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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN MENDOCINO COUNTY
ABOUT 7 MILES EAST OF BOONVILLE
AT 3.4 MILES EAST OF
SODA CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

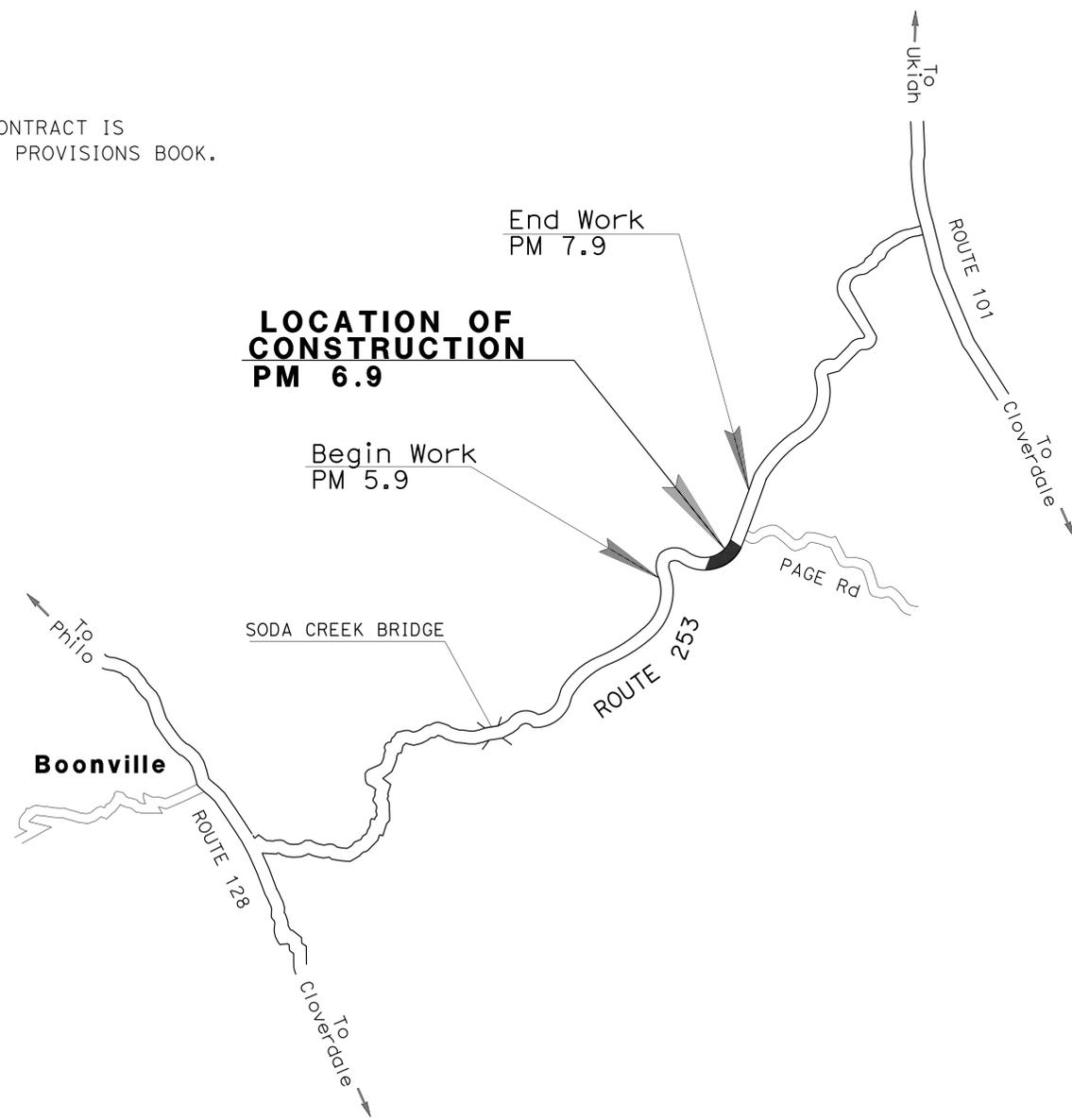
ER-19B4(004)E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	1	62





LOCATION MAP



NO SCALE

PROJECT MANAGER STEVEN BLAIR
DESIGN MANAGER SAM VANDELL

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


 PROJECT ENGINEER
 REGISTERED CIVIL ENGINEER
 DATE: 3-16-15
 PLANS APPROVAL DATE: March 16, 2015

REGISTERED PROFESSIONAL ENGINEER
SUSHIL JOSHEE
 No. 78989
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA

CONTRACT No.	01-0B5704
PROJECT ID	0112000139

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 03-DESIGN

NOTE:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO THE TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.

ABBREVIATIONS:

HMA-A HOT MIX ASPHALT (TYPE A)
 GPI GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)

DESIGN DESIGNATION

ADT (2012)	2,310	D	60%
ADT (2032)	3,360	T	9%
DHV	210	V	30 mph
ESAL	371,700	TI ₂₀	9.0
PAVEMENT CLIMATE REGION: LOW MOUNTAIN			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	2	62
REGISTERED CIVIL ENGINEER			DATE	3-16-15	
PLANS APPROVAL DATE			3-16-15		

Sushil
 REGISTERED CIVIL ENGINEER
 No. 78989
 Exp. 3-31-16
 CIVIL

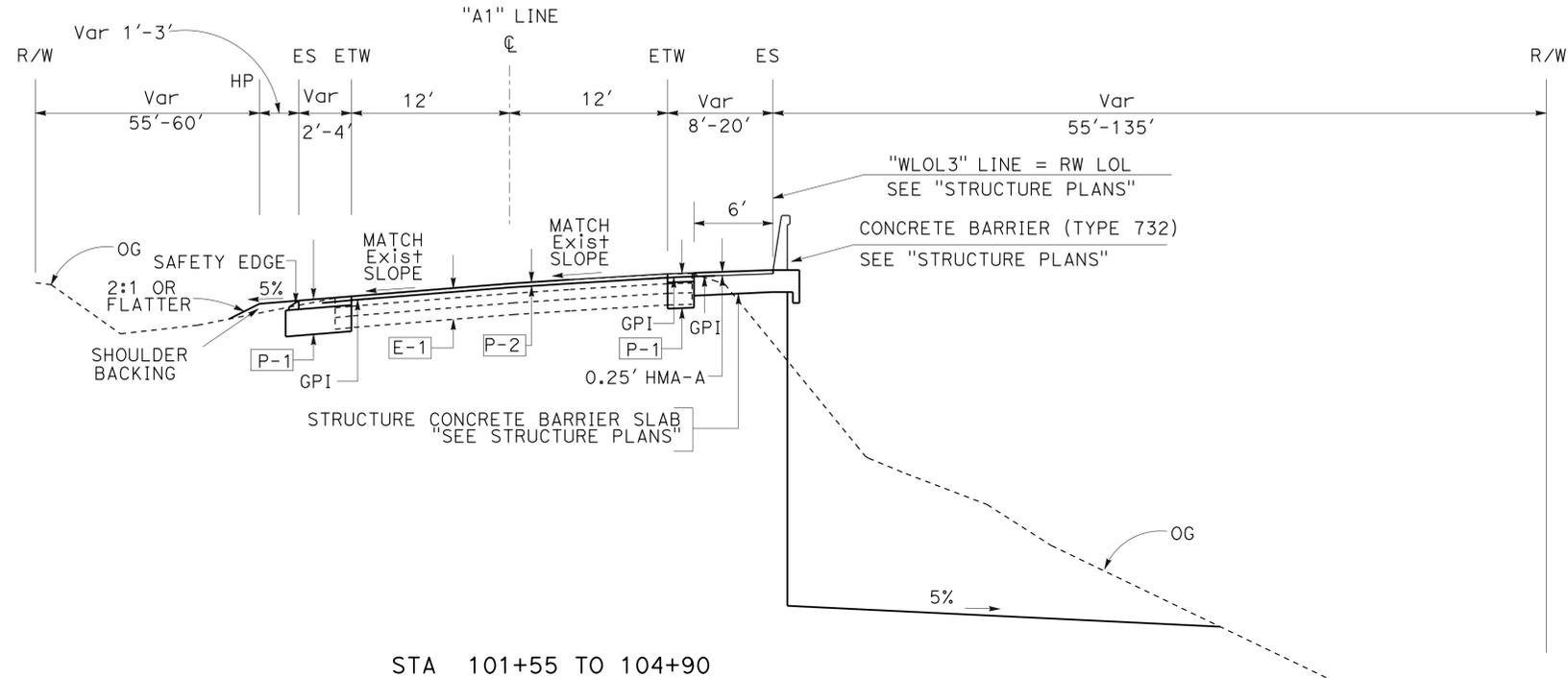
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

EXISTING STRUCTURAL SECTIONS

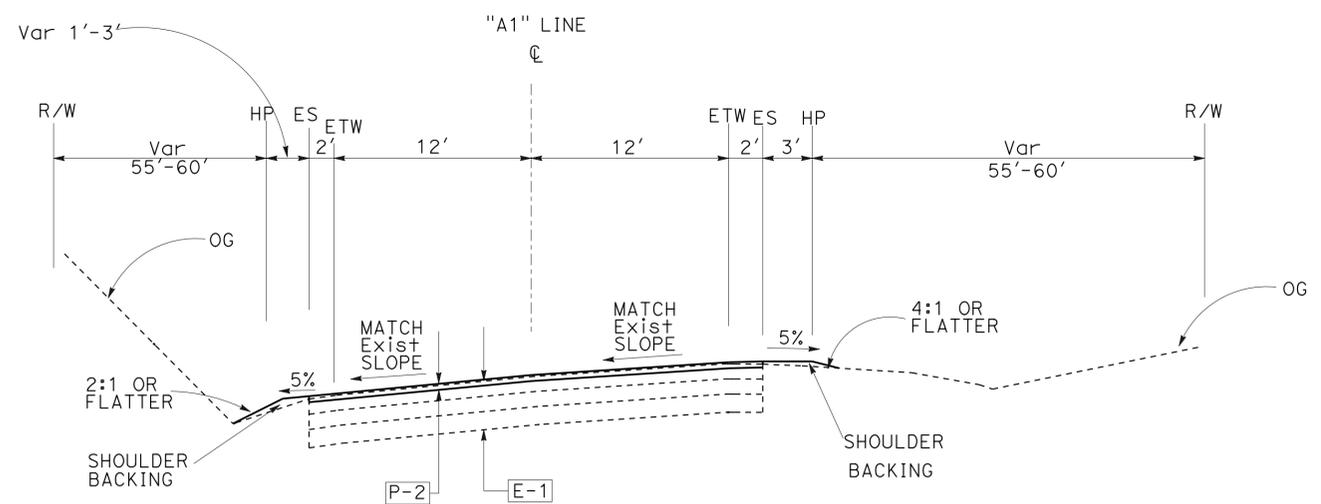
- E-1 0.50'-0.70' AC
 0.50' AB
 0.60' AS

PROPOSED STRUCTURAL SECTIONS

- P-1 0.45' HMA-A
 1.35' CLASS 2 AB
- P-2 0.25' HMA-A
 0.15' COLD PLANE AC Pvmt



STA 101+55 TO 104+90



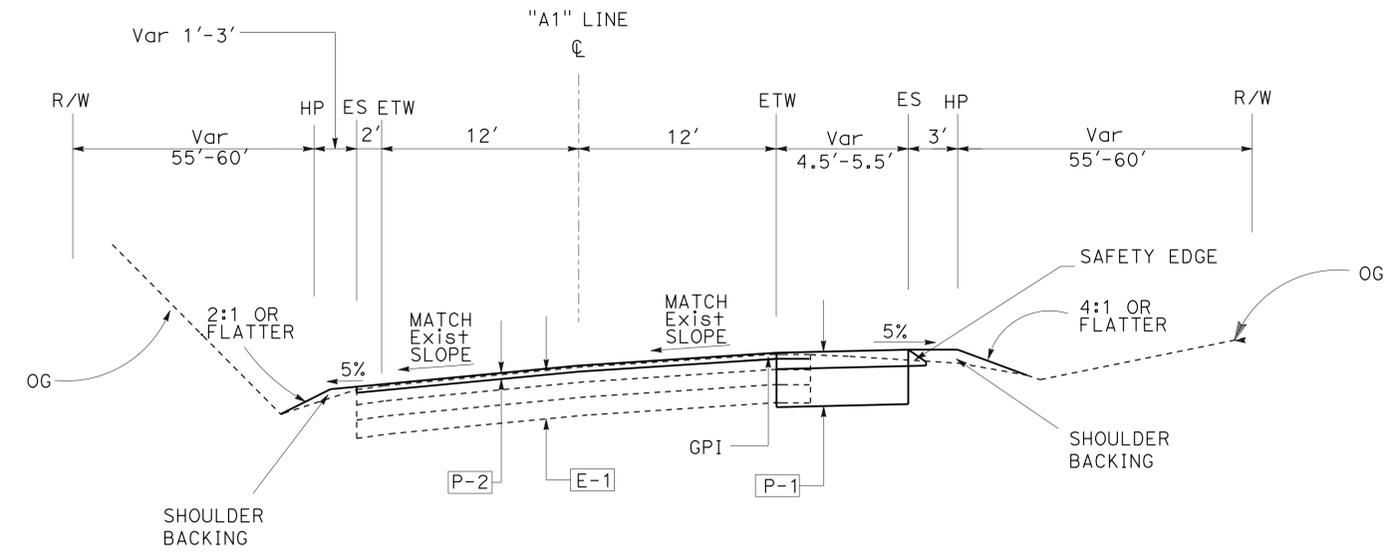
STA 101+23 TO 101+55
 STA 106+75 TO 107+05

ROUTE 253

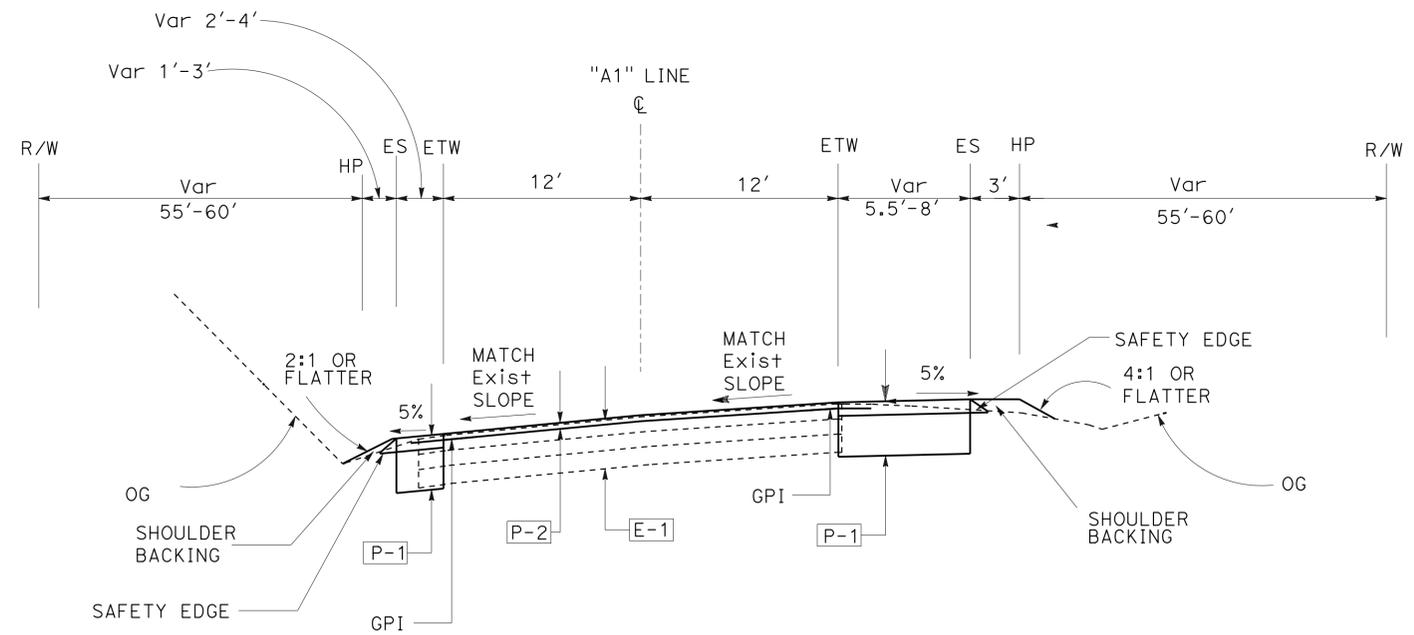
TYPICAL CROSS SECTIONS
 NO SCALE
X-1

LAST REVISION DATE PLOTTED => 05-MAY-2015 12-04-14 TIME PLOTTED => 10:46

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	3	62
Sushil			3-16-15	REGISTERED CIVIL ENGINEER DATE	
3-16-15			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER SUSHIL JOSHEE No. 78989 Exp. 3-31-16 CIVIL STATE OF CALIFORNIA					



STA 105+79 TO 106+75



STA 104+90 TO 105+79

ROUTE 253

TYPICAL CROSS SECTIONS
NO SCALE **X-2**

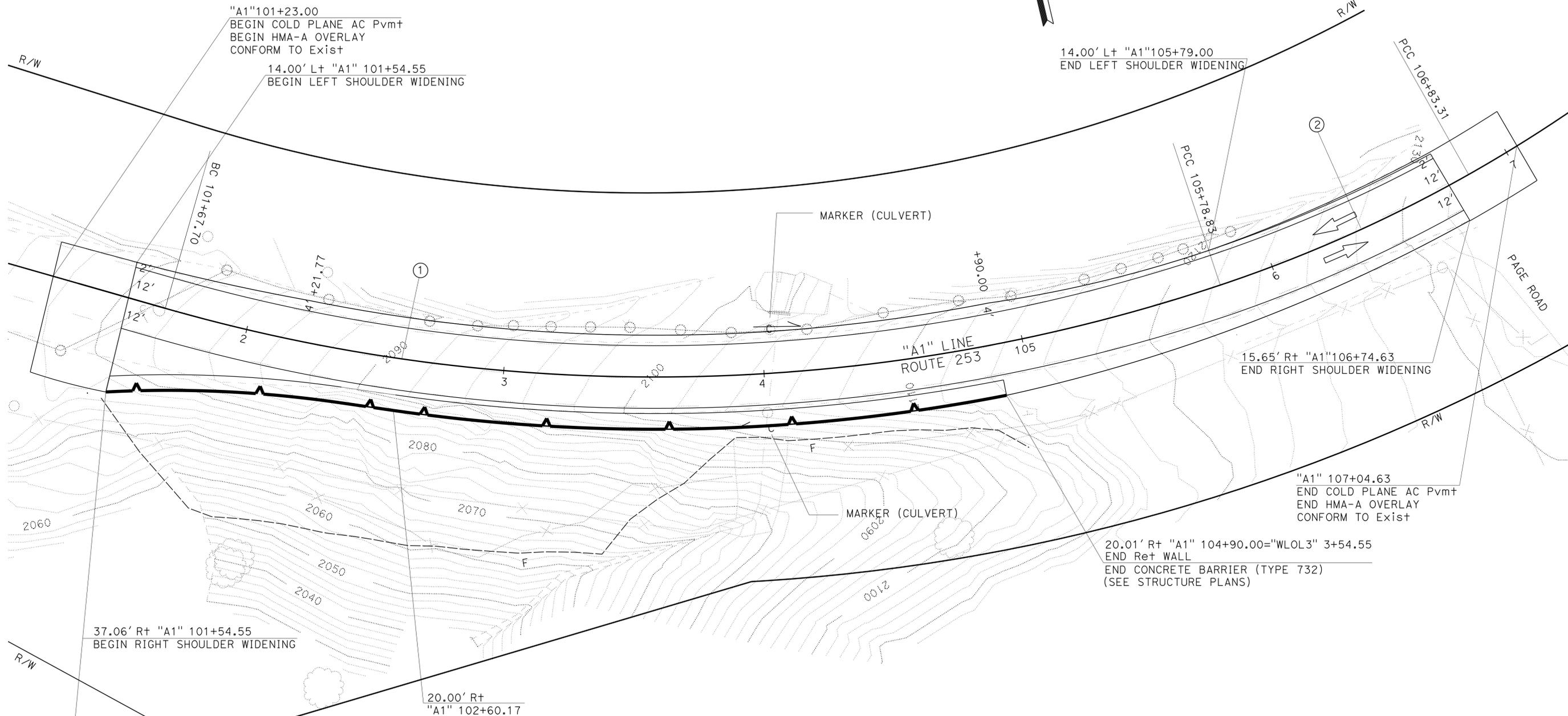
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
Caltrans 03-DESIGN	SAM VANDELL	KEVIN CANFIELD	SUSHIL JOSHEE
		CHECKED BY	DATE REVISOR

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

LEGEND:
 RETAINING WALL LAYOUT LINE



ABBREVIATIONS:
 HMA-A HOT MIX ASPHALT (TYPE A)



CURVE DATA

No.	R	Δ	T	L
①	685'	34°22'08"	211.96'	411.13'
②	544'	11°00'00"	52.40'	104.48'

LAYOUT
 SCALE: 1"=20'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 03-DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: KEVIN CANFIELD
 CHECKED BY: SUSHIL JOSHEE
 REVISED BY: KEVIN CANFIELD
 DATE REVISED:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 03-DESIGN

FUNCTIONAL SUPERVISOR
 SAM VANDELL

CALCULATED/DESIGNED BY
 CHECKED BY

SUSHIL JOSHEE
 KEVIN CANFIELD

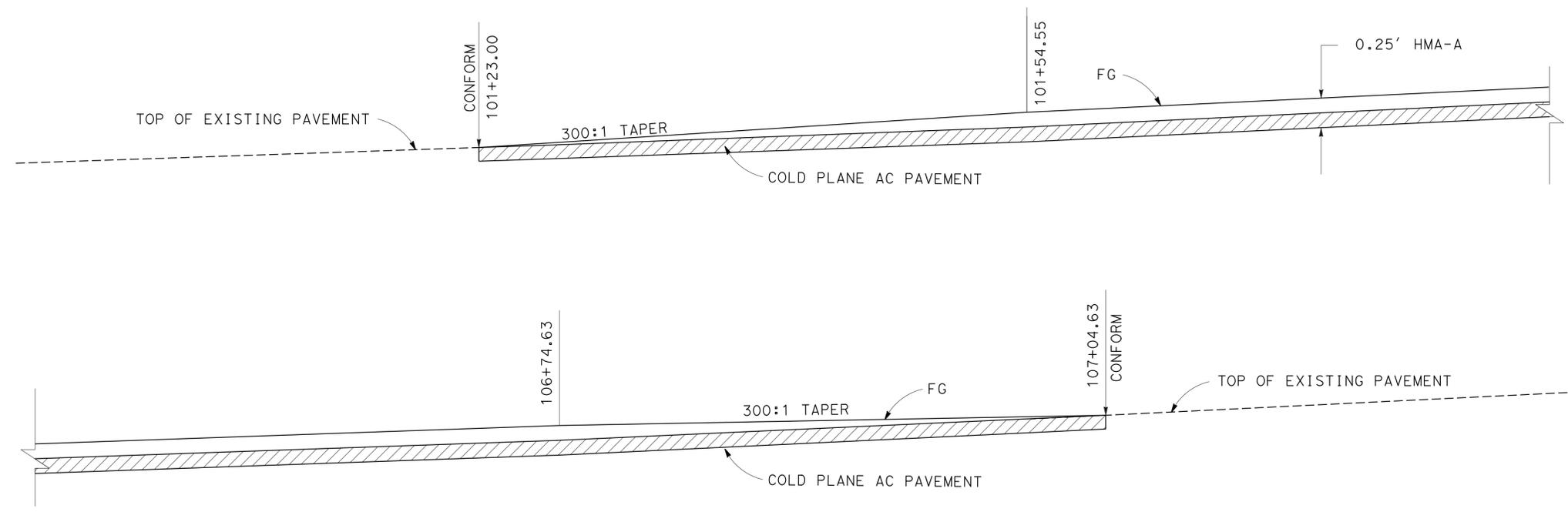
REVISED BY
 DATE REVISED

ABBREVIATIONS:
 HMA-A HOT MIX ASPHALT (TYPE A)

LEGEND:
 COLD PLANE AC Pvm+ (0.15' Max)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	5	62

Sushil
 REGISTERED CIVIL ENGINEER DATE 3-16-15
 3-16-15
 PLANS APPROVAL DATE
 SUSHIL JOSHEE
 No. 78989
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LONGITUDINAL PAVING CONFORM

CONSTRUCTION DETAILS
 NO SCALE
C-1

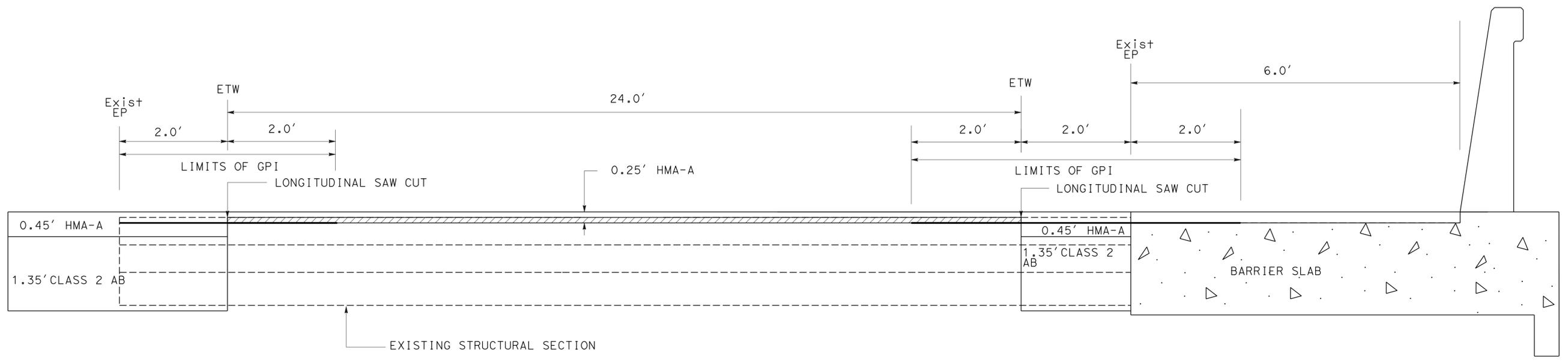
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	6	62
Sushil			3-16-15	REGISTERED CIVIL ENGINEER DATE	
3-16-15			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER SUSHIL JOSHEE No. 78989 Exp. 3-31-16 CIVIL STATE OF CALIFORNIA					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

ABBREVIATIONS:

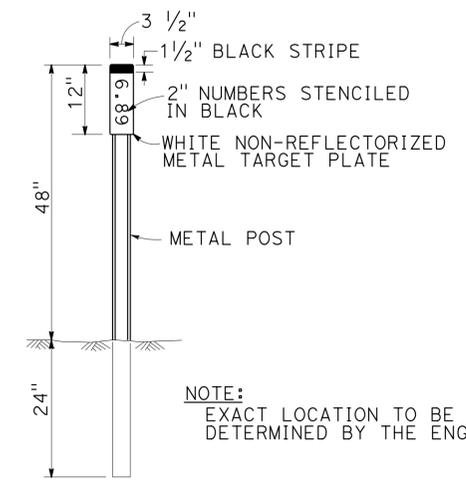
HMA-A HOT MIX ASPHALT (TYPE A)
 GPI GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)

LEGEND:

 COLD PLANE AC Pvm+ (0.15' Max)



TRANSVERSE PAVING CONFORM



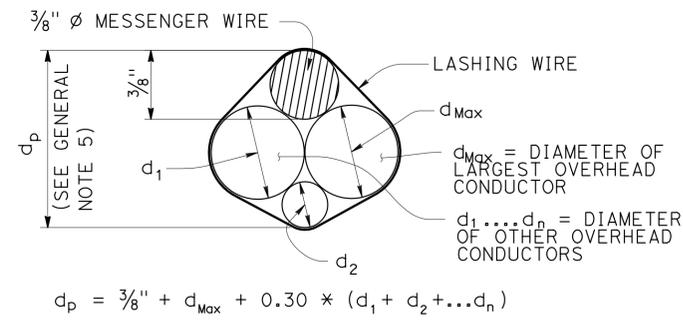
MARKER (CULVERT)

CONSTRUCTION DETAILS

NO SCALE

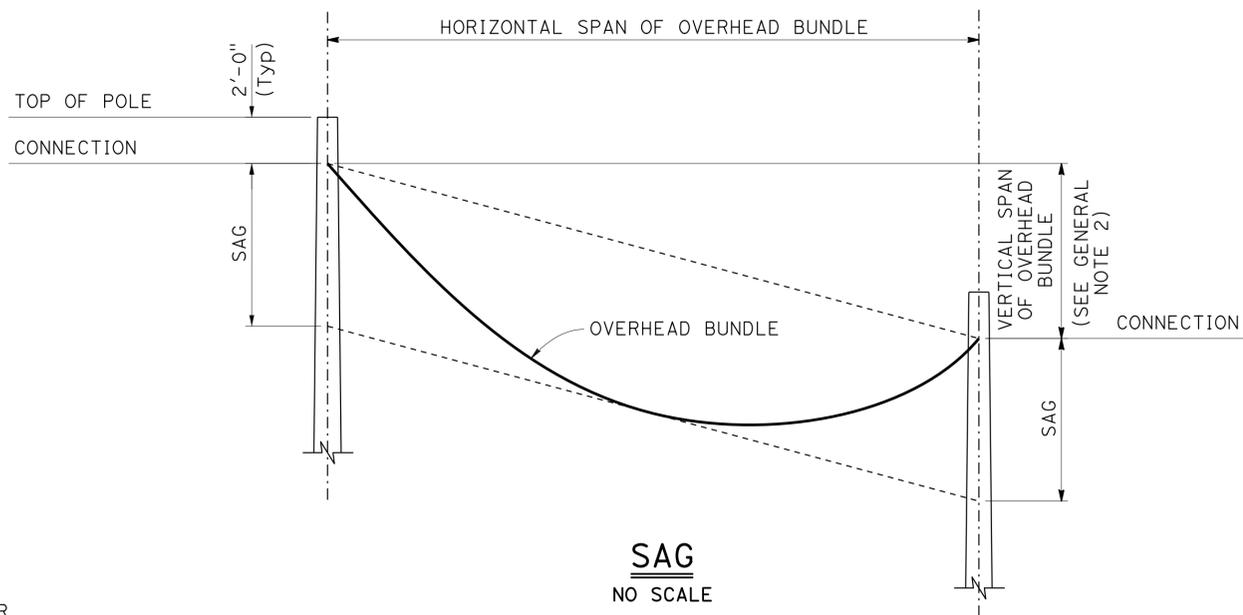
C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans 03-DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 SUSHIL JOSHEE
 KEVIN CANFIELD
 REVISIONS: [Table with columns for REVISION BY, DATE, REVISION]



PROJECTED DEPTH OF OVERHEAD BUNDLE, (d_p)

$$d_p = \frac{3}{8} + d_{Max} + 0.30 * (d_1 + d_2 + \dots + d_n)$$



DESIGN: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

GROUP LOAD COMBINATIONS:

- I DEAD LOAD
- II DEAD LOAD + WIND LOAD
- III DEAD LOAD + 0.5 (WIND LOAD) + ICE LOAD
- IV FATIGUE: NOT USED

LOADING:

WIND LOADING: 100 MPH (3-SECOND GUST)
 WIND RECURRENCE INTERVAL: 10 YEARS
 COMBINED HEIGHT, EXPOSURE, AND ELEVATED TERRAIN FACTOR = 1.05
 (EXPOSURE C, STRUCTURE IS NOT LOCATED ON OR OVER THE TOP HALF OF A RIDGE, HILL, OR ESCARPMENT)

ICE LOADING: 3.0 PSF ON SURFACES, 0.60 IN RADIAL THICKNESS OF ICE AT A UNIT WEIGHT OF 60 PCF ON OVERHEAD BUNDLES

BASIC DESIGN VALUES:

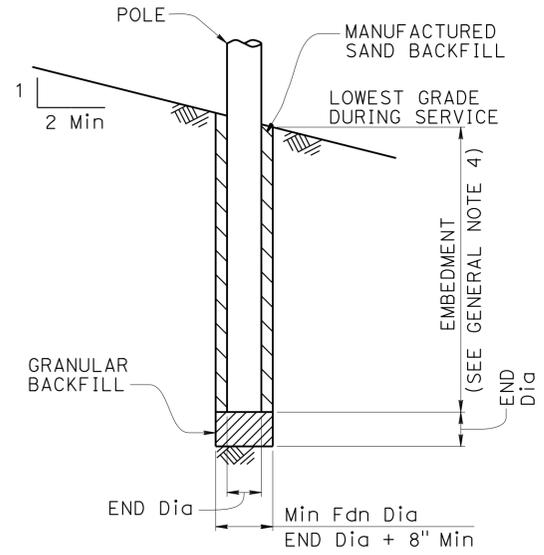
TIMBER POLES: F_b = 1850 PSI
 F_v = 110 psi
 F_{cp} = 230 psi
 F_c = 950 psi
 E = 1500 x 10³ psi

DESIGN WIRE BREAKING STRENGTHS:

ASTM A475, UTILITIES GRADE, 7 STRAND MODIFIED BY TERMINATION EFFICIENCY FACTOR OF 0.8

FOUNDATION DESIGN NOTES:

1. POLE EMBEDMENT DEPTH DESIGN IS BASED ON BROMS' APPROXIMATE PROCEDURE AS DESCRIBED IN ARTICLE 13.6 OF AASHTO LTS-5.
2. EMBEDMENT DEPTH IS CALCULATED BASED ON FOLLOWING SOIL PARAMETERS.
 COHESIVE SOIL:
 SHEAR STRENGTH OF SOIL C = 1500 PSF.
 COHESIONLESS SOIL:
 φ = 30 DEG, γ = 120 PCF.
 SOIL ASSUMED TO BE UNSATURATED.
3. AN OVERLOAD FACTOR OF 2.0 AND AN UNDERCAPACITY FACTOR OF 0.7 WERE USED FOR SAFETY FACTOR OF 2.86.
4. ALLOWABLE VERTICAL BEARING PRESSURE AT THE END BEARING OF POLES IS 3000 PSF AT 6 FEET OR MORE EMBEDMENT.
5. GUY WIRE ANCHOR MINIMUM ALLOWABLE TENSION CAPACITY, "QA" = 8,900 LBS.



POLE FOUNDATION

GENERAL NOTES:

1. THE MESSENGER WIRE AND ANY COMBINATION OF OVERHEAD CONDUCTORS MUST NOT EXCEED EITHER A SELF WEIGHT OF 3.0 LB/FT OR THE MAXIMUM D IN THE POLE SELECTION TABLES.
2. THE MAXIMUM VERTICAL SPAN IS 10% OF THE HORIZONTAL SPAN.
3. FOR POLES WITH ADJACENT UNBALANCED HORIZONTAL SPANS, THE SHORTEST HORIZONTAL SPAN MUST BE AT LEAST 50% OF THE LARGEST HORIZONTAL SPAN.
4. ADD 2'-0" FOR SLOPES ABOVE 1V:4H.
5. FOR A POLE SUPPORTING MULTIPLE SPANS, CALCULATE d_p FOR EACH SPAN AND USE THE LARGEST VALUE.
6. DO NOT EXCEED THE ATTACHMENTS SHOWN.

DIAMETERS AND SELF WEIGHT OF OVERHEAD CONDUCTORS

CONDUCTOR OR CABLE TYPE	DIAMETER d (in)	WEIGHT w (plf)
3 CONDUCTOR SIGNAL CABLE (3CSC)	0.400	0.0980
5 CONDUCTOR SIGNAL CABLE (5CSC)	0.500	0.1560
9 CONDUCTOR SIGNAL CABLE (9CSC)	0.650	0.2760
12 CONDUCTOR SIGNAL CABLE (12CSC)	0.800	0.3970
28 CONDUCTOR SIGNAL CABLE (28CSC)	0.900	0.6490
1-#14	0.166	0.0235
1-#12	0.185	0.0330
1-#10	0.210	0.0476
1-#8	0.271	0.0774
1-#6	0.310	0.1130
1-#4	0.359	0.1690
1-#3	0.388	0.2080
1-#2	0.420	0.2560
1-#1	0.498	0.3340
6-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.350	0.0860
12-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.500	0.1440
DETECTOR LEAD-IN CABLE (DLC)	0.310	0.0440
12 to 48-STRAND FIBER OPTIC CABLE (48FOC)	0.424	0.0600
72-STRAND FIBER OPTIC CABLE (72FOC)	0.484	0.0770
96-STRAND FIBER OPTIC CABLE (96FOC)	0.535	0.1050
144-STRAND FIBER OPTIC CABLE (144FOC)	0.670	0.1890
3/8" φ MESSENGER WIRE	0.375	0.2730

CONSTRUCTION DETAILS

NO SCALE

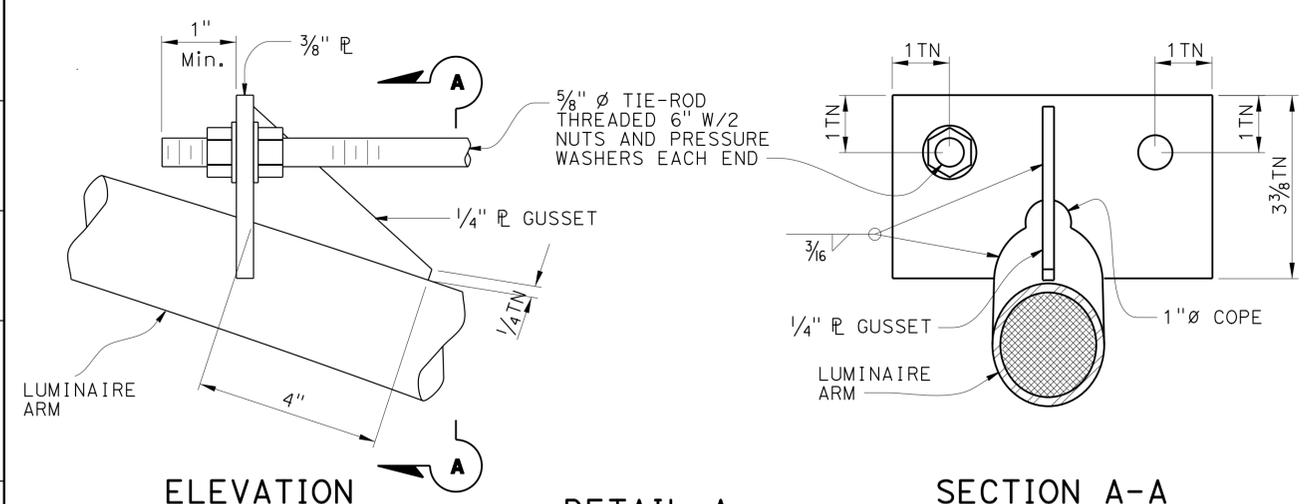
C-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	9	62

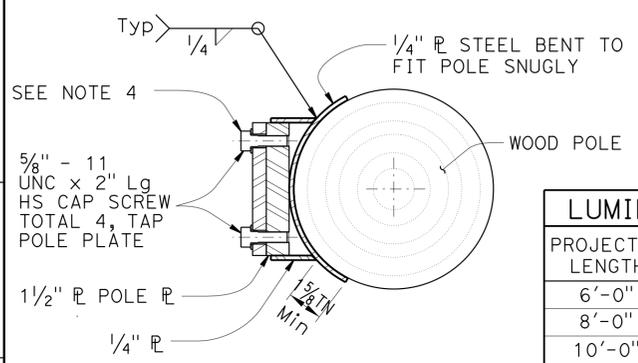
Sushil
 REGISTERED CIVIL ENGINEER DATE 3-16-15
 3-16-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- LUMINAIRE MAST ARMS MUST BE IN COMPLIANCE WITH STANDARD PLAN ES-6D WITH NOTED MODIFICATIONS.
- VERIFY POLE DIMENSIONS AT TIE-ROD ATTACHMENT HEIGHT. FABRICATE 8" FLAT BAR WITH "L" DIMENSION TO MAINTAIN AN OPEN GAP BETWEEN FLANGES IN FINISHED INSTALLATION.
- NOT ALL SCREW HEADS AND BOLT HEADS ARE SHOWN FOR CLARITY.
- MAST ARM NOT SHOWN FOR CLARITY.



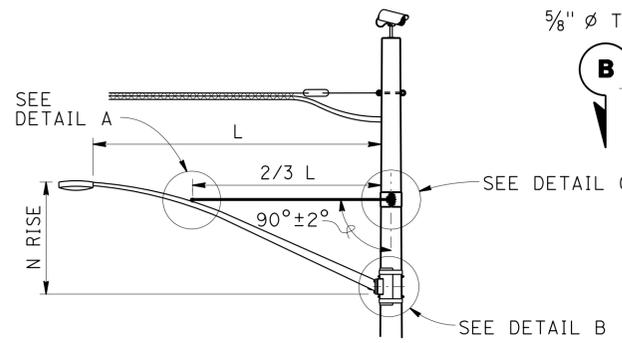
ELEVATION
SECTION A-A
DETAIL A
TIE-ROD AT LUMINAIRE ARM
 NO SCALE



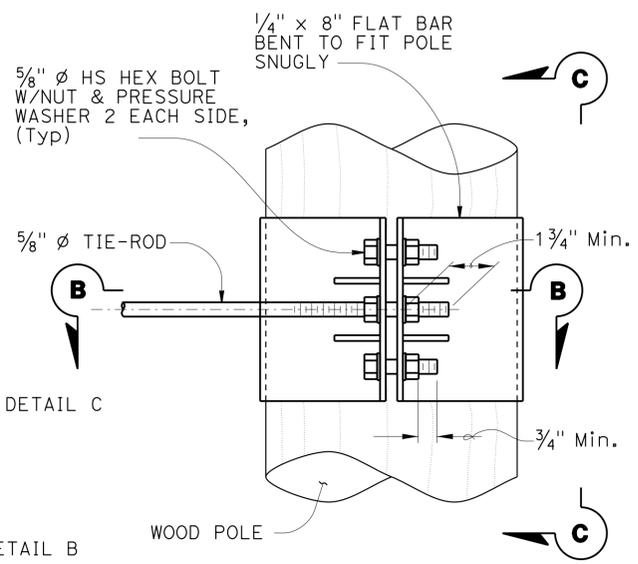
LUMINAIRE MAST ARM DATA

PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS
6'-0"	2'-0"±	3/4"	0.1196"
8'-0"	2'-6"±	3/2"	
10'-0"	3'-3"±	3 3/8"	
12'-0"	4'-3"±	3 7/8"	

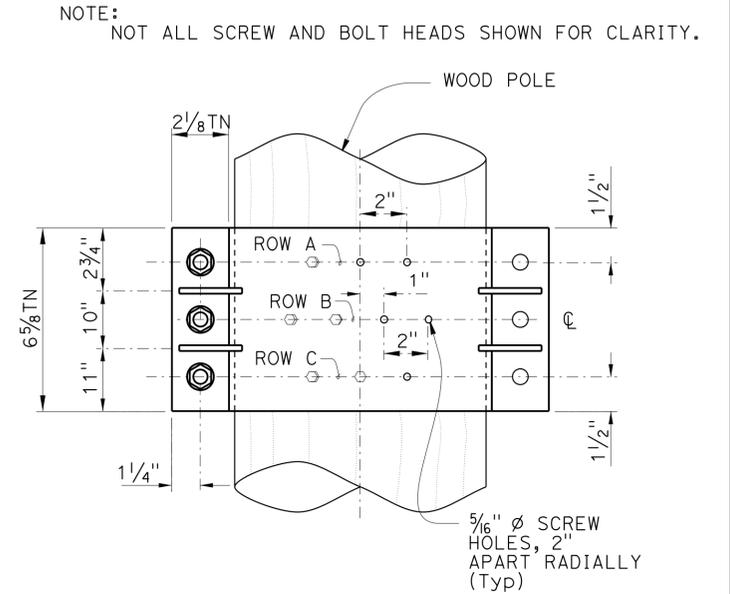
SECTION E-E



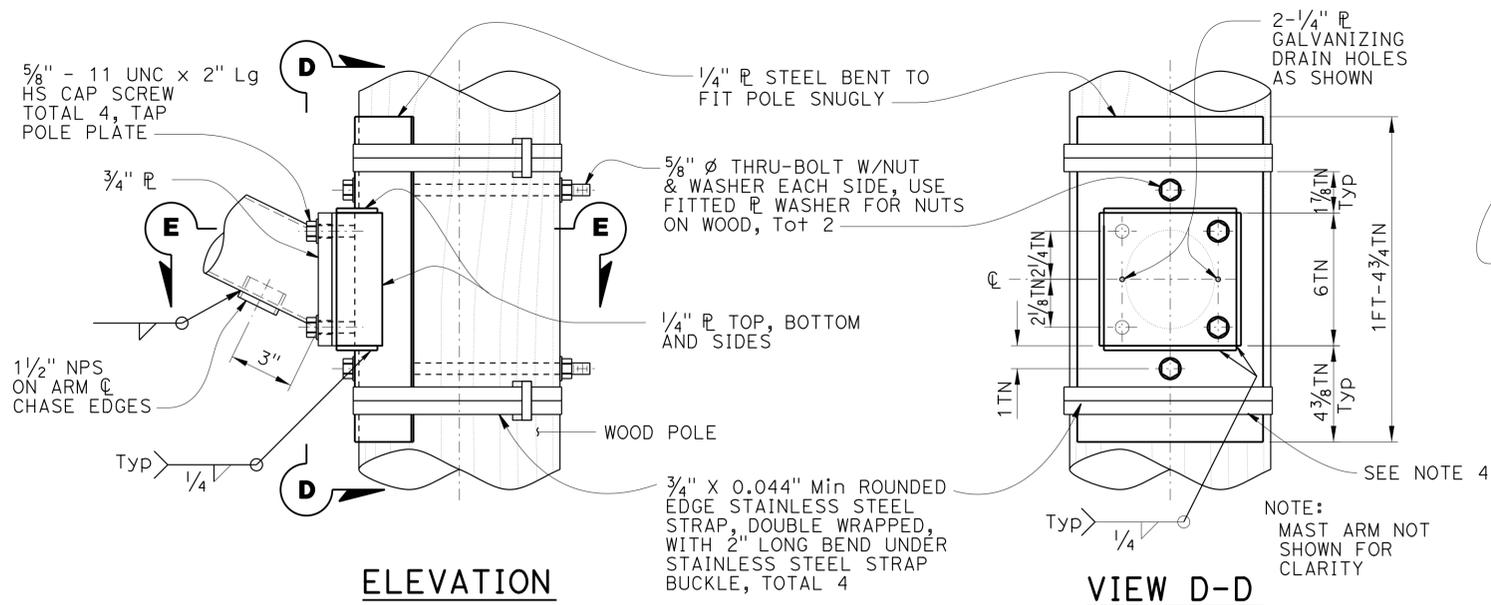
LUMINAIRE MAST ARM



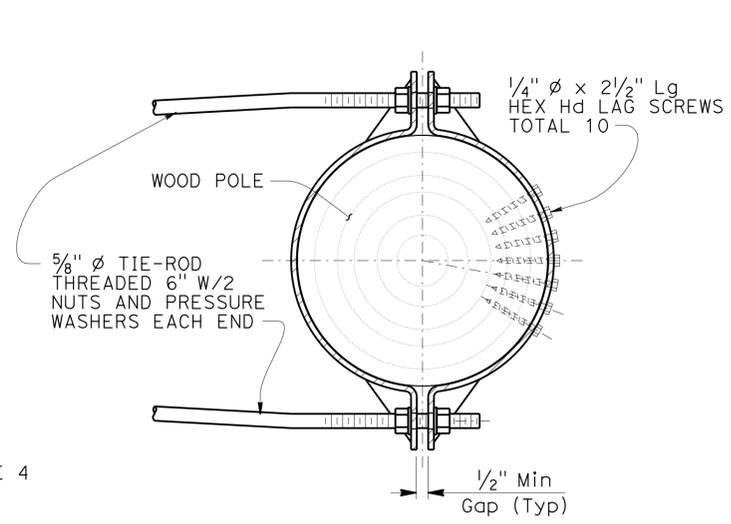
ELEVATION



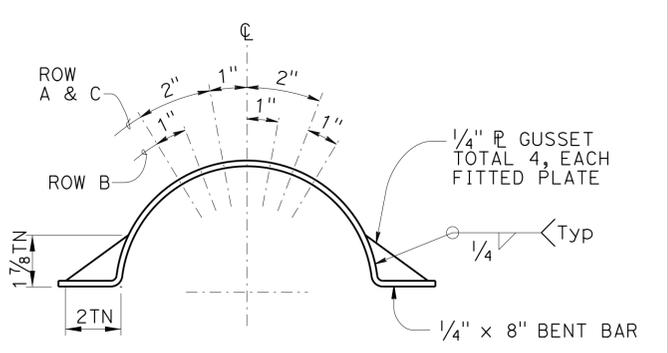
VIEW C-C



ELEVATION
VIEW D-D
DETAIL B
ARM CONNECTION DETAILS
 NO SCALE



SECTION B-B



DETAIL C
TIE-ROD AT POLE
 NO SCALE

CONSTRUCTION DETAILS

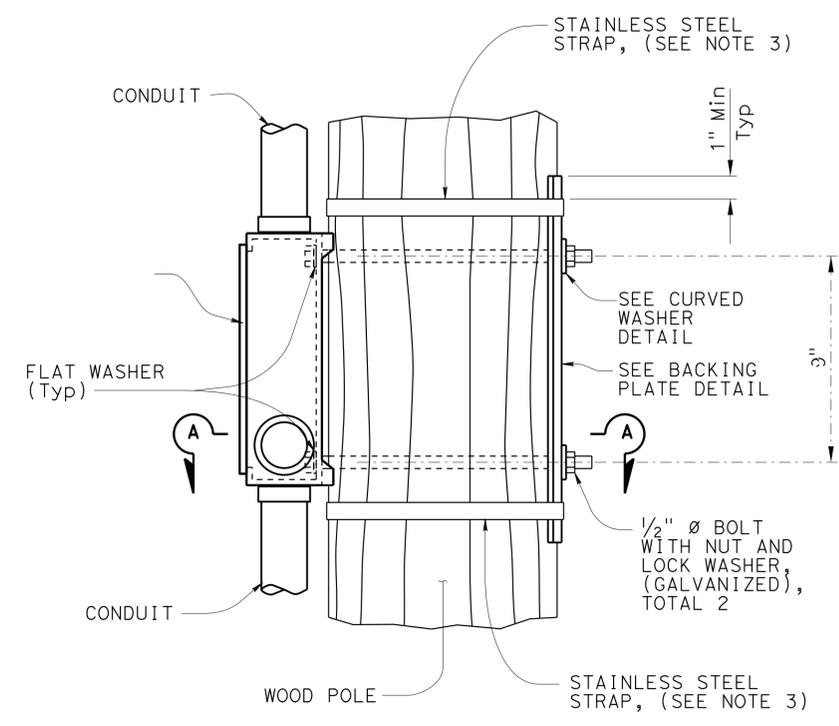
NO SCALE

C-5

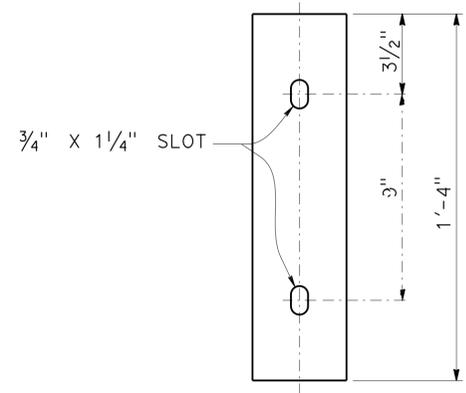
REVISIONS:
 REVISED BY: SUSHIL JOSHEE
 DATE: 3-16-15
 CHECKED BY: SAM VANDELL
 CALCULATED/DESIGNED BY: SUSHIL JOSHEE
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 DEPARTMENT OF TRANSPORTATION
 03-DESIGN
 STATE OF CALIFORNIA
 Caltrans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	10	62
Sushil			3-16-15	REGISTERED CIVIL ENGINEER DATE	
3-16-15			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER SUSHIL JOSHEE No. 78989 Exp. 3-31-16 CIVIL STATE OF CALIFORNIA					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
03-DESIGN	SAM VANDELL	SUSHIL JOSHEE	SAM VANDELL
Caltrans	CHECKED BY	DATE	REVISION
	SAM VANDELL		



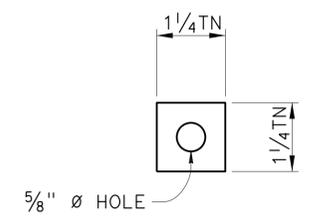
ELEVATION



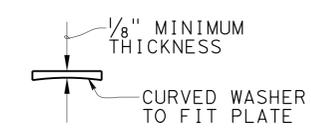
ELEVATION



PLAN
BACKING PLATE DETAIL



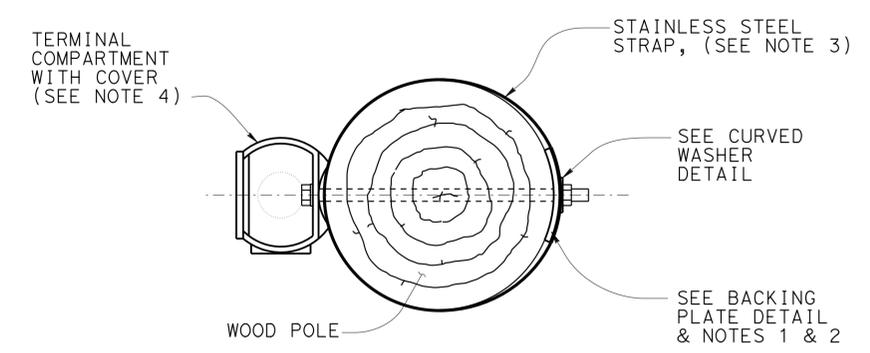
ELEVATION



PLAN
CURVED WASHER DETAIL

NOTES:

1. VERIFY POLE DIMENSIONS AT TERMINAL COMPARTMENT FOR FABRICATION OF BACKING PLATE AND CURVED WASHER.
2. BACKING PLATE TO BE GALVANIZED AFTER FABRICATION.
3. FOR MISCELLANEOUS DETAILS FOR SIGNAL MOUNTING NOT SHOWN SEE STANDARD PLAN ES-4D.
4. IF THE TERMINAL COMPARTMENT HAS A CABLE ENTRY GUIDE ON THE REAR FACE, REMOVE THE CABLE ENTRY GUIDE TO A LEVEL THAT WILL NOT INTERFERE WITH THE WOOD POST. CLOSE ANY UNUSED CABLE ENTRY LOCATIONS WITH RAIN TIGHT CAP.



SECTION A-A

**SIDE MOUNTING
TERMINAL COMPARTMENT**

CONSTRUCTION DETAILS

NO SCALE

C-6



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	12	62

Russell F. Petty 3-16-15
 REGISTERED CIVIL ENGINEER DATE
 3-16-15
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
 RUSSELL F. PETTY
 No. 72008
 Exp. 06-30-16
 CIVIL
 STATE OF CALIFORNIA

NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- NOT ALL UTILITIES OUTSIDE THE STATE RIGHT OF WAY ARE SHOWN.

ABBREVIATIONS:

PH - POTHOLE
 ED - ELECTRONIC DETECTION

LEGEND:

POTHOLE LOCATION

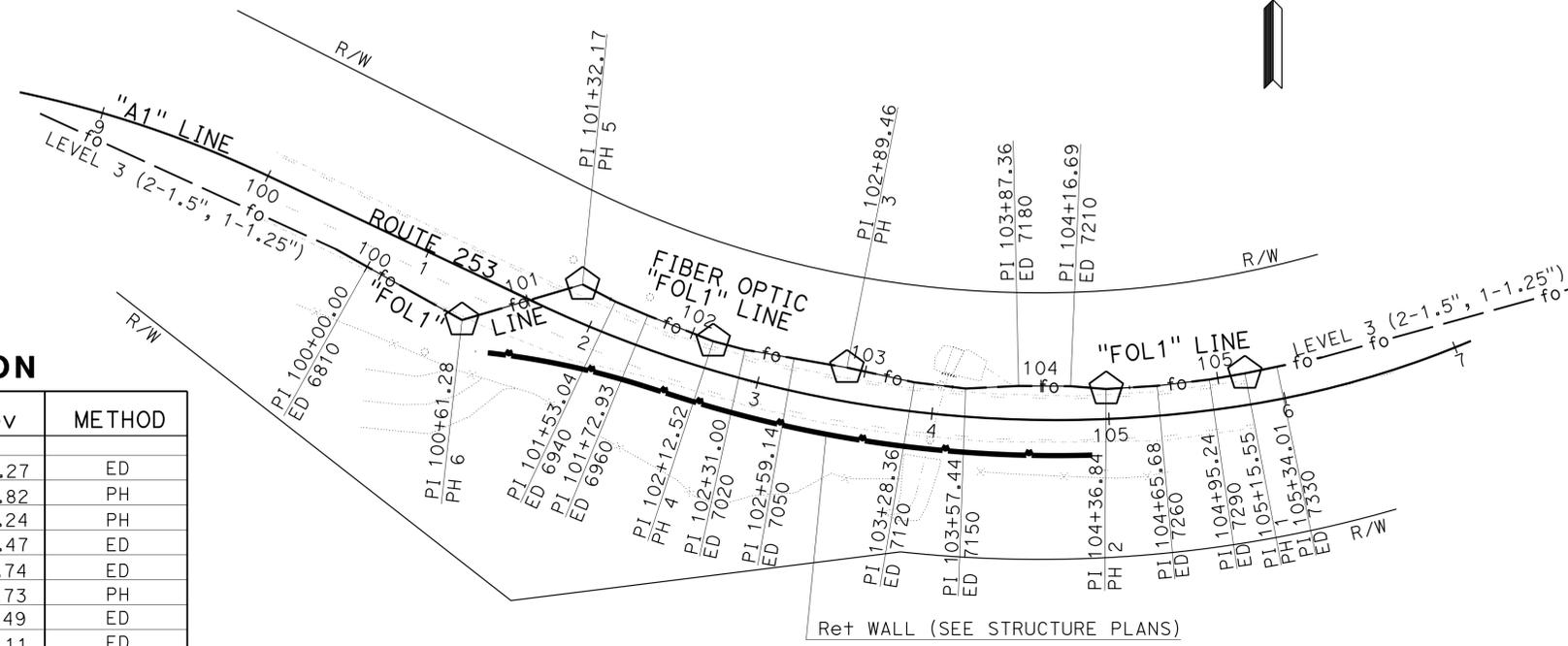
UTILITY - OWNERSHIP:

FIBER OPTIC - LEVEL 3 COMMUNICATIONS (LEVEL 3)

POSITIVE LOCATION INFORMATION

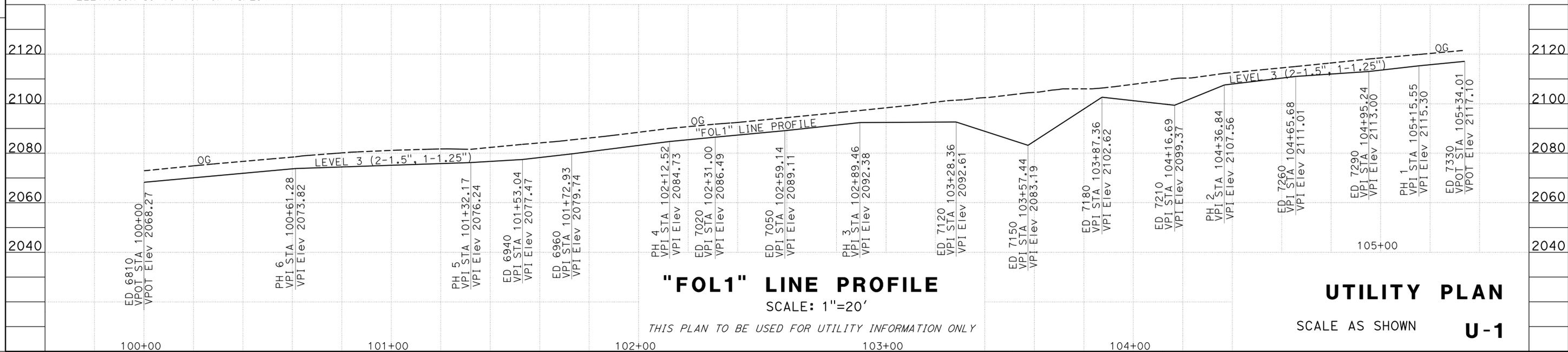
No.	"FOL1" LINE STATION	"A1" STATION/OFFSET	* Elev	METHOD
ED 6810	100+00.00	100+72.35/22.33' Rt	2068.27	ED
PH 6	100+61.28	100+33.49/26.59' Rt	2073.82	PH
PH 5	101+32.17	101+87.00/20.29' Lt	2076.24	PH
ED 6940	101+53.04	102+08.40/18.55' Lt	2077.47	ED
ED 6960	101+72.93	102+28.82/17.82' Lt	2079.74	ED
PH 4	102+12.52	102+69.36/15.76' Lt	2084.73	PH
ED 7020	102+31.00	102+88.28/16.14' Lt	2086.49	ED
ED 7050	102+59.14	103+17.07/18.11' Lt	2089.11	ED
PH 3	102+89.46	103+48.22/18.95' Lt	2092.38	PH
ED 7120	103+28.36	103+88.08/16.40' Lt	2092.61	ED
ED 7150	103+57.44	104+17.84/15.77' Lt	2083.19	ED
ED 7180	103+87.36	104+48.38/18.86' Lt	2102.62	ED
ED 7210	104+16.69	104+78.54/18.99' Lt	2099.37	ED
PH 2	104+36.84	104+99.12/16.88' Lt	2107.56	PH
ED 7260	104+65.68	105+28.69/16.84' Lt	2111.01	ED
ED 7290	104+95.24	105+59.01/17.20' Lt	2113.00	ED
PH 1	105+15.55	105+79.85/17.75' Lt	2115.30	PH
ED 7330	105+34.01	105+98.94/18.24' Lt	2117.10	ED

* ELEVATION IS TO TOP OF PIPE.



**(FIBER OPTIC)
 "FOL1" LINE
 LAYOUT**

SCALE: 1"=50'



"FOL1" LINE PROFILE

SCALE: 1"=20'

THIS PLAN TO BE USED FOR UTILITY INFORMATION ONLY

UTILITY PLAN

SCALE AS SHOWN

U-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

03-DESIGN

FUNCTIONAL SUPERVISOR: CHARLES W. LAUGHLIN

REVISOR: RUSSELL F. PETTY, MAI T. NGUYEN

DATE: 7/2/2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	13	62
Sushil			3-16-15	REGISTERED CIVIL ENGINEER DATE	
3-16-15			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER SUSHIL JOSHEE No. 78989 Exp. 3-31-16 CIVIL STATE OF CALIFORNIA					
<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>					

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

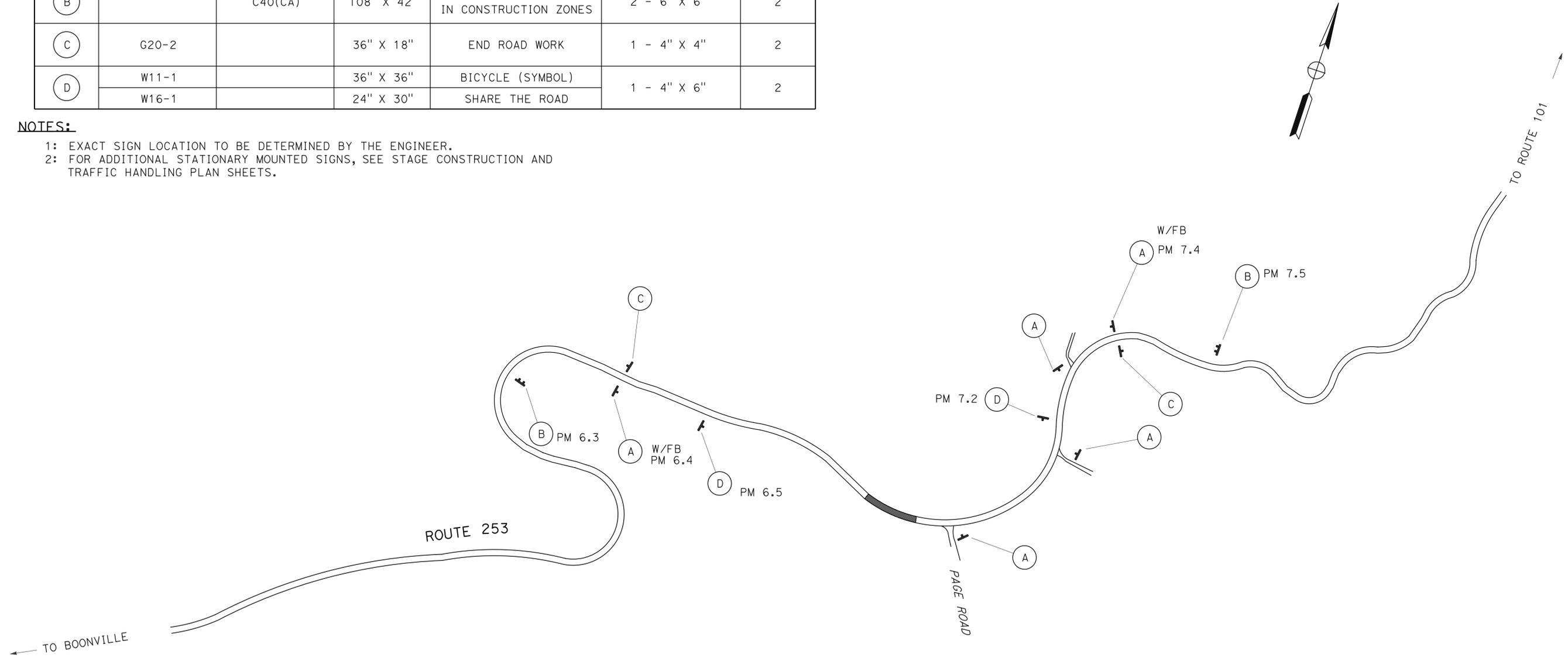
SIGN LETTER	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
(A)	W20-1		36" X 36"	ROAD WORK AHEAD	1 - 4" X 6"	5
(B)		C40(CA)	108" X 42"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" X 6"	2
(C)	G20-2		36" X 18"	END ROAD WORK	1 - 4" X 4"	2
(D)	W11-1		36" X 36"	BICYCLE (SYMBOL)	1 - 4" X 6"	2
	W16-1		24" X 30"	SHARE THE ROAD		

LEGEND

W/FB WITH FLASHING BEACON

NOTES:

- EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
- FOR ADDITIONAL STATIONARY MOUNTED SIGNS, SEE STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN SHEETS.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 03-DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: SUSHIL JOSHEE
 CHECKED BY: KEVIN CANFIELD
 REVISED BY: SUSHIL JOSHEE
 DATE REVISED:

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 03-DESIGN

FUNCTIONAL SUPERVISOR
 SAM VANDELL

REVISOR
 SUSHIL JOSHEE
 KEVIN CANFIELD

REVISIONS
 REVISED BY DATE

NOTES:

- INDEX NOTES DO NOT REPRESENT AN ORDER OF WORK AS INDICATED.
- CONTRACTOR SHALL PROVIDE TEMPORARY PUBLIC ACCESS TO DRIVEWAYS AND ROADWAY CONNECTIONS THROUGH WORK AT ALL TIMES.
- ALL TRAFFIC PLASTIC DRUMS SHALL BE INSTALLED ON 25' CENTERS UNLESS OTHERWISE SHOWN
- ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE DESIGNATED AS CALIFORNIA CODES

LEGEND:

-  CONSTRUCTION THIS STAGE
-  CONSTRUCTION AREA SIGN LETTER
-  PAVEMENT DETAIL NUMBER
P =PAINT
-  LIMIT LINE
- (P) PAVEMENT MARKING (PAINT)
-  TEMPORARY RAILING (TYPE K)
- PLASTIC TRAFFIC DRUMS
- ++ TYPE III BARRICADE

ABBREVIATIONS:

- HMA-A HOT MIX ASPHALT (TYPE A)
- W/FB WITH FLASHING BEACONS
- <CA> CALIFORNIA SIGN CODE

STAGE 1 CONSTRUCTION (WORK TO BE PERFORMED):

- (A1) WIDEN SHOULDERS AND PLACE STRUCTURAL SECTION AS SHOWN
- (A2) INSTALL TEMPORARY TRAFFIC SIGNALS AND TEMPORARY SOLAR FLASHING BEACON SYSTEM
- (A3) INSTALL ADDITIONAL STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

STAGE 2 CONSTRUCTION (WORK TO BE PERFORMED):

- (B1) PLACE TEMPORARY RAILING (TYPE K), AND TEMPORARY ALTERNATIVE CRASH CUSHION AS SHOWN
- (B2) CONSTRUCT RETAINING WALL
- (B3) CONSTRUCT CONCRETE BARRIER SLAB
- (B4) CONSTRUCT TYPE 732 CONCRETE BARRIER AND HAND RAIL

WORKED TO BE PERFORMED AFTER STAGE 2:

- (C1) COLD PLANE AC PAVEMENT 0.15' , STA 101+23.00 TO 107+04.63
- (C2) PLACE 0.25' HMA-A AND GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC) FROM STA 101+54.55 TO 106+74.63
- (C3) REMOVE TEMPORARY STRIPING FROM STA 12' R+ "A1" 99+50 TO STA 2'L+ "A1" 101+80.
- (C4) REMOVE TEMPORARY PAVEMENT MARKING (LIMIT LINE) AT STA 99+50
- (C5) PLACE EROSION CONTROL ITEMS
- (C6) PLACE FINAL SIGNING AND STRIPING (SEE PAVEMENT DELINEATION AND SIGN PLANS)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	14	62

Sushil
 REGISTERED CIVIL ENGINEER DATE 3-16-15
 3-16-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 SUSHIL JOSHEE
 No. 78989
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA

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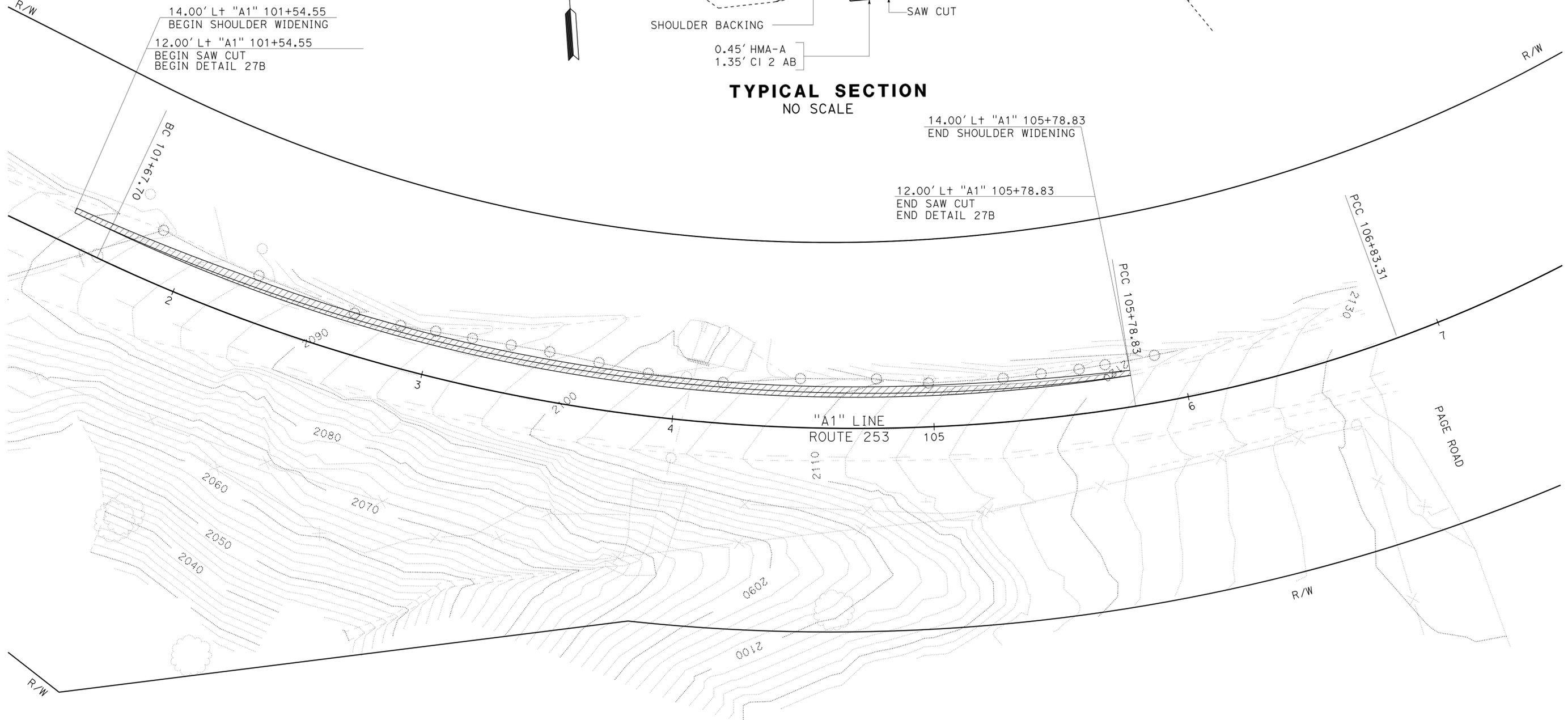
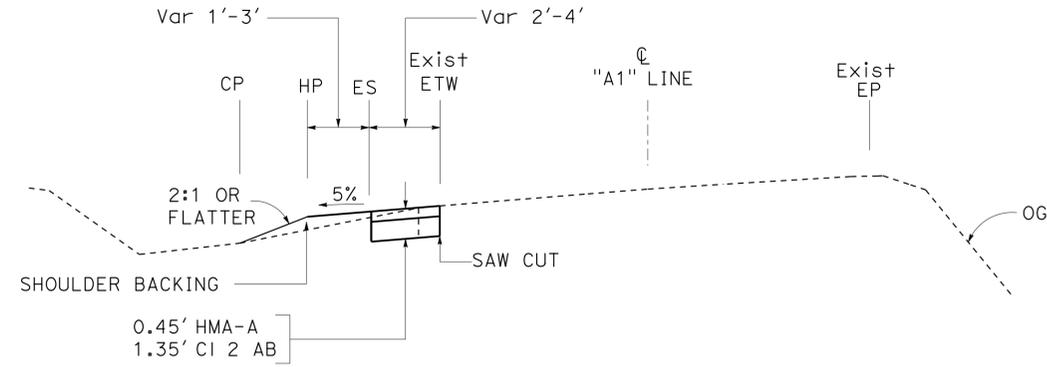
**INDEX NOTES
 STAGE CONSTRUCTION AND
 TRAFFIC HANDLING PLAN**

SC-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	15	62
Sushil Joshee			3-16-15	DATE	
REGISTERED CIVIL ENGINEER			PLANS APPROVAL DATE		
3-16-15			No. 78989		
EXP. 3-31-16			CIVIL		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

1. EXACT LOCATION OF SIGNS TO BE DETERMINED BY THE ENGINEER
2. PCMS MESSAGE AND LOCATION TO BE DETERMINED BY THE ENGINEER
3. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE SHEET CS-1.
4. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

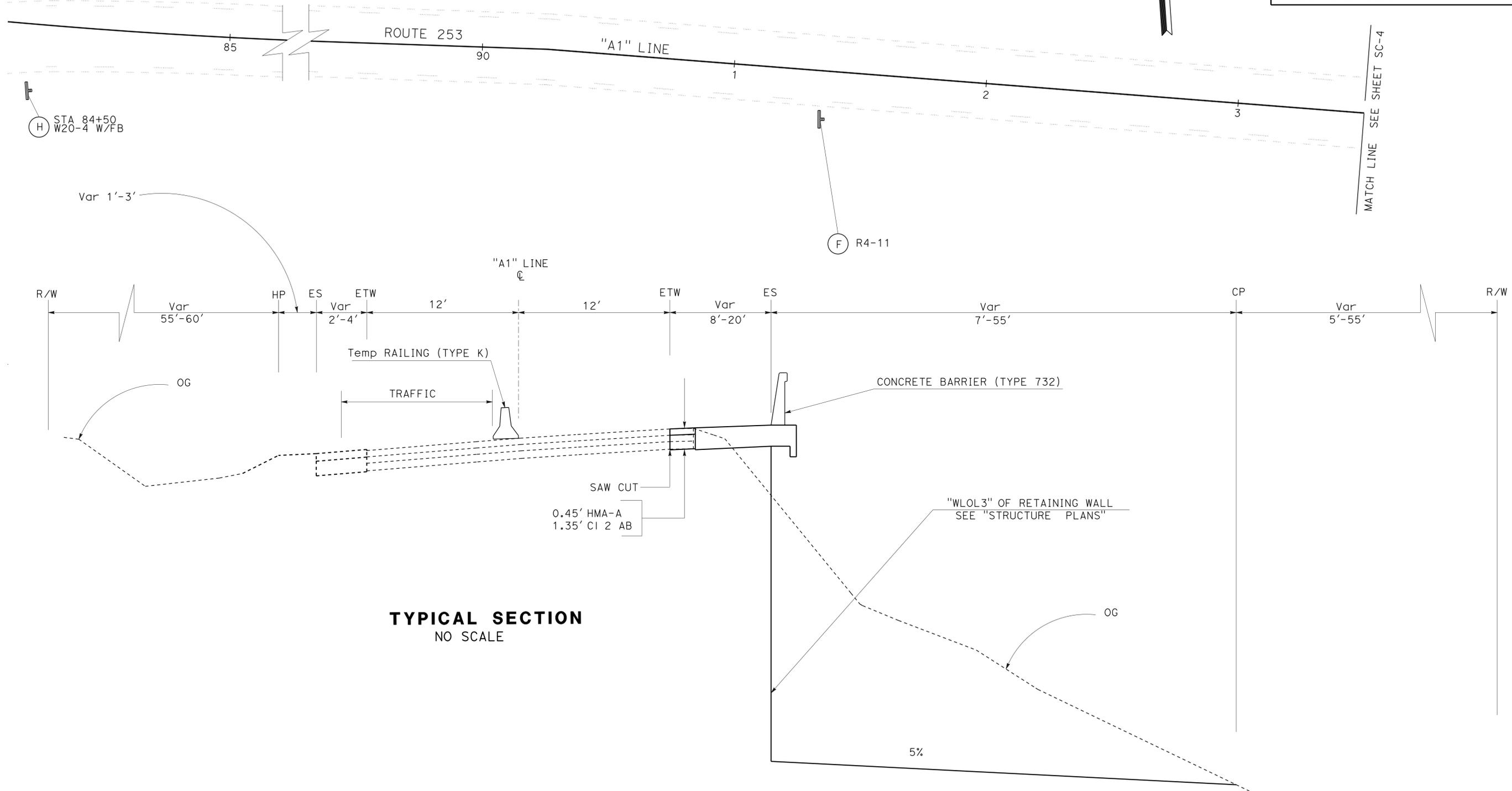


**STAGE 1
STAGE CONSTRUCTION AND
TRAFFIC HANDLING PLAN**
SCALE: 1"=20'
SC-2

APPROVED FOR STAGE CONSTRUCTION WORK ONLY AND TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans 03-DESIGN	SAM VANDELL	SUSHIL JOSHEE	KEVIN CANFIELD
		CHECKED BY	DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	16	62
Sushil			3-16-15	REGISTERED CIVIL ENGINEER DATE	
3-16-15			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER SUSHIL JOSHEE No. 78989 Exp. 3-31-16 CIVIL STATE OF CALIFORNIA					



TYPICAL SECTION
NO SCALE

STAGE 2
STAGE CONSTRUCTION AND
TRAFFIC HANDLING PLAN
SCALE 1" = 20' **SC-3**

NOTE:
PLACE Temp RAILING (TYPE K), PLACE Temp SIGNAL,
Temp STRIPE FOR TRAFFIC AND CONSTRUCT WALL.

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 03-DESIGN

REVISOR
SUSHIL JOSHEE
KEVIN CANFIELD

DESIGNER
SUSHIL JOSHEE
KEVIN CANFIELD

CHECKED BY
SUSHIL JOSHEE
KEVIN CANFIELD

FUNCTIONAL SUPERVISOR
SAM VANDELL

DATE PLOTTED => 05-MAY-2015
TIME PLOTTED => 10:47

ADDITIONAL STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	NUMBER OF SIGNS	REMARKS
E	W3-3	36" X 36"	SIGNAL AHEAD SYMBOL	1-4" X 6"	2	FLASHING BEACON
F	R4-11	30" X 30"	BIKES MAY USE FULL LANE	1-4" X 6"	2	
G	R10-6	24" X 36"	STOP HERE ON RED	1-4" X 6"	2	
H	W20-4	36" X 36"	ONE LANE ROAD AHEAD	1-4" X 6"	2	FLASHING BEACON
I	W1-4	36" X 36"	REVERSE CURVE SYMBOL	1-4" X 6"	1	

NOTE:

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

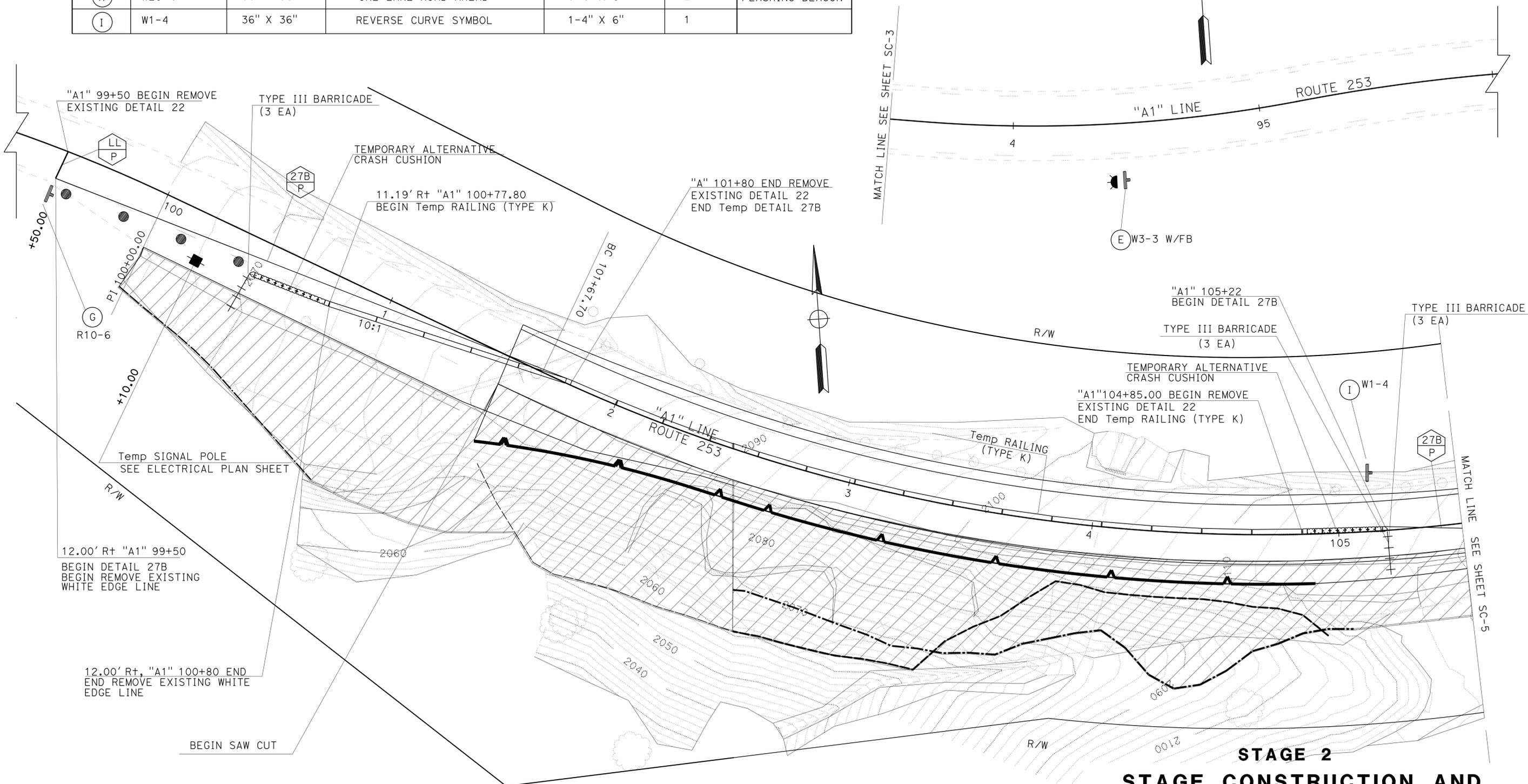
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	17	62

Sushil
 REGISTERED CIVIL ENGINEER
 No. 78989
 Exp. 3-31-16
 CIVIL

3-16-15
 DATE
 3-16-15
 PLANS APPROVAL DATE

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 03-DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: SUSHIL JOSHEE
 CHECKED BY: KEVIN CANFIELD
 REVISIONS: (None)
 REVISIONS: (None)
 REVISIONS: (None)



STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN
 SCALE 1" = 20'
SC-4

APPROVED FOR STAGE CONSTRUCTION WORK ONLY AND TRAFFIC HANDLING WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	18	62

<i>Sushil</i>		3-16-15
REGISTERED CIVIL ENGINEER	DATE	
3-16-15		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	SUSHIL JOSHEE
No. 78989	
Exp. 3-31-16	
CIVIL	

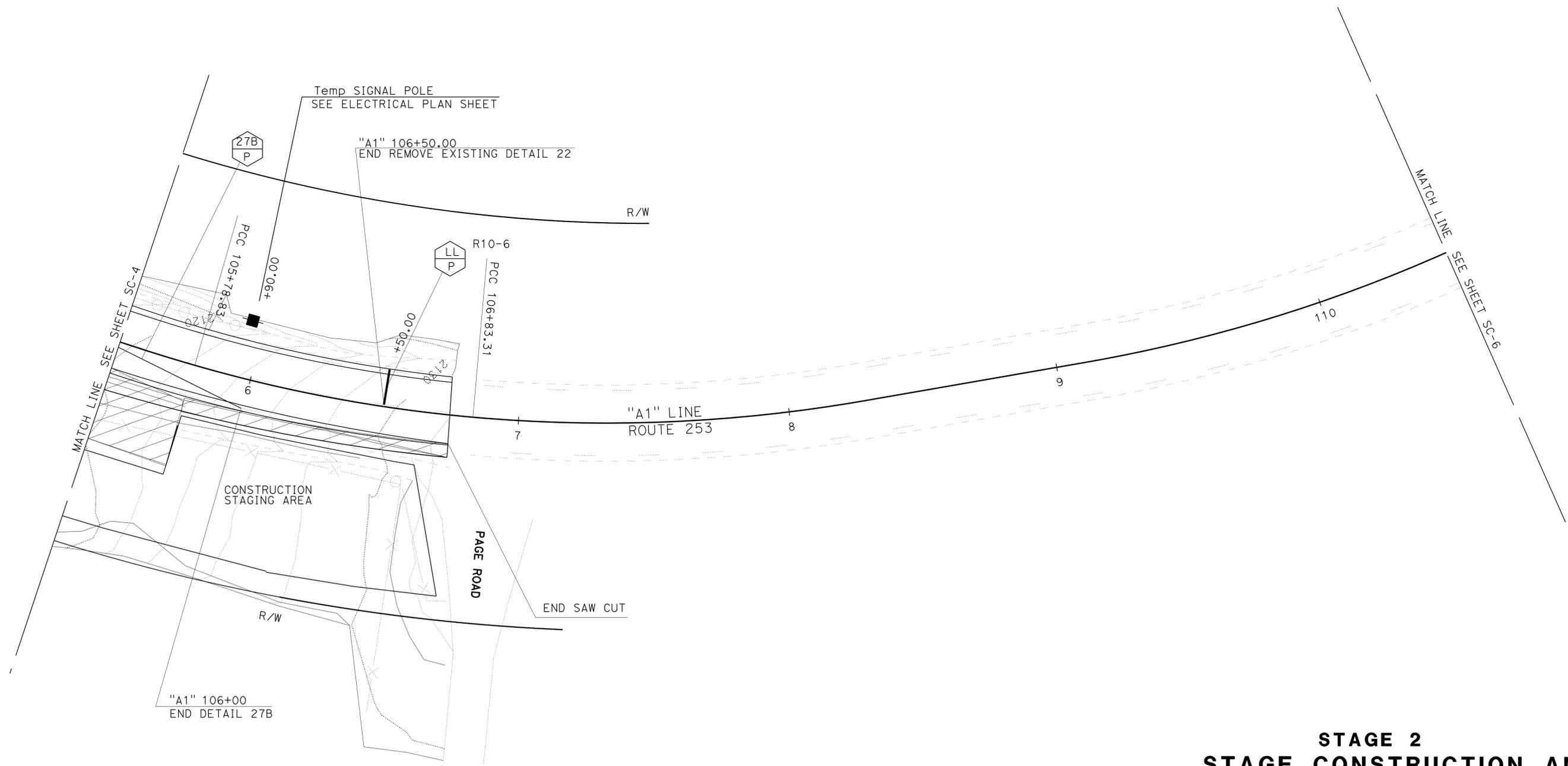
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NOTE:

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans 03-DESIGN	SAM VANDELL	CHECKED BY	SUSHIL JOSHEE
			KEVIN CANFIELD
			DATE REVISED



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

**STAGE 2
STAGE CONSTRUCTION AND
TRAFFIC HANDLING PLAN**
SCALE: 1"=20'
SC-5

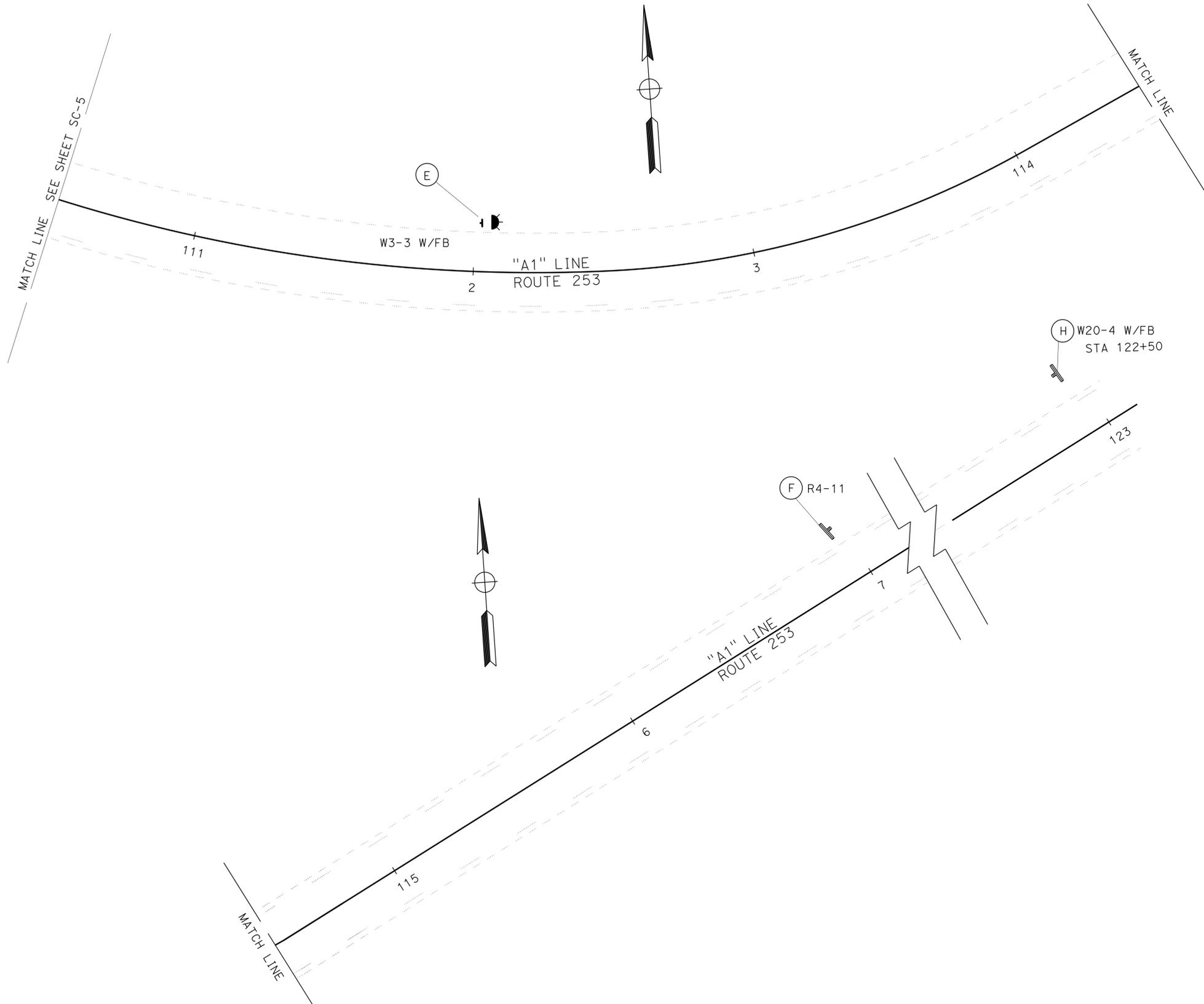
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	19	62

Sushil
REGISTERED CIVIL ENGINEER DATE 3-16-15
3-16-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SUSHIL JOSHEE
No. 78989
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	SUSHIL JOSHEE	REVISED BY	DATE
Caltrans 03-DESIGN	SAM VANDELL	CHECKED BY	KEVIN CANFIELD		

APPROVED FOR STAGE CONSTRUCTION WORK ONLY AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND
TRAFFIC HANDLING PLAN
SCALE: 1"=20'
SC-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	20	62
			3-16-15	DATE	
REGISTERED CIVIL ENGINEER			DATE		
3-16-15			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)

STATION	DESCRIPTION	STAGE 2
		LF
"A1" 99+50 TO "A1" 101+80	DETAIL 22	460
"A1" 104+85 TO "A1" 106+50	DETAIL 22	330
TOTAL		790

TEMPORARY PAVEMENT MARKING (PAINT)

STATION	DESCRIPTION	STAGE 1
		SQFT
"A1" 99+50	LIMIT LINE	12
"A1" 106+50	LIMIT LINE	12
TOTAL		24

REMOVE PAVEMENT MARKER

STATION	DESCRIPTION	STAGE 2
		EA
"A1" 99+50 TO "A1" 101+80	DETAIL 22	20
"A1" 104+85 TO "A1" 106+50	DETAIL 22	14
TOTAL		34

TEMPORARY RAILING (TYPE K)

STATION	STAGE 2
	LF
"A1" 100+37 TO "A1" 104+85	420
TOTAL	420

TEMPORARY ALTERNATIVE CRASH CUSHION

STAGE	EA
2	2
TOTAL	2

REMOVE THERMOPLASTIC TRAFFIC STRIPE

STATION	DESCRIPTION	STAGE 2
		LF
"A1" 99+50 TO "A1" 100+80	DETAIL 22	260
"A1" 104+85 TO "A1" 106+50	DETAIL 22	330
TOTAL		590

PLASTIC DRUM - BARRICADE

STAGE	TRAFFIC PLASTIC DRUM	TYPE III BARRICADE
	EA	EA
1	-	-
2	14	6
TOTAL	14	6

TEMPORARY TRAFFIC STRIPE (PAINT)

STATION	DESCRIPTION	STAGE 1	STAGE 2
		LF	LF
"A1" 99+50 TO "A1" 101+80	DETAIL 27B		231
"A1" 104+85 TO "A1" 106+50	DETAIL 27B		81
"A1" 104+54 TO "A1" 105+80	DETAIL 27B	426	
SUBTOTAL		426	312
TOTAL		738	

REMOVE PAINTED PAVEMENT MARKING

STATION	SQFT
"A1" 99+50	12
TOTAL	12

REMOVE PAINTED TRAFFIC STRIPE

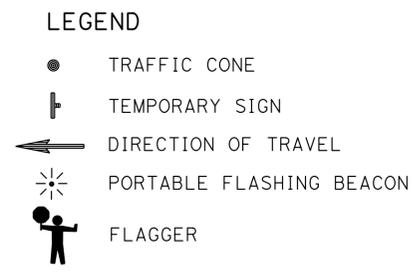
STATION	DETAIL 27B
	LF
"A1" 99+50 TO "A1" 101+23	173
TOTAL	173

STAGE CONSTRUCTION AND TRAFFIC HANDLING QUANTITIES SCQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 03-DESIGN
 FUNCTIONAL SUPERVISOR: SAM VANDELL
 CALCULATED/DESIGNED BY: KEVIN CANFIELD
 CHECKED BY: SUSHIL JOSHEE
 REVISOR: KEVIN CANFIELD
 DATE: 3-16-15
 REVISION: 03-16-15

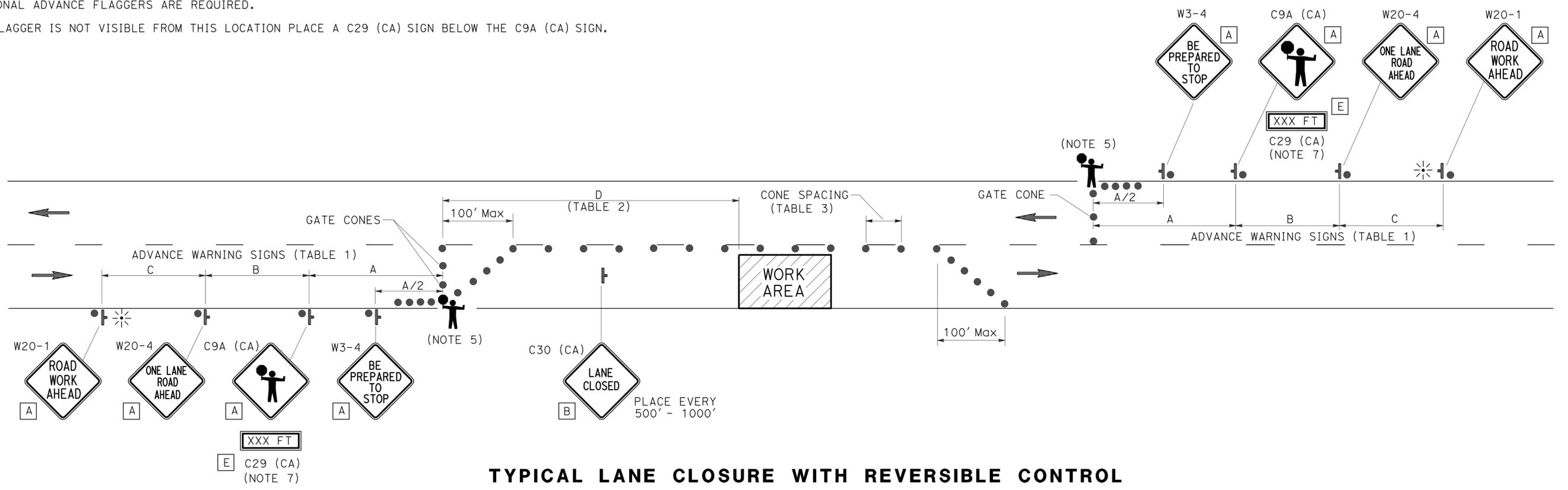


- NOTES:**
- CALIFORNIA CODES ARE DESIGNATED BY (CA). OTHERWISE, FEDERAL (MUTCD) CODES ARE SHOWN.
 - ALL SIGNS SHALL HAVE A BLACK LEGEND ON FLUORESCENT ORANGE BACKGROUND AND SHALL BE EQUIPPED WITH AT LEAST TWO 16" x 16" ORANGE FLAGS FOR DAYTIME CLOSURE OR FLASHING BEACONS FOR LANE CLOSURE DURING HOURS OF DARKNESS.
 - ALL CONES USED FOR LANE CLOSURES DURING THE HOURS OF DARKNESS SHALL BE FITTED WITH RETROREFLECTIVE BANDS OR SLEEVES.
 - WHEN A PILOT CAR IS USED, PLACE A C37 (CA) SIGN AT ALL INTERSECTIONS WITHIN TRAFFIC CONTROL AREA. WHERE VEHICULAR TRAFFIC CAN NOT EFFECTIVELY SELF-REGULATE, AT LEAST ONE FLAGGER SHALL BE USED AT EACH INTERSECTION WITHIN THE TRAFFIC CONTROL AREA.
 - FLAGGER SHOULD STAND IN A CONSPICUOUS PLACE, FACING TRAFFIC AT ALL TIMES, BE VISIBLE TO APPROACHING TRAFFIC AS WELL AS APPROACHING VEHICLES AFTER THE FIRST VEHICLE HAS STOPPED.
 - ADDITIONAL ADVANCE FLAGGERS ARE REQUIRED.
 - WHEN FLAGGER IS NOT VISIBLE FROM THIS LOCATION PLACE A C29 (CA) SIGN BELOW THE C9A (CA) SIGN.



SIGN PANEL SIZE (MINIMUM)

A	48" x 48" - SPEED OF 45 mph OR MORE 36" x 36" - SPEED LESS THAN 45 mph
B	30" x 30"
C	UNUSED
D	UNUSED
E	20" x 7"



TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TABLE 1
ADVANCE WARNING SIGN SPACING

ROAD TYPE	Min A	Min B	Min C
	ft		
URBAN (25 mph OR LESS)	100	100	100
URBAN (30 mph TO 40 mph)	250	250	250
URBAN (MORE THAN 40 mph)	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

TABLE 2
BUFFER SPACE

APPROACH SPEED	Min D	DOWNGRADE Min D		
		-3%*	-6%*	-9%*
mph		ft		
25 & BELOW	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785

* USE ON SUSTAINED DOWNGRADE STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE.

TABLE 3
Max CONE SPACING

POSTED SPEED	TAPER	TANGENT	CONFLICT*
mph	ft		
20	20	40	10
25	25	50	12
30	30	60	15
35	35	70	17
40	40	80	20
45	45	90	22
50	50	100	25
55	55	110	27
60	60	120	30
65	65	130	32

* USE WHERE THERE IS A CONFLICT BETWEEN EXISTING PAVEMENT MARKINGS AND CHANNELIZERS.

TRAFFIC HANDLING PLAN
NO SCALE

TH-1

APPROVED FOR TRAFFIC HANDLING WORK ONLY

P:\p\proj\15\01\05570\05570.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 SHERI M. RODRIGUEZ
 TROY A. ARSENEAU
 RICHARD MULLEN
 CALIFORNIA REGISTERED CIVIL ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 No. C66861
 Exp. 9-30-16
 CIVIL
 STATE OF CALIFORNIA

LAST REVISION DATE PLOTTED => 05-MAY-2015
 00-00-00 TIME PLOTTED => 10:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	23	62

Sushil
 REGISTERED CIVIL ENGINEER DATE 3-16-15
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 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 SUSHIL JOSHEE
 No. 78989
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA

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NOTES:

- EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY THE ENGINEER.

**4" THERMOPLASTIC TRAFFIC STRIPE
(ENHANCED WET NIGHT VISIBILITY)**

STATION	DETAIL NUMBER	LF
"A1" 99+50 TO "A1" 107+15	22	1530
"A1" 99+50 TO "A1" 107+15	27B	1530
TOTAL		3060

PAVEMENT MARKER

STATION	DETAIL NUMBER	(RETROREFLECTIVE-RECESSED)
		TYPE D
		EA
"A1" 99+50 TO "A1" 107+15	22	62
TOTAL		62

**DELINEATOR - OBJECT MARKER -
MARKER (CULVERT)**

SHEET NUMBER	DELINEATOR (CLASS 1)	OBJECT MARKER (TYPE L-1)	MARKER (CULVERT)
	TYPE E		
PD-1	EA	EA	EA
TOTAL	3	2	2

ROADSIDE SIGN QUANTITIES

STATION	SIGN CODE		RESET ROADSIGN SIGN
	FEDERAL	CALIFORNIA	EA
29' Rt "A1" 104+96		W50(CA)	1
TOTAL			1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 03-DESIGN
 FUNCTIONAL SUPERVISOR SAM VANDELL
 CALCULATED/DESIGNED BY CHECKED BY
 SUSHIL JOSHEE KEVIN CANFIELD
 REVISED BY DATE REVISED
 x x x x x

**PAVEMENT DELINEATION
QUANTITIES**

PDQ-1

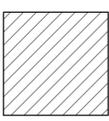


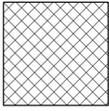
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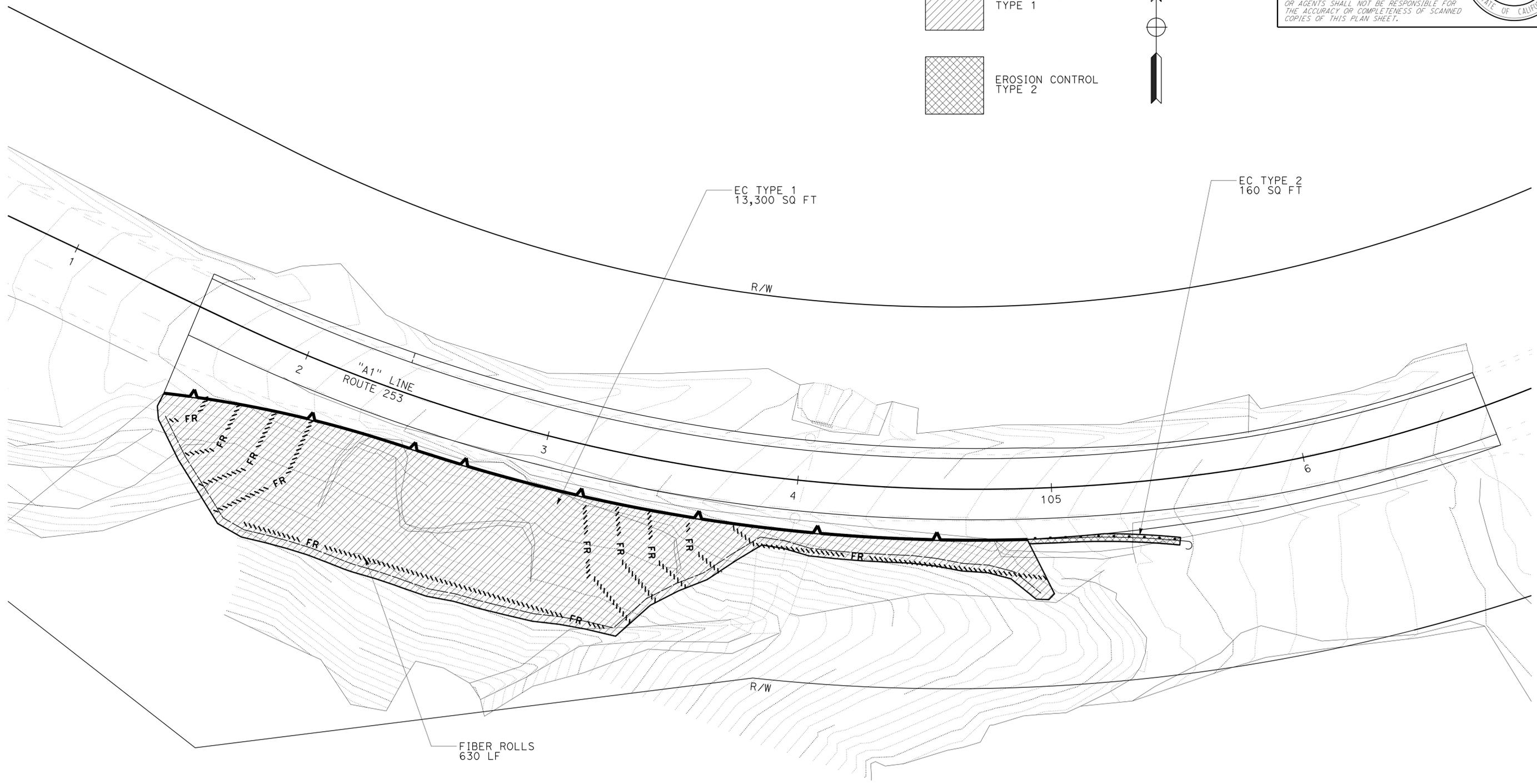
<i>Lama Lazzarotto</i> 3-16-15	
LICENSURE ARCHITECT	
3-16-15	
PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

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

LEGEND:

 EROSION CONTROL TYPE 1

 EROSION CONTROL TYPE 2



APPROVED FOR EROSION CONTROL WORK ONLY WORK ONLY

EROSION CONTROL PLAN
EC-1

SCALE: 1" = 20'

P:\proj\5\01\05570\dr\eff\ing\0112000139\re001.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 LANDSCAPE ARCHITECTURE
 Ron Flory
 SENIOR LANDSCAPE ARCHITECT
 Logan Moore
 LAURA LAZZAROTTO
 CHECKED BY
 DESIGNED BY
 DATE REVISION
 DATE

LAST REVISION DATE PLOTTED => 05-MAY-2015
 02-01-14 TIME PLOTTED => 10:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	26	62

Laura Lazzarotto 3-16-15
 LICENSED LANDSCAPE ARCHITECT

3-16-15
 PLANS APPROVAL DATE

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

FIBER ROLLS

SEQUENCE	ITEM	MATERIAL		REMARKS
		DESCRIPTION	TYPE	
FIBER ROLLS MUST BE INSTALLED BEFORE EROSION CONTROL	FIBER ROLLS	FIBER ROLL	TYPE B 8" TO 10" Dia	TYPE 1 FIBER ROLL INSTALLATION

EROSION CONTROL TYPE 1

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	HYDROSEED	SEED	MIX 1	174 LB/ACRE
		FIBER	WOOD	1100 LB/ACRE
		COMPOST	MEDIUM	270 CY/ACRE
STEP 2	STRAW	STRAW	WHEAT &/OR BARLEY	3 TON/ACRE
STEP 3	HYDROMULCH	FIBER	WOOD	1100 LB/ACRE
		TACKIFIER	COPOLYMER	10 LB/ACRE
		COMPOST	MEDIUM	270 CY/ACRE
STEP 4	ROLLED EROSION CONTROL PRODUCT (NETTING)	NETTING	TYPE A	

SEED MIX 1

SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX 1	ACHILLEA MILLEFOLIUM ¹ (WHITE YARROW)	40	1
	BROMUS CARINATUS ¹ (CALIFORNIA BROME)	45	35
	DANTHONIA CALIFORNICA ¹ (CALIFORNIA OATGRASS)	45	35
	ELYMUS GLAUCUS 'BERKELEY' ¹ (BLUE WILD RYE, BERKELEY)	55	20
	ELYMUS X TRITICUM (REGREEN)	10	60
	FESTUCA IDAHOENSIS ¹ (IDAHO FESCUE)	50	12
	FESTUCA CALIFORNICA ¹ (CALIFORNIA FESCUE)	40	8
	VULPIA MICROSTACHYS ¹ (SIX WEEKS FESCUE)	55	3
	¹ SEED PRODUCED IN CALIFORNIA ONLY.		

EROSION CONTROL TYPE 2

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	WOOD MULCH	WOOD MULCH	WOOD CHIPS	500 CY/ACRE

EROSION CONTROL QUANTITIES

SHEET NUMBER	STATION	DESCRIPTION	HYDROSEED (SQFT)	STRAW (SQFT)	HYDROMULCH (SQFT)	FIBER ROLLS (LF)	RECP (NETTING) (SQFT)	WOOD MULCH (CY)	PURE LIVE SEED (N) LBS
SHEET EC-1	101+55 TO 104+91 R+	EC TYPE 1	13,300	13,300	13,300	630		-	53.9
SHEET EC-1	104+91 TO 105+52 R+	EC TYPE 2	-	-	-	-	13,300	2.0	-
		TOTAL	13,300	13,300	13,300	630	13,300	2.0	53.9

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

EROSION CONTROL QUANTITIES ECQ-1

P:\proj\5\01\00570\dr\eff\ing\0112000139\g001.dgn
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - LANDSCAPE ARCHITECTURE
 Ettrans® LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 RON FLORY
 CALCULATED/DESIGNED BY
 CHECKED BY
 LOGAN MOORE
 LAURA LAZZAROTTO
 REVISED BY
 DATE REVISED

LAST REVISION
 DATE PLOTTED => 05-MAY-2015
 TIME PLOTTED => 10:47

NOTE:
 THE QUANTITIES ON THIS SHEET ARE NOT SEPARATE PAY ITEMS AND ARE FOR INFORMATION ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	30	62

Brian T. Finck 3-16-15
 REGISTERED ELECT ENGINEER DATE

3-16-15
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
BRIAN T. FINCK
 No. 17756
 Exp. 6-30-16
 ELECT
 STATE OF CALIFORNIA

TEMPORARY SIGNAL SYSTEM

SHEET NUMBER	TEMPORARY SIGNAL SYSTEM																																																				
	EA	WOOD POLE	LF	2" CONDUIT TYPE 3	EA	GENERATOR	EA	No. 5 PULL BOX	EA	3 SECTION SIGNAL HEAD	EA	FBCA	EA	SIGN LIGHTING FIXTURE	EA	200 W HPS LUMINAIRE	LF	MESSENGER CABLE	EA	TYPE D LOOP	EA	TYPE A LOOP	LF	DLC	LF	#4 CONDUCTORS	LF	#6 CONDUCTORS	LF	#8 CONDUCTORS	LF	#8 CONDUCTORS (G)	LF	#10 CONDUCTORS	EA	NEMA 3R SERVICE ENCLOSURE	EA	MODEL 332L CABINET FOUNDATION PLATFORM	EA	UPS	EA	FUEL TANK	EA	No. 6(E) PULL BOX	EA	1 SECTION SIGNAL HEAD	EA	REGULATION LOAD/CHARGE CONTROLLER	EA	98 A-h 12 V (dc) GEL CELL	EA	75 W PHOTOVOLTAIC PANELS	EA
E-1	4	1100	2	10	6	6	2	2	200	2	8	2100	200	100	2200	1200	1200	1	1	1	1	6	6	6	12	12	1																										

ELECTRICAL QUANTITIES

	M	
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	
	N	
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	
	O	
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	
	P	
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	

	P continued	
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	
	Q	
Qty	QUANTITY	
	R	
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	

	S	
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	
	T	
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	

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	31	62



Grace M. Tsushima
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 3-16-15

UNIT OF MEASUREMENT SYMBOLS:

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

TABLE A

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

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

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , 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)**

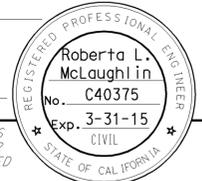
NO SCALE

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

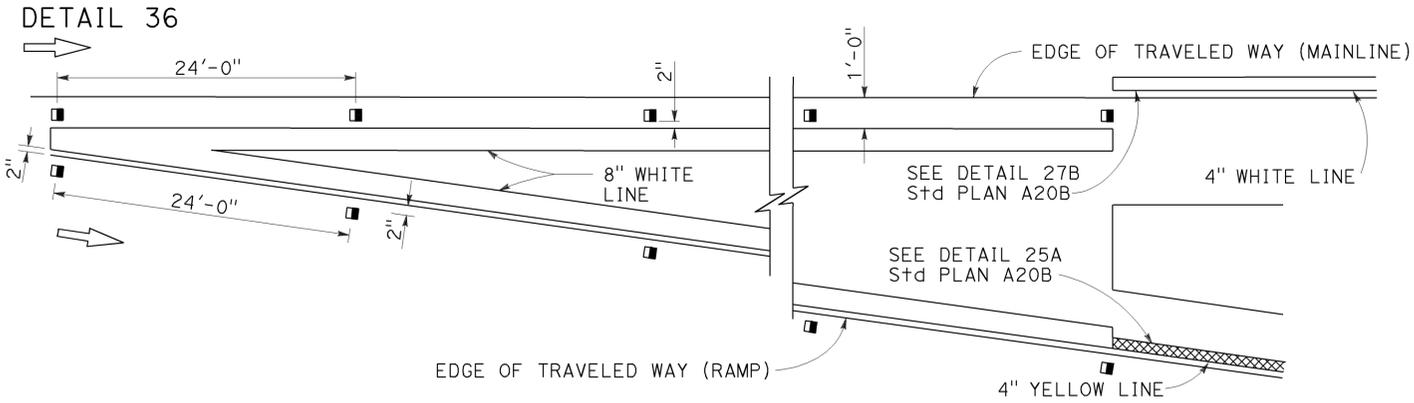
2010 REVISED STANDARD PLAN RSP A10B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	32	62

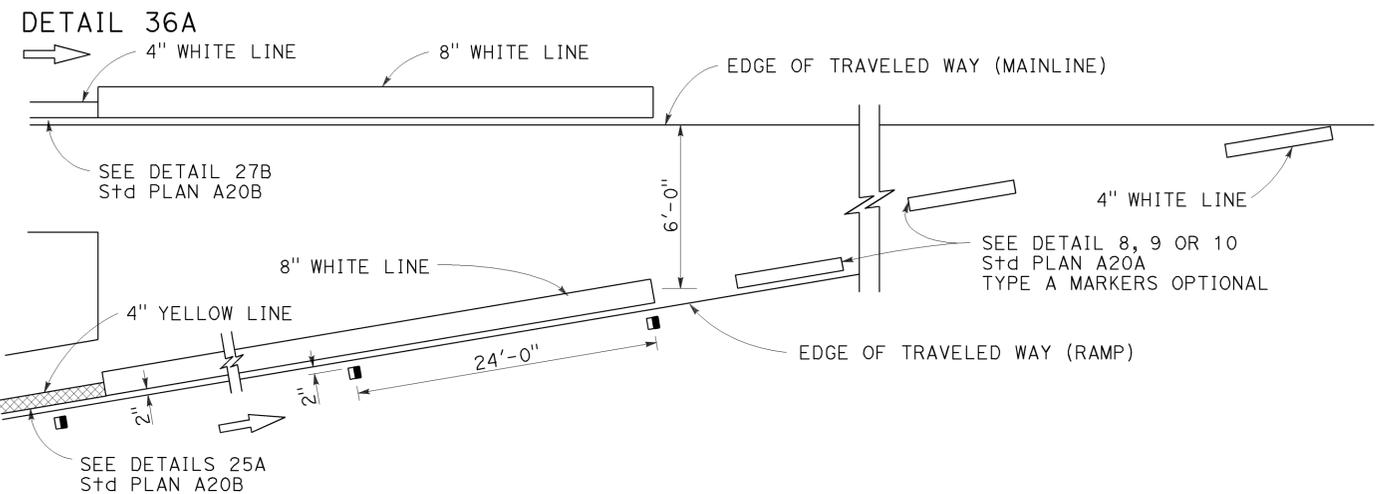
REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



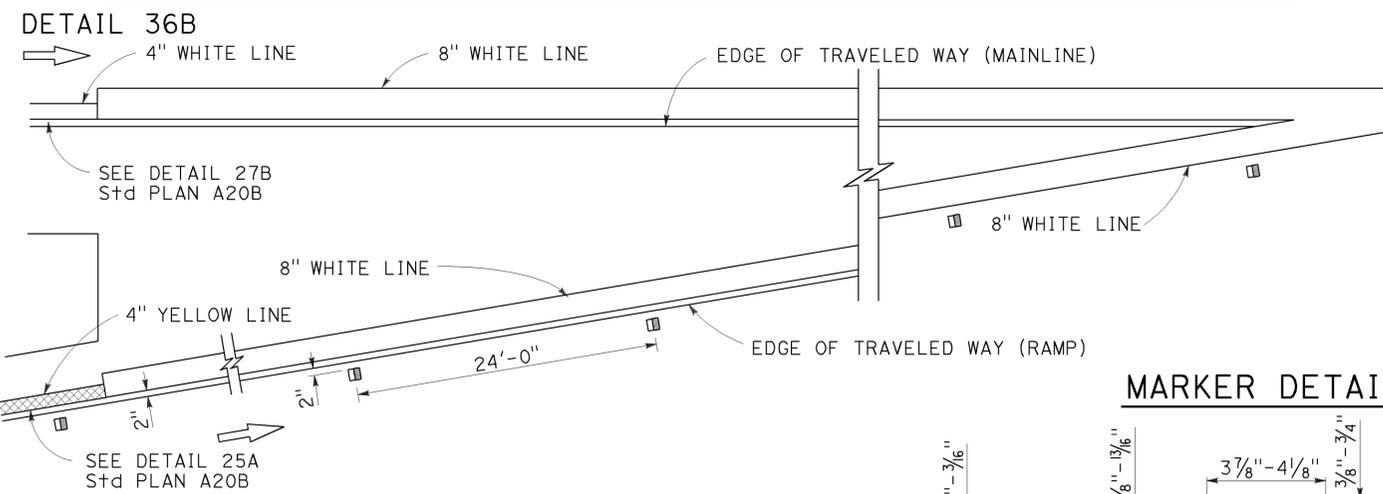
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



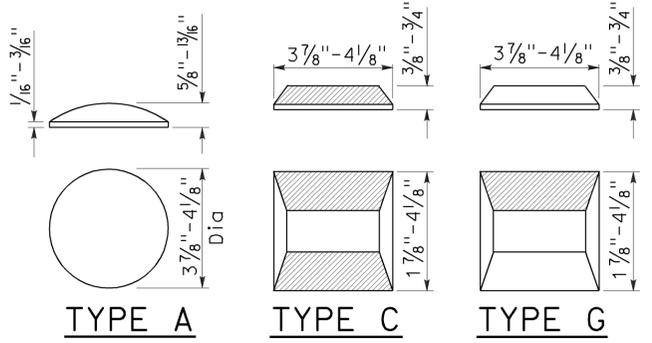
ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT



MARKER DETAILS

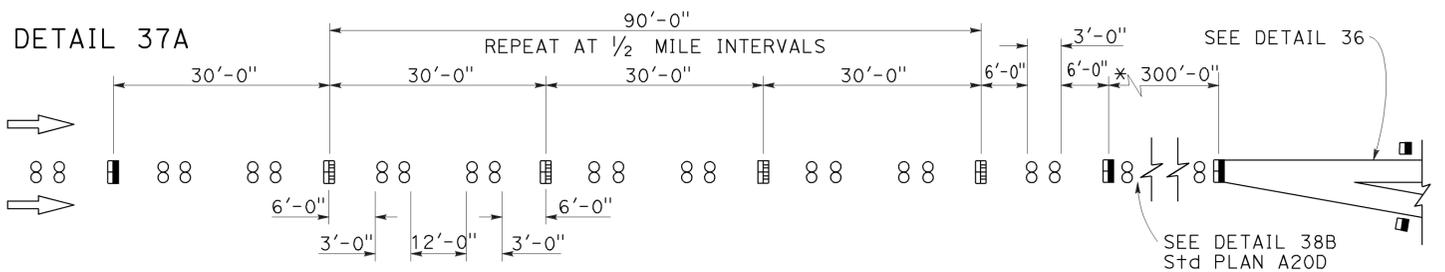
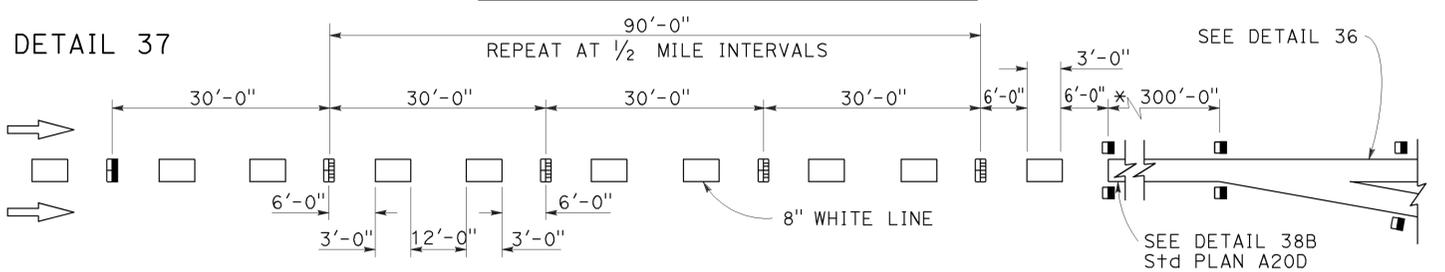
LEGEND:

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



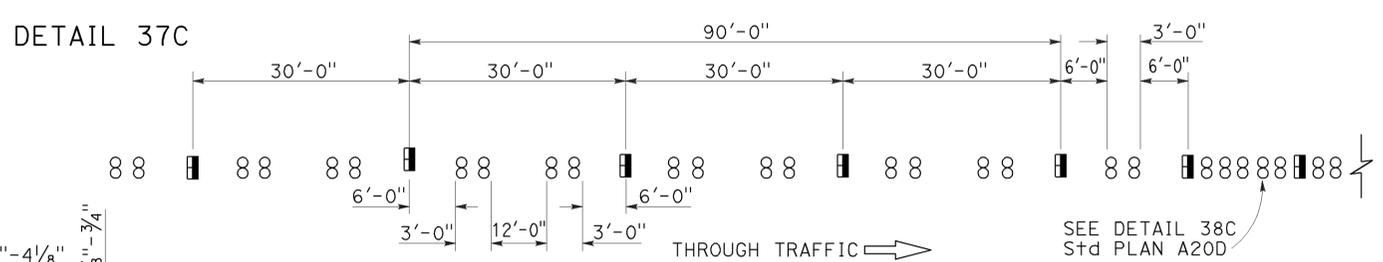
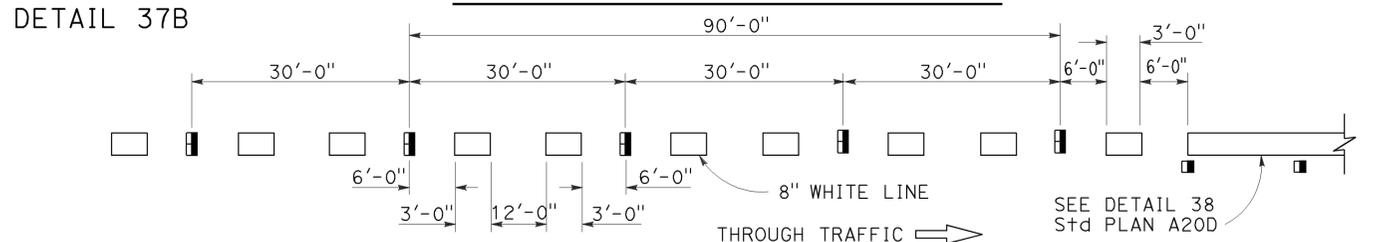
RETROREFLECTIVE FACE

LANE DROP AT EXIT RAMPS



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

LANE DROP AT INTERSECTIONS



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

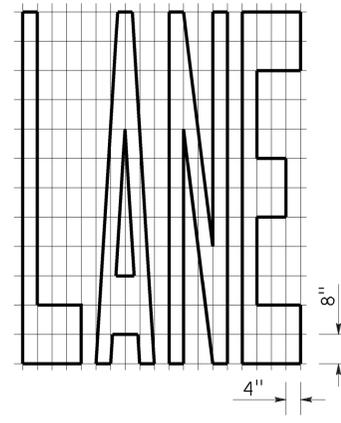
RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

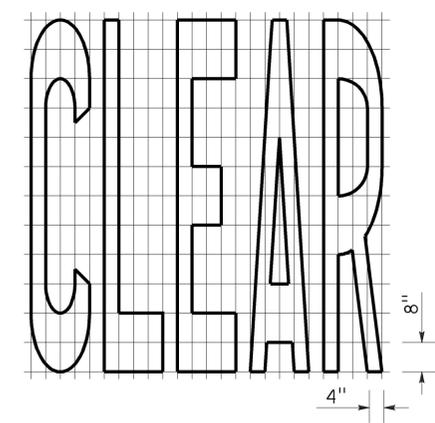
2010 REVISED STANDARD PLAN RSP A20C

TO ACCOMPANY PLANS DATED 3-16-15

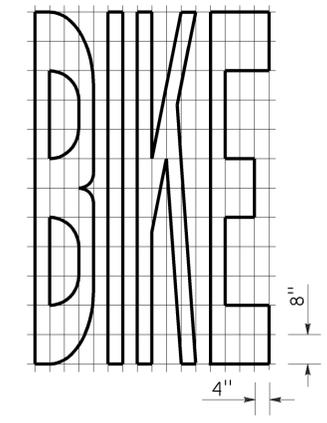
2010 REVISED STANDARD PLAN RSP A24E



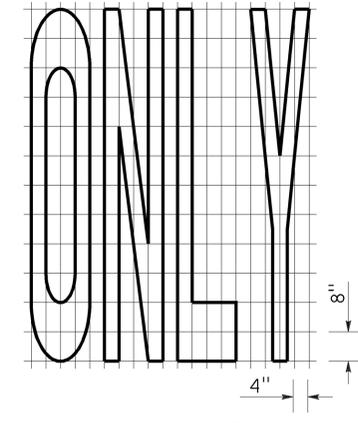
A=24 ft²



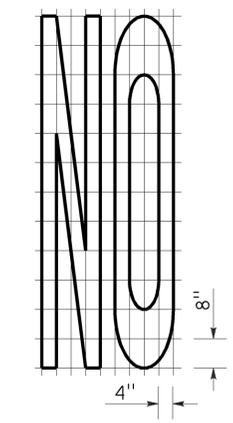
A=27 ft²



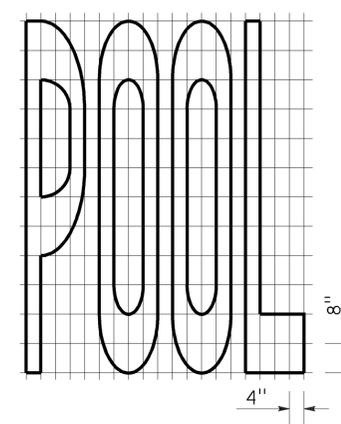
A=21 ft²



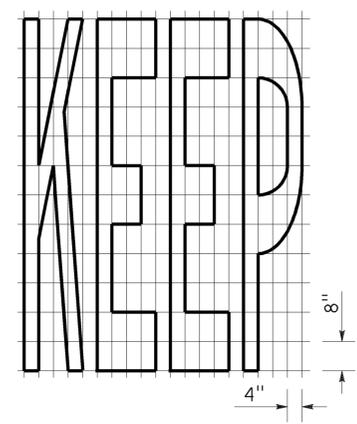
A=22 ft²



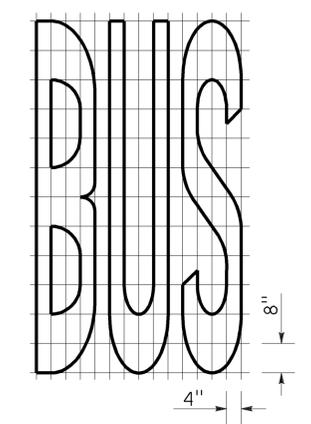
A=14 ft²



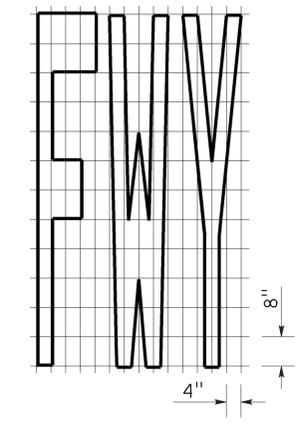
A=23 ft²



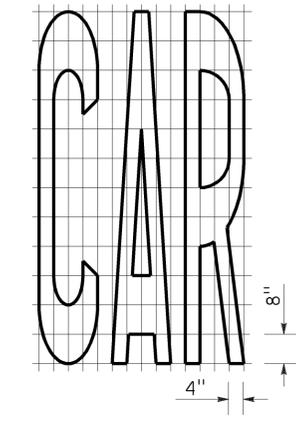
A=24 ft²



A=20 ft²

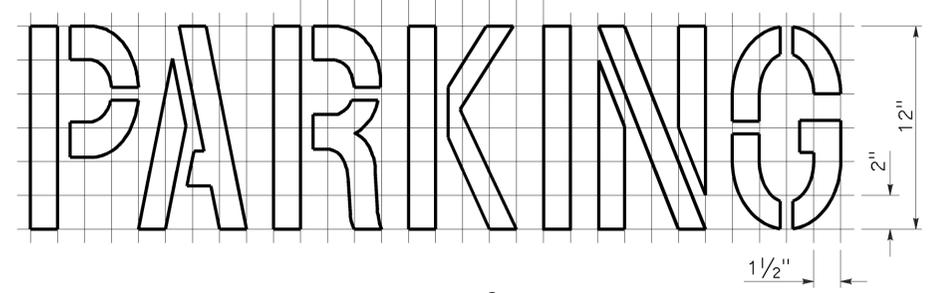
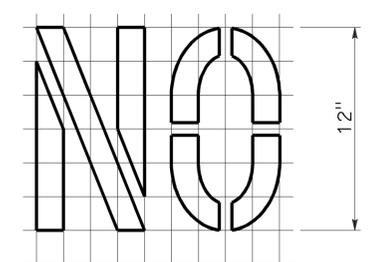


A=16 ft²

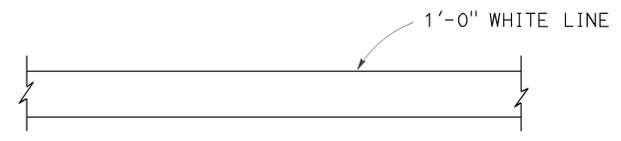


A=17 ft²

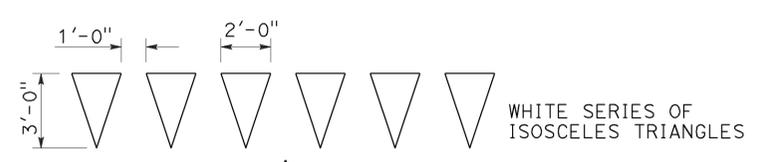
WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



DIRECTION OF TRAVEL
YIELD LINE

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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

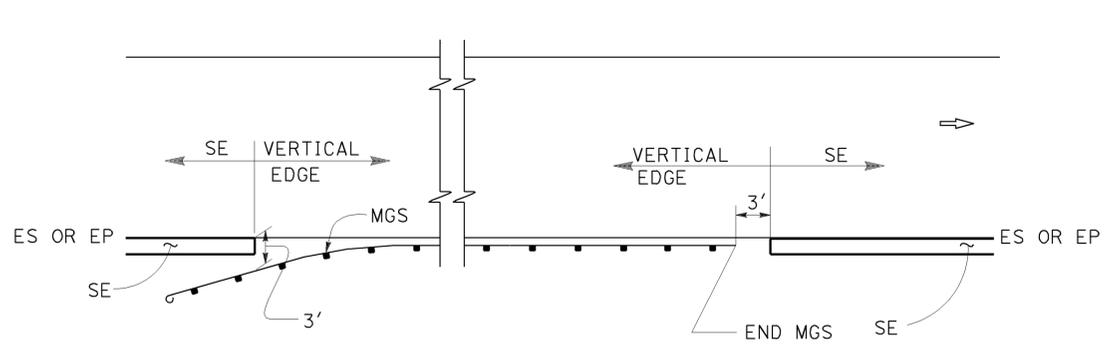
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	34	62

REGISTERED CIVIL ENGINEER
 November 15, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

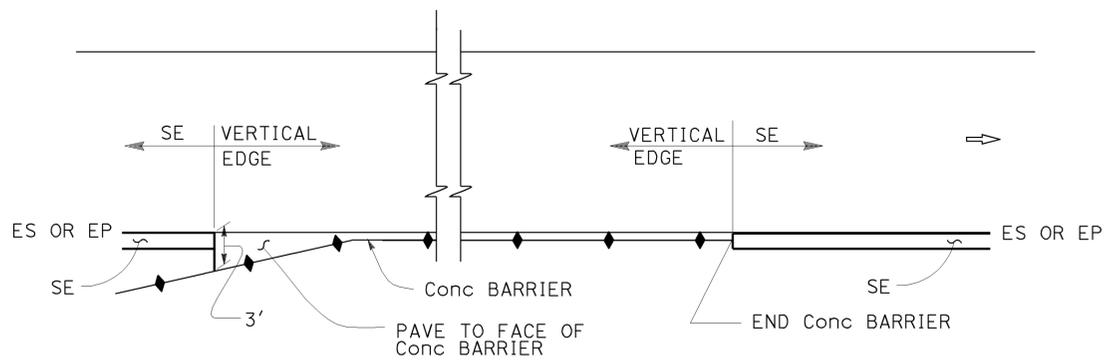
REGISTERED PROFESSIONAL ENGINEER
 Cornelis M. Hakim
 No. C55610
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-16-15

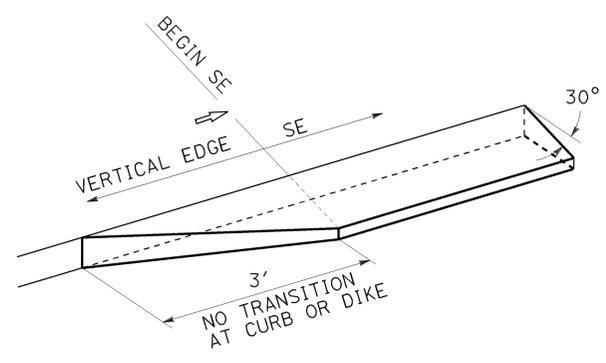
ABBREVIATIONS:
SE SAFETY EDGE



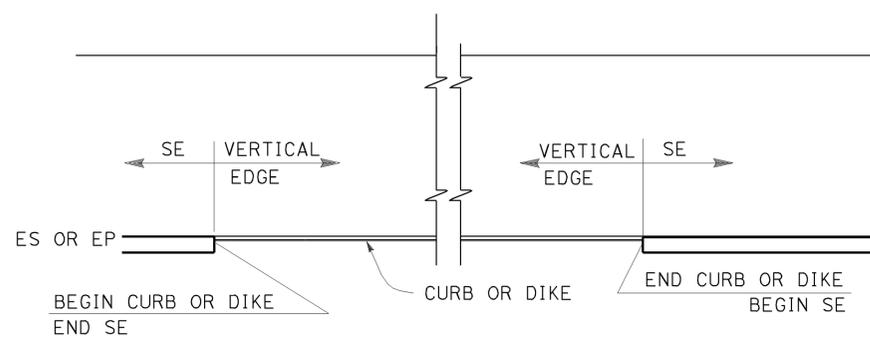
MGS



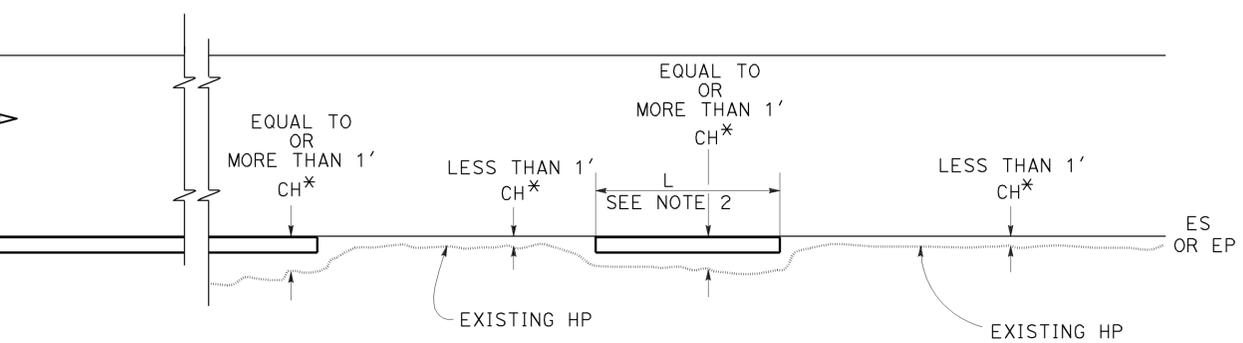
CONCRETE BARRIER



TRANSITION DETAIL FOR CONCRETE ONLY

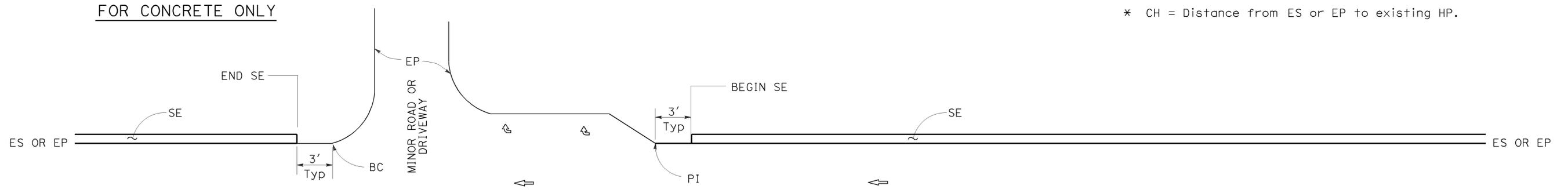


CURB OR DIKE



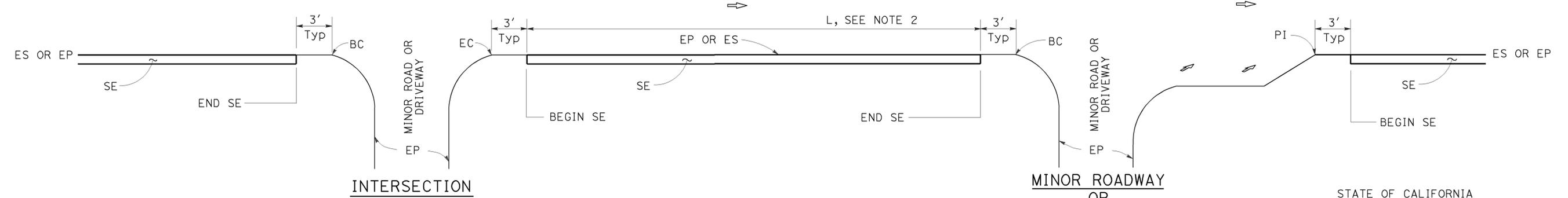
NARROW SIDE SLOPE

* CH = Distance from ES or EP to existing HP.



STATE ROUTE

STATE ROUTE



INTERSECTION

DRIVEWAY AND INTERSECTION

MINOR ROADWAY OR DRIVEWAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS

NO SCALE

- NOTES:**
- For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
 - Safety edge is optional when L is less than 30'.

RSP P74 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	35	62

 REGISTERED CIVIL ENGINEER		
November 15, 2013 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>		

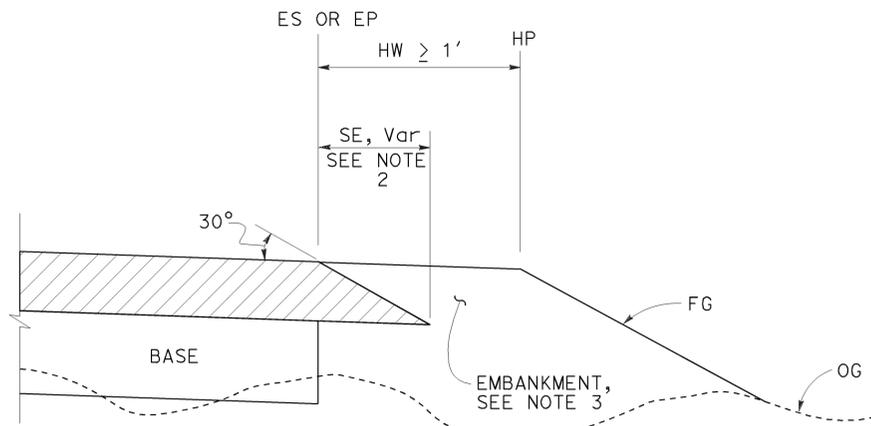
LEGEND:

-  HMA PAVEMENT
-  HMA OR CONCRETE PAVEMENT
-  CONCRETE PAVEMENT

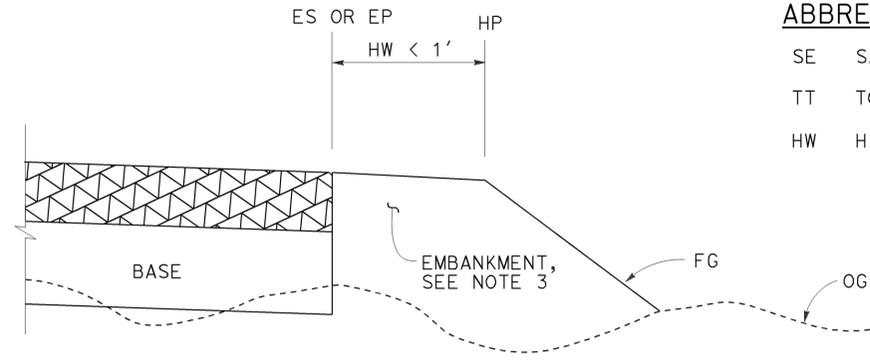
ABBREVIATIONS:

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

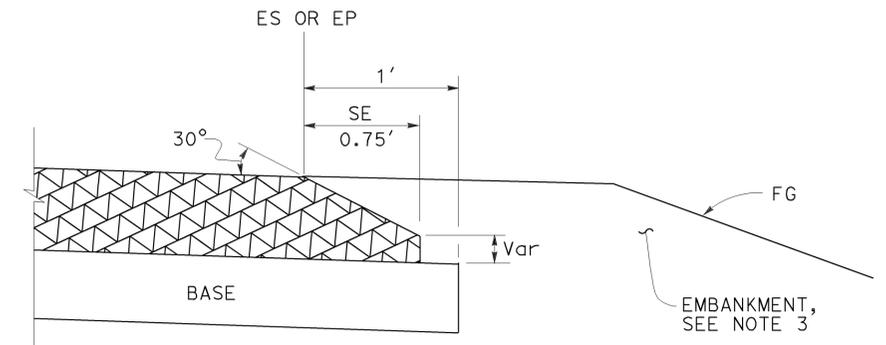
TO ACCOMPANY PLANS DATED 3-16-15



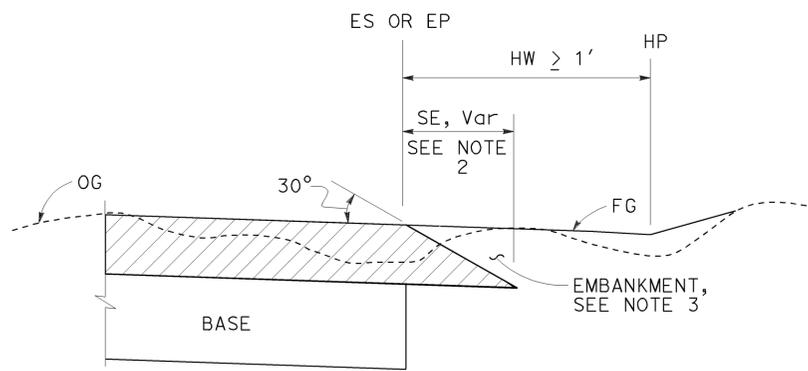
CASE K
Safety Edge - Fill Section, HW $\geq 1'$



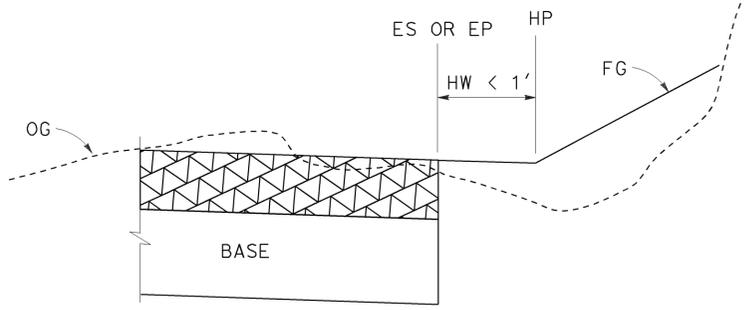
CASE L
Vertical Edge - Fill Section, HW $< 1'$



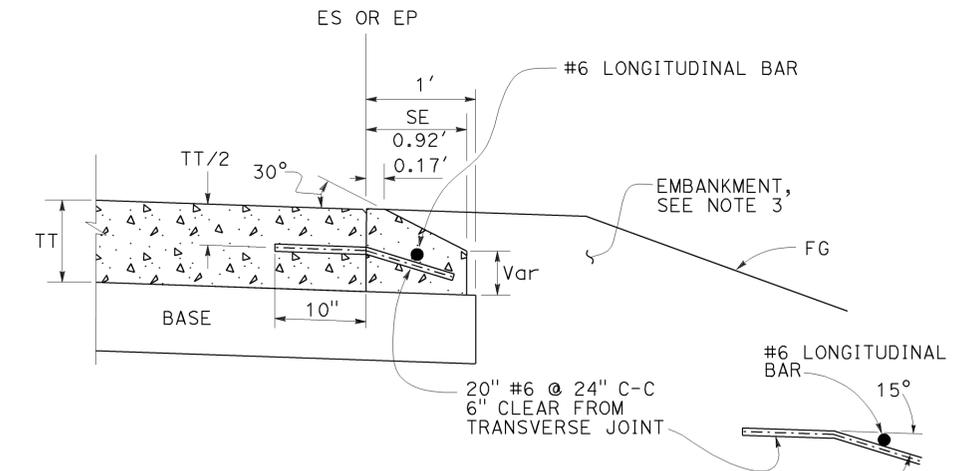
DETAIL "B"
For HMA pavement thickness more than 0.43' or concrete pavement



CASE M
Safety 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:

- For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74
- Details shown for HMA pavement thickness less than 0.43'. See Detail "B" for HMA pavement thickness more than 0.43' or concrete pavement.
- For locations and limits of embankment see project plans.
- Safety edge transverse joint must match pavement transverse joint. End of #6 longitudinal bar must be 2" $\pm 1/2$ " clear from transverse joint.
- Safety 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 NOVEMBER 15, 2013 SUPERSEDES 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	253	6.9	36	62

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 3-16-15

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
 Pkt+ 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
 Pvm+ 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

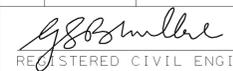
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**LANDSCAPE AND
 EROSION CONTROL ABBREVIATIONS**
 NO SCALE

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	253	6.9	37	62


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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

TO ACCOMPANY PLANS DATED 3-16-15

TABLE 1

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

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

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

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

TABLE 2

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

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Longitudinal buffer space or flagger station spacing

*** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

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

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM TABLES
 FOR LANE AND RAMP CLOSURES**

NO SCALE

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

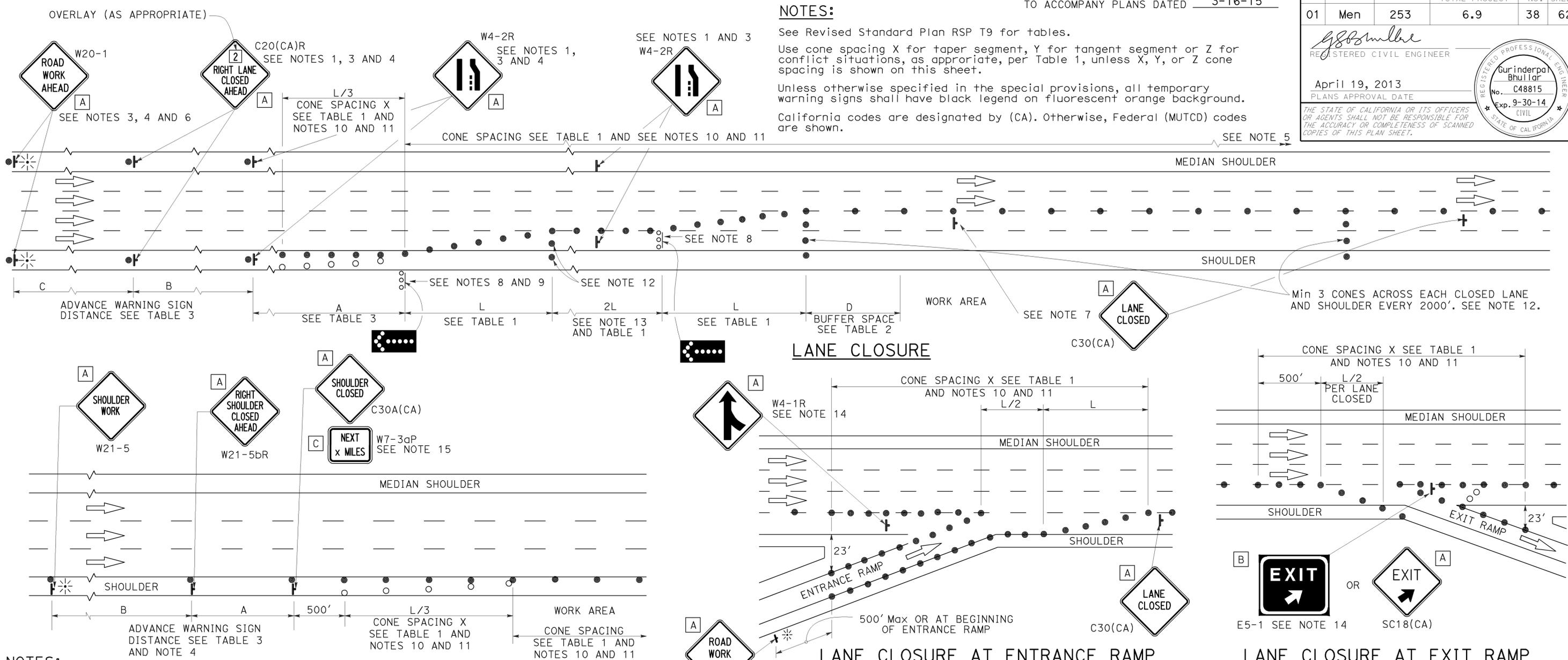
2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	38	62

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

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

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



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

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

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

LEGEND

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

SIGN PANEL SIZE (Min)

A	48" x 48"
B	72" x 60"
C	36" x 30"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

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

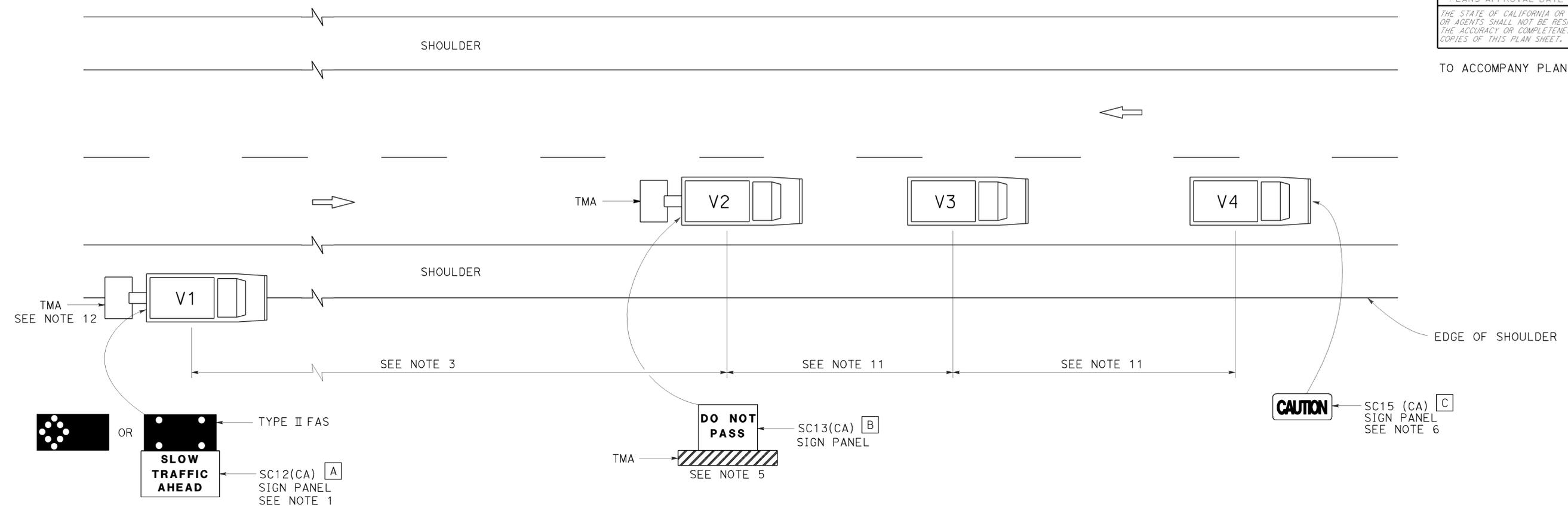
NO SCALE

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

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

TO ACCOMPANY PLANS DATED 3-16-15



NOTES:

1. Either a changeable message sign or a SC12(CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "CAUTION" message first, follow by the "SLOW TRAFFIC AHEAD" message. A Type II flashing arrow sign may be used with the SC12(CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Shadow vehicle shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.

7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan T13) for this condition.
11. Minimize spacing between vehicles V2 and V3 and vehicles V3 and V4 to deter road users from driving in between them.
12. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- V4 SIGN VEHICLE
- TMA TRUCK-MOUNTED ATTENUATOR
- FLASHING ARROW SIGN (FAS) IN FLASHING CAUTION MODE
- FLASHING ARROW SIGN (FAS) IN ALTERNATING DIAMOND CAUTION

SIGN PANEL SIZE (Min)

- A 72" x 42"
- B 54" x 42"
- C 54" x 24"

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

RSP T17 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T17 DATED MAY 20, 2011 - PAGE 245 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T17

2010 REVISED STANDARD PLAN RSP T17

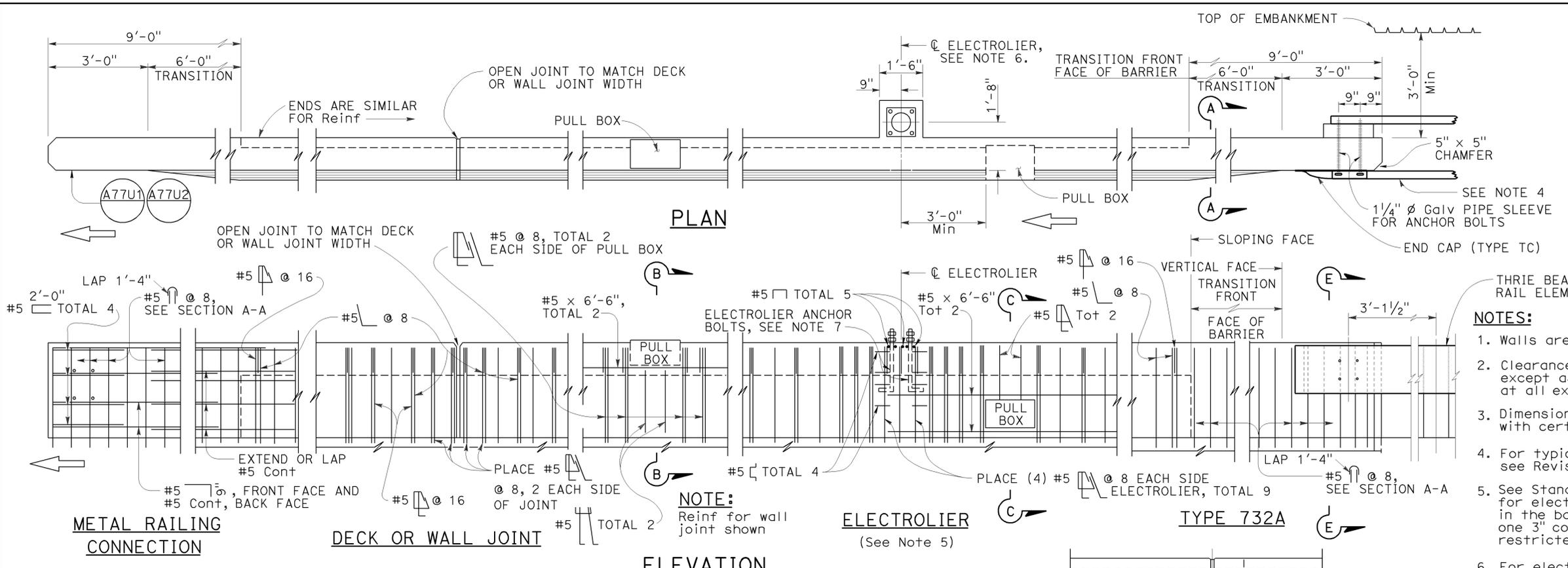
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	40	62

REGISTERED CIVIL ENGINEER

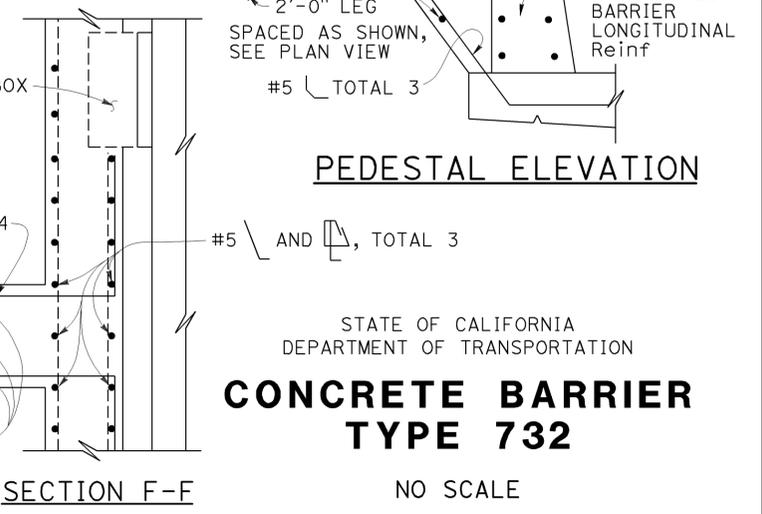
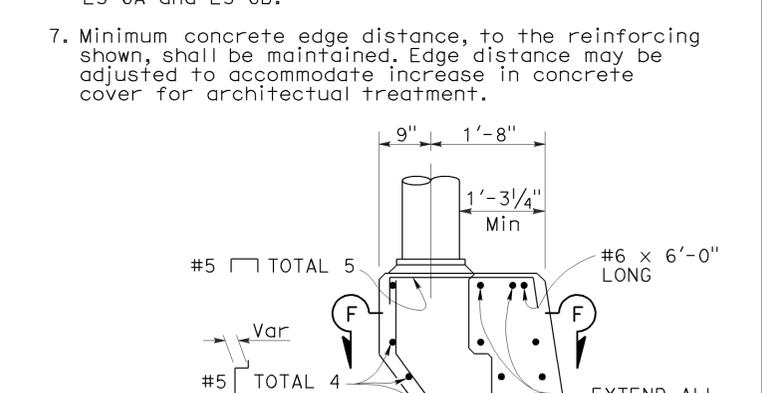
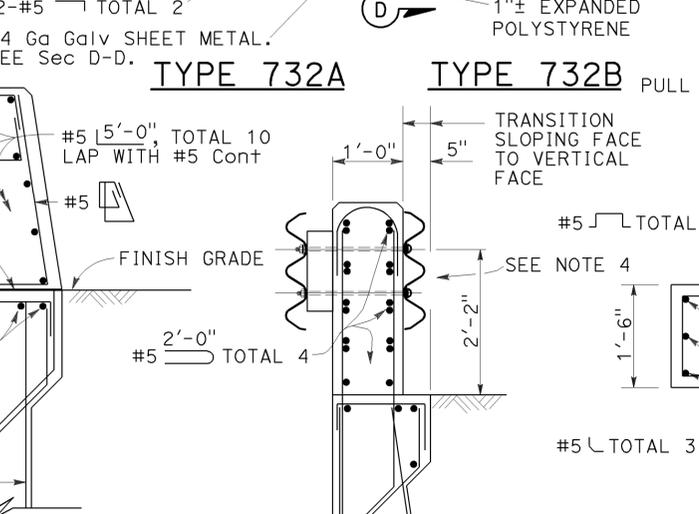
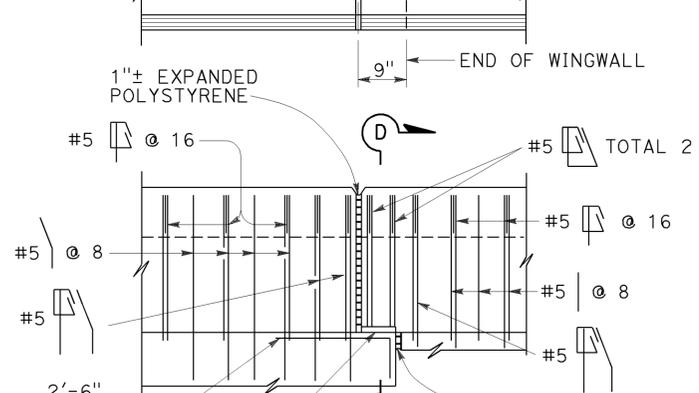
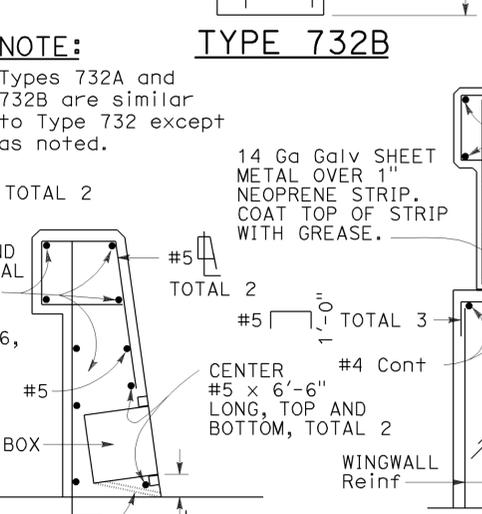
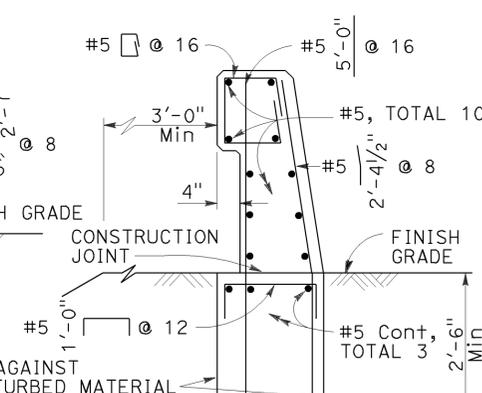
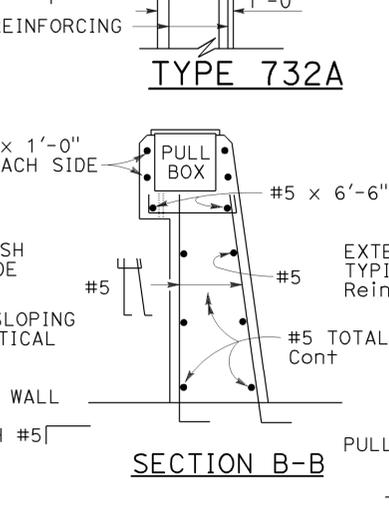
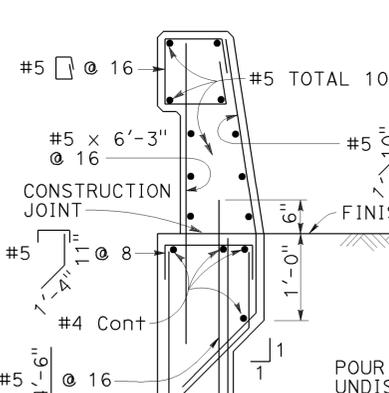
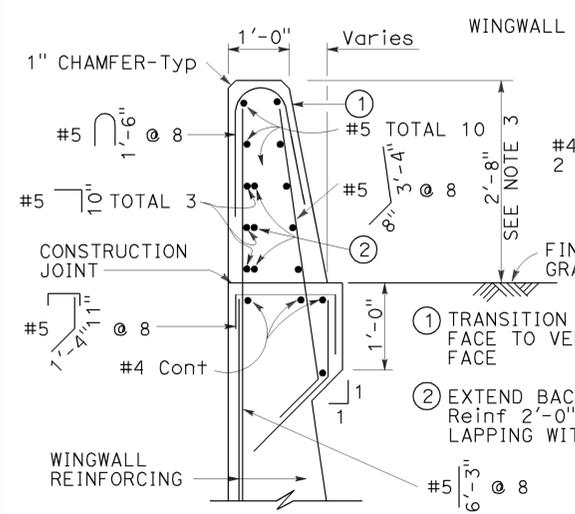
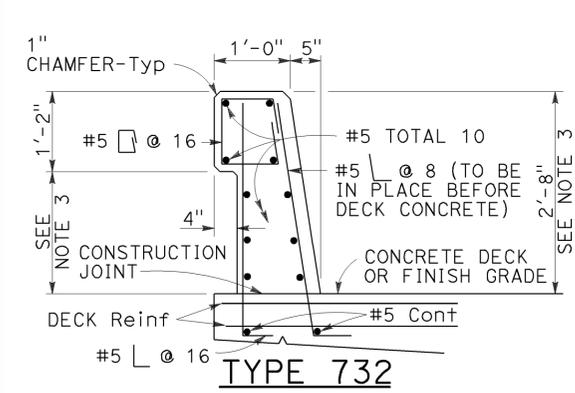
November 15, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 3-16-15



- NOTES:**
- Walls are to be backfilled before barrier is placed.
 - Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
 - Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
 - For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
 - 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.
 - For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
 - 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.



Details shown for barrier anchorage to Type 732A. Anchorage for barrier Types 732 and 732A are similar to their respective details.

2010 REVISED STANDARD PLAN RSP B11-55

LEGEND:

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

ABBREVIATIONS

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	41	62

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa
Aziz Gabriel
No. E15129
Exp. 6-30-14
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 3-16-15

SOFFIT AND WALL MOUNTED LUMINAIRES

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

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	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 NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

NOTES:

- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
- 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

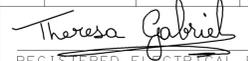
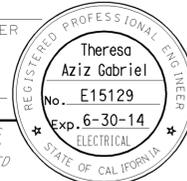
ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES 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	253	6.9	42	62
 REGISTERED ELECTRICAL ENGINEER July 19, 2013 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 3-16-15

CONDUIT

SIGNAL EQUIPMENT

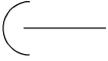
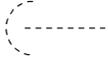
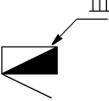
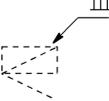
NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

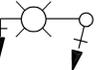
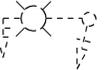
NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW 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 SYSTEM

SERVICE EQUIPMENT

NEW	EXISTING	
---OH---	---oh---	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

		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

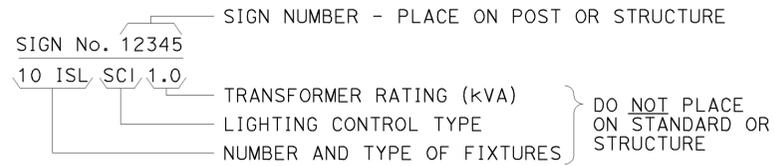
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B
DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

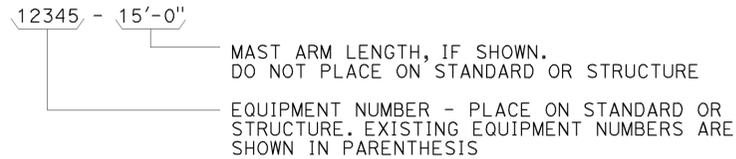
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

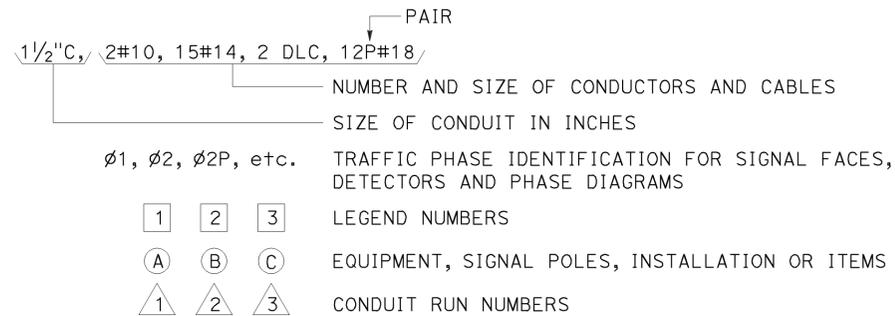
ILLUMINATED SIGN IDENTIFICATION NUMBER:



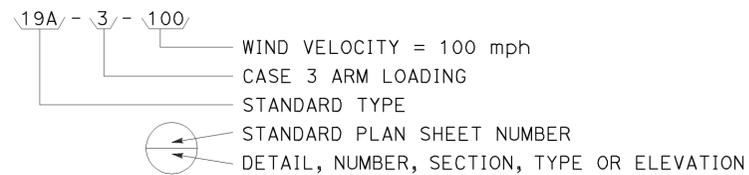
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



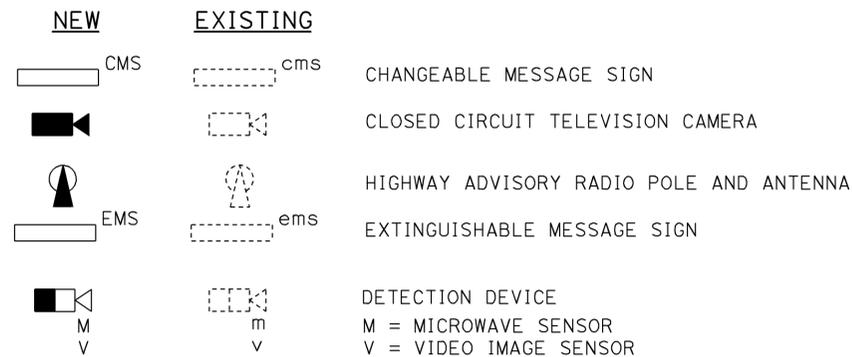
CONDUIT AND CONDUCTOR IDENTIFICATION:



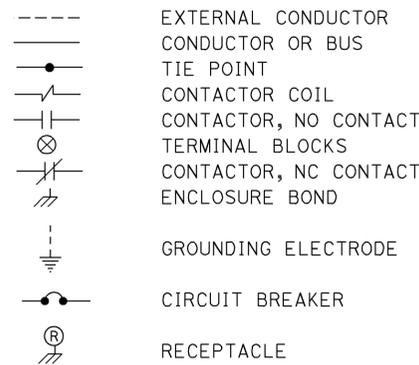
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



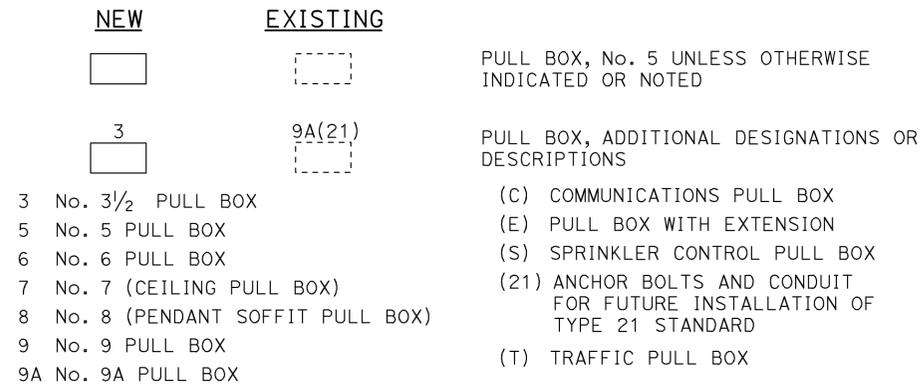
MISCELLANEOUS EQUIPMENT



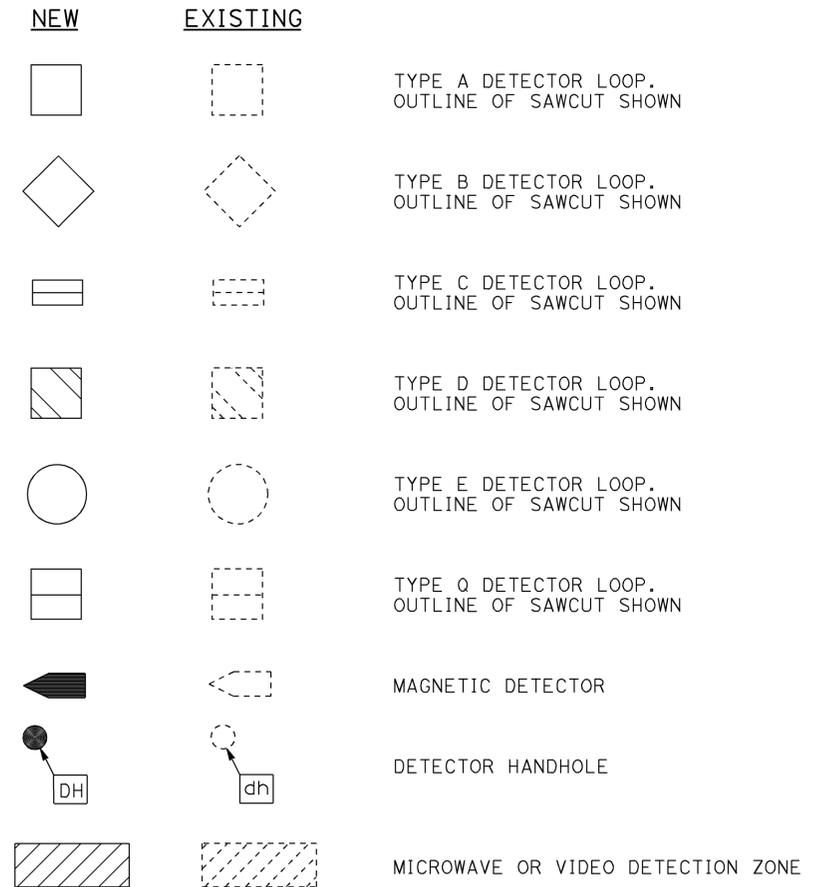
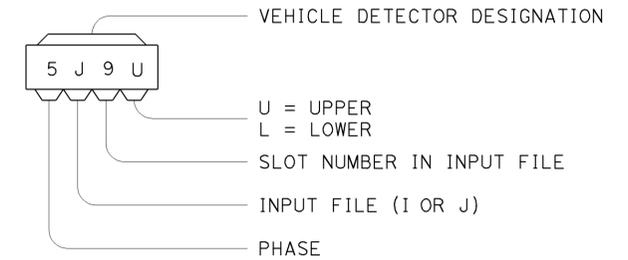
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

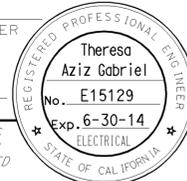
NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES 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	253	6.9	44	62
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



TO ACCOMPANY PLANS DATED 3-16-15

PLAN VIEW OF OTHER
SIDE MOUNTINGS

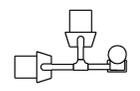
ABBREVIATIONS:

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

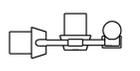
NOTES:

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 Standard Plans ES-4D and ES-4E for attachment fitting details.

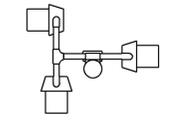
PLAN VIEW OF
TOP MOUNTINGS



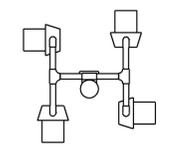
SV-2-TD



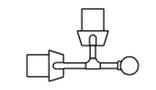
SV-2-TC



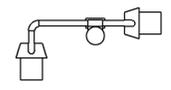
SV-3-TC



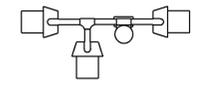
SV-4-TC



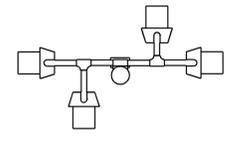
SV-2B



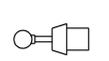
SV-2-TB



SV-3-TB



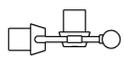
SV-4-TB



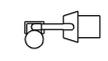
SV



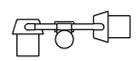
SV-1



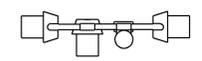
SV-2A



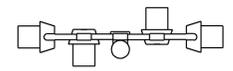
SV-1-T



SV-2-TA



SV-3-TA

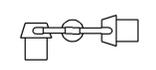


SV-4-TA

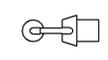
SIDE MOUNTINGS



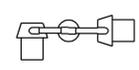
TV-1



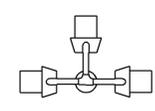
TV-2



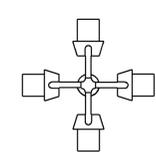
TV-1-T



TV-2-T



TV-3-T



TV-4-T

TOP MOUNTINGS

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

NO SCALE

RSP ES-4A DATED JULY 19, 2013 SUPERSEDES 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

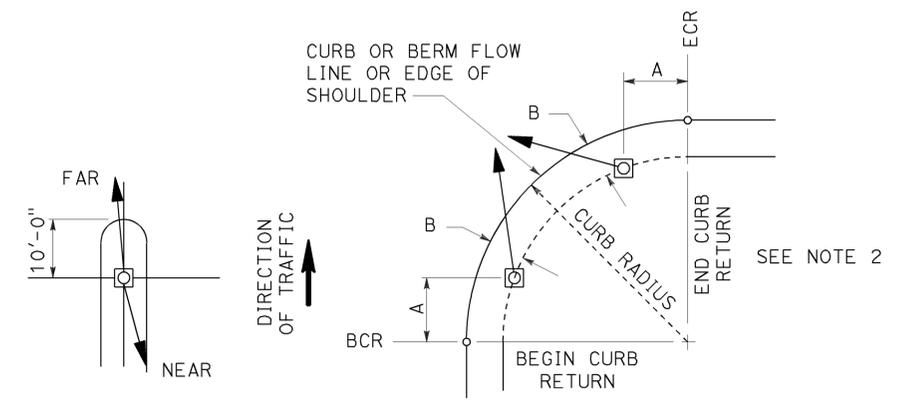
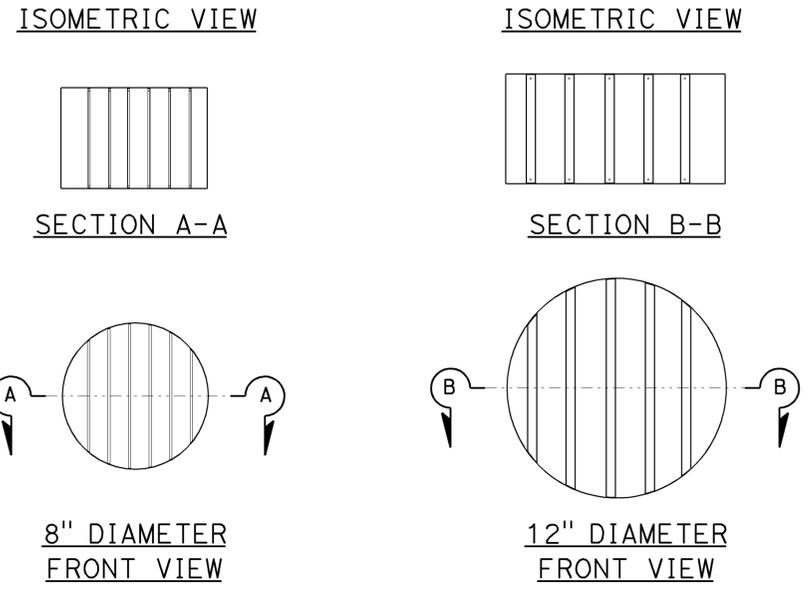
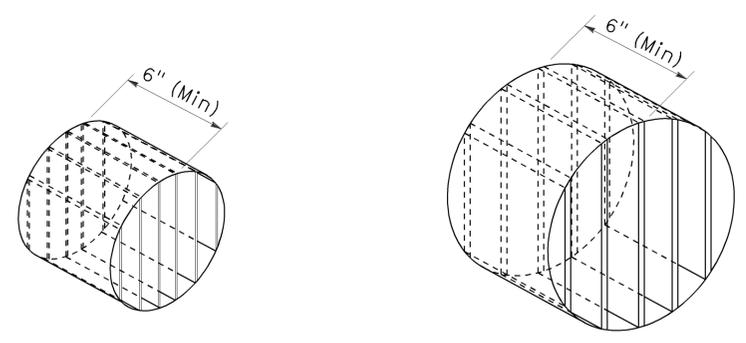
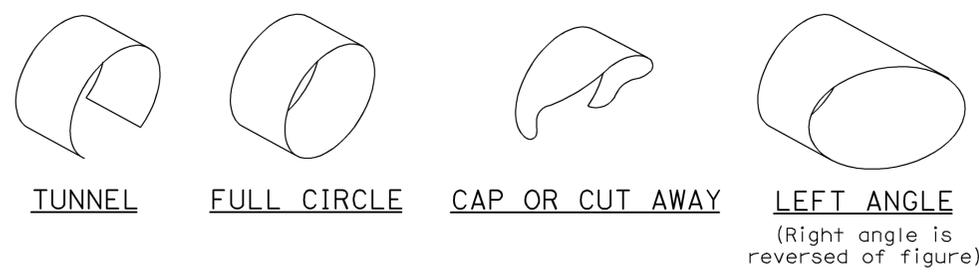
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	45	62

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

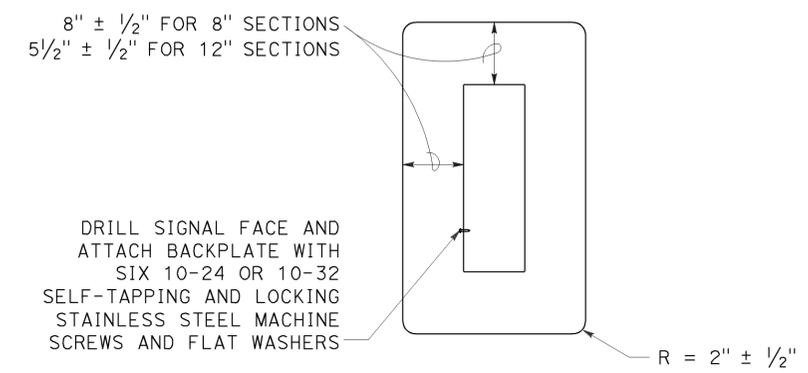
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 3-16-15



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

VISORS



8" AND 12" SECTIONS

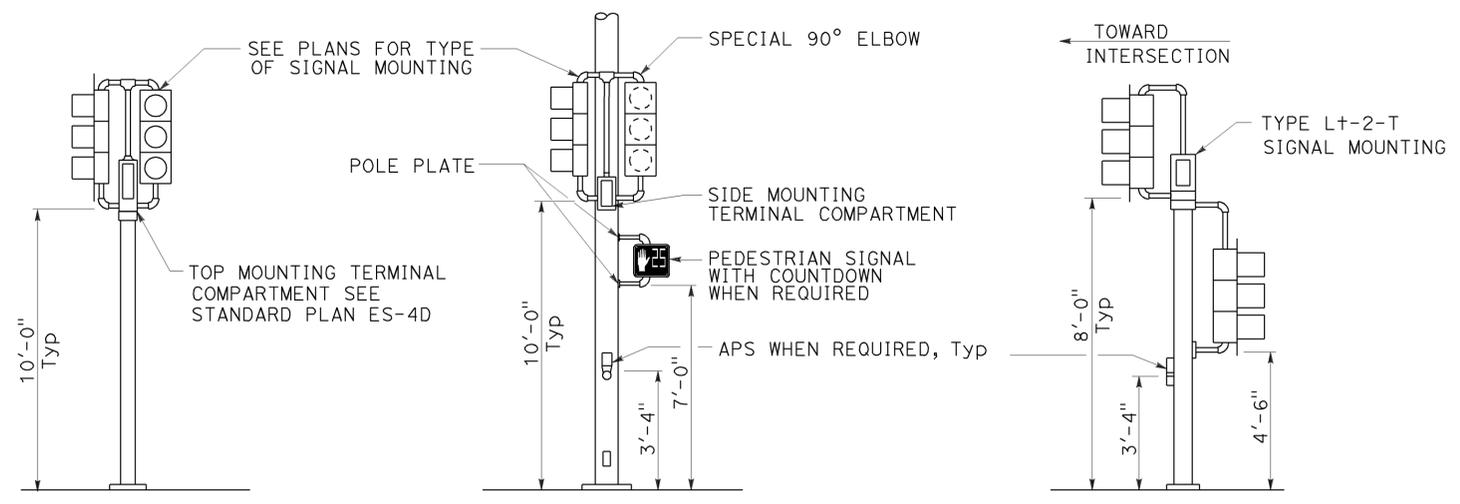
BACKPLATE

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

DIRECTIONAL LOUVER

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

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)

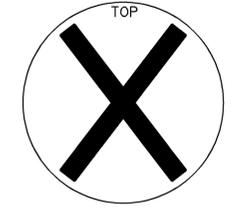
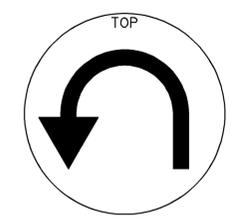
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

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



SIGNAL FACES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

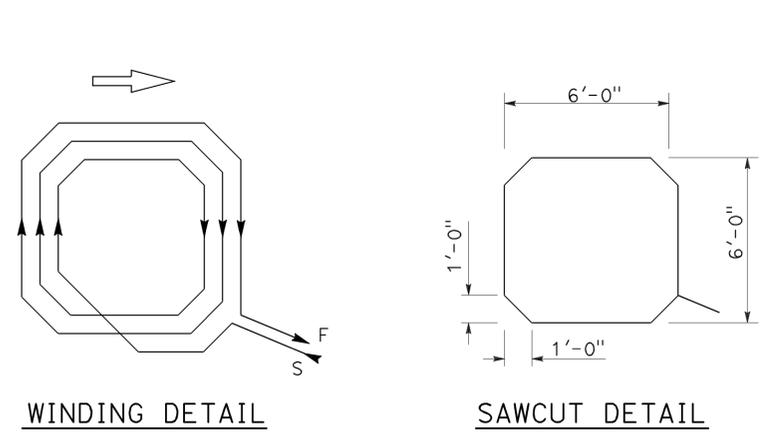
ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)

NO SCALE

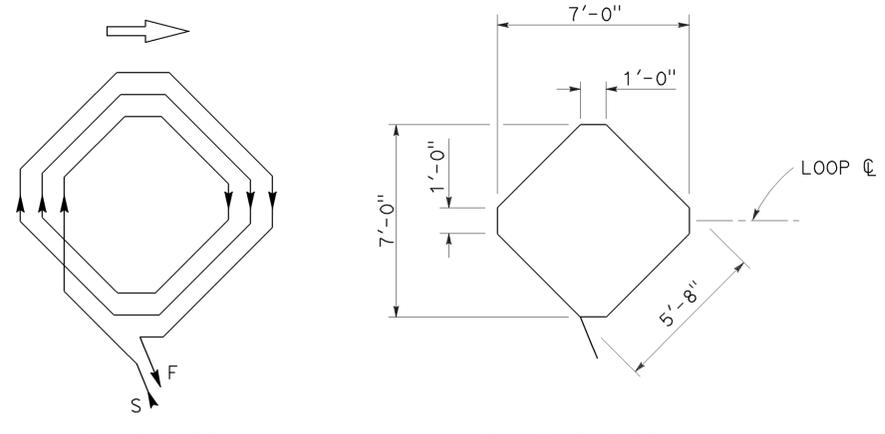
RSP ES-4C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-04C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-4C

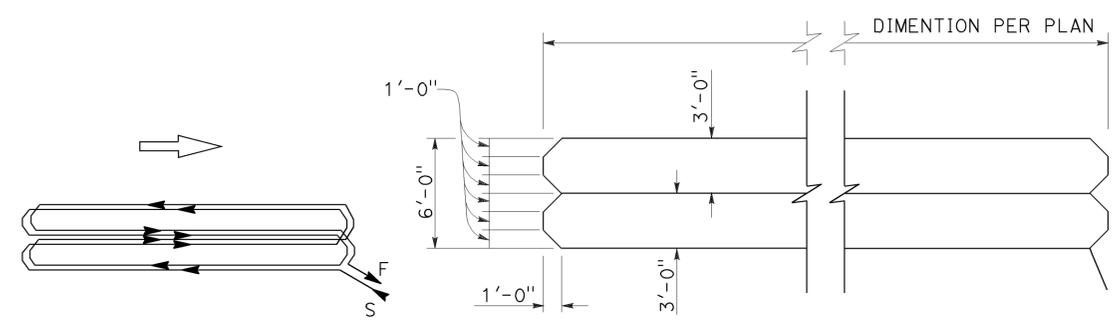
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	46	62
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>3-16-15</u>					



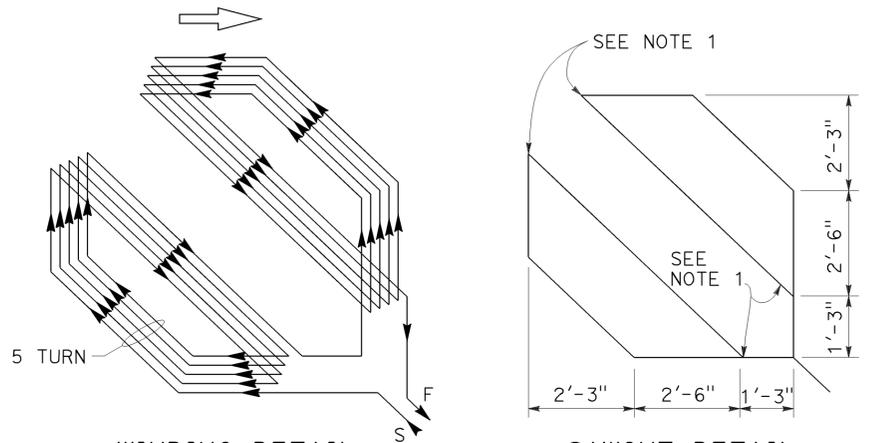
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



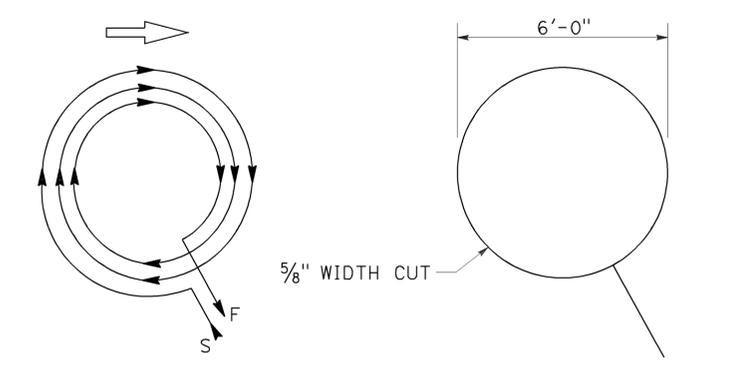
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



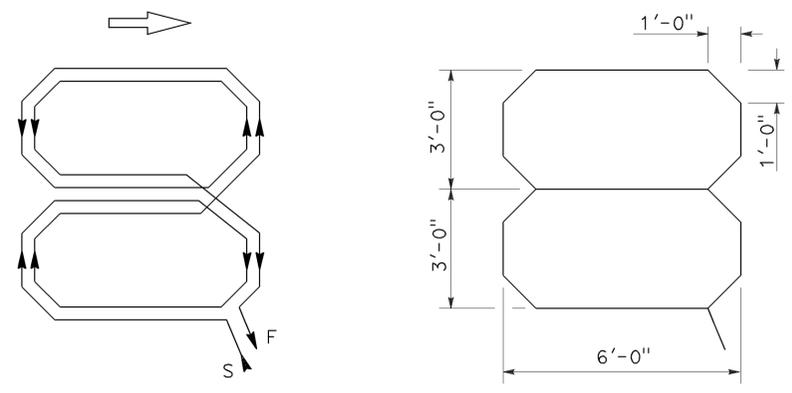
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



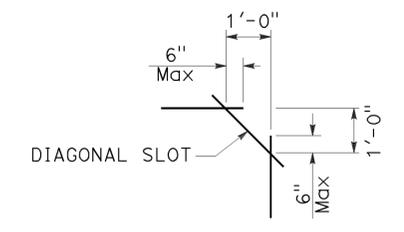
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



**PLAN VIEW OF
DIAGONAL SLOT
AT CORNERS**

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(DETECTORS)**

NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B
DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

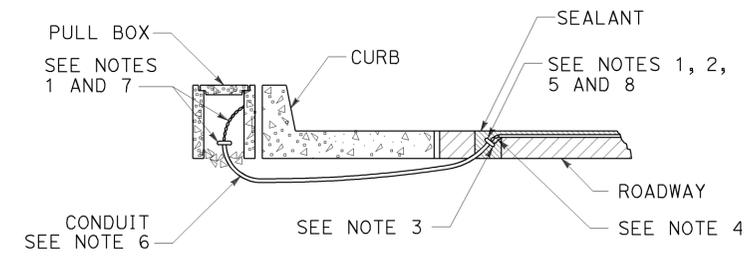
2010 REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	47	62

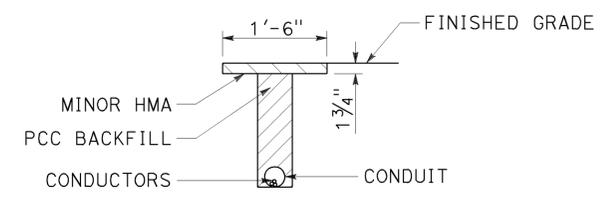
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 3-16-15

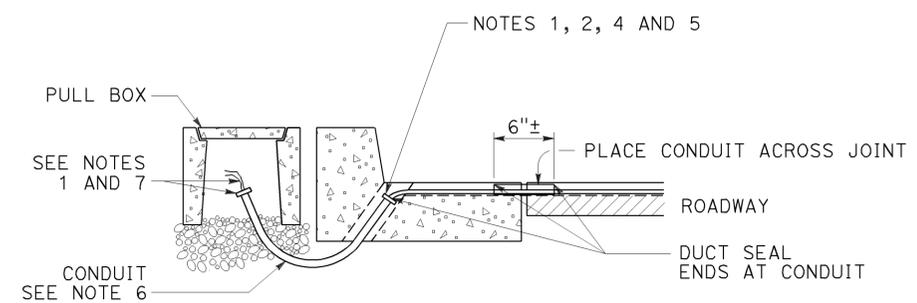
2010 REVISED STANDARD PLAN RSP ES-5D



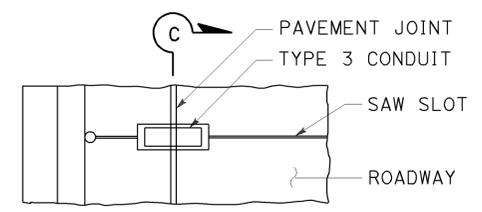
TYPE A
CURB TERMINATION DETAIL



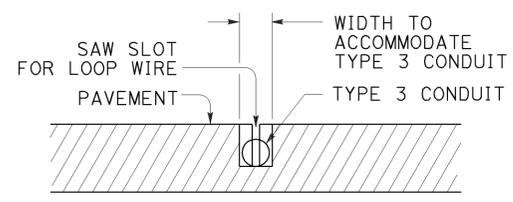
"T" TRENCH
DETAIL T



CROSS SECTION

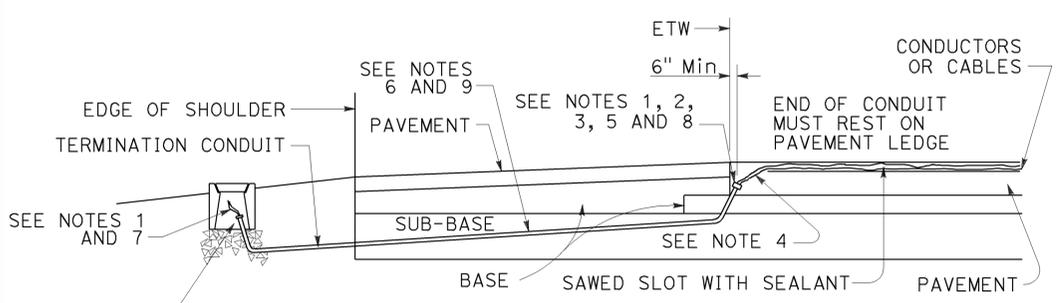


PLAN VIEW

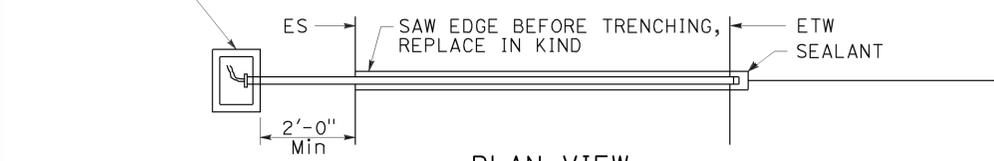


SECTION C-C

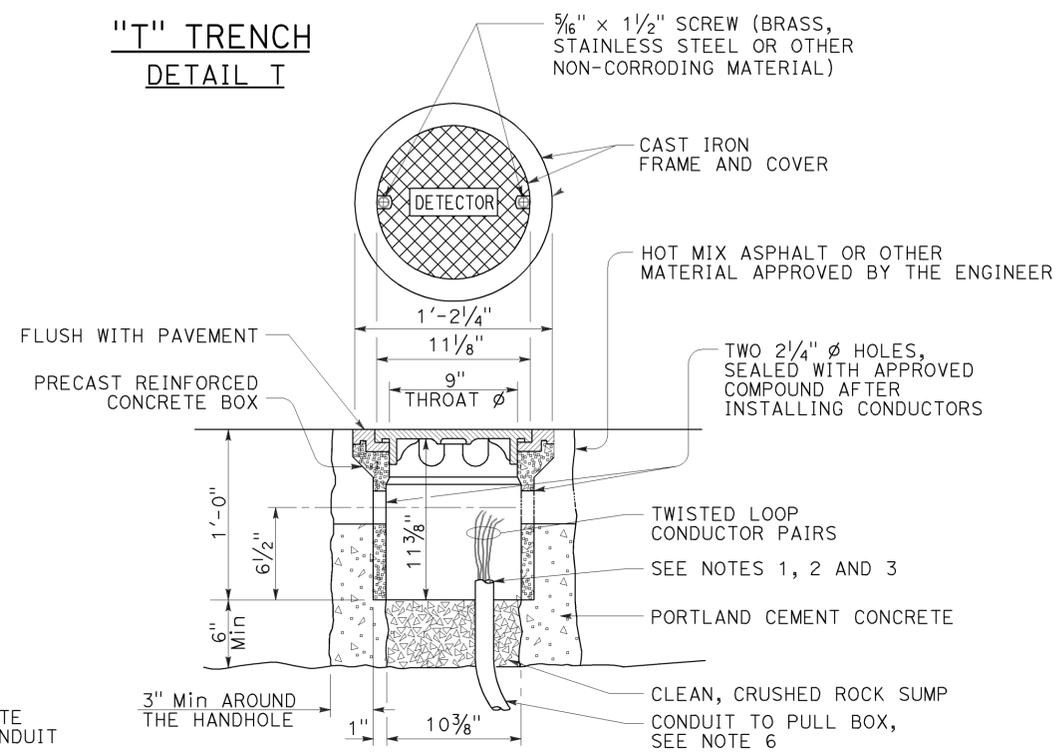
TYPE B
CURB TERMINATION DETAIL



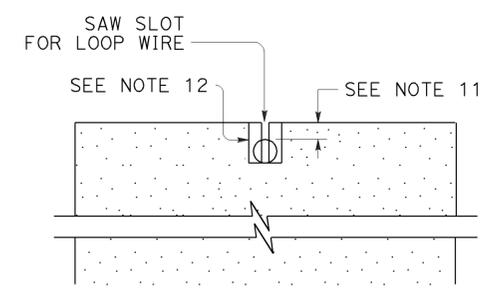
CROSS SECTION



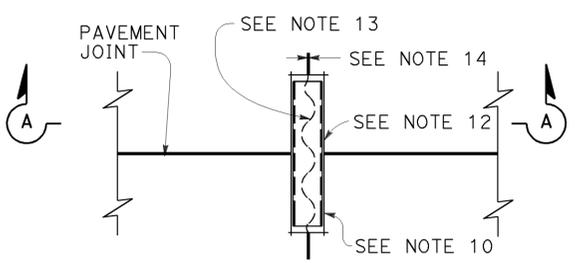
PLAN VIEW
SHOULDER TERMINATION DETAILS



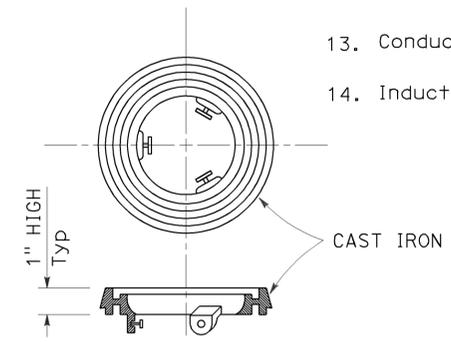
DETECTOR HANDHOLE DETAIL



SECTION A-A



PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



LOCKING GRADE RING

NOTES:

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size Loop conductors
 1"C minimum 1 to 2 pairs
 1 1/2"C minimum 3 to 4 pairs
 2"C minimum 5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)
NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	48	62

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 3-31-14
 CIVIL
 STATE OF CALIFORNIA

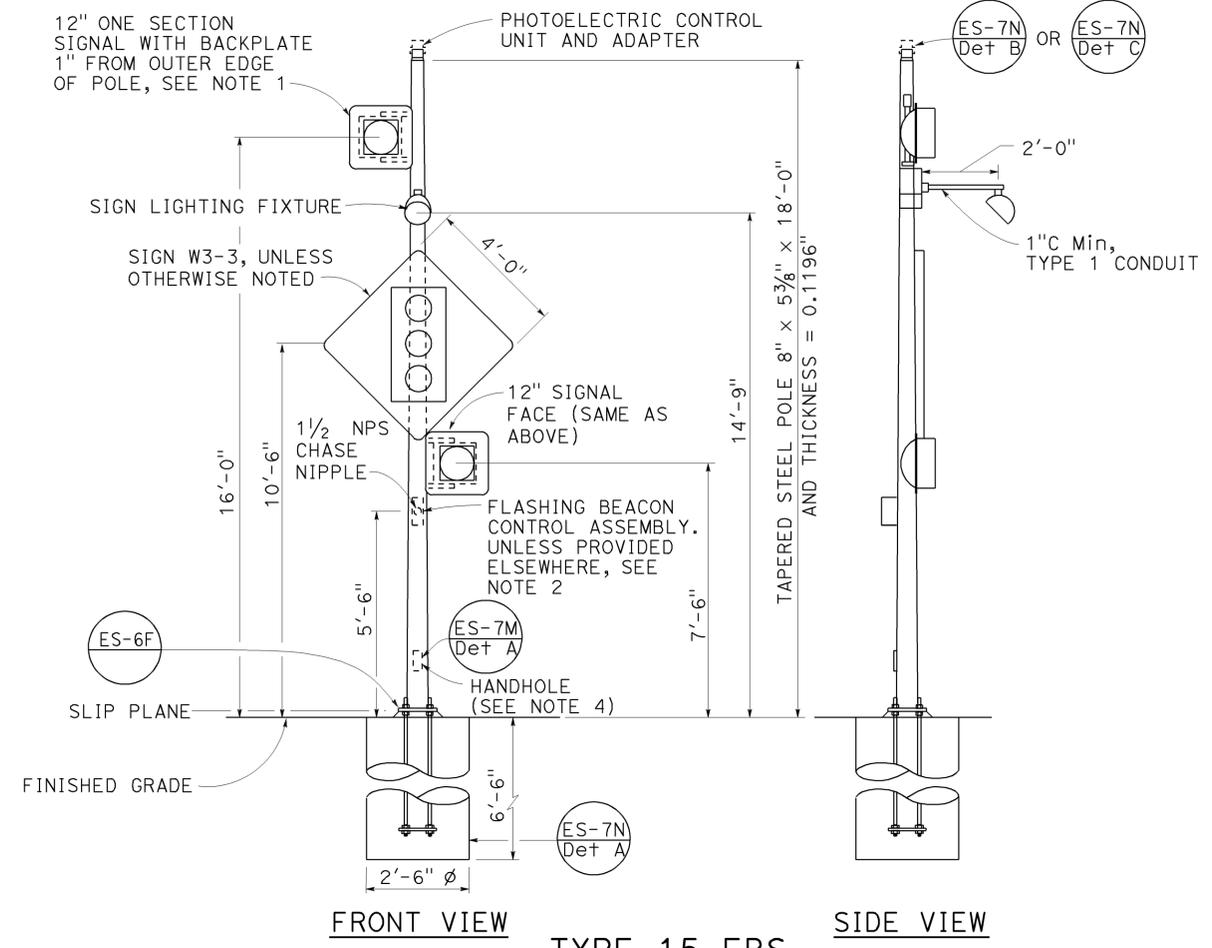
July 19, 2013
 PLANS APPROVAL DATE

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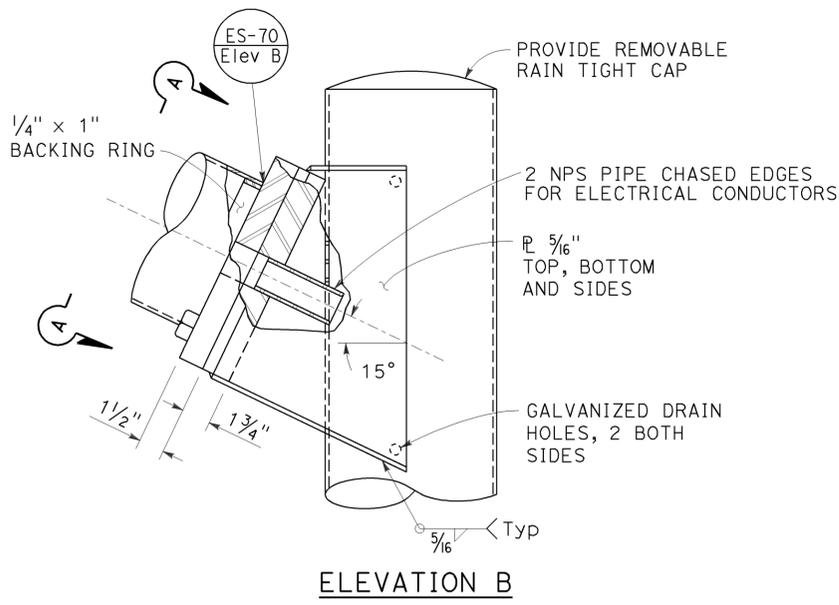
TO ACCOMPANY PLANS DATED 3-16-15

NOTES:

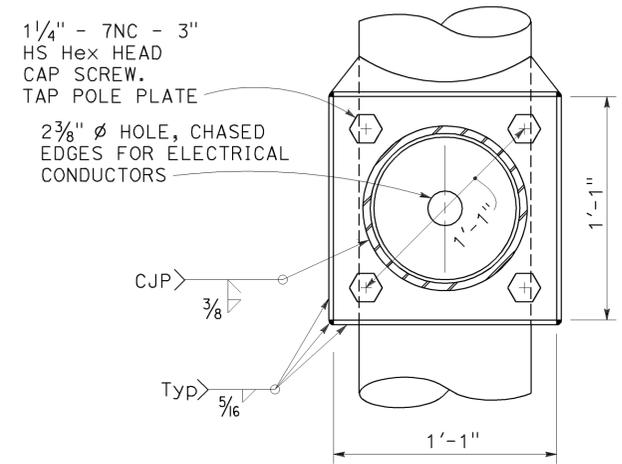
1. See Revised Standard Plan RSP ES-4A and Standard Plan ES-4D for attachment fitting details.
2. For wiring diagram, see Standard Plan ES-14B.
3. For additional notes and details, see Standard Plans ES-7M and ES-7N.
4. Handhole shall be located on the downstream side of traffic.
5. See project plans for type of standard to be installed.



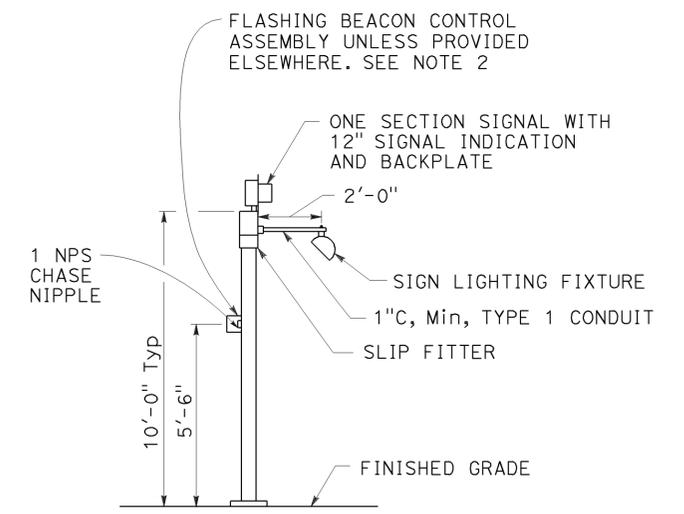
FRONT VIEW
 SIDE VIEW
TYPE 15-FBS
ADVANCE FLASHING BEACON WITH SLIP BASE INSTALLATION
DETAIL A



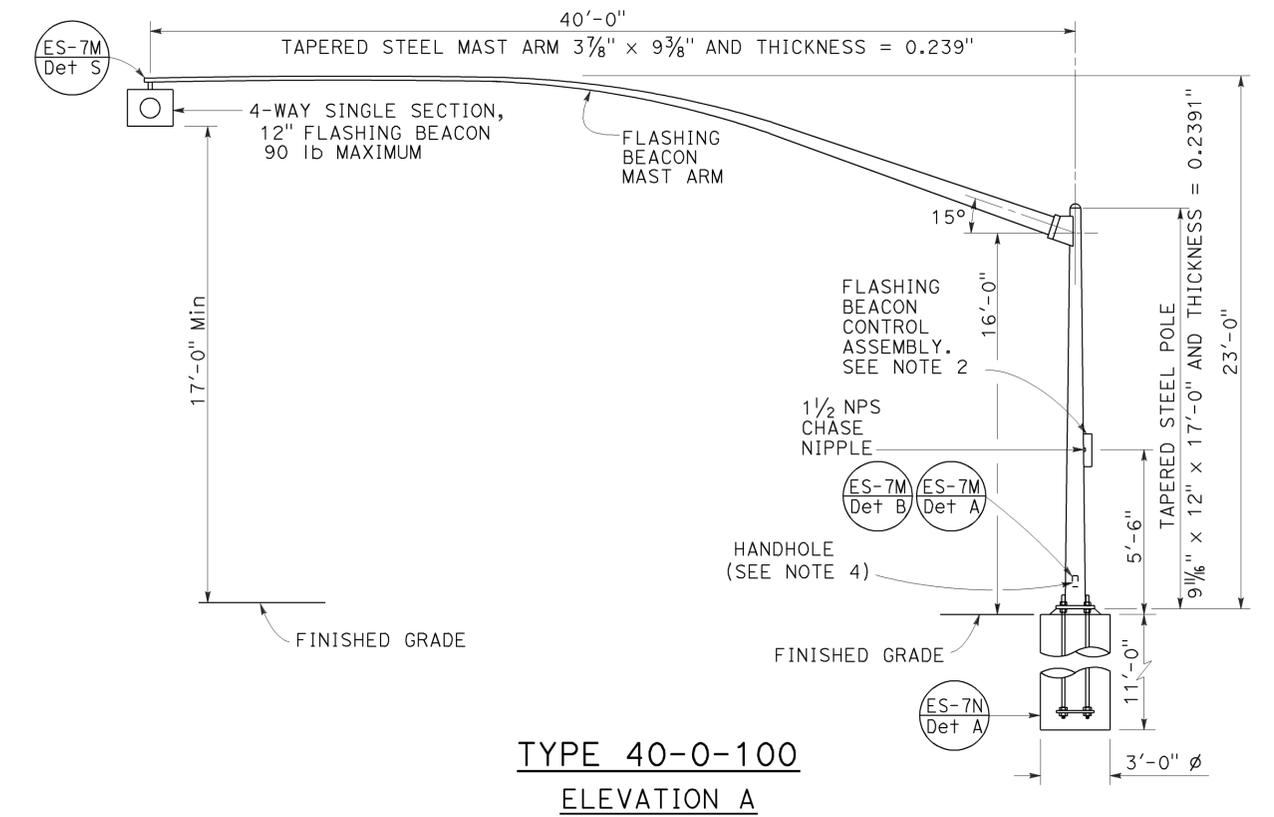
ELEVATION B



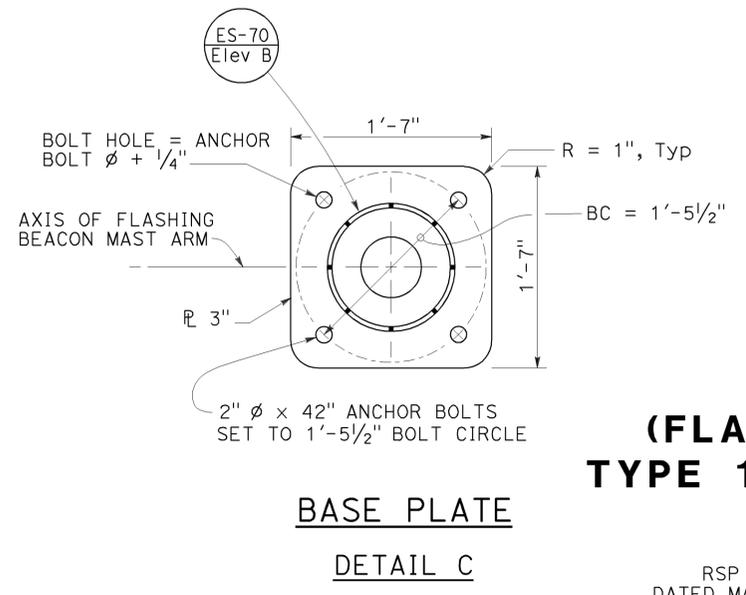
VIEW A-A
FLASHING BEACON MAST ARM CONNECTION DETAIL
DETAIL B



TYPE 1-A, 1-B, 1-C AND 1-D
ADVANCE FLASHING BEACON INSTALLATION
DETAIL D
 See Note 5



TYPE 40-0-100
ELEVATION A



BASE PLATE
DETAIL C

ELECTRICAL SYSTEMS
(FLASHING BEACON ON A TYPE 1, TYPE 15-FBS AND TYPE 40 STANDARD)
 NO SCALE

RSP ES-7J DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7J DATED MAY 20, 2011 - PAGE 471 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-7J

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Men	253	6.9	49	62

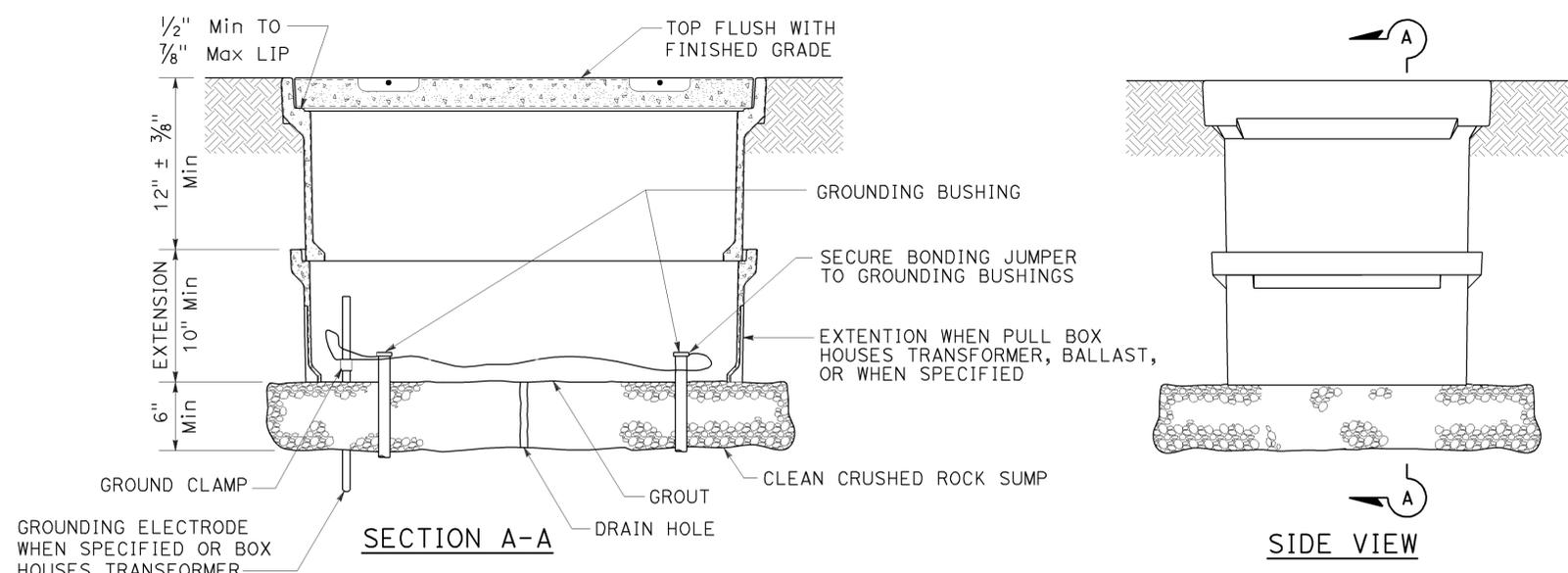
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

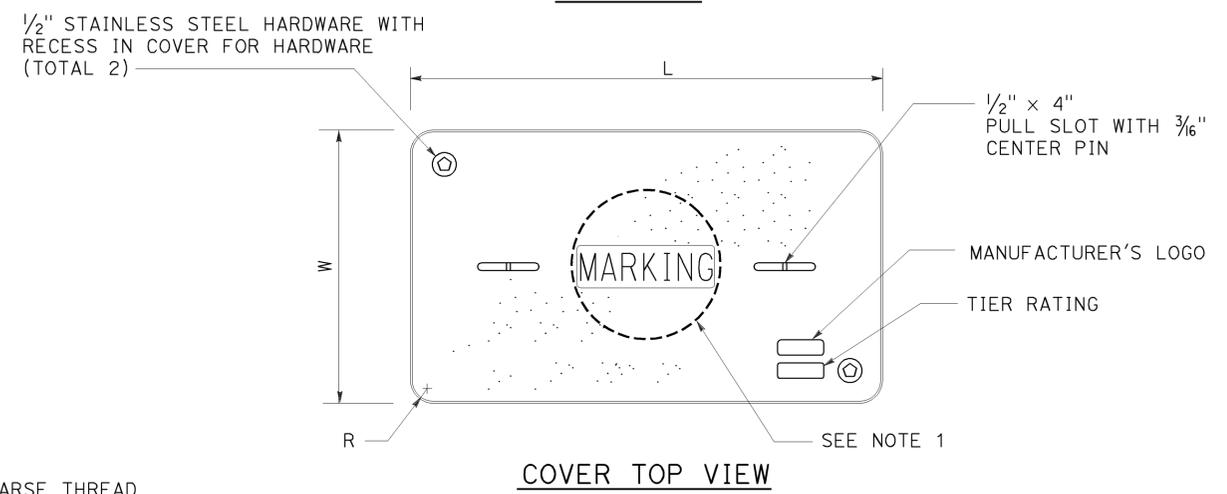
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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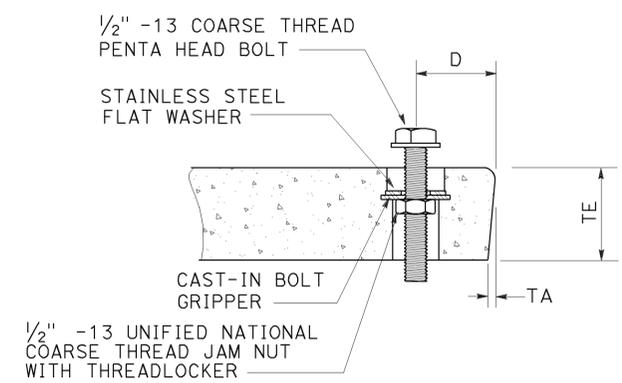
TO ACCOMPANY PLANS DATED 3-16-15



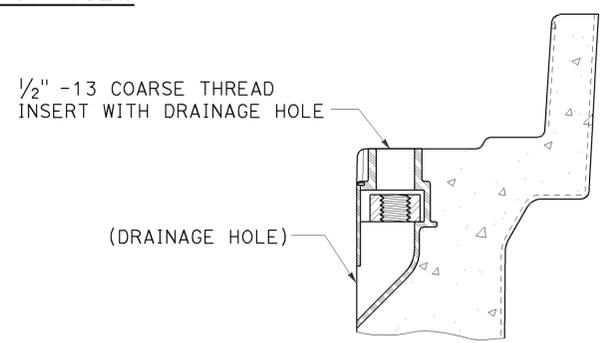
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

NOTES:

- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - No. 3 1/2 pull box.
 - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
 - "BOOSTER PUMP" - Booster pump circuit.
- 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.
- 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.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- All dimensions for the cover for non-traffic pull box are nominal values.

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

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

RSP ES-8A DATED JULY 19, 2013 SUPERSEDES 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	253	6.9	50	62

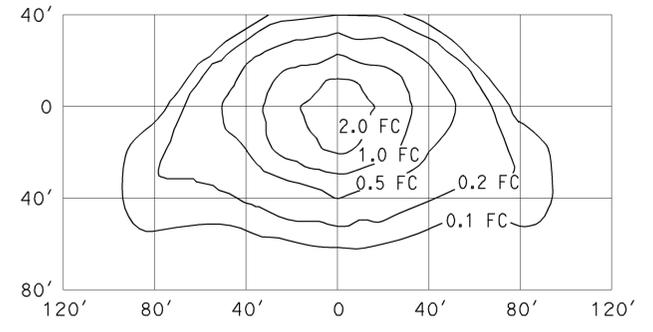
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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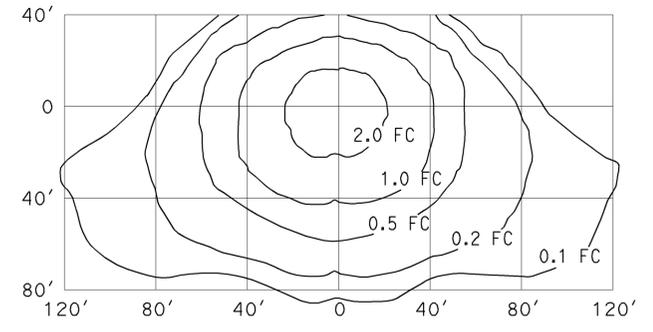
TO ACCOMPANY PLANS DATED 3-16-15

ISOFOOTCANDLE CURVE - MINIMUM



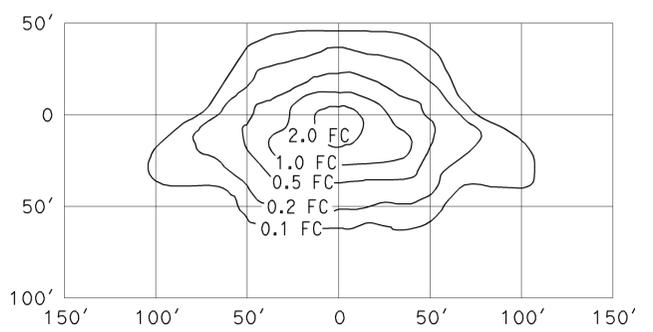
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 34' Mounting Height
 Lamp operated at 22,000 lm
 200-W high pressure sodium lamp
 ANSI Designation S66

ISOFOOTCANDLE CURVE - MINIMUM



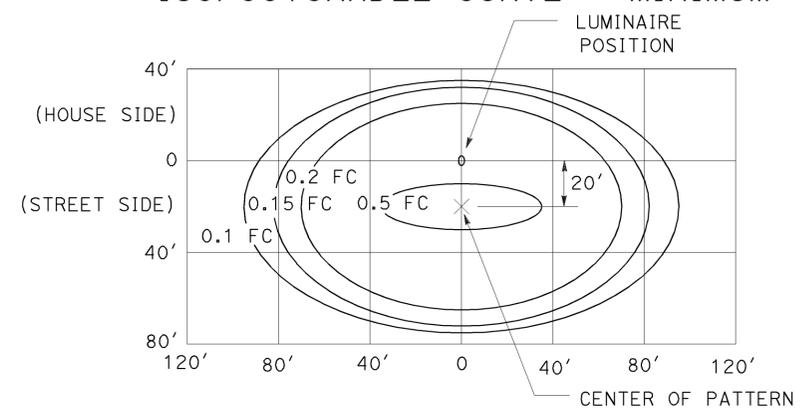
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 40' Mounting Height
 Lamp operated at 37,000 lm
 310-W high pressure sodium lamp
 ANSI Designation S67

ISOFOOTCANDLE CURVE - MINIMUM



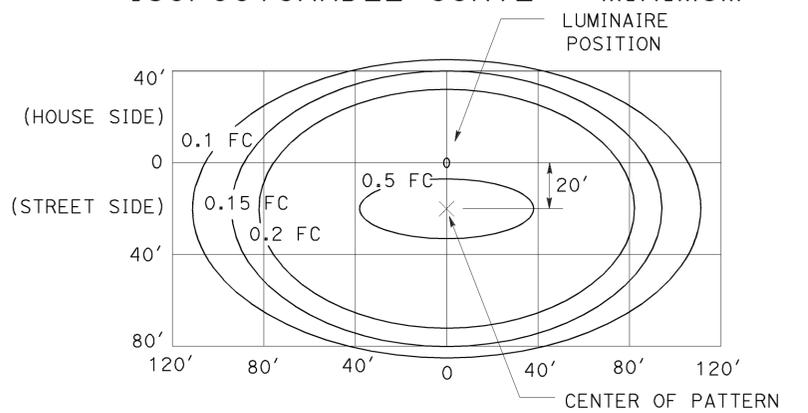
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 30' Mounting Height
 Lamp operated at 16,000 lm
 150-W high pressure sodium lamp
 ANSI Designation S55

ISOFOOTCANDLE CURVE - MINIMUM



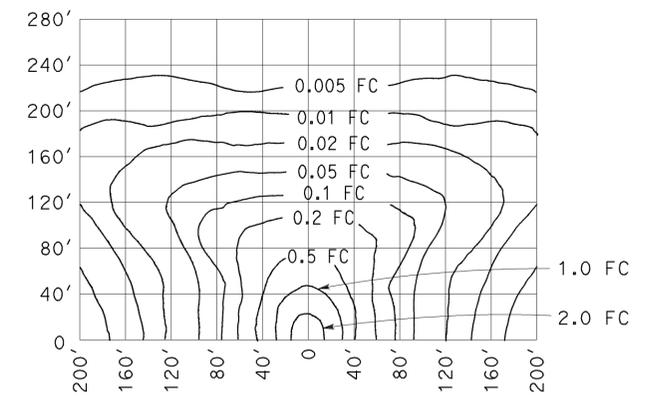
LED LUMINAIRE ROADWAY 1
 165-W at 34' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



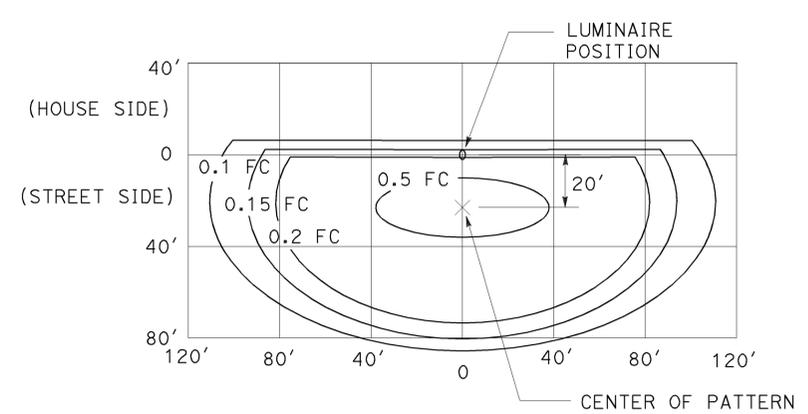
LED LUMINAIRE ROADWAY 2
 235-W at 40' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



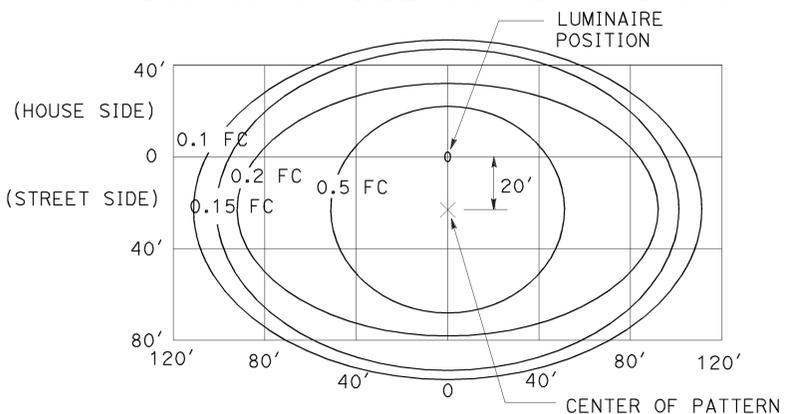
LOW PRESSURE SODIUM LUMINAIRE
 40' Mounting Height
 Lamp operated at 33,000 lm
 180-W low pressure sodium lamp

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3
 235-W at 40' Mounting Height
 with back side control

ISOFOOTCANDLE CURVE - MINIMUM

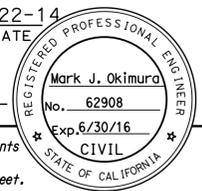


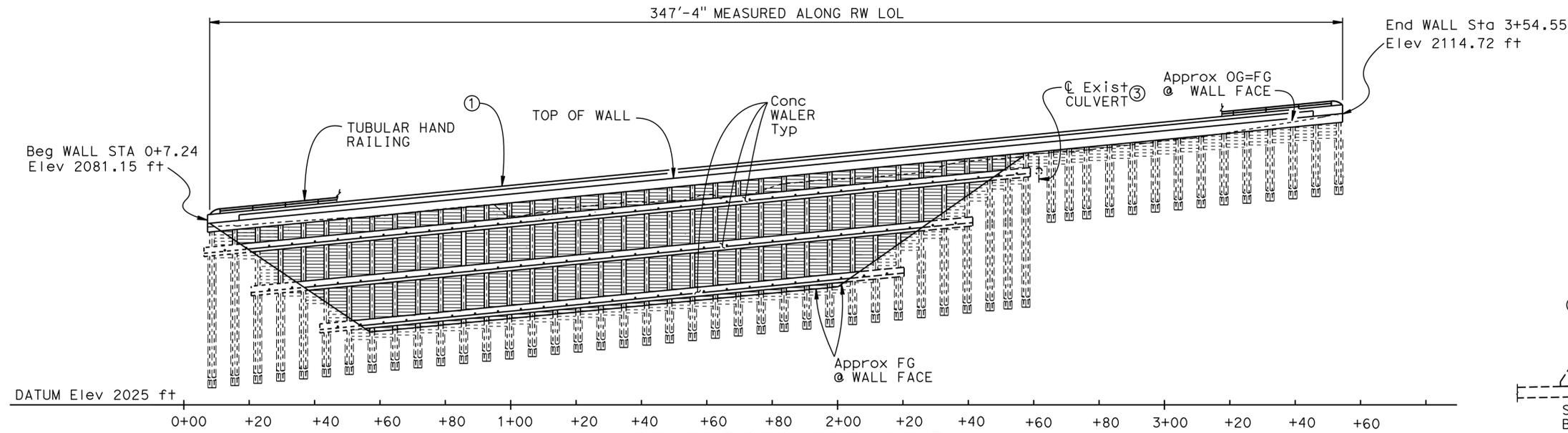
LED LUMINAIRE ROADWAY 4
 300-W at 40' Mounting Height

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

NO SCALE
 RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	51	62
			10-22-14 REGISTERED CIVIL ENGINEER DATE		
3-16-15 PLANS APPROVAL DATE					
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DEVELOPED ELEVATION
1"=30'-0"

INDEX TO PLANS

- GENERAL PLAN
- FOUNDATION PLAN
- STRUCTURE PLAN NO 1
- STRUCTURE PLAN NO 2
- TYPICAL SECTION
- SOLDIER PILE WALL WITH WALERS-DETAILS NO 1
- SOLDIER PILE WALL WITH WALERS-DETAILS NO 2
- CONCRETE BARRIER SLAB DETAILS
- SOLDIER PILE WALL LAGGING DETAILS
- SUB HORIZONTAL GROUND ANCHOR DETAILS
- EXCAVATION AND BACKFILL
- LOG OF TEST BORINGS

STANDARD PLANS DATED MAY 2010

- | | |
|------------|----------------------------------|
| RSP A10A | ABBREVIATIONS (SHEET 1 OF 2) |
| 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) |
| A10F | LEGEND-SOIL (SHEET 1 OF 2) |
| A10G | LEGEND-SOIL (SHEET 2 OF 2) |
| BO-13 | BRIDGE DETAILS |
| B11-51 | TUBULAR HAND RAILING |
| RSP B11-55 | CONCRETE BARRIER TYPE 732 |

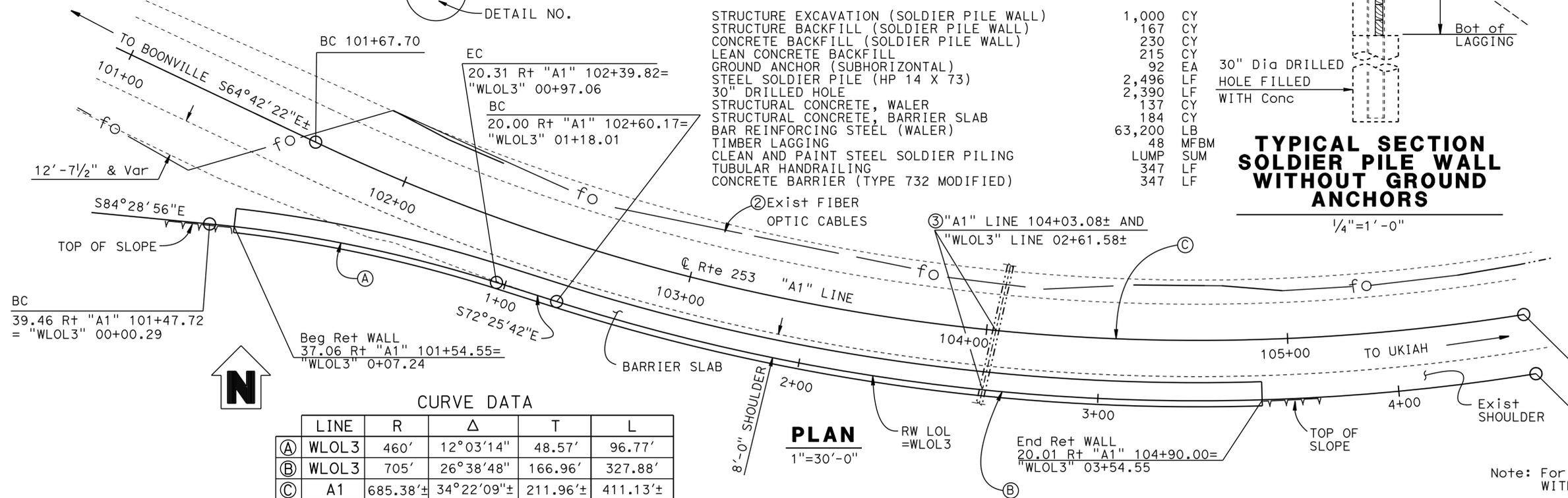
- NOTES:
- Concrete Barrier Type 732 Mod with Tubular Hand Railing
 - Provide 5'-0" Min clear distance between fiber optic cables and ground anchors. For detailed layout and profile, see "ROADWAY PLANS"
 - Exist 2'-0"± CMP Culvert to remain undamaged
 - Barrier Slab Slope to match Exist
 - Temp Railing Type K, see "ROADWAY PLANS"

QUANTITIES

STRUCTURE EXCAVATION (SOLDIER PILE WALL)	1,000	CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	167	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	230	CY
LEAN CONCRETE BACKFILL	215	CY
GROUND ANCHOR (SUBHORIZONTAL)	92	EA
STEEL SOLDIER PILE (HP 14 X 73)	2,496	LF
30" DRILLED HOLE	2,390	LF
STRUCTURAL CONCRETE, WALER	137	CY
STRUCTURAL CONCRETE, BARRIER SLAB	184	CY
BAR REINFORCING STEEL (WALER)	63,200	LB
TIMBER LAGGING	48	MFBM
CLEAN AND PAINT STEEL SOLDIER PILING	LUMP	SUM
TUBULAR HANDRAILING	347	LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	347	LF

TYPICAL SECTION SOLDIER PILE WALL WITHOUT GROUND ANCHORS
1/4"=1'-0"

TYPICAL SECTION SOLDIER PILE WALL WITH GROUND ANCHORS
1/4"=1'-0"



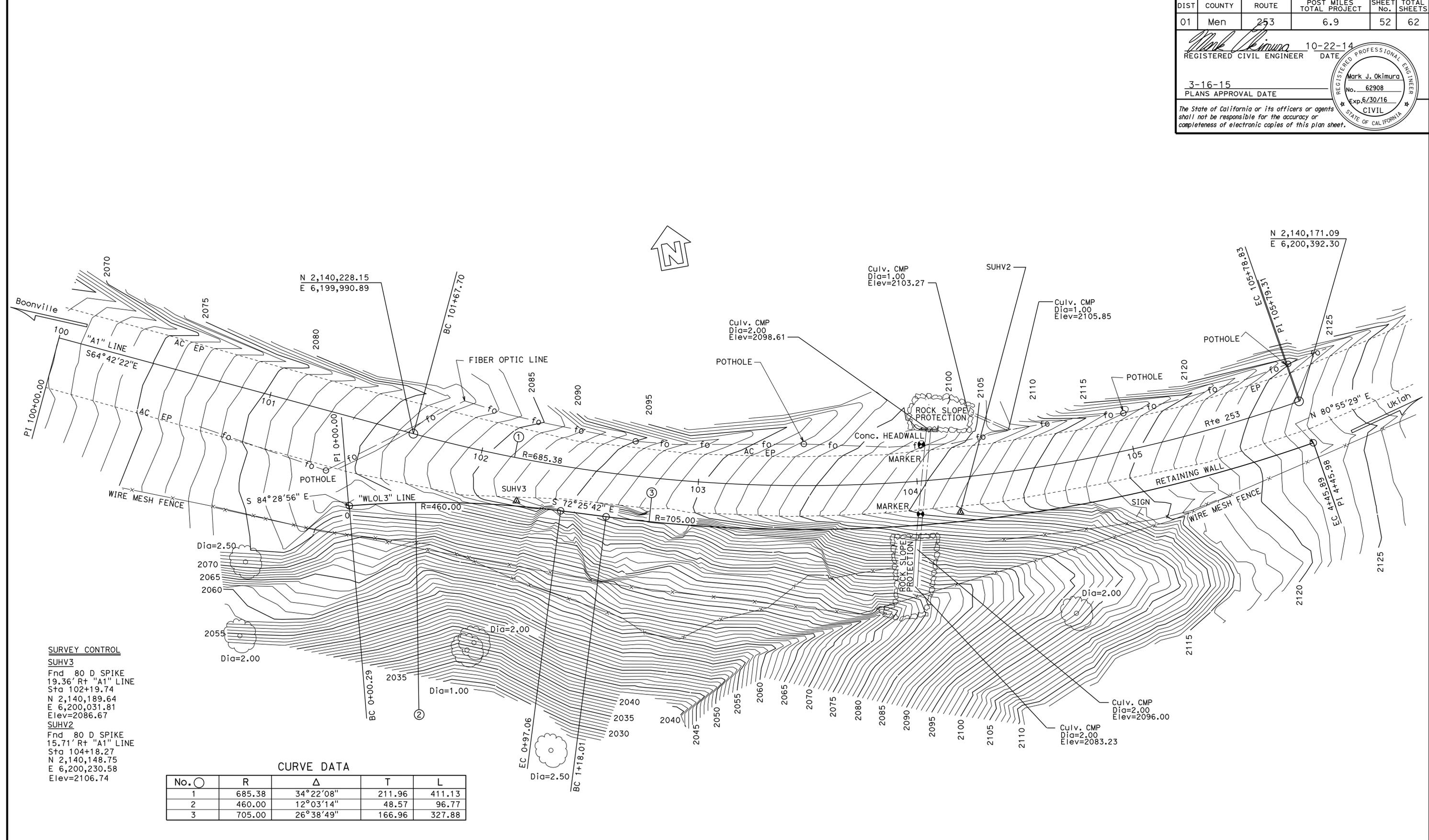
CURVE DATA

LINE	R	Δ	T	L
A WLOL3	460'	12°03'14"	48.57'	96.77'
B WLOL3	705'	26°38'48"	166.96'	327.88'
C A1	685.38'±	34°22'09"±	211.96'±	411.13'±

Ramin Rashedi DESIGN ENGINEER	DESIGN BY	Ruperd Wilson	CHECKED	Yeo Yoon	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	10E0031	RETAINING WALL GENERAL PLAN		
	DETAILS BY	Loren Goldthwait\G.Z.	CHECKED	Yeo Yoon\Mark Okimura	LAYOUT BY	Ruperd Wilson			CHECKED	Yeo Yoon		POST MILE	6.89
	QUANTITIES BY	Ruperd Wilson	CHECKED	Mark Okimura	SPECIFICATIONS BY	S. Nelapatla			PLANS AND SPECS COMPARED	S. Nelapatla		CONTRACT NO.:	0B5701
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						UNIT: 3587 PROJECT NUMBER & PHASE: 0112000139		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 3-16-15 1-4-15 3-11-15 10-21-14	SHEET OF 1 12		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	52	62

REGISTERED CIVIL ENGINEER DATE 10-22-14
 PLANS APPROVAL DATE 3-16-15
 Mark J. Okimura No. 62908 Exp. 6/30/16
 REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
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SURVEY CONTROL
 SUHV3
 Fnd 80 D SPIKE
 19.36' Rt "A1" LINE
 Sta 102+19.74
 N 2,140,189.64
 E 6,200,031.81
 Elev=2086.67
 SUHV2
 Fnd 80 D SPIKE
 15.71' Rt "A1" LINE
 Sta 104+18.27
 N 2,140,148.75
 E 6,200,230.58
 Elev=2106.74

CURVE DATA

No.	R	Δ	T	L
1	685.38	34°22'08"	211.96	411.13
2	460.00	12°03'14"	48.57	96.77
3	705.00	26°38'49"	166.96	327.88

PRELIMINARY INVESTIGATION SECTION			
SCALE VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DESIGN BY R. Wilson	CHECKED Y. Yoon
1"=20' HORIZ. DATUM NAD83	SURVEYED BY DISTRICT	DETAILS BY L. Goldthwait	CHECKED R. Wilson
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY SHARON ZHENG 09/2013	CHECKED BY JOHN BORDEN 09/2013	CHECKED M. Okimura
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)	X	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	

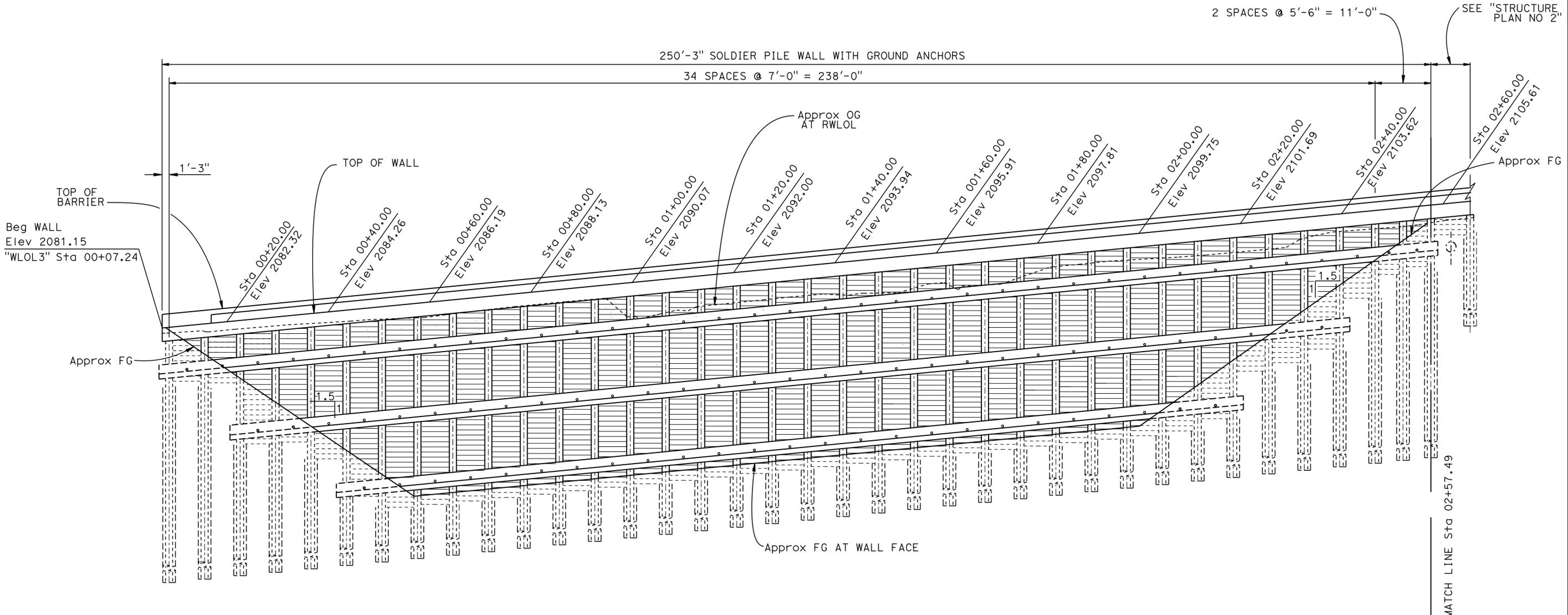
STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	BRIDGE NO.
DEPARTMENT OF TRANSPORTATION	STRUCTURE DESIGN	10E0031
	DESIGN BRANCH 11	POST MILE
		6.89

UNIT: 3646	PROJECT NUMBER & PHASE: 01 1200 0139 1	CONTRACT NO.: 0B5701
DISREGARD PRINTS BEARING EARLIER REVISION DATES		
REVISION DATES	SHEET	OF
3/16/14 3/23/14 10-22-14	2	12

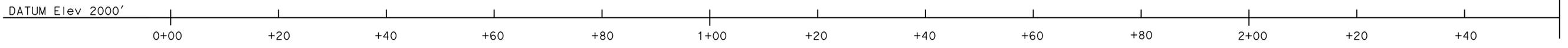
USERNAME => s119538 DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 10:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	53	62

10-22-14
 REGISTERED CIVIL ENGINEER DATE
 3-16-15
 PLANS APPROVAL DATE
 Mark J. Okimura
 REGISTERED PROFESSIONAL ENGINEER
 No. 62908
 Exp. 6/30/16
 CIVIL
 STATE OF CALIFORNIA
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.



PILE No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
NUMBER OF TIMBER LAGGING BETWEEN PILES	10	12	22	22	27	34	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	35	27	25	23	16	11	10



DEVELOPED ELEVATION
 1"=10'-0"

- Notes:
- See "STRUCTURE PLAN NO 2" for Soldier Pile Wall
 - Tubular Hand Railing not shown

DESIGN	BY R. Wilson	CHECKED Y. Yoon
DETAILS	BY L. Goldthwait	CHECKED R. Wilson
QUANTITIES	BY R. Wilson	CHECKED M. Okimura

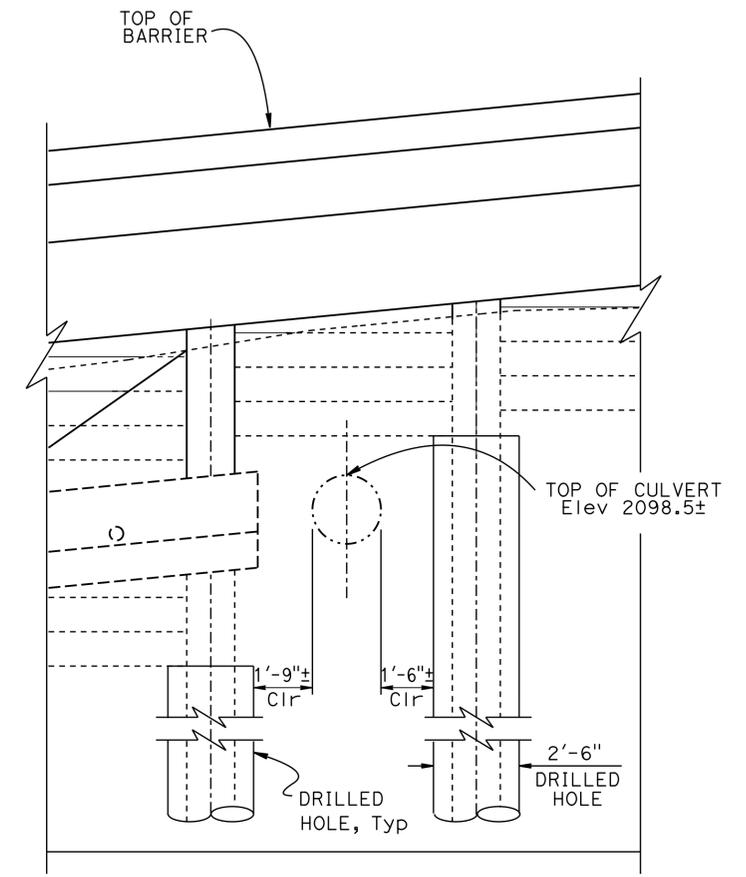
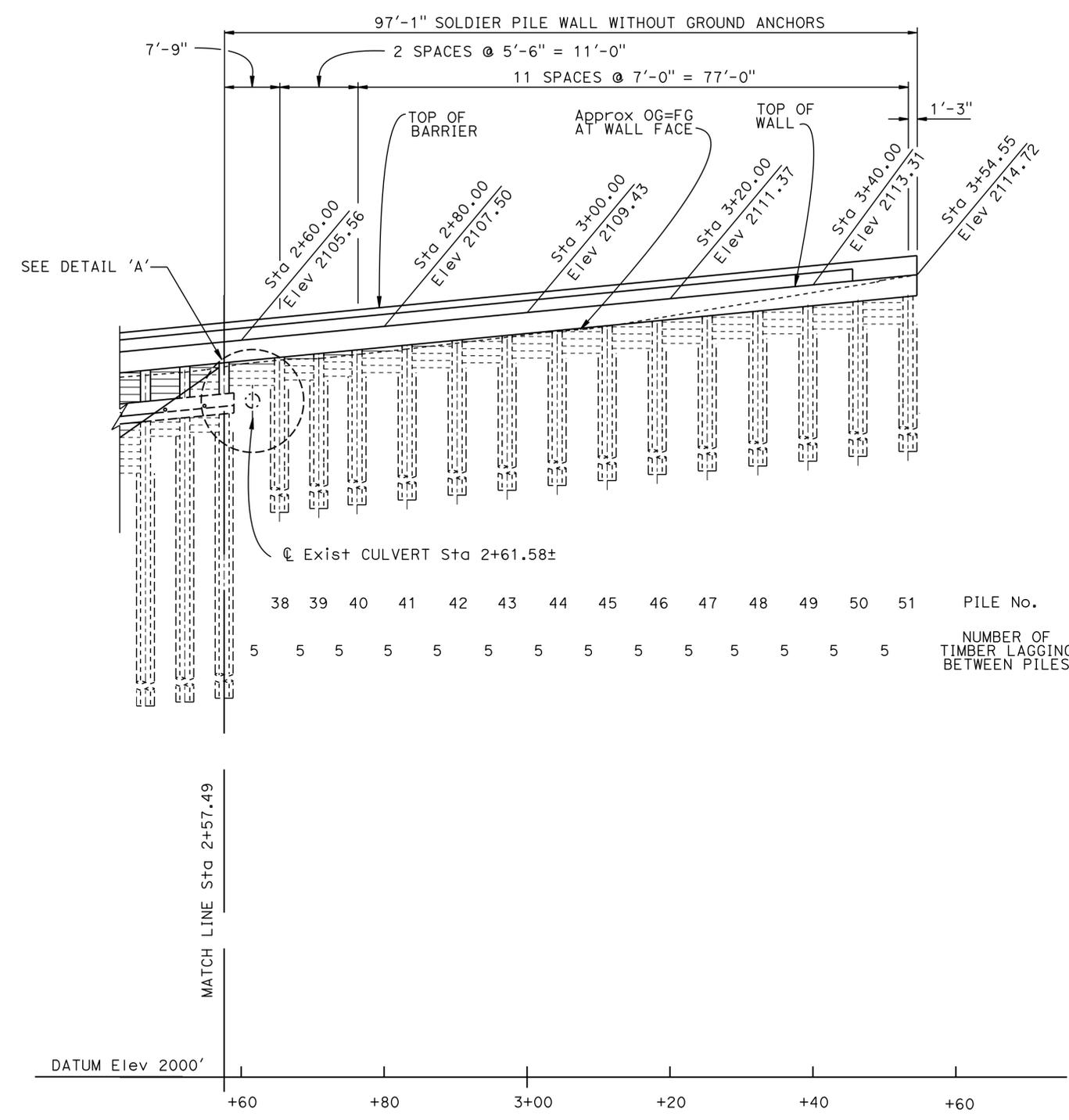
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	10E0031
POST MILE	6.89

**RETAINING WALL
 STRUCTURE PLAN NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	54	62
 REGISTERED CIVIL ENGINEER			10-22-14	DATE	
3-16-15 PLANS APPROVAL DATE					
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DETAIL 'A'
3/8" = 1'-0"

Note: Tubular Hand Railing not shown

DEVELOPED ELEVATION

1" = 10'-0"

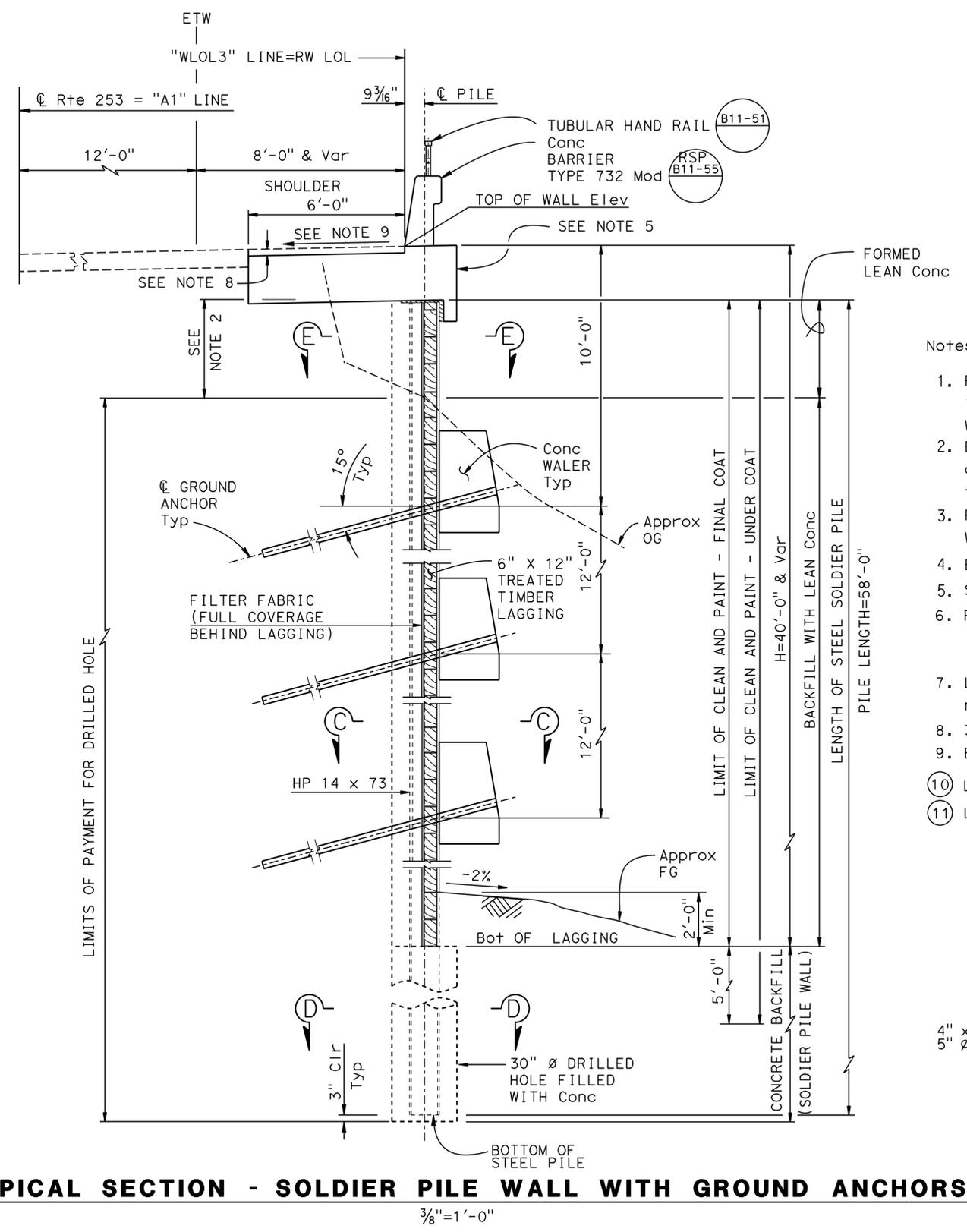
DESIGN	BY R. Wilson	CHECKED Y. Yoon
DETAILS	BY L. Goldthwait	CHECKED R. Wilson
QUANTITIES	BY R. Wilson	CHECKED M. Okimura

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	10E0031
POST MILE	6.89

RETAINING WALL
STRUCTURE PLAN NO. 2

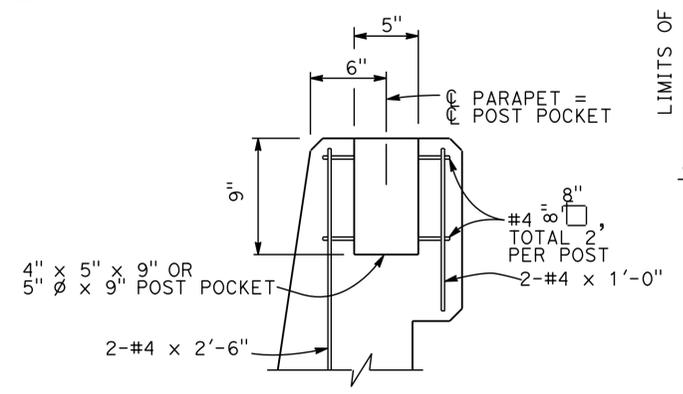


TYPICAL SECTION - SOLDIER PILE WALL WITH GROUND ANCHORS

3/8" = 1'-0"

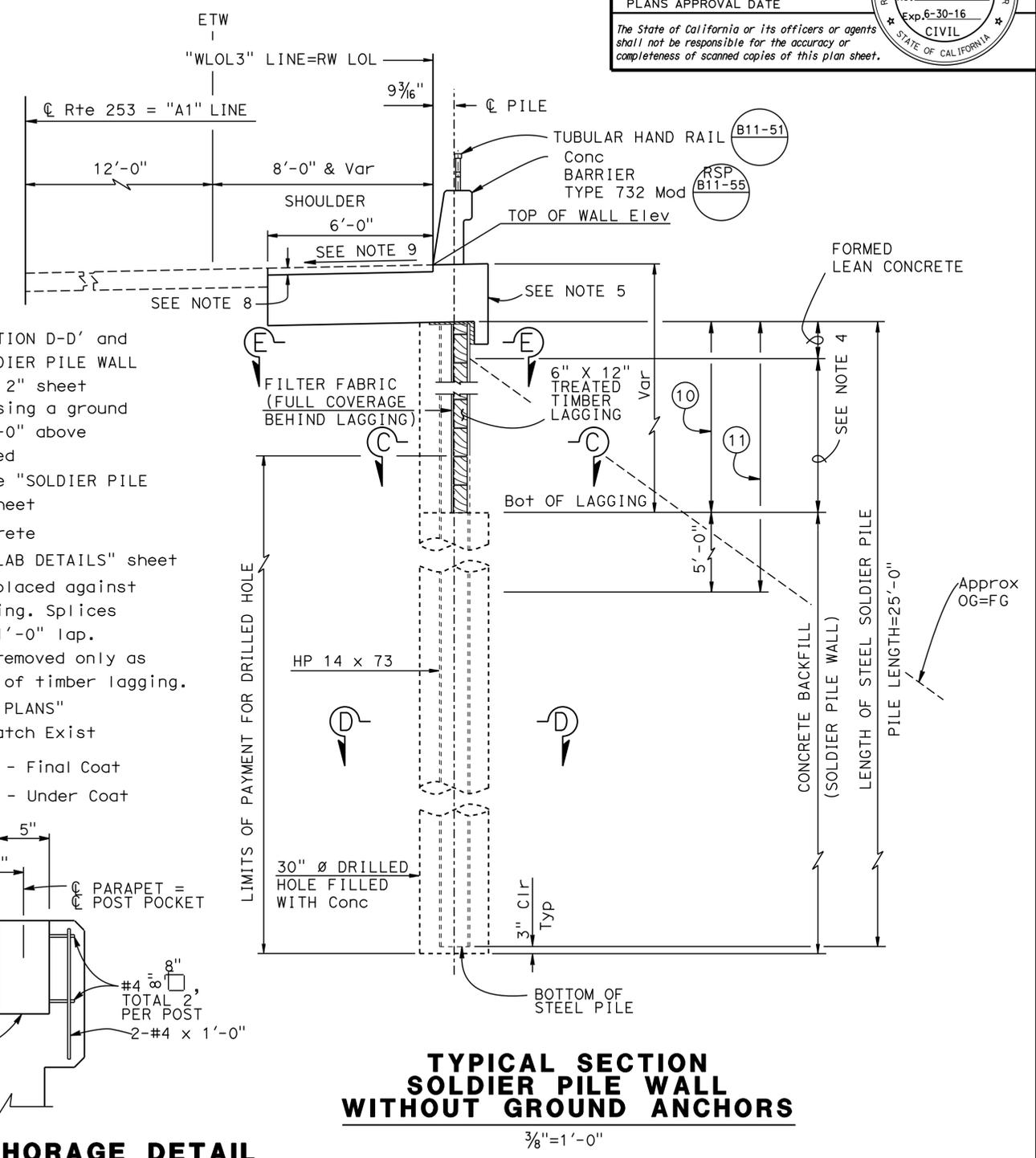
Notes:

1. For 'SECTION C-C', 'SECTION D-D' and 'SECTION E-E', see "SOLDIER PILE WALL WITH WALERS DETAILS NO. 2" sheet
2. Backfill prior to stressing a ground anchor, a minimum of 6'-0" above the anchor to be stressed
3. For Lagging details, see "SOLDIER PILE WALL LAGGING DETAILS" sheet
4. Backfill with lean concrete
5. See "CONCRETE BARRIER SLAB DETAILS" sheet
6. Filter fabric shall be placed against lagging before backfilling. Splices in fabric shall have a 1'-0" lap.
7. Lean concrete shall be removed only as necessary for placement of timber lagging.
8. 3" Max AC, see "ROADWAY PLANS"
9. Barrier Slab Slope to match Exist
10. Limit of Clean and Paint - Final Coat
11. Limit of Clean and Paint - Under Coat



POST ANCHORAGE DETAIL

Applies to Tubular Hand Railing.
NO SCALE



TYPICAL SECTION SOLDIER PILE WALL WITHOUT GROUND ANCHORS

3/8" = 1'-0"

DESIGN	BY R. Wilson	CHECKED Y. Yoon
DETAILS	BY L. Goldthwait	CHECKED R. Wilson
QUANTITIES	BY R. Wilson	CHECKED M. Okimura

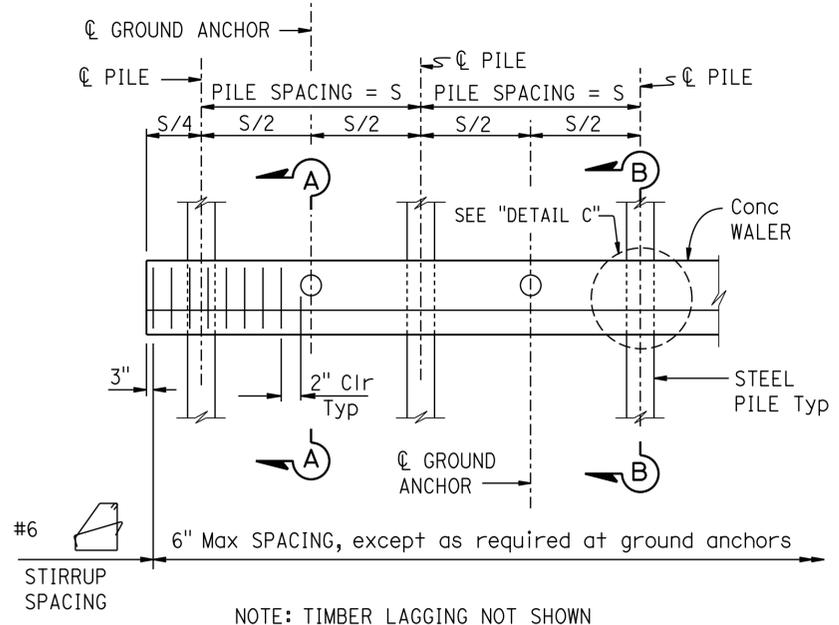
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	10E0031
POST MILE	6.89

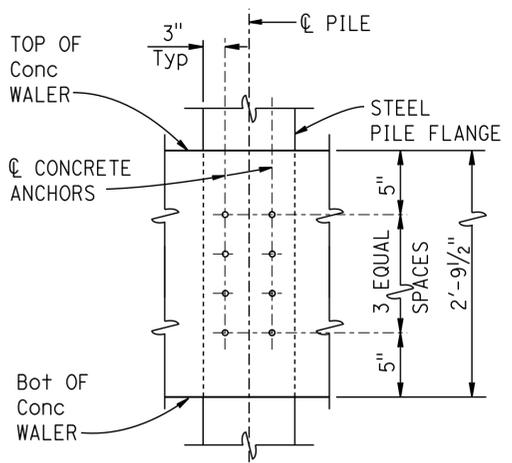
RETAINING WALL TYPICAL SECTION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	56	62
			10-22-14	DATE	
			3-16-15	PLANS APPROVAL DATE	
			REGISTERED CIVIL ENGINEER Mark J. Okimura No. 62908 Exp. 6/30/16 CIVIL STATE OF CALIFORNIA		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					



WALER PART ELEVATION

NO SCALE

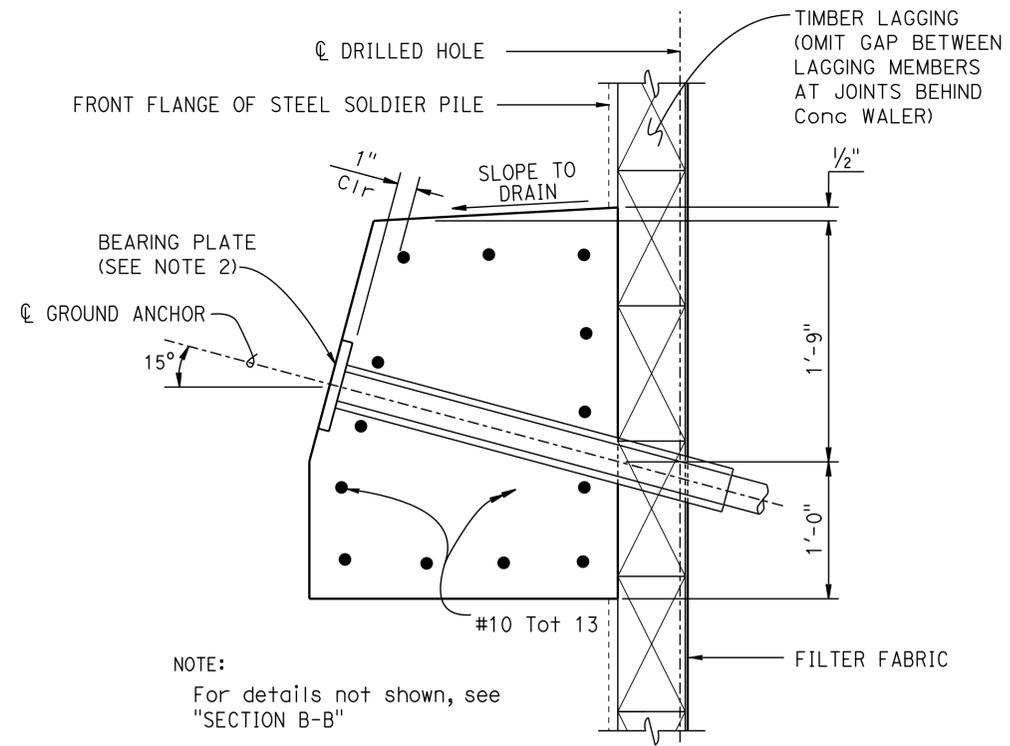


DETAIL C

NO SCALE

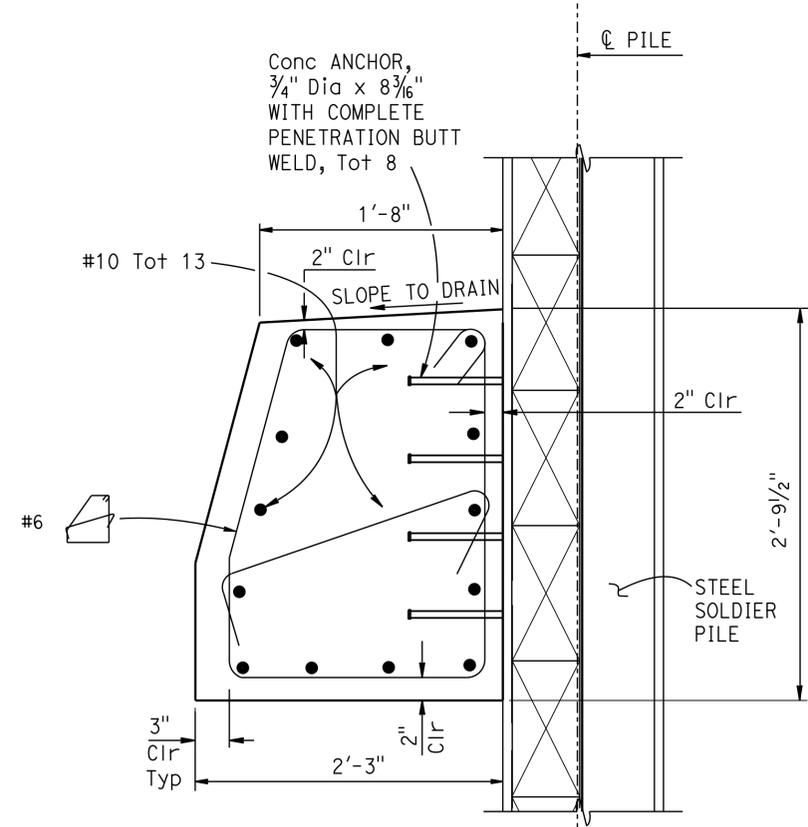
NOTES:

1. Concrete walers may be poured to face of lagging
2. Bearing plates may be recessed or on face of concrete waler
3. For Ground Anchor details, see "SUB HORIZONTAL GROUND ANCHOR DETAILS" sheet



SECTION A-A

NO SCALE



SECTION B-B

NO SCALE

DESIGN	BY R. Wilson	CHECKED Y. Toon
DETAILS	BY L. Goldthwait	CHECKED R. Wilson
QUANTITIES	BY R. Wilson	CHECKED M. Okimura

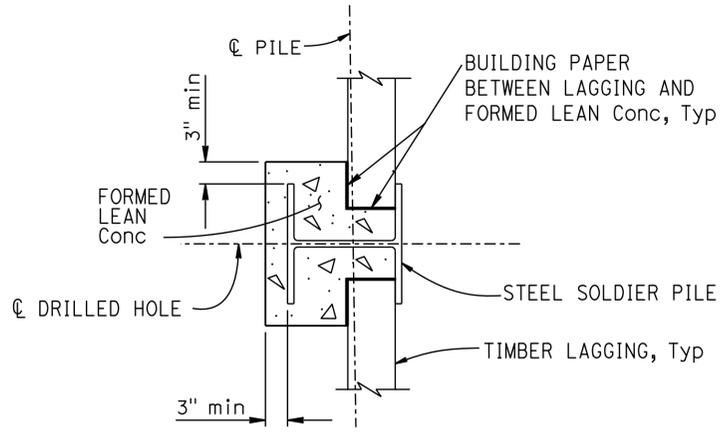
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	10E0031
POST MILE	6.89

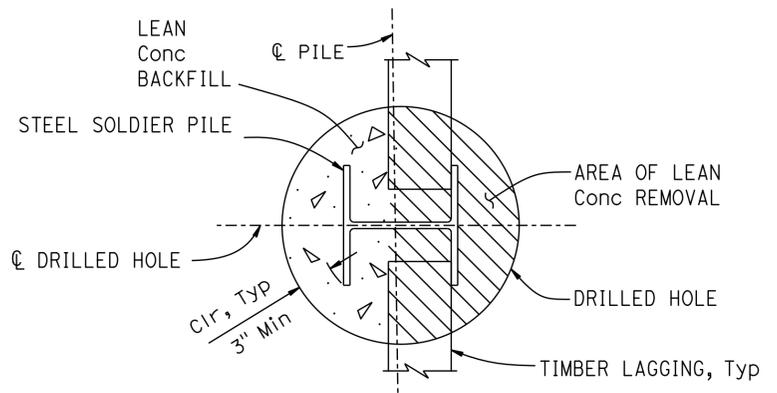
RETAINING WALL
SOLDIER PILE WALL WITH WALERS DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	57	62
 REGISTERED CIVIL ENGINEER			10-22-14	DATE	
3-16-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

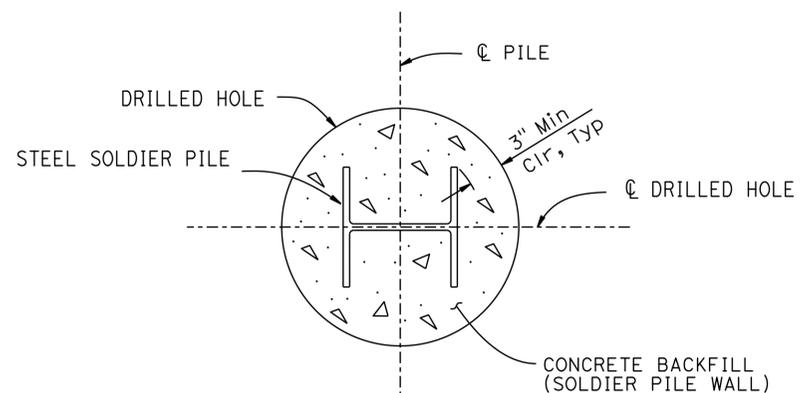


Note: All Details not shown, see "SOLDIER PILE WALL LAGGING DETAILS" sheet

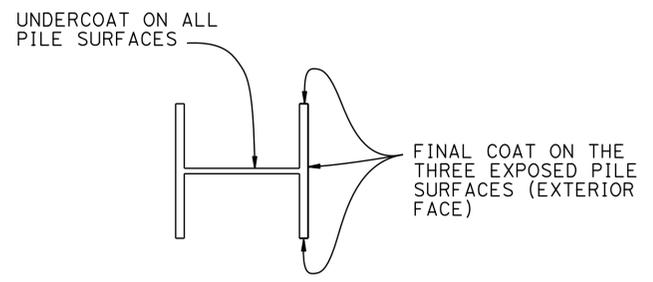
SECTION E-E
NO SCALE



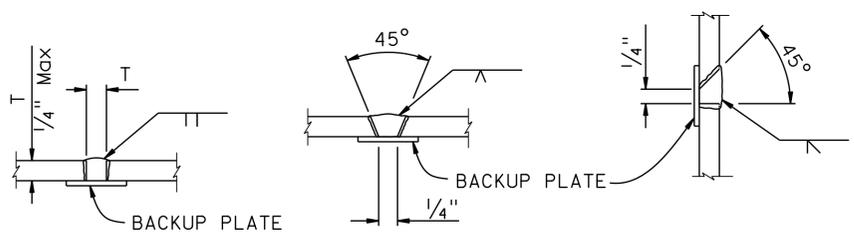
SECTION C-C
NO SCALE



SECTION D-D
NO SCALE



LIMITS OF CLEAN & PAINT STEEL SOLDIER PILE
NO SCALE



PILE WELDING DETAIL-BUTT JOINTS
NO SCALE

- NOTES:
1. Single vee-groove and square groove permitted for all positions
 2. Single bevel-groove permitted for horizontal joints only

GENERAL NOTES

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments.

LIVE LOAD: 240 psf equivalent to 2 feet soil weight

SOIL PARAMETERS: (For determination of Design Lateral Earth Pressures)
 Backfill soil weight = 125 lb/ft³
 Friction Angle = 30° to 33°
 Active Pressure coefficient, Ka = 0.33
 Bedrock Unit Weight = 150 lb/ft³
 Slope Angle = 45°

(For determination of Design Lateral Passive Pressures)
 Depth from OG Unit weight (Pcf) Kp
 10' - 20' 130 1.7
 > 20' 150 4.7

SEISMIC PARAMETERS: kh = 0.18g kv = 0

STEEL: SOLDIER PILES: fy = 50 ksi

REINFORCED CONCRETE (WALERS): f'c = 4000 psi
fy = 60 ksi

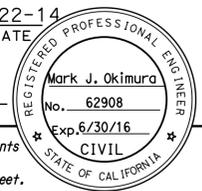
REINFORCED CONCRETE (BARRIER SLAB) f'c = 3600 psi
fy = 60 ksi
n = 8
f+ = 54 kips on Barrier

STRUCTURAL TIMBER: Treated Douglas Fir, Grade No. 1 or better. Timber to be full sawn

PRESTRESSING STEEL (GROUND ANCHORS): FDL = Factored Design Load on ground anchor (kips)
FTL = Factored Test Load (kips)
LL = Lock-Off Load (kips)
fpu = Minimum ultimate tensile strength of ground anchor steel (ksi)
As (Min) = Minimum cross sectional area of steel in ground anchor (square inches)
Steel = ASTM designation: A416 (High Strength Strands)
As (Min) = $\frac{1.0 \text{ FTL}}{0.75 \text{ fpu}}$
Steel = ASTM designation: A722 (High Strength Bars)
As (Min) = $\frac{1.0 \text{ FTL}}{0.80 \text{ fpu}}$
FDL = 210 Kips
FTL = 210 Kips
LL = 115.5 Kips

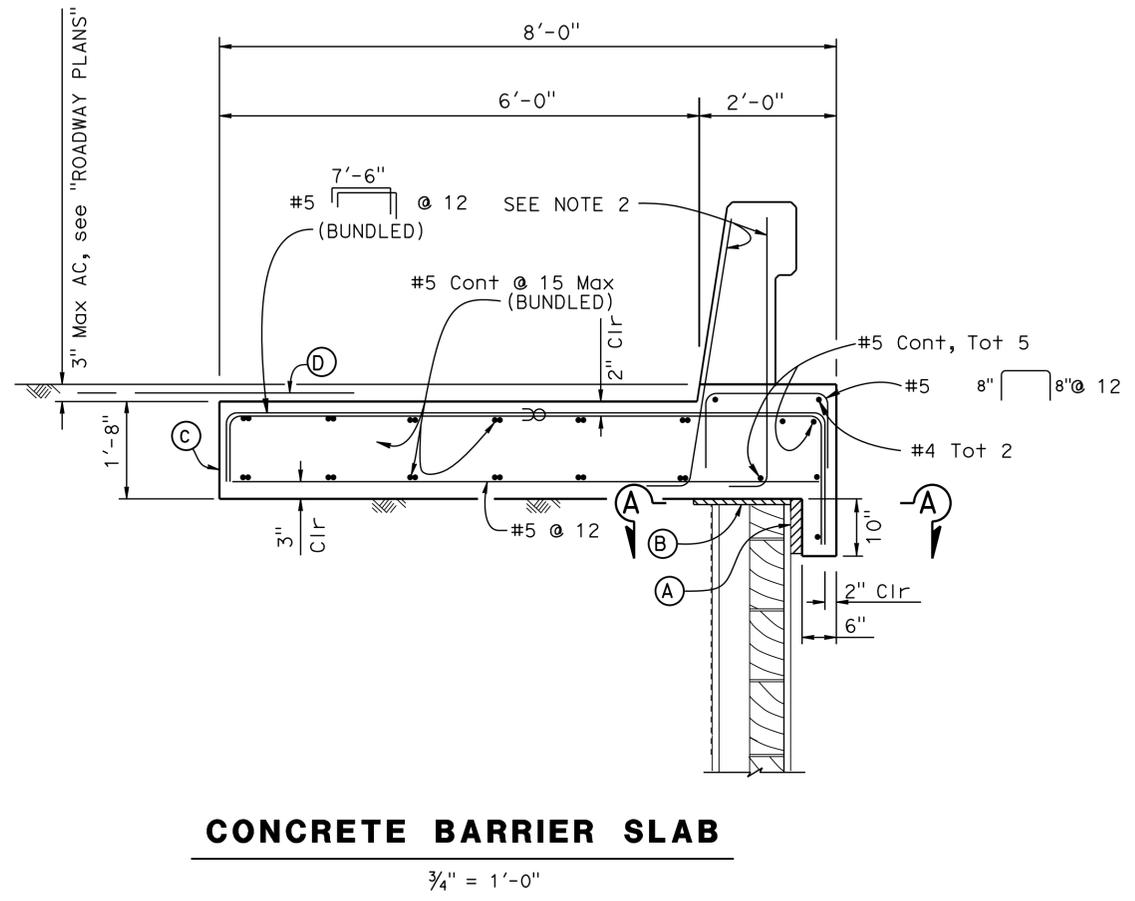
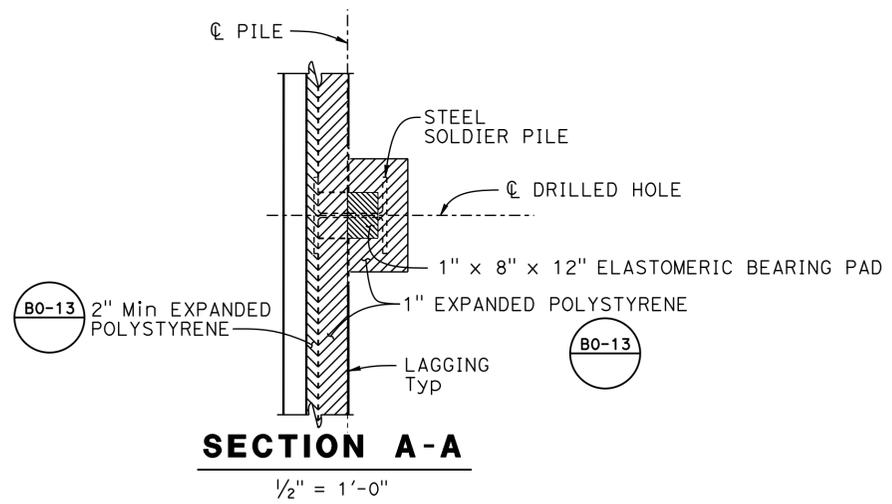
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY R. Wilson	CHECKED Y. Yoon	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	RETAINING WALL SOLDIER PILE WALL WITH WALERS-DETAILS NO. 2
	DETAILS	BY L. Goldthwait	CHECKED R. Wilson			10E0031	
	QUANTITIES	BY R. Wilson	CHECKED M. Okimura			POST MILE 6.89	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3587	PROJECT NUMBER & PHASE: 0112000139	CONTRACT NO.: 0B5701	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 11-09-13, 3-12-15, 7-20-14, 10-22-14 SHEET 7 OF 12

USERNAME => s119538 DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 10:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	58	62
 REGISTERED CIVIL ENGINEER			DATE	10-22-14	
PLANS APPROVAL DATE 3-16-15					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

NOTES:

1. Clearance to reinforcing steel in concrete barrier to be 1".
 2. Not all barrier reinforcement shown.
 3. No expansion joints in concrete barrier or barrier slab
 4. Tubular Hand Rail not shown
- (A) 2" Min Expanded polystyrene
 (B) 1" Expanded Polystyrene
 (C) Contact joint
 (D) 4'-0" wide pavement reinforcing fabric centered about contact joint, see "ROADWAY PLANS"
 ∞ Indicates bundled bars



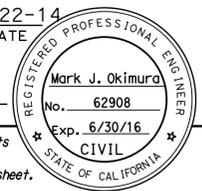
DESIGN	BY R. Wilson	CHECKED Y. Yoon
DETAILS	BY L. Goldthwait	CHECKED R. Wilson
QUANTITIES	BY R. Wilson	CHECKED M. Okimura

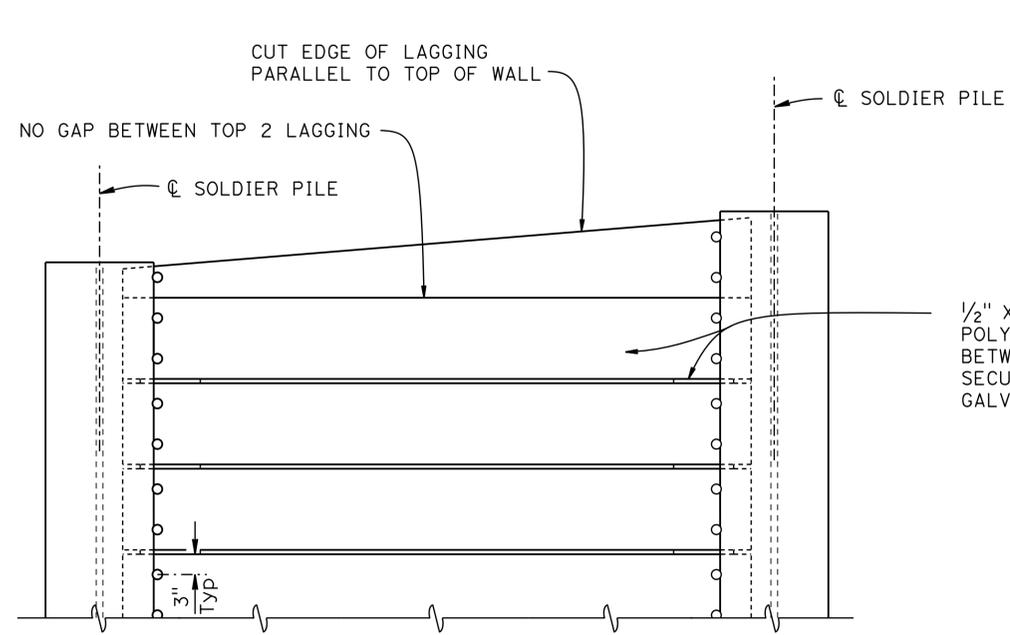
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	10E0031
POST MILE	6.89

**RETAINING WALL
 CONCRETE BARRIER SLAB DETAILS**

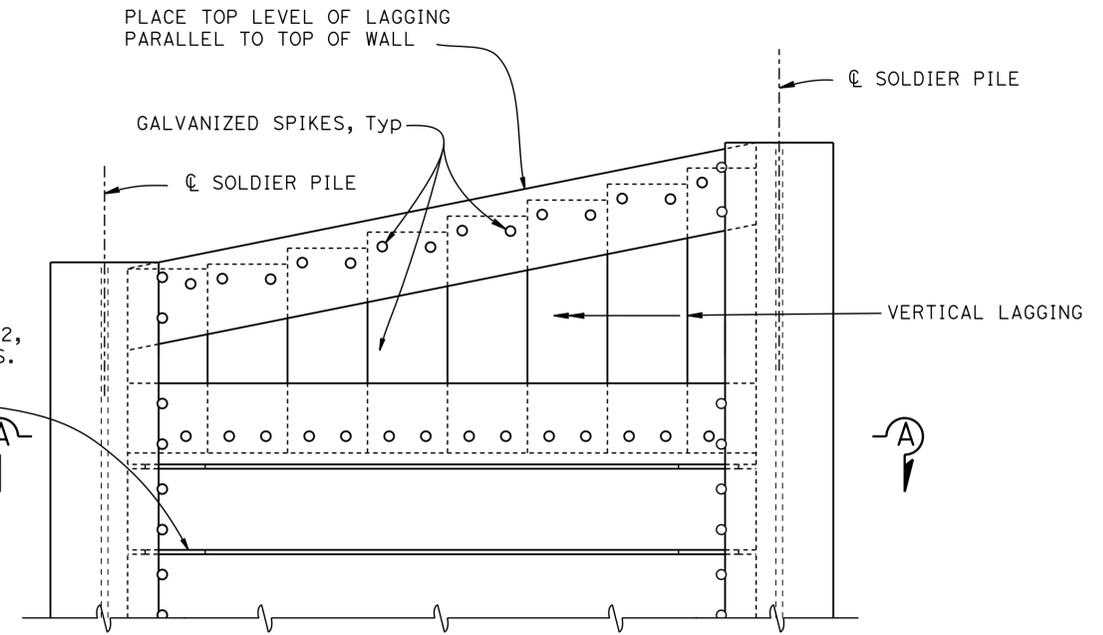
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	59	62
 REGISTERED CIVIL ENGINEER			10-22-14	DATE	
3-16-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



PART ELEVATION

LAGGING DETAILS (ALTERNATIVE 1)

NO SCALE

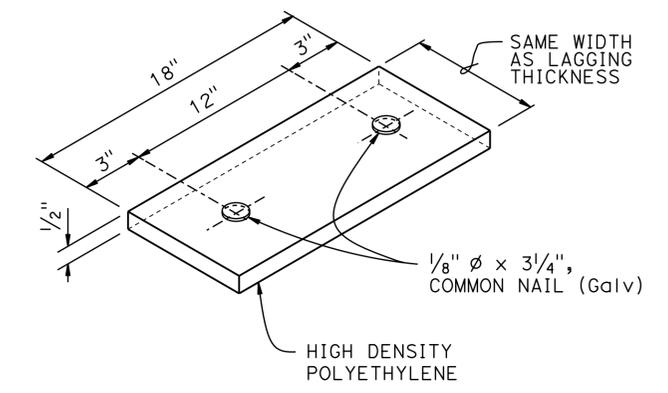


PART ELEVATION

LAGGING DETAILS (ALTERNATIVE 2)

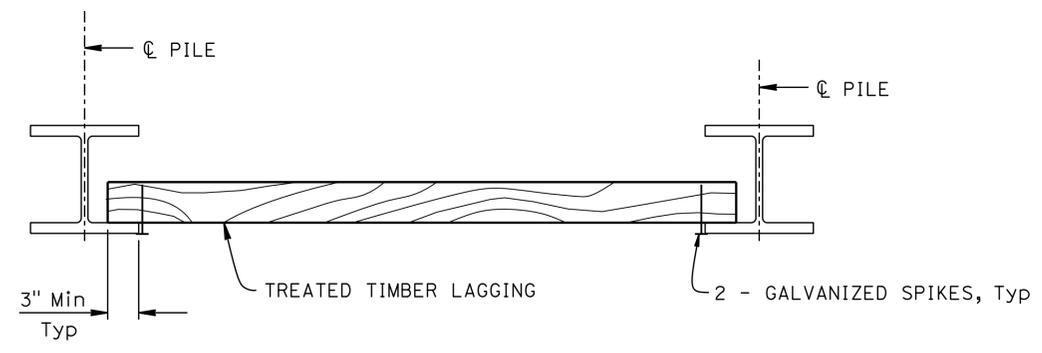
NO SCALE

1/2" X 18" HIGH DENSITY POLYETHYLENE SHIM, Tot 2, BETWEEN LAGGING MEMBERS. SECURE WITH 2 GALV NAILS, Typ



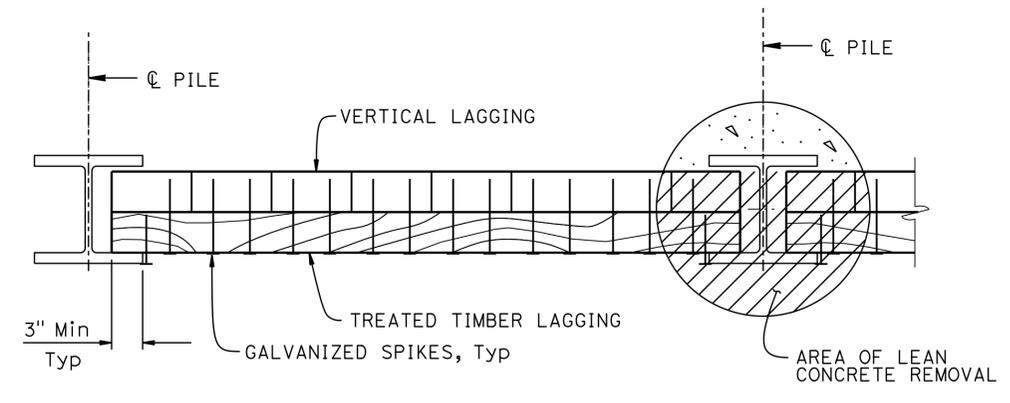
SHIM DETAIL

NO SCALE



PART PLAN

NO SCALE



SECTION A-A

NO SCALE

NOTES:

1. No clipping of timber lagging corners allowed
2. Use 16d Galv wire spikes for 4 x 12 lagging, and 40d Galv wire spikes for 6 x 12 lagging
3. Spikes shall not be bent

STANDARD DRAWING	
FILE NO. xs12-080	APPROVAL DATE <u>January 2012</u>

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO.	RETAINING WALL SOLDIER PILE WALL LAGGING DETAILS
		10E0031	
		POST MILE	
		6.89	

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3587
PROJECT NUMBER & PHASE: 0112000139

CONTRACT NO.: 0B5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	11-09-13 3-02-14 5-26-14 10-22-14	9	12

FILE => 10e0031-d-soldets.dgn

USERNAME => s1119538 DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 10:27

GENERAL NOTES

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments.

PRESTRESSING STEEL:

Bars - ASTM Designation: A722 Type II (150 ksi)

Strand Tendons-ASTM Designation: A416 (270 Ksi Low Relaxation steel)

FTL = Factored Test Load per anchor (Kips)

fpu = Minimum tensile strength of prestressing steel

As = Minimum cross sectional area of prestressing steel in ground anchor (square inch)

$$As(\text{Min}) = \frac{1.0 \text{ FTL}}{0.75 \text{ fpu}} \text{ (Strands)}$$

$$As(\text{Min}) = \frac{1.0 \text{ FTL}}{0.80 \text{ fpu}} \text{ (Bars)}$$

NOTES:

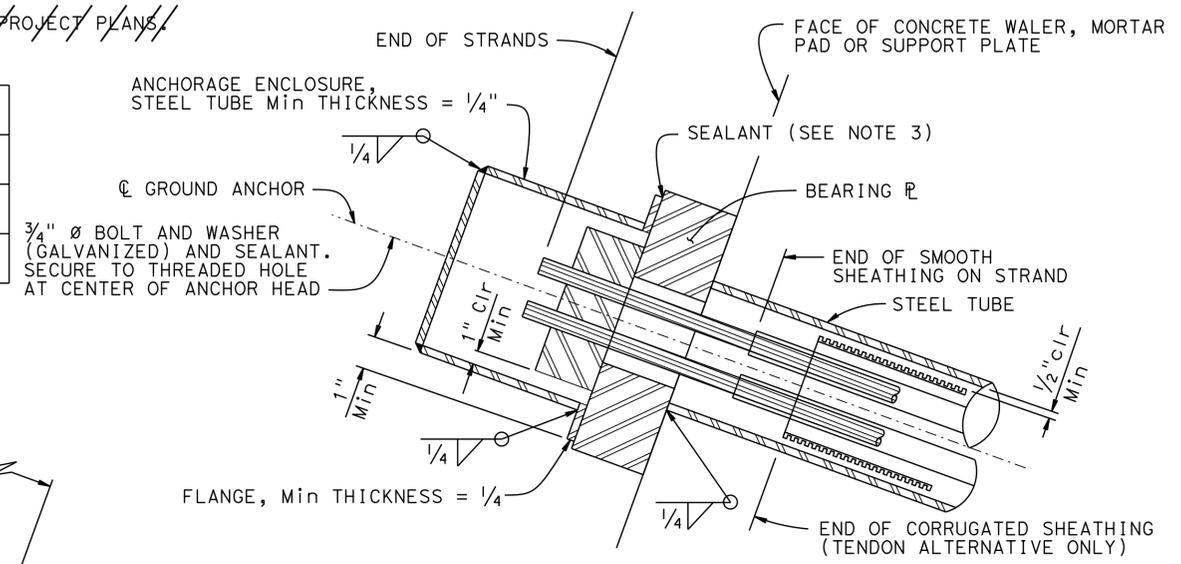
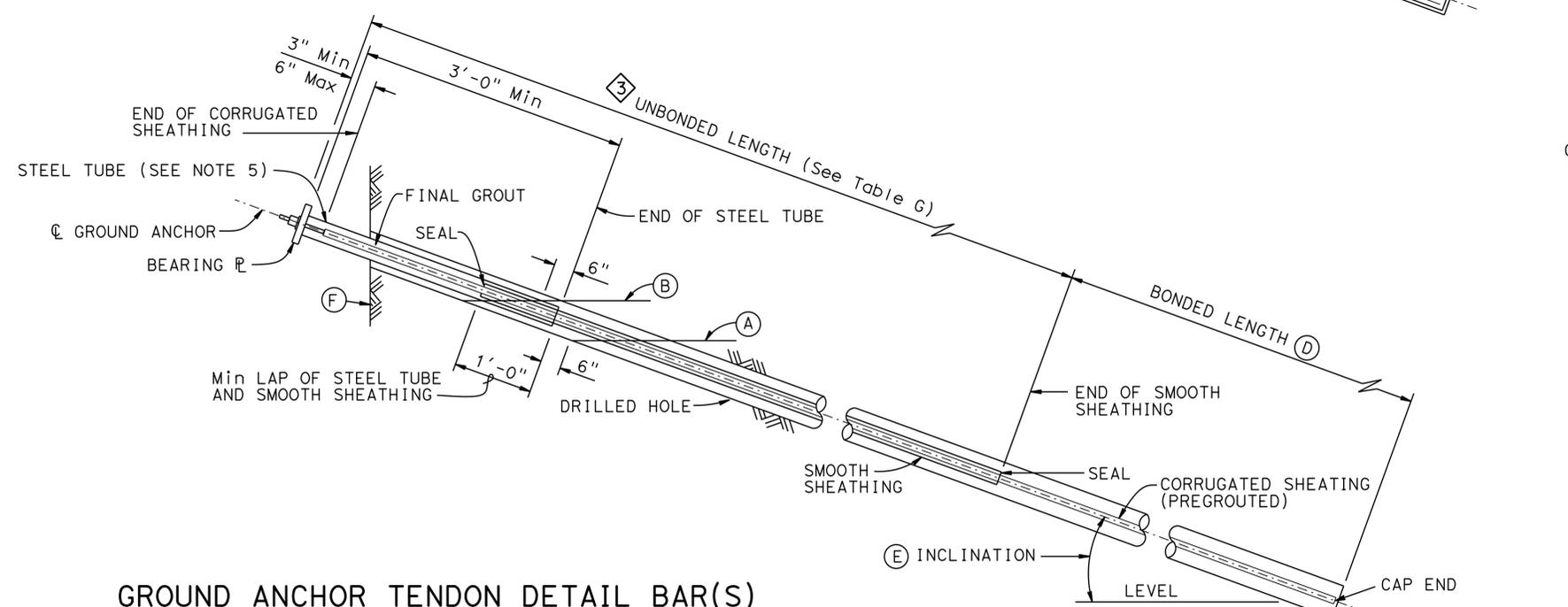
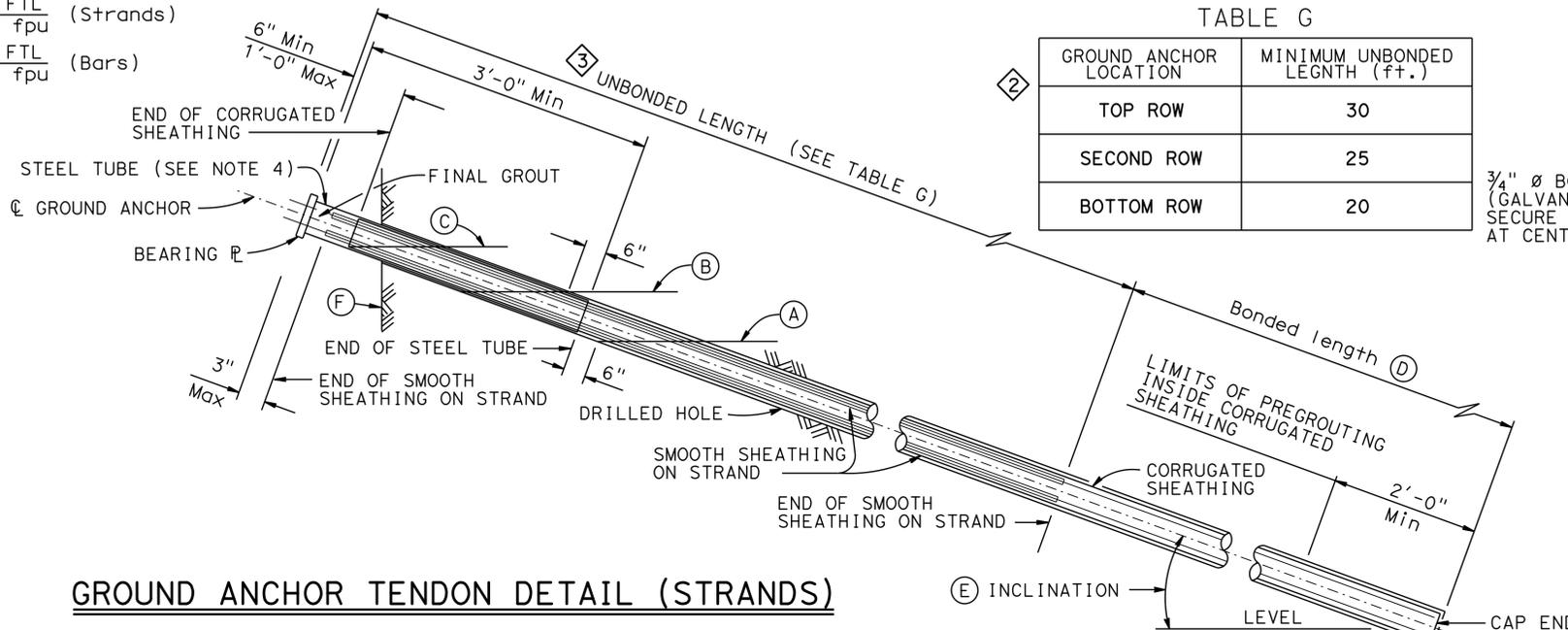
- (A) Level of initial grouting for drilled hole 6" in diameter or smaller
- (B) Level of secondary grouting
- (C) Level of initial grouting inside corrugated sheathing
- (D) Bonded length shall be determined by the contractor
- (E) For inclination, see "TYPICAL SECTION" sheet
- (F) Face of Wall Excavation

NOTES:

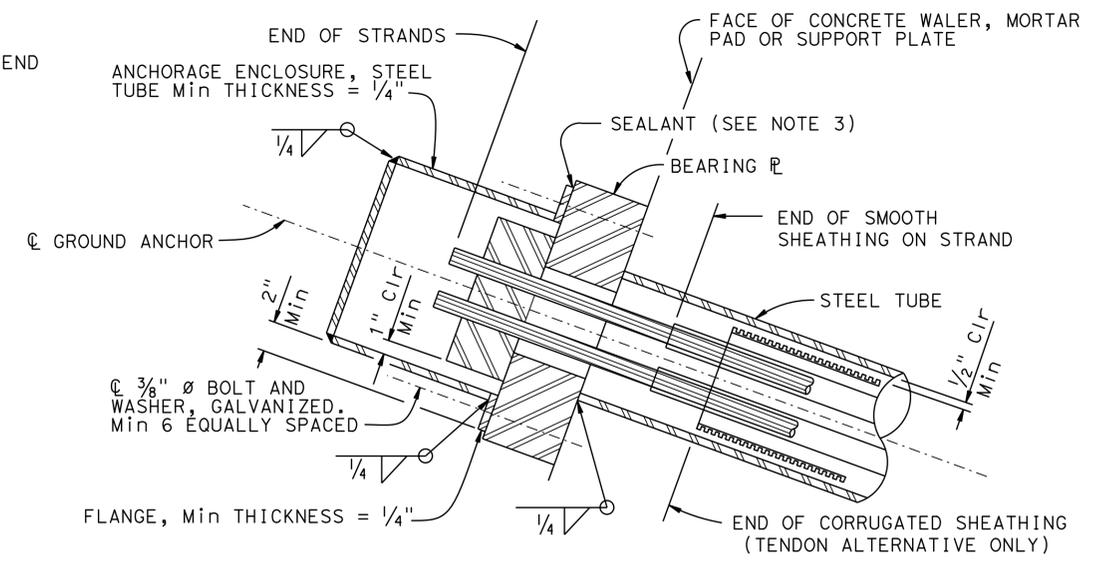
- 1. Anchorage enclosure shall only be used when anchor head assembly is not enclosed in concrete.
- 2. Anchorage enclosure shall have provisions to allow injecting grout at low end and venting at high end. Galvanize after fabrication.
- 3. Silicone sealant to cover full width of flange.
- 4. Steel tube (Min thickness = 1/4") welded to bearing plate. Galvanize assembly after fabrication
- 5. Steel tube welded to bearing plate. Inside diameter of steel tube (Min thickness = 1/4") to be 1" greater than outside diameter of smooth sheathing.
- 6. Galvanize assembly after fabrication.
- 7. For other wall details, see PROJECT PLANS.

TABLE G

GROUND ANCHOR LOCATION	MINIMUM UNBONDED LENGTH (ft.)
TOP ROW	30
SECOND ROW	25
BOTTOM ROW	20



ALTERNATIVE X



ALTERNATIVE Y

ANCHORAGE ENCLOSURE DETAILS

SPECIAL DETAILS
NO SCALE

- 1 REMOVE NOTE E
- 2 ADDED TABLE G
- 3 REVISED NOTE
- 4 DELETED NOTE

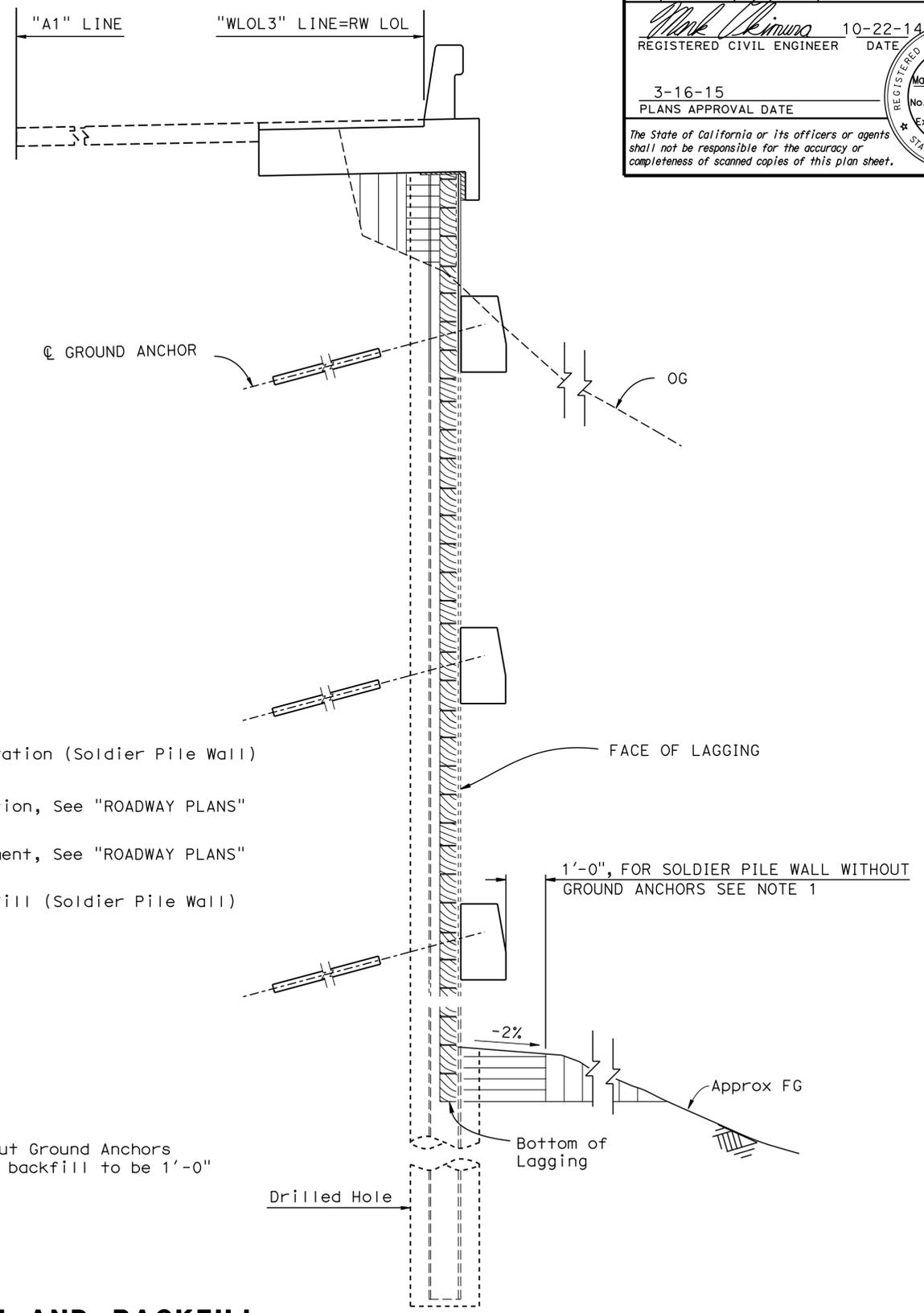
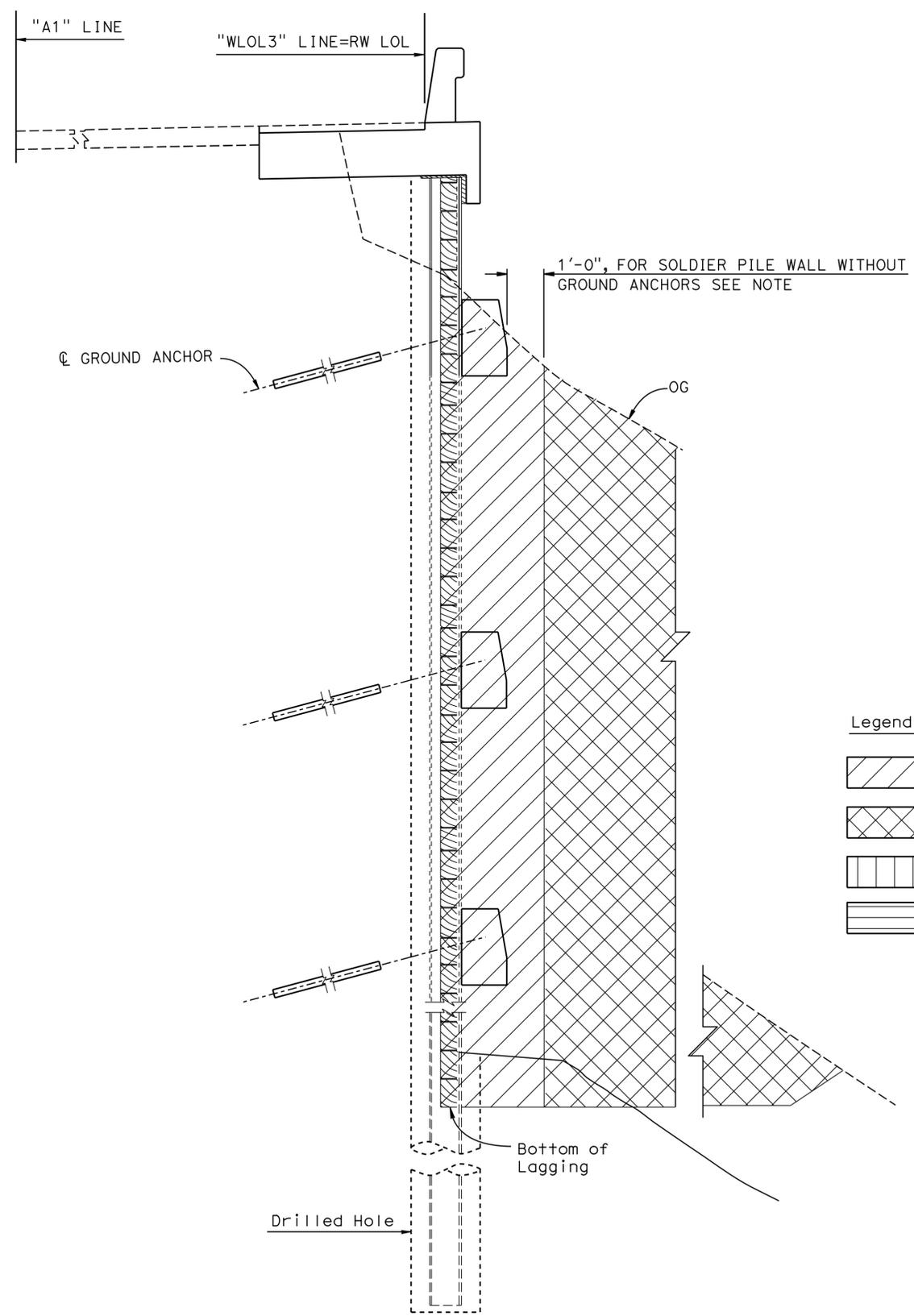
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 10E0031
POST MILE 6.89

RETAINING WALL
SUB HORIZONTAL GROUND ANCHOR DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	61	62
			10-22-14	DATE	
			3-16-15	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER Mark J. Okimura No. 62908 Exp. 6/30/16 CIVIL STATE OF CALIFORNIA					
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- Legend:**
- Indicates Structure Excavation (Soldier Pile Wall)
 - Indicates Roadway Excavation, See "ROADWAY PLANS"
 - Indicates Roadway Embankment, See "ROADWAY PLANS"
 - Indicates Structure Backfill (Soldier Pile Wall)

Note:
 Soldier Pile Wall without Ground Anchors
 Limit of excavation and backfill to be 1'-0"
 beyond face of lagging

EXCAVATION
NO SCALE

LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL
NO SCALE

BACKFILL
NO SCALE

DESIGN	BY R. Wilson	CHECKED Yeo Yoon
DETAILS	BY L. Goldthwait	CHECKED R. Wilson
QUANTITIES	BY R. Wilson	CHECKED M. Okimura

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	10E0031
POST MILE	6.89

RETAINING WALL
EXCAVATION AND BACKFILL

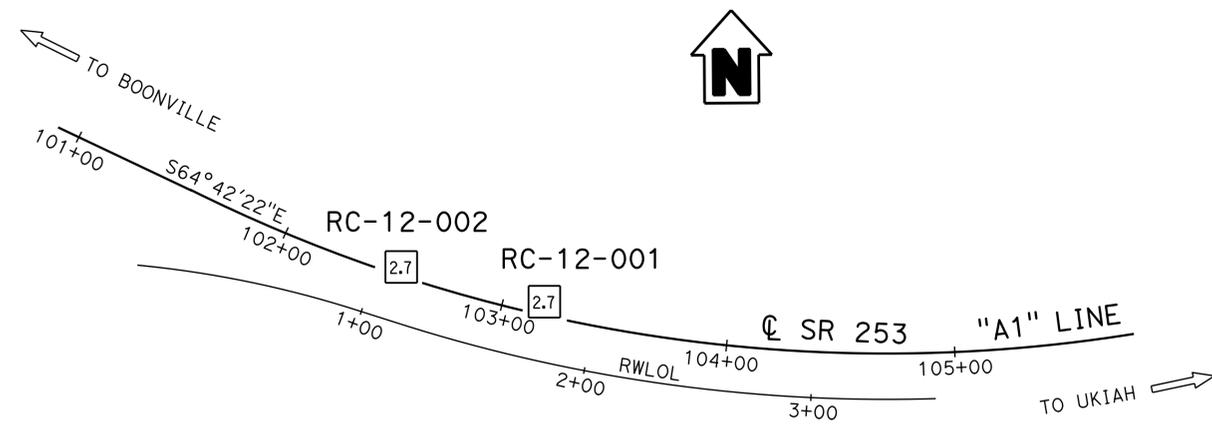
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	253	6.9	62	62

Thomas N. Song
 REGISTERED CIVIL ENGINEER
 DATE 5-12-14
 PLANS APPROVAL DATE 3-16-15
 No. C69325
 Exp. 6-30-16
 CIVIL
 STATE OF CALIFORNIA
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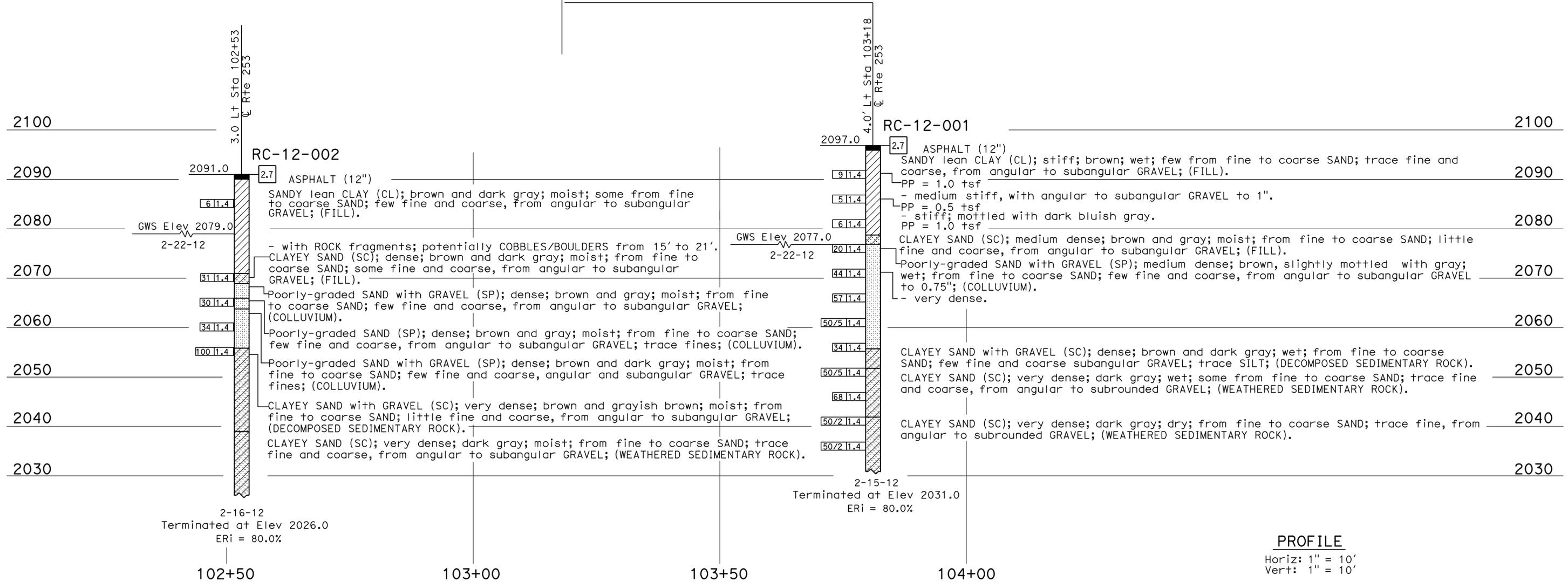
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

BENCH MARK

Exist CMP Culvert Top at Elev 2098
 "A1" Line Sta 104+03.08
 NAVD 88



PLAN
 1" = 40'



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

ENGINEERING SERVICES		MATERIALS AND GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		RETAINING WALL	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 5/14		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		10E0031		LOG OF TEST BORINGS	
NAME: Q. Huang		CHECKED BY: B. Barnes		FIELD INVESTIGATION BY: K. Gallagher		DESIGN BRANCH 11		POST MILE 6.89			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 01120001391		CONTRACT NO.: 01-0B5704		REVISION DATES	
				0 1 2 3						SHEET 12 OF 12	
						FILE => 10e0031-+-l0tb.dgn				DISREGARD PRINTS BEARING EARLIER REVISION DATES	

USERNAME => s1119538 DATE PLOTTED => 05-MAY-2015 TIME PLOTTED => 10:28