

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	801	885

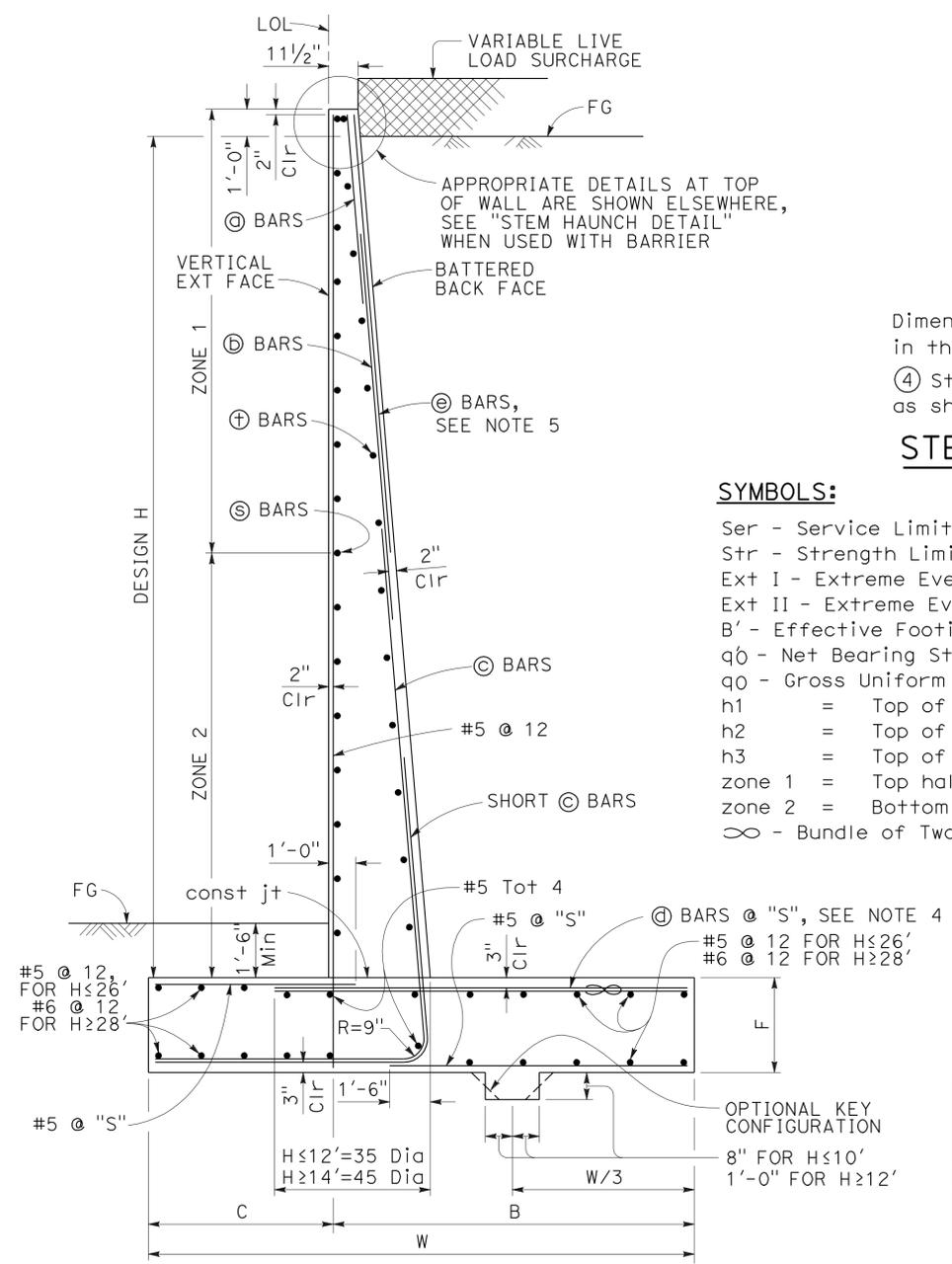
REGISTERED CIVIL ENGINEER DATE 3/15/12

PLANS APPROVAL DATE 8-13-12

REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

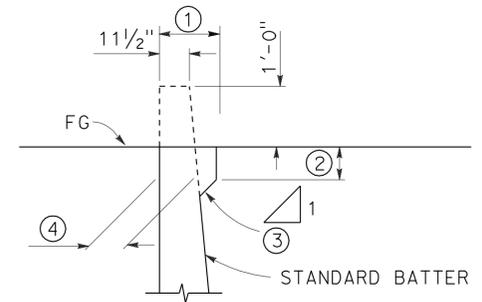
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868

RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



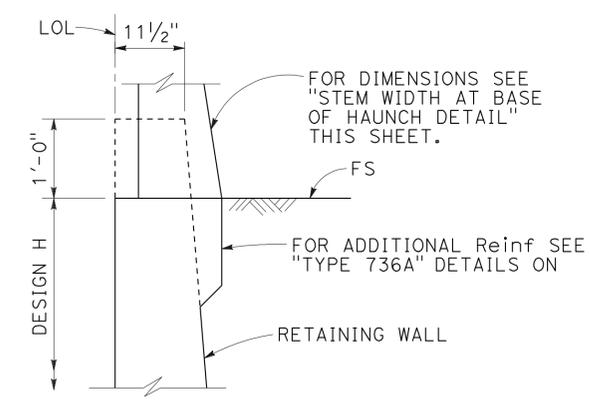
TYPICAL SECTION

- NOTES:**
- For Details not shown and Drainage Notes see (B3-5)
 - For Wall Stem Joint Details see (B0-3) and (B0-3) (3-3) (3-4)
 - At © Bars:
 - $h \leq 6'$, no Splices are allowed within 1'-8" above the Top of Footing.
 - $h > 6'$, no Splices are allowed within $h/4$ above the Top of Footing.
 - Bundle © Bars for $H = 34'$ & $36'$.
 - Provide #6 @ 10" x 15'-0" © Bars over a Distance of 8'-0" Measured from all Expansion Joints, Begin Wall and End Wall Locations. For $H \leq 14'$, Hook © Bar into Footing and Reduce Bar Length as Needed to Maintain Min Clr Cover.



Dimensions ①, ② and ③ to be as shown elsewhere in the Project Plans.
 ④ Stem Width at Base of Haunch to be Determined as shown.

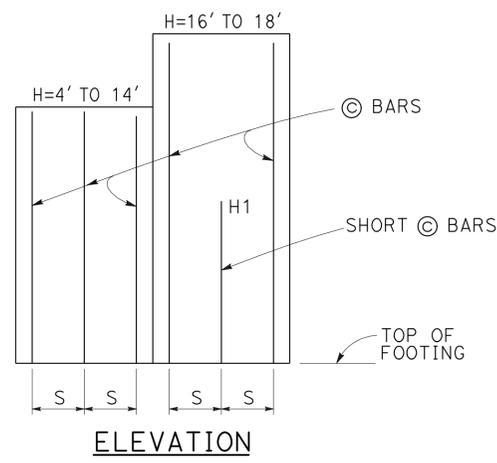
STEM WIDTH AT BASE OF HAUNCH



STEM HAUNCH DETAIL

SYMBOLS:

- Ser - Service Limit State I
- Str - Strength Limit State I
- Ext I - Extreme Event Limit State I
- Ext II - Extreme Event Limit State II
- B' - Effective Footing Width (ft)
- q_0 - Net Bearing Stress (ksf), OG assumed to be FG at Toe
- q_0 - Gross Uniform Bearing Stress (ksf)
- h_1 = Top of Footing to Top of Short © Bar
- h_2 = Top of Footing to Top of © Bar
- h_3 = Top of Footing to Top of © Bar
- zone 1 = Top half of Stem Height
- zone 2 = Bottom half of Stem Height
- ∞ - Bundle of Two Bars



ELEVATION

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"	9'-7"	10'-9"	12'-0"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"	3'-0"	3'-6"	4'-0"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"	6'-7"	7'-3"	8'-0"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"	1'-8"	1'-8"	1'-9"
BATTER	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12
SPACING "S"	9"	9"	9"	9"	9"	7"	6"	5"
© BARS	-	-	-	-	-	-	-	-
© BARS	-	-	-	-	-	-	-	-
© BARS	#6	#6	#6	#6	#6	#6	#7	#7
© BARS	#5	#5	#6	#6	#6	#6	#9	#8
H1	-	-	-	-	-	-	5'-9"	5'-10"
H2	-	-	-	-	-	-	-	-
H3	-	-	-	-	-	-	-	-
ZONE 1 © BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18
ZONE 2 © BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12
ZONE 1 © BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18
ZONE 2 © BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18
SER: B', Q ₀	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0	7.5, 2.1	8.6, 2.2	9.8, 2.3
STR: B', Q ₀	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0	4.3, 3.8	5.3, 3.7	6.4, 3.7
EXT I: B', Q ₀	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8	3.2, 5.3	3.6, 5.7	4.1, 6.1
EXT II: B', Q ₀	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6	5.2, 3.3	6.7, 3.1	8.3, 3.0

DESIGN CONDITIONS:

Design H may be Exceeded by 6" before going to the next size. Special Footing Design is Required where Foundation Material is Incapable of Supporting Bearing Stress Listed in the Table.

DESIGN NOTES:

- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem architectural treatment of thickness up to 6" of concrete (75 psf) considered
- CT: 54 kip transverse force applied at $h_e = 32''$, distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
- SEISMIC: $K_H = 0.2, K_V = 0.0$
- SOIL: $\phi = 34^\circ, \gamma = 120$ pcf
- REINFORCED CONCRETE: $f'_c = 3,600$ psi, $f_y = 60,000$ psi
- LOAD COMBINATIONS AND LIMIT STATES:
 - SERVICE I: $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$
 - STRENGTH I: $Q = \alpha DC + \beta EV + \eta EH + 1.75LS$
 - EXTREME I: $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$
 - EXTREME II: $Q = 1.00DC + 1.00EV + 1.00EH + 1.00CT$

WHERE:

- Q: Force effects
- α : 1.25 or 0.90, whichever controls design
- β : 1.35 or 1.00, whichever controls design
- η : 1.50 or 0.90, whichever controls design
- DC: Dead load of structure components
- EH: Horizontal earth fill pressure
- EV: Vertical earth pressure from earth fill weight
- LS: Live load surcharge
- EQE: Seismic earth pressure
- EQD: Soil and structural and nonstructural Components inertia
- CT: Vehicular collision force

Luqi Yang
 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.
 55E0122
 POST MILES

RETAINING WALL No. 255
RETAINING WALL TYPE 1 (CASE 1)

USERNAME => s119571 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:37

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	802	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

8-13-12
PLANS APPROVAL DATE

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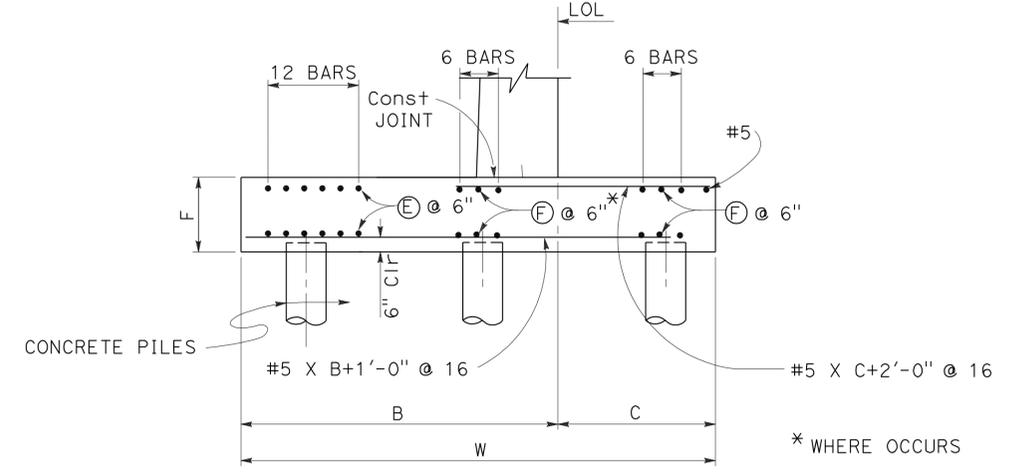
OCTA
550 S MAIN STREET
ORANGE, CA. 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677

DESIGN H	14'	16'	18'
W	10'-0"	12'-0"	13'-0"
C	3'-4"	3'-9"	3'-9"
B	6'-8"	8'-3"	9'-3"
F	1'-9"	1'-9"	1'-9"
M	1'-10"	2'-3"	2'-3"
N	5'-2"	6'-9"	7'-9"
ROW 1	5'-4"	5'-4"	5'-4"
ROW 2	5'-4"	7'-4"	5'-4"
ROW 3		7'-4"	5'-4"
CONFIGURATION	I	II	II

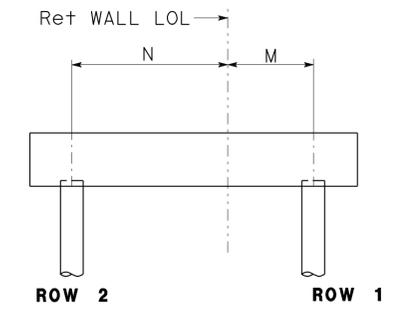
DESIGN H	STEM WITH HAUNCH		
	14'	16'	18'
TOTAL (E) BARS	12 #6	12 #6	12 #6
TOTAL (F) BARS	6 #6	6 #6	6 #6

NOTE: For Information not shown and Design Notes see "RETAINING WALL TYPE 1 (CASE 1)" sheet.

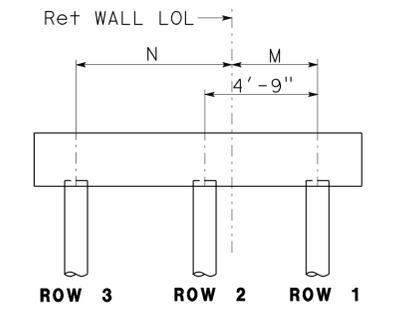


90 KIP PILE FOOTING SECTION

Reinforcement Detailed is to be Placed in Addition to that shown for Spread Footing. All Piles not shown, see Pile Layout on other sheets.



CONFIGURATION I



CONFIGURATION II

Luqi Yang
DESIGN OVERSIGHT
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO. 55E0123
POST MILES 3.8

RETAINING WALL No. 255
RETAINING WALL TYPE 1 DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791
CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

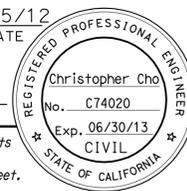
REVISION DATES	SHEET	OF
	11	17

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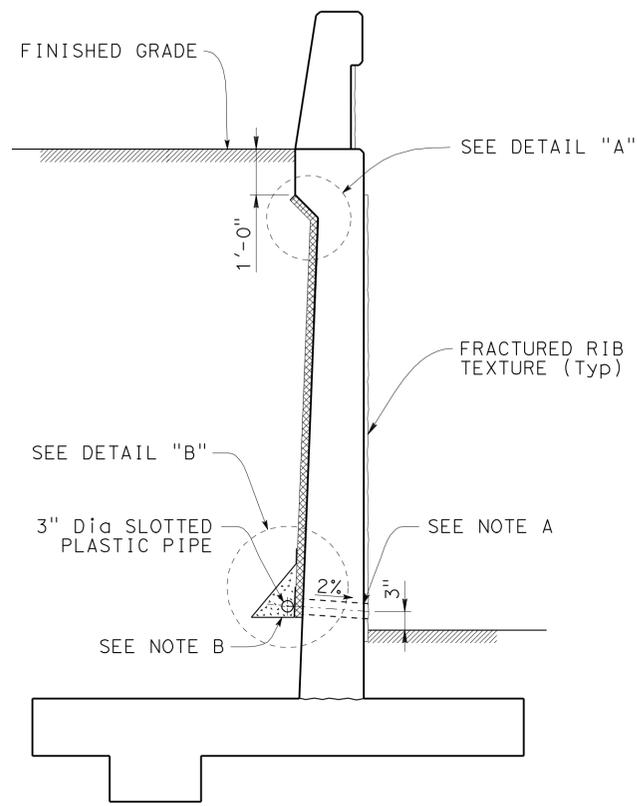

 REGISTERED CIVIL ENGINEER DATE 3/15/12

8-13-12
 PLANS APPROVAL DATE



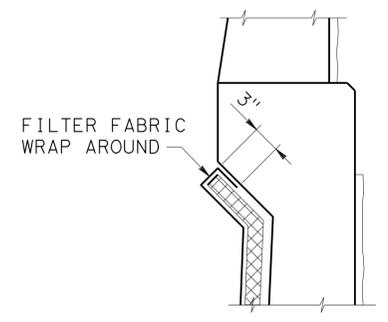
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OCTA
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 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

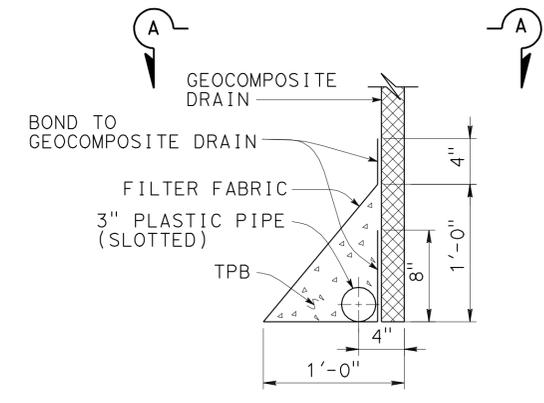


**RETAINING WALL
WEEP HOLE AND GEOCOMPOSITE DRAIN**

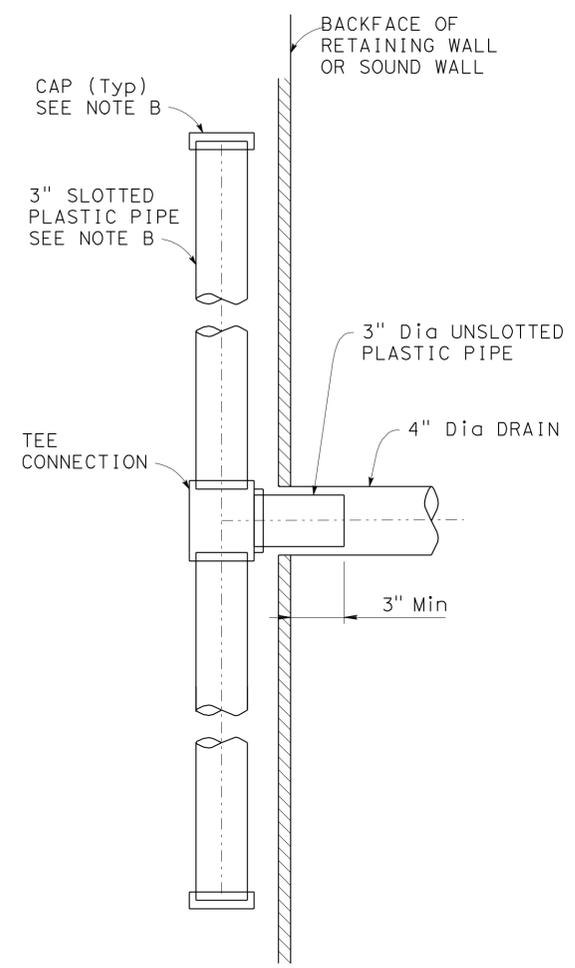
NO SCALE
ALTERNATIVE TO BRIDGE DETAIL BO-3
3-1



DETAIL "A"
NO SCALE



DETAIL "B"
NO SCALE



SECTION A-A
NO SCALE

NOTES:

- A. 4" Dia Drains at Intermediate Sag Points and at 25' Max Center to Center. For Walls Adjacent to Sidewalks or Curbs, Provide 4' Cast Iron or Asbestos Cement Pipe under the Sidewalk to Discharge through Curb Face. Exposed Wall Drains shall be Located 3"± above Finished Grade.
- B. Geocomposite Drain, Cement Treated Permeable Base, and 3" Dia Slotted Plastic Pipe continuous behind Retaining Wall or Abutment. Cap Ends of Pipe. Provide 'Tee' Connection at Each 4" Dia Drain.
- C. Connect the low End of Plastic Pipe to the main Outlet Pipe as applicable.


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0123
	POST MILES 3.8

**RETAINING WALL No. 255
MISCELLANEOUS DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701

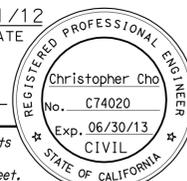
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REVISION	DATE	SHEET	OF
		12	17

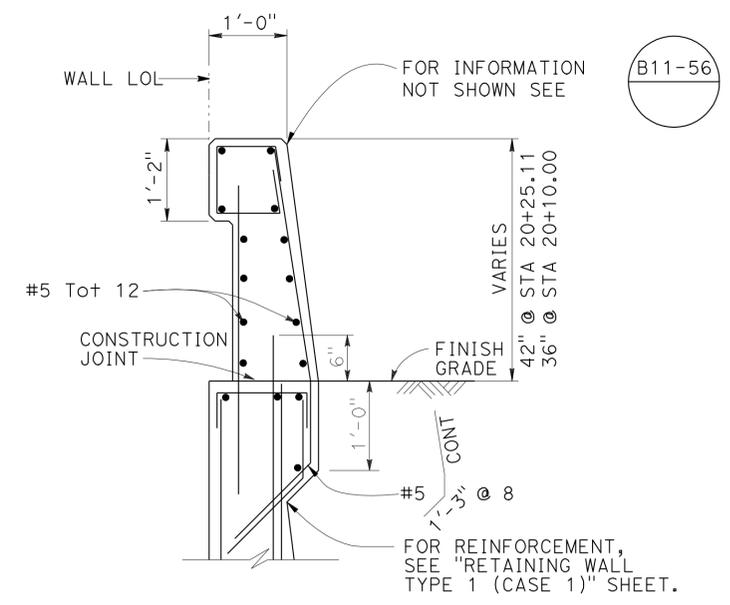
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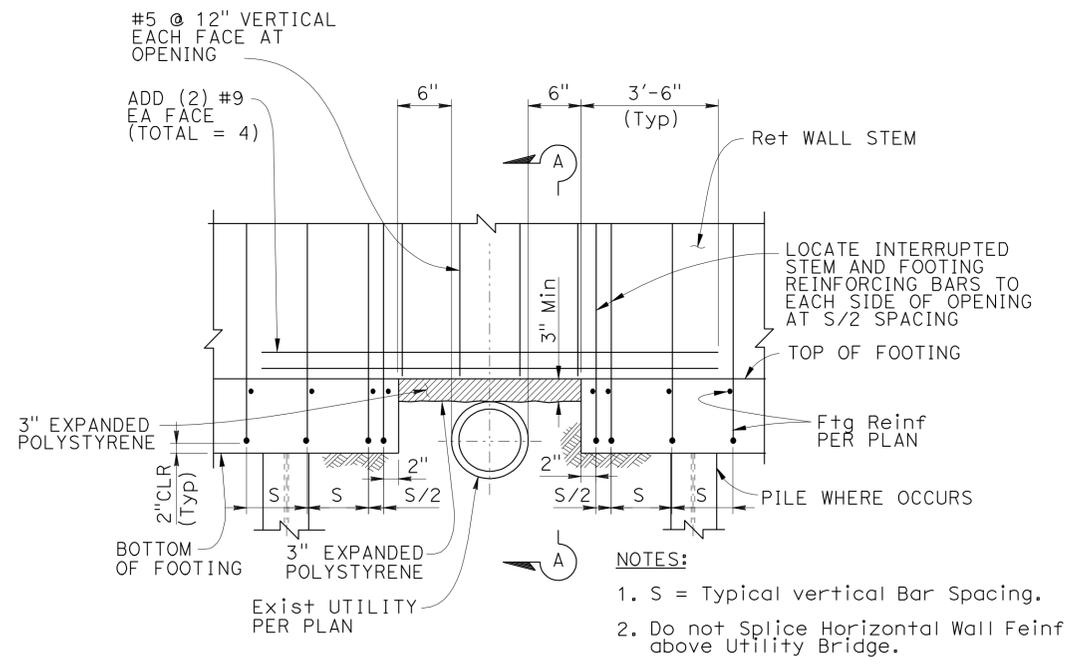
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	0.9/5.4	804	885


 REGISTERED CIVIL ENGINEER DATE 8/1/12
 PLANS APPROVAL DATE 8-13-12
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 550 S MAIN STREET
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 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

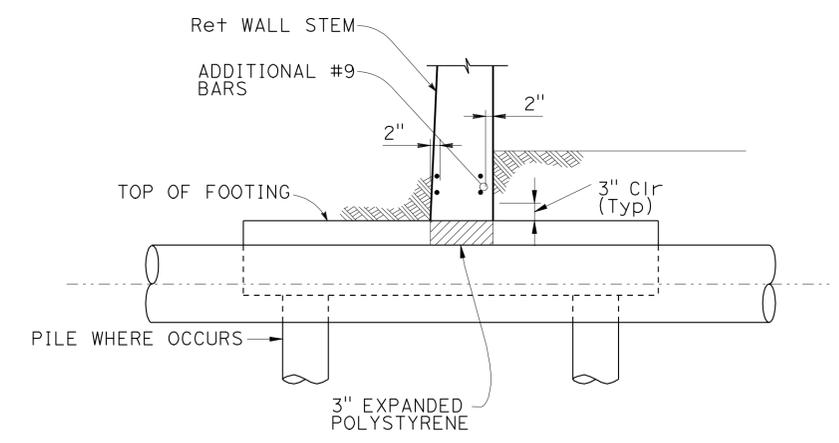


BARRIER TRANSITION DETAIL
NO SCALE



- NOTES:**
- S = Typical vertical Bar Spacing.
 - Do not Splice Horizontal Wall Feinf above Utility Bridge.

UTILITY BRIDGE OVER DETAIL
NO SCALE



SECTION A-A
NO SCALE

Luqi Yang
 DESIGN OR SIGN OFF DATE 8-6-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0123
POST MILES	3.8

RETAINING WALL No. 255
MISCELLANEOUS DETAILS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	13	17

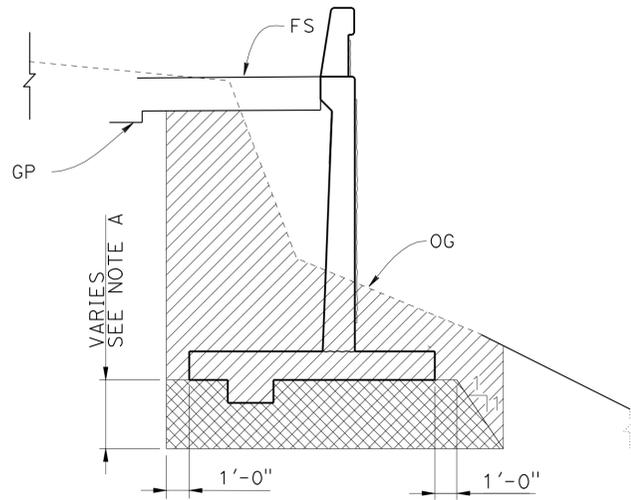
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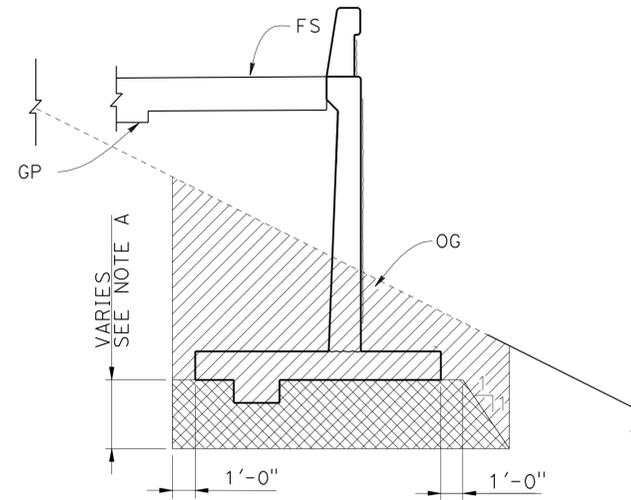
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	806	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

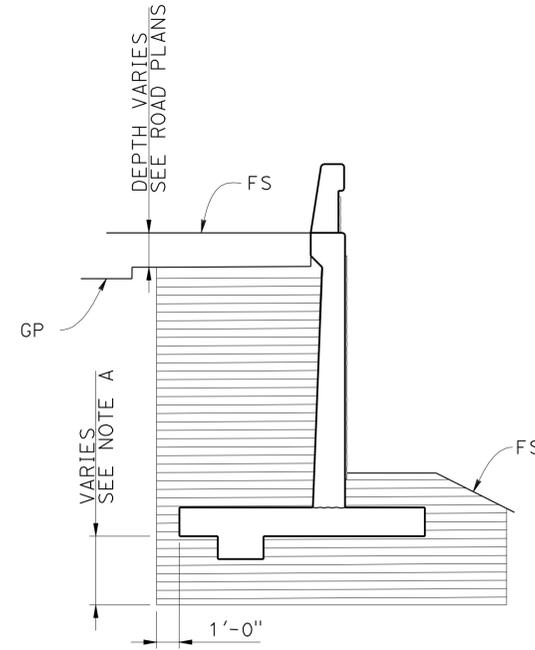
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 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



EXCAVATION
NO SCALE



EXCAVATION
NO SCALE



BACKFILL
NO SCALE

RETAINING WALL IN FILL AND CUT
**LIMITS OF PAYMENT FOR RETAINING
 WALL EXCAVATION AND BACKFILL**

LEGEND:

-  Structure Excavation
-  Structure Backfill
-  Structure Over Excavation
See Note A

NOTE

A. For Depth of Structure Over Excavation, see Retaining Wall Typical Section(s).


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
 STATE OF CALIFORNIA**
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0123
	POST MILES 3.8

RETAINING WALL No. 255
LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 FILE => 55-E0123-u-miscd+06.dgn

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET 15 OF 17
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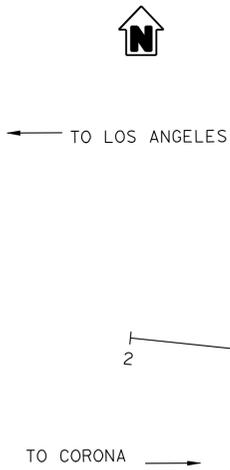
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BENCH MARK

Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "1G-164-05", set in the Northwesterly Corner of a 4.5 ft. by 11.0 ft.
 Concrete Catch Basin. Monument is located in the Southeasterly Corner of
 the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ±
 from the centerline of Buckingham and 47 ft. Easterly of the centerline of
 Magnolia. Monument is set level with the Sidewalk

Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2F-25-04", set in the Northwesterly Corner of a 7.5 ft. by 4.5
 ft. Concrete Catch Basin. Monument is located in the Northeastly Corner of
 the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp,
 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the
 centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2D-35-86", set in the Northwesterly Corner of a 7 ft. by 14 ft.
 Concrete Catch Basin. Monument is located in the Southeasterly Corner of
 the intersection of Placentia Avenue and State College Boulevard, 38 ft.
 Easterly of the centerline of State College and 70.5 ft. Southerly of the
 centerline of Placentia. Monument is set level with the Sidewalk



PLAN

1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Orca	91	0.9/5.4	807	885

REGISTERED ENGINEER *S. Pirathiviraj* DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
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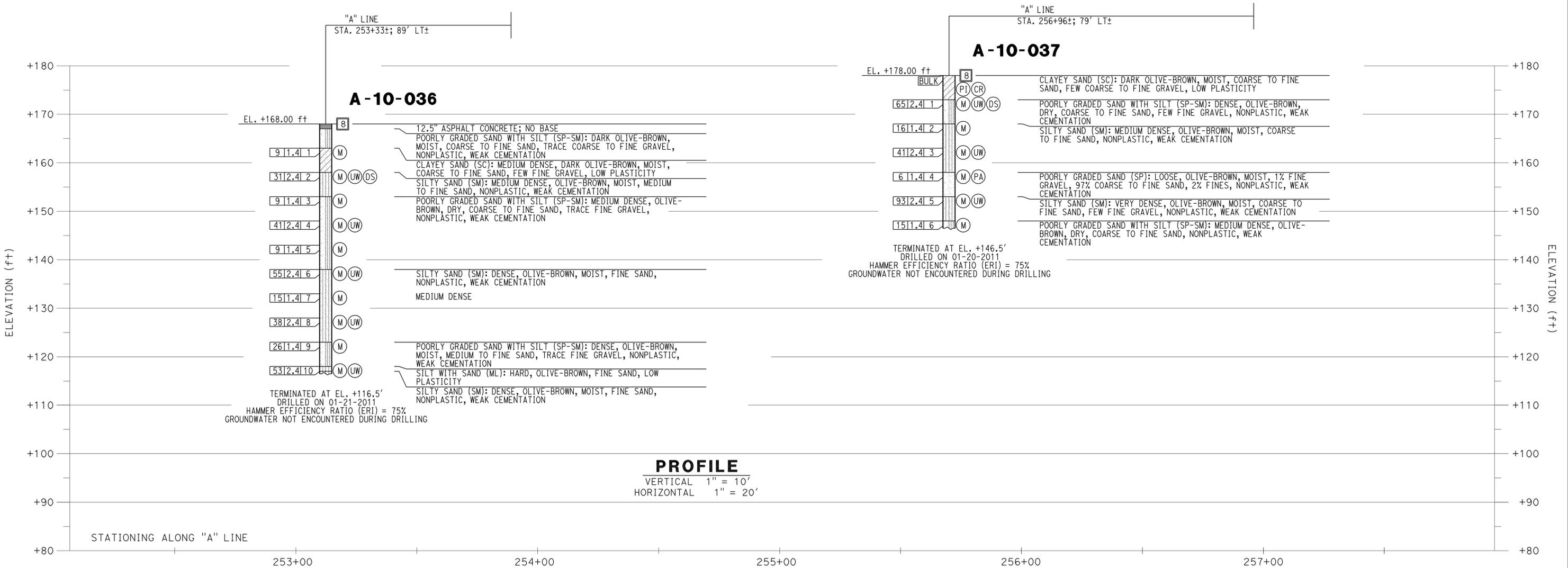


ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708

NOTES:

- (1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
- (2) 2.4" samples were taken using a California Modified Sampler.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.
- (4) Blowcounts for 2.4" Modified California Ring Samplers are raw blowcounts. A conversion factor of 0.5 can be used to convert the 2.4" Modified California Ring Sampler blowcounts to Standard Penetration Test (SPT) blowcounts.



PROFILE

VERTICAL 1" = 10'
 HORIZONTAL 1" = 20'

DESIGN OVERSIGHT *Luqi Yang*
 SIGN OFF DATE 3-29-12

DRAWN BY J. FANG
 CHECKED BY G. J. GUNARANJAN

R. JIE
 FIELD INVESTIGATION BY:
 DATE: 1/2011

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

S. PIRATHIVIRAJ
 PROJECT ENGINEER

BRIDGE No. 55E0123
 POST MILES 3.8

RETAINING WALL No. 255
LOG OF TEST BORINGS 1 OF 2

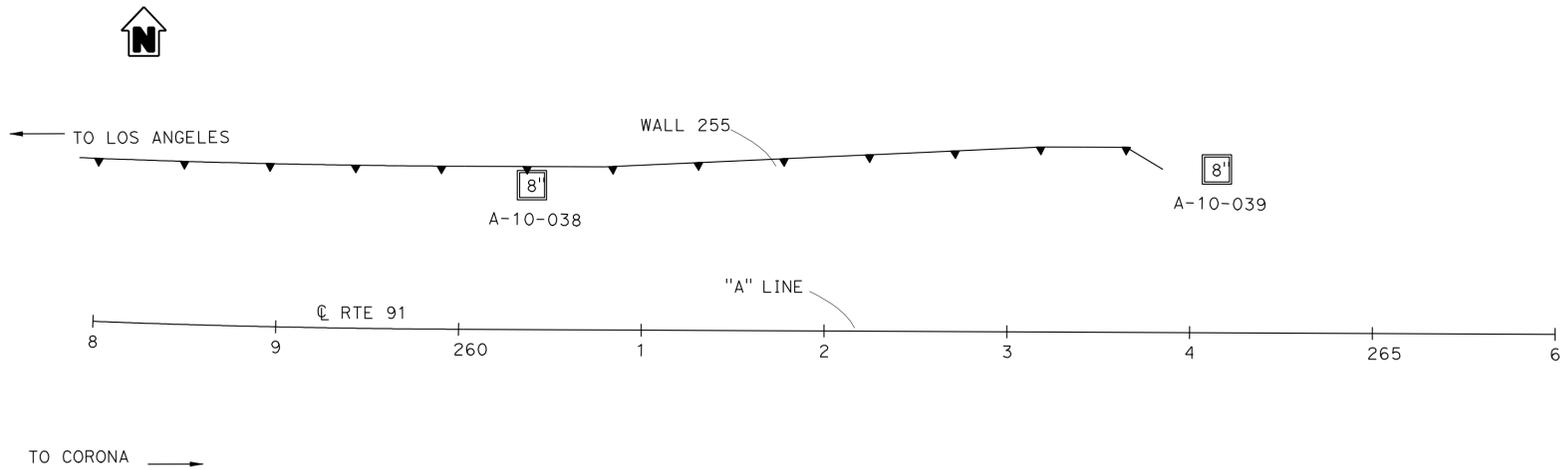
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BENCH MARK

Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "1G-164-05", set in the Northwestern Corner of a 4.5 ft. by 11.0 ft. Concrete Catch Basin. Monument is located in the Southeastly Corner of the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ± from the centerline of Buckingham and 47 ft. Easterly of the centerline of Magnolia. Monument is set level with the Sidewalk

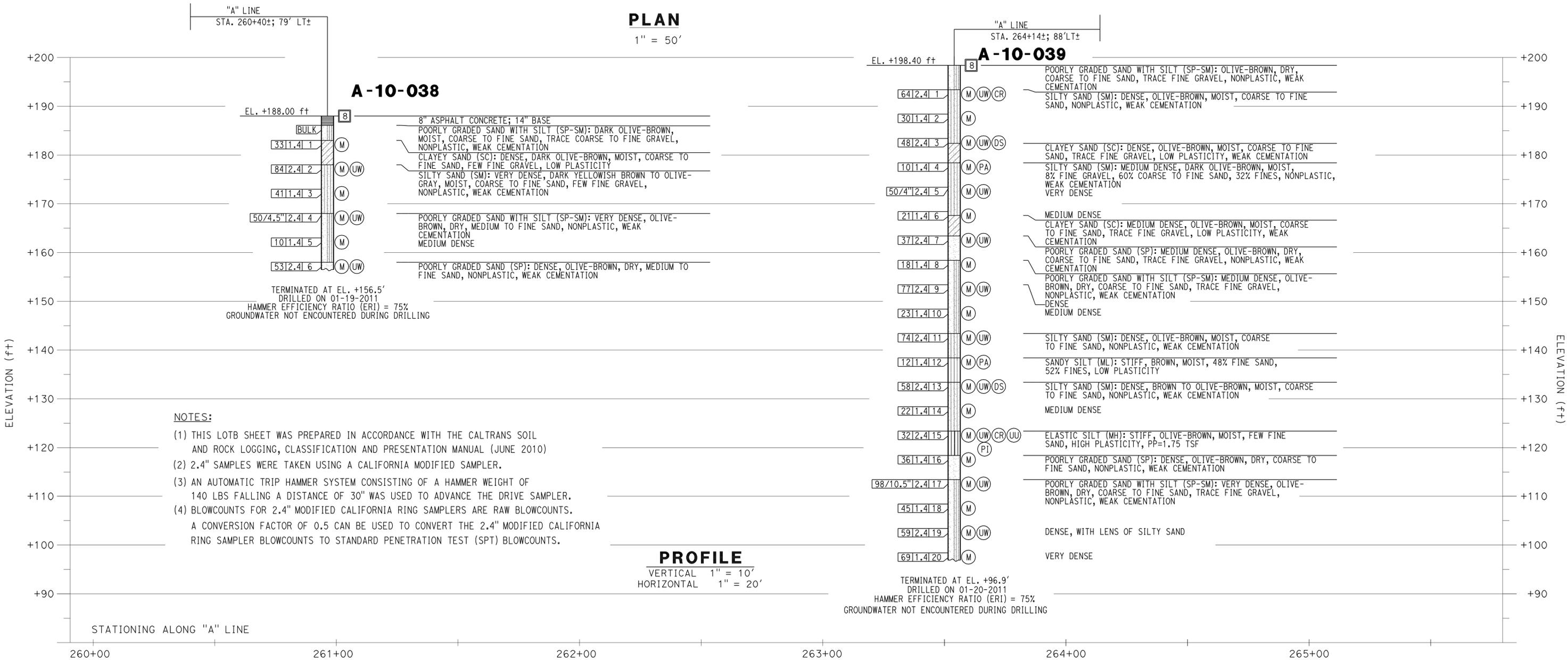
Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2F-25-04", set in the Northwestern Corner of a 7.5 ft. by 4.5 ft. Concrete Catch Basin. Monument is located in the Northeastly Corner of the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp, 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2D-35-86", set in the Northwestern Corner of a 7 ft. by 14 ft. Concrete Catch Basin. Monument is located in the Southeastly Corner of the intersection of Placentia Avenue and State College Boulevard, 38 ft. Easterly of the centerline of State College and 70.5 ft. Southerly of the centerline of Placentia. Monument is set level with the Sidewalk



PLAN

1" = 50'



NOTES:

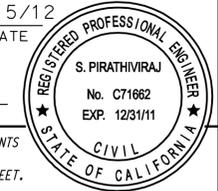
- (1) THIS LOTB SHEET WAS PREPARED IN ACCORDANCE WITH THE CALTRANS SOIL AND ROCK LOGGING, CLASSIFICATION AND PRESENTATION MANUAL (JUNE 2010)
- (2) 2.4" SAMPLES WERE TAKEN USING A CALIFORNIA MODIFIED SAMPLER.
- (3) AN AUTOMATIC TRIP HAMMER SYSTEM CONSISTING OF A HAMMER WEIGHT OF 140 LBS FALLING A DISTANCE OF 30" WAS USED TO ADVANCE THE DRIVE SAMPLER.
- (4) BLOWCOUNTS FOR 2.4" MODIFIED CALIFORNIA RING SAMPLERS ARE RAW BLOWCOUNTS. A CONVERSION FACTOR OF 0.5 CAN BE USED TO CONVERT THE 2.4" MODIFIED CALIFORNIA RING SAMPLER BLOWCOUNTS TO STANDARD PENETRATION TEST (SPT) BLOWCOUNTS.

PROFILE

VERTICAL 1" = 10'
 HORIZONTAL 1" = 20'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Orca	91	0.9/5.4	808	885

REGISTERED ENGINEER *S. Pirathiviraj* DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584
 EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708

DESIGN BY: *Luqi Yang*
 SIGN OFF DATE: 3-29-12

DRAWN BY: J. FANG
 CHECKED BY: G. J. GUNARANJAN

R. JIE
 FIELD INVESTIGATION BY:
 DATE: 1/2011

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER: S. PIRATHIVIRAJ
 BRIDGE No. 55E0123
 POST MILES 3.8

RETAINING WALL No. 255
LOG OF TEST BORINGS 2 OF 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	91	0.9/5.4	809	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

3/15/12
DATE

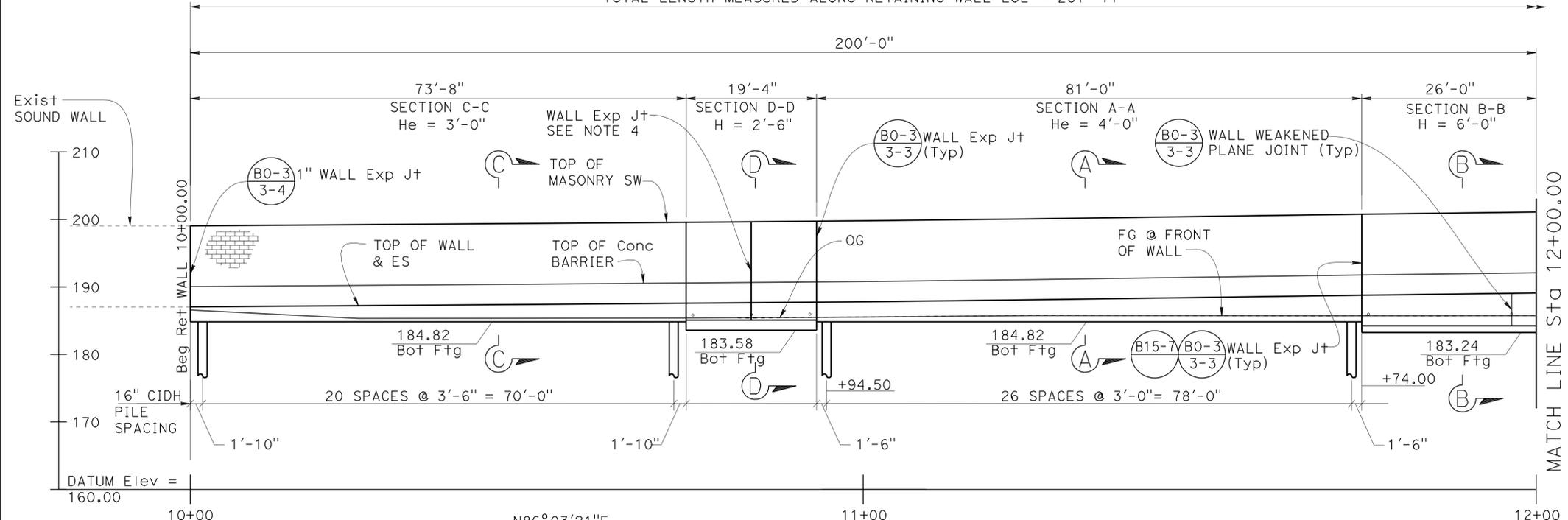
REGISTERED PROFESSIONAL ENGINEER

Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

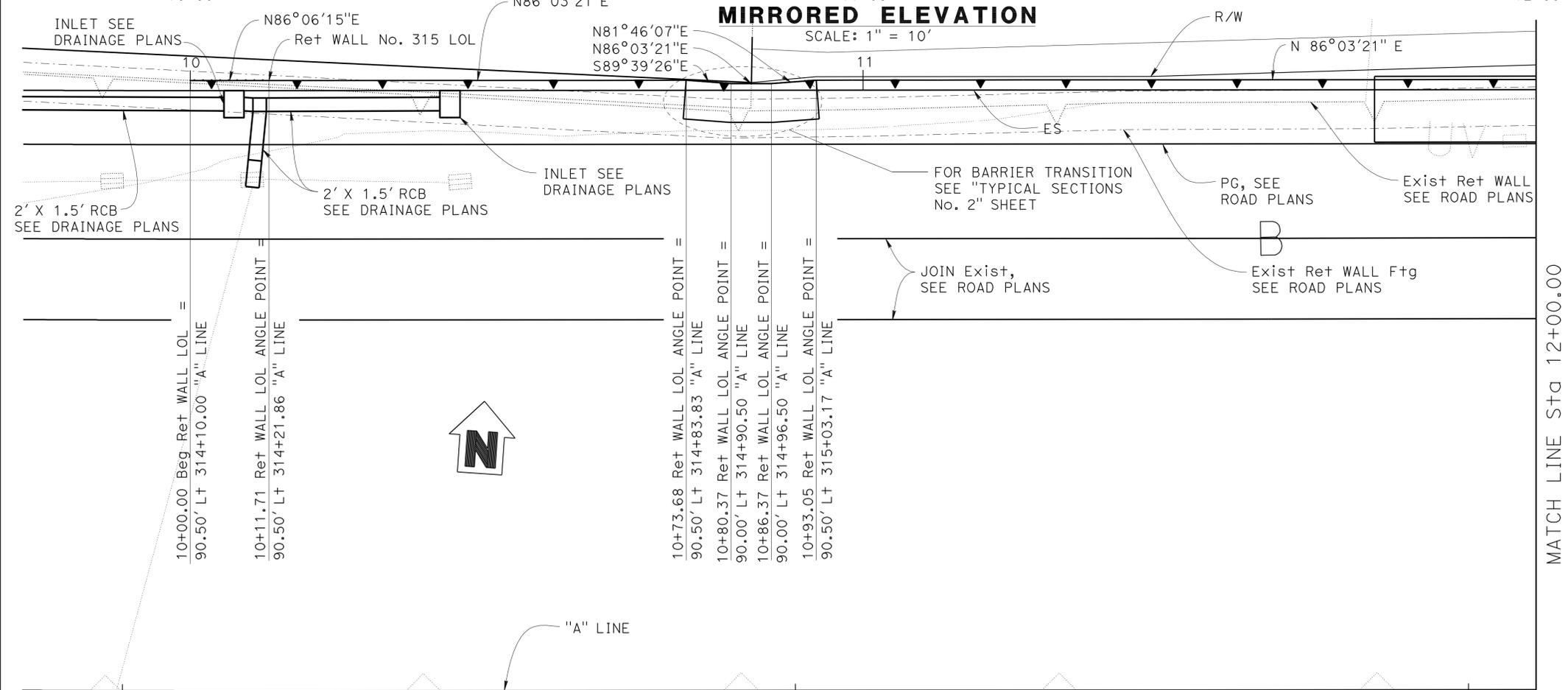
OCTA
550 S MAIN STREET
ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677

TOTAL LENGTH MEASURED ALONG RETAINING WALL LOL = 267'-11"



MATCH LINE Sta 12+00.00
SEE GENERAL PLAN No. 2



MATCH LINE Sta 12+00.00
SEE GENERAL PLAN No. 2

RETAINING WALL No. 315
QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	220	CY
STRUCTURE BACKFILL (RETAINING WALL)	140	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,102	LF
STRUCTURAL CONCRETE, RETAINING WALL	57	CY
FRACTURED RIB TEXTURE	625	SQFT
SOUND WALL (MASONRY BLOCK)	3,035	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	7,800	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	86	LF
CONCRETE BARRIER (TYPE 736SV)	182	LF

- NOTES:**
- This Plan Accurate for Sound Wall and Retaining Wall work only.
 - For Sections A-A, B-B, C-C, and D-D, see "TYPICAL SECTIONS No. 1" and "No. 2" sheets.
 - For Top of Wall Elevations, see "TYPICAL SECTION No. 1" sheet.
 - For Expansion Joints in Sound Wall on Retaining Wall, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL DETAILS No. 1" sheet.

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

DESIGNER: Luqi Yang
DATE: 3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

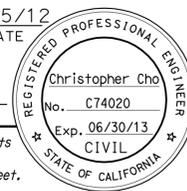
**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0124
POST MILES	4.9

**RETAINING WALL No. 315
GENERAL PLAN No. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	810	885



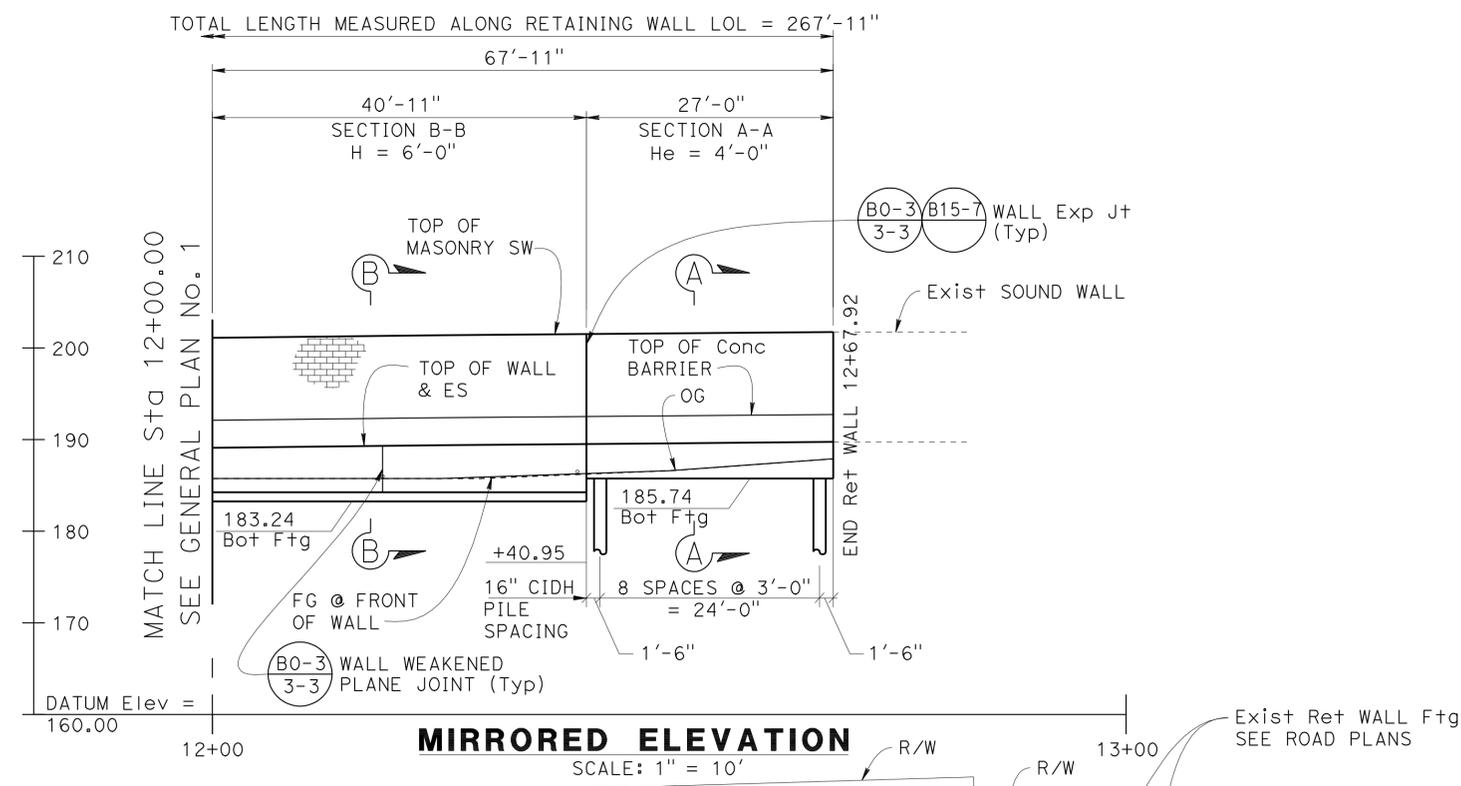
 REGISTERED CIVIL ENGINEER DATE 3/15/12

PLANS APPROVAL DATE 8-13-12

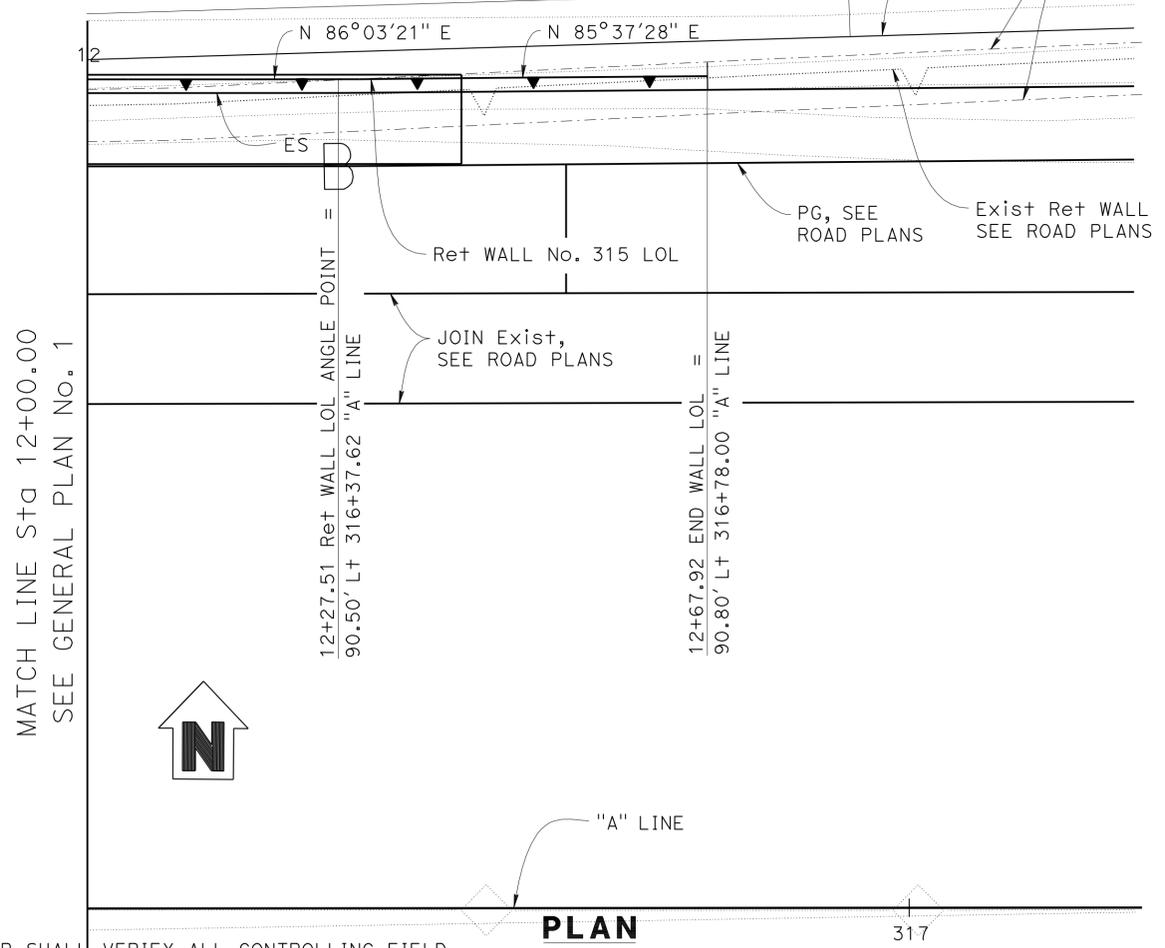
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 ORANGE, CA 92868

RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. 1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Sections A-A, and B-B, see "TYPICAL SECTIONS No. 1" sheet.
3. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 1" sheet.

Luqi Yang
 DESIGN OFFICIAL
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0124
POST MILES	4.9

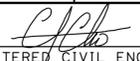
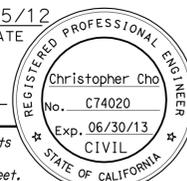
**RETAINING WALL No. 315
GENERAL PLAN No. 2**



REVISION DATES	SHEET	OF
	2	14

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	811	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE

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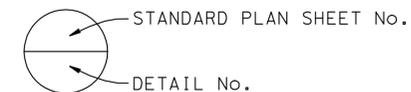
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

INDEX TO PLANS

SHEET No.	TITLE
1	General Plan No. 1
2	General Plan No. 2
3	Index to Plans
4	Foundation Plan
5	Typical Sections No. 1
6	Typical Sections No. 2
7	Masonry Block Sound Wall with Barrier on Retaining Wall - Details No. 1
8	Masonry Block Sound Wall with Barrier on Retaining Wall - Details No. 2
9	Retaining Wall Type 5SWB Details
10	Retaining Wall Type 5SWBP Details No. 1
11	Retaining Wall Type 5SWBP Details No. 2
12	Miscellaneous Details
13	Limits of Payment for Excavation and Backfill
14	Log of Test Borings 1 of 1

STANDARD PLANS DATED 2010

A10A	Abbreviations (Sheet 1 of 2)
A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheet 1 of 3)
A10D	Lines and Symbols (Sheet 2 of 3)
A10E	Lines and Symbols (Sheet 3 of 3)
A10F	Legend - Soil (Sheet 1 of 2)
A10G	Legend - Soil (Sheet 2 of 2)
B0-3	Bridge Details
B2-3	16" and 24" Cast-in-Drilled-Hole Concrete Pile
RSP B3-5	RW Details No. 1
B11-56	Concrete Barrier Type 736
B15-6	Sound Wall Masonry Block on Type 736S/SV Barrier Details (1)
B15-7	Sound Wall Masonry Block on Type 736S/SV Barrier Details (2)
B15-8	Sound Wall Masonry Block on Type 736S/SV Barrier Details (3)
B15-9	Sound Wall Masonry Block Miscellaneous Details
B15-12	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (1)
B15-13	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (2)
B15-14	Sound Wall Masonry Block Access Gate Locking Details
B15-15	Sound Wall Masonry Block on Type 736S/SV Barrier on Pile Footing for Spanning Utilities




 DESIGN OR SUPERVISOR Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0124
	POST MILES 4.9

RETAINING WALL No. 315
INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
---	---	---	---

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 3 OF 14
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USERNAME => s119571 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 09:02

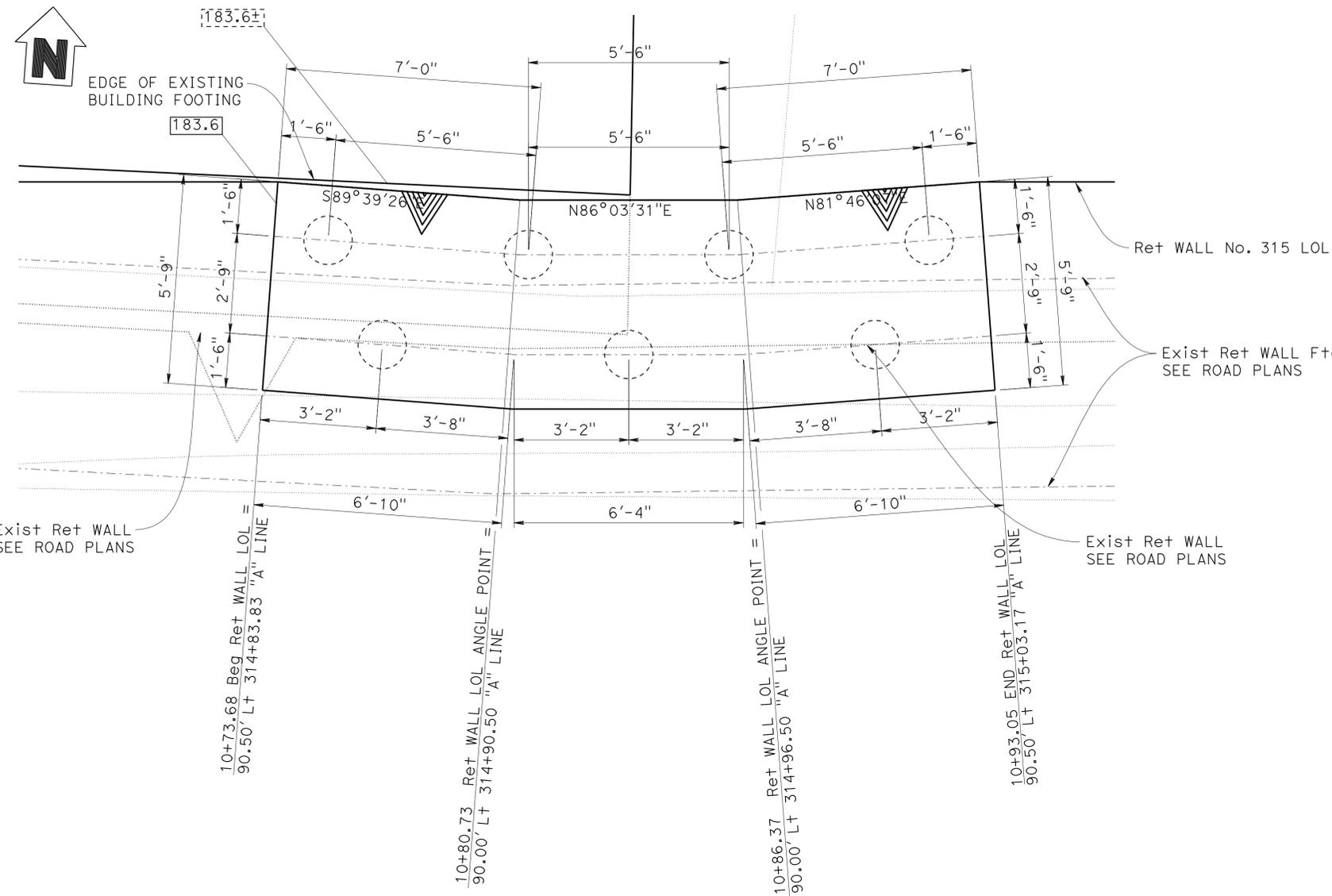
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	812	885

NOTE:

1. Location of Exist Structure Foundations is Approximate.

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

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 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



LEGEND:

- XXX.XX Indicates Bottom of Footing Elevation
- XXX.XX± Indicates Bottom of Existing Footing Elevation (Approximate)
- Indicates Existing Structure
- Indicates New Construction
- ⊗ Indicates New Piling

BENCHMARKS:

Elevations as shown hereon are in terms of the North American Vertical Datum of 1988 (NAVD88), based locally upon the following Benchmarks as published by the County of Orange:

Designation: 1G-164-05 Elev = 109.80
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "1G-164-05", set in the northwesterly corner of a 4.5 ft. by 11.0 ft. Concrete Catch Basin. Monument is located in the southeasterly corner of the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ± from the centerline of Buckingham and 47 ft. easterly of the centerline of Magnolia. Monument is set level with the sidewalk

Designation: 2F-25-04 Elev = 162.70
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2F-25-04", set in the northwesterly corner of a 7.5 ft. by 4.5 ft. Concrete Catch Basin. Monument is located in the northeasterly corner of the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp, 39 ft. northerly of the centerline of the On-Ramp and 40 ft. easterly of the centerline of Harbor Boulevard. Monument is set level with the sidewalk

Designation: 2D-35-86 Elev = 188.58
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2D-35-86", set in the northwesterly corner of a 7 ft. by 14 ft. Concrete Catch Basin. Monument is located in the southeasterly corner of the intersection of Placentia Avenue and State College Boulevard, 38 ft. easterly of the centerline of State College and 70.5 ft. southerly of the centerline of Placentia. Monument is set level with the sidewalk

BASIS OF COORDINATES:

Bearings and Coordinates as shown hereon are in terms of the California Coordinate System of 1983 (CCS83, Epoch 1991.35), Zone 6; based locally upon the following Control Stations as published by the County of Orange:

Name	Northing (ft)-Grid	Easting (ft)-Grid
OCS GPS 3511R1	2257877.29	6037582.77
OCS GPS 3518	2260444.33	6053380.91
OCS GPS 5260	2257149.07	6063970.03

FOUNDATION PLAN

1" = 5'

PILE DATA TABLE

LOCATION	PILE TYPE	DESIGN LOADING (SERVICE) (kips)	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
			COMPRESSION	TENSION		
ALL PILES	16" Dia CIDH PILE	90	120	60	+160 (a) +164 (b) & +162 (d)	+160

NOTES:

1. Design Tip Elevations are controlled by: (a) Compression, (b) Tension, and (d) Lateral Load.
2. The Specified Tip Elevation shall not be raised above the Design Tip Elevations for Compression Load, Tension Load, and Lateral Load.

3/15/12
 Luqi Yang
 REGISTERED PROFESSIONAL ENGINEER
 APPROVAL DATE

DESIGN BY: Luqi Yang SURVEYED BY: B. COX SIGN OFF DATE: 3-29-12	SCALE: PHOTOGRAMMETRY AS OF: 04-15-2010 VERT. DATUM: NAVD88 HORZ. DATUM: NAD83 (1991.35) ALIGNMENT TIES	DESIGN BY: C. CHO CHECKED: C. HARDEN DETAILS BY: J. SALDANA CHECKED: C. HARDEN QUANTITIES BY: C. HARDEN CHECKED: J. VOEPEL	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.: 55E0124 PROJECT ENGINEER: CHAD HARDEN POST MILES: 4.9	RETAINING WALL No. 315 FOUNDATION PLAN
FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3	UNIT: 2295 PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: _____ SHEET 4 OF 14

USERNAME => S114640 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	813	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

3/15/12
DATE

PLANS APPROVAL DATE

8-13-12
DATE

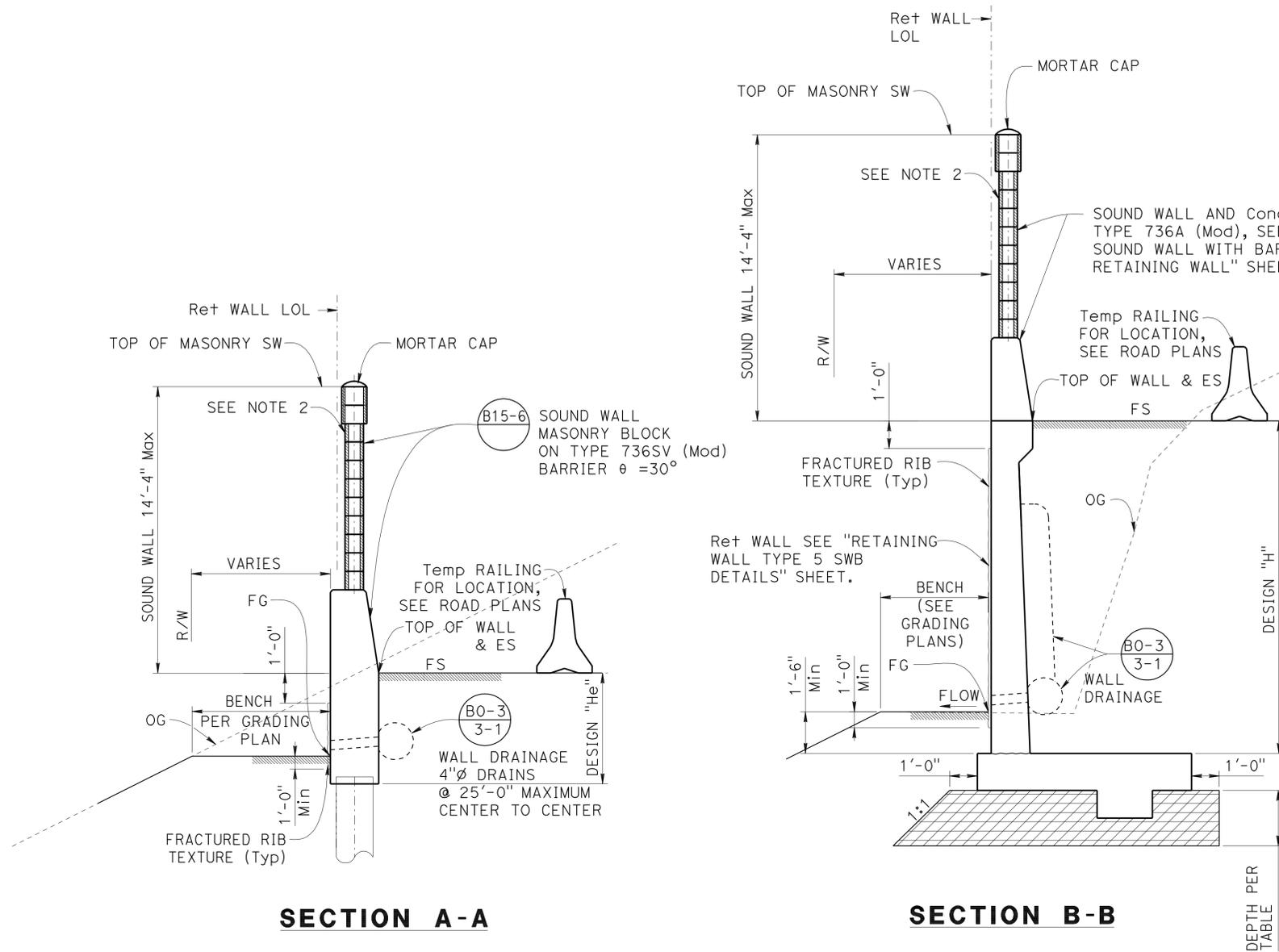
REGISTERED PROFESSIONAL ENGINEER

Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

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IRVINE, CA 92677



SECTION A-A

SECTION B-B

TYPICAL SECTIONS
NO SCALE

LEGEND:

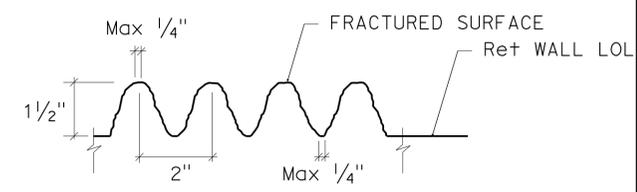
Structure Over Excavation

Structure Backfill

DESIGN "H"	OVER EXCAVATION DEPTH
6'-0"	1'-0"

TOP OF WALL ELEVATION TABLE

WALL LOL STATION	TOP OF WALL Elev
10+00.00	187.05
+10	187.12
+20	187.19
+30	187.26
+40	187.33
+50	187.40
+60	187.48
+70	187.55
+80	187.63
+90	187.72
11+00.00	187.80
+10	187.92
+20	188.03
+30	188.16
+40	188.29
+50	188.43
+60	188.57
+70	188.71
+80	188.85
+90	188.98
12+00.00	189.11
+10	189.21
+20	189.32
+30	189.41
+40	189.50
+50	189.58
+60	189.67
+67.92	189.74



FRACTURED RIB TEXTURE 1 1/2\"
(PROJECTING)
NO SCALE

- NOTES:
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Sound Wall Block size, texture and color, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet.
 3. For Excavation and Backfill Details, see "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" sheet.

Luqi Yang
DESIGN OR SIGNATURE
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0124
POST MILES	4.9

RETAINING WALL No. 315
TYPICAL SECTIONS No. 1

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 12000000791

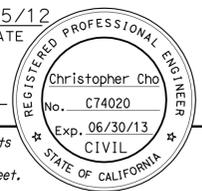
CONTRACT NO.: 12-0C5701

REVISION DATES	SHEET	OF
	5	14

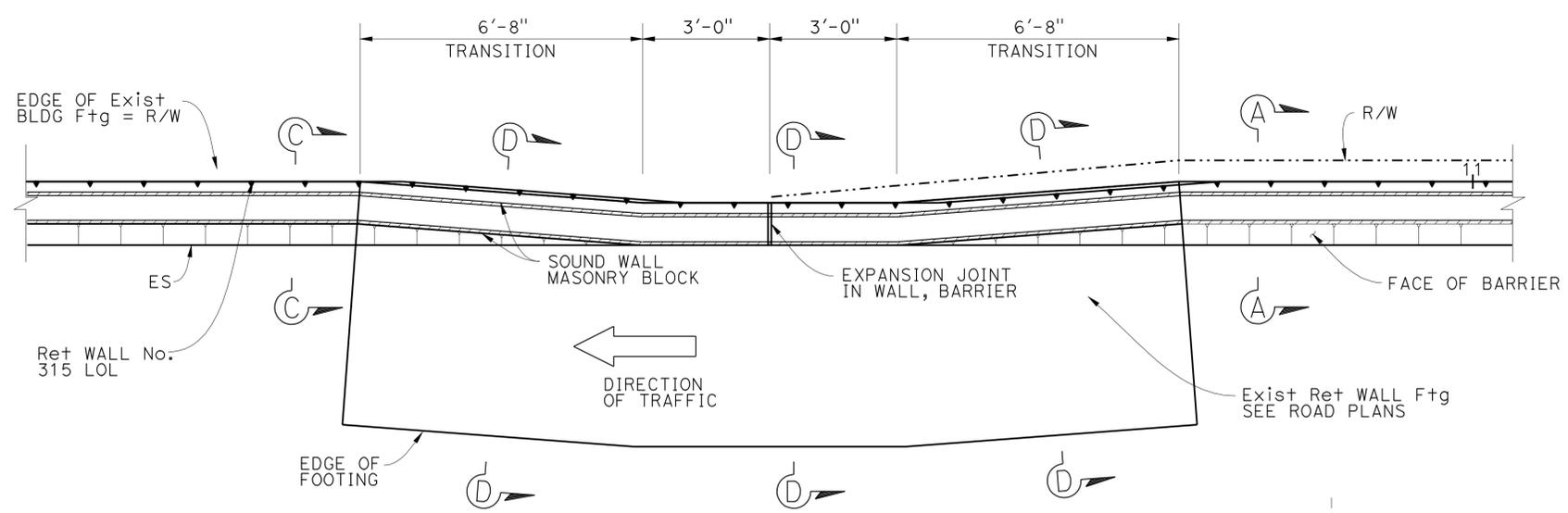
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	814	885

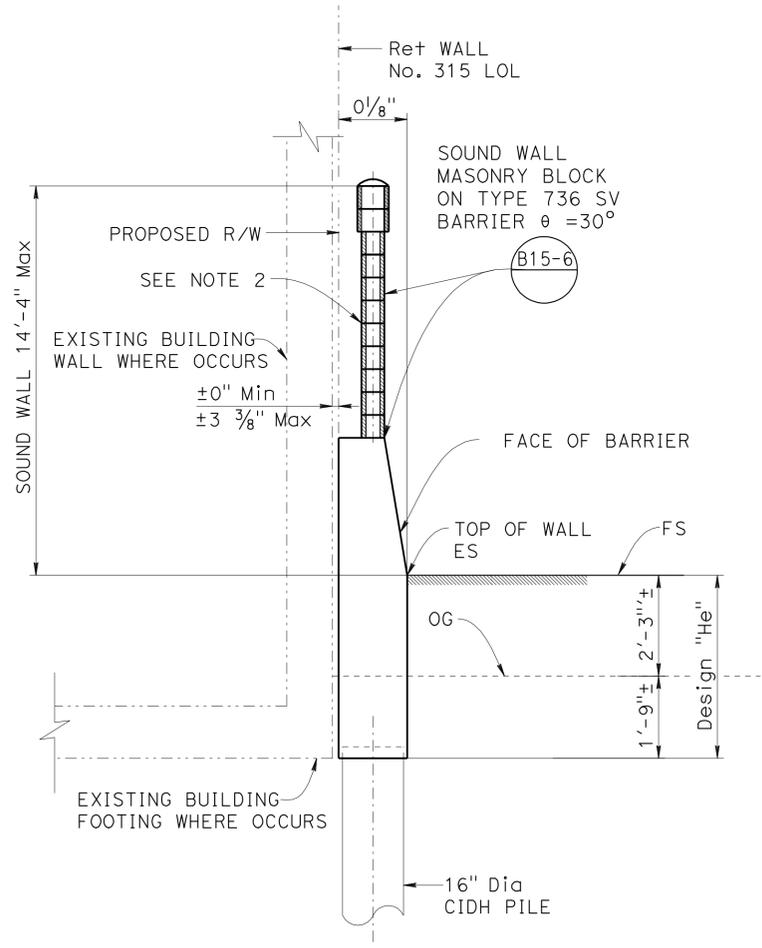
REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
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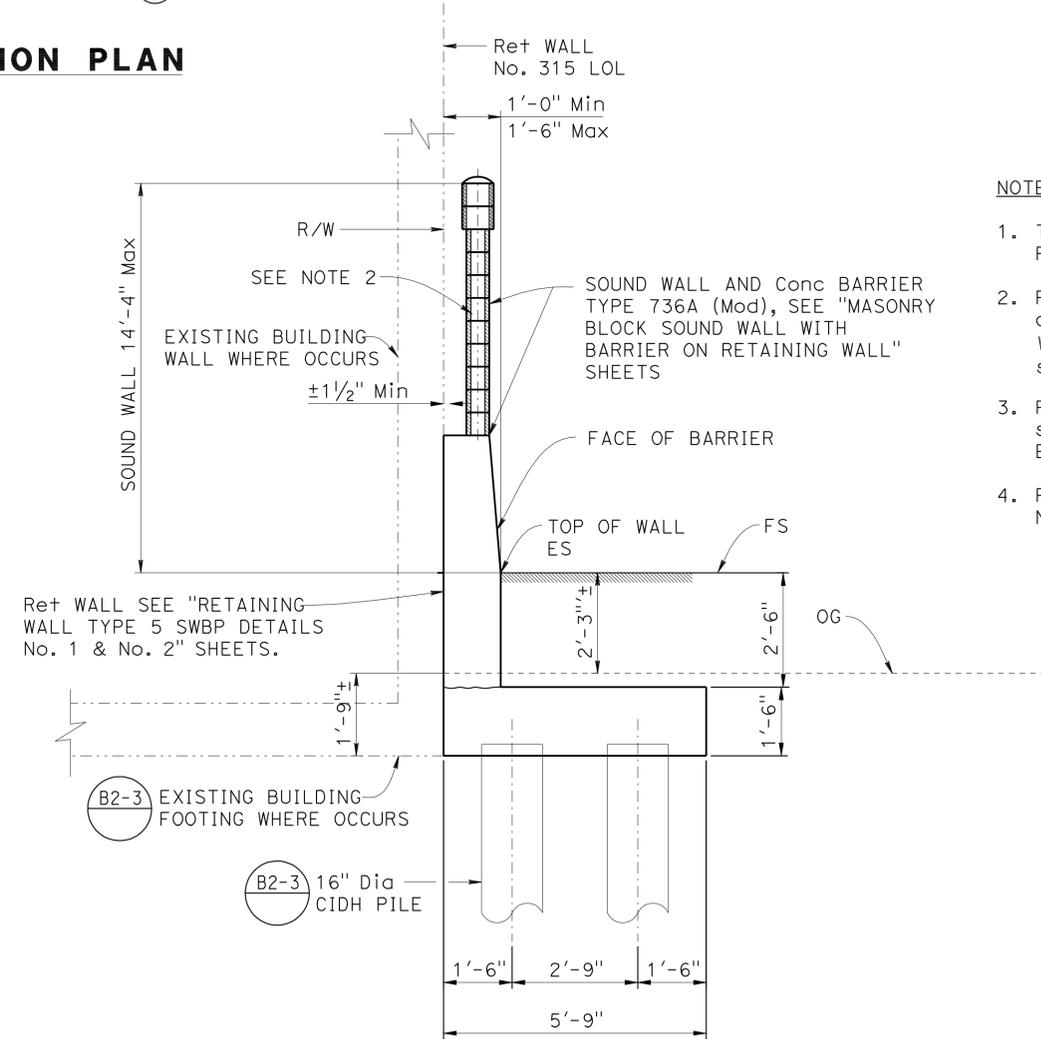
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 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



BARRIER TRANSITION PLAN
NO SCALE



SECTION C-C



SECTION D-D

- NOTES:**
- This Plan Accurate for Sound Wall and Retaining Wall work only.
 - For Sound Wall Block size, texture and color, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL" sheet.
 - For Excavation and Backfill Details, see "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" sheet.
 - For Section A-A, see "TYPICAL SECTIONS No. 1" sheet.

TYPICAL SECTIONS
NO SCALE

Luqi Yang
 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0124
POST MILES	4.9

RETAINING WALL No. 315
TYPICAL SECTIONS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

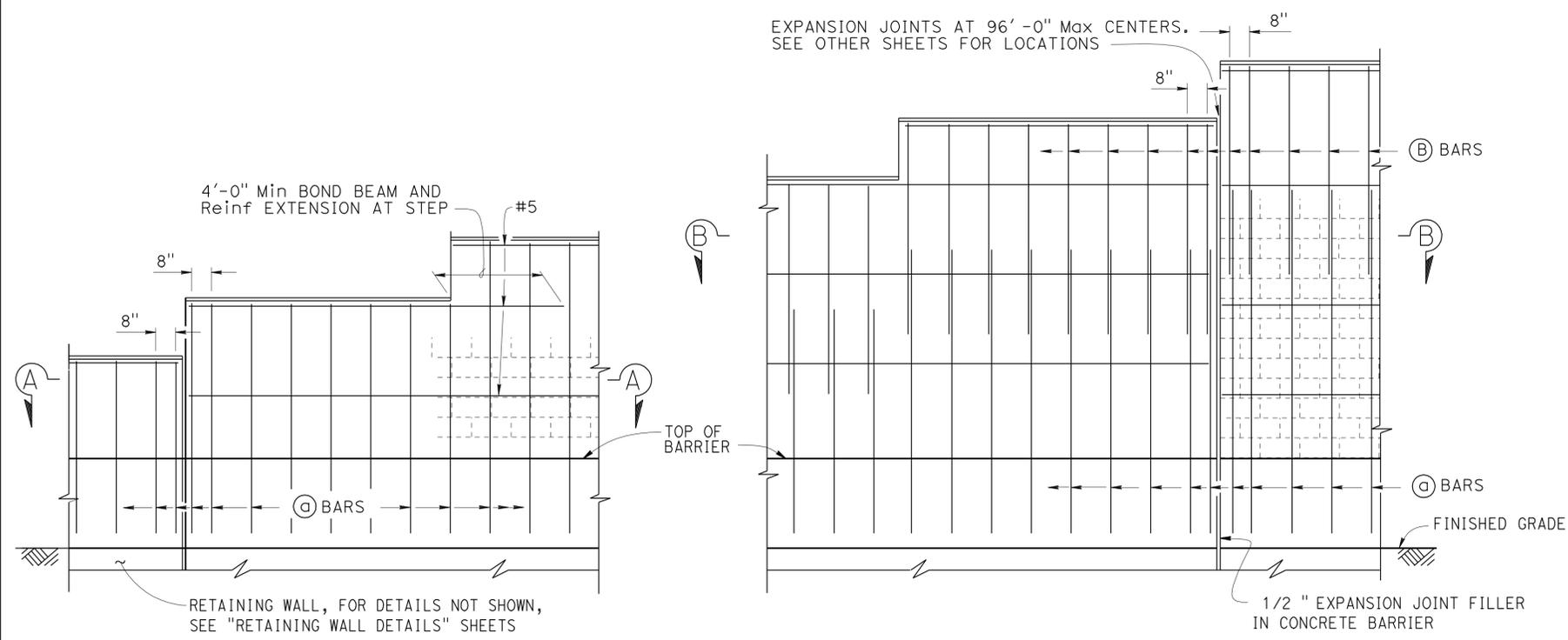
REVISION DATES	SHEET	OF
	6	14

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	815	885

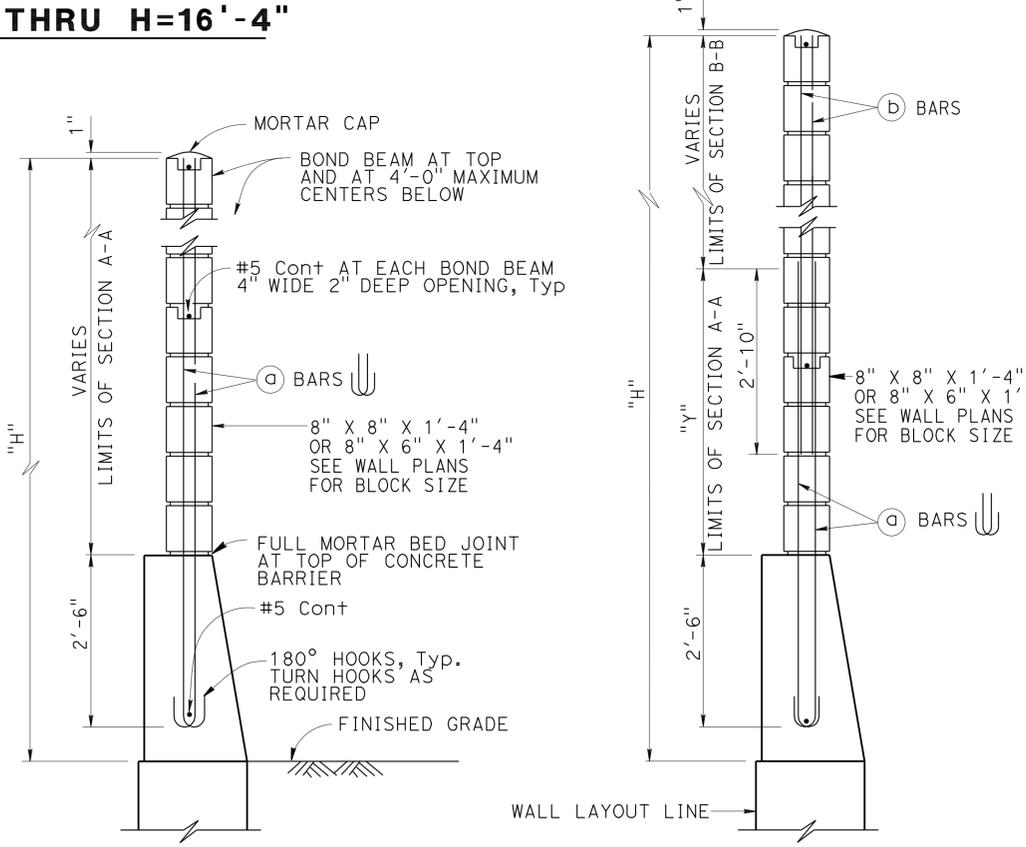
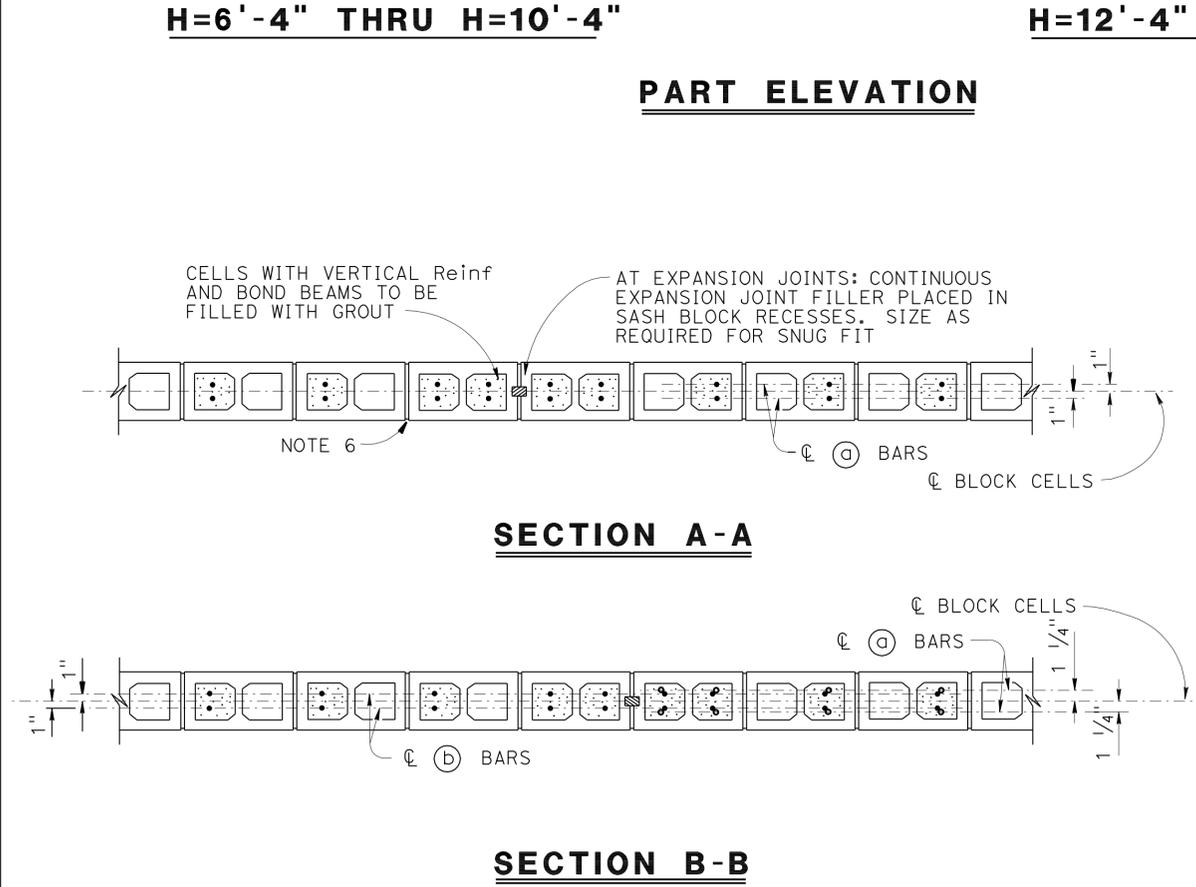
REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

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

- NOTES:
- For Details not shown, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope ±10%
 - See STANDARD PLAN B15-9 for other Details
 - For type of block and joint finish, see other sheets
 - When Blocks are laid in Stacked Bond, Ladder Type, Galvanized Joint Reinforcement shall be provided. A Minimum of 2-9 Gauge Wire Continuous at 4'-0" Maximum to be used. Locate Reinforcement in Joints that are at the Approximate Midpoint between Bond Beams
 - Horizontal Joints shall be Tooled Concave or may be Weathered. Vertical Joints shall be Tooled Concave or may be Raked
 - For Intermediate Wall heights that are between the "H's" given, use the Tabular Information for the next higher "H"
 - Masonry Strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
 - Concrete to be used for the Barrier shall contain not less than 590 pounds of Cementitious Material per Cubic Yard



H=6'-4" THRU H=10'-4" H=12'-4" THRU H=16'-4"
 FOR DETAILS NOT SHOWN, SEE H=12'-4" THRU H=16'-4" FOR DETAILS NOT SHOWN, SEE H=6'-4" THRU H=10'-4"

TYPICAL SECTION

RETAINING WALL No. 315
 MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
 DETAILS No. 1

DESIGN BY Luqi Yang
 SIGN OFF DATE 3-29-12

DESIGN BY C. CHO
 CHECKED C. HARDEN
 DETAILS BY C. CHO
 CHECKED C. HARDEN
 QUANTITIES BY C. CHO
 CHECKED J. VOEPEL

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55E0124
 PROJECT ENGINEER CHAD HARDEN
 POST MILES 4.9

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

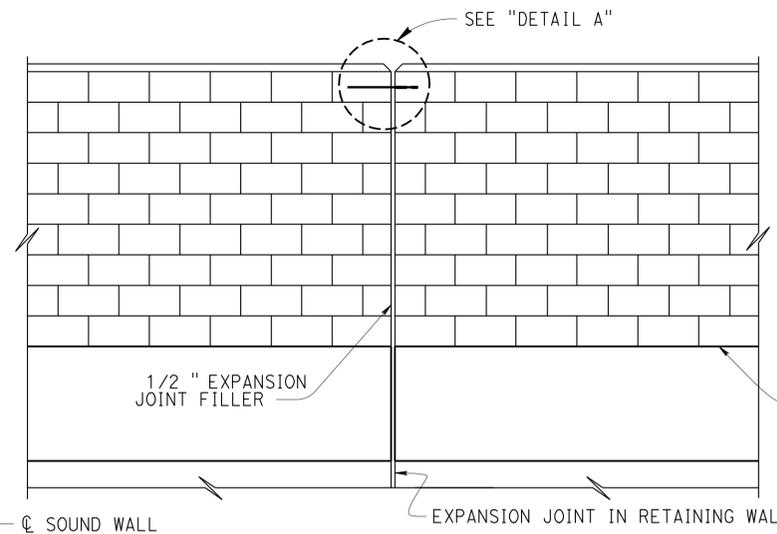
REVISION DATES	SHEET	OF
	7	14

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:21

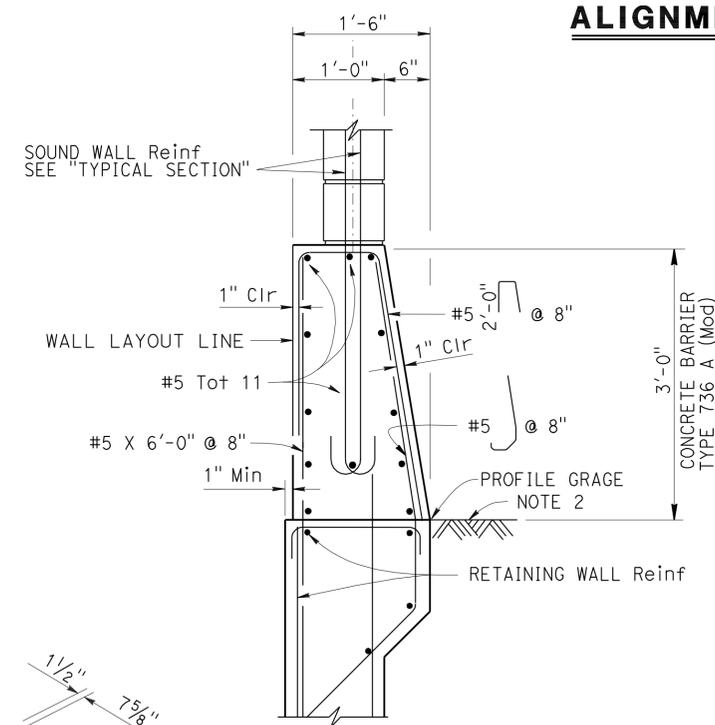
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	816	885

REGISTERED CIVIL ENGINEER
 3/15/12 DATE
 8-13-12 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

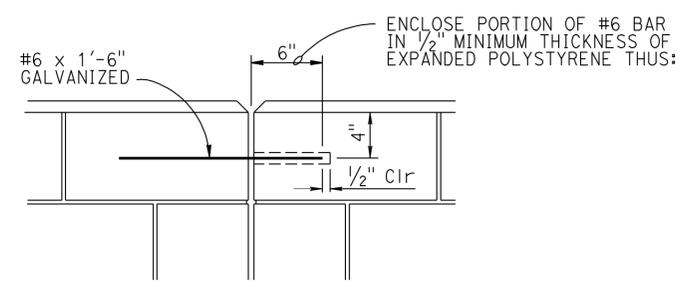
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 IRVINE, CA 92677



ALIGNMENT KEY DETAIL



BARRIER SECTION



DETAIL A

DESIGN NOTES

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

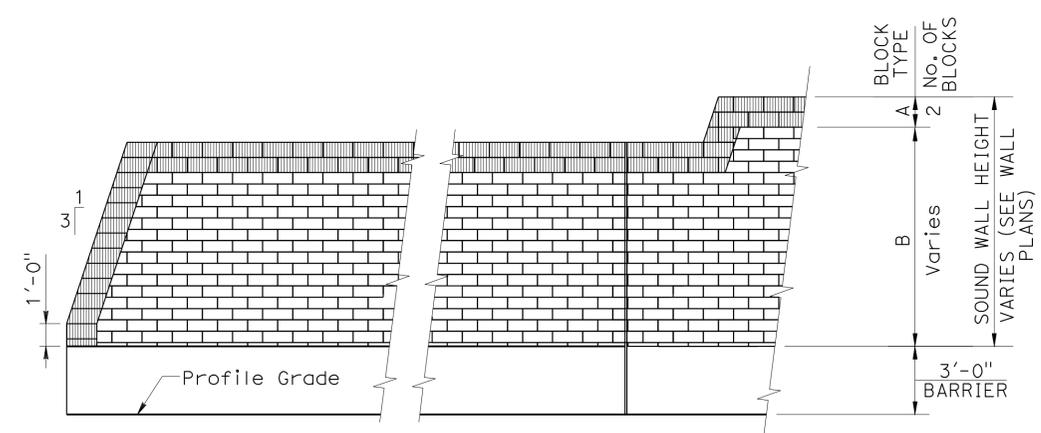
DESIGN WIND LOAD
 33 psf

DESIGN SEISMIC LOAD
 0.57 Dead load

CONCRETE MASONRY

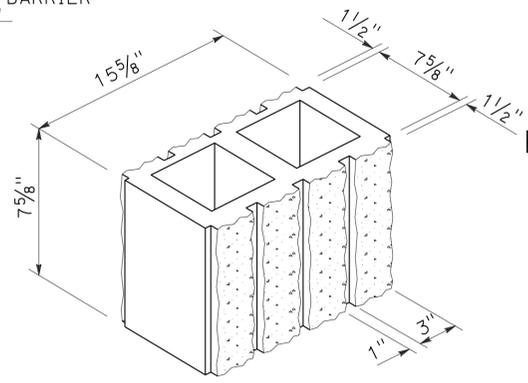
REINFORCED CONCRETE	REGULAR STRENGTH	HIGH STRENGTH	
f'c = 3600 psi	f'm = 1500 psi	f'm = 2000 psi	f'm = 2500 psi
fy = 60 ksi	fb = 495 psi	fb = 660 psi	fb = 830 psi
	fs = 24,000 psi	fs = 24,000 psi	fs = 24,000 psi
	n = 25.8	n = 19.3	n = 15.5

- NOTES:
- For Details not shown, see STANDARD PLAN B15-6.
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope ±10%. See STANDARD PLAN B11-56, Note D



SOUND WALL AESTHETICS

No Scale



WALL CAP BLOCK DETAIL

NO SCALE
 8" WIDE 4-SCORE SPLIT FACE BOTH SIDES

MASONRY BLOCK TYPE TABLE

WALL NUMBERS	BLOCK TYPE	BLOCK DESCRIPTION	BLOCK SIZE
--	A	WALL CAP ROWS (SAND COLORED SCORED SPLIT FACE CONCRETE BOTH SIDES) 4-SCORED. SEE WALL CAP BLOCK DETAIL	8" X 8" X 16"
--	B	MAIN WALL SURFACE (SAND COLORED SPLIT FACE CONCRETE BOTH SIDES)	8" X 6" X 16"

Luqi Yang
 DESIGN OR SIGN OFF DATE
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
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 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.
 55E0124
 POST MILES
 4.9

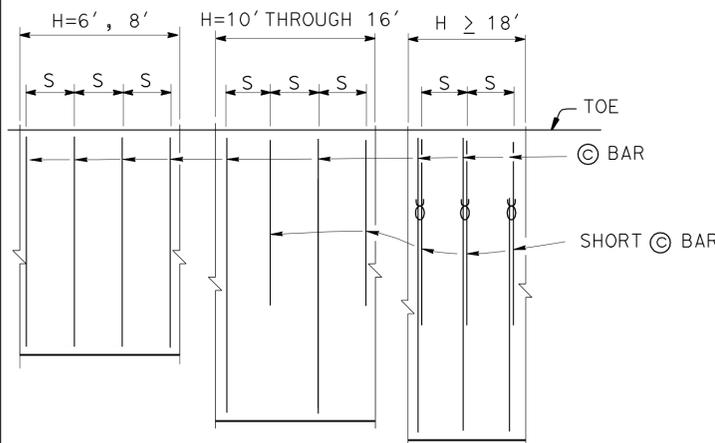
RETAINING WALL No. 315
MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
DETAILS No. 2

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 13:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	817	885
REGISTERED CIVIL ENGINEER			DATE	3/15/12	
8-13-12			PLANS APPROVAL DATE		
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GENERAL NOTES

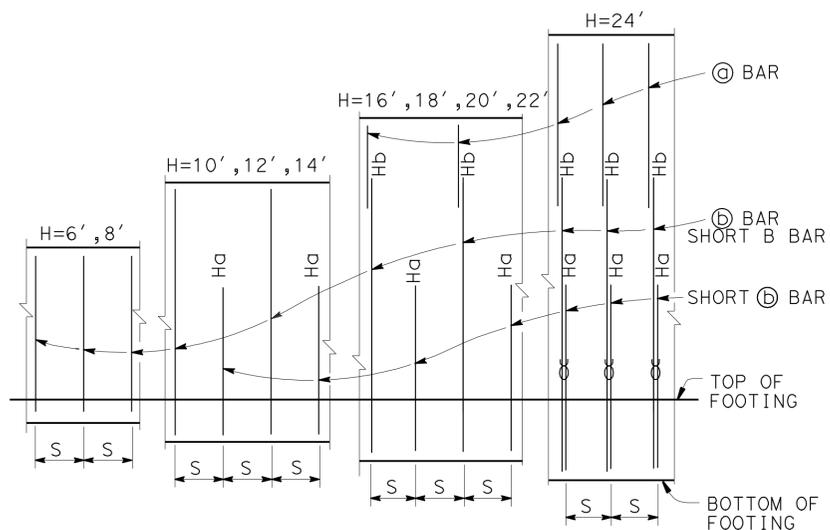
- For Sound Wall and Retaining Wall Architectural finish or texture, see Details elsewhere in Project Plans.
- For Details not shown and Drainage Notes, see RSP (B3-5)
- Footing Cover, 1'-6" Minimum.
- Limit of no Splicing Rebars = 3 times the bottom Thickness of the Stem.
- For Sound Wall & Barrier Reinforcement, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" and "No. 2" sheets.
- For Plain Concrete Band Height see "TYPICAL SECTIONS" sheets.



PLAN

NO SCALE

NOTES:
 ONLY \odot BARS SHOWN
 "S" IS \odot BAR SPACING, SEE TABLE
 \odot : 2 BAR BUNDLE



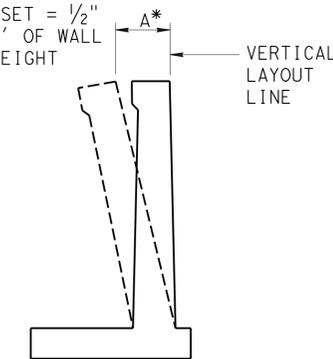
ELEVATION

NO SCALE

TABLE 1: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

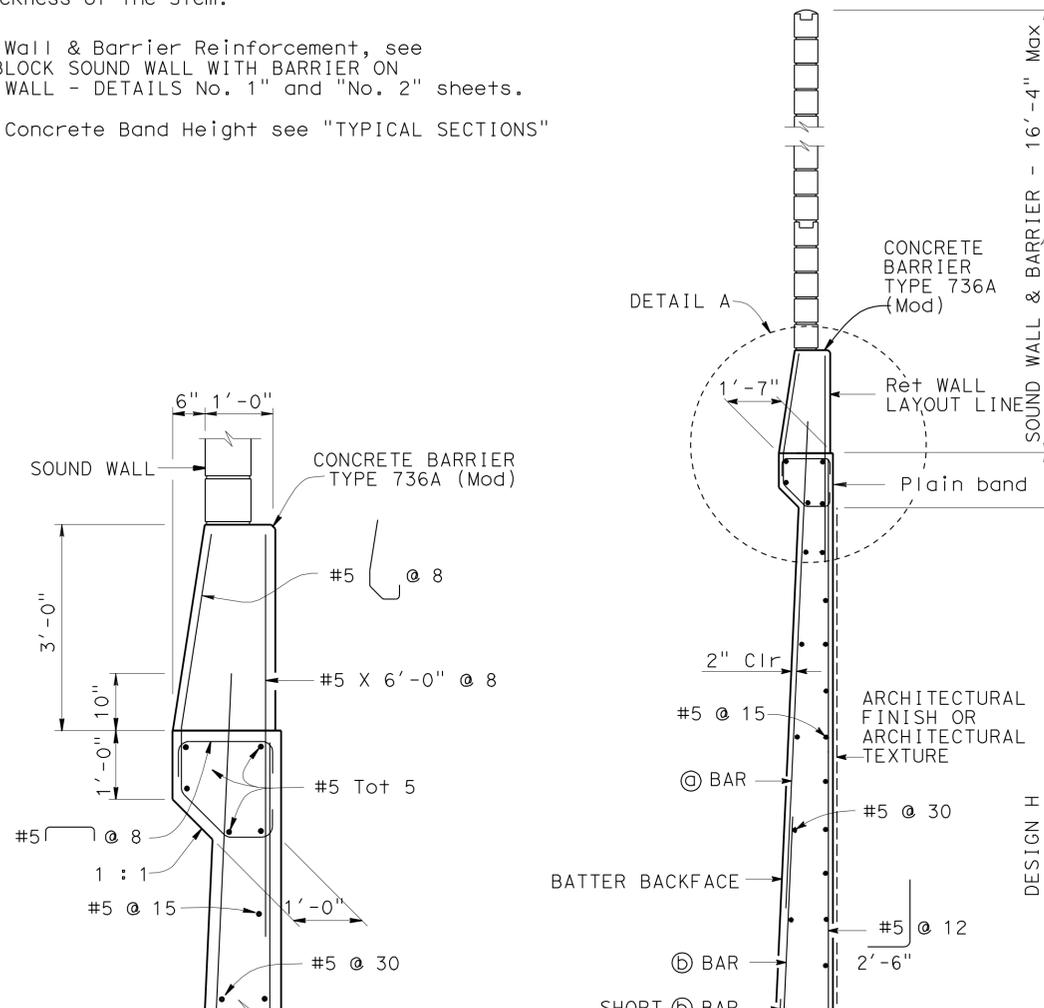
DESIGN H	STEM WITH HAUNCH			
	6'	8'	10'	12'
W	9'-3"	9'-3"	10'-6"	14'-0"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"
BATTER	1/2:12	1/2:12	1/2:12	1/2:12
STEM THICKNESS @ HAUNCH	1'-0"	1'-0"	1'-0"	1'-0"
\odot BARS				
\odot BARS	#7 @12	#7 @12	#7 @ 9	#7 @ 9
H _a			4'-0"	8'-0"
H _b				
\odot BARS	#7 @12	#7 @12	#7 @ 9	#7 @ 9
H _Z				
ULTIMATE BEARING CAPACITY REQUIRED (KSF)	2.9	3.3	3.4	3.9

A* OFFSET = 1/2" PER 10' OF WALL STEM HEIGHT



WALL OFFSET

NO SCALE
 VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER.



DETAIL A

3/4" = 1'-0"

SPREAD FOOTING SECTION

NO SCALE

DESIGN DATA

Design: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
 Concrete: Reinforced Concrete, f'c = 3600 Psi
 fy = 60,000 Psi

Loading Case:
 Level Ground With 240 Psf Surcharge
 And 16'-4" Soundwall

Seismic Load = 0.26 Dead Load
 Wind Load = 30 Psf
 Dead Load Of Sound Wall = 1090 Lb/Ft
 Dead Load Of Barrier = 563 Lb/Ft
 Collision Load = 54 Kip Maximum Traffic Impact Loading Evenly Distributed Over 10 Feet At Top Of The Barrier And 1:1 Distribution Down And Outward

Seismic Load: Soil
 Kh = 0.26
 Kv = 0.0
 Kae : Mononobe-Okabe Method, 22 Pcf, Inverted Triangle

Soil: $\phi = 32.5^\circ \gamma = 120$ Pcf
 Equivalent Fluid Pressure:
 = 36 Pcf For Determination Of Toe Pressure

Load Combinations And Limit States

Service I Q=1.00Dc+1.00Ev+1.00Eh+1.00Ls+0.30Ws
 Service II Q=1.00Dc+1.00Ev+1.00Eh+1.00Ws
 Service IV Q=1.00Dc+1.00Ev+1.00Eh+0.70Ws
 Strength I Q=A Dc+B Ev+1.50Eh+1.75Ls
 Strength III Q=A Dc+B Ev+1.50Eh+1.40Ws
 Strength IV Q=A Dc+B Ev+1.50Eh
 Strength V Q=A Dc+B Ev+1.50Eh+1.35Ls+0.40Ws
 Extreme I Q=1.00Dc+1.00Ev+1.00Eh+1.00Eqd+1.00Eqe
 Extreme II Q=1.00Dc+1.00Ev+1.00Eh+1.00Ct

Where : Q = Force Effects
 A = 1.25 Or 0.90, Which Ever Controls Design
 B = 1.35 Or 1.00 Which Ever Controls Design
 Dc = Dead Load
 Ev = Vertical Earth Fill Pressure
 Eh = Lateral Earth Pressure
 Ls = Live Load Surcharge
 Eqd = Soil And Structure Components Inertia. Soil Inertia Ignored From Stem Design.
 Eqe = Seismic Lateral Earth Pressure
 Ws = Wind Load
 Ct = Vehicular Collision Force

Luqi Yang
 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER
 BRIDGE NO. 55E0124
 POST MILES 4.9

RETAINING WALL No. 315
 RETAINING WALL TYPE 5SWB DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET 9	OF 14
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USERNAME => s114640 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	818	885

3/15/12
REGISTERED CIVIL ENGINEER DATE

8-13-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

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IRVINE, CA 92677

GENERAL NOTES

1. For Sound Wall and Retaining Wall Architectural finish or texture, see Details elsewhere in Project Plans.
2. For Details not shown and Drainage Notes, see RSP
B3-5
3. Footing Cover, 1'-6" Minimum.
4. Limit of no Splicing Rebars = 3 times the bottom Thickness of the Stem.
5. For Sound Wall & Barrier Reinforcement, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" and "No. 2" sheets.
6. For Plain Concrete Band Height see "TYPICAL SECTION" sheets.

DESIGN DATA

Design: AASHTO LRFD Bridge Design Specifications, 4th Edition With California Amendments

Concrete: Reinforced Concrete, $f'c = 3600$ Psi
 $fy = 60,000$ Psi

Loading Case:
Level Ground With 240 Psf Surcharge
And 16'-4" Soundwall

Seismic Load = 0.26 Dead Load
Wind Load = 30 Psf
Dead Load Of Sound Wall = 1090 Lb/Ft
Dead Load Of Barrier = 563 Lb/Ft
Collision Load = 54 Kip Maximum Traffic Impact Loading Evenly Distributed Over 10 Feet At Top Of The Barrier And 1:1 Distribution Down And Outward

Seismic Load: Soil
 $Kh = 0.26$
 $Kv = 0.0$
 Kae : Mononobe-Okabe Method, 22 Pcf, Inverted Triangle

Soil: $\phi = 32.5^\circ \gamma = 120$ Pcf
Equivalent Fluid Pressure:
= 36 Pcf For Determination Of Toe Pressure

Load Combinations And Limit States

Service I $Q=1.00Dc+1.00Ev+1.00Eh+1.00Ls+0.30Ws$
Service II $Q=1.00Dc+1.00Ev+1.00Eh+1.00Ws$
Service Iv $Q=1.00Dc+1.00Ev+1.00Eh+0.70Ws$
Strength I $Q=ADc+BEv+1.50Eh+1.75Ls$
Strength Ii $Q=ADc+BEv+1.50Eh+1.40Ws$
Strength Iv $Q=ADc+BEv+1.50Eh$
Strength V $Q=ADc+BEv+1.50Eh+1.35Ls+0.40Ws$
Extreme I $Q=1.00Dc+1.00Ev+1.00Eh+1.00Eqd+1.00Eqe$
Extreme Ii $Q=1.00Dc+1.00Ev+1.00Eh+1.00Ct$

Where : Q = Force Effects
A = 1.25 Or 0.90, Which Ever Controls Design
B = 1.35 Or 1.00 Which Ever Controls Design
Dc = Dead Load
Ev = Vertical Earth Fill Pressure
Eh = Lateral Earth Pressure
Ls = Live Load Surcharge
Eqd = Soil And Structure Components Inertia. Soil Inertia Ignored From Stem Design.
Eqe = Seismic Lateral Earth Pressure
Ws = Wind Load
Ct = Vehicular Collision Force

TABLE OF WALL DIMENSIONS, PILE SPACINGS AND REINFORCING STEEL	
DESIGN H	2'-6"
W	5'-9"
F PILE FOOTING	1'-6"
M	1'-6"
N	4'-3"
ROW 1 SPACING	2'-9"
ROW 2 SPACING	3'-5"
ROW 3 SPACING	
ROW 4 SPACING	
STEM WITH HAUNCH, BATTER	1/2:12
STEM WITHOUT HAUNCH, BATTER	0
⊙ BARS	
⊙ BARS	#7@12
Ha	
Hb	
⊙ BARS	#6@12
Hz	
⊙ BARS	#6@12
⊙ BARS	8-#7@11

- NOTES:
1. δ indicates 2 bar bundle.
 2. total \odot bars are top and bottom combined.

Luqi Yang
DESIGN OVERSIGHT
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0124
POST MILES	4.9

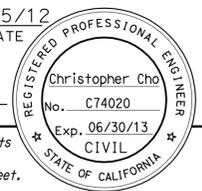
RETAINING WALL No. 315

RETAINING WALL TYPE 5SWBP DETAILS No. 1

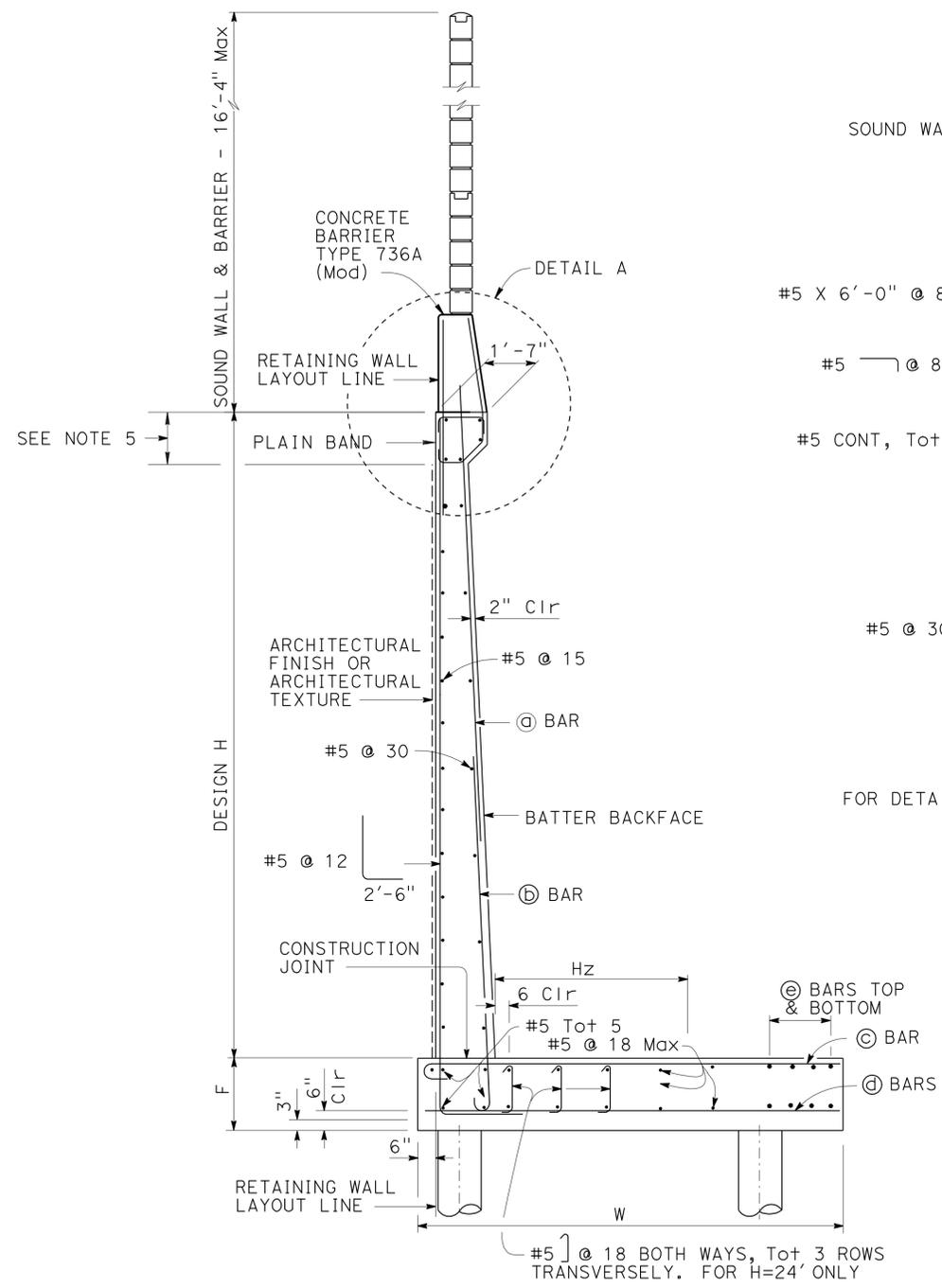
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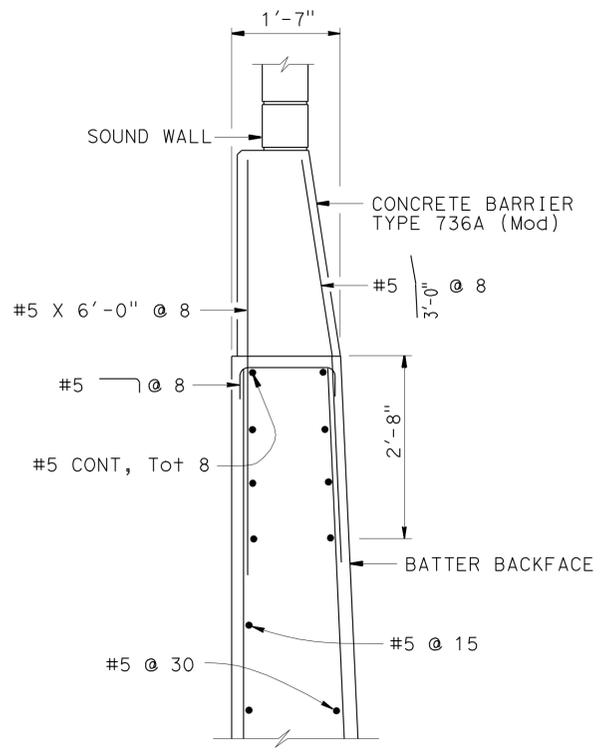

 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
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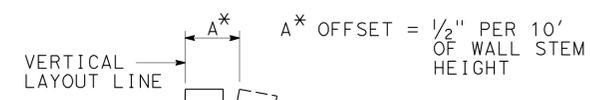
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 ORANGE, CA. 92868
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 14725 ALTON PARKWAY
 IRVINE, CA 92677



45T PILE FOOTING SECTION
NO SCALE



DETAIL A
3/4 = 1'-0"
FOR DETAILS NOT SHOWN, SEE "DETAIL A"

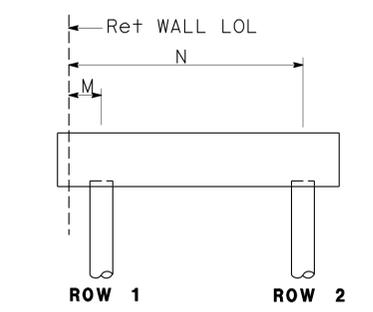


WALL OFFSET

NO SCALE
VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER

GENERAL NOTES

1. For Sound Wall and Retaining Wall Architectural finish or texture, see Details elsewhere in Project Plans.
2. For Details not shown and Drainage Notes, see RSP B3-5
3. Footing Cover, 1'-6" Minimum
4. For Sound Wall and Reinforcements see "SOUND WALL MASONRY BLOCK" sheets in STANDARD PLANS.
5. For Plain Concrete Band Height, see "TYPICAL SECTIONS" sheets.



CONFIGURATION 1

Luqi Yang
 DESIGN OR SIGN OFF DATE 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

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STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0124
POST MILES	4.9

RETAINING WALL No. 315
RETAINING WALL TYPE 5SWBP DETAILS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

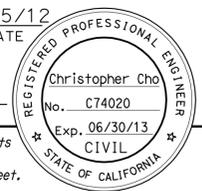
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	11	14

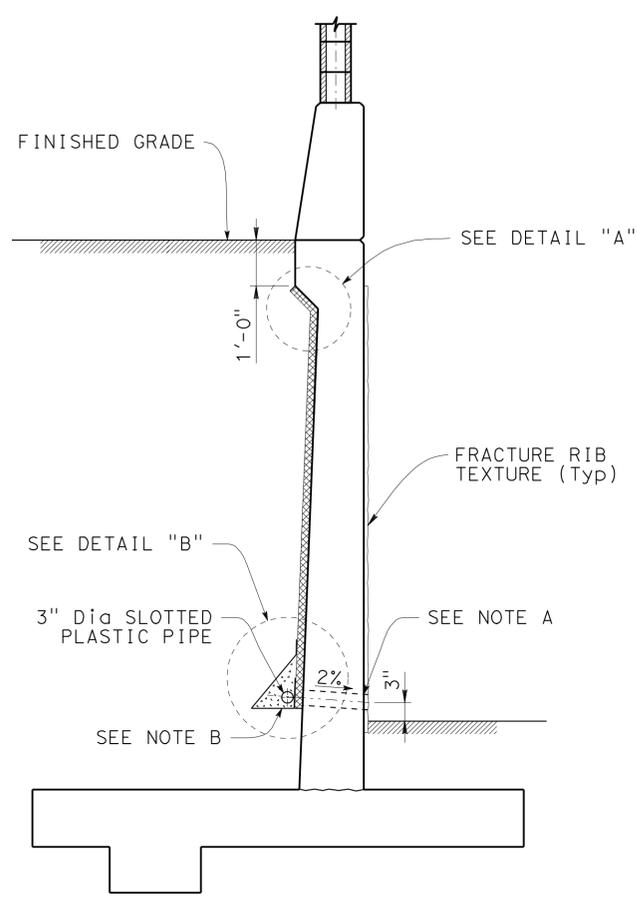
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	820	885

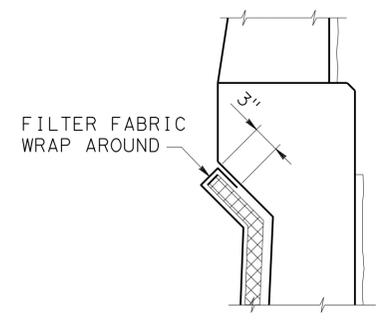

 REGISTERED CIVIL ENGINEER DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
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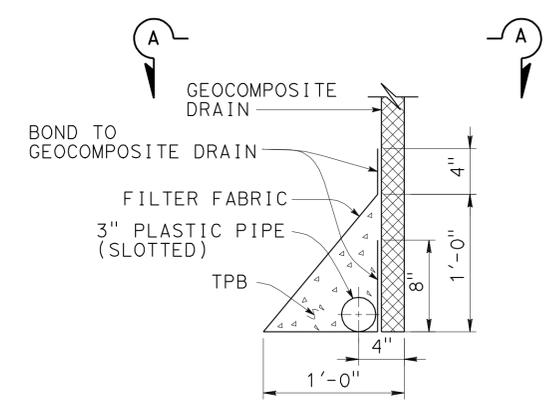
OCTA
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 14725 ALTON PARKWAY
 IRVINE, CA 92677



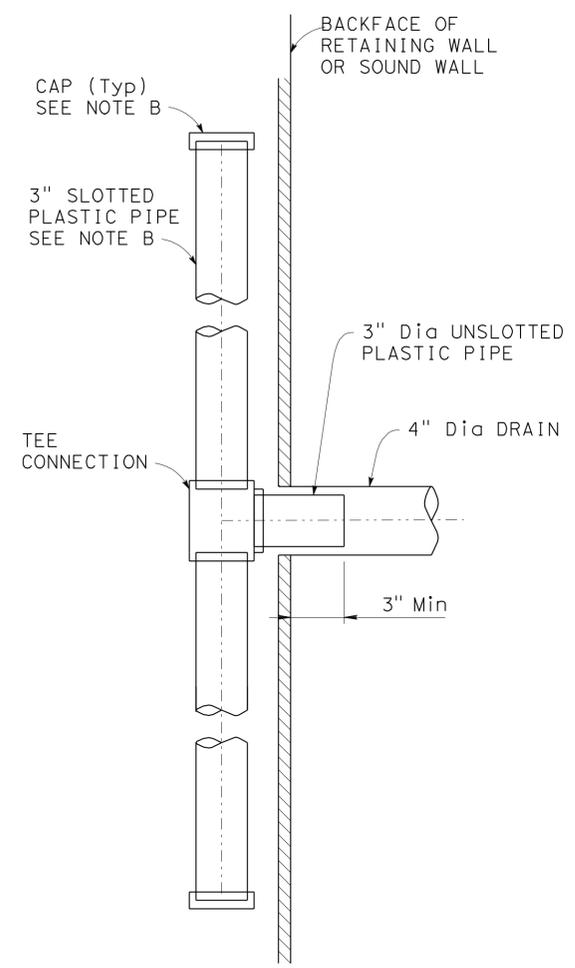
**RETAINING WALL
 WEEP HOLE AND GEOCOMPOSITE DRAIN**
 NO SCALE
 ALTERNATIVE TO BRIDGE DETAIL BO-3
3-1



DETAIL "A"
 NO SCALE



DETAIL "B"
 NO SCALE



SECTION A-A
 NO SCALE

NOTES:

- A. 4" Dia Drains at Intermediate Sag Points and at 25' Max Center to Center. For Walls Adjacent to Sidewalks or Curbs, Provide 4' Cast Iron or Asbestos Cement Pipe under the Sidewalk to Discharge through Curb Face. Exposed Wall Drains shall be Located 3"± above Finished Grade.
- B. Geocomposite Drain, Cement Treated Permeable Base, and 3" Dia Slotted Plastic Pipe continuous behind Retaining Wall or Abutment. Cap Ends of Pipe. Provide 'Tee' Connection at Each 4" Dia Drain.
- C. Connect the low End of Plastic Pipe to the main Outlet Pipe as applicable.

DESIGN BY  Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
 STATE OF CALIFORNIA**
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0124
	POST MILES 4.9

**RETAINING WALL No. 315
 MISCELLANEOUS DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

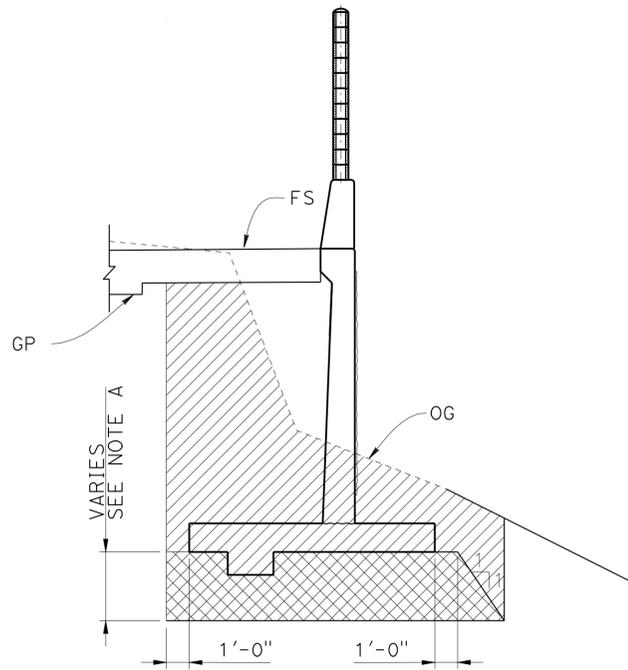
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 12 OF 14
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USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:22

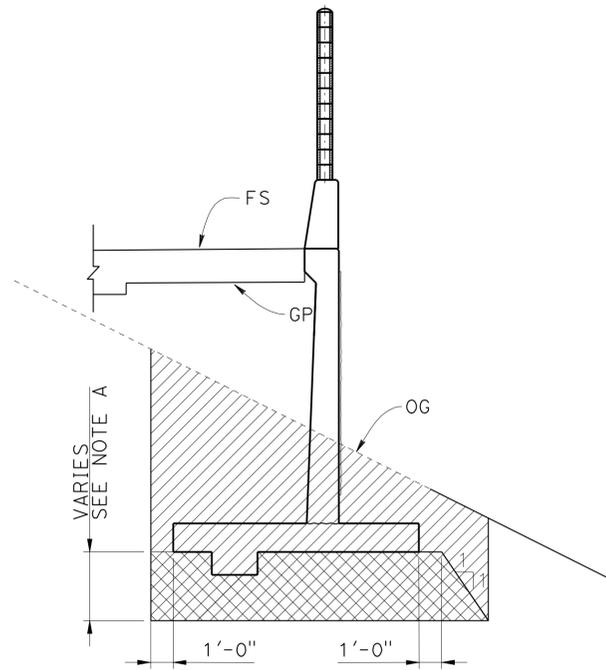
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	821	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

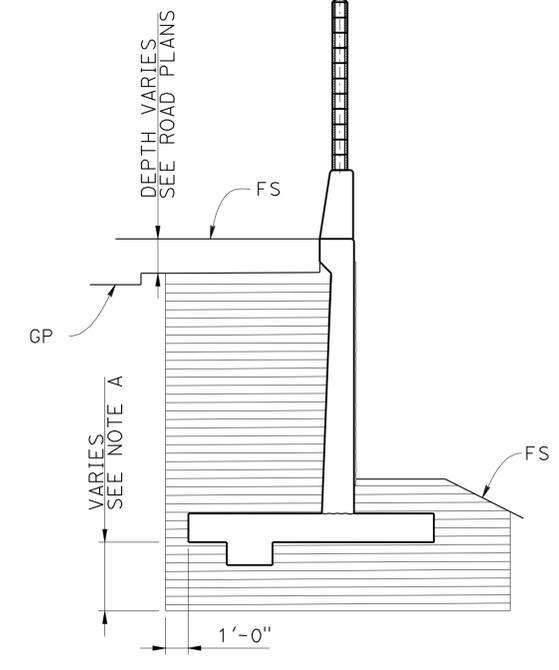
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



EXCAVATION
NO SCALE



EXCAVATION
NO SCALE



BACKFILL
NO SCALE

RETAINING WALL IN FILL AND CUT
LIMITS OF PAYMENT FOR RETAINING WALL EXCAVATION AND BACKFILL

LEGEND:

-  Structure Excavation
-  Structure Backfill
-  Structure Over Excavation
See Note A

NOTE

For depth of Structure Over Excavation, see retaining wall typical section(s).


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0124
POST MILES	4.9

RETAINING WALL No. 315
LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	13	14

FILE => 55-E0124-u-miscd+07.dgn

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:22

BENCH MARK

Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "1G-164-05", set in the Northwestern Corner of a 4.5 ft. by 11.0 ft.
 Concrete Catch Basin. Monument is located in the Southeastly Corner of
 the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ±
 from the centerline of Buckingham and 47 ft. Easterly of the centerline of
 Magnolia. Monument is set level with the Sidewalk

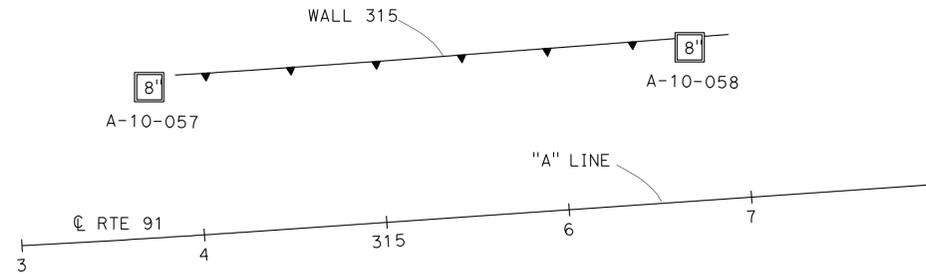
Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2F-25-04", set in the Northwestern Corner of a 7.5 ft. by 4.5
 ft. Concrete Catch Basin. Monument is located in the Northeastly Corner of
 the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp,
 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the
 centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2D-35-86", set in the Northwestern Corner of a 7 ft. by 14 ft.
 Concrete Catch Basin. Monument is located in the Southeastly Corner of
 the intersection of Placentia Avenue and State College Boulevard, 38 ft.
 Easterly of the centerline of State College and 70.5 ft. Southerly of the
 centerline of Placentia. Monument is set level with the Sidewalk



← TO LOS ANGELES

TO CORONA →



PLAN

1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Orca	91	0.9/5.4	822	885

REGISTERED ENGINEER *S. Pirathiviraj* DATE 3/15/12

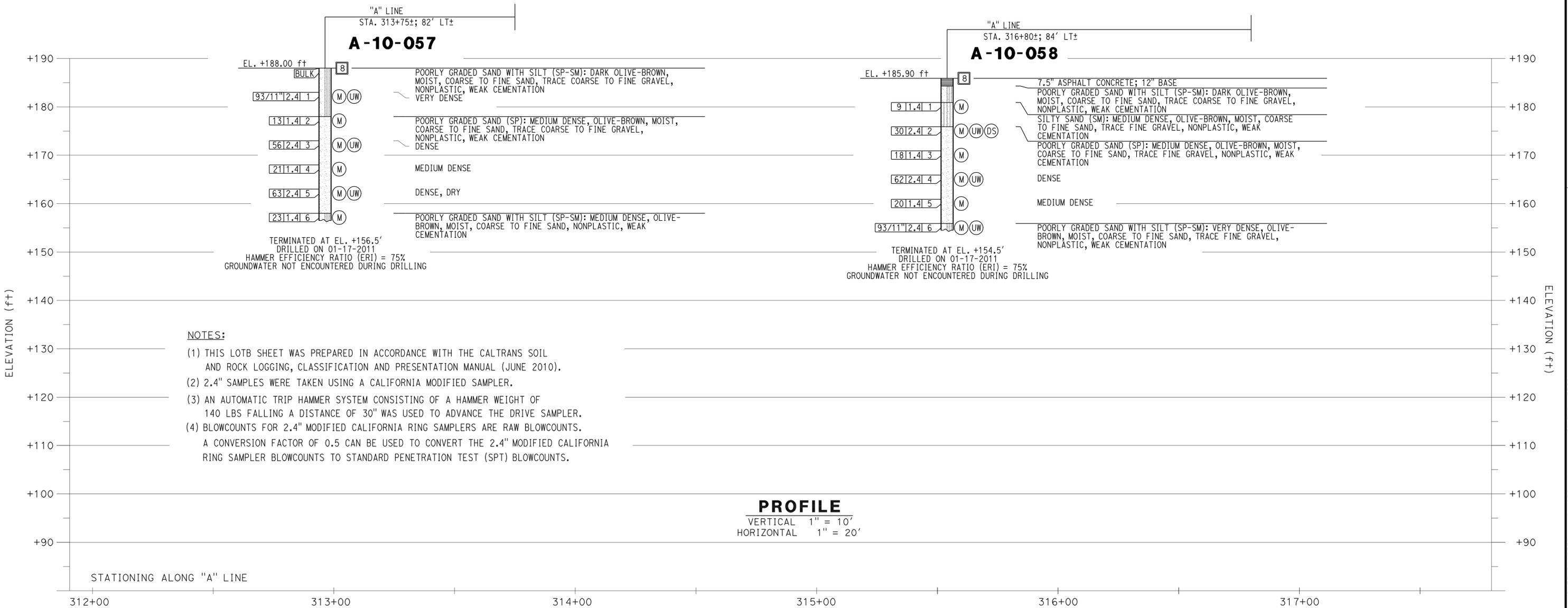
PLANS APPROVAL DATE 8-13-12

REGISTERED PROFESSIONAL ENGINEER
 S. PIRATHIVIRAJ
 No. C71662
 EXP. 12/31/11
 CIVIL
 STATE OF CALIFORNIA

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

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

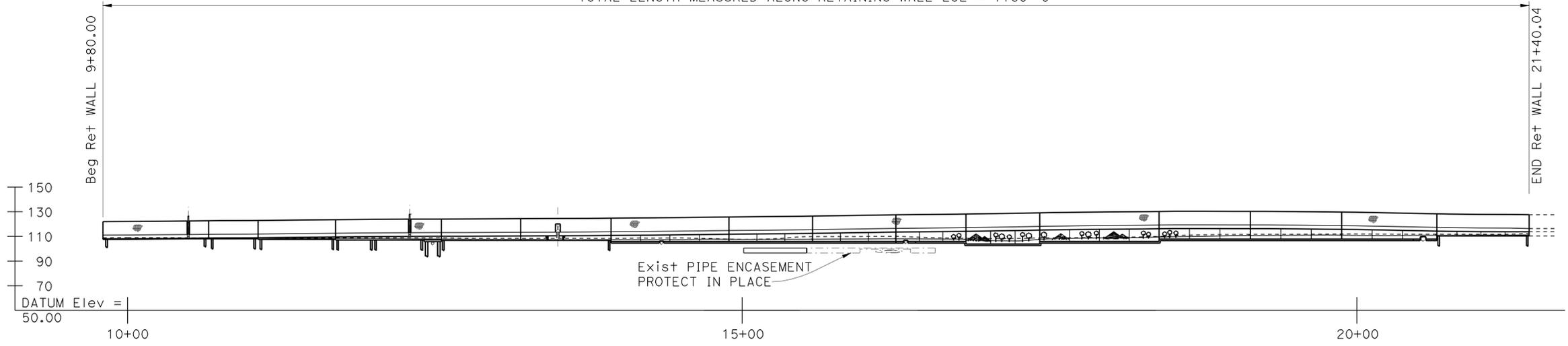
EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708



DESIGN BY: <i>Luqi Yang</i> Luqi Yang 3-29-12 SIGN OFF DATE	DRAWN BY: J. FANG	R. JIE FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE No.: 55E0124	RETAINING WALL No. 315 LOG OF TEST BORING 1 OF 1
	CHECKED BY: G. J. GUNARANJAN	DATE: 1/2011		PROJECT ENGINEER: S. PIRATHIVIRAJ	
GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3	UNIT: 2295 PROJECT NUMBER & PHASE: 12000000791	DISREGARD PRINTS BEARING EARLIER REVISION DATES

CONTRACT NO.: 12-OC5701 PROJECT ID:

TOTAL LENGTH MEASURED ALONG RETAINING WALL LOL = 1160'-0"



MIRRORED ELEVATION
SCALE: 1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	823	885

REGISTERED CIVIL ENGINEER DATE 3/15/12

PLANS APPROVAL DATE 8-13-12

REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

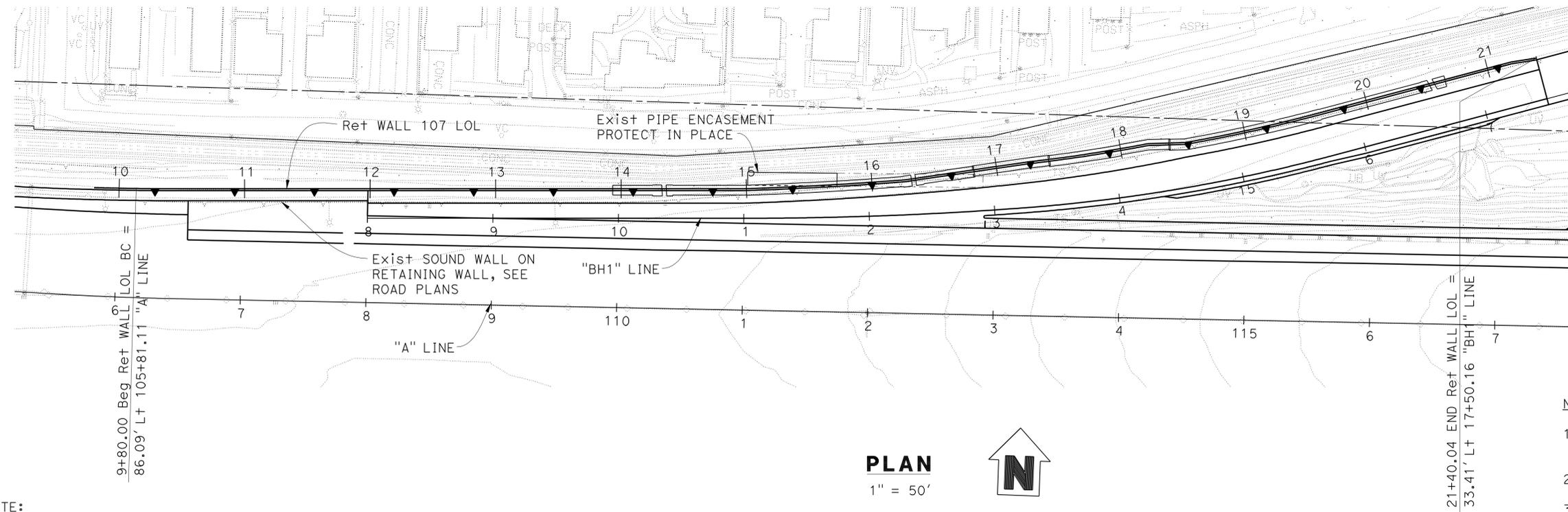
OCTA
550 S MAIN STREET
ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677

RETAINING WALL No. 107

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	2,650	CY
STRUCTURE BACKFILL (RETAINING WALL)	2,320	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,972	LF
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	45	LF
STRUCTURAL CONCRETE, RETAINING WALL	600	CY
ARCHITECTURAL TREATMENT	925	SQFT
FRACTURED RIB TEXTURE	3,450	SQFT
SOUND WALL (MASONRY BLOCK)	13,100	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	77,200	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	672	LF
CONCRETE BARRIER (TYPE 736SV)	488	LF



PLAN
1" = 50'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Typical Sections see "TYPICAL SECTIONS" sheet.
3. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.

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

DESIGN BY Luqi Yang
CHECKED BY Luqi Yang
DATE 3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
GENERAL PLAN

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	1	21

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	824	885

CPB 3/15/12
REGISTERED CIVIL ENGINEER DATE

8-13-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

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OCTA
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ORANGE, CA. 92868

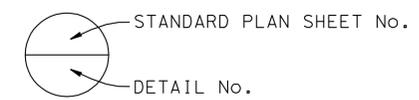
RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677

INDEX TO PLANS

SHEET No.	TITLE
1	General Plan
2	Index to Plans
3	Structure Plan No. 1
4	Structure Plan No. 2
5	Structure Plan No. 3
6	Structure Plan No. 4
7	Structure Plan No. 5
8	Structure Plan No. 6
9	Typical Sections
10	Masonry Block Sound Wall with Barrier On Retaining Wall - Details No. 1
11	Masonry Block Sound Wall With Barrier On Retaining Wall - Details No. 2
12	Retaining Wall Type 1SWB Details
13	Miscellaneous Details No. 1
14	Miscellaneous Details No. 2
15	Miscellaneous Details No. 3
16	Concrete Encasement Details
17	Limits of Payment for Excavation and Backfill
18	Barrier Transition Details
19	Architectural Treatment Layout
20	Architectural Details
21	Log of Test Borings 1 of 1

STANDARD PLANS DATED 2010

A10A	Abbreviations (Sheet 1 of 2)
A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheet 1 of 3)
A10D	Lines and Symbols (Sheet 2 of 3)
A10E	Lines and Symbols (Sheet 3 of 3)
A10F	Legend - Soil (Sheet 1 of 2)
A10G	Legend - Soil (Sheet 2 of 2)
B0-3	Bridge Details
B2-3	16" and 24" Cast-in-Drilled-Hole Concrete Pile
RSP B3-5	RW Details No. 1
B11-56	Concrete Barrier Type 736
B15-6	Sound Wall Masonry Block on Type 736S/SV Barrier Details (1)
B15-7	Sound Wall Masonry Block on Type 736S/SV Barrier Details (2)
B15-8	Sound Wall Masonry Block on Type 736S/SV Barrier Details (3)
B15-9	Sound Wall Masonry Block Miscellaneous Details
B15-12	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (1)
B15-13	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (2)
B15-14	Sound Wall Masonry Block Access Gate Locking Details
B15-15	Sound Wall Masonry Block on Type 736S/SV Barrier on Pile Footing for Spanning Utilities



Luqi Yang
DESIGN OVERSIGHT Luqi Yang
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0125
	POST MILES 1.0

RETAINING WALL No. 107
INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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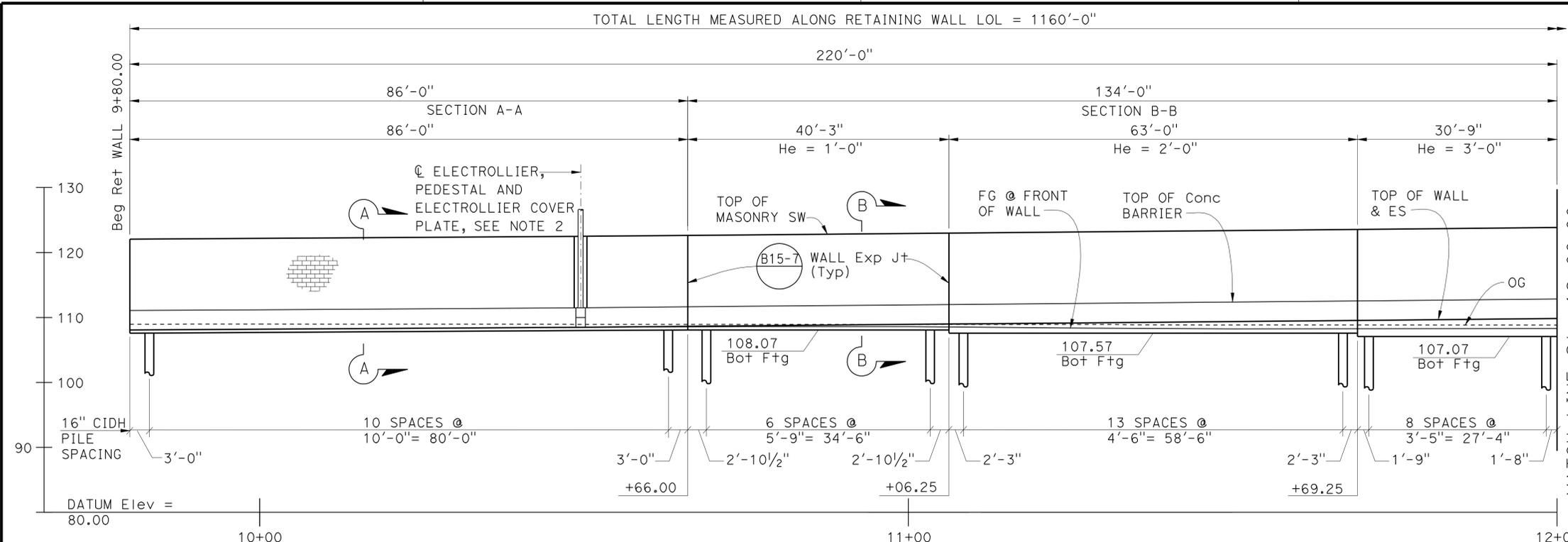
UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

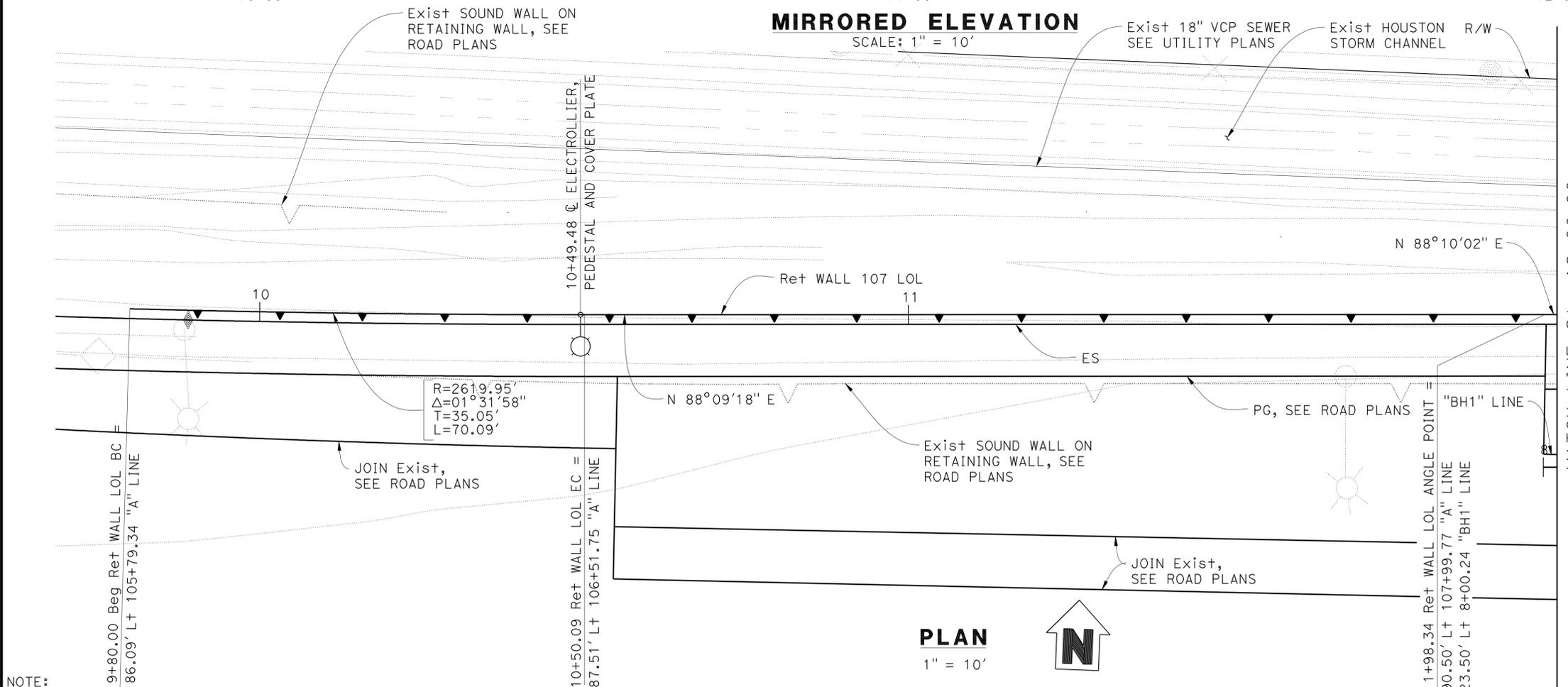
REVISION DATES	SHEET	OF
	2	21

FILE => 55-E0125-a-1tp01.dgn

USERNAME => s114640 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN
1" = 10'

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

DESIGN BY: *Luqi Yang*
Luqi Yang
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
STRUCTURE PLAN No. 1

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	3	21

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	825	885

REGISTERED CIVIL ENGINEER DATE: 3/15/12

PLANS APPROVAL DATE: 8-13-12

REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

OCTA
550 S MAIN STREET
ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677

- NOTES:
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Electrollier Pedestal on Retaining Wall, Electrollier Opening and Cover Plate, see "MISCELLANEOUS DETAILS NO. 3" sheet.
 3. For Sections A-A and B-B, see "TYPICAL SECTIONS" sheet.
 4. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.

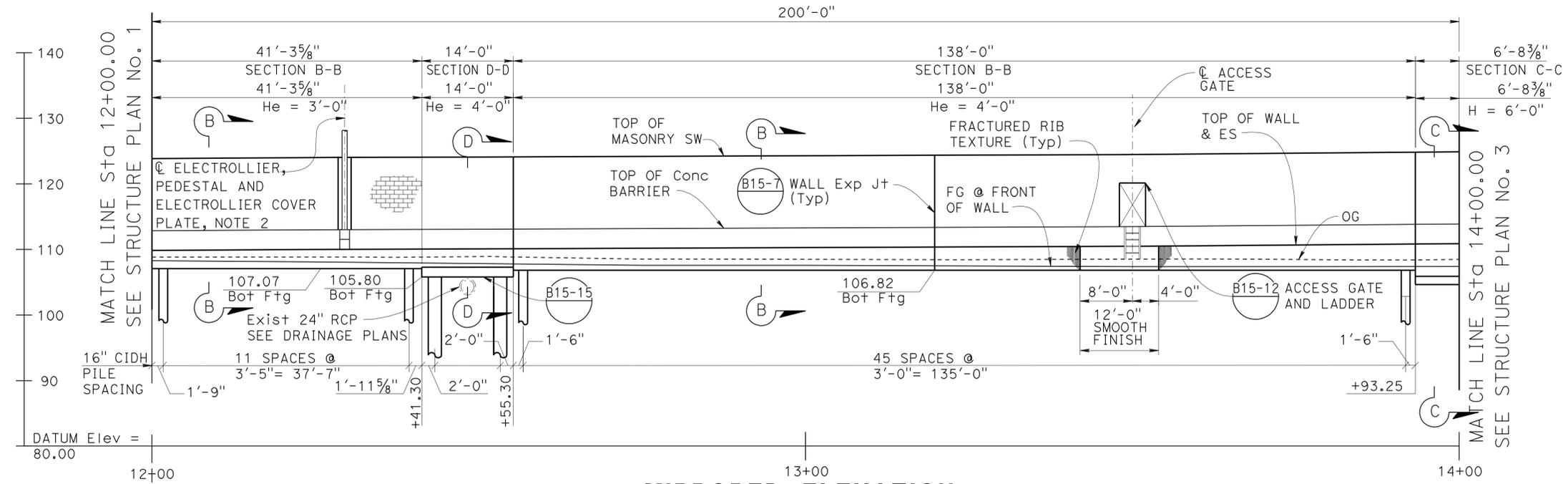
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TOTAL LENGTH MEASURED ALONG RETAINING WALL LOL = 1160'-0"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	826	885

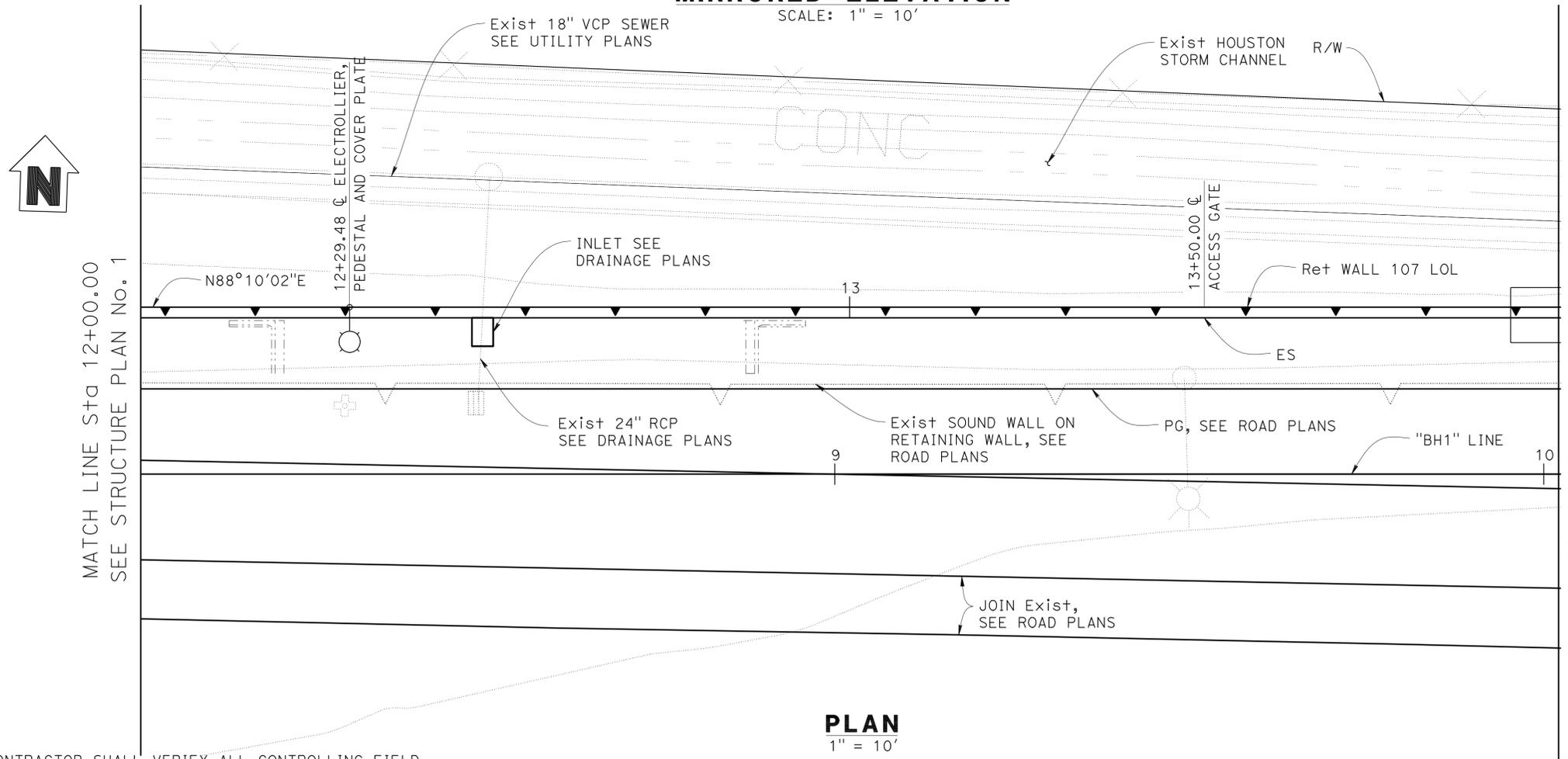
REGISTERED CIVIL ENGINEER
 3/15/12 DATE
 8-13-12 PLANS APPROVAL DATE
 Christopher Cho No. C74020 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

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 550 S MAIN STREET
 ORANGE, CA 92868
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 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION

SCALE: 1" = 10'



PLAN

1" = 10'

- NOTES:
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Electrollier Pedestal on Retaining Wall, Electrollier Opening and Cover Plate, see "MISCELLANEOUS DETAILS No. 3" sheet.
 3. For Sections B-B, C-C & D-D see "TYPICAL SECTIONS" sheet.
 4. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.

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

Luqi Yang
 DESIGN ORIGINATOR
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
STRUCTURE PLAN No. 2

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	4	21

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	827	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

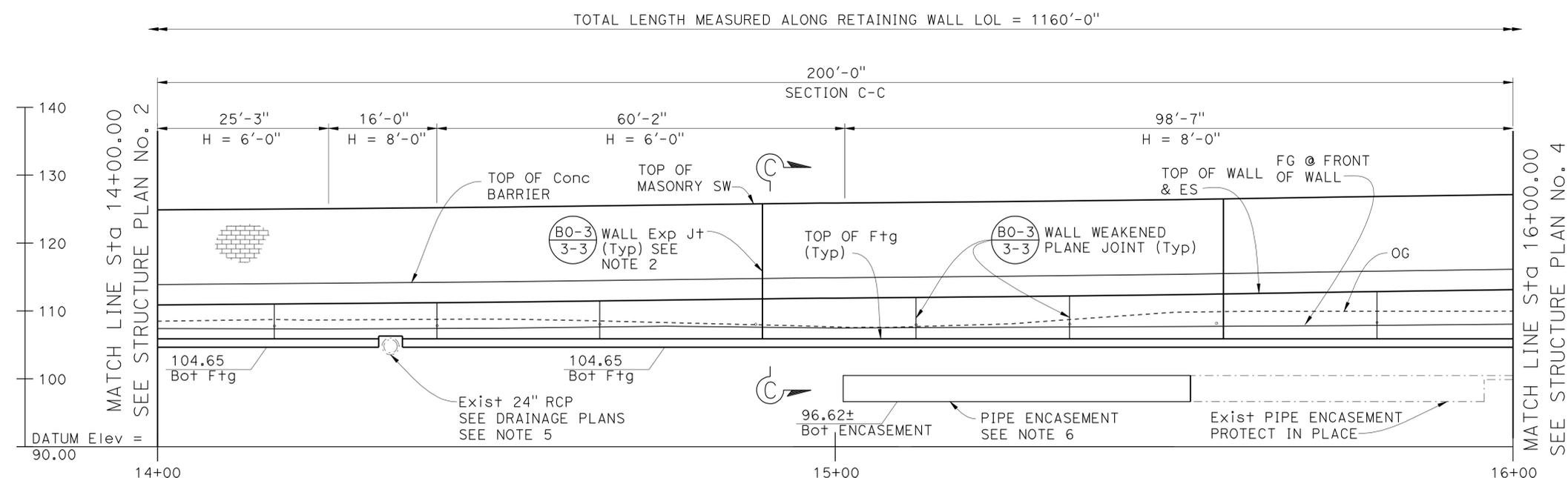
8-13-12
PLANS APPROVAL DATE

Christopher Cho
No. C74020
Exp. 06/30/13
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STATE OF CALIFORNIA

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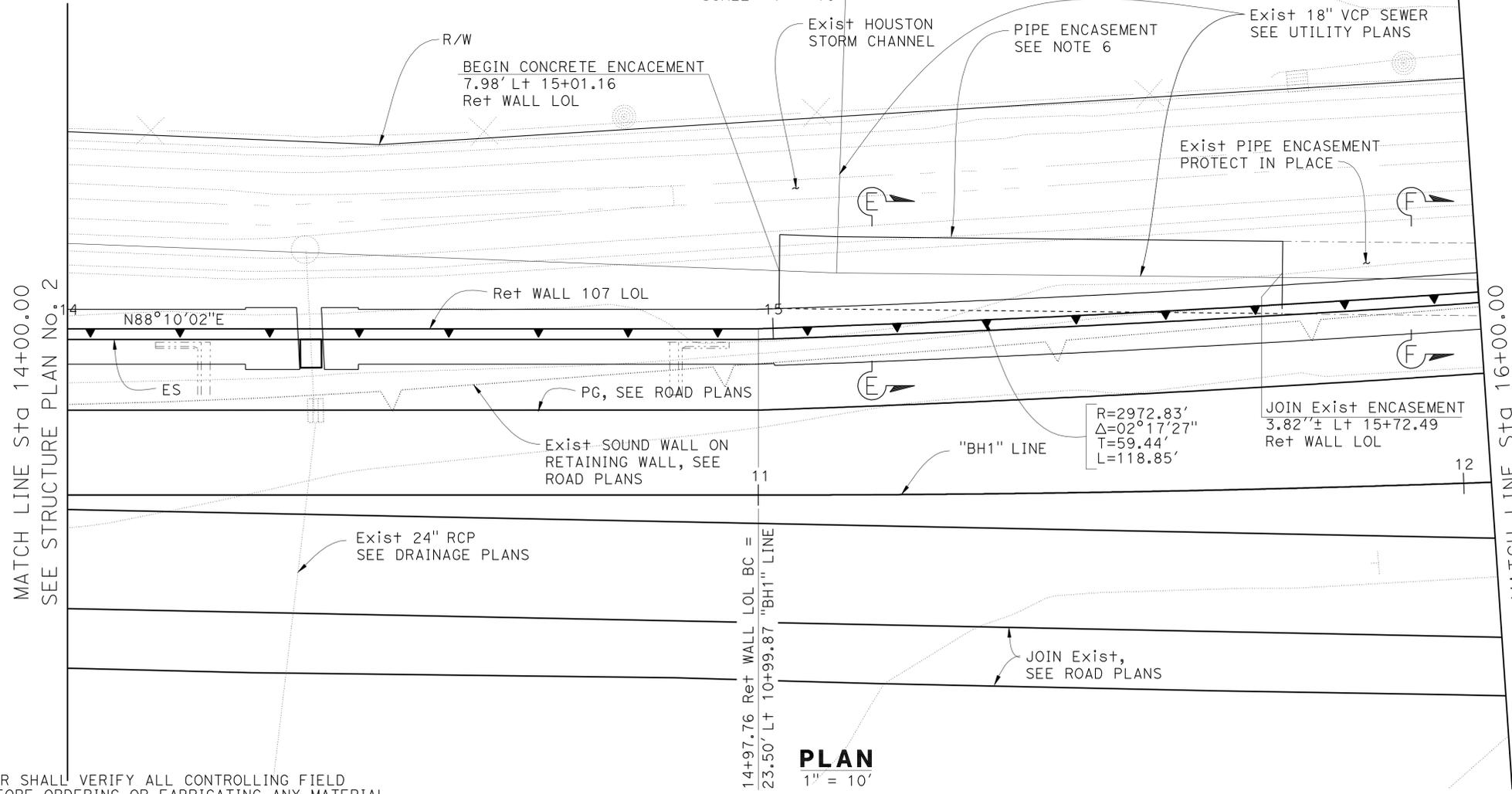
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ORANGE, CA 92868

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14725 ALTON PARKWAY
IRVINE, CA 92677



MIRRORED ELEVATION

SCALE: 1" = 10'



PLAN

1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Expansion Joints in Sound Wall on Retaining Wall, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" sheet.
3. For Section C-C, see "TYPICAL SECTIONS" sheet.
4. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.
5. For Utility Bridge Over Detail, see "MISCELLANEOUS DETAILS No. 1" sheet.
6. For Pipe Encasement and Sections E-E and F-F, see "CONCRETE ENCASEMENT DETAILS" sheet.

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

Luqi Yang
DESIGN BY
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

**RETAINING WALL No. 107
STRUCTURE PLAN No. 3**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	5	21

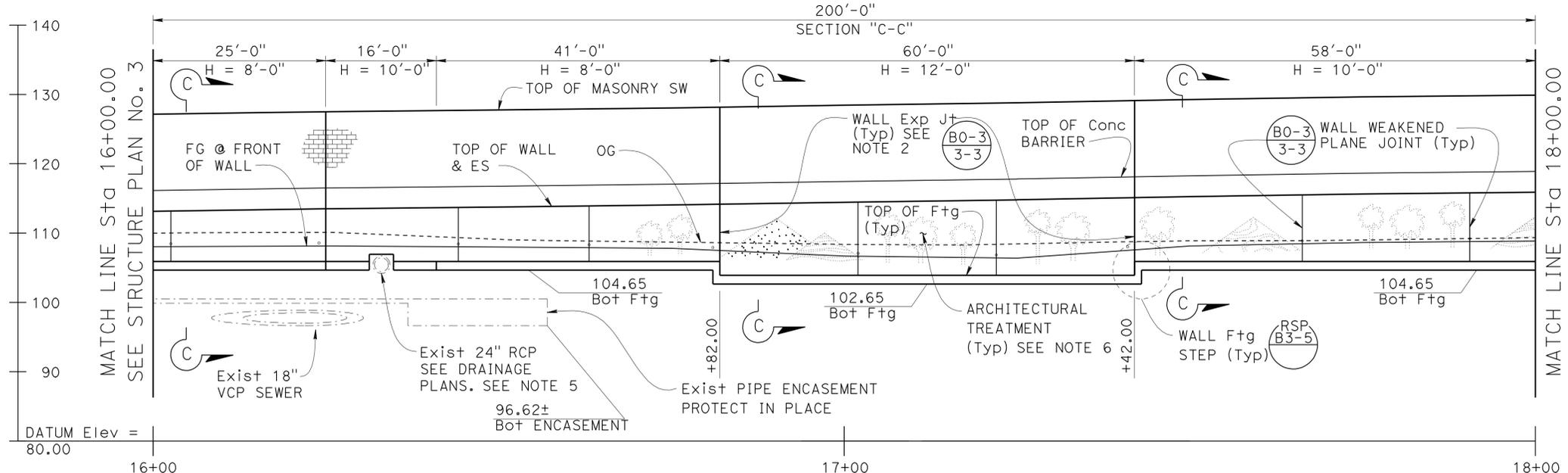
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TOTAL LENGTH MEASURED ALONG RETAINING WALL LOL = 1160'-0"

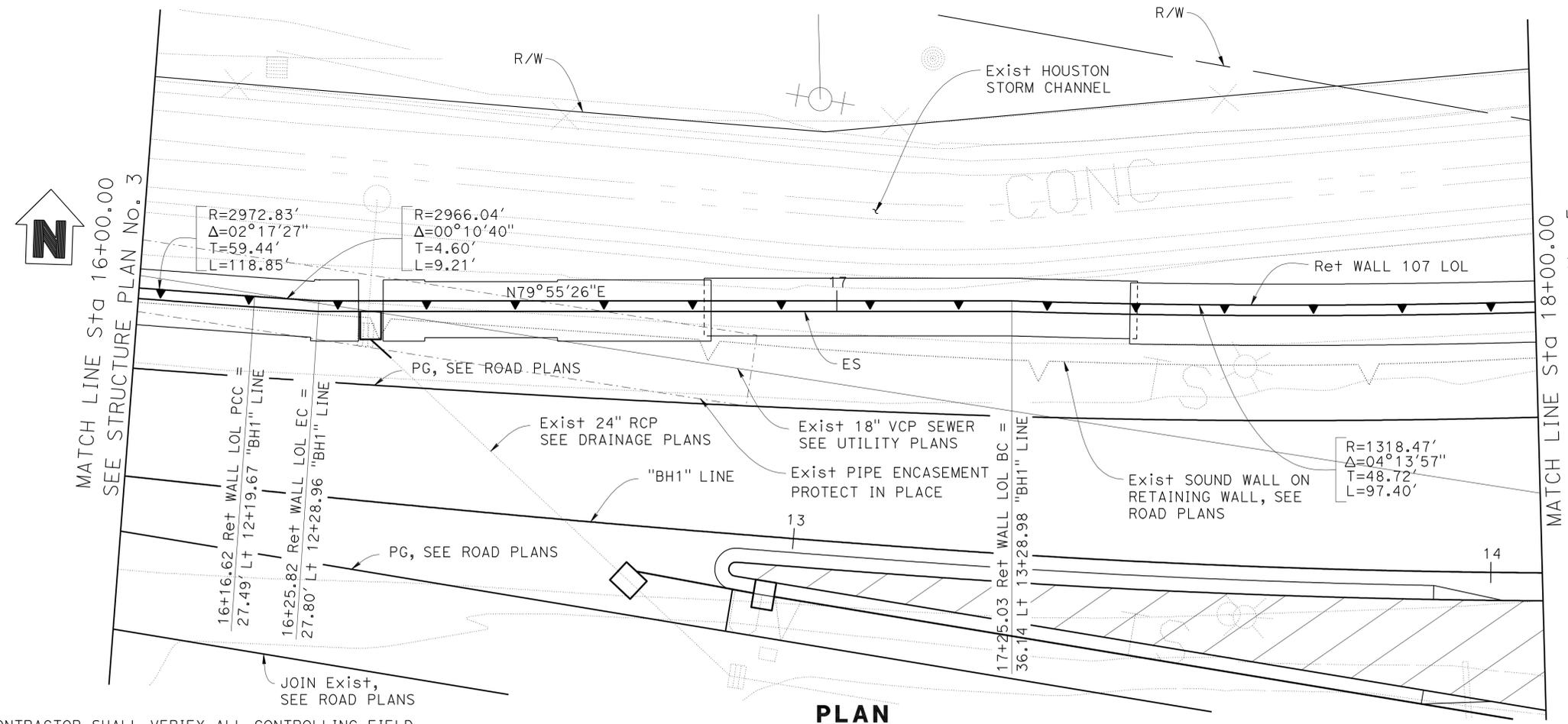
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	828	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
 SCALE: 1" = 10'



PLAN
 1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Expansion Joints in Sound Wall on Retaining Wall, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" sheet.
3. For Section C-C, see "TYPICAL SECTIONS" sheet.
4. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.
5. For Utility Bridge Over Detail, see "MISCELLANEOUS DETAILS No. 1" sheet.
6. For Architectural Treatment see "ARCHITECTURAL TREATMENT LAYOUT" and "ARCHITECTURAL DETAILS" sheets.

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

DESIGN BY Luqi Yang
 CHECKED C. HARDEN
 3-29-12
 SIGN OFF DATE

DESIGN BY C. CHO
 CHECKED C. HARDEN
 DETAILS BY J. SALDANA
 CHECKED C. HARDEN
 QUANTITIES BY C. HARDEN
 CHECKED J. VOEPEL

LOAD & RESISTANCE FACTOR DESIGN
 LAYOUT BY C. CHO
 CHECKED C. HARDEN
 SPECIFICATIONS BY S. SHEIKH
 CHECKED S. SHEIKH

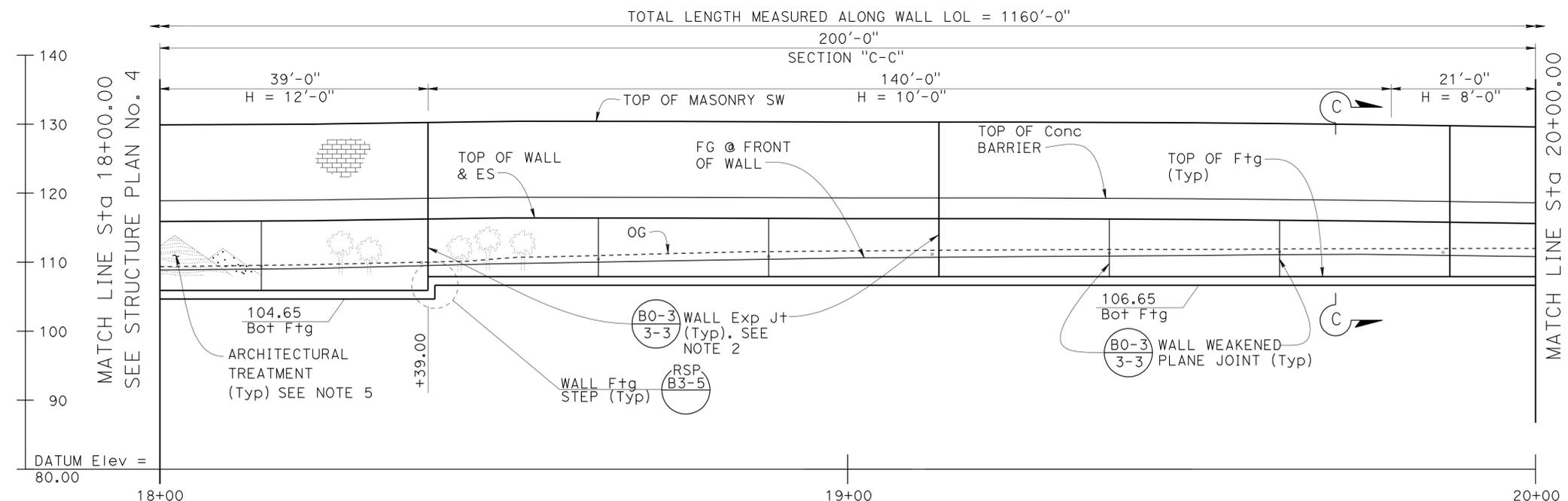
LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
 PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN PROJECT ENGINEER

BRIDGE NO. 55E0125
 POST MILES 1.0
 UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

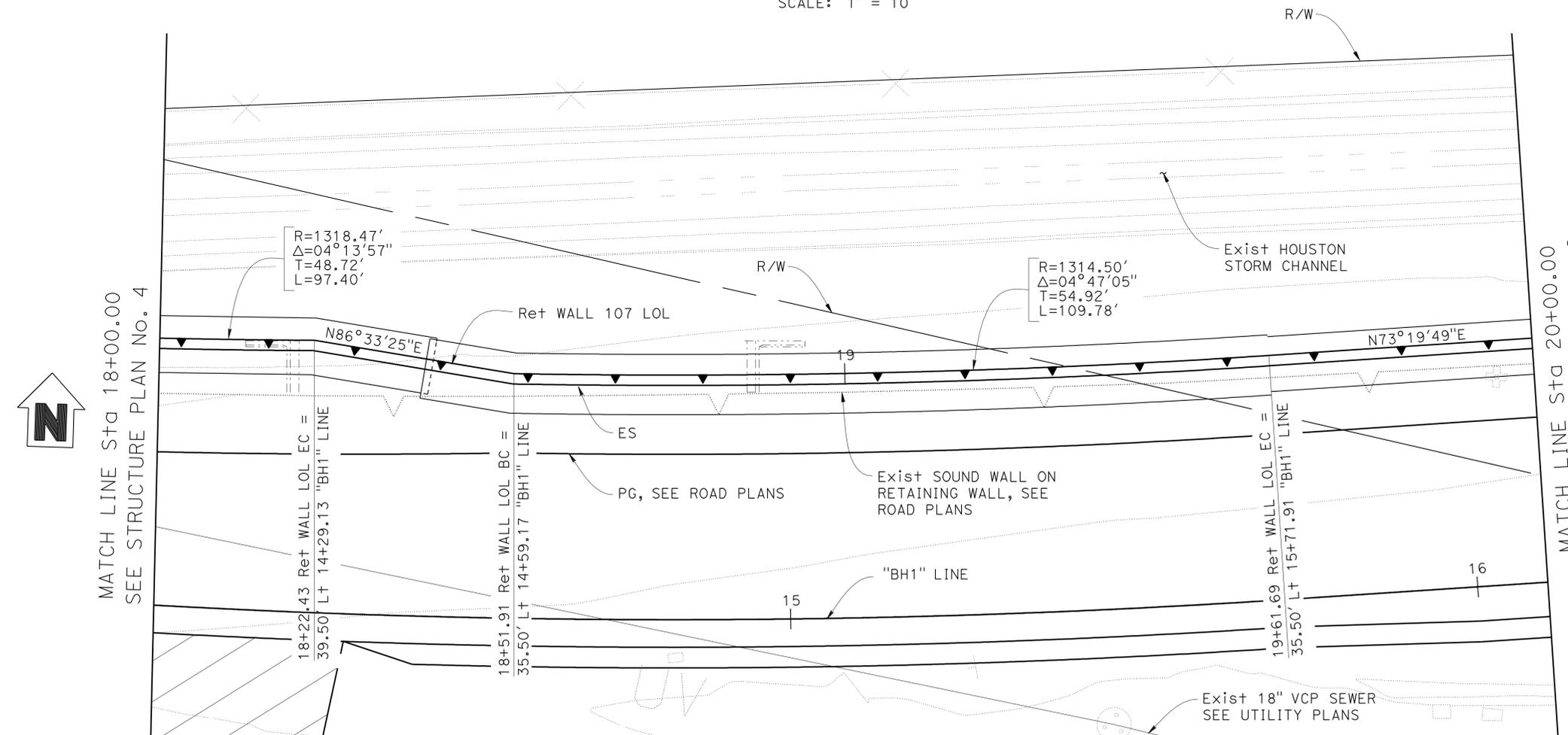
RETAINING WALL No. 107
STRUCTURE PLAN No. 4

USERNAME => s114640 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	829	885
			REGISTERED CIVIL ENGINEER	DATE	
			3/15/12		
			PLANS APPROVAL DATE		
			8-13-12		
			REGISTERED PROFESSIONAL ENGINEER		
			Christopher Cho		
			No. C74020		
			Exp. 06/30/13		
			CIVIL		
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RBF CONSULTING 14725 ALTON PARKWAY IRVINE, CA 92677					



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN
1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Expansion Joints in Sound Wall on Retaining Wall, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" sheet.
3. For Section C-C, see "TYPICAL SECTIONS" sheet.
4. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.
5. For Architectural Treatment see "ARCHITECTURAL TREATMENT LAYOUT" and "ARCHITECTURAL DETAILS" sheets.

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

DESIGN BY: Luqi Yang
 DESIGN CHECKED BY: Luqi Yang
 SIGN OFF DATE: 3-29-12

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

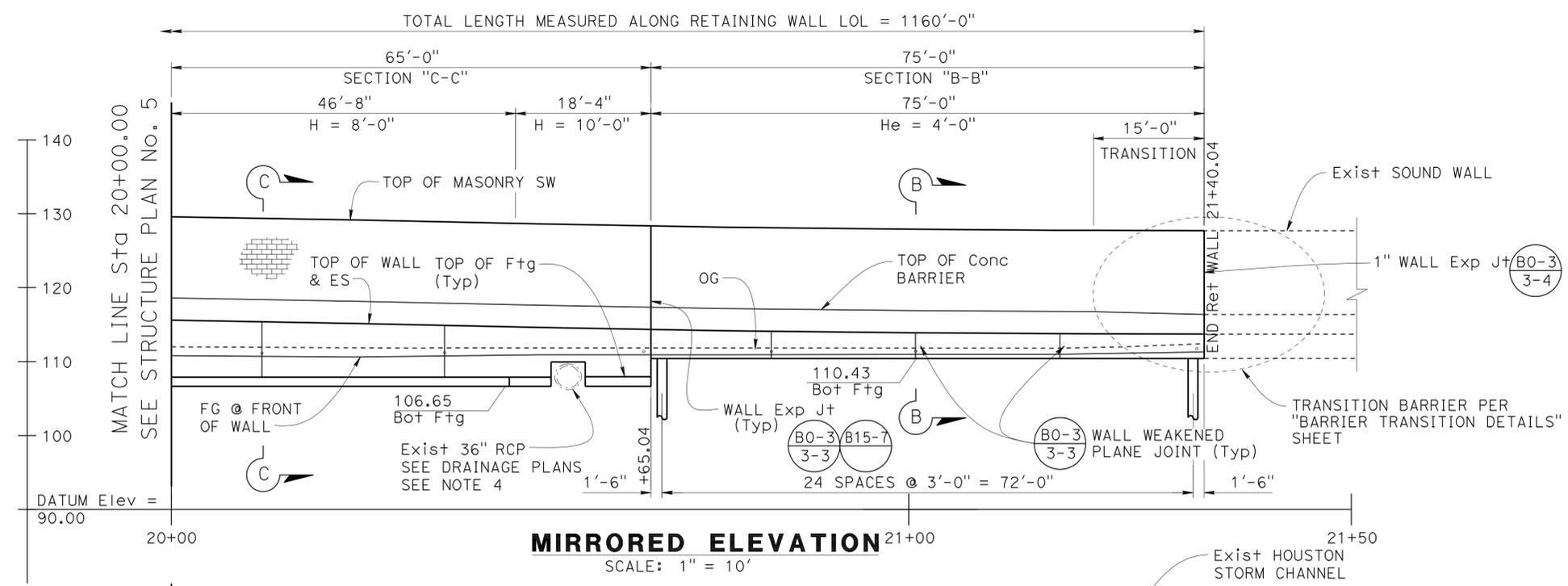
BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
STRUCTURE PLAN No. 5

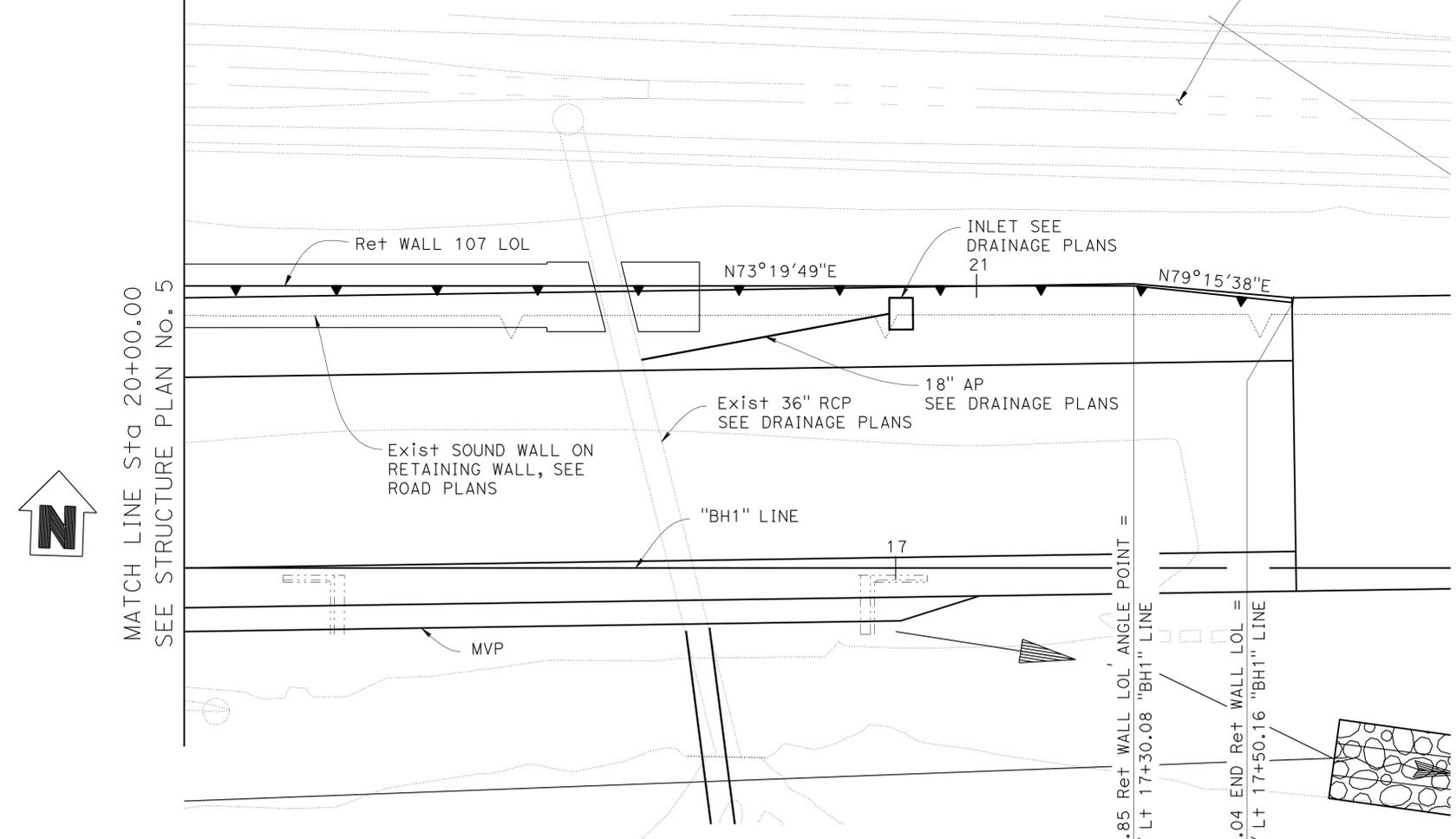
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	830	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
 SCALE: 1" = 10'



PLAN
 1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Sections B-B and C-C, see "TYPICAL SECTIONS" sheet.
3. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.
4. For Utility Bridge over Detail, see "MISCELLANEOUS DETAILS No. 1" sheet.

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

DESIGN OVERSIGHT
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

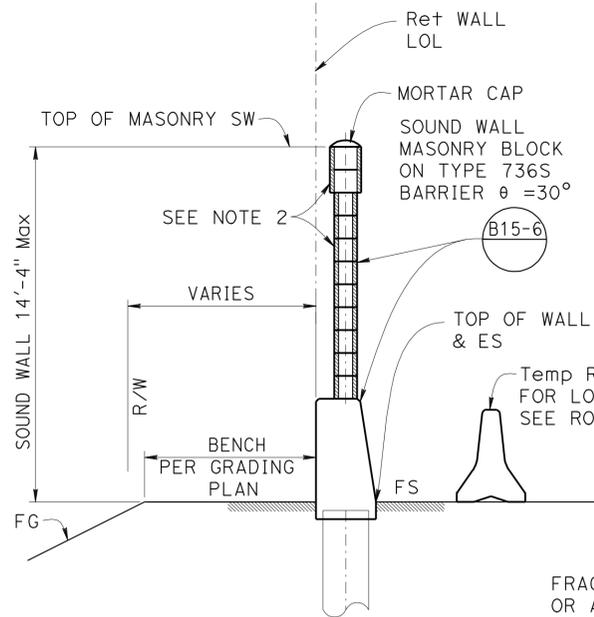
PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

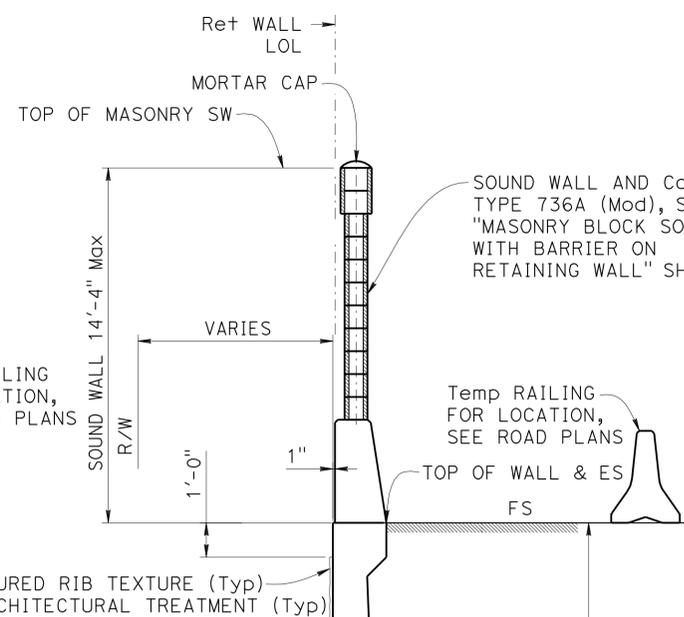
**RETAINING WALL No. 107
 STRUCTURE PLAN No. 6**

TOP OF WALL ELEVATION TABLE

WALL LOL STATION	TOP OF WALL Elev	WALL LOL STATION	TOP OF WALL Elev	WALL LOL STATION	TOP OF WALL Elev
9+80.00	108.07	14+00.00	110.88	18+00.00	116.38
+90	108.13	+10	110.96	+10	116.43
10+00.00	108.19	+20	111.03	+20	116.48
+10	108.25	+30	111.11	+30	116.50
+20	108.31	+40	111.20	+40	116.47
+30	108.37	+50	111.28	+50	116.44
+40	108.44	+60	111.41	+60	116.41
+50	108.50	+70	111.54	+70	116.39
+60	108.59	+80	111.66	+80	116.36
+70	108.68	+90	111.78	+90	116.33
+80	108.76	15+00.00	111.89	19+00.00	116.30
+90	108.85	+10	111.97	+10	116.30
11+00.00	108.94	+20	112.06	+20	116.30
+10	109.03	+30	112.16	+30	116.28
+20	109.12	+40	112.27	+40	116.23
+30	109.20	+50	112.38	+50	116.18
+40	109.29	+60	112.54	+60	116.09
+50	109.38	+70	112.71	+70	116.00
+60	109.47	+80	112.86	+80	115.88
+70	109.56	+90	113.00	+90	115.74
+80	109.65	16+00.00	113.14	20+00.00	115.60
+90	109.76	+10	113.28	+10	115.42
12+00.00	109.86	+20	113.43	+20	115.25
+10	109.92	+30	113.58	+30	115.06
+20	109.98	+40	113.73	+40	114.85
+30	110.03	+50	113.89	+50	114.64
+40	110.06	+60	114.06	+60	114.46
+50	110.09	+70	114.23	+70	114.28
+60	110.13	+80	114.41	+80	114.13
+70	110.17	+90	114.62	+90	114.02
+80	110.21	17+00.00	114.82	21+00.00	113.90
+90	110.24	+10	115.01	+10	113.83
13+00.00	110.28	+20	115.20	+20	113.77
+10	110.32	+30	115.39	+30	113.74
+20	110.36	+40	115.58	+40.04	113.72
+30	110.40	+50	115.77		
+40	110.44	+60	115.91		
+50	110.48	+70	116.06		
+60	110.56	+80	116.18		
+70	110.64	+90	116.28		
+80	110.72				
+90	110.80				

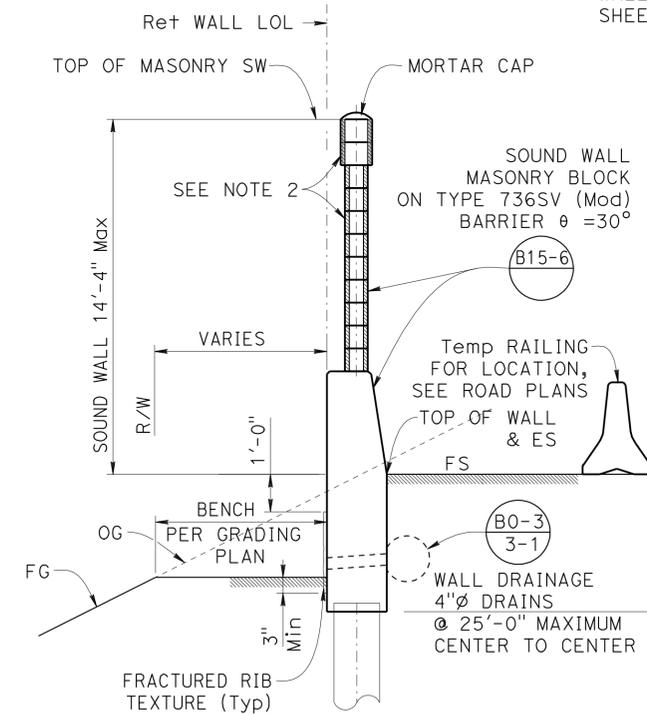


SECTION A-A



FRACTURED RIB TEXTURE (Typ) OR ARCHITECTURAL TREATMENT (Typ)

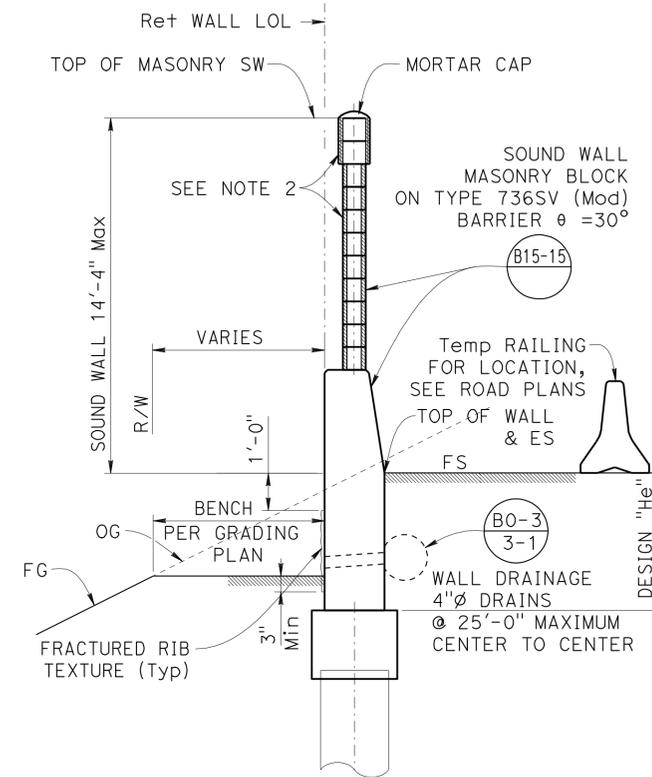
Ret WALL, SEE "RETAINING WALL TYPE 1 SWB DETAILS" SHEETS



SECTION C-C

WALL STATION	DESIGN "H"	OVER EXCAVATION DEPTH
10+00 TO 18+39	6'-0"	1'-0"
	8'-0"	2'-0"
	10'-0"	3'-0"
	12'-0"	3'-0"
18+39 TO 21+40.04	8'-0"	4'-0"
	10'-0"	4'-0"

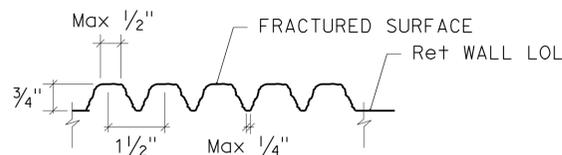
TYPICAL SECTIONS
NO SCALE



SECTION D-D

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Sound Wall Block size, texture and color, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet
3. For Excavation and Backfill Details, see "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" sheet.



FRACTURED RIB TEXTURE 3/4\"/>

NO SCALE

DESIGN BY: Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN BY: C. CHO
 CHECKED BY: C. HARDEN
 DETAILS BY: C. CHO
 CHECKED BY: C. HARDEN
 QUANTITIES BY: C. CHO
 CHECKED BY: J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55E0125
 PROJECT ENGINEER: CHAD HARDEN
 POST MILES: 1.0

RETAINING WALL No. 107
TYPICAL SECTIONS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES SHEET 9 OF 21

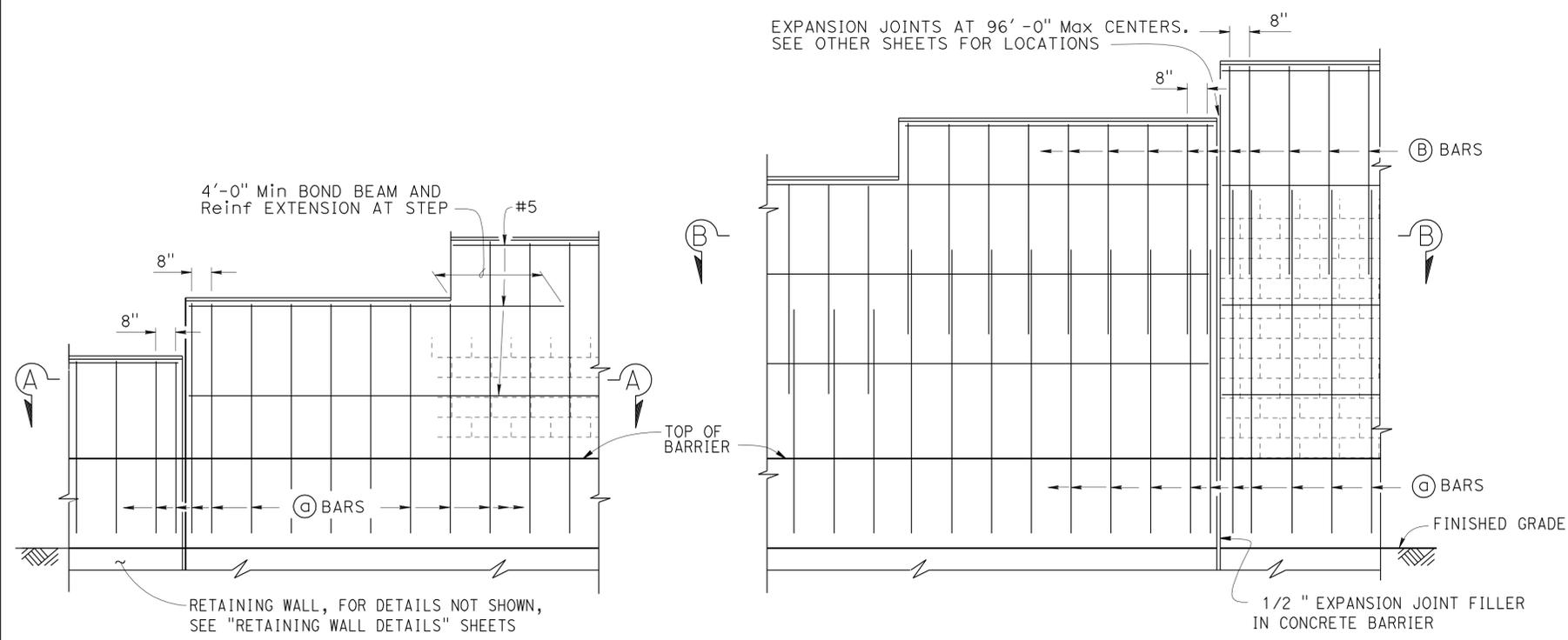
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	832	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

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



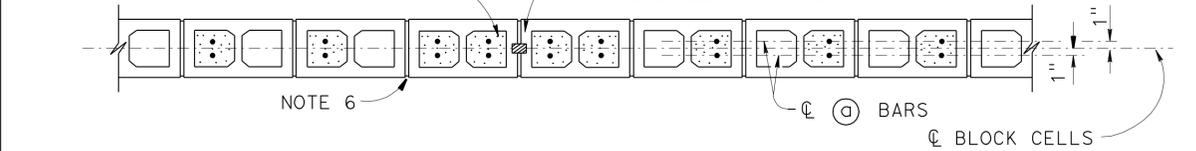
MAXIMUM "H"	(a) BARS @ 1'-4" Max	(b) BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4			1500	1900	6'-4"
8'-4"	#4			1500	1900	8'-4"
10'-4"	#4			1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3700	16'-4"

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

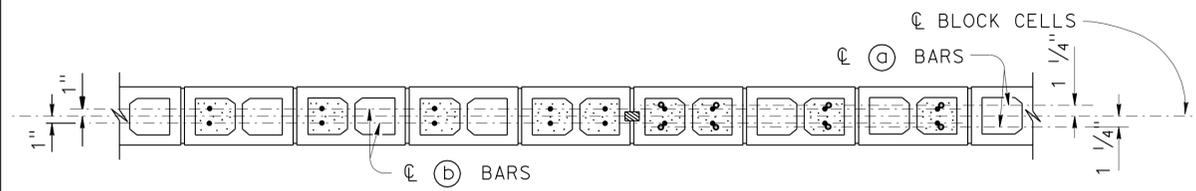
H=12'-4" THRU H=16'-4"

PART ELEVATION

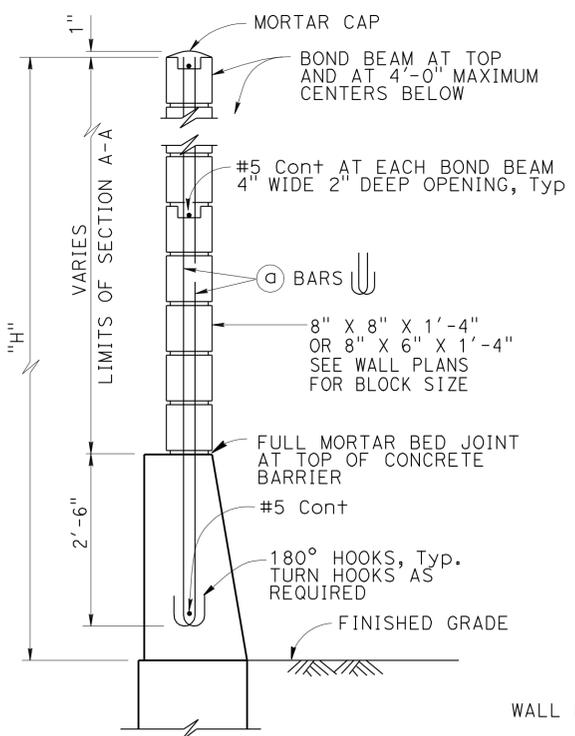
CELLS WITH VERTICAL Reinf AND BOND BEAMS TO BE FILLED WITH GROUT
 AT EXPANSION JOINTS: CONTINUOUS EXPANSION JOINT FILLER PLACED IN SASH BLOCK RECESSES. SIZE AS REQUIRED FOR SNUG FIT



SECTION A-A



SECTION B-B



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

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

FOR DETAILS NOT SHOWN, SEE H=12'-4" THRU H=16'-4"

FOR DETAILS NOT SHOWN, SEE H=6'-4" THRU H=10'-4"

TYPICAL SECTION

- NOTES:
- For Details not shown, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope ±10%
 - See STANDARD PLAN B15-9 for other Details
 - For type of block and joint finish, see other sheets
 - When Blocks are laid in Stacked Bond, Ladder Type, Galvanized Joint Reinforcement shall be provided. A Minimum of 2-9 Gauge Wire Continuous at 4'-0" Maximum to be used. Locate Reinforcement in Joints that are at the Approximate Midpoint between Bond Beams
 - Horizontal Joints shall be Tooled Concave or may be Weathered. Vertical Joints shall be Tooled Concave or may be Raked
 - For Intermediate Wall heights that are between the "H's" given, use the Tabular Information for the next higher "H"
 - Masonry Strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
 - Concrete to be used for the Barrier shall contain not less than 590 pounds of Cementitious Material per Cubic Yard

DESIGNER: Luqi Yang
 SIGN OFF DATE: 3-29-12

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0125
PROJECT ENGINEER	CHAD HARDEN
POST MILES	1.0

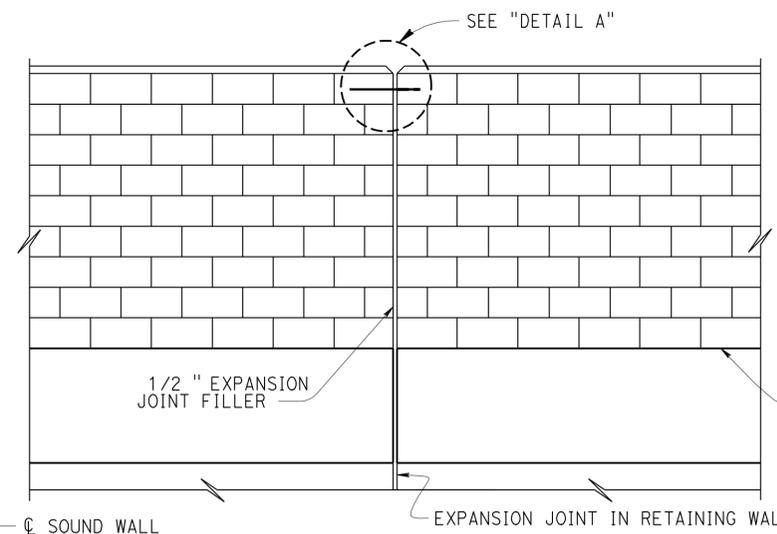
RETAINING WALL No. 107
MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
DETAILS No. 1

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:23

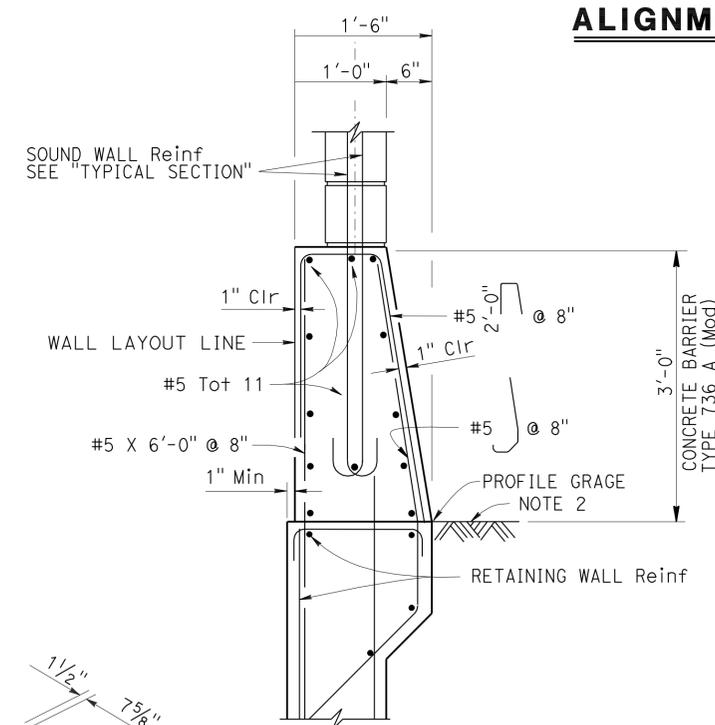
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	833	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

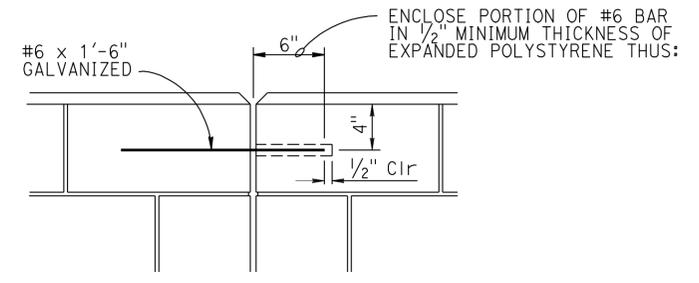
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 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



ALIGNMENT KEY DETAIL



BARRIER SECTION



DETAIL A

DESIGN NOTES

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

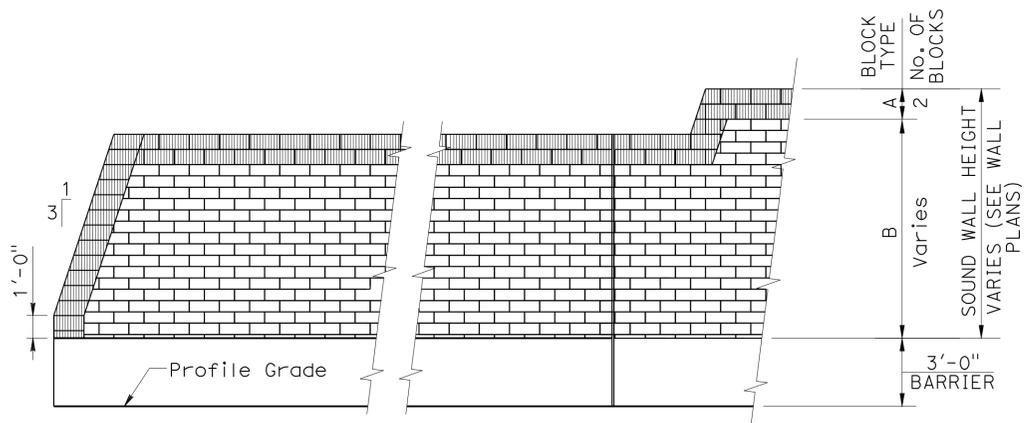
DESIGN WIND LOAD
 33 psf

DESIGN SEISMIC LOAD
 0.57 Dead load

CONCRETE MASONRY

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

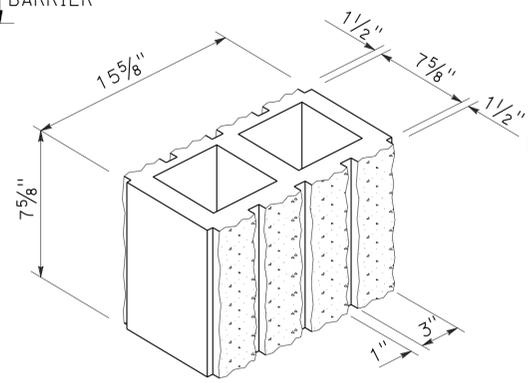
- NOTES:
- For Details not shown, see STANDARD PLAN B15-6
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope ±10%. See STANDARD PLAN B11-56, Note D



SOUND WALL AESTHETICS

No Scale

End Condition
 END CONDITION ABUTTING AN EXISTING WALL



WALL CAP BLOCK DETAIL

NO SCALE
 8" WIDE 4-SCORE SPLIT FACE BOTH SIDES

MASONRY BLOCK TYPE TABLE

WALL NUMBERS	BLOCK TYPE	BLOCK DESCRIPTION	BLOCK SIZE
--	A	WALL CAP ROWS (SAND COLORED SCORED SPLIT FACE CONCRETE BOTH SIDES) 4-SCORED, SEE WALL CAP BLOCK DETAIL	8" X 8" X 16"
--	B	MAIN WALL SURFACE (SAND COLORED SPLIT FACE CONCRETE BOTH SIDES)	8" X 6" X 16"

Luqi Yang
 DESIGNER
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN BY C. CHO
 CHECKED C. HARDEN
 DETAILS BY C. CHO
 CHECKED C. HARDEN
 QUANTITIES BY C. CHO
 CHECKED J. VOEPEL

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER
 BRIDGE NO. 55E0125
 POST MILES 1.0

RETAINING WALL No. 107
MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
DETAILS No. 2

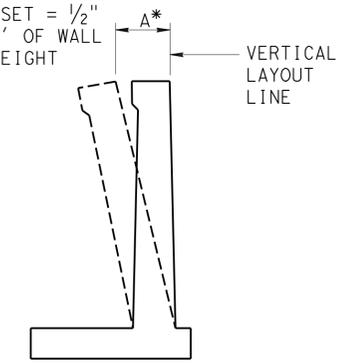
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	834	885
			3/15/12		
REGISTERED CIVIL ENGINEER			DATE		
8-13-12			PLANS APPROVAL DATE		
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OCTA 550 S MAIN STREET ORANGE, CA. 92868					
RBF CONSULTING 14725 ALTON PARKWAY IRVINE, CA 92677					

GENERAL NOTES

- For Sound Wall and Retaining Wall Architectural finish or texture, see Details elsewhere in Project Plans.
- For Details not shown and Drainage Notes, see
- Footing Cover, 1'-6" Minimum.
- Limit of no Splicing Rebars = 3 times the bottom Thickness of the Stem.
- For Sound Wall & Barrier Reinforcement, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" and "No. 2" sheets.
- For Plain Concrete Band Height see "TYPICAL SECTIONS" sheet.

RSP
B3-5

A* OFFSET = 1/2"
PER 10' OF WALL
STEM HEIGHT

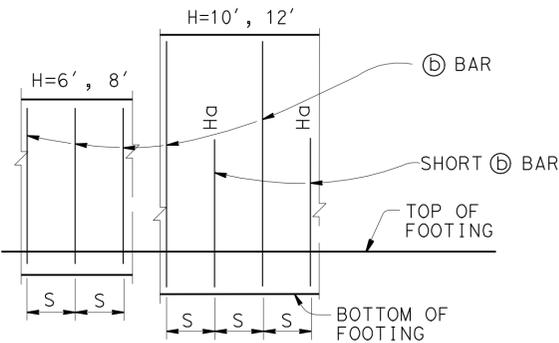


WALL OFFSET

NO SCALE
VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER.

TABLE 1: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

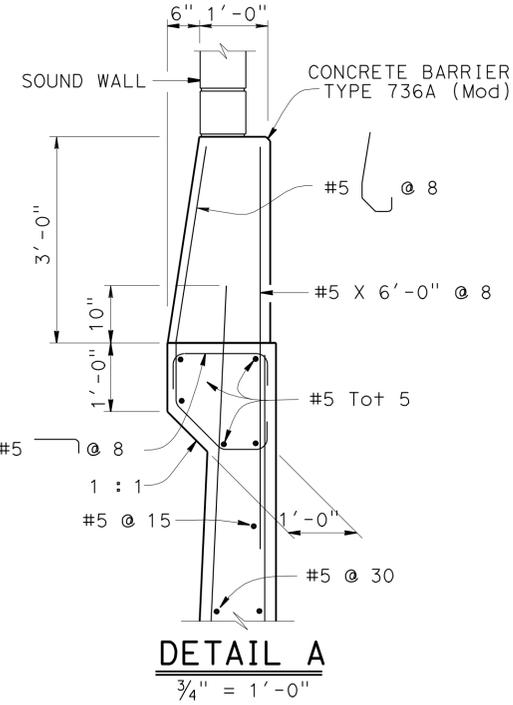
DESIGN H	STEM WITH HAUNCH			
	6'	8'	10'	12'
W	8'-3"	8'-6"	8'-9"	9'-9"
C	3'-0"	3'-0"	3'-0"	3'-4"
B	5'-3"	5'-6"	5'-9"	6'-5"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"
BATTER	1/2:12	1/2:12	1/2:12	1/2:12
STEM THICKNESS @ HAUNCH	1'-0"	1'-0"	1'-0"	1'-0"
Ⓒ BARS				
Ⓓ BARS	#7 @ 12	#7 @ 12	#7 @ 9	#7 @ 9
Ha			4'-0"	8'-0"
Hb				
Hy	2'-0"	2'-4"	1'-8"	2'-0"
HZ				
Ⓒ BARS	#7 @ 12	#7 @ 12	#7 @ 9	#7 @ 9
ULTIMATE BEARING CAPACITY REQUIRED (KSF)	2.9	3.3	3.4	3.9



ELEVATION

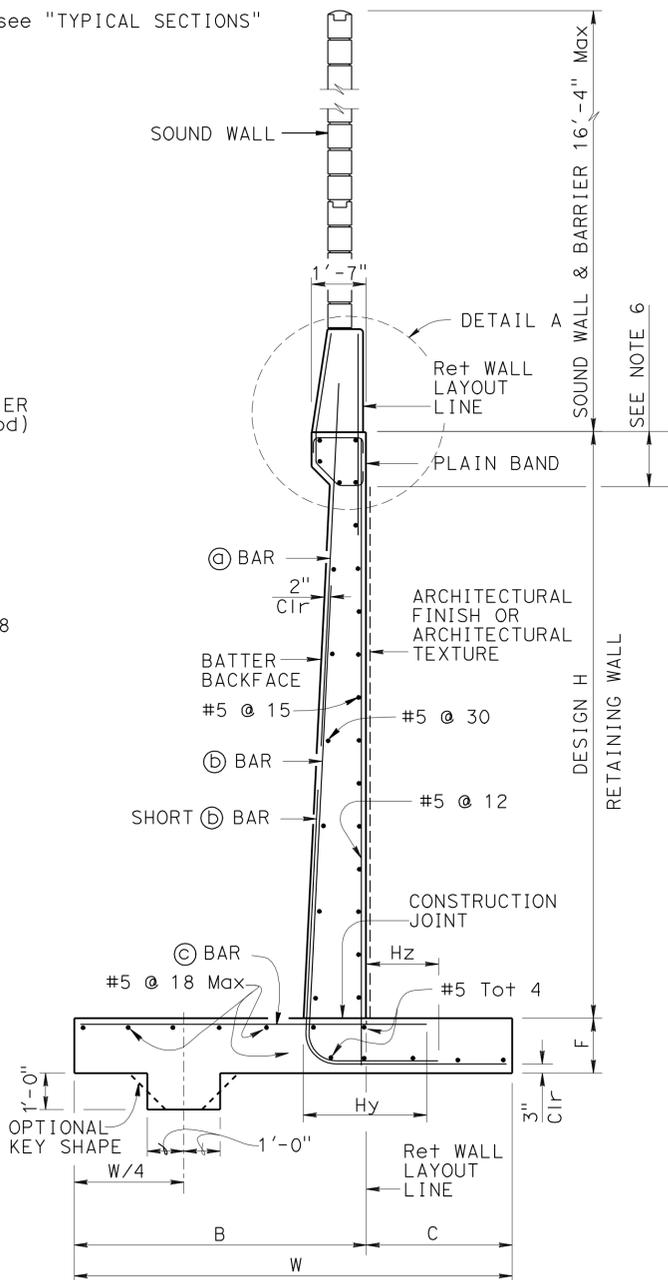
NO SCALE

NOTES:
 "Ha" and "Hb" above Ⓓ bars indicate distance from top of footing to upper end of Ⓓ bars, see table.
 "S" is Ⓓ bar spacing, see table.
 ♂ : 2 bar bundle



DETAIL A

3/4" = 1'-0"



SPREAD FOOTING SECTION

NO SCALE

DESIGN DATA

Design: AASHTO LRFD Bridge Design Specifications, 4th Edition With California Amendments
 Concrete: Reinforced Concrete, f'c = 3600 Psi
 fy = 60,000 Psi

Loading Case:
 Level Ground With 240 Psf Surcharge
 And 16'-4" Soundwall

- Seismic Load = 0.26 Dead Load
 Wind Load = 30 Psf
 Dead Load Of Sound Wall = 1090 Lb/Ft
 Dead Load Of Barrier = 563 Lb/Ft
 Collision Load = 54 Kip Maximum Traffic Impact Loading Evenly Distributed Over 10 Feet At Top Of The Barrier And 1:1 Distribution Down And Outward
- Soil: ϕ = 32.5°γ = 120 pcf
 Equivalent fluid pressure: = 36 pcf for determination of toe pressure
- Soil: ϕ = 32.5°γ = 120 pcf
 Equivalent fluid pressure: = 36 pcf for determination of toe pressure
- Load Combinations And Limit States

- Service I Q=1.00Dc+1.00Ev+1.00Eh+1.00Ls+0.30Ws
 Service II Q=1.00Dc+1.00Ev+1.00Eh+1.00Ws
 Service IV Q=1.00Dc+1.00Ev+1.00Eh+0.70Ws
 Strength I Q=ADc+BEv+1.50Eh+1.75Ls
 Strength III Q=ADc+BEv+1.50Eh+1.40Ws
 Strength IV Q=ADc+BEv+1.50Eh
 Strength V Q=ADc+BEv+1.50Eh+1.35Ls+0.40Ws
 Extreme I Q=1.00Dc+1.00Ev+1.00Eh+1.00Eqd+1.00Eqe
 Extreme II Q=1.00Dc+1.00Ev+1.00Eh+1.00Ct

- Where : Q = Force Effects
 A = 1.25 Or 0.90, Which Ever Controls Design
 B = 1.35 Or 1.00 Which Ever Controls Design
 Dc = Dead Load
 Ev = Vertical Earth Fill Pressure
 Eh = Lateral Earth Pressure
 Ls = Live Load Surcharge
 Eqd = Soil And Structure Components Inertia. Soil Inertia Ignored From Stem Design.
 Eqe = Seismic Lateral Earth Pressure
 Ws = Wind Load
 Ct = Vehicular Collision Force

Luqi Yang
 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

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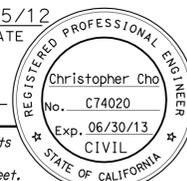
CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.
 55E0125
 POST MILES
 1.0

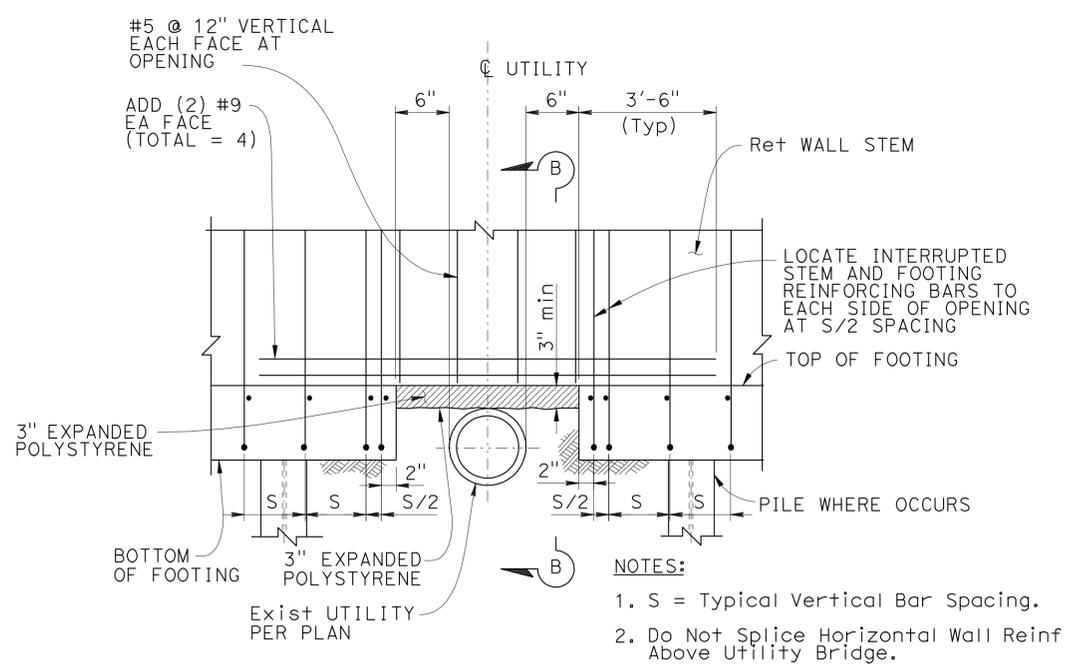
RETAINING WALL No. 107
 RETAINING WALL TYPE 1SWB DETAILS

USERNAME => s114640 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	835	885

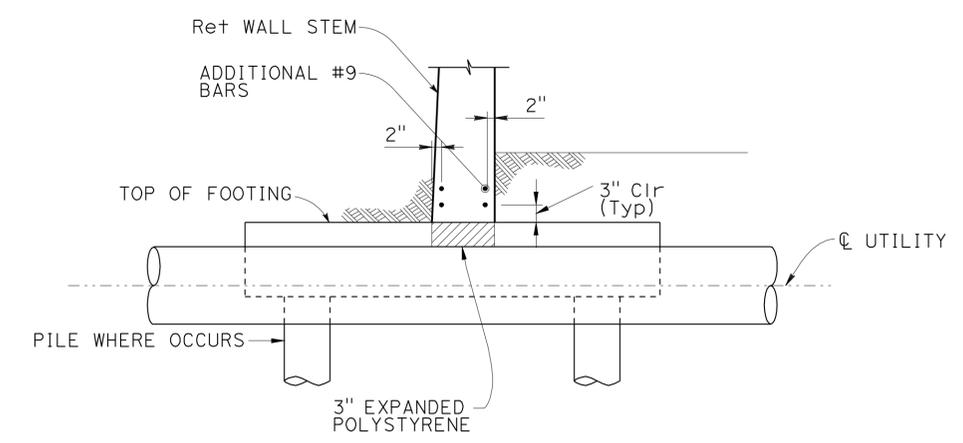

 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12

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 14725 ALTON PARKWAY
 IRVINE, CA 92677



UTILITY BRIDGE OVER DETAIL

NO SCALE



SECTION B-B

NO SCALE


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
MISCELLANEOUS DETAILS No. 1

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2295 PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET 13 OF 21
----------------	----------------

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	836	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

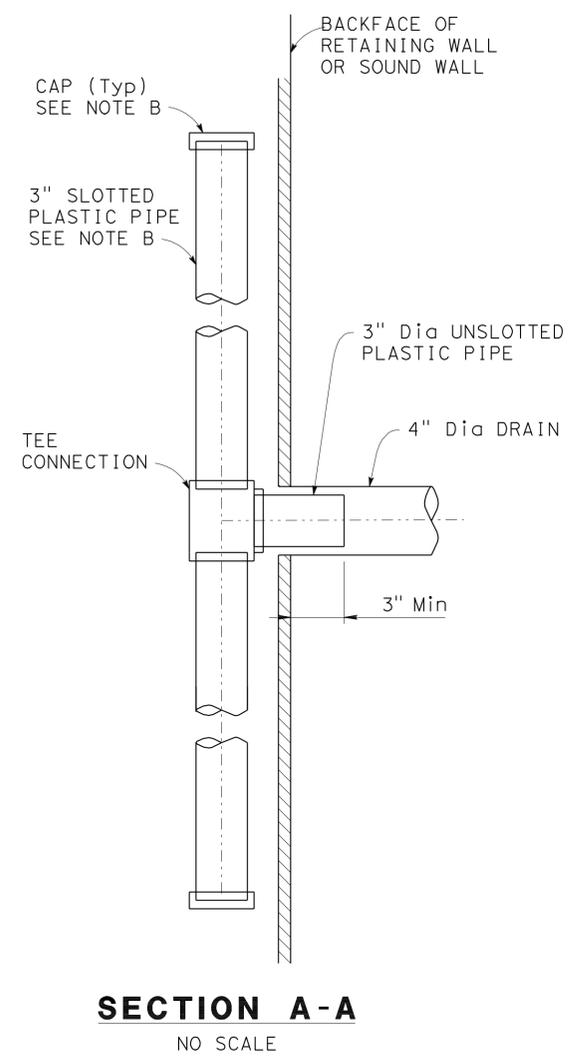
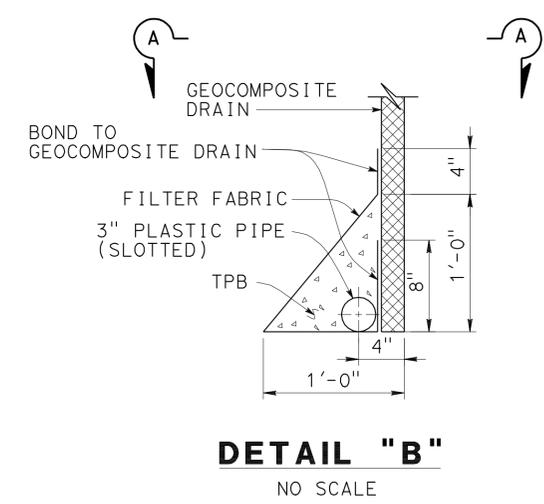
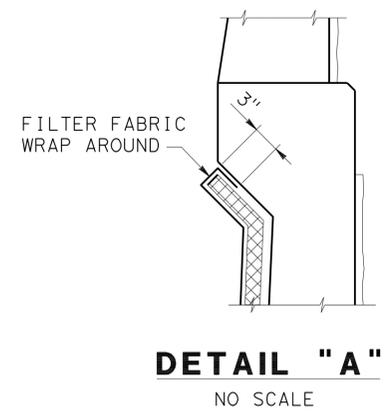
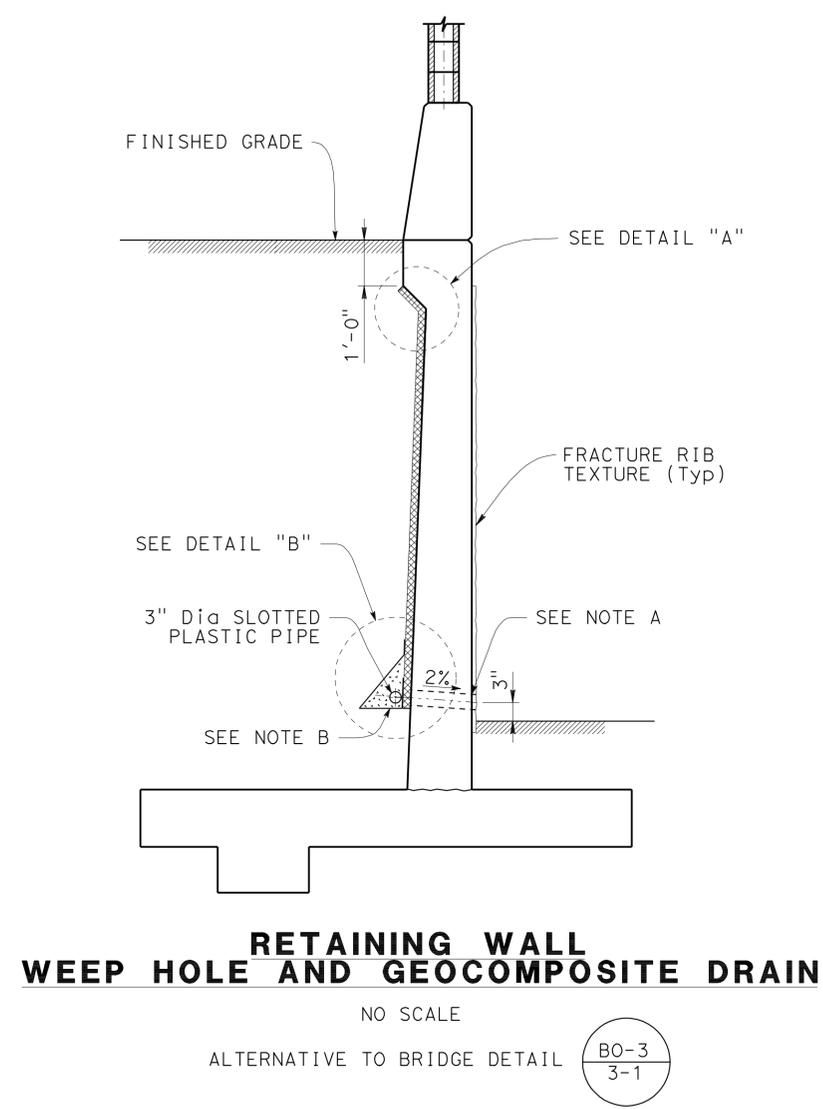
8-13-12
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

OCTA
550 S MAIN STREET
ORANGE, CA. 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677



NOTES:

- A. 4" Dia Drains at Intermediate Sag Points and at 25' Max Center to Center. For Walls Adjacent to Sidewalks or Curbs, Provide 4' Cast Iron or Asbestos Cement Pipe under the Sidewalk to Discharge through Curb Face. Exposed Wall Drains shall be Located 3"± above Finished Grade.
- B. Geocomposite Drain, Cement Treated Permeable Base, and 3" Dia Slotted Plastic Pipe continuous behind Retaining Wall or Abutment. Cap Ends of Pipe. Provide 'Tee' Connection at Each 4" Dia Drain.
- C. Connect the low End of Plastic Pipe to the main Outlet Pipe as applicable.

Luqi Yang
DESIGN SUPERVISOR
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

**RETAINING WALL No. 107
MISCELLANEOUS DETAILS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3
--	---	---	---	---

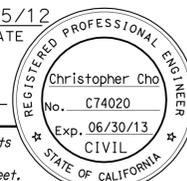
UNIT: PROJECT NUMBER & PHASE: 2295 12000000791

CONTRACT NO.: 12-0C5701

REVISION DATES	SHEET	OF
	14	21

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	837	885



 REGISTERED CIVIL ENGINEER DATE 3/15/12

8-13-12

 PLANS APPROVAL DATE

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

OCTA

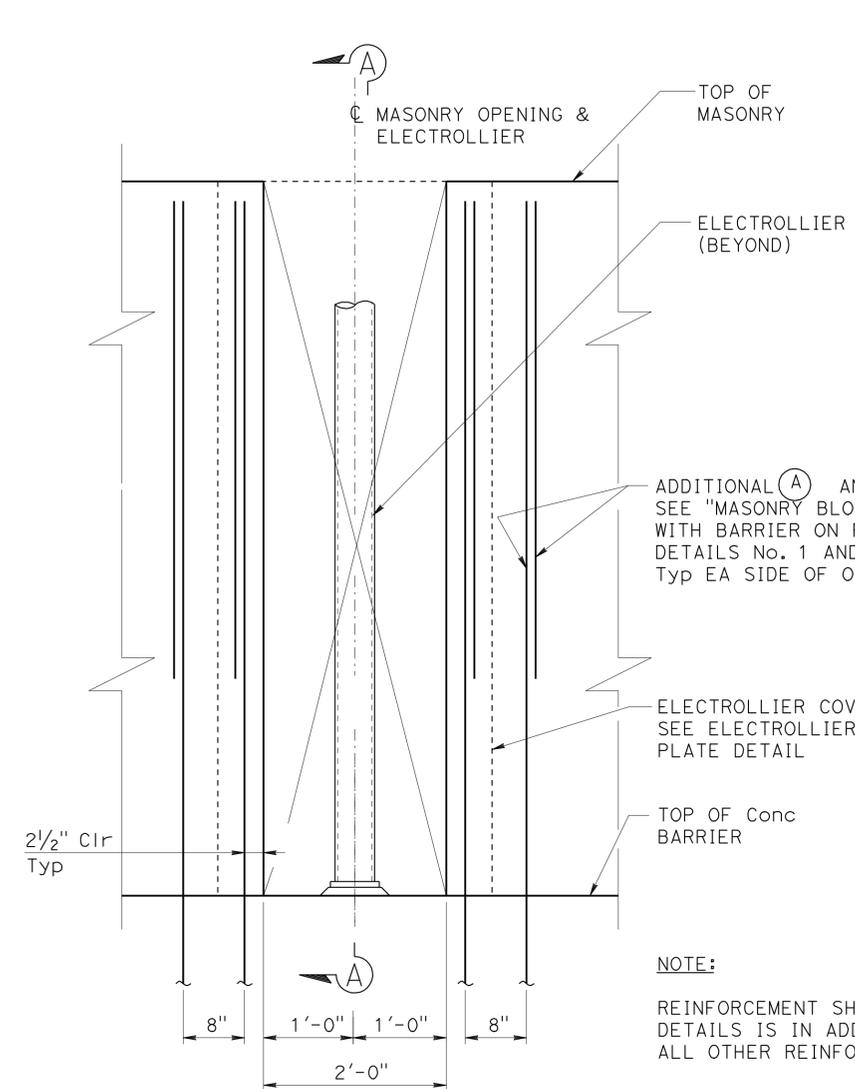
 550 S MAIN STREET

 ORANGE, CA. 92868

RBF CONSULTING

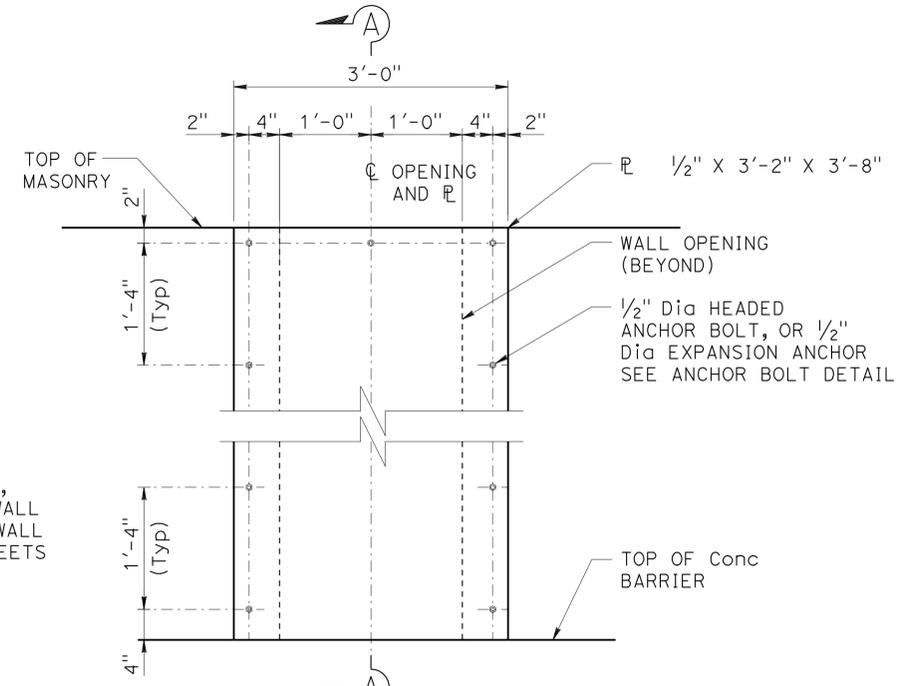
 14725 ALTON PARKWAY

 IRVINE, CA 92677

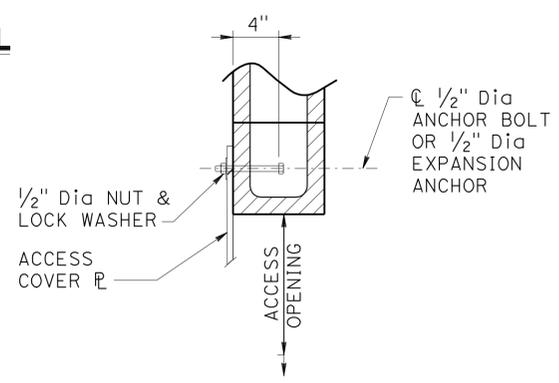


SOUND WALL ELECTROLIER OPENING DETAIL
1" = 1'-0"

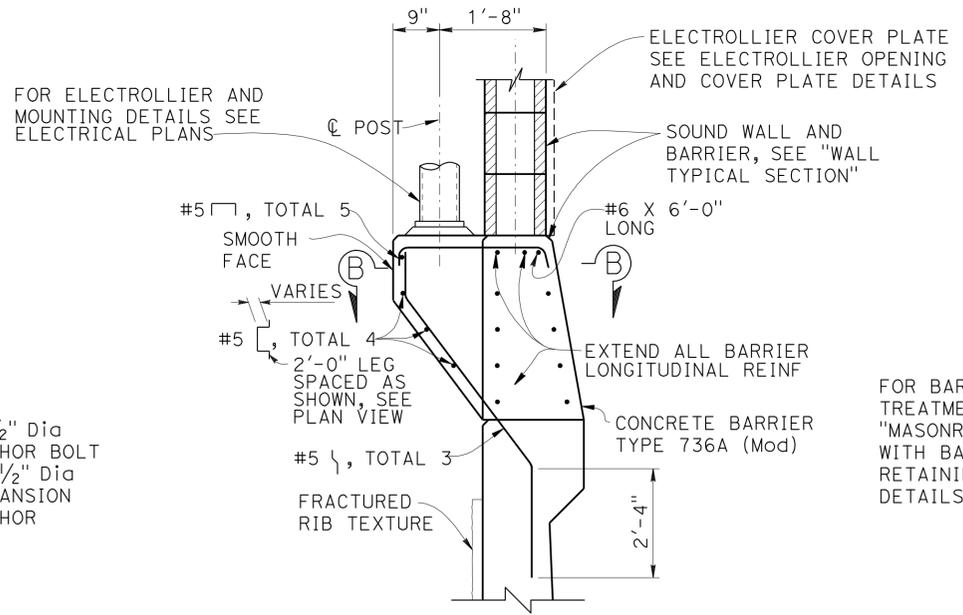
NOTE:
REINFORCEMENT SHOWN ON DETAILS IS IN ADDITION TO ALL OTHER REINFORCEMENT.



ELECTROLIER COVER PLATE DETAIL
1" = 1'-0"

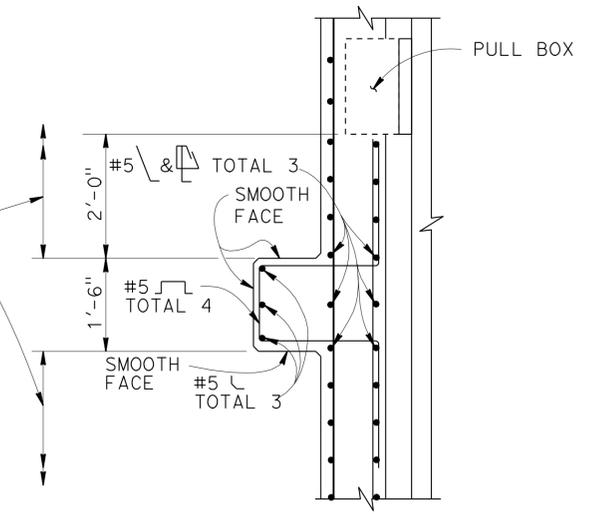


ANCHOR BOLT DETAIL
NO SCALE



SECTION A-A
ELECTROLIER PEDESTAL ON RETAINING WALL
NO SCALE

FOR BARRIER AESTHETIC TREATMENT DETAILS, SEE "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" SHEET



SECTION B-B
NO SCALE


 DESIGN SUPERVISOR
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
MISCELLANEOUS DETAILS No. 3

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295 PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

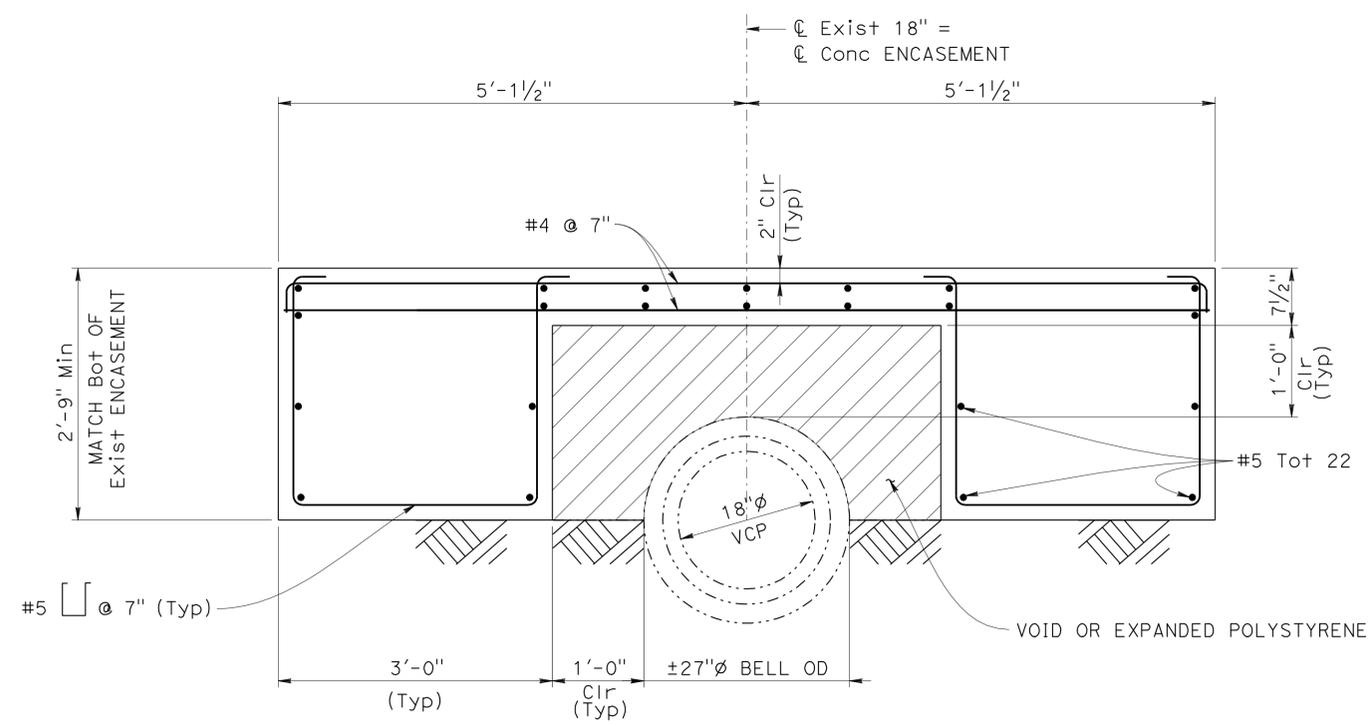
REVISION DATES	SHEET	OF
	15	21

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:24

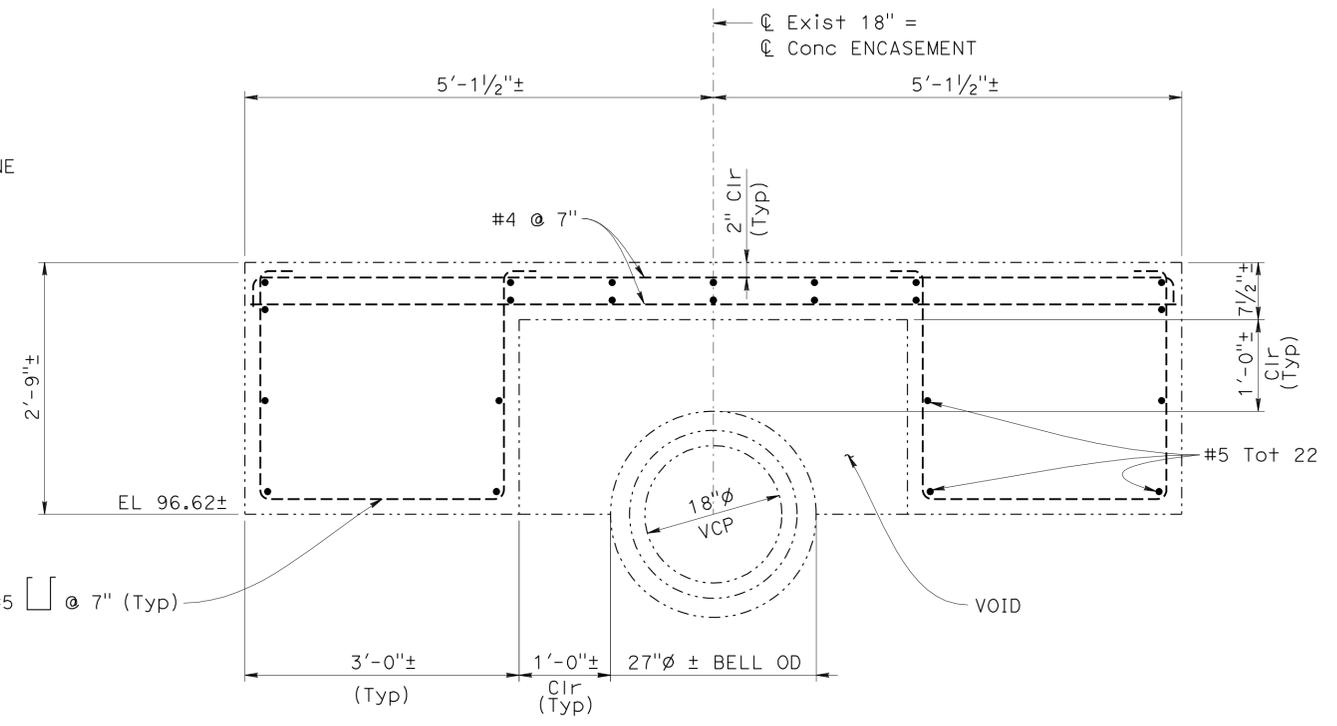
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	838	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

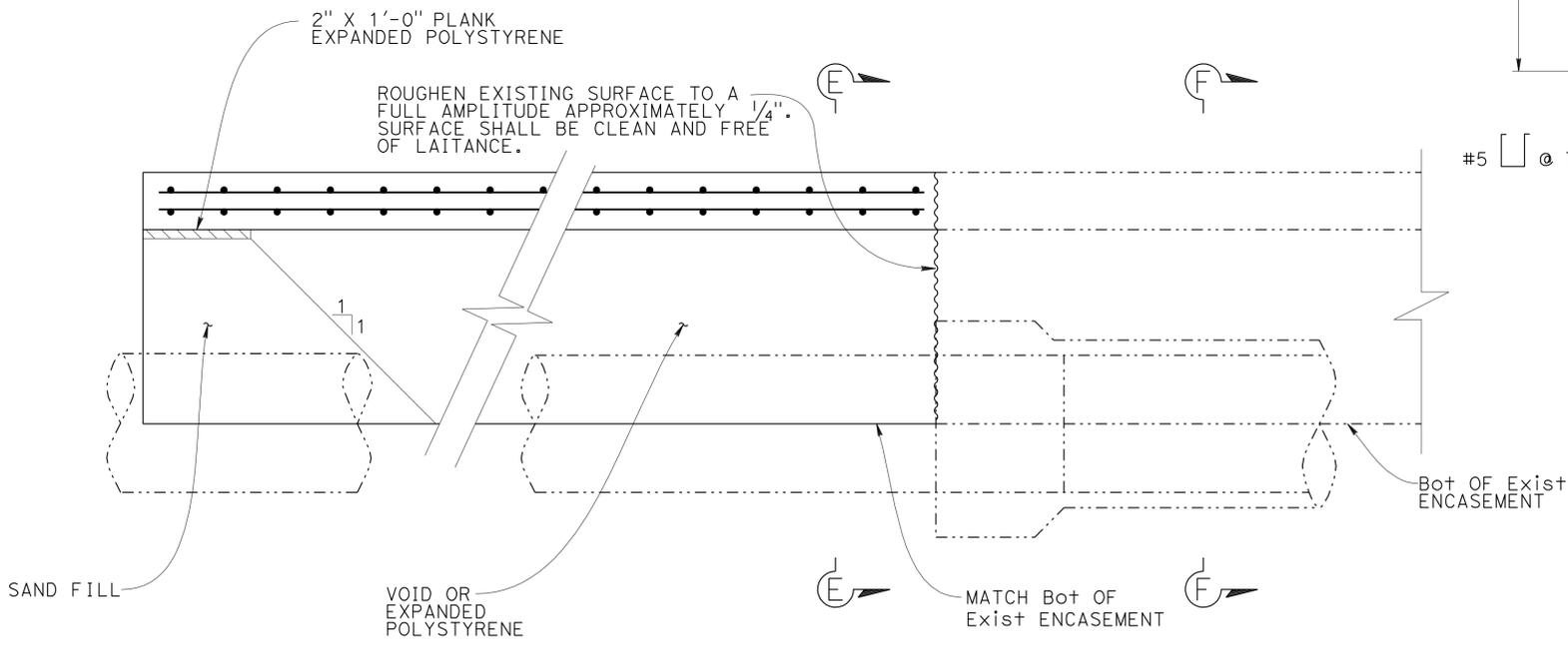
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



SECTION E-E
TYPICAL ENCASEMENT SECTION
 NO SCALE



SECTION F-F
EXISTING PIPE ENCASEMENT
 NO SCALE



JOIN TO EXISTING ENCASEMENT DETAIL
 NO SCALE

DESIGN DATA
 CONCRETE: Reinforced Concrete, $f'c = 3,600$ psi
 $fy = 60,000$ psi

Luqi Yang
 DESIGN OR SIGN OFF DATE 3-29-12

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
CONCRETE ENCASEMENT DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

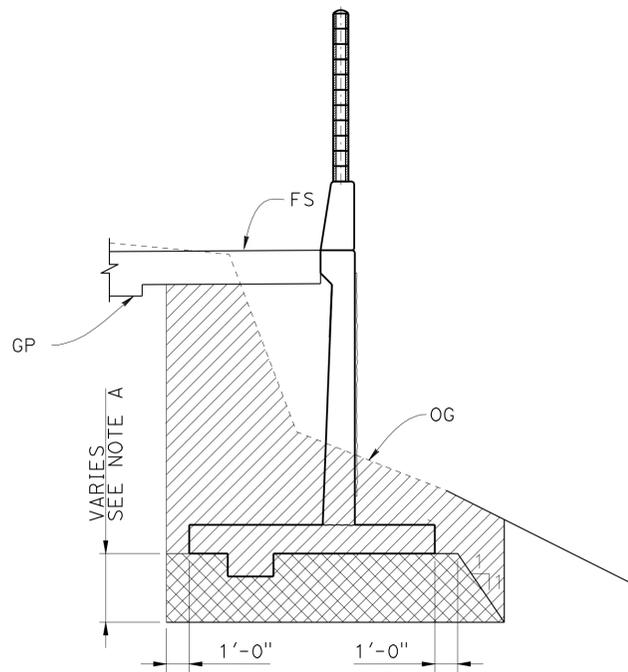
REVISION	DATE	SHEET	OF
		16	21

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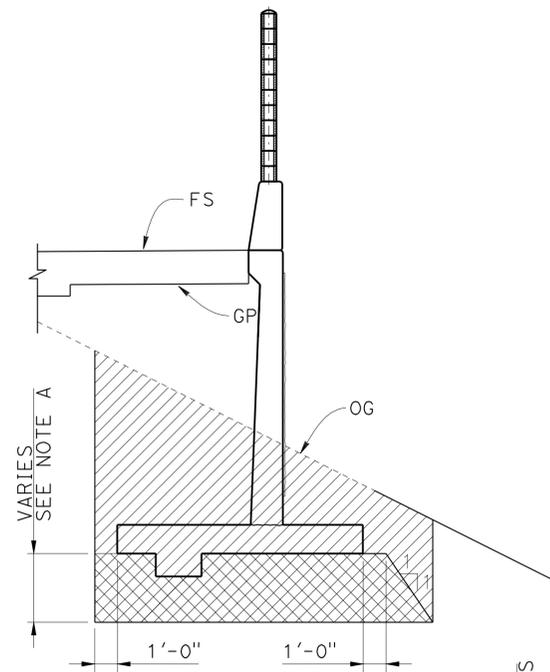
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	839	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

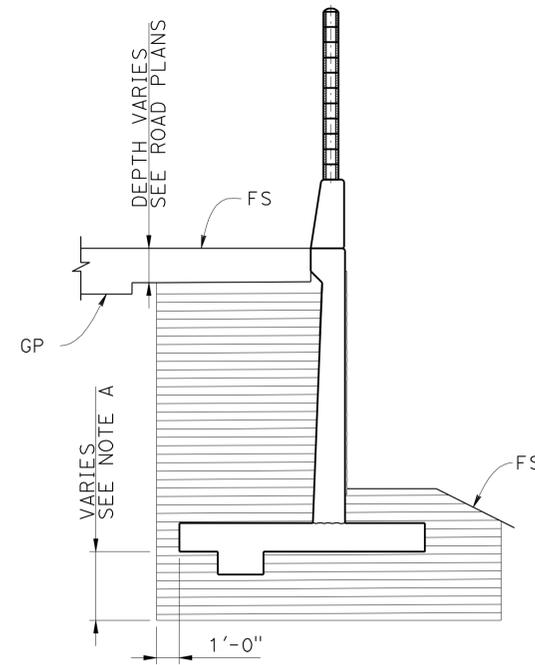
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



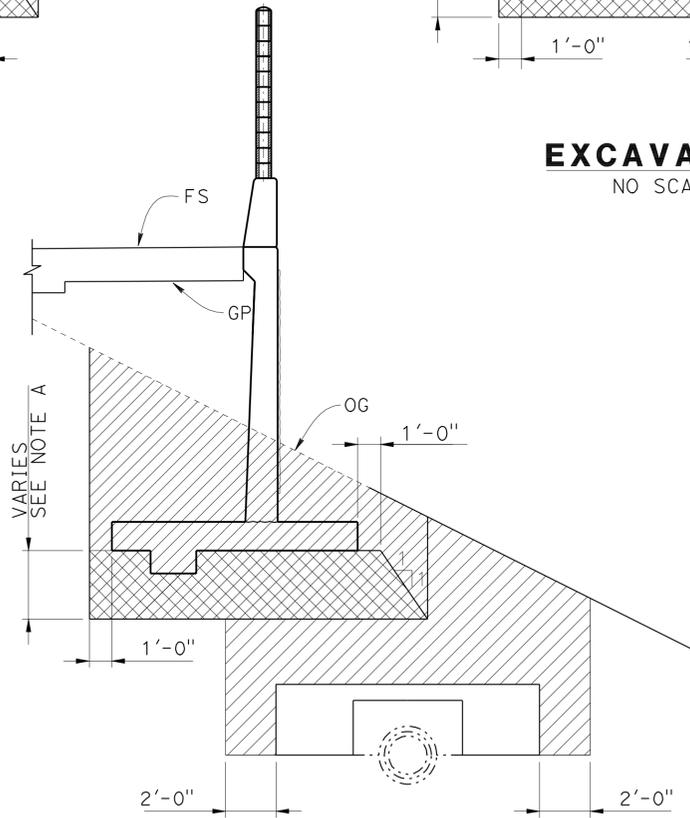
EXCAVATION
NO SCALE



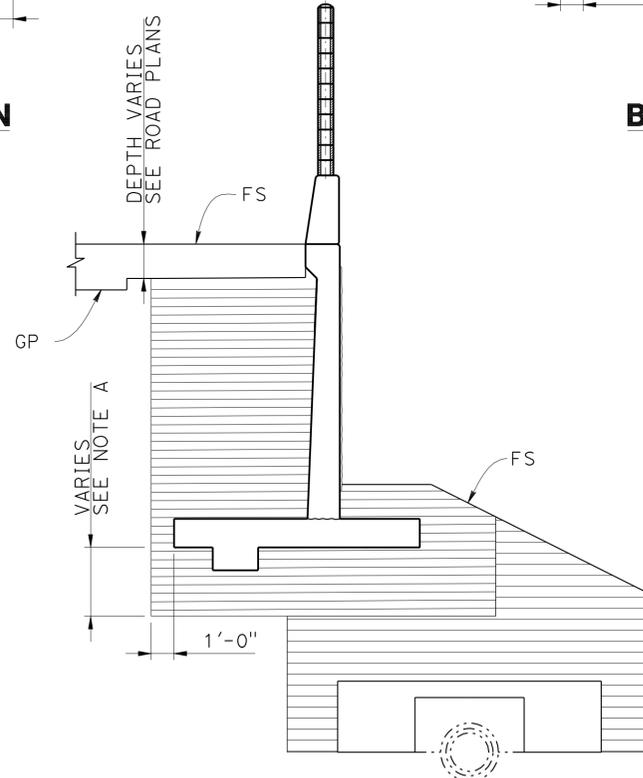
EXCAVATION
NO SCALE



BACKFILL
NO SCALE



PIPE ENCASEMENT EXCAVATION
NO SCALE



PIPE ENCASEMENT BACKFILL
NO SCALE

LEGEND:

-  Structure Excavation
-  Structure Backfill
-  Structure Over Excavation
See Note A

NOTE

A. For depth of Structure Over Excavation, see Retaining Wall Typical Section(s).

RETAINING WALL IN FILL AND CUT
LIMITS OF PAYMENT FOR RETAINING WALL EXCAVATION AND BACKFILL


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
---	---	---	---

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION	DATE	SHEET	OF
		17	21

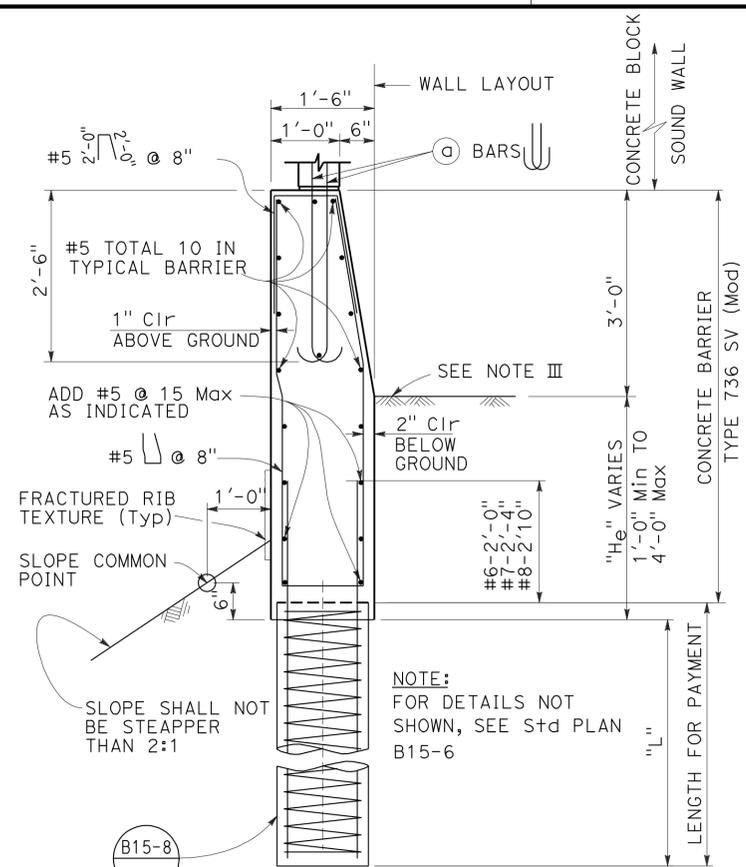
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USERNAME => s114640 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

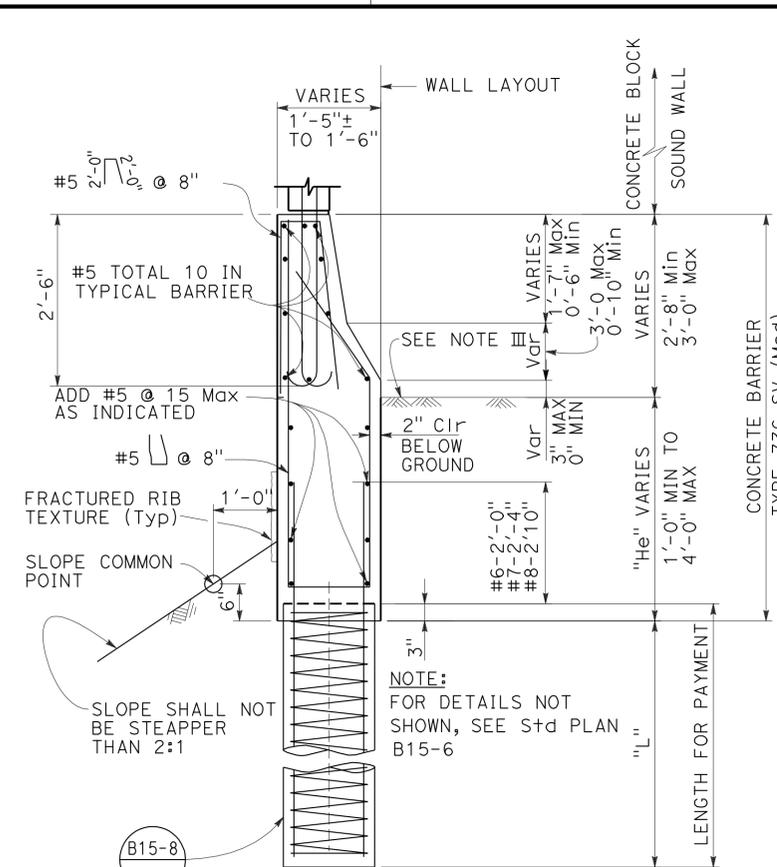
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	840	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

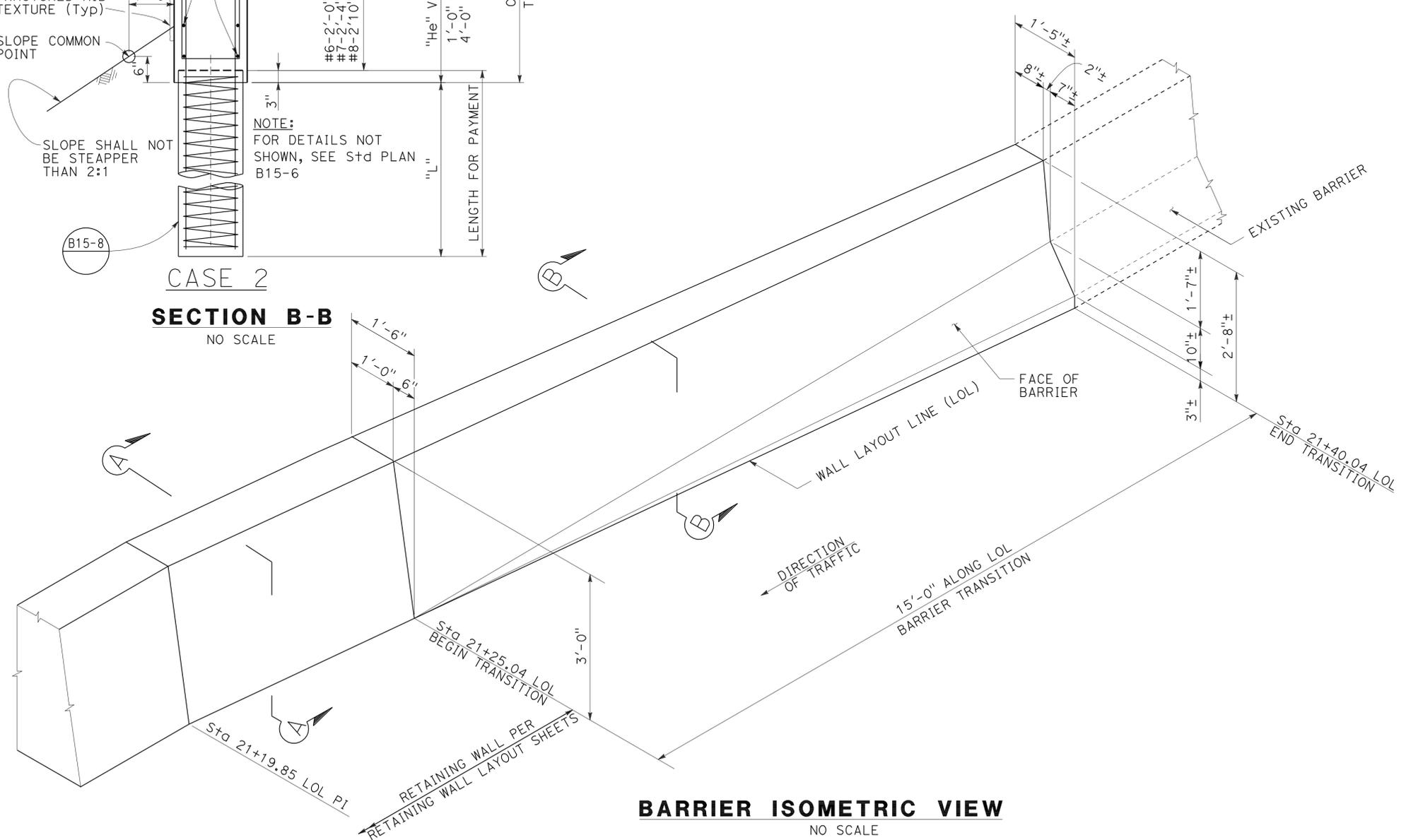
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



CASE 2
SECTION A-A
 NO SCALE



CASE 2
SECTION B-B
 NO SCALE



BARRIER ISOMETRIC VIEW
 NO SCALE

NOTE: Sound Wall not shown for clarity

Luqi Yang
 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

RETAINING WALL No. 107
BARRIER TRANSITION DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	18	21

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	841	885

TABLE OF TREATMENT LOCATIONS

TYPE	STATION																					
	16+72	16+76	11+80	16+97	17+07	17+12	17+18	17+28	17+34	17+46	17+59	17+78	17+82	17+89	18+03	18+08	18+27	18+31	18+44	18+48	18+53	
PALM SECTION 1-1	-	-	-	-	-	X	-	-	X	X	-	-	X	-	-	-	-	-	-	-	-	-
PALM SECTION 5-5	X	X	-	-	X	-	X	X	-	-	-	X	-	X	-	-	X	X	X	X	X	X
MOUNTAIN	-	-	X	X	-	-	-	-	-	-	X	-	-	-	X	X	-	-	-	-	-	-

NOTE:
FOR PALM SECTION 1-1, PALM SECTION 5-5 AND MOUNTAIN ARCHITECTURAL TREATMENTS, SEE "ARCHITECTURAL DETAILS" SHEET.

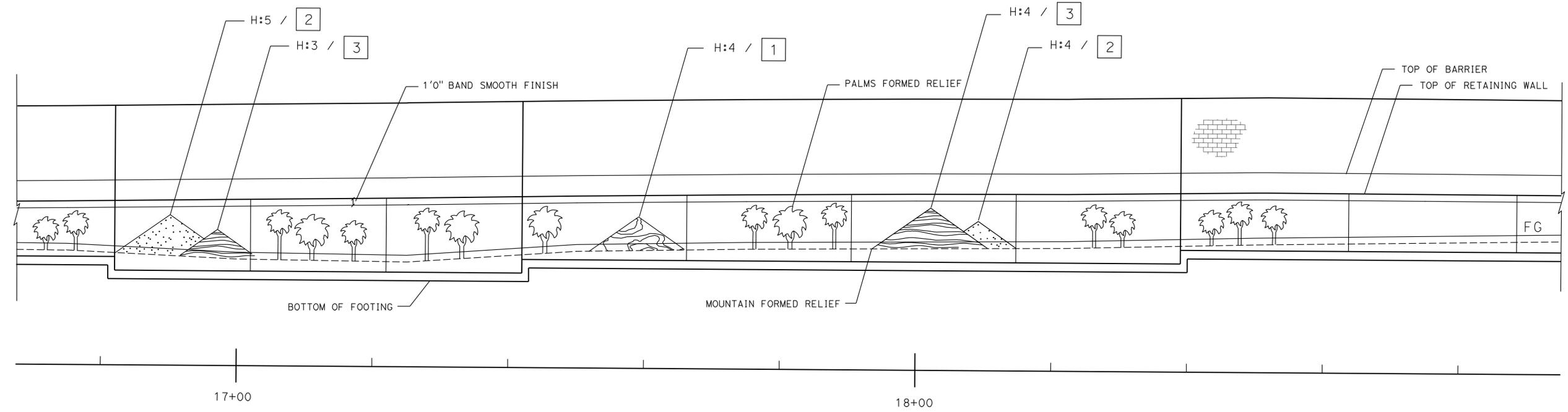
Cathy L. Johnson
LICENSED LANDSCAPE ARCHITECT

8-13-12
PLANS APPROVAL DATE

Cathy L. Johnson
LICENSED LANDSCAPE ARCHITECT
No. 4528
01-31-14
RENEWAL DATE
03-15-12
DATE
STATE OF CALIFORNIA

OCTA
550 S MAIN STREET
ORANGE, CA. 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677



MIRRORED ELEVATION

SCALE: HORIZ 1" = 10'
VERT 1" = 10'

Luqi Yang
DESIGN OVERSIGHT
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

**RETAINING WALL No. 107
ARCHITECTURAL TREATMENT LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS



UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION	DATE	SHEET	OF
		19	21

FILE => 55-E0125-u-miscd+10.dgn

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	842	885

Chad Harden
LICENSURE NO. 4554
L. J. JOHNSON
No. 4554
01-31-14
RENEWAL DATE
03-15-12
DATE
STATE OF CALIFORNIA

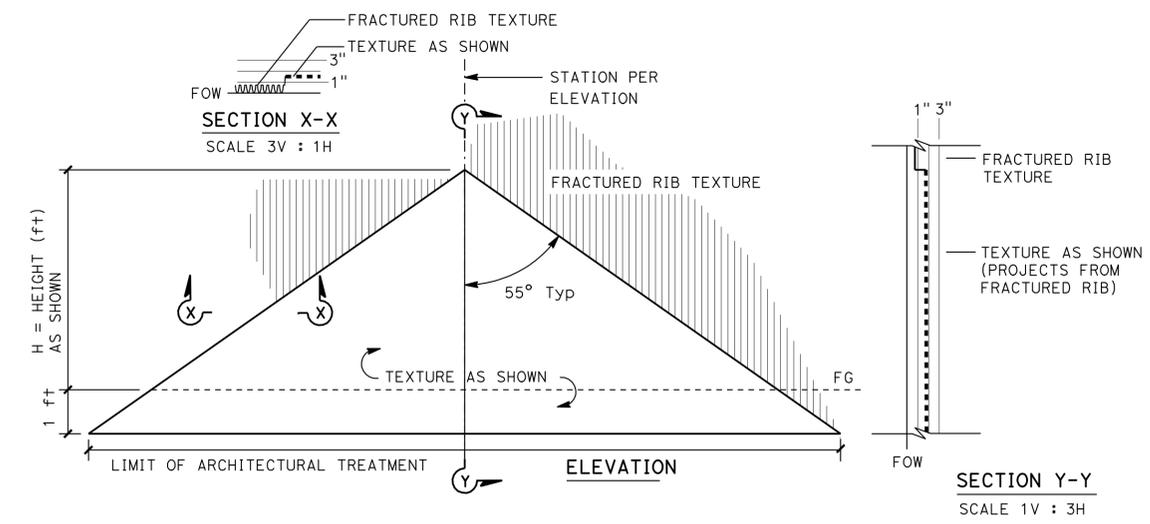
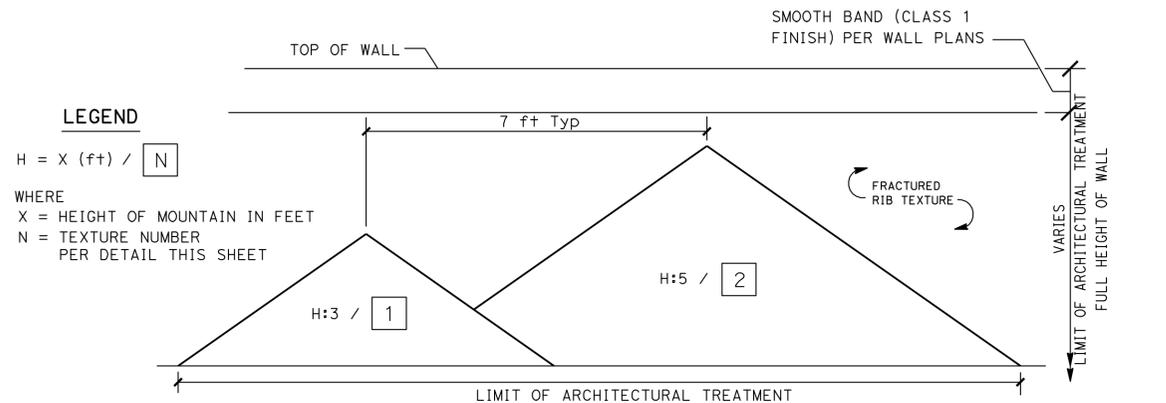
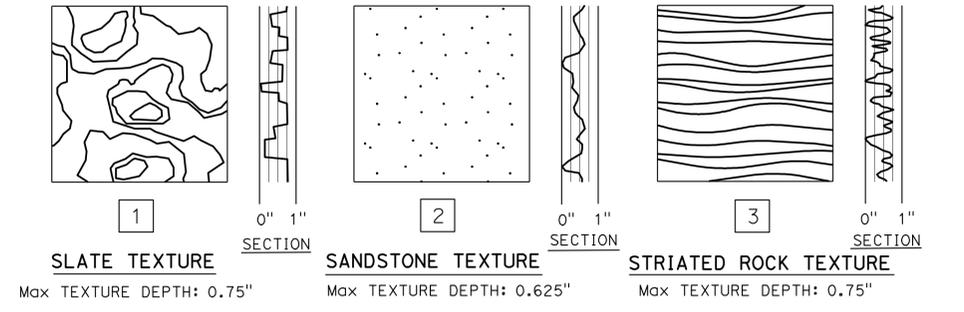
8-13-12
PLANS APPROVAL DATE

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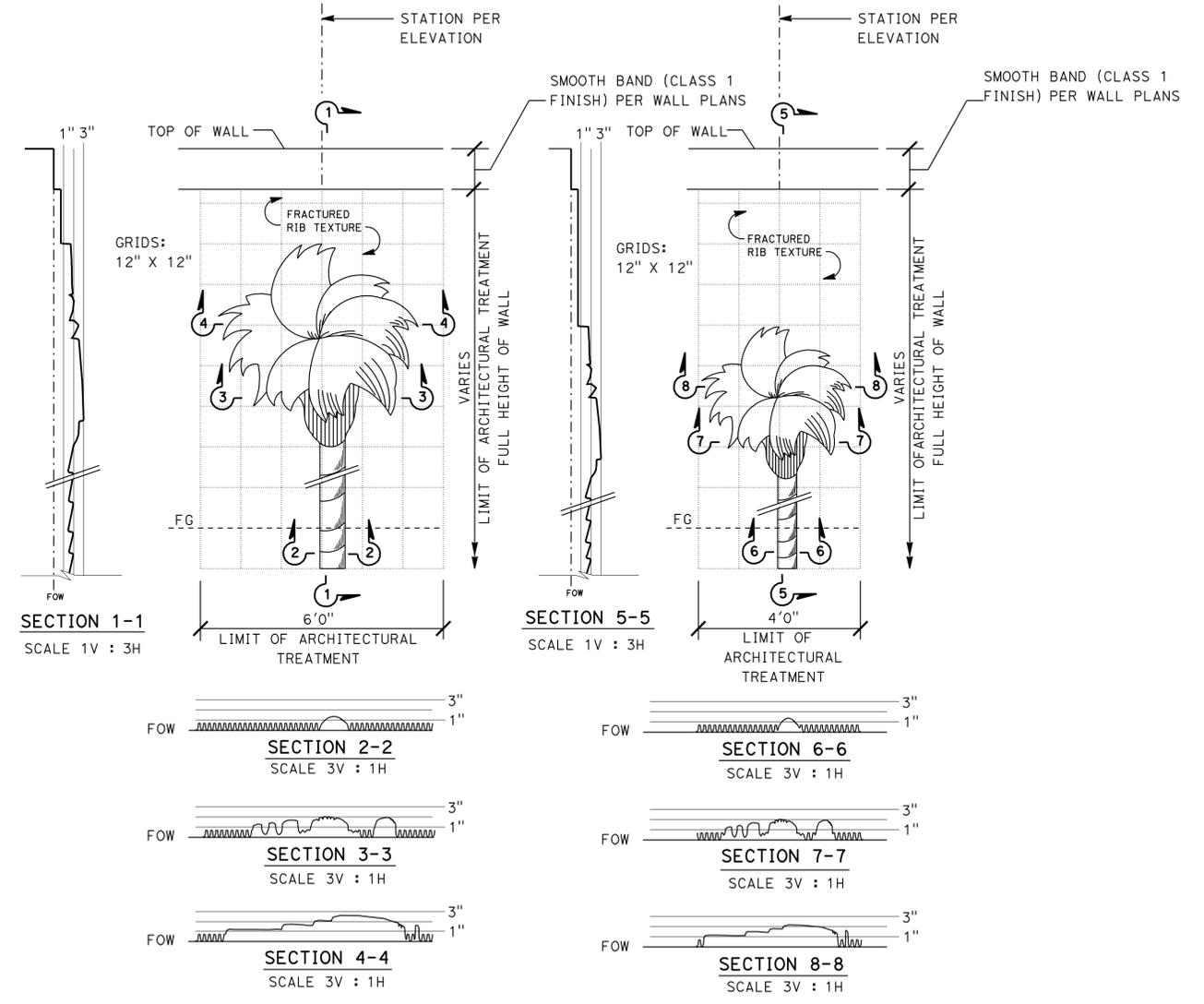
OCTA
550 S MAIN STREET
ORANGE, CA. 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677

ABBREVIATION:
FOW - FACE OF WALL



**MOUNTAIN FORMED RELIEF (PROJECTING)
WITH 3/4\"/>**



**PALMS FORMED RELIEF (PROJECTING)
WITH 3/4\"/>**

Luqi Yang
DESIGN ORIGINATOR
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0125
POST MILES	1.0

**RETAINING WALL No. 107
ARCHITECTURAL DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
PROJECT NUMBER & PHASE: 1200000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	20	21

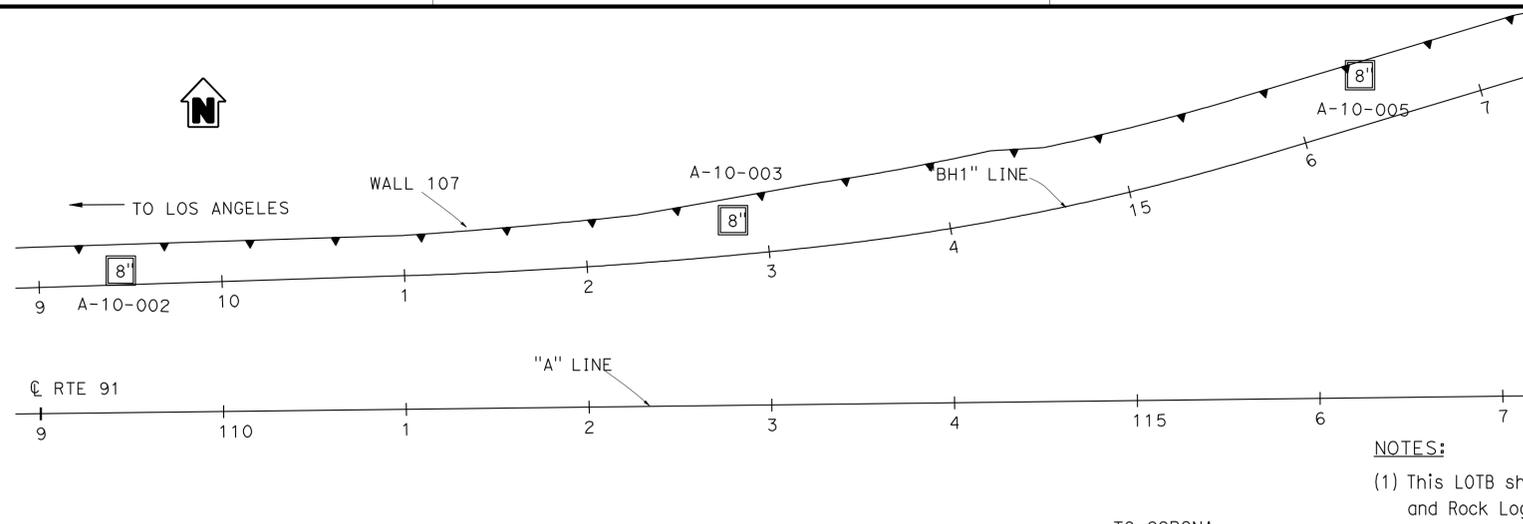
USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:25

BENCH MARK

Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "1G-164-05", set in the Northwesterly Corner of a 4.5 ft. by 11.0 ft.
 Concrete Catch Basin. Monument is located in the Southeasterly Corner of
 the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ±
 from the centerline of Buckingham and 47 ft. Easterly of the centerline of
 Magnolia. Monument is set level with the Sidewalk

Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2F-25-04", set in the Northwesterly Corner of a 7.5 ft. by 4.5
 ft. Concrete Catch Basin. Monument is located in the Northeasterly Corner of
 the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp,
 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the
 centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2D-35-86", set in the Northwesterly Corner of a 7 ft. by 14 ft.
 Concrete Catch Basin. Monument is located in the Southeasterly Corner of
 the intersection of Placentia Avenue and State College Boulevard, 38 ft.
 Easterly of the centerline of State College and 70.5 ft. Southerly of the
 centerline of Placentia. Monument is set level with the Sidewalk



PLAN

1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Oran	91	0.9/5.4	843	885

REGISTERED ENGINEER: *S. Pirathiviraj* DATE: 3/15/12

PLANS APPROVAL DATE: 8-13-12

REGISTERED PROFESSIONAL ENGINEER: S. PIRATHIVIRAJ No. C71662 EXP. 12/31/11

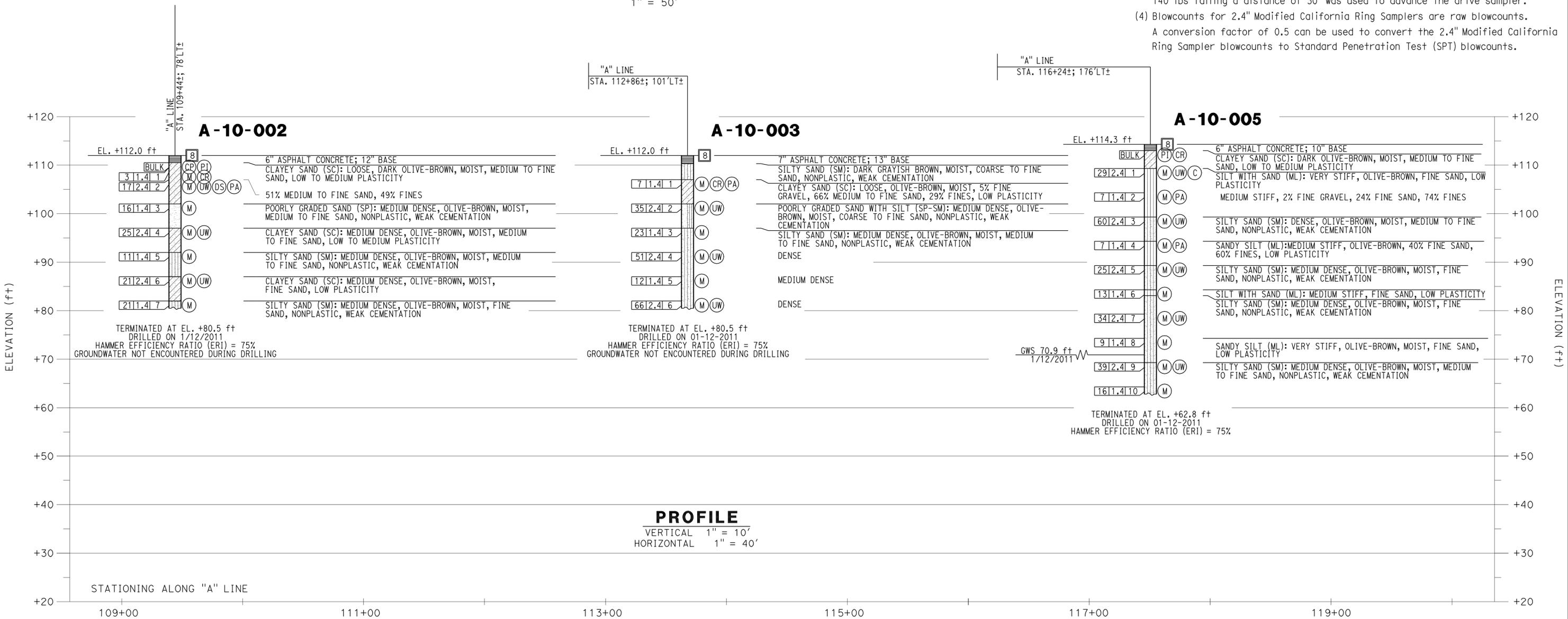
ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708

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NOTES:

- (1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
- (2) 2.4" samples were taken using a California Modified Sampler.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.
- (4) Blowcounts for 2.4" Modified California Ring Samplers are raw blowcounts. A conversion factor of 0.5 can be used to convert the 2.4" Modified California Ring Sampler blowcounts to Standard Penetration Test (SPT) blowcounts.



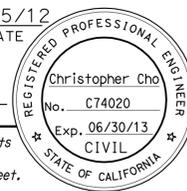
PROFILE

VERTICAL 1" = 10'
 HORIZONTAL 1" = 40'

DESIGNER: <i>Luqi Yang</i> 3-29-12 SIGN OFF DATE	DRAWN BY: J. FANG	CHECKED BY: S. PIRATHIVIRAJ	R. JIE FIELD INVESTIGATION BY: DATE: 1/12/2011	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	S. PIRATHIVIRAJ PROJECT ENGINEER	BRIDGE No. 55E0125	RETAINING WALL No. 107 LOG OF TEST BORING 1 OF 1
	GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 2295 PROJECT NUMBER & PHASE: 12000000791	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 21 OF 21		

CONTRACT NO.: 12-OC5701 PROJECT ID:

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	91	0.9/5.4	844	885



 REGISTERED CIVIL ENGINEER DATE 3/15/12

 PLANS APPROVAL DATE 8-13-12

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OCTA

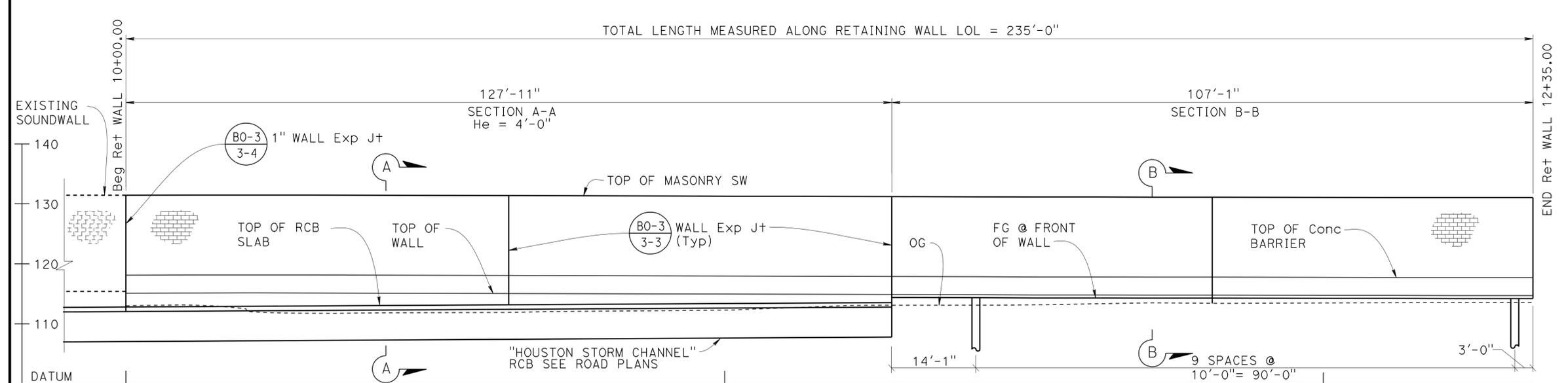
 550 S MAIN STREET

 ORANGE, CA 92868

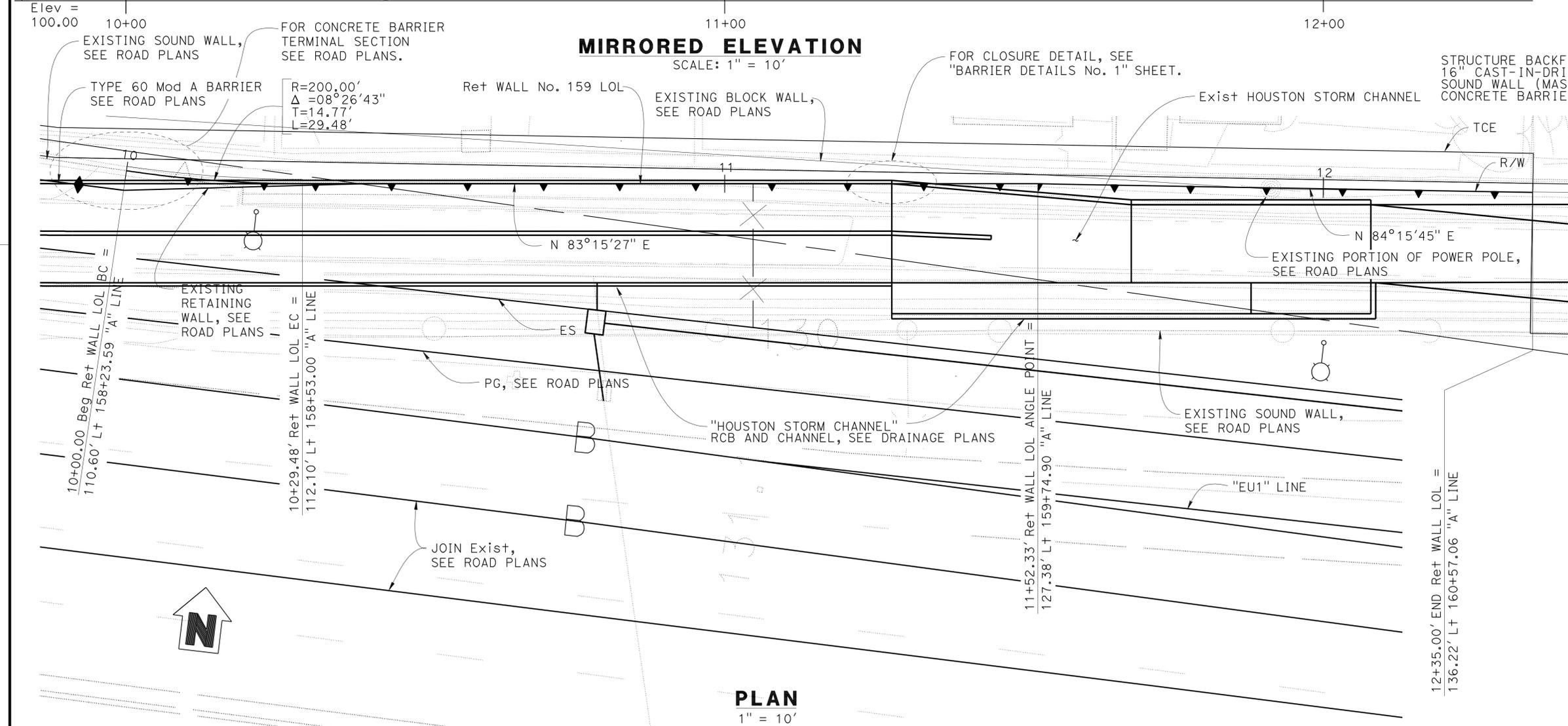
 RBF CONSULTING

 14725 ALTON PARKWAY

 IRVINE, CA 92677



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN
1" = 10'

RETAINING WALL No. 159

QUANTITIES

STRUCTURE BACKFILL (RETAINING WALL)	3	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	118	LF
SOUND WALL (MASONRY BLOCK)	3,135	SQFT
CONCRETE BARRIER (TYPE 736SV)	235	LF

- NOTES:**
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Sections A-A and B-B, see "TYPICAL SECTIONS" sheet.
 3. For Top of Wall Elevations, see "TYPICAL SECTIONS" sheet.

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


 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0126
POST MILES	2.0

RETAINING WALL No. 159
GENERAL PLAN

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 2295 12000000791

CONTRACT NO.: 12-0C5701

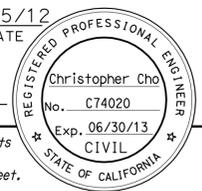
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	1	5

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	845	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
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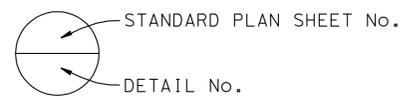
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

INDEX TO PLANS

SHEET No.	TITLE
1	General Plan
2	Index to Plans
3	Typical Sections
4	Barrier Details No. 1
5	Log of Test Borings 1 of 1

STANDARD PLANS DATED 2010

A10A	Abbreviations (Sheet 1 of 2)
A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheet 1 OF 3)
A10D	Lines and Symbols (Sheet 2 OF 3)
A10E	Lines and Symbols (Sheet 3 OF 3)
A10F	Legend - Soil (Sheet 1 OF 2)
A10G	Legend - Soil (Sheet 2 OF 2)
B0-3	Bridge Details
B15-6	Sound Wall Masonry Block on Type 736S/SV Barrier Details (1)
B15-7	Sound Wall Masonry Block on Type 736S/SV Barrier Details (2)
B15-8	Sound Wall Masonry Block on Type 736S/SV Barrier Details (3)




 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0126
POST MILES	2.0

RETAINING WALL No. 159
INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	2	5

FILE => 55-E0126-a-1tp01.dgn

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER **Christopher Cho** No. C74020 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

DATE: 3/15/12

PLANS APPROVAL DATE: 8-13-12

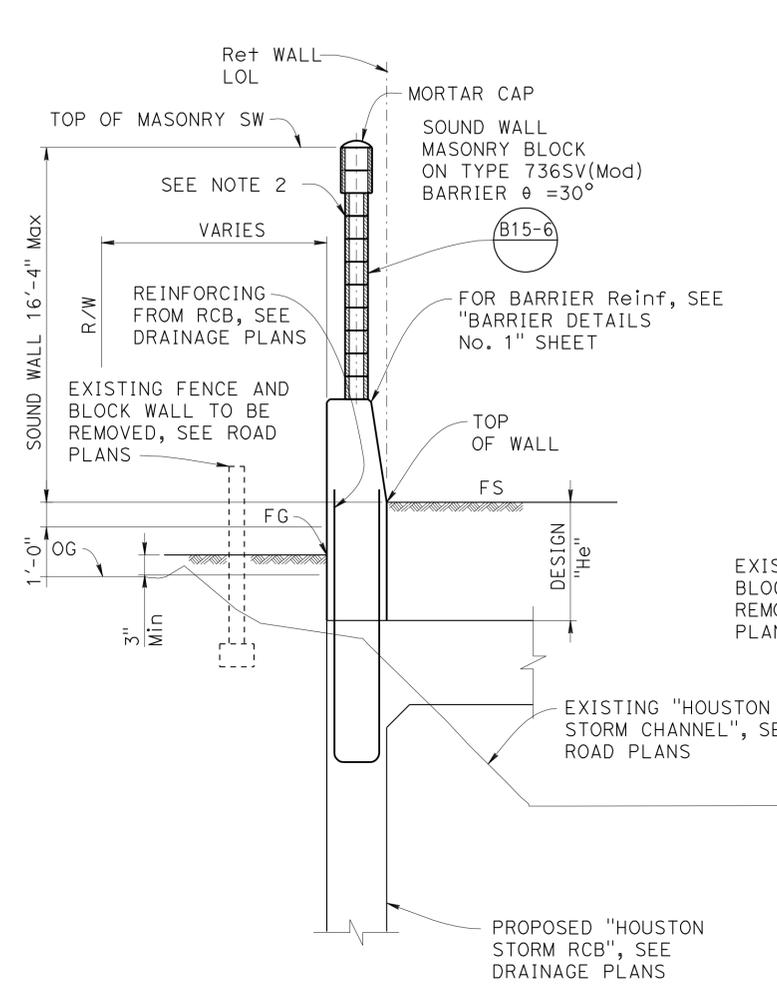
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ORANGE, CA. 92868

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14725 ALTON PARKWAY
IRVINE, CA 92677

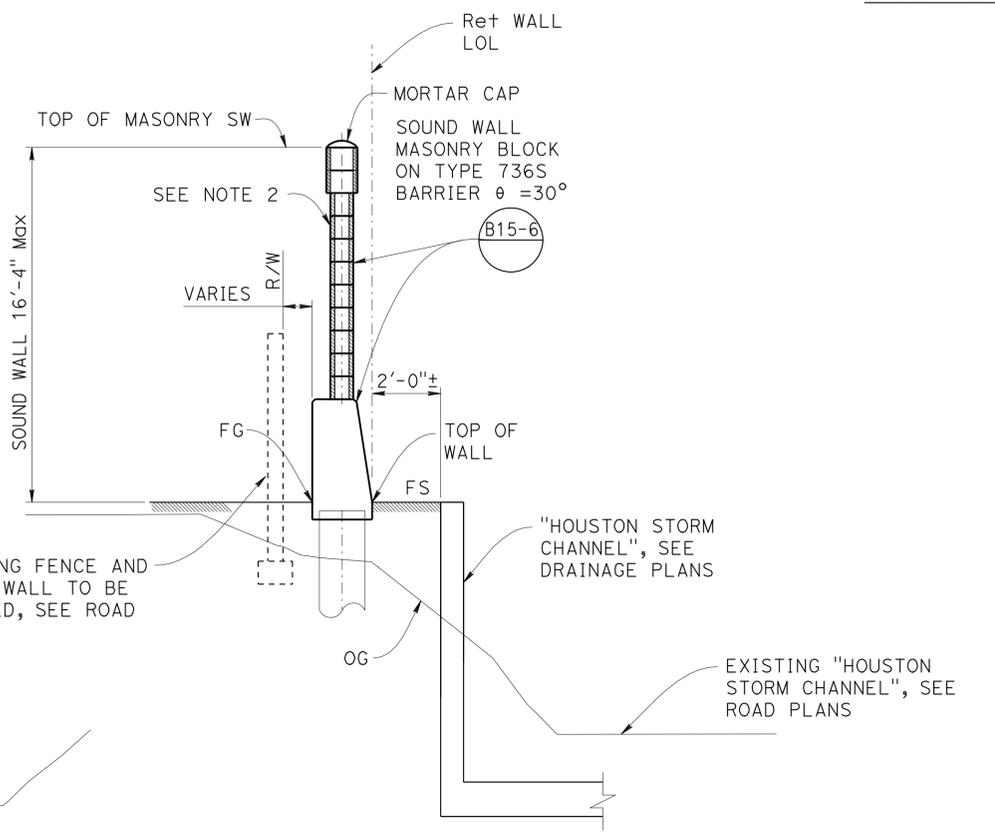
TOP OF WALL ELEVATION TABLE

WALL LOL STATION	TOP OF WALL Elev
10+00.00	129.09
+10	129.13
+20	129.14
+30	129.13
+40	129.10
+50	129.07
+60	129.05
+70	129.03
+80	129.00
+90	128.97
11+00.00	128.95
+10	128.92
+20	128.90
+30	128.87
+40	128.85
+50	128.82
+60	128.80
+70	128.79
+80	128.77
+90	128.75
12+00.00	128.73
+10	128.72
+20	128.70
+30	128.70
+35.00	128.69

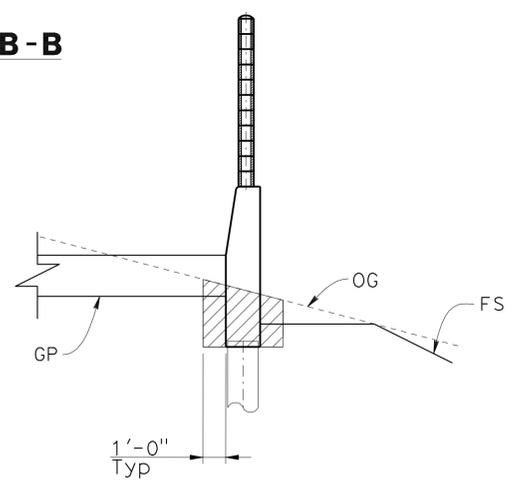


SECTION A-A

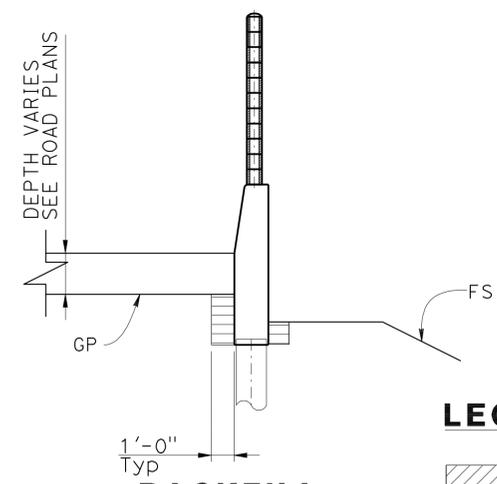
TYPICAL SECTION
NO SCALE



SECTION B-B



EXCAVATION
NO SCALE



BACKFILL
NO SCALE

LEGEND:

- Structure Excavation
- Structure Backfill

RETAINING WALL IN FILL AND CUT
LIMITS OF PAYMENT FOR RETAINING WALL EXCAVATION AND BACKFILL

Luqi Yang
DESIGN OVERSIGHT
6-21-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO. 55E0126
POST MILES 2.0

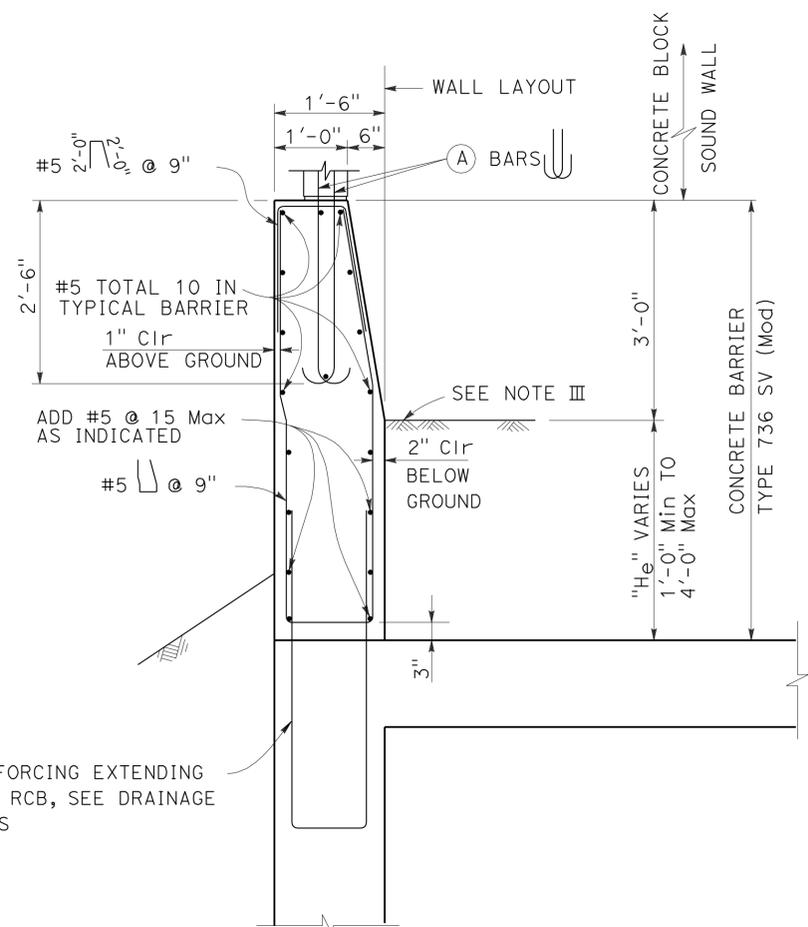
RETAINING WALL No. 159
TYPICAL SECTIONS

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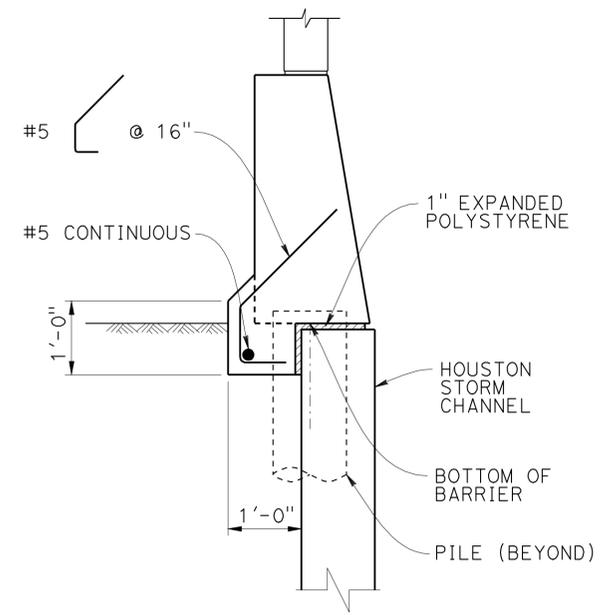
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12	Oran	91	0.9/5.4	847	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

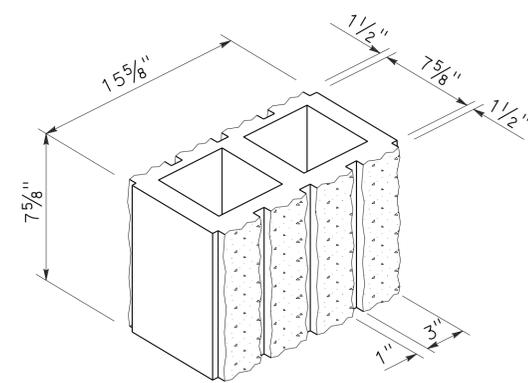
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 14725 ALTON PARKWAY
 IRVINE, CA 92677



SECTION A-A



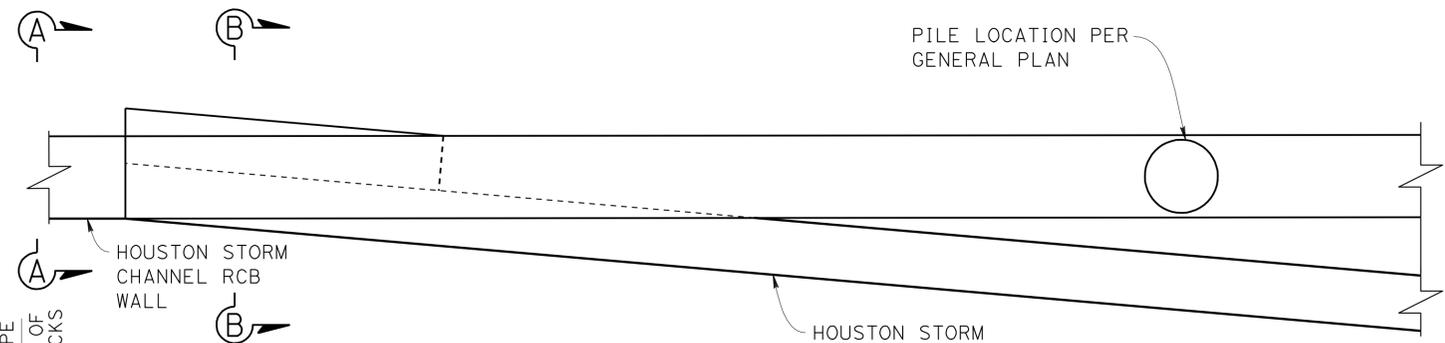
SECTION B-B
NO SCALE



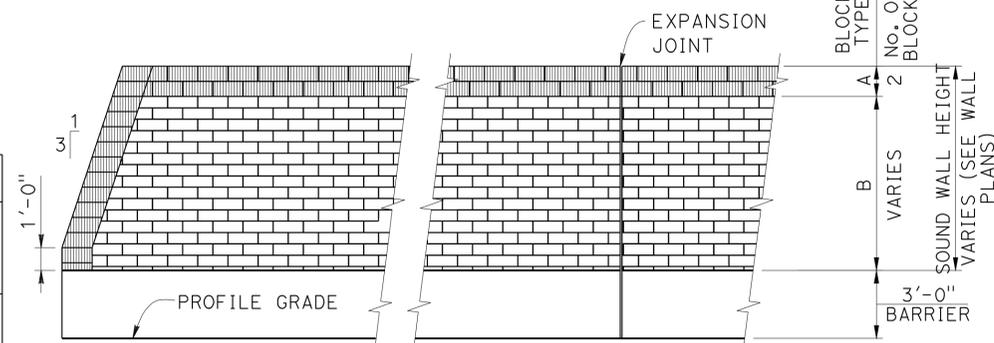
WALL CAP BLOCK DETAIL
NO SCALE
8" WIDE 4-SCORE SPLIT FACE BOTH SIDES

BARRIER REINFORCING
NO SCALE

NOTE: For Details not shown see "CASE 2" on Std Plan B15-6.



CLOSURE DETAIL
NO SCALE



SOUND WALL AESTHETICS
NO SCALE

MASONRY BLOCK TYPE TABLE

WALL NUMBERS	BLOCK TYPE	BLOCK DESCRIPTION	BLOCK SIZE
--	A	WALL CAP ROWS (SAND COLORED SCORED SPLIT FACE CONCRETE BOTH SIDES) 3-SCORED. SEE WALL CAP BLOCK DETAIL	8" X 8" X 16"
--	B	MAIN WALL SURFACE (SAND COLORED SPLIT FACE CONCRETE BOTH SIDES)	8" X 6" X 16"

Luqi Yang
 DESIGN OVERSIGHT
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0126
PROJECT ENGINEER	CHAD HARDEN
POST MILES	2.0

RETAINING WALL No. 159
BARRIER DETAILS No. 1

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	4	5

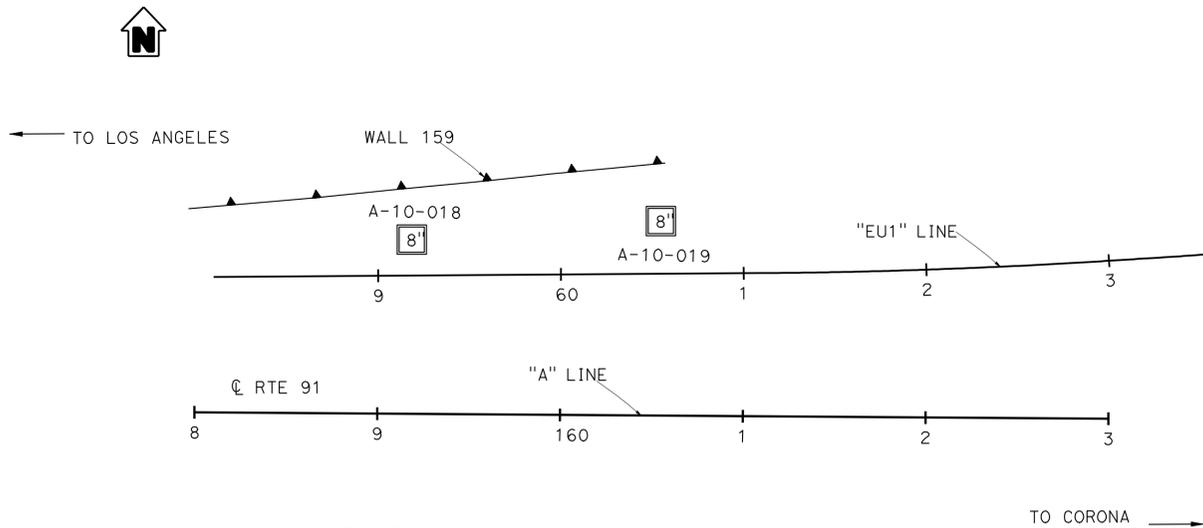
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BENCH MARK

Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "1G-164-05", set in the Nothwesterly Corner of a 4.5 ft. by 11.0 ft. Concrete Catch Basin. Monument is located in the Southeasterly Corner of the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ± from the centerline of Buckingham and 47 ft. Easterly of the centerline of Magnolia. Monument is set level with the Sidewalk

Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2F-25-04", set in the Nothwesterly Corner of a 7.5 ft. by 4.5 ft. Concrete Catch Basin. Monument is located in the Northeasterly Corner of the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp, 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2D-35-86", set in the Nothwesterly Corner of a 7 ft. by 14 ft. Concrete Catch Basin. Monument is located in the Southeasterly Corner of the intersection of Placentia Avenue and State College Boulevard, 38 ft. Easterly of the centerline of State College and 70.5 ft. Southerly of the centerline of Placentia. Monument is set level with the Sidewalk



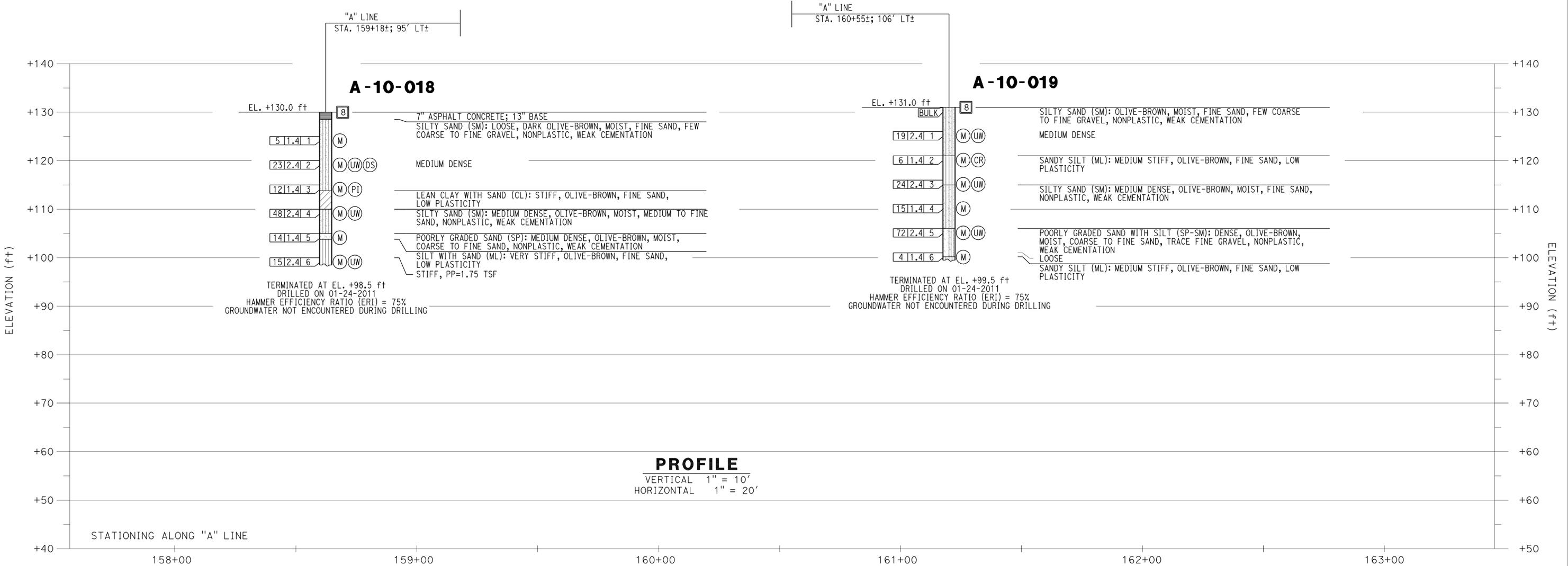
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Oran	91	0.9/5.4	848	885

REGISTERED ENGINEER S. PIRATHIVIRAJ
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 No. C71662
 EXP. 12/31/11
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 STATE OF CALIFORNIA

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708

- NOTES:**
- (1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
 - (2) 2.4" samples were taken using a California Modified Sampler.
 - (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.
 - (4) Blowcounts for 2.4" Modified California Ring Samplers are raw blowcounts. A conversion factor of 0.5 can be used to convert the 2.4" Modified California Ring Sampler blowcounts to Standard Penetration Test (SPT) blowcounts.



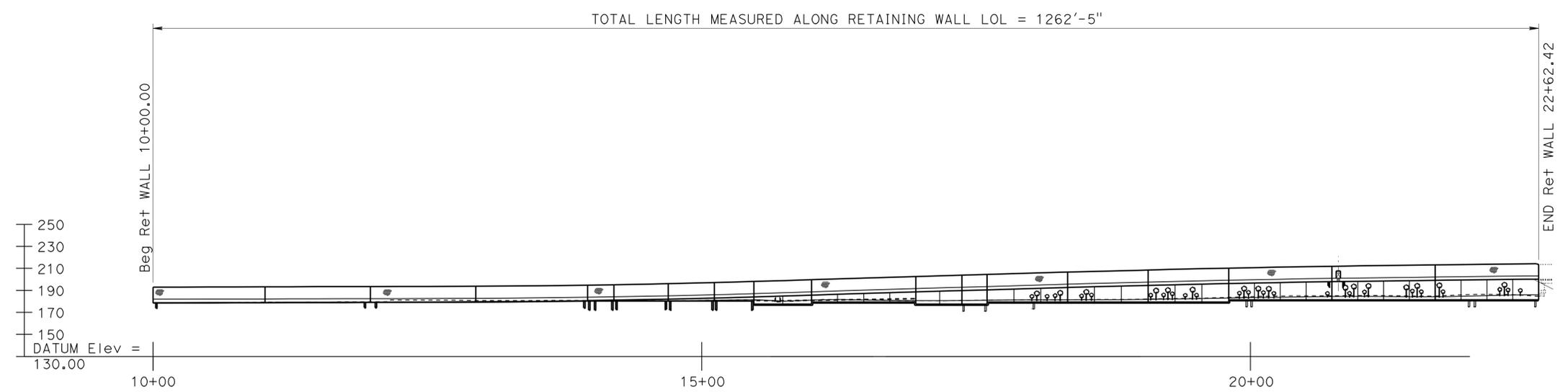
DESIGN BY: Luqi Yang SIGN OFF DATE: 3-29-12	DRAWN BY: J. FANG	R. JIE FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE No.: 55E0126	RETAINING WALL No. 159 LOG OF TEST BORING 1 OF 1
	CHECKED BY: S. PIRATHIVIRAJ	DATE: 1/24/2011		POST MILES: 2.0	
GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)			UNIT: 2295 PROJECT NUMBER & PHASE: 12000000791	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 5 OF 5

CONTRACT NO.: 12-OC5701 PROJECT ID:

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	849	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

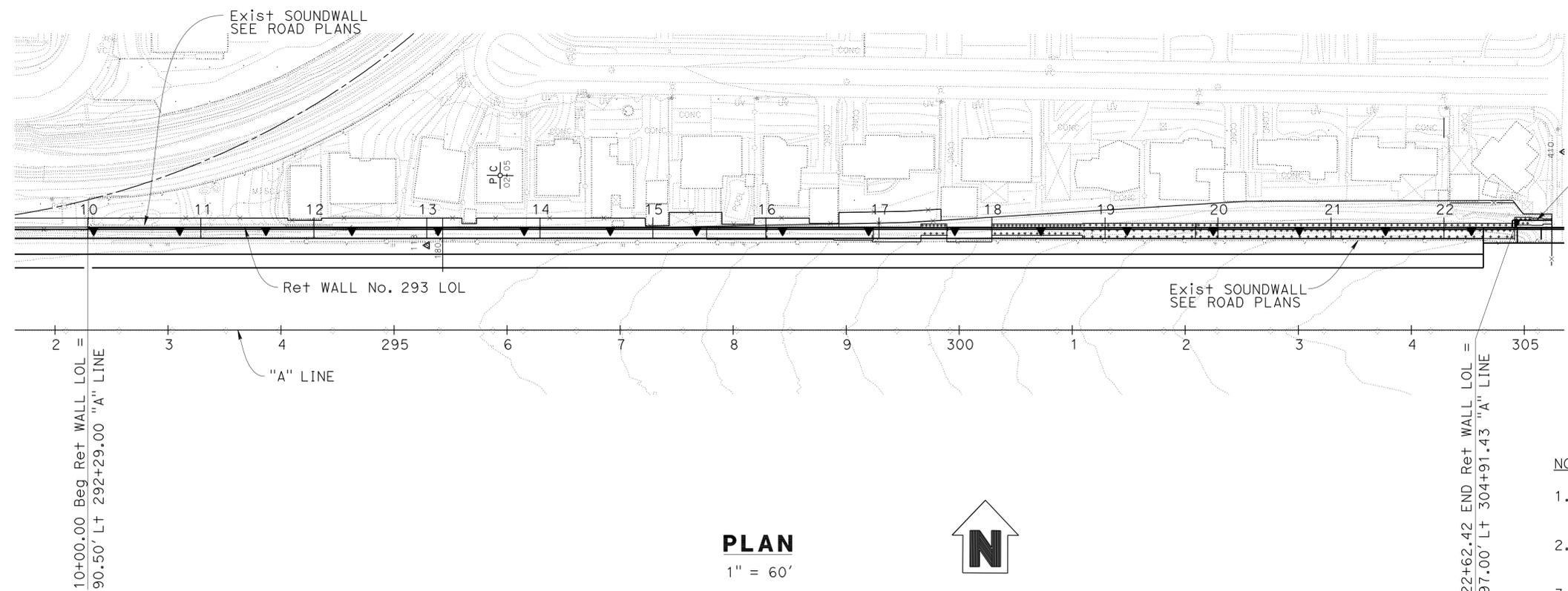
OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
SCALE: 1" = 60'

RETAINING WALL No. 293
QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	2,400	CY
STRUCTURE BACKFILL (RETAINING WALL)	3,860	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	7,934	LF
STRUCTURAL CONCRETE, RETAINING WALL	975	CY
ARCHITECTURAL TREATMENT	2,250	SQFT
FRACTURED RIB TEXTURE	5,845	SQFT
SOUND WALL (MASONRY BLOCK)	14,305	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	150,000	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	715	LF
CONCRETE BARRIER (TYPE 736SV)	548	LF



PLAN
1" = 60'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Typical Sections see "TYPICAL SECTIONS No. 1" and "No. 2" sheets.
3. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.

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


 DESIGN BY Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH
				CHECKED C. HARDEN
				PLANS AND SPECS COMPARED S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

RETAINING WALL No. 293
GENERAL PLAN

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	850	885

CPB 3/15/12
REGISTERED CIVIL ENGINEER DATE

8-13-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

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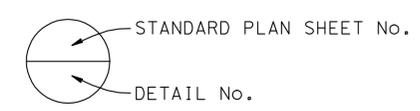
RBF CONSULTING
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INDEX TO PLANS

SHEET No.	TITLE
1	General Plan
2	Index To Plans
3	Structure Plan No. 1
4	Structure Plan No. 2
5	Structure Plan No. 3
6	Structure Plan No. 4
7	Structure Plan No. 5
8	Structure Plan No. 6
9	Structure Plan No. 7
10	Foundation Plan No. 1
11	Foundation Plan No. 2
12	Typical Sections No. 1
13	Typical Sections No. 2
14	Masonry Block Sound Wall With Barrier on Retaining Wall - Details No. 1
15	Masonry Block Sound Wall With Barrier on Retaining Wall - Details No. 2
16	Retaining Wall Type 5SWB Details
17	Retaining Wall Type 1SWBP - Details No. 1
18	Retaining Wall Type 1SWBP - Details No. 2
19	Miscellaneous Details No. 1
20	Miscellaneous Details No. 2
21	Limits of Payment for Excavation and Backfill
22	Architectural Treatment Layout
23	Architectural Details
24	Log of Test Borings 1 of 2
25	Log of Test Borings 2 of 2

STANDARD PLANS DATED 2010

A10A	Abbreviations (Sheet 1 of 2)
A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheet 1 of 3)
A10D	Lines and Symbols (Sheet 2 of 3)
A10E	Lines and Symbols (Sheet 3 of 3)
A10F	Legend - Soil (Sheet 1 of 2)
A10G	Legend - Soil (Sheet 2 of 2)
B0-3	Bridge Details
B2-3	16" and 24" Cast-In-Drilled-Hole Concrete Pile
RSP B3-5	RW Details No. 1
B11-56	Concrete Barrier Type 736
B15-6	Sound Wall Masonry Block on Type 736S/SV Barrier Details (1)
B15-7	Sound Wall Masonry Block on Type 736S/SV Barrier Details (2)
B15-8	Sound Wall Masonry Block on Type 736S/SV Barrier Details (3)
B15-9	Sound Wall Masonry Block Miscellaneous Details
B15-12	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (1)
B15-13	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (2)
B15-14	Sound Wall Masonry Block Access Gate Locking Details



Luqi Yang
DESIGN OVERSIGHT Luqi Yang
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0127
	POST MILES 4.5

RETAINING WALL No. 293
INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)



UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 2	OF 25
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FILE => 55-E0127-a-1tp01.dgn

USERNAME => s114640 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER *Cph* DATE 3/15/12

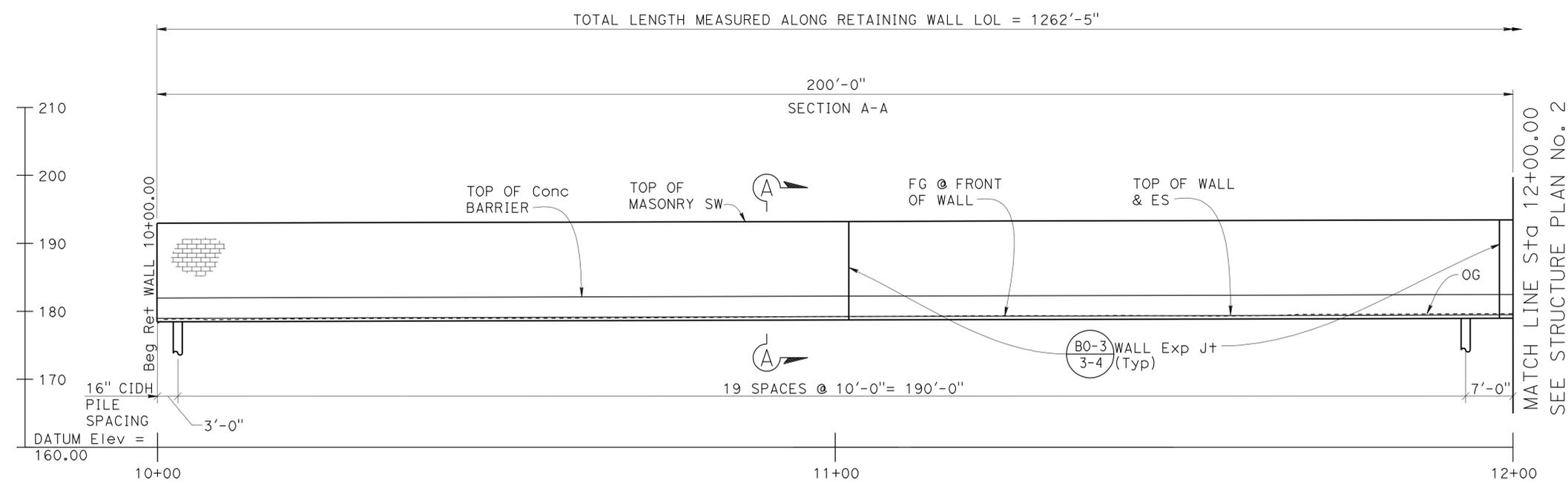
PLANS APPROVAL DATE 8-13-12

REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

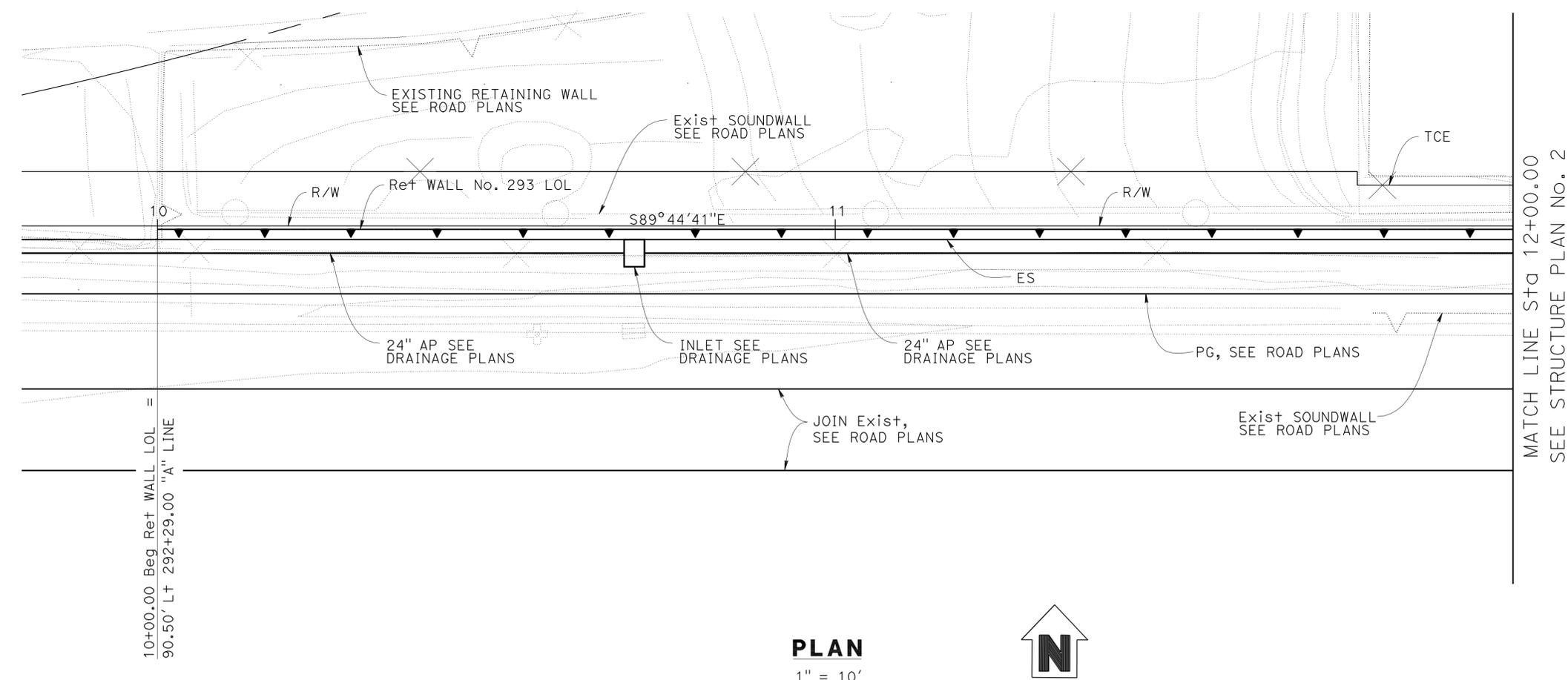
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 ORANGE, CA 92868

RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
 SCALE: 1" = 10'



PLAN
 1" = 10'

- NOTES:**
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Section A-A, see "TYPICAL SECTIONS No. 1" sheet.
 3. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.

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

Luqi Yang
 DESIGN OR SIGN OFF DATE 3-29-12

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

**RETAINING WALL No. 293
 STRUCTURE PLAN No. 1**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

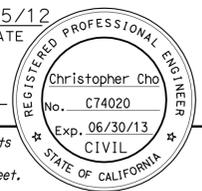
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	3	25

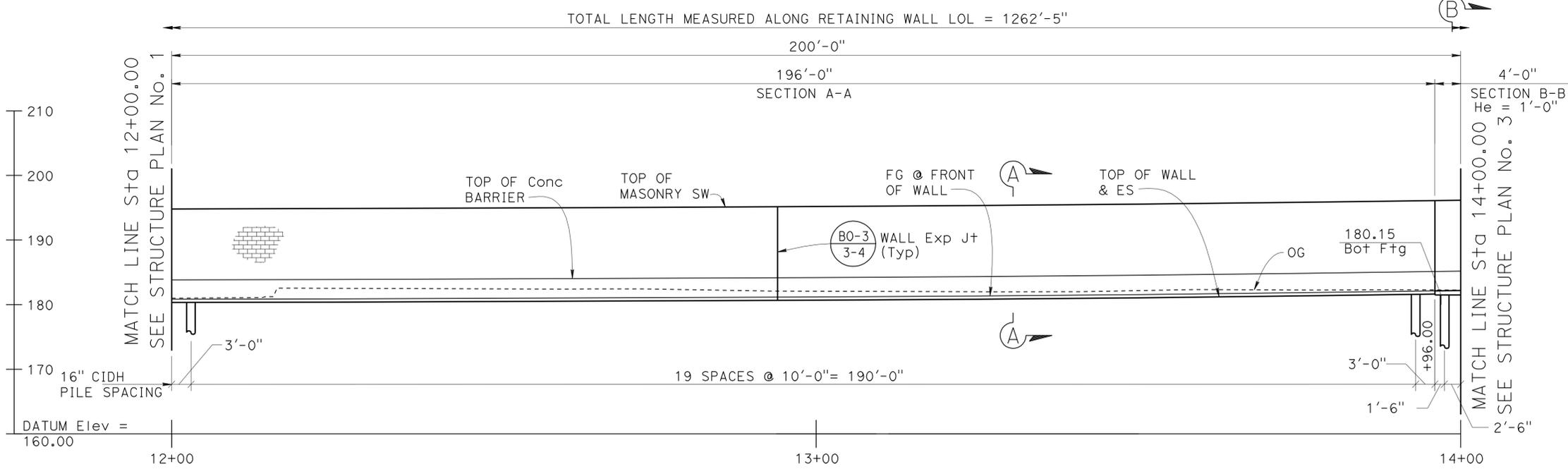
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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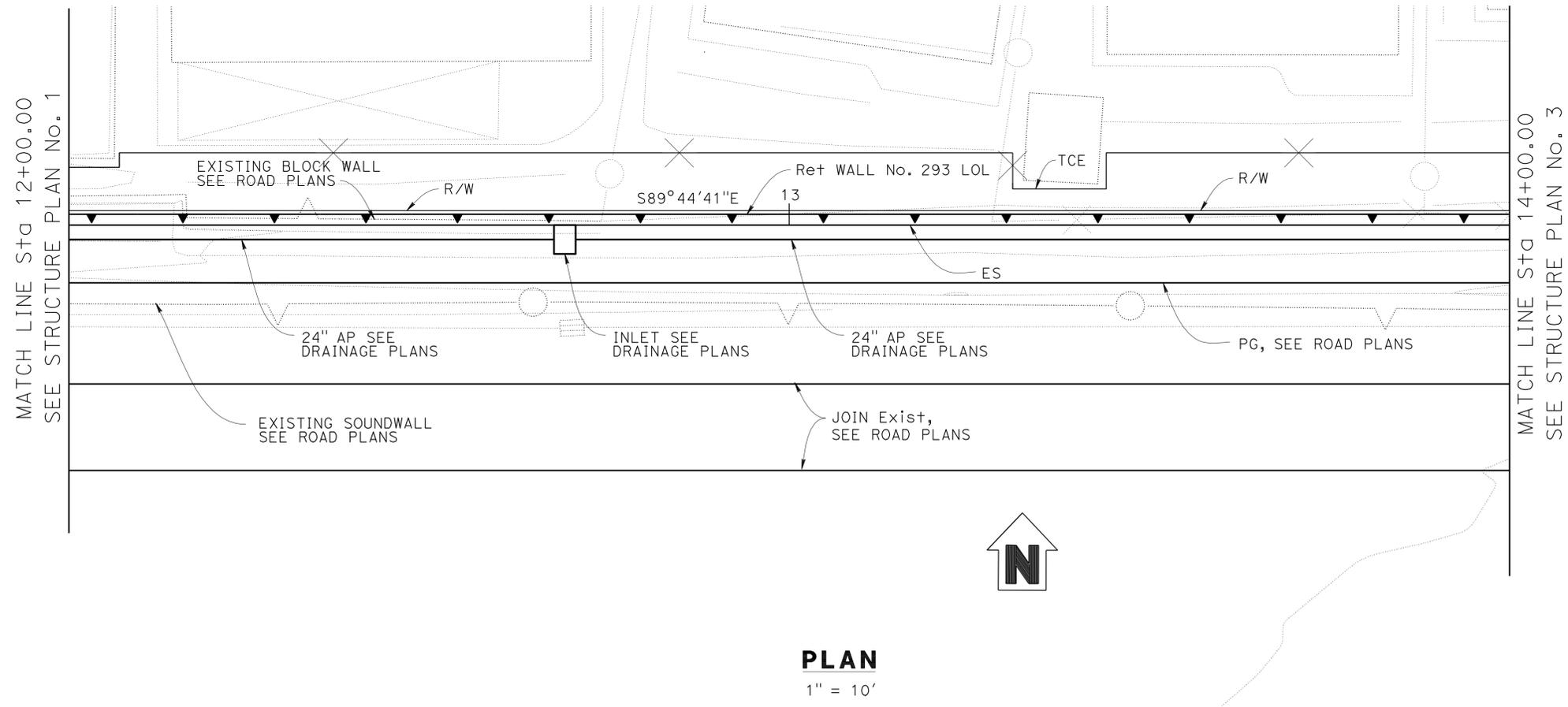
REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
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OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
 SCALE: 1" = 10'



PLAN
 1" = 10'

- NOTES:**
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Section A-A and B-B, see "TYPICAL SECTIONS No. 1" sheet.
 3. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.

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

DESIGN OVERSIGHT
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

**RETAINING WALL No. 293
 STRUCTURE PLAN No. 2**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	4	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	853	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER

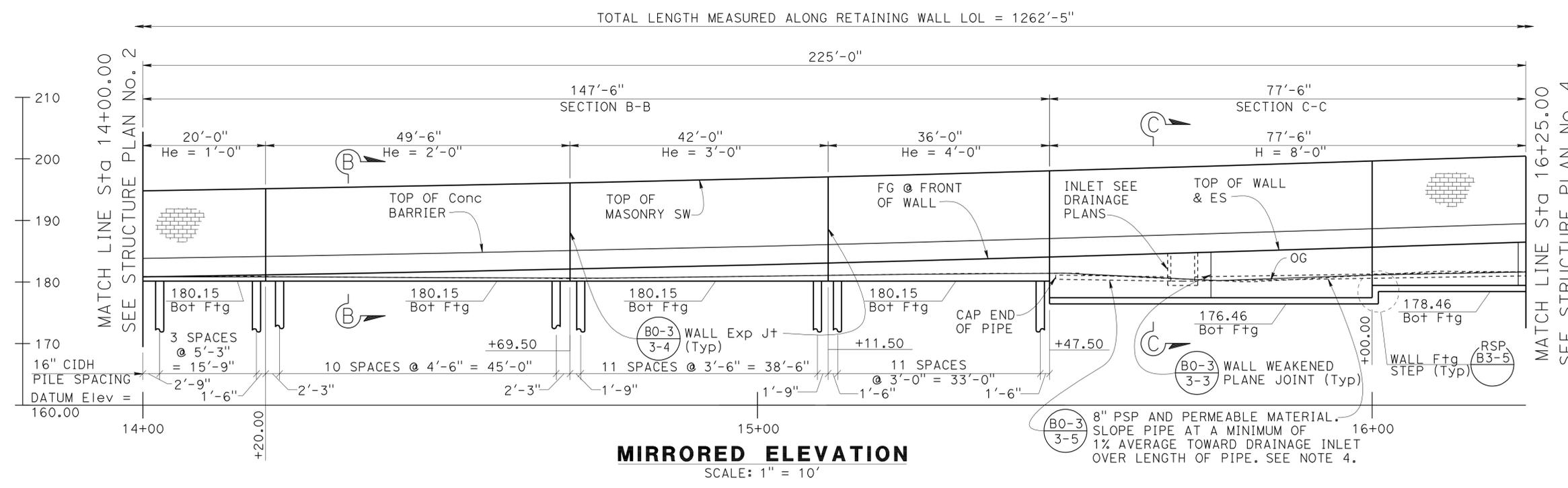
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

8-13-12
PLANS APPROVAL DATE

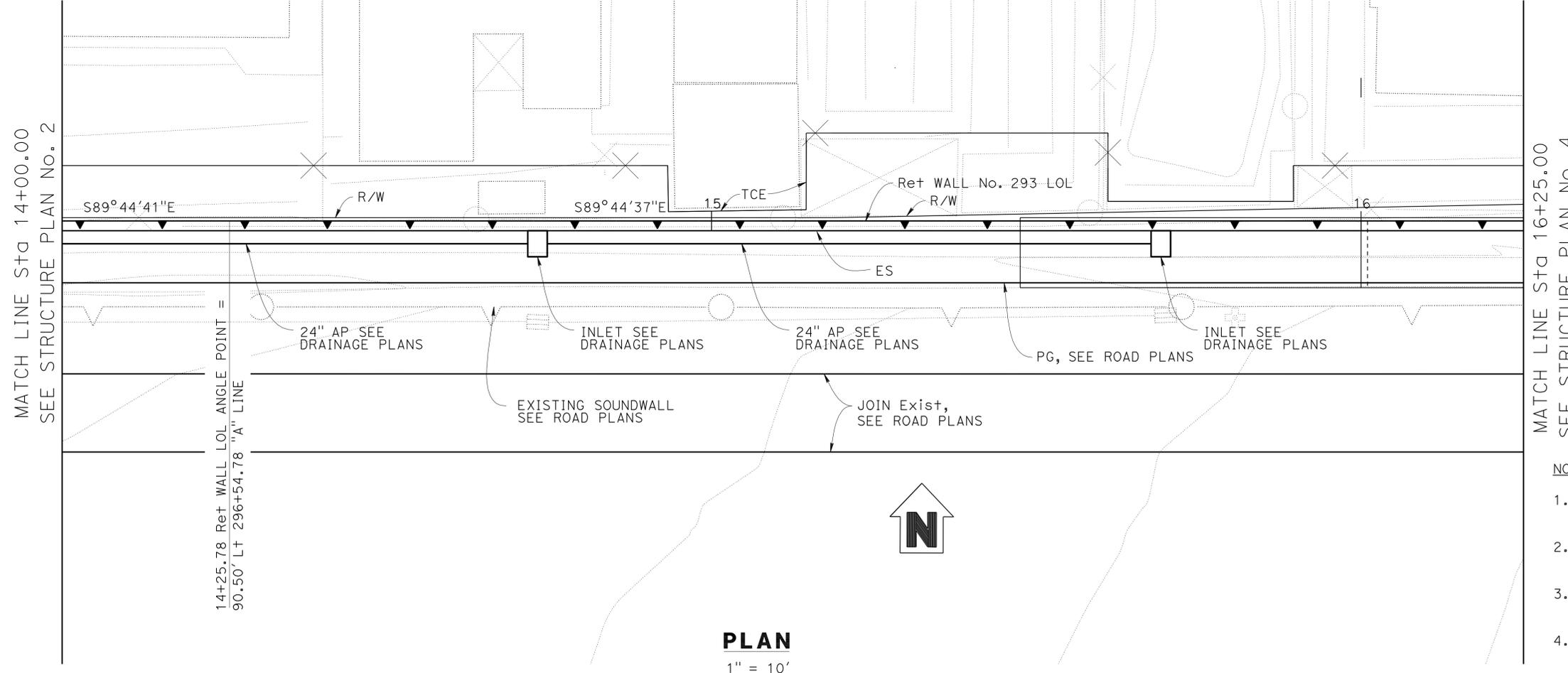
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ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN
1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Section B-B and C-C, see "TYPICAL SECTIONS No. 1" sheet.
3. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.
4. For Connection of Pipe to Drainage Inlet Detail, see "MISCELLANEOUS DETAILS No. 1" sheet.

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

DESIGN BY: Luqi Yang
DESIGN CHECKED BY: Luqi Yang
DATE: 3-29-12
SIGN OFF DATE

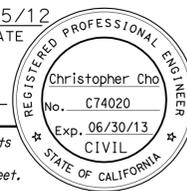
DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

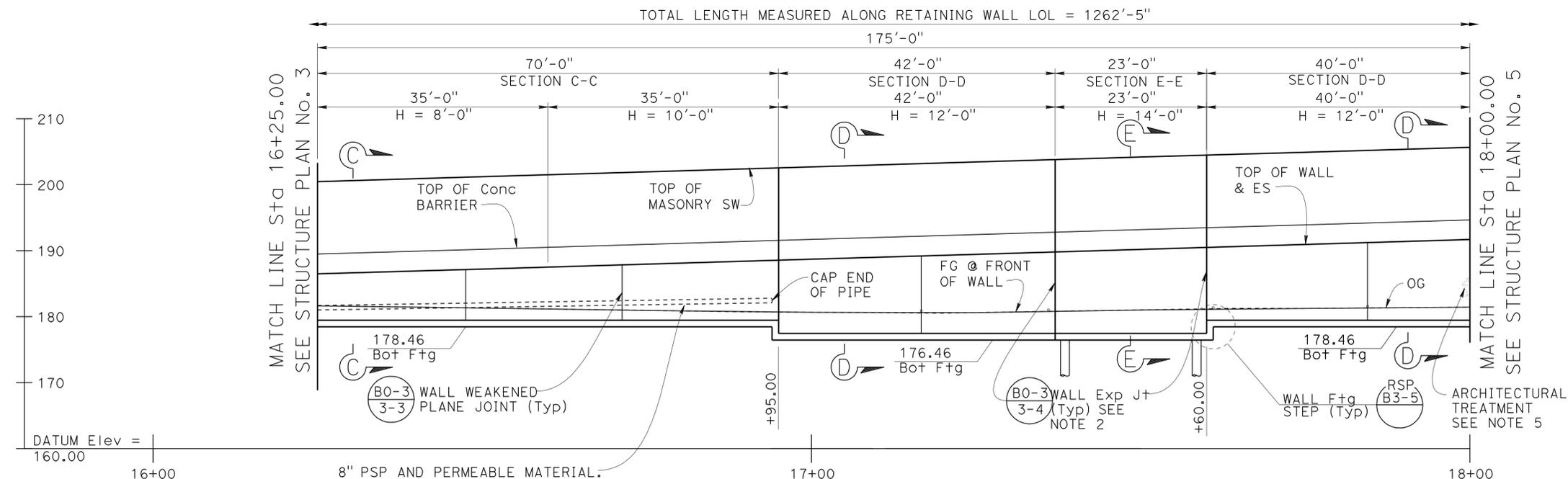
**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

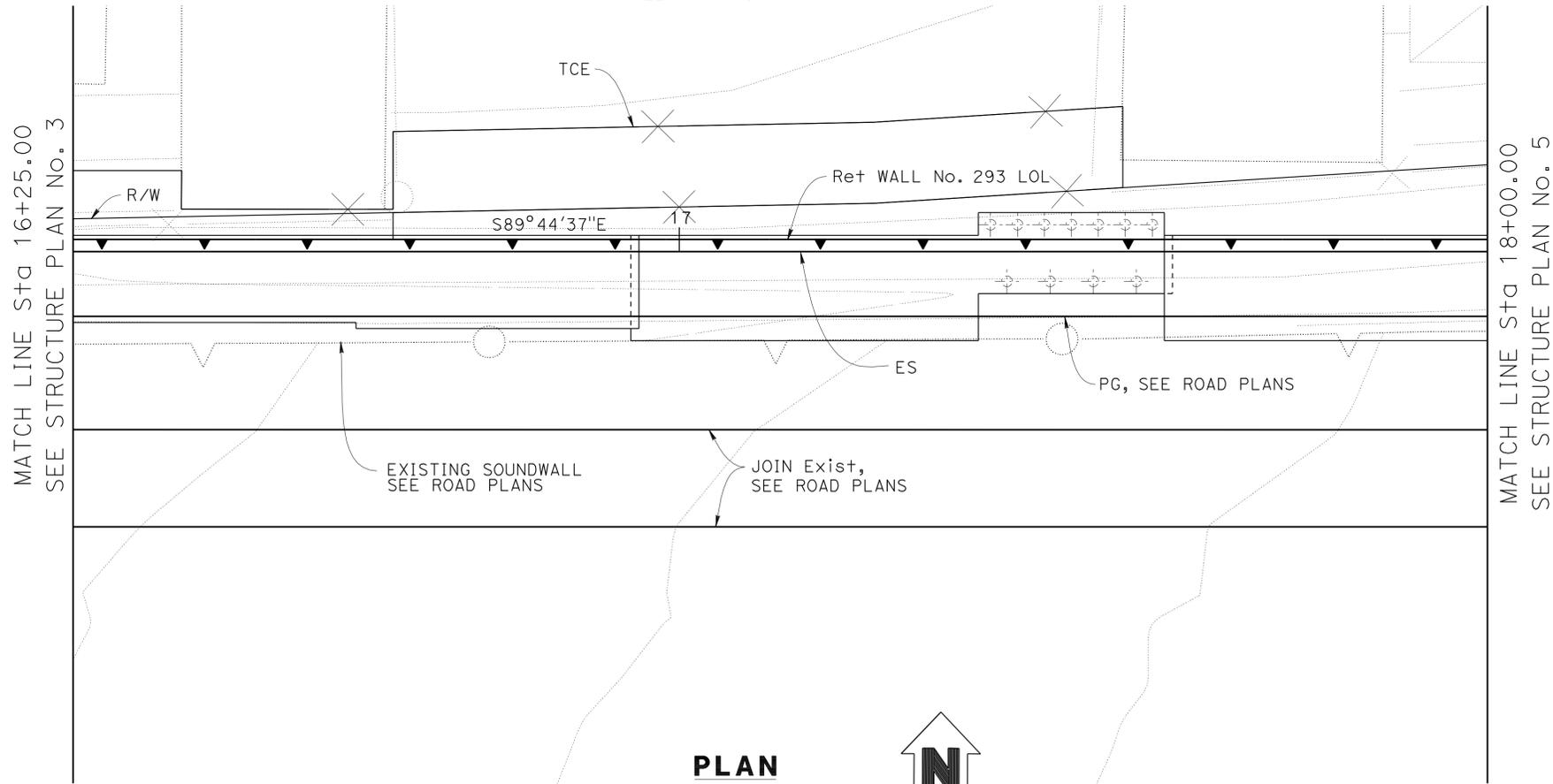
BRIDGE NO.	55E0127
POST MILES	4.5

**RETAINING WALL No. 293
STRUCTURE PLAN No. 3**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	854	885
			REGISTERED CIVIL ENGINEER	DATE	
			3/15/12		
			PLANS APPROVAL DATE		
			8-13-12		
					
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RBF CONSULTING 14725 ALTON PARKWAY IRVINE, CA 92677					



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN
1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Expansion Joints in Sound Wall on Retaining Wall, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" sheet.
3. For Sections C-C, D-D and E-E, see "TYPICAL SECTIONS No. 1" AND "No. 2" sheets.
4. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.
5. For Architectural Treatment, see "ARCHITECTURAL TREATMENT LAYOUT" and "ARCHITECTURAL DETAILS" sheets.

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

Luqi Yang
DESIGN SUPERVISOR
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

**RETAINING WALL No. 293
STRUCTURE PLAN No. 4**

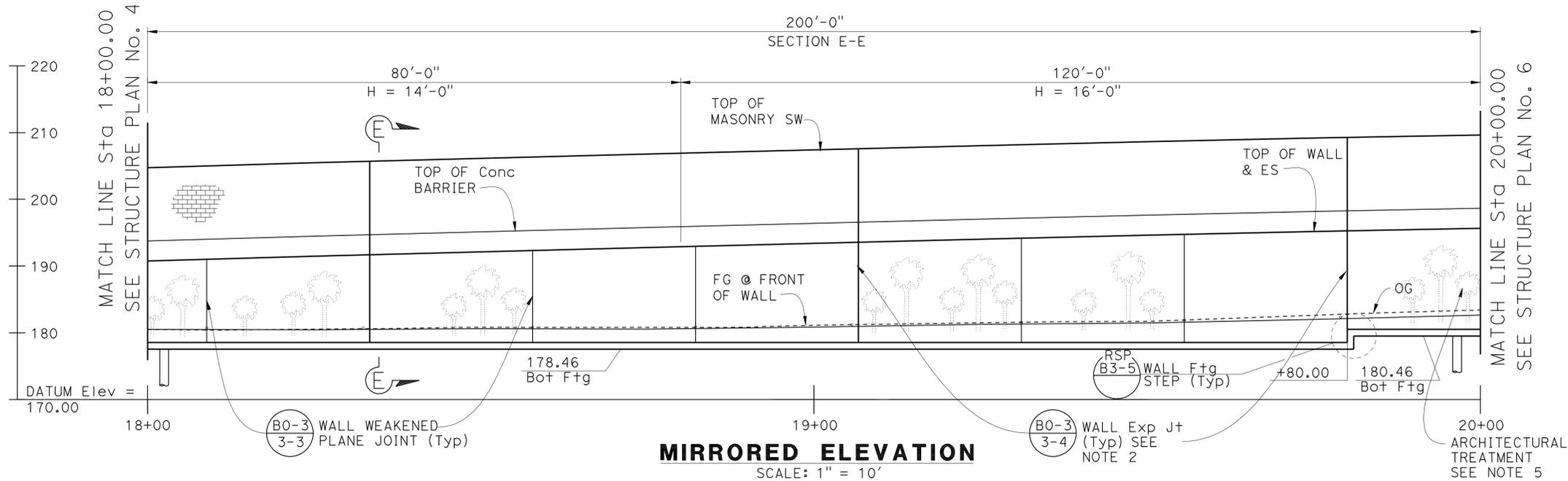
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TOTAL LENGTH MEASURED ALONG RETAINING WALL LOL = 1262'-5"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	855	885

Cph
 REGISTERED CIVIL ENGINEER DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

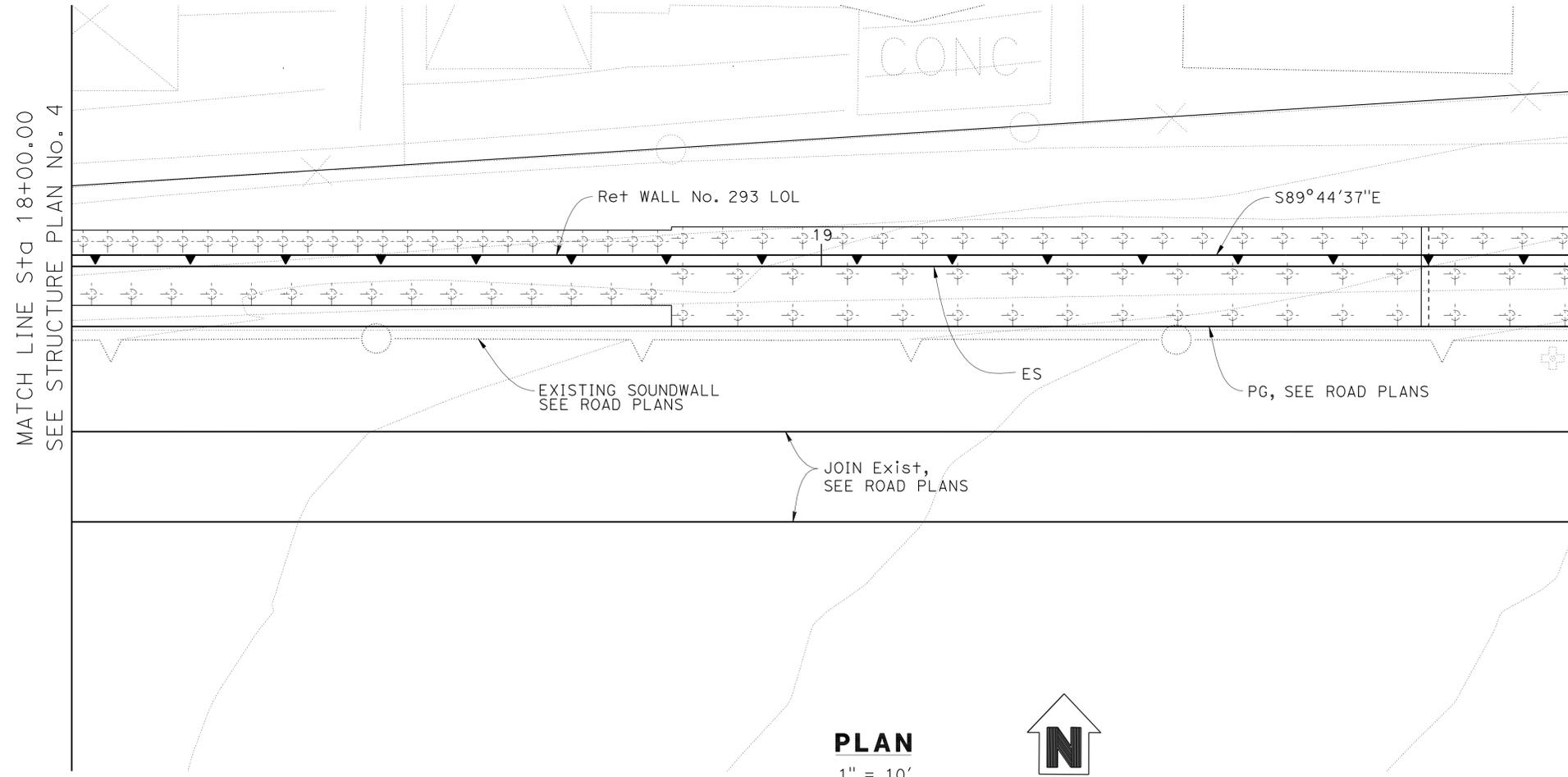
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 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
 SCALE: 1" = 10'

MATCH LINE Sta 18+00.00
SEE STRUCTURE PLAN No. 4

MATCH LINE Sta 20+00.00
SEE STRUCTURE PLAN No. 6



PLAN
 1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Expansion Joints in Sound Wall on Retaining Wall, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" sheet.
3. For Section E-E, see "TYPICAL SECTIONS No. 2" sheet.
4. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.
5. For Architectural Treatment, see "ARCHITECTURAL TREATMENT LAYOUT" and "ARCHITECTURAL DETAILS" sheets.

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

Luqi Yang
 DESIGN OR SIGN OFF DATE 3-29-12
 Luqi Yang

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

**RETAINING WALL No. 293
 STRUCTURE PLAN No. 5**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

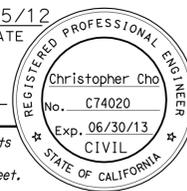
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	7	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

TOTAL LENGTH MEASURED ALONG RETAINING WALL LOL = 1262'-5"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	856	885



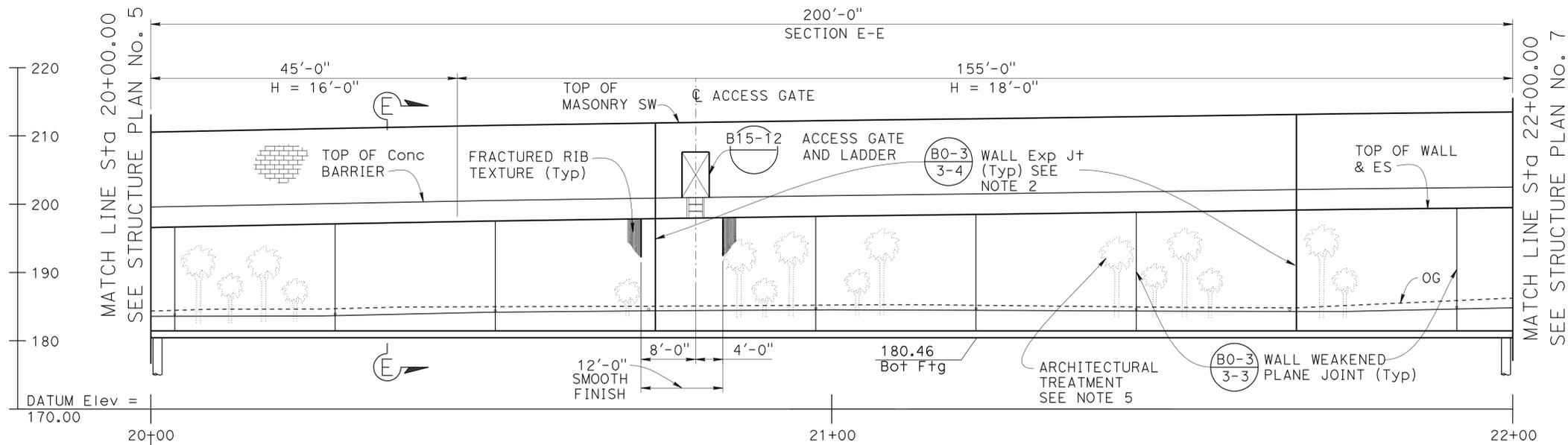
 REGISTERED CIVIL ENGINEER DATE 3/15/12

PLANS APPROVAL DATE 8-13-12

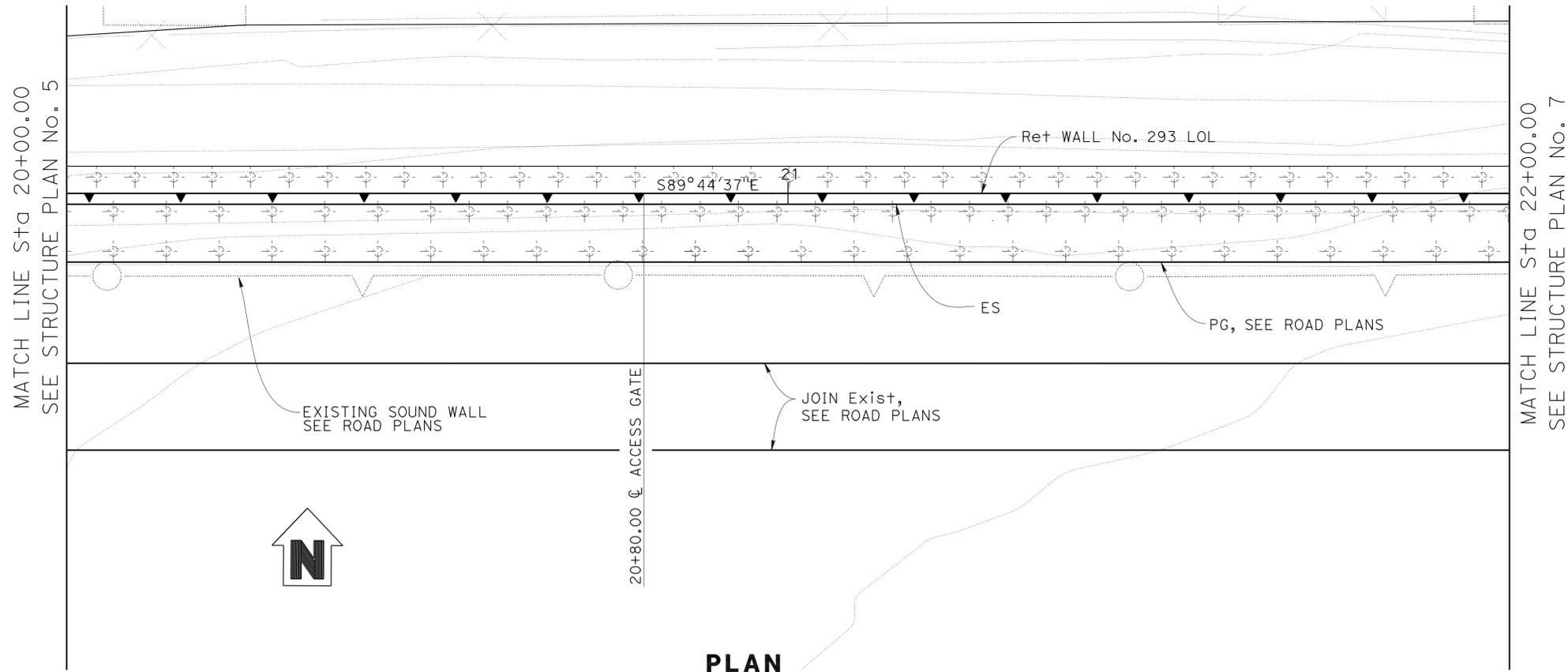
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 ORANGE, CA 92868

RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN
1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Expansion Joints in Sound Wall on Retaining Wall, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1" sheet.
3. For Section E-E, see "TYPICAL SECTIONS No. 2" sheet.
4. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.
5. For Architectural Treatment, see "ARCHITECTURAL TREATMENT LAYOUT" and "ARCHITECTURAL DETAILS" sheets.

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

Luqi Yang
 DESIGNER
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY J. SALDANA	CHECKED C. HARDEN
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL

LOAD & RESISTANCE FACTOR DESIGN	BY C. CHO	CHECKED C. HARDEN
LAYOUT	BY C. CHO	CHECKED C. HARDEN
SPECIFICATIONS	BY S. SHEIKH	PLANS AND SPECS COMPARED S. SHEIKH

LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
---	---

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

RETAINING WALL No. 293
STRUCTURE PLAN No. 6

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	8	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	857	885

REGISTERED CIVIL ENGINEER DATE 3/15/12

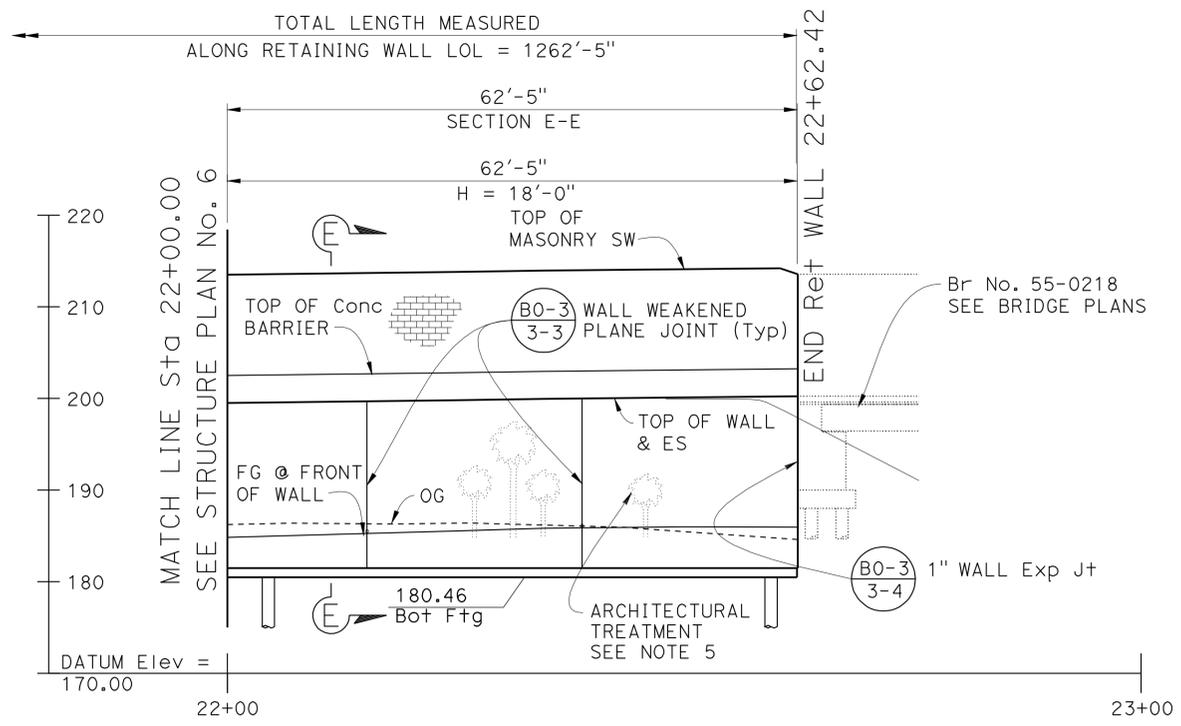
8-13-12 PLANS APPROVAL DATE

Christopher Cho No. C74020 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

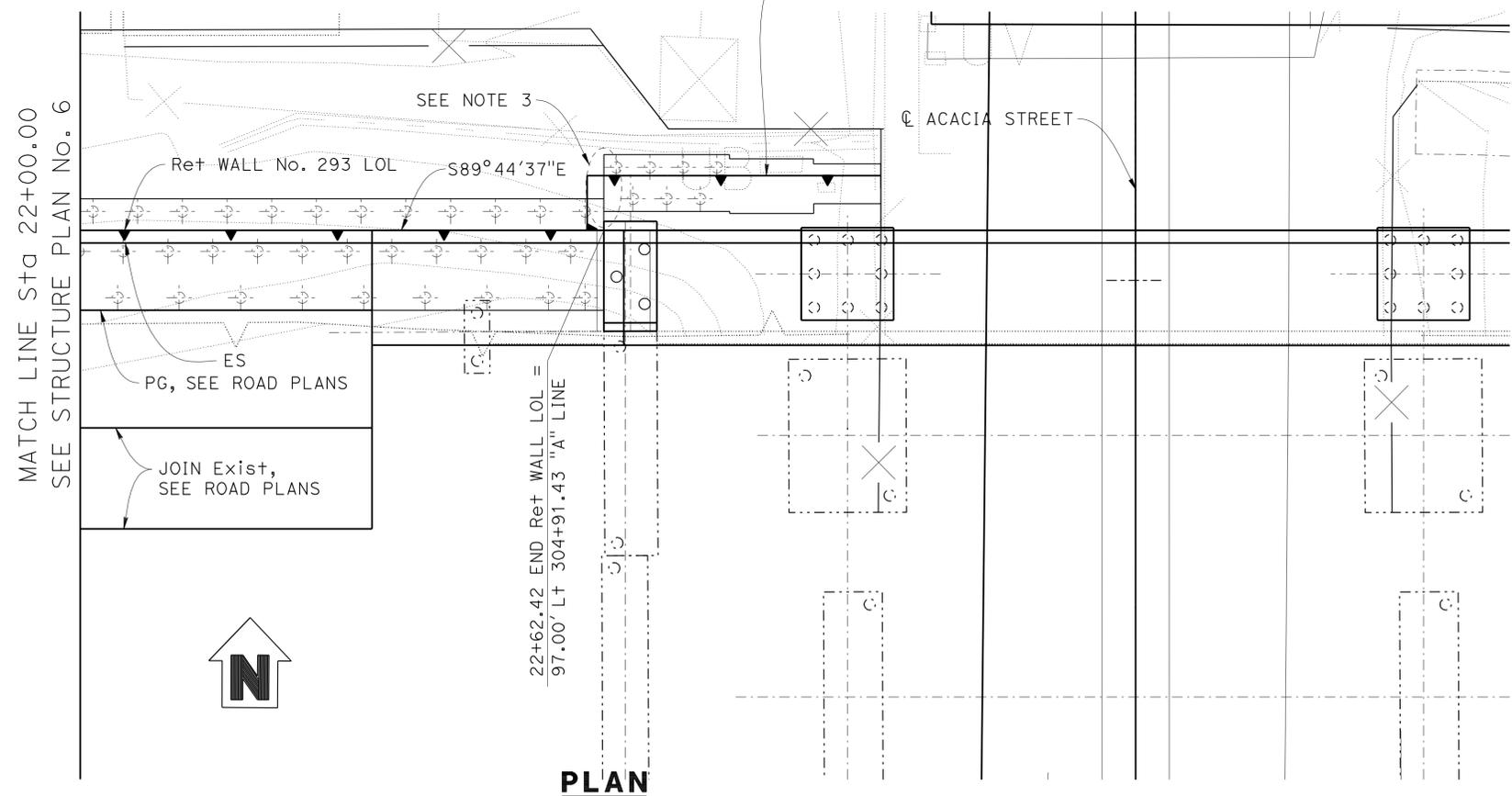
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ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677



MIRRORED ELEVATION
SCALE: 1" = 10'



PLAN
1" = 10'

NOTES:

1. This Plan Accurate for Sound Wall and Retaining Wall work only.
2. For Section E-E, see "TYPICAL SECTIONS No. 2" sheet.
3. For End of Wall and Corner Detail, see "MISCELLANEOUS DETAILS No. 1" and BRIDGE PLANS.
4. For Top of Wall Elevations, see "TYPICAL SECTIONS No. 2" sheet.
5. For Architectural Treatment, see "ARCHITECTURAL TREATMENT LAYOUT" and "ARCHITECTURAL DETAILS" sheets.

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

Luqi Yang
DESIGN OVERSIGHT
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

**RETAINING WALL No. 293
STRUCTURE PLAN No. 7**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	9	25

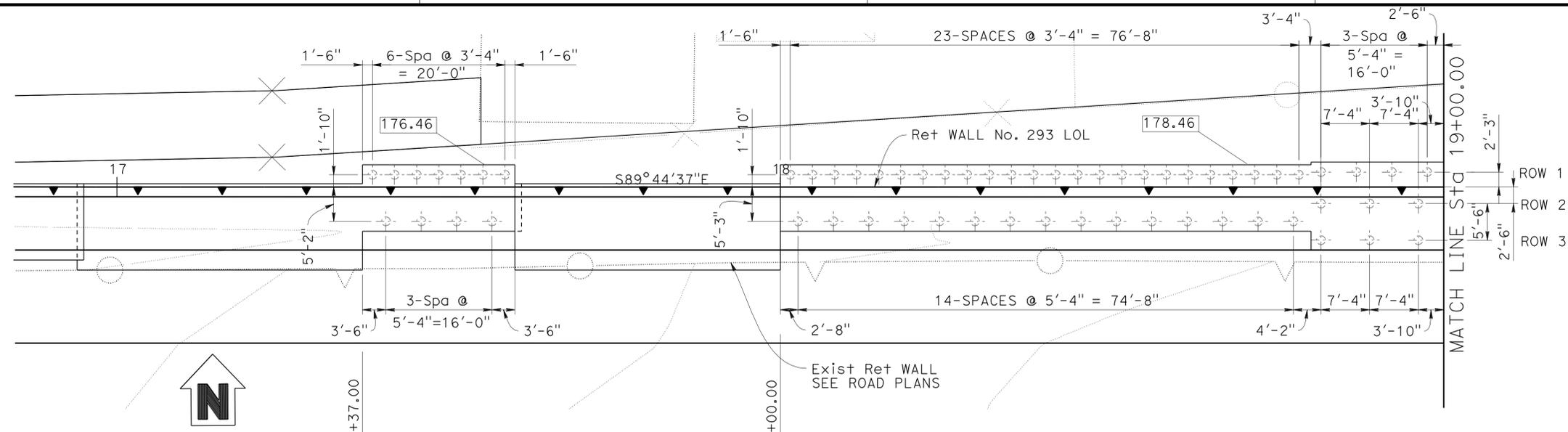
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	858	885

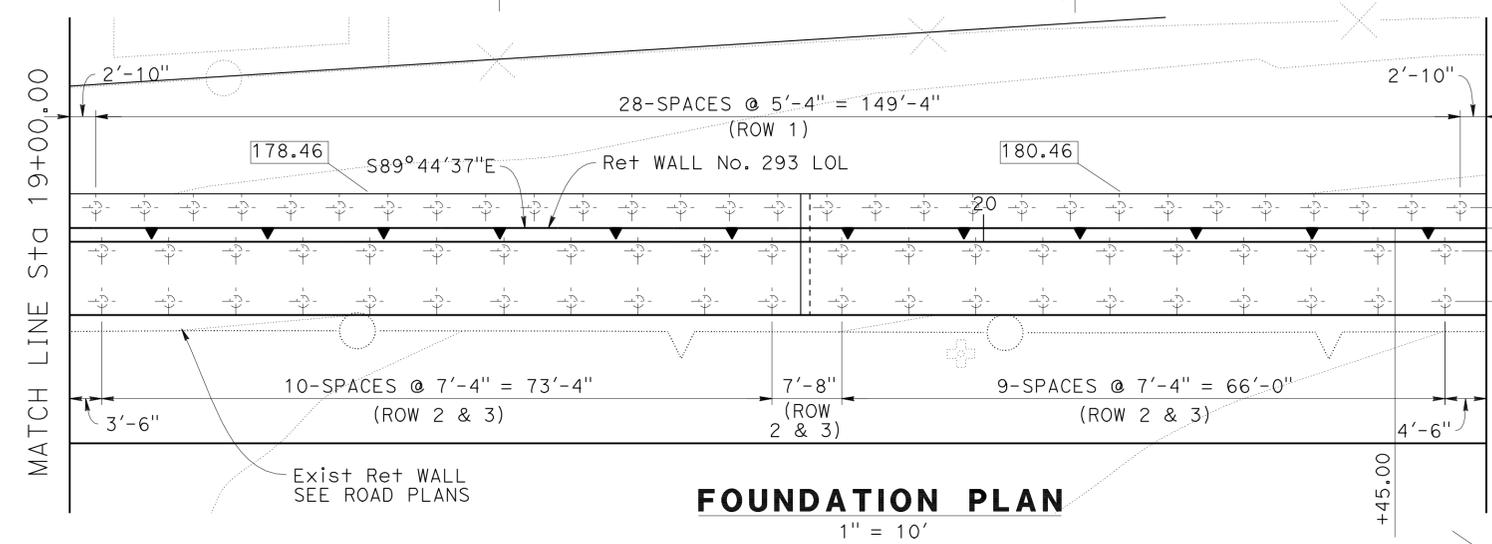
REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
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REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



NOTE:
 1. For Location of Existing Utilities, see "ROAD PLANS"



LEGEND:
 XXX.XX Indicates Bottom of Footing Elevation
 - - - - - Indicates Existing Structure
 - - - - - Indicates New Construction
 ⊕ Indicates New Piling

BENCHMARKS:
 Elevations as shown hereon are in terms of the North American Vertical Datum of 1988 (NAVD88), based locally upon the following Benchmarks as published by the County of Orange:

Designation: 1G-164-05 Elev = 109.80
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "1G-164-05", set in the northwesterly corner of a 4.5 ft. by 11.0 ft. Concrete Catch Basin. Monument is located in the southeasterly corner of the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ± from the centerline of Buckingham and 47 ft. easterly of the centerline of Magnolia. Monument is set level with the sidewalk

Designation: 2F-25-04 Elev = 162.70
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2F-25-04", set in the northwesterly corner of a 7.5 ft. by 4.5 ft. Concrete Catch Basin. Monument is located in the northeasterly corner of the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp, 39 ft. northerly of the centerline of the On-Ramp and 40 ft. easterly of the centerline of Harbor Boulevard. Monument is set level with the sidewalk

Designation: 2D-35-86 Elev = 188.58
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2D-35-86", set in the northwesterly corner of a 7 ft. by 14 ft. Concrete Catch Basin. Monument is located in the southeasterly corner of the intersection of Placentia Avenue and State College Boulevard, 38 ft. easterly of the centerline of State College and 70.5 ft. southerly of the centerline of Placentia. Monument is set level with the sidewalk

BASIS OF COORDINATES:
 Bearings and Coordinates as shown hereon are in terms of the California Coordinate System of 1983 (CCS83, Epoch 1991.35), Zone 6; based locally upon the following Control Stations as published by the County of Orange:

Name	Northing (ft)-Grid	Easting (ft)-Grid
OCS GPS 3511R1	2257877.29	6037582.77
OCS GPS 3518	2260444.33	6053380.91
OCS GPS 5260	2257149.07	6063970.03

FOUNDATION PLAN
 1" = 10'

PILE DATA TABLE

DESIGN "H"	LOCATION	PILE TYPE	DESIGN (SERVICE) LOADING (kips)	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
				COMPRESSION	TENSION		
14'	17+37.00 - 17+60.00 18+00.00 - 18+80.00	16" Dia CIDH PILE	80	180	--	+148 (a) & +151(d)	+148
16'	18+80.00 - 20+45.00	16" Dia CIDH PILE	65	140	--	+153 (a) & +155(d)	+153
18'	20+45.00 - 22+62.43	16" Dia CIDH PILE	75	180	--	+151 (a) & +155(d)	+151

- NOTES:**
- Design tip elevations are controlled by: (a) Compression, (b) Tension, and (c) Lateral Load.
 - The specified tip elevation shall not be raised above the design tip elevations for Compression Load, Tension Load, and Lateral Load.

3/15/12
 APPROVAL DATE
 GEOTECHNICAL PROFESSIONAL
 Luqi Yang

DESIGN BY: Luqi Yang	SCALE: PHOTOGRAMMETRY AS OF: 04-15-2010	VERT. DATUM: NAVD88	HORZ. DATUM: NAD83 (1991.35)	ALIGNMENT TIES	DESIGN BY: C. CHO	CHECKED BY: C. HARDEN	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.: 55E0127	RETAINING WALL No. 293 FOUNDATION PLAN No. 1
SURVEYED BY: B. COX	DRAFTED BY: G. CIAMPAGLIA	QUANTITIES BY: C. HARDEN	CHECKED BY: C. HARDEN	PROJECT ENGINEER: CHAD HARDEN	POST MILES: 4.5				
SIGN OFF DATE: 3-29-12	FIELD CHECKED BY: B. COX	CHECKED BY: B. COX	CHECKED BY: J. VOEPEL	UNIT: 2295	CONTRACT NO.: 12-0C5701				

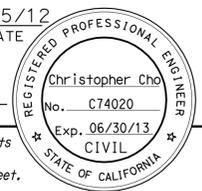
FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: PROJECT NUMBER & PHASE: 12000000791 CONTRACT NO.: 12-0C5701 DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	10	25

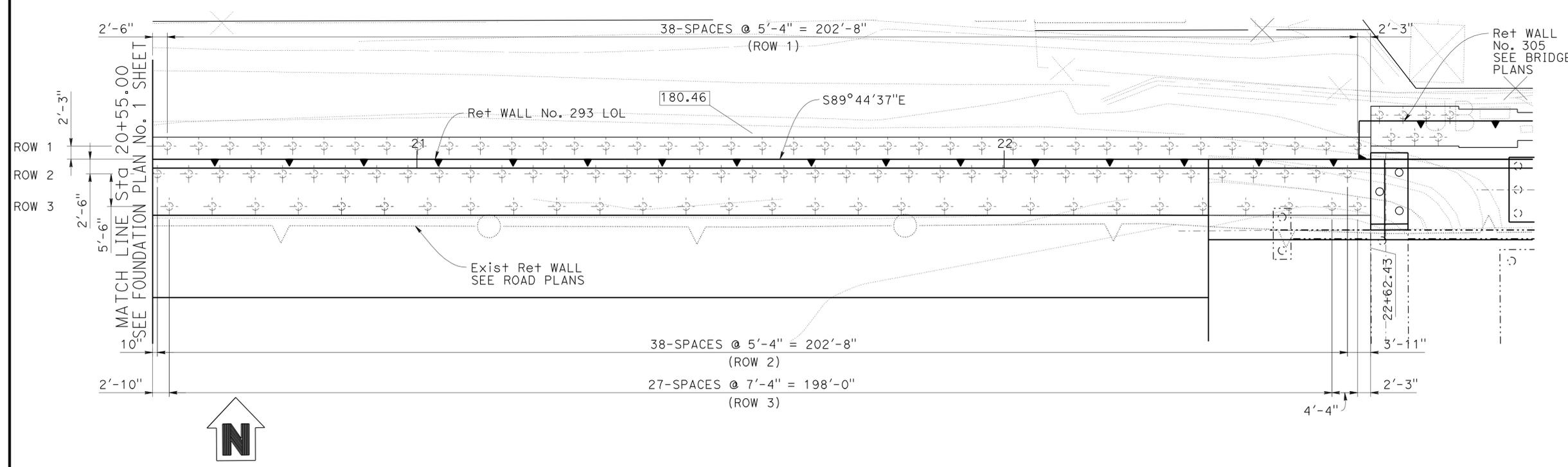
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	0.9/5.4	859	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
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 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



FOUNDATION PLAN

1" = 10'

LEGEND:

- XXX.XX Indicates Bottom of Footing Elevation
- XXX.XX± Indicates Bottom of Existing Footing Elevation
- Indicates Existing Structure
- Indicates New Construction
- ⊕ Indicates New Piling

NOTES:

1. For Location of Existing Utilities, see ROAD PLANS.
2. For Pile Data Table and Basis of Coordinates see "FOUNDATION PLAN No. 1" sheet.
3. Location of Exist Structure Foundations is Approximate.

GEOTECHNICAL PROFESSIONAL APPROVAL DATE 3/15/12

Luqi Yang
 DESIGNER
 3-29-12
 SIGN OFF DATE

SCALE:	VERT. DATUM NAVD88	HORZ. DATUM NAD83 (1991.35)
PHOTOGRAMMETRY AS OF: 04-15-2010	ALIGNMENT TIES	
SURVEYED BY B. COX	DRAFTED BY G. CIAMPAGLIA	
FIELD CHECKED BY B. COX	CHECKED BY B. COX	

DESIGN BY C. CHO	CHECKED C. HARDEN
DETAILS BY J. SALDANA	CHECKED C. HARDEN
QUANTITIES BY C. HARDEN	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

RETAINING WALL No. 293
FOUNDATION PLAN No. 2

FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

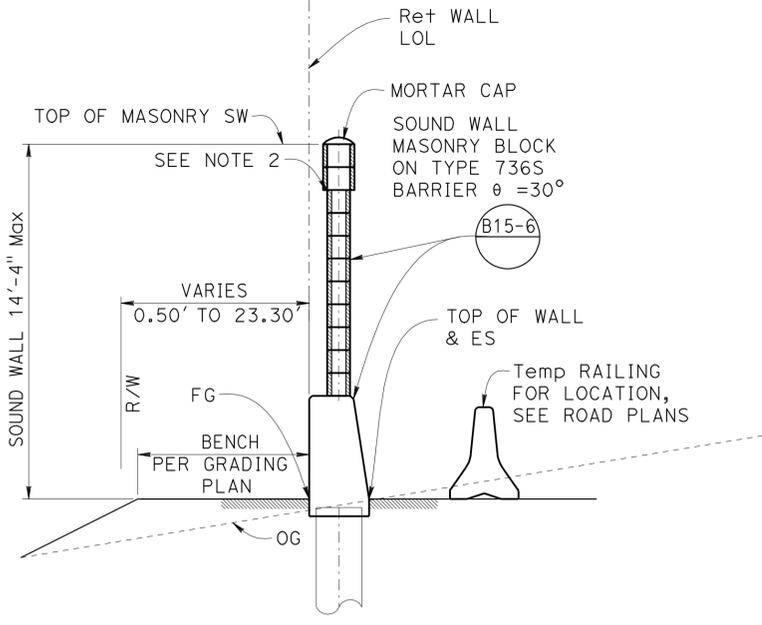
REVISION DATES	SHEET	OF
	11	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

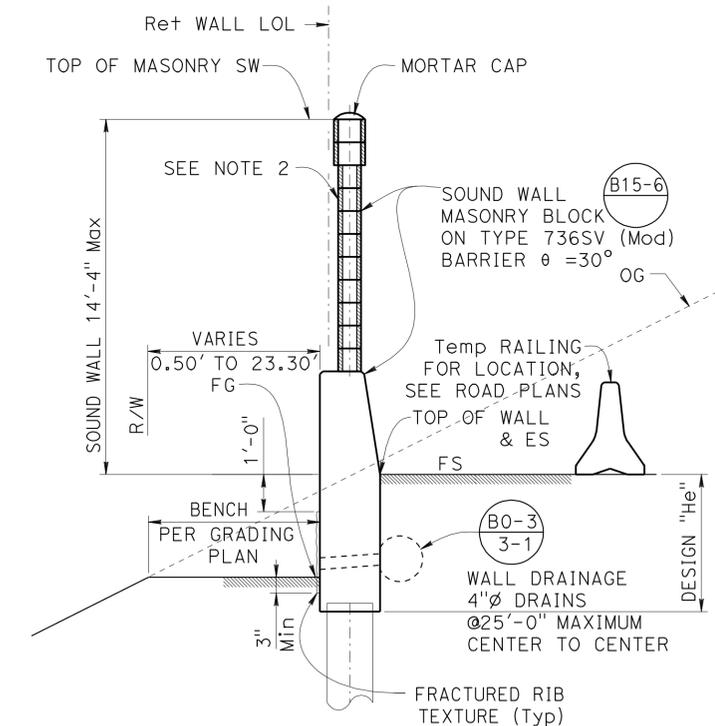
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	860	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

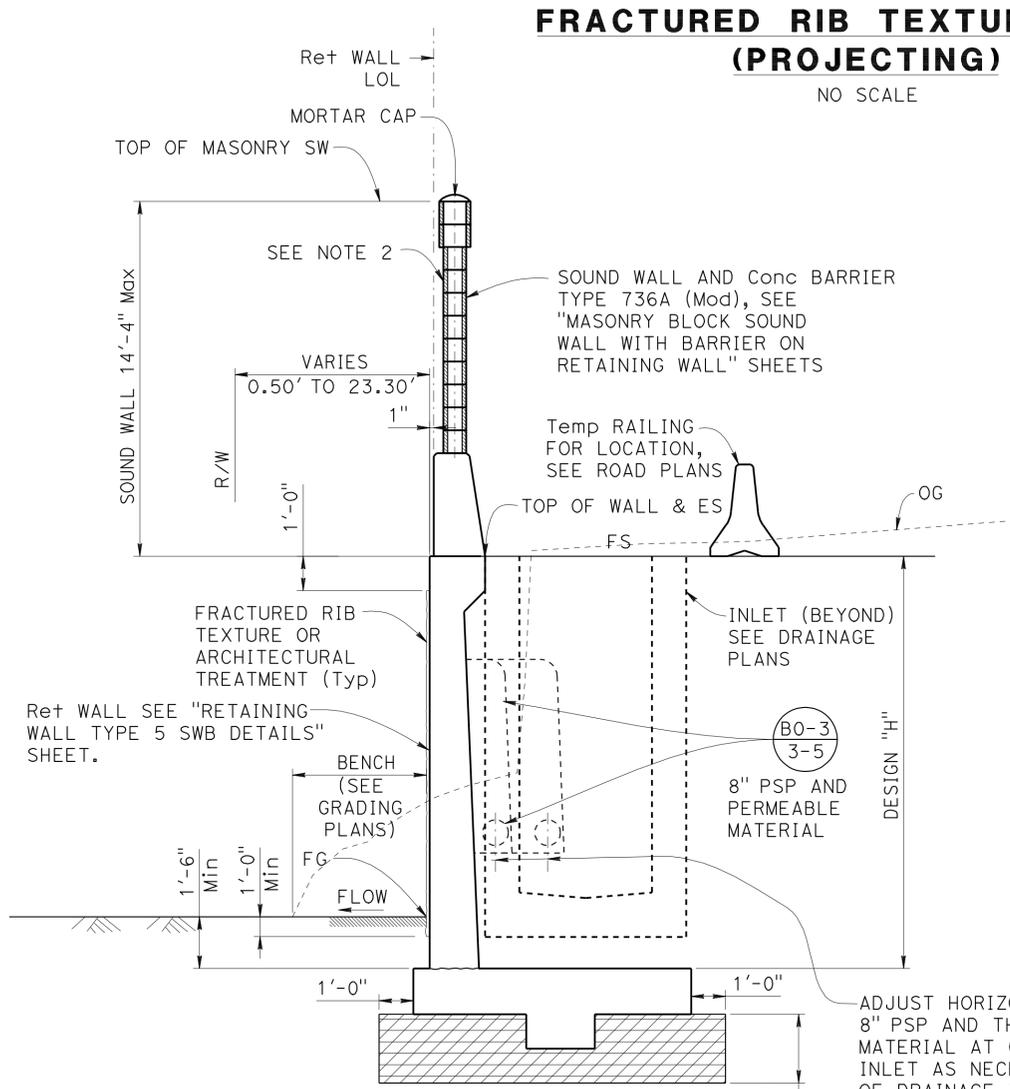
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 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



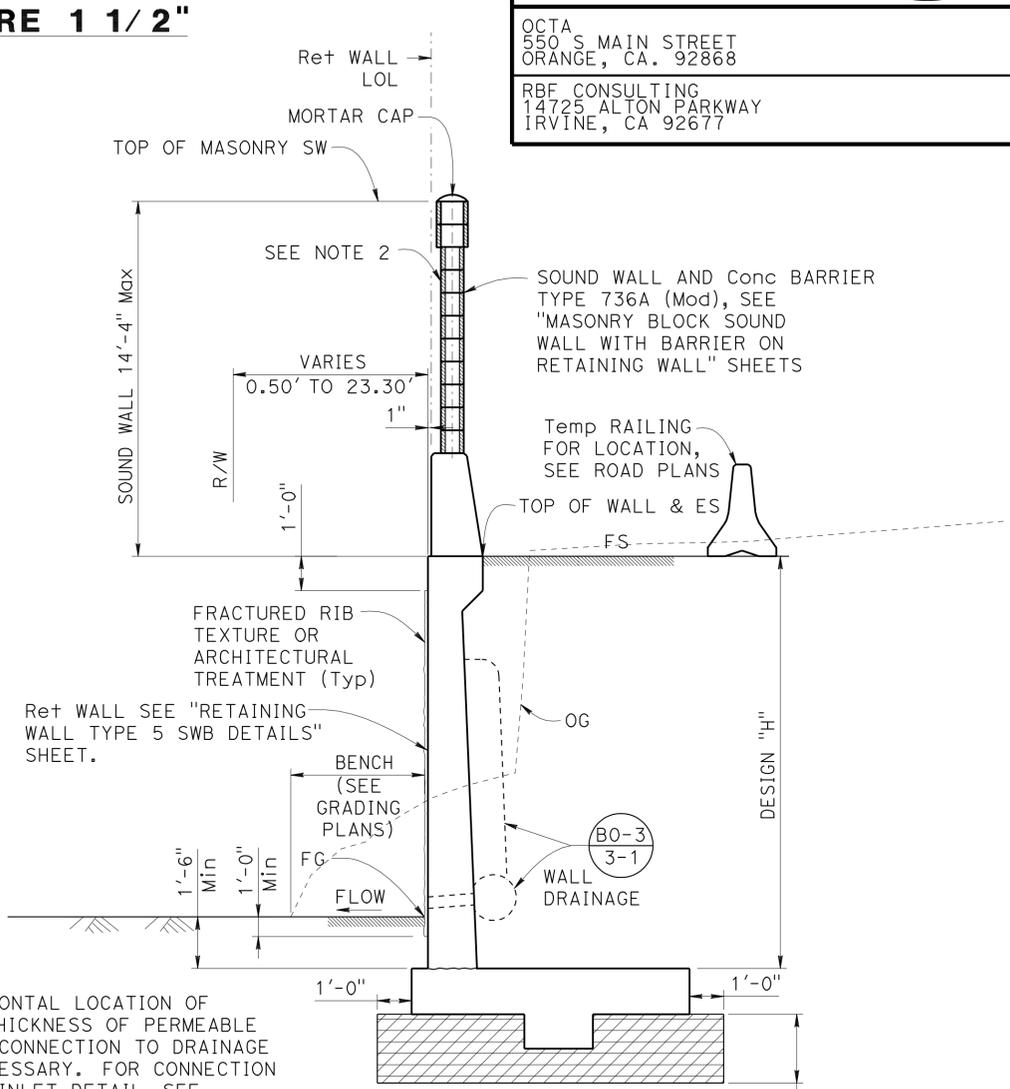
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

LEGEND:
 Structure over excavation
 Structure backfill

DESIGN "H"	OVER EXCAVATION DEPTH
8'-0"	2'-0"
10'-0"	3'-0"
12'-0"	4'-0"

- NOTES:
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Sound Wall Block size, texture and color, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS NO. 2" sheet.
 3. For Excavation and Backfill Details, see "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" sheet.



TYPICAL SECTIONS
 NO SCALE

Luqi Yang
 DESIGN OR SIGN OFF
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0127
PROJECT ENGINEER	CHAD HARDEN
POST MILES	4.5

RETAINING WALL No. 293
TYPICAL SECTIONS No. 1

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

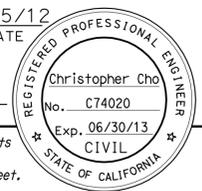
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	12	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	861	885

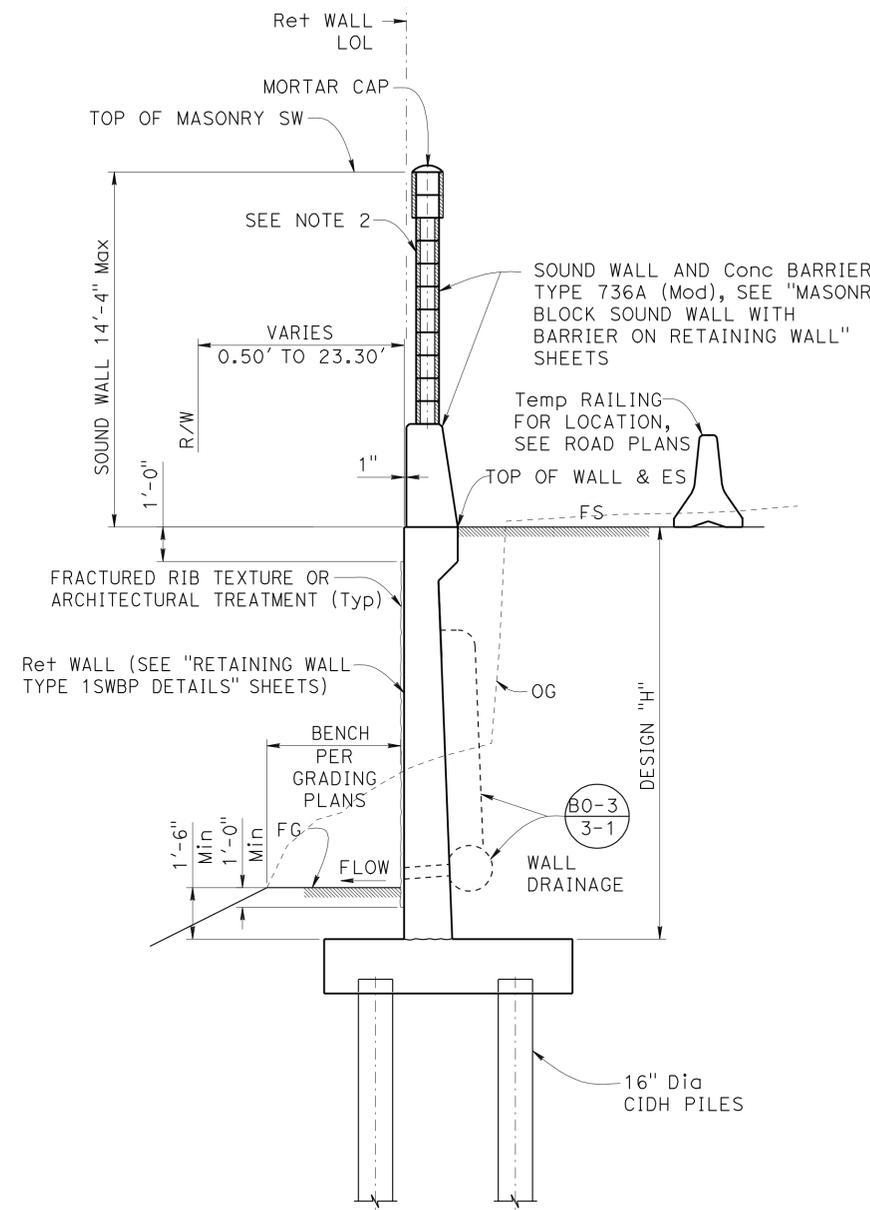

 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
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 IRVINE, CA 92677

TOP OF WALL ELEVATION TABLE

WALL LOL STATION	TOP OF WALL Elev	WALL LOL STATION	TOP OF WALL Elev	WALL LOL STATION	TOP OF WALL Elev	WALL LOL STATION	TOP OF WALL Elev
10+00.00	178.96	14+00.00	180.82	18+00.00	191.67	22+00.00	199.51
+10	178.99	+10	180.98	+10	191.96	+10	199.63
+20	179.02	+20	181.15	+20	192.25	+20	199.74
+30	179.04	+30	181.33	+30	192.53	+30	199.88
+40	179.07	+40	181.51	+40	192.79	+40	200.00
+50	179.09	+50	181.70	+50	193.05	+50	200.10
+60	179.11	+60	181.91	+60	193.31	+60	200.20
+70	179.14	+70	182.12	+70	193.58	+62.42	200.22
+80	179.16	+80	182.33	+80	193.84		
+90	179.19	+90	182.56	+90	194.09		
11+00.00	179.22	15+00.00	182.79	19+00.00	194.34		
+10	179.24	+10	183.04	+10	194.59		
+20	179.27	+20	183.29	+20	194.84		
+30	179.29	+30	183.56	+30	195.08		
+40	179.32	+40	183.85	+40	195.31		
+50	179.34	+50	184.14	+50	195.55		
+60	179.36	+60	184.43	+60	195.77		
+70	179.39	+70	184.72	+70	196.00		
+80	179.41	+80	185.03	+80	196.20		
+90	179.44	+90	185.34	+90	196.39		
12+00.00	179.47	16+00.00	185.66	20+00.00	196.57		
+10	179.49	+10	185.98	+10	196.77		
+20	179.52	+20	186.31	+20	196.97		
+30	179.55	+30	186.62	+30	197.16		
+40	179.58	+40	186.91	+40	197.35		
+50	179.62	+50	187.21	+50	197.54		
+60	179.66	+60	187.51	+60	197.69		
+70	179.70	+70	187.80	+70	197.84		
+80	179.74	+80	188.10	+80	197.98		
+90	179.79	+90	188.40	+90	198.12		
13+00.00	179.83	17+00.00	188.70	21+00.00	198.26		
+10	179.89	+10	189.00	+10	198.38		
+20	179.95	+20	189.29	+20	198.50		
+30	180.02	+30	189.59	+30	198.62		
+40	180.11	+40	189.88	+40	198.75		
+50	180.20	+50	190.18	+50	198.88		
+60	180.32	+60	190.48	+60	199.02		
+70	180.43	+70	190.77	+70	199.17		
+80	180.56	+80	191.07	+80	199.29		
+90	180.69	+90	191.37	+90	199.40		



SECTION E-E

- NOTES:**
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Sound Wall Block size, texture and color, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet.
 3. For Excavation and Backfill Details, see "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" sheet.

TYPICAL SECTIONS

NO SCALE


 DESIGN ORIGINATOR
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0127
PROJECT ENGINEER	CHAD HARDEN
POST MILES	4.5

RETAINING WALL No. 293

TYPICAL SECTIONS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: PROJECT NUMBER & PHASE: 2295 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

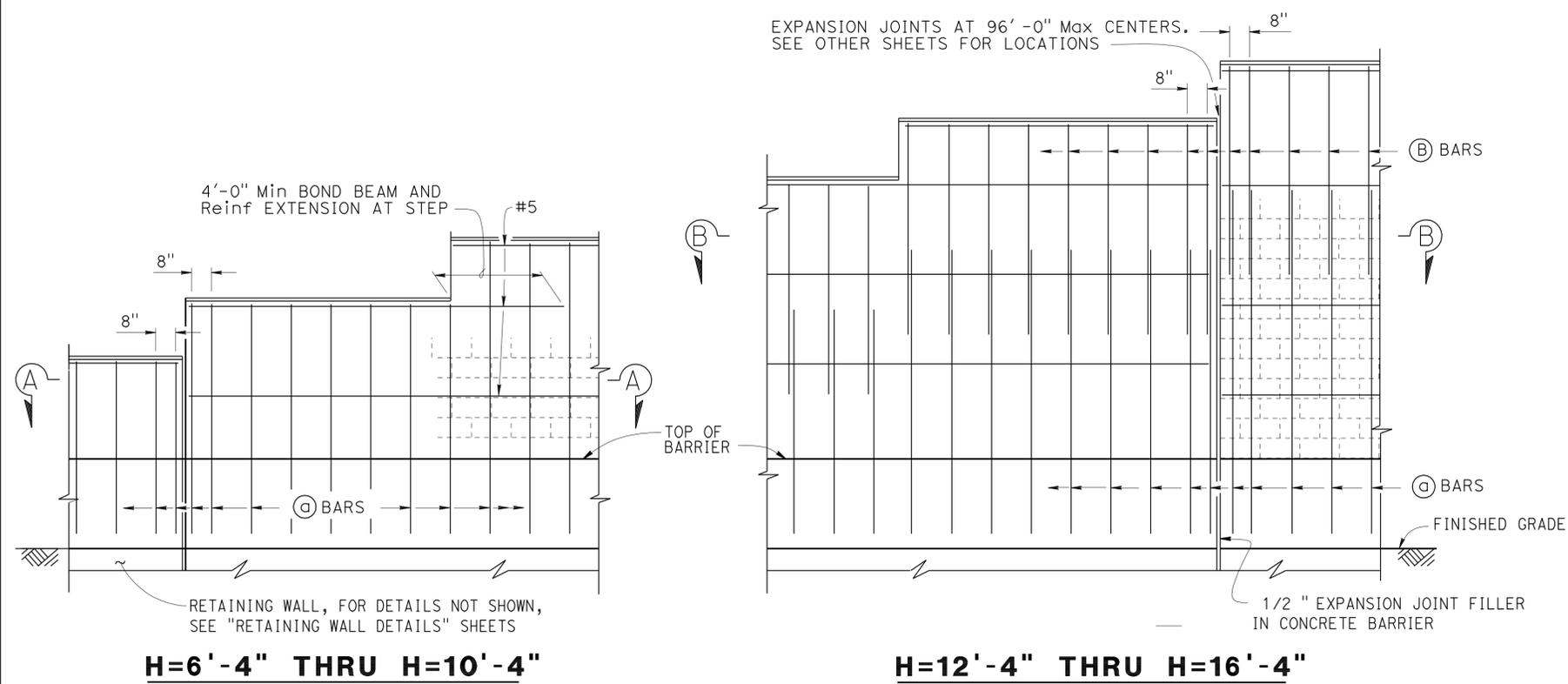
REVISION DATES	SHEET	OF
	13	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:28

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	862	885

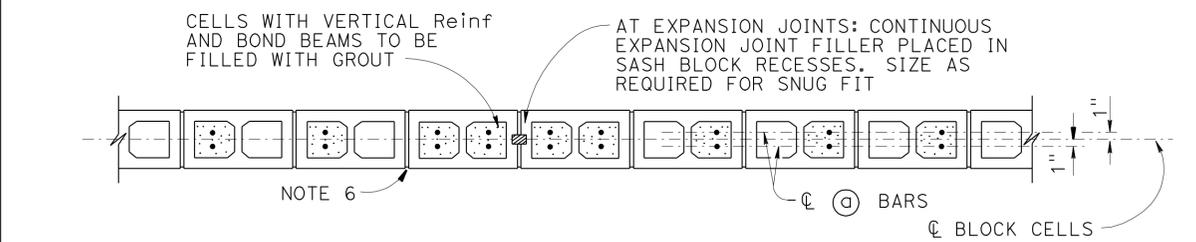
REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

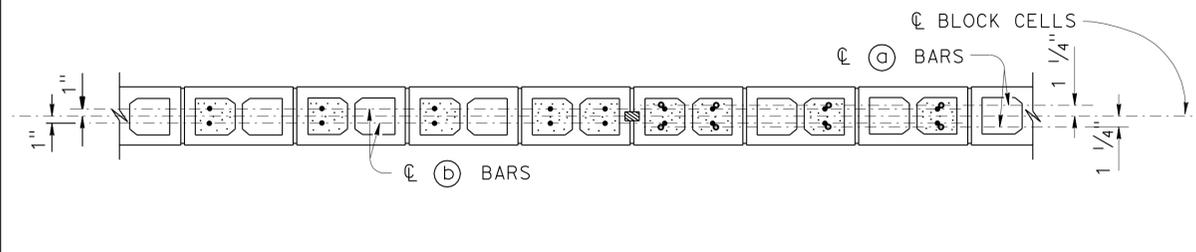


MAXIMUM "H"	(a) BARS @ 1'-4" Max	(b) BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4			1500	1900	6'-4"
8'-4"	#4			1500	1900	8'-4"
10'-4"	#4			1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3700	16'-4"

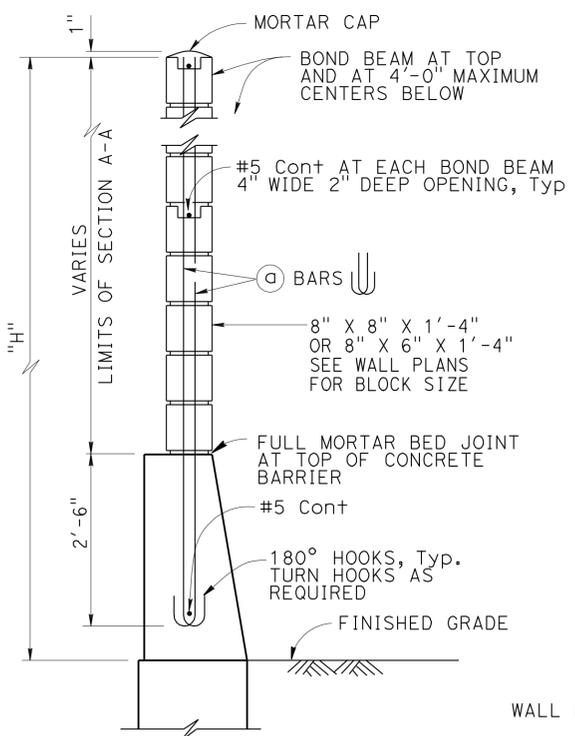
PART ELEVATION



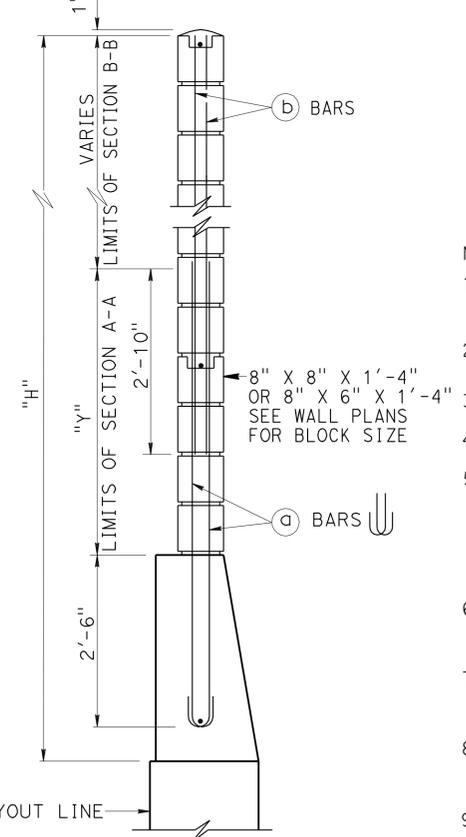
SECTION A-A



SECTION B-B



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



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

- NOTES:
- For Details not shown, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope ±10%
 - See STANDARD PLAN B15-9 for other Details
 - For type of block and joint finish, see other sheets
 - When Blocks are laid in Stacked Bond, Ladder Type, Galvanized Joint Reinforcement shall be provided. A Minimum of 2-9 Gauge Wire Continuous at 4'-0" Maximum to be used. Locate Reinforcement in Joints that are at the Approximate Midpoint between Bond Beams
 - Horizontal Joints shall be Tooled Concave or may be Weathered. Vertical Joints shall be Tooled Concave or may be Raked
 - For Intermediate Wall heights that are between the "H's" given, use the Tabular Information for the next higher "H"
 - Masonry Strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
 - Concrete to be used for the Barrier shall contain not less than 590 pounds of Cementitious Material per Cubic Yard

FOR DETAILS NOT SHOWN, SEE H=12'-4" THRU H=16'-4" FOR DETAILS NOT SHOWN, SEE H=6'-4" THRU H=10'-4"

TYPICAL SECTION

RETAINING WALL No. 293
MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
DETAILS No. 1

DESIGNER: Luqi Yang
 SIGN OFF DATE: 3-29-12

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

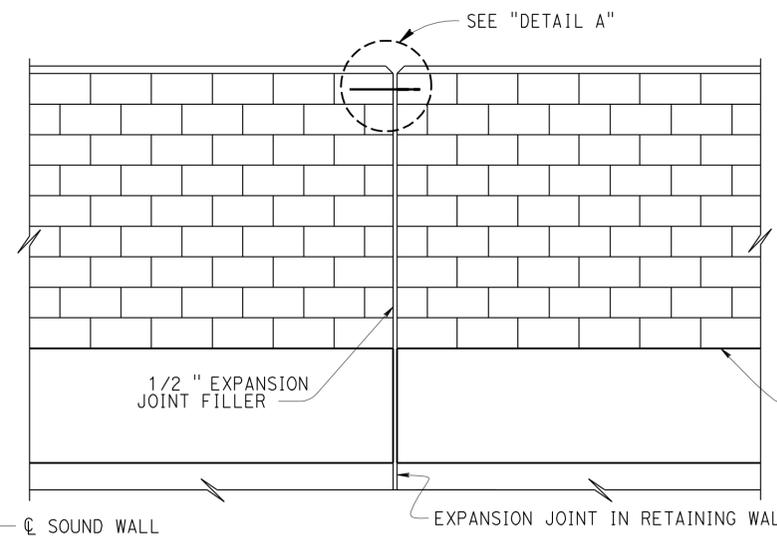
BRIDGE NO.	55E0127
PROJECT ENGINEER	CHAD HARDEN
POST MILES	4.5

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:28

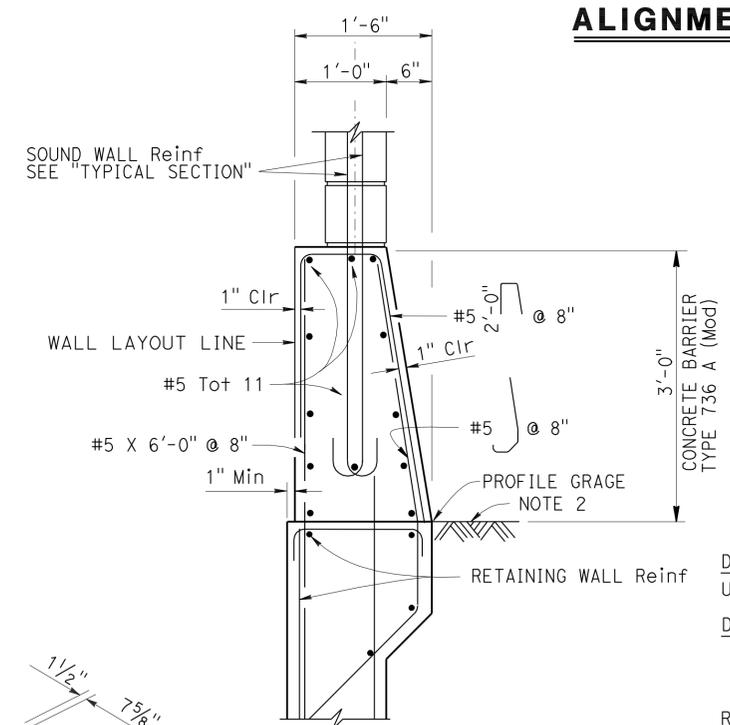
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	863	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

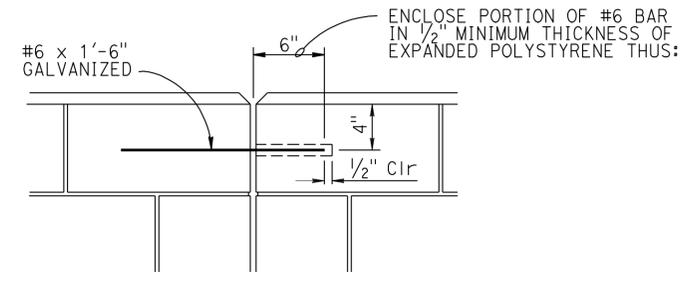
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 IRVINE, CA 92677



ALIGNMENT KEY DETAIL



BARRIER SECTION



DETAIL A

DESIGN NOTES

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

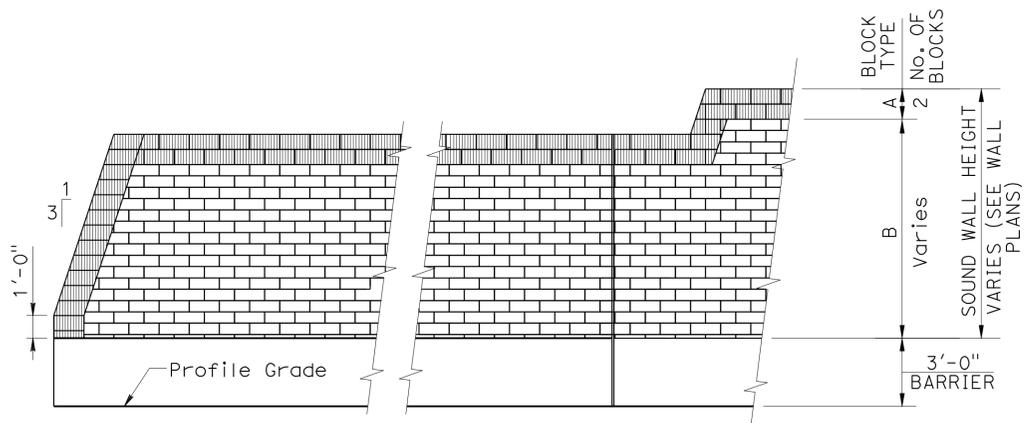
DESIGN WIND LOAD
 33 psf

DESIGN SEISMIC LOAD
 0.57 Dead load

CONCRETE MASONRY

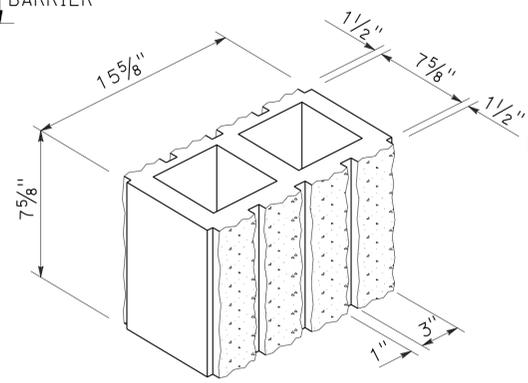
REINFORCED CONCRETE	REGULAR STRENGTH	HIGH STRENGTH	
f'c = 3600 psi	f'm = 1500 psi	f'm = 2000 psi	f'm = 2500 psi
fy = 60 ksi	fb = 495 psi	fb = 660 psi	fb = 830 psi
	fs = 24,000 psi	fs = 24,000 psi	fs = 24,000 psi
	n = 25.8	n = 19.3	n = 15.5

- NOTES:
- For Details not shown, see STANDARD PLAN B15-6
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope ±10%. See STANDARD PLAN B11-56, Note D



SOUND WALL AESTHETICS

No Scale



WALL CAP BLOCK DETAIL

NO SCALE
 8" WIDE 4-SCORE SPLIT FACE BOTH SIDES

MASONRY BLOCK TYPE TABLE

WALL NUMBERS	BLOCK TYPE	BLOCK DESCRIPTION	BLOCK SIZE
--	A	WALL CAP ROWS (SAND COLORED SCORED SPLIT FACE CONCRETE BOTH SIDES) 4-SCORED, SEE WALL CAP BLOCK DETAIL	8" X 8" X 16"
--	B	MAIN WALL SURFACE (SAND COLORED SPLIT FACE CONCRETE BOTH SIDES)	8" X 6" X 16"

DESIGN BY: Luqi Yang
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY: C. CHO	CHECKED: C. HARDEN
DETAILS	BY: C. CHO	CHECKED: C. HARDEN
QUANTITIES	BY: C. CHO	CHECKED: J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

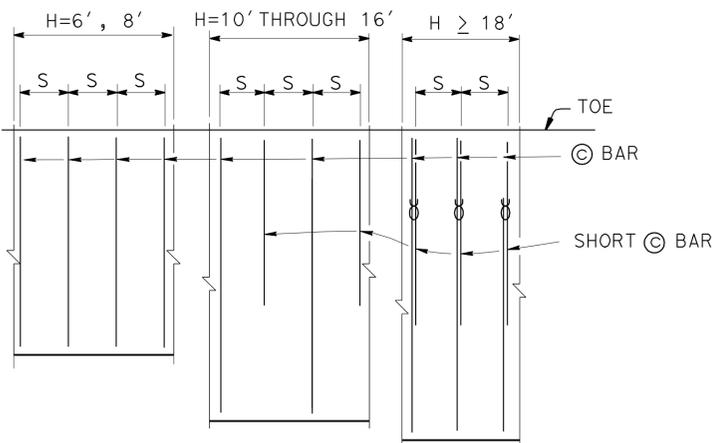
BRIDGE NO. 55E0127
 PROJECT ENGINEER CHAD HARDEN
 POST MILES 4.5

RETAINING WALL No. 293
MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
DETAILS No. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	864	885
REGISTERED CIVIL ENGINEER			DATE	3/15/12	
8-13-12			PLANS APPROVAL DATE		
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OCTA 550 S MAIN STREET ORANGE, CA. 92868					
RBF CONSULTING 14725 ALTON PARKWAY IRVINE, CA 92677					

GENERAL NOTES

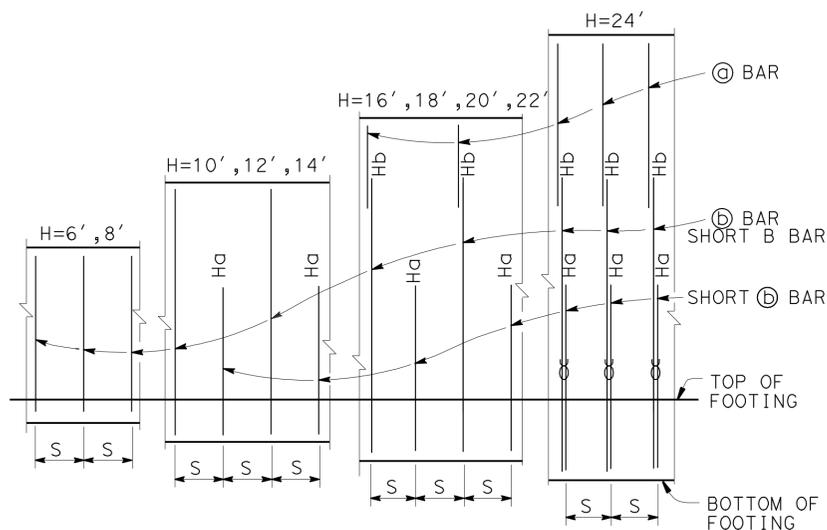
- For Sound Wall and Retaining Wall Architectural finish or texture, see Details elsewhere in Project Plans.
- For Details not shown and Drainage Notes, see (B3-5)
- Footing Cover, 1'-6" Minimum.
- Limit of no Splicing Rebars = 3 times the bottom Thickness of the Stem.
- For Sound Wall & Barrier Reinforcement, see "SOUNDWALL - MASONRY BLOCK WITH BARRIER ON RETAINING WALL - DETAILS No. 1" and "No. 2" sheets.
- For plain concrete band height see "TYPICAL SECTIONS" sheet.



PLAN

NO SCALE

NOTES:
 ONLY © BARS SHOWN
 "S" IS © BAR SPACING, SEE TABLE
 ∅ : 2 BAR BUNDLE

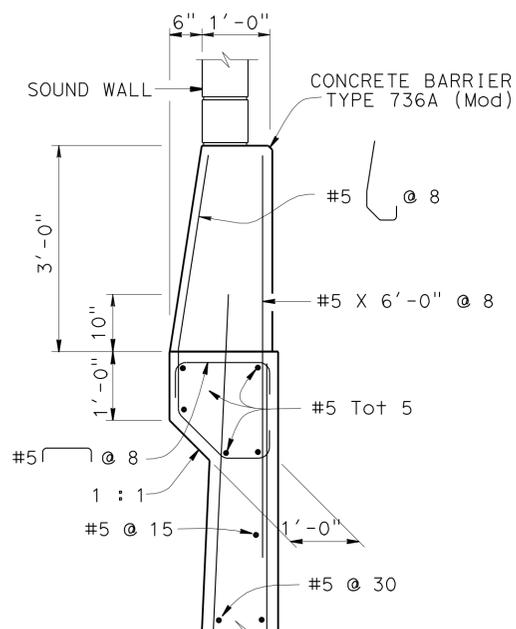


ELEVATION

NO SCALE

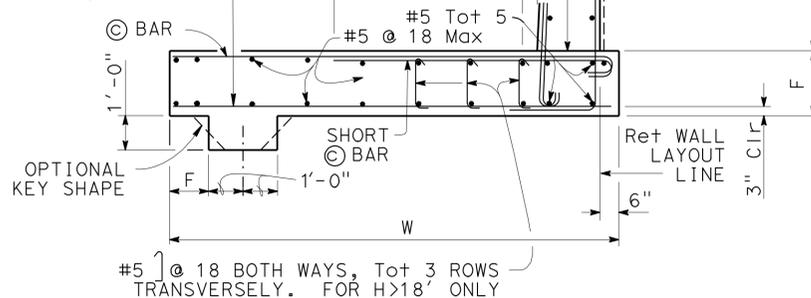
TABLE 1: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	STEM WITH HAUNCH			
	6'	8'	10'	12'
W	9'-3"	9'-3"	10'-6"	14'-0"
F SPREAD FOOTING	1'-3"	1'-3"	1'-3"	1'-3"
BATTER	1/2:12	1/2:12	1/2:12	1/2:12
STEM THICKNESS @ HAUNCH	1'-0"	1'-0"	1'-0"	1'-0"
© BARS				
Ⓟ BARS	#7 @12	#7 @12	#7 @ 9	#7 @ 9
Hd			4'-0"	8'-0"
Hb				
© BARS	#7 @12	#7 @12	#7 @ 9	#7 @ 9
HZ				
ULTIMATE BEARING CAPACITY REQUIRED (KSF)	2.9	3.3	3.4	3.9



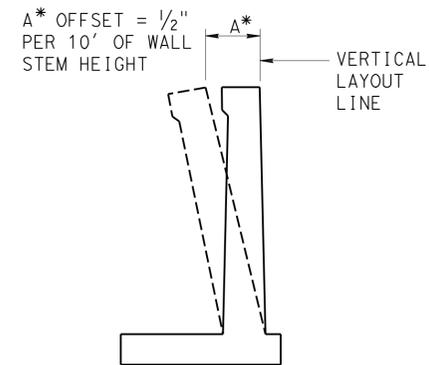
DETAIL A

3/4" = 1'-0" #5 @ 18



SPREAD FOOTING SECTION

NO SCALE



WALL OFFSET

NO SCALE

VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER.

DESIGN DATA

Design: AASHTO LRFD Bridge Design Specifications, 4th Edition With California Amendments
 Concrete: Reinforced Concrete, f'c = 3600 Psi
 fy = 60,000 Psi

Loading Case:
 Level Ground With 240 Psf Surcharge
 And 16'-4" Soundwall

Seismic Load = 0.26 Dead Load
 Wind Load = 30 Psf
 Dead Load Of Sound Wall = 1090 Lb/Ft
 Dead Load Of Barrier = 563 Lb/Ft
 Collision Load = 54 Kip Maximum Traffic Impact Loading Evenly Distributed Over 10 Feet At Top Of The Barrier And 1:1 Distribution Down And Outward

Seismic Load: Soil
 Kh = 0.26
 Kv = 0.0
 Kae : Mononobe-Okabe Method, 22 Pcf, Inverted Triangle

Soil: ∅ = 32.5°γ = 120 Pcf
 Equivalent Fluid Pressure:
 = 36 Pcf For Determination Of Toe Pressure

Load Combinations And Limit States

Service I Q=1.00Dc+1.00Ev+1.00Eh+1.00Ls+0.30Ws
 Service II Q=1.00Dc+1.00Ev+1.00Eh+1.00Ws
 Service IV Q=1.00Dc+1.00Ev+1.00Eh+0.70Ws
 Strength I Q=A Dc+B Ev+1.50Eh+1.75Ls
 Strength III Q=A Dc+B Ev+1.50Eh+1.40Ws
 Strength IV Q=A Dc+B Ev+1.50Eh
 Strength V Q=A Dc+B Ev+1.50Eh+1.35Ls+0.40Ws
 Extreme I Q=1.00Dc+1.00Ev+1.00Eh+1.00Eqd+1.00Eqe
 Extreme II Q=1.00Dc+1.00Ev+1.00Eh+1.00Ct

Where : Q = Force Effects
 A = 1.25 Or 0.90, Which Ever Controls Design
 B = 1.35 Or 1.00 Which Ever Controls Design
 Dc = Dead Load
 Ev = Vertical Earth Fill Pressure
 Eh = Lateral Earth Pressure
 Ls = Live Load Surcharge
 Eqd = Soil And Structure Components Inertia. Soil Inertia Ignored From Stem Design.
 Eqe = Seismic Lateral Earth Pressure
 Ws = Wind Load
 Ct = Vehicular Collision Force

Luqi Yang
 DESIGN ENGINEER
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER
 BRIDGE NO. 55E0127
 POST MILES 4.5

RETAINING WALL No. 293
 RETAINING WALL TYPE 5SWB DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET 16	OF 25
----------------	----------	-------

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	865	885

3/15/12

REGISTERED CIVIL ENGINEER DATE

8-13-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

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TABLE OF PILE SPACING: CLASS 90 CIDH PILES

DESIGN H	14'	16'	18'
W	10'-0"	13'-3"	13'-3"
C	3'-4"	3'-9"	3'-9"
B	6'-8"	9'-6"	9'-6"
F	1'-9"	1'-9"	1'-9"
M	1'-10"	2'-3"	2'-3"
N	5'-2"	8'-0"	8'-0"
ROW 1	3'-4"	5'-4"	5'-4"
ROW 2	5'-4"	7'-4"	5'-4"
ROW 3		7'-4"	7'-4"
CONFIGURATION	I	II	II

DESIGN DATA

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments
 CONCRETE: Reinforced Concrete, $f'_c = 3600$ psi
 $f_y = 60,000$ psi

LOADING CASE:
 Level ground with 240 psf surcharge and 16'-4" Soundwall

Seismic Load = 0.26 Dead Load
 Wind Load = 30 psf
 Dead Load of Sound Wall = 1090 lb/ft
 Dead Load of Barrier = 563 lb/ft
 Collision Load = 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward

TABLE 1: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	STEM WITH HAUNCH		
	14'	16'	18'
STEM BATTER	1/2:12	1/2:12	1/2:12
STEM THICKNESS @ TOP	1'-6"	1'-6"	1'-6"
STEM THICKNESS @ HAUNCH	1'-0"	1'-0"	1'-0"
(a) BARS	#7@18**	#9@18**	#9@12**
X	Cont	Cont	Cont
Y	9'-6"	9'-3"	6'-3"
(b) BARS	#7@18**	#8@18**	#9@12**
X	Cont	Cont	Cont
Y	Cont	13'-6"	10'-9"
(c) BARS		#6 @ 18	#7 @ 12
(d) BARS	#8 @ 9	#9 @ 9	#9 @ 6
TOTAL (e) BARS	6 #5	8 #5	8 #5
TOTAL (f) BARS	6 #5	8 #5	8 #5
(g) BARS	#6 @ 18	#6 @ 18	#6 @ 18

SEISMIC LOAD: SOIL
 $K_h = 0.26$
 $K_v = 0.0$
 K_{ae} : Mononobe-Okabe Method, 22 pcf, Inverted Triangle

SOIL: $\phi = 32.5^\circ$ = 120 pcf
 Equivalent fluid pressure:
 = 36 pcf for determination of toe pressure

Load Combinations and Limit States

Service I $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$
 Service II $Q=1.00DC+1.00EV+1.00EH+1.00WS$
 Service IV $Q=1.00DC+1.00EV+1.00EH+0.70WS$
 Strength I $Q=\alpha DC+\beta EV+1.50EH+1.75LS$
 Strength III $Q=\alpha DC+\beta EV+1.50EH+1.40WS$
 Strength IV $Q=\alpha DC+\beta EV+1.50EH$
 Strength V $Q=\alpha DC+\beta EV+1.50EH+1.35LS+0.40WS$
 Extreme I $Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$
 Extreme II $Q=1.00DC+1.00EV+1.00EH+1.00CT$

Where : Q = Force Effects
 $\alpha = 1.25$ or 0.90 , Which ever Controls Design
 $\beta = 1.35$ or 1.00 Which ever Controls Design
 DC = Dead Load
 EV = Vertical Earth Fill Pressure
 EH = Lateral Earth Pressure
 LS = Live Load Surcharge
 EQD = Soil and Structure Components Inertia. Soil inertia ignored from stem design.
 EQE = Seismic Lateral Earth Pressure
 WS = Wind load
 CT = Vehicular Collision Force

* = (a) AND (b) BARS ARE BUNDLED TOGETHER.
 ** = ALTERNATE (a) AND (b) BARS AS SHOWN IN DETAIL A.

GENERAL NOTES

- 1.16" Dia Piles were used for the Design.
2. Minimum Distance between Center Pile and Edge of Footing is 1'-6".
3. See "FOUNDATION PLAN" for Nominal Pile Resistance.
4. Maximum Spacing Between Piles is shown in the Table. Reduce to suit the Length of Footing.
5. Minimum Distance between any Two Piles is 3'-4".
6. Limit of no Splicing for Rebars = 3 times the Bottom Thickness of Stem.

Luqi Yang
 DESIGN OR SIGN OFF DATE
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

RETAINING WALL No. 293
RETAINING WALL TYPE 1SWBP DETAILS No. 1

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:28

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	866	885

3/15/12
REGISTERED CIVIL ENGINEER DATE

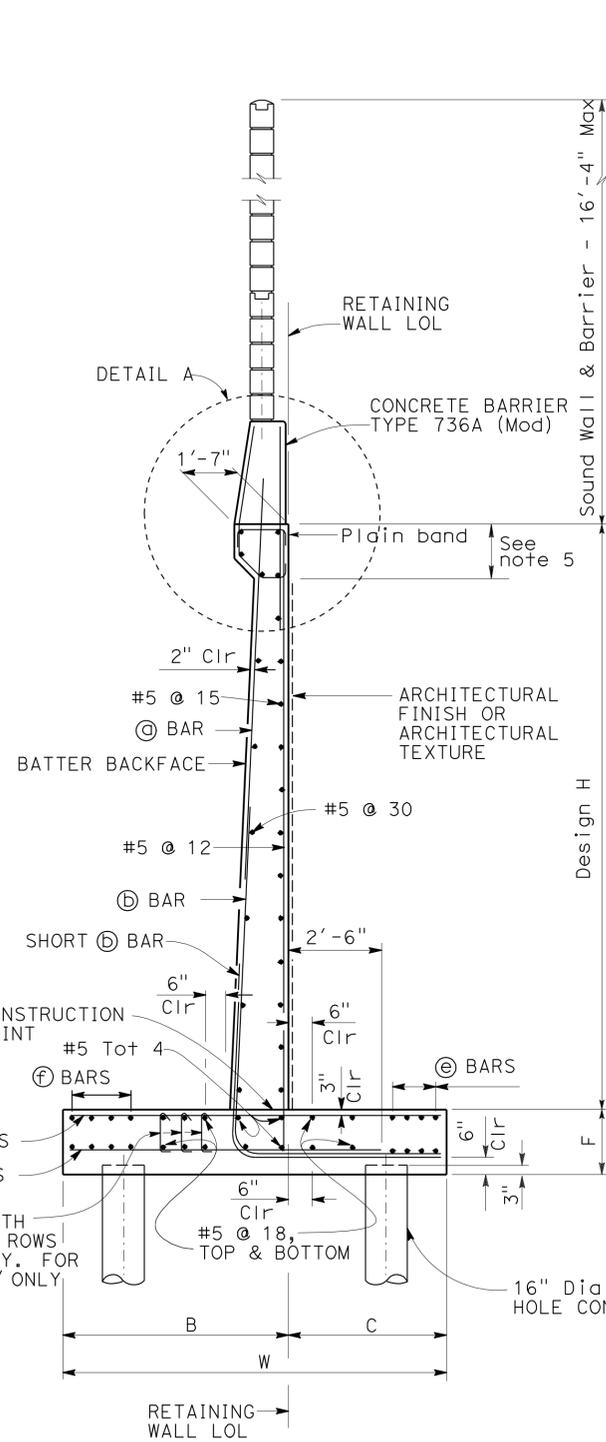
8-13-12
PLANS APPROVAL DATE

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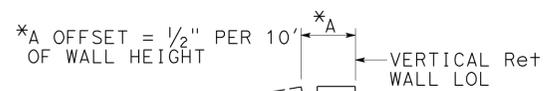
REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

OCTA
550 S MAIN STREET
ORANGE, CA. 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677

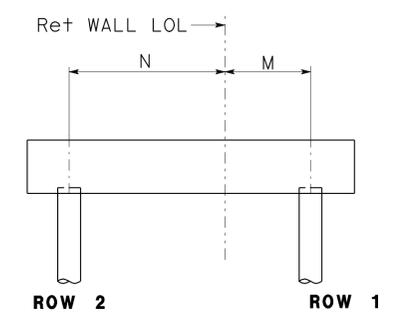


45T PILE FOOTING SECTION
NO SCALE

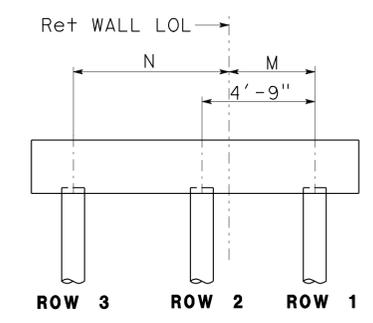


WALL OFFSET

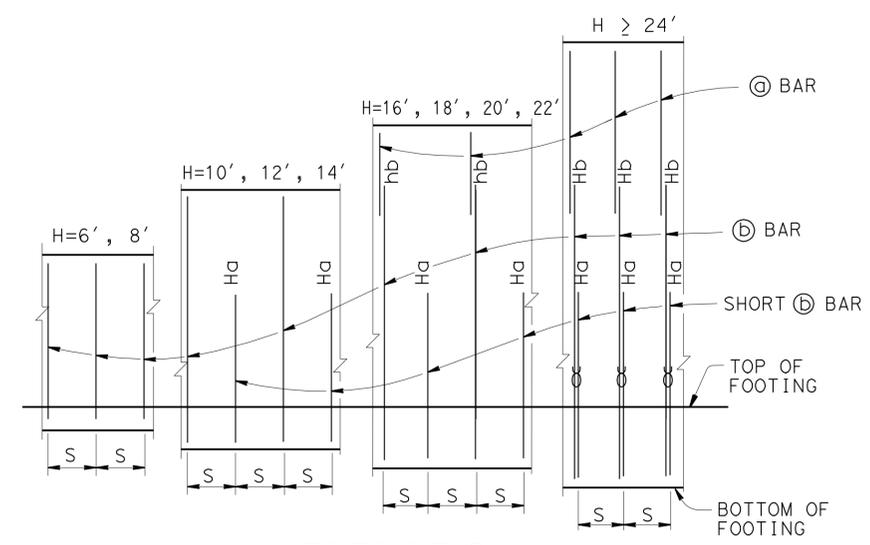
NO SCALE
VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER



CONFIGURATION I



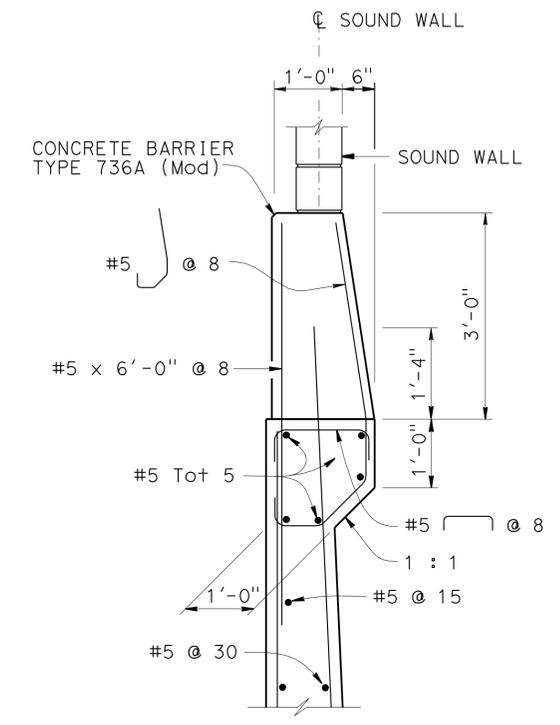
CONFIGURATION II



ELEVATION

NO SCALE

NOTES:
"Ha" and "Hb" above B bars Indicate Distance from Top of Footing to Upper end of B bars, see Table.
"S" is B bar Spacing, see Table.
Ø : 2 Bar Bundle



DETAIL A
3/4 = 1'-0"

NOTES

1. For Sound Wall and Retaining Wall Architectural finish or texture, see Details elsewhere in Project Plans.
2. For Details not shown and Drainage notes, see RSP (B3-5).
3. Footing Cover, 1'-6" Minimum.
4. For Sound Wall & Barrier Reinforcement, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 1 AND No. 2" sheets.
5. For Plain Concrete Band height see "TYPICAL SECTIONS" Sheets.
6. Limit of no Splicing for Rebars = 3 times the Bottom Thickness of Stem.

Luqi Yang
DESIGN OVERSIGHT
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

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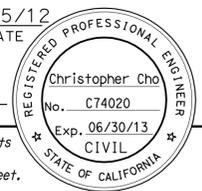
BRIDGE NO.	55E0127
PROJECT ENGINEER	CHAD HARDEN
POST MILES	4.5

RETAINING WALL No. 293
RETAINING WALL TYPE 1SWBP DETAILS No. 2

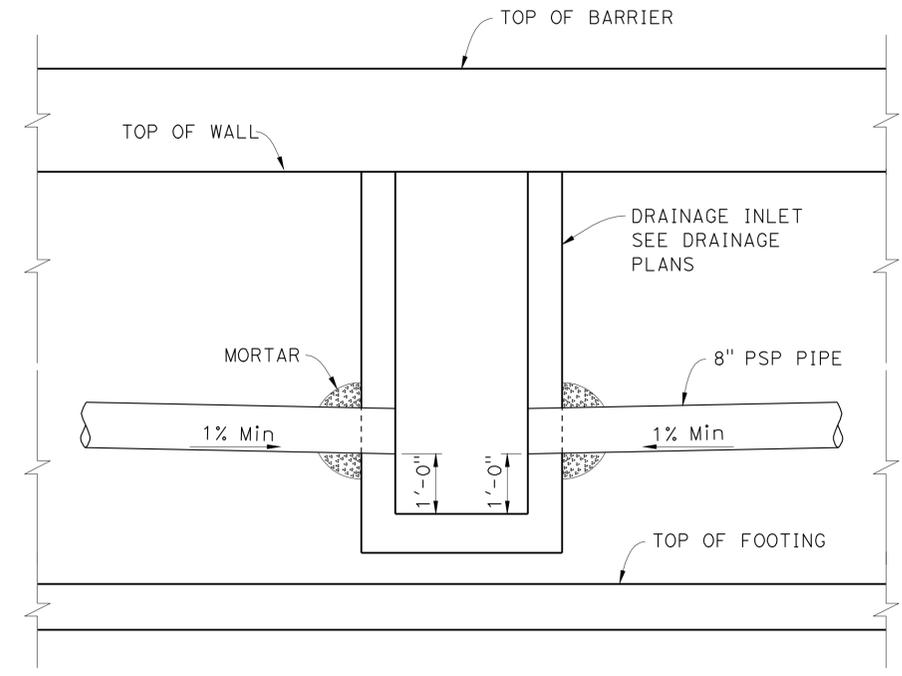
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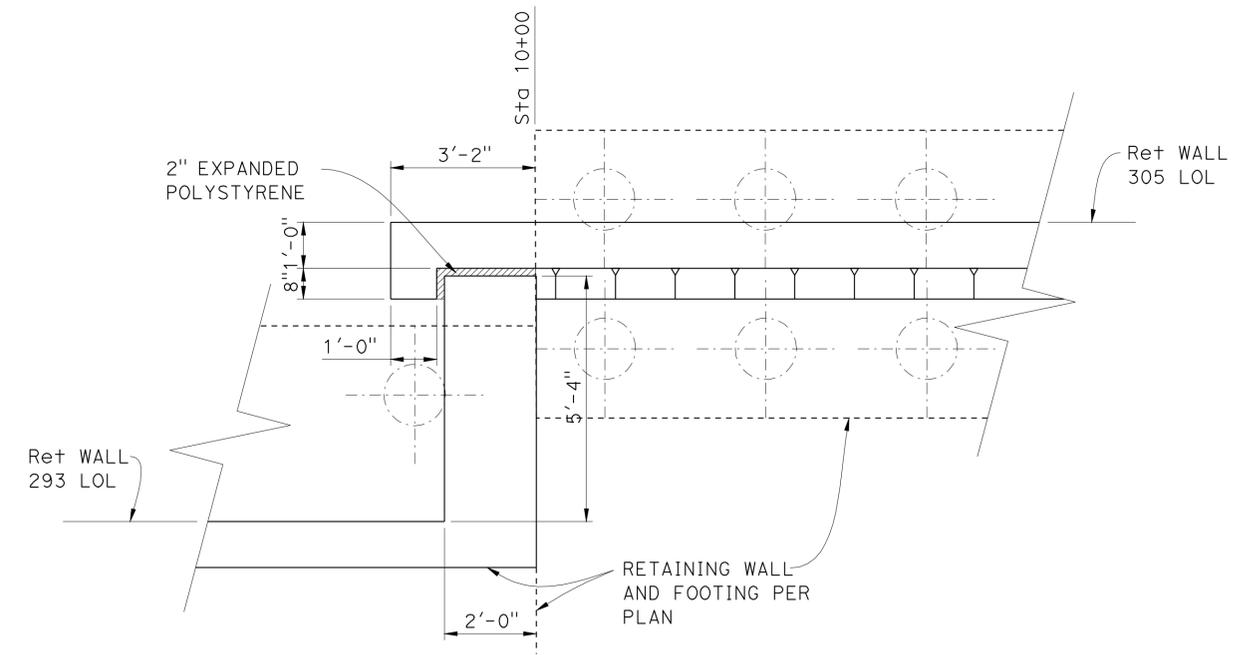

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 PLANS APPROVAL DATE 8-13-12
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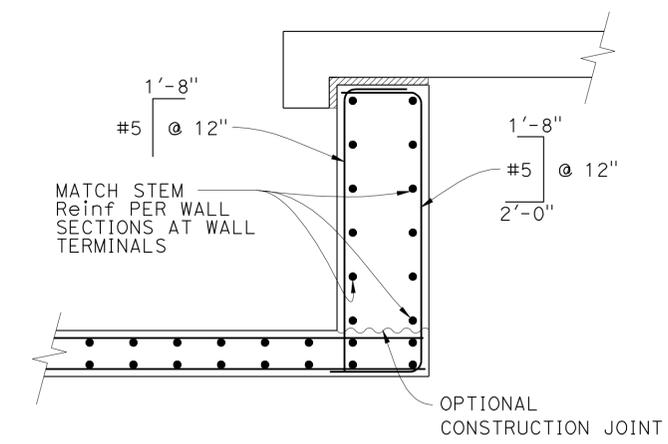
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PIPE CONNECTION TO DRAINAGE INLET DETAIL
NO SCALE



RETAINING WALL OVERLAP DETAIL
NO SCALE



END OF WALL AND CORNER DETAIL
NO SCALE


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

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BRIDGE NO.	55E0127
PROJECT ENGINEER	CHAD HARDEN
POST MILES	4.5

**RETAINING WALL No. 293
 MISCELLANEOUS DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 2295 12000000791

CONTRACT NO.: 12-0C5701

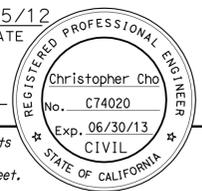
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REVISION DATES	SHEET	OF
	19	25

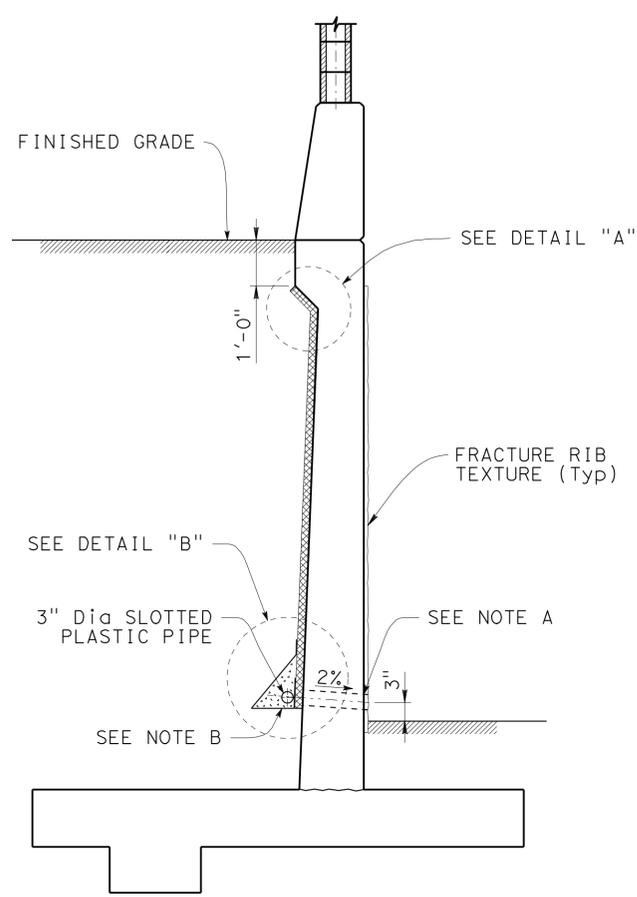
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 REGISTERED CIVIL ENGINEER DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
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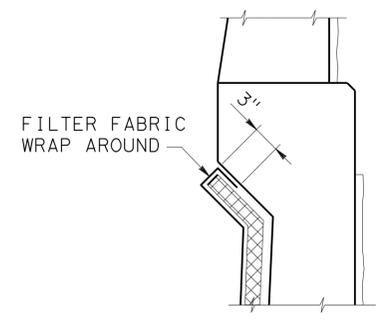


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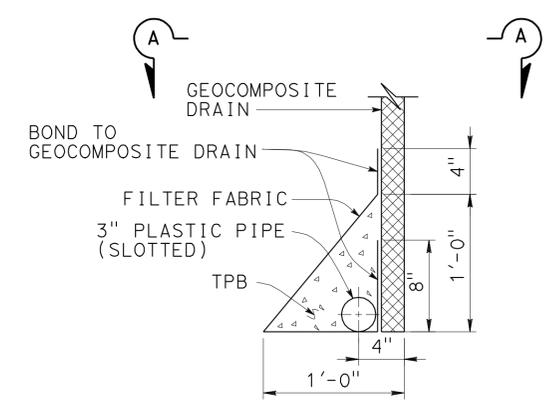


**RETAINING WALL
 WEEP HOLE AND GEOCOMPOSITE DRAIN**
 NO SCALE

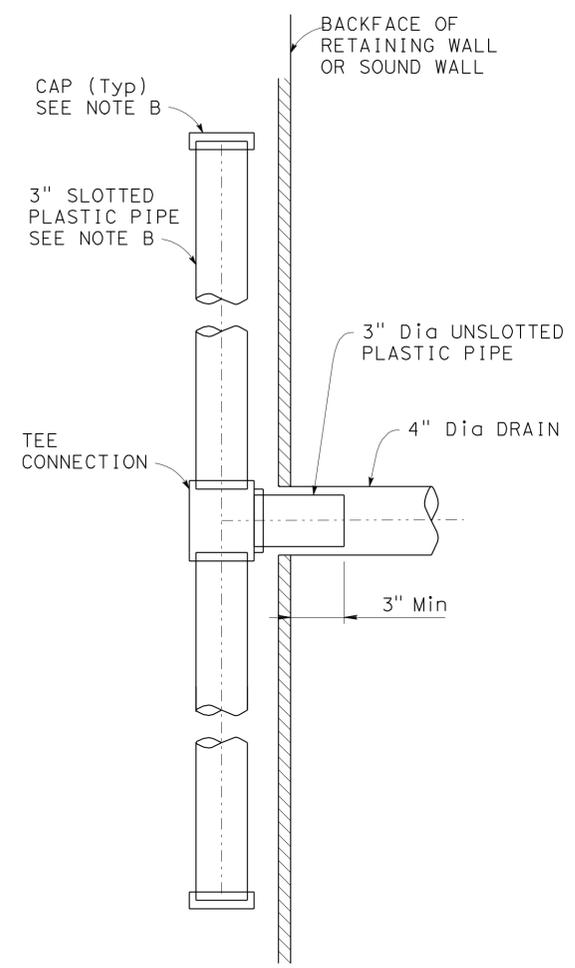
ALTERNATIVE TO BRIDGE DETAIL BO-3
3-1



DETAIL "A"
 NO SCALE



DETAIL "B"
 NO SCALE



SECTION A-A
 NO SCALE

NOTES:

- A. 4" Dia Drains at Intermediate Sag Points and at 25' Max Center to Center. For Walls Adjacent to Sidewalk or Curbs, Provide 4' Cast Iron or Asbestos Cement Pipe under the Sidewalk to Discharge through Curb Face. Exposed Wall Drains shall be Located 3"± above Finished Grade.
- B. Geocomposite Drain, Cement Treated Permeable Base, and 3" Dia Slotted Plastic Pipe continuous behind Retaining Wall or Abutment. Cap Ends of Pipe. Provide 'Tee' Connection at Each 4" Dia Drain.
- C. Connect the low End of Plastic Pipe to the main Outlet Pipe as applicable.


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
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QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

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 DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0127
	POST MILES 4.5

**RETAINING WALL No. 293
 MISCELLANEOUS DETAILS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION	DATE	SHEET	OF
		20	25

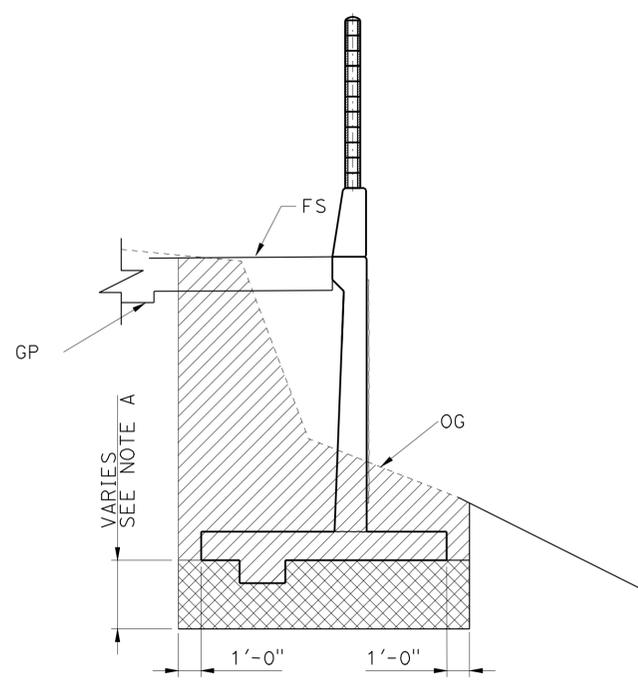
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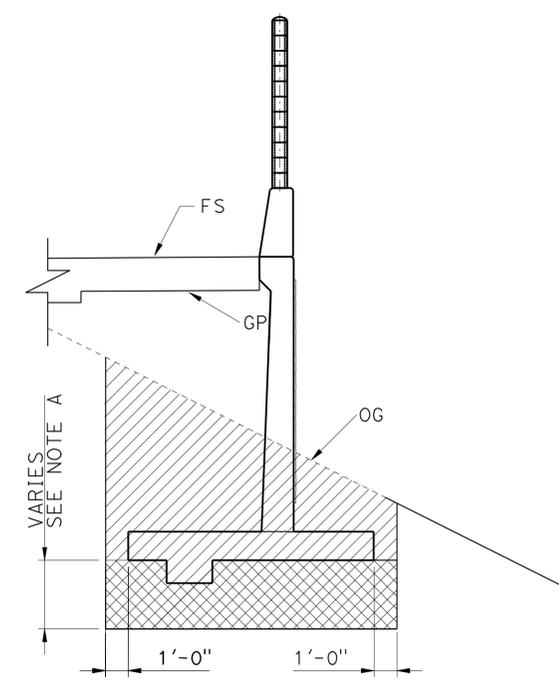
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	869	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
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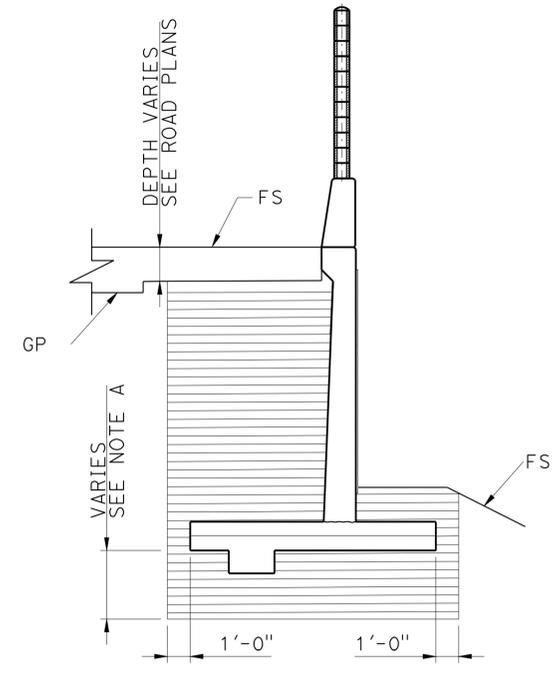
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EXCAVATION
NO SCALE

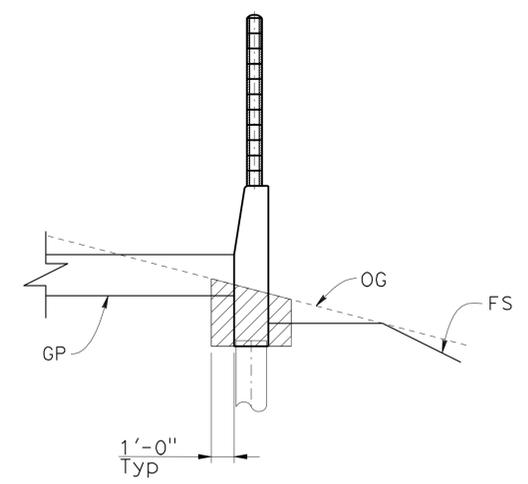


EXCAVATION
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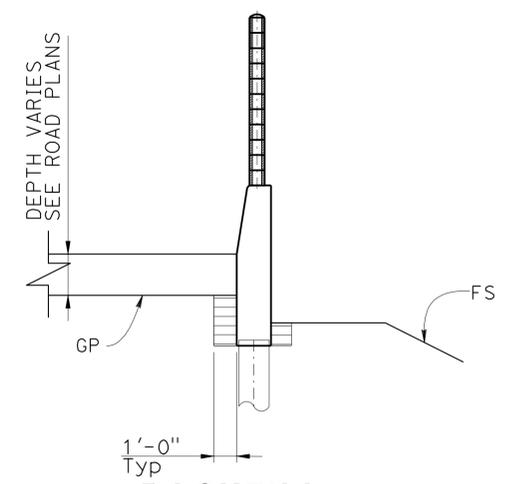


BACKFILL
NO SCALE

RETAINING WALL IN FILL AND CUT
LIMITS OF PAYMENT FOR RETAINING WALL EXCAVATION AND BACKFILL



EXCAVATION
NO SCALE



BACKFILL
NO SCALE

LEGEND:

-  Structure Excavation
-  Structure Backfill
-  Structure Over Excavation See Note A

NOTE

A. For depth of Structure Over Excavation, see Retaining Wall Typical Section(s).


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0127
PROJECT ENGINEER	CHAD HARDEN
POST MILES	4.5

RETAINING WALL No. 293
LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	21	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:51

TABLE OF TREATMENT LOCATIONS

TYPE	STATION																																									
	18+01	18+08	18+14	18+22	18+26	18+47	18+51	18+55	19+08	19+13	19+21	19+25	19+28	19+41	19+47	19+51	19+89	19+93	19+98	20+06	20+11	20+17	20+21	20+70	20+86	20+90	20+94	21+04	21+09	21+42	21+46	21+51	21+55	21+72	21+75	22+27	22+31	22+34	22+43	22+46		
PALM SECTION 1-1	-	X	-	-	X	-	X	-	-	X	-	X	-	-	X	-	-	X	-	X	-	X	-	-	-	X	-	X	X	X	-	X	-	X	-	-	X	-	X	-	X	-
PALM SECTION 5-5	X	-	X	X	-	X	-	X	X	-	X	-	X	X	-	X	X	-	X	-	X	-	X	X	X	-	X	-	-	-	X	-	X	-	X	X	-	X	-	X	-	X
MOUNTAIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

NOTE:
FOR PALM SECTION 1-1, PALM SECTION 5-5 AND MOUNTAIN ARCHITECTURAL TREATMENTS, SEE "ARCHITECTURAL DETAILS" SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	870	885

Cathy L. Johnson
LICENSED LANDSCAPE ARCHITECT

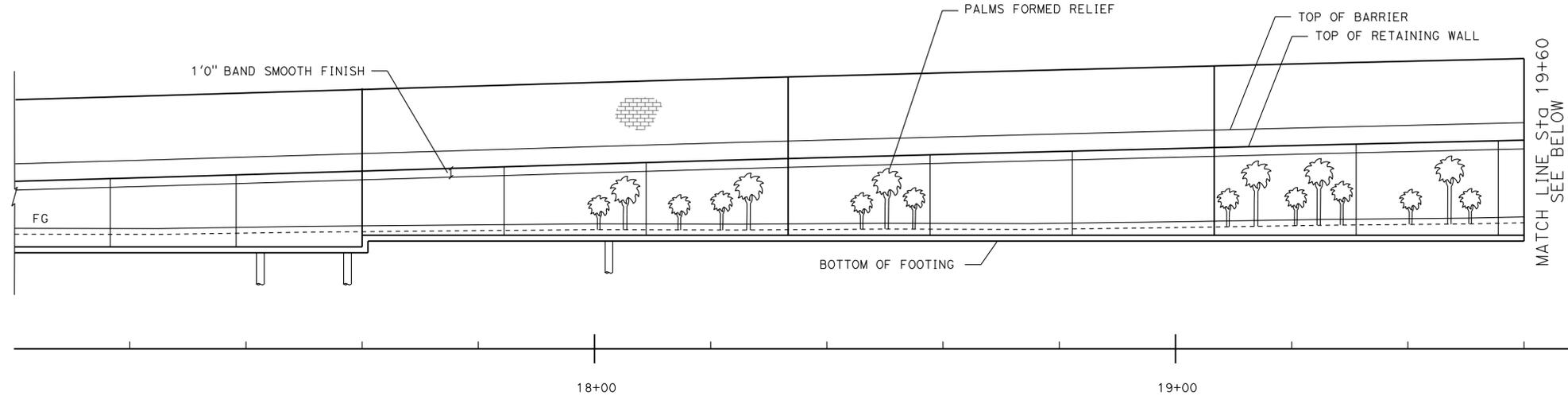
8-13-12
PLANS APPROVAL DATE

Cathy L. Johnson
LICENSED LANDSCAPE ARCHITECT
No. 4558
01-31-14
RENEWAL DATE
03-15-12
DATE
STATE OF CALIFORNIA

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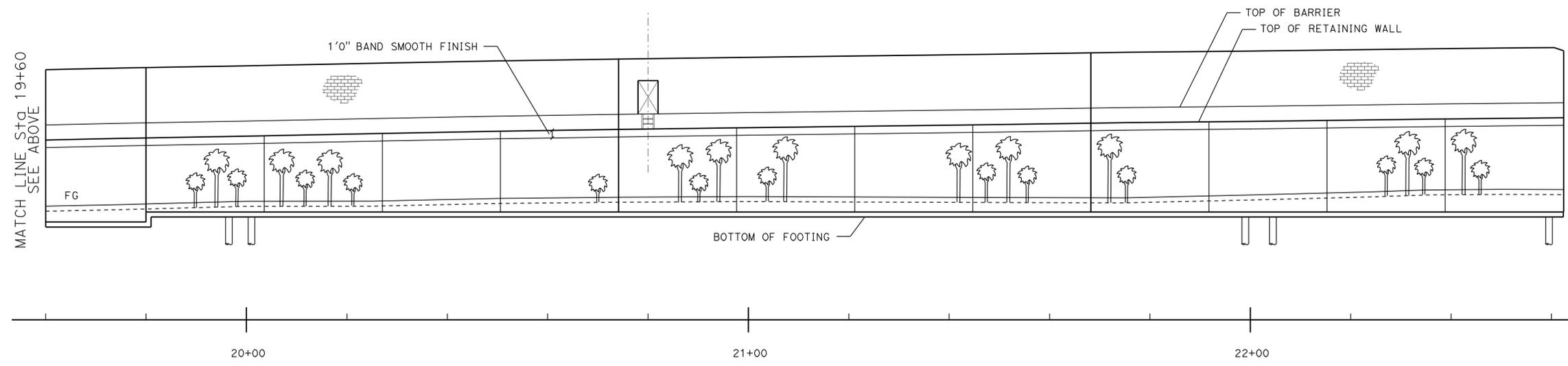
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MIRRORED ELEVATION

SCALE: HORIZ 1" = 10'
VERT 1" = 10'



MIRRORED ELEVATION

SCALE: HORIZ 1" = 10'
VERT 1" = 10'

Luqi Yang
DESIGN OR SIGNATURE
3-29-12
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DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

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CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0127
	POST MILES 4.5

RETAINING WALL No. 293
ARCHITECTURAL TREATMENT LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	22	25

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:29

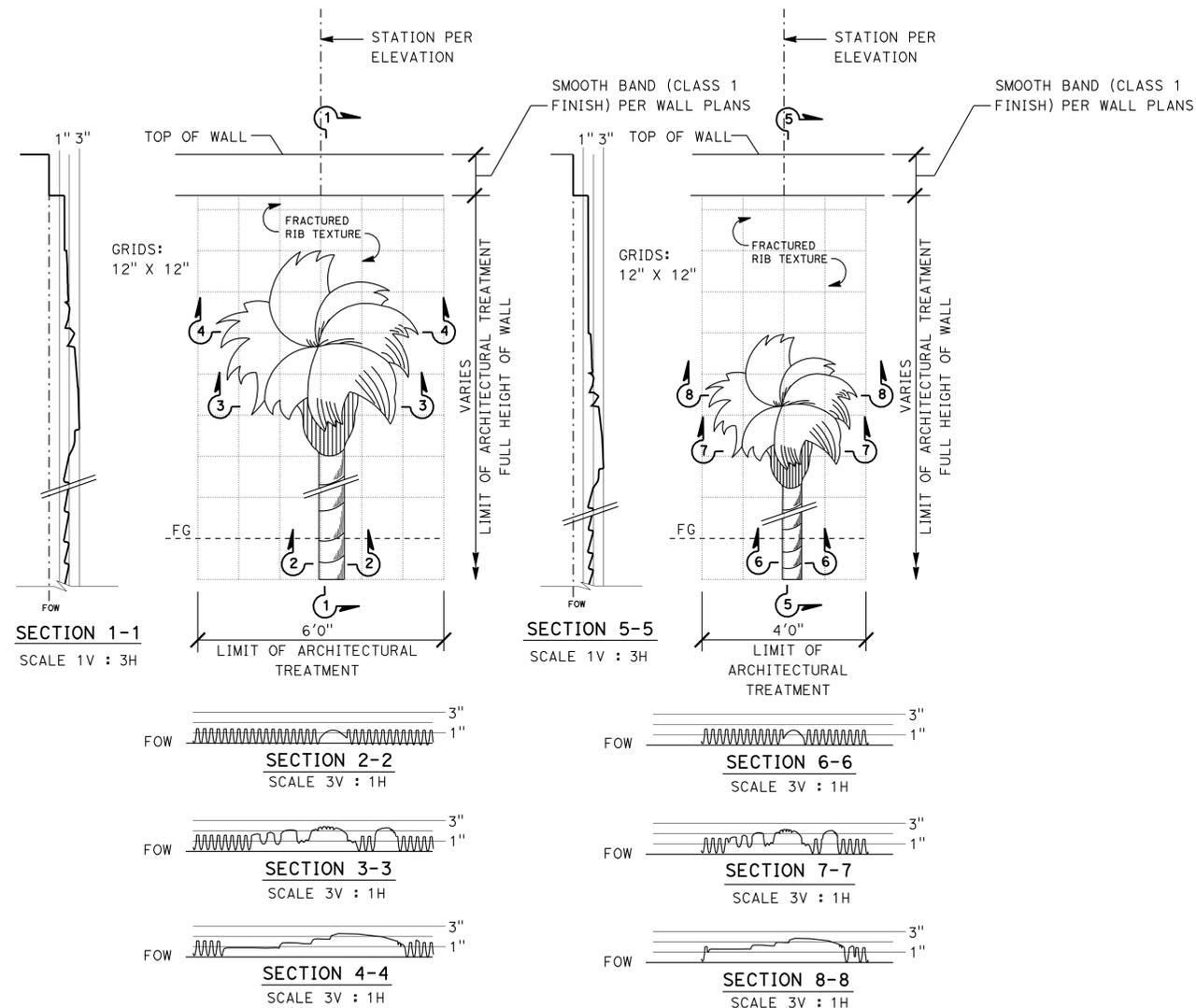
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	91	0.9/5.4	871	885

Cathy L. Johnson
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 No. 4555
 8-13-12
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ABBREVIATION:
 FOW - FACE OF WALL



**PALMS FORMED RELIEF (PROJECTING)
 WITH 1 1/2" FRACTURED RIB TEXTURE**
 NO SCALE

Luqi Yang
 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

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 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0127
POST MILES	4.5

RETAINING WALL No. 293
ARCHITECTURAL DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	23	25

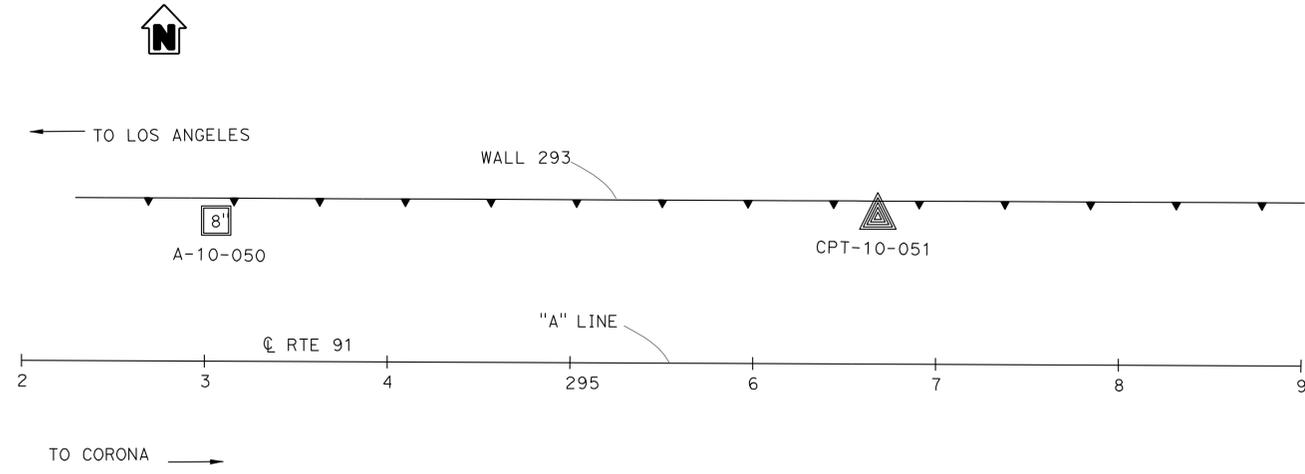
USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:29

BENCH MARK

Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "1G-164-05", set in the Northwesterly Corner of a 4.5 ft. by 11.0 ft. Concrete Catch Basin. Monument is located in the Southeasterly Corner of the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ± from the centerline of Buckingham and 47 ft. Easterly of the centerline of Magnolia. Monument is set level with the Sidewalk

Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2F-25-04", set in the Northwesterly Corner of a 7.5 ft. by 4.5 ft. Concrete Catch Basin. Monument is located in the Northeastly Corner of the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp, 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2D-35-86", set in the Northwesterly Corner of a 7 ft. by 14 ft. Concrete Catch Basin. Monument is located in the Southeasterly Corner of the intersection of Placentia Avenue and State College Boulevard, 38 ft. Easterly of the centerline of State College and 70.5 ft. Southerly of the centerline of Placentia. Monument is set level with the Sidewalk



PLAN

1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Oran	91	0.9/5.4	872	885

REGISTERED ENGINEER DATE 3/15/12

PLANS APPROVAL DATE 8-13-12

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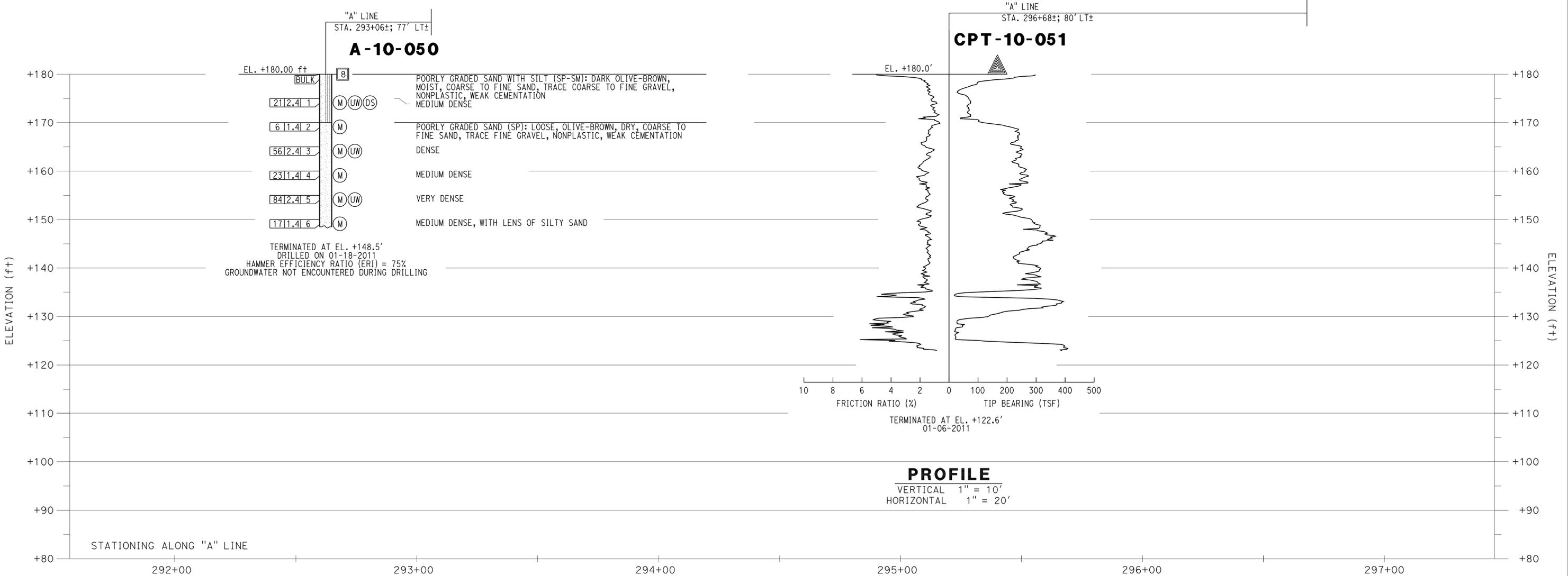
REGISTERED PROFESSIONAL ENGINEER
 S. PIRATHIVIRAJ
 No. C71662
 EXP. 12/31/11
 CIVIL
 STATE OF CALIFORNIA

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708

NOTES:

- (1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
- (2) 2.4" samples were taken using a California Modified Sampler.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.
- (4) Blowcounts for 2.4" Modified California Ring Samplers are raw blowcounts. A conversion factor of 0.5 can be used to convert the 2.4" Modified California Ring Sampler blowcounts to Standard Penetration Test (SPT) blowcounts.



PROFILE

VERTICAL 1" = 10'
 HORIZONTAL 1" = 20'

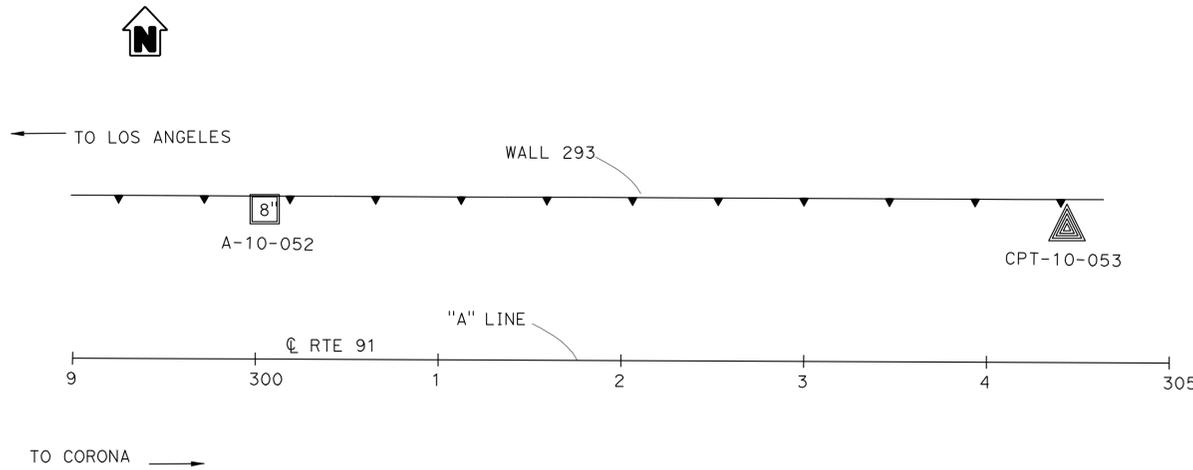
DESIGN BY: <u>Luqi Yang</u> SIGN OFF DATE: 3-29-12	DRAWN BY: J. FANG	R. JIE FIELD INVESTIGATION BY: DATE: 1/2011	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE No. 55E0127 POST MILES 4.5	RETAINING WALL No. 293 LOG OF TEST BORINGS 1 OF 2
	CHECKED BY: G. J. GUNARANJAN			PROJECT ENGINEER: S. PIRATHIVIRAJ	

BENCH MARK

Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "1G-164-05", set in the Northwestern Corner of a 4.5 ft. by 11.0 ft.
 Concrete Catch Basin. Monument is located in the Southeastly Corner of
 the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ±
 from the centerline of Buckingham and 47 ft. Easterly of the centerline of
 Magnolia. Monument is set level with the Sidewalk

Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2F-25-04", set in the Northwestern Corner of a 7.5 ft. by 4.5
 ft. Concrete Catch Basin. Monument is located in the Northeastly Corner of
 the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp,
 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the
 centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2D-35-86", set in the Northwestern Corner of a 7 ft. by 14 ft.
 Concrete Catch Basin. Monument is located in the Southeastly Corner of
 the intersection of Placentia Avenue and State College Boulevard, 38 ft.
 Easterly of the centerline of State College and 70.5 ft. Southerly of the
 centerline of Placentia. Monument is set level with the Sidewalk

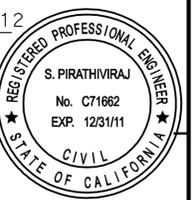


PLAN

1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Oran	91	0.9/5.4	873	885

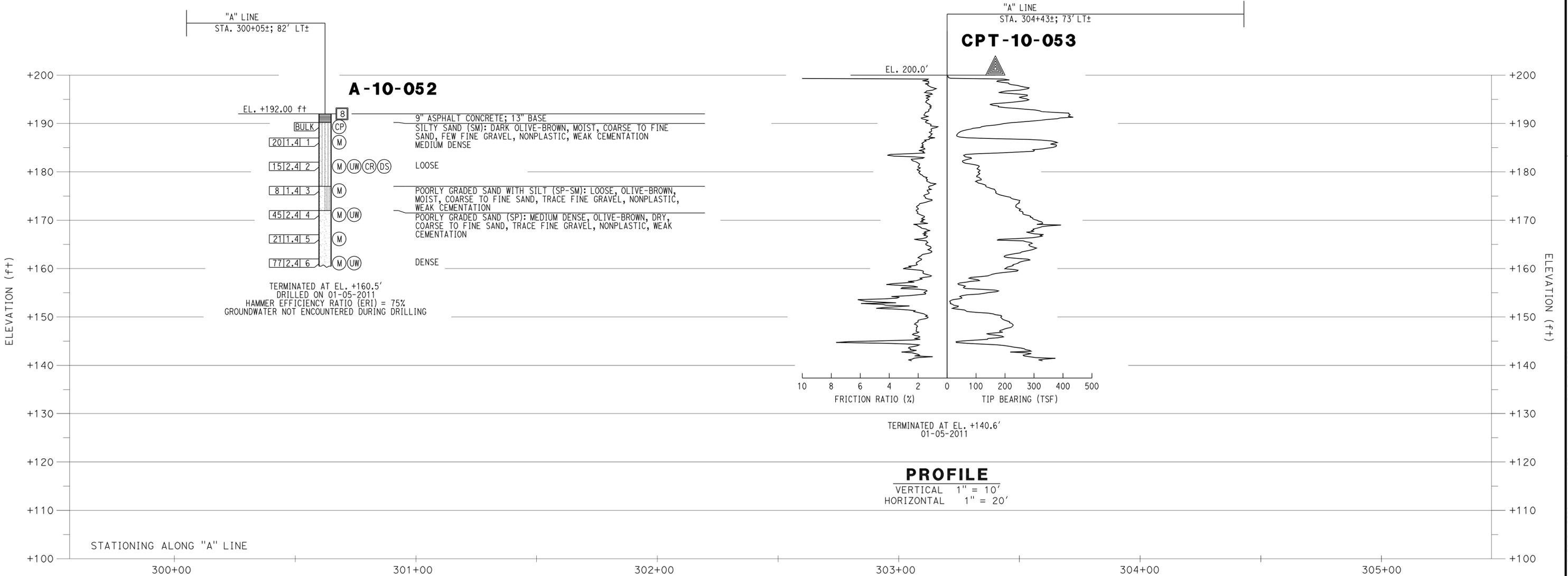
REGISTERED ENGINEER *S. Pirathiviraj* DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584
 EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708

NOTES:

- (1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
- (2) 2.4" samples were taken using a California Modified Sampler.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.
- (4) Blowcounts for 2.4" Modified California Ring Samplers are raw blowcounts. A conversion factor of 0.5 can be used to convert the 2.4" Modified California Ring Sampler blowcounts to Standard Penetration Test (SPT) blowcounts.



PROFILE

VERTICAL 1" = 10'
 HORIZONTAL 1" = 20'

DESIGN BY *Luqi Yang*
 SIGN OFF DATE 3-29-12

DRAWN BY J. FANG
 CHECKED BY G. J. GUNARANJAN

R. JIE
 FIELD INVESTIGATION BY:
 DATE: 1/2011

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

S. PIRATHIVIRAJ
 PROJECT ENGINEER

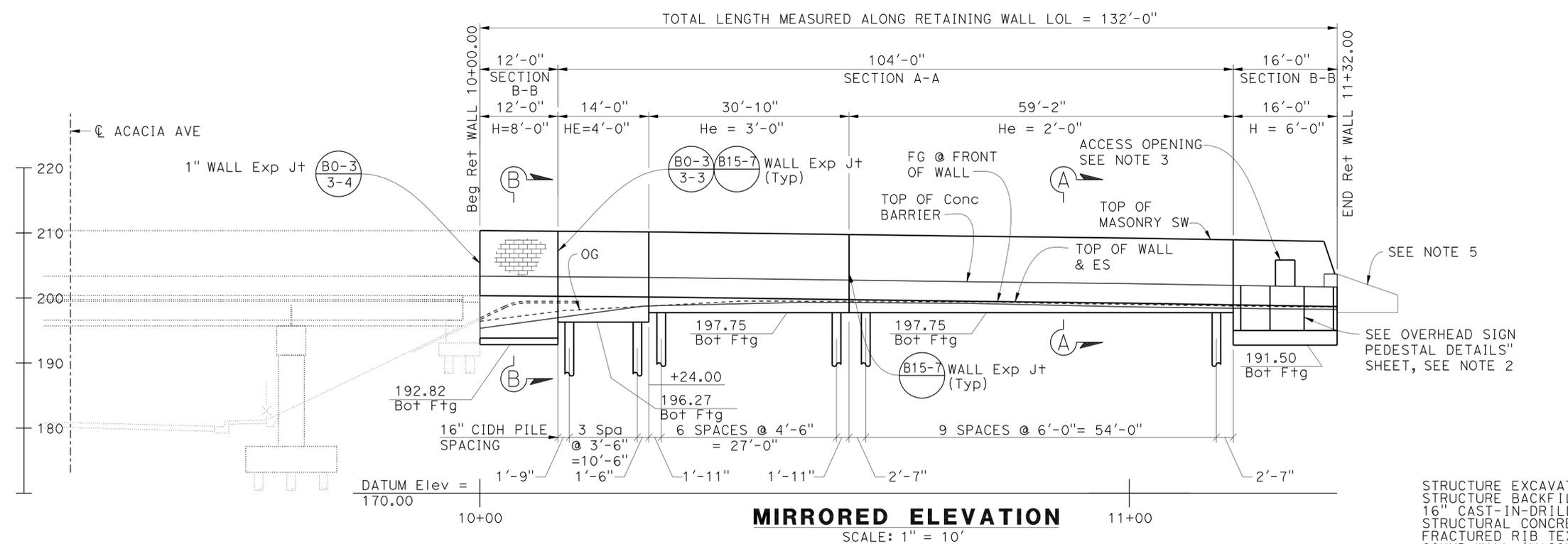
BRIDGE No. 55E0127
 POST MILES 4.5

RETAINING WALL No. 293
LOG OF TEST BORINGS 2 OF 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	874	885

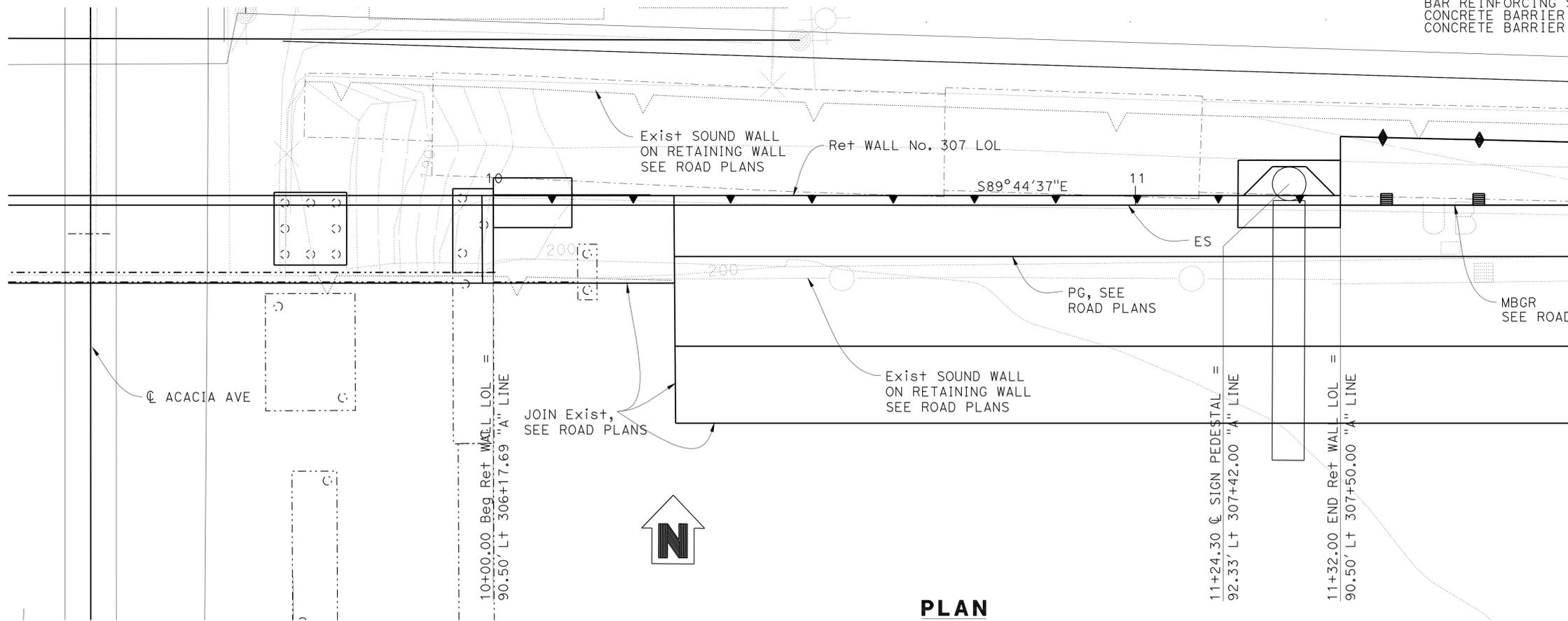
REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



RETAINING WALL NO 307
 QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	120	CY
STRUCTURE BACKFILL (RETAINING WALL)	76	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	341	LF
STRUCTURAL CONCRETE, RETAINING WALL	40	CY
FRACTURED RIB TEXTURE	135	SOFT
SOUND WALL (MASONRY BLOCK)	970	SOFT
BAR REINFORCING STEEL (RETAINING WALL)	5,550	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	28	LF
CONCRETE BARRIER (TYPE 736SV)	104	LF



- NOTES:
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Sign Location and Details, see Roadway Plans, Sign Plans, and Sign Detail sheets.
 3. For Access Opening and Cover Plate, see "MISCELLANEOUS DETAILS No. 3" sheet.
 4. For Sections A-A and B-B, see "TYPICAL SECTIONS" sheet.
 5. For Barrier Detail at end of Wall, see End of Wall Detail on "MISCELLANEOUS DETAILS No. 1" sheet.

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

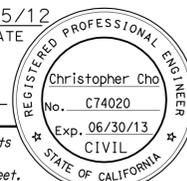
DESIGN BY: Luqi Yang
 CHECKED BY: C. CHO
 DATE: 3-29-12

DESIGN	BY C. CHO	CHECKED C. HARDEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY J. SALDANA	CHECKED C. HARDEN	LAYOUT	BY C. CHO
QUANTITIES	BY C. HARDEN	CHECKED J. VOEPEL	SPECIFICATIONS	BY S. SHEIKH

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER
 BRIDGE NO. 55E0128
 POST MILES 4.8

RETAINING WALL No. 307
GENERAL PLAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	875	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE

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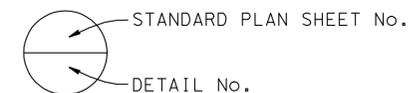
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 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

INDEX TO PLANS

SHEET No.	TITLE
1	General Plan
2	Index To Plans
3	Typical Sections
4	Masonry Block Sound Wall With Barrier On Retaining Wall - Details No. 1
5	Masonry Block Sound Wall With Barrier On Retaining Wall - Details No. 2
6	Retaining Wall Type 1SWB Details
7	Miscellaneous Details No. 1
8	Miscellaneous Details No. 2
9	Miscellaneous Details No. 3
10	Overhead Sign Pedestal Details
11	Limits of Payment for Excavation and Backfill
12	Log of Test Borings 1 of 1

STANDARD PLANS DATED 2010

A10A	Abbreviations (Sheet 1 of 2)
A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheet 1 of 3)
A10D	Lines and Symbols (Sheet 2 of 3)
A10E	Lines and Symbols (Sheet 3 of 3)
A10F	Legend - Soil (Sheet 1 of 2)
A10G	Legend - Soil (Sheet 2 of 2)
B0-3	Bridge Details
RSP B3-5	RW Details No. 1
B11-56	Concrete Barrier Type 736
B15-6	Sound Wall Masonry Block on Type 736S/SV Barrier Details (1)
B15-7	Sound Wall Masonry Block on Type 736S/SV Barrier Details (2)
B15-8	Sound Wall Masonry Block on Type 736S/SV Barrier Details (3)
B15-9	Sound Wall Masonry Block Miscellaneous Details
B15-12	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (1)
B15-13	Sound Wall Masonry Block on Barrier 5'-0" Access Gate Details (2)
B15-14	Sound Wall Masonry Block Access Gate Locking Details




 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN PROJECT ENGINEER	BRIDGE NO. 55E0128
	POST MILES 4.8

RETAINING WALL No. 307
INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

UNIT: 2295
PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	2	12

FILE => 55-E0128-a-1tp01.dgn

USERNAME => s119571 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	876	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

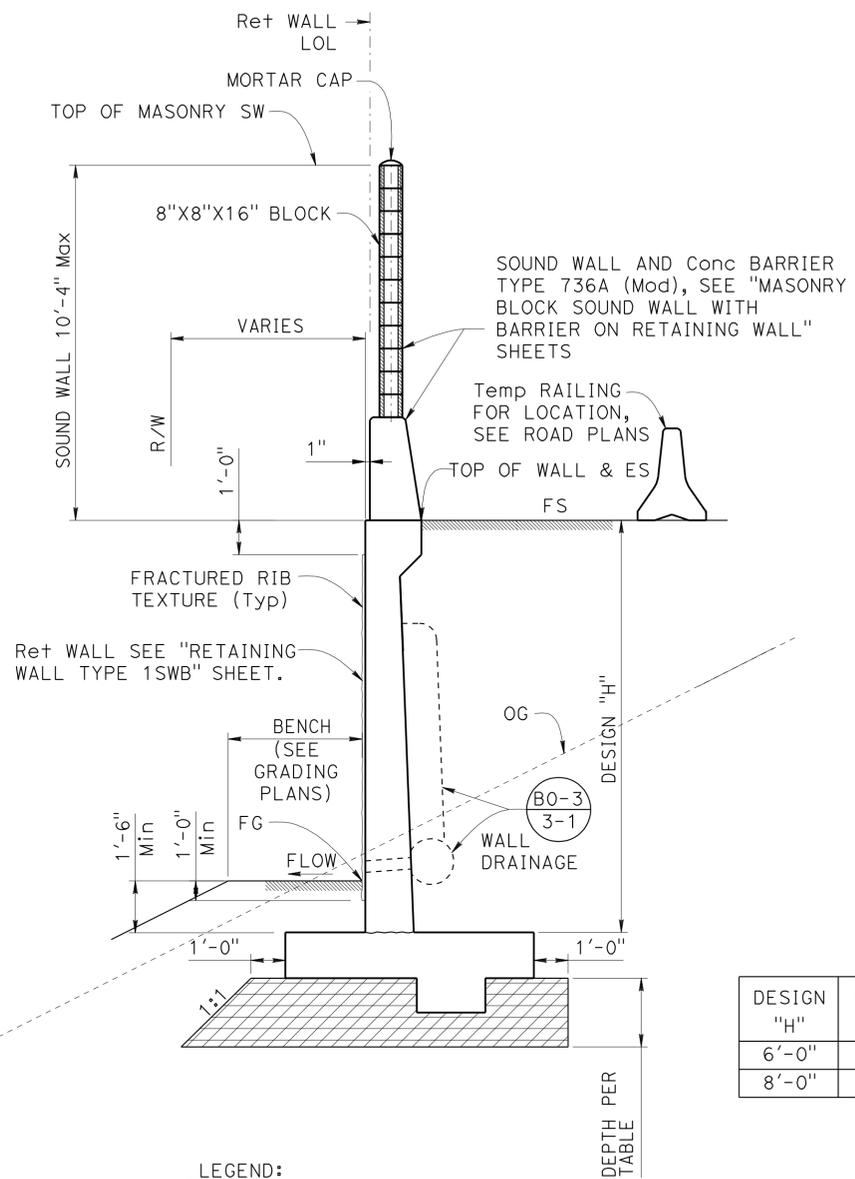
8-13-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

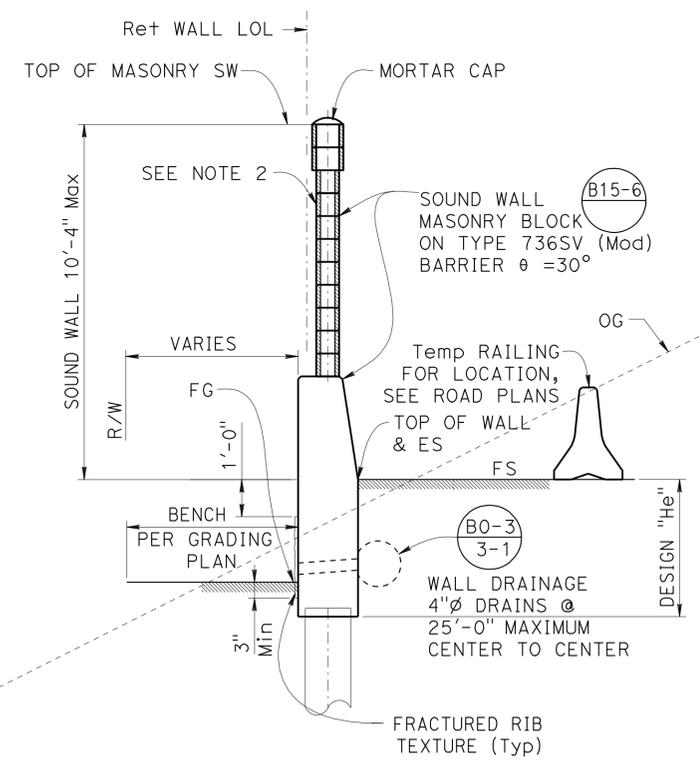
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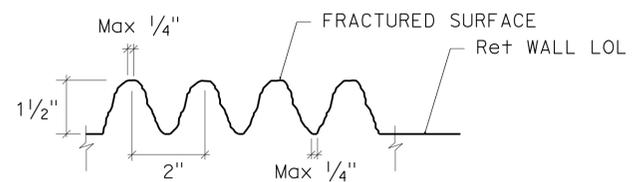


SECTION B-B



SECTION A-A

TYPICAL SECTIONS
NO SCALE



FRACTURED RIB TEXTURE 1 1/2\"
(PROJECTING)
NO SCALE

TOP OF WALL ELEVATION TABLE

WALL LOL STATION	TOP OF WALL Elev
10+00.00	200.36
+10	200.28
+20	200.20
+30	200.09
+40	199.96
+50	199.82
+60	199.69
+70	199.56
+80	199.44
+90	199.32
11+00.00	199.20
+10	199.04
+20	198.87
+30	198.71
+32.00	198.68

DESIGN "H"	OVER EXCAVATION DEPTH
6'-0"	1'-0"
8'-0"	1'-0"

- NOTES:**
1. This Plan Accurate for Sound Wall and Retaining Wall work only.
 2. For Sound Wall block size, texture and color, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet.
 3. For Excavation and Backfill Details, see "LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL" sheet.

LEGEND:

Structure overexcavation

Structure backfill

Luqi Yang
DESIGN OR SURVEYOR
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO. 55E0128
POST MILES 4.8

RETAINING WALL No. 307

TYPICAL SECTIONS

REVISION DATES

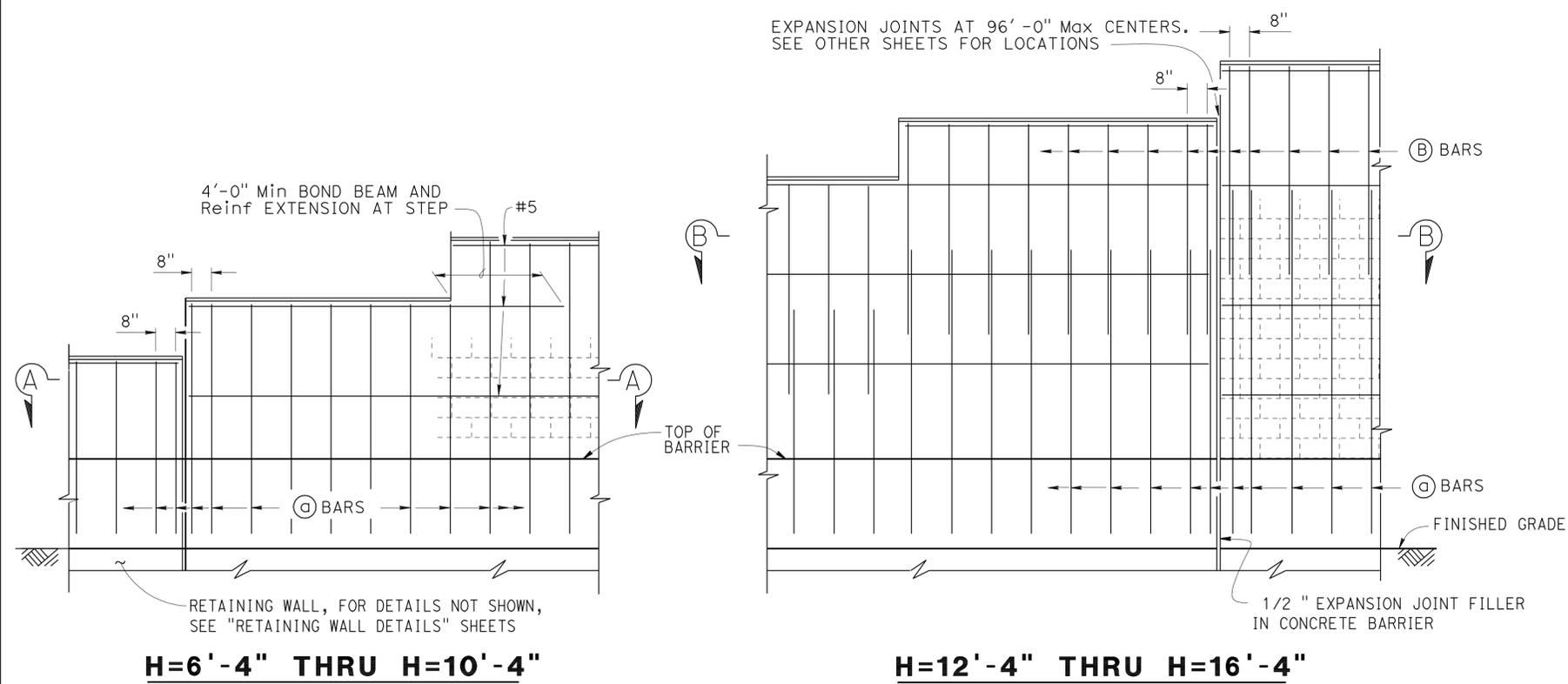
SHEET 3 OF 12

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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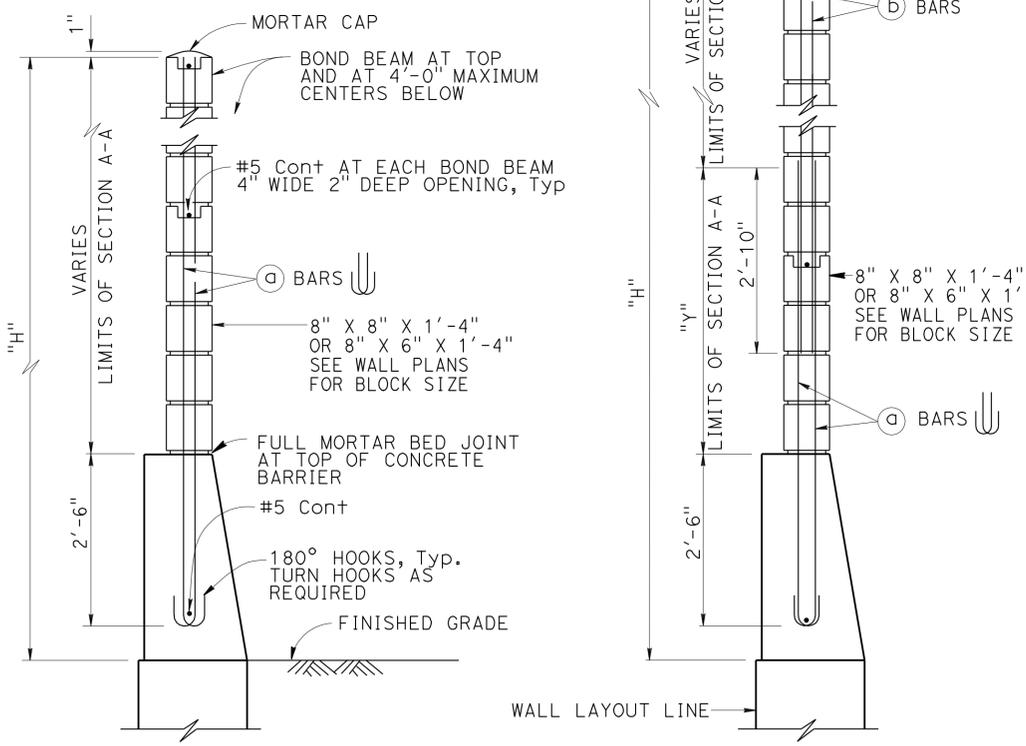
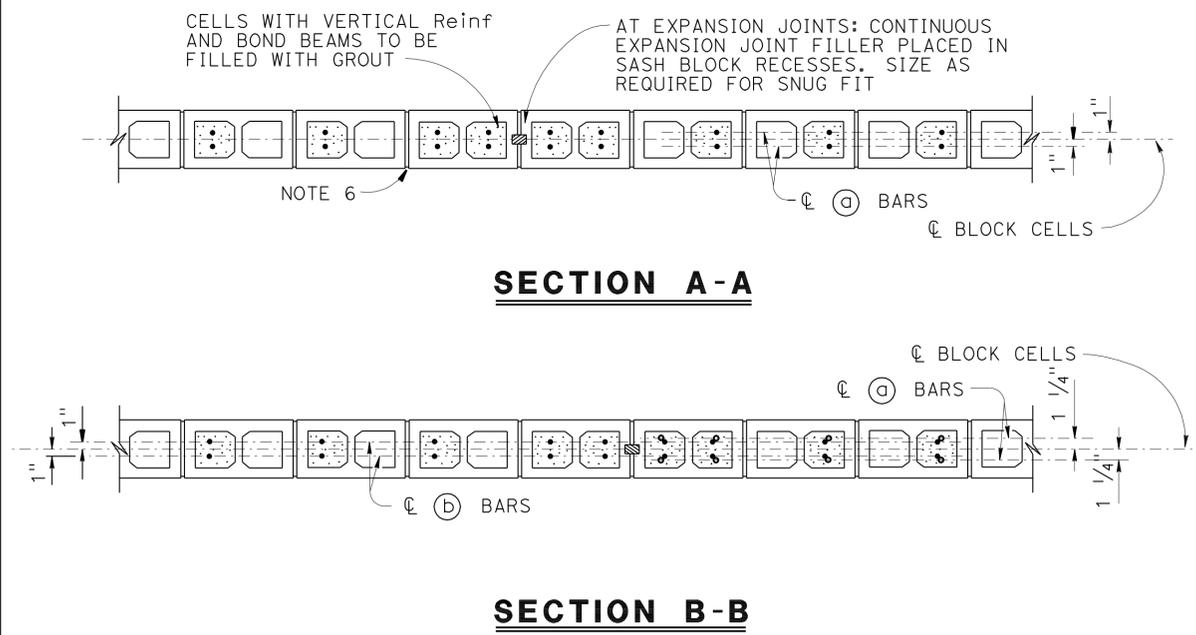
REGISTERED CIVIL ENGINEER *CPB* DATE 3/15/12
 REGISTERED PROFESSIONAL ENGINEER
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

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

PART ELEVATION



- NOTES:
- For Details not shown, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL - DETAILS No. 2" sheet
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope $\pm 10\%$
 - See STANDARD PLAN B15-9 for other Details
 - For type of block and joint finish, see other sheets
 - When Blocks are laid in Stacked Bond, Ladder Type, Galvanized Joint Reinforcement shall be provided. A Minimum of 2-9 Gauge Wire Continuous at 4'-0" Maximum to be used. Locate Reinforcement in Joints that are at the Approximate Midpoint between Bond Beams
 - Horizontal Joints shall be Tooled Concave or may be Weathered. Vertical Joints shall be Tooled Concave or may be Raked
 - For Intermediate Wall heights that are between the "H's" given, use the Tabular Information for the next higher "H"
 - Masonry Strengths are listed in "SOUND WALL REINFORCEMENT TABLE"
 - Concrete to be used for the Barrier shall contain not less than 590 pounds of Cementitious Material per Cubic Yard

H=6'-4" THRU H=10'-4" FOR DETAILS NOT SHOWN, SEE H=12'-4" THRU H=16'-4"
H=12'-4" THRU H=16'-4" FOR DETAILS NOT SHOWN, SEE H=6'-4" THRU H=10'-4"

TYPICAL SECTION

RETAINING WALL No. 307
MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
DETAILS No. 1

DESIGN OVERSIGHT *Luqi Yang*
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

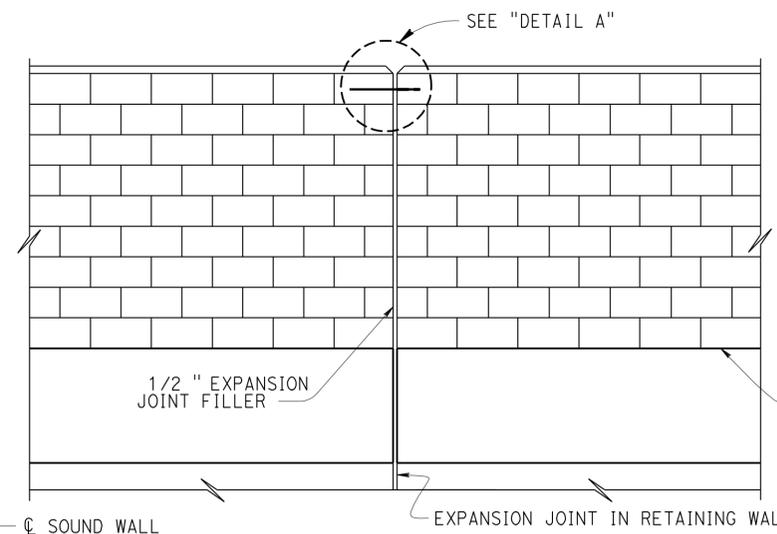
PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER
 BRIDGE NO. 55E0128
 POST MILES 4.8

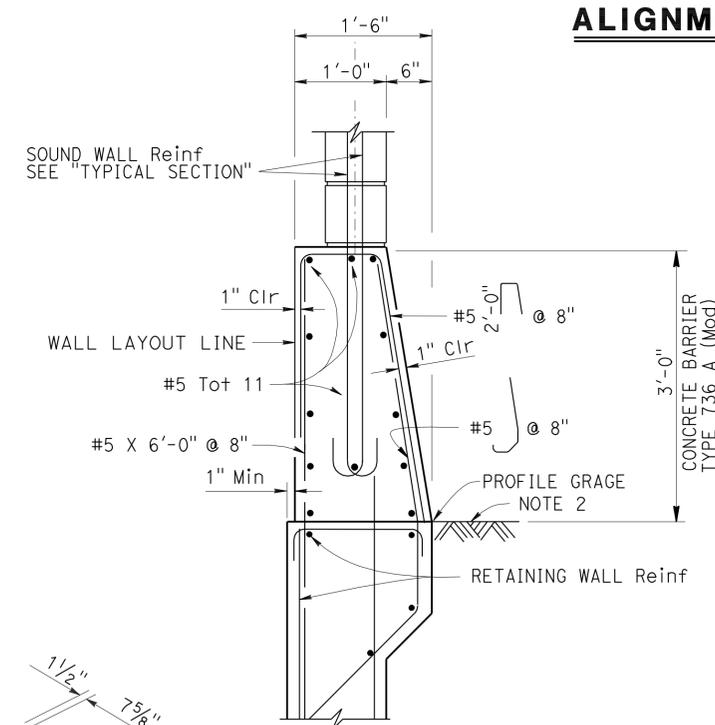
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	878	885

REGISTERED CIVIL ENGINEER
 DATE 3/15/12
 8-13-12
 PLANS APPROVAL DATE
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

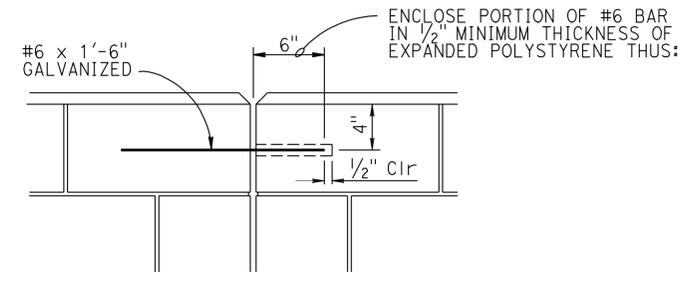
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ALIGNMENT KEY DETAIL



BARRIER SECTION



DETAIL A

DESIGN NOTES

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

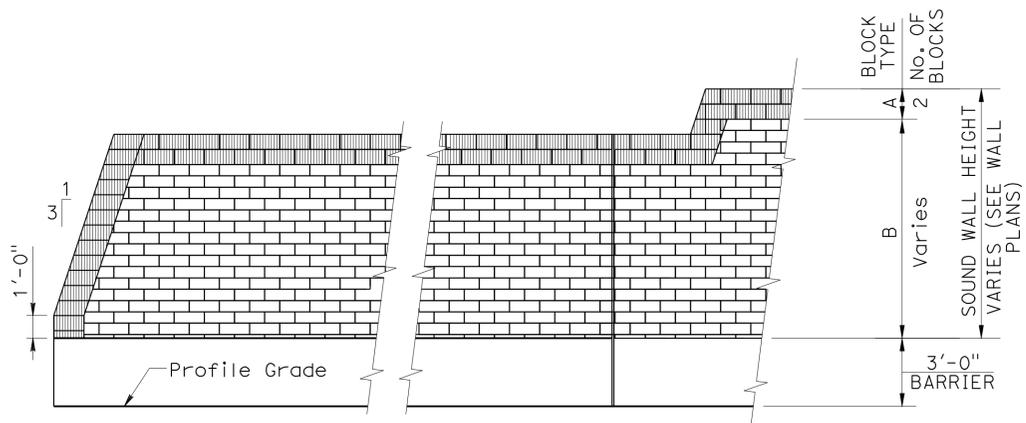
DESIGN WIND LOAD
 33 psf

DESIGN SEISMIC LOAD
 0.57 Dead load

CONCRETE MASONRY

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

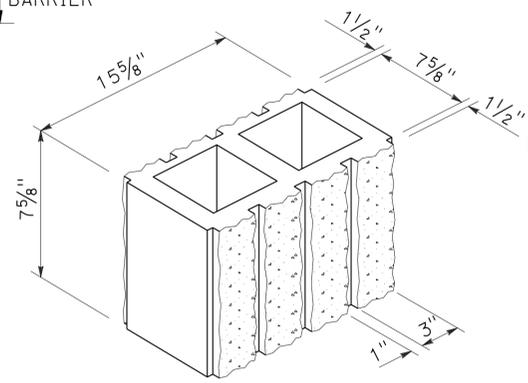
- NOTES:
- For Details not shown, see STANDARD PLAN B15-6
 - Slope Ground at Traffic Side of Barrier to Drain. Maximum slope ±10%. See STANDARD PLAN B11-56, Note D



SOUND WALL AESTHETICS

No Scale

End Condition ABUTTING AN EXISTING WALL



WALL CAP BLOCK DETAIL

NO SCALE
 8" WIDE 4-SCORE SPLIT FACE BOTH SIDES

MASONRY BLOCK TYPE TABLE

WALL NUMBERS	BLOCK TYPE	BLOCK DESCRIPTION	BLOCK SIZE
--	A	WALL CAP ROWS (SAND COLORED SCORED SPLIT FACE CONCRETE BOTH SIDES) 4-SCORED, SEE WALL CAP BLOCK DETAIL	8" X 8" X 16"
--	B	MAIN WALL SURFACE (SAND COLORED SPLIT FACE CONCRETE BOTH SIDES)	8" X 6" X 16"

Luqi Yang
 DESIGN OR SIGN OFF DATE
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0128
POST MILES	4.8

RETAINING WALL No. 307
MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL
DETAILS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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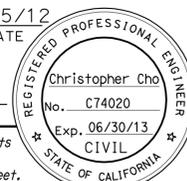
UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791
 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

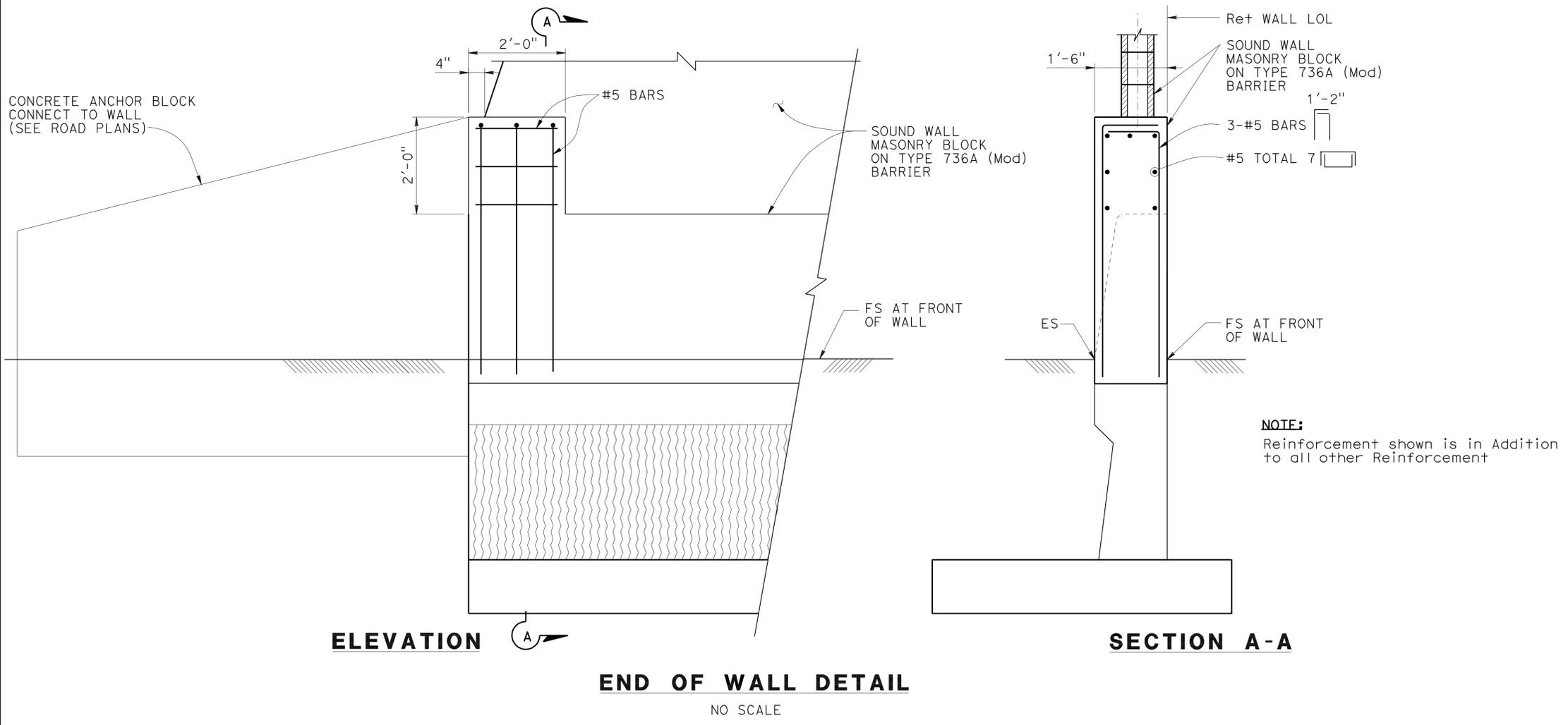
REVISION DATES	SHEET	OF
	5	12

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	880	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12

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 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



ELEVATION

SECTION A-A

END OF WALL DETAIL

NO SCALE


 DESIGN OVERSIGHT Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0128
POST MILES	4.8

RETAINING WALL No. 307
MISCELLANEOUS DETAILS No. 1

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 2295 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	7	12

USERNAME => s119571 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	881	885

3/15/12
DATE

REGISTERED CIVIL ENGINEER

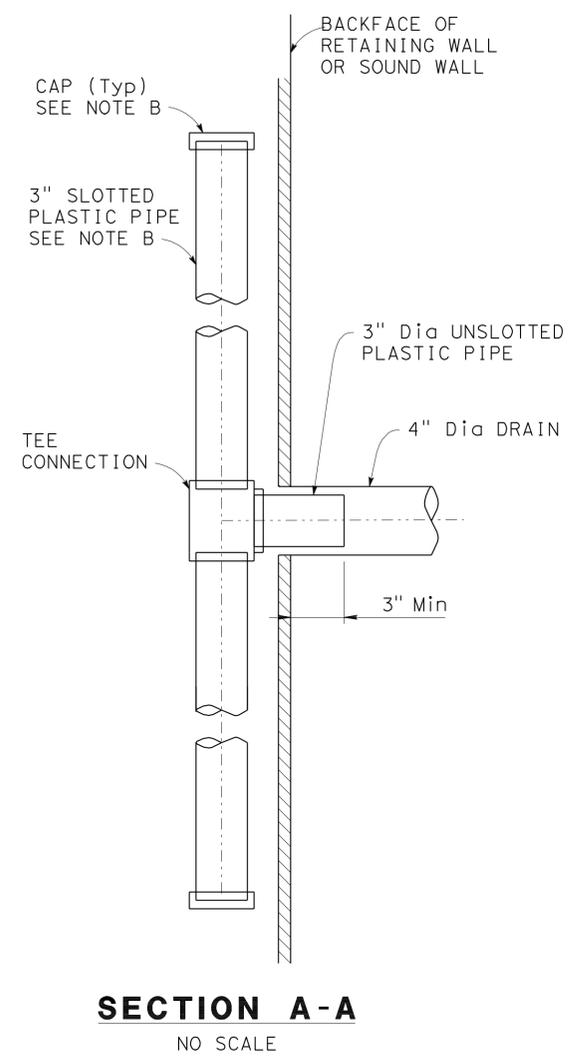
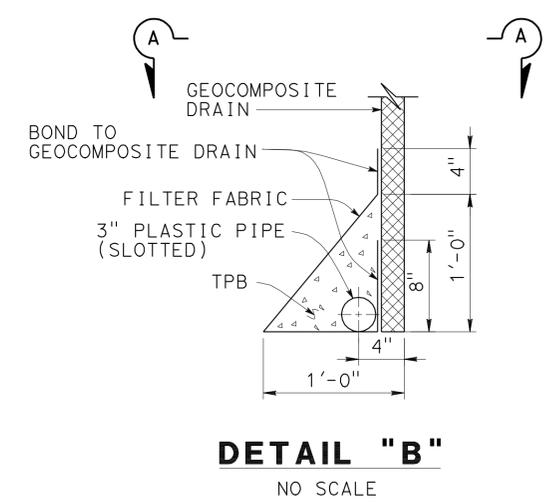
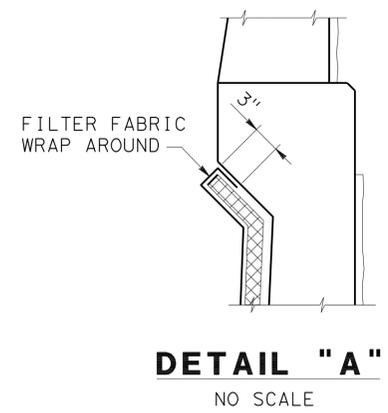
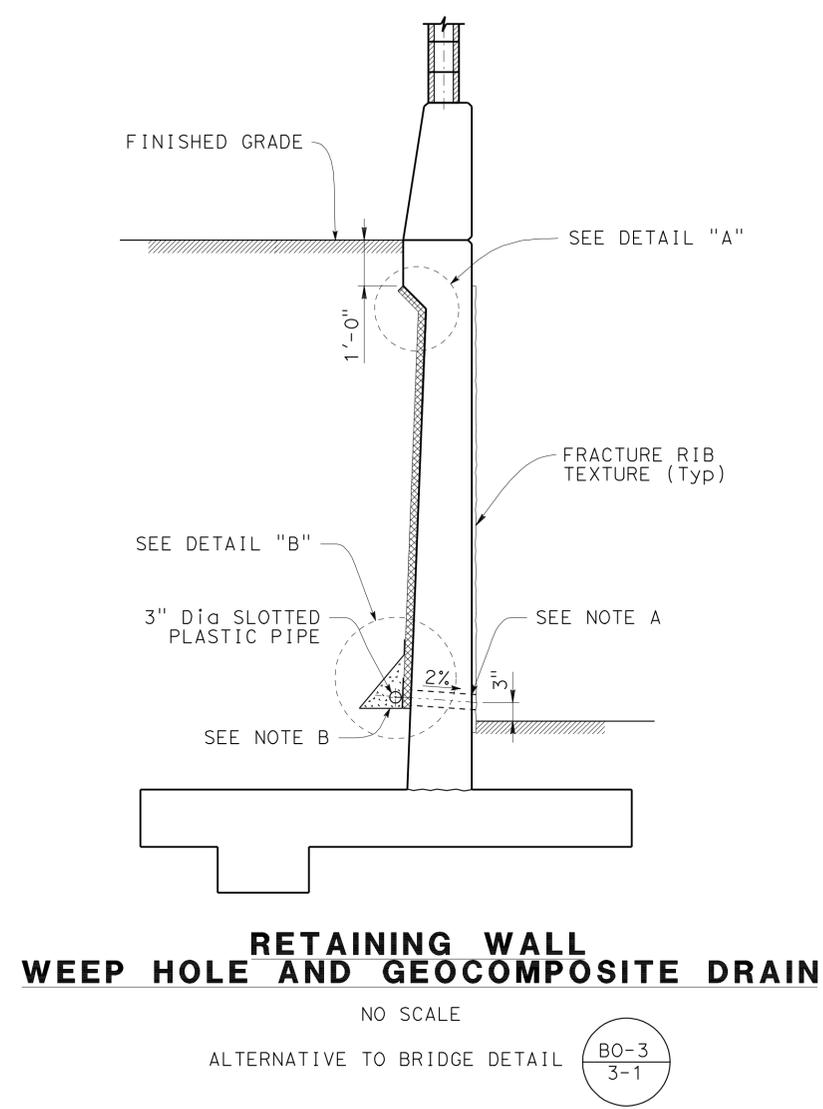
8-13-12
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Christopher Cho
No. C74020
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

OCTA
550 S MAIN STREET
ORANGE, CA. 92868

RBF CONSULTING
14725 ALTON PARKWAY
IRVINE, CA 92677



NOTES:

- A. 4" Dia Drains at Intermediate Sag Points and at 25' Max Center to Center. For Walls Adjacent to Sidewalks or Curbs, Provide 4' Cast Iron or Asbestos Cement Pipe under the Sidewalk to Discharge through Curb Face. Exposed Wall Drains shall be Located 3"± above Finished Grade.
- B. Geocomposite Drain, Cement Treated Permeable Base, and 3" Dia Slotted Plastic Pipe continuous behind Retaining Wall or Abutment. Cap Ends of Pipe. Provide 'Tee' Connection at Each 4" Dia Drain.
- C. Connect the low End of Plastic Pipe to the main Outlet Pipe as applicable.

Luqi Yang
DESIGN OVERSIGHT
3-29-12
SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

CHAD HARDEN
PROJECT ENGINEER

BRIDGE NO.	55E0128
POST MILES	4.8

**RETAINING WALL No. 307
MISCELLANEOUS DETAILS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3
--	---	---	---	---

UNIT: PROJECT NUMBER & PHASE: 2295 12000000791 CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

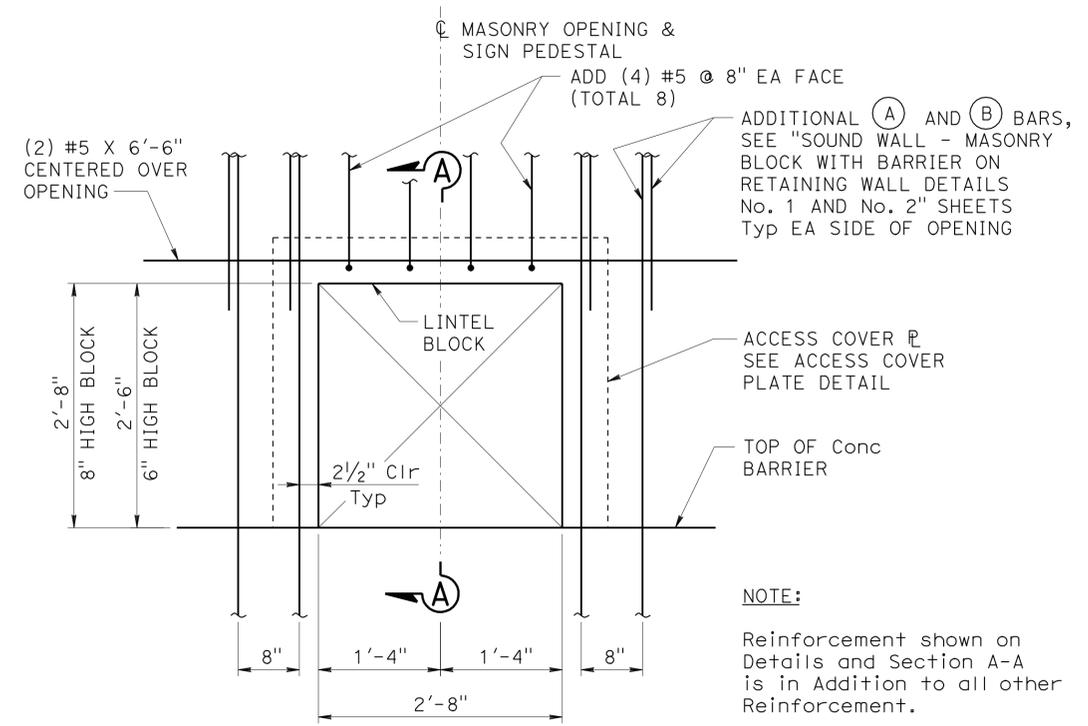
REVISION DATES	SHEET	OF
	8	12

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:31

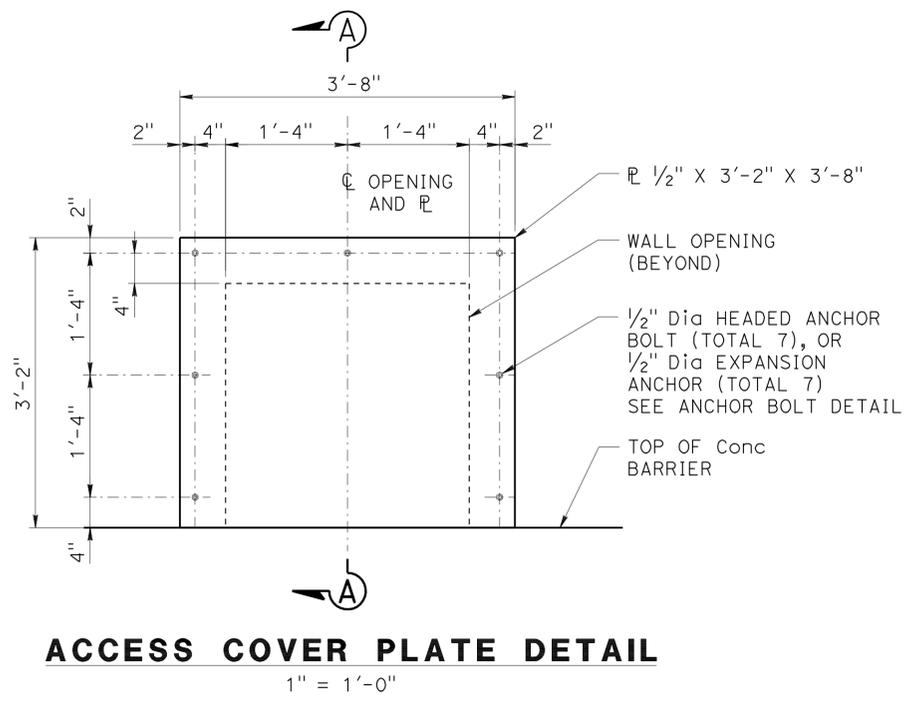
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	882	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677

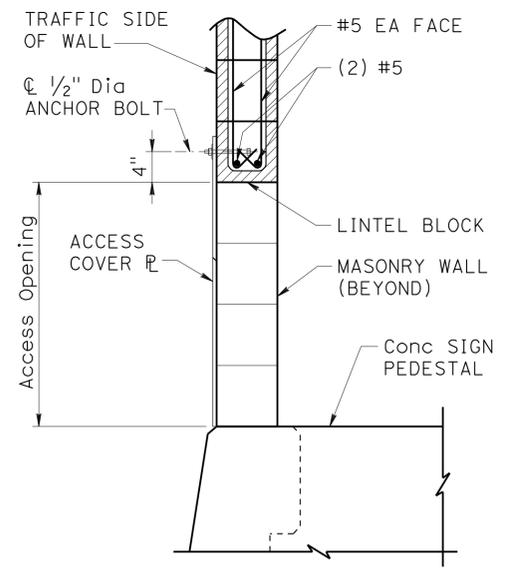


SOUND WALL ACCESS OPENING DETAIL
 1" = 1'-0"

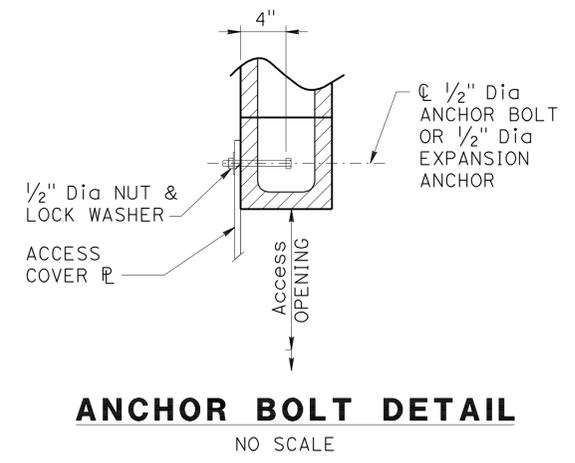


ACCESS COVER PLATE DETAIL
 1" = 1'-0"

NOTE:
 Reinforcement shown on Details and Section A-A is in Addition to all other Reinforcement.



SECTION A-A
 1" = 1'-0"



ANCHOR BOLT DETAIL
 NO SCALE

Luqi Yang
 DESIGN OR SIGN OFF DATE 3-29-12

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0128
POST MILES	4.8

RETAINING WALL No. 307
MISCELLANEOUS DETAILS No. 3

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
---	---	---	---

UNIT: 2295
 PROJECT NUMBER & PHASE: 12000000791

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

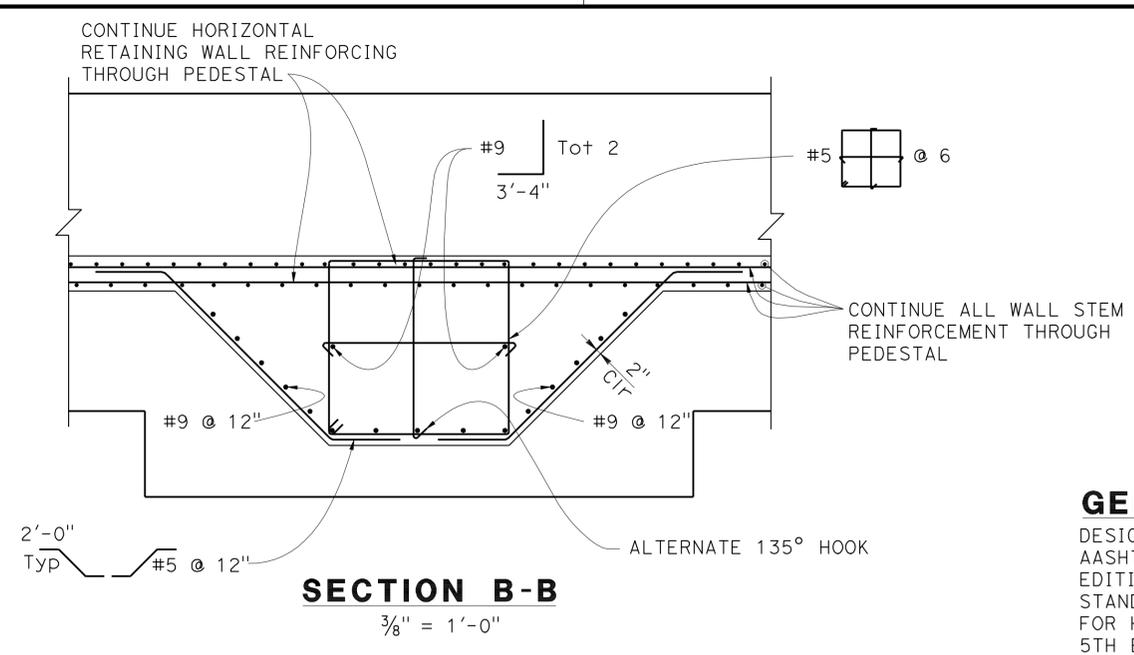
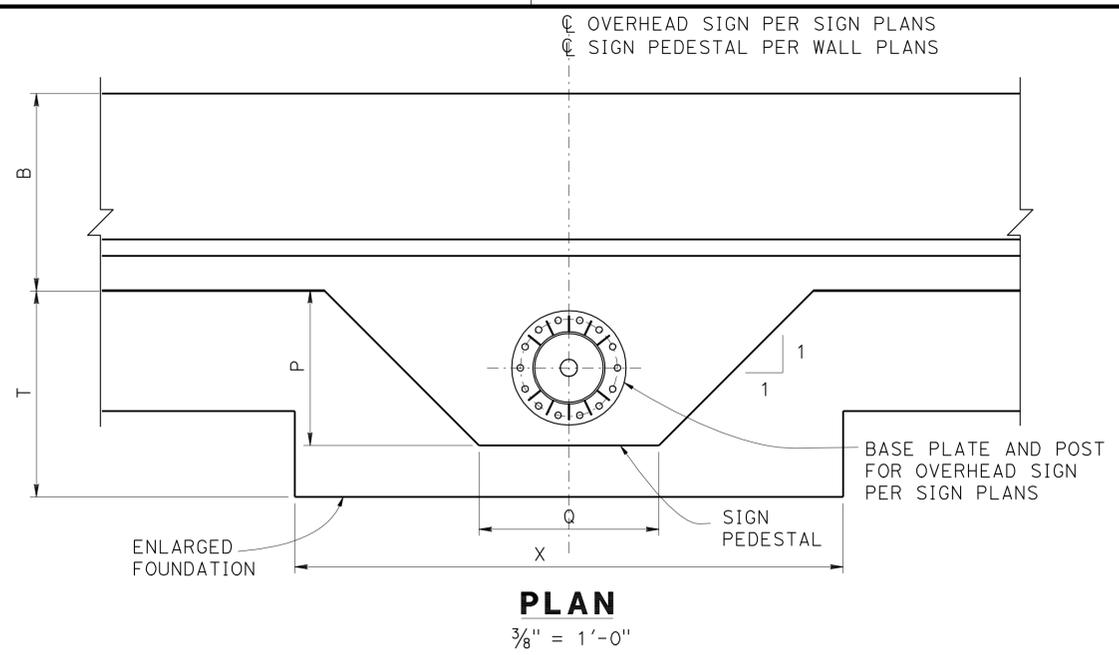
REVISION DATES	SHEET	OF
	9	12

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:31

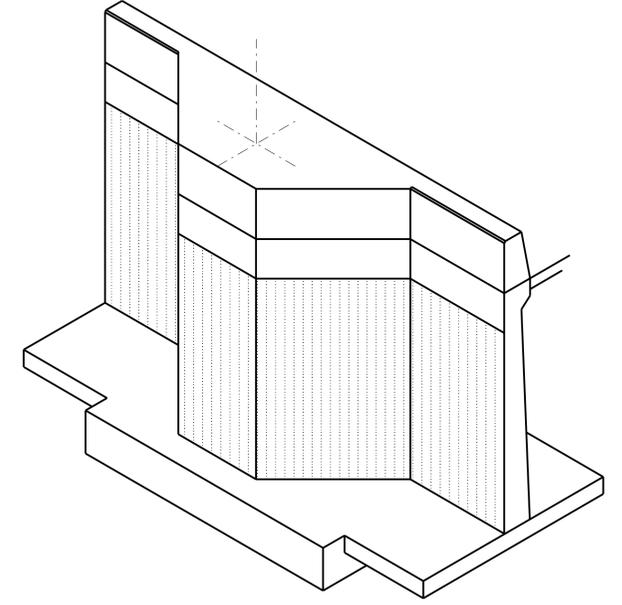
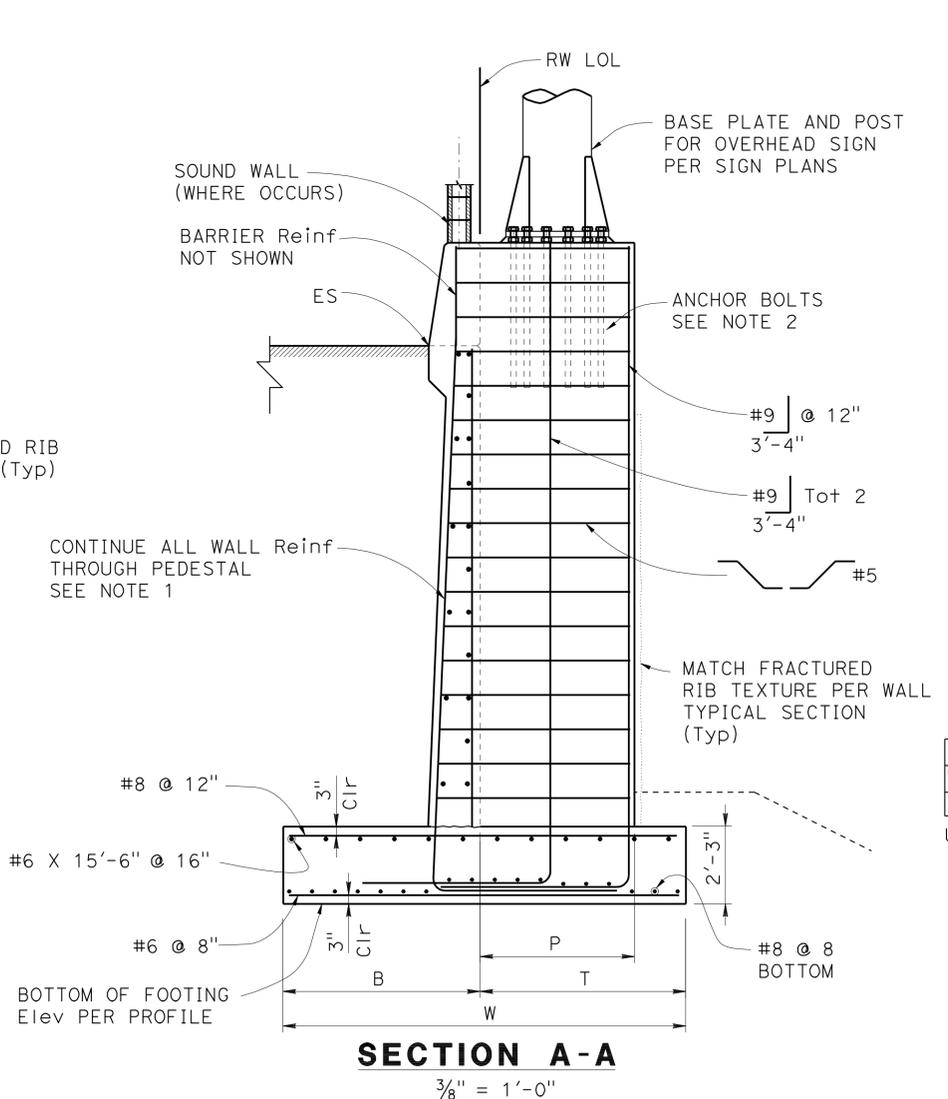
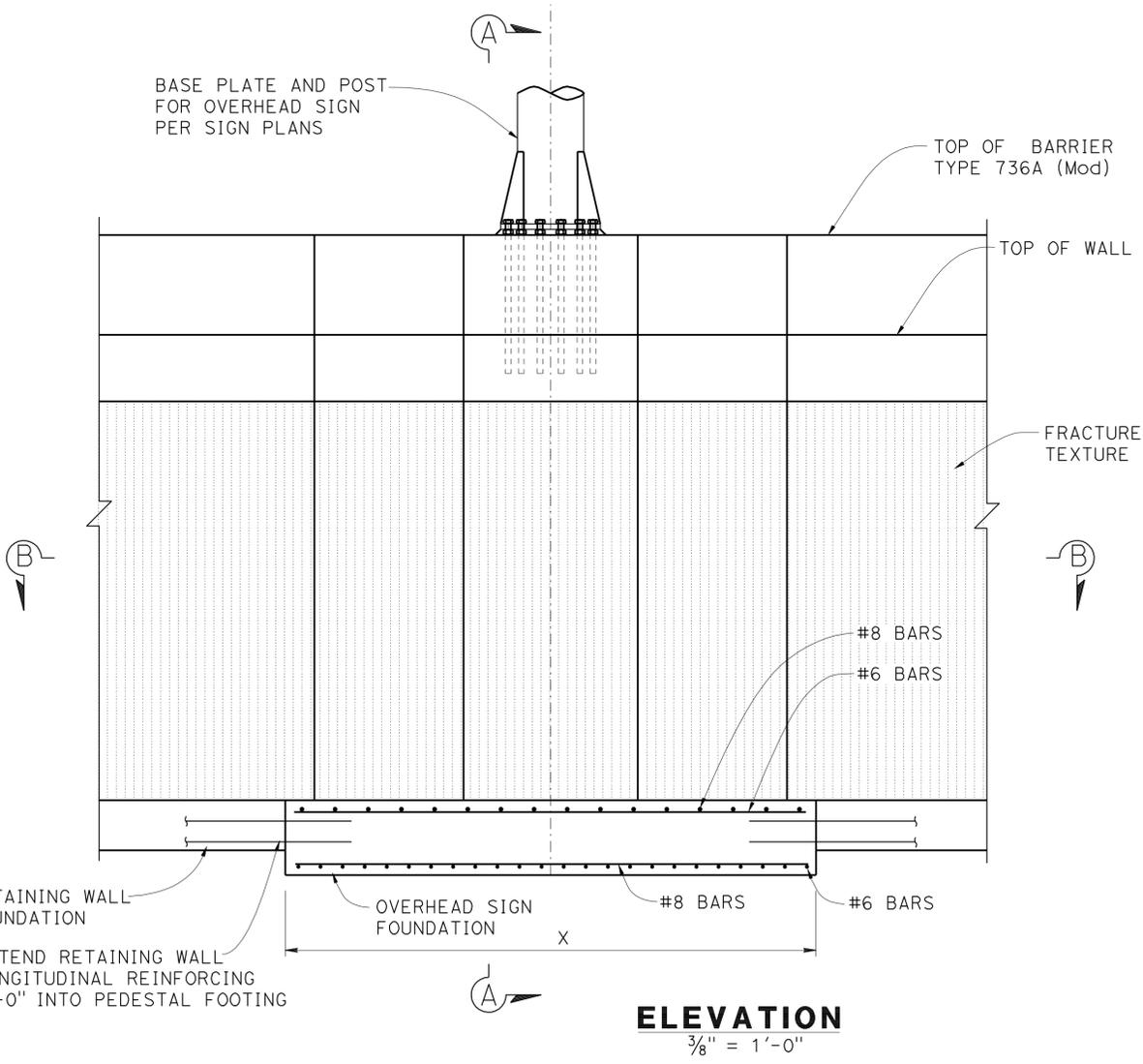
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	883	885

REGISTERED CIVIL ENGINEER
 3/15/12 DATE
 8-13-12 PLANS APPROVAL DATE
 Christopher Cho No. C74020 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



GENERAL NOTES:
 DESIGN SPECIFICATIONS:
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 4TH EDITION WITH CALIFORNIA AMENDMENTS AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 5TH EDITION 2009



SIGN PEDESTAL SCHEDULE

WALL No.	STATION	P	Q	T	B	W	X
307	11+24.30	4'-6"	5'-3"	5'-6"	5'-0"	10'-6"	16'-0"

ULTIMATE BEARING STRENGTH REQUIRED = 2.6 KSF

- NOTES**
- Reinforcement shown on Elevation and Sections is in Addition to all other Reinforcement. see "RETAINING WALL DETAILS" sheets.
 - For Anchor Bolt Size, Bolt Circle Dia and Bolt Embedment, see Std Plan S3.

DESIGN OVERSIGHT
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 CHAD HARDEN
 PROJECT ENGINEER

BRIDGE NO.	55E0128
POST MILES	4.8

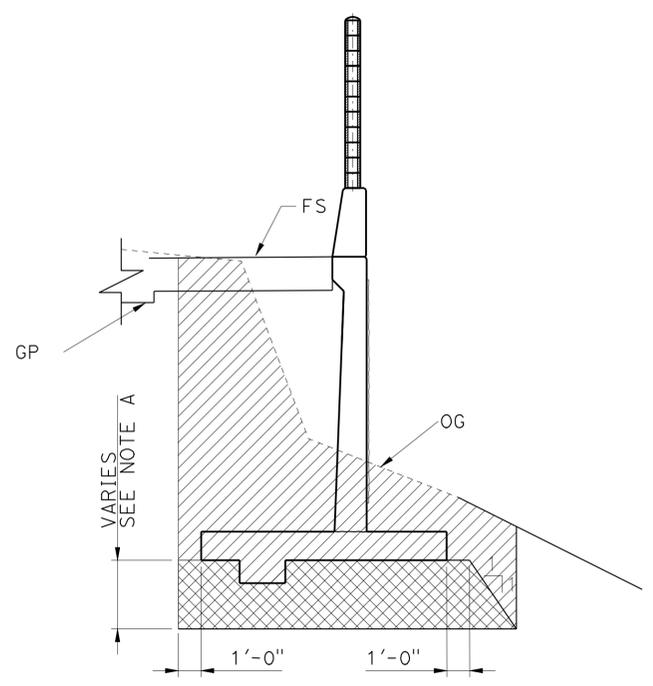
RETAINING WALL No. 307
OVERHEAD SIGN PEDESTAL DETAILS

USERNAME => s121614 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 06:31

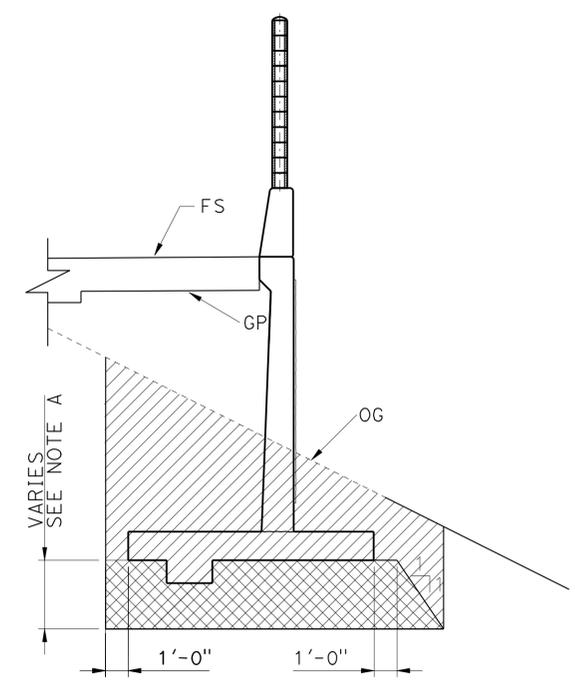
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	91	0.9/5.4	884	885


 REGISTERED CIVIL ENGINEER DATE 3/15/12
 PLANS APPROVAL DATE 8-13-12
 Christopher Cho
 No. C74020
 Exp. 06/30/13
 CIVIL
 STATE OF CALIFORNIA

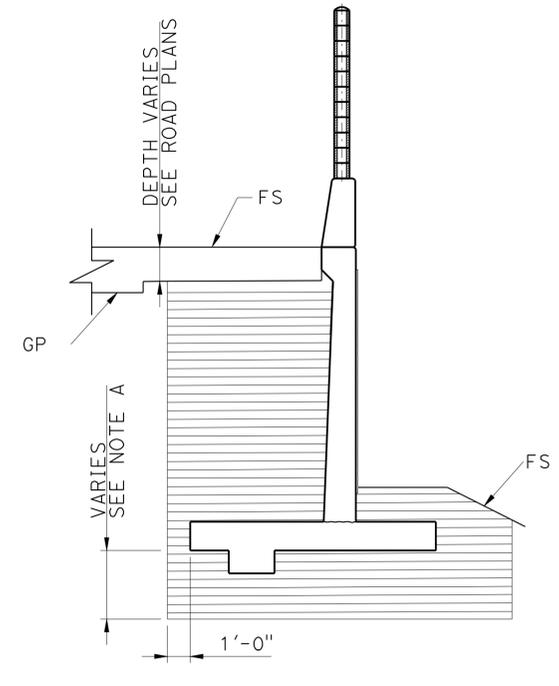
OCTA
 550 S MAIN STREET
 ORANGE, CA. 92868
 RBF CONSULTING
 14725 ALTON PARKWAY
 IRVINE, CA 92677



EXCAVATION
NO SCALE

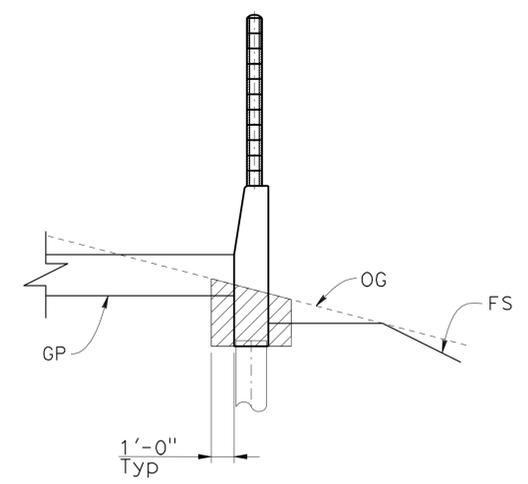


EXCAVATION
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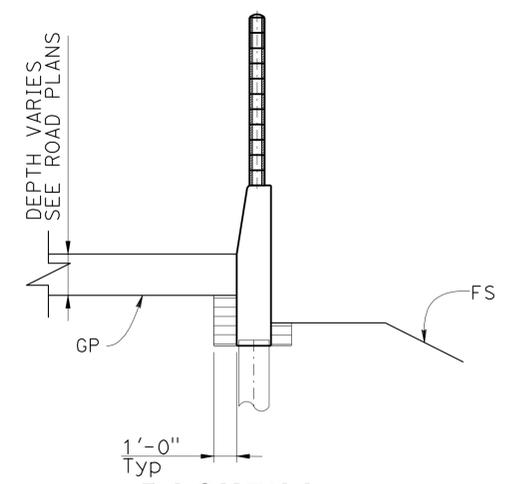


BACKFILL
NO SCALE

RETAINING WALL IN FILL AND CUT
LIMITS OF PAYMENT FOR RETAINING WALL EXCAVATION AND BACKFILL



EXCAVATION
NO SCALE



BACKFILL
NO SCALE

LEGEND:

-  Structure Excavation
-  Structure Backfill
-  Structure Over Excavation See Note A

NOTE

A. For depth of Structure Over Excavation, see Retaining Wall Typical Section(s).

Luqi Yang
 DESIGN OVERSIGHT
 3-29-12
 SIGN OFF DATE

DESIGN	BY C. CHO	CHECKED C. HARDEN
DETAILS	BY C. CHO	CHECKED C. HARDEN
QUANTITIES	BY C. CHO	CHECKED J. VOEPEL

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55E0128
POST MILES	4.8

RETAINING WALL No. 307
LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: PROJECT NUMBER & PHASE: 12000000791

2295

CONTRACT NO.: 12-0C5701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	11	12

USERNAME => s119571 DATE PLOTTED => 17-AUG-2012 TIME PLOTTED => 08:56

BENCH MARK

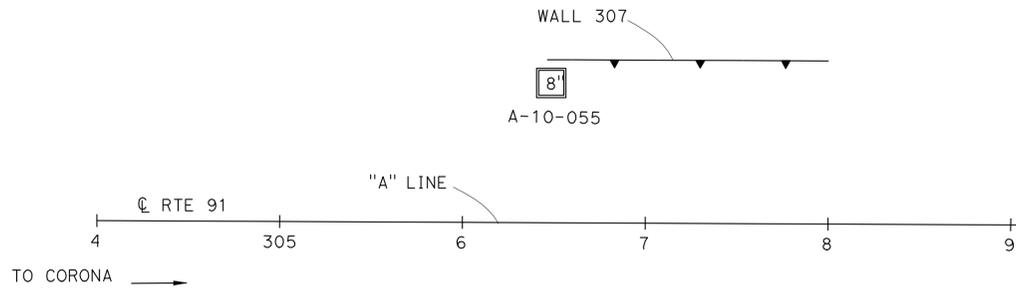
Designation: 1G-164-05 Elev = 109.804
 Described by OCS 2005 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "1G-164-05", set in the Nothwesterly Corner of a 4.5 ft. by 11.0 ft.
 Concrete Catch Basin. Monument is located in the Southeasterly Corner of
 the intersection of Magnolia Avenue and Buckingham Street, 200 ft. ±
 from the centerline of Buckingham and 47 ft. Easterly of the centerline of
 Magnolia. Monument is set level with the Sidewalk

Designation: 2F-25-04 Elev = 162.700
 Described by OCS 2004 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2F-25-04", set in the Nothwesterly Corner of a 7.5 ft. by 4.5
 ft. Concrete Catch Basin. Monument is located in the Northeasterly Corner of
 the intersection of Harbor Boulevard and the Eastbound 91 Freeway On-Ramp,
 39 ft. Northerly of the centerline of the On-Ramp and 40 ft. Easterly of the
 centerline of Harbor Boulevard. Monument is set level with the Sidewalk

Designation: 2D-35-86 Elev = 188.576
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk
 Stamped "2D-35-86", set in the Nothwesterly Corner of a 7 ft. by 14 ft.
 Concrete Catch Basin. Monument is located in the Southeasterly Corner of
 the intersection of Placentia Avenue and State College Boulevard, 38 ft.
 Easterly of the centerline of State College and 70.5 ft. Southerly of the
 centerline of Placentia. Monument is set level with the Sidewalk

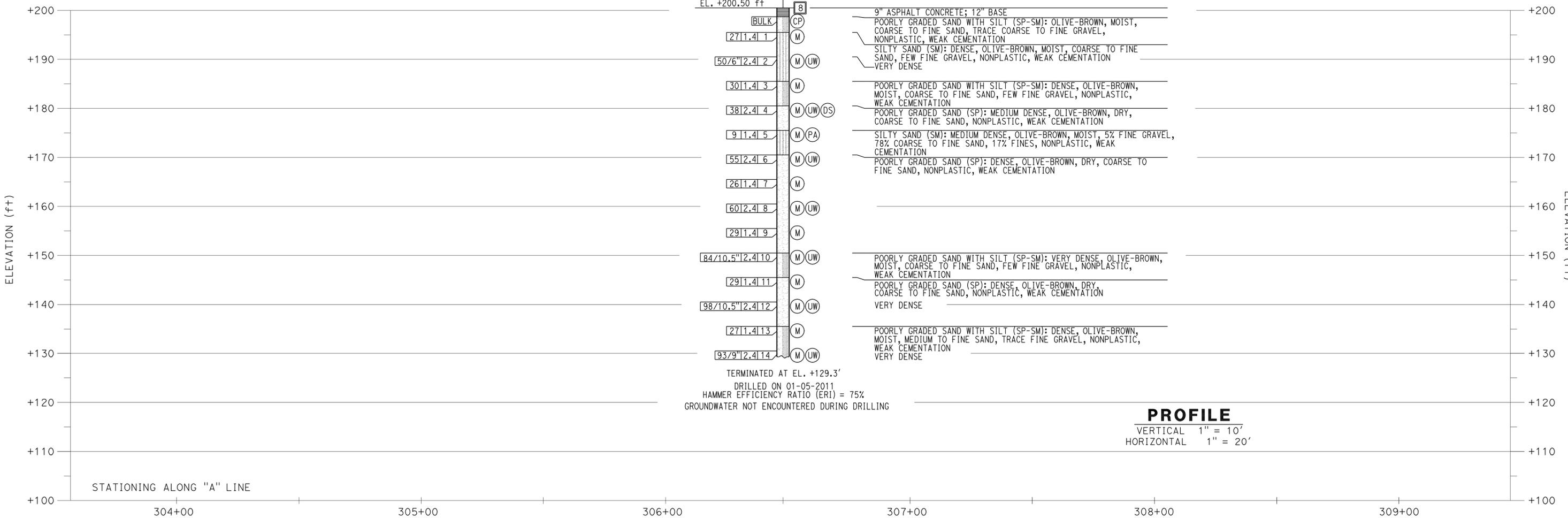


← TO LOS ANGELES



PLAN

1" = 50'



A-10-055

PROFILE

VERTICAL 1" = 10'
 HORIZONTAL 1" = 20'

NOTES:

- (1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
- (2) 2.4" samples were taken using a California Modified Sampler.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.
- (4) Blowcounts for 2.4" Modified California Ring Samplers are raw blowcounts. A conversion factor of 0.5 can be used to convert the 2.4" Modified California Ring Sampler blowcounts to Standard Penetration Test (SPT) blowcounts.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Oran	91	0.9/5.4	885	885

REGISTERED ENGINEER *G. Gunaranjan* DATE 3/15/12

PLANS APPROVAL DATE 8-13-12

REGISTERED PROFESSIONAL ENGINEER
 S. PIRATHIVIRAJ
 No. C71662
 EXP. 12/31/11
 CIVIL
 STATE OF CALIFORNIA

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

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
 17800 NEWHOPE STREET, SUITE B
 FOUNTAIN VALLEY, CA 92708

DESIGN BY *Luqi Yang*
 Luqi Yang
 3-29-12
 SIGN OFF DATE

DRAWN BY J. FANG
 CHECKED BY G. J. GUNARANJAN

R. JIE
 FIELD INVESTIGATION BY:
 DATE: 1/2011

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

S. PIRATHIVIRAJ
 PROJECT ENGINEER

BRIDGE No. 55E0128
 POST MILES 4.8

RETAINING WALL No. 307

LOG OF TEST BORING 1 OF 1