ER-43M6(004)E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	1	91

INDEX OF PLANS

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

STATE OF CALIFORNIA

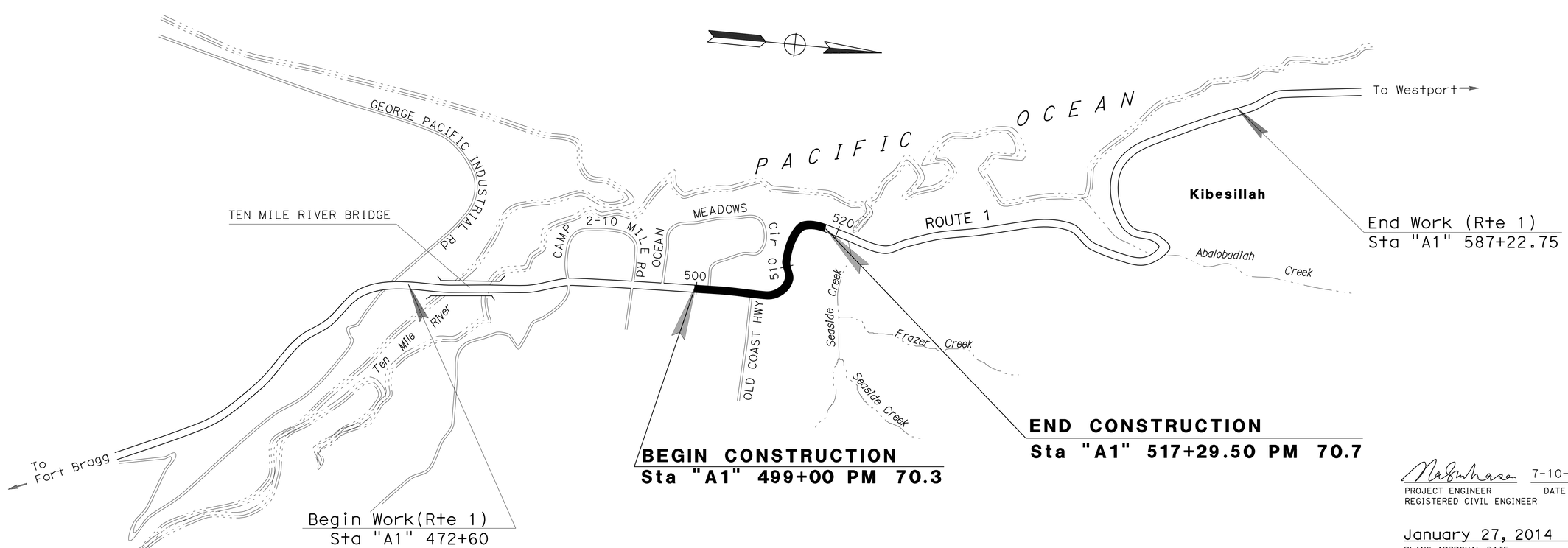
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN MENDOCINO COUNTY NEAR WESTPORT FROM 0.8 MILE NORTH OF TEN MILE RIVER BRIDGE TO 4.2 MILES SOUTH OF BLUE SLIDE GULCH BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



NO SCALE

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

PROJECT MANAGER: FRANK DEMLING

DESIGN ENGINEER: ALI KIANI

NASIM HASAN 7-10-12
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

January 27, 2014
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — NASIM HASAN No. 74083 Exp. 06-30-15 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.

CONTRACT No.	01-474904
PROJECT ID	0100000331

LAST REVISION 12-14-11 DATE PLOTTED => 14-APR-2014 TIME PLOTTED => 15:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	2	91

REGISTERED CIVIL ENGINEER — DATE 7-10-12

1-27-14
PLANS APPROVAL DATE

NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION ARE SHOWN ON THE SUPERELEVATION DIAGRAMS.
3. EXISTING PAVEMENT SECTIONS SHOWN ARE BASED ON AS-BUILT INFORMATION AND ARE SUBJECT TO VARIATION DUE TO CONSTRUCTION TOLERANCES AND INTERIM ROADWAY ACTIVITIES.
4. FOR MGS LOCATION, SEE LAYOUT SHEETS.
5. NO SHOULDER BACKING BEHIND GUARD RAILING.
6. 8" PLASTIC PIPES OUTLET AT Sta 515+37.5 & 515+60.
7. BASE REINFORCEMENT EMBEDDED INTO EXISTING SLOPE.

ABBREVIATIONS:

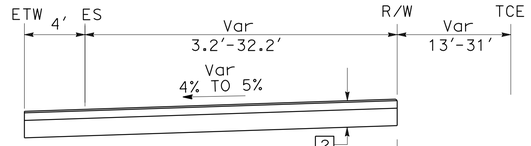
GRE	GEOSYNTHETIC REINFORCED EMBANKMENT
SCUT	SAWCUT
GBK	GRADE BREAK
HMA-A	HOT MIX ASPHALT (TYPE A)
HMA-O	HOT MIX ASPHALT (OPEN GRADED)
FW	FACE OF WALL
RWLOL	RETAINING WALL LAYOUT LINE

ROUTE 1 DESIGN DESIGNATION

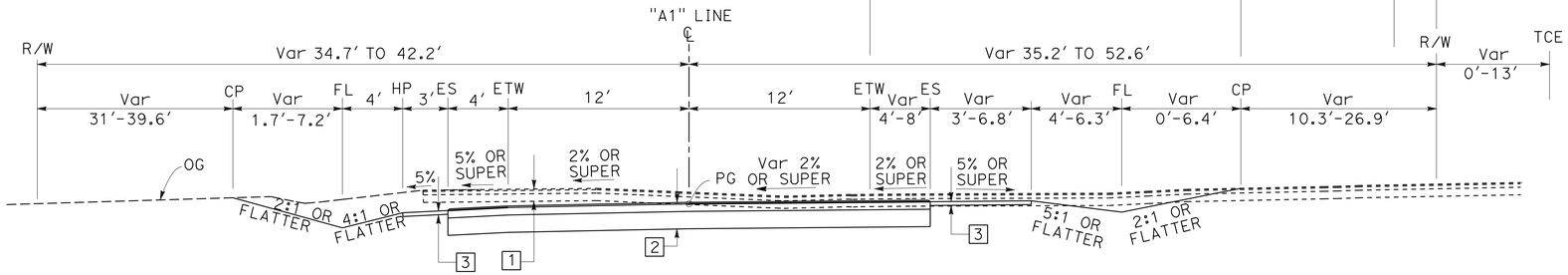
ADT(2010):	1,400	D:	60%
ADT(2032):	1,550	T:	6%
DHV(2010):	280	V:	25 MPH
DHV(2032):	310		(COMFORTABLE)
ESAL(2010):	216,078	TI_{10}:	7.5%
ESAL(2032):	371,661	TI_{20}:	8%

TYPICAL PAVEMENT STRUCTURE SECTIONS

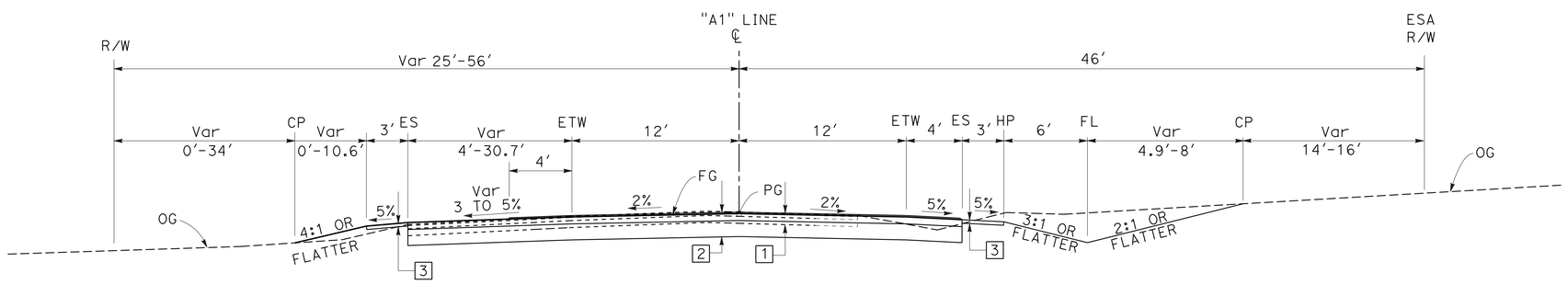
1. EXISTING STRUCTURAL SECTION
   FROM STA 499+00 TO STA 505+05, AND
   FROM STA 512+44 TO END
   0.08' OGAC
   0.23' AC
   0.5' OILED GRAVEL
   BETWEEN STA 505+05 AND 512+44
   0.23' DGAC
   0.5' OILED GRAVEL
2. 0.08' HMA-O
   0.5' HMA-A
   1.15' CLASS 2 AB
3. 0.25' SHOULDR BACKING (WHERE NO MGS) OR VEGETATION CONTROL (MINOR CONC.)
4. 0.08 HMA-O
   0.23' HMA-A
5. 0.5' HMA-A
   1.15' CLASS 2 AB



"A1" 504+50.8 TO "A1" 505+11



"A1" 503+50 TO "A1" 506+00



"A1" 499+50 TO "A1" 503+50

ROUTE 1

TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY: NASIM HASAN
CHECKED BY: DAVID ROBERTS
REVISED BY / DATE REVISED:

LAST REVISION 12-14-11 | DATE PLOTTED => 14-APR-2014 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331ca001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0308 | PROJECT NUMBER & PHASE 010000003311

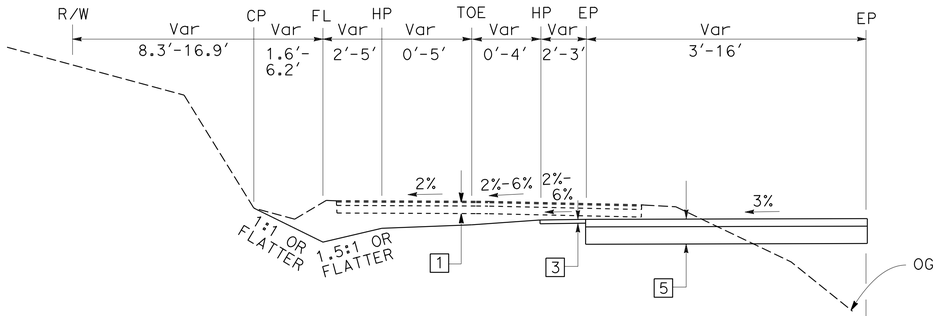
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	3	91

Nasim Hasan 7-10-12
REGISTERED CIVIL ENGINEER DATE

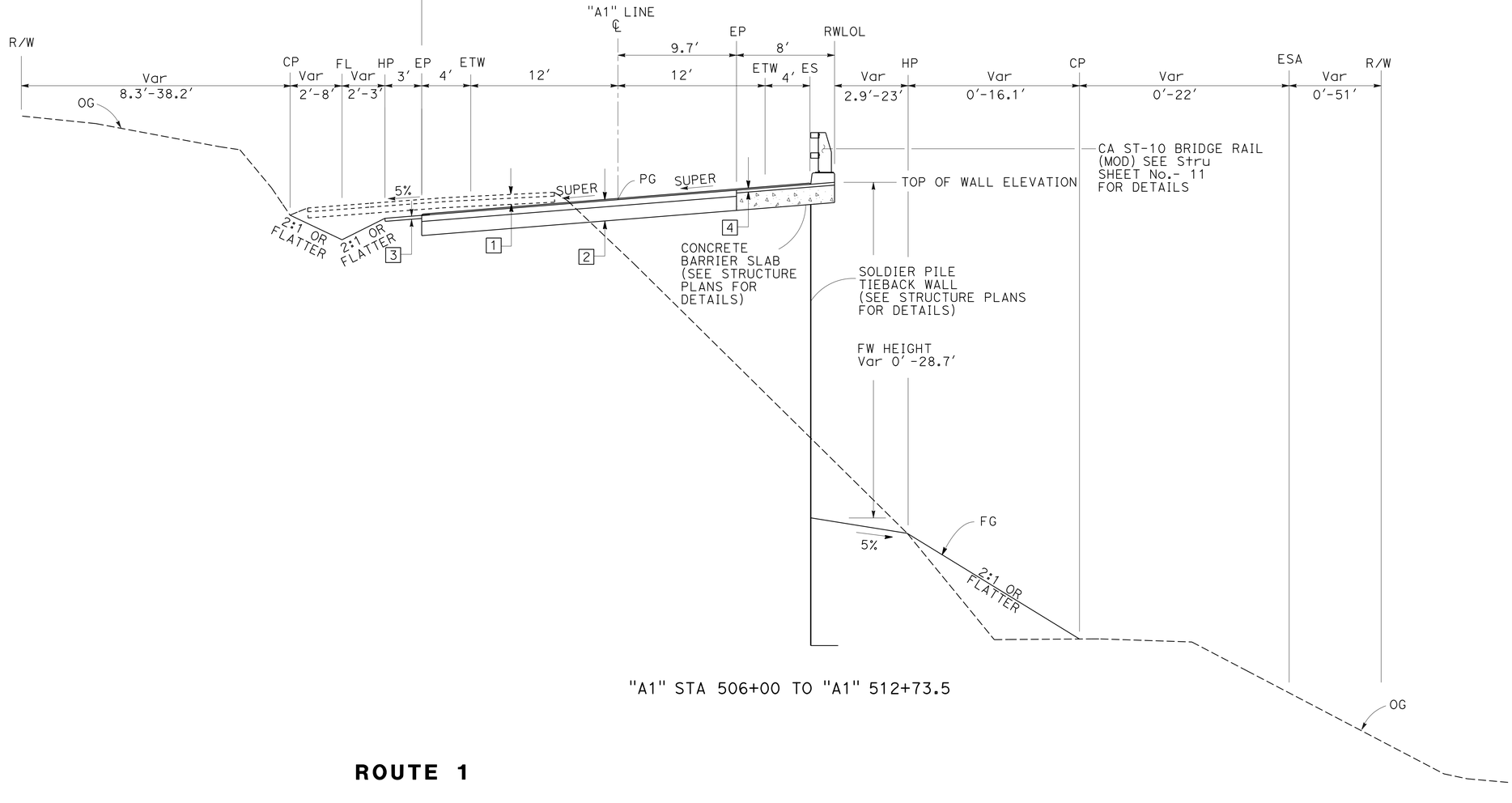
1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-15
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.



"A1" STA 510+10 TO "A1" 512+97.88



"A1" STA 506+00 TO "A1" 512+73.5

ROUTE 1

TYPICAL CROSS SECTIONS

NO SCALE

X-2

REVISED BY | DATE REVISED
NASIM HASAN | DAVID ROBERTS
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
ALI KIANI
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DIVISION OF ENGINEERING

LAST REVISION | DATE PLOTTED => 14-APR-2014
12-14-11 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331ca002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0308
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	4	91

7-10-12
REGISTERED CIVIL ENGINEER — DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

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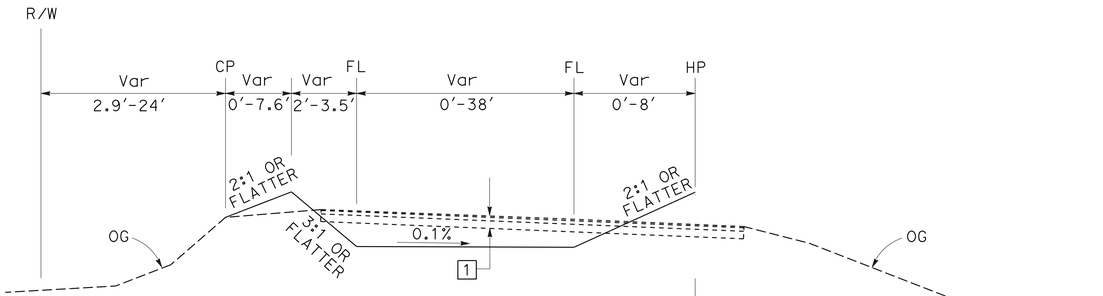
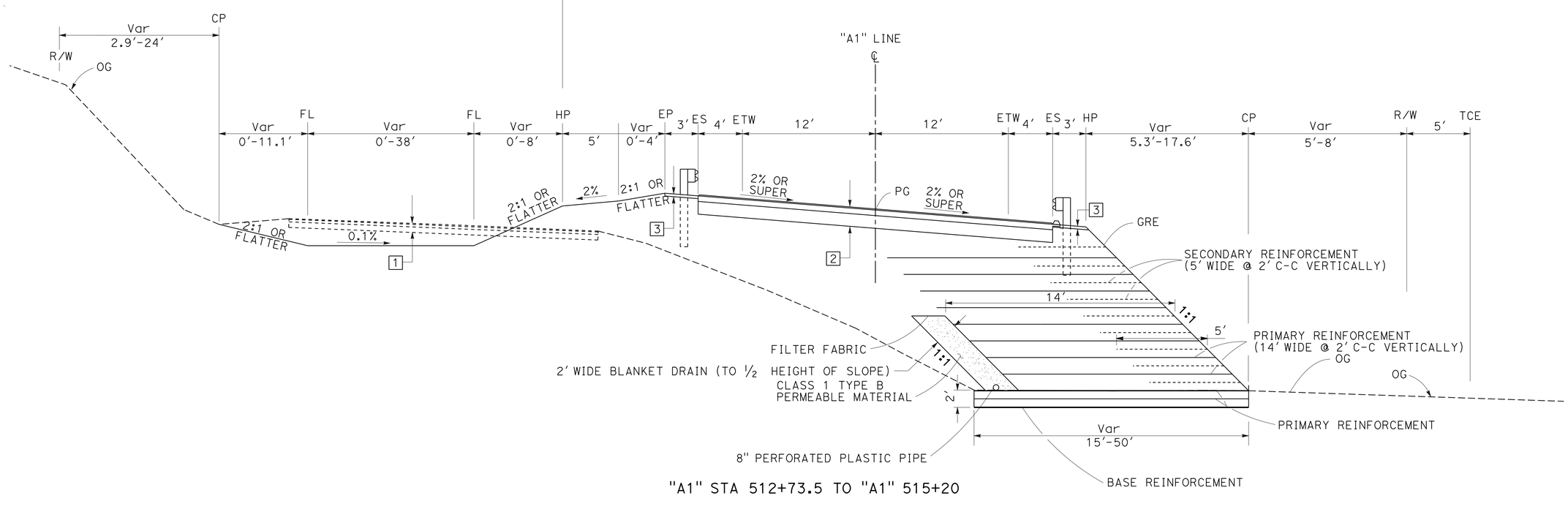


"A1" Sta 514+00 TO "A1" 515+20



"A1" STA 512+73.5 TO "A1" 515+20

ROUTE 1

TYPICAL CROSS SECTIONS

NO SCALE

X-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

CALCULATED-DESIGNED BY	CHECKED BY	FUNCTIONAL SUPERVISOR	REVISED BY	DATE REVISED
NASIM HASAN	DAVID ROBERTS	ALI KIANI		

LAST REVISION | DATE PLOTTED => 14-APR-2014
12-14-11 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010

USERNAME => s119538
DGN FILE => 0100000331ca003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0308

PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	5	91

REGISTERED CIVIL ENGINEER — DATE 7-10-12

PLANS APPROVAL DATE 1-27-14

REGISTERED PROFESSIONAL ENGINEER — NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — STATE OF CALIFORNIA

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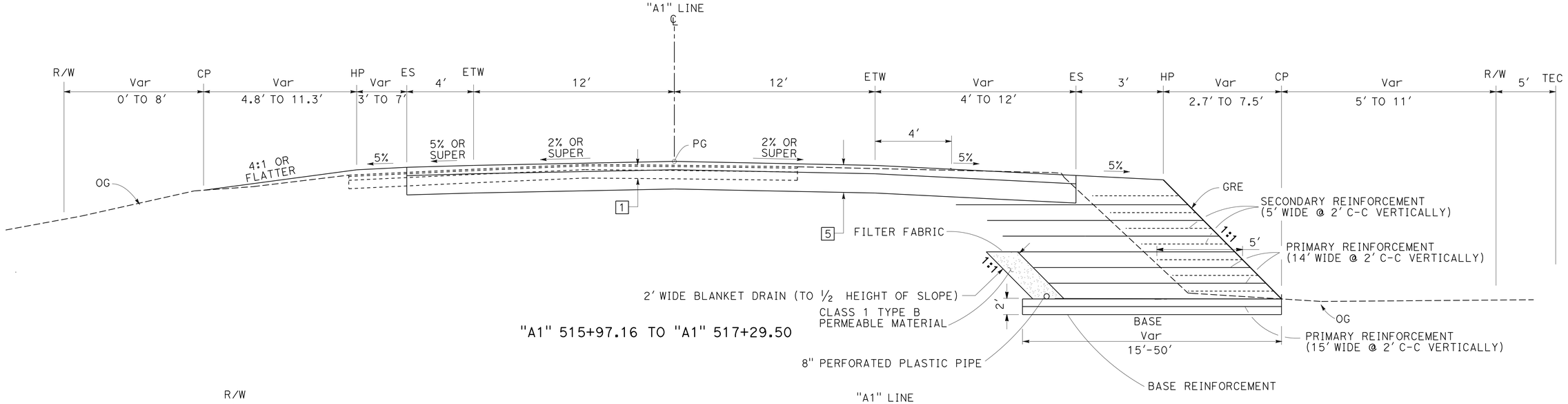
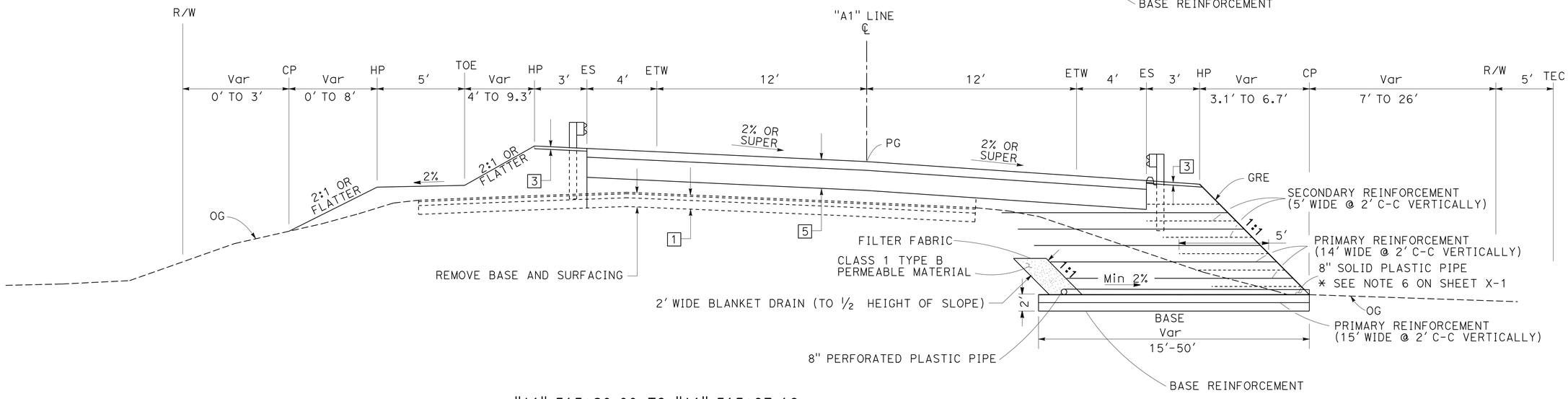


"A1" 515+97.16 TO "A1" 517+29.50



"A1" 515+20.00 TO "A1" 515+97.16

ROUTE 1

TYPICAL CROSS SECTIONS

NO SCALE

X-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

FUNCTIONAL SUPERVISOR: ALI KIANI

CALCULATED-DESIGNED BY: NASIM HASAN
CHECKED BY: DAVID ROBERTS

REVISED BY | DATE REVISED

LAST REVISION 12-14-11 | DATE PLOTTED => 14-APR-2014 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331ca004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0308 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	6	91

7-10-12
REGISTERED CIVIL ENGINEER — DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

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

NOTES:

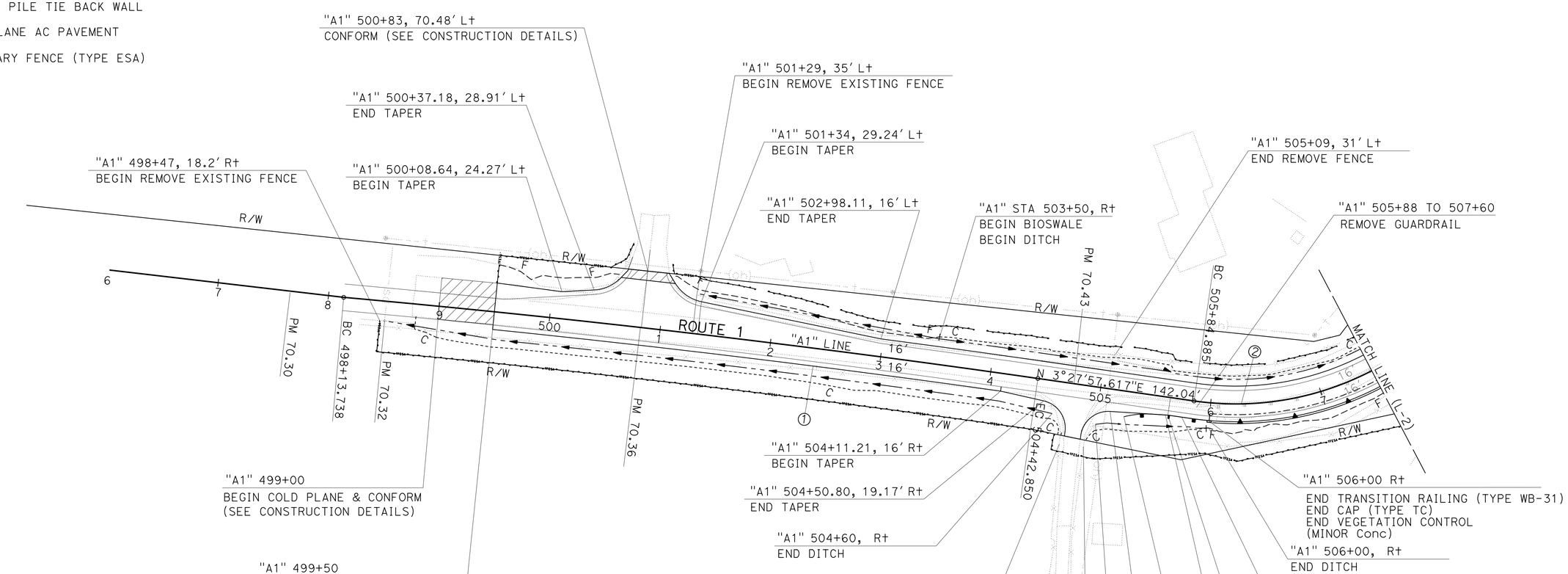
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL MGS WILL HAVE 7' POSTS

ABBREVIATIONS:

SPTW SOLDIER PILE TIE BACK WALL

LEGEND:

SOLDIER PILE TIE BACK WALL
COLD PLANE AC PAVEMENT
TEMPORARY FENCE (TYPE ESA)



CURVE DATA

No. ⑧	R	Δ	T	L
①	11852'	3°2'29"	314.63'	629.11'
②	265'	89°12'58"	261.40'	412.64'

LAYOUT

SCALE: 1" = 50'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING
FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY: NASIM HASAN
CHECKED BY: DAVID ROBERTS
REVISED BY
DATE REVISED

LAST REVISION 12-14-11
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331ea001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0308
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	7	91

Nasim Hasan 7-10-12
REGISTERED CIVIL ENGINEER DATE

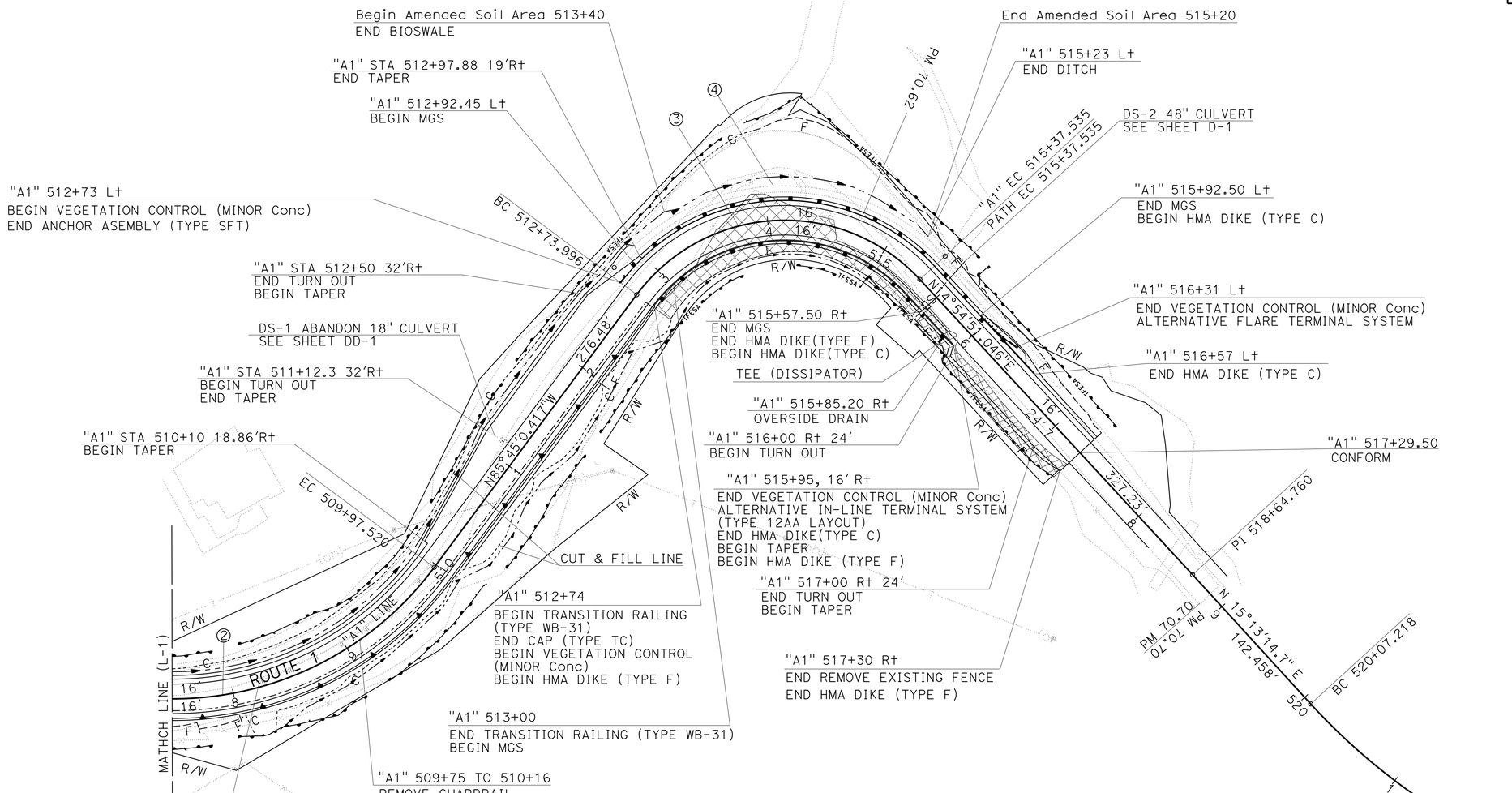
1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — NASIM HASAN No. 74083 Exp. 06-30-15 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.

LEGEND:

GRE-GEOSYNTHETIC REINFORCED EMBANKMENT



CURVE DATA

No.	R	Δ	T	L
②	265′	89°12′58"	261.40′	412.64′
③	150′	100°39′51"	180.88′	263.54′
④	178′	98°28′09"	206.47′	305.91′

LAYOUT

SCALE: 1" = 50′

L-2

REVISED BY | DATE REVISED
NASIM HASAN | DAVID ROBERTS
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALI KIANI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

LAST REVISION | DATE PLOTTED => 14-APR-2014
12-14-11 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 01000003331ea002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0308 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	8	91

NASIM HASAN 7-10-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

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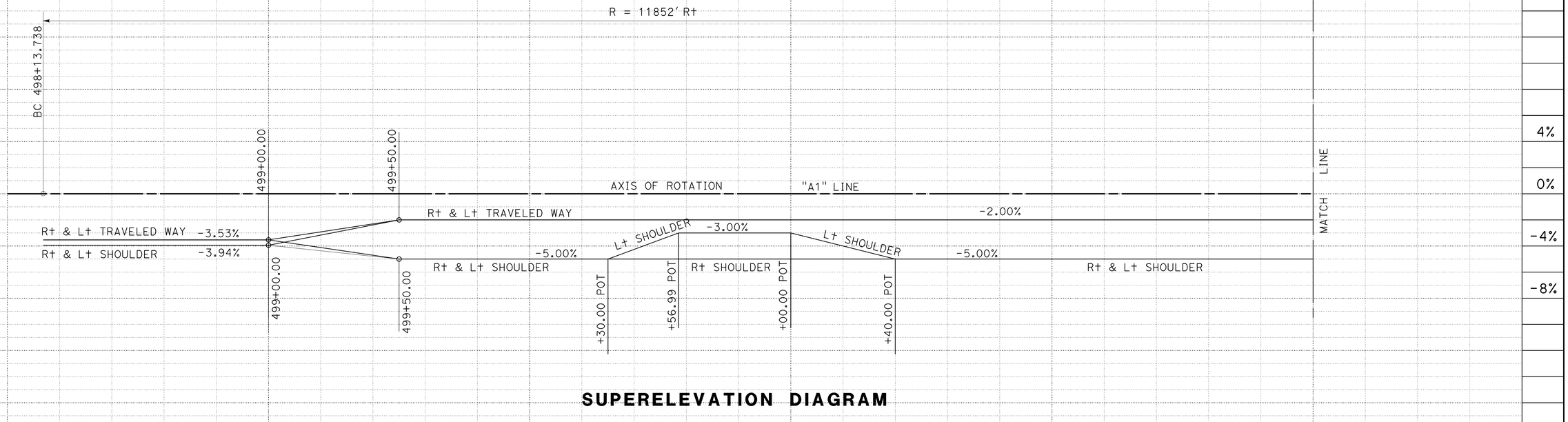
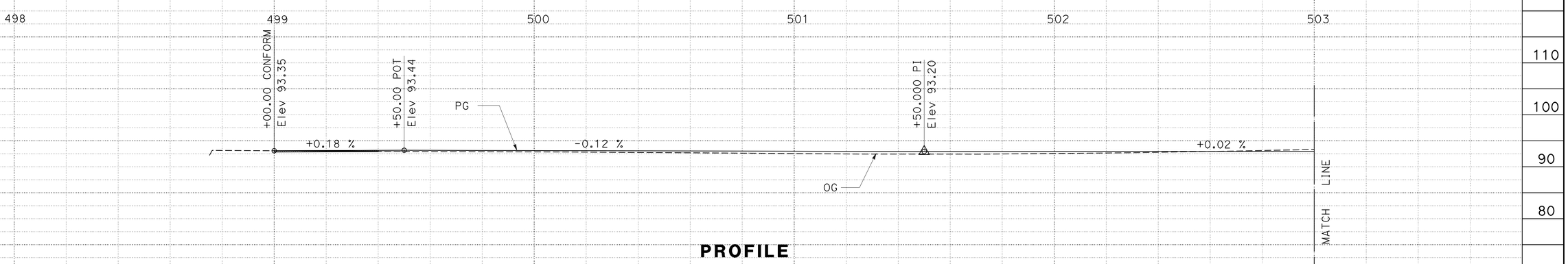


SUPERELEVATION DIAGRAM



PROFILE
ROUTE 1
"A1" LINE

PROFILE AND SUPERELEVATION DIAGRAM

SCALE: Horiz 1" = 20'
Vert 1" = 10'

PS-1

STATION	498	499	500	501	502	503	TOTAL
CY Exc			846				846
CY Emb			107				107

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING
FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY: NASIM HASAN
CHECKED BY: DAVID ROBERTS
REVISED BY | DATE REVISED

LAST REVISION: DATE PLOTTED => 14-APR-2014, TIME PLOTTED => 11:28
12-14-11

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331fb001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0308
PROJECT NUMBER & PHASE 010000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	9	91

REGISTERED CIVIL ENGINEER — DATE: 7-10-12

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — STATE OF CALIFORNIA

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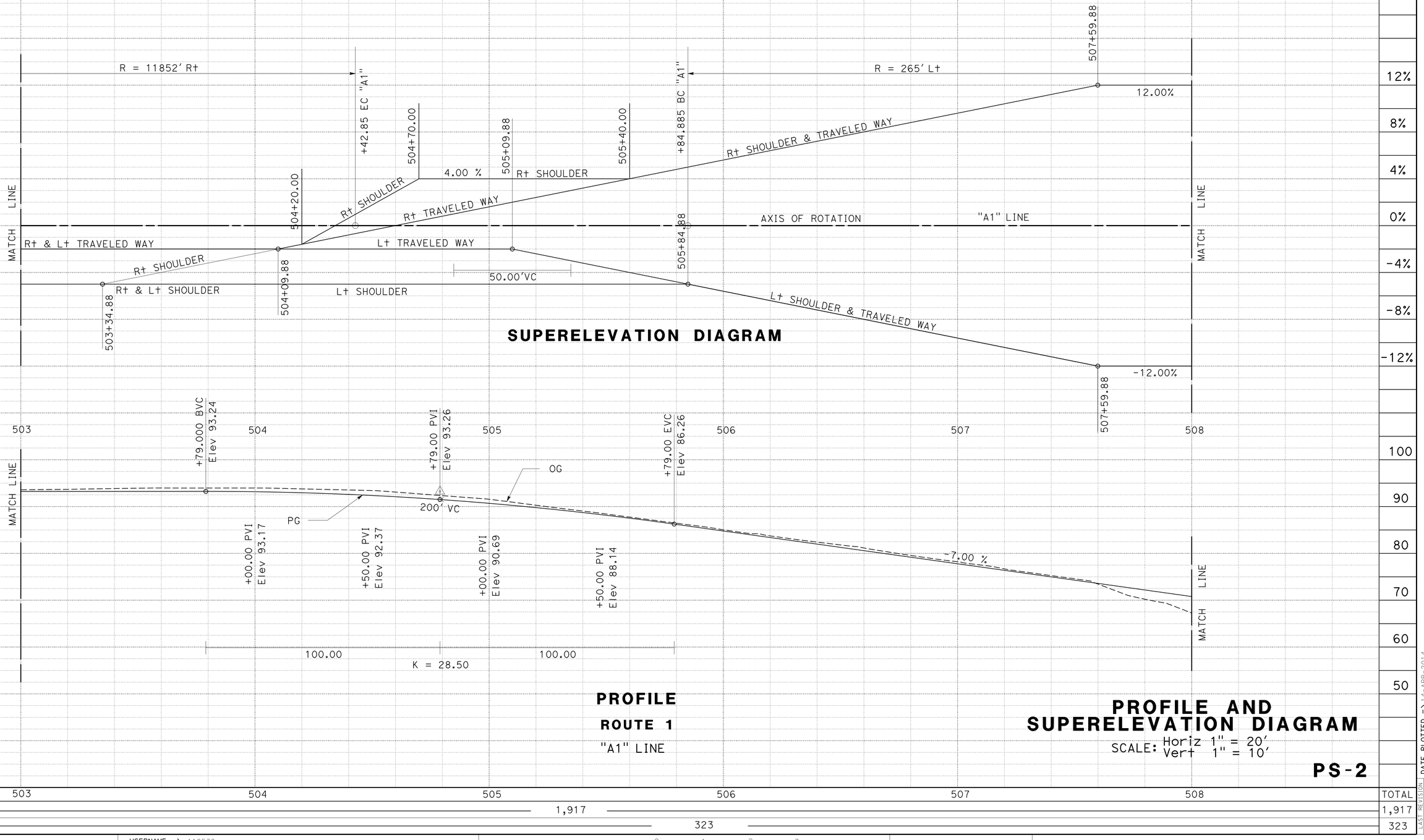

SUPERELEVATION DIAGRAM

PROFILE

ROUTE 1

"A1" LINE

PROFILE AND SUPERELEVATION DIAGRAM

SCALE: Horiz 1" = 20'
Vert 1" = 10'

PS-2

STATION		503	504	505	506	507	508	TOTAL
CY	Exc			1,917				1,917
	Emb				323			323

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY: NASIM HASAN
CHECKED BY: DAVID ROBERTS
REVISED BY
DATE REVISED

LAST REVISION — DATE PLOTTED => 14-APR-2014
12-14-11 — TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010

USERNAME => s119538
DGN FILE => 0100000331fb002.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0308

PROJECT NUMBER & PHASE 0100000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	10	91

REGISTERED CIVIL ENGINEER — DATE 7-10-12

NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

1-27-14
PLANS APPROVAL DATE

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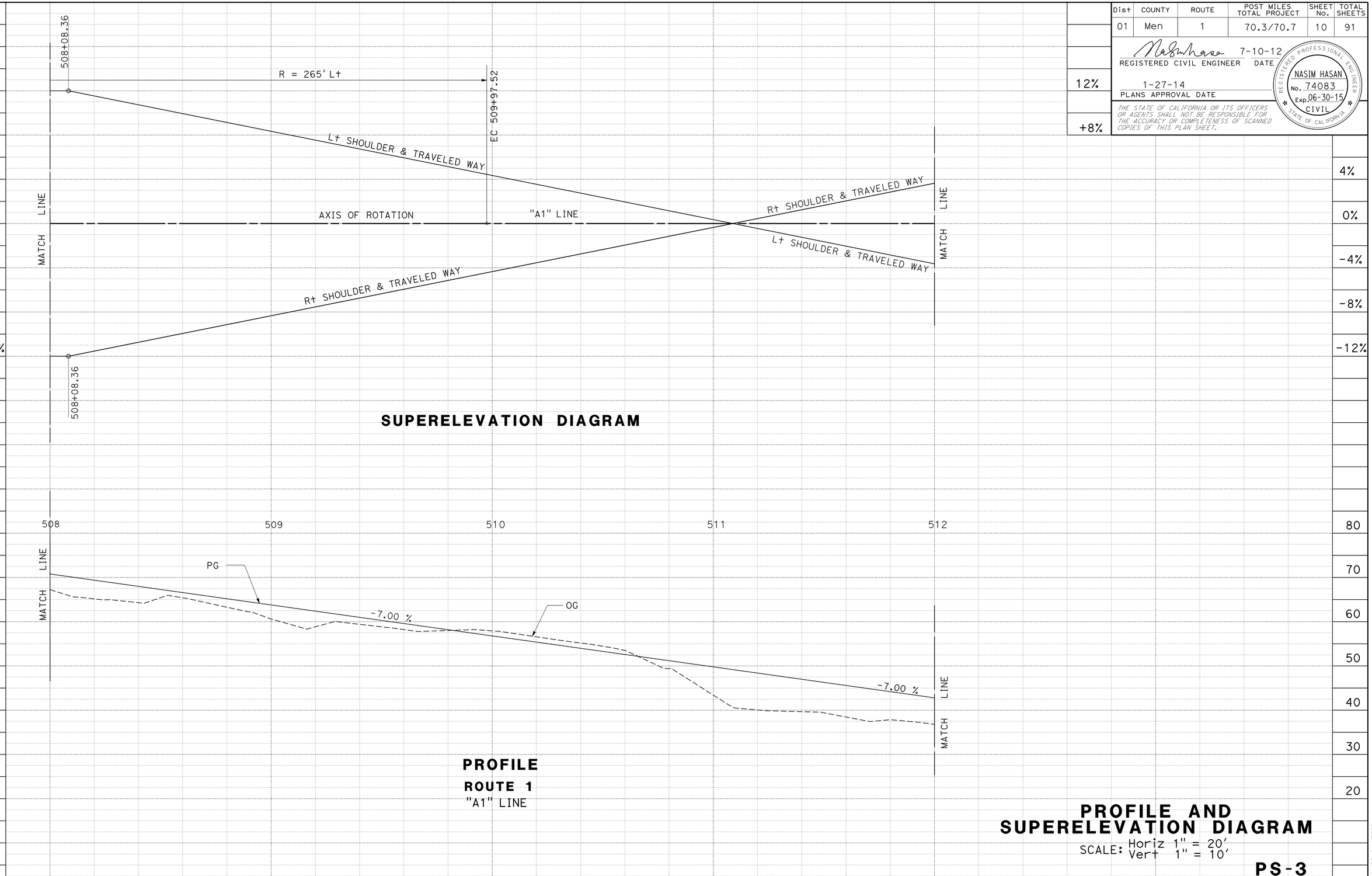

SUPERELEVATION DIAGRAM

PROFILE

ROUTE 1

"A1" LINE

PROFILE AND SUPERELEVATION DIAGRAM

SCALE: Horiz 1" = 20'
Vert 1" = 10'

PS-3

STATION		508	509	510	511	512	TOTAL
CY	Exc			1,417			1,417
	Emb				1,812		1,812

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

FUNCTIONAL SUPERVISOR: ALI KIANI

CALCULATED-DESIGNED BY
CHECKED BY: NASIM HASAN

DAVID ROBERTS

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 14-APR-2014
12-14-11 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010

USERNAME => s119538
DGN FILE => 0100000331fb003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0308

PROJECT NUMBER & PHASE 0100000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	11	91

REGISTERED CIVIL ENGINEER — DATE 7-10-12

1-27-14
PLANS APPROVAL DATE

NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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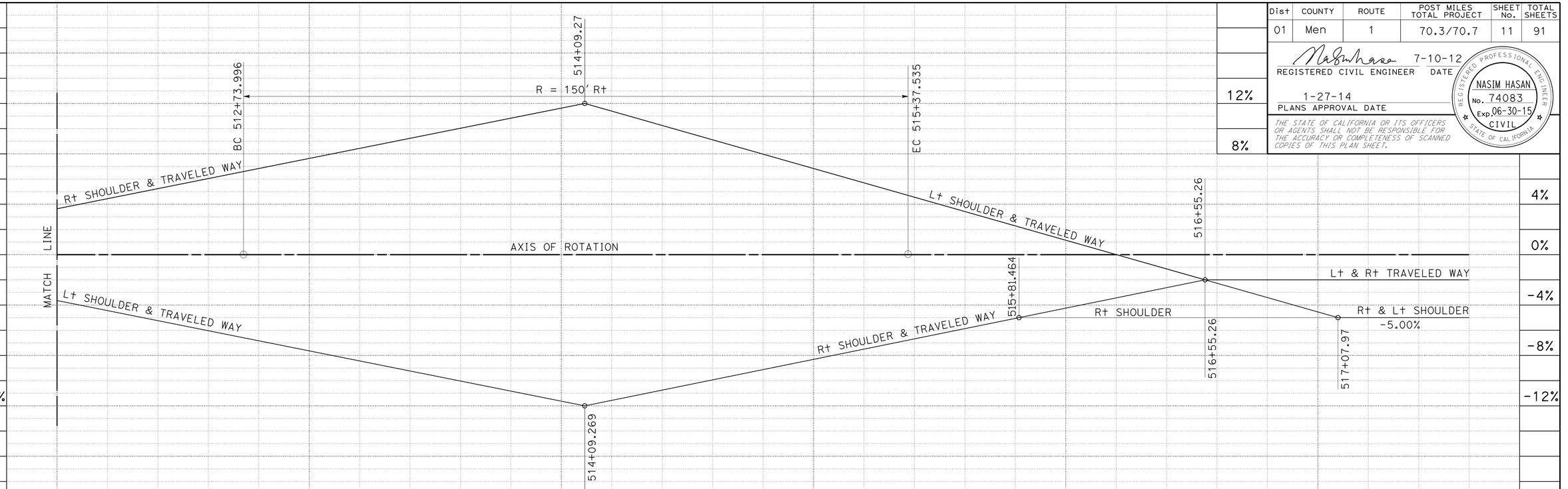
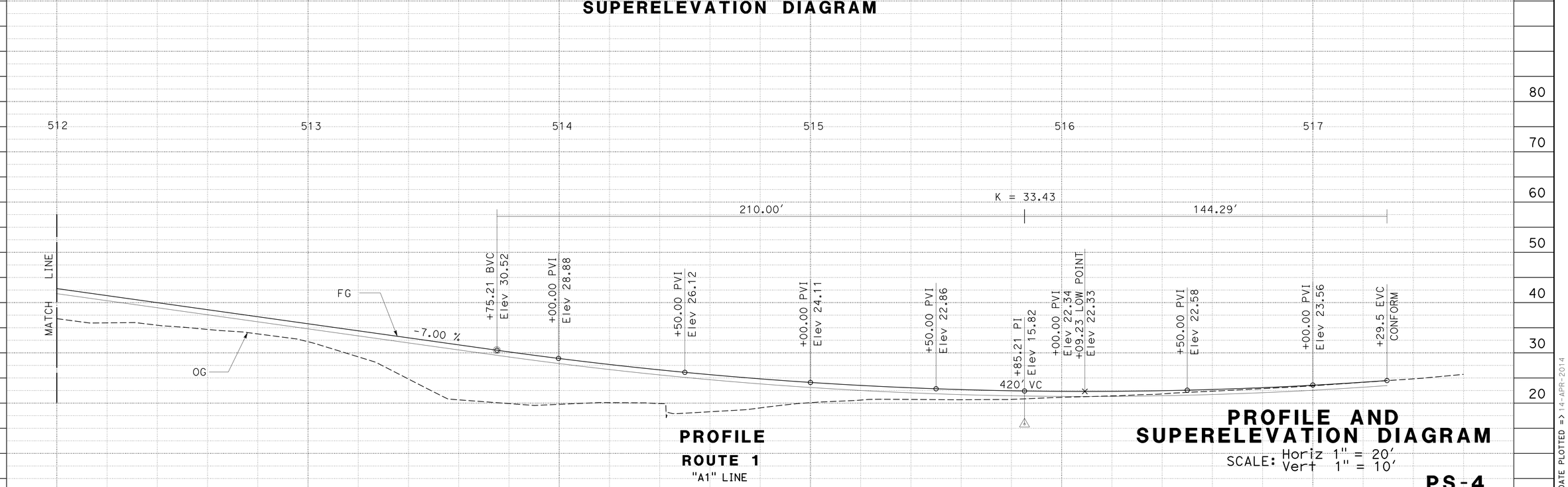


SUPERELEVATION DIAGRAM



PROFILE

ROUTE 1
"A1" LINE

PROFILE AND SUPERELEVATION DIAGRAM

SCALE: Horiz 1" = 20'
Vert 1" = 10'

PS-4

STATION	512	513	514	515	516	517	TOTAL
CY Exc	559		GRE 726				1,285
CY Emb		2,643		GRE 877			3,520

DAVID ROBERTS — CALCULATED-DESIGNED BY
NASIM HASAN — CHECKED BY
ALI KIANI — FUNCTIONAL SUPERVISOR
REVISED BY — DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

LAST REVISION DATE PLOTTED => 14-APR-2014
12-14-11 TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331fb004.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0308
PROJECT NUMBER & PHASE 0100000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	12	91

Nasim Hasan 7-10-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

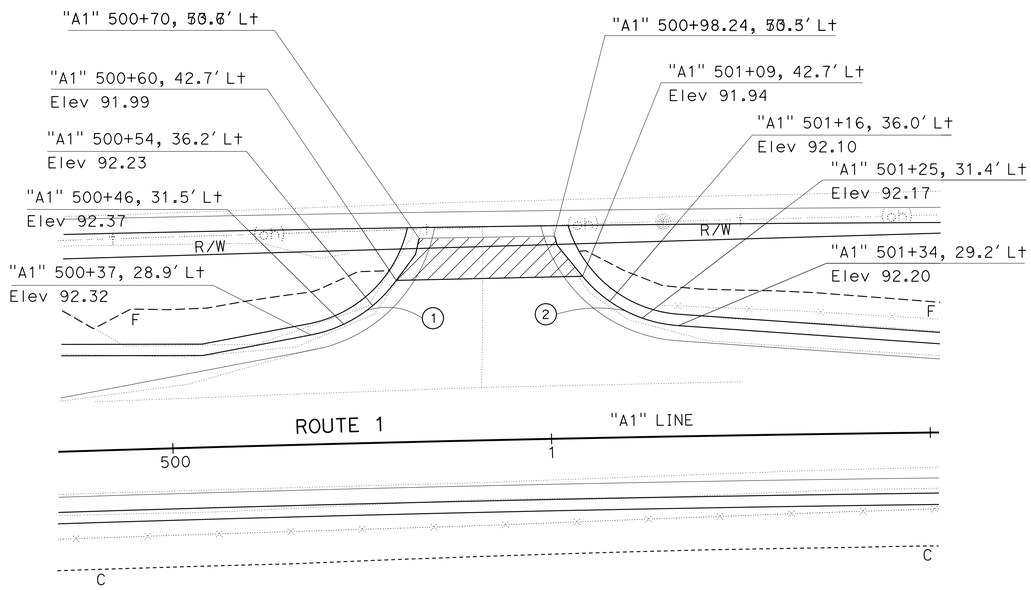
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND:

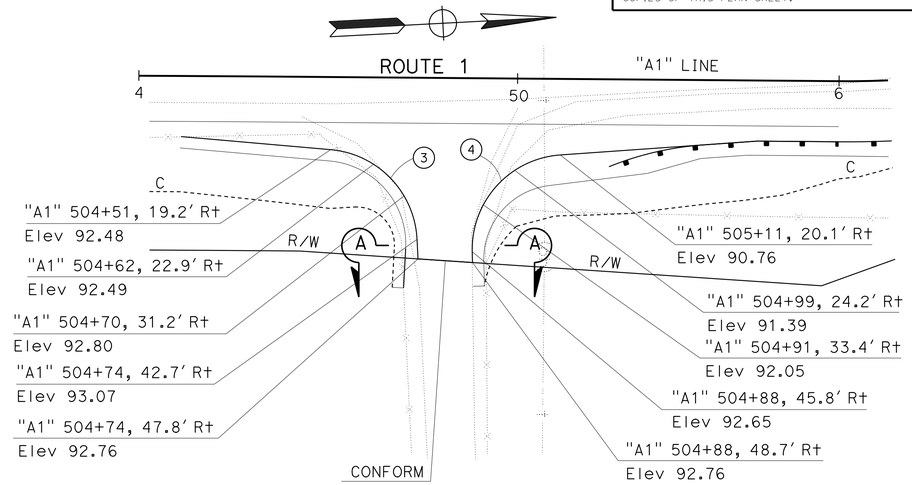
COLD PLANE AC PAVEMENT

CURVE DATA

No.	R	Δ	T	L
1	36.00′	43°36′10"	14.40′	27.40′
2	36.00′	46°33′12"	15.49′	29.25′
3	25.00′	82°9′59"	21.80′	35.85′
4	25.00′	87°21′21"	23.87′	38.12′

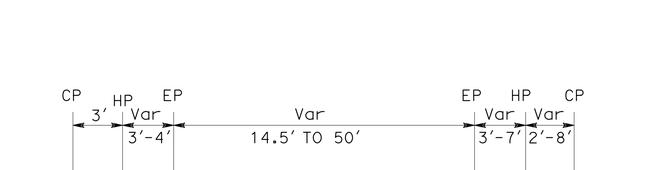


ACCESS DRIVEWAY
"A1" 500+82.00 Lt



ACCESS DRIVEWAY
"A1" 504+80.00 Rt

COLD PLANE CONFORM DETAIL
"A1" 499+00 TO "A1" 499+50



SECTION A-A

CONSTRUCTION DETAILS
NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING
FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY
CHECKED BY: NASIM HASAN
DAVID ROBERTS
REVISED BY
DATE REVISED

LAST REVISION 12-14-11
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 01000003331ga001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0308
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	13	91

REGISTERED CIVIL ENGINEER — DATE: 1-27-14

PLANS APPROVAL DATE: 1-27-14

REGISTERED PROFESSIONAL ENGINEER — NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — STATE OF CALIFORNIA

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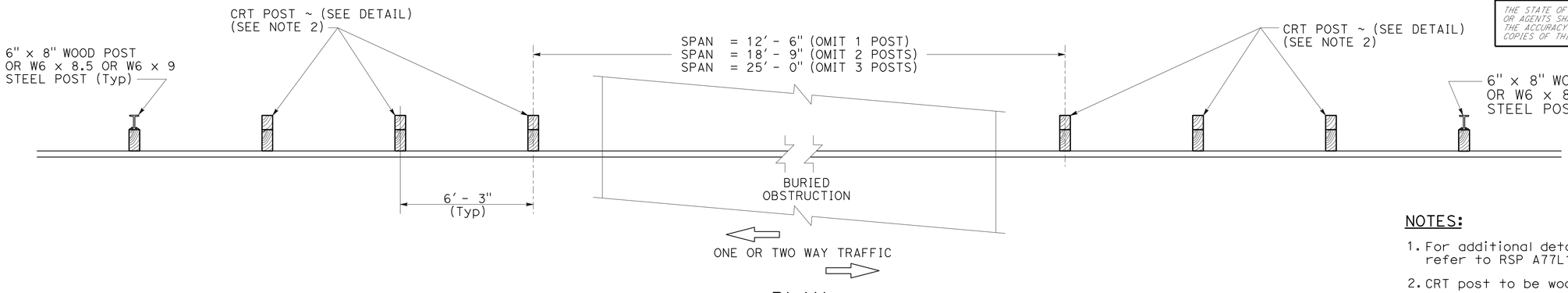
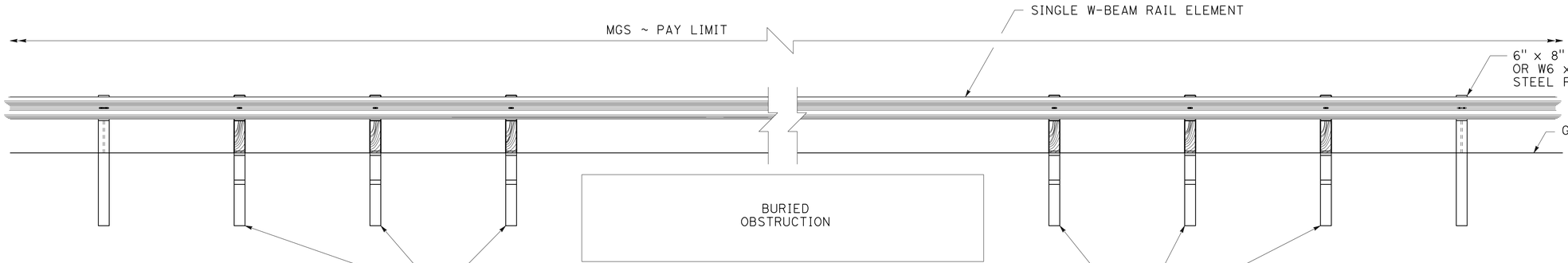


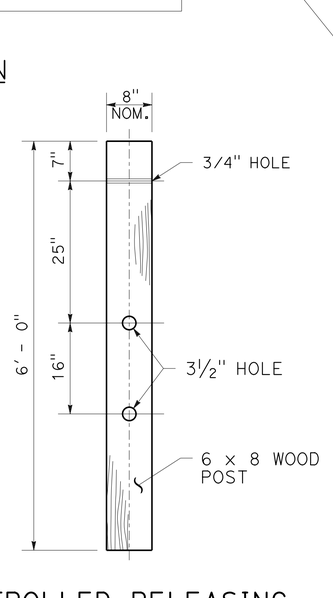
PLAN

NOTES:

1. For additional details not shown on this plan, refer to RSP A77L1 and RSP A77L2.
2. CRT post to be wood only.



ELEVATION



CONTROLLED RELEASING
TERMINAL (CRT) POST DETAIL

MIDWEST GUARDRAIL SYSTEM DETAILS

CONSTRUCTION DETAILS

NO SCALE

C-2

REVISED BY | DATE REVISED

DAVID ROBERTS | NASIM HASAN

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: ALI KIANI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

LAST REVISION: DATE PLOTTED => 14-APR-2014
00-00-00 TIME PLOTTED => 15:07

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331ga002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0308 | PROJECT NUMBER & PHASE 01000003311

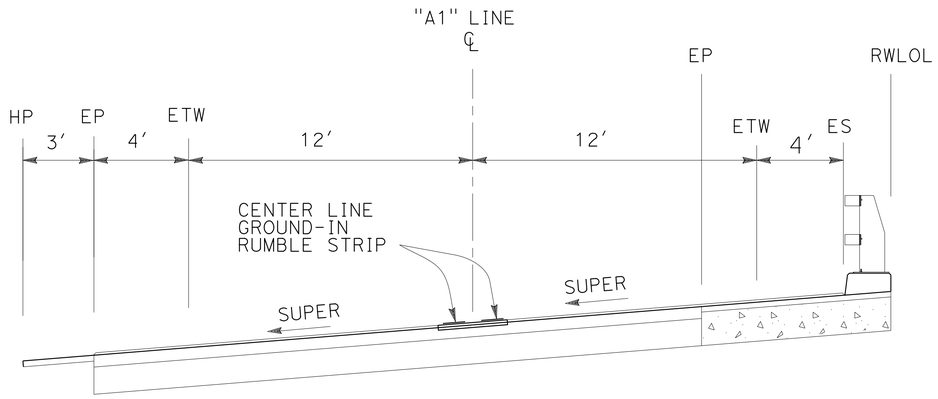
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	14	91

REGISTERED CIVIL ENGINEER — DATE 7-10-12

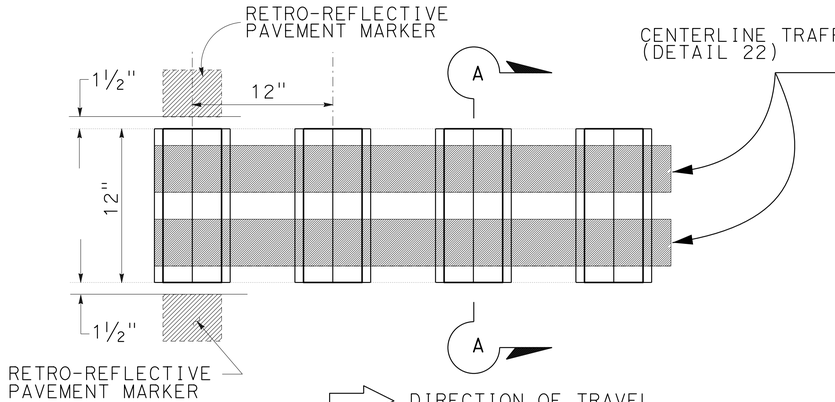
1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — STATE OF CALIFORNIA

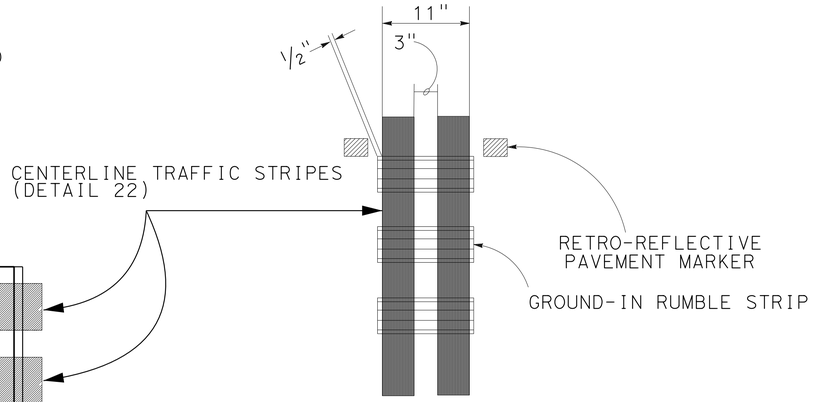
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



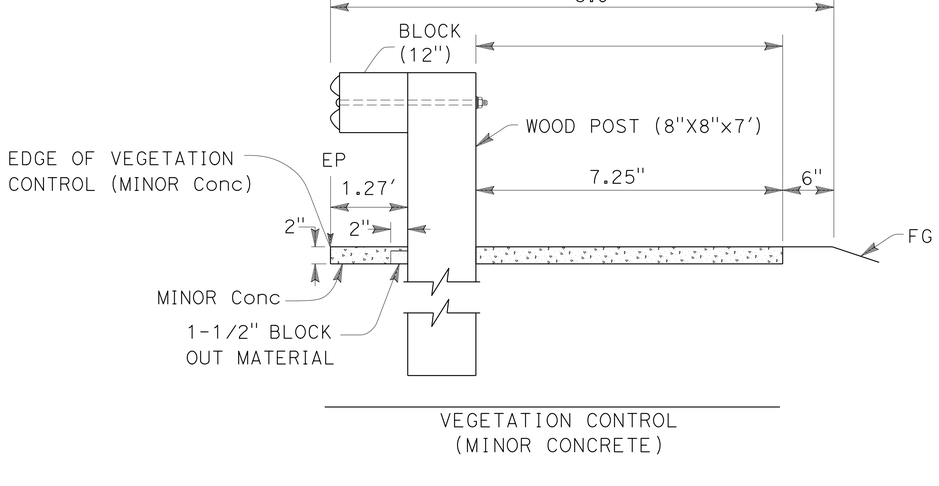
STATION 505+20 TO 516+00



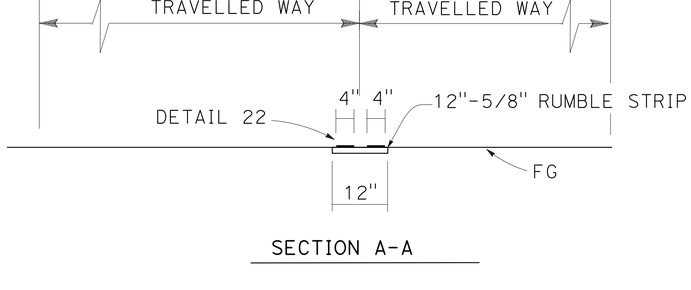
PLAN



PLAN



VEGETATION CONTROL
(MINOR CONCRETE)



SECTION A-A

ELEVATION
CENTER LINE GROUND-IN
RUMBLE STRIP

CENTER LINE GROUND-IN RUMBLE STRIP

CONSTRUCTION DETAILS

NO SCALE

C-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY:
CHECKED BY: NASIM HASAN
DAVID ROBERTS

REVISED BY | DATE REVISED

LAST REVISION 01-16-13 | DATE PLOTTED => 14-APR-2014 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331ga003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0308 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	15	91

REGISTERED CIVIL ENGINEER — DATE 7-10-12

1-27-14
PLANS APPROVAL DATE

NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — 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.

TEMPORARY FIBER ROLL

LOCATION	LOCATION DESCRIPTION	FIBER ROLL (6 INCH)
		LF
FROM 499+30 TO 504+60 Rt	SLOPE STABILIZATION INSTALL AT HINGE POINT OF SLOPE AND SLOPE FACE	1060
FROM 499+50 TO 499+70 Lt		40
FROM 499+70 TO 500+50 Lt		80
FROM 501+10 TO 503+30 Lt		220
FROM 503+30 TO 513+00 Lt		1900
FROM 513+00 TO 514+00 Lt		300
FROM 514+00 TO 515+70 Lt		340
FROM 515+70 TO 517+90 Lt		220
FROM 505+00 TO 506+00 Rt		200
FROM 506+00 TO 506+40 Rt		40
FROM 506+40 TO 507+60 Rt		120
FROM 507+60 TO 508+00 Rt		40
FROM 508+00 TO 511+00 Rt		300
FROM 511+00 TO 511+20 Rt		20
FROM 511+20 TO 511+90 Rt		140
FROM 511+90 TO 512+40 Rt		50
FROM 512+40 TO 512+60 Rt		40
FROM 512+60 TO 512+80 Rt		60
FROM 512+80 TO 514+00 Rt		240
FROM 514+00 TO 516+94 Rt		294
FROM 516+94 TO 517+06 Rt		140
FROM 517+06 TO 518+32 Rt		126
	TOTAL	5,970

TEMPORARY EROSION CONTROL

DESCRIPTION	QUANTITIES		
	LF	EA	SQYD
TEMPORARY ERSION CONTROL BLANKET			2,730
TEMPORARY GRAVEL BAG BERM	120		
TEMPORARY COVER			2,810
TEMPORARY DRAINAGE INLET PROTECTION		1	
TEMPORARY HYDRALIC MULCH			2,810

TEMPORARY LARGE SEDIMENT BARRIER

LOCATION	DESCRIPTION	FIBER ROLL (20 INCH)
		LF
FROM 499+50 TO 499+70 Lt	SLOPE STABILIZATION INSTALL AT BOTTOM OF SLOPE	20
FROM 499+70 TO 500+50 Lt		80
FROM 501+10 TO 503+30 Lt		220
FROM 514+00 TO 515+70 Lt		170
FROM 515+70 TO 517+90 Lt		220
FROM 506+10 TO 506+40 Rt		40
FROM 516+94 TO 517+06 Rt		140
FROM 517+06 TO 518+32 Rt		126
TOTAL		1,016

TEMPORARY FENCE (TYPE ESA)

BEGINNING STATION AND OFFSET	ENDING STATION AND OFFSET	TEMPORARY FENCE (TYPE ESA)
		LF
"A1" 504+91, 63.3' Rt	"A1" 517+29, 23.4' Rt	1,258
"A1" 509+13, 33.3' Lt	"A1" 517+34, 36.4' Lt	956
	TOTAL	2,214

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

WPCQ-1

REVISED BY | DATE REVISED
NASIM HASAN | DAVID ROBERTS
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ALI KIANI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

LAST REVISION: DATE PLOTTED => 14-APR-2014
12-14-11 TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331gd001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0308 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	16	91

REGISTERED CIVIL ENGINEER — 7-10-12 DATE

1-27-14
PLANS APPROVAL DATE

NASIM HASAN No. 74083 Exp. 06-30-13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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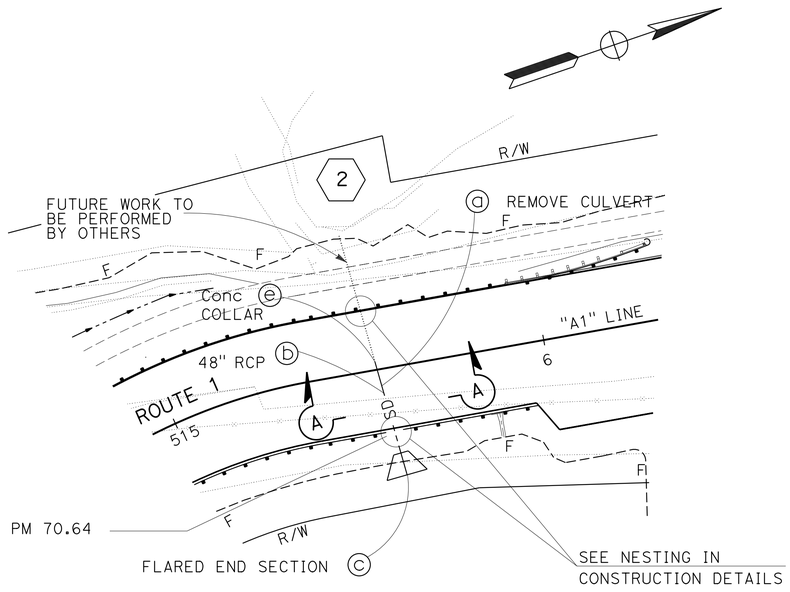
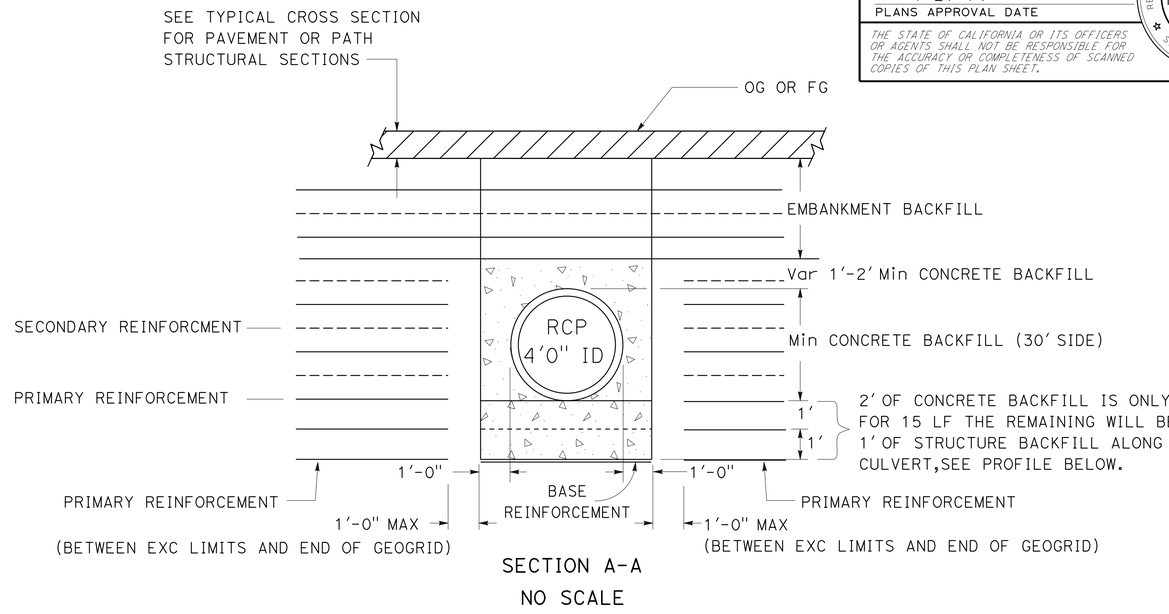
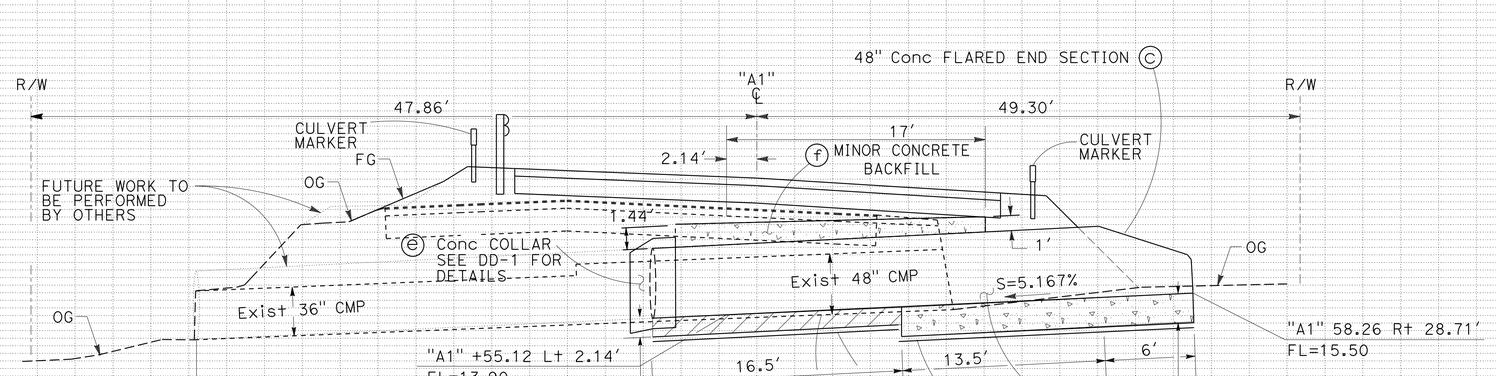


PLAN
NO SCALE



SECTION A-A
NO SCALE



DRAINAGE SYSTEM No. 2

Sta "A1" 515+55.34

84°'10'19" SKEW

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

APPROVED FOR DRAINAGE WORK ONLY

DRAINAGE PLAN AND PROFILES

SCALE: AS SHOWN

D-1

-50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING
FUNCTIONAL SUPERVISOR: ALI KIANI
DAVID ROBERTS | NASIM HASAN
REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY

LAST REVISION | DATE PLOTTED => 14-APR-2014 | TIME PLOTTED => 11:28
12-14-11

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331ia001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0308 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	17	91

Nasim Hasan 7-10-12
REGISTERED CIVIL ENGINEER DATE

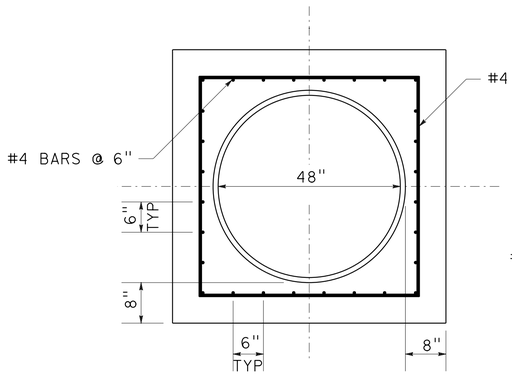
1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-13
CIVIL
STATE OF CALIFORNIA

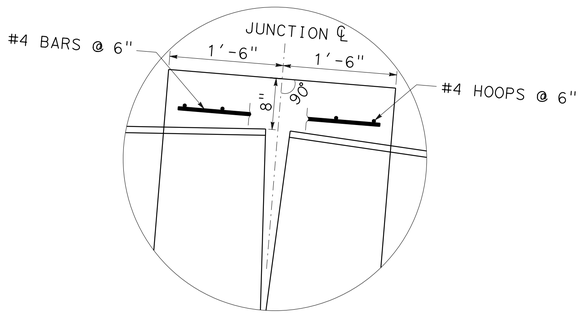
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

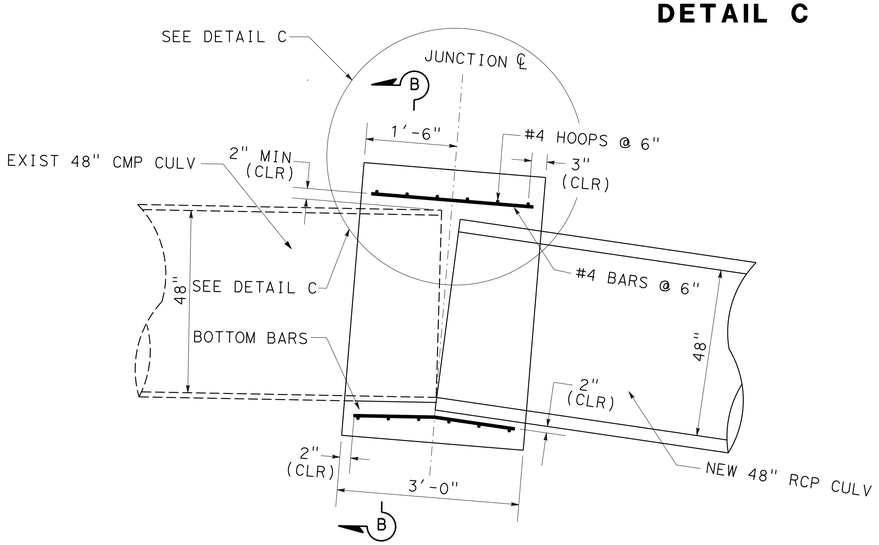
1. JOIN PIPES AT INVERTS



SECTION B-B

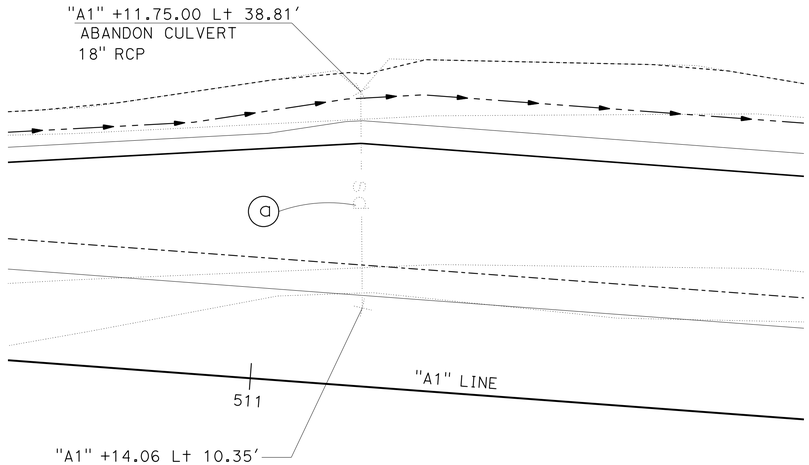


DETAIL C



SECTION A-A

NOTE: BEND BOTTOM BARS AS NECESSARY TO MAINTAIN 2" CLEARANCE

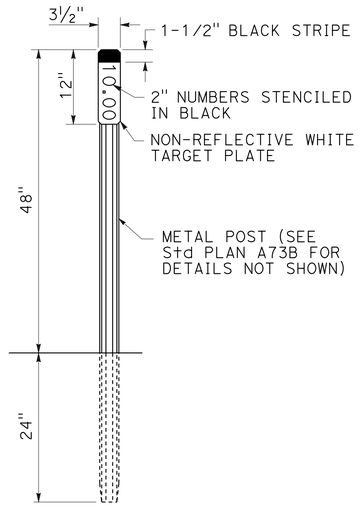


PLAN

DRAINAGE SYSTEM No. 1

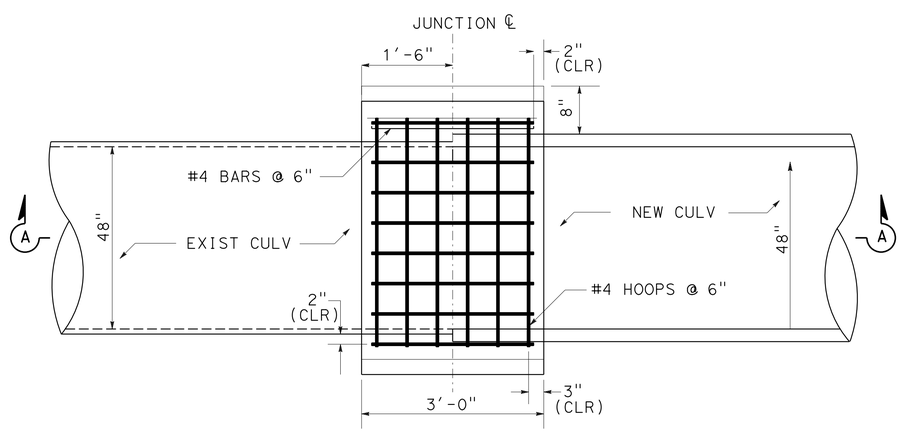
ABANDON CULVERT (a)

"A1" 511+14



MARKER (CULVERT)

NOTE: EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.



CONC COLLAR PLAN

DRAINAGE DETAILS

NO SCALE

DD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY: NASIM HASAN
CHECKED BY: DAVID ROBERTS
REVISED BY
DATE REVISED

LAST REVISION 12-14-11
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 01000003331ic001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0308
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	18	91

7-10-12
REGISTERED CIVIL ENGINEER — DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-13
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.

DRAINAGE QUANTITIES

DRAINAGE SYSTEM No.	DRAINAGE UNIT	ABANDON CULVERT	REMOVE CULVERT	(N) STRUCTURE BACKFILL	(N) MINOR CONCRETE (BACKFILL)	(N) CONCRETE COLLAR	48" REINFORCED CONCRETE PIPE	48" CONCRETE FLARE END SECTION	(N) BASE REINFORCEMENT FABRIC (BIAXIAL-GRID)	DESCRIPTION	LOCATION
		LF	EA	CY	CY	EA	LF	EA	SQYD		
1	a	30								ABANDON CULVERT	"A1" 511+14 Lt
2	a		1							REMOVE CULVERT	"A1" 515+55
	b						30			48" REINFORCED CONCRETE PIPE	"A1" 515+55
	c							1		48" CONCRETE FLARED END SECTION	"A1" 515+55
	d			4.1						STRUCTURE BACKFILL	"A1" 515+55
	e					1				CONCRETE COLLAR	"A1" 515+55
	f				31.8					MINOR Conc BACKFILL	"A1" 515+55
									26.7	BASE Reinf FABRIC (BIAXIAL-GRID)	"A1" 515+55
	TOTAL	30	1	4.1	31.8	1	30	1	26.7		

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING
FUNCTIONAL SUPERVISOR: ALI KIANI
CALCULATED-DESIGNED BY: NASIM HASAN
CHECKED BY: DAVID ROBERTS
REVISED BY
DATE REVISED

LAST REVISION 12-14-11
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:28

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	19	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

SHERI M. RODRIGUEZ No. C66861 Exp. 9-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

1-27-14
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.

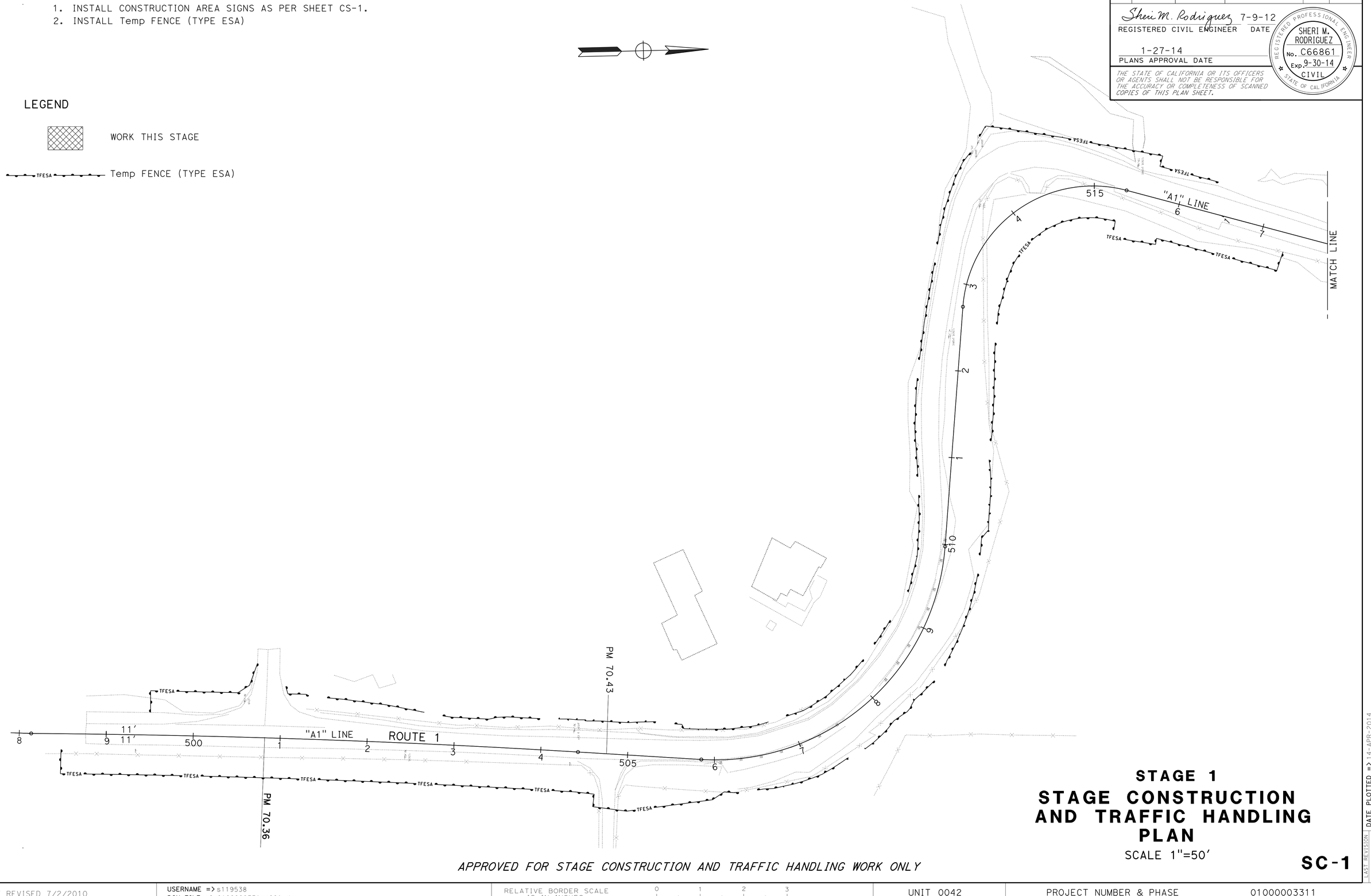
NOTES:

1. INSTALL CONSTRUCTION AREA SIGNS AS PER SHEET CS-1.
2. INSTALL Temp FENCE (TYPE ESA)

LEGEND

WORK THIS STAGE

TFESA Temp FENCE (TYPE ESA)



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 1
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE 1"=50'

SC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
MAINTENANCE AND TRAFFIC OPERATIONS

FUNCTIONAL SUPERVISOR: TROY ARSENEAU

CALCULATED-DESIGNED BY: SHERI RODRIGUEZ
CHECKED BY:

REVISED BY | DATE REVISED

LAST REVISION 12-14-11
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331ma001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0042
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	20	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

SHERI M. RODRIGUEZ No. C66861 Exp. 9-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

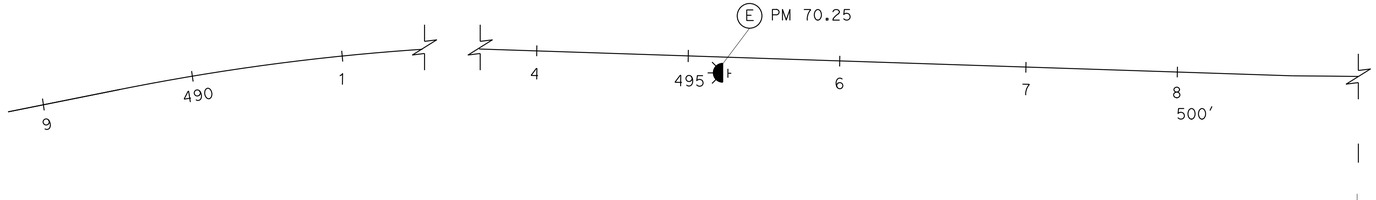
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. INSTALL SIGNS, Temp PAVEMENT DELINEATION, Temp RAILING (TYPE K) AND ALTERNATIVE Temp CRASH CUSHIONS AS SHOWN ON THESE PLANS, AND ON SHEETS SCD1 AND SCD2.
2. INSTALL Temp ELECTRICAL SIGNAL SYSTEM AND DETOUR TRAFFIC ONTO EXISTING SB LANE
3. CONSTRUCT SOLDIER PILE TIEBACK WALL AS PER STRUCTURE PLANS. (CONSTRUCTION OF THE SOUTH END OF THE SPTW MAY NEED TO BE DONE UNDER FLAGGING, PRIOR TO IMPLEMENTATION OF THE TRAFFIC SIGNAL OR AFTER IT'S REMOVAL.)
4. PLACE STRUCTURE BACKFILL AND CONSTRUCT GEOSYNTHETIC REINFORCED EMBANKMENT.
5. START AND COMPLETE CONSTRUCTION OF DRAINAGE SYSTEM No.2.
6. CONSTRUCT ACCESSIBLE PORTION OF THE NEW ROADWAY PRISM AND CONSTRUCT NEW NB LANE, STA "A1" 506+00 TO "A1" 515+00, EXCEPT HMA (OPEN GRADED).
7. INSTALL MGS & TERMINAL SYSTEMS, STA "A1" 505+25 TO "A1" 506+00 RT AND STA "A1" 512+14 TO "A1" 515+95 RT

LEGEND:

- WORK THIS STAGE
- LIMIT OF STRIPING PATTERN
- DIRECTION OF TRAFFIC
- X — TEMPORARY TRAFFIC STRIPE (PAINT)
- Temp RAILING (TYPE K)
- Temp SIGN
- CHANNELIZER (SURFACE MOUNTED) - 15' OC
- Temp FLASHING BEACON
- Temp SIGNAL
- TFESA — Temp FENCE (TYPE ESA)



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE 1"=50"

SC-2

REVISED BY | DATE REVISED
SHERI RODRIGUEZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
TROY ARSENEAU

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE AND TRAFFIC OPERATIONS
Caltrans

LAST REVISION | DATE PLOTTED => 14-APR-2014 | TIME PLOTTED => 15:18
02-28-13

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 01000003331ma002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0042 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	21	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHERI M. RODRIGUEZ
No. C66861
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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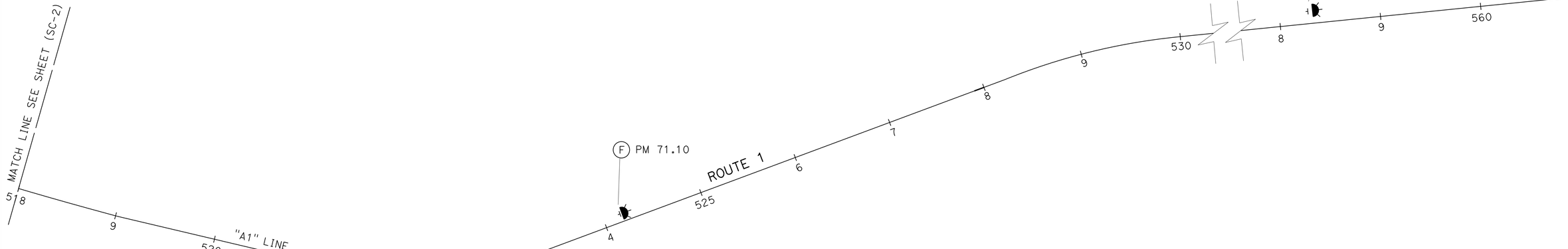

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 2

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE 1'=50"

SC-3

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY: SHERI RODRIGUEZ
CHECKED BY

FUNCTIONAL SUPERVISOR: TROY ARSENEAU

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LAST REVISION 12-14-11 | DATE PLOTTED => 14-APR-2014 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331ma003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0042 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	22	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

SHERI M. RODRIGUEZ No. C66861 Exp. 9-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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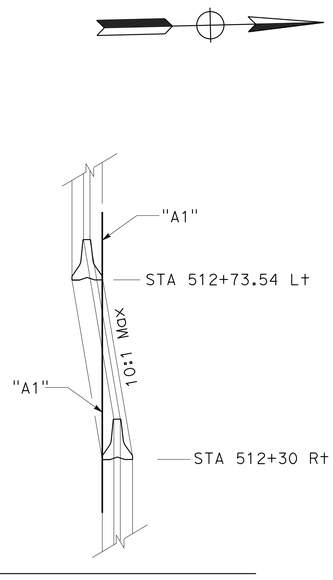
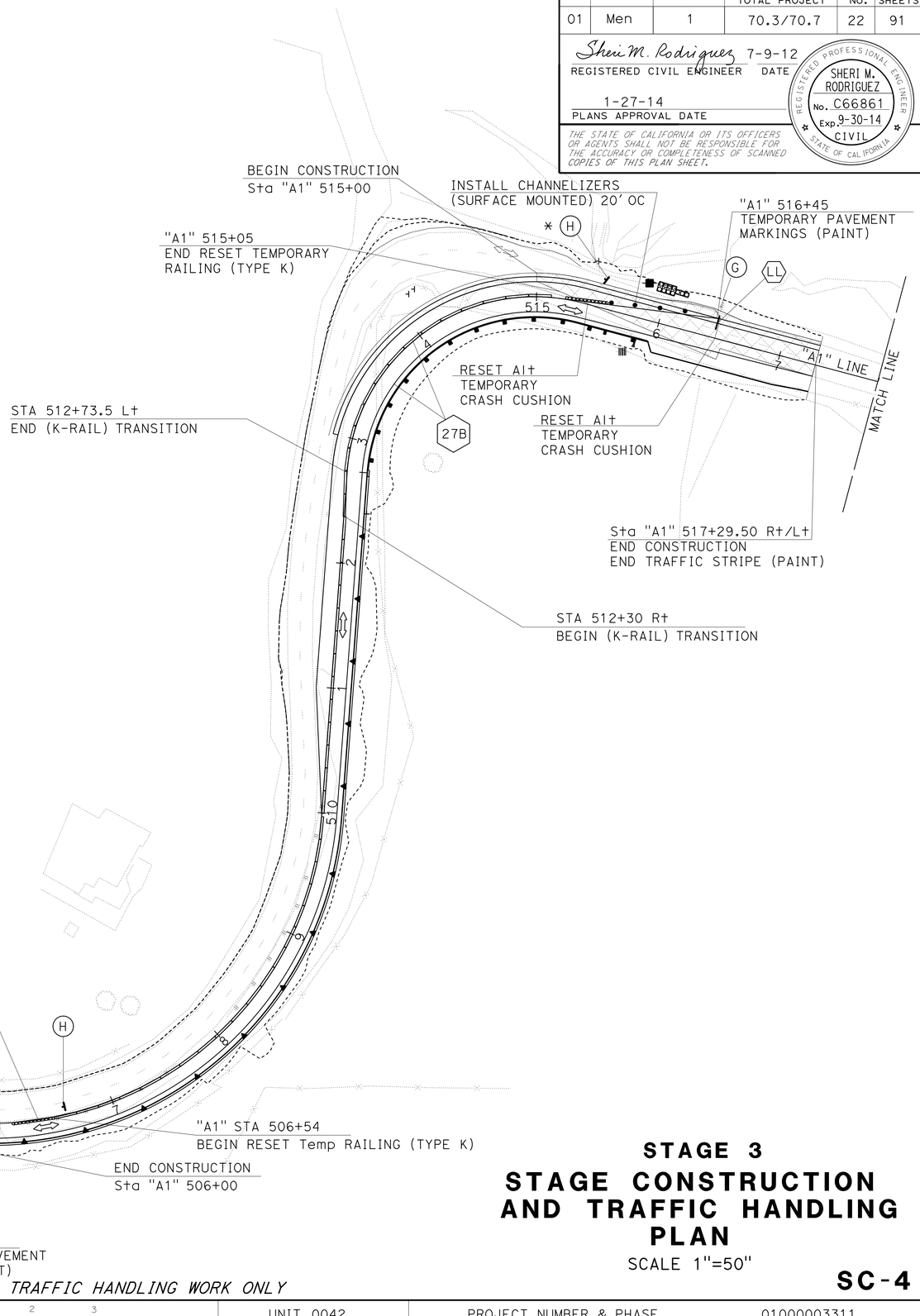
NOTES:
1. UNDER 24/7 TRAFFIC CONTROL, CONSTRUCT NEW STRUCTURE SECTION STA "A1" 499+50 TO 506+00 AND "A1" 515+00 TO 517+29.50.
2. RESET Temp RAILING (TYPE K) AND ALTERNATIVE Temp CRASH CUSHIONS.
3. PERFORM ALL Temp DELINEATION WORK AS REQUIRED.
4. REPLACE Temp SIGNAL SYSTEM DETECTOR LOOPS.
5. USING THE Temp SIGNAL SYSTEM, DETOUR TRAFFIC ONTO NEW NB LANE.

LEGEND

- WORK THIS STAGE
- DIRECTION OF TRAFFIC
- Temp RAILING (TYPE K)
- Temp SIGN
- CHANNELIZER (SURFACE MOUNTED)
- Temp FLASHING BEACON
- RELOCATE CONSTRUCTION AREA SIGN
- TFESA — Temp FENCE (TYPE ESA)



(K-RAIL) TRANSITION



STAGE 3
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN
SCALE 1"=50"

SC-4

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

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MAINTENANCE AND TRAFFIC OPERATIONS
Caltrans
FUNCTIONAL SUPERVISOR: TROY ARSENEAU
CALCULATED-DESIGNED BY: SHERI RODRIGUEZ
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REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 14-APR-2014
12-14-11 | TIME PLOTTED => 11:28

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 01000000331ma004.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0042
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	23	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
SHERI M. RODRIGUEZ
No. C66861
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

NOTES:

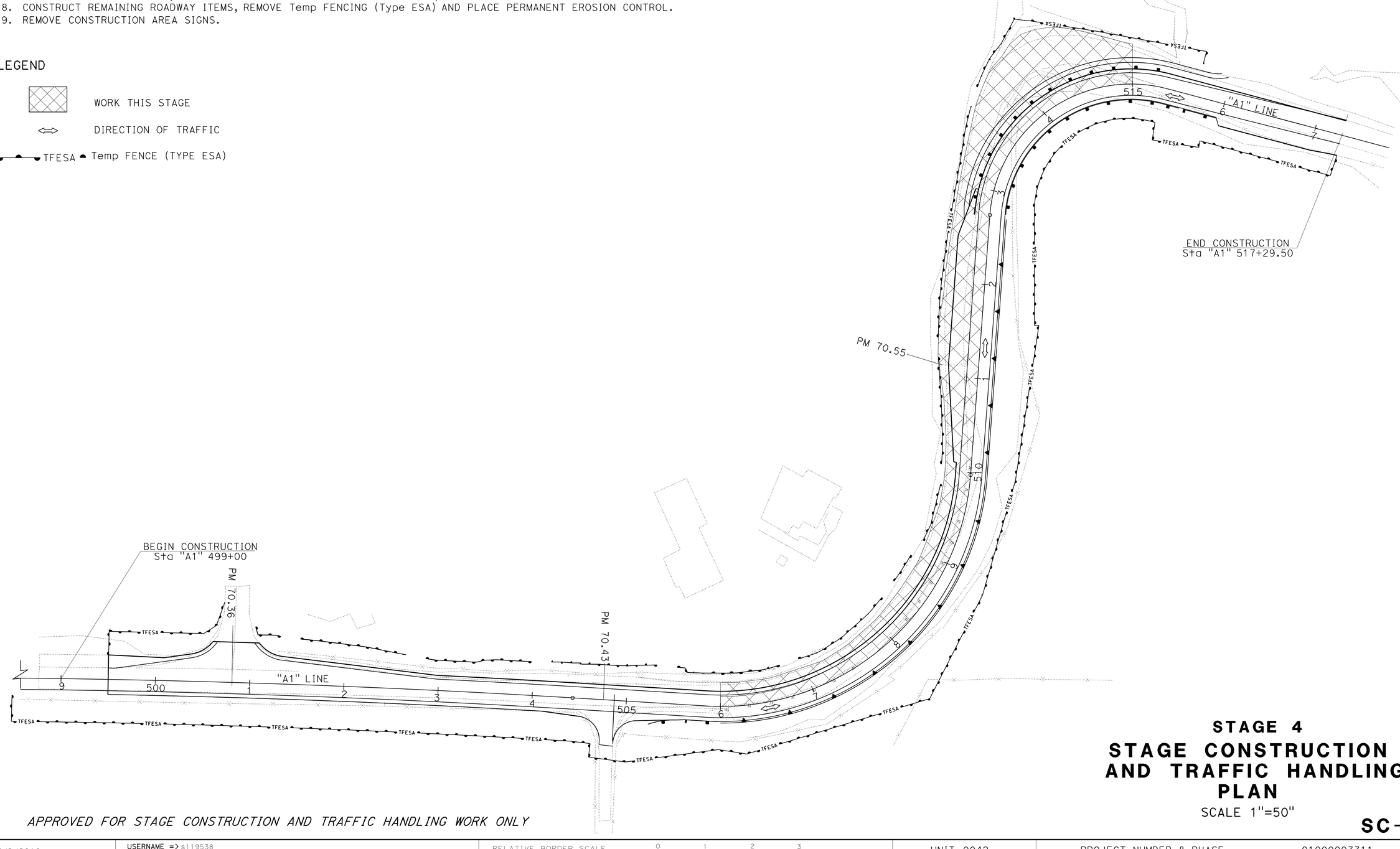
1. COMPLETE CONSTRUCTION OF SB LANE, "A1" STA 506+00 TO 515+00, EXCEPT HMA (OPEN GRADED).
2. ABANDON CULVERT AT PM 70.55 (DRAINAGE SYSTEM No. 1).
3. REMOVE ABANDONED ROADWAY STRUCTURAL SECTIONS.
4. GRADE DITCHS AND SLOPES TO FG.
5. COMPLETE CONSTRUCTION OF MGS.
6. REMOVE Temp ELECTRICAL SYSTEM AND ALL ASSOCIATED SIGNS.
7. PLACE HMA (OPEN GRADED), PERMANENT STRIPING AND INSTALL NEW SIGNS, DELINEATORS & MARKERS.
8. CONSTRUCT REMAINING ROADWAY ITEMS, REMOVE Temp FENCING (Type ESA) AND PLACE PERMANENT EROSION CONTROL.
9. REMOVE CONSTRUCTION AREA SIGNS.

LEGEND

WORK THIS STAGE

DIRECTION OF TRAFFIC

TFESA Temp FENCE (TYPE ESA)



APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STAGE 4
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

SCALE 1"=50"

SC-5

LAST REVISION DATE PLOTTED => 14-APR-2014
02-28-13 TIME PLOTTED => 11:28

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Caltrans

BORDER LAST REVISED 7/2/2010

USERNAME => s119538
DGN FILE => 0100000331ma005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0042

PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	24	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
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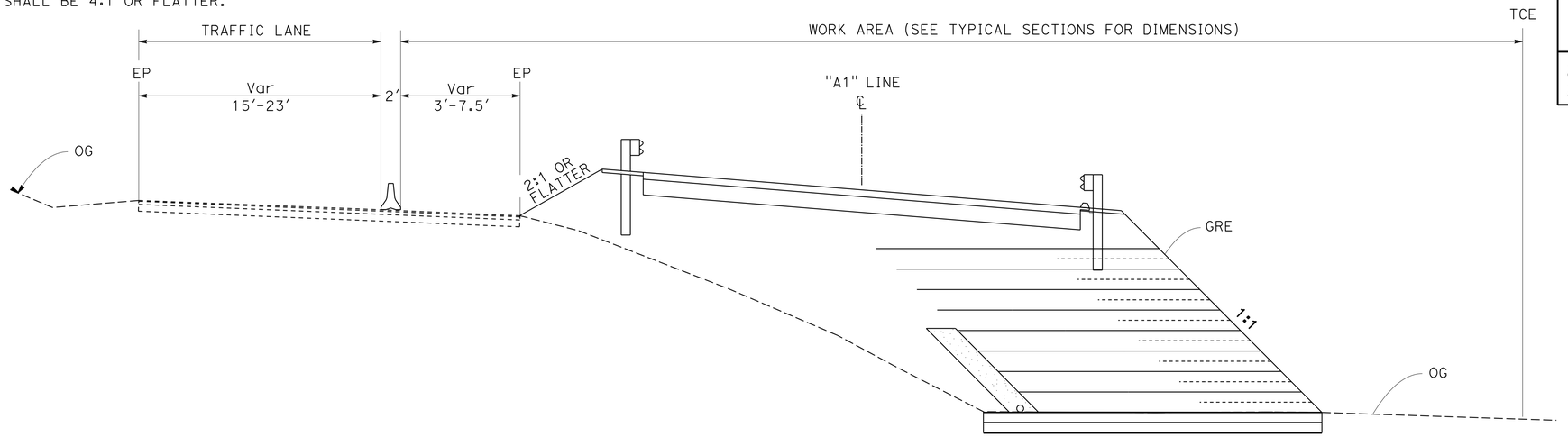
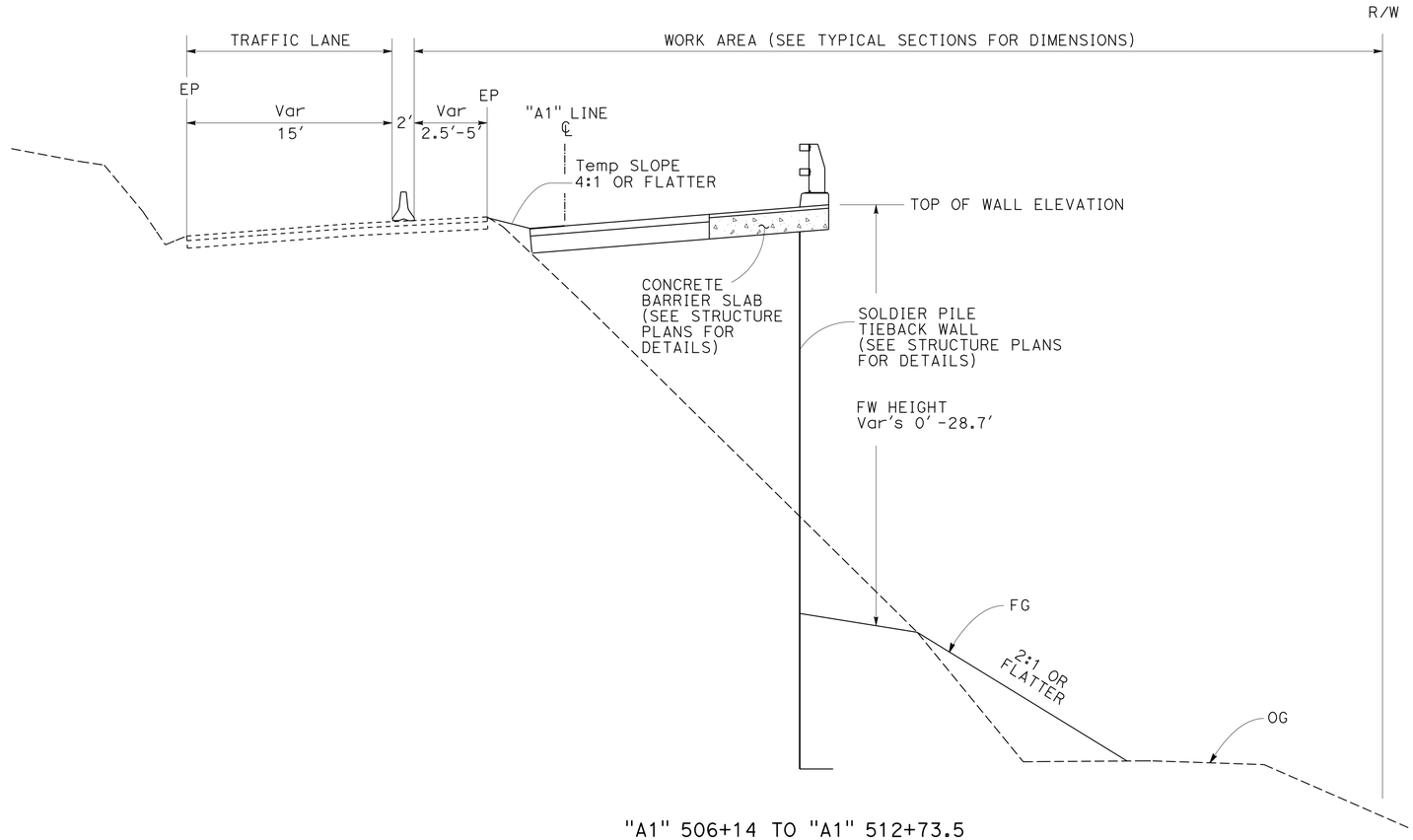
NOTES

1. LOCATIONS WHERE SPACE RESTRICTIONS PROHIBIT FULL-WIDTH CONSTRUCTION OF THE NEW ROADWAY, CONSTRUCT TO AT LEAST THE "A1" LINE.
2. Temp SLOPES SHALL BE 4:1 OR FLATTER.



"A1" 512+73.5 TO "A1" 514+00



"A1" 506+14 TO "A1" 512+73.5

STAGE 2

STAGE CONSTRUCTION AND TRAFFIC HANDLING DETAILS

NO SCALE

SCD-1

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	25	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

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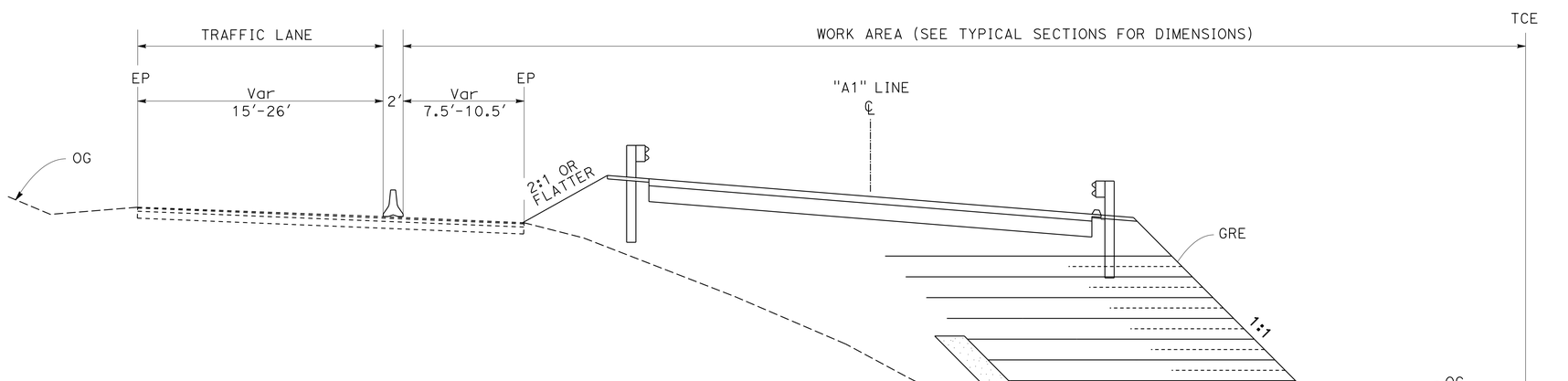

"A1" 514+00 TO "A1" 515+13

STAGE 2

STAGE CONSTRUCTION AND TRAFFIC HANDLING DETAILS

NO SCALE

SCD-2

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE AND TRAFFIC OPERATIONS
Caltrans

FUNCTIONAL SUPERVISOR: TROY ARSENEAU
CALCULATED-DESIGNED BY: SHERI RODRIGUEZ
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REVISED BY	DATE REVISED

LAST REVISION
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:28
12-14-11

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331mb002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0042
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	26	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

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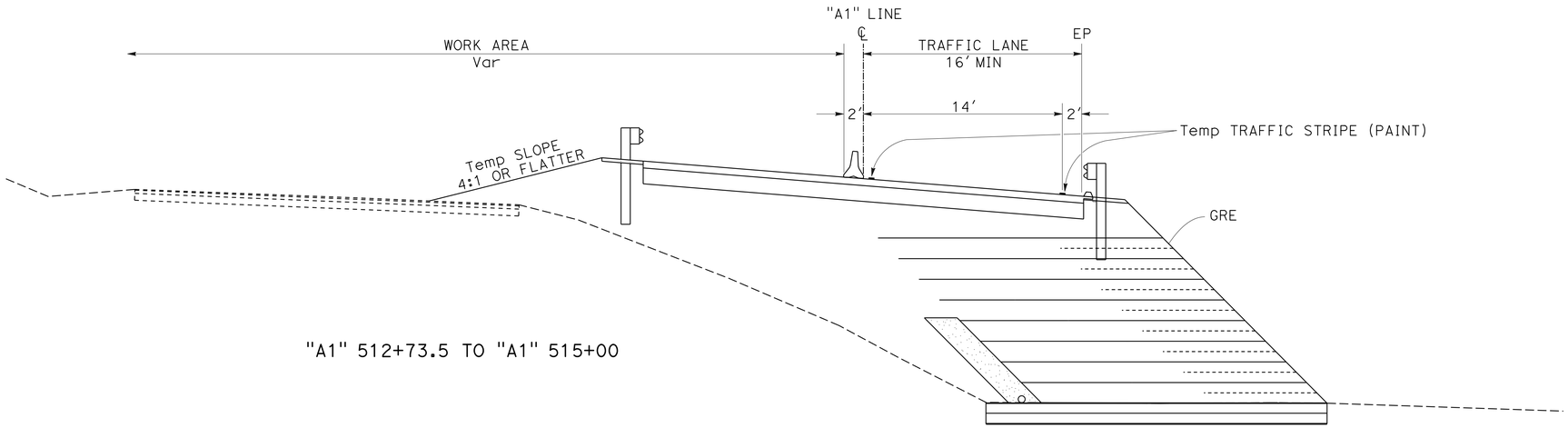
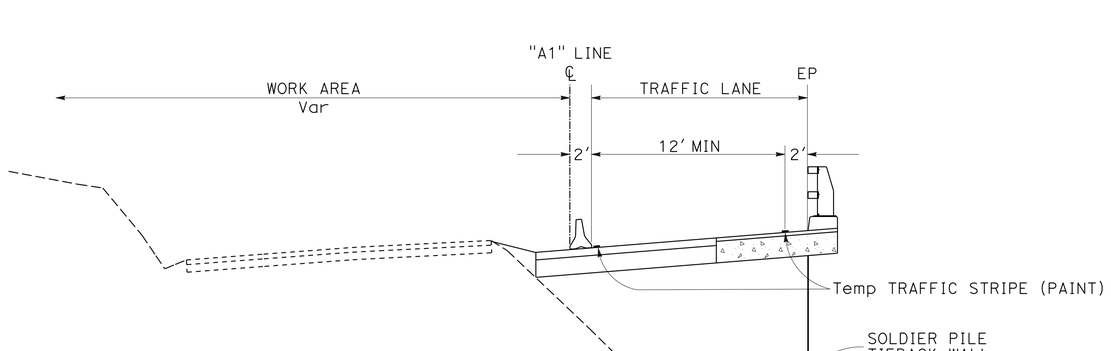


"A1" 512+73.5 TO "A1" 515+00



"A1" 506+14 TO "A1" 512+73.5

STAGE 3

STAGE CONSTRUCTION AND TRAFFIC HANDLING DETAILS

NO SCALE

SCD-3

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

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LAST REVISION | DATE PLOTTED => 14-APR-2014
02-27-13 | TIME PLOTTED => 11:28

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	27	91

Sheri M. Rodriguez 7-9-12
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TEMPORARY PAVEMENT DELINEATION

STAGE	STATION		REMOVE PAVEMENT MARKER	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	TEMPORARY TRAFFIC STRIPE (PAINT)	CHANNELIZER (SURFACE MOUNTED)
	FROM	TO	EA	LF	LF	EA
2	505+27	516+45	94	2236		
	505+27	515+70			1043	
	505+40	505+80				3
3	499+50	517+29.5			3559	
	515+50	516+45				5
		TOTAL	94	2236	4602	8

TEMPORARY PAVEMENT MARKING (PAINT)

STAGE	STATION	L†/R†	DESCRIPTION	SQFT
2	504+65	R†	KEEP	24
	504+80	R†	CLEAR	27
	505+27	R†	LIMIT LINE	12
	516+45	L†	LIMIT LINE	12
3	505+27	R†	LIMIT LINE	12
	516+45	L†	LIMIT LINE	12
			TOTAL	99

TEMPORARY RAILING

STAGE	STATION		TEMPORARY RAILING (TYPE K)	RESET TEMPORARY RAILING (TYPE K)
	FROM	TO	LF	LF
2	506+14	515+13	960	
3	506+54	515+05		851
		TOTAL	960	851

TEMPORARY CRASH CUSHIONS

STAGE	STATION	TEMPORARY CRASH CUSHION MODULE	ALTERNATIVE TEMPORARY CRASH CUSHION	RESET ALTERNATIVE TEMPORARY CRASH CUSHION
		EA	EA	EA
2	505+83		1	
	515+13		1	
	516+00	11		
3	506+20			1
	515+05			1
TOTAL		11	2	2

STAGE CONSTRUCTION QUANTITIES

SCQ-1

REVISED BY | DATE REVISED
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LAST REVISION | DATE PLOTTED => 14-APR-2014
02-27-13 | TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331mc001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0042 | PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	28	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHERI M. RODRIGUEZ
No. C66861
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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NOTES: 1. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY THE ENGINEER.
2. "C" DIM = MINIMUM VERTICAL CLEARANCE EP TO BOTTOM OF SIGN PANEL.

ROADSIDE SIGN

SIGN NUMBER	SIGN CODE	PANEL SIZE INCHES	SIGN MESSAGE	ORIENTATION	"C" DIM IN FEET	METAL (ROADSIDE SIGN) LB	METAL (RAIL MOUNTED SIGN) LB	NUMBER OF POSTS AND SIZE	ROADSIDE SIGN (ONE POST) EA	REMOVE ROADSIDE SIGN (WOOD POST) EA	RELOCATE ROADSIDE SIGN EA
1-1	W1-1L W13-1 (30)	36 X 36 30 X 30	LEFT TURN ADVISORY SPEED							1	
1-2	W1-3 W13-1 (25)	36 X 36 18 X 18	REVERSE TURN ADVISORY SPEED PLAQUE	FNBT	4			1 - 4" X 6"	1		
1-3	W1-6 (L†) OM1-1	48 X 24 18 X 18	ONE-DIRECTION LARGE ARROW YELLOW OBJECT MARKER							1	
1-4	OM-3L	12 X 36	TYPE P OBJECT MARKER	FNBT	3	12.3					
1-5	W1-6 (L†) OM1-3	48 X 24 18 X 18	ONE-DIRECTION LARGE ARROW YELLOW (TYPE 1) OBJECT MARKER	FNBT	4			1 - 4" X 6"	1		
1-6	W1-6 (R†) OM1-3	48 X 24 18 X 18	ONE-DIRECTION LARGE ARROW YELLOW (TYPE 1) OBJECT MARKER	FSBT	4		160				
1-7	EM-1C (CA)	18 X 24	ENTERING TSUNAMI HAZARD ZONE	FNBT	5						1
1-8	OM-3L	12 X 36	TYPE P OBJECT MARKER	FNBT	3	12.3					
1-9	W11-2 W16-9	36 X 36 24 X 12	PEDESTRIAN CROSSING SYMBOL AHEAD	FNBT	4			1 - 4" X 6"	1		
1-10	S32 (CA)	30 X 15	ADOPT-A-HIGHWAY	FNBT	5						1
1-11	EM-1C (CA)	18 X 24	LEAVING TSUNAMI HAZARD ZONE	FSBT	5						1
1-12	W1-1R W13-1 (20)	36 X 36 30 X 30	RIGHT TURN ADVISORY SPEED							1	
1-13	W1-6 (R†) OM1-3	48 X 24 18 X 18	ONE-DIRECTION LARGE ARROW YELLOW (TYPE 1) OBJECT MARKER	FNBT	4			1 - 4" X 6"	1		
1-14	W11-2	36 X 36	PEDESTRIAN CROSSING							1	
1-15	W1-6 (R†) OM1-1	48 X 24 18 X 18	ONE-DIRECTION LARGE ARROW YELLOW OBJECT MARKER							1	
1-16	W1-6 (R†) OM1-1	48 X 24 18 X 18	ONE-DIRECTION LARGE ARROW YELLOW OBJECT MARKER							1	
1-17	W1-6 (L†) OM1-3	48 X 24 18 X 18	ONE-DIRECTION LARGE ARROW YELLOW (TYPE 1) OBJECT MARKER	FSBT	4			1 - 4" X 6"	1		
1-18	S32 (CA)	30 X 15	ADOPT-A-HIGHWAY	FSBT	5						1
1-19	W1-1L W13-1 (20)	36 X 36 30 X 30	LEFT TURN ADVISORY SPEED							1	
1-20	W1-3 W13-1 (25)	36 X 36 18 X 18	REVERSE TURN ADVISORY SPEED PLAQUE	FSBT	4			1 - 4" X 6"	1		
2-1	R28 (CA) (R†)	12 X 18	NO PARKING WITH R† ARROW		5			1 - 4" X 4"	1		
2-2	R28 (CA) (L†)	12 X 18	NO PARKING WITH L† ARROW		5			1 - 4" X 4"	1		
2-3	R99C (CA) R7-8b	12 X 24 12 X 6	ACCESSIBLE PARKING ONLY WITH FINE VAN ACCESSIBLE	FSBT	7			1 - 4" X 4"	1		
					TOTAL	24.6	160		9	7	4

TRAFFIC HANDLING QUANTITIES

THQ-1

REVISED BY | DATE REVISED
SHERI RODRIGUEZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
TROY ARSENEAU
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LAST REVISION | DATE PLOTTED => 14-APR-2014
12-14-11 | TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331mf001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0042
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	29	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHERI M. RODRIGUEZ
No. C66861
Exp. 9-30-14
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STATE OF CALIFORNIA

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FURNISH ROADSIDE SIGN

SIGN CODE	SIGN MESSAGE	PANEL SIZE	PANEL AREA	NO. OF PANELS	BACKGROUND		LEGEND		PROTECTIVE OVERLAY	FURNISH SINGLE SHEET ALUMINUM SIGN (UNFRAMED)	
					SHEETING COLOR	RETROFLECTIVE ASTM TYPE	COLOR	RETROFLECTIVE ASTM TYPE	PREMIUM	0.063"	0.080"
		INCHES	SQ FT							SQFT	SQFT
W1-3	REVERSE TURN	36 X 36	9.00	2	YELLOW	III	BLACK	NA	X	18.00	
W1-6	ONE-DIRECTION LARGE ARROW	48 X 24	8.00	4	YELLOW	III	BLACK	NA	X		32.00
W11-2	PEDESTRIAN CROSSING SYMBOL	36 X 36	9.00	1	YELLOW	III	BLACK	NA	X	9.00	
W13-1 (25)	ADVISORY SPEED PLAQUE	18 X 18	2.25	2	YELLOW	III	BLACK	NA	X	4.50	
W16-9	AHEAD	24 X 12	2.00	1	YELLOW	III	BLACK	NA	X	2.00	
OM1-3	YELLOW (TYPE1) OBJECT MARKER	18 X 18	2.25	4	YELLOW	III	NA	NA	X	9.00	
OM-3L	TYPE P OBJECT MARKER	12 X 36	3.00	2	YELLOW	III	BLACK	NA	X	6.00	
R28 (CA) (L†)	NO PARKING WITH LEFT ARROW	12 X 18	1.50	1	WHITE	II	RED	II	X	1.50	
R28 (CA) (R†)	NO PARKING WITH RIGHT ARROW	12 X 18	1.50	1	WHITE	II	RED	II	X	1.50	
R99C (CA)	ACCESSIBLE PARKING ONLY MINIMUM FINE $250	12 X 24	2.00	1	WHITE	II	BLUE	II	X	2.00	
R7-8b	VAN ACCESSIBLE	12 X 6	0.50	1	WHITE	II	BLUE	II	X	0.50	
									TOTAL	54.00	32.00

TRAFFIC HANDLING QUANTITIES

THQ-2

REVISED BY | DATE REVISED
SHERI RODRIGUEZ
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FUNCTIONAL SUPERVISOR
TROY ARSENEAU
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE AND TRAFFIC OPERATIONS
Caltrans

LAST REVISION | DATE PLOTTED => 14-APR-2014
02-28-13 | TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331mf002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0042
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	30	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

SHERI M. RODRIGUEZ No. C66861 Exp. 9-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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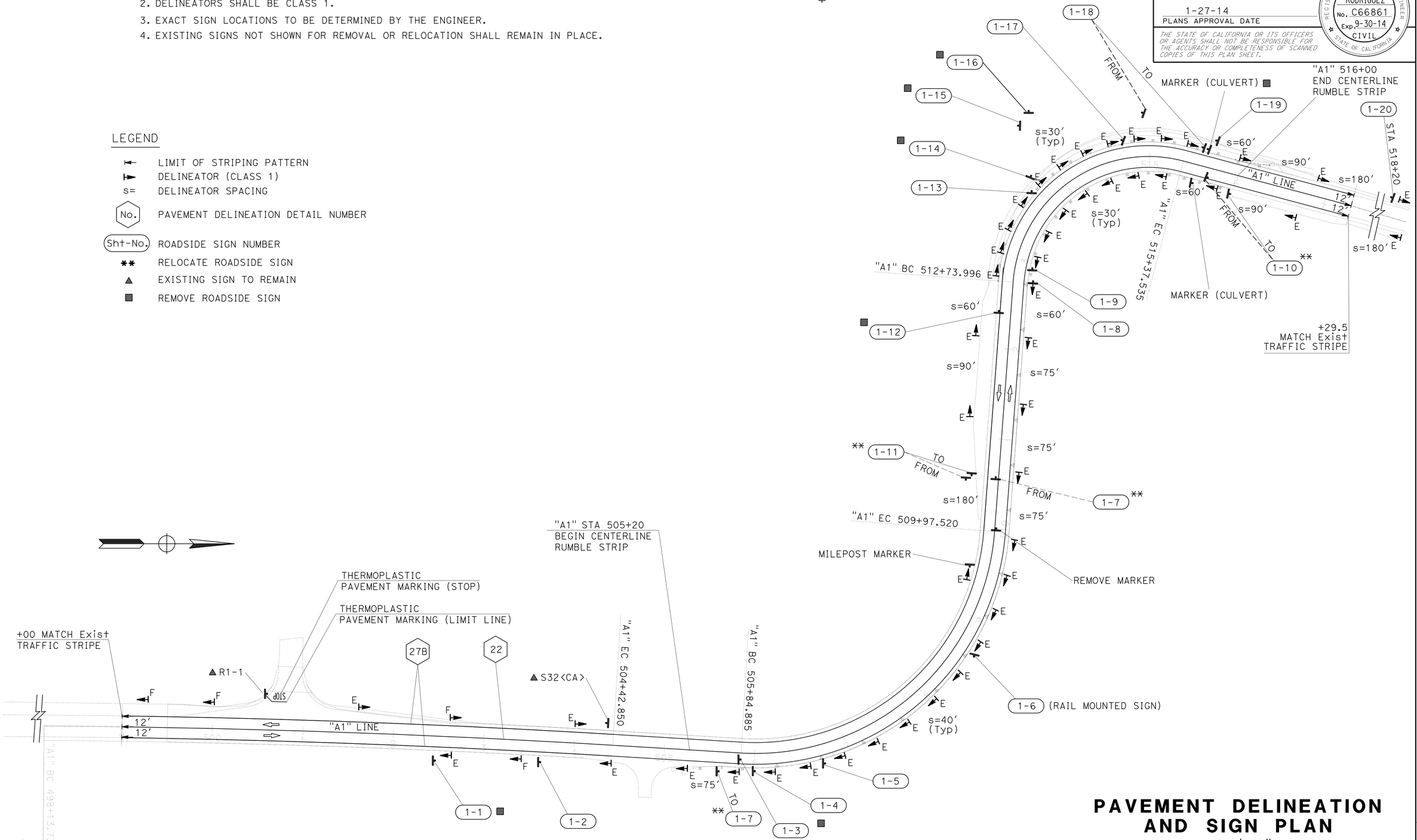
NOTES:

1. LANES SHALL BE 12' WIDE UNLESS OTHERWISE SHOWN.
2. DELINEATORS SHALL BE CLASS 1.
3. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
4. EXISTING SIGNS NOT SHOWN FOR REMOVAL OR RELOCATION SHALL REMAIN IN PLACE.

LEGEND

- LIMIT OF STRIPING PATTERN
- DELINEATOR (CLASS 1)
- s= DELINEATOR SPACING
- (No.) PAVEMENT DELINEATION DETAIL NUMBER
- (Sht-No.) ROADSIDE SIGN NUMBER
- ** RELOCATE ROADSIDE SIGN
- ▲ EXISTING SIGN TO REMAIN
- ■ REMOVE ROADSIDE SIGN



PAVEMENT DELINEATION AND SIGN PLAN

SCALE 1'=50"

PD-1

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE AND TRAFFIC OPERATIONS
Caltrans

FUNCTIONAL SUPERVISOR: TROY ARSENEAU
CALCULATED-DESIGNED BY: SHERI RODRIGUEZ
CHECKED BY:
REVISED BY:
DATE REVISED:

LAST REVISION 12-14-11
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331na001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0042
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	31	91

1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
NASIM HASAN
No. 74083
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

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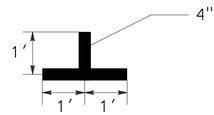
LEGEND

INTERNATIONAL SYMBOL OF ACCESSIBILITY



PARKING STALL MARKING DETAIL

DETAIL A

PAVEMENT DELINEATION AND SIGN DETAIL PLAN

SCALE: 1"=20'

PDD-1

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIV. OF ENGINEERING

FUNCTIONAL SUPERVISOR: ALI KIANI

CALCULATED-DESIGNED BY: CHUCK COOK
CHECKED BY: NASIM HASAN

REVISED BY | DATE REVISED

LAST REVISION: DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29
05-06-13

BORDER LAST REVISED 7/2/2010

USERNAME => s119538
DGN FILE => 0100000331nb001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0308

PROJECT NUMBER & PHASE 01000000331

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	32	91

Sheri M. Rodriguez 7-9-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHERI M. RODRIGUEZ
No. C66861
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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PAVEMENT DELINEATION

STATION		4" THERMOPLASTIC TRAFFIC STRIPE		PAVEMENT MARKER (RETROREFLECTIVE)	
FROM	TO	DETAIL	LF	TYPE	EA
499+00	517+30	22	3660	D	154
499+00	517+30	27B	3660		
		TOTAL	7320		154

THERMOPLASTIC PAVEMENT MARKING

STATION	LT/RT	DESCRIPTION	SQFT
500+80	Lt	LIMIT LINE	25
500+80	Lt	STOP	22
		TOTAL	47

PAINT PAVEMENT MARKING (2-COAT)

DESCRIPTION	COLOR	EA	SQFT
4" PARKING STALL LINES	WHITE		91
	BLUE		38
INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING	WHITE	1	9
	BLUE		14
"NO PARKING" MARKING	WHITE	2	4
		TOTAL	156

DELINEATORS/MARKERS

STATION		DELINEATOR (CLASS 1)		MILEPOST MARKER	MARKER (CULVERT)	REMOVE MARKER	REMARKS
FROM	TO	TYPE	EA	EA	EA	EA	
501+50	518+65	E	48				
490+20	503+40	F	4				
509+56 Lt				1			R70.5
515+55 Rt & Lt					2		70.64
510+00 Rt						1	MILEPOST
		TOTAL	52	1	2	1	

REVISED BY | DATE REVISED
SHERI RODRIGUEZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
TROY ARSENEAU
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE AND TRAFFIC OPERATIONS
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PAVEMENT DELINEATION QUANTITIES

PDQ-1

LAST REVISION 12-14-11
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Men	1	70.3/70.7	33	91

K. C. Lin
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
K. C. LIU
No. C 50291
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

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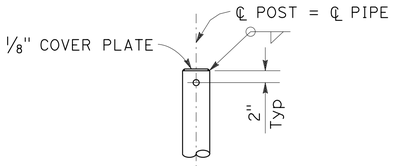


TOP OF POST DETAIL

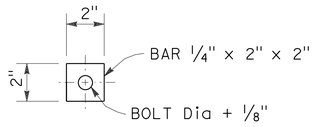
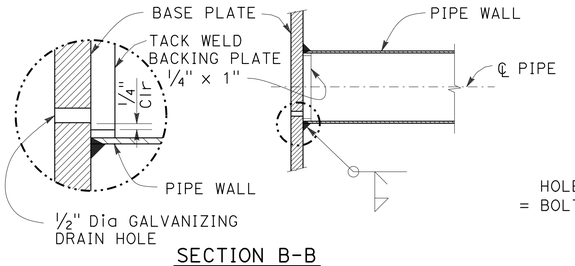
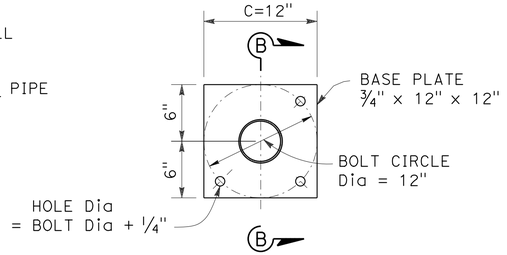


PLATE WASHER
(FOR ALL SLOTTED HOLE)

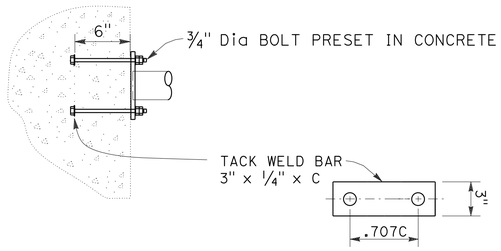


SECTION B-B

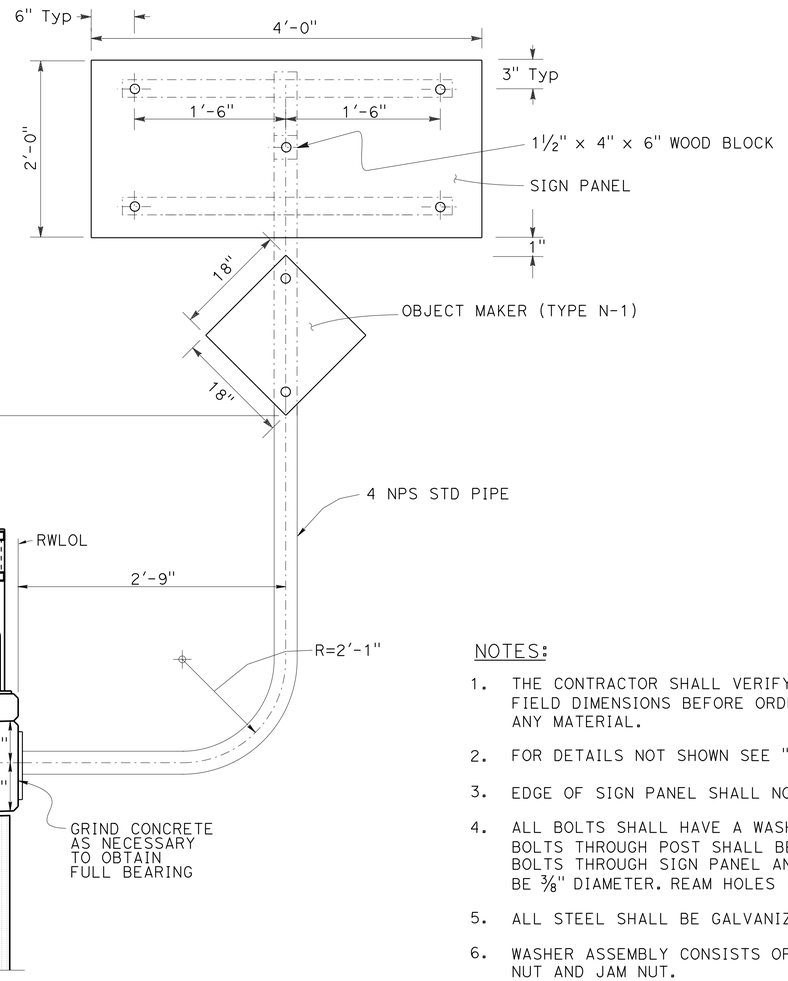


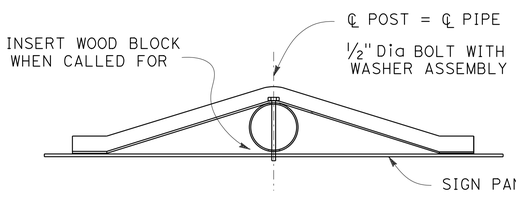
PLAN VIEW

BASE PLATE DETAILS

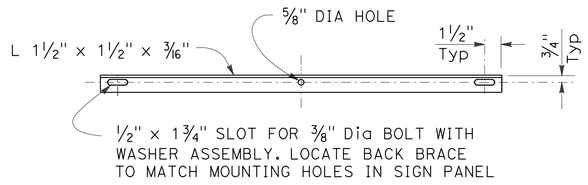


BOLT ANCHORAGE





PLAN



ELEVATION

BACK BRACE DETAILS

NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
2. FOR DETAILS NOT SHOWN SEE "STANDARD PLANS".
3. EDGE OF SIGN PANEL SHALL NOT EXTEND PAST RWLOL.
4. ALL BOLTS SHALL HAVE A WASHER UNDER THE NUT. BOLTS THROUGH POST SHALL BE 1/2" DIAMETER. BOLTS THROUGH SIGN PANEL AND BACK BRACE SHALL BE 3/8" DIAMETER. REAM HOLES IN SIGN AS REQUIRED.
5. ALL STEEL SHALL BE GALVANIZED AFTER FABRICATION.
6. WASHER ASSEMBLY CONSISTS OF TWO OVERSIZE WASHERS, NUT AND JAM NUT.

THIS PLAN ACCURATE FOR SIGN WORK ONLY

BRANCH CHIEF JEFFREY B WOODY

	BY	CHECKED
DESIGN	PYO HONG	K C LIU
DETAILS	A R DUDSAK	K C LIU
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH A

BRIDGE NO.
POST MILE

SIGN DETAILS
BARRIER MOUNTED DETAILS

SDS-1

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0100000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
6/19/12	6/20/12				

FILE => spec_des_br_prj/2012sd/06-0P7801/0100000331ob001.dgn

USERNAME => s119538 DATE PLOTTED => 14-APR-2014 TIME PLOTTED => 11:23

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	34	91

REGISTERED CIVIL ENGINEER — DATE 7-10-12

PLANS APPROVAL DATE 1-27-14

NASIM HASAN No. 74083 Exp. 06-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

ROADWAY QUANTITIES

STATION	COLD PLANE ASPHALT CONCRETE PAVEMENT	REMOVE BASE AND SURFACING	HOT MIX ASPHALT (TYPE A)	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT (OPEN GRADED)	TACK COAT	ROADWAY EXCAVATION	IMPORTED BORROW	SHOULDER BACKING	(N) EMBANKMENT
	SQYD	CY	TON	CY	TON	TON	CY	CY	TON	CY
"A1" 499+00 TO "A1" 499+50	207									
PRIVATE ACCESS "A1" 500+82 Lt	110									
"A1" 498+52 TO "A1" 517+30							4,739			
"A1" 499+00 TO "A1" 515+20					290	2			95	
"A1" 499+00 TO "A1" 517+30			2,569	2,655						
"A1" 506+00 TO "A1" 512+74								2,113		
"A1" 514+00 TO "A1" 515+90		133								
"A1" 500+00 TO "A1" 512+70										5,055
"A1" 500+00 TO "A1" 512+70										
HMA DIKE			7.36							
"A1" 512+73.5 TO "A1" 517+30(GRE)							726			
TOTAL	317	133	2576.4	2,655	290	2	5,465	2,113	95	5,055

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

OVERSIDE DRAIN

STATION	SIDE	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)	12" CORRUGATED STEEL PIPE DOWNDRAIN	12" DOWNDRAIN SLIP JOINT	12" ANCHOR ASSEMBLY	12" ENTRANCE TAPER
	Rt/Lt	SQYD	LF	EA		
"A1" 515+85	Rt	2.5	14	1	1	1

PLACE HMA DIKE

STATION	SIDE	HMA DIKE	
	Rt/Lt	TYPE C	TYPE F
		LF	LF
"A1" 505+10 TO "A1" 505+62	Rt	52	
"A1" 512+74 TO "A1" 515+57.5	Rt		283
"A1" 515+95 TO "A1" 517+29.5	Rt		134
"A1" 515+93 TO "A1" 516+57	Lt	65	
"A1" 515+57.5 TO "A1" 515+95	Rt	38	
TOTAL		155	417

CENTERLINE RUMBLE STRIP

STATION	STATION
505+20 TO 516+00	11
TOTAL	11

MGS

STATION	SIDE	LAYOUT TYPE	REMOVE METAL BEAM GUARD RAILING	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	ALTERNATIVE FLARED TERMINAL SYSTEM	TRANSITION RAILING (TYPE WB-31)	END CAP (TYPE TC)	VEGETATION CONTROL (MINOR CONCRETE)
	Rt/Lt		LF		EA				SQYD
"A1" 505+25 TO "A1" 506+00	Rt	12B		12.5		1	1	1	40
"A1" 505+88 TO "A1" 507+60			173						
"A1" 508+14 TO "A1" 509+58			141						
"A1" 509+75 TO "A1" 510+16			41						
"A1" 512+74 TO "A1" 515+95	Rt	12AA		231	1		1	1	97
"A1" 512+73 TO "A1" 516+31	Lt	11H		309	1	1			136
TOTAL			355	552.5	2	2	2	2	273

GEOSYNTHETIC REINFORCED EMBANKMENT QUANTITIES

STATION	GEOSYNTHETIC REINFORCED EMBANKMENT	8" PERFORATED PLASTIC PIPE UNDERDRAIN (DEEP)	8" PLASTIC PIPE	CLASS 1 PERMEABLE MATERIAL	(N) BASE REINFORCEMENT	(N) PRIMARY REINFORCEMENT	(N) SECONDARY REINFORCEMENT	(N) FILTER FABRIC
	CY	LF	LF	CY	SQFT	SQFT	SQFT	SQFT
"A1" 512+74 TO "A1" 517+30	1,610	456	30	192	8,689	28,353	8,344	7,743
SEASIDE RETAINING WALL				268				
GRAND TOTAL				*460				

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

* SEE GENERAL PLAN FOR SEASIDE RETAINING WALL

REMOVE FENCE (TYPE WM) AND GATE

STATION	SIDE	FENCE	GATE
	Rt/Lt	LF	EA
"A1" 498+47 TO "A1" 504+70	Rt	650	
"A1" 504+92 TO "A1" 517+30	Rt	1390	
"A1" 514+33	Rt		1
"A1" 501+29 TO "A1" 505+09	Lt	380	
TOTAL		2,420	1

REVISED BY | DATE REVISED

NASIM HASAN | DAVID ROBERTS

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: ALI KIANI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

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12-14-11 | TIME PLOTTED => 11:29

SUMMARY OF QUANTITIES

Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	35	91

LICENSED LANDSCAPE ARCHITECT

1-27-14
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT
James S. Hibbert III
Signature
5/31/15
Renewal Date
1/20/14
Date
STATE OF CALIFORNIA

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EROSION CONTROL TYPE 1

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	REMARKS
		DESCRIPTION	TYPE		
STEP 1	FIBER ROLLS	FIBER ROLL	TYPE B 8" to 10" Dia	--	TYPE 1 Fiber Roll Installation
STEP 2	COMPOST	COMPOST	MEDIUM	135 CY/ACRE	--
STEP 3	HYDROSEED	SEED	MIX 1	93 LB/ACRE	--
		FIBER	COMBINATION	2000 LB/ACRE	--
STEP 4	STRAW	STRAW	RICE	2 TONS/ACRE	--
STEP 5	HYDROMULCH	TACKIFIER	PSYLLIUM	150 LB/ACRE	--
		FIBER	COMBINATION	2000 LB/ACRE	--

EROSION CONTROL TYPE 3

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	REMARKS
		DESCRIPTION	TYPE		
STEP 1	BONDED FIBER MATRIX	FIBER	PER SPECIFICATION	4500 LB/ACRE	APPLICATION RATE IS FOR FIBER AND TACHIFIER COMBINED
		TACKIFIER			
STEP 2	BONDED FIBER MATRIX	FIBER	PER SPECIFICATION	600 LB/ACRE	
		TACKIFIER			
		SEED	MIX 1	93 LB/ACRE	
STEP 3	RECP (NETTING)	RECP (NETTING)	TYPE B	--	--
STEP 4	BONDED FIBER MATRIX	FIBER	PER SPECIFICATION	4500 LB/ACRE	APPLICATION RATE IS FOR FIBER AND TACHIFIER COMBINED
		TACKIFIER			
STEP 5	BONDED FIBER MATRIX	FIBER	PER SPECIFICATION	600 LB/ACRE	
		TACKIFIER			
		SEED	MIX 1	93 LB/ACRE	--
STEP 6	FIBER ROLLS	FIBER ROLL	TYPE B 8" to 10" Dia	--	TYPE 2 Fiber Roll Installation

EROSION CONTROL TYPE 2

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	REMARKS
		DESCRIPTION	TYPE		
STEP 1	COMPOST	COMPOST	MEDIUM	540 CY/ACRE	TO A DEPTH OF 4"
STEP 2	INCORPORATE MATERIALS	COMPOST	--	--	TO A DEPTH OF 12"
STEP 3	FIBER ROLLS	FIBER ROLL	TYPE B 8" to 10" Dia	--	TYPE 1 Fiber Roll Installation
STEP 4	COMPOST	COMPOST	MEDIUM	540 CY/ACRE	135 CY/ACRE
STEP 5	HYDROSEED	SEED	MIX 1	93 LB/ACRE	--
		FIBER	COMBINATION	2000 LB/ACRE	--
STEP 6	HYDROMULCH	TACKIFIER	PSYLLIUM	150 LB/ACRE	--
		FIBER	COMBINATION	2000 LB/ACRE	--

SEED (MIX 1)

SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX 1	AGROSTIS EXERATA BENTGRASS	80	3
	BROMUS MARITIMUS CALIFORNIA BROME, COASTAL	70	22
	DANTHONIA CALIFORNICA CALIFORNIA OATGRASS	80	14
	DESCHAMPSIA CESPITOSA, NATIVE TUFTED HAIRGRASS, NATIVE	70	18
	FESTUCA RUBRA RED FESCUE	70	28
	LUPINUS BICOLOR (INNOCULATED) PYGMY-LEAF LUPINE	75	8

EROSION CONTROL QUANTITIES

SHEET	LOCATION			DESCRIPTION	FIBER ROLL	COMPOST	HYDROSEED	STRAW	HYDROMULCH	BONDED FIBER MATRIX	RECP (NETTING) TYPE B	INCORPORATE MATERIALS
	STATION	L†	R†		LF	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT	SQFT
EC SHEETS	"A" 498+90 TO 504+90		X	EROSION CONTROL TYPE 1	--	8,500	8,500	8,500	8,500	--	--	--
	"A" 499+50 TO 513+25	X		EROSION CONTROL TYPE 1	--	15,500	15,500	15,500	15,500	--	--	--
	"A" 504+95 TO 506+00		X	EROSION CONTROL TYPE 1	100	1,500	1,500	1,500	1,500	--	--	--
	"A" 506+00 TO 517+30		X	EROSION CONTROL TYPE 3	650	--	--	--	--	15,000	15,000	--
	"A" 512+75 TO 517+30	X		EROSION CONTROL TYPE 1	--	2,500	2,500	2,500	2,500	--	--	--
	"A" 513+30 TO 515+95	X		EROSION CONTROL TYPE 2	250	9,000	9,000	--	9,000	--	--	9,000
				TOTAL	1,000	37,000	37,000	28,000	37,000	15,000	15,000	9,000

EROSION CONTROL LEGEND AND QUANTITIES
ECL-1

LAST REVISION 03-19-13
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29

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Caltrans

JIM HIBBERT — REVISED BY — DATE REVISED 00/00/00
CALCULATED-DESIGNED BY — CHECKED BY
SENIOR LANDSCAPE ARCHITECT — RON FLORY

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331tc001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 010000003311

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01	Men	1	70.3/70.7	36	91

LICENSED LANDSCAPE ARCHITECT

1-27-14
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT
James S Hibbert III
Signature
5/31/15
Renewal Date
1/20/14
Date
STATE OF CALIFORNIA

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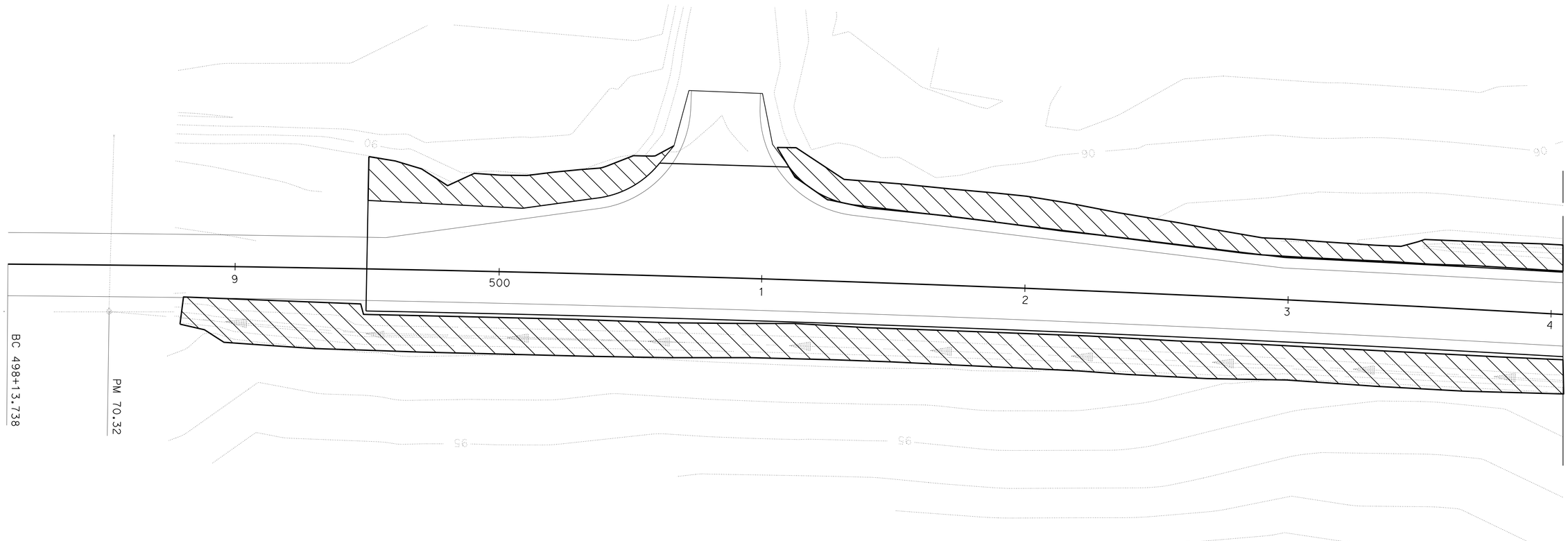

LEGEND:

- EROSION CONTROL TYPE 1
- EROSION CONTROL TYPE 2
- EROSION CONTROL TYPE 3
- FR FIBER ROLL

EROSION CONTROL PLAN
EC-1

	REVISED BY	DATE REVISED
		00/00/00

CALCULATED-DESIGNED BY: JIM HIBBERT
CHECKED BY: DAVID ROBERTS

SENIOR LANDSCAPE ARCHITECT: RON FLORY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	37	91

LICENSED LANDSCAPE ARCHITECT

1-27-14
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.

LICENSED LANDSCAPE ARCHITECT
James S Hibbert III LA 5736
Expiration Date
5/31/15
Renewal Date
1/20/14
Date
STATE OF CALIFORNIA

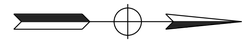
LEGEND:

EROSION CONTROL TYPE 1

EROSION CONTROL TYPE 2

EROSION CONTROL TYPE 3

FR FIBER ROLL



EROSION CONTROL PLAN
EC-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CALCULATED-DESIGNED BY	JIM HIBBERT	00/00/00
Caltrans	CHECKED BY	DAVID ROBERTS	REVISED BY / DATE REVISED
SENIOR LANDSCAPE ARCHITECT			
RON FLORY			

LAST REVISION 03-19-13
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010

USERNAME => s119538
DGN FILE => 0100000331te002.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 01000003311

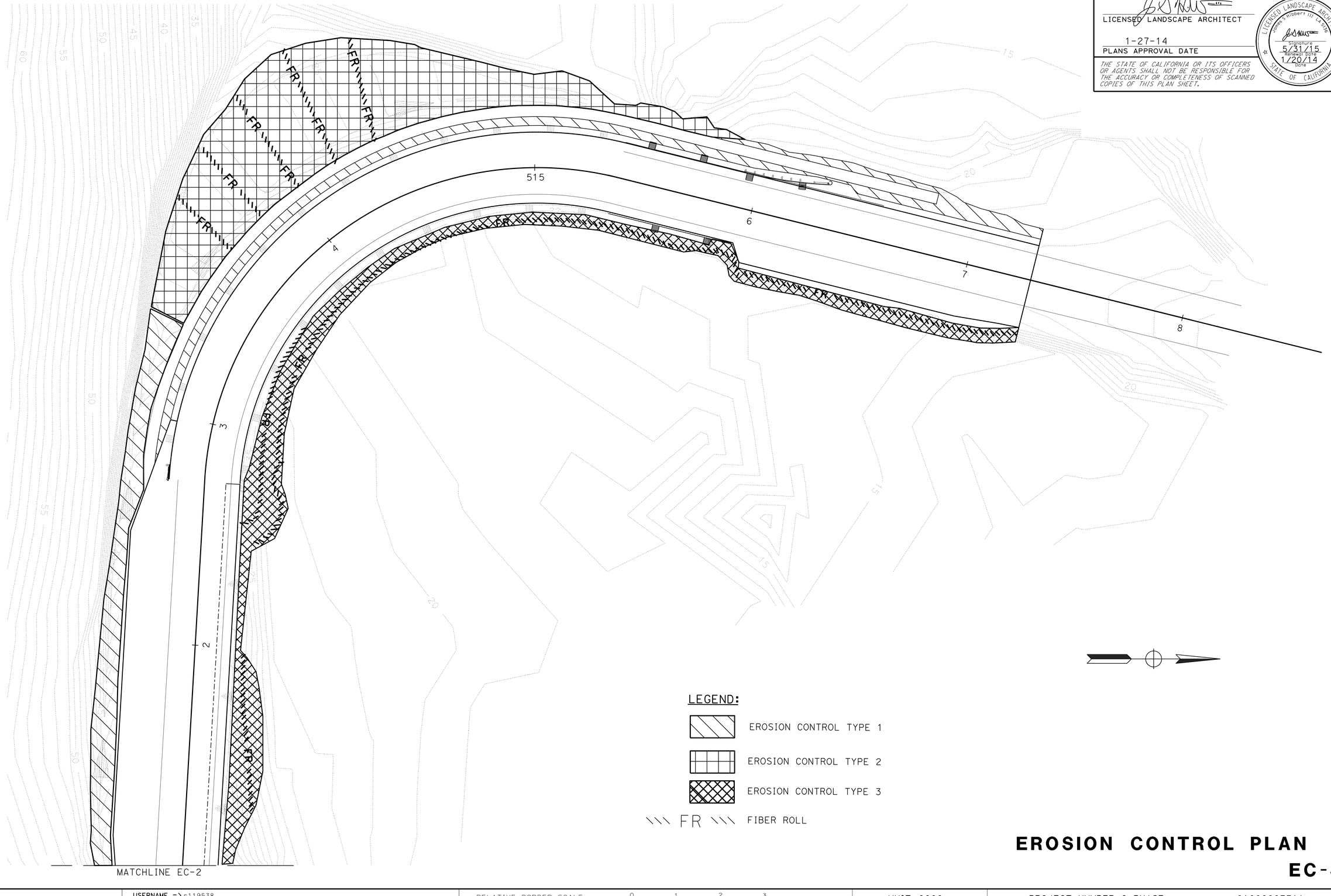
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	38	91

LICENSED LANDSCAPE ARCHITECT

1-27-14
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT
James S Hibbert III L.A. 5736
Signature
5/31/15
Renewal Date
1/20/14
Date
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.



LEGEND:

- EROSION CONTROL TYPE 1
- EROSION CONTROL TYPE 2
- EROSION CONTROL TYPE 3
- FR FIBER ROLL

EROSION CONTROL PLAN

EC-3

REVISED BY	JIM HIBBERT	CALCULATED-DESIGNED BY
DATE REVISED	DAVID ROBERTS	CHECKED BY
00/00/00	RON FLORY	SENIOR LANDSCAPE ARCHITECT

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 03-19-13
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331te003.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 01000003311

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	39	91

Brian T. Finck 7-24-12
REGISTERED ELECTRICAL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
BRIAN T. FINCK
No. 17756
Exp 6-30-14
CIVIL
STATE OF CALIFORNIA

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

NOTE:

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

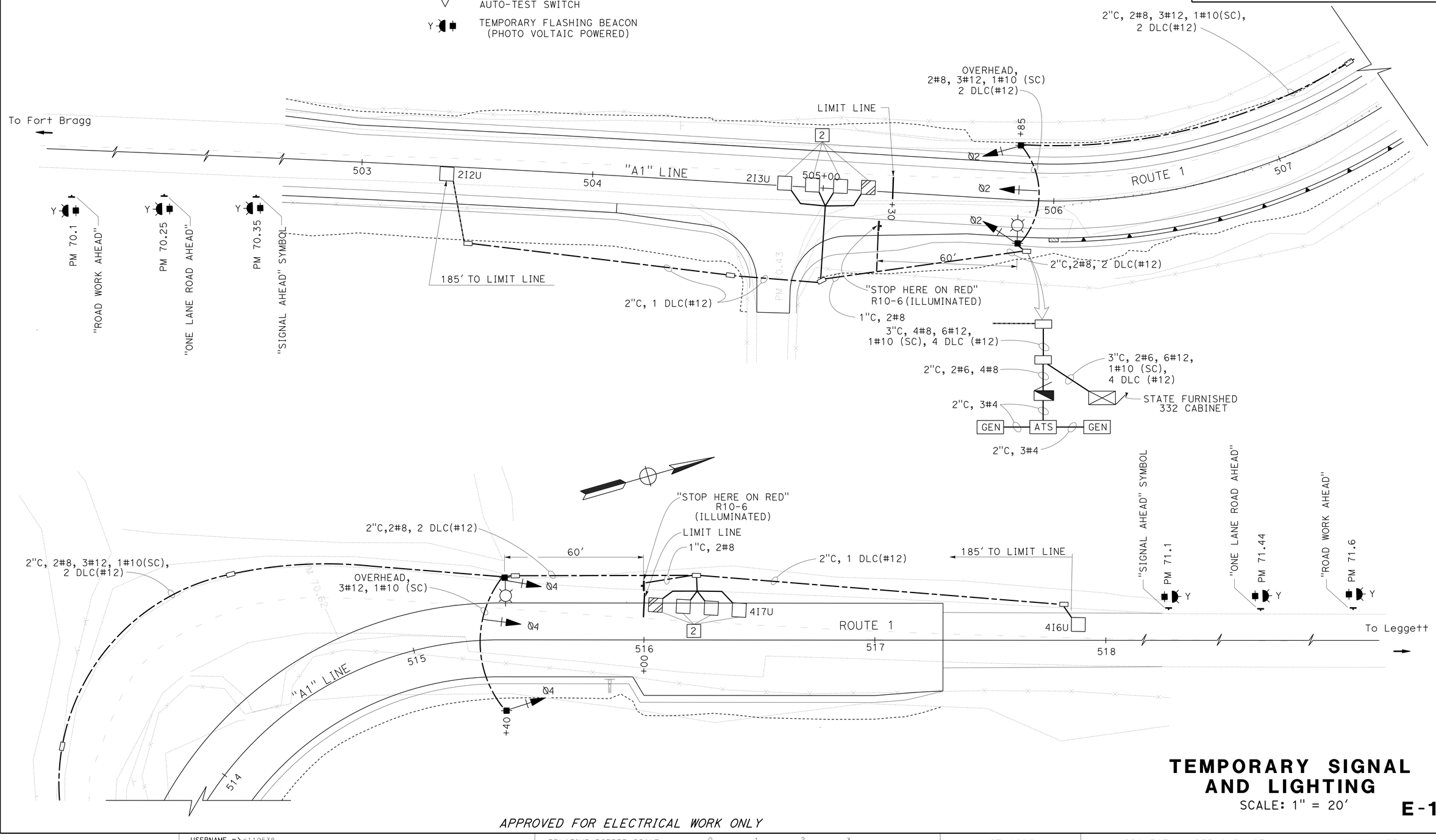
2. REPLACE Temp SIGNAL SYSTEM DETECTOR LOOPS DURING STAGE 3 CONSTRUCTION.

LEGEND

(SC)	SIGNAL COMMON
ATS	AUTOMATIC TRANSFER SWITCH
GEN	GENERATOR
C	CONTACTOR
▽	AUTO-TEST SWITCH
Y	TEMPORARY FLASHING BEACON (PHOTO VOLTAIC POWERED)

PHASE DIAGRAM

→	←
Ø2	Ø4



TEMPORARY SIGNAL AND LIGHTING

SCALE: 1" = 20'

E-1

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: BRIAN FINCK
CHECKED BY: WILLIAM BARTLEY
FUNCTIONAL SUPERVISOR: TROY ARSENEAU

LAST REVISION 00-00-00
DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010
USERNAME => s119538
DGN FILE => 0100000331ua001.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0333
PROJECT NUMBER & PHASE 0100000331

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	40	91

Brian T. Finck 7-24-12
REGISTERED ELECTRICAL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — BRIAN T. FINCK No. 17756 Exp 6-30-14 CIVIL — STATE OF CALIFORNIA

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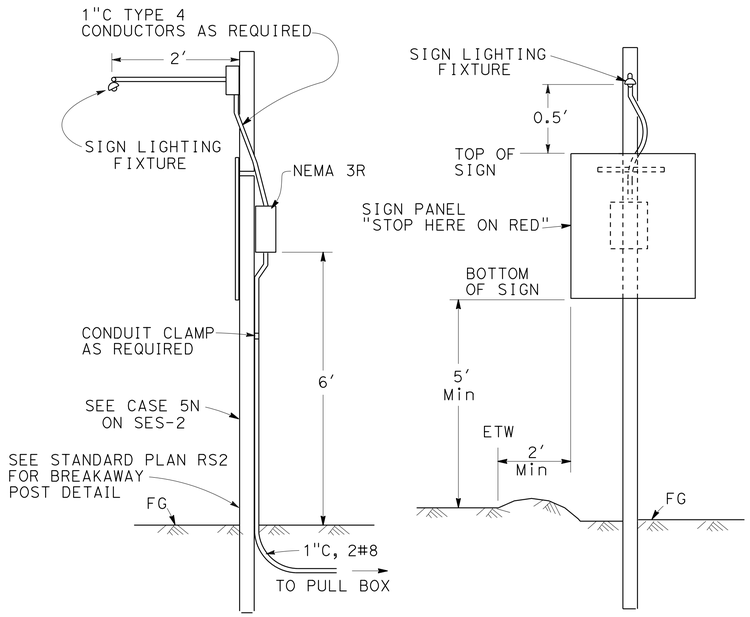
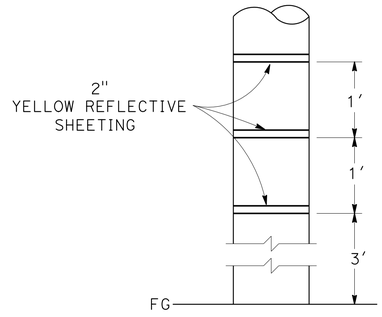
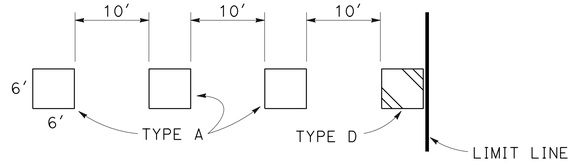


SIDE VIEW FRONT VIEW

TYPICAL SIGN ILLUMINATION

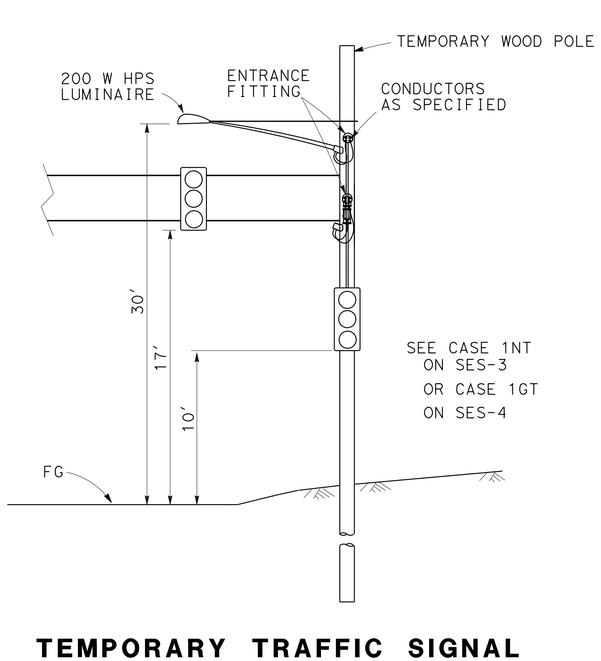


REFLECTIVE MARKING FOR WOOD POLE



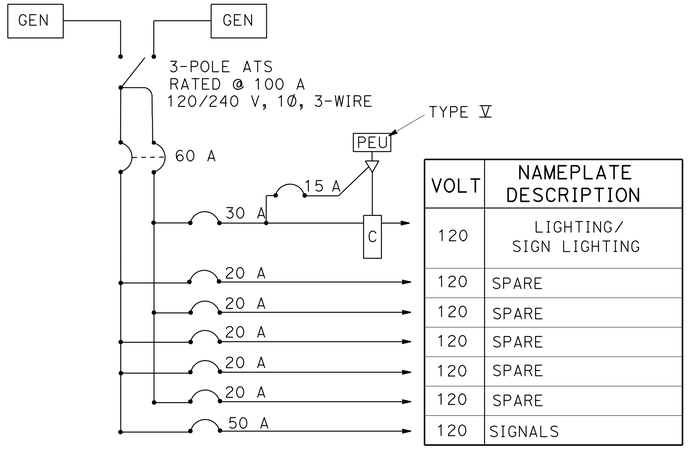
* SEE NOTE 2 ON SHEET E-1

TYPICAL LOOP DETAIL



TEMPORARY TRAFFIC SIGNAL

SEE SES SHEETS FOR DETAILS



VOLT	NAMEPLATE DESCRIPTION
120	LIGHTING/ SIGN LIGHTING
120	SPARE
120	SPARE
120	SPARE
120	SPARE
120	SPARE
120	SIGNALS

SERVICE WIRING DIAGRAM

TYPE III-AF SERVICE EQUIPMENT ENCLOSURE

APPROVED FOR ELECTRICAL WORK ONLY

TEMPORARY SIGNAL AND LIGHTING (DETAILS)

NO SCALE

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING
FUNCTIONAL SUPERVISOR: TROY ARSENEAU
CALCULATED-DESIGNED BY: BRIAN FINCK
CHECKED BY: WILLIAM BARTLEY
REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 14-APR-2014
00-00-00 | TIME PLOTTED => 11:29

BORDER LAST REVISED 7/2/2010 | USERNAME => s119538 | DGN FILE => 0100000331ua002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0333 | PROJECT NUMBER & PHASE 0100000331

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	41	91

Brian T. Finck 7-24-12
REGISTERED ELECTRICAL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

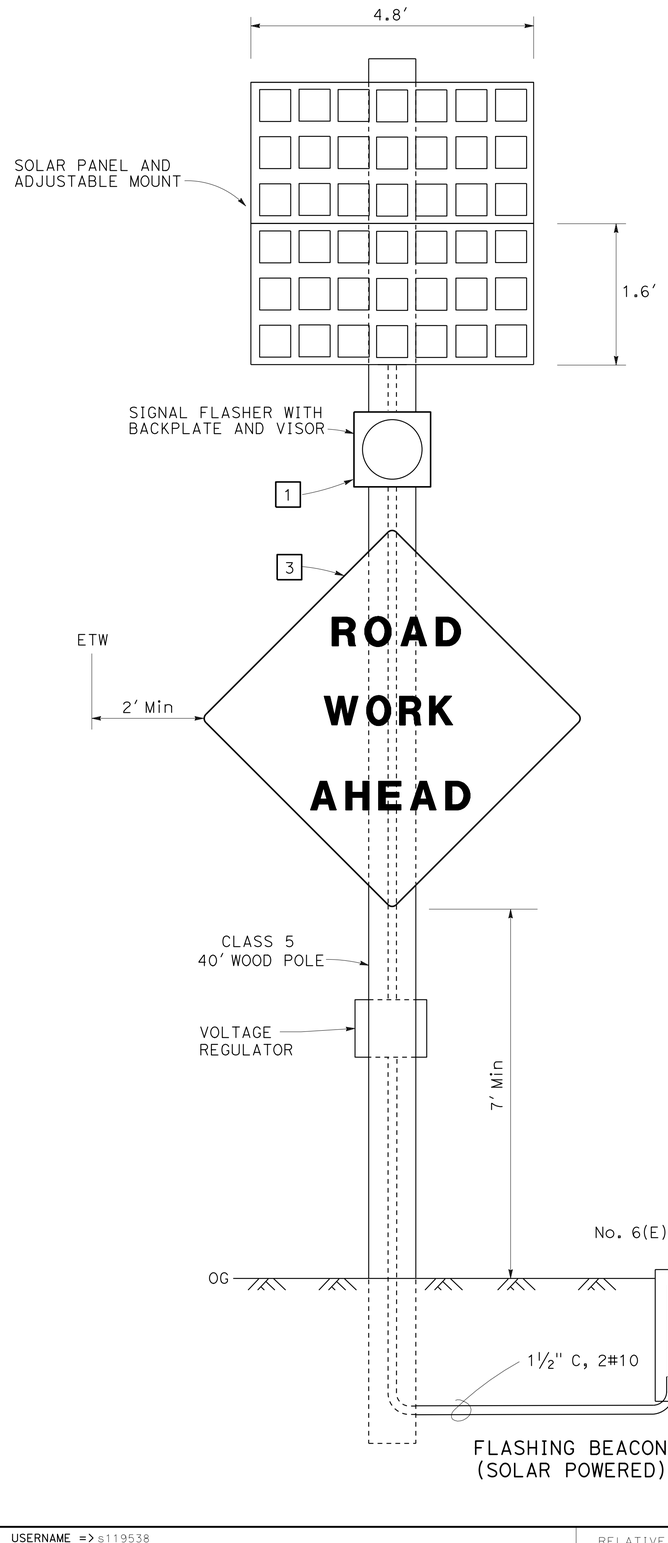
REGISTERED PROFESSIONAL ENGINEER
BRIAN T. FINCK
No. 17756
Exp 6-30-14
CIVIL
STATE OF CALIFORNIA

LEGEND:

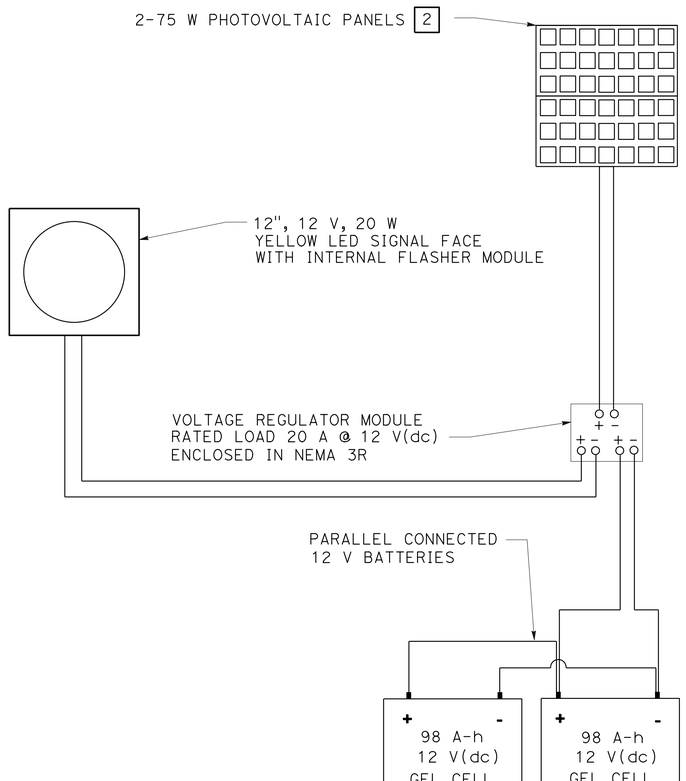
A-h = AMPERE HOUR

NOTES: (THIS SHEET ONLY)

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



FLASHING BEACON (SOLAR POWERED)



CONNECTION DIAGRAM

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

(DETAILS) TEMPORARY PORTABLE SIGNAL SYSTEM E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DIVISION OF ENGINEERING

BRIAN FINCK	CALCULATED-DESIGNED BY
WILLIAM BARTLEY	CHECKED BY
TROY ARSENEAU	FUNCTIONAL SUPERVISOR
	REVISED BY
	DATE REVISED

LAST REVISION DATE PLOTTED => 14-APR-2014
TIME PLOTTED => 11:29
00-00-00

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
Mtl	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

Oblr	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 Mtl	PERMEABLE MATERIAL

P continued

PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
℄,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
℄	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
Tel	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	1	70.3/70.7	42	91

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 1-27-14

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
kip	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.

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

6-7-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	43	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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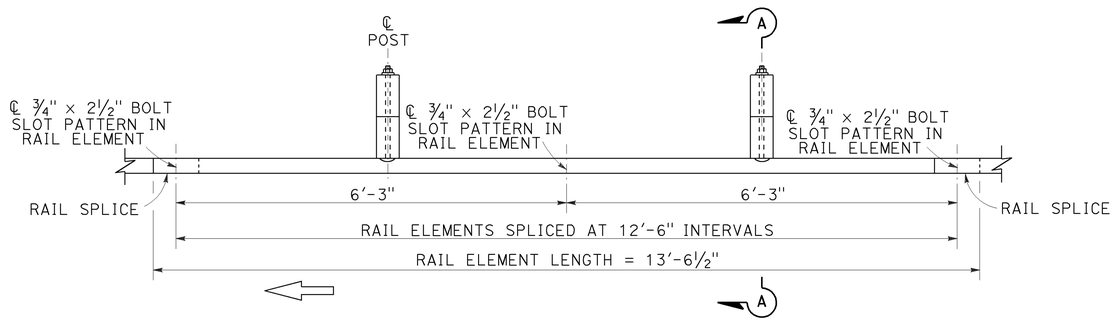
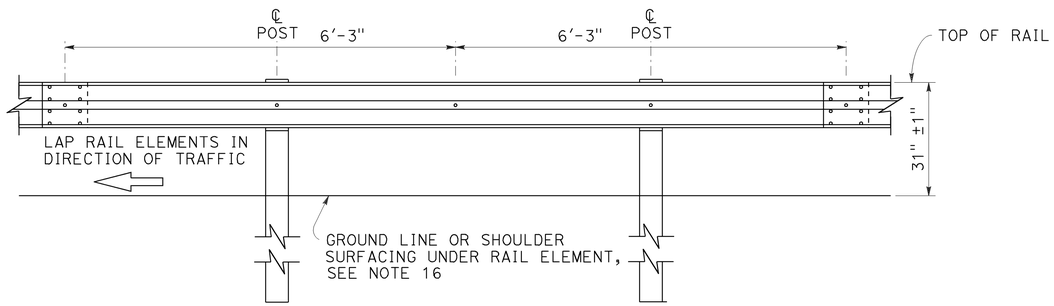
TO ACCOMPANY PLANS DATED 1-27-14

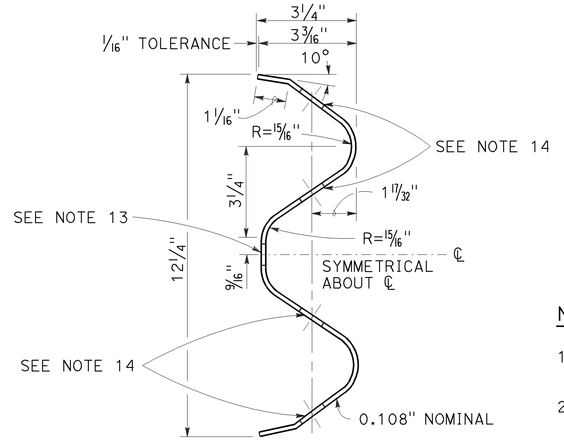


PLAN

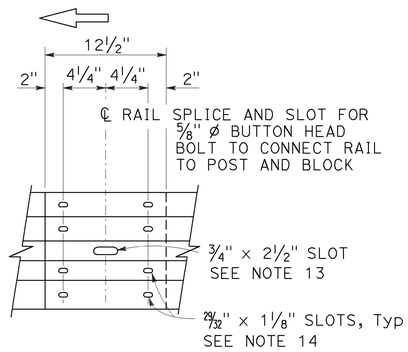


ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



SECTION THRU RAIL ELEMENT



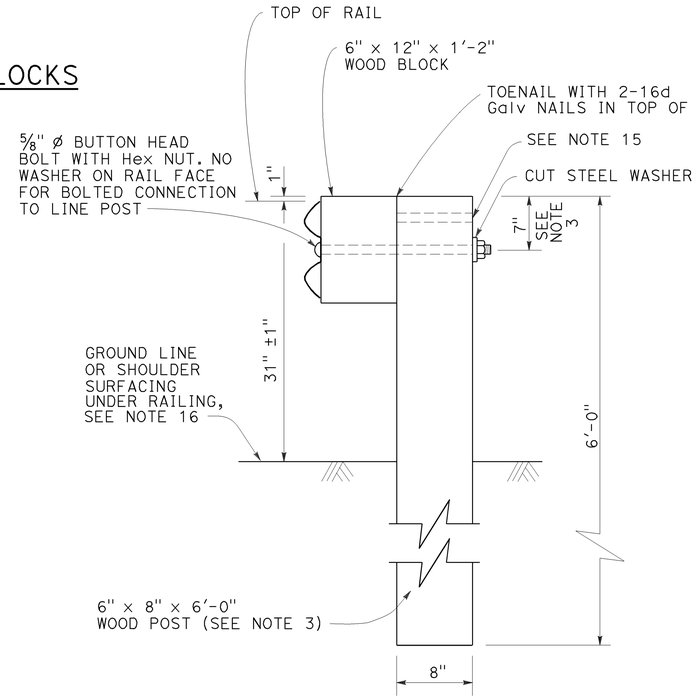
ELEVATION

RAIL ELEMENT SPLICE DETAIL

a) Connect the over lapped end of the rail elements with ⅝" ø x 1⅜" button head oval shoulder splice bolts inserted into the 29/32" x 1⅛" slots and bolted together with ⅝" ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.

b) The ends of the rail elements are to be overlapped in the direction of traffic (see details).

c) Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION A-A

TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

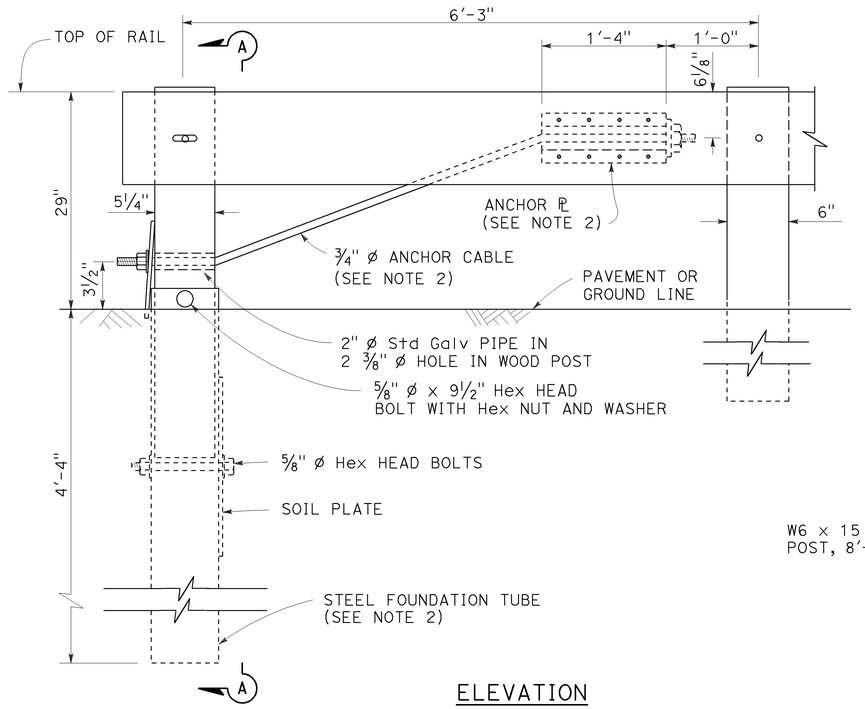
NO SCALE

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

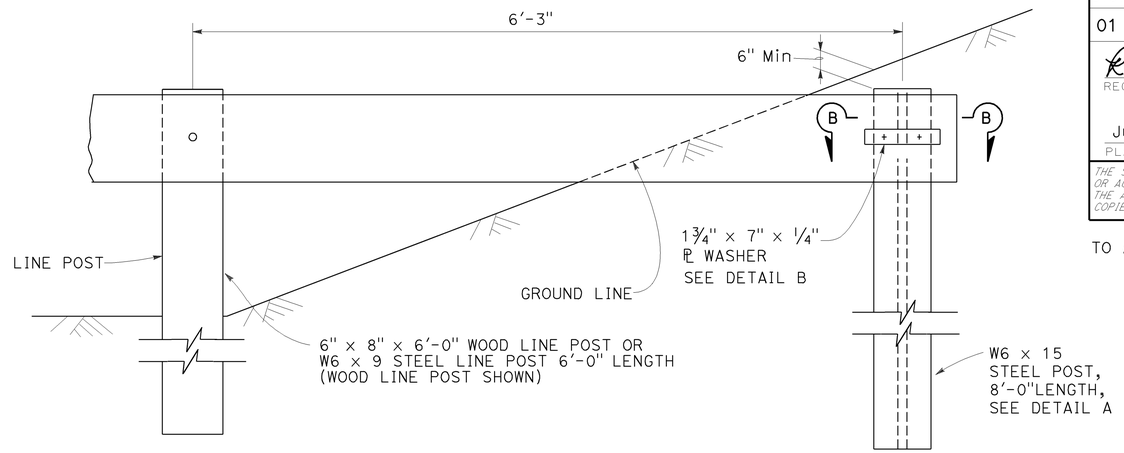
REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

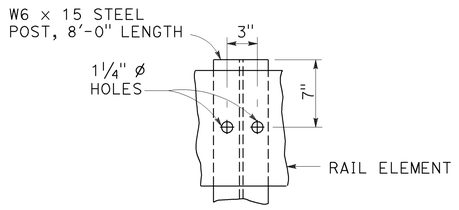
7-3-13



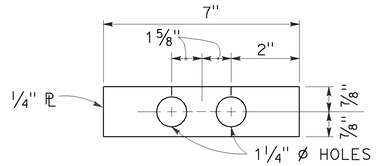
ELEVATION
END ANCHOR
ASSEMBLY (TYPE SFT)



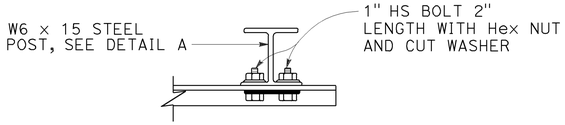
BURIED POST END ANCHOR



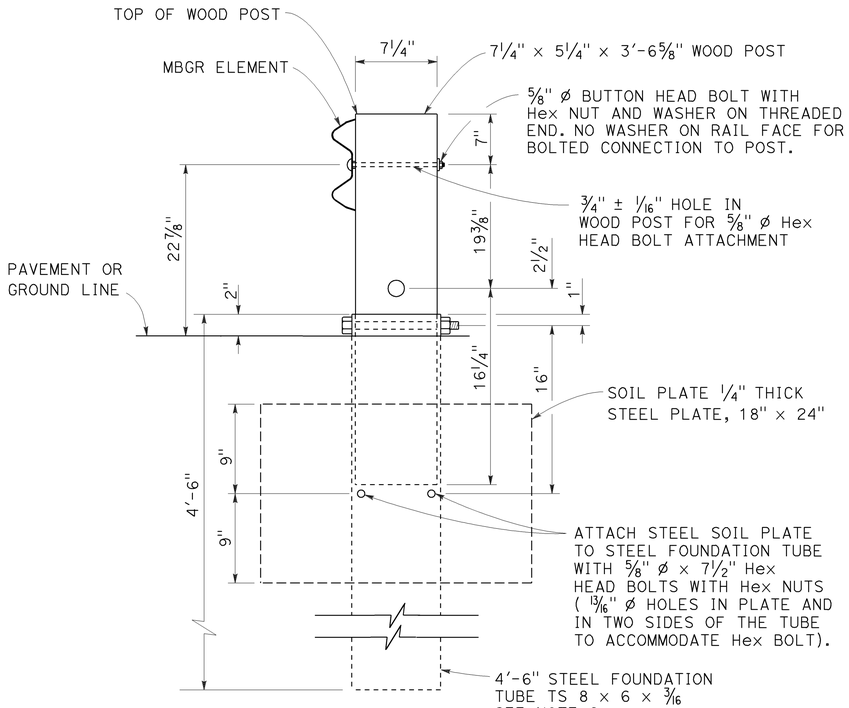
DETAIL A



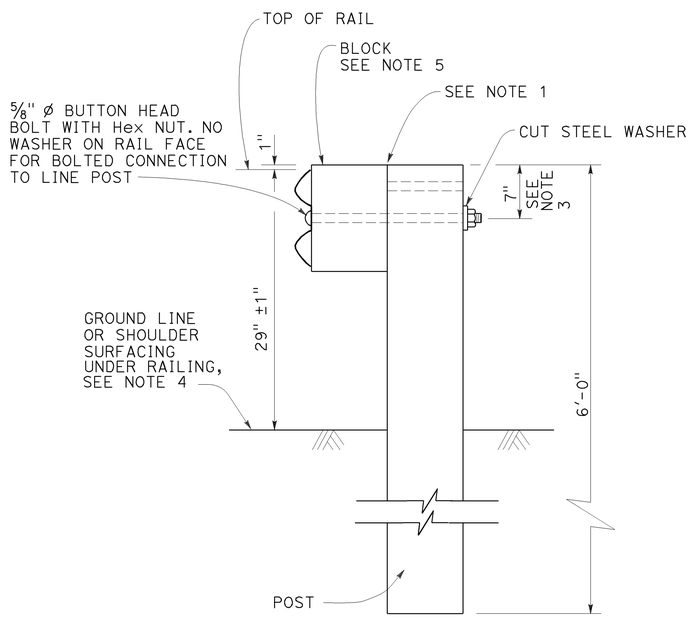
DETAIL B



SECTION B-B



SECTION A-A



TYPICAL LINE
POST INSTALLATION

NOTES:

1. For wood post and wood block, toenail with 2-16d Galv nails in top of block. For steel post and notched wood or plastic block, notched face of block faces steel post.
2. A 6'-0" Length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown, Minimum embadment of the 6'-0" length tube shall be 5'-9". A 5/8" ø Hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
3. To connect railing to 27" terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
4. Install posts in soil.
5. See Revised Standard Plans RSP A77N1 and RSP A77N2 for details.
6. Holes excavation in the slope to construct the buried post end anchor shall be backfilled with selected earth, placed in layers approximately 1'-0" thick. Each layer shall be moistened and thoroughly compacted.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	44	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 1-27-14

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING RECONSTRUCT INSTALLATION

NO SCALE

RSP A77L3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L3

2010 REVISED STANDARD PLAN RSP A77L3

7-16-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	45	91

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REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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Exp. 6-30-15
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STATE OF CALIFORNIA

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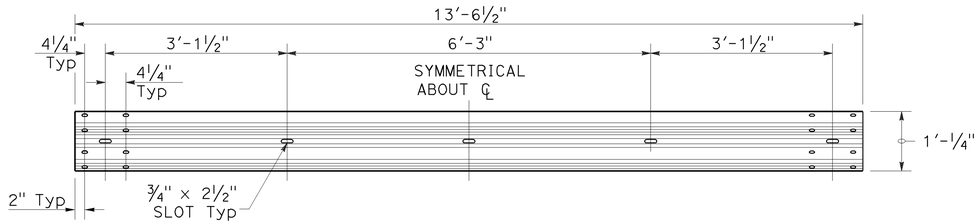
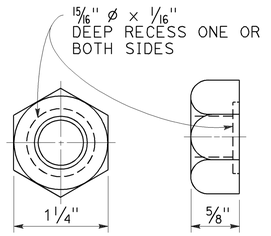
TO ACCOMPANY PLANS DATED 1-27-14



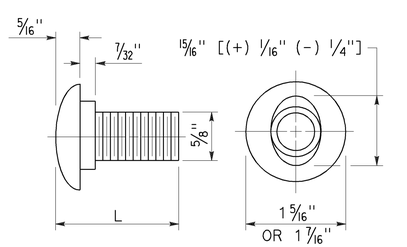
TYPICAL RAIL ELEMENT

NOTE:

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



⅝" Ø RECESS NUT

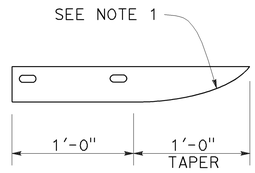


⅝" Ø BUTTON HEAD BOLT

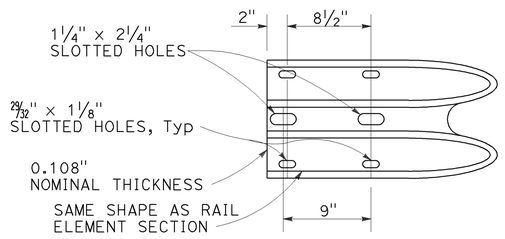
BUTTON HEAD BOLT

L	THREAD LENGTH
1⅜"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2¾"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



ELEVATION

END CAP (TYPE A)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD HARDWARE

NO SCALE

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

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

7-3-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	46	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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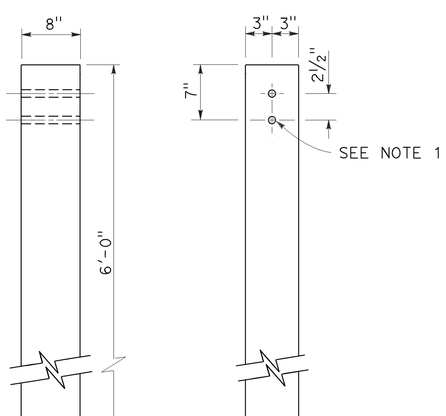
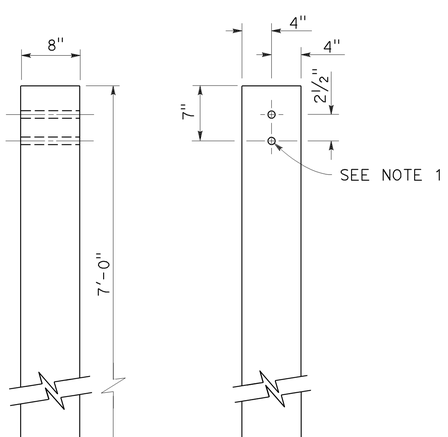
TO ACCOMPANY PLANS DATED 1-27-14



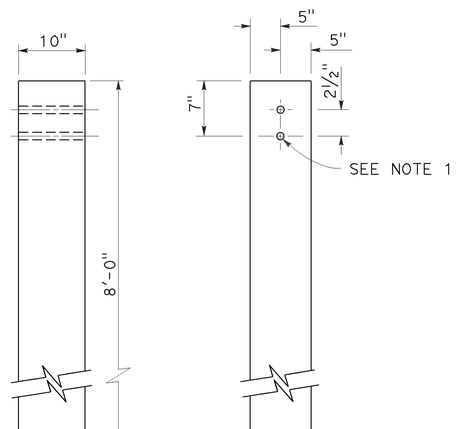
SIDE FRONT

6" x 8" WOOD POST
See Note 3



SIDE FRONT

8" x 8" WOOD POST
See Note 4

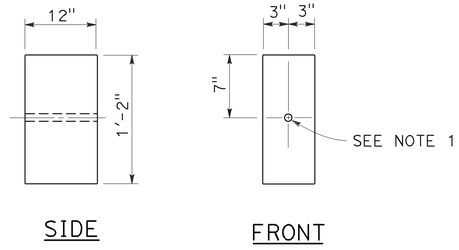


SIDE FRONT

10" x 10" WOOD POST
See Note 5

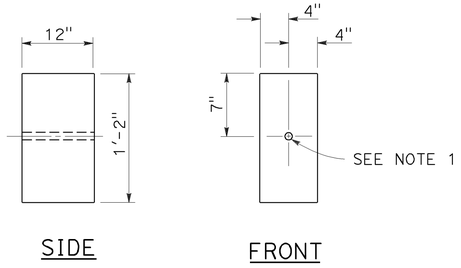
NOTES:

1. All holes in wood posts and blocks shall be ¾" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



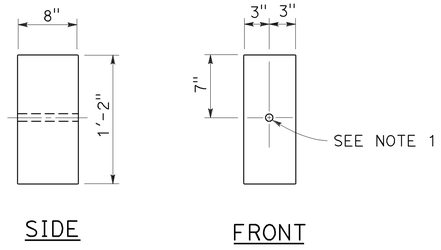
SIDE FRONT

6" x 12" WOOD BLOCK
See Note 3



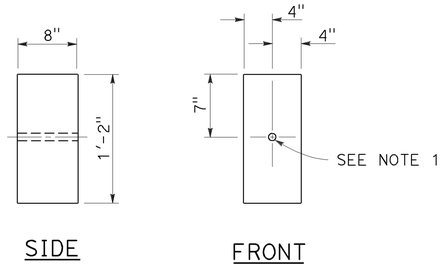
SIDE FRONT

8" x 12" WOOD BLOCK



SIDE FRONT

6" x 8" WOOD BLOCK
Only for use with metal beam guard rail see Note 6



SIDE FRONT

8" x 8" WOOD BLOCK
Only for use with metal beam guard rail see Note 6

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM WOOD POST AND WOOD BLOCK DETAILS

NO SCALE

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

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

7-3-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	47	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

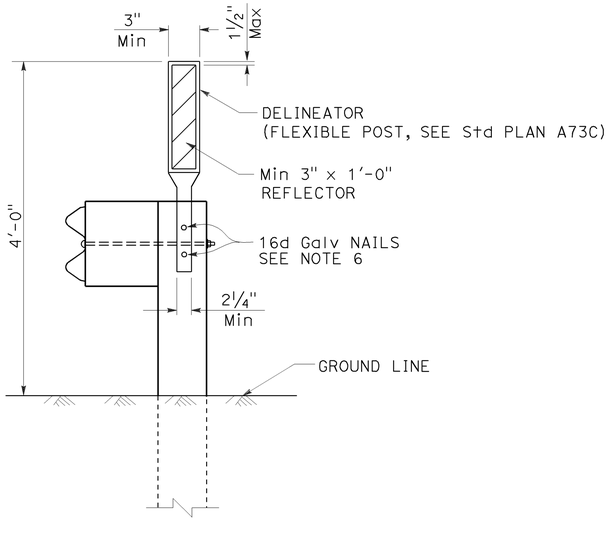
July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 1-27-14

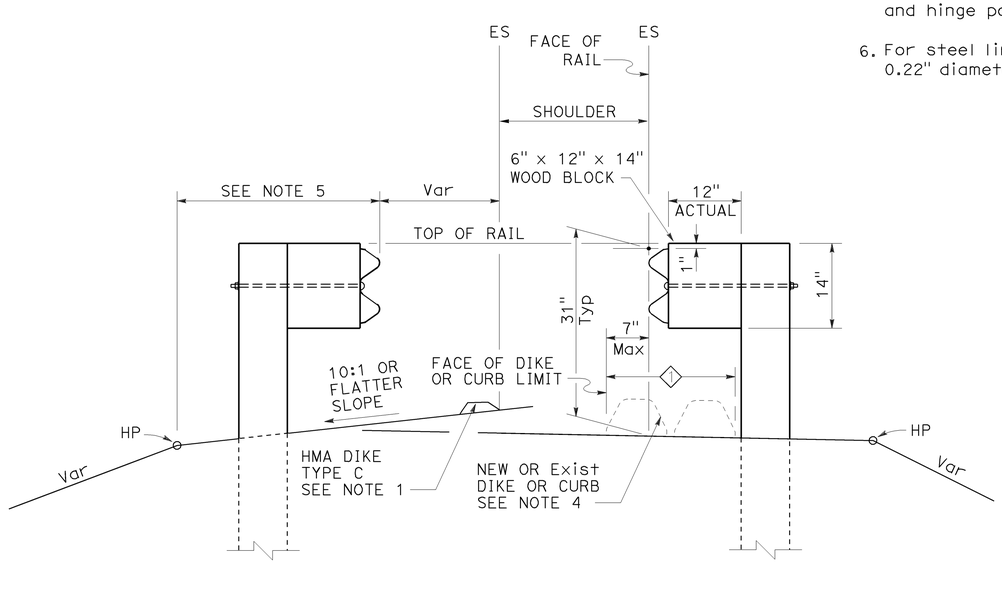
NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4 - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 9/32" diameter holes.



MGS DELINEATION

See Note 3



DIKE POSITIONING

See Note 1

◇1 PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL RAILING DELINEATION AND DIKE POSITIONING DETAILS

NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

7-10-13

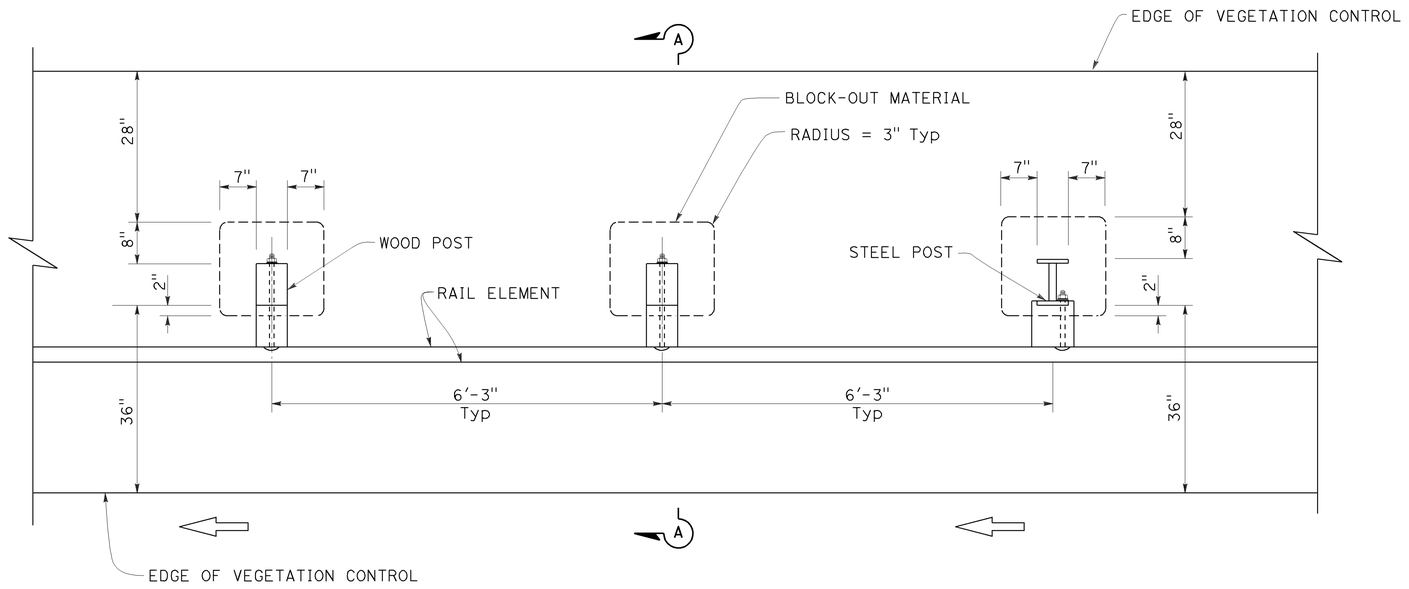
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	48	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

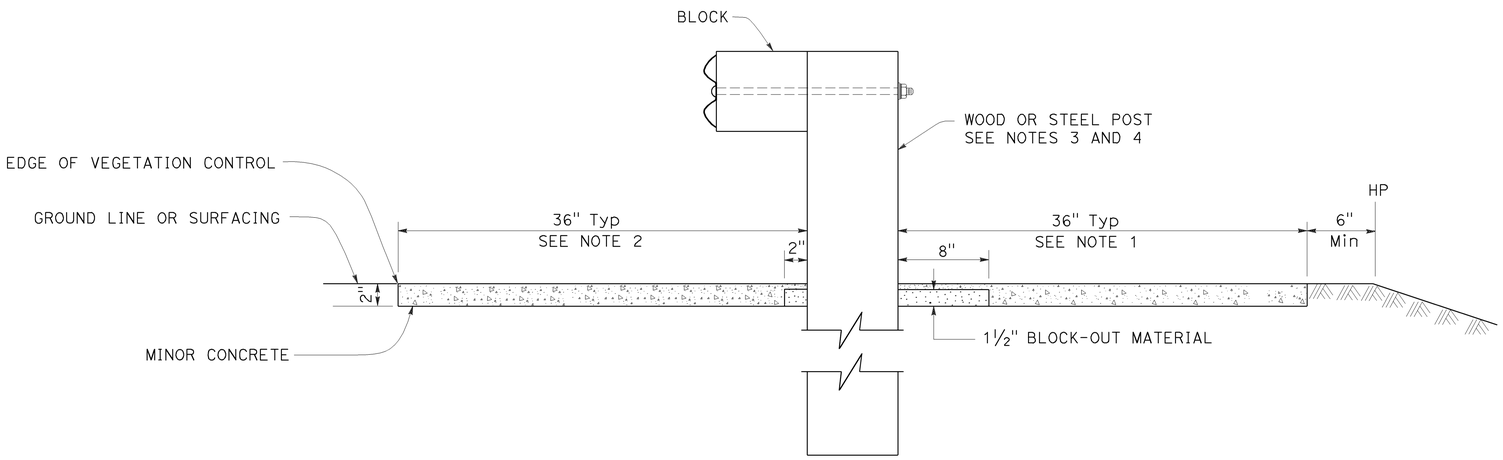
July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 1-27-14



PLAN



SECTION A-A

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

7-3-13

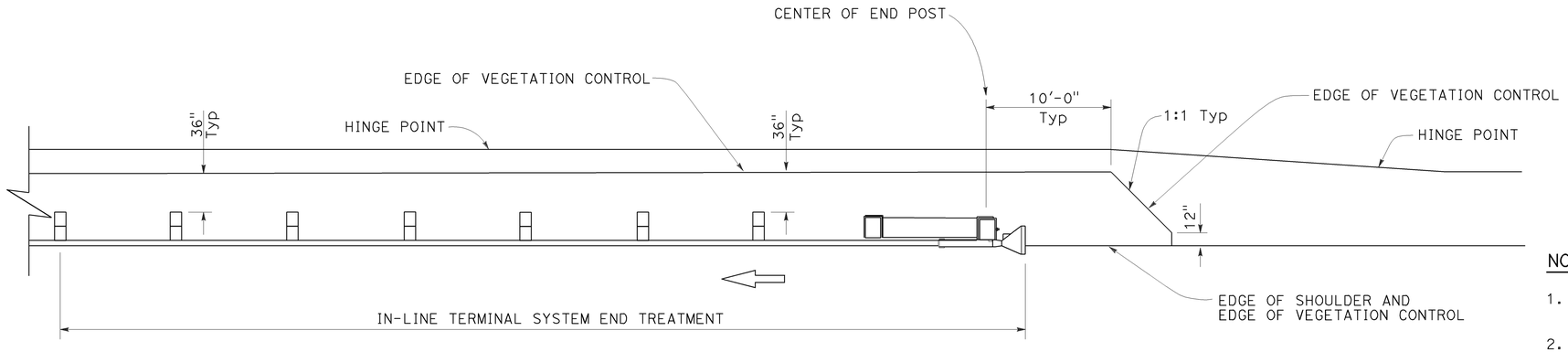
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	49	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

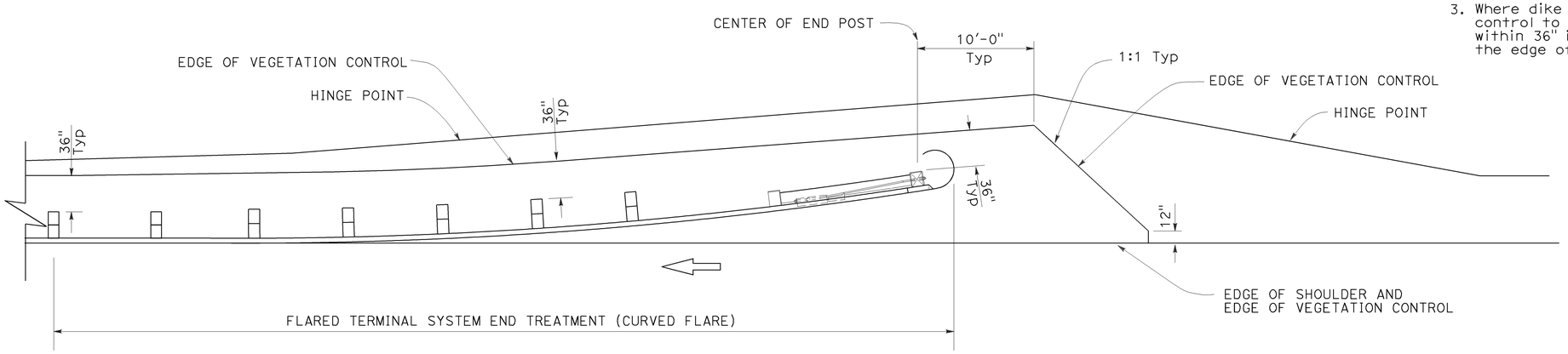
July 19, 2013
PLANS APPROVAL DATE

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

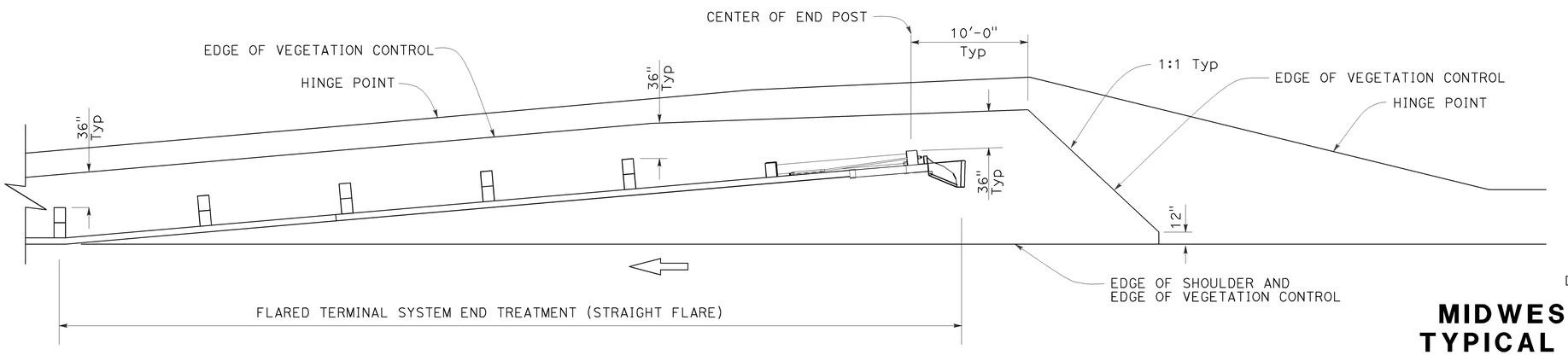
TO ACCOMPANY PLANS DATED 1-27-14



PLAN



PLAN



PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL VEGETATION CONTROL FOR TERMINAL SYSTEM END TREATMENTS

NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

6-12-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	50	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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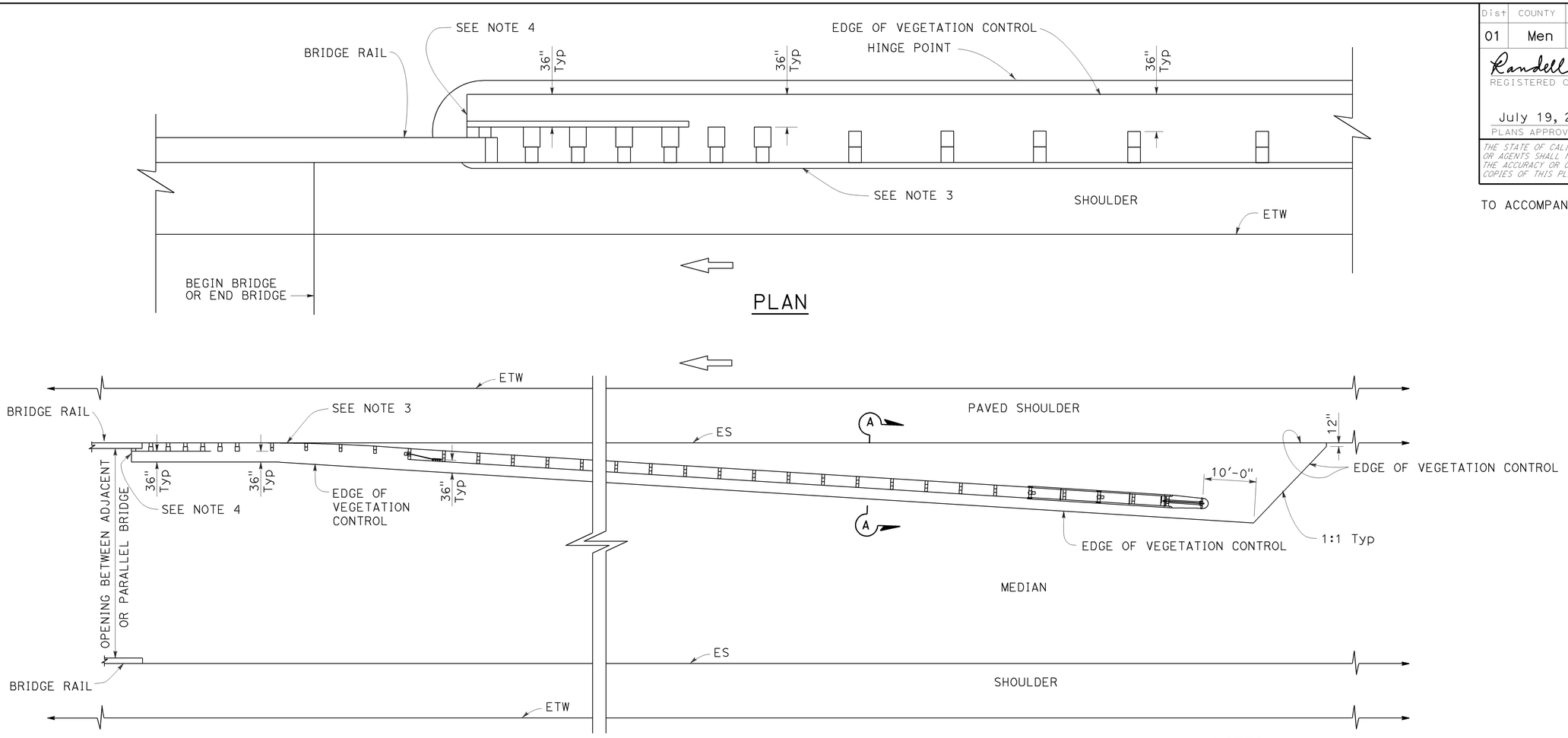
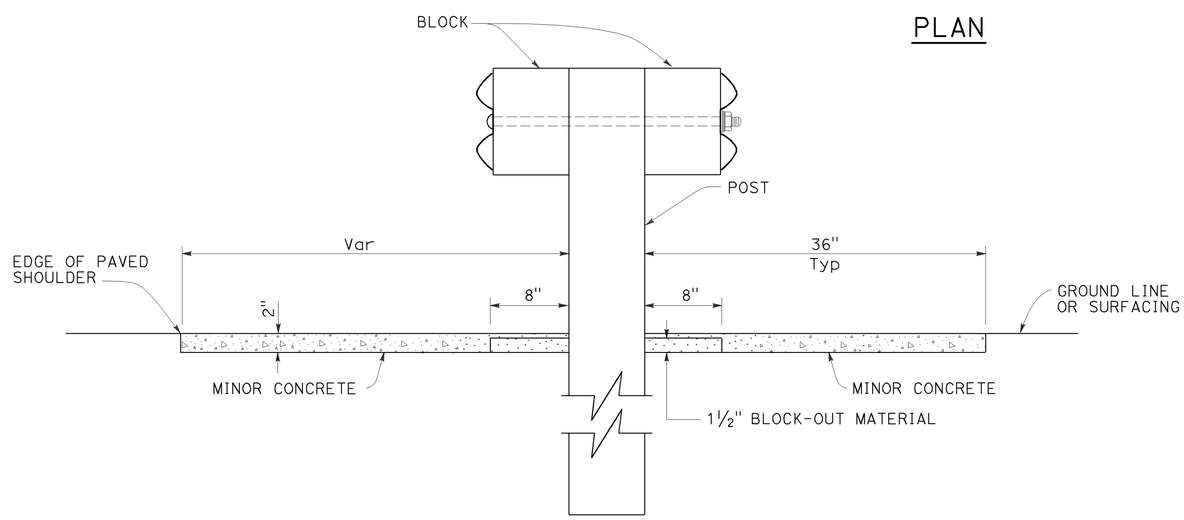


PLAN

PLAN



SECTION A-A

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL VEGETATION CONTROL AT STRUCTURE APPROACH

NO SCALE

RSP A77N7 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N7

2010 REVISED STANDARD PLAN RSP A77N7

6-12-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	51	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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

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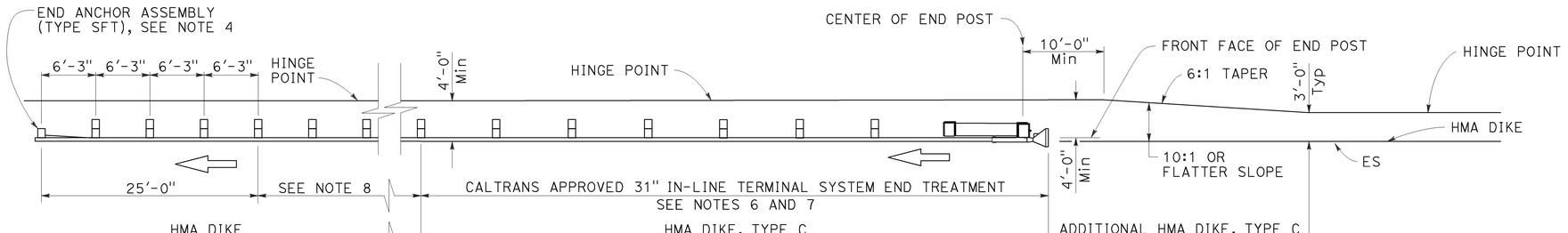
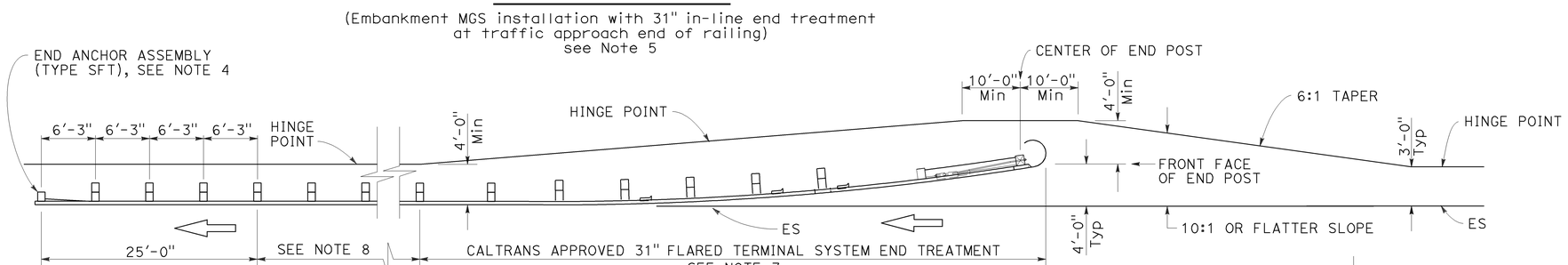
TO ACCOMPANY PLANS DATED 1-27-14



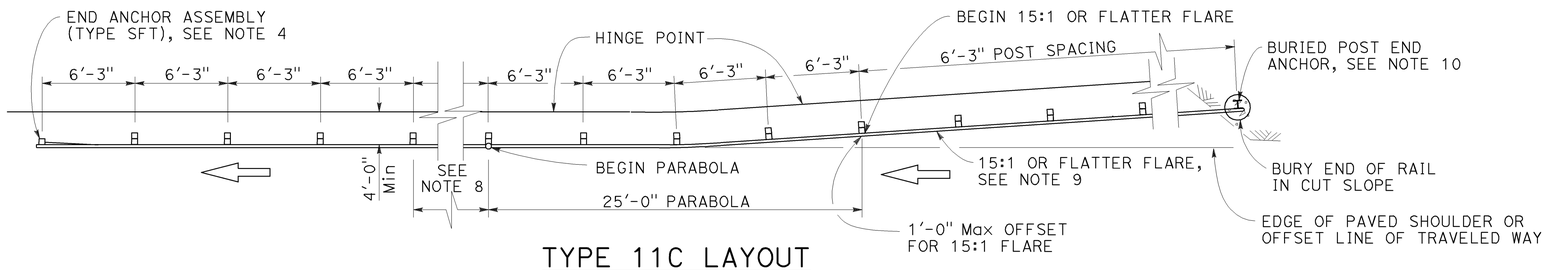
TYPE 11A LAYOUT

(Embankment MGS installation with 31" in-line end treatment at traffic approach end of railing) see Note 5



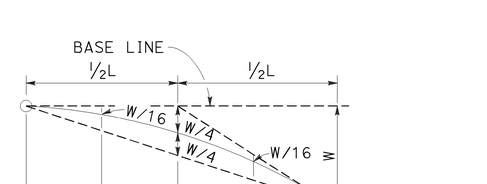
TYPE 11B LAYOUT

(Embankment MGS installation with 31" flared end treatment at traffic approach end of railing) see Note 5

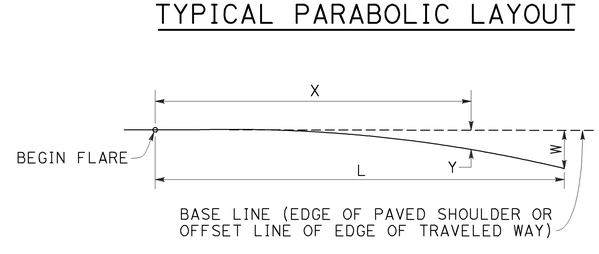


TYPE 11C LAYOUT

(Embankment MGS installation with buried end anchor treatment at traffic approach end of railing) see Notes 5 and 11



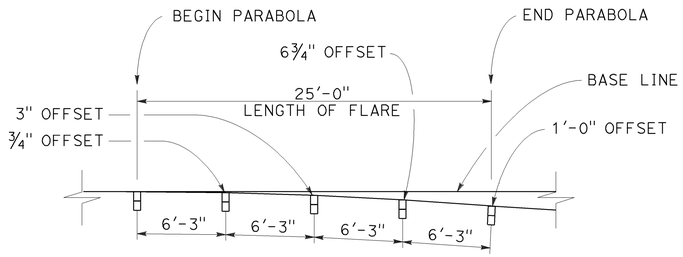
TYPICAL PARABOLIC LAYOUT



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

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

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT Max END OFFSET

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
5. Layout Types 11A, 11B or 11C are typically used where MGS is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
6. 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
7. The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
8. Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
9. The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
10. For details of the buried post end anchor used with Type 11C Layout, see Revised Standard Plan RSP A77T2.
11. Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77P1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P1

2010 REVISED STANDARD PLAN RSP A77P1

10-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	52	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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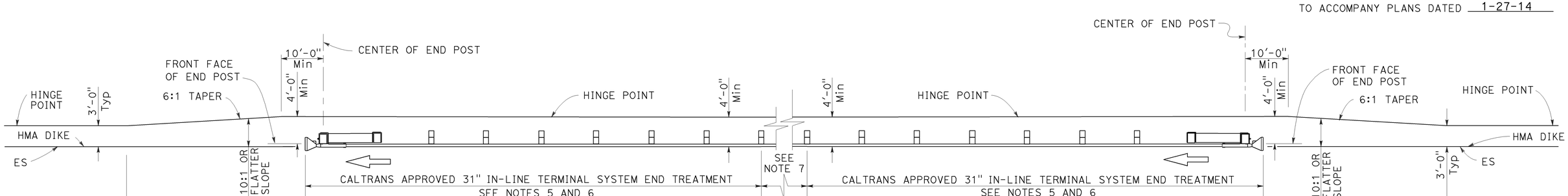
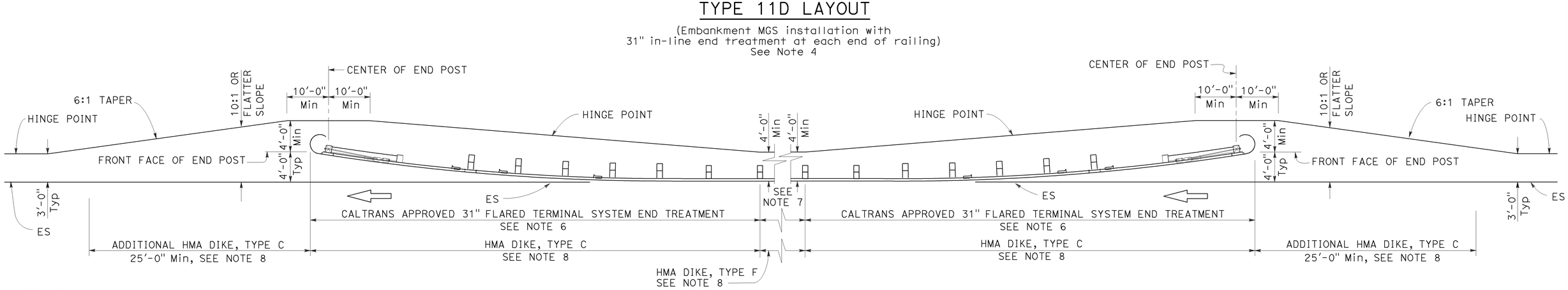
TO ACCOMPANY PLANS DATED 1-27-14



TYPE 11D LAYOUT

(Embankment MGS installation with
31" in-line end treatment at each end of railing)
See Note 4



TYPE 11E LAYOUT

(Embankment MGS installation with
31" flared end treatment at each end of railing)
See Note 4

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. Layout Types 11D through 11L, shown on the A77P Series of Standard Plans, are typically used where MGS is recommended to shield embankment slopes and a crashworthy 31" end treatment is required for both directions of traffic.
5. 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
6. The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
8. Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P2

2010 REVISED STANDARD PLAN RSP A77P2

6-19-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	53	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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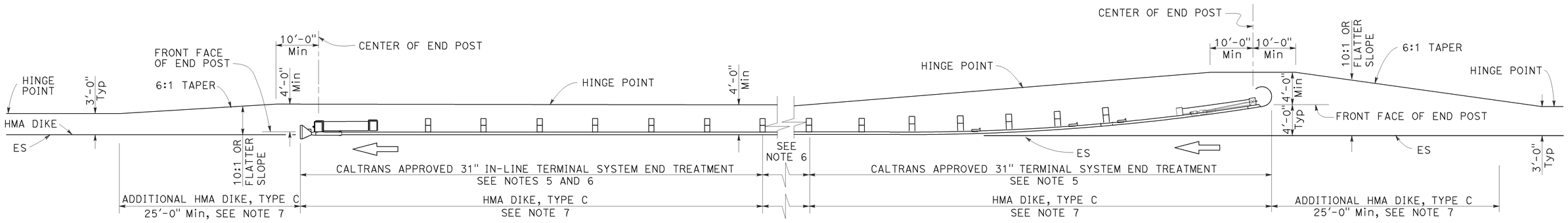
TO ACCOMPANY PLANS DATED 1-27-14



TYPE 11H LAYOUT

(Embankment MGS installation with 31" flared end treatment and 31" in-line treatment at the ends of railing)
See Notes 4 and 7

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. Layout Types 11D through 11L, shown on the A77P Series of Standard Plans, are typically used where MGS is recommended to shield embankment slopes and a crashworthy 31" end treatment is required for both directions of traffic.
5. The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
6. Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
7. Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P4

2010 REVISED STANDARD PLAN RSP A77P4

6-19-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	54	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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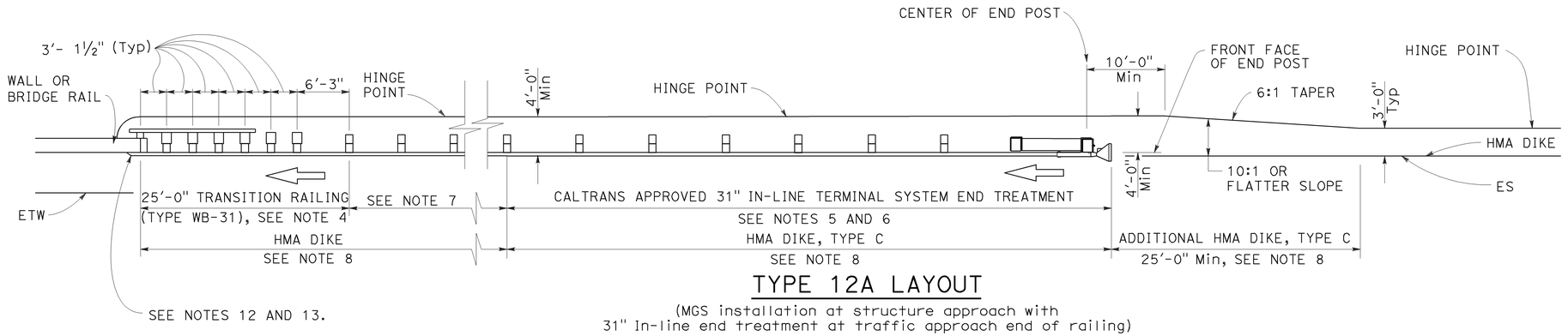
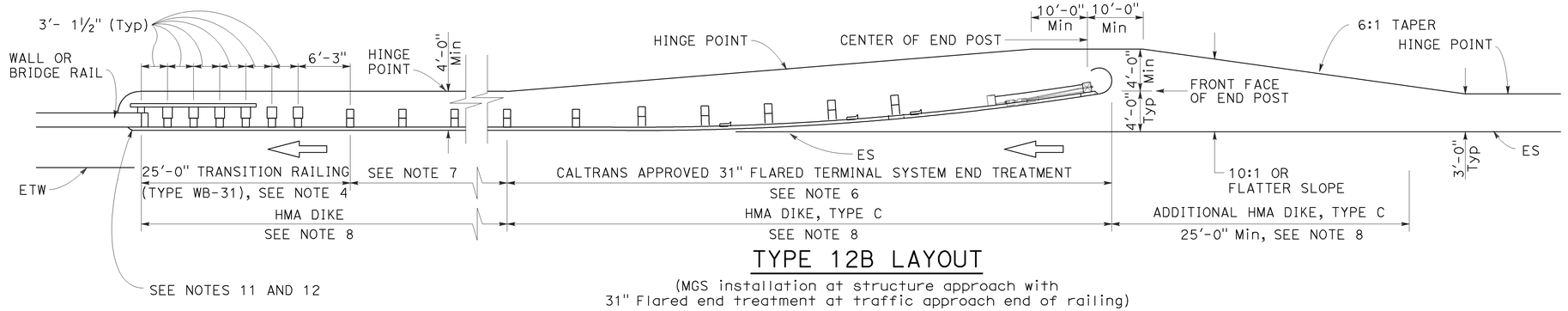
TO ACCOMPANY PLANS DATED 1-27-14



TYPE 12A LAYOUT

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



TYPE 12B LAYOUT

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

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
5. 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
6. The type 31" of terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
8. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
9. Type 12A or Type 12B Layouts are typically used:
   a. To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
   b. To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
   c. To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
   d. To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
10. See Revised Standard Plan RSP A77Q3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
11. For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
12. For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR STRUCTURE APPROACH

NO SCALE

RSP A77Q1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q1

2010 REVISED STANDARD PLAN RSP A77Q1

6-19-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	55	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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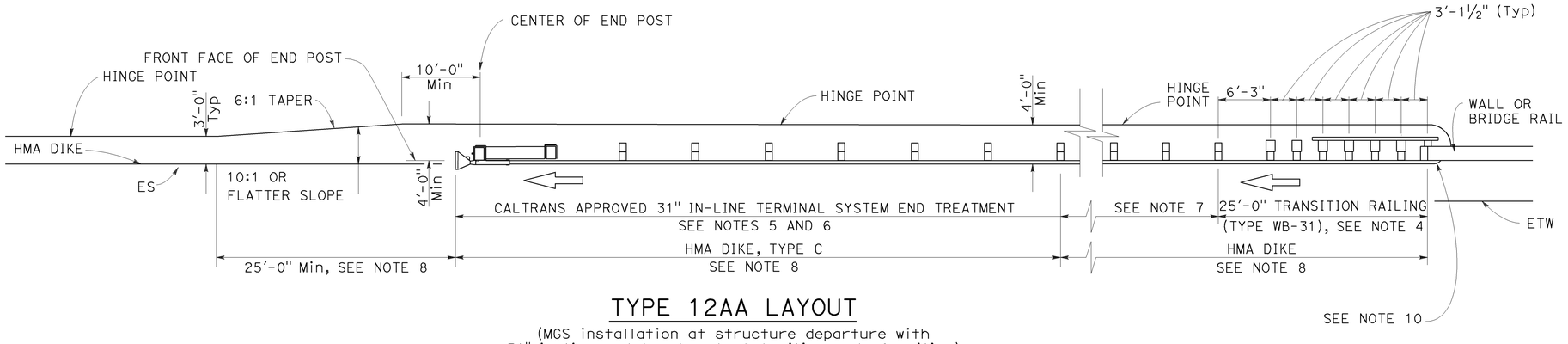
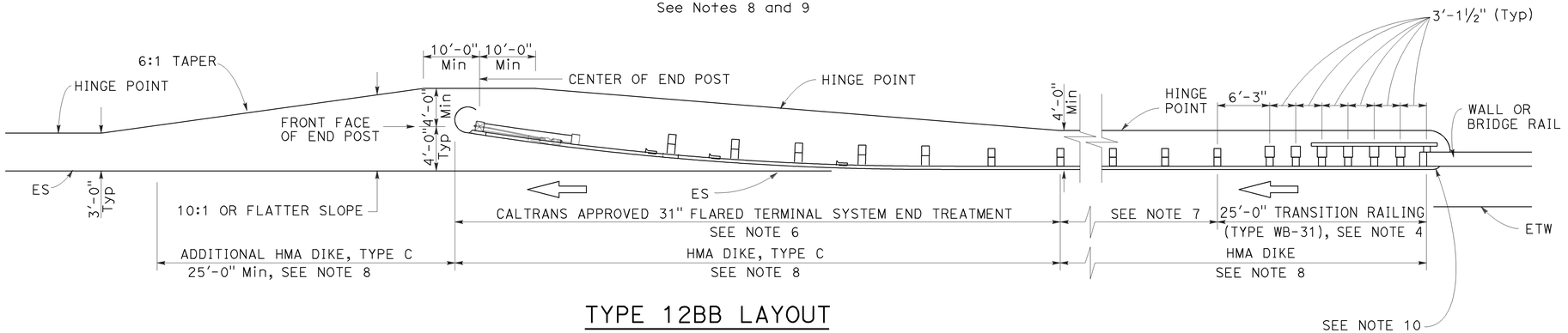
TO ACCOMPANY PLANS DATED 1-27-14



TYPE 12AA LAYOUT

(MGS installation at structure departure with
31" in-line end treatment at trailing end of railing)
See Notes 8 and 9



TYPE 12BB LAYOUT

(MGS installation at structure departure with
31" flared end treatment at trailing end of railing)
See Notes 8 and 9

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. For Transition Railing (Type WB-31) details for Types 12AA and 12BB Layouts, see Revised Standard Plan RSP A77U4.
5. 31" in-line terminal system treatments are used where site conditions will not accommodate a 31" flared end treatment.
6. The type of 31" terminal system to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional MGS (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and 31" end treatments.
8. Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
9. Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
10. For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR STRUCTURE DEPARTURE

NO SCALE

RSP A77Q4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q4

2010 REVISED STANDARD PLAN RSP A77Q4

6-19-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	56	91

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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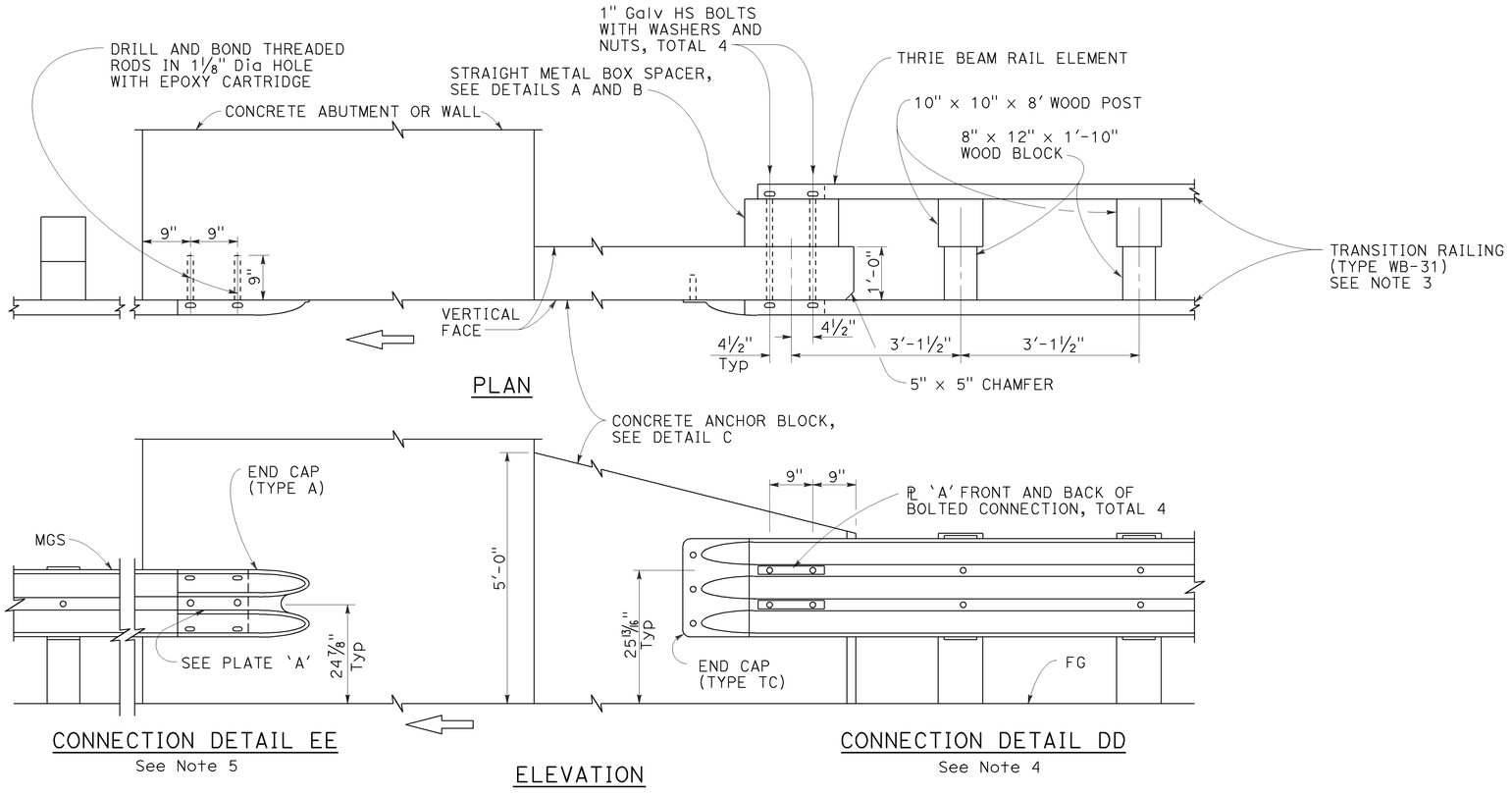
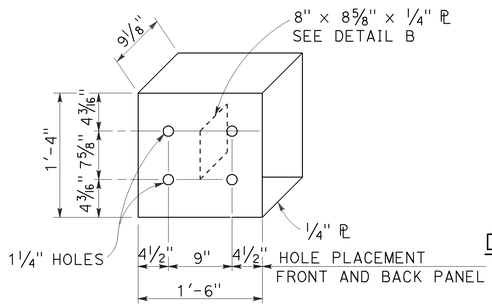
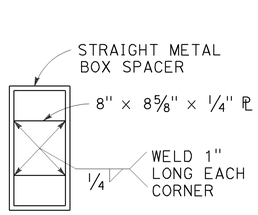
TO ACCOMPANY PLANS DATED 1-27-14



MIDWEST GUARDRAIL SYSTEM CONNECTION TO ABUTMENT OR WALL

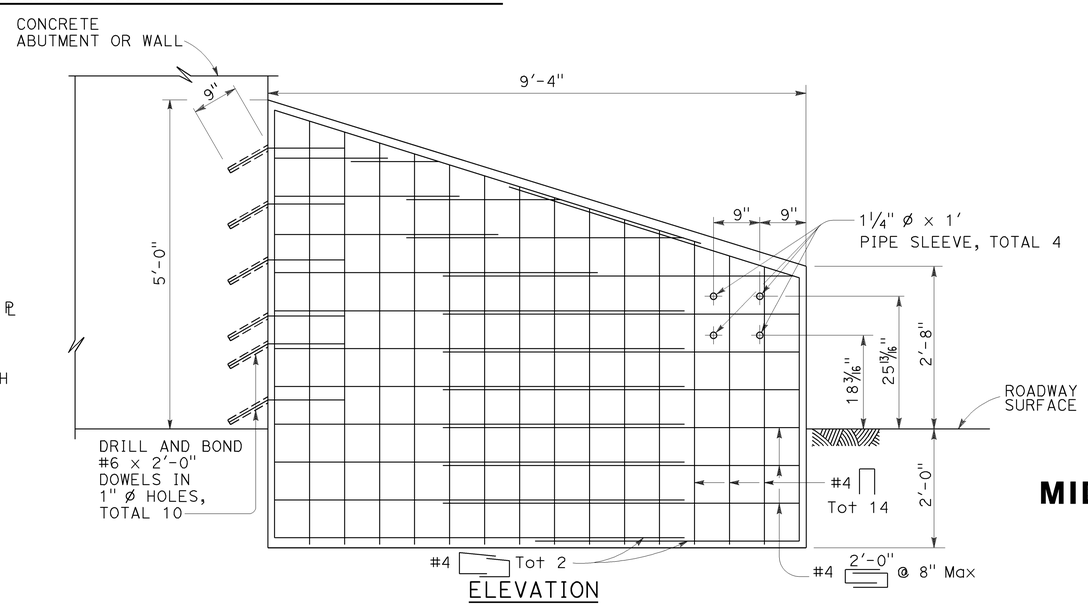


DETAIL A



DETAIL B

STRAIGHT METAL BOX SPACER



ELEVATION

ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION

DETAIL C

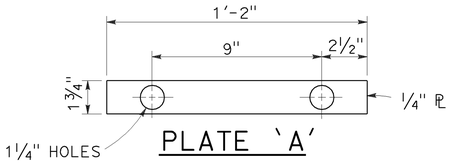


PLATE 'A'

NOTES:

1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railingsection which is connected to the concrete anchor block.
4. For typical use of Connection Details DD, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1 and Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2.
5. For typical use of Connection Detail EE, see Layout Type 12D on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO ABUTMENTS AND WALLS

NO SCALE

RSP A77U3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U3

2010 REVISED STANDARD PLAN RSP A77U3

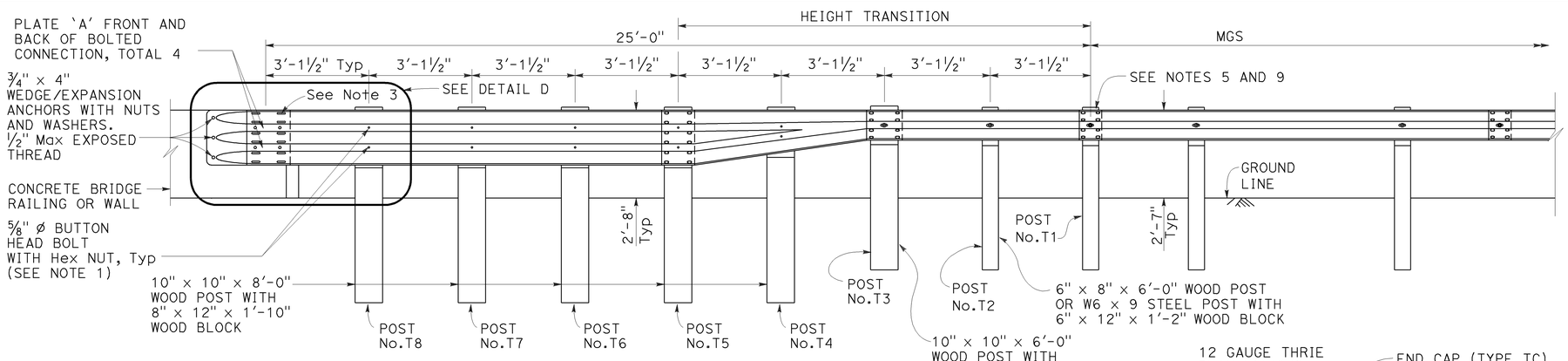
7-8-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	57	91

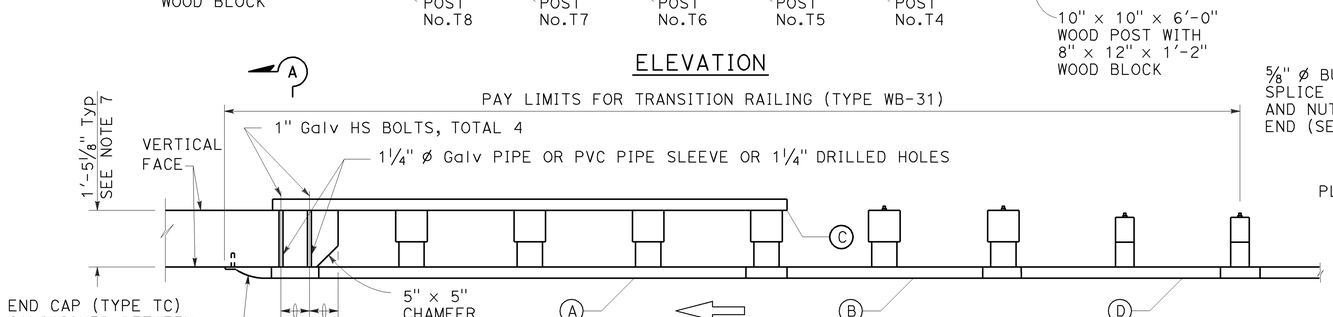
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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



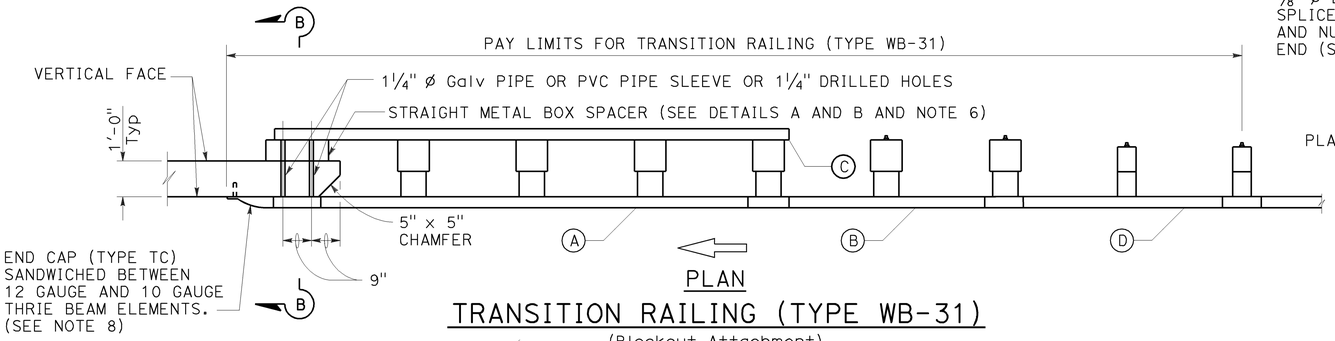
ELEVATION



PLAN

TRANSITION RAILING (TYPE WB-31)

(No Blockout Attachment)



PLAN

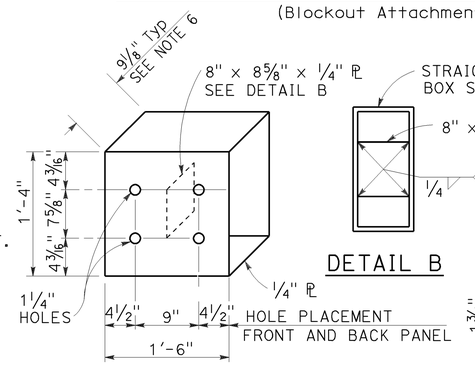
TRANSITION RAILING (TYPE WB-31)

(Blockout Attachment)

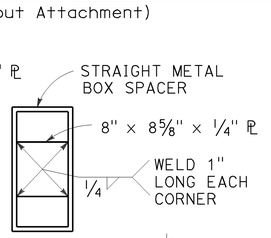
LEGEND:

- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
- (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
- (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
- (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3½"LENGTH)

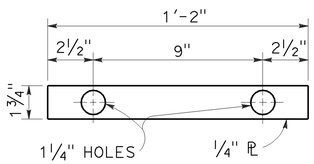
10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



DETAIL A



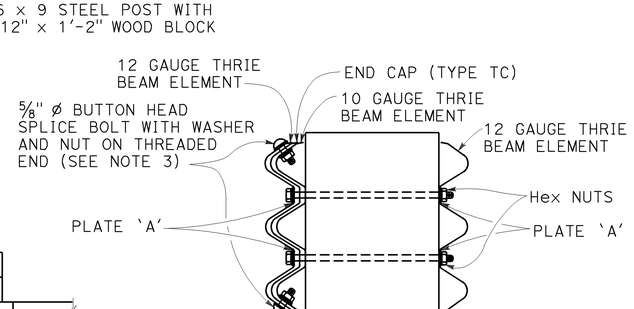
DETAIL B



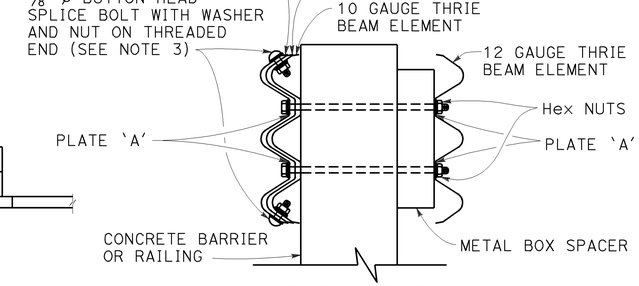
DETAIL C

STRAIGHT METAL BOX SPACER

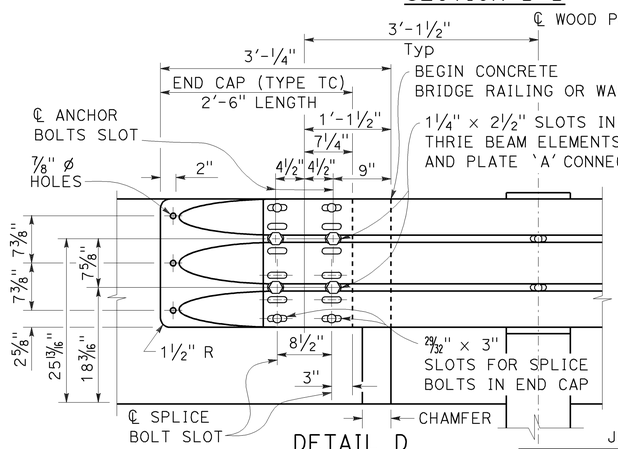
PLATE 'A'



SECTION A-A



SECTION B-B



DETAIL D

NOTES:

TO ACCOMPANY PLANS DATED 1-27-14

1. Use ⅝" ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
2. The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
3. Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1⅛" slot size. Interior splice bolt holes at these locations may be increased up to 1¼" ø. Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
6. The depth of the metal box spacer varies from the 9⅛" to 1½" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 21⅛". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1½", metal plates similar to Plate 'A' are to be used as spacers.
7. Where the width of the concrete railing or wall is greater than 17⅛", wood blocks are to be used to fill the space created between the backside of Posts No. T5 through No. T8 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TRANSITION RAILING (TYPE WB-31)

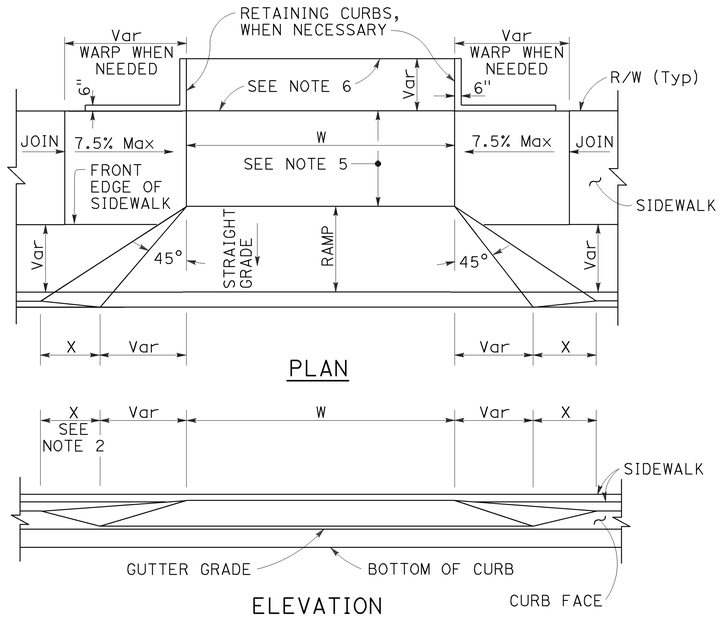
NO SCALE

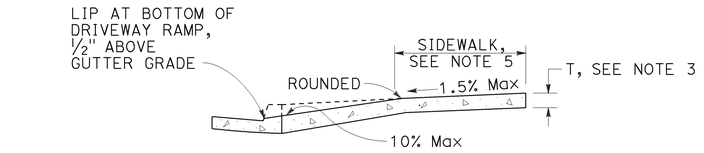
RSP A77U4 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U4

2010 REVISED STANDARD PLAN RSP A77U4

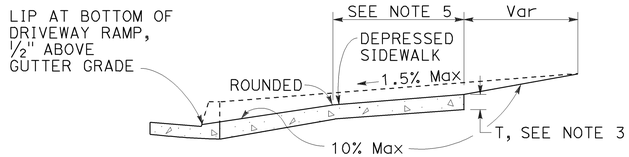
10-4-13





CASE A

Typical driveway, sidewalk not depressed



CASE B

Driveway with depressed sidewalk

SECTIONS

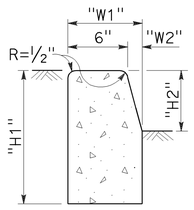
TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7½"	1½"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7½"	1½"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7¼"	1¼"
A3-8	8"	7"	7¾"	1¾"
B1-4	1'-0"	4"	7½"	2½"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7½"	2½"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8½"	3½"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"

CURB QUANTITIES

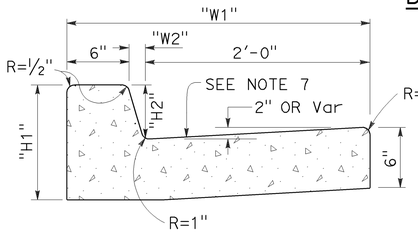
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

DRIVEWAYS



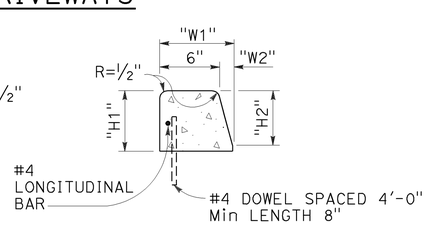
TYPE A1 CURBS

See Table A



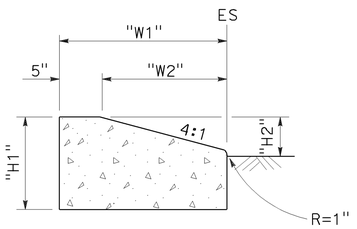
TYPE A2 CURBS

See Table A



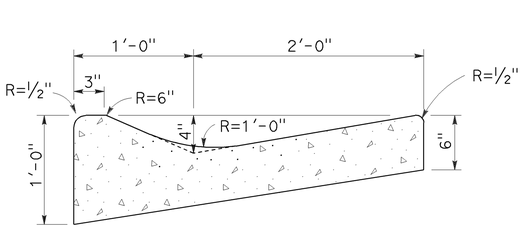
TYPE A3 CURBS

Superimposed on existing pavement
See Table A

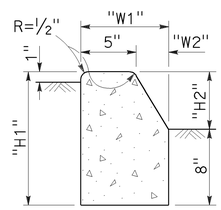


TYPE D CURBS

See Table A

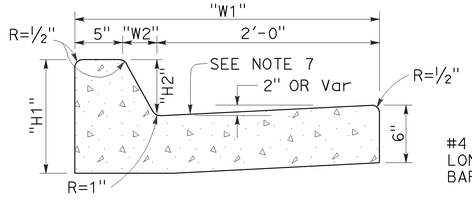


TYPE E CURB



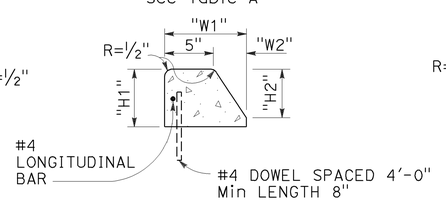
TYPE B1 CURBS

See Table A



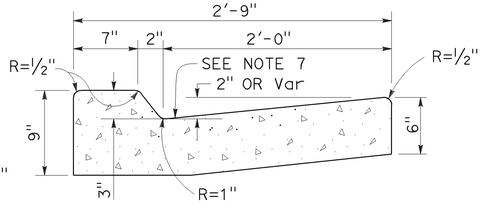
TYPE B2 CURBS

See Table A

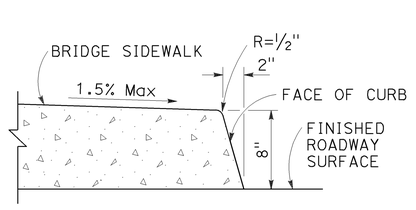


TYPE B3 CURBS

Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB

On Bridges

CURBS

NOTES:

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	58	91

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Michael Janzen — No. 44788 — Exp. 03-31-14 — CIVIL — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 1-27-14

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A
DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87A

2010 REVISED STANDARD PLAN RSP A87A

7-8-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	59	91

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Michael Janzen
No. 44788
Exp. 03-31-14
CIVIL
STATE OF CALIFORNIA

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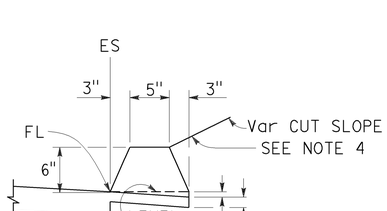
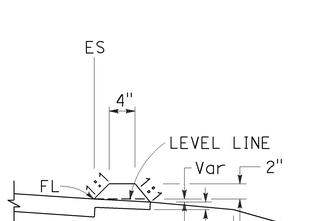
TO ACCOMPANY PLANS DATED 1-27-14

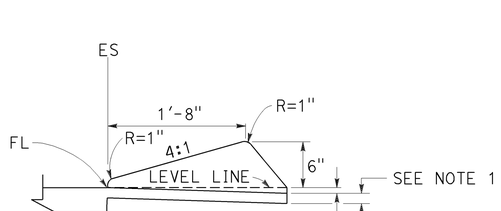
2010 REVISED STANDARD PLAN RSP A87B



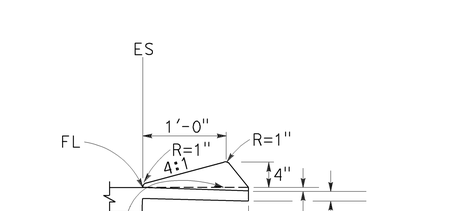
TYPE A
See Note 3



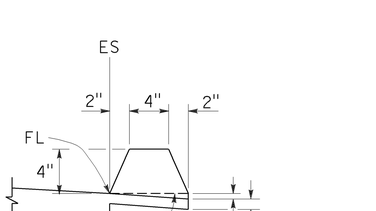
TYPE C



TYPE D

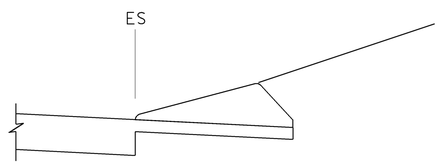


TYPE E

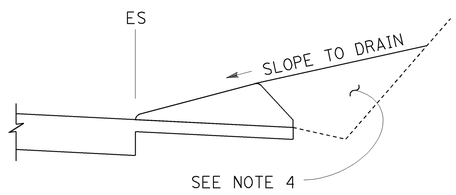


TYPE F
See Note 5

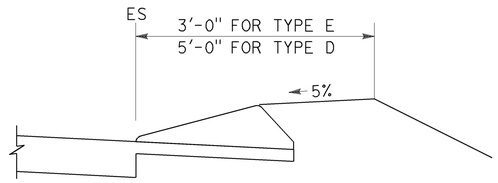
DIKES



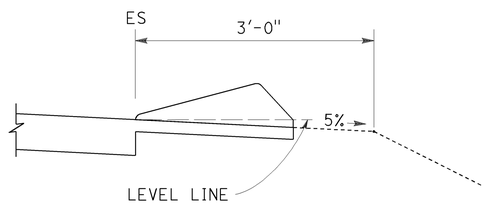
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

1. For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87B

6-27-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	60	91

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer — 2376 — 10-31-14 Renewal Date — 7-19-13 Date — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 1-27-14

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
Mtl	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT

N

NCN	NO COMMON NAME
NL	NOZZLE LINE
No.	NUMBER
NPT	NATIONAL PIPE THREAD

O

O/C	ON CENTER
OD	OUTSIDE DIAMETER
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
Pvmt	PAVEMENT

Q

Q	QUARTER CIRCLE
QCV	QUICK COUPLING VALVE

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

R

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

S

S	SLIP
SCH	SCHEDULE
SF	STATE-FURNISHED
Shld	SHOULDER
Sq	SQUARE
SST	SIDE STRIP
Sta	STATION
Std	STANDARD
SW	SIDEWALK/SOUND WALL

T

T	THIRD CIRCLE/THREAD
TLS	TRUCK LOADING STANDPIPE
TQ	THREE QUARTER CIRCLE
TRM	TURF REINFORCEMENT MAT
TT	TWO-THIRDS CIRCLE
TWSA	TREE WELL SPRINKLER ASSEMBLY
Typ	TYPICAL

U

UG	UNDERGROUND

W

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE AND EROSION CONTROL ABBREVIATIONS

NO SCALE

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

REVISED STANDARD PLAN RSP H1

2010 REVISED STANDARD PLAN RSP H1

6-28-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	61	91

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 1-27-14

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		
					X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	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%
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 recommmended distances.

2010 REVISED STANDARD PLAN RSP T9

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.

REVISED STANDARD PLAN RSP T9

4-30-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	62	91

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
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.

TO ACCOMPANY PLANS DATED 1-27-14

NOTES:

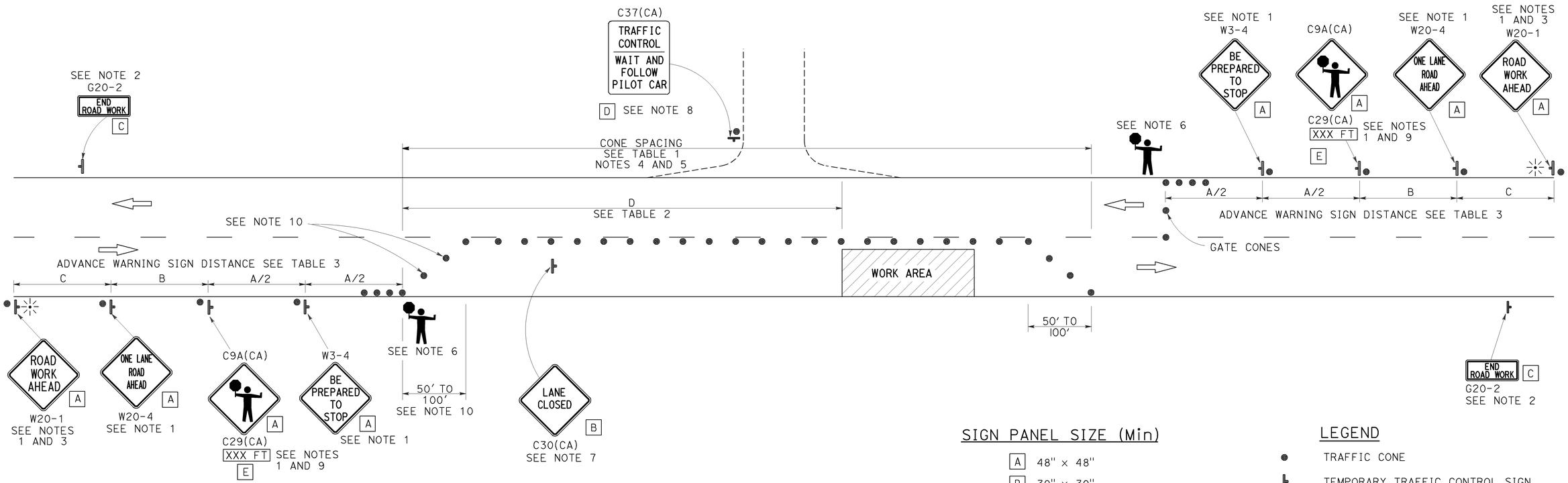
See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



NOTES:

1. Each advance warning sign in each direction of travel 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.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
7. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
8. When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
9. An optional C29(CA) sign may be placed below the C9A(CA) sign.
10. Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.

SIGN PANEL SIZE (Min)

A	48" x 48"
B	30" x 30"
C	36" x 18"
D	36" x 42"
E	20" x 7"

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- PORTABLE FLASHING BEACON
- FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T13

2010 REVISED STANDARD PLAN RSP T13

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	63	91

REGISTERED CIVIL ENGINEER

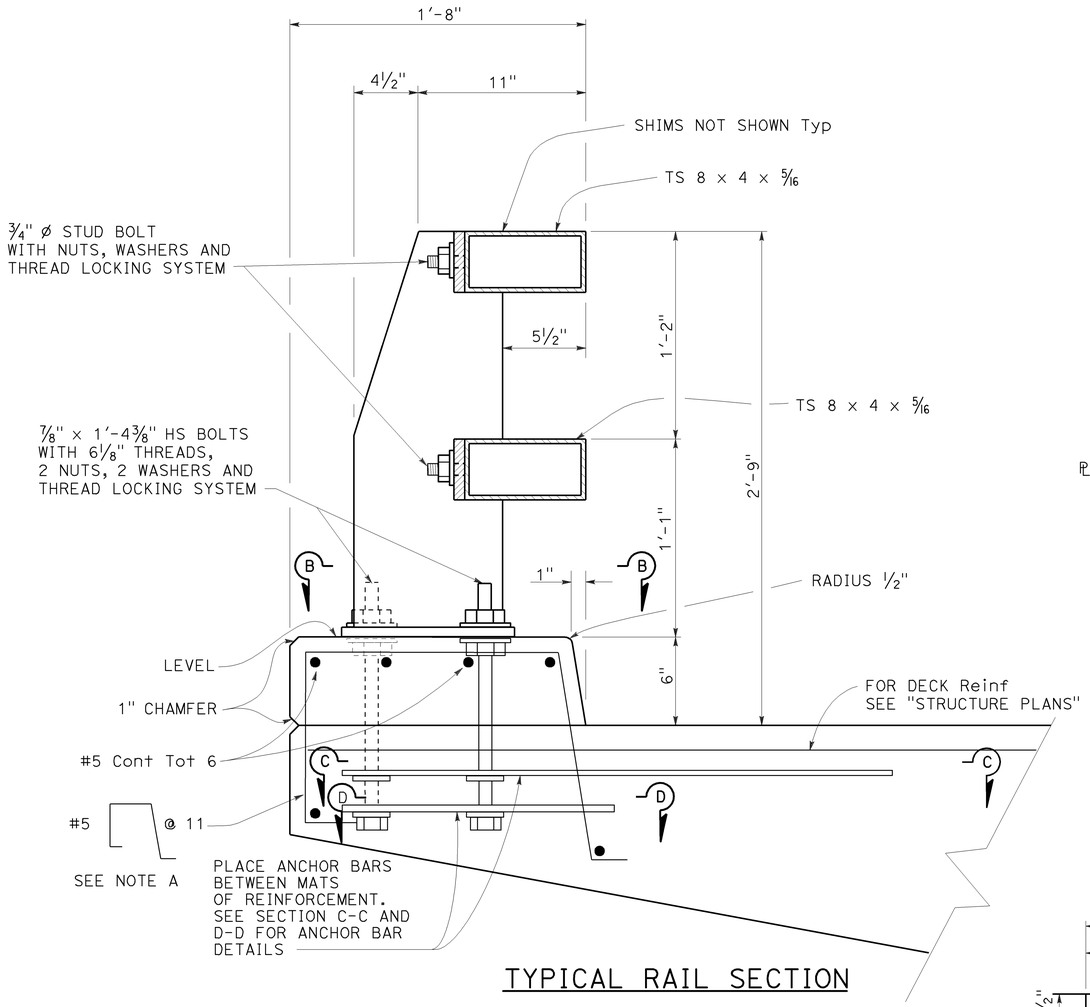
April 20, 2012
PLANS APPROVAL DATE

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

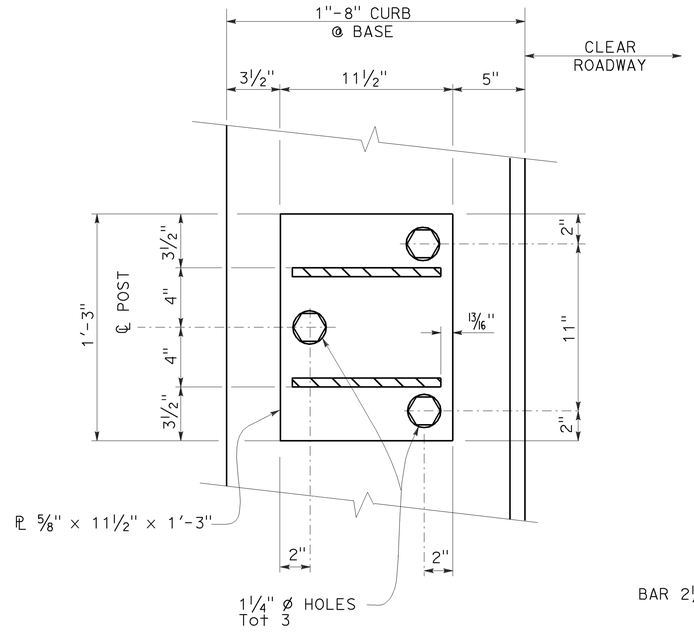
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 1-27-14

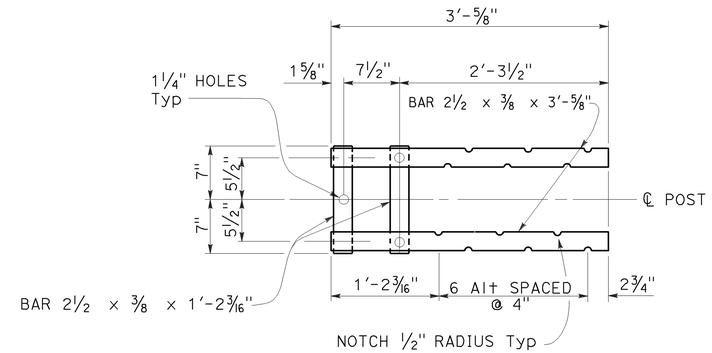
2010 REVISED STANDARD RSP B11-68



TYPICAL RAIL SECTION



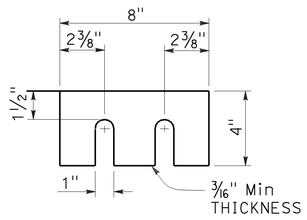
SECTION B-B



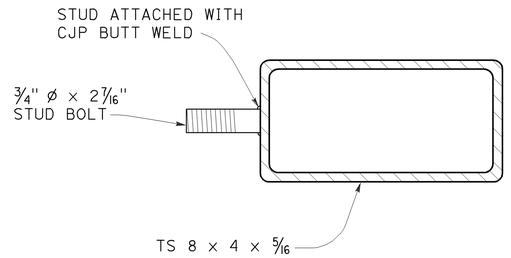
SECTION C-C
Top Anchorage

NOTE A

Adjust spacing to clear scupper opening by 2" if applicable.

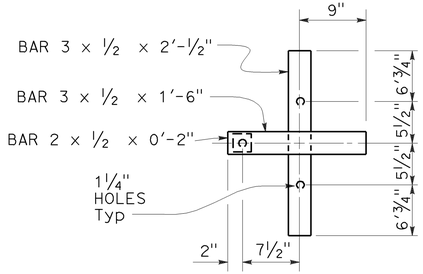


SHIMS REQUIRED FOR TOP AND BOTTOM RAIL



STUD BOLT DETAIL

SECTION AT POST



SECTION D-D
Lower Anchorage

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CALIFORNIA ST-10 BRIDGE RAIL (SHEET 1 OF 3)

NO SCALE

RSP B11-68 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B11-68
DATED MAY 20, 2011 - PAGE 308 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-68

3-23-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	64	91

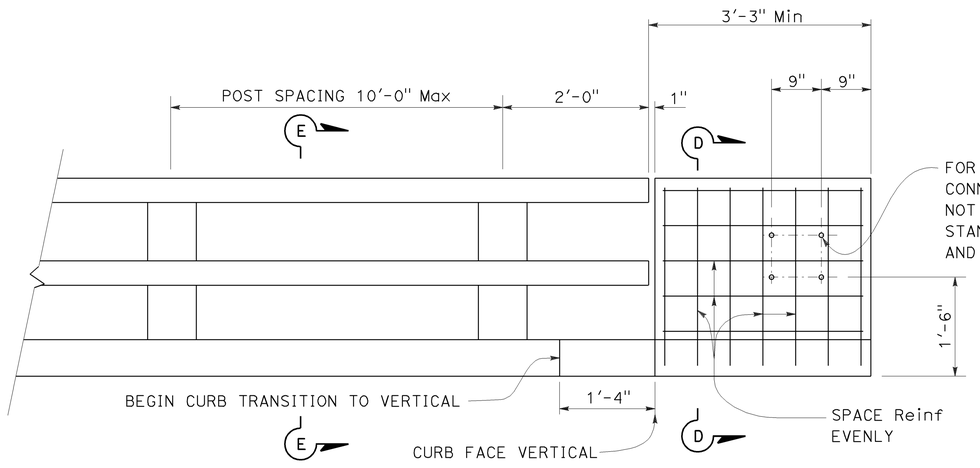
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

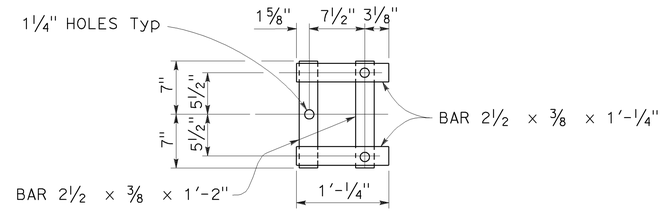
REGISTERED PROFESSIONAL ENGINEER
Tillat Satter
No. C42892
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

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.

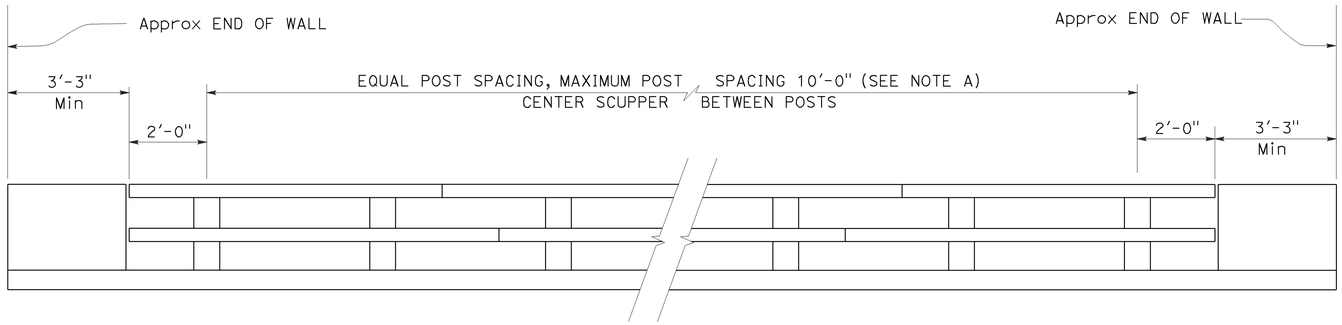
TO ACCOMPANY PLANS DATED 1-27-14



END OF RAILING ELEVATION



WALL ANCHOR PLATE DETAIL



BRIDGE RAILING ELEVATION

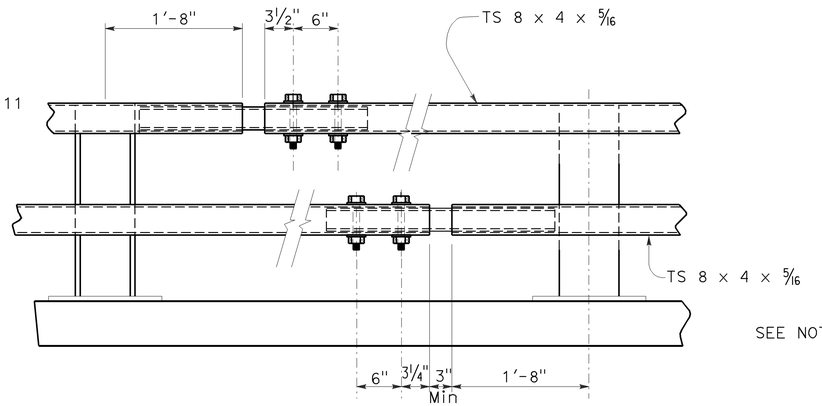
NOTE A:

Post spacing and/or block length to be adjusted to fit bridge length or wingwall length.

SECTION D-D

SECTION E-E

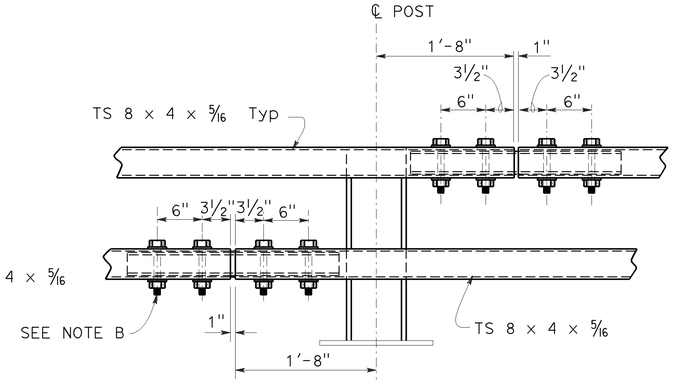
Reinf same as for Section D-D except as noted.



EXPANSION SPLICE

NOTE B:

Use ¾" ∗ x 5⅝"
Hs bolts with washers, fully tensioned.
1" holes in rail Typ



STANDARD SPLICE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CALIFORNIA ST-10 BRIDGE RAIL (SHEET 3 OF 3)

NO SCALE

RSP B11-70 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN B11-70
DATED MAY 20, 2011 - PAGE 310 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-70

2010 REVISED STANDARD PLAN RSP B11-70

6-27-13

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	65	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
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 1-27-14

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
- (M) 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)

STANDARD ELECTROLIER

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

NOTES:

1. 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.
2. 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.
3. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

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

7-15-13

CONDUIT

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
R	r	CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

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

FLASHING BEACON

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

SIGNAL EQUIPMENT

NEW	EXISTING	
C	C	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
PV	PV	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)
		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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	66	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — 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 1-27-14

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	67	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

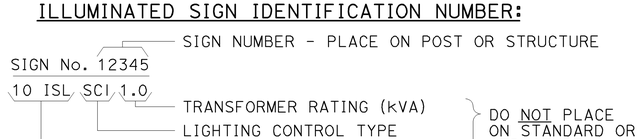
July 19, 2013
PLANS APPROVAL DATE

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

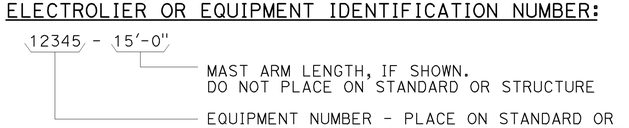
TO ACCOMPANY PLANS DATED 1-27-14

EQUIPMENT IDENTIFICATION

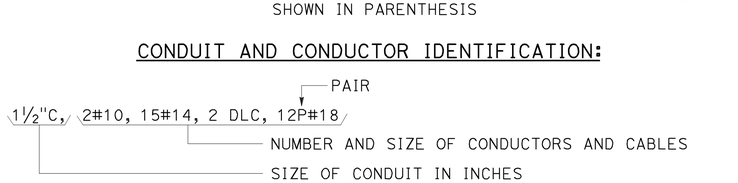
ILLUMINATED SIGN IDENTIFICATION NUMBER:



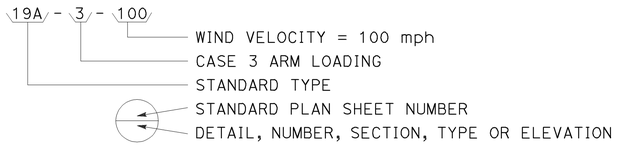
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

NEW	EXISTING	
CMS	cms	CHANGEABLE MESSAGE SIGN
		CLOSED CIRCUIT TELEVISION CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
EMS	ems	EXTINGUISHABLE MESSAGE SIGN
M V	m v	DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO IMAGE SENSOR

WIRING DIAGRAM LEGEND

	EXTERNAL CONDUCTOR
	CONDUCTOR OR BUS
	TIE POINT
	CONTACTOR COIL
	CONTACTOR, NO CONTACT
	TERMINAL BLOCKS
	CONTACTOR, NC CONTACT
	ENCLOSURE BOND
	GROUNDING ELECTRODE
	CIRCUIT BREAKER
	RECEPTACLE

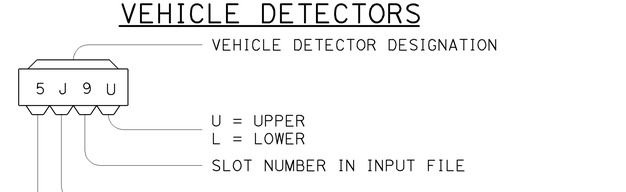
PULL BOXES

NEW	EXISTING	
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED OR NOTED
3	9A(21)	PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

3 No. 3½ PULL BOX
5 No. 5 PULL BOX
6 No. 6 PULL BOX
7 No. 7 (CEILING PULL BOX)
8 No. 8 (PENDANT SOFFIT PULL BOX)
9 No. 9 PULL BOX
9A No. 9A PULL BOX

(C) COMMUNICATIONS PULL BOX
(E) PULL BOX WITH EXTENSION
(S) SPRINKLER CONTROL PULL BOX
(21) ANCHOR BOLTS AND CONDUIT FOR FUTURE INSTALLATION OF TYPE 21 STANDARD
(T) TRAFFIC PULL BOX

VEHICLE DETECTORS



NEW	EXISTING	
		TYPE A DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE B DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE C DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE D DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE E DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		TYPE Q DETECTOR LOOP. OUTLINE OF SAWCUT SHOWN
		MAGNETIC DETECTOR
DH	dh	DETECTOR HANDHOLE
		MICROWAVE OR VIDEO DETECTION ZONE

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

7-11-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	68	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

July 19, 2013
PLANS APPROVAL DATE

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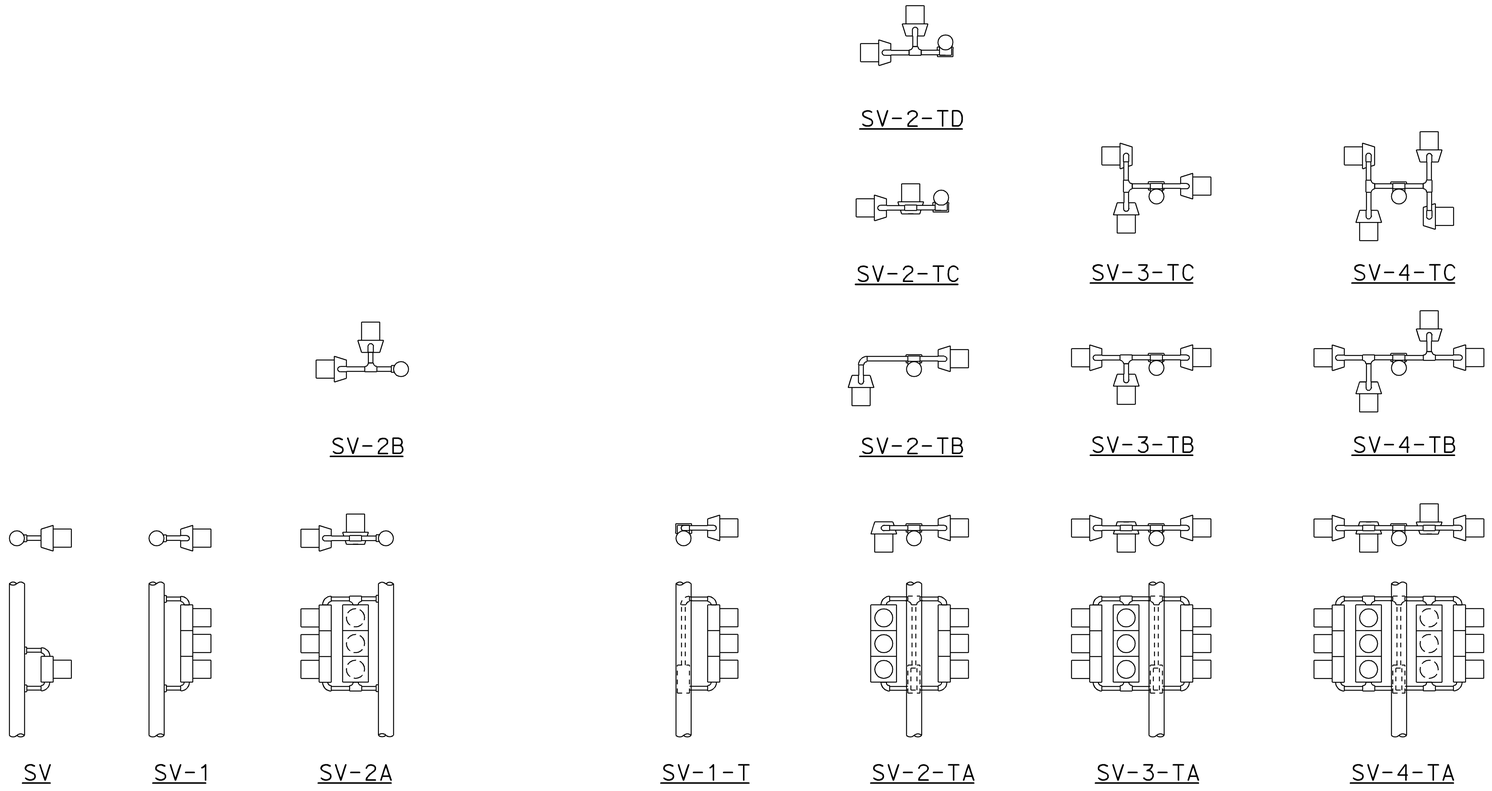
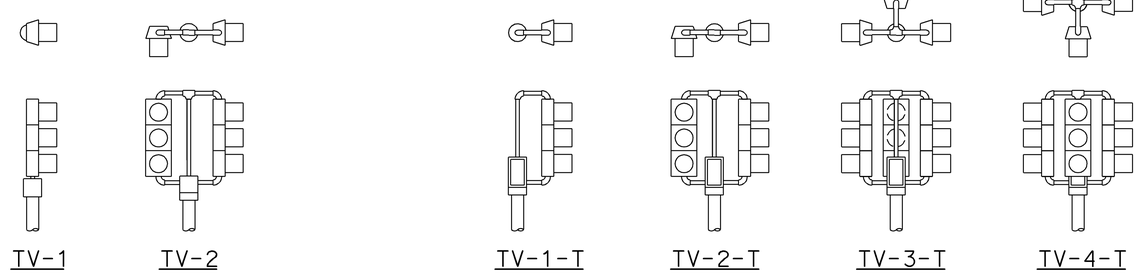
TO ACCOMPANY PLANS DATED 1-27-14



PLAN VIEW OF OTHER SIDE MOUNTINGS

SIDE MOUNTINGS



PLAN VIEW OF TOP MOUNTINGS

TOP 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.

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

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	69	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel
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REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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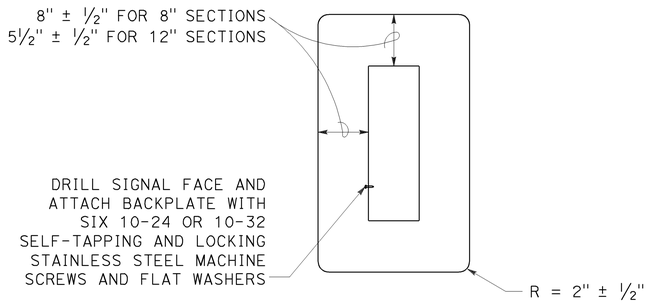
TO ACCOMPANY PLANS DATED 1-27-14

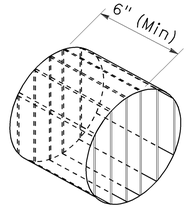
VISORS



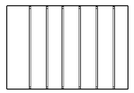
8" AND 12" SECTIONS

BACKPLATE

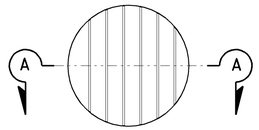
1/16" minimum thickness
3001-14 aluminum or plastic
when specified



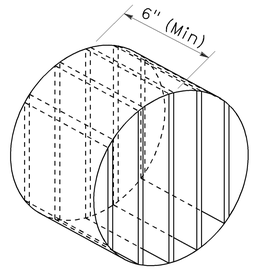
ISOMETRIC VIEW



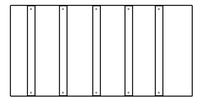
SECTION A-A



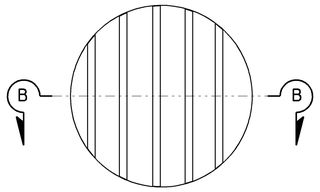
8" DIAMETER
FRONT VIEW



ISOMETRIC VIEW



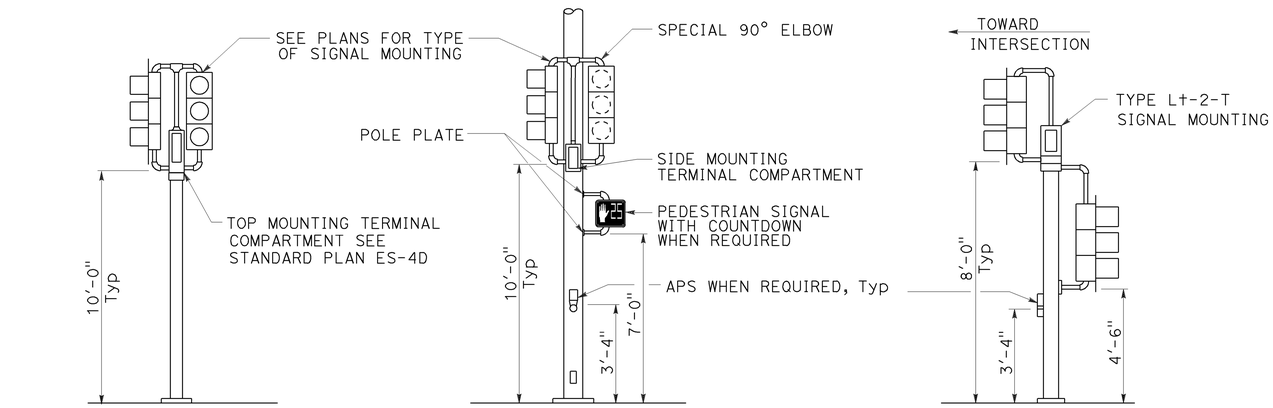
SECTION B-B



12" DIAMETER
FRONT VIEW

DIRECTIONAL LOUVER

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



TOP MOUNTED SIGNALS (TV)

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

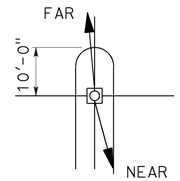
SIDE MOUNTED SIGNALS (SV AND SP)

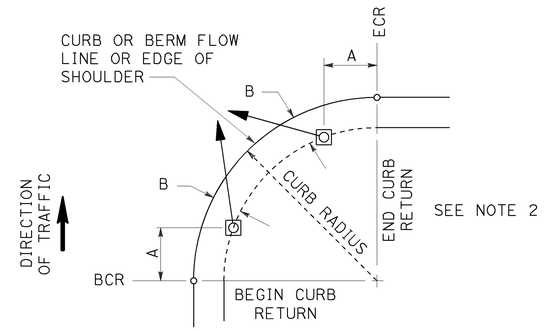
Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

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

TYPICAL SIGNAL INSTALLATIONS

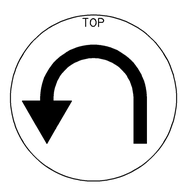




NOTES:

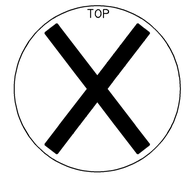
1. Typical signal pole placement unless dimensioned on plans.
2. For A and B dimensions, see Pole Schedule, or as directed by the Engineer.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



U-TURN

BICYCLE



LANE CONTROL

LANE CONTROL

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.

REVISED STANDARD PLAN RSP ES-4C

2010 REVISED STANDARD PLAN RSP ES-4C

7-10-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	70	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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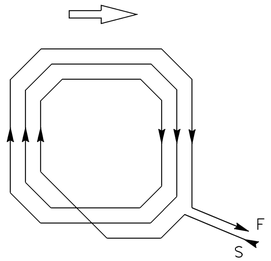
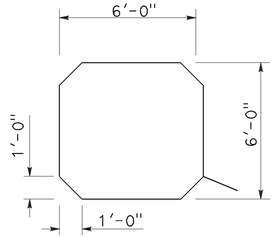
TO ACCOMPANY PLANS DATED 1-27-14

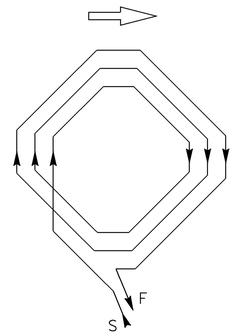


WINDING DETAIL

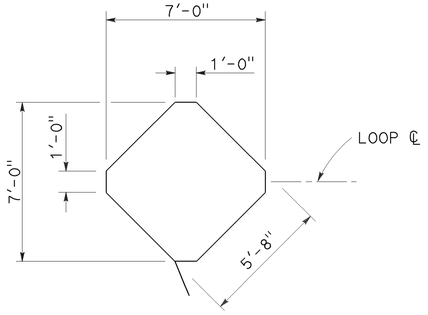


SAWCUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION

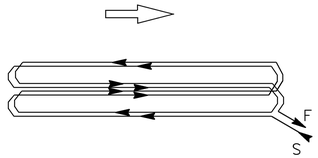


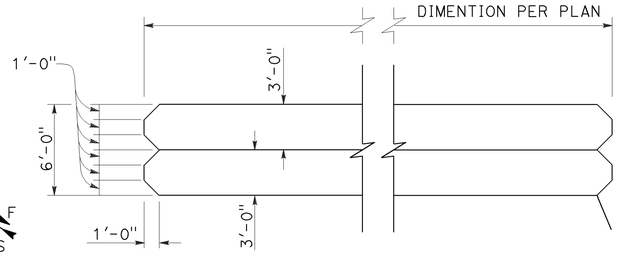
WINDING DETAIL



SAWCUT DETAIL

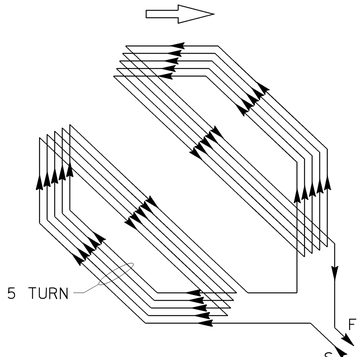
TYPE B LOOP DETECTOR CONFIGURATION



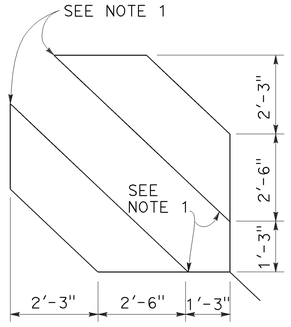


WINDING DETAIL SAWCUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION

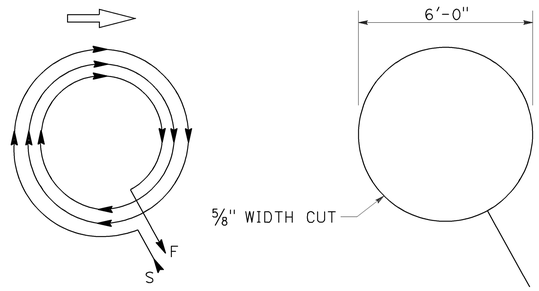


WINDING DETAIL



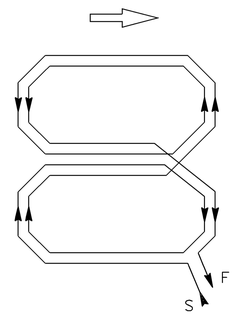
SAWCUT DETAIL

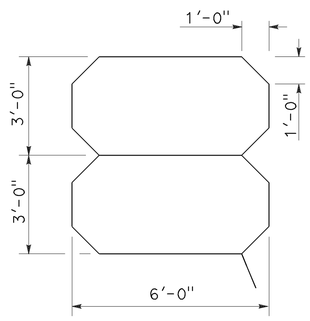
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL

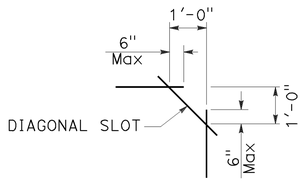
TYPE E LOOP DETECTOR CONFIGURATION





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.

REVISED STANDARD PLAN RSP ES-5B

2010 REVISED STANDARD PLAN RSP ES-5B

7-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	71	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

July 19, 2013
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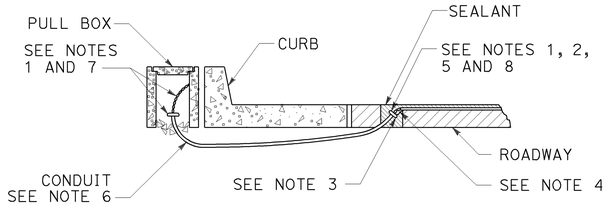
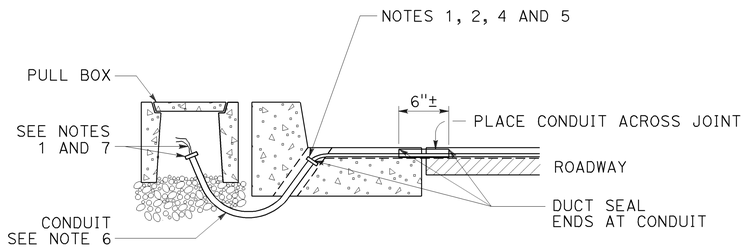
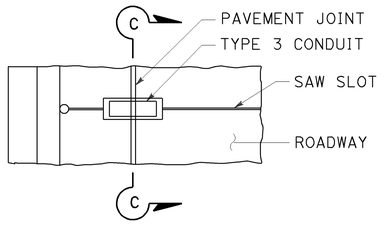
TO ACCOMPANY PLANS DATED 1-27-14



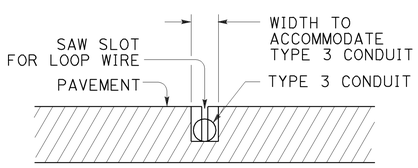
TYPE A
CURB TERMINATION DETAIL



CROSS SECTION

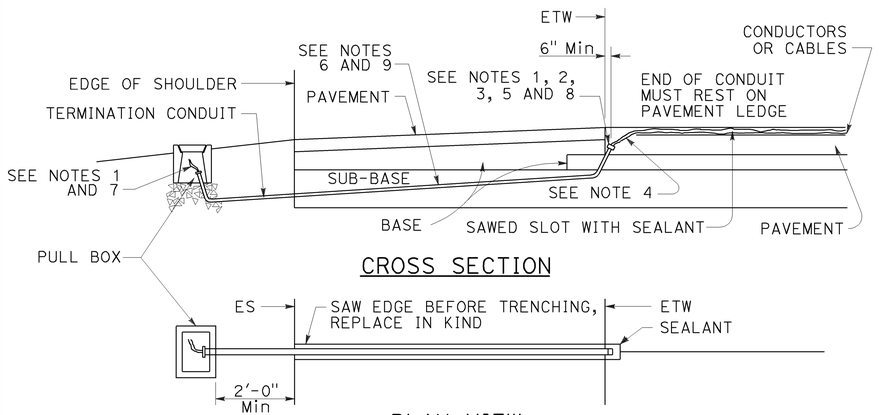


PLAN VIEW



SECTION C-C

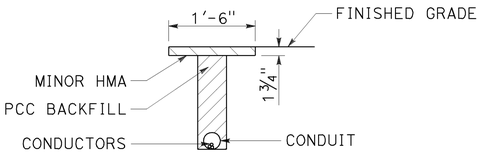
TYPE B
CURB TERMINATION DETAIL



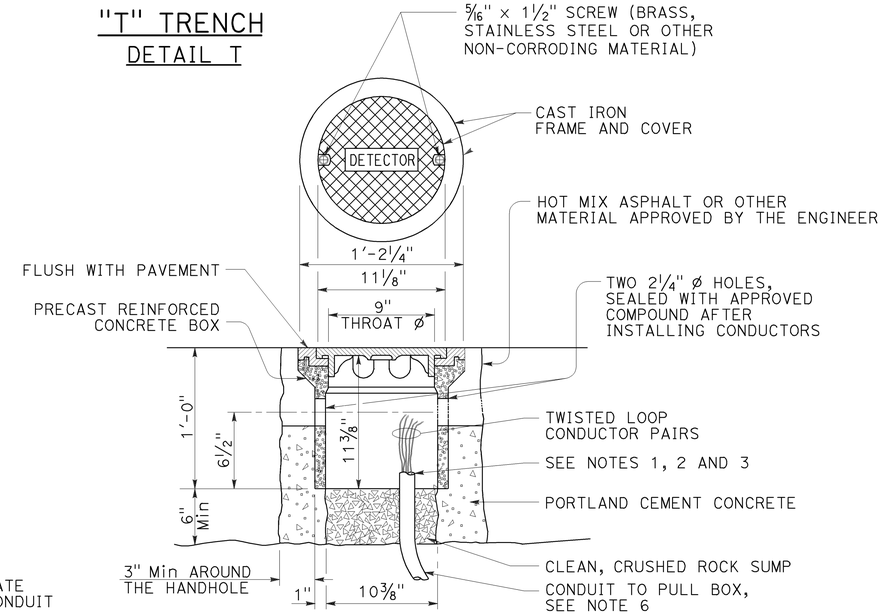
CROSS SECTION

PLAN VIEW

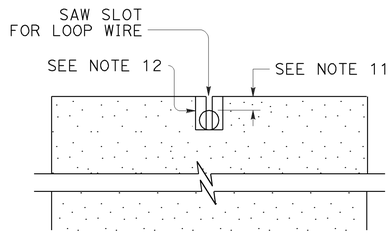
SHOULDER TERMINATION DETAILS



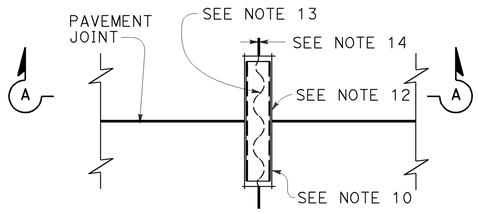
"T" TRENCH DETAIL T



DETECTOR HANDHOLE DETAIL

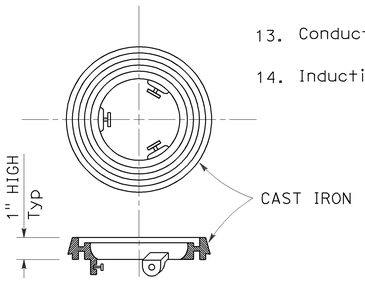


SECTION A-A



PLAN VIEW

TYPICAL LOOP LEAD-IN DETAIL AT PAVEMENT JOINT



LOCKING GRADE RING

NOTES:

1. Bushing shall be used at end of conduit.
2. Tape detector conductors or cables 3" each side of bushings.
3. Install duct seal compound to each end of termination conduit before installing sealant.
4. Round all sharp edges where detector conductors or cables have to pass.
5. End of conduit shall be 3⅛" below roadway surface.
6.

Conduit size	Loop conductors
1"C minimum	1 to 2 pairs
1½"C minimum	3 to 4 pairs
2"C minimum	5 or more pairs

7. Splice detector conductors or cables to detector lead-in-cable.
8. Location of detector handhole when shown on plans.
9. 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.
10. ¾"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
11. ½" Minimum between top of conduit and pavement surface.
12. Sawcut shall not exceed 1" in width and ⅛" longer than conduit to be installed.
13. Conductors with ½" minimum slack inside conduit.
14. Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CURB TERMINATION AND HANDHOLE)

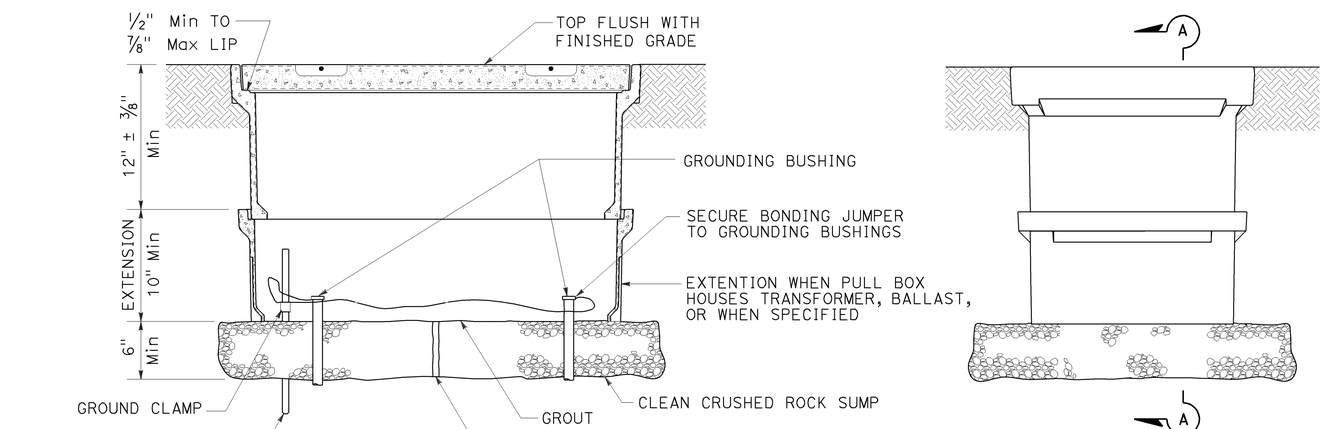
NO SCALE

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

2010 REVISED STANDARD PLAN RSP ES-5D

7-9-13

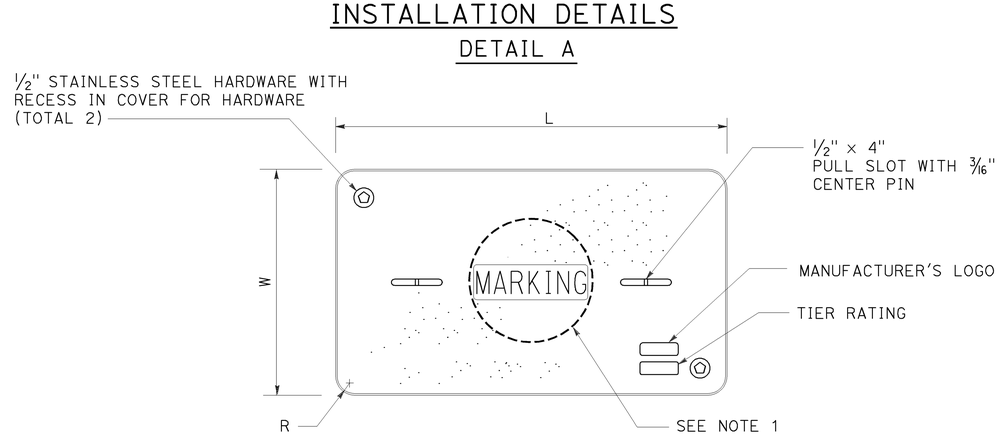


SECTION A-A

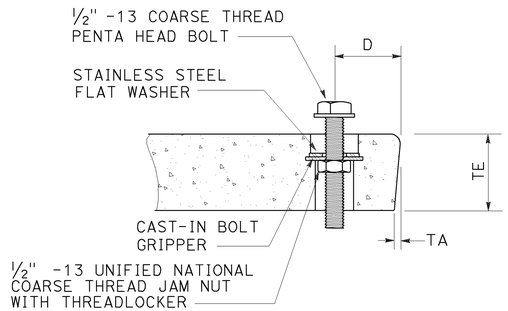
SIDE VIEW

INSTALLATION DETAILS

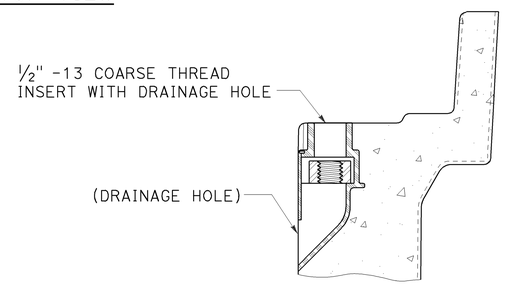
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

DIMENSION TABLE

PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3½	12"	N/A	40 lb	1′ - 3⅜"	10⅛"	1⅜"	2"	⅛"	1¾"	30 lb
No. 5	12"	10"	55 lb	1′ - 11¼"	1′ - 1¾"	1⅜"	2"	⅛"	1¾"	60 lb
No. 6	12"	10"	70 lb	2′ - 6½"	1′ - 5½"	1⅜"	2"	⅛"	2"	85 lb

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Men	1	70.3/70.7	72	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
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 1-27-14

NOTES:

1. 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;
   - A) No. 3½ pull box.
     - 1) "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
     - 2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
   - B) No. 5, 6, 9 or 9A pull box.
     - 1) "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
     - 2) "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
     - 3) "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
     - 4) "IRRIGATION" - Circuits to irrigation controller 120 V or more.
     - 5) "RAMP METER" - Ramp meter circuits.
     - 6) "COUNT STATION" - Count or speed monitor circuits.
     - 7) "COMMUNICATIONS" - Communication circuits.
     - 8) "TOS COMMUNICATIONS" - TOS communication line.
     - 9) "TOS POWER" - TOS power.
     - 10) "TDC POWER" - Telephone demarcation cabinet power.
     - 11) "CCTV" - Closed circuit television circuits.
     - 12) "TMS" - Traffic monitoring station circuits.
     - 13) "CMS" - Changeable message sign circuits.
     - 14) "HAR" - Highway advisory radio circuits.
     - 15) "BOOSTER PUMP" - Booster pump circuit.
2. 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 ⅛" greater.
3. 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 ⅛". Top outside radius of covers and pull boxes shall have a ⅛" radius.
4. Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
5. All dimensions for the cover for non-traffic pull box are nominal values.

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

7-15-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	73	91

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

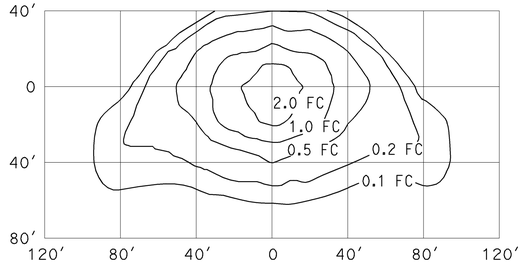
Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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 1-27-14

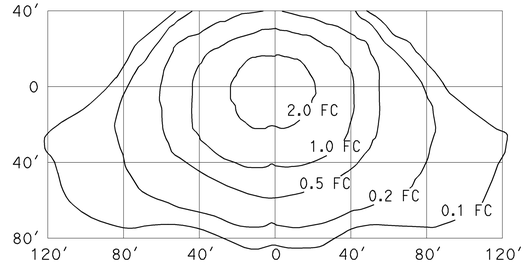
ISOFOOTCANDLE CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
34′ Mounting Height
Lamp operated at 22,000 lm
200-W high pressure sodium lamp
ANSI Designation S66

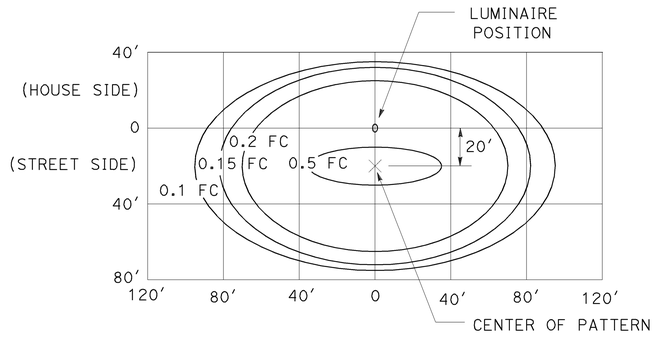
ISOFOOTCANDLE CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
40′ Mounting Height
Lamp operated at 37,000 lm
310-W high pressure sodium lamp
ANSI Designation S67

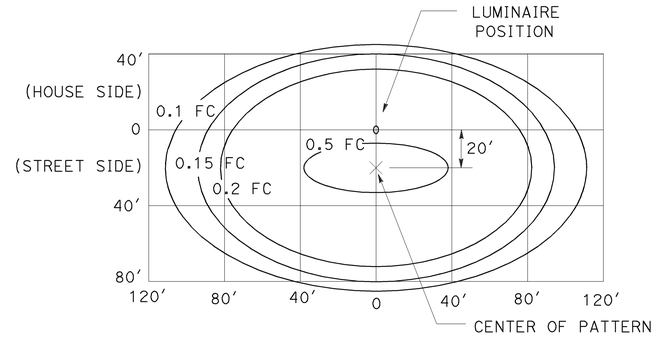
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 1

165-W at 34′ Mounting Height

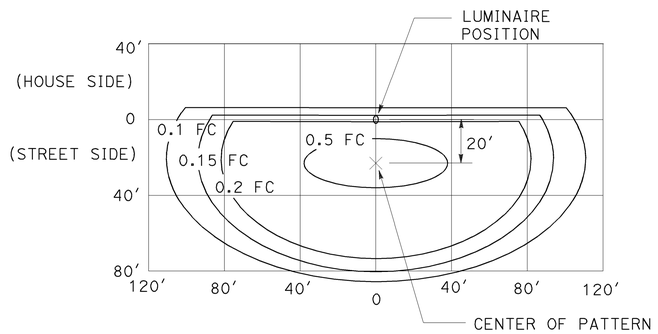
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 2

235-W at 40′ Mounting Height

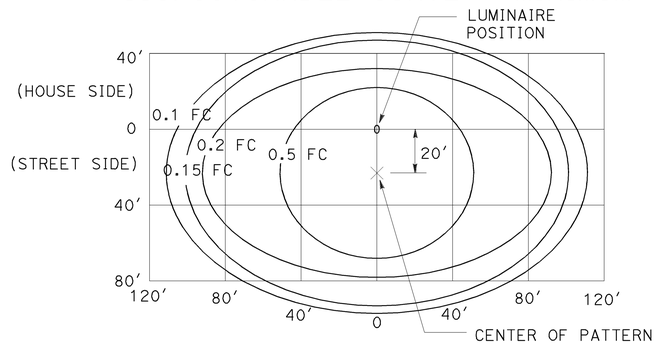
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3

235-W at 40′ Mounting Height
with back side control

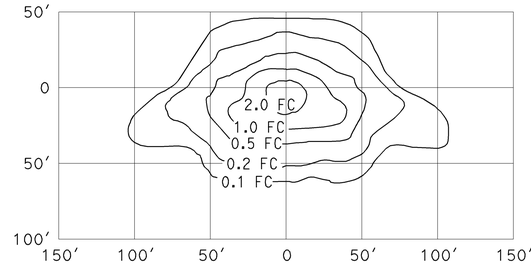
ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 4

300-W at 40′ Mounting Height

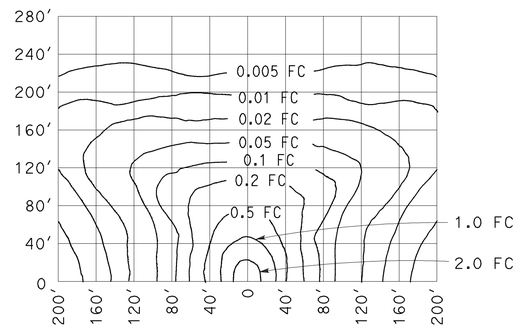
ISOFOOTCANDLE CURVE - MINIMUM



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



LOW PRESSURE SODIUM LUMINAIRE

40′ Mounting Height
Lamp operated at 33,000 lm
180-W low pressure sodium lamp

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.

REVISED STANDARD PLAN RSP ES-10A

2010 REVISED STANDARD PLAN RSP ES-10A

7-9-13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	74	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong, No. 75797, Exp. 06-30-14, CIVIL, STATE OF CALIFORNIA

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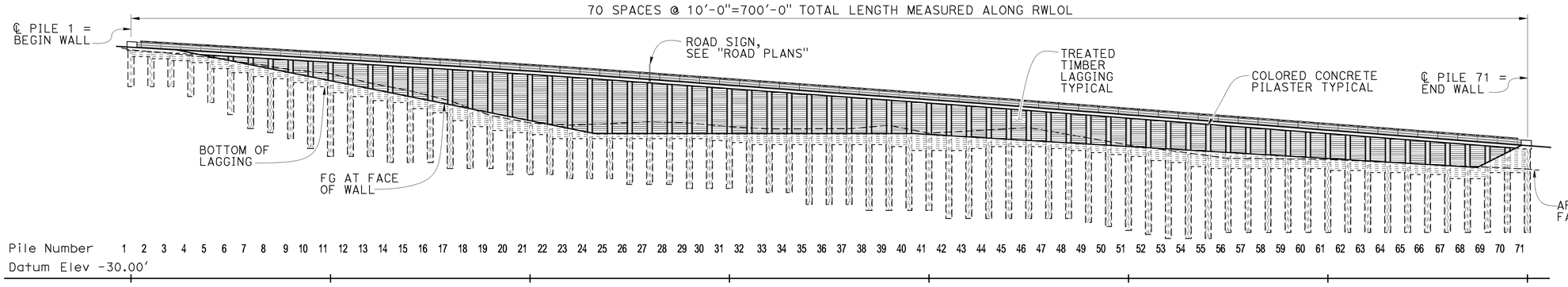
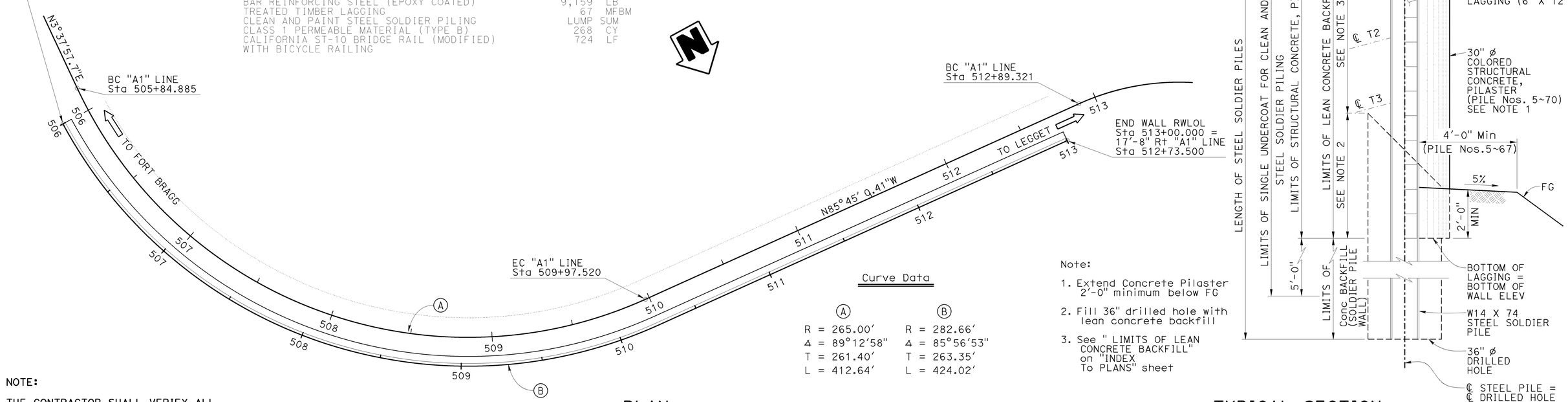


DEVELOPED ELEVATION

1" = 30'

QUANTITIES

STRUCTURE EXCAVATION (SOLDIER PILE WALL)	670	CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	367	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	526	CY
LEAN CONCRETE BACKFILL	248	CY
GROUND ANCHOR (SUBHORIZONTAL)	120	EA
36" DRILLED HOLE	2,690	LF
STEEL SOLDIER PILE (W14X74)	6,697	LF
STRUCTURAL CONCRETE, PILASTER	104	CY
STRUCTURAL CONCRETE, BARRIER SLAB	306	CY
BAR REINFORCING STEEL (EPOXY COATED)	9,159	LB
TREATED TIMBER LAGGING	67	MFBM
CLEAN AND PAINT STEEL SOLDIER PILING	LUMP	SUM
CLASS 1 PERMEABLE MATERIAL (TYPE B)	268	CY
CALIFORNIA ST-10 BRIDGE RAIL (MODIFIED) WITH BICYCLE RAILING	724	LF



Curve Data

Ⓐ	Ⓑ
R = 265.00'	R = 282.66'
Δ = 89°12'58"	Δ = 85°56'53"
T = 261.40'	T = 263.35'
L = 412.64'	L = 424.02'

NOTE:

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

PLAN

1" = 30'

For Index to Plans, Standard Plans List, General Notes and Quantities see "Index To Plans" sheet.

Note:

1. Extend Concrete Pilaster 2'-0" minimum below FG
2. Fill 36" drilled hole with lean concrete backfill
3. See " LIMITS OF LEAN CONCRETE BACKFILL" on "INDEX To PLANS" sheet

TYPICAL SECTION

½" = 1'

Joseph E Downing	DESIGN	BY S. P. Hong	CHECKED H. Fang	LOAD FACTOR DESIGN	LIVE LOADING:			STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 10E0025	SEASIDE BEACH RETAINING WALL
DESIGN ENGINEER	DETAILS	BY G. M. Souza/S. Motalebi	CHECKED H. Fang	LAYOUT	BY S.P.Hong	CHECKED H. Fang				POST MILE 70.5-70.6	GENERAL PLAN
	QUANTITIES	BY S. P. Hong	CHECKED H. Fang	SPECIFICATIONS	BY M. Kopsa	PLANS AND SPECS COMPARED M.Kopsa					

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
06-03-11		1-27-14	9-19-12	1	18

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 01-474901-01-a-gp01.dgn

USERNAME => s136540 DATE PLOTTED => 29-JAN-2014 TIME PLOTTED => 08:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	75	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong No. 75797 Exp. 06-30-14 CIVIL — STATE OF CALIFORNIA

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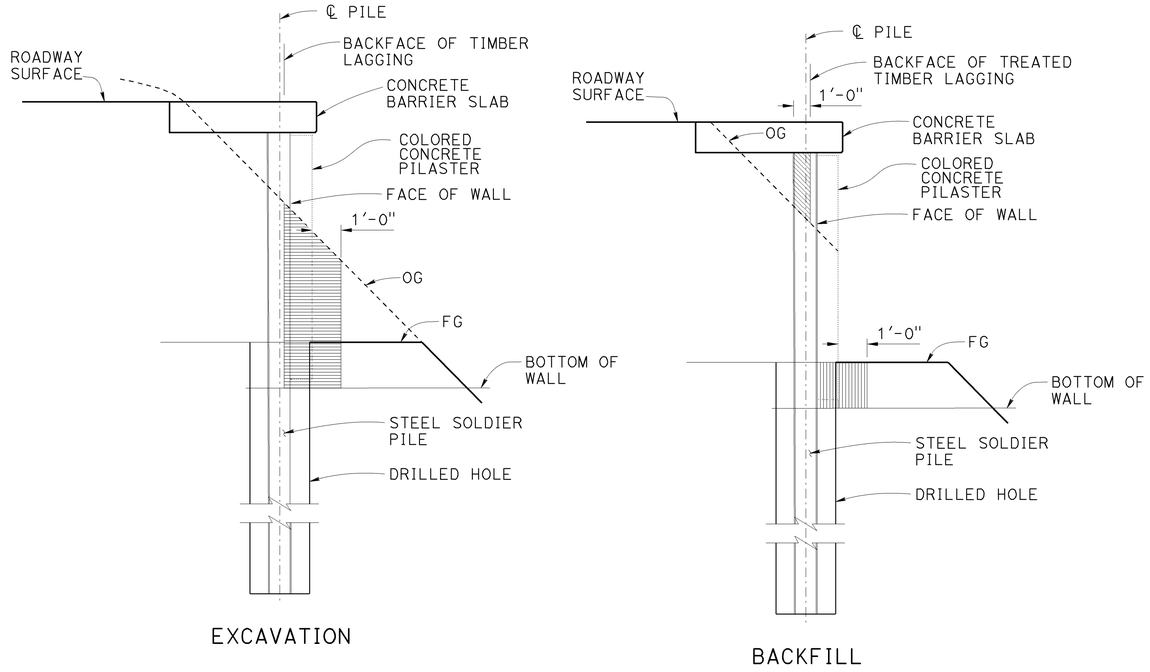


LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

NO SCALE

NOTES:

1. Ca ST-10 Bridge rail (Mod) w/bicycle Railing not shown
2. See "ROAD PLANS" for limits not shown

Structure excavation (Soldier pile wall)

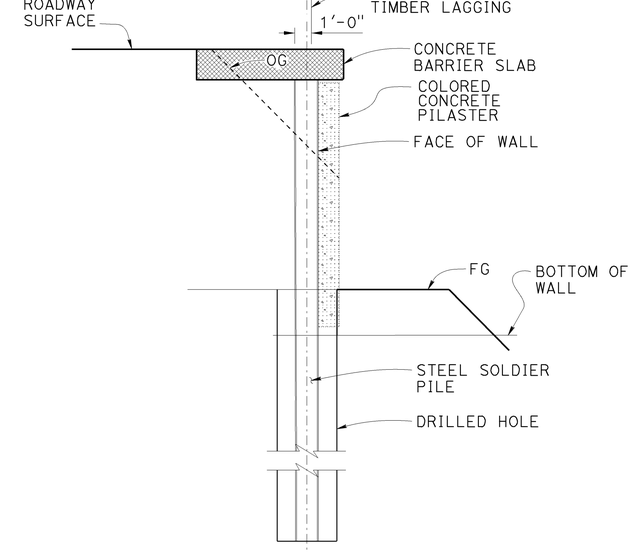
Structure backfill (Soldier pile wall)

Permeable material, Class 1/Type B (Wrapped with Class A filter fabric)

Lean concrete backfill

Structural concrete, barrier slab

Structural concrete, Pilaster



CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

NOTE:

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

GENERAL NOTES

DESIGN:

CALTRANS BRIDGE DESIGN SPECIFICATIONS-APRIL 2000 (LFD)
(1996 AASHTO with Interims and Revisions by CALTRANS)

SOIL PARAMETERS:

(For determination of design lateral earth pressures)
$\phi = 34°$ $\gamma = 125$ psf

LIVE LOAD:

Surcharge - 260 psf

REINFORCED CONCRETE:

$f_y = 60$ ksi $f'_c = 3{,}600$ psi $n = 8$

PRESTRESSING STEEL: (GROUND ANCHORS)

T = Design force of Ground Anchor, See "Design Table" sheet
f_{pu} = Minimum Ultimate Tensile Stress of Steel in the Ground Anchor (ksi)
A_s(Min.) = Minimum cross sectional area of steel in Ground Anchor (inch^2)
Steel = ASTM designation: A416 (Strands)

$$A_s(\text{Min.}) = \frac{1.5\ T}{0.75\ f_{pu}}$$

Lock-off Load =1.00 T

STRUCTURAL STEEL:

ASTM Designation:

A709/A709M, Grade 50 or A572/A572M, Grade 50

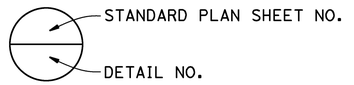
$F_y = 50$ ksi $f_s = 27.5$ ksi

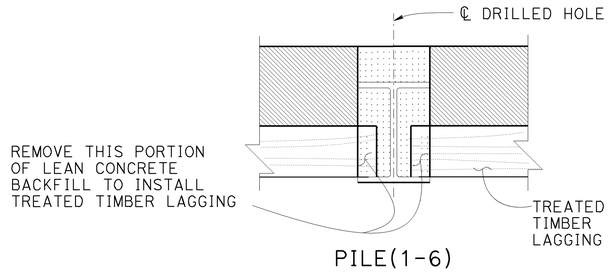
STRUCTURAL TIMBER:

Treated Douglas Fir, Grade No. 1 or better.
Timber shall be full sawn.

STANDARD PLANS 2010

	A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
RSP	B11-68	CALIFORNIA ST-10 BRIDGE RAIL (SHEET 1 OF 3)
	B11-69	CALIFORNIA ST-10 BRIDGE RAIL (SHEET 2 OF 3)
	B11-70	CALIFORNIA ST-10 BRIDGE RAIL (SHEET 3 OF 3)





LIMITS OF LEAN CONCRETE BACKFILL

NO SCALE

NOTE:
1. Concrete pilaster and Class A filter fabric not shown

2. See "TYPICAL SECTION" on "GENERAL PLAN" sheet for vertical limits

INDEX TO PLANS

	BY	CHECKED
DESIGN	S. P. Hong	H. Fang
DETAILS	G.M.Souza/S.Motalebi	H. Fang
QUANTITIES	S. P. Hong	H. Fang

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
02-13-12		09-19-12	09-30-13	2	18

FILE => 01-474901-02-a-itp.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	76	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Seung Pyo Hong
No. 75797
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

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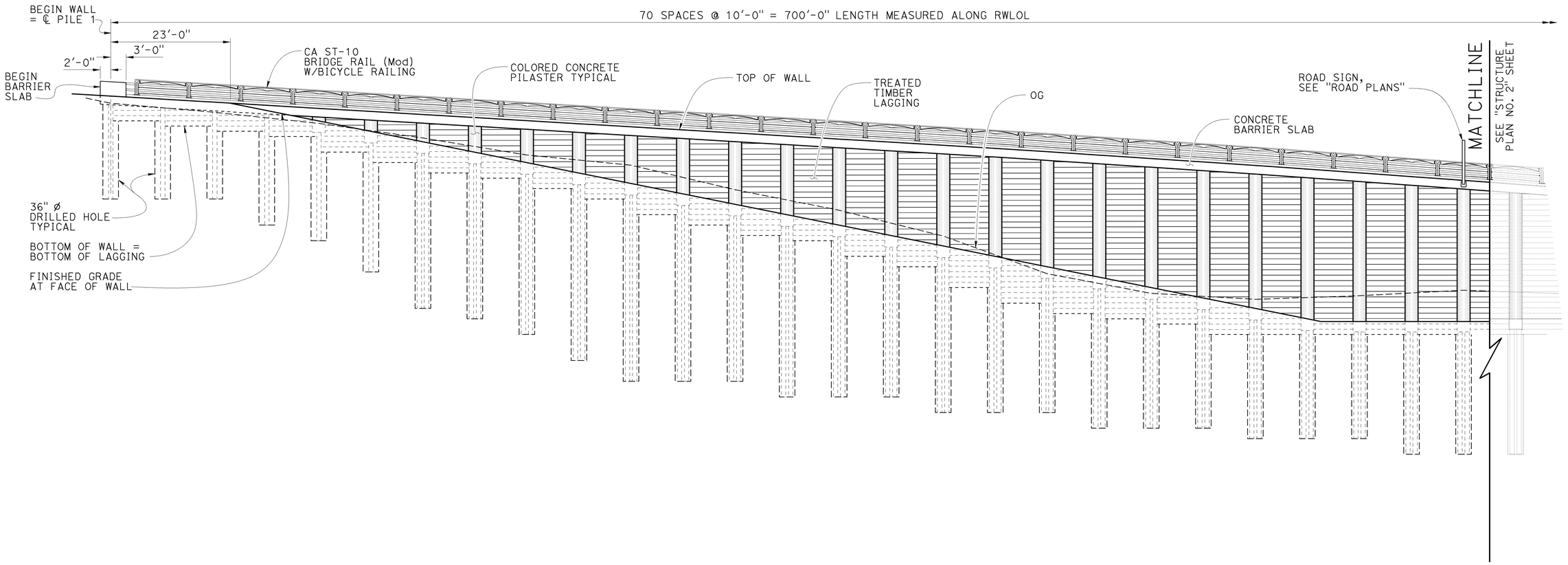

NUMBER OF GROUND ANCHORS	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
NUMBER OF LAGGING	3	4	4	4	7	8	9	10	11	13	15	16	18	18	20	22	25	27	28	29	29	30	30	29	28	28	27		
PILE NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	

Datum Elevation = -30.00'

506+00 507+00 508+00

NOTE:

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

PARTIAL DEVELOPED ELEVATION

1" = 10'

DESIGN	BY S. P. Hong	CHECKED H. Fang	
DETAILS	BY G. M. Souza/S. Motalebi	CHECKED H. Fang	
QUANTITIES	BY S. P. Hong	CHECKED H. Fang	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
STRUCTURE PLAN NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-08-11		09-14-12	09-20-13	3	18

FILE => 01-474901-03-a-sp01.dgn

USERNAME => s136540 DATE PLOTTED => 29-JAN-2014 TIME PLOTTED => 08:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	77	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Seung Pyo Hong
No. 75797
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

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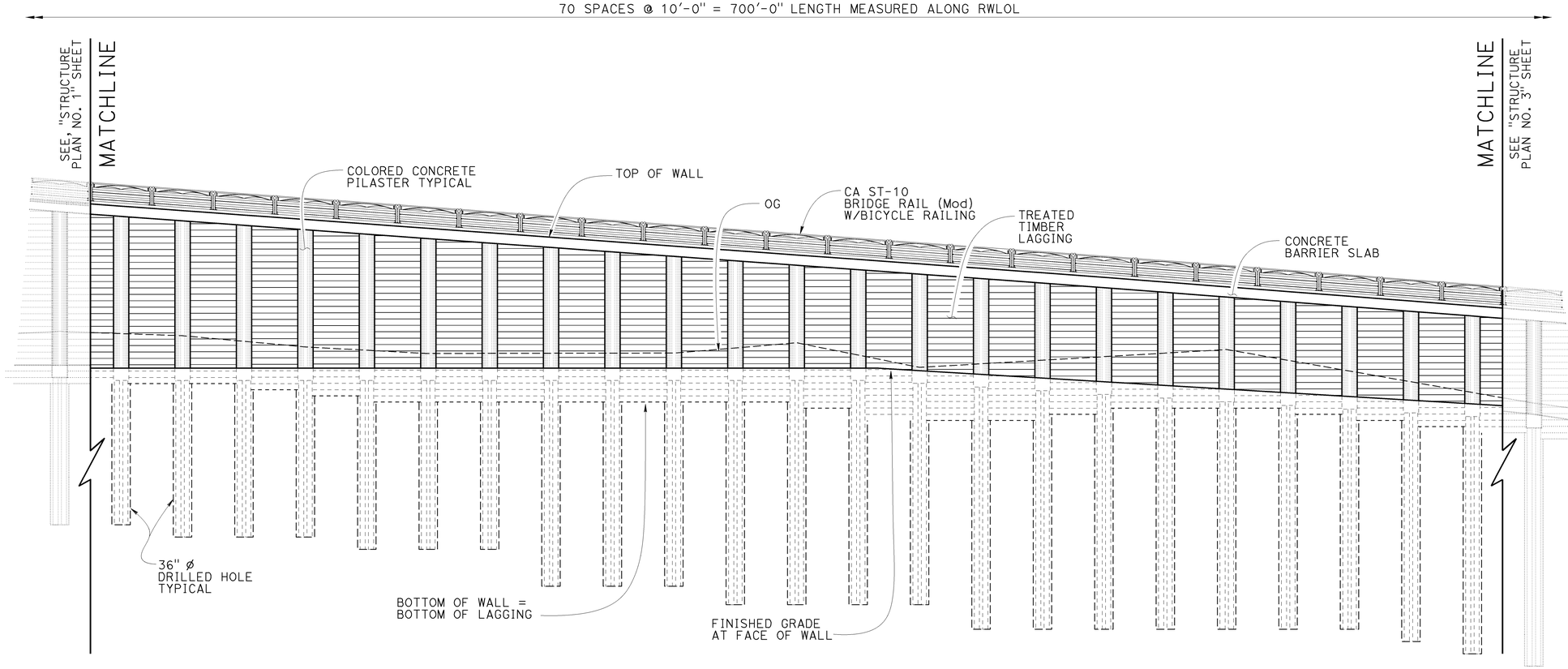
70 SPACES @ 10'-0" = 700'-0" LENGTH MEASURED ALONG RWLOL



NUMBER OF GROUND ANCHORS	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	2	2	
NUMBER OF LAGGING		27	26	26	26	26	26	26	25	24	24	23	22	23	24	23	22	21	19	18	18	18	18	18	19		
PILE NUMBER	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51		

Datum Elevation = -30.00'

509+00 510+00 511+00

NOTE:

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

PARTIAL DEVELOPED ELEVATION

1" = 10'

DESIGN	BY S. P. Hong	CHECKED H. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY G. M. Souza/S. Motalebi	CHECKED H. Fang	
QUANTITIES	BY S. P. Hong	CHECKED H. Fang	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
STRUCTURE PLAN NO. 2

~~STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV: 08-01-18)~~

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-08-11		09-14-12	09-24-13	4	18

FILE => 01-474901-04-a-sp02.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

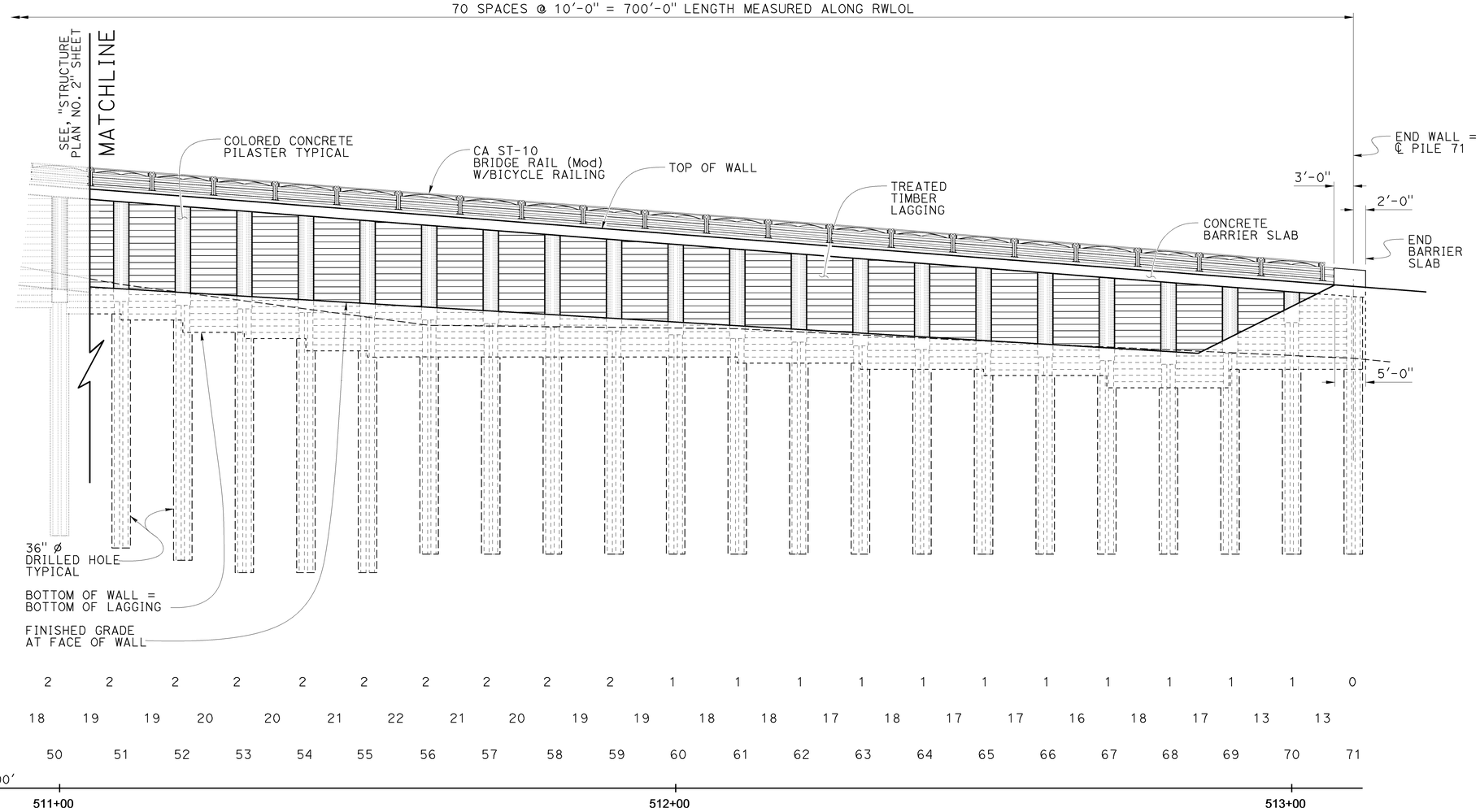
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	78	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Seung Pyo Hong
No. 75797
Exp. 06-30-14
CIVIL
STATE OF CALIFORNIA

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



NUMBER OF GROUND ANCHORS	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	0	
NUMBER OF LAGGING	18	19	19	20	20	21	22	21	20	19	19	18	18	17	18	17	17	16	18	17	13	13	
PILE NUMBER	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	

Datum Elevation = -45.00'

511+00 512+00 513+00

NOTE:

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

PARTIAL DEVELOPED ELEVATION

1" = 10'

DESIGN	BY S. P. Hong	CHECKED H. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 10E0025
DETAILS	BY G. M. Souza/S. Motalebi	CHECKED H. Fang			POST MILE 70.5-70.6
QUANTITIES	BY S. P. Hong	CHECKED H. Fang			

SEASIDE BEACH RETAINING WALL

STRUCTURE PLAN NO. 3

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-06-11		09-14-12	09-20-13	5	18

FILE => 01-474901-05-a-sp03.dgn

USERNAME => s136540 DATE PLOTTED => 29-JAN-2014 TIME PLOTTED => 08:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	79	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong — No. 75797 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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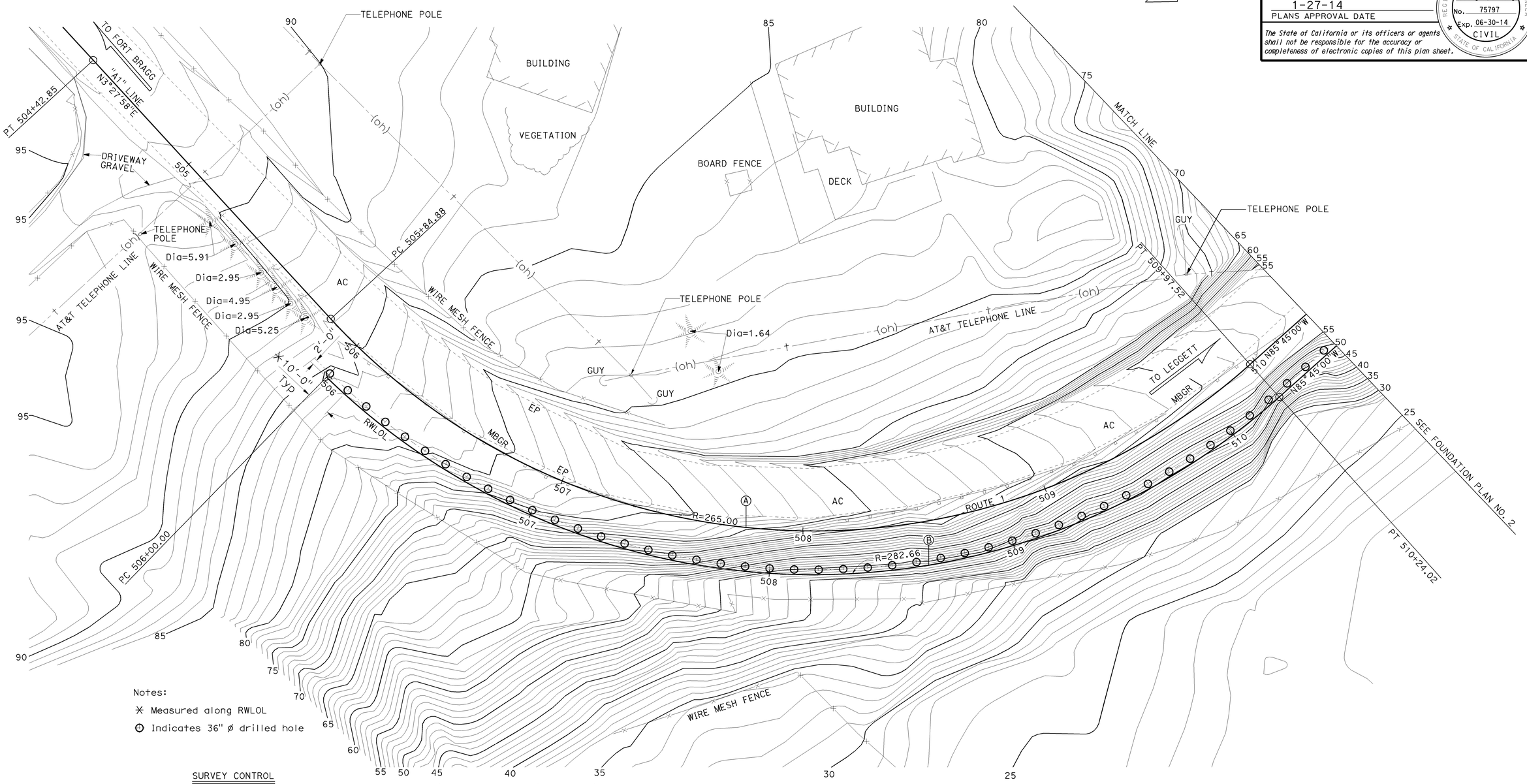
CURVE DATA

No.	R	Δ	T	L
Ⓐ	265.00	89°12'58.00"	261.40	412.64
Ⓑ	282.66	85°56'53.17"	263.35	424.02



Notes:

⊀ Measured along RWLOL

⊙ Indicates 36" ø drilled hole

SURVEY CONTROL

MEN 1-70.62 (SHOWN ON FOUNDATION PLAN NO. 2)
Fnd ⅝-inch Rebar W/Aluminum Cap
79.32 Lt "ALT5" Line RTE 1
Sta. 514+32.62
N 2,334,000.56
E 6,063,832.68
Elev. =24.30

MEN 1-70.69 (NOT SHOWN)
Fnd ⅝-inch Rebar W/Aluminum Cap
29.75 Lt "ALT5" Line RTE 1
Sta. 518+14.98
N 2,334,414.90
E 6,063,936.70
Elev. =24.35

Note:

See "ROAD PLANS" for construction easement line

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

PRELIMINARY INVESTIGATION SECTION					
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD83 (1991.35)	SURVEYED	BY District/J. Pallares	CHECKED	BY L. Lew 06/2011
	ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY J. Zhou 05/2011	CHECKED	BY T. Zolnikov 06/2011

DESIGN	BY S. P. Hong	CHECKED H. Fang
DETAILS	BY G. M. Souza	CHECKED H. Fang
QUANTITIES	BY S. P. Hong	CHECKED H. Fang

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
FOUNDATION PLAN NO. 1

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
06-13-11	09-06-11	02-13-12		6	18

FILE => 01-474901-06-e-fp01.dgn

DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	80	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong — No. 75797 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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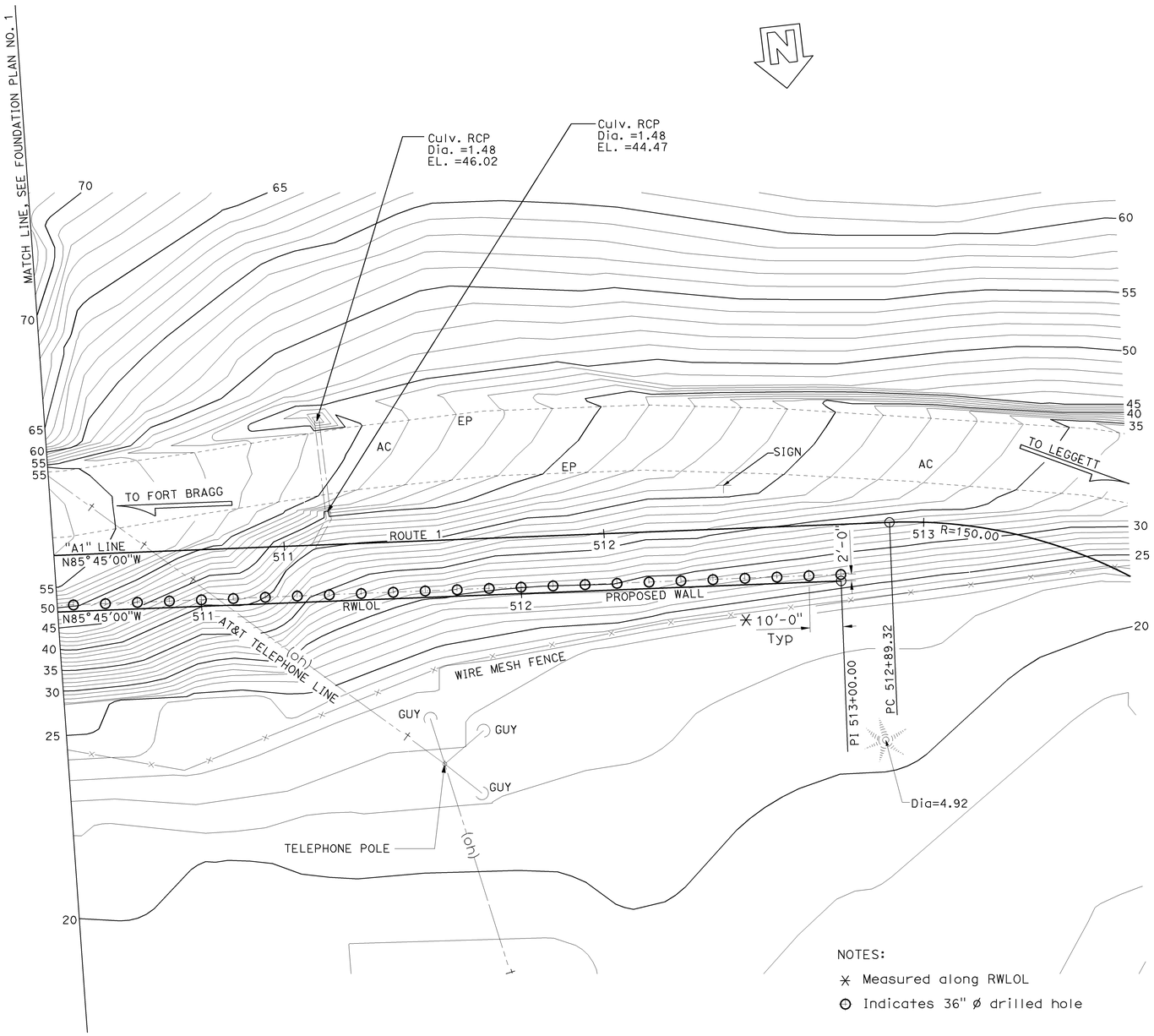


NOTES:

⁎ Measured along RWLOL

⊙ Indicates 36" ø drilled hole

NOTE:

See "ROAD PLANS" for construction easement line

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

PRELIMINARY INVESTIGATION SECTION					
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD83 (1991.35)	SURVEYED	BY District/J. Pallares	CHECKED	BY L. Lew 06/2011
	ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY J. Zhou 05/2011	CHECKED	BY T. Zolnikov 06/2011

DESIGN	BY S. P. Hong	CHECKED H. Fang
DETAILS	BY G. M. Souza	CHECKED H. Fang
QUANTITIES	BY S. P. Hong	CHECKED H. Fang

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
FOUNDATION PLAN NO. 2

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
06-13-11	09-02-11	09-08-11	02-13-12	7	18

FILE => 01-474901-07-e-fp02.dgn

DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DESIGN TABLE

PILE No.	RWLOL STATION (ft)	TOP OF WALL Elev (ft)	Approx OG Elev	BOTTOM OF WALL Elev (ft)	FG Elev ALONG FACE OF WALL (ft)	PILE CUT OFF Elev (ft)	PILE TIP Elev (ft)	PILE SECTION	GROUND ANCHORS								
									T1			T2			T3		
									T (KIP)	GROUND ANCHOR Elev (ft)	UNBONDED LENGTH (ft)	T (KIP)	GROUND ANCHOR Elev(ft)	UNBONDED LENGT (ft)	T (KIP)	GROUND ANCHOR Elev (ft)	UNBONDED LENGTH (ft)
1	506+00	85.78	85		85.68	83.87	66.00	1-W14 x 74									
2	506+10	85.19	83	81.00	85.19	83.28	66.00	1-W14 x 74									
3	506+20	84.60	83	80.00	84.60	82.68	66.00	1-W14 x 74									
4	506+30	84.01	82	79.00	83.02	82.08	61.00	1-W14 x 74									
5	506+40	83.42	81	78.00	81.02	81.48	58.00	1-W14 x 74									
6	506+50	82.83	80	75.00	79.02	80.89	52.00	1-W14 x 74									
7	506+60	82.24	79	73.00	77.02	80.29	45.00	2-W14 x 74									
8	506+70	81.65	78	71.00	75.02	79.69	43.00	2-W14 x 74									
9	506+80	81.06	77	70.00	73.02	79.09	40.00	2-W14 x 74									
10	506+90	80.47	75	68.00	71.02	78.50	35.00	2-W14 x 74	50.0	75.50	40.00						
11	507+00	79.88	75	66.00	69.02	77.90	31.00	2-W14 x 74	70.0	72.75	40.00						
12	507+10	79.29	73	63.00	67.02	77.30	31.00	2-W14 x 74	90.0	70.25	40.00						
13	507+20	78.70	72	61.00	65.02	76.70	31.00	2-W14 x 74	100.0	69.00	40.00						
14	507+30	78.11	69	59.00	63.02	76.11	28.00	2-W14 x 74	100.0	67.50	40.00						
15	507+40	77.52	67	58.00	61.02	75.51	28.00	2-W14 x 74	65.0	71.50	40.00	50.0	64.50	30.00			
16	507+50	76.93	66	55.00	59.02	74.91	28.00	2-W14 x 74	80.0	70.75	40.00	70.0	62.75	30.00			
17	507+60	76.34	64	53.00	57.02	74.31	22.00	2-W14 x 74	110.0	68.25	40.00	80.0	59.75	30.00			
18	507+70	75.75	61	49.00	55.02	73.72	22.00	2-W14 x 74	95.0	68.75	40.00	50.0	61.75	30.00	80.0	54.75	20.00
19	507+80	75.10	58	46.00	53.02	73.06	20.00	2-W14 x 74	110.0	68.00	40.00	65.0	60.00	30.00	90.0	53.00	20.00
20	507+90	74.44	55	44.00	51.02	72.41	20.00	2-W14 x 74	110.0	67.25	40.00	64.0	59.25	30.00	100.0	52.25	20.00
21	508+00	73.79	52	43.00	49.02	71.75	17.00	2-W14 x 74	110.0	66.75	40.00	70.0	58.75	30.00	100.0	50.75	20.00
22	508+10	73.13	51	42.00	47.02	71.09	17.00	2-W14 x 74	110.0	66.00	40.00	70.0	58.00	30.00	110.0	50.00	20.00
23	508+20	72.47	49	40.00	45.02	70.44	17.00	2-W14 x 74	110.0	65.25	40.00	75.0	57.25	30.00	110.0	48.25	20.00
24	508+30	71.77	49	40.00	43.02	69.74	17.00	2-W14 x 74	110.0	64.75	40.00	70.0	56.75	30.00	110.0	48.75	20.00
25	508+40	71.04	49	40.00	42.50	69.02	17.00	2-W14 x 74	110.0	64.00	40.00	65.0	56.00	30.00	90.0	48.00	20.00
26	508+50	70.32	49	40.00	42.50	68.31	17.00	2-W14 x 74	110.0	63.25	45.00	60.0	55.25	40.00	90.0	48.25	30.00
27	508+60	69.60	50	40.00	42.50	67.59	17.00	2-W14 x 74	110.0	62.50	45.00	60.0	55.50	40.00	100.0	48.50	30.00
28	508+70	68.88	51	40.00	42.50	66.88	17.00	2-W14 x 74	90.0	62.75	45.00	60.0	56.25	40.00	100.0	48.75	30.00
29	508+80	68.15	51	40.00	42.50	66.16	15.00	2-W14 x 74	80.0	62.00	45.00	55.0	56.00	40.00	90.0	48.50	30.00
30	508+90	67.43	51	39.00	42.50	65.45	15.00	2-W14 x 74	80.0	61.25	45.00	50.0	55.25	40.00	90.0	47.75	30.00
31	509+00	66.71	49	38.00	42.50	64.73	15.00	2-W14 x 74	80.0	60.75	45.00	55.0	54.75	40.00	90.0	47.25	30.00
32	509+10	65.99	47	37.00	42.50	64.02	13.00	2-W14 x 74	80.0	60.00	45.00	50.0	54.00	40.00	100.0	46.50	30.00
33	509+20	65.26	48	37.00	42.50	63.30	13.00	2-W14 x 74	80.0	59.25	45.00	50.0	53.25	40.00	90.0	45.75	30.00
34	509+30	64.54	46	37.00	42.50	62.59	13.00	2-W14 x 74	80.0	58.50	45.00	55.0	53.00	40.00	90.0	45.50	30.00
35	509+40	63.82	47	37.00	42.50	61.87	7.00	2-W14 x 74	80.0	57.75	45.00	45.0	52.25	40.00	90.0	45.75	30.00
36	509+50	63.10	47	37.00	42.50	61.16	7.00	2-W14 x 74	110.0	55.00	45.00	80.0	46.00	30.00			
37	509+60	62.37	47	37.00	42.50	60.44	7.00	2-W14 x 74	110.0	54.25	45.00	70.0	45.75	30.00			
38	509+70	61.65	46	37.00	42.50	59.73	4.00	2-W14 x 74	110.0	53.75	45.00	70.0	45.75	30.00			
39	509+80	60.93	47	36.00	42.50	59.01	4.00	2-W14 x 74	110.0	53.00	45.00	70.0	45.00	30.00			
40	509+90	60.21	47	34.00	42.50	58.30	4.00	2-W14 x 74	110.0	52.25	45.00	70.0	43.75	30.00			
41	510+00	59.48	48	34.00	42.10	57.58	4.00	2-W14 x 74	110.0	51.50	45.00	80.0	43.00	30.00			
42	510+10	58.76	48	34.00	41.50	56.87	0.00	2-W14 x 74	110.0	50.75	45.00	70.0	42.75	30.00			
43	510+20	58.04	47	35.00	40.90	56.15	0.00	2-W14 x 74	110.0	50.00	45.00	60.0	42.00	30.00			
44	510+30	57.29	46	36.00	40.30	55.41	0.00	2-W14 x 74	80.0	50.25	45.00	60.0	43.25	30.00			
45	510+40	56.52	46	36.00	39.70	54.65	0.00	2-W14 x 74	80.0	49.50	45.00	50.0	42.50	30.00			
46	510+50	55.75	48	36.00	39.10	53.88	0.00	2-W14 x 74	115.0	45.25	50.00						
47	510+60	54.98	50	35.00	38.50	53.12	0.00	2-W14 x 74	115.0	44.50	50.00						
48	510+70	54.21	48	34.00	37.90	52.36	0.00	2-W14 x 74	115.0	43.75	50.00						
49	510+80	53.44	46	33.00	37.30	51.60	-2.00	2-W14 x 74	115.0	43.00	50.00						
50	510+90	52.66	44	32.00	36.70	50.83	-4.00	2-W14 x 74	70.0	46.25	50.00	50.0	39.75	50.00			
51	511+00	51.89	42	31.00	36.10	50.07	-6.00	2-W14 x 74	70.0	45.50	50.00	50.0	39.00	50.00			
52	511+10	51.12	41	29.00	35.50	49.31	-8.00	2-W14 x 74	80.0	44.25	60.00	50.0	37.25	50.00			
53	511+20	50.35	40	28.00	34.90	48.55	-10.00	2-W14 x 74	80.0	43.50	60.00	60.0	36.50	50.00			
54	511+30	49.58	37	26.00	34.30	47.78	-10.00	2-W14 x 74	80.0	42.75	60.00	70.0	35.75	55.00			
55	511+40	48.81	34	25.00	33.70	47.02	-10.00	2-W14 x 74	90.0	41.50	60.00	60.0	34.00	55.00			
56	511+50	48.04	33	25.00	33.10	46.26	-7.00	2-W14 x 74	90.0	40.75	60.00	60.0	33.25	55.00			
57	511+60	47.27	32	25.00	32.50	45.50	-7.00	2-W14 x 74	80.0	40.50	60.00	70.0	33.50	55.00			
58	511+70	46.50	31	25.00	31.90	44.73	-7.00	2-W14 x 74	80.0	39.75	60.00	50.0	32.75	55.00			
59	511+80	45.73	31	25.00	31.30	43.97	-7.00	2-W14 x 74	80.0	39.00	60.00	50.0	31.75	55.00			
60	511+90	44.96	31	25.00	30.70	43.21	-7.00	2-W14 x 74	120.0	34.75	45.00						
61	512+00	44.19	31	24.00	30.10	42.45	-7.00	2-W14 x 74	120.0	33.75	45.00						
62	512+10	43.42	31	24.00	29.50	41.68	-7.00	2-W14 x 74	120.0	33.00	45.00						
63	512+20	42.65	31	23.00	28.90	40.92	-7.00	2-W14 x 74	110.0	32.75	45.00						
64	512+30	41.88	30	23.00	28.30	40.16	-7.00	2-W14 x 74	110.0	32.00	45.00						
65	512+40	41.11	30	22.00	27.70	39.39	-7.00	2-W14 x 74	110.0	31.25	45.00						
66	512+50	40.34	29	22.00	27.10	38.63	-7.00	2-W14 x 74	110.0	30.50	45.00						
67	512+60	39.57	29	20.00	26.50	37.87	-7.00	2-W14 x 74	110.0	29.75	45.00						
68	512+70	38.79	28	20.00	25.90	37.11	-7.00	2-W14 x 74	110.0	29.00	45.00						
69	512+80	38.02	28	23.00	28.20	36.34	-7.00	2-W14 x 74	70.0	31.25	45.00						
70	512+90	37.25	27	23.00	33.20	35.58	-7.00	2-W14 x 74	70.0	30.50	45.00						
71	513+00	36.48	27		36.48	34.82	-7.00	2-W14 x 74									

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	81	91

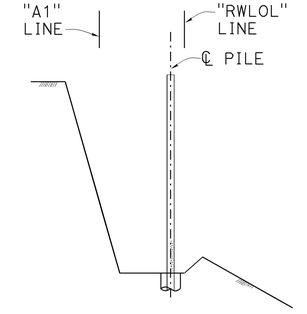
Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong No. 75797 Exp. 06-30-14 CIVIL — STATE OF CALIFORNIA

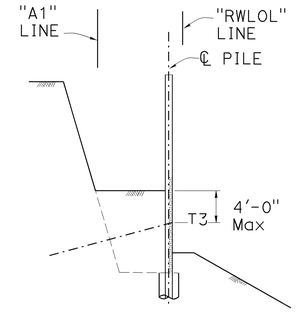
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Note: Temporary slope for construction shall be 1:1, or flatter, or use benches max 4'-0" high.



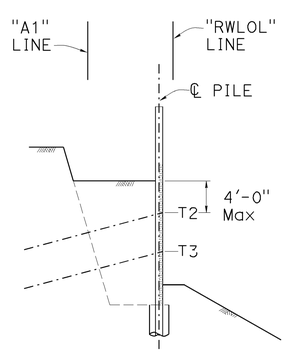
STAGE 1:

1. Construct soldier piles.



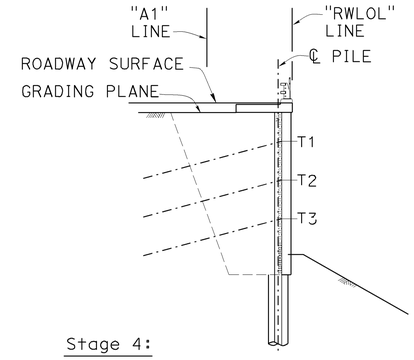
STAGE 2:

1. Backfill behind wall 4'-0" max above level T3.
2. Install, stress, and lock off ground anchors in level T3.



STAGE 3:

1. Backfill behind wall 4'-0" max above level T2.
2. Install, stress, and lock off ground anchors in level T2.



Stage 4:

1. Backfill behind wall up to grading plane.
2. Install, stress, and lock off ground anchors in level T1
3. Construct barrier slab and concrete barrier.
4. Construct concrete pilaster.

CONSTRUCTION SEQUENCE

no scale

	BY	CHECKED
DESIGN	S. P. Hong	H. Fang
DETAILS	G. Souza/S. Jiang	H. Fang
QUANTITIES	S. P. Hong	H. Fang

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
DESIGN TABLE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
09-01-11		01-13-12 02-13-12	8	18

FILE => 01-474901-08-dsnt.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	82	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong — No. 75797 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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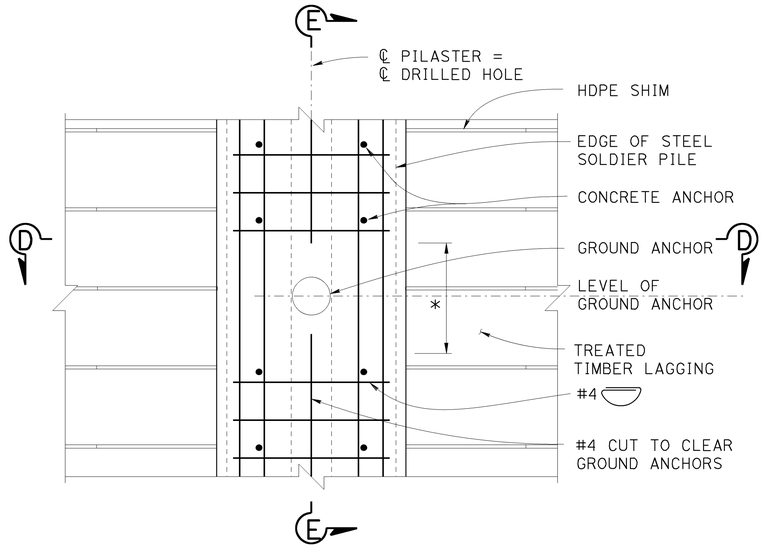
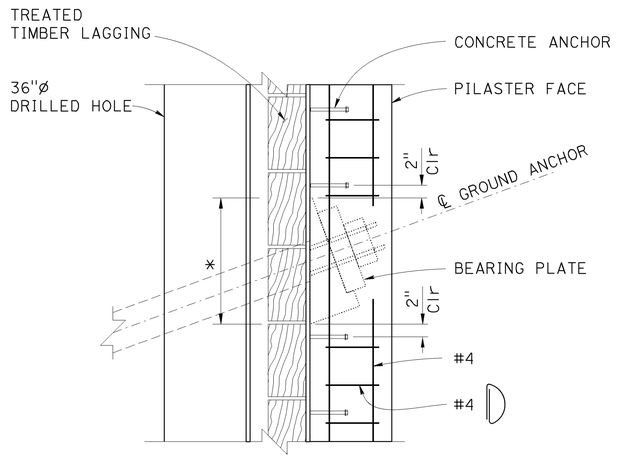


Stay plates not shown

PART PILASTER ELEVATION (PILES 10 THRU 70)

1"=1'-0"

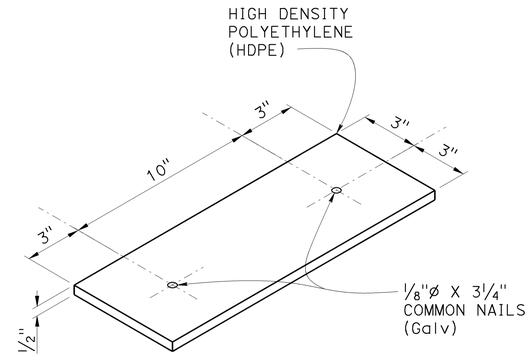


* Omit concrete anchors and reinforcement to clear ground anchor assembly

Stay plates not shown

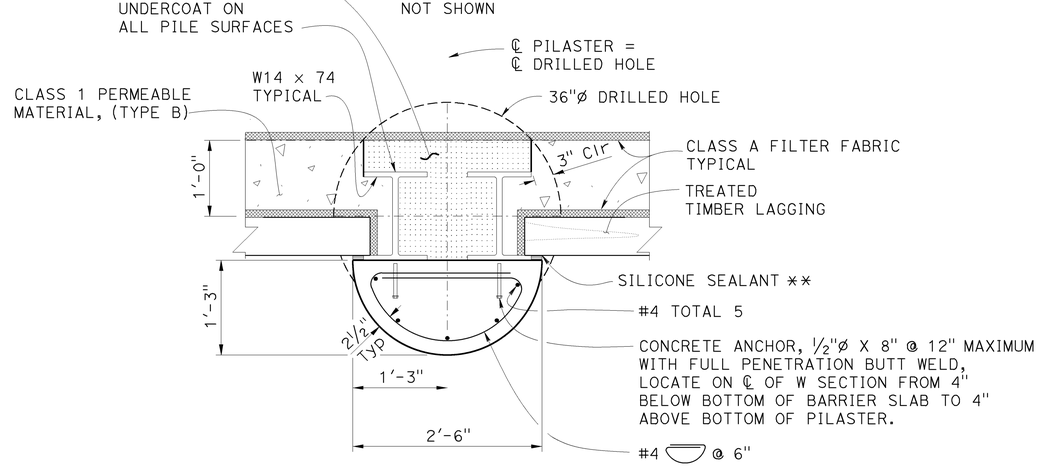
PART PILASTER SECTION E-E

1"=1'-0"



SHIM DETAIL

3"=1'-0"



** Fully cover the gap between timber lagging and concrete pilaster
To be applied after installing timber lagging and concrete pilaster

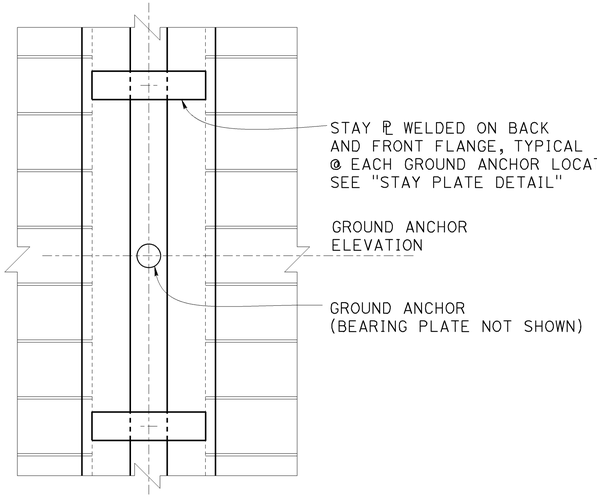
All reinforcement within pilaster shall be epoxy coated prefabricated reinforcement.

NOTE:

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

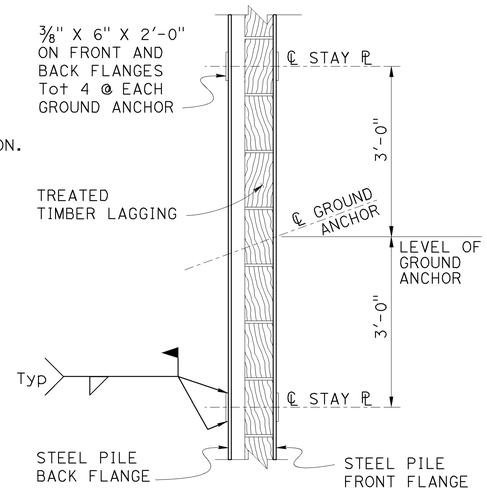
PILASTER SECTION D-D (PILE 7 THRU 71)

1"=1'-0"



STAY PLATE FRONT VIEW

3/4"=1'-0"



STAY PLATE DETAIL

3/4"=1'-0"

DESIGN	BY S. P. Hong	CHECKED H. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 10E0025	SEASIDE BEACH RETAINING WALL	
DETAILS	BY G. M. Souza/S. Motalebi	CHECKED H. Fang			POST MILE 70.5-70.6	DETAILS NO. 1	
QUANTITIES	BY S. P. Hong	CHECKED H. Fang					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09-13-12		11-26-13	09-13-12	9	18

FILE => 01-474901-09-det01.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

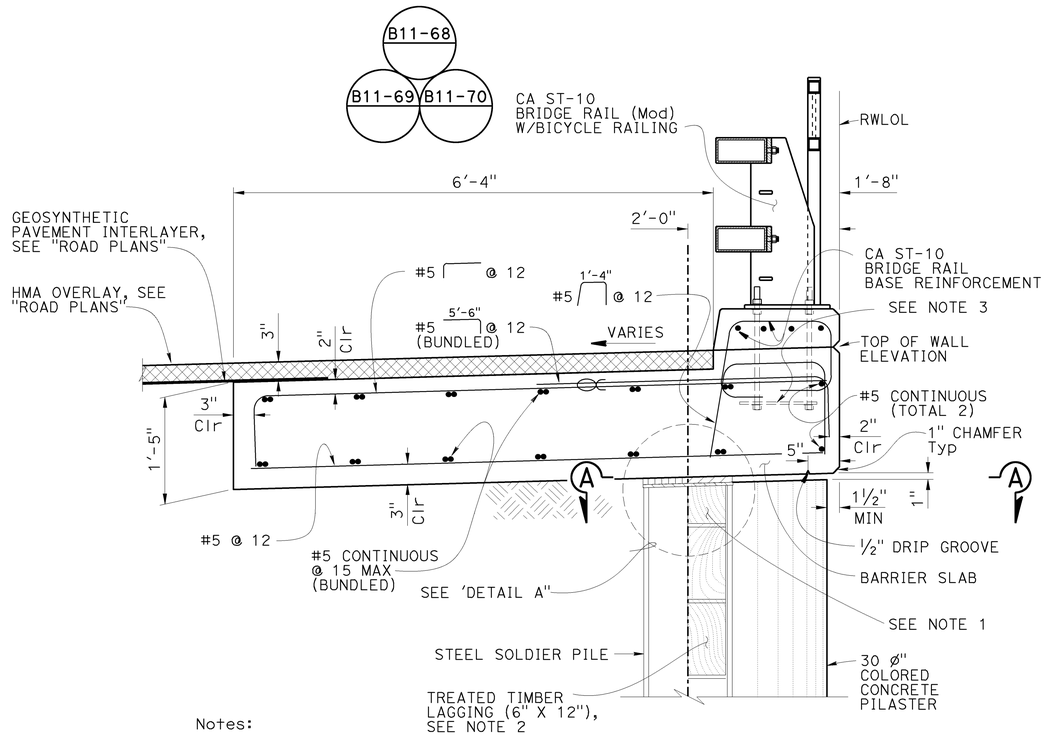
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	83	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong No. 75797 Exp. 06-30-14 CIVIL — STATE OF CALIFORNIA

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



Notes:

1. Shape the top treated timber laggings to be parallel with the bottom of concrete barrier slab

2. Place treated timber lagging level

3. Wall anchor plate, see Standard Plan B11-70

All reinforcement shown in "Barrier Slab Detail" shall be epoxy coated prefabricated

BARRIER SLAB DETAIL

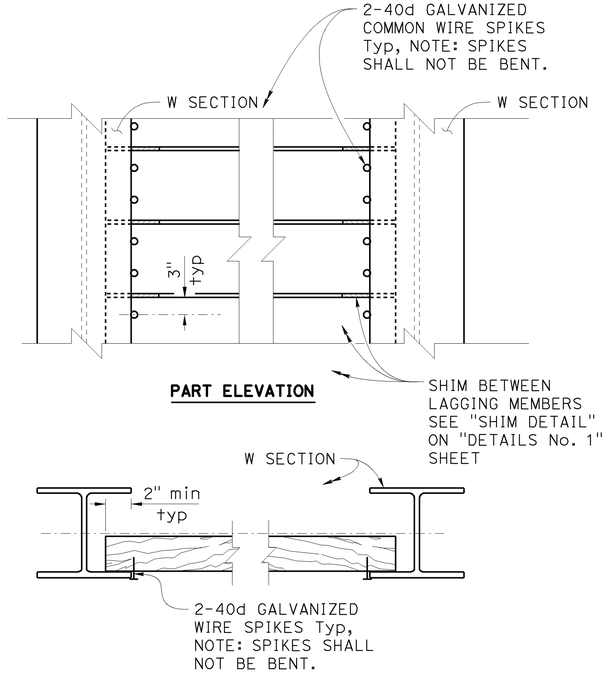
1" = 1'

Legend:

- 7" x 11" x 1" Elastomeric Bearing Pad bonded to top of bearing plate.
- Expanded Polystyrene same thickness as bearing pad.
- Galvanized bearing plate ℄ ½" x 15¼" x 22" (Piles 7~71), ℄ ½" x 15¼" x 12" (Piles 1~6).
- HMA overlay, see "ROAD PLANS"
- ∝ Indicates bundled bars

NOTE:

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

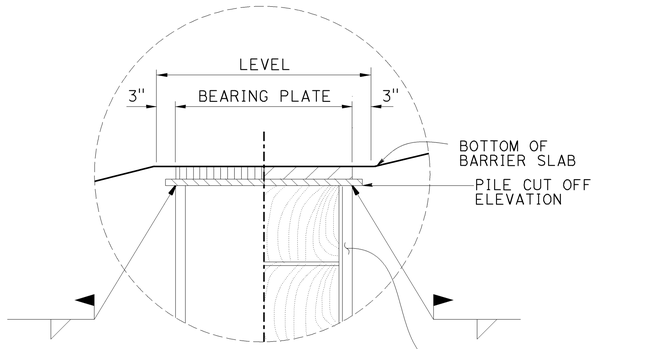


PART ELEVATION

PART PLAN

LAGGING DETAILS

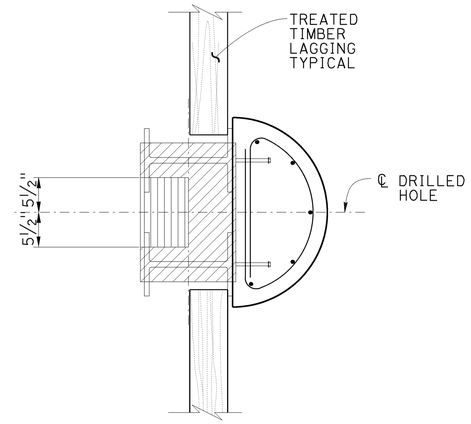
No Scale



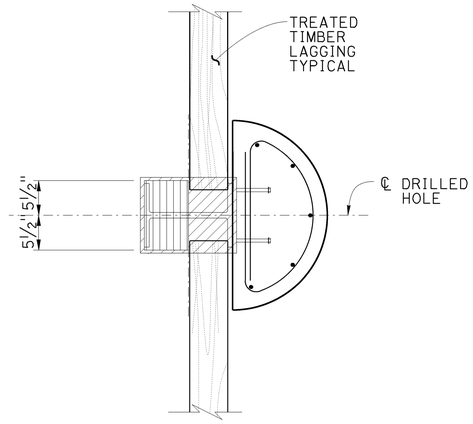
DETAIL A

No Scale

Detail typical at all bearing pads



PILES 7~71



PILES 1~6

SECTION A-A

1" = 1'

DESIGN	BY S. P. Hong	CHECKED H. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 10E0025
DETAILS	BY G. M. Souza/ S. Motalebi	CHECKED H. Fang			POST MILE 70.5-70.6
QUANTITIES	BY S. P. Hong	CHECKED H. Fang			

SEASIDE BEACH RETAINING WALL

DETAILS NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-24-11		11-28-11	09-14-12	10	18

FILE => 01-474901-10-det02.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	84	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

Seung Pyo Hong No. C75797 Exp. 06-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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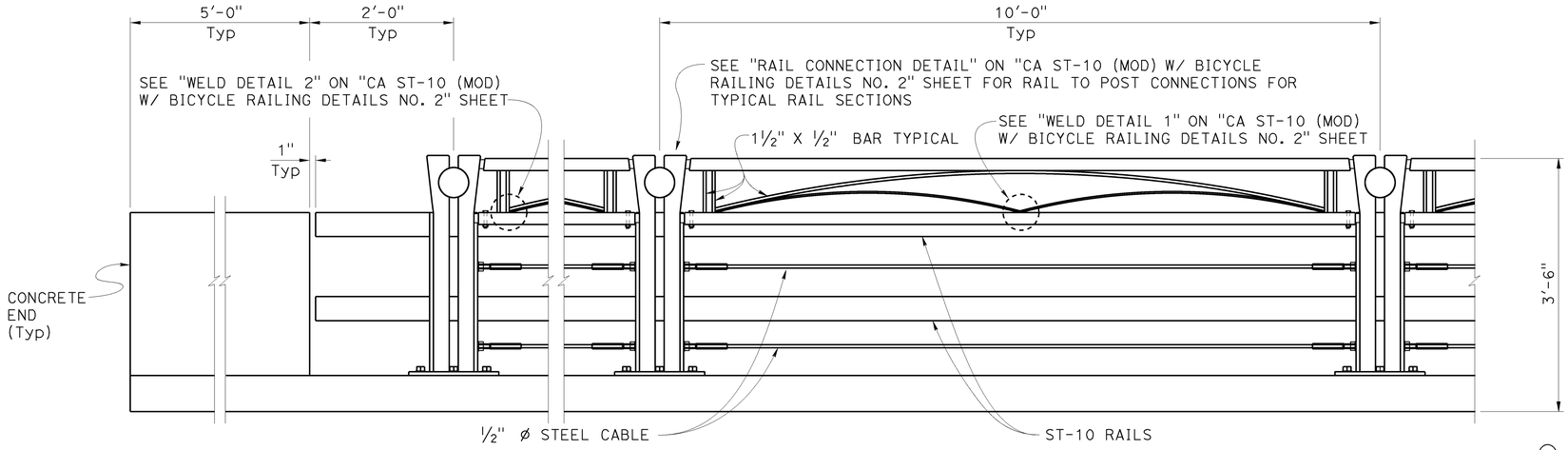
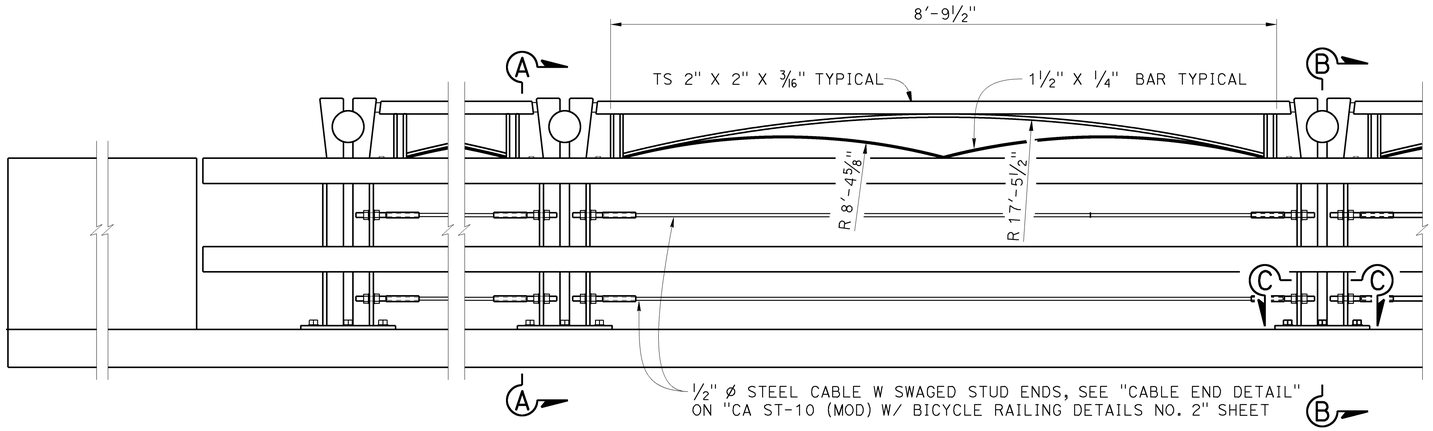
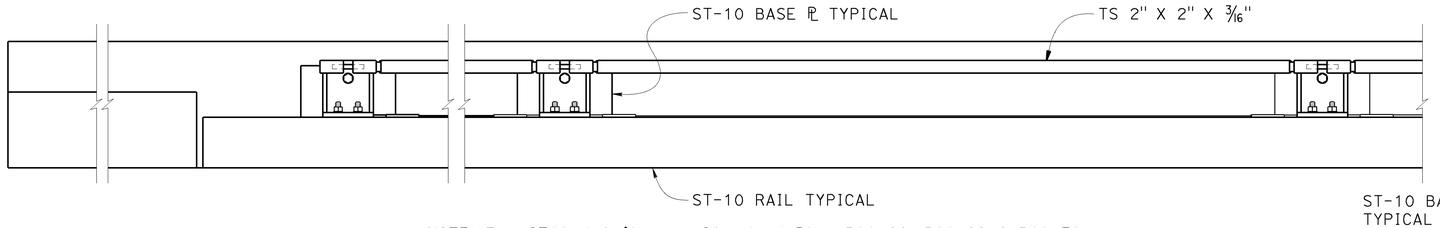


OUTSIDE ELEVATION
1" = 1'



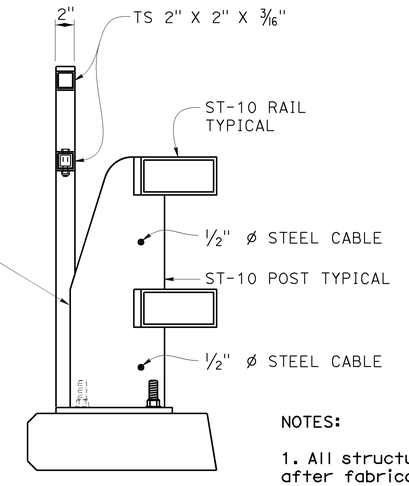
INSIDE ELEVATION
1" = 1'



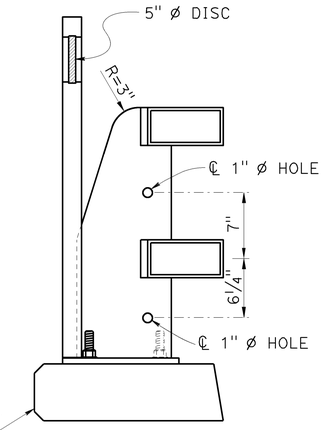
NOTE: For ST10 details see Standard Plan B11-68, B11-69 & B11-70

PLAN
1" = 1'

NOTE: All reinforcement within concrete end and ST-10 base shall be epoxy coated prefabricated reinforcement



SECTION A-A
1½" = 1'



SECTION B-B
1½" = 1'

NOTES:

1. All structural steel shall be galvanized after fabrication
2. Anchor bolts may be tack welded (shop or field) to anchorage
3. All rough edges on posts and rails shall be ground smooth
4. Tubing shall be bent or fabricated to fit horizontal curve
5. After installation of rail , the exposed rail bolt threads shall be painted with two coats of zinc rich paint conforming to the requirement of section 75-1.05 galvanizing of the Standard Specifications
6. The alternative welded splice may be used in lieu of the standard splice
7. Each rail length shall be continuous over a minimum of two posts
8. The contractor shall check that the tubular sleeves splices conform to the dimensions indicated to assure proper clearance
9. No more than one splice shall be permitted per same side of post
10. See "ROAD PLANS" for approach guard railing details
11. See "CA ST-10 9 (MOD) W/BYCYCLE RAILING DETAILS NO.2" for "SECTIONC-C" detail

NOTE:

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

DESIGN	BY Tillat Satler	CHECKED H. Fang	
DETAILS	BY G. M. Souza/S. Motalebi	CHECKED H. Fang	
QUANTITIES	BY S. P. Hong	CHECKED H. Fang	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
CA ST-10 W/ BICYCLE RAILING (MOD) DETAILS NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
09-15-11		02-13-12 09-14-12	11	18

FILE => 01-474901-11-f-brdet01.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	85	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

Seung Pyo Hong No. C75797 Exp. 06-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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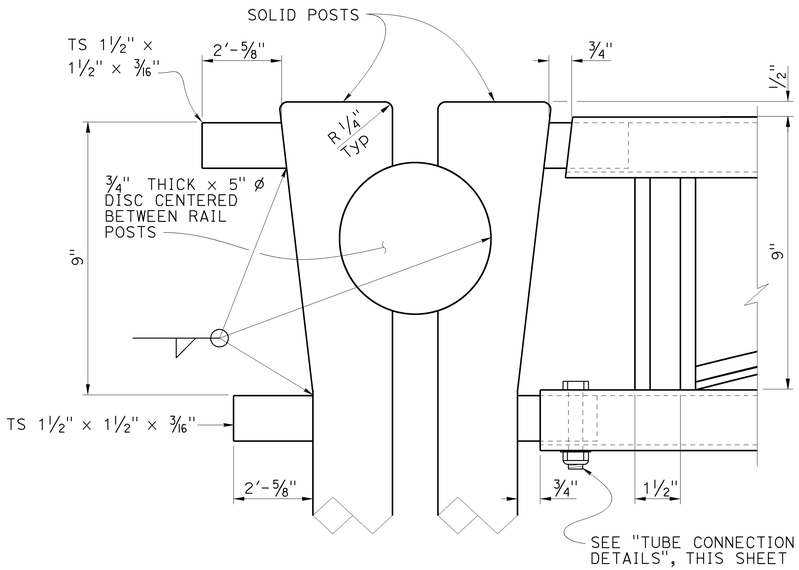
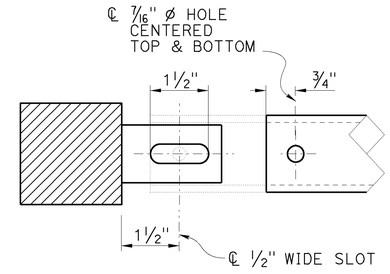


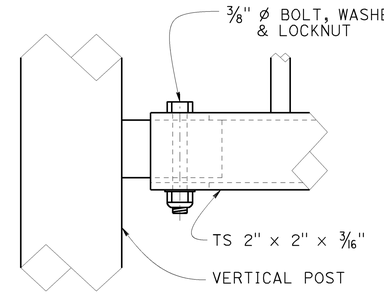
RAIL CONNECTION DETAIL

NOT TO SCALE



Note: TS shown separated for clarity

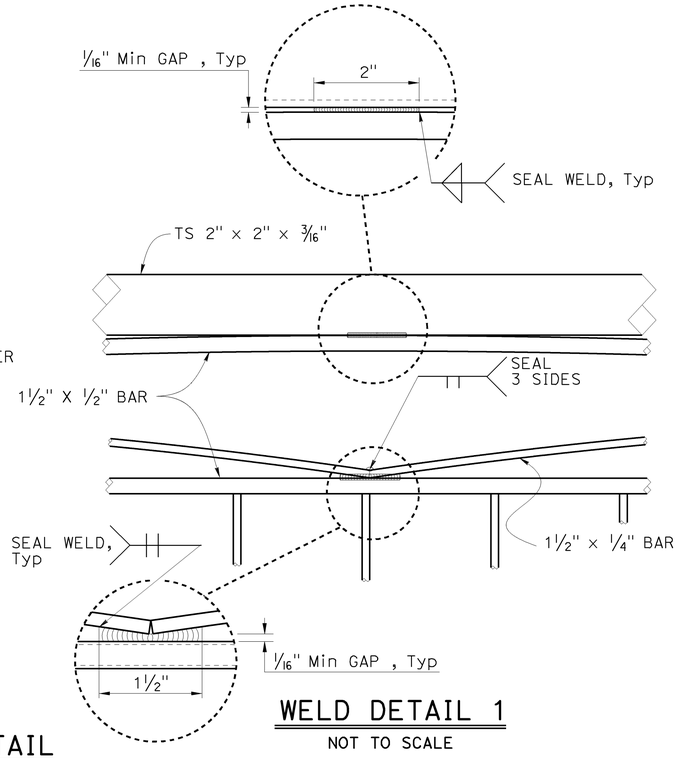
PLAN



ELEVATION

TUBE CONNECTION DETAIL

NOT TO SCALE



WELD DETAIL 1

NOT TO SCALE

NOTES:

1. All structural steel shall be galvanized after fabrication

2. Anchor bolts may be tack welded (shop or field) to anchorage

3. All rough edges on posts and rails shall be ground smooth

4. Tubing shall be bent or fabricated to fit horizontal curve

5. After installation of rail , the exposed rail bolt threads shall be painted with two coats of zinc rich paint conforming to the requirement of section 75-1.05 galvanizing of the Standard Specifications

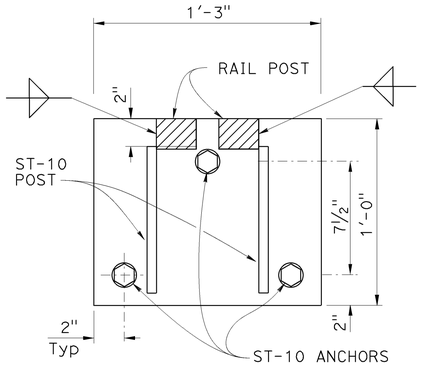
6. The alternative welded splice may be used in lieu of the standard splice

7. Each rail length shall be continuous over a minimum of two posts

8. The contractor shall check that the tubular sleeves splices conform to the dimensions indicated to assure proper clearance

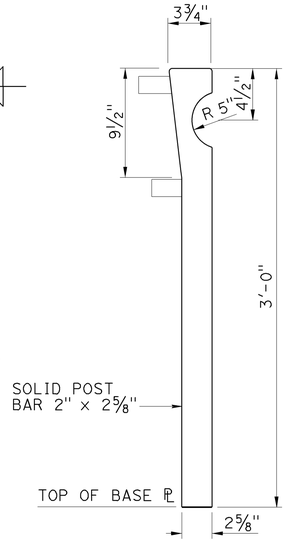
9. No more than one splice shall be permitted per same side of post

10. See "ROAD PLANS" for approach guard railing details



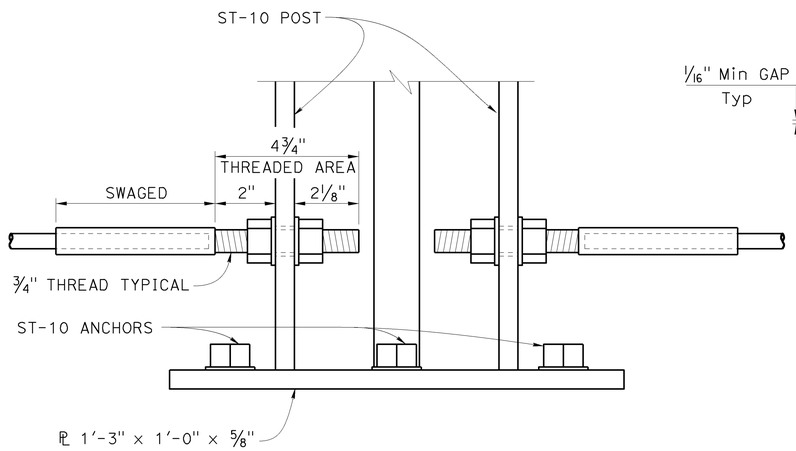
SECTION C-C

NOT TO SCALE



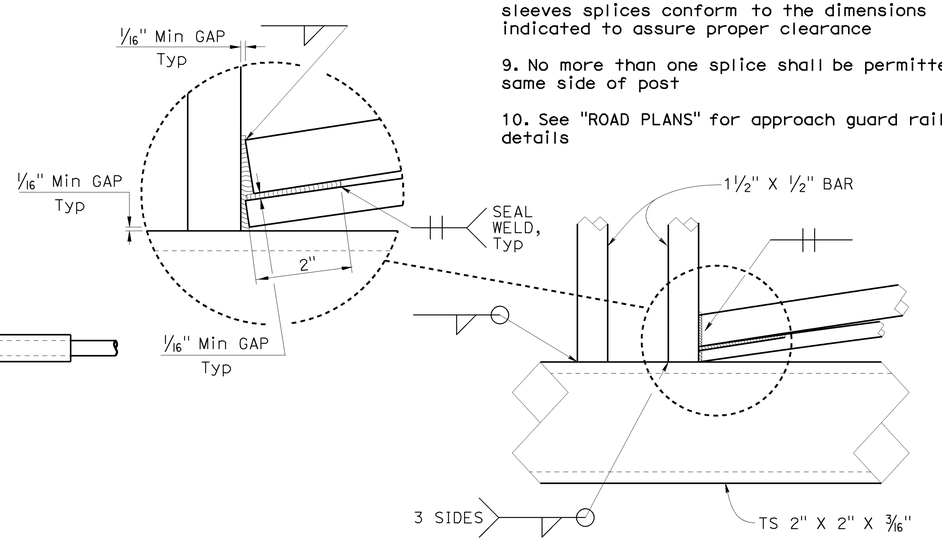
RAIL POST DETAIL

NOT TO SCALE



CABLE END DETAIL

NOT TO SCALE



WELD DETAIL 2

NOT TO SCALE

NOTE:

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

DESIGN	BY Tillat Satler	CHECKED H. Fang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 10E0025
DETAILS	BY G. M. Souza/S. Motalebi	CHECKED H. Fang			POST MILE 70.5-70.6
QUANTITIES	BY S. P. Hong	CHECKED H. Fang			

SEASIDE BEACH RETAINING WALL

CA ST-10 W/ BICYCLE RAILING (MOD) DETAILS NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
06-03-11		02-13-12	09-14-12	12	18

FILE => 01-474901-12-f-brdet02.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	1	70.3/70.7	86	91

Seung Pyo Hong 1-27-14
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Seung Pyo Hong — No. 75797 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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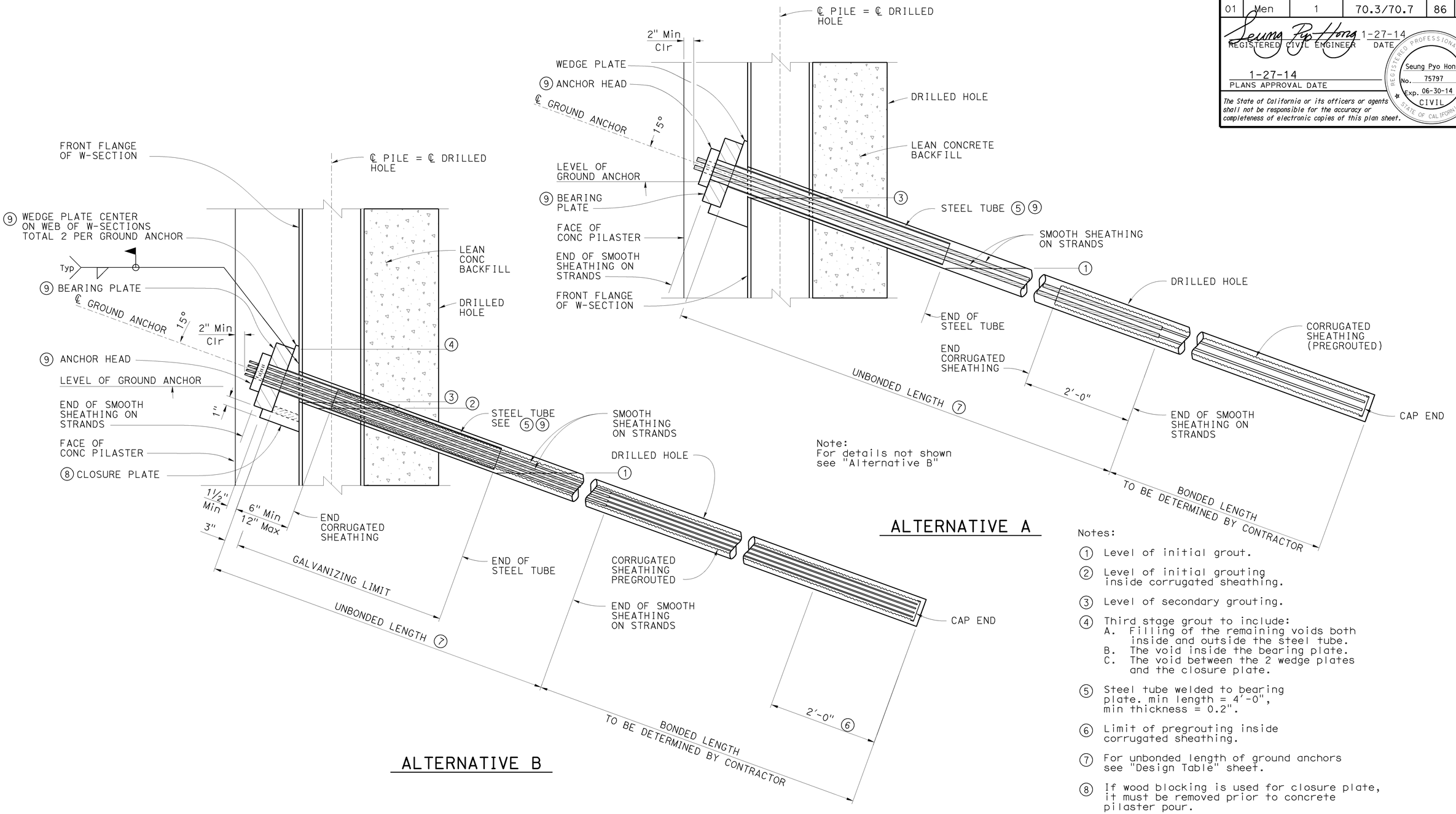


Note:
For details not shown see "Alternative B"

ALTERNATIVE A

ALTERNATIVE B

Notes:

① Level of initial grout.

② Level of initial grouting inside corrugated sheathing.

③ Level of secondary grouting.

④ Third stage grout to include:
A. Filling of the remaining voids both inside and outside the steel tube.
B. The void inside the bearing plate.
C. The void between the 2 wedge plates and the closure plate.

⑤ Steel tube welded to bearing plate. min length = 4'-0", min thickness = 0.2".

⑥ Limit of pregrouting inside corrugated sheathing.

⑦ For unbonded length of ground anchors see "Design Table" sheet.

⑧ If wood blocking is used for closure plate, it must be removed prior to concrete pilaster pour.

⑨ Galvanize assembly after fabrication.

NOTE:

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

GROUND ANCHOR TENDON DETAIL - STRAND

No Scale

	BY	CHECKED
DESIGN	S. P. Hong	H. Fang
DETAILS	G. M. Souza/S. Motalebi	H. Fang
QUANTITIES	S. P. Hong	H. Fang

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO. 10E0025
POST MILE 70.5-70.6

SEASIDE BEACH RETAINING WALL
SUB HORIZONTAL GROUND ANCHOR DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3590
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
06-03-11		09-14-12	02-13-13	13	18

FILE => 01-474901-13-tiedet.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	001	70.3/70.7	87	91

REGISTERED CIVIL ENGINEER — 1-30-12 DATE

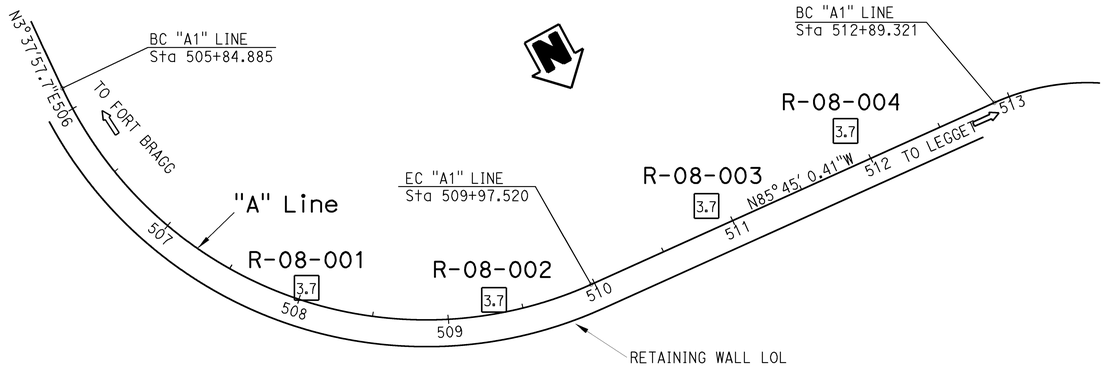
1-27-14
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER — Kathryn Gallagher — No. C62012 — Exp. 9-30-13 — CIVIL — STATE OF CALIFORNIA

BENCH MARK

DATUM Vert=NAVD88 Horiz=NAD83
Men 001-70.62 (Shown on Foundation Plan No. 2)
Find 5/8" Rebar w/ Aluminium Cap
79.32' Lt "A" Line Rte 1, Sta 514+32.62
N 2,334,000.56
E 6,036,832.68
Elev = 24.30

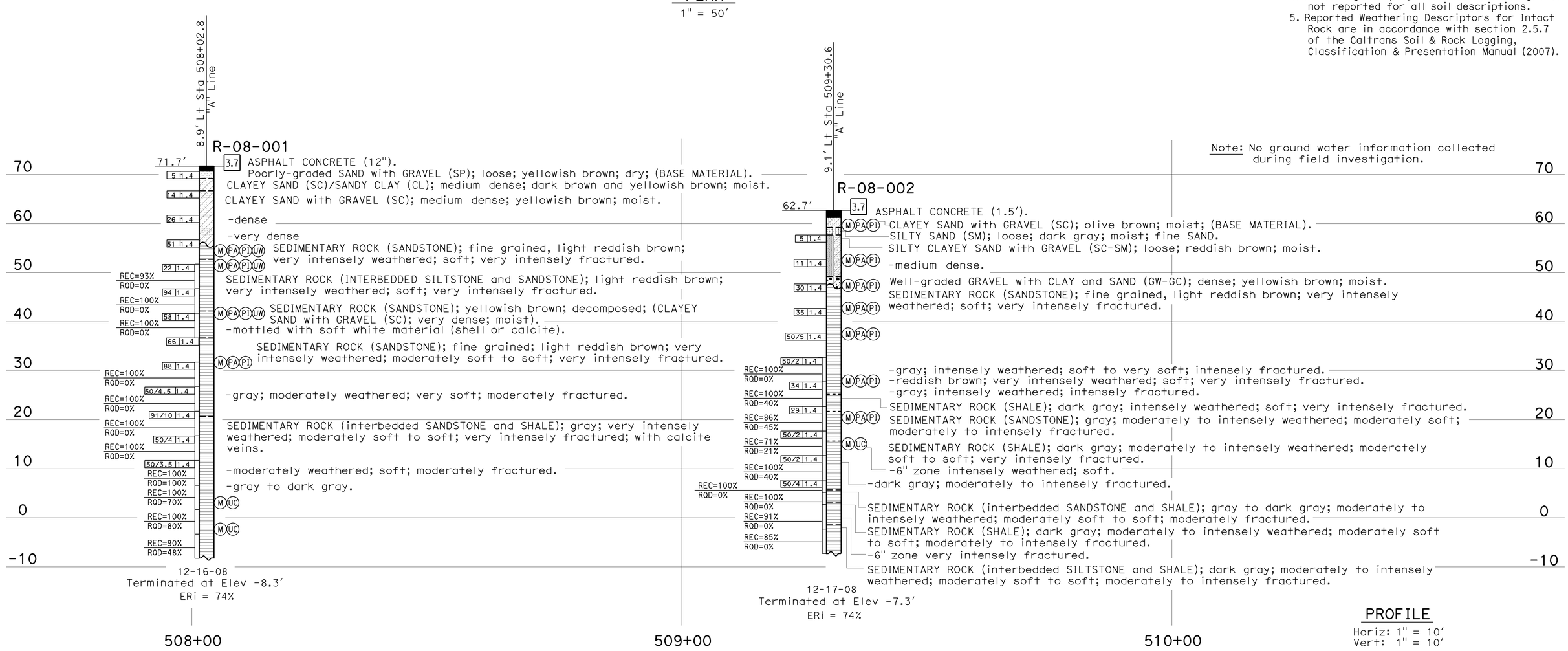


PLAN
1" = 50'

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

Note the following exceptions:

1. Type code for all holes reported as R. (Holes are RC per section 2.4 of 2010 Manual).
2. Percentage or proportion of sand and fines not reported.
3. Size of sand not reported for all soil descriptions.
4. Percentage or proportion and size of gravel not reported for all soil descriptions.
5. Reported Weathering Descriptors for Intact Rock are in accordance with section 2.5.7 of the Caltrans Soil & Rock Logging, Classification & Presentation Manual (2007).



Note: No ground water information collected during field investigation.

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

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 10E0025 POST MILE 70.5	SEASIDE BEACH RETAINING WALL LOG OF TEST BORINGS 1 OF 5
FUNCTIONAL SUPERVISOR NAME: C. Narwold	DRAWN BY: W. Tang 01/12 CHECKED BY: R. Newman	FIELD INVESTIGATION BY: K. Gallagher			

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-24-12				14	18

FILE => 01-474901-z-ltb01.dgn

USERNAME = s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	001	70.3/70.7	88	91

REGISTERED CIVIL ENGINEER — 1-30-12 DATE

1-27-14
PLANS APPROVAL DATE

Kathryn Gallagher No. C62012 Exp. 9-30-13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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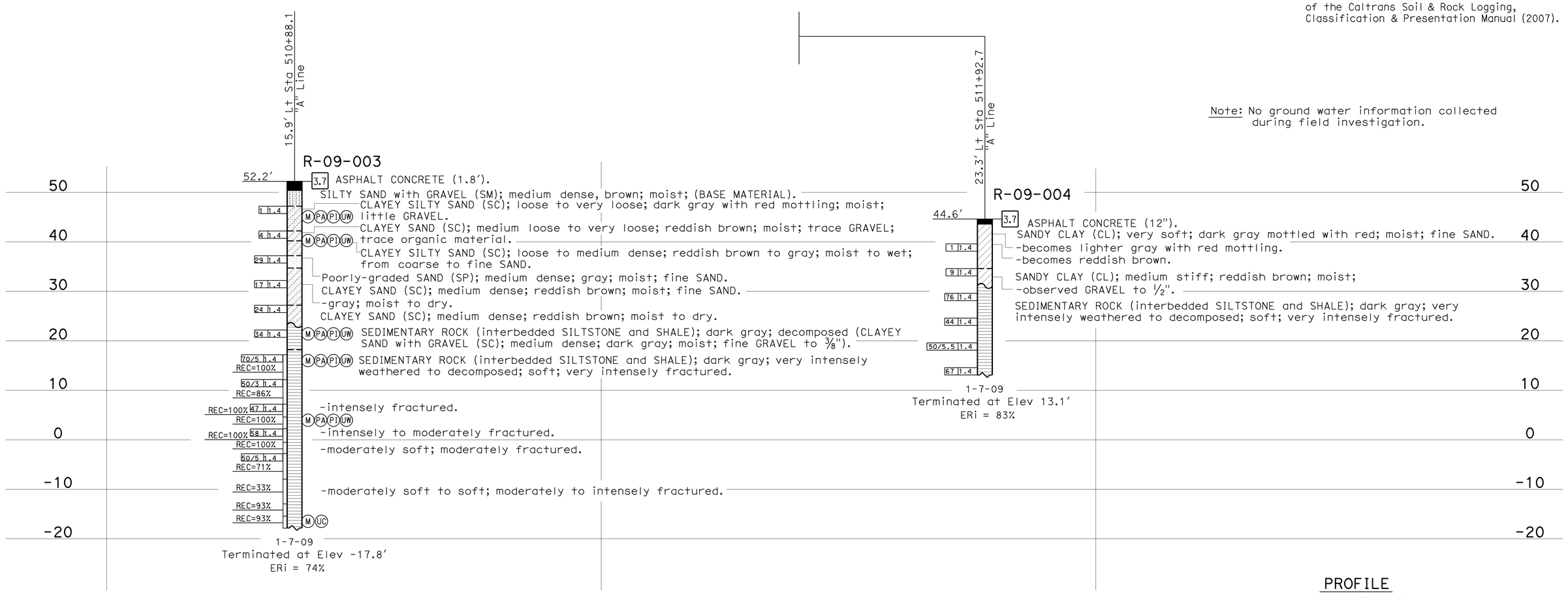
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 5"

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

Note the following exceptions:

1. Type code for all holes reported as R. (Holes are RC per section 2.4 of 2010 Manual).
2. Percentage or proportion of sand and fines not reported.
3. Size of sand not reported for all soil descriptions.
4. Percentage or proportion and size of gravel not reported for all soil descriptions.
5. Reported Weathering Descriptors for Intact Rock are in accordance with section 2.5.7 of the Caltrans Soil & Rock Logging, Classification & Presentation Manual (2007).

Note: No ground water information collected during field investigation.



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

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 10E0025	SEASIDE BEACH RETAINING WALL
FUNCTIONAL SUPERVISOR NAME: C. Narwold	DRAWN BY: W. Tang 01/12 CHECKED BY: R. Newman	FIELD INVESTIGATION BY: K. Gallagher		POST MILE 70.5	LOG OF TEST BORINGS 2 OF 5

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-27-12				15	18

FILE => 01-474901-z-1tb02.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	001	70.3/70.7	89	91

Kathryn Gallagher 1-30-12
REGISTERED CIVIL ENGINEER DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Kathryn Gallagher — No. C62012 — Exp. 9-30-13 — CIVIL — STATE OF CALIFORNIA

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CEMENTATION

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

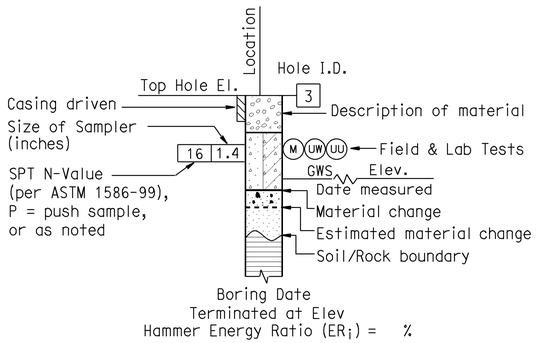
BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring (hollow or solid stem bucket)
Size	R RW RC P	Rotary drilled boring (conventional) Rotary drilled with self-casing wire-line Rotary core with continuously-sampled, self-casing wire-line Rotary percussion boring (air)
Size	R RC	Rotary drilled diamond core Rotary drilled rock core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778)
⬚	O	Other (note on LOTB)

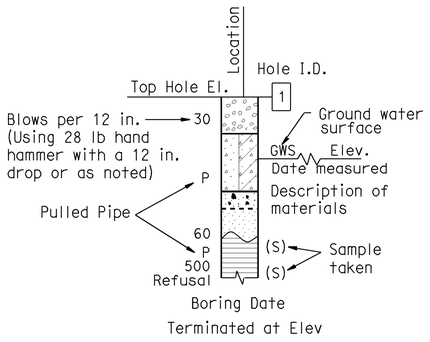
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

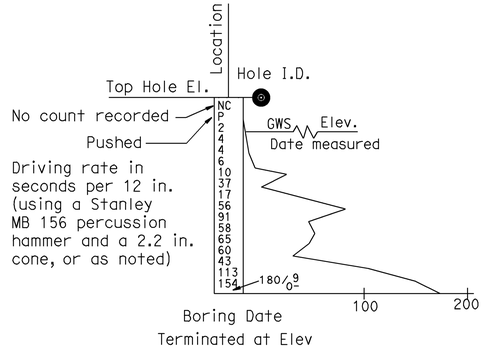
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



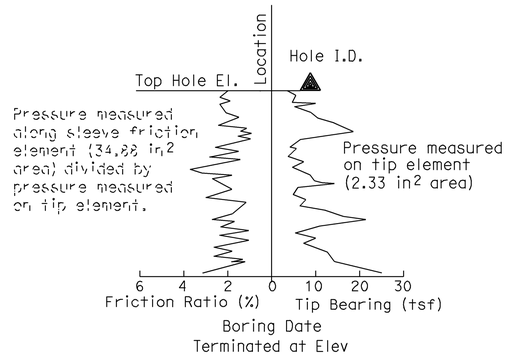
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. / POST MILE 70.5	SEASIDE BEACH RETAINING WALL
	PREPARED BY: W. Tang 01/12				LOG OF TEST BORINGS 3 OF 5

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET 16 | OF 18

FILE => 01-474901-z-ltb03.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly-graded GRAVEL Poorly-graded GRAVEL with SAND		
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GP-GM	Poorly-graded GRAVEL with SILT Poorly-graded GRAVEL with SILT and SAND	ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GP-GC	Poorly-graded GRAVEL with CLAY (or SILTY CLAY) Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GM	SILTY GRAVEL SILTY GRAVEL with SAND	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND	OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL		
SP	Poorly-graded SAND Poorly-graded SAND with GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SP-SM	Poorly-graded SAND with SILT Poorly-graded SAND with SILT and GRAVEL		
SP-SC	Poorly-graded SAND with CLAY (or SILTY CLAY) Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SM	SILTY SAND SILTY SAND with GRAVEL		
SC	CLAYEY SAND CLAYEY SAND with GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
	COBBLES COBBLES and BOULDERS BOULDERS		

FIELD AND LABORATORY TESTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	001	70.3/70.7	90	91

REGISTERED CIVIL ENGINEER — 1-30-12 DATE

1-27-14
PLANS APPROVAL DATE

Kathryn Gallagher No. C62012 Exp. 9-30-13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS

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

PARTICLE SIZE

Description		Size (in.)
Boulder		Greater than 12
Cobble		3 - 12
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay		Less than 1/300

ENGINEERING SERVICES

MATERIALS AND GEOTECHNICAL SERVICES
PREPARED BY: W. Tang 01/12

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO.
POST MILE 70.5

SEASIDE BEACH RETAINING WALL
LOG OF TEST BORINGS 4 OF 5

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET 17 | OF 18

FILE => 01-474901-z-ltb04.dgn

USERNAME => s136540 DATE PLOTTED => 28-JAN-2014 TIME PLOTTED => 13:47

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	001	70.3/70.7	91	91

REGISTERED CIVIL ENGINEER — 1-30-12 DATE

1-27-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Kathryn Gallagher — No. C62012 — Exp. 9-30-13 — CIVIL — STATE OF CALIFORNIA

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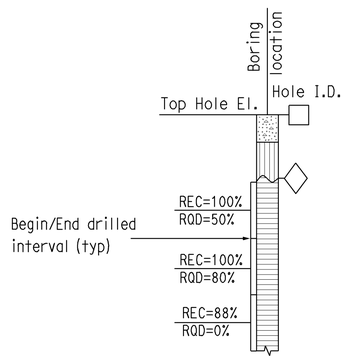
PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)

$$REC = \frac{\sum \text{Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100\%$$

$$RQD = \frac{\sum \text{Length of intact core pieces} \geq 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100\%$$

RQD* Indicates soundness criteria not met.



BEDDING SPACING

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very Thickly Bedded	3 ft - 10 ft
Thickly Bedded	1 ft - 3 ft
Moderately Bedded	4 in. - 1 ft
Thinly Bedded	1 in. - 4 in.
Very Thinly Bedded	1/4 in. - 1 in.
Laminated	Less than 1/4 in.

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately Hard	Can be scratched with pocketknife or sharp pick with light or moderate pressure. Breaks with moderate hammer blows.
Moderately Soft	Can be grooved 1/16 in. deep with a pocketknife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily by a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Can be readily indented, grooved or gouged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

FRACTURE DENSITY

Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

WEATHERING DESCRIPTORS FOR INTACT ROCK

Description	Diagnostic Features					General Characteristics
	Chemical Weathering-Discoloration and/or Oxidation		Mechanical Weathering-Grain Boundary Conditions (Disaggregation) Primarily for Granitics and Some Coarse-Grained Sediments	Texture and Leaching		
	Body of Rock	Fracture Surfaces		Texture	Leaching	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change	No leaching	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved	Minor leaching of some soluble minerals.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

ENGINEERING SERVICES

MATERIALS AND GEOTECHNICAL SERVICES

PREPARED BY: W. Tang 01/12

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO.

POST MILE 70.5

SEASIDE BEACH RETAINING WALL

LOG OF TEST BORINGS 5 OF 5

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 01000000331-1 CONTRACT NO.: 01-474901

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 18 OF 18

FILE => 01-474901-z-ltb05.dgn

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