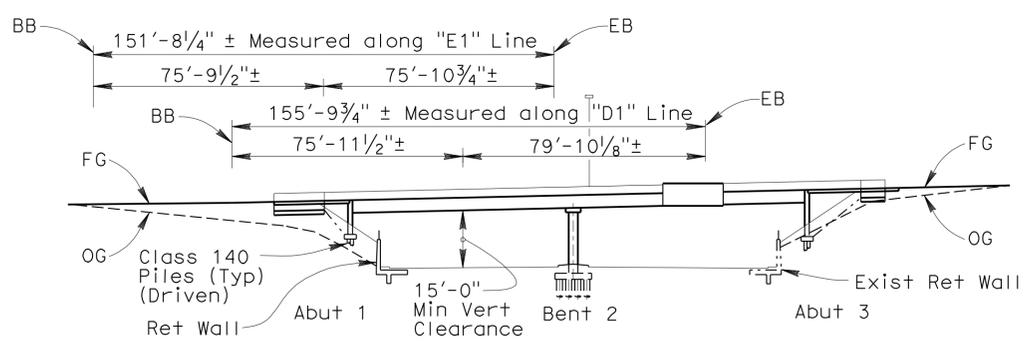


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	901	949

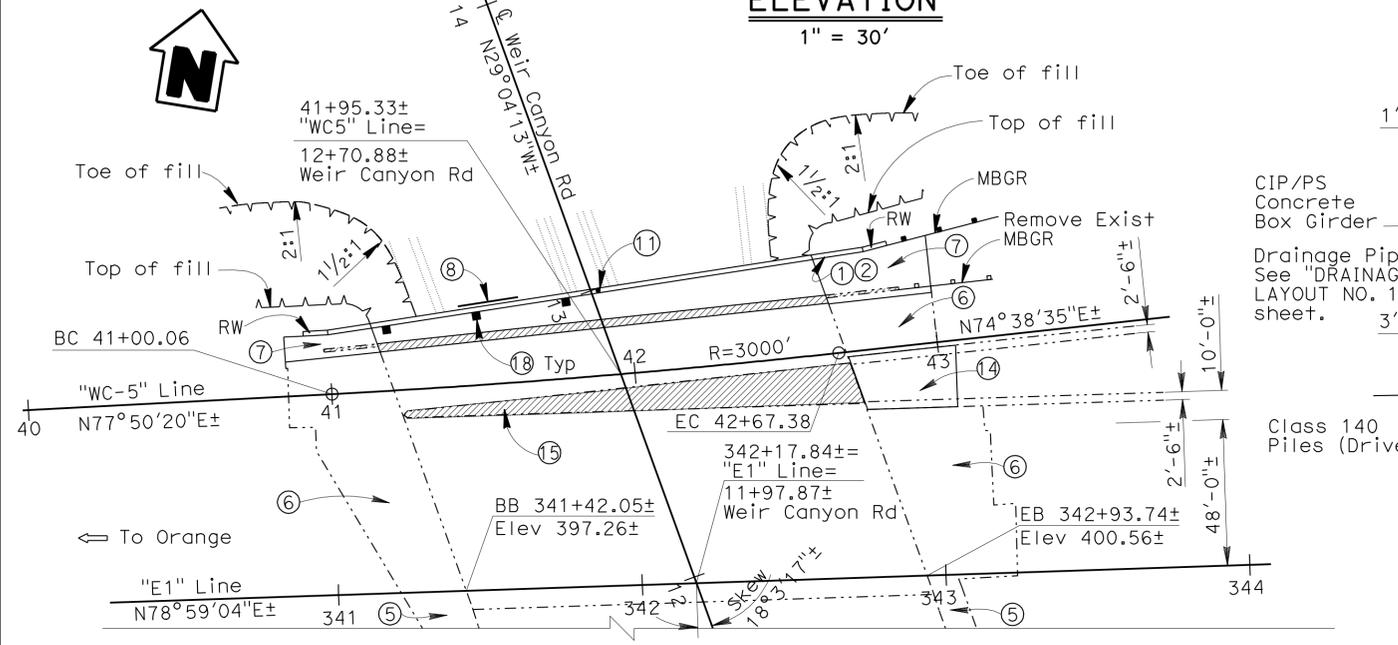
08-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 10-25-10  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

**LEGEND**

- New Structure
- - - Existing Structure
- ▨ Bridge Removal Portion
- ➔ Direction of Traffic Flow
- ⊗ Point of Minimum Vertical Clearance (Widening)

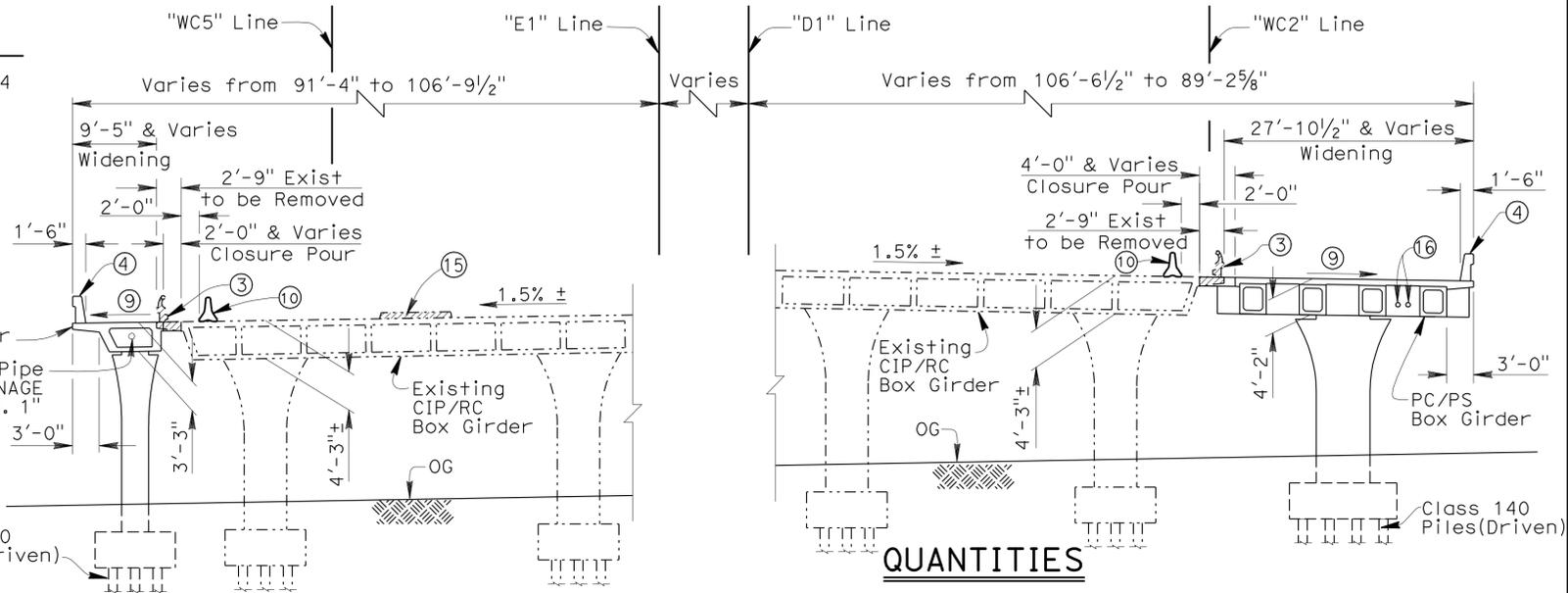


**ELEVATION**  
1" = 30'



**PLAN**  
1" = 30'

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



**TYPICAL SECTION - SPAN 1 SHOWN**  
1" = 10'

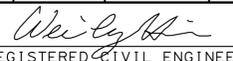
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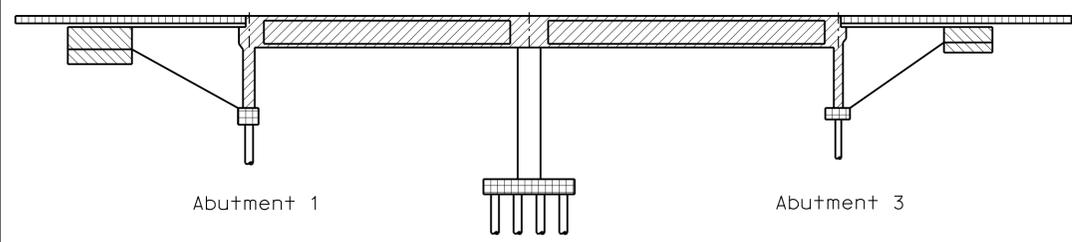
- ① Paint "Br. No. 55-505 R/L"
- ② Paint "Weir Canyon Road Undercrossing"
- ③ Barrier Rail (Type 9) to be Removed
- ④ Concrete Barrier (Type 736)
- ⑤ Exist Structure Approach Type R(10D)
- ⑥ Exist Structure Approach Type R(30D)
- ⑦ Structure Approach Type N(30D)
- ⑧ Reconstruct Exist Bridge Mounted Sign
- ⑨ Match Exist Slope
- ⑩ Temporary Railing (Type K). See Road Plans
- ⑪ Barrier Rail Mounted Pole. See Road Plans
- ⑫ For General Notes, see "INDEX TO PLANS" sheet
- ⑬ Structure Approach Type N(30S)
- ⑭ Structure Approach Type R(30D) and replace Existing joint seal (MR=1")
- ⑮ Remove Exist Concrete median
- ⑯ Irrigation lines (3" Galvanized steel pipe & 4" conduit)
- ⑰ Deck Drain Type D-2 Mod.
- ⑱ Deck Drain Type D-2

**QUANTITIES**

BRIDGE REMOVAL (PORTION), LOCATION B	LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	288 CY
STRUCTURE EXCAVATION (RETAINING WALL)	308 CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALY DEPOSITED LEAD)	2 CY
STRUCTURE BACKFILL (BRIDGE)	203 CY
STRUCTURE BACKFILL (RETAINING WALL)	337 CY
3" SUPPLY LINE (BRIDGE)	230 LF
AGGREGATE BASE (APPROACH SLAB)	10 CY
FURNISH PILING (CLASS 140)	2,182 LF
DRIVE PILE (CLASS 140)	61 EA
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	91 CY
STRUCTURAL CONCRETE, BRIDGE	370 CY
STRUCTURAL CONCRETE, RETAINING WALL	61 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	94 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	96 CY
DRILL AND BOND DOWEL	68 LF
FURNISH PRECAST PRESTRESSED CONCRETE BOX GIRDER (70'-80')	7 EA
ERECT PRECAST PRESTRESSED CONCRETE BOX GIRDER	7 EA
JOINT SEAL (MR 1")	152 LF
BAR REINFORCING STEEL (BRIDGE)	128,000 LB
BAR REINFORCING STEEL (RETAINING WALL)	6,060 LB
BRIDGE DECK DRAINAGE SYSTEM	8,200 LB
CABLE RAILING	45 LF
CONCRETE BARRIER (TYPE 736)	397 LF
SPRINKLER CONTROL CONDUIT (BRIDGE)	230 LF
PAVING NOTCH EXTENSION	56 CF

X DESIGN ENGINEER	DESIGN BY C. Sanchez / J. Torres CHECKED J. Torres / E. Mercado	LOAD & RESISTANCE FACTOR DESIGN BY Cesar Sanchez CHECKED Wei-Kung Hsia	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE CHECKED Wei-Kung Hsia	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 55-0505R/L POST MILE 14.43	WEIR CANYON ROAD UC (WIDEN) GENERAL PLAN	
	QUANTITIES BY Cesar Sanchez CHECKED Rui Wang	LAYOUT BY Cesar Sanchez CHECKED Cesar Sanchez	SPECIFICATIONS BY X CHECKED Cesar Sanchez	PLANS AND SPECS COMPARED X CHECKED Cesar Sanchez	CU 12 EA OG3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 07-18-09      05-24-10      01-01-10      01-12-10      01-26-10      08-18-10      10-01-10      10-11-10      5-18-10	SHEET 1 OF 36
	STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 10/25/05)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		FILE => 55-505RL-a-gp01.dgn		STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06)	

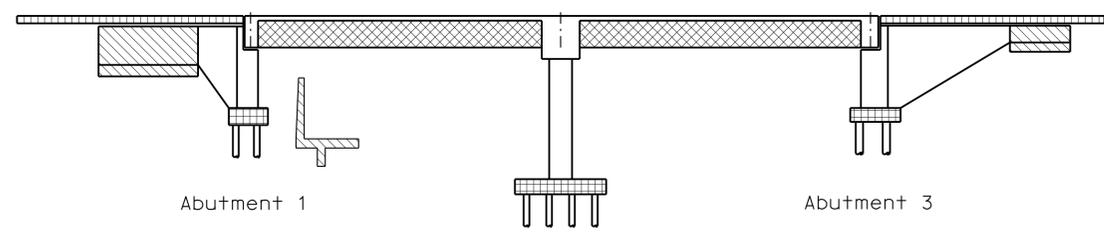
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	902	949
			08-10-10	DATE	
REGISTERED CIVIL ENGINEER			DATE		
10-25-10			PLANS APPROVAL DATE		
			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		



Abutment 1                      Bent 2                      Abutment 3

**LEFT BRIDGE**

No Scale

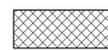


Abutment 1                      Bent 2                      Abutment 3

**RIGHT BRIDGE**

No Scale

**CONCRETE STRENGTH AND TYPE LIMITS**

- |   |  |   |   |
|---|--|---|---|
|  | Structural Concrete, Bridge ( $f'_c = 5000$ psi @ 28 days)         |  | Structural Concrete, Approach Slab ( $f'_c = 3600$ psi @ 28 days) |
|  | Structural Concrete, Bridge ( $f'_c = 4000$ psi @ 28 days)         |  | Furnish and erect precast, pre-stressed concrete girders          |
|  | Structural Concrete, Bridge Footing ( $f'_c = 3600$ psi @ 28 days) |  | Structural Concrete, Retaining Wall                               |

**GENERAL NOTES - LOAD AND RESISTANCE FACTOR DESIGN**

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION AND CALTRANS AMENDMENTS PREFACE DATED DECEMBER 2008

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC). Version 1.5 June 2009

DEAD LOAD: Includes 35 psf for future wearing surface  
The deck load between the girders has been increased by a factor of 10% to allow for the use of steel deck forms (where appropriate)

LIVE LOADING: HL-93 and Permit design load.

SEISMIC LOADING: Soil Profile: Shear wave velocity  $V_{s30} = 300$  m/sec for the upper 100 feet of soil  
Moment Magnitude:  $M_{max} = 7.6$   
Peak Ground Acceleration = 0.67g  
(See Acceleration Response Spectrum Curve)

REINFORCED CONCRETE: ASTM A706  
 $f_y = 60$ ksi  
 $f'_c =$  See "Concrete Strength and Type Limits"

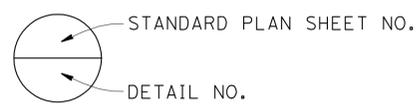
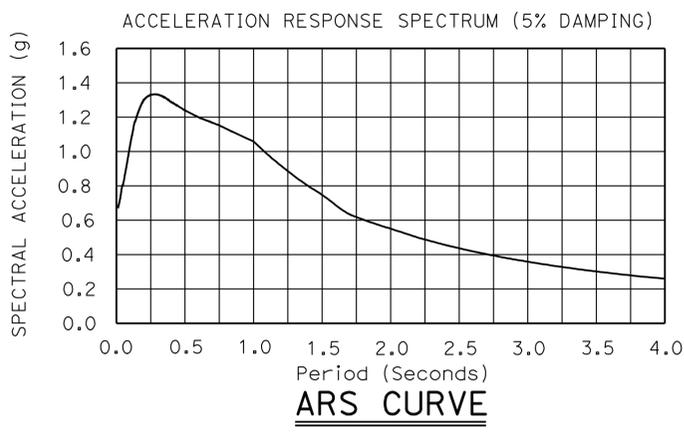
PRESTRESSED CONCRETE: See "Prestressing Notes" on "Girder Layout No.1" sheet

**STANDARD PLANS DATED MAY 2006**

- A10A ACRONYMS AND ABBREVIATIONS (A-L)
- A10B ACRONYMS AND ABBREVIATIONS (M-Z)
- A10C SYMBOLS (SHEET 1 OF 2)
- A10D SYMBOLS (SHEET 2 OF 2)
- A62B LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B2-5 PILE DETAILS, CLASS 90 AND CLASS 140
- B6-10 UTILITY OPENINGS T-BEAM
- B7-1 BOX GIRDER DETAILS
- B7-6 DECK DRAINS, TYPES D-1 AND D-2
- B7-8 DECK DRAINAGE DETAILS
- B7-10 UTILITY OPENING BOX GIRDER
- B8-5 CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
- B11-56 CONCRETE BARRIER TYPE 736
- B14-3 COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN SIZE 4")
- B14-4 WATER SUPPLY LINE (BRIDGE) (PIPE SIZE LESS THAN 4")
- B14-5 WATER SUPPLY LINE (DETAILS) (PIPE SIZE LESS THAN 4")
- ES-9A ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- ES-9B ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- ES-9C ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- ES-9D ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- T3 TEMPORARY RAILING (TYPE K)

**INDEX TO PLANS**

SHT NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	FOUNDATION PLAN NO. 1
4	FOUNDATION PLAN NO. 2
5	ABUTMENT LAYOUT NO. 1
6	ABUTMENT LAYOUT NO. 2
7	ABUTMENT FOOTING PLANS
8	WINGWALL ELEVATIONS
9	ABUTMENT DETAILS NO. 1
10	ABUTMENT DETAILS NO. 2
11	ABUTMENT DETAILS NO. 3
12	BENT LAYOUT NO. 1
13	BENT LAYOUT NO. 2
14	BENT DETAILS NO. 1
15	BENT DETAILS NO. 2
16	TYPICAL SECTION NO. 1
17	TYPICAL SECTION NO. 2
18	GIRDER LAYOUT NO. 1
19	GIRDER LAYOUT NO. 2
20	GIRDER DETAILS NO. 1
21	GIRDER DETAILS NO. 2
22	GIRDER DETAILS NO. 3
23	RETAINING WALL PLAN AND ELEV
24	RETAINING WALL SECTIONS
25	DRAINAGE LAYOUT NO. 1
26	DRAINAGE LAYOUT NO. 2
27	STRUCTURE APPROACH TYPE N(30D)
28	STRUCTURE APPROACH TYPE N(30S)
29	STRUCTURE APPROACH TYPE R(30D)
30	STRUCTURE APPROACH DRAINAGE DETAILS
31	LOG OF TEST BORINGS 1 OF 6
32	LOG OF TEST BORINGS 2 OF 6
33	LOG OF TEST BORINGS 3 OF 6
34	LOG OF TEST BORINGS 4 OF 6
35	LOG OF TEST BORINGS 5 OF 6
36	LOG OF TEST BORINGS 6 OF 6



**REVISED STANDARD PLANS DATED MAY 2009**

- RSP B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- RSP P1 JOINTED PLAIN CONCRETE PAVEMENT
- RSP P10 CONCRETE PAVEMENT - DOWEL BAR DETAILS

DESIGN BY Cesar Sanchez CHECKED Juan Torres DETAILS BY Hemant Barbhaiya CHECKED Cesar Sanchez QUANTITIES BY Cesar Sanchez CHECKED Juan Torres	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO.	<b>WEIR CANYON ROAD UC (WIDEN)</b>	
			55-0505R/L	<b>INDEX TO PLANS</b>	
			POST MILE		
			14.43		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3
			CU 12 EA 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 12-18-09, 1-16-10, 01-26-11, 8-12-10, 10-04-10, 5-24-10, 1-02-10, 1-08-10, 1-12-10	
			SHEET 2 OF 36		DATE PLOTTED => 16-DEC-2010

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	9.1/15.1	903	949

08-10-10  
REGISTERED CIVIL ENGINEER DATE

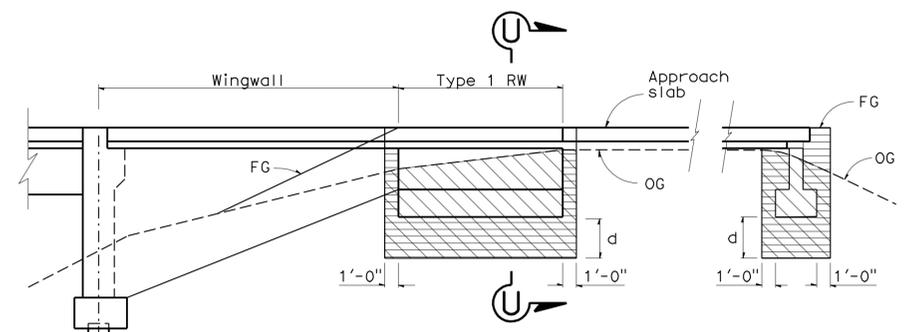
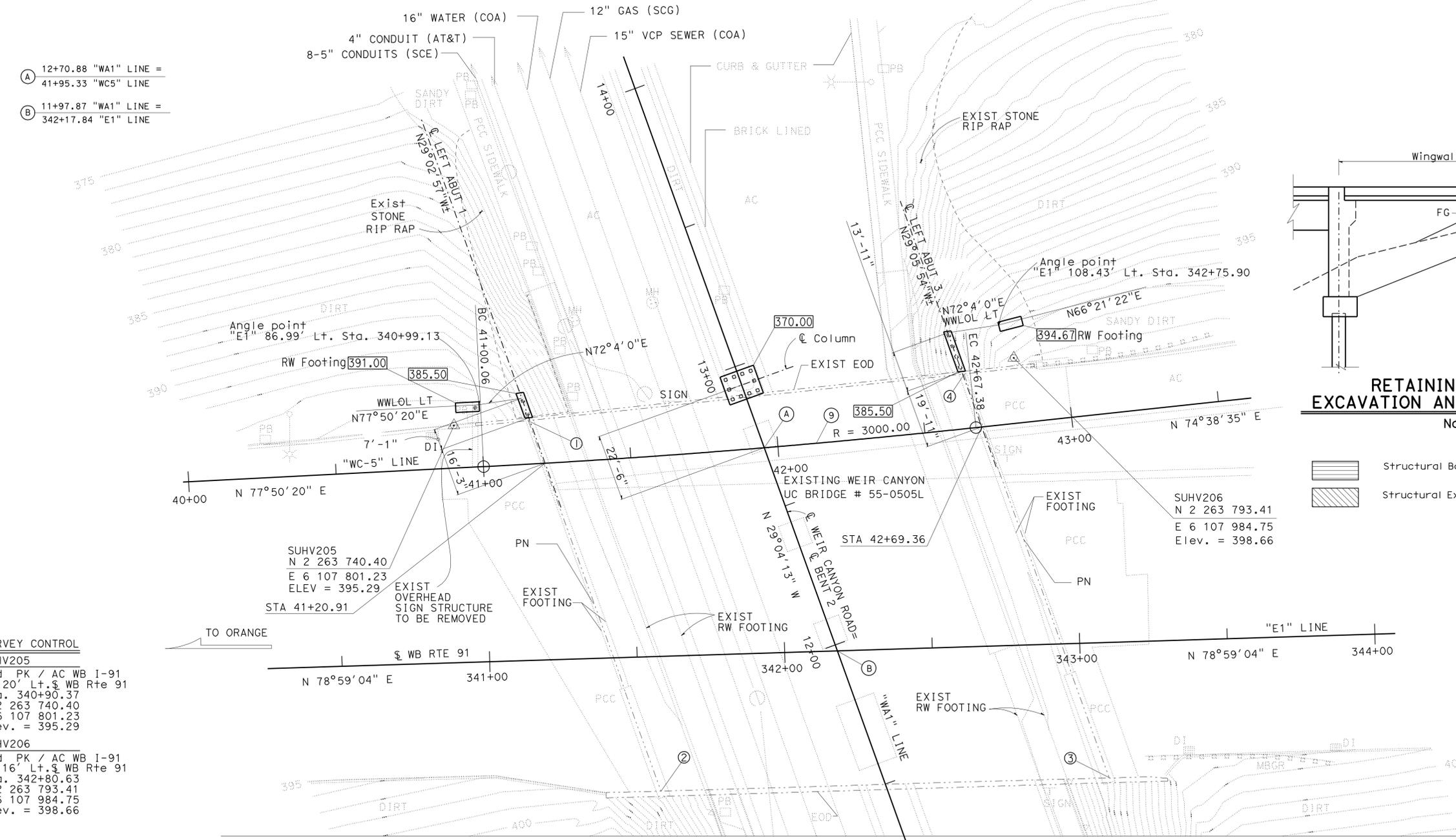
10-25-10  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL  
STATE OF CALIFORNIA

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CURVE DATA				
No.	R	Δ	T	L
⑨	3000.00	03°11'44"	83.68	167.32

- Bridge Location
- ① - 80.94 Lt. WB Rte 91, Sta. 341+15.70, Elev. = 395.75 ±
  - ② - 45.57 Rt. WB Rte 91, Sta. 341+56.63, Elev. = 398.53 ±
  - ③ - 45.70 Rt. WB Rte 91, Sta. 343+08.54, Elev. = 401.90 ±
  - ④ - 92.12 Lt. WB Rte 91, Sta. 342+63.66, Elev. = 399.10 ±



**RETAINING WALL OVER EXCAVATION AND BACKFILL LIMITS**  
SECTION U-U  
No Scale

LOCATION	d
Left Bridge Abut 1	1'
Left Bridge Abut 3	3'
Right Bridge Abut 1	3'
Right Bridge Abut 3	1'

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

- NOTES:**
- Indicates Bottom of Footing Elevations.
  - For footing dimensions and pile layout, see "ABUTMENT LAYOUT NO.1" and "BENT DETAILS NO.1" sheets.
  - Underground utilities as shown are approximate. See Road Plans for details.

**SURVEY CONTROL**  
SUHV205  
Fnd. PK / AC WB I-91  
80.20' Lt. WB Rte 91  
Sta. 340+90.37  
N 2 263 740.40  
E 6 107 801.23  
Elev. = 395.29

SUHV206  
Fnd. PK / AC WB I-91  
97.16' Lt. WB Rte 91  
Sta. 342+80.63  
N 2 263 793.41  
E 6 107 984.75  
Elev. = 398.66

LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)	NOMINAL DRIVING RESISTANCE (kips)
		COMPRESSION	TENSION			
Bent 2	Class 140 Alt Y	94 (a-I), 124 (b-I), 66(c)	-122 (b-II)	346 (a-I), 357 (b-I), 335 (b-II), 361 (c), 359 (d)	335	340

- NOTES:**
- The tip elevations shown above are for Class 140 (Alternative Y) driven precast concrete piles.
  - Design tip elevations presented above were estimated based on the following requirements: (a-I) Compression (Strength Limit), (a-II) Tension (Strength Limit), (b-I) Compression (Extreme Event), (b-II) Tension (Extreme Event), (c) Service/Settlement, and (d) Lateral Load.

MATCH LINE SEE "FOUNDATION PLAN NO. 2"

**PLAN**  
1" = 20'-0"

LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)	NOMINAL DRIVING RESISTANCE (kips)
		COMPRESSION	TENSION			
Abut 1	Class 140 Alt Y	260	0	352 (a), 362 (b), 365 (c)	352	260
Abut 3	Class 140 Alt Y	260	0	352 (a), 362 (b), 365 (c)	352	260

- NOTES:**
- The tip elevations shown above are for Class 140 (Alternative Y) driven precast concrete piles.
  - Design tip elevations presented above were estimated based on the following requirements: (a) Compression, (b) Settlement and (c) Lateral Load.

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Cesar Sanchez	CHECKED Juan Torres	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 55-0505L	WEIR CANYON ROAD UC (WIDEN) FOUNDATION PLAN NO. 1
SCALE 1:20	VERT. DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X	DRAFTED BY C. STEWART/T. PHUNG	CHECKED Cesar Sanchez	POST MILE 14.43				
ALIGNMENT TIES Dist. Trav. Sheets			CHECKED BY S. ALIVIO 10/2009	CHECKED Rui Wang					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12 EA OG3301

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
5-06-10	3	36

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:30

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Ora	91	9.1/15.1	904	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 10-25-10  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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MATCH LINE SEE "FOUNDATION PLAN NO. 1"

**SURVEY CONTROL**  
 SUHV 202  
 Chz1.X/Side Walk  
 56.28 Rt. EB Rte 91  
 Sta. 8+63.21  
 N 2263420.88  
 E 6108153.47  
 Elev.=388.59  
 SUHV210  
 PK & Tin/Gore EB I-91  
 167.25 Lt. EB Rte 91  
 Sta. 10+55.80  
 N 2263480.61  
 E 6107864.52  
 Elev.=401.51

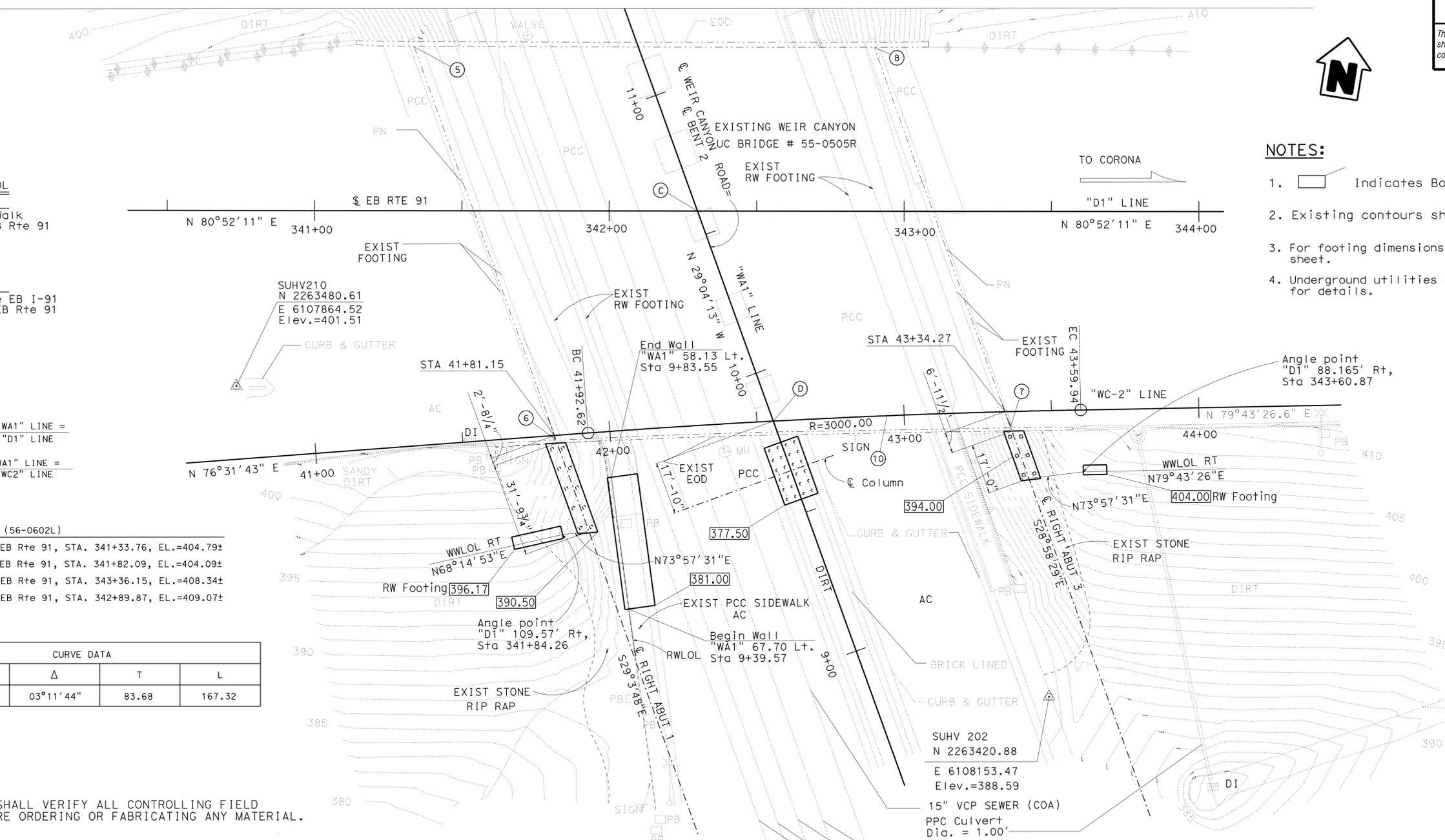
(C) 10+58.36 "WA1" LINE =  
 342+29.93 "D1" LINE  
 (D) 9+82.75 "WA1" LINE =  
 42+55.58 "WC2" LINE

**BRIDGE LOCATION (56-0602L)**

(5)	- 55.51 LT. EB Rte 91, STA. 341+33.76, EL.=404.79±
(6)	- 77.56 RT. EB Rte 91, STA. 341+82.09, EL.=404.09±
(7)	- 73.07 RT. EB Rte 91, STA. 343+36.15, EL.=408.34±
(8)	- 55.49 LT. EB Rte 91, STA. 342+89.87, EL.=409.07±

CURVE DATA				
No.	R	Δ	T	L
(10)	3000.00	03°11'44"	83.68	167.32

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



**NOTES:**

- Indicates Bottom of Footing Elevation.
- Existing contours shown, for final contours, see Road Plans.
- For footing dimensions and pile layout, see "ABUTMENT LAYOUT NO.3", sheet.
- Underground utilities as shown are approximate. See Road Plans for details.

PILE DATA TABLE (RIGHT BRIDGE)						
LOCATION	PILE TYPE	NORMAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)	NOMINAL DRIVING RESISTANCE (kips)
		COMPRESSION	TENSION			
Bent 2	Class 140 Alt Y	94 (a-I), 99 (b-I) 49(c)	-115 (b-II)	355 (a-I), 371 (b-I), 343 (b-II) 364 (c), 363 (d)	343	320

**PLAN**  
 1" = 20'-0"

PILE DATA TABLE (RIGHT BRIDGE)						
LOCATION	PILE TYPE	NORMAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)	NOMINAL DRIVING RESISTANCE (kips)
		COMPRESSION	TENSION			
Abut 1	Class 140 Alt Y	218	0	351 (a), 362 (b), 365 (c)	351	260
Abut 3	Class 140 Alt Y	238	0	359 (a), 367 (b), 369 (c)	359	240

**NOTES:**

- The tip elevations shown above are for Class 140 (Alternative Y) driven precast concrete piles.
- Design tip elevations presented above were estimated based on the following requirements:(a-I) Compression (Strength Limit).(a-II) Tension (Strength Limit). (b-I) Compression (Extreme Event). (b-II) Tension (Extreme Event). (c) Service/Settlement, and (d) Lateral Load.

**NOTES:**

- The tip elevations shown above are for Class 140 (Alternative Y) driven precast concrete piles.
- Design tip elevations presented above were estimated based on the following requirements: (a) Compression, (b) Settlement and (c) Lateral Load.

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY Juan Torres	CHECKED Cesar Sanchez	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	BRIDGE NO. 55-0505R	<b>WEIR CANYON ROAD UC (WIDEN)</b> <b>FOUNDATION PLAN NO. 2</b>
SCALE VERT. DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X		DETAILS BY Hemant Barbhaiya	CHECKED Juan Torres	DESIGN BRANCH 19		POST MILE 14.43	
1:20	HORIZ. DATUM NAD 83(1991.35)	SURVEYED BY C.STEWART/T.PHUNG	CHECKED BY C.STEWART	10/2009	QUANTITIES BY Juan Torres		CHECKED Edward Mercado	
ALIGNMENT TIES Dist. Trav. Sheets				DRAFTED BY S.ABASSY	CHECKED	10/2009	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 5-08-10, 5-18-10, 7-09-10, 7-28-10, 07-28-10, 8-11-10, 10-04-10, 6-23-10	
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 12 EA OG3301	SHEET 4 OF 36

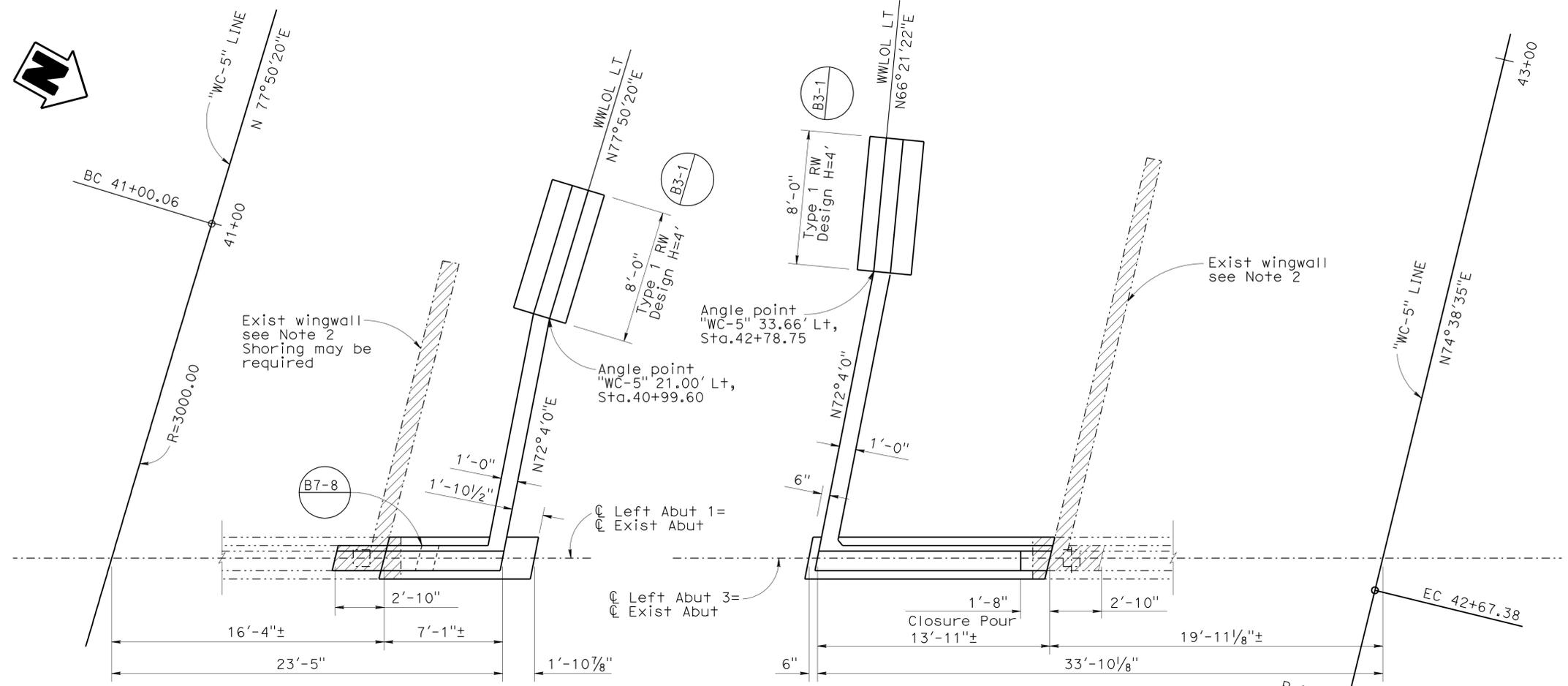
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	905	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA

10-25-10  
 PLANS APPROVAL DATE

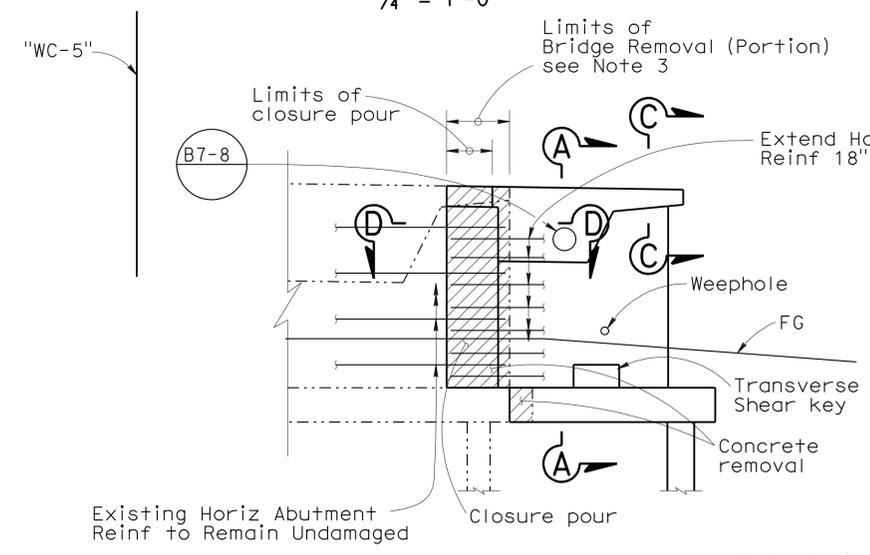
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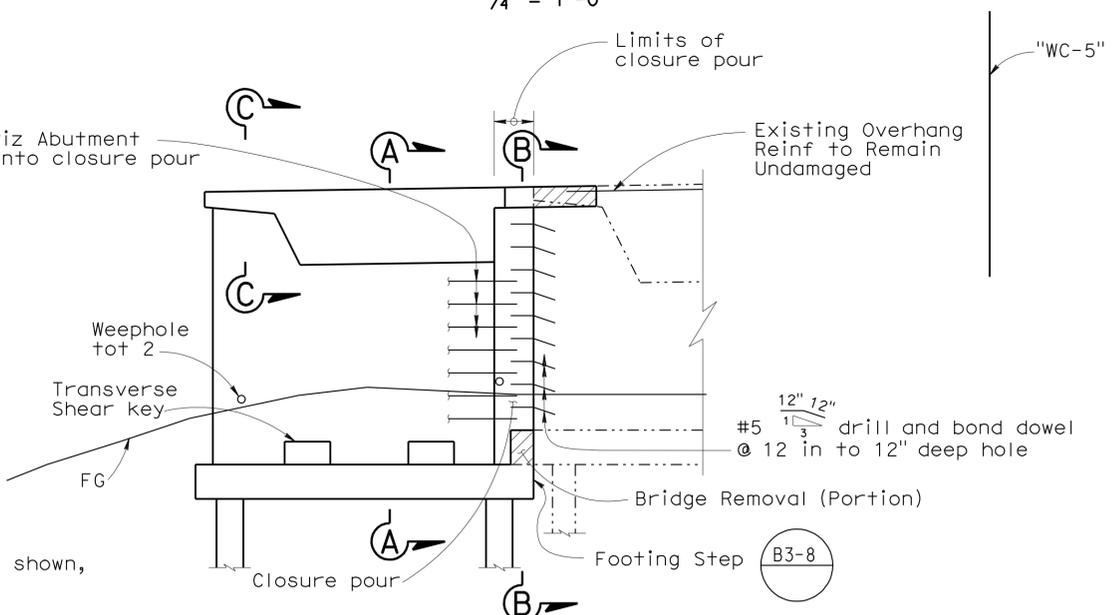
**LEFT ABUTMENT 1 PLAN**  
1/4" = 1'-0"

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

- NOTES:**
1. For SECTION A-A, B-B, C-C AND D-D see "ABUTMENT DETAILS NO.1" sheet.
  2. For Wingwall Removal Detail, see "ABUTMENT DETAILS NO.2" sheet.
  3. Abutment closure pour shall not be placed sooner than 60 days after falsework has been released.
  4. The backfill shall be placed simultaneously at both Abutments after the deck has been completed.
  5. For pile layout, see "FOOTING PLAN" on "ABUTMENT LAYOUT NO.3" sheet.
  6. Barrier not shown.
  7. For Transverse Shear Key Details, see "ABUTMENT DETAILS NO. 1" sheet.



**LEFT ABUTMENT 1 ELEVATION**  
1/4" = 1'-0"



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

- LEGEND**
- Indicates Existing Structure
  - ▨ Bridge Removal Portion

\* Not all piles shown, see Note 5

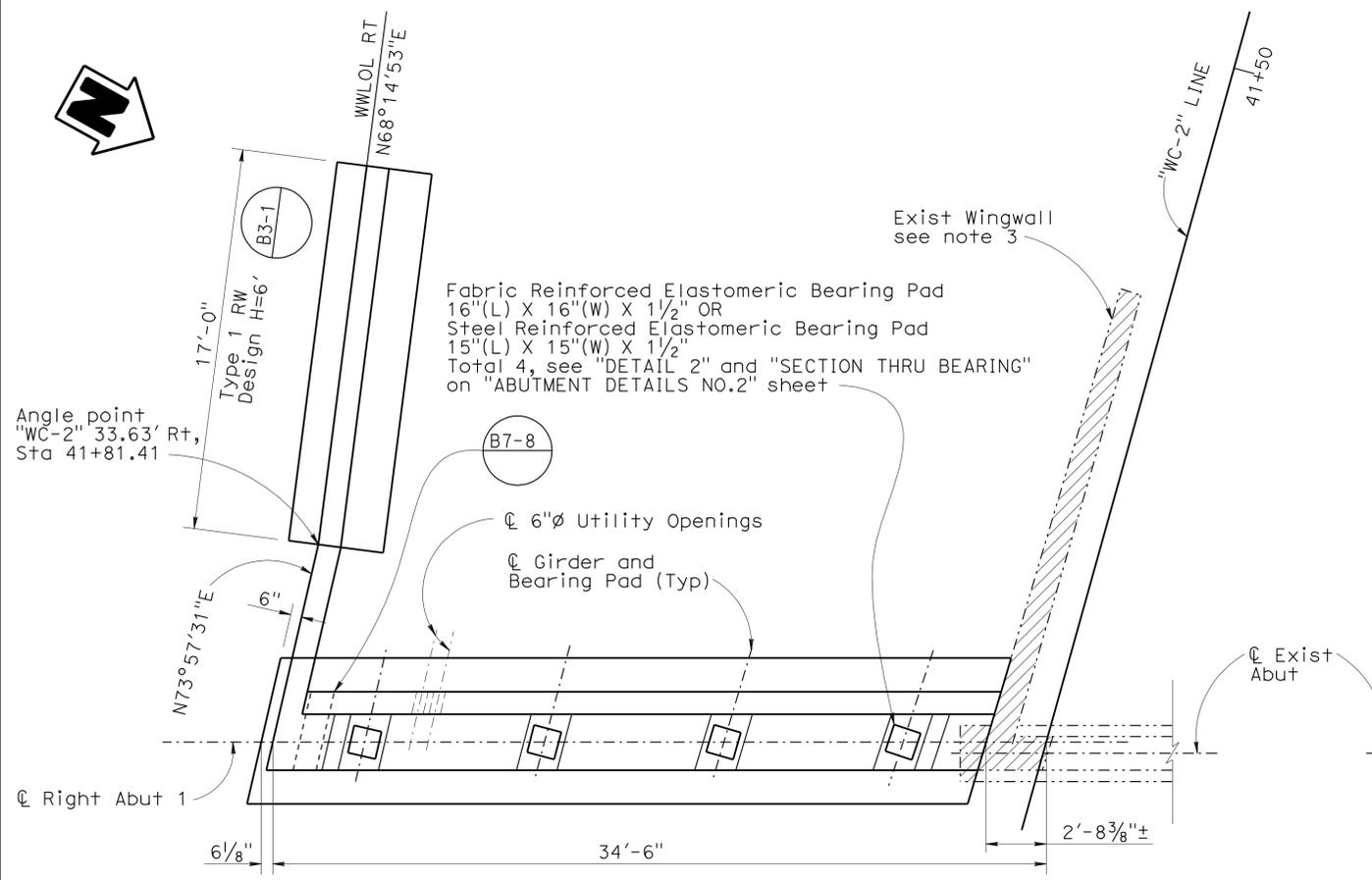
DESIGN BY Cesar Sanchez CHECKED Juan Torres DETAILS BY Hemant Barbhaiya CHECKED Cesar Sanchez QUANTITIES BY Juan Torres CHECKED Barbara McGahey	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 55-0505R/L	<b>WEIR CANYON ROAD UC (WIDEN)</b> <b>ABUTMENT LAYOUT NO. 1</b>
			POST MILE 14.43	
			DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 4-05-10, 01-26-10, 7-01-10, 7-12-10, 01-26-10, 8-11-10, 10-04-10, 3-26-10, 3-28-10	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 CU 12 EA OG3301 FILE => 55-505RL-f\_g1\_01.dgn

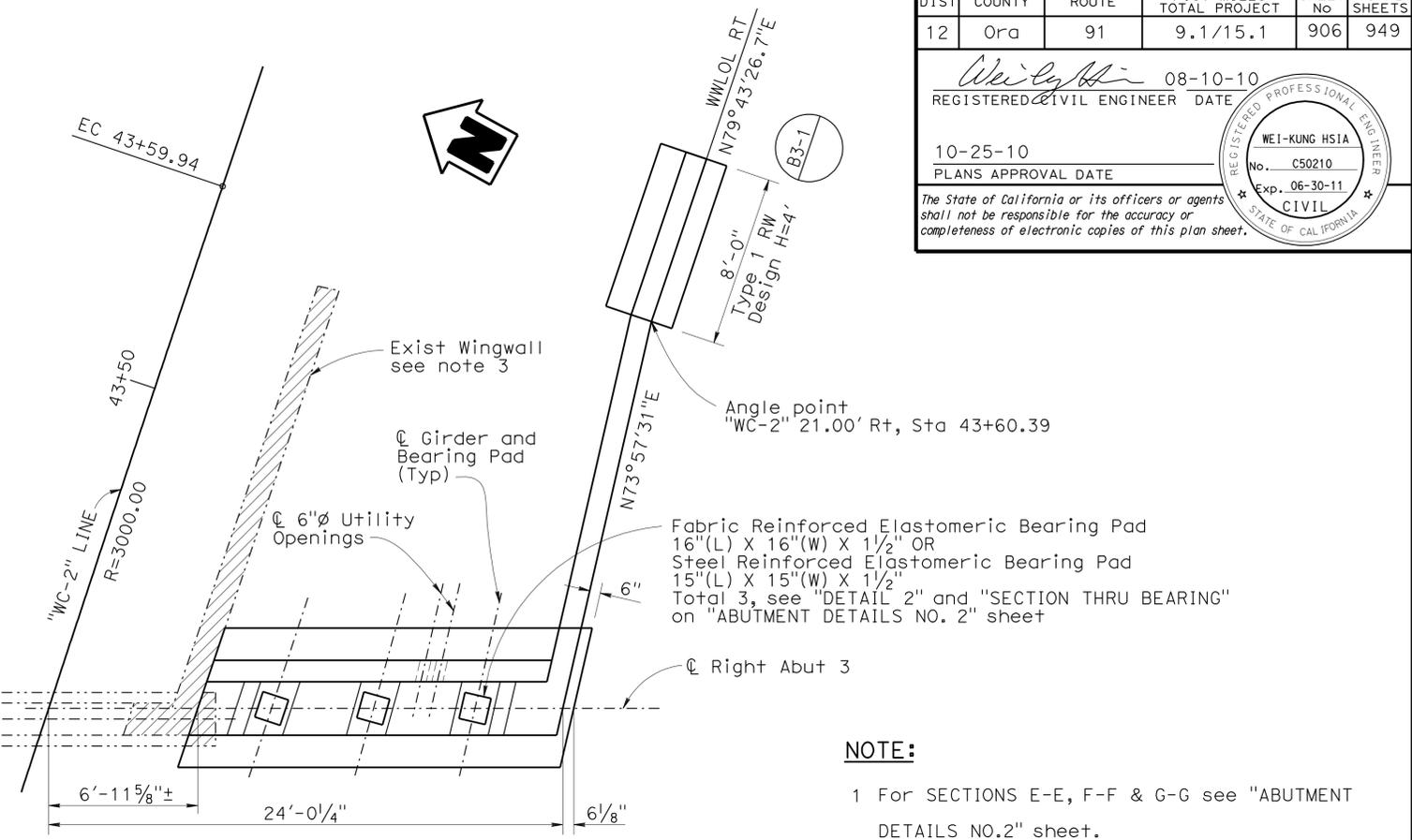
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	906	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 REGISTERED PROFESSIONAL ENGINEER  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA

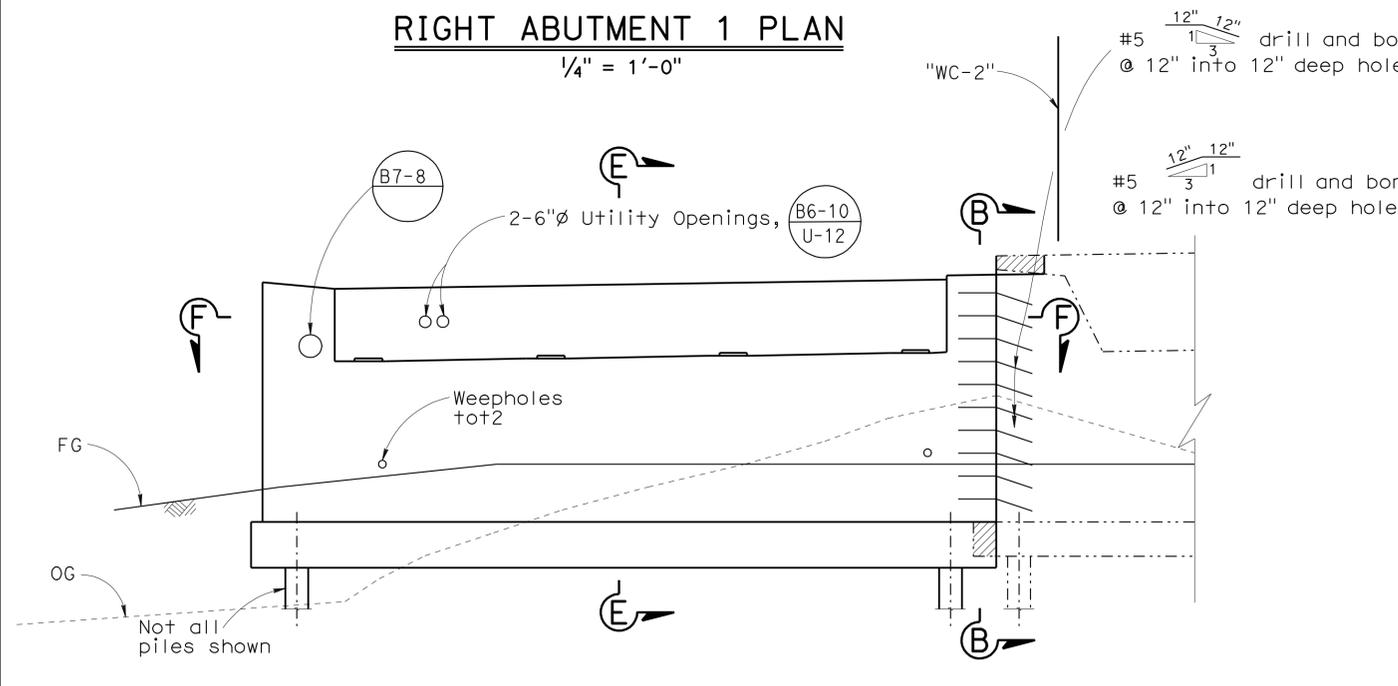
10-25-10  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



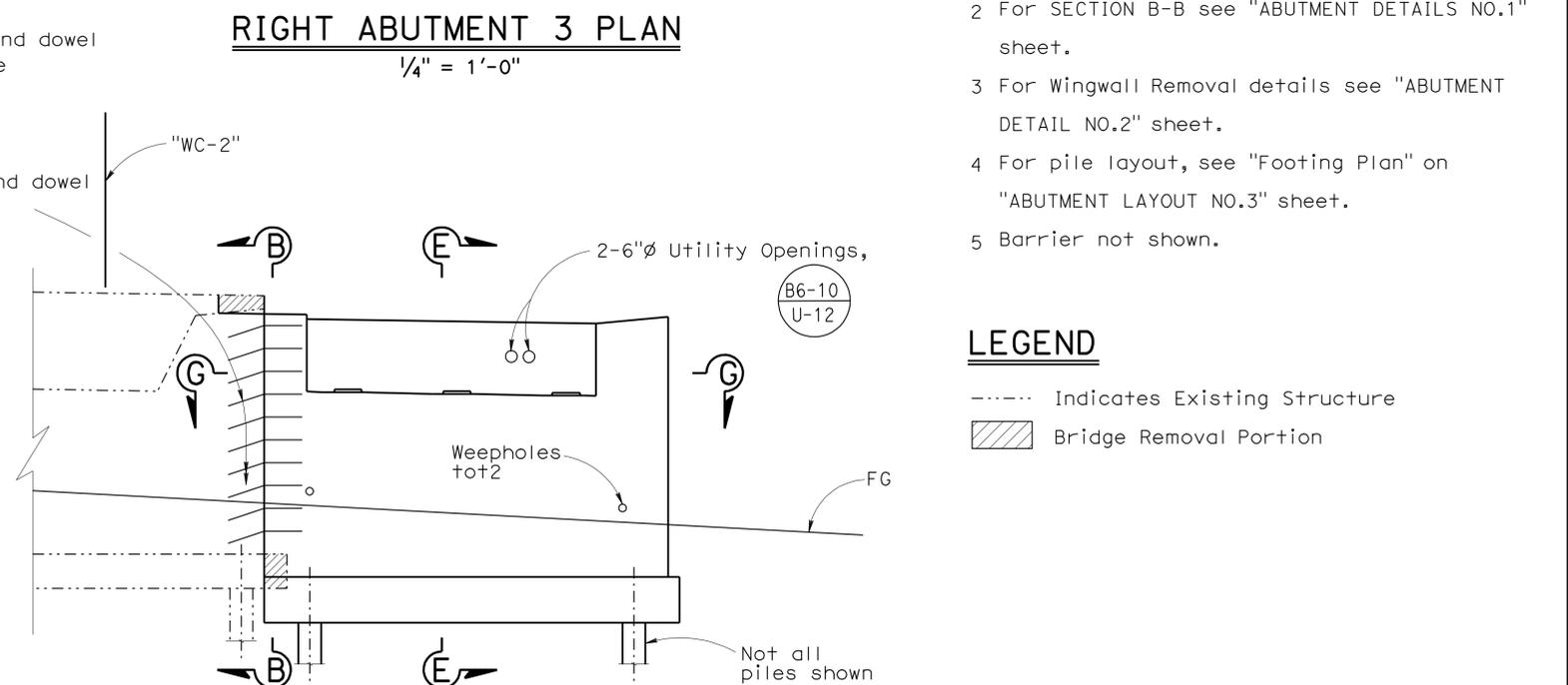
**RIGHT ABUTMENT 1 PLAN**  
1/4" = 1'-0"



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



**RIGHT ABUTMENT 1 ELEVATION**  
1/4" = 1'-0"



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

- NOTE:**
- 1 For SECTIONS E-E, F-F & G-G see "ABUTMENT DETAILS NO.2" sheet.
  - 2 For SECTION B-B see "ABUTMENT DETAILS NO.1" sheet.
  - 3 For Wingwall Removal details see "ABUTMENT DETAIL NO.2" sheet.
  - 4 For pile layout, see "Footing Plan" on "ABUTMENT LAYOUT NO.3" sheet.
  - 5 Barrier not shown.

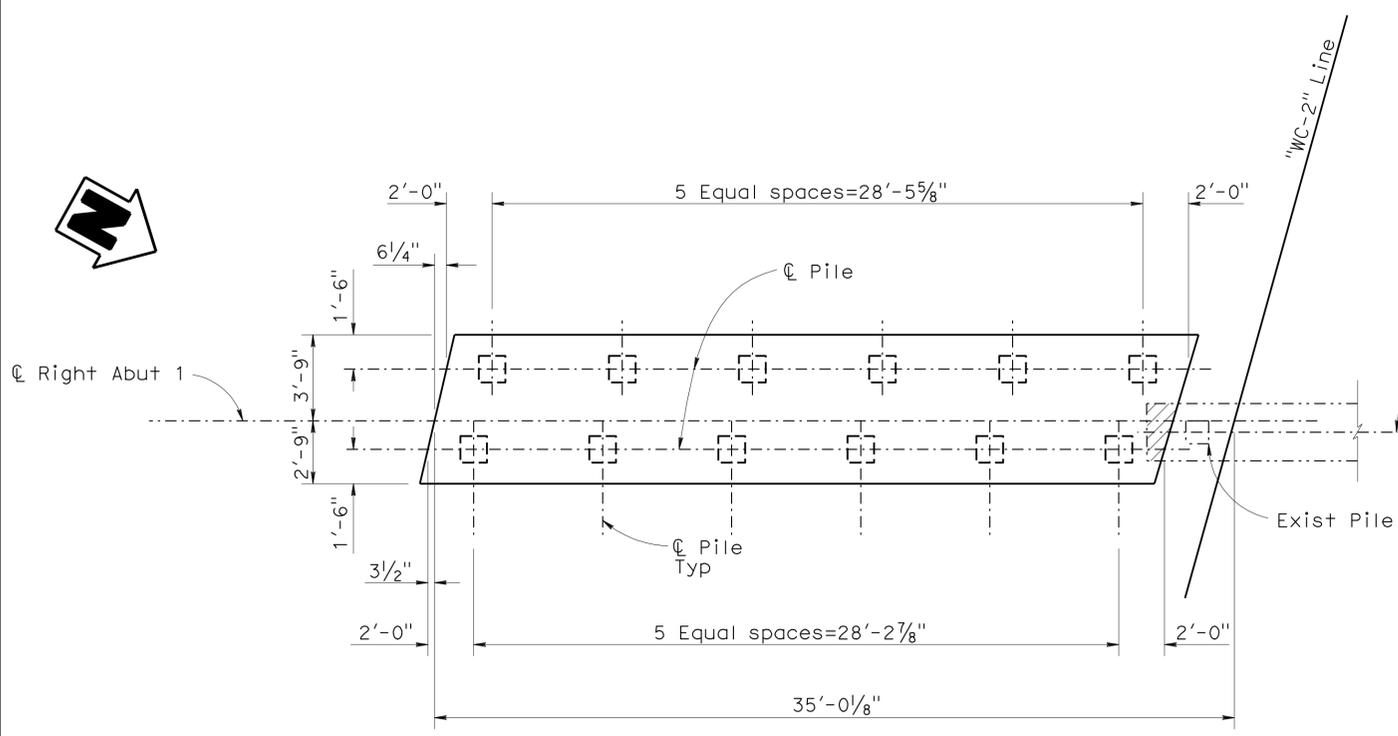
- LEGEND**
- Indicates Existing Structure
  - ▨ Bridge Removal Portion

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

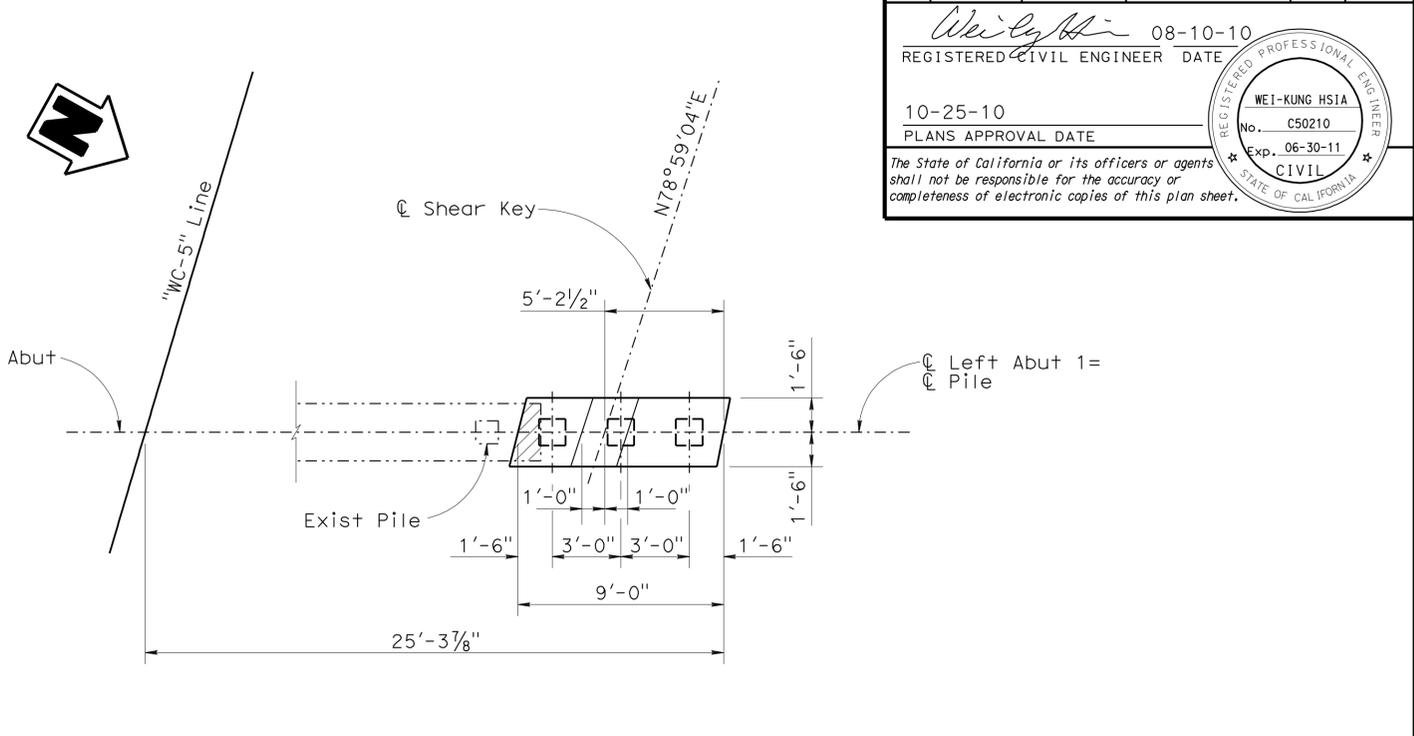
DESIGN	BY Juan Torres	CHECKED Edward Mercado	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 19</b>	BRIDGE NO.	<b>WEIR CANYON ROAD UC (WIDEN)</b> <b>ABUTMENT LAYOUT NO. 2</b>										
DETAILS	BY Hemant Barbhaiya	CHECKED Juan Torres			55-0505R/L											
QUANTITIES	BY Juan Torres	CHECKED Barbara McGahey			POST MILE 14.43											
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 12 EA OG3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1"> <tr> <td>5-20-10</td> <td>7-20-10</td> <td>7-20-10</td> <td>07-26-10</td> <td>8-14-10</td> <td>10-04-10</td> <td>10-11-10</td> <td>4-14-10</td> <td>5-08-10</td> </tr> </table>	5-20-10	7-20-10	7-20-10	07-26-10	8-14-10	10-04-10	10-11-10	4-14-10	5-08-10	SHEET 6 OF 36
5-20-10	7-20-10	7-20-10	07-26-10	8-14-10	10-04-10	10-11-10	4-14-10	5-08-10								

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	907	949

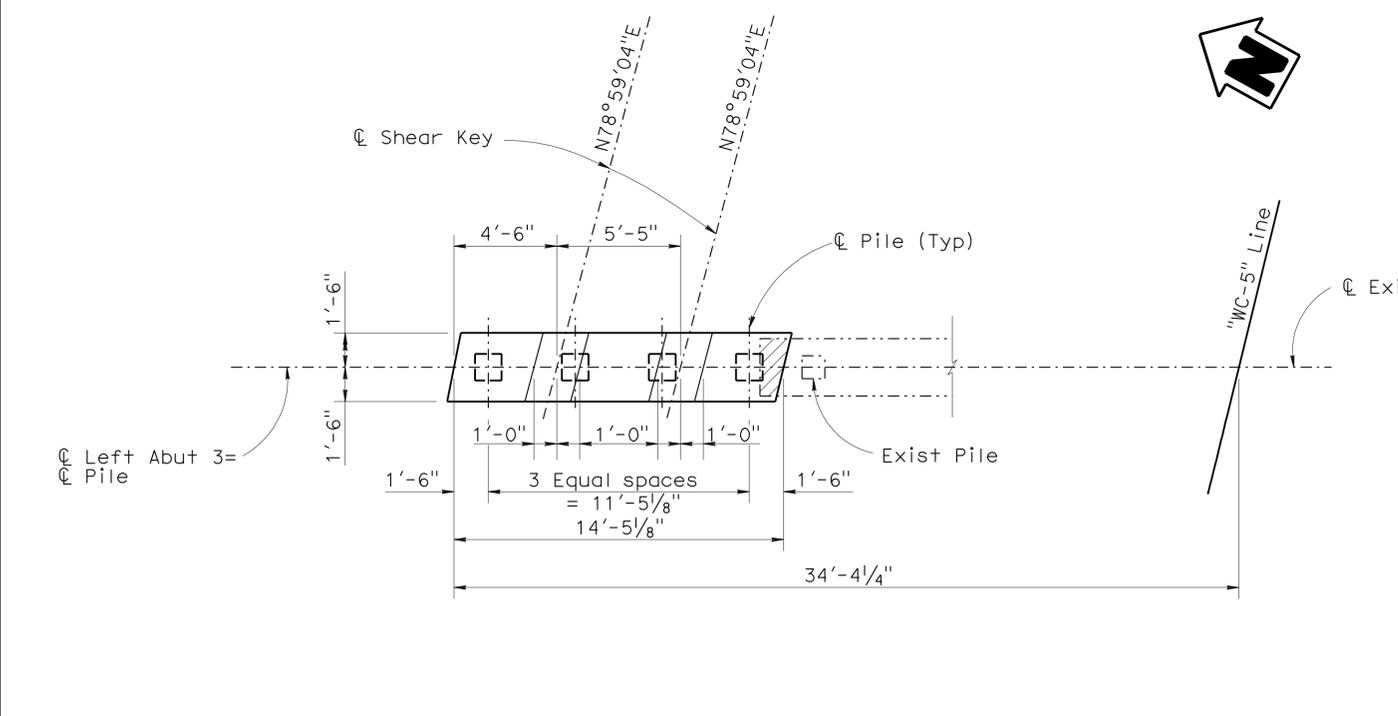
REGISTERED CIVIL ENGINEER DATE 08-10-10  
 10-25-10  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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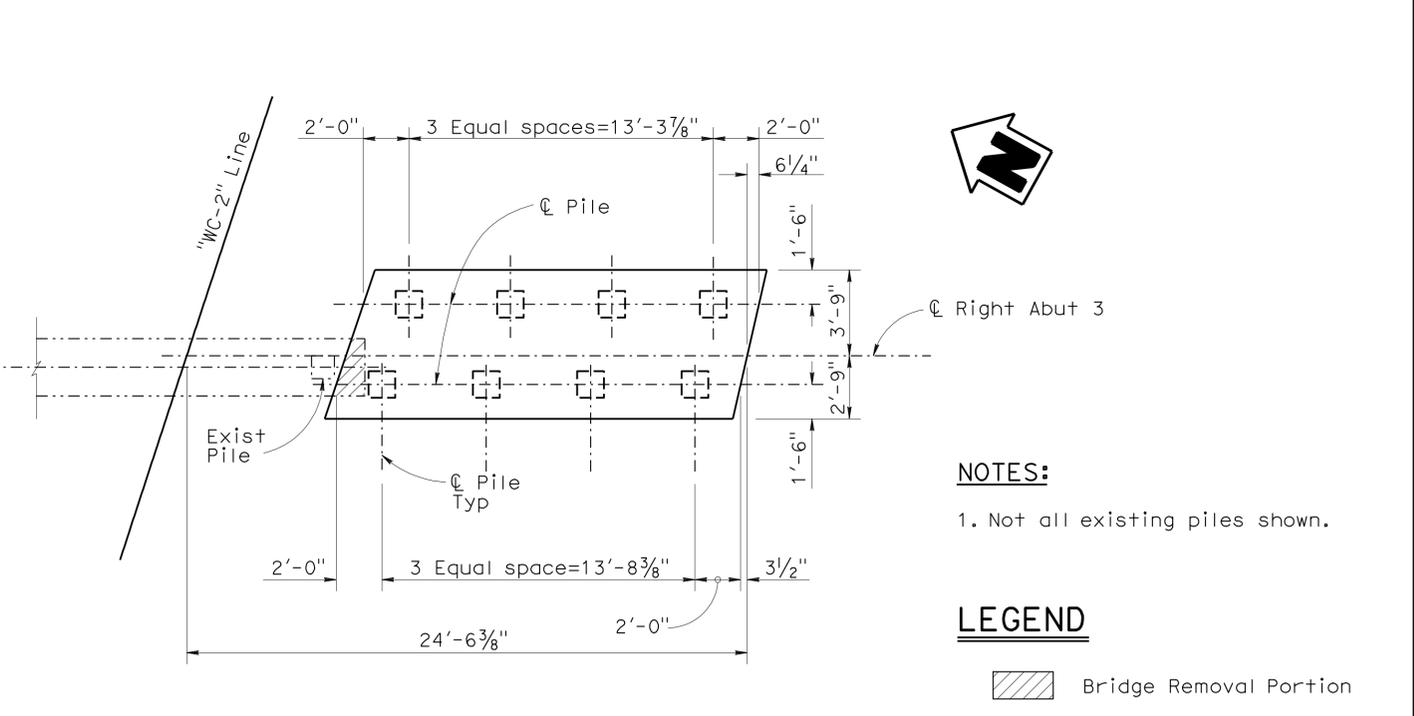
**RIGHT ABUTMENT 1 FOOTING PLAN**  
1/4" = 1'-0"



**LEFT ABUTMENT 1 FOOTING PLAN**  
1/4" = 1'-0"



**LEFT ABUTMENT 3 FOOTING PLAN**  
1/4" = 1'-0"



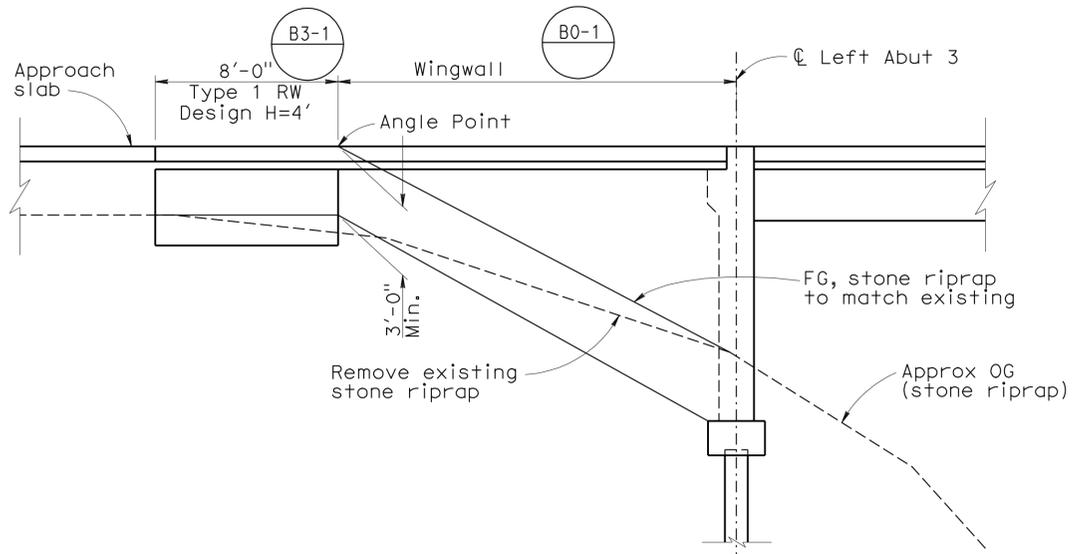
**RIGHT ABUTMENT 3 FOOTING PLAN**  
1/4" = 1'-0"

- NOTES:**
- Not all existing piles shown.
- LEGEND**
- Bridge Removal Portion
  - Pile, see Pile Data Tables on "FOUNDATION PLANS NO. 1 & NO.2" sheets.

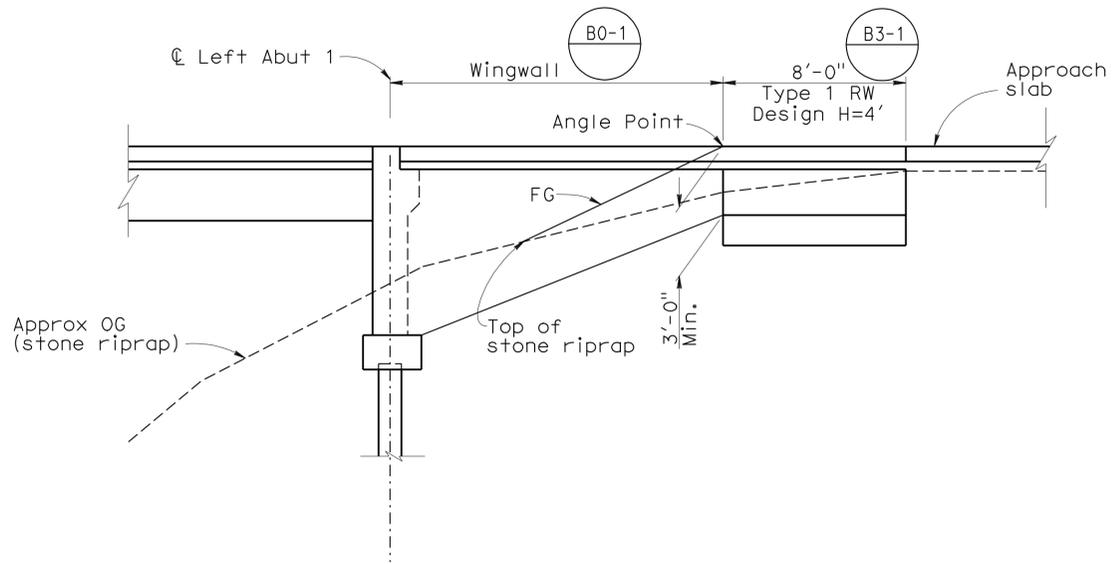
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY C. Sanchez/J. Torres	CHECKED J. Torres / E. Mercado	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO.	55-0505R/L	WEIR CANYON ROAD UC (WIDEN) ABUTMENT FOOTING PLANS						
	DETAILS	BY Hemant Barbhaiya	CHECKED C. Sanchez / J. Torres			POST MILE	14.43							
	QUANTITIES	BY Juan Torres	CHECKED Barbara McGahey			CU 12 EA 0G3301	REVISION DATES		<table border="1"> <tr> <td>3-28-10</td> <td>8-02-10</td> <td>8-11-10</td> <td>10-04-10</td> <td>10-11-10</td> <td>1-06-10</td> <td>1-07-10</td> <td>1-15-10</td> <td>07-26-10</td> </tr> </table>	3-28-10	8-02-10	8-11-10	10-04-10	10-11-10
3-28-10	8-02-10	8-11-10	10-04-10	10-11-10	1-06-10	1-07-10	1-15-10	07-26-10						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	FILE => 55-505RL-f_g1_03.dgn	DISREGARD PRINTS BEARING EARLIER REVISION DATES			SHEET 7 OF 36					

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	91	9.1/15.1	908	949

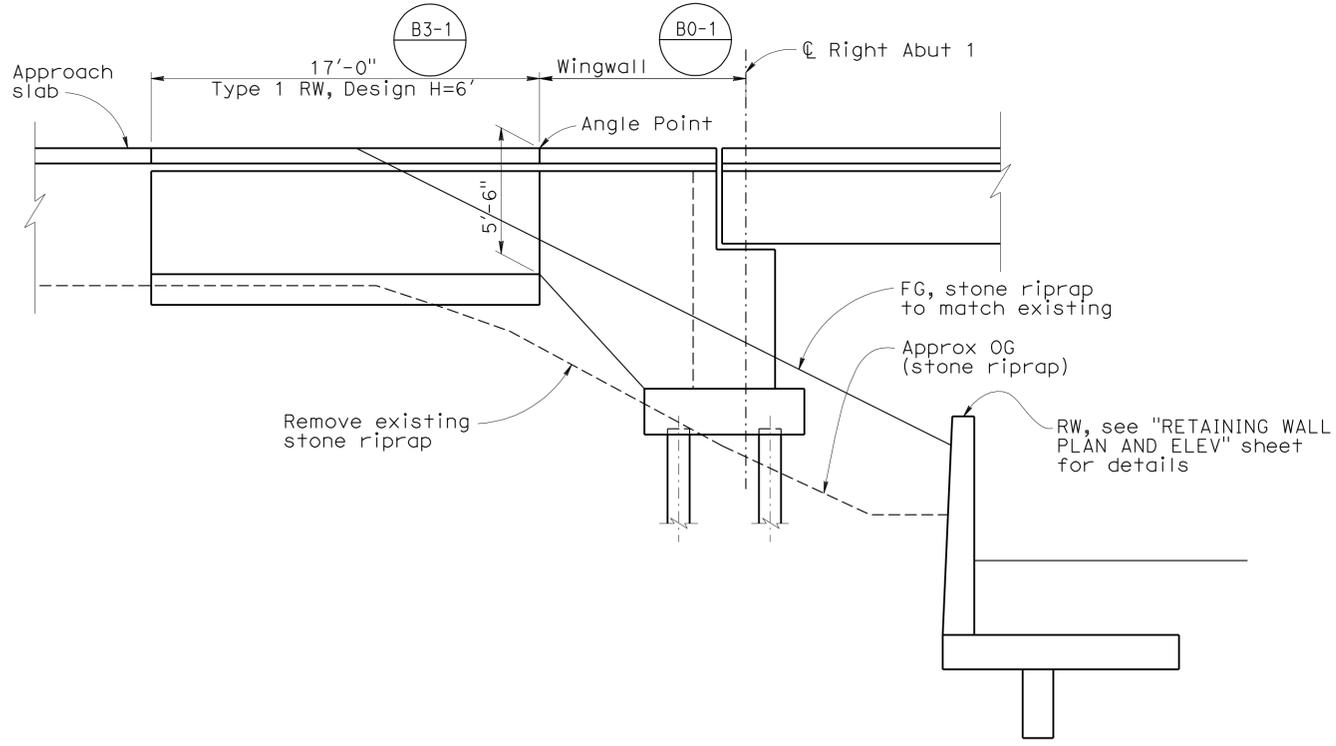
REGISTERED CIVIL ENGINEER DATE 08-10-10  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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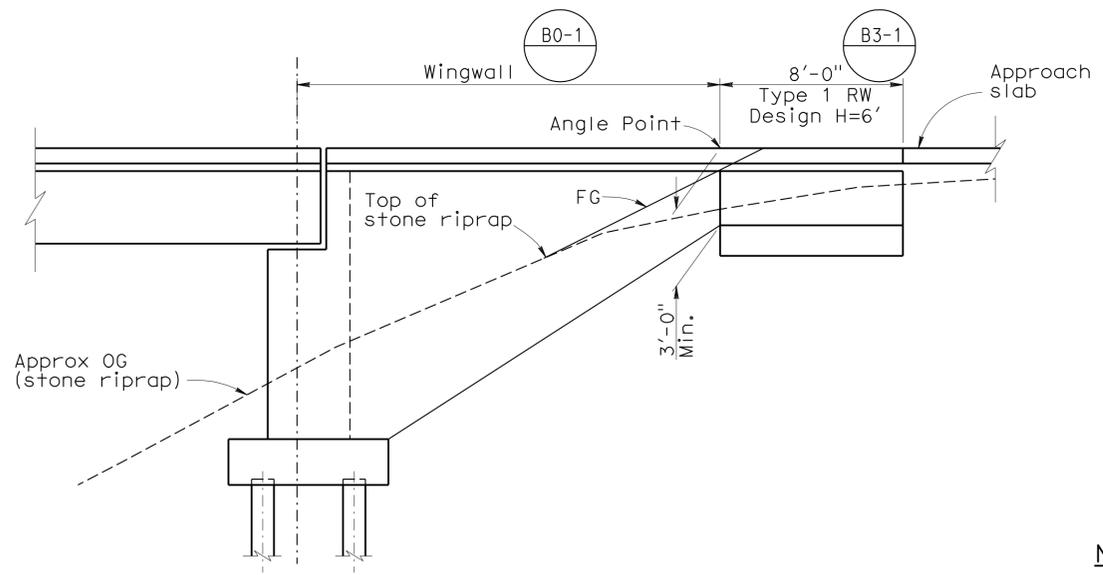
**LEFT ABUTMENT 3 WINGWALL ELEVATION**  
1/4" = 1'-0"



**LEFT ABUTMENT 1 WINGWALL ELEVATION**  
1/4" = 1'-0"



**RIGHT ABUTMENT 1 WINGWALL ELEVATION**  
1/4" = 1'-0"



**RIGHT ABUTMENT 3 WINGWALL ELEVATION**  
1/4" = 1'-0"

**NOTE:**  
1. Barrier not shown.

DESIGN	BY C. Sanchez / J. Torres	CHECKED J. Torres / E. Mercado
DETAILS	BY H. Mahboobi / HB	CHECKED C. Sanchez / J. Torres
QUANTITIES	BY Juan Torres	CHECKED Barbara McGahey

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	55-0505R/L
POST MILE	14.43

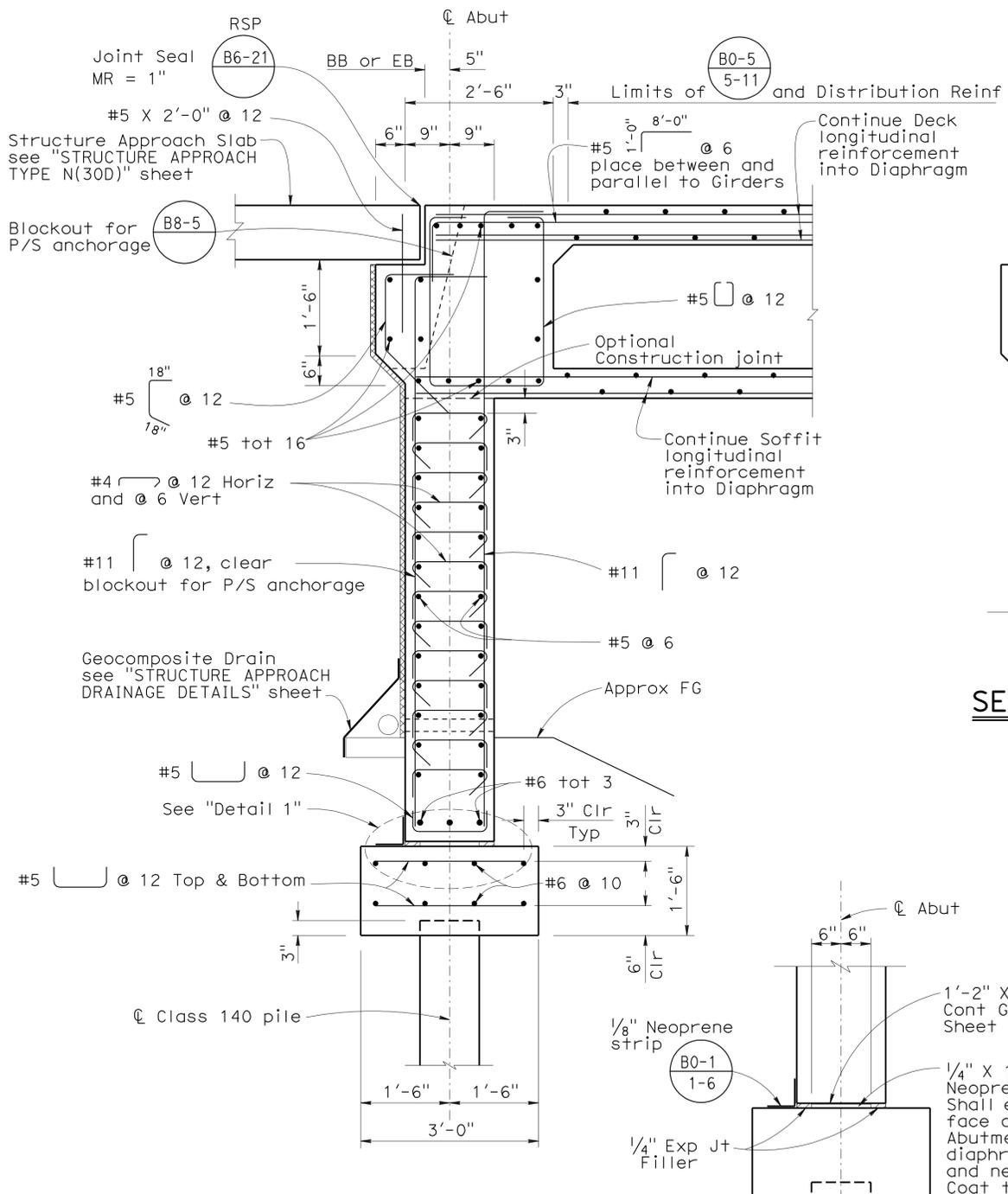
**WEIR CANYON ROAD UC (WIDEN)**  
**WINGWALL ELEVATIONS**

REVISION DATES							
4-12-10	5-04-10	5-20-10	7-07-10	7-30-10	8-11-10	10-04-10	10-11-10

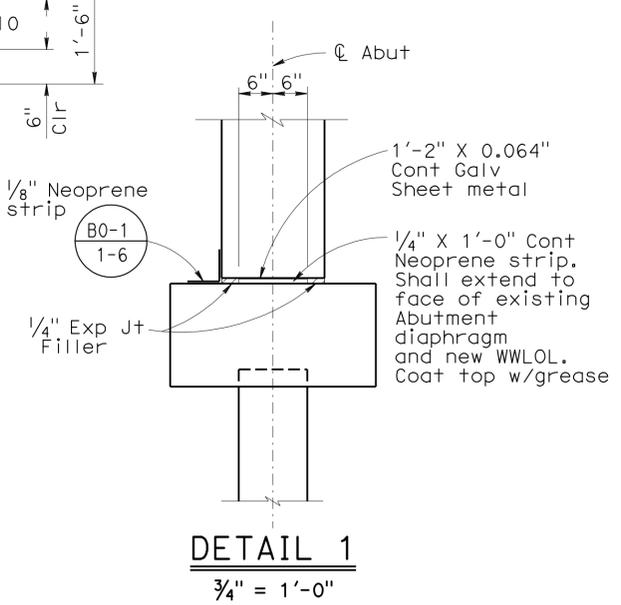
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	909	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA

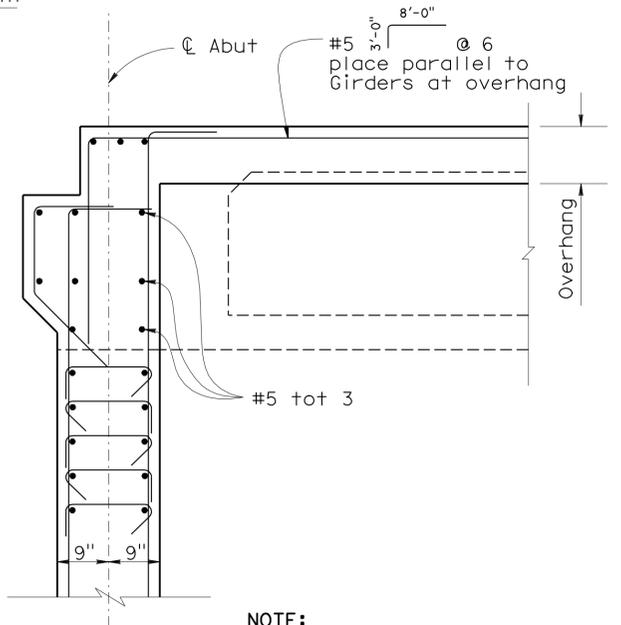
10-25-10  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



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

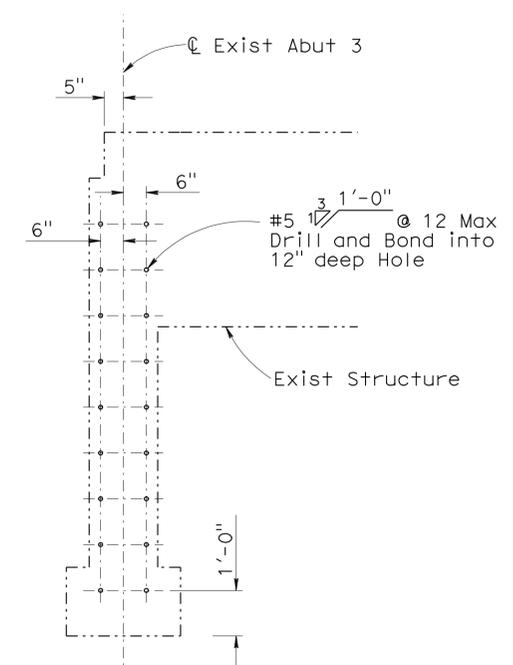


**DETAIL 1**  
3/4" = 1'-0"

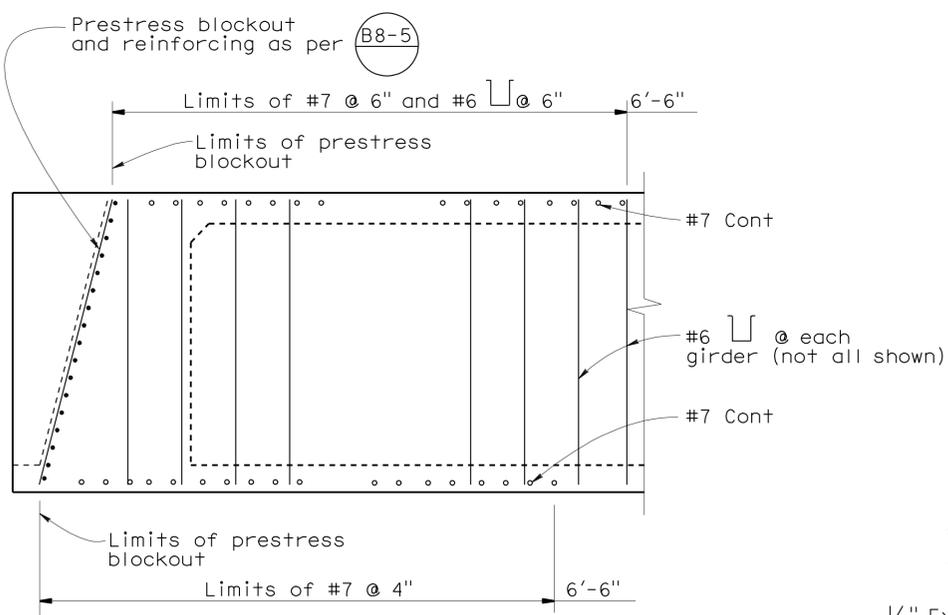


**SECTION C-C**  
3/4" = 1'-0"

**NOTE:**  
For details not shown, See SECTION A-A this sheet.

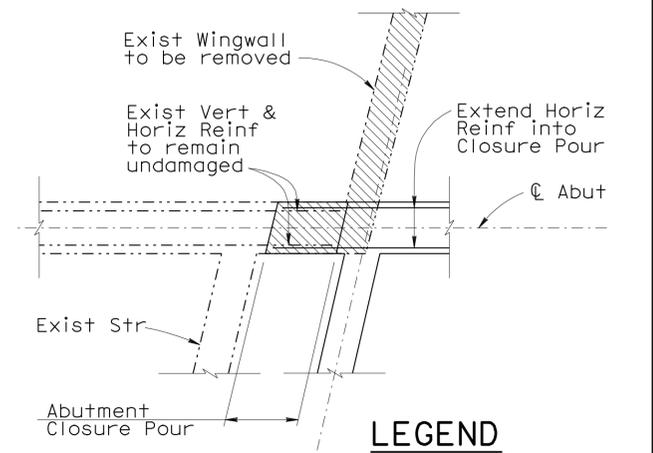


**SECTION B-B**  
1/2" = 1'-0"



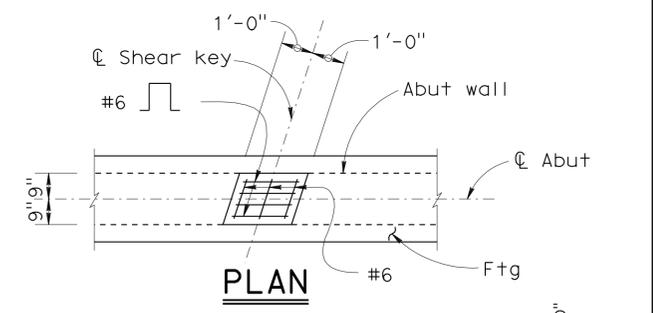
**ADDITIONAL DIAPHRAGM REINFORCEMENT DETAIL**  
No Scale

All reinforcement to be placed parallel to  $\phi$  Abutment bearing. Detail typical at all abutments.

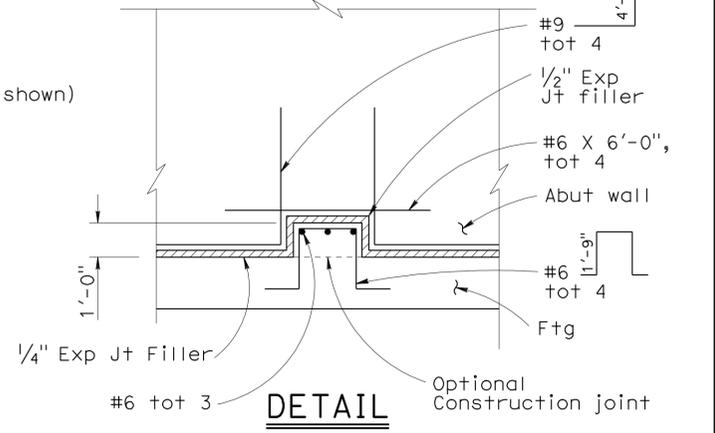


**SECTION D-D**  
3/8" = 1'-0"

**LEGEND**  
 Bridge Removal portion



**PLAN**



**TRANSVERSE SHEAR KEY**  
3/8" = 1'-0"

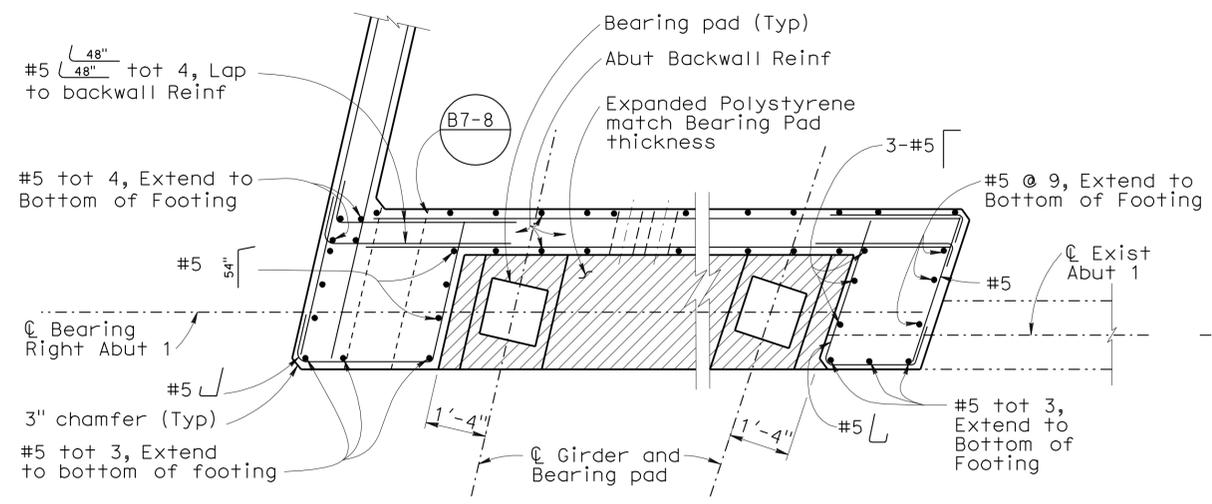
**NOTE:**  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY Cesar Sanchez CHECKED Juan Torres DETAILS BY H. Barbhaiya / HM CHECKED Cesar Sanchez QUANTITIES BY Juan Torres CHECKED Barbara McGahey	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 55-0505R/L	<b>WEIR CANYON ROAD UC (WIDEN)</b> <b>ABUTMENT DETAILS NO. 1</b>
			POST MILE 14.43	
			REVISION DATES 2-18-10 4-06-10 4-07-10 5-04-10 05-19-10 07-06-10 07-26-10 08-02-10 08-11-10 10-05-10	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 12 EA 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 9 OF 36	

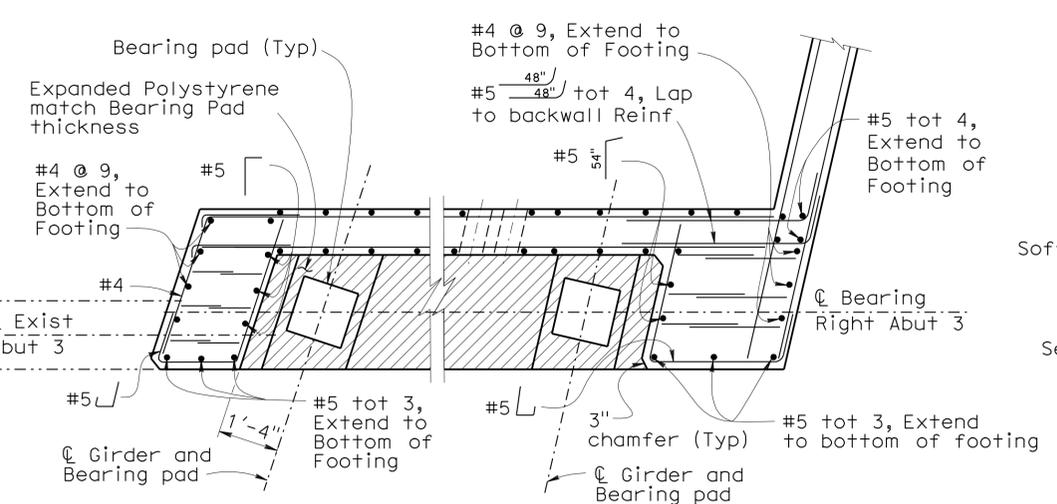
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	910	949

08-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 10-25-10  
 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.

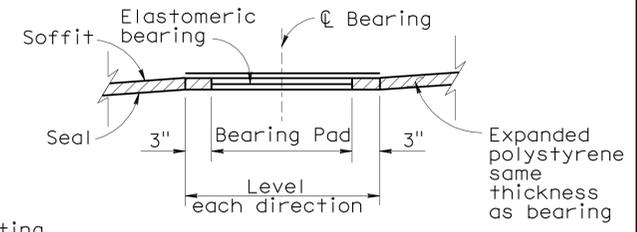
WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA



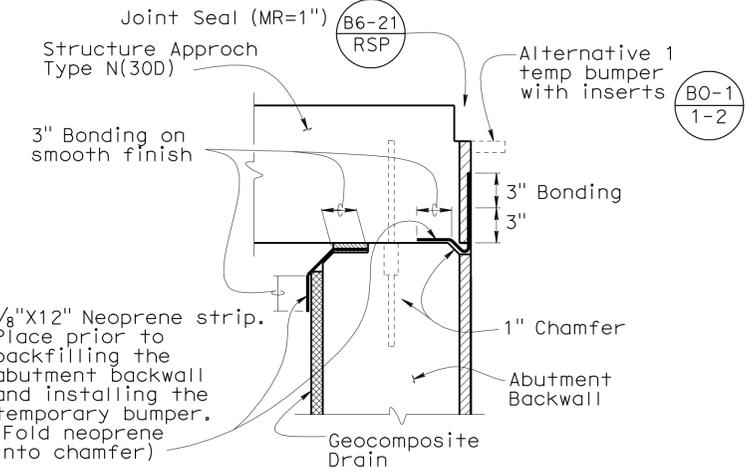
**SECTION F-F**  
 1/2" = 1'-0"



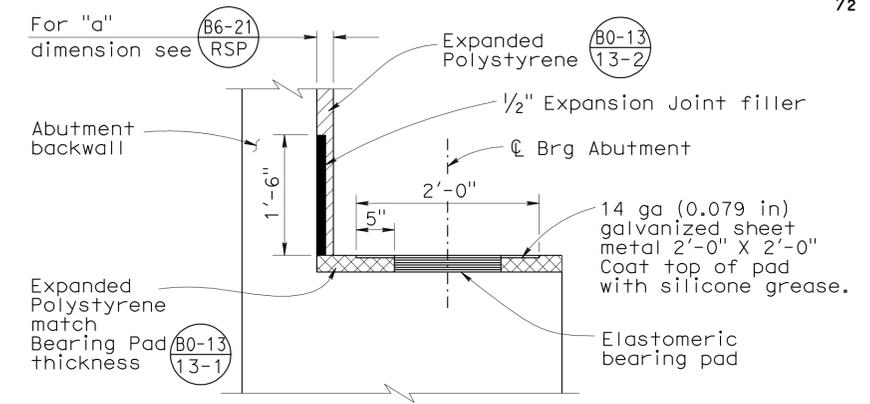
**SECTION G-G**  
 1/2" = 1'-0"



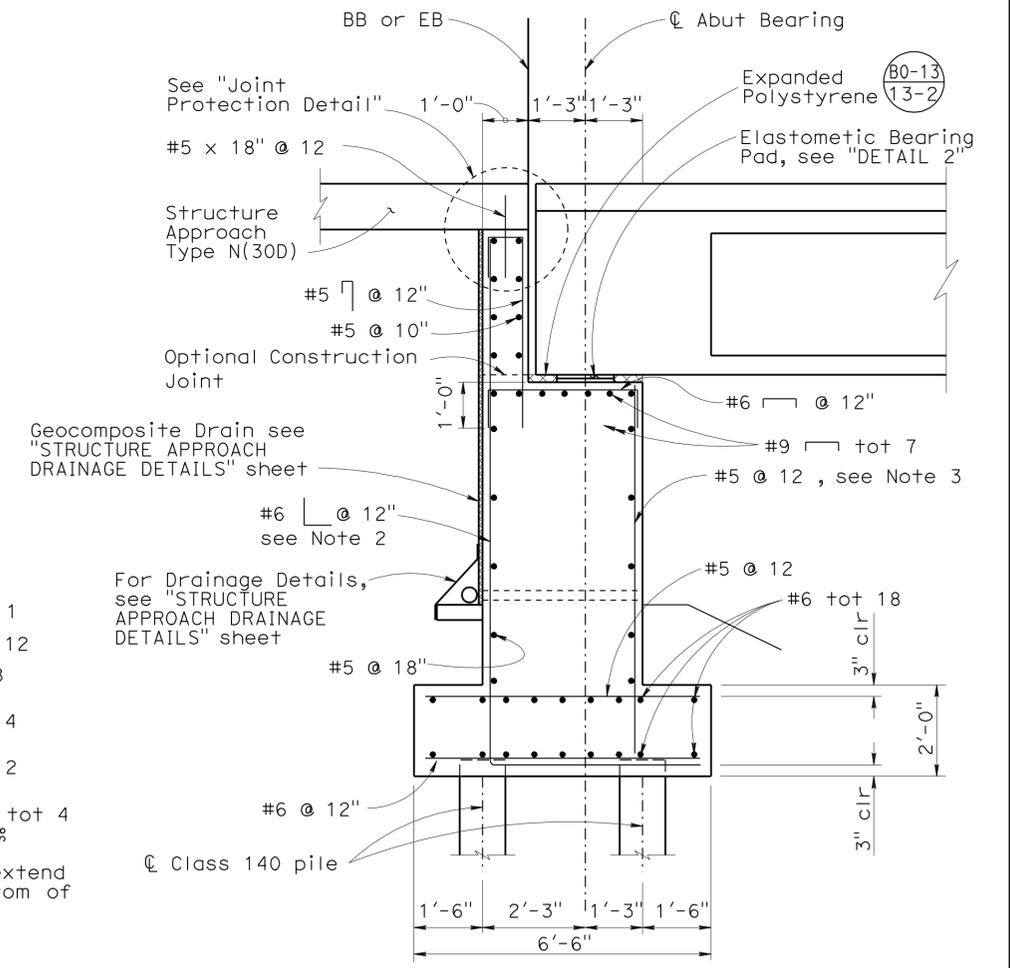
**SECTION THRU BEARING**  
 No Scale



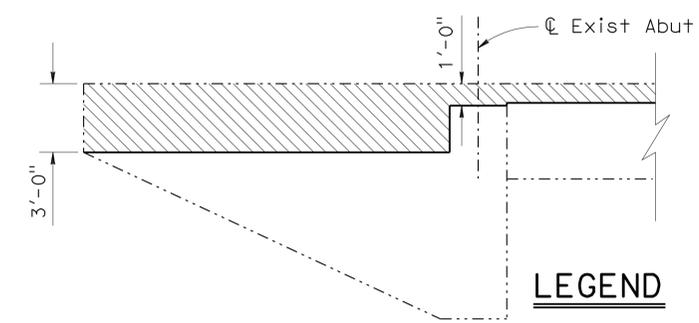
**JOINT PROTECTION DETAIL**  
 No Scale



**DETAIL 2**  
 No Scale



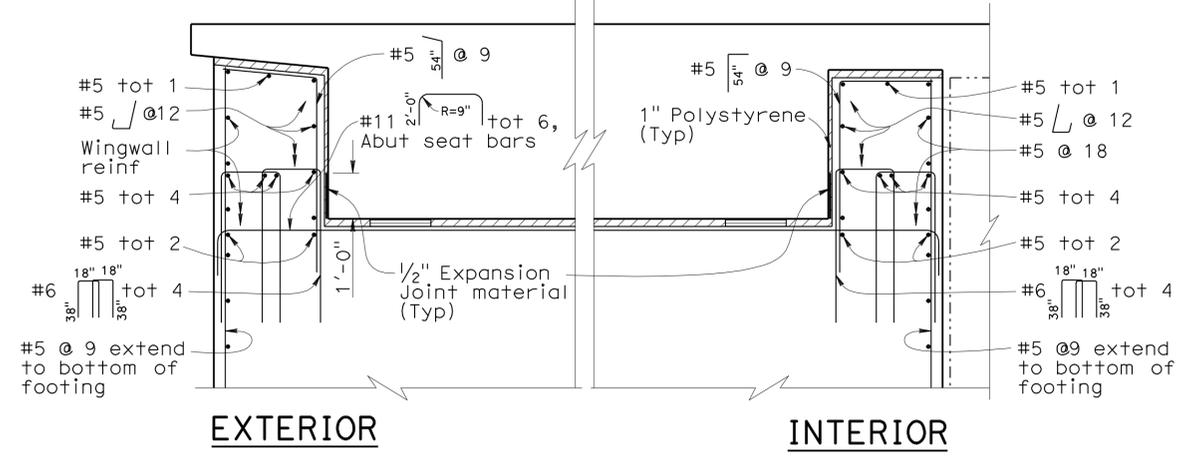
**SECTION E-E**  
 1/2" = 1'-0"



**WINGWALL REMOVAL**  
 No Scale

**LEGEND**

Bridge Removal Portion



**SHEAR KEY DETAIL**  
 1/2" = 1'-0"

DESIGN	BY Juan Torres	CHECKED Edward Mercado
DETAILS	BY Hemant Barbhaiya	CHECKED Juan Torres
QUANTITIES	BY Juan Torres	CHECKED Barbara McGahey

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

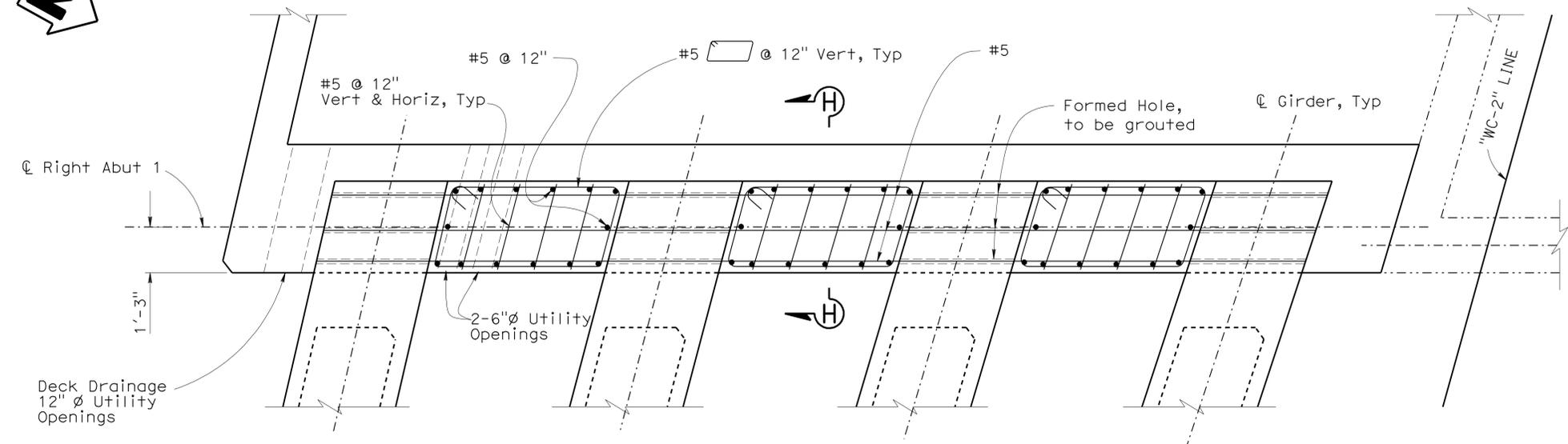
DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	55-0505R/L
POST MILE	14.43

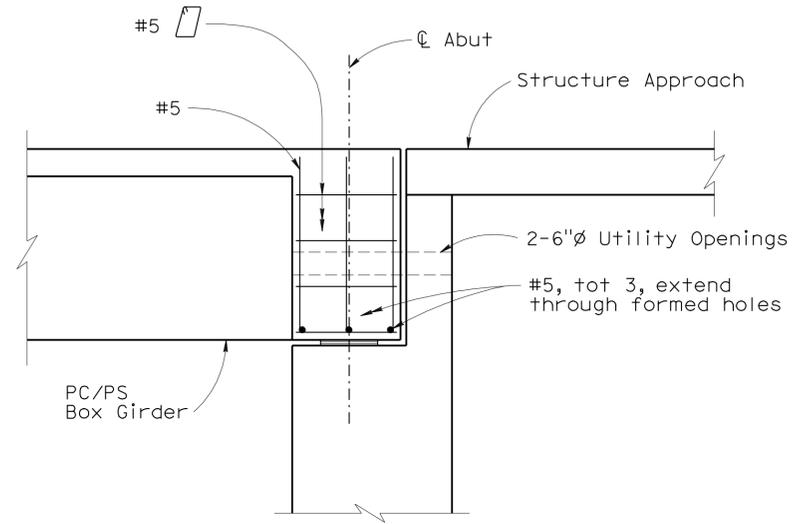
**WEIR CANYON ROAD UC (WIDEN)**  
**ABUTMENT DETAILS NO. 2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	911	949

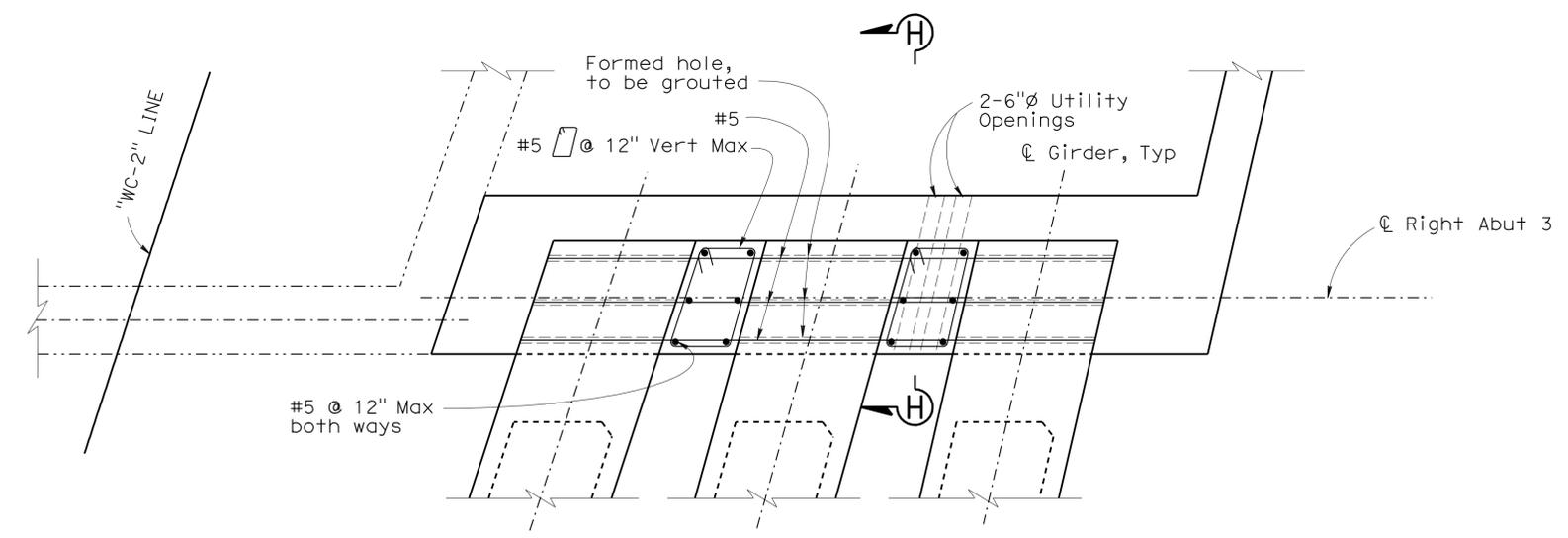
08-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 10-25-10  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



**RIGHT ABUTMENT 1 DIAPHRAGM DETAIL**  
 $\frac{1}{2}'' = 1'-0''$



**SECTION H-H**  
 $\frac{1}{2}'' = 1'-0''$



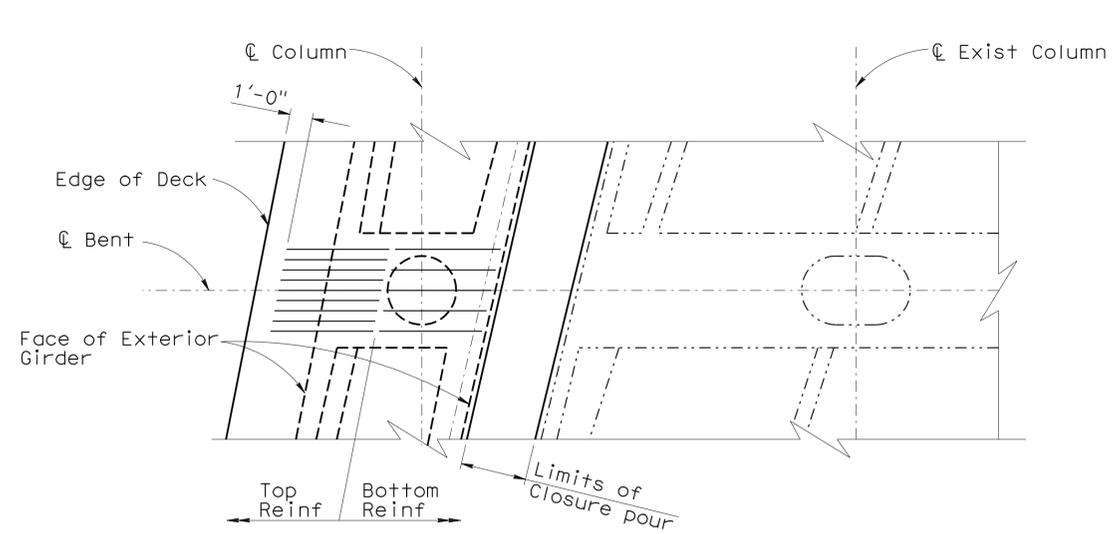
**RIGHT ABUTMENT 3 DIAPHRAGM DETAIL**  
 $\frac{1}{2}'' = 1'-0''$

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

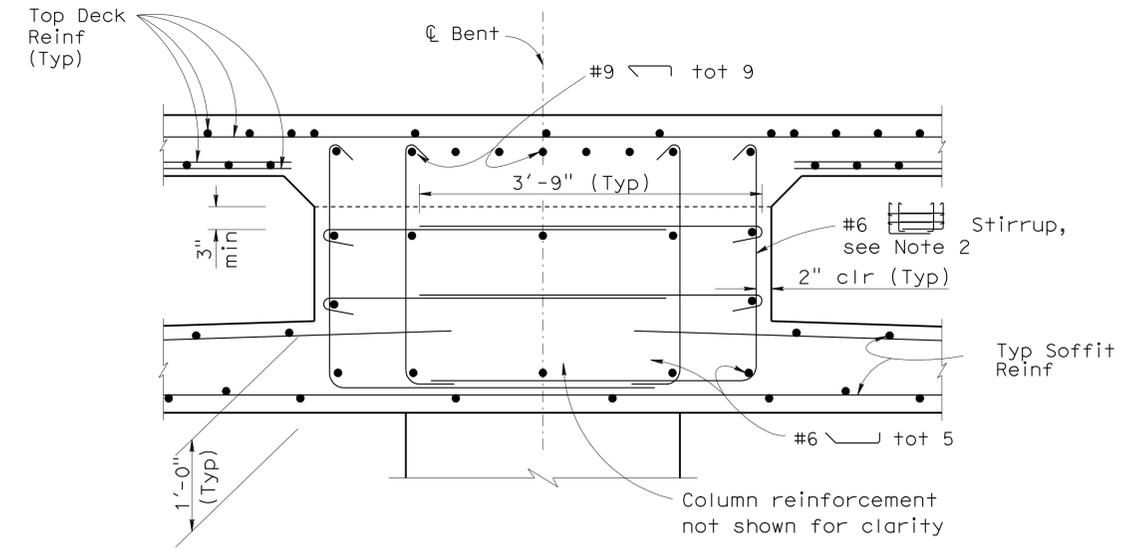
DESIGN BY Juan Torres CHECKED Edward Mercado DETAILS BY Hemant Barbhaya / H.M. CHECKED Juan Torres QUANTITIES BY Juan Torres CHECKED Edward Mercado	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 55-0505R/L	<b>WEIR CANYON ROAD UC (WIDEN)</b> <b>ABUTMENT DETAILS NO. 3</b>
			POST MILE 14.43	
			DISREGARD PRINTS BEARING EARLIER REVISION DATES	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 12 EA 0G3301	REVISION DATES 5-12-10 5-20-10 5-26-10 01-26-10 01-26-10 01-26-10 08-14-10 10-11-10	SHEET 11 OF 36

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	912	949
REGISTERED CIVIL ENGINEER			DATE	08-10-10	
PLANS APPROVAL DATE			10-25-10		
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.					

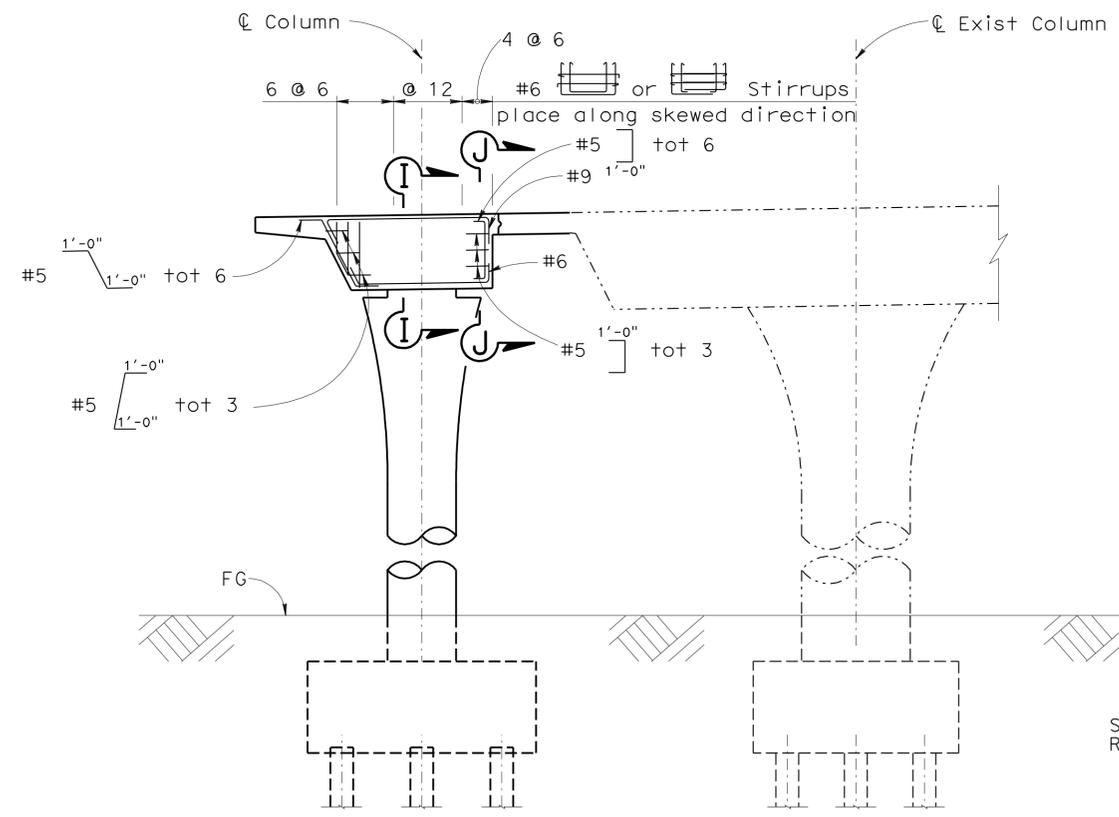


**LEFT BRIDGE - PLAN**  
1/4" = 1'-0"

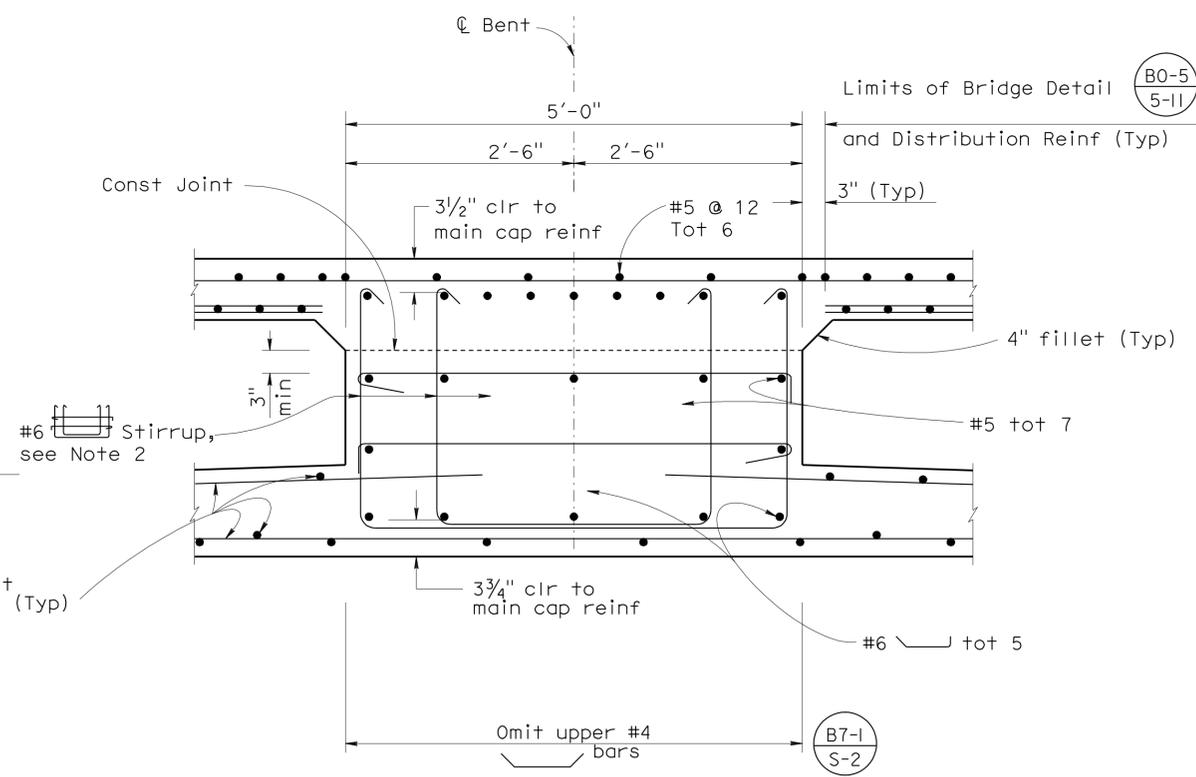


**SECTION I-I**  
1" = 1'-0"

Note:  
For details not shown,  
see "Section B-B"



**LEFT BRIDGE - ELEVATION**  
1/4" = 1'-0"



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

Note:  
For details not shown,  
see "Section A-A"

**NOTES:**

- 1 No lap or mechanical splices allowed in longitudinal cap reinforcement. Adjust to clear main column reinforcement.
- 2 For column reinforcement and details, see "BENT DETAILS NO.1" sheet.

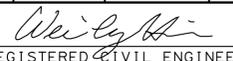
**LEGEND**

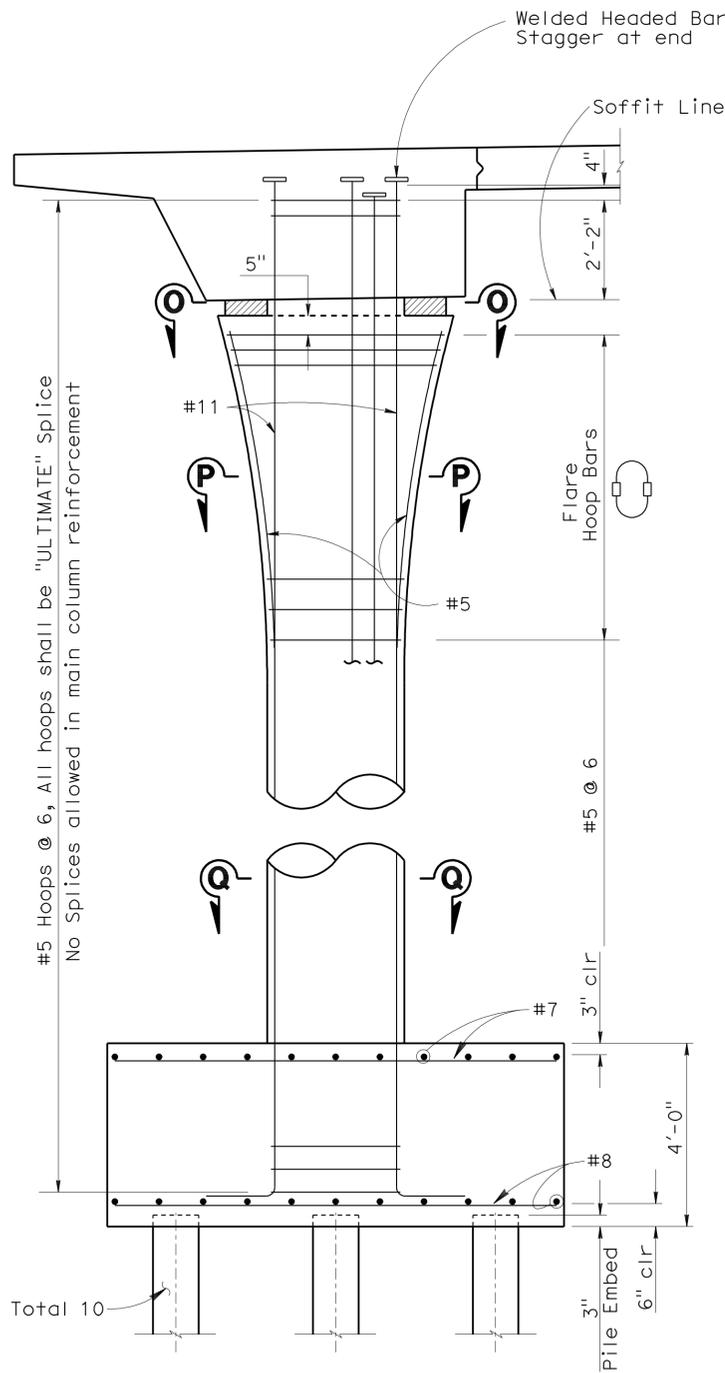
- Typical for all 135° hooks
- - - - - Indicates Existing Structure

DESIGN	BY	Cesar Sanchez	CHECKED	Juan Torres	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	55-0505R/L	WEIR CANYON ROAD UC (WIDEN) BENT LAYOUT NO. 1	
	DETAILS	BY	Hemant Barbhaiya	CHECKED			Cesar Sanchez	POST MILE		14.43
	QUANTITIES	BY	Cesar Sanchez	CHECKED			Rui Wang	REVISION DATES		4-13-10, 5-20-10, 01-26-10, 7-28-10, 8-14-10, 10-05-10, 3-16-10, 3-17-10, 3-24-10
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 12 EA 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 12 OF 36	

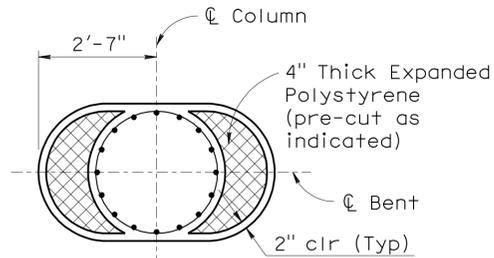
USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:52



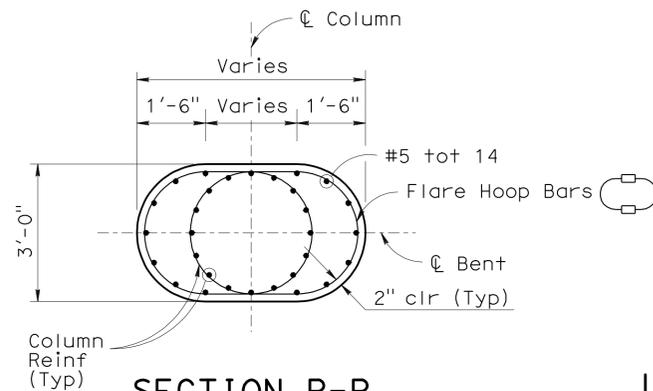
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	914	949
			08-10-10	DATE	
REGISTERED CIVIL ENGINEER					
10-25-10			PLANS APPROVAL DATE		
No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



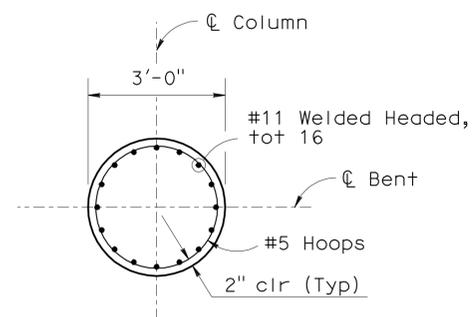
**LEFT BRIDGE - ELEVATION**  
1/2" = 1'-0"



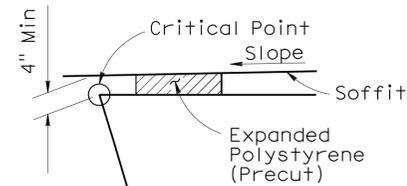
**SECTION O-O**  
1/2" = 1'-0"



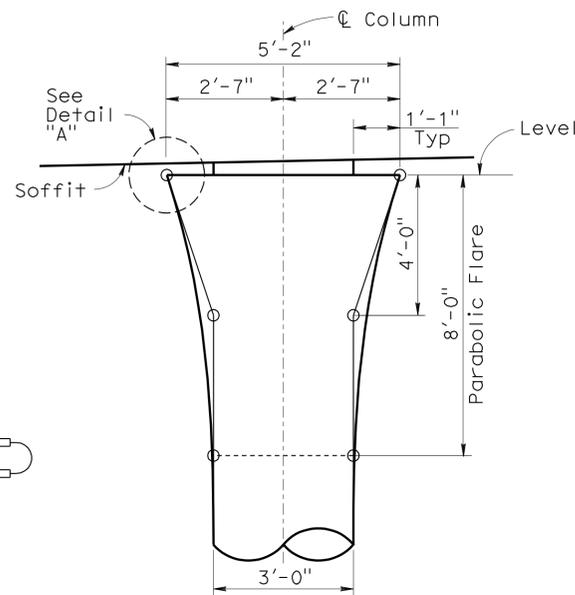
**SECTION P-P**  
1/2" = 1'-0"



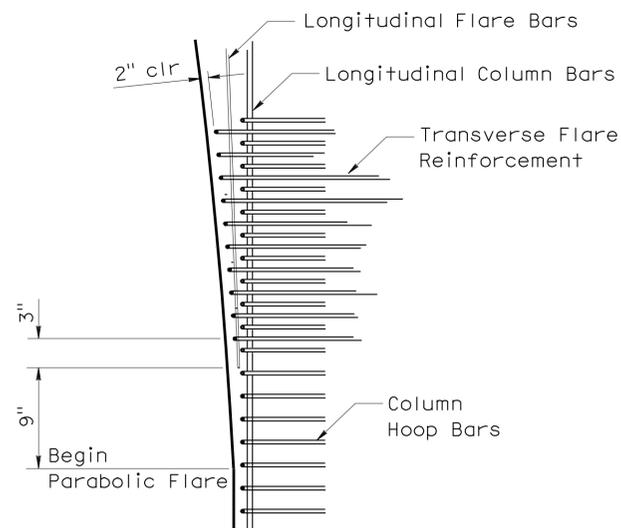
**SECTION Q-Q**  
1/2" = 1'-0"



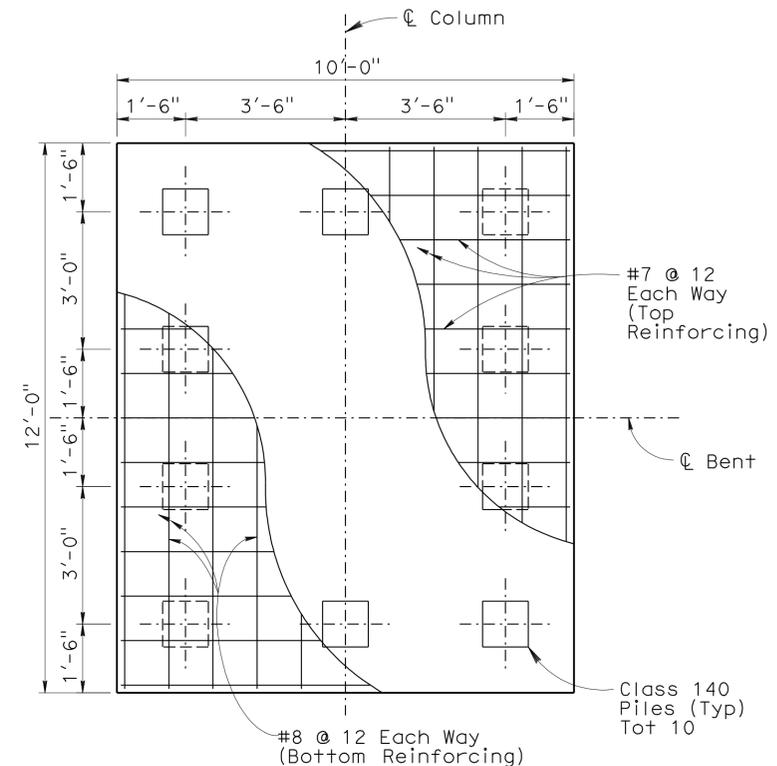
**DETAIL "A"**  
NO SCALE



**LEFT BRIDGE - FLARE DETAIL**  
NO SCALE



**HOOP AND TIE DETAILS**  
NO SCALE



**LEFT BRIDGE - FOOTING PLAN**  
1/2" = 1'-0"

DESIGN	BY Cesar Sanchez	CHECKED Juan Torres
DETAILS	BY Hemant Barbhaiya	CHECKED Cesar Sanchez
QUANTITIES	BY Juan Torres	CHECKED Rui Wang

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 19

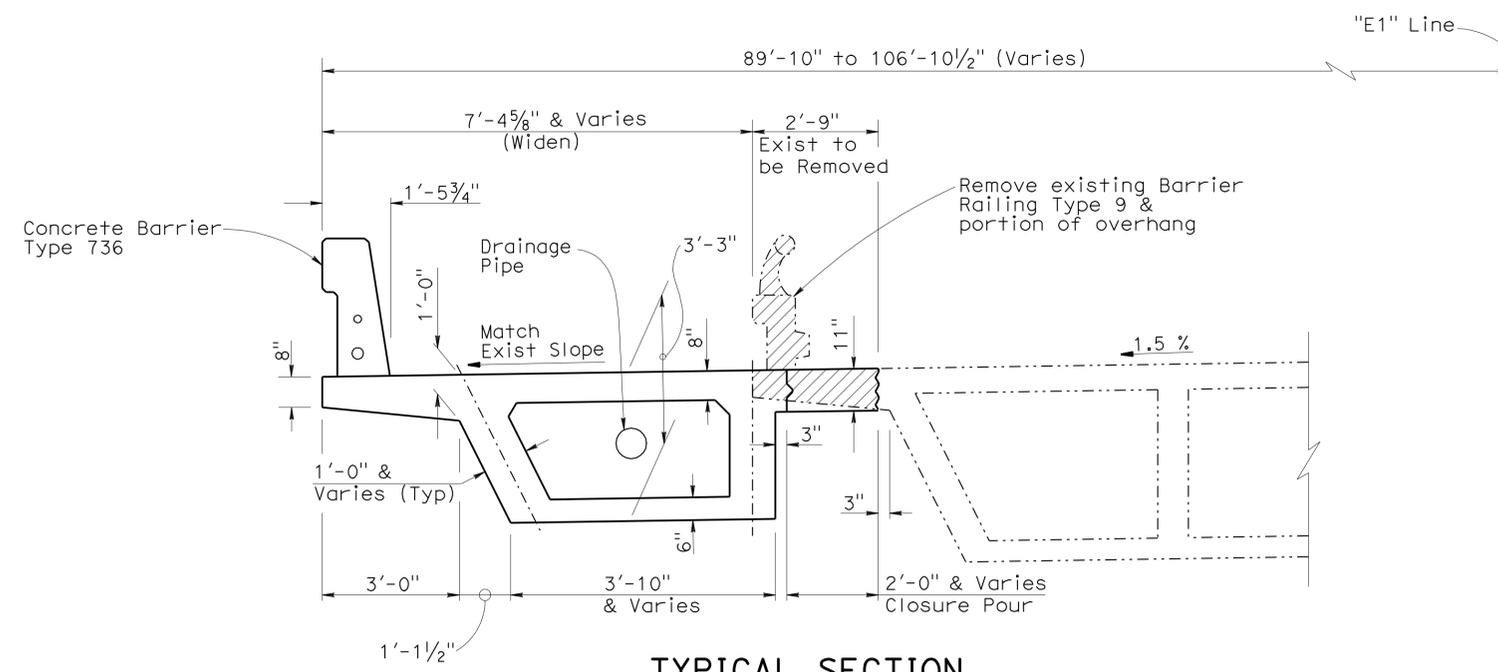
BRIDGE NO.  
55-0505R/L  
POST MILE  
14.43

WEIR CANYON ROAD UC (WIDEN)  
BENT DETAILS NO. 1

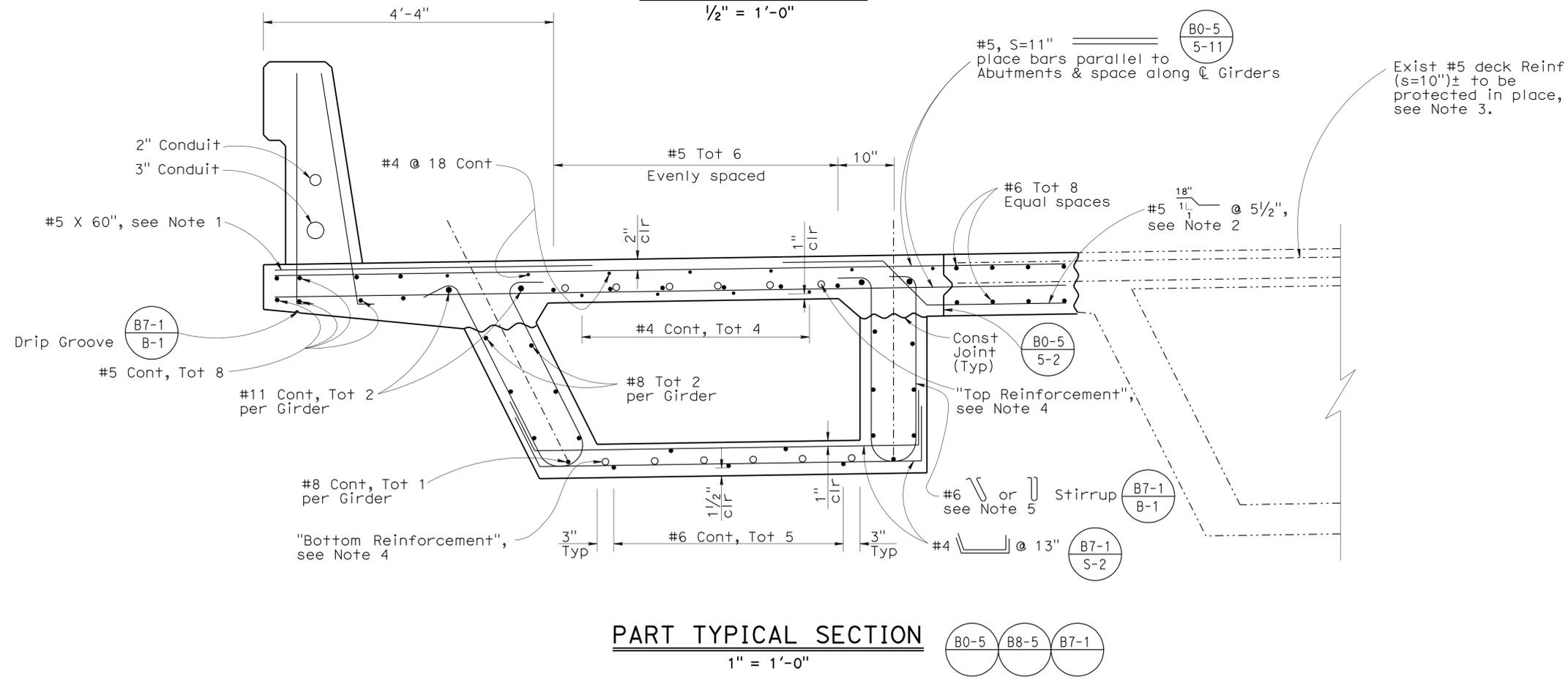


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	916	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 REGISTERED PROFESSIONAL ENGINEER  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE 10-25-10  
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**TYPICAL SECTION**  
1/2" = 1'-0"



**PART TYPICAL SECTION**  
1" = 1'-0"

**FALSEWORK RELEASE**

Falsework shall be released as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework has been released, and shall not be placed sooner than 105 days after the completion of prestressing for both frames.

**NOTES:**

- 1 Bars shall be placed in bridge deck within 5'-0" of BB & EB. Bundle with alternate top transverse bars.
- 2 Adjust bars as needed in bent cap area to avoid conflicts with bent cap main reinf and provide required clearance.
- 3 Field bend the existing deck reinf as necessary to provide 2" deck cover as required.
- 4 For "Top Reinforcement" and "Bottom Reinforcement", see "GIRDER DETAIL NO.1" sheet.
- 5 For stirrup spacing, see "GIRDER LAYOUT NO.1" sheet.

**LEGEND**

- - - - Existing Structure
- ▨ Bridge Removal Portion

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

DESIGN	BY Cesar Sanchez	CHECKED Juan Torres
DETAILS	BY Hemant Barbhaiya	CHECKED Cesar Sanchez
QUANTITIES	BY Cesar Sanchez	CHECKED Juan Torres

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 19

BRIDGE NO.	55-0505R/L
POST MILE	14.43

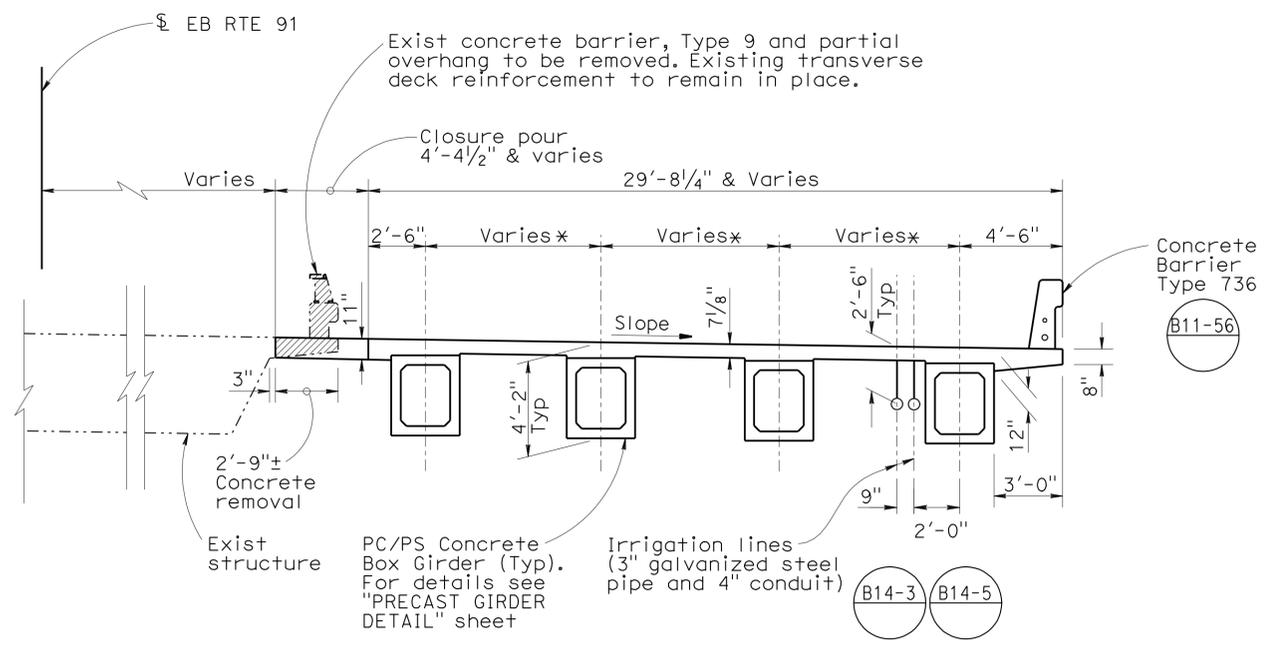
WEIR CANYON ROAD UC (WIDEN)  
TYPICAL SECTION NO.1

DATE PLOTTED => 16-DEC-2010 USERNAME => HSTFK

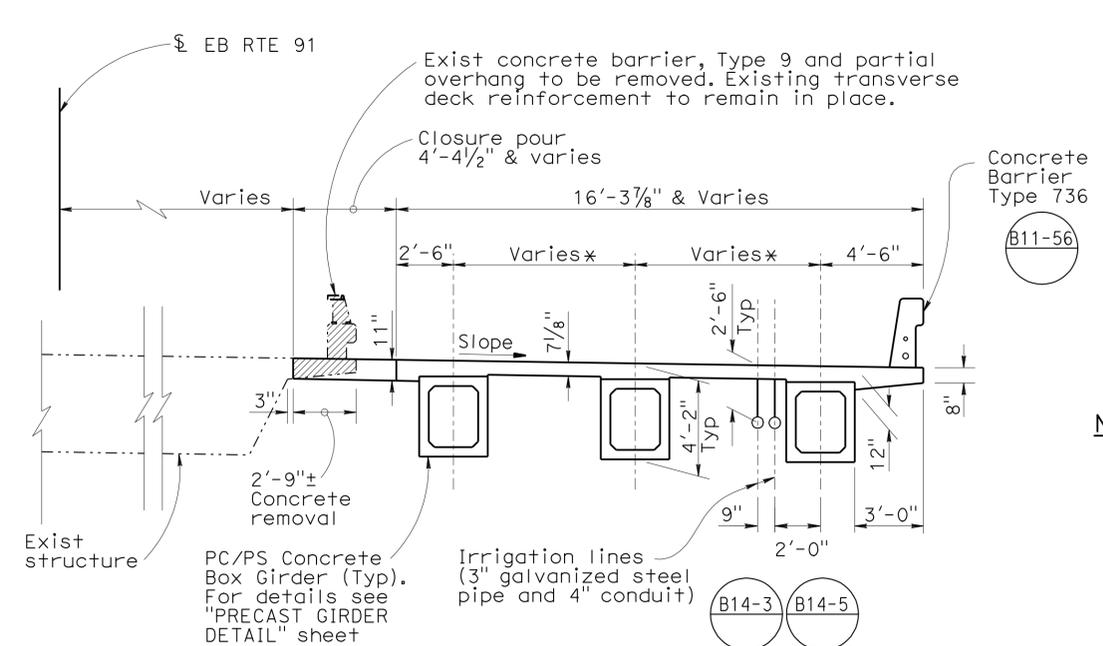
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	917	949

08-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 10-25-10  
 PLANS APPROVAL DATE  
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WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA



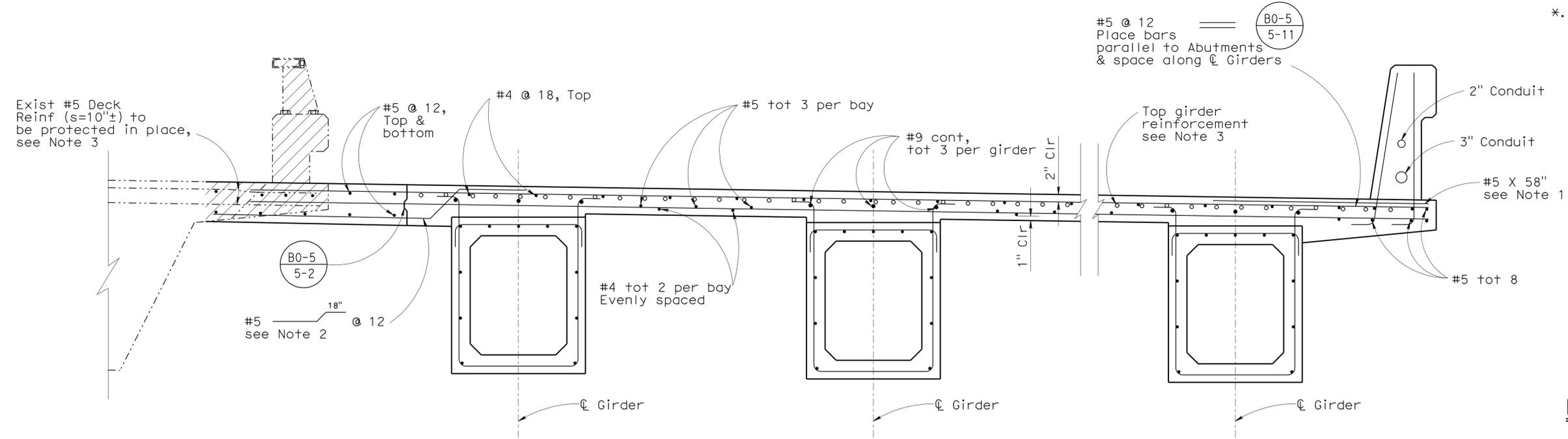
**TYPICAL SECTION - SPAN 1**  
 1/4" = 1'-0"



**TYPICAL SECTION - SPAN 2**  
 1/4" = 1'-0"

**NOTES:**

- Bar shall be placed 5'-0" on each side of expansion joint in barrier rail and at ends of barrier rail. Bundle with alternate top transverse bars. (B0-5 5-11)
  - Adjust bars as needed in bent cap area to avoid conflicts with bent cap main reinf and provide required clearance.
  - Field bend the existing deck reinf as necessary to provide 2" deck cover as required.
  - For "Top Girder Reinforcement", see "GIRDER LAYOUT NO.2" sheet.
  - Closure pour shall not be placed sooner than 60 days after the deck is poured.
- \*. See "GIRDER LAYOUT NO. 2" sheet.



**PART TYPICAL SECTION**  
 3/4" = 1'-0"

**LEGEND**

- Existing Structure
- ▨ Bridge Removal Portion

DESIGN	BY Juan Torres	CHECKED Edward Mercado
DETAILS	BY Hemant Barbhaiya- H.M.	CHECKED Juan Torres
QUANTITIES	BY Juan Torres	CHECKED Edward Mercado

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	55-0505R/L
POST MILE	14.43

WEIR CANYON ROAD UC (WIDEN)  
 TYPICAL SECTION NO. 2

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:52

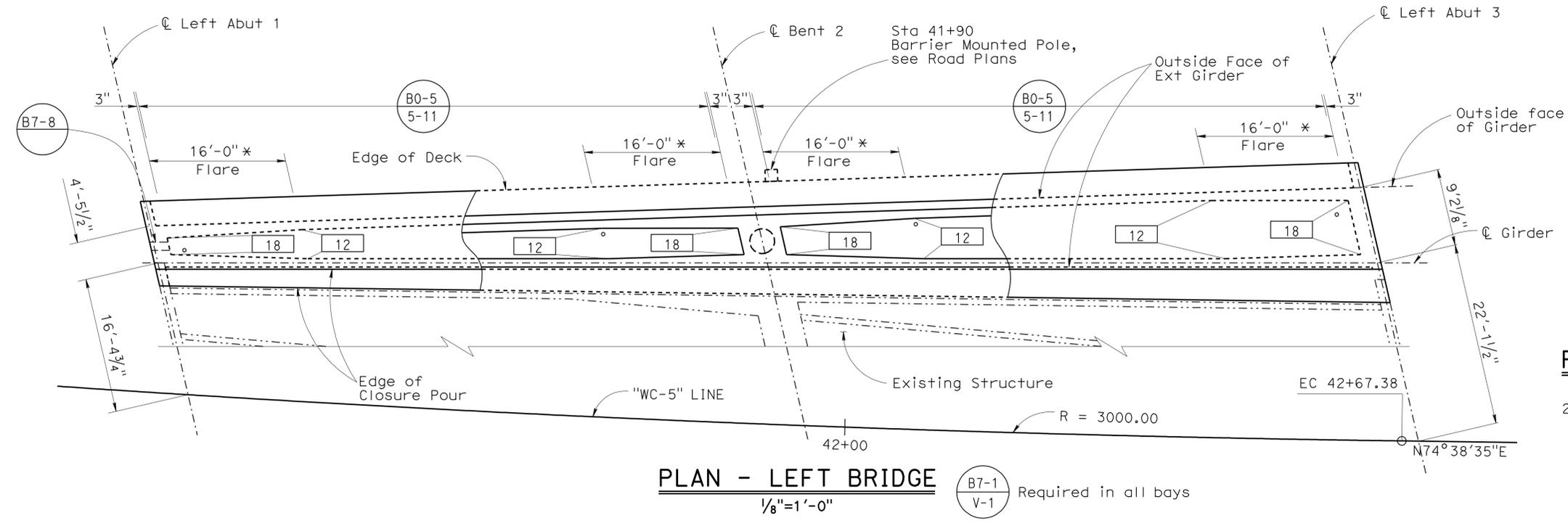
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	918	949

08-10-10  
REGISTERED CIVIL ENGINEER DATE

10-25-10  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL  
STATE OF CALIFORNIA

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**PLAN - LEFT BRIDGE**  
1/8" = 1'-0"  
B7-1 V-1 Required in all bays

**PRESTRESSING NOTES**

270 KSI Low Relaxation strand:  
 $P_{jack, frame 1} = 2140$  kips  
Anchor Set = 3/8 in  
Total Number of Girders = 2

Distribution of prestress force ( $P_{jack}$ ) between girders shall not exceed the ratio of 3:2.  
Maximum final force variation between girders shall not exceed 725 kips.

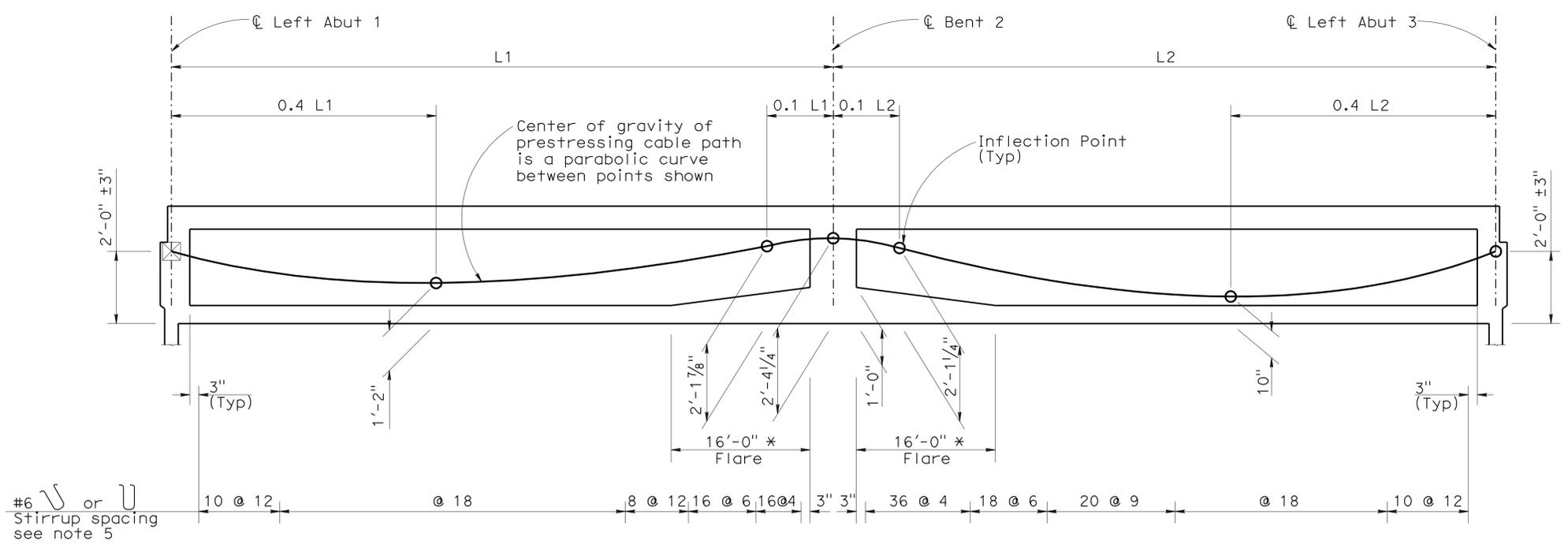
Concrete:  $f'_c = 5000$  psi @ 28 days  
 $f'_{ci} = 3500$  psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at  $\boxtimes = 0.918$  times jacking stress.  
One end stressing shall be performed from the abutment end only.

**Notes**

- Girder Stem thickness in inches shown as
- L = Span Length from  $\text{C}$  Abut or  $\text{C}$  Bent to  $\text{C}$  Bent or  $\text{C}$  Abut measured along  $\text{C}$  of Girder
- \* Measured along  $\text{C}$  of Girder
- $\boxtimes$  Point of no movement for one end stressing
- $\cup$  or  $\cap$  stirrup spacing shown measured along  $\text{C}$  of Girder

----- Indicates Existing Structure



**LONGITUDINAL SECTION**  
NO SCALE

#6  $\cup$  or  $\cap$   
Stirrup spacing see note 5

DESIGN	BY Cesar Sanchez	CHECKED Juan Torres	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 55-0505R/L	WEIR CANYON ROAD UC (WIDEN) GIRDER LAYOUT NO. 1
	DETAILS BY Hemant Barbhaya - H.M.	CHECKED Cesar Sanchez			POST MILE 14.43	
	QUANTITIES BY Cesar Sanchez	CHECKED Juan Torres			REVISION DATES	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12 EA 0G3301

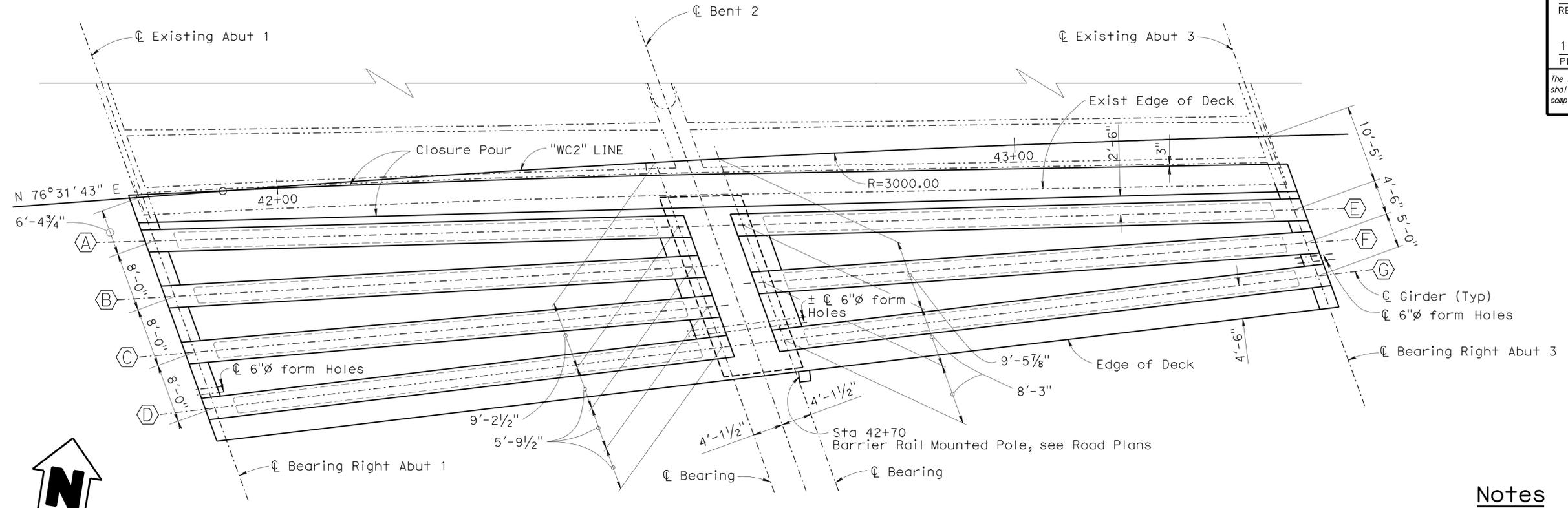
DISREGARD PRINTS BEARING EARLIER REVISION DATES

4-23-10	5-12-10	5-28-10	7-08-10	7-12-10	7-28-10	8-11-10	10-05-10	4-14-10
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SHEET 18 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	919	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE 10-25-10  
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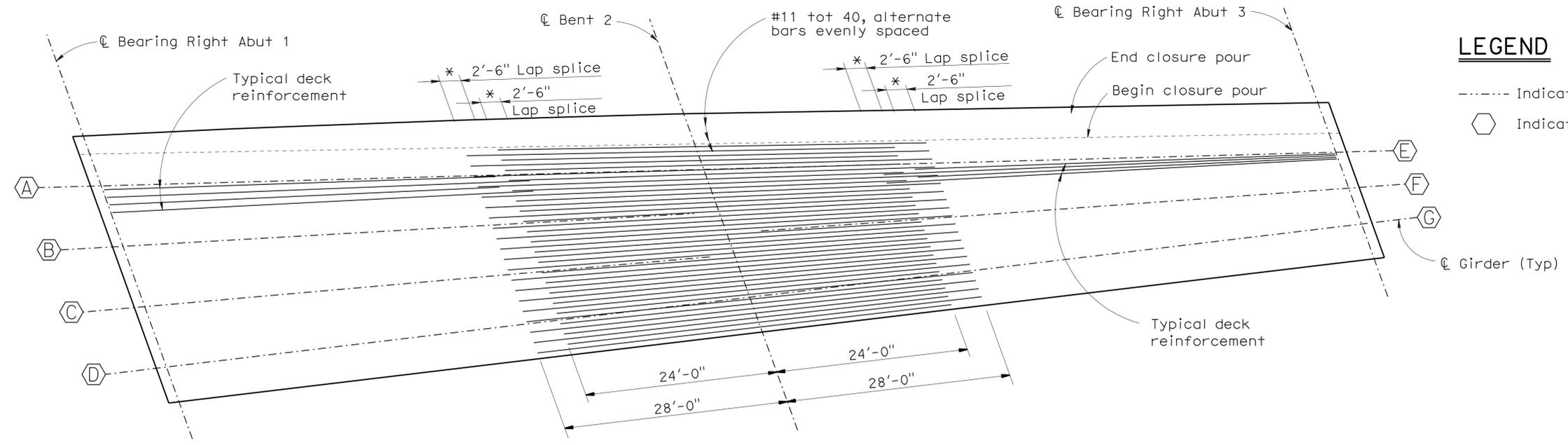
**PLAN - RIGHT BRIDGE**  
1/8"=1'-0"

**Notes**

- For additional details and reinforcement, see "TYPICAL SECTION No.2" sheet
- \* Lap typical deck reinforcement to #11 bars

**LEGEND**

- Indicates Existing Structure
- ⬡ Indicates Girder Number



**TOP GIRDER REINFORCEMENT - RIGHT BRIDGE**  
1/8"=1'-0"

DESIGN	BY Juan Torres	CHECKED Edward Mercado
DETAILS	BY H.Barbhaiya - H.M.	CHECKED Juan Torres
QUANTITIES	BY Juan Torres	CHECKED Gabriel Galo

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH **19**

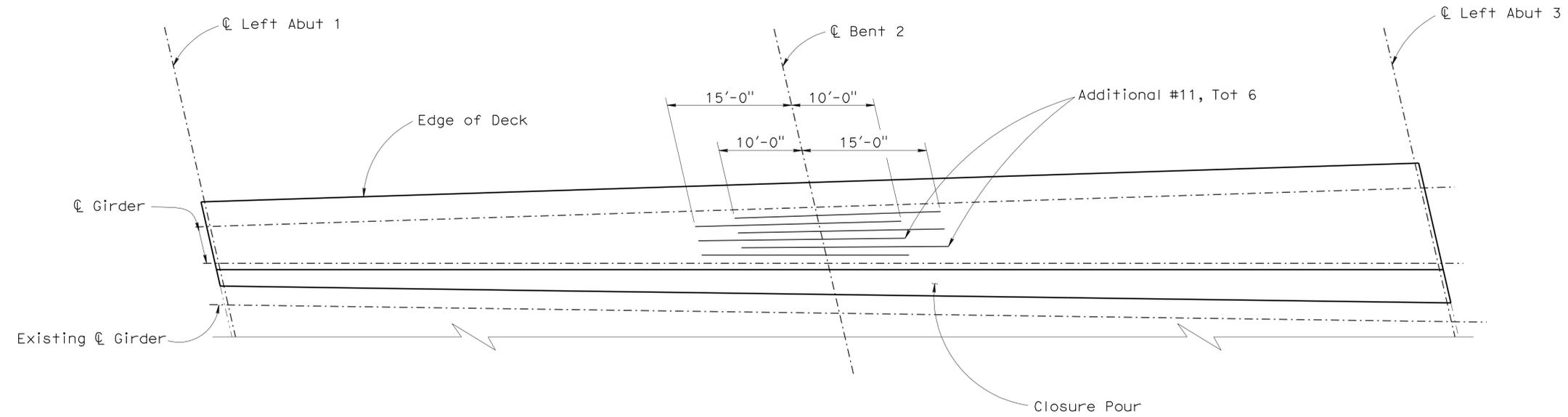
BRIDGE NO.	55-0505R/L
POST MILE	14.43

WEIR CANYON ROAD UC (WIDEN)  
 GIRDER LAYOUT NO. 2

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:53

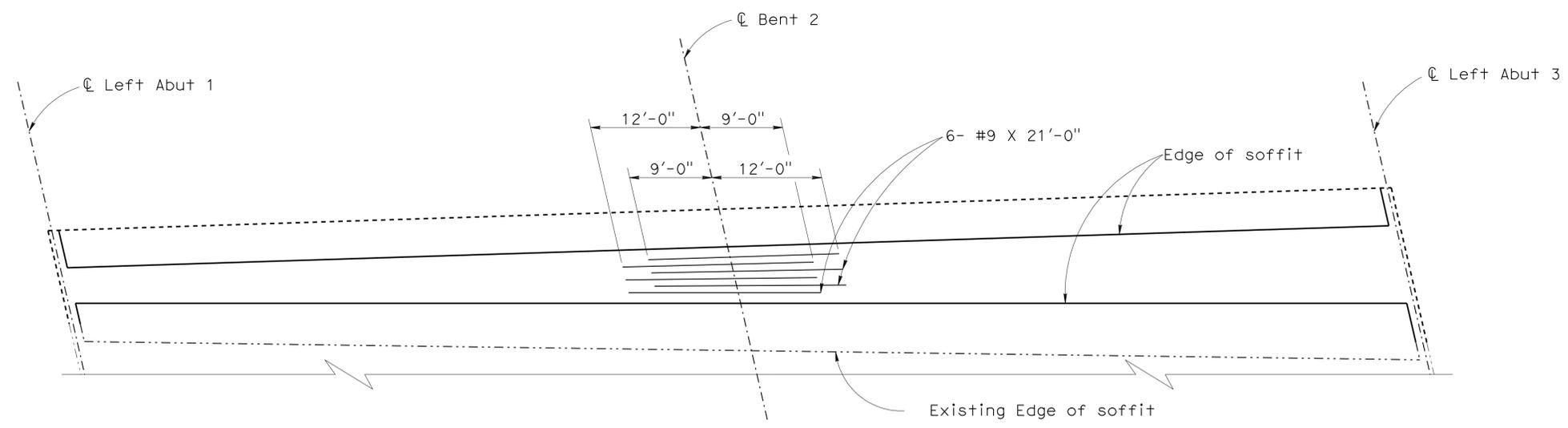
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	920	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 10-25-10  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
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 CIVIL  
 STATE OF CALIFORNIA  
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**LEFT BRIDGE - TOP REINFORCEMENT**  
1/8"=1'-0"

- NOTES:**
- For additional details and reinforcement, see "TYPICAL SECTION NO.1" sheet.
- Indicates Existing Structure



**LEFT BRIDGE - BOTTOM REINFORCEMENT**  
1/8"=1'-0"

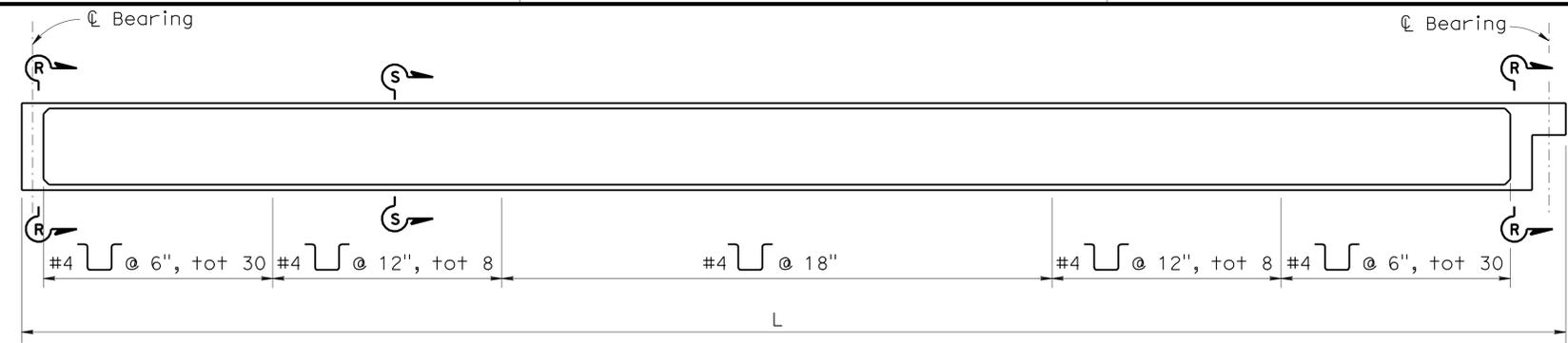
**NOTE:**  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY Cesar Sanchez CHECKED BY Juan Torres DETAILS BY Hemant Barbhaiya CHECKED BY Cesar Sanchez QUANTITIES BY Cesar Sanchez CHECKED BY Rui Wang	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 55-0505R/L POST MILE 14.43	<b>WEIR CANYON ROAD UC (WIDEN)</b> <b>GIRDER DETAILS NO. 1</b>
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 12 EA 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 11-09-09, 2-22-10, 3-11-10, 3-24-10, 4-14-10, 01-06-10, 07-26-10, 08-11-10	SHEET 20 OF 36

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:53

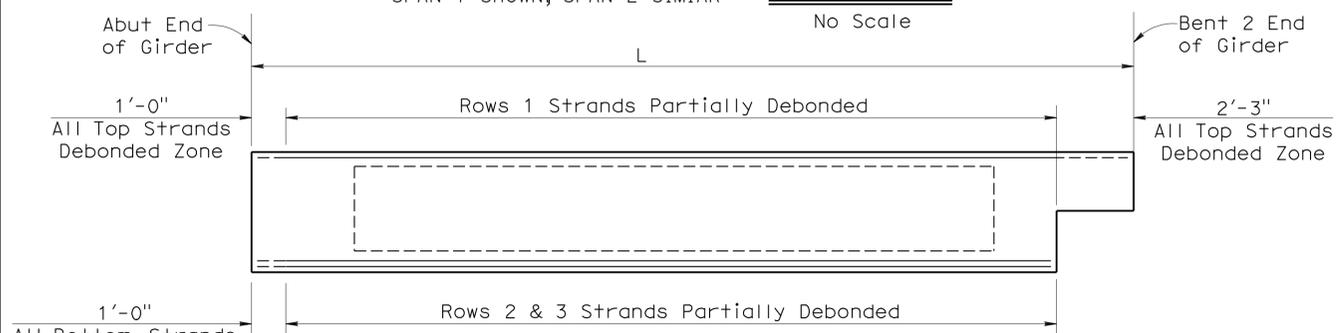
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	921	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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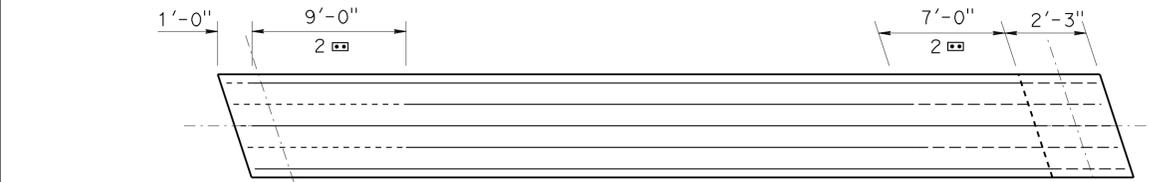
**ELEVATION**

No Scale

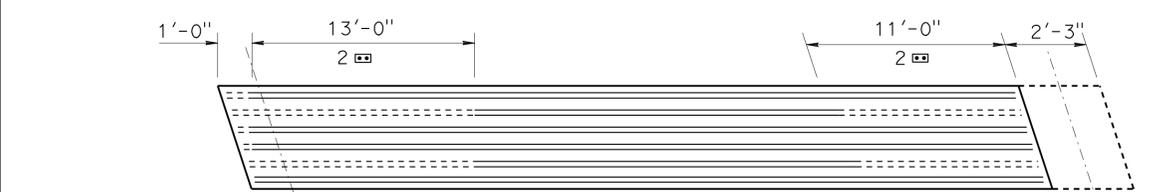


**ELEVATION**

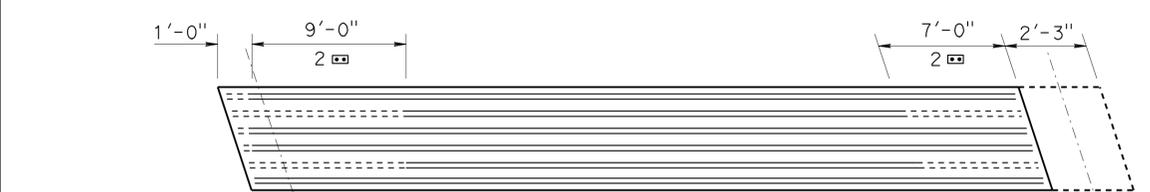
No Scale



**ROW 1 STRANDS**



**ROW 2 STRANDS**

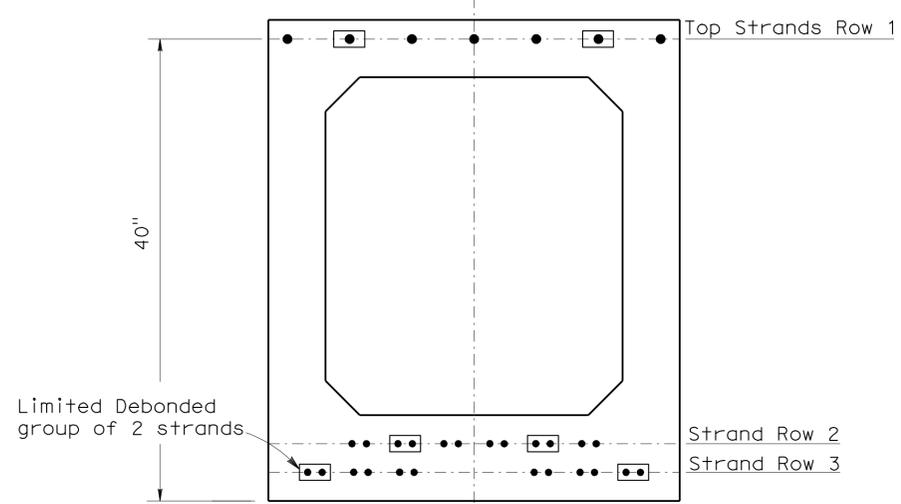


**ROW 3 STRANDS**

**GIRDER DEBONDING DIAGRAM**

No Scale  
SPAN 1 SHOWN, SPAN 2 SIMIAR

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



**CLEARANCES FOR PRETENSION STRANDS**

No Scale

**PRESTRESSING NOTES (Pretension)**

- Pf = Working Force:** The force required at center of span after all losses.
- Concrete Strength:** f'ci is at time of initial jacking. f'c is at 28 days, psi.
- Deflection Components:** Informational - to be used in setting screed line elevations.
- Screed line elevations for deck concrete will be determined by the Engineer.
- Use 0.6"  $\phi$  270 ksi Low Relaxation strands only.

**NOTES:**

- Strands shall be horizontally bundled into groups of 2 separated at the ends.
  - "S" is measured between centers of adjacent strand sets.
  - The minimum distance "S" between groups or individual strands is 2" for 0.6" strands.
  - Approval of Engineer is required for deviation.
  - For "Section R-R & Section S-S" see "GIRDER DETAILS NO. 3" sheet.
- or ■ Denotes Debonded strands at ends  
 \* Denotes Deck dead load deflection

No. of Prestressed Strands	Span 1	Span 2
Row 1	5	5
Row 3	12	12
Row 3	12	12
<b>TOTAL</b>	<b>29</b>	<b>29</b>

Girder Location	Girder	L = Length along girder exterior	Skew	Pretension Pf (Kips)	Concrete f'ci (psi)	Strength f'c (psi)	Deflection @ midspan in Inches *	Girder Quantities
Span 1	A	73'-4 $\frac{3}{8}$ "	18°	1150	4500	6500	1/2"	1
	B	72'-8 $\frac{1}{4}$ "	16°	1150	4500	6500	1/2"	1
	C	72'- $\frac{3}{4}$ "	15°	1150	4500	6500	1/2"	1
	D	71'-6 $\frac{1}{4}$ "	13°	1150	4500	6500	1/2"	1
Span 2	E	77'- $\frac{7}{8}$ "	18°	1150	4500	6500	3/4"	1
	F	75'-11 $\frac{1}{4}$ "	16°	1150	4500	6500	3/4"	1
	G	75'-1 $\frac{1}{8}$ "	13°	1150	4500	6500	3/4"	1

DESIGN	BY Juan Torres	CHECKED Edward Mercado
DETAILS	BY Hemant Barbhaiya	CHECKED Juan Torres
QUANTITIES	BY Juan Torres	CHECKED Gabriel Galo

STATE OF CALIFORNIA  
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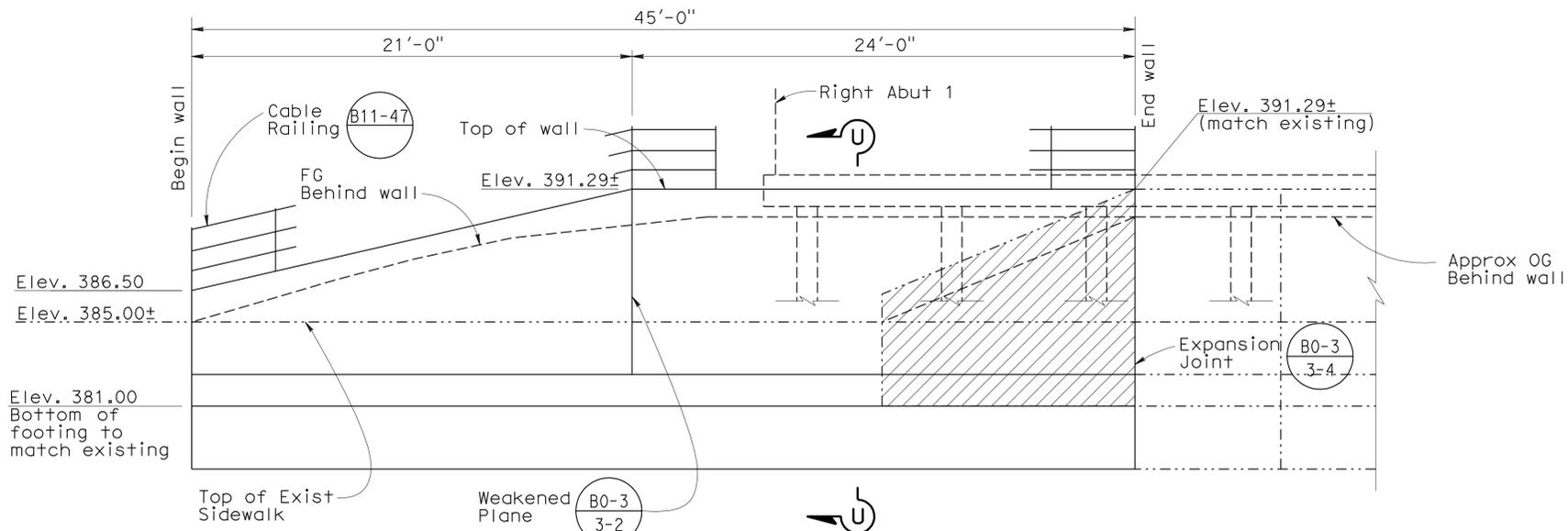
DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO. 55-0505R/L  
 POST MILE 14.43  
**WEIR CANYON ROAD UC (WIDEN)**  
**GIRDER DETAILS NO. 2**



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	923	949

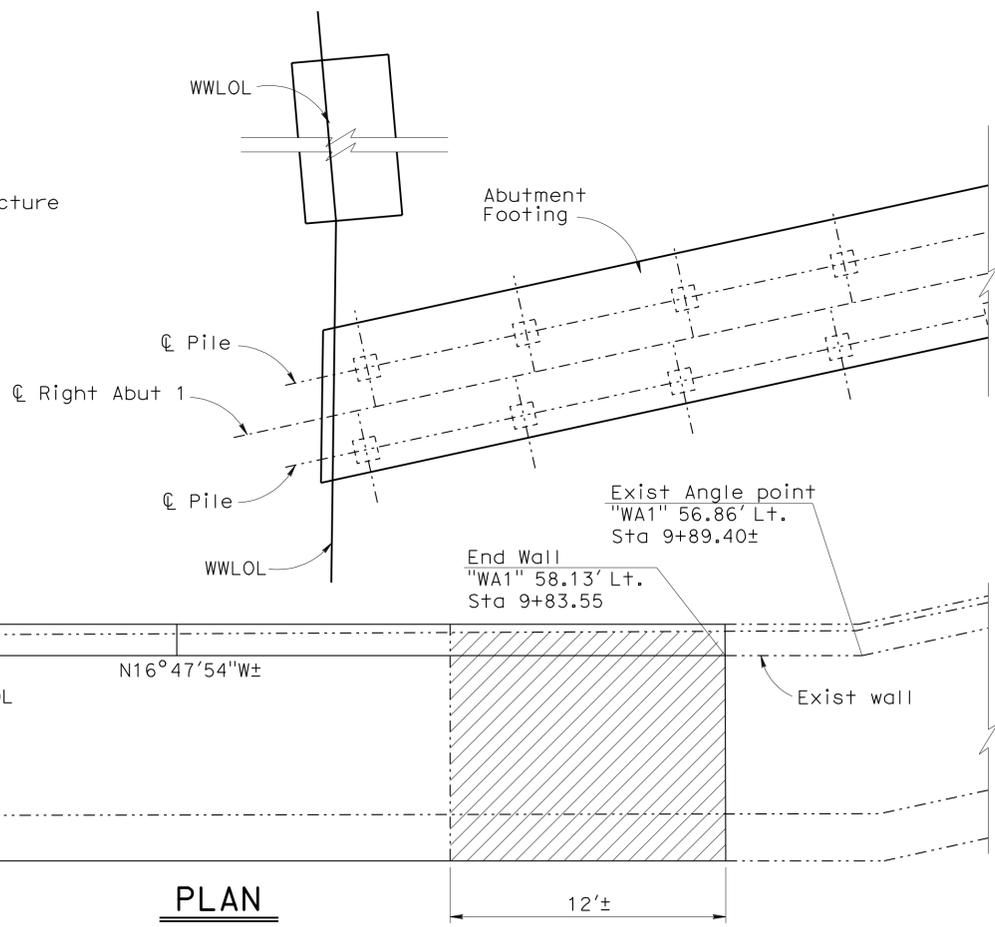

 08-10-10  
 REGISTERED CIVIL ENGINEER DATE  
 10-25-10  
 PLANS APPROVAL DATE  
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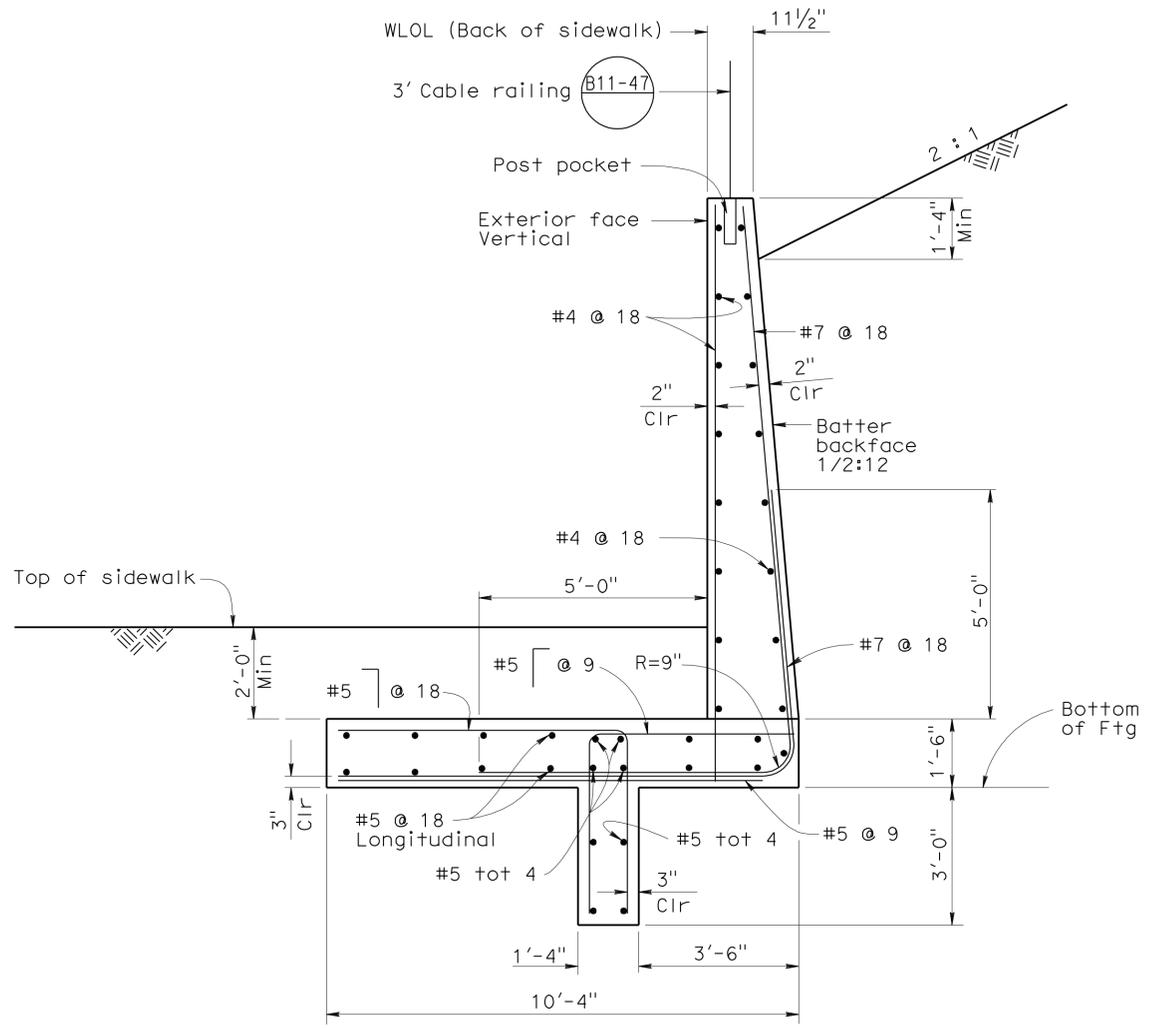
**ELEVATION**  
1/4" = 1'-0"

**LEGEND**

- Indicates Existing Structure
-  Concrete Removal



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



**SECTION**  
No Scale

For details not shown, see Retaining Wall Excavation and Backfill details on "Retaining Wall Sections" sheet.

NOTE:  
1. For General Notes see "Retaining Wall Sections" sheet.

DESIGN	BY Juan Torres	CHECKED Rui Wang
DETAILS	BY Hengameh Mahboobi / HB	CHECKED Juan Torres
QUANTITIES	BY Rui Wang	CHECKED Barbara McGahey

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

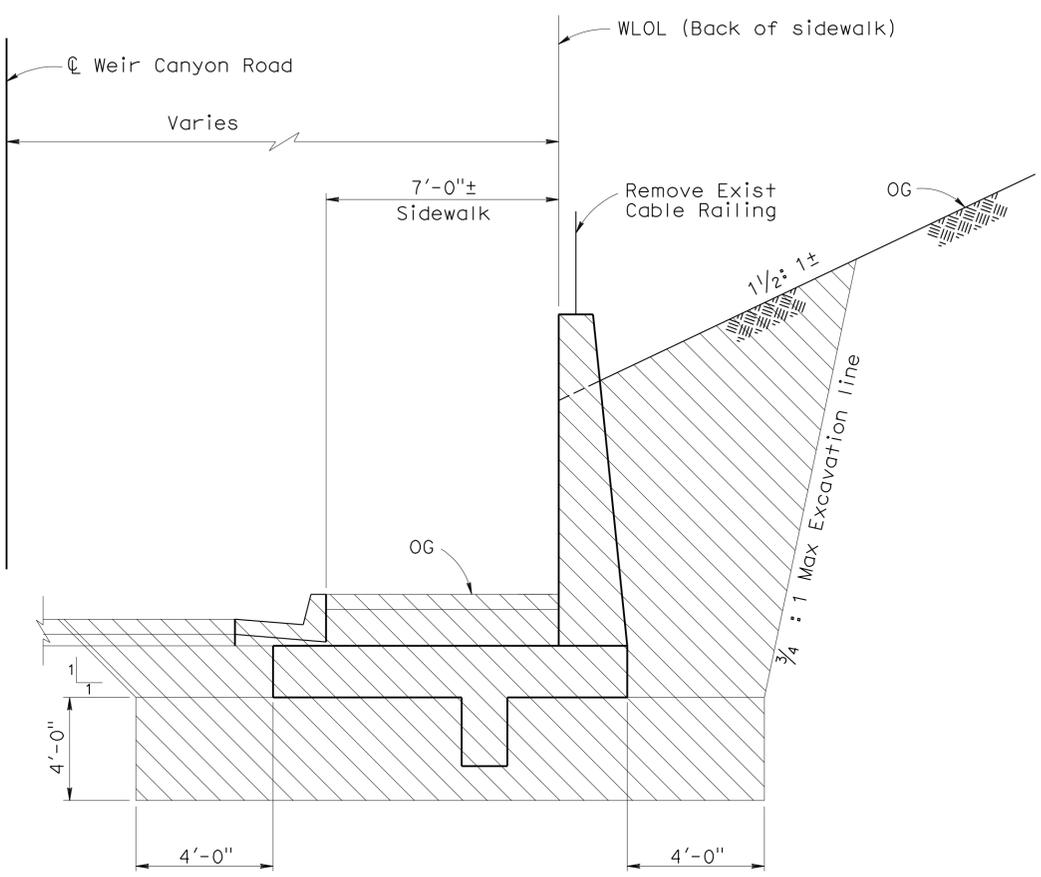
DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	55-0505R/L
POST MILE	14.43

**WEIR CANYON ROAD UC (WIDEN)**  
**RETAINING WALL PLAN AND ELEV**

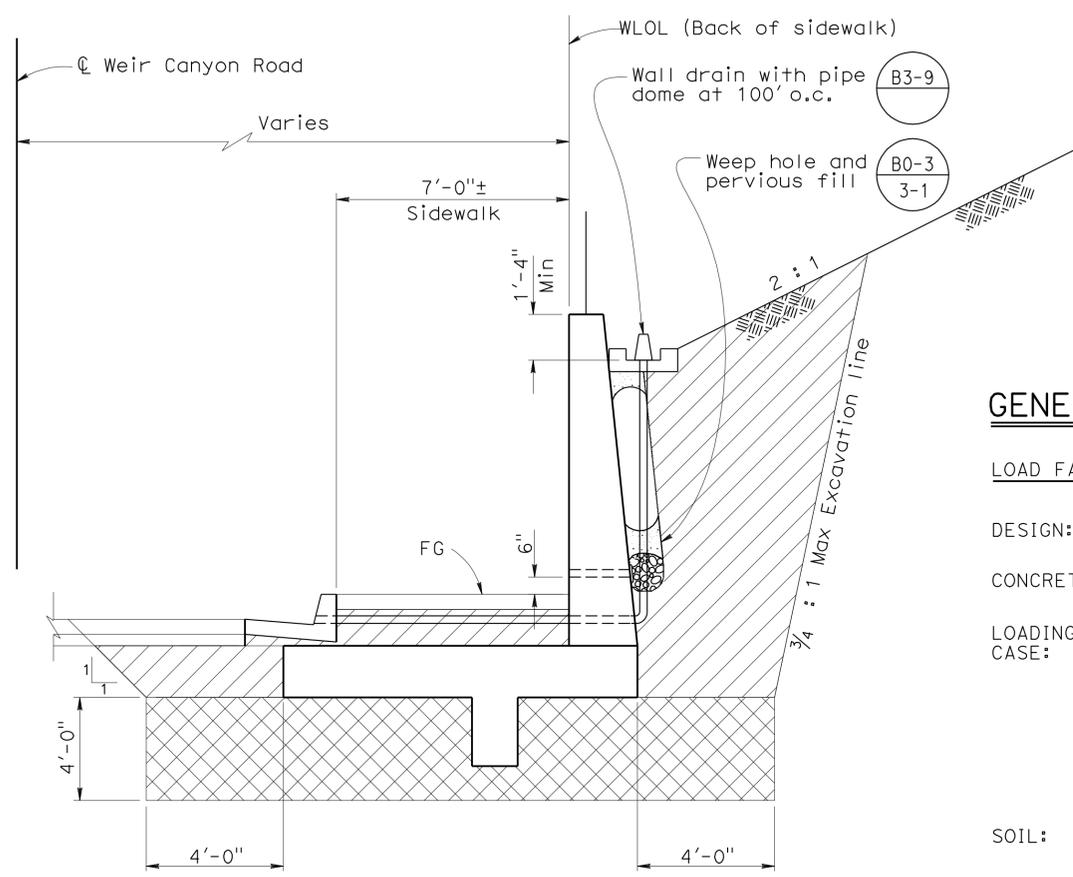
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	924	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 PLANS APPROVAL DATE 10-25-10  
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**RETAINING WALL EXCAVATION**  
No Scale

Limit of structure excavation



**RETAINING WALL BACKFILL**  
No Scale

Limit of aggregate base material at 95% relative compaction  
 Limit of structure backfill

**GENERAL NOTES**

- LOAD FACTOR DESIGN**
- DESIGN: Load factor design
- CONCRETE: Reinforced concrete  $f'_c = 3$  ksi  
 $f_y = 60$  ksi
- LOADING CASE: 2:1 sloped ground with Seismic load  
Seismic load, Soil  
 $k_h = 0.3g$   
 $k_v = 0.0$   
 $k_{SC} = \text{Mononobe-Okabe}$
- SOIL:  $\phi = 34^\circ$   $\gamma = 120$  pcf  
Equivalent fluid pressure:  
Static: 50 pcf Max  
Seismic: Coulomb's Theory
- FOOTING PRESSURE: (Tons per square foot)  
Allowable 1.5 Design 1.5

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

DESIGN	BY Juan Torres	CHECKED Rui Wang
DETAILS	BY Hengameh Mahboobi / HB	CHECKED Juan Torres
QUANTITIES	BY Rui Wang	CHECKED Barbara McGahey

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 19

BRIDGE NO.	55-505R/L
POST MILE	14.43

WEIR CANYON ROAD UC (WIDEN)  
RETAINING WALL SECTIONS

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:53

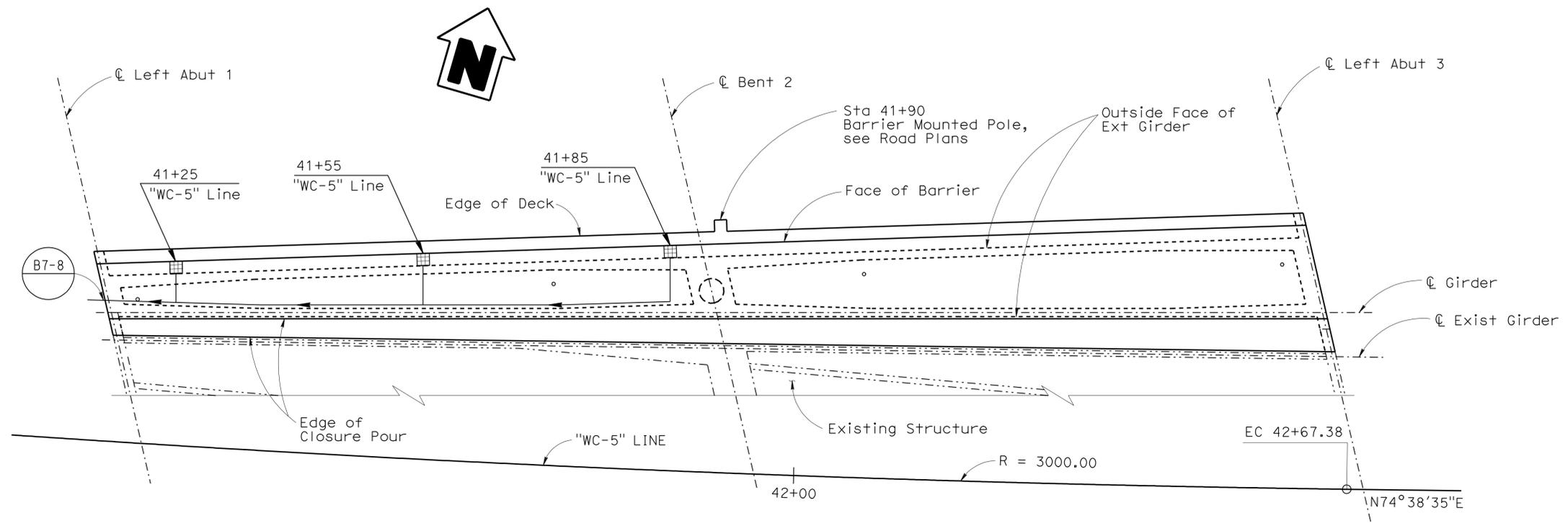
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	925	949

*Wei-Kung Hsia* 08-10-10  
REGISTERED CIVIL ENGINEER DATE

10-25-10  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
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.



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

**LEGEND**

- Indicates Deck Drain Type D-2 (B7-6)
- Indicates 8"Ø galvanized Deck Drain pipe & direction of flow.

**Notes:**

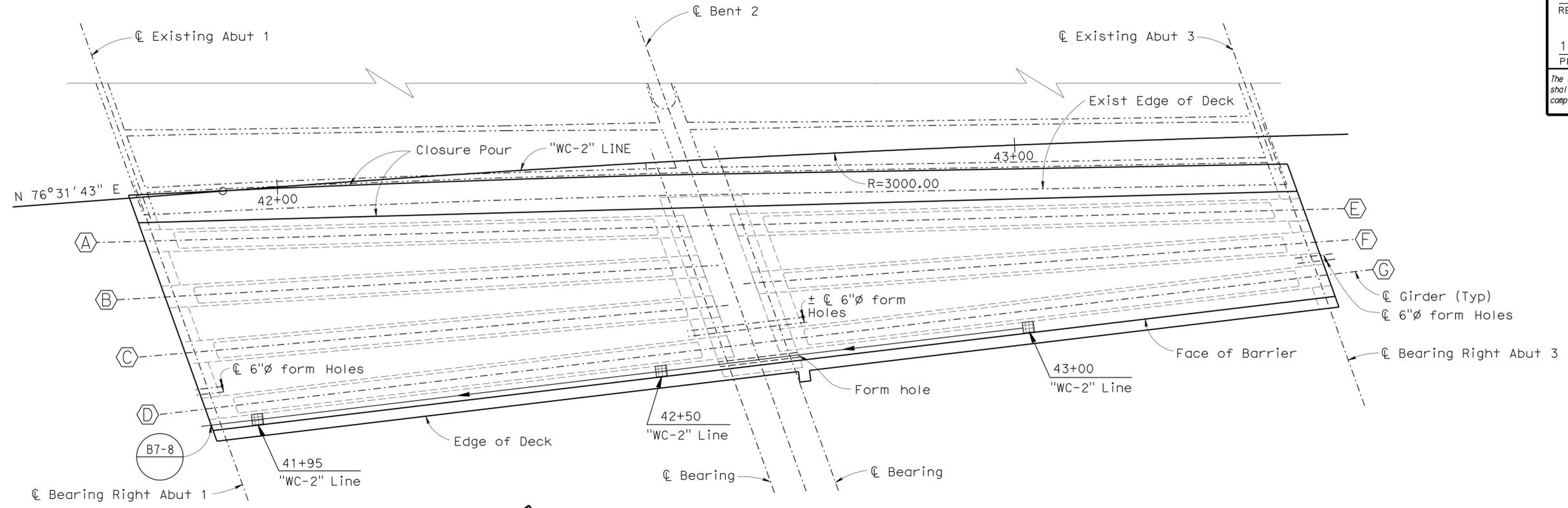
- For dimensions and details not shown, see (B7-6)
- Modify #16 @ 8" (Concrete barrier Type 736 reinforcement) to 3-#6 at each Deck drain Type D-2 inlet.
- All bends to be on a min. 2' radius measured along & of pipe.
- 2% minimum slope for drainage pipe.
- Support Pipes by suitable galvanized hangers at 10'-0" max spacing throughout, with engineers approval.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Cesar Sanchez	CHECKED Juan Torres	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	55-0505R/L	WEIR CANYON ROAD UC (WIDEN) DRAINAGE LAYOUT NO. 1		
	DETAILS	BY Hengameh Mahboobi	CHECKED Cesar Sanchez			POST MILE	14.43			
	QUANTITIES	BY Cesar Sanchez	CHECKED Juan Torres			CU 12 EA OG3301	REVISION DATES		07-12-10 07-26-10 08-11-10 10-05-10	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS								0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 25 OF 36

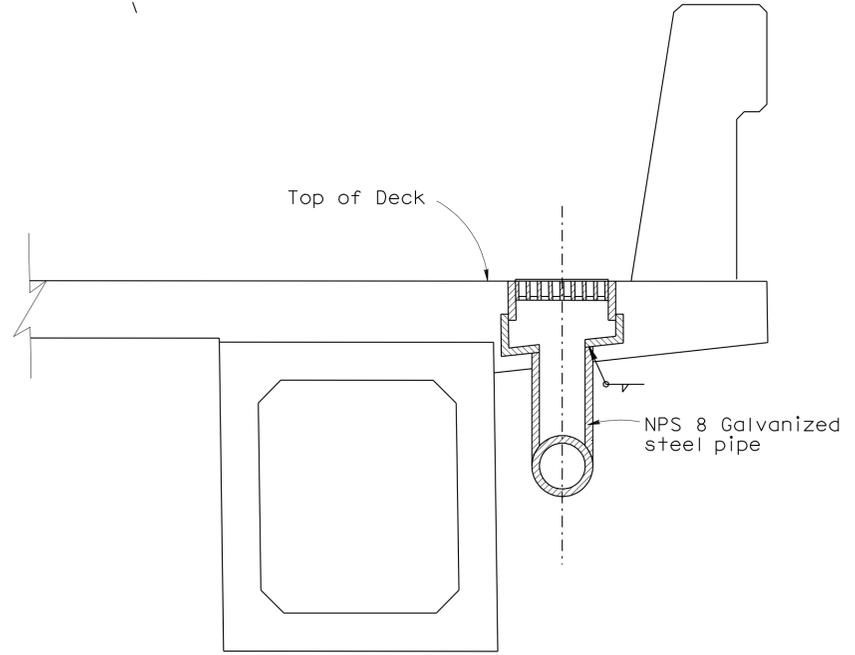
USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	926	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 REGISTERED PROFESSIONAL ENGINEER  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE 10-25-10  
 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.



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



**DECK DRAIN TYPE D-2 MOD**  
No Scale

**LEGEND**

- Indicates Deck Drain Type D-2 (Mod) (B7-6)
- Indicates 8"Ø galvanized Deck Drain pipe direction of flow.

**Notes:**

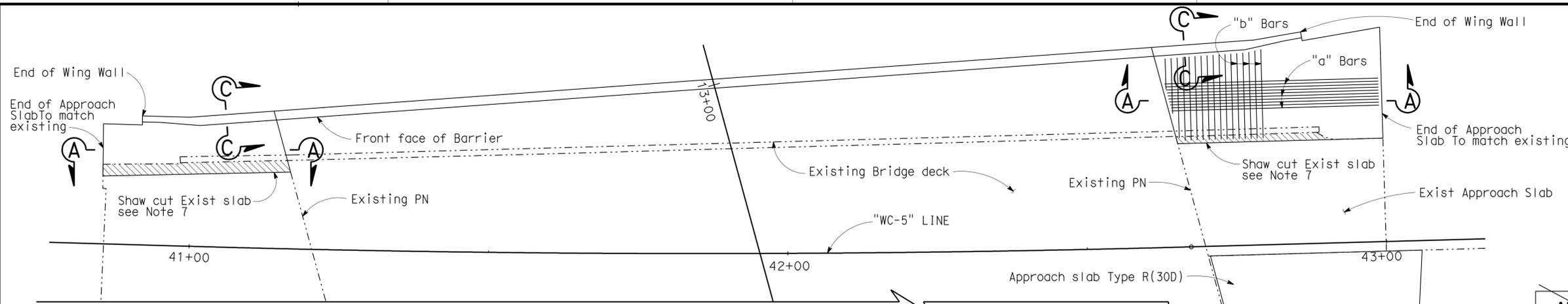
1. For dimensions and details not shown, see (B7-6)
2. Modify #16 @ 8" (Concrete barrier Type 736 reinforcement) to 3-#6 at each Deck drain Type D-2 (Mod) inlet.
3. All bends to be on a min. 2' radius measured along centerline of pipe.
4. 2% minimum slope for drainage pipe.
5. Support Pipes by suitable galvanized hangers at 10'-0" max spacing throughout, with engineers approval.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Juan Torres	CHECKED Cesar Sanchez	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	WEIR CANYON ROAD UC (WIDEN) DRAINAGE LAYOUT NO. 2
	DETAILS	BY Hengameh Mahboobi	CHECKED Juan Torres			55-0505R/L	
	QUANTITIES	BY Rui Wang	CHECKED Barbara McGahey			POST MILE	
						14.43	
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 12 EA OG3301	REVISION DATES	SHEET 26 OF 36
						07-12-10 07-15-10 07-26-10 08-11-10 10-01-10	

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:54

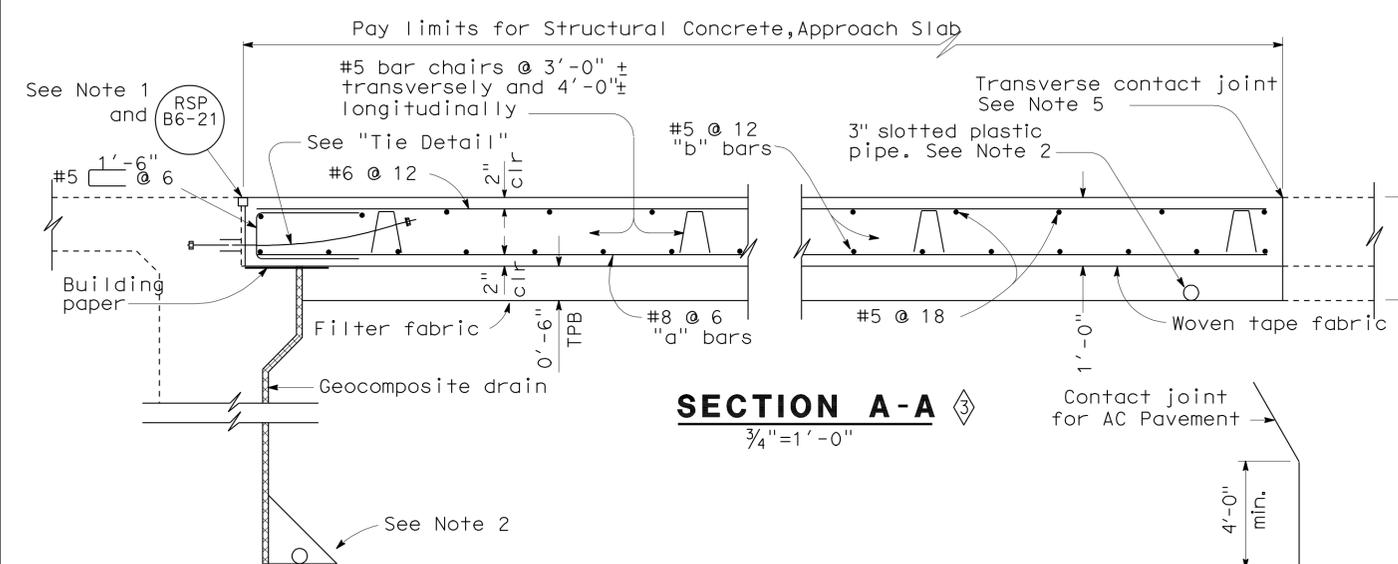
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Orca	91	9.1/15.1	927	949

08-10-10  
 REGISTERED ENGINEER - CIVIL  
 10-25-10  
 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.

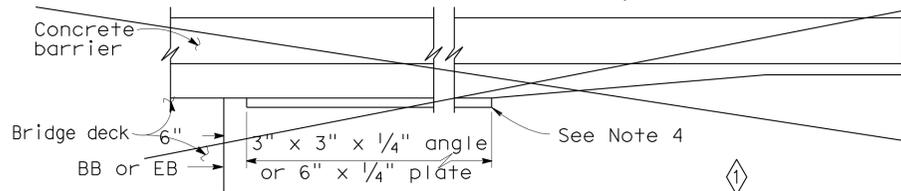


**PLAN**  
No Scale

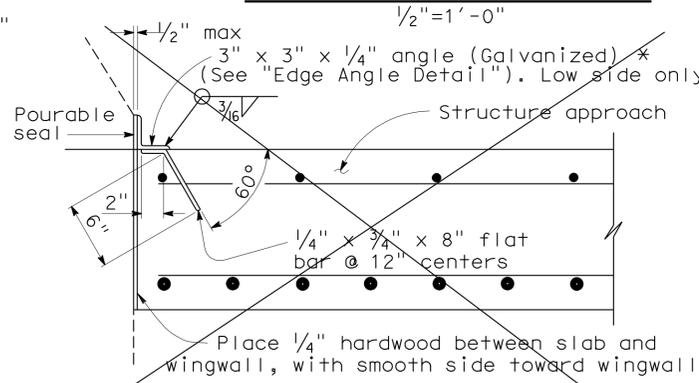
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



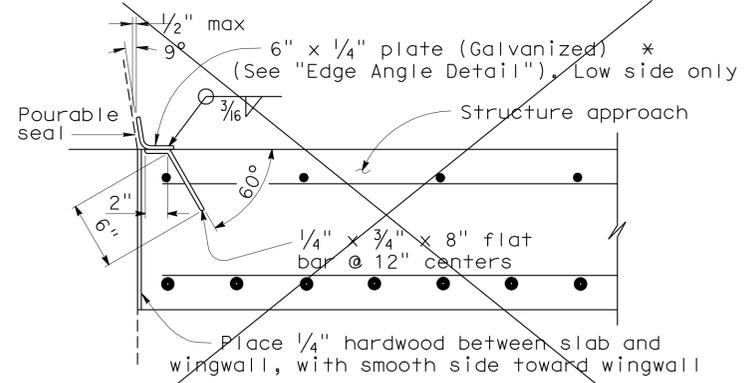
**SECTION A-A**  
3/4" = 1'-0"



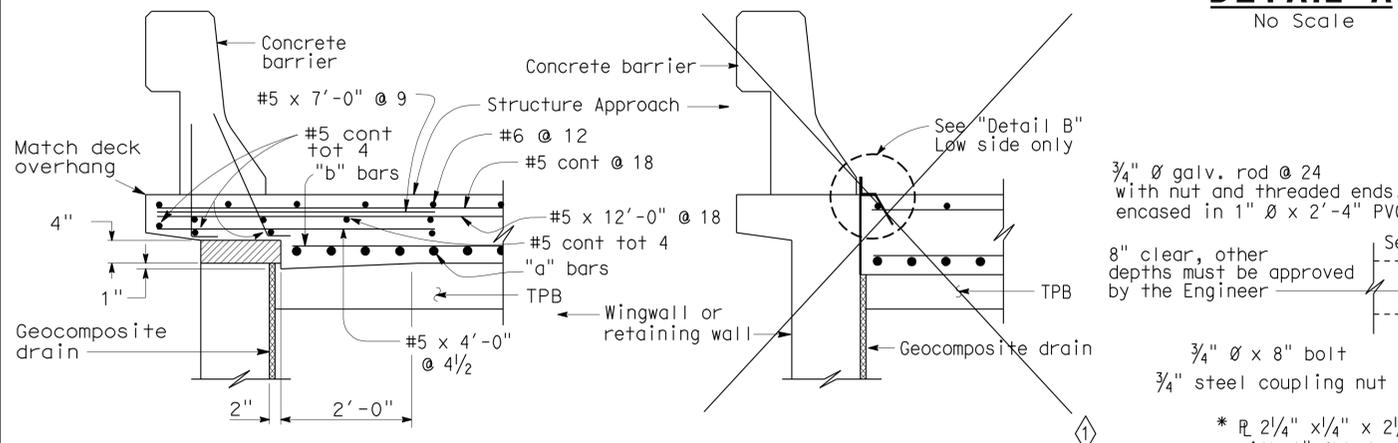
**EDGE ANGLE DETAIL**



**DETAIL B**  
1/2" = 1'-0"

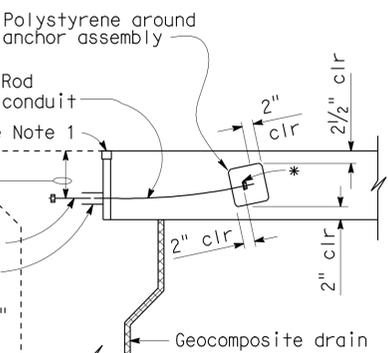


**(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)**

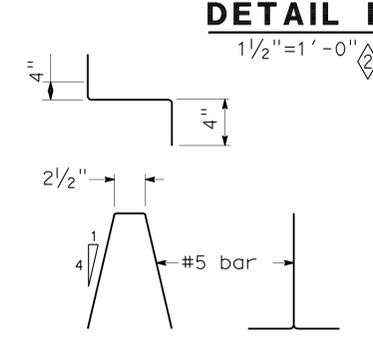


**SECTION C-C**  
3/4" = 1'-0"

(Type E-1 to be used, unless otherwise shown on plans)



**TIE DETAIL**  
No Scale



**BAR CHAIR DETAIL**  
1/2" = 1'-0"

- NOTES:**
- For details not noted or shown, see Structure Plans.
  - For drainage details, see "Structure Approach Drainage Details" sheet.
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
  - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable.
  - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
  - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along C roadway.
  - For longitudinal construction joint see standard plan P1.
- Polystyrene to be removed.  
 Remove existing approach slab and replace with structure approach slab N(30D).

STANDARD DRAWING

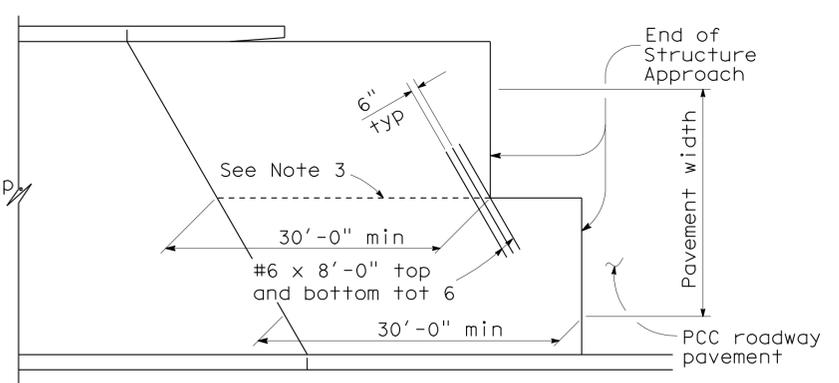
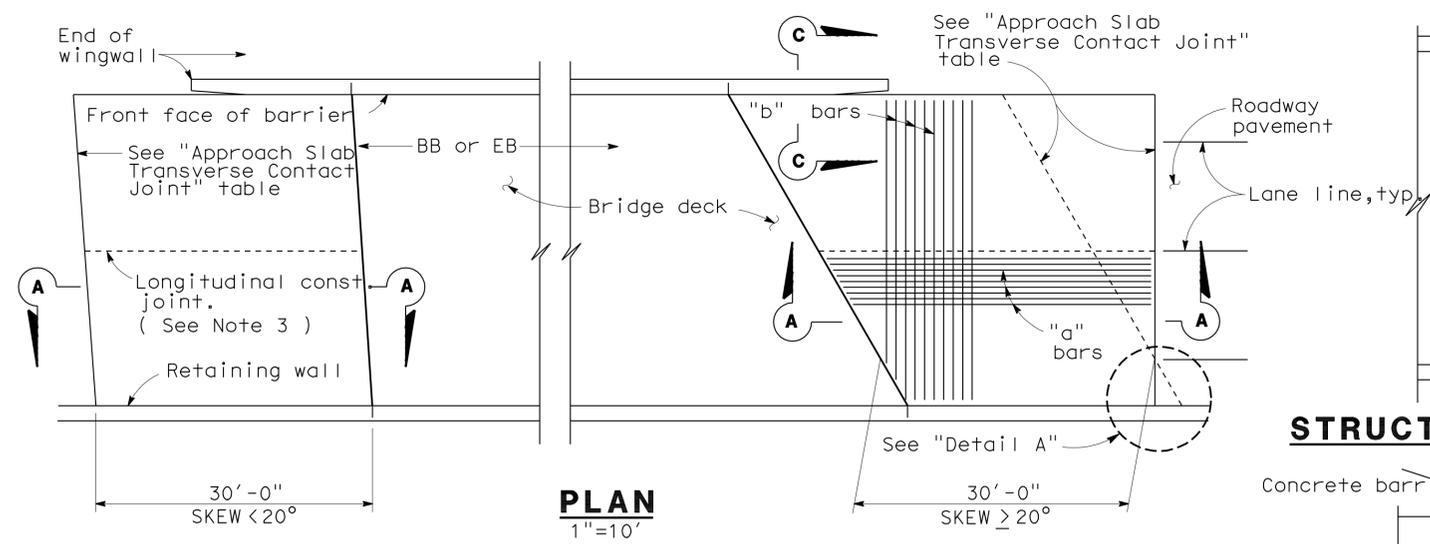
FILE NO. **xs3-180e**  
 APPROVED BY: M. Ha  
 RESPONSIBLE TECHNICAL SPECIALIST  
 APPROVAL DATE: 8-12-08  
 RELEASED BY: O. Alcantara  
 RESPONSIBLE OFFICE CHIEF  
 RELEASE DATE: 8-12-08

Delete Detail  
 Add Note  
 Detail Modified

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES  
 BRIDGE NO. 55-505R/L  
 POST MILE 14.43

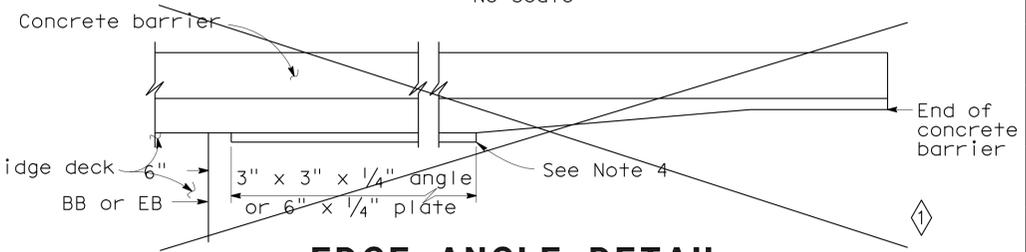
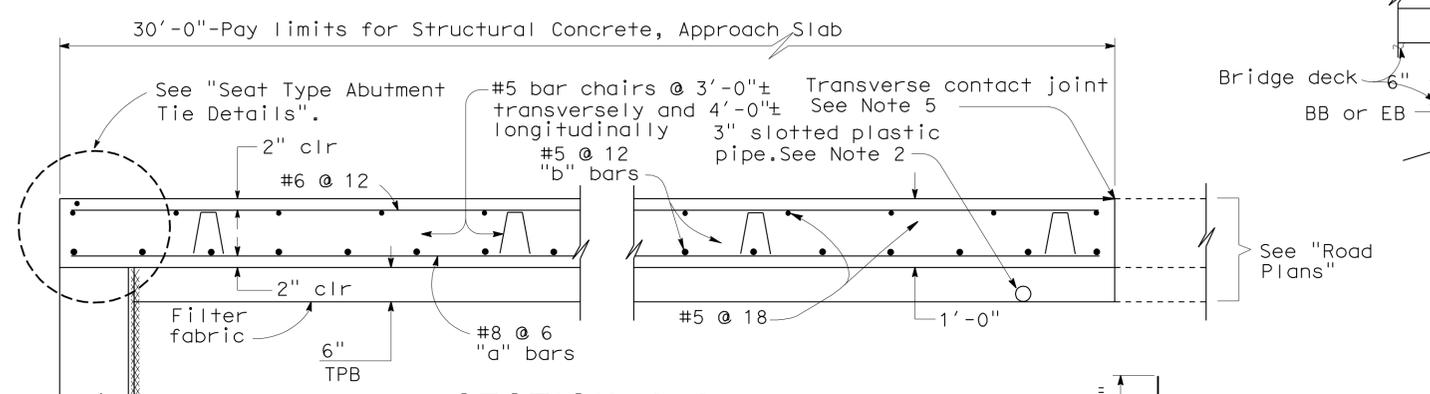
WEIR CANYON ROAD UC (WIDEN)  
 STRUCTURE APPROACH TYPE N(30D)

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	91	9.1/15.1	928	949
08-10-10 REGISTERED ENGINEER - CIVIL 10-25-10 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.					

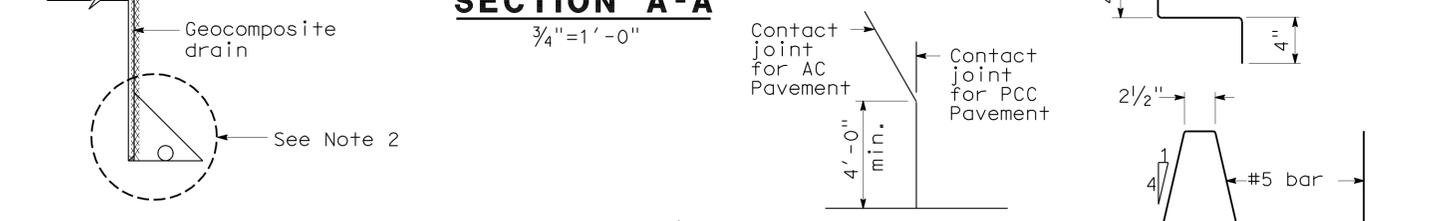
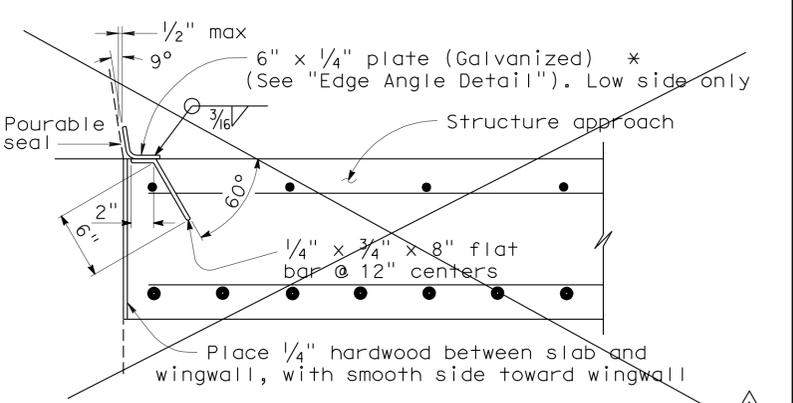
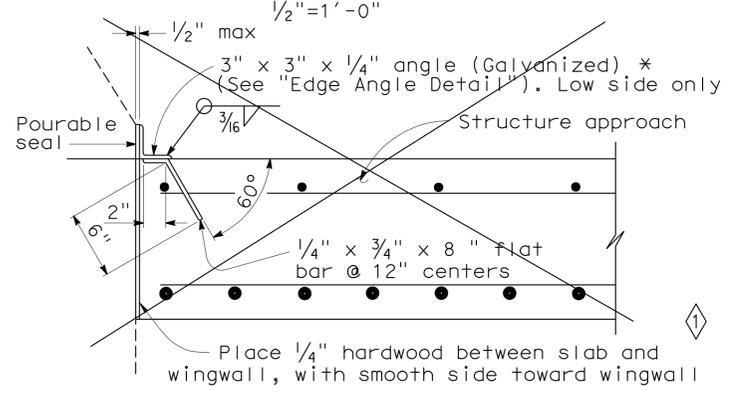


**STRUCTURE APPROACH - END STAGGER DETAIL**

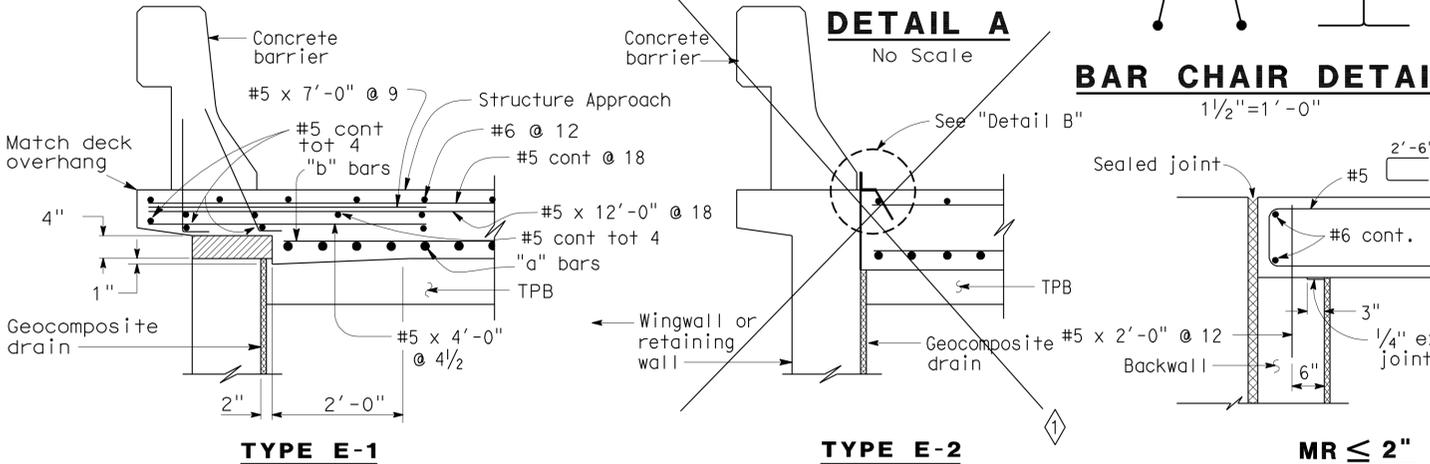
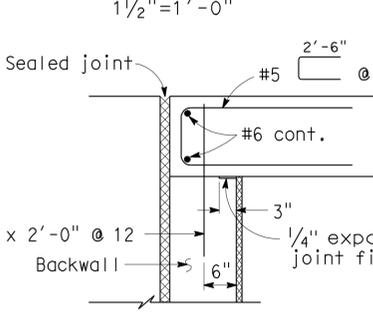
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart.
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line.



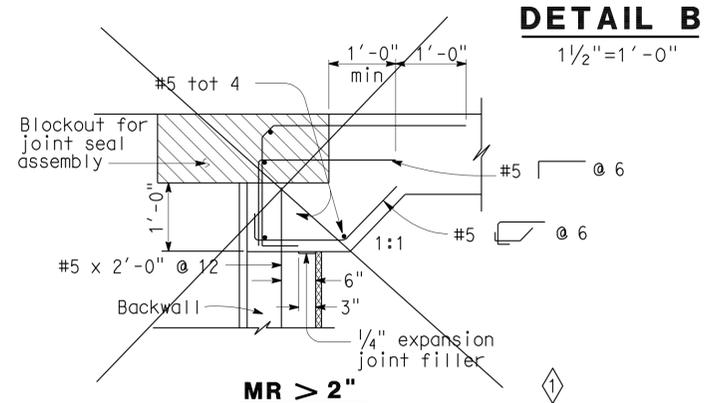
**EDGE ANGLE DETAIL**



**BAR CHAIR DETAIL**



**SEAT TYPE ABUTMENT TIE DETAILS (SEE NOTE 1)**



- NOTES:**
- For details not shown, see Structure Plans. For MR ≤ 2", adjust bar reinforcement to clear a sawcut for sealed joint, when required.
  - For drainage details, see "Structure Approach Drainage Details" sheet.
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
  - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.
  - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
  - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along roadway.
- Remove all polystyrene.

STANDARD DRAWING			
RELEASE DATE 3/14/05	DESIGN BY M. TRAFFALIS	CHECKED BY E. THORKILDSEN	RELEASED BY
FILE NO. xs3-120e	DETAILS BY R. YEE	CHECKED BY E. THORKILDSEN	
	SUBMITTED BY M. HA	DRAWING DATE 4/98	OFFICE CHIEF

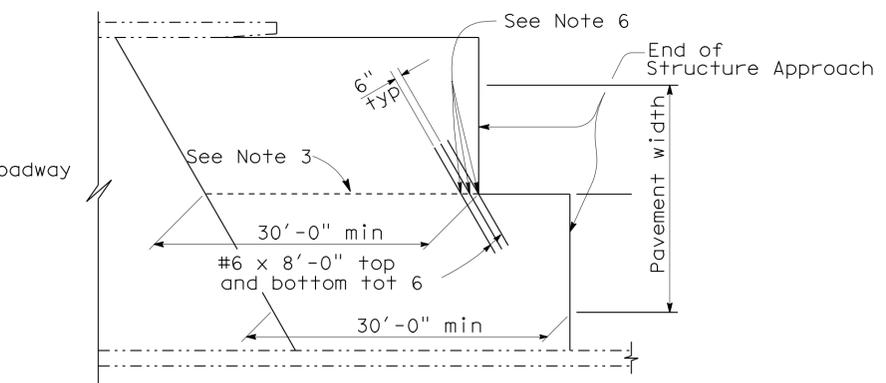
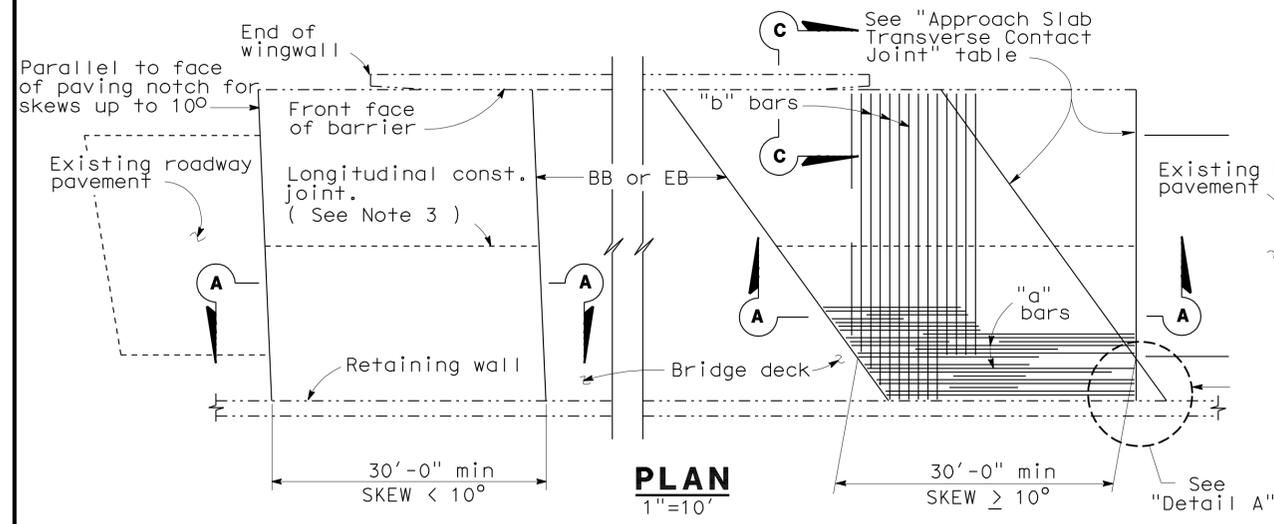
1 Delete Detail	2 Add Note
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STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES
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BRIDGE NO. 55-505R/L	WEIR CANYON ROAD UC (WIDEN)
MILE POST 14.43	STRUCTURE APPROACH TYPE N(30S)

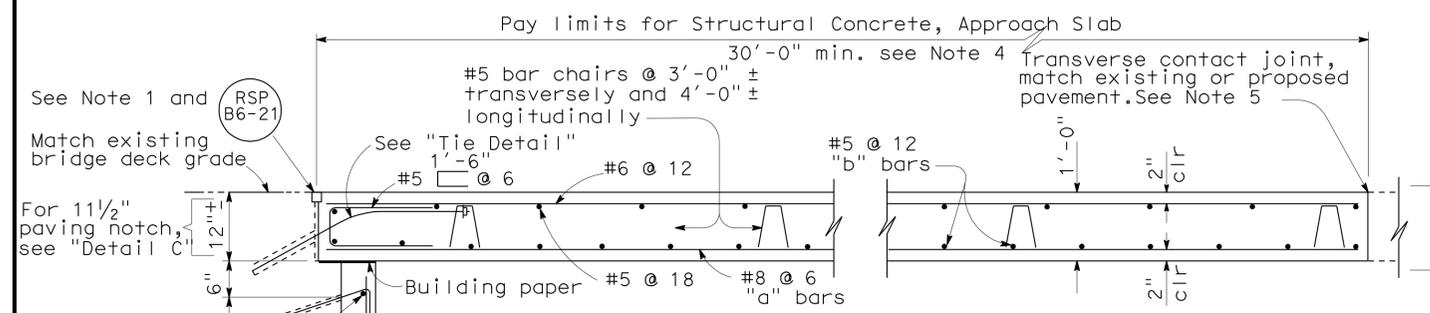
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	91	9.1/15.1	929	949

08-10-10  
 REGISTERED ENGINEER - CIVIL  
 10-25-10  
 PLANS APPROVAL DATE  
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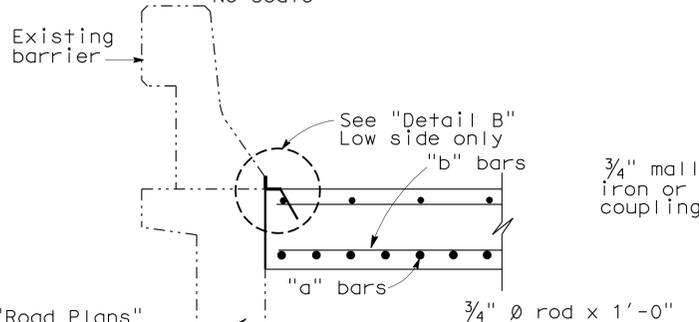


**STRUCTURE APPROACH - END STAGGER DETAIL**  
No Scale

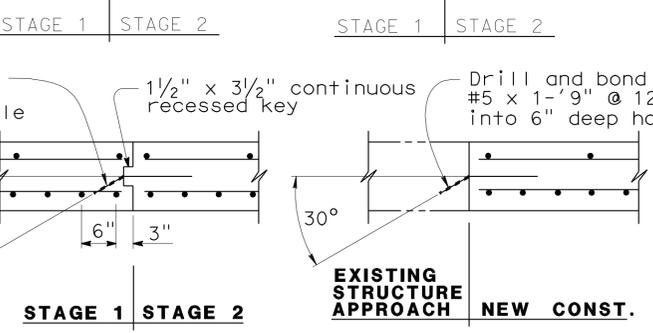
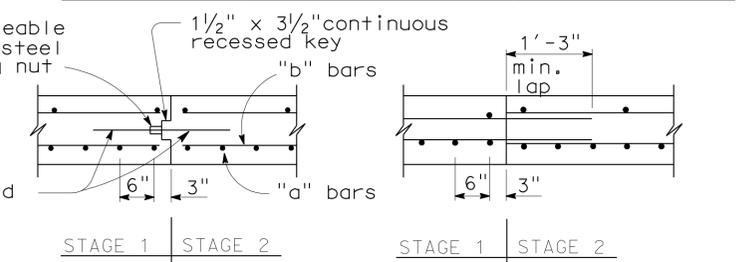
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



**SECTION A-A**  
No Scale

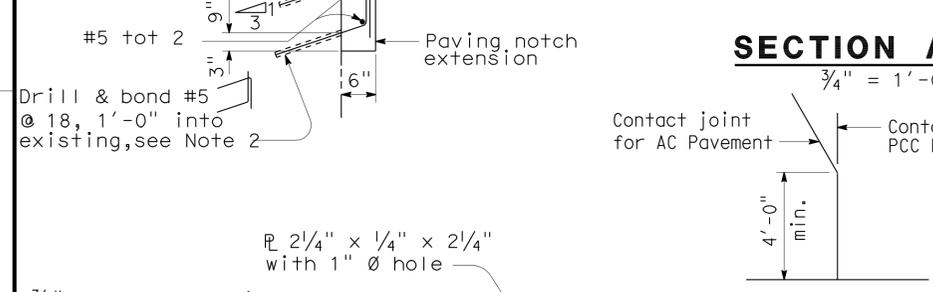


**SECTION C-C**  
No Scale

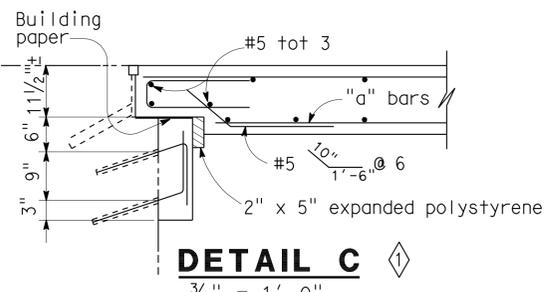


**LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES**  
No Scale

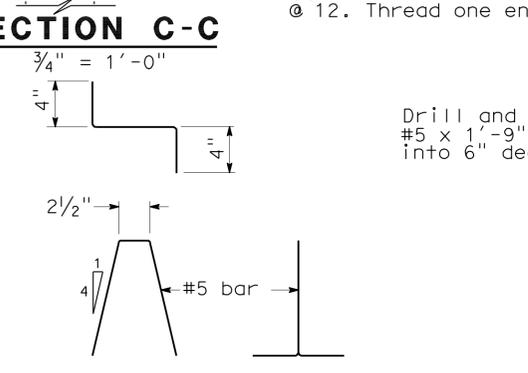
- NOTES:**
- For details not shown or noted, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
  - Space to avoid existing prestress anchorages and main reinforcement.
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
  - Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
  - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
  - Couplers are required for stage construction.
  - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.



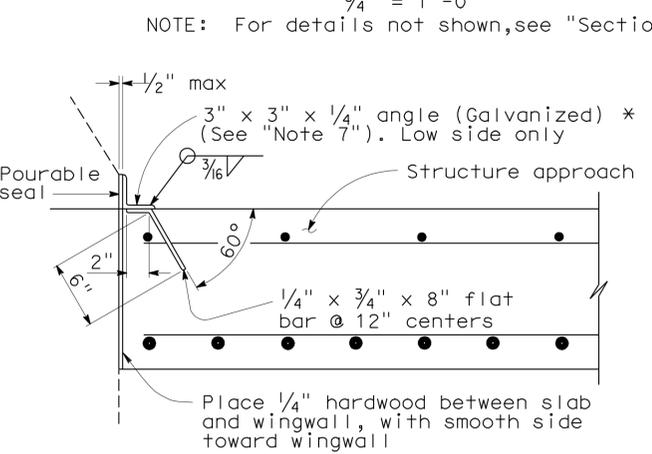
**DETAIL A**  
No Scale



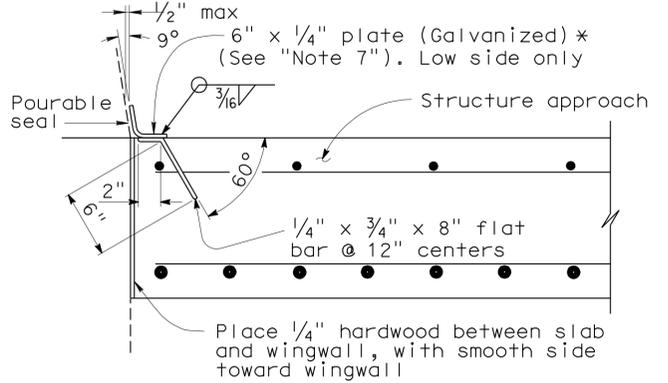
**DETAIL C**  
No Scale



**BAR CHAIR DETAIL**  
No Scale



**DETAIL B**  
No Scale



**DETAIL B**  
No Scale

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

**\*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER) \*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)**

STANDARD DRAWING			
RELEASE DATE <b>3/14/05</b>	DESIGN BY <b>M. TRAFFALIS</b>	CHECKED <b>E. THORKILDSEN</b>	RELEASED BY <b>[Signature]</b>
FILE NO. <b>xs3-140e</b>	DETAILS BY <b>R. YEE</b>	CHECKED <b>E. THORKILDSEN</b>	
	SUBMITTED BY <b>M. HA</b>	DRAWING DATE <b>8/92</b>	OFFICE CHIEF <b>[Signature]</b>

Detail Modified

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.  
55-505R/L

MILE POST  
14.43

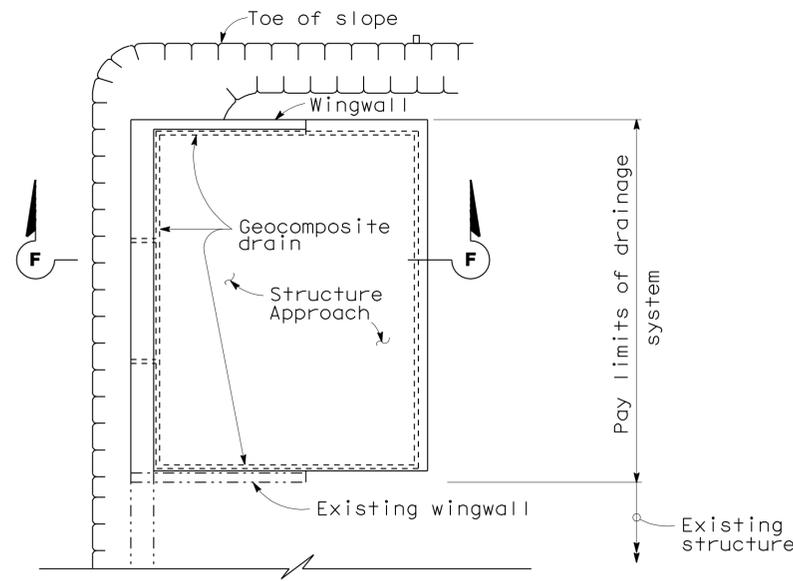
WEIR CANYON ROAD UC (WIDEN)  
STRUCTURE APPROACH TYPE R(30D)

DISREGARD EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF
	07-07-10 07-26-10 08-11-10	29 36

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	91	9.1/15.1	930	949

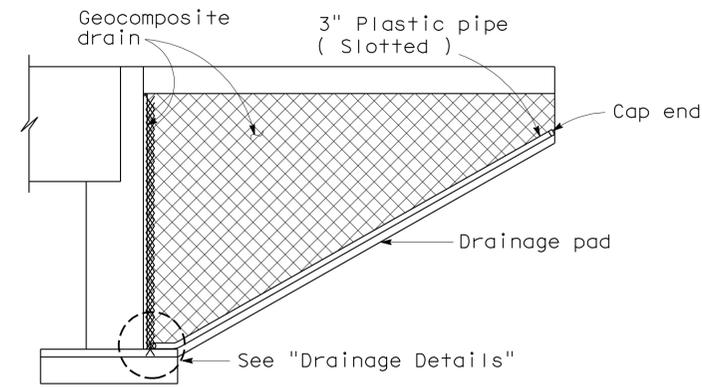
08-10-10  
 REGISTERED ENGINEER - CIVIL  
 10-25-10  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA

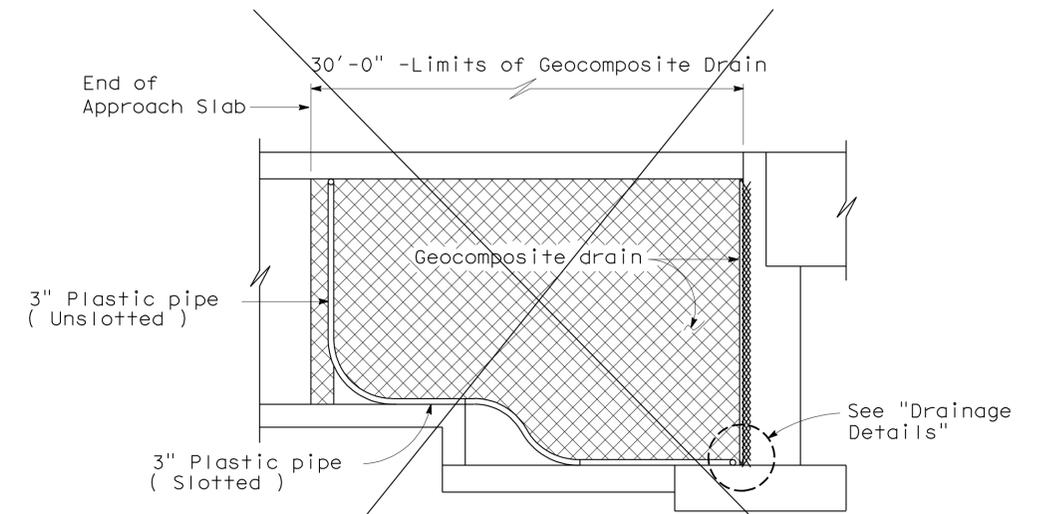


**TYPICAL PLAN**  
1"=10'

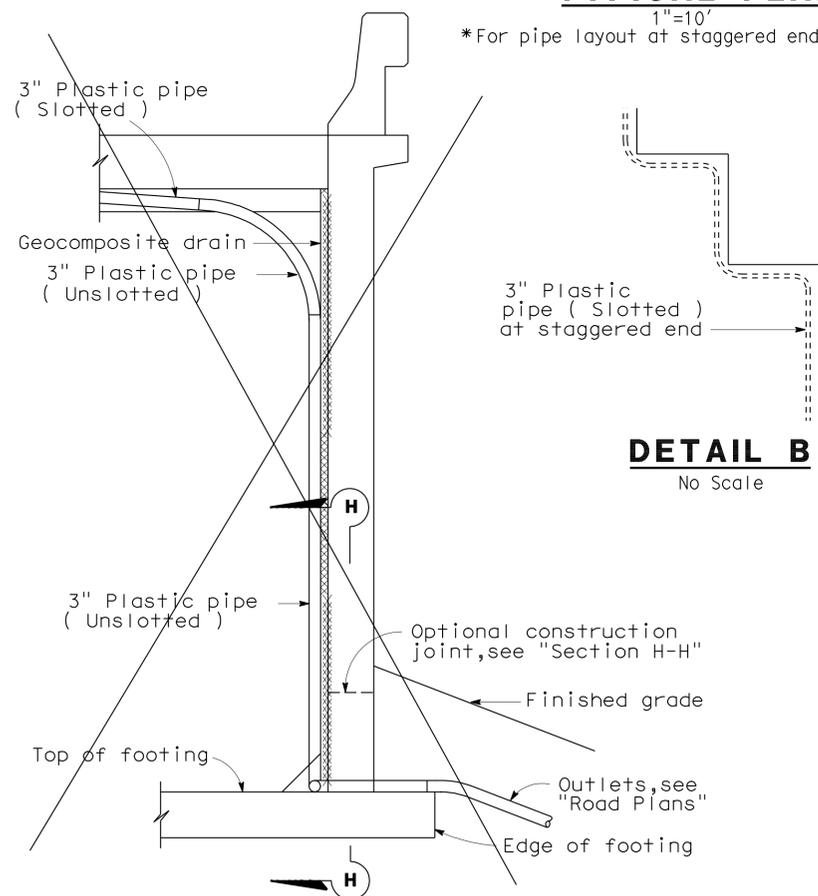
\*For pipe layout at staggered end, see "Detail B".



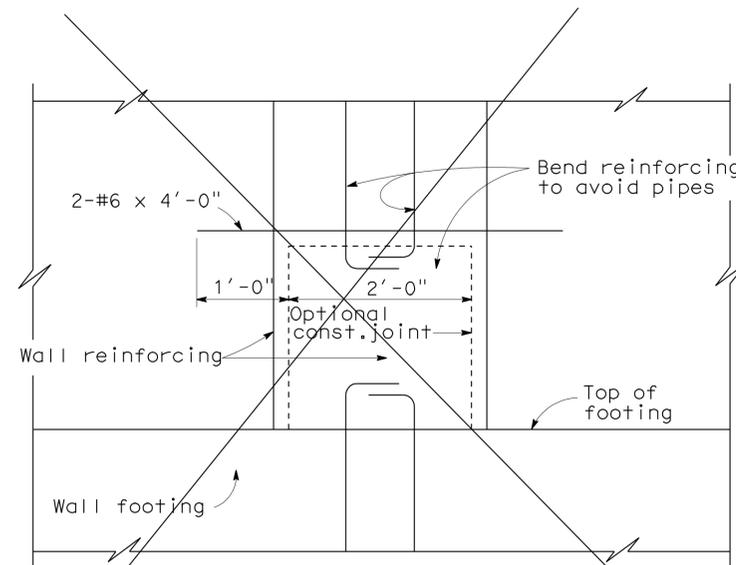
**CANTILEVER WINGWALL SECTION F-F**  
1/4"=1'-0"



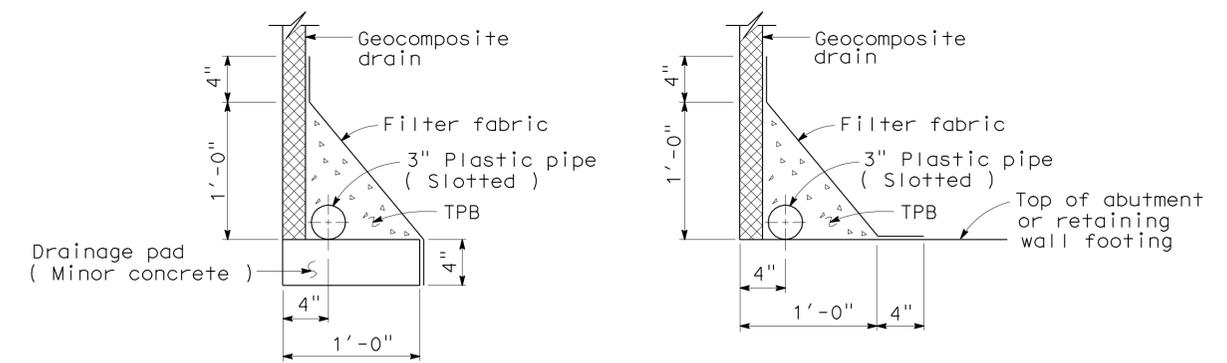
**RETAINING WALL WINGWALL SECTION G-G**  
1/4"=1'-0"



**DETAIL B**  
No Scale



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



**WITHOUT FOOTING WITH FOOTING DRAINAGE DETAILS**  
1/2"=1'-0"



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

NOTE: Bends and junctions in 3" plastic pipe are 30" radius min.

STANDARD DRAWING			
RELEASE DATE 4/23/98	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	RELEASED BY
FILE NO. xs3-110e	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	
	SUBMITTED BY M. HA	DRAWING DATE 4/98	OFFICE CHIEF

- ◇ Detail Revised
- ◇ Delete Detail

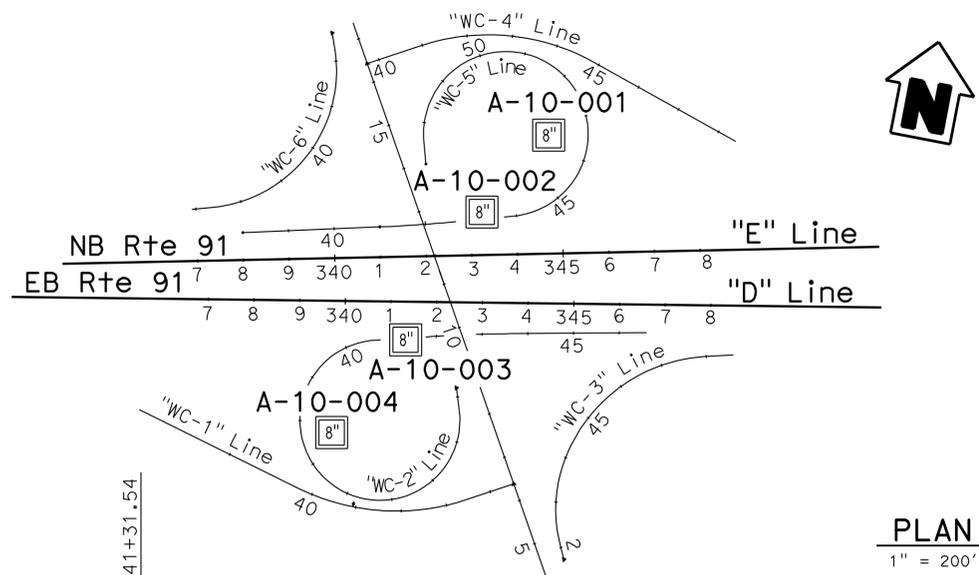
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO.  
 55-505R/L  
 MILE POST  
 14.43  
 WEIR CANYON ROAD UC (WIDEN)  
 STRUCTURE APPROACH TYPE N(30D)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	931	949

REGISTERED GEOTECHNICAL ENGINEER 8-10-10  
 No. GE2403  
 Exp. 9-30-10  
 PLANS APPROVAL DATE

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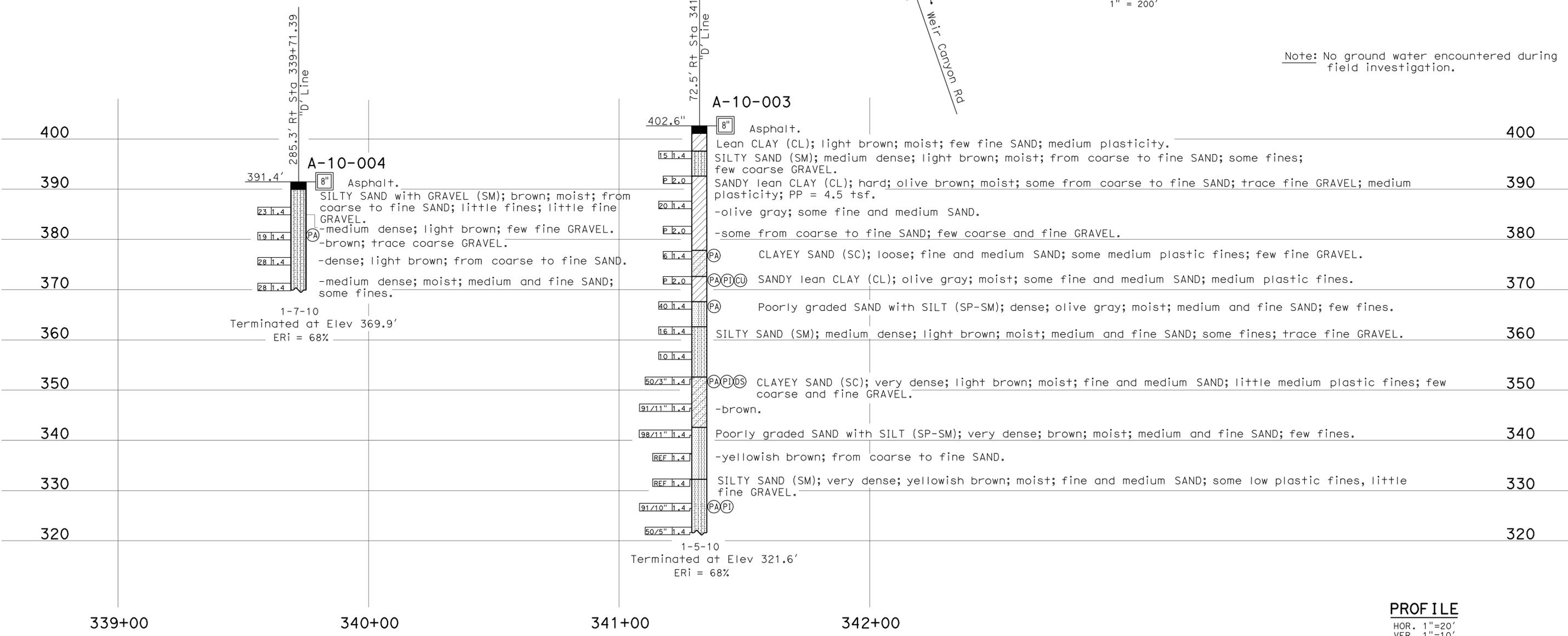
**BENCH MARK**

DESCRIBED BY OCS 2003 - FOUND 3 3/4" OCS ALUMINUM BENCHMARK DISK STAMPED "3KK-27-85", SET IN THE SOUTHWESTERLY CORNER OF A 4.5 FT. BY 22 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED IN THE NORTHEASTERLY CORNER OF THE INTERSECTION OF WEIR CANYON ROAD AND SANTA ANA CANYON ROAD, 64 FT. NORTHERLY OF THE CENTERLINE OF SANTA ANA CANYON, 111 FT. EASTERLY OF THE CENTERLINE OF WEIR CANYON. MONUMENT IS SET LEVEL WITH THE SIDEWALK.

Horizontal datum : (CCCS83) zone 6 1983 NAD (1991.35 epoch OCS adjustment).  
 Vertical : NAVD 1988 OCS 1995 adjustment.

**PLAN**  
 1" = 200'

Note: No ground water encountered during field investigation.



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

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>WEIR CANYON ROAD UC WIDENING</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 06/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		55-0505RL		<b>LOG OF TEST BORINGS 1 OF 6</b>	
NAME: S. Karimi		CHECKED BY: T. Haida		FIELD INVESTIGATION BY: K. Lai, A. Mehrazar		DESIGN BRANCH		POST MILES 14.5			
OCS CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU EA 12 0G3301		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 31 OF 36	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	932	949

8-10-10

REGISTERED GEOTECHNICAL ENGINEER

10-25-10  
PLANS APPROVAL DATE

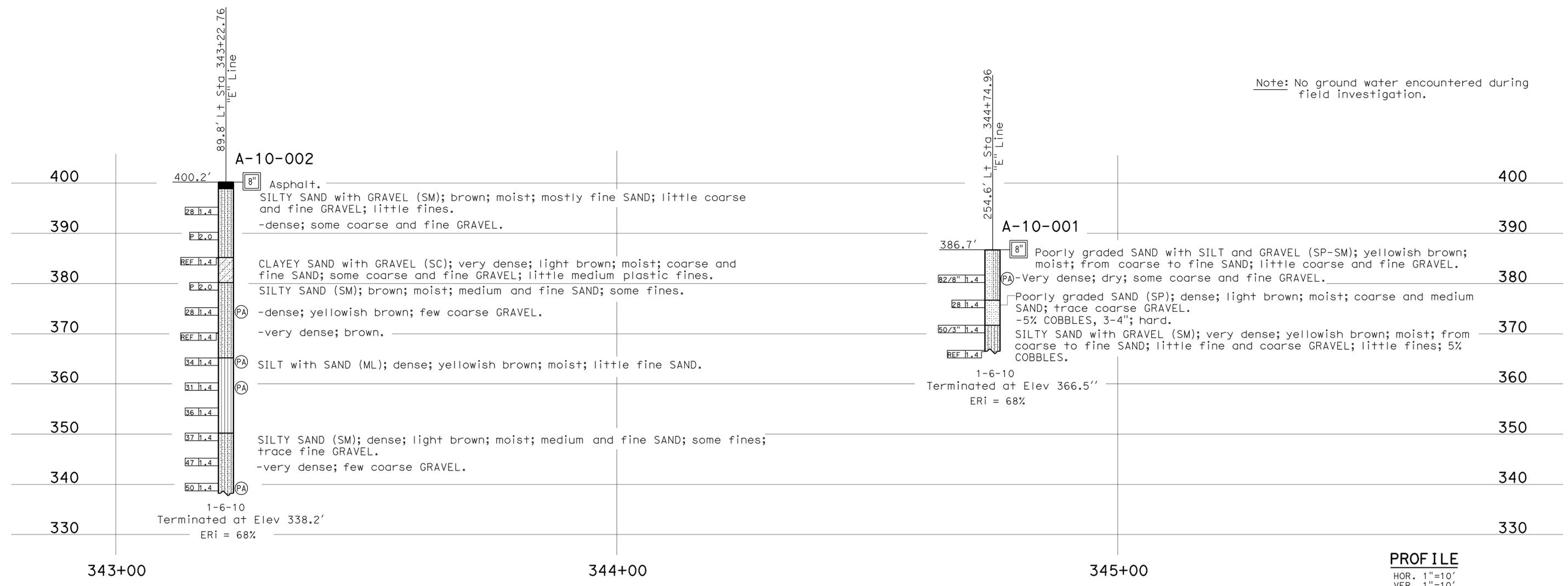
Gmini Weeratunga  
No. GE2403  
Exp. 9-30-10

STATE OF CALIFORNIA  
REGISTERED PROFESSIONAL ENGINEER  
GEOTECHNICAL

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).

FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS 1 OF 6"



Note: No ground water encountered during field investigation.

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

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>WEIR CANYON ROAD UC WIDENING</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 06/10		FIELD INVESTIGATION BY:		STRUCTURE DESIGN		55-0505RL		<b>LOG OF TEST BORINGS 2 OF 6</b>	
NAME: S. Karimi		CHECKED BY: T. Haida		K. Lai, A. Mehrazar		DESIGN BRANCH		POST MILES			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 12 EA 0G3301		BRIDGE NO. 14.5		REVISION DATES	
						DISREGARD PRINTS BEARING EARLIER REVISION DATES		08-04-10 08-09-10		SHEET 32 OF 36	

FILE => weir-canyon2of6.dgn

DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:35 USERNAME => HSTFK

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	933	949

8-10-10  
REGISTERED GEOTECHNICAL ENGINEER

10-25-10  
PLANS APPROVAL DATE

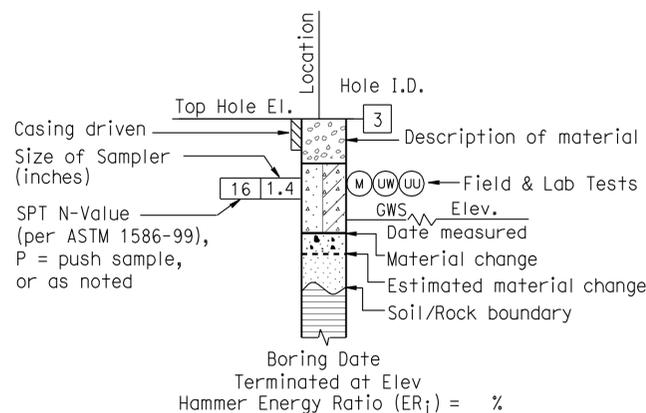
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

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

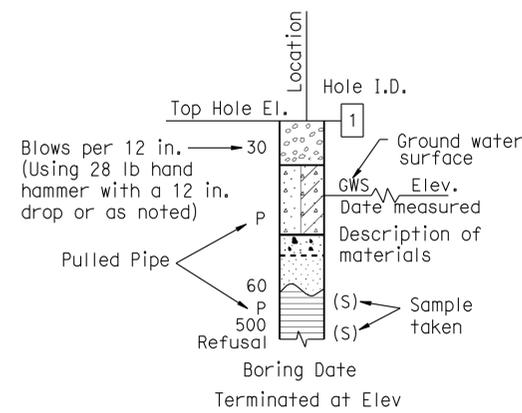
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled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

Note: Size in inches.

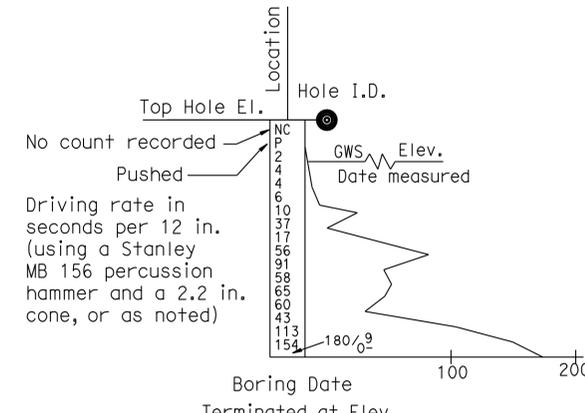
CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium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



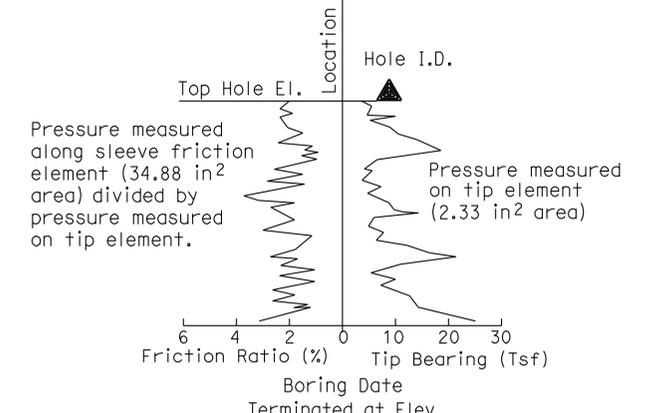
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>WEIR CANYON ROAD UC WIDENING</b>	
FUNCTIONAL SUPERVISOR:		DRAWN BY: W. Tang 06/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		55-0505RL		<b>LOG OF TEST BORINGS 3 OF 6</b>	
S. Karimi		CHECKED BY: T. Haida		K. Lai, A. Mehrazar		DESIGN BRANCH		POST MILE			
GS LOTB SOIL LEGEND		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 12		EA 0G3301		14.5		REVISION DATES	
				0 1 2 3						SHEET 33 OF 36	

FILE => weir-canyon3of6.dgn

GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW		Well-graded GRAVEL with SAND		CL
	GP				
	GW-GM		Well-graded GRAVEL with SILT and SAND		CL-ML
	GW-GC				
	GP-GM		Poorly-graded GRAVEL with SILT and SAND		ML
	GP-GC				
	GM		SILTY GRAVEL with SAND		OL
	GC				
	GC-GM		SILTY, CLAYEY GRAVEL with SAND		OL
	SW				
	SP		Poorly-graded SAND with GRAVEL		CH
	SW-SM				
	SW-SC		Well-graded SAND with SILT and GRAVEL		MH
	SP-SM				
	SP-SC		Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		OH
	SM				
	SC		CLAYEY SAND with GRAVEL		OH
	SC-SM				
	PT		PEAT		OL/OH

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

REGISTERED GEOTECHNICAL ENGINEER 8-10-10  
 10-25-10  
 PLANS APPROVAL DATE  
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APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N <sub>60</sub> (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

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

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

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	91	RI0.1/RI8.9		

*Edward Williams*  
REGISTERED ENGINEER-GEOTECHNICAL

PLANS APPROVAL DATE \_\_\_\_\_  
**ORANGE COUNTY TRANSP. COMM.**  
 1055 N. MAIN ST., SUITE 516  
 SANTA ANA, CALIFORNIA 92701

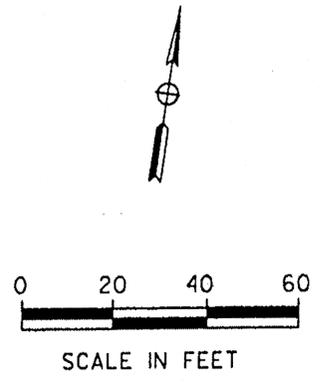
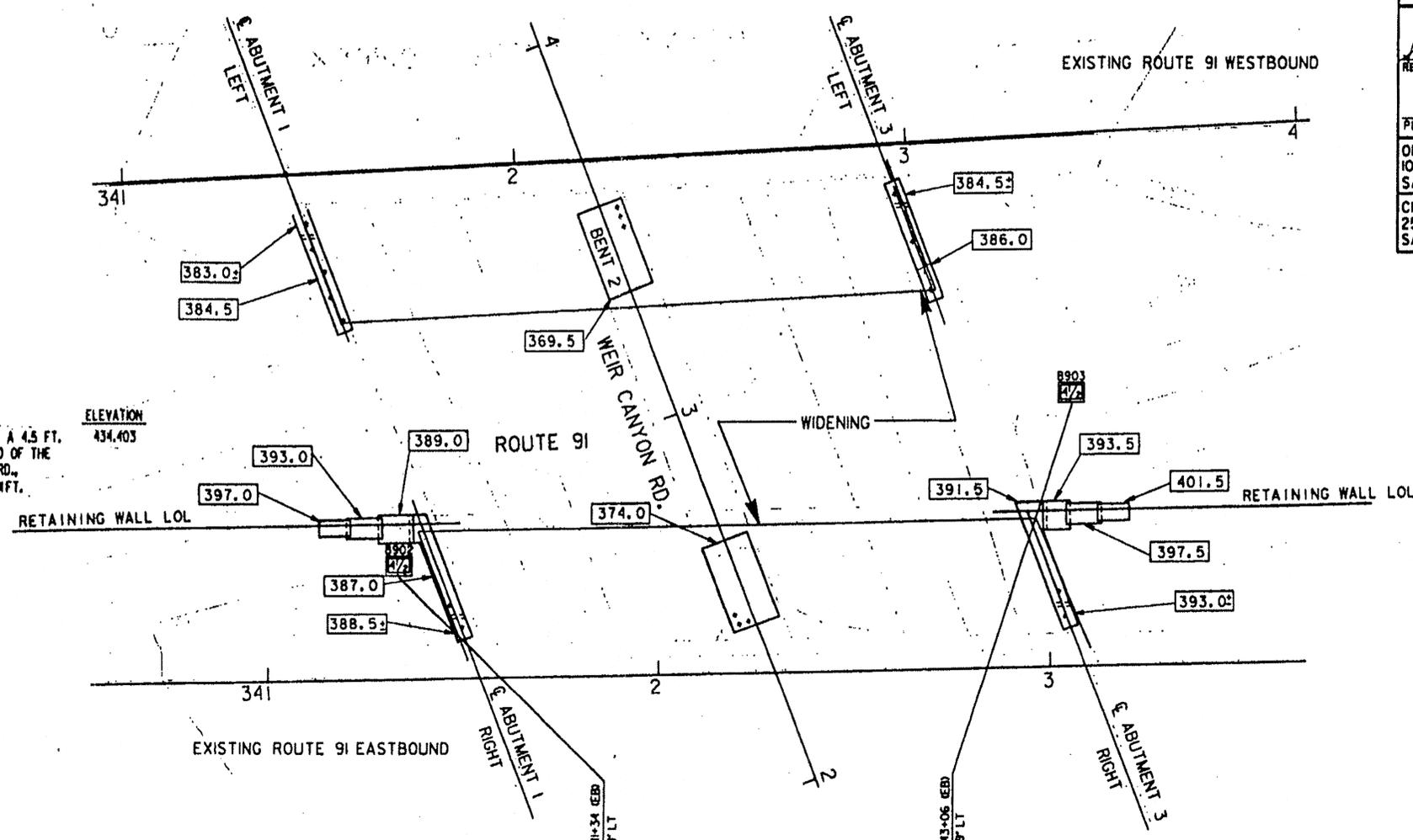
**CH2M HILL**  
 2510 RED HILL AVE, SUITE A  
 SANTA ANA, CALIFORNIA 92705



- NOTES:**
- THE BORING LOGS AND RELATED INFORMATION REPRESENT THE OPINION OF THE GEOTECHNICAL ENGINEER AS TO THE CHARACTER OF THE MATERIALS AT THE LOCATIONS SHOWN. SOIL AND GROUNDWATER CONDITIONS BETWEEN ADJACENT TEST HOLES AND AT OTHER LOCATIONS MAY DIFFER FROM THOSE SHOWN. GROUNDWATER CONDITIONS MAY CHANGE WITH PASSAGE OF TIME. ALL LOCATIONS AND ELEVATIONS ARE APPROXIMATE.
  - AUGER BORINGS WERE DRILLED WITH A CME 75 DRILL RIG.
  - ELEVATIONS ARE BASED ON TOPOGRAPHIC BASE SHEET MAPPING PREPARED FOR THIS PROJECT. TEST BORING ELEVATIONS ARE IN FEET AND ARE REFERENCED TO MEAN SEA LEVEL DATUM.
  - DETAILED BORING LOGS ARE INCLUDED IN THE JULY 1990 GEOTECHNICAL BRIDGE FOUNDATION REPORT PREPARED BY CH2M HILL, FILE NO. LA028364.ELI
  - ELEVATIONS SHOWN ARE BASED UPON OCS DATUM 1976.
  - BASIS OF BEARINGS IS CALIFORNIA STATE PLANE COORDINATE SYSTEM (1983 N.A.D.)
  - INDICATES BOTTOM OF FOOTING ELEVATION FOR PILE LAYOUT SEE OTHER SHEETS.
  - NO GROUNDWATER ENCOUNTERED DURING DRILLING OF BORINGS B902 AND B903.

**BENCH MARK**

BENCH MARK	DESCRIPTION	ELEVATION
3KK-27-85 (PM R 14.5)	STD. OCS BM DISK IN TOP OF SW'LY CORNER OF A 4.5 FT. BY 22 FT. PCC CATCH BASIN, IN THE NE'LY QUAD OF THE INTERS. OF WEIR CYN. RD. AND SANTA ANA CYN. RD., 64 FT. W'LY OF THE 'OF SANTA ANA CYN. RD., NE'LY OF THE 'OF WEIR CYN. RD. (OCS VERT. CON. REV. 1986 PG 09-4)	434.403



**AS BUILT**  
 RESIDENT ENGINEER *James Perkins*  
 CONTRACT NO. 12-926004  
 COMPLETION DATE: 07-28-1998

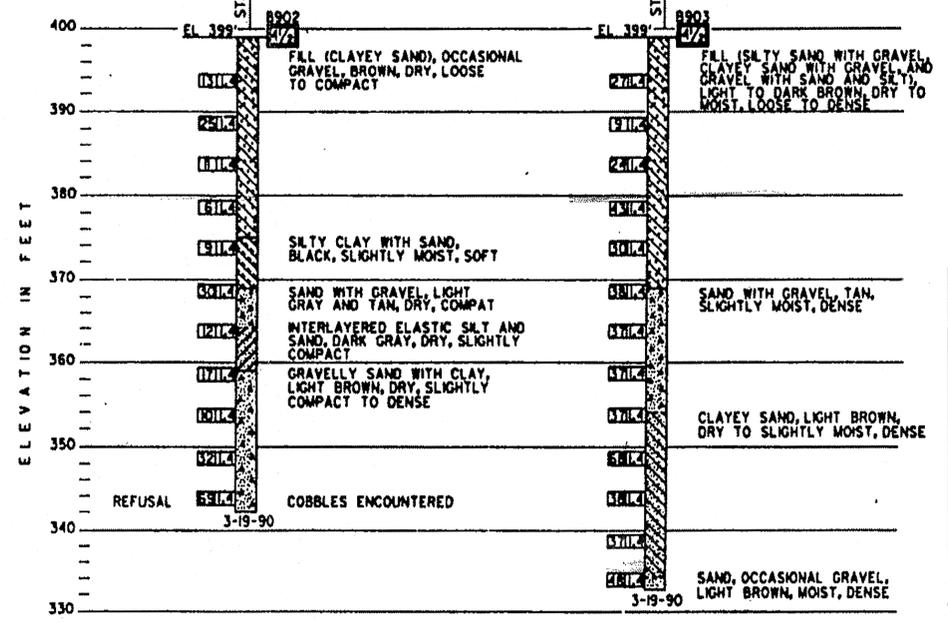
**LEGEND OF BORING OPERATIONS**

**LEGEND OF EARTH MATERIALS**

**LEGEND OF PENETRATION TEST**

**LEGEND OF CONSEQUENCE CLASSIFICATION FOR SOILS**

**NOTE:** Classification of earth materials shown on this sheet is based upon field inspection and is not to be construed to imply geotechnical analysis.



TO ACCOMPANY PLANS DATED 10-25-10

**DIVISION OF ENGINEERING SERVICES - 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 MILES-TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	91	9.1/15.1	935	949

REGISTERED GEOTECHNICAL ENGINEER *James Perkins* 8-10-10 DATE

**WEIR CANYON ROAD UC WIDENING**  
**LOG OF TEST BORINGS 5 OF 6**

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

BRIDGE No. 55-505 R/L  
 POST MILE 14.43

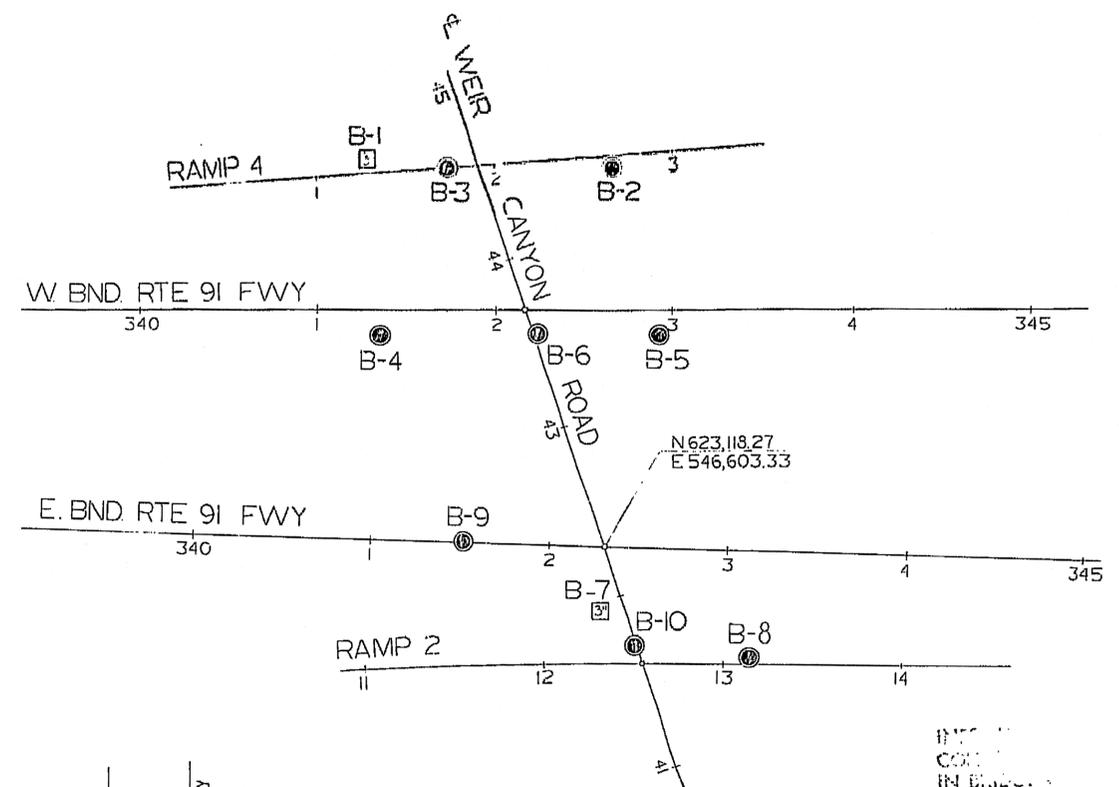
CU: 12  
 EA: 063301

BRIDGE No. \_\_\_\_\_  
 SHEET No. \_\_\_\_\_ of \_\_\_\_\_



DESIGN OVERSIGHT <i>E. M. Smith</i> SIGN OFF DATE _____	DRAWN BY M. REICHERT	E. M. SMITH FIELD INVESTIGATOR	APPROVAL RECOMMENDED BY L. PERKO	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	KENT CORDTZ PROJECT ENGINEER	BRIDGE No. 55-505 R/L POST MILE 14.43	<b>WEIR CANYON ROAD U.C. (WIDEN)</b> <b>LOG OF TEST BORINGS</b>
	CHECKED BY E. M. SMITH	REGISTRATION NO. _____	REGISTRATION NO. CE44359	CU 12207 EA 000971	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 35 OF 36

DATE APPROVED: 12-1-11



**BENCH MARK**  
 BM "MARK" Elev 357.59  
 Set 2" I.P. Br cap mon in P.C.C.  
 32' No of W Bnd Rdwy. at sta. 341+50  
 marked "MARK".

**PLAN**  
 Scale: 1"=50'

TO ACCOMPANY PLANS DATED 10-25-10

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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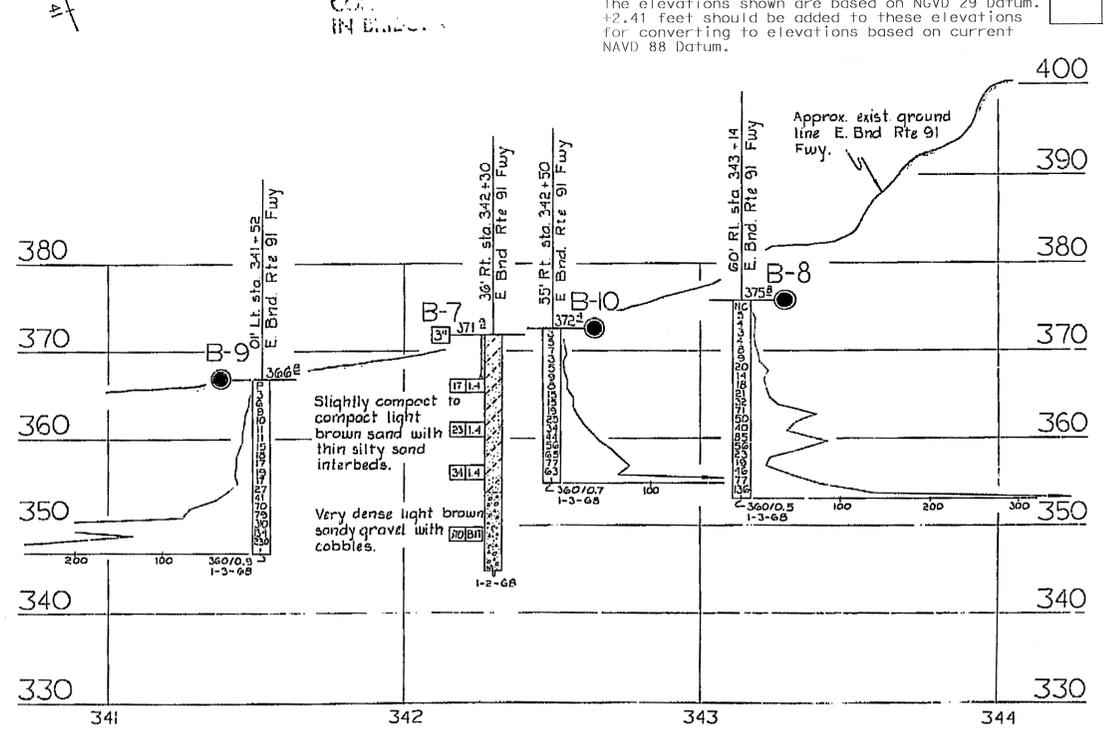
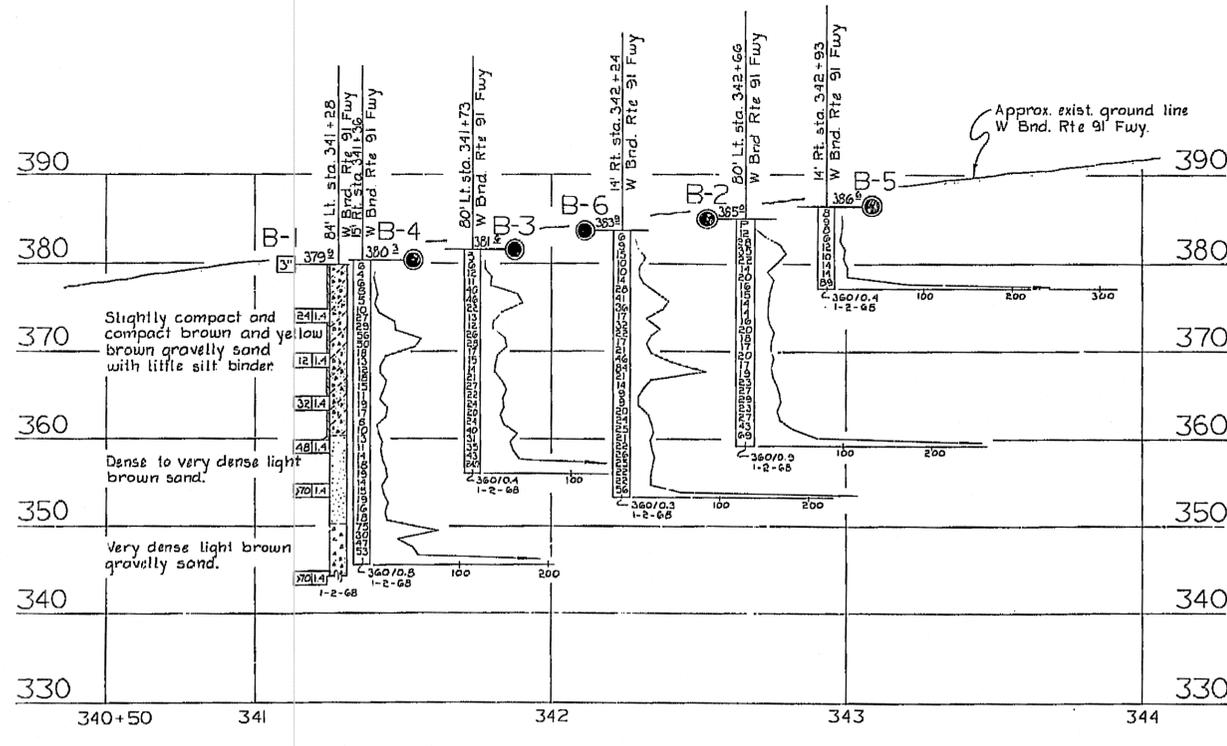
DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	91	9.1/15.1	936	949

REGISTERED GEOTECHNICAL ENGINEER  
 No. GE2403  
 Exp. 9-30-10

**WEIR CANYON ROAD UC WIDENING**  
**LOG OF TEST BORINGS 6 OF 6**

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

BRIDGE No. 55-0505RL  
 Sheet 36 of 36



PROFILE (W BND RTE 91 FWY)  
 Scale: Vert: 1"=10'  
 Horiz: 1"=30'

PROFILE (E BND RTE 91 FWY)  
 Scale: Vert: 1"=10'  
 Horiz: 1"=30'

**AS BUILT PLANS**  
 Contract No. 07-040024  
 Date Completed \_\_\_\_\_  
 Document No. 70065928

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

**WEIR CANYON ROAD UNDERCROSSING**

**LOG OF TEST BORINGS**

SCALE As Noted BRIDGE 55-0505RL FILE DRAWING

**1" SOIL TUBE**

**PENETRATION BORING**

**1" SOIL TUBE**

**TEST PIT**

**LEGEND OF EARTH MATERIALS**

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS**

**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.

**BRIDGE DEPARTMENT**  
**ENGINEERING GEOLOGY SECTION**

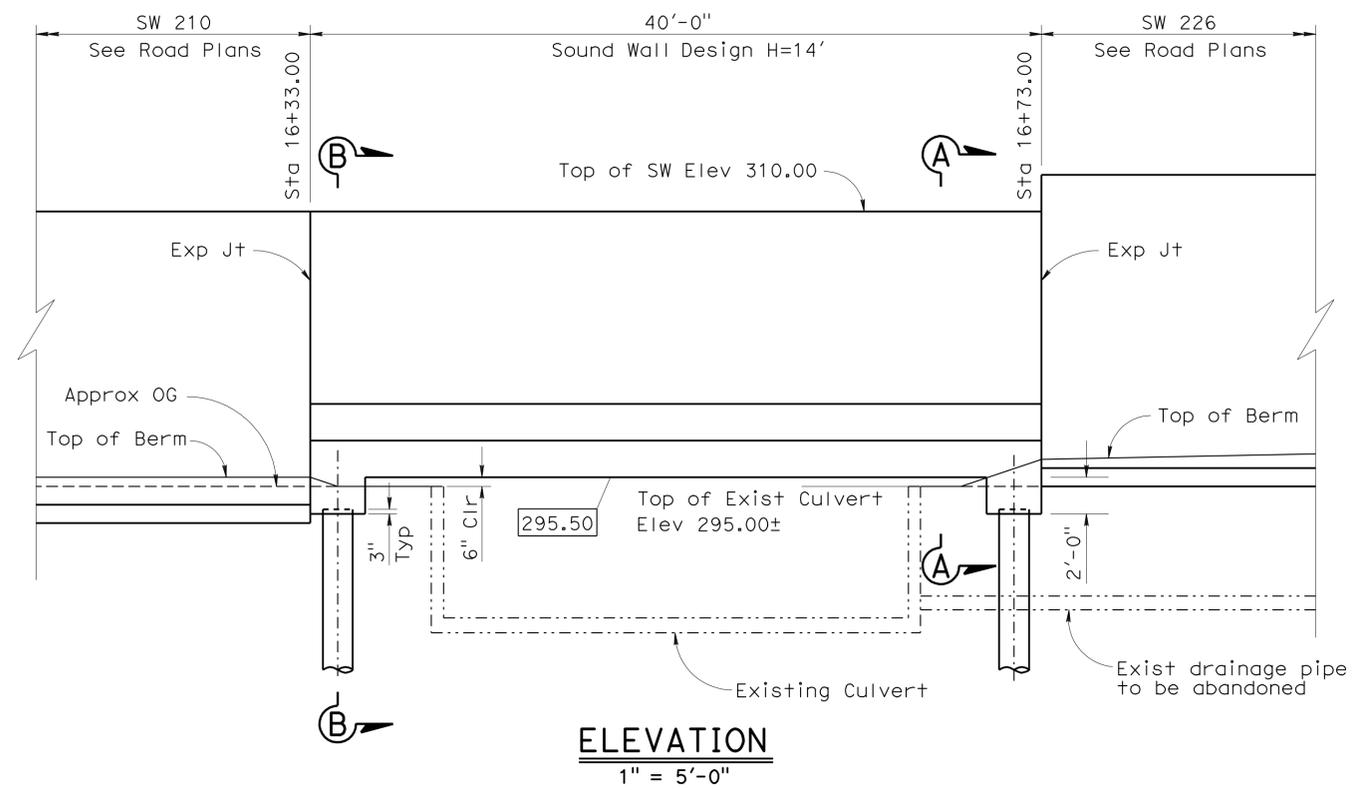
**LEGEND OF EARTH MATERIALS**

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS**

**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.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	937	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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**ELEVATION**  
1" = 5'-0"

**QUANTITIES**

18" CAST-IN-DRILLED-HOLE CONCRETE PILING (SOUND WALL)	95 LF
STRUCTURAL CONCRETE, SOUND WALL	27 CY
SOUND WALL (MASONRY BLOCK)	420 SQFT

**INDEX TO PLANS**

- NO. SHEET NAME
- SOUNDWALL NO. 224 - PLAN AND ELEVATION
  - SOUNDWALL NO. 242 - PLAN AND ELEVATION
  - SOUNDWALL NO. 262 - PLAN AND ELEVATION
  - SOUNDWALL NO.s 224, 242 AND 262 - TYPICAL SECTION
  - SOUNDWALL NO. 224 - LOG OF TEST BORING 1 OF 3
  - SOUNDWALL NO. 224 - LOG OF TEST BORING 2 OF 3
  - SOUNDWALL NO. 224 - LOG OF TEST BORING 3 OF 3
  - SOUNDWALL NO. 242 - LOG OF TEST BORING 1 OF 3
  - SOUNDWALL NO. 242 - LOG OF TEST BORING 2 OF 3
  - SOUNDWALL NO. 242 - LOG OF TEST BORING 3 OF 3
  - SOUNDWALL NO. 262 - LOG OF TEST BORING 1 OF 3
  - SOUNDWALL NO. 262 - LOG OF TEST BORING 2 OF 3
  - SOUNDWALL NO. 262 - LOG OF TEST BORING 3 OF 3

**STANDARD PLANS DATED MAY 2006**

- A10A ACRONYMS AND ABBREVIATIONS (A-L)
- A10B ACRONYMS AND ABBREVIATIONS (M-Z)
- A10C SYMBOLS (SHEET 1 OF 2)
- A10D SYMBOLS (SHEET 2 OF 2)
- B0-3 BRIDGE DETAILS
- B2-3 16" AND 24" CAST-IN DRILLED-HOLE CONCRETE PILE
- B15-2 SOUND WALL MASONRY BLOCK ON FOOTING DETAILS (2)

**REVISED STANDARD PLANS DATED MAY 2009**

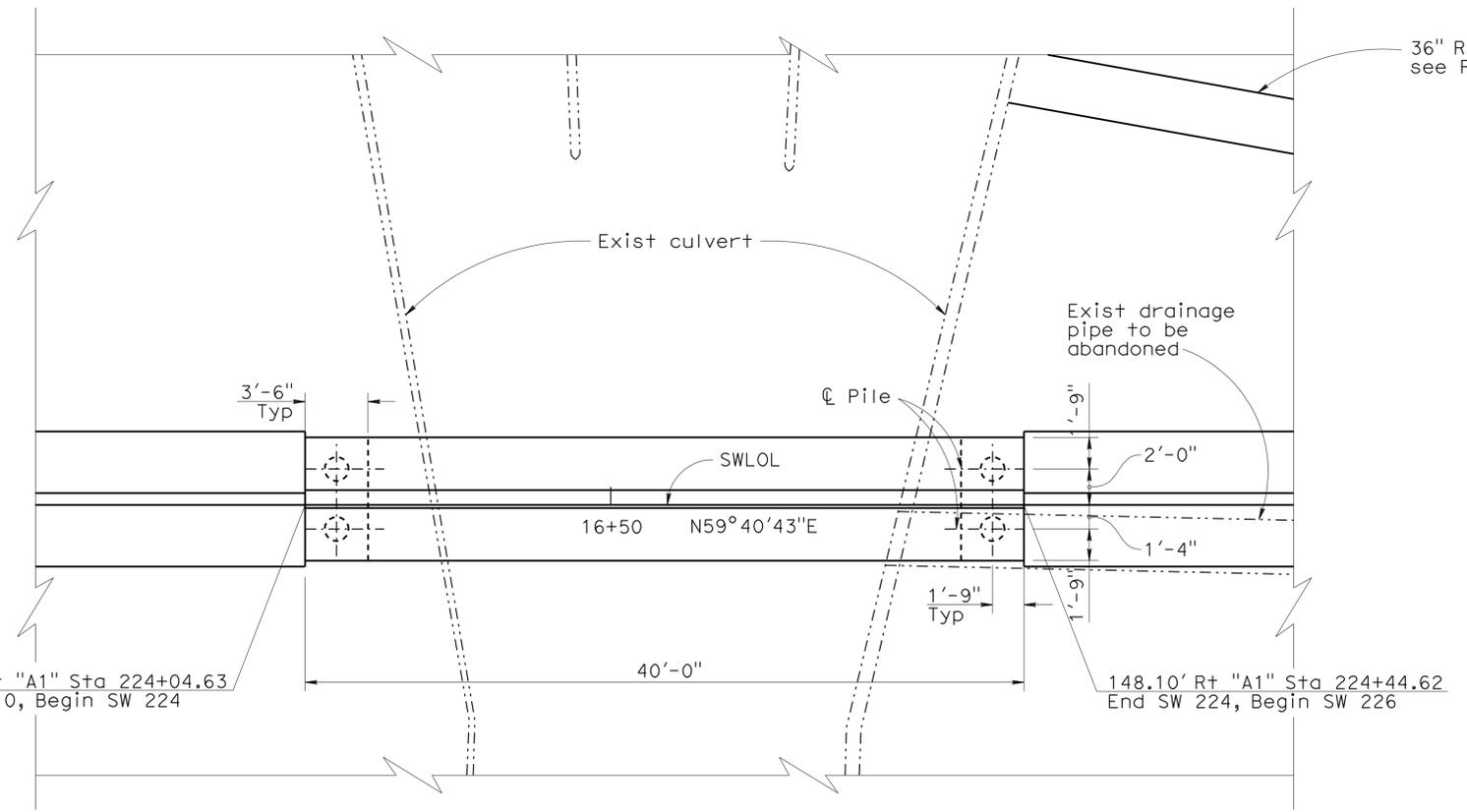
- RSP B15-1 SOUND WALL MASONRY BLOCK ON FOOTING DETAILS (1)

**GENERAL NOTES:**

- For SWLOL information, see Road Plans.
- For Section A-A, see "SOUNDWALL NO.s 224, 242 AND 262 - TYPICAL SECTION" sheet.
- For Pile Data Table, see "SOUNDWALL NO.s 224, 242 AND 262 - TYPICAL SECTION" sheet.
- For Limits of Excavation and Backfill, see "SOUNDWALL NO.s 224, 242 AND 262 -TYPICAL SECTION" sheet.
- For Soundwall Design Data, Load Combinations and General Notes, see "SOUNDWALL NO.262 PLAN AND ELEVATION" sheet.
- For Soundwall architectural detail see, "ARCHITECTURAL DETAIL" on "SOUNDWALL NO. 242-PLAN AND ELEVATION" sheet.

**LEGEND**

- Indicates Bottom of Footing Elevation
- Indicates existing structure



**PLAN**  
1" = 5'-0"

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

DESIGN	BY Edward Mercado	CHECKED Rui Wang
DETAILS	BY Hemant Barbhaiya	CHECKED Edward Mercado
QUANTITIES	BY Rui Wang	CHECKED Barbara McGahey

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 19

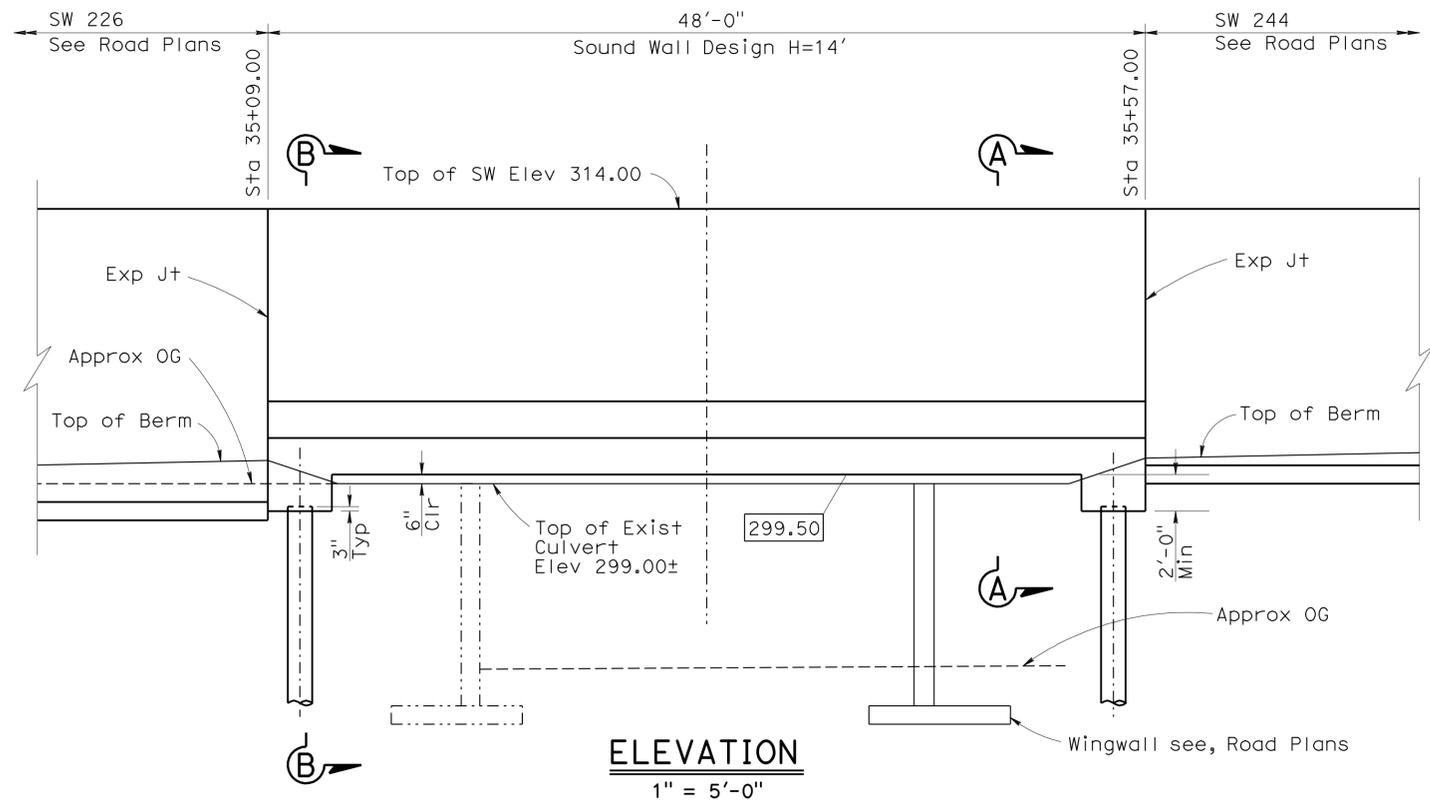
BRIDGE NO.	X
POST MILE	X

SOUNDWALL NO.224  
PLAN AND ELEVATION

USERNAME => HSTFK DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:56

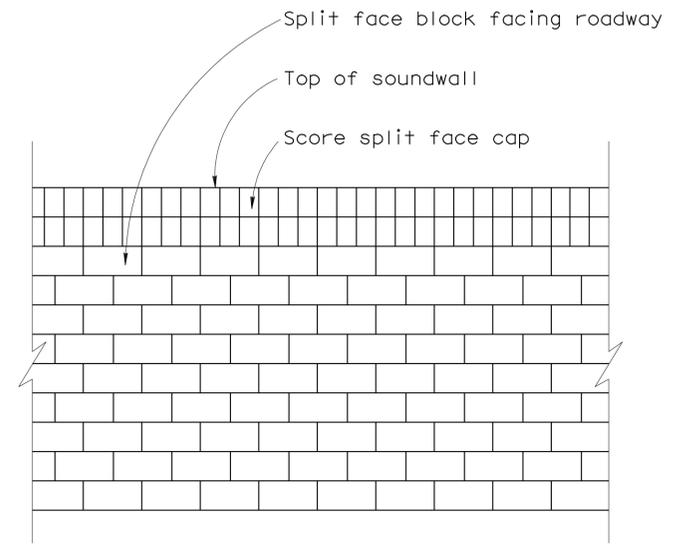
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	938	949

REGISTERED CIVIL ENGINEER DATE 08-10-10  
 REGISTERED CIVIL ENGINEER DATE 10-25-10  
 PLANS APPROVAL DATE 10-25-10  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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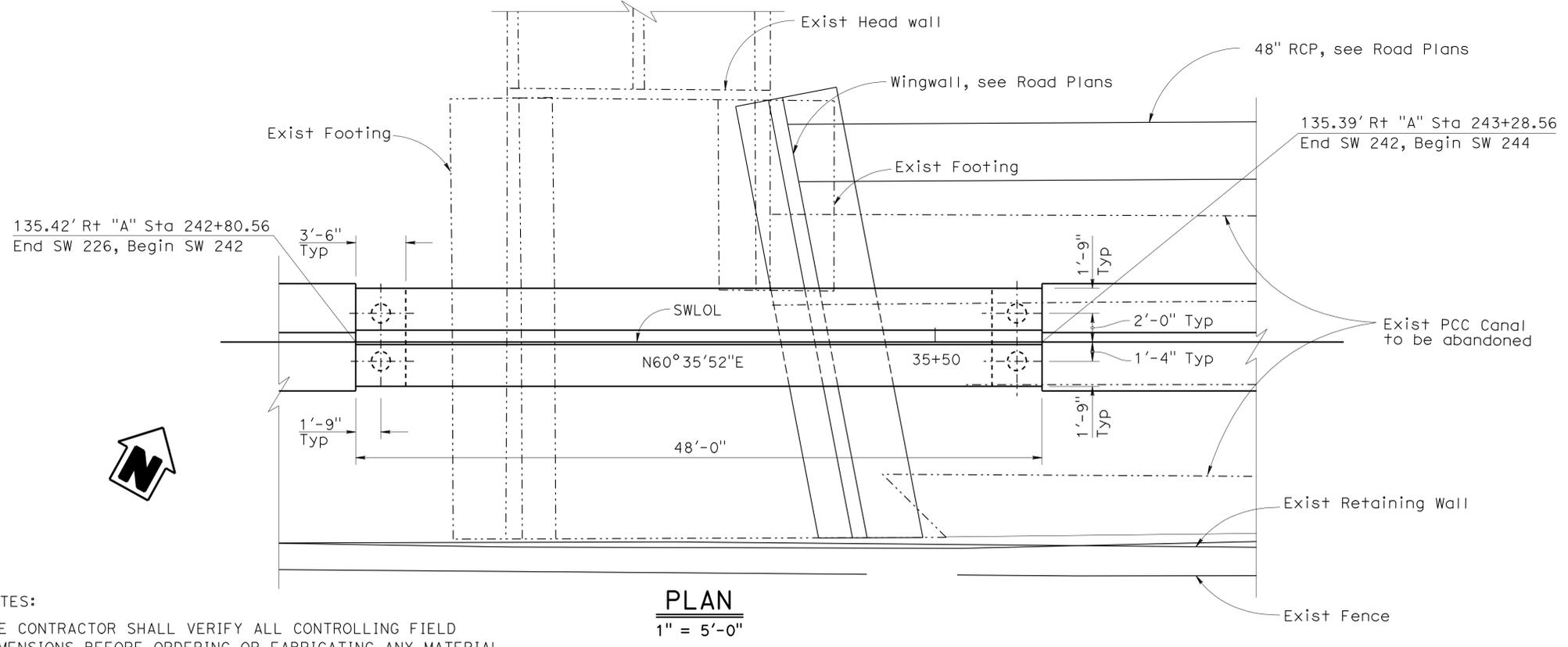
**QUANTITIES**

18" CAST-IN-DRILLED-HOLE CONCRETE PILING (SOUND WALL)	95 LF
STRUCTURAL CONCRETE, SOUND WALL	31 CY
SOUND WALL (MASONRY BLOCK)	504 SQFT



**ARCHITECTURAL DETAIL**

SW No. 224, 242, & 262  
 No Scale



**LEGEND**

- Indicates Bottom of Footing Elevation
- Indicates existing structure

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

DESIGN	BY Edward Mercado	CHECKED Rui Wang
DETAILS	BY Hemant Barbhaya - H.M.	CHECKED Edward Mercado
QUANTITIES	BY Rui Wang	CHECKED Barbara McGahey

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 19

BRIDGE NO.	X
POST MILE	X

SOUNDWALL NO.242  
 PLAN AND ELEVATION  
 SHEET 2 OF 13



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	940	949

08-10-10  
REGISTERED CIVIL ENGINEER DATE

10-25-10  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL  
STATE OF CALIFORNIA

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**DESIGN DATA**

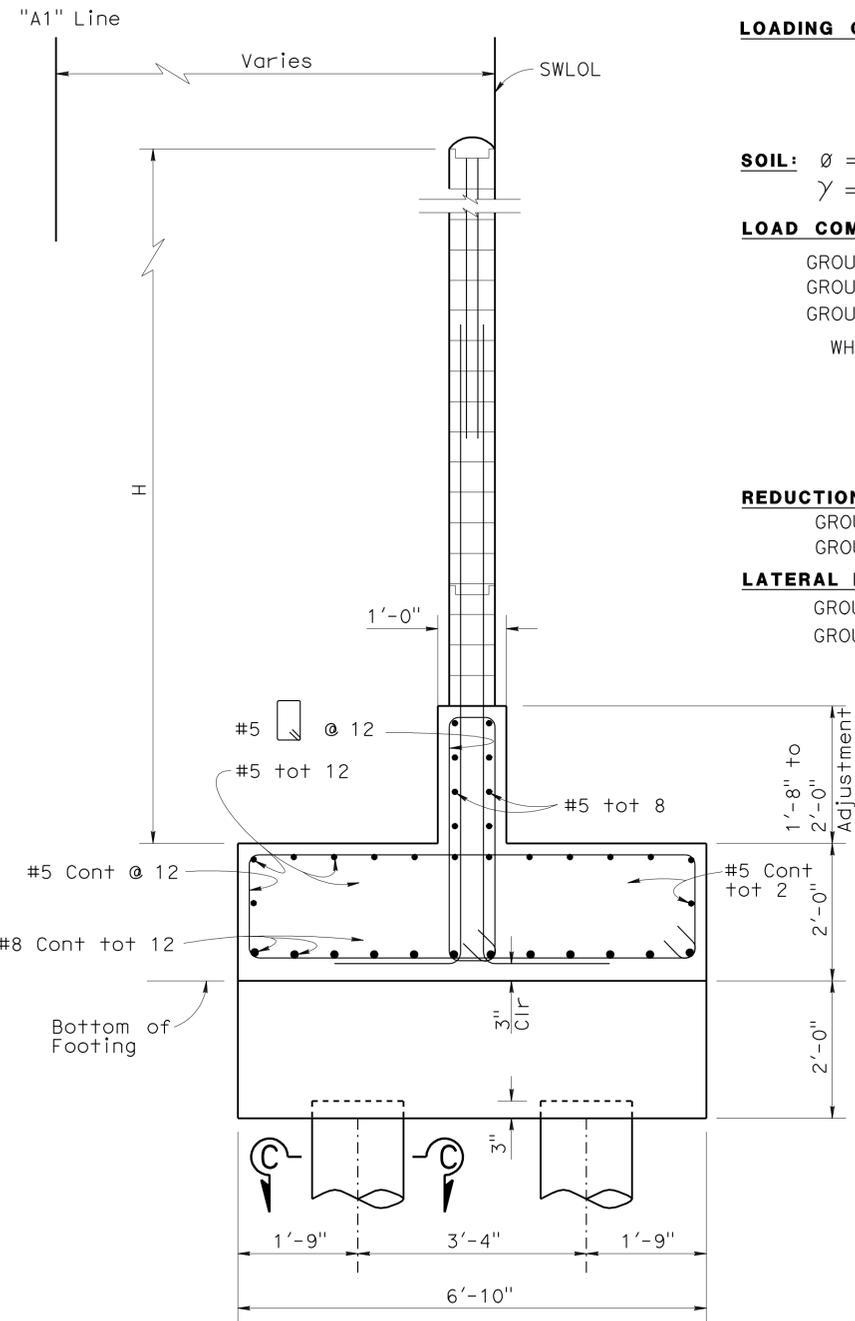
**DESIGN:** LOAD FACTOR DESIGN (LFD)  
**CONCRETE:** REINFORCED CONCRETE,  $f'c = 3600$  psi  
 $f_y = 60000$  psi  
**LOADING CASE:**  
SEISMIC LOAD = 0.57 DEAD LOAD  
WIND LOAD = 20 psf  
DEAD LOAD OF SOUNDWALL = 88 psf

**SOIL:**  $\phi = 35^\circ$   
 $\gamma = 120$  pcf

**LOAD COMBINATIONS:** (Reinforced Concrete)  
GROUP A :  $\beta D + 1.7E$   
GROUP B :  $\beta D + 1.7E + 1.3W$   
GROUP C :  $1.0D + 1.0EQD$   
WHERE :  $\beta = 1.0$  OR  $1.3$  WHICHEVER CONTROLS DESIGN  
D = DEAD LOAD  
W = WIND LOAD  
EQD = SEISMIC DEAD LOAD

**REDUCTION FACTORS:** (Reinforced Concrete)  
GROUPS A & B :  $\phi = 0.90$   
GROUP C :  $\phi = 1.0$

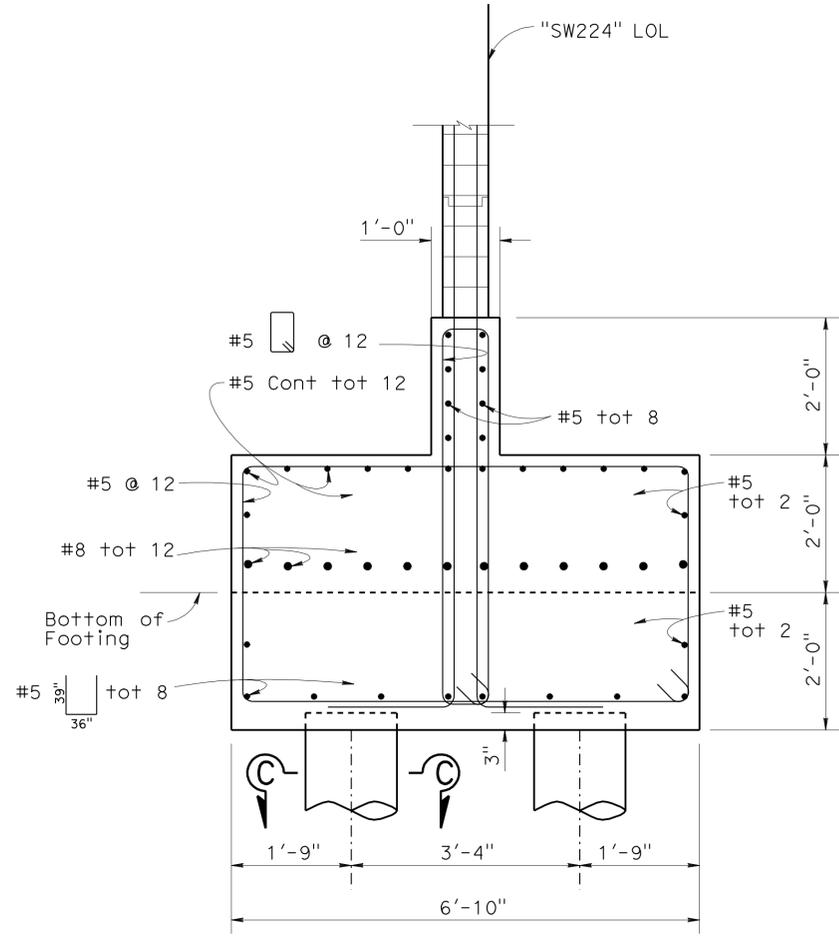
**LATERAL RESISTANCE OF EACH PILE:**  
GROUPS A & B : = 30 kip  
GROUP C : = 40 kip



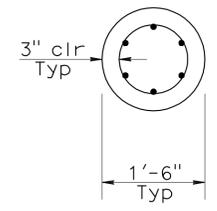
**SECTION A-A**  
 $\frac{3}{4}'' = 1'-0''$

**NOTE:**  
For Masonry wall details not shown see (B15-1), (B15-2)

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



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



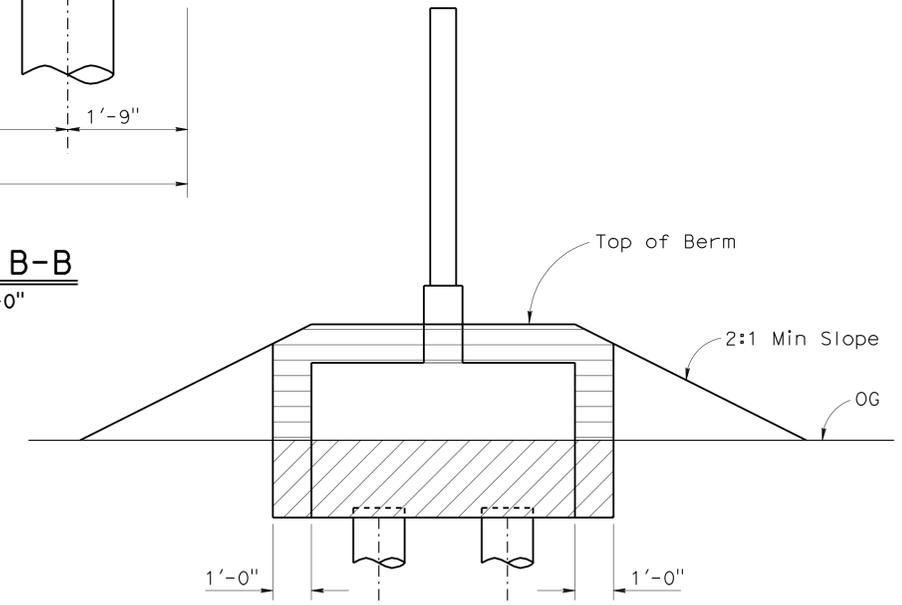
**SECTION C-C**  
 $\frac{3}{4}'' = 1'-0''$

**NOTE:**  
For details not shown see 16" CIDH on Standard Plan (B2-3)

**Pile Data Table**

Location	Pile Type	Finished Grade Elevation (FT)	Cut-off Elevation (FT)	Nominal Resistance (Kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)
				Compression	Tension		
SW 224	18" CIDH	295.00	293.75	63	N/A	269.93	270
SW 242	18" CIDH	299.00	297.75	63	N/A	273.93	274
SW 262	18" CIDH	311.00	306.25	63	N/A	282.33	282

Notes: Design Tip is controlled by the following demands:  
1. Nominal Resistance in Compression  
2. Nominal Lateral Resistance-Free Head Condition



**LIMITS OF EXCAVATION AND BACKFILL**

No Scale  
**NOTE:**  
For details not shown, see (A62-B)

**LEGEND**  
[Diagonal hatching] structure excavation  
[Horizontal hatching] structure Backfill (Soundwall)

DESIGN	BY Edward Mercado	CHECKED Rui Wang	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	SOUNDWALL NO.s 224, 242 AND 262
DETAILS	BY Hemant Barbhayia / H.M.	CHECKED Edward Mercado			X	
QUANTITIES	BY Rui Wang	CHECKED Barbara McGahey			POST MILE	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12  
EA OG3301

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	05-08-10	05-13-10	05-26-10	07-06-10	07-27-10	08-12-10	10-11-10
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SHEET 4 OF 13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	941	949

8-9-10

GEOTECHNICAL PROFESSIONAL

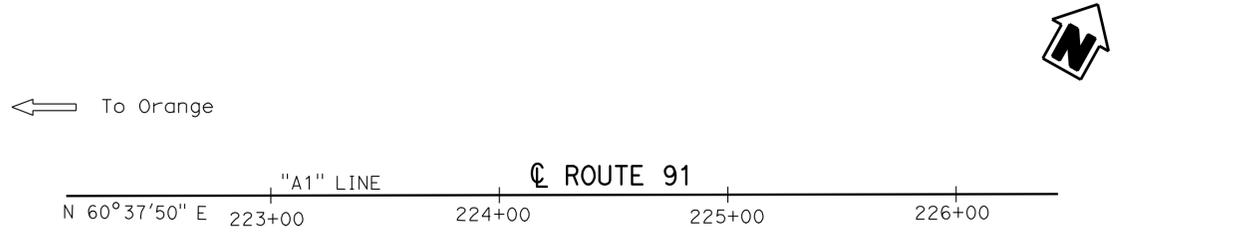
10-25-10  
PLANS APPROVAL DATE

Gani  
Weeratunga  
No. 2403  
Exp. 9-30-10

REGISTERED PROFESSIONAL ENGINEER  
STATE OF CALIFORNIA  
GEOTECHNICAL

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**BENCH MARK**

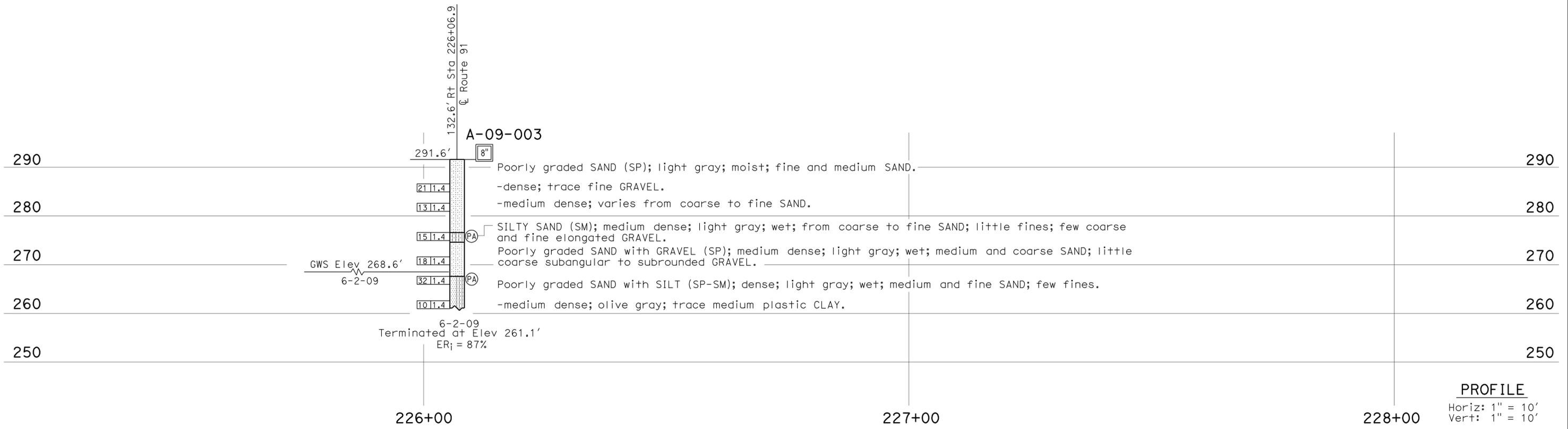
SUHV-700  
Set SPK / Dirt  
111.30 Ft Rt  $\oslash$  Route 91  
Sta 224+24.80  
N 2 259 473.13  
E 6 097 163.13  
Elev= 295.25

SUHV-75  
Fd PK/Tin EB Shoulder  
84.21 Ft Rt  $\oslash$  Route 91  
Sta 226+39.33  
N 2 259 601.95  
E 6 097 336.80  
Elev= 296.84

VERT.DATUM: NAVD88



**PLAN**  
1" = 40'



**PROFILE**  
Horiz: 1" = 10'  
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</b>	BRIDGE NO. 55-SW224	<b>SOUND WALL NO. 224</b>
FUNCTIONAL SUPERVISOR NAME: S. Karimi	DRAWN BY: C. Christian, I.G.-Remmen, 8/10 CHECKED BY: T. Haida	FIELD INVESTIGATION BY: K. Lai, A. Mehrazar	POST MILES 12.20			<b>LOG OF TEST BORINGS 1 OF 3</b>	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 12 EA 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES

DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:36 USERNAME => HSTFK

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	942	949

8-9-10  
GEO TECHNICAL PROFESSIONAL

10-25-10  
PLANS APPROVAL DATE

Gani Weeratunga  
No. 2403  
Exp. 9-30-10  
REGISTERED PROFESSIONAL ENGINEER  
GEO TECHNICAL  
STATE OF CALIFORNIA

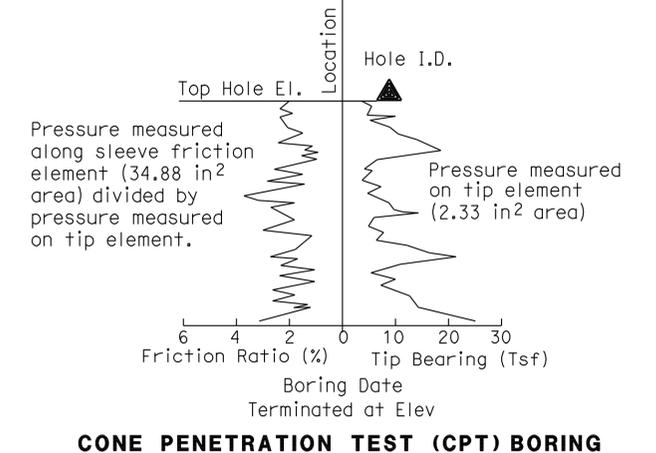
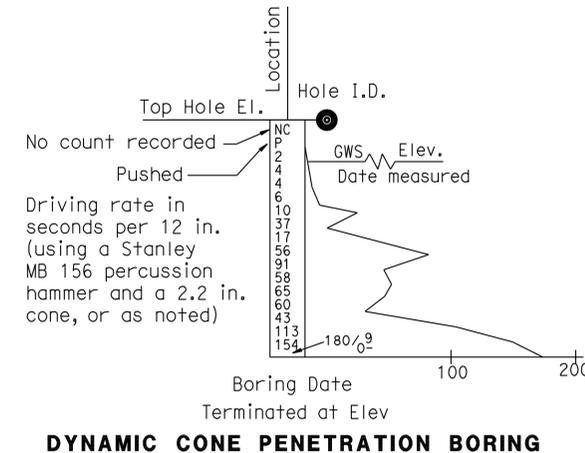
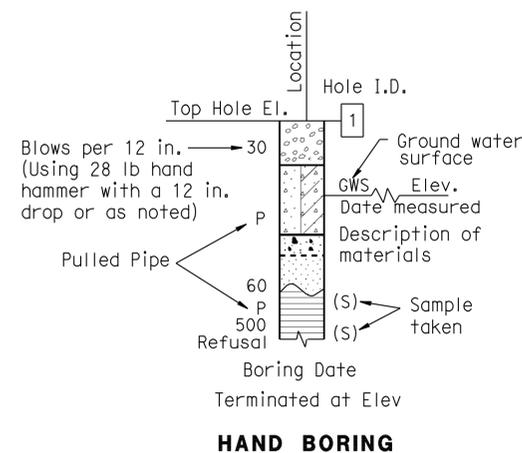
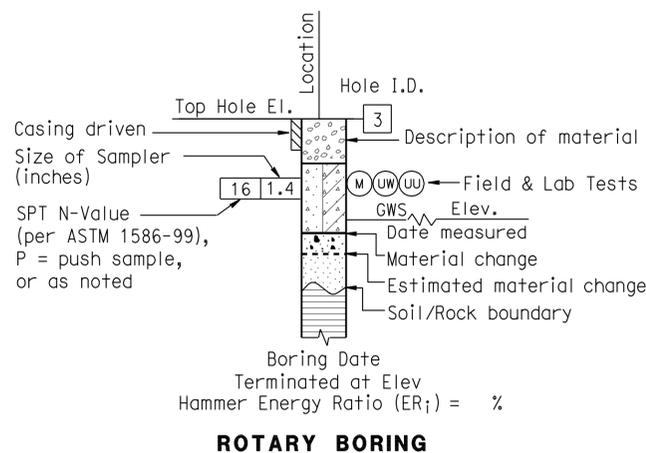
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

**Note: Size in inches.**

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



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

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

8-9-10  
 GEOTECHNICAL PROFESSIONAL  
 10-25-10  
 PLANS APPROVAL DATE  
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APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N <sub>60</sub> (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

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

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

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	944	949

8-9-10

GEOTECHNICAL PROFESSIONAL

10-25-10  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

Gmini Weeratunga

No. 2403

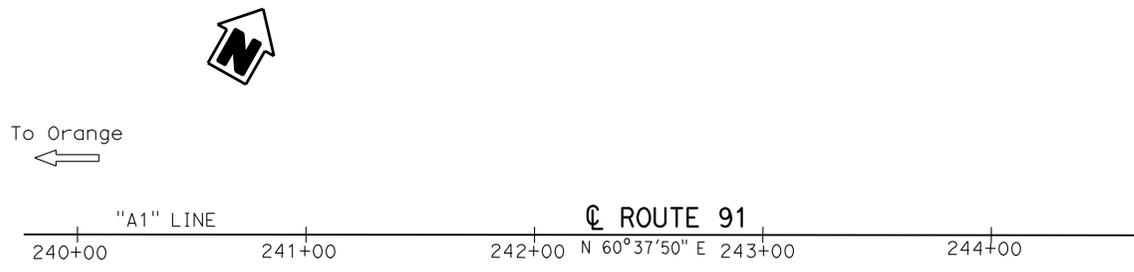
Exp. 9-30-10

GEOTECHNICAL

STATE OF CALIFORNIA

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**BENCH MARK**

PRHV-72  
Fd Reset PK Aerial Target  
85.44 Ft Rt C Route 91  
Sta 242+68.36  
N 2 260 399.82  
E 6 098 757.06  
Elev= 301.69

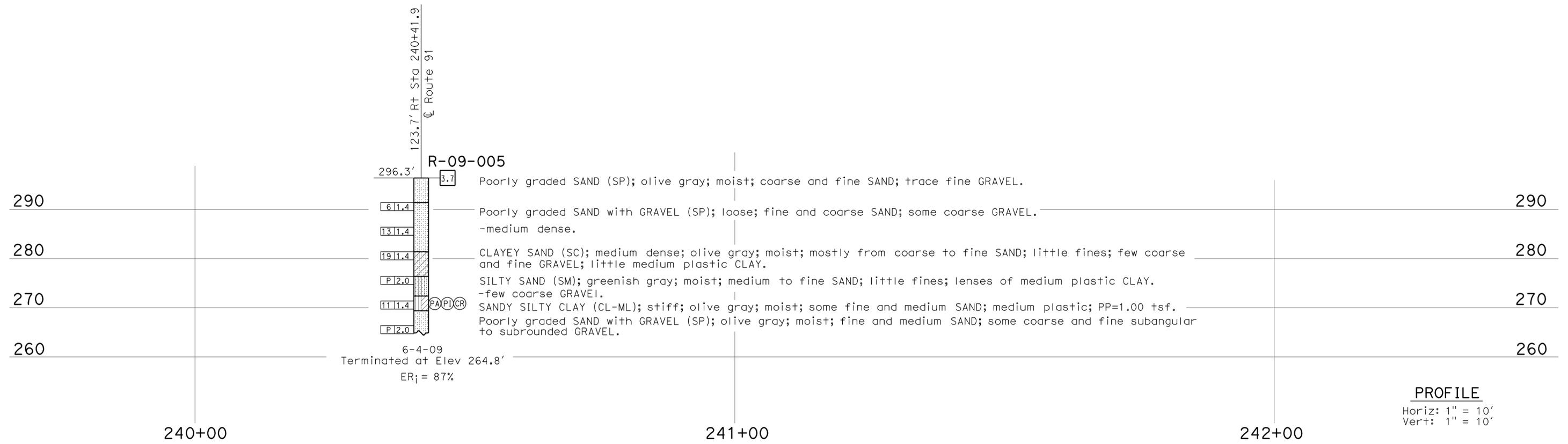
PRHV-73  
Fd PK Aerial Target  
84.83 Ft Rt C Route 91  
Sta 237+22.53  
N 2 260 132.66  
E 6 098 281.09  
Elev= 300.04

VERT.DATUM: NAVD88

R-09-005  
3.7

"SW242" LOL

PLAN  
1" = 40'



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

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>SOUND WALL NO. 242</b>			
FUNCTIONAL SUPERVISOR		DRAWN BY: C. Christian, I.G.-Remmen, 8/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		55-SW242		<b>LOG OF TEST BORINGS 1 OF 3</b>			
NAME: S. Karimi		CHECKED BY: T. Haida		FIELD INVESTIGATION BY: K. Lai, A. Mehrazar		DESIGN BRANCH		POST MILES					
								12.55					
06S GEOLOGIST LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 12 EA 0G3301		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 8 OF 13			

DATE PLOTTED => 16-DEC-2010 TIME PLOTTED => 16:57 USERNAME => HSTFK

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	945	949

8-9-10  
GEO TECHNICAL PROFESSIONAL

10-25-10  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
Gani  
Weeratunga  
No. 2403  
Exp. 9-30-10  
GEO TECHNICAL  
STATE OF CALIFORNIA

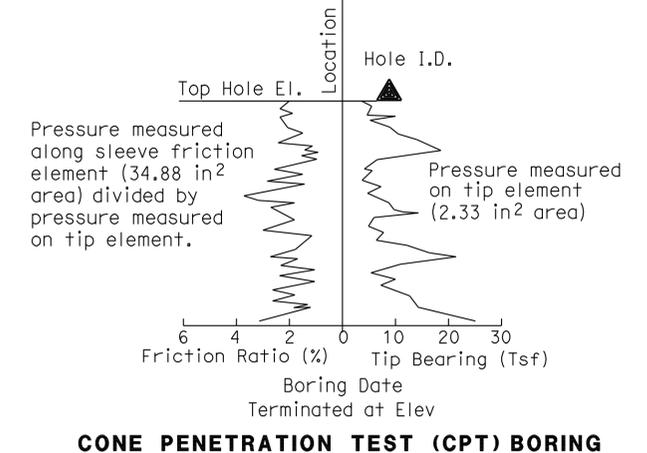
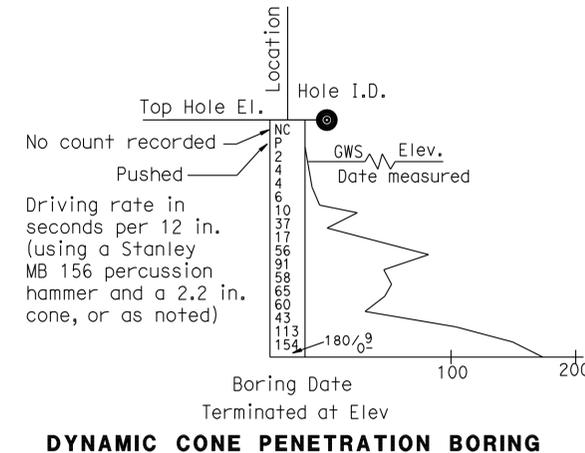
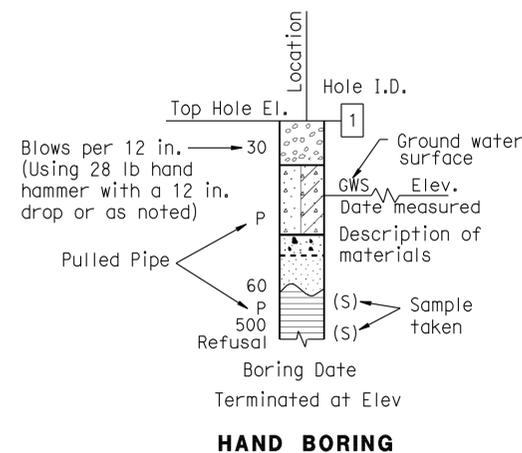
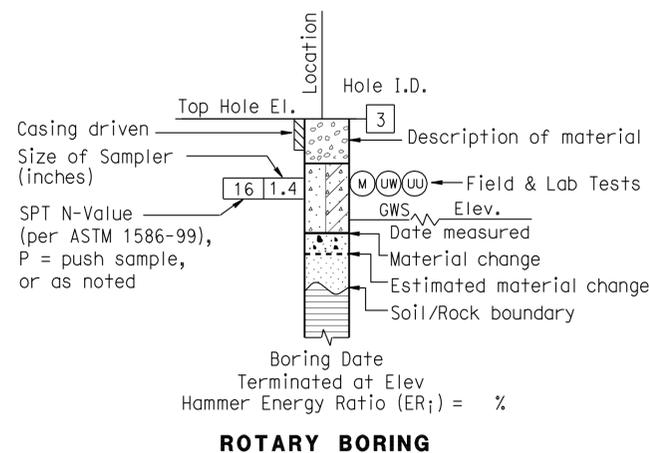
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
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	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
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	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778)
	O	Other (note on LOTB)

Note: Size in inches.

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



<b>ENGINEERING SERVICES</b>	<b>GEO TECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b>	<b>DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN</b>	BRIDGE NO. 55-SW242	<b>SOUND WALL NO. 242</b>
	PREPARED BY: I. G-Remmen 8/10	<b>DEPARTMENT OF TRANSPORTATION</b>	<b>DESIGN BRANCH</b>	POST MILE 12.55	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 12 EA 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
			FILE => sw-242-1tb-2of3.dgn		SHEET 9 OF 13

DATE PLOTTED => 16-DEC-2010 16:57 USERNAME => HSTFK

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

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

8-9-10  
 GEOTECHNICAL PROFESSIONAL  
 10-25-10  
 PLANS APPROVAL DATE  
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APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N <sub>60</sub> (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

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

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

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

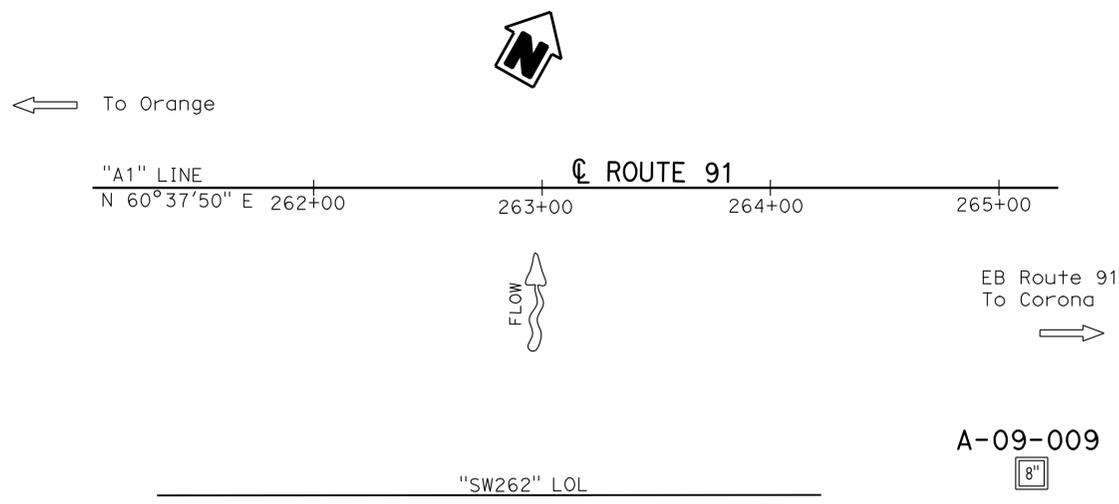
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	947	949

8-9-10  
 GEOTECHNICAL PROFESSIONAL  
 10-25-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Gmini Weeratunga  
 No. 2403  
 Exp. 9-30-10  
 GEOTECHNICAL  
 STATE OF CALIFORNIA

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

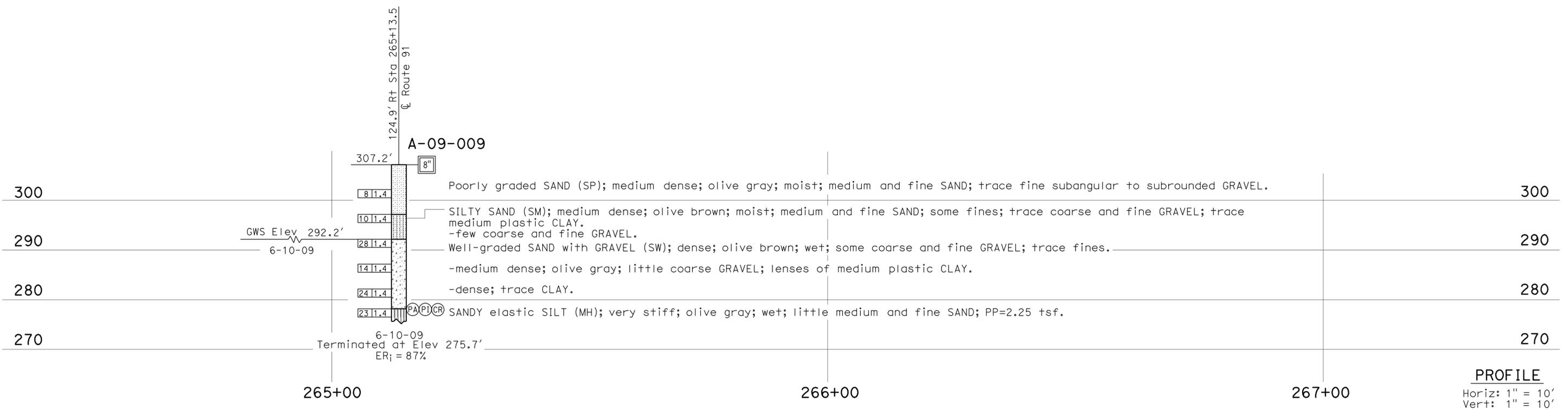


**BENCH MARK**

SUHV-701  
 Fd PK/Tin  
 106.90 Ft Rt  $\bar{C}$  Route 91  
 Sta 263+21.24  
 N 2 261 387.93  
 E 6 100 556.63  
 Elev= 307.12

SUHV-66  
 Fd PK/Tin EB Shdr.  
 85.37 Ft Rt  $\bar{C}$  Route 91  
 Sta 264+50.19  
 N 2 261 469.93  
 E 6 100 658.45  
 Elev= 308.29

**PLAN**  
 1" = 40'



<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 55-SW262	<b>SOUND WALL NO. 262</b> <b>LOG OF TEST BORINGS 1 OF 3</b>
FUNCTIONAL SUPERVISOR NAME: S. Karimi	DRAWN BY: C. Christian, I.G.-Remmen, 8/10 CHECKED BY: T. Haida	FIELD INVESTIGATION BY: K. Lai, A. Mehrazar				POST MILES 12.93	
O&S GEOLOGIST LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU EA 12 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
				0 1 2 3	FILE => sw-262-1tb-1of3.dgn	08-06-10 08-09-10	SHEET 11 OF 13

DATE PLOTTED => 16-DEC-2010 USERNAME => HSTFK TIME PLOTTED => 16:57

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	9.1/15.1	948	949

8-9-10  
GEO TECHNICAL PROFESSIONAL

10-25-10  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
Gmini Weeratunga  
No. 2403  
Exp. 9-30-10  
GEO TECHNICAL  
STATE OF CALIFORNIA

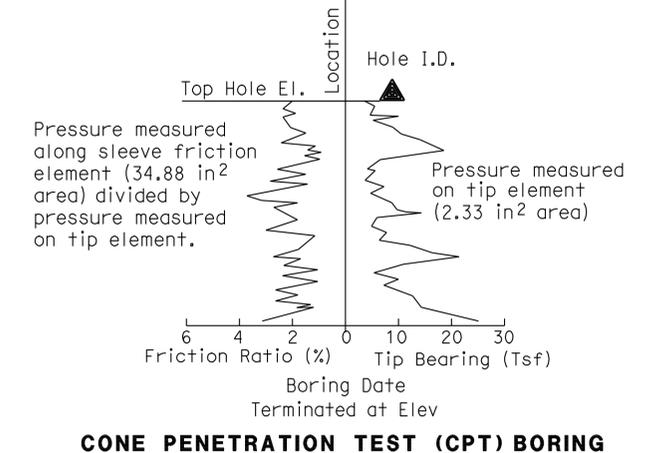
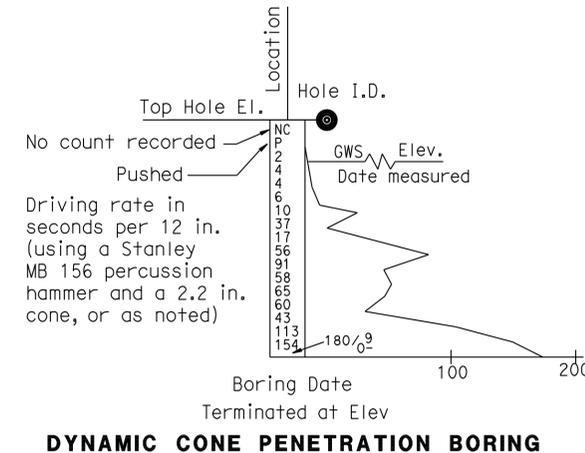
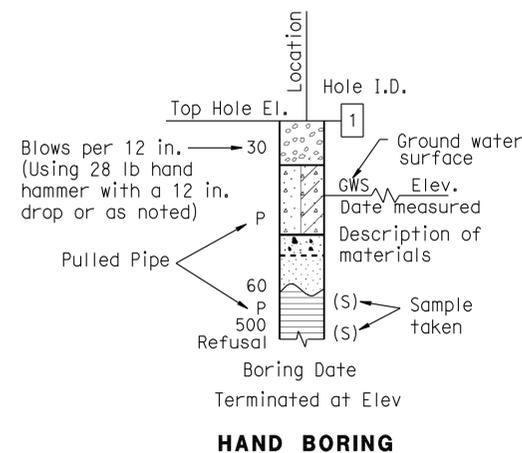
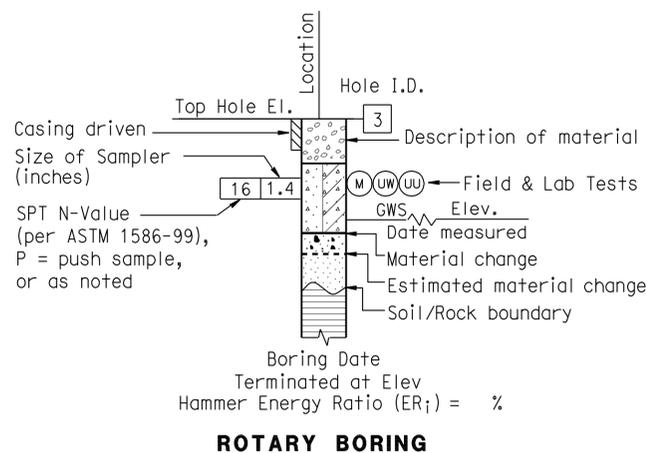
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

Note: Size in inches.

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



<b>ENGINEERING SERVICES</b>	<b>GEO TECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b>	<b>DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN</b>	BRIDGE NO. 55-SW262	<b>SOUND WALL NO. 262</b>
	PREPARED BY: I. G-Remmen 8/10	DEPARTMENT OF TRANSPORTATION	DESIGN BRANCH	POST MILE 12.93	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 12 EA 0G3301	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
			FILE => sw-262-1tb-2of3.dgn		SHEET 12 OF 13

DATE PLOTTED => 16-DEC-2010 16:57 USERNAME => HSTFK

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

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

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APPARENT DENSITY OF COHESIONLESS SOILS	
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Loose	5 - 10
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Dense	30 - 50
Very Dense	Greater than 50

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

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

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