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STRUCTURE PLANS

41-50 BEEBE CREEK SOLDIER PILE WALL 1, Br No. 10E0033

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

STATE OF CALIFORNIA **ACST-ER-19C8(004)E**  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN MENDOCINO COUNTY**  
**NEAR YORKVILLE AT 0.7 MILE**  
**EAST OF BEEBE CREEK BRIDGE**

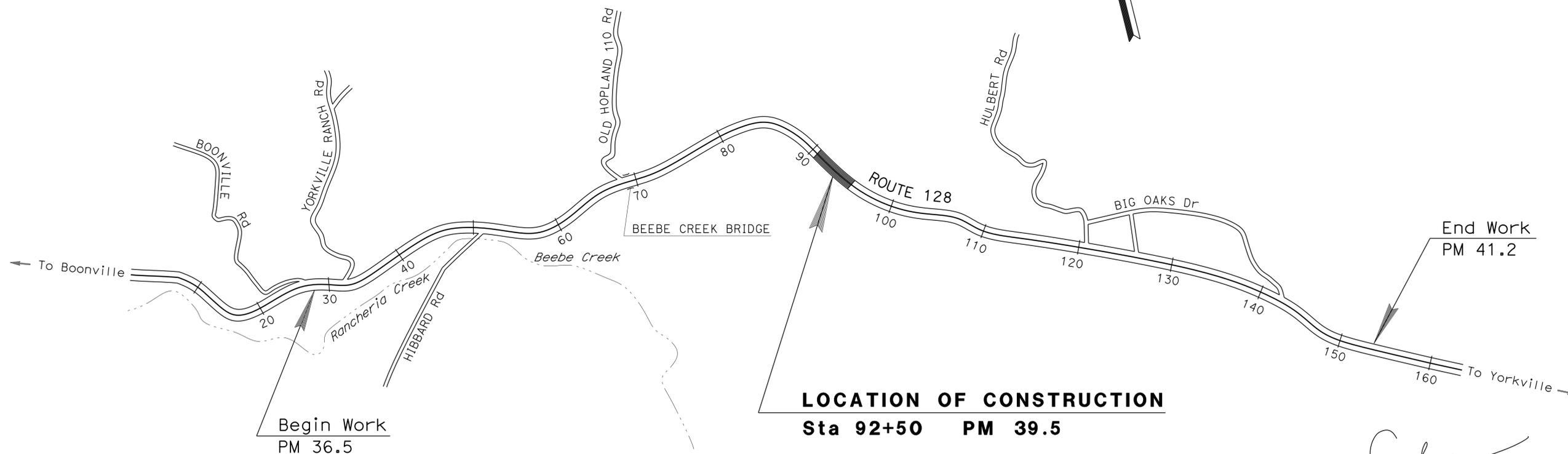
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	1	50





LOCATION MAP



**LOCATION OF CONSTRUCTION**  
**Sta 92+50 PM 39.5**

PROJECT MANAGER  
STEVEN BLAIR

DESIGN ENGINEER  
NESAR FORMOLI

  
 PROJECT ENGINEER  
 REGISTERED CIVIL ENGINEER  
 DATE 5-9-16  
 PLANS APPROVAL DATE  
 May 9, 2016  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



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

NO SCALE

CONTRACT No.	<b>01-0B5204</b>
PROJECT ID	<b>0112000135</b>

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	2	50

 REGISTERED CIVIL ENGINEER DATE 5-9-16		
5-9-16 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.

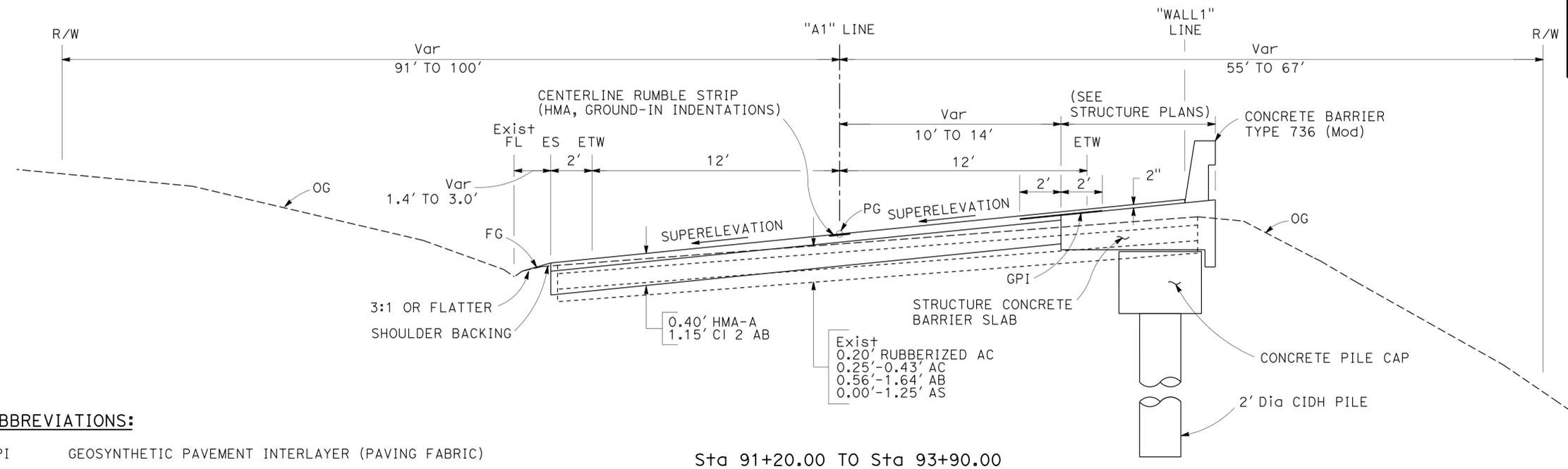
**ROUTE 128  
DESIGN DESIGNATION**

ADT (2016)	1,740	D	60%
ADT (2036)	2,700	T	8%
DHV	320	V	55 mph
ESAL	371,700	TI <sub>20</sub>	8.0

PAVEMENT CLIMATE REGION: LOW MOUNTAIN

**NOTES:**

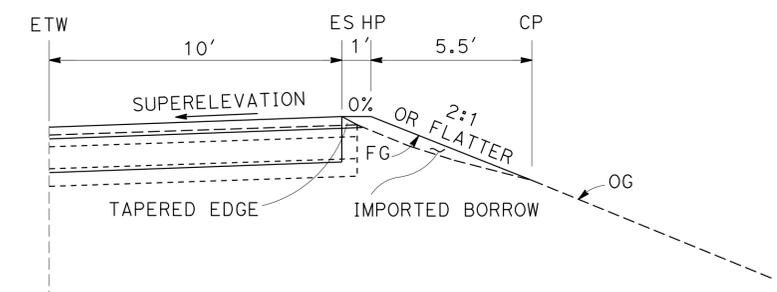
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATIONS ARE SHOWN ON THE SUPERELEVATION DIAGRAMS.



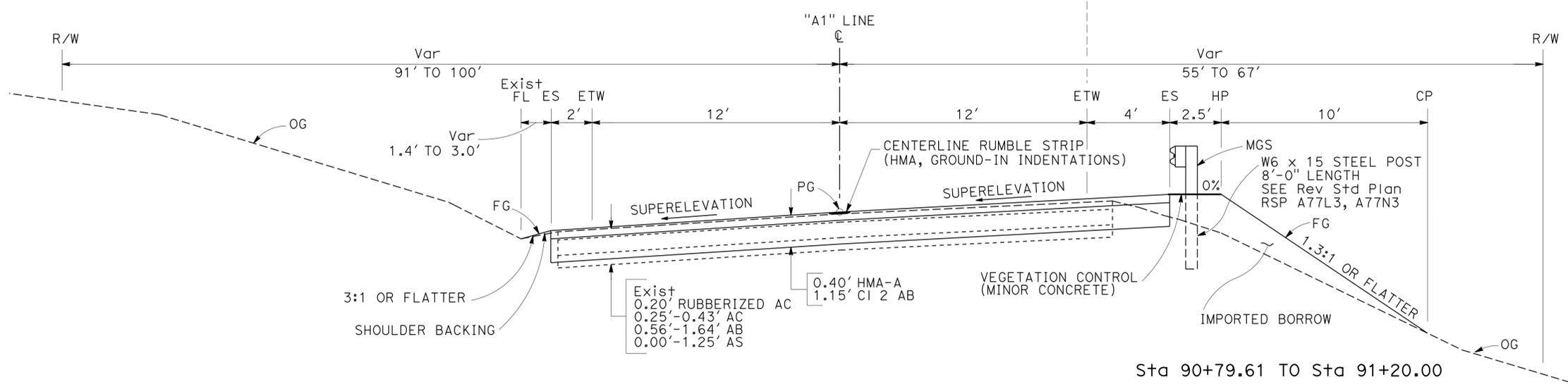
Sta 91+20.00 TO Sta 93+90.00  
**ROUTE 128**

**ABBREVIATIONS:**

GPI GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)



Sta 93+90.00 TO Sta 94+80.50



Sta 90+79.61 TO Sta 91+20.00  
Sta 93+90.00 TO Sta 94+80.50  
**ROUTE 128**

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 03 - DESIGN  
 FUNCTIONAL SUPERVISOR: NESAR FORMOLI  
 CHECKED BY: NESAR FORMOLI  
 DESIGNED BY: HUAN CUNG  
 REVISIONS: (None)  
 DATE: 7/2/2010

USERNAME => s119538  
DGN FILE => 0112000135ca001.dgn



UNIT 0334

PROJECT NUMBER & PHASE

01120001351

LAST REVISION: DATE PLOTTED => 18-MAY-2016  
 00-00-00 TIME PLOTTED => 11:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	3	50

REGISTERED CIVIL ENGINEER DATE 5-9-16  
 HUAN M. CUNG No. C74406 Exp. 9-30-17  
 PLANS APPROVAL DATE 5-9-16  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

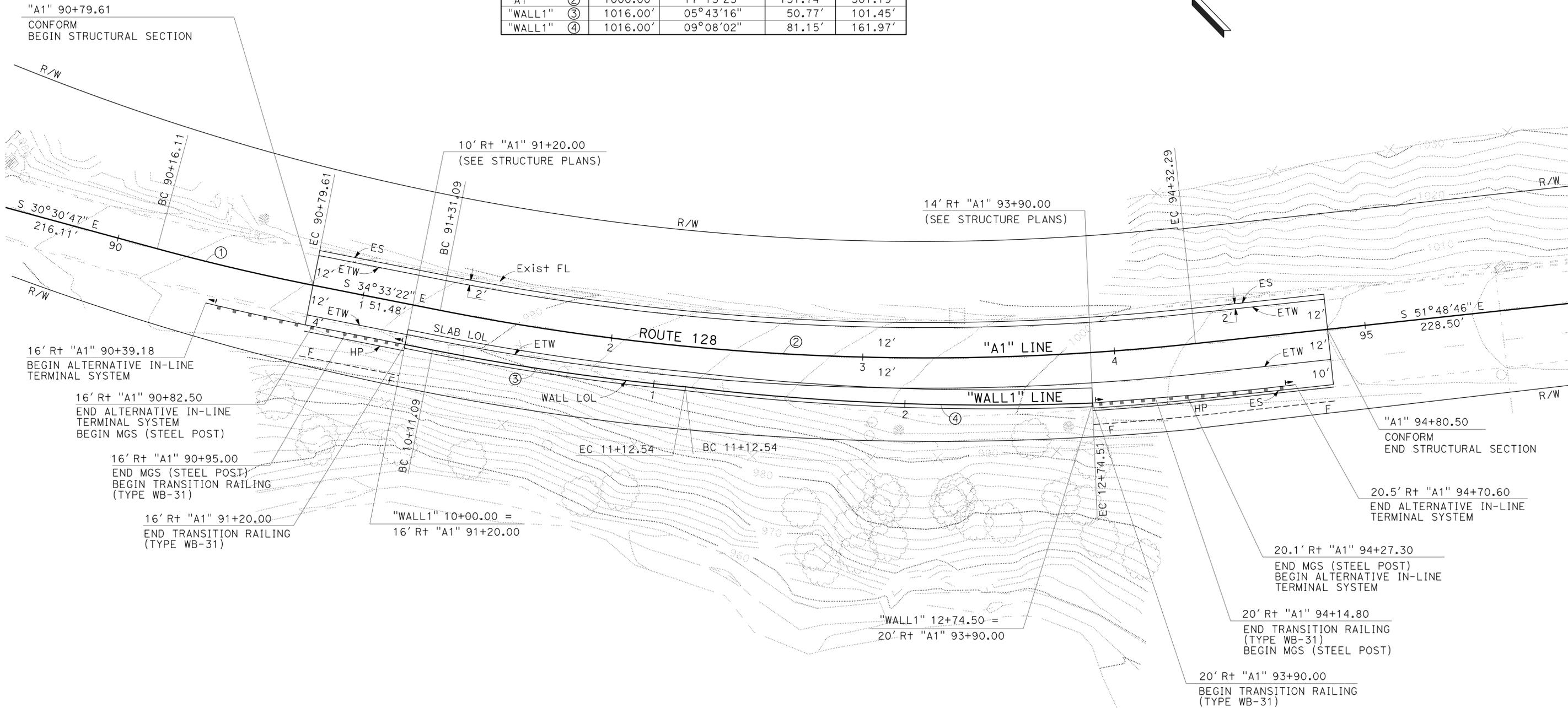
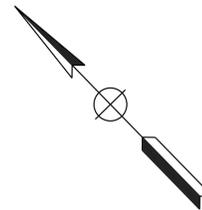
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND:**

- ◄ DELINEATOR (CLASS 1)

**CURVE DATA**

No. ①	R	Δ	T	L
"A1" ①	900.00'	04°02'33"	31.76'	63.50'
"A1" ②	1000.00'	17°15'25"	151.74'	301.19'
"WALL1" ③	1016.00'	05°43'16"	50.77'	101.45'
"WALL1" ④	1016.00'	09°08'02"	81.15'	161.97'



"A1" 90+79.61  
CONFORM  
BEGIN STRUCTURAL SECTION

10' Rt "A1" 91+20.00  
(SEE STRUCTURE PLANS)

14' Rt "A1" 93+90.00  
(SEE STRUCTURE PLANS)

16' Rt "A1" 90+39.18  
BEGIN ALTERNATIVE IN-LINE  
TERMINAL SYSTEM

16' Rt "A1" 90+82.50  
END ALTERNATIVE IN-LINE  
TERMINAL SYSTEM  
BEGIN MGS (STEEL POST)

16' Rt "A1" 90+95.00  
END MGS (STEEL POST)  
BEGIN TRANSITION RAILING  
(TYPE WB-31)

16' Rt "A1" 91+20.00  
END TRANSITION RAILING  
(TYPE WB-31)

"WALL1" 10+00.00 =  
16' Rt "A1" 91+20.00

"WALL1" 12+74.50 =  
20' Rt "A1" 93+90.00

"A1" 94+80.50  
CONFORM  
END STRUCTURAL SECTION

20.5' Rt "A1" 94+70.60  
END ALTERNATIVE IN-LINE  
TERMINAL SYSTEM

20.1' Rt "A1" 94+27.30  
END MGS (STEEL POST)  
BEGIN ALTERNATIVE IN-LINE  
TERMINAL SYSTEM

20' Rt "A1" 94+14.80  
END TRANSITION RAILING  
(TYPE WB-31)  
BEGIN MGS (STEEL POST)

20' Rt "A1" 93+90.00  
BEGIN TRANSITION RAILING  
(TYPE WB-31)

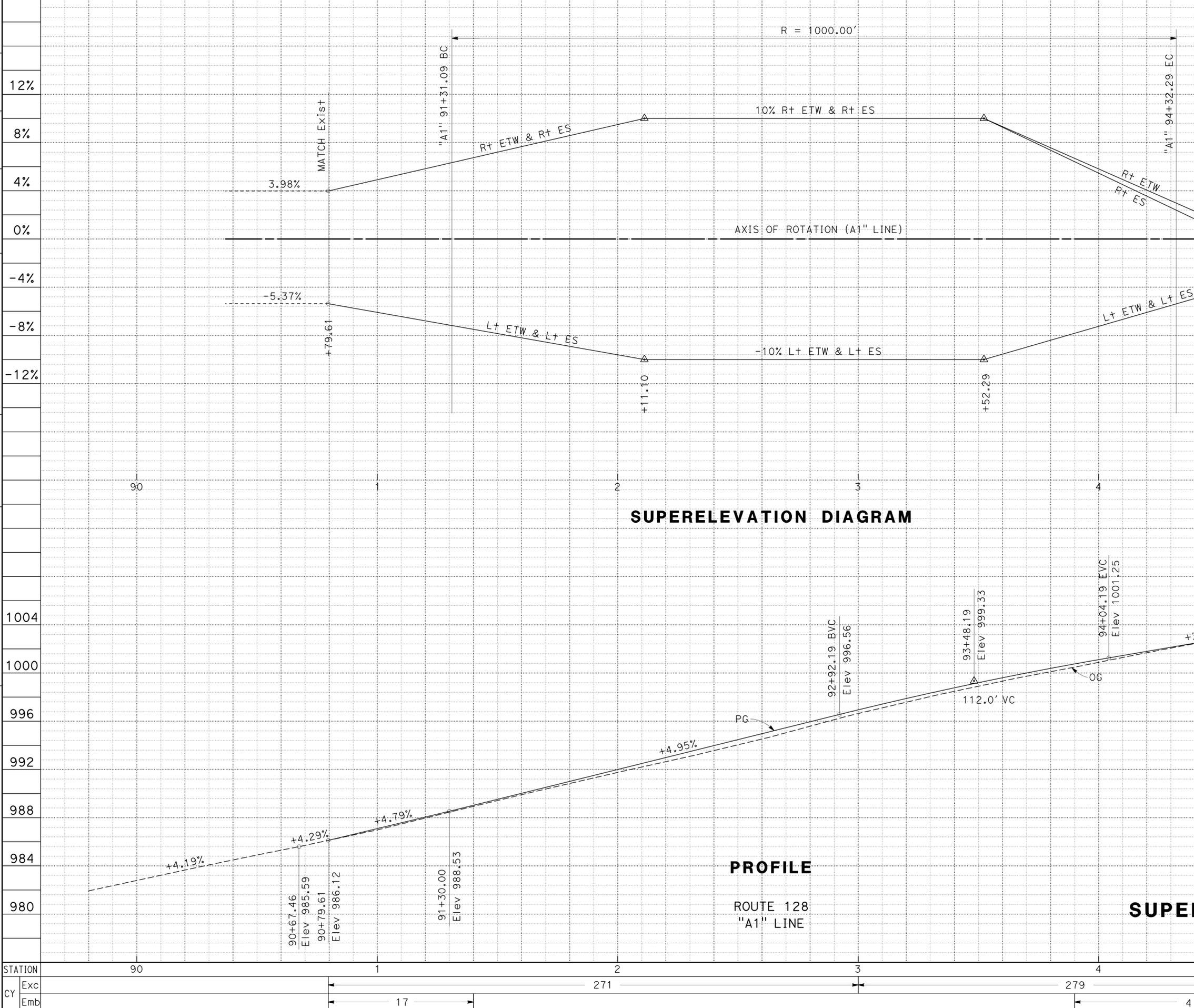
**LAYOUT**  
SCALE: 1"=50'

L-1

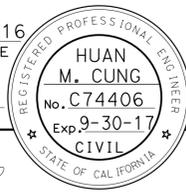
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 HUAN CUNG  
 NESAR FORMOLI  
 NESAR FORMOLI  
 03 - DESIGN

LAST REVISION DATE PLOTTED => 18-MAY-2016  
 00-00-00 TIME PLOTTED => 11:16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 03 - DESIGN  
 FUNCTIONAL SUPERVISOR  
 NESAR FORMOLI  
 HUAN CUNG  
 NESAR FORMOLI  
 REVISOR BY  
 DATE REVISOR  
 CALCULATED/DESIGNED BY  
 CHECKED BY



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	4	50
REGISTERED CIVIL ENGINEER			5-9-16	DATE	
REGISTERED CIVIL ENGINEER			5-9-16	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>					



**SUPERELEVATION DIAGRAM**

**PROFILE**  
 ROUTE 128  
 "A1" LINE

**PROFILE AND SUPERELEVATION DIAGRAM**  
 SCALE: Horiz 1" = 20'  
 Vert 1" = 4'  
**PS-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	5	50

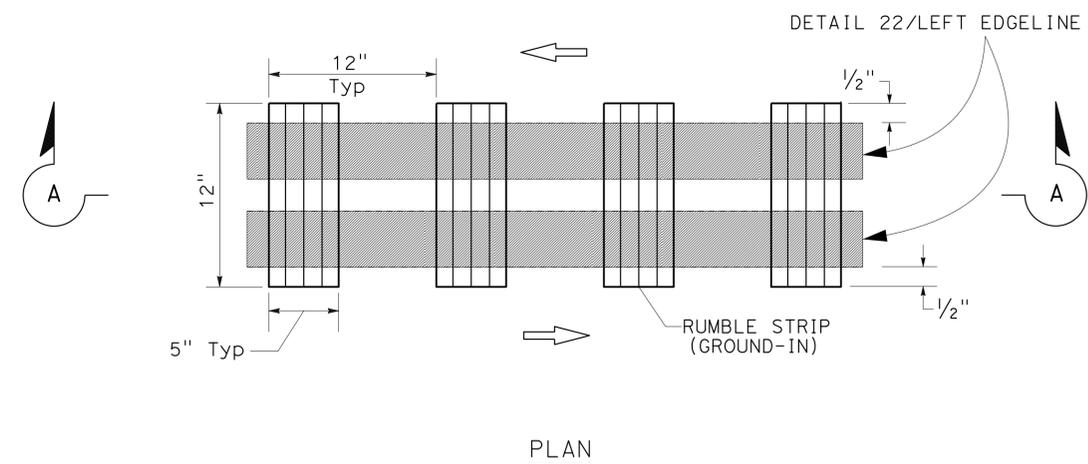
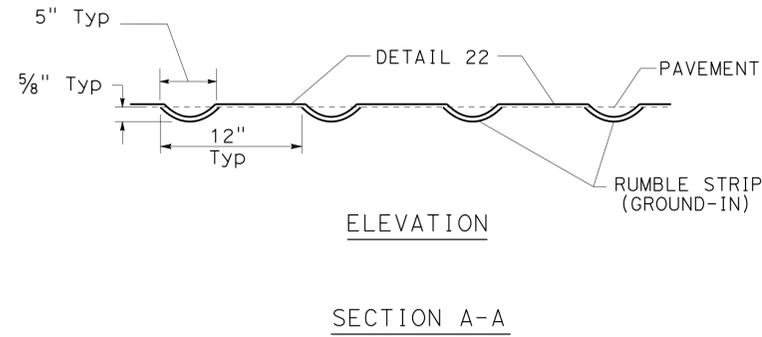
<i>Cung</i>	5-9-16
REGISTERED CIVIL ENGINEER	DATE
5-9-16	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
HUAN M. CUNG
No. C 74406
Exp. 9-30-17
CIVIL
STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
<b>Caltrans</b>	NESAR FORMOLI	CHECKED BY	HUAN CUNG
03 - DESIGN			NESAR FORMOLI



**CENTERLINE RUMBLE STRIP  
(HMA, GROUND-IN INDENTATIONS)  
DETAIL 22**

**CONSTRUCTION DETAILS**  
NO SCALE  
**C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 03 - DESIGN  
 FUNCTIONAL SUPERVISOR: NESAR FORMOLI  
 DESIGNED BY: HUAN CUNG  
 CHECKED BY: NESAR FORMOLI  
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	6	50

REGISTERED CIVIL ENGINEER  
 HUAN M. CUNG  
 No. C74406  
 Exp. 9-30-17  
 CIVIL

5-9-16 DATE  
 5-9-16 PLANS APPROVAL DATE

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**POLE SELECTION TABLE**

**LEGEND**

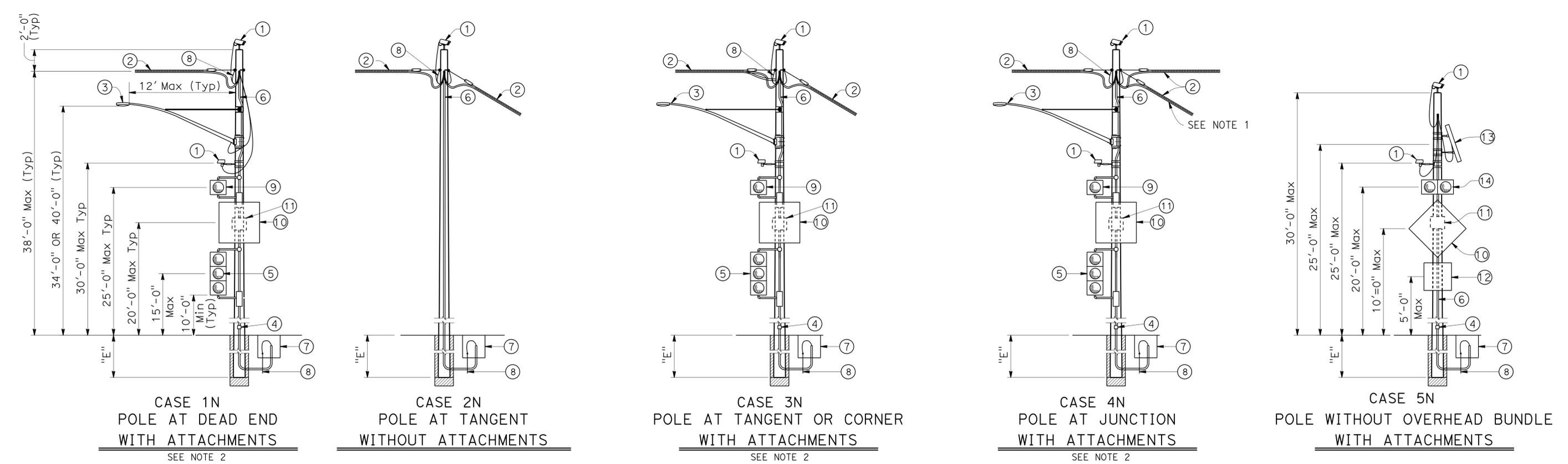
- Wood Pole No Attachments
- Wood Pole with Attachments
- Overhead Bundle

OVERHEAD BUNDLE HORIZONTAL SPAN (Max)	MAXIMUM d <sub>p</sub>	CASE 1N				CASE 2N				CASE 3N				CASE 4N				CASE 5N
		1"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	1.0"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	
50'	MINIMUM POLE CLASS	H-1	H-2	H-2	H-2	4	3	2	1	H-2	H-2	H-3	H-3	H-4	H-4	H-4	H-5	CLASS 1 E = 10'
	POLE EMBEDMENT (E)	11'				10'				11'				12'				
100'	MINIMUM POLE CLASS	H-2	H-3	H-4	H-5	1	H-1	H-2	H-3	H-4	H-5	H-5	H-6	H-5	H-5	H-6		
	POLE EMBEDMENT (E)	12'				11'				12'				12'				
150'	MINIMUM POLE CLASS	H-4	H-5	H-6		H-1	H-2	H-3	H-5	H-6				H-6				
	POLE EMBEDMENT (E)	12'				12'				12'				12'				
200'	MINIMUM POLE CLASS	H-5	H-6			H-2	H-3	H-5										
	POLE EMBEDMENT (E)	12'				12'												

- CCTV camera assembly or vehicle detection system
- Overhead bundle consisting of a 3/8" Ø messenger wire, overhead conductors, and lashing wire
- Luminaire with mast arm
- Pedestrian push button assembly or accessible push button assembly
- Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- Riser with weather head as required
- Pull box as required
- Grounding as required
- Single flashing beacon or single sheet sign panel (4 SQFT Max)
- Single sheet sign panel (4' x 4' Max) or signal face with 3 indications
- Flashing beacon control assembly
- NEMA 3R enclosure, 26"(W) x 56"(H) x 12"(D) Max dimensions. Max weight including batteries, 450 lbs
- 25' SQFT Max total photovoltaic panels mounted as shown as required
- 2-12" flashing beacons

**NOTES:**

- In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 100'.
- Cases 1N, 3N and 4N may substitute the attachments shown in Case 5N if the photovoltaic panel is not included.
- For Case 1N without an overhead bundle (item 2) use minimum pole class H-1 with E=11'.



**TEMPORARY WOOD POLES  
 NON-GUYED - NO SIGNALS ON SPANS**

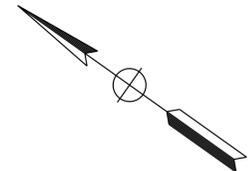
**CONSTRUCTION DETAIL  
 NO SCALE  
 C-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	7	50

5-9-16  
 REGISTERED CIVIL ENGINEER DATE  
 5-9-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**JALWAT P. AHMAD**  
 No. C. 80547  
 Exp. 03-31-17  
 CIVIL  
 STATE OF CALIFORNIA

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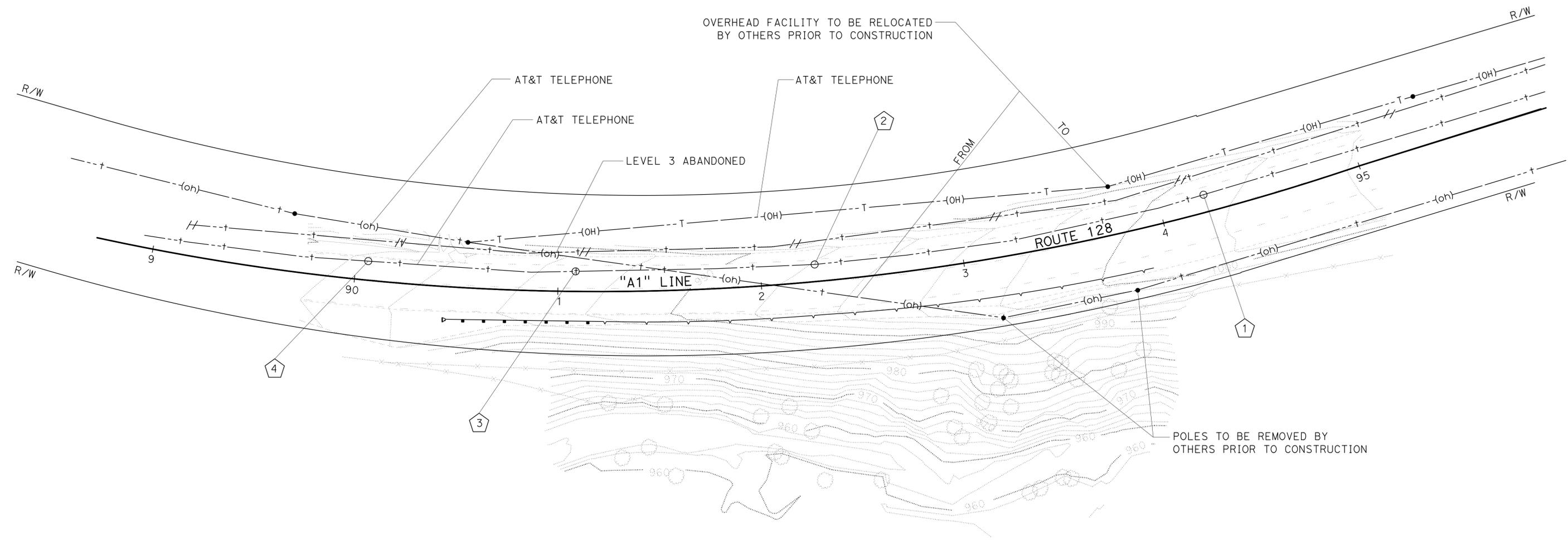


**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND:**  
 • POLES

UTILITY OWNERS:  
 TELEPHONE - AMERICAN TELEPHONE AND TELEGRAPH COMPANY (AT&T)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 03 - DESIGN  
 FUNCTIONAL SUPERVISOR: JALWAT P. AHMAD  
 CALCULATED/DESIGNED BY: JALWAT P. AHMAD  
 CHECKED BY: SUMAN SUDINI  
 REVISED BY: JALWAT P. AHMAD  
 DATE REVISED:



**POSITIVE LOCATION INFORMATION**

No.	LOCATION	DEPTH	METHOD	UTILITY
1	6.8' L+ "A1" 94+17.9	4.75'	ELECTRONIC DETECTION	TELEPHONE
2	6.7' L+ "A1" 92+21.5	5.00'	ELECTRONIC DETECTION	TELEPHONE
3	7.8' L+ "A1" 91+06.9	5.08'	ELECTRONIC DETECTION	TELEPHONE
4	7.4' L+ "A1" 90+04.7	5.16'	ELECTRONIC DETECTION	TELEPHONE

THIS PLAN TO BE USED FOR UTILITY INFORMATION ONLY

**UTILITY PLAN**  
 SCALE: 1"=20'  
**U-1**

LAST REVISION: DATE PLOTTED => 18-MAY-2016  
 03-09-16 TIME PLOTTED => 13:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	8	50

*Sheri M. Rodriguez* 5-9-16  
 REGISTERED CIVIL ENGINEER DATE

5-9-16  
 PLANS APPROVAL DATE

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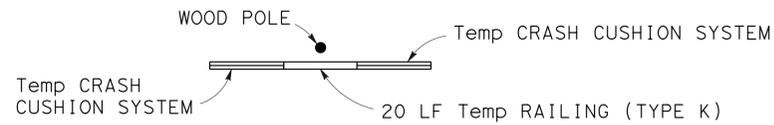
REGISTERED PROFESSIONAL ENGINEER  
 SHERI M. RODRIGUEZ  
 No. C66861  
 Exp 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

**NOTES:**

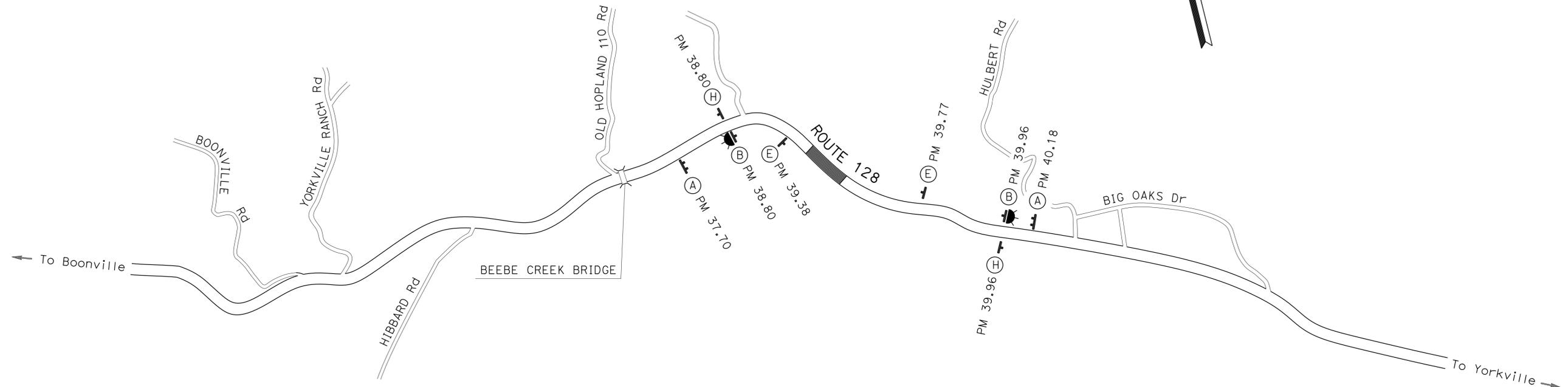
1. EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
2. SEE SHEET TH-1 FOR PLACEMENT OF SIGNS C, D & F.
3. SIGN B FEBT AND SIGN D FWBT WILL REQUIRE WOOD POLE PROTECTION.

**LEGEND:**

- (X) CONSTRUCTION AREA SIGN
- ↓ SIGN - SINGLE POST
- ⇄ SIGN - DOUBLE POST
- ⚡ FLASHING BEACON



**WOOD POLE PROTECTION DETAIL**



**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

○	TYPE	SIGN MESSAGE	PANEL SIZE	No. OF POSTS AND SIZE	No. OF SIGNS
A	C40(CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONE	108" x 42"	2 - 6" x 6"	2
B	W20-1	ROAD WORK AHEAD	36" x 36"	*	2
C	W20-4	ONE LANE ROAD AHEAD	36" x 36"	*	2
D	W3-3	SIGNAL AHEAD SYMBOL	36" x 36"	*	2
	C29(CA)	500 FT	20" x 7"		
E	R4-11	BIKES MAY USE FULL LANE	30" x 30"	1 - 4" x 6"	2
F	R10-6	STOP HERE ON RED	24" x 36"	1 - 4" x 6"	2
G	W1-4	REVERSE CURVE SIGN	36" x 36"	1 - 4" x 6"	1
E	G20-2	END ROAD WORK	36" x 18"	1 - 4" x 4"	2

\* PLACE SIGN ON POLE WITH FLASHING BEACON (SEE ELECTRICAL PLANS).

**CONSTRUCTION AREA SIGN**

NO SCALE

**CS-1**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	9	50

Sheri M. Rodriguez 5-9-16  
 REGISTERED CIVIL ENGINEER DATE  
 No. C66861  
 Exp 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

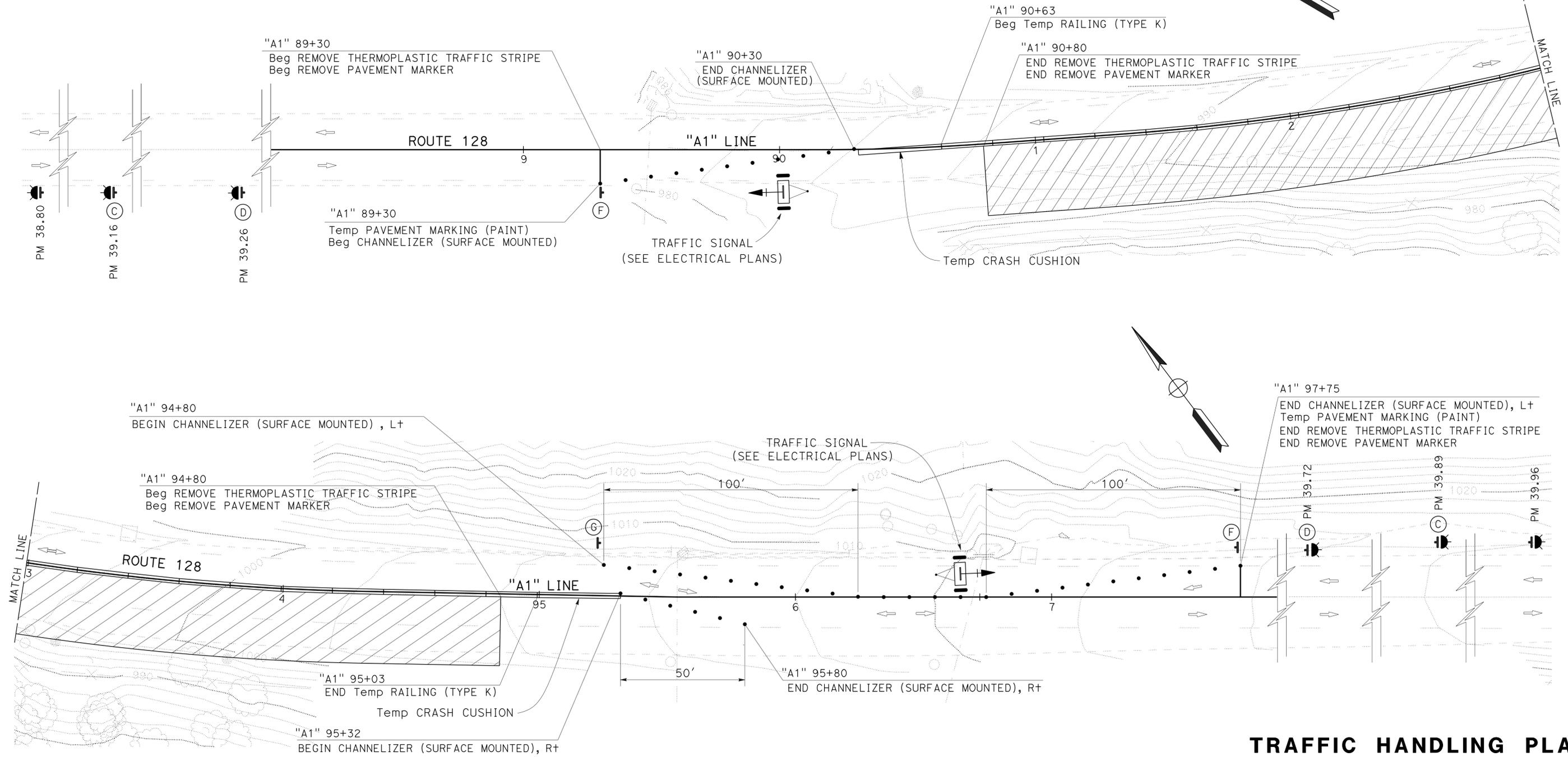
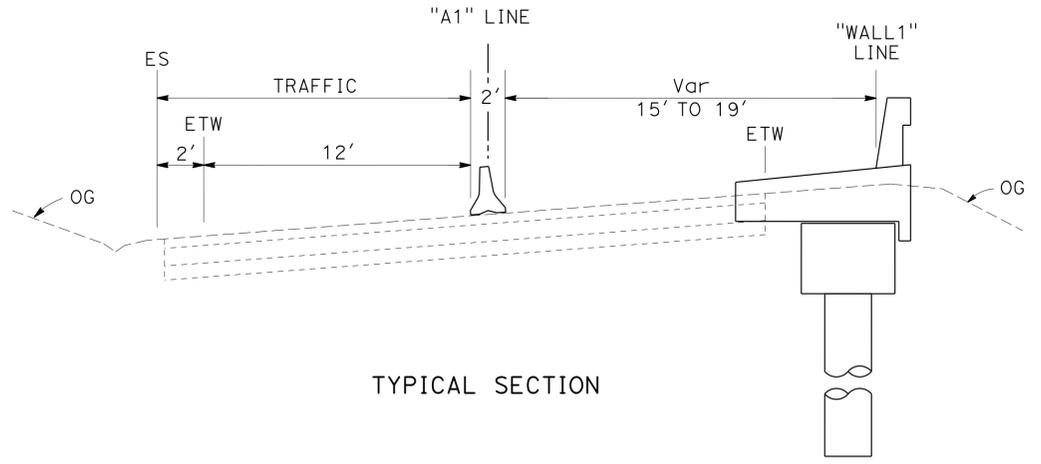
5-9-16  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.

**LEGEND**

- WORK AREA
- Temp RAILING (TYPE K)
- DIRECTION OF TRAFFIC
- STATIONARY MOUNTED CONSTRUCTION AREA SIGNS
- CONSTRUCTION AREA SIGN
- CHANNELIZER (SURFACE MOUNTED) S=10' C-C



**TRAFFIC HANDLING PLAN**  
TH-1

SCALE: 1"=20'

APPROVED FOR TRAFFIC HANDLING WORK ONLY

P:\proj\15\01\05520\draw\fig\01120001\35md001.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 FUNCTIONAL SUPERVISOR  
 KEVIN CHURCH  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 SHERI M. RODRIGUEZ  
 PAUL W. HAILEY  
 REVISED BY  
 DATE REVISED





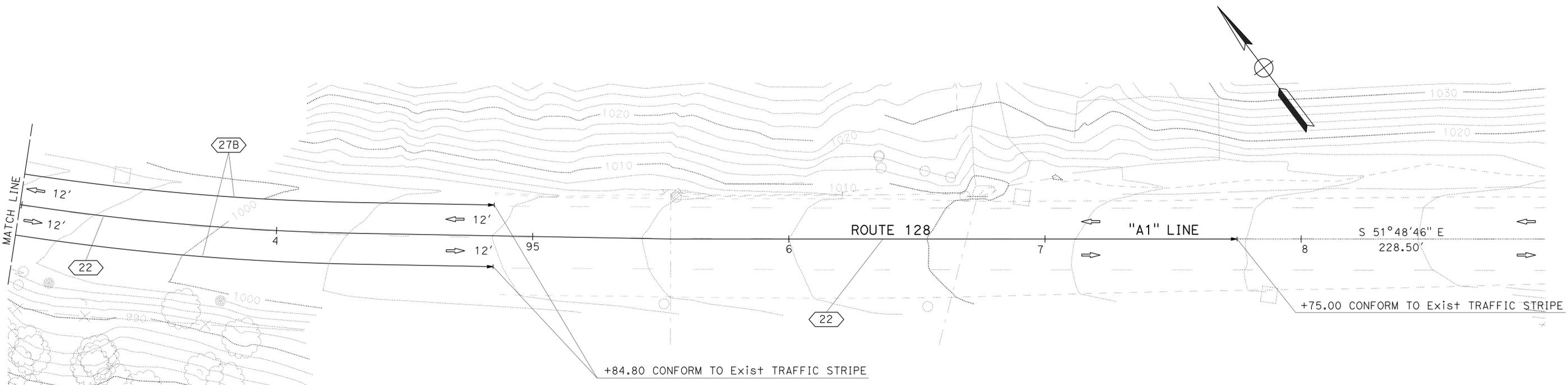
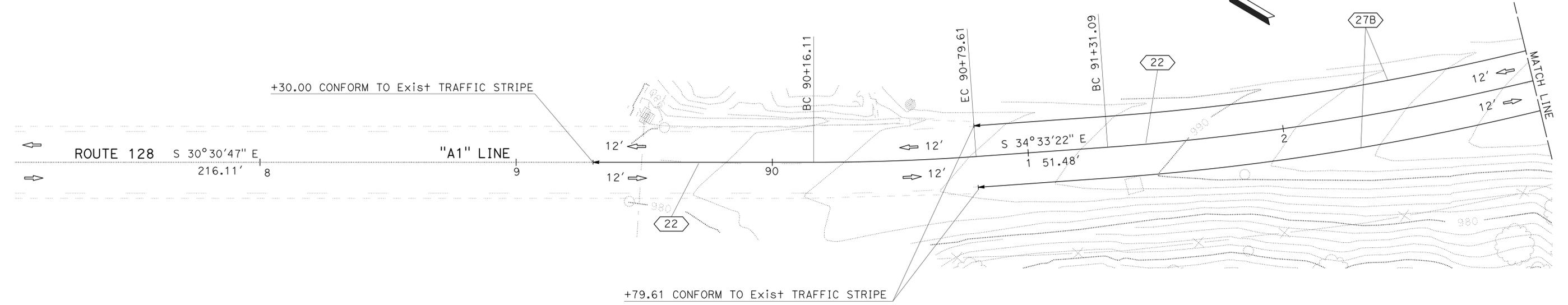
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 03 - DESIGN  
 FUNCTIONAL SUPERVISOR: NESAR FORMOLI  
 HUAN CUNG  
 DESIGNED BY: NESAR FORMOLI  
 CHECKED BY:  
 REVISIONS:  
 REVISED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 REVISIONS:  
 REVISED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

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

**LEGEND:**  
 ← BEGIN/END OF TRAFFIC STRIPE DETAIL  
 (No.) TRAFFIC STRIPE DETAIL NUMBER  
 → DIRECTION OF TRAFFIC

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Men	128	39.5	12	50

REGISTERED CIVIL ENGINEER: *Huan M. Cung* DATE: 5-9-16  
 PLANS APPROVAL DATE: 5-9-16  
 REGISTERED PROFESSIONAL ENGINEER: HUAN M. CUNG No. C74406 Exp. 9-30-17 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.



APPROVED FOR PAVEMENT DELINEATION ONLY

**PAVEMENT DELINEATION PLAN**  
 SCALE: 1"=20'  
**PD-1**

LAST REVISION: DATE PLOTTED => 18-MAY-2016 TIME PLOTTED => 11:16



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	14	50

*Laura Lazzarotto*  
 LICENSED LANDSCAPE ARCHITECT

5-9-16  
 PLANS APPROVAL DATE

8-31-17  
 Renewal Date

5-9-16  
 Date

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

**NOTES:**

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

**LEGEND:**

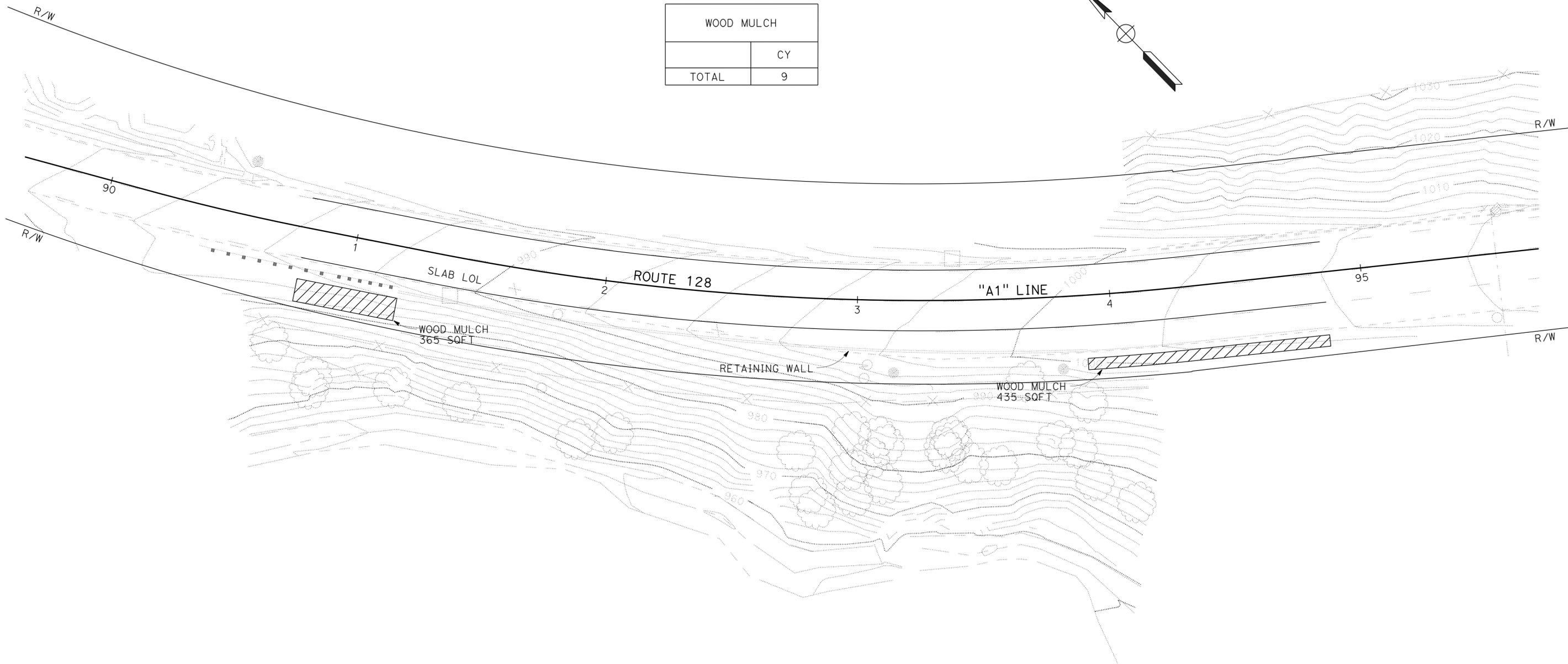
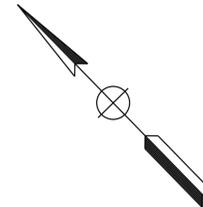


**EROSION CONTROL**

ITEM	MATERIAL		APPLICATION RATE
	DESCRIPTION	TYPE	
WOOD MULCH	SHREDDED REDWOOD BARK	—	540 CY/ACRE

**EROSION CONTROL QUANTITIES**

WOOD MULCH	
	CY
TOTAL	9



**EROSION CONTROL PLAN**

SCALE: 1"=50'

**EC-1**

APPROVED FOR EROSION CONTROL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** LANDSCAPE ARCHITECTURE

FUNCTIONAL SENIOR: TIM BOESE  
 CHECKED BY: TIM BOESE  
 DESIGNED BY: LAURA LAZZAROTTO  
 REVISOR: TIM BOESE  
 DATE: 5-9-16

LAST REVISION: DATE PLOTTED => 18-MAY-2016  
 02-01-14 TIME PLOTTED => 11:16

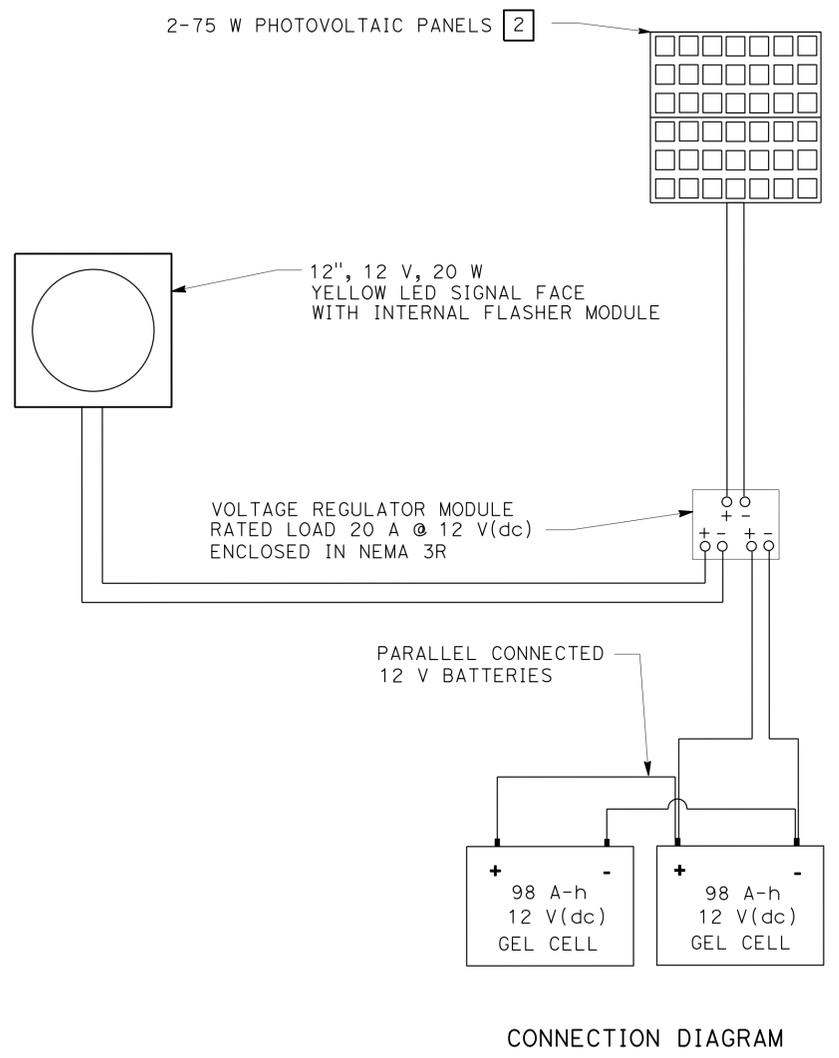
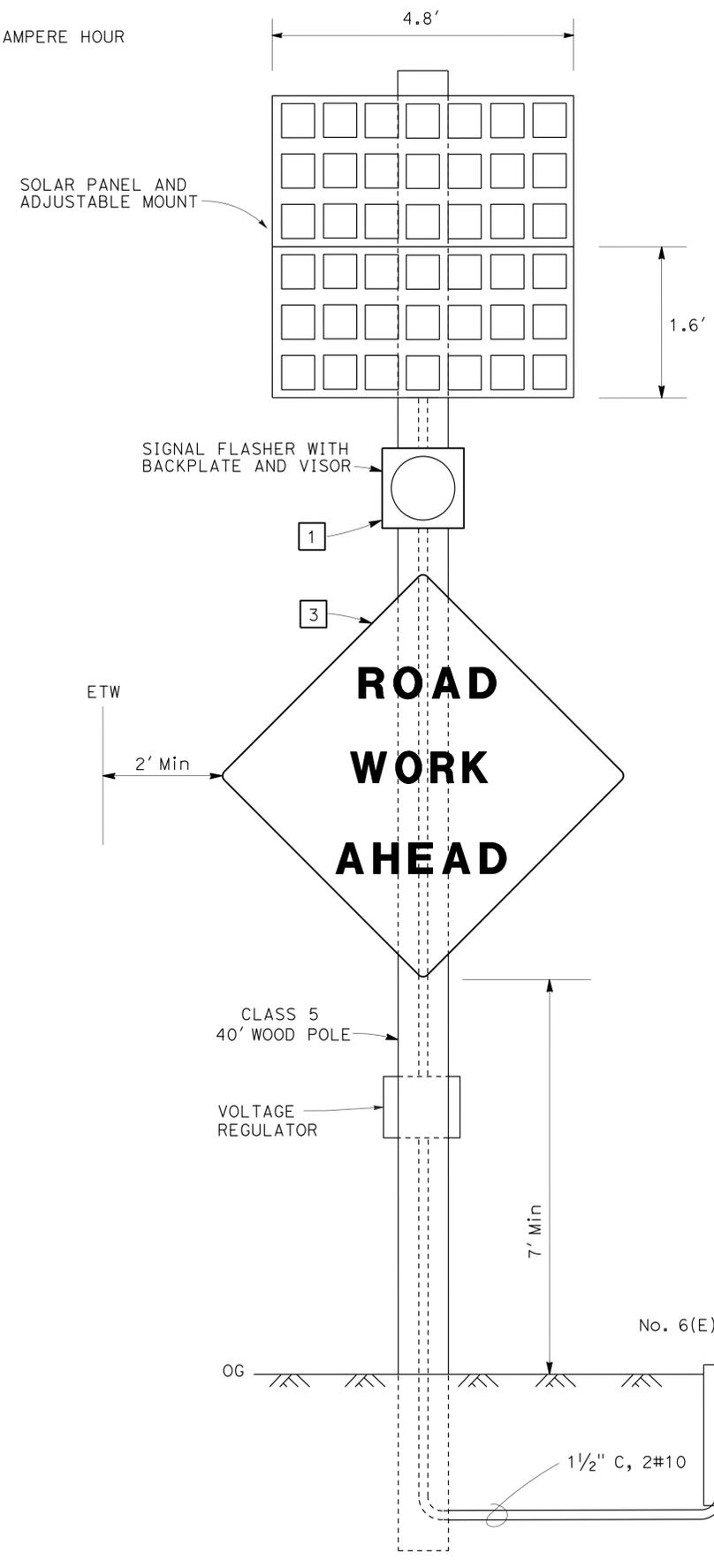


**LEGEND:**

A-h = AMPERE HOUR

**NOTES: (THIS SHEET ONLY)**

- 1 A HOOD SHALL BE INSTALLED ON EACH FLASHER HEAD TO SHIELD THE LENS FROM DIRECT EXPOSURE OF THE SOLAR RADIATION.
- 2 THIS UNIT SHALL BE LOCATED IN AN UNSHADED AREA. WOOD POLE WITH PHOTOVOLTAIC PANELS SHALL BE LOCATED OUTSIDE THE CLEAR RECOVERY ZONE OR PROTECTED IN PLACE.
- 3 SEE TRAFFIC HANDLING SHEET FOR SIGNS (B), (C), & (D).



**TEMPORARY PORTABLE SIGNAL SYSTEM**

SHEET NUMBER	WOOD POLE	2" CONDUIT TYPE 3	PORTABLE LIGHT TOWER	#5 PULL BOX	#6(E) PULL BOX	PORTABLE TEMPORARY SIGNAL TRAILER	#10 CONDUCTORS
	EA	LF	EA	EA	EA	EA	LF
E-1	6	120	2	0	6	2	500

**NOTE:** THE QUANTITIES IN THIS TABLE ARE NOT SEPARATE PAY ITEMS AND ARE FOR INFORMATION ONLY.

FLASHING BEACON (SOLAR POWERED)

CONNECTION DIAGRAM

**ELECTRICAL DETAILS AND QUANTITIES**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

NO SCALE

**E-2**

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	17	50

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 5-9-16

**UNIT OF MEASUREMENT SYMBOLS:**  
Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

**TABLE A**

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

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

**TABLE B**

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

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP A10B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	18	50

  
 CERTIFIED ENGINEERING GEOLOGIST  
 October 30, 2015  
 PLANS APPROVAL DATE  
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REGISTERED GEOLOGIST  
 CHRIS A. RISDEN  
 CERTIFIED ENGINEERING GEOLOGIST  
 No. 2541  
 Exp. 9-30-17  
 STATE OF CALIFORNIA

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.

**ABBREVIATION:**

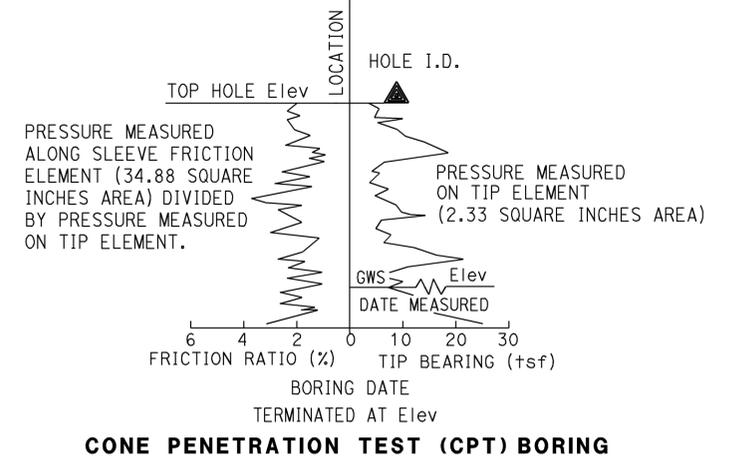
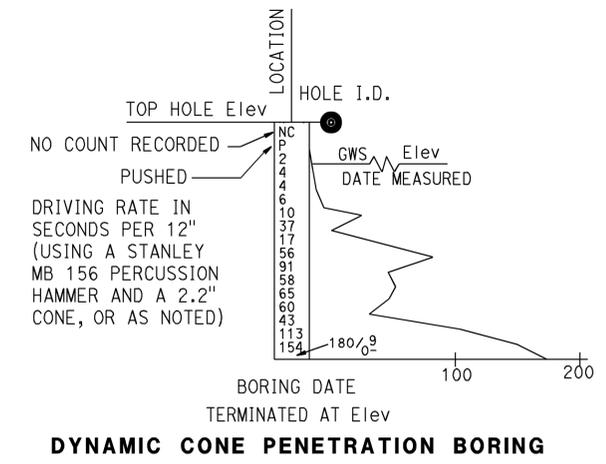
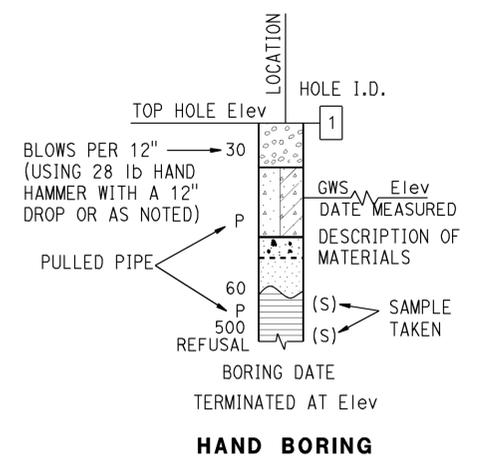
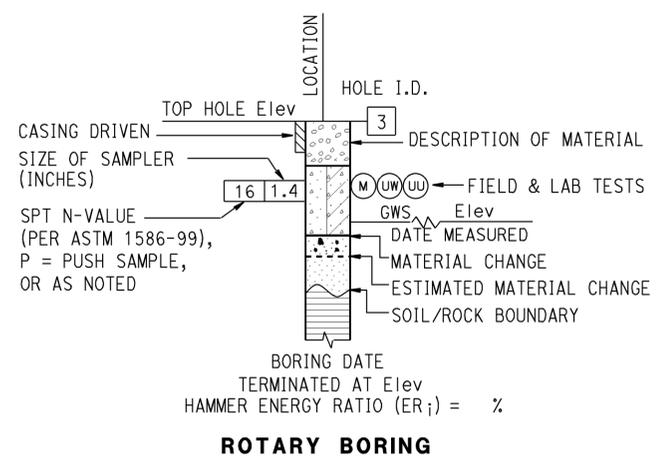
GWS = Ground Water Surface

TO ACCOMPANY PLANS DATED 5-9-16

BOREHOLE IDENTIFICATION		
SYMBOL	HOLE TYPE	DESCRIPTION
	A	AUGER BORING (HOLLOW OR SOLID STEM BUCKET)
	R	ROTARY DRILLED BORING (CONVENTIONAL)
	RW	ROTARY DRILLED WITH SELF-CASING WIRE-LINE
	RC	ROTARY CORE WITH CONTINUOUSLY-SAMPLED, SELF-CASING WIRE-LINE
	P	ROTARY PERCUSSION BORING (AIR)
	R	ROTARY DRILLED DIAMOND CORE
	RC	ROTARY DRILLED DIAMOND CORE, CONTINUOUSLY SAMPLED
	HD	HAND DRIVEN (1-INCH SOIL TUBE)
	HA	HAND AUGER
	D	DYNAMIC CONE PENETRATION BORING
	CPT	CONE PENETRATION TEST (ASTM D 5778)
	O	OTHER (NOTE ON LOTB)

Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS				
DESCRIPTION	SHEAR STRENGTH (tsf)	POCKET PENETROMETER MEASUREMENT, PP, (tsf)	TORVANE MEASUREMENT, TV, (tsf)	VANE SHEAR MEASUREMENT, VS, (tsf)
VERY SOFT	LESS THAN 0.12	LESS THAN 0.25	LESS THAN 0.12	LESS THAN 0.12
SOFT	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
MEDIUM STIFF	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
STIFF	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
VERY STIFF	1 - 2	2 - 4	1 - 2	1 - 2
HARD	GREATER THAN 2	GREATER THAN 4	GREATER THAN 2	GREATER THAN 2



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**LEGEND - SOIL**  
**(SHEET 1 OF 2)**  
 NO SCALE

2010 REVISED STANDARD PLAN RSP A10F

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	19	50

*Chris A. Risden*  
 CERTIFIED ENGINEERING GEOLOGIST

October 30, 2015  
 PLANS APPROVAL DATE

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

REGISTERED GEOLOGIST  
 CHRIS A. RISDEN  
 No. 2541  
 Exp. 9-30-17  
 STATE OF CALIFORNIA

GROUP SYMBOLS AND NAMES					
GRAPHIC/SYMBOL	GROUP NAMES	GRAPHIC/SYMBOL	GROUP NAMES	GRAPHIC/SYMBOL	GROUP NAMES
	GW WELL-GRADED GRAVEL WELL-GRADED GRAVEL WITH SAND		CL LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL SANDY LEAN CLAY SANDY LEAN CLAY WITH GRAVEL GRAVELLY LEAN CLAY GRAVELLY LEAN CLAY WITH SAND		CL-ML SILTY CLAY SILTY CLAY WITH SAND SILTY CLAY WITH GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY WITH GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY WITH SAND
	GP POORLY-GRADED GRAVEL POORLY-GRADED GRAVEL WITH SAND				
	GW-GM WELL-GRADED GRAVEL WITH SILT WELL-GRADED GRAVEL WITH SILT AND SAND		ML SILT SILT WITH SAND SILT WITH GRAVEL SANDY SILT SANDY SILT WITH GRAVEL GRAVELLY SILT GRAVELLY SILT WITH SAND		OL ORGANIC LEAN CLAY ORGANIC LEAN CLAY WITH SAND ORGANIC LEAN CLAY WITH GRAVEL SANDY ORGANIC LEAN CLAY SANDY ORGANIC LEAN CLAY WITH GRAVEL GRAVELLY ORGANIC LEAN CLAY GRAVELLY ORGANIC LEAN CLAY WITH SAND
	GW-GC WELL-GRADED GRAVEL WITH CLAY (OR SILTY CLAY) WELL-GRADED GRAVEL WITH CLAY AND SAND (OR SILTY CLAY AND SAND)				
	GP-GM POORLY-GRADED GRAVEL WITH SILT POORLY-GRADED GRAVEL WITH SILT AND SAND		OL ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT WITH GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT WITH SAND		OH ORGANIC FAT CLAY ORGANIC FAT CLAY WITH SAND ORGANIC FAT CLAY WITH GRAVEL SANDY ORGANIC FAT CLAY SANDY ORGANIC FAT CLAY WITH GRAVEL GRAVELLY ORGANIC FAT CLAY GRAVELLY ORGANIC FAT CLAY WITH SAND
	GP-GC POORLY-GRADED GRAVEL WITH CLAY (OR SILTY CLAY) POORLY-GRADED GRAVEL WITH CLAY AND SAND (OR SILTY CLAY AND SAND)				
	GM SILTY GRAVEL SILTY GRAVEL WITH SAND		CH FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL SANDY FAT CLAY SANDY FAT CLAY WITH GRAVEL GRAVELLY FAT CLAY GRAVELLY FAT CLAY WITH SAND		MH ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL SANDY ELASTIC SILT SANDY ELASTIC SILT WITH GRAVEL GRAVELLY ELASTIC SILT GRAVELLY ELASTIC SILT WITH SAND
	GC CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND				
	GC-GM SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL WITH SAND		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND		PT PEAT
	SW WELL-GRADED SAND WELL-GRADED SAND WITH GRAVEL				
	SP POORLY-GRADED SAND POORLY-GRADED SAND WITH GRAVEL		OH ORGANIC SOIL ORGANIC SOIL WITH SAND ORGANIC SOIL WITH GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL WITH GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL WITH SAND		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND
	SW-SM WELL-GRADED SAND WITH SILT WELL-GRADED SAND WITH SILT AND GRAVEL				
	SW-SC WELL-GRADED SAND WITH CLAY (OR SILTY CLAY) WELL-GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND
	SP-SM POORLY-GRADED SAND WITH SILT POORLY-GRADED SAND WITH SILT AND GRAVEL				
	SP-SC POORLY-GRADED SAND WITH CLAY (OR SILTY CLAY) POORLY-GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND
	SM SILTY SAND SILTY SAND WITH GRAVEL				
	SC CLAYEY SAND CLAYEY SAND WITH GRAVEL		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND
	SC-SM SILTY, CLAYEY SAND SILTY, CLAYEY SAND WITH GRAVEL				
	PT PEAT		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND		OH ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND
	COBBLES COBBLES AND BOULDERS BOULDERS				

FIELD AND LABORATORY TESTING	
(C)	CONSOLIDATION (ASTM D2435)
(CL)	COLLAPSE POTENTIAL (ASTM D4546)
(CP)	COMPACTION CURVE (CTM 216)
(CR)	CORROSIIVITY TESTING (CTM 643, CTM 422, CTM 417)
(CU)	CONSOLIDATED UNDRAINED TRIAXIAL (ASTM D4767)
(DS)	DIRECT SHEAR (ASTM D3080)
(EI)	EXPANSION INDEX (ASTM D4829)
(M)	MOISTURE CONTENT (ASTM D2216)
(OC)	ORGANIC CONTENT-% (ASTM D2974)
(P)	PERMEABILITY (CTM 220)
(PA)	PARTICLE SIZE ANALYSIS (ASTM D422)
(PI)	PLASTICITY INDEX (AASHTO T 90) LIQUID LIMIT (AASHTO T 89)
(PL)	POINT LOAD INDEX (ASTM D5731)
(PM)	PRESSURE METER
(R)	R-VALUE (CTM 301)
(SE)	SAND EQUIVALENT (CTM 217)
(SG)	SPECIFIC GRAVITY (AASHTO T 100)
(SL)	SHRINKAGE LIMIT (ASTM D4943)
(SW)	SWELL POTENTIAL (ASTM D4546)
(UC)	UNCONFINED COMPRESSION-SOIL (ASTM D2166) UNCONFINED COMPRESSION-ROCK (ASTM D7012 - METHOD C)
(UU)	UNCONSOLIDATED UNDRAINED TRIAXIAL (ASTM D2850)
(UW)	UNIT WEIGHT (ASTM D7263 - METHOD B)

TO ACCOMPANY PLANS DATED 5-9-16

APPARENT DENSITY OF COHESIONLESS SOILS	
DESCRIPTION	SPT N <sub>60</sub> (BLOWS / 12 INCHES)
VERY LOOSE	0 - 5
LOOSE	5 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	GREATER THAN 50

MOISTURE	
DESCRIPTION	CRITERIA
DRY	NO DISCERNABLE MOISTURE
MOIST	MOISTURE PRESENT, BUT NO FREE WATER
WET	VISIBLE FREE WATER

PERCENT OR PROPORTION OF SOILS	
DESCRIPTION	CRITERIA
TRACE	PARTICLES ARE PRESENT BUT ESTIMATED TO BE LESS THAN 5%
FEW	5% - 10%
LITTLE	15% - 25%
SOME	30% - 45%
MOSTLY	50% - 100%

PARTICLE SIZE		
DESCRIPTION	SIZE	
BOULDER	GREATER THAN 12"	
COBBLE	3" - 12"	
GRAVEL	COARSE	3/4" - 3"
	FINE	1/5" - 3/4"
SAND	COARSE	1/16" - 1/5"
	MEDIUM	1/64" - 1/16"
	FINE	1/300" - 1/64"
SILT AND CLAY	LESS THAN 1/300"	

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**LEGEND - SOIL**  
**(SHEET 2 OF 2)**  
 NO SCALE

RSP A10G DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A10G DATED MAY 20, 2011 - PAGE 7 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A10G**

2010 REVISED STANDARD PLAN RSP A10G

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	20	50

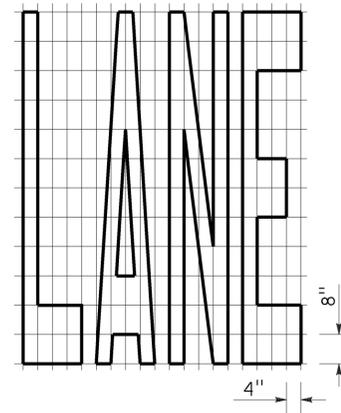
*Roberta L. McLaughlin*  
 REGISTERED CIVIL ENGINEER

July 20, 2012  
 PLANS APPROVAL DATE

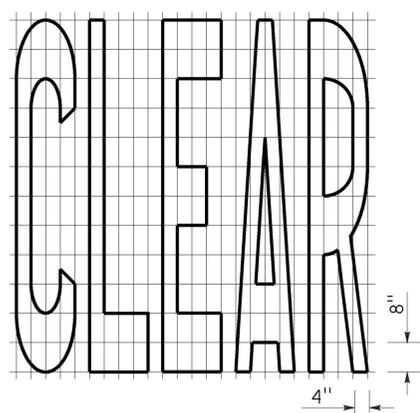
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Roberta L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA

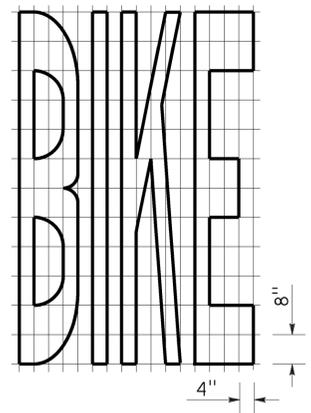
TO ACCOMPANY PLANS DATED 5-9-16



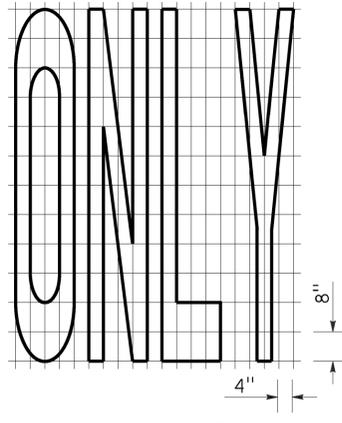
A=24 ft<sup>2</sup>



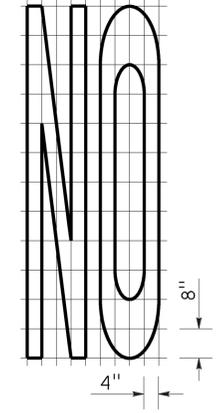
A=27 ft<sup>2</sup>



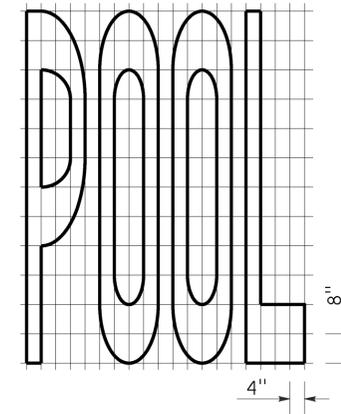
A=21 ft<sup>2</sup>



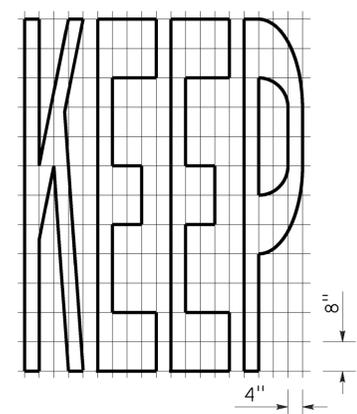
A=22 ft<sup>2</sup>



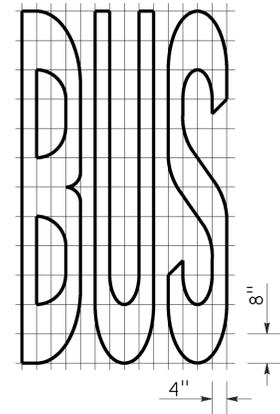
A=14 ft<sup>2</sup>



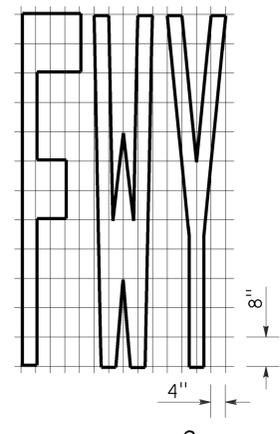
A=23 ft<sup>2</sup>



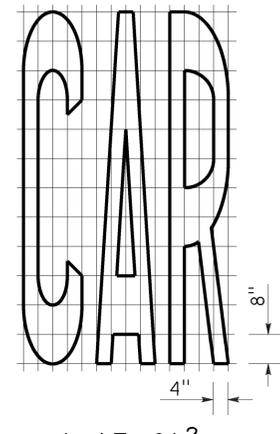
A=24 ft<sup>2</sup>



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



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

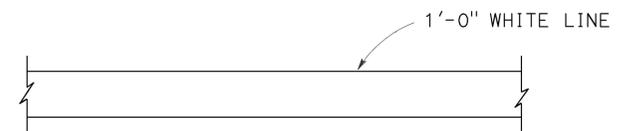
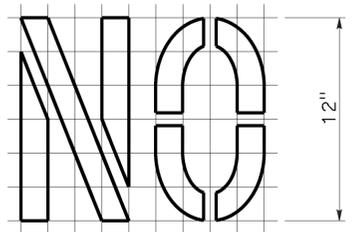


A=17 ft<sup>2</sup>

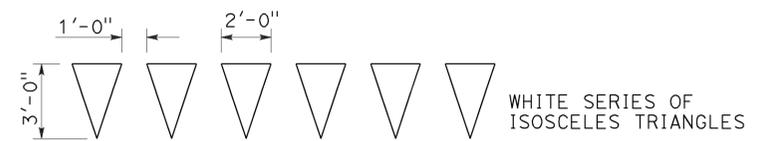
WORD MARKINGS			
ITEM	ft <sup>2</sup>	ITEM	ft <sup>2</sup>
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16

**NOTES:**

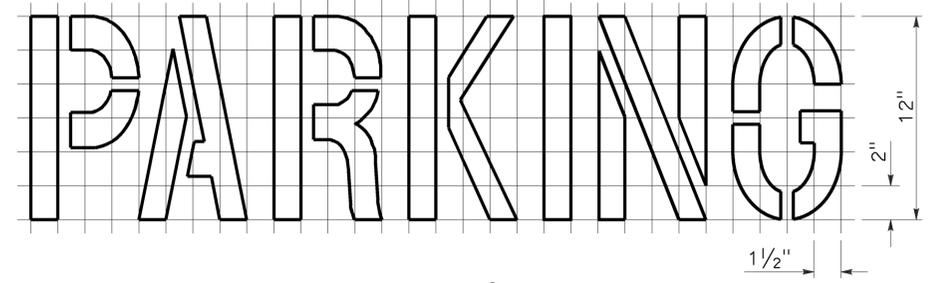
1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be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



LIMIT LINE (STOP LINE)



YIELD LINE



A=2 ft<sup>2</sup>  
See Notes 6 and 7

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

2010 REVISED STANDARD PLAN RSP A24E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	21	50

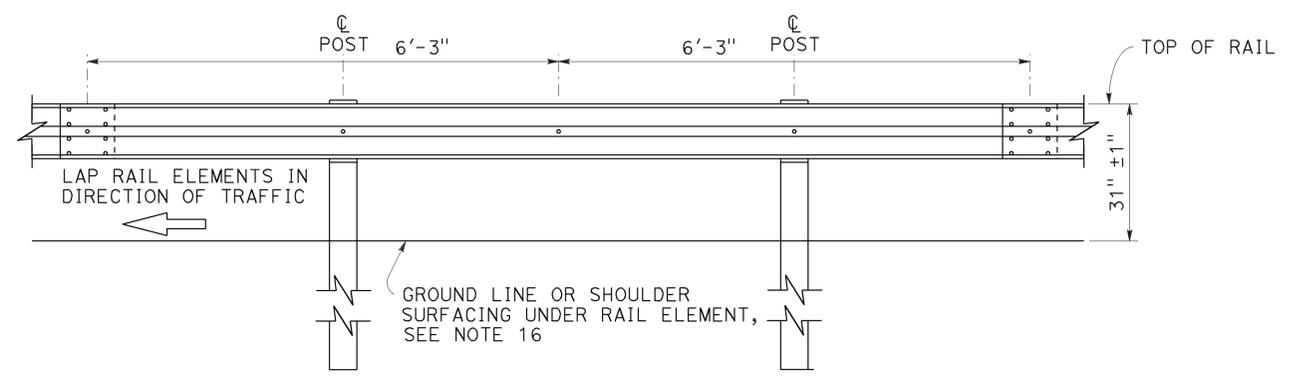
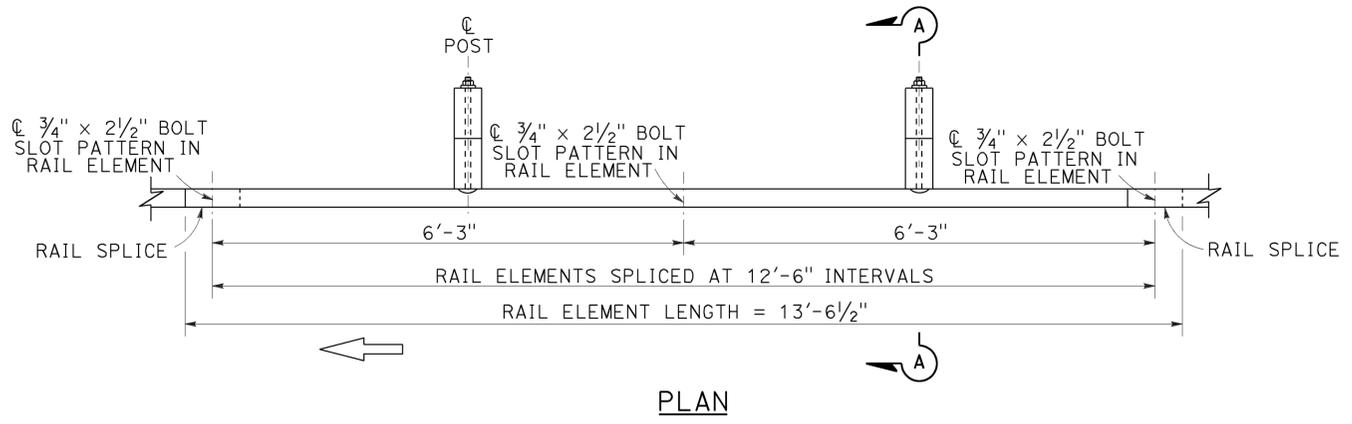
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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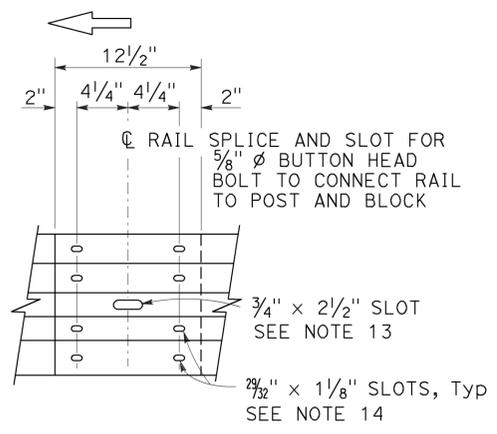
NO. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 5-9-16



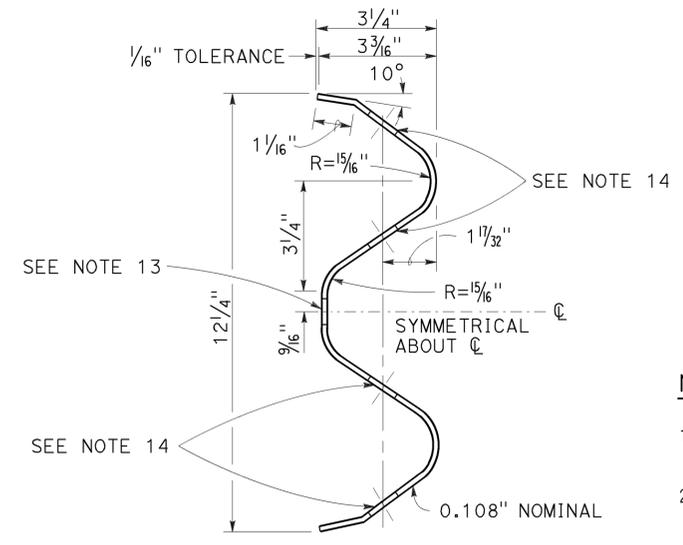
ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

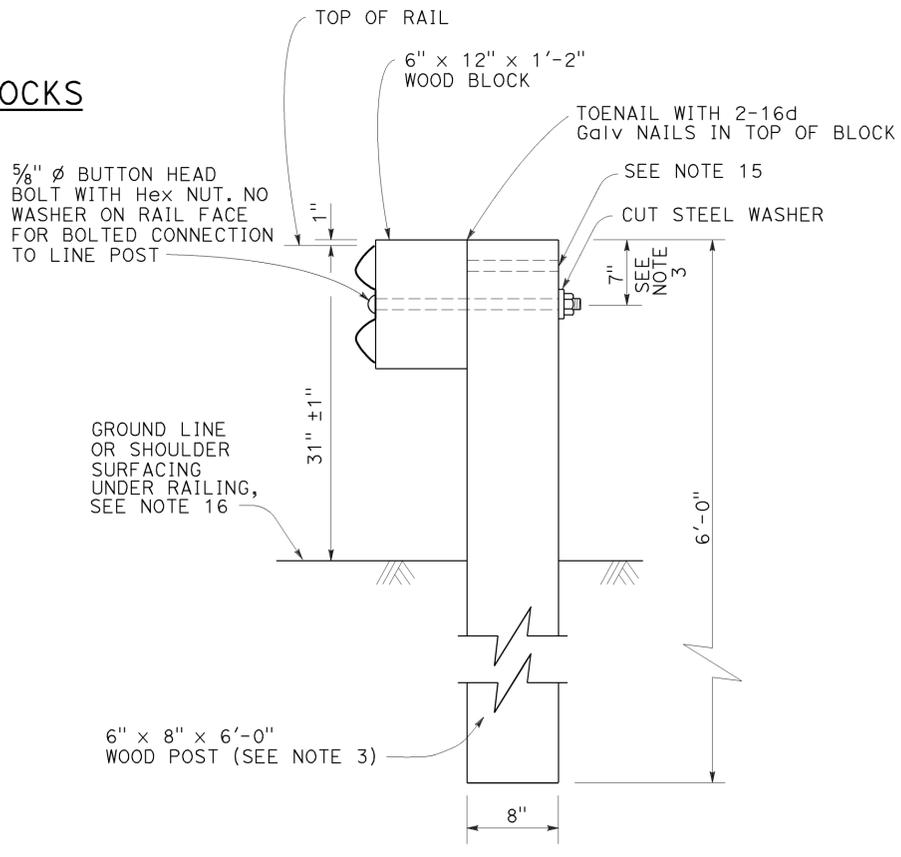


ELEVATION  
RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with  $\frac{5}{8}$ "  $\phi$  x  $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the  $\frac{7}{32}$ " x  $\frac{1}{8}$ " slots and bolted together with  $\frac{5}{8}$ "  $\phi$  recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A  
TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MSG connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

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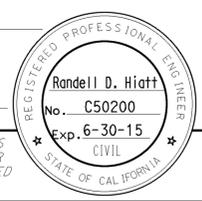
MIDWEST GUARDRAIL SYSTEM  
STANDARD RAILING SECTION  
(WOOD POST WITH WOOD BLOCK)

NO SCALE

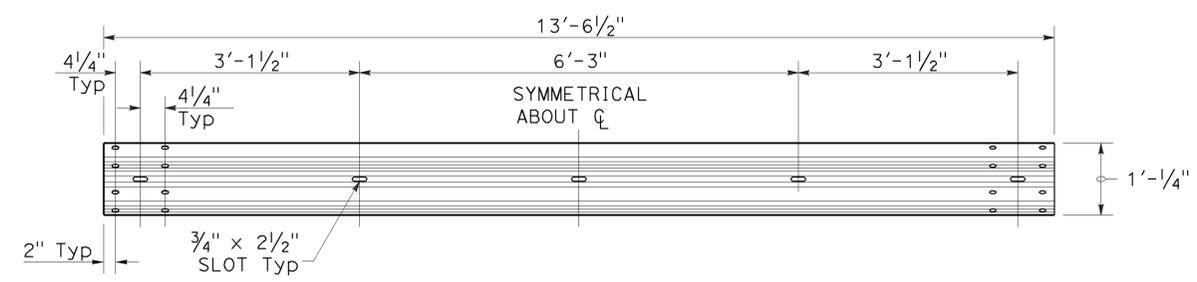
RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1



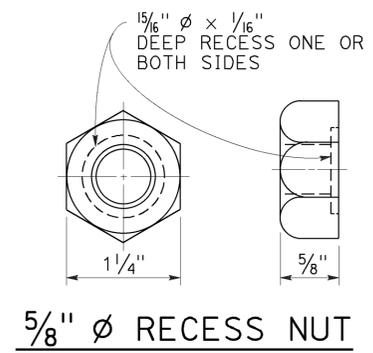
TO ACCOMPANY PLANS DATED 5-9-16



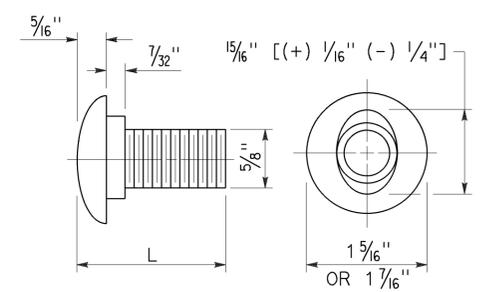
**TYPICAL RAIL ELEMENT**

**NOTE:**

1. Slotted holes for splice bolts to overlap ends of rail element.



**5/8" Ø RECESS NUT**

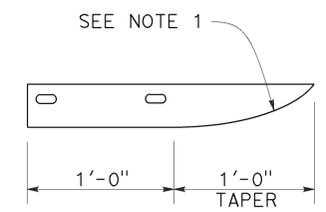


**5/8" Ø BUTTON HEAD BOLT**

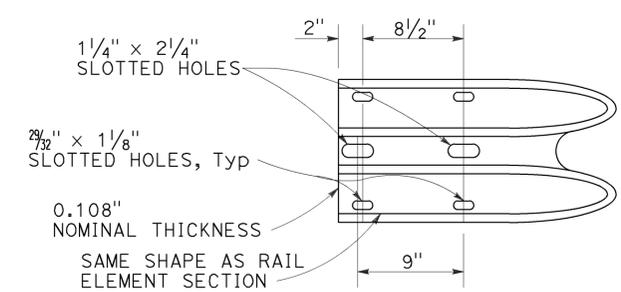
**BUTTON HEAD BOLT**

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

\*\* For nested rail applications.



**PLAN**



**ELEVATION  
END CAP  
(TYPE A)**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77M1**

2010 REVISED STANDARD PLAN RSP A77M1

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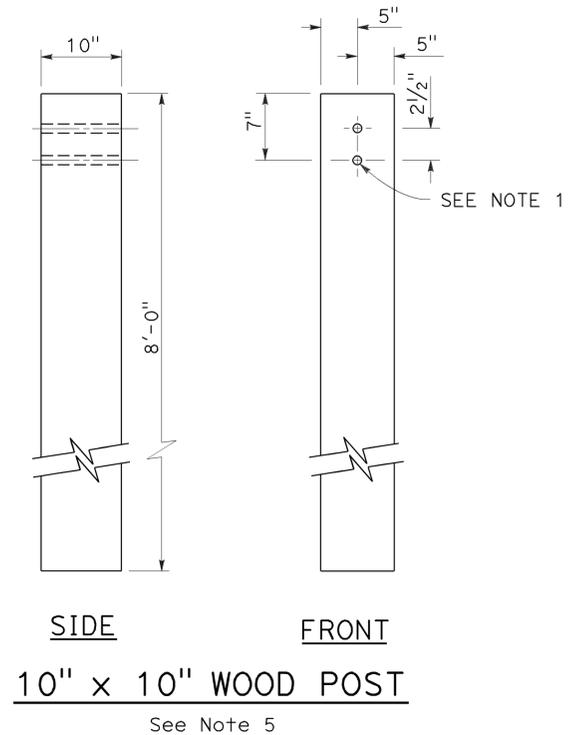
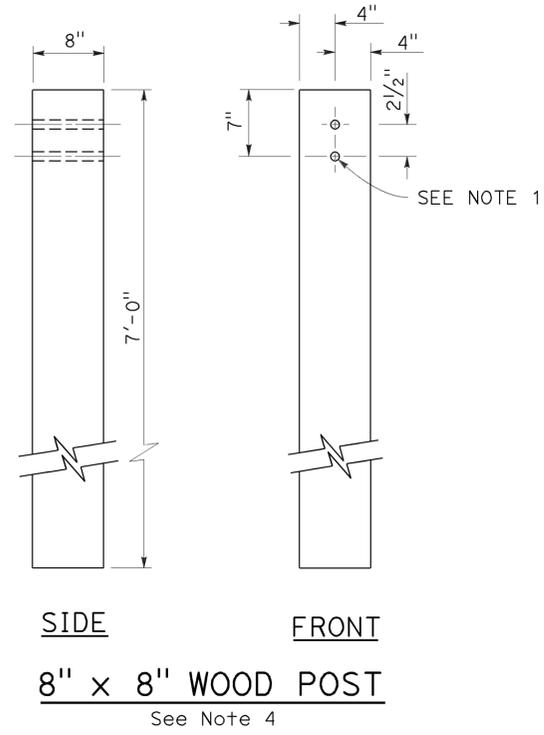
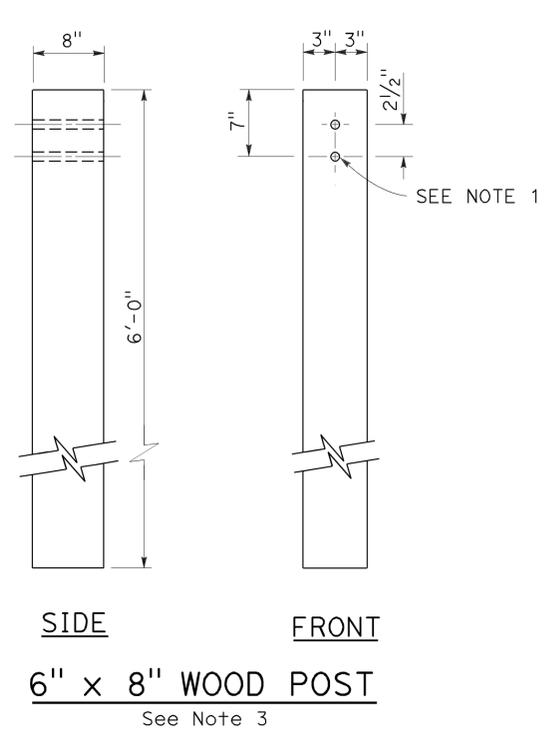
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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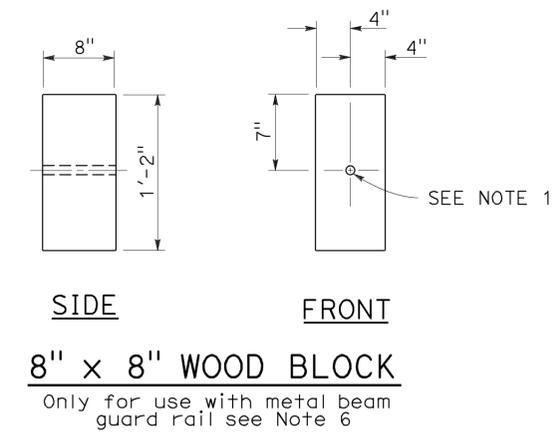
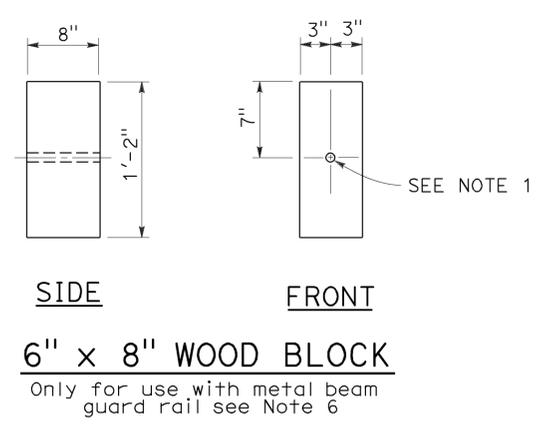
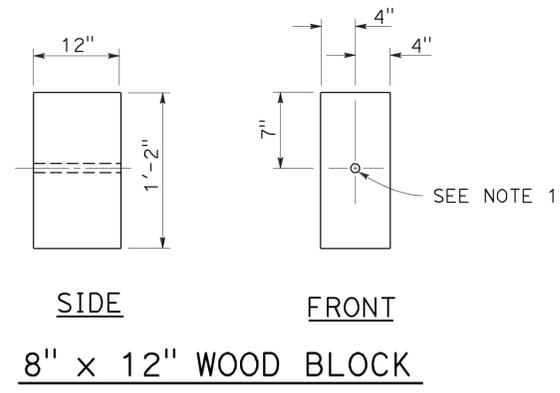
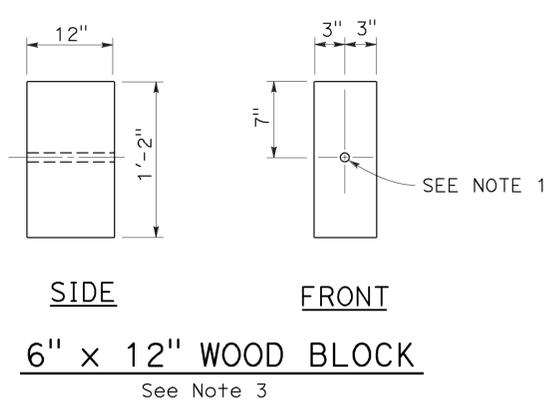
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 5-9-16



**NOTES:**

1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
WOOD POST AND  
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77N1**

2010 REVISED STANDARD PLAN RSP A77N1

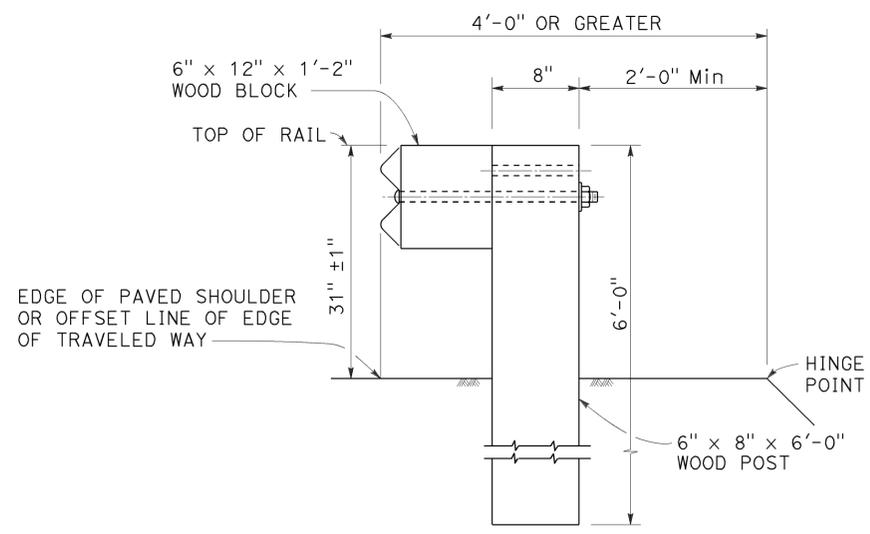
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	24	50

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

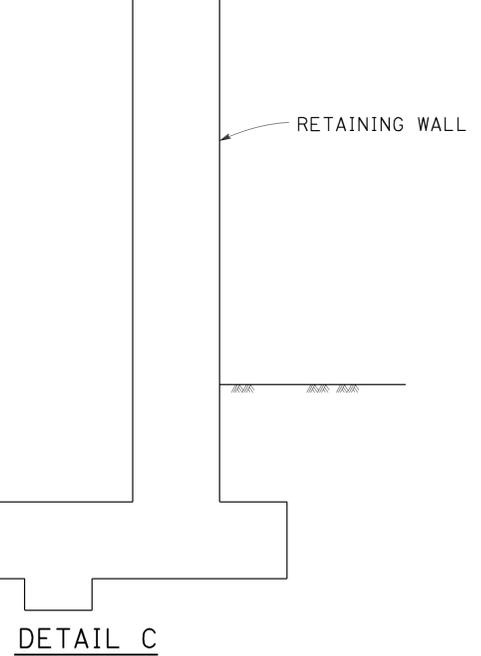
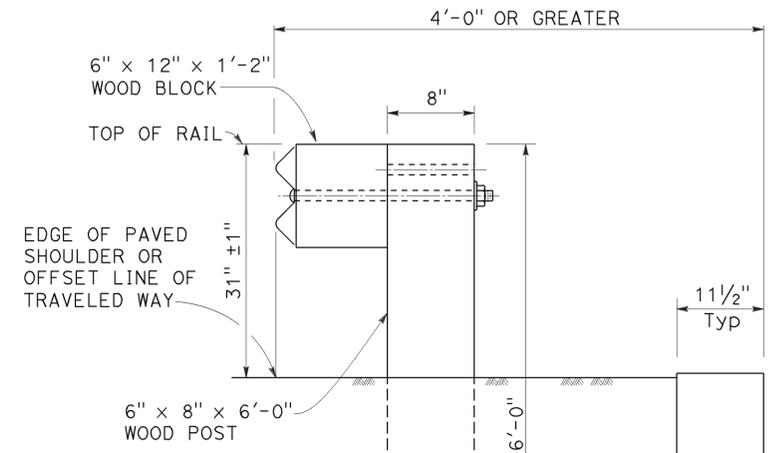
November 15, 2013  
PLANS APPROVAL DATE

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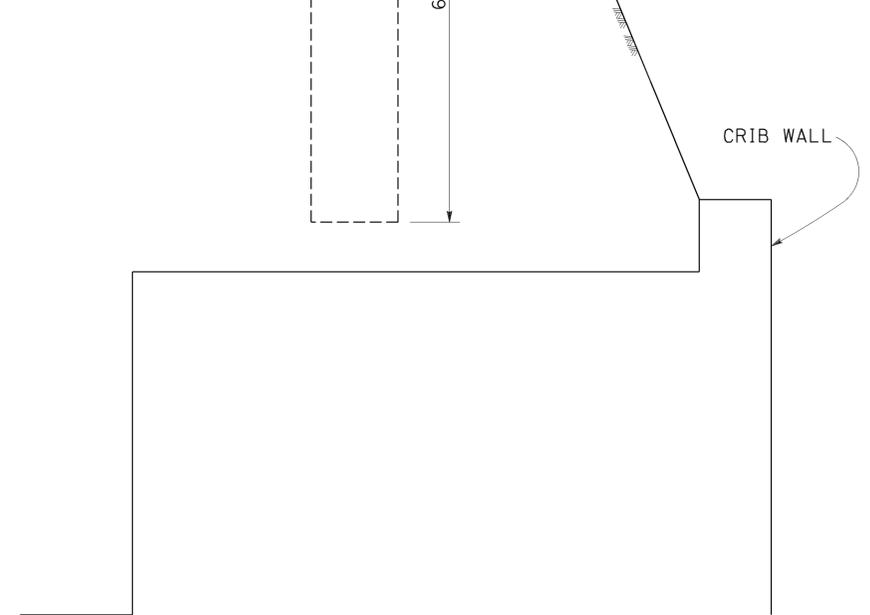
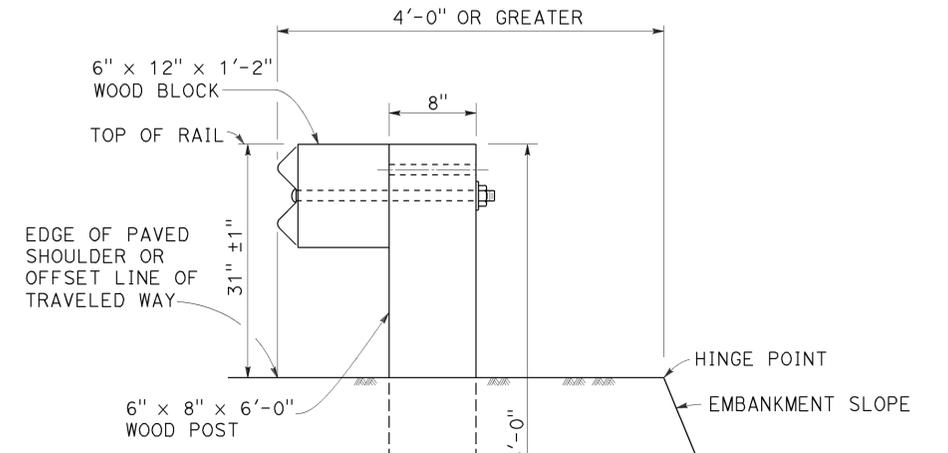
TO ACCOMPANY PLANS DATED 5-9-16



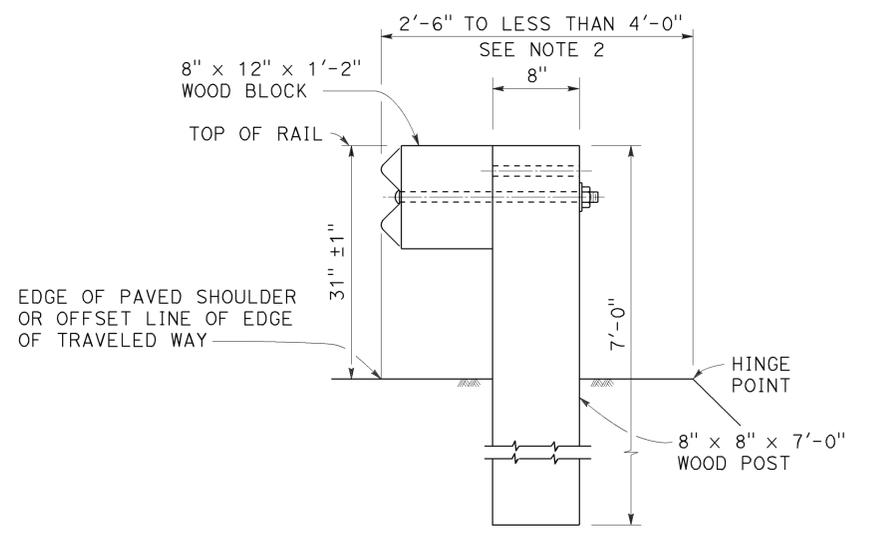
**DETAIL A**  
**TYPICAL ROADWAY**  
**INSTALLATION**  
See Note 1



**DETAIL C**



**DETAIL D**



**DETAIL B**  
**NARROW ROADWAY**  
**INSTALLATION**  
See Note 1

**POST EMBEDMENT**

**INSTALLATION AT EARTH RETAINING WALLS**

**NOTES:**

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM**  
**TYPICAL LINE POST**  
**EMBEDMENT AND**  
**HINGE POINT OFFSET DETAILS**

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3  
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77N3**

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	25	50

Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

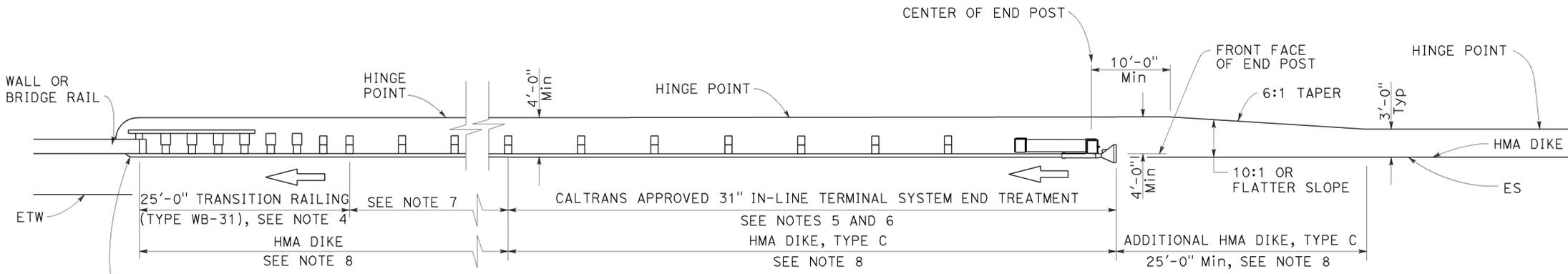
August 14, 2015  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 5-9-16

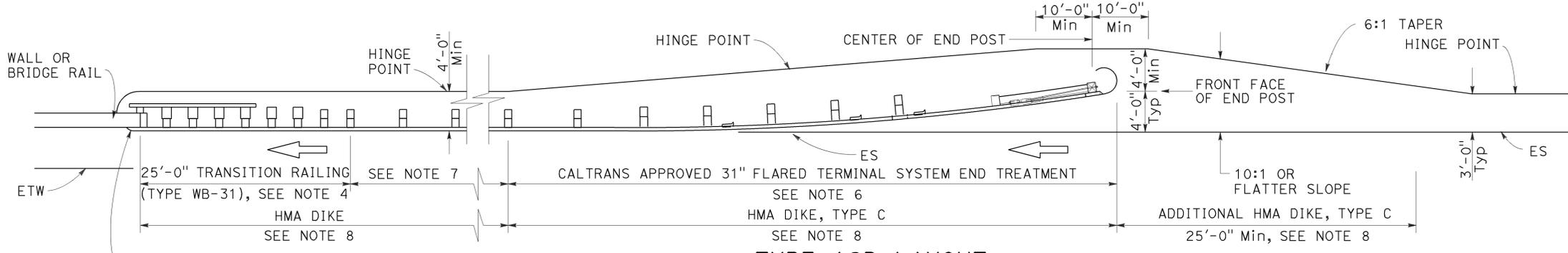


2010 REVISED STANDARD PLAN RSP A77Q1



**TYPE 12A LAYOUT**

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)  
See Note 9



**TYPE 12B LAYOUT**

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)  
See Note 9

**NOTES:**

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" 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. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 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 A77Q3 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 A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
TYPICAL LAYOUTS FOR  
STRUCTURE APPROACH**

NO SCALE

RSP A77Q1 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

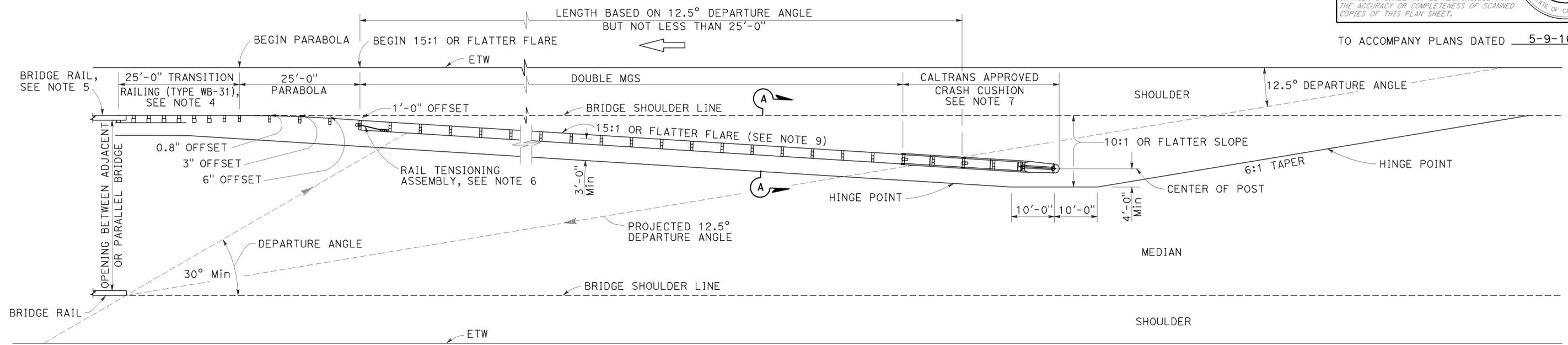
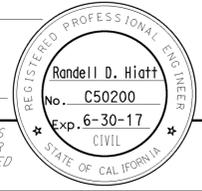
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	26	50

Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

August 14, 2015  
PLANS APPROVAL DATE

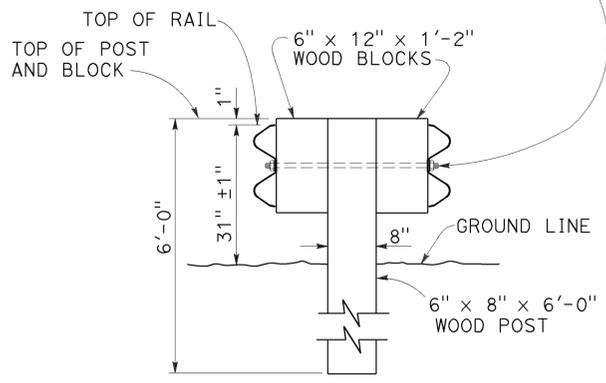
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TO ACCOMPANY PLANS DATED 5-9-16

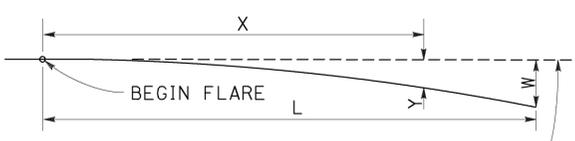


**TYPE 12E LAYOUT**  
See Note 9

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 MIDWEST GUARDRAIL SYSTEM**

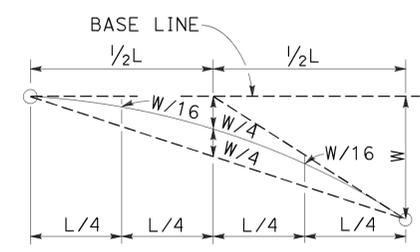


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

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

Y = OFFSET FROM BASE LINE  
W = MAXIMUM OFFSET  
X = DISTANCE ALONG BASE LINE  
L = LENGTH OF FLARE

**PARABOLIC FLARE OFFSETS**



**TYPICAL PARABOLIC LAYOUT**

**NOTES:**

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" 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 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details, see Revised Standard Plan RSP A77U4.
- For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77U1.
- For Rail Tensioning Assembly details, see Revised Standard Plan RSP A77S2.
- 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  
**MIDWEST GUARDRAIL SYSTEM**  
**TYPICAL LAYOUTS FOR**  
**STRUCTURE APPROACH**

NO SCALE

RSP A77Q3 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q3 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77Q3

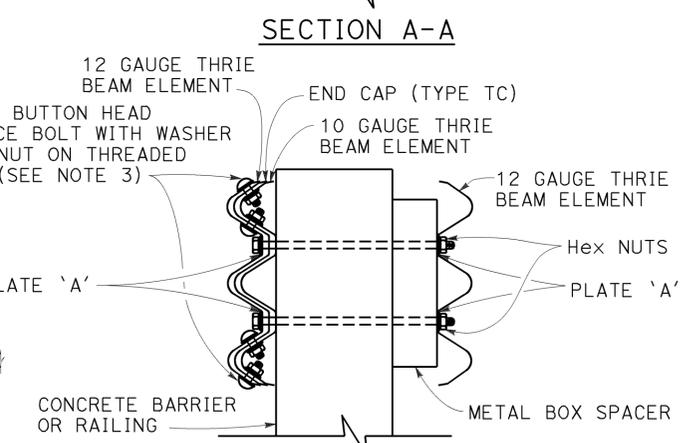
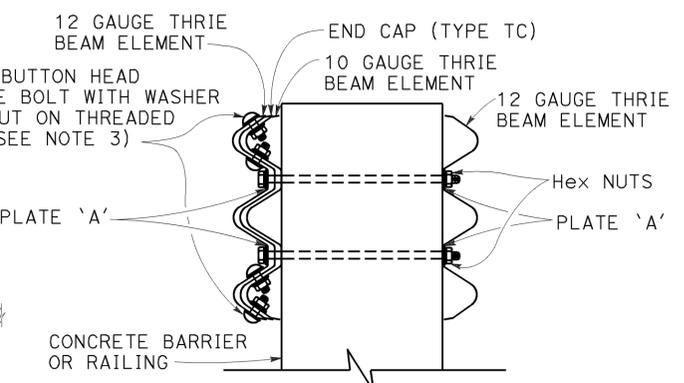
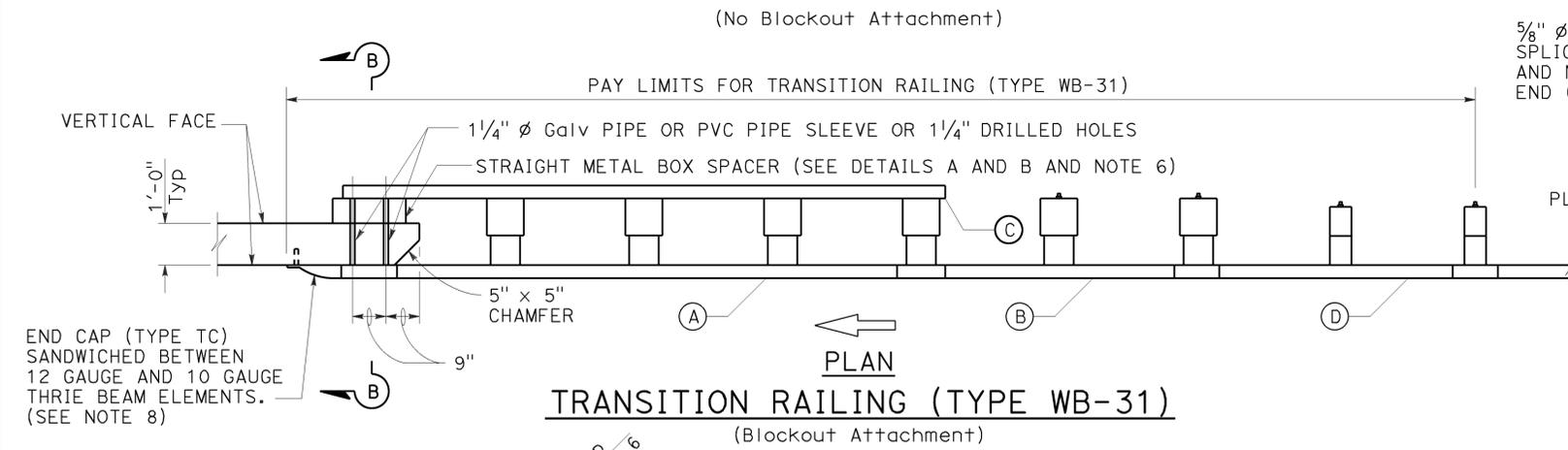
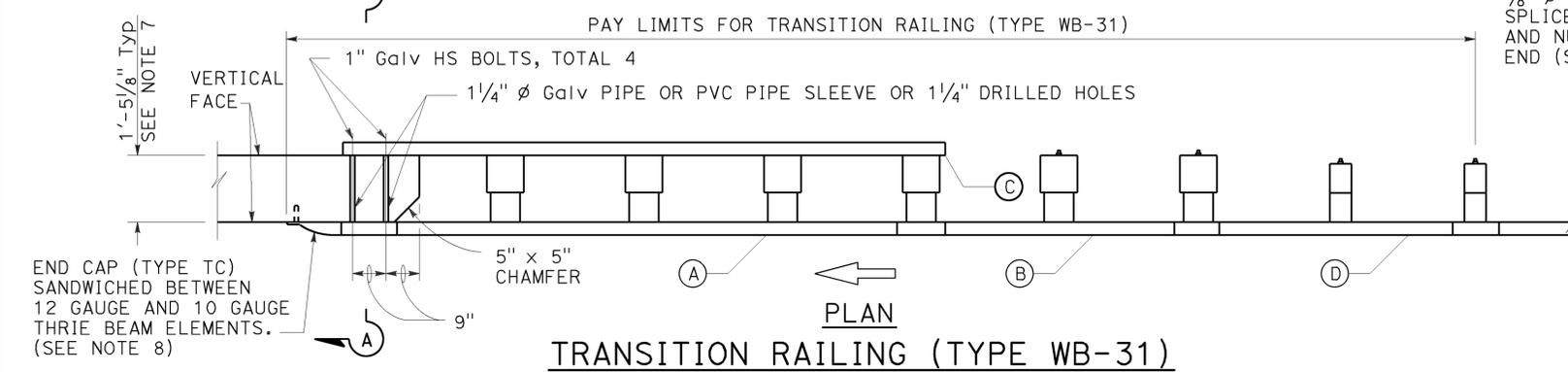
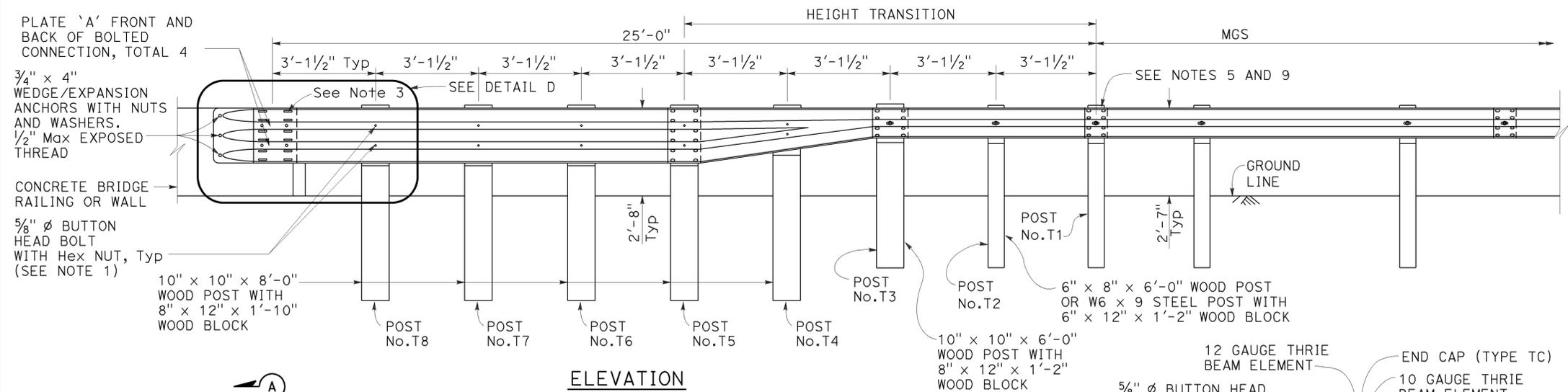
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	27	50

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

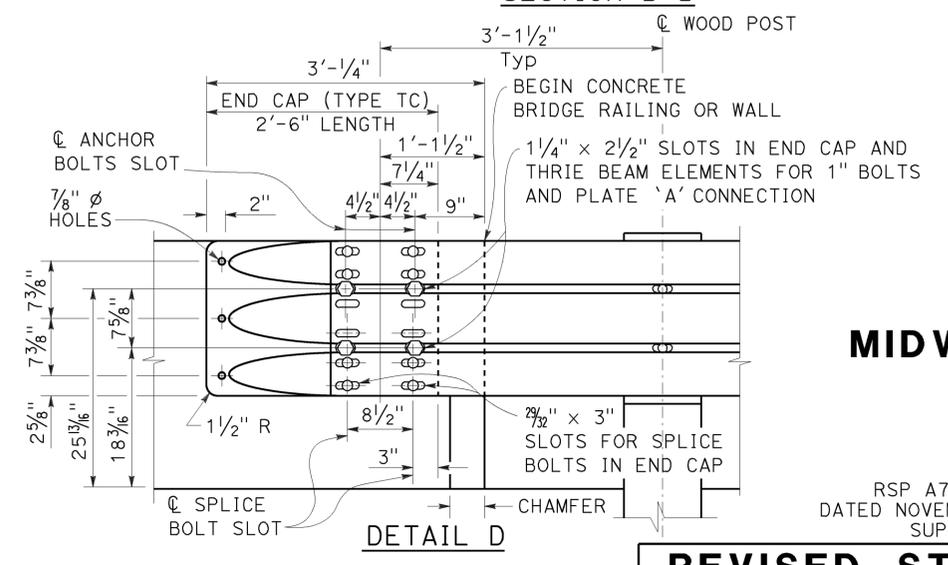
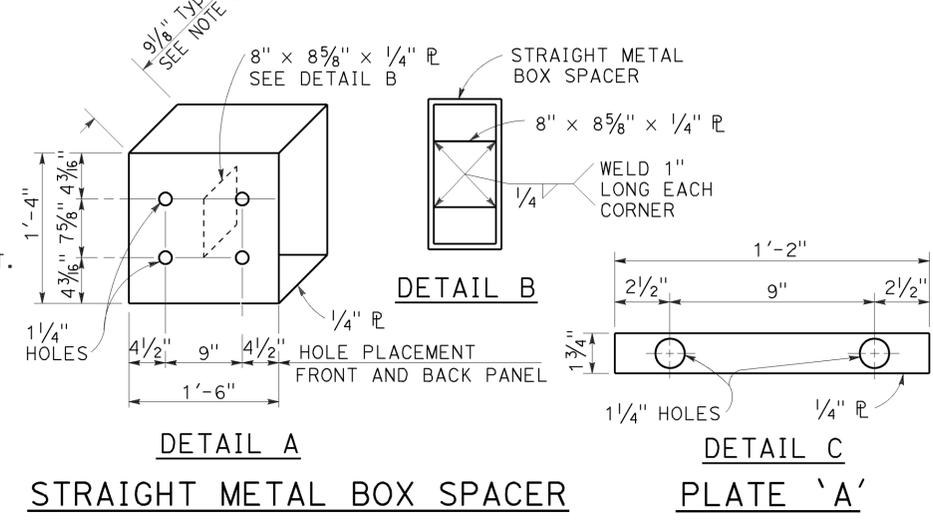
January 23, 2015  
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA



- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
  - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
  - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
  - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3/2" LENGTH)
- 10 GAUGE = 0.138" THICK  
12 GAUGE = 0.108" THICK



- NOTES:** TO ACCOMPANY PLANS DATED 5-9-16
1. Use 5/8" Ø 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. T5 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" Ø. Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
  4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
  5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
  6. The depth of the metal box spacer varies from the 9/8" 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 21 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.
  7. 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. T5 through No. T8 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.
  8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
  9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
TRANSITION RAILING  
(TYPE WB-31)**

NO SCALE

RSP A77U4 DATED JANUARY 23, 2015 SUPERSEDES RSP A77U4 DATED NOVEMBER 15, 2013 AND RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77U4**

2010 REVISED STANDARD PLAN RSP A77U4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	28	50

Srikanth Balasubramanian  
REGISTERED CIVIL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

Srikanth N. Balasubramanian  
No. C56426  
Exp. 6-30-17  
CIVIL  
STATE OF CALIFORNIA

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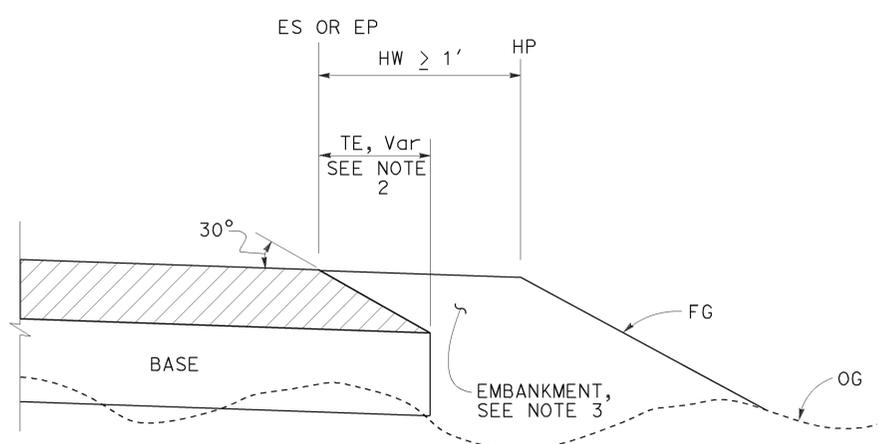
TO ACCOMPANY PLANS DATED 5-9-16

**LEGEND:**

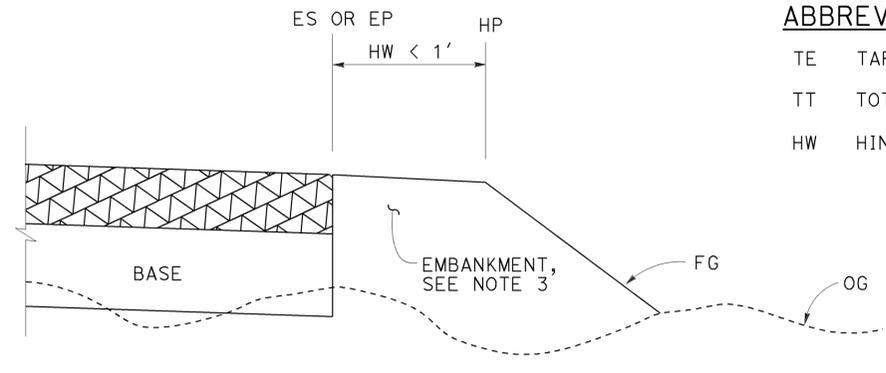
-  HMA PAVEMENT
-  HMA OR CONCRETE PAVEMENT
-  CONCRETE PAVEMENT

**ABBREVIATIONS:**

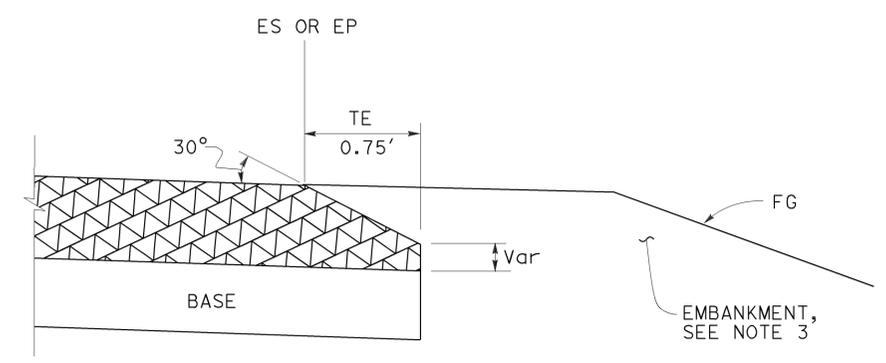
- TE TAPERED EDGE
- TT TOTAL THICKNESS OF TE
- HW HINGE WIDTH, DISTANCE FROM ES OR EP TO HP



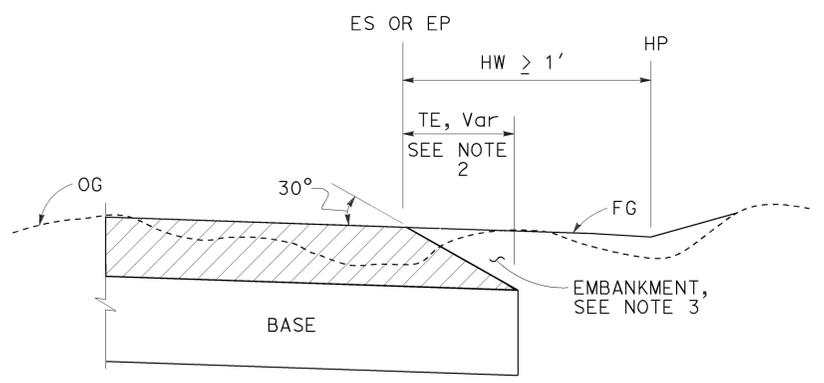
**CASE K**  
Tapered Edge - Fill Section, HW  $\geq 1'$



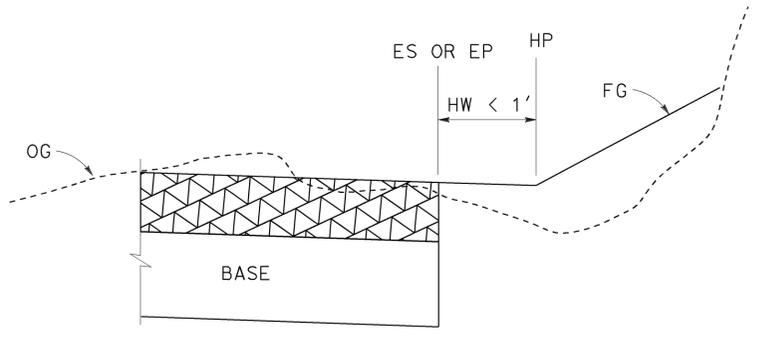
**CASE L**  
Vertical Edge - Fill Section, HW  $< 1'$



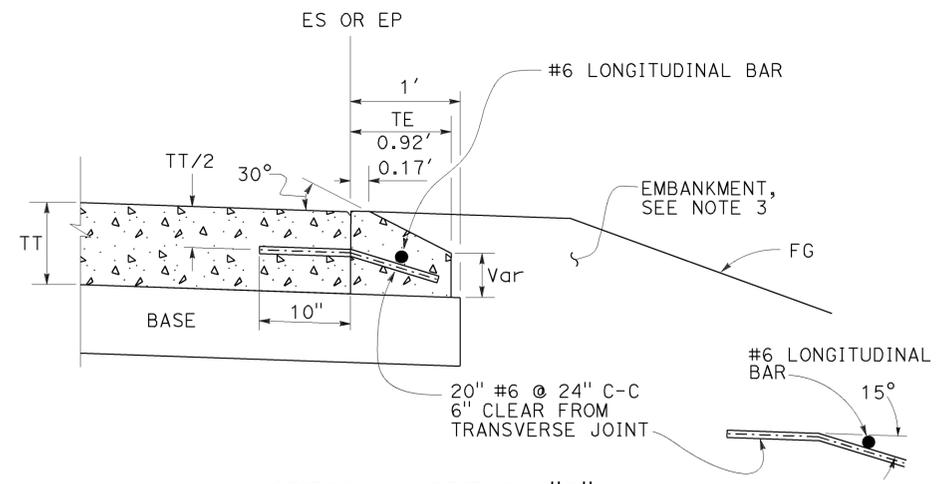
**DETAIL "B"**  
For HMA pavement thickness more than 0.43' or concrete pavement



**CASE M**  
Tapered Edge - Cut Section, HW  $\geq 1'$



**CASE N**  
Vertical Edge - Cut Section, HW  $< 1'$



**OPTIONAL DETAIL "B"**  
For concrete pavement  
See Note 4

**FILL SECTION**

**CUT SECTION**

**NOTES:**

1. For limits of tapered edge and vertical edge treatments, see Revised Standard Plan RSP P74
2. Details shown for HMA pavement thickness less than 0.43'. See Detail "B" for HMA pavement thickness more than 0.43' or concrete pavement.
3. For locations and limits of embankment see project plans.
4. Tapered edge transverse joint must match pavement transverse joint. End of #6 longitudinal bar must be 2"  $\pm 1/2$ " clear from transverse joint.
5. Tapered edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT EDGE TREATMENTS-  
NEW CONSTRUCTION**  
NO SCALE

RSP P76 DATED OCTOBER 30, 2015 SUPERSEDES RSP P76 DATED NOVEMBER 15, 2013 AND RSP P76 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P76**

2010 REVISED STANDARD PLAN RSP P76

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	29	50

*Gregory A. Balzer*  
LICENSED LANDSCAPE ARCHITECT

July 19, 2013  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 5-9-16

**A**

AB AGGREGATE BASE  
 ABS ACRYLONITRILE-BUTADIENE-STYRENE  
 AC ASPHALT CONCRETE  
 ACC ARMOR-CLAD CONDUCTORS  
 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  
 BPE BACKFLOW PREVENTER ENCLOSURE  
 BV BALL VALVE

**C**

C CONDUIT  
 CAP CORRUGATED ALUMINUM PIPE  
 CARV COMBINATION AIR RELEASE VALVE  
 CB COUPLING BAND  
 CCA CAM COUPLER ASSEMBLY  
 CEC CONTROLLER ENCLOSURE CABINET  
 CHDPE CORRUGATED HIGH DENSITY POLYETHYLENE  
 CL CHAIN LINK  
 CNC CONTROL AND NEUTRAL CONDUCTORS  
 Conc CONCRETE  
 CP COPPER PIPE  
 CS COMPOST SOCK  
 CSP CORRUGATED STEEL PIPE  
 CST CENTER STRIP  
 CV CHECK VALVE

**D**

Dia DIAMETER  
 DIP DUCTILE IRON PIPE  
 DIT DRIP IRRIGATION TUBING  
 DG DECOMPOSED GRANITE  
 DN DIAMETER NOMINAL  
 DVA DRIP VALVE ASSEMBLY

**E**

EC EROSION CONTROL  
 ECTC EROSION CONTROL TECHNOLOGY COUNCIL  
 ElecT ELECTRIC/ELECTRICAL  
 Elev ELEVATION  
 ELL ELBOW  
 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  
 FCV FLOW CONTROL VALVE  
 FERT FERTILIZER  
 FG FINISHED GRADE  
 FH FLEXIBLE HOSE  
 FIPT FEMALE IRON PIPE THREAD  
 FIS FERTILIZER INJECTOR SYSTEM  
 FL FLOW LINE  
 FR FIBER ROLL  
 FS FLOW SENSOR  
 FSC FLOW SENSOR CABLE  
 FV FLUSH VALVE

**G**

Galv GALVANIZED  
 GARV GARDEN VALVE  
 GARVA GARDEN VALVE ASSEMBLY  
 GM GRAVEL MULCH  
 GPH GALLONS PER HOUR  
 GPM GALLONS PER MINUTE  
 GSP GALVANIZED STEEL PIPE  
 GV GATE VALVE

**H**

H HALF CIRCLE  
 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  
 IFS IRRIGATION FILTRATION SYSTEM  
 IPS IRON PIPE SIZE  
 IPT IRON PIPE THREAD  
 Irr IRRIGATION

**L**

L LENGTH

**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  
 MtI 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  
 OL OVERLAP

**P**

P PART CIRCLE  
 PB PULL BOX  
 PCC PORTLAND CEMENT CONCRETE  
 PE POLYETHYLENE  
 Pk+ PACKET  
 PL PLASTIC  
 PLS PURE LIVE SEED  
 PLT PLANT/PLANTING  
 PLT ESTB PLANT ESTABLISHMENT  
 PM POST MILE  
 PR PRESSURE RATED  
 PRLV PRESSURE RELIEF VALVE  
 PRV PRESSURE REGULATING VALVE  
 PVC POLYVINYL CHLORIDE  
 PvmT PAVEMENT

**Q**

Q QUARTER CIRCLE  
 QCV QUICK COUPLING VALVE

**NOTE:**  
 For additional abbreviations,  
 see Standard Plans A10A and A10B.

**R**

R RADIUS  
 RCP REINFORCED CONCRETE PIPE  
 RCV REMOTE CONTROL VALVE  
 RCVM REMOTE CONTROL VALVE (MASTER)  
 RCVMF REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR  
 RCVP REMOTE CONTROL VALVE W/PRESSURE REGULATOR  
 RCW RECYCLED WATER  
 RECP ROLLED EROSION CONTROL PRODUCT  
 REQ REQUIRED  
 RICS REMOTE IRRIGATION CONTROL SYSTEM  
 R/W RIGHT OF WAY

**S**

S SLIP  
 SCH SCHEDULE  
 SF STATE-FURNISHED  
 Shld SHOULDER  
 Sq SQUARE  
 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  
 TT TWO-THIRDS CIRCLE  
 TWSA TREE WELL SPRINKLER ASSEMBLY  
 Typ TYPICAL

**U**

UG UNDERGROUND

**W**

W WIDTH  
 W/ WITH  
 WM WATER METER  
 WS WYE STRAINER  
 WSA WYE STRAINER ASSEMBLY  
 WSP WELDED STEEL PIPE  
 WWM WELDED WIRE MESH

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**LANDSCAPE AND  
 EROSION CONTROL ABBREVIATIONS**  
 NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1  
 DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP H1**

2010 REVISED STANDARD PLAN RSP H1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	30	50

*Gregory A. Balzer*  
LICENSED LANDSCAPE ARCHITECT

November 15, 2013  
PLANS APPROVAL DATE

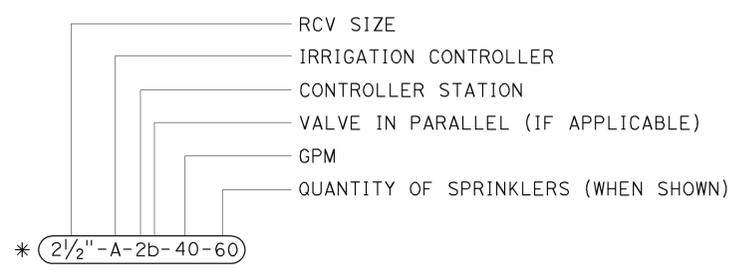
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TO ACCOMPANY PLANS DATED 5-9-16

2010 REVISED STANDARD PLAN RSP H2

EXISTING	NEW	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		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 (IC) (TWO WIRE)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		ARMOR-CLAD CONDUCTORS (ACC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		IRRIGATION CONDUIT
		EXTEND IRRIGATION CONDUIT
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (SUPPLY LINE) (LATERAL)
		COPPER PIPE (SUPPLY LINE)
		DRIP IRRIGATION TUBING
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		REMOTE CONTROL VALVE W/PRESSURE REGULATOR (RCVP)
		EXISTING MANUAL CONTROL VALVE (MCV)
		DRIP VALVE ASSEMBLY (DVA)
		WYE STRAINER ASSEMBLY (WSA)

EXISTING	NEW	ITEM DESCRIPTION
		GATE VALVE (GV)
		BALL VALVE (BV)
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		GARDEN VALVE ASSEMBLY (GARVA)
		PRESSURE REGULATING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		EXISTING NOZZLE LINE W/TURNING UNION
		EXISTING IRRIGATION SYSTEM
		EXISTING 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
		FIBER ROLL
		COMPOST SOCK



\* 2 1/2" - A - 2b - 40 - 60

**VALVE CODE**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**LANDSCAPE AND EROSION  
CONTROL SYMBOLS**  
NO SCALE

RSP H2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP H2 DATED JULY 19, 2013 AND STANDARD PLAN H2 DATED MAY 20, 2011 - PAGE 219 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP H2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	31	50

REGISTERED CIVIL ENGINEER

November 15, 2013  
PLANS APPROVAL DATE

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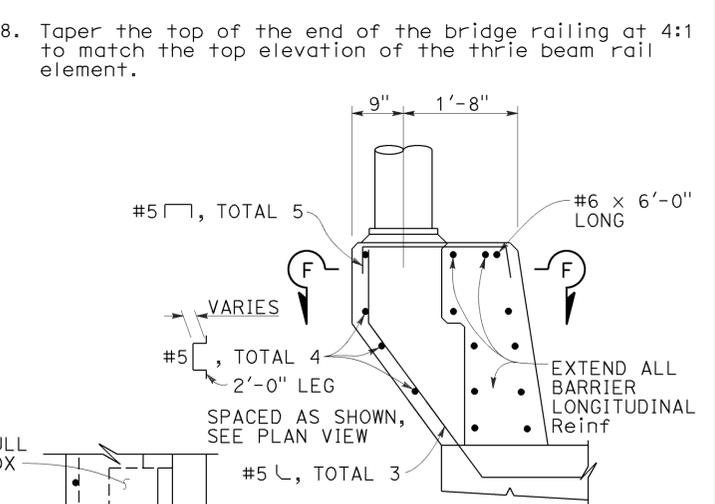
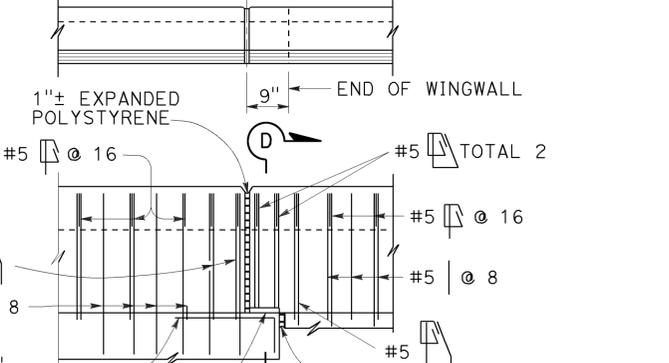
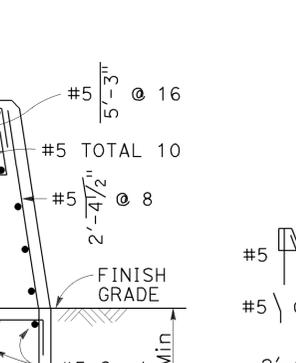
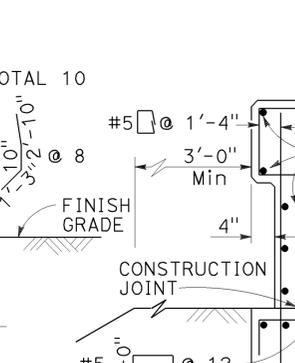
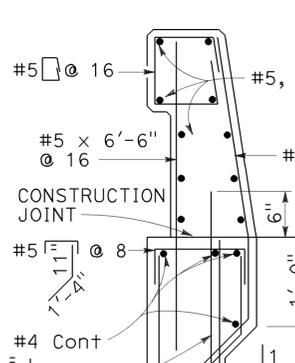
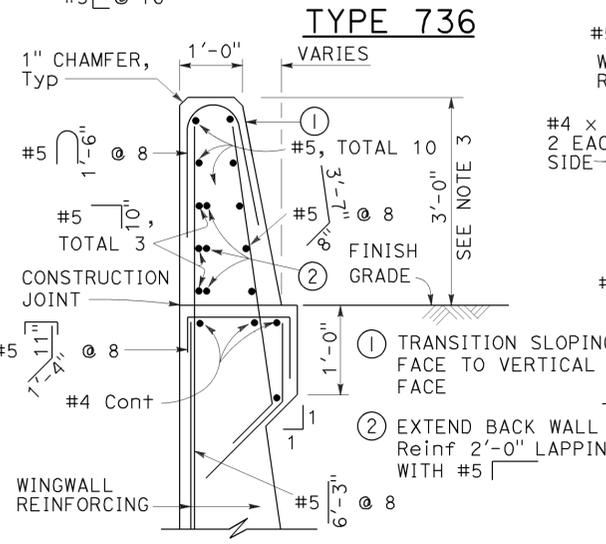
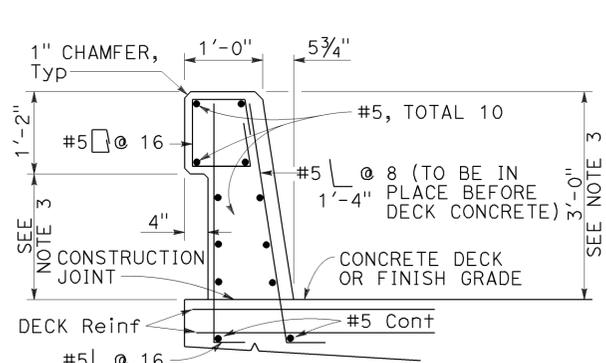
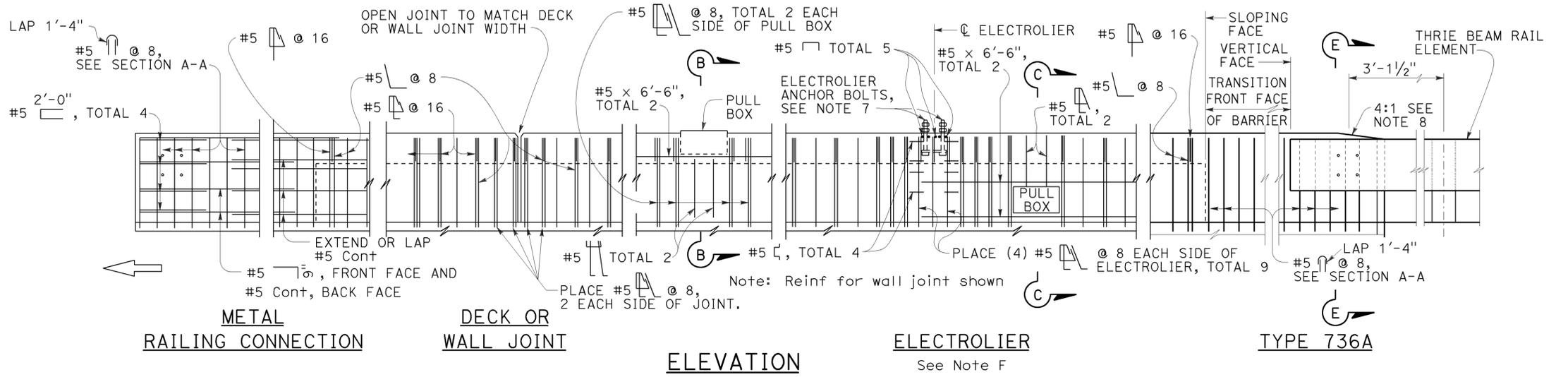
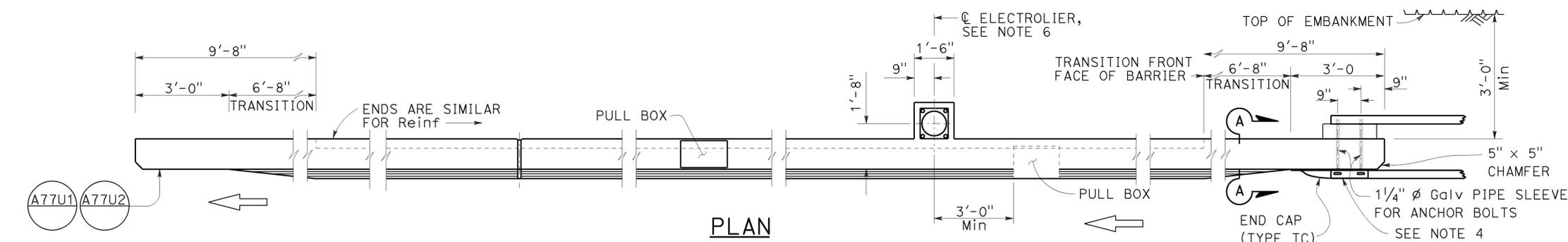
REGISTERED PROFESSIONAL ENGINEER  
Tillat Satter  
No. C42892  
Exp. 3-31-14  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 5-9-16

**NOTES:**

1. Walls are to be backfilled before barrier is placed.
2. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
3. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
4. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
6. For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
7. Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectural treatment.
8. Taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail element.

2010 REVISED STANDARD PLAN RSP B11-56



Details shown for barrier anchorage to Type 736A. Anchorage for barrier Types 736 and 736B are similar to their respective details.

RSP B11-56 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-56 DATED JULY 19, 2013 AND STANDARD PLAN B11-56 DATED MAY 20, 2011 - PAGE 298 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B11-56**

**LEGEND:**

<b>AB</b>	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
<b>BC</b>	INSTALL PULL BOX IN EXISTING CONDUIT RUN
<b>BP</b>	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
<b>CB</b>	INSTALL CONDUIT INTO EXISTING PULL BOX
<b>CC</b>	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
<b>CF</b>	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
<b>DH</b>	DETECTOR HANDHOLE
<b>FA</b>	FOUNDATION TO BE ABANDONED
<b>IS</b>	INSTALL SIGN ON SIGNAL MAST ARM
<b>NS</b>	NO SLIP BASE ON STANDARD
<b>PEC</b>	PHOTOELECTRIC CONTROL
<b>PEU</b>	PHOTOELECTRIC UNIT
<b>RC</b>	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
<b>RE</b>	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
<b>RL</b>	RELOCATE EQUIPMENT
<b>RR</b>	REMOVE AND REUSE EQUIPMENT
<b>RS</b>	REMOVE AND SALVAGE EQUIPMENT
<b>SC</b>	SPLICE NEW TO EXISTING CONDUCTORS
<b>SD</b>	SERVICE DISCONNECT
<b>TSP</b>	TELEPHONE SERVICE POINT

**ABBREVIATIONS**

AC+	UNDERGROUNDED CONDUCTOR	MAT	MAST ARM MOUNTING TOP ATTACHMENT
APS	ACCESSIBLE PEDESTRIAN SIGNAL	MAS	MAST ARM MOUNTING SIDE ATTACHMENT
Batt	BATTERY	MBPS	MANUAL BYPASS SWITCH
BBS	BATTERY BACKUP SYSTEM	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BC	BOLT CIRCLE	Mtg	MOUNTING
BIK	BLACK	MV	MERCURY VAPOR LIGHTING FIXTURE
BP	BYPASS	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
BPB	BICYCLE PUSH BUTTON	N	NEUTRAL (GROUNDED CONDUCTOR)
C	CONDUIT	NB	NEUTRAL BUS
CB	CIRCUIT BREAKER	NC	NORMALLY CLOSE
CCTV	CLOSED CIRCUIT TELEVISION	NO	NORMALLY OPEN
Ckt	CIRCUIT	P	CIRCUIT BREAKER'S POLE
CMS	CHANGEABLE MESSAGE SIGN	PB	PULL BOX
Ctid	CALTRANS IDENTIFICATION	PBA	PUSH BUTTON ASSEMBLY
Comm	COMMUNICATION	PEC	PHOTOELECTRIC CONTROL
Cntl	CONTROL	Ped	PEDESTRIAN
DF	DEPARTMENT-FURNISHED	PEU	PHOTOELECTRIC UNIT
DLC	LOOP DETECTOR LEAD-IN CABLE	PT	CONDUIT WITH PULL TAPE
EMS	EXTINGUISHABLE MESSAGE SIGN	PTR	POWER TRANSFER RELAY
EVUC	EMERGENCY VEHICLE UNIT CABLE	RE	RELOCATED EQUIPMENT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	RM	RAMP METERING
FB	FLASHING BEACON	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FBCA	FLASHING BEACON CONTROL ASSEMBLY	SB	SLIP BASE
FBS	FLASHING BEACON WITH SLIP BASE	SIC	SIGNAL INTERCONNECT CABLE
FO	FIBER OPTIC	Sig	SIGNAL
G	EQUIPMENT GROUNDING CONDUCTOR	SMA	SIGNAL MAST ARM
GB	GROUND BUS	SNS	STREET NAME SIGN
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SP	SERVICE POINT
Grn	GREEN	TB	TERMINAL BOARD
HAR	HIGHWAY ADVISORY RADIO	TDC	TELEPHONE DEMARCATION CABINET
Hex	HEXAGONAL	Temp	TEMPERATURE
HPS	HIGH PRESSURE SODIUM	TMS	TRAFFIC MONITORING STATION
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TOS	TRAFFIC OPERATIONS SYSTEM
ISL	INDUCTION SIGN LIGHTING	UPS	UNINTERRUPTABLE POWER SUPPLY
LED	LIGHT EMITTING DIODE	UPSC	UNINTERRUPTABLE POWER SUPPLY CONTROLLER
LMA	LUMINAIRE MAST ARM	Veh	VEHICLE
LPS	LOW PRESSURE SODIUM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
Ltg	LIGHTING	Wht	WHITE
Lum	LUMINAIRE	WIM	WEIGH-IN-MOTION
M	METERED	Xfmr	TRANSFORMER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	32	50

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

Theresa  
Aziz Gabriel  
No. E15129  
Exp. 6-30-16  
ELECTRICAL  
STATE OF CALIFORNIA

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

TO ACCOMPANY PLANS DATED 5-9-16

**SOFFIT AND WALL-MOUNTED LUMINAIRES**

- PENDANT SOFFIT LUMINAIRE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH-MOUNTED SOFFIT LUMINAIRE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL-MOUNTED LUMINAIRE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL-MOUNTED LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL-MOUNTED LUMINAIRE TO BE MODIFIED AS SPECIFIED

**NOTE:**  
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
Hz	HERTZ

**MISCELLANEOUS ELECTROLIERS**

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT LEGEND)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
  - Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

**STANDARD ELECTROLIER**

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1A DATED JULY 19, 2013 AND STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1A**

2010 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	33	50

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER  
October 30, 2015  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 5-9-16

**CONDUIT**

**SIGNAL EQUIPMENT**

NEW	EXISTING	
		LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
		TRAFFIC SIGNAL CONDUIT
		COMMUNICATION CONDUIT
		TELEPHONE CONDUIT
		FIRE ALARM CONDUIT
		FIBER OPTIC CONDUIT
		CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

**SIGNAL EQUIPMENT Cont**

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION

**SERVICE EQUIPMENT**

NEW	EXISTING	
		OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

NEW	EXISTING	
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

**NOTES:**

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

**POLE-MOUNTED SERVICE DESIGNATION**

	TYPE H SERVICE, 28'-10"	TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE
--	-------------------------	--

**FLASHING BEACON**

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

**ILLUMINATED OVERHEAD SIGN**

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

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

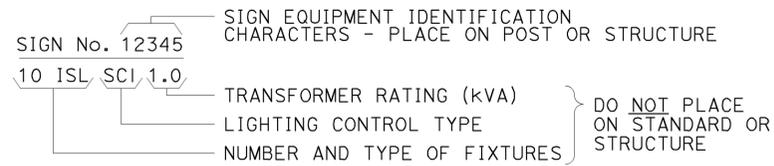
RSP ES-1B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1B DATED JULY 19, 2013 AND STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1B**

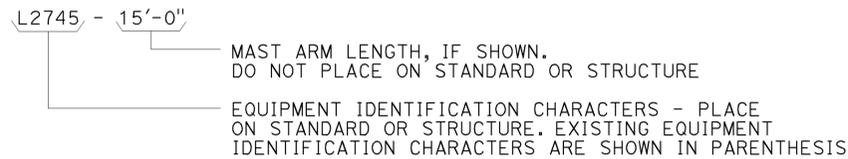
2010 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

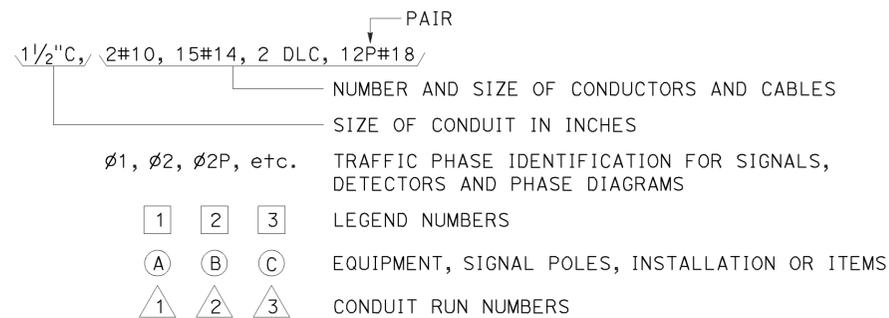
#### ILLUMINATED SIGN IDENTIFICATION:



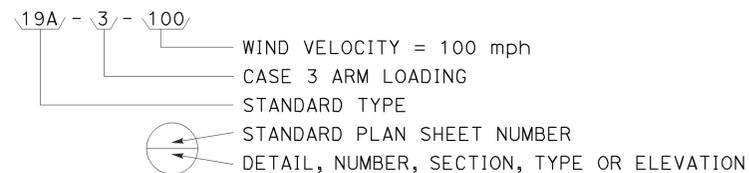
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION:



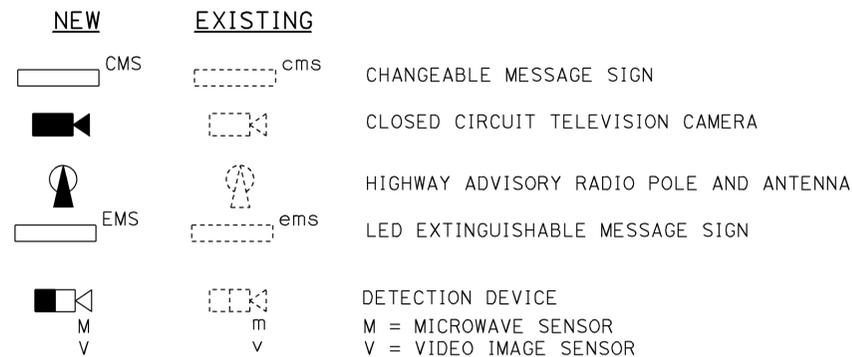
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



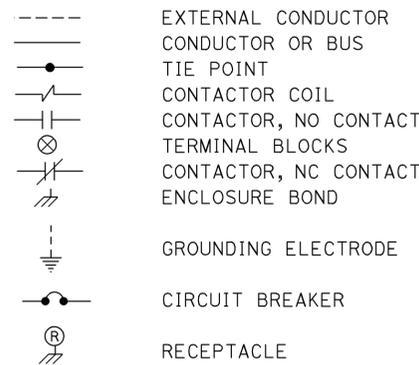
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



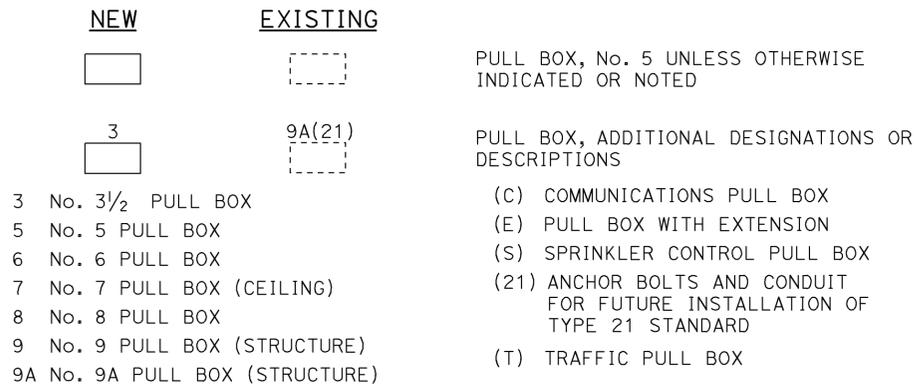
### MISCELLANEOUS EQUIPMENT



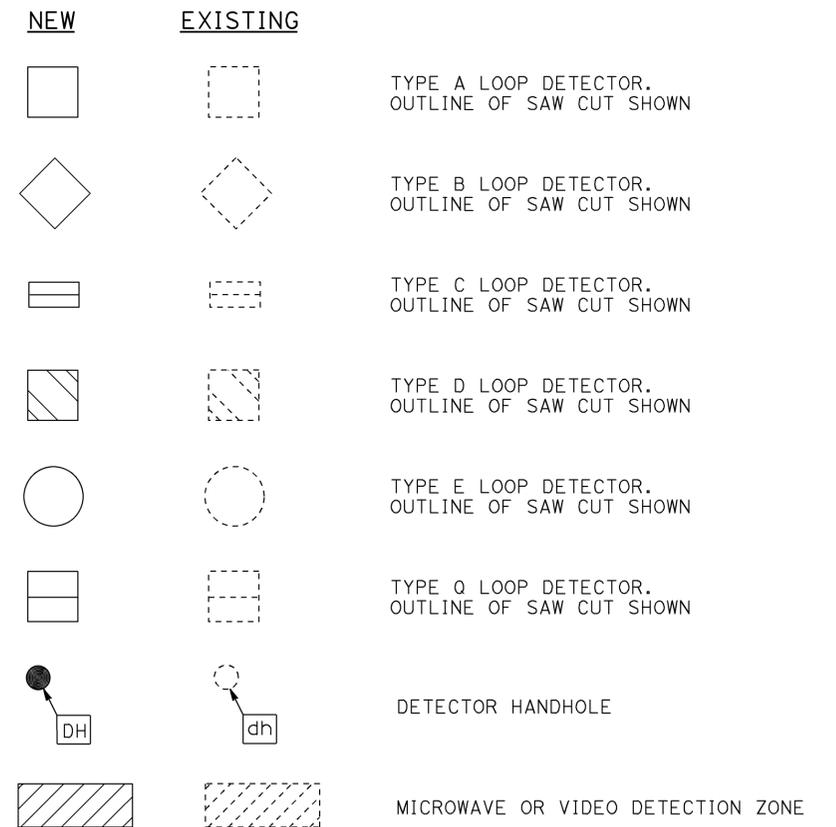
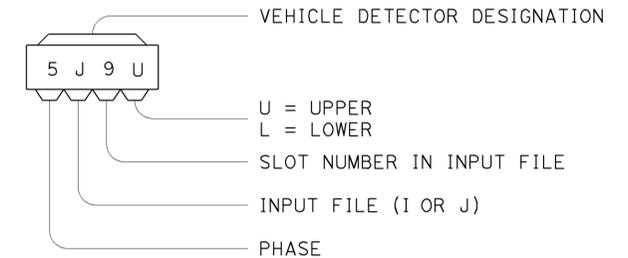
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED APRIL 15, 2016 SUPERSEDES RSP ES-1C DATED OCTOBER 30, 2015 AND RSP ES-1C DATED JULY 19, 2013 AND STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1C**

2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	35	50
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER					
October 30, 2015 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>					



TO ACCOMPANY PLANS DATED 5-9-16

PLAN VIEW OF OTHER SIDE MOUNTINGS

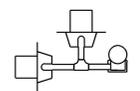
**ABBREVIATIONS:**

- SV SIDE MOUNTED SIGNAL HEADS
- T TERMINAL COMPARTMENT
- TV TOP MOUNTED SIGNAL HEADS
- 1, 2, 3, 4 NUMBER OF SIGNAL FACES (3 - SECTION, UNLESS OTHERWISE INDICATED)
- A, B, C, D CONFIGURATION OF SIGNALS

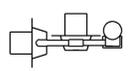
**NOTES:**

1. Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals and backplate installation.
3. See Revised Standard Plans RSP ES-4D and RSP ES-4E for attachment fitting details.

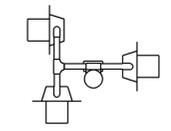
PLAN VIEW OF TOP MOUNTINGS



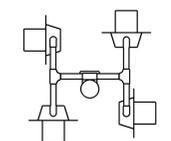
SV-2-TD



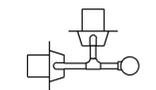
SV-2-TC



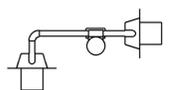
SV-3-TC



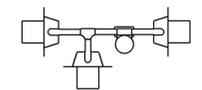
SV-4-TC



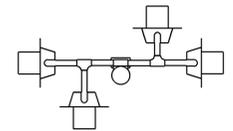
SV-2B



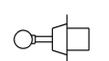
SV-2-TB



SV-3-TB



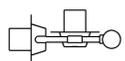
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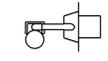
SV



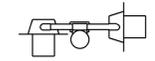
SV-1



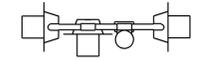
SV-2A



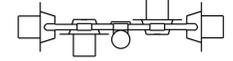
SV-1-T



SV-2-TA



SV-3-TA

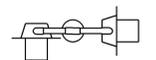


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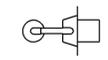
SIDE MOUNTINGS



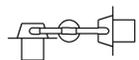
TV-1



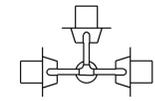
TV-2



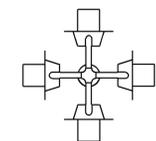
TV-1-T



TV-2-T



TV-3-T



TV-4-T

TOP MOUNTINGS

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(SIGNAL HEADS AND MOUNTINGS)**  
NO SCALE

RSP ES-4A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4A DATED JULY 19, 2013 AND STANDARD PLAN ES-4A DATED MAY 20, 2011 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-4A**

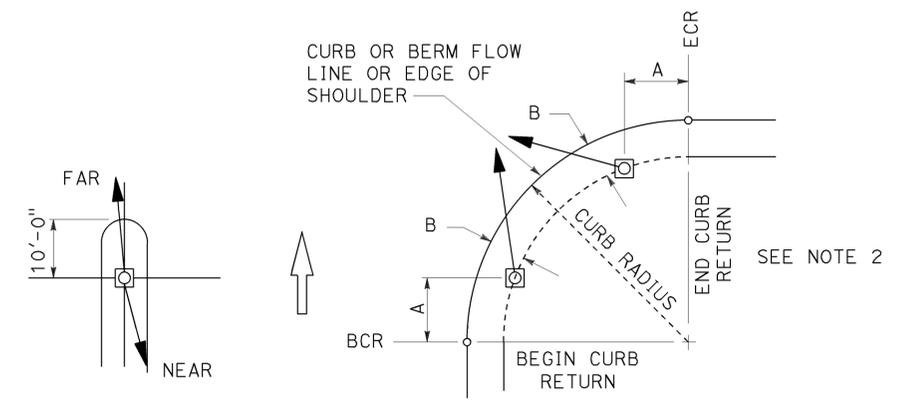
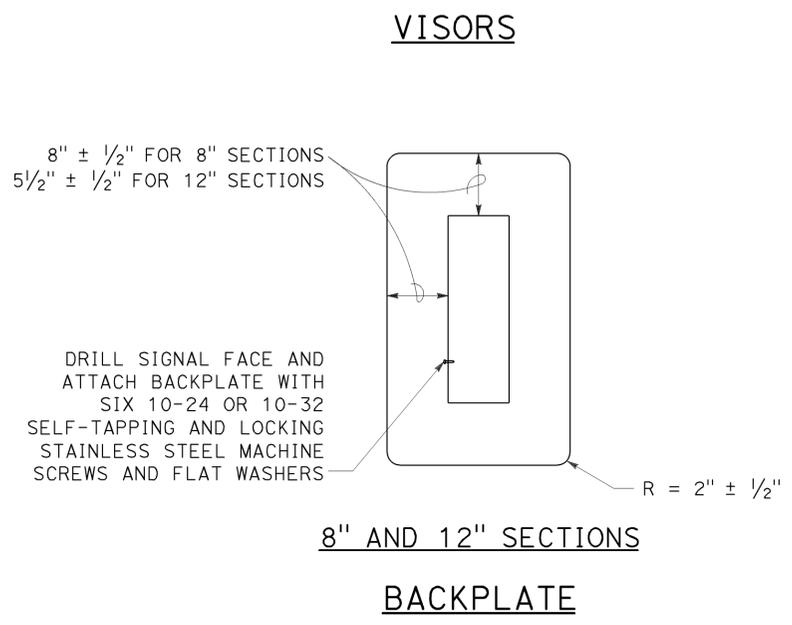
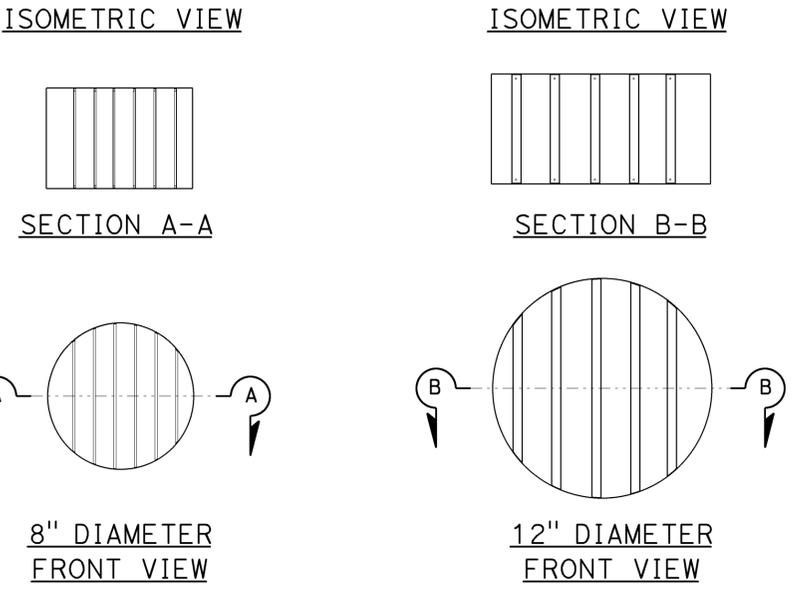
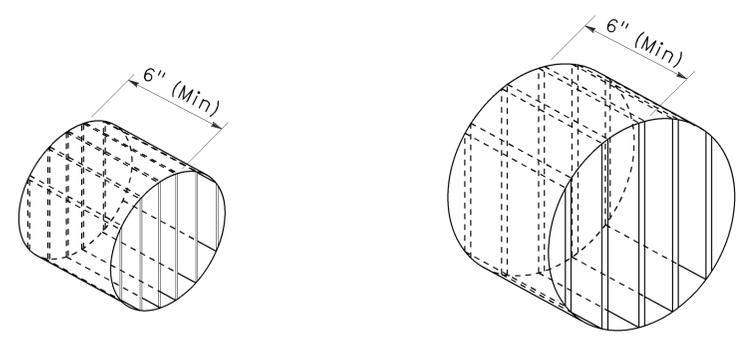
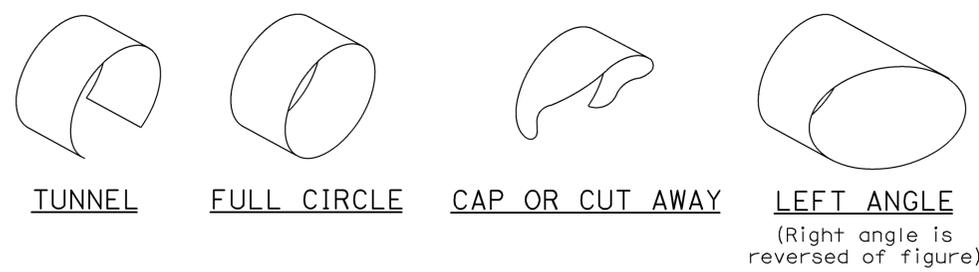
2010 REVISED STANDARD PLAN RSP ES-4A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	36	50

Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-16  
 ELECTRICAL  
 STATE OF CALIFORNIA

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

TO ACCOMPANY PLANS DATED 5-9-16

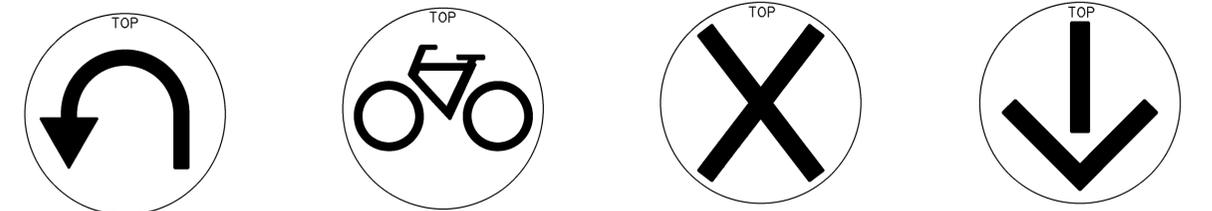
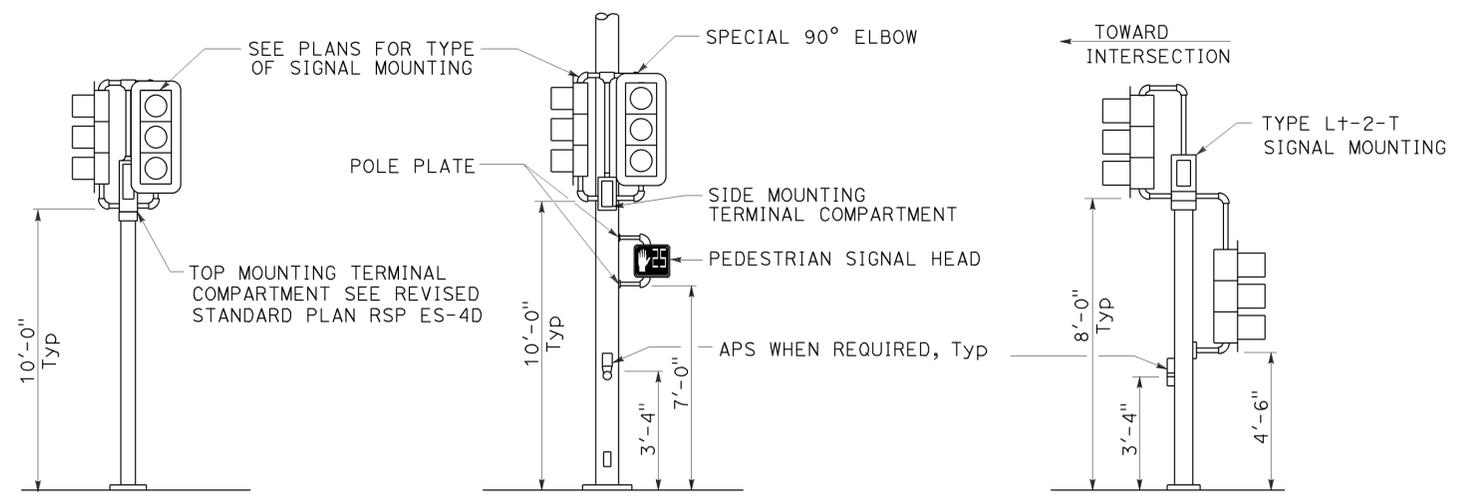


- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
  2. For A and B dimensions, see Pole Schedule.

**DIRECTIONAL LOUVER**

Directional louvers shall be oriented and secured in place with one plated brass machine screw and nut.

**SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS**



**SIGNAL FACES**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

Normally used on standards with luminaire or signal mast arm

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans

**TYPICAL SIGNAL HEAD INSTALLATIONS**

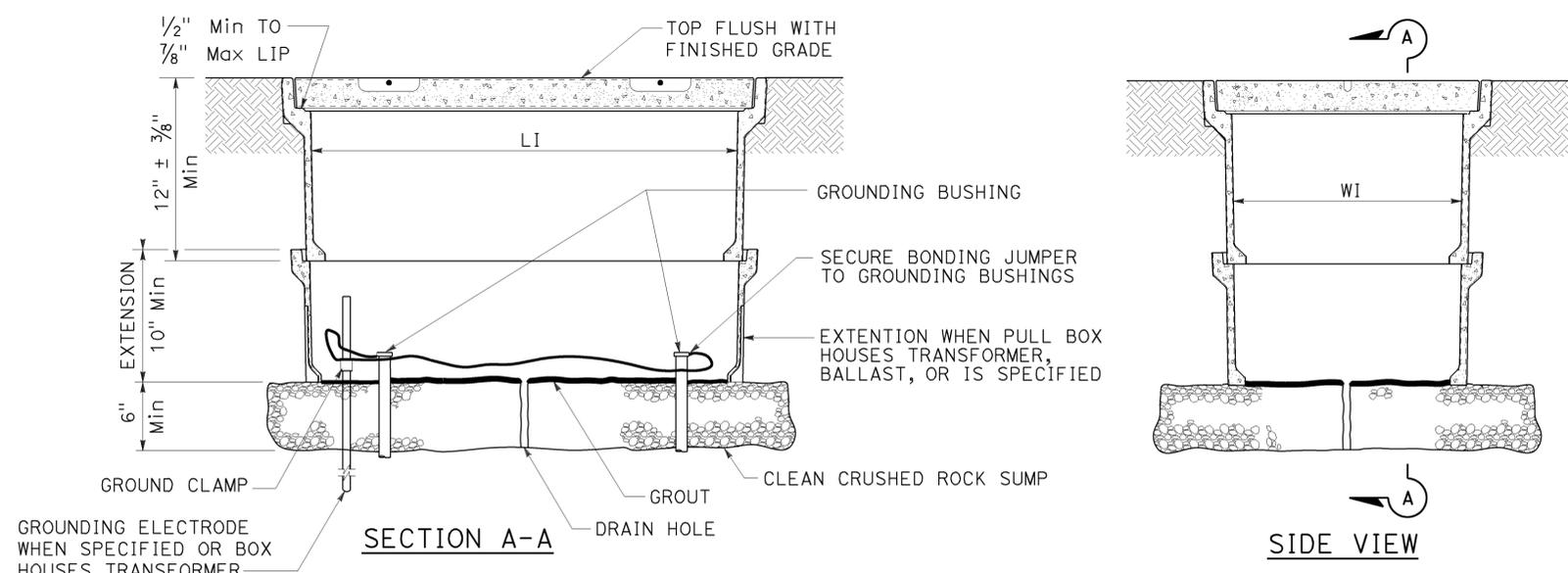
RSP ES-4C DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4C DATED JULY 19, 2013 AND STANDARD PLAN ES-4C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-4C**

2010 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Men	128	39.5	37	50
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER April 15, 2016 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>					

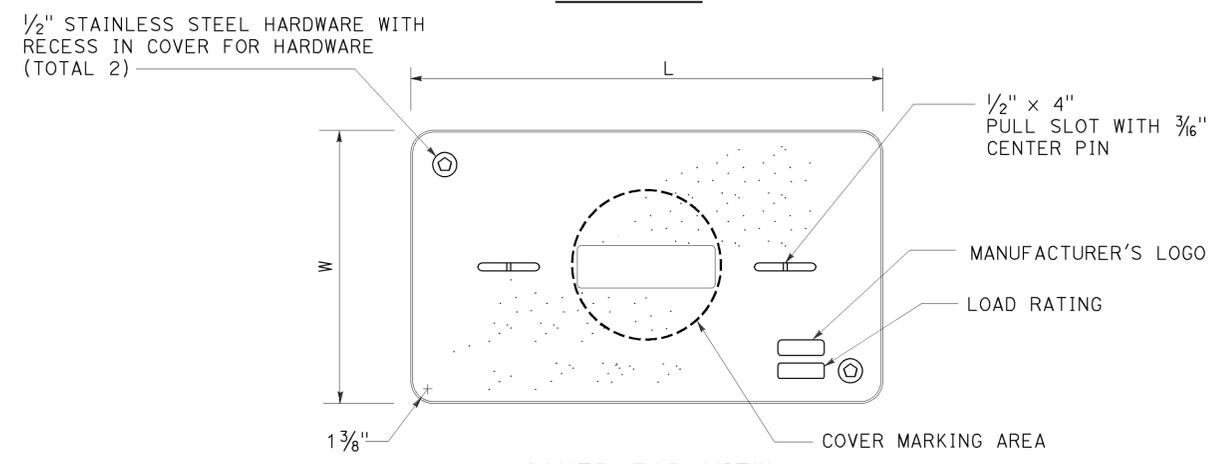
TO ACCOMPANY PLANS DATED 5-9-16



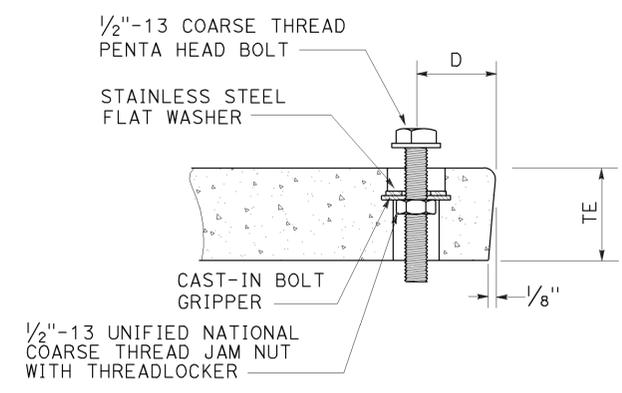
**INSTALLATION DETAILS**  
**DETAIL A**

**NOTES:**

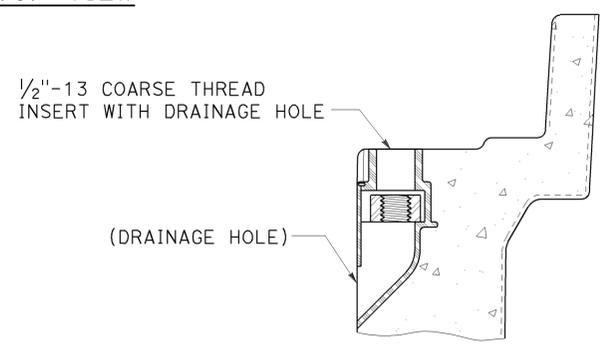
1. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
2. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
3. Dimensions for the cover for non-traffic pull box are nominal values.



**COVER TOP VIEW**



**TYPICAL COVER CAPTIVE BOLT**  
**OR SIMILAR**



**TYPICAL THREADED INSERT**  
**OR SIMILAR**

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MINIMUM WEIGHT	LI Min	WI Min	TE	D	L	W	MINIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3"	9"	1 3/4"	1 3/4"	1'-3 1/4" - 1'-3 3/8"	10" - 10 1/8"	30 lb
No. 5	12"	10"	55 lb	1' - 8"	11"	2"	1 3/4"	1'-11 1/4"	1'-1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 4 1/4"	1' - 3 1/4"	2"	2"	2'-6 1/2"	1'-5 1/2"	85 lb

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(NON-TRAFFIC PULL BOX)**  
NO SCALE

RSP ES-8A DATED APRIL 15, 2016 SUPERSEDES RSP ES-8A  
DATED OCTOBER 30, 2015 AND RSP ES-8A DATED JULY 19, 2013 AND RSP ES-8A  
DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-8A**

2010 REVISED STANDARD PLAN RSP ES-8A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	38	50

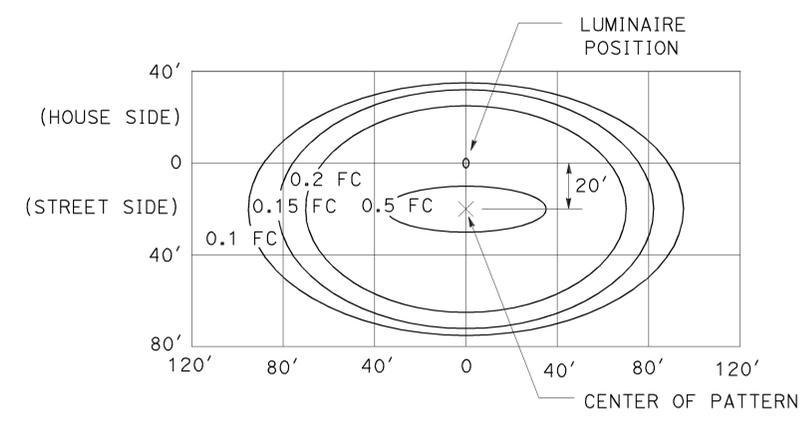
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-16  
 ELECTRICAL  
 STATE OF CALIFORNIA

October 30, 2015  
 PLANS APPROVAL DATE

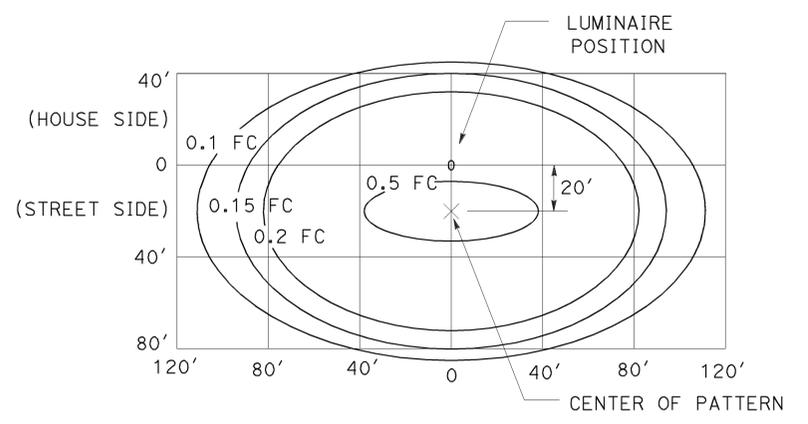
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 5-9-16

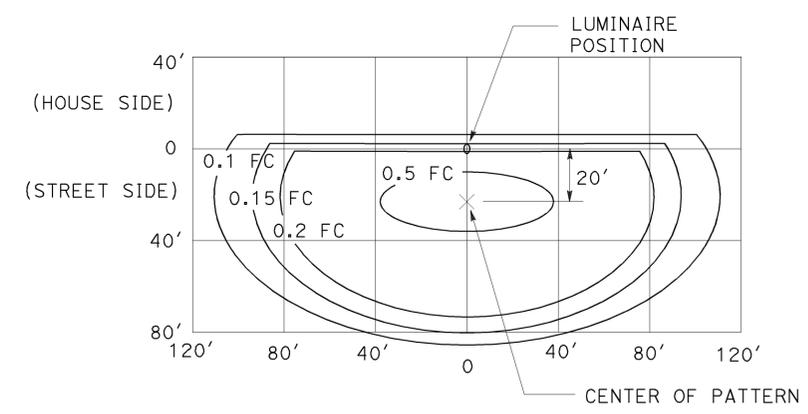
**NOTE:**  
Curves represent the minimum footcandle (FC).



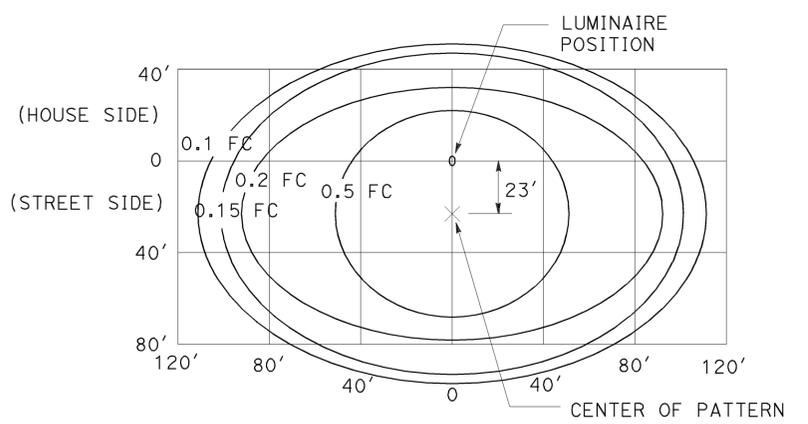
**LED LUMINAIRE 165 W**  
34' Mounting Height



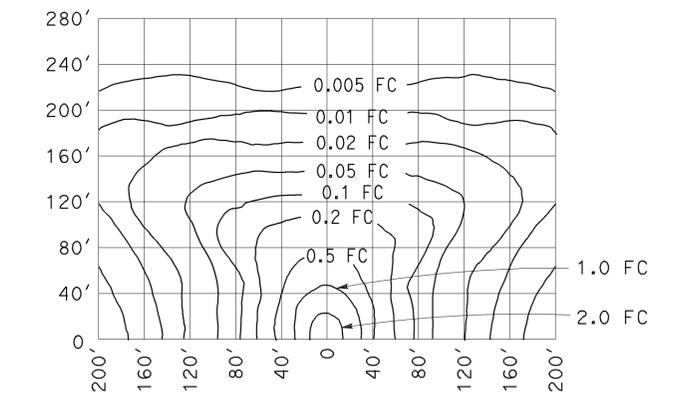
**LED LUMINAIRE 235 W**  
40' Mounting Height



**LED LUMINAIRE 235 W**  
40' Mounting Height  
with back side control



**LED LUMINAIRE 300 W**  
40' Mounting Height



**LOW-PRESSURE SODIUM LUMINAIRE 180 W**  
40' Mounting Height  
Lamp operated at 33,000 lm

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(ISOFOOTCANDLE CURVES)**

NO SCALE

RSP ES-10A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-10A DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-10A**

2010 REVISED STANDARD PLAN RSP ES-10A

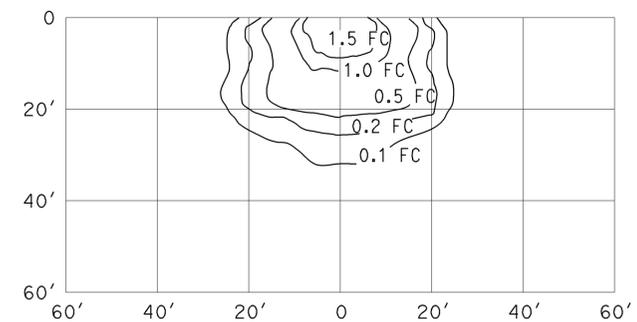
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	39	50

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE

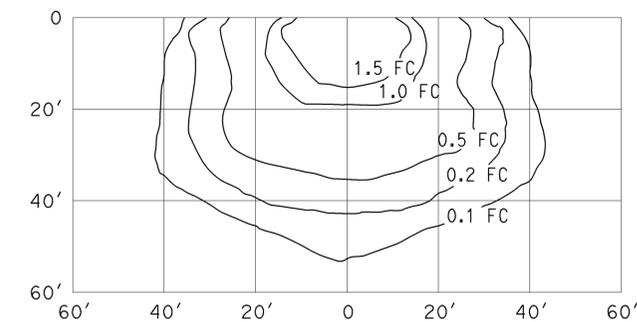
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 5-9-16

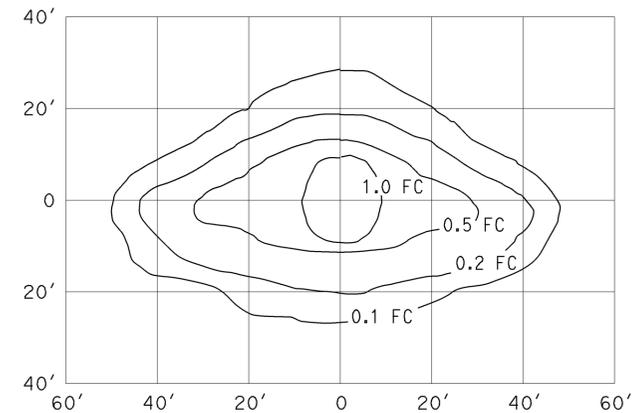
**NOTE:**  
Curves represent the minimum footcandle (FC).



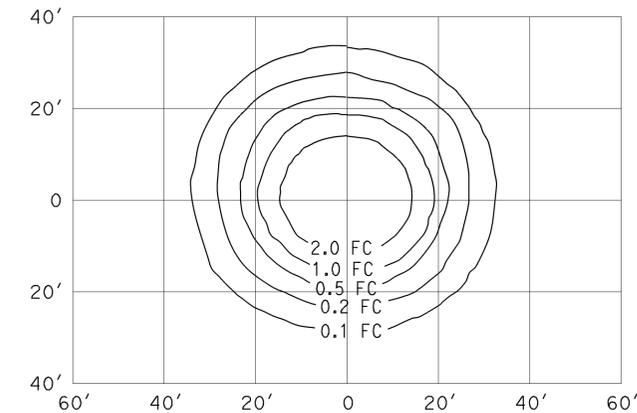
**HIGH-PRESSURE SODIUM  
WALL-MOUNTED LUMINAIRE 70 W**  
 15' Mounting Height  
 ANSI Designation S62  
 Lamp operated at 5,800 lm



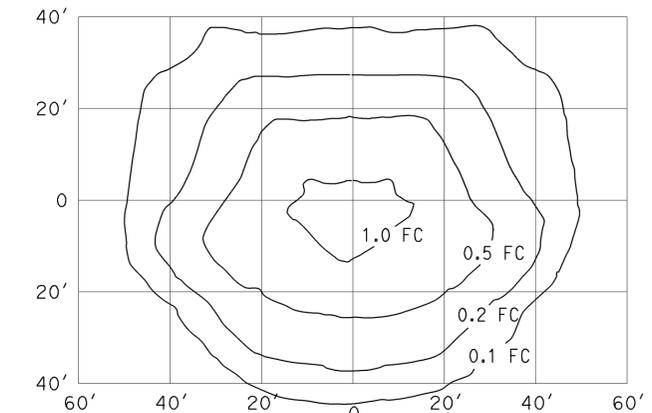
**HIGH-PRESSURE SODIUM  
WALL-MOUNTED LUMINAIRE 100 W**  
 15' Mounting Height  
 ANSI Designation S54  
 Lamp operated at 9,500 lm



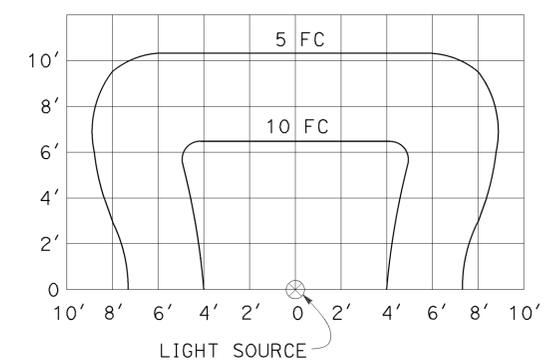
**HIGH-PRESSURE SODIUM  
PENDANT SOFFIT LUMINAIRE 70 W  
TYPE III SHORT**  
 17' Mounting Height  
 ANSI Designation S62  
 Lamp operated at 5,800 lm



**HIGH-PRESSURE SODIUM  
PENDANT SOFFIT LUMINAIRE 70 W**  
 17' Mounting Height  
 ANSI Designation S62  
 Lamp operated at 5,800 lm



**HIGH-PRESSURE SODIUM  
FLUSH-MOUNTED SOFFIT LUMINAIRE 70 W**  
 17' Mounting Height  
 ANSI Designation S62  
 Lamp operated at 5,800 lm



**INDUCTION SIGN  
LIGHTING FIXTURE 85 W**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(ISOFOOTCANDLE CURVES)**

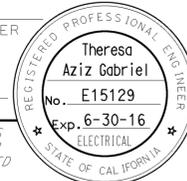
NO SCALE

RSP ES-10B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-10B DATED JULY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

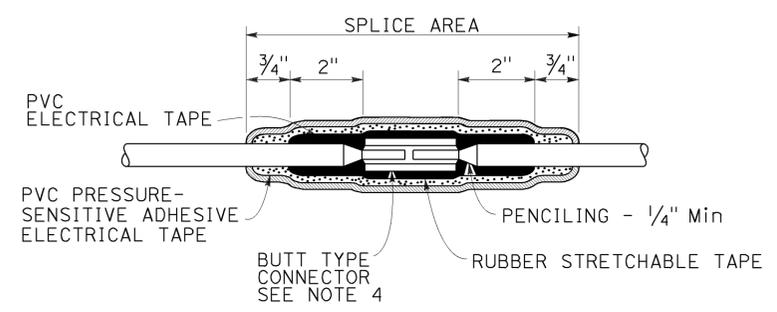
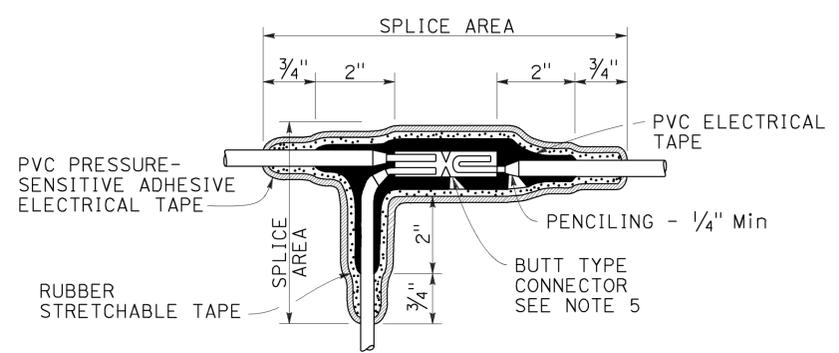
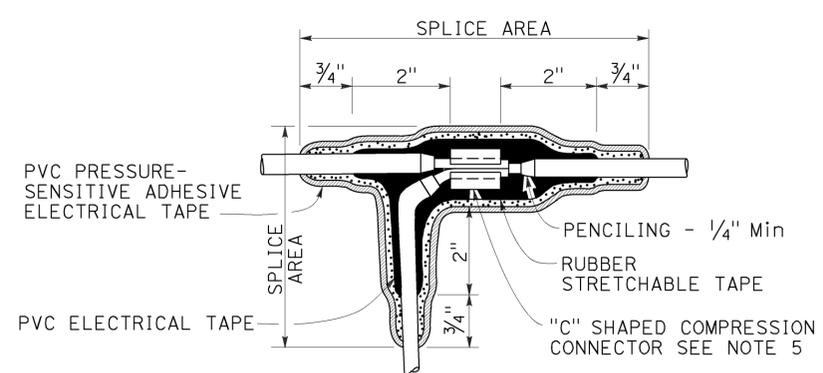
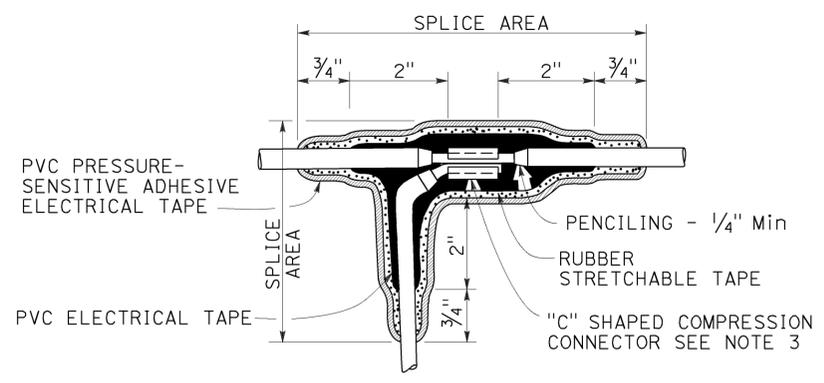
2010 REVISED STANDARD PLAN RSP ES-10B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Men	128	39.5	40	50

Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 April 15, 2016  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



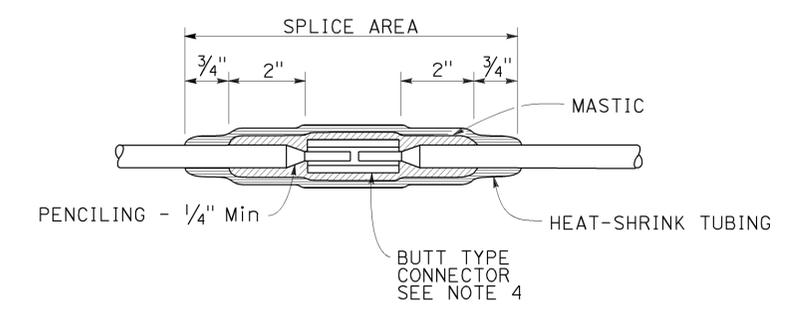
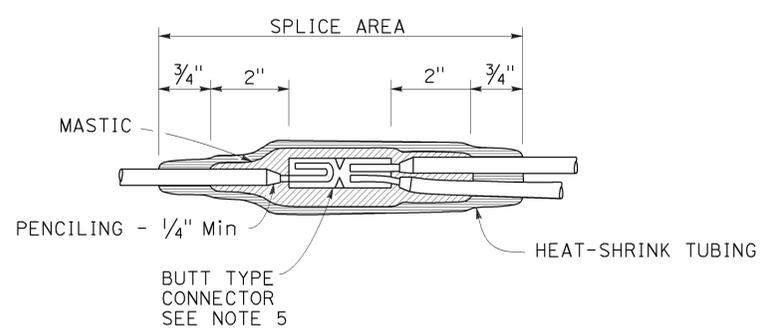
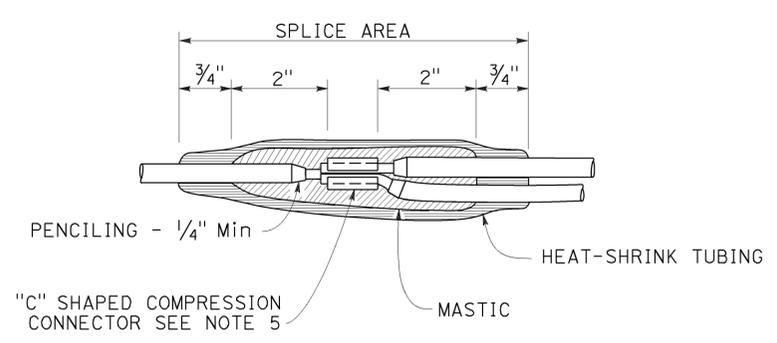
TO ACCOMPANY PLANS DATED 5-9-16



**NOTES:**

1. Dimensions are minimum.
2. Rubber tapes shall be rolled after application.
3. Between 1 free-end and 1 through conductor.
4. Between 2 free-end conductors.
5. Between 3 free-end conductors.

**TYPICAL SPLICE INSULATION METHOD B**



**TYPICAL SPLICE INSULATION HEAT-SHRINK TUBING**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SPLICE INSULATION METHODS DETAILS)**

NO SCALE  
 RSP ES-13A DATED APRIL 15, 2016 SUPERSEDES RSP ES-13A DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-13A DATED MAY 20, 2011 - PAGE 491 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-13A**

2010 REVISED STANDARD PLAN RSP ES-13A

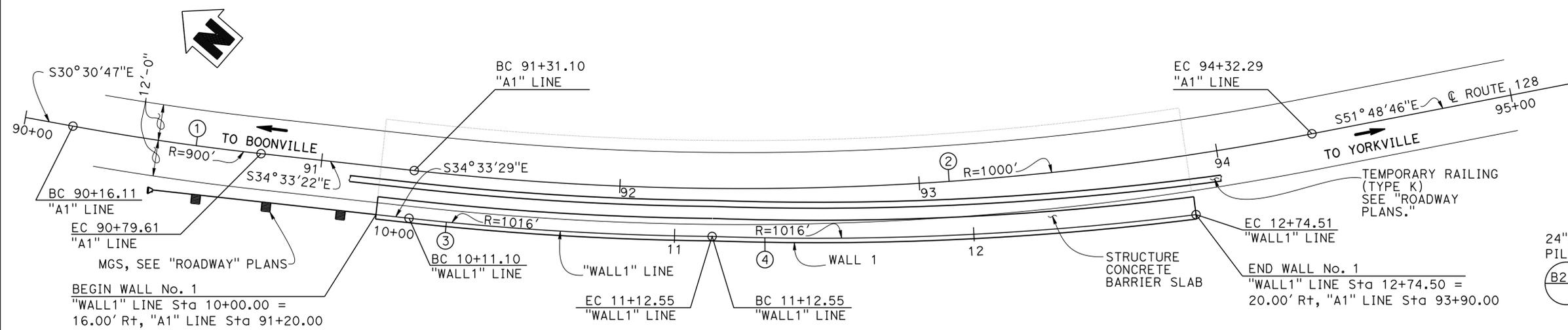
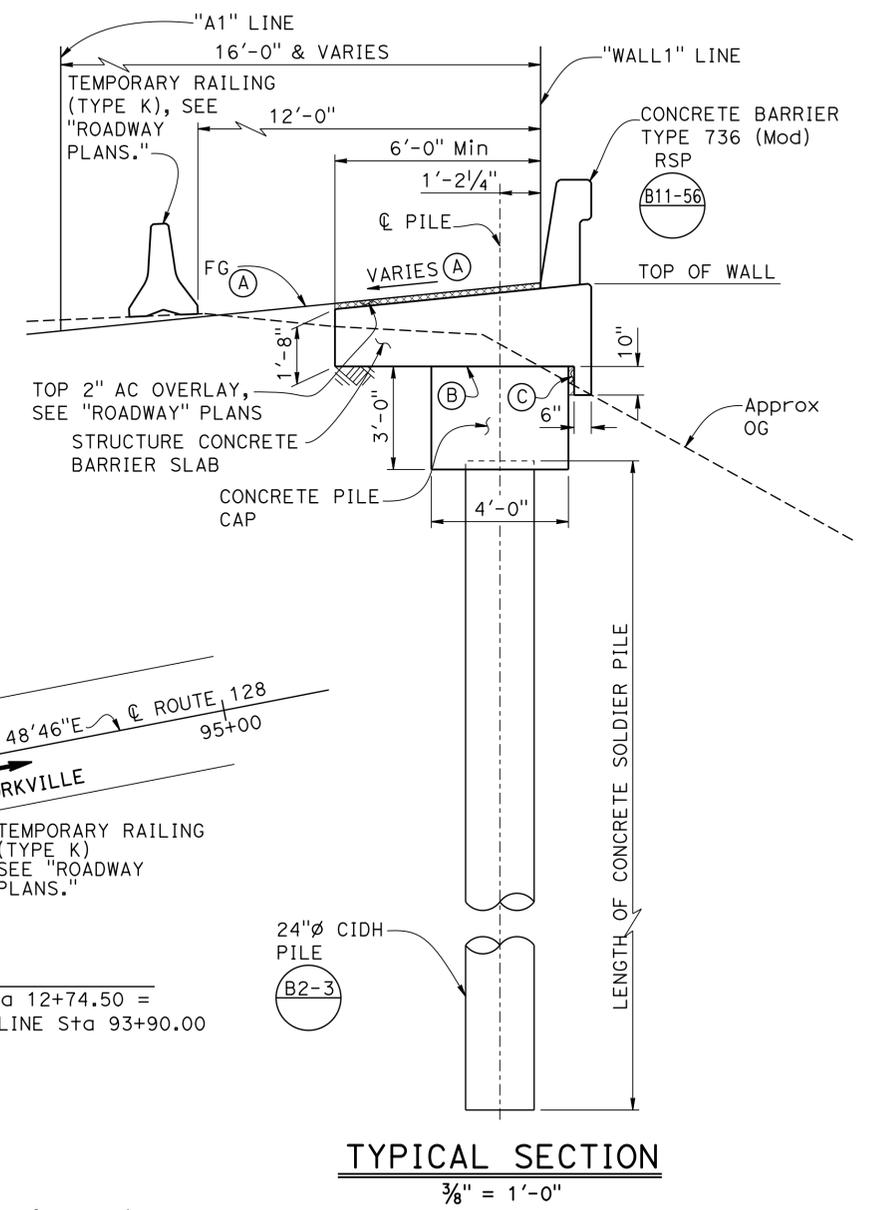
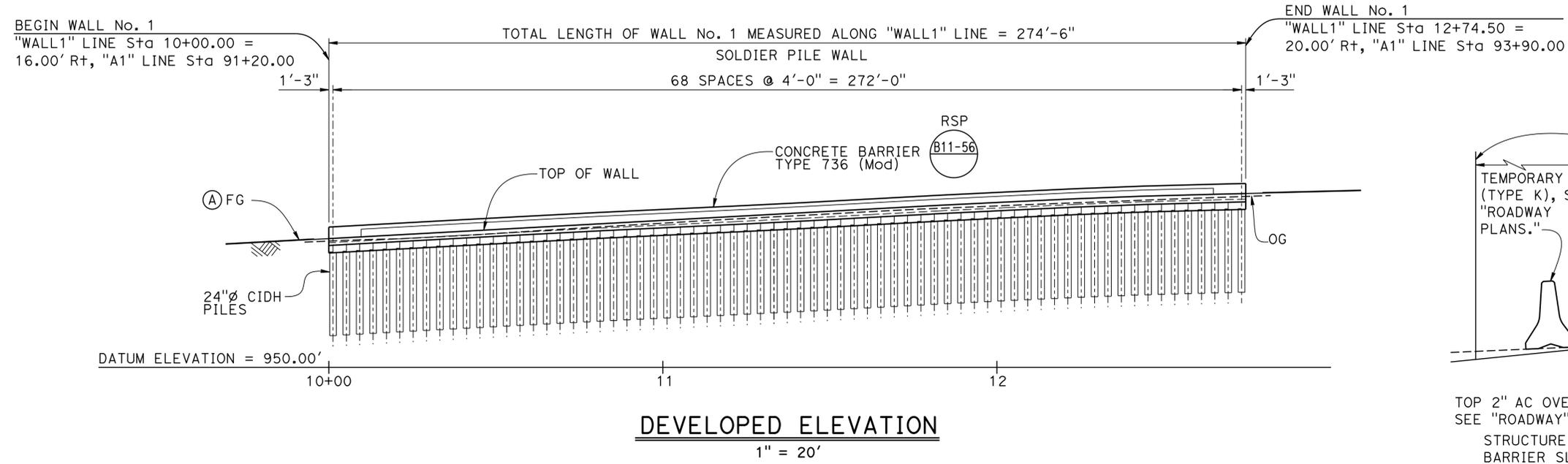
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	41	50

03-29-16  
 REGISTERED CIVIL ENGINEER DATE  
 5-9-16  
 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 SAMEH ALI HEGAZI  
 No. C64899  
 Exp. 6-30-17  
 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.

QUANTITIES

STRUCTURE EXCAVATION (PILE CAP)	405	CY
STRUCTURE BACKFILL (PILE CAP)	156	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,725	LF
STRUCTURAL CONCRETE, BARRIER SLAB	131	CY
STRUCTURAL CONCRETE, PILE CAP	122	CY
BAR REINFORCING STEEL (PILE CAP)	13,845	LB
BAR REINFORCING STEEL (PILING)	42,231	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	275	LF

NOTES:  
 1. For Top of Wall and Finished Grade elevation, see "ROADWAY PLANS".  
 2. The Contractor shall field locate all utilities before drilling.



CURVE DATA

No.	R	Δ	T	L
"A1" ①	900.00'	04°02'33"	31.76'	63.50'
"A1" ②	1000.00'	17°15'25"	151.74'	301.19'
"WALL1" ③	1016.00'	05°43'16"	50.77'	101.45'
"WALL1" ④	1016.00'	09°08'02"	81.15'	161.97'

PLAN  
 1" = 20'

NOTE:  
 (A) See "ROADWAY PLANS."  
 (B) Smooth finish on top of cap, place construction paper on top of cap.  
 (C) 2" Expanded Polystyrene

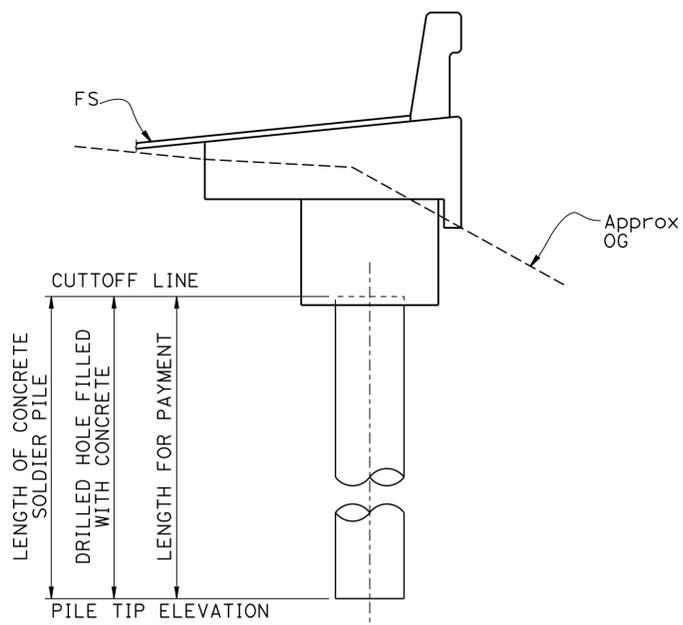
NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY Sameh Hegazi CHECKED Bichvan Thach		LOAD & RESISTANCE FACTOR DESIGN BY Sameh Hegazi CHECKED Bichvan Thach		LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		BRIDGE NO. 10E0033 POST MILE 39.5		<b>BEEBE CREEK STORM DAMAGE SLOPE PROTECTION</b> <b>BEEBE CREEK SOLDIER PILE WALL NO. 1</b> <b>GENERAL PLAN</b>	
DETAILS BY Carlo Cancino/TK CHECKED Bichvan Thach		LAYOUT BY Sameh Hegazi CHECKED Bichvan Thach		SPECIFICATIONS BY Wanda L. Ward CHECKED Sameh Hegazi		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 8</b>		PROJECT NUMBER & PHASE: 0112000135 1 CONTRACT NO.: 01-0B5204	
QUANTITIES BY Bichvan Thach CHECKED Sameh Hegazi		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3593		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 08-21-14, 02-24-16, 12-1-15 SHEET 1 OF 10	

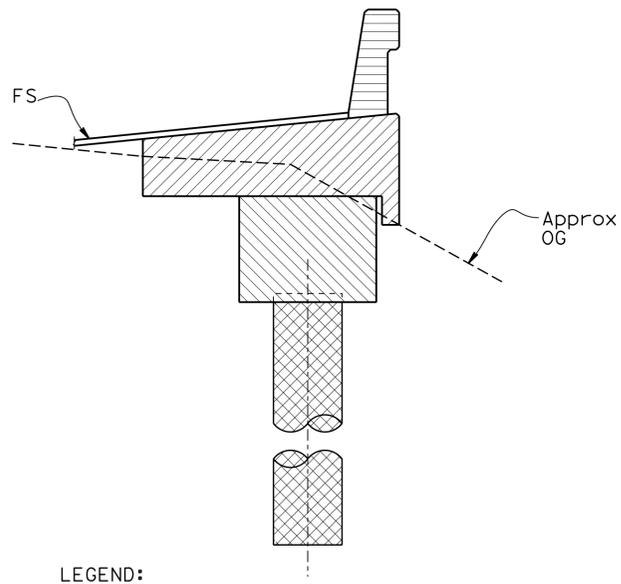
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 HØGNI SETBERG  
 DESIGN ENGINEER  
 STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)  
 FILE => 10e0033-a-gp.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	42	50

03-29-16  
 REGISTERED CIVIL ENGINEER DATE  
 5-9-16  
 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 SAMEH ALI HEGAZI  
 No. C64899  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA  
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**LIMITS OF PAYMENT**  
No Scale



- LEGEND:**
- Structural Concrete, Barrier Slab
  - Structural Concrete, Pile Cap
  - Concrete, Barrier Type 736 (Mod)
  - CIDH Concrete Pile

**CONCRETE STRENGTHS AND TYPE LIMITS**  
No Scale

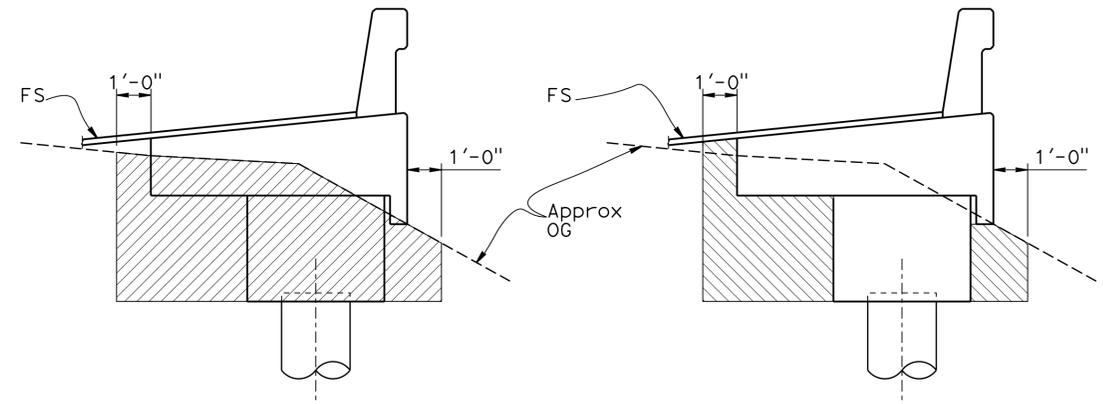
NOTE:  
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

**GENERAL NOTES**

DESIGN:  
AASHTO LRFD Bridge Design Specifications, 6th Edition 2012, and California Amendments, dated January 2014.

REINFORCED CONCRETE:  
 $f_y = 60 \text{ ksi}$   
 $f'_c = 4 \text{ ksi}$   
 $n = 8$

SOIL PARAMETERS:  
 $\phi = 30^\circ - 34^\circ$ ,  $\gamma = 120 - 125 \text{ pcf}$



**EXCAVATION**

**BACKFILL**

- LEGEND:**
- Structure excavation (Pile Cap)
  - Structure backfill (Pile Cap)

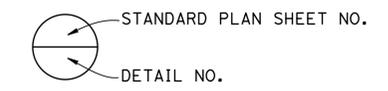
**LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL**  
No Scale

**INDEX TO PLANS**

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS NO. 1
3	INDEX TO PLANS NO. 2
4	INDEX TO PLANS NO. 3
5	STRUCTURE PLAN NO. 1
6	STRUCTURE PLAN NO. 2
7	STRUCTURE PLAN NO. 3
8	FOUNDATION PLAN
9	TYPICAL SECTION AND PILE DETAILS
10	LOG OF TEST BORINGS 1 OF 1

**STANDARD PLANS DATED 2010**

DETAIL	DESCRIPTION
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
RSP A10F	LEGEND - SOIL (SHEET 1 OF 2)
RSP A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
B2-10	LOAD TEST PILE DETAILS (2)
RSP B11-56	CONCRETE BARRIER TYPE 736



**BEEBE CREEK STORM DAMAGE SLOPE PROTECTION**

**BEEBE CREEK SOLDIER PILE WALL NO. 1**

**INDEX TO PLANS NO. 1**

DESIGN	BY Sameh Hegazi	CHECKED Bichvan Thach
DETAILS	BY T. Kusumi	CHECKED Bichvan Thach
QUANTITIES	BY Bichvan Thach	CHECKED Sameh Hegazi

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 8**

BRIDGE NO.	10E0033
POST MILE	39.5

TIME PLOTTED => 18-MAY-2016 11:17 USERNAME => s119538 DATE PLOTTED =>

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	43	50

03-29-16  
DATE

5-9-16  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

SAMEH ALI HEGAZI

No. C64899

Exp. 6-30-17

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.

Pile No.	"WALL1" Line Station	PILE TYPE	DESIGN CAPACITY (KIPS)		CUT-OFF ELEVATION (FT)	DESIGN TIP ELEVATION (FT)	SPECIFIED TIP ELEVATION (FT)
			COMPRESSION	TENSION			
P01	Sta 10+01.25	24" CIDH PILE	200	80	984.47	959.47	959.47
P02	Sta 10+05.25	24" CIDH PILE	200	80	984.69	959.69	959.69
P03	Sta 10+09.25	24" CIDH PILE	200	80	984.91	959.91	959.91
P04	Sta 10+13.25	24" CIDH PILE	200	80	985.14	960.14	960.14
P05	Sta 10+17.25	24" CIDH PILE	200	80	985.36	960.36	960.36
P06	Sta 10+21.25	24" CIDH PILE	200	80	985.58	960.58	960.58
P07	Sta 10+25.25	24" CIDH PILE	200	80	985.80	960.80	960.80
P08	Sta 10+29.25	24" CIDH PILE	200	80	986.02	961.02	961.02
P09	Sta 10+33.25	24" CIDH PILE	200	80	986.24	961.24	961.24
P10	Sta 10+37.25	24" CIDH PILE	200	80	986.45	961.45	961.45
P11	Sta 10+41.25	24" CIDH PILE	200	80	986.67	961.67	961.67
P12	Sta 10+45.25	24" CIDH PILE	200	80	986.88	961.88	961.88
P13	Sta 10+49.25	24" CIDH PILE	200	80	987.10	962.10	962.10
P14	Sta 10+53.25	24" CIDH PILE	200	80	987.31	962.31	962.31
P15	Sta 10+57.25	24" CIDH PILE	200	80	987.52	962.52	962.52
P16	Sta 10+61.25	24" CIDH PILE	200	80	987.73	962.73	962.73
P17	Sta 10+65.25	24" CIDH PILE	200	80	987.95	962.95	962.95
P18	Sta 10+69.25	24" CIDH PILE	200	80	988.16	963.16	963.16
P19	Sta 10+73.25	24" CIDH PILE	200	80	988.37	963.37	963.37
P20	Sta 10+77.25	24" CIDH PILE	200	80	988.58	963.58	963.58

Pile No.	"WALL1" Line Station	PILE TYPE	DESIGN CAPACITY (KIPS)		CUT-OFF ELEVATION (FT)	DESIGN TIP ELEVATION (FT)	SPECIFIED TIP ELEVATION (FT)
			COMPRESSION	TENSION			
P21	Sta 10+81.25	24" CIDH PILE	200	80	988.79	963.79	963.79
P22	Sta 10+85.25	24" CIDH PILE	200	80	988.98	963.98	963.98
P23	Sta 10+89.25	24" CIDH PILE	200	80	989.17	964.17	964.17
P24	Sta 10+93.25	24" CIDH PILE	200	80	989.35	964.35	964.35
P25	Sta 10+97.25	24" CIDH PILE	200	80	989.54	964.54	964.54
P26	Sta 11+01.25	24" CIDH PILE	200	80	989.73	964.73	964.73
P27	Sta 11+05.25	24" CIDH PILE	200	80	989.92	964.92	964.92
P28	Sta 11+09.25	24" CIDH PILE	200	80	990.11	965.11	965.11
P29	Sta 11+13.25	24" CIDH PILE	200	80	990.29	965.29	965.29
P30	Sta 11+17.25	24" CIDH PILE	200	80	990.48	965.48	965.48
P31	Sta 11+21.25	24" CIDH PILE	200	80	990.67	965.67	965.67
P32	Sta 11+25.25	24" CIDH PILE	200	80	990.86	965.86	965.86
P33	Sta 11+29.25	24" CIDH PILE	200	80	991.06	966.06	966.06
P34	Sta 11+33.25	24" CIDH PILE	200	80	991.26	966.26	966.26
P35	Sta 11+37.25	24" CIDH PILE	200	80	991.46	966.46	966.46
P36	Sta 11+41.25	24" CIDH PILE	200	80	991.66	966.66	966.66
P37	Sta 11+45.25	24" CIDH PILE	200	80	991.87	966.87	966.87
P38	Sta 11+49.25	24" CIDH PILE	200	80	992.09	967.09	967.09
P39	Sta 11+53.25	24" CIDH PILE	200	80	992.31	967.31	967.31
P40	Sta 11+57.25	24" CIDH PILE	200	80	992.53	967.53	967.53

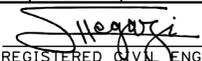
- NOTES:
1. Design tip elevations are controlled by: (a) Compression (Strength Limit), (b) Settlement, and (c) Lateral Load, respectively.
  2. The specified tip elevation shall not be raised above the design tip elevation for compression.
  3. For Top of Wall and Finished Grade elevation, see "ROADWAY PLANS".
  4. The Contractor shall field locate all utilities before drilling.

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

<b>STATE OF CALIFORNIA</b>		<b>DEPARTMENT OF TRANSPORTATION</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>STRUCTURE DESIGN</b>		<b>DESIGN BRANCH 8</b>		<b>BEEBE CREEK STORM DAMAGE SLOPE PROTECTION</b>		<b>BEEBE CREEK SOLDIER PILE WALL NO. 1</b>		<b>INDEX TO PLANS NO. 2</b>			
DESIGN	BY Sameh Hegazi	CHECKED Bichvan Thach			BRIDGE NO.	10E0033											
DETAILS	BY T. Kusumi	CHECKED Bichvan Thach			POST MILE	39.5											
QUANTITIES	BY Bichvan Thach	CHECKED Sameh Hegazi															
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			UNIT: 3593			PROJECT NUMBER & PHASE: 0112000135 1			CONTRACT NO.: 01-0B5204			DISREGARD PRINTS BEARING EARLIER REVISION DATES		
			0 1 2 3									REVISION DATES			SHEET 3 OF 10		
						FILE => 10e0033-a-1tp02.dgn						08-22-14 09-16-14 05-26-15 12-1-15					

11:17 TIME PLOTTED => 18-MAY-2016 USERNAME => s119538 DATE PLOTTED =>

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	44	50

 03-29-16  
 REGISTERED CIVIL ENGINEER DATE

5-9-16  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA  
 REGISTERED PROFESSIONAL ENGINEER  
 SAMEH ALI HEGAZI  
 No. C64899  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA

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Pile No.	"WALL 1" Line Station	PILE TYPE	DESIGN CAPACITY (KIPS)		CUT-OFF ELEVATION (FT)	DESIGN TIP ELEVATION (FT)	SPECIFIED TIP ELEVATION (FT)
			COMPRESSION	TENSION			
P41	Sta 11+61.25	24" CIDH PILE	200	80	992.75	967.75	967.75
P42	Sta 11+65.25	24" CIDH PILE	200	80	992.96	967.96	967.96
P43	Sta 11+69.25	24" CIDH PILE	200	80	993.18	968.18	968.18
P44	Sta 11+73.25	24" CIDH PILE	200	80	993.39	968.39	968.39
P45	Sta 11+77.25	24" CIDH PILE	200	80	993.61	968.61	968.61
P46	Sta 11+81.25	24" CIDH PILE	200	80	993.83	968.83	968.83
P47	Sta 11+85.25	24" CIDH PILE	200	80	994.03	969.03	969.03
P48	Sta 11+89.25	24" CIDH PILE	200	80	994.22	969.22	969.22
P49	Sta 11+93.25	24" CIDH PILE	200	80	994.42	969.42	969.42
P50	Sta 11+97.25	24" CIDH PILE	200	80	994.61	969.61	969.61
P51	Sta 12+01.25	24" CIDH PILE	200	80	994.81	969.81	969.81
P52	Sta 12+05.25	24" CIDH PILE	200	80	995.00	970.00	970.00
P53	Sta 12+09.25	24" CIDH PILE	200	80	995.19	970.19	970.19
P54	Sta 12+13.25	24" CIDH PILE	200	80	995.38	970.38	970.38
P55	Sta 12+17.25	24" CIDH PILE	200	80	995.56	970.56	970.56
P56	Sta 12+21.25	24" CIDH PILE	200	80	995.75	970.75	970.75
P57	Sta 12+25.25	24" CIDH PILE	200	80	995.93	970.93	970.93
P58	Sta 12+29.25	24" CIDH PILE	200	80	996.08	971.08	971.08
P59	Sta 12+33.25	24" CIDH PILE	200	80	996.23	971.23	971.23
P60	Sta 12+37.25	24" CIDH PILE	200	80	996.39	971.39	971.39

Pile No.	"WALL 1" Line Station	PILE TYPE	DESIGN CAPACITY (KIPS)		CUT-OFF ELEVATION (FT)	DESIGN TIP ELEVATION (FT)	SPECIFIED TIP ELEVATION (FT)
			COMPRESSION	TENSION			
P61	Sta 12+41.25	24" CIDH PILE	200	80	996.54	971.54	971.54
P62	Sta 12+45.25	24" CIDH PILE	200	80	996.68	971.68	971.68
P63	Sta 12+49.25	24" CIDH PILE	200	80	996.78	971.78	971.78
P64	Sta 12+53.25	24" CIDH PILE	200	80	996.89	971.89	971.89
P65	Sta 12+57.25	24" CIDH PILE	200	80	997.00	972.00	972.00
P66	Sta 12+61.25	24" CIDH PILE	200	80	997.11	972.11	972.11
P67	Sta 12+65.25	24" CIDH PILE	200	80	997.21	972.21	972.21
P68	Sta 12+69.25	24" CIDH PILE	200	80	997.31	972.31	972.31
P69	Sta 12+73.25	24" CIDH PILE	200	80	997.40	972.40	972.40

- NOTES:
- Design tip elevations are controlled by: (a) Compression (Strength Limit), (b) Settlement, and (c) Lateral Load, respectively.
  - The specified tip elevation shall not be raised above the design tip elevation for compression.
  - For Top of Wall and Finished Grade elevation, see "ROADWAY PLANS".
  - The Contractor shall field locate all utilities before drilling.

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		DESIGN BY Sameh Hegazi	CHECKED Bichvan Thach	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 8</b>	BRIDGE NO. 10E0033	<b>BEEBE CREEK STORM DAMAGE SLOPE PROTECTION</b> <b>BEEBE CREEK SOLDIER PILE WALL NO. 1</b> <b>INDEX TO PLANS NO. 3</b>
	DETAILS BY T. Kusumi	CHECKED Bichvan Thach	POST MILE 39.5				
	QUANTITIES BY Bichvan Thach	CHECKED Sameh Hegazi					

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3  
 UNIT: 3593  
 PROJECT NUMBER & PHASE: 0112000135 1 CONTRACT NO.: 01-0B5204  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 REVISION DATES: 08-22-14 09-16-14 05-26-15 12-1-15  
 SHEET 4 OF 10  
 USERNAME => s119538 DATE PLOTTED => 18-MAY-2016 11:17  
 FILE => 10e0033-a-1+p03.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	45	50

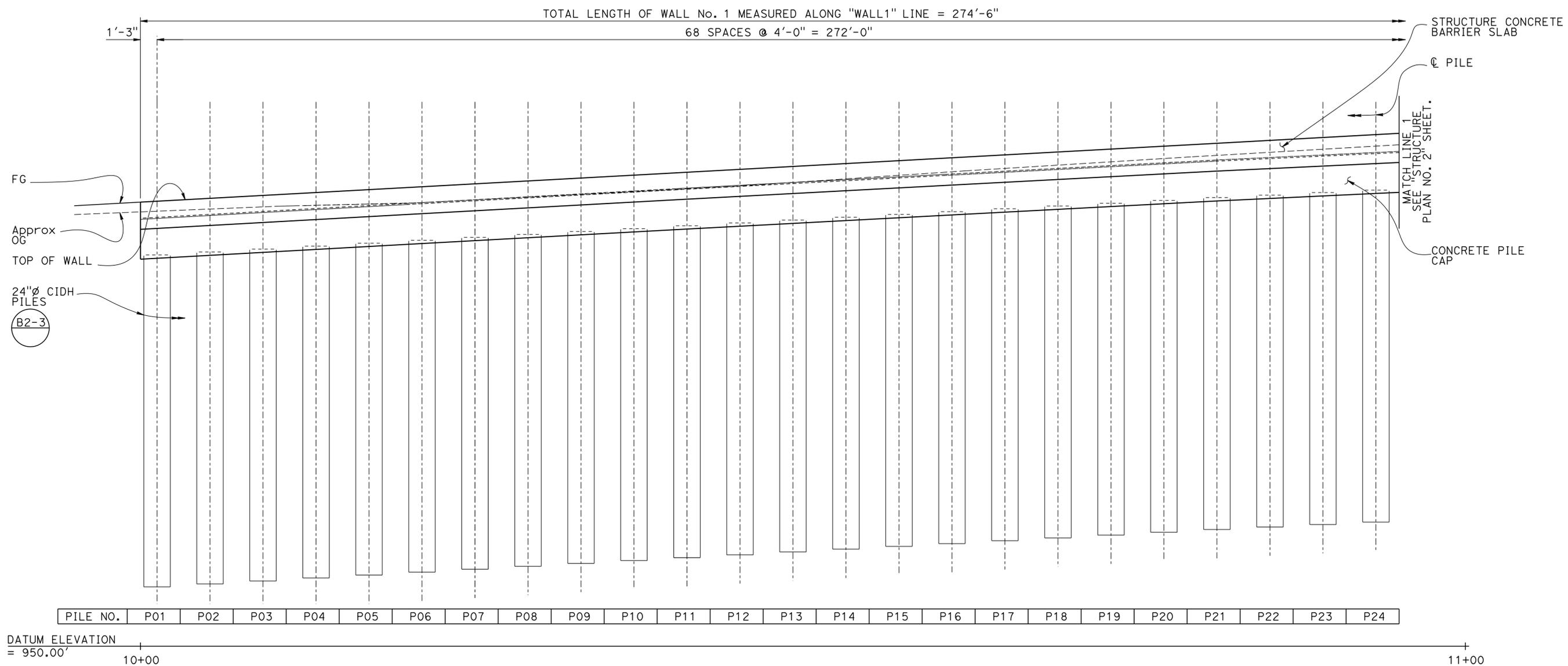
<i>Sameh Hegazi</i>	03-29-16
REGISTERED CIVIL ENGINEER	DATE
5-9-16	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER  
 SAMEH ALI HEGAZI  
 No. C64899  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA

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**NOTES:**

1. For Top of Wall and Finished Grade elevation, see "ROADWAY PLANS".
2. The Contractor shall field locate all utilities before drilling.
3. See "Pile Data Table" on "INDEX TO PLANS NO. 1," "INDEX TO PLANS NO. 2," and "INDEX TO PLANS NO. 3," sheets.
4. Concrete Barrier Type 736 (Mod) not shown for clarity



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

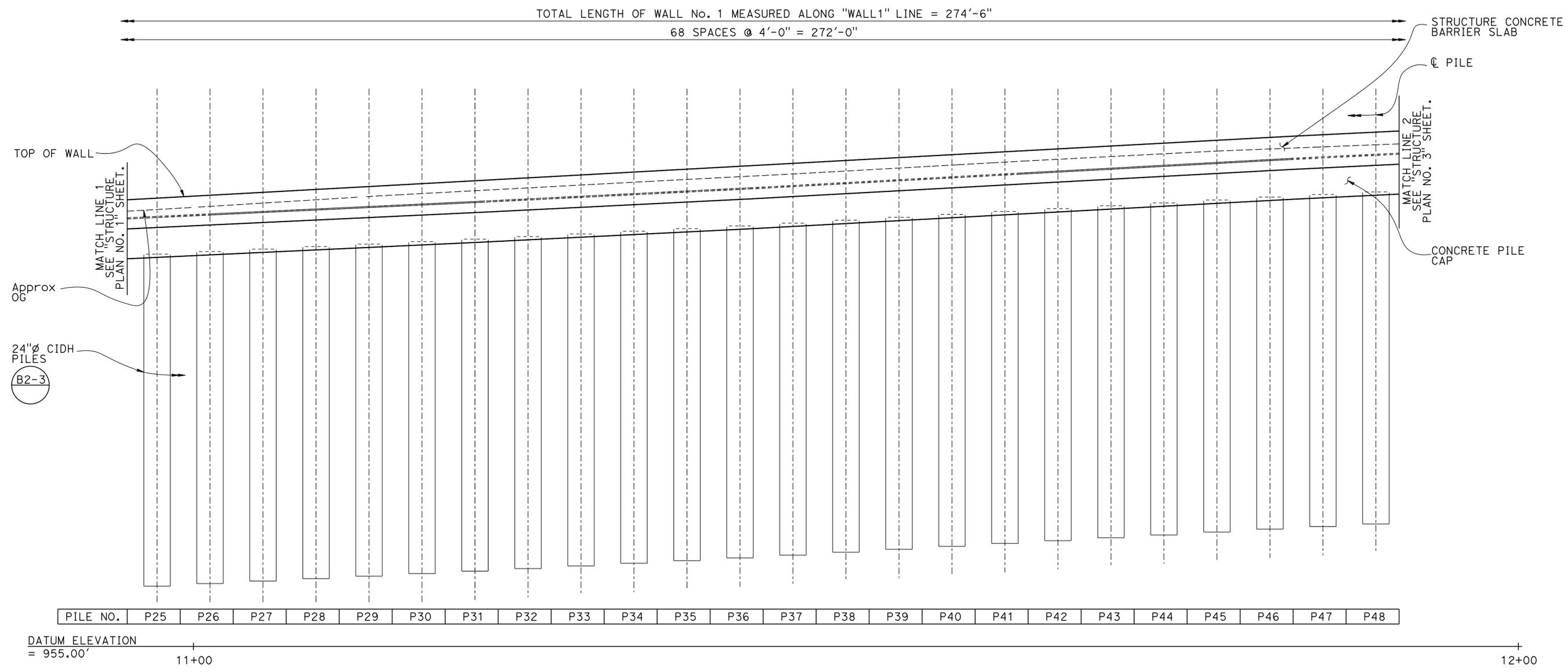
<b>STATE OF CALIFORNIA</b>				<b>DEPARTMENT OF TRANSPORTATION</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>STRUCTURE DESIGN</b>		<b>BRIDGE NO.</b>		<b>BEEBE CREEK STORM DAMAGE SLOPE PROTECTION</b>	
<b>DESIGN</b>				<b>BY</b>		<b>CHECKED</b>		<b>10E0033</b>		<b>POST MILE</b>		<b>5</b>	
Sameh Hegazi				Bichvan Thach		Bichvan Thach		39.5		<b>STRUCTURE PLAN NO. 1</b>		<b>10</b>	
<b>DETAILS</b>				<b>BY</b>		<b>CHECKED</b>		<b>REVISION DATES</b>		<b>SHEET</b>		<b>OF</b>	
T. Kusumi				Bichvan Thach		Sameh Hegazi		08-21-14 09-08-14 10-30-15		5		10	
<b>QUANTITIES</b>				<b>BY</b>		<b>CHECKED</b>		<b>UNIT: 3593</b>		<b>PROJECT NUMBER &amp; PHASE: 0112000135 1</b>		<b>CONTRACT NO.: 01-0B5204</b>	
Bichvan Thach				Sameh Hegazi		10e0033-c-sp01.dgn		<b>DISREGARD PRINTS BEARING EARLIER REVISION DATES</b>		<b>FILE =&gt;</b>		<b>10e0033-c-sp01.dgn</b>	

USERNAME => s119538 DATE PLOTTED => 18-MAY-2016 TIME PLOTTED => 11:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	46	50

03-29-16  
 REGISTERED CIVIL ENGINEER DATE  
 5-9-16  
 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 SAMEH ALI HEGAZI  
 No. C64899  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

- NOTES:
- For Top of Wall and Finished Grade elevation, see "ROADWAY PLANS".
  - The Contractor shall field locate all utilities before drilling.
  - See "Pile Data Table" on "INDEX TO PLANS NO. 1," "INDEX TO PLANS NO. 2," and "INDEX TO PLANS NO. 3," sheets.
  - Concrete Barrier Type 736 (Mod) not shown for clarity



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

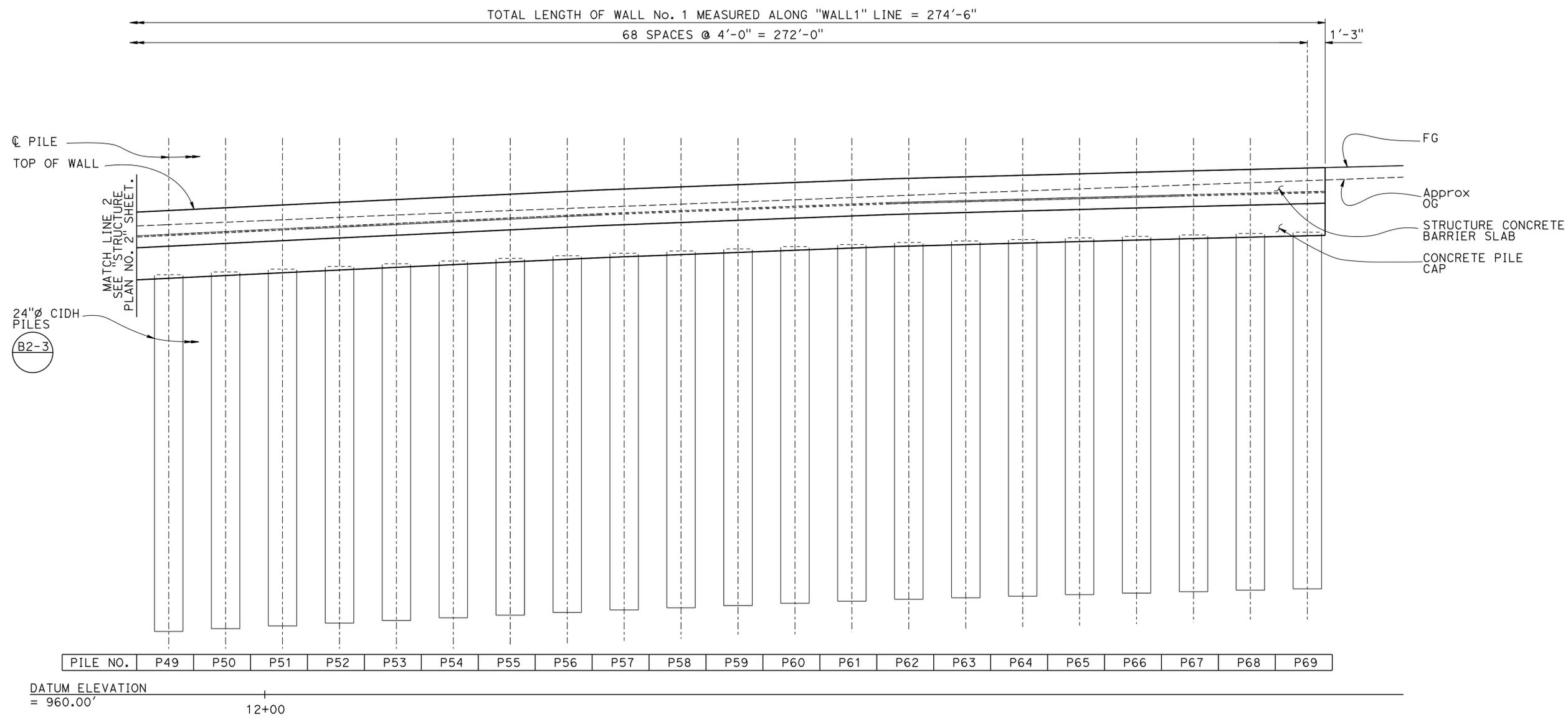
DESIGN BY Sameh Hegazi CHECKED Bichvan Thach DETAILS BY T. Kusumi CHECKED Bichvan Thach QUANTITIES BY Bichvan Thach CHECKED Sameh Hegazi				<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 10E0033 POST MILE 39.5		<b>BEEBE CREEK STORM DAMAGE SLOPE PROTECTION</b> <b>BEEBE CREEK SOLDIER PILE WALL NO. 1</b> <b>STRUCTURE PLAN NO. 2</b>			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3						UNIT: 3593 PROJECT NUMBER & PHASE: 0112000135 1 CONTRACT NO.: 01-0B5204		DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 08-21-14, 09-08-14, 10-30-15 SHEET 6 OF 10			

TIME PLOTTED => 11:17  
 DATE PLOTTED => 18-MAY-2016  
 USERNAME => s119538

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	47	50

REGISTERED CIVIL ENGINEER *Sameh Hegazi* DATE 03-29-16  
 PLANS APPROVAL DATE 5-9-16  
 REGISTERED PROFESSIONAL ENGINEER  
 SAMEH ALI HEGAZI  
 No. C64899  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

- NOTES:
- For Top of Wall and Finished Grade elevation, see "ROADWAY PLANS".
  - The Contractor shall field locate all utilities before drilling.
  - See "Pile Data Table" on "INDEX TO PLANS NO. 1," "INDEX TO PLANS NO. 2," and "INDEX TO PLANS NO. 3," sheets.
  - Concrete Barrier Type 736 (Mod) not shown for clarity



**DEVELOPED ELEVATION**  
 $\frac{1}{4}" = 1'-0"$

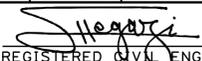
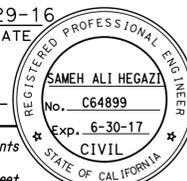
NOTE:  
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

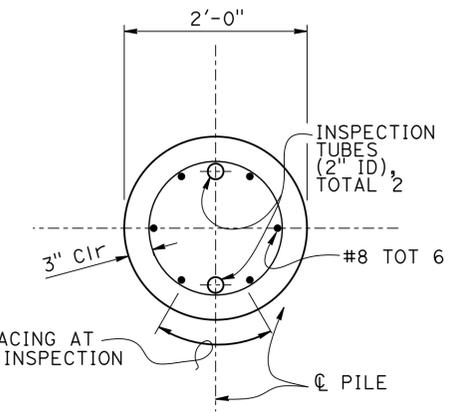
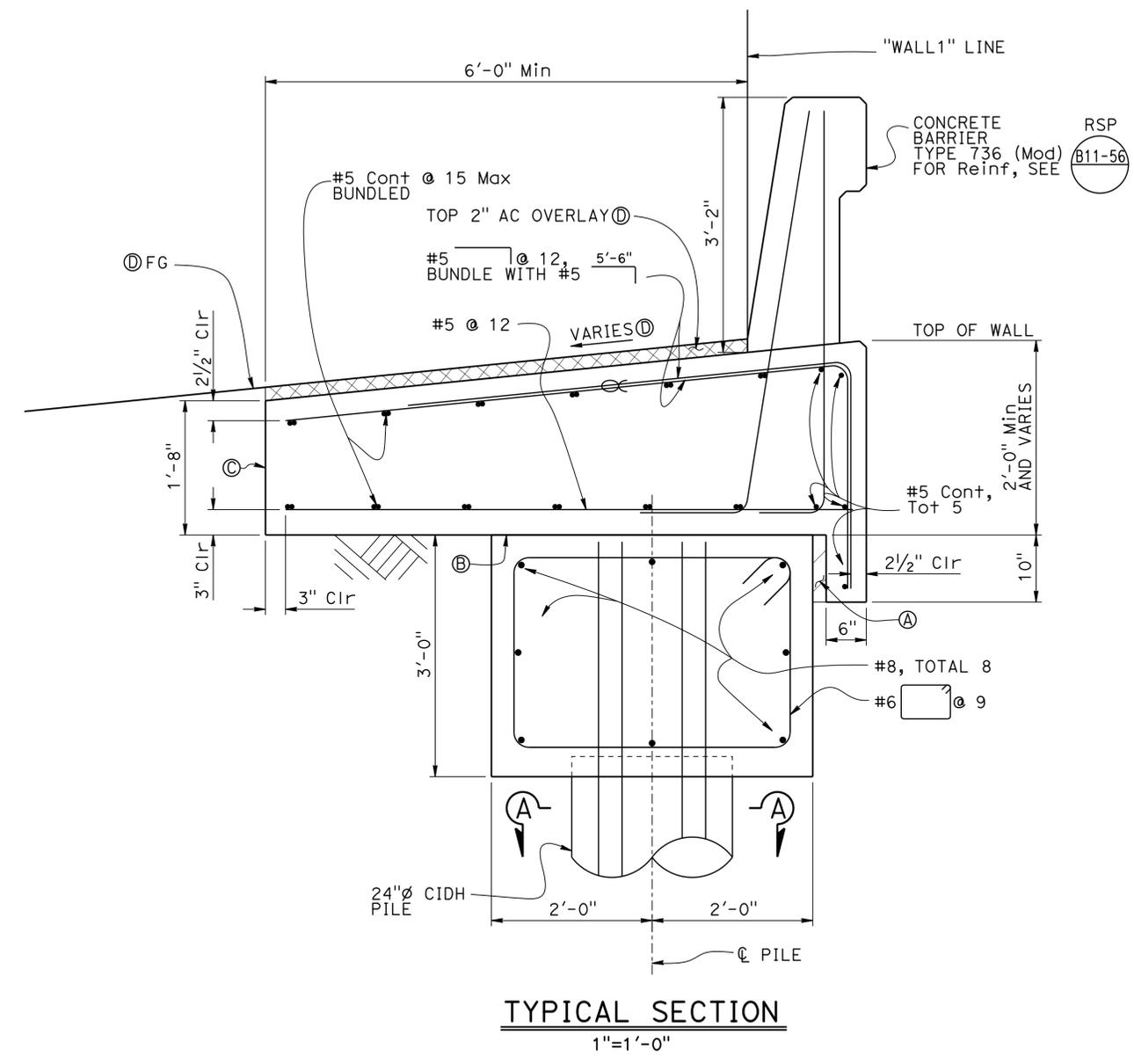
DESIGN BY Sameh Hegazi CHECKED Bichvan Thach DETAILS BY T. Kusumi CHECKED Bichvan Thach QUANTITIES BY Bichvan Thach CHECKED Sameh Hegazi				<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 8</b>		BRIDGE NO. 10E0033 POST MILE 39.5		<b>BEEBE CREEK STORM DAMAGE SLOPE PROTECTION</b> <b>BEEBE CREEK SOLDIER PILE WALL NO. 1</b> <b>STRUCTURE PLAN NO. 3</b>					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3593		PROJECT NUMBER & PHASE: 0112000135 1		CONTRACT NO.: 01-0B5204		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 08-21-14, 09-09-14, 10-30-15 SHEET 7 OF 10	

FILE => 10e0033-c-sp03.dgn

USERNAME => s119538 DATE PLOTTED => 18-MAY-2016 11:17 TIME PLOTTED => 11:17



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	128	39.5	49	50
 REGISTERED CIVIL ENGINEER DATE 03-29-16			5-9-16 PLANS APPROVAL DATE		
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**SECTION A-A** (B2-3)  
No Scale

LEGEND:  
 Indicated bundled bars

- NOTES:
- No expansion joints in concrete barrier or structure concrete barrier slab within wall limits
  - Not all barrier reinforcements shown.
  - Dimension may vary with roadway cross slope and with certain thickness of AC surfacing.
- (A) 2" expanded polystyrene  
 (B) Smooth finish on top of cap. Place construction paper on top of cap.  
 (C) Contact joint  
 (D) See "ROADWAY PLANS."

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

DESIGN	BY Sameh Hegazi	CHECKED Bichvan Thach
DETAILS	BY T. Kusumi	CHECKED Bichvan Thach
QUANTITIES	BY Bichvan Thach	CHECKED Sameh Hegazi

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 8**

BRIDGE NO.	10E0033
POST MILE	39.5

**BEEBE CREEK STORM DAMAGE SLOPE PROTECTION**  
**BEEBE CREEK SOLDIER PILE WALL NO. 1**  
**TYPICAL SECTION AND PILE DETAILS**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Men	128	39.5	50	50

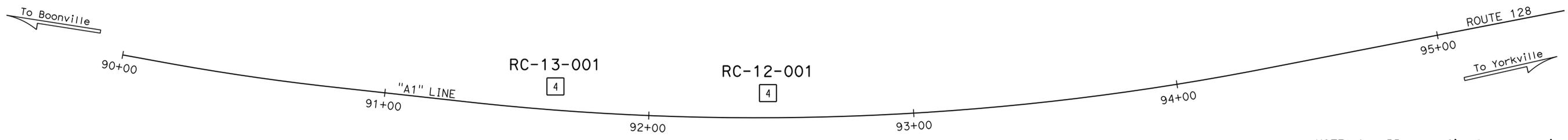
05-08-15  
REGISTERED CIVIL ENGINEER

5-9-16  
PLANS APPROVAL DATE

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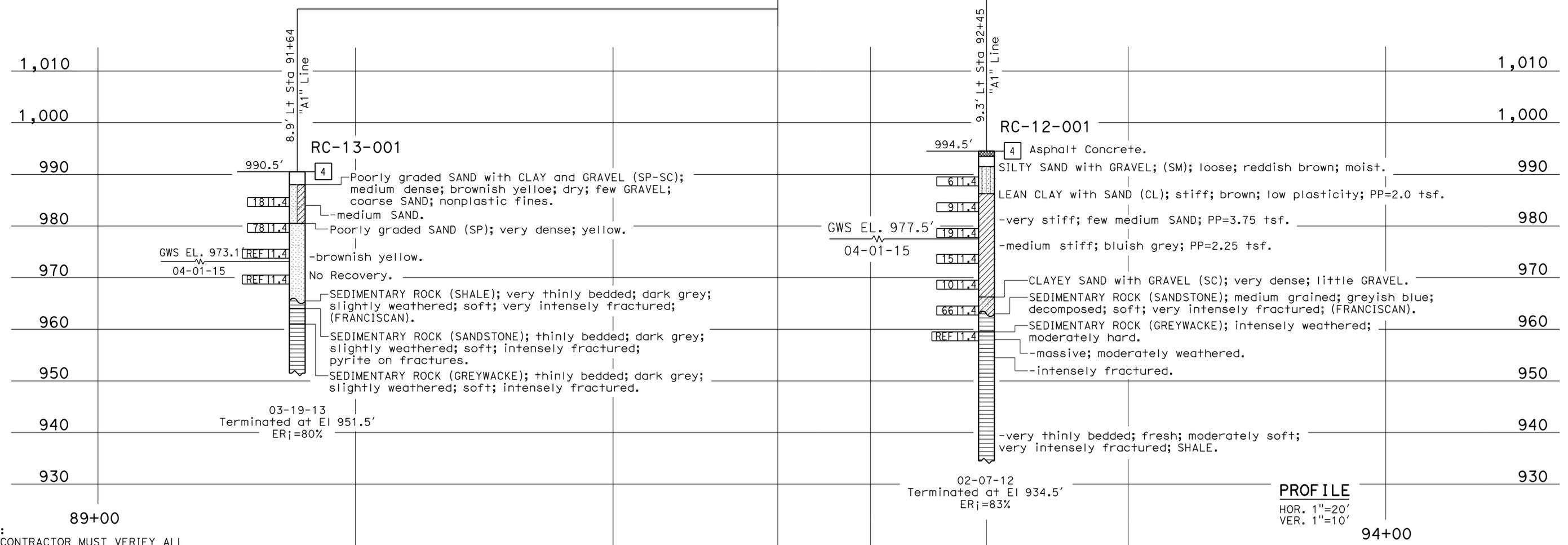
Vahid Khatai-Khotan  
No. 66980  
Exp. 9-30-16  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).



- NOTE: 1. PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.  
2. REF=Drive Refusal.

PLAN  
1"=20'



PROFILE  
HOR. 1"=20'  
VER. 1"=10'

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

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BEEBE CREEK STORM DAMAGE SLOPE PROTECTION</b>	
FUNCTIONAL SUPERVISOR		FIELD INVESTIGATION BY:		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		<b>BEEBE CREEK SOLDIER PILE WALL 1</b>	
NAME: H. Nikouli		E. Kretschmer K. Gallager		DESIGN BRANCH 8		BRIDGE NO. 10E0033		<b>LOG OF TEST BORINGS 1 of 1</b>	
DRAWN BY: M. Reynolds 03/15		CHECKED BY: M. Gaffney		PROJECT NUMBER & PHASE: 01120001351		POST MILES 39.5		CONTRACT NO.: 01-0B5204	
OGS CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3660		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES SHEET OF	
				0 1 2 3		05/15/15		10 10	

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USERNAME => s119538 DATE PLOTTED => 18-MAY-2016 TIME PLOTTED => 11:18