSPECTIVE
DRAINAGE INLET MARKER (MEDALLION)
ON DRAINAGE INLET

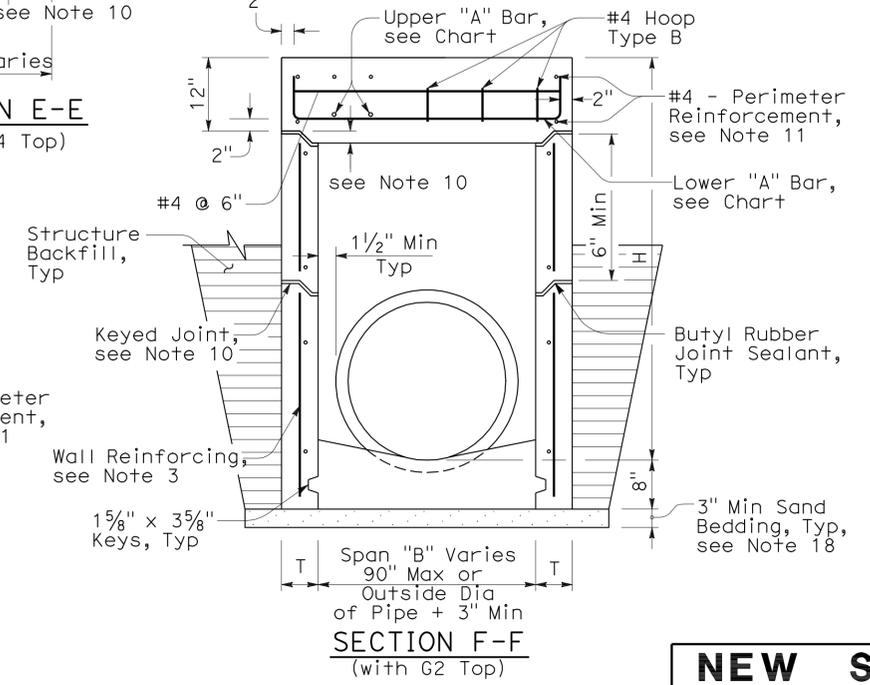
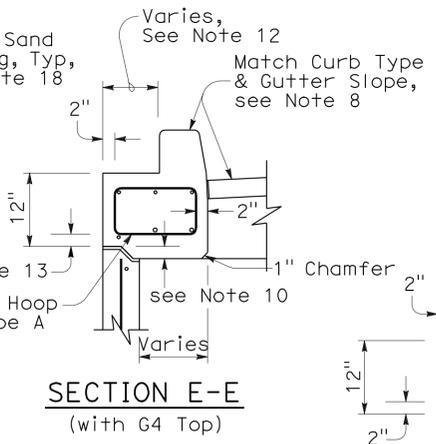
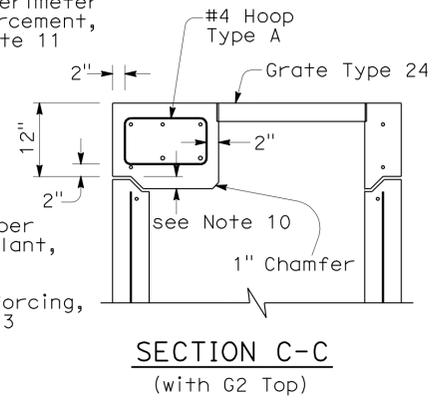
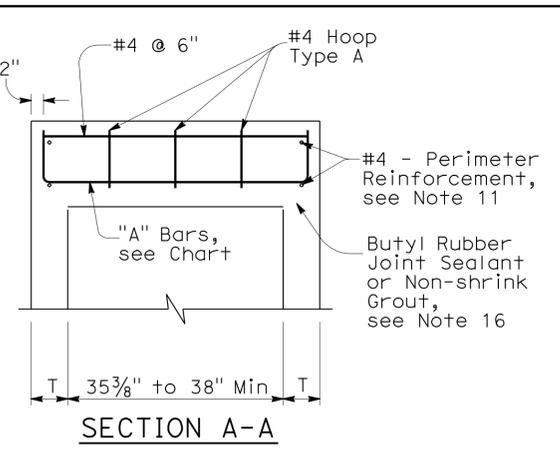
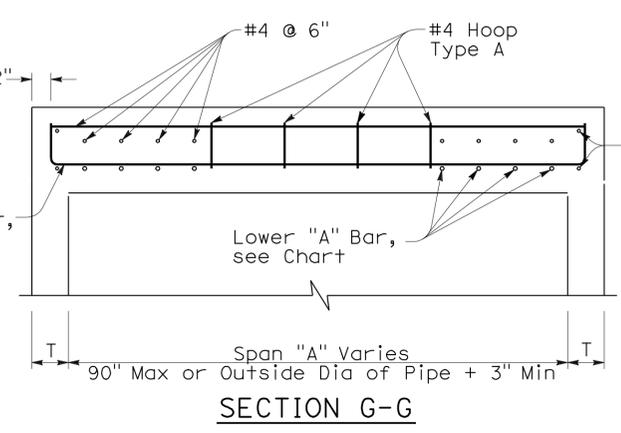
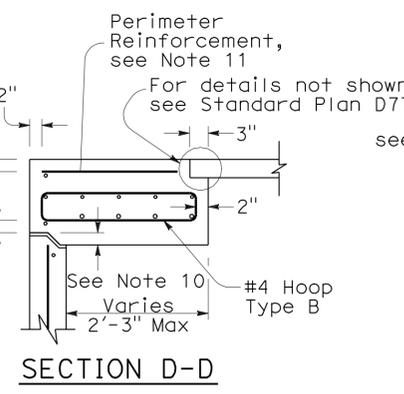
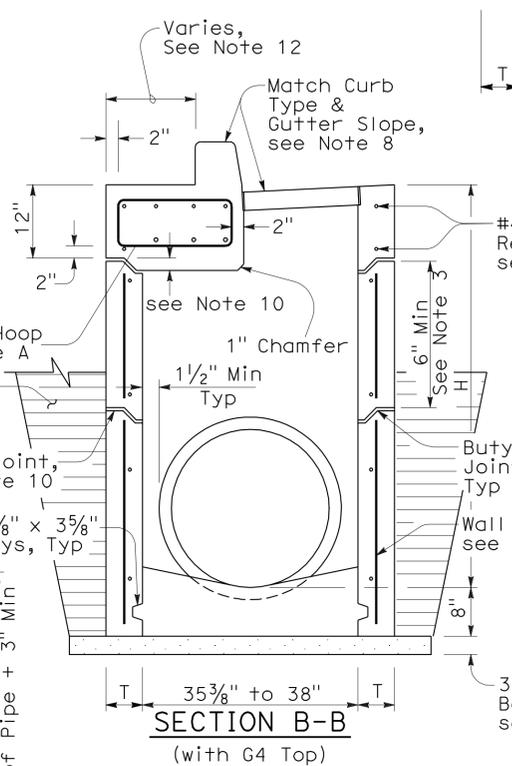
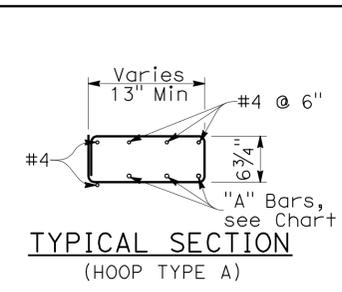
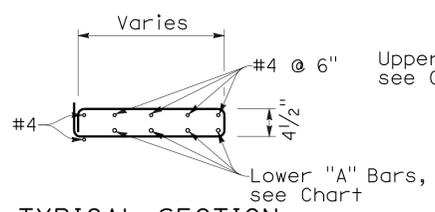
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DRAINAGE INLET MARKERS
NO SCALE
NSP D71 DATED APRIL 3, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.



STANDARD TYPE G2 OR G4



EXPANDED TYPE G2 OR G4
(Top Rebar Not Shown)



NOTES:

- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
- For "T" wall thickness: T=6" when "H" is 8' or less. T=8" when "H" is over 8'.
- Wall reinforcing not required when "H" is 8' or less and the unsupported width or length is 6'-0" or less. Reinforce wall exceeding these limits with #4 bars @ 1'-6" ± centers placed 2" clear to the inside of inlet unless otherwise shown. Short independent wall sections or height adjustment rings 6" to 24" high must have a minimum of two #4 horizontal bars.
- Seal pre-cast inlets connection openings between wall and pipe with non-shrink grout or resilient connectors as specified in the Special Provisions.
- 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 bottom of lid. The distance between steps must not exceed 1'-0" and be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts must comply with State Industrial Safety Requirements. See Standard Plan D74C for step details.
- Pipe(s) can be placed in any wall.
- Set inlet so that grate bars are parallel to direction of principal surface flow.
- Type G4 inlet can use Grate Type 18 or 24. Type G2 inlet uses Grate Type 24. See Revised Standard Plan RSP D77A and Standard Plan D77B for grate and frame details and weights of miscellaneous Iron and Steel.
- G4 inlet details are the same as the G2 with the addition of a curb and sloped grate that matches the adjacent curb and gutter depression. See Standard Plans D78A & D78B for gutter and inlet depression details. See Revised Standard Plan RSP A87A & Standard Plan A87B for Curb and Dike Details.
- Provide pre-cast inlets with separate top sections for final grade adjustment under Standard Specification Section 51-1.02. Provide keyed joints between the top and wall and multiple wall sections. Joint design may vary but must be 1" to 3" in depth.
- Perimeter reinforcement serves as a rigid frame to position and attach the required structural reinforcement and may be tack welded at outer corners when using ASTM A706 weldable bars.
- This dimension will vary with different grates, curbs types, box width and wall thickness.
- 2" unless inlet is expanded in the Span "A" direction, then clearance is 2" plus the diameter of the lower "A" bar.
- Place "A" Bars at an angle so hooked ends will maintain 2" clear coverage.
- Refer to Standard Plan D73, Table A for concrete quantities.
- Non-shrink grout can be used for upper most joint to facilitate final top grade adjustment.
- Slope inlet floors 4:1 towards the outlet pipe. Pre-cast inlets may have monolithic sloped floors, flat floors, or no floors in which case a sloped floor must be cast in the field. Inlet floors do not require reinforcing.
- Extend sand bedding under all structure backfill.

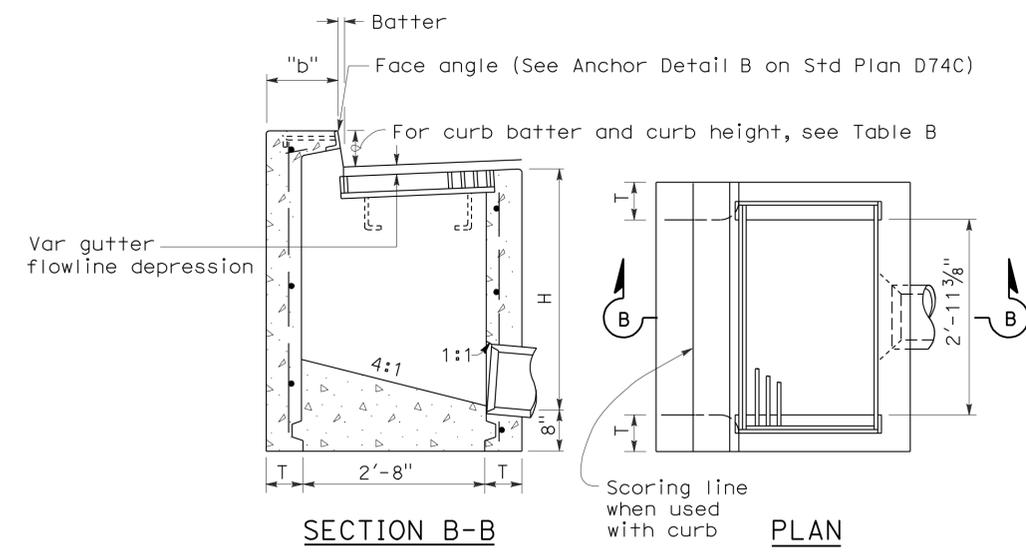
Span	"A" Bars	Required steel area per foot (in ² /ft)
Under 38" with Type 24 Grate	#5 @ 7" C-C 2-#5 Min	0.525
Under 38" with Type 18 Grate	#5 @ 7" C-C 3-#5 Min	0.525
38"-60"	#5 @ 6" C-C	0.621
61"-72"	#5 @ 5" C-C	0.744
73"-90"	#6 @ 6" C-C	0.811

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
DRAINAGE INLETS
(PRECAST)

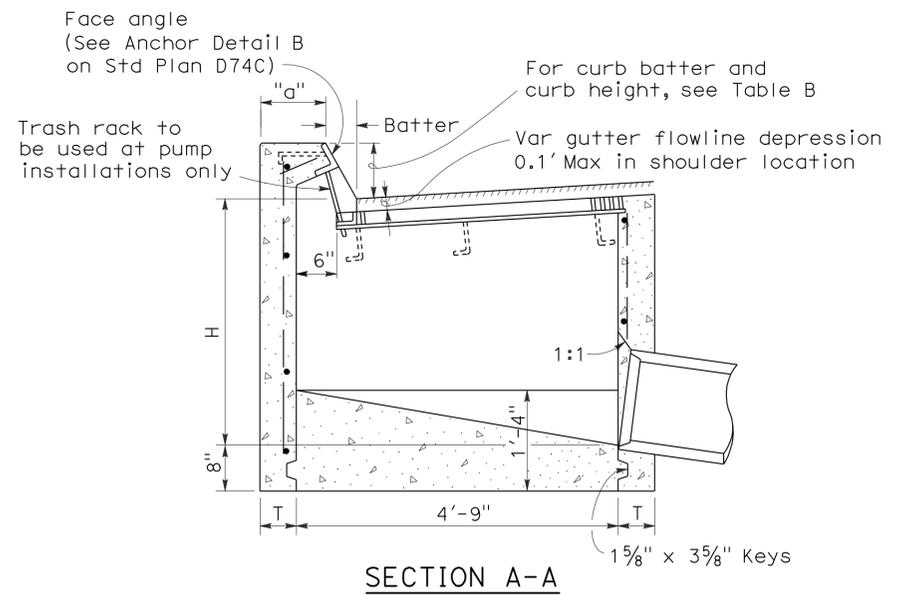
NO SCALE

NSP D73A DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

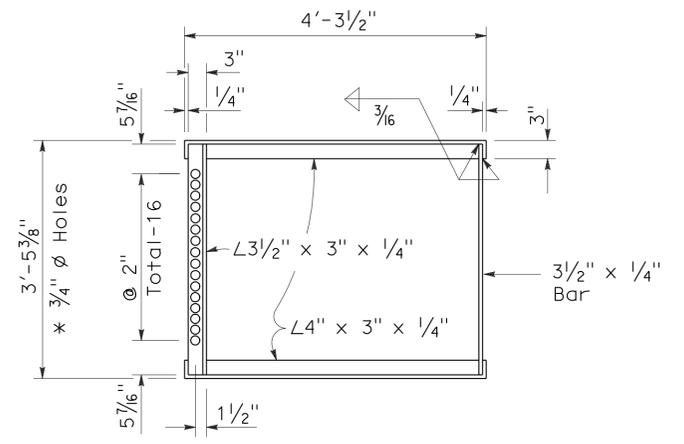
To accompany plans dated 12-13-10



TYPE GO

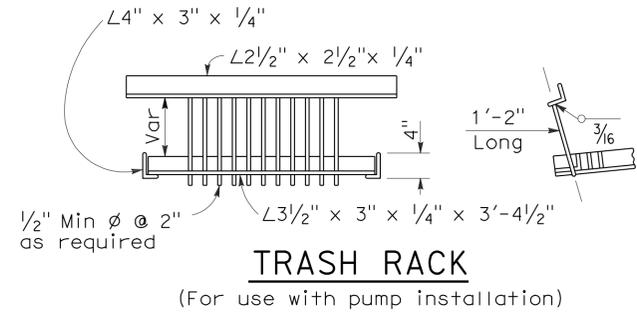


SECTION A-A



GRATE FRAME FOR TYPE GDO INLET

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



TRASH RACK
(For use with pump installation)

TABLE A
CONCRETE QUANTITIES

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

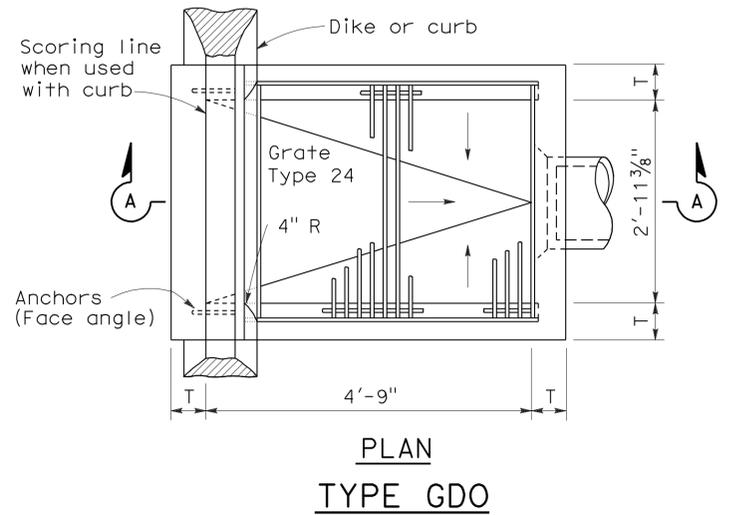
Table based on 8" floor slab, no deduction for pipe openings, and curb type giving highest quantity of concrete. No deductions or adjustments are to be made to these quantities because of pipe openings, different floor alternatives or different curb type.

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.



PLAN
TYPE GDO

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.

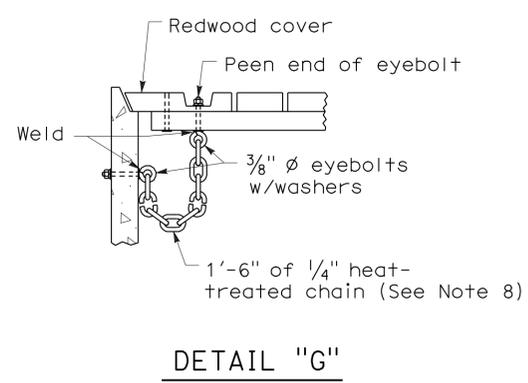
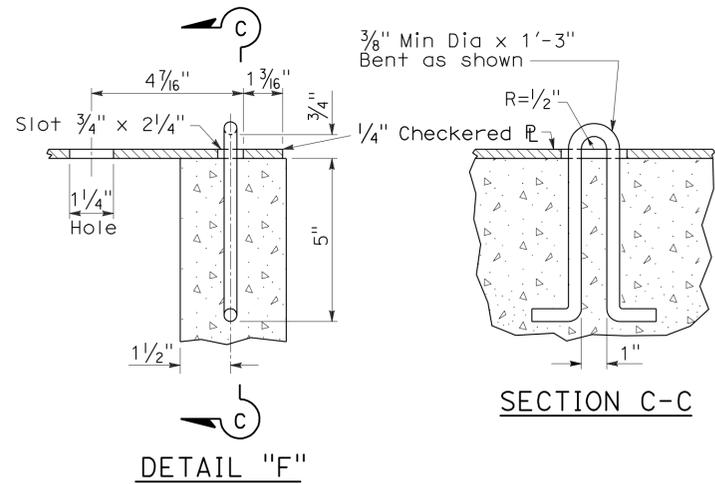
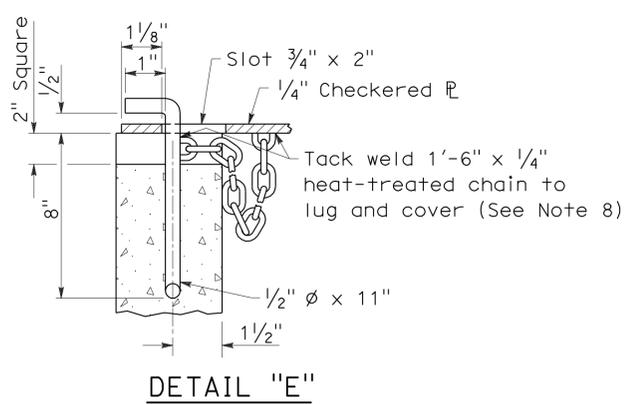
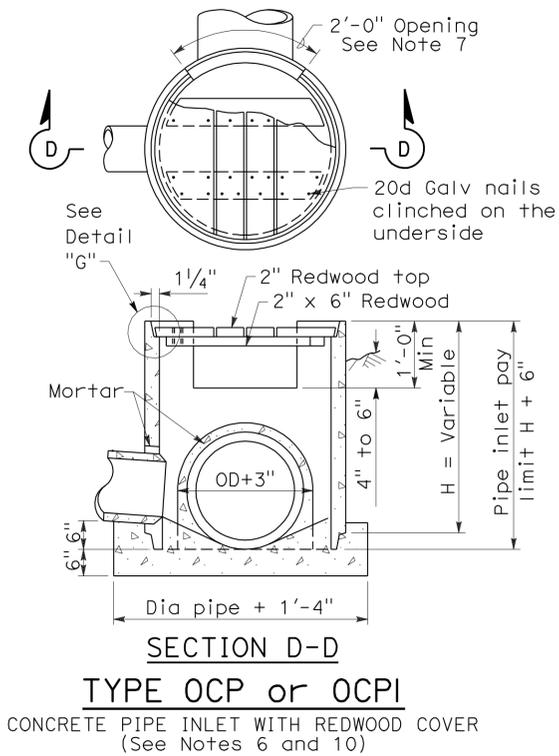
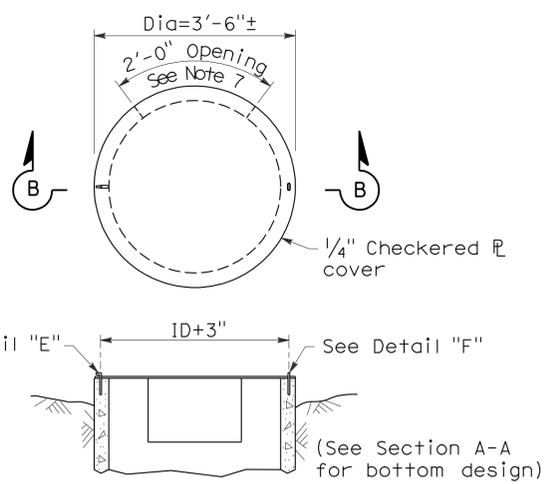
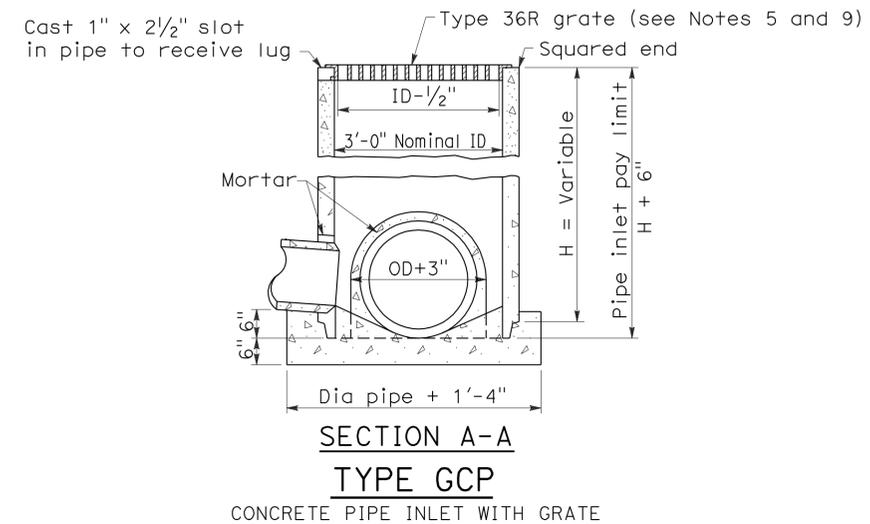
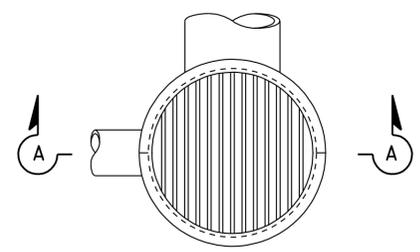
REVISED STANDARD PLAN RSP D74B

2006 REVISED STANDARD PLAN RSP D74B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	262	311

Raymond Don Tsztso
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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2006 REVISED STANDARD PLAN RSP D75B



NOTES:

- For details of steel pipe inlets, see Standard Plan D75A.
- For details of ladder and steps and when ladder or steps are required, see Standard Plan D75C.
- Inlet pipes shall not protrude into basin.
- Except for inlets used for junction boxes, basin floors shall have minimum slope of 4:1 from all directions toward outlet pipe, and a wood trowel finish.
- See Revised Standard Plan RSP D77A and Standard Plan D77B for Grate and Frame Details and Weights of Miscellaneous Iron and Steel.
- Designation of Type OCPI pipe inlets on plans indicates trash racks are to be furnished and installed on all side openings. See Standard Plan D75C for Trash Rack details.
- More than one side opening may be required. Location and number as ordered by the Engineer. Opening may be cast in pipe.
- Chain to be provided when specified.
- Place pipe so bars of grate will be parallel with main surface flow.
- Redwood covers shall only be placed at locations designated on the plans.

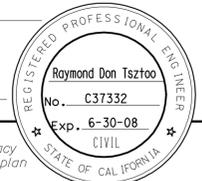
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PIPE INLETS

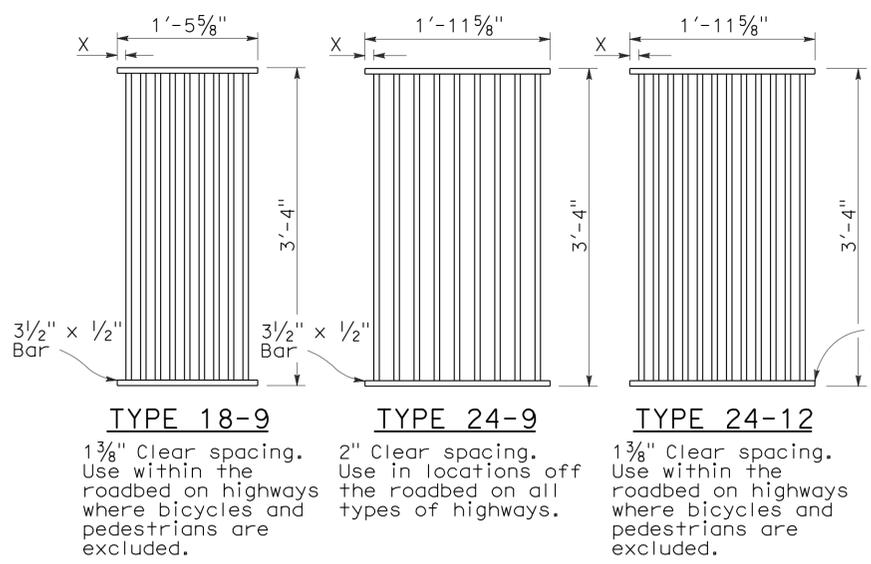
NO SCALE

RSP D75B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D75B
DATED MAY 1, 2006 - PAGE 153 OF THE STANDARD PLANS BOOK DATED MAY 2006.

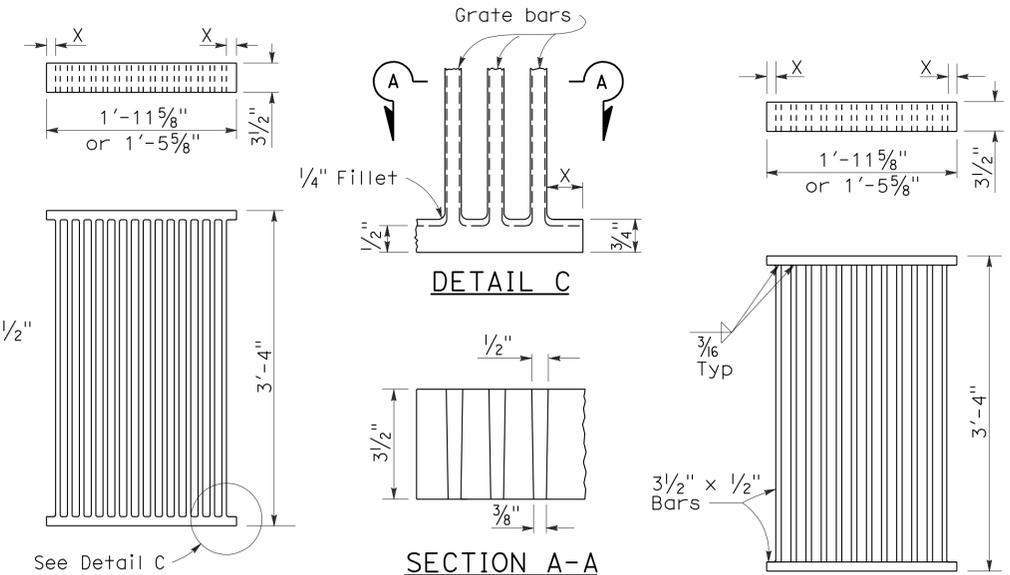
REVISED STANDARD PLAN RSP D75B



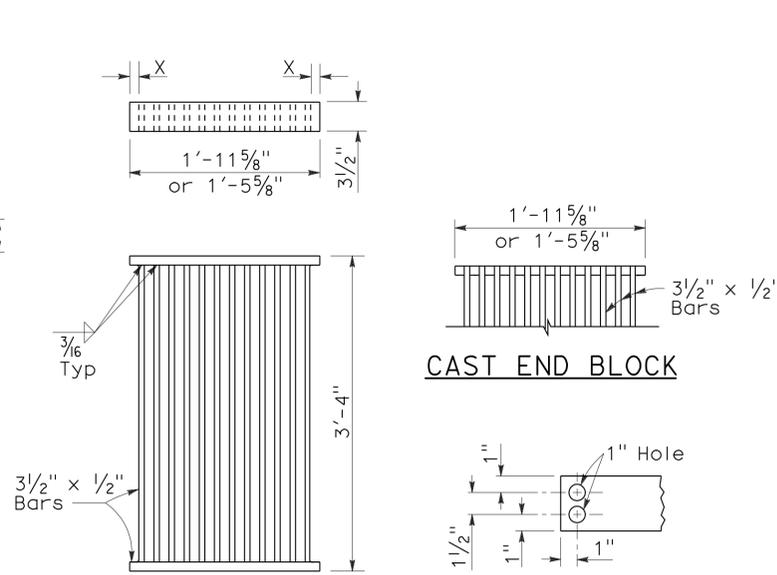
To accompany plans dated 12-13-10



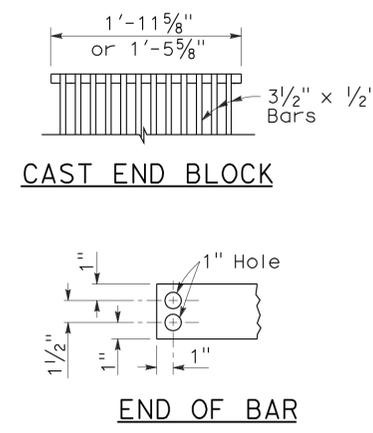
RECTANGULAR GRATE DETAILS
(See table below)



ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE



ALTERNATIVE WELDED GRATE

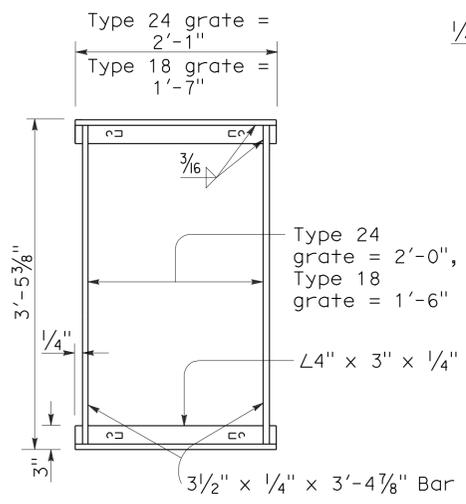


CAST END BLOCK

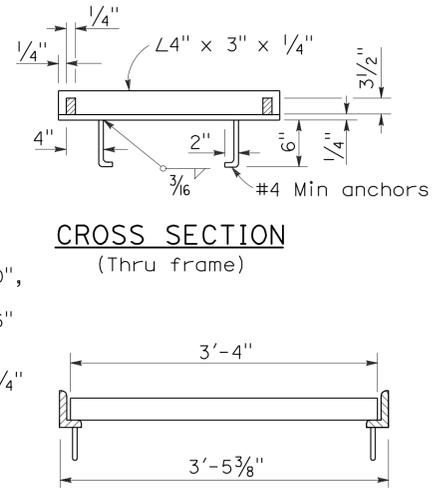
END OF BAR

NOTES:

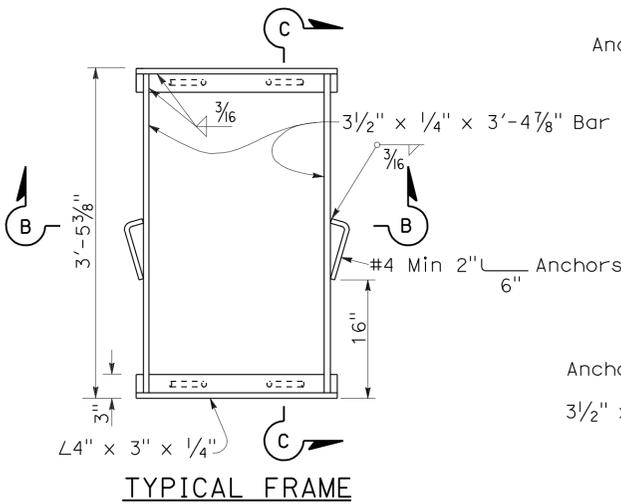
1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
4. Rounded top of bars optional on all grates.
5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).



TYPICAL FRAME

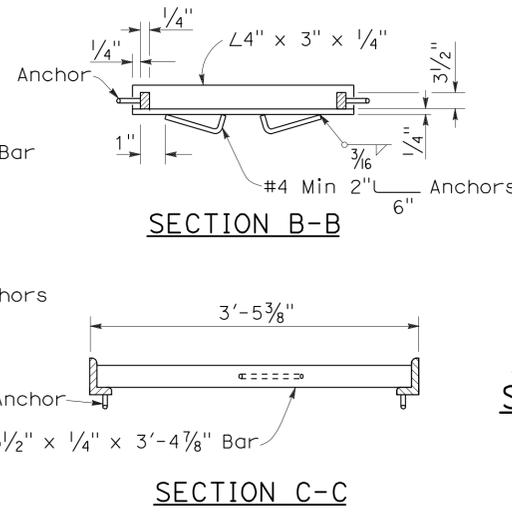


LONGITUDINAL SECTION
(Thru frame and grate)



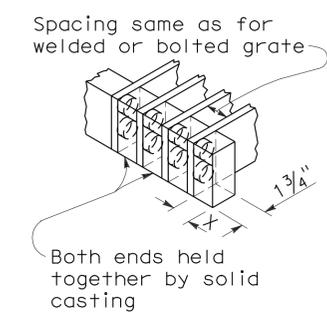
TYPICAL FRAME

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)



SECTION B-B

SECTION C-C



ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE

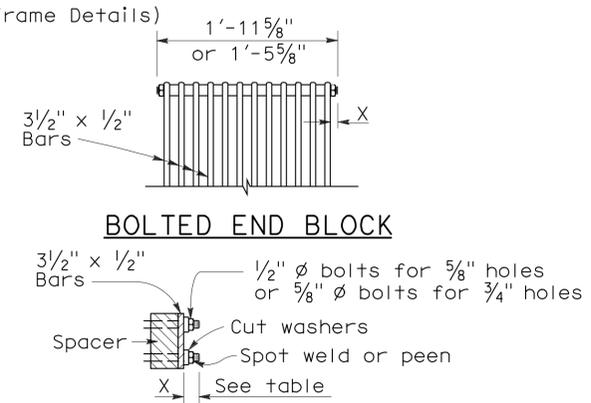
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

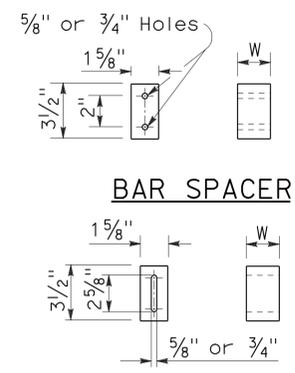
INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22



BOLTED END BLOCK

BOLTING DETAIL

ALTERNATIVE BOLTED GRATE



BAR SPACER

ALTERNATIVE SPACER
W = 1 3/8" or 2"

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

(See General Notes, No 8)

2006 REVISED STANDARD PLAN RSP D77A

RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A DATED MAY 1, 2006 - PAGE 155 OF THE STANDARD PLANS BOOK DATED MAY 2006.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
GRATE DETAILS
NO SCALE

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)				ANGLE							
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No. - Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
				CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP	CSP	
TWO PIECE INTEGRAL FLANGE	1 1/2" x 1/4"	6"-10"	7"	0.064"-0.079"	0.060"	0.064"	0.060"							2-3/8"	2-3/8"				
UNIVERSAL	2 2/3" x 1/2"	12"-24"	12"		0.060"-0.105"		0.060"								3-1/2"				
ANNULAR	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		42"-60"	12"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"	DOUBLE 0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"	2" x 2" x 1/4"	4-1/2"	4-1/2"	5-3/8"	5-3/8"		
		42"-60"	12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"						2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"	
		66"-72"	24"		0.164"		0.105"						2" x 2" x 1/4"	2" x 2" x 1/4"	5-1/2"	5-1/2"	7-3/8"	7-3/8"	
		66"-84"	24"	0.109"-0.168"		0.064"							2" x 2" x 1/4"		5-1/2"		7-3/8"		
		42"-54"	12"		0.060"-0.105"		0.060"						2" x 2" x 3/16"		3-1/2"		3-3/8"	3-3/8"	
	3" x 1"	48"-60"	14"	0.064"-0.079"		0.064"							2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"
		48"-60"	14"	0.109"		0.064"							2" x 2" x 3/16"		3-1/2"		5-3/8"		
		66"-120"	25"	0.064"-0.109"		0.064"							2" x 2" x 3/16"		5-1/2"		9-3/8"		
		42"-60"	14"		0.060"-0.105"		0.060"						2" x 2" x 3/16"		3-1/2"		5-3/8"		
		42"-60"	14"		0.135"		0.075"						2" x 2" x 1/4"		3-1/2"		5-3/8"		
		66"-96"	25"		0.060"-0.135"		0.060"						2" x 2" x 1/4"		5-1/2"		7-3/8"		
	HELICAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"					2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
			42"-54"	12"		0.060"-0.105"		0.060"					2" x 2" x 3/16"		3-1/2"		3-3/8"	3-3/8"	
42"-60"			12"	0.064"-0.079"		0.064"							2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"
42"-60"			12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"						2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"	
66"-84"			24"	0.109"-0.168"		0.064"							2" x 2" x 1/4"		5-1/2"		7-3/8"		
66"-72"		24"		0.164"		0.105"						2" x 2" x 1/4"		5-1/2"		7-3/8"			
3" x 1"		48"-60"	14"	0.064"-0.079"		0.064"							2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"
		48"-60"	14"	0.109"		0.064"							2" x 2" x 3/16"		3-1/2"		5-3/8"		
		66"-120"	25"	0.064"-0.109"		0.064"							2" x 2" x 3/16"		5-1/2"		9-3/8"		
		42"-60"	14"		0.060"-0.105"		0.060"						2" x 2" x 3/16"		3-1/2"		5-3/8"		
	42"-60"	14"		0.135"		0.075"						2" x 2" x 1/4"		3-1/2"		5-3/8"			
HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 48"	10 1/2"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi								
		54"-66"	10 1/2"	0.109"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		THROUGH 54"	10 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi								
		THROUGH 60"	10 1/2"	0.138"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
	3" x 1" REROLLED END	THROUGH 72"	10 1/2"	0.168"		0.109"		DOUBLE 0.109"	1/2"	7/8"	45 ksi								
		48"-84"	10 1/2"	0.109"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		48"-90"	10 1/2"	0.064"-0.079"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		96"-102"	10 1/2"	0.079"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
96"-120"	10 1/2"	0.109"		0.109"		DOUBLE 0.109"	1/2"	7/8"	45 ksi										

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)				ANGLE						
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP					SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.064"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		42"-60"	12"	0.064"-0.079"	0.075"-0.105"	0.064"	0.075"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		42"-60"	12"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		3-1/2"		5-3/8"		
		66"-84"	24"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		5-1/2"		7-3/8"		
HUGGER	2 2/3" x 1/2" * REROLLED END	24"-54"	10 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi							
		24"-48"	10 1/2"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi							
		54"-66"	10 1/2"	0.109"		0.064"		Double 0.079"	1/2"	7/8"	32 ksi							

* See Note 13.

13. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	264	311

Raymond Don Tsztso
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztso
No. C37332
Exp. 6-30-08
STATE OF CALIFORNIA

To accompany plans dated 12-13-10

NOTES:

- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
- For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
- Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
- Use 1/4" gage line dimension on attached angle leg for rivets and spot welds.
- Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
- Dimensions, thicknesses and strengths shown are minimum.
- For pipe arches use same width band as for round pipe of equal periphery.
- Fillet welds of equivalent strength may be substituted for spot welds or rivets.
- Spot welds shall develop minimum required strength of strap.
- Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
- In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
- Two piece bands are required for pipes greater than 42" diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CORRUGATED METAL PIPE
COUPLING DETAILS No. 6
POSITIVE JOINT**

NO SCALE

RSP D97F DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97F
DATED MAY 1, 2006 - PAGE 188 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97F

2006 REVISED STANDARD PLAN RSP D97F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	265	311

Raymond Don Tsztso
 REGISTERED CIVIL ENGINEER

June 6, 2008
 PLANS APPROVAL DATE

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ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)			ANGLE								
				BAND THICKNESS		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND				
				CSP	CAP				CSP	CAP	CSP	CAP	CSP	CAP	CSP	CAP	CSP		
TWO PIECE INTEGRAL FLANGE	1 1/2' x 1/4"	6"	7"	0.064"-0.168"		0.052"													
	1 1/2' x 1/4"	8"-10"	7"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"												
ANNULAR	2 2/3" x 1/2"	THROUGH 24"	12"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"												
HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 24"	10 1/2"	0.064"-0.168"		0.064"		0.079"	1/2"	7/8"									

NOTES:

To accompany plans dated 12-13-10

- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
- For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
- Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
- Use 1 1/4" gage line dimension on attached angle leg for rivets and spot welds.
- Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
- Dimensions, thicknesses and strengths shown are minimum.
- For pipe arches use same width band as for round pipe of equal periphery.
- Fillet welds of equivalent strenght may be substituted for spot welds or rivets.
- Spot welds shall develop minimum required strength of strap.
- Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
- For downdrain applications, two piece integral flange couplers shall have factory applied sleeve type rubber gaskets with a minimum length of 7" measured along the length of the pipe.

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)			ANGLE								
				BAND THICKNESS		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND				
				SSRP	ASRP				SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP		
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"	12"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"												
HUGGER	2 2/3" x 1/2" * REROLLED END	24"	10 1/2"	0.064"-0.168"		0.064"		0.079"	1/2"	7/8"									

* See Note 12.

12. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CORRUGATED METAL PIPE
COUPLING DETAILS No. 7
DOWNDRAIN**

NO SCALE

RSP D97G DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97G
DATED MAY 1, 2006 - PAGE 189 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97G

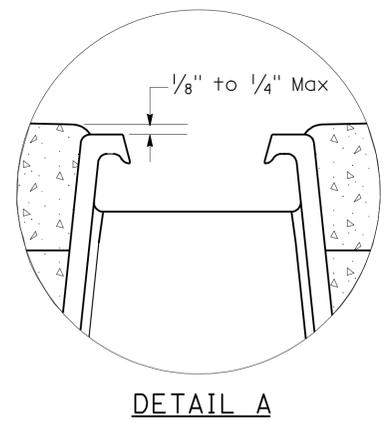
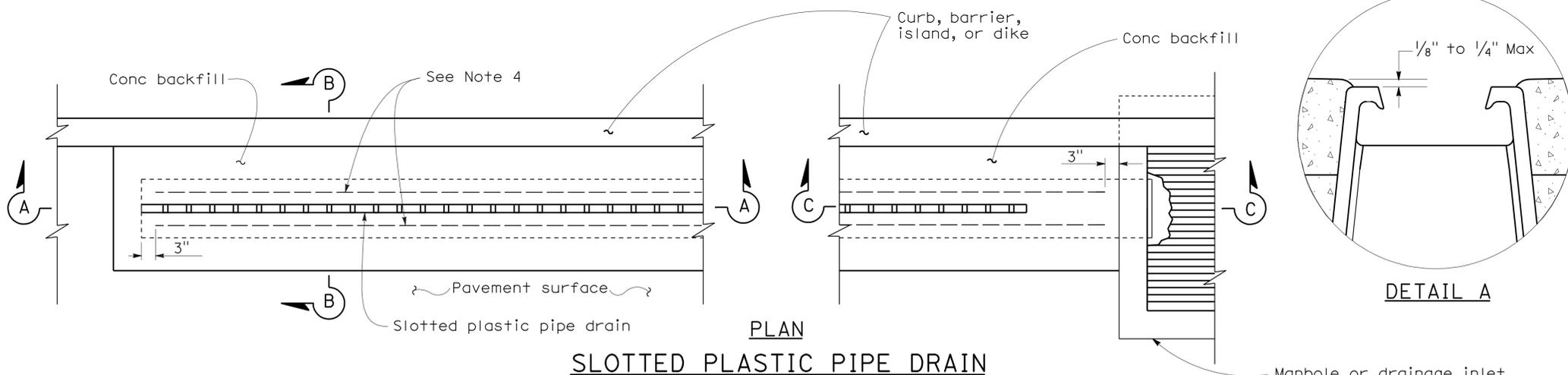
2006 REVISED STANDARD PLAN RSP D97G

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	266	311

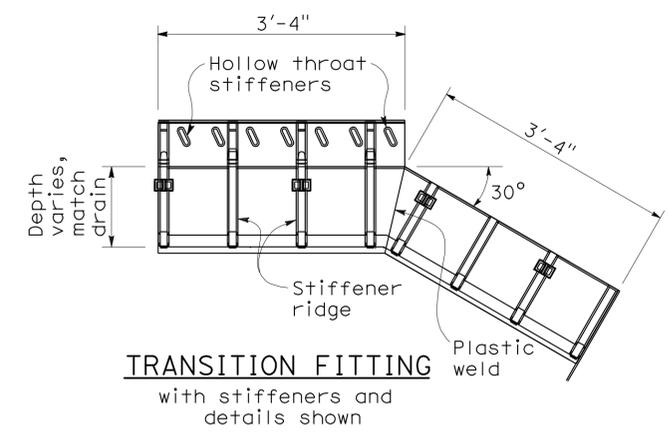
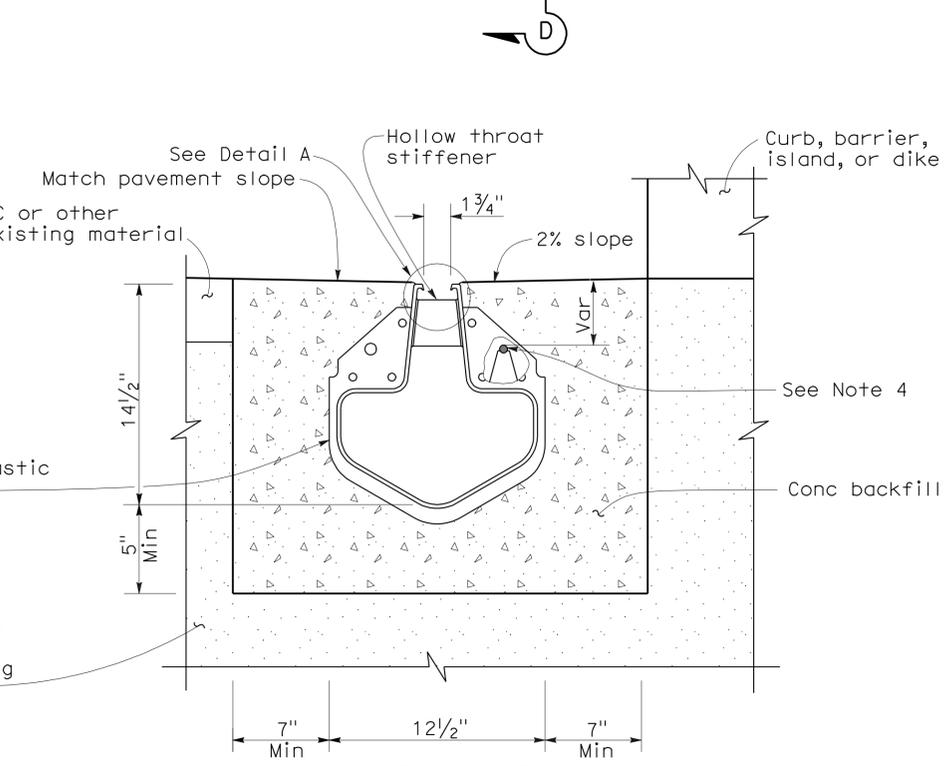
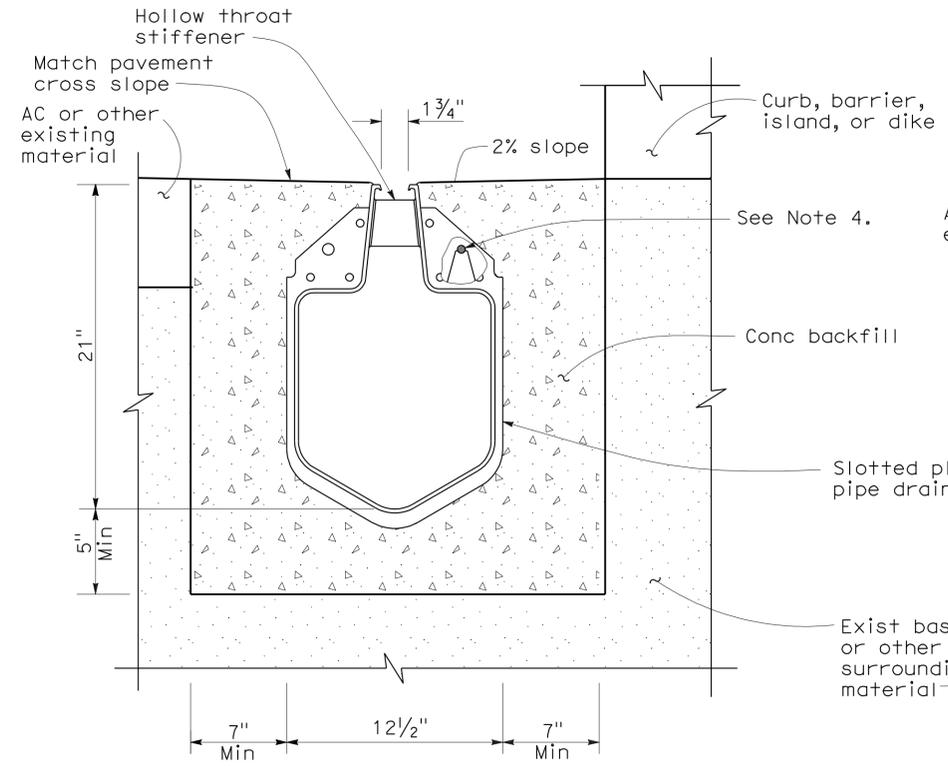
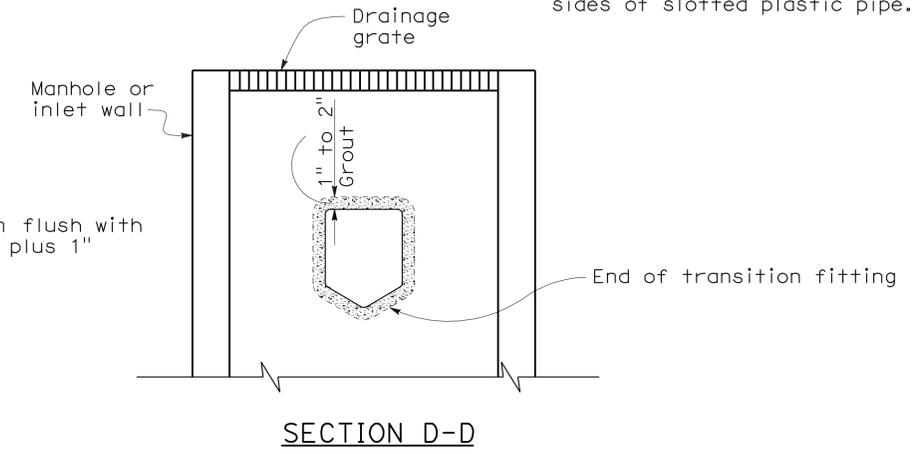
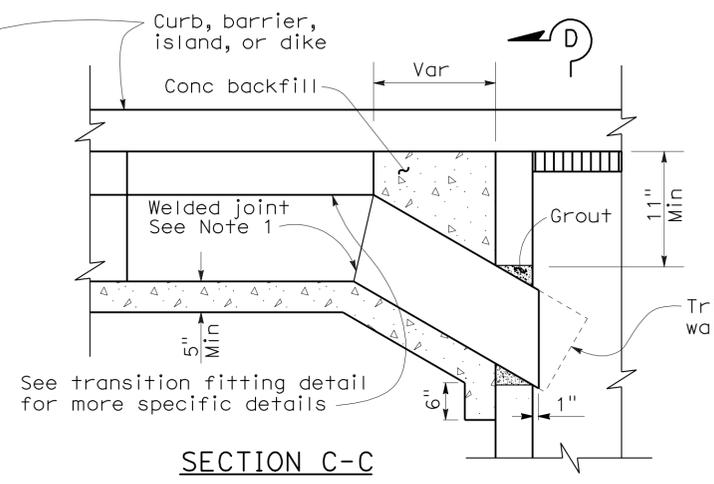
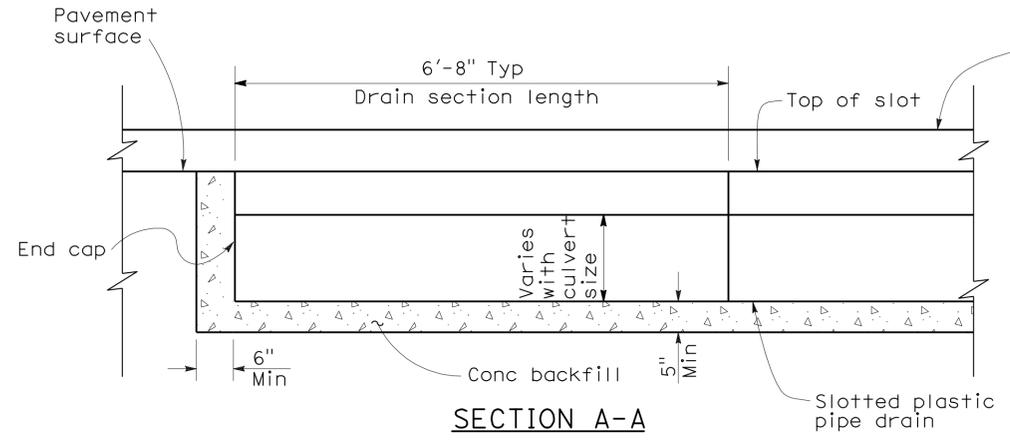
Raymond Don Tsztso
 REGISTERED CIVIL ENGINEER
 January 18, 2008
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Raymond Don Tsztso
 No. C37332
 Exp. 6-30-08
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 12-13-10



- NOTES:**
1. Plastic weld shall be factory fabricated.
 2. When Heel Resistant Grate is to be used, see New Standard Plan NSP D98E for details.
 3. Exterior wall stiffener ridges and details not shown on section views. See transition fitting detail for typical exterior ridges and throat stiffeners.
 4. Lateral support, #4 bar, to be placed on both sides of slotted plastic pipe.



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
SLOTTED PLASTIC PIPE DRAIN DETAILS
 NO SCALE
 NSP D98D DATED JANUARY 18, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP D98D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	267	311

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

June 5, 2009
PLANS APPROVAL DATE

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT
2-28-11
5-14-09
date

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To accompany plans dated 12-13-10

2006 REVISED STANDARD PLAN RSP H1

A

AB aggregate base
 ABS acrylonitrile-butadiene-styrene
 AC asphalt concrete
 Adj adjacent/adjustable
 AIC auxiliary irrigation controller
 Alt alternative
 AMEND amendment
 ARV air release valve
 AUTO automatic
 AUX auxiliary
 AVB atmospheric vacuum breaker

B

B&B balled and burlapped
 B/B brass/bronze
 B/B/PL brass/bronze/plastic
 B/PL brass/plastic
 BFM bonded fiber matrix
 Bit Ctd bituminous coated
 BP booster pump
 BPA backflow preventer assembly
 BPAE backflow preventer assembly in enclosure
 BPE backflow preventer enclosure
 BV ball valve

C

CAP corrugated aluminum pipe
 CARV combination air release valve
 CCA cam coupler assembly
 CEC controller enclosure cabinet
 CHDPE corrugated high density polyethylene
 CL chain link
 CNC control and neutral conductors
 Conc concrete
 Cond conduit
 CSP corrugated steel pipe
 CST center strip
 CV check valve

D

Dia diameter
 DIP ductile iron pipe
 DN diameter nominal

E

EA each
 Elect electric/electrical
 Elev elevation
 ENCL enclosure
 EP edge of pavement
 ES edge of shoulder
 EST end strip
 ESTB establishment
 ETW edge of traveled way

F

F full circle
 F/P full/part circle
 FAU filter assembly unit
 FCV flow control valve
 FERT fertilizer
 FG finished grade
 FIPT female iron pipe thread
 FIS fertilizer injector system
 FL flow line
 FM flow monitor
 FS flow sensor
 Ft foot/feet
 FV flush valve

G

GAL Gallon(s)
 Galv galvanized
 GARV garden valve
 GPH gallons per hour
 GPM gallons per minute
 GSP galvanized steel pipe
 GV gate valve

H

H half circle
 HB hose bib
 HDPE high density polyethylene
 HP horsepower/hinge point
 HPL high pressure line
 Hwy highway

I

IC irrigation controller
 ICC irrigation controller(s) in controller enclosure cabinet
 ID inside diameter
 In inches
 IFS irrigation filtration system
 IPS iron pipe size
 IPT iron pipe thread
 Irr irrigation

L

L length
 LF linear foot

M

Max maximum
 MBGR metal beam guard railing
 MCV manual control valve
 MIC master irrigation controller
 Min minimum
 MIPT male iron pipe thread
 Misc miscellaneous
 Mtl material
 MVP maintenance vehicle pullout

N

NCN no common name
 NL nozzle line
 No. number
 NPT national pipe thread

O

O/C on center
 OD outside diameter
 Oz ounce

P

P part circle
 PB pull box
 PCC portland cement concrete
 PE polyethylene
 Pkt packet
 PL plastic
 PLT plant/planting
 PLT ESTB plant establishment
 PM post mile
 PR pressure rated
 PRLV pressure relief valve
 PSFM polymer stabilized fiber matrix
 PSI pounds per square inch
 PRV pressure reducing valve
 PVC polyvinyl chloride
 Pvmt pavement

Q

Q quarter circle
 QCV quick coupling valve

R

R radius
 RCP reinforced concrete pipe
 RCV remote control valve
 RCVM remote control valve (master)
 RCVMF remote control valve (master) w/ flow meter
 RCW recycled/reclaimed water
 RECP rolled erosion control product
 REQ required
 R/W right of way

S

S slip
 SCC sprinkler control conduit
 SCH schedule
 SF state-furnished
 Shld shoulder
 SQFT square foot/feet
 SQYD square yard(s)
 SST side strip
 Sta station
 Std standard
 SW sidewalk/sound wall

T

T third circle/thread
 TLS truck loading standpipe
 TQ three quarter circle
 TRM turf reinforcement mat
 TRVD traveled
 TT two third circle
 Typ typical

U

UG underground

V

VAU valve assembly unit

W

W width
 W/ with
 WM water meter
 WS wye strainer
 WSP welded steel pipe
 WWM welded wire mesh

NOTE:
 FOR ADDITIONAL ABBREVIATIONS,
 SEE STANDARD PLANS A10A AND A10B.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
 ABBREVIATIONS**

NO SCALE
 RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1
 DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	268	311

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

June 5, 2009
PLANS APPROVAL DATE

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT
2-28-11
5-14-09
date

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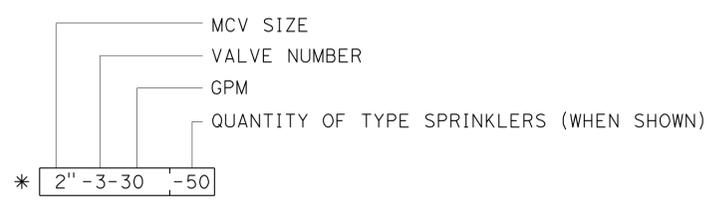
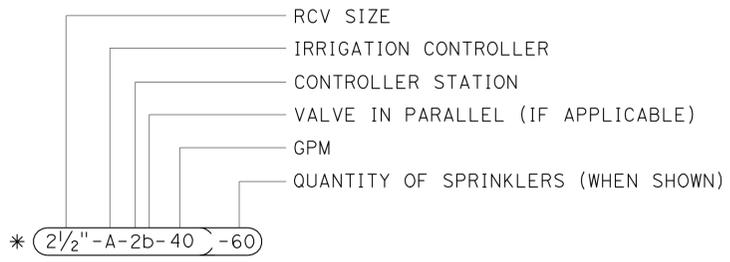
To accompany plans dated 12-13-10

2006 REVISED STANDARD PLAN RSP H2

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PLANTING AND IRRIGATION SYMBOLS

NO SCALE

RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	269	311

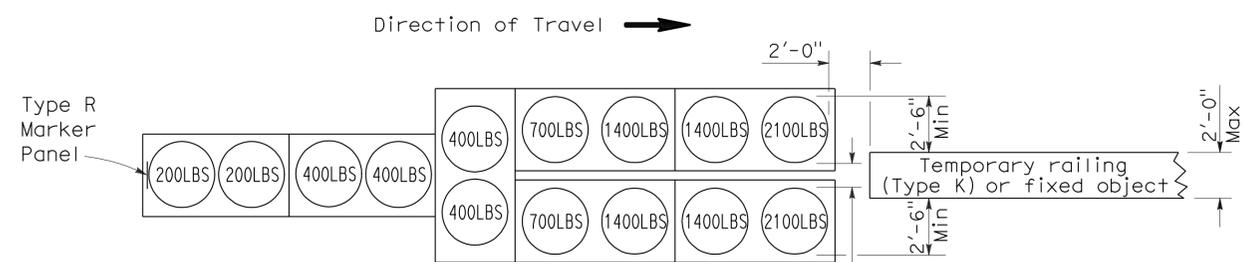
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

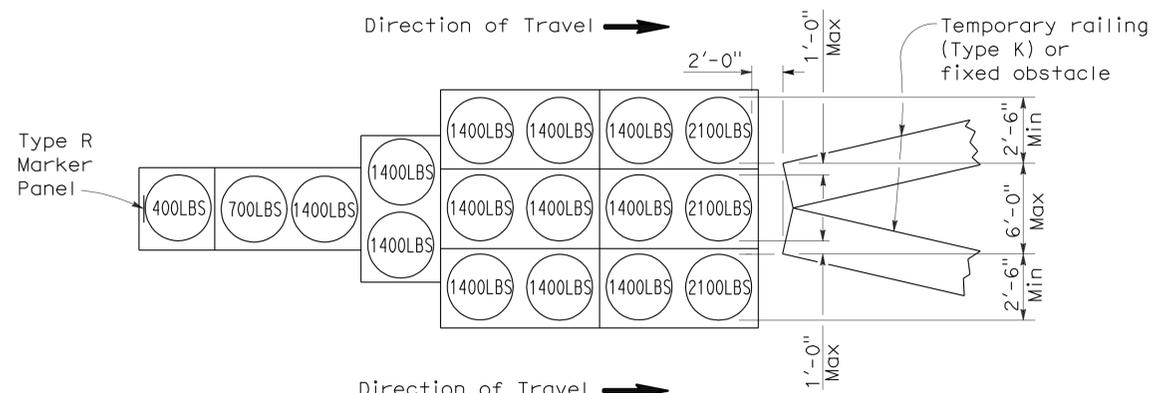
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 12-13-10



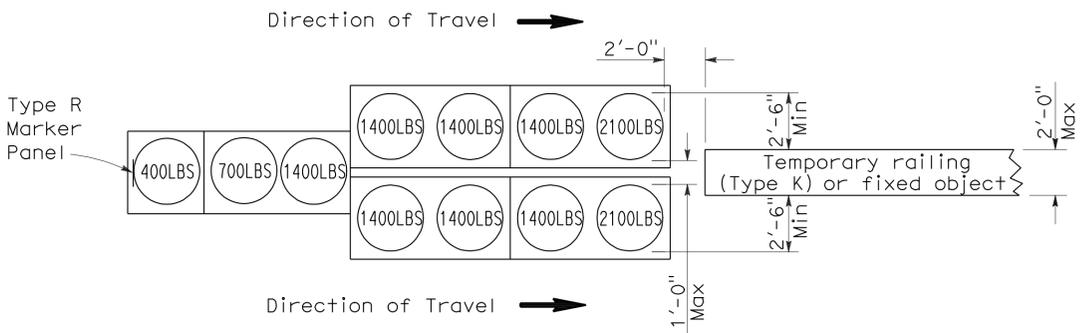
ARRAY 'TU14'

Approach speed 45 mph or more



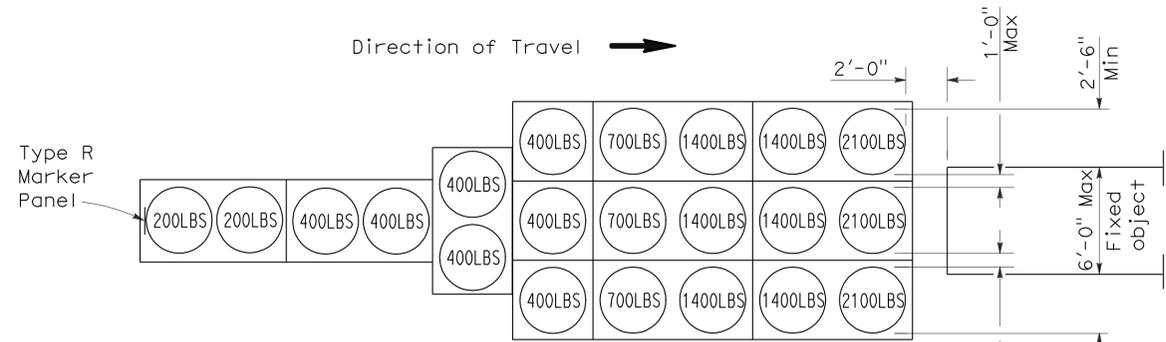
ARRAY 'TU17'

Approach speed less than 45 mph



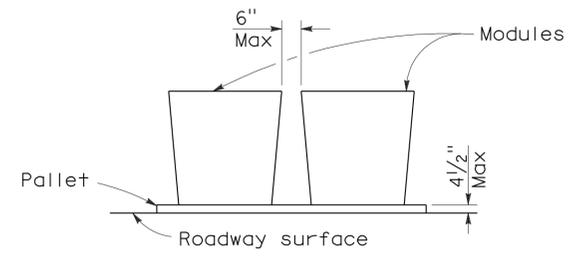
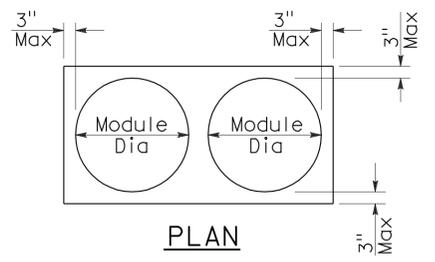
ARRAY 'TU11'

Approach speed less than 45 mph



ARRAY 'TU21'

Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

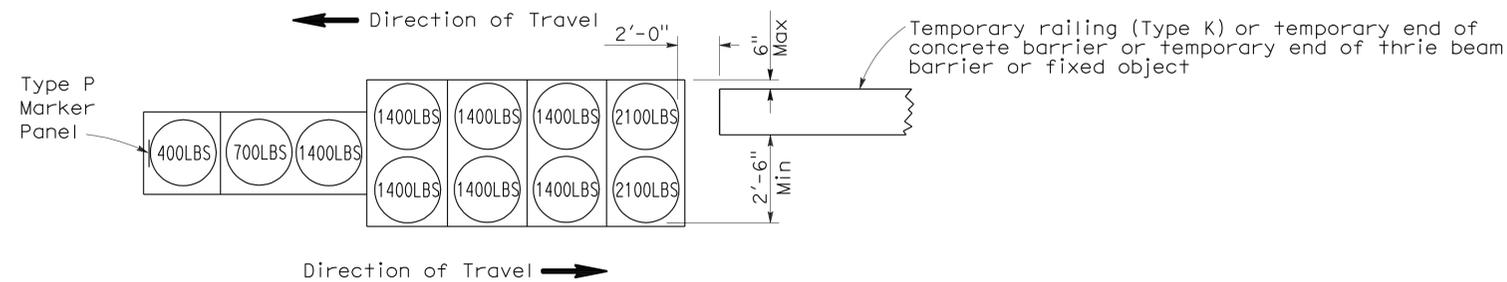
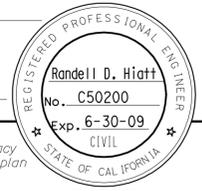
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	270	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

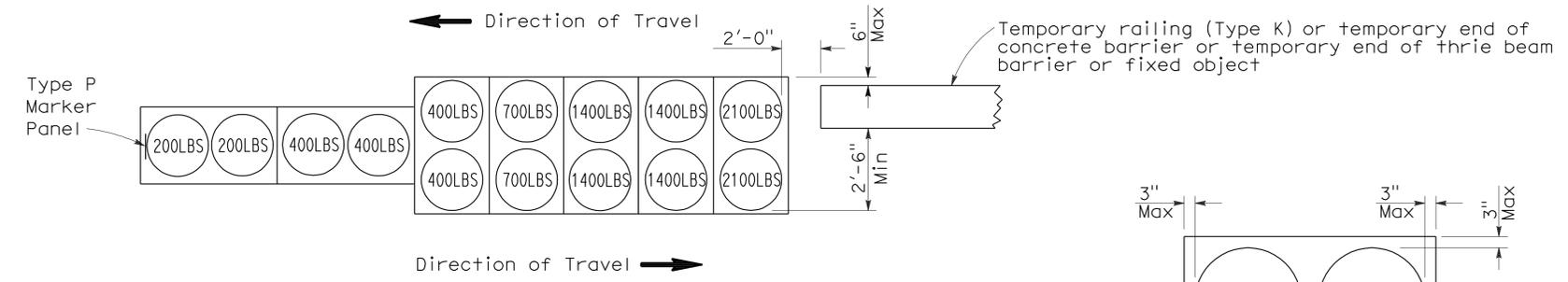
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 12-13-10



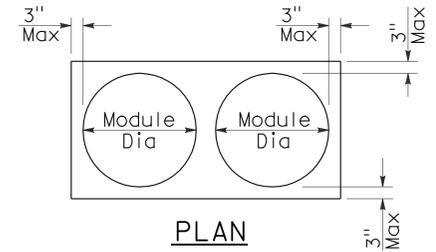
ARRAY 'TB11'

Approach speed less than 45 mph

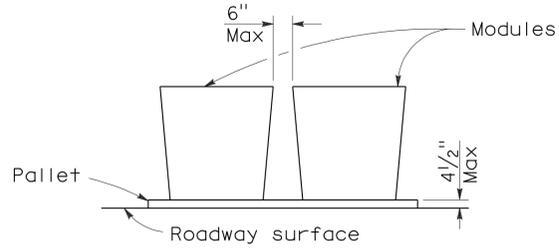


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

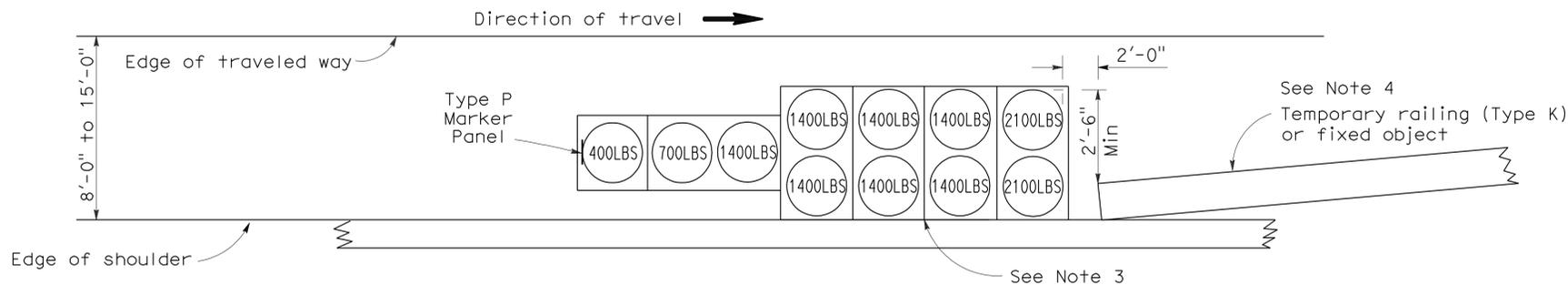
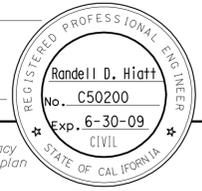
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	271	311

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

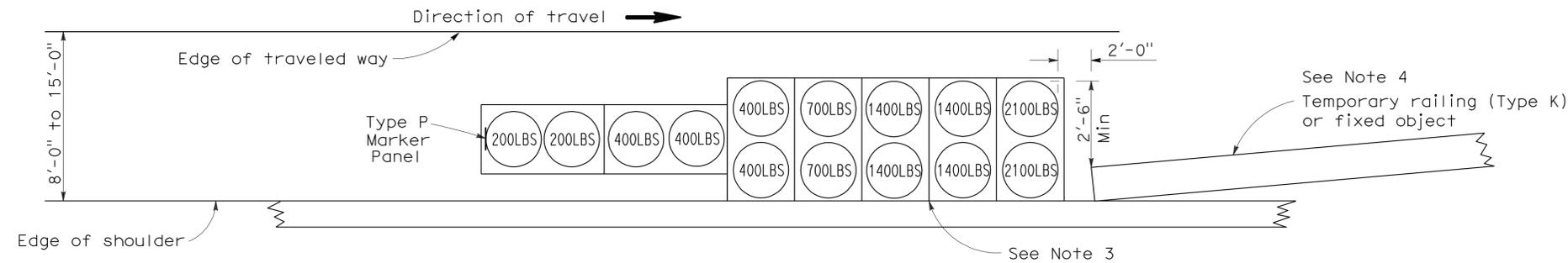
June 6, 2008
PLANS APPROVAL DATE

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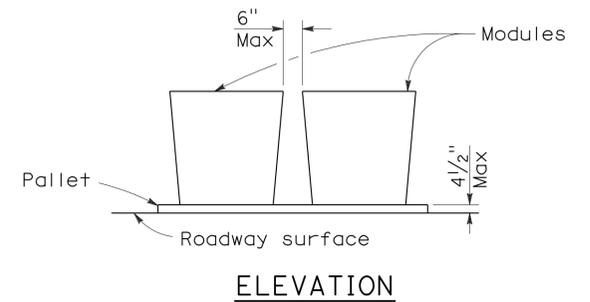
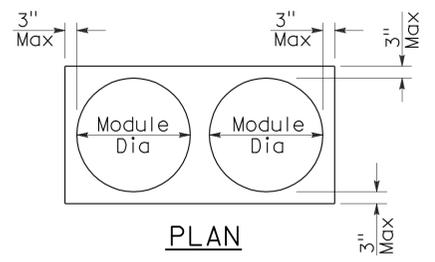
To accompany plans dated 12-13-10



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.

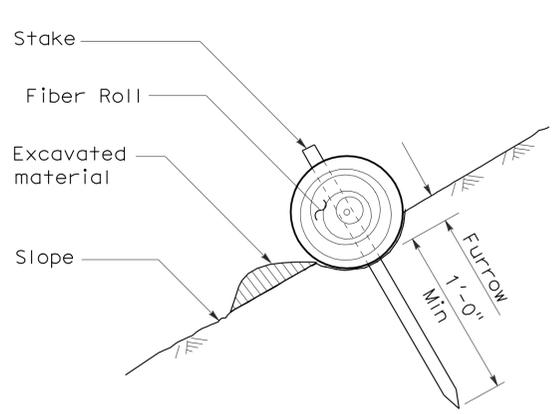
REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

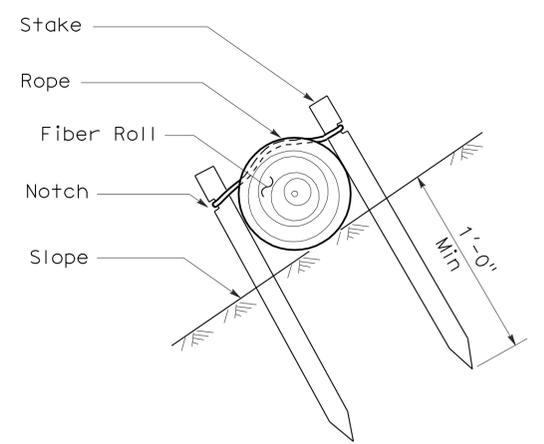
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	273	311

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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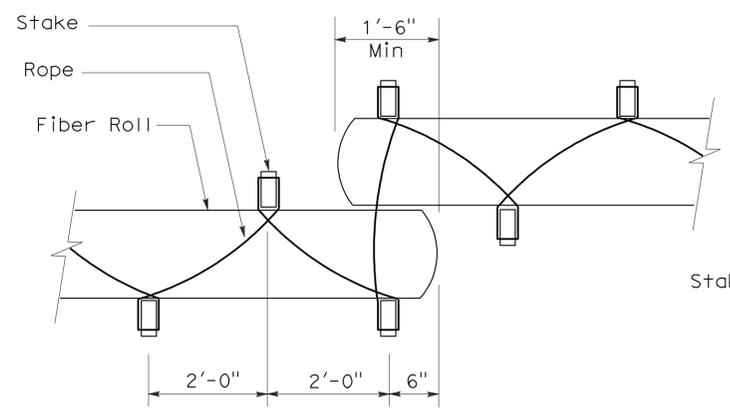
To accompany plans dated 12-13-10



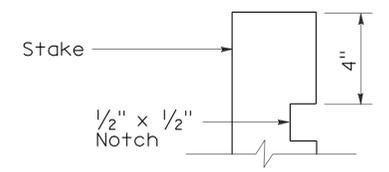
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



SECTION
TEMPORARY FIBER ROLL (TYPE 2)

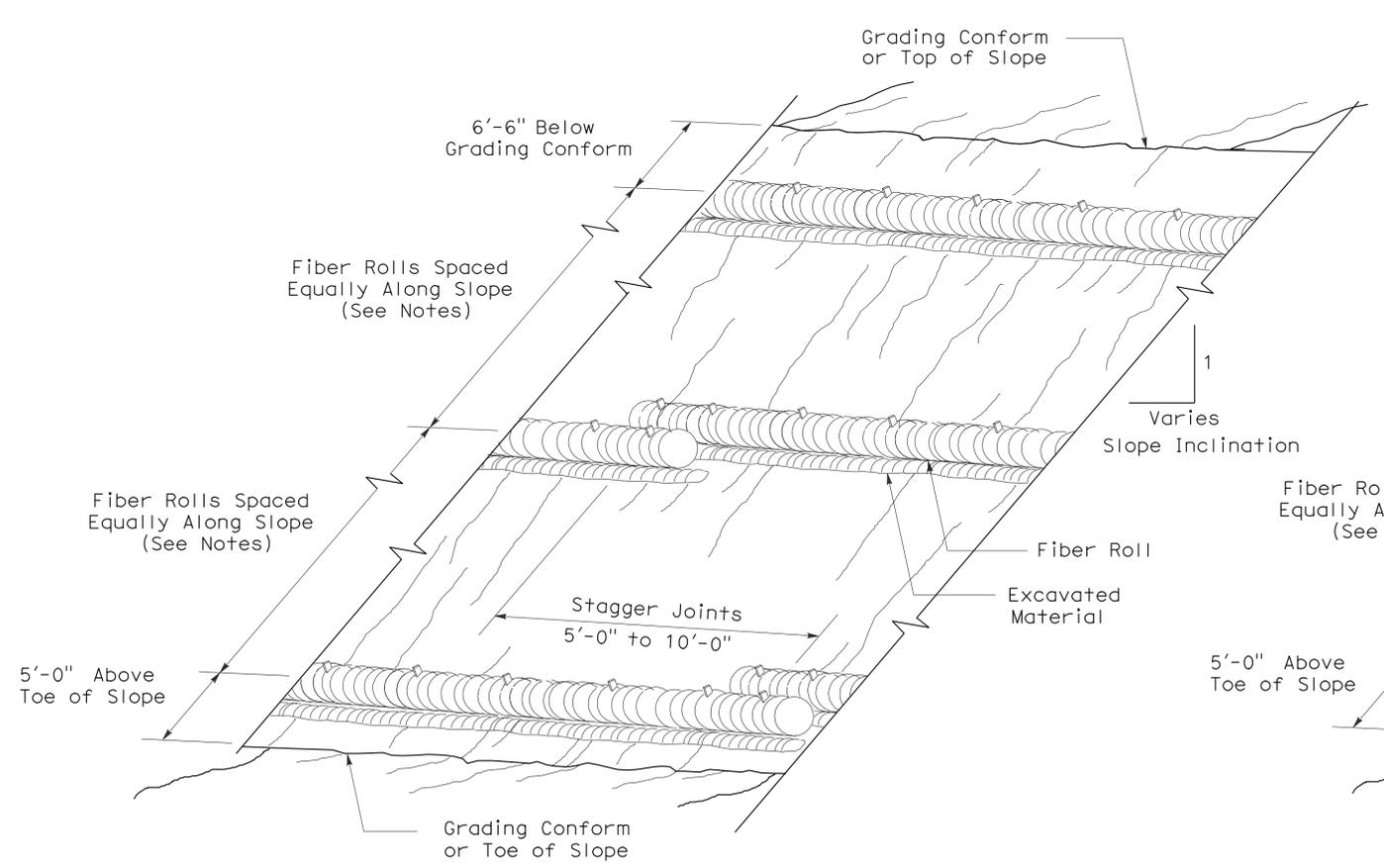


PLAN

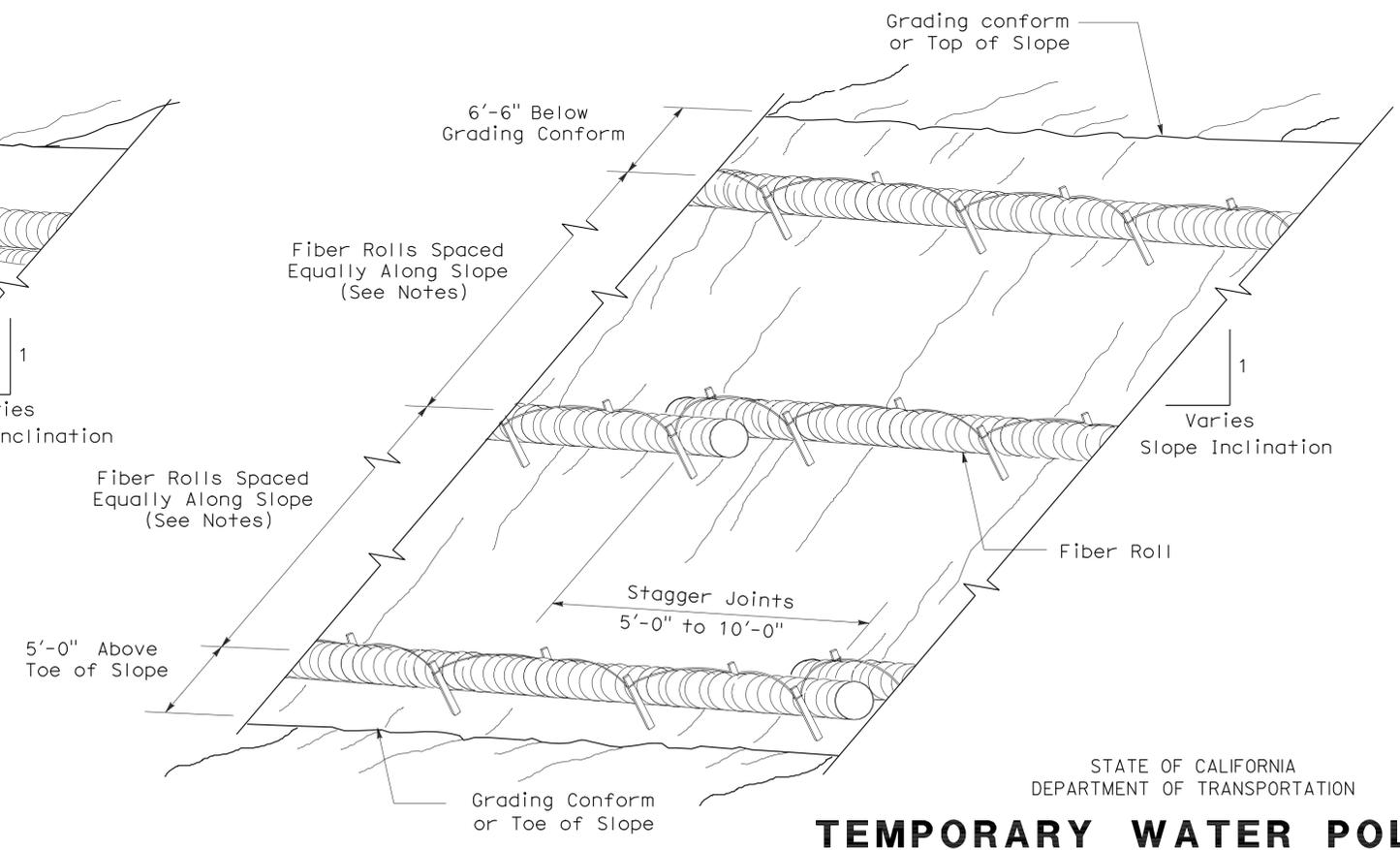


ELEVATION
STAKE NOTCH DETAIL

- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
 2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

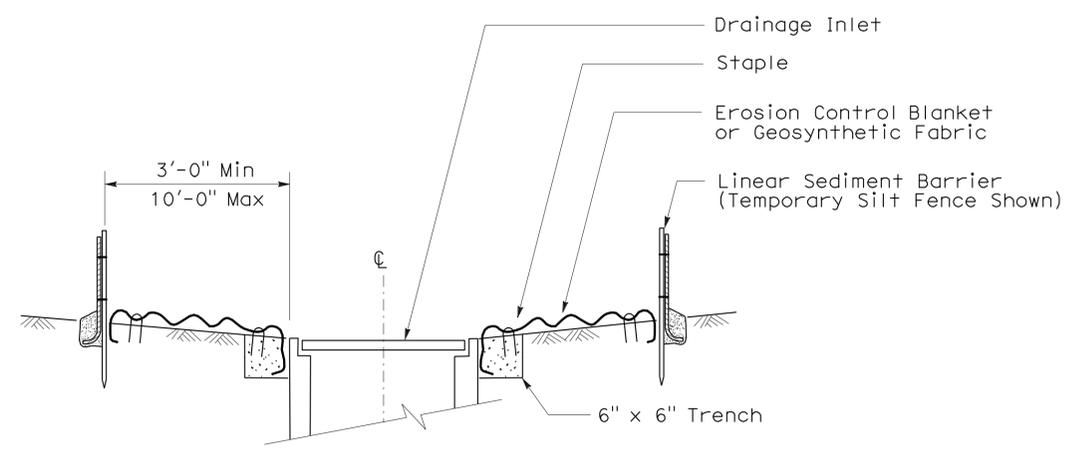
2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	274	311

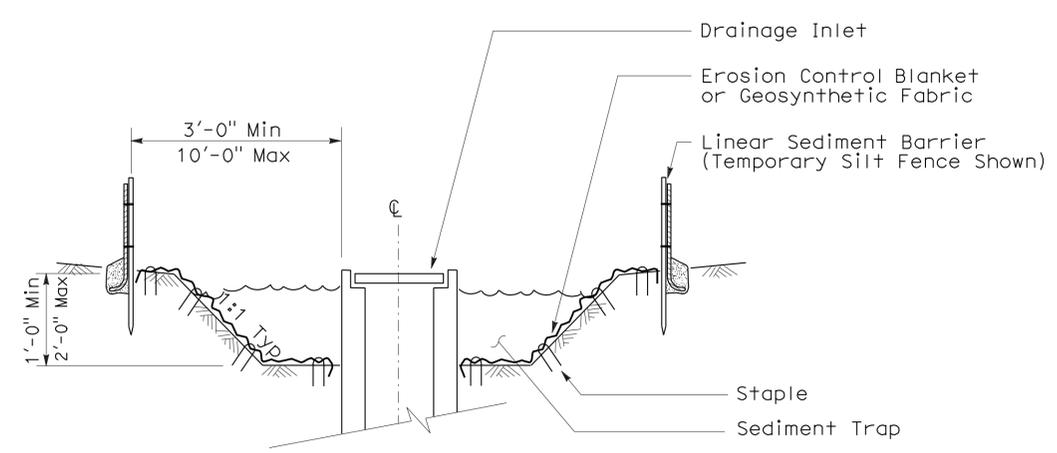
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS Approval DATE
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To accompany plans dated 12-13-10

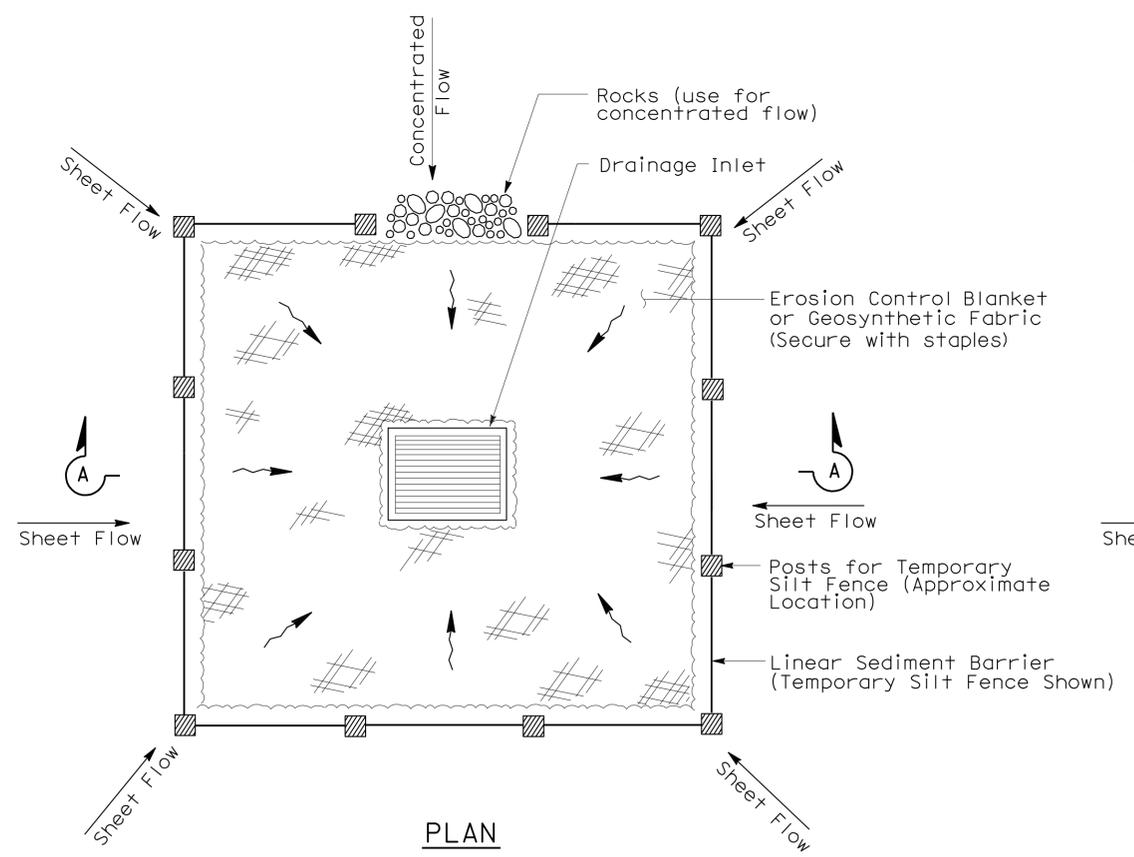
- NOTES:**
- See Standard Plan T51 for Temporary Silt Fence.
 - Dimensions may vary to fit field conditions.



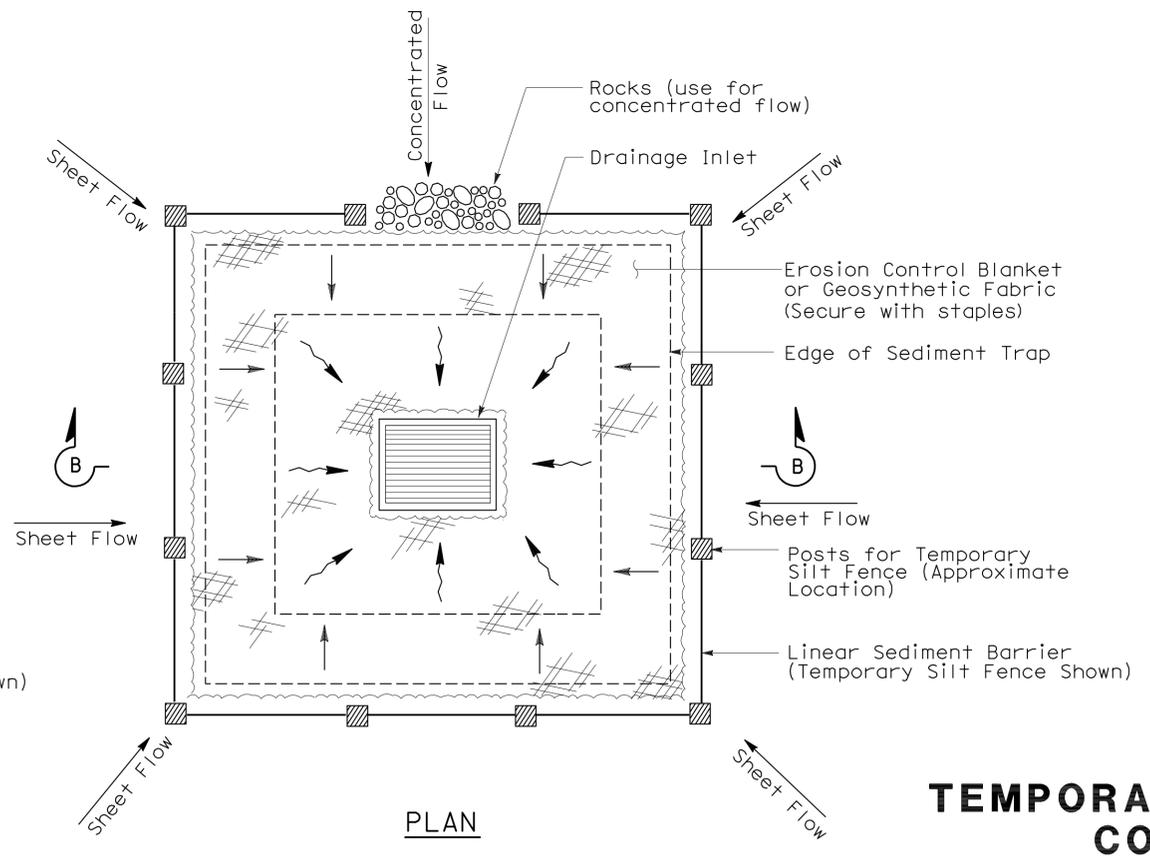
SECTION A-A



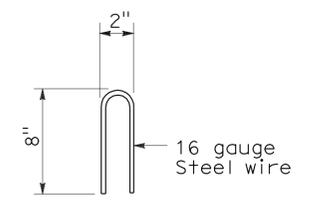
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



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

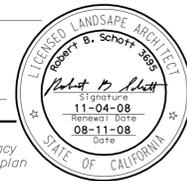


STAPLE DETAIL

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.

2006 NEW STANDARD PLAN NSP T61

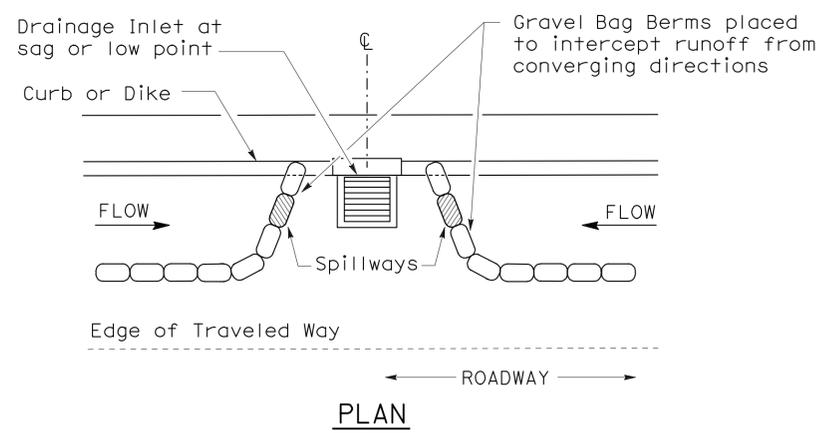


To accompany plans dated 12-13-10

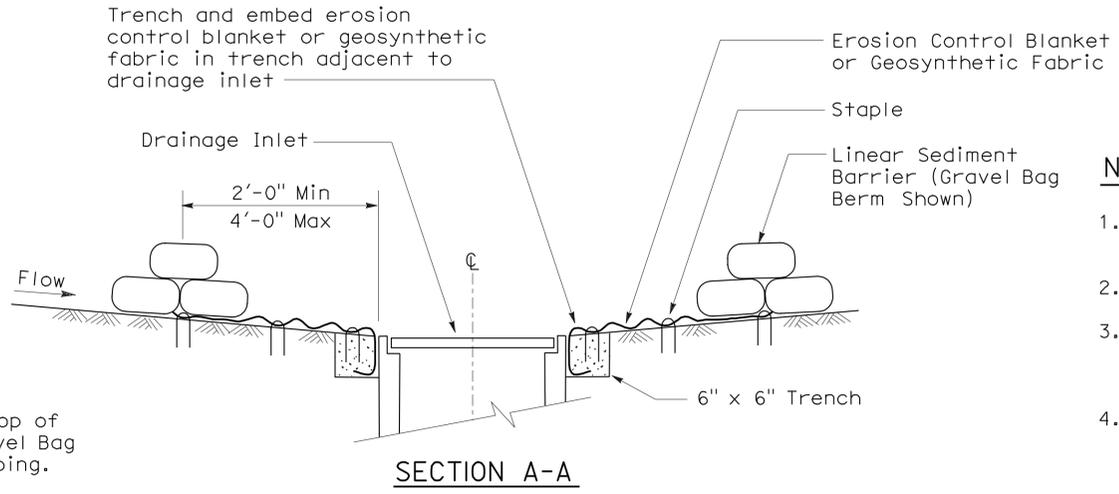
GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

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

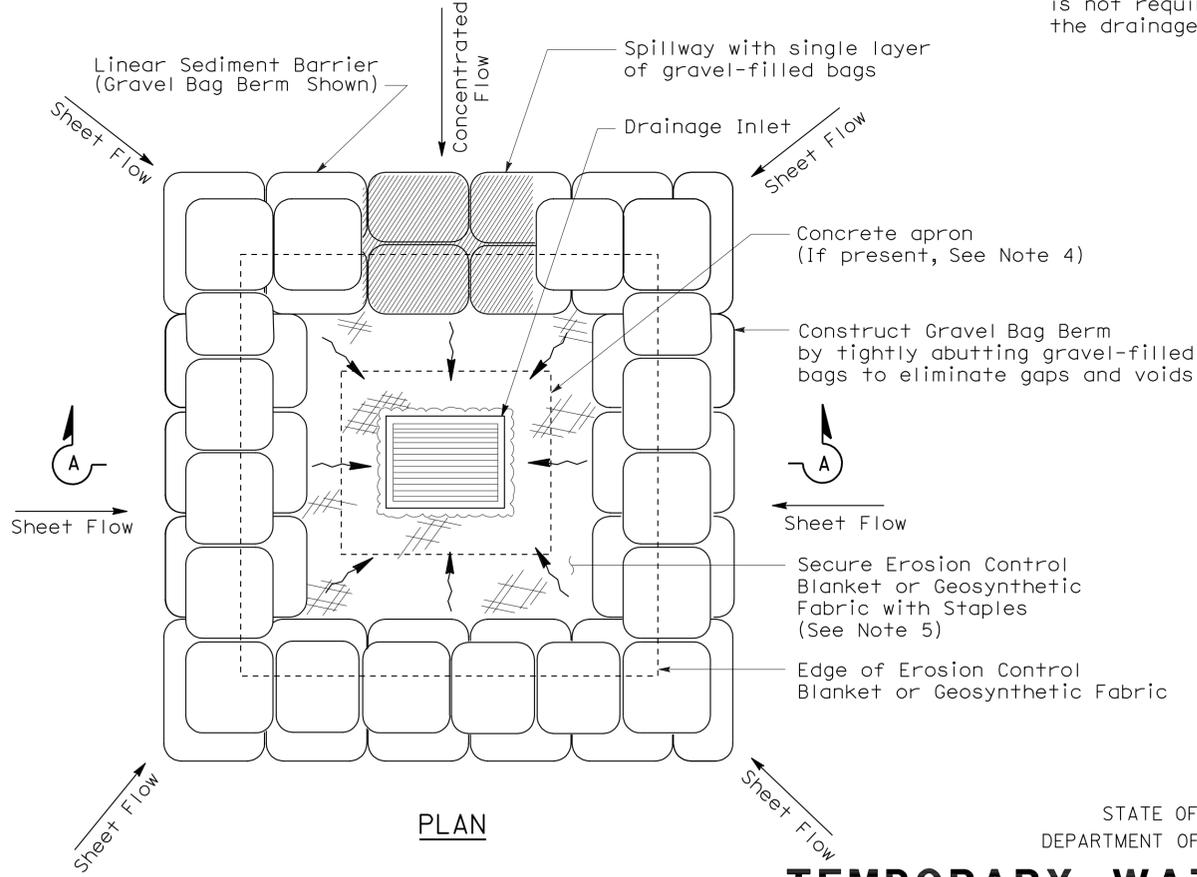
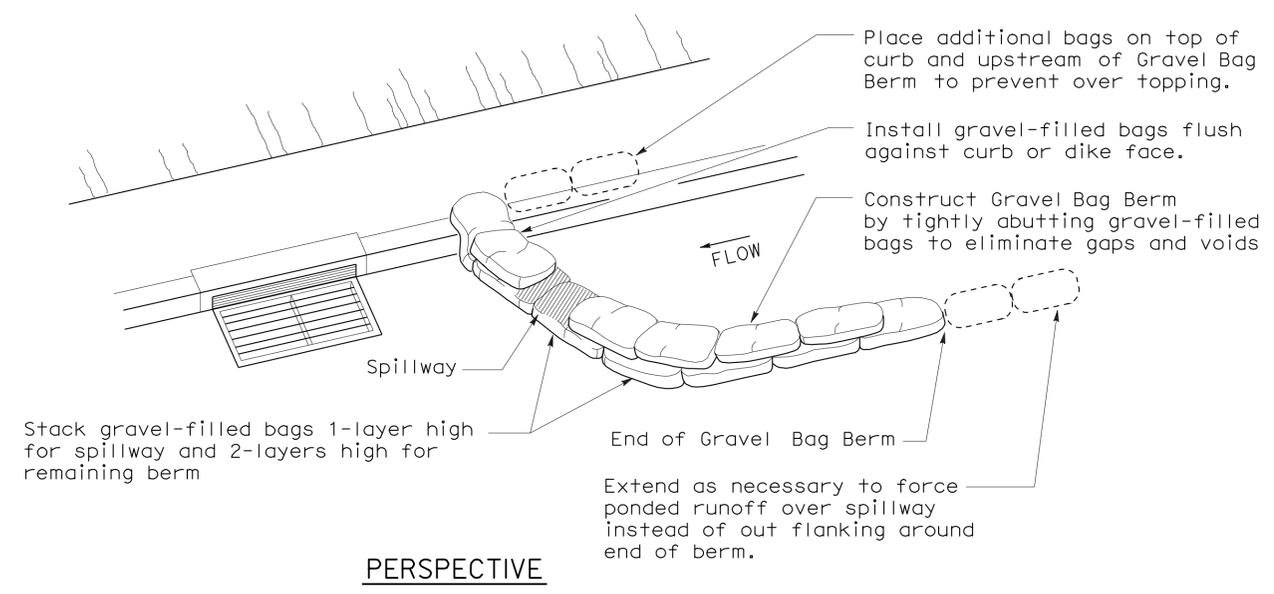


CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)

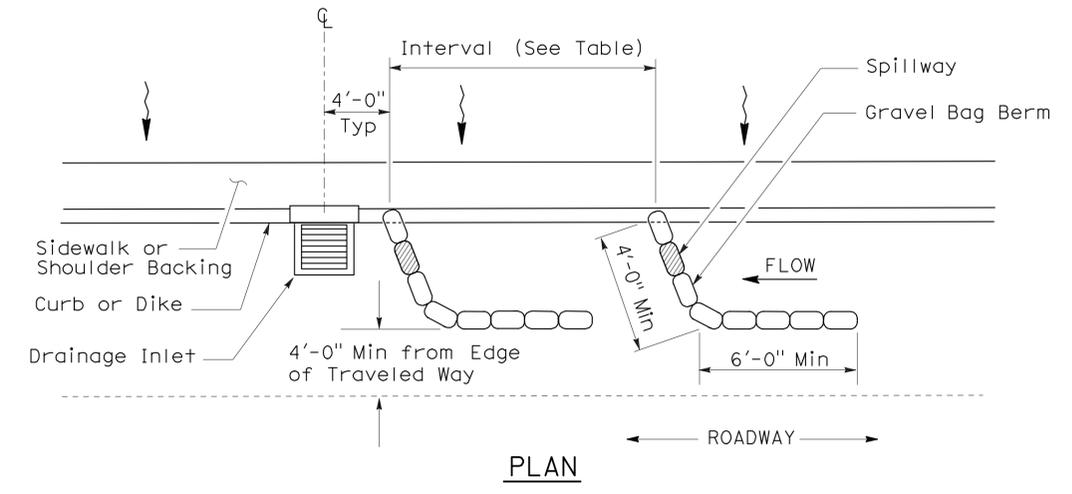
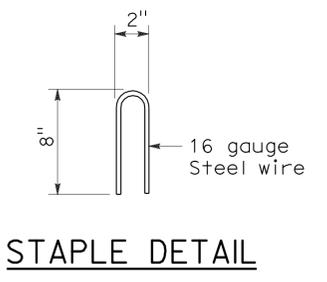


NOTES:

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.



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)



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

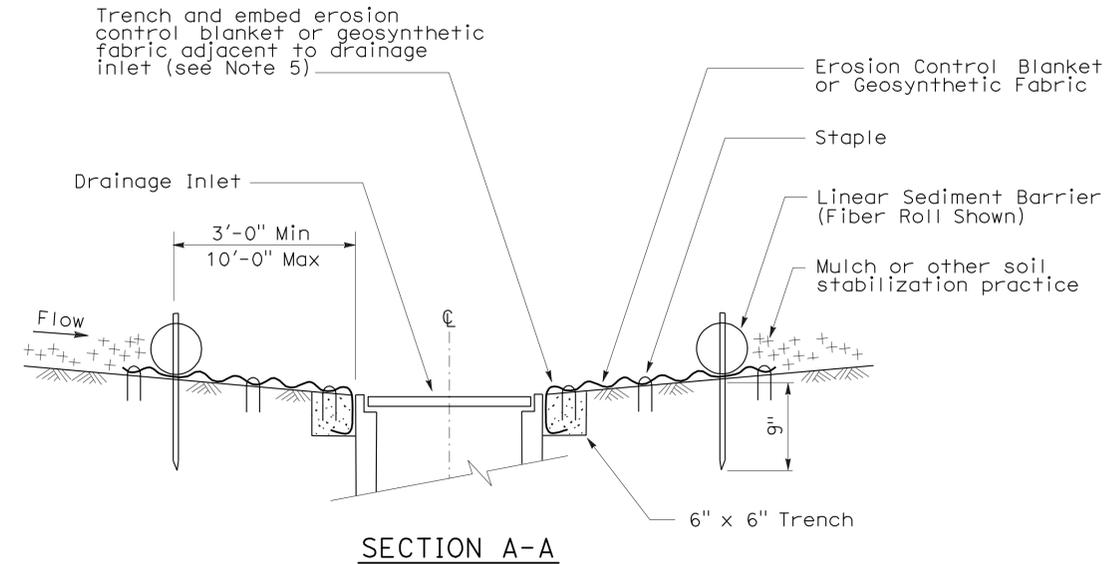
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

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

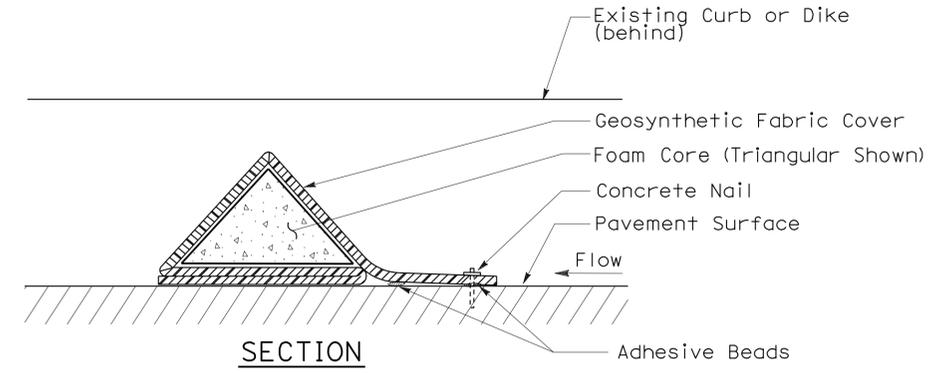
2006 NEW STANDARD PLAN NSP T62

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'



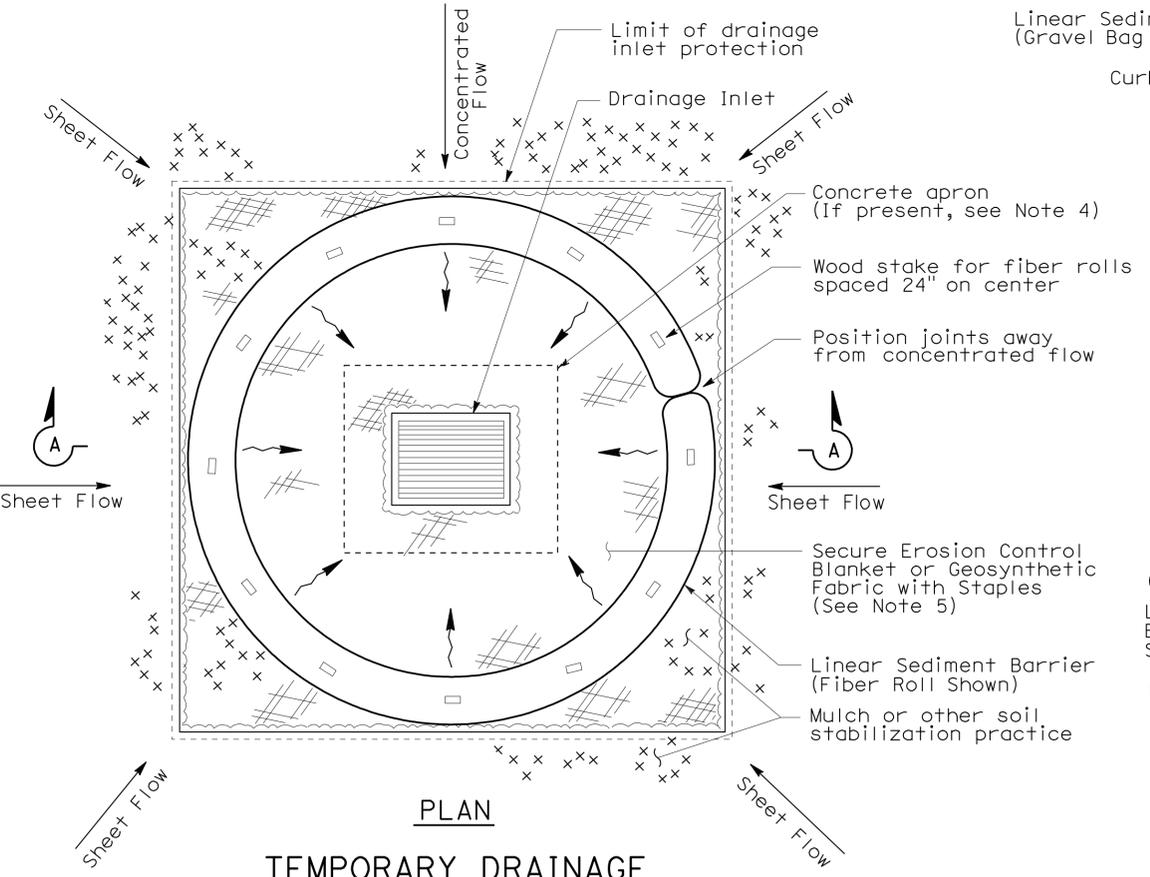
SECTION A-A



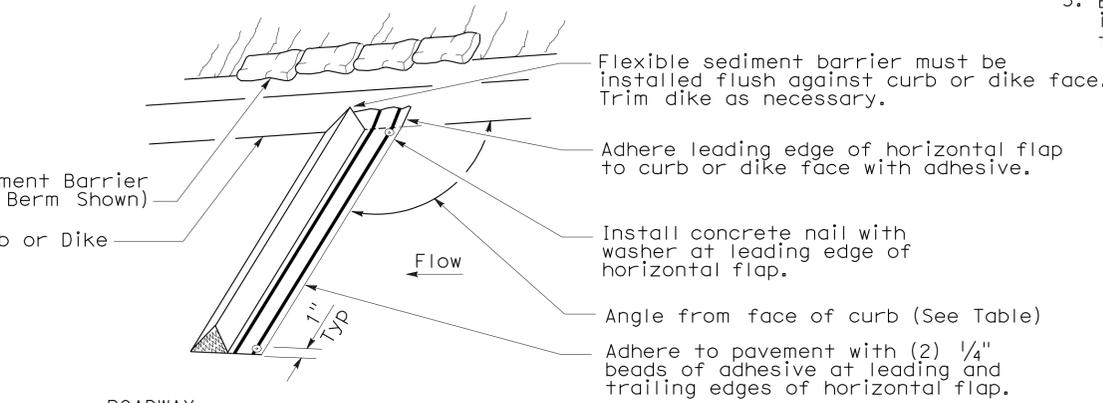
SECTION FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)

NOTES:

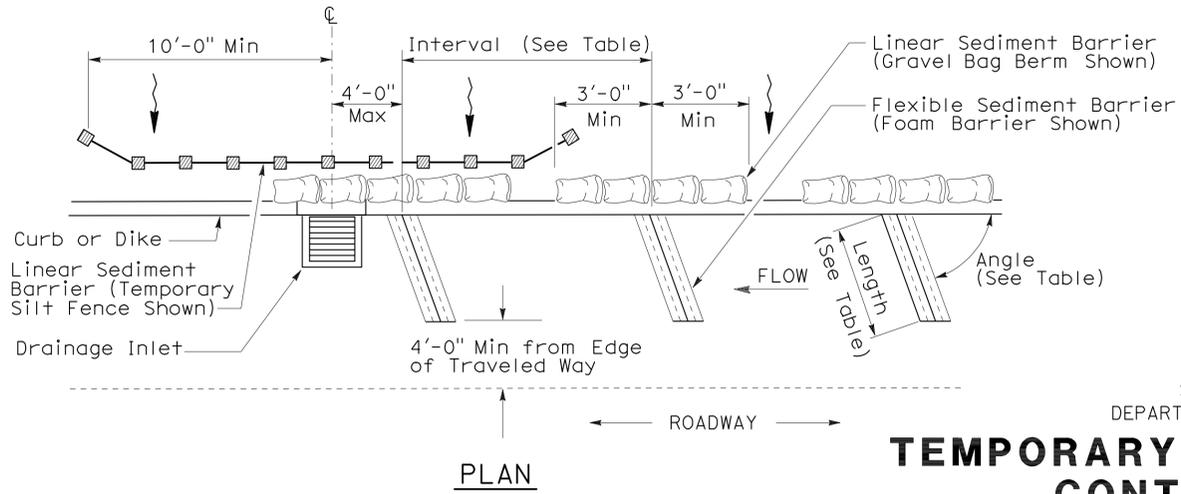
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.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



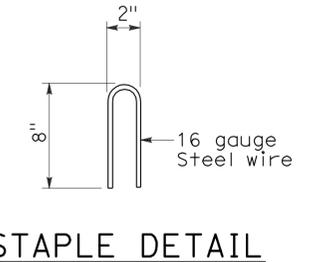
PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)



PERSPECTIVE



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



STAPLE DETAIL

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.

2006 NEW STANDARD PLAN NSP T63

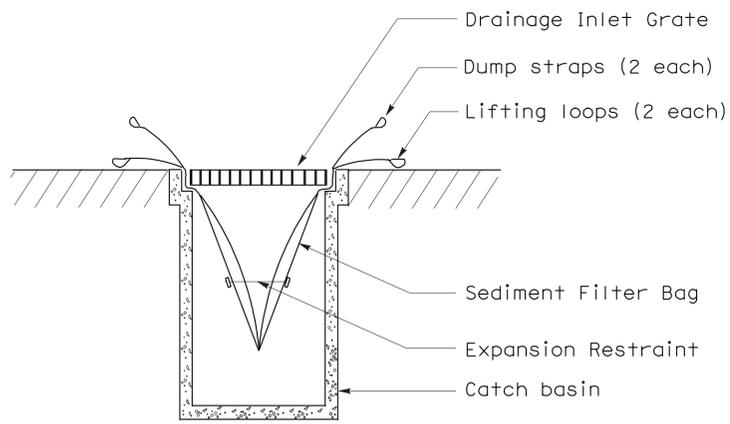
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	277	311

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT

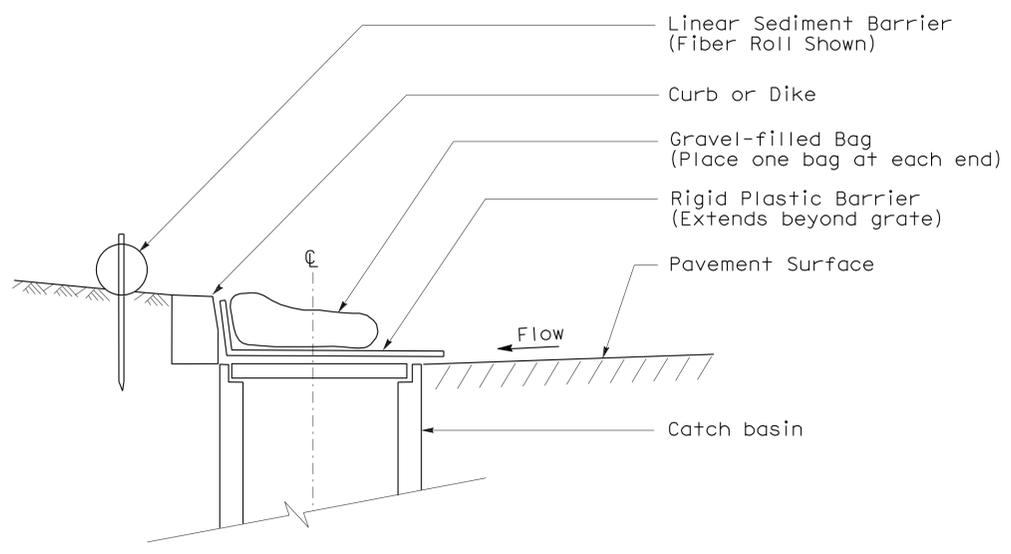
August 15, 2008
 PLANS APPROVAL DATE

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

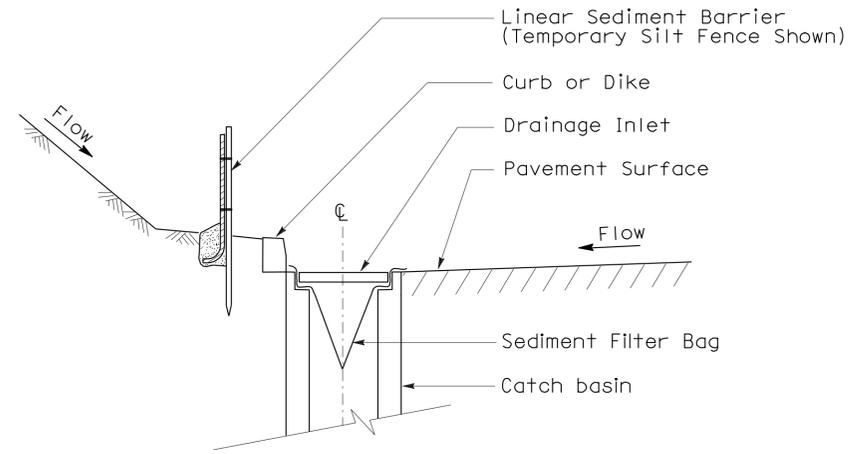
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



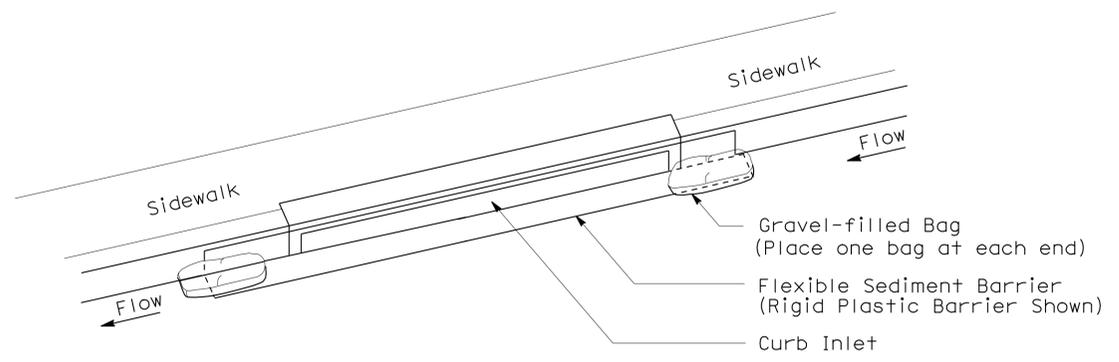
SECTION B-B
SEDIMENT FILTER BAG DETAIL



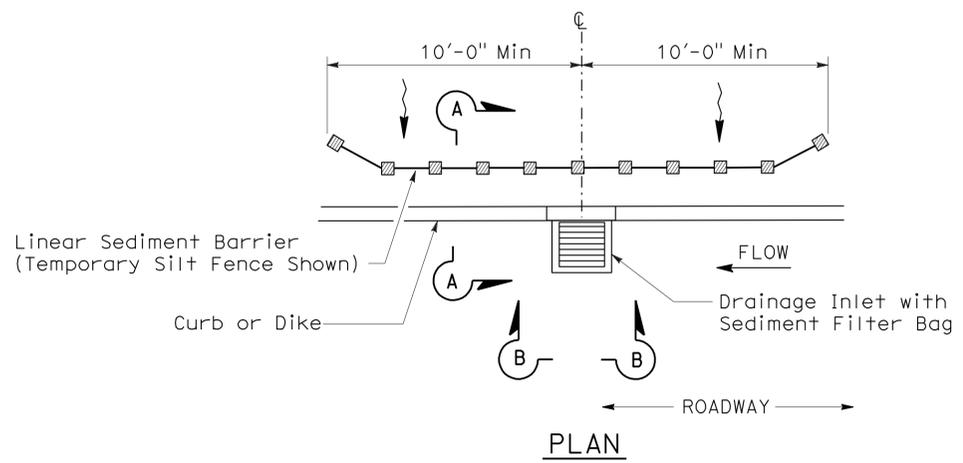
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



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



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

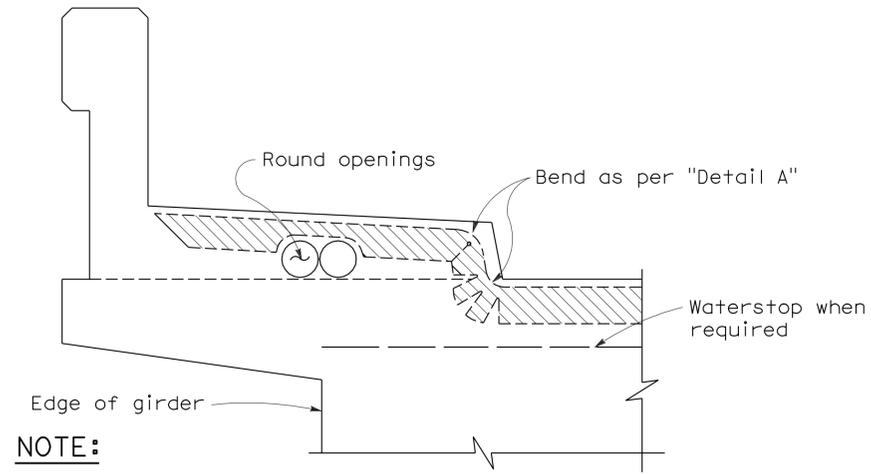
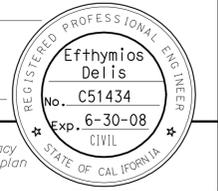
- NOTES:**
1. See Standard Plan T51 for Temporary Silt Fence.
 2. Dimensions may vary to fit field conditions.

To accompany plans dated 12-13-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

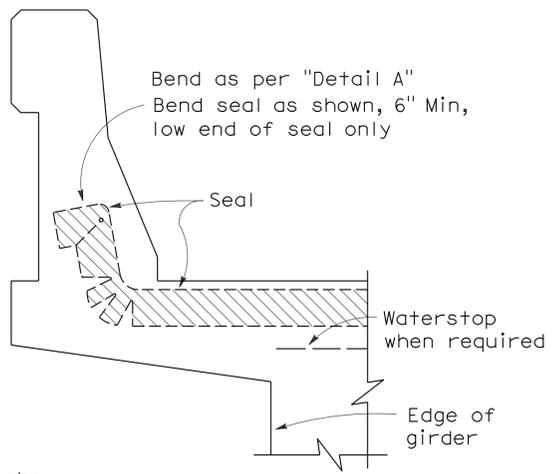
**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY DRAINAGE
INLET PROTECTION)**

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

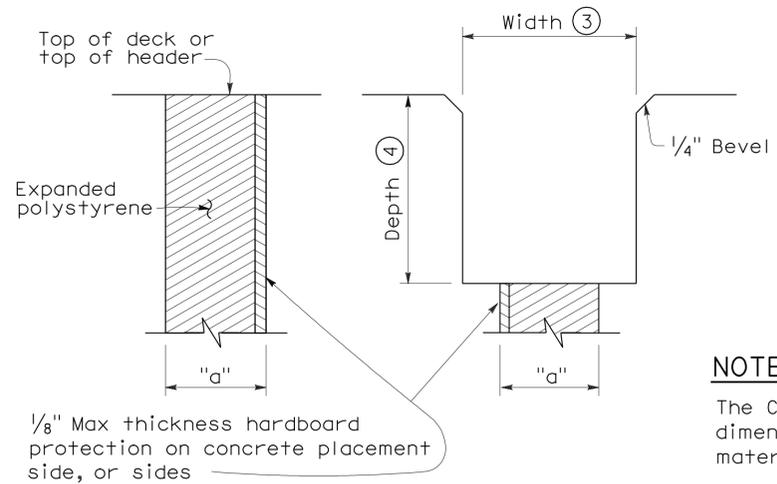


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



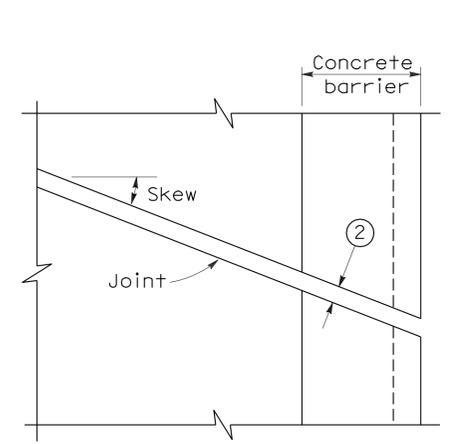
CONCRETE BARRIER



FORMING DETAIL SAWCUT DETAIL

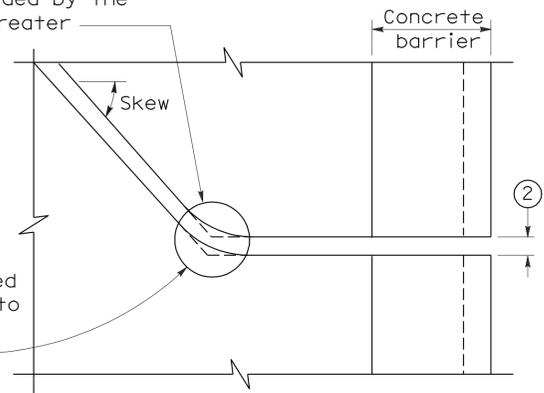
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS



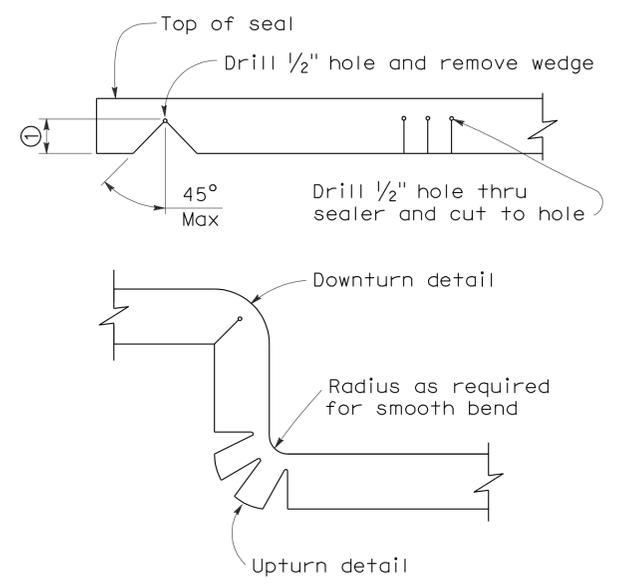
PLAN OF JOINT (SKEW ≤ 20°)

Min ϕ radius to be 4 times uncompressed width of seal or as recommended by the manufacturer, whichever is greater



PLAN OF JOINT (SKEW > 20°)

In lieu of saw cutting, this area may be blocked out and reconstructed to match saw cutting on both sides.



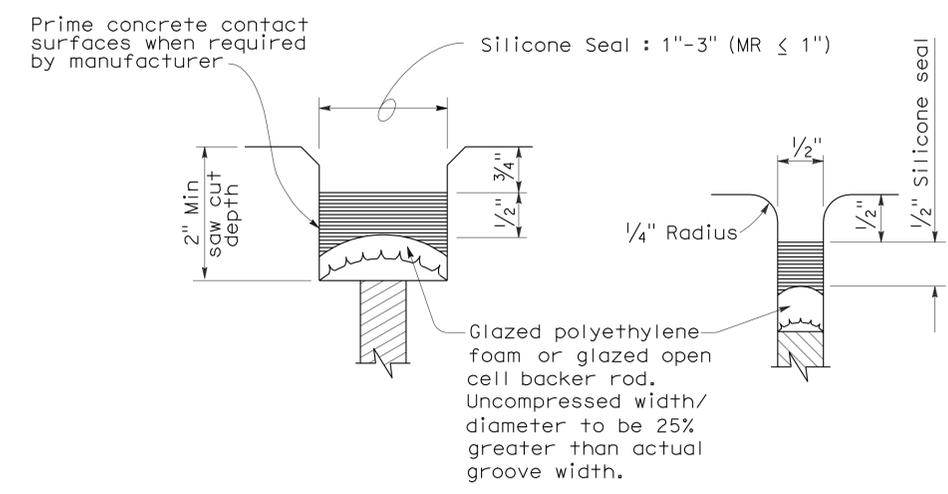
DETAIL A

- NOTES:**
- Make smooth cuts from the bottom of seal to 1 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
 - Opening in barrier to match width of sawn deck joint.
 - Sawcut groove widths shall be as ordered by the Engineer.
 - Depth of sawcut: Type A - Depth to be 2" minimum.
 Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
 - MR (movement rating) as shown on other plan sheets.
 - Other depths must be approved by the Engineer.

DIMENSIONS "a" OF JOINT REQUIRED

Movement Rating (MR) ⑤	Bridge Type	"a" Dimension		
		Deck Concrete Placed		
		Winter	Fall-Spring	Summer
2"	All except CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	All except CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	All except CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	All except CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

STATE OF CALIFORNIA
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JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")
 NO SCALE

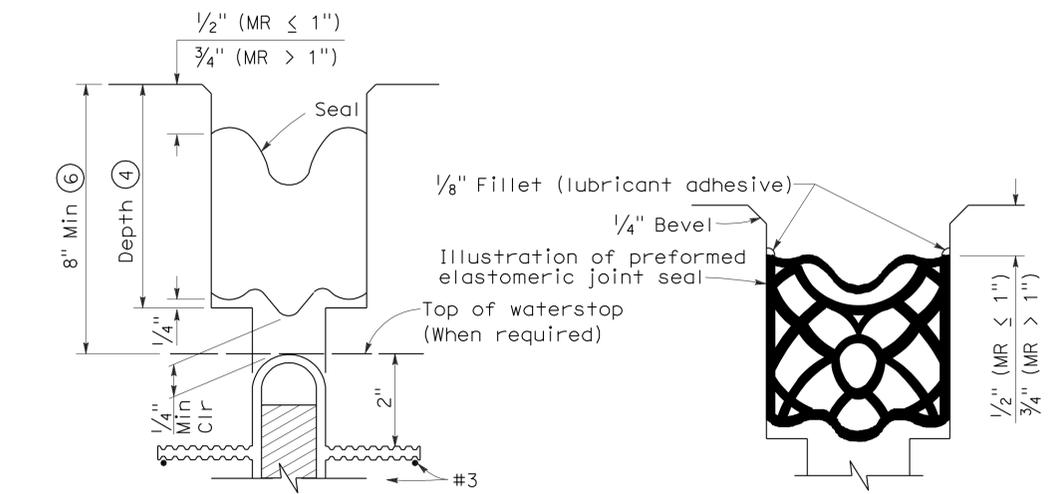


TYPE A SEAL

Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)

TYPE B SEAL

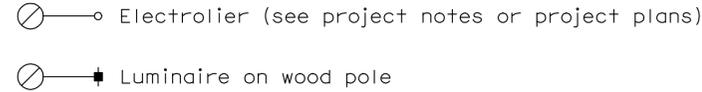
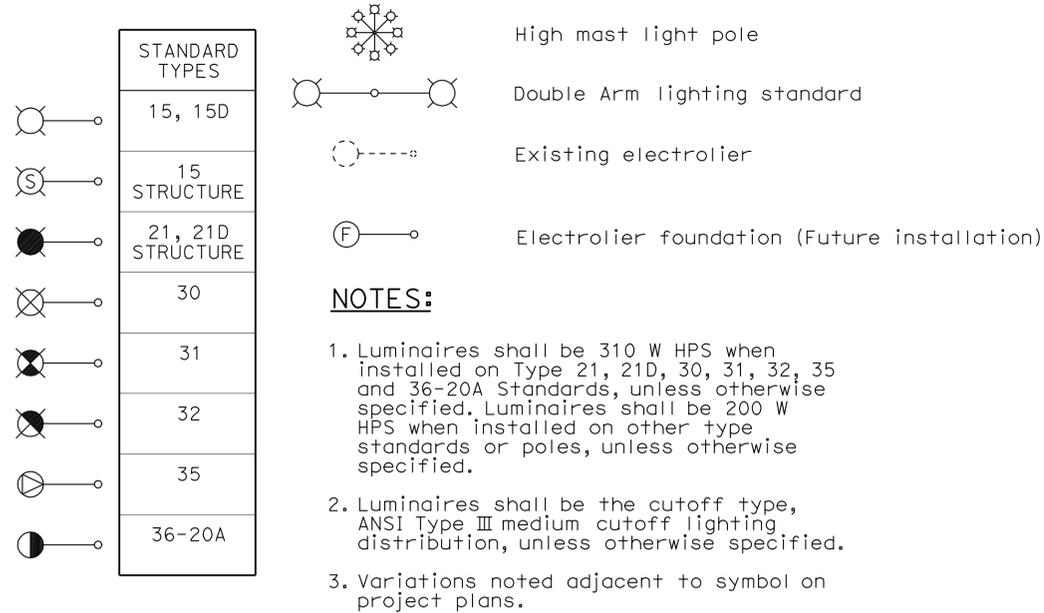
Movement Rating ≤ 2"

RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B6-21

2006 REVISED STANDARD PLAN RSP B6-21

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

PROPOSED	EXISTING	DESCRIPTION
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	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4C	mas-4C	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
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
02	Sha	5	R10.5/R17.5	279	311

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

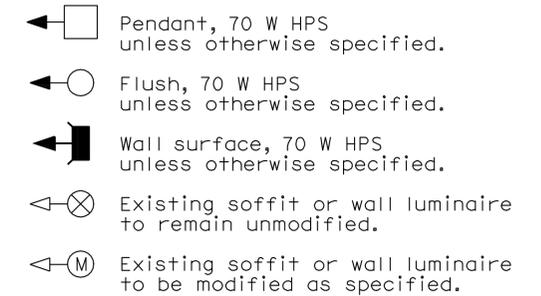
October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 12-13-10

SOFFIT AND WALL MOUNTED LUMINAIRES



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
02	Sha	5	R10.5/R17.5	280	311

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

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

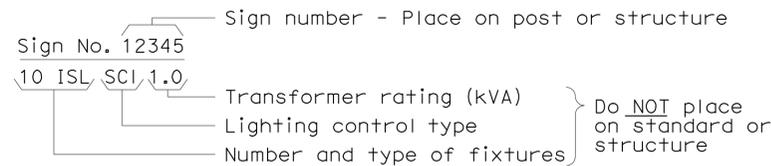
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

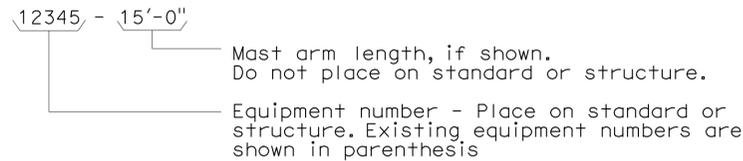
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

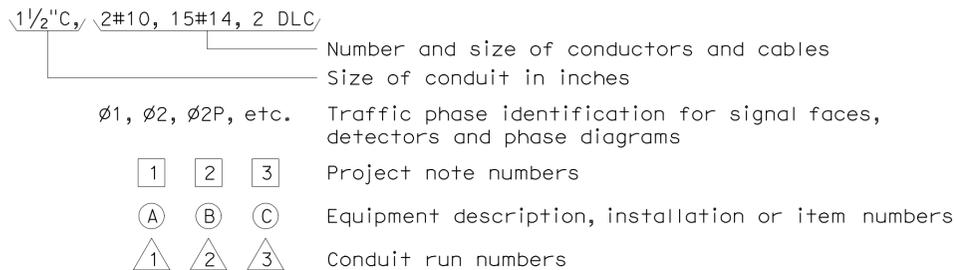
ILLUMINATED SIGN IDENTIFICATION NUMBER:



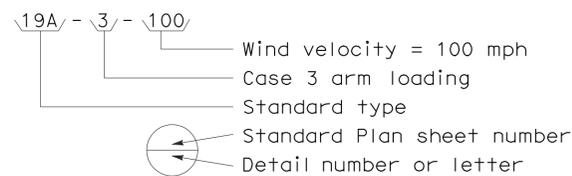
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



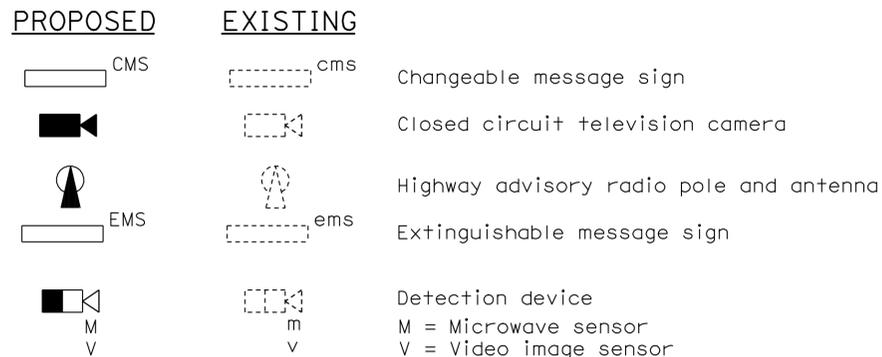
CONDUIT AND CONDUCTOR IDENTIFICATION:



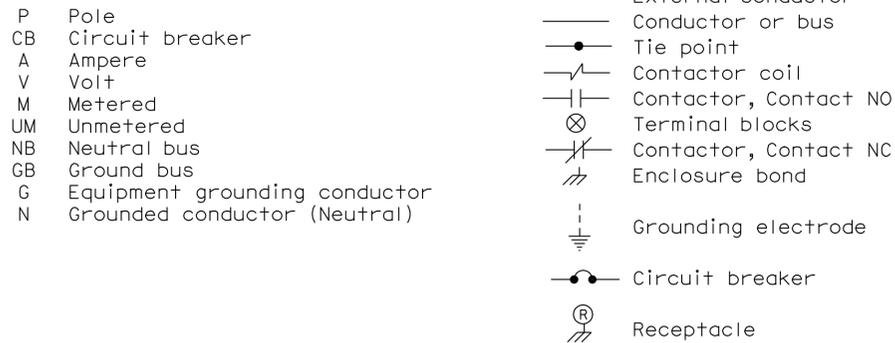
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



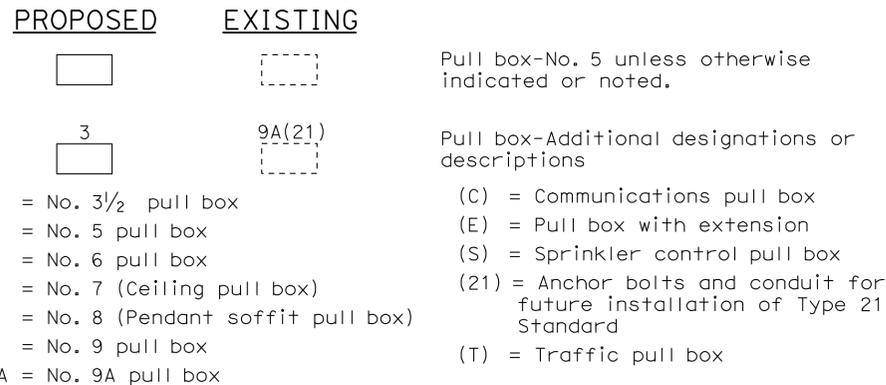
MISCELLANEOUS EQUIPMENT



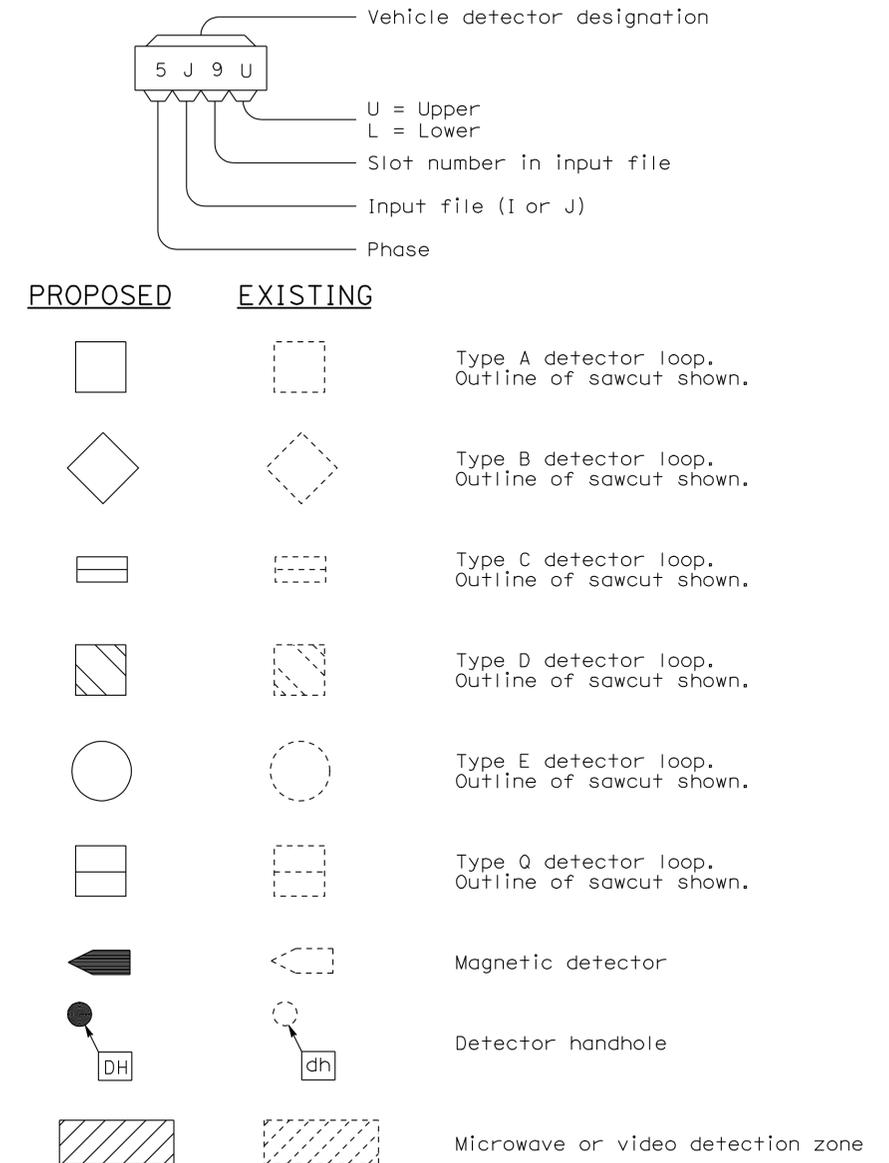
WIRING DIAGRAM LEGEND



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.

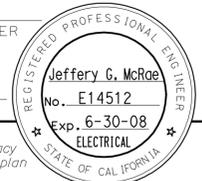
REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	282	311

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE



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

To accompany plans dated 12-13-10

NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of $\frac{1}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
 - a) Incoming terminals (landing lugs)
 - b) Neutral lugs
 - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces, $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
 - a) Adjacent to the breaker or device with character size a minimum of $\frac{1}{8}$ ".
 - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of $\frac{3}{16}$ ".
14. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
15. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
19. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
20. Type III-AR and Type III-BR service equipment enclosures shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SERVICE EQUIPMENT NOTES
TYPE III SERIES)**

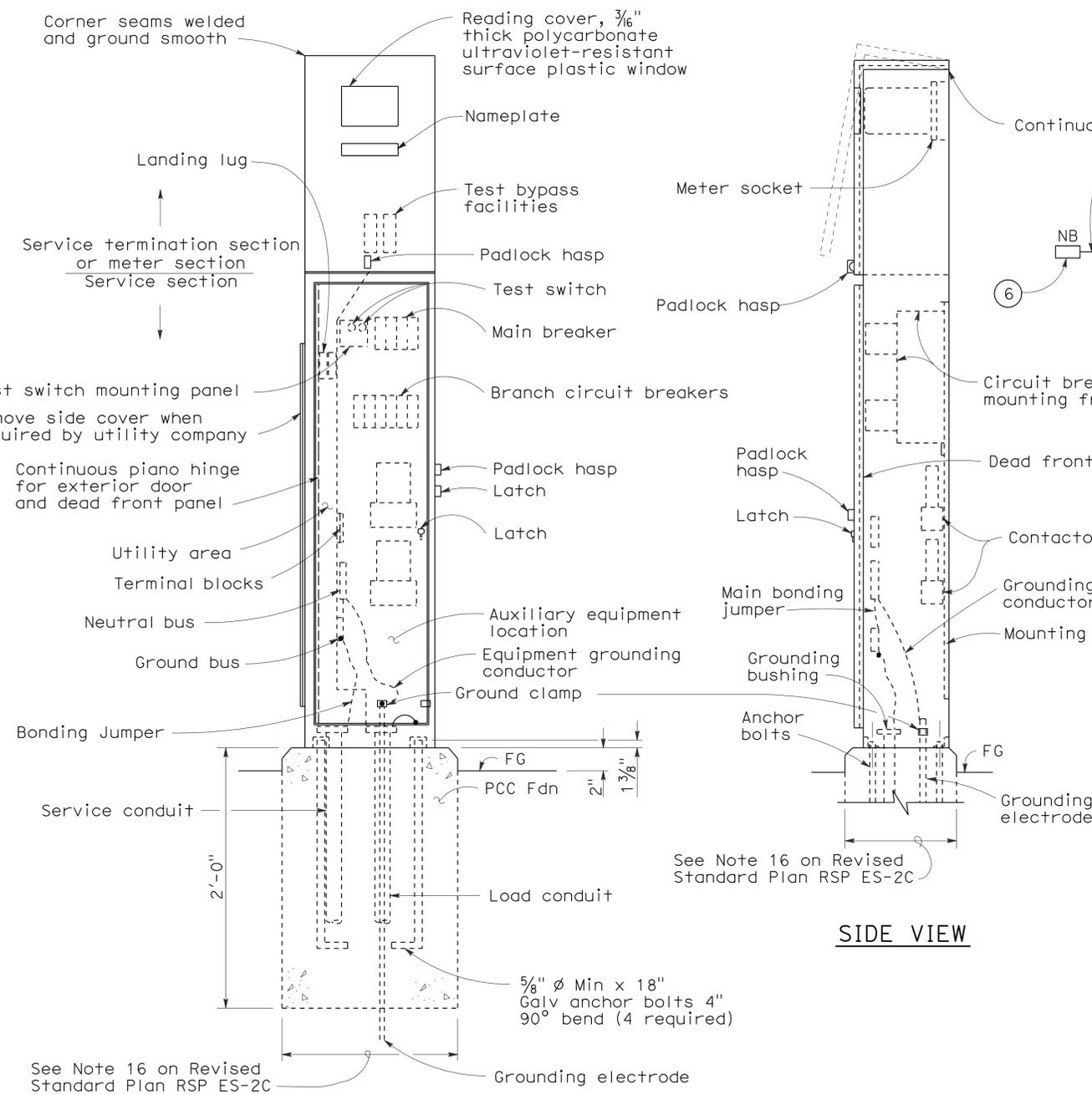
NO SCALE

RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C
DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2C

2006 REVISED STANDARD PLAN RSP ES-2C

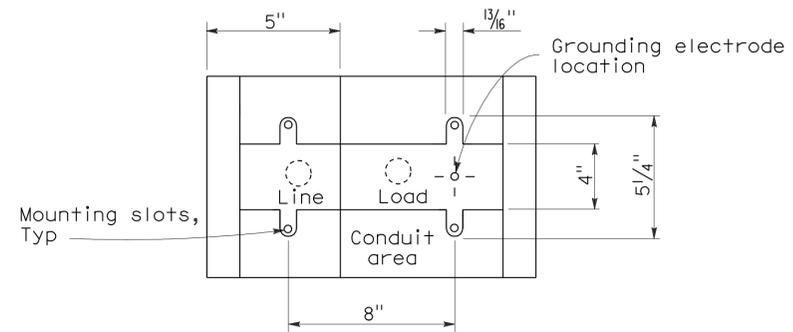
2006 REVISED STANDARD PLAN RSP ES-2D



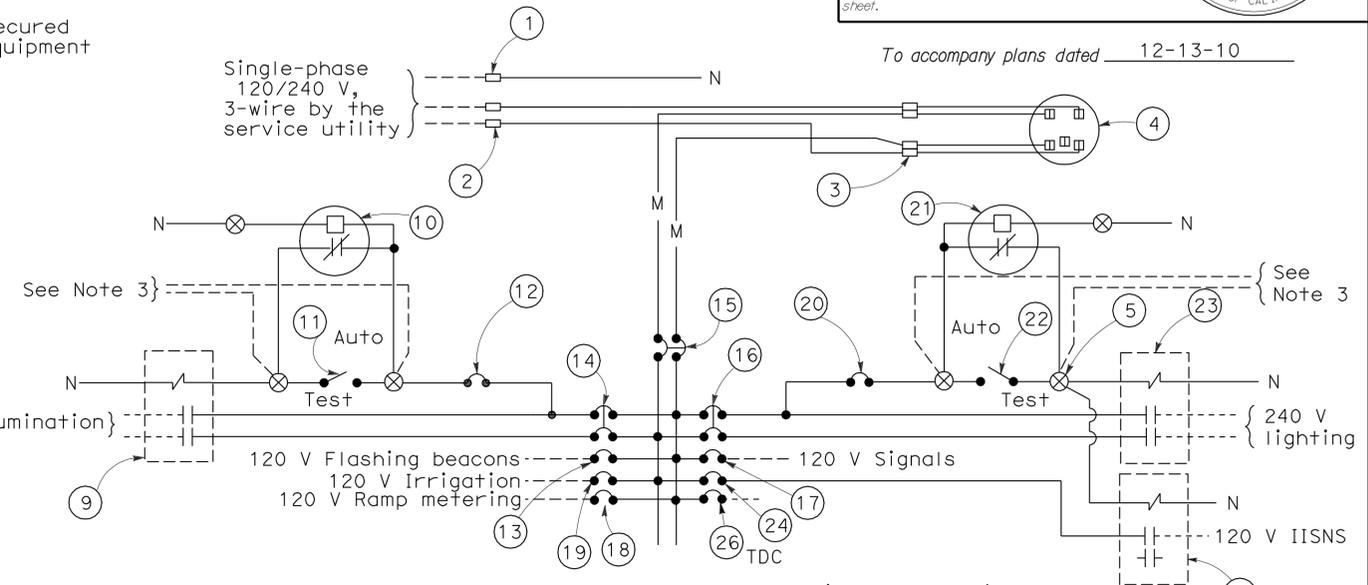
TYPE III-AF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)

FRONT VIEW

SIDE VIEW



BASE FOR TYPE III-A SERVICE EQUIPMENT ENCLOSURE



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

TYPE III-A SERVICE (120/240 V) EQUIPMENT LEGEND					
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION	ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
1	Neutral lug		14	30 A, 240 V, 2P, CB	Sign Illumination
2	Landing lug (Note 6)		15	100 A, 240 V, 2P, CB	Main Breaker
3	Test bypass facility		16	30 A, 240 V, 2P, CB	Lighting
4	Meter socket and support		17	50 A, 120 V, 1P, CB	Signals
5	Terminal blocks		18	30 A, 120 V, 1P, CB	Ramp Metering
6	Neutral bus		19	20 A, 120 V, 1P, CB	Irrigation
7	Ground bus		20	15 A, 120 V, 1P, CB	Lighting Control
8	Grounding electrode		21	Photoelectric unit (Note 7)	
9	30 A, 2PNO Contactor	Sign Illumination	22	15 A, 1P, Test switch	Lighting Test Switch
10	Photoelectric unit (Note 7)		23	60 A, 2PNO Contactor	Lighting
11	15 A, 1P, Test switch	Sign Illumination Test Switch	24	15 A, 120 V, 1P, CB	IISNS
12	15 A, 120 V, 1P, CB	Sign Illumination Control	25	30 A, 2PNO Contactor	IISNS
13	15 A, 120 V, 1P, CB	Flashing Beacon	26	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)

- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
- Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
- Connect to remote test switch mounted on lighting standards, sign post or structure when required.
- Items No. 1 and 6 shall be isolated from the service equipment enclosure.
- Meter sockets shall be 5 clip type.
- The landing lug shall be suitable for multiple conductors.
- Type I photoelectric control shall be used unless otherwise indicated on the plans.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SERVICE EQUIPMENT AND
TYPICAL WIRING DIAGRAM,
TYPE III - A SERIES)**

NO SCALE

RSP ES-2D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2D DATED MAY 1, 2006 - PAGE 406 OF THE STANDARD PLANS BOOK DATED MAY 2006.

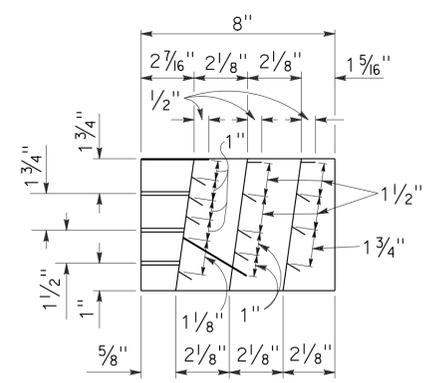
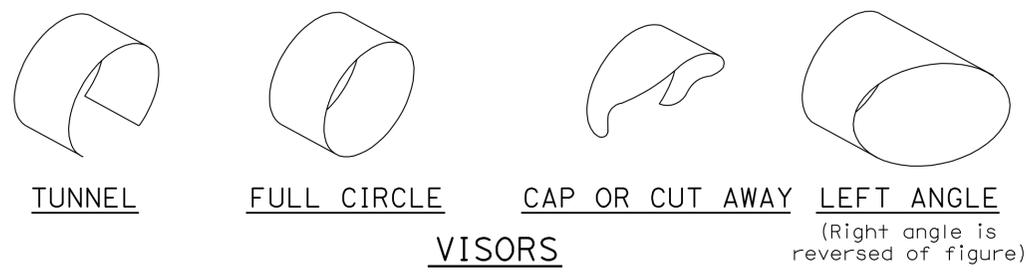
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	284	311

Jeffrey G. McRae
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 ELECTRICAL
 STATE OF CALIFORNIA

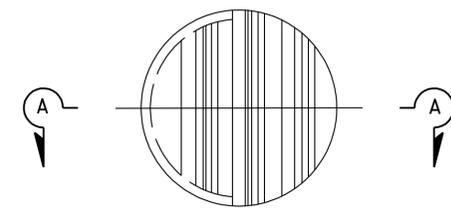
June 6, 2008
 PLANS APPROVAL DATE

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.

To accompany plans dated 12-13-10



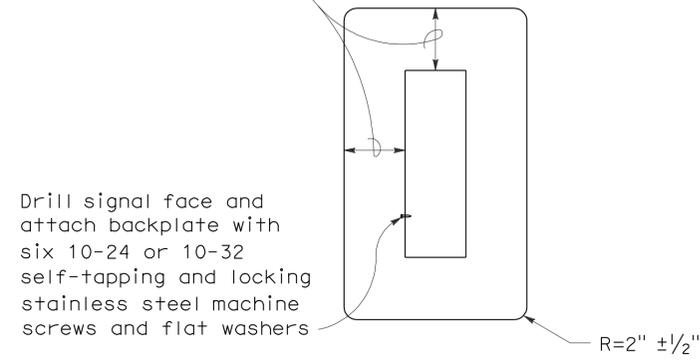
SECTION A-A



FRONT VIEW
DIRECTIONAL LOUVER

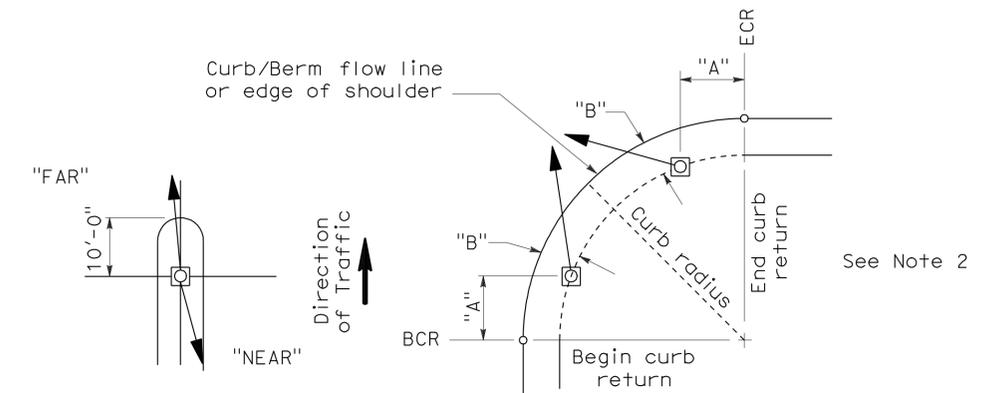
Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.

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



8" AND 12" SECTIONS
BACKPLATE

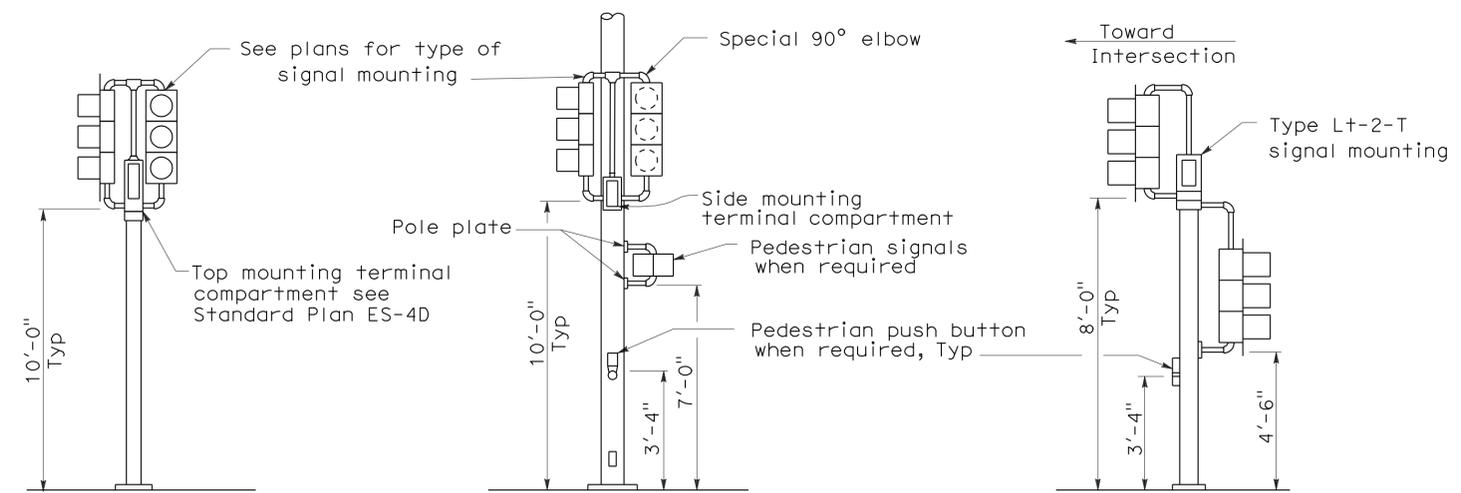
1/16" minimum thickness
 3001-14 aluminum, or plastic when specified



NOTES:

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

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS

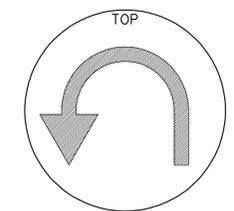


TOP MOUNTED SIGNALS (TV)
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)
 Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans

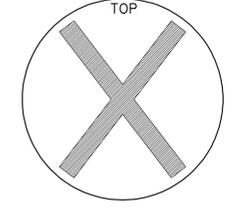
TYPICAL SIGNAL INSTALLATIONS



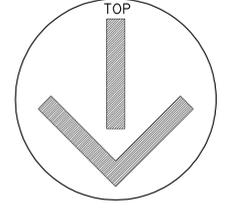
U-TURN SIGNAL FACE



BICYCLE SIGNAL FACE



LANE CONTROL SIGNAL FACE



LANE CONTROL SIGNAL FACE

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-4C

2006 REVISED STANDARD PLAN RSP ES-4C

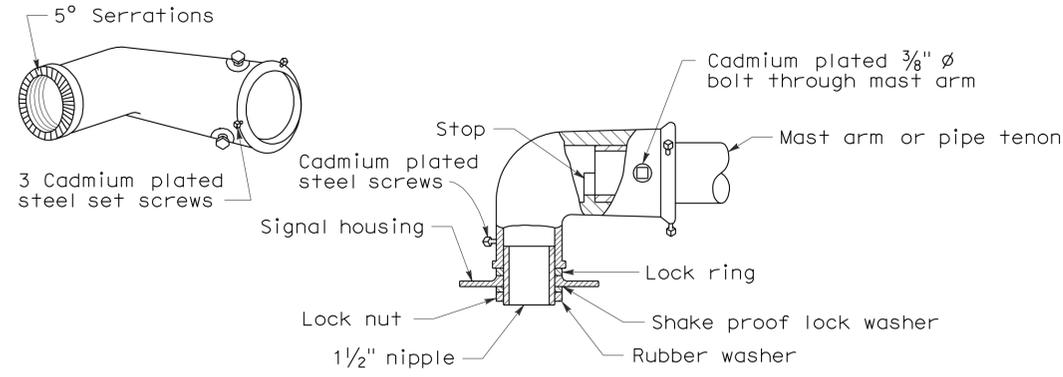
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	285	311

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

June 6, 2008
 PLANS APPROVAL DATE

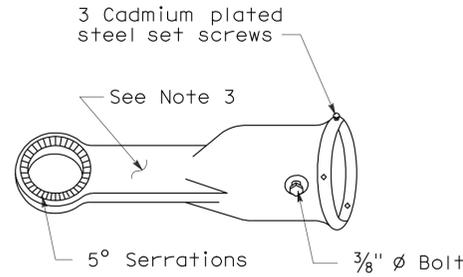
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To accompany plans dated 12-13-10



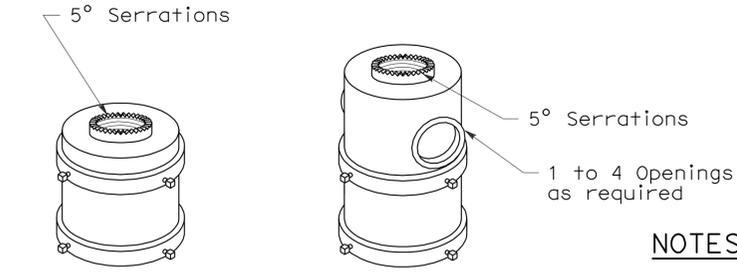
MAST ARM MOUNTING - TYPE "MAT"

For 2 NPS pipe, see Note 1.



MAST ARM MOUNTING - TYPE "MAS"

For 2 NPS pipe. See Note 1.

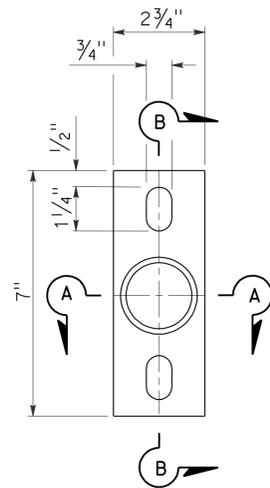


For one mounting For multiple mountings

TOP MOUNTINGS

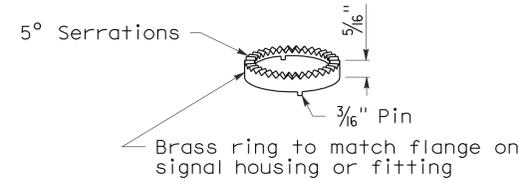
For 4 NPS pipe, see Note 2.

SIGNAL SLIP FITTERS



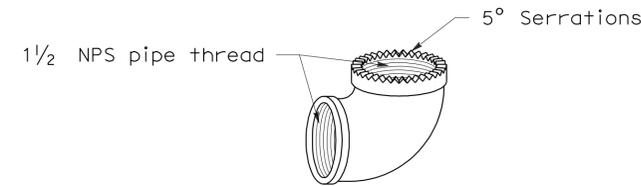
POLE PLATE

For side mountings



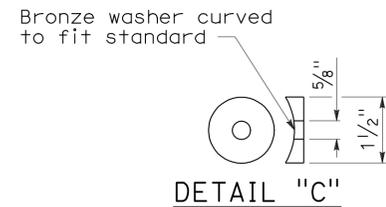
LOCK RING

Use where locking ring is not integral with signal housing or fitting.



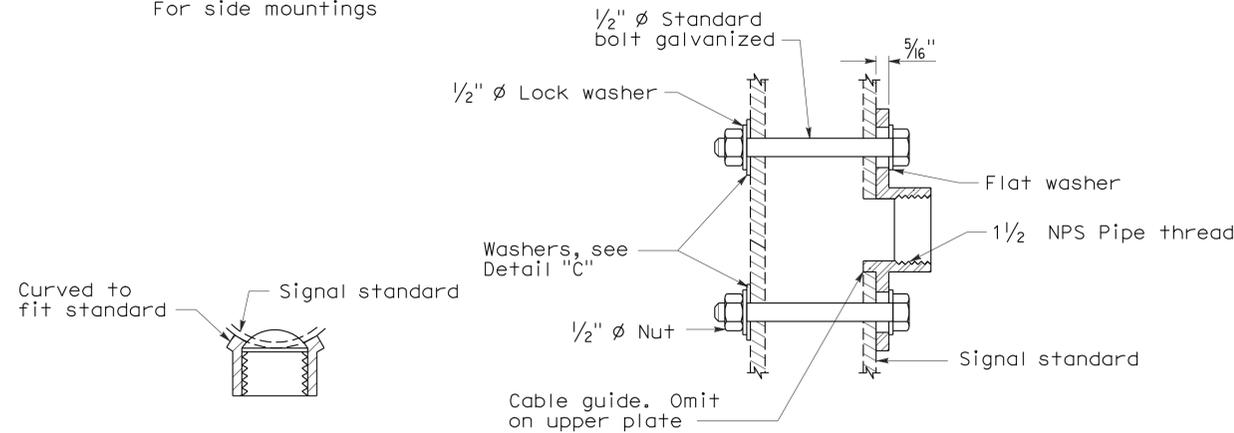
SPECIAL 90° ELBOW

One for each signal head, except those with special slip fitter mounting

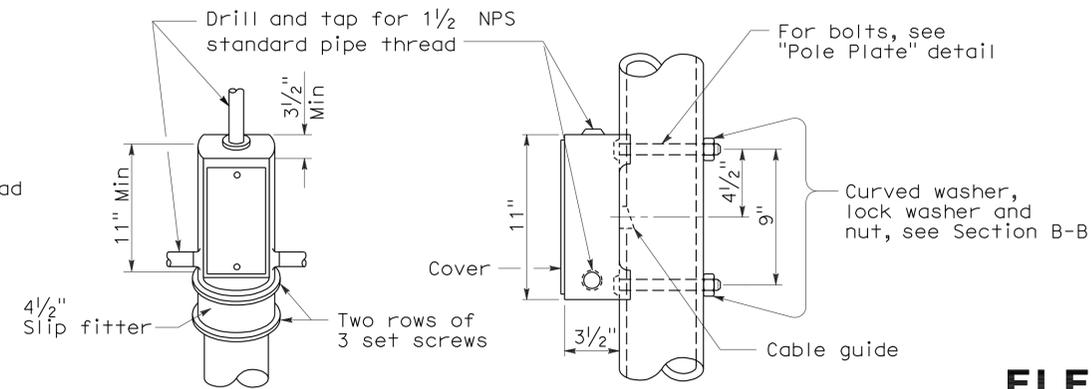


DETAIL "C"

MISCELLANEOUS MOUNTING HARDWARE



SECTION B-B



TOP MOUNTING

SIDE MOUNTING

TERMINAL COMPARTMENTS

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4D DATED June 6, 2008 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 1, 2006 - PAGE 421 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-4D

2006 REVISED STANDARD PLAN RSP ES-4D

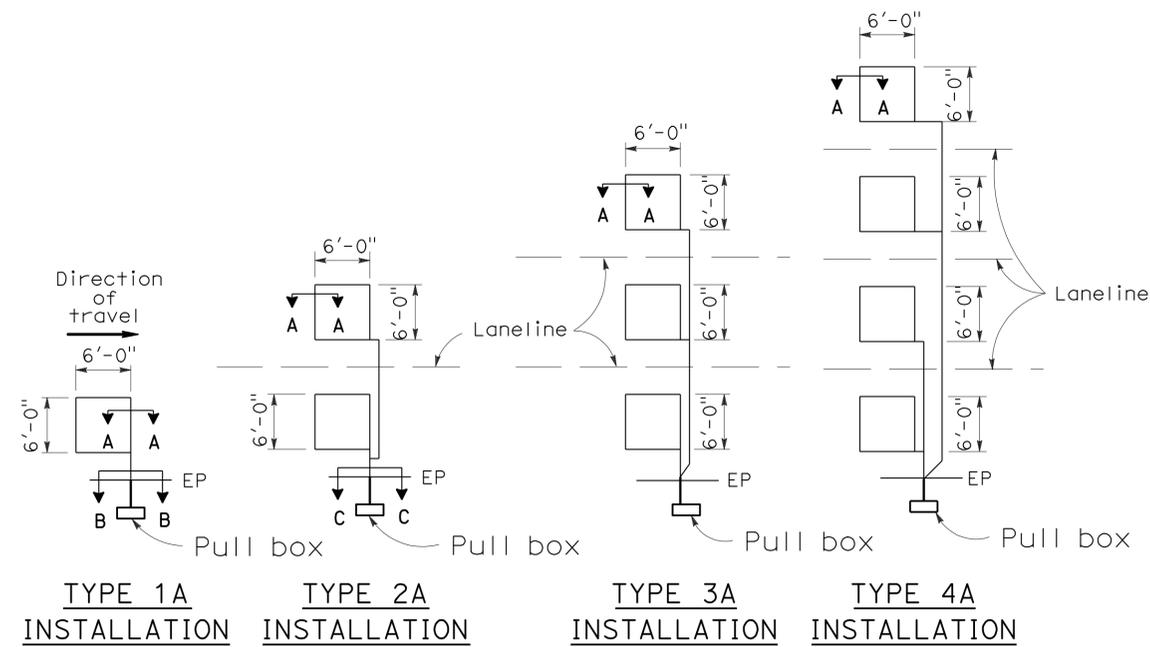
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	286	311

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

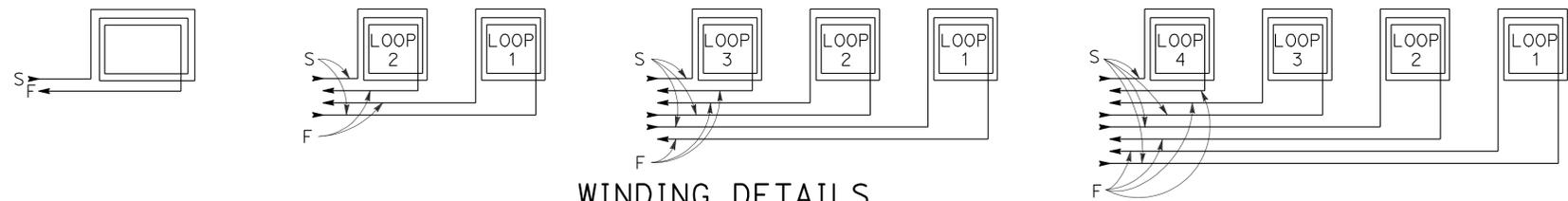
- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no 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.



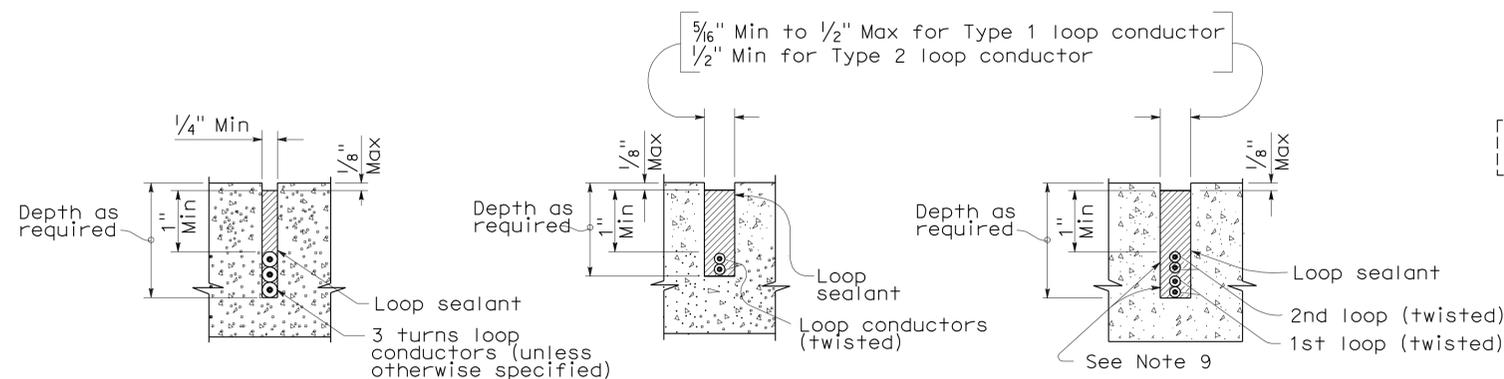
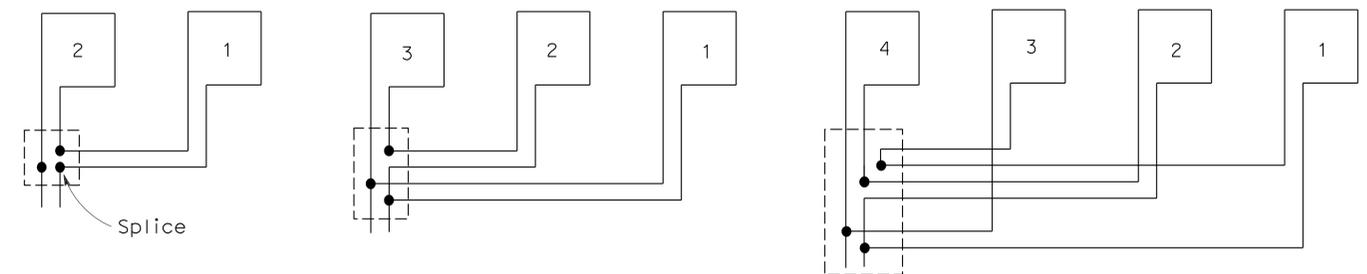
SAWCUT DETAILS

(Type A loop detector configurations illustrated)

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



See Notes 6 and 7



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

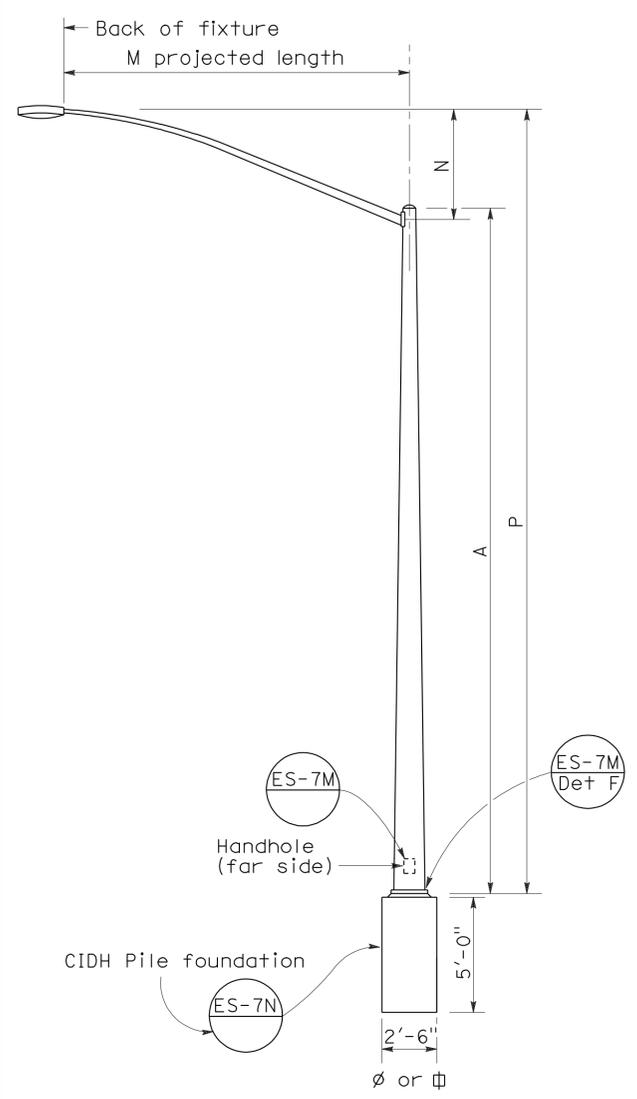
2006 REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	287	311

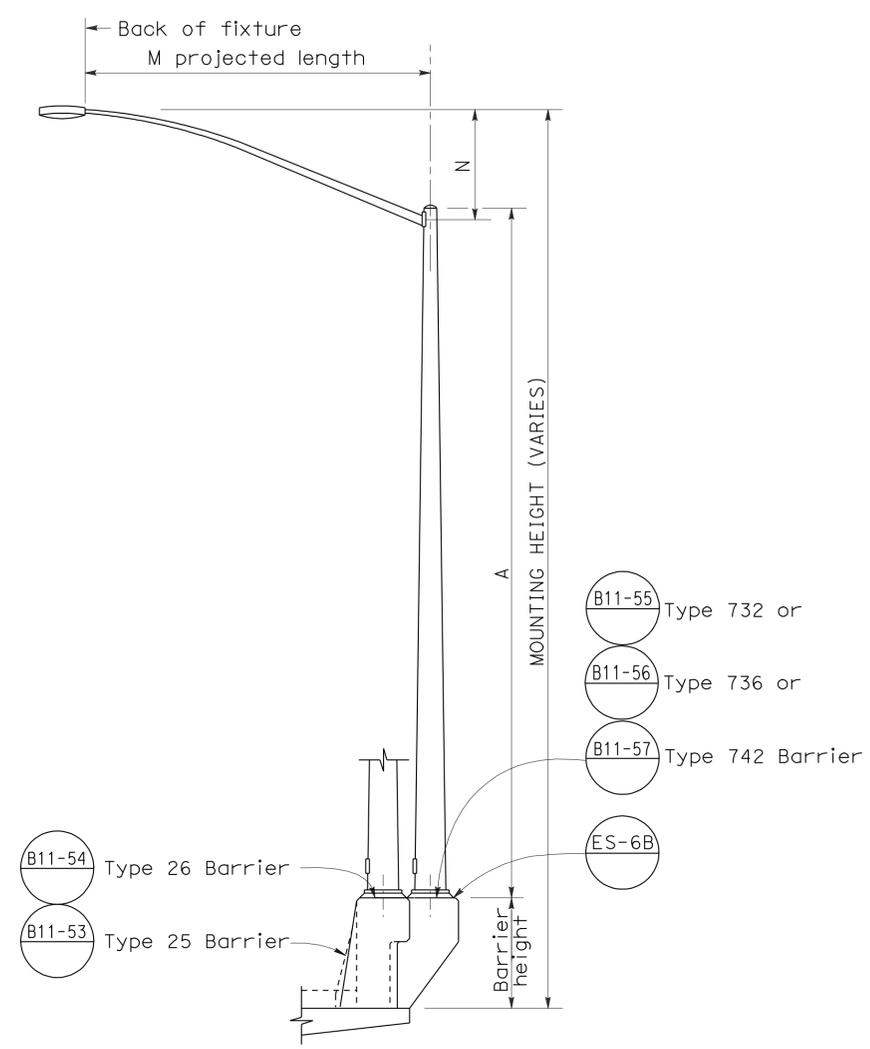
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 No. C57793
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA

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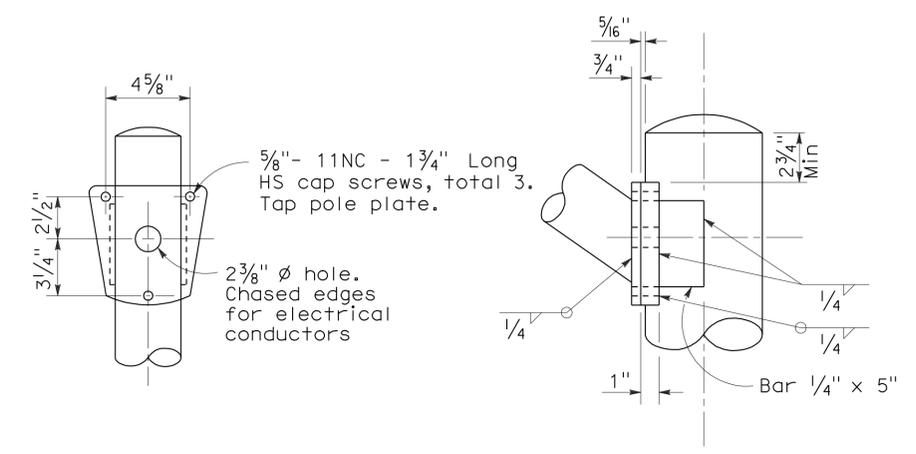
To accompany plans dated 12-13-10



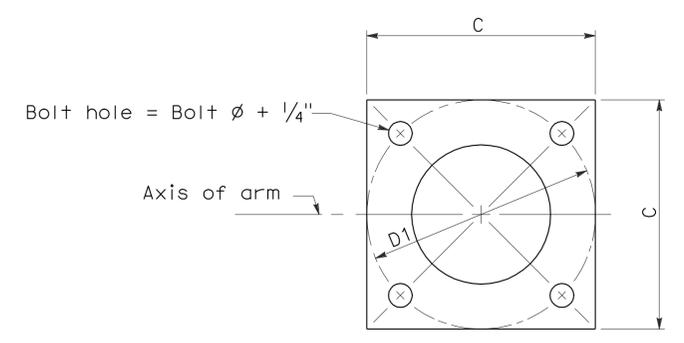
ELEVATION
TYPE 15 AND TYPE 21



ELEVATION
TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED



DETAIL R
LUMINAIRE ARM CONNECTION



BASE PLATE

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

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

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(LIGHTING STANDARD
TYPES 15 AND 21)

NO SCALE

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

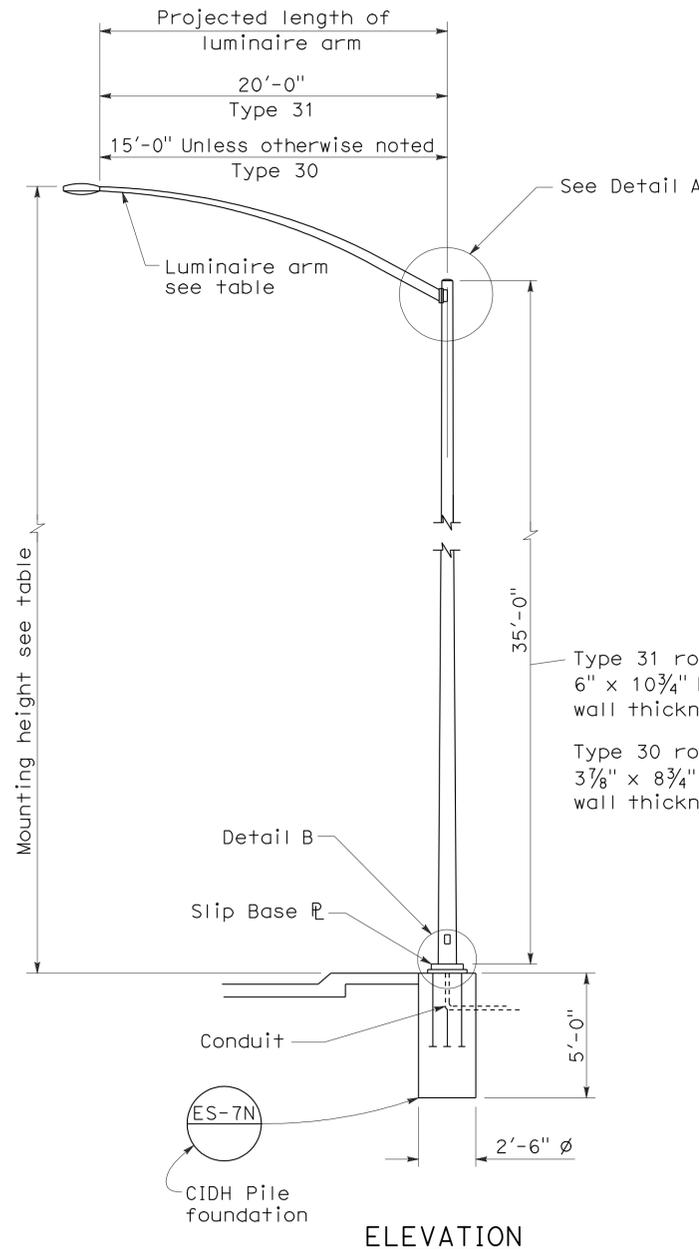
REVISED STANDARD PLAN RSP ES-6A

2006 REVISED STANDARD PLAN RSP ES-6A

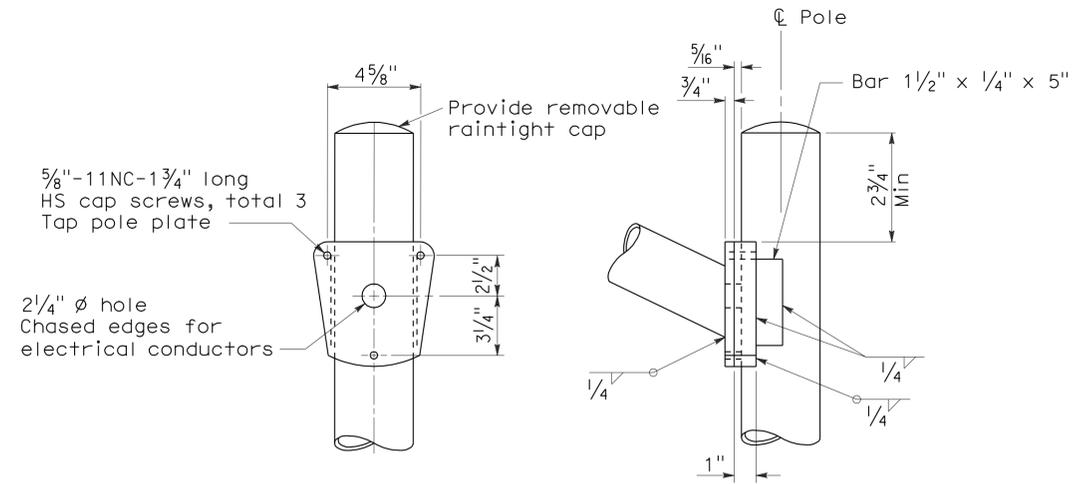
LUMINAIRE ARM DATA

PROJECTED LENGTH	THICKNESS	MINIMUM OD @ POLE	MOUNTING HEIGHT
* 6'-0"	0.1196"	3 1/4"	36'-9"±
8'-0"		3 1/2"	37'-3"±
10'-0"		3 3/4"	38'-0"±
12'-0"		3 3/4"	39'-0"±
15'-0"		4 1/4"	39'-6"±
** 20'-0"	0.1793"	5"	37'-0"±

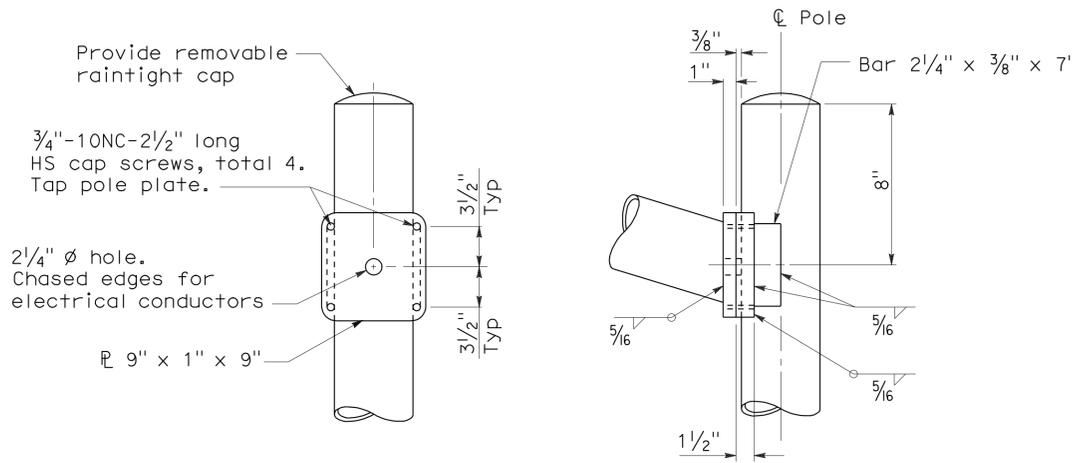
* Type 30 - arm length 6'-0" - 15'-0" maximum
 ** Type 31 - arm lengths 20'-0"



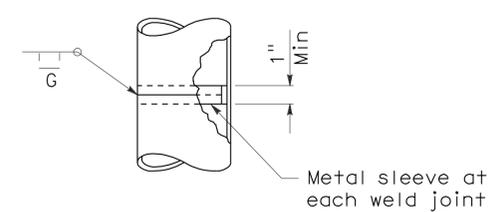
ELEVATION



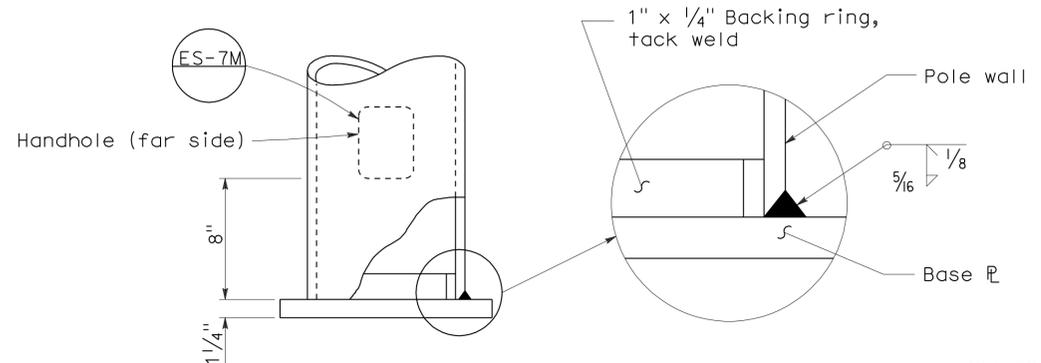
DETAIL A - TYPE 30



DETAIL A - TYPE 31



POLE SPLICE



DETAIL B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	288	311

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 03-31-08
 CIVIL
 STATE OF CALIFORNIA

January 18, 2008
 PLANS APPROVAL DATE

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To accompany plans dated 12-13-10

NOTES:

- Sheet steel shall have a minimum yield of 48,000 psi.
- For slip base details see Standard Plan ES-6F.
- For Type 30 fixed base use Type 15 base plate, and foundation shown on Revised Standard Plan RSP ES-6A. Use 1 1/4" Dia x 3'-6" x 4" anchor bolts.
- For Type 31 fixed base use Type 32 base plate, anchor bolts and foundation on Standard Plan ES-6G.
- Handhole shall be located on downstream side of traffic unless noted otherwise on plans.
- For additional general notes refer to Standard Plan ES-7M.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING STANDARD
 TYPES 30 AND 31)**
 NO SCALE

RSP ES-6E DATED JANUARY 18, 2008 SUPERCEDES STANDARD PLAN ES-6E DATED MAY 1, 2006 - PAGE 430 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-6E

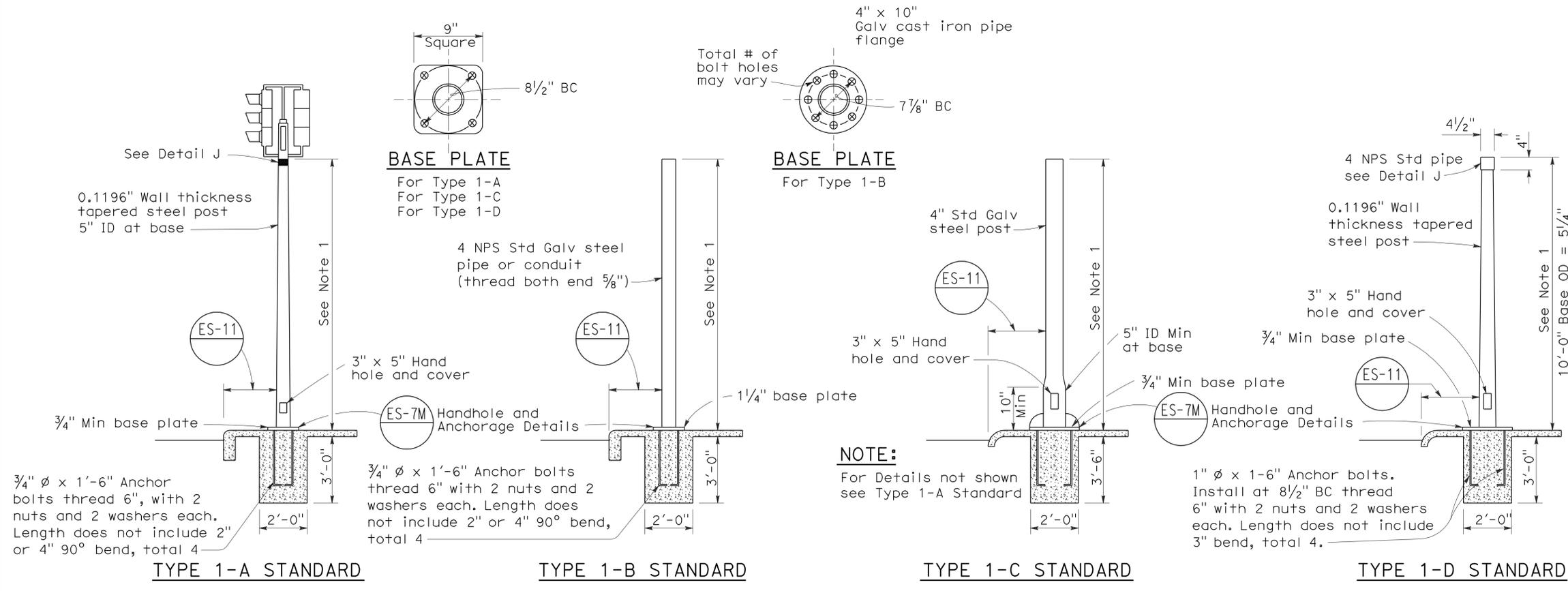
2006 REVISED STANDARD PLAN RSP ES-6E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	289	311

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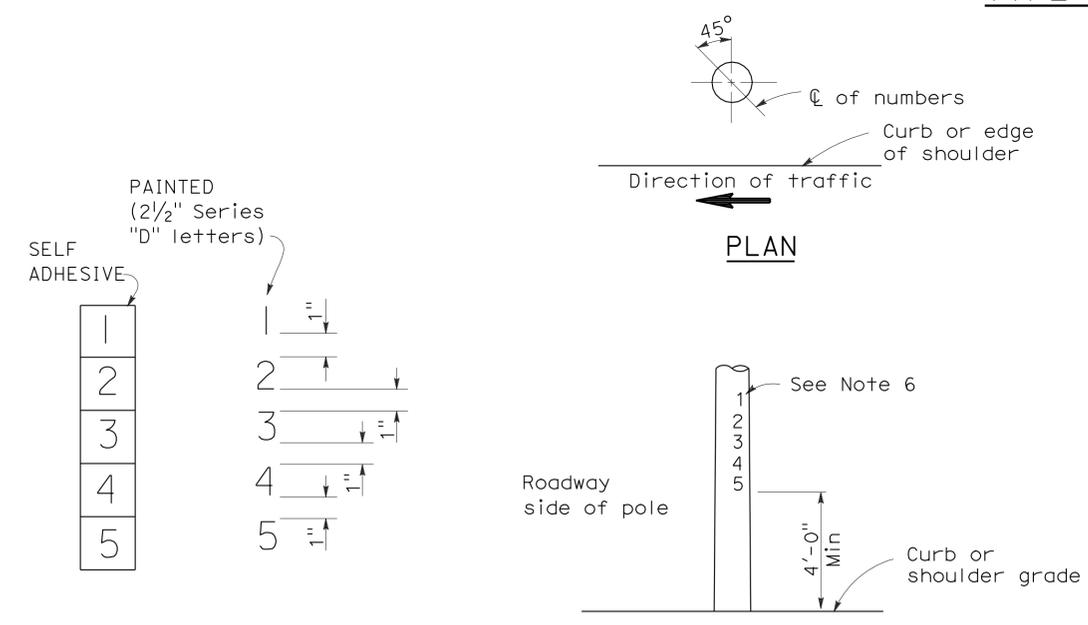
Stanley P. Johnson
 REGISTERED PROFESSIONAL ENGINEER
 No. C57793
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 12-13-10

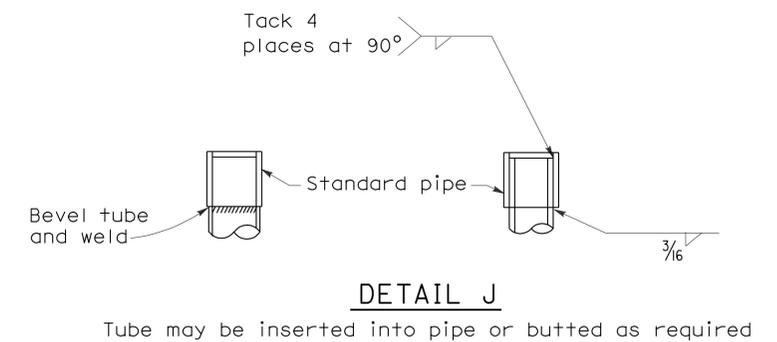
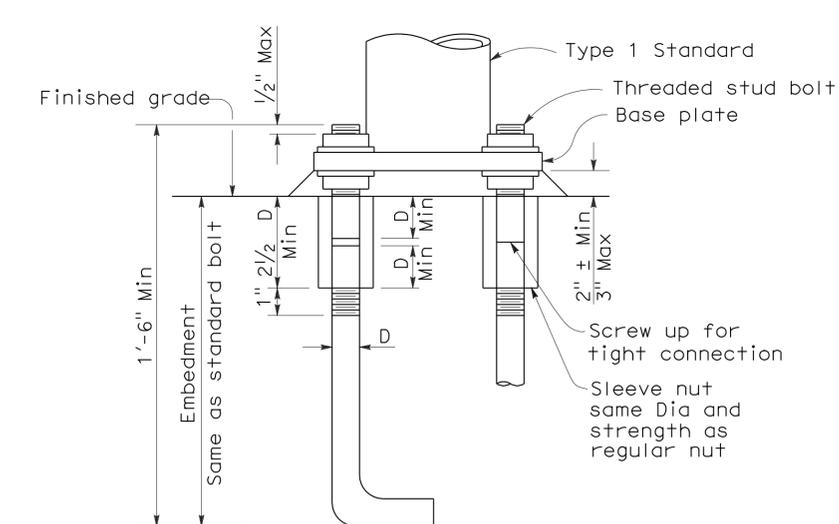


- NOTES:**
- Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless otherwise noted on plans.
 - Top of standards shall be 4 1/2" OD.
 - Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward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

TYPE 1 SIGNAL STANDARDS



LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS



ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD TYPE 1 STANDARD AND EQUIPMENT NUMBERING)

NO SCALE

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

2006 REVISED STANDARD PLAN RSP ES-7B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	291	311

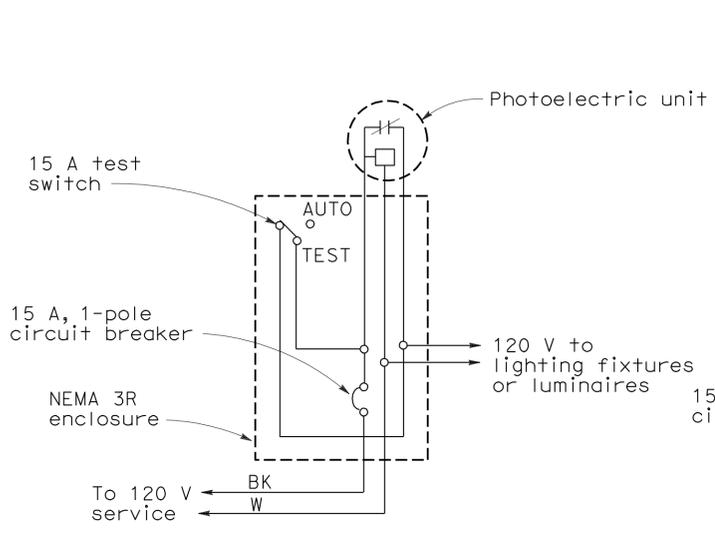
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

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To accompany plans dated 12-13-10

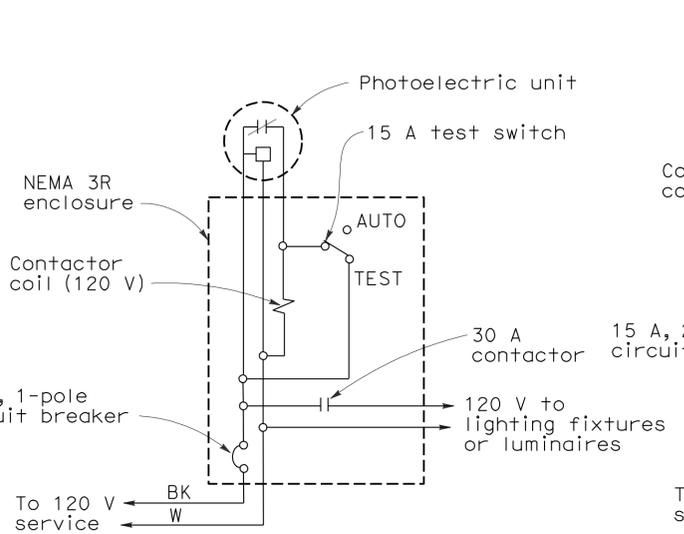
NOTES: (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)

1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar to Types SC1, SC2 and SC3 controls respectively except test switch and wiring are not required.



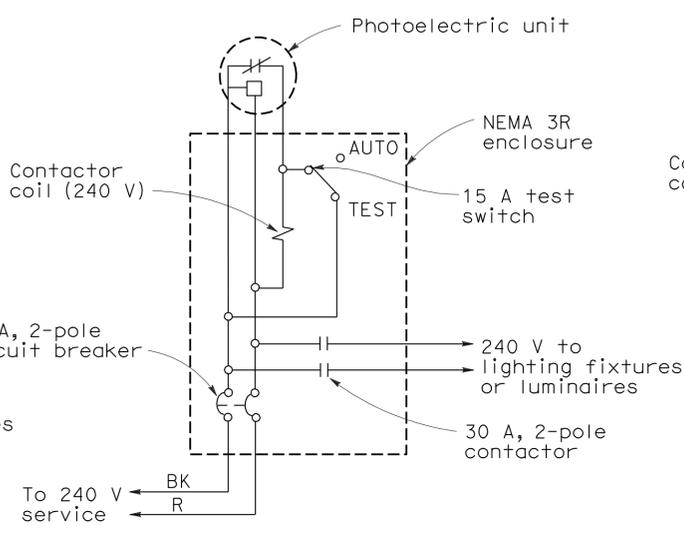
TYPE LC1 CONTROL

For 120 V unswitched circuit with no more than 800 W load.



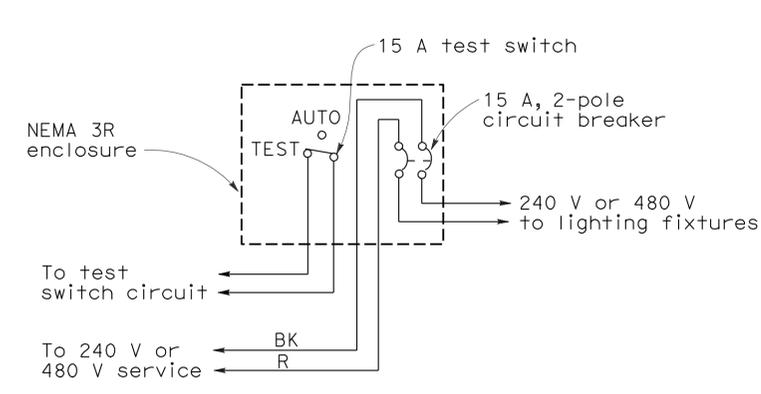
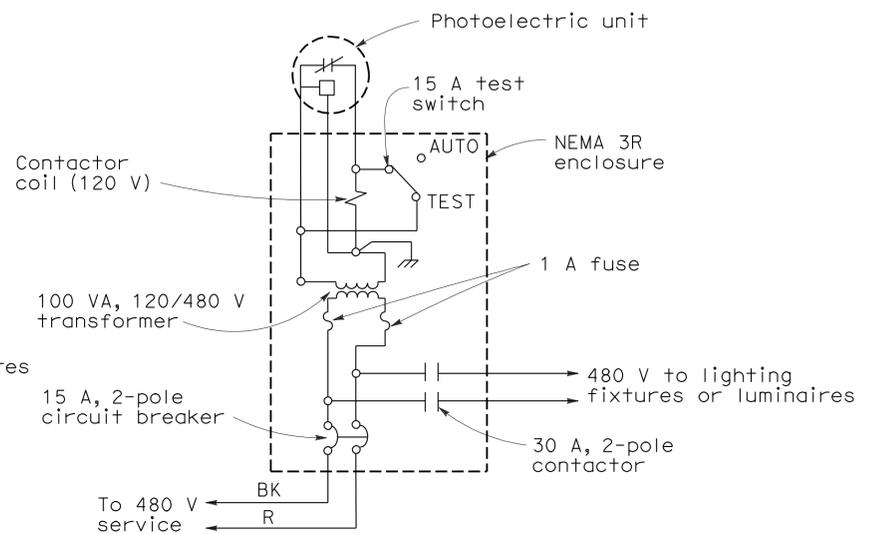
TYPE LC2 CONTROL

For 120 V unswitched circuit



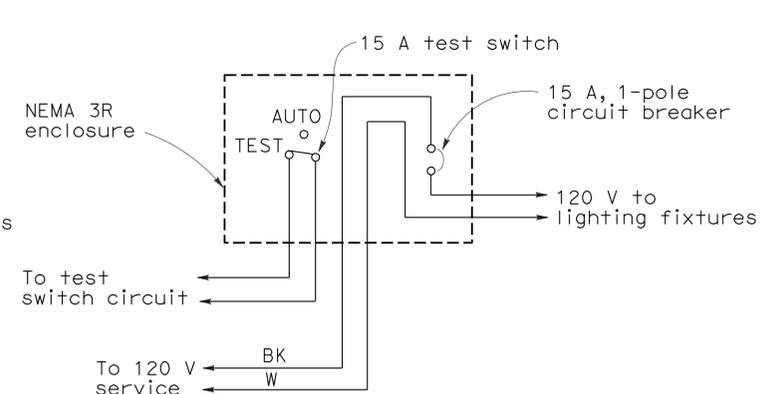
TYPE LC3 CONTROL

For 240 V and 480 V unswitched circuits



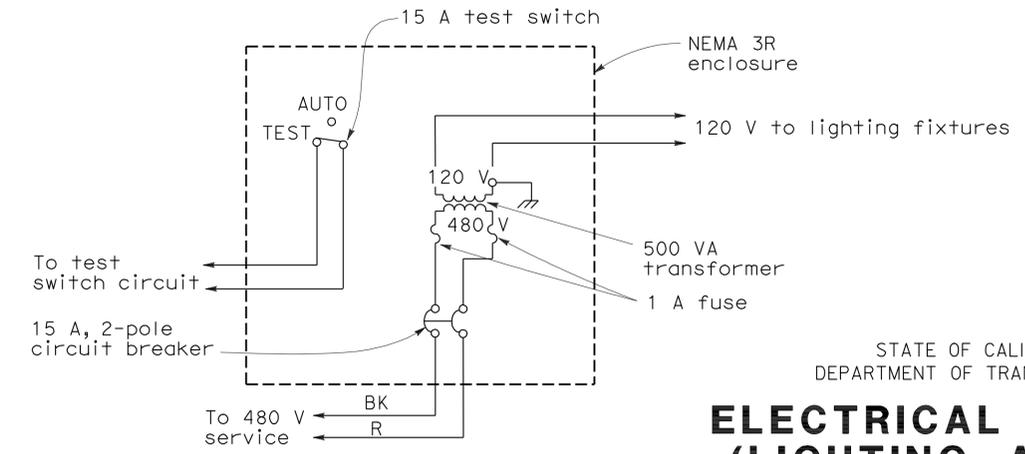
TYPE SC1 CONTROL

For 240 V or 480 V switched circuit, see Note 4 for Type SC1A



TYPE SC2 CONTROL

For 120 V switched circuit, see Note 4 for Type SC2A



TYPE SC3 CONTROL

For 480 V switched sign circuit, see Note 4 for Type SC3A

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING AND SIGN
 ILLUMINATION CONTROL)**
 NO SCALE

RSP ES-15D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-15D DATED MAY 1, 2006 - PAGE 472 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-15D

2006 REVISED STANDARD PLAN RSP ES-15D

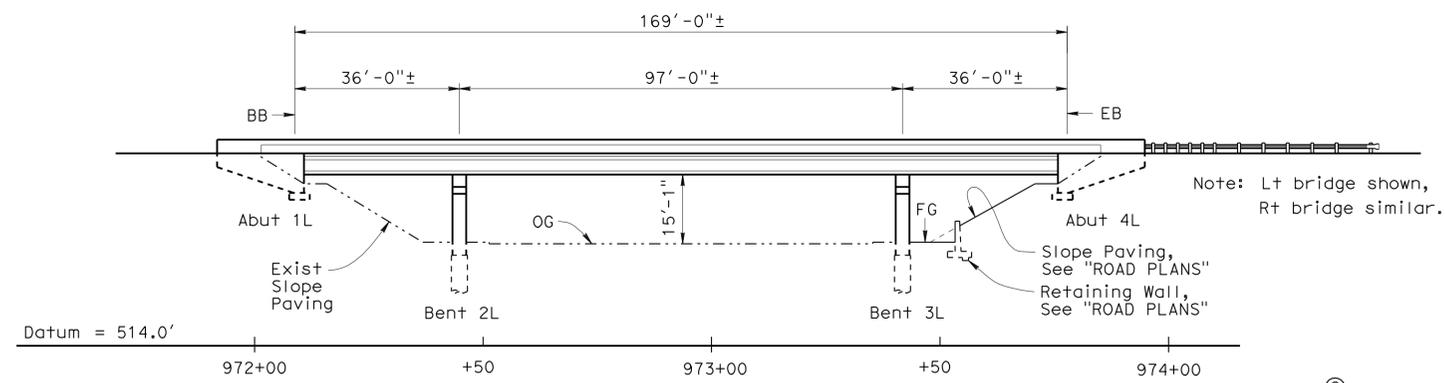
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	292	311

Kevin J. Harper 8/3/10
 REGISTERED CIVIL ENGINEER DATE

12-13-10
 PLANS APPROVAL DATE

Kevin Harper
 No. 42221
 Exp. 3/31/12
 CIVIL
 STATE OF CALIFORNIA

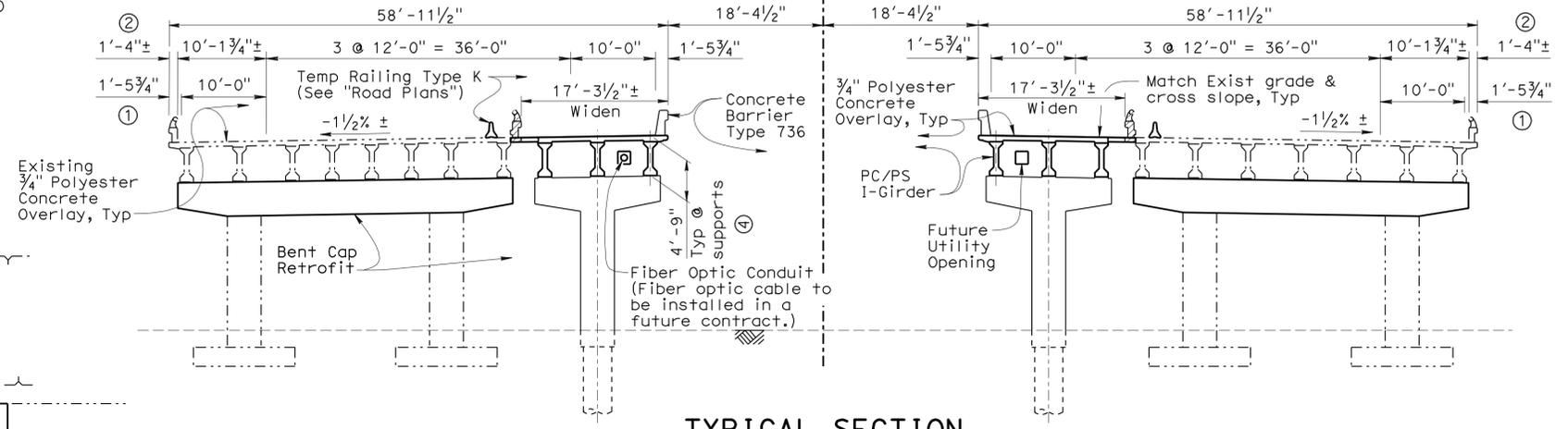
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ELEVATION A-A

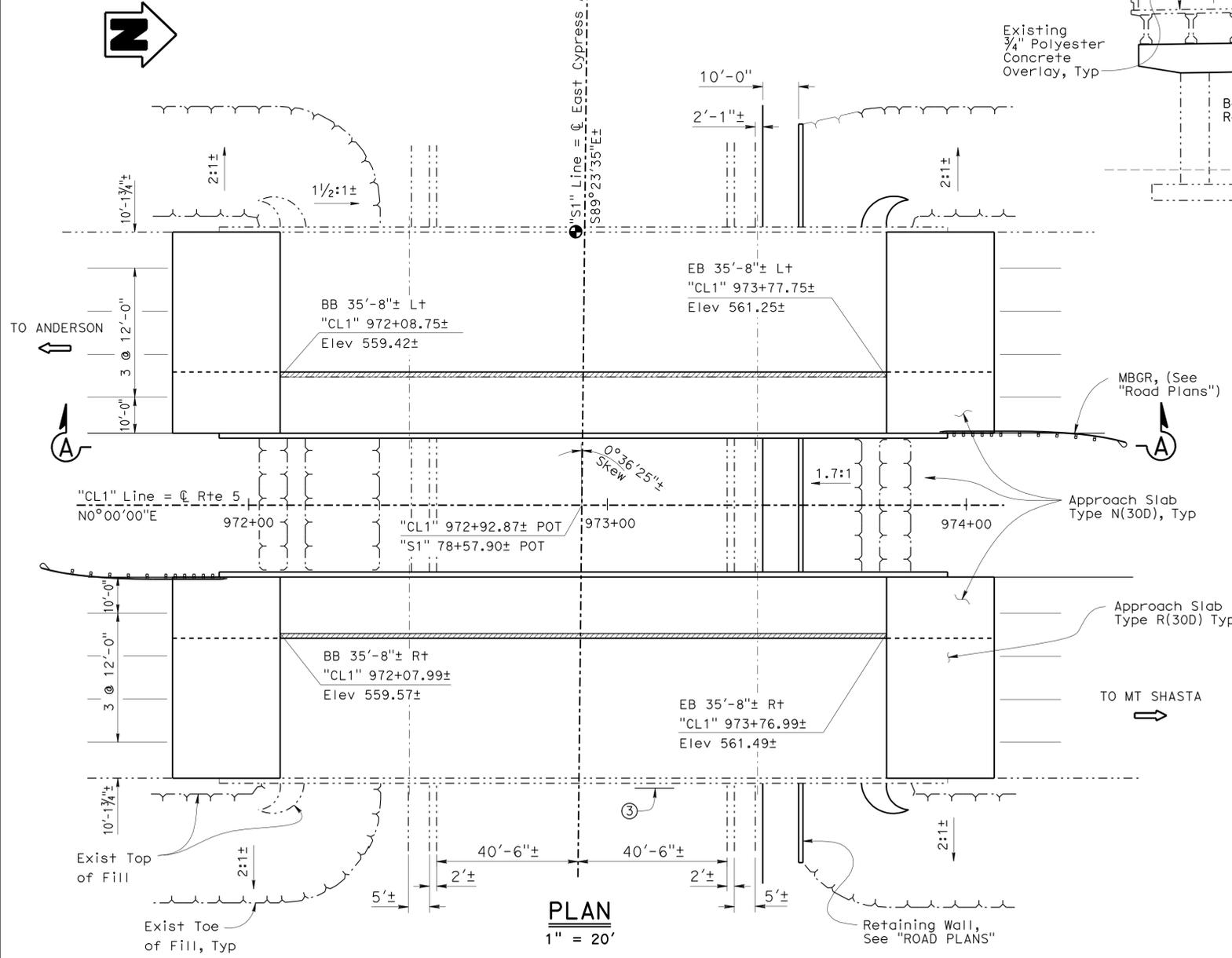
1" = 20'

Note: Lt bridge shown, Rt bridge similar.
 Slope Paving, See "ROAD PLANS"
 Retaining Wall, See "ROAD PLANS"



TYPICAL SECTION

1" = 10'



PLAN

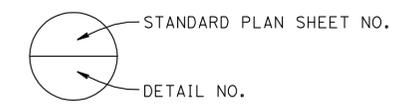
1" = 20'

INDEX TO PLANS

SHEET	TITLE
1.	GENERAL PLAN
2.	GENERAL NOTES
3.	FOUNDATION PLAN
4.	ABUTMENT LAYOUT
5.	ABUTMENT DETAILS
6.	BENT DETAILS
7.	BENT RETROFIT DETAILS
8.	TYPICAL SECTION
9.	GIRDER LAYOUT
10.	GIRDER REINFORCEMENT TOP
11.	UTILITY DETAILS
12.	PRECAST PRESTRESSED I-GIRDER (LRFD)
13.	STRUCTURE APPROACH TYPE N(30D)
14.	STRUCTURE APPROACH TYPE R(30D)
15.	STRUCTURE APPROACH DRAINAGE DETAILS
16.	LOG OF TEST BORINGS 1 OF 5
17.	LOG OF TEST BORINGS 2 OF 5
18.	LOG OF TEST BORINGS 3 OF 5
19.	LOG OF TEST BORINGS 4 OF 5
20.	LOG OF TEST BORINGS 5 OF 5

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
B0-1	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B6-10	UTILITY OPENINGS T-BEAM
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B11-56	CONCRETE BARRIER TYPE 736



NOTES:

- Dimensions shown allow for replacement of existing Type 1 Barrier Rail with a Concrete Barrier Type 736 in a future contract.
- Dimensions shown are with the existing Type 1 Barrier Rail.
- Bridge Mounted Sign, see "ROAD PLANS".
- Grades and structure depth shown are measured to the top of the PCC deck and does not include the overlay thickness.

LEGEND:

- Indicates bridge removal (portion)
- Indicates point of minimum vertical clearance
- Indicates existing structure

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

Jeff Sims DESIGN ENGINEER	DESIGN	BY Kevin Harper	CHECKED Kyoung Lee	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL 93 AND ALTERNATIVE AND PERMIT DESIGN LOAD
	DETAILS	BY Bob Huddleston	CHECKED Kyoung Lee	LAYOUT	BY Kevin Harper
	QUANTITIES	BY E. Watson / G. Jones	CHECKED V. Shostak / M. Simonsen	SPECIFICATIONS	BY Tanya Kershell

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 1

BRIDGE NO.	06-125R/L	EAST CYPRESS AVE UC (WIDEN) GENERAL PLAN
POST MILE	14.4	

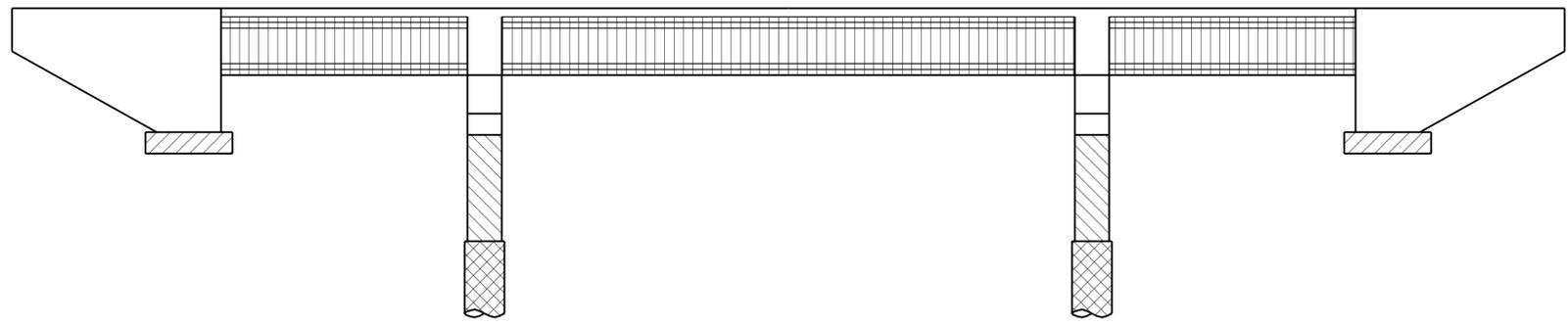
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	293	311

Kevin J. Harper 8/3/10
 REGISTERED CIVIL ENGINEER DATE

12-13-10
 PLANS APPROVAL DATE

Kevin Harper
 No. 42221
 Exp. 3/31/12
 CIVIL
 STATE OF CALIFORNIA

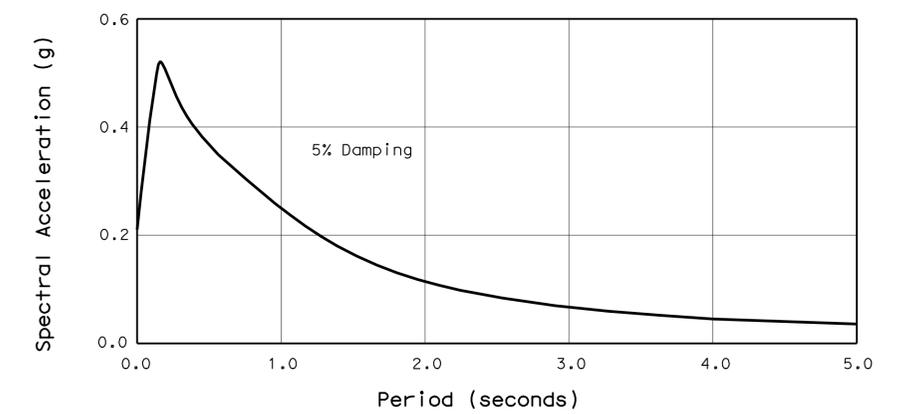
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CONCRETE STRENGTH AND TYPE LIMITS
No Scale

**GENERAL NOTES
(LOAD AND RESISTANCE FACTOR DESIGN)**

- DESIGN: AASHTO LRFD Bridge Design Specifications, Fourth Edition with California Amendments
- SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) Version 1.4, June 2006
- DEAD LOAD: Includes 35 psf for initial and future wearing surfaces
- LIVE LOADING: HL-93 and permit design load
- SEISMIC LOADING: Acceleration Response Spectrum Curve per Caltrans 2009 Seismic Design Procedure (SDP)



REINFORCED CONCRETE:

	<u>NEW</u>	<u>EXISTING</u>
f_y	= 60,000 psi	= 40,000 psi
f'_c	= 3600 psi and 6000 psi	= 5000 psi
n	= 8 and 7	

REINFORCED CONCRETE: See "Precast Prestressed I Girder (LRFD)" sheet

FOOTING PRESSURE: (Working Stress Design)

Location	Permissible Gross Contact Stress (Settlement ksf)	Allowable Gross Bearing Capacity (ksf)
Abut 1L & 1R	8.2	5.3
Abut 4L & 4R	8.2	5.3

QUANTITIES

PREPARE CONCRETE BRIDGE DECK SURFACE	5,675	SQFT
BRIDGE REMOVAL (PORTION)	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	139	CY
STRUCTURE BACKFILL (BRIDGE)	87	CY
AGGREGATE BASE (APPROACH SLAB)	18	CY
42" CAST-IN-DRILLED-HOLE CONCRETE PILING	211	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	24	CY
STRUCTURAL CONCRETE, BRIDGE	292	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	71	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	179	CY
MINOR CONCRETE (MINOR STRUCTURE)	57	CY
PAVING NOTCH EXTENSION	122	CF
DRILL AND BOND DOWEL	41	LF
FURNISH PRECAST PRESTRESSED CONCRETE GIRDER (30'-40')	12	EA
FURNISH PRECAST PRESTRESSED CONCRETE GIRDER (90'-100')	6	EA
ERECT PRECAST PRESTRESSED CONCRETE GIRDER	18	EA
FURNISH POLYESTER CONCRETE OVERLAY	354	CF
PLACE POLYESTER CONCRETE OVERLAY	5,675	SQFT
CORE CONCRETE (1 1/8")	816	LF
JOINT SEAL (MR 1")	226	LF
BAR REINFORCING STEEL (BRIDGE)	173,438	LB
WELDED STEEL PIPE CASING (BRIDGE)	77	LF
SLOPE PAVING (CONCRETE)	2	CY
CONCRETE BARRIER (TYPE 736)	406	LF

LEGEND:

- Precast/Prestressed " I" Girder
- Structural Concrete, Bridge
- Structural Concrete, Bridge (f'c = 6000 psi)
- Cast-in-Drilled Hole Concrete Pile (f'c = 6000 psi)
- Structural Concrete, Bridge Footing

PILE DATA TABLE

Support Location	Pile Type	Nominal Resistance		Cut-off Elevation ft	Design Tip Elevation ft	Specified Tip Elevation ft
		Compression kips	Tension kips			
Bents 2L & 2R	42" CIDH	1310	0	536.80	487.00 ① 484.00 ②	484.00
Bents 3L & 3R	42" CIDH	1310	0	536.80	487.00 ① 484.00 ②	484.00

Note:
Design tip elevations are controlled by: ① Compression, ② Lateral

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Kevin Harper	CHECKED Kyoung Lee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO. 06-125R/L	EAST CYPRESS AVE UC (WIDEN) GENERAL NOTES
	DETAILS	BY C. Figuerres	CHECKED Kyoung Lee			POST MILE 14.4	
	QUANTITIES	BY E. Watson / G. Jones	CHECKED V. Shostak/M. Simonsen				

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

CU 02
EA 4C4011

DISREGARD PRINTS BEARING EARLIER REVISION DATES

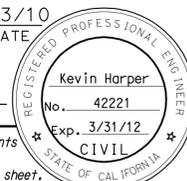
REVISION DATES				
8/18/10	6/28/10	6/14/10	6/28/10	8/31/10

SHEET 2 OF 20

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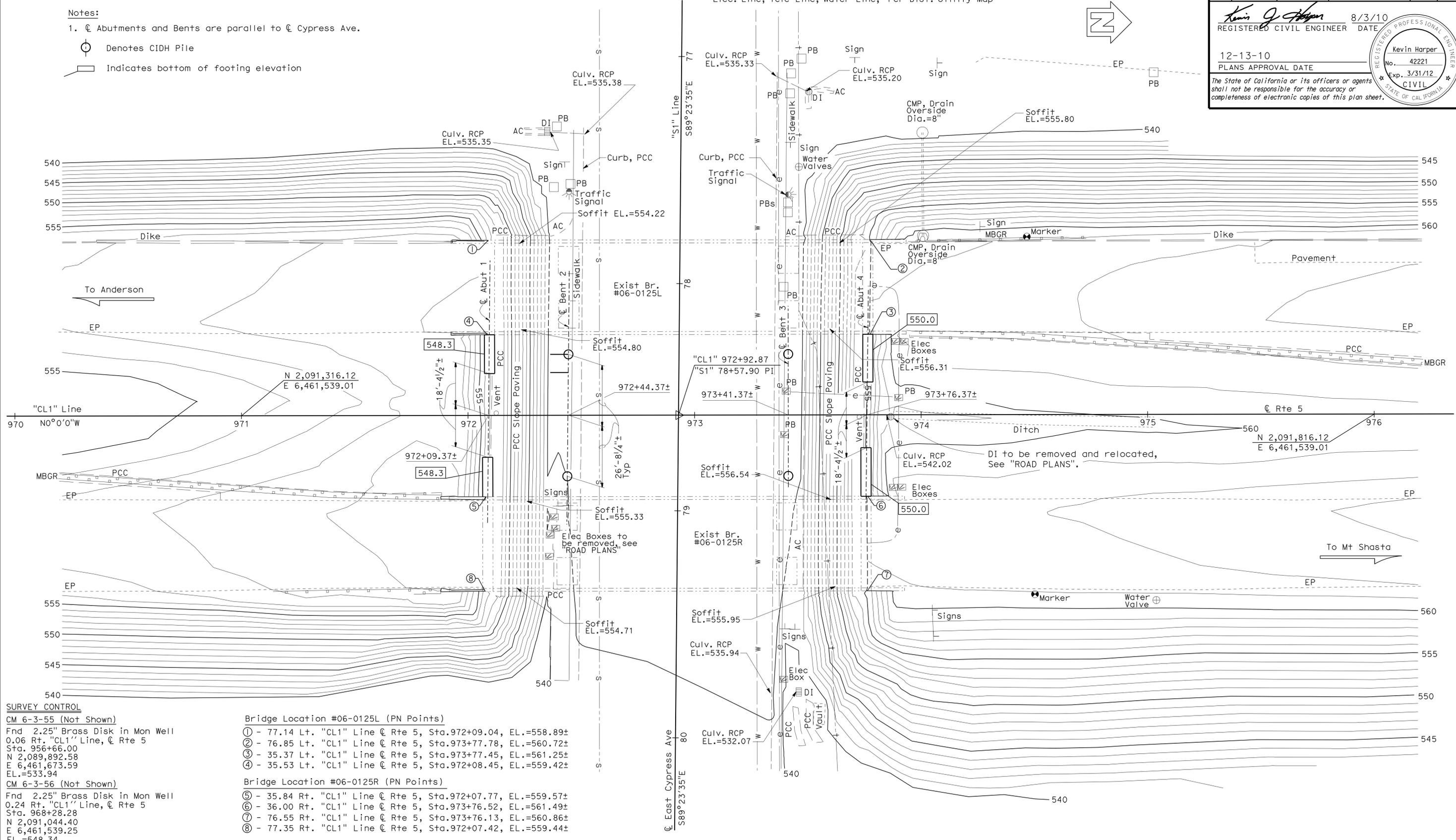
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	294	311

Kevin J. Harper 8/3/10
 REGISTERED CIVIL ENGINEER DATE
 12-13-10
 PLANS APPROVAL DATE
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- Notes:
- Abutments and Bents are parallel to Cypress Ave.
- Denotes CIDH Pile
 - Indicates bottom of footing elevation

Note:
Elec. Line, Tele Line, Water Line, Per Dist. Utility Map



SURVEY CONTROL
 CM 6-3-55 (Not Shown)
 Fnd 2.25" Brass Disk in Mon Well
 0.06 Rt. "CL1" Line, C Rte 5
 Sta. 956+66.00
 N 2,089,892.58
 E 6,461,673.59
 EL.=533.94
 CM 6-3-56 (Not Shown)
 Fnd 2.25" Brass Disk in Mon Well
 0.24 Rt. "CL1" Line, C Rte 5
 Sta. 968+28.28
 N 2,091,044.40
 E 6,461,539.25
 EL.=548.34

- Bridge Location #06-0125L (PN Points)**
- 77.14 Lt. "CL1" Line C Rte 5, Sta. 972+09.04, EL.=558.89±
 - 76.85 Lt. "CL1" Line C Rte 5, Sta. 973+77.78, EL.=560.72±
 - 35.37 Lt. "CL1" Line C Rte 5, Sta. 973+77.45, EL.=561.25±
 - 35.53 Lt. "CL1" Line C Rte 5, Sta. 972+08.45, EL.=559.42±
- Bridge Location #06-0125R (PN Points)**
- 35.84 Rt. "CL1" Line C Rte 5, Sta. 972+07.77, EL.=559.57±
 - 36.00 Rt. "CL1" Line C Rte 5, Sta. 973+76.52, EL.=561.49±
 - 76.55 Rt. "CL1" Line C Rte 5, Sta. 973+76.13, EL.=560.86±
 - 77.35 Rt. "CL1" Line C Rte 5, Sta. 972+07.42, EL.=559.44±

PRELIMINARY INVESTIGATION SECTION			
SCALE	VERT. DATUM	NAVD 88	PHOTOGRAMMETRY AS OF: X
1"=20'	HORIZ. DATUM	NAD 83 (91.35)	SURVEYED
ALIGNMENT TIES	Dist. Traverse Sheet	BY District/John Borden	CHECKED BY Sang Sou 04/2010
		BY Sharon Zheng 04/2010	CHECKED BY T.Zolnikov 04/2010

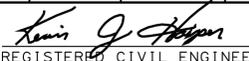
DESIGN	BY Kevin Harper	CHECKED Kyoung Lee
DETAILS	BY C. Figuerres	CHECKED Kyoung Lee
QUANTITIES	BY E. Watson / G. Jones	CHECKED V. Shostak/M. Simonsen

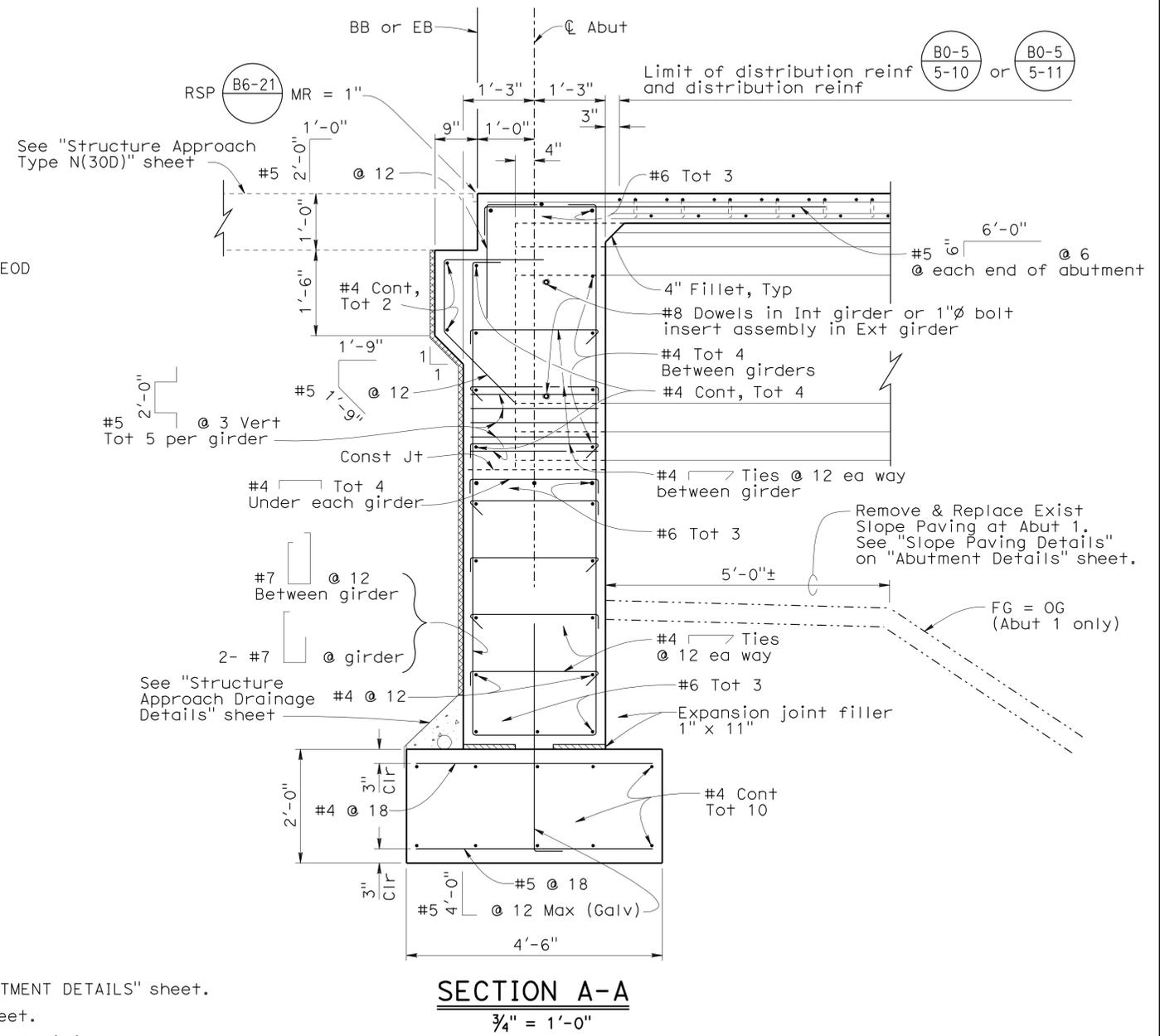
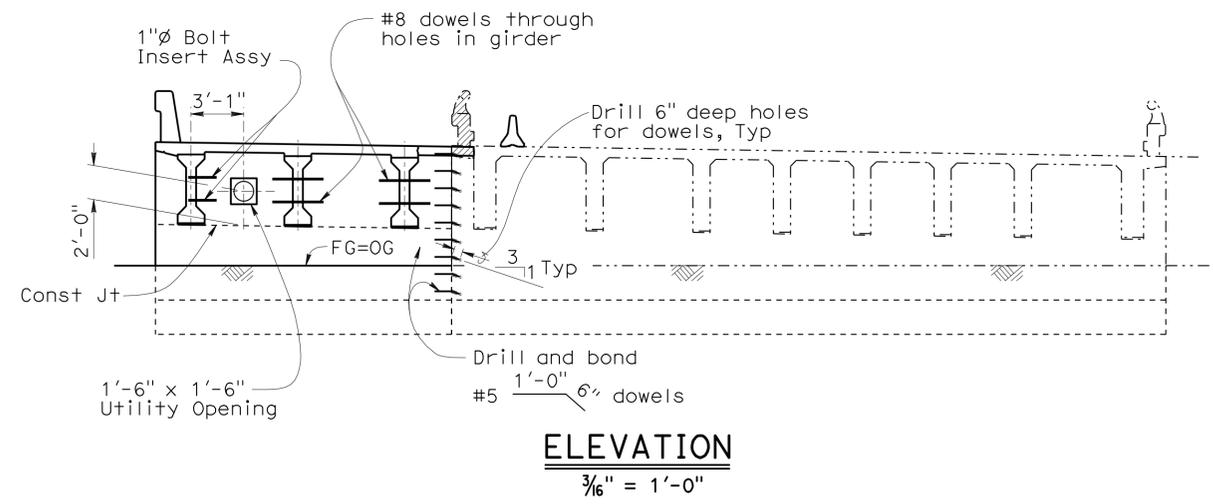
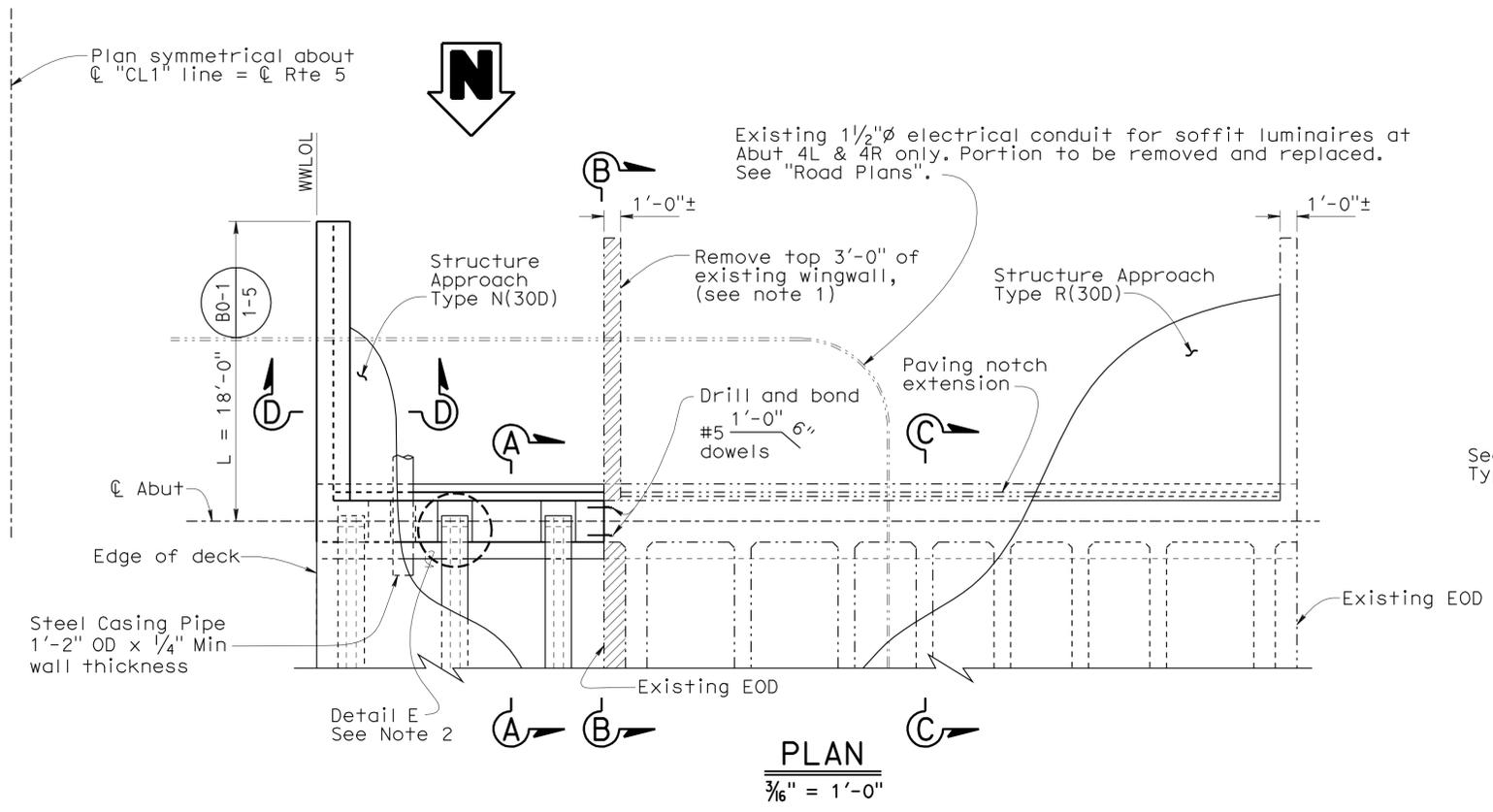
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 1

BRIDGE NO.
 06-125L/R
 POST MILE
 14.4

EAST CYPRESS AVE UC (WIDEN)
 FOUNDATION PLAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	295	311
 REGISTERED CIVIL ENGINEER DATE 8/3/10					
12-13-10 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>					



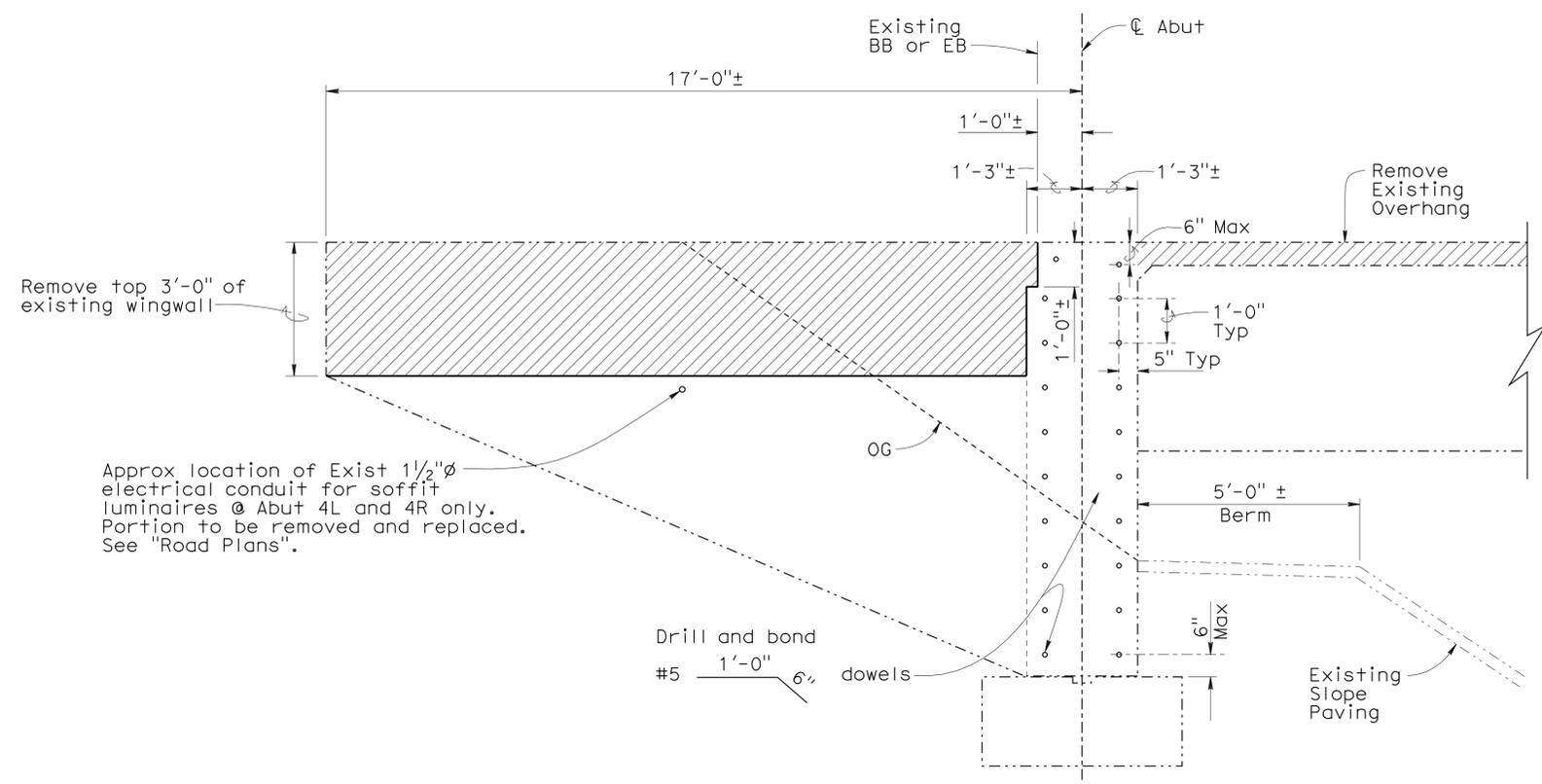
- NOTES:**
1. For "Section B-B, C-C, and D-D", see "ABUTMENT DETAILS" sheet.
 2. For "Detail E", see "ABUTMENT DETAILS" sheet.
 3. Abutment 1L shown. Abutments 1R, 4L and 4R similar.
-  Indicates bridge removal (portion)
 Indicates existing structure

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Kevin Harper	CHECKED Kyoung Lee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	06-125R/L	EAST CYPRESS AVE UC (WIDEN) ABUTMENT LAYOUT
	DETAILS	BY C. Figuerres	CHECKED Kyoung Lee			POST MILE	14.4	
	QUANTITIES	BY G. Jones / G. Thornton	CHECKED Mark Simonsen			CU 02 EA 4C4011	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 4/06/10, 4/15/10, 6/28/10, 6/25/10, 8/7/10, 10/13/10	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3								SHEET 4 OF 20

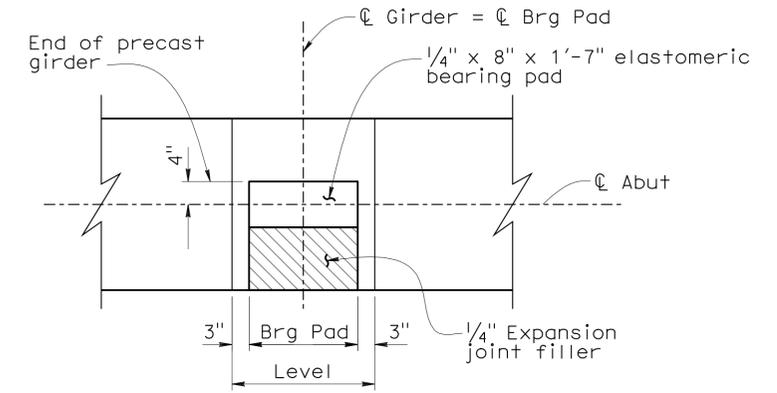
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	296	311

Kevin J. Harper 8/3/10
 REGISTERED CIVIL ENGINEER DATE
 12-13-10
 PLANS APPROVAL DATE
 No. 42221
 Exp. 3/31/12
 CIVIL
 STATE OF CALIFORNIA
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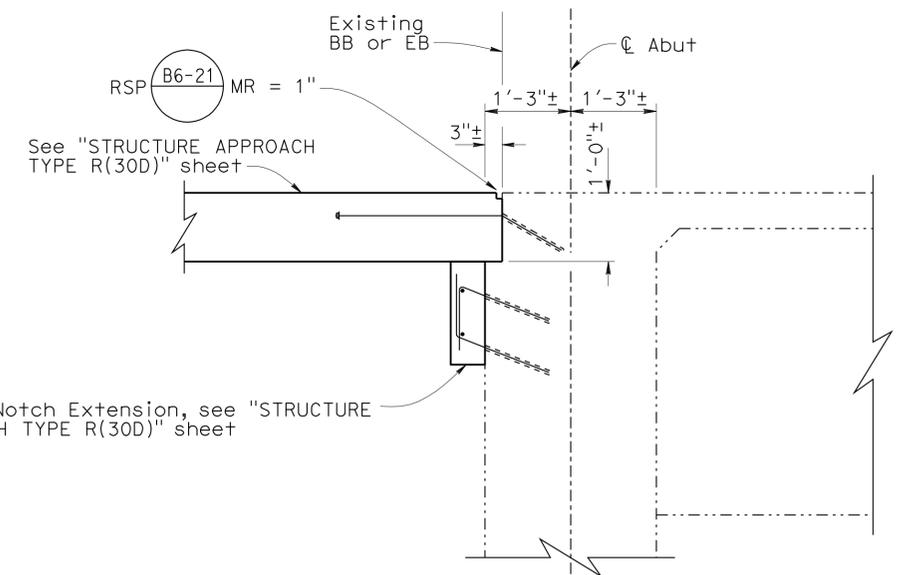


SECTION B-B
1/2" = 1'-0"

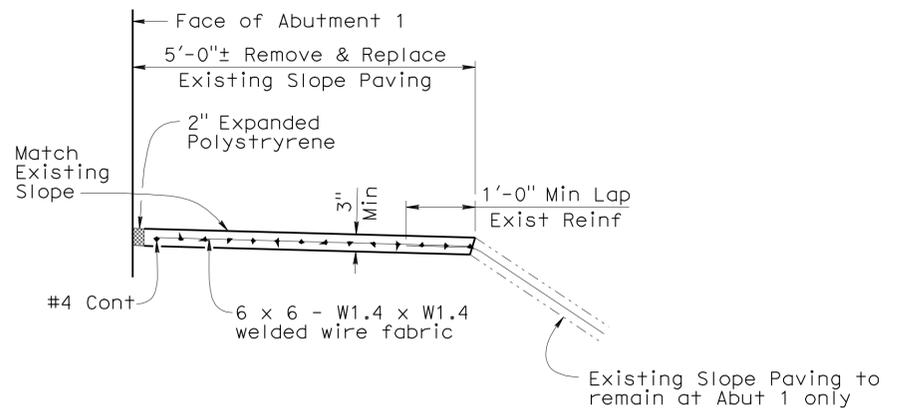
NOTES:
 For location of sections and details, see "Abutment Layout" sheet.
 ----- Indicates existing structure
 [Hatched Area] Indicates bridge removal (portion)



DETAIL E
1" = 1'-0"

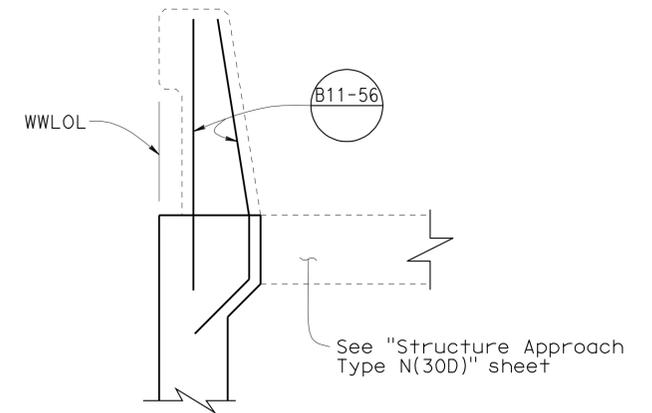


SECTION C-C
3/4" = 1'-0"



Note: This detail is for Abut 1 only. See "ROAD PLANS" for new slope paving at Abut 4.

SLOPE PAVING DETAIL
3/4" = 1'-0"



SECTION D-D
3/4" = 1'-0"

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

DESIGN	BY Kevin Harper	CHECKED Kyoung Lee
DETAILS	BY C. Figuerres	CHECKED Kyoung Lee
QUANTITIES	BY G. Jones / G. Thornton	CHECKED Mark Simonsen

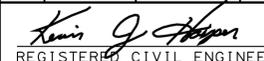
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

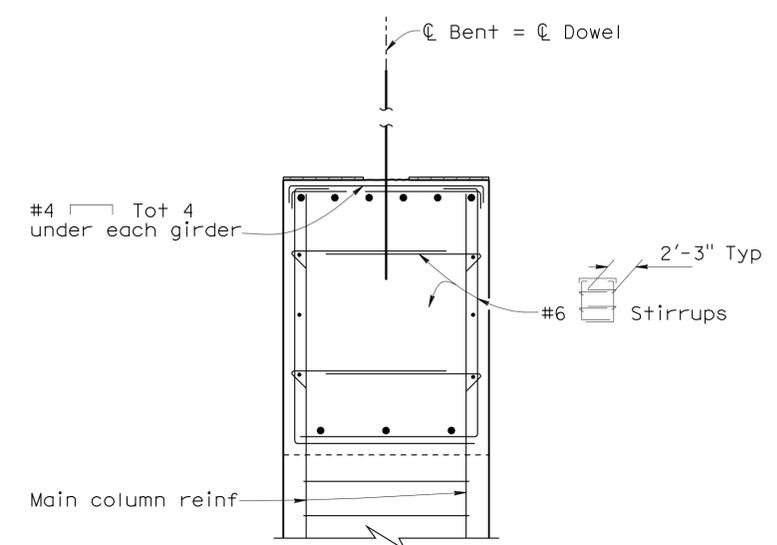
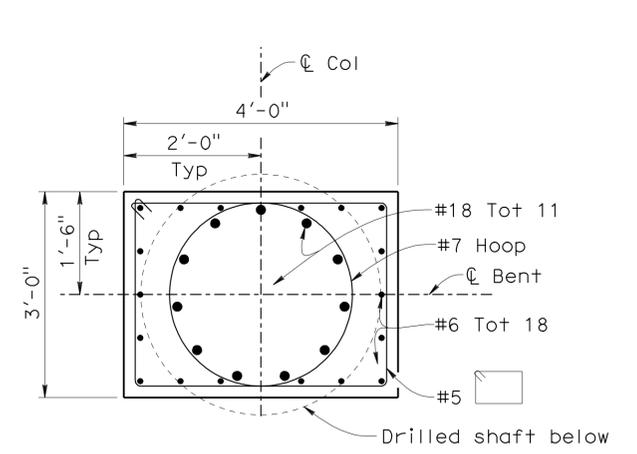
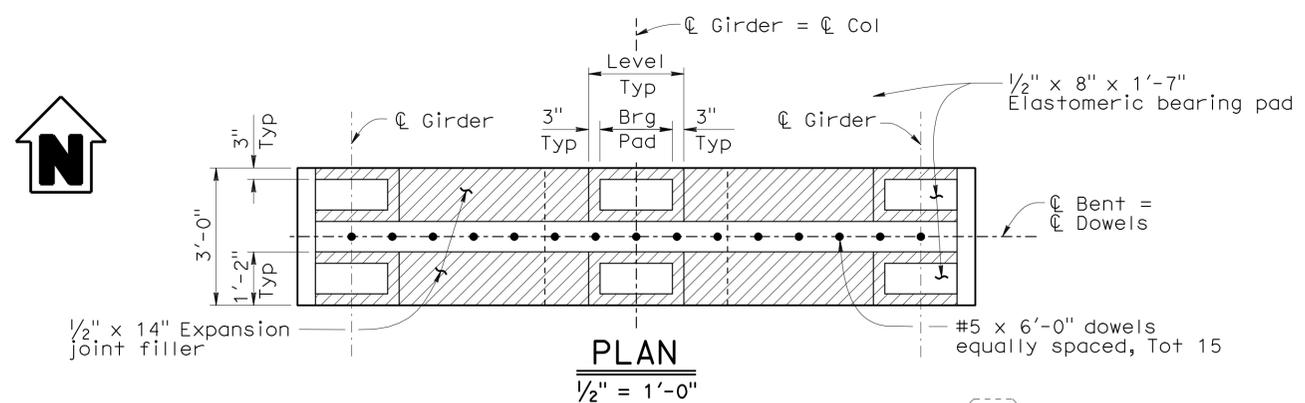
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 1

BRIDGE NO.	06-125R/L
POST MILE	14.4

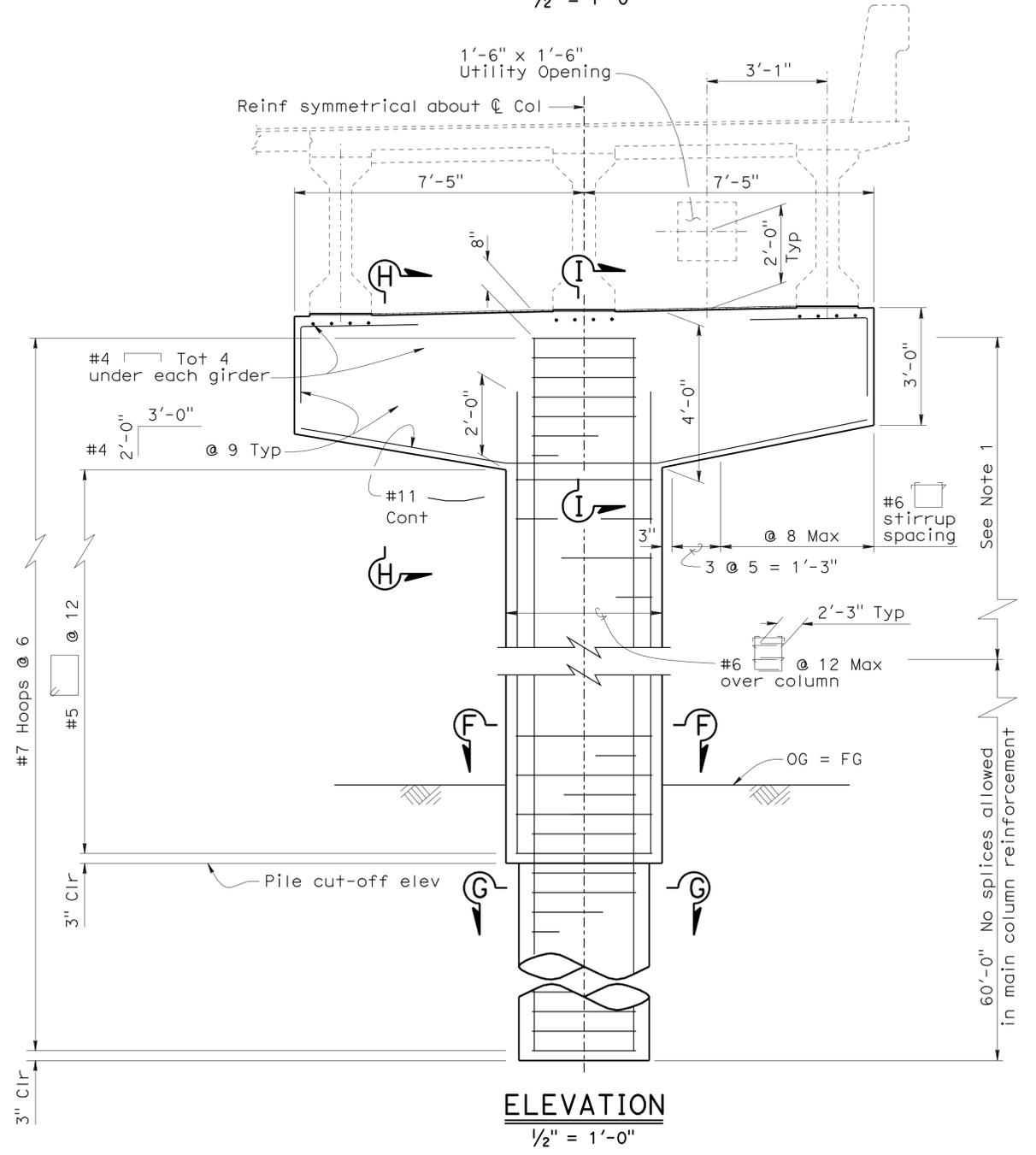
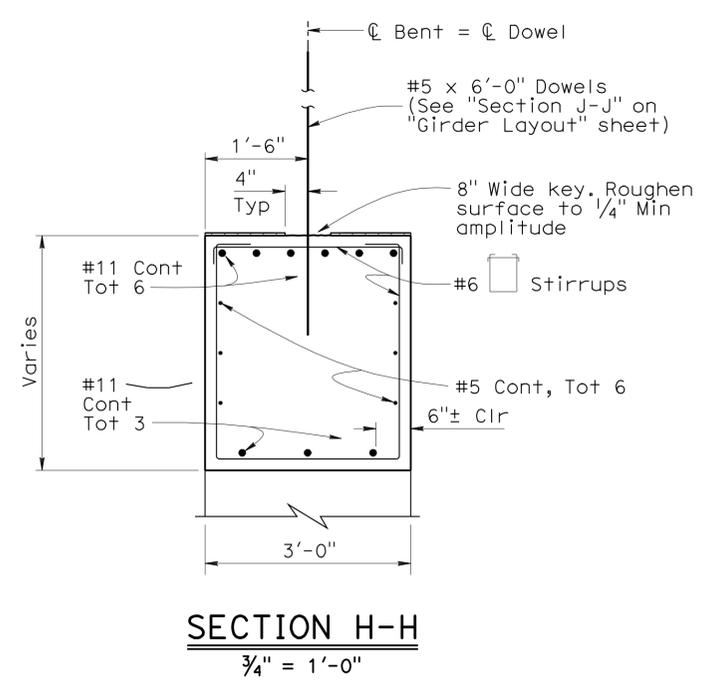
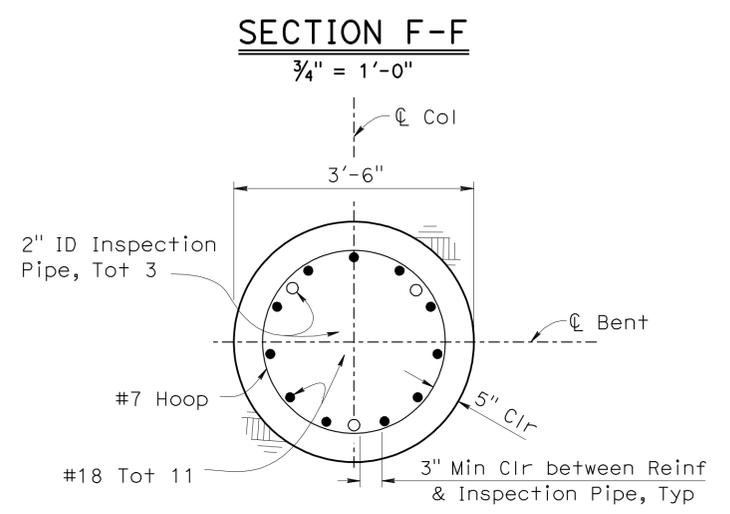
EAST CYPRESS AVE UC (WIDEN)
 ABUTMENT DETAILS

REVISION DATES	SHEET	OF
4-08-10 4-15-10 6-25-10 6-28-10 8-3-10	5	20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	297	311
 REGISTERED CIVIL ENGINEER DATE 8/3/10			PLANS APPROVAL DATE 12-13-10		
No. 42221 Exp. 3/31/12 CIVIL			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		



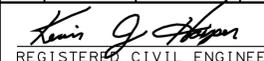
Note: For details and reinforcement not shown, see "SECTION H-H".

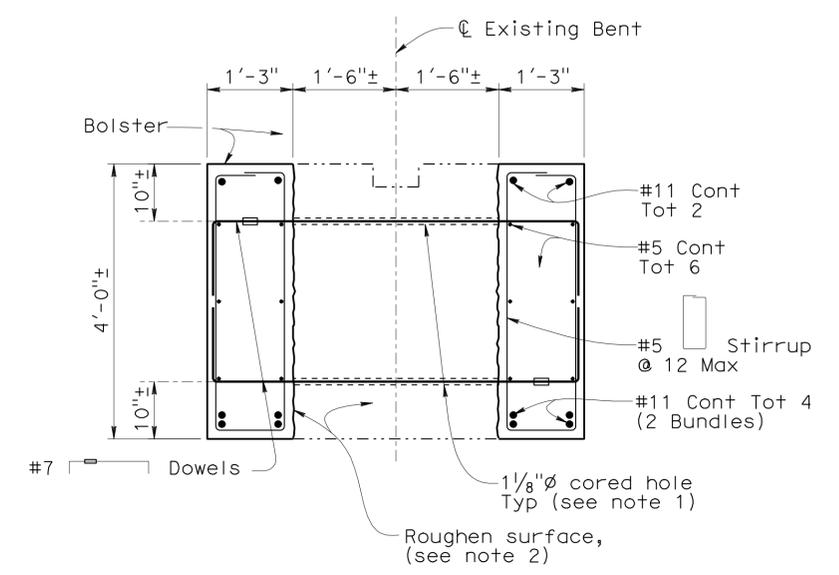
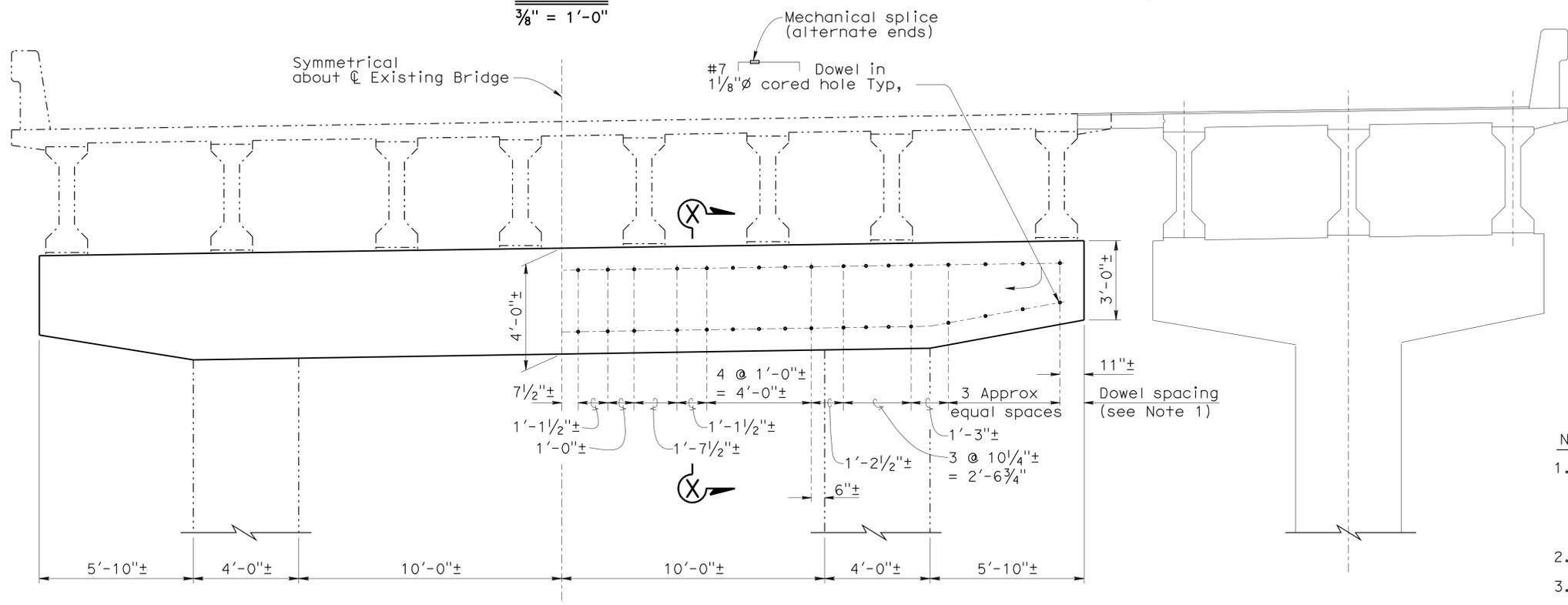
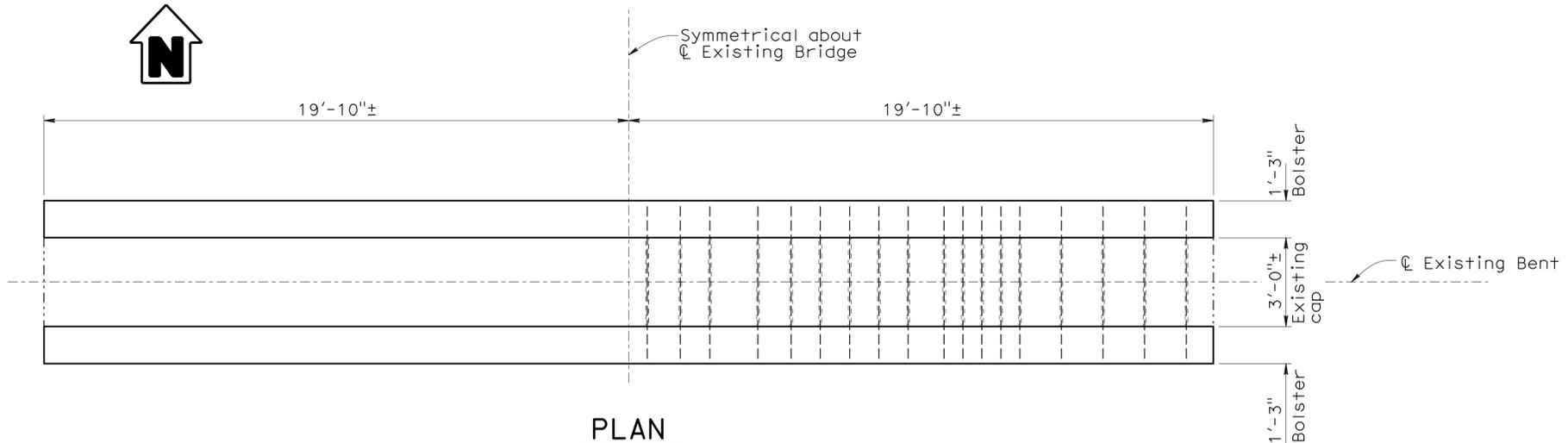


NOTES:

1. Only staggered "ultimate" butt splices are allowed in main column reinforcement in this area.
2. All hoops are "ultimate" butt spliced continuous.
3. Bent 2L shown; Bents 2R, 3L and 3R similar.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Kevin Harper	CHECKED Kyoung Lee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	06-125R/L	EAST CYPRESS AVE UC (WIDEN) BENT DETAILS
	DETAILS	BY C. Figuerres	CHECKED Kyoung Lee			POST MILE	14.4	
	QUANTITIES	BY Eric Watson	CHECKED Vadim Shostak			REVISION DATES	4/06/10 4/19/10 6/15/10 10/13/10	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 02 EA 4C4011	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 6 OF 20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	298	311
 REGISTERED CIVIL ENGINEER			8/3/10	DATE	
12-13-10 PLANS APPROVAL DATE					
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- NOTES:**
- Locations of cored holes for dowels shown are approximate. Prior to coring holes in concrete, the Contractor shall locate all reinforcing steel and adjust the locations of the holes to clear all reinforcing bars. Final hole locations are subject to approval by the Engineer.
 - Roughen concrete surface of existing cap to 1/4" min amplitude.
 - Bent 2L shown, Bents 2R, 3L, and 3R similar.
- Indicates existing structure

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Kevin Harper	CHECKED Kyoung Lee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	06-125R/L	EAST CYPRESS AVE UC (WIDEN) BENT RETROFIT DETAILS			
	DETAILS	BY C. Figuerres	CHECKED Kyoung Lee			POST MILE	14.4				
	QUANTITIES	BY E. Watson / G. Thornton	CHECKED Vadim Shostak			CU 02 EA 4C4011	REVISION DATES		<table border="1"> <tr> <td>8/13/10</td> <td>6/22/10</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	8/13/10	6/22/10
8/13/10	6/22/10										

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



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DISREGARD PRINTS BEARING EARLIER REVISION DATES

SHEET 7 OF 20

USERNAME => hrlennard DATE PLOTTED => 14-DEC-2010 TIME PLOTTED => 06:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	299	311

REGISTERED CIVIL ENGINEER	DATE
Kevin Harper	8/3/10
PLANS APPROVAL DATE	
12-13-10	

REGISTERED PROFESSIONAL ENGINEER	No.	42221
Exp.	3/31/12	
CIVIL		

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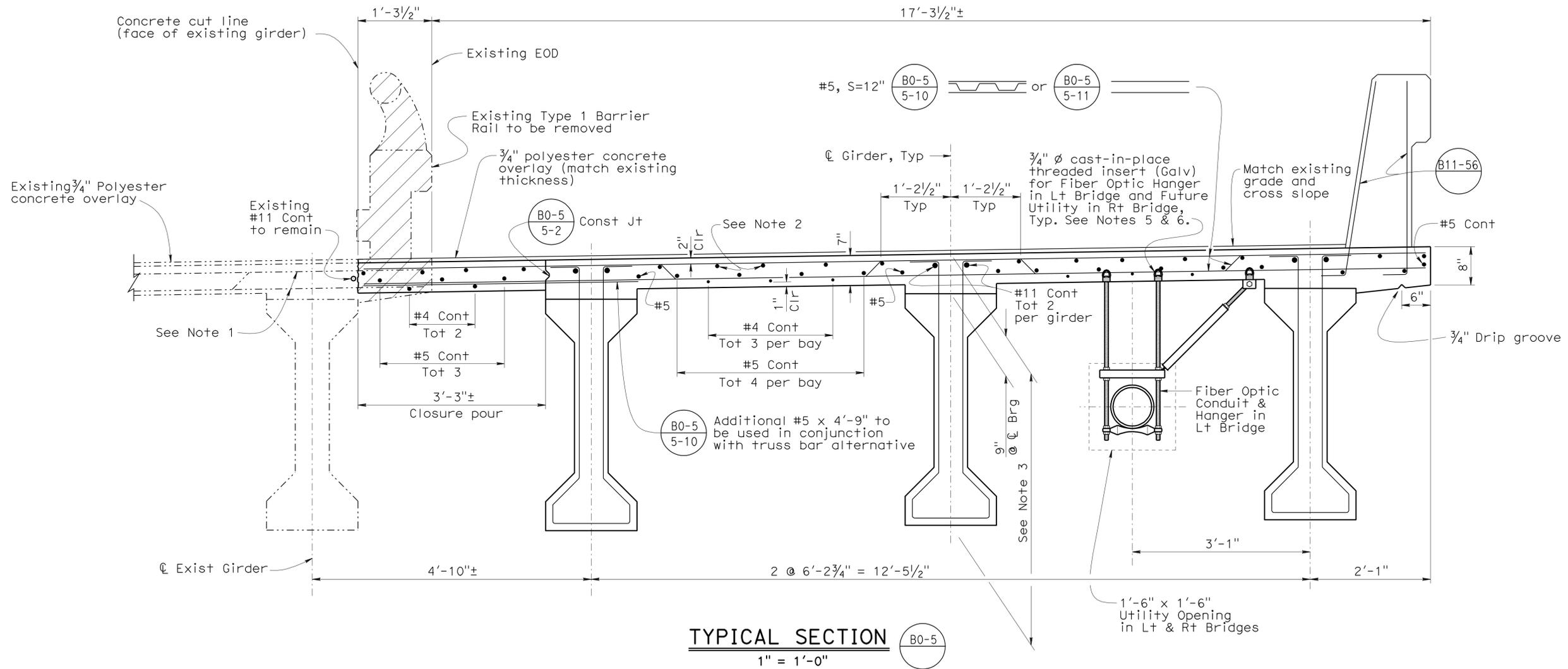
NOTES:

- Existing transverse reinforcement to remain. Lap existing reinforcement with new transverse deck bars.
- For deck top longitudinal reinforcement, see "Girder Reinforcement Top" sheet.
- Structure depth at $\text{C} \text{ Brg} = 4'-9"$. Min structure depth at mid span = $4'-7"$. Structure depth is measured to top of PCC deck and does not include the overlay thickness.
- Left Bridge shown, Right Bridge similar.

- For fiber optic conduit and hanger details' see "UTILITY DETAILS" sheet. Fiber optic cable will be installed inside of conduit in a future contract.
- Dimensions and spacing of the cast-in-place threaded inserts for the future utility opening in the right bridge shall be the same as that shown for the fiber optic conduit hangers in the left bridge.

LEGEND:

- Indicates bridge removal (portion)
- Indicates existing structure



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

DESIGN	BY Kevin Harper	CHECKED Kyoung Lee
DETAILS	BY C. Figuerres	CHECKED Kyoung Lee
QUANTITIES	BY Eric Watson	CHECKED Vadim Shostak

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 1

BRIDGE NO.	06-125R/L
POST MILE	14.4

EAST CYPRESS AVE UC (WIDEN)
TYPICAL SECTION

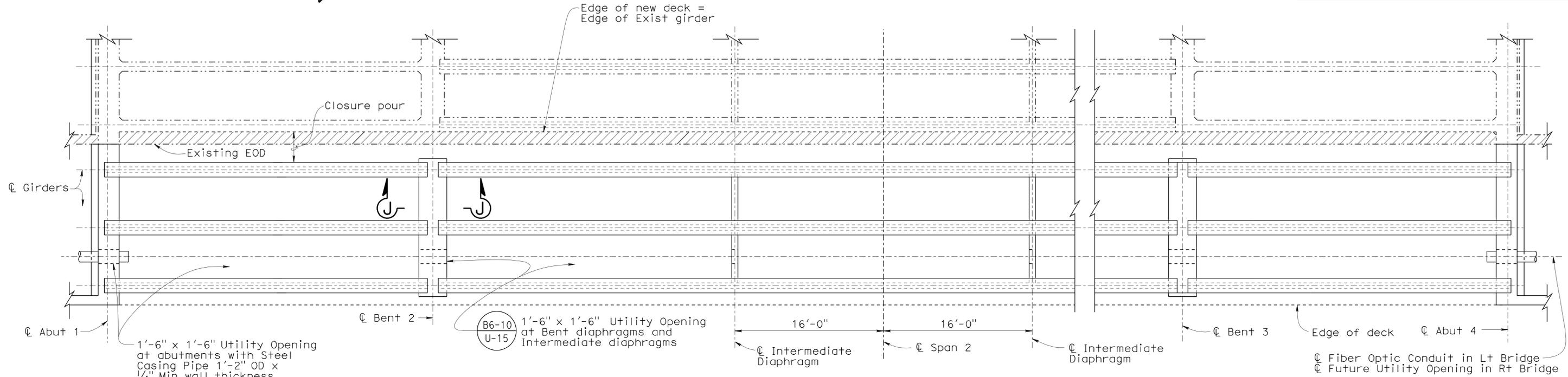
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	300	311

REGISTERED CIVIL ENGINEER	DATE
Kevin Harper	8/3/10
PLANS APPROVAL DATE	
12-13-10	
No. 42221	
Exp. 3/31/12	
CIVIL	

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- NOTES:
1. Left bridge shown, Right bridge similar, for girder spacing, see "TYPICAL SECTION" sheet.
 2. For Intermediate Diaphragm Details see "Precast Prestressed I Girder (LRFD)" sheet.

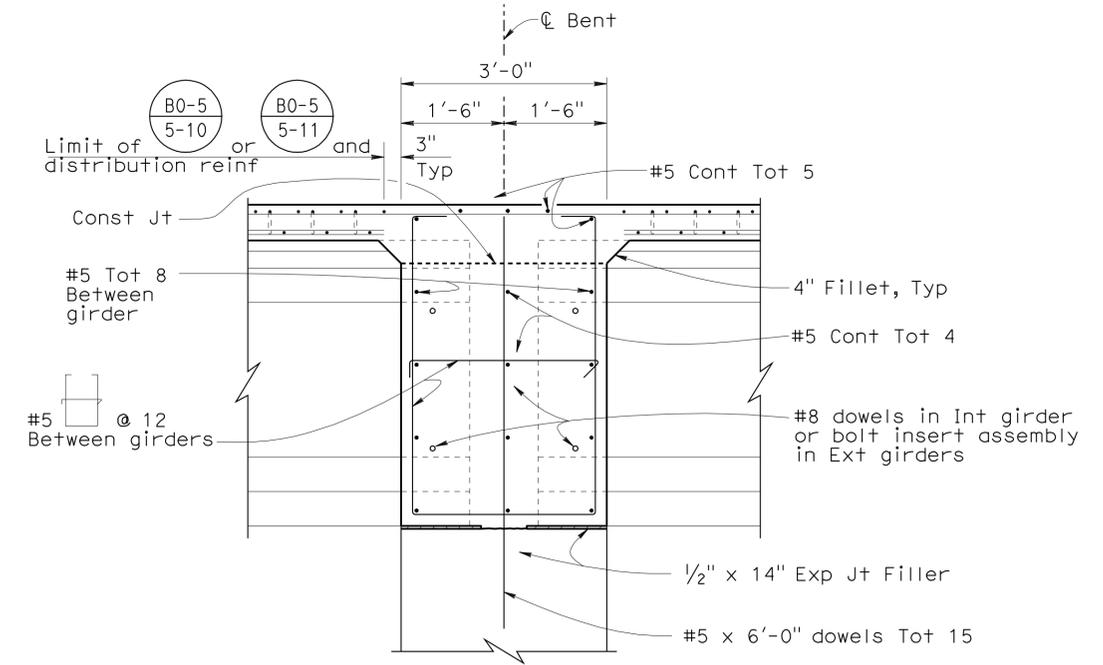
 Indicates bridge removal
 Indicates existing structure



GIRDER LAYOUT
 $\frac{3}{16}'' = 1'-0''$

1'-6" x 1'-6" Utility Opening at abutments with Steel Casing Pipe 1'-2" OD x 1/4" Min wall thickness See "UTILITY DETAILS" for Lt Bridge, see

 for Rt Bridge.



SECTION J-J
 $\frac{3}{4}'' = 1'-0''$

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

DESIGN	BY	Kevin Harper	CHECKED	Kyoung Lee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	06-125R/L	EAST CYPRESS AVE UC (WIDEN) GIRDER LAYOUT
	DETAILS	BY	C. Figuerres	CHECKED			Kyoung Lee	POST MILE	
QUANTITIES	BY	Eric Watson	CHECKED	Vadim Shostak	CU 02 EA 4C4011	BRIDGE NO. 06-125R/L POST MILE 14.4	REVISION DATES		SHEET 9 OF 20

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 FILE => 02-4c4011-n-1o01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	301	311

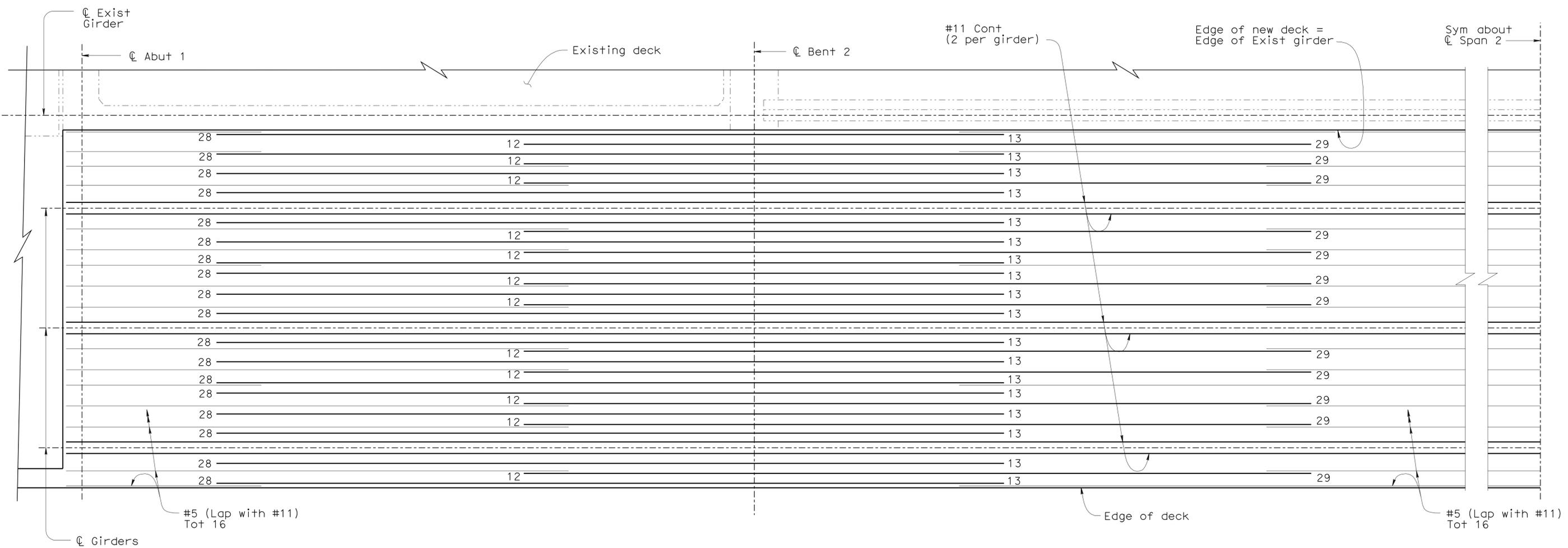
NOTES:

- All reinforcement is #11 unless otherwise noted.
 - Numbers at the ends of bars indicate the distance in feet from C Bent 2.
 - Lt Bridge shown, Rt Bridge similar.
- Indicates existing structure

Kevin J. Harper 8/3/10
 REGISTERED CIVIL ENGINEER DATE

12-13-10
 PLANS APPROVAL DATE

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TOP REINFORCEMENT LAYOUT

$\frac{3}{8}'' = 1'-0''$

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

DESIGN	BY Kevin Harper	CHECKED Kyoung Lee
DETAILS	BY C. Figuerres	CHECKED Kyoung Lee
QUANTITIES	BY Eric Watson	CHECKED Vadim Shostak

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

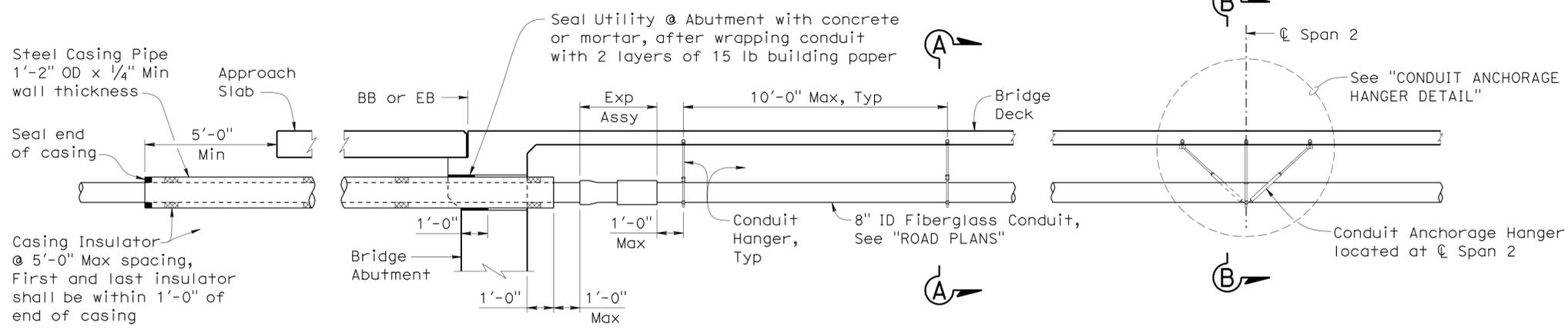
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 1

BRIDGE NO.	06-125R/L
POST MILE	14.4

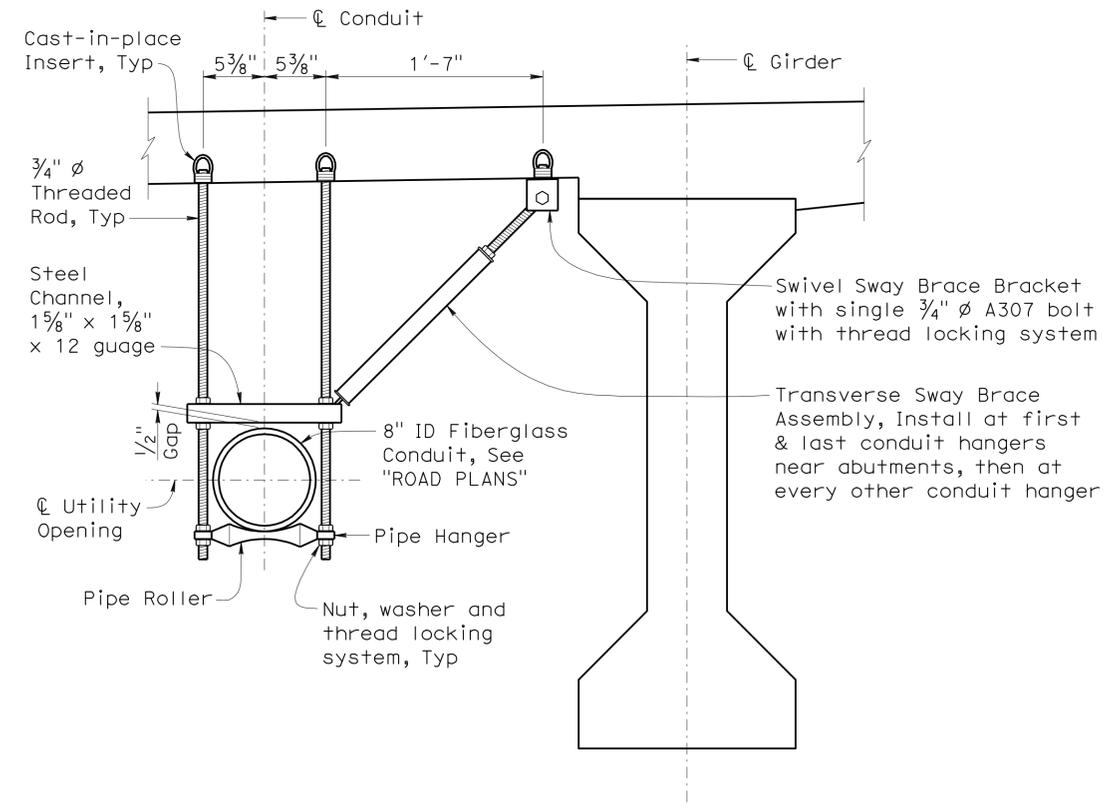
EAST CYPRESS AVE UC (WIDEN)
GIRDER REINFORCEMENT TOP

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	302	311

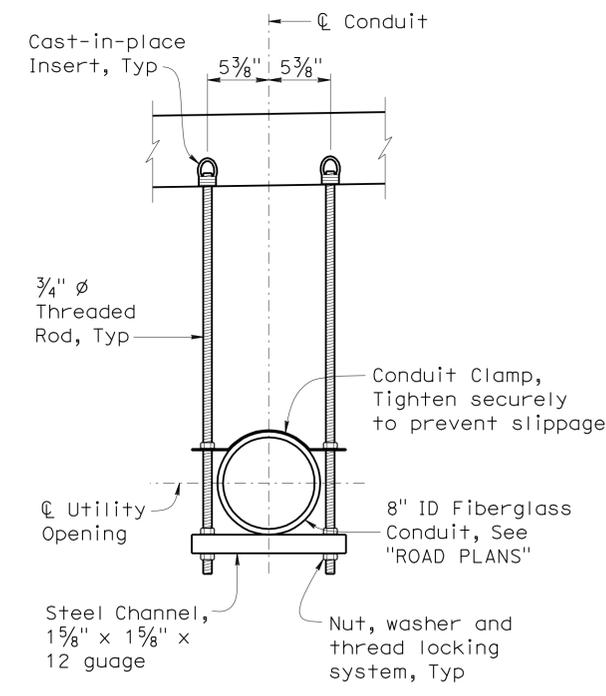
Kevin J. Harper 10/12/10
 REGISTERED CIVIL ENGINEER DATE
 12-13-10
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



CONDUIT INSTALLATION
3/8" = 1'-0"

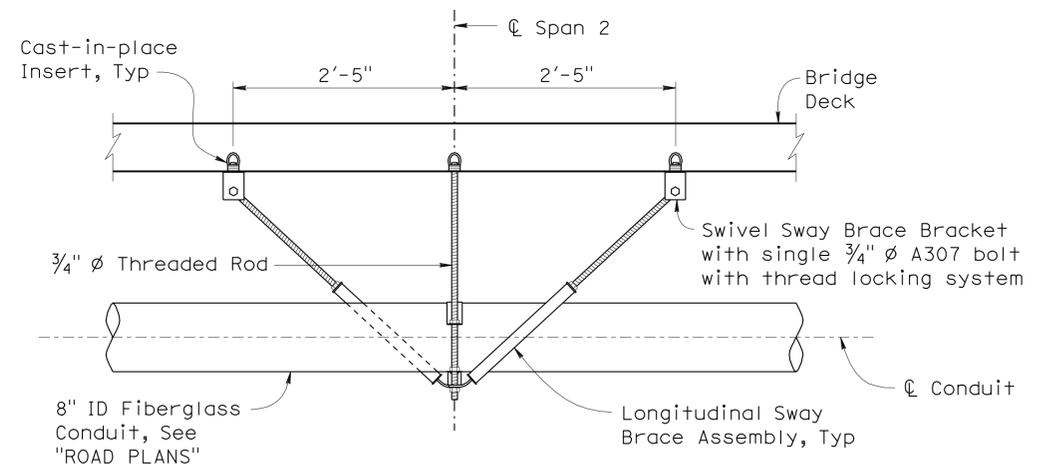


SECTION A-A
1/2" = 1'-0"



SECTION B-B
1/2" = 1'-0"

NOTE: Longitudinal Sway Braces not shown.



CONDUIT ANCHORAGE HANGER DETAIL
1" = 1'-0"

NOTE:
 Contractor shall submit working drawings for the conduit for the entire length of the bridge for approval of the Engineer.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Kevin Harper	CHECKED Kyoung Lee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	EAST CYPRESS AVE UC (WIDEN)	
	DETAILS	BY Bob Huddleston	CHECKED Kyoung Lee			06-125R/L		
	QUANTITIES	BY Eric Watson	CHECKED Vadim Shostak			POST MILE 14.4		
						DISREGARD PRINTS BEARING EARLIER REVISION DATES	11	20

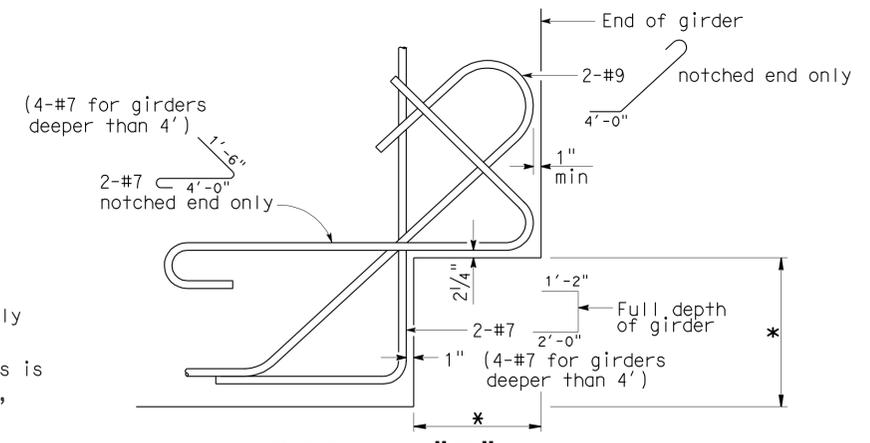
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	303	311

8/3/10
 REGISTERED ENGINEER - CIVIL
 Kevin Harper
 No. 42221
 Exp. 3/31/12
 CIVIL
 STATE OF CALIFORNIA

12-13-10
 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.

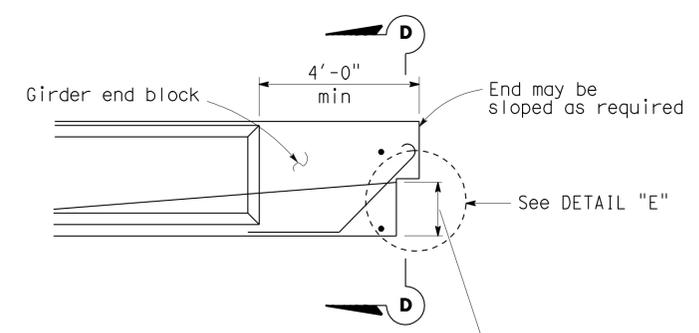
CLEARANCES FOR PRETENSIONED STRANDS

1. Strands may be bundled in groups consisting of 3 vertically 2 horizontally, and separated at the ends.
2. The min distance "S" between groups or individual strands is 1 1/2" for 3/8" strands, 1 3/4" for 1/2" strands and 2" for 5/8" strands.
3. "S" is measured between centers of adjacent strands.
4. Approval of Engineer is required for deviation.



DETAIL "E"

For optional notched end detail only



OPTIONAL NOTCHED END DETAIL

P/S CG Dimension = 2'-3"
Tolerance = ± 3"

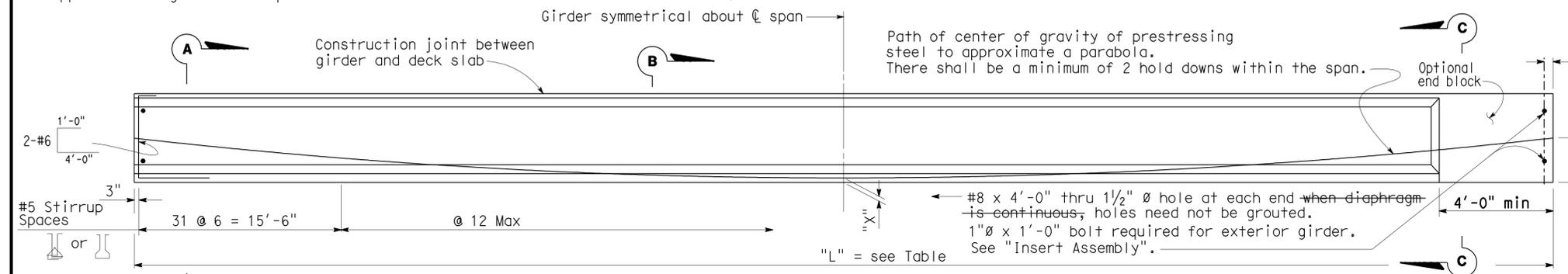
PRESTRESSING NOTES

JACKING FORCE (P): The manufacture jacking force required at point of control along the span. The jacking force does not include any fabrication specific losses.

CONCRETE STRENGTH: f'_{ci} (Ksi) is at time of initial stressing. f'_c (Ksi) is at 28 days

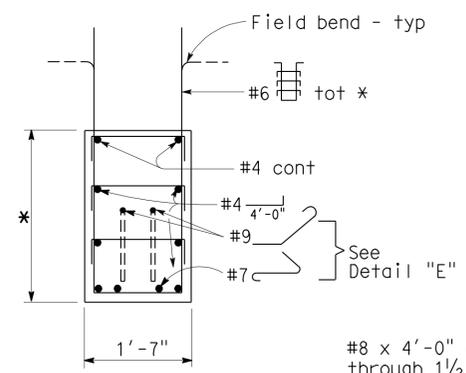
DEFLECTION COMPONENTS: Informational - to be used in setting screed line elevations.

Screed line elevations for deck concrete will be determined by the Engineer. Contractor may interpolate "P" and "X" values between limits shown, as approved by the Engineer.



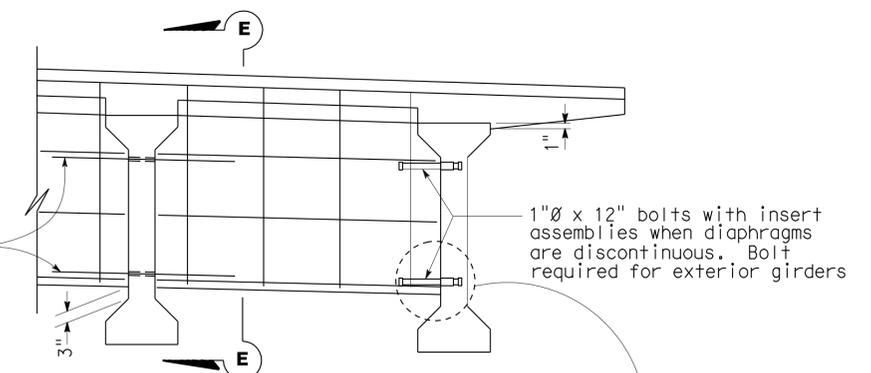
ELEVATION

Girder location or designation and length	Jacking Force (P) in Kips	Concrete Strength (Ksi)		Deflection Components	
		f'_{ci}	f'_c	① Deck DL	② Rail DL
34'-9"	4"	4.0	7.5	0	0
	6"				
95'-10"	4"	4.5	7.5	1 3/4"	0
	6"				

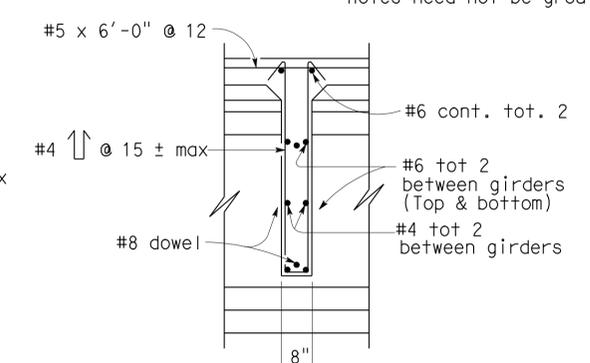


SECTION D-D

#8 x 4'-0" dowels placed through 1 1/2" Ø holes formed in girder, when diaphragm is continuous. Holes need not be grouted.

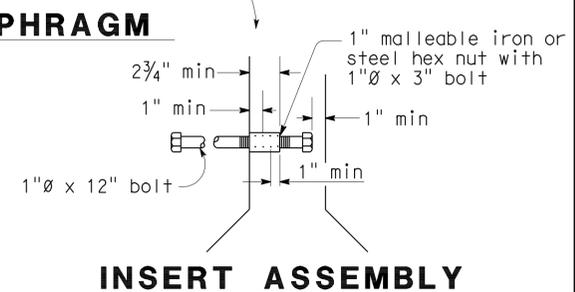


INTERMEDIATE DIAPHRAGM

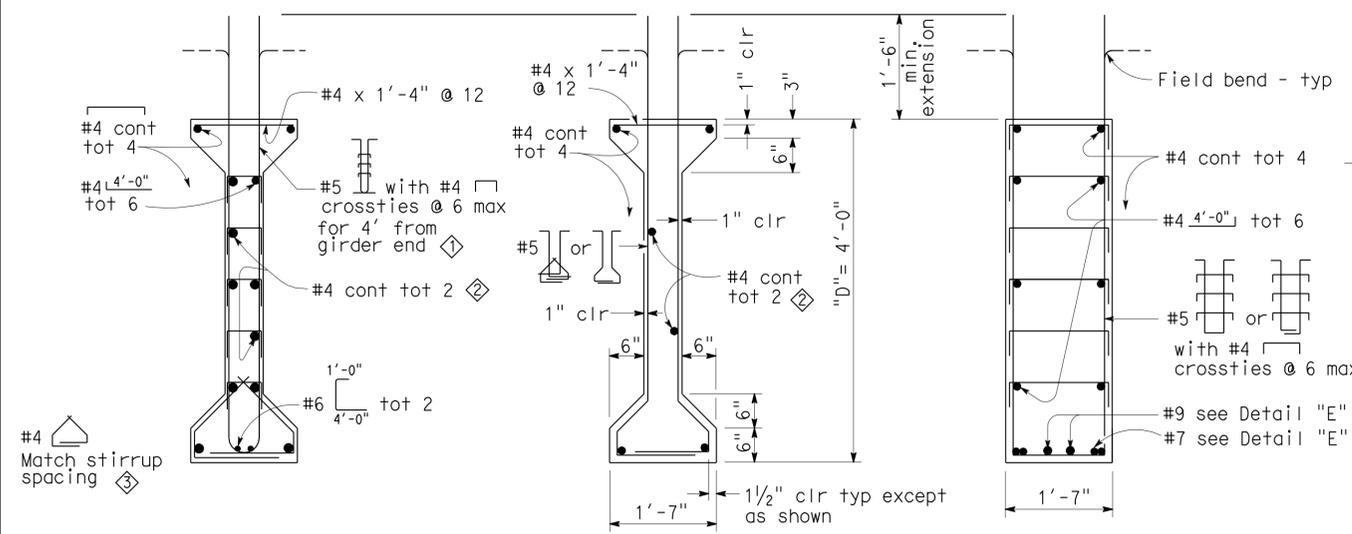


SECTION E-E

SPECIAL DETAILS



INSERT ASSEMBLY



SECTION A-A

SECTION B-B

SECTION C-C

STANDARD DRAWING

FILE NO. **xs 1-120-e**
 APPROVED BY: *Jim Ma*
 RESPONSIBLE TECHNICAL SPECIALIST
 APPROVAL DATE: REVISED
 RELEASED BY: *Sharon Post*
 RESPONSIBLE OFFICE CHIEF
 RELEASE DATE: REVISED

- ① Added note for limit of Section A-A stirrups
- ② Revised Reinf total
- ③ Revised Reinf

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH **1**

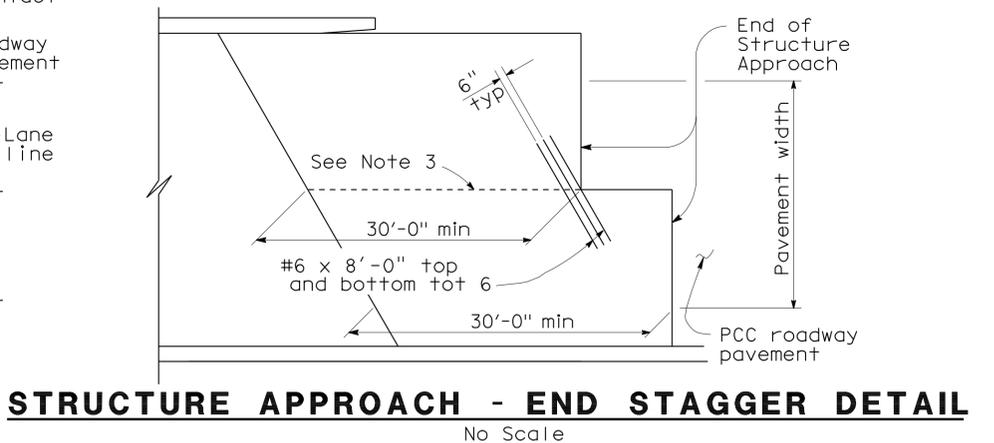
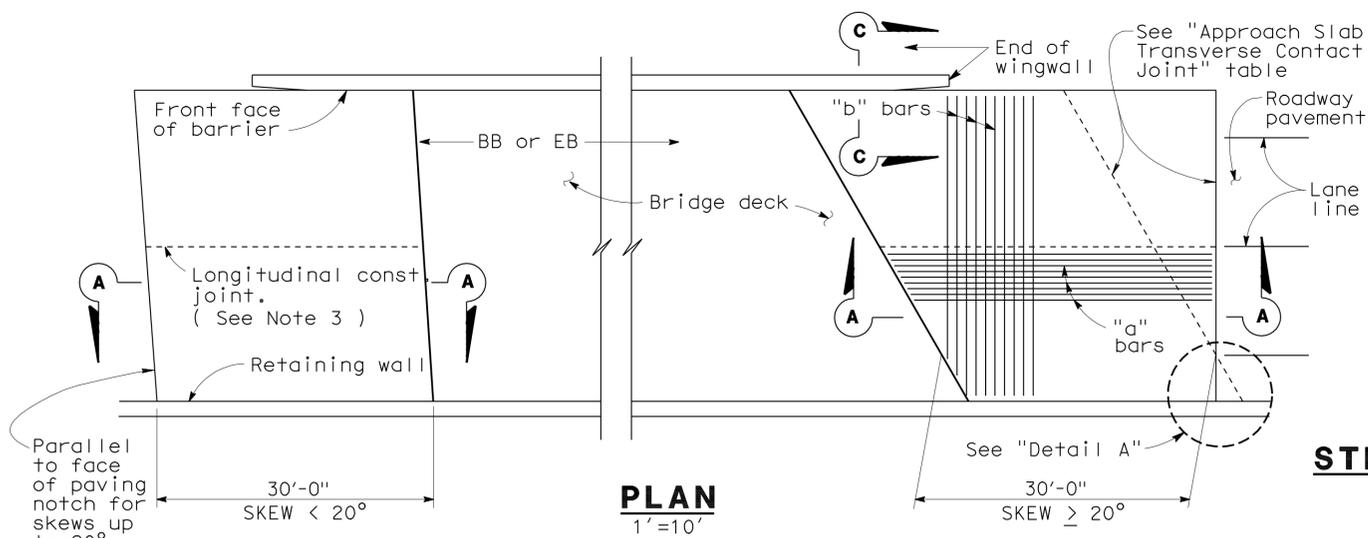
BRIDGE NO.
 06-125R/L
 POST MILE
 14.4

EAST CYPRESS AVE UC (WIDEN)
PRECAST PRESTRESSED I GIRDER (LRFD)

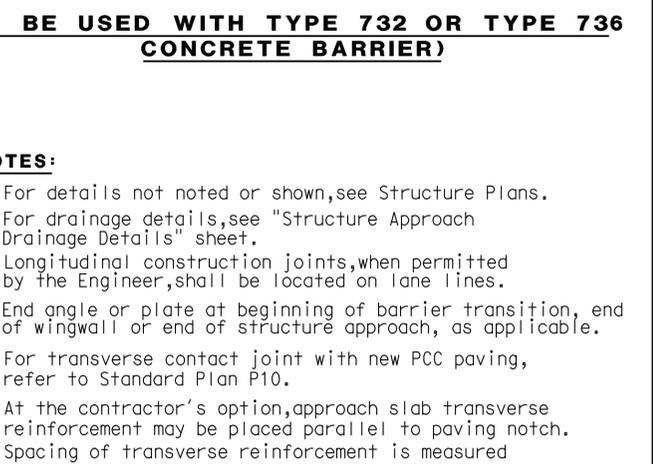
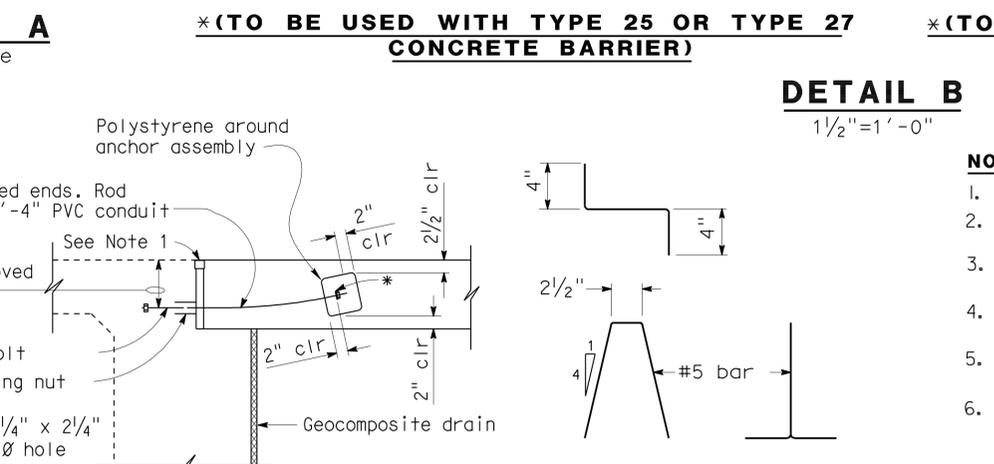
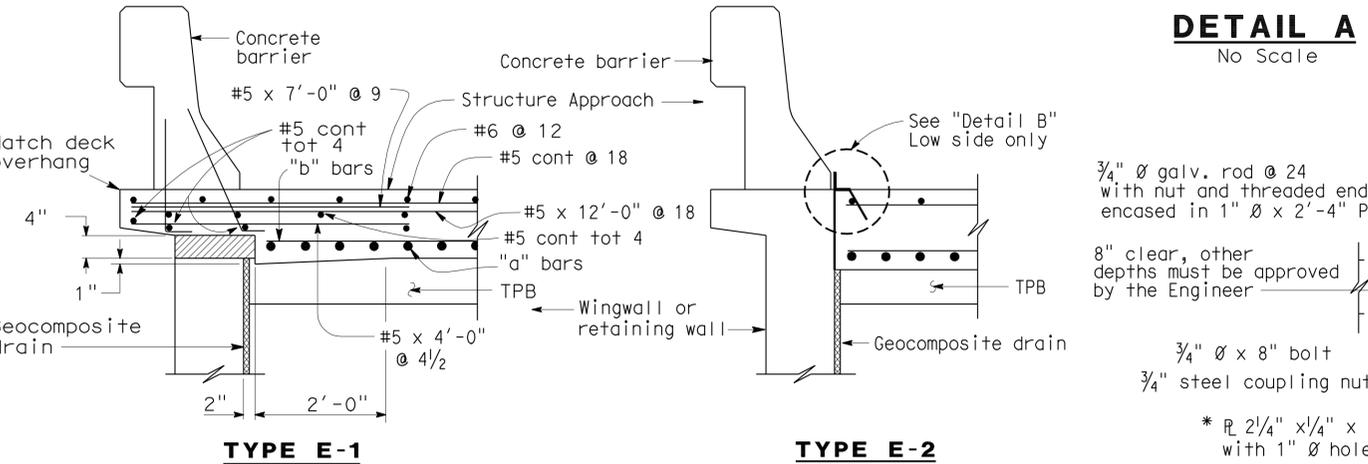
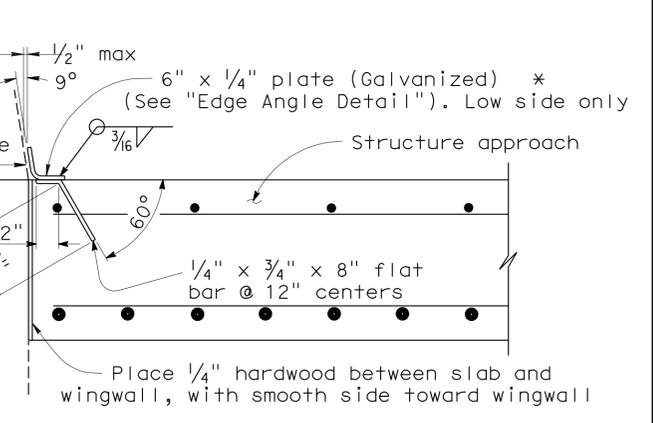
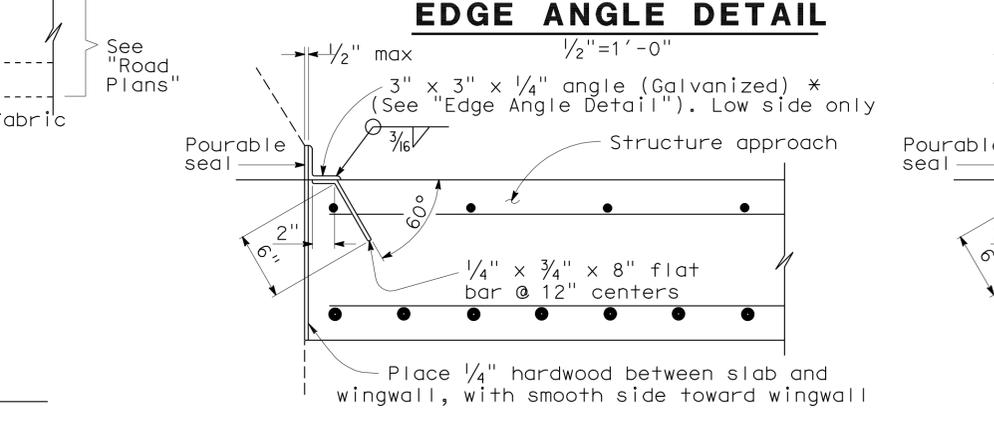
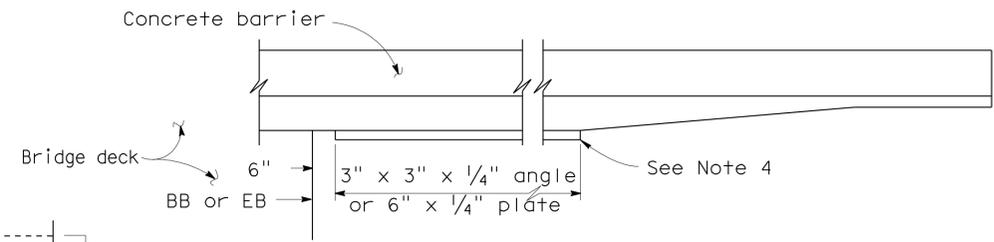
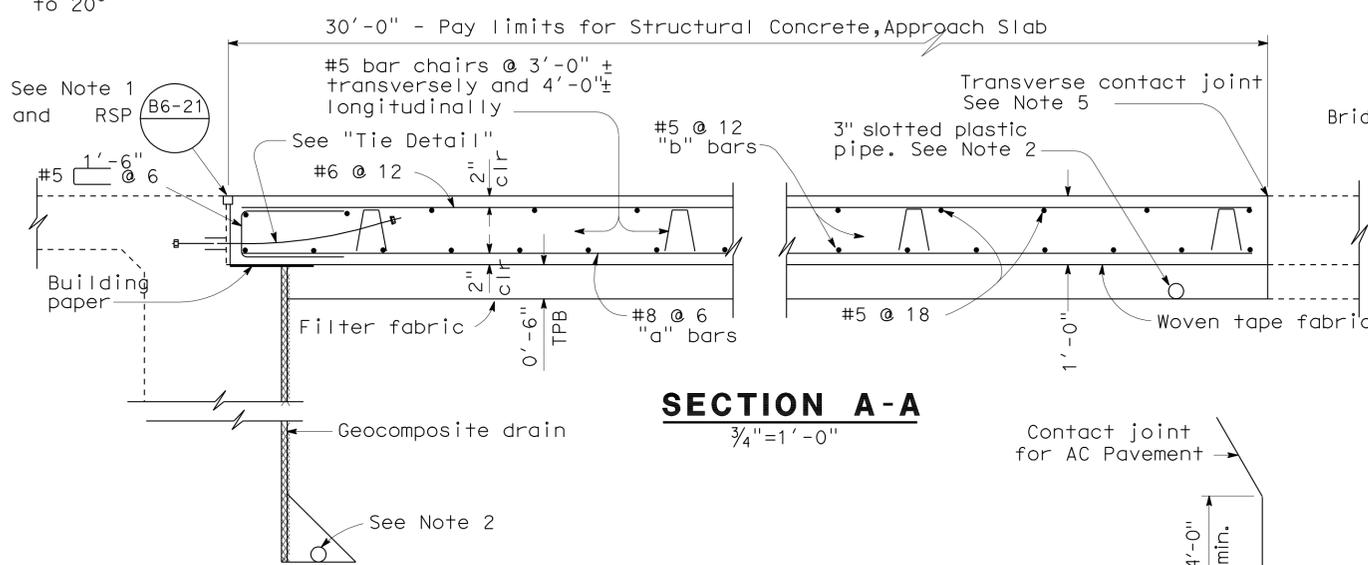
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	304	311

Kevin J. Harper 8/3/10
 REGISTERED ENGINEER - CIVIL
 No. 42221
 Exp. 3/31/12
 CIVIL
 STATE OF CALIFORNIA

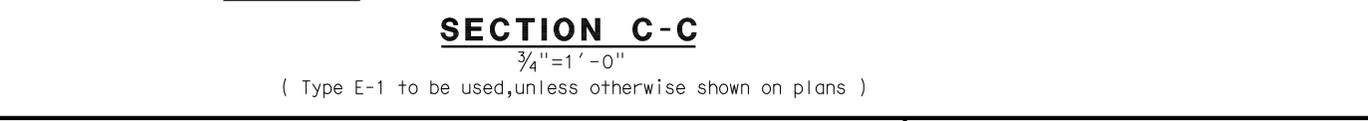
12-13-10
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



- NOTES:**
- For details not noted or shown, see Structure Plans.
 - For drainage details, see "Structure Approach Drainage Details" sheet.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along ϕ roadway.



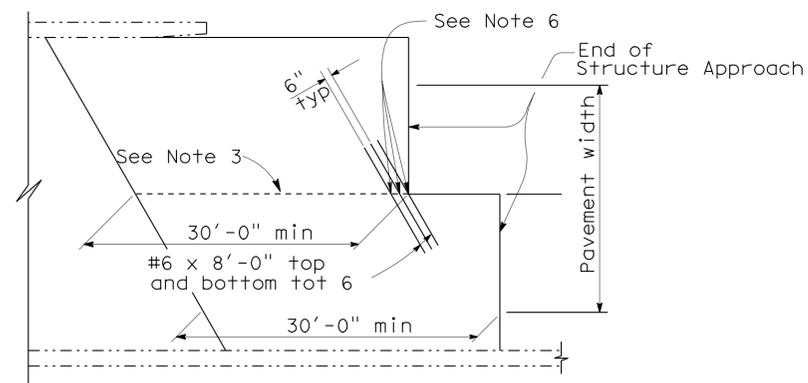
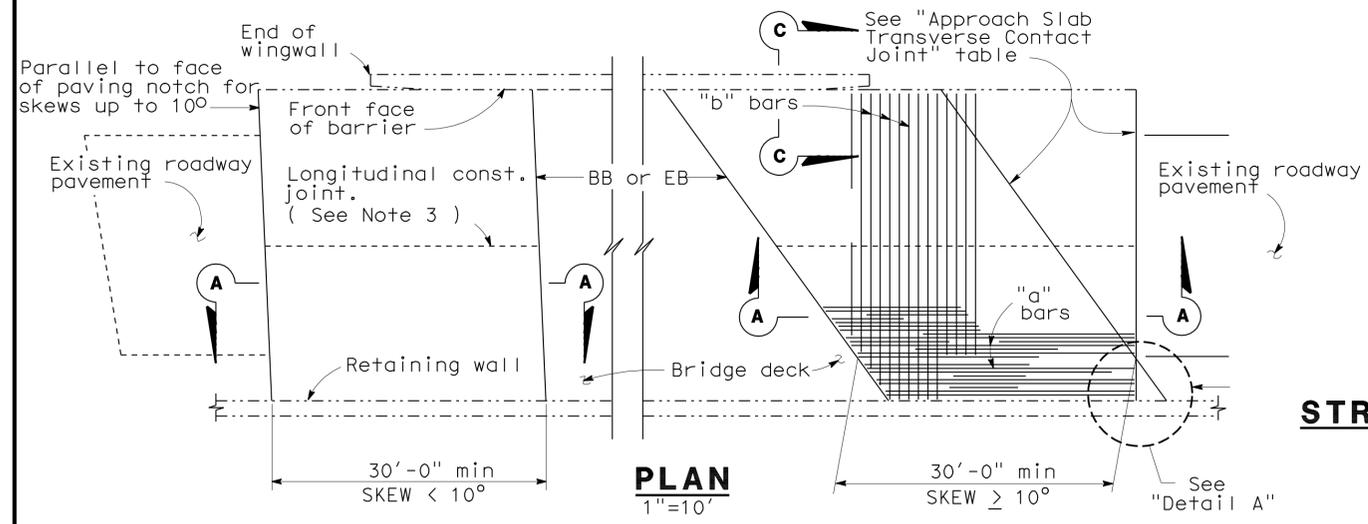
STANDARD DRAWING		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		EAST CYPRESS AVE UC (WIDEN)	
FILE NO. xs3-180e	APPROVED BY <u>M. Ha</u> RESPONSIBLE TECHNICAL SPECIALIST	RELEASED BY <u>O. Alcantara</u> RESPONSIBLE OFFICE CHIEF	DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		06-125R/L	STRUCTURE APPROACH TYPE N(30D)	
APPROVAL DATE <u>8-12-08</u>	RELEASE DATE <u>8-12-08</u>		DESIGN BRANCH 1		POST MILE		14.4		
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 02 EA 4C4011		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)	
				0 1 2 3				SHEET 13 OF 20	

USERNAME => trlenord
 02-4c4011-s-scd01.dgn

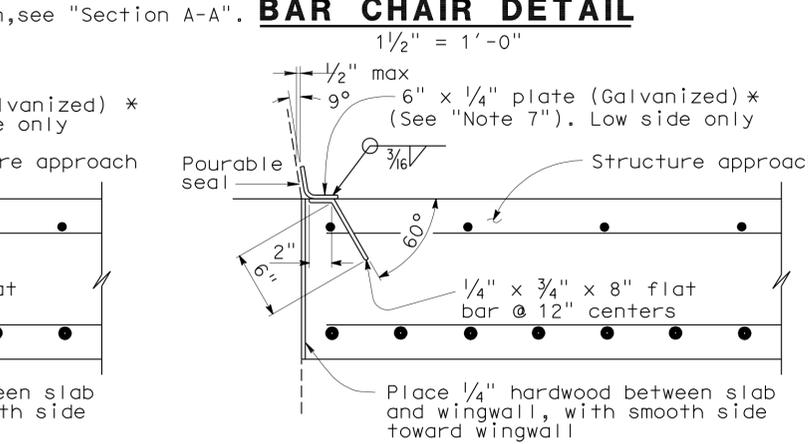
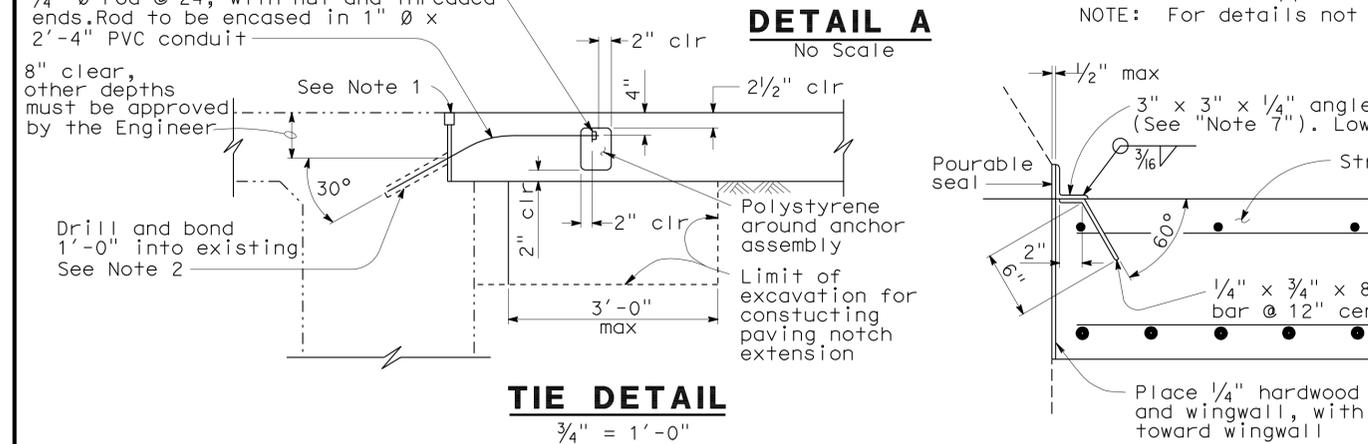
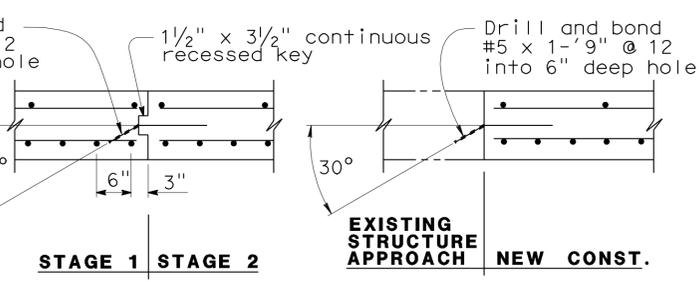
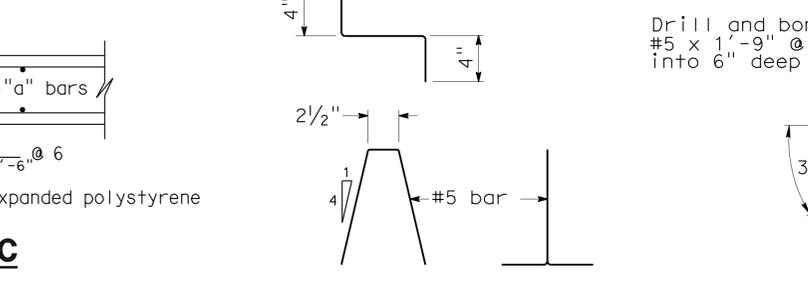
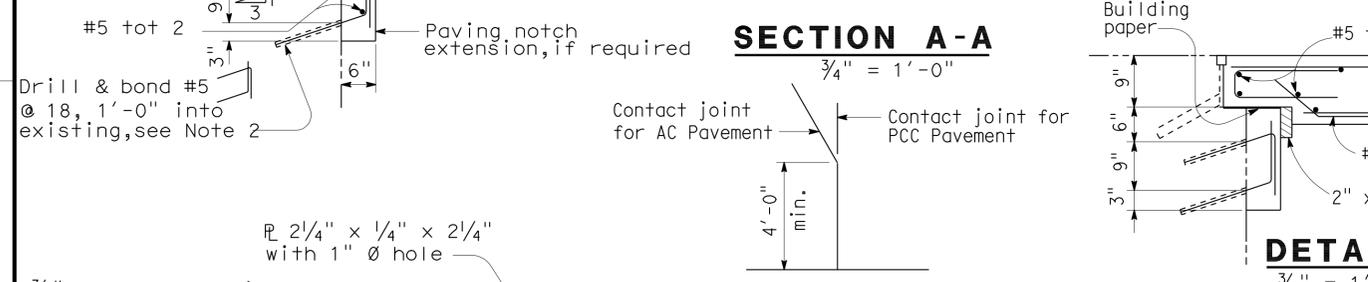
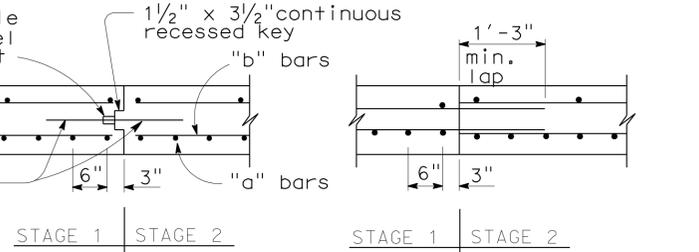
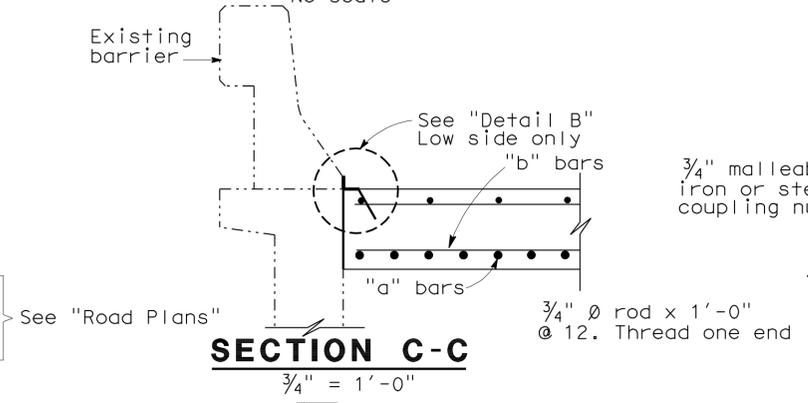
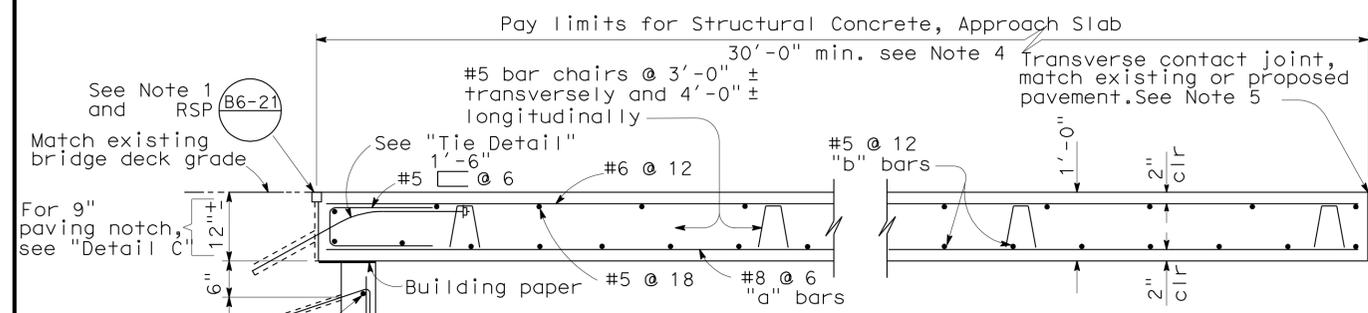
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	305	311

8/3/10
 REGISTERED ENGINEER - CIVIL
 Kevin Harper
 No. 42221
 Exp. 3/31/12
 CIVIL
 STATE OF CALIFORNIA

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.



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



- NOTES:**
- For details not shown or noted, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
 - Space to avoid existing prestress anchorages and main reinforcement.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - Couplers are required for stage construction.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.

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

*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)
*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

STANDARD DRAWING			
RELEASE DATE 3/14/05	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	RELEASED BY
FILE NO. xs3-140e	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	
	SUBMITTED BY M. HA	DRAWING DATE 8/92	OFFICE CHIEF

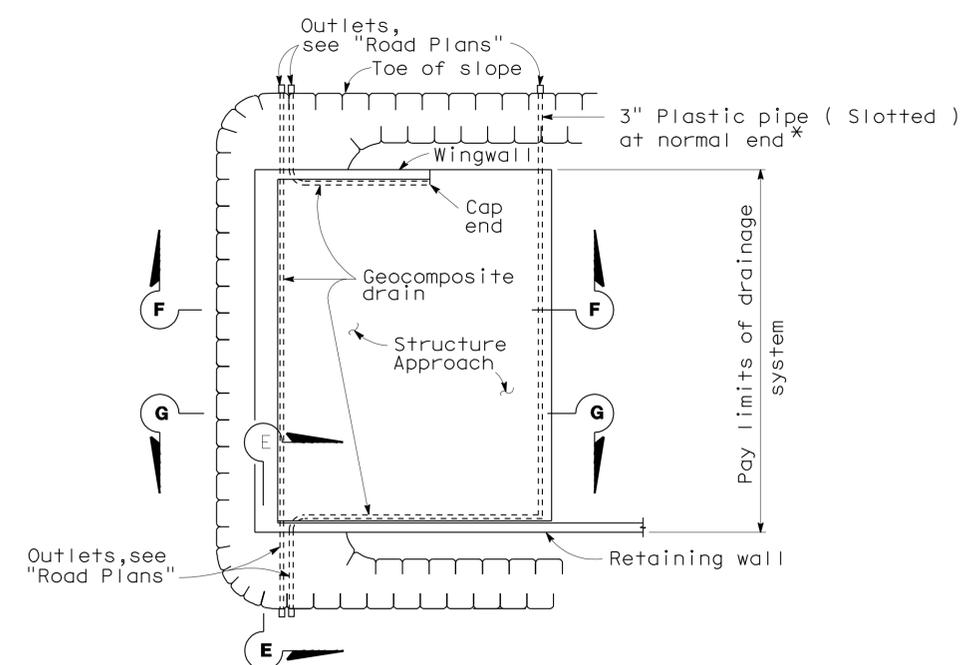
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 1
 BRIDGE NO.
06-125R/L
 MILE POST
14.4

EAST CYPRESS AVE UC (WIDEN)
 STRUCTURE APPROACH TYPE R(30D)

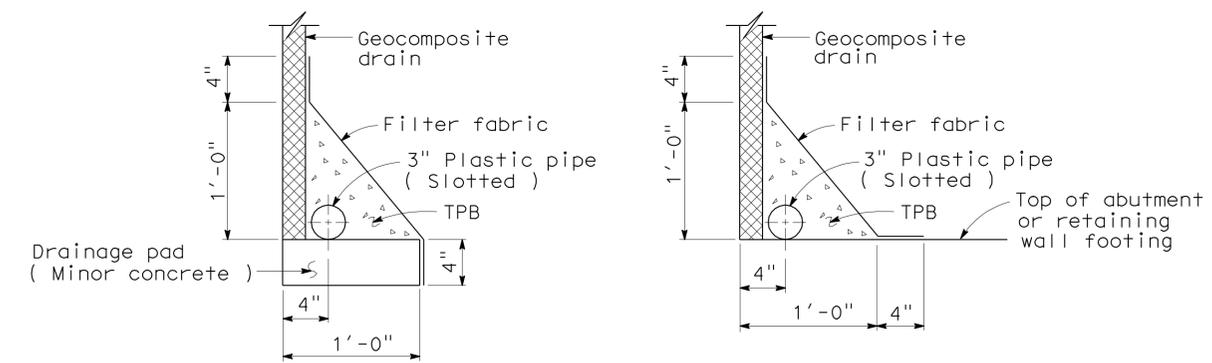
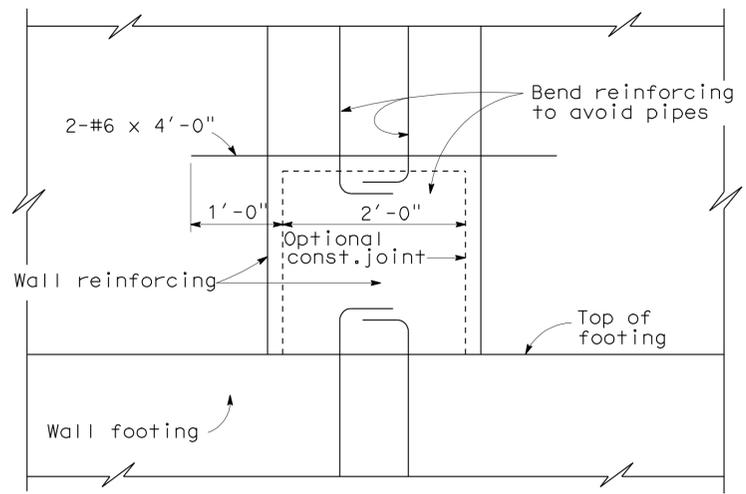
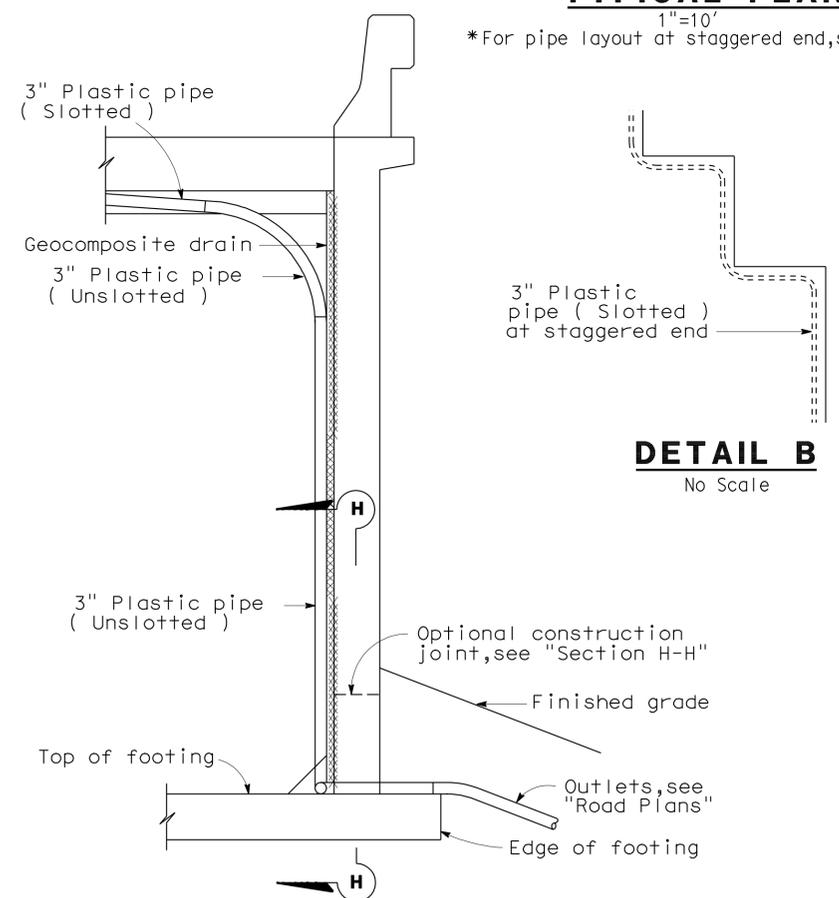
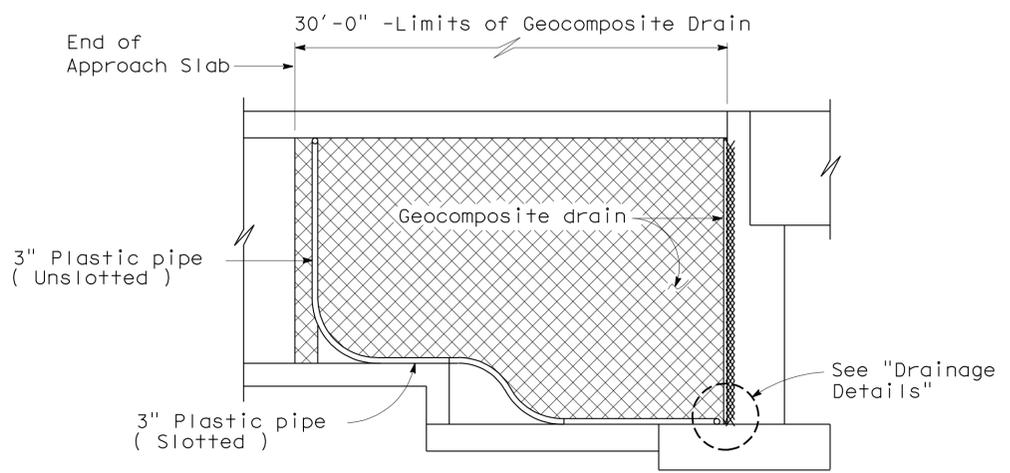
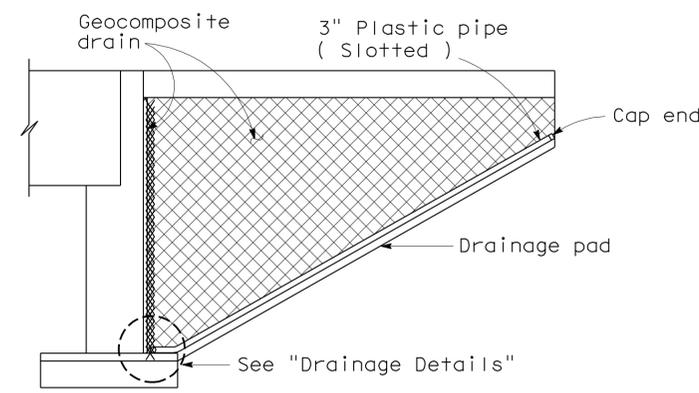
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	306	311

8/3/10
 REGISTERED ENGINEER - CIVIL
 Kevin Harper
 No. 42221
 Exp. 3/31/12
 CIVIL
 STATE OF CALIFORNIA

12-13-10
 PLANS APPROVAL DATE
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*For pipe layout at staggered end, see "Detail B".



SECTION E-E

1/2"=1'-0"

NOTE: Bends and junctions in 3" plastic pipe are 30" radius min.

STANDARD DRAWING			
RELEASE DATE 4/23/98	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	RELEASED BY
FILE NO. xs3-110e	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	
	SUBMITTED BY M. HA	DRAWING DATE 4/98	OFFICE CHIEF

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 1

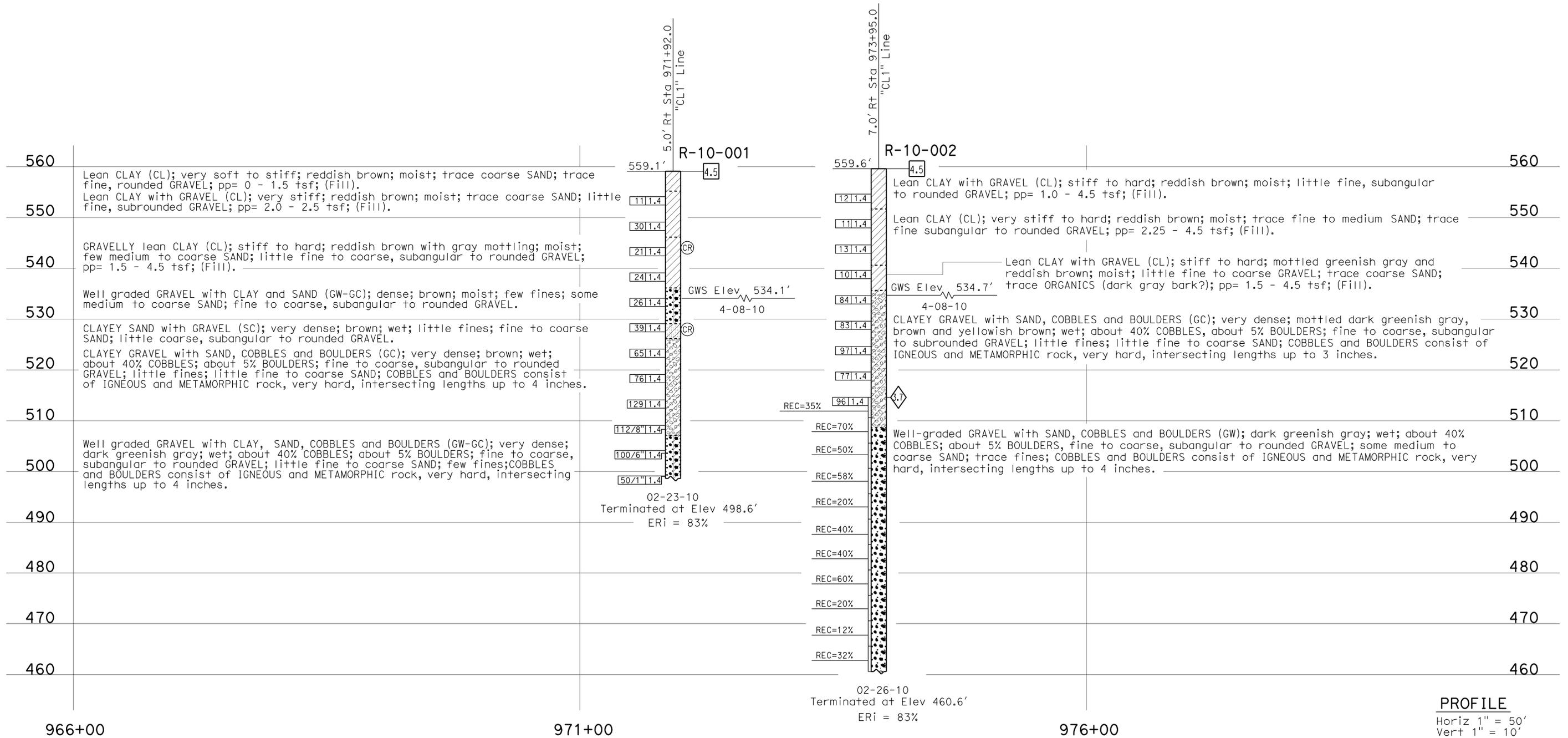
BRIDGE NO.
06-125R/L
 MILE POST
14.4
 EAST CYPRESS AVE UC (WIDEN)
 STRUCTURE APPROACH DRAINAGE DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	308	311

5-19-10
 CERTIFIED ENGINEERING GEOLOGIST
 Reid Buell
 No. 1481
 Exp. 4-30-11
 PLANS APPROVAL DATE
 PROFESSIONAL GEOLOGIST
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 5"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).



PROFILE
 Horiz 1" = 50'
 Vert 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1		BRIDGE NO. 06-125R/L POST MILES 14.4		EAST CYPRESS AVE UC (WIDEN) LOG OF TEST BORINGS 2 OF 5					
FUNCTIONAL SUPERVISOR NAME: R. Bibbens		DRAWN BY: F. Nguyen 4/10 CHECKED BY: J. Kaump		FIELD INVESTIGATION BY: T. Alderman		CU 02 EA 4C4011		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 04-28-10 05-05-10 05-18-10					
06S CIVIL LOG OF TEST BORINGS SHEET										ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		SHEET 17 OF 20	

USERNAME => H:\engrad DATE PLOTTED => 14-DEC-2010 TIME PLOTTED => 06:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	309	311

5-19-10
 CERTIFIED ENGINEERING GEOLOGIST
 Reid Buell
 No. 1481
 Exp. 4-30-11
 PROFESSIONAL GEOLOGIST
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA

12-13-10
 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.

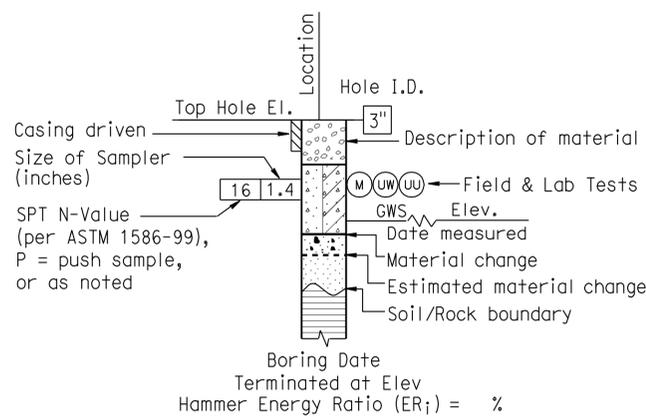
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

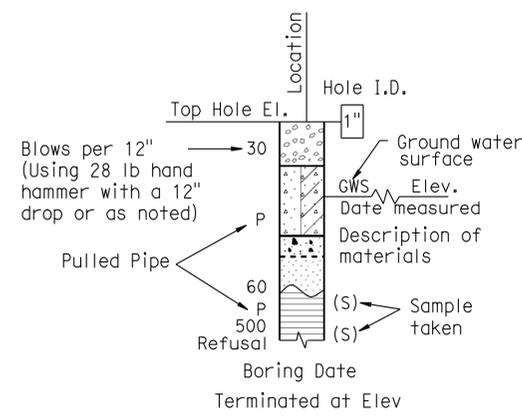
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

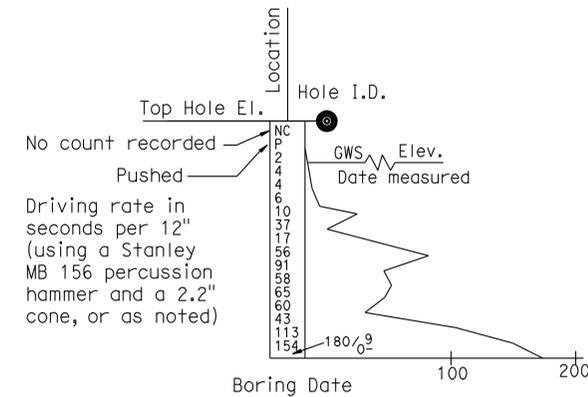
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



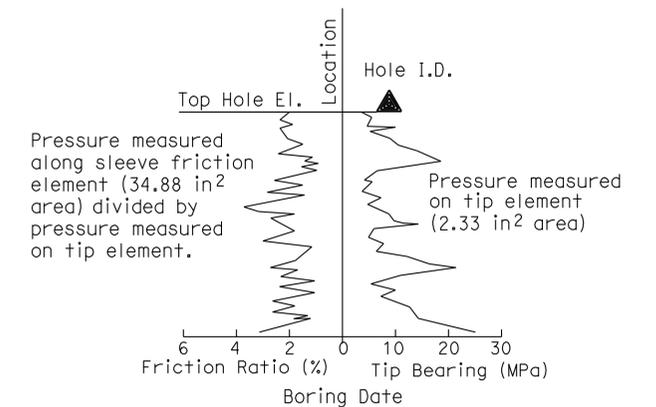
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

ENGINEERING SERVICES	GEOTECHNICAL SERVICES
	PREPARED BY: F. Nguyen 4/10

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1
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BRIDGE NO. 06-125R/L	POST MILE 14.4
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EAST CYPRESS AVE UC (WIDEN)	
LOG OF TEST BORINGS 3 OF 5	

FILENAME => H:\engard DATE PLOTTED => 14-DEC-2010 TIME PLOTTED => 06:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	R10.5/R17.5	310	311

5-19-10
 CERTIFIED ENGINEERING GEOLOGIST
 12-13-10
 PLANS APPROVAL DATE

Reid Buell
 No. 1481
 Exp. 4-30-11
 CERTIFIED ENGINEERING GEOLOGIST
 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.

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		SANDY lean CLAY
	Poorly graded GRAVEL with SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with SILT		SILTY CLAY
	Well-graded GRAVEL with SILT and SAND		SILTY CLAY with SAND
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		SANDY SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with SILT		SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT and SAND		SANDY SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with CLAY (or SILTY CLAY)		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		GRAVELLY SILTY CLAY with SAND
	SILTY GRAVEL		SILT
	SILTY GRAVEL with SAND		SILT with SAND
	CLAYEY GRAVEL		SILT with GRAVEL
	CLAYEY GRAVEL with SAND		SANDY SILT
	SILTY, CLAYEY GRAVEL		SANDY SILT with GRAVEL
	SILTY, CLAYEY GRAVEL with SAND		GRAVELLY SILT
	Well-graded SAND		GRAVELLY SILT with SAND
	Well-graded SAND with GRAVEL		ORGANIC lean CLAY
	Poorly graded SAND		ORGANIC lean CLAY with SAND
	Poorly graded SAND with GRAVEL		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with SILT		SANDY ORGANIC lean CLAY
	Well-graded SAND with SILT and GRAVEL		SANDY ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with CLAY (or SILTY CLAY)		GRAVELLY ORGANIC lean CLAY
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		GRAVELLY ORGANIC lean CLAY with SAND
	Poorly graded SAND with SILT		ORGANIC SILT
	Poorly graded SAND with SILT and GRAVEL		ORGANIC SILT with SAND
	Poorly graded SAND with CLAY (or SILTY CLAY)		ORGANIC SILT with GRAVEL
	Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		SANDY ORGANIC SILT
	SILTY SAND		SANDY ORGANIC SILT with GRAVEL
	SILTY SAND with GRAVEL		GRAVELLY ORGANIC SILT
	CLAYEY SAND		GRAVELLY ORGANIC SILT with SAND
	CLAYEY SAND with GRAVEL		Fat CLAY
	SILTY, CLAYEY SAND		Fat CLAY with SAND
	SILTY, CLAYEY SAND with GRAVEL		Fat CLAY with GRAVEL
	PEAT		SANDY fat CLAY
	COBBLES		SANDY fat CLAY with GRAVEL
	COBBLES and BOULDERS		GRAVELLY fat CLAY
	BOULDERS		GRAVELLY fat CLAY with SAND
	ORGANIC SOIL		Elastic SILT
	ORGANIC SOIL with SAND		Elastic SILT with SAND
	ORGANIC SOIL with GRAVEL		Elastic SILT with GRAVEL
	SANDY ORGANIC SOIL		SANDY elastic SILT
	SANDY ORGANIC SOIL		SANDY ORGANIC elastic SILT with GRAVEL
	SANDY ORGANIC SOIL with GRAVEL		GRAVELLY elastic SILT
	GRAVELLY ORGANIC SOIL		GRAVELLY elastic SILT with SAND
	GRAVELLY ORGANIC SOIL with SAND		ORGANIC fat CLAY
	ORGANIC SOIL with SAND		ORGANIC fat CLAY with SAND
	ORGANIC SOIL with GRAVEL		ORGANIC fat CLAY with GRAVEL
	SANDY ORGANIC SOIL		SANDY ORGANIC fat CLAY
	SANDY ORGANIC SOIL with GRAVEL		SANDY ORGANIC fat CLAY with GRAVEL
	GRAVELLY ORGANIC SOIL		GRAVELLY ORGANIC fat CLAY
	GRAVELLY ORGANIC SOIL with SAND		GRAVELLY ORGANIC fat CLAY with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UC)	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

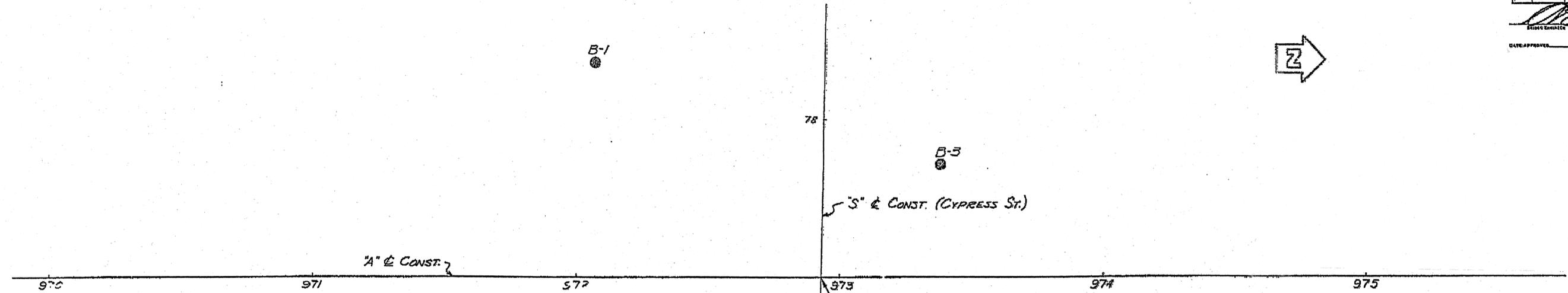
PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	EAST CYPRESS AVE UC (WIDEN)
				06-125R/L	
	PREPARED BY: F. Nguyen 4/10	DEPARTMENT OF TRANSPORTATION	DESIGN BRANCH 1	POST MILE	LOG OF TEST BORINGS 4 OF 5
				14.4	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 02 EA 4C4011	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
					04-22-10
					SHEET 19 OF 20

FILE => 02-4c4011-z-1+tb04.dgn

DATE APPROVED June 10, 1963



PLAN SCALE: 1" = 20'

BM #58
 RR Spike in 24" Oak
 14' Lt. A' 971+00
 Elev. = 537.26

TO ACCOMPANY PLANS DATED 12-13-10

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
02	Sha.	5	R10.5/R17.5	311	311

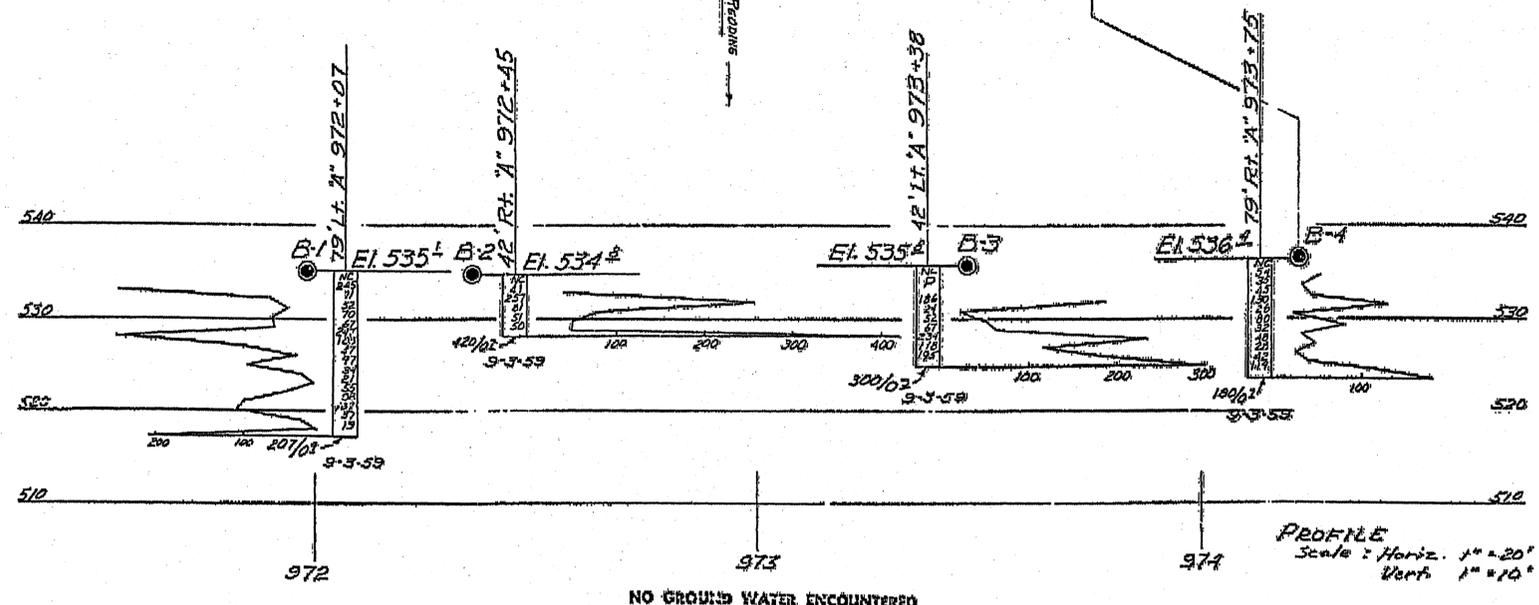
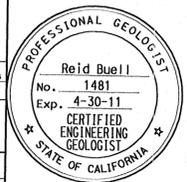
CERTIFIED ENGINEERING GEOLOGIST Reid Buell No. 1481 Exp. 4-30-11 DATE 5/14/2010

EAST CYPRESS AVE UC (WIDEN)

LOG OF TEST BORINGS 5 OF 5

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 02	BRIDGE No.
EA: 4C4011	06-0125R/L
Sheet of	20 20

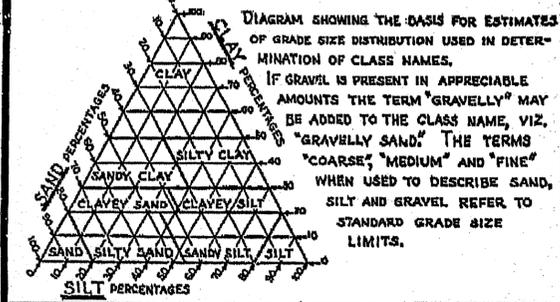


PROFILE
 Scale: Horiz. 1" = 20'
 Vert. 1" = 10'

As Built information on file in Foundation Section.

AS BUILT PLANS
 Contract No. 02-030224
 Date Completed _____
 Document No. 20001023

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS



LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- PENETROMETER
- 2 1/2" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WEY)
- AIRBOR BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT

NOTES

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

CYPRESS STREET SEPARATION

LOG OF TEST BORINGS

SCALE As Noted BRIDGE 6-125 FILE DRAWING G-06125-12

BRIDGE DEPARTMENT

CHECKED BY: P. HANER 6-27-60
 Approved: [Signature]
 Date: 6/27/60

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