

INDEX OF PLANS

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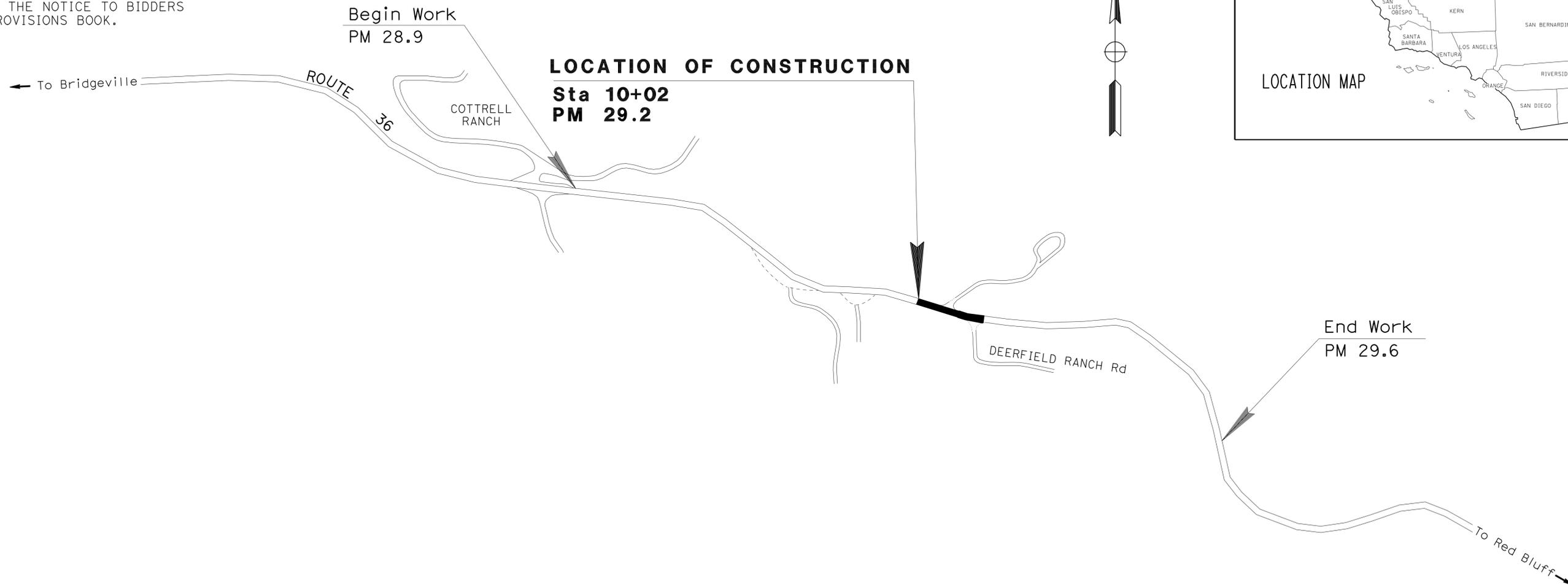
40-54 RIDGETOP WALL Br. No. 04E-0024

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

STATE OF CALIFORNIA ACSTP-43K3(004)E
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN HUMBOLDT COUNTY
ABOUT 5.5 MILES EAST OF BRIDGEVILLE
AT 0.1 MILE WEST OF DEERFIELD RANCH ROAD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	1	54

LOCATION MAP

PROJECT MANAGER FRANK DEMLING
DESIGN ENGINEER JACK COWELL

Jack R. Cowell Jr. 4-27-09
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
June 14, 2010
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

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

NO SCALE

CONTRACT No.	01-475604
PROJECT ID	0100000341

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

NOTES:

- DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER

ABBREVIATION:

GPI - GEOSYNTHETIC PAVEMENT INTERLAYER

DESIGN DESIGNATION (ROUTE 36)

2007 ADT = 1,120 D=60%
 2030 ADT = 1,630 T= 5%
 DHV = 420
 20 YEAR TI=8.0

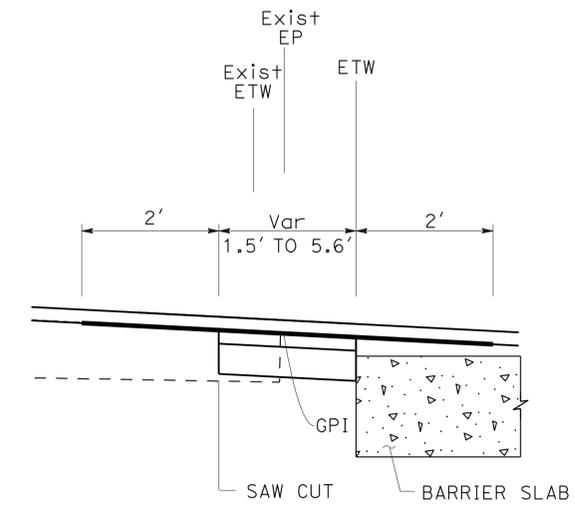
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	2	54

Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE

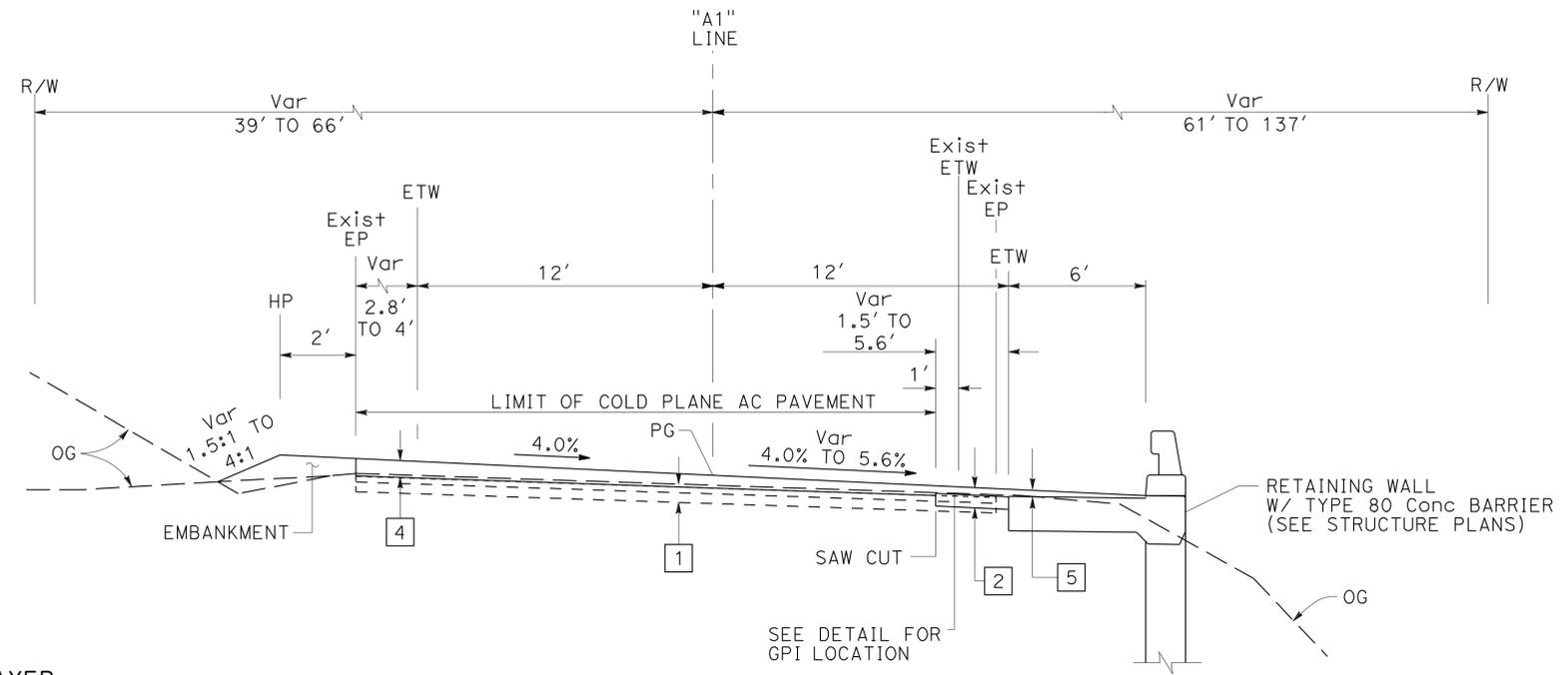
6-14-10
 PLANS APPROVAL DATE

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JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL

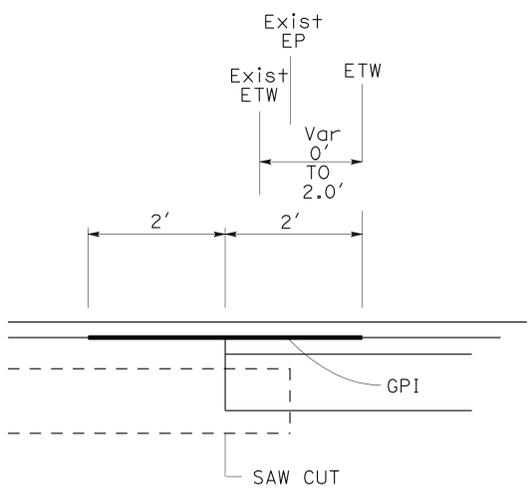


LIMITS OF GEOSYNTHETIC PAVEMENT INTERLAYER
 ("A1" 11+74.00 TO 13+36.08)

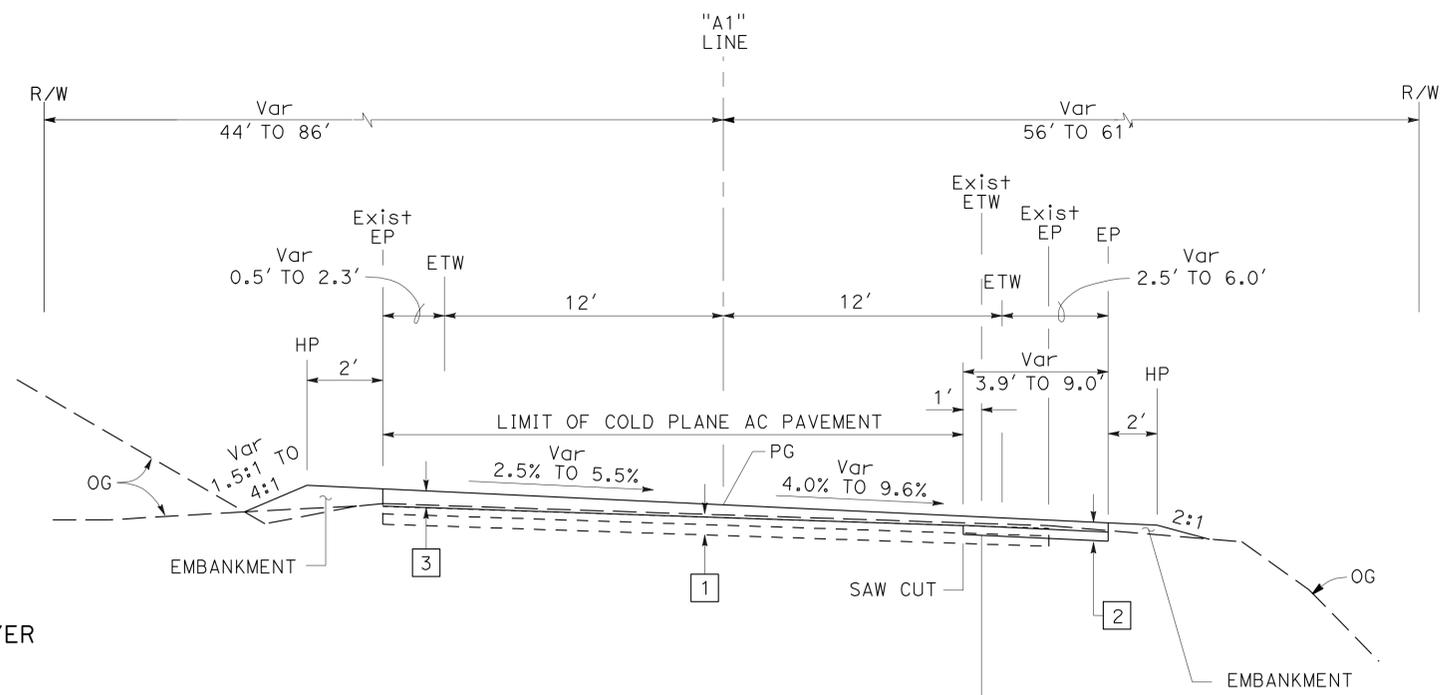


"A1" 11+74.00 TO 13+36.08

- 1 Exist 0.06' OGAC
Var AC
Var CLASS 2 AB
- 2 0.40' HMA (TYPE A)
GPI
0.45' CLASS 2 AB
- 3 0.20' HMA (TYPE A)
Var HMA (TYPE A)
COLD PLANE AC PAVEMENT
(0.20' Max AND Var)
- 4 0.20' HMA (TYPE A)
Var HMA (TYPE A)
COLD PLANE AC PAVEMENT
(0.10' Max)
- 5 Var 0.41' TO 0.17' HMA (TYPE A)
- 6 COLD PLANE AC PAVEMENT (0.20' Max)
0.20' HMA (TYPE A)



LIMITS OF GEOSYNTHETIC PAVEMENT INTERLAYER
 ("A1" 11+06.82 TO 11+74.00
 "A1" 13+36.08 TO 13+79.18)



"A1" 11+06.82 TO 11+74.00
 "A1" 13+36.08 TO 13+79.18

ROUTE 36

TYPICAL CROSS SECTIONS

NO SCALE

X-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	3	54

Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE

6-14-10
 PLANS APPROVAL DATE

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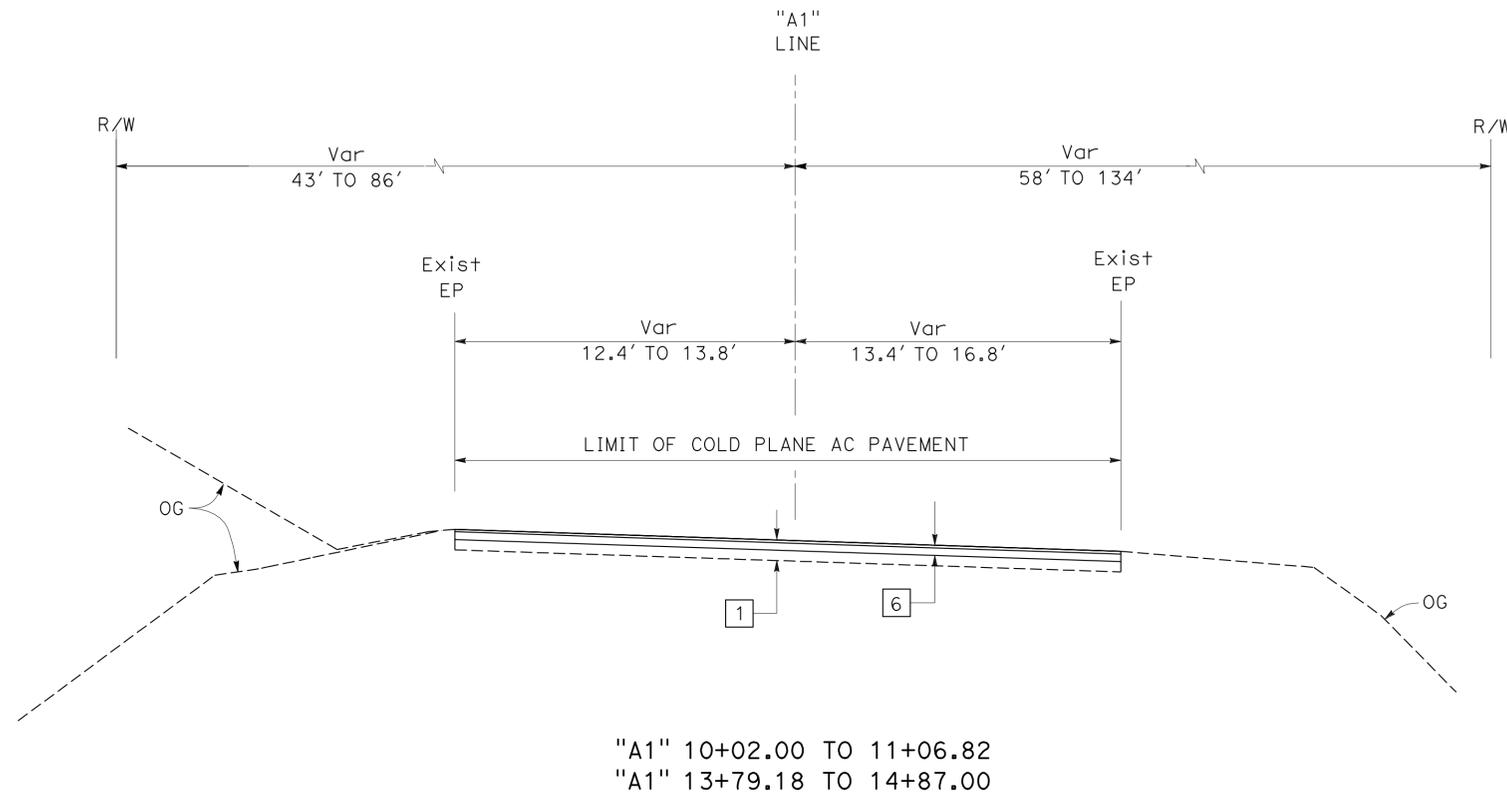
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

CALCULATED/DESIGNED BY
 CHECKED BY

JACK COWELL

REVISED BY
 DATE REVISED



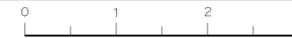
"A1" 10+02.00 TO 11+06.82
 "A1" 13+79.18 TO 14+87.00

ROUTE 36

TYPICAL CROSS SECTIONS

NO SCALE

X-2



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	4	54

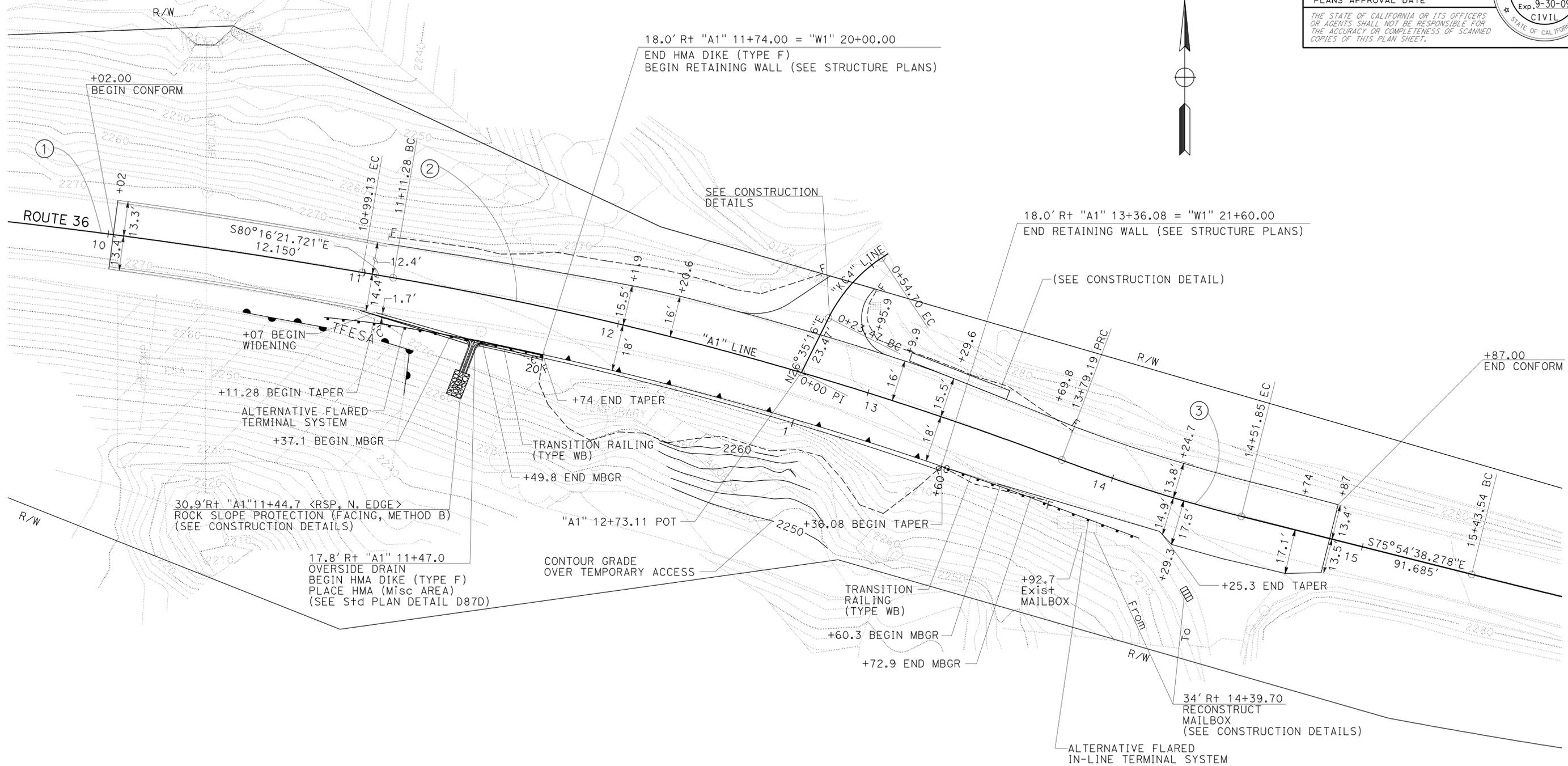
Jack R. Cowell Jr. 4-27-09
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 6-14-10
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL

NOTES:

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
- FOR EXISTING AND TEMPORARY UTILITY INFORMATION SEE UTILITY PLANS.



CURVE DATA

No.	R	Δ	T	L
①	2500.00'	5° 7' 28"	111.87'	223.60'
②	1400.00'	10° 57' 52"	134.37'	267.91'
③	630.50'	6° 36' 09"	36.37'	72.66'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

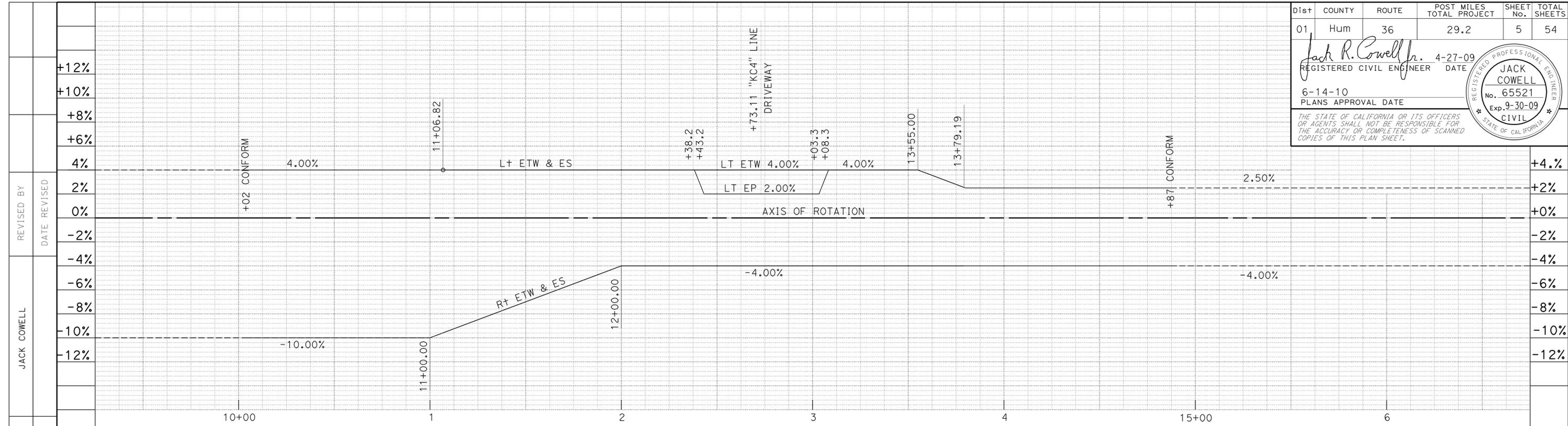
CALCULATED/DESIGNED BY
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JACK COWELL

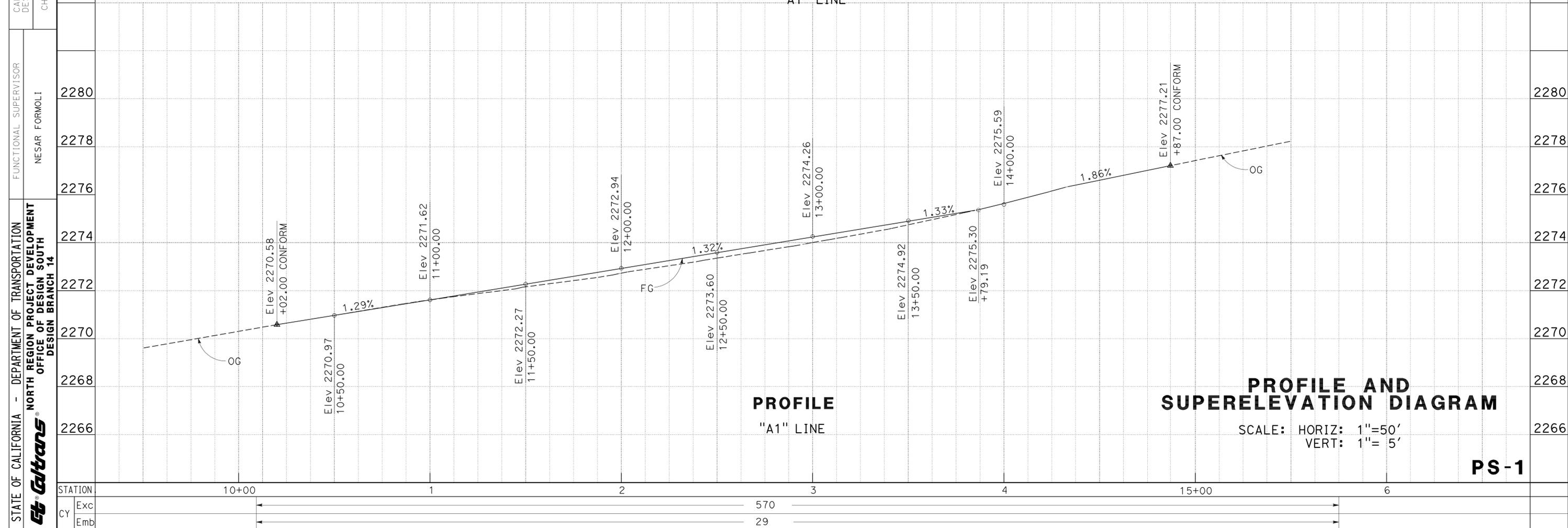
REVISED BY
 DATE REVISED

x
 x
 x
 x
 x
 x

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	5	54
<i>Jack R. Cowell Jr.</i> REGISTERED CIVIL ENGINEER DATE			4-27-09 DATE		
6-14-10 PLANS APPROVAL DATE			JACK COWELL No. 65521 Exp. 9-30-09 CIVIL		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



SUPERELEVATION
"A1" LINE



PROFILE AND SUPERELEVATION DIAGRAM

SCALE: HORIZ: 1"=50'
VERT: 1"= 5'

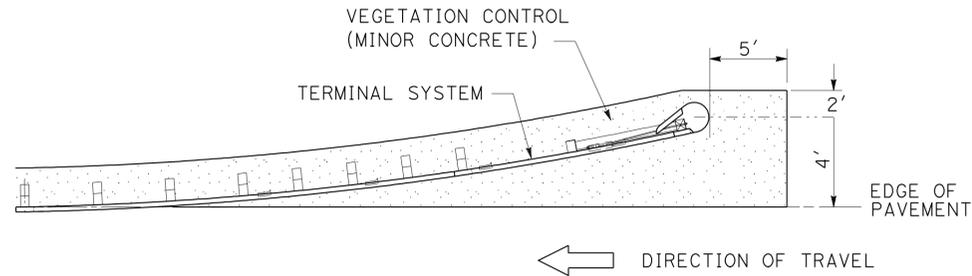
PS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	7	54

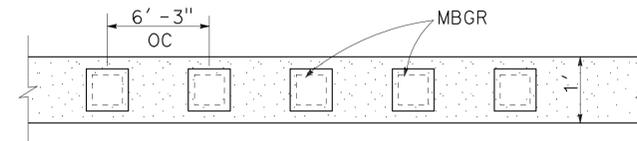
Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE
 6-14-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

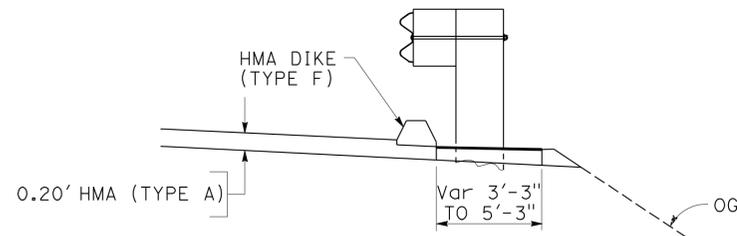
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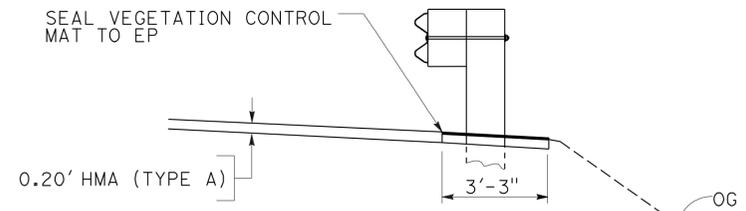
VEGETATION CONTROL (MINOR CONCRETE) AT TERMINAL SECTION



VEGETATION CONTROL (MINOR CONCRETE) UNDER MBGR



VEGETATION CONTROL (MINOR CONCRETE)
GUARD RAILING VEGETATION CONTROL WITH HMA DIKE (TYPE F)



GUARD RAILING VEGETATION CONTROL (MINOR CONCRETE)
GUARD RAILING VEGETATION CONTROL AT EP

GUARD RAILING VEGETATION CONTROL (MINOR CONCRETE)

CONSTRUCTION DETAILS

NO SCALE

C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14
 FUNCTIONAL SUPERVISOR
 NESAR FORMOLI
 CALCULATED/DESIGNED BY
 CHECKED BY
 JACK COWELL
 REVISED BY
 DATE REVISED

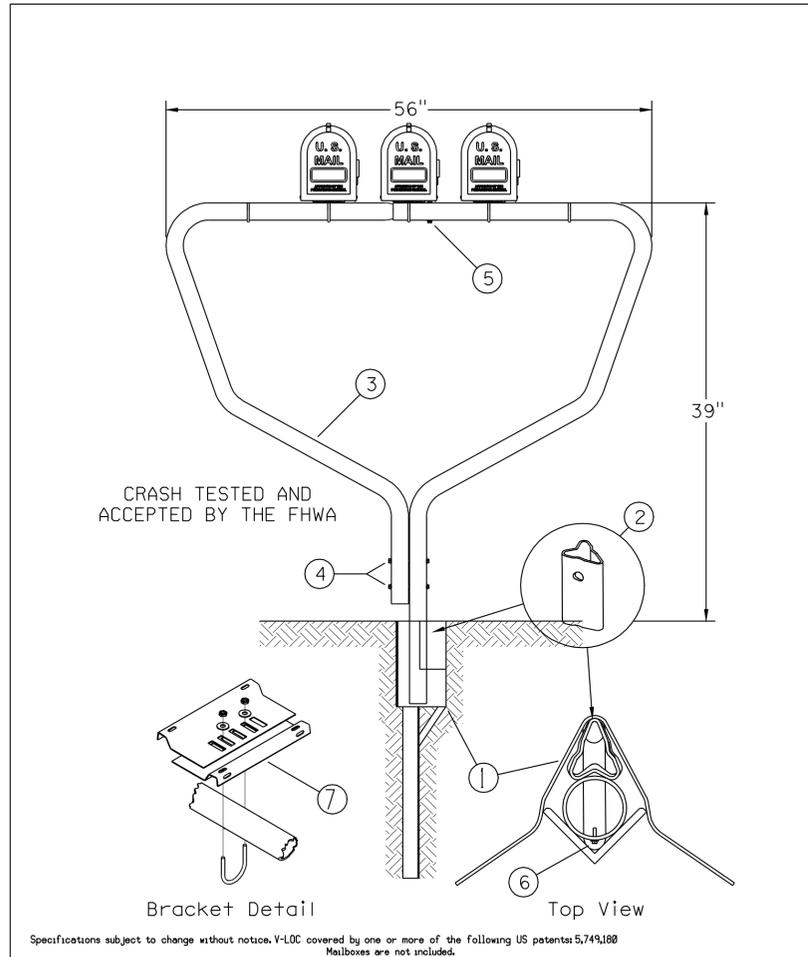
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	8	54

Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE
 6-14-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

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FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
NESAR FORMOLI	CHECKED BY	JACK COWELL	DATE
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGNED BY	REVISOR	DATE
Caltrans NORTH REGION PROJECT DEVELOPMENT OFFICE OF DESIGN SOUTH DESIGN BRANCH 14	CHECKED BY	JACK COWELL	DATE



MODEL 20-M MULTIPLE MAILBOX SUPPORT SYSTEM
 ACCOMMODATES UP TO FIVE (5) MAILBOXES

① V-LOC SOCKET

- STABILIZER FIN IS 12 GAUGE HOT ROLLED CARBON SHEET STEEL, COMMERCIAL QUALITY. THE FIN IS FORMED FROM SHEET STEEL TO THE SHOWN CONFIGURATION.
- LEG ANGLE IS HOT ROLLED COMMERCIAL QUALITY.
- FINISH IS DIP-COATED WITH RUST INHIBITING PRIMER, FED. SPEC. TTP636.

DIMENSIONS	DIRT MODEL	CONCRETE MODEL
FIN	10"X15"	8"X9.25"
ANGLE	2.5"X2.5"X.25"X30"	2.5"X2.5"X.25"X8"
WELDS	(6) 1.5"X.25"	(4) 1.5"X.25"

② V-LOC WEDGE

- THE V-LOC WEDGE IS STEEL TUBING MADE TO ASTM A-500, GRADE B SPECIFICATIONS, THEN PRESSED INTO WEDGE FORM.

③ SUPPORT STRUCTURE

- THE POST IS WELDED MECHANICAL TUBING PRODUCED TO ASTM A-513, 2.0" O.D. 14 GA. GALVANIZED PER ASTM A-525, G-90 OR EQUIVALENT. THE POST IS FORMED, PUNCHED, AND PRE-ASSEMBLED.

SUPPORT HARDWARE:

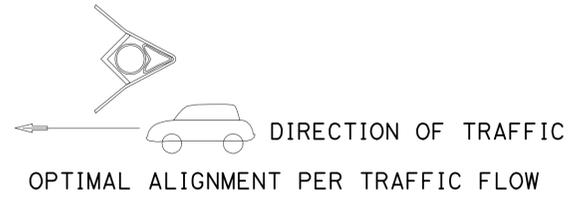
④ 2 EACH - 5/16" X 4-1/2" HEX HEAD BOLTS, ZINC PLATED
 2 EACH - 5/16" NYLON INSERT HEX LOCK NUTS, ZINC PLATED
 4 EACH - 5/16" FLAT WASHERS, ZINC PLATED

⑤ 1 EACH - 5/16" X 2-1/2" HEX HEAD BOLTS, ZINC PLATED
 1 EACH - 5/16" NYLON INSERT HEX LOCK NUTS, ZINC PLATED
 2 EACH - 5/16" FLAT WASHERS, ZINC PLATED

⑥ 1 EACH - #14 X 3/4" TEK SCREW (FOR ALIGNMENT STABILIZATION)

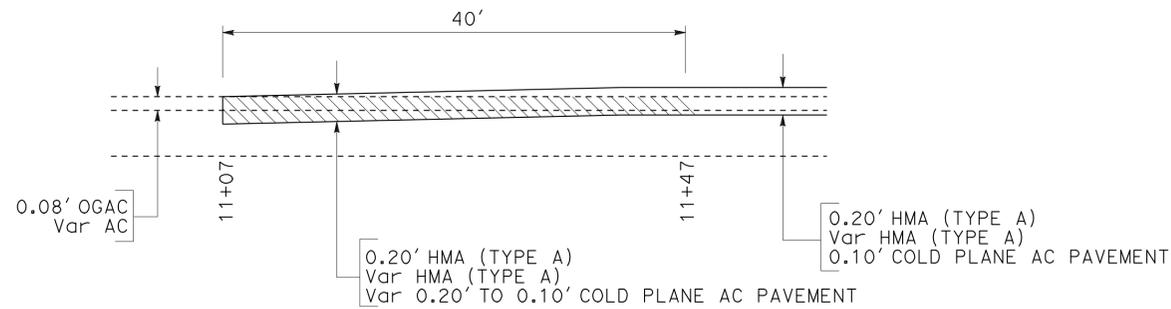
⑦ BRACKET KIT: ONE KIT ACCOMMODATES ONE (1) MAILBOX - 5 KITS INCLUDED

- 2 EACH - BRACKET HALVES, GALVANIZED 16 GAUGE SHEET STEEL
- 1 EACH - 1-7/8" ZINC PLATED U-CLAMP
- 2 EACH - 5/16" FLAT WASHERS, ZINC PLATED
- 4 EACH - #10 X 3/4" ROUND HEAD MACHINE SCREWS, ZINC PLATED
- 8 EACH - #10 FLAT WASHERS, ZINC PLATED
- 4 EACH - #10 ZINC PLATED HEX HEAD LOCK NUT

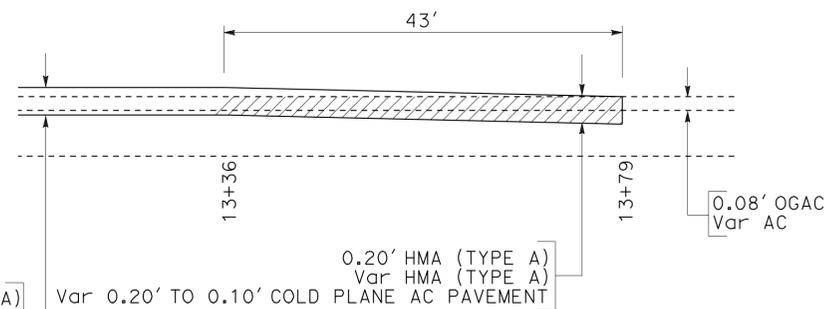


NOTE:
 THREE MAILBOXES WILL BE PLACED ON THE MAILBOX SUPPORT SYSTEM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	9	54
<i>Jack R. Cowell Jr.</i> REGISTERED CIVIL ENGINEER DATE 4-27-09			JACK COWELL No. 65521 Exp. 9-30-09 CIVIL		
6-14-10 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



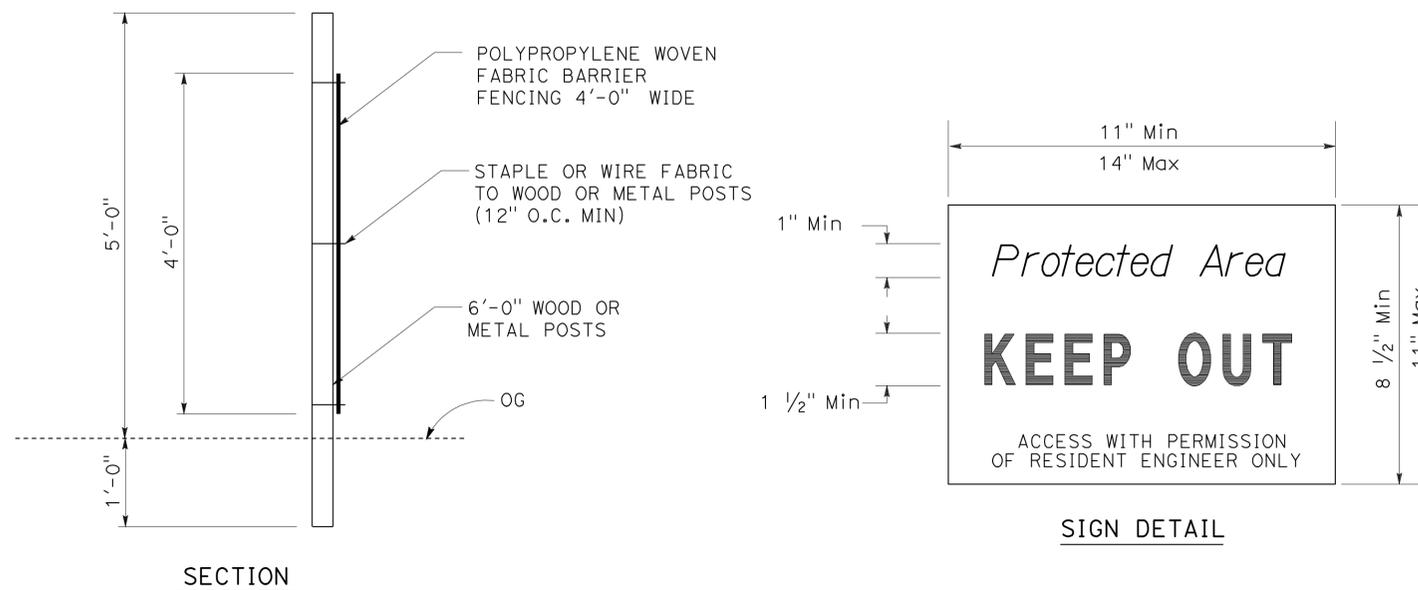
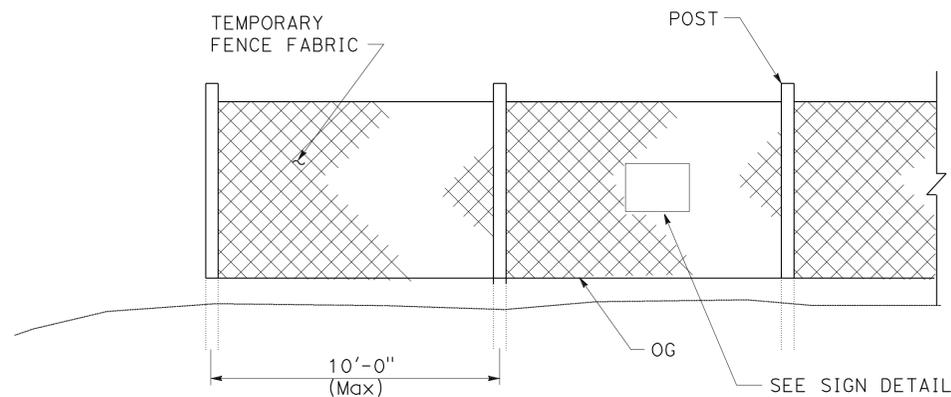
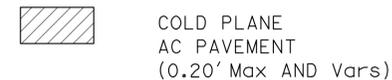
"A1" 11+07 TO 11+47



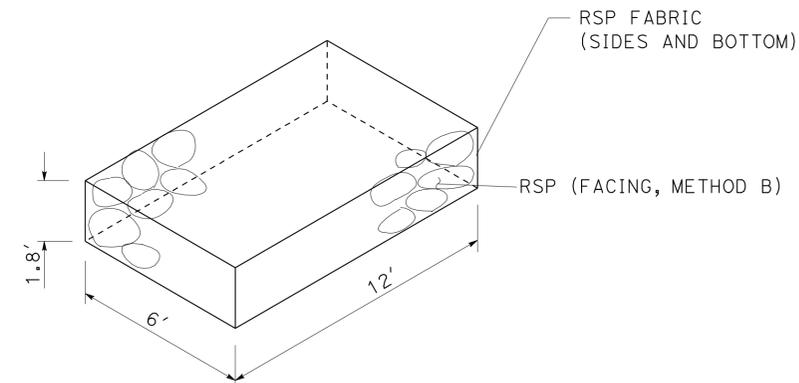
"A1" 13+36 TO 13+79

PAVEMENT TRANSITION

LEGEND



TEMPORARY FENCE (TYPE ESA)



ROCK SLOPE PROTECTION DETAIL FOR OVSIDE DRAIN

CONSTRUCTION DETAILS

NO SCALE

C-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14
 Caltrans

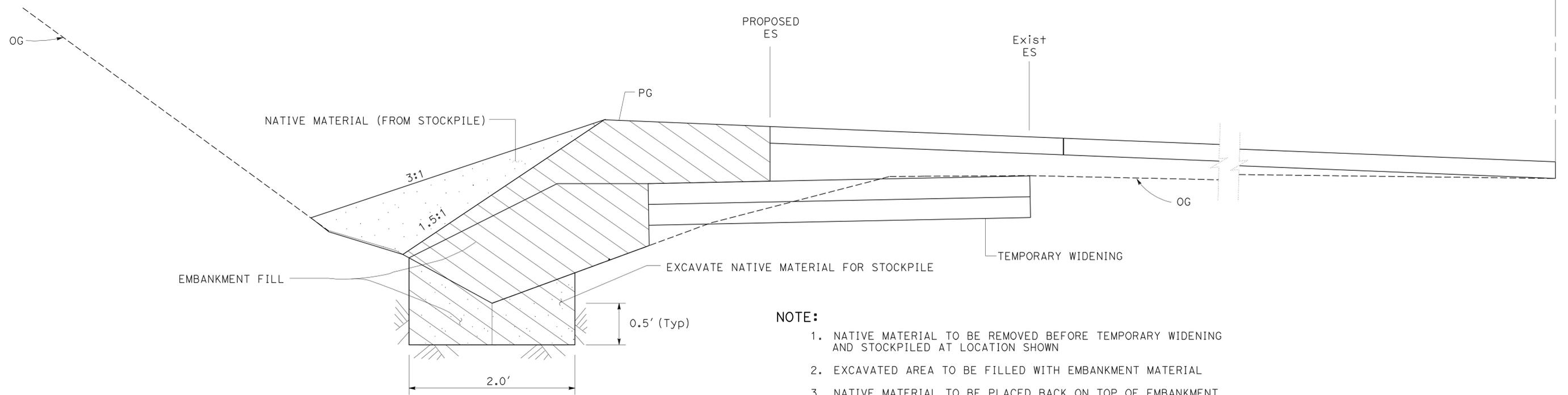
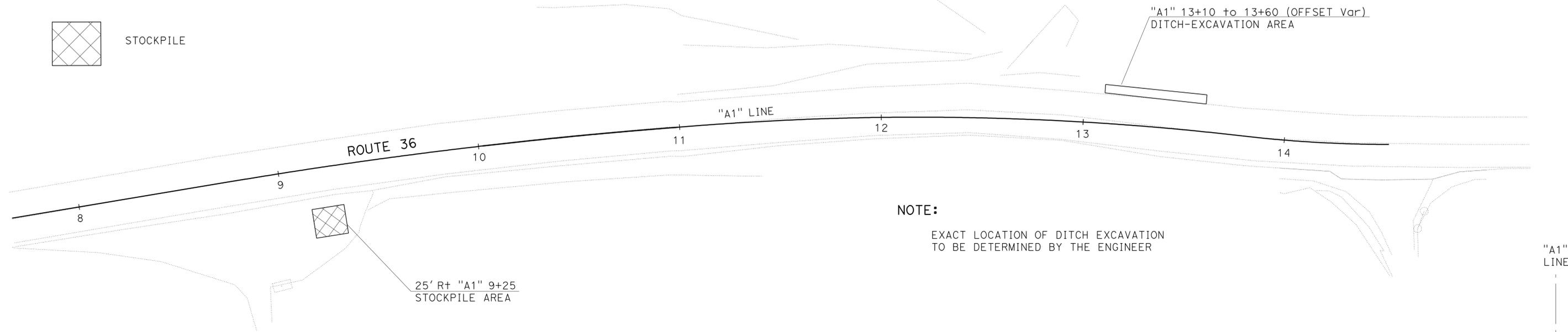
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	10	54

Jack R. Cowell Jr. 4-27-09
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 6-14-10
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REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

LEGEND:

- NATIVE MATERIAL FROM DITCH AREA
- EMBANKMENT
- STOCKPILE



- NOTE:**
1. NATIVE MATERIAL TO BE REMOVED BEFORE TEMPORARY WIDENING AND STOCKPILED AT LOCATION SHOWN
 2. EXCAVATED AREA TO BE FILLED WITH EMBANKMENT MATERIAL
 3. NATIVE MATERIAL TO BE PLACED BACK ON TOP OF EMBANKMENT MATERIAL AS SHOWN AFTER FINAL GRADING

DITCH-EXCAVATION DETAIL
"A1" 13+10 TO 13+60

CONSTRUCTION DETAILS
NO SCALE
C-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

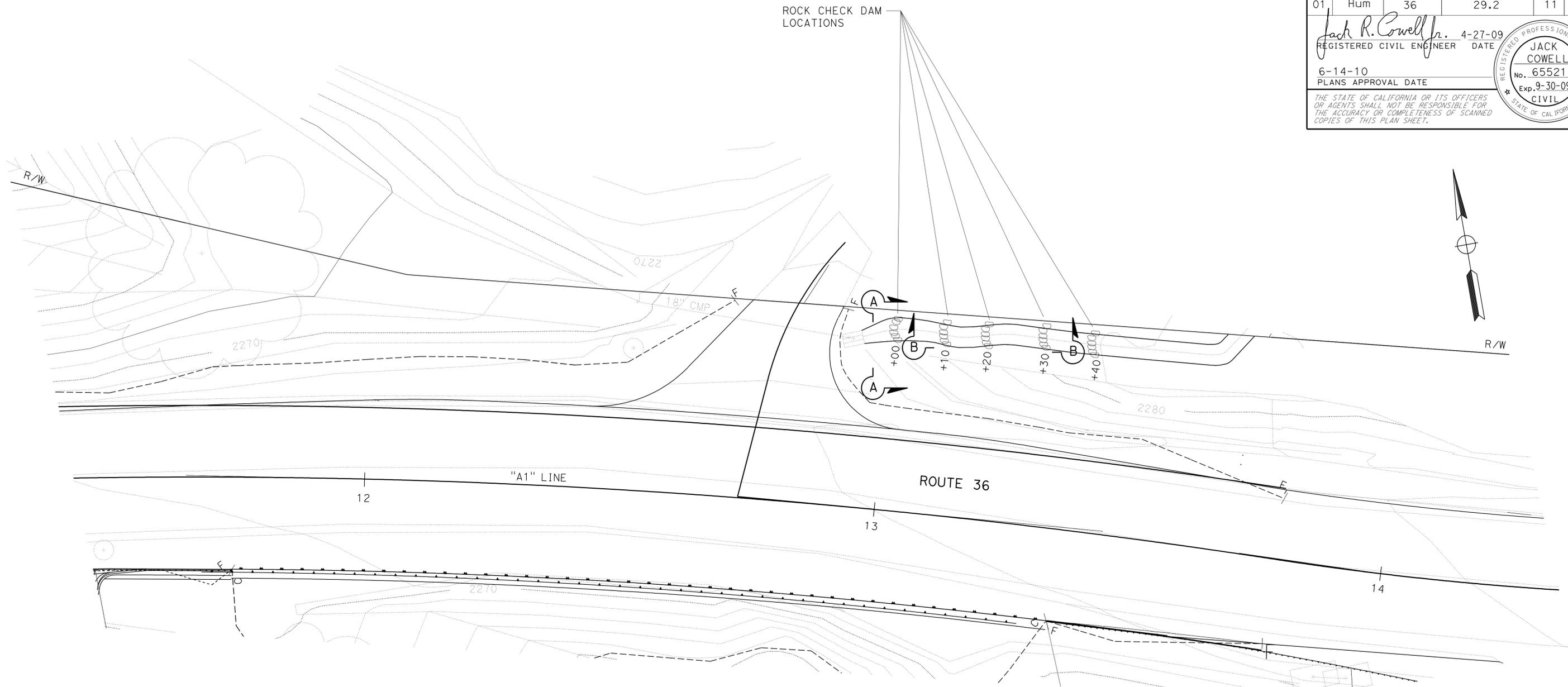
LAST REVISION DATE PLOTTED => 17-JUN-2010
 00-00-00 TIME PLOTTED => 15:48

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01	Hum	36	29.2	11	54

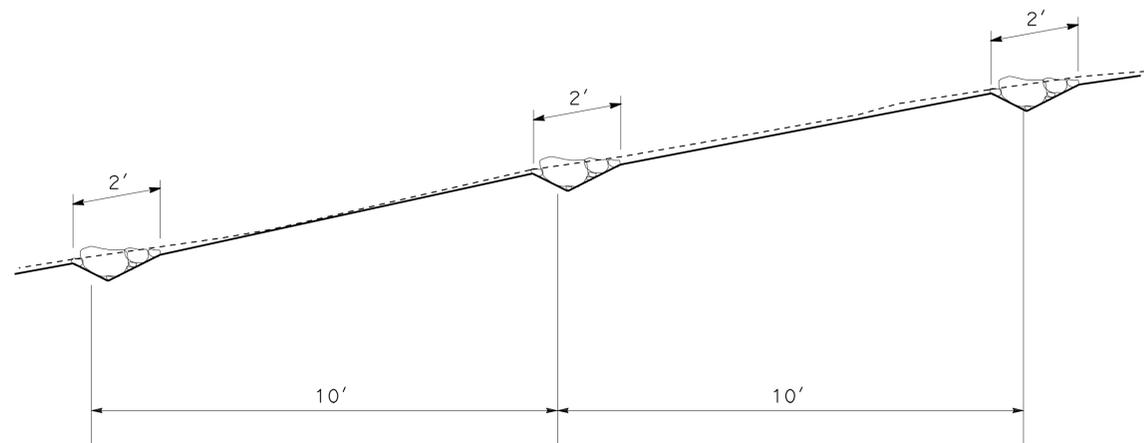
Jack R. Cowell Jr. 4-27-09
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 STATE OF CALIFORNIA

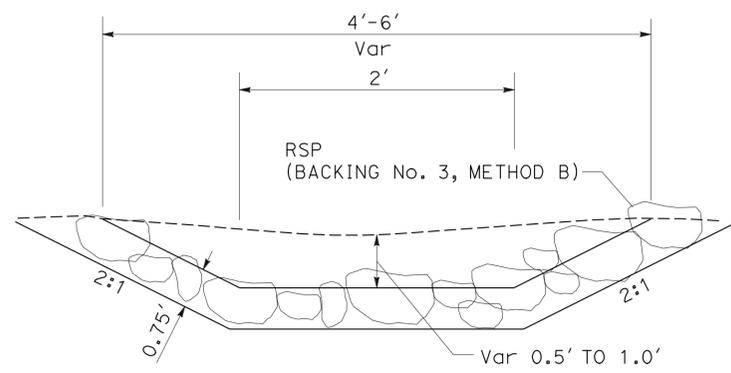
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PLAN VIEW
NO SCALE



SECTION B-B CHECK DAM SPACING (TYPICAL)



SECTION A-A ROCK CHECK DAM (TYPICAL)

NOTES:

1. ALL ROCK CHECK DAMS TO BE KEYED INTO EXISTING STREAM BED.
2. STREAM BANK TO BE PLANTED WITH NATIVE PLANTS (SEE REVEGETATION PLAN).

CONSTRUCTION DETAILS

NO SCALE

C-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14
 Caltrans



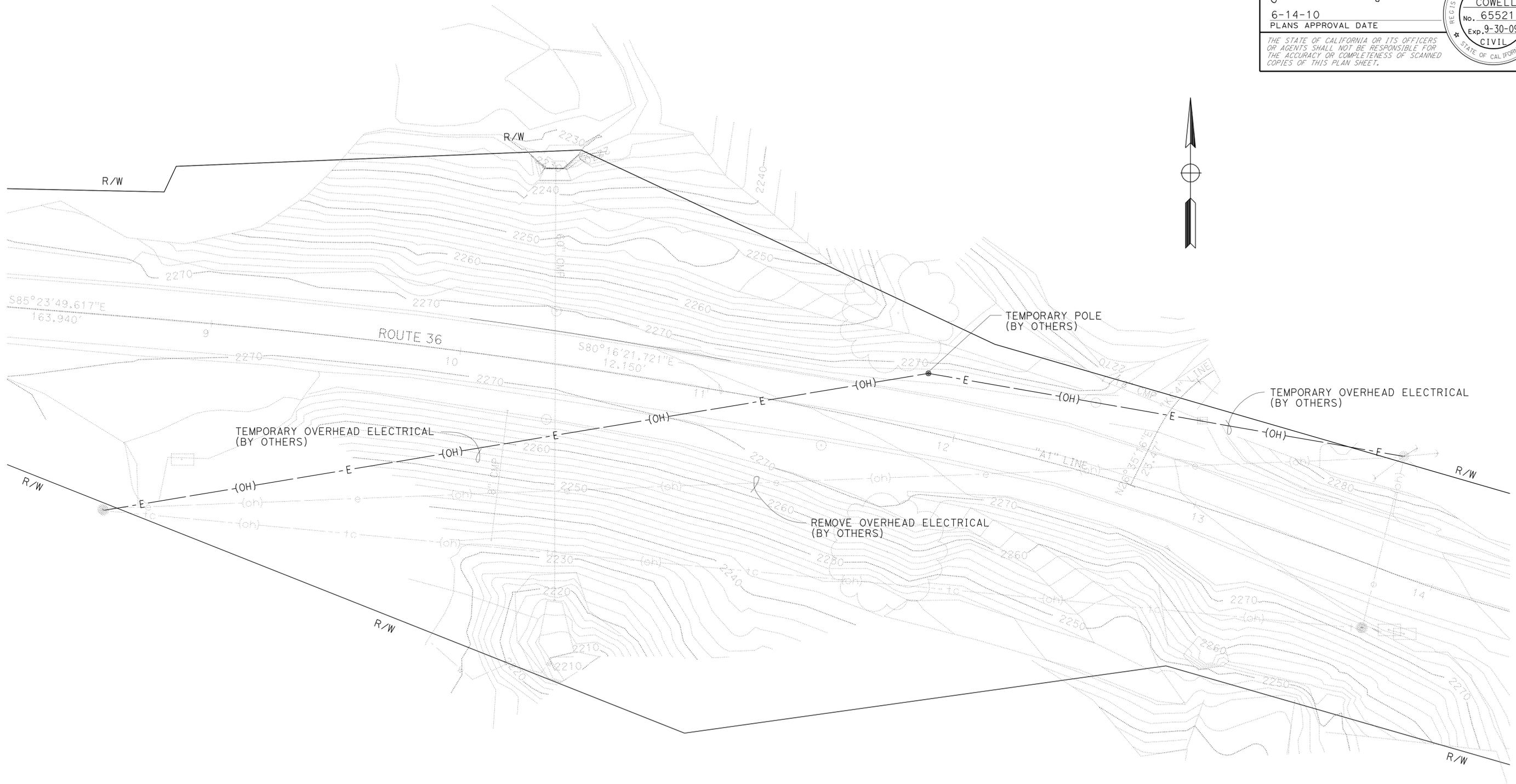
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	12	54

Jack R. Cowell Jr. 4-27-09
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JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

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NOTE:
PG&E IS OWNER OF OVERHEAD ELECTRICAL LINES AND POWER POLES



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

CALCULATED/DESIGNED BY
 CHECKED BY

JACK COWELL

REVISED BY
 DATE REVISED

THIS PLAN ACCURATE FOR UTILITY INFORMATION ONLY

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

BORDER LAST REVISED 4/11/2008



USERNAME => trlenard
 DGN FILE => 147560ka001.dgn

CU 03264

EA 475601

LAST REVISION | DATE PLOTTED => 17-JUN-2010
 00-00-00 | TIME PLOTTED => 15:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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6-14-10
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 COPIES OF THIS PLAN SHEET.

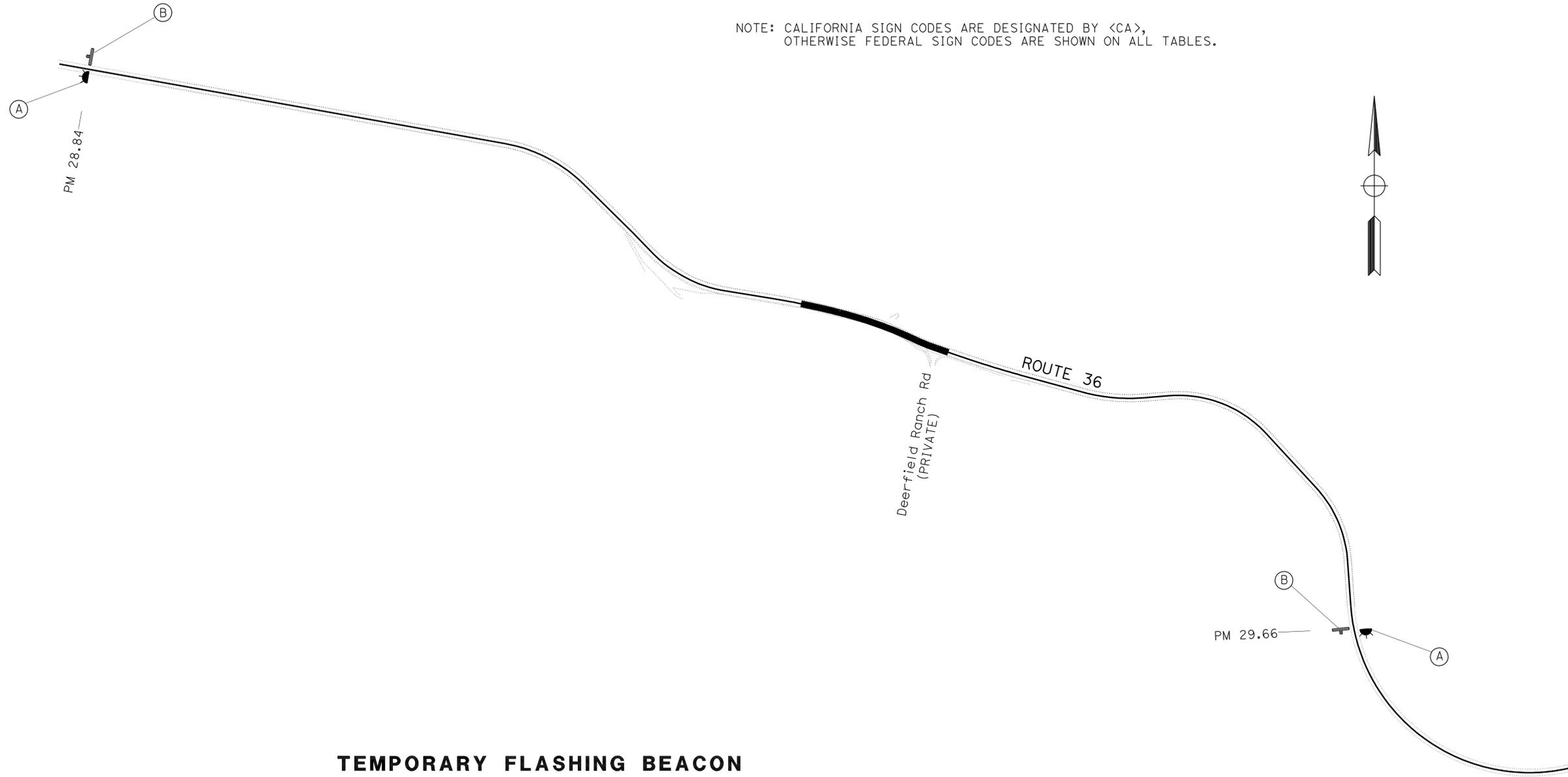
REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

NOTE:
EXACT LOCATION OF CONSTRUCTION AREA SIGNS
TO BE DETERMINED BY THE ENGINEER.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN NO.	SIGN CODE	MESSAGE	PANEL SIZE	NO. OF POST AND SIZE	NUMBER OF SIGNS
A		FLASHING BEACON			2
	W20-1	ROAD WORK AHEAD	48" x 48"	1-4" X 6"	
B	C-14 <CA>	END ROAD WORK	36" x 18"	1-4" X 4"	2

NOTE: CALIFORNIA SIGN CODES ARE DESIGNATED BY <CA>, OTHERWISE FEDERAL SIGN CODES ARE SHOWN ON ALL TABLES.



TEMPORARY FLASHING BEACON

QUANTITY (EA)	REMARKS
2	SOLAR-POWERED (SEE SHEET E-1)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

REVISOR
 DATE
 REVISION

JACK COWELL
 DATE

CALCULATED BY
 DESIGNED BY
 CHECKED BY

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

BORDER LAST REVISED 4/11/2008

CONSTRUCTION AREA SIGNS

SCALE: NO SCALE

CS-1

ADDITIONAL STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

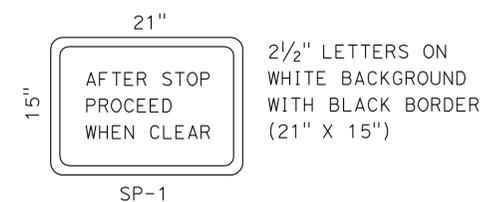
SIGN NO.	SIGN CODE	MESSAGE	PANEL SIZE	NO. OF POST AND SIZE	NUMBER OF SIGNS
C	R1-1	STOP	36" x 36"	1- 4" x 6"	2
	SP-1	(SEE DETAIL)			2
D	W11-1	BICYCLE SYMBOL	36" x 36"	1- 4" x 6"	2
	W16-1	SHARE THE ROAD	18" x 24"		2
E	W17 <CA>	STOP AHEAD SYMBOL	36" x 36"	1- 4" x 6"	2
	W17A <CA>	STOP AHEAD	18" x 24"		2
F	W20-4	ONE LANE ROAD AHEAD	48" x 48"	1- 4" x 6"	2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	14	54

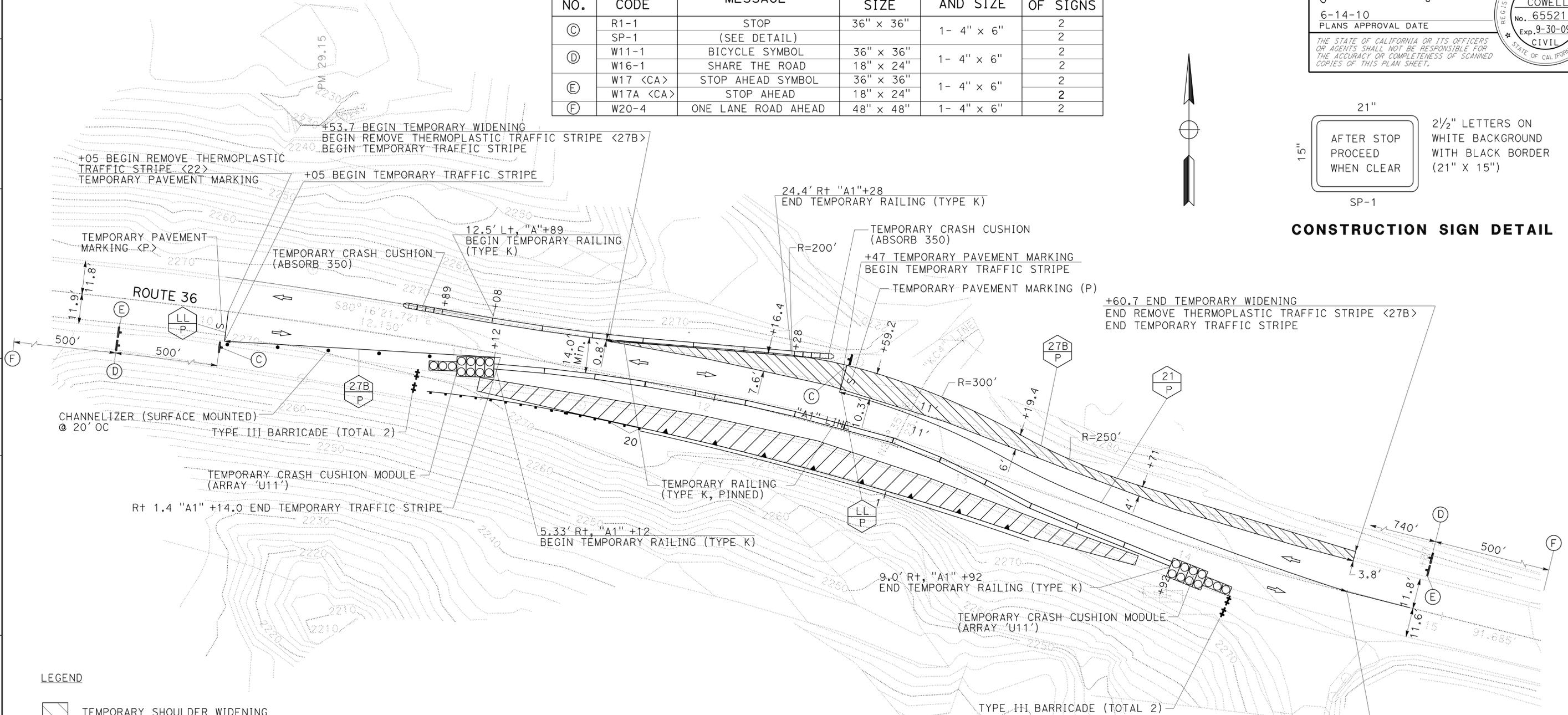
Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE
 6-14-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

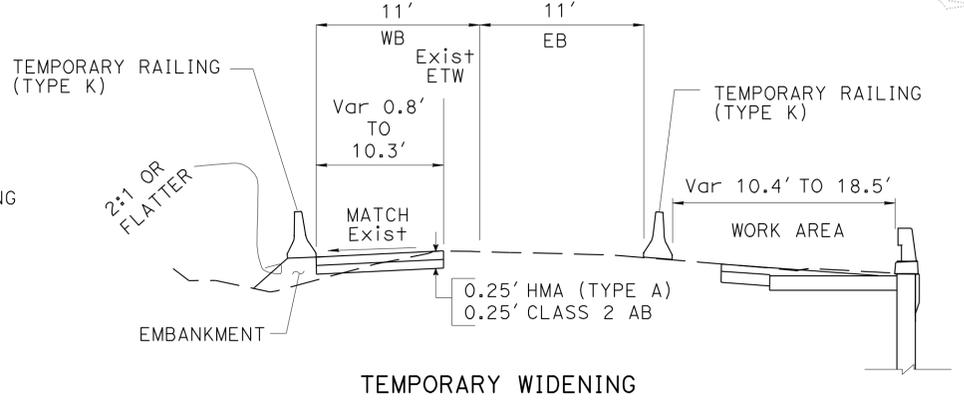
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CONSTRUCTION SIGN DETAIL



- LEGEND**
- TEMPORARY SHOULDER WIDENING
 - WORK AREA
 - S TEMPORARY PAVEMENT MARKING (STOP)
 - P PAINT
 - TEMPORARY TRAFFIC STRIPE OR PAVEMENT MARKING
 - TRAFFIC DIRECTION ARROW
 - LL LIMIT LINE
 - <No.> REMOVE TRAFFIC STRIPE



TEMPORARY WIDENING

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY.

TRAFFIC HANDLING PLAN

SCALE: 1"=20'

TH-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14
 Caltrans

REVISOR BY
DATE REVISED

JACK COWELL

CALCULATED BY
DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR
NESAR FORMOLTI

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	15	54

Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE

6-14-10
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

PAVEMENT DELINEATION REMOVAL

STATION	DETAIL No.	L+/R+	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HARZARDOUS WASTE)	REMOVE PAVEMENT MARKER
			WHITE LF	YELLOW LF	
"A1" 10+05 TO "A1" 14+61	22	℄		912	EA 44
"A1" 11+54 TO "A1" 14+61	27B	L+	307		
TOTAL			307	912	44

TRAFFIC CONTROL ITEMS

STATION	TEMPORARY RAILING (TYPE K)	TEMPORARY CRASH CUSHION MODULE	CHANNELIZER (SURFACE MOUNTED)	TEMPORARY CRASH CUSHION (ABSORB 350)	TYPE III BARRICADE
	LF	EA	EA	EA	EA
"A1" 11+12 TO "A1" 13+92	280	11			
"A1" 10+06 TO "A1" 10+66		11	5		
"A1" 10+82 R+					2
"A1" 10+73 TO "A1" 10+89					
"A1" 10+89 TO "A1" 12+28	140			1	
"A1" 12+28 TO "A1" 12+43				1	
"A1" 14+19 R+					2
TOTAL	420	22	5	2	4

TEMPORARY SHOULDER WIDENING

STATION	ROADWAY EXCAVATION	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT (TYPE A)	TACK COAT
	CY	CY	TON	TON
"A1" 11+54 TO "A1" 14+61	6	12	36.0	0.10
* TOTAL	6	12	36.0	0.10

* FOR ITEM TOTALS, SEE SUMMARY OF QUANTITIES

TEMPORARY PAVEMENT MARKING

STATION	L+/R+	TYPE/LEGEND	PAINT
			SQFT
"A1" 10+05	R+	LIMIT LINE	12
"A1" 12+47	L+	LIMIT LINE	12
"A1" 10+02	R+	"STOP"	22
"A1" 12+50	L+	"STOP"	22
TOTAL			68

TEMPORARY TRAFFIC STRIPE

STATION	L+/R+	DETAIL No.	TEMPORARY TRAFFIC STRIPE (PAINT)	
			WHITE	YELLOW
"A1" 10+05 TO "A1" 11+14	R+	27B	109	
"A1" 12+47 TO "A1" 14+61	L+	27B	214	
"A1" 12+47 TO "A1" 14+61	℄	21		428
TOTAL			751	

TRAFFIC HANDLING QUANTITIES

THQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

CALCULATED/DESIGNED BY
 CHECKED BY

JACK COWELL

REVISED BY
 DATE REVISED

PAVEMENT DELINEATION REMOVAL

STATION	DETAIL No.	L+/R+	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HARZARDOUS WASTE)	REMOVE PAVEMENT MARKER
			WHITE LF	YELLOW LF	
"A1" 10+05 TO "A1" 14+61	22	℄		912	EA 44
"A1" 11+54 TO "A1" 14+61	27B	L+	307		
TOTAL			307	912	44

TRAFFIC CONTROL ITEMS

STATION	TEMPORARY RAILING (TYPE K)	TEMPORARY CRASH CUSHION MODULE	CHANNELIZER (SURFACE MOUNTED)	TEMPORARY CRASH CUSHION (ABSORB 350)	TYPE III BARRICADE
	LF	EA	EA	EA	EA
"A1" 11+12 TO "A1" 13+92	280	11			
"A1" 10+06 TO "A1" 10+66		11	5		
"A1" 10+82 R+					2
"A1" 10+73 TO "A1" 10+89					
"A1" 10+89 TO "A1" 12+28	140			1	
"A1" 12+28 TO "A1" 12+43				1	
"A1" 14+19 R+					2
TOTAL	420	22	5	2	4

TEMPORARY SHOULDER WIDENING

STATION	ROADWAY EXCAVATION	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT (TYPE A)	TACK COAT
	CY	CY	TON	TON
"A1" 11+54 TO "A1" 14+61	6	12	36.0	0.10
* TOTAL	6	12	36.0	0.10

* FOR ITEM TOTALS, SEE SUMMARY OF QUANTITIES

TEMPORARY PAVEMENT MARKING

STATION	L+/R+	TYPE/LEGEND	PAINT
			SQFT
"A1" 10+05	R+	LIMIT LINE	12
"A1" 12+47	L+	LIMIT LINE	12
"A1" 10+02	R+	"STOP"	22
"A1" 12+50	L+	"STOP"	22
TOTAL			68

TEMPORARY TRAFFIC STRIPE

STATION	L+/R+	DETAIL No.	TEMPORARY TRAFFIC STRIPE (PAINT)	
			WHITE	YELLOW
"A1" 10+05 TO "A1" 11+14	R+	27B	109	
"A1" 12+47 TO "A1" 14+61	L+	27B	214	
"A1" 12+47 TO "A1" 14+61	℄	21		428
TOTAL			751	

TRAFFIC HANDLING QUANTITIES

THQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	16	54

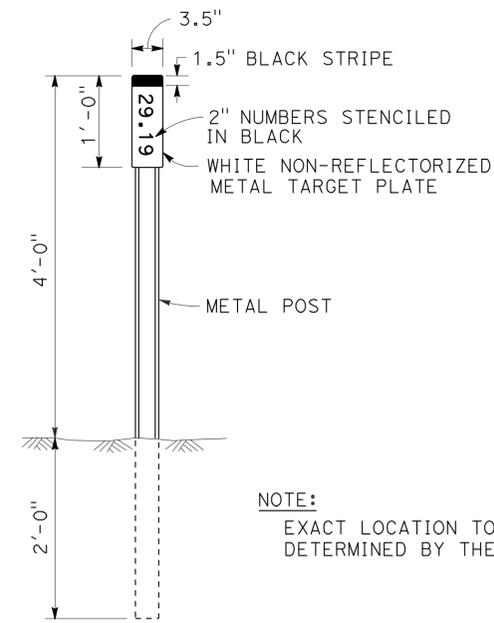
Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE
 6-14-10
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

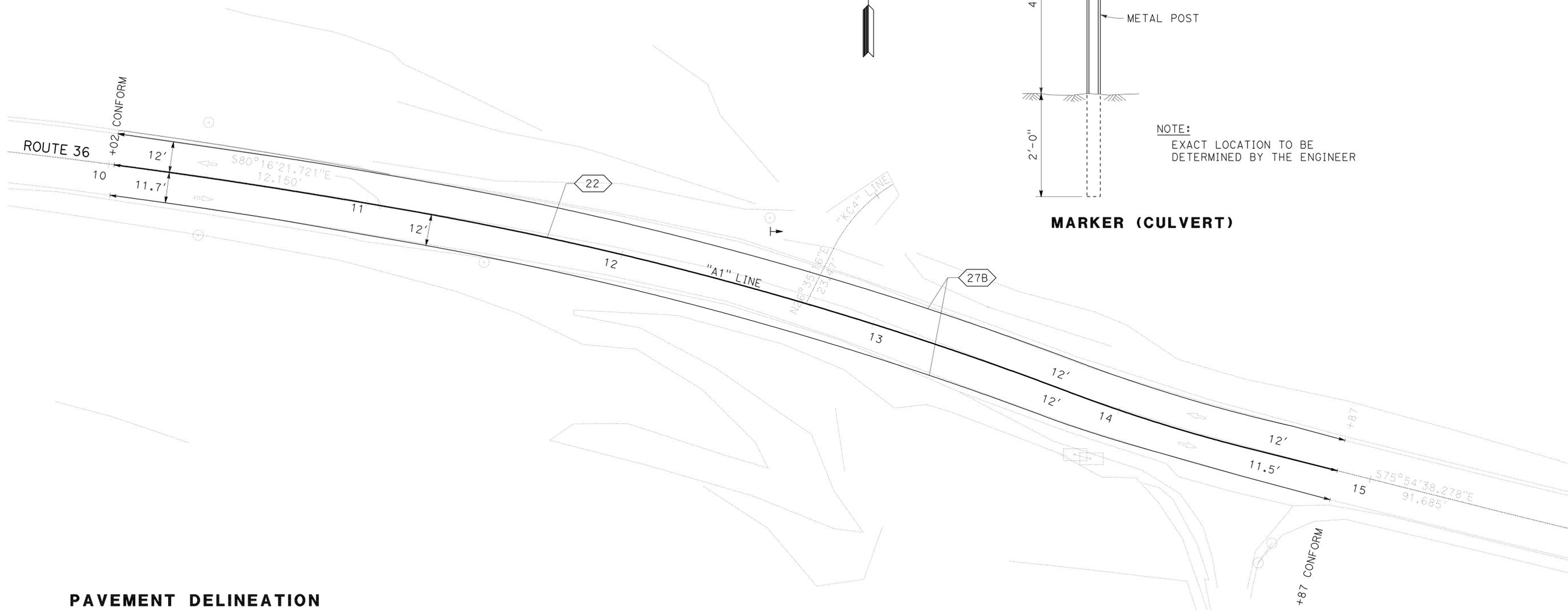
LEGEND

- DIRECTION OF TRAVEL
- LIMITS OF PAVEMENT DELINEATION DETAIL
- DELINEATOR OR OBJECT MARKER
- STRIPE DETAIL NUMBER



NOTE:
EXACT LOCATION TO BE DETERMINED BY THE ENGINEER

MARKER (CULVERT)



PAVEMENT DELINEATION

PAVEMENT DELINEATION		L+/R+ CENTER	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)		PAVEMENT MARKER (RETROREFLECTIVE - RECESSED)	MARKER (CULVERT)
FROM	TO		WHITE LF	YELLOW		
"A" 10+02	"A" 14+87	CENTER		970	44	1
"A" 10+02	"A" 14+87	L+	485			
"A" 10+02	"A" 14+87	R+	485			
SUB TOTAL			970	970		
TOTAL			1940		44	1

PAVEMENT DELINEATION PLAN

SCALE: 1"=20'

PD-1

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 NORTH REGION PROJECT DEVELOPMENT
 OFFICE OF DESIGN SOUTH
 DESIGN BRANCH 14

FUNCTIONAL SUPERVISOR
 NESAR FORMOLI

CALCULATED BY
 DESIGNED BY
 CHECKED BY

JACK COWELL
 REVISED BY
 DATE REVISED

ROADWAY QUANTITIES

STATION LIMITS	ROADWAY EXCAVATION	(N) EMBANKMENT	HOT MIX ASPHALT (TYPE A)	TACK COAT	CLASS 2 AGGREGATE BASE	COLD PLANE ASPHALT CONCRETE PAVEMENT	GEOSYNTHETIC PAVING INTERLAYER	TRANSITION RAILING (TYPE WB)	METAL BEAM GUARD RAILING	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	VEGETATION CONTROL (MINOR CONCRETE)	PLACE HOT MIX ASPHALT DIKE (TYPE F)	PLACE HOT MIX ASPHALT (Misc AREA)	RECONSTRUCT MAILBOX (MULTIPLE)	ROCK SLOPE PROTECTION (FACING, METHOD B)	ROCK SLOPE PROTECTION FABRIC	DITCH EXCAVATION	PAVING ASPHALT (BINDER, GEOSYNTHETIC PAVEMENT INTERLAYER)	ROCK SLOPE PROTECTION (BACKING No. 3 METHOD B)	
	CY	CY	TON	TON	CY	SQYD	SQYD	EA	LF	EA	EA	SQYD	LF	SQYD	EA	CY	SQYD	CY	TON	CY	
"A1" 10+02 TO 11+11.28			43.5	0.05		327.0				1						3.5	16				
"A1" 11+11.28 TO 11+74	20.0	6.8	70.0	0.03	10	189.0	56.0		12.5			22.0	35	10							
"A1" 11+74 TO 13+36.08	277.0	29.0	139.0	0.20	20	533.0	142.0	2													
"A1" 13+36.08 TO 13+79.19	12.0	5.2	24.5	0.02	8	143.0	38.0		12.5			22.0									
"A1" 13+10 TO 13+60																		2.5			
"A1" 13+79.19 TO 14+87			39.0	0.04		336.0				1					1						
DRIVEWAY "KC4" LINE			8.0	0.01																	
ROCK CHECK DAM																	6				1.5
TEMPORARY SHOULDER WIDENING (THQ-1)	6.0		36.0		12.0																
TOTAL	315.0		360.0	0.35	50.0	1528.0	236.0	2	25.0	1	1	44.0	35	10	1	3.5	22	2.5	0.30	1.5	

STORM WATER & EROSION CONTROL ITEMS

EROSION CONTROL (TYPE D)

LOCATION (STATION)		Lt/Rt	(N) STRAW	(N) FIBER	(N) COMPOST	(N) PURE LIVE SEED	(N) STABILIZING EMULSION	AREA
FROM	TO		TON	LB	CY	LB	LB	SQYD
10+40	13+50	Rt	0.48	513.6	0.86	27.0	20.8	1160
		TOTAL	0.48	513.6	0.86	27.0	20.8	1160

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

STATION LIMITS	TEMPORARY FENCE (TYPE ESA)	TEMPORARY FIBER ROLL	TEMPORARY SILT FENCE	TEMPORARY GRAVEL BAG BERM	TEMPORARY CHECK DAM	TEMPORARY COVER	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY CONSTRUCTION ENTRANCE
	LF	LF	LF	LF	LF	SQYD	EA	EA
4+00 TO 11+00 Rt								1
9+00 TO 11+50 Rt	150				20			
11+50 TO 14+00 Rt			120			30		
12+92.32' Lt							1	
VARIOUS LOCATIONS		100		40				
TOTAL	150	100	120	40	20	30	1	1

SUMMARY OF QUANTITIES

NO SCALE

Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	17	54

Jack R. Cowell Jr. 4-27-09
 REGISTERED CIVIL ENGINEER DATE

6-14-10
 PLANS APPROVAL DATE

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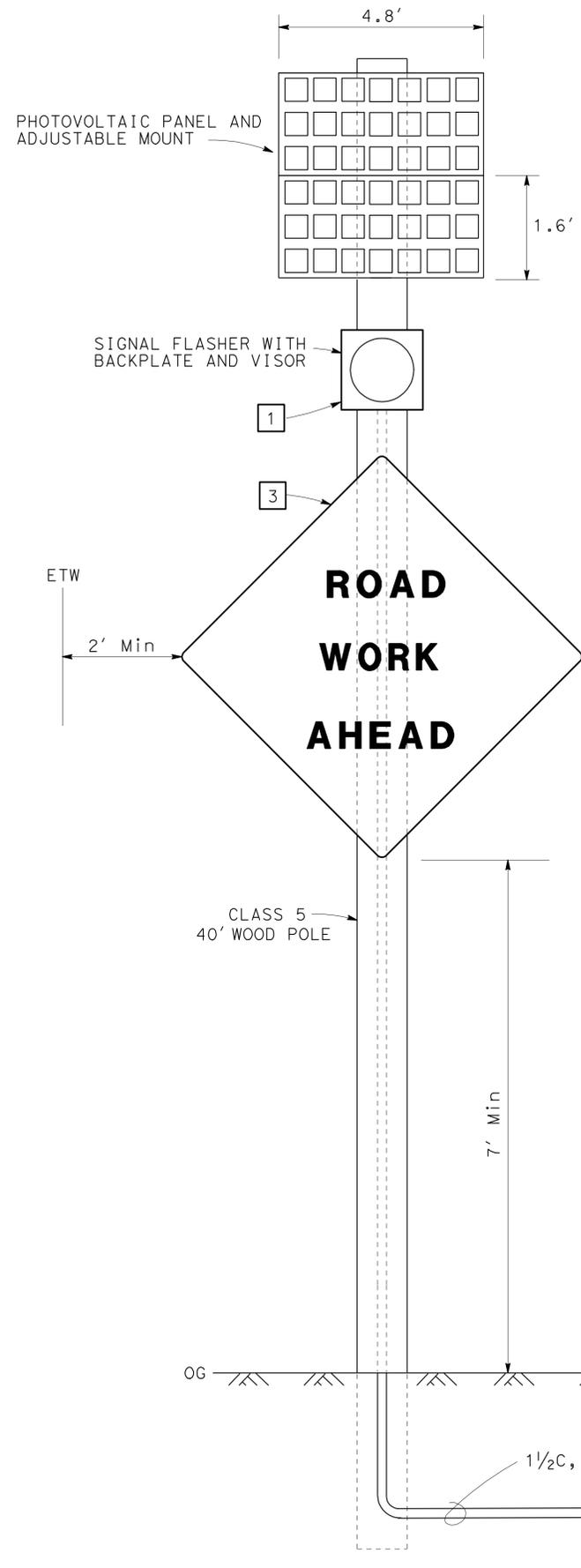
REGISTERED PROFESSIONAL ENGINEER
 JACK COWELL
 No. 65521
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	36	29.2	18	54

<i>Brian T. Finck</i>		4-27-09
REGISTERED ELECT ENGINEER	DATE	
6-14-10		
PLANS APPROVAL DATE		

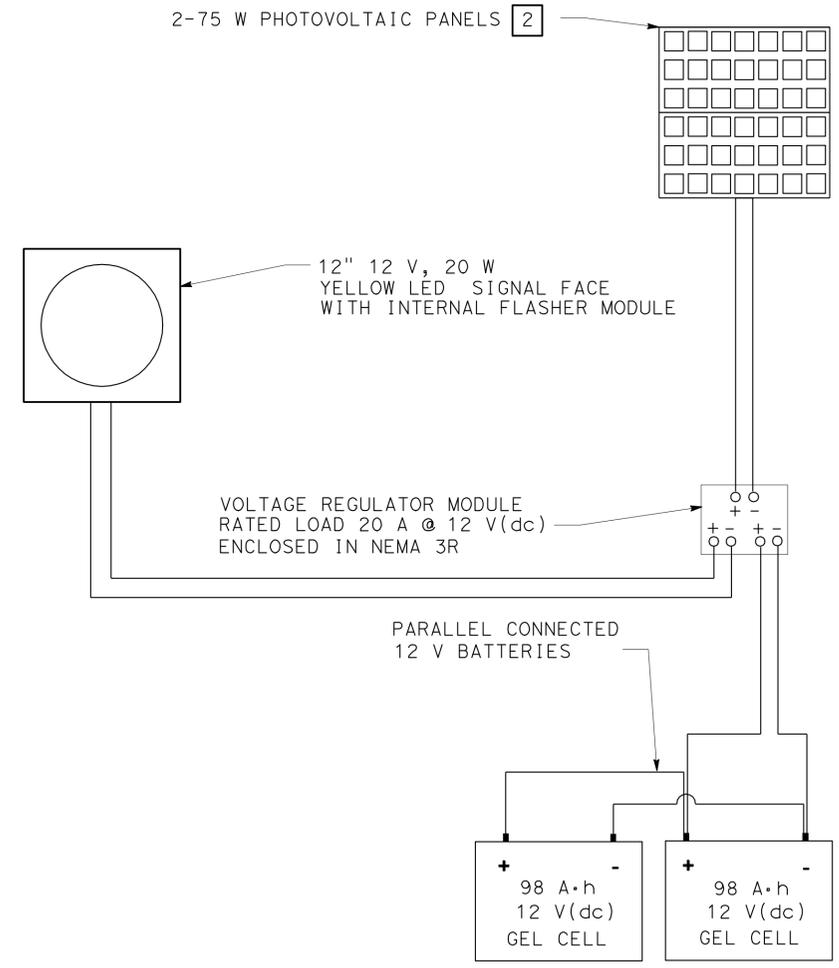
REGISTERED PROFESSIONAL ENGINEER	BRIAN T. FINCK
No. 17756	
Exp. 6-30-10	
ELECT	

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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 SIGN A.



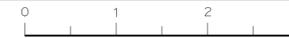
CONNECTION DIAGRAM

**TEMPORARY FLASHING BEACON
(SOLAR POWERED)**

NO SCALE

E-1

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **TRAFFIC ELECT**
 FUNCTIONAL SUPERVISOR TROY A. ARSENEAU
 CALCULATED/DESIGNED BY CHECKED BY
 BRIAN FINCK SCOTT SHIPMAN
 REVISED BY DATE REVISED
 x x x x x



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	19	54

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

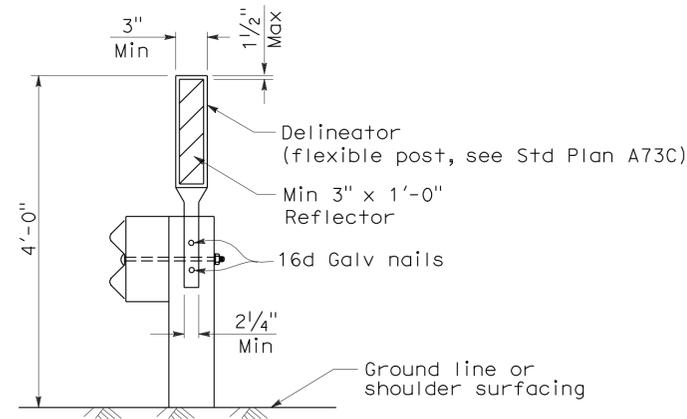
June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 6-14-10

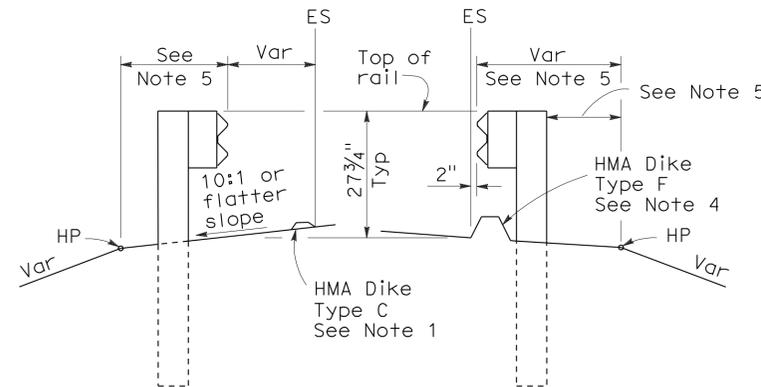
NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



GUARD RAILING DELINEATION

See Note 3



DIKE POSITIONING

See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	20	54

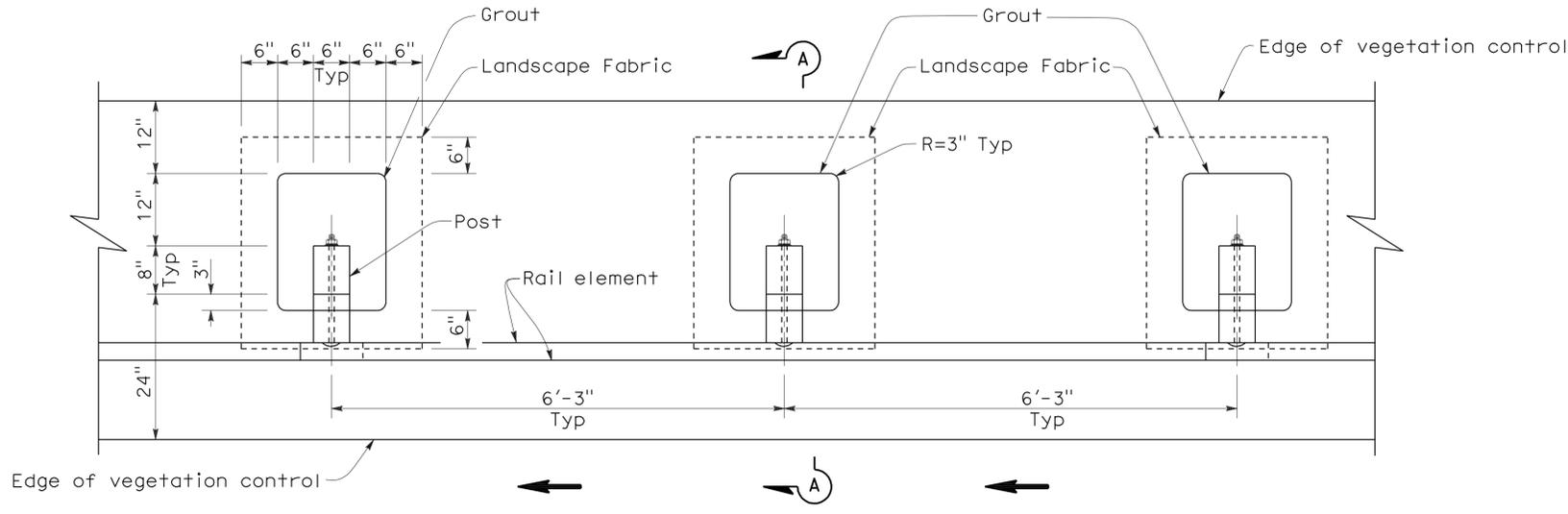
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

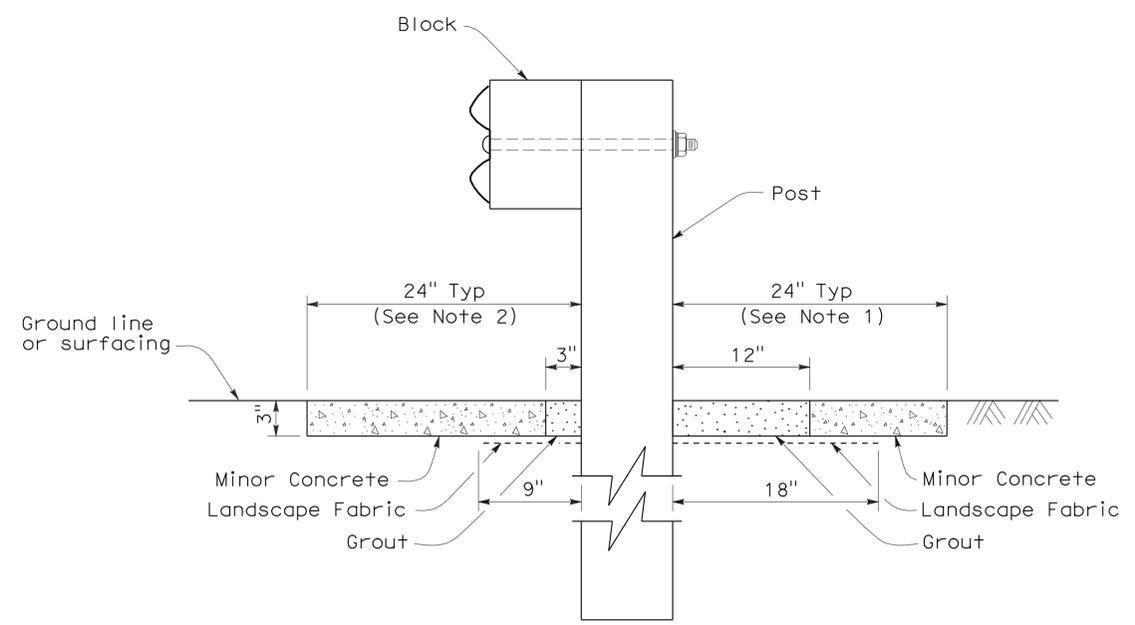
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 6-14-10



PLAN



SECTION A-A

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

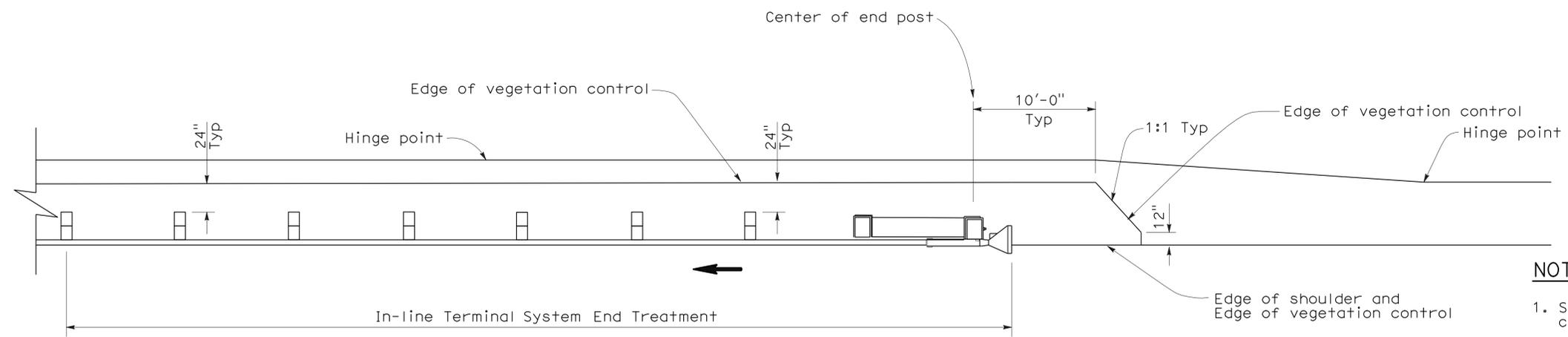
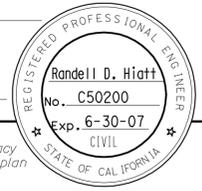
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	21	54

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

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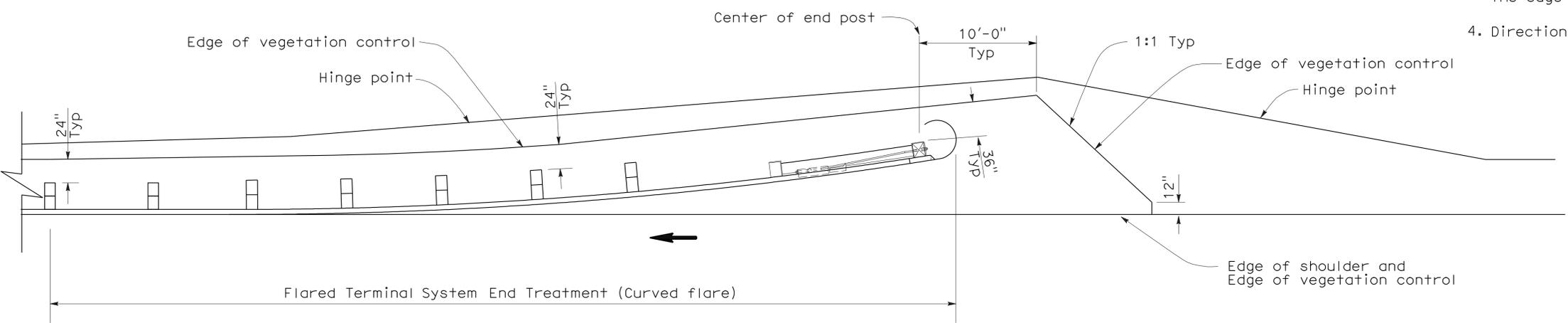
To accompany plans dated 6-14-10



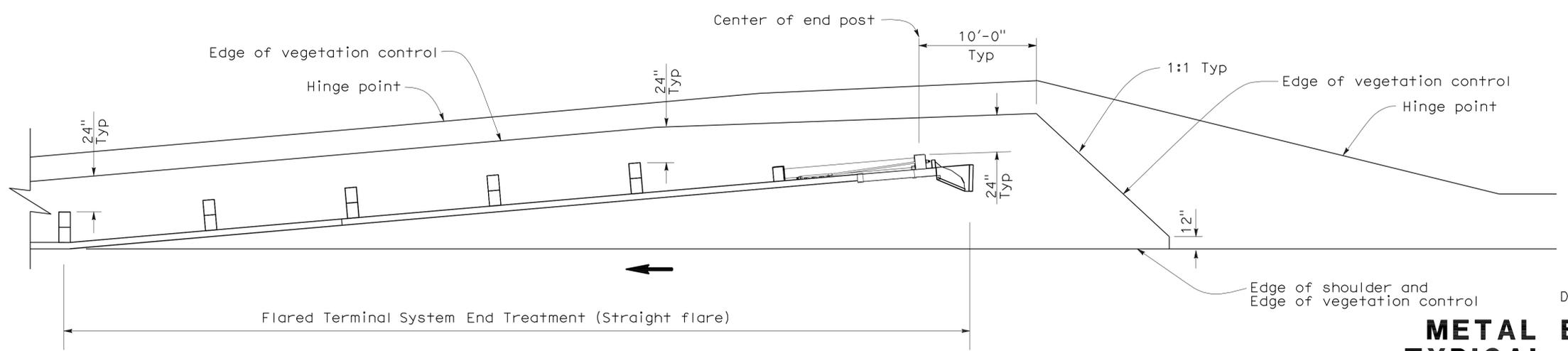
PLAN

NOTES:

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



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

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

2006 NEW STANDARD PLAN NSP A77C6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	22	54

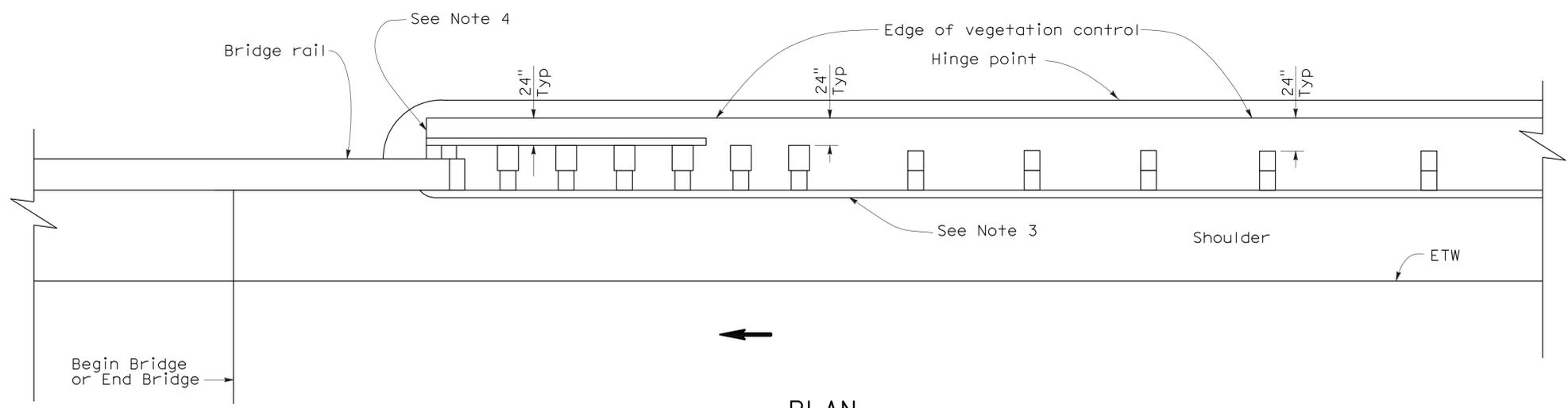
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

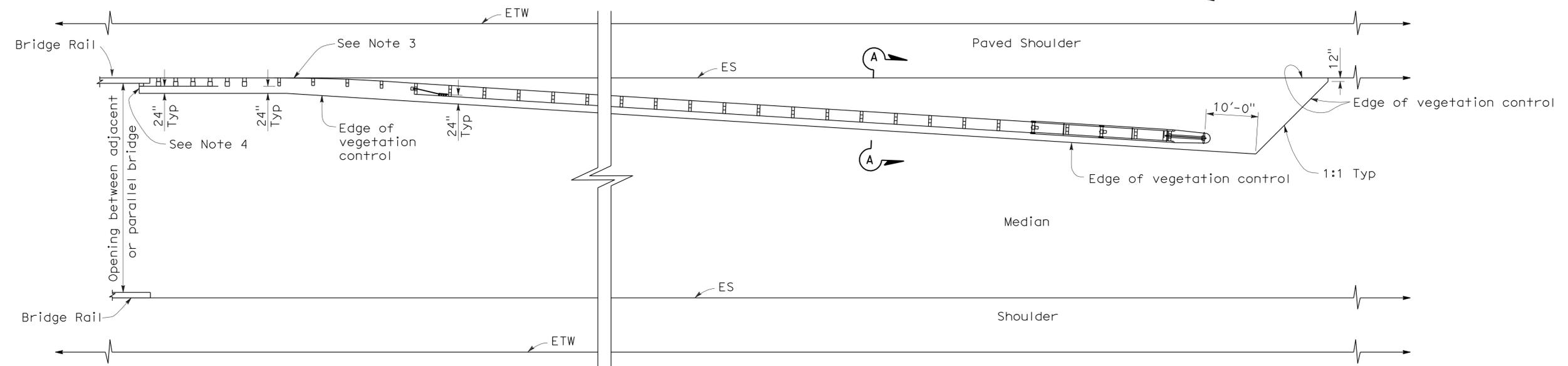
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To accompany plans dated 6-14-10

2006 NEW STANDARD PLAN NSP A77C7



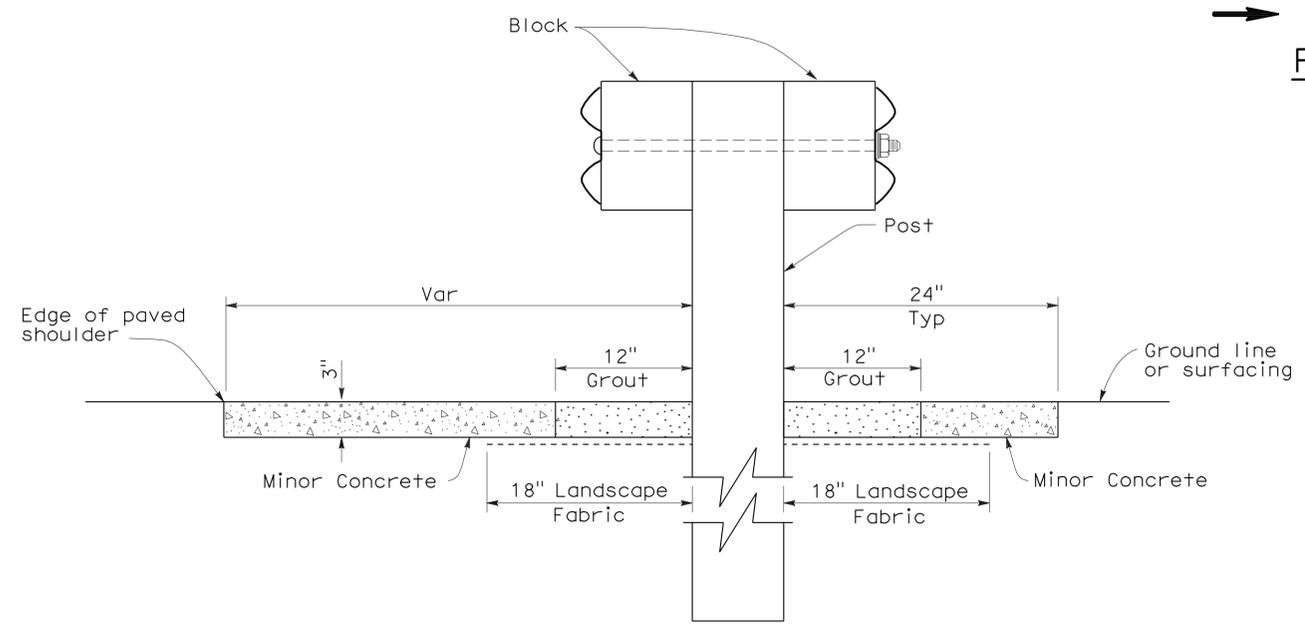
PLAN



PLAN

NOTES:

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



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	23	54

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

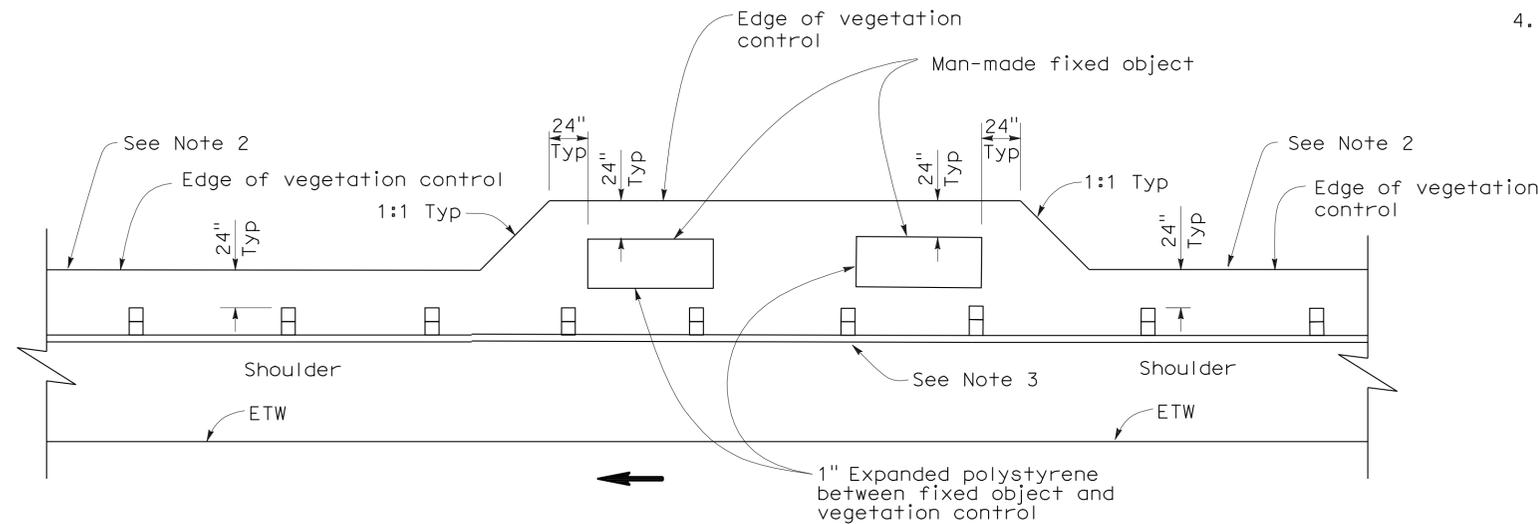
October 20, 2006
PLANS APPROVAL DATE

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To accompany plans dated 6-14-10

NOTES:

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



PLAN
FIXED OBJECT(S) ON SHOULDER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

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

2006 NEW STANDARD PLAN NSP A77C8

NOTES:

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

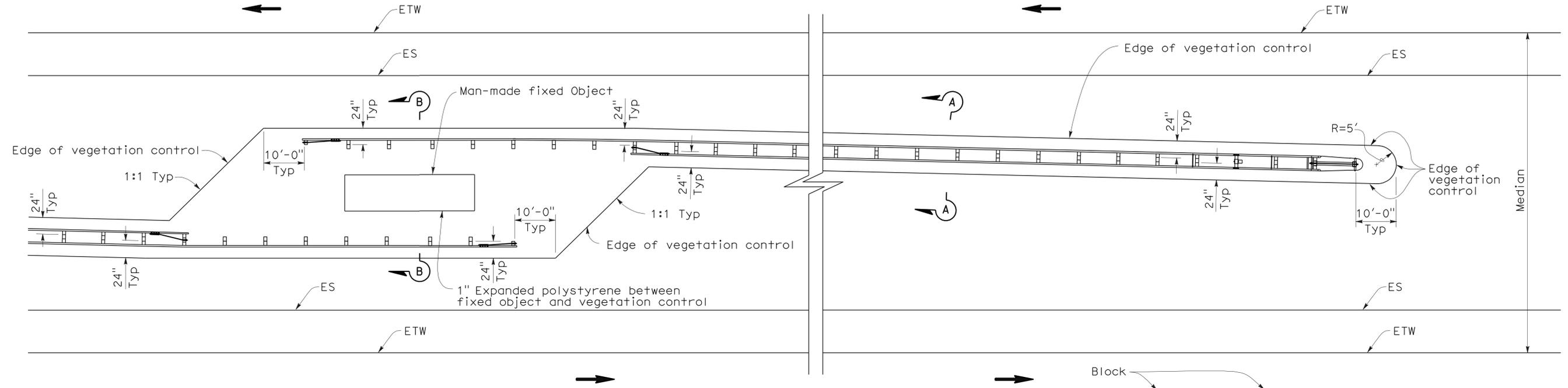
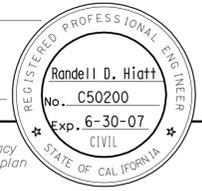
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	24	54

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

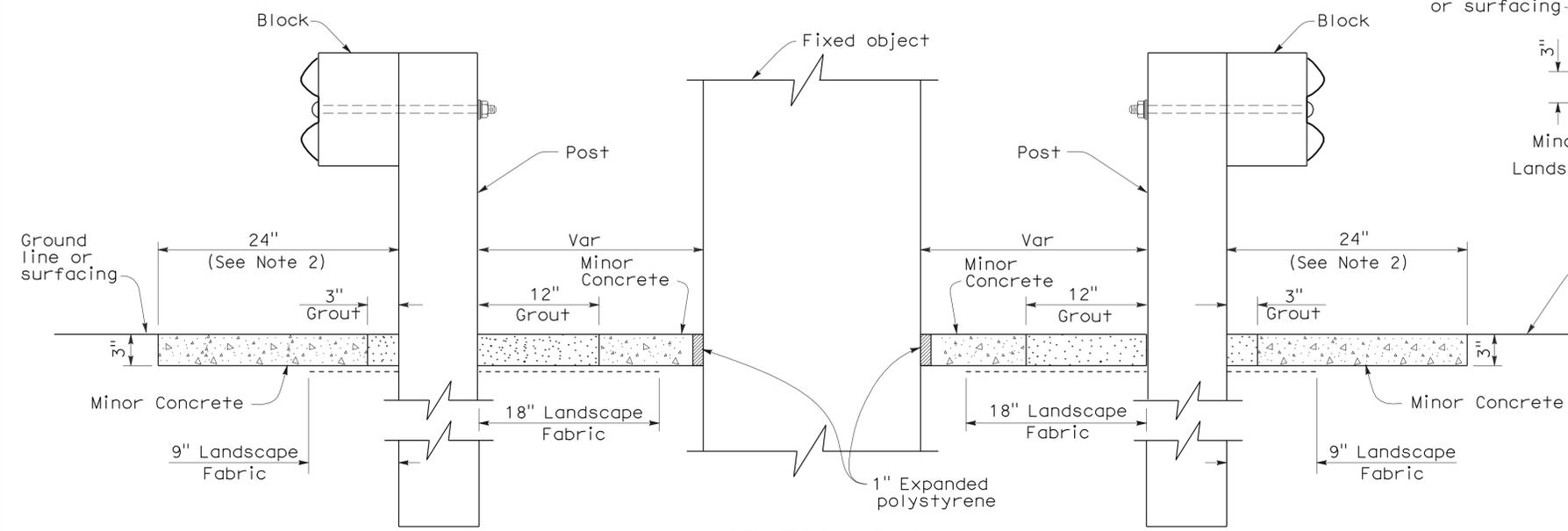
October 20, 2006
PLANS APPROVAL DATE

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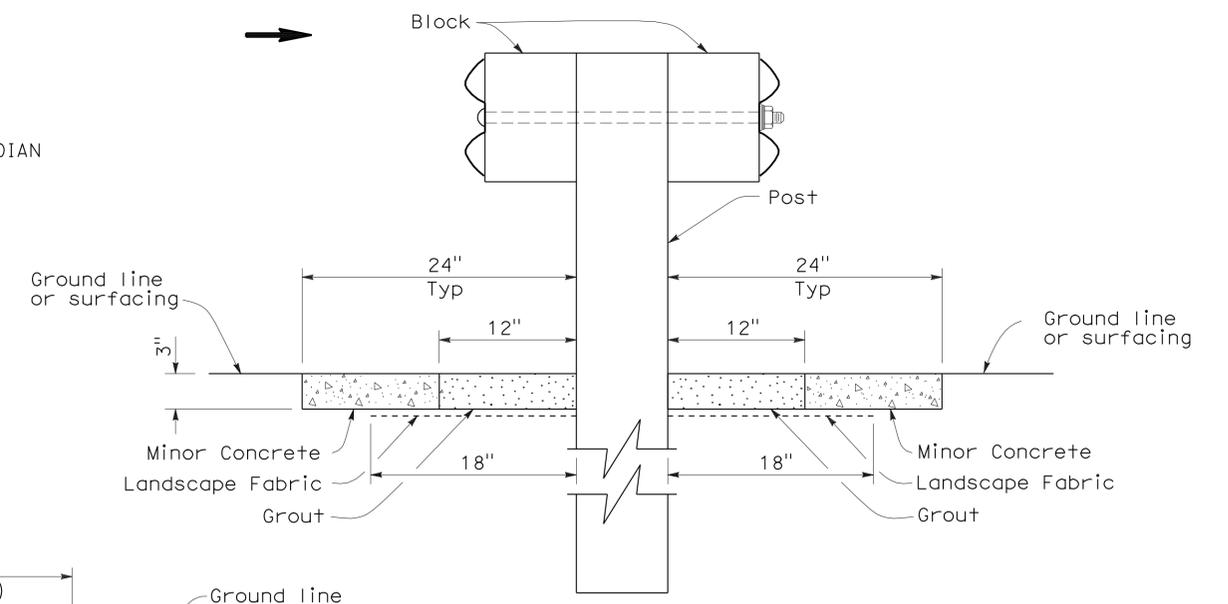
To accompany plans dated 6-14-10



PLAN
FIXED OBJECT(S) IN MEDIAN



SECTION B-B



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

NSP A77C9 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP A77C9

NOTES:

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	25	54

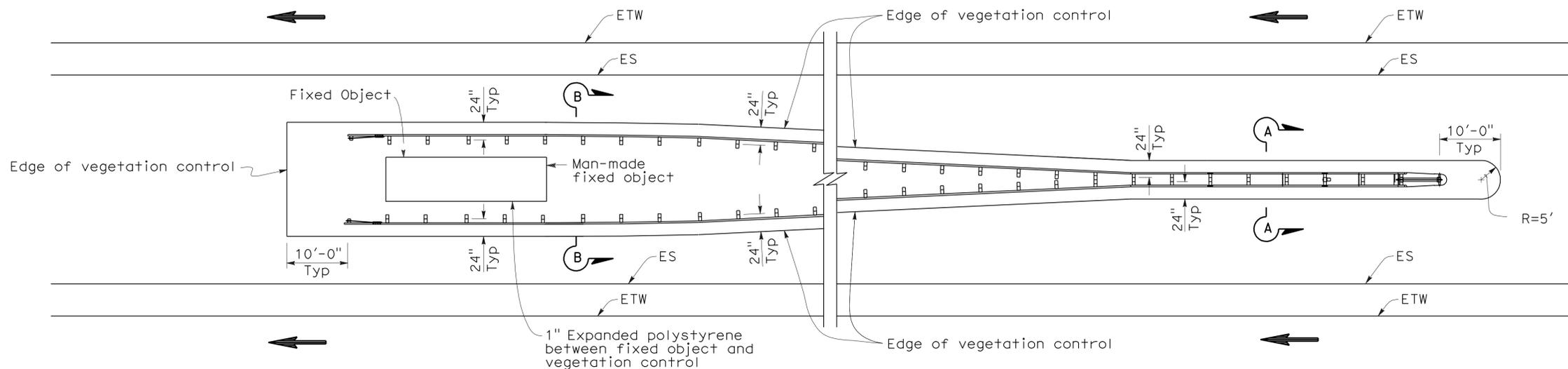
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

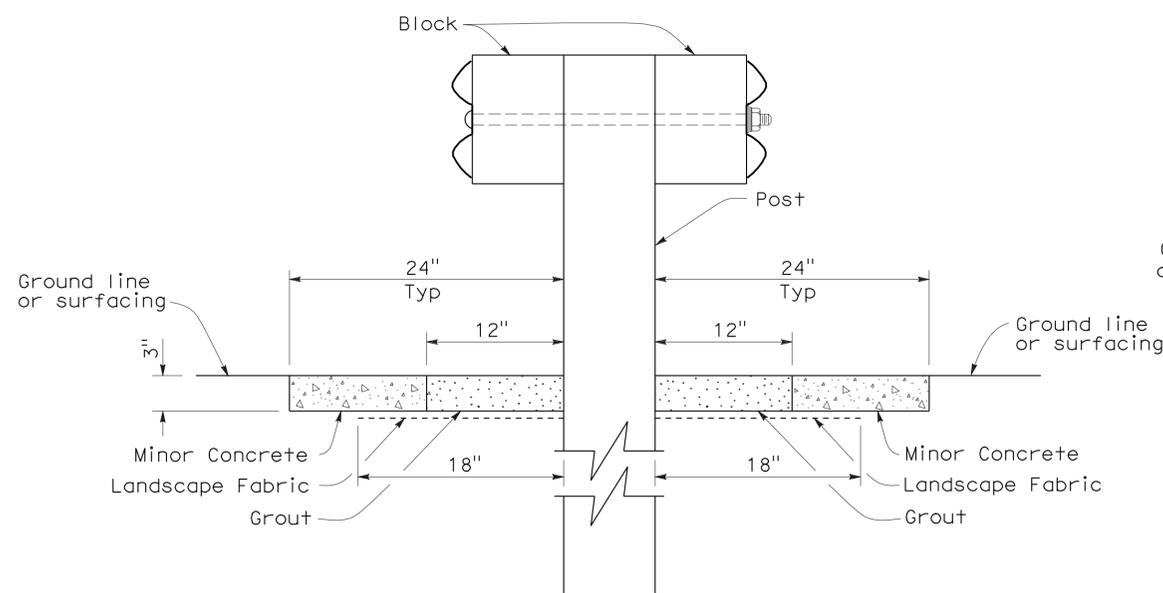
Randell D. Hiatt
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Exp. 6-30-07
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STATE OF CALIFORNIA

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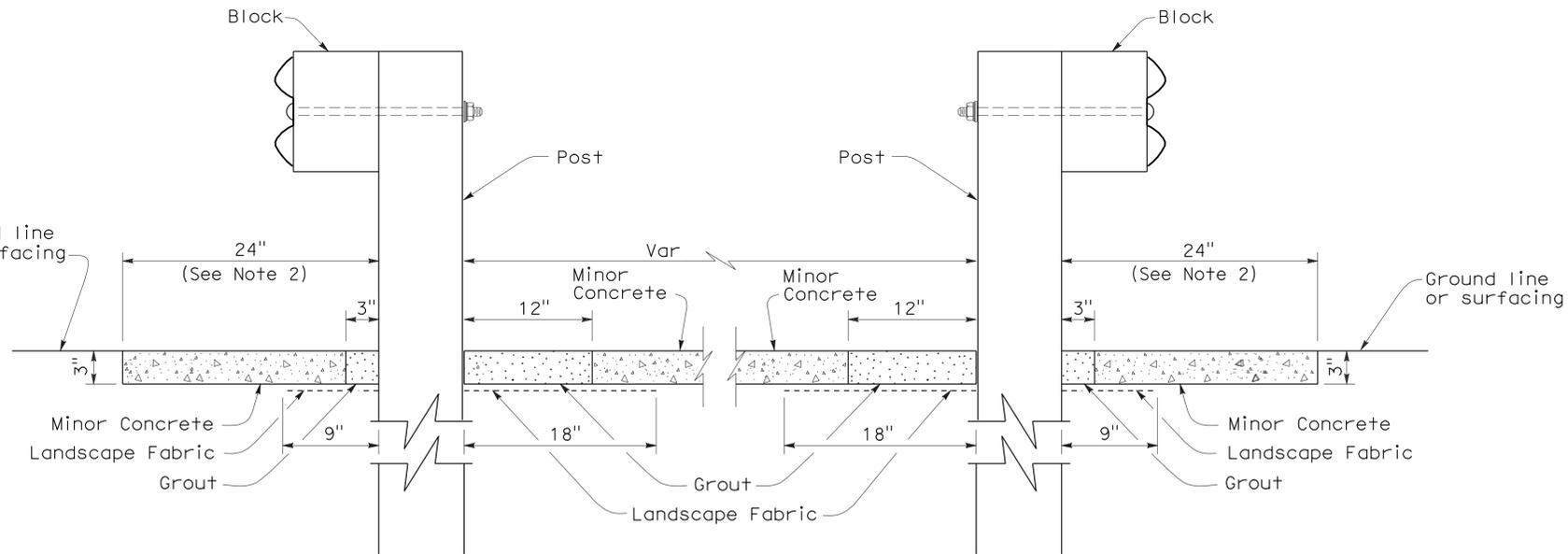
To accompany plans dated 6-14-10



PLAN
FIXED OBJECT(S) BETWEEN SEPARATE ROADBEDS
(ONE-WAY TRAFFIC)



SECTION A-A



SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

NSP A77C10 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	26	54

Randell D. Hiatt
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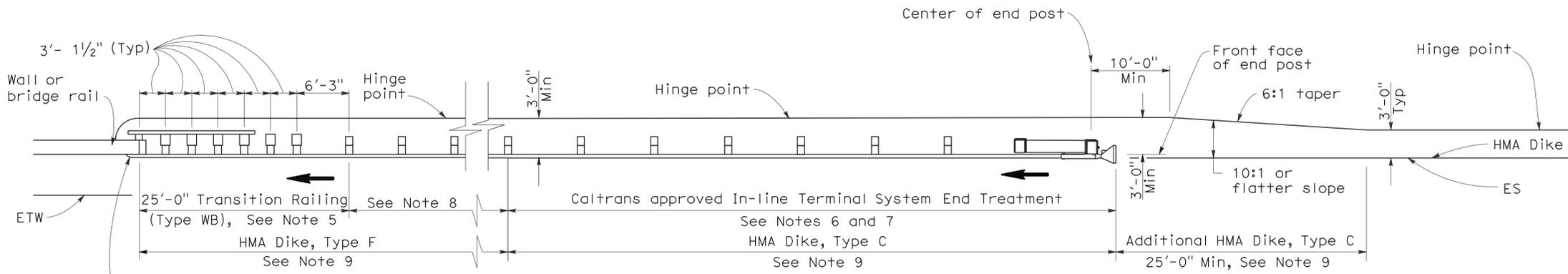
June 6, 2008
PLANS APPROVAL DATE

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

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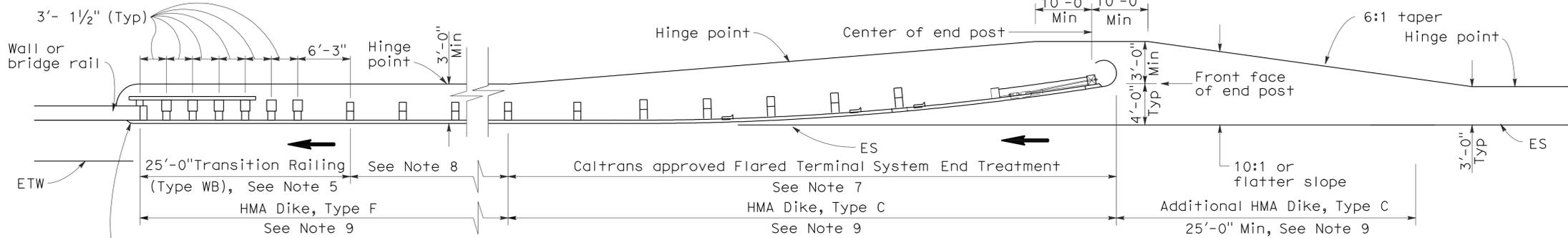
To accompany plans dated 6-14-10

2006 REVISED STANDARD PLAN RSP A77F1



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	27	54

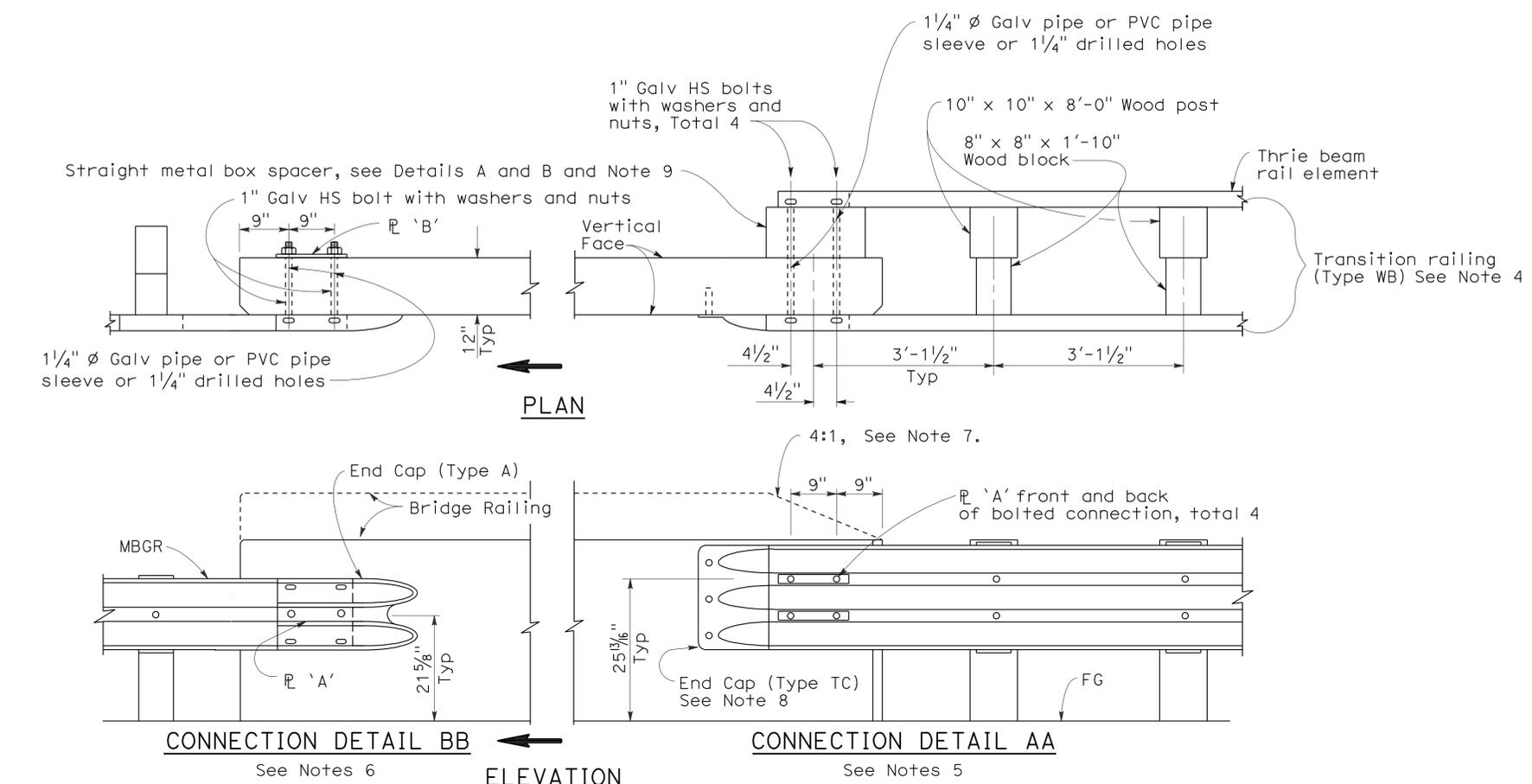
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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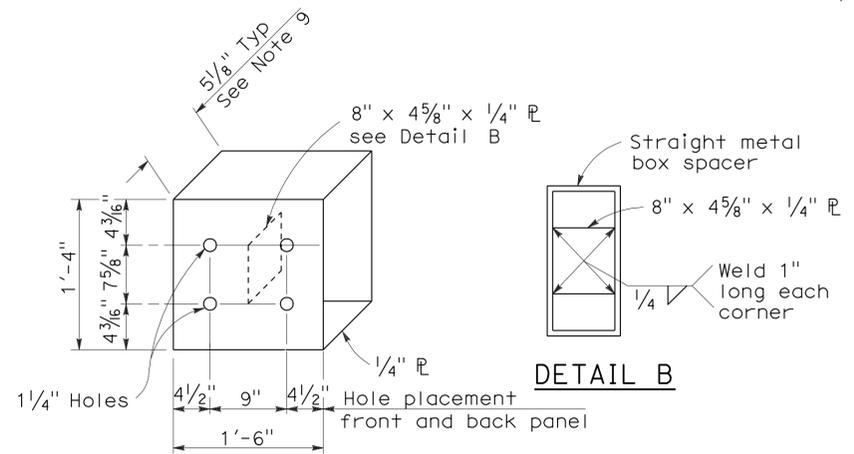
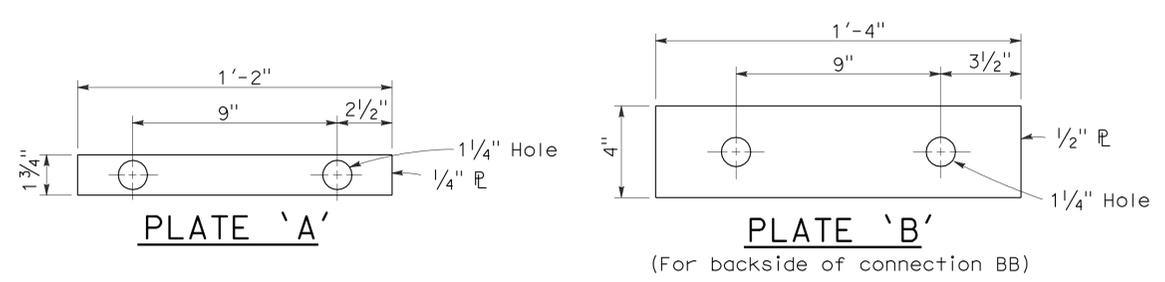
To accompany plans dated 6-14-10



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

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



**DETAIL A
STRAIGHT METAL BOX SPACER**

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77J1

2006 REVISED STANDARD PLAN RSP A77J1

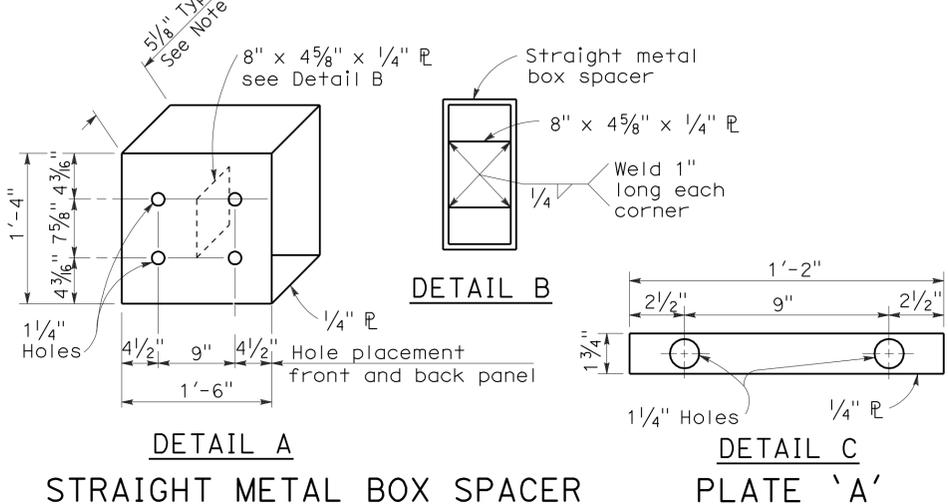
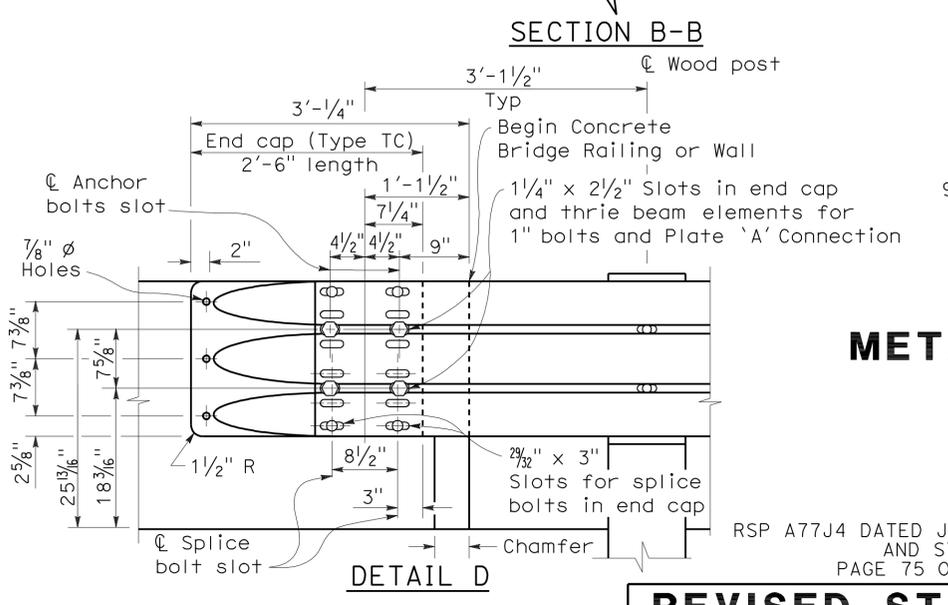
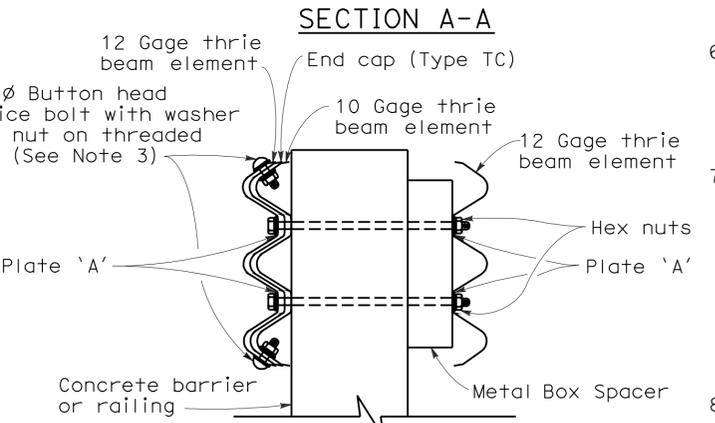
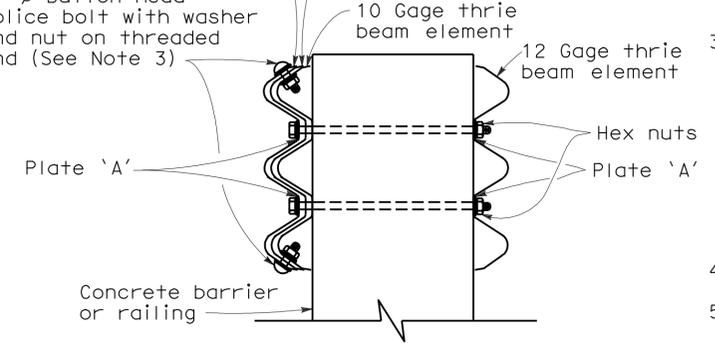
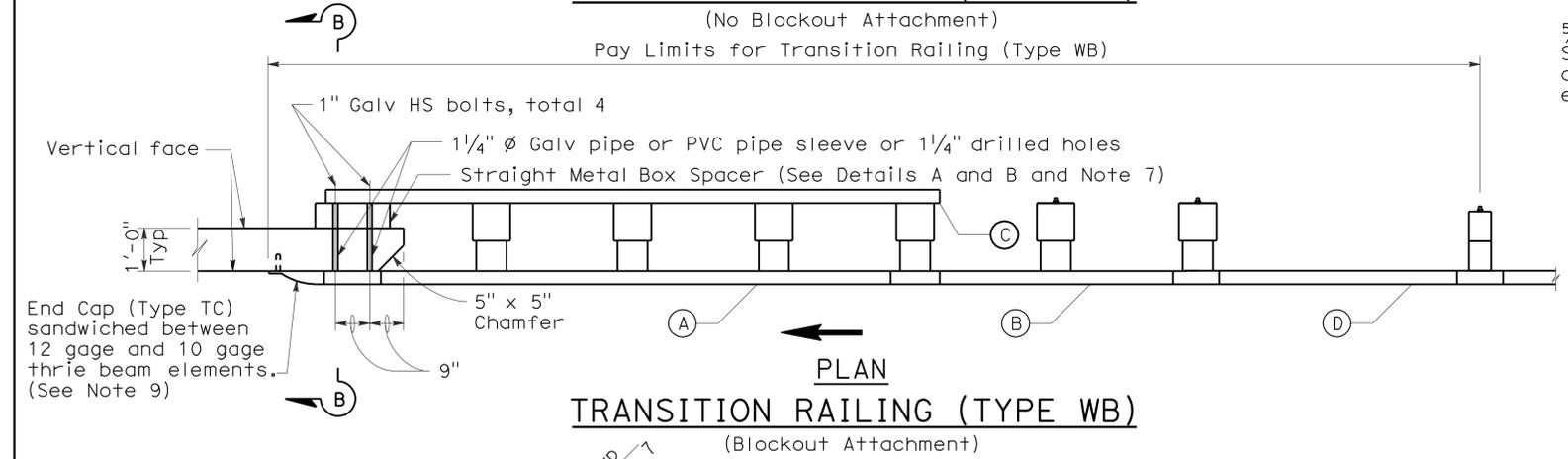
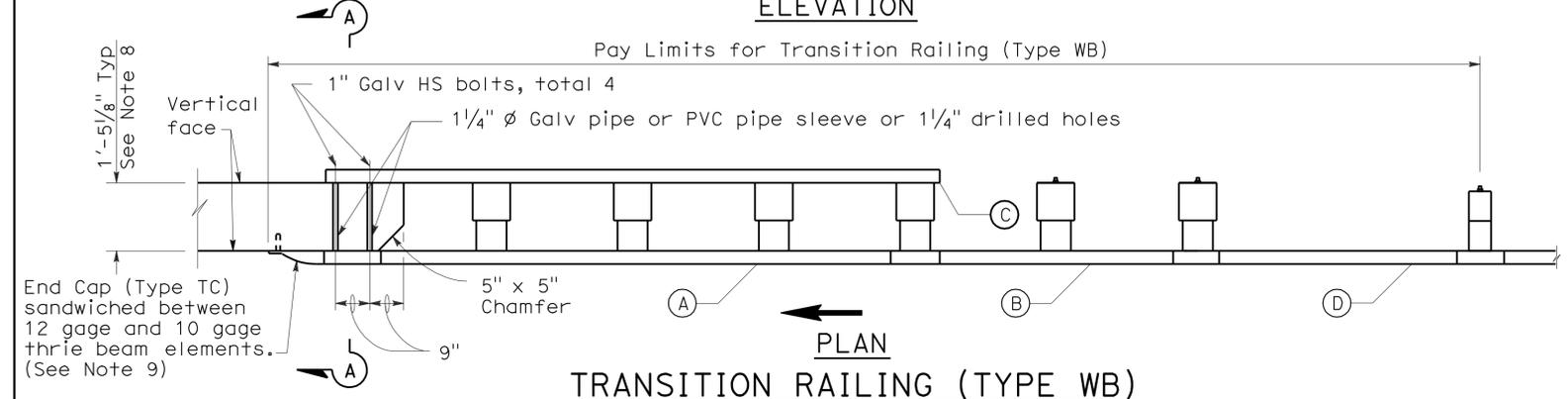
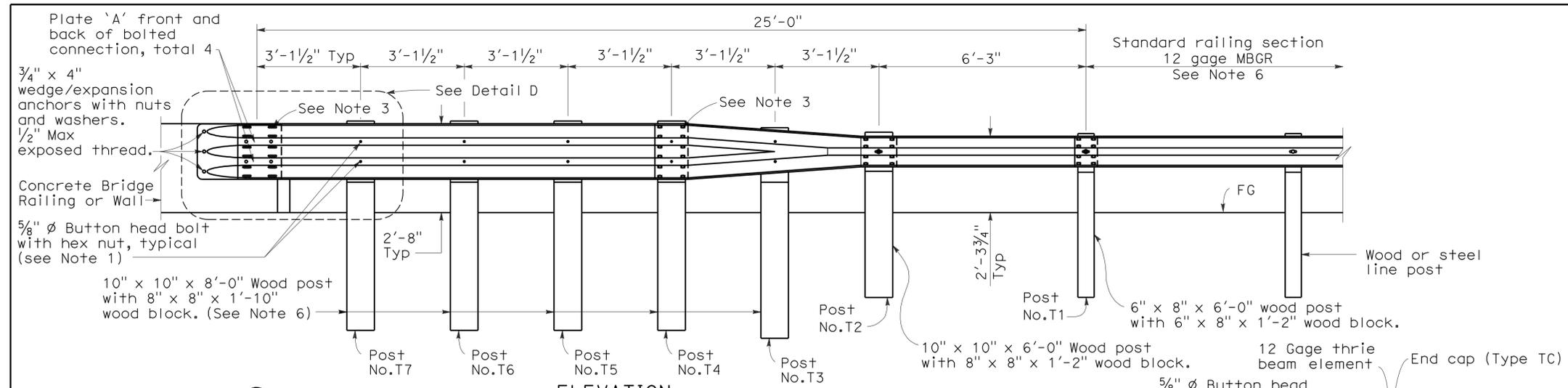
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	28	54

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

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



- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage "W" beam to thrie beam element.
 - (C) One 12 gage thrie beam element.
 - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick
12 gage = 0.108" thick

- NOTES:** To accompany plans dated 6-14-10
1. Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 3. Exterior splice bolt holes for rail element splices at Post No. T4 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No. T4 and the connection to the concrete barrier or railing.
 4. Direction of adjacent traffic indicated by \rightarrow .
 5. The top elevation of Post Nos. T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 6. Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No. T1.
 7. The depth of the metal box spacer varies from the 5 1/8" to 1 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 8. Where the width of the concrete railing or wall is greater than 17 1/8", wood blocks are to be used to fill the space created between the backside of Posts No. 4 through No. 7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 9. End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TRANSITION RAILING
(TYPE WB)**

NO SCALE

RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008
AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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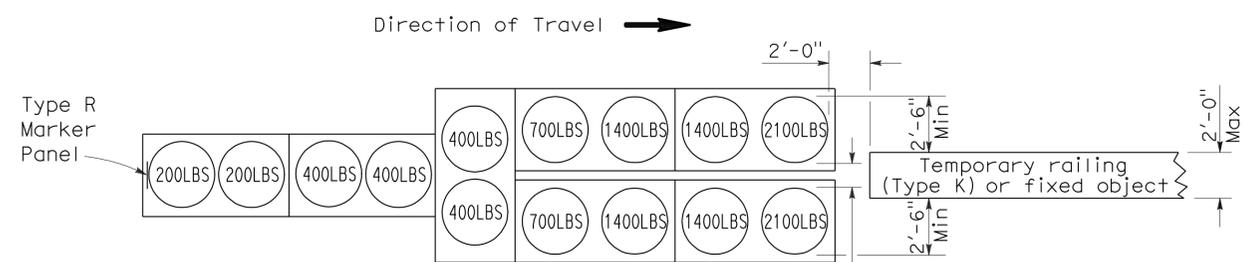
Randell D. Hiatt
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June 6, 2008
PLANS APPROVAL DATE

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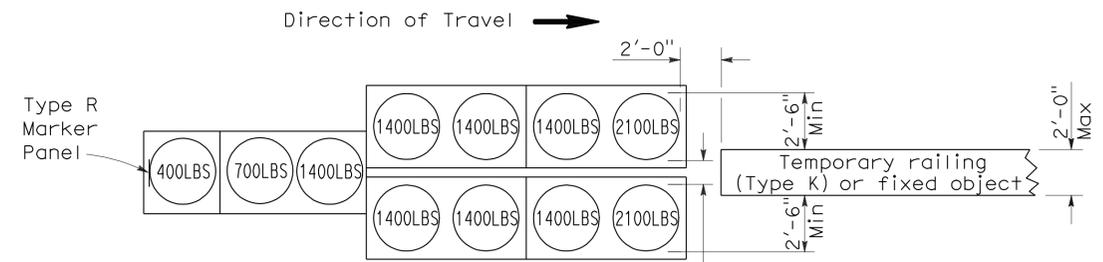
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 6-14-10



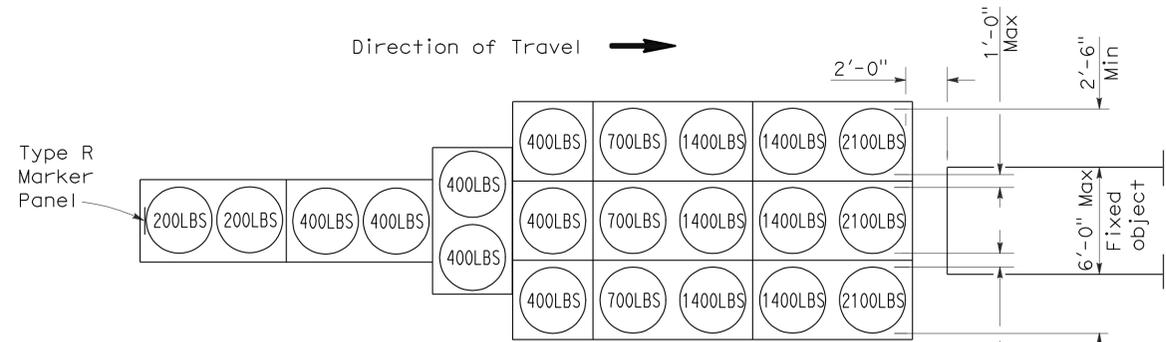
ARRAY 'TU14'

Approach speed 45 mph or more



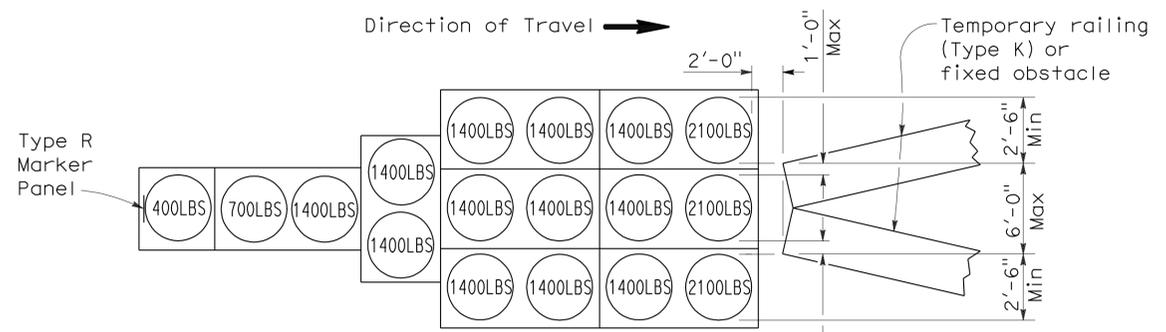
ARRAY 'TU11'

Approach speed less than 45 mph



ARRAY 'TU21'

Approach speed 45 mph or more

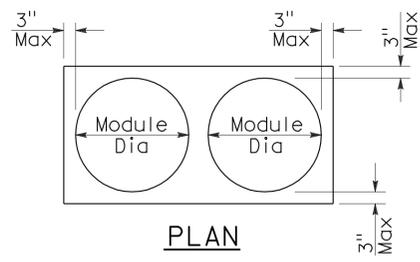


ARRAY 'TU17'

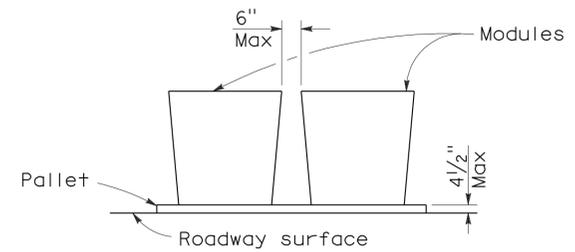
Approach speed less than 45 mph

NOTES:

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



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	30	54

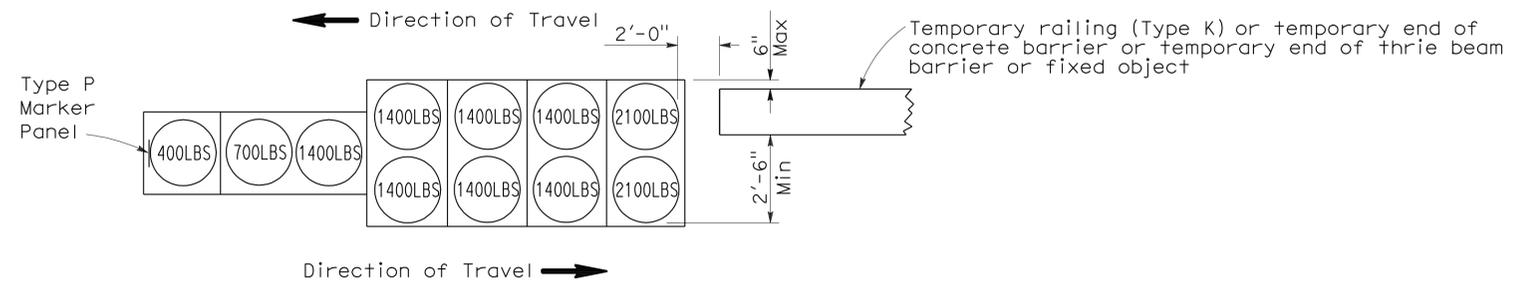
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June 6, 2008
PLANS APPROVAL DATE

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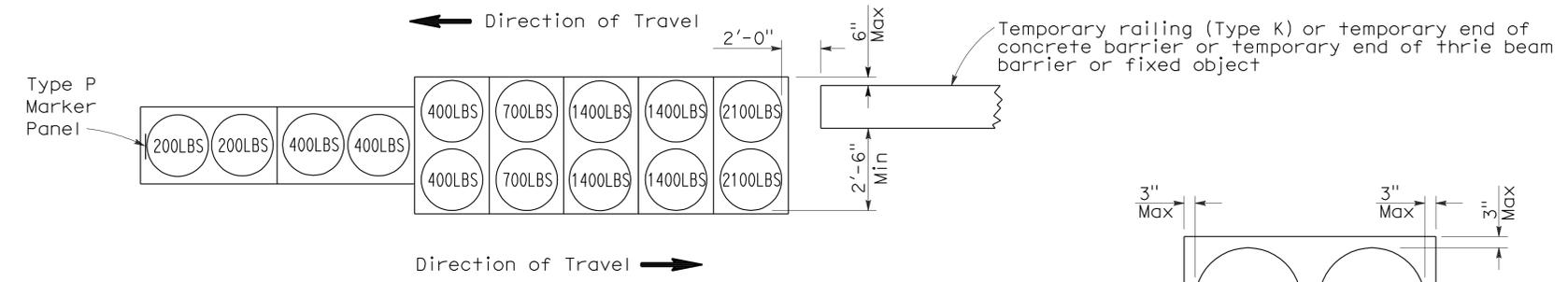
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 6-14-10



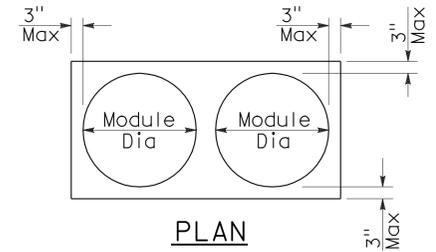
ARRAY 'TB11'

Approach speed less than 45 mph

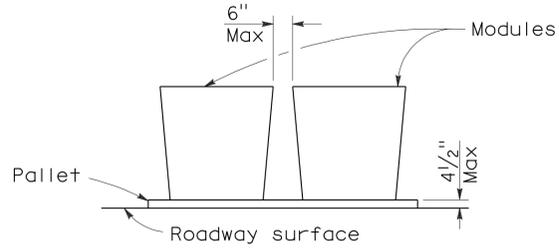


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

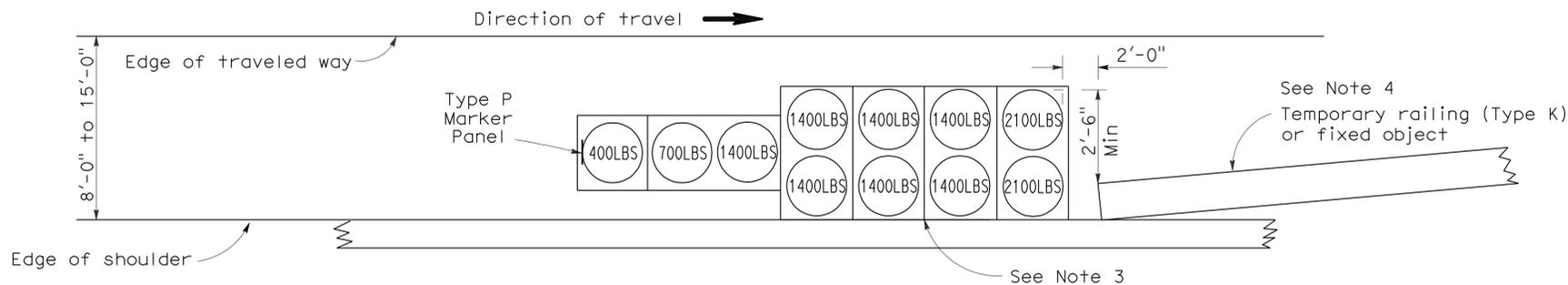
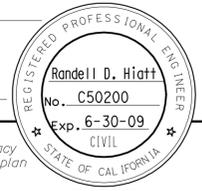
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	31	54

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

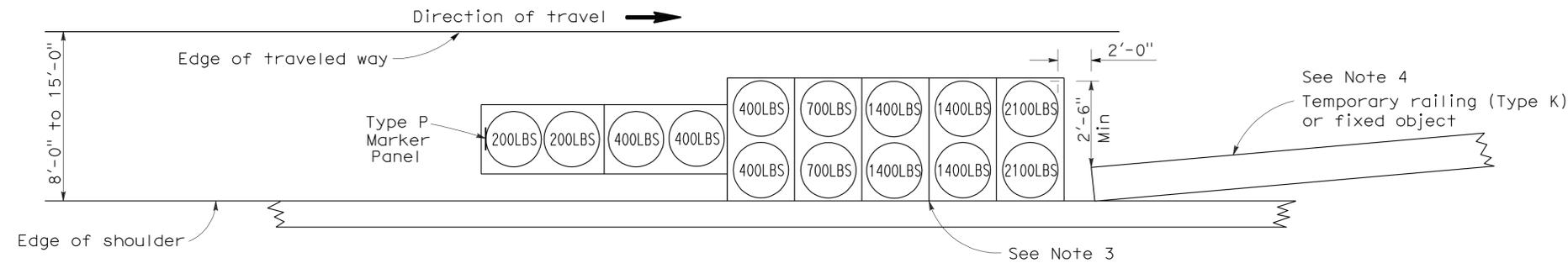
June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 6-14-10



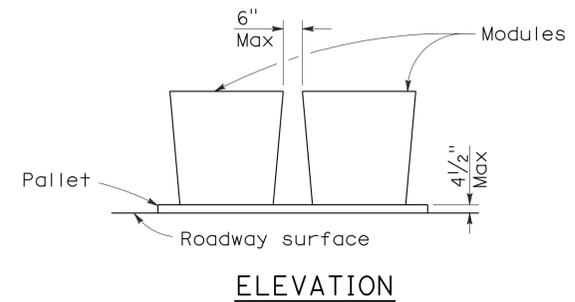
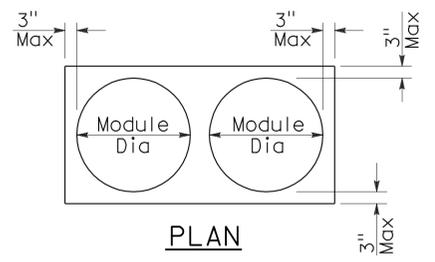
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9

NOTES:

- (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.



CRASH CUSHION PALLET DETAIL
See Note 11

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**
NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

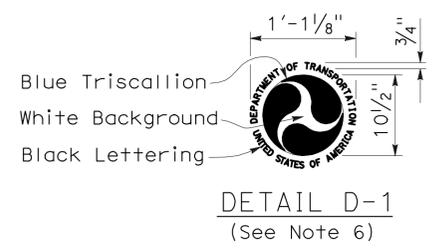
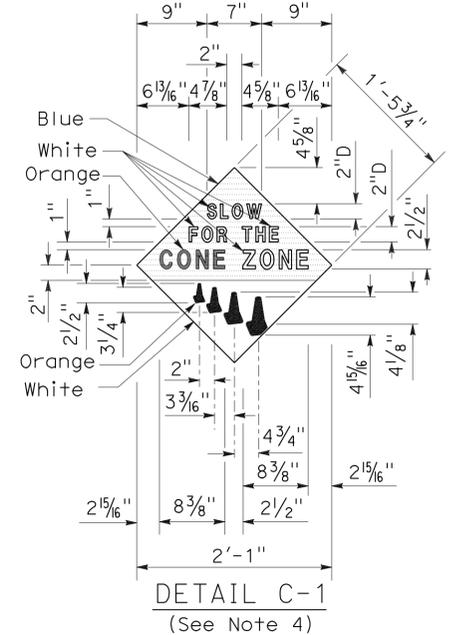
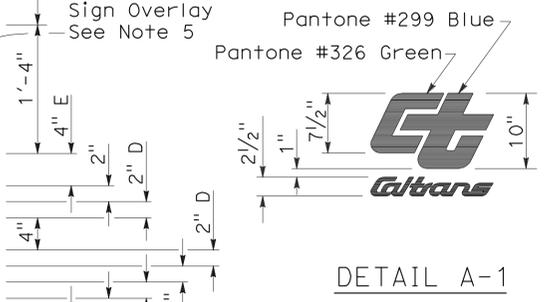
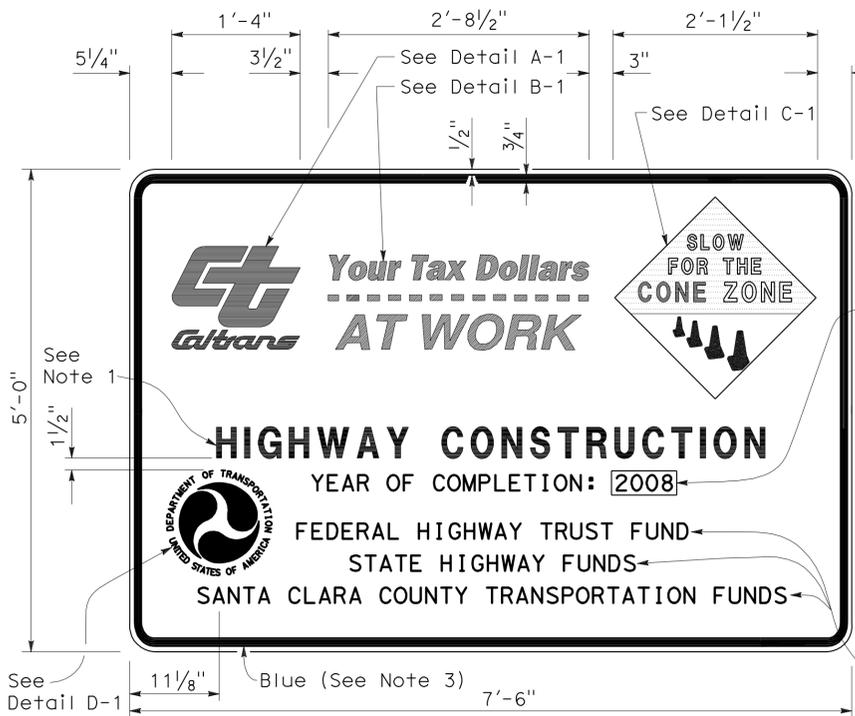
REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

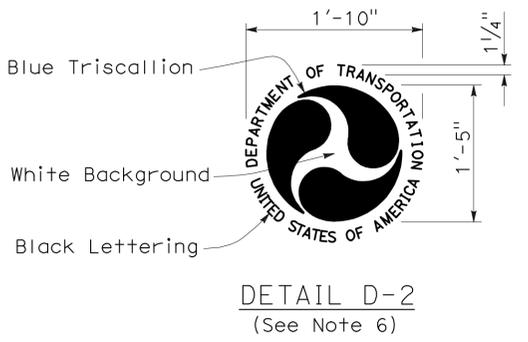
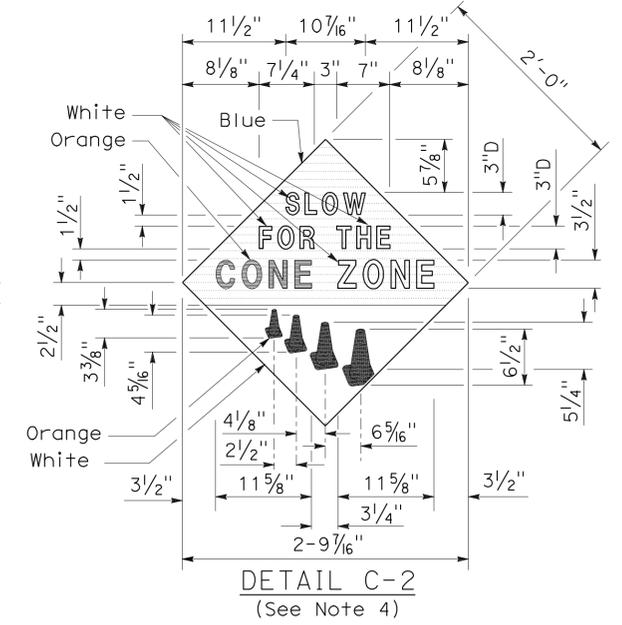
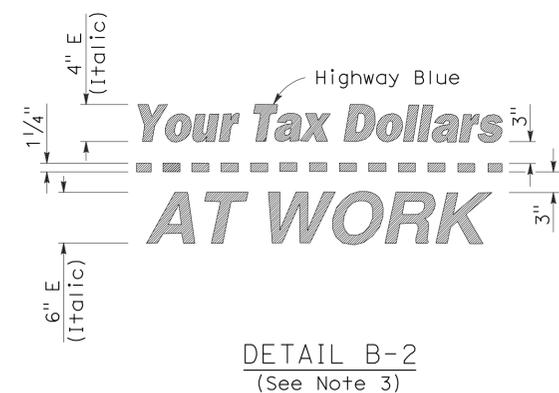
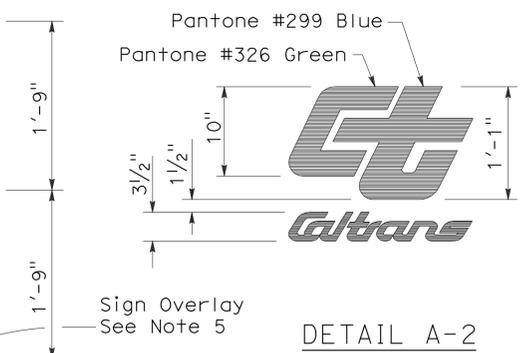
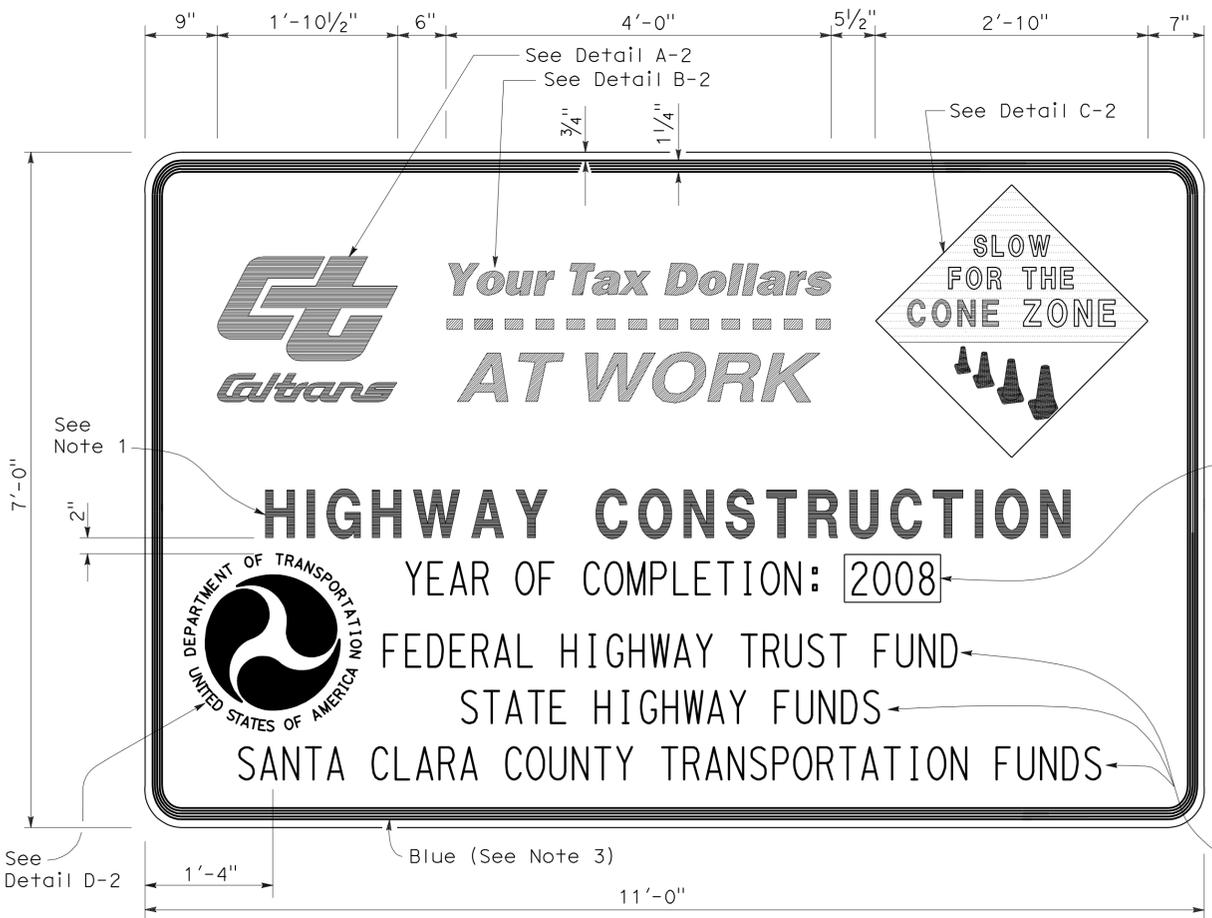
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	32	54

Greg W. Edwards
 REGISTERED CIVIL ENGINEER
 November 17, 2006
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 6-14-10



- NOTES:**
- The sign messages shown for type of project and fund types are examples only. See the Special Provisions for the applicable type of project and fund type messages to be used.
 - Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
 - The border of the signs and details "B-1" and "B-2" shall be blue (non-reflective).
 - The diamond in details "C-1" and "C-2" shall be blue for the background of message, "SLOW FOR THE CONE ZONE", and white background for the orange cones. The color and type of font for the "SLOW FOR THE CONE ZONE" message shall be: "SLOW" white D; "FOR THE" white D; "CONE" orange Arial font; "ZONE" white Arial font.
 - Year of completion of project construction shown on the overlay is an example only. See the Special Provisions.
 - Use when the Project involves Federal Highway Trust Fund.



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS
 NO SCALE

RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN T7
 DATED MAY 1, 2006 - PAGE 217 OF THE STANDARD PLANS BOOK DATED MAY 2006.

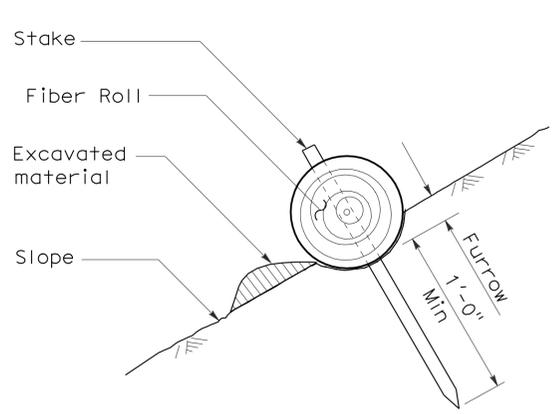
REVISED STANDARD PLAN RSP T7

2006 REVISED STANDARD PLAN RSP T7

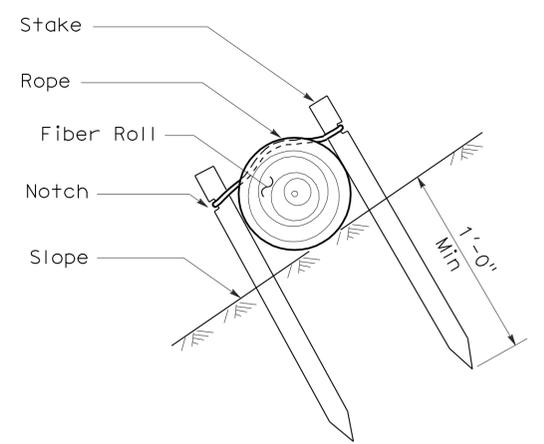
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	33	54

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

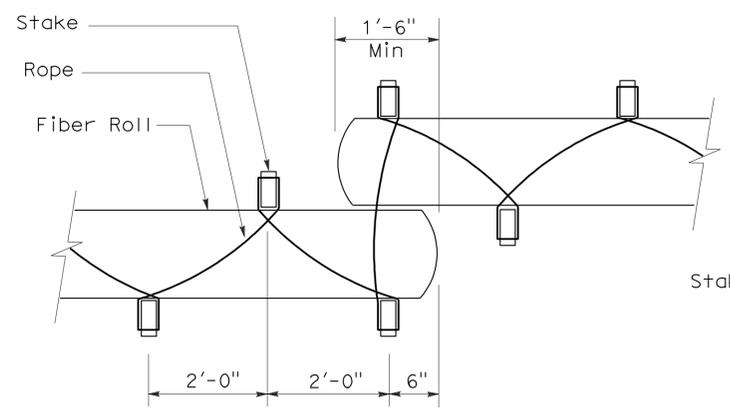
To accompany plans dated 6-14-10



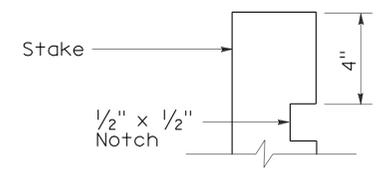
SECTION
TEMPORARY FIBER ROLL
(TYPE 1)



SECTION
TEMPORARY FIBER ROLL
(TYPE 2)

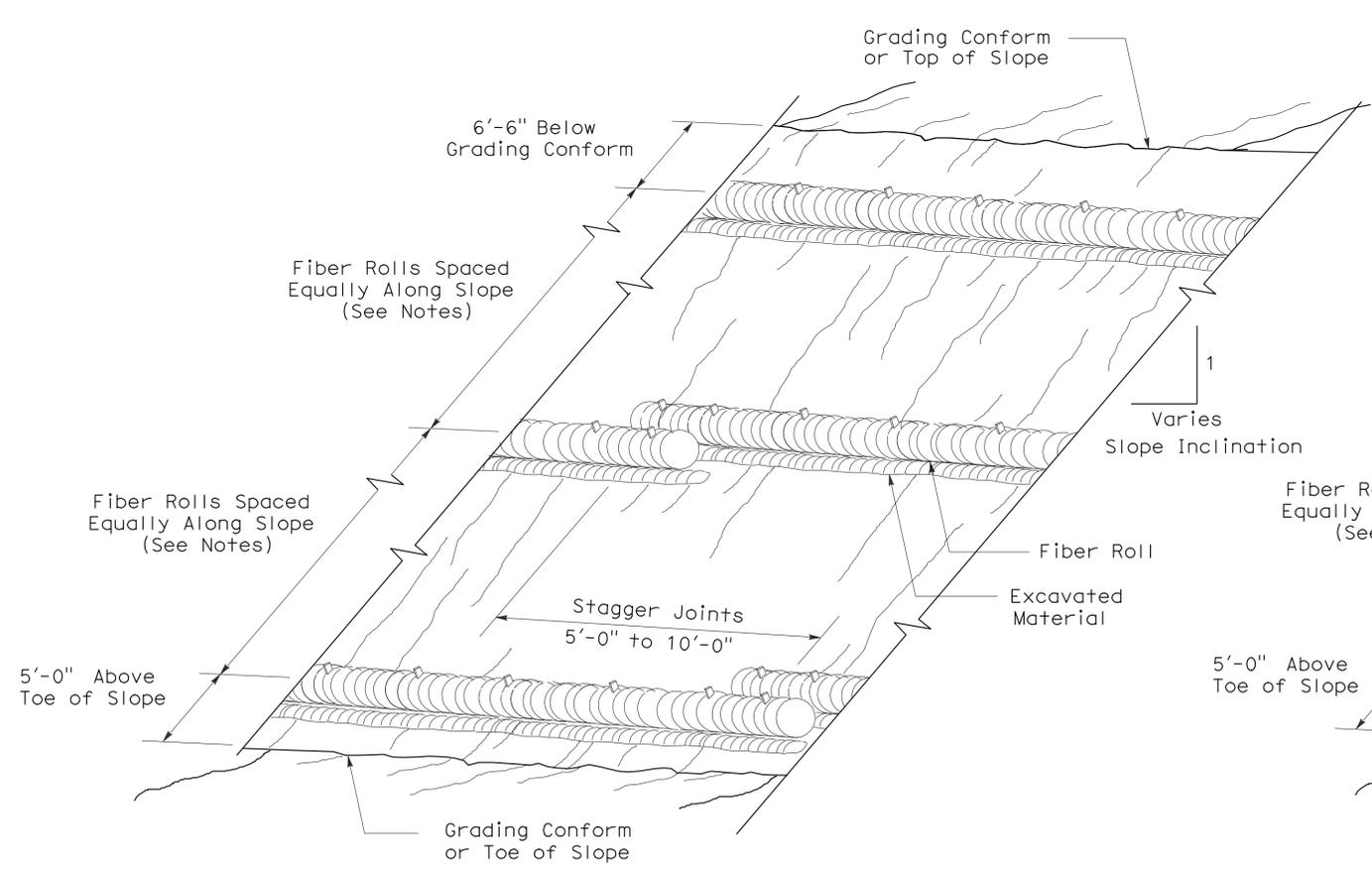


PLAN

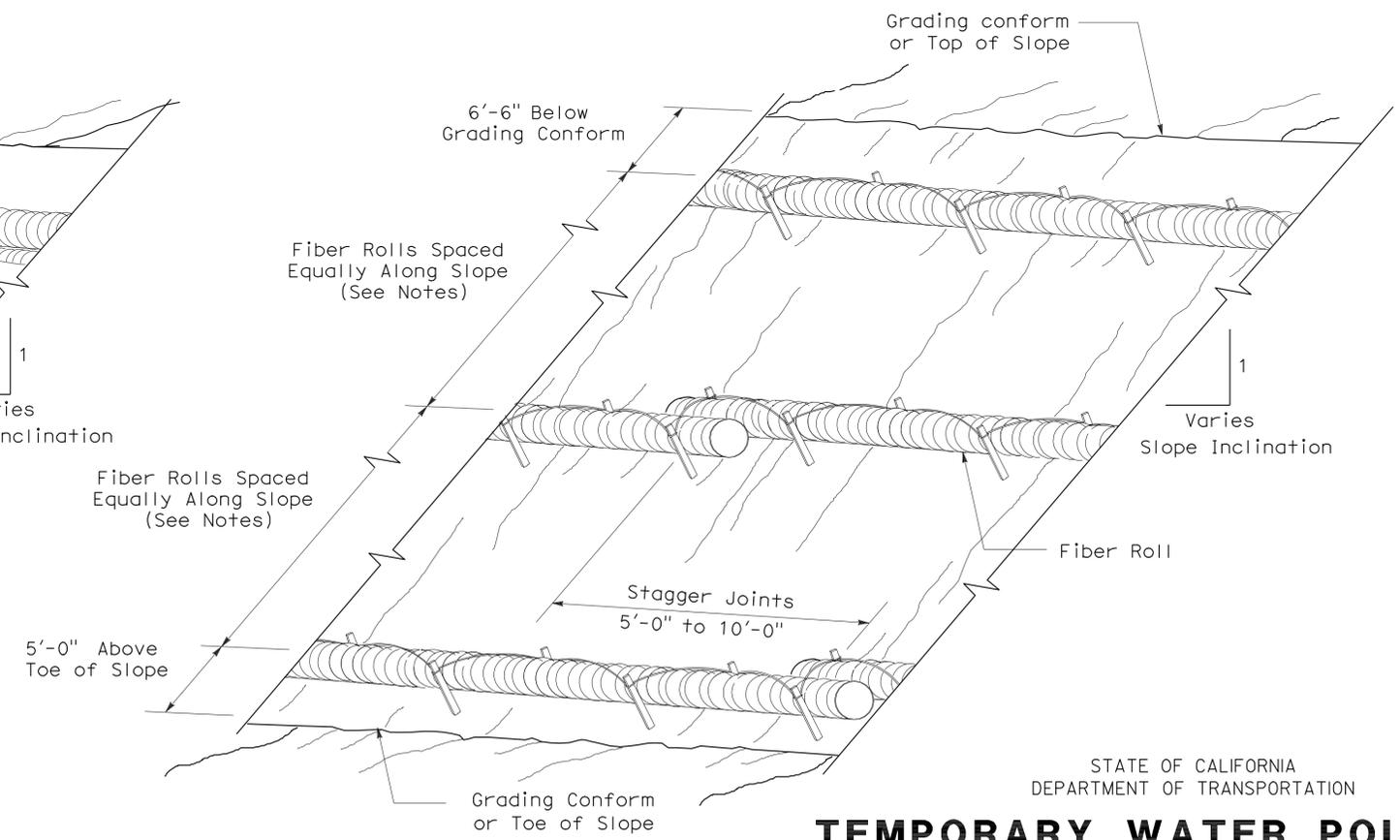


ELEVATION
STAKE NOTCH DETAIL

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



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY FIBER ROLL)
 NO SCALE

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

REVISED STANDARD PLAN RSP T56

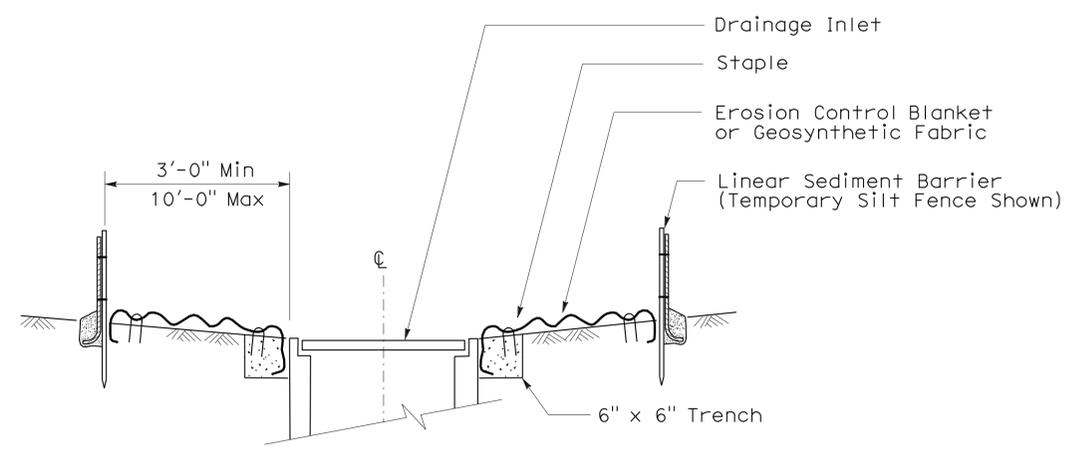
2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	34	54

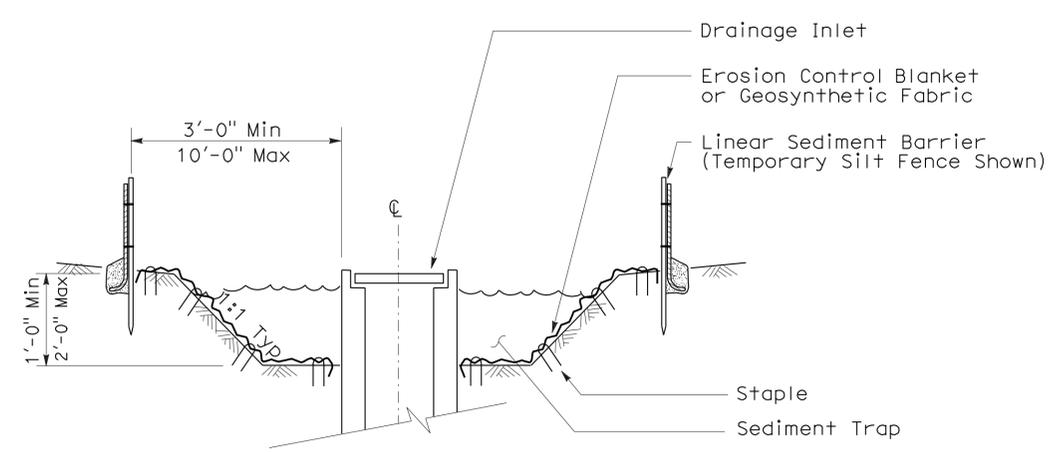
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS Approval DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 6-14-10

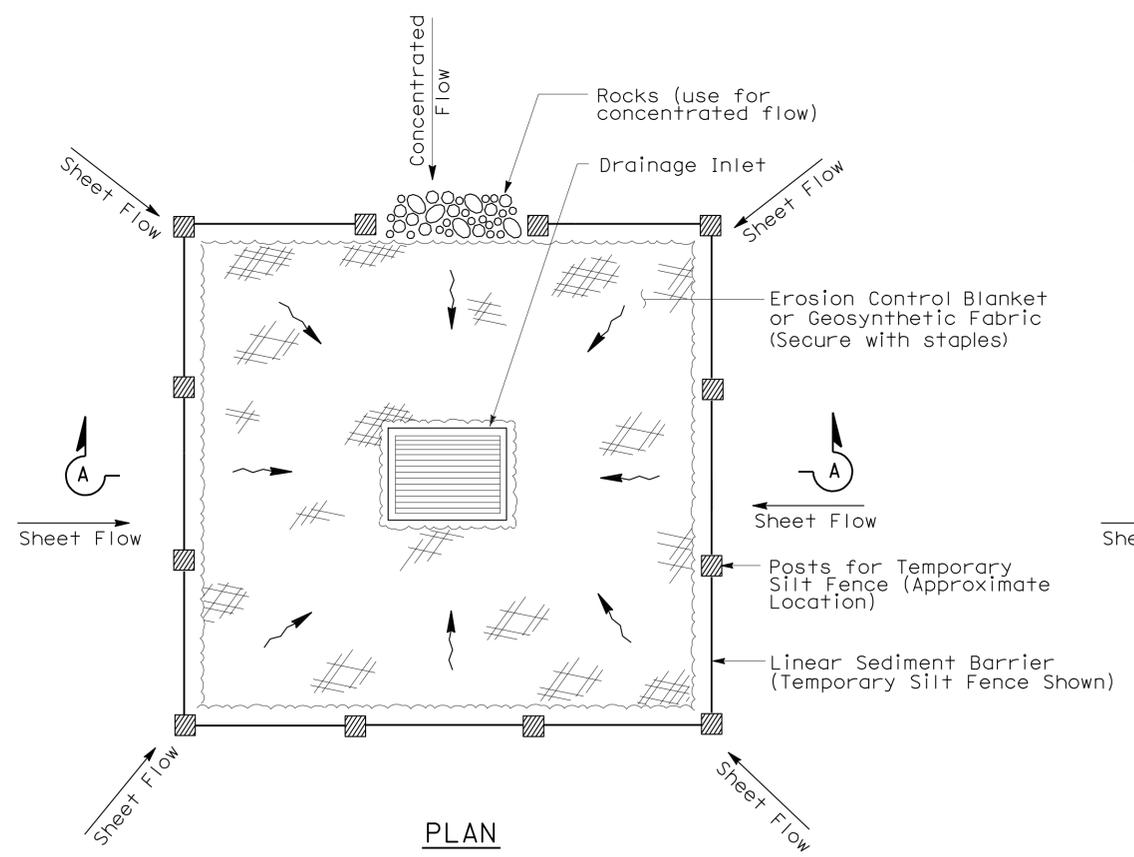
- NOTES:**
- See Standard Plan T51 for Temporary Silt Fence.
 - Dimensions may vary to fit field conditions.



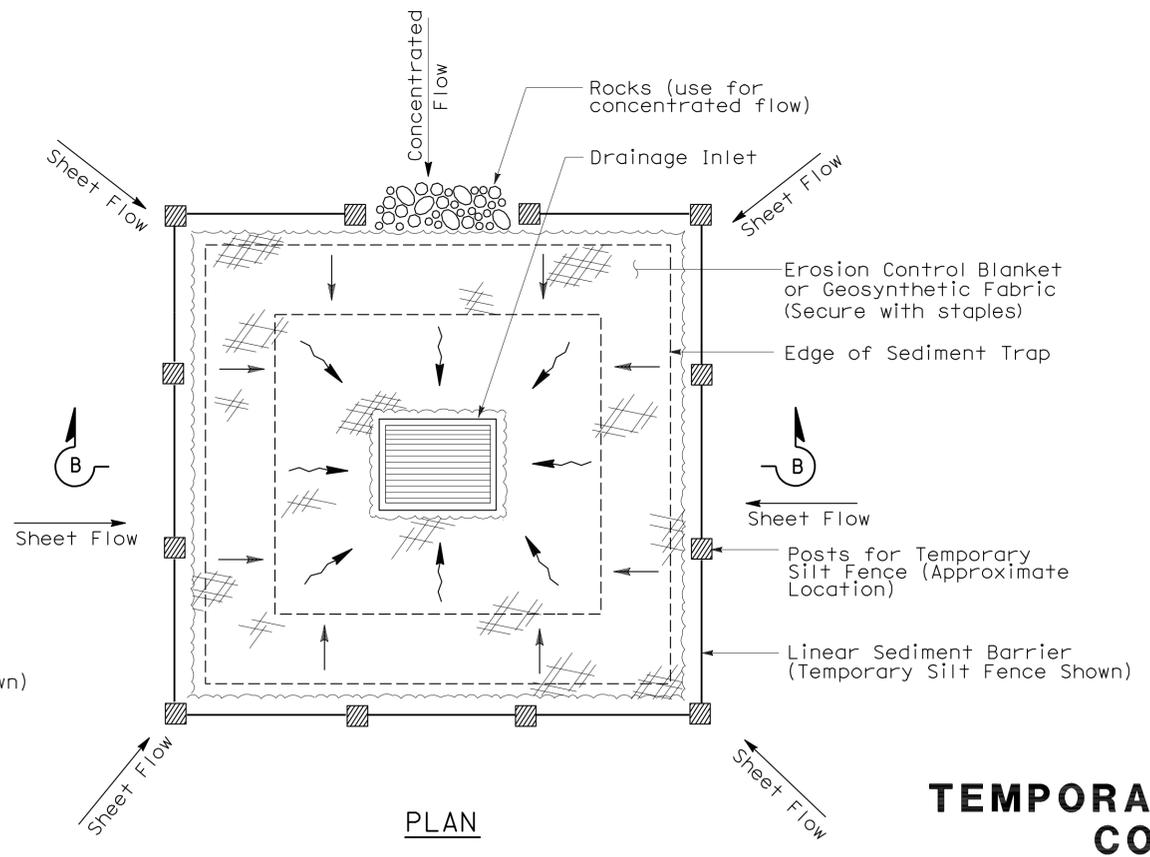
SECTION A-A



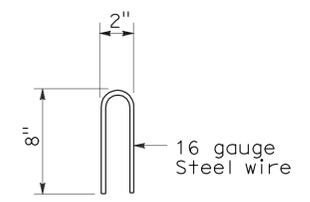
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



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



STAPLE DETAIL

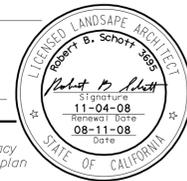
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY DRAINAGE INLET PROTECTION)
 NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T61

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	35	54

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



To accompany plans dated 6-14-10

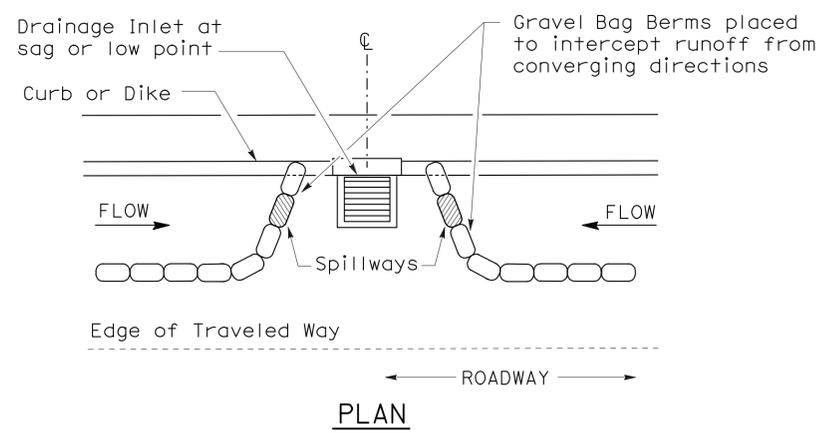
NOTES:

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

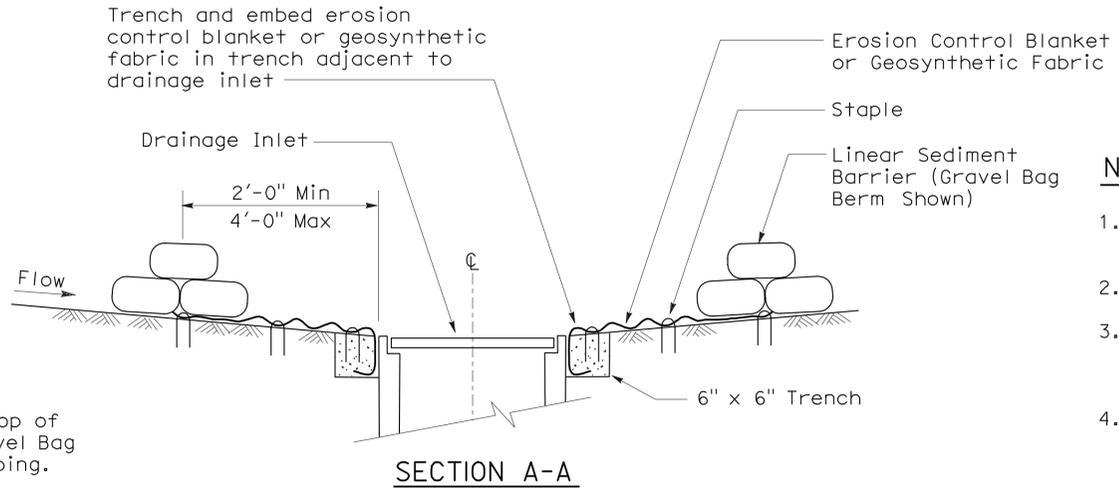
GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

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

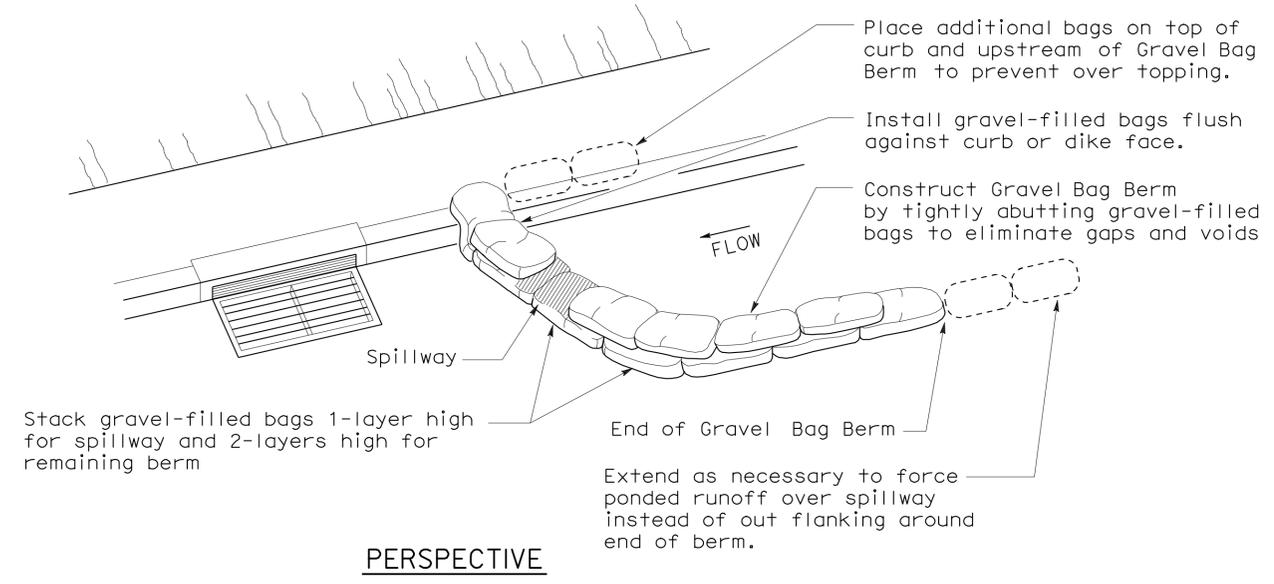
For slope of less than 1%, install barriers only if erosion/sediment is prevalent



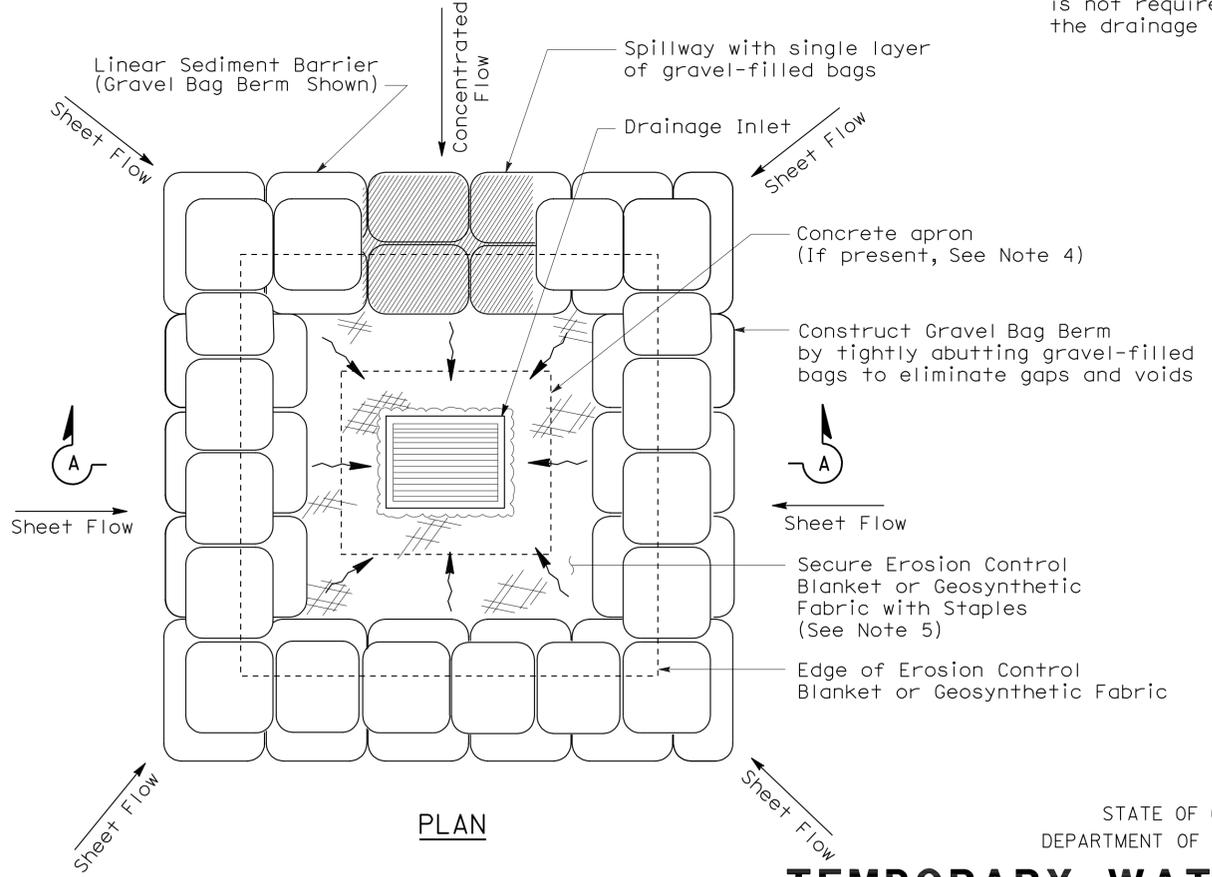
PLAN
CONFIGURATION FOR SAG POINT INLET
(GRAVEL BAG BERM)



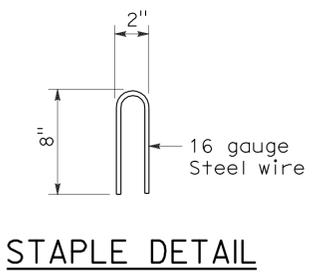
SECTION A-A



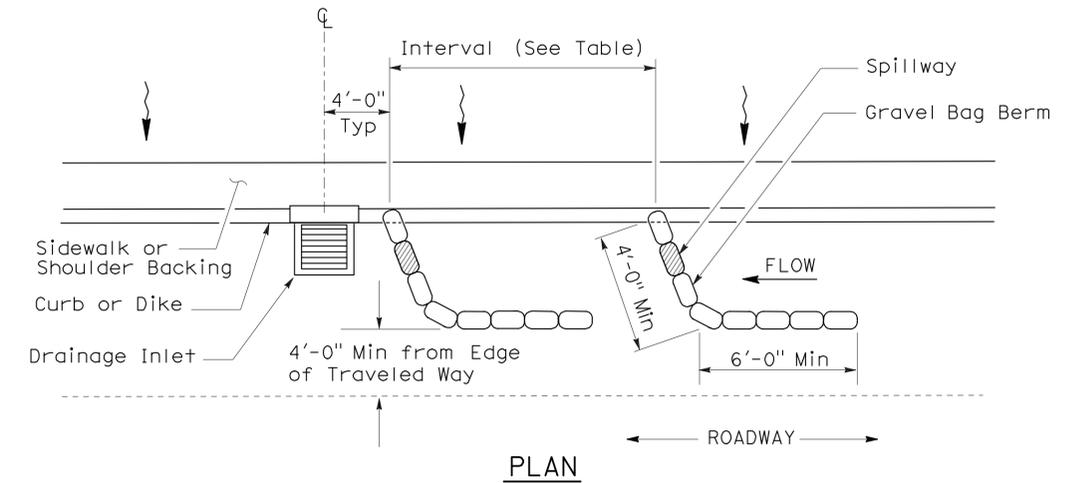
PERSPECTIVE



PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 3B)



STAPLE DETAIL



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

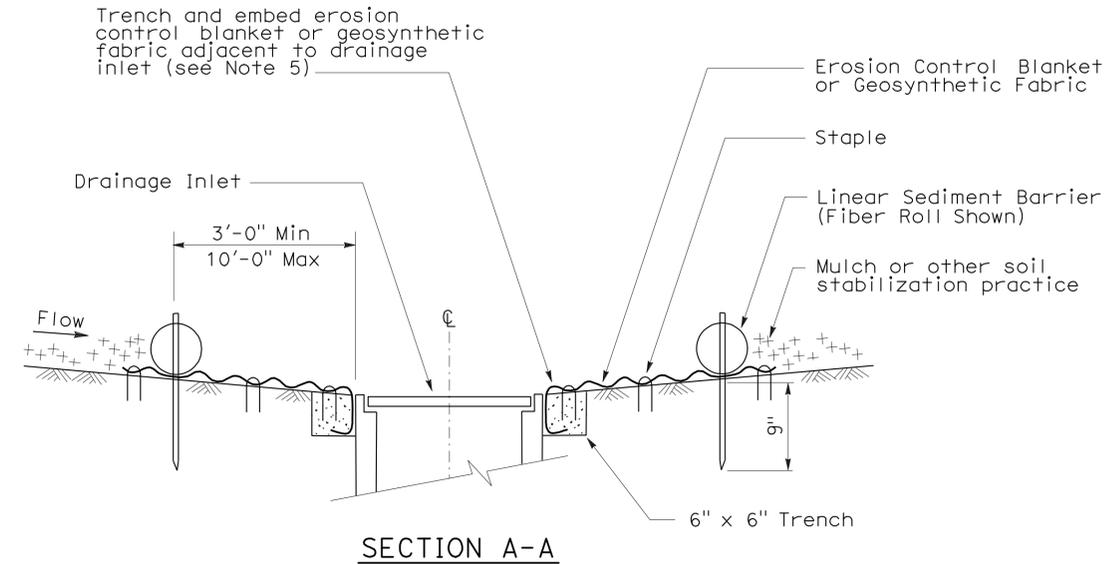
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY DRAINAGE
INLET PROTECTION)

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

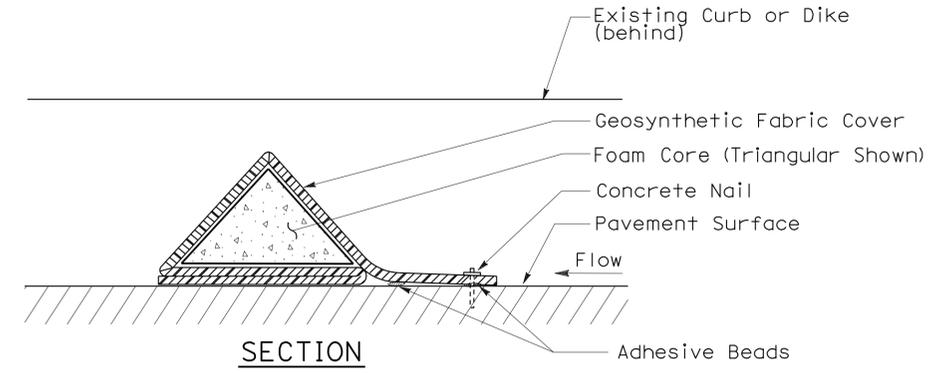
2006 NEW STANDARD PLAN NSP T62

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

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



SECTION A-A

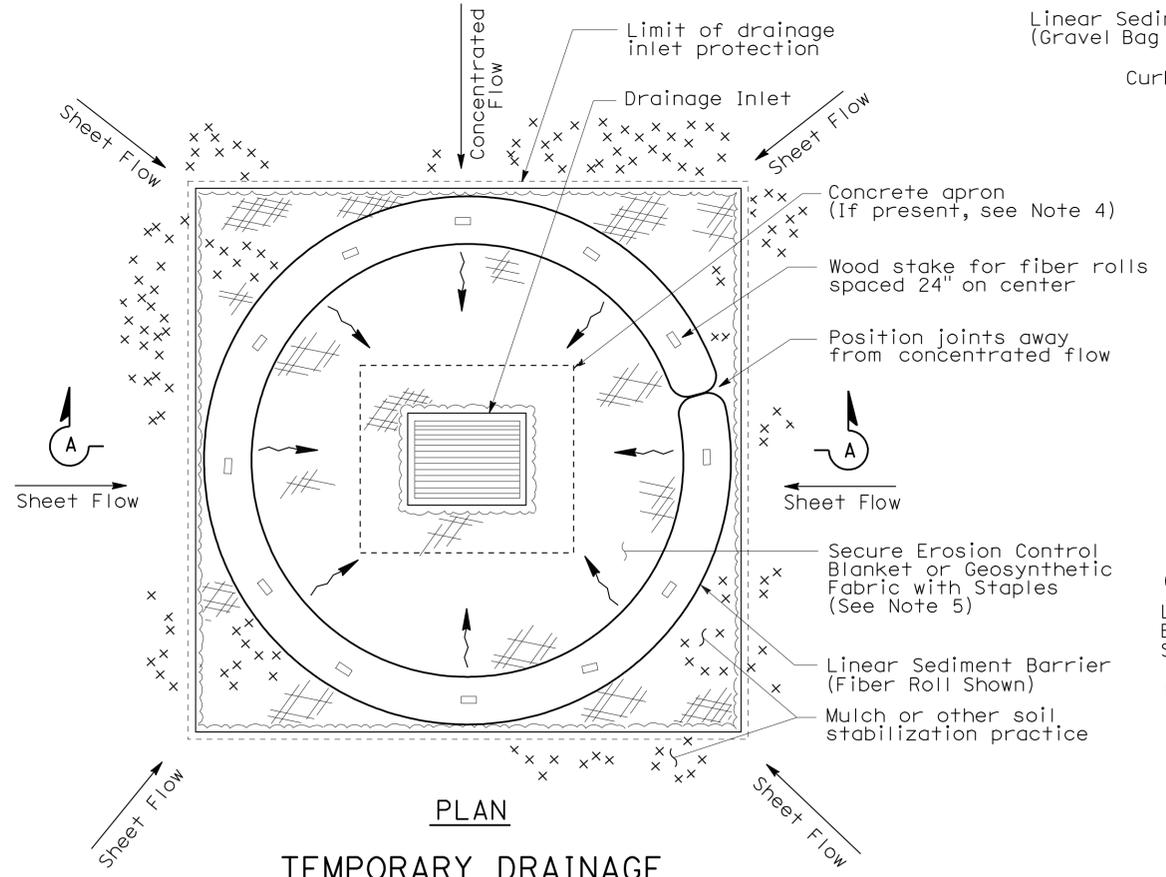


**SECTION
FLEXIBLE SEDIMENT BARRIER DETAIL
(FOAM BARRIER SHOWN)**

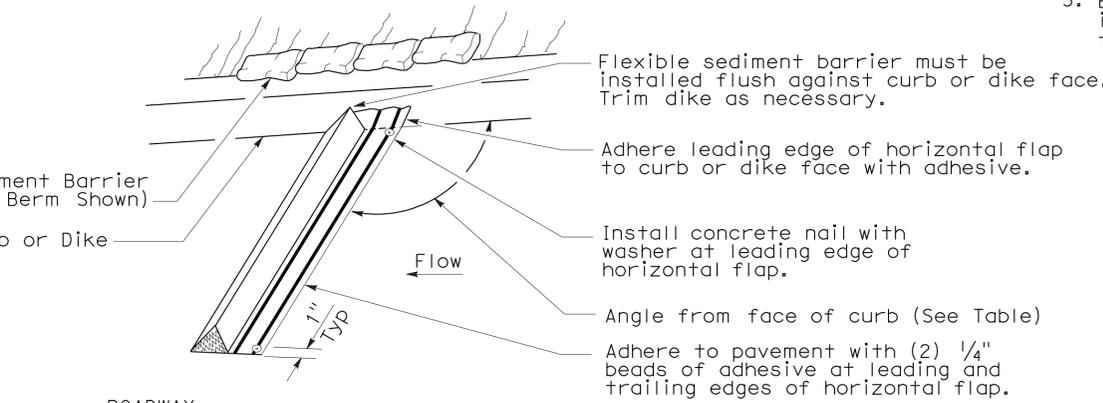
NOTES:

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

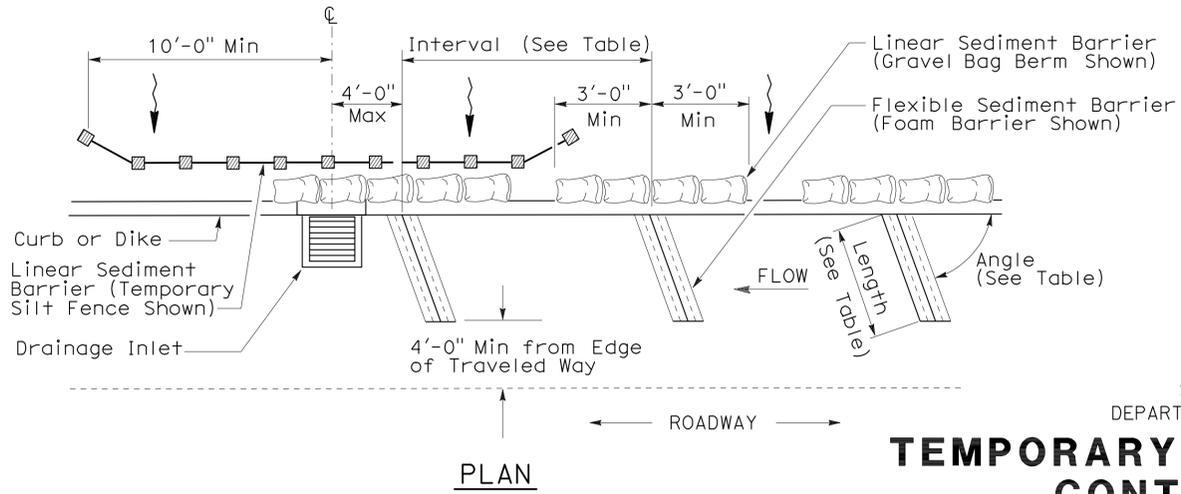
To accompany plans dated 6-14-10



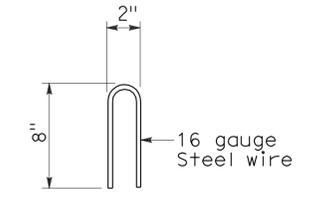
**PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 4A)**



PERSPECTIVE



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



STAPLE DETAIL

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

NO SCALE
NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

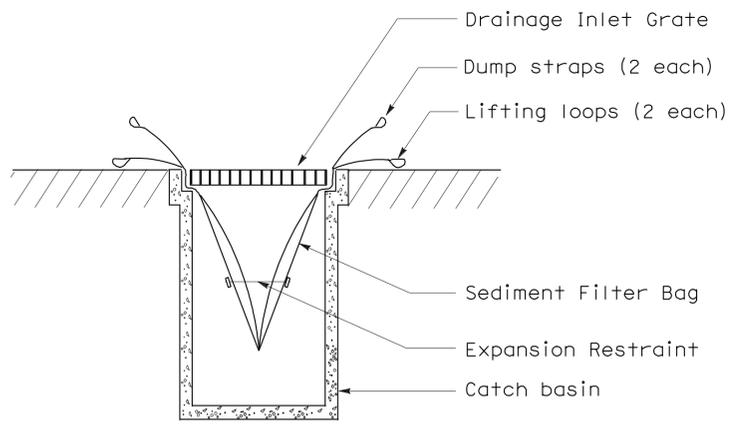
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	37	54

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT

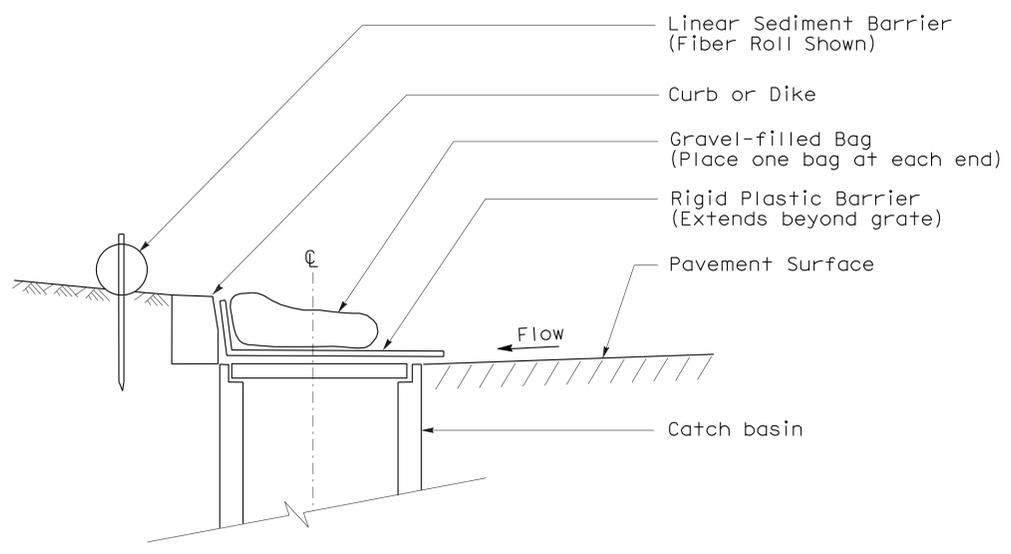
August 15, 2008
 PLANS APPROVAL DATE

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

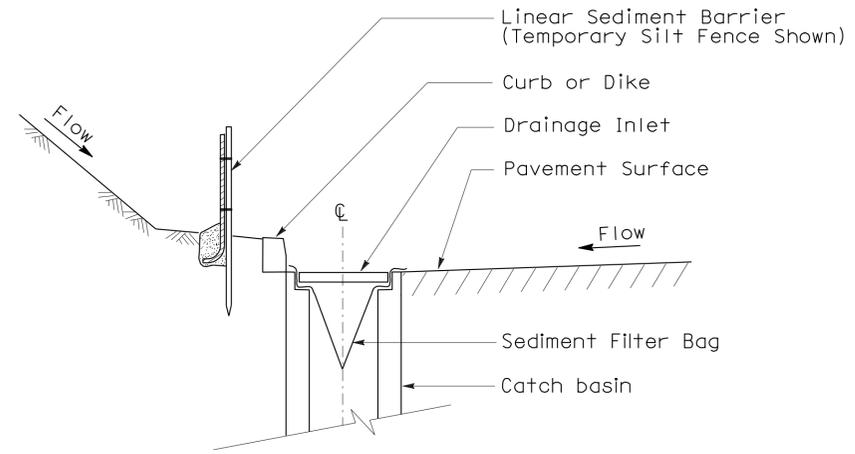
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



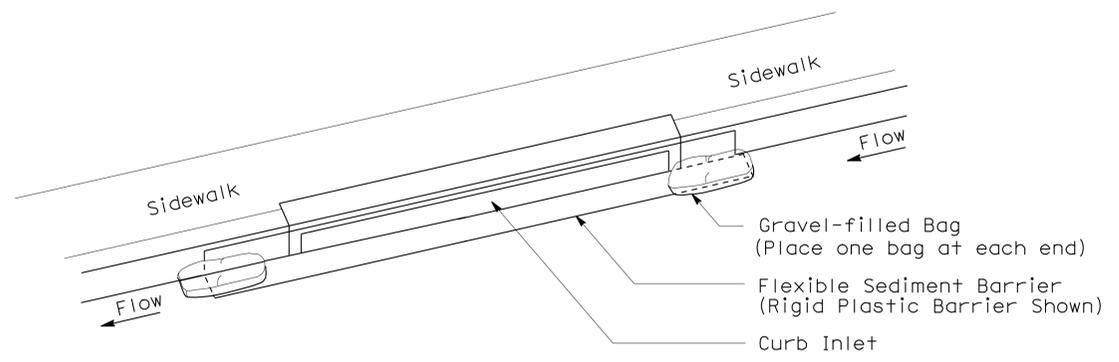
SECTION B-B
SEDIMENT FILTER BAG DETAIL



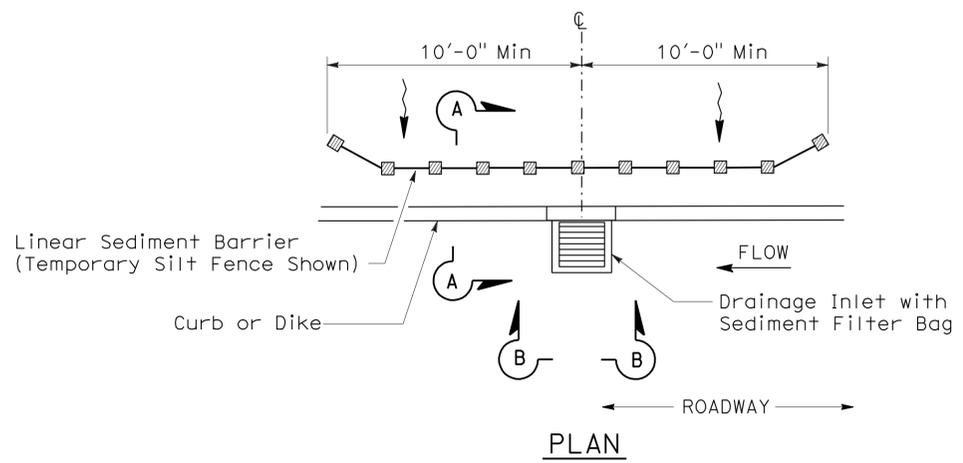
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



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



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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

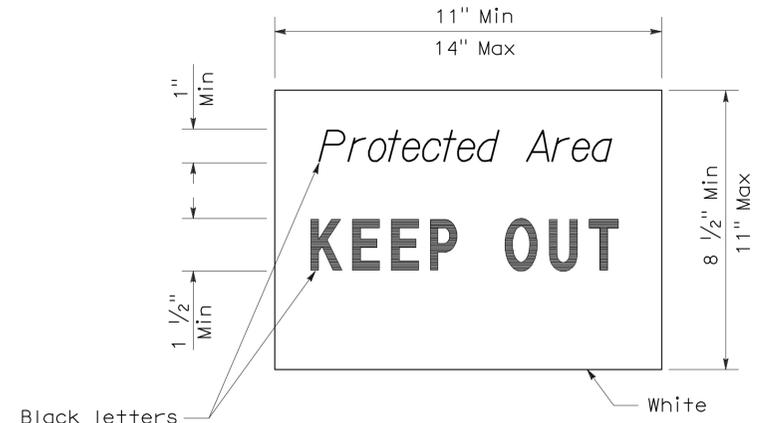
NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T64

2006 NEW STANDARD PLAN NSP T64

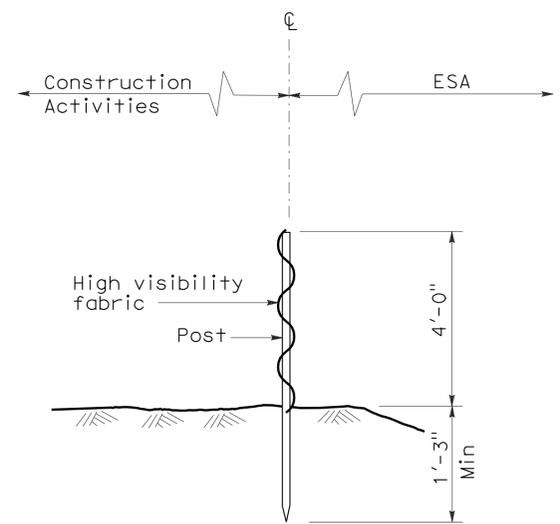
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	36	29.2	38	54

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

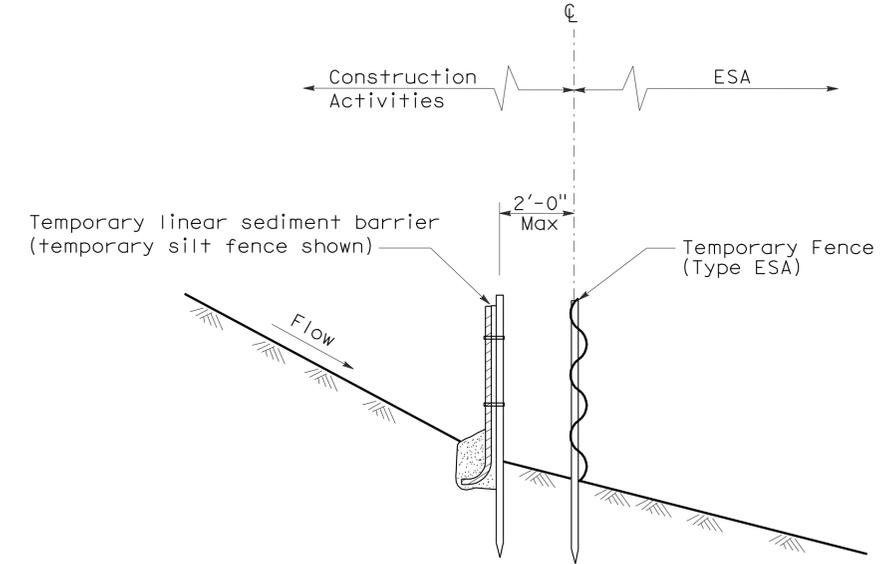


SIGN DETAIL

NOTE:
 1. Temporary silt fence and temporary straw bale barrier shown for reference purposes only.

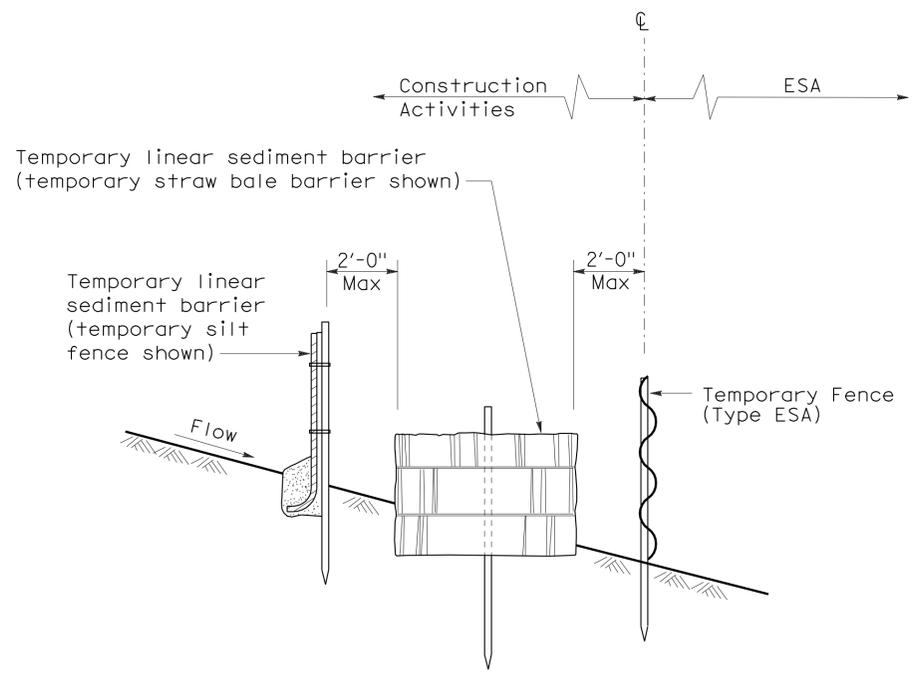


SECTION TEMPORARY FENCE (TYPE ESA)



SECTION PLACEMENT DETAIL FOR TEMPORARY LINEAR SEDIMENT BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)

(See Note 1)



SECTION PLACEMENT DETAIL FOR TEMPORARY LINEAR SEDIMENT BARRIER AND TEMPORARY STRAW BALE BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)

(See Note 1)

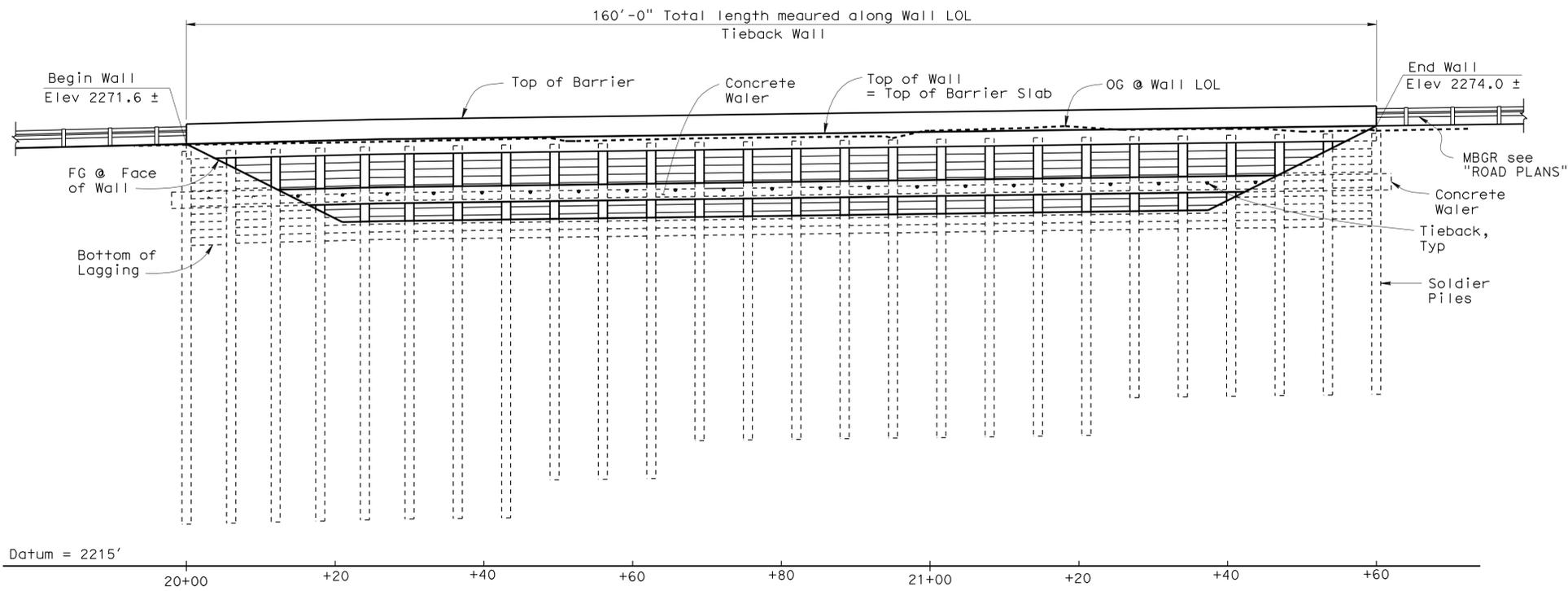
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
[TEMPORARY FENCE (TYPE ESA)]
 NO SCALE

NSP T65 DATED APRIL 3, 2009 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006.

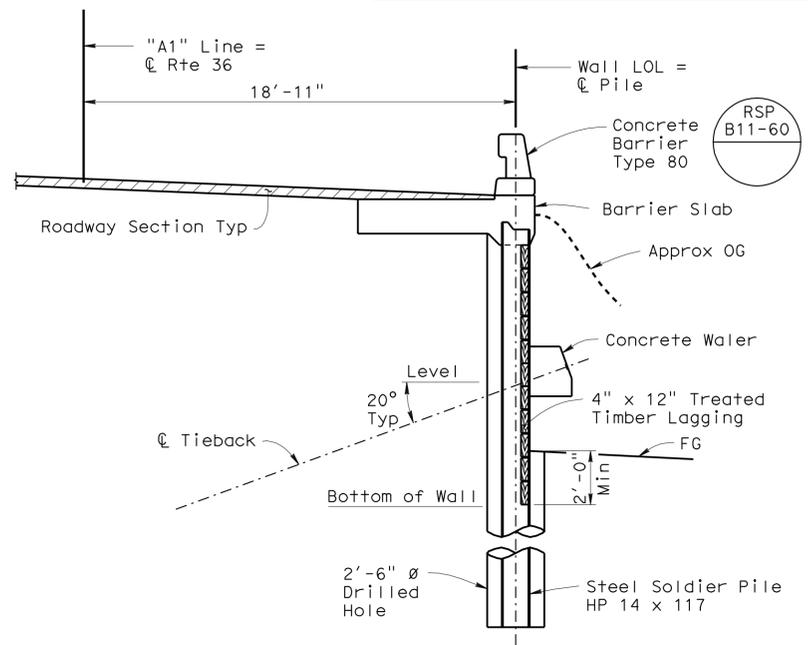
NEW STANDARD PLAN NSP T65

2006 NEW STANDARD PLAN NSP T65

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Hum	36	29.2	40	54
Robert G. Jones			04/29/09	REGISTERED CIVIL ENGINEER DATE	
6-14-10			PLANS APPROVAL DATE		
Robert G. Jones			REGISTERED PROFESSIONAL ENGINEER		
No. 65676			Exp. 9/30/09		
CIVIL			STATE OF CALIFORNIA		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



DEVELOPED ELEVATION
1" = 10'



TYPICAL SECTION
1/4" = 1'

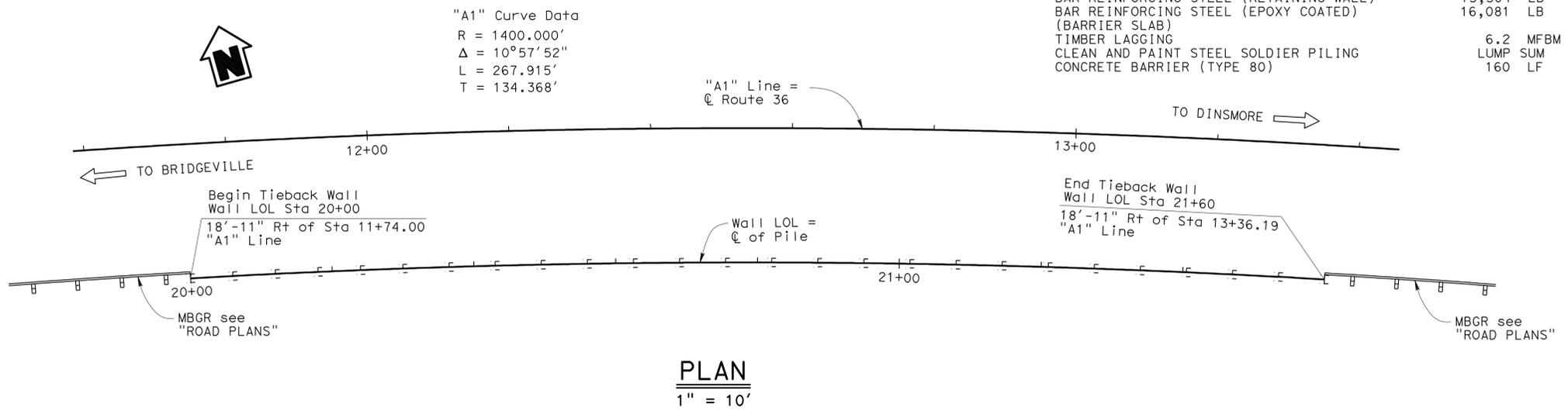
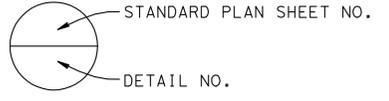
RIDGETOP WALL		QUANTITIES		BRIDGE NO 04E-0024	
STRUCTURE EXCAVATION (SOLDIER PILE WALL)		359	CY		
STRUCTURE BACKFILL (SOLDIER PILE WALL)		89	CY		
LEAN CONCRETE BACKFILL		43	CY		
STEEL SOLDIER PILE (HP 14 X 117)		1,105	LF		
TIEBACK ANCHOR		25	EA		
STRUCTURAL CONCRETE, RETAINING WALL		22	CY		
STRUCTURAL CONCRETE, BARRIER SLAB		76	CY		
CONCRETE BACKFILL (SOLDIER PILE WALL)		143	CY		
30" DRILLED HOLE		1,131	LF		
BAR REINFORCING STEEL (RETAINING WALL)		15,504	LB		
BAR REINFORCING STEEL (EPOXY COATED) (BARRIER SLAB)		16,081	LB		
TIMBER LAGGING		6.2	MFBM		
CLEAN AND PAINT STEEL SOLDIER PILING		LUMP	SUM		
CONCRETE BARRIER (TYPE 80)		160	LF		

INDEX TO PLANS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	FOUNDATION PLAN
3.	STRUCTURE PLAN
4.	TYPICAL SECTION TIE-BACK WALL
5.	WALL DETAILS NO. 1
6.	WALL DETAILS NO. 2
7.	EXCAVATION AND BACKFILL
8.	TIEBACK DETAILS
9.	LOG OF TEST BORINGS NO. 1 OF 7
10.	LOG OF TEST BORINGS NO. 2 OF 7
11.	LOG OF TEST BORINGS NO. 3 OF 7
12.	LOG OF TEST BORINGS NO. 4 OF 7
13.	LOG OF TEST BORINGS NO. 5 OF 7
14.	LOG OF TEST BORINGS NO. 6 OF 7
15.	LOG OF TEST BORINGS NO. 7 OF 7

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS
A10B	ACRONYMS AND ABBREVIATIONS
RSP B11-60	CONCRETE BARRIER TYPE 80
B0-3	BRIDGE DETAILS



PLAN
1" = 10'

DESIGN ENGINEER Jeff Sims	DESIGN	BY Vadim Shostak	CHECKED Greg Jones	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	RIDGETOP WALL							
	DETAILS	BY Jie Tang	CHECKED Greg Jones	LAYOUT	BY Vadim Shostak			CHECKED Greg Jones	04E-0024	GENERAL PLAN						
	QUANTITIES	BY Jie Tang	CHECKED Mahfoud Licha	SPECIFICATIONS	BY Sirisha Nelapatla	PLANS AND SPECS COMPARED X	POST MILE	29.17								
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						0 1 2 3	CU 01	EA 475601	REVISION DATES							
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06)									11/75/08	11/18/08	12/23/08	12/30/08	01/24/09	01/28/09	04/23/09	SHEET 1 OF 15

CURVE DATA

No.	R	Δ	T	L
(A)	2500.00	05°07'28"	111.87	223.60
(B)	1400.00	10°57'52"	134.37	267.92
(C)	630.50	06°36'09"	36.37	72.66
(D)	3800.00	03°13'35"	107.02	213.98
(E)	1381.08	06°38'00"	80.09	160.00

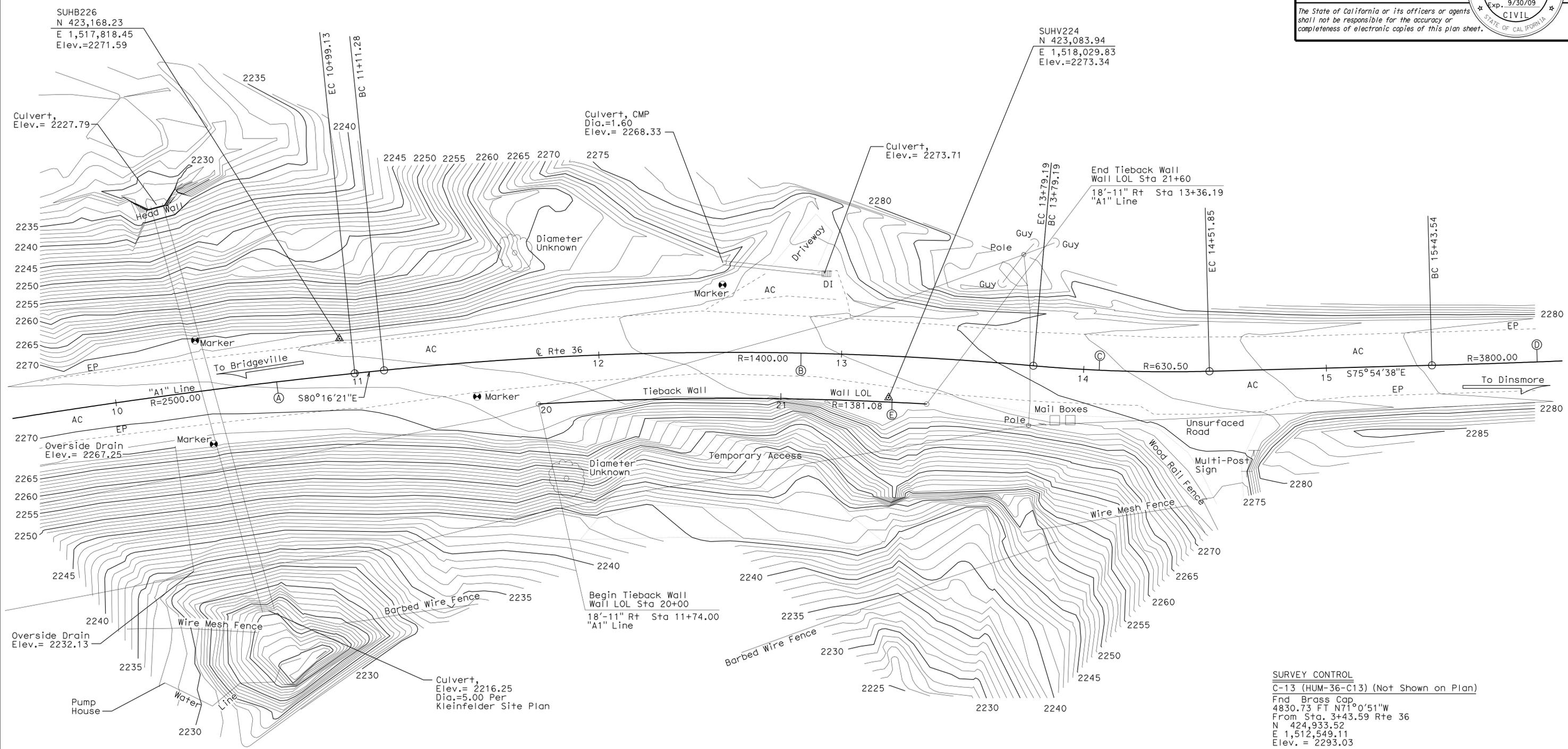
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Hum	36	29.2	41	54

Robert G. Jones 04/29/09
 REGISTERED CIVIL ENGINEER DATE

6-14-10
 PLANS APPROVAL DATE

Robert G. Jones
 No. 65676
 Exp. 9/30/09
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 CIVIL

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SURVEY CONTROL
 C-13 (HUM-36-C13) (Not Shown on Plan)
 Fnd Brass Cap
 4830.73 FT N71°0'51"W
 From Sta. 3+43.59 Rte 36
 N 424,933.52
 E 1,512,549.11
 Elev. = 2293.03

C-14 (HUM-36-C14) (Not Shown on Plan)
 Fnd Brass Cap
 1751.76 FT N67°6'26"W
 From Sta. 3+43.59 Rte 36
 N 424,043.37
 E 1,515,503.27
 Elev. = 2291.58

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Vadim Shostak	CHECKED Greg Jones	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO. 04E-0024	RIDGETOP WALL FOUNDATION PLAN
SCALE 1"=20'	VERT. DATUM NAVD29	PHOTOGRAMMETRY AS OF: X	DETAILS BY Jie Tang	CHECKED Greg Jones	POST MILE 29.17				
ALIGNMENT TIES Dist. Traverse Sheet	SURVEYED BY District/T.Mason	CHECKED BY T.Schmalz 11/2008	QUANTITIES BY Jie Tang	CHECKED Mahfoud Licha	REVISION DATES				

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 01
EA 475601

DISREGARD PRINTS BEARING EARLIER REVISION DATES

11/24/08	12/30/08	01/24/09	04/23/09
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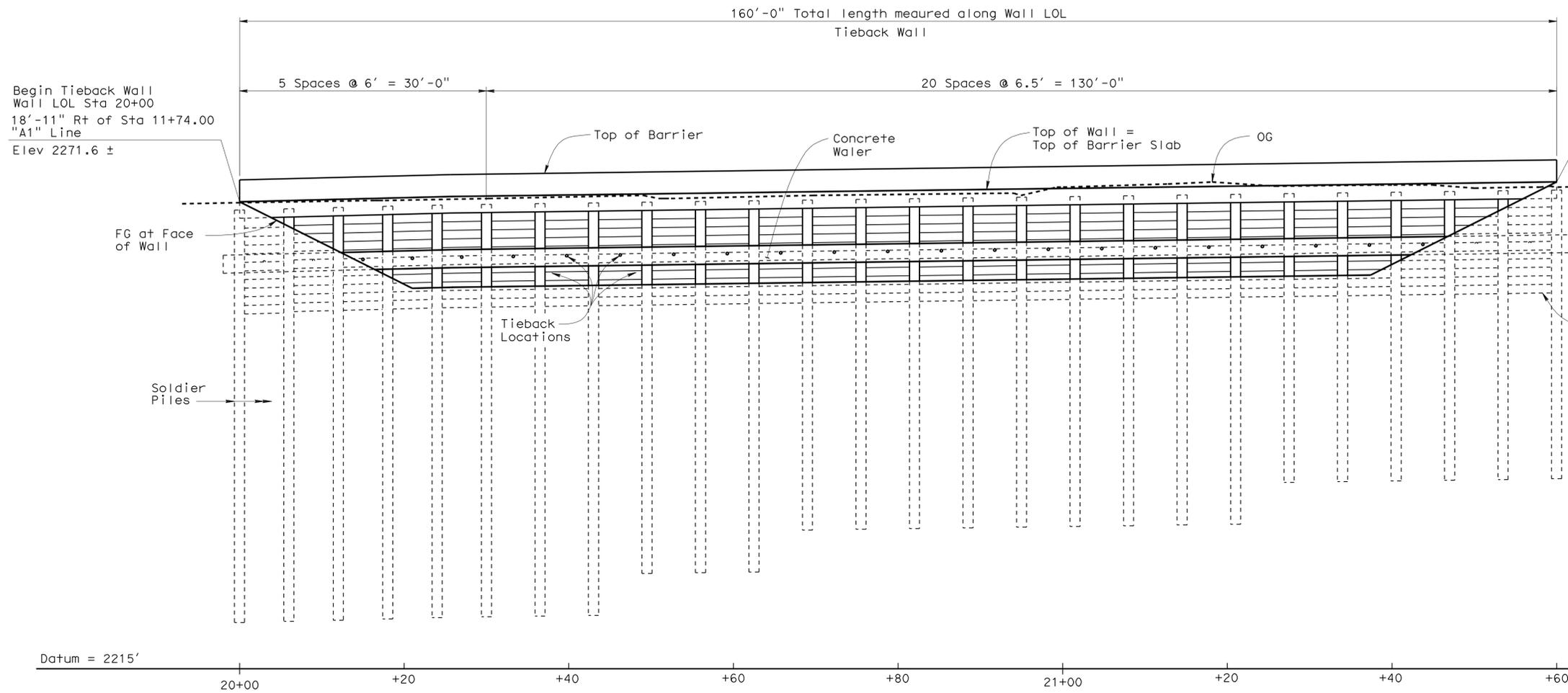
SHEET 2 OF 15

USERNAME => hrlengard DATE PLOTTED => 17-JUN-2010 TIME PLOTTED => 16:05

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Hum	36	29.2	42	54
REGISTERED CIVIL ENGINEER DATE 04/09/09 PLANS APPROVAL DATE 6-14-10 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

Notes:

1. MBGR not shown.
2. Subject to approval of the Engineer, specified piles may be substituted with a section having a section modulus of equal or greater value.



Pile No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Length	50	50	50	50	50	50	50	50	45	45	45	40	40	40	40	40	40	40	40	40	35	35	35	35	35	35
Number of timber laggings between piles	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Tieback Force, T (kips)	180					160					130															
Unbonded Length (ft)	45					35																				

DEVELOPED ELEVATION
1/8" = 1'

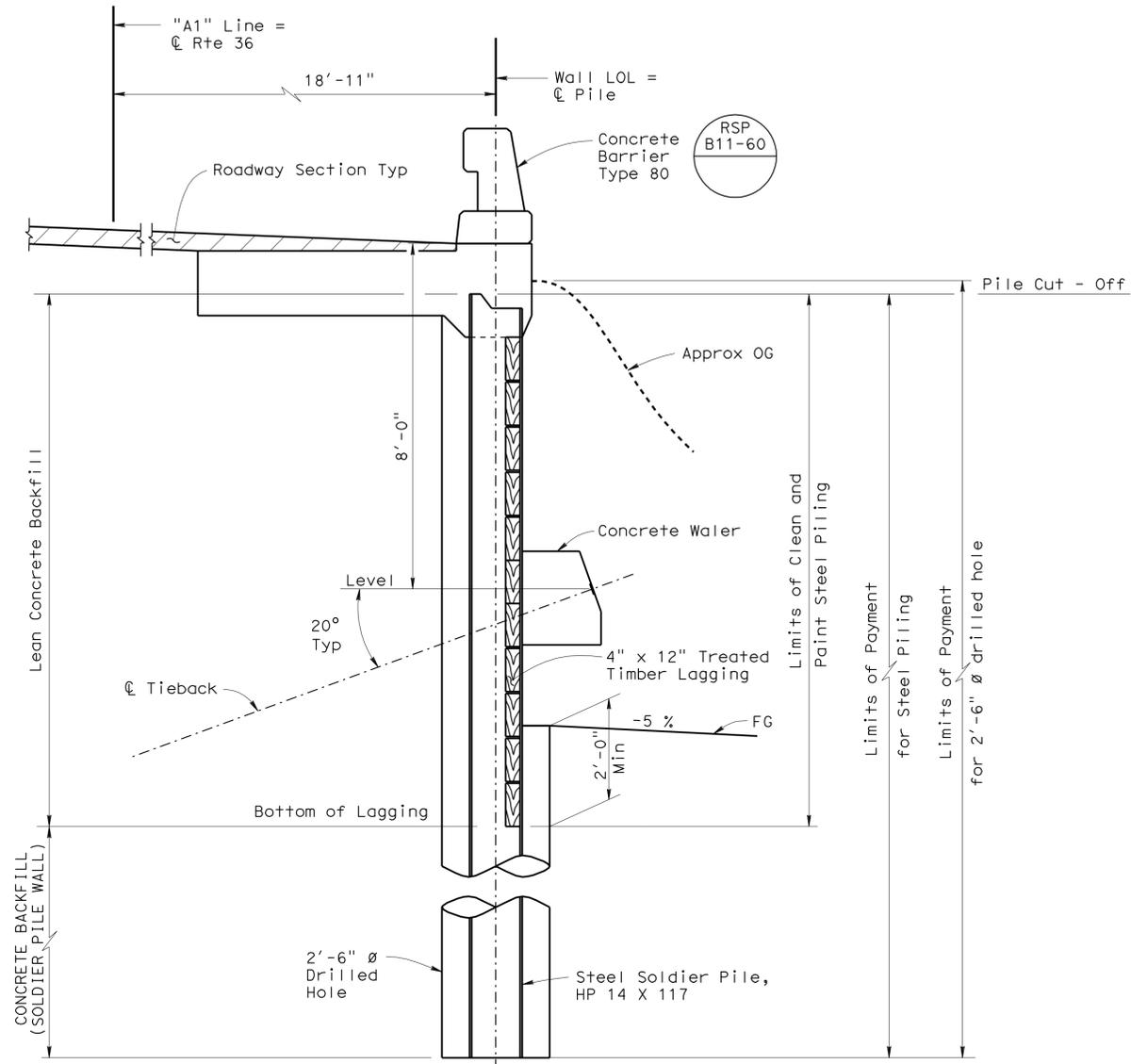
GENERAL NOTES

- DESIGN:**
AASHTO LRFD Specifications, 3rd Edit with 2005 & 2006 interim revisions and Caltrans Amendments.
- LIVE LOAD:**
Surcharge - 2 ft level earth
- SOIL PARAMETERS:**
(For determination of design lateral earth pressures)
Active Pressure
 $\phi = 30^\circ$
 $\gamma_m = 130$ pcf
 $k_a = 0.333$
- REINFORCED CONCRETE:**
 $f'_c = 3.6$ ksi (Concrete compressive strength at 28 days)
 $f_y = 60$ ksi (Yield strength of reinforcement)
- STRUCTURAL STEEL:**
 $F_y = 50$ ksi
- STRUCTURAL TIMBER:**
Treated Douglas Fir, Grade No. 1 or better
Timber to be full sawn.
- PRESTRESSING STEEL:**
Strands - ASTM designation A416
 T = Design Force per Tieback.
 f_{pu} = Minimum tensile strength of prestressing steel (kips per square inch)
 A_s (Min) = Minimum cross sectional area of prestressing steel in Tieback tendon. (Square inches)
 A_s (Min) = $\frac{1.5 T}{0.75 f_{pu}}$

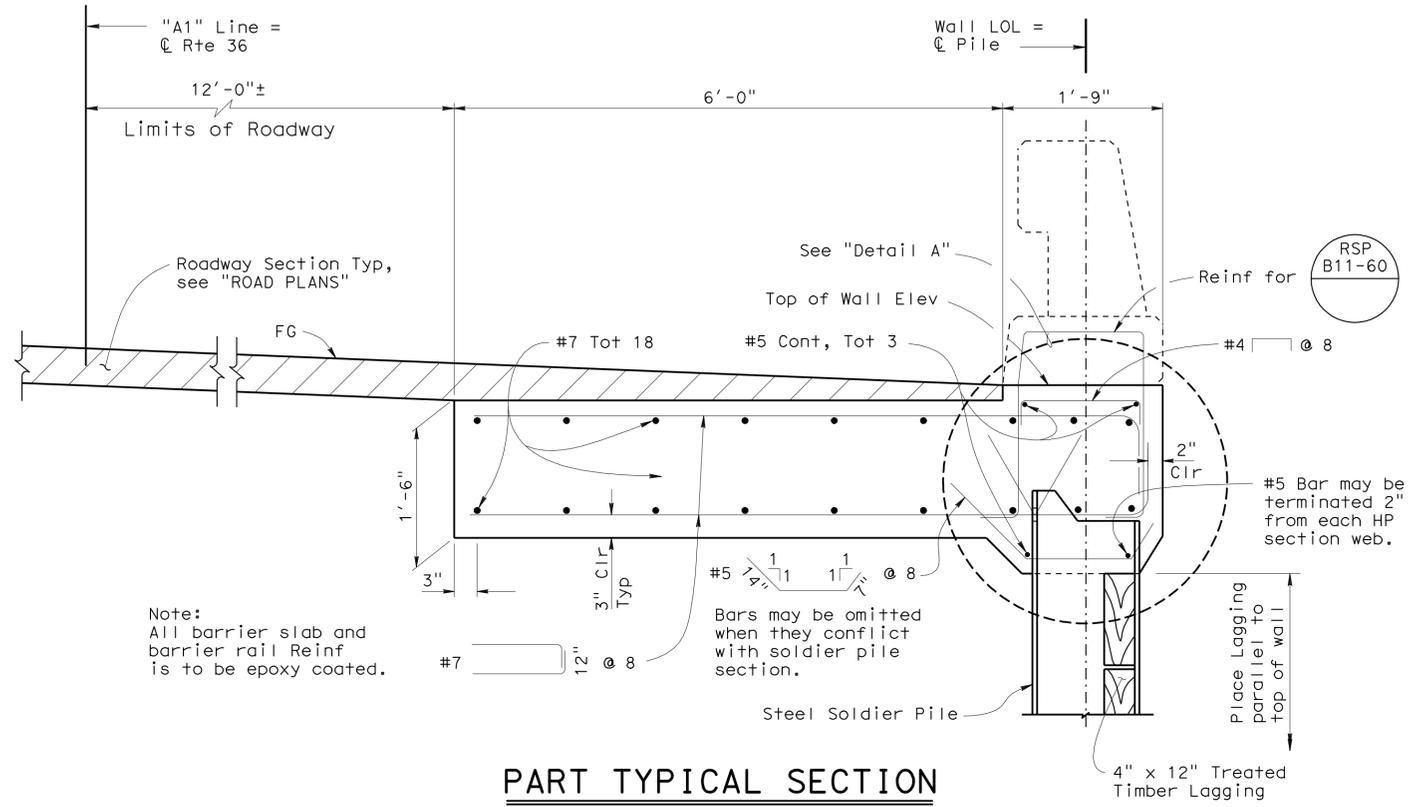
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Vadim Shostak	CHECKED Greg Jones	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	04E-0024	RIDGETOP WALL STRUCTURE PLAN			
	DETAILS	BY Jie Tang	CHECKED Greg Jones			POST MILE	29.17				
	QUANTITIES	BY Jie Tang	CHECKED Mahfoud Licha								
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 01 EA 475601		DISREGARD PRINTS BEARING EARLIER REVISION DATES		3	15

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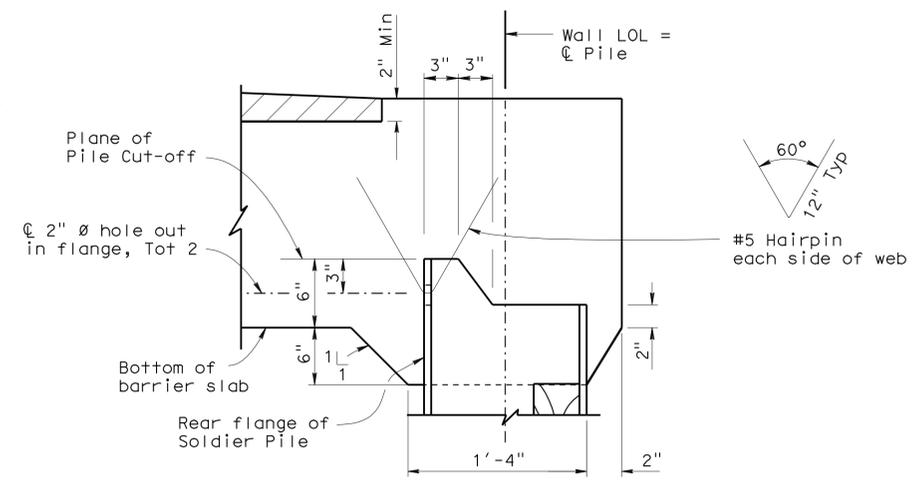
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01	Hum	36	29.2	43	54
Robert G. Jones			04/29/09	REGISTERED CIVIL ENGINEER DATE	
6-14-10			PLANS APPROVAL DATE		
Robert G. Jones			REGISTERED PROFESSIONAL ENGINEER		
No. 65676			Exp. 9/30/09		
CIVIL			STATE OF CALIFORNIA		
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TYPICAL SECTION
1/2" = 1'



PART TYPICAL SECTION
1" = 1'



DETAIL A
1/2" = 1'

DESIGN	BY Vadim Shostak	CHECKED Greg Jones
DETAILS	BY Jie Tang	CHECKED Greg Jones
QUANTITIES	BY Jie Tang	CHECKED Mahfoud Licha

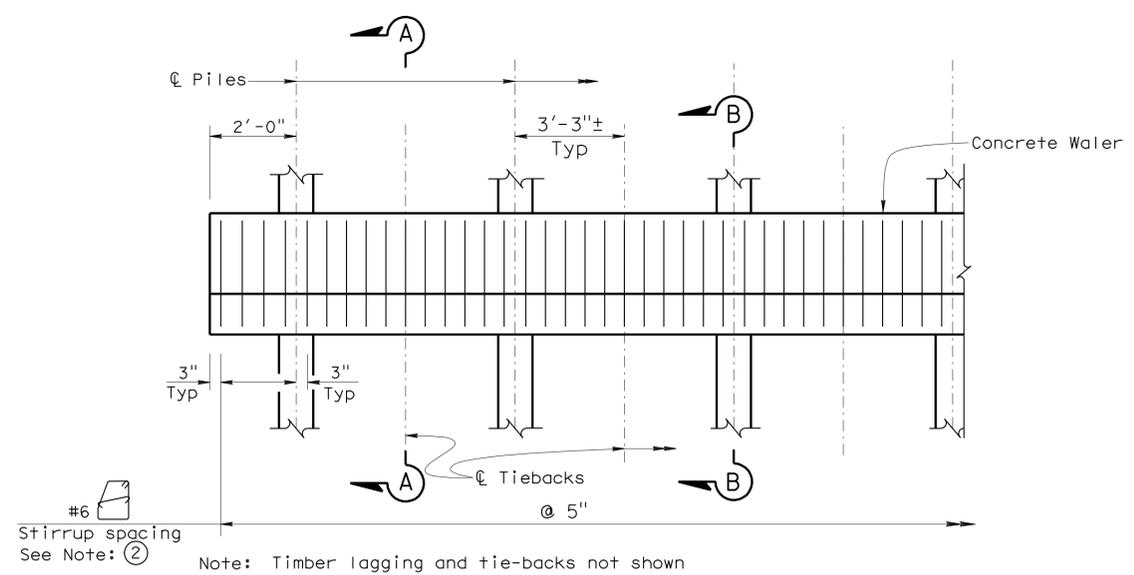
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 1

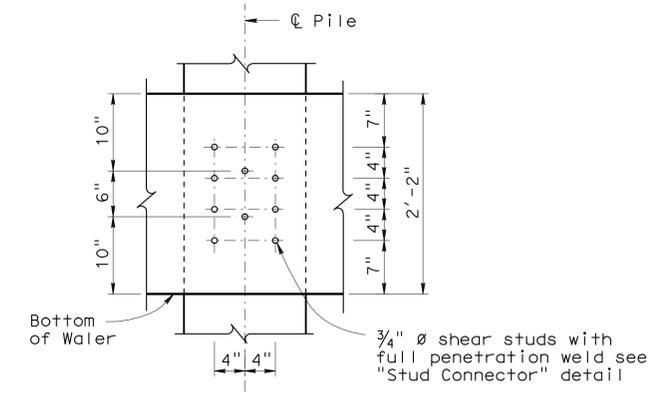
BRIDGE NO.	04E-0024
POST MILE	29.17

RIDGETOP WALL
TYPICAL SECTION TIE-BACK WALL

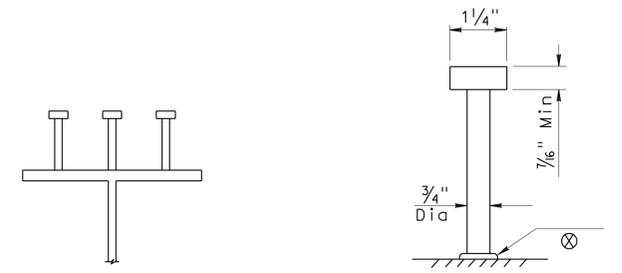
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Hum	36	29.2	44	54
Robert G. Jones			04/29/09	REGISTERED CIVIL ENGINEER DATE	
6-14-10			PLANS APPROVAL DATE		
Robert G. Jones			REGISTERED PROFESSIONAL ENGINEER		
No. 65676			Exp. 9/30/09		
CIVIL			STATE OF CALIFORNIA		
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PART ELEVATION
NO SCALE

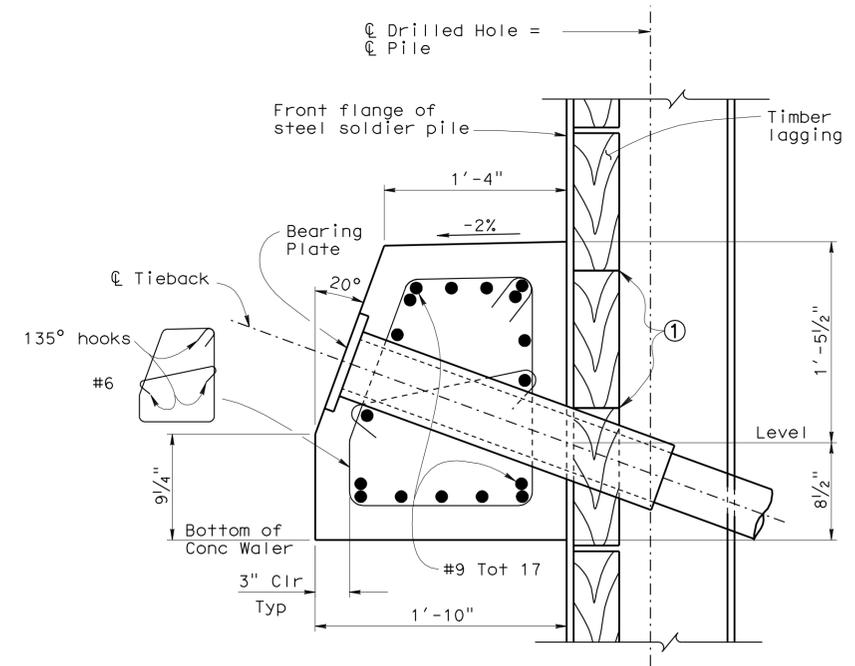


CONCRETE ANCHOR PLACEMENT
NO SCALE

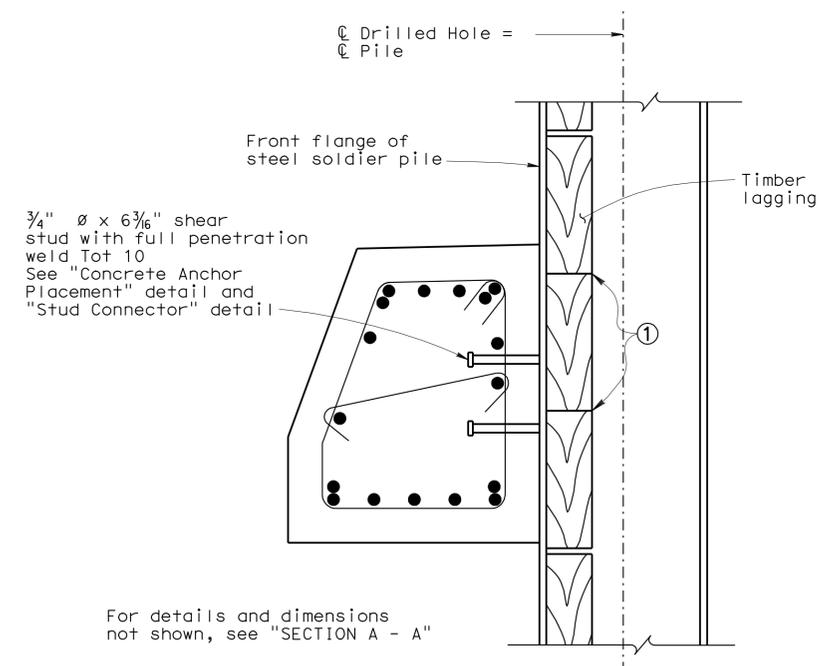


Alternative types of shear connectors will be permitted subject to approval by the Engineer.

STUD CONNECTOR
NO SCALE

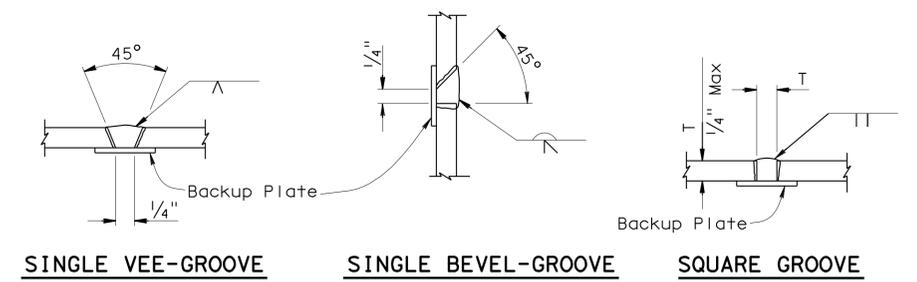


SECTION A - A
1 1/2" = 1'



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

- Notes:
- ① Omit gap between lagging members at joints behind concrete water.
 - ② To avoid conflict with tiebacks, the stirrups can be moved and bundled with adjacent stirrup.

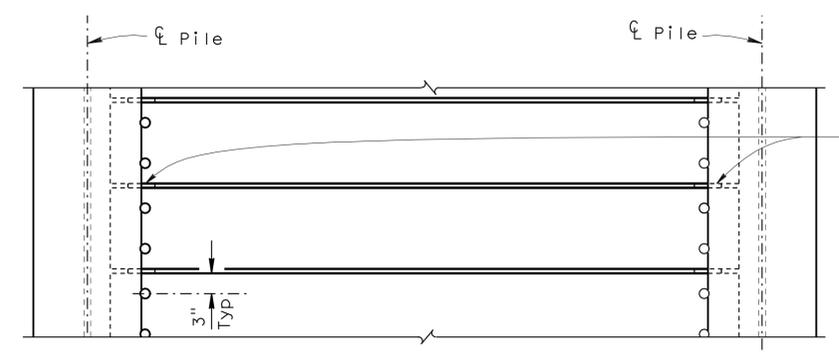


PILE WELDING DETAIL-BUTT JOINTS

- Notes:
1. Single Vee-Groove and Square Groove permitted for all positions.
 2. Single Bevel-Groove permitted for horizontal joints only.

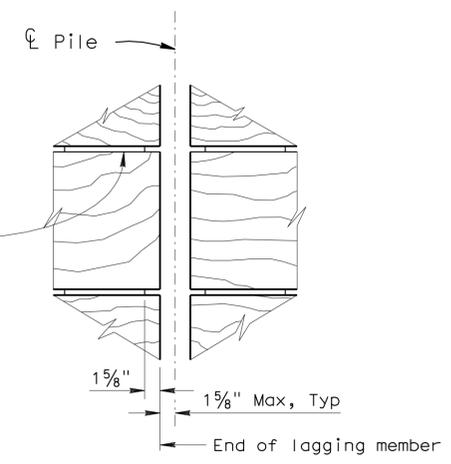
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Vadim Shostak	CHECKED Greg Jones	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	04E-0024	RIDGETOP WALL WALL DETAILS NO. 1
	DETAILS	BY Jie Tang	CHECKED Greg Jones			POST MILE	29.17	
	QUANTITIES	BY Jie Tang	CHECKED Mahfoud Licha			DISREGARD PRINTS BEARING EARLIER REVISION DATES	12/25/08 12/26/08 01/26/09	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 01 EA 475601	FILE => 0001-rw-n-det01.dgn	5 15		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Hum	36	29.2	45	54
Robert G. Jones			04/29/09	REGISTERED CIVIL ENGINEER DATE	
6-14-10			PLANS APPROVAL DATE		
Robert G. Jones			REGISTERED PROFESSIONAL ENGINEER		
No. 65676			Exp. 9/30/09		
CIVIL			STATE OF CALIFORNIA		
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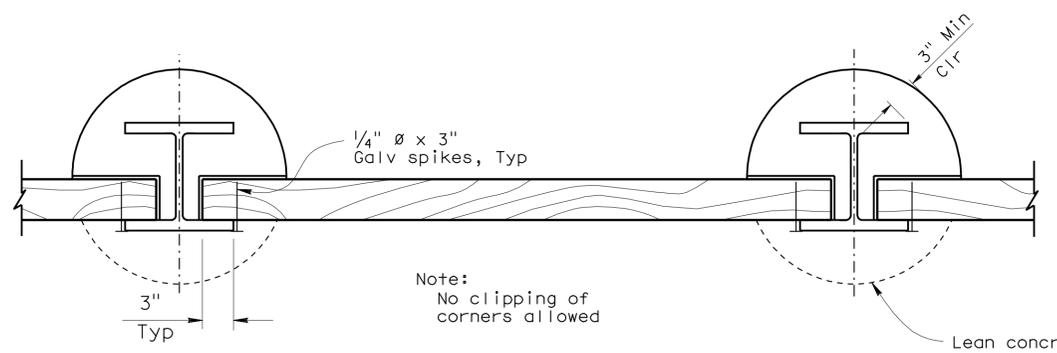


PART ELEVATION

1/2" X 4" X 12" HDPE Shim, Tot 2.
between Lagging Members
secured with 2 - 1/8" Ø
x 3/4" Galvanized Nails, Typ



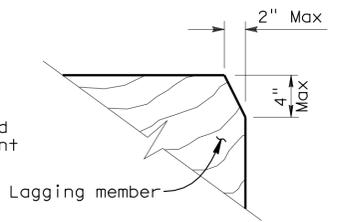
PART ELEVATION



**PART PLAN OF LAGGING MEMBER
LAGGING DETAILS - ALTERNATIVE 1
NO SCALE**

Lean concrete backfill.
Remove portion in front
of flange of HP section
& behind front flange of
HP section as required
for lagging placement.(Typ)

Note:
Diagonally opposite
corners may be clipped
to facilitate placement



**PART PLAN OF LAGGING MEMBER
LAGGING DETAILS - ALTERNATIVE 2
NO SCALE**

DESIGN	BY Vadim Shostak	CHECKED Greg Jones
DETAILS	BY Jie Tang	CHECKED Greg Jones
QUANTITIES	BY Jie Tang	CHECKED Mahfoud Licha

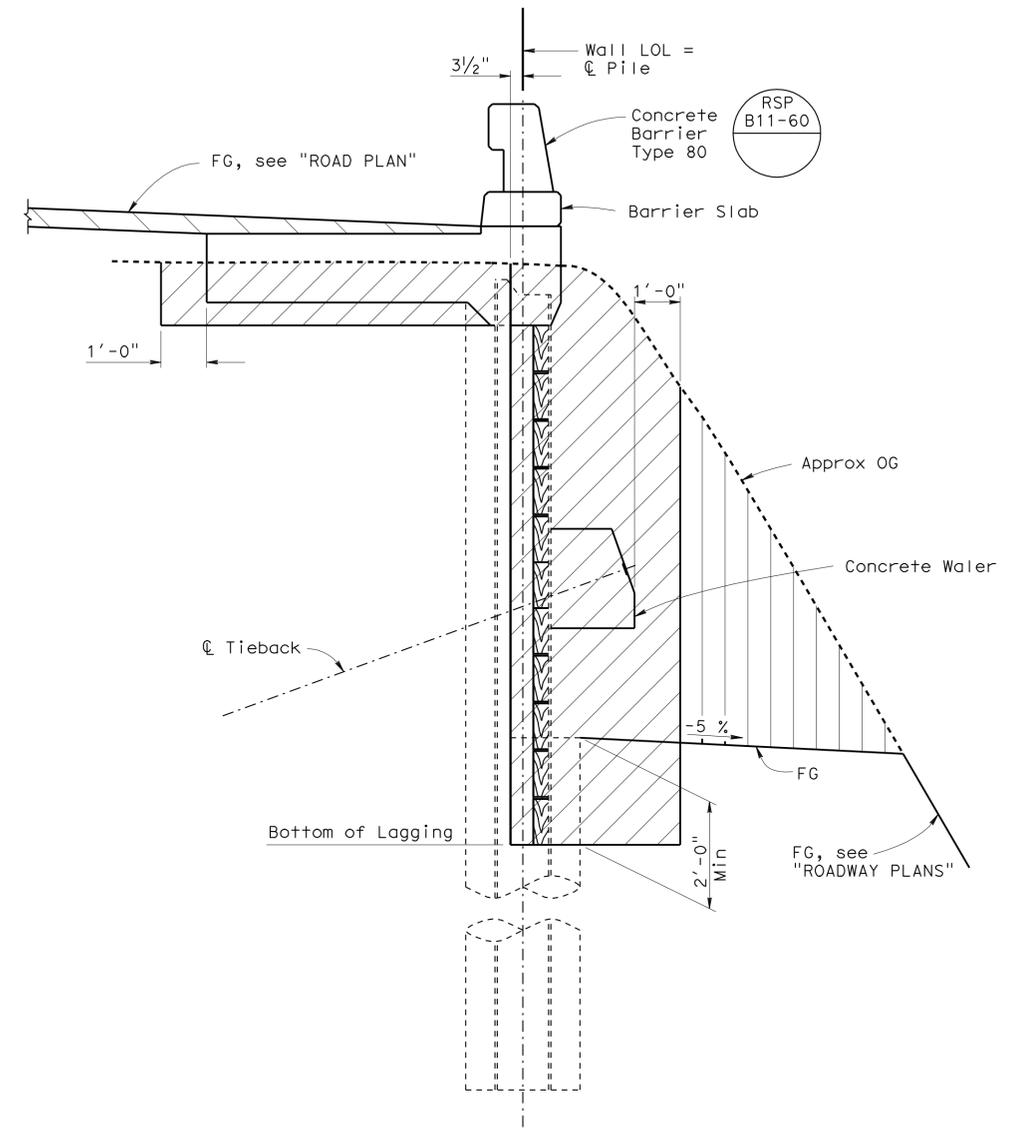
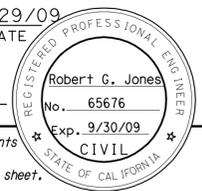
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 1

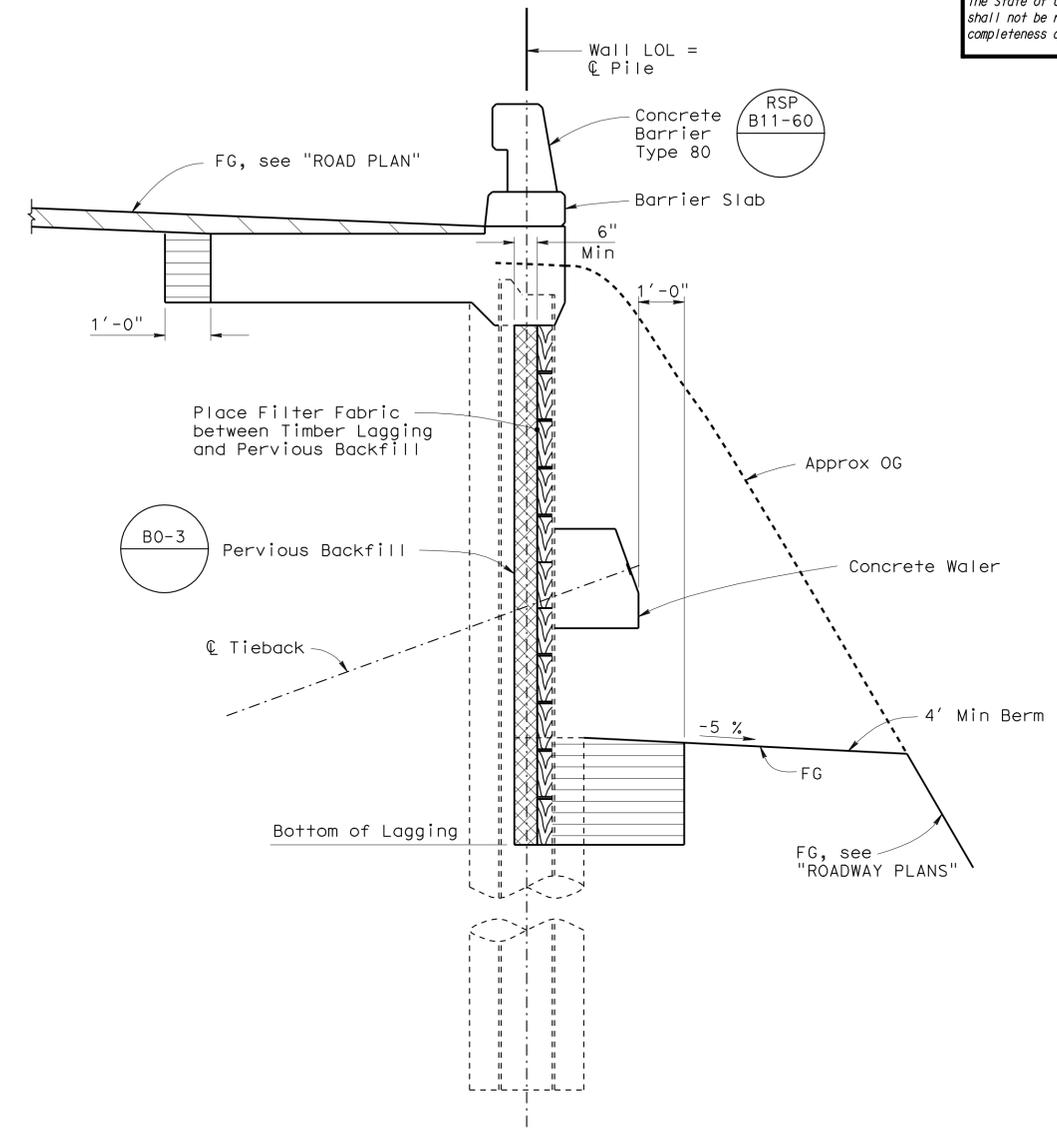
BRIDGE NO.	04E-0024
POST MILE	29.17

RIDGETOP WALL
WALL DETAILS NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Hum	36	29.2	46	54
Robert G. Jones 04/29/09 REGISTERED CIVIL ENGINEER DATE					
6-14-10 PLANS APPROVAL DATE					
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STRUCTURE EXCAVATION



STRUCTURAL BACKFILL

LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL
 1/2"=1'

Legend

- Structural Excavation, Soldier Pile Wall
- Structural Backfill, Soldier Pile Wall
- Roadway Excavation

DESIGN	BY Vadim Shostak	CHECKED Greg Jones
DETAILS	BY Jie Tang	CHECKED Greg Jones
QUANTITIES	BY Jie Tang	CHECKED Mahfoud Licha

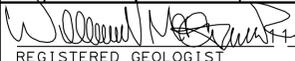
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

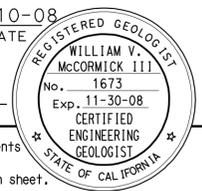
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 1

BRIDGE NO.	04E-0024
POST MILE	29.17

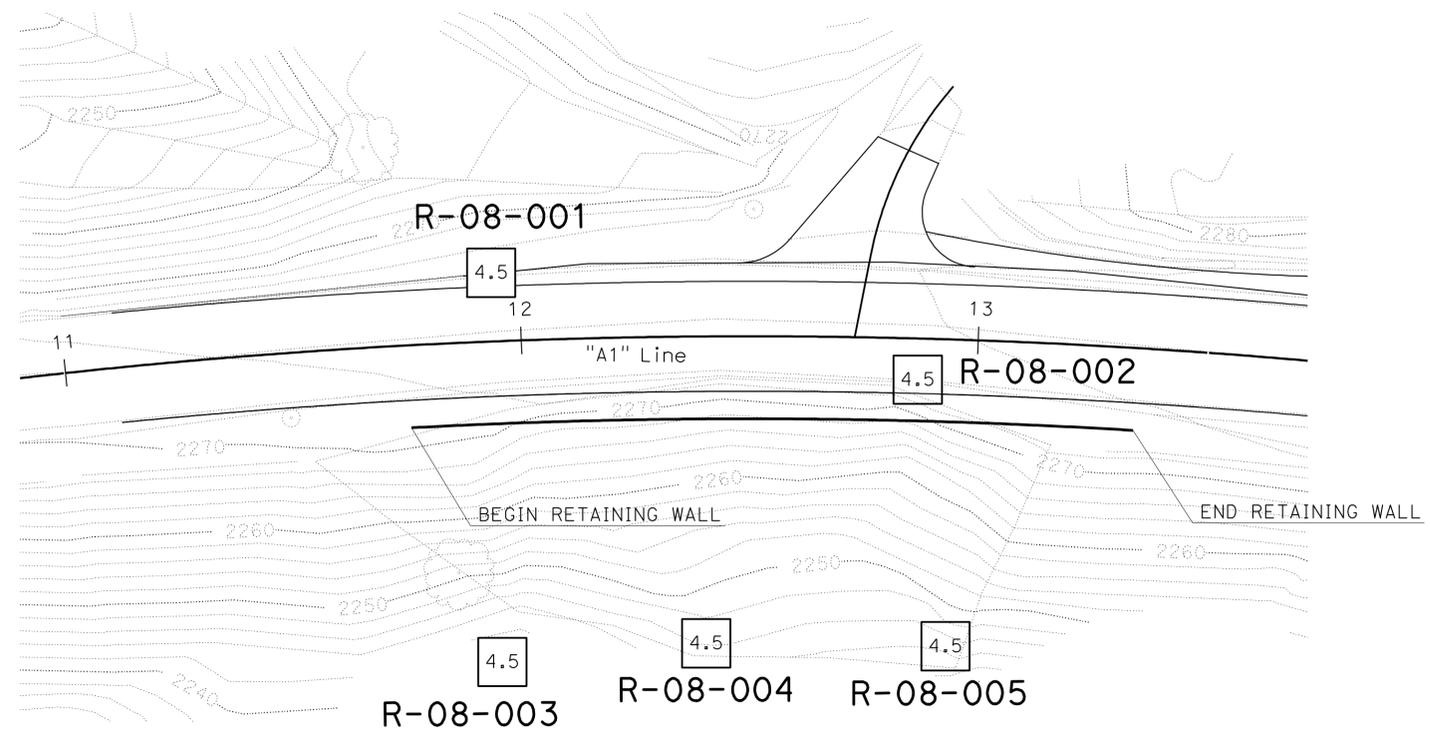
RIDGETOP WALL
EXCAVATION AND BACKFILL

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Hum	36	29.2	48	54

 10-08
 REGISTERED GEOLOGIST DATE
 6-14-10
 PLANS APPROVAL DATE
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KLEINFELDER
 2240 NORTHPOINT PKWY.
 SANTA ROSA, CA 95407



PLAN
 1"=20'

- Notes:
- 2" samples were taken using a modified California split-barrel sampler with an inside diameter (I.D.) of 2" and an outside diameter (O.D.) of 2.5".
 - An automatic hammer (140 lb) with a 30" drop was used to advance the sampler.
 - Blowcounts noted for boring are field blowcounts and have not been corrected.
 - 1.4" samples were taken using a SPT split-barrel sampler with an inside diameter (I.D.) of 1.4" and an outside diameter (O.D.) of 2".
 - Blowcounts 50/5 means 50 blows per 5" penetration.
 - Efficiency factor for CME automatic hammer is 1.1.
 - This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007)

DESIGN OVERSIGHT ENGINEER:		SIGN OFF DATE:		PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 04E-0024		RIDGETOP WALL LOG OF TEST BORINGS 1 of 7													
FUNCTIONAL SUPERVISOR		DRAWN BY: A. Sanchez				FIELD INVESTIGATION BY: J. Richmond, C. Goitein April 2008						POST MILES 29.17									
NAME:		CHECKED BY: W. McCormick				CU 01 EA 475601		REVISION DATES													
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		<table border="1"> <tr> <td>7/14/08</td> <td>11/18/08</td> <td>12/30/08</td> <td>01/25/09</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				7/14/08	11/18/08	12/30/08	01/25/09						
7/14/08	11/18/08	12/30/08	01/25/09																		
						FILE => 0001-rw-z-1+01.dgn		SHEET OF		9 15											

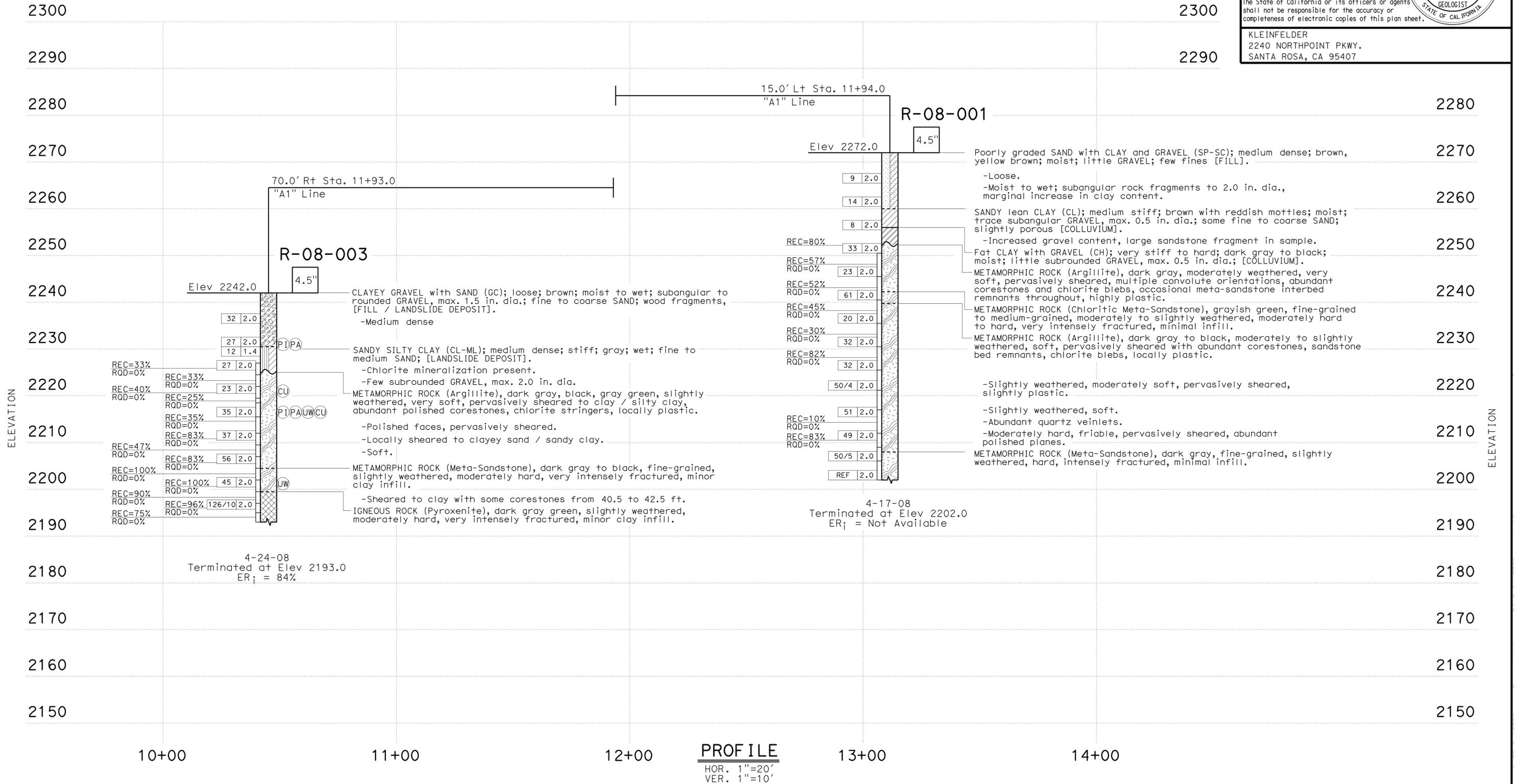
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NOTE: This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007)

FOR PLAN VIEW AND ADDITIONAL NOTES, SEE "LOG OF TEST BORINGS" SHEET 1 OF 7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
Q1	Hum	36	29.2	49	54

REGISTERED GEOLOGIST DATE 6-14-10
 REGISTERED GEOLOGIST WILLIAM V. MCCORMICK III No. 1673 Exp. 11-30-08 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-14-10
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 2240 NORTHPOINT PKWY.
 SANTA ROSA, CA 95407



DESIGN OVERSIGHT ENGINEER:	SIGN OFF DATE:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 04E-0024	RIDGETOP WALL	
FUNCTIONAL SUPERVISOR	DRAWN BY: A. Sanchez	PROJECT ENGINEER	POST MILES 29.17	LOG OF TEST BORINGS 2 of 7	
NAME:	CHECKED BY: W. McCormick	C. Goitein, J. Richmond April 2008	CU 01 EA 475601	REVISION DATES	SHEET 10 OF 15

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 HOR. 1"=20' VER. 1"=10'
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
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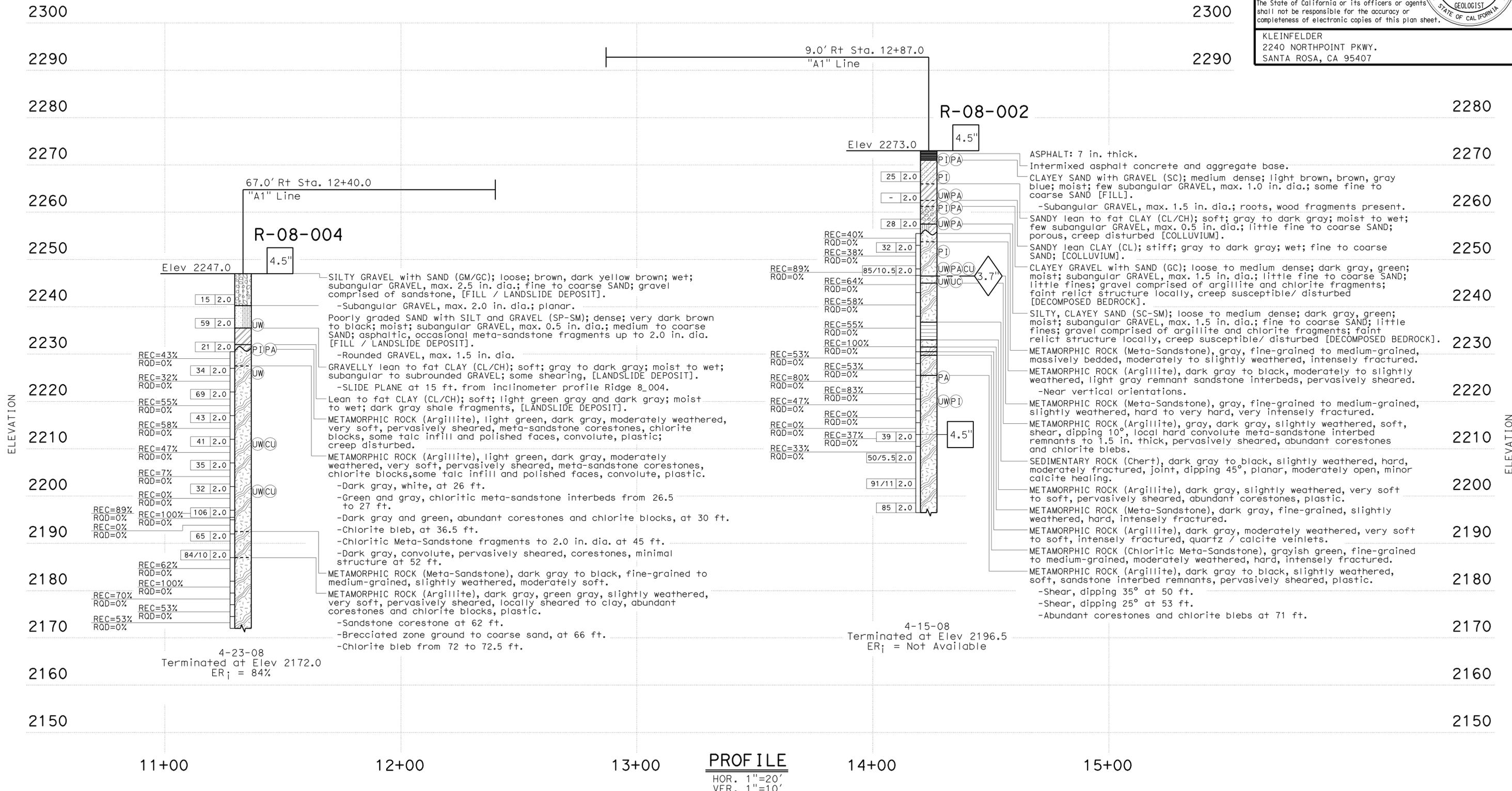
NOTE: This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007)

FOR PLAN VIEW AND ADDITIONAL NOTES, SEE "LOG OF TEST BORINGS" SHEET 1 OF 7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
Q1	Hum	36	29.2	50	54

REGISTERED GEOLOGIST DATE 10-08
 6-14-10 PLANS APPROVAL DATE
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REGISTERED GEOLOGIST
 WILLIAM V. MCCORMICK III
 No. 1673
 Exp. 11-30-08
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA



DESIGN OVERSIGHT ENGINEER:	SIGN OFF DATE:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 04E-0024	RIDGETOP WALL	
FUNCTIONAL SUPERVISOR:	DRAWN BY: A. Sanchez	PROJECT ENGINEER	POST MILES 29.17	LOG OF TEST BORINGS 3 of 7	
NAME:	CHECKED BY: W. McCormick	FIELD INVESTIGATION BY: C. Goitein, J. Richmond April 2008	CU 01 EA 475601	REVISION DATES	SHEET 11 OF 15
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			DISREGARD PRINTS BEARING EARLIER REVISION DATES	7-14-08 11-18-08 12/30/08 01/25/09	

065 CIVIL LOG OF TEST BORINGS SHEET
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USERNAME => H11engr DATE PLOTTED => 17-JUN-2010 TIME PLOTTED => 16:05

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

FOR PLAN VIEW AND ADDITIONAL NOTES, SEE "LOG OF TEST BORINGS" SHEET 1 OF 7

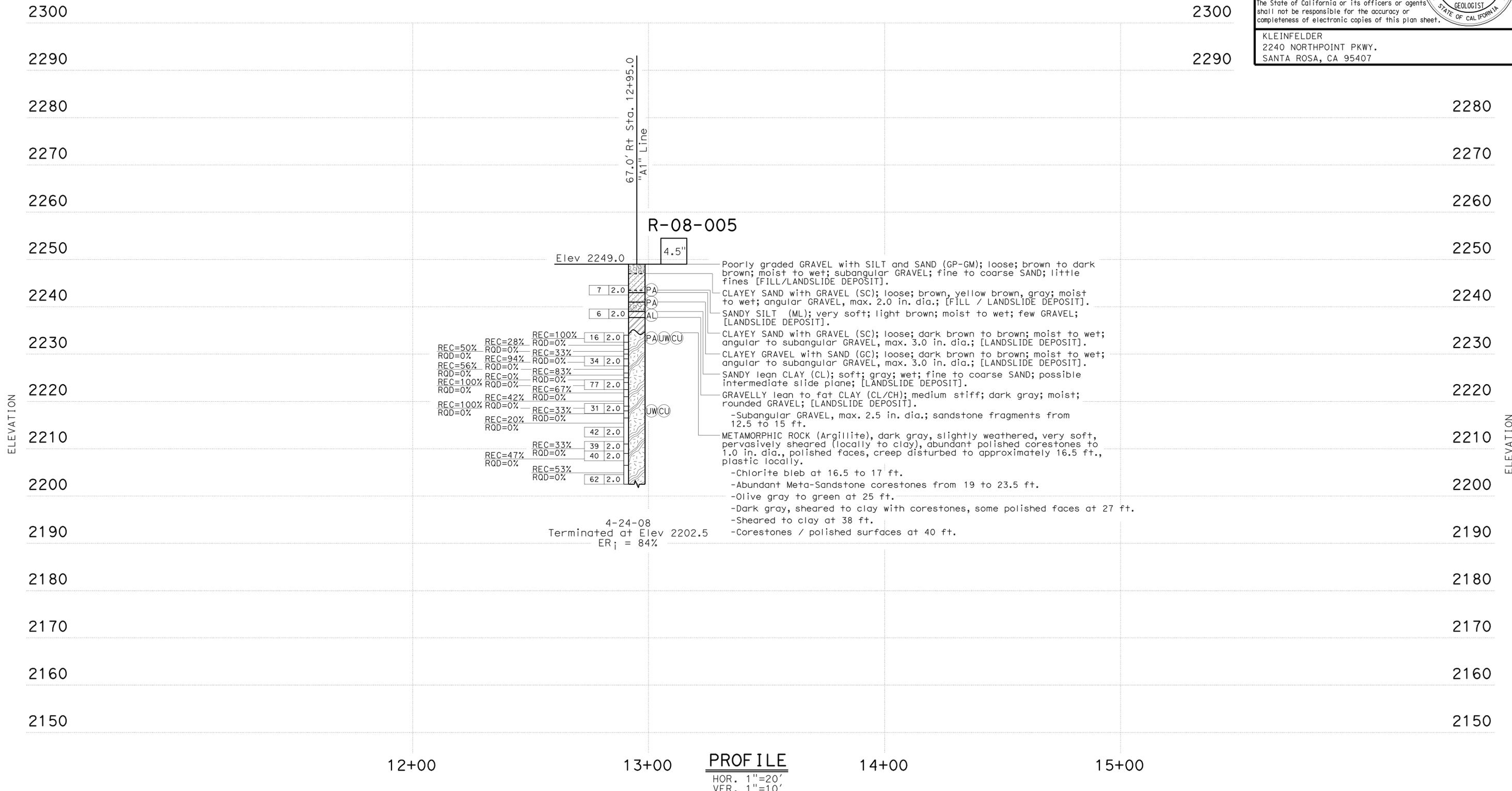
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
Q1	Hum	36	29.2	51	54

REGISTERED GEOLOGIST DATE 10-08
 REGISTERED GEOLOGIST DATE 6-14-10
 PLANS APPROVAL DATE

WILLIAM V. MCCORMICK III
 No. 1673
 Exp. 11-30-08
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA

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DESIGN OVERSIGHT ENGINEER:	SIGN OFF DATE:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 04E-0024	RIDGETOP WALL	
FUNCTIONAL SUPERVISOR	DRAWN BY: A. Sanchez	FIELD INVESTIGATION BY: C. Goitein April 2008	PROJECT ENGINEER	POST MILES 29.17	LOG OF TEST BORINGS 4 of 7	
NAME:	CHECKED BY: W. McCormick				REVISION DATES	SHEET 12 OF 15
065 CIVIL LOG OF TEST BORINGS SHEET			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 01 EA 475601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	FILE => 0001-rw-z-1tb04.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
Q1	Hum	36	29.2	52	54

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

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

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

RELATIVE STRENGTH OF INTACT ROCK

Term	Uniaxial Compressive Strength (PSI)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

BEDDING SPACING

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8" to 1 ft
Thinly bedded	1-1/4" to 3-5/8"
Very thinly bedded	3/8" to 1-1/4"
Laminated	Less than 3/8"

REGISTERED GEOLOGIST DATE 6-14-10 PLANS APPROVAL DATE

WILLIAM V. MCCORMICK III
No. 1673
Exp. 11-30-08
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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2240 NORTHPOINT PKWY.
SANTA ROSA, CA 95407

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

Description	Criteria
Extremely Hard	Specimen cannot be scratched with a pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows.
Very Hard	Specimen cannot be scratched with a pocket knife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Specimen can be scratched with a pocket knife or sharp pick with difficulty (heavy pressure). Heavy hammer blows required to break specimen.
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure. Core breaks with moderate hammer pressure.
Moderately Soft	Specimen can be grooved 1/6" deep with a pocket knife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Specimen can be grooved or gouged easily by a pocket knife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Specimen can be readily indented, grooved or gouged with fingernail, or carved with a pocket knife. Breaks with light manual pressure.

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 Solutioning		
	Body of Rock	Fracture Surfaces		Texture	Solutioning	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change.	No solutioning.	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 may be noted.	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."

Combination descriptors (such as "slightly weathered to fresh") are permissible where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant, identifiable zones can be delineated. Only two adjacent descriptors may be combined. "Very intensely weathered" is the combination descriptor for "intensely weathered to decomposed."

FRACTURE DENSITY

Description	Observed Fracture Density
Unfractured	No fractures.
Very slightly fractured	Lengths greater than 3 feet.
Slightly fractured	Lengths from 1 to 3 feet with few lengths less than 1 foot or greater than 3 feet.
Moderately fractured	Lengths mostly in 4" to 1 foot range with most lengths about 8"
Intensely fractured	Lengths average from 1 to 4" with scattered fragmented intervals with lengths less than 4"
Very intensely fractured	Mostly chips and fragments with a few scattered short core lengths.

Combination descriptors (such as "Very intensely to intensely fractured") are used where equal distribution of both fracture density characteristics is present over a significant interval or exposure, or where characteristics are "in between" the descriptor definitions. Only two adjacent descriptors may be combined.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
Q1	Hum	36	29.2	53	54

REGISTERED GEOLOGIST DATE 6-14-10
 WILLIAM V. MCCORMICK III
 No. 1673
 Exp. 11-30-08
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA
 KLEINFELDER
 2240 NORTHPOINT PKWY.
 SANTA ROSA, CA 95407

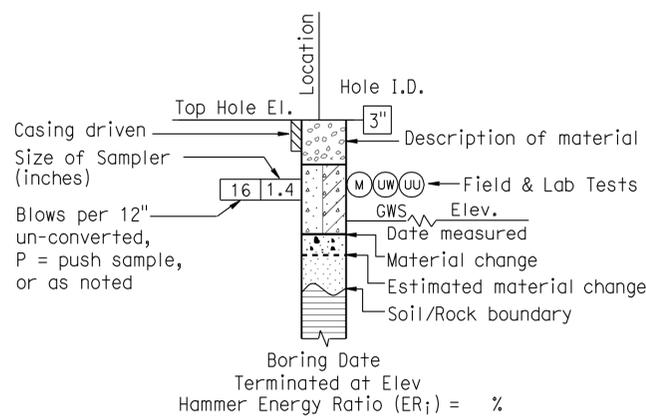
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

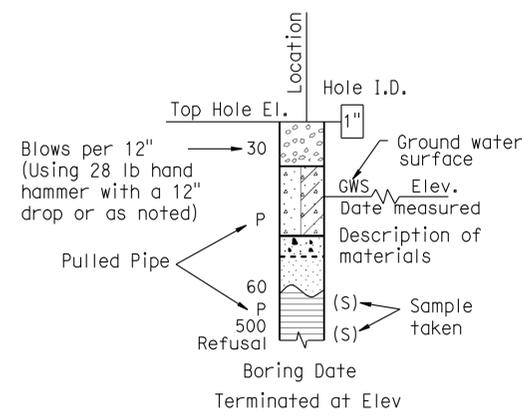
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

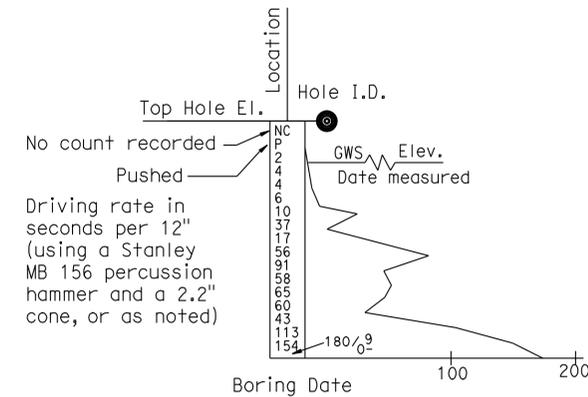
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the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



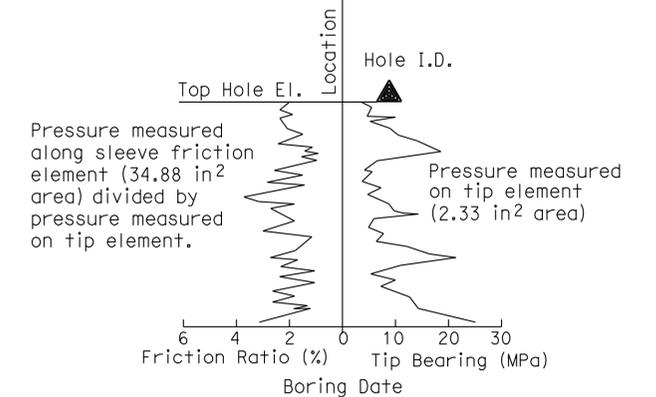
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

DESIGN OVERSIGHT ENGINEER:	SIGN OFF DATE:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
PREPARED BY A. Sanchez	CHECKED BY W. McCormick	PROJECT ENGINEER

BRIDGE NO. 04E-0024	POST MILE 29.17
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RIDGETOP WALL	
LOG OF TEST BORINGS 6 of 7	

GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL Well-graded GRAVEL with SAND		CL Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND		CL-ML SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
	Poorly graded GRAVEL Poorly graded GRAVEL with SAND				
	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND		ML SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND		OL ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)				
	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND		OL ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND		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
	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)				
	SILTY GRAVEL SILTY GRAVEL with SAND		MH Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND		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
	CLAYEY GRAVEL CLAYEY GRAVEL with SAND				
	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND		OH ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND		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
	Well-graded SAND Well-graded SAND with GRAVEL				
	Poorly graded SAND Poorly graded 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		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
	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL				
	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		OH ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND		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
	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL				
	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		OH ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND		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
	SILTY SAND SILTY SAND with GRAVEL				
	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		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
	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL				
	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		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
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

REGISTERED GEOLOGIST
DATE: 6-14-10
PLANS APPROVAL DATE: 6-14-10

WILLIAM V. MCCORMICK III
No. 1673
Exp. 11-30-08
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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

KLEINFELDER
2240 NORTHPOINT PKWY.
SANTA ROSA, CA 95407

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

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

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

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