

CURVE DATA				
No.	R	Δ	T	L
(E)	520.00	06°31'11"	29.62	59.17
(F)	2599.92	03°56'30"	89.47	178.87
(G)	3949.04	01°43'18"	59.33	118.66
(H)	2600.00	30°34'09"	710.53	1387.18
(I)	3949.04	02°32'22"	87.53	175.03



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2001	2313

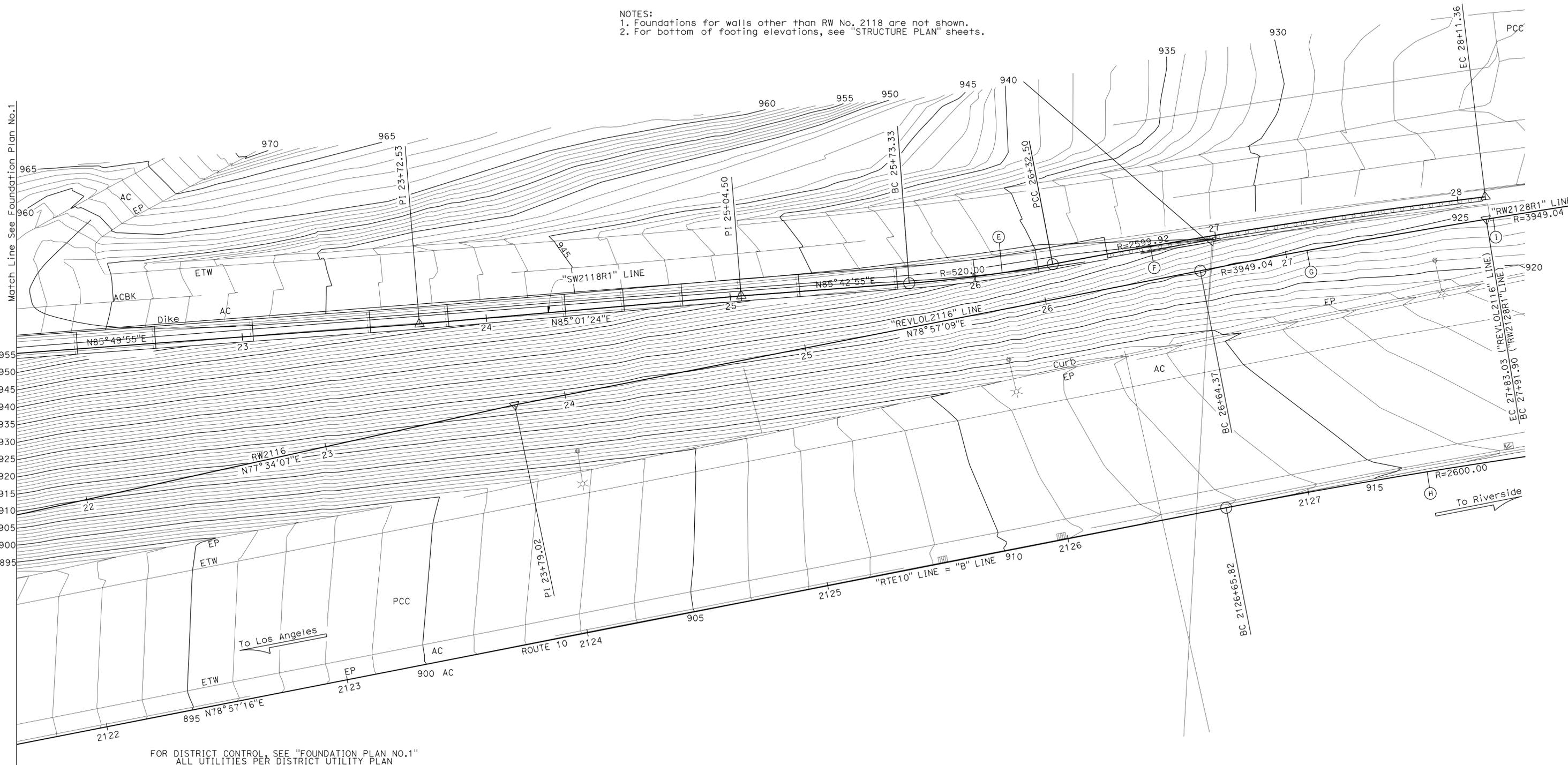
*Richard Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14

6-1-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 RICHARD E. SCHEDEL  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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NOTES:  
 1. Foundations for walls other than RW No. 2118 are not shown.  
 2. For bottom of footing elevations, see "STRUCTURE PLAN" sheets.

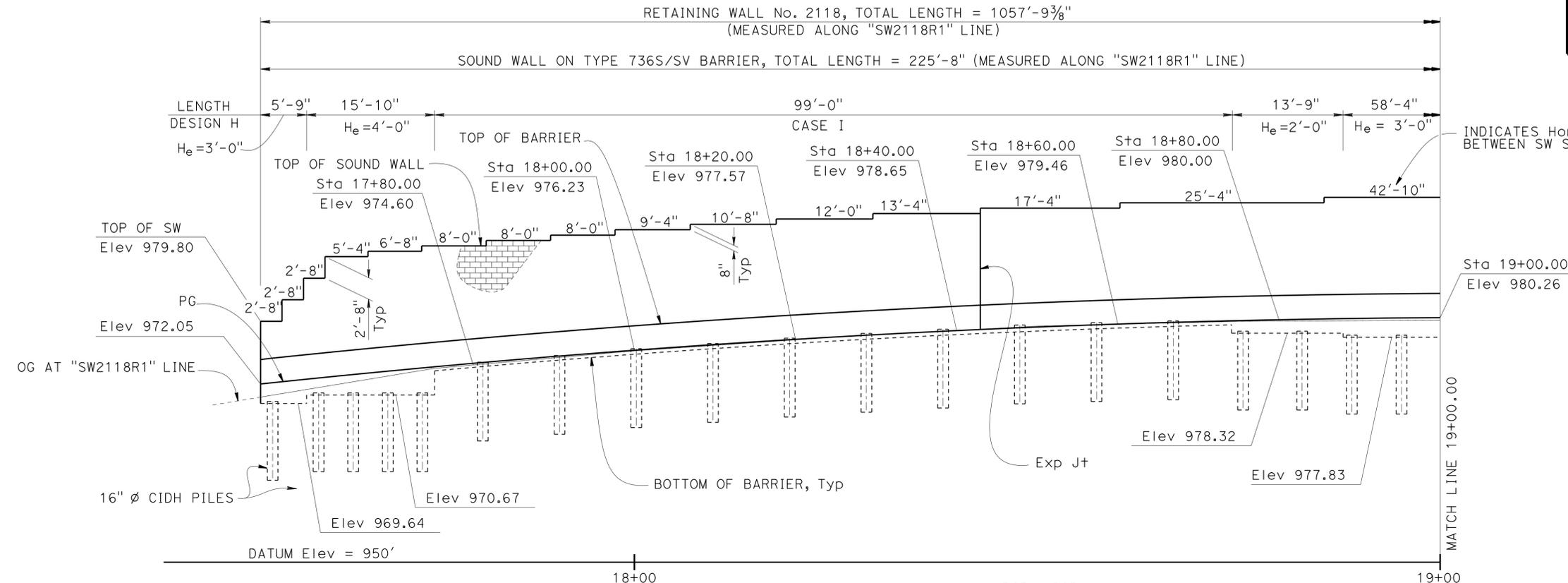


FOR DISTRICT CONTROL, SEE "FOUNDATION PLAN NO.1"  
 ALL UTILITIES PER DISTRICT UTILITY PLAN

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 18</b>	BRIDGE NO. 53E0305	<b>RETAINING WALL NO. 2118</b> <b>FOUNDATION PLAN NO. 2</b>			
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY MINH TRAN	CHECKED GERRARD HIGHT	POST MILE 40.10							
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY T. Zolnikov 02/25/11	CHECKED BY C. Fasset 02/2011	QUANTITIES BY DAVID P. MURRAY	CHECKED GERRARD HIGHT								
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3646	PROJECT NUMBER & PHASE: 0713000007 1	CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 3 OF 15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2002	2313

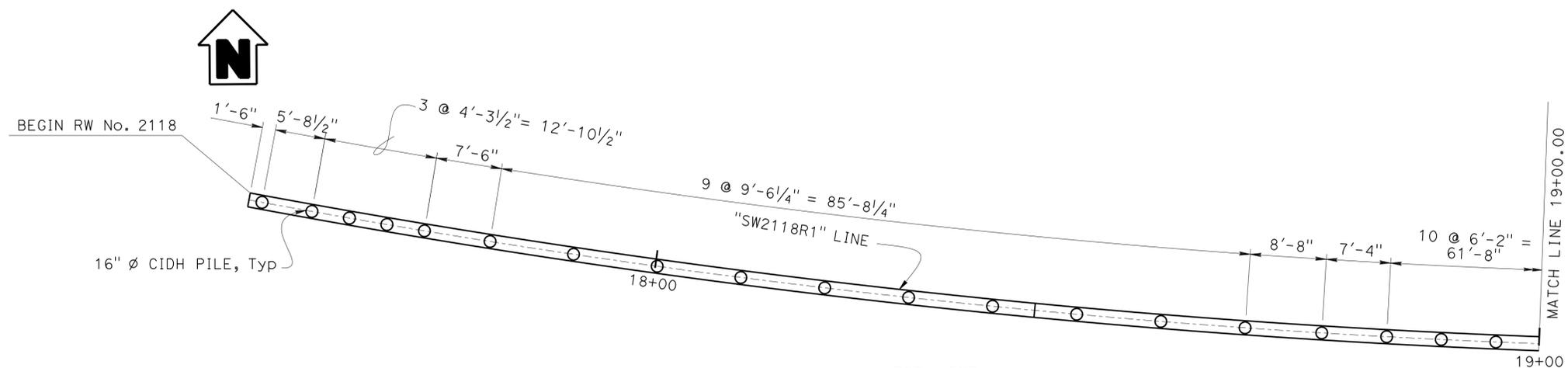
Richard E. Schendel  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 6-1-15  
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 No. C64259  
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**DEVELOPED ELEVATION**  
 $\frac{1}{8}'' = 1'-0''$

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	1,702 CY
STRUCTURE BACKFILL (RETAINING WALL)	1,152 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	97 CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,110 LF
STRUCTURAL CONCRETE, RETAINING WALL	541 CY
BAR REINFORCING STEEL (RETAINING WALL)	70,991 LB
SOUND WALL (MASONRY BLOCK)	12,461 SQFT
CONCRETE BARRIER (TYPE 736S MODIFIED)	676 LF
CONCRETE BARRIER (TYPE 736S/SV)	382 LF



**PLAN**  
 $\frac{1}{8}'' = 1'-0''$

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY JINLI GUO / MINH TRAN	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 18**

BRIDGE NO.	53E0305
POST MILE	40.10

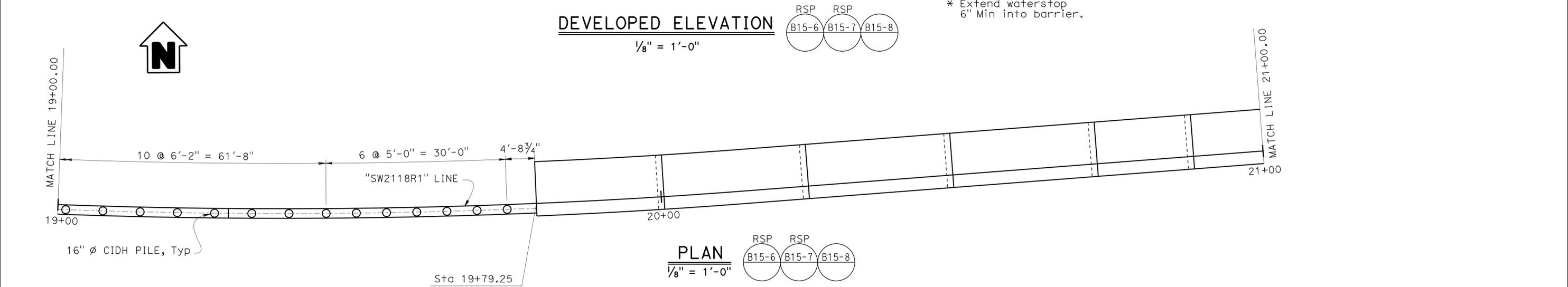
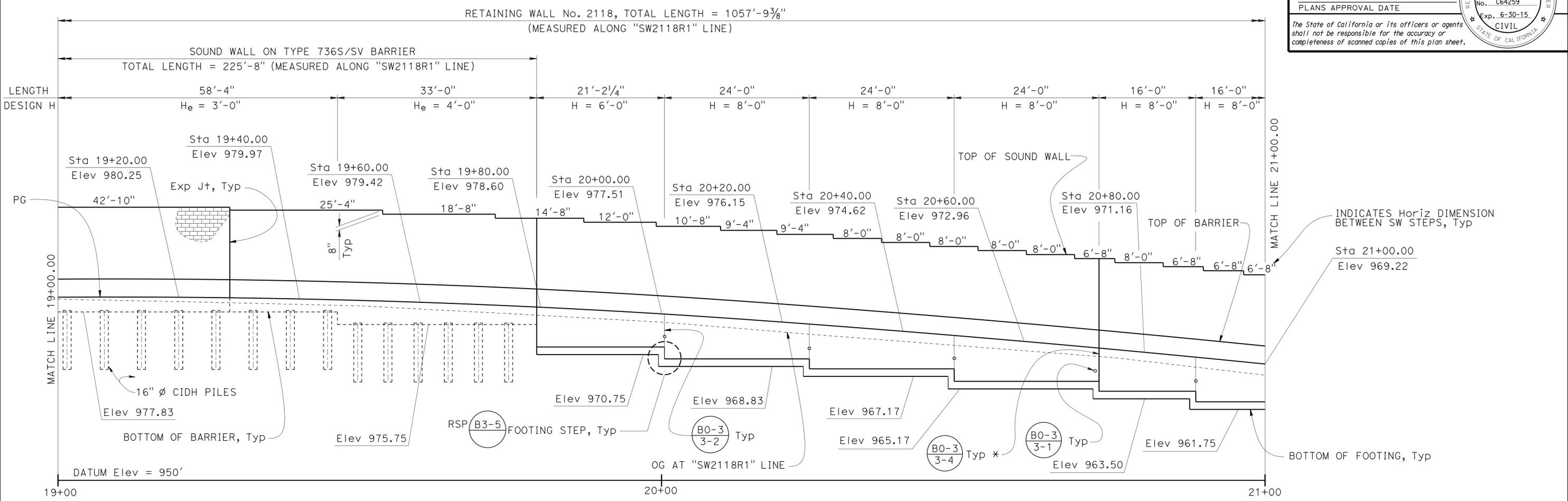
**RETAINING WALL NO. 2118**  
**STRUCTURE PLAN NO. 1**



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2003	2313

Richard E. Schendel  
 REGISTERED CIVIL ENGINEER  
 DATE 10/01/14  
 PLANS APPROVAL DATE 6-1-15  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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DESIGN BY DAVID P. MURRAY CHECKED GERRARD HIGHT DETAILS BY JINLI GUO / MINH TRAN CHECKED GERRARD HIGHT QUANTITIES BY DAVID P. MURRAY CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 18</b>	BRIDGE NO. 53E0305 POST MILE 40.10	<b>RETAINING WALL NO. 2118</b> <b>STRUCTURE PLAN NO. 2</b>
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3603 PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
	0 1 2 3	REVISION DATES 01/25/13 02/05/14 03/03/14	SHEET OF 5 15	

FILE => 53e0305-c-sp02.dgn

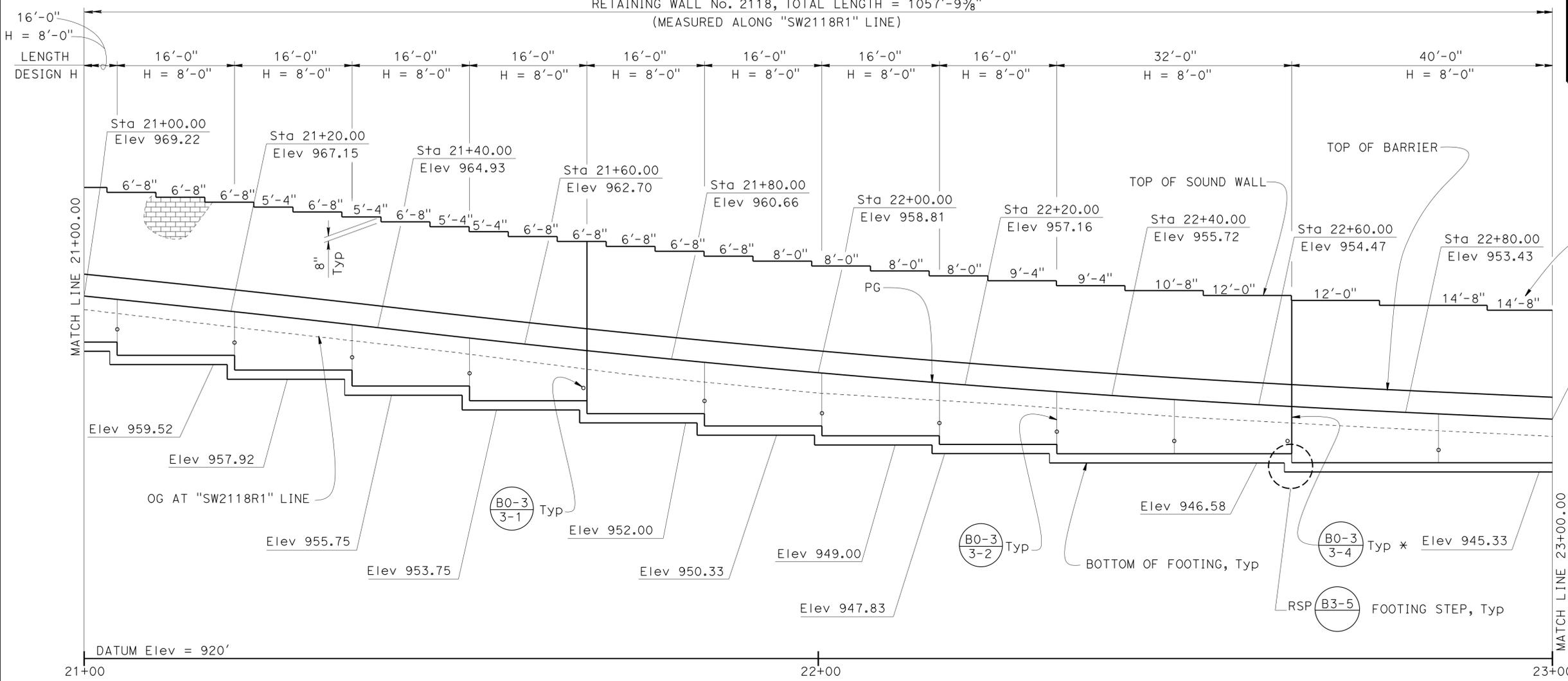
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2004	2313

10/01/14  
 REGISTERED CIVIL ENGINEER DATE  
 6-1-15  
 PLANS APPROVAL DATE

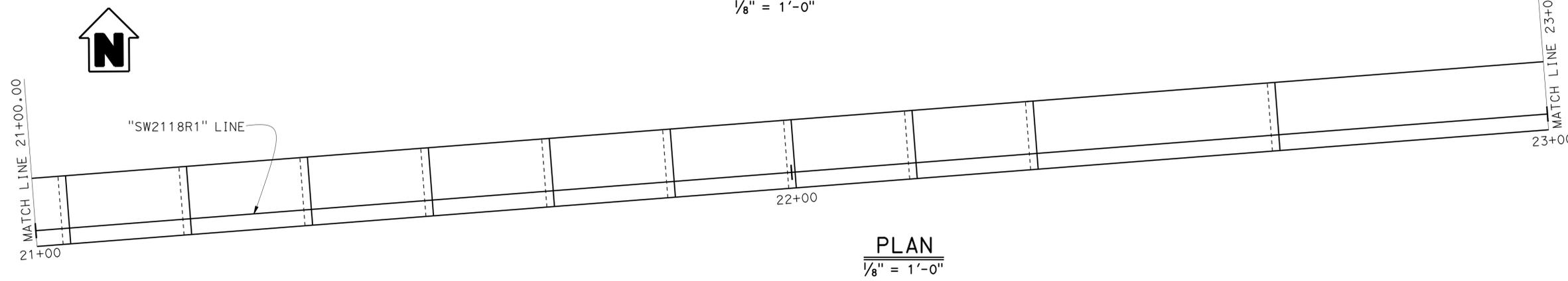
RICHARD E. SCHEDEL  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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RETAINING WALL No. 2118, TOTAL LENGTH = 1057'-9<sup>3</sup>/<sub>8</sub>"  
 (MEASURED ALONG "SW2118R1" LINE)



**DEVELOPED ELEVATION**  
 1/8" = 1'-0"



**PLAN**  
 1/8" = 1'-0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY JINLI GUO / MINH TRAN	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 18**

BRIDGE NO.	53E0305
POST MILE	40.10

**RETAINING WALL NO. 2118**  
**STRUCTURE PLAN NO. 3**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2005	2313

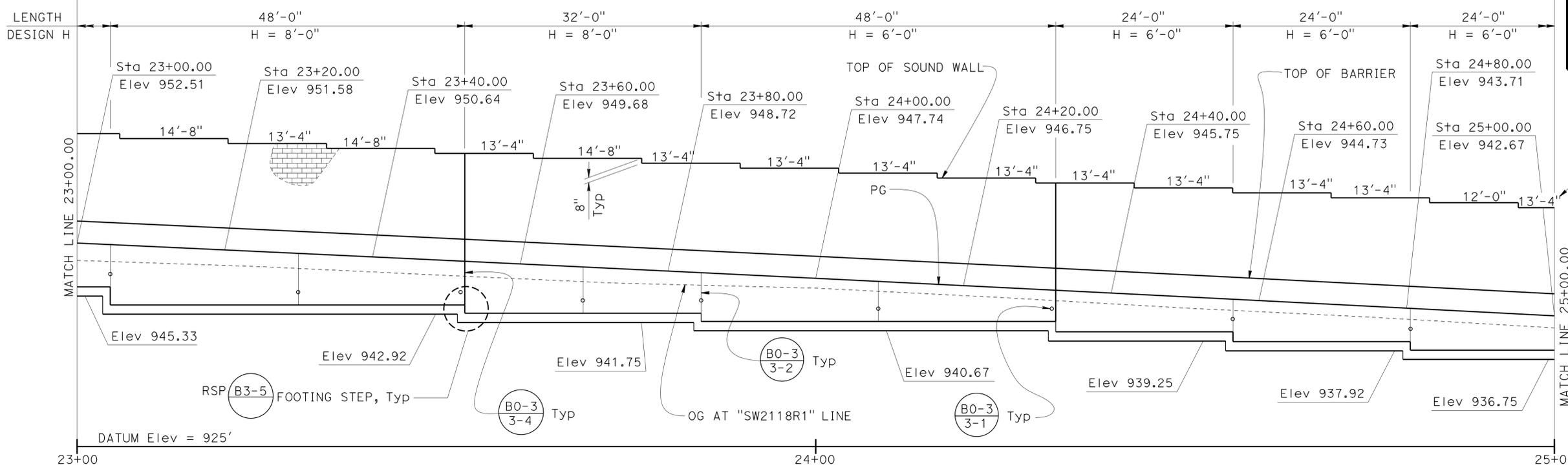
*Richard E. Schendel*  
REGISTERED CIVIL ENGINEER DATE 10/01/14

6-1-15  
PLANS APPROVAL DATE

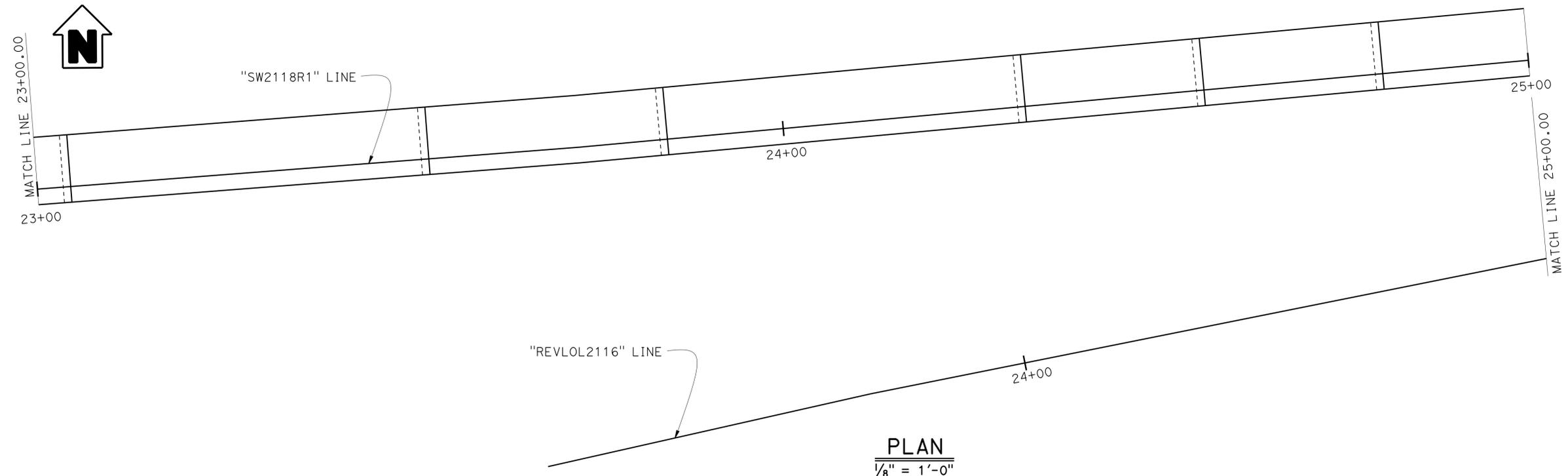
REGISTERED PROFESSIONAL ENGINEER  
RICHARD E. SCHEDEL  
No. C64259  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

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RETAINING WALL No. 2118, TOTAL LENGTH = 1057'-9<sup>3</sup>/<sub>8</sub>"  
(MEASURED ALONG "SW2118R1" LINE)



**DEVELOPED ELEVATION**  
1/8" = 1'-0"



**PLAN**  
1/8" = 1'-0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY JINLI GUO / MINH TRAN	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 18**

BRIDGE NO.	53E0305
POST MILE	40.10

**RETAINING WALL NO. 2118**  
**STRUCTURE PLAN NO. 4**



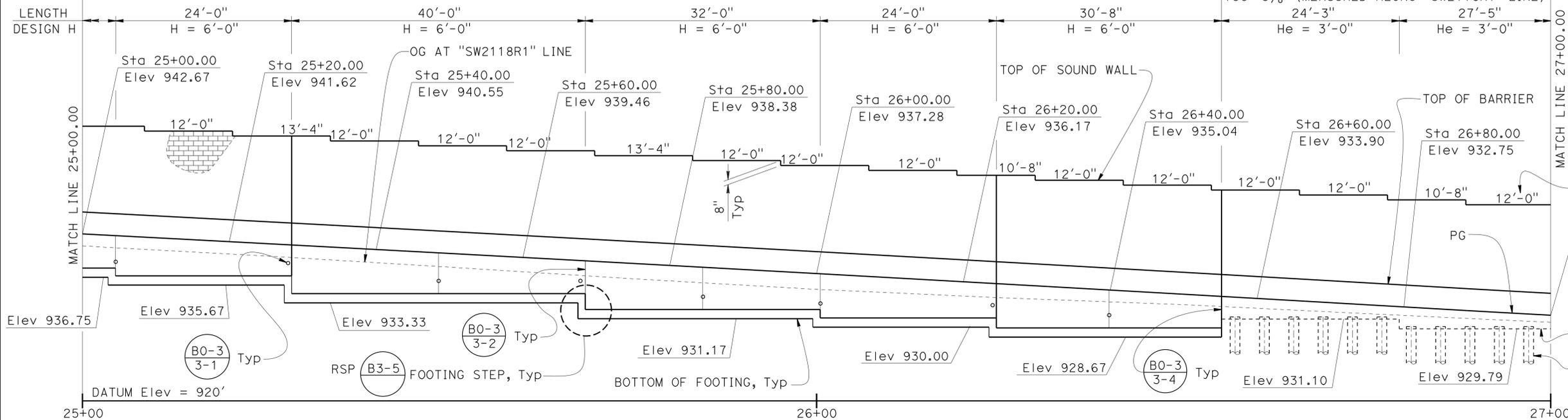
REVISION DATES	SHEET	OF
08/08/13 01/22/14	7	15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2006	2313

Richard E. Schendel  
 REGISTERED CIVIL ENGINEER  
 DATE 10/01/14  
 PLANS APPROVAL DATE 6-1-15  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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RETAINING WALL No. 2118, TOTAL LENGTH = 1057'-9<sup>3</sup>/<sub>8</sub>"  
 (MEASURED ALONG "SW2118R1" LINE)



NOTE:  
 Weakened planes are equally spaced in wall segments exceeding 24 ft in length.

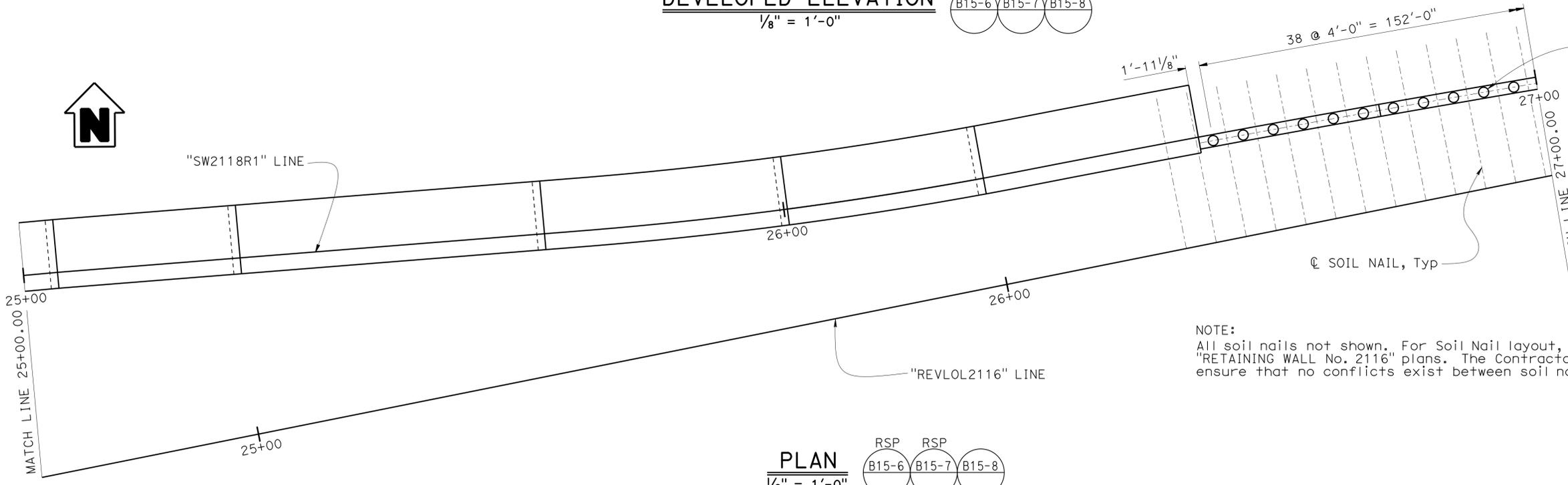
INDICATES Horiz DIMENSION BETWEEN SW STEPS, Typ

Sta 27+00.00  
 Elev 931.62

BOTTOM OF BARRIER, Typ  
 16" Ø CIDH PILE, Typ

**DEVELOPED ELEVATION**  
 $\frac{1}{8}'' = 1'-0''$

RSP B15-6 RSP B15-7 RSP B15-8



NOTE:  
 All soil nails not shown. For Soil Nail layout, see "RETAINING WALL No. 2116" plans. The Contractor is to ensure that no conflicts exist between soil nails and piles.

**PLAN**  
 $\frac{1}{8}'' = 1'-0''$

RSP B15-6 RSP B15-7 RSP B15-8

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY J. GUO/M. SCHOTT	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

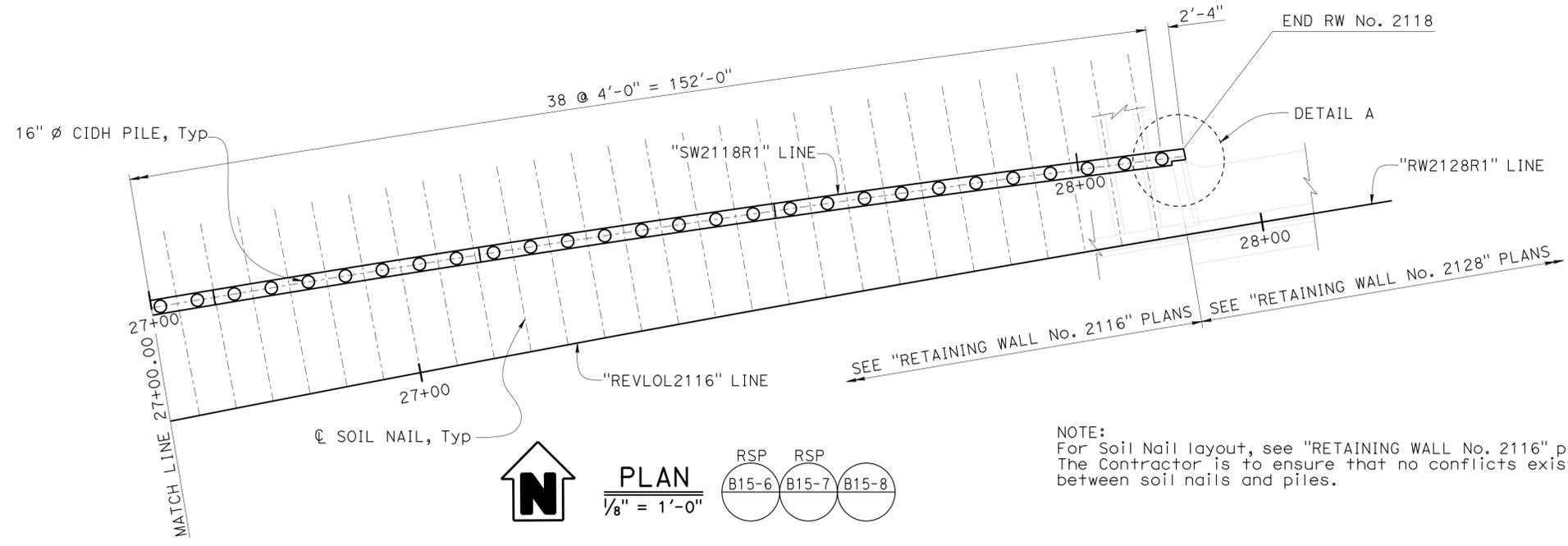
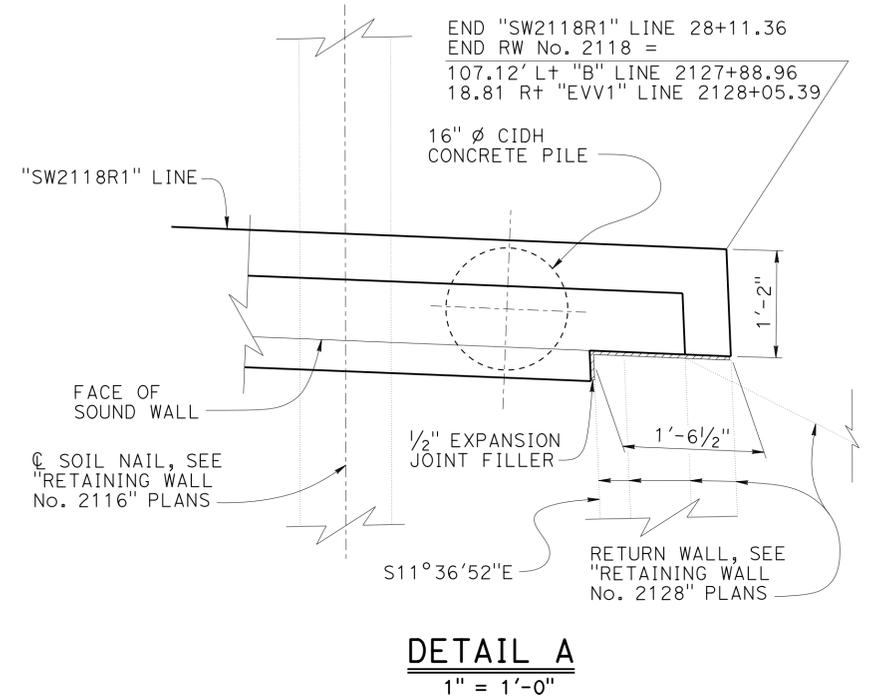
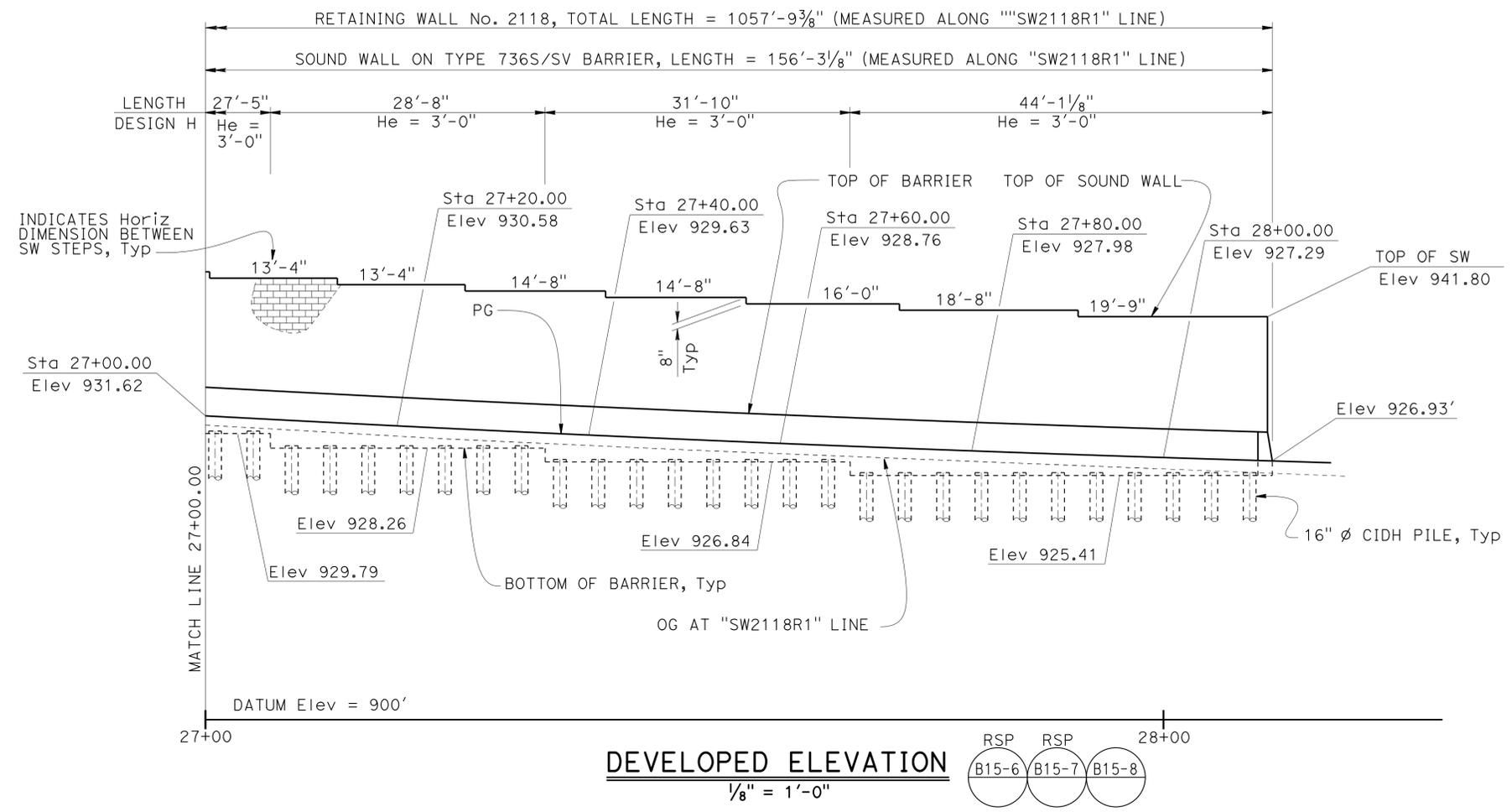
DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 18**

BRIDGE NO.	53E0305
POST MILE	40.10

**RETAINING WALL NO. 2118**  
**STRUCTURE PLAN NO. 5**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2007	2313

Richard E. Schendel  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 6-1-15  
 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA  
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DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 18</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2118</b> <b>STRUCTURE PLAN NO. 6</b>
DETAILS	BY J. GUO/M. SCHOTT	CHECKED GERRARD HIGHT			53E0305	
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT			40.10	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

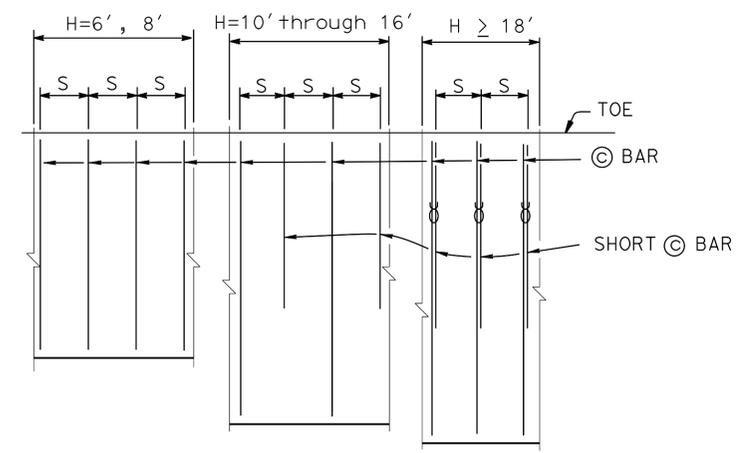
UNIT: 3603 PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1 DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
08/09/13 11/07/13 01/24/14 03/04/14	9	15

FILE => 53e0305-c-sp06.dgn

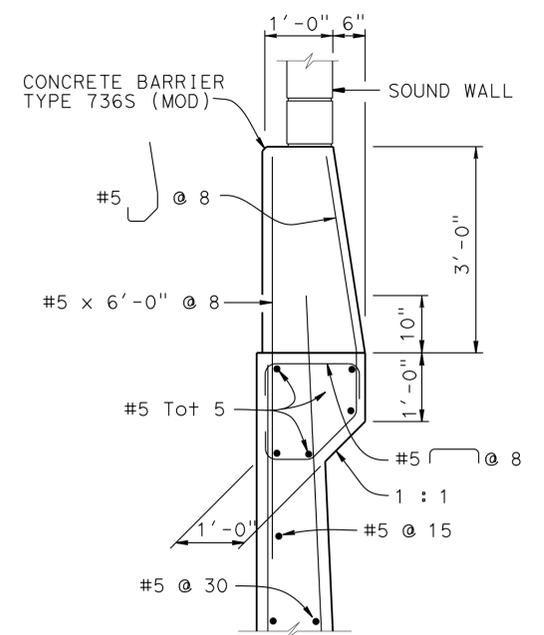
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2008	2313

10/01/14 DATE  
 REGISTERED CIVIL ENGINEER  
 RICHARD E. SCHEDEL  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

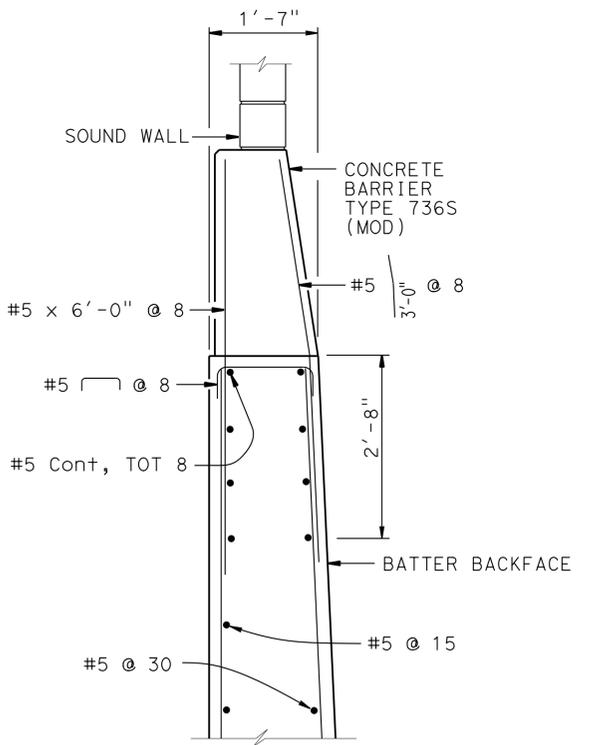


**PLAN**  
NO SCALE

NOTES:  
 Only © bars shown  
 "S" is © bar spacing, see table  
 Ⓞ : 2 bar bundle

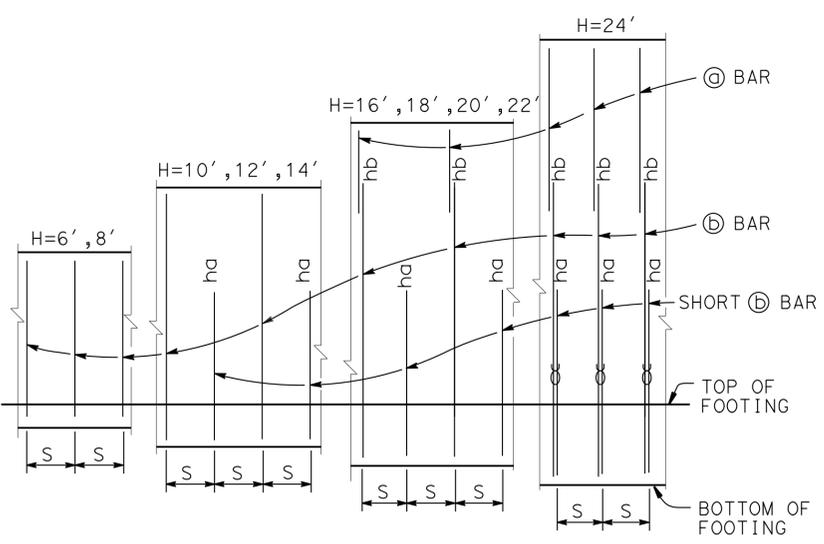


**DETAIL A**  
3/4" = 1'-0"



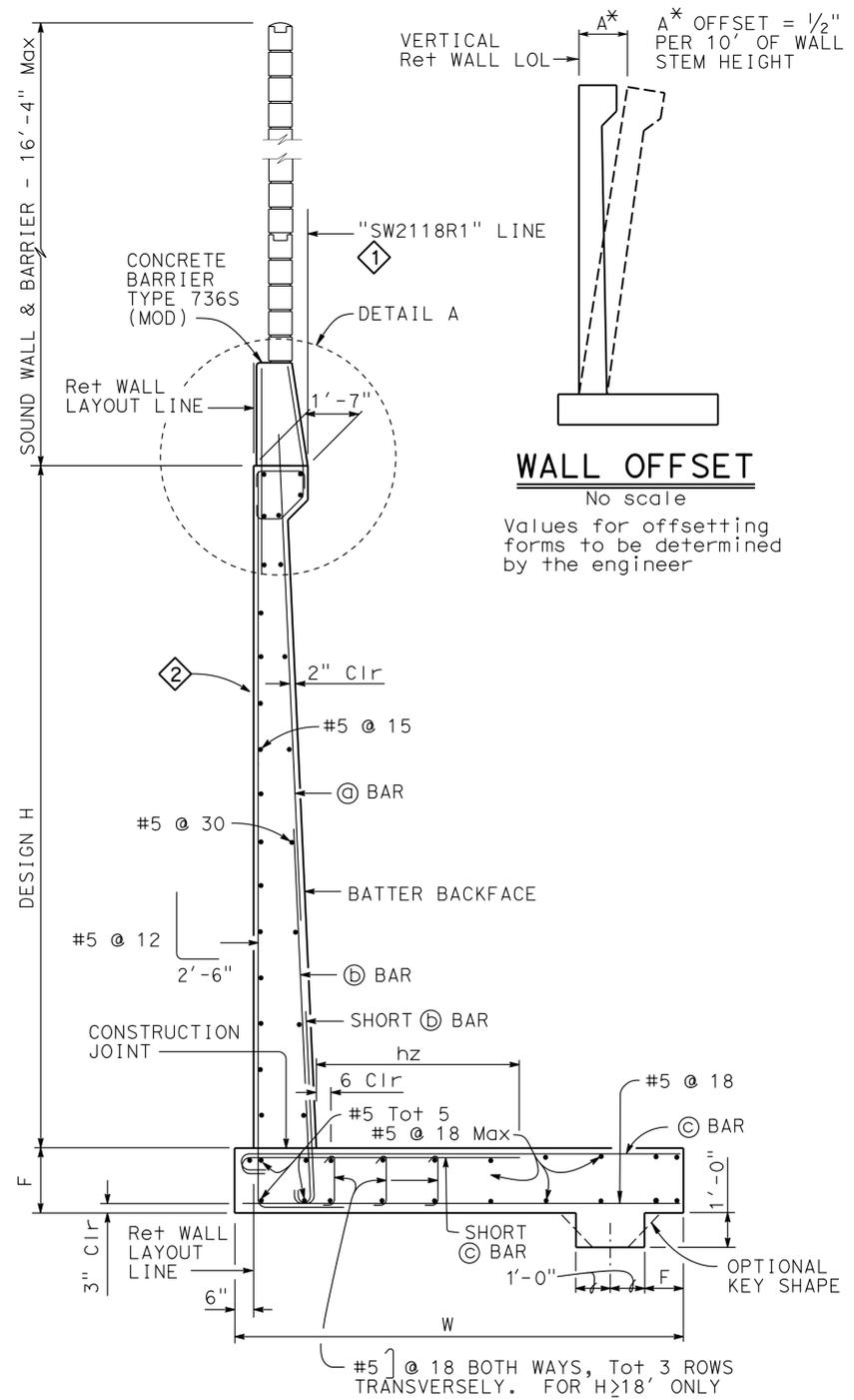
**OPTIONAL DETAIL A**  
3/4" = 1'-0"

For Details not shown, see "DETAIL A"



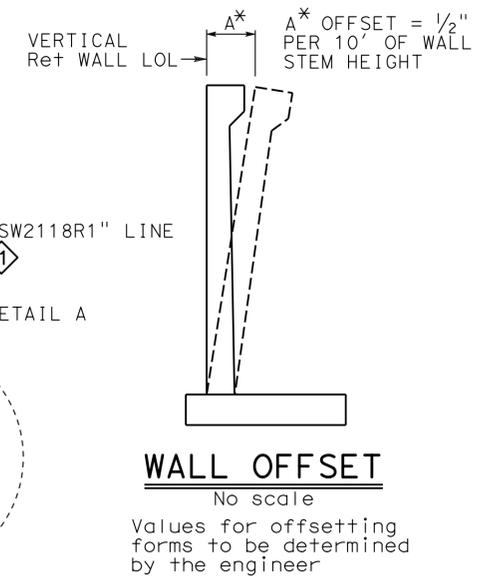
**ELEVATION**  
No scale

NOTES:  
 "ha" and "hb" above © bars indicate distance from top of footing to upper end of © bars, see table.  
 "S" is © bar spacing, see table.  
 Ⓞ : 2 bar bundle



**SPREAD FOOTING SECTION**  
3/8" = 1'-0"

NOTES:  
 1. For sound wall and retaining wall Architectural finish or texture see Details elsewhere in Project Plans  
 2. For Details not shown and Drainage Notes see B3-5 RSP  
 3. Footing cover, 1'-6" minimum.



**WALL OFFSET**  
No scale  
Values for offsetting forms to be determined by the engineer

**DESIGN DATA**

Design: AASHTO LRFD Bridge Design Specifications 4th edition with California Amendments  
 WS: 33 psf on Sound Wall and Barrier  
 LS: Varied surcharge on level ground surface  
 CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward  
 EQE: Mononabe-Okabe Method  
 $K_h = 0.3$   
 $K_v = 0.0$   
 Soil:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf  
 Reinforced Concrete:  $f'_c = 3600$  psi  
 $f_y = 60,000$  psi

Load Combinations and Limit States  
 Service I  $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$   
 Service II  $Q=1.00DC+1.00EV+1.00EH+1.00WS$   
 Strength I  $Q=aDC+\beta EV+1.50EH+1.75LS$   
 Strength III  $Q=aDC+\beta EV+1.50EH+1.40WS$   
 Strength V  $Q=aDC+\beta EV+1.50EH+1.35LS+0.40WS$   
 Extreme I  $Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$   
 Extreme II  $Q=1.00DC+1.00EV+1.00EH+1.00CT$

Where:  
 Q: Force Effects  
 a: 1.25 or 0.90, which ever Controls Design  
 B: 1.35 or 1.00, which ever Controls Design  
 DC: Dead Load of Structure Components  
 EV: Vertical Earth Fill Pressure  
 LS: Live Load Surcharge  
 EQE: Seismic Earth Pressure  
 EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design  
 WS: Wind Load on Sound Wall and Barrier  
 CT: Vehicular Collision Force

- For sound wall and barrier reinforcement details, see "SOUND WALL - MASONRY BLOCK WITH BARRIER ON RETAINING WALL" sheet.
- For H=6' through 14', extend © bars into Barrier for stem with haunch.
- For H≥16', extend © bars into Barrier for stem with haunch.

**SPECIAL DETAILS**

REVISED STANDARD DRAWING

FILE NO. **xs14-350-1**

APPROVAL DATE July 2011

- 1 Added reference line
- 2 Removed architectural details

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0305  
 POST MILE 40.10

**RETAINING WALL NO. 2118**  
**RETAINING WALL TYPE 5SWB-DETAILS NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2009	2313

*Richard E. Schendel*  
REGISTERED CIVIL ENGINEER DATE 10/01/14  
6-1-15  
PLANS APPROVAL DATE

**RICHARD E. SCHENDEL**  
No. C64259  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

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TABLE OF REINFORCING STEEL DIMENSIONS AND DATA											
DESIGN	H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'
W		9'-0"	9'-0"	9'-6"	10'-3"	11'-3"	12'-9"	14'-0"	15'-9"	17'-3"	18'-9"
F SPREAD FOOTING		1'-3"	1'-3"	1'-3"	1'-3"	1'-6"	1'-9"	2'-0"	2'-3"	2'-6"	2'-6"
STEM WITH HAUNCH, BATTER		0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12
STEM WITHOUT HAUNCH, BATTER		0	0	0	0	0	0	0	0	1/4:12	1/4:12
⊙ BARS							#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6
⊕ BARS		#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6
ha				5'-0"	6'-0"	7'-0"	7'-0"	6'-0"	7'-0"	6'-9"	7'-6"
hb							11'-6"	12'-0"	13'-3"	16'-0"	15'-6"
⊙ BARS		#7 @ 12	#8 @ 12	#7 @ 6	#9 @ 6	#9 @ 6	#11 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6
hz				3'-6"	4'-0"	4'-9"	7'-0"	5'-9"	6'-9"	7'-6"	9'-0"
SER I: B'(ft), q <sub>0</sub> (ksf)		7.5, 1.5	7.1, 1.9	7.2, 2.2	7.6, 2.5	8.3, 2.8	9.6, 3.0	10.6, 3.3	12.1, 3.6	13.3, 3.9	14.6, 4.1
STR, Ia: B'(ft), q <sub>0</sub> (ksf)		7.9, 2.9	7.4, 3.3	7.4, 3.7	7.8, 4.1	8.3, 4.5	9.5, 4.8	10.5, 5.0	11.9, 5.6	13.1, 6.0	14.3, 6.4
STR, Ib: B'(ft), q <sub>0</sub> (ksf)		6.0, 2.0	5.5, 2.5	5.6, 2.9	5.9, 3.3	6.4, 3.7	7.6, 3.9	8.7, 4.1	9.9, 4.5	11.0, 4.9	12.1, 5.2
STR, IIIa: B'(ft), q <sub>0</sub> (ksf)		6.0, 2.7	6.0, 3.0	6.4, 3.4	7.0, 3.7	7.8, 4.1	9.1, 4.4	10.2, 4.6	11.7, 5.1	12.9, 5.4	14.2, 5.7
STR, IIIb: B'(ft), q <sub>0</sub> (ksf)		5.3, 2.5	5.2, 2.8	5.5, 3.1	6.0, 3.3	6.7, 3.7	8.0, 3.9	8.9, 4.0	10.4, 4.4	11.5, 4.7	12.7, 5.0
STR, Va: B'(ft), q <sub>0</sub> (ksf)		7.5, 2.8	7.1, 3.2	7.2, 3.5	7.6, 3.9	8.2, 4.3	9.4, 4.6	10.4, 4.9	11.8, 5.3	13.0, 5.8	14.3, 6.1
STR, Vb: B'(ft), q <sub>0</sub> (ksf)		5.7, 2.2	5.3, 2.6	5.4, 3.0	5.8, 3.4	6.4, 3.8	7.7, 3.9	8.7, 4.0	10.0, 4.5	11.1, 4.9	12.2, 5.1
Ext I: B'(ft), q <sub>0</sub> (ksf)		4.0, 3.4	3.0, 4.7	2.5, 6.5	2.1, 9.2	1.8, 13.3	2.1, 14.4	2.3, 16.9	2.6, 17.2	2.9, 18.4	3.3, 19.3
Ext II: B'(ft), q <sub>0</sub> (ksf)		3.9, 3.3	4.3, 3.5	5.1, 3.5	6.0, 3.6	7.1, 3.7	8.7, 3.7	9.9, 3.8	11.9, 3.8	13.0, 4.3	14.4, 4.5

LEGEND:  
SER: service limit state  
STR: strength limit state  
EXT: extreme event limit state  
B': effective footing width (ft)  
q<sub>0</sub>: net bearing stress (ksf)  
q<sub>0</sub>: gross uniform bearing stress (ksf)  
⊕: 2 bar bundle

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES		BRIDGE NO. 53E0305		RETAINING WALL NO. 2118	
FILE NO. <b>xs14-350-2</b>	APPROVAL DATE July 2011	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		PROJECT NUMBER & PHASE: 0713000007-1		POST MILE 40.10		RETAINING WALL TYPE 5SWB-DETAILS NO. 2	
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))		0 1 2 3		UNIT: 3603 CONTRACT NO.: 07-1193U1		REVISION DATES		SHEET 11 OF 15	
				DISREGARD PRINTS BEARING EARLIER REVISION DATES		11/07/13 01/23/14			

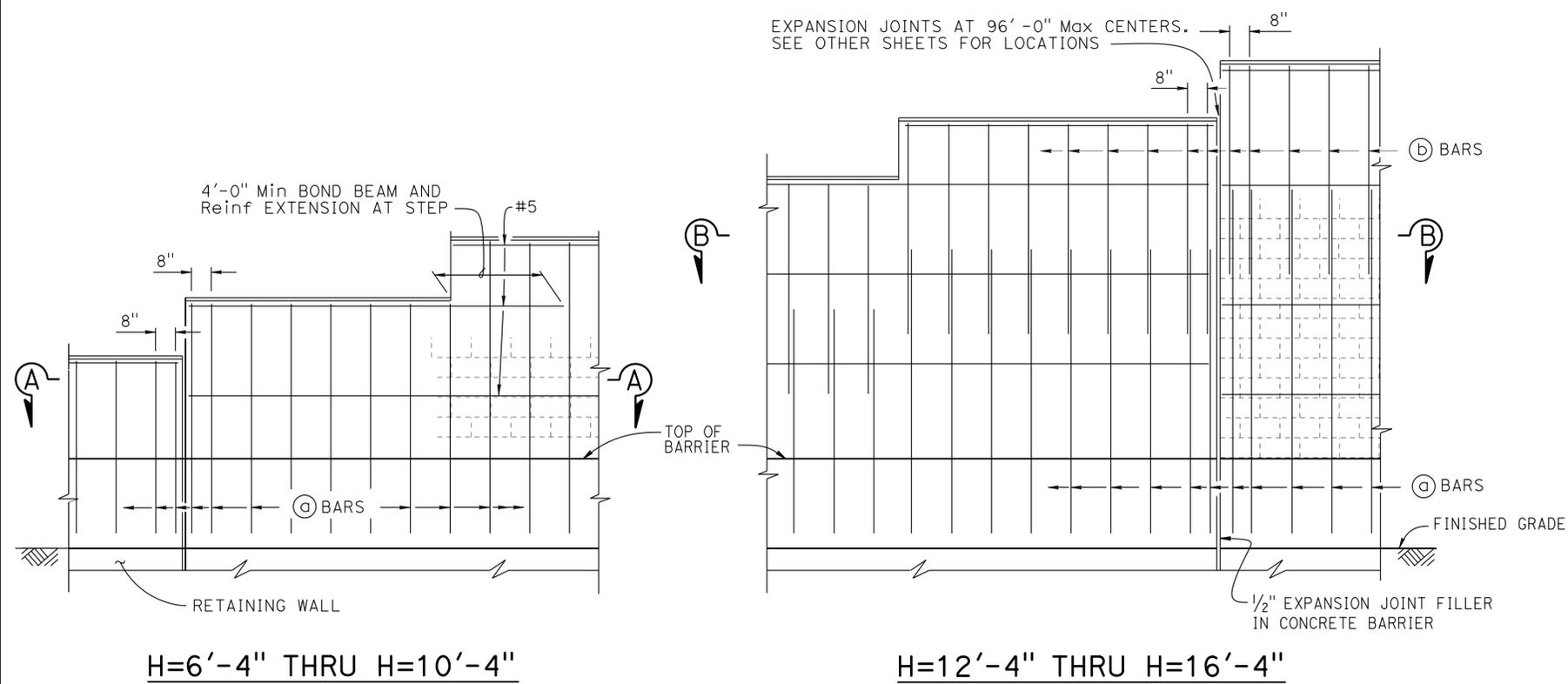
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TIME PLOTTED => 16:07  
USERNAME => s125624 DATE PLOTTED => 18-MAY-2015

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2010	2313

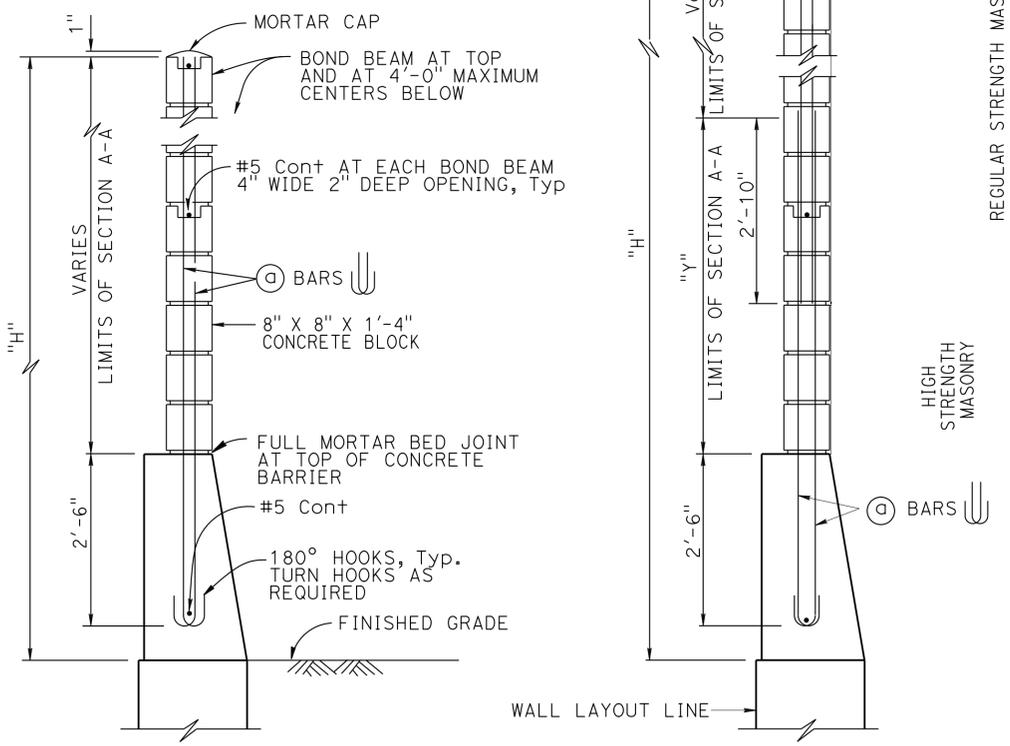
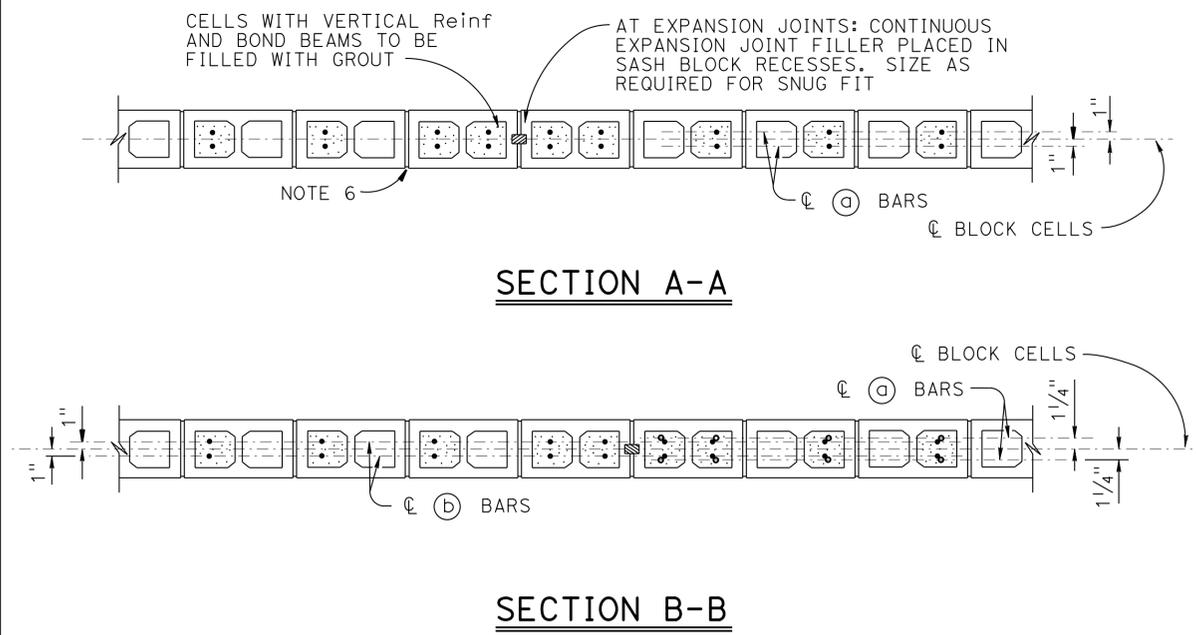
Richard E. Schendel  
 REGISTERED CIVIL ENGINEER  
 10/01/14 DATE  
 6-1-15 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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



MAXIMUM "H"	(a) BARS @ 1'-4" Max	(b) BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4	---	---	1500	1900	6'-4"
8'-4"	#4	---	---	1500	1900	8'-4"
10'-4"	#4	---	---	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3700	16'-4"

**PART ELEVATION**



**TYPICAL SECTION**

- NOTES:
- For details not shown, see "SOUND WALL - MASONRY BLOCK WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheet
  - Slope ground at traffic side of barrier to drain. Maximum slope ±10%
  - See STANDARD PLANS B15-9 for other details
  - For type of block and joint finish, see other sheets
  - When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement must be provided. A minimum of 2-9 gauge wire continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams
  - Horizontal joints must be tooled concave or may be weathered. Vertical joints must be tooled concave or may be raked
  - For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H"
  - Masonry strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
  - Concrete to be used for the barrier must contain not less than 590 pounds of cementitious material per cubic yard

NO SCALE

**RETAINING WALL NO. 2118**

**MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL**

**DETAILS NO. 1**

STANDARD DRAWING

FILE NO. **xs15-130-1**

APPROVAL DATE July 2012

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0305  
POST MILE 40.10

UNIT: 3603  
PROJECT NUMBER & PHASE: 0713000007-1  
CONTRACT NO.: 07-1193U1

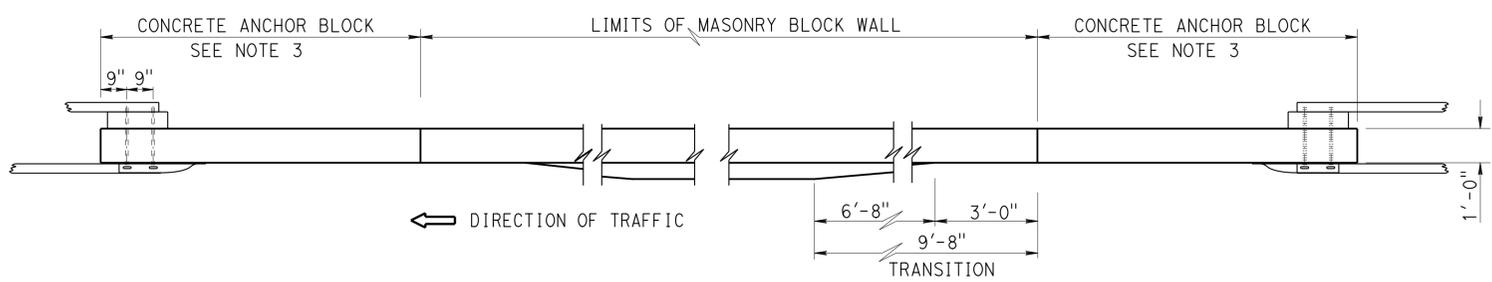
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
07-19-12 01-23-14	12	15

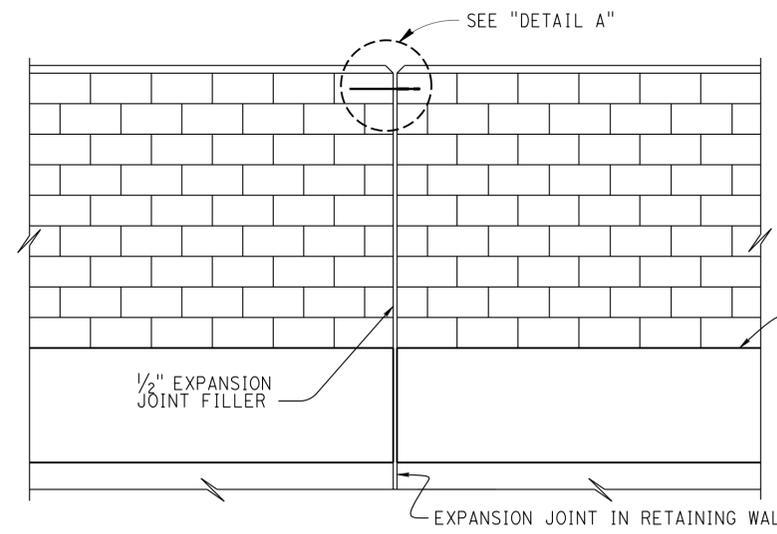
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2011	2313

10/01/14  
 REGISTERED CIVIL ENGINEER DATE  
 6-1-15  
 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.

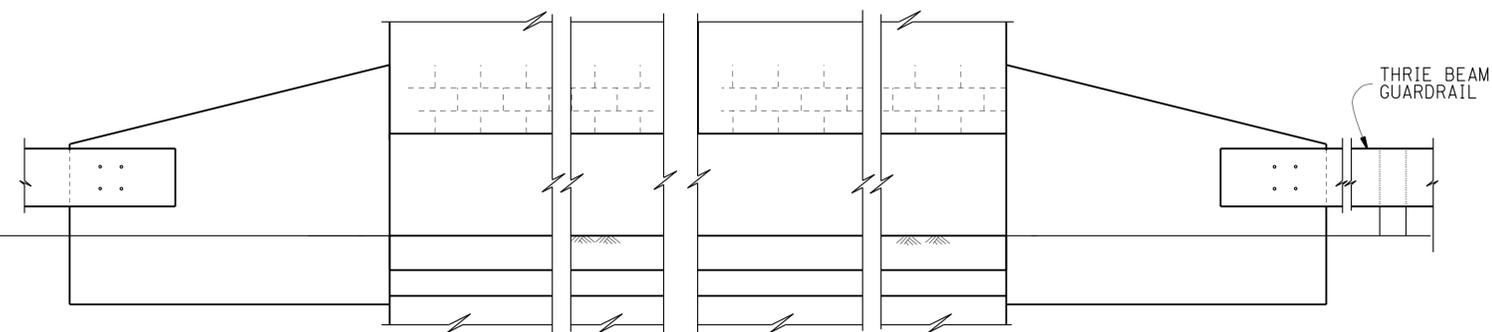
RICHARD E. SCHEDEL  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA



**PLAN**



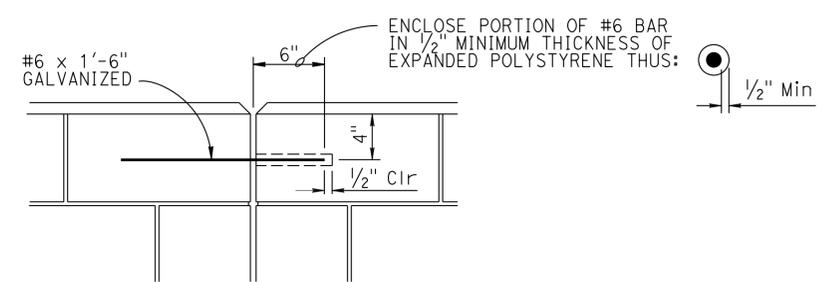
**ALIGNMENT KEY DETAIL**



**ELEVATION**

**METAL BEAM GUARDRAIL ANCHORAGE**

For details not shown, see STANDARD PLAN B11-56



**DETAIL A**

**DESIGN NOTES**

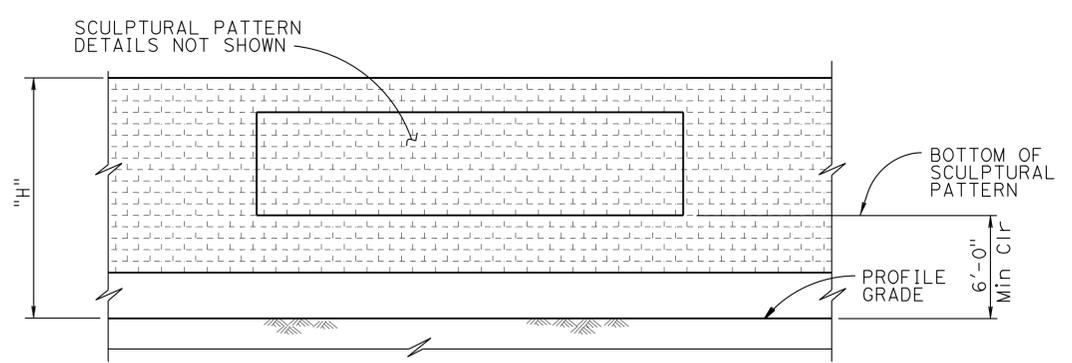
**DESIGN**  
Uniform Building Code, 1997 Edition and the Bridge Design Specifications

**DESIGN WIND LOAD**  
33 psf

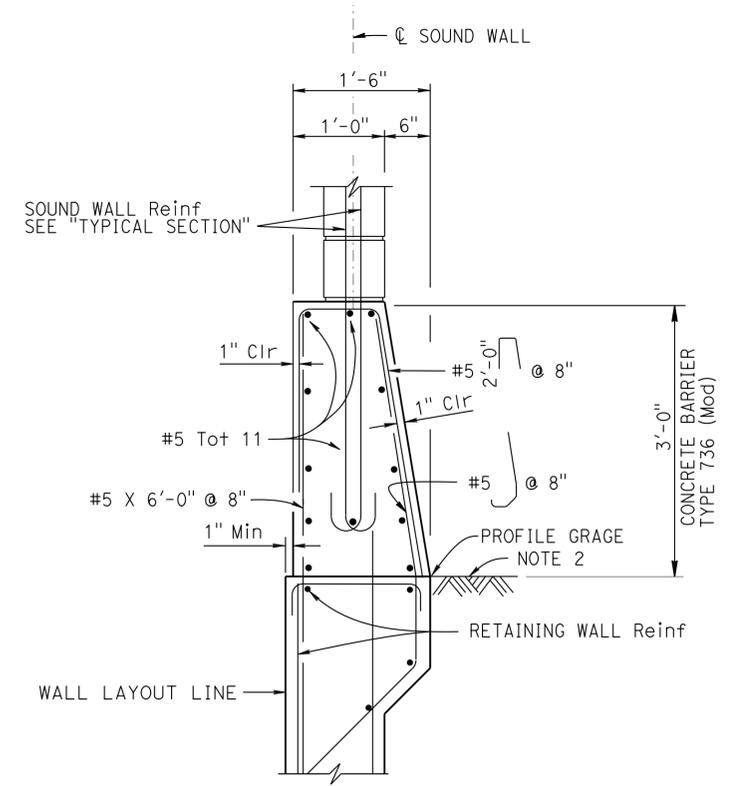
**DESIGN SEISMIC LOAD**  
0.57 Dead load

REINFORCED CONCRETE	REGULAR STRENGTH		HIGH STRENGTH	
	f'm	f <sub>b</sub>	f'm	f <sub>b</sub>
f'c = 3600 psi	f'm = 1500 psi	f <sub>b</sub> = 495 psi	f'm = 2000 psi	f <sub>b</sub> = 660 psi
f <sub>y</sub> = 60 ksi	f <sub>s</sub> = 24,000 psi	n = 25.8	f <sub>s</sub> = 24,000 psi	n = 19.3
			f <sub>s</sub> = 24,000 psi	n = 15.5

- NOTES:
- For details not shown, see RSP B15-6
  - Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See RSP B11-56, Note 3.
  - For Concrete Anchor Block and connection details, see "ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION DETAIL C" on STANDARD PLAN A77J3.



**CLEARANCE DETAIL**



**BARRIER SECTION**

NO SCALE

**RETAINING WALL NO. 2118**

**MASONRY BLOCK SOUND WALL W/BARRIER ON RETAINING WALL**

**DETAILS NO. 2**

STANDARD DRAWING

FILE NO. **xs15-130-2**

APPROVAL DATE September 2013

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0305  
POST MILE 40.10

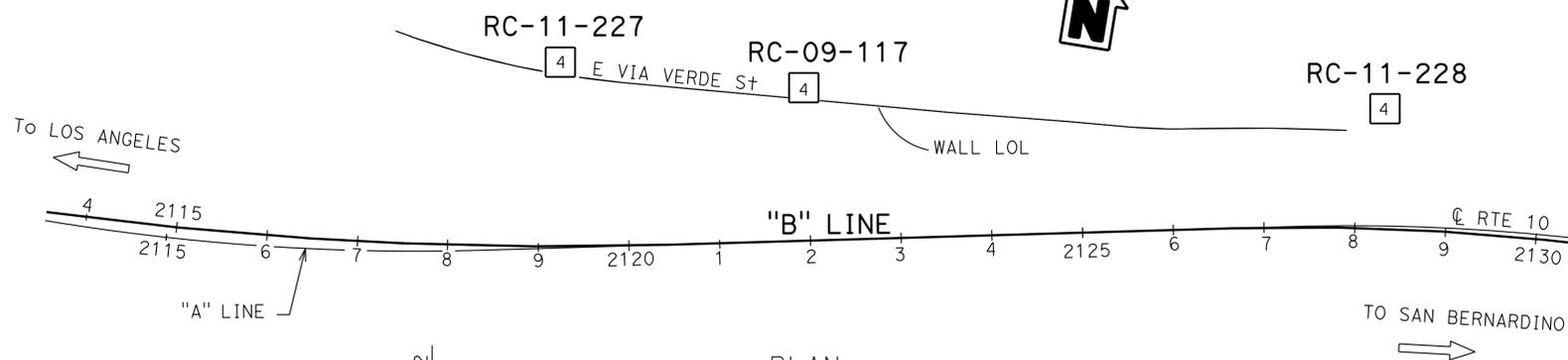
UNIT: 3603  
PROJECT NUMBER & PHASE: 071300007-1  
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
01-23-14 09/10/14	13	15

**BENCH MARK**

SUHV 4030 Elev 925.672  
 PK N. in Shoulder of Via Verde  
 W/B on-ramp, 91.76' Lt Sta 2131+39.29  
 "B" Line  
 N 1,847,599.540  
 E 6,609,748.432  
 NAVD 88



PLAN  
 1" = 100'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	2012	2313

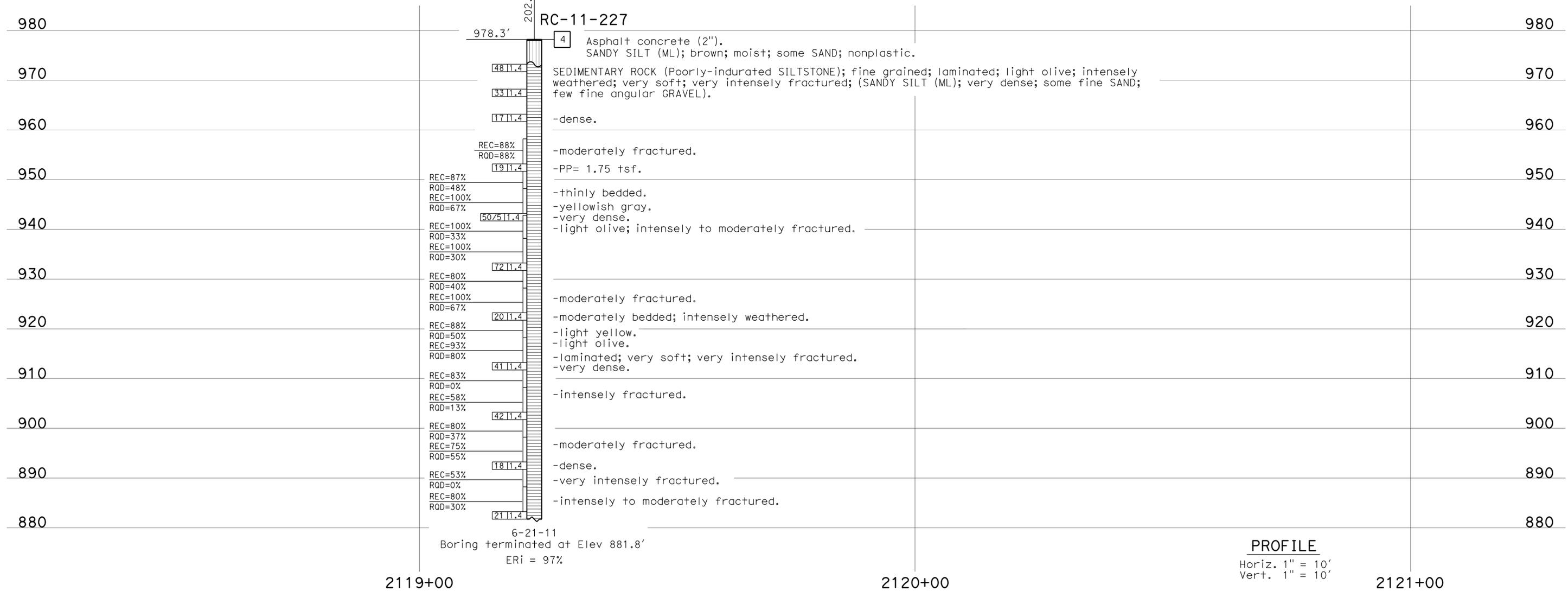
1-17-14  
 CERTIFIED ENGINEERING GEOLOGIST  
 Michael A. Salisbury  
 No. 2462  
 Exp. 2-28-15  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA

6-1-15  
 PLANS APPROVAL DATE

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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: Ground water not encountered during field investigation.



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

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RETAINING WALL NO. 2118</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen, I. G-Remmen		FIELD INVESTIGATION BY:		PROJECT NUMBER & PHASE: 0713000071		53E0305		LOG OF TEST BORINGS 1 OF 2	
NAME: D-J. Jang		CHECKED BY: H. Liu		M. Salisbury, H. P. Yang		CONTRACT NO.: 07-1193U1		POST MILE		REVISION DATES	
06-05-12		07-11-13		11-27-13		01-17-14		40.10		SHEET 14 OF 15	

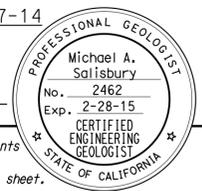
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 364.3

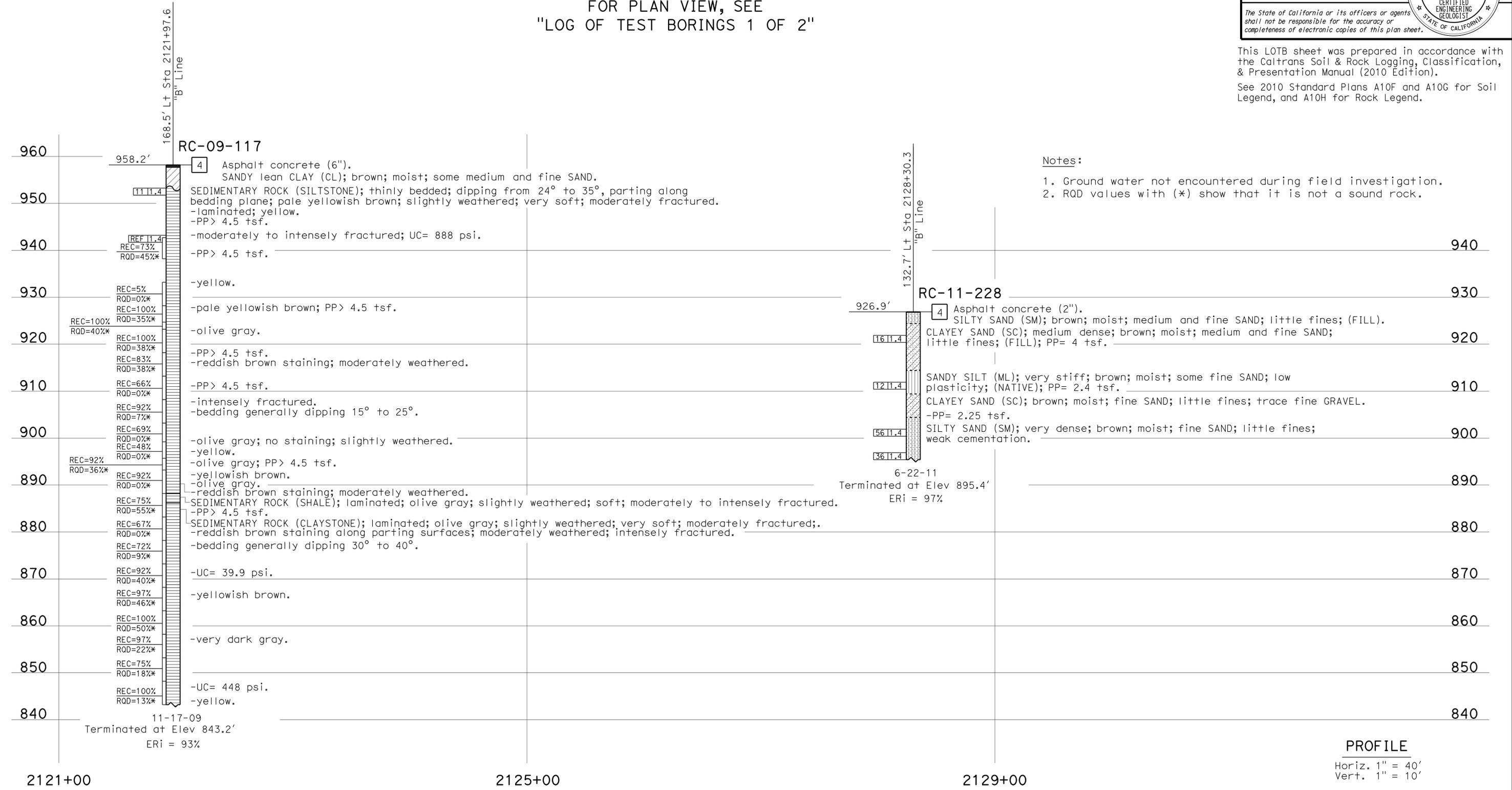
DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 53e0305-z-1of2.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	2013	2313
			1-17-14		
			CERTIFIED ENGINEERING GEOLOGIST		
			6-1-15		
			PLANS APPROVAL DATE		
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FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS 1 OF 2"



<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RETAINING WALL NO. 2118</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen		FIELD INVESTIGATION BY:		DEPARTMENT OF TRANSPORTATION		53E0305		<b>LOG OF TEST BORINGS 2 OF 2</b>	
NAME: D-J. Jang		CHECKED BY: H. Liu		M. Salisbury, H. P. Yang		DESIGN BRANCH 18		POST MILE			
								40.10			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 07130000071		CONTRACT NO.: 07-1193U1		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3						REVISION DATES	
										06-05-12 07-17-13 11-26-13 01-17-14	
										SHEET 15 OF 15	

USERNAME => s125624 DATE PLOTTED => 16-MAY-2015 TIME PLOTTED => 16:07

**STANDARD PLANS DATED 2010**

SHEET NO.	TITLE
RSP A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
A76A	CONCRETE BARRIER TYPE 60
BO-3	BRIDGE DETAILS
RSP B3-5	RETAINING WALL DETAILS No. 1
B3-6	RETAINING WALL DETAILS No. 2

**INDEX TO PLANS**

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	FOUNDATION PLAN
3.	STRUCTURE PLAN NO. 1
4.	STRUCTURE PLAN NO. 2
5.	RETURN WALL DETAILS
6.	RETAINING WALL TYPE 1SWB - DETAILS NO. 1
7.	RETAINING WALL TYPE 1SWB - DETAILS NO. 2
8.	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 1
9.	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2
10.	ARCHITECTURAL DETAILS
11.	LOG TEST BORINGS 1 OF 2
12.	LOG TEST BORINGS 2 OF 2

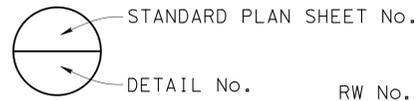
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2014	2313

Richard E. Schendel  
REGISTERED CIVIL ENGINEER DATE 10/01/14

6-1-15  
PLANS APPROVAL DATE

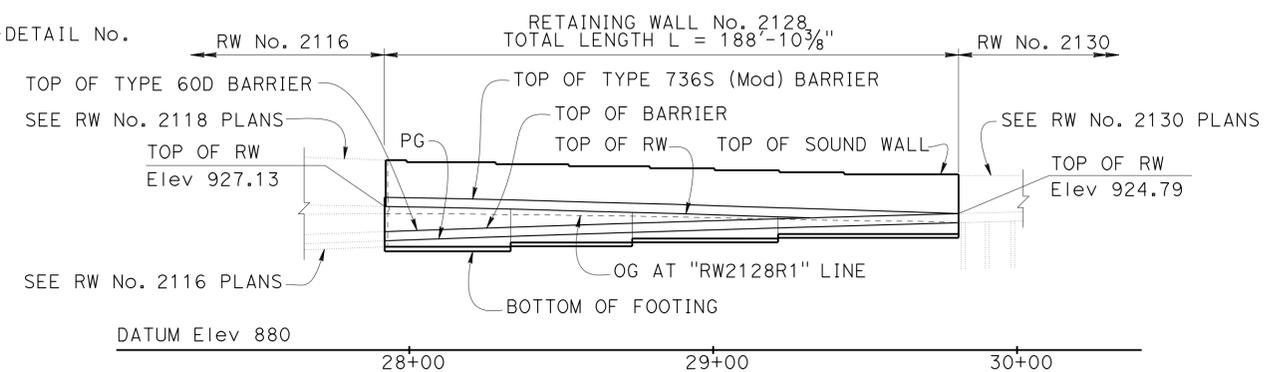
Richard E. Schendel  
REGISTERED PROFESSIONAL ENGINEER  
No. C64259  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

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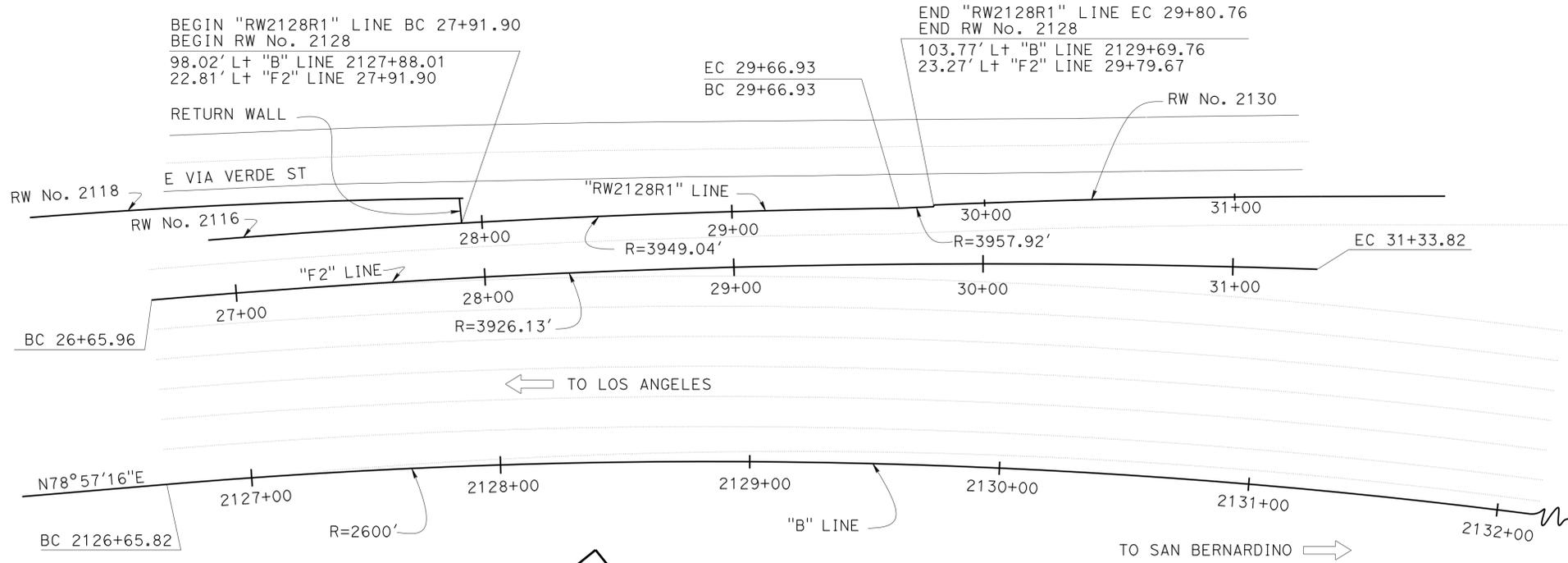


**QUANTITIES**

STRUCTURE EXCAVATION (RETAINING WALL)	473 CY
STRUCTURE BACKFILL (RETAINING WALL)	364 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	22 CY
STRUCTURAL CONCRETE, RETAINING WALL	172 CY
CONCRETE SURFACE TEXTURE	740 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	20,499 LB
SOUND WALL (MASONRY BLOCK)	2,241 SQFT
PREPARE AND STAIN CONCRETE	740 SQFT
CONCRETE BARRIER (TYPE 60D)	189 LF
CONCRETE BARRIER (TYPE 736S MODIFIED)	196 LF

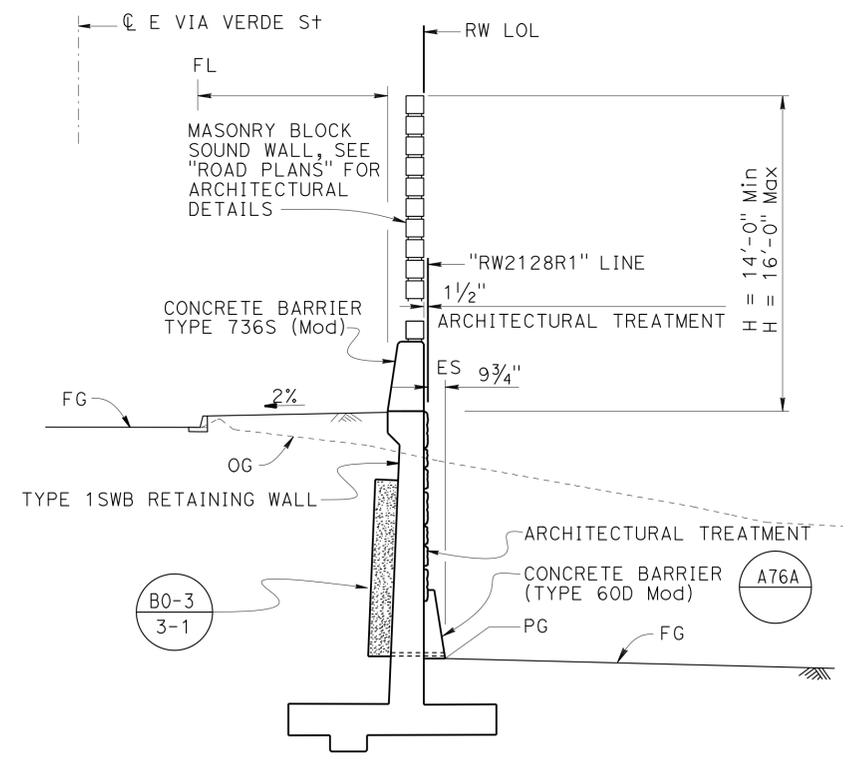


**DEVELOPED ELEVATION**  
1" = 30'



**PLAN**  
1" = 30'

CURVE DATA "F2" LINE	CURVE DATA "RW2128R1" LINE	CURVE DATA "B" LINE
R = 3926.13'	R = 3949.04'	R = 2600.00'
Δ = 6°49'40"	Δ = 2°32'22"	Δ = 30°34'09"
T = 234.21'	T = 87.53'	T = 710.53'
L = 467.86'	L = 175.03'	L = 1387.18'



**TYPICAL SECTION**  
1/4" = 1'-0"

MICHAEL POPE DESIGN ENGINEER	DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	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 18	BRIDGE NO.	53E0306	RETAINING WALL NO. 2128 GENERAL PLAN	
	DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT	LAYOUT	BY MINH TRAN			CHECKED GERRARD HIGHT	POST MILE		40.30
	QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	SPECIFICATIONS	BY XIAODONG CHEN			CHECKED XIAODONG CHEN	PLANS AND SPECS COMPARED		

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3603  
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
08/20/13 05/20/14 07/01/14 09/10/14	1	12

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

FILE => 53e0306-a-gpnew.dgn

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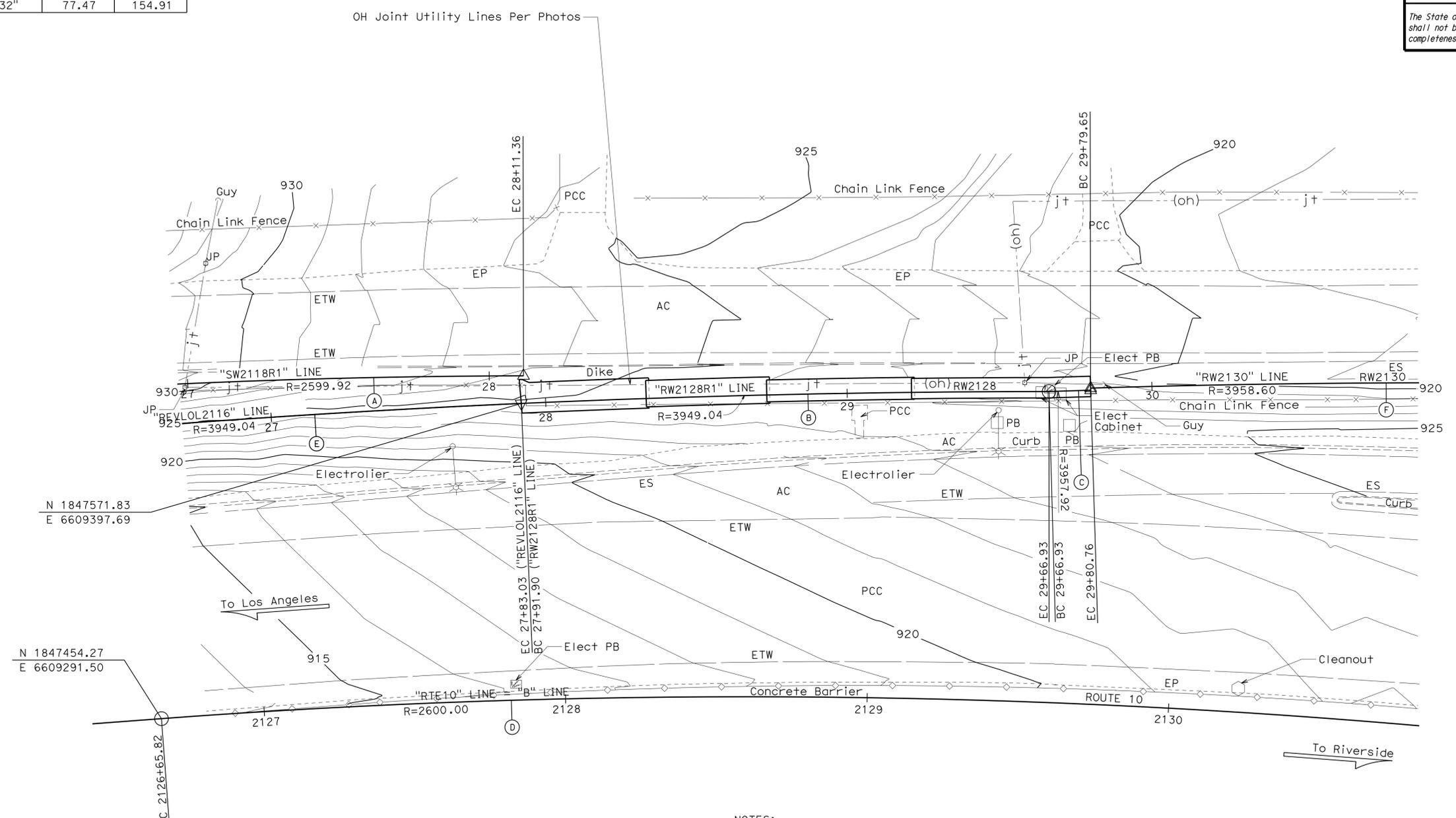
No.	R	Δ	T	L
(A)	2599.92	03°56'30"	89.47	178.87
(B)	3949.04	02°32'22"	87.53	175.03
(C)	3957.92	00°12'01"	6.91	13.83
(D)	2600.00	30°34'09"	710.53	1387.18
(E)	3949.04	01°43'18"	59.33	118.66
(F)	3958.60	02°14'32"	77.47	154.91

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2015	2313

*Richard E. Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 6-1-15  
 PLANS APPROVAL DATE

RICHARD E. SCHENDEL  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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- NOTES:
1. Foundations for walls other than RW No. 2128 are not shown.
  2. For bottom of footing elevations, see "STRUCTURE PLANS" sheets.

**SURVEY CONTROL**  
 PRHV 4029 (Not Shown On Plan)  
 Fnd 1" IP w/CT Plug  
 70.28 FT Lt. "A" Line Rte 10  
 Sta. 2135+79.53  
 N 1,847,539.18  
 E 6,610,211.48  
 Elev. = 930.99

PRHV 10 (Not Shown On Plan)  
 Fnd L&T w/LA Co Eng Washer  
 169.30 FT Rt. "RTE10" LINE Rte 10  
 Sta. 2136+50.57  
 N 1,847,291.22  
 E 6,610,239.06  
 Elev. = 914.10

PRELIMINARY INVESTIGATION SECTION				DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	RETAINING WALL NO. 2128						
SCALE	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: 02/2008		DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			53E0306	FOUNDATION PLAN		REVISION DATES	SHEET OF			
1"=20'	HORZ. DATUM NAD83	SURVEYED	BY District 04/2008	CHECKED	BY C.Fassett 01/2011	CHECKED			POST MILE			01/28/11	02/09/11	07/24/14	05/20/14	2
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY J.Martinez 01/2011	CHECKED	BY T.Schmalz 01/2011	CHECKED	40.30			DISREGARD PRINTS BEARING EARLIER REVISION DATES						
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 07	PROJECT NUMBER & PHASE: 07 1300 0007 1		CONTRACT NO.: 07-1193U1					

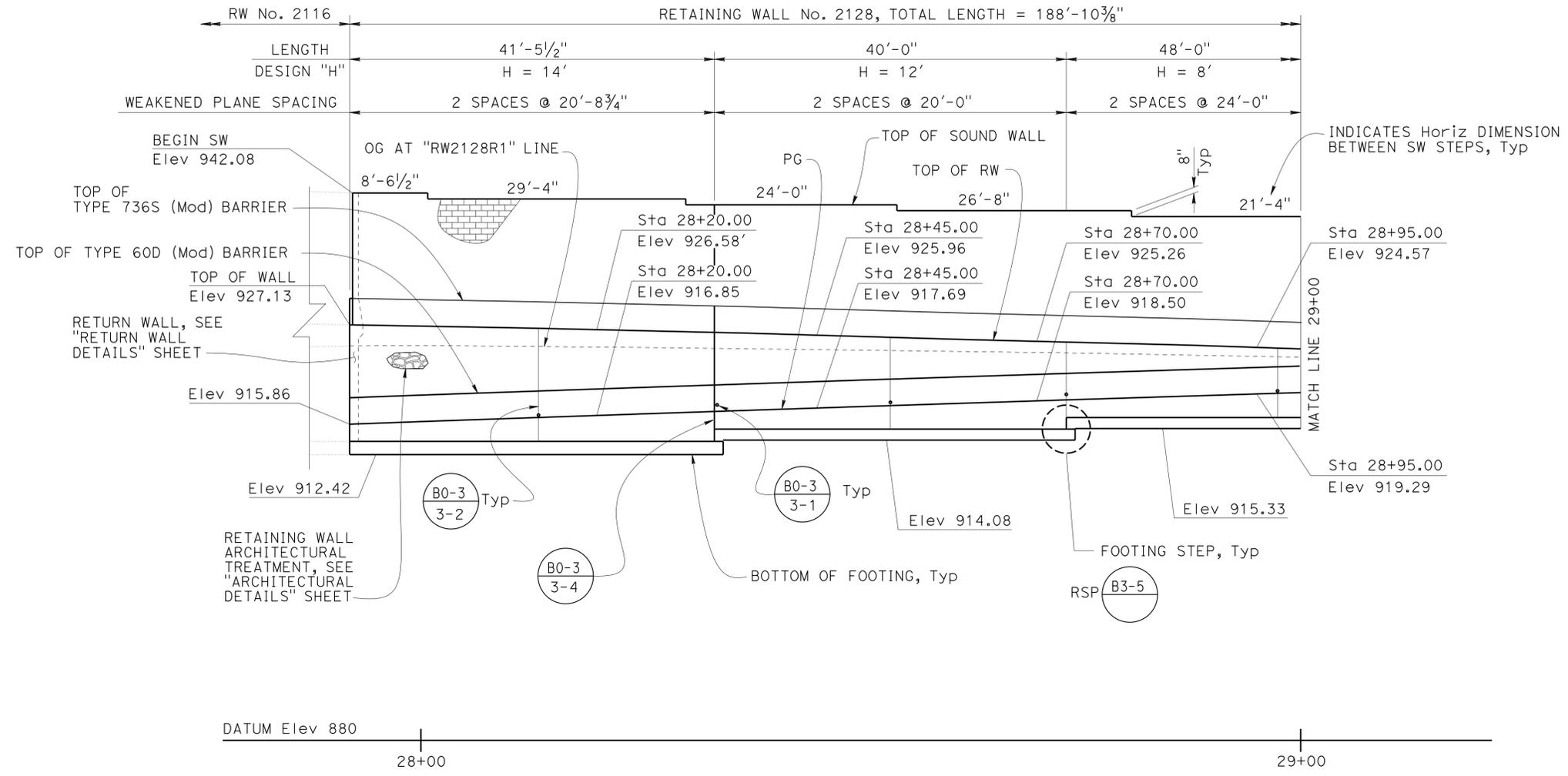
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2016	2313

*Richard E. Schendel*  
REGISTERED CIVIL ENGINEER DATE 10/01/14

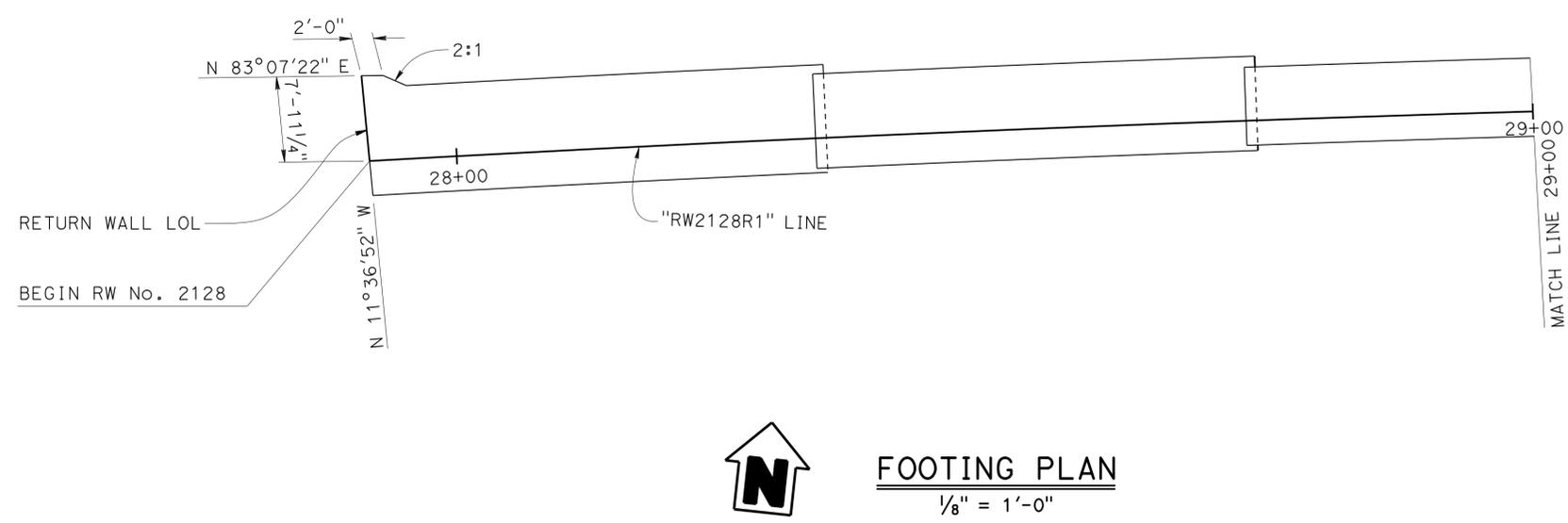
6-1-15  
PLANS APPROVAL DATE

RICHARD E. SCHEDEL  
No. C64259  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

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**DEVELOPED ELEVATION**  
1/8" = 1'-0"



**FOOTING PLAN**  
1/8" = 1'-0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 18**

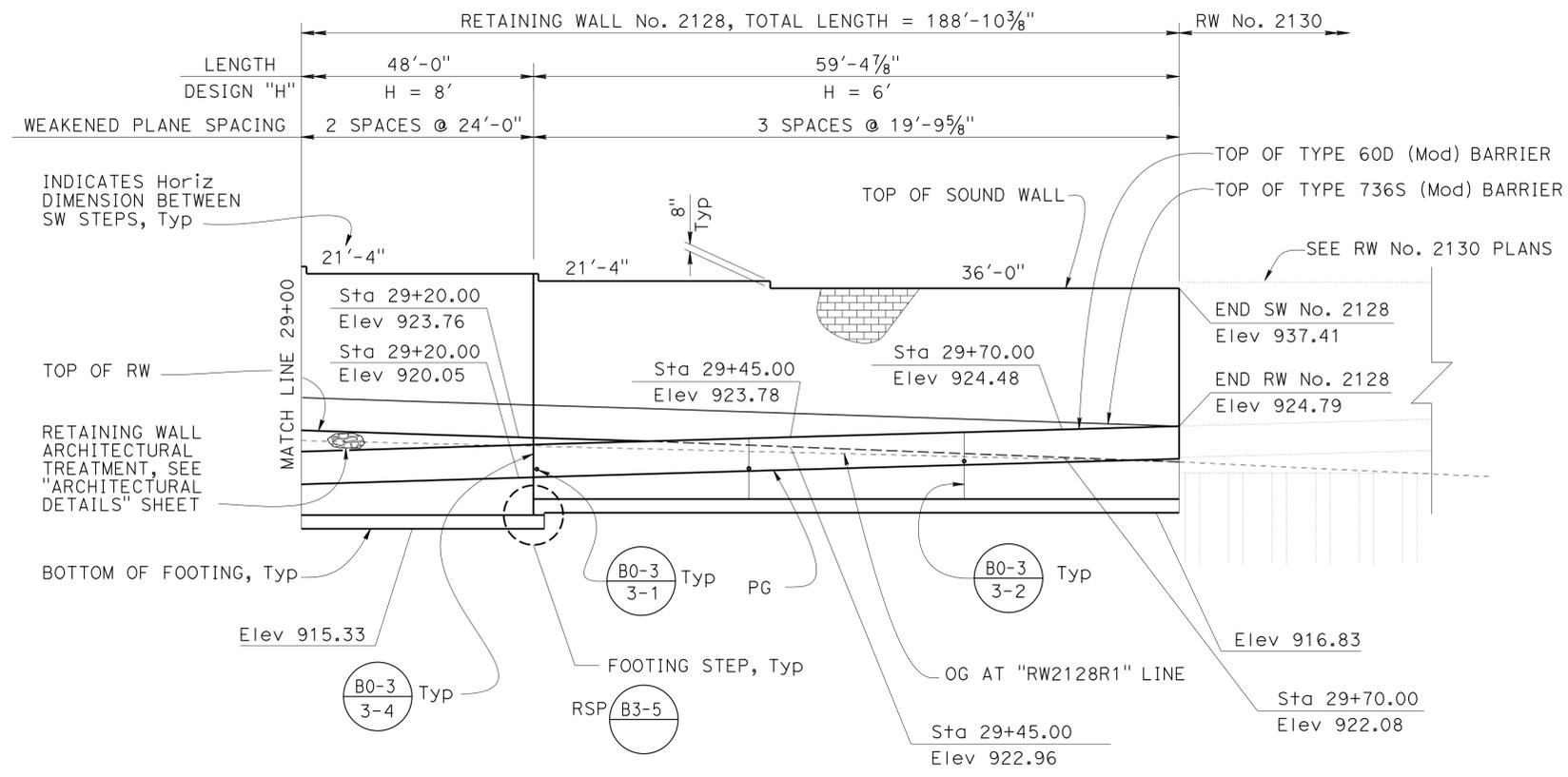
BRIDGE NO.	53E0306
POST MILE	40.30

**RETAINING WALL NO. 2128**  
**STRUCTURE PLAN NO. 1**

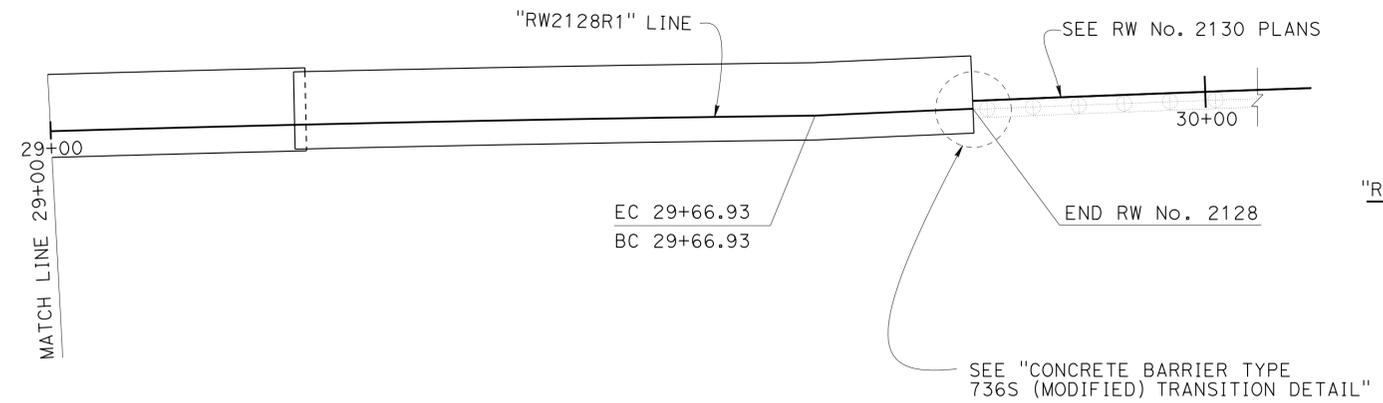
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2017	2313

*Richard Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 PLANS APPROVAL DATE 6-1-15  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

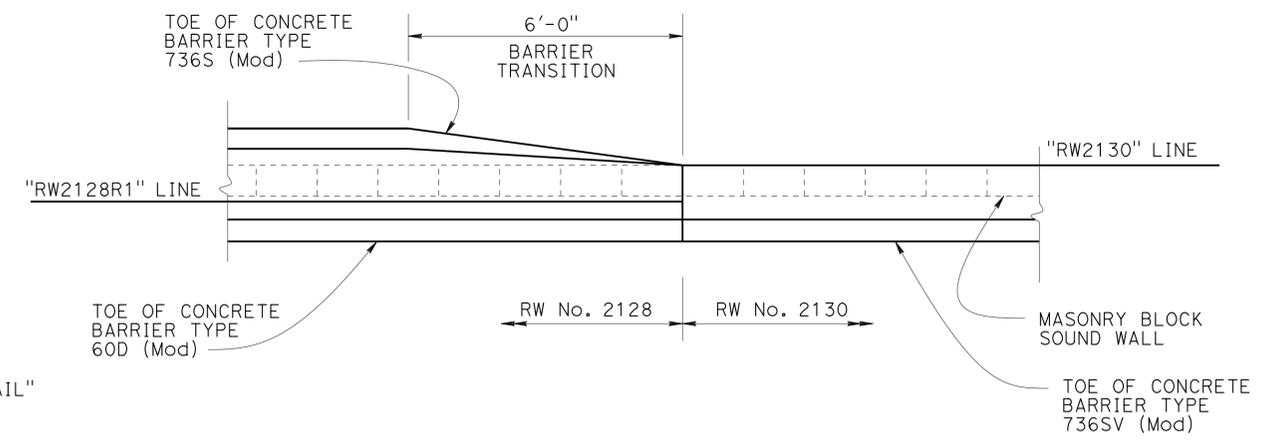
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**DEVELOPED ELEVATION**  
 1/8" = 1'-0"



**FOOTING PLAN**  
 1/8" = 1'-0"



**CONCRETE BARRIER TYPE 736S (MODIFIED) TRANSITION DETAIL**  
 1/2" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	RETAINING WALL NO. 2128 STRUCTURE PLAN NO. 2
	DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			53E0306	
	QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT			POST MILE 40.30	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3603 PROJECT NUMBER & PHASE: 0713000007 1	CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
					REVISION DATES		SHEET 4 OF 12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2018	2313

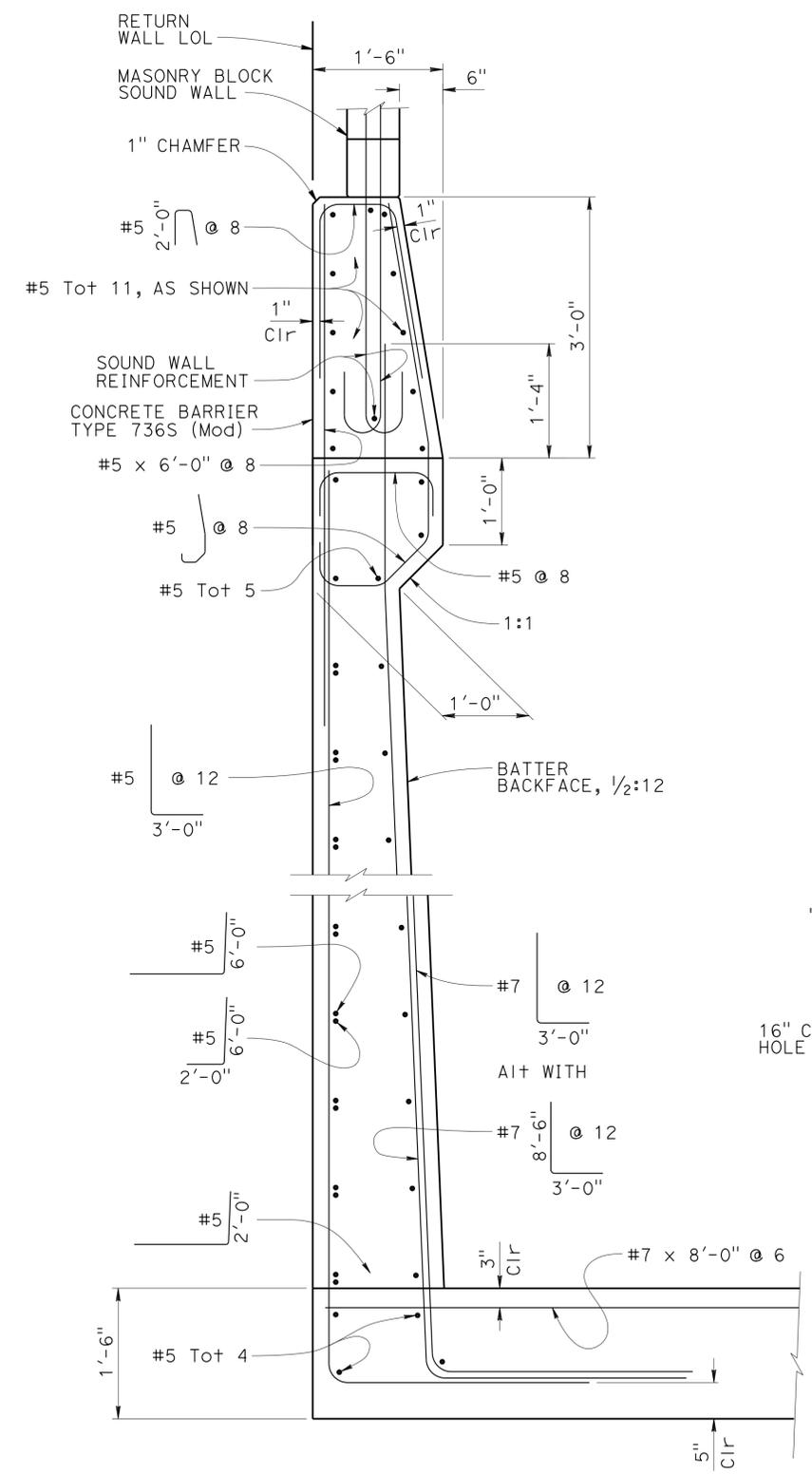
  

<i>Richard Schendel</i>		10/01/14
REGISTERED CIVIL ENGINEER		DATE
6-1-15		
PLANS APPROVAL DATE		

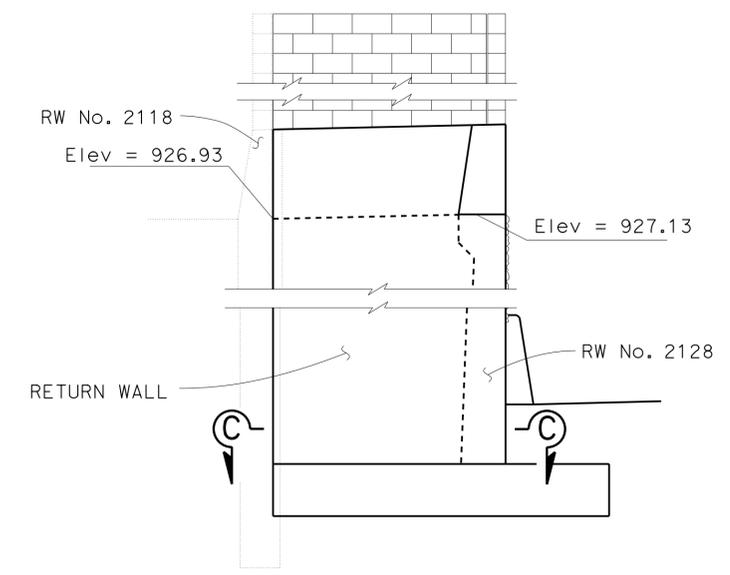
REGISTERED PROFESSIONAL ENGINEER	
RICHARD E. SCHEDEL	
No. C64259	
Exp. 6-30-15	
CIVIL	
STATE OF CALIFORNIA	

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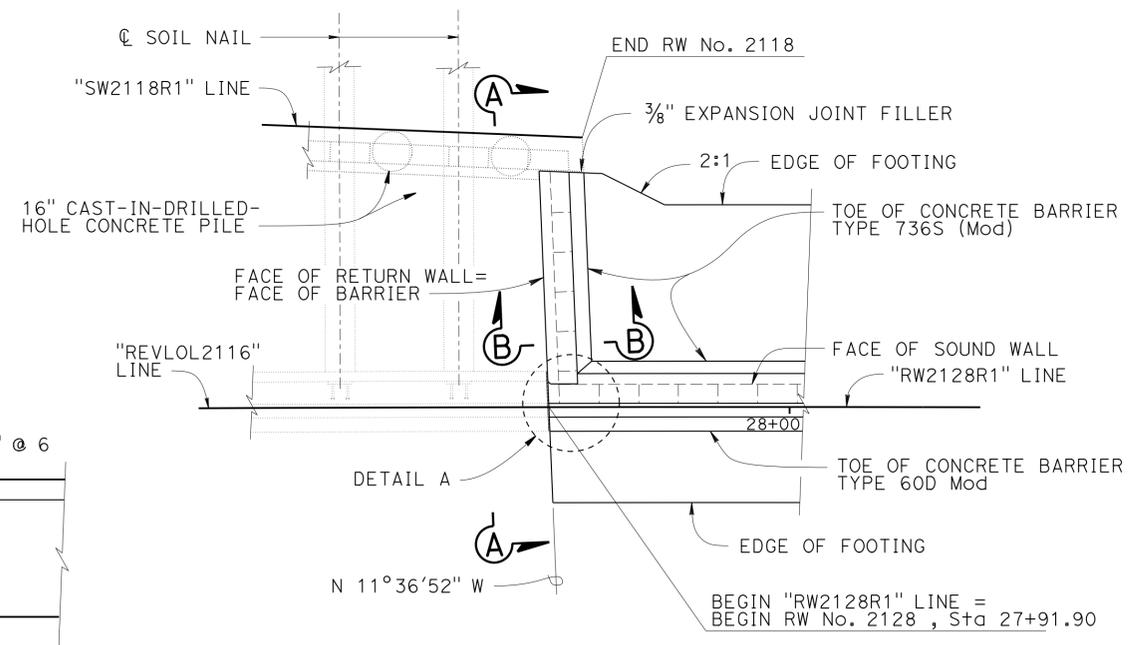


**SECTION B-B**  
1" = 1'-0"

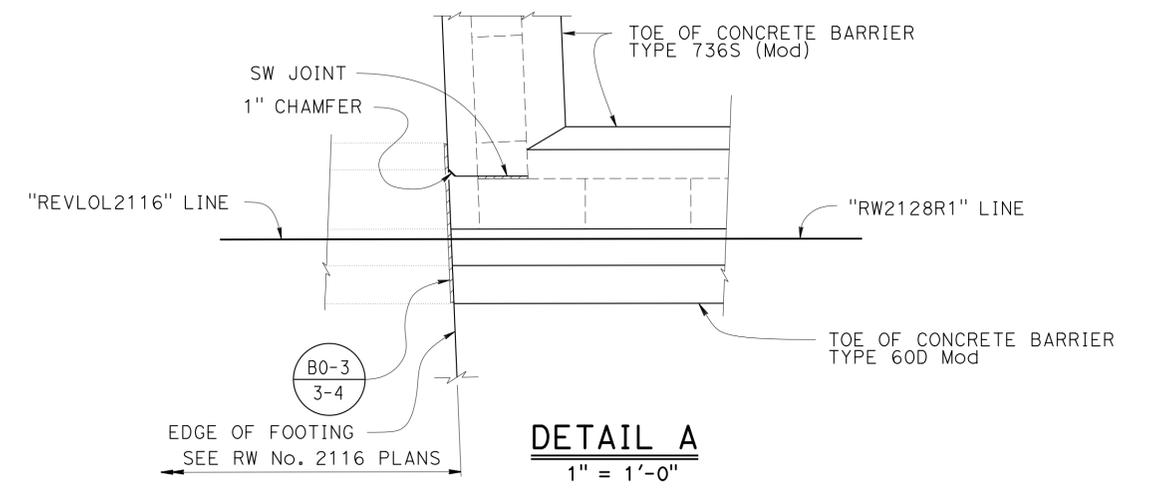
NOTE: All reinforcement not shown.



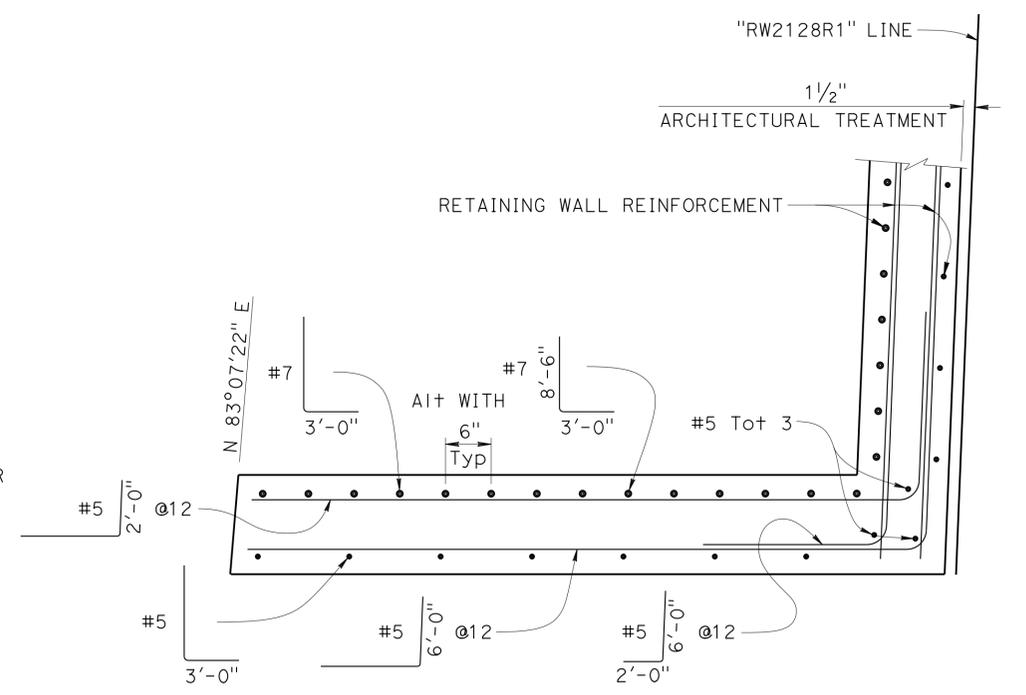
**ELEVATION A-A**  
3/8" = 1'-0"



**RETURN WALL PLAN**  
3/8" = 1'-0"



**DETAIL A**  
1" = 1'-0"



**SECTION C-C**  
1" = 1'-0"

DESIGN	BY	MATTHEW SCHOTT	CHECKED	GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53E0306	<b>RETAINING WALL NO. 2128</b>		
	DETAILS	BY	MATTHEW SCHOTT	CHECKED			GERRARD HIGHT	POST MILE		40.30	<b>RETURN WALL DETAILS</b>
	QUANTITIES	BY	DAVID P. MURRAY	CHECKED			GERRARD HIGHT	UNIT: 3603 PROJECT NUMBER & PHASE: 07 1300 0007 1		CONTRACT NO.: 07-1193U1	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3	FILE => 53e0306-d-returnwall.dgn	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
								01/15/14 01/29/14 03/07/14 05/21/14	5	12



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2020	2313

*Richard E. Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 6-1-15  
 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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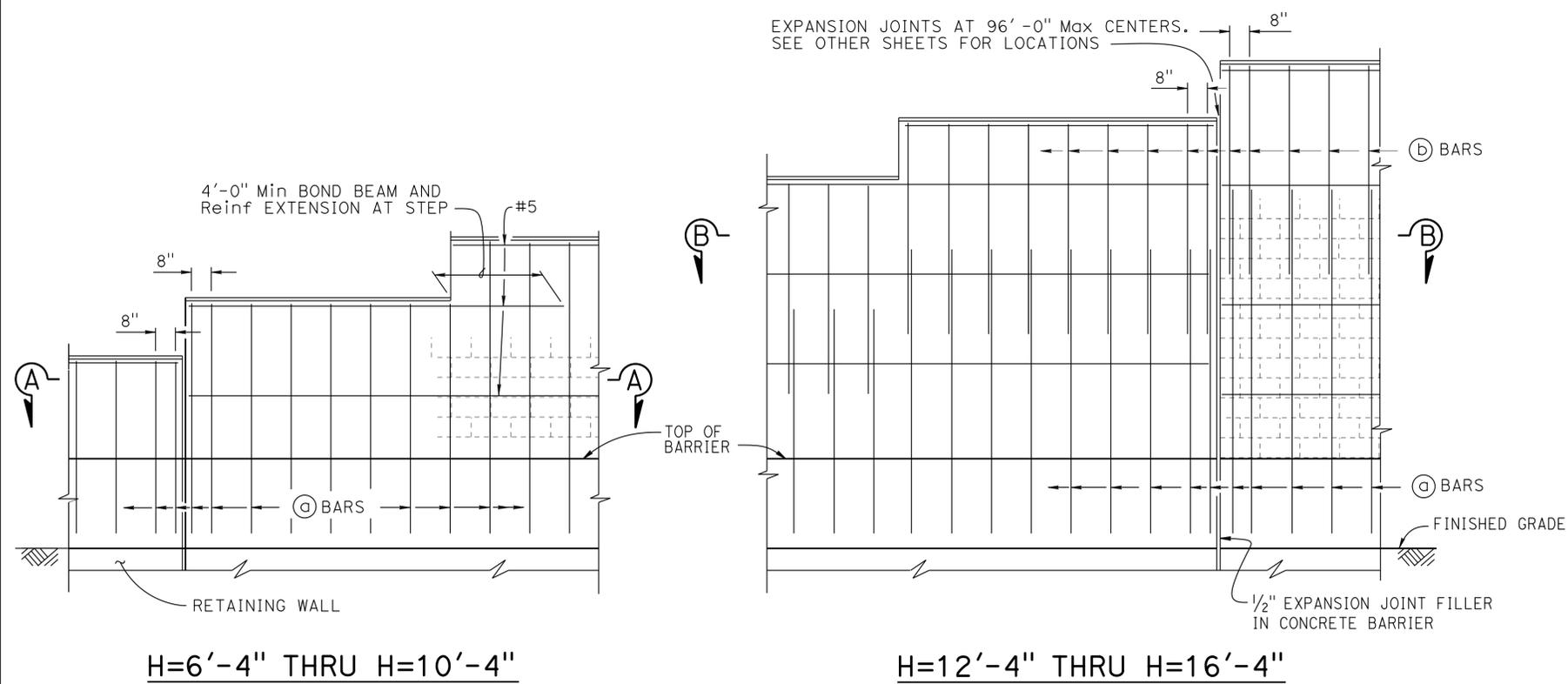
**TABLE OF REINFORCING STEEL DIMENSIONS AND DATA**

DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
W	6'-9"	7'-3"	8'-0"	8'-9"	10'-0"	11'-6"	12'-9"	14'-0"	15'-9"	18'-0"	19'-9"	21'-9"	23'-3"	25'-3"
C	2'-3"	2'-5"	2'-8"	2'-11"	3'-4"	3'-10"	4'-3"	4'-8"	5'-3"	6'-0"	6'-7"	7'-3"	7'-9"	8'-5"
B	4'-6"	4'-10"	5'-4"	5'-10"	6'-8"	7'-8"	8'-6"	9'-4"	10'-6"	12'-0"	13'-2"	14'-6"	15'-6"	16'-10"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"	1'-6"	1'-9"	1'-9"	2'-3"	2'-6"	2'-6"	2'-9"	3'-0"	3'-6"	3'-9"
STEM WITH HAUNCH, BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	3/4:12	7/8:12	1:12	1:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12	1/2:12	3/4:12	3/4:12	3/4:12
Ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 9	#9 @ 9
Ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6	#8 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
ha			5'-0"	6'-0"	7'-0"	7'-0"	6'-0"	7'-0"	7'-6"	7'-6"	8'-6"	9'-3"	15'-0"	11'-3"
hb						11'-6"	12'-0"	13'-3"	16'-0"	15'-6"	17'-6"	18'-9"	21'-0"	20'-9"
hy	2'-0"	2'-4"	1'-8"	2'-0"	2'-4"	2'-10"	2'-10"	3'-7"	3'-7"	4'-6"	5'-6"	2'-10"	4'-6"	5'-6"
hz			0	0	3'-1"	3'-7"	4'-0"	4'-5"	5'-0"	3'-0"	3'-0"	3'-6"	5'-6"	3'-0"
Ⓒ BARS	#6 @ 12	#7 @ 12	#5 @ 6	#6 @ 6	#7 @ 6	#8 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#11 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
SER I: B'(ft), q <sub>0</sub> (ksf)	5.9, 1.2	6.0, 1.4	6.5, 1.6	7.0, 1.8	8.1, 1.9	9.7, 2.0	11.0, 2.1	12.1, 2.3	13.8, 2.4	16.6, 2.4	18.5, 2.6	20.7, 2.7	22.1, 2.9	24.3, 3.0
STR Ia: B'(ft), q <sub>0</sub> (ksf)	6.3, 1.9	6.3, 2.3	6.7, 2.5	7.0, 2.9	8.1, 3.1	9.5, 3.2	10.8, 3.4	11.8, 3.7	13.4, 4.0	16.2, 4.0	18.0, 4.2	20.2, 4.4	21.5, 5.0	23.7, 5.0
STR, Ib: B'(ft), q <sub>0</sub> (ksf)	4.3, 1.6	4.1, 2.0	4.3, 2.4	4.5, 2.8	5.5, 2.9	6.9, 2.9	8.2, 3.0	9.0, 3.4	10.4, 3.5	13.2, 3.4	14.8, 3.5	16.9, 3.6	18.0, 3.9	20.1, 4.1
STR, IIIa: B'(ft), q <sub>0</sub> (ksf)	4.3, 2.1	4.8, 2.4	5.5, 2.5	6.2, 2.8	7.4, 2.9	9.1, 3.0	10.4, 3.2	11.5, 3.7	13.3, 3.7	16.1, 3.8	18.0, 4.0	20.3, 4.2	21.6, 4.6	23.8, 4.9
STR, IIb: B'(ft), q <sub>0</sub> (ksf)	3.2, 2.1	3.6, 2.3	4.2, 2.4	4.7, 2.6	5.9, 2.7	7.4, 2.7	8.6, 2.8	9.5, 3.1	11.2, 3.0	14.0, 3.2	15.8, 3.3	17.9, 3.4	19.1, 3.7	21.2, 3.9
STR, Va: B'(ft), q <sub>0</sub> (ksf)	5.9, 2.0	5.9, 2.3	6.4, 2.6	6.8, 2.9	7.9, 3.1	9.4, 3.2	10.6, 3.4	11.7, 3.9	13.4, 3.9	16.1, 4.0	18.0, 4.2	20.2, 4.5	21.5, 4.9	23.7, 5.1
STR, Vb: B'(ft), q <sub>0</sub> (ksf)	3.8, 1.7	3.8, 2.1	4.2, 2.5	4.4, 2.8	5.5, 2.9	7.0, 2.9	8.2, 3.0	9.0, 3.3	10.5, 3.4	13.3, 3.3	15.0, 3.5	17.1, 3.6	18.2, 3.9	20.3, 4.0
Ext I: B'(ft), q <sub>0</sub> (ksf)	2.5, 2.8	2.0, 4.3	1.7, 6.4	1.2, 10.9	1.3, 13.3	1.7, 12.4	1.9, 13.2	1.9, 17.6	2.5, 15.0	4.5, 10.2	5.3, 10.0	6.6, 9.6	6.8, 10.8	8.1, 10.5
Ext II: B'(ft), q <sub>0</sub> (ksf)	1.4, 4.9	2.5, 3.5	3.8, 2.8	4.9, 2.7	6.6, 2.5	8.6, 2.5	10.1, 2.5	11.5, 2.6	13.5, 2.8	16.4, 2.8	18.4, 2.9	20.7, 3.1	22.1, 3.3	24.4, 3.5

**LEGEND:**  
 SER: service limit state  
 STR: strength limit state  
 EXT: extreme event limit state  
 B': effective footing width (ft)  
 q<sub>0</sub>: net bearing stress (ksf)  
 q<sub>g</sub>: gross uniform bearing stress (ksf)  
 ∅: 2 bar bundle

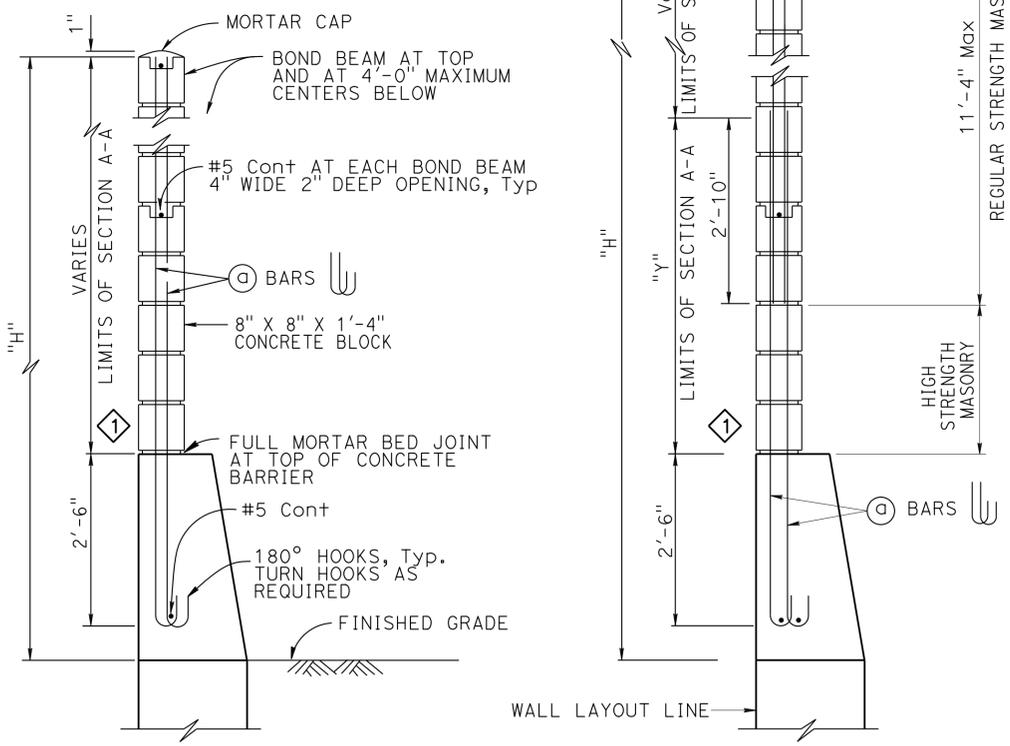
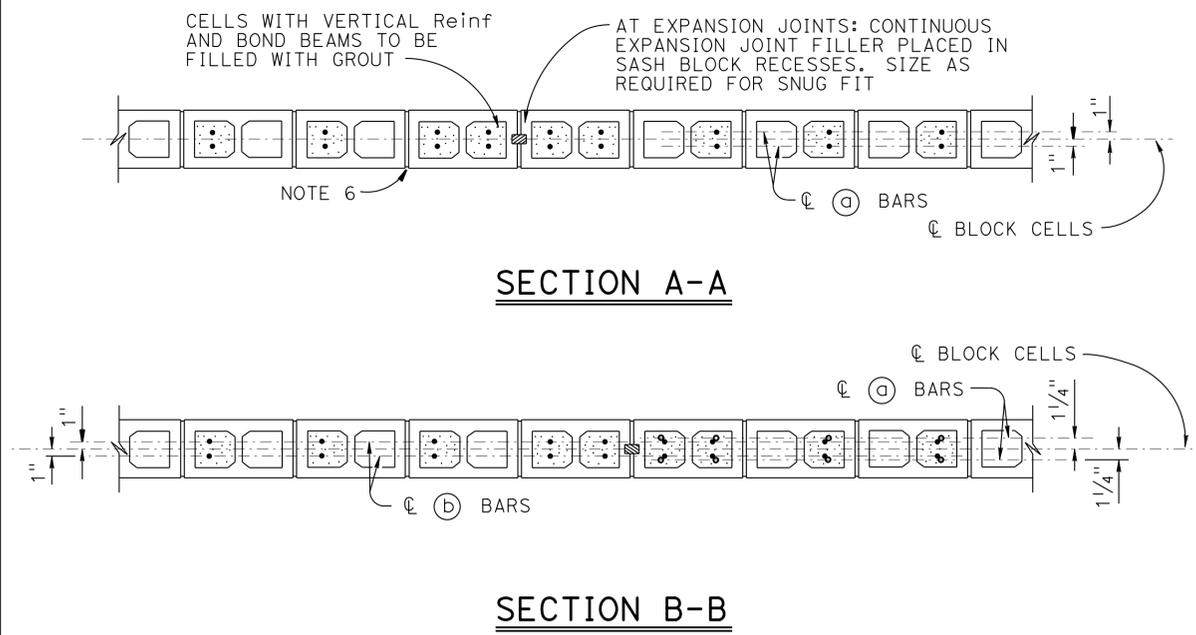
STANDARD DRAWING		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO. 53E0306		<b>RETAINING WALL NO. 2128</b>	
FILE NO. <b>xs14-220-2</b>	APPROVAL DATE <u>December 2012</u>	DEPARTMENT OF TRANSPORTATION		PROJECT NUMBER & PHASE: 0713000007 1		POST MILE 40.30		<b>RETAINING WALL TYPE 1SWB-DETAILS NO. 2</b>	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3603		CONTRACT NO.: 07-1193U1		REVISION DATES	
0 1 2 3				DISREGARD PRINTS BEARING EARLIER REVISION DATES		11/07/13 05/14/14		SHEET 7 OF 12	

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))  
FILE => 53e0306-m-rw\_1sw-dt02.dgn  
USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:08

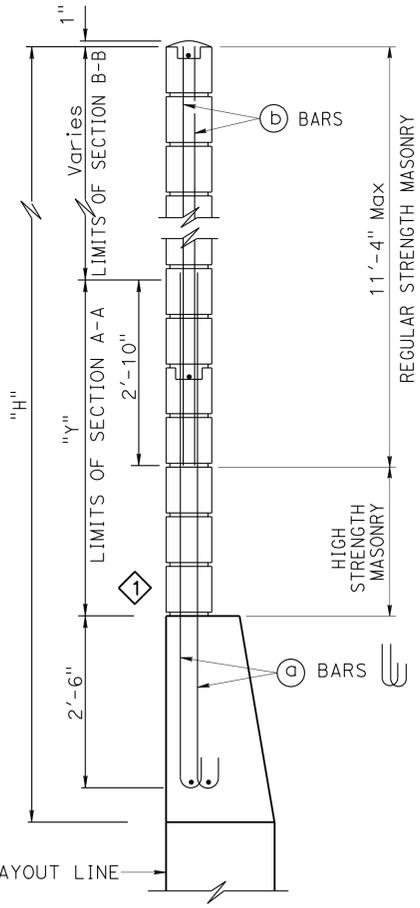


MAXIMUM "H"	(a) BARS @ 1'-4" Max	(b) BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4	---	---	1500	1900	6'-4"
8'-4"	#4	---	---	1500	1900	8'-4"
10'-4"	#4	---	---	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3700	16'-4"

**PART ELEVATION**



**TYPICAL SECTION**



- NOTES:
- For details not shown, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheet
  - Slope ground at traffic side of barrier to drain. Maximum slope  $\pm 10\%$
  - See STANDARD PLANS B15-9 for other details
  - For type of block and joint finish, see other sheets
  - When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement must be provided. A minimum of 2-9 gauge wire continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams
  - Horizontal joints must be tooled concave or may be weathered. Vertical joints must be tooled concave or may be raked
  - For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H"
  - Masonry strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
  - Concrete to be used for the barrier must contain not less than 590 pounds of cementitious material per cubic yard

**SPECIAL DETAILS**

NO SCALE

**RETAINING WALL NO. 2128**

**MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL**

**DETAILS NO. 1**

REVISED STANDARD DRAWING

FILE NO. **xs15-130-1**

APPROVAL DATE July 2012

- 1 Changed barrier width and sound wall location
- 2 Revised

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

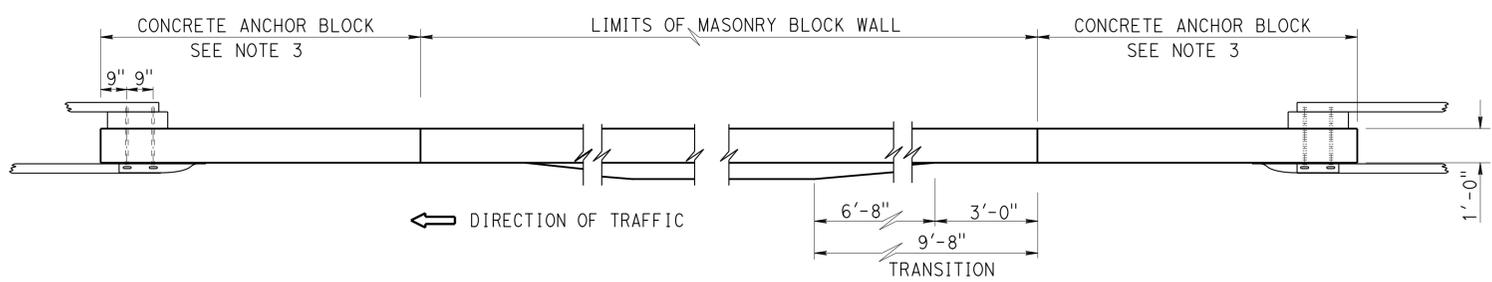
DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	53E0306
POST MILE	40.30

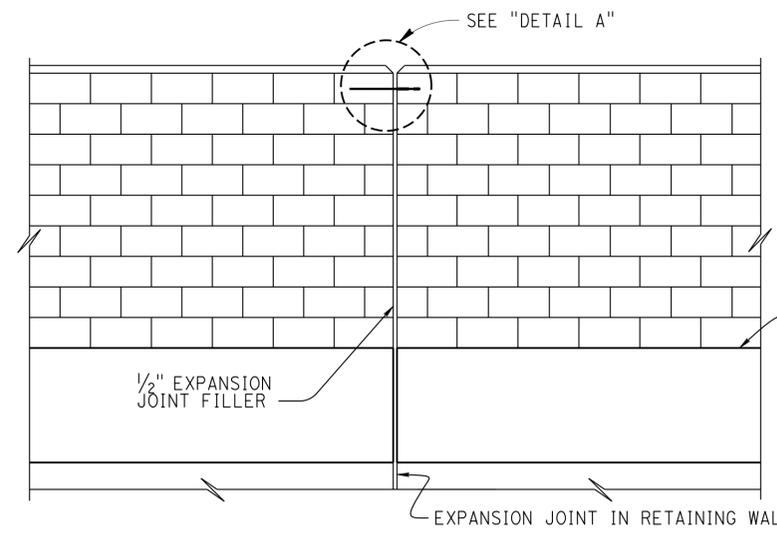
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2022	2313

10/01/14 DATE  
 REGISTERED CIVIL ENGINEER  
 RICHARD E. SCHEDEL  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

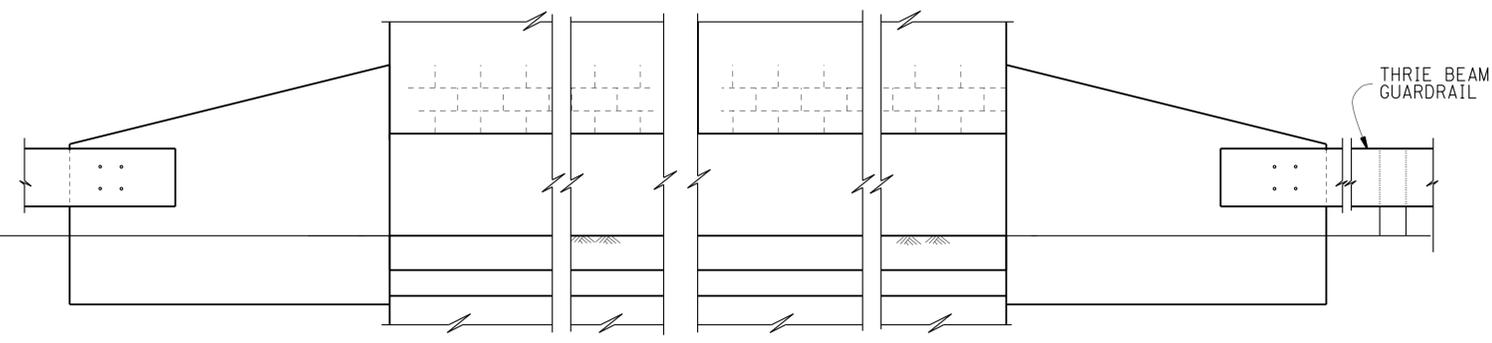
6-1-15  
 PLANS APPROVAL DATE  
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**PLAN**



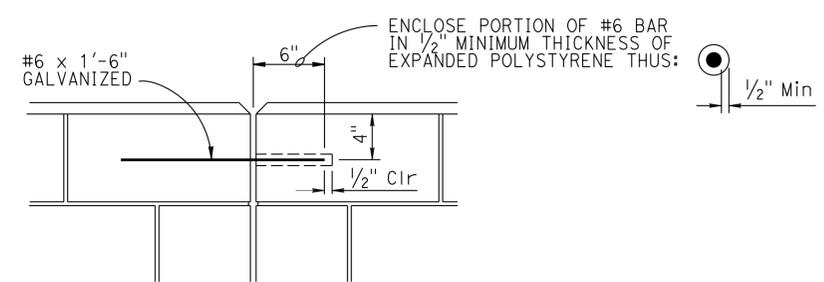
**ALIGNMENT KEY DETAIL**



**ELEVATION**

**METAL BEAM GUARDRAIL ANCHORAGE**

For details not shown, see STANDARD PLAN B11-56



**DETAIL A**

**DESIGN NOTES**

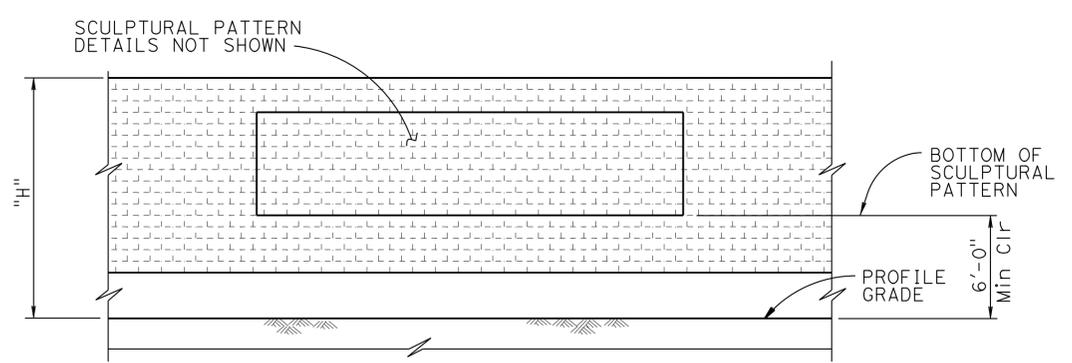
**DESIGN**  
Uniform Building Code, 1997 Edition and the Bridge Design Specifications

**DESIGN WIND LOAD**  
33 psf

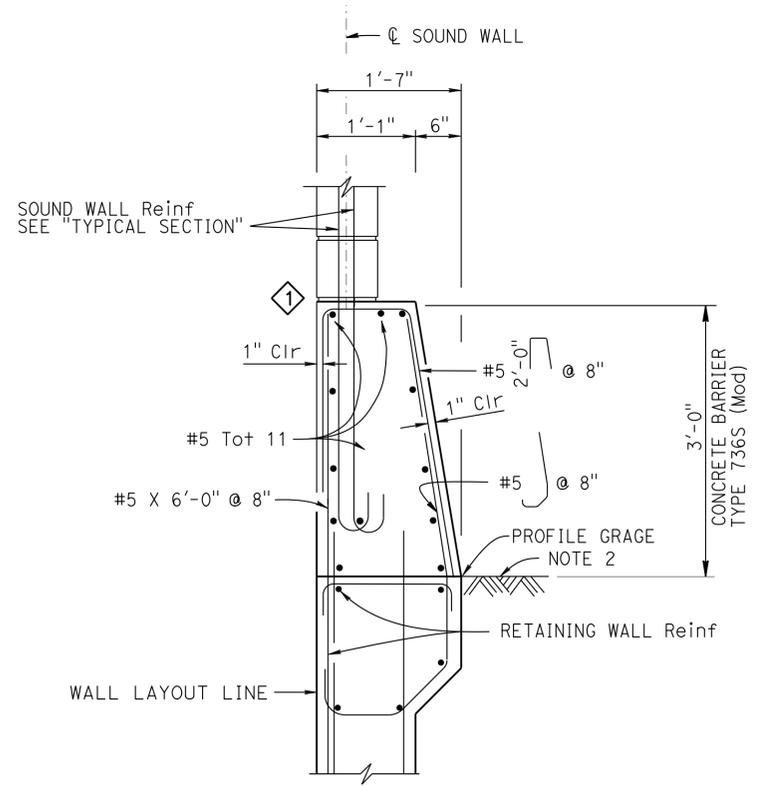
**DESIGN SEISMIC LOAD**  
0.57 Dead load

REINFORCED CONCRETE	CONCRETE MASONRY	
	REGULAR STRENGTH	HIGH STRENGTH
f'c = 3600 psi	f'm = 1500 psi	f'm = 2000 psi
fy = 60 ksi	fb = 495 psi	fb = 660 psi
	fs = 24,000 psi	fs = 24,000 psi
	n = 25.8	n = 19.3
		f'm = 2500 psi
		fb = 830 psi
		fs = 24,000 psi
		n = 15.5

- NOTES:
- For details not shown, see RSP B15-6
  - Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See RSP B11-56, Note 3.
  - For Concrete Anchor Block and connection details, see "ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION DETAIL C" on STANDARD PLAN A77J3.



**CLEARANCE DETAIL**



**BARRIER SECTION**

**SPECIAL DETAILS**

NO SCALE

**RETAINING WALL NO. 2128**

**MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL**

**DETAILS NO. 2**

1 Changed barrier width and sound wall location

REVISED STANDARD DRAWING

FILE NO. **xs15-130-2**

APPROVAL DATE September 2013

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0306  
POST MILE 40.30

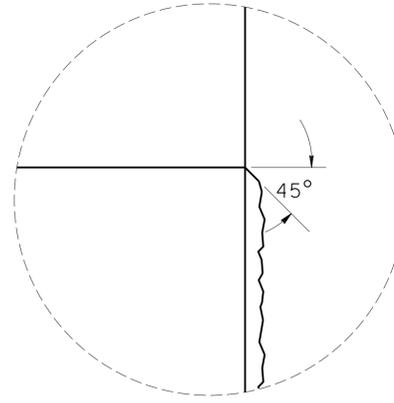
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2023	2313

*Richard E. Schendel*  
REGISTERED CIVIL ENGINEER DATE 10/01/14

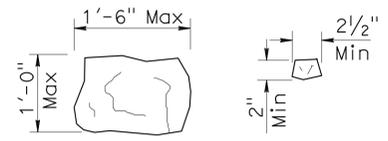
6-1-15  
PLANS APPROVAL DATE

Richard E. Schendel  
REGISTERED PROFESSIONAL ENGINEER  
No. C64259  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

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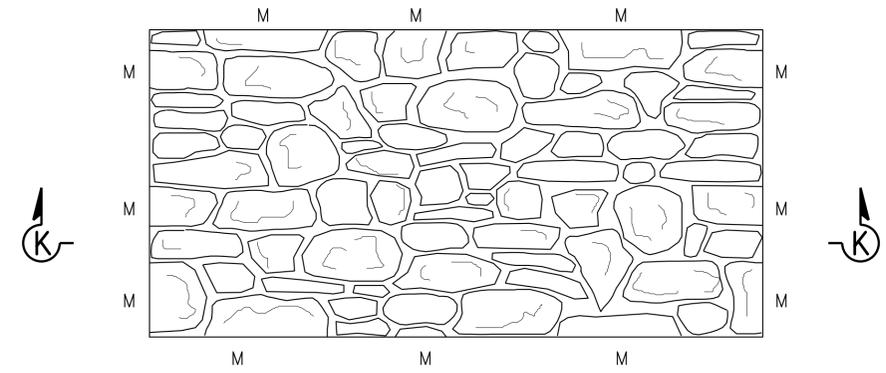


**DETAIL B1**  
NO SCALE

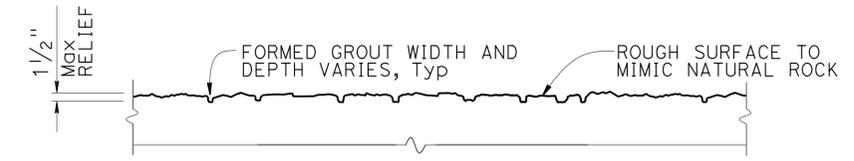


**ROCK SIZE**

NOTE:  
Seamless Random Rock pattern to have a minimum of 2 to a maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).

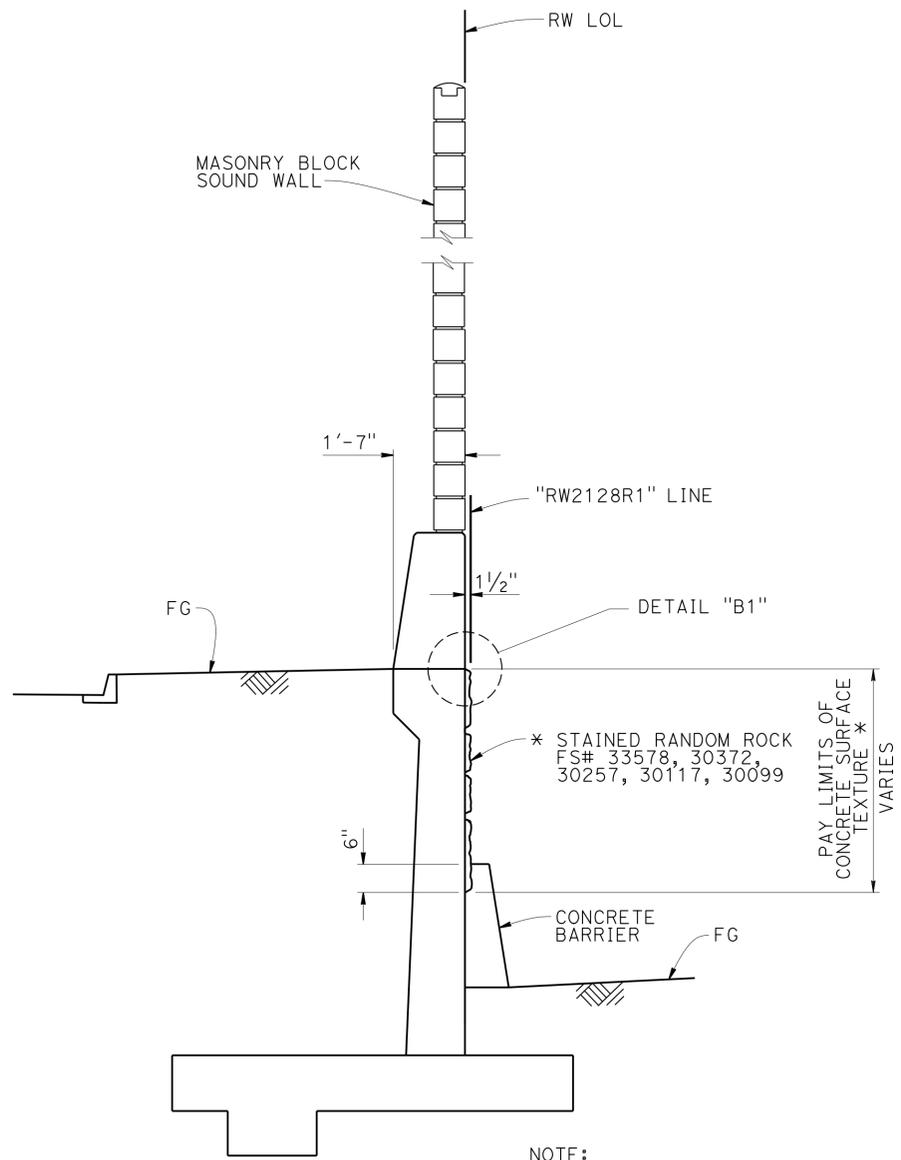


**ELEVATION**



**SECTION K-K**

**RANDOM ROCK TEXTURE**  
NO SCALE



**TYPE 1SWB**

NOTE:  
"FS#" is Federal Standard Color Number.

PAY LIMITS OF CONCRETE SURFACE TEXTURE \* VARIES

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY VALERIE MOORE	CHECKED DAVID P. MURRAY	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	RETAINING WALL NO. 2128 ARCHITECTURAL DETAILS			
	DETAILS	BY FARIDEH HOSSEINIQUON	CHECKED DAVID P. MURRAY			53E0306				
	QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT			POST MILE 40.30				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3603	PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1		DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 10 OF 12

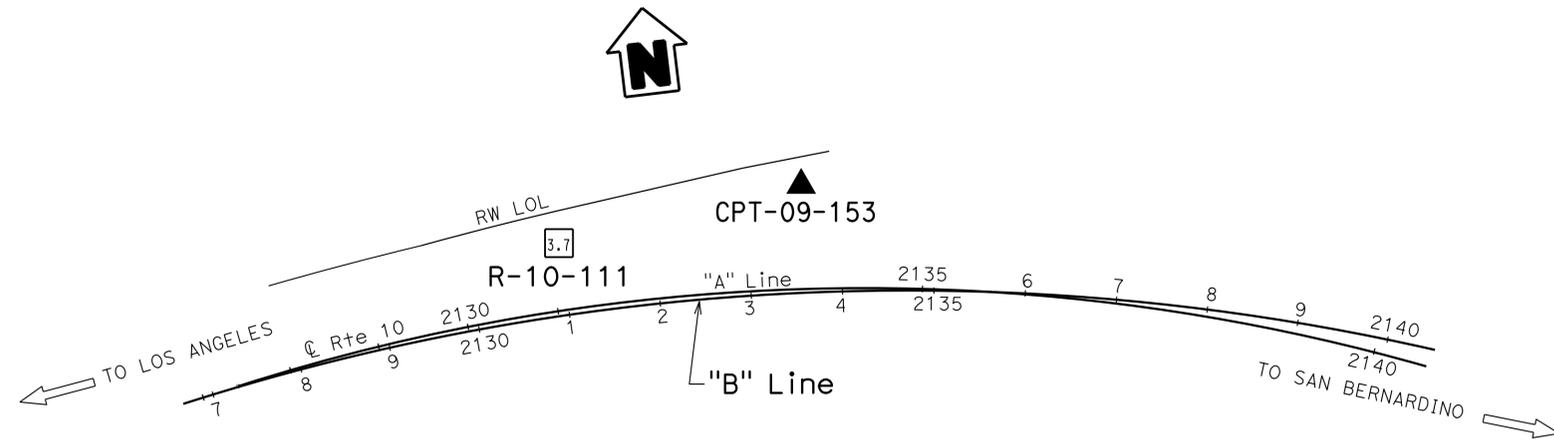
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DATE PLOTTED => 18-MAY-2015  
TIME PLOTTED => 16:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	2024	2313

1-21-14  
 CERTIFIED ENGINEERING GEOLOGIST  
 Michael A. Salisbury  
 No. 2462  
 Exp. 2-28-15  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE 6-1-15  
*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.*

**BENCH MARK**

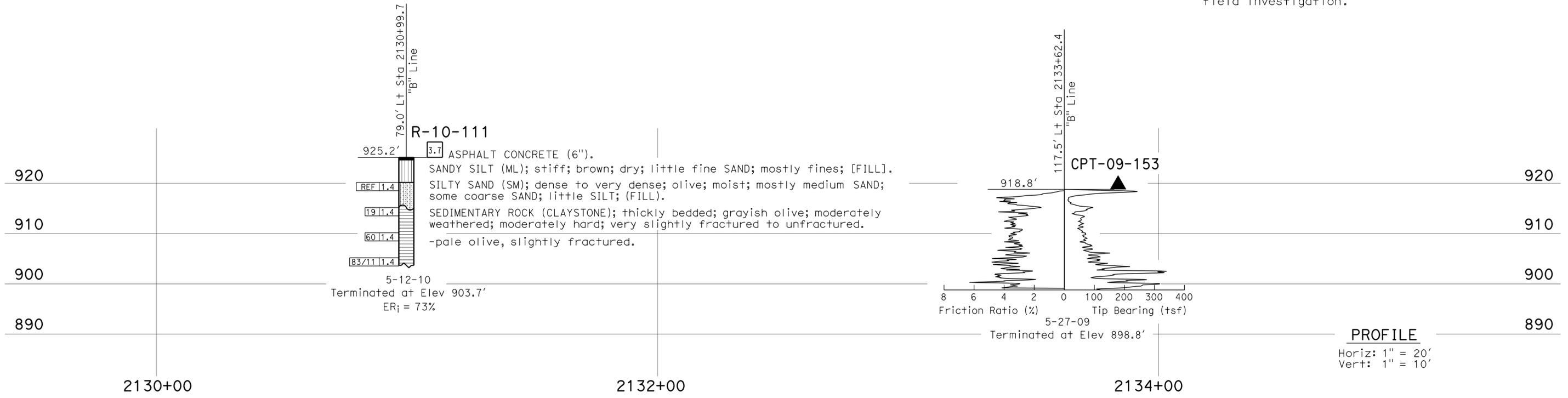
SUHV 4030 Elev 925.503'  
 Fd PK N, in Shldr of Via Verde W/B On Ramp  
 "B" Line Sta 2130+39.29 Lt 91.76'  
 NAVD88



**PLAN**  
 1" = 100'

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

Note: No ground water encountered during field investigation.

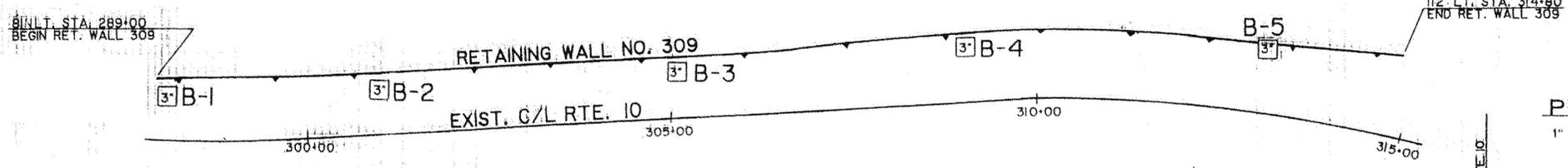


<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RETAINING WALL NO. 2128</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen, I. G-Remmen		FIELD INVESTIGATION BY:		STRUCTURE DESIGN		53E0306		<b>LOG OF TEST BORINGS 1 OF 2</b>	
NAME: D. Jang		CHECKED BY: H. Liu		M. Salisbury		<b>DESIGN BRANCH 18</b>		POST MILE		REVISION DATES	
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		UNIT: 3643		40.30		SHEET OF	
						PROJECT NUMBER & PHASE: 0713000071		CONTRACT NO.: 07-1193U1		11 12	
						DISREGARD PRINTS BEARING EARLIER REVISION DATES		01-15-14 01-21-14			

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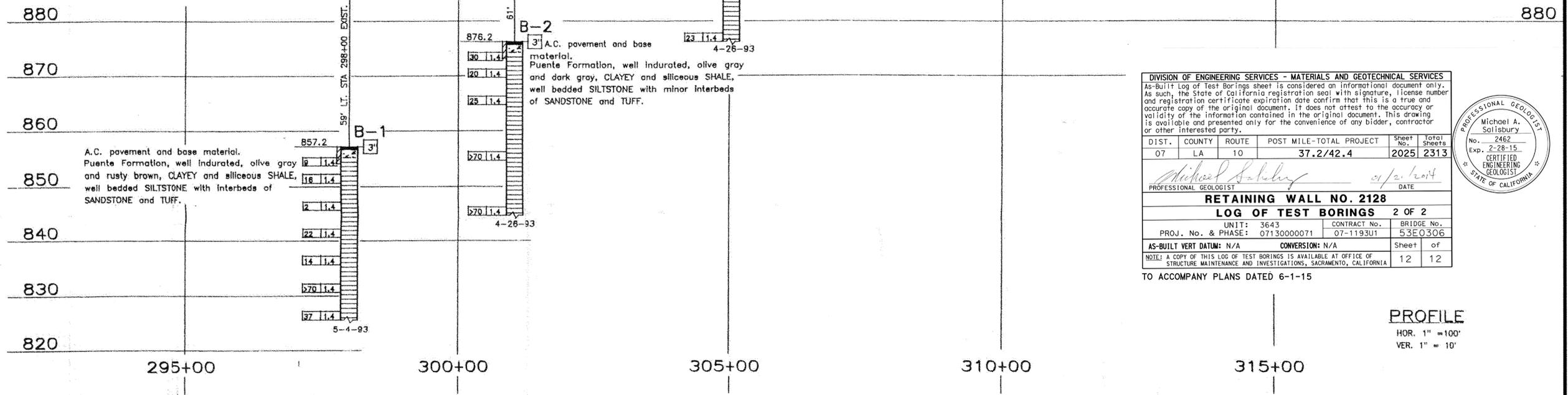
DIST.	COUNTY	ROUTE	TOTAL PROJECT	SHEET NO.	SHEET
07	LA	10	37.2/42.4		

W. Cain  
 CERTIFIED ENGINEERING GEOLOGIST  
 No. 732  
 Exp. 8-30-94  
 REGISTERED GEOLOGIST  
 STATE OF CALIFORNIA



PLAN  
1" = 100'

- BENCH MARK**
- TBM @ STA. 313+00 ELEV. 922.7'  
FD. PAINTED "+" @ LT. STA. 313+00.
  - TBM @ STA. 309+00 ELEV. 915.9'  
FD. PAINTED "+" @ LT. STA. 309+00.
  - TBM @ STA. 305+00 ELEV. 897.6'  
FD. PAINTED "+" @ LT. STA. 305+00.
  - TBM @ STA. 301+00 ELEV. 875.9'  
FD. PAINTED "+" @ LT. STA. 301+00.
  - TBM @ STA. 298+00 ELEV. 857.1'  
FD. PAINTED "+" @ LT. STA. 298+00.
- WESTBOUND RTE. 10 SURVEY BY J. F. DAVIDSON  
ASSOC., 4-15-93, PAGES 9 & 10 OF 16.



DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	10	37.2/42.4	2025	2313

Michael Salisbury  
PROFESSIONAL GEOLOGIST  
No. 2462  
Exp. 2-28-15  
CERTIFIED ENGINEERING GEOLOGIST  
STATE OF CALIFORNIA

**RETAINING WALL NO. 2128**  
**LOG OF TEST BORINGS 2 OF 2**

UNIT:	3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE:	07130000071	07-1193U1	53E0306

AS-BUILT VERT DATUM: N/A CONVERSION: N/A Sheet of

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA 12 12

TO ACCOMPANY PLANS DATED 6-1-15

PROFILE  
HOR. 1" = 100'  
VER. 1" = 10'

**LEGEND OF BORING OPERATIONS**

2nd-CORRE PENETROMETER SAMPLES (DRY)  
BORING (DRY)  
AUGER BORING (DRY)  
TEST PIT  
CORRE PENETROMETER  
BORING (DRY)  
CORRE PENETROMETER

**LEGEND OF EARTH MATERIALS**

CLAYEY SILT  
FLAT SAND  
ORGANIC MATERIAL  
FILL MATERIAL  
HOMOGENEOUS ROCK  
SEDIMENTARY ROCK  
CLAYEY SAND OR SILTY SAND  
SILTY CLAY

**CONSISTENCY CLASSIFICATION FOR SOILS**

According to the Standard Penetration Test

Penetration Index (Blows / Ft)	Consistency
0-4	Very soft
5-10	Soft
10-15	Slightly compact
20-34	Compact
35-60	Very hard
>70	Very hard

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

DIVISION OF NEW TECHNOLOGY, MATERIALS AND RESEARCH		OFFICE OF ENGINEERING GEOLOGY		FIELD INVESTIGATION BY:		BRIDGE NO.		RETAINING WALL NO. 309	
DRAWN BY	K. WAHL		6-93	E. GERANI		POST MILE		LOG OF TEST BORINGS	
CHECKED BY	Faramarz Gerani		7-93			37.5/42.4			

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES STRUCTURE DESIGN

CU 07234  
EA 11934K

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 01

**INDEX TO PLANS**

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	FOUNDATION PLAN
3.	STRUCTURE PLAN NO. 1
4.	STRUCTURE PLAN NO. 2
5.	STRUCTURE PLAN NO. 3
6.	RETAINING WALL TYPE 1SWB - DETAILS NO. 1
7.	RETAINING WALL TYPE 1SWB - DETAILS NO. 2
8.	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 1
9.	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2
10.	ARCHITECTURAL DETAILS
11.	LOG TEST BORINGS

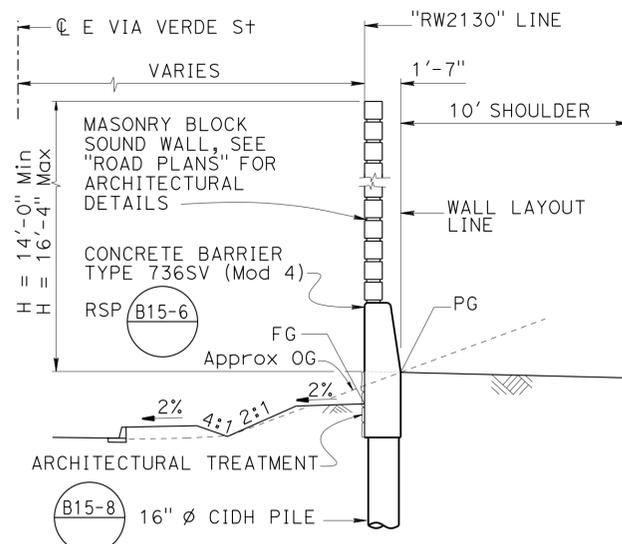
**STANDARD PLANS DATED 2010**

SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
BO-3	BRIDGE DETAILS
RSP B3-5	RETAINING WALL DETAILS No. 1
B3-6	RETAINING WALL DETAILS No. 2
RSP B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
RSP B15-7	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)
B15-8	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (3)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2026	2313

**Richard E. Schenkel**  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 6-1-15  
 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

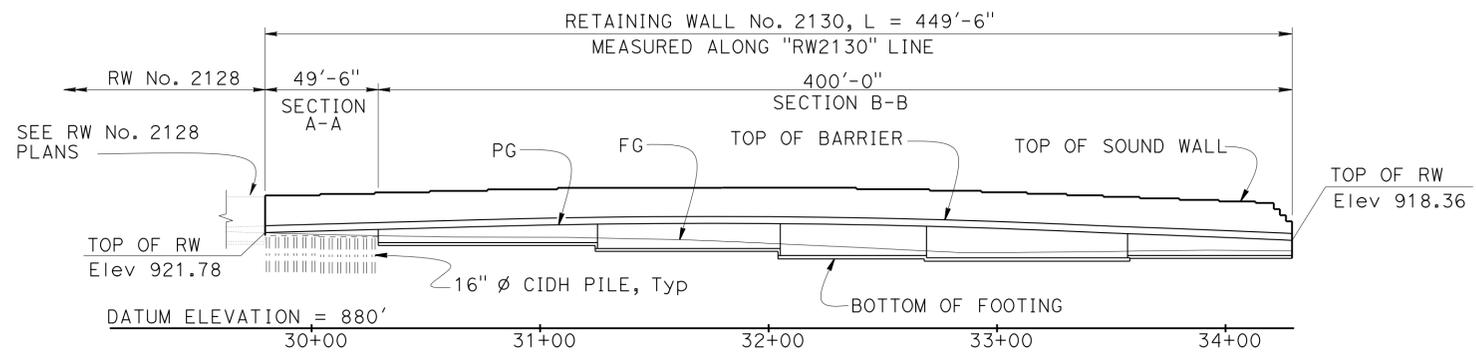
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.*



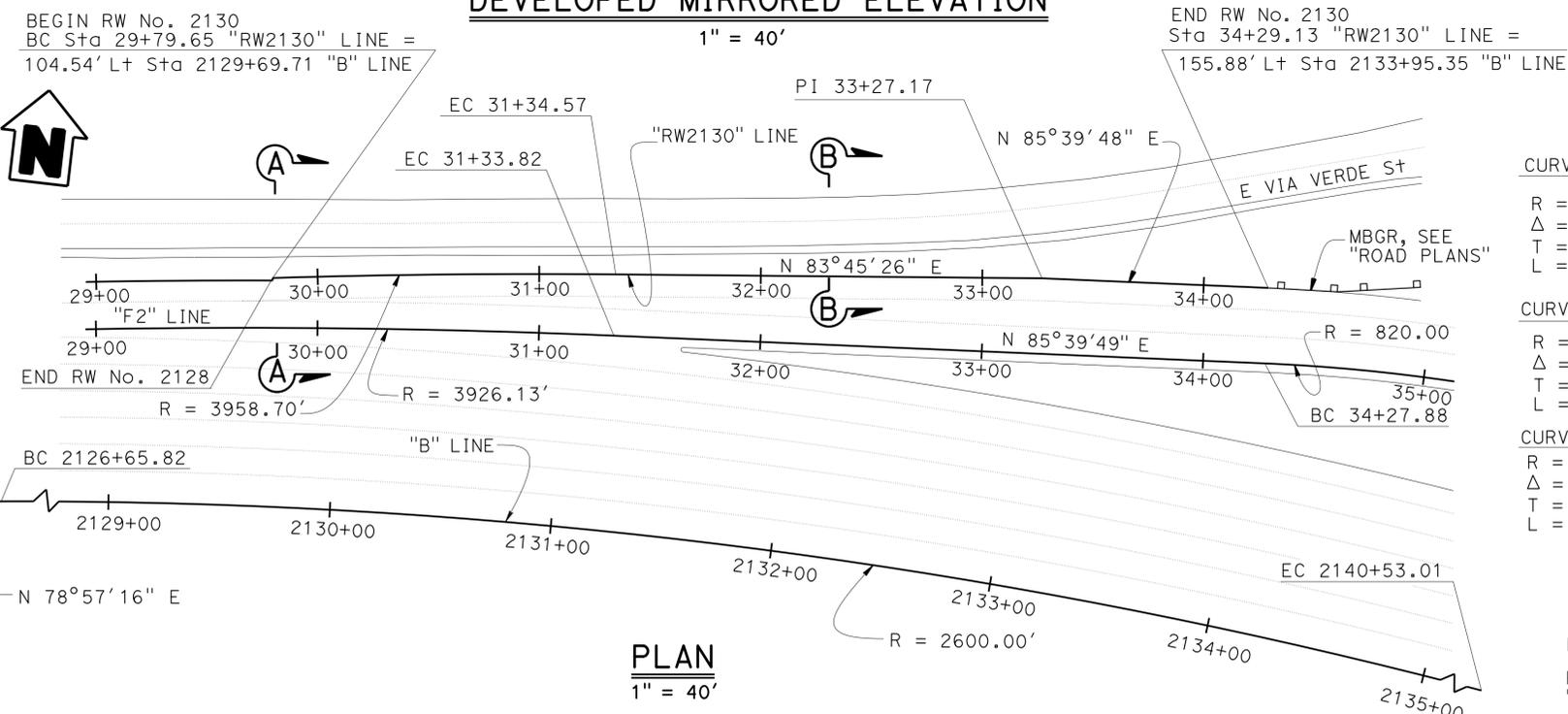
**SECTION A-A**  
1/4" = 1'-0"

**QUANTITIES**

STRUCTURE EXCAVATION (RETAINING WALL)	616 CY
STRUCTURE BACKFILL (RETAINING WALL)	919 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	65 CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	213 LF
STRUCTURAL CONCRETE, RETAINING WALL	396 CY
CONCRETE SURFACE TEXTURE	3,342 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	48,843 LB
SOUND WALL (MASONRY BLOCK)	5,093 SQFT
PREPARE AND STAIN CONCRETE	3,342 SQFT
CONCRETE BARRIER (TYPE 736S MODIFIED)	400 LF
CONCRETE BARRIER (TYPE 736SV MODIFIED)	50 LF



**DEVELOPED MIRRORED ELEVATION**  
1" = 40'



**PLAN**  
1" = 40'

**CURVE DATA "RW2130" LINE**

R = 3958.70'  
 $\Delta = 2^\circ 14' 32''$   
 T = 77.47'  
 L = 154.92'

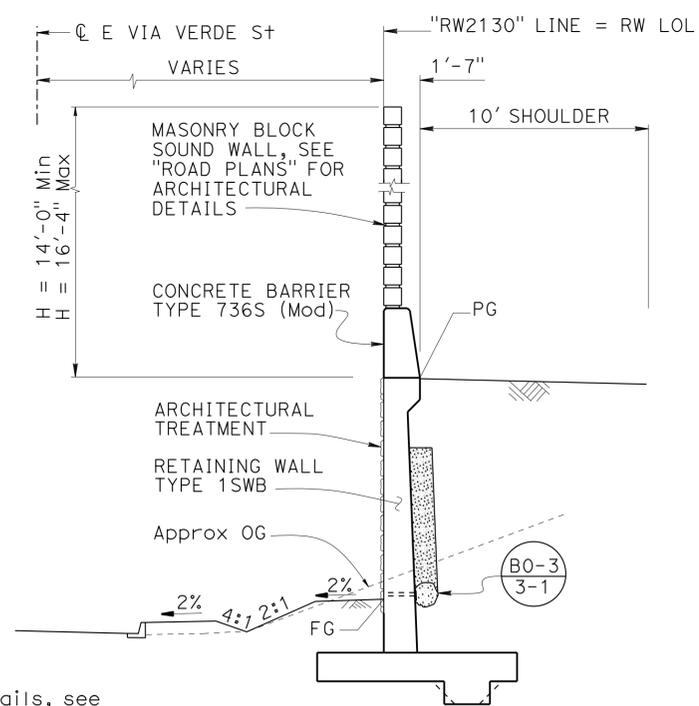
**CURVE DATA "F2" LINE**

R = 3926.13'    R = 820.00'  
 $\Delta = 6^\circ 49' 40''$      $\Delta = 16^\circ 54' 09''$   
 T = 234.21'    T = 121.84'  
 L = 467.86'    L = 241.90'

**CURVE DATA "B" LINE**

R = 2600.00'  
 $\Delta = 30^\circ 34' 09''$   
 T = 710.53'  
 L = 1387.18'

NOTE:  
For Retaining Wall Type 1SWB details, see "RETAINING WALL TYPE 1SWB" sheets.



**SECTION B-B**  
1/4" = 1'-0"

<b>MICHAEL POPE</b> DESIGN ENGINEER	DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH 18</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2130</b> <b>GENERAL PLAN</b>
	DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT	LAYOUT	BY MINH TRAN			CHECKED GERRARD HIGHT	
	QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	SPECIFICATIONS	BY XIAODONG CHEN	CHECKED XIAODONG CHEN	POST MILE	40.34	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS  
 UNIT: 3603  
 PROJECT NUMBER & PHASE: 0713000007 1  
 CONTRACT NO.: 07-1193U1  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 REVISION DATES: 07/31/14, 03/08/14, 09/10/14  
 SHEET 1 OF 11

CURVE DATA				
No.	R	$\Delta$	T	L
(A)	3949.04	02°32'22"	87.53	175.03
(B)	3957.92	00°12'01"	6.91	13.83
(C)	3958.70	02°14'32"	77.47	154.92
(E)	2600.00	30°34'09"	710.53	1387.18



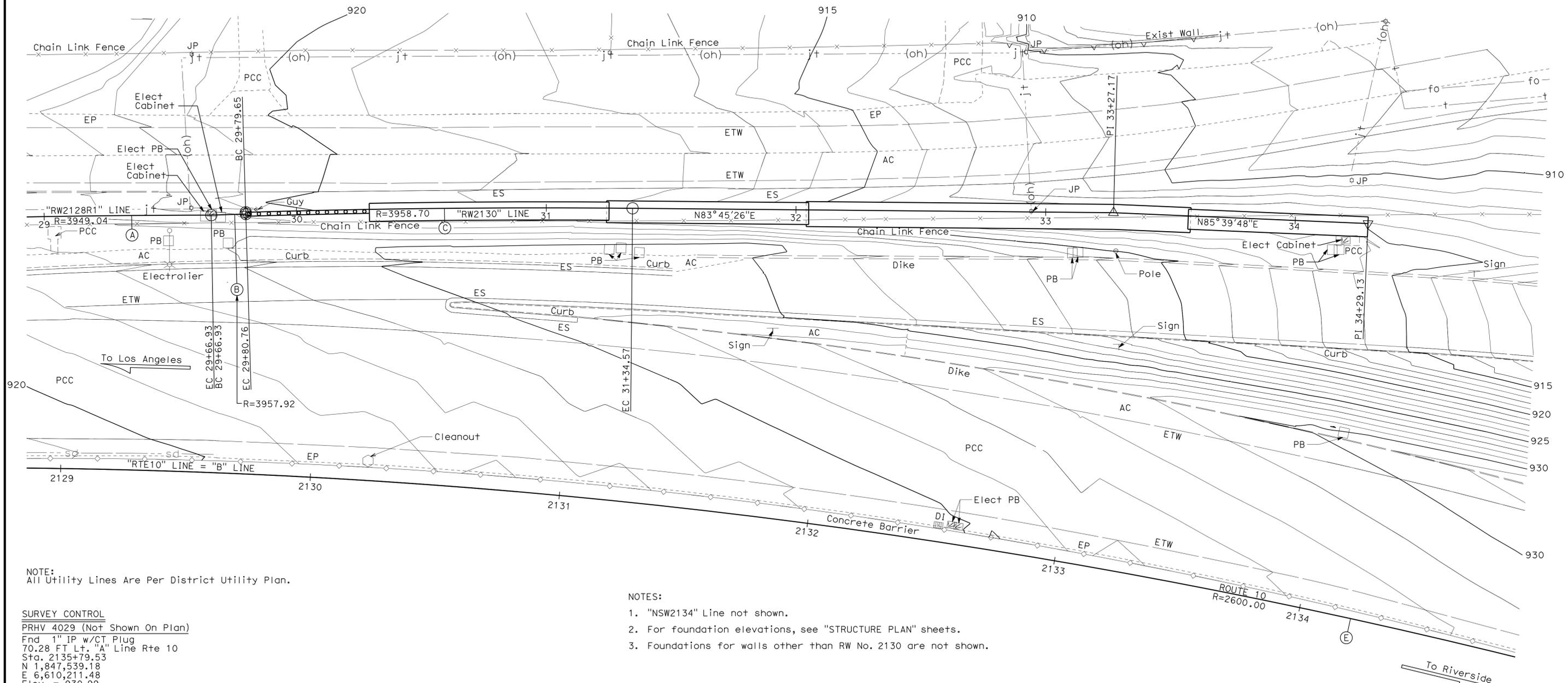
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2027	2313

*Richard E. Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14

6-1-15  
 PLANS APPROVAL DATE

Richard E. Schendel  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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



NOTE:  
 All Utility Lines Are Per District Utility Plan.

**SURVEY CONTROL**  
 PRHV 4029 (Not Shown On Plan)  
 Fnd 1" IP w/CT Plug  
 70.28 FT Lt. "A" Line Rte 10  
 Sta. 2135+79.53  
 N 1,847,539.18  
 E 6,610,211.48  
 Elev. = 930.99

PRHV 10 (Not Shown On Plan)  
 Fnd L&T w/LA Co Eng Washer  
 169.30 FT Rt. "RTE10" LINE Rte 10  
 Sta. 2136+50.57  
 N 1,847,291.22  
 E 6,610,239.06  
 Elev. = 914.10

- NOTES:
- "NSW2134" Line not shown.
  - For foundation elevations, see "STRUCTURE PLAN" sheets.
  - Foundations for walls other than RW No. 2130 are not shown.

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY DAVID P. MURRAY CHECKED GERRARD HIGHT	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 18</b>	BRIDGE NO. 53E0307	<b>RETAINING WALL NO. 2130</b> <b>FOUNDATION PLAN</b>
SCALE VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: 02/2008	DETAILS BY MINH TRAN CHECKED GERRARD HIGHT	POST MILE 40.34					
1"=20'	HORIZ. DATUM NAD83	QUANTITIES BY DAVID P. MURRAY CHECKED GERRARD HIGHT						
ALIGNMENT TIES Dist. Traverse Sheet				DRAFTED BY J. Martinez 01/2011 CHECKED BY T. Schmalz 01/2011	UNIT: 07 PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 07-1193U	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 01/28/11 02/09/11 01/29/14 SHEET 2 OF 11

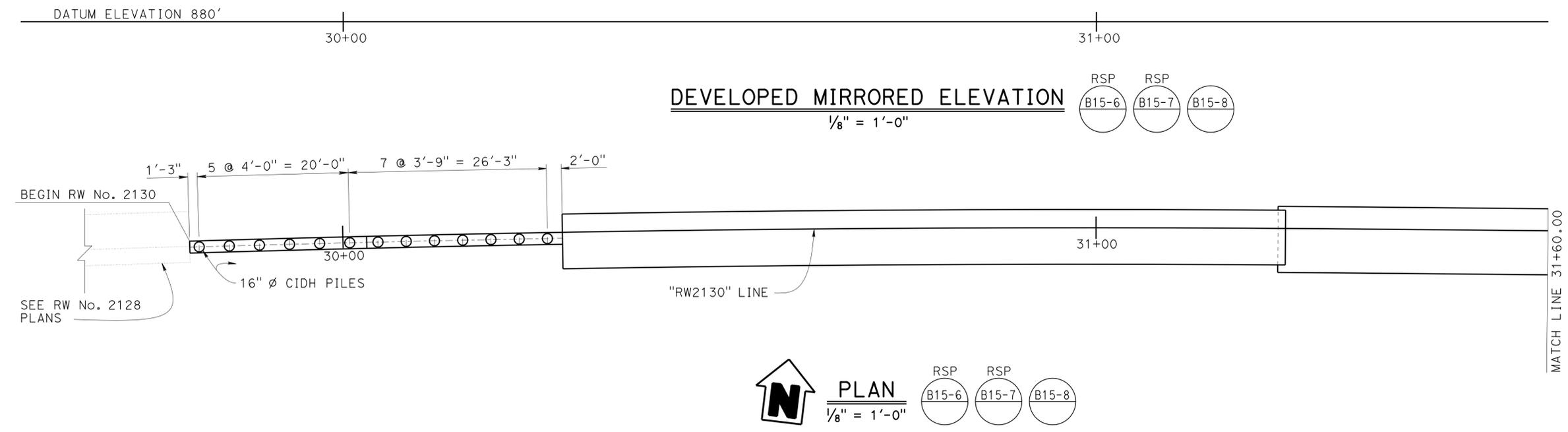
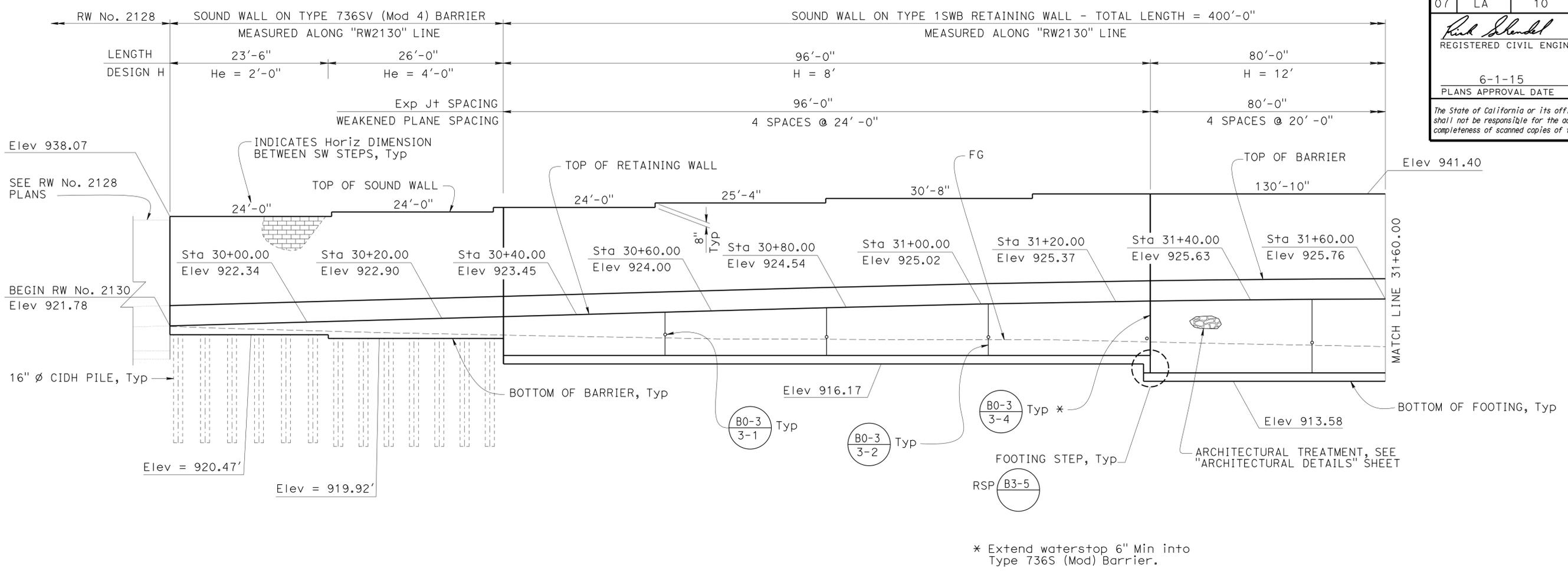
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2028	2313

*Richard E. Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 6-1-15  
 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA  
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DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 BRIDGE NO. 53E0307  
 POST MILE 40.34  
 DESIGN BRANCH 18

**RETAINING WALL NO. 2130**  
**STRUCTURE PLAN NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2029	2313

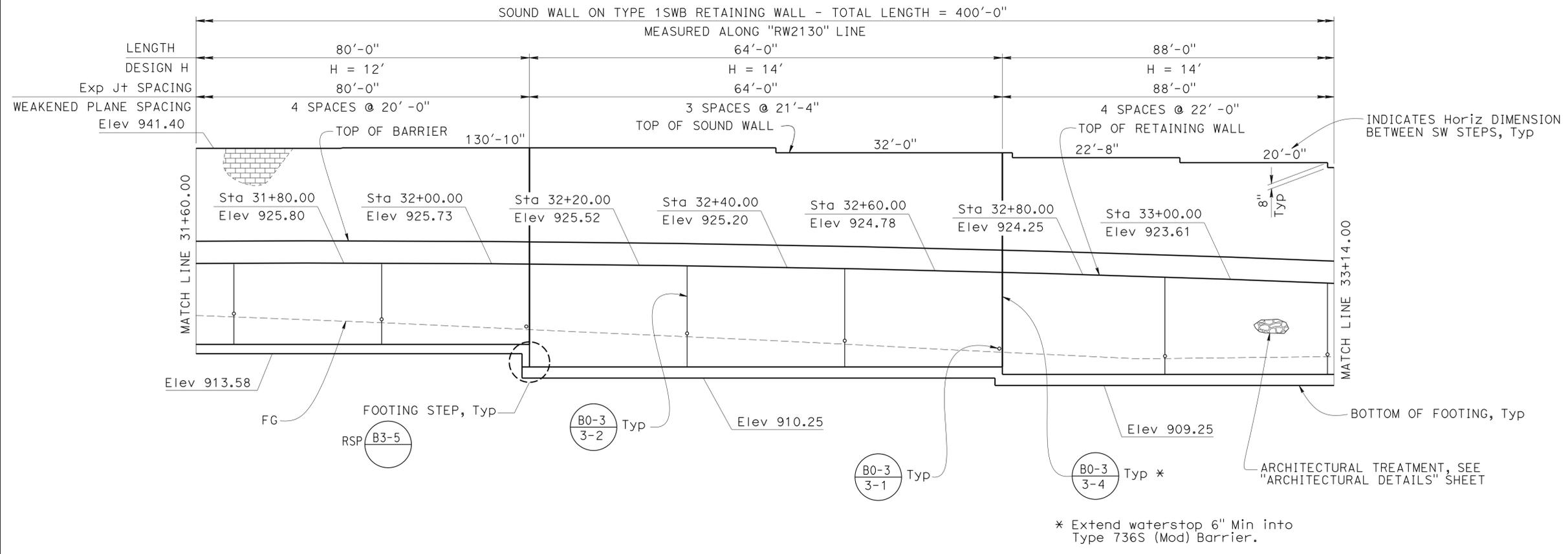
  

<i>Richard E. Schendel</i>		10/01/14
REGISTERED CIVIL ENGINEER	DATE	
6-1-15		
PLANS APPROVAL DATE		

RICHARD E. SCHEDEL	
No. C64259	Exp. 6-30-15
CIVIL	

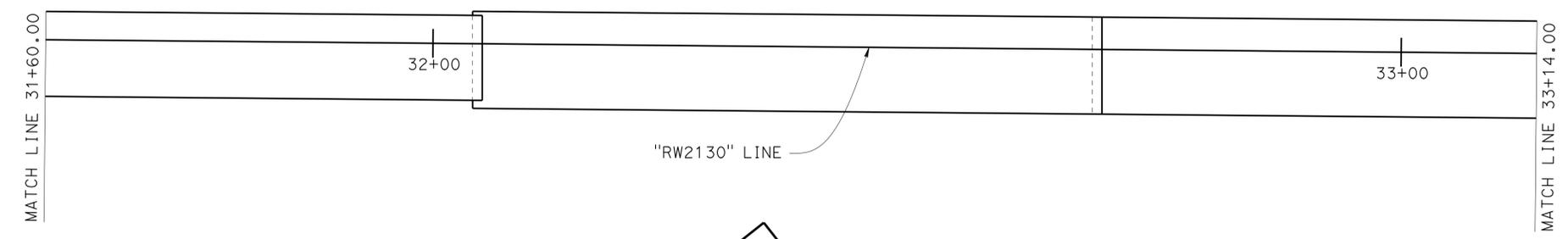
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DATUM ELEVATION 880'

32+00 33+00

**DEVELOPED MIRRORED ELEVATION**  
1/8" = 1'-0"



**N** PLAN  
1/8" = 1'-0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 18

BRIDGE NO.	53E0307
POST MILE	40.34

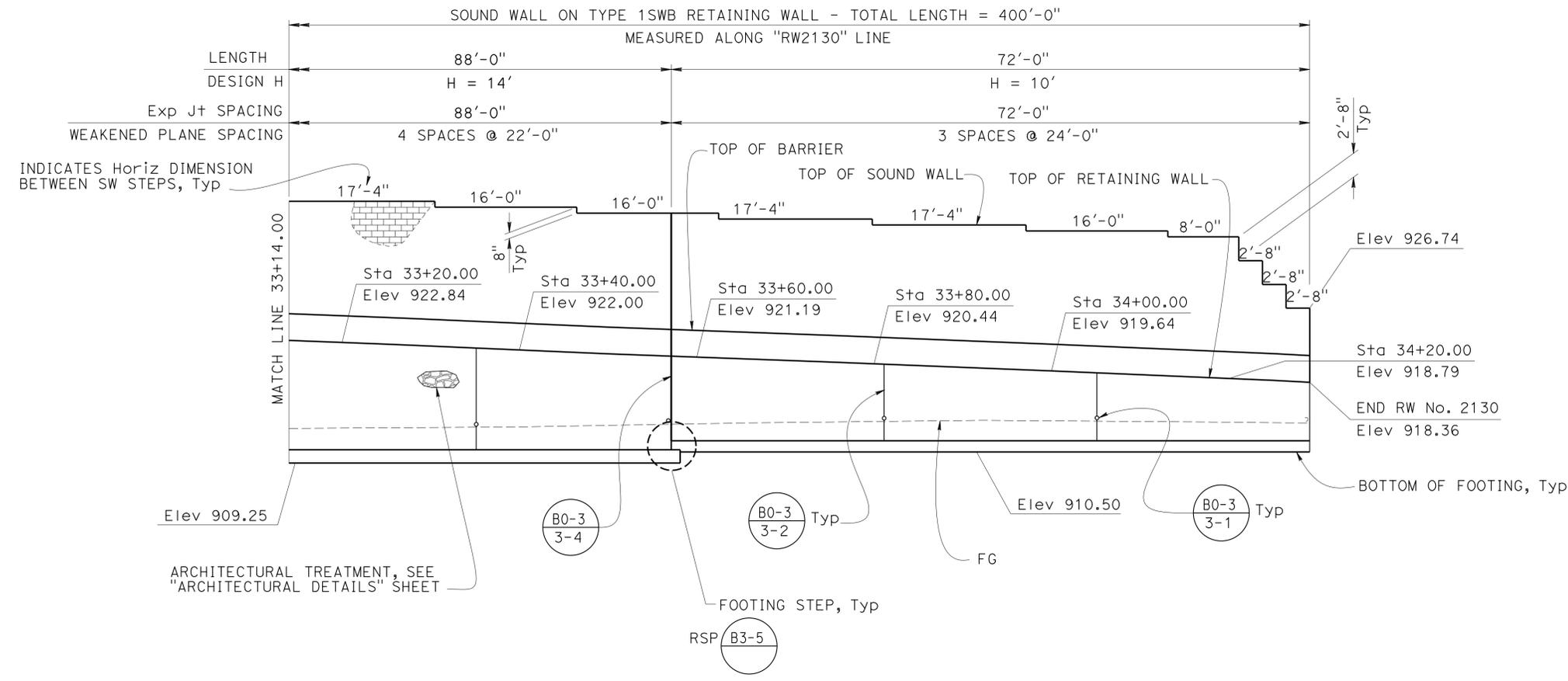
**RETAINING WALL NO. 2130**  
**STRUCTURE PLAN NO. 2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2030	2313

*Richard E. Schendel*  
REGISTERED CIVIL ENGINEER DATE 10/01/14  
6-1-15  
PLANS APPROVAL DATE

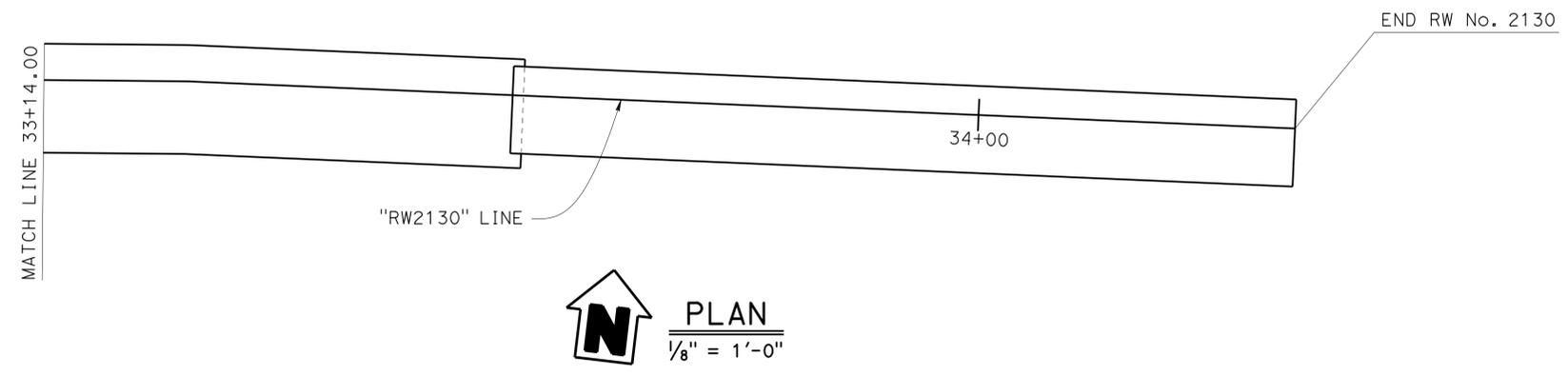
RICHARD E. SCHEDEL  
No. C64259  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

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DATUM ELEVATION 880'

**DEVELOPED MIRRORED ELEVATION**  
1/8" = 1'-0"



DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 18**

BRIDGE NO.	53E0307
POST MILE	40.34

**RETAINING WALL NO. 2130**  
**STRUCTURE PLAN NO. 3**

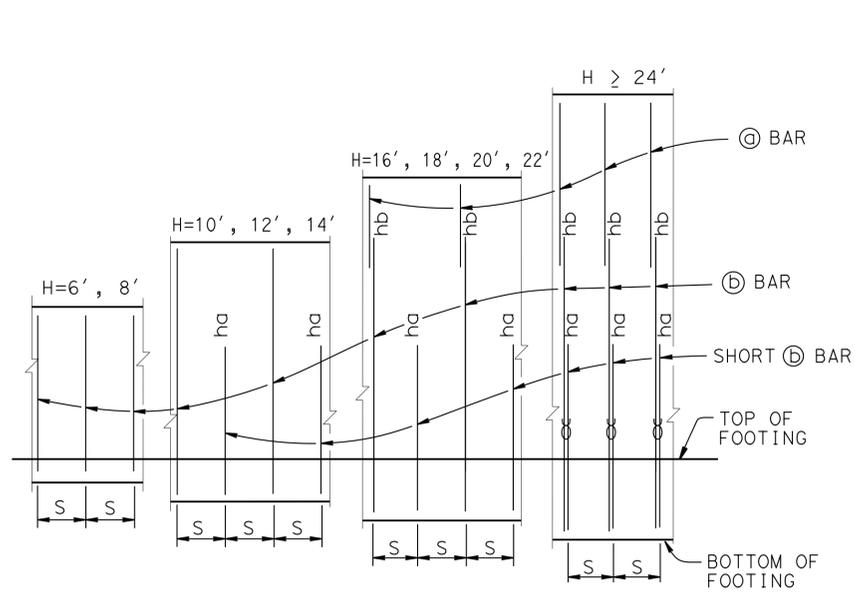


REVISION DATES	SHEET	OF
7-18-13 07/29/14 03/03/14	5	11

DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:08

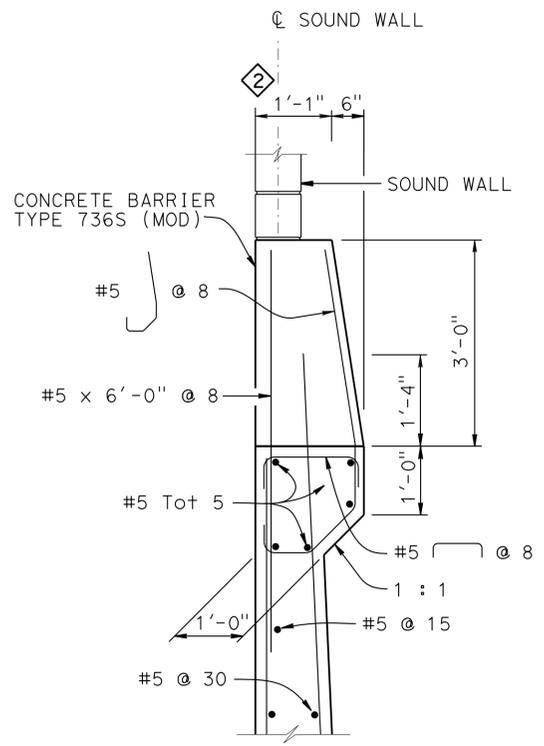
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2031	2313

Richard E. Schendel  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 6-1-15  
 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



**ELEVATION**  
No Scale

NOTES:  
 "ha" and "hb" above B bars indicate distance from top of footing to upper end of B bars, see table.  
 "S" is B bar spacing, see table.  
 ø : 2 bar bundle



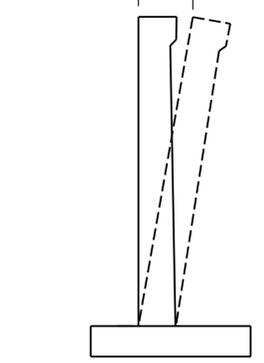
**DETAIL A**  
3/4 = 1'-0"

**DESIGN DATA**

Design: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments  
 WS: 33 psf on Sound Wall and Barrier  
 LS: Varied surcharge on level ground surface  
 CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward  
 EQE: Mononabe-Okabe Method  
 $K_h = 0.3$   
 $K_v = 0.0$   
 Soil:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf  
 Reinforced Concrete:  $f'_c = 3600$  psi  
 $f_y = 60,000$  psi  
 Load Combinations and Limit States  
 Service I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS + 0.30WS$   
 Service II  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00WS$   
 Strength I  $Q = aDC + \beta EV + 1.50EH + 1.75LS$   
 Strength III  $Q = aDC + \beta EV + 1.50EH + 1.40WS$   
 Strength V  $Q = aDC + \beta EV + 1.50EH + 1.35LS + 0.40WS$   
 Extreme I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$   
 Extreme II  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00CT$

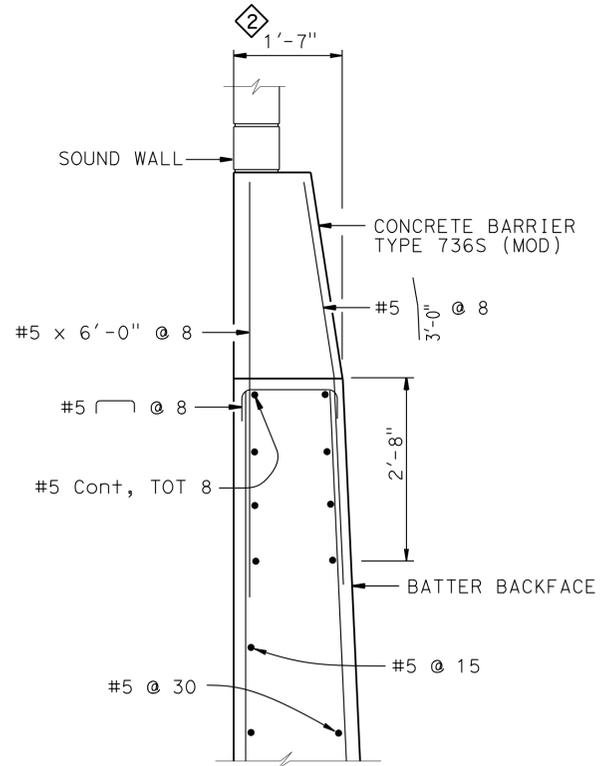
Where: Q: Force Effects  
 a: 1.25 or 0.90, which ever Controls Design  
 B: 1.35 or 1.00, which ever Controls Design  
 DC: Dead Load of Structure Components  
 EV: Vertical Earth Fill Pressure  
 LS: Live Load Surcharge  
 EQE: Seismic Earth Pressure  
 EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design  
 WS: Wind Load on Sound Wall and Barrier  
 CT: Vehicular Collision Force

VERTICAL LAYOUT LINE  
 $A^*$   
 $A^*$  OFFSET = 1/2" PER 10' OF WALL STEM HEIGHT



**WALL OFFSET**  
No Scale

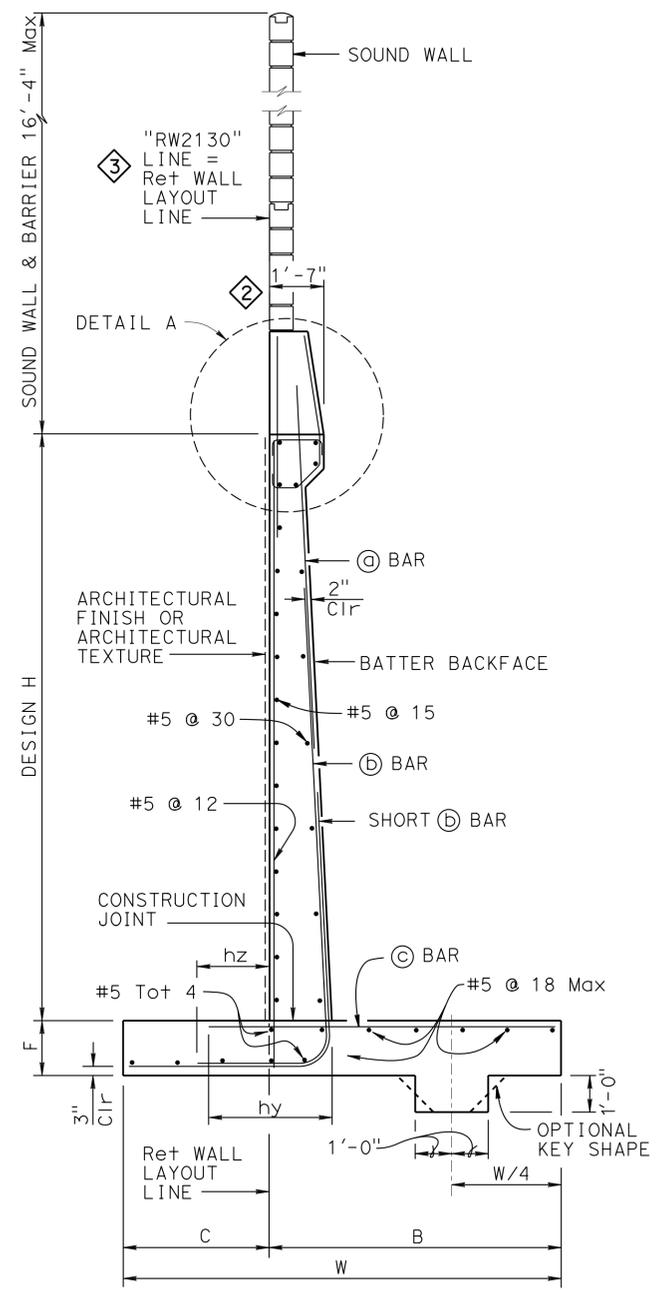
Values for offsetting forms to be determined by the Engineer



**OPTIONAL DETAIL A**  
3/4 = 1'-0"

For Details not shown, see "DETAIL A"

- NOTES:
- For sound wall and retaining wall Architectural finish or texture see details elsewhere in Project Plans
  - For details not shown and drainage notes see RSP B3-5
  - Footing cover, 1'-6" minimum.
  - For sound wall and barrier reinforcement details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL" sheets.
  - For H = 6' through 14', extend B bars into Barrier for stem with haunch.
  - For H ≥ 16', extend @ bars into Barrier for stem with haunch.



**SPREAD FOOTING SECTION**  
No Scale

**SPECIAL DETAILS**

REVISED STANDARD DRAWING	1 Revised	3 Added reference to "RW2130" Line
FILE NO. <b>xs14-220-1</b>	2 Modified barrier width and sound wall location	
APPROVAL DATE July 2011		

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0307	RETAINING WALL NO. 2130
DEPARTMENT OF TRANSPORTATION		POST MILE 40.34	RETAINING WALL TYPE 1SWB-DETAILS NO. 1

UNIT: 3603	PROJECT NUMBER & PHASE: 0713000007 1	CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3		REVISION DATES: 11/07/13 01/29/14

SHEET 6	OF 11
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2032	2313

*Richard Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 PLANS APPROVAL DATE 6-1-15  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
W	6'-9"	7'-3"	8'-0"	8'-9"	10'-0"	11'-6"	12'-9"	14'-0"	15'-9"	18'-0"	19'-9"	21'-9"	23'-3"	25'-3"
C	2'-3"	2'-5"	2'-8"	2'-11"	3'-4"	3'-10"	4'-3"	4'-8"	5'-3"	6'-0"	6'-7"	7'-3"	7'-9"	8'-5"
B	4'-6"	4'-10"	5'-4"	5'-10"	6'-8"	7'-8"	8'-6"	9'-4"	10'-6"	12'-0"	13'-2"	14'-6"	15'-6"	16'-10"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"	1'-6"	1'-9"	1'-9"	2'-3"	2'-6"	2'-6"	2'-9"	3'-0"	3'-6"	3'-9"
STEM WITH HAUNCH, BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	3/4:12	7/8:12	1:12	1:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12	1/2:12	3/4:12	3/4:12	3/4:12
Ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 9	#9 @ 9
Ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6⌀	#8 @ 6⌀	#8 @ 6⌀	#10 @ 9⌀	#11 @ 9⌀
ha			5'-0"	6'-0"	7'-0"	7'-0"	6'-0"	7'-0"	7'-6"	7'-6"	8'-6"	9'-3"	15'-0"	11'-3"
hb						11'-6"	12'-0"	13'-3"	16'-0"	15'-6"	17'-6"	18'-9"	21'-0"	20'-9"
hy	2'-0"	2'-4"	1'-8"	2'-0"	2'-4"	2'-10"	2'-10"	3'-7"	3'-7"	4'-6"	5'-6"	2'-10"	4'-6"	5'-6"
hz			0	0	3'-1"	3'-7"	4'-0"	4'-5"	5'-0"	3'-0"	3'-0"	3'-6"	5'-6"	3'-0"
Ⓒ BARS	#6 @ 12	#7 @ 12	#5 @ 6	#6 @ 6	#7 @ 6	#8 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#11 @ 6	#8 @ 6⌀	#10 @ 9⌀	#11 @ 9⌀
SER I: B'(ft), q <sub>0</sub> (ksf)	5.9, 1.2	6.0, 1.4	6.5, 1.6	7.0, 1.8	8.1, 1.9	9.7, 2.0	11.0, 2.1	12.1, 2.3	13.8, 2.4	16.6, 2.4	18.5, 2.6	20.7, 2.7	22.1, 2.9	24.3, 3.0
STR Ia: B'(ft), q <sub>0</sub> (ksf)	6.3, 1.9	6.3, 2.3	6.7, 2.5	7.0, 2.9	8.1, 3.1	9.5, 3.2	10.8, 3.4	11.8, 3.7	13.4, 4.0	16.2, 4.0	18.0, 4.2	20.2, 4.4	21.5, 5.0	23.7, 5.0
STR, Ib: B'(ft), q <sub>0</sub> (ksf)	4.3, 1.6	4.1, 2.0	4.3, 2.4	4.5, 2.8	5.5, 2.9	6.9, 2.9	8.2, 3.0	9.0, 3.4	10.4, 3.5	13.2, 3.4	14.8, 3.5	16.9, 3.6	18.0, 3.9	20.1, 4.1
STR, IIIa: B'(ft), q <sub>0</sub> (ksf)	4.3, 2.1	4.8, 2.4	5.5, 2.5	6.2, 2.8	7.4, 2.9	9.1, 3.0	10.4, 3.2	11.5, 3.7	13.3, 3.7	16.1, 3.8	18.0, 4.0	20.3, 4.2	21.6, 4.6	23.8, 4.9
STR, IIb: B'(ft), q <sub>0</sub> (ksf)	3.2, 2.1	3.6, 2.3	4.2, 2.4	4.7, 2.6	5.9, 2.7	7.4, 2.7	8.6, 2.8	9.5, 3.1	11.2, 3.0	14.0, 3.2	15.8, 3.3	17.9, 3.4	19.1, 3.7	21.2, 3.9
STR, Va: B'(ft), q <sub>0</sub> (ksf)	5.9, 2.0	5.9, 2.3	6.4, 2.6	6.8, 2.9	7.9, 3.1	9.4, 3.2	10.6, 3.4	11.7, 3.9	13.4, 3.9	16.1, 4.0	18.0, 4.2	20.2, 4.5	21.5, 4.9	23.7, 5.1
STR, Vb: B'(ft), q <sub>0</sub> (ksf)	3.8, 1.7	3.8, 2.1	4.2, 2.5	4.4, 2.8	5.5, 2.9	7.0, 2.9	8.2, 3.0	9.0, 3.3	10.5, 3.4	13.3, 3.3	15.0, 3.5	17.1, 3.6	18.2, 3.9	20.3, 4.0
Ext I: B'(ft), q <sub>0</sub> (ksf)	2.5, 2.8	2.0, 4.3	1.7, 6.4	1.2, 10.9	1.3, 13.3	1.7, 12.4	1.9, 13.2	1.9, 17.6	2.5, 15.0	4.5, 10.2	5.3, 10.0	6.6, 9.6	6.8, 10.8	8.1, 10.5
Ext II: B'(ft), q <sub>0</sub> (ksf)	1.4, 4.9	2.5, 3.5	3.8, 2.8	4.9, 2.7	6.6, 2.5	8.6, 2.5	10.1, 2.5	11.5, 2.6	13.5, 2.8	16.4, 2.8	18.4, 2.9	20.7, 3.1	22.1, 3.3	24.4, 3.5

LEGEND:  
 SER: service limit state  
 STR: strength limit state  
 EXT: extreme event limit state  
 B': effective footing width (ft)  
 q<sub>0</sub>: net bearing stress (ksf)  
 q<sub>g</sub>: gross uniform bearing stress (ksf)  
 ⌀: 2 bar bundle

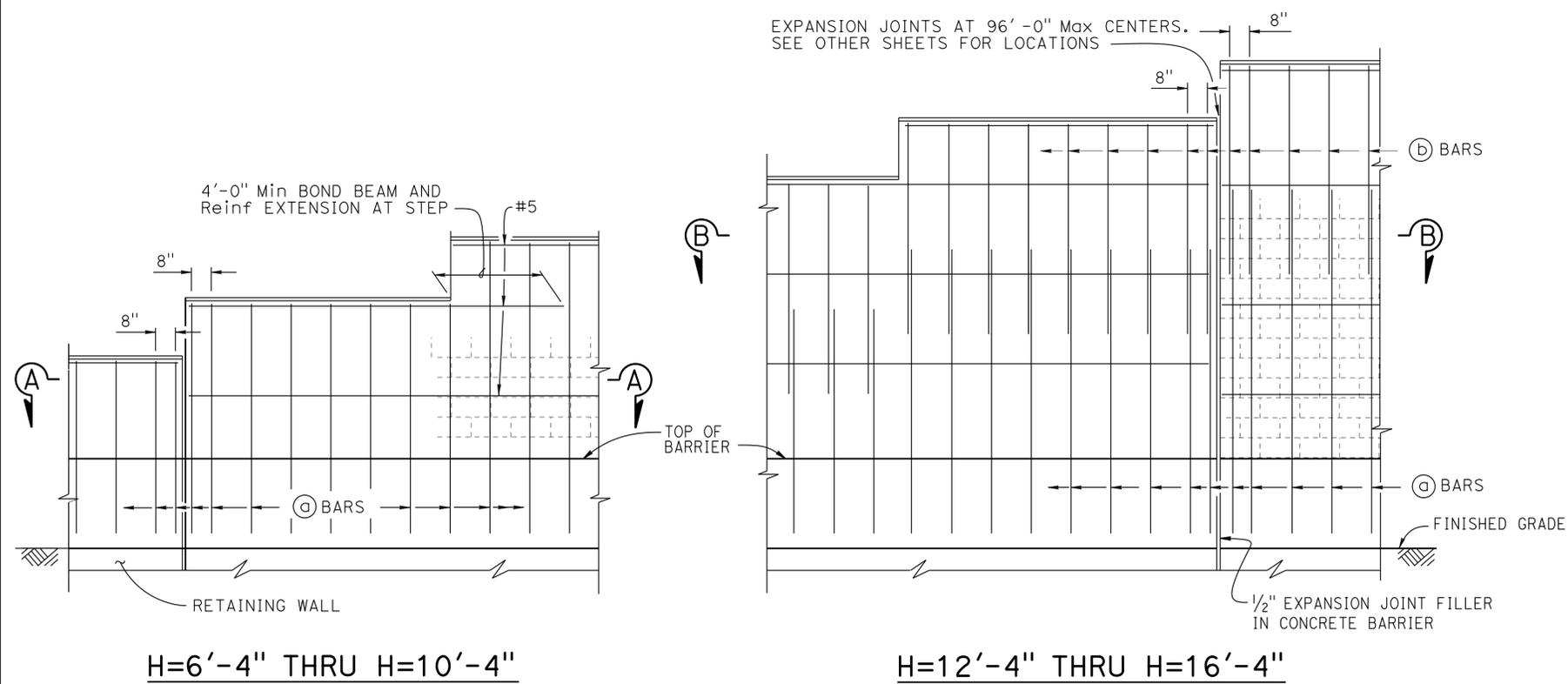
STANDARD DRAWING		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO. 53E0307		RETAINING WALL NO. 2130	
FILE NO. <b>xs14-220-2</b>	APPROVAL DATE <u>December 2012</u>	DEPARTMENT OF TRANSPORTATION		PROJECT NUMBER & PHASE: 0713000007 1		POST MILE 40.34		RETAINING WALL TYPE 1SWB-DETAILS NO. 2	
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3603		CONTRACT NO.: 07-1193U1		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
		0 1 2 3		REVISION DATES		SHEET 7 OF 11			

FILE => 53e0307-g-rwdt02-1swb.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:08

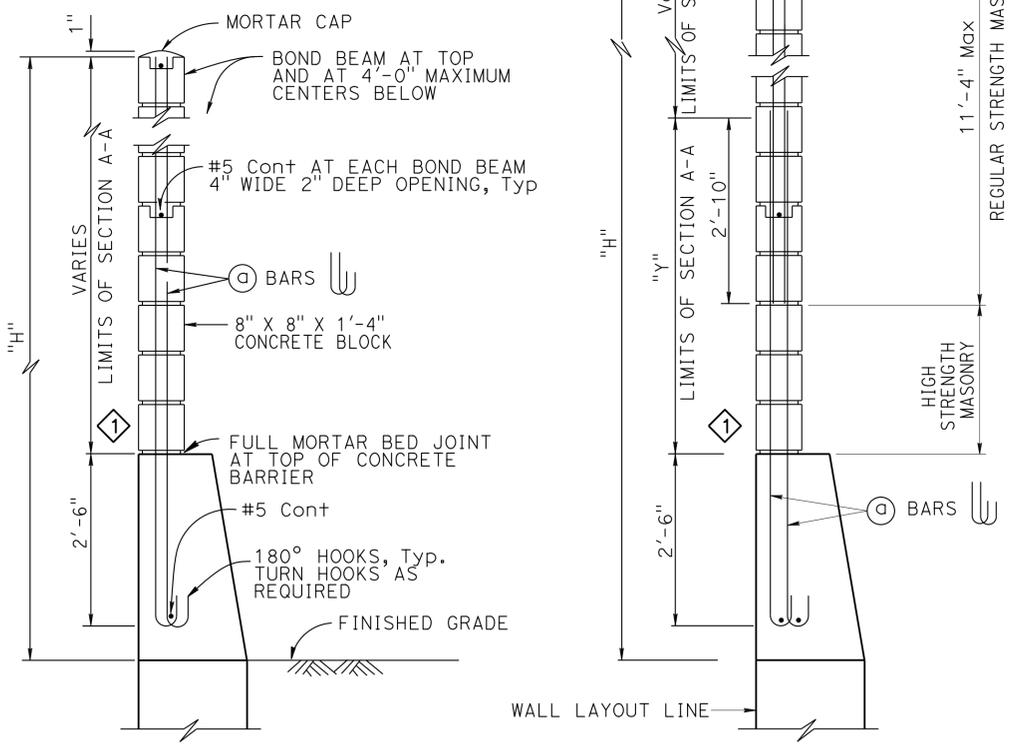
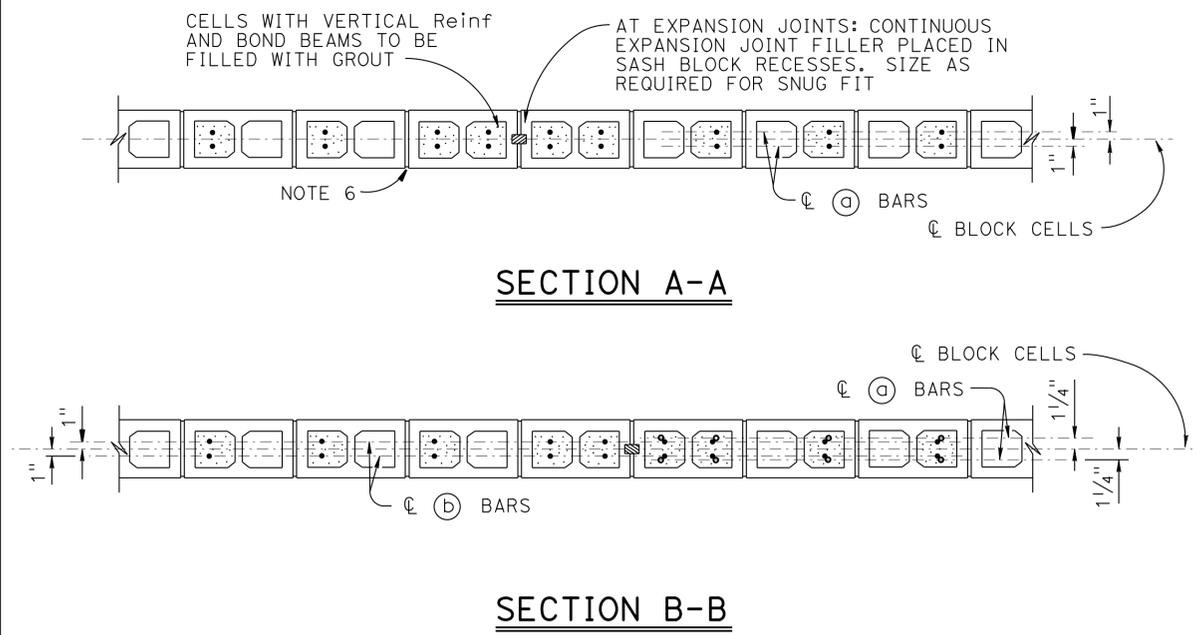
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2033	2313

Richard E. Schendel  
 REGISTERED CIVIL ENGINEER  
 10/01/14 DATE  
 6-1-15 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA



MAXIMUM "H"	(a) BARS @ 1'-4" Max	(b) BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4	---	---	1500	1900	6'-4"
8'-4"	#4	---	---	1500	1900	8'-4"
10'-4"	#4	---	---	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3700	16'-4"

**PART ELEVATION**



**TYPICAL SECTION**

- NOTES:
- For details not shown, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheet
  - Slope ground at traffic side of barrier to drain. Maximum slope  $\pm 10\%$
  - See STANDARD PLANS B15-9 for other details
  - For type of block and joint finish, see other sheets
  - When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement must be provided. A minimum of 2-9 gauge wire continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams
  - Horizontal joints must be tooled concave or may be weathered. Vertical joints must be tooled concave or may be raked
  - For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H"
  - Masonry strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
  - Concrete to be used for the barrier must contain not less than 590 pounds of cementitious material per cubic yard

**SPECIAL DETAILS**

NO SCALE

**RETAINING WALL NO. 2130**

**MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL**

**DETAILS NO. 1**

REVISED STANDARD DRAWING

FILE NO. **xs15-130-1**

APPROVAL DATE July 2012

- ① Changed barrier width and sound wall location
- ② Revised

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0307  
POST MILE 40.34

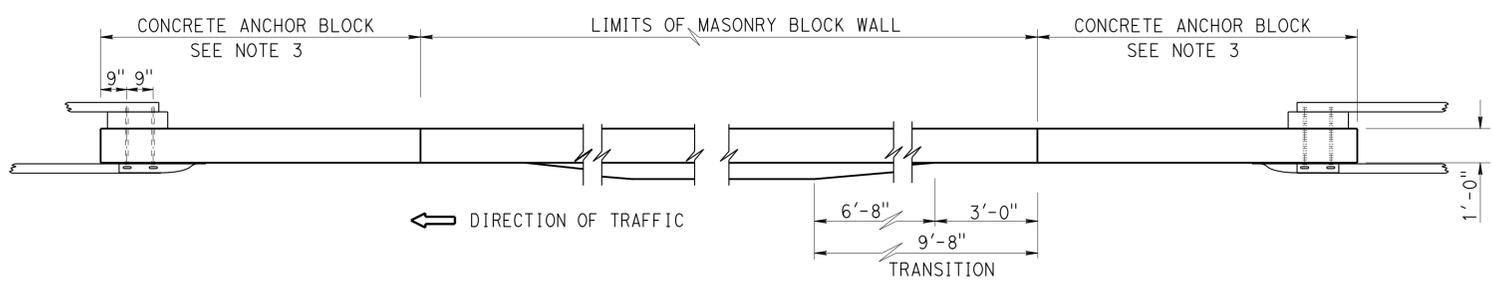
UNIT: 3603  
PROJECT NUMBER & PHASE: 0713000007 1  
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	1/19/12 01/29/14	8	11

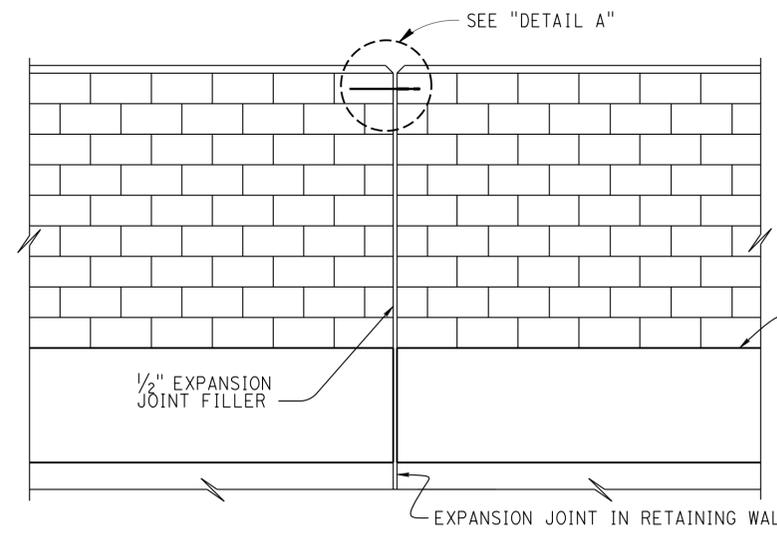
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2034	2313

Richard E. Schendel  
 REGISTERED CIVIL ENGINEER  
 DATE 10/01/14  
 6-1-15  
 PLANS APPROVAL DATE  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

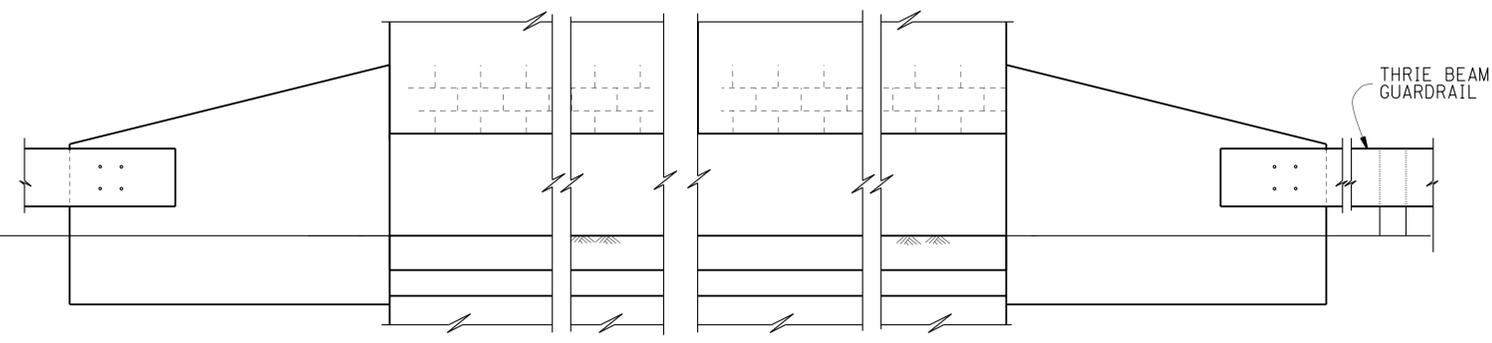
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**PLAN**



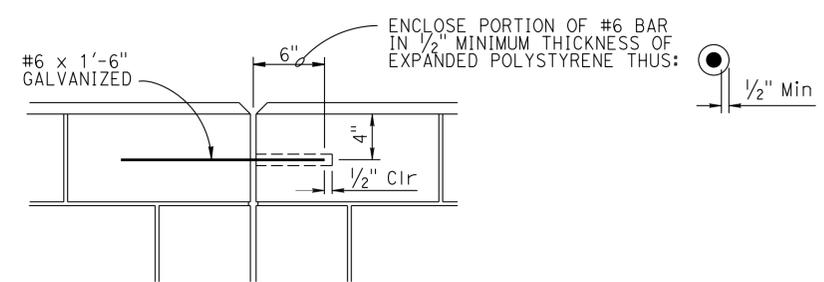
**ALIGNMENT KEY DETAIL**



**ELEVATION**

**METAL BEAM GUARDRAIL ANCHORAGE**

For details not shown, see STANDARD PLAN B11-56



**DETAIL A**

**DESIGN NOTES**

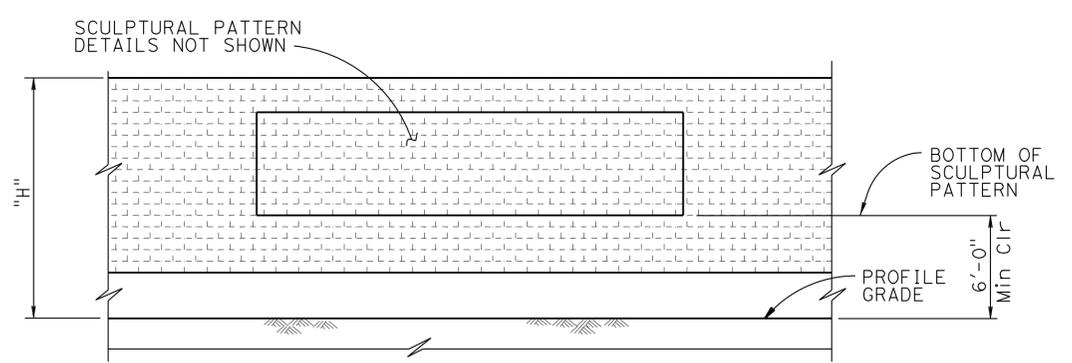
**DESIGN**  
Uniform Building Code, 1997 Edition and the Bridge Design Specifications

**DESIGN WIND LOAD**  
33 psf

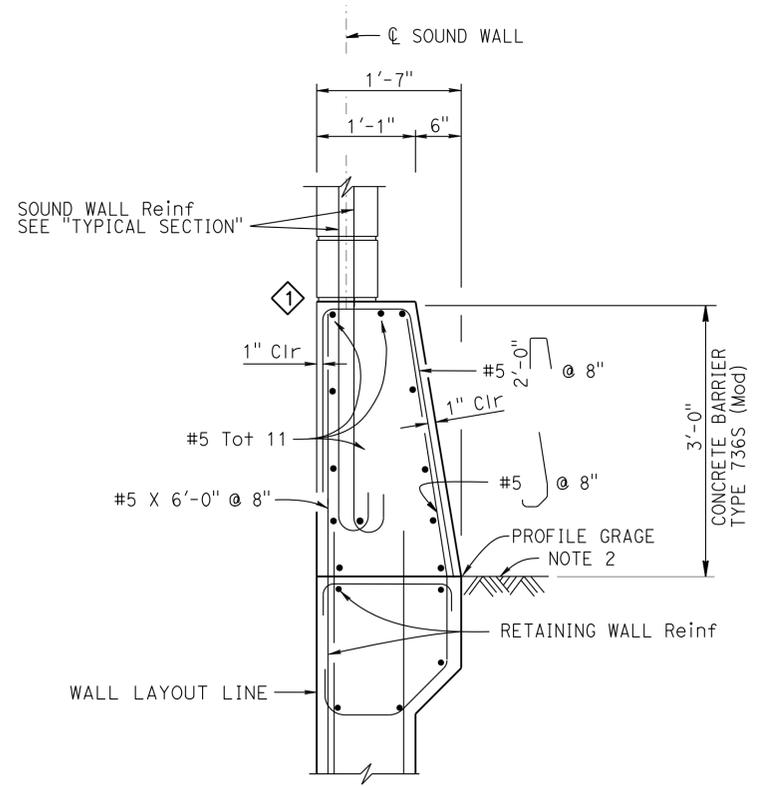
**DESIGN SEISMIC LOAD**  
0.57 Dead load

REINFORCED CONCRETE	REGULAR STRENGTH	HIGH STRENGTH	
f'c = 3600 psi	f'm = 1500 psi	f'm = 2000 psi	f'm = 2500 psi
fy = 60 ksi	fb = 495 psi	fb = 660 psi	fb = 830 psi
	fs = 24,000 psi	fs = 24,000 psi	fs = 24,000 psi
	n = 25.8	n = 19.3	n = 15.5

- NOTES:
- For details not shown, see RSP B15-6
  - Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See RSP B11-56, Note 3.
  - For Concrete Anchor Block and connection details, see "ROAD PLANS".



**CLEARANCE DETAIL**



**BARRIER SECTION**

**SPECIAL DETAILS**

NO SCALE

**RETAINING WALL NO. 2130**

**MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL**

**DETAILS NO. 2**

REVISED STANDARD DRAWING

FILE NO. **xs15-130-2**

APPROVAL DATE September 2013

- ① Changed barrier width and sound wall location
- ② Modified note

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0307  
POST MILE 40.34

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2035	2313

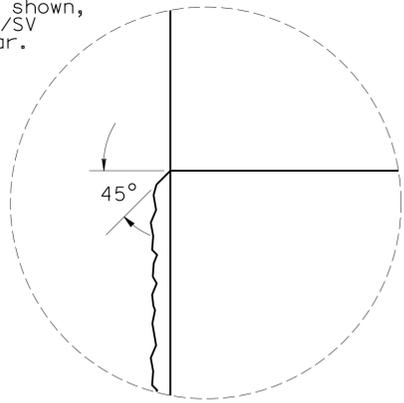
*Richard E. Schendel*  
REGISTERED CIVIL ENGINEER DATE 10/01/14

6-1-15  
PLANS APPROVAL DATE

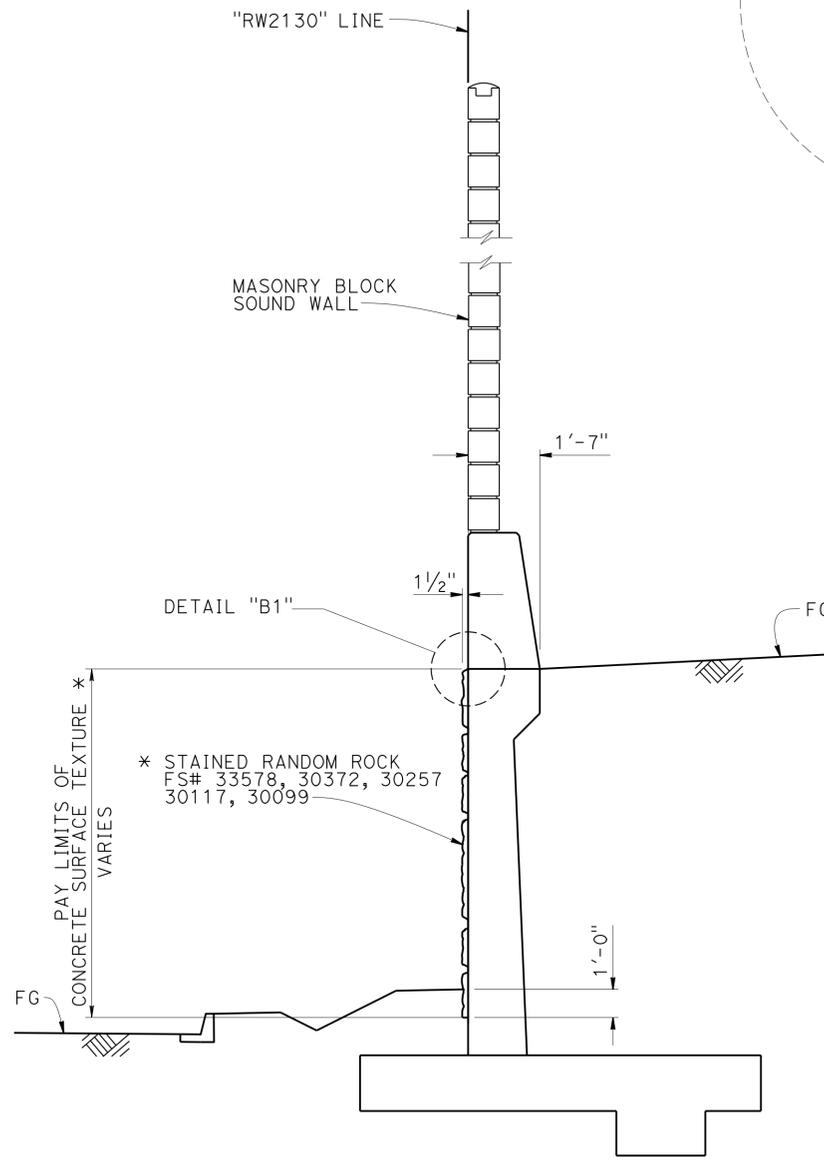
**RICHARD E. SCHEDEL**  
REGISTERED PROFESSIONAL ENGINEER  
No. C64259  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

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NOTE:  
Type 1SWB shown,  
Type 736S/SV  
Mod similar.



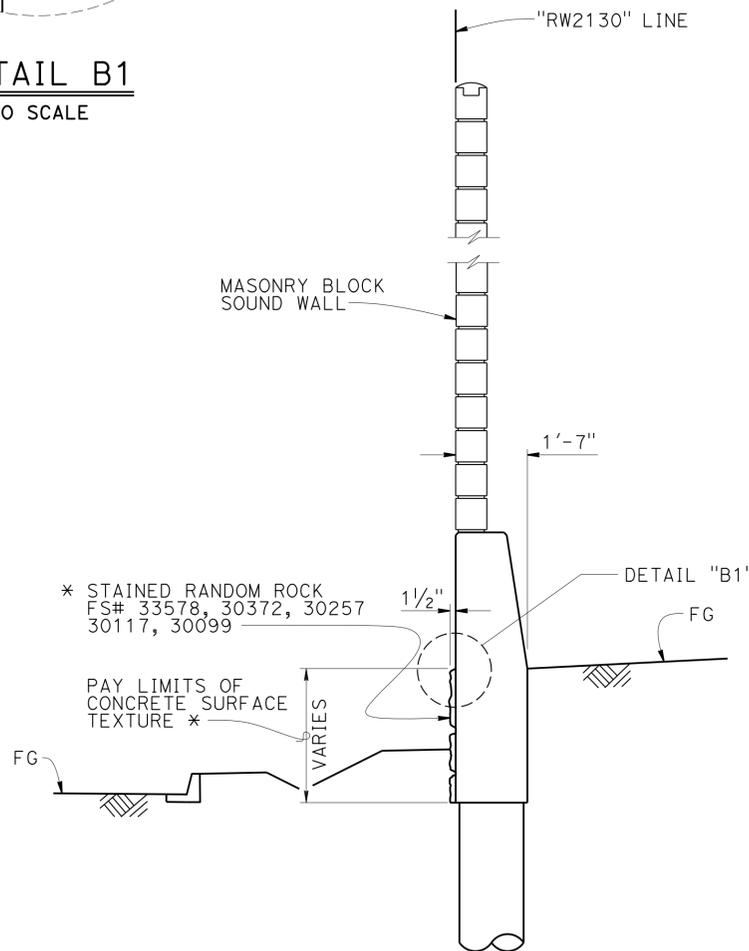
**DETAIL B1**  
NO SCALE



**TYPE 1SWB**

NOTE:  
"FS#" is Federal Standard Color Number.

**TYPICAL SECTIONS**  
NO SCALE

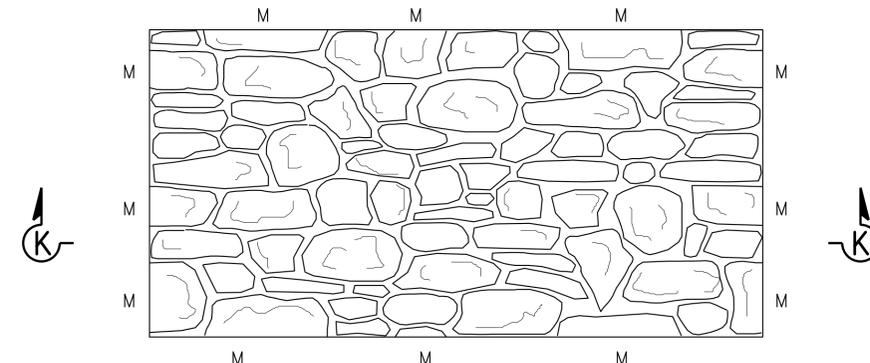


**TYPE 736SV (Mod 4)**

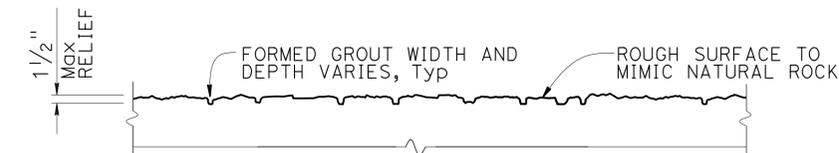


**ROCK SIZE**

NOTE:  
Seamless Random Rock pattern to have a minimum of 2 to a maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).



**ELEVATION**



**SECTION K-K**

**RANDOM ROCK TEXTURE**  
NO SCALE

DESIGN	BY VALERIE MOORE	CHECKED DAVID P. MURRAY
DETAILS	BY FARIDEH HOSSEINIQUON	CHECKED DAVID P. MURRAY
QUANTITIES	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT

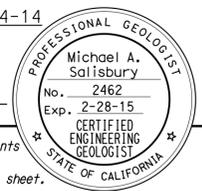
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 18**

BRIDGE NO.	53E0307
POST MILE	40.34

**RETAINING WALL NO. 2130**  
**ARCHITECTURAL DETAILS**

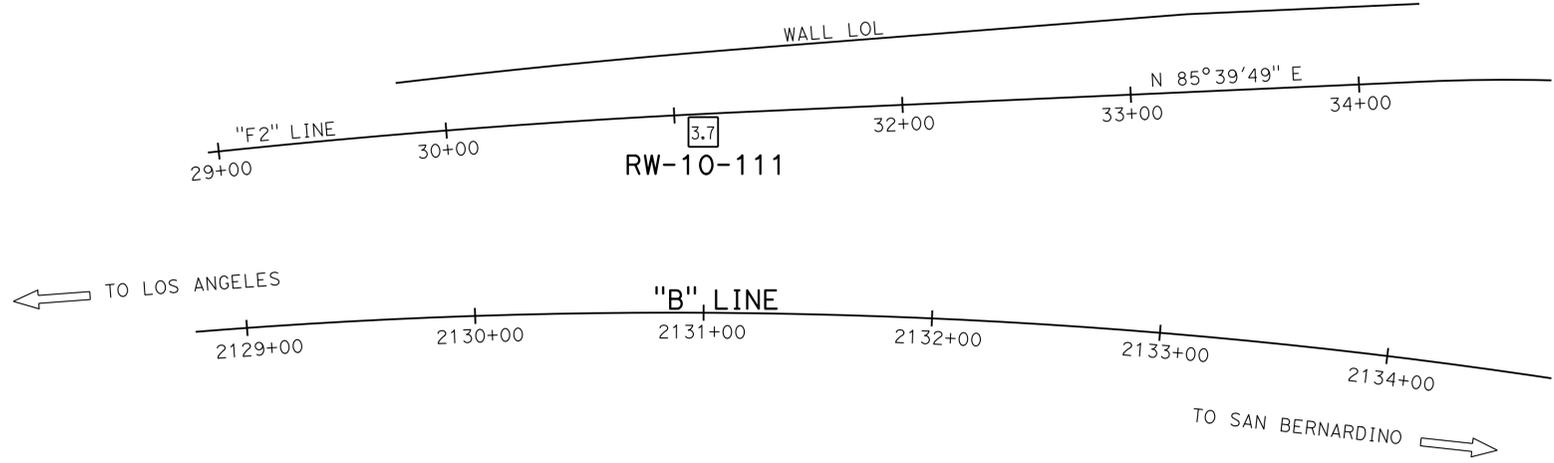
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	2036	2313
			1-14-14		
Michael A. Salisbury			CERTIFIED ENGINEERING GEOLOGIST		
			6-1-15	PLANS APPROVAL DATE	
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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

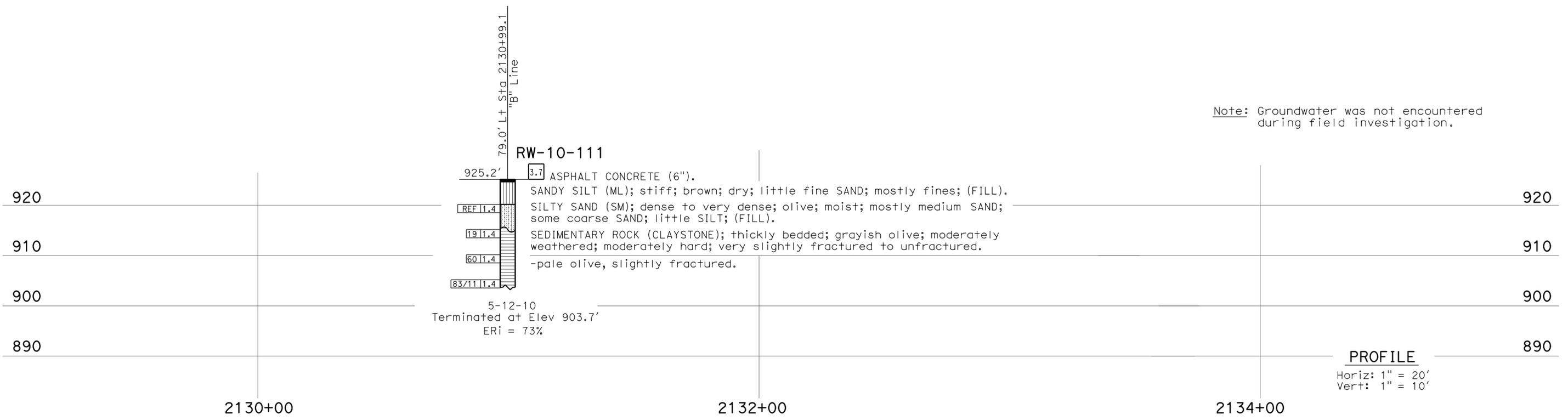
**BENCH MARK**

SUHV 1608 Elev 925.672  
PK N, in Shldr of Via Verde  
W/B On Ramp.  
NAVD88



**PLAN**  
1" = 40'

Note: Groundwater was not encountered during field investigation.



**PROFILE**  
Horiz: 1" = 20'  
Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RETAINING WALL NO. 2130</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen, 11/12		FIELD INVESTIGATION BY:		STRUCTURE DESIGN		53E0307		<b>LOG OF TEST BORINGS</b>	
NAME: D. Jang		CHECKED BY: H. Liu		M. Salisbury		<b>DESIGN BRANCH 18</b>		POST MILE			
								40.34			
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3643		CONTRACT NO.: 07-1193U1	
				0 1 2 3				PROJECT NUMBER & PHASE: 07130000071		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				FILE => 53e0307-z-1+tb.dgn				REVISION DATES		SHEET 11 OF 11	
								09-04-13 11-14-13 01-14-14			

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2037	2313

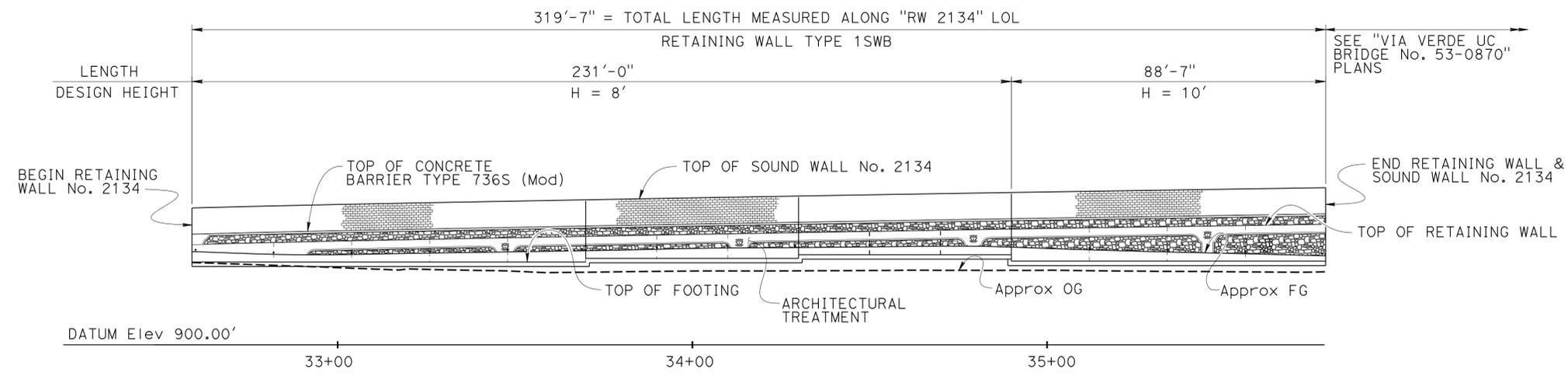
  

<i>Gabriel J. Galo</i>	10-1-14
REGISTERED CIVIL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

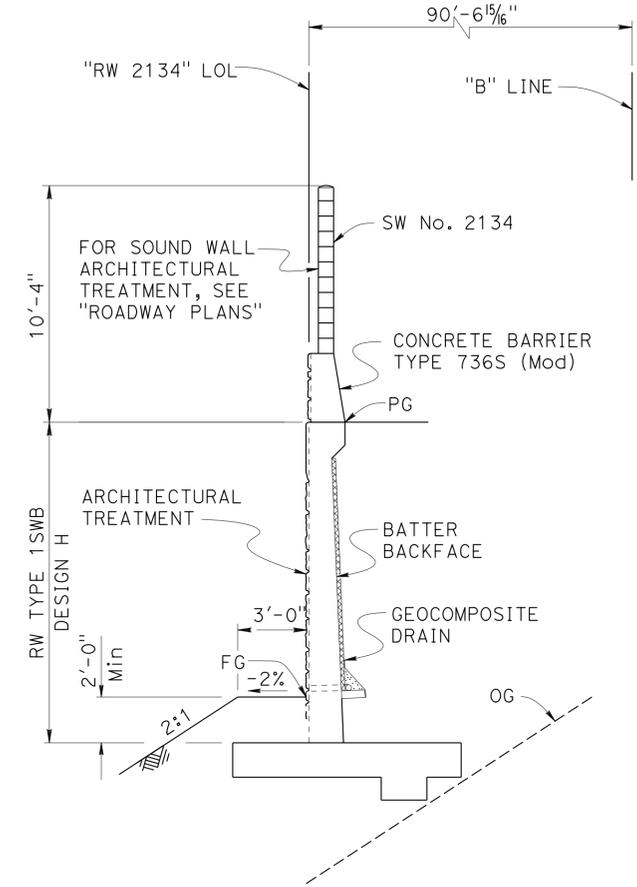
  

Gabriel J. Galo	REGISTERED PROFESSIONAL ENGINEER
No. 52288	
Exp. 12-31-14	
CIVIL	STATE OF CALIFORNIA

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**DEVELOPED MIRRORED ELEVATION**  
1" = 20'-0"



**TYPICAL SECTION**  
1/4" = 1'-0"

QUANTITIES

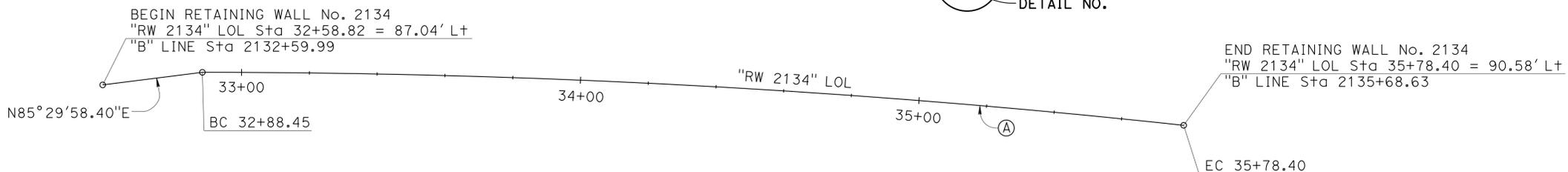
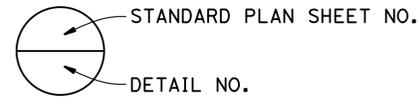
STRUCTURE EXCAVATION (RETAINING WALL)	402	CY
STRUCTURE EXCAVATION (TYPE Y-1)	34	CY
(AERIALY DEPOSITED LEAD)		
STRUCTURE BACKFILL (RETAINING WALL)	360	CY
STRUCTURAL CONCRETE, RETAINING WALL	239	CY
CONCRETE SURFACE TEXTURE	1,839	SOFT
BAR REINFORCING STEEL (RETAINING WALL)	33,746	LB
SOUND WALL (MASONRY BLOCK)	2,344	SOFT
PREPARE AND STAIN CONCRETE	1,697	SOFT
CONCRETE BARRIER (TYPE 736S MODIFIED)	320	LF

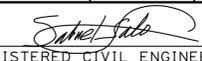
**INDEX TO PLANS**

SHEET NO.	TITLE
1	GENERAL PLAN
2	STRUCTURE PLAN NO. 1
3	STRUCTURE PLAN NO. 2
4	FOUNDATION PLAN
5	RETAINING WALL DETAILS
6	ARCHITECTURAL DETAILS NO. 1
7	ARCHITECTURAL DETAILS NO. 2
8	RETAINING WALL TYPE 1 SWB-DETAILS NO. 1
9	RETAINING WALL TYPE 1 SWB-DETAILS NO. 2
10	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 1
11	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 2
12	LOG OF TEST BORINGS 1 OF 2
13	LOG OF TEST BORINGS 2 OF 2

**STANDARD PLANS DATED 2010**

A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
B0-3	BRIDGE DETAILS
RSP B3-5	RETAINING WALL DETAILS NO. 1
RSP B11-56	CONCRETE BARRIER TYPE 736
RSP B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
B15-9	SOUND WALL MASONRY BLOCK MISCELLANEOUS DETAILS

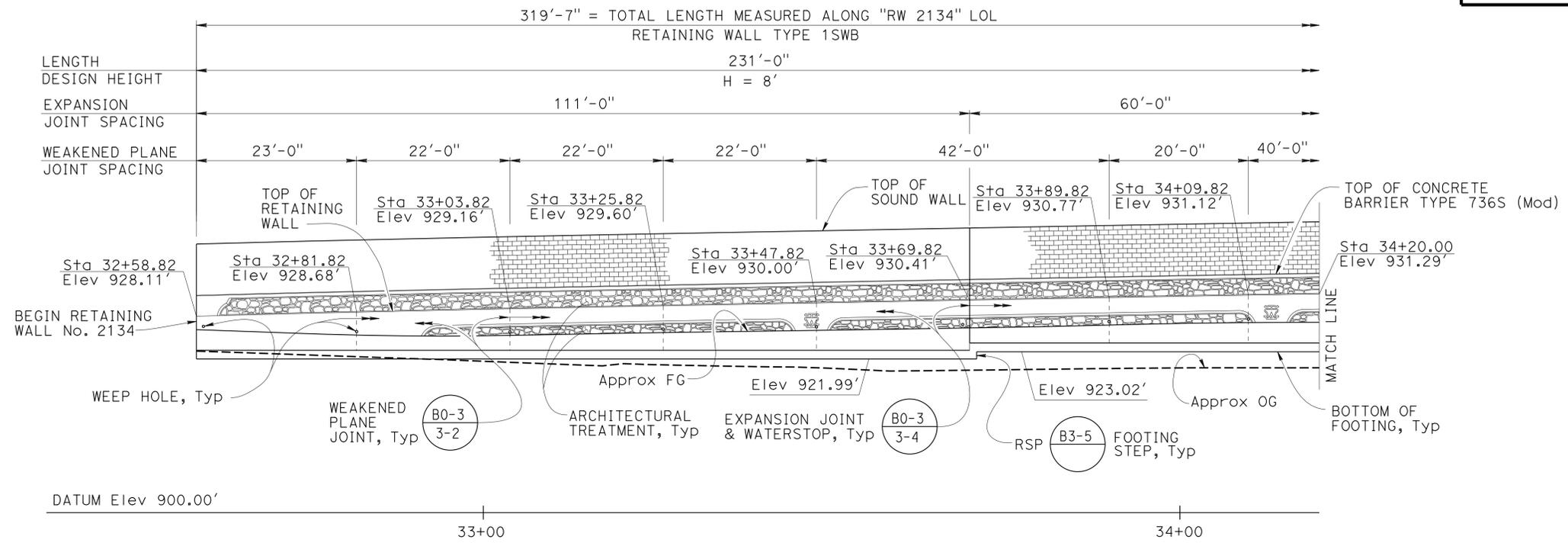


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2038	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
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NOTES:

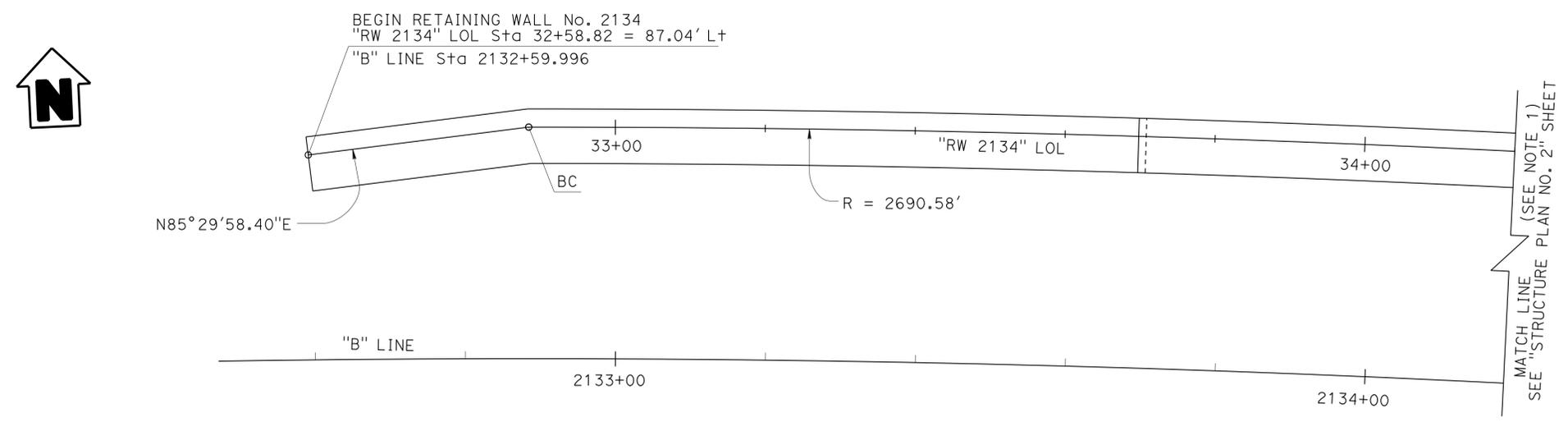
- "B" Line shown only for reference, offset to "RW 2134" Layout Line not to scale.
- For Retaining Wall Details, see "RETAINING WALL TYPE 1SWB - DETAILS NO. 1" and "RETAINING WALL TYPE 1SWB - DETAILS NO. 2" sheets.
- See "GENERAL PLAN" sheet for RW LOL Alignment information.

- For Sound Wall Barrier Details and Expansion Joint Details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 1" and "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 2" sheets.
- For Weep Hole Details see "RETAINING WALL DETAILS" sheet.
- For Architectural Treatment details, see "ARCHITECTURAL DETAILS NO. 1" and "ARCHITECTURAL DETAILS NO. 2" sheets.



**DEVELOPED MIRRORED ELEVATION**

1" = 10'-0"

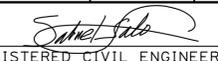


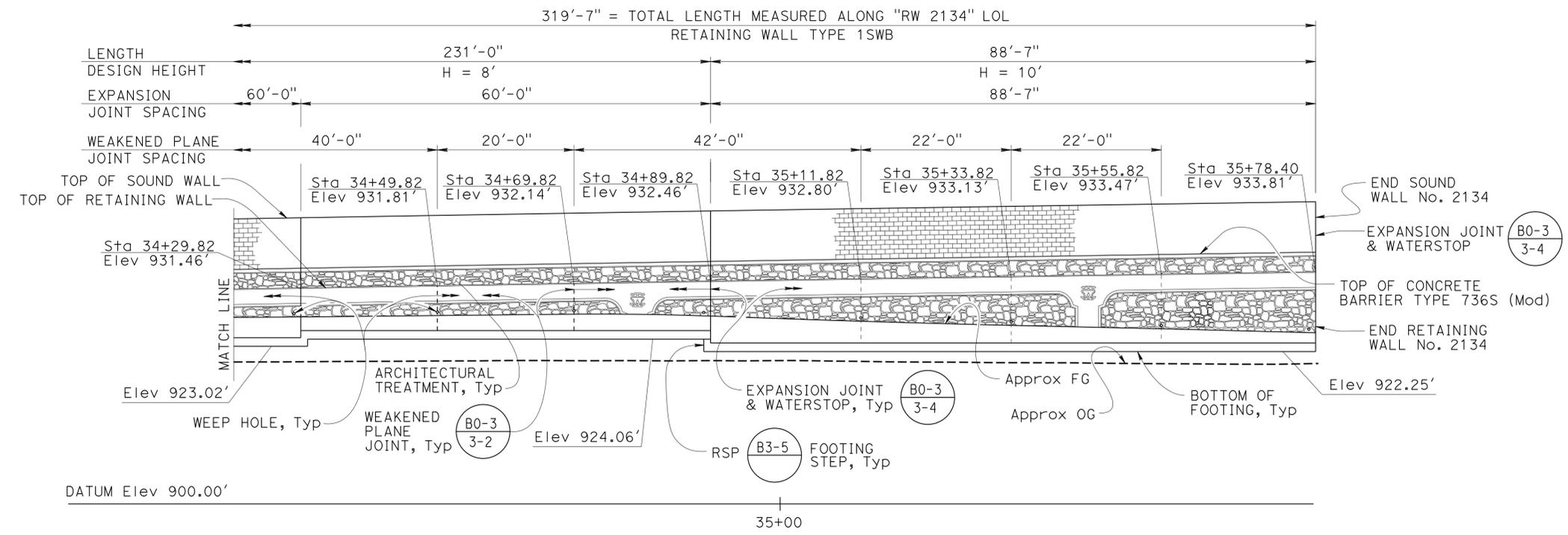
**PLAN**

1" = 10'-0"

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

DESIGN BY: Suzan Moradi CHECKED: Gabriel Galo DETAILS BY: Herman Mauroschat CHECKED: Gabriel Galo QUANTITIES BY: Suzan Moradi CHECKED: Fred Feng	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0310 POST MILE 40.39	<b>RETAINING WALL NO. 2134</b> <b>STRUCTURE PLAN NO. 1</b>
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007 CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
	REVISION DATES 5-27-13 10-17-13 5-23-14 12-28-15	SHEET OF 2 13		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2039	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					

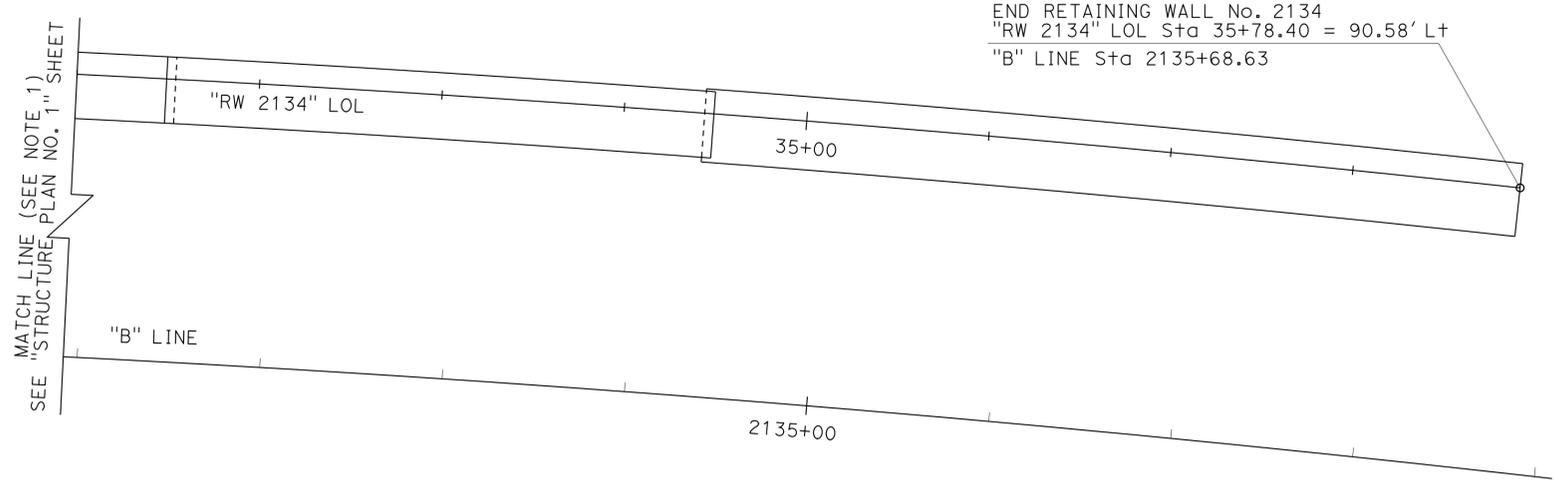


**DEVELOPED MIRRORED ELEVATION**

1" = 10'-0"

**NOTES:**

- "B" Line shown only for reference, offset to "RW 2134" Layout Line not to scale.
- For Retaining Wall Details, see "RETAINING WALL TYPE 1SWB - DETAILS NO. 1" and "RETAINING WALL TYPE 1SWB - DETAILS NO. 2" sheets.
- See "GENERAL PLAN" sheet for RW LOL Alignment information.
- For Sound Wall Barrier Details and Expansion Joint Details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 1" and "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 2" sheets.
- For Weep Hole Details see "RETAINING WALL DETAILS" sheet.
- For Architectural Treatment details, see "ARCHITECTURAL DETAILS NO. 1" and "ARCHITECTURAL DETAILS NO. 2" sheets.



**PLAN**

1" = 10'-0"

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

DESIGN	BY Suzan Moradi	CHECKED Gabriel Galo
DETAILS	BY Herman Mauroschadt	CHECKED Gabriel Galo
QUANTITIES	BY Suzan Moradi	CHECKED Fred Feng

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0310
POST MILE	40.39

**RETAINING WALL NO. 2134**  
**STRUCTURE PLAN NO. 2**

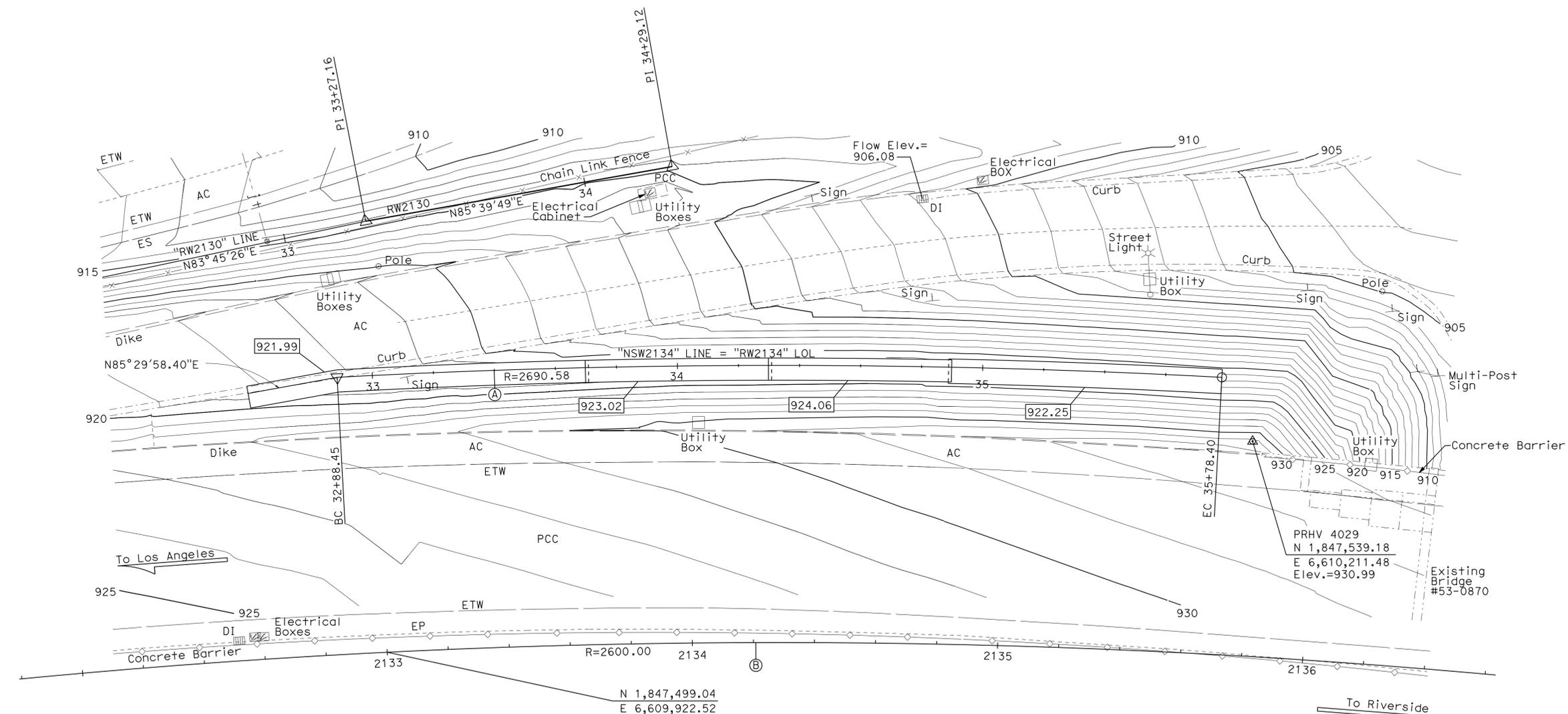
CURVE DATA

No.	R	Δ	T	L
A	2690.58	06°10'28.34"	145.117	289.953
B	2600.00	30°34'09"	710.53	1387.18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2040	2313



*Gabriel J. Galo*  
 REGISTERED CIVIL ENGINEER DATE 10-1-14  
 6-1-15  
 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.

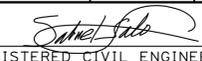


**SURVEY CONTROL**  
 PRHV 4029  
 Fnd 1" IP w/CT Plug  
 70.28 FT Lt. "A" Line Rte 10  
 Sta. 2135+79.53  
 N 1,847,539.18  
 E 6,610,211.48  
 Elev. = 930.99  
 PRHV 10 (Not Shown On Plan)  
 Fnd L&T w/LA, Co Eng Washer  
 169.30 FT Rt. "RTE10" LINE Rte 10  
 Sta. 2136+50.57  
 N 1,847,291.22  
 E 6,610,239.06  
 Elev. = 914.10

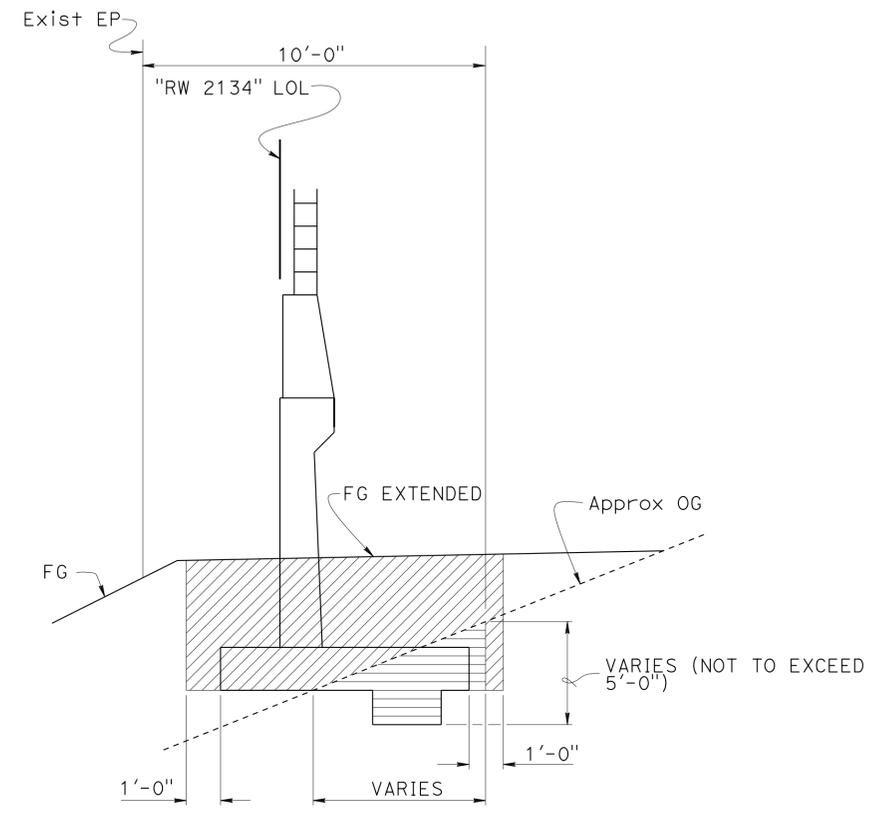
**LEGEND:**  
 xxx.xx Denotes Bottom of Footing Elevation

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY <i>Suzan Moradi</i> CHECKED <i>Gabriel Galo</i>	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0310	<b>RETAINING WALL NO. 2134</b> <b>FOUNDATION PLAN</b>
SCALE VERT. DATUM NAVD88 1"=20'	PHOTOGRAMMETRY AS OF: X SURVEYED BY <i>District</i> 04/2008 CHECKED BY <i>C.Fasset</i> 01/2011	DETAILS BY <i>Herman Mauroschadt</i> CHECKED <i>Gabriel Galo</i>	POST MILE 40.39					
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY <i>J.Martinez</i> 01/2011 CHECKED BY <i>T.Schmalz</i> 01/2011	QUANTITIES BY <i>Suzan Moradi</i> CHECKED <i>Fred Feng</i>	UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007 CONTRACT NO.: 07-1193U1					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 01/28/11 06/09/11 01/21/14	SHEET 4 OF 13

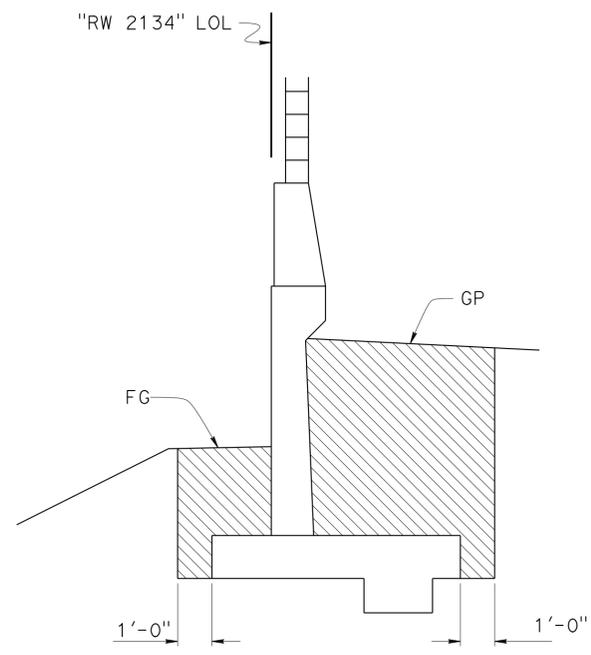
USERNAME => s125624 DATE PLOTTED => 16-MAY-2015 TIME PLOTTED => 16:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2041	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					

- LEGEND:
-  Indicates Structure Excavation (Retaining Wall)
  -  Indicates Structure Backfill (Retaining Wall)
  -  Indicates Structure Excavation (Type Y-1) (Aerially Deposited Lead)

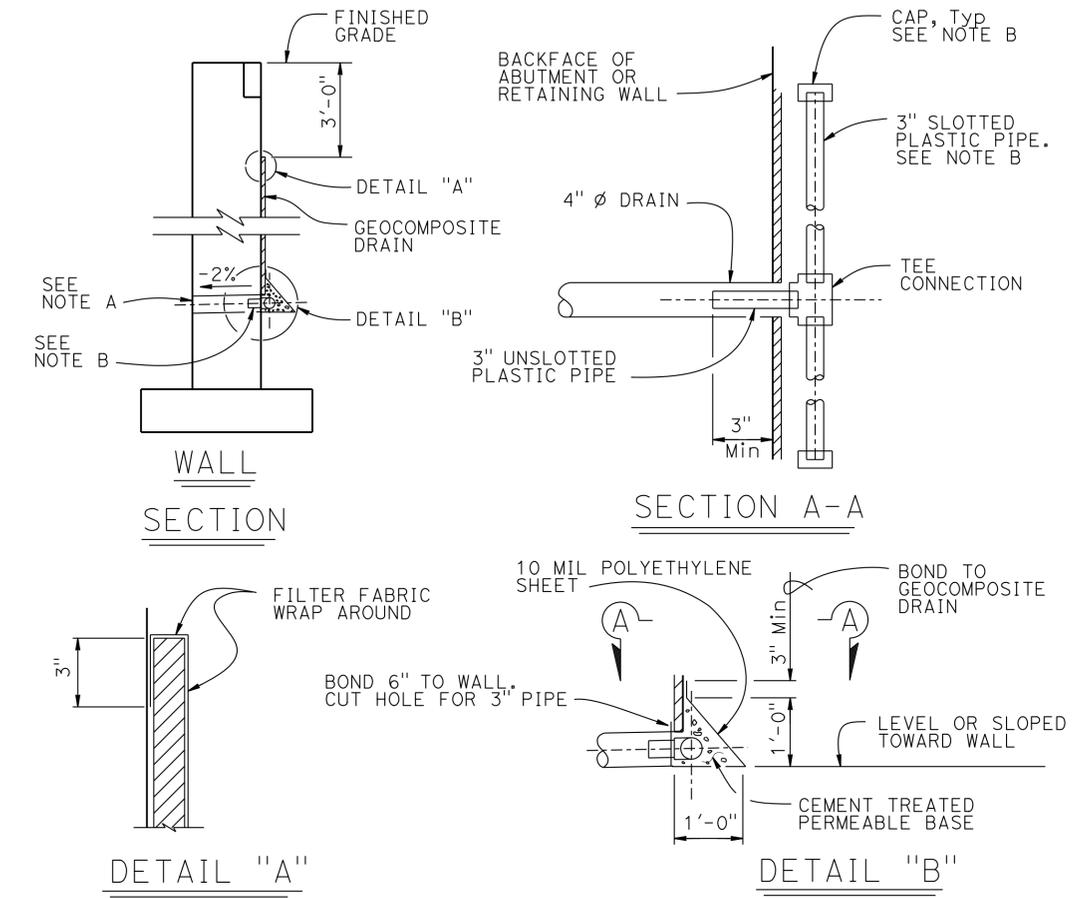


**EXCAVATION**



**BACKFILL**

**STRUCTURE EXCAVATION AND BACKFILL**  
NO SCALE



**WEEP HOLE AND GEOCOMPOSITE DRAIN**

ALTERNATIVE TO BRIDGE DETAIL BO-3  
3-1

- NOTES:
- A. 4"  $\phi$  drains at intermediate sag points and at 25' max center to center (9' c-c for Type 3 and 9'-3" c-c for Type 4 retaining walls). For walls adjacent to sidewalks or curbs, provide 4" cast iron or asbestos cement pipe under the sidewalk to discharge through curb face. Exposed wall drains must be located 3"± above finished grade.
  - B. Geocomposite drain, cement treated permeable base, and 3"  $\phi$  slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4"  $\phi$  drain.
  - C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Suzan Moradi	CHECKED Gabriel Galo	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO.	53E0310	<b>RETAINING WALL NO. 2134</b> <b>RETAINING WALL DETAILS</b>	
	DETAILS	BY Herman Mauroschat	CHECKED Gabriel Galo			POST MILE	40.39		
	QUANTITIES	BY Suzan Moradi	CHECKED Fred Feng						
				UNIT: 3604	PROJECT NUMBER & PHASE: 071300007	CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 11-28-14 02-10-15 5-27-14 02-06-15	SHEET 5 OF 13

TIME PLOTTED => 18-MAY-2015 8:12:56Z DATE PLOTTED => 16:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2042	2313

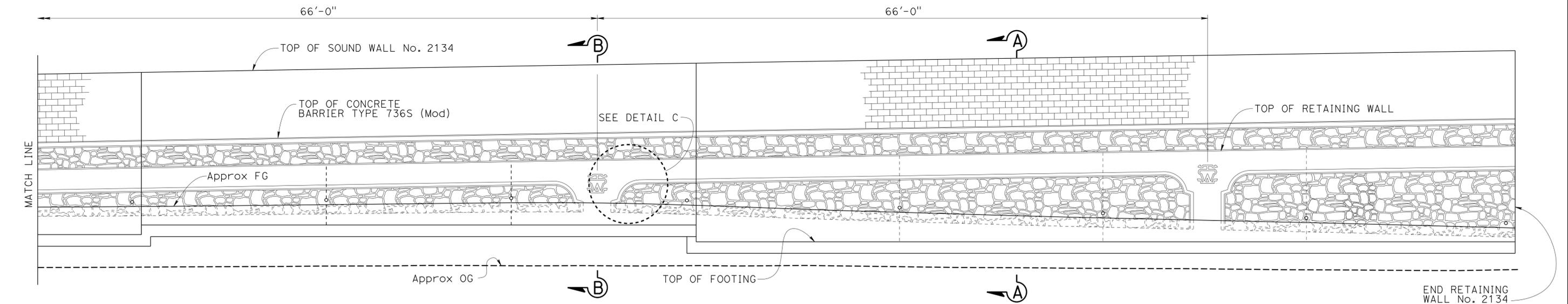
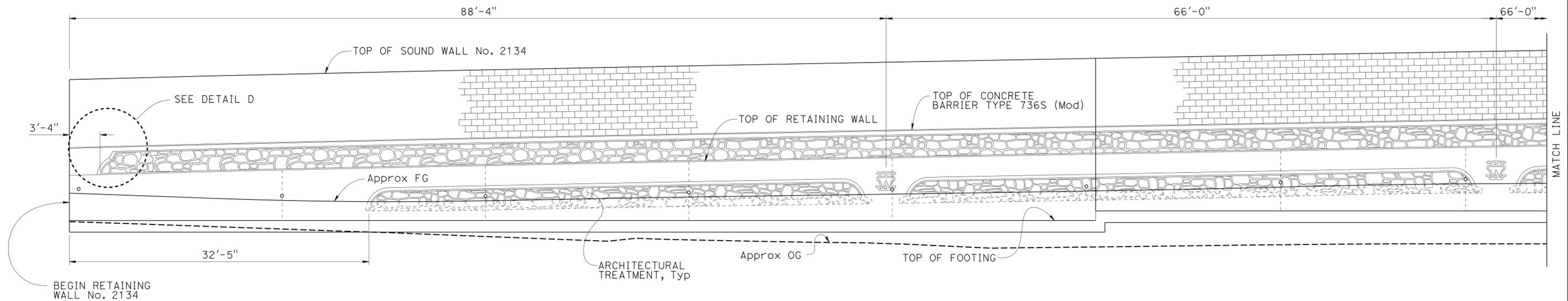
NOTE:  
1. For "SECTION A-A", "SECTION B-B", "DETAIL C" and "DETAIL D" see "ARCHITECTURAL DETAILS NO. 2" sheet.

*Gabriel Galo*  
REGISTERED CIVIL ENGINEER DATE 10-1-14

6-1-15  
PLANS APPROVAL DATE

Gabriel J. Galo  
No. 52288  
Exp. 12-31-14  
CIVIL  
STATE OF CALIFORNIA

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**DEVELOPED MIRRORED ELEVATION**  
3/16" = 1'-0"

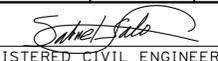
DESIGN	BY V. Moore	CHECKED Gabriel Galo
DETAILS	BY Herman Mauroschat	CHECKED Gabriel Galo
QUANTITIES	BY Suzan Moradi	CHECKED Fred Feng

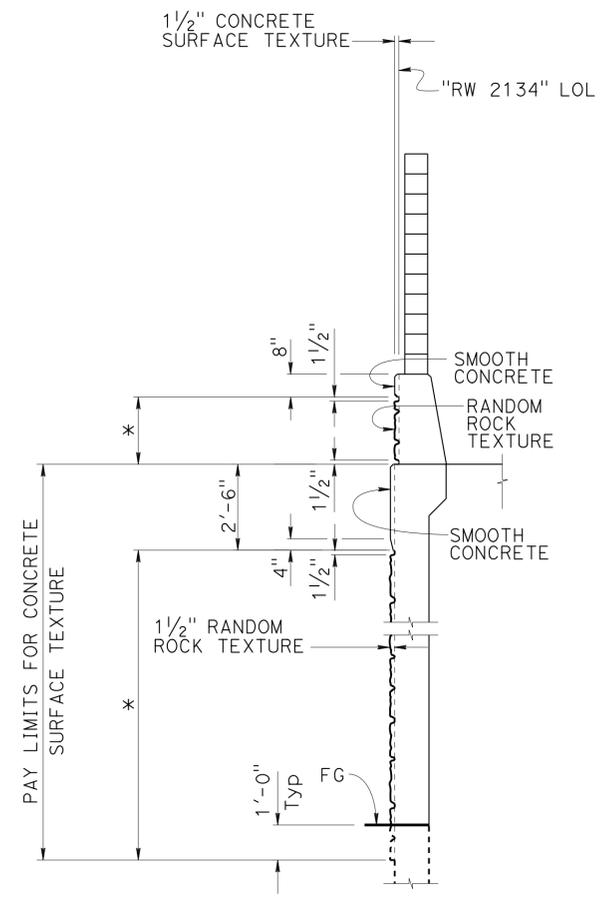
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

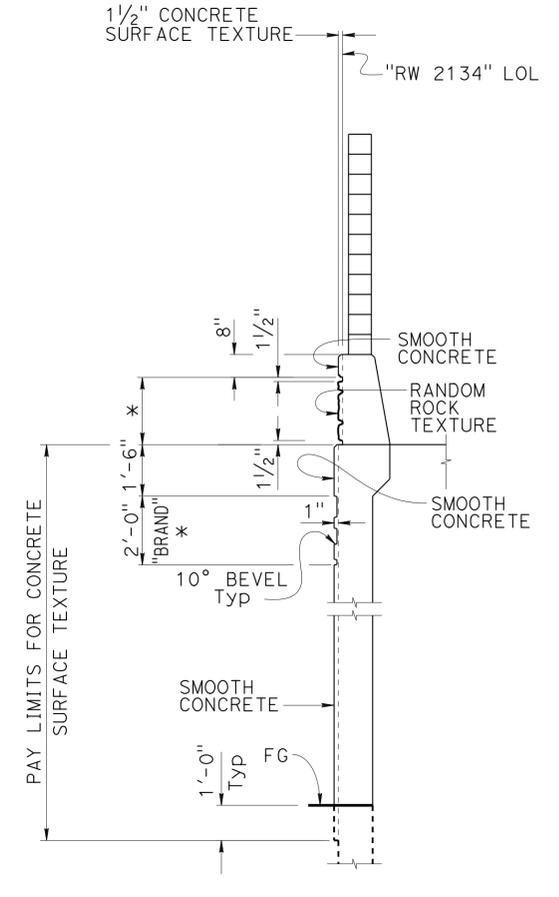
BRIDGE NO.	53E0310
POST MILE	40.39

**RETAINING WALL NO. 2134**  
**ARCHITECTURAL DETAILS NO. 1**

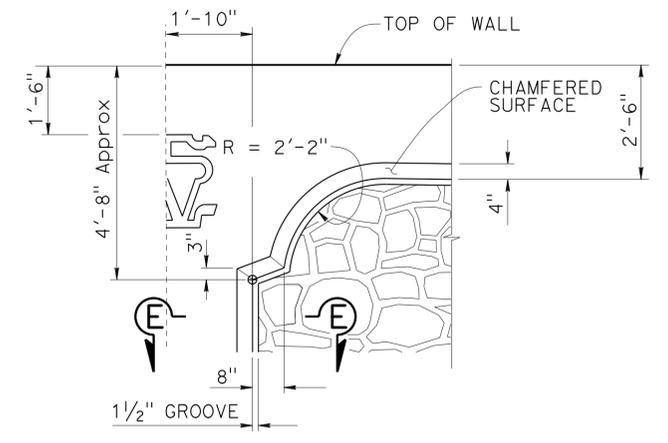
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2043	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					
					



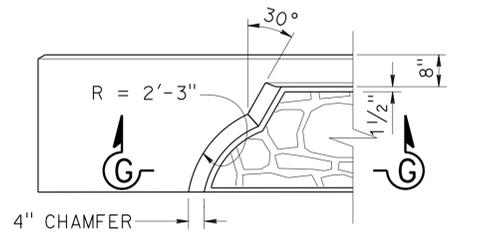
**SECTION A-A**  
NO SCALE



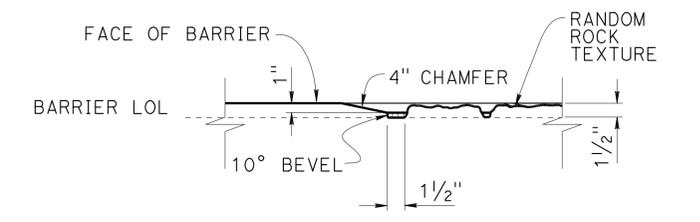
**SECTION B-B**  
NO SCALE



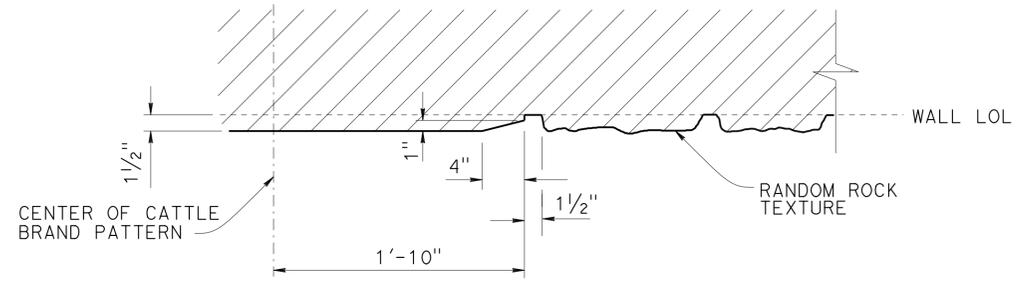
**DETAIL C**  
NO SCALE



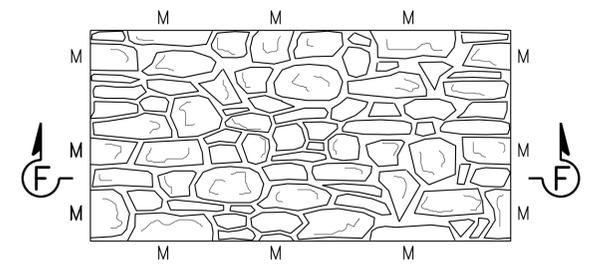
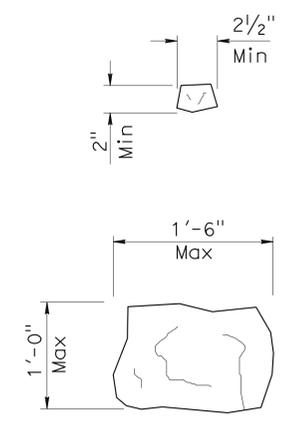
**DETAIL D**  
NO SCALE



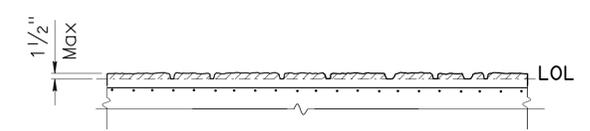
**SECTION G-G**  
NO SCALE



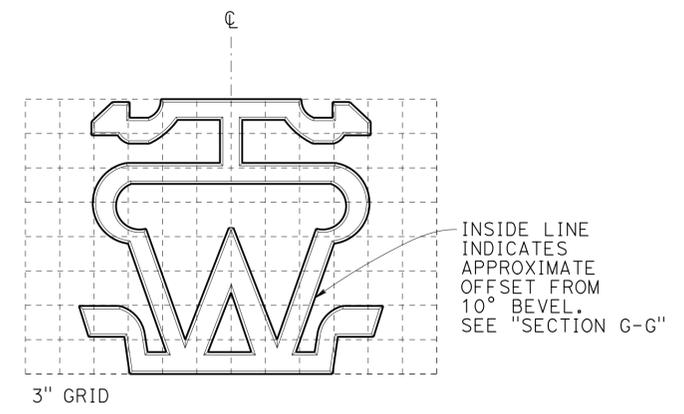
**SECTION E-E**  
NO SCALE



**RANDOM ROCK TEXTURE**  
NO SCALE



**SECTION F-F**  
NO SCALE



**ARCHITECTURAL SURFACE TREATMENT (CATTLE BRAND PATTERN)**  
NO SCALE

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

NOTE:  
Seamless random rock pattern to have a minimum of 2 to maximum of 4 match points for each matchline, top, bottom, and side to side.  
Finish stain random rock texture with Federal Standard #'s 33578, 30372, 30257, 30117 and 30099

LEGEND:  
\* Indicates Pay Limits for Prepare and Stain Concrete.

NOTE:  
1. Stain Federal color 30117

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY V. Moore	CHECKED Gabriel Galo	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 15	BRIDGE NO.	53E0310	RETAINING WALL NO. 2134 ARCHITECTURAL DETAILS NO. 2					
	DETAILS	BY Herman Mauroschat	CHECKED Gabriel Galo			POST MILE	40.39						
	QUANTITIES	BY Suzan Moradi	CHECKED Fred Feng			CONTRACT NO.:	07-1193U1						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0	1	2	3	UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.:	07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7 OF 13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2044	2313

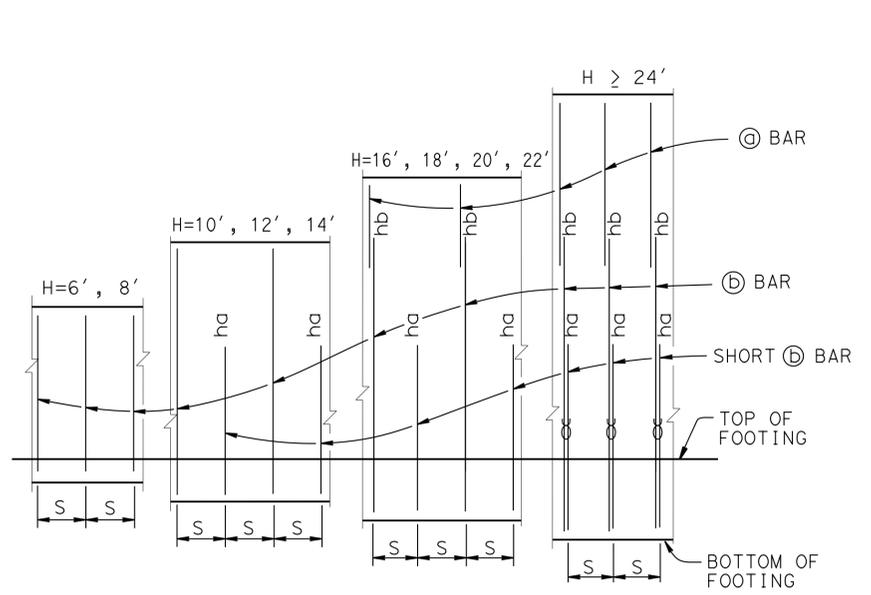
  

<i>Sublet</i>		10-1-14
REGISTERED CIVIL ENGINEER	DATE	
6-1-15		
PLANS APPROVAL DATE		

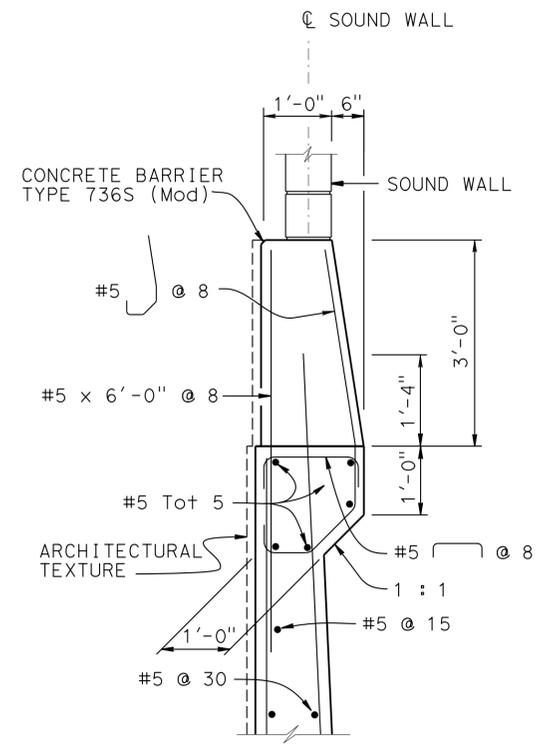
REGISTERED PROFESSIONAL ENGINEER	
Gabriel J. Galo	
No. 52288	
Exp. 12-31-14	
CIVIL	
STATE OF CALIFORNIA	

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**ELEVATION**  
No Scale

NOTES:  
 "ha" and "hb" above (B) bars indicate distance from top of footing to upper end of (B) bars, see table.  
 "S" is (B) bar spacing, see table.  
 Ø : 2 bar bundle

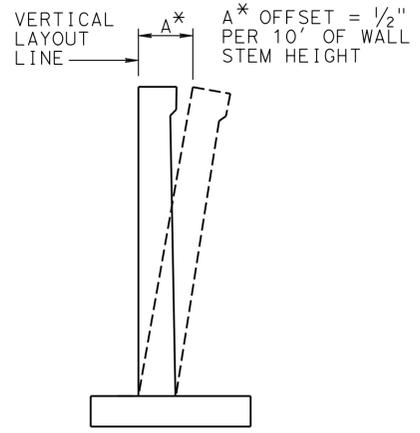


**DETAIL A**  
3/4 = 1'-0"

**DESIGN DATA**

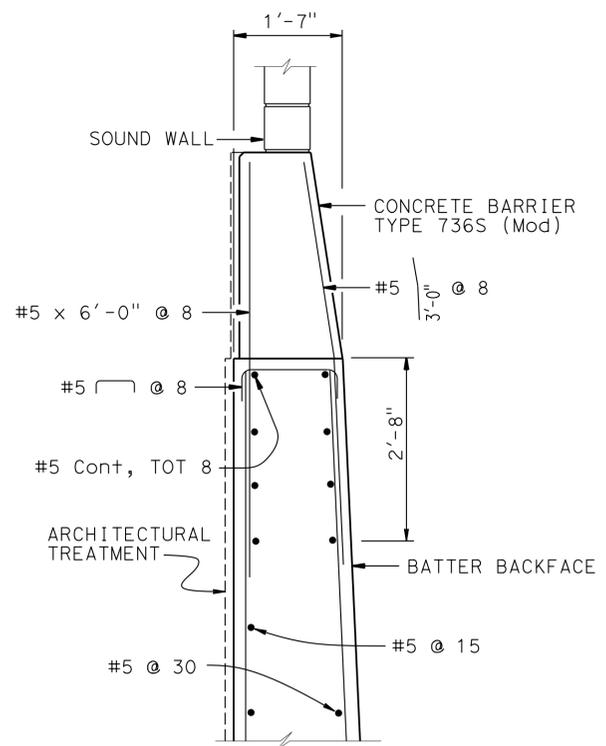
Design: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments  
 WS: 33 psf on Sound Wall and Barrier  
 LS: Varied surcharge on level ground surface  
 CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward  
 EQE: Mononabe-Okabe Method  
 $K_h = 0.3$   
 $K_v = 0.0$   
 Soil:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf  
 Reinforced Concrete:  $f'_c = 3600$  psi  
 $f_y = 60,000$  psi  
 Load Combinations and Limit States  
 Service I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS + 0.30WS$   
 Service II  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00WS$   
 Strength I  $Q = aDC + \beta EV + 1.50EH + 1.75LS$   
 Strength III  $Q = aDC + \beta EV + 1.50EH + 1.40WS$   
 Strength V  $Q = aDC + \beta EV + 1.50EH + 1.35LS + 0.40WS$   
 Extreme I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$   
 Extreme II  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00CT$

Where: Q: Force Effects  
 a: 1.25 or 0.90, which ever Controls Design  
 B: 1.35 or 1.00, which ever Controls Design  
 DC: Dead Load of Structure Components  
 EV: Vertical Earth Fill Pressure  
 LS: Live Load Surcharge  
 EQE: Seismic Earth Pressure  
 EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design  
 WS: Wind Load on Sound Wall and Barrier  
 CT: Vehicular Collision Force



**WALL OFFSET**  
No Scale

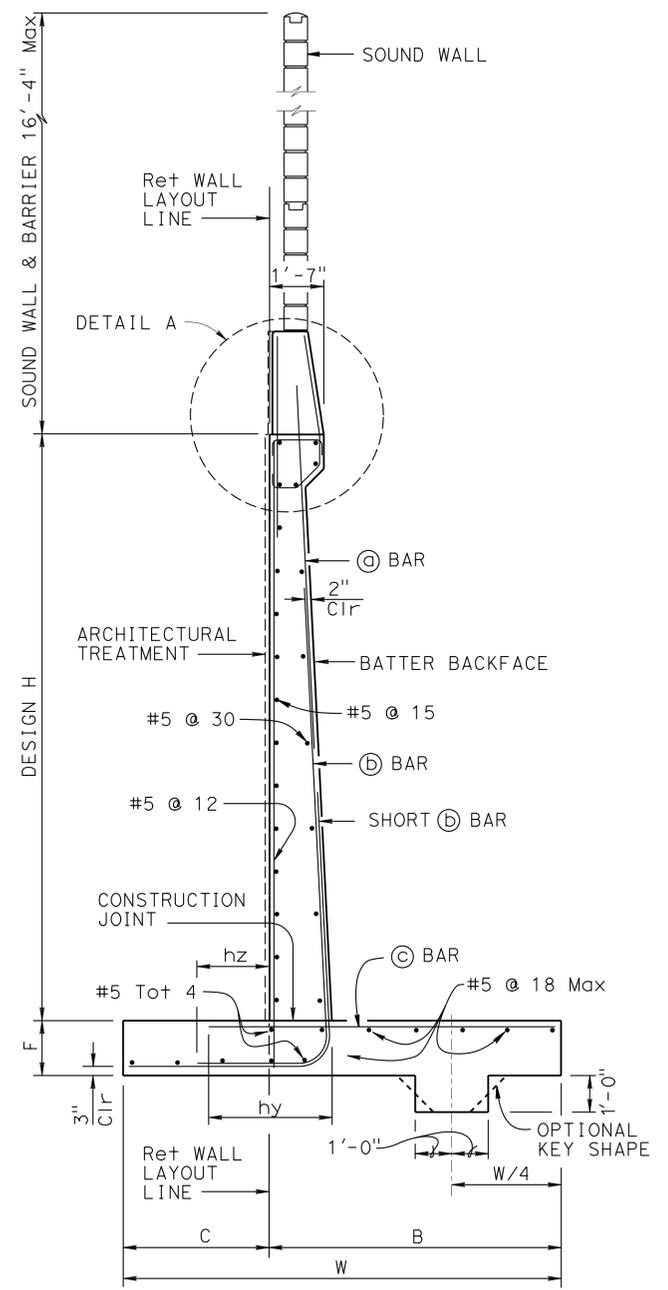
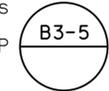
Values for offsetting forms to be determined by the Engineer



**OPTIONAL DETAIL A**  
3/4 = 1'-0"

For Details not shown, see "DETAIL A"

- NOTES:
1. For sound wall and retaining wall Architectural treatment see details elsewhere in Project Plans
  2. For details not shown and drainage notes see RSP
  3. Footing cover, 2'-0" minimum.
  4. For sound wall and barrier reinforcement details, see "SOUND WALL - MASONRY BLOCK WITH BARRIER ON RETAINING WALL" sheet.
  5. For H = 6' through 14', extend (B) bars into Barrier for stem with haunch.
  6. For H ≥ 16', extend (A) bars into Barrier for stem with haunch.



**SPREAD FOOTING SECTION**  
No Scale

**SPECIAL DETAILS**

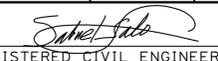
REVISED STANDARD DRAWING	
FILE NO. <b>xs14-220-1</b>	APPROVAL DATE July 2011

1 Modified Note	2 Modified Detail
-----------------	-------------------

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES
DEPARTMENT OF TRANSPORTATION	

BRIDGE NO. 53E0310	RETAINING WALL NO. 2134
POST MILE 40.39	
RETAINING WALL TYPE 1SWB-DETAILS NO. 1	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2045	2313

  
 REGISTERED CIVIL ENGINEER DATE 10-1-14  
 PLANS APPROVAL DATE 6-1-15  
 No. 52288  
 Exp. 12-31-14  
 CIVIL  
 STATE OF CALIFORNIA

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TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

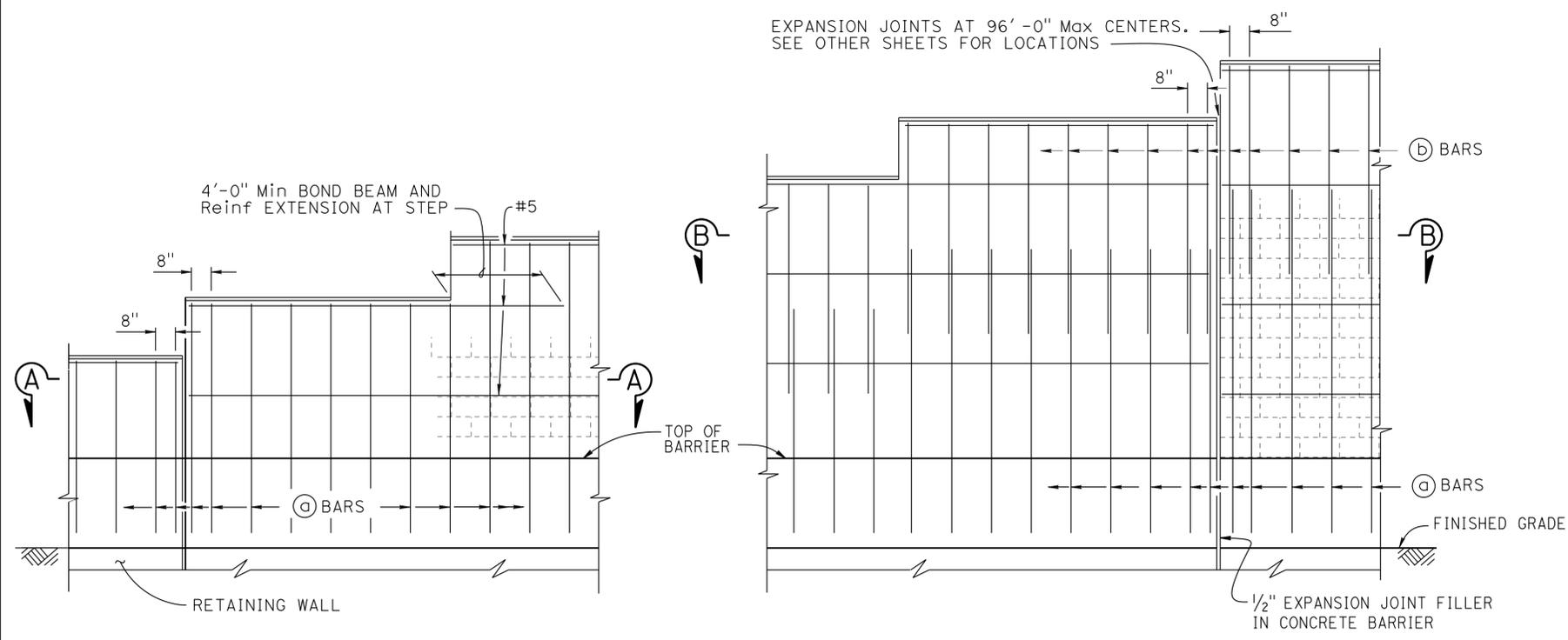
DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
W	6'-9"	7'-3"	8'-0"	8'-9"	10'-0"	11'-6"	12'-9"	14'-0"	15'-9"	18'-0"	19'-9"	21'-9"	23'-3"	25'-3"
C	2'-3"	2'-5"	2'-8"	2'-11"	3'-4"	3'-10"	4'-3"	4'-8"	5'-3"	6'-0"	6'-7"	7'-3"	7'-9"	8'-5"
B	4'-6"	4'-10"	5'-4"	5'-10"	6'-8"	7'-8"	8'-6"	9'-4"	10'-6"	12'-0"	13'-2"	14'-6"	15'-6"	16'-10"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"	1'-6"	1'-9"	1'-9"	2'-3"	2'-6"	2'-6"	2'-9"	3'-0"	3'-6"	3'-9"
STEM WITH HAUNCH, BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	3/4:12	7/8:12	1:12	1:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12	1/2:12	3/4:12	3/4:12	3/4:12
Ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 9	#9 @ 9
Ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6	#8 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
ha			5'-0"	6'-0"	7'-0"	7'-0"	6'-0"	7'-0"	7'-6"	7'-6"	8'-6"	9'-3"	15'-0"	11'-3"
hb						11'-6"	12'-0"	13'-3"	16'-0"	15'-6"	17'-6"	18'-9"	21'-0"	20'-9"
hy	2'-0"	2'-4"	1'-8"	2'-0"	2'-4"	2'-10"	2'-10"	3'-7"	3'-7"	4'-6"	5'-6"	2'-10"	4'-6"	5'-6"
hz			0	0	3'-1"	3'-7"	4'-0"	4'-5"	5'-0"	3'-0"	3'-0"	3'-6"	5'-6"	3'-0"
Ⓒ BARS	#6 @ 12	#7 @ 12	#5 @ 6	#6 @ 6	#7 @ 6	#8 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#11 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
SER I: B'(ft), q <sub>0</sub> (ksf)	5.9, 1.2	6.0, 1.4	6.5, 1.6	7.0, 1.8	8.1, 1.9	9.7, 2.0	11.0, 2.1	12.1, 2.3	13.8, 2.4	16.6, 2.4	18.5, 2.6	20.7, 2.7	22.1, 2.9	24.3, 3.0
STR Ia: B'(ft), q <sub>0</sub> (ksf)	6.3, 1.9	6.3, 2.3	6.7, 2.5	7.0, 2.9	8.1, 3.1	9.5, 3.2	10.8, 3.4	11.8, 3.7	13.4, 4.0	16.2, 4.0	18.0, 4.2	20.2, 4.4	21.5, 5.0	23.7, 5.0
STR, Ib: B'(ft), q <sub>0</sub> (ksf)	4.3, 1.6	4.1, 2.0	4.3, 2.4	4.5, 2.8	5.5, 2.9	6.9, 2.9	8.2, 3.0	9.0, 3.4	10.4, 3.5	13.2, 3.4	14.8, 3.5	16.9, 3.6	18.0, 3.9	20.1, 4.1
STR, IIIa: B'(ft), q <sub>0</sub> (ksf)	4.3, 2.1	4.8, 2.4	5.5, 2.5	6.2, 2.8	7.4, 2.9	9.1, 3.0	10.4, 3.2	11.5, 3.7	13.3, 3.7	16.1, 3.8	18.0, 4.0	20.3, 4.2	21.6, 4.6	23.8, 4.9
STR, IIb: B'(ft), q <sub>0</sub> (ksf)	3.2, 2.1	3.6, 2.3	4.2, 2.4	4.7, 2.6	5.9, 2.7	7.4, 2.7	8.6, 2.8	9.5, 3.1	11.2, 3.0	14.0, 3.2	15.8, 3.3	17.9, 3.4	19.1, 3.7	21.2, 3.9
STR, Va: B'(ft), q <sub>0</sub> (ksf)	5.9, 2.0	5.9, 2.3	6.4, 2.6	6.8, 2.9	7.9, 3.1	9.4, 3.2	10.6, 3.4	11.7, 3.9	13.4, 3.9	16.1, 4.0	18.0, 4.2	20.2, 4.5	21.5, 4.9	23.7, 5.1
STR, Vb: B'(ft), q <sub>0</sub> (ksf)	3.8, 1.7	3.8, 2.1	4.2, 2.5	4.4, 2.8	5.5, 2.9	7.0, 2.9	8.2, 3.0	9.0, 3.3	10.5, 3.4	13.3, 3.3	15.0, 3.5	17.1, 3.6	18.2, 3.9	20.3, 4.0
Ext I: B'(ft), q <sub>0</sub> (ksf)	2.5, 2.8	2.0, 4.3	1.7, 6.4	1.2, 10.9	1.3, 13.3	1.7, 12.4	1.9, 13.2	1.9, 17.6	2.5, 15.0	4.5, 10.2	5.3, 10.0	6.6, 9.6	6.8, 10.8	8.1, 10.5
Ext II: B'(ft), q <sub>0</sub> (ksf)	1.4, 4.9	2.5, 3.5	3.8, 2.8	4.9, 2.7	6.6, 2.5	8.6, 2.5	10.1, 2.5	11.5, 2.6	13.5, 2.8	16.4, 2.8	18.4, 2.9	20.7, 3.1	22.1, 3.3	24.4, 3.5

LEGEND:  
 SER: service limit state  
 STR: strength limit state  
 EXT: extreme event limit state  
 B': effective footing width (ft)  
 q<sub>0</sub>: net bearing stress (ksf)  
 q<sub>g</sub>: gross uniform bearing stress (ksf)  
 ∅: 2 bar bundle

STANDARD DRAWING		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO. 53E0310		RETAINING WALL NO. 2134					
FILE NO. xs14-220-2	APPROVAL DATE December 2012	DEPARTMENT OF TRANSPORTATION		PROJECT NUMBER & PHASE: 071300007		POST MILE 40.39		RETAINING WALL TYPE 1 SWB-DETAILS NO. 2					
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3604		CONTRACT NO.: 07-1193U1		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 9	OF 13

FILE => 53e0310-xs14-220-2.dgn  
 USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:08

EXPANSION JOINTS AT 96'-0" Max CENTERS.  
SEE OTHER SHEETS FOR LOCATIONS

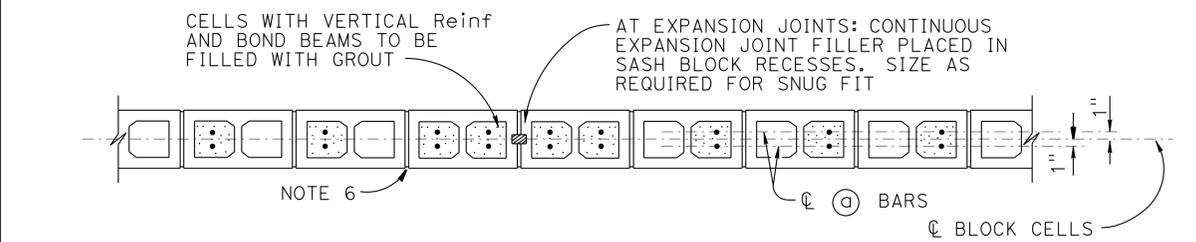


MAXIMUM "H"	(a) BARS @ 1'-4" Max	(b) BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4	---	---	1500	1900	6'-4"
8'-4"	#4	---	---	1500	1900	8'-4"
10'-4"	#4	---	---	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3700	16'-4"

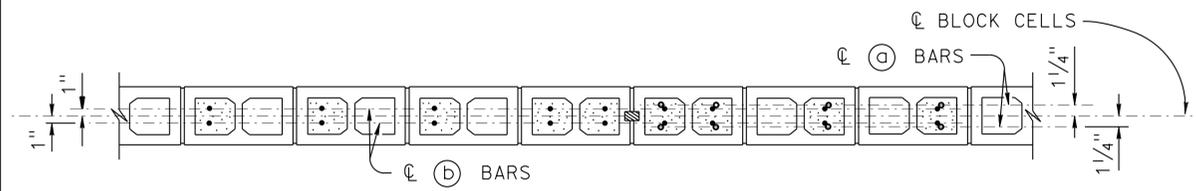
H=6'-4" THRU H=10'-4"

H=12'-4" THRU H=16'-4"

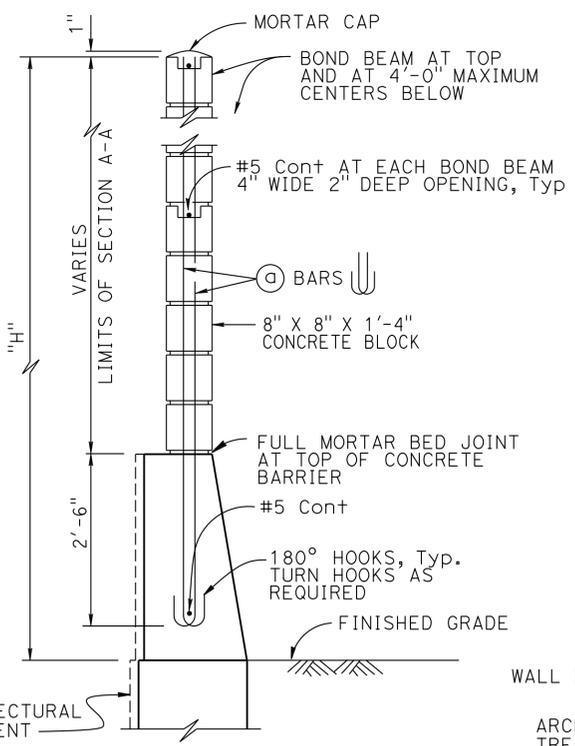
**PART ELEVATION**



**SECTION A-A**



**SECTION B-B**

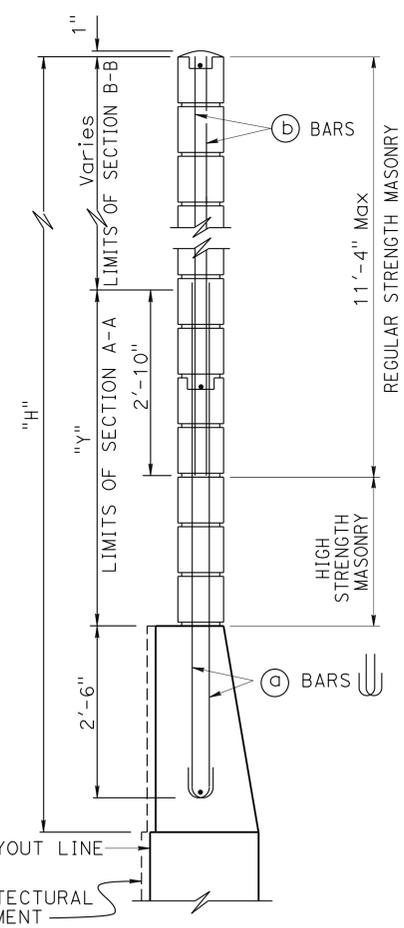


H=6'-4" THRU H=10'-4"

H=12'-4" THRU H=16'-4"

For details not shown, see H=12'-4" thru H=16'-4" For details not shown, see H=6'-4" thru H=10'-4"

**TYPICAL SECTION**



- NOTES:
- For details not shown, see "SOUND WALL - MASONRY BLOCK WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheet
  - Slope ground at traffic side of barrier to drain. Maximum slope ±10%
  - See STANDARD PLAN B15-9 for other details
  - For type of block and joint finish, see other sheets
  - When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wire continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams
  - Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked
  - For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H"
  - Masonry strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
  - Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard

NO SCALE

**SPECIAL DETAILS**

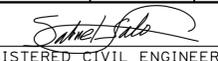
**RETAINING WALL NO. 2134**  
**MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL**  
**DETAILS NO. 1**

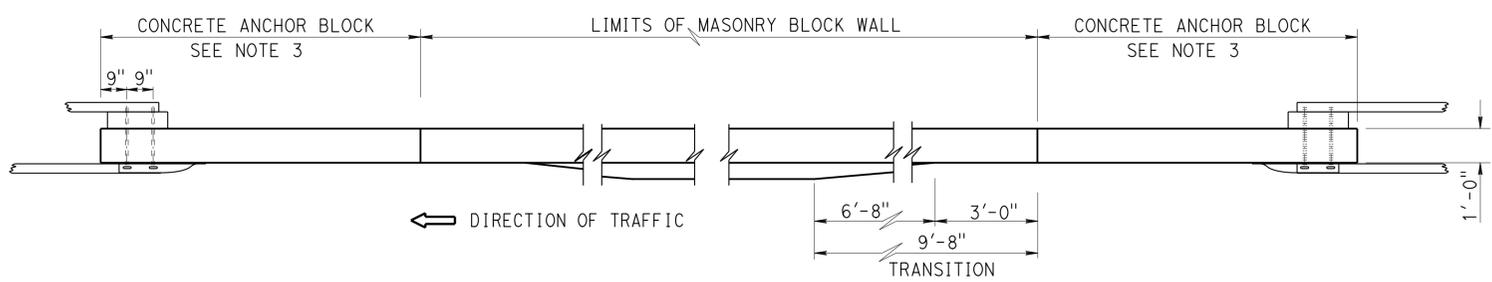
REVISED STANDARD DRAWING  
FILE NO. **xs15-130-1**  
APPROVAL DATE July 2012

- 1 Modified Detail
- 2 Modified Note

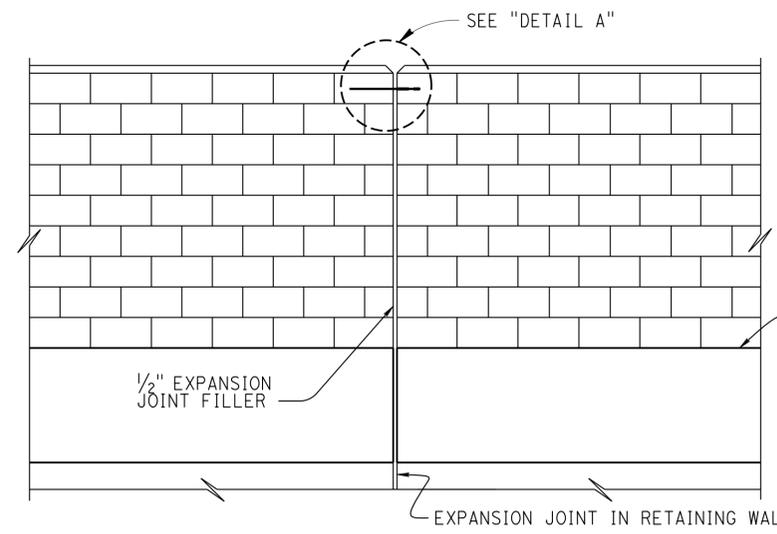
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0310  
POST MILE 40.39

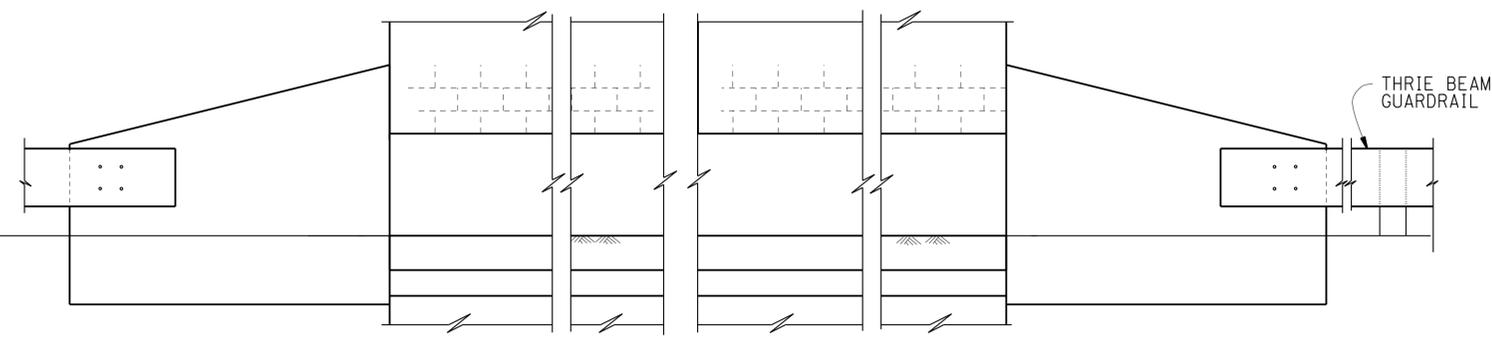
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2047	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



**PLAN**



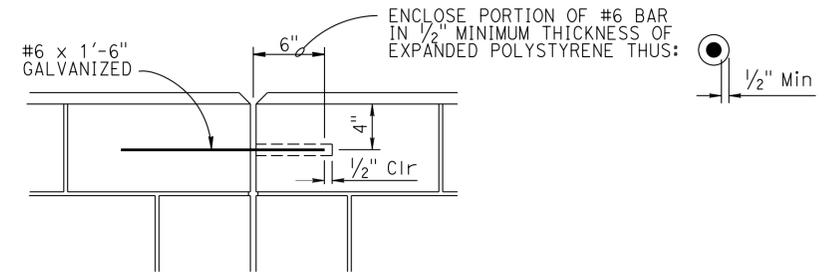
**ALIGNMENT KEY DETAIL**



**ELEVATION**

**METAL BEAM GUARDRAIL ANCHORAGE**

For details not shown, see STANDARD PLAN B11-56



**DETAIL A**

**DESIGN NOTES**

**DESIGN**  
Uniform Building Code, 1997 Edition and the Bridge Design Specifications

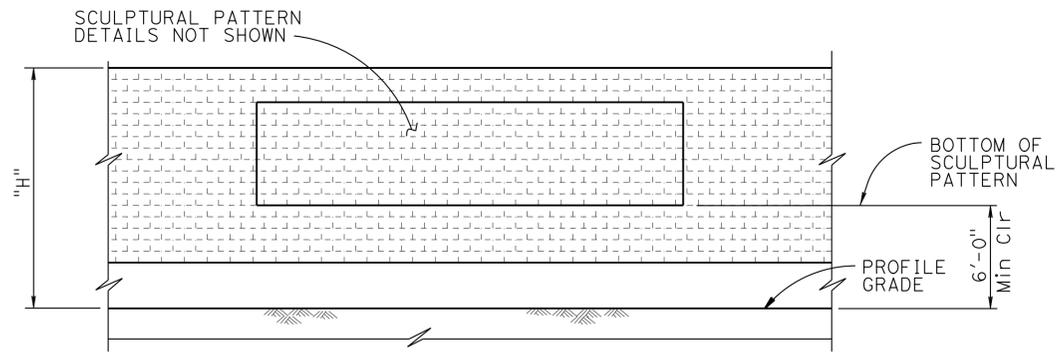
**DESIGN WIND LOAD**  
33 psf

**DESIGN SEISMIC LOAD**  
0.57 Dead load

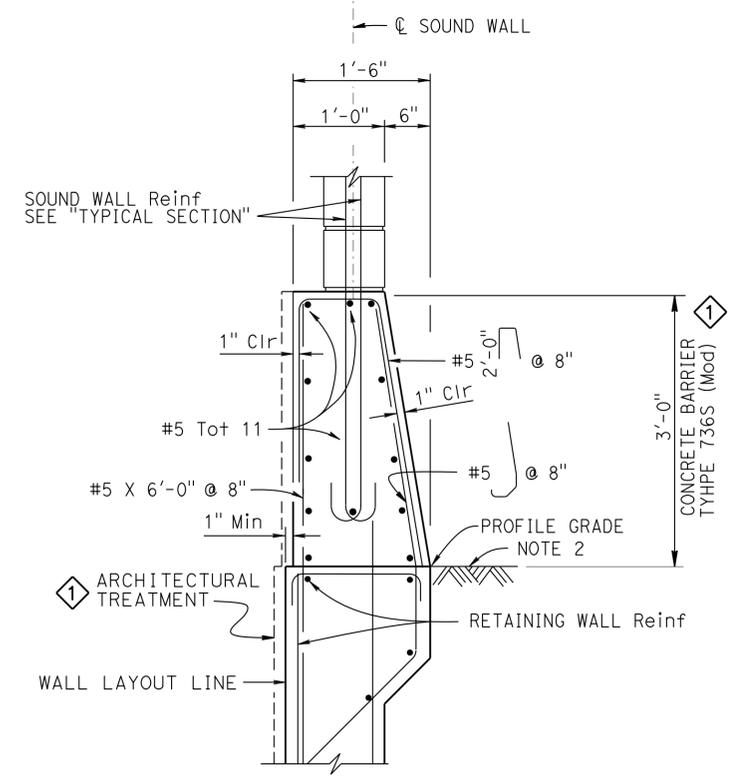
**CONCRETE MASONRY**

	REGULAR STRENGTH	HIGH STRENGTH	
f'c = 3600 psi	f'm = 1500 psi	f'm = 2000 psi	f'm = 2500 psi
fy = 60 ksi	fb = 495 psi	fb = 660 psi	fb = 830 psi
	fs = 24,000 psi	fs = 24,000 psi	fs = 24,000 psi
	n = 25.8	n = 19.3	n = 15.5

- NOTES:
1. For details not shown, see REVISED STANDARD PLAN B15-6
  2. Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See REVISED STANDARD PLAN B11-56, Note 3
  3. For Concrete Anchor Block and connection details, see "CONNECTION DETAIL DD" on STANDARD PLAN A77J3



**CLEARANCE DETAIL**



**BARRIER SECTION**

NO SCALE  
SPECIAL DETAILS

**RETAINING WALL NO. 2134**

**MASONRY BLOCK SOUND WALL W/BARRIER ON RETAINING WALL**

**DETAILS NO. 2**

REVISED STANDARD DRAWING

FILE NO. **xs15-130-2**

APPROVAL DATE July 2011

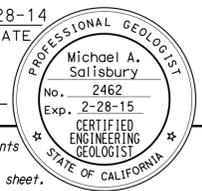
- ① Modified Detail
- ② Modified Note

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

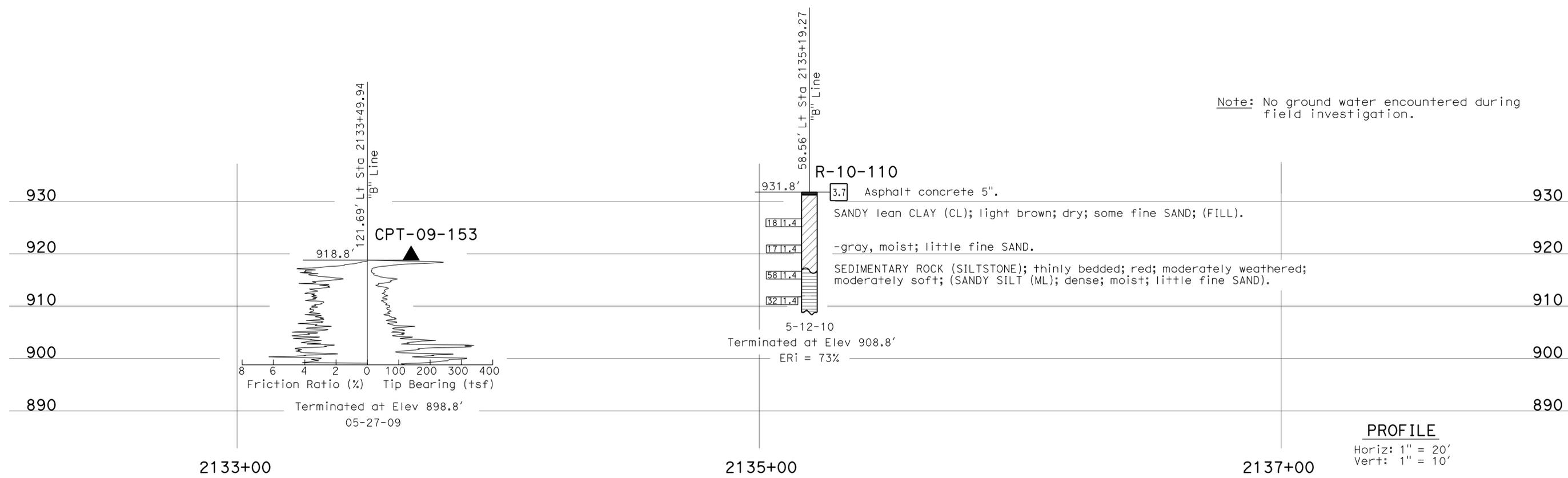
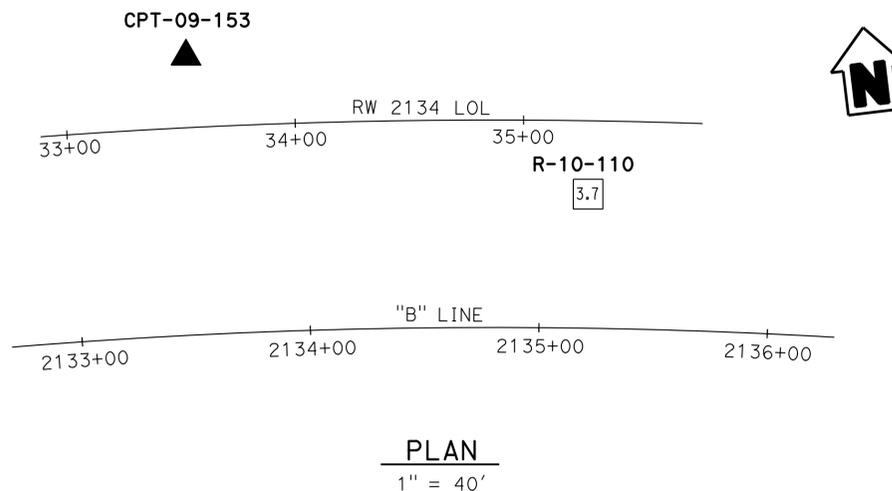
BRIDGE NO.	53E0310
POST MILE	40.39

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2048	2313
			2-28-14		
CERTIFIED ENGINEERING GEOLOGIST			DATE		
6-1-15			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.					



**BENCH MARK**

SUHU 4030 Elev 925.50  
 Fd PK N in shoulder of Via Verde W/B On Ramp.  
 "B" Line Sta 2131+39.29 Lt 91.76  
 NAVD88



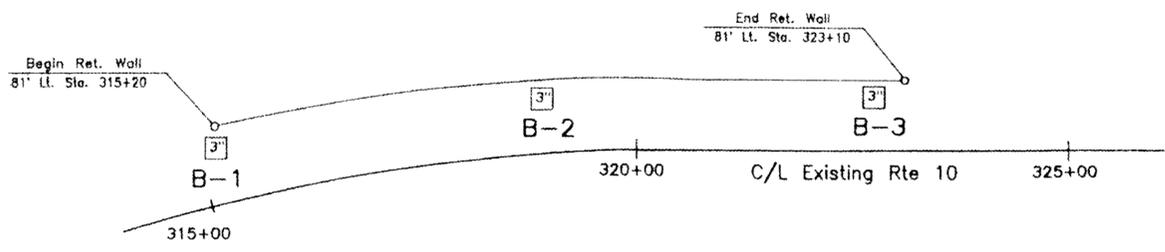
<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0310 POST MILE 40.4	<b>RETAINING WALL NO. 2134</b> <b>LOG OF TEST BORINGS 1 OF 2</b>
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: F. Nguyen 5/11 CHECKED BY: K. Lai	FIELD INVESTIGATION BY: C. Bugarin		UNIT: 3643 PROJECT NUMBER & PHASE: 07130000071		CONTRACT NO.: 07-1193U1	
OGS CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
						REVISION DATES	SHEET OF
						01-14-14 01-27-14 2-28-14	12 13

USERNAME => s125624 DATE PLOTTED => 16-MAY-2015 TIME PLOTTED => 16:08

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TC SHI
07	LA	10			

W.C. Cain  
 CERTIFIED ENGINEERING GEOLOGIST  
 No. 732  
 Exp. 8-30-84  
 REGISTERED GEOLOGIST  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE



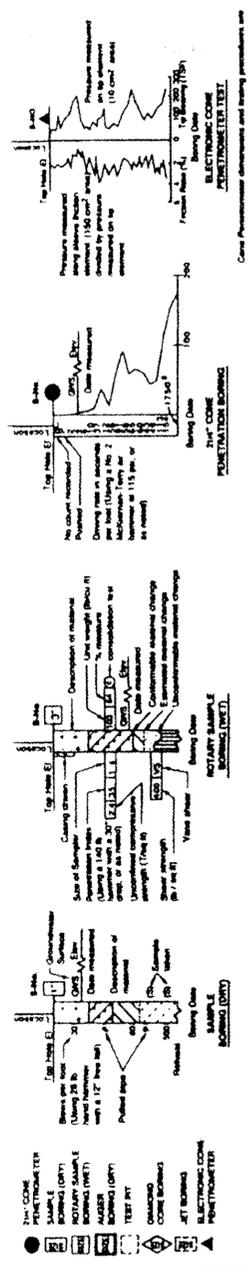
**BENCH MARK**

TBM: Fd. painted "+" at Lt. Sta. 315+20 Elev. 927.2  
 TBM: Fd. painted "+" at Lt. Sta. 319+00 Elev. 932.5  
 TBM: Fd. painted "+" at Lt. Sta. 323+00 Elev. 936.2  
 Survey West Bound Rte 10 by J.F. Davidson Assoc.  
 4-15-93 page 9 of 16.

**PLAN**  
1" = 100'

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES					
As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.					
DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	10	37.2/42.4	2049	2313
Michael A. Salisbury PROFESSIONAL GEOLOGIST No. 4462 Exp. 2-28-15 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA					
RETAINING WALL NO. 2134					
LOG OF TEST BORINGS 2 OF 2					
UNIT: 3643		CONTRACT No.:		BRIDGE No.	
PROJ. No. & PHASE: 07130000071		07-1193U1		53E0310	
AS-BUILT VERT DATUM: N/A		CONVERSION: N/A		Sheet of 13 13	
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA					
TO ACCOMPANY PLANS DATED 6-1-15					

**LEGEND OF BORING OPERATIONS**



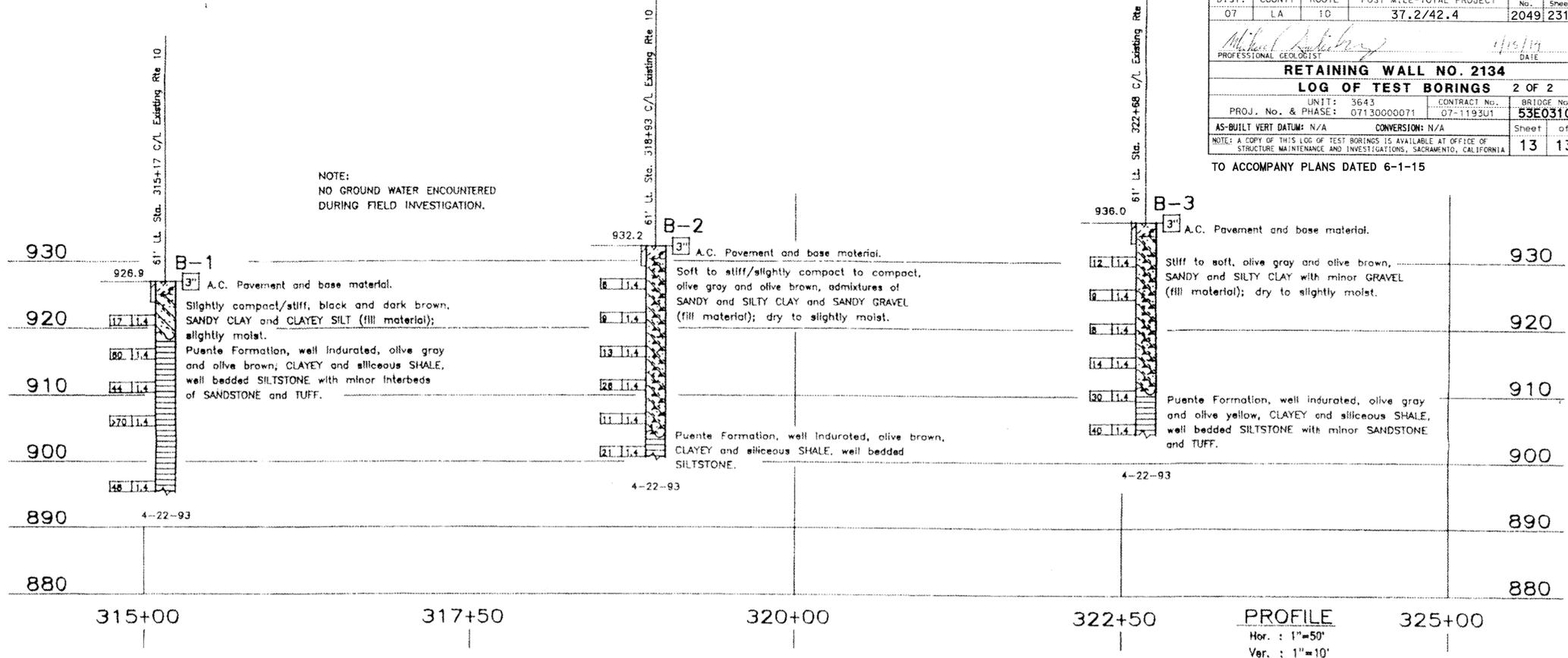
**LEGEND OF EARTH MATERIALS**

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

**CONSISTENCY CLASSIFICATION FOR SOILS**

Penetration (Blow/Ft)	Consistency	Classification	
		Very loose	Very hard
0-4	Very soft	Very loose	Very hard
5-9	Soft	Loose	Very hard
10-19	Stiff	Slightly compact	Very hard
20-29	Very stiff	Compact	Very hard
30-39	Hard	Dense	Very hard
40-49	Very hard	Very dense	Very hard
>50	Very hard	Very dense	Very hard

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



DIVISION OF NEW TECHNOLOGY, MATERIALS AND RESEARCH		OFFICE OF ENGINEERING GEOLOGY		FIELD INVESTIGATION BY: F. GERAMI		BRIDGE NO. 37.5 / 42.4		RETAINING WALL NO. 319	
DRAWN BY: ED. EDING 5-93		CHECKED BY: Paramariz Gerami 8-93		State of CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES STRUCTURE DESIGN		LOG OF TEST BORINGS SEP 23 1993	
CU 07234		EA 110344		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ON 7)		SHEET 01	

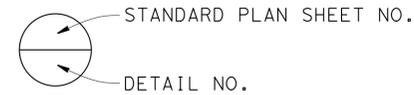
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

**INDEX TO PLANS**

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	FOUNDATION PLAN
3.	STRUCTURE PLAN NO. 1
4.	STRUCTURE PLAN NO. 2
5.	ARCHITECTURAL DETAILS
6.	LOG TEST BORINGS 1 OF 2
7.	LOG TEST BORINGS 2 OF 2

**STANDARD PLANS DATED 2010**

SHEET NO.	TITLE	SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)	A76A	CONCRETE BARRIER TYPE 60
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)	B0-3	BRIDGE DETAILS
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)	RSP B3-1A	RETAINING WALL TYPE 1 (CASE 1)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)	RSP B3-5	RETAINING WALL DETAILS NO. 1
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)	B3-6	RETAINING WALL DETAILS NO. 2
A10F	LEGEND - SOIL (SHEET 1 OF 2)	RSP B11-47	CABLE RAILING
A10G	LEGEND - SOIL (SHEET 2 OF 2)		
A10H	LEGEND - ROCK		
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL		



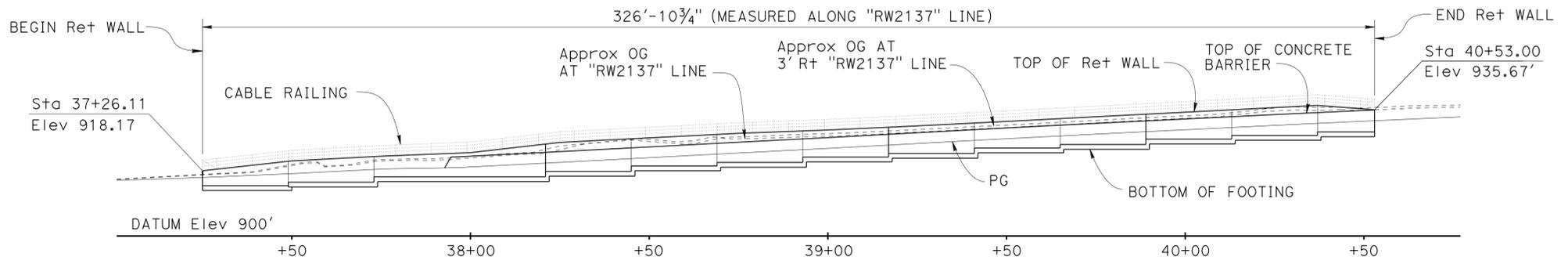
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2050	2313

*Richard E. Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14

6-1-15  
 PLANS APPROVAL DATE

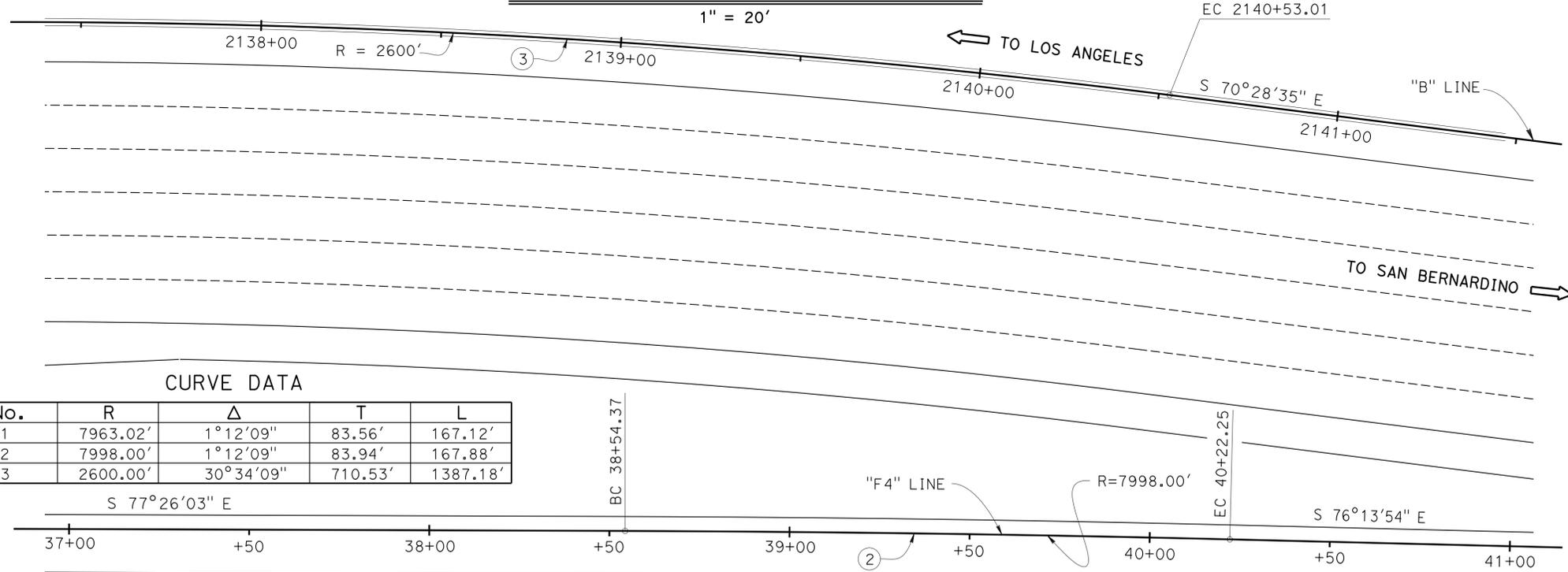
RICHARD E. SCHEDEL  
 No. C 64259  
 Exp. 06/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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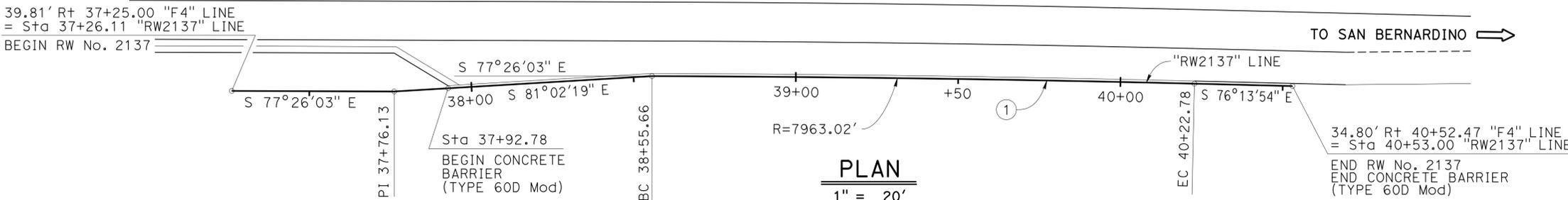
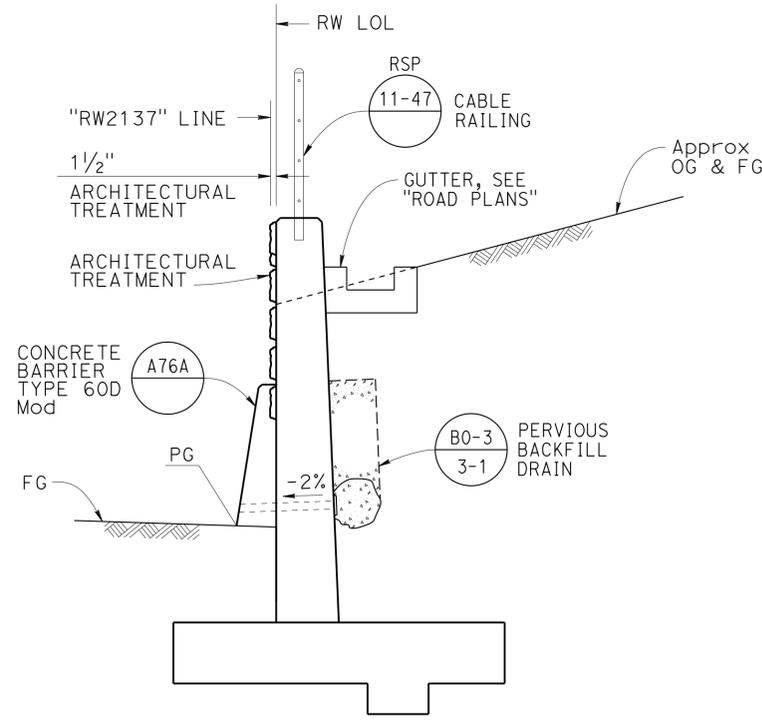
QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	831 CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALY DEPOSITED LEAD)	69 CY
STRUCTURE BACKFILL (RETAINING WALL)	433 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	32 CY
STRUCTURAL CONCRETE, RETAINING WALL	239 CY
CONCRETE SURFACE TEXTURE	908 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	28,612 LB
PREPARE AND STAIN CONCRETE	908 SQFT
CABLE RAILING	328 LF
CONCRETE BARRIER (TYPE 60D)	260 LF



CURVE DATA

No.	R	Δ	T	L
1	7963.02'	1°12'09"	83.56'	167.12'
2	7998.00'	1°12'09"	83.94'	167.88'
3	2600.00'	30°34'09"	710.53'	1387.18'



**MICHAEL POPE**  
 DESIGN ENGINEER

DESIGN	BY Michael Pope	CHECKED Prem Rimal
DETAILS	BY Michael Pope	CHECKED Prem Rimal
QUANTITIES	BY Michael Pope	CHECKED Prem Rimal

LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
LAYOUT	BY Michael Pope
SPECIFICATIONS	BY Xiaodong Chen

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 18**

BRIDGE NO. N/A  
 POST MILE 40.49

**RETAINING WALL NO. 2137**  
**GENERAL PLAN**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2051	2313

*Richard E. Schendel*  
REGISTERED CIVIL ENGINEER DATE 10/01/14

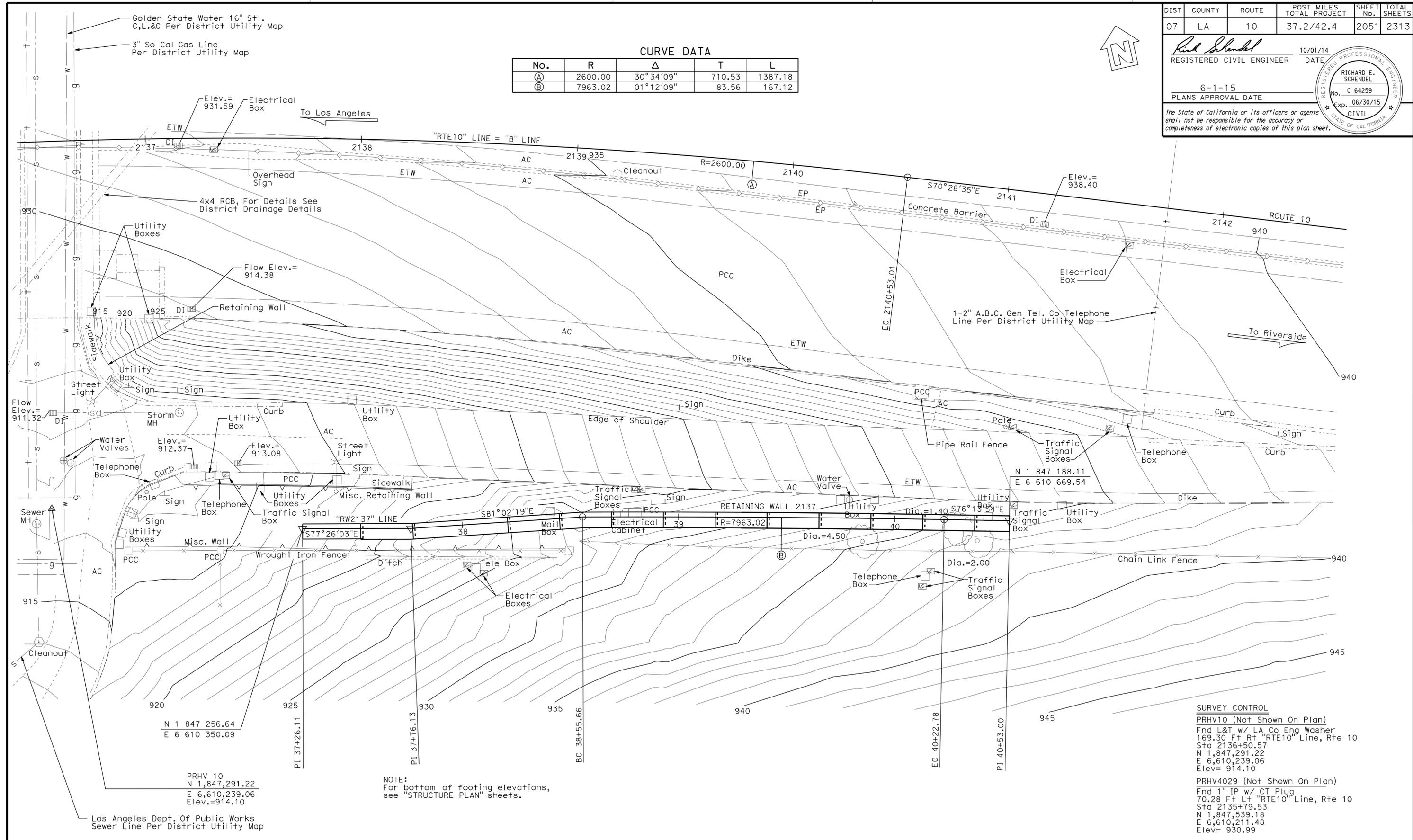
6-1-15  
PLANS APPROVAL DATE

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.

RICHARD E. SCHEDEL  
No. C 64259  
Exp. 06/30/15  
CIVIL  
STATE OF CALIFORNIA

**CURVE DATA**

No.	R	Δ	T	L
(A)	2600.00	30°34'09"	710.53	1387.18
(B)	7963.02	01°12'09"	83.56	167.12



PRHV 10  
N 1,847,291.22  
E 6,610,239.06  
Elev.=914.10

NOTE:  
For bottom of footing elevations,  
see "STRUCTURE PLAN" sheets.

**SURVEY CONTROL**  
PRHV10 (Not Shown On Plan)  
Fnd L&T w/ LA Co Eng Washer  
169.30 Ft Rt "RTE10" Line, Rte 10  
Sta 2136+50.57  
N 1,847,291.22  
E 6,610,239.06  
Elev.= 914.10

PRHV4029 (Not Shown On Plan)  
Fnd 1" IP w/ CT Plug  
70.28 Ft Lt "RTE10" Line, Rte 10  
Sta 2135+79.53  
N 1,847,539.18  
E 6,610,211.48  
Elev.= 930.99

**PRELIMINARY INVESTIGATION SECTION**

SCALE: VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: 02/2008
1"=20' HORZ.DATUM NAD83	SURVEYED BY District 09/2010
ALIGNMENT TIES Dist. Traverse Sheet	CHECKED BY C.Fasset 06/2011
	CHECKED BY T.Schmalz 06/2011

DESIGN	BY Michael Pope	CHECKED Prem Rimal
DETAILS	BY Michael Pope	CHECKED Prem Rimal
QUANTITIES	BY Michael Pope	CHECKED Prem Rimal

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

**DIVISION OF ENGINEERING SERVICES**  
STRUCTURE DESIGN  
**DESIGN BRANCH 18**

**RETAINING WALL NO. 2137**  
**FOUNDATION PLAN**

BRIDGE NO. N/A  
POST MILE 40.49

UNIT: 3646  
PROJECT NUMBER & PHASE: 071300007 1  
CONTRACT NO.: 07-1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
07/11/14	2	7

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



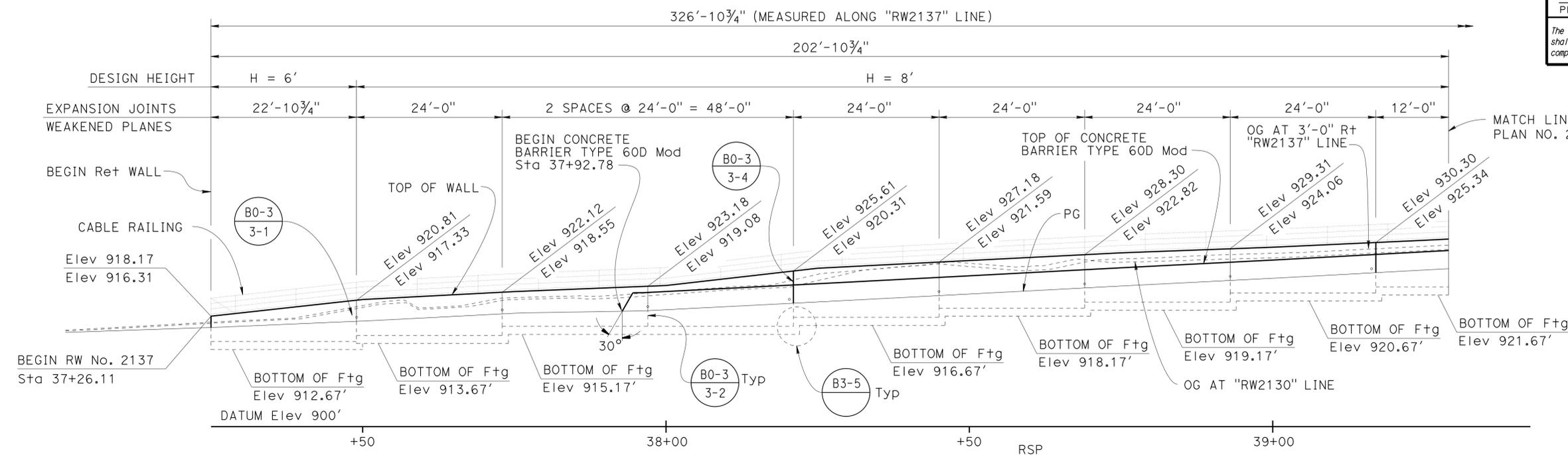
USERNAME => s125624 DATE PLOTTED => 16-MAY-2015 TIME PLOTTED => 16:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2052	2313

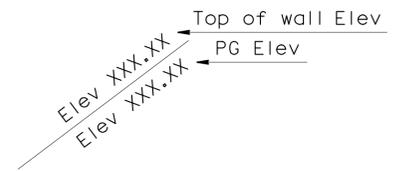
10/01/14  
 REGISTERED CIVIL ENGINEER DATE  
 6-1-15  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

RICHARD E. SCHEDEL  
 No. C 64259  
 Exp. 06/30/15  
 CIVIL  
 STATE OF CALIFORNIA

Unless otherwise shown, top of wall and PG elevations are shown at even 24 ft stations along "RW2137" line.



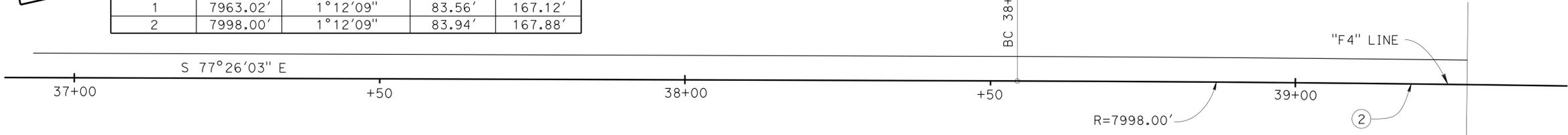
**LEGEND**



**CURVE DATA**

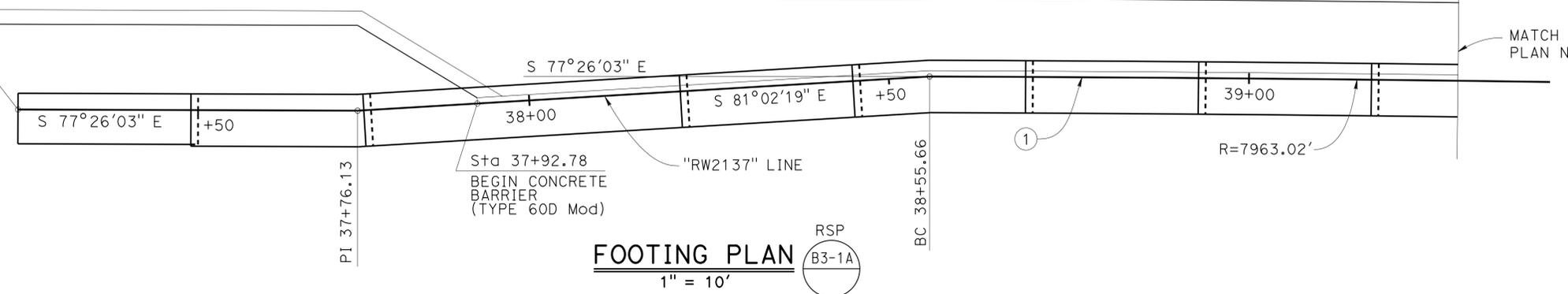
No.	R	Δ	T	L
1	7963.02'	1°12'09"	83.56'	167.12'
2	7998.00'	1°12'09"	83.94'	167.88'

**DEVELOPED MIRRORED ELEVATION**  
1" = 10'



TO SAN BERNARDINO →

BEGIN "RW2137" LINE  
BEGIN RW No. 2137



**FOOTING PLAN**  
1" = 10'

DESIGN	BY Michael Pope	CHECKED Prem Rimal
DETAILS	BY Michael Pope	CHECKED Prem Rimal
QUANTITIES	BY Michael Pope	CHECKED Prem Rimal

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 18

BRIDGE NO.	N/A
POST MILE	40.49

**RETAINING WALL NO. 2137  
STRUCTURE PLAN NO. 1**

18-MAY-2015 DATE PLOTTED => 18:08  
 USERNAME => s125624

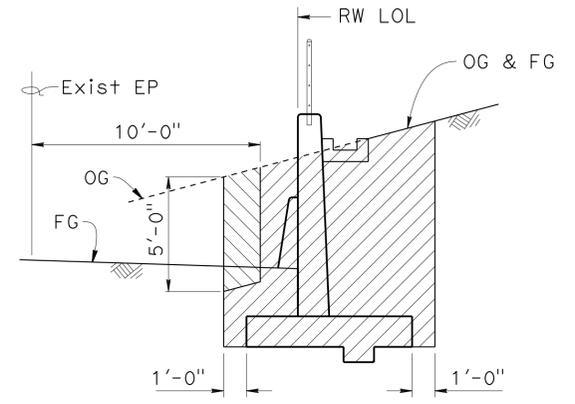
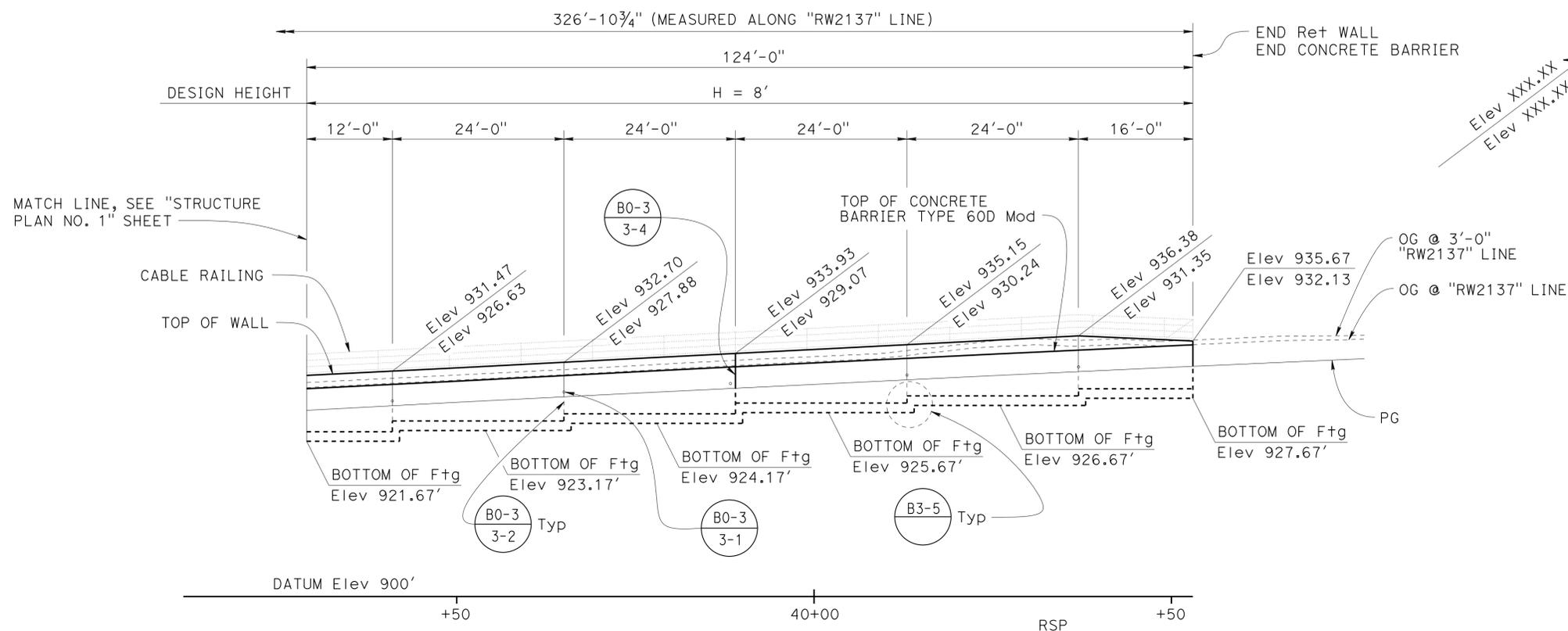
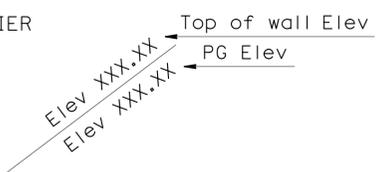
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2053	2313

10/01/14  
 REGISTERED CIVIL ENGINEER DATE  
 6-1-15  
 PLANS APPROVAL DATE  
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RICHARD E. SCHENDEL  
 No. C 64259  
 Exp. 06/30/15  
 CIVIL  
 STATE OF CALIFORNIA

Unless otherwise shown, top of wall and PG elevations are shown at even 24 ft stations along "RW2137" line.

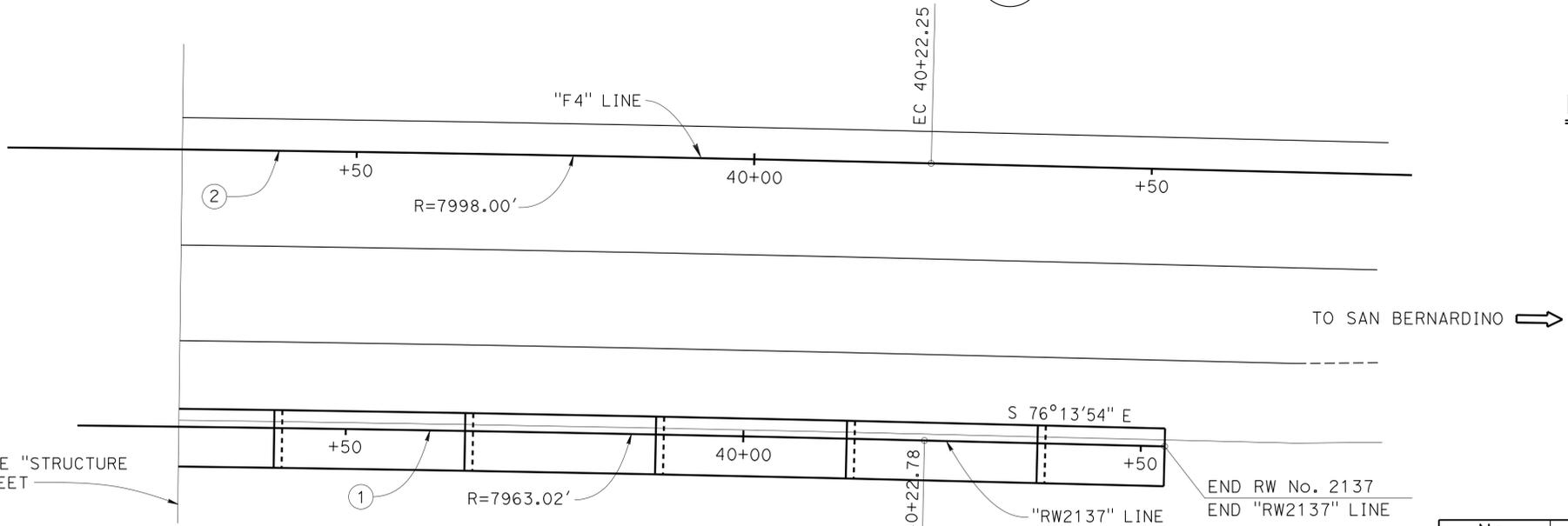
**LEGEND**



- Structure Excavation (Retaining Wall)
- Structure Excavation (Type Y-1) (Aerially Deposited Lead)

**LIMITS OF PAYMENT FOR EXCAVATION**

NO SCALE



**CURVE DATA**

No.	R	Δ	T	L
1	7963.02'	1°12'09"	83.56'	167.12'
2	7998.00'	1°12'09"	83.94'	167.88'

**DEVELOPED MIRRORED ELEVATION**

1" = 10'

**FOOTING PLAN**

1" = 10'

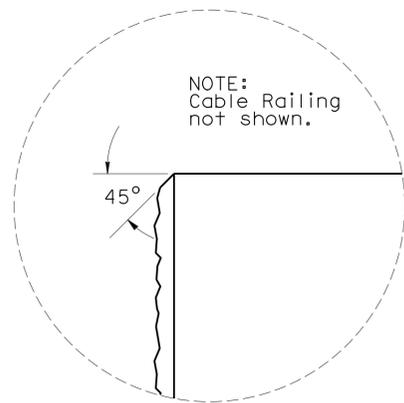


DESIGN	BY Michael Pope	CHECKED Prem Rimal	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 18</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2137</b> <b>STRUCTURE PLAN NO. 2</b>
DETAILS	BY Michael Pope	CHECKED Prem Rimal			N/A	
QUANTITIES	BY Michael Pope	CHECKED Prem Rimal			POST MILE 40.49	

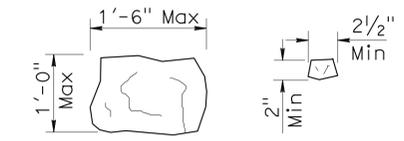
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2054	2313

*Richard E. Schendel*  
 REGISTERED CIVIL ENGINEER DATE 10/01/14  
 PLANS APPROVAL DATE 6-1-15  
 No. C64259  
 Exp. 6-30-15  
 CIVIL  
 STATE OF CALIFORNIA

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

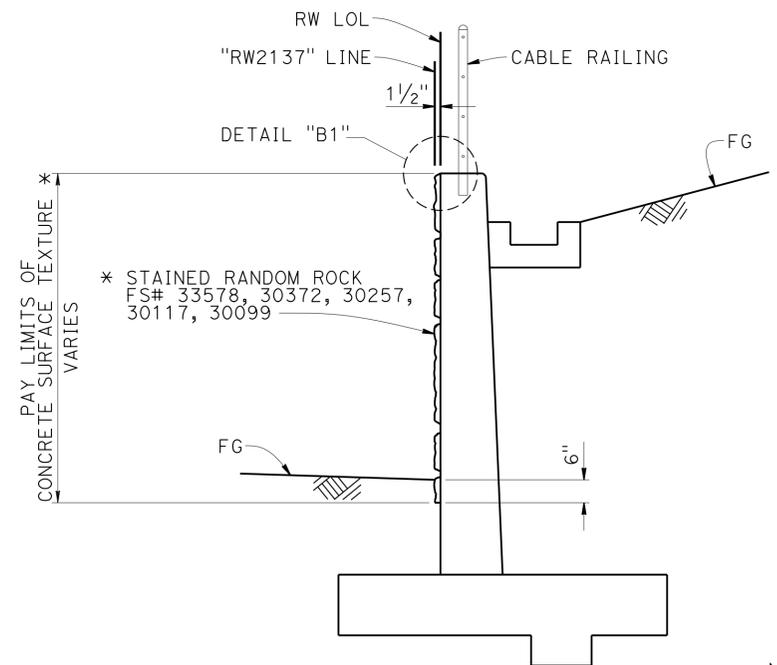


**DETAIL B1**  
NO SCALE

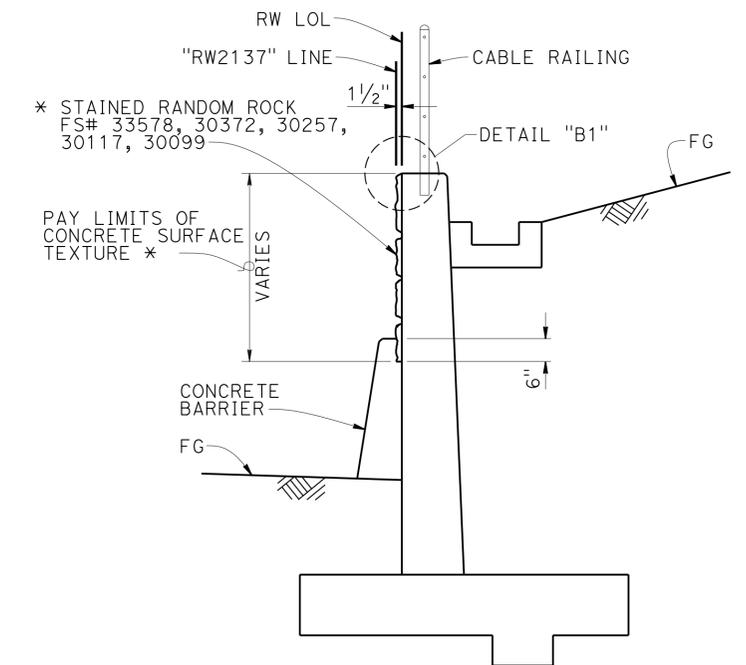


**ROCK SIZE**

NOTE:  
Seamless Random Rock pattern to have a minimum of 2 to a maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).



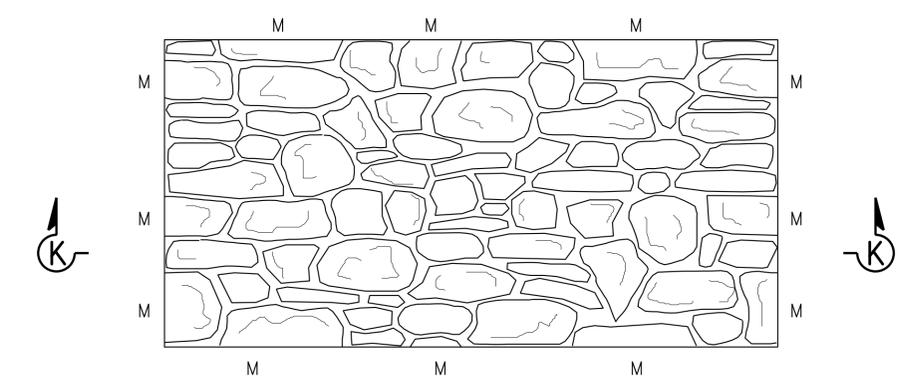
**WITHOUT BARRIER**



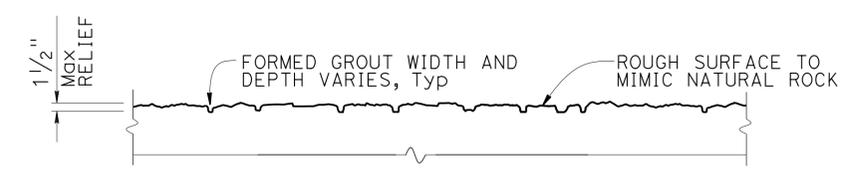
**WITH BARRIER**

NOTE:  
"FS#" is Federal Standard Color Number.

**TYPICAL SECTION**  
NO SCALE



**ELEVATION**



**SECTION K-K**

**RANDOM ROCK TEXTURE**  
NO SCALE

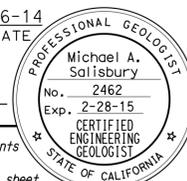
DESIGN	BY Valerie Moore	CHECKED Michael Pope
DETAILS	BY Farideh Hosseinioun	CHECKED Michael Pope
QUANTITIES	BY Michael Pope	CHECKED Prem Rimal

<b>STATE OF CALIFORNIA</b>	
DEPARTMENT OF TRANSPORTATION	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO. N/A
<b>DESIGN BRANCH 18</b>	POST MILE 40.49

<b>RETAINING WALL NO. 2137</b>	
<b>ARCHITECTURAL DETAILS</b>	

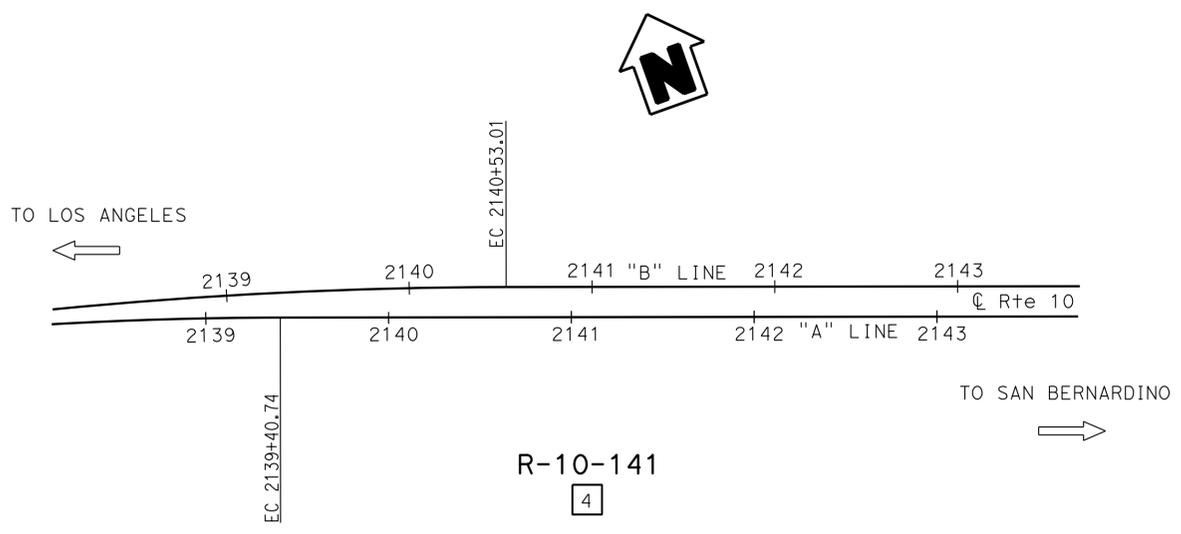
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2055	2313

  
 CERTIFIED ENGINEERING GEOLOGIST DATE 1-16-14  
 PLANS APPROVAL DATE 6-1-15  
  
 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.

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

**BENCH MARK**

PRHV 4027 Elev 936.347  
 Fd. PK N. in AC  
 "B" Line 80.26' Rt Sta 2140+93.68  
 NAVD 88



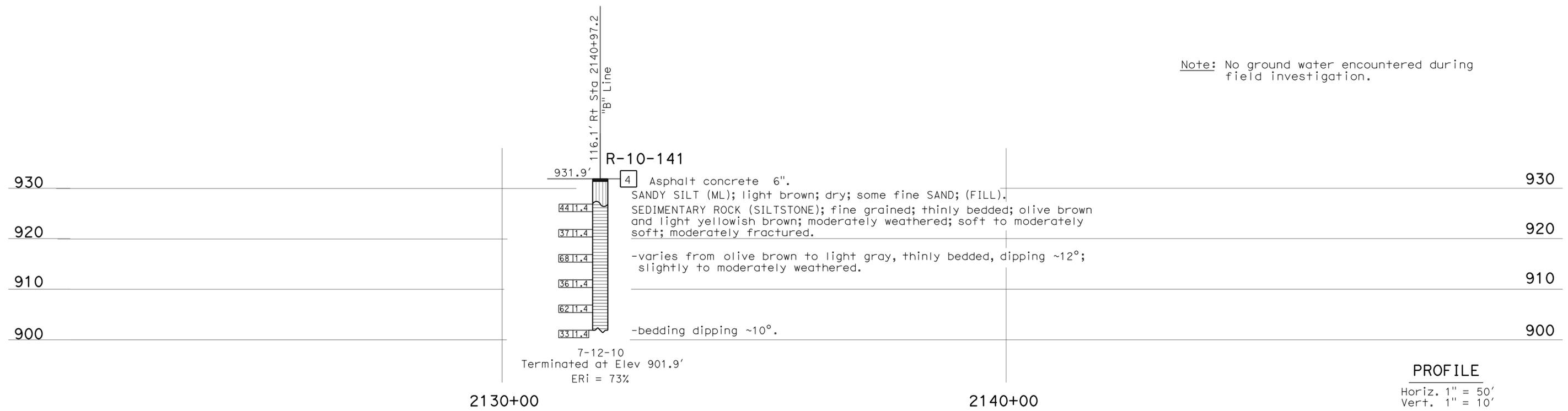
R-10-141

4

**PLAN**

1" = 50'

Note: No ground water encountered during field investigation.



**PROFILE**

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

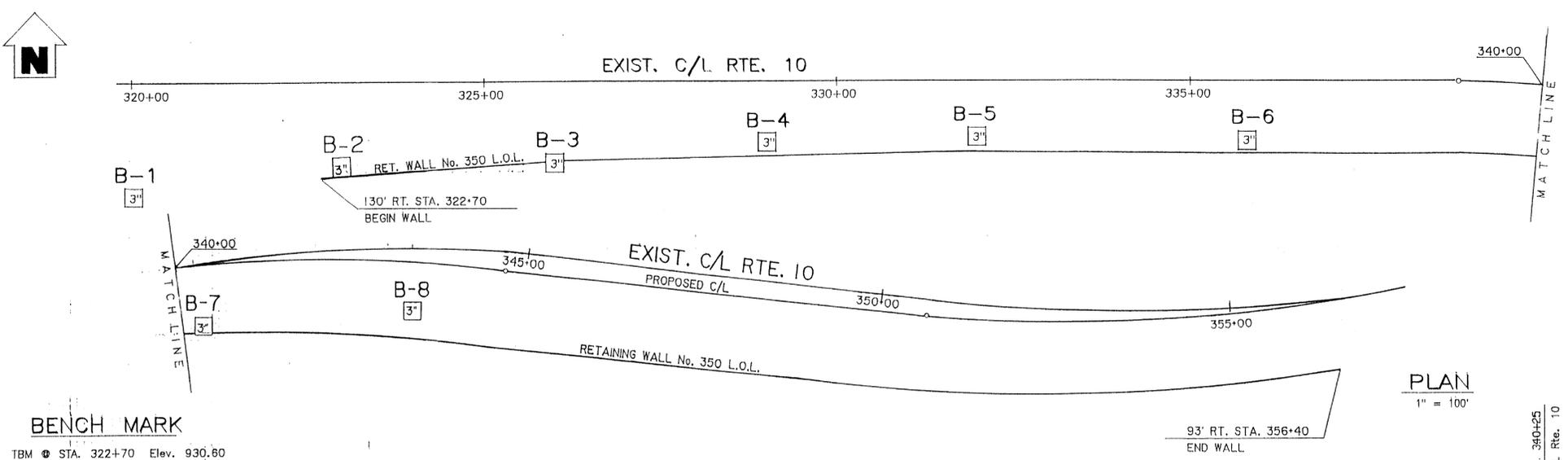
<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 18</b>		BRIDGE NO. N/A	<b>RETAINING WALL NO. 2137</b>	
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: I. G-Remmen	FIELD INVESTIGATION BY: M. Salisbury						POST MILE 40.49	<b>LOG OF TEST BORINGS 1 OF 2</b>	
CHECKED BY: H. Liu				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643 PROJECT NUMBER & PHASE: 0713000071		CONTRACT NO.: 07-1193U1		DISREGARD PRINTS BEARING EARLIER REVISION DATES
065 CIVIL LOG OF TEST BORINGS SHEET				0 1 2 3		FILE => 53e-rw2137-z-10tb01.dgn		REVISION DATES		SHEET 6 OF 7

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:08

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10			

W.C. Cain  
 CERTIFIED ENGINEERING GEOLOGIST  
 No. 732  
 Exp. 6-30-94  
 REGISTERED GEOLOGIST  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE \_\_\_\_\_

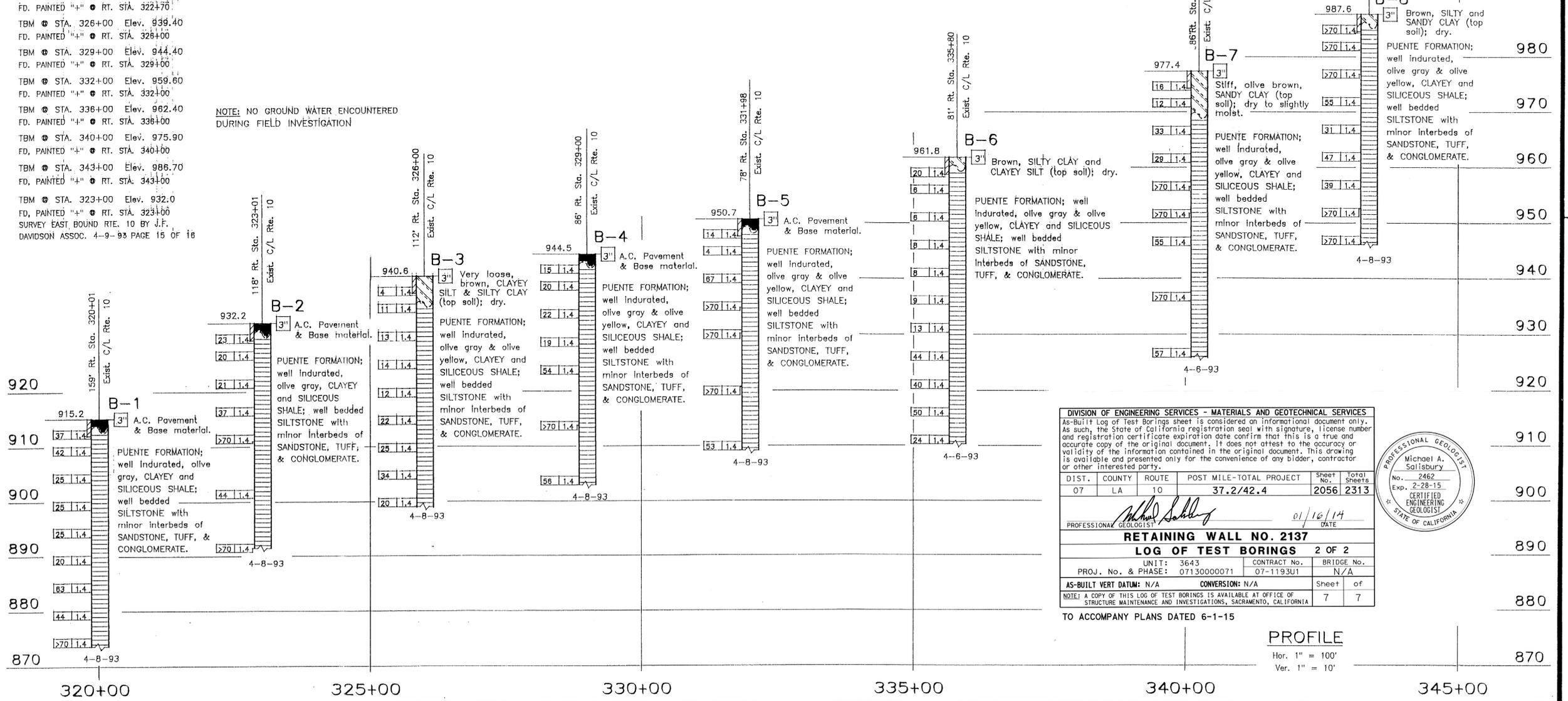


**BENCH MARK**

TBM @ STA. 322+70	Elev. 930.60
FD, PAINTED "H" @ RT. STA. 322+70	
TBM @ STA. 326+00	Elev. 939.40
FD, PAINTED "H" @ RT. STA. 326+00	
TBM @ STA. 329+00	Elev. 944.40
FD, PAINTED "H" @ RT. STA. 329+00	
TBM @ STA. 332+00	Elev. 959.60
FD, PAINTED "H" @ RT. STA. 332+00	
TBM @ STA. 336+00	Elev. 962.40
FD, PAINTED "H" @ RT. STA. 336+00	
TBM @ STA. 340+00	Elev. 975.90
FD, PAINTED "H" @ RT. STA. 340+00	
TBM @ STA. 343+00	Elev. 986.70
FD, PAINTED "H" @ RT. STA. 343+00	
TBM @ STA. 323+00	Elev. 932.0
FD, PAINTED "H" @ RT. STA. 323+00	

DAVIDSON ASSOC. 4-9-93 PAGE 15 OF 18

NOTE: NO GROUND WATER ENCOUNTERED DURING FIELD INVESTIGATION



**DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES**

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

DIST.	COUNTY	ROUTE	POST MILE - TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	10	37.2/42.4	2056	2313

Michael A. Salisbury  
 No. 2462  
 Exp. 2-28-15  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST  
 DATE: 01/16/14

**RETAINING WALL NO. 2137**

**LOG OF TEST BORINGS 2 OF 2**

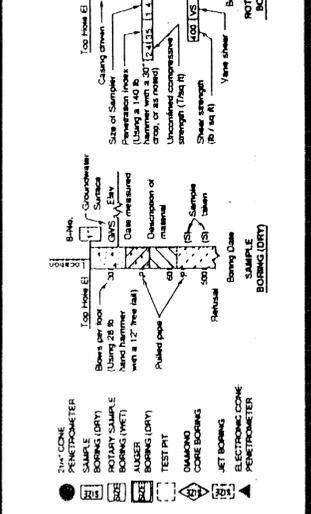
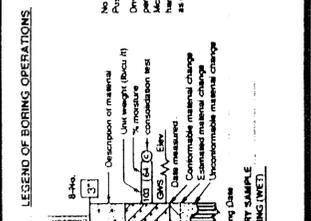
PROJ. No. & PHASE:	UNIT:	CONTRACT No.:	BRIDGE No.:
07130000071	3643	07-1193U1	N/A

AS-BUILT VERT DATUM: N/A CONVERSION: N/A Sheet 7 of 7

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

TO ACCOMPANY PLANS DATED 6-1-15

**PROFILE**  
 Hor. 1" = 100'  
 Ver. 1" = 10'



**CONSISTENCY CLASSIFICATION FOR SOILS**

According to the Standard Penetration Test

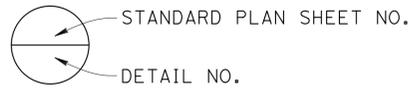
Penetration Index (Blows / Ft)	Consistency
0-4	Very loose
5-9	Loose
10-19	Slightly compact
20-34	Compact
35-69	Dense
>70	Very dense

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

DIVISION OF NEW TECHNOLOGY, MATERIALS AND RESEARCH OFFICE OF ENGINEERING GEOLOGY		FIELD INVESTIGATION BY: F. GERAMI	State of CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURE DESIGN	BRIDGE NO. _____ POST MILE 37.5/42.4	RETAINING WALL NO. 350 LOG OF TEST BORINGS
DRAWN BY: I. GAMARRA 5-93 CHECKED BY: Faramarz Gerami 8-93	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		CU 07234 EA 11934K	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY) SHEET 7 OF 7

**STANDARD PLANS DATED 2010**

A10A	ABBREVIATIONS (SHEET 1 OF 2)	RSP B3-5	RETAINING WALL DETAILS No. 1
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)	B3-6	RETAINING WALL DETAILS No. 2
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)	B7-5	DECK DRAINS
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)	RSP B11-47	CABLE RAILING
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)	RSP B11-56	CONCRETE BARRIER TYPE 736
A10F	LEGEND - SOIL (SHEET 1 OF 2)	B15-9	SOUND WALL MASONRY BLOCK MISCELLANEOUS DETAILS
A10G	LEGEND - SOIL (SHEET 2 OF 2)		
A10H	LEGEND - ROCK		
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL	ES-6B	ELECTRICAL SYSTEMS (ELECTROLIER ANCHORAGE AND GROUTING FOR TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED)
B0-3	BRIDGE DETAILS		
RSP B3-1A	RETAINING WALL TYPE 1 (CASE 1)		

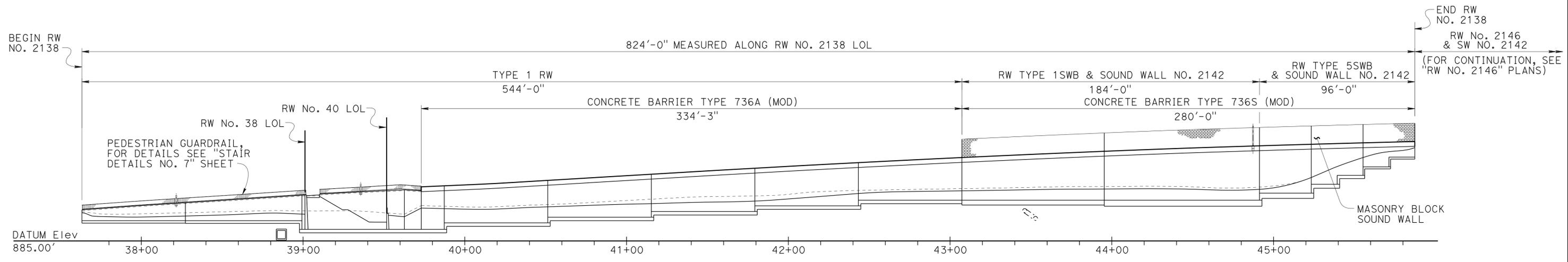


**INDEX TO PLANS**

SHEET No.	TITLE	SHEET No.	TITLE
1	GENERAL PLAN NO. 1	21	STAIR DETAILS NO. 7
2	GENERAL PLAN NO. 2	22	RETAINING WALL DETAILS
3	GENERAL PLAN NO. 3	23	RETAINING WALL TYPE 1SWB-DETAILS NO. 1
4	STRUCTURE PLAN NO. 1	24	RETAINING WALL TYPE 1SWB-DETAILS NO. 2
5	STRUCTURE PLAN NO. 2	25	RETAINING WALL TYPE 5SWB-DETAILS NO. 1
6	STRUCTURE PLAN NO. 3	26	RETAINING WALL TYPE 5SWB-DETAILS NO. 2
7	STRUCTURE PLAN NO. 4	27	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 1
8	FOUNDATION PLAN NO. 1	28	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 2
9	FOUNDATION PLAN NO. 2	29	LIGHTING STANDARD PEDESTAL DETAILS NO. 1
10	PARTIAL FOOTING LAYOUT	30	LIGHTING STANDARD PEDESTAL DETAILS NO. 2
11	FOOTING DETAILS NO. 1	31	ARCHITECTURAL DETAILS NO. 1
12	FOOTING DETAILS NO. 2	32	ARCHITECTURAL DETAILS NO. 2
13	FOOTING DETAILS NO. 3	33	ARCHITECTURAL DETAILS NO. 3
14	FOOTING DETAILS NO. 4	34	ARCHITECTURAL DETAILS NO. 4
15	STAIR DETAILS NO. 1	35	LOG OF TEST BORINGS 1 OF 3
16	STAIR DETAILS NO. 2	36	LOG OF TEST BORINGS 2 OF 3
17	STAIR DETAILS NO. 3	37	LOG OF TEST BORINGS 3 OF 3
18	STAIR DETAILS NO. 4		
19	STAIR DETAILS NO. 5		
20	STAIR DETAILS NO. 6		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2057	2313

REGISTERED CIVIL ENGINEER DATE 10-1-14  
 PLANS APPROVAL DATE 6-1-15  
 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.

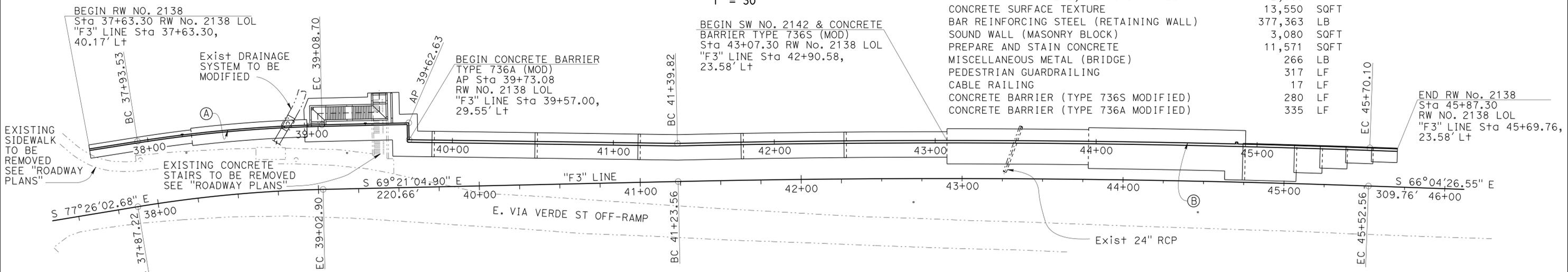


**DEVELOPED MIRRORED ELEVATION**

1" = 30'

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	7,149	CY
STRUCTURE BACKFILL (RETAINING WALL)	8,242	CY
STRUCTURAL CONCRETE, RETAINING WALL	2,606	CY
CONCRETE SURFACE TEXTURE	13,550	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	377,363	LB
SOUND WALL (MASONRY BLOCK)	3,080	SQFT
PREPARE AND STAIN CONCRETE	11,571	SQFT
MISCELLANEOUS METAL (BRIDGE)	266	LB
PEDESTRIAN GUARDRAILING	317	LF
CABLE RAILING	17	LF
CONCRETE BARRIER (TYPE 736S MODIFIED)	280	LF
CONCRETE BARRIER (TYPE 736A MODIFIED)	335	LF



**PLAN**

1" = 30'

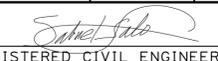
<b>(A) CURVE DATA</b>	<b>(B) CURVE DATA</b>
R = 860.04'	R = 7523.50'
Δ = 7°40'21"	Δ = 3°16'37"
T = 57.67'	T = 215.20'
L = 115.17'	L = 430.28'

**LEGEND:**

- AP = Angle Point
- Indicates existing structure

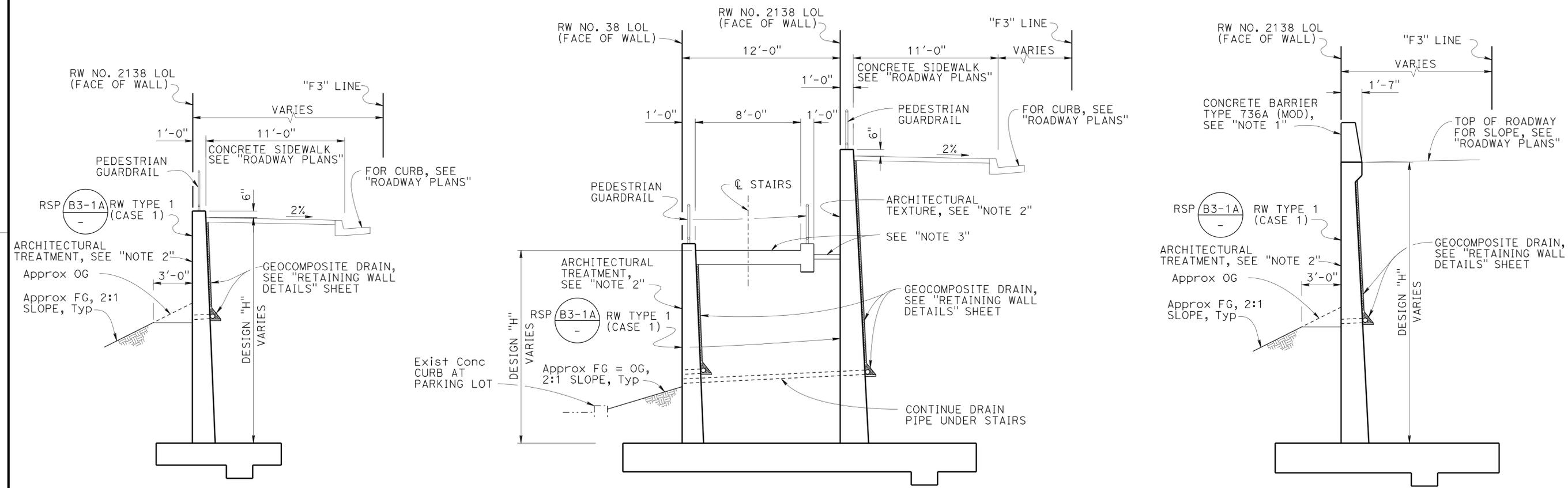
NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Traci Menard DESIGN ENGINEER	DESIGN	BY Ulysses Smpardos	CHECKED Fred Feng	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 15	BRIDGE NO.	53E0311	RETAINING WALL NO. 2138 GENERAL PLAN NO. 1	
	DETAILS	BY Tim Trefz/R. Kirkland	CHECKED Fred Feng	LAYOUT	BY U. Smpardos			CHECKED Fred Feng	POST MILE		40.5/40.6
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang	SPECIFICATIONS	BY X. Chen			PLANS AND SPECS COMPARED X. Chen			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2058	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

NOTES:

- For "CONCRETE BARRIER TYPE 736A (MOD)" detail, see "RETAINING WALL DETAILS" sheet.
- For architectural treatment, see "ARCHITECTURAL DETAILS NO. 1" through "ARCHITECTURAL DETAILS NO. 4" sheets.
- Design data for reinforced concrete stairs and drainage pad:  $f'_c = 3600$  psi  
 $f_y = 60,000$  psi

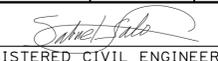


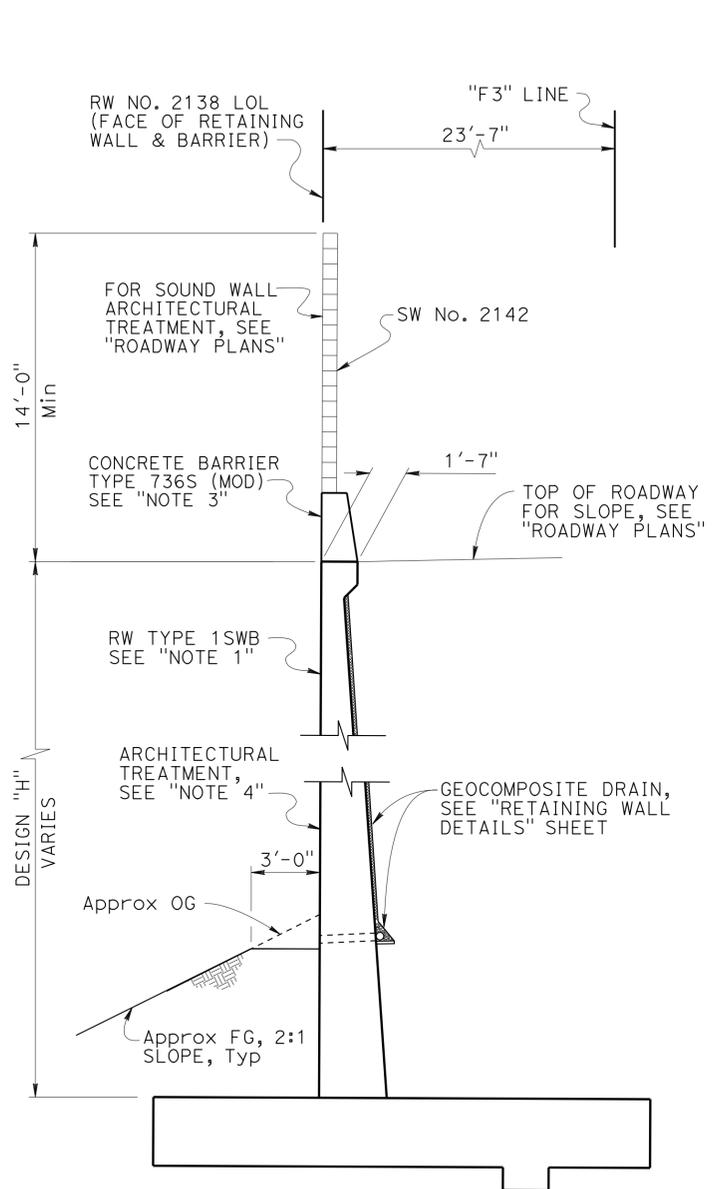
TYPICAL SECTIONS

1/4" = 1'-0"

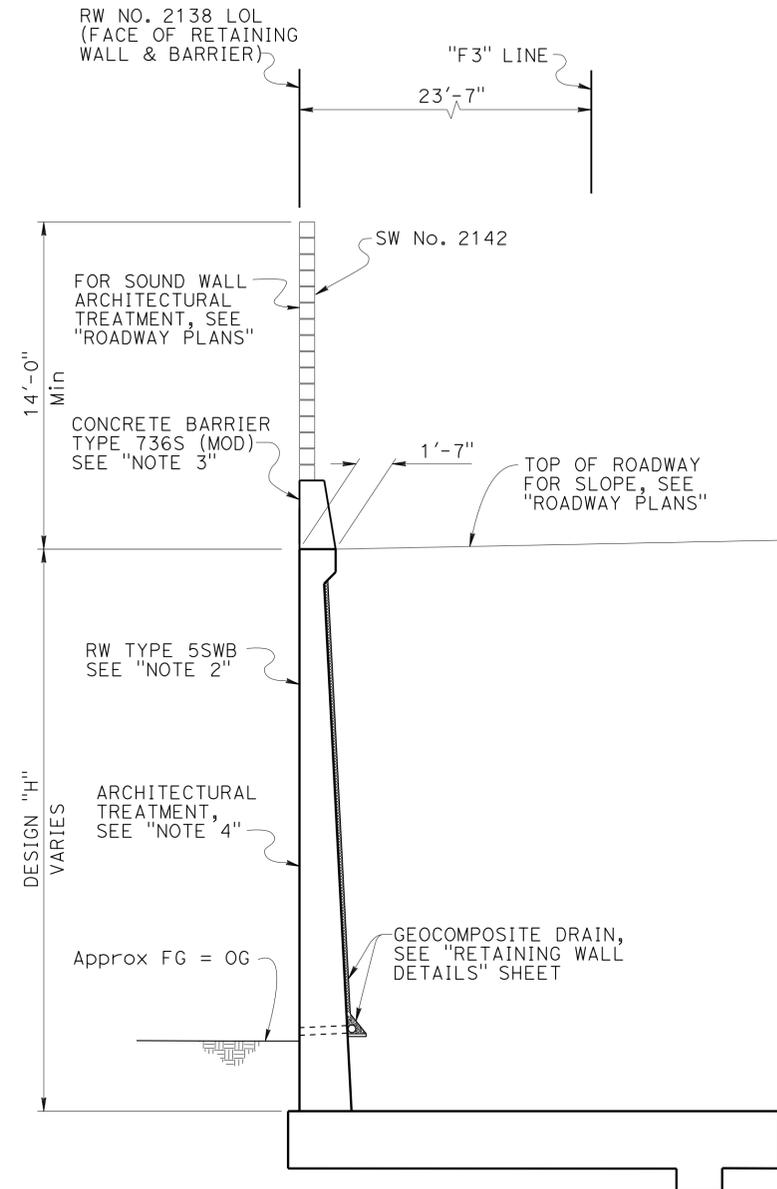
NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Traci Menard DESIGN ENGINEER	DESIGN	BY Ulysses Smpardos	CHECKED Fred Feng	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 <b>DESIGN BRANCH 15</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2138</b> <b>GENERAL PLAN NO. 2</b>	
	DETAILS	BY Tim Trefz / R. Kirkland	CHECKED Fred Feng	LAYOUT	BY U. Smpardos			CHECKED Fred Feng		53E0311
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang	SPECIFICATIONS	BY X. Chen			PLANS AND SPECS COMPARED X. Chen		POST MILE 40.5/40.6
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 01-08-13 12-02-13 07-28-14 06-12-14	SHEET 2 OF 37

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2059	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					



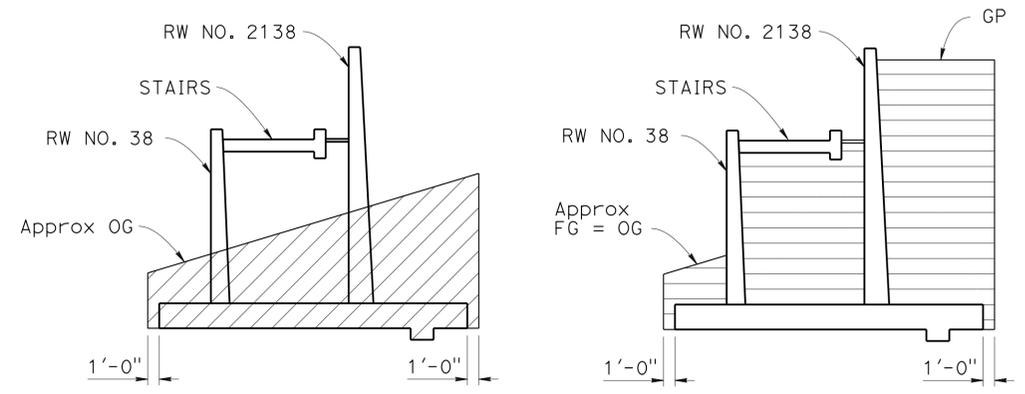
FROM Sta 43+07.30 TO Sta 44+91.30



FROM Sta 44+91.30 TO Sta 45+87.30

**TYPICAL SECTIONS**

1/4" = 1'-0"



**EXCAVATION**

**BACKFILL**

NOTE: For excavation and backfill limits at locations not shown, see **A62B**

**STRUCTURE EXCAVATION & BACKFILL AT STAIRS**  
NO SCALE

- LEGEND:**
-  Indicates limits of Structure Excavation (Retaining Wall)
  -  Indicates limits of Structure Backfill (Retaining Wall)

- NOTES:**
- For Retaining Wall Type 1SWB details, see "RETAINING WALL TYPE 1SWB - DETAILS NO. 1" and "RETAINING WALL TYPE 1SWB - DETAILS NO. 2" sheets.
  - For Retaining Wall Type 5SWB details, see "RETAINING WALL TYPE 5SWB - DETAILS NO. 1" and "RETAINING WALL TYPE 5SWB - DETAILS NO. 2" sheets.
  - For Concrete Barrier Type 736S (MOD) and sound wall details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 1" and "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheets.
  - For architectural treatment, see "ARCHITECTURAL DETAILS NO. 1" through "ARCHITECTURAL DETAILS NO. 4" sheets.

Traci Menard  
DESIGN ENGINEER

DESIGN	BY Ulysses Smpardos	CHECKED Fred Feng
DETAILS	BY Tim Trefz / R. Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

LOAD & RESISTANCE FACTOR DESIGN	BY U. Smpardos	CHECKED Fred Feng
LAYOUT	BY U. Smpardos	CHECKED Fred Feng
SPECIFICATIONS	BY X. Chen	PLANS AND SPECS COMPARED X. Chen

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**GENERAL PLAN NO. 3**

NOTES:

1. Weep holes located between Sta 39+01.19 and 39+39.69 will be routed under stairs and drain through RW No. 38. For "WEEP HOLE AND GEOCOMPOSITE DRAIN" details see "RETAINING WALL DETAILS" sheet.
2. For Lighting Standard support details, see "LIGHTING STANDARD PEDESTAL DETAILS NO. 1" sheet.
3. Existing storm drainage system to be modified. For more information see "PARTIAL FOOTING LAYOUT" sheet and "ROADWAY PLANS".
4. Pedestrian guardrail and architectural treatment not shown in elevation view for clarity.

LEGEND:

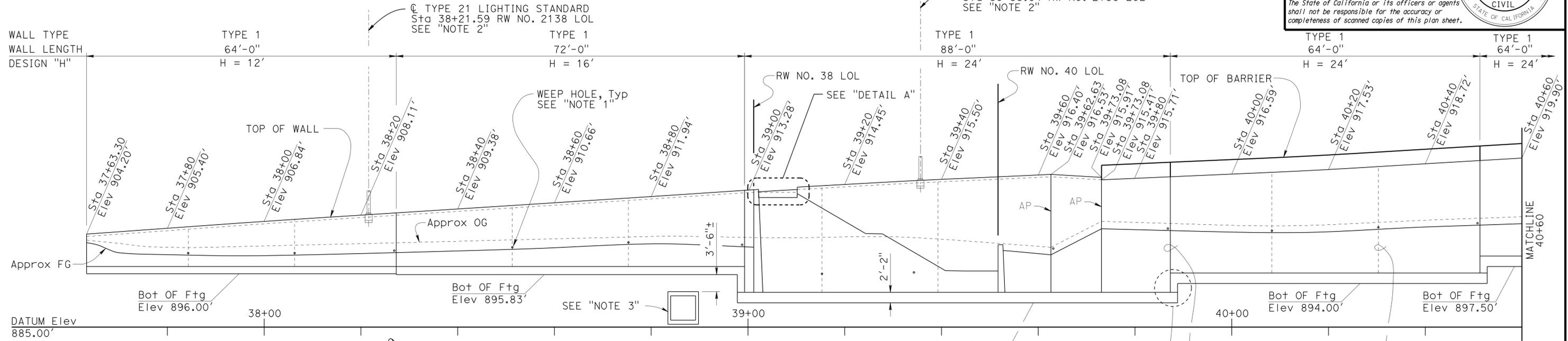
- AP = Angle Point
- Indicates existing structure

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2060	2313

REGISTERED CIVIL ENGINEER  
 DATE 10-1-14  
 6-1-15  
 PLANS APPROVAL DATE

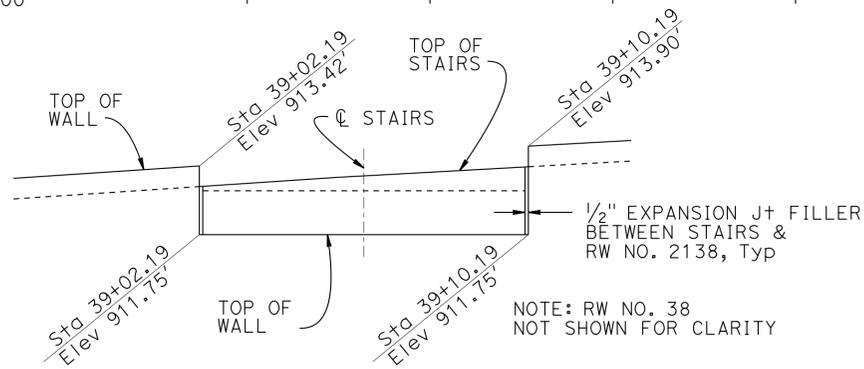
Gabriel J. Galo  
 No. 52288  
 Exp. 12-31-14  
 CIVIL

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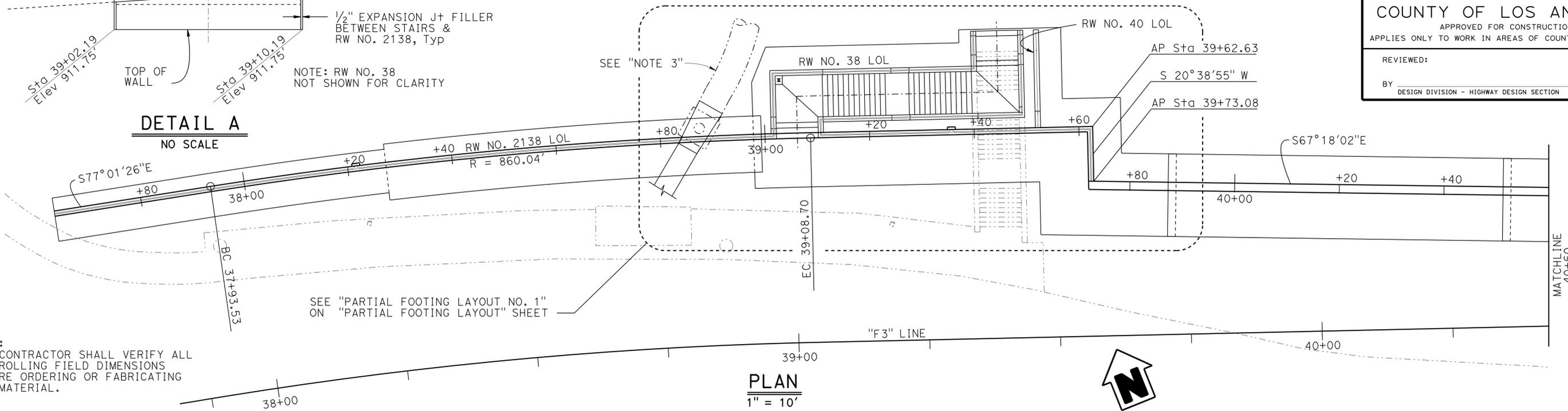


DEVELOPED MIRRORED ELEVATION

1" = 10'



DETAIL A  
NO SCALE



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

COUNTY OF LOS ANGELES  
 APPROVED FOR CONSTRUCTION.  
 APPLIES ONLY TO WORK IN AREAS OF COUNTY JURISDICTION.

REVIEWED: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 DESIGN DIVISION - HIGHWAY DESIGN SECTION DATE: \_\_\_\_\_

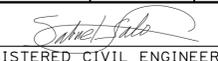
DESIGN	BY: Ulysses Spardos	CHECKED: Fred Feng
DETAILS	BY: Tim Trefz/R. Kirkland	CHECKED: Fred Feng
QUANTITIES	BY: Bill Kemp	CHECKED: R. Wilson/U. Inyang

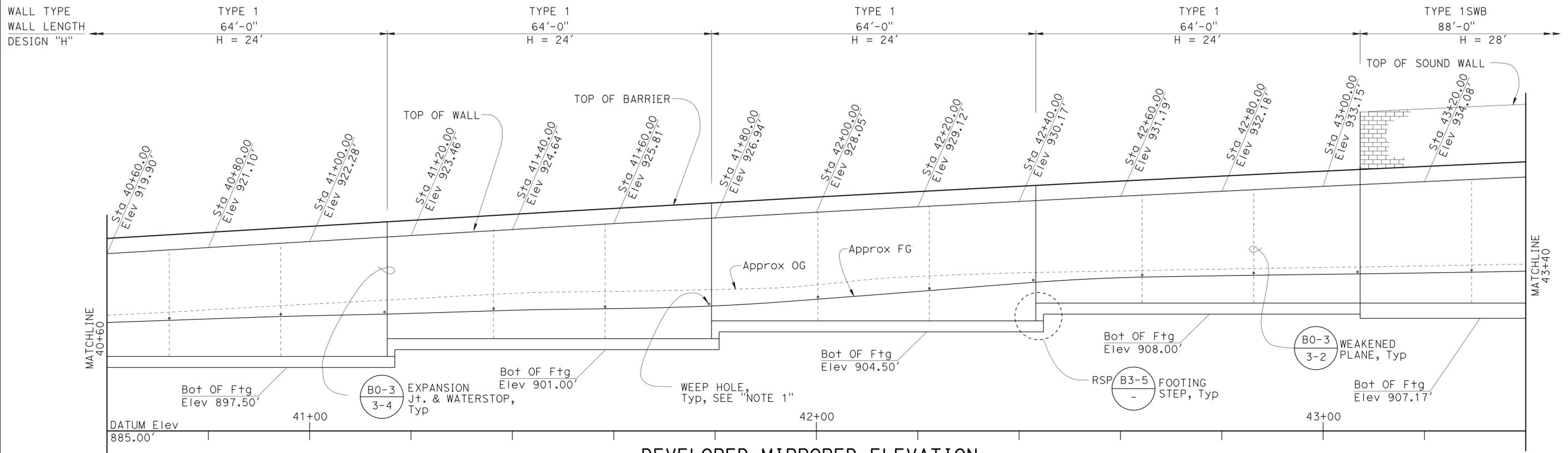
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 15**

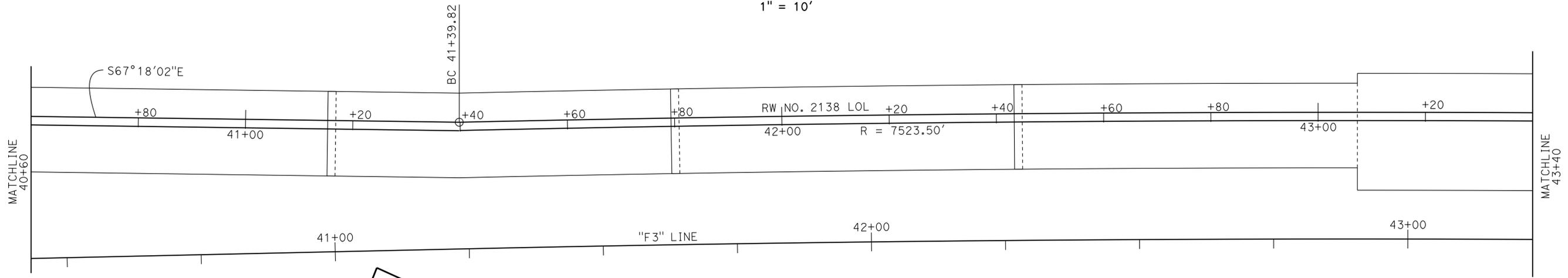
BRIDGE NO. 53E0311  
 POST MILE 40.5/40.6

**RETAINING WALL NO. 2138  
 STRUCTURE PLAN NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2061	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
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**DEVELOPED MIRRORED ELEVATION**  
1" = 10'



**PLAN**  
1" = 10'

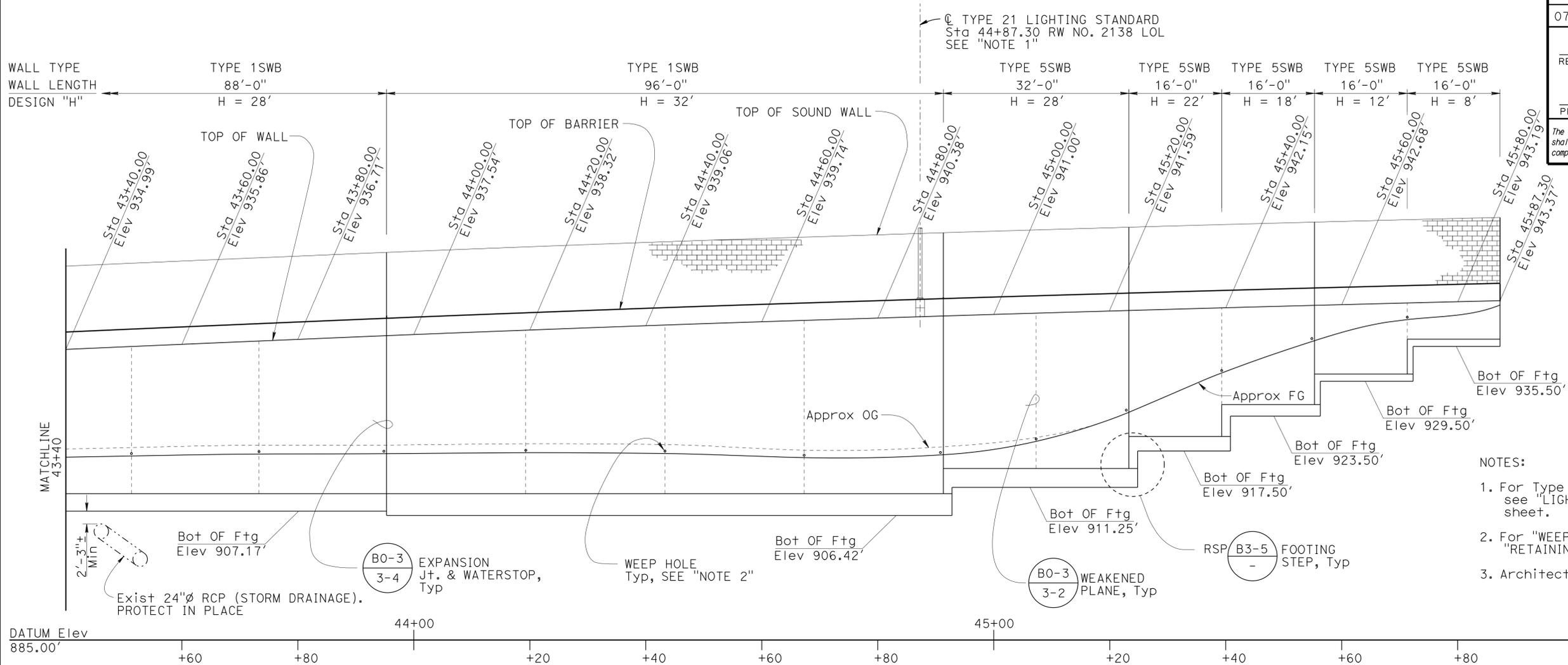
NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



- NOTES:
- For "WEEP HOLE AND GEOCOMPOSITE DRAIN" see "RETAINING WALL DETAILS" sheet.
  - Architectural treatment not shown for clarity.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Ulysses Spardos	CHECKED Fred Feng	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO.	53E0311	<b>RETAINING WALL NO. 2138</b> <b>STRUCTURE PLAN NO. 2</b>
	DETAILS	BY Tim Trefz/R. Kirkland	CHECKED Fred Feng			POST MILE	40.5/40.6	
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES		
REVISION DATES: 01-12-13, 12-28-13, 04-12-14, 5-21-14								SHEET 5 OF 37

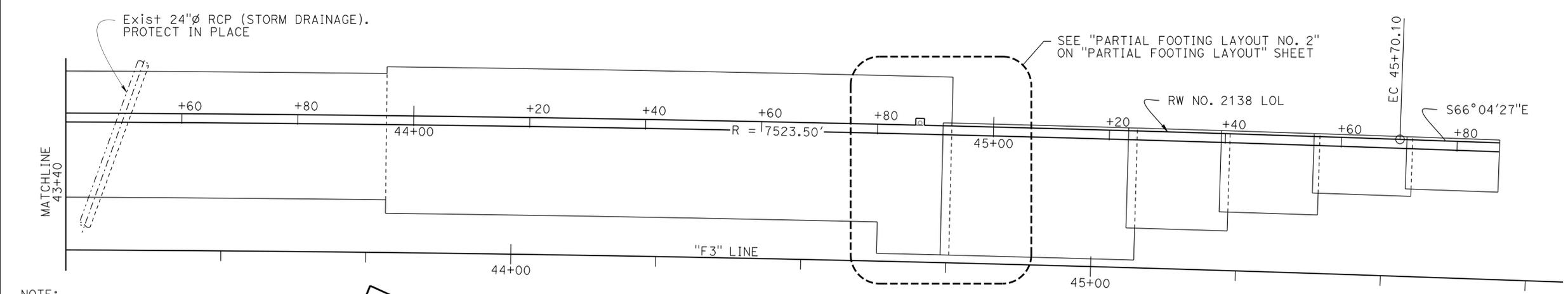
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2062	2313
 REGISTERED CIVIL ENGINEER			10-1-14 DATE		
6-1-15 PLANS APPROVAL DATE					
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**DEVELOPED MIRRORED ELEVATION**

1" = 10'

- NOTES:
1. For Type 21 Lighting Standard support details, see "LIGHTING STANDARD PEDESTAL DETAILS NO. 2" sheet.
  2. For "WEEP HOLE AND GEOCOMPOSITE DRAIN" see "RETAINING WALL DETAILS" sheet.
  3. Architectural treatment not shown for clarity.



**PLAN**

1" = 10'

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN BY Ulysses Spardos CHECKED Fred Feng	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0311	<b>RETAINING WALL NO. 2138</b> <b>STRUCTURE PLAN NO. 3</b>		
	DETAILS BY Tim Trefz/R. Kirkland CHECKED Fred Feng			POST MILE 40.5/40.6			
	QUANTITIES BY Bill Kemp CHECKED R. Wilson/U. Inyang			UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007 CONTRACT NO.: 07-1193U1			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 01-02-13, 12-28-13, 04-14-14, 5-27-14	SHEET 6 OF 37



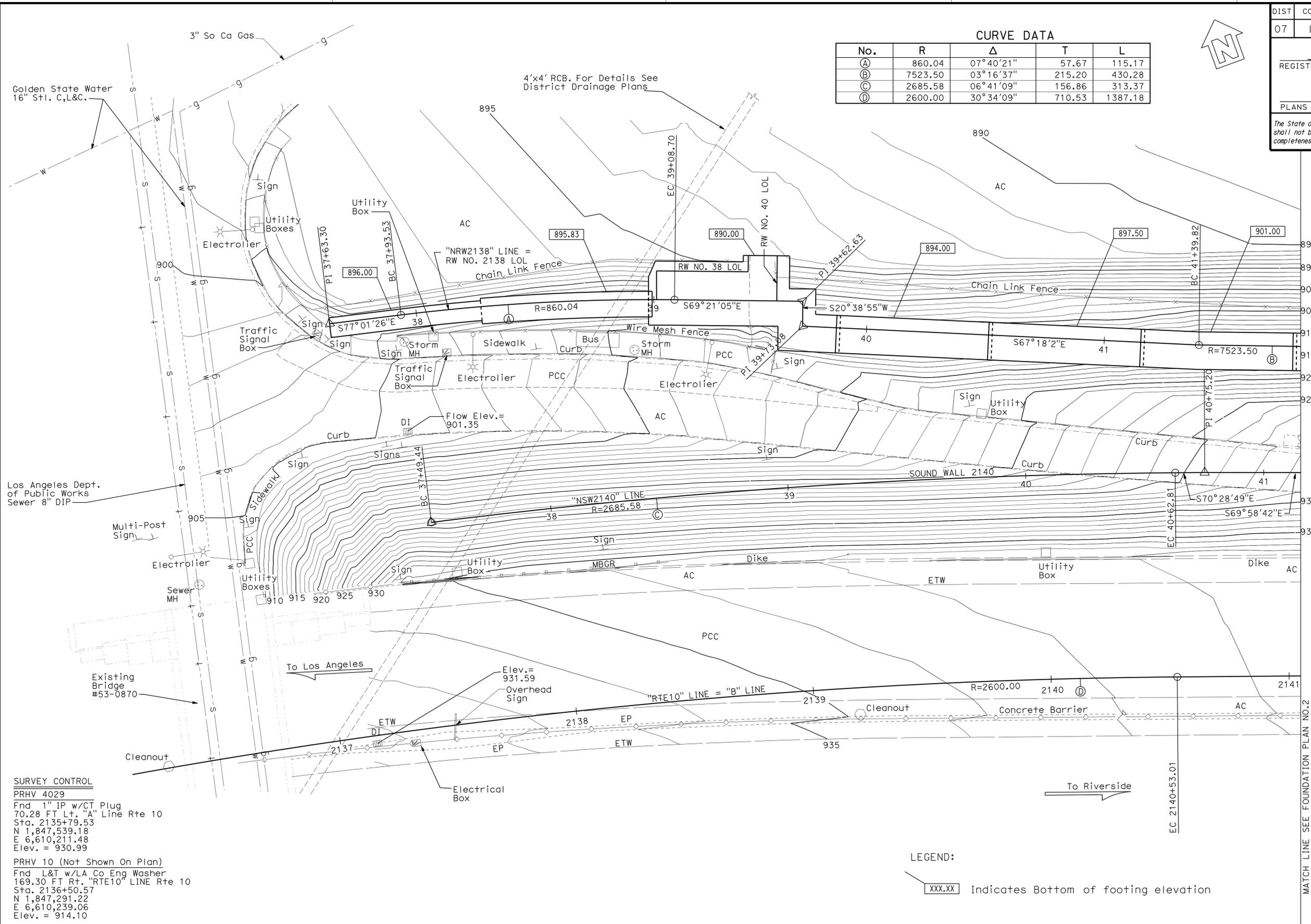
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2064	2313

10-1-14  
 REGISTERED CIVIL ENGINEER DATE  
 6-1-15  
 PLANS APPROVAL DATE

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**CURVE DATA**

No.	R	Δ	T	L
(A)	860.04	07°40'21"	57.67	115.17
(B)	7523.50	03°16'37"	215.20	430.28
(C)	2685.58	06°41'09"	156.86	313.37
(D)	2600.00	30°34'09"	710.53	1387.18



**SURVEY CONTROL**  
 PRHV 4029  
 Fnd 1" IP w/CT Plug  
 70.28 FT Lt. "A" Line Rte 10  
 Sta. 2135+79.53  
 N 1,847,539.18  
 E 6,610,211.48  
 Elev. = 930.99

PRHV 10 (Not Shown On Plan)  
 Fnd L&T w/LA Co Eng Washer  
 169.30 FT Rt. "RTE10" LINE Rte 10  
 Sta. 2136+50.57  
 N 1,847,291.22  
 E 6,610,239.06  
 Elev. = 914.10

**LEGEND:**  
 XXX.XX Indicates Bottom of footing elevation

**PRELIMINARY INVESTIGATION SECTION**

SCALE	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X
1"=20'	HORZ.DATUM NAD83	SURVEYED BY DISTRICT 04/2008
ALIGNMENT TIES Dist TRAVERSE SHEET	DRAFTED BY J. MARTINEZ 01/2011	CHECKED BY T. SCHMALZ 01/2011

DESIGN	BY Ulysses Smpardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO. 53E0311  
 POST MILE 40.5/40.6

**RETAINING WALL NO. 2138  
 FOUNDATION PLAN NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2065	2313



10-1-14  
DATE

REGISTERED CIVIL ENGINEER

6-1-15  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

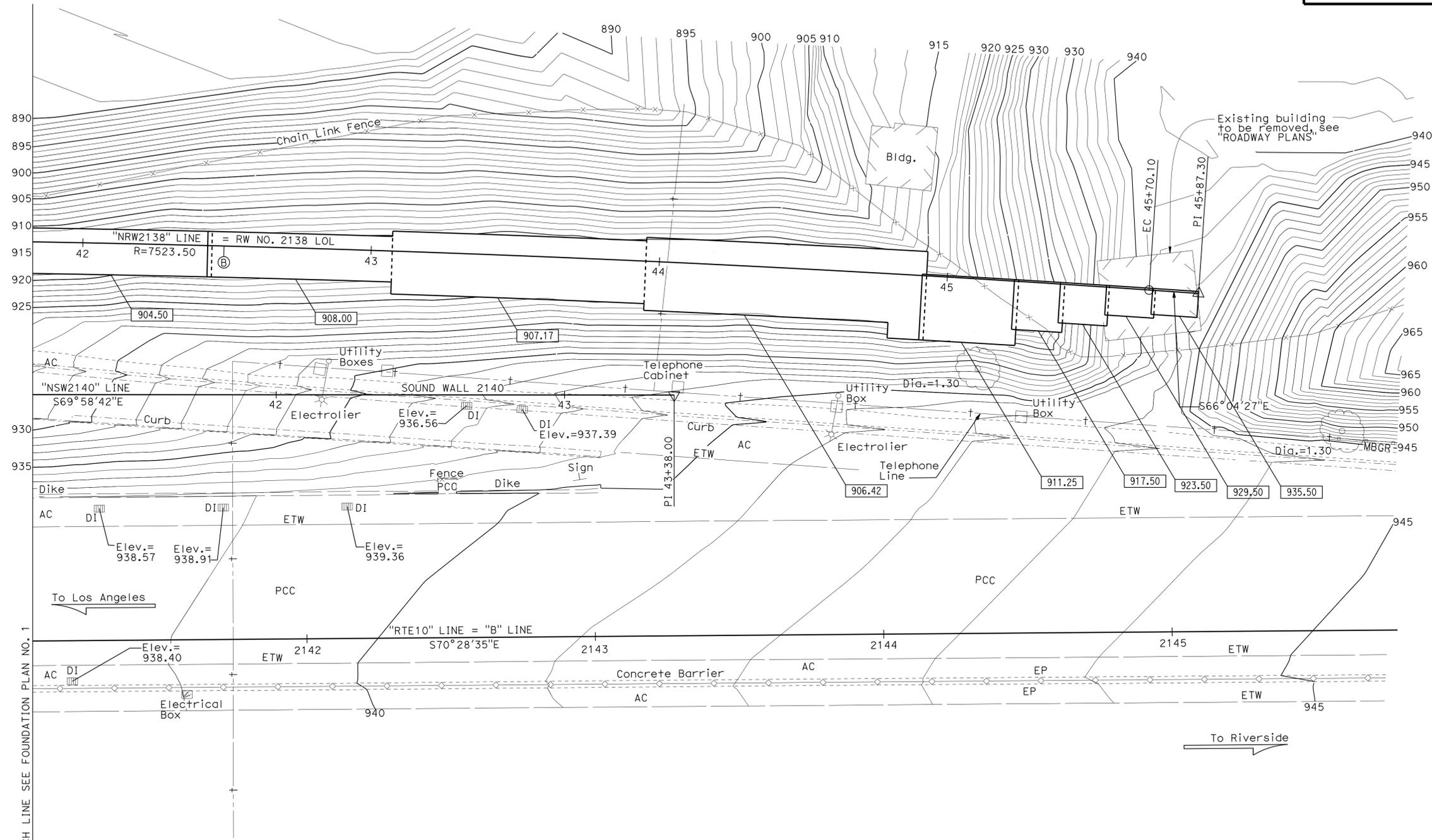
STATE OF CALIFORNIA

CIVIL

No. 52288  
Exp 12-31-14

Gabriel J. Galo

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MATCH LINE SEE FOUNDATION PLAN NO. 1

LEGEND:  
XXX.XX Indicates Bottom of footing elevation

PRELIMINARY INVESTIGATION SECTION					
SCALE	VERT. DATUM	PHOTOGRAMMETRY	AS OF:	X	
1"=20'	HORIZ. DATUM	SURVEYED	BY	C. FASSETT	01/2011
ALIGNMENT TIES	DIst	TRAVERSE SHEET	DRAFTED	J. MARTINEZ	01/2011
CHECKED	T. SCHMALZ	01/2011	CHECKED	T. SCHMALZ	01/2011

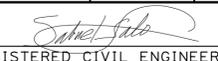
DESIGN	BY	Ulysses Smpardos	CHECKED	Fred Feng
DETAILS	BY	Rob Kirkland	CHECKED	Fred Feng
QUANTITIES	BY	Bill Kemp	CHECKED	R. Wilson/U. Inyang

**STATE OF CALIFORNIA**  
**DEPARTMENT OF TRANSPORTATION**

**DIVISION OF ENGINEERING SERVICES**  
**STRUCTURE DESIGN**  
**DESIGN BRANCH 15**

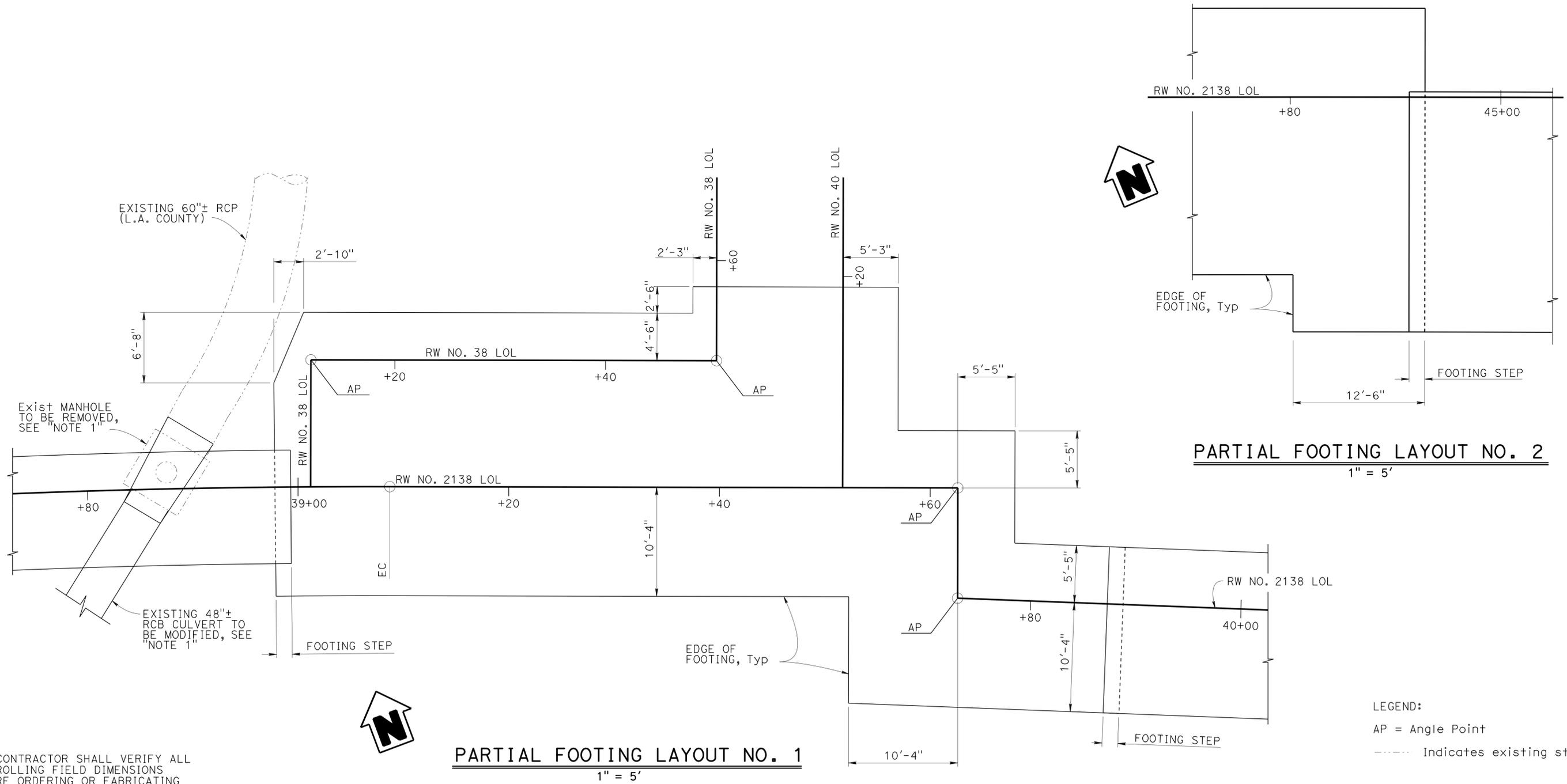
**RETAINING WALL NO. 2138**  
**FOUNDATION PLAN NO. 2**

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2066	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					

NOTES:

1. For modifications to existing storm drainage system, see "ROADWAY PLANS"



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

LEGEND:  
AP = Angle Point  
----- Indicates existing structure

**PARTIAL FOOTING LAYOUT NO. 1**  
1" = 5'

**PARTIAL FOOTING LAYOUT NO. 2**  
1" = 5'

DESIGN	BY Ulysses Spardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

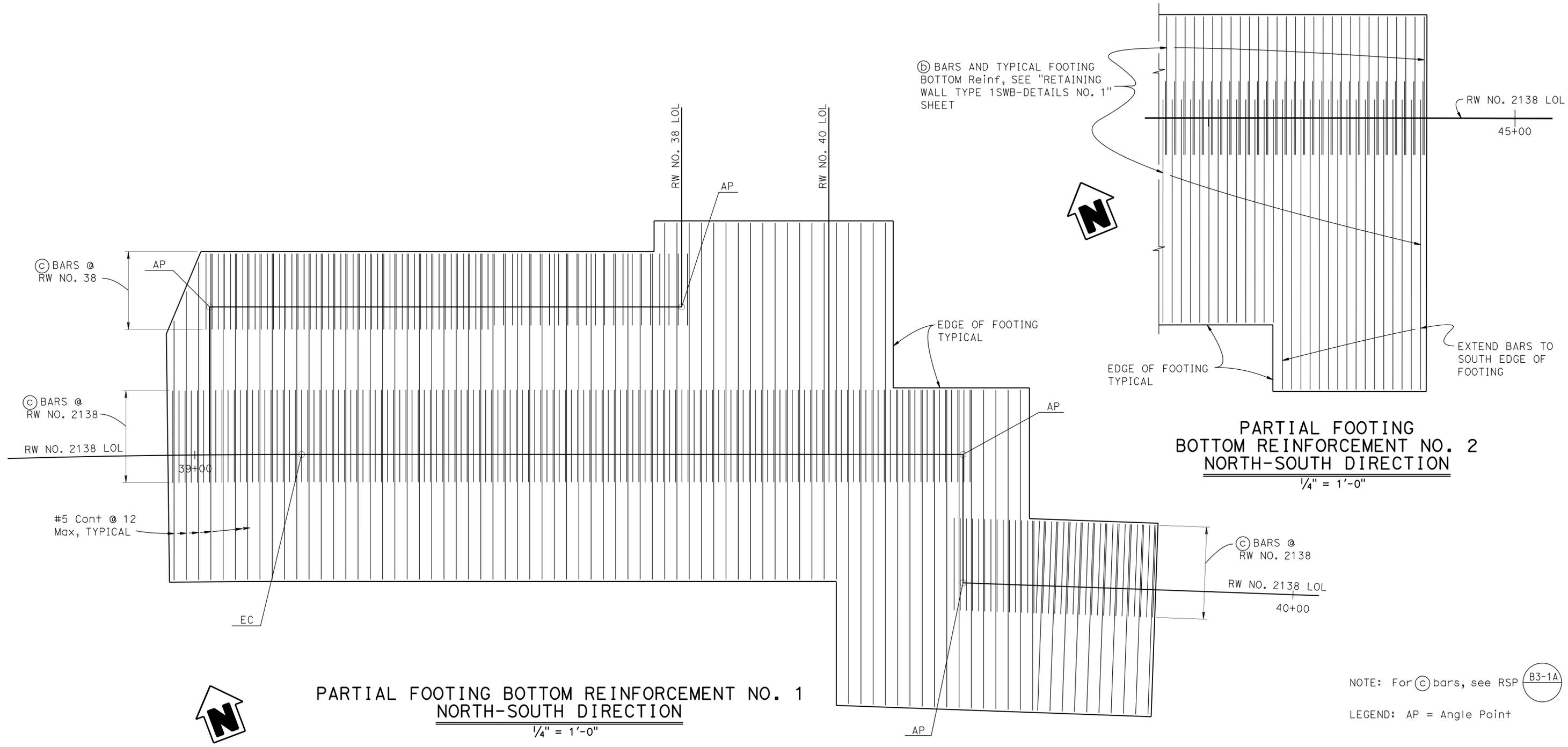
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**PARTIAL FOOTING LAYOUT**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2067	2313
			10-1-14	DATE	
REGISTERED CIVIL ENGINEER			DATE		
6-1-15			PLANS APPROVAL DATE		
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Ⓢ BARS AND TYPICAL FOOTING BOTTOM Reinf, SEE "RETAINING WALL TYPE 1SWB-DETAILS NO. 1" SHEET

**PARTIAL FOOTING  
BOTTOM REINFORCEMENT NO. 2  
NORTH-SOUTH DIRECTION**  
1/4" = 1'-0"

**PARTIAL FOOTING BOTTOM REINFORCEMENT NO. 1  
NORTH-SOUTH DIRECTION**  
1/4" = 1'-0"

NOTE: For Ⓢ bars, see RSP **B3-1A**  
LEGEND: AP = Angle Point

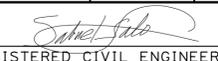
DESIGN	BY Ulysses Spardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

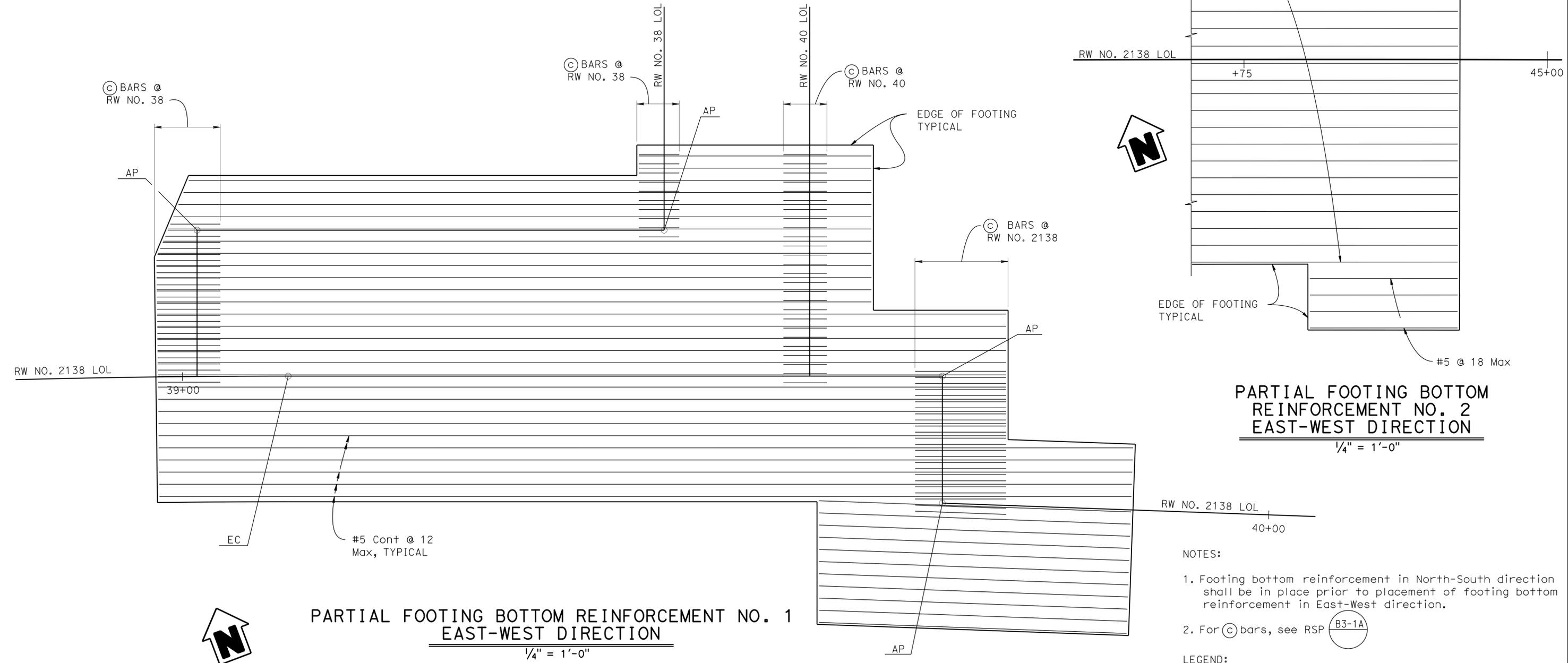
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**FOOTING DETAILS NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2068	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
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TYPICAL FOOTING BOTTOM Reinf,  
SEE "RETAINING WALL TYPE 1SWB-  
DETAILS NO. 1" SHEET



**PARTIAL FOOTING BOTTOM REINFORCEMENT NO. 1**  
**EAST-WEST DIRECTION**  
 $\frac{1}{4}'' = 1'-0''$

**PARTIAL FOOTING BOTTOM REINFORCEMENT NO. 2**  
**EAST-WEST DIRECTION**  
 $\frac{1}{4}'' = 1'-0''$

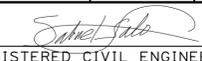
NOTES:

1. Footing bottom reinforcement in North-South direction shall be in place prior to placement of footing bottom reinforcement in East-West direction.
2. For © bars, see RSP B3-1A

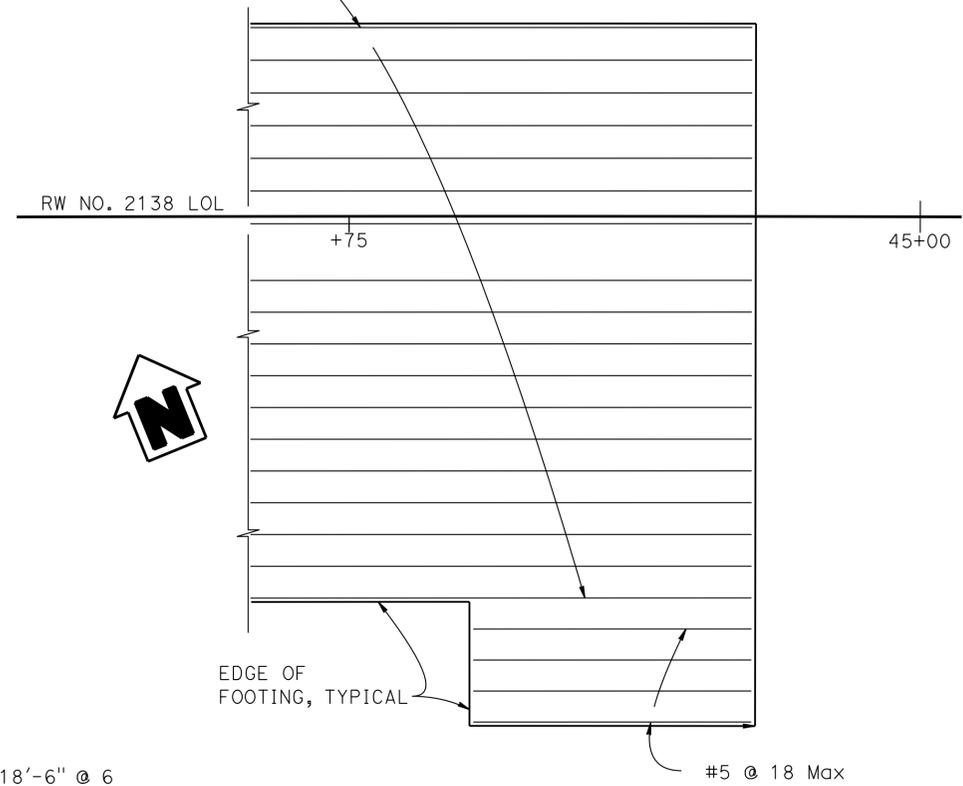
LEGEND:

AP = Angle Point

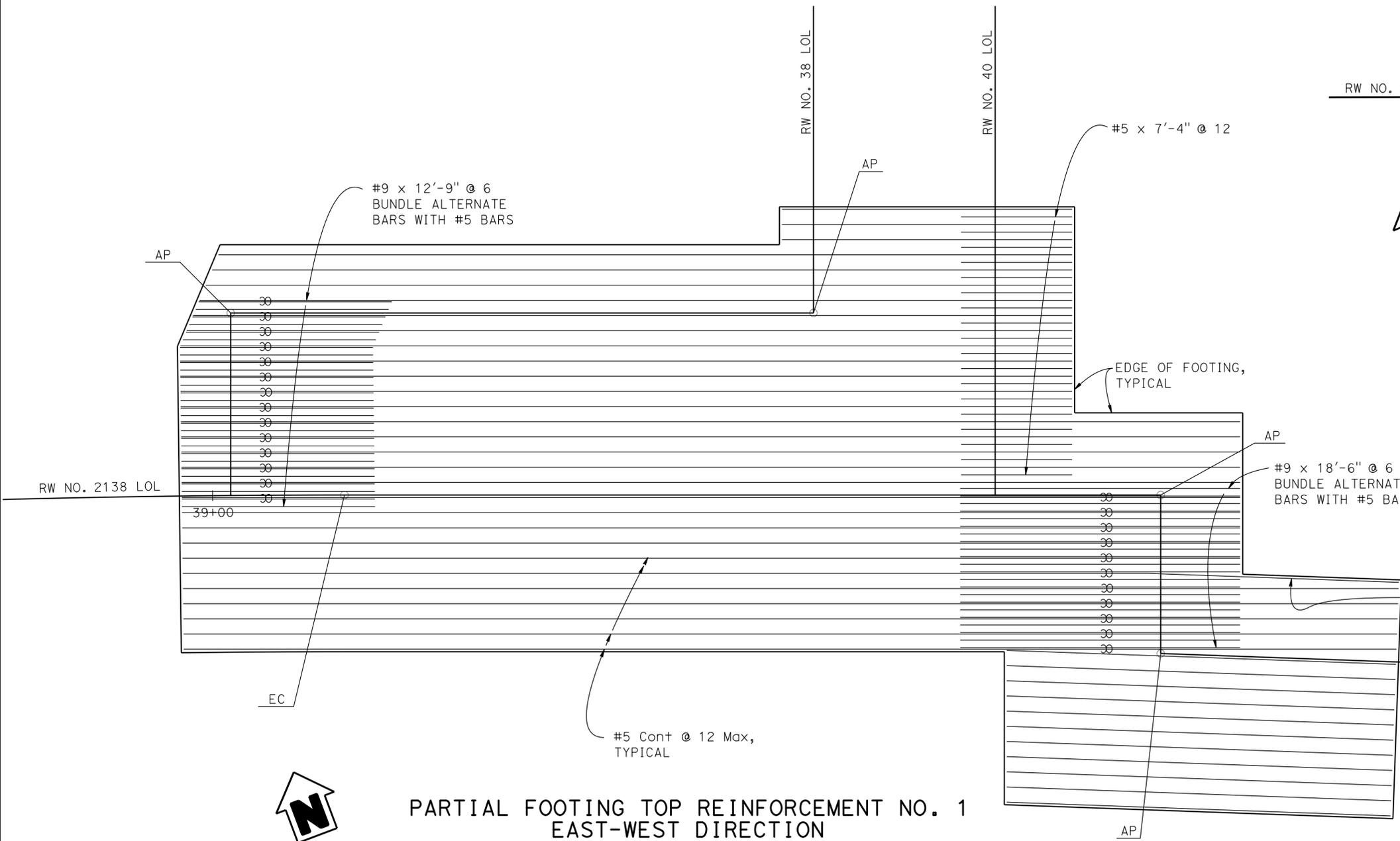
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Ulysses Spardos	CHECKED Fred Feng	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 15</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2138</b> <b>FOOTING DETAILS NO. 2</b>
	DETAILS	BY Rob Kirkland	CHECKED Fred Feng			53E0311	
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang			POST MILE 40.5/40.6	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	UNIT: 3604	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				FILE => 53e0311-e-ftgdt_02.dgn	PROJECT NUMBER & PHASE: 0713000007	REVISION DATES	SHEET 12 OF 37

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2069	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

TYPICAL FOOTING TOP Reinf,  
SEE "RETAINING WALL TYPE 1SWB-  
DETAILS NO. 1" SHEET



**PARTIAL FOOTING  
TOP REINFORCEMENT NO. 2  
EAST-WEST DIRECTION**  
1/4" = 1'-0"



**PARTIAL FOOTING TOP REINFORCEMENT NO. 1  
EAST-WEST DIRECTION**  
1/4" = 1'-0"

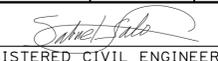
LEGEND:  
AP = Angle Point  
—○— Indicates bundled bars

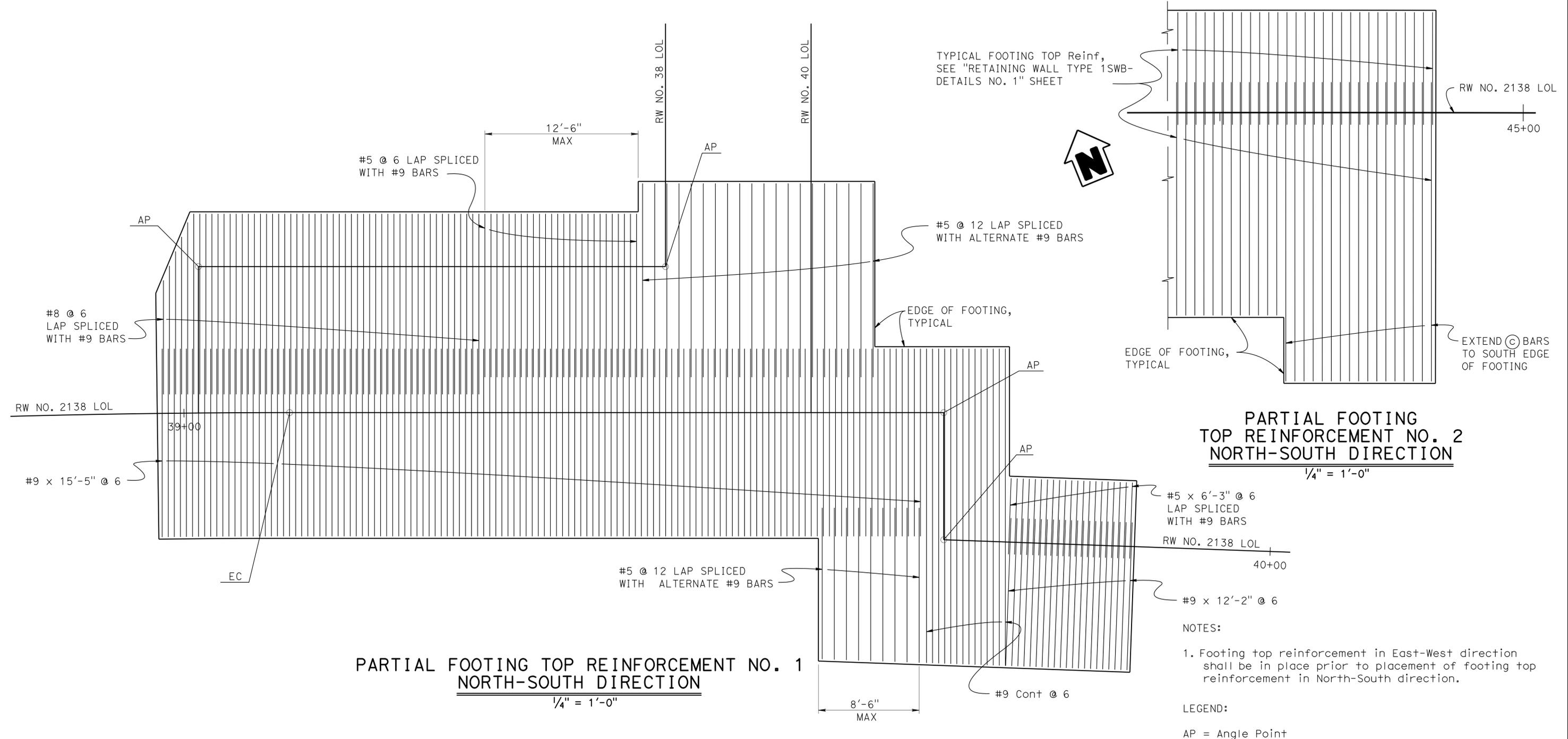
DESIGN	BY Ulysses Spardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
**DIVISION OF ENGINEERING SERVICES**  
 STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**FOOTING DETAILS NO. 3**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2070	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
PLANS APPROVAL DATE 6-1-15					
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**PARTIAL FOOTING TOP REINFORCEMENT NO. 1**  
**NORTH-SOUTH DIRECTION**  
 1/4" = 1'-0"

**PARTIAL FOOTING TOP REINFORCEMENT NO. 2**  
**NORTH-SOUTH DIRECTION**  
 1/4" = 1'-0"

NOTES:  
 1. Footing top reinforcement in East-West direction shall be in place prior to placement of footing top reinforcement in North-South direction.

LEGEND:  
 AP = Angle Point

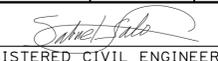
DESIGN	BY Ulysses Spardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

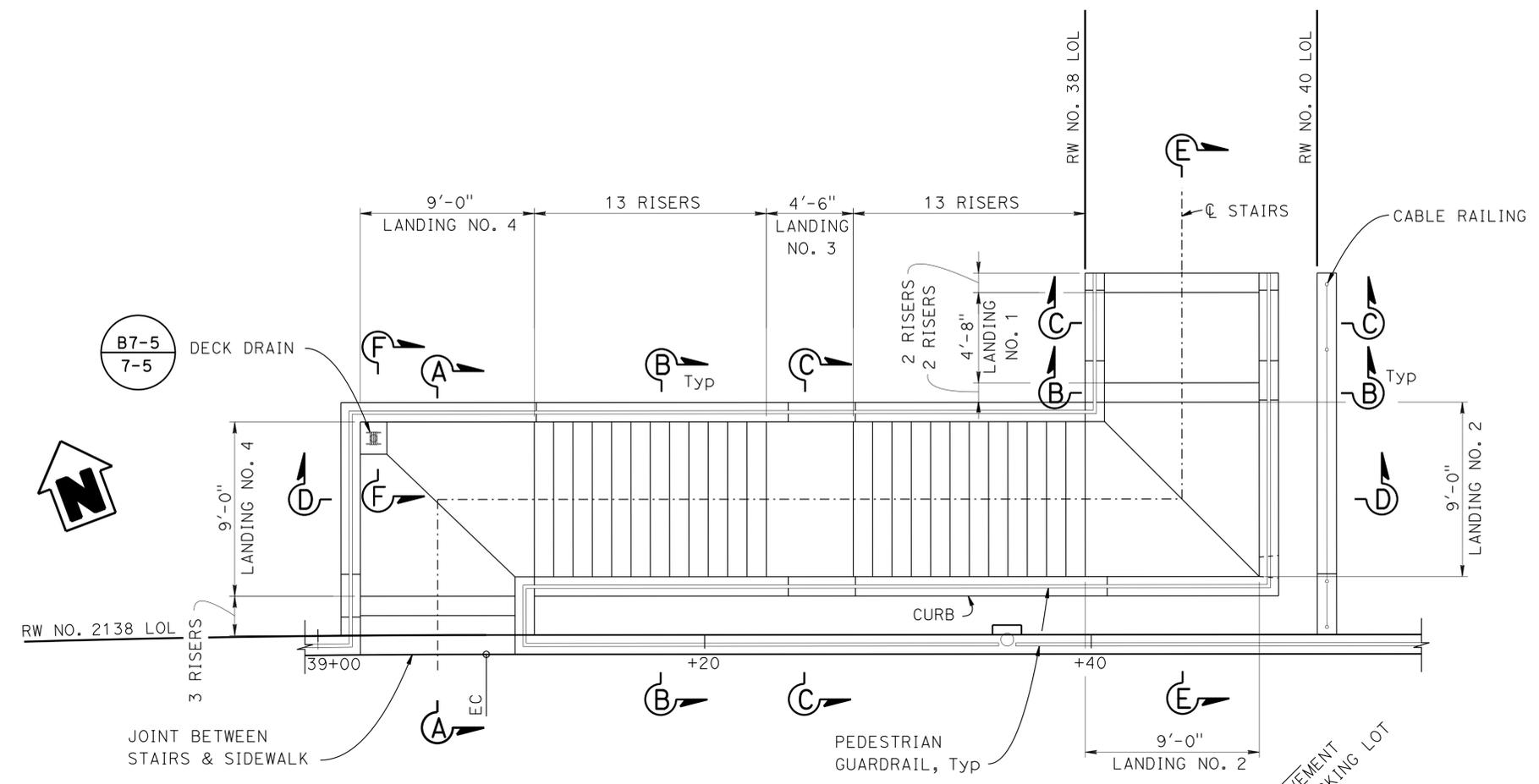
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 15**

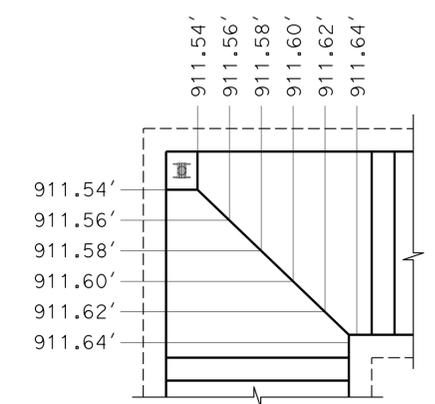
BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**FOOTING DETAILS NO. 4**

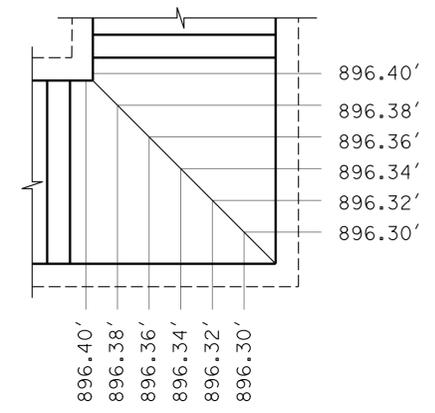
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2071	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER Gabriel J. Galo No. 52288 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					



**STAIR PLAN**  
1/4" = 1'-0"

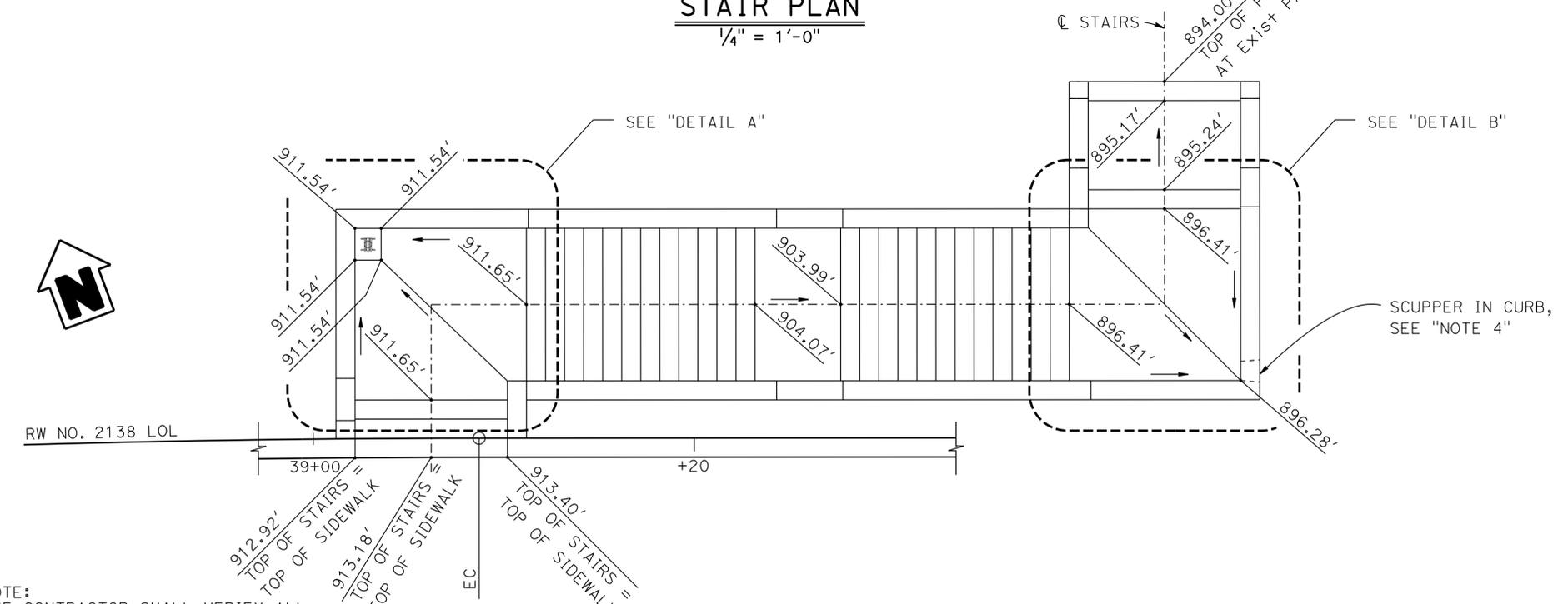


**DETAIL A**



**DETAIL B**

**SURFACE CONTOURS AT LANDINGS**  
1/4" = 1'-0"



**ELEVATIONS AT STAIRS**  
1/4" = 1'-0"

**NOTES:**

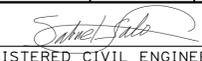
- For "SECTION A-A", "SECTION B-B" and "SECTION C-C" see "STAIR DETAILS NO. 2" sheet.
- For "SECTION D-D" and "SECTION E-E" see "STAIR DETAILS NO. 3" sheet.
- For "SECTION F-F" see "STAIR DETAILS NO. 5" sheet.
- For drainage details at Landing No. 2, see "STAIR DETAILS NO. 5" sheet.

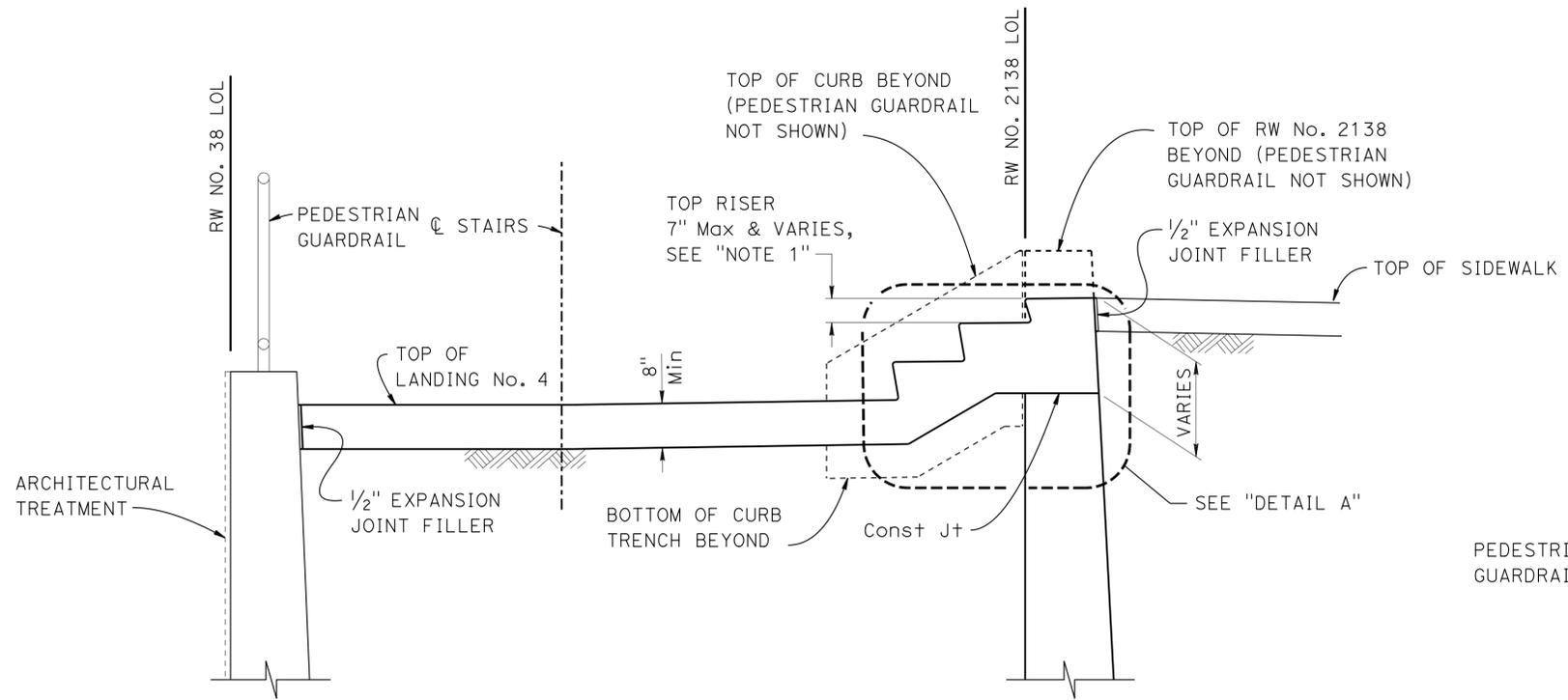
**LEGEND:**

-  = Elevation in feet at landings (unless otherwise indicated)
-  Indicates direction of flow

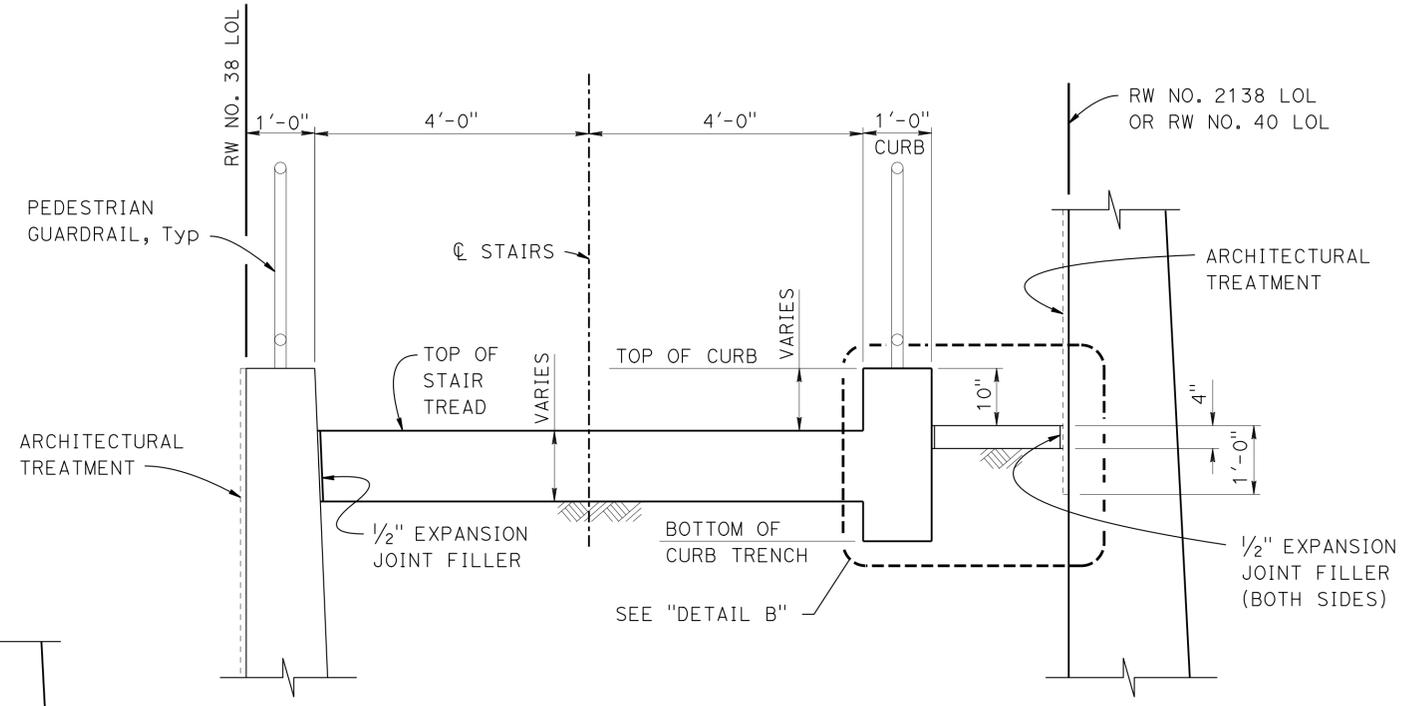
NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Ulysses Spardos	CHECKED Fred Feng	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 15	BRIDGE NO.	53E0311	RETAINING WALL NO. 2138 STAIR DETAILS NO. 1	
	DETAILS	BY Rob Kirkland	CHECKED Fred Feng			POST MILE	40.5/40.6		
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang	UNIT: 3604	PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 15 OF 37
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	FILE => 53e0311-g-strdat_01.dgn		11-08-13 12-20-13	

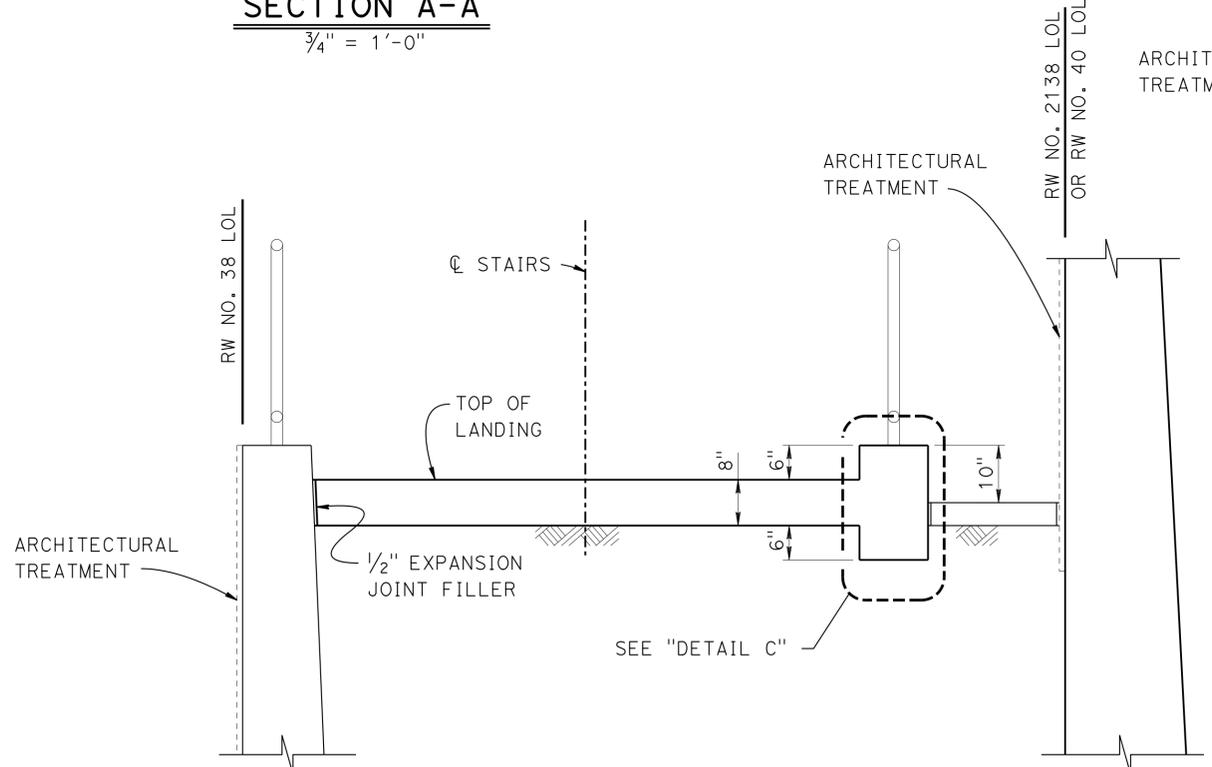
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2072	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
PLANS APPROVAL DATE 6-1-15					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					



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



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



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

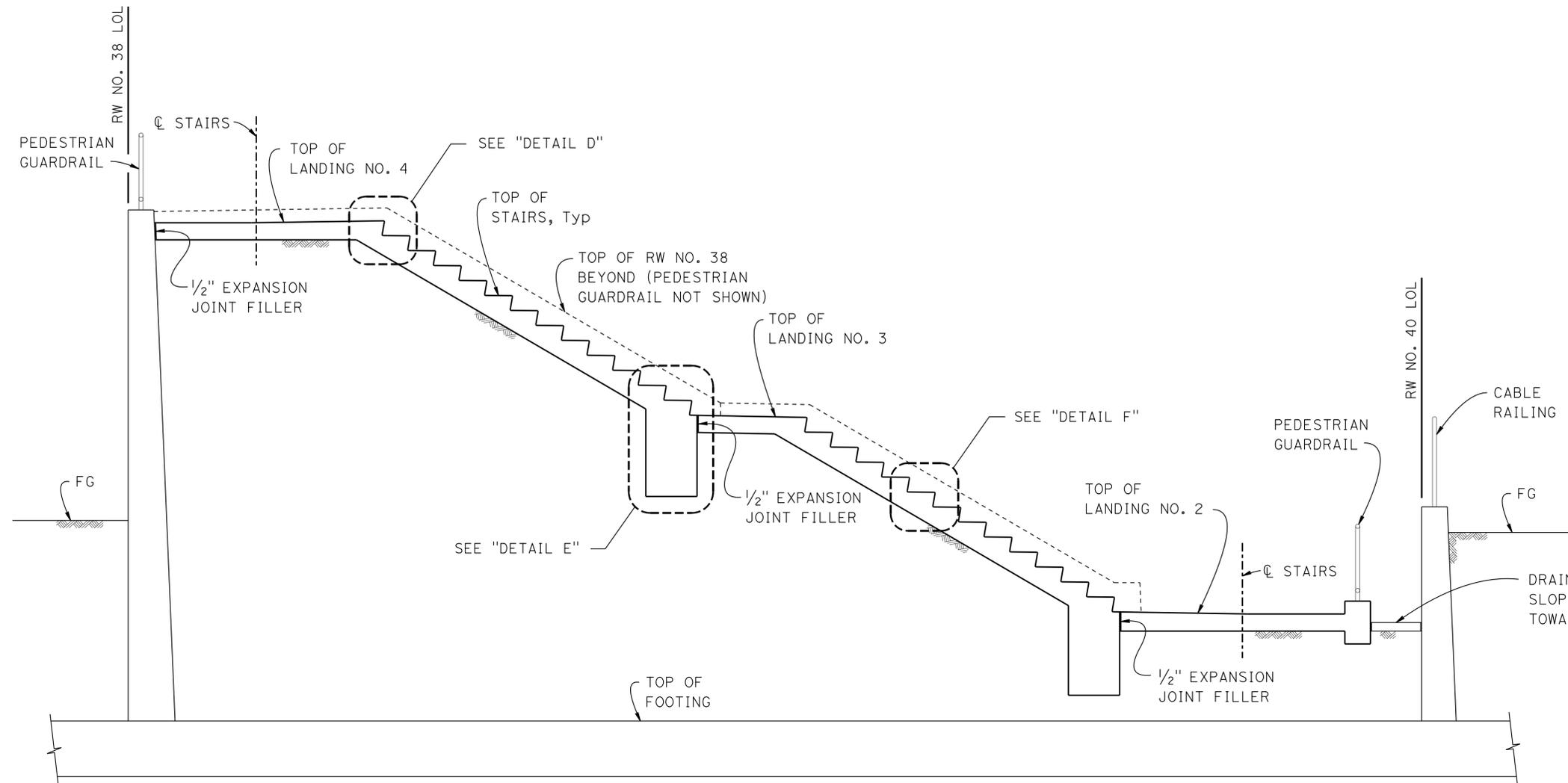
- NOTES:
- Top riser varies in height to match elevation of sloping adjacent sidewalk. The nosing or leading edge of the top stair tread shall have a distinctive marking or stripe, different than any other nosing marking provided anywhere on the stair flight. The distinctive marking stripe shall have a slip-resistant surface and shall have a width of at least one inch but not more than two inches.
  - For "DETAIL A", "DETAIL B" and "DETAIL C" see "STAIR DETAILS NO. 4" sheet.

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

NOTE:  
 For information not shown or noted, see "SECTION B-B"

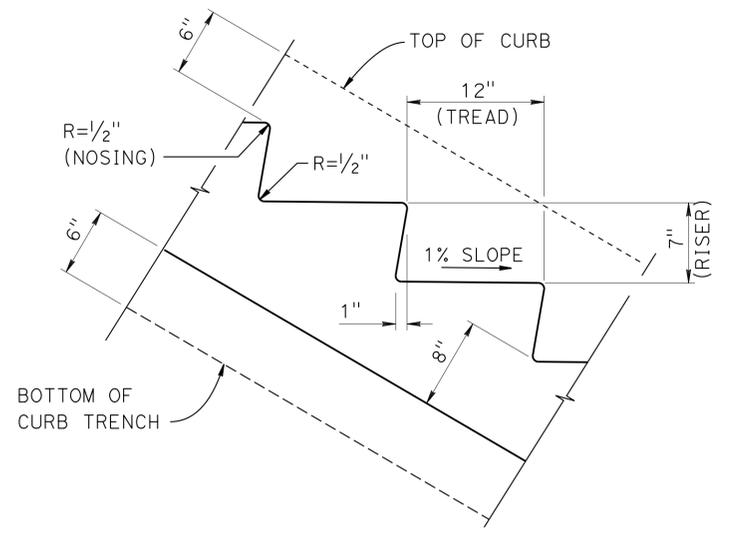
DESIGN BY Ulysses Spardos CHECKED Fred Feng DETAILS BY Rob Kirkland CHECKED Fred Feng QUANTITIES BY Bill Kemp CHECKED R. Wilson/U. Inyang	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0311	<b>RETAINING WALL NO. 2138</b> <b>STAIR DETAILS NO. 2</b>
			POST MILE 40.5/40.6	
			UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007 CONTRACT NO.: 07-1193u1	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3				

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2073	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
PLANS APPROVAL DATE 6-1-15					
REGISTERED PROFESSIONAL ENGINEER No. 52288 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					



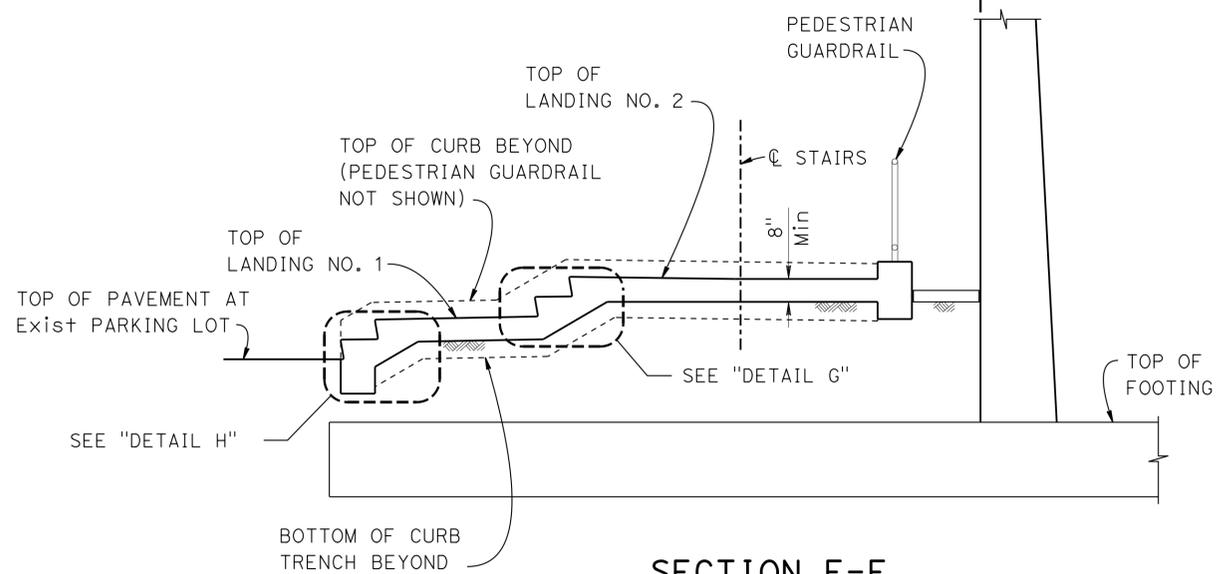
- NOTES:
- For "DETAIL D", "DETAIL E", "DETAIL F", "DETAIL G" and "DETAIL H" see "STAIR DETAILS NO. 4" sheet.
  - Architectural treatment not shown.

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



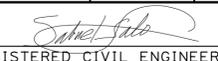
**TYPICAL STAIR GEOMETRY**  
 $\frac{1}{2}'' = 1'-0''$

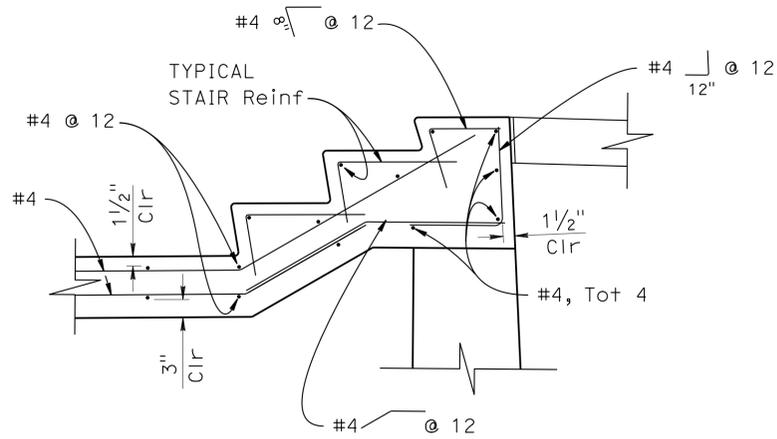
NOTE:  
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



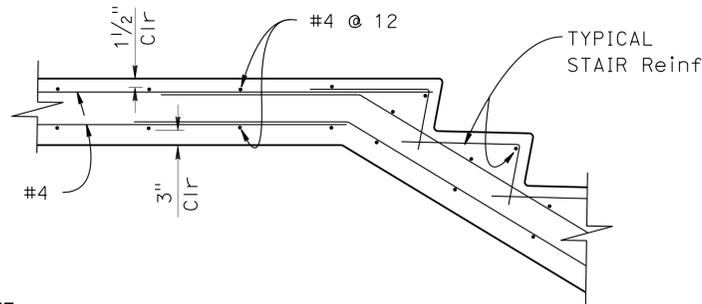
**SECTION E-E**  
 $\frac{3}{8}'' = 1'-0''$

DESIGN BY Ulysses Spardos CHECKED Fred Feng		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0311	<b>RETAINING WALL NO. 2138</b> <b>STAIR DETAILS NO. 3</b>		
DETAILS BY Rob Kirkland CHECKED Fred Feng				POST MILE 40.5/40.6			
QUANTITIES BY Bill Kemp CHECKED R. Wilson/U. Inyang							
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 11-14-13 12-28-13 5-27-14	SHEET OF 17 37

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2074	2313
 REGISTERED CIVIL ENGINEER			10-1-14 DATE		
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

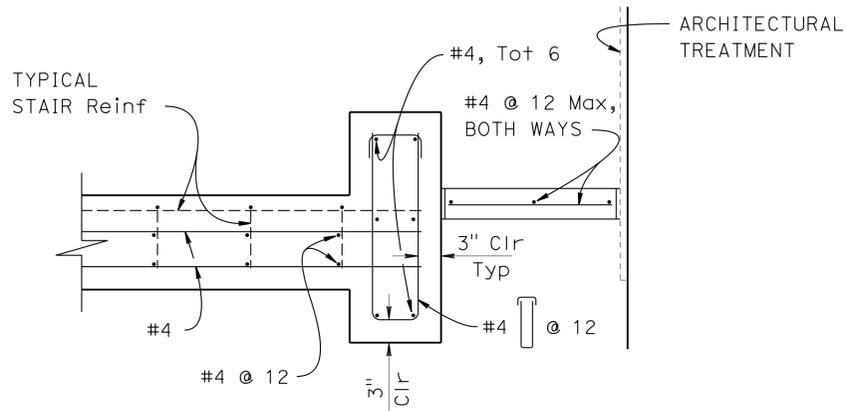


**DETAIL A**  
1" = 1'-0"

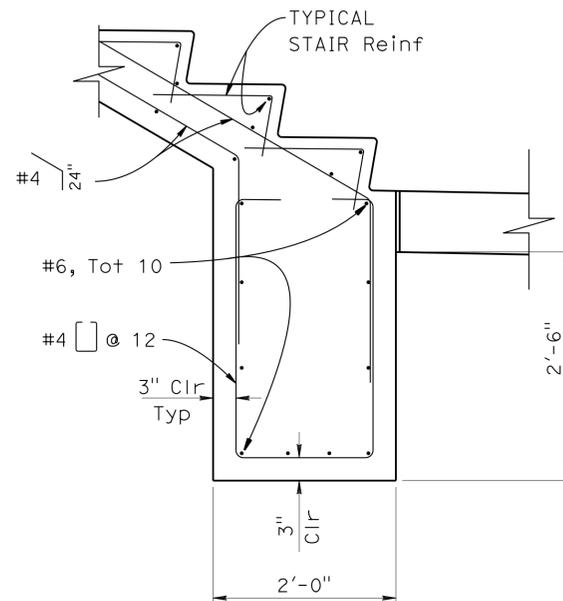


NOTE:  
For information not shown or noted, see "DETAIL F"

**DETAIL D**  
1" = 1'-0"

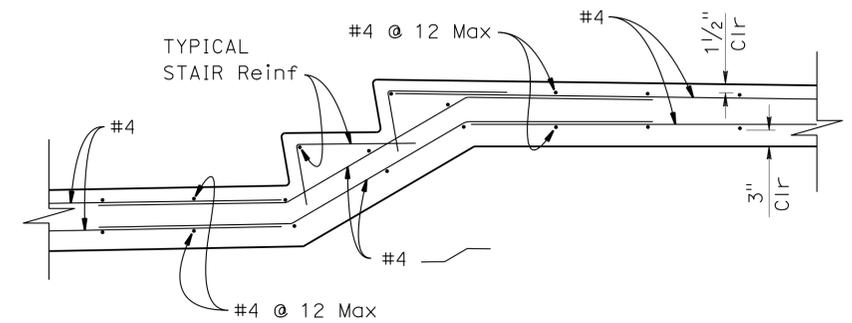


**DETAIL B**  
1" = 1'-0"



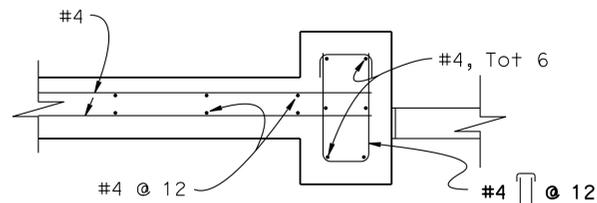
NOTE:  
For information not shown or noted, see "DETAIL F"

**DETAIL E**  
1" = 1'-0"



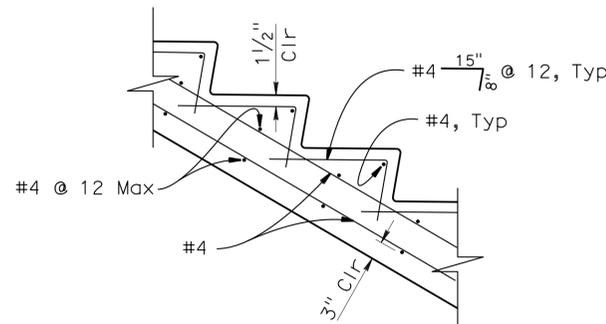
NOTE:  
For information not shown or noted, see "DETAIL F"

**DETAIL G**  
1" = 1'-0"

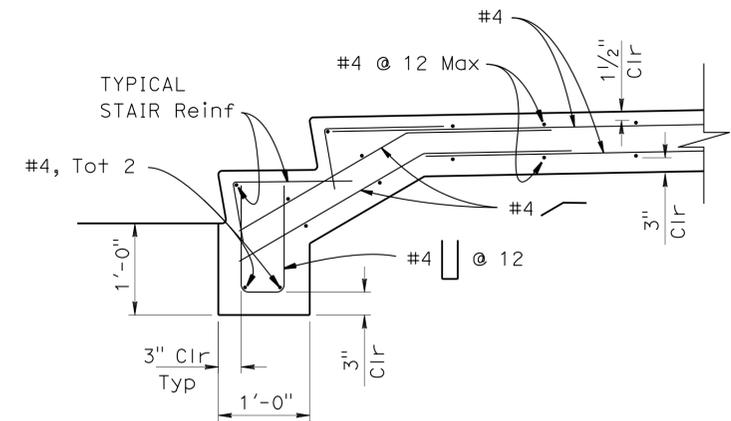


NOTE:  
For information not shown or noted, see "DETAIL B"

**DETAIL C**  
1" = 1'-0"



**DETAIL F**  
1" = 1'-0"



NOTE:  
For information not shown or noted, see "DETAIL F"

**DETAIL H**  
1" = 1'-0"

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

DESIGN	BY Ulysses Spardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

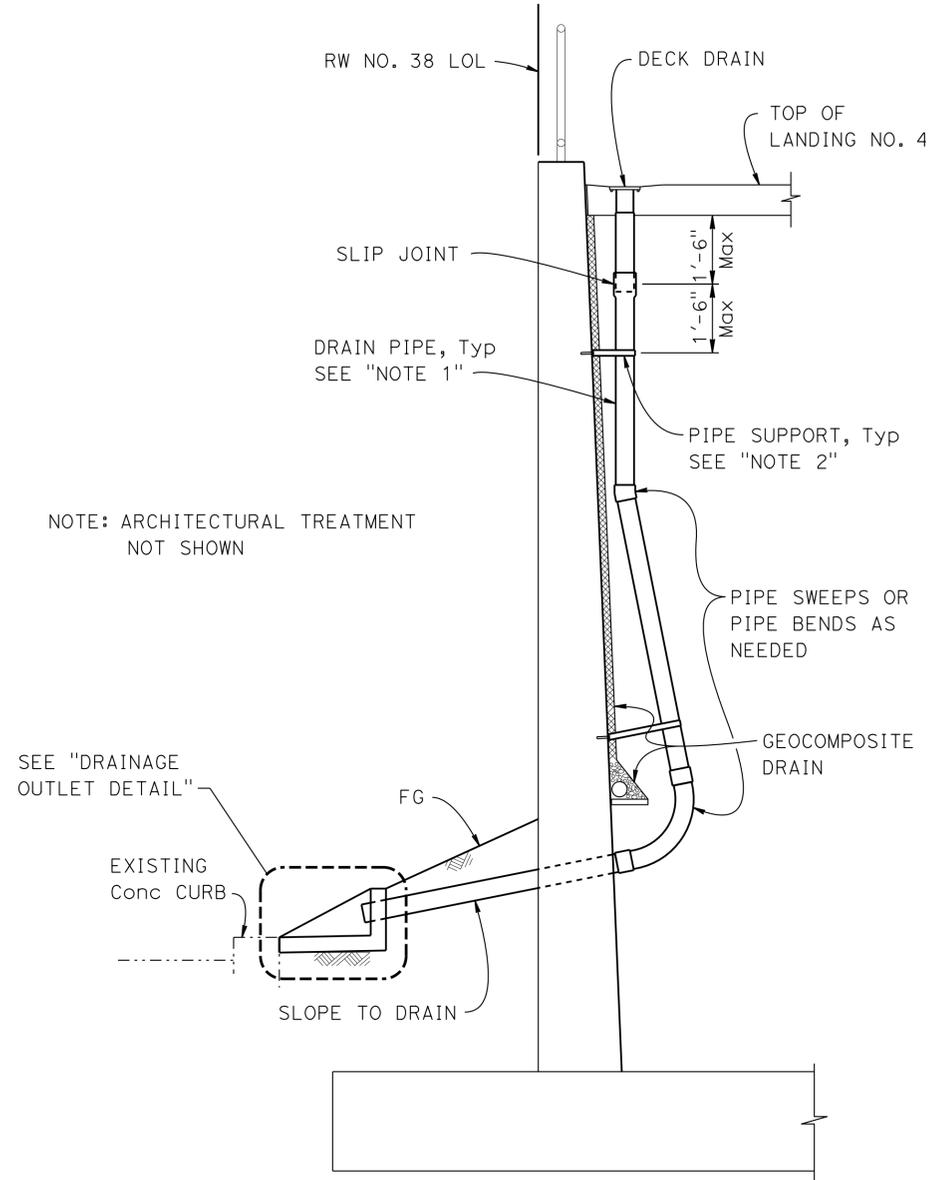
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 15

BRIDGE NO.	53E0311
POST MILE	40.5/40.6

RETAINING WALL NO. 2138  
STAIR DETAILS NO. 4

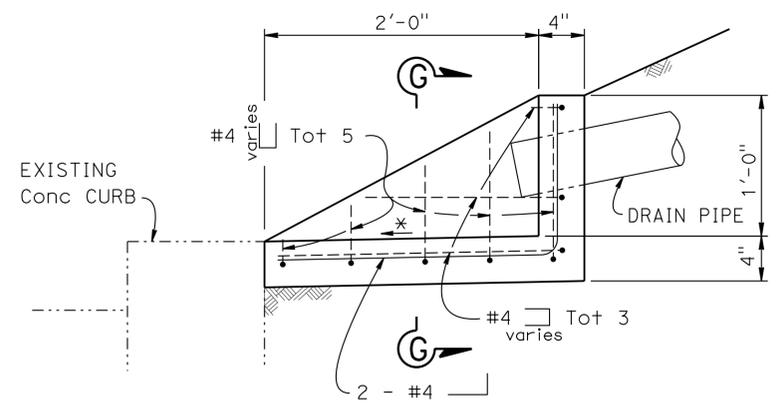
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2075	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					



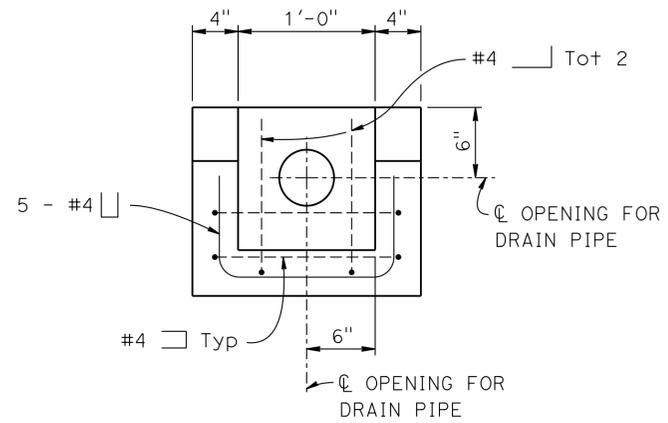
**SECTION F-F**  
1/2" = 1'-0"

- NOTES:
- All drain pipe shall be NPS 4 steel pipe. Deck drain, pipe, fittings and support hardware shall be galvanized after fabrication.
  - Drain pipe shall be rigidly connected to back face of retaining wall. Provide a minimum of two pipe supports spaced at 10 feet maximum. Each pipe support shall be connected to retaining wall with a minimum of two 1/2" concrete anchors.

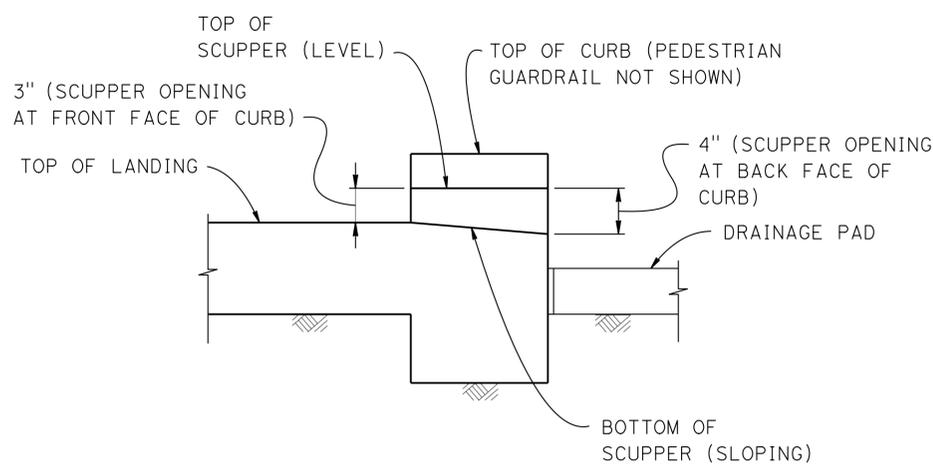
NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



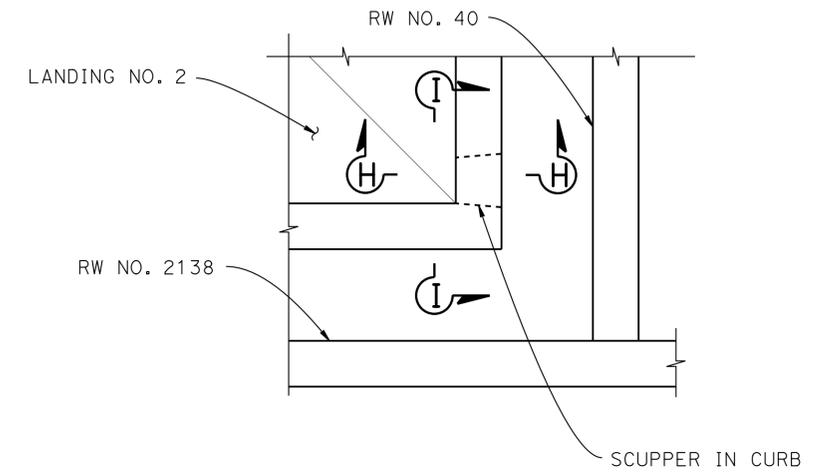
\* Slope to drain toward existing concrete curb  
**DRAINAGE OUTLET DETAIL**  
1/2" = 1'-0"



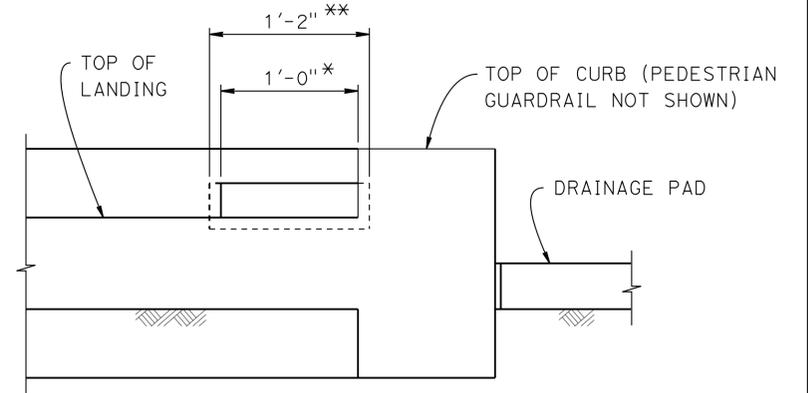
**SECTION G-G**  
1/2" = 1'-0"



**SECTION H-H**  
1/2" = 1'-0"



**DRAINAGE DETAIL AT LANDING NO. 2**  
1/2" = 1'-0"



- \* Scupper opening at front face of curb
- \*\* Scupper opening at back face of curb

**SECTION I-I**  
1/2" = 1'-0"

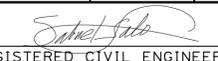
DESIGN	BY Ulysses Spardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

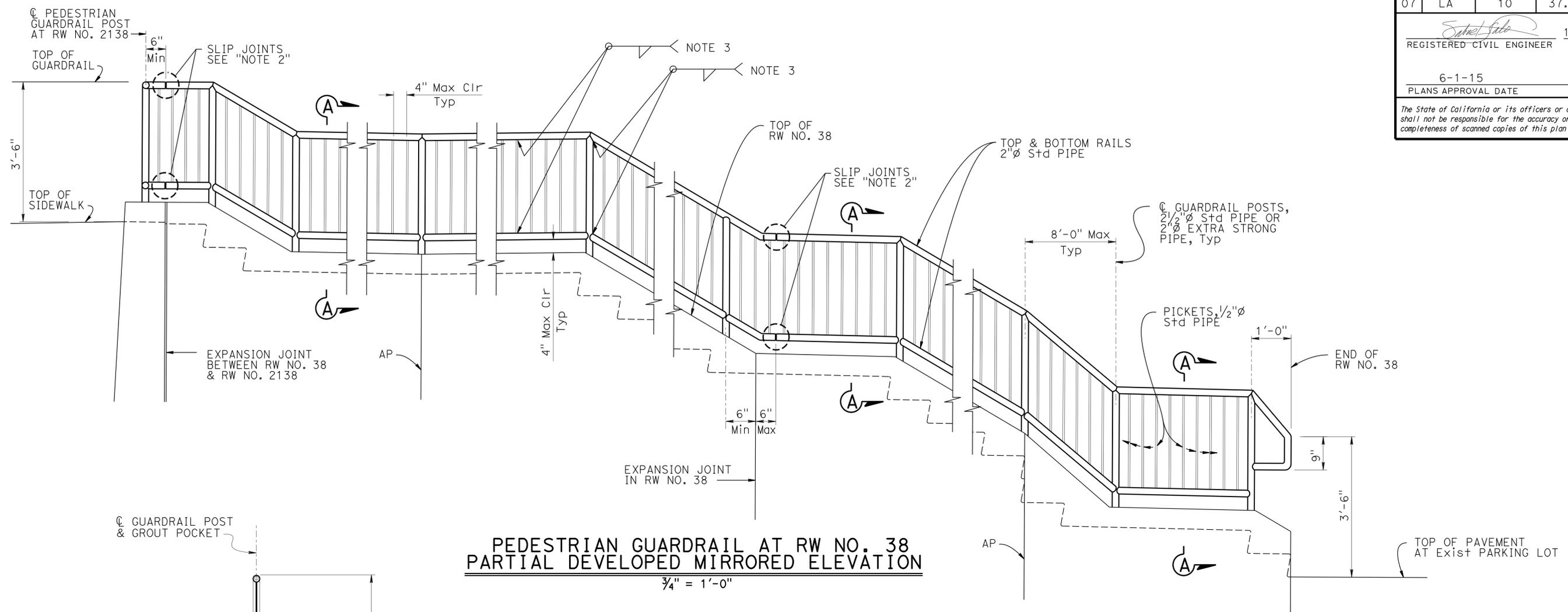
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

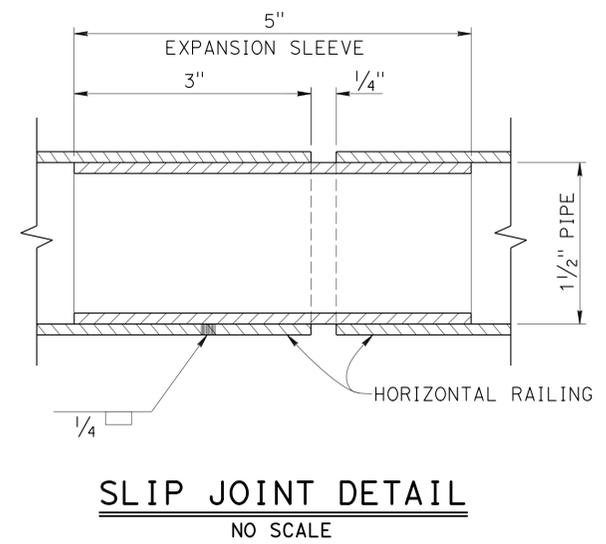
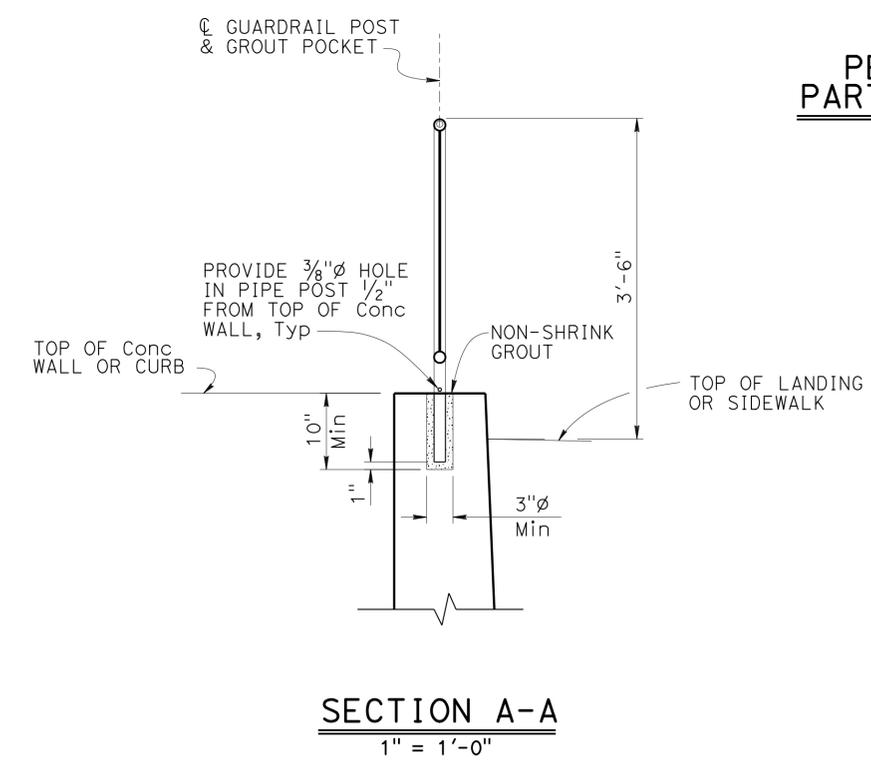
BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**STAIR DETAILS NO. 5**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2076	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
No. 52288 Exp. 12-31-14 CIVIL			REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA		
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**PEDESTRIAN GUARDRAIL AT RW NO. 38  
PARTIAL DEVELOPED MIRRORED ELEVATION**  
 $\frac{3}{4}'' = 1'-0''$

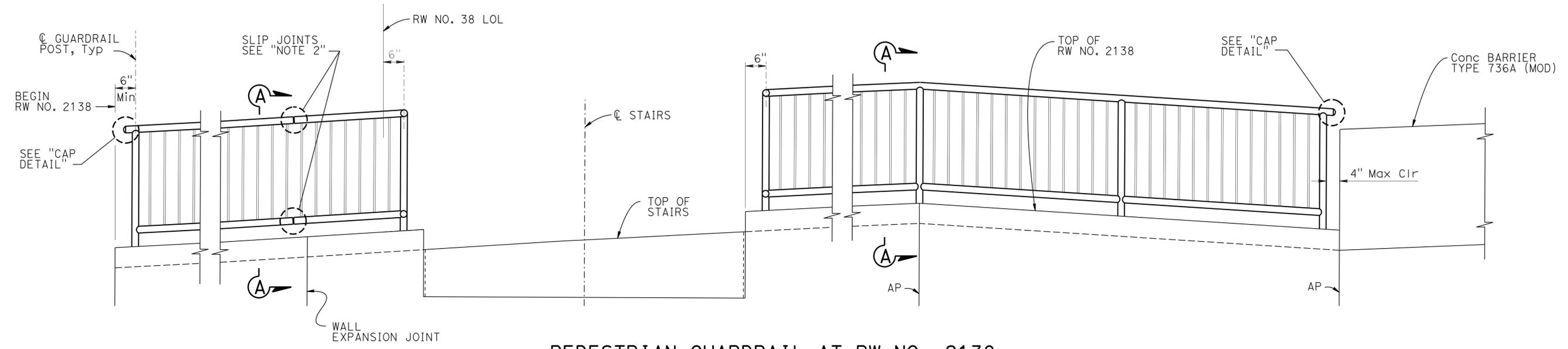


- NOTES:
1. Rails, posts and pickets shall be galvanized steel pipe.
  2. Provide slip joints at wall expansion joints as shown and at 24 feet maximum on center.
  3. Welds shall be slot or fillet welds equal to thickness of pipe. Weld all joints all around.
  4. Pedestrian guardrail details are similar at curb on opposite side of stairway.
- LEGEND:  
AP = Angle Point

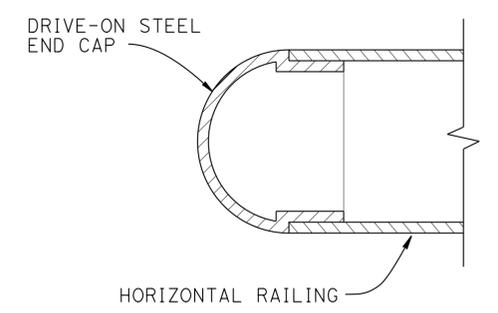
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Ulysses Spardos	CHECKED Fred Feng	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO.	53E0311	RETAINING WALL NO. 2138 STAIR DETAILS NO. 6	
	DETAILS	BY Tim Trefz/Rob Kirkland	CHECKED Fred Feng			POST MILE	40.5/40.6		
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang	UNIT: 3604	PROJECT NUMBER & PHASE: 071300007	CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 20 OF 37

USERNAME => s125624 DATE PLOTTED => 28-MAY-2015 TIME PLOTTED => 11:36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2077	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					



**PEDESTRIAN GUARDRAIL AT RW NO. 2138  
PARTIAL DEVELOPED MIRRORED ELEVATION**  
 $\frac{3}{4}'' = 1'-0''$



**CAP DETAIL**  
NO SCALE

NOTES:

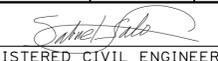
1. For information not shown or noted see "PEDESTRIAN GUARDRAIL AT RW NO. 38-PARTIAL DEVELOPED MIRRORED ELEVATION" detail on "STAIR DETAILS NO. 6" sheet.
2. For "SLIP JOINT DETAIL" and "SECTION A-A" see "STAIR DETAILS NO. 6" sheet.

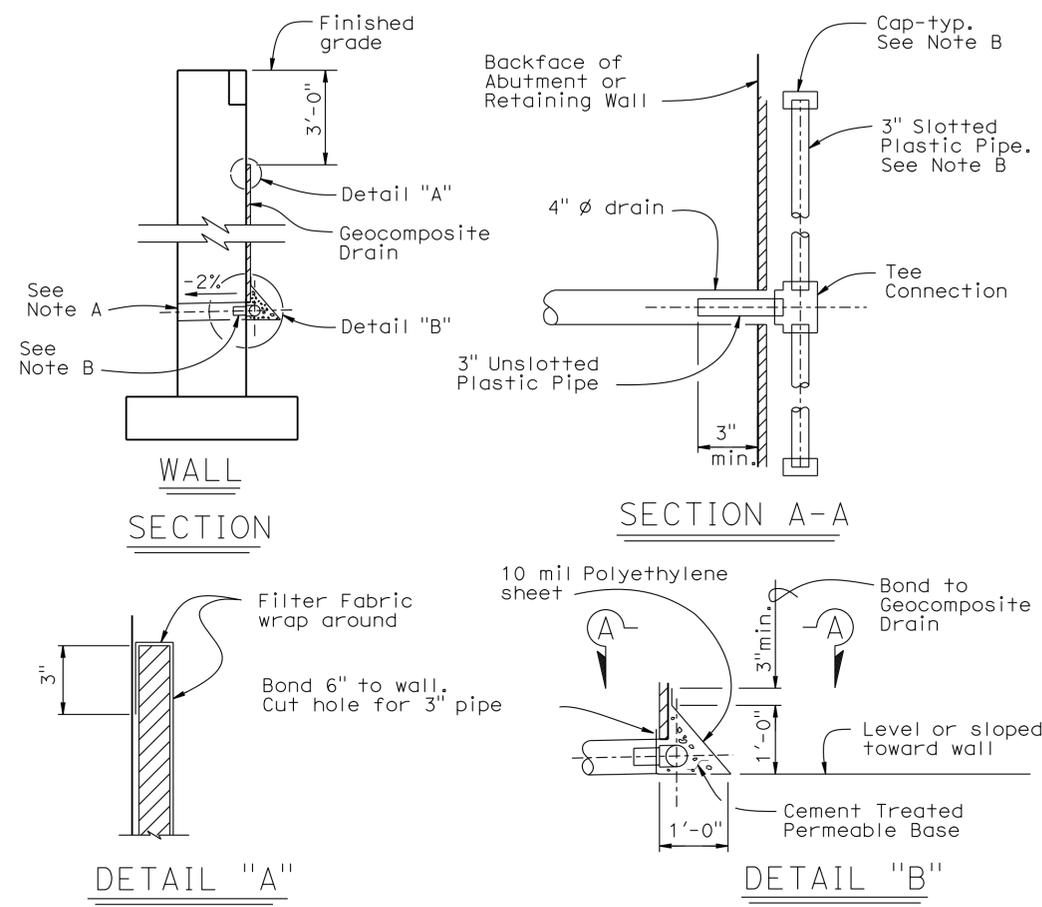
LEGEND:

AP = Angle Point

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Ulysses Spardos	CHECKED Fred Feng	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2138</b> <b>STAIR DETAILS NO. 7</b>	
	DETAILS	BY Tim Trefz/Rob Kirkland	CHECKED Fred Feng			53E0311		
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang			POST MILE 40.5/40.6		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3604 PROJECT NUMBER & PHASE: 071300007	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 01-09-14	SHEET 21 OF 37

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2078	2313
 REGISTERED CIVIL ENGINEER			10-1-14 DATE		
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

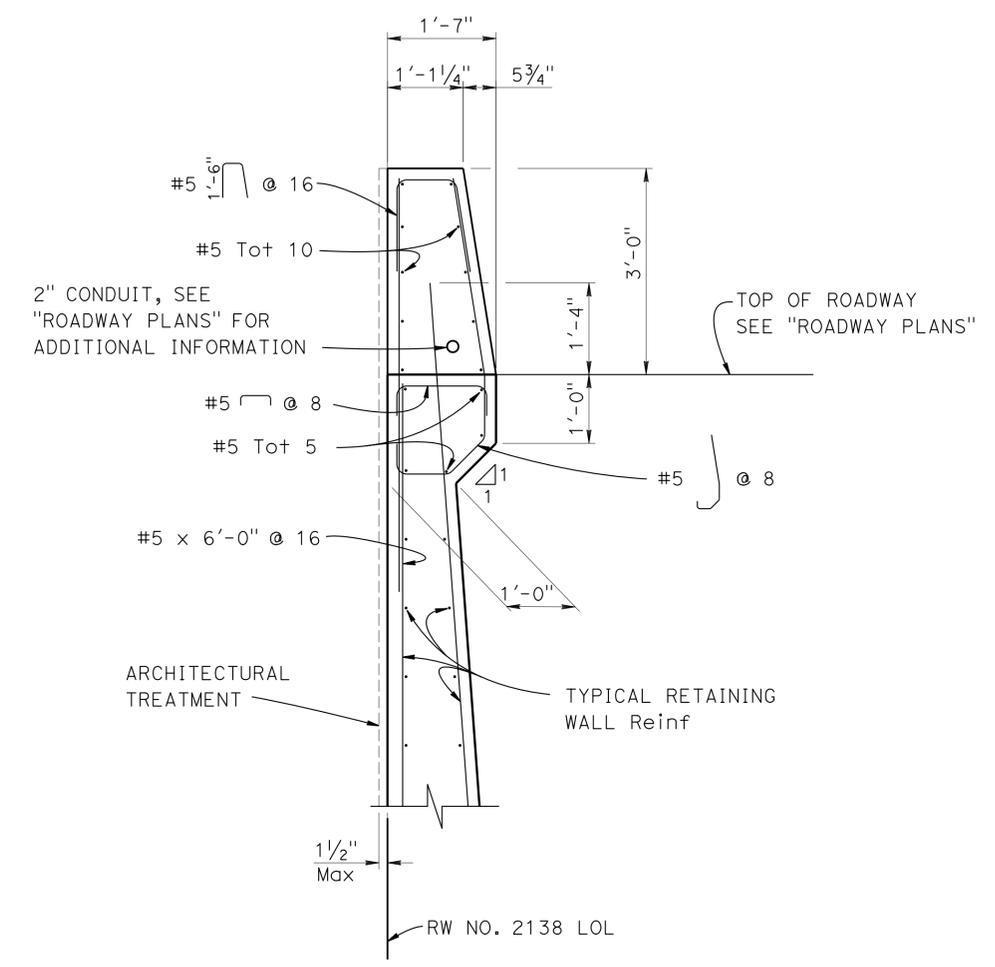


**WEEP HOLE AND GEOCOMPOSITE DRAIN**

ALTERNATIVE TO BRIDGE DETAIL BO-3  
3-1

- Notes:
- A. 4" Ø drains at intermediate sag points and at 25' max center to center (9' c-c for Type 3 and 9'-3" c-c for Type 4 retaining walls). For walls adjacent to sidewalks or curbs, provide 4" cast iron or asbestos cement pipe under the sidewalk to discharge through curb face. Exposed wall drains must be located 3"± above finished grade.
  - B. Geocomposite drain, cement treated permeable base, and 3"Ø slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4" Ø drain.
  - C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

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



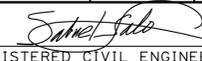
NOTE: For information not shown or noted, see RSP B11-56

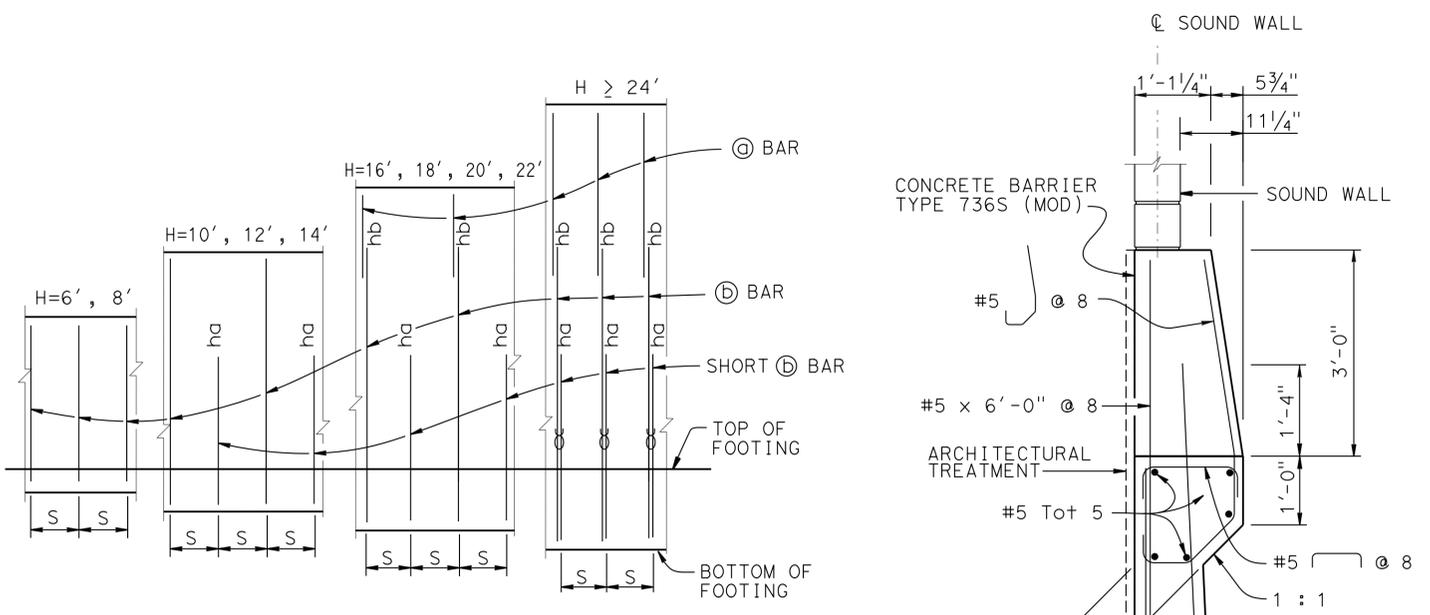
**CONCRETE BARRIER TYPE 736A (MOD)**

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Ulysses Spardos	CHECKED Fred Feng	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 15	BRIDGE NO.	RETAINING WALL NO. 2138	
	DETAILS	BY Rob Kirkland	CHECKED Fred Feng			53E0311	RETAINING WALL DETAILS	
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang			POST MILE		
						40.5/40.6		
				UNIT: 3604	PROJECT NUMBER & PHASE: 071300007	CONTRACT NO.: 07-1193U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3			12-18-13 5-28-14 6-17-14
								SHEET 22 OF 37

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2079	2313
			10-1-14	DATE	
REGISTERED CIVIL ENGINEER			DATE		
6-1-15			PLANS APPROVAL DATE		
					
<i>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.</i>					



**ELEVATION**  
No Scale

NOTES:  
 "ha" and "hb" above Ⓐ bars indicate distance from top of footing to upper end of Ⓐ bars, see table.  
 "S" is Ⓐ bar spacing, see table.  
 Ⓞ : 2 bar bundle

**DESIGN DATA**

Design: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

WS: 33 psf on Sound Wall and Barrier  
 LS: Varied surcharge on level ground surface  
 CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward  
 EQE: Mononabe-Okabe Method  
 $K_h = 0.3$   
 $K_v = 0.0$

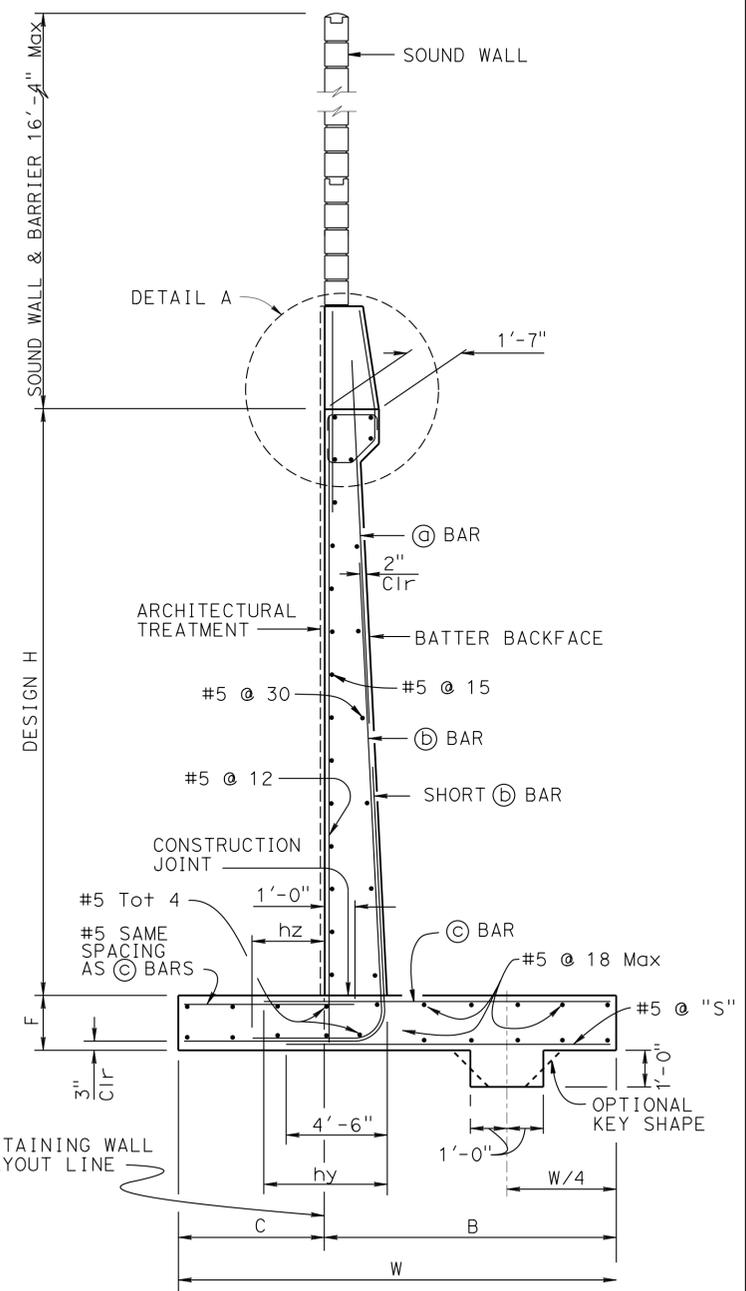
Soil:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf

Reinforced Concrete:  $f'_c = 3600$  psi  
 $f_y = 60,000$  psi

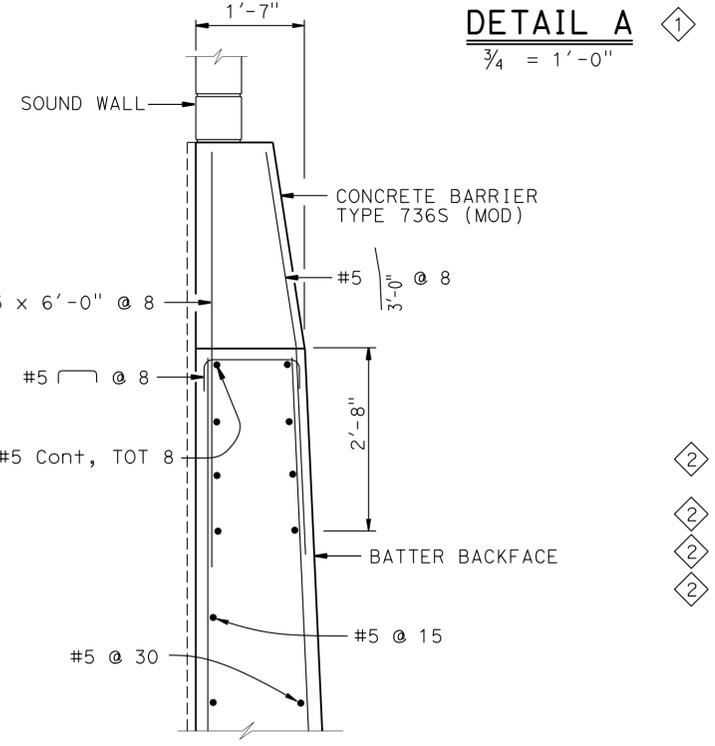
Load Combinations and Limit States

Service I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS + 0.30WS$   
 Service II  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00WS$   
 Strength I  $Q = aDC + \beta EV + 1.50EH + 1.75LS$   
 Strength III  $Q = aDC + \beta EV + 1.50EH + 1.40WS$   
 Strength V  $Q = aDC + \beta EV + 1.50EH + 1.35LS + 0.40WS$   
 Extreme I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$   
 Extreme II  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00CT$

Where: Q: Force Effects  
 a: 1.25 or 0.90, which ever Controls Design  
 B: 1.35 or 1.00, which ever Controls Design  
 DC: Dead Load of Structure Components  
 EV: Vertical Earth Fill Pressure  
 LS: Live Load Surcharge  
 EQE: Seismic Earth Pressure  
 EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design  
 WS: Wind Load on Sound Wall and Barrier  
 CT: Vehicular Collision Force



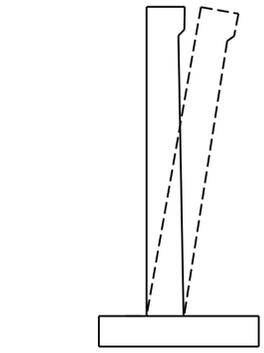
**SPREAD FOOTING SECTION**  
No Scale



**OPTIONAL DETAIL A**  
For Details not shown, see "DETAIL A"

- NOTES:
- For sound wall and retaining wall architectural treatment see details elsewhere in Project Plans
  - For details not shown and drainage notes see RSP (B3-5)
  - Footing cover, 2'-0" minimum.
  - For sound wall and barrier reinforcement details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL-DETAILS NO. 1" and "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL-DETAILS NO. 2" sheets.
  - For H = 6' through 14', extend Ⓐ bars into Barrier for stem with haunch.
  - For H ≥ 16', extend Ⓐ bars into Barrier for stem with haunch.

VERTICAL LAYOUT LINE  
 $A^* \text{ OFFSET} = \frac{1}{2}''$  PER 10' OF WALL STEM HEIGHT



**WALL OFFSET**  
No Scale

Values for offsetting forms to be determined by the Engineer

REVISED STANDARD DRAWING	
FILE NO. <b>xs14-220-1</b>	APPROVAL DATE <u>July 2011</u>

- ① Modified detail
- ② Modified note

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES
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BRIDGE NO. 53E0311	<b>RETAINING WALL NO. 2138</b>	
POST MILE 40.5/40.6	<b>RETAINING WALL TYPE 1SWB-DETAILS NO. 1</b>	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2080	2313

*Sublet File*  
 REGISTERED CIVIL ENGINEER DATE 10-1-14  
 6-1-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Gabriel J. Galo  
 No. 52288  
 Exp. 12-31-14  
 CIVIL  
 STATE OF CALIFORNIA

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

### TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

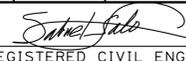
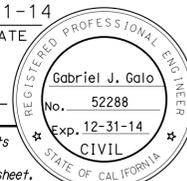
DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
W	6'-9"	7'-3"	8'-0"	8'-9"	10'-0"	11'-6"	12'-9"	14'-0"	15'-9"	18'-0"	19'-9"	21'-9"	23'-3"	25'-3"
C	2'-3"	2'-5"	2'-8"	2'-11"	3'-4"	3'-10"	4'-3"	4'-8"	5'-3"	6'-0"	6'-7"	7'-3"	7'-9"	8'-5"
B	4'-6"	4'-10"	5'-4"	5'-10"	6'-8"	7'-8"	8'-6"	9'-4"	10'-6"	12'-0"	13'-2"	14'-6"	15'-6"	16'-10"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"	1'-6"	1'-9"	1'-9"	2'-3"	2'-6"	2'-6"	2'-9"	3'-0"	3'-6"	3'-9"
STEM WITH HAUNCH, BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	3/4:12	7/8:12	1:12	1:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12	1/2:12	3/4:12	3/4:12	3/4:12
Ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 9	#9 @ 9
Ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6	#8 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
ha			5'-0"	6'-0"	7'-0"	7'-0"	6'-0"	7'-0"	7'-6"	7'-6"	8'-6"	9'-3"	15'-0"	11'-3"
hb						11'-6"	12'-0"	13'-3"	16'-0"	15'-6"	17'-6"	18'-9"	21'-0"	20'-9"
hy	2'-0"	2'-4"	1'-8"	2'-0"	2'-4"	2'-10"	2'-10"	3'-7"	3'-7"	4'-6"	5'-6"	2'-10"	4'-6"	5'-6"
hz			0	0	3'-1"	3'-7"	4'-0"	4'-5"	5'-0"	3'-0"	3'-0"	3'-6"	5'-6"	3'-0"
Ⓒ BARS	#6 @ 12	#7 @ 12	#5 @ 6	#6 @ 6	#7 @ 6	#8 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#11 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
SER I: B'(ft), q <sub>0</sub> (ksf)	5.9, 1.2	6.0, 1.4	6.5, 1.6	7.0, 1.8	8.1, 1.9	9.7, 2.0	11.0, 2.1	12.1, 2.3	13.8, 2.4	16.6, 2.4	18.5, 2.6	20.7, 2.7	22.1, 2.9	24.3, 3.0
STR Ia: B'(ft), q <sub>0</sub> (ksf)	6.3, 1.9	6.3, 2.3	6.7, 2.5	7.0, 2.9	8.1, 3.1	9.5, 3.2	10.8, 3.4	11.8, 3.7	13.4, 4.0	16.2, 4.0	18.0, 4.2	20.2, 4.4	21.5, 5.0	23.7, 5.0
STR, Ib: B'(ft), q <sub>0</sub> (ksf)	4.3, 1.6	4.1, 2.0	4.3, 2.4	4.5, 2.8	5.5, 2.9	6.9, 2.9	8.2, 3.0	9.0, 3.4	10.4, 3.5	13.2, 3.4	14.8, 3.5	16.9, 3.6	18.0, 3.9	20.1, 4.1
STR, IIIa: B'(ft), q <sub>0</sub> (ksf)	4.3, 2.1	4.8, 2.4	5.5, 2.5	6.2, 2.8	7.4, 2.9	9.1, 3.0	10.4, 3.2	11.5, 3.7	13.3, 3.7	16.1, 3.8	18.0, 4.0	20.3, 4.2	21.6, 4.6	23.8, 4.9
STR, IIb: B'(ft), q <sub>0</sub> (ksf)	3.2, 2.1	3.6, 2.3	4.2, 2.4	4.7, 2.6	5.9, 2.7	7.4, 2.7	8.6, 2.8	9.5, 3.1	11.2, 3.0	14.0, 3.2	15.8, 3.3	17.9, 3.4	19.1, 3.7	21.2, 3.9
STR, Va: B'(ft), q <sub>0</sub> (ksf)	5.9, 2.0	5.9, 2.3	6.4, 2.6	6.8, 2.9	7.9, 3.1	9.4, 3.2	10.6, 3.4	11.7, 3.9	13.4, 3.9	16.1, 4.0	18.0, 4.2	20.2, 4.5	21.5, 4.9	23.7, 5.1
STR, Vb: B'(ft), q <sub>0</sub> (ksf)	3.8, 1.7	3.8, 2.1	4.2, 2.5	4.4, 2.8	5.5, 2.9	7.0, 2.9	8.2, 3.0	9.0, 3.3	10.5, 3.4	13.3, 3.3	15.0, 3.5	17.1, 3.6	18.2, 3.9	20.3, 4.0
Ext I: B'(ft), q <sub>0</sub> (ksf)	2.5, 2.8	2.0, 4.3	1.7, 6.4	1.2, 10.9	1.3, 13.3	1.7, 12.4	1.9, 13.2	1.9, 17.6	2.5, 15.0	4.5, 10.2	5.3, 10.0	6.6, 9.6	6.8, 10.8	8.1, 10.5
Ext II: B'(ft), q <sub>0</sub> (ksf)	1.4, 4.9	2.5, 3.5	3.8, 2.8	4.9, 2.7	6.6, 2.5	8.6, 2.5	10.1, 2.5	11.5, 2.6	13.5, 2.8	16.4, 2.8	18.4, 2.9	20.7, 3.1	22.1, 3.3	24.4, 3.5

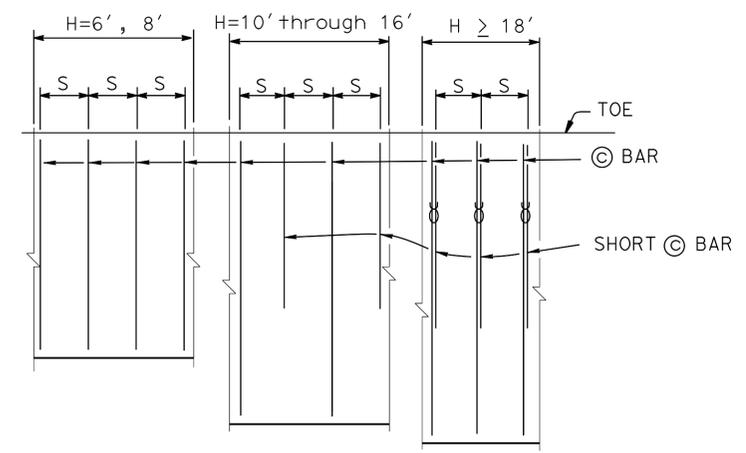
LEGEND:  
 SER: service limit state  
 STR: strength limit state  
 EXT: extreme event limit state  
 B': effective footing width (ft)  
 q<sub>0</sub>: net bearing stress (ksf)  
 q<sub>g</sub>: gross uniform bearing stress (ksf)  
 ∅: 2 bar bundle

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0311	<b>RETAINING WALL NO. 2138</b>						
FILE NO. <b>xs14-220-2</b>	APPROVAL DATE <u>December 2012</u>			POST MILE 40.5/40.6	<b>RETAINING WALL TYPE 1SWB-DETAILS NO. 2</b>						
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.: 07-1193u1						
				DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1" style="float: right; border-collapse: collapse;"> <tr> <td>REVISION DATES</td> <td>SHEET</td> <td>OF</td> </tr> <tr> <td>11-01-13 1-30-14</td> <td>24</td> <td>37</td> </tr> </table>	REVISION DATES	SHEET	OF	11-01-13 1-30-14	24	37
REVISION DATES	SHEET	OF									
11-01-13 1-30-14	24	37									

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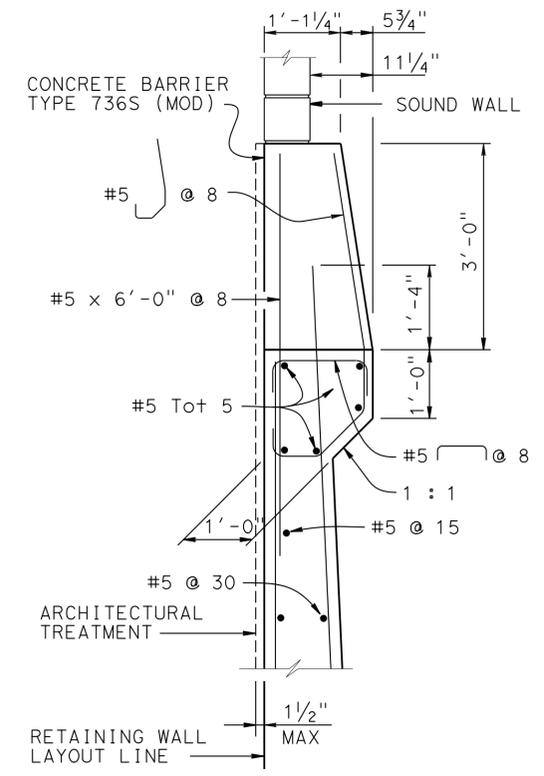
USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:03

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2081	2313
 REGISTERED CIVIL ENGINEER DATE 10-1-14					
PLANS APPROVAL DATE 6-1-15					
<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>					

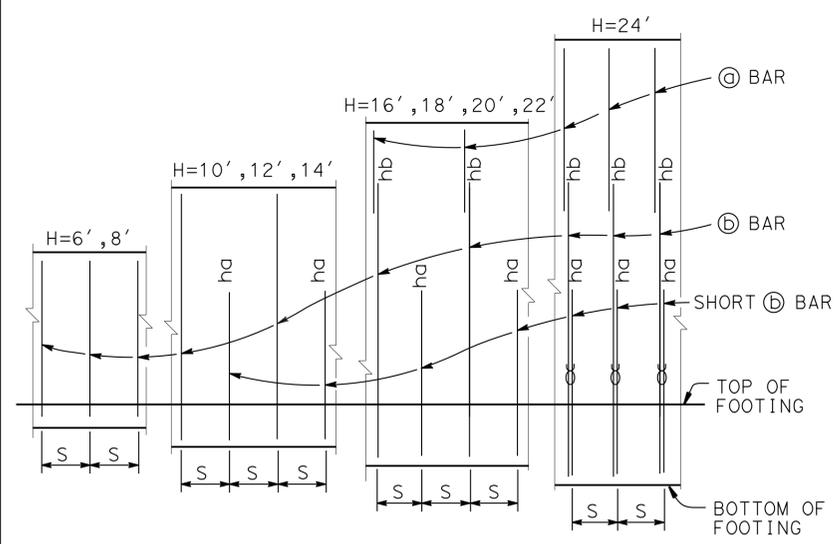


**PLAN**  
NO SCALE

NOTES:  
Only @ bars shown  
"S" is @ bar spacing, see table  
⊘ : 2 bar bundle

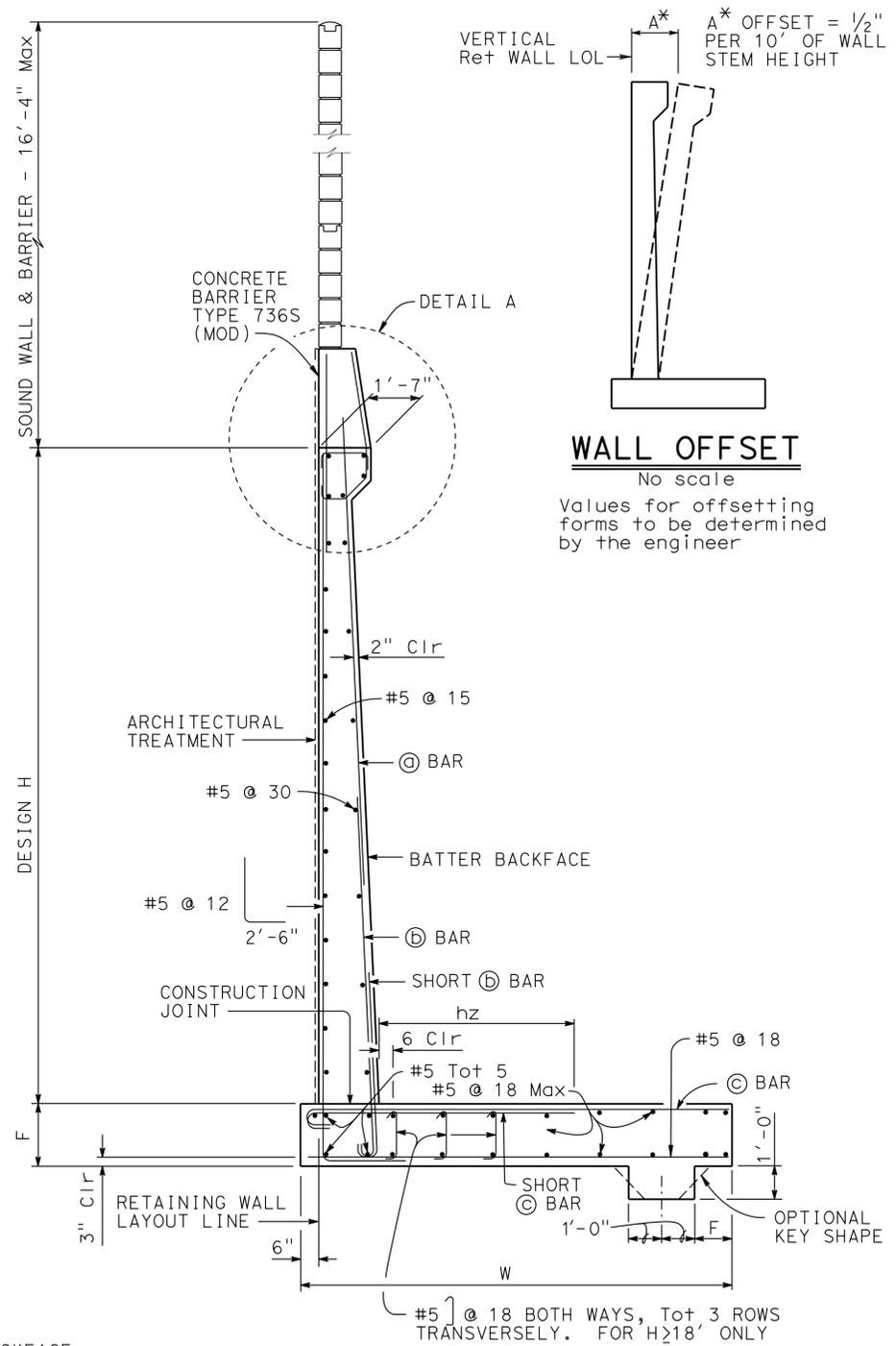


**DETAIL A**  
3/4" = 1'-0"



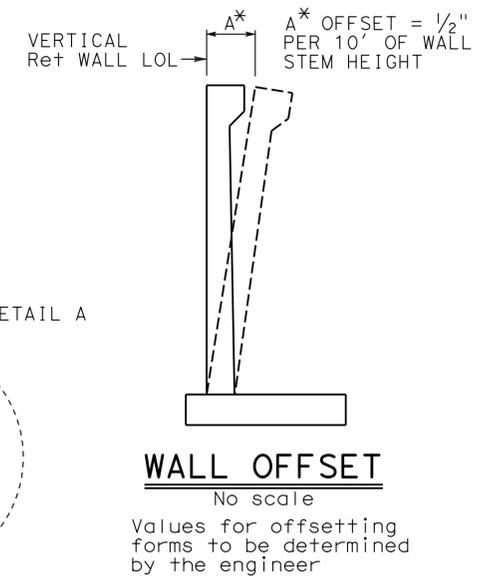
**ELEVATION**  
No scale

NOTES:  
"ha" and "hb" above @ bars indicate distance from top of footing to upper end of @ bars, see table.  
"S" is @ bar spacing, see table.  
⊘ : 2 bar bundle



**SPREAD FOOTING SECTION**  
3/8" = 1'-0"

NOTES:  
1. For sound wall and retaining wall architectural treatment see Details elsewhere in Project Plans  
2. For Details not shown and Drainage Notes see RSP B3-5  
3. Footing cover, 2'-0" minimum.



**WALL OFFSET**  
No scale  
Values for offsetting forms to be determined by the engineer

**DESIGN DATA**

Design: AASHTO LRFD Bridge Design Specifications 4th edition with California Amendments  
 WS: 33 psf on Sound Wall and Barrier  
 LS: Varied surcharge on level ground surface  
 CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward  
 EQE: Mononabe-Okabe Method  
 $K_h = 0.3$   
 $K_v = 0.0$   
 Soil:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf  
 Reinforced Concrete:  $f'_c = 3600$  psi  
 $f_y = 60,000$  psi

Load Combinations and Limit States

Service I  $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$   
 Service II  $Q=1.00DC+1.00EV+1.00EH+1.00WS$   
 Strength I  $Q=aDC+\beta EV+1.50EH+1.75LS$   
 Strength III  $Q=aDC+\beta EV+1.50EH+1.40WS$   
 Strength V  $Q=aDC+\beta EV+1.50EH+1.35LS+0.40WS$   
 Extreme I  $Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$   
 Extreme II  $Q=1.00DC+1.00EV+1.00EH+1.00CT$

Where:

Q: Force Effects  
 a: 1.25 or 0.90, which ever Controls Design  
 B: 1.35 or 1.00, which ever Controls Design  
 DC: Dead Load of Structure Components  
 EV: Vertical Earth Fill Pressure  
 LS: Live Load Surcharge  
 EQE: Seismic Earth Pressure  
 EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design  
 WS: Wind Load on Sound Wall and Barrier  
 CT: Vehicular Collision Force

4. For sound wall and barrier reinforcement details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL-DETAILS NO. 1" and "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL-DETAILS NO. 2" sheets.
5. For H=6' through 14', extend @ bars into Barrier for stem with haunch.
6. For H>16', extend @ bars into Barrier for stem with haunch.

**SPECIAL DETAILS**

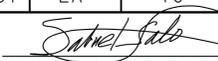
REVISED STANDARD DRAWING	
FILE NO. <b>xs14-350-1</b>	APPROVAL DATE July 2011

- 1 Modified detail
- 2 Modified note

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES
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BRIDGE NO. 53E0311	RETAINING WALL NO. 2138
POST MILE 40.5/40.6	
RETAINING WALL TYPE 5SWB-DETAILS NO. 1	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2082	2313

 10-1-14  
 REGISTERED CIVIL ENGINEER DATE

6-1-15  
 PLANS APPROVAL DATE

Gabriel J. Galo  
 No. 52288  
 Exp. 12-31-14  
 CIVIL  
 STATE OF CALIFORNIA

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

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA												
DESIGN	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'
W	9'-0"	9'-0"	9'-6"	10'-3"	11'-3"	12'-9"	14'-0"	15'-9"	17'-3"	18'-9"	21'-0"	22'-9"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"	1'-6"	1'-9"	2'-0"	2'-3"	2'-6"	2'-6"	3'-0"	3'-3"
STEM WITH HAUNCH, BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	3/4:12	7/8:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12	1/2:12	3/4:12
⊙ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#7 @ 6	#7 @ 6
⊕ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6	#9 @ 6	#9 @ 6
ha			5'-0"	6'-0"	7'-0"	7'-0"	6'-0"	7'-0"	6'-9"	7'-6"	9'-6"	10'-6"
hb						11'-6"	12'-0"	13'-3"	16'-0"	15'-6"	19'-6"	21'-6"
⊙ BARS	#7 @ 12	#8 @ 12	#7 @ 6	#9 @ 6	#9 @ 6	#11 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#10 @ 6	#10 @ 6
hz			3'-6"	4'-0"	4'-9"	7'-0"	5'-9"	6'-9"	7'-6"	9'-0"	11'-6"	13'-6"
SER I: B'(ft), q <sub>0</sub> (ksf)	7.5, 1.5	7.1, 1.9	7.2, 2.2	7.6, 2.5	8.3, 2.8	9.6, 3.0	10.6, 3.3	12.1, 3.6	13.3, 3.9	14.6, 4.1	16.1, 4.9	17.6, 5.2
STR, Ia: B'(ft), q <sub>0</sub> (ksf)	7.9, 2.9	7.4, 3.3	7.4, 3.7	7.8, 4.1	8.3, 4.5	9.5, 4.8	10.5, 5.0	11.9, 5.6	13.1, 6.0	14.3, 6.4	16.2, 6.9	17.6, 7.3
STR, Ib: B'(ft), q <sub>0</sub> (ksf)	6.0, 2.0	5.5, 2.5	5.6, 2.9	5.9, 3.3	6.4, 3.7	7.6, 3.9	8.7, 4.1	9.9, 4.5	11.0, 4.9	12.1, 5.2	13.9, 5.5	15.2, 5.8
STR, IIIa: B'(ft), q <sub>0</sub> (ksf)	6.0, 2.7	6.0, 3.0	6.4, 3.4	7.0, 3.7	7.8, 4.1	9.1, 4.4	10.2, 4.6	11.7, 5.1	12.9, 5.4	14.2, 5.7	16.1, 6.4	17.6, 6.8
STR, IIIb: B'(ft), q <sub>0</sub> (ksf)	5.3, 2.5	5.2, 2.8	5.5, 3.1	6.0, 3.3	6.7, 3.7	8.0, 3.9	8.9, 4.0	10.4, 4.4	11.5, 4.7	12.7, 5.0	14.5, 5.3	15.9, 5.6
STR, Va: B'(ft), q <sub>0</sub> (ksf)	7.5, 2.8	7.1, 3.2	7.2, 3.5	7.6, 3.9	8.2, 4.3	9.4, 4.6	10.4, 4.9	11.8, 5.3	13.0, 5.8	14.3, 6.1	16.2, 6.8	17.6, 7.2
STR, Vb: B'(ft), q <sub>0</sub> (ksf)	5.7, 2.2	5.3, 2.6	5.4, 3.0	5.8, 3.4	6.4, 3.8	7.7, 3.9	8.7, 4.0	10.0, 4.5	11.1, 4.9	12.2, 5.1	14.0, 5.5	15.3, 5.8
Ext I: B'(ft), q <sub>0</sub> (ksf)	4.0, 3.4	3.0, 4.7	2.5, 6.5	2.1, 9.2	1.8, 13.3	2.1, 14.4	2.3, 16.9	2.6, 17.2	2.9, 18.4	3.3, 19.3	3.6, 21.6	3.9, 23.2
Ext II: B'(ft), q <sub>0</sub> (ksf)	3.9, 3.3	4.3, 3.5	5.1, 3.5	6.0, 3.6	7.1, 3.7	8.7, 3.7	9.9, 3.8	11.9, 3.8	13.0, 4.3	14.4, 4.5	16.4, 4.8	17.9, 5.1

LEGEND:

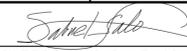
- SER: service limit state
- STR: strength limit state
- EXT: extreme event limit state
- B': effective footing width (ft)
- q<sub>0</sub>: net bearing stress (ksf)
- q<sub>0</sub>: gross uniform bearing stress (ksf)
- ⊕: 2 bar bundle

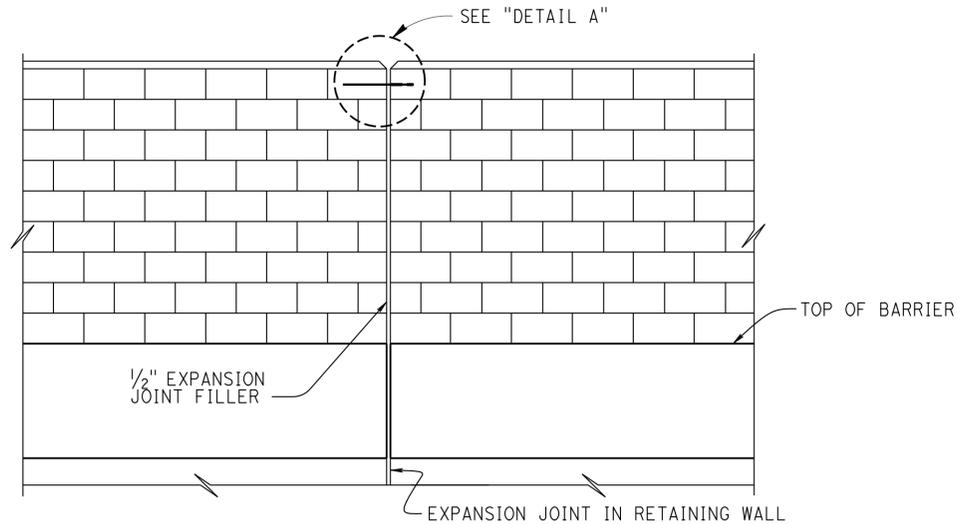
SPECIAL DETAILS

REVISED STANDARD DRAWING		 Modified table	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO.	<b>RETAINING WALL NO. 2138</b>				
FILE NO. <b>xs14-350-2</b>	APPROVAL DATE <u>July 2011</u>				53E0311		RETAINING WALL TYPE 5SWB-DETAILS NO. 2			
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3	UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 26 OF 37

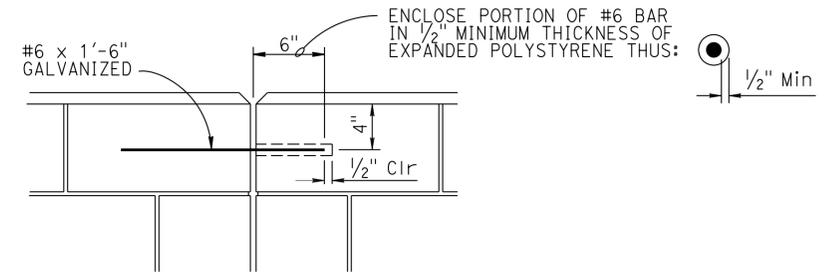
USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:09



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2084	2313
			10-1-14		
REGISTERED CIVIL ENGINEER			DATE		
6-1-15			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER Gabriel J. Galo No. 52288 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA					
<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>					



**ALIGNMENT KEY DETAIL**  
NO SCALE



**DETAIL A**  
NO SCALE

**DESIGN NOTES**

**DESIGN**  
Uniform Building Code, 1997 Edition and the Bridge Design Specifications

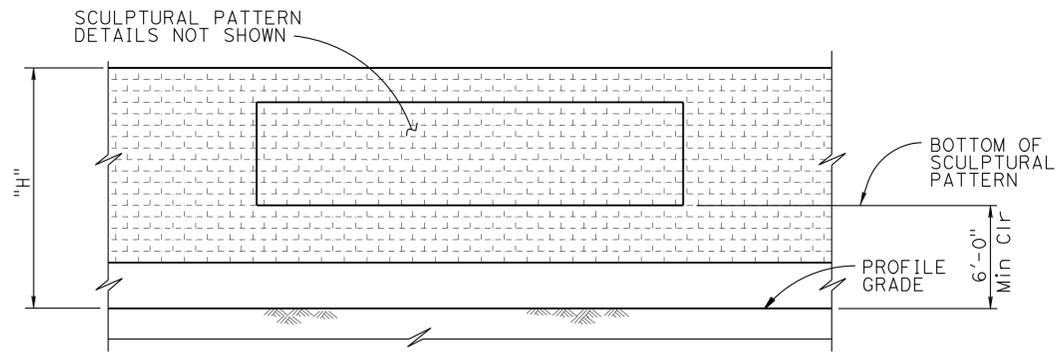
**DESIGN WIND LOAD**  
33 psf

**DESIGN SEISMIC LOAD**  
0.57 Dead load

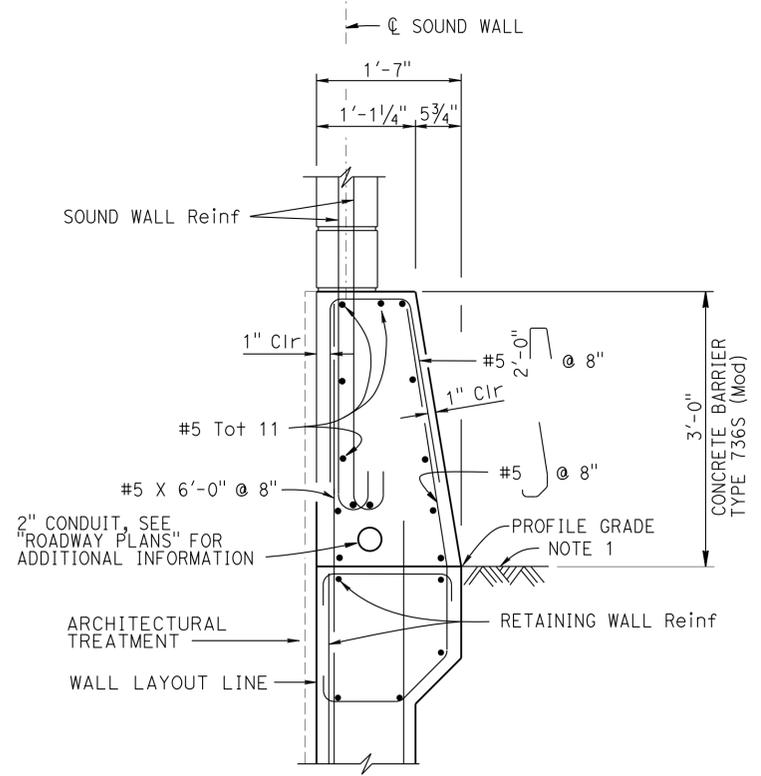
**CONCRETE MASONRY**

REINFORCED CONCRETE	REGULAR STRENGTH	HIGH STRENGTH	
f'c = 3600 psi	f'm = 1500 psi	f'm = 2000 psi	f'm = 2500 psi
fy = 60 ksi	fb = 495 psi	fb = 660 psi	fb = 830 psi
	fs = 24,000 psi	fs = 24,000 psi	fs = 24,000 psi
	n = 25.8	n = 19.3	n = 15.5

- NOTES:
- 1. Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See REVISED STANDARD PLAN B11-56, Note 3



**CLEARANCE DETAIL**  
NO SCALE



**BARRIER SECTION** ①  
NO SCALE

**SPECIAL DETAILS**

**RETAINING WALL NO. 2138**

**MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL**

**DETAILS NO. 2**

- ① Modified detail
- ② Modified notes
- ③ Deleted detail

REVISED STANDARD DRAWING

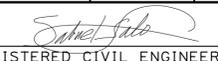
FILE NO. **xs15-130-2**

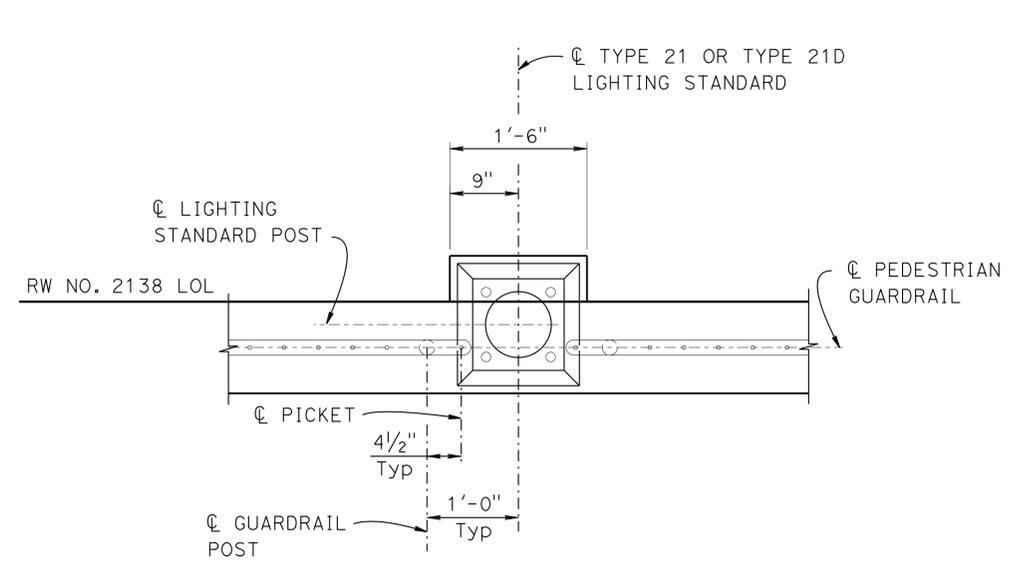
APPROVAL DATE July 2011

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

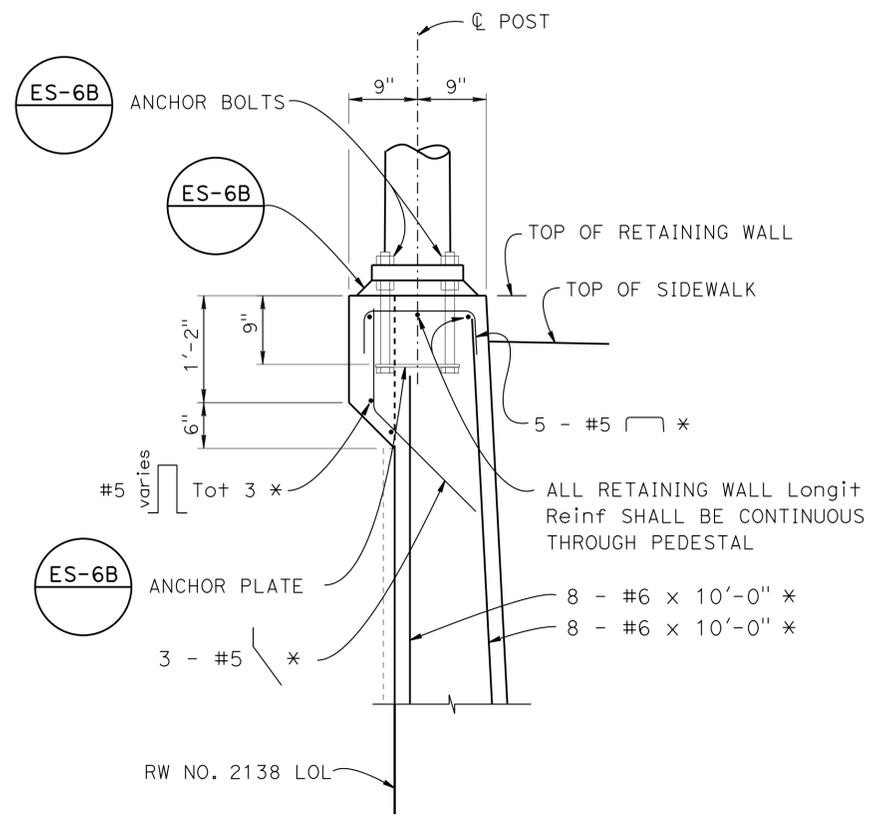
DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0311  
POST MILE 40.5/40.6

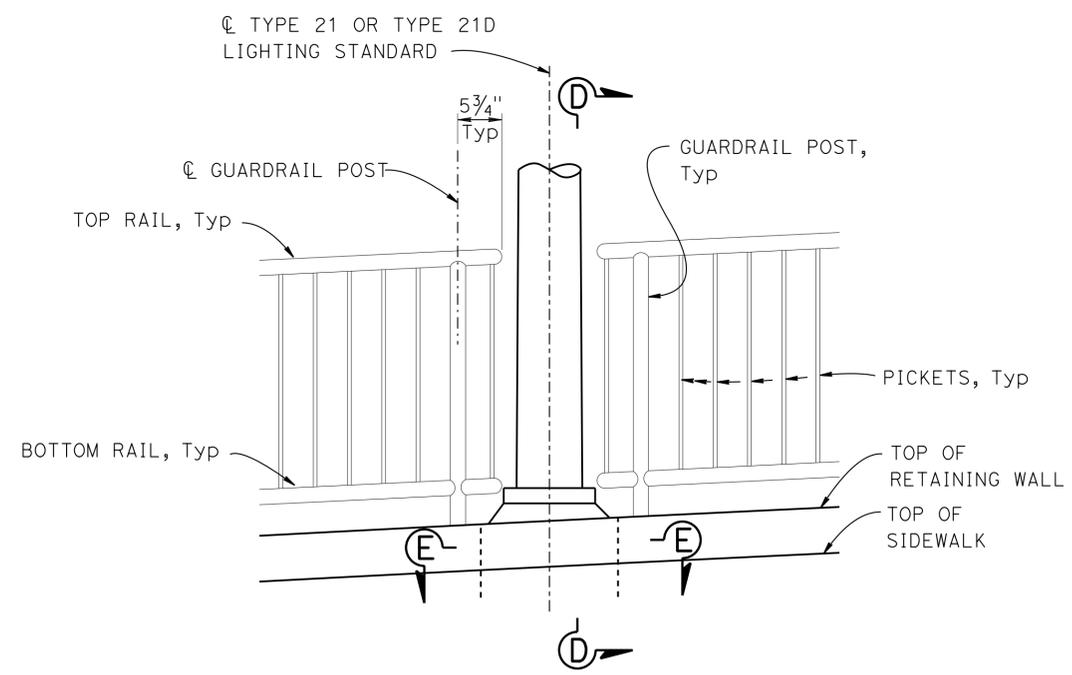
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2085	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					



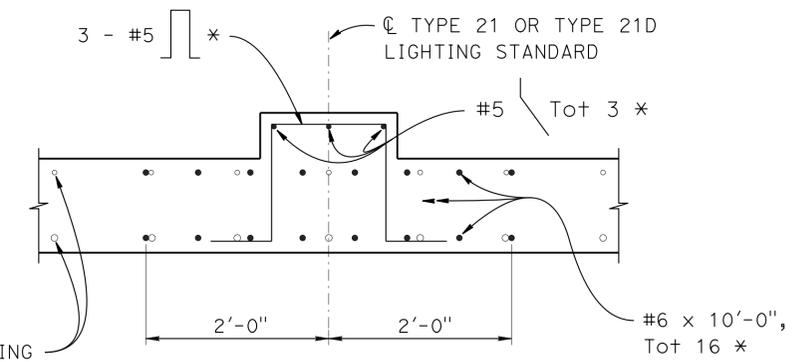
**PLAN**  
1" = 1'-0"



**SECTION D-D**  
1" = 1'-0"



**ELEVATION**  
1" = 1'-0"



**SECTION E-E**  
1" = 1'-0"

LEGEND:

\* - Indicates reinforcement is additional to typical retaining wall reinforcement.

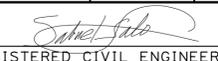
NOTES:

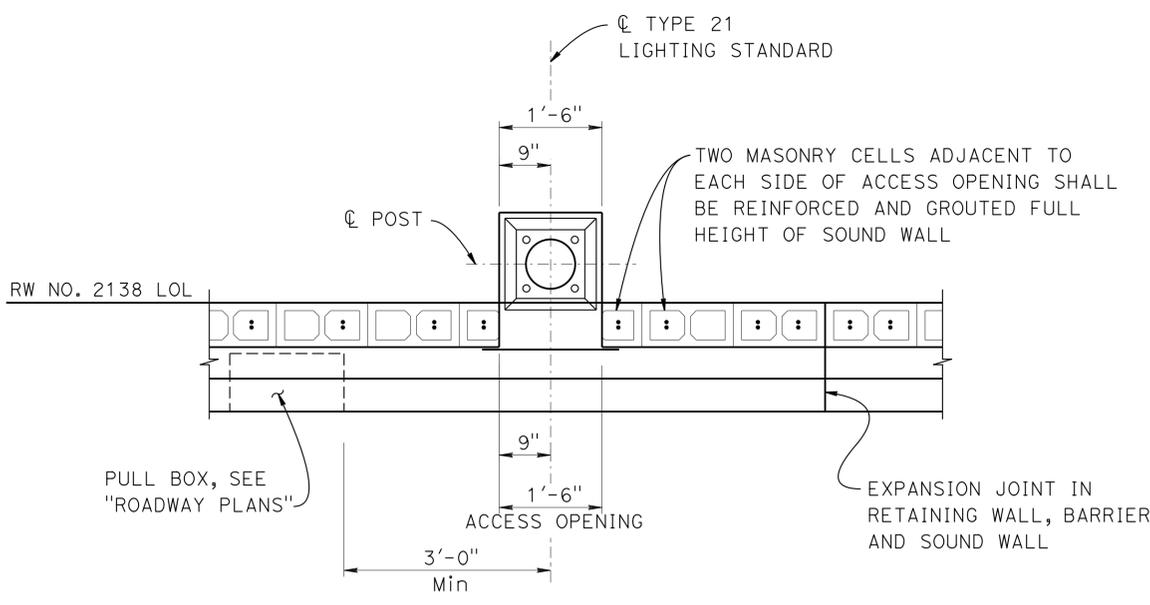
1. For Lighting Standard and electrical details, see "ROADWAY PLANS"

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

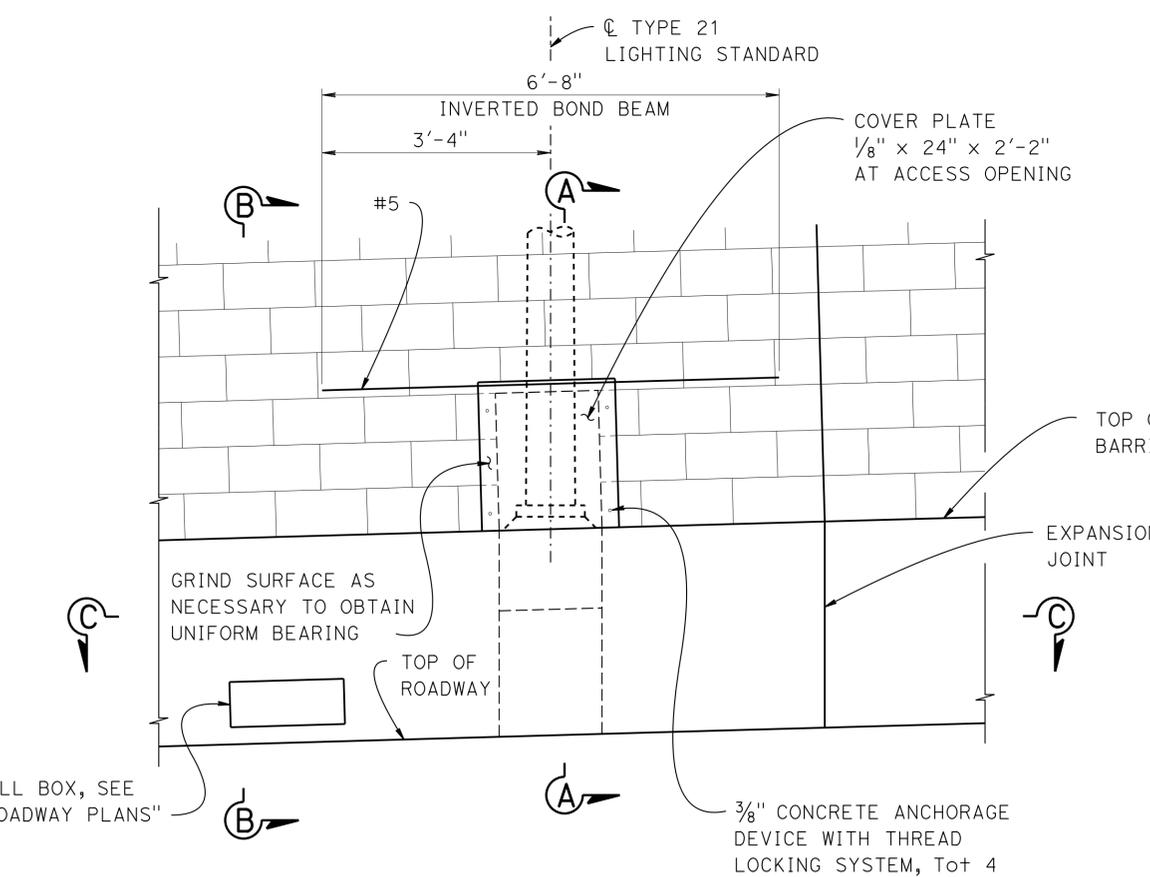
DESIGN BY Ulysses Spardos CHECKED Fred Feng DETAILS BY Rob Kirkland CHECKED Fred Feng QUANTITIES BY Bill Kemp CHECKED R. Wilson/U. Inyang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0311 POST MILE 40.5/40.6	<b>RETAINING WALL NO. 2138</b> <b>LIGHTING STANDARD PEDESTAL DETAILS NO. 1</b>
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3604 PROJECT NUMBER & PHASE: 0713000007 CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
	0 1 2 3	0 1 2 3	REVISION DATES: 12-06-13, 12-31-13, 5-28-14, 6-11-14	SHEET 29 OF 37

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2086	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

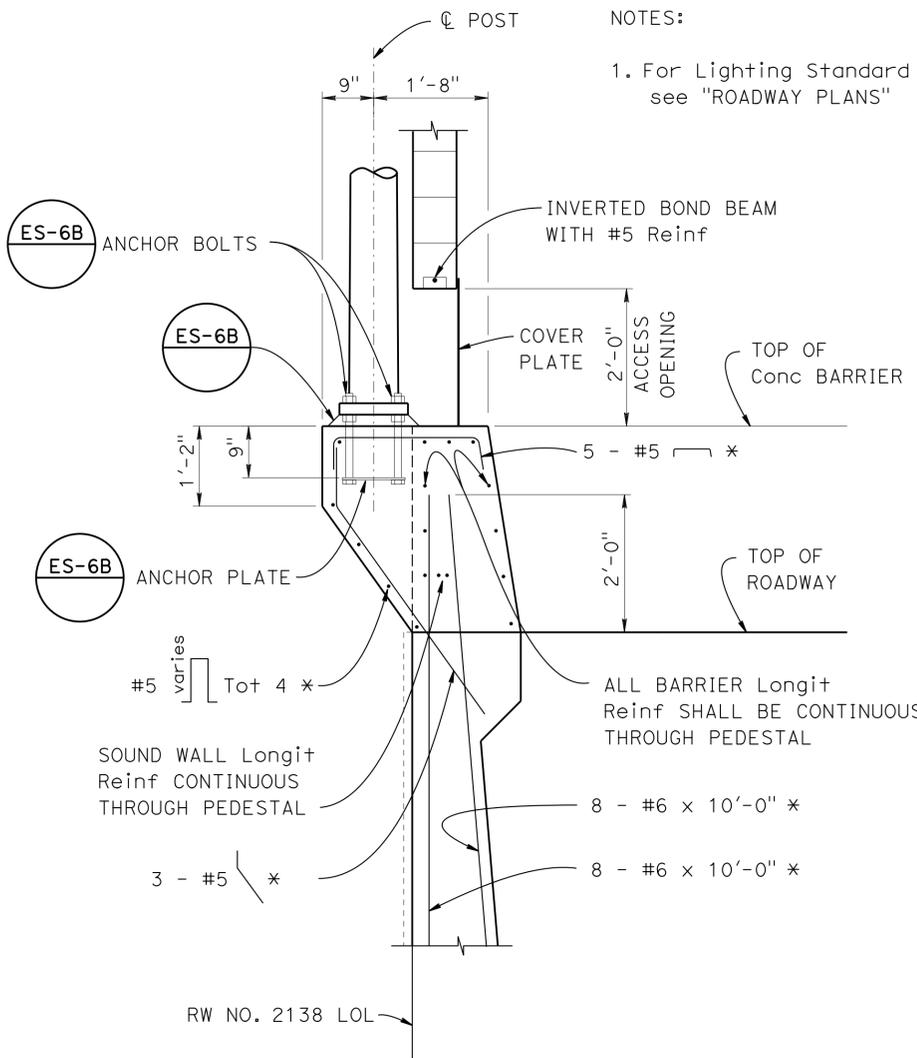


**PLAN**  
3/4" = 1'-0"

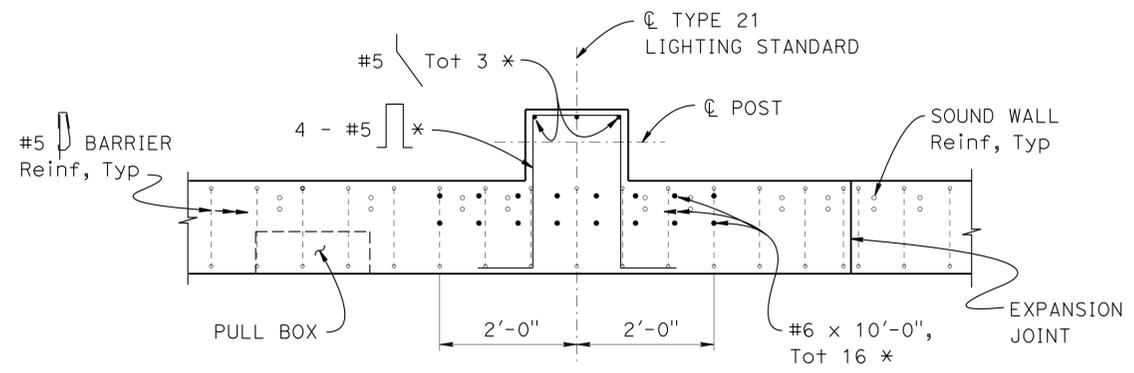


**ELEVATION**  
3/4" = 1'-0"

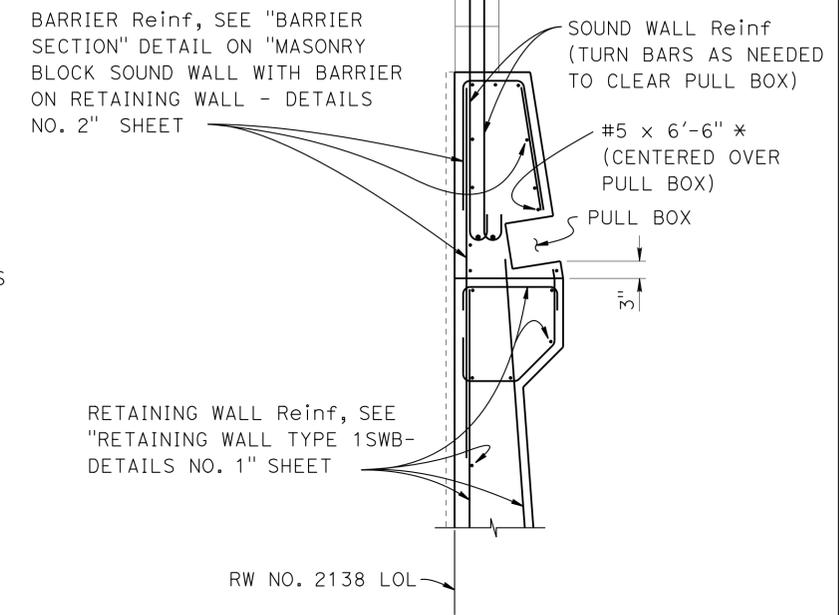
NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



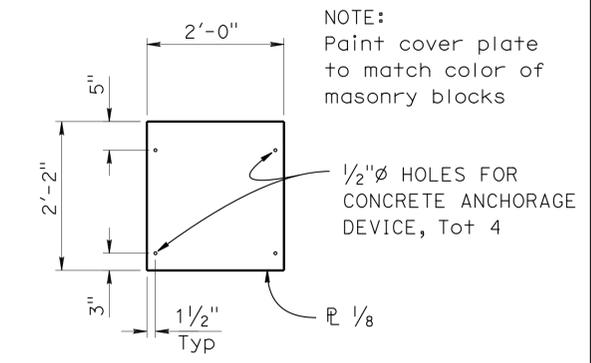
**SECTION A-A**  
3/4" = 1'-0"



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



**SECTION B-B**  
3/4" = 1'-0"



**COVER PLATE DETAIL**  
3/4" = 1'-0"

LEGEND:  
\* - Indicates reinforcement is additional to typical barrier and retaining wall reinforcement.

NOTES:  
1. For Lighting Standard and electrical details, see "ROADWAY PLANS"

DESIGN	BY Ulysses Spardos	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

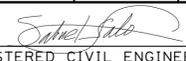
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0311
POST MILE	40.5/40.6

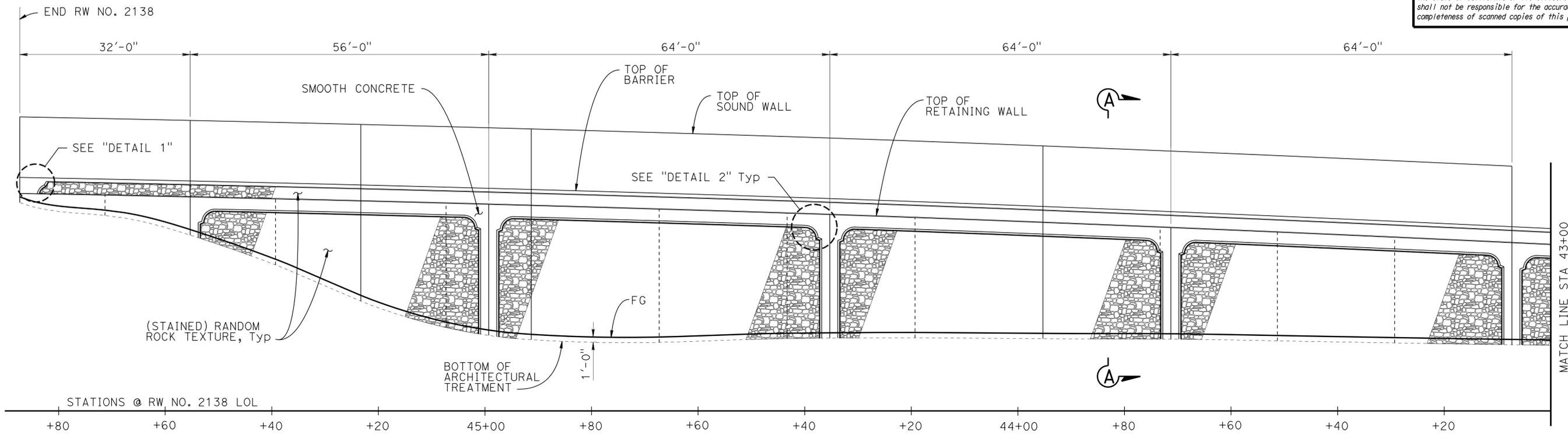
**RETAINING WALL NO. 2138**  
**LIGHTING STANDARD PEDESTAL DETAILS NO. 2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2087	2313

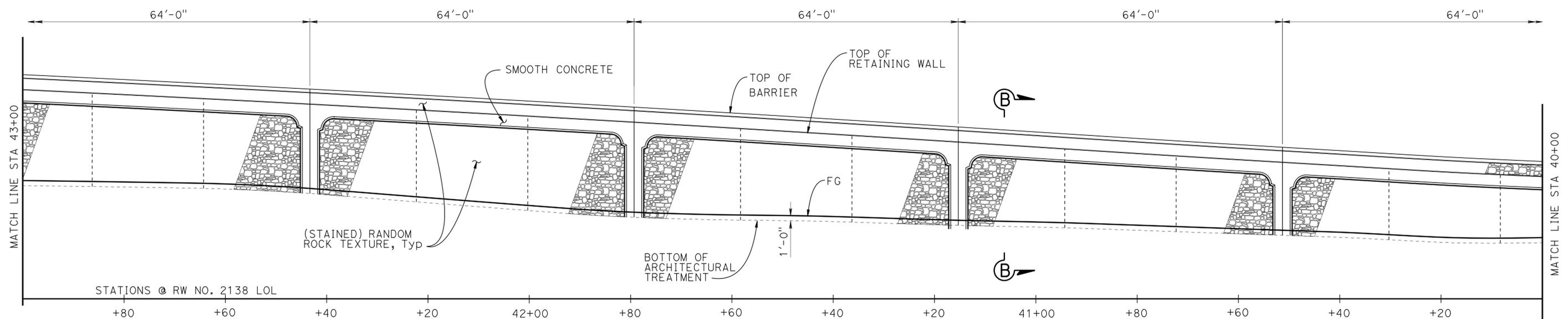
  
 REGISTERED CIVIL ENGINEER DATE 10-1-14  
 PLANS APPROVAL DATE 6-1-15  
 No. 52288  
 Exp. 12-31-14  
 CIVIL  
 STATE OF CALIFORNIA

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- NOTES:
- For "SECTION A-A" and "SECTION B-B" see "ARCHITECTURAL DETAILS NO. 3" sheet.
  - For "DETAIL 1" and "DETAIL 2" see "ARCHITECTURAL DETAILS NO. 4" sheet.



**DEVELOPED ELEVATION**  
1" = 10'



**DEVELOPED ELEVATION**  
1" = 10'

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

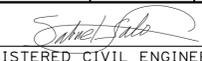
DESIGN	BY K. Li, V. Moore	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

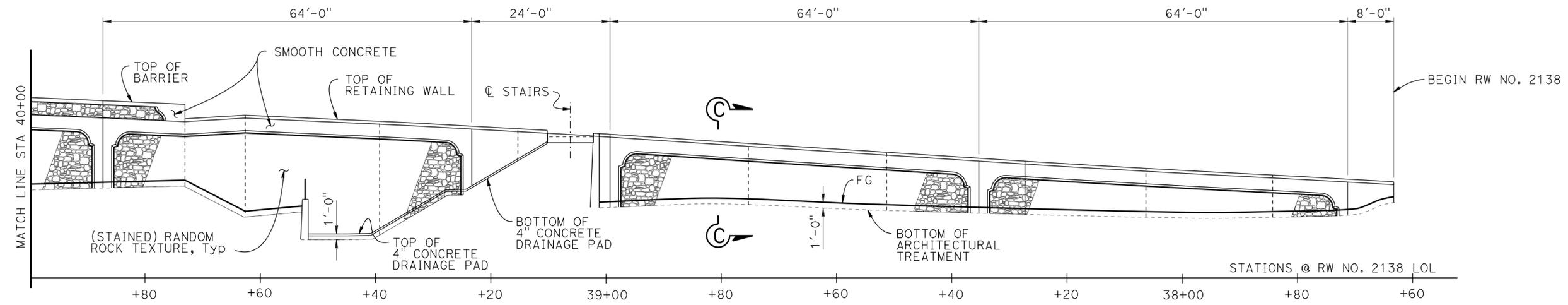
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 15

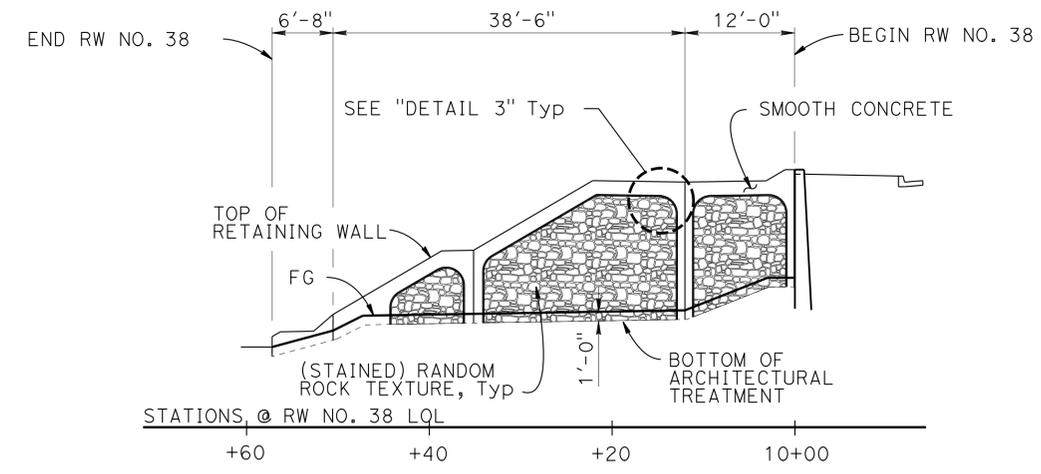
BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**ARCHITECTURAL DETAILS NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2088	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15 PLANS APPROVAL DATE					
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**DEVELOPED ELEVATION**  
1" = 10'



**DEVELOPED ELEVATION AT STAIRS**  
1" = 10'

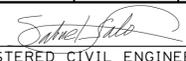
NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

1. For "SECTION C-C" see "ARCHITECTURAL DETAILS NO. 3" sheet.
2. For "DETAIL 3" see "ARCHITECTURAL DETAILS NO. 4" sheet.

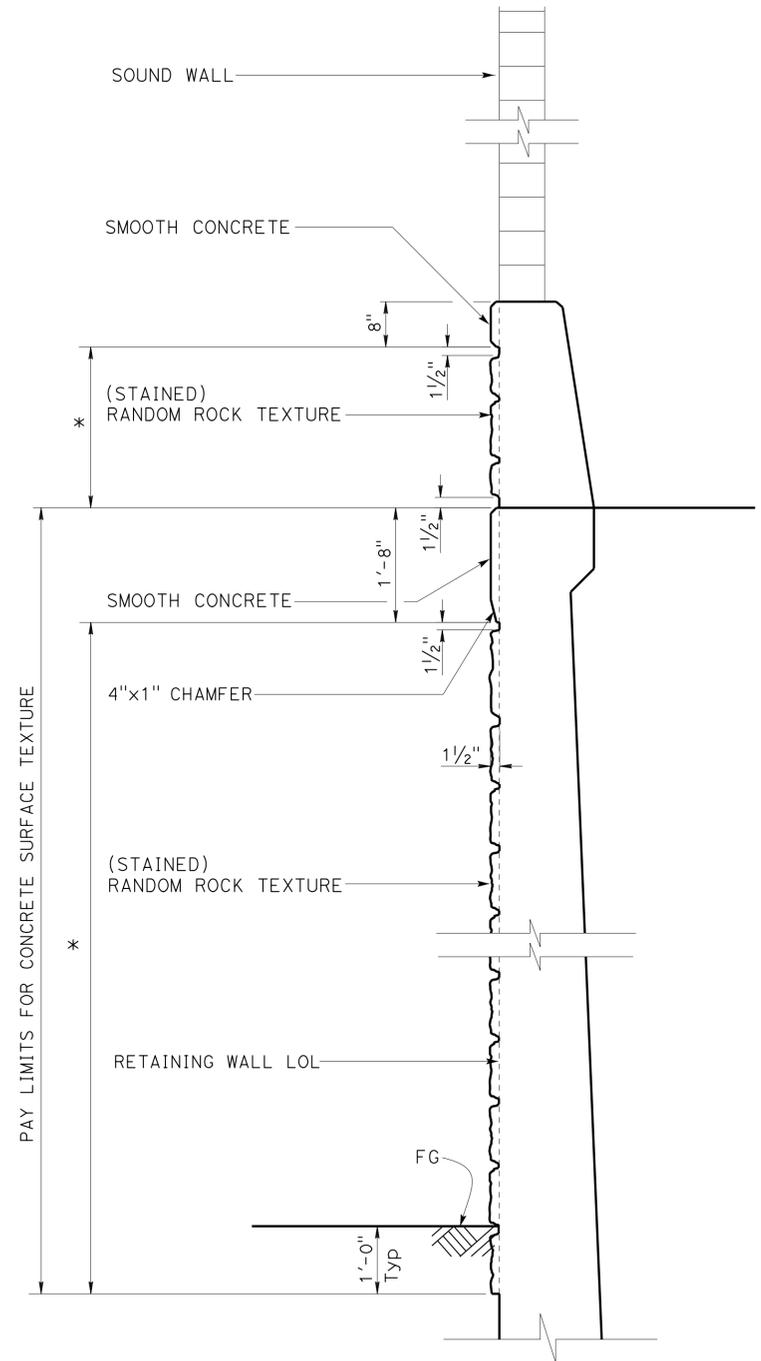
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY K. Li, V. Moore	CHECKED Fred Feng	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2138</b> <b>ARCHITECTURAL DETAILS NO. 2</b>
	DETAILS	BY Rob Kirkland	CHECKED Fred Feng			53E0311	
	QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang			POST MILE 40.5/40.6	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3604	PROJECT NUMBER & PHASE: 0713000007	CONTRACT NO.: 07-1193u1	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 01-06-14, 5-27-14 SHEET 32 OF 37

USERNAME => s125624 DATE PLOTTED => 28-MAY-2015 TIME PLOTTED => 11:31

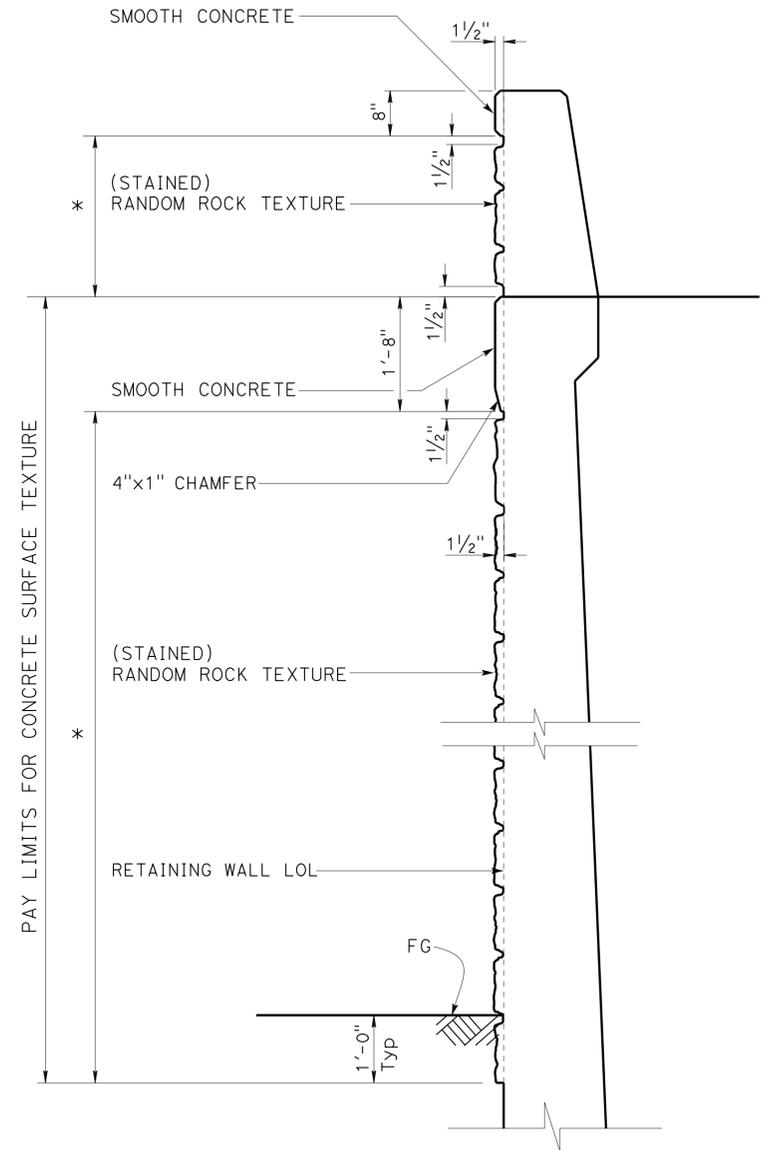
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2089	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					
					

NOTE:  
 Random rock texture concrete stain shall match Federal Standard color numbers 33578, 30372, 30257, 30117 and 30099.

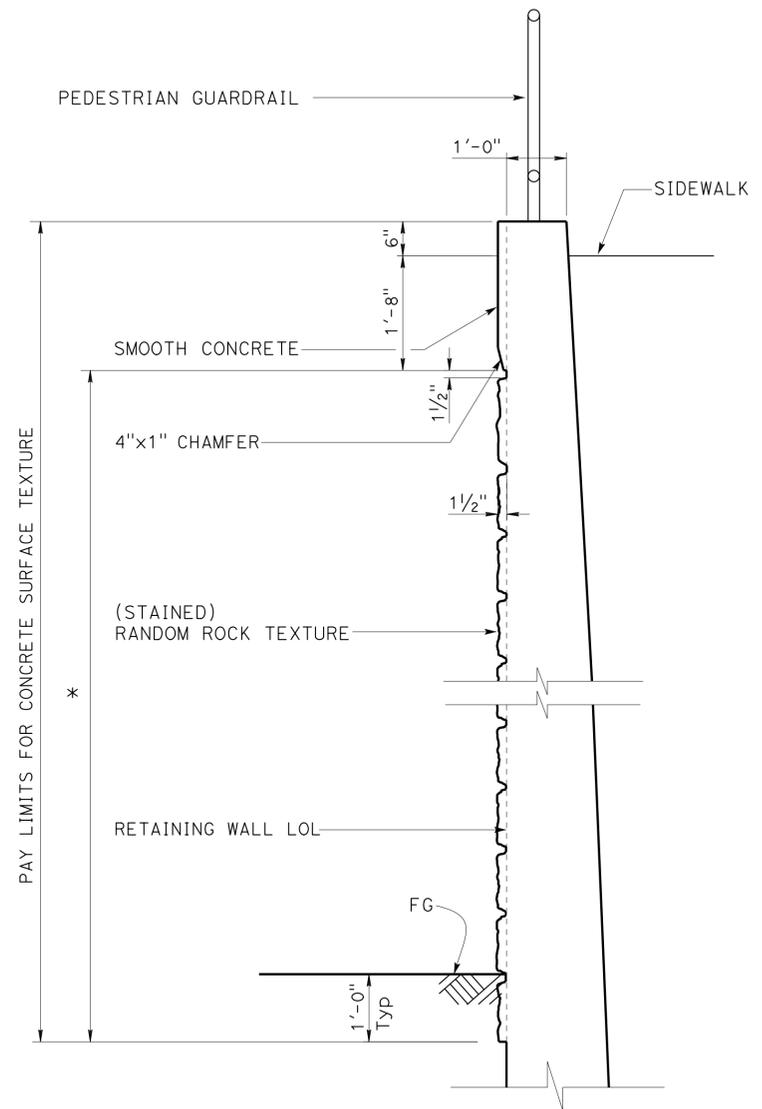
LEGEND:  
 \* Indicates pay limits for Prepare and Stain Concrete.



**SECTION A-A**  
 NO SCALE



**SECTION B-B**  
 NO SCALE



**SECTION C-C**  
 NO SCALE

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

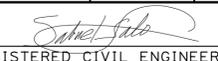
DESIGN	BY K. Li, V. Moore	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

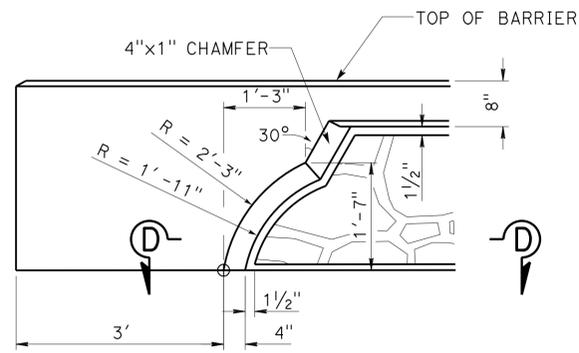
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 15**

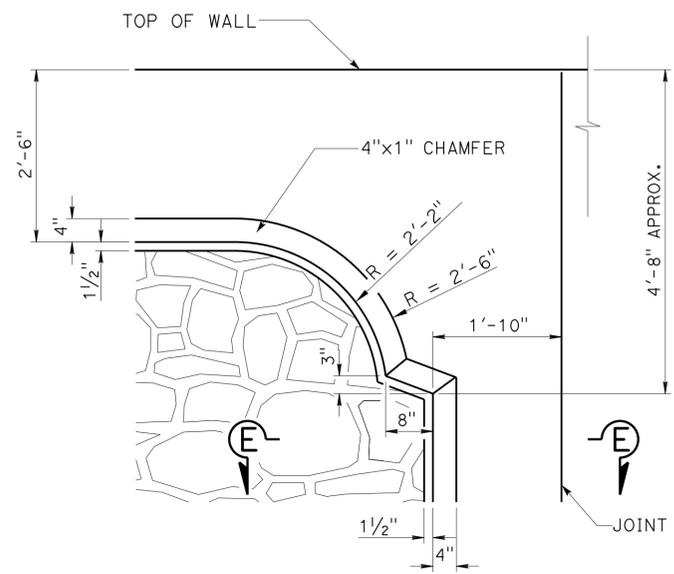
BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**ARCHITECTURAL DETAILS NO. 3**

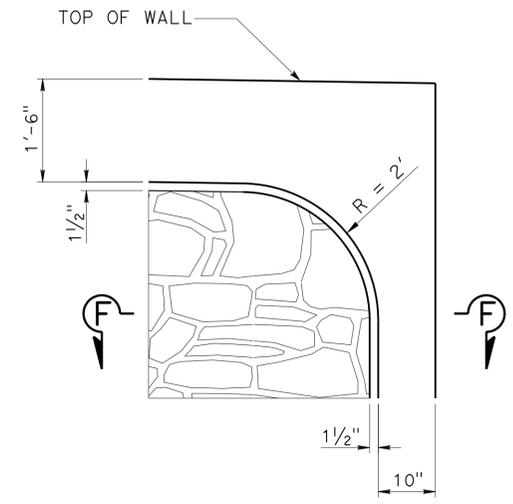
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2090	2313
 REGISTERED CIVIL ENGINEER			10-1-14 DATE		
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					



**DETAIL 1**  
NO SCALE

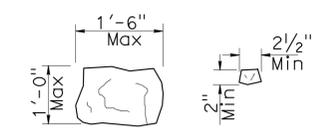


**DETAIL 2**  
NO SCALE

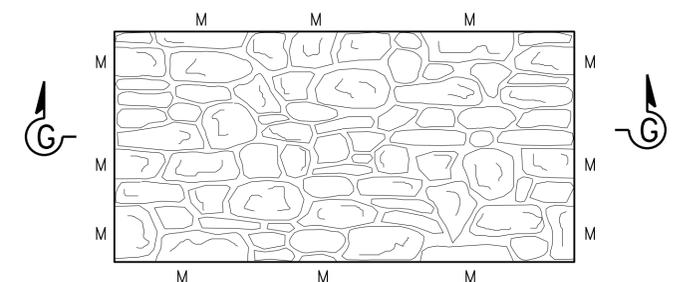


**DETAIL 3**  
NO SCALE

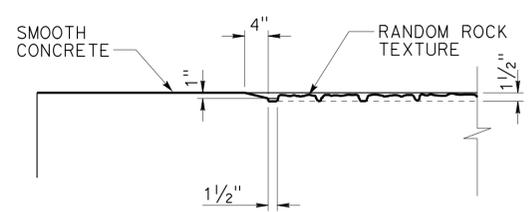
NOTE:  
Seamless Random Rock pattern to have a minimum of 2 to a maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).



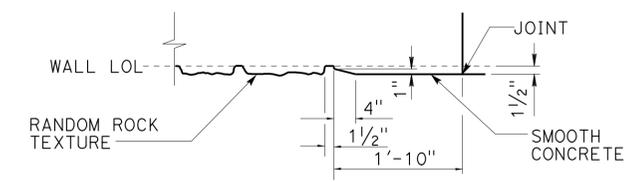
**ROCK SIZE**  
NO SCALE



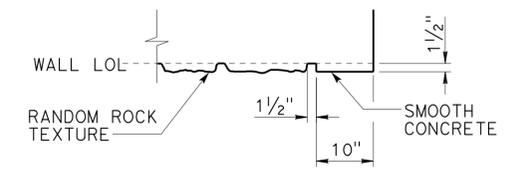
**RANDOM ROCK TEXTURE ELEVATION**  
NO SCALE



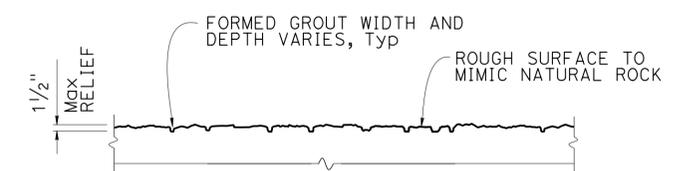
**SECTION D-D**  
NO SCALE



**SECTION E-E**  
NO SCALE



**SECTION F-F**  
NO SCALE



**SECTION G-G**  
NO SCALE

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

DESIGN	BY K. Li, V. Moore	CHECKED Fred Feng
DETAILS	BY Rob Kirkland	CHECKED Fred Feng
QUANTITIES	BY Bill Kemp	CHECKED R. Wilson/U. Inyang

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0311
POST MILE	40.5/40.6

**RETAINING WALL NO. 2138**  
**ARCHITECTURAL DETAILS NO. 4**



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	2092	2313

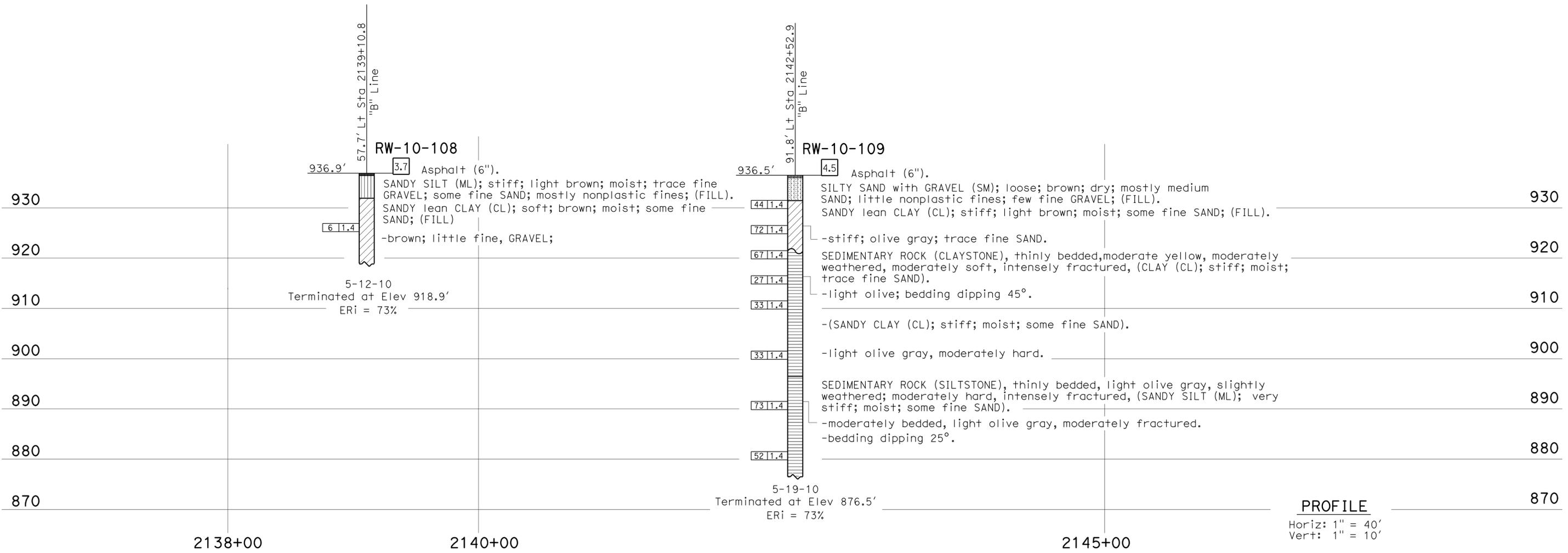
  
 CERTIFIED ENGINEERING GEOLOGIST  
 1-30-14  
 6-1-15  
 PLANS APPROVAL DATE

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FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS 1 OF 2"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

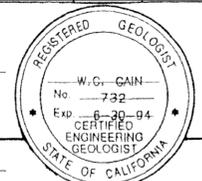


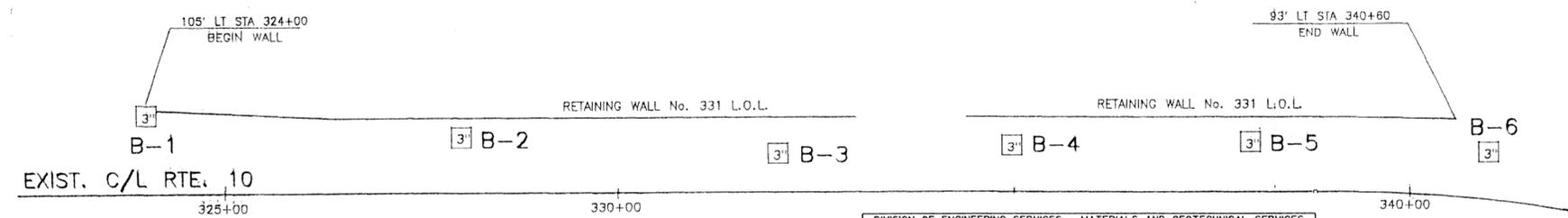
PROFILE  
Horiz: 1" = 40'  
Vert: 1" = 10'

ENGINEERING SERVICES		MATERIALS AND GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 15		BRIDGE NO. 53E0311 POST MILE 40.5/40.6		RETAINING WALL NO. 2138 LOG OF TEST BORINGS 2 OF 3	
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: I.G-Remmen, 11/12	FIELD INVESTIGATION BY: M. Salisbury		PROJECT NUMBER & PHASE: 0713000071		CONTRACT NO.: 07-1193U1		REVISION DATES		SHEET 36	OF 37
06S CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3604		DISREGARD PRINTS BEARING EARLIER REVISION DATES		FILE => 53e0311-z-1otb_02.dgn	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	37.2/42.4		

	
W.G. Gain CERTIFIED ENGINEERING GEOLOGIST	
PLANS APPROVAL DATE	



DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	10	37.2/42.4	2093	2313

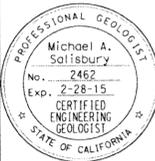
Michael A. Salisbury  
 PROFESSIONAL GEOLOGIST DATE

**RETAINING WALL NO. 2138**

**LOG OF TEST BORINGS 3 OF 3**

UNIT:	3643	CONTRACT NO.:	07-1193U1	BRIDGE NO.:	53E0311
PROJ. No. & PHASE:	0713000071	CONVERSION:	N/A	Sheet	of
AS-BUILT VERT DATUM:	N/A	CONVERSION:	N/A	37	37

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



PLAN  
1" = 100'

**BENCH MARK**

TBM AT STA. 324+00 Elev. 934.3  
 FD. PAINTED "4" AT LT. STA. 324+00

TBM AT STA. 327+00 Elev. 942.0  
 FD. PAINTED "4" AT LT. STA. 327+00

TBM AT STA. 332+00 Elev. 950.5  
 FD. PAINTED "4" AT LT. STA. 332+00

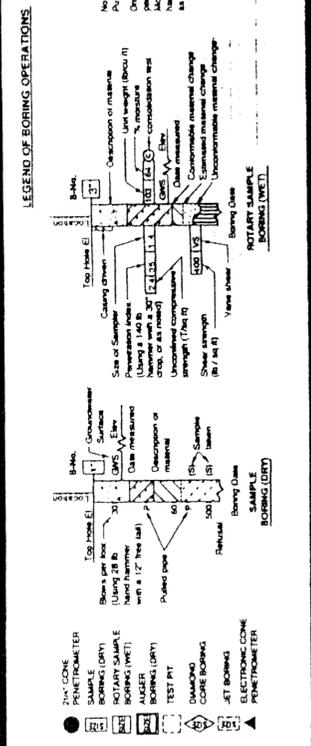
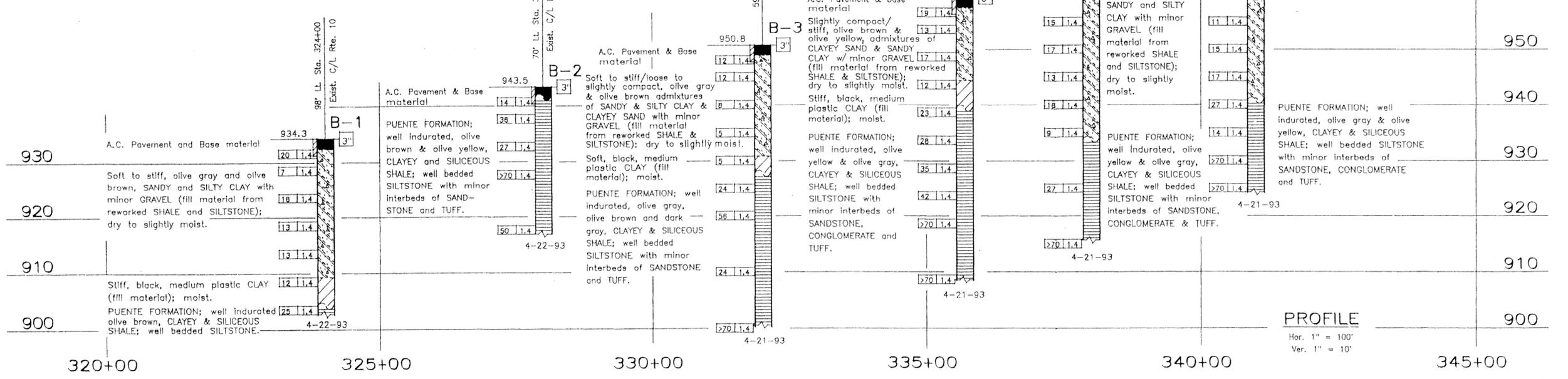
TBM AT STA. 335+00 Elev. 959.1  
 FD. PAINTED "4" AT LT. STA. 335+00

TBM AT STA. 338+00 Elev. 970.9  
 FD. PAINTED "4" AT LT. STA. 338+00

TBM AT STA. 341+00 Elev. 986.3  
 FD. PAINTED "4" AT LT. STA. 341+00

SURVEY WEST BOUND RTE. 10 BY J.F. DAVIDSON ASSOC 4-12-93 PG 8 OF 16

NOTE: NO GROUND WATER ENCOUNTERED DURING FIELD INVESTIGATION



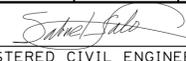
**CONSISTENCY CLASSIFICATION FOR SOILS**

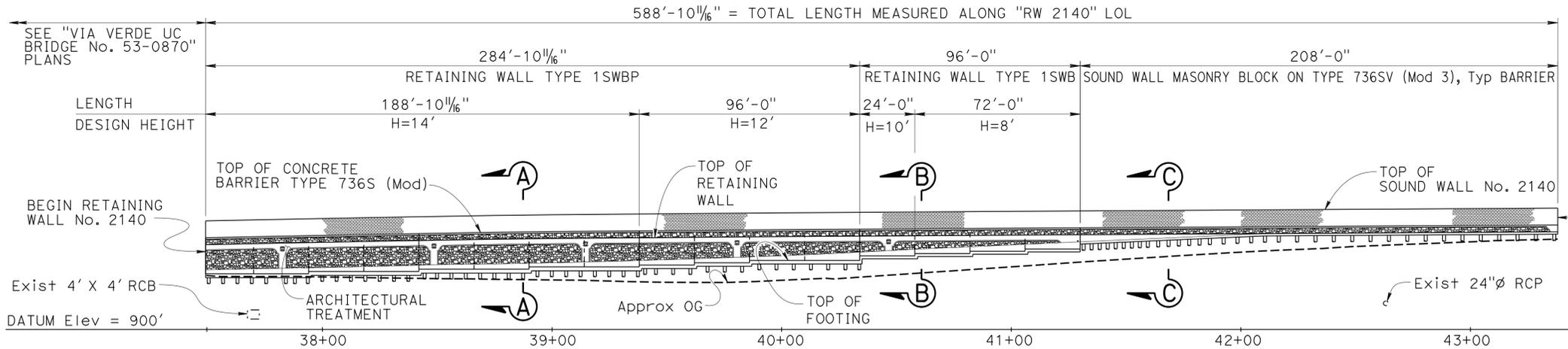
According to the Standard Penetration Test

Penetration (Blows / Ft)	Consistency
0-4	Very loose
5-9	Loose
10-19	Medium
20-29	Stiff
30-39	Very stiff
40-49	Hard
50-59	Dense
>70	Very dense

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

DIVISION OF <b>NEW TECHNOLOGY, MATERIALS AND RESEARCH</b>		OFFICE OF ENGINEERING GEOLOGY		FIELD INVESTIGATION BY: F. GERAMI		BRIDGE NO. POST MILE 37.5/42.4		RETAINING WALL NO. 331 LOG OF TEST BORINGS	
DRAWN BY I. GAMARRA 5/93		CHECKED BY Paramariz Cerami 8-93		State of <b>CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES <b>STRUCTURE DESIGN</b>		SEP 23 1993	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 07234 EA 11934K		DISREGARD PRINTS BEARING EARLIER REVISION DATES			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2094	2313
			10-1-14	DATE	
			6-1-15	PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

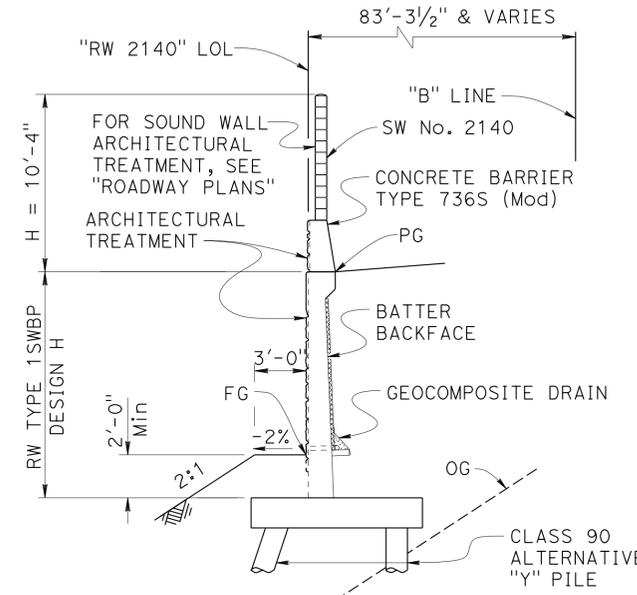


**DEVELOPED MIRRORED ELEVATION**  
 1" = 30'-0"

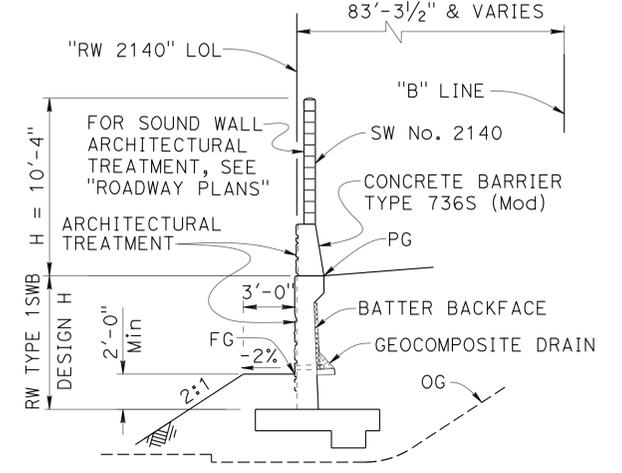
QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	654	CY
STRUCTURE BACKFILL (RETAINING WALL)	976	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	560	LF
FURNISH PILING (CLASS 90) (ALTERNATIVE Y)	2,701	LF
DRIVE PILE (CLASS 90)(ALTERNATIVE Y)	80	EA
STRUCTURAL CONCRETE, RETAINING WALL	414	CY
CONCRETE SURFACE TEXTURE	3,705	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	64,961	LB
SOUND WALL (MASONRY BLOCK)	4,317	SQFT
PREPARE AND STAIN CONCRETE	3,942	SQFT
CONCRETE BARRIER (TYPE 736S MODIFIED)	281	LF
CONCRETE BARRIER (TYPE 736SV MODIFIED)	208	LF

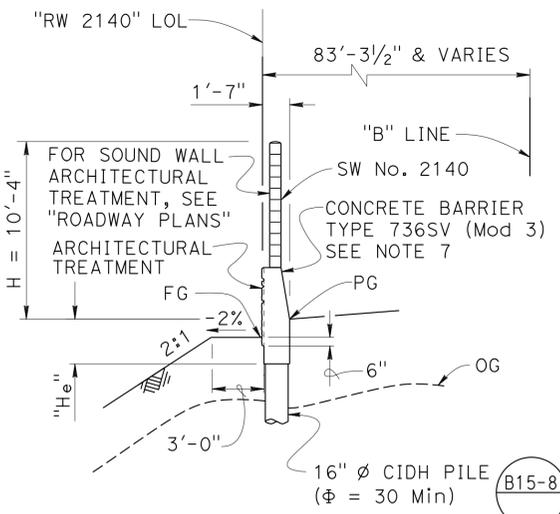
- NOTES:
- Not all Piles shown on "DEVELOPED MIRRORED ELEVATION" View.
  - For Retaining Wall Pile Layout, see "RETAINING WALL DETAILS No. 1" sheet.
  - For Geocomposite Drain Details see "RETAINING WALL DETAILS" sheet.
  - For "PILE DATA TABLE" see "INDEX TO PLANS" sheet.
  - The dimension 1'-7" shown on "TYPICAL SECTION C-C" refers to the distance between the PG and the "RW 2140" LOL.
  - For Concrete Barrier Type 736SV (Mod 3) information not shown or noted see Revised Standard Plan B15-6 (Case 2).



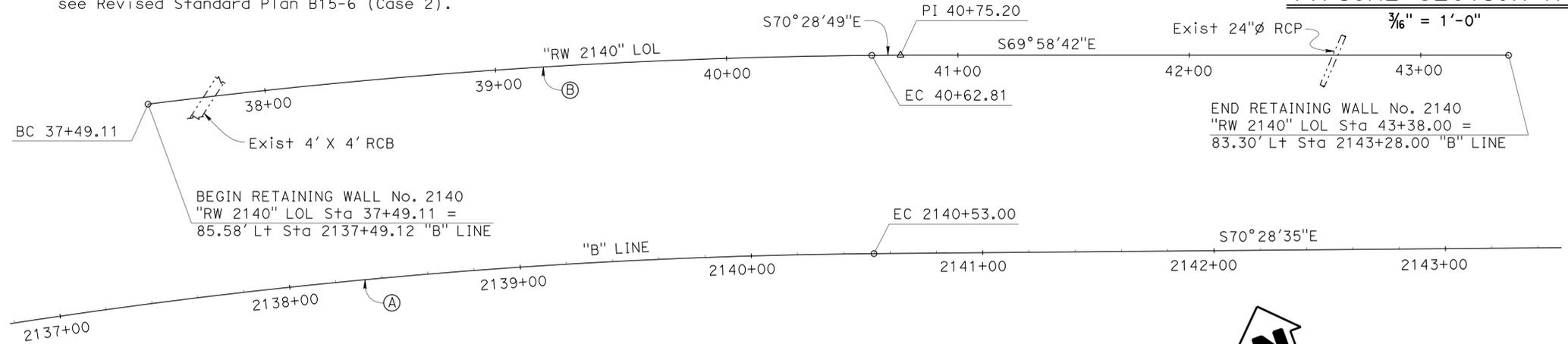
**TYPICAL SECTION A-A**  
 3/16" = 1'-0"



**TYPICAL SECTION B-B**  
 3/16" = 1'-0"



**TYPICAL SECTION C-C**  
 3/16" = 1'-0"



<b>(A) CURVE DATA</b>	<b>(B) CURVE DATA</b>
R = 2600.00'	R = 2685.58'
Δ = 30°34'08.84"	Δ = 6°41'33.96"
T = 710.53'	T = 157.03'
L = 1387.18'	L = 313.70'

**PLAN**  
 1" = 30'-0"

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

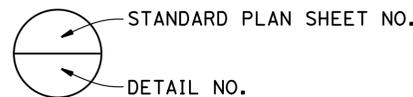
DESIGN BY: C. Chan/J. Higareda DETAILS BY: Herman Mauroschatz QUANTITIES BY: C. Chan/T. Ha	CHECKED BY: Gabriel Galo CHECKED BY: Gabriel Galo CHECKED BY: Gabriel Galo	LOAD & RESISTANCE FACTOR DESIGN LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO. 53E0312	<b>RETAINING WALL NO. 2140</b> <b>GENERAL PLAN</b>
					POST MILE 40.48	
Traci Menard DESIGN ENGINEER			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3604 PROJECT NUMBER & PHASE: 071300007	CONTRACT NO.: 07-1193U1 DISREGARD PRINTS BEARING EARLIER REVISION DATES

# INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	STRUCTURE PLAN NO. 1
4	STRUCTURE PLAN NO. 2
5	FOUNDATION PLAN NO. 1
6	FOUNDATION PLAN NO. 2
7	RETAINING WALL DETAILS
8	ARCHITECTURAL DETAILS NO. 1
9	ARCHITECTURAL DETAILS NO. 2
10	RETAINING WALL TYPE 1SWBP-DETAILS NO. 1
11	RETAINING WALL TYPE 1SWBP-DETAILS NO. 2
12	RETAINING WALL TYPE 1SWB-DETAILS NO. 1
13	RETAINING WALL TYPE 1SWB-DETAILS NO. 2
14	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 1
15	MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS NO. 2
16	LOG OF TEST BORINGS 1 OF 3
17	LOG OF TEST BORINGS 2 OF 3
18	LOG OF TEST BORINGS 3 OF 3

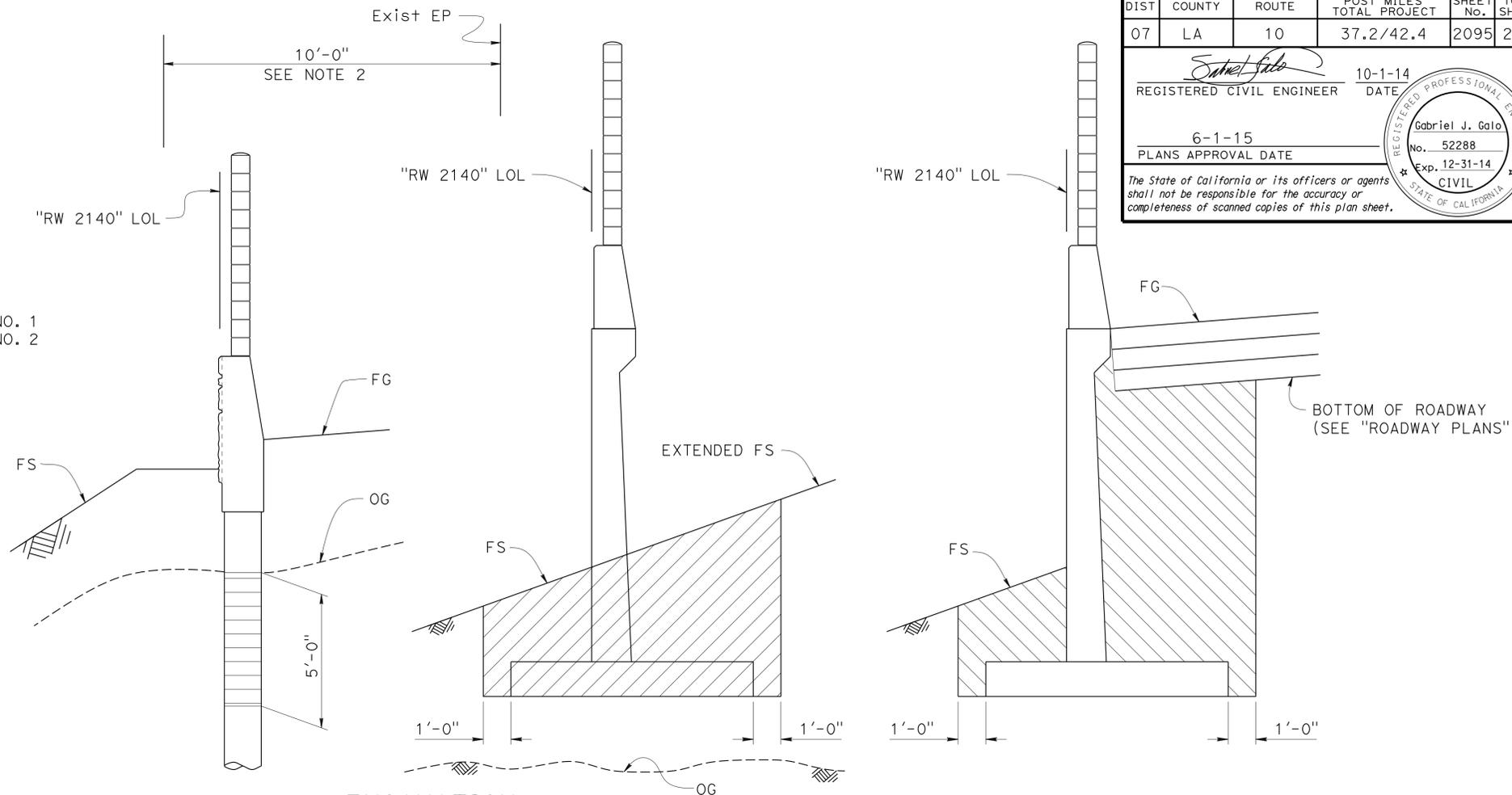
## STANDARD PLANS DATED 2010

A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
B0-3	BRIDGE DETAILS
B2-5	PILE DETAILS CLASS 90 AND CLASS 140
RSP B3-5	RETAINING WALL DETAILS NO. 1
RSP B11-56	CONCRETE BARRIER TYPE 736
RSP B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
RSP B15-7	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)
B15-8	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (3)
B15-9	SOUND WALL MASONRY BLOCK MISCELLANEOUS DETAILS



### NOTES:

- For additional Pile information not noted on "PILE DATA TABLE" see "STRUCTURE PLAN NO. 1" sheet.
- Type Y-1 (Aerially Deposited Lead) material occurs when CIDH concrete pile is located within 10 feet of existing edge of pavement.



### EXCAVATION

### BACKFILL

#### LEGEND:

- Indicates Structure Excavation (Retaining Wall) Limits
- Indicates Structure Backfill (Retaining Wall) Limits
- Indicates Type Y-1 (Aerially Deposited Lead) Material in CIDH Concrete Piling

## STRUCTURE EXCAVATION AND BACKFILL

NO SCALE

### PILE DATA TABLE

LOCATION (STATIONS ALONG "RW2140" LOL)		PILE TYPE	BOTTOM FOOTING ELEVATION (ft)	PRE- DRILLED ELEVATION (ft)	CUT-OFF ELEVATION (ft)	SERVICE STATE LOAD (COMPRESSION) (kip) / PILE	NOMINAL DRIVING RESISTANCE (kips)	DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
BEGIN STATION	END STATION								
37+49.11	---	Class 90 (Alternative "Y")	922.5	N/A	922.75	90	180	892.50	892.50
---	37+95.00	Class 90 (Alternative "Y")	922.5	892.75 (1)	922.75	90	180	869.50	869.50
37+95.00	38+43.00	Class 90 (Alternative "Y")	923.5	N/A	923.75	90	180	893.50	893.50
38+43.00	38+91.00	Class 90 (Alternative "Y")	924.5	N/A	924.75	90	180	894.50	894.50
38+91.00	39+39.00	Class 90 (Alternative "Y")	925.5	N/A	925.75	90	180	895.50	895.50
39+39.00	39+63.00	Class 90 (Alternative "Y")	926.5	N/A	926.75	90	180	896.50	896.50
39+63.00	39+87.00	Class 90 (Alternative "Y")	927.5	N/A	927.75	90	180	897.50	897.50
39+87.00	40+35.00	Class 90 (Alternative "Y")	928.5	N/A	928.75	90	180	898.50	898.50

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

DESIGN	BY C. Chan/J. Higareda	CHECKED Gabriel Galo
DETAILS	BY Herman Mauroschat	CHECKED Gabriel Galo
QUANTITIES	BY C. Chan/T. Ho	CHECKED Gabriel Galo

STATE OF  
**CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0312
POST MILE	40.48

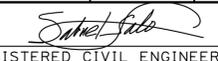
**RETAINING WALL NO. 2140**  
**INDEX TO PLANS**

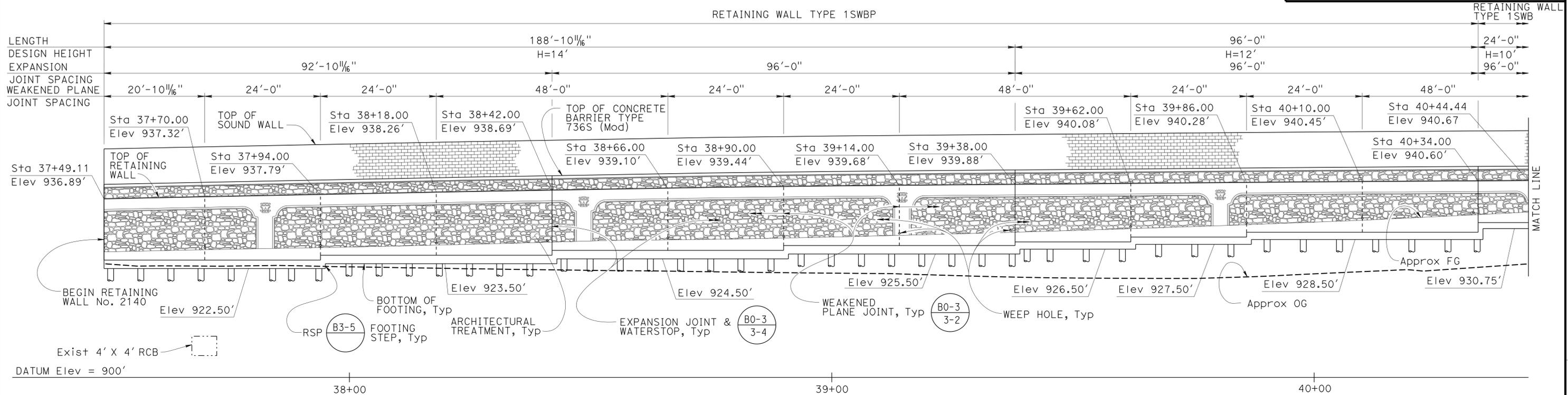
NOTES:

- "B" Line shown in "PLAN" View only for reference, offset to "RW 2140" Layout Line not to scale.
- For Pile data, see "PILE DATA TABLE" on "INDEX TO PLANS" sheet.
- For Retaining Wall Details, see "RETAINING WALL TYPE 1SWBP-DETAILS NO. 1" and "RETAINING WALL TYPE 1SWBP-DETAILS NO. 2" sheets.
- See "GENERAL PLAN" sheet for RW LOL alignment information.
- For Sound Wall, Barrier details and Expansion Joint details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 1" and "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheets.
- For Architectural Treatment details, see "ARCHITECTURAL DETAILS NO. 1" and "ARCHITECTURAL DETAILS NO. 2" sheets.
- For Weep Hole Details see "RETAINING WALL DETAILS" sheet.

LEGEND:

- Indicates Vertical Pile
- ⊙ Indicates Predrilled Vertical Pile
- ⊖ Indicates 3:1 Battered Pile
- ⊗ Indicates Predrilled 3:1 Battered Pile

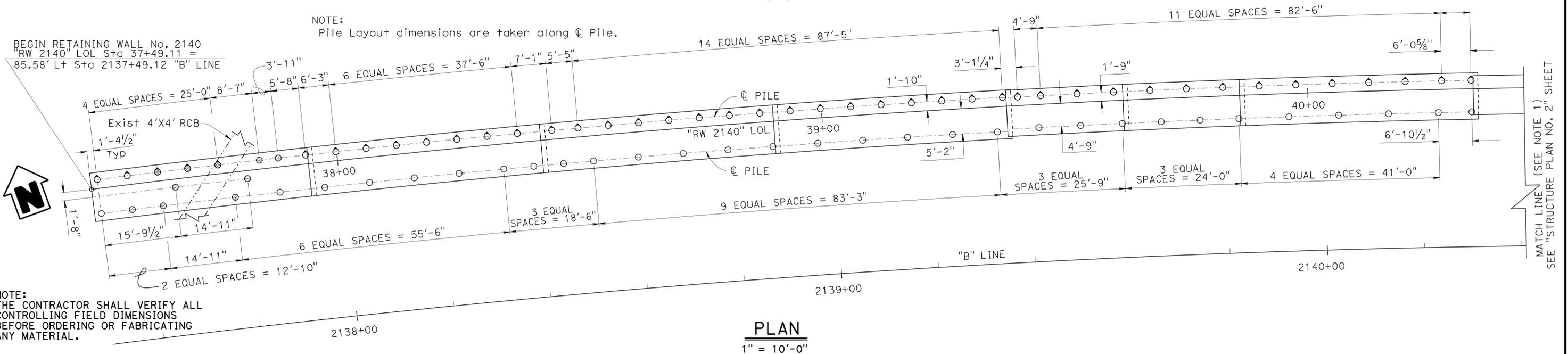
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2096	2313
 REGISTERED CIVIL ENGINEER DATE 10-1-14					
PLANS APPROVAL DATE 6-1-15					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					



**DEVELOPED MIRRORED ELEVATION**

1" = 10'-0"

NOTE:  
Pile Layout dimensions are taken along  $\phi$  Pile.



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

**PLAN**

1" = 10'-0"

DESIGN	BY C. Chan/J. Higareda	CHECKED Gabriel Galo
DETAILS	BY Herman Mauroschatd	CHECKED Gabriel Galo
QUANTITIES	BY C. Chan/T. Ha	CHECKED Gabriel Galo

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0312
POST MILE	40.48

**RETAINING WALL NO. 2140**  
**STRUCTURE PLAN NO. 1**

NOTES:

- "B" Line shown in "PLAN" View only for reference, offset to "RW 2140" Layout Line not to scale.
- For Pile data, see Note 7 on "GENERAL PLAN" sheet and "TYPICAL SECTION C-C" on "GENERAL PLAN" sheet.
- For Retaining Wall Details, see "RETAINING WALL TYPE 1SWBP-DETAILS NO. 1" and "RETAINING WALL TYPE 1SWBP-DETAILS NO. 2" sheets.
- See "GENERAL PLAN" sheet for RW LOL alignment information.
- For Sound Wall, Barrier details and Expansion Joint details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 1" and "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheets.
- For Architectural Treatment details, see "ARCHITECTURAL DETAILS NO. 1" and "ARCHITECTURAL DETAILS NO. 2" sheets.
- For Weep Hole Details see "RETAINING WALL DETAILS" sheet.

LEGEND:

○ Indicates Vertical Pile

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2097	2313

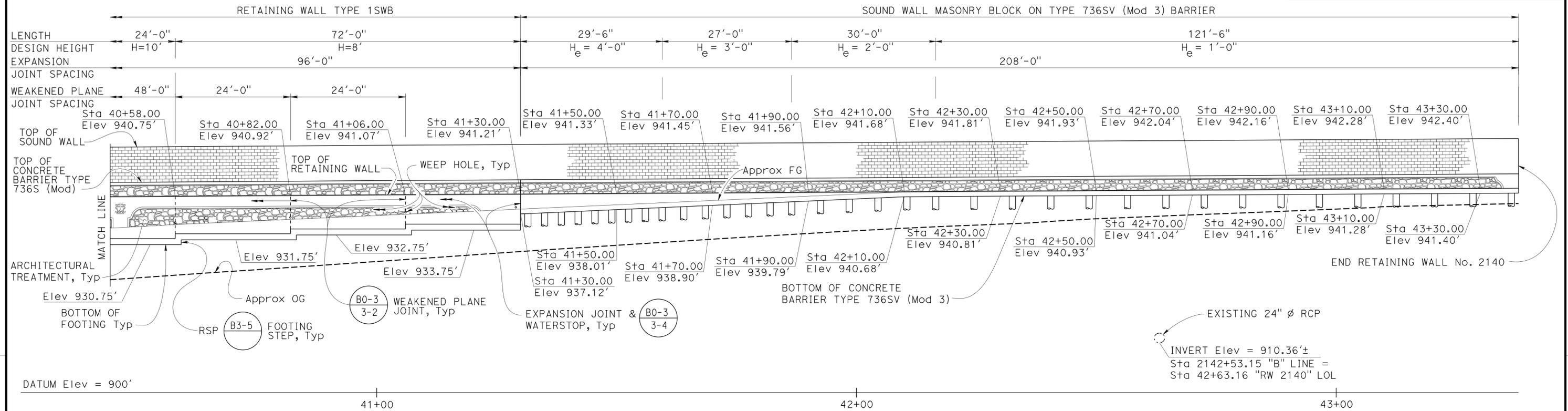
  

<i>Gabriel J. Galo</i>		10-1-14
REGISTERED CIVIL ENGINEER	DATE	
6-1-15		
PLANS APPROVAL DATE		

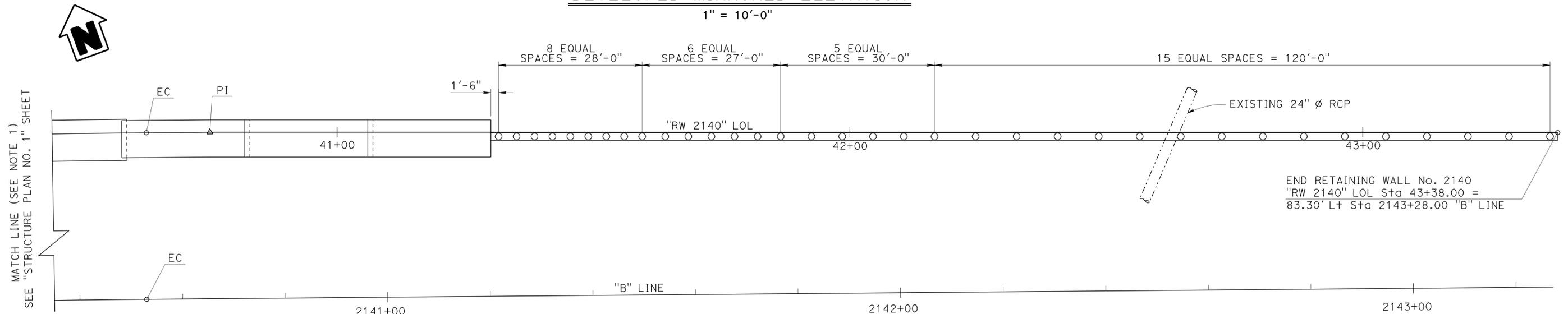
REGISTERED PROFESSIONAL ENGINEER No. 52288 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA	
--	--

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**DEVELOPED MIRRORED ELEVATION**

1" = 10'-0"



**PLAN**

1" = 10'-0"

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

DESIGN	BY C. Chan/J. Higareda	CHECKED Gabriel Galo
DETAILS	BY Herman Mauroschatd	CHECKED Gabriel Galo
QUANTITIES	BY C. Chan/T. Ha	CHECKED Gabriel Galo

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

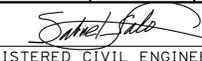
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 15

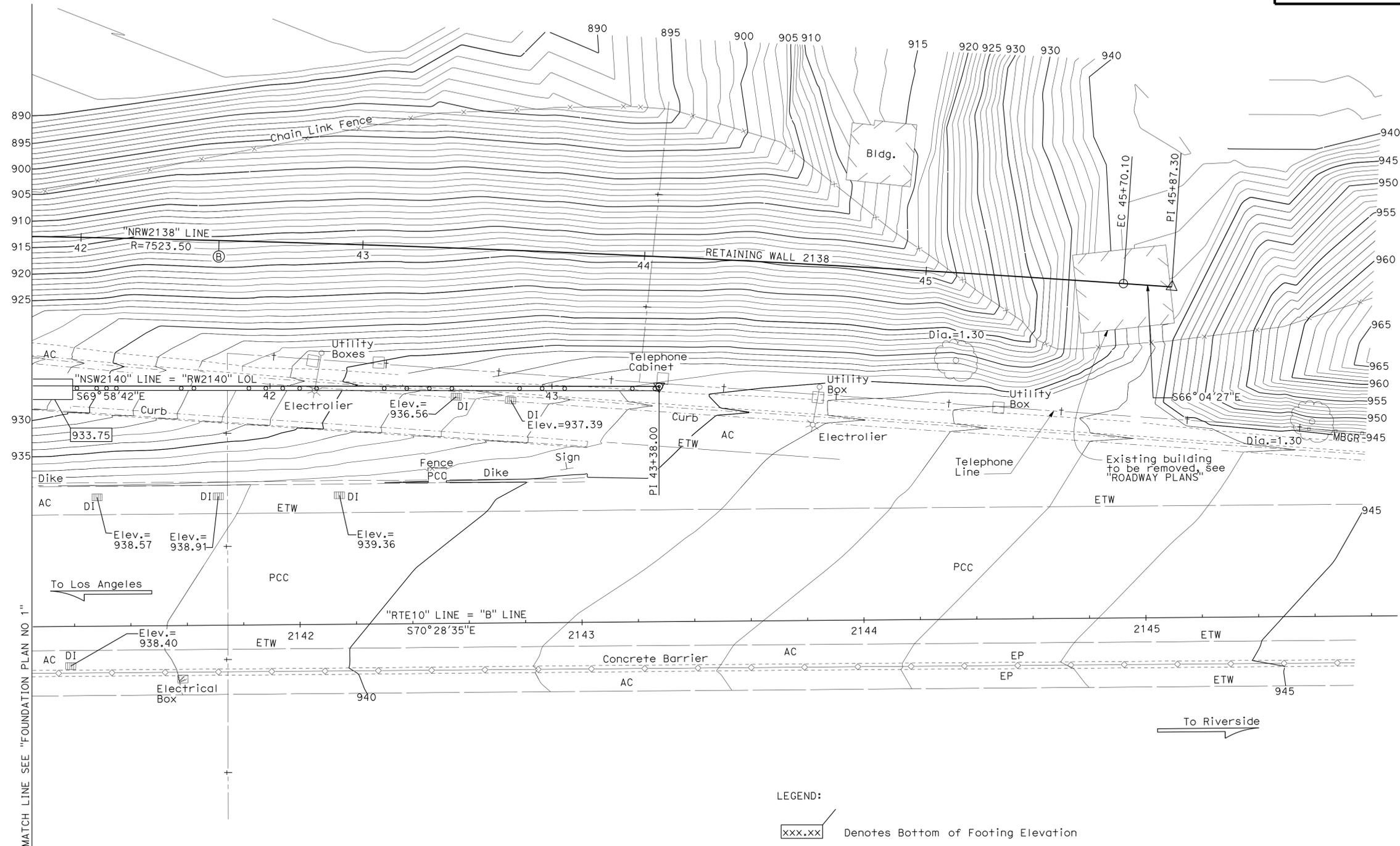
BRIDGE NO.	53E0312
POST MILE	40.48

**RETAINING WALL NO. 2140**  
**STRUCTURE PLAN NO. 2**





DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2099	2313
 REGISTERED CIVIL ENGINEER			10-1-14	DATE	
6-1-15			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER Gabriel J. Galo No. 52288 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA					
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LEGEND:  
 xxx.xx Denotes Bottom of Footing Elevation

MATCH LINE SEE "FOUNDATION PLAN NO. 1"

**PRELIMINARY INVESTIGATION SECTION**

SCALE	VERT. DATUM	NAV D88	PHOTOGRAMMETRY	AS OF:	X
1"=20'	HORIZ. DATUM	NAD83	SURVEYED	BY DISTRICT	04/2008
ALIGNMENT TIES	DIst	TRAVERSE SHEET	DRAFTED	BY J. MARTINEZ	01/2011
CHECKED	BY C. FASSETT	01/2011	CHECKED	BY T. SCHMALZ	01/2011

DESIGN	BY C. Chan/J. Higareda	CHECKED Gabriel Galo
DETAILS	BY Herman Mauroschadt	CHECKED Gabriel Galo
QUANTITIES	BY C. Chan/T. Ha	CHECKED Gabriel Galo

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

**DIVISION OF ENGINEERING SERVICES**  
 STRUCTURE DESIGN  
**DESIGN BRANCH 15**

BRIDGE NO.	53E0312
POST MILE	40.48

**RETAINING WALL NO. 2140**  
**FOUNDATION PLAN NO. 2**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 3604  
 PROJECT NUMBER & PHASE: 0713000007

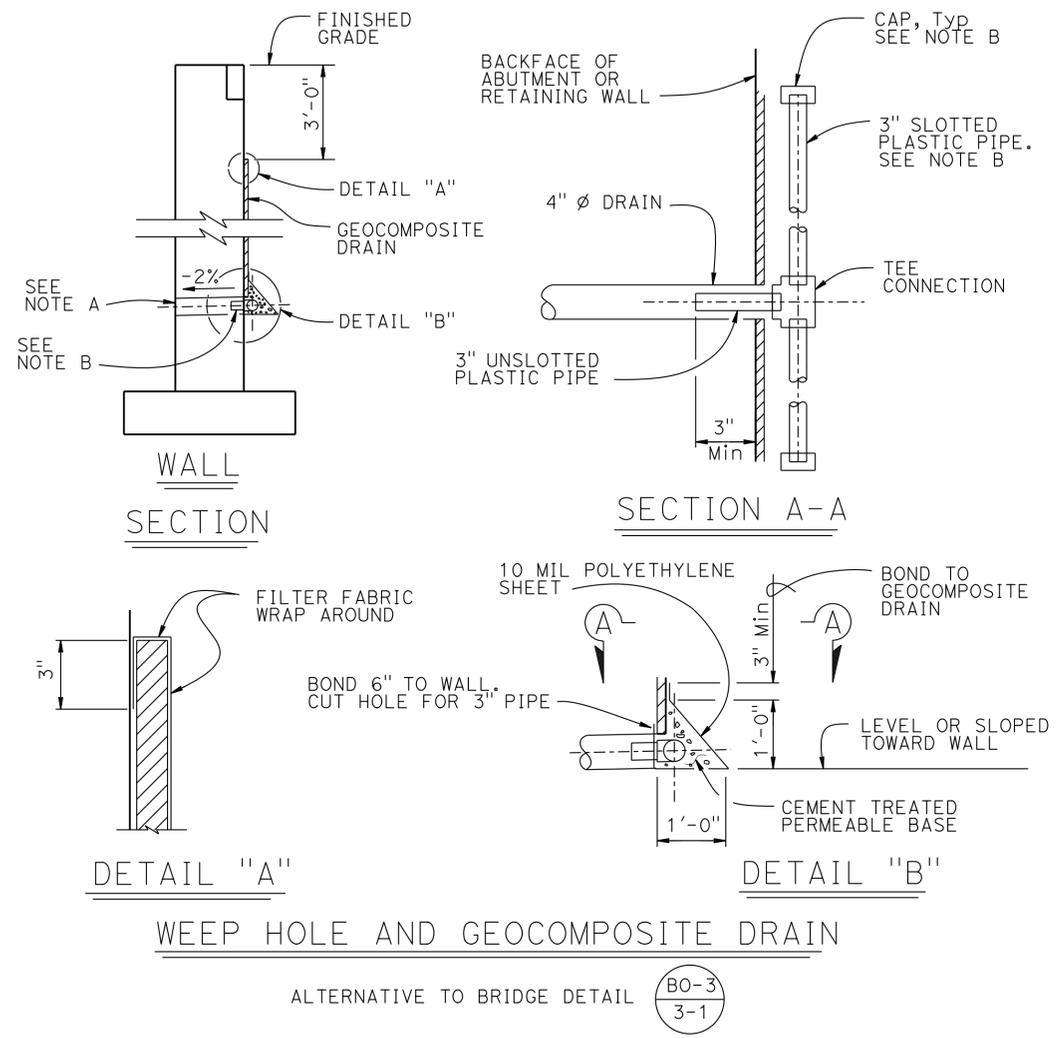
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
01/28/11 01/23/14	6	18

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	2100	2313
 REGISTERED CIVIL ENGINEER			10-1-14 DATE		
6-1-15 PLANS APPROVAL DATE			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.		



**WEEP HOLE AND GEOCOMPOSITE DRAIN**

ALTERNATIVE TO BRIDGE DETAIL (BO-3) 3-1

**NOTES:**

- A. 4"  $\emptyset$  drains at intermediate sag points and at 25' max center to center (9' c-c for Type 3 and 9'-3" c-c for Type 4 retaining walls). For walls adjacent to sidewalks or curbs, provide 4" cast iron or asbestos cement pipe under the sidewalk to discharge through curb face. Exposed wall drains must be located 3"± above finished grade.
- B. Geocomposite drain, cement treated permeable base, and 3"  $\emptyset$  slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4"  $\emptyset$  drain.
- C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY C. Chan/J. Higuera	CHECKED Gabriel Galo	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 15</b>	BRIDGE NO.	<b>RETAINING WALL NO. 2140</b> <b>RETAINING WALL DETAILS</b>	
	DETAILS	BY Herman Mauroschat	CHECKED Gabriel Galo			POST MILE		40.48
	QUANTITIES	BY C. Chan/T. Ha	CHECKED Gabriel Galo			CONTRACT NO.:		07-1193U1
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3604 PROJECT NUMBER & PHASE: 071300007	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 1-28-14 2-5-14 5-23-14	SHEET 7 OF 18	

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 16:09