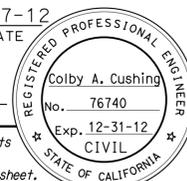
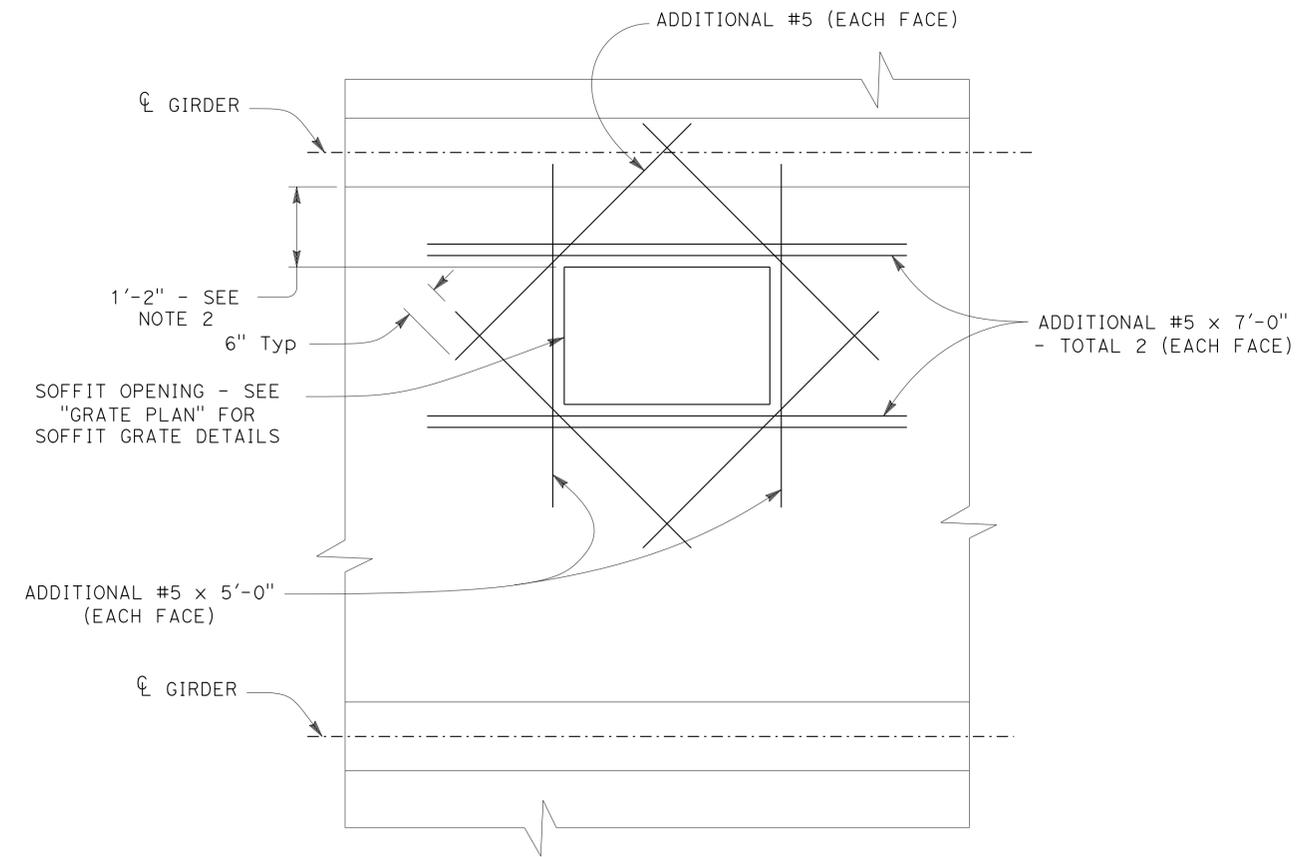


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	501	650

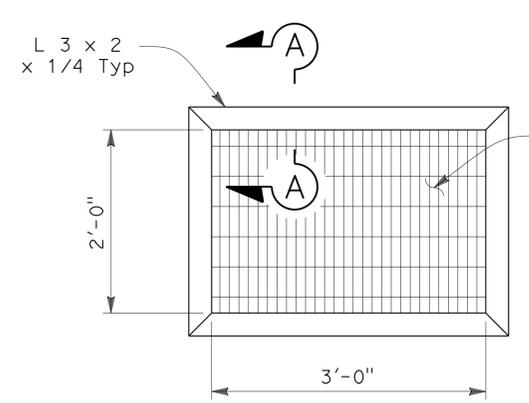


 REGISTERED CIVIL ENGINEER DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
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SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101
 SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



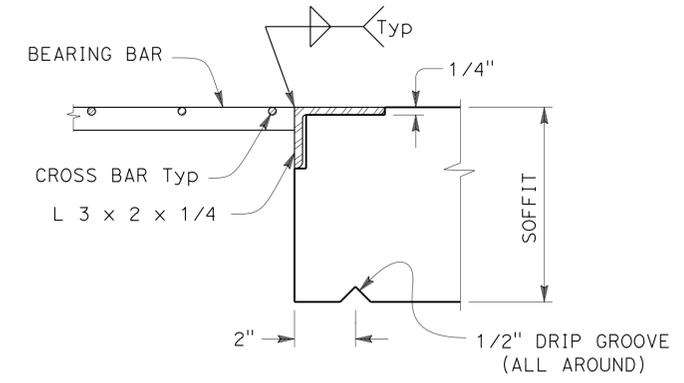
- NOTES:
1. Bend reinforcing into girder as needed.
 2. Dimension shown is to the lower side of the cell.



GRATE PLAN
1" = 1'-0"

NOTE: Soffit grate shall be removable.

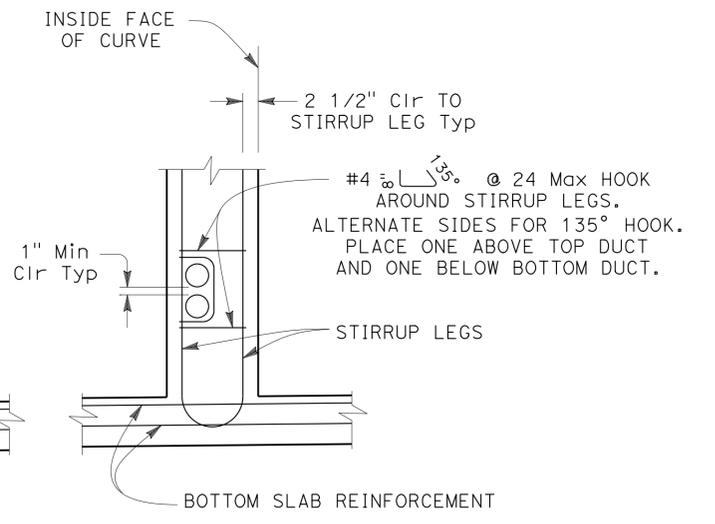
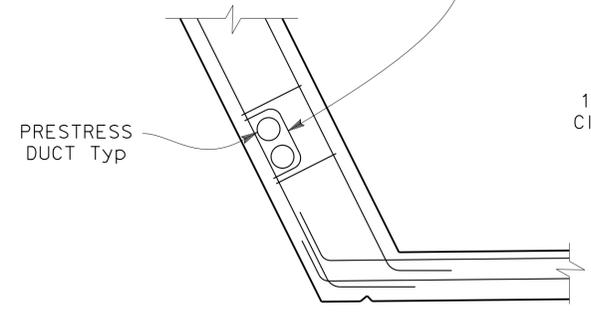
PLAN
3/4" = 1'-0"



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

SOFFIT ACCESS OPENING DETAILS
As Noted

#4 @ 24 Max PLACE DUCT AGAINST AND HOOK TIE AROUND STIRRUP LEG ON OUTSIDE OF CURVE.



NOTE: Details shown are for a curve to the right with the section taken looking ahead on station. These details supercede duct patterns shown in Standard Plan B8-5, and shall be used in the curved portion of the five northern most girders.

PART GIRDER SECTION
No Scale

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


 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED C. Cushing
QUANTITIES	BY C. Cushing	CHECKED C. Tornaci

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER
 BRIDGE NO. 57-1222
 POST MILES 5.07

PALOMAR STREET OC (REPLACE)
GIRDER DETAILS NO. 2

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:58

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	502	650

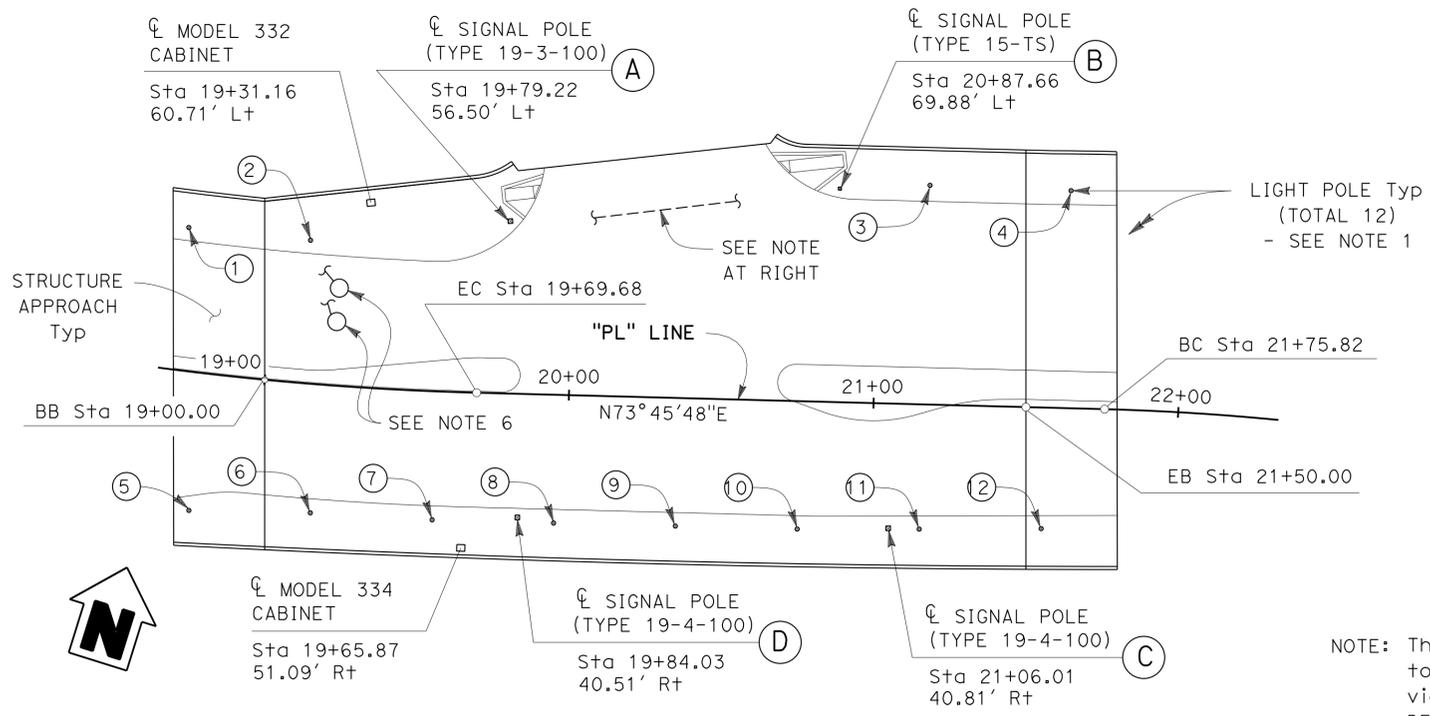
REGISTERED CIVIL ENGINEER *Colby A. Cushing* DATE 4-27-12

PLANS APPROVAL DATE 06-25-12

REGISTERED PROFESSIONAL ENGINEER
Colby A. Cushing
 No. 76740
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101

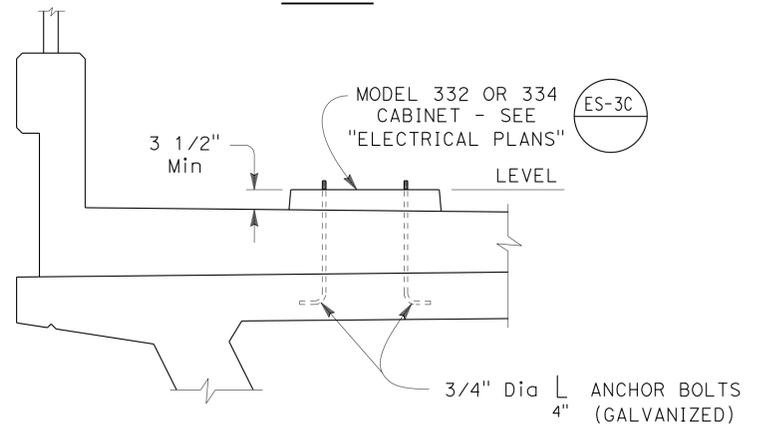
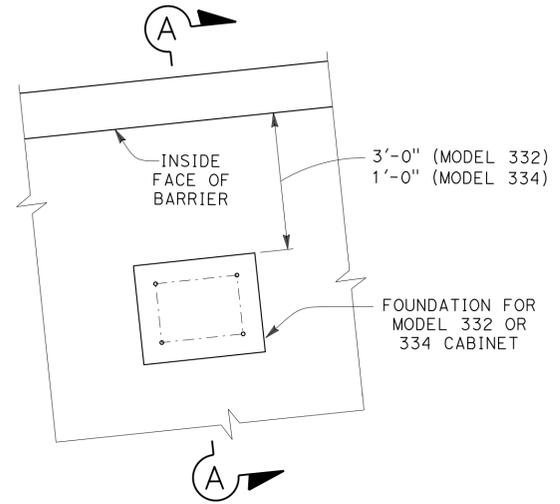
SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



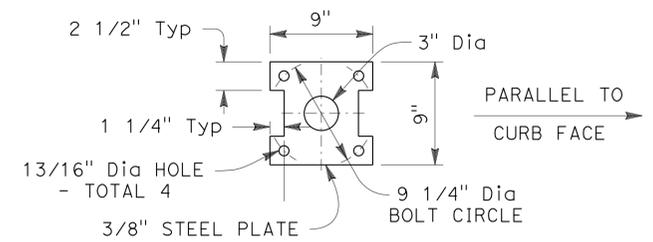
Number	Station
1	18+68.99
2	19+11.16
3	21+23.14
4	21+63.15
5	18+80.08
6	19+18.19
7	19+56.63
8	19+95.97
9	20+35.97
10	20+75.97
11	21+16.02
12	21+56.04

- NOTES:
- For light pole locations and anchorage details, see this sheet.
 - For Model 332 and 334 Cabinet foundations, see this sheet.
 - For Details (A), (B), (C), and (D), see "SIGNAL AND LIGHT SUPPORT DETAILS NO. 2" sheet.
 - All anchor bolts shall be held in true vertical position by the means of anchor plates or suitable templates.
 - Only fixtures located on the bridge or structure approach shown.
 - Preformed inductive loops, see "Electrical Plans".
 - For additional details, see "Electrical Plans".

NOTE: The "Electrical Plans" show conduit needing to pass through the bridge deck in this vicinity. See "SIGNAL AND LIGHTING CONDUIT DETAILS" on "MISCELLANEOUS DETAILS" sheet for more information. All other conduit on the bridge shall run within the sidewalk or approach slab.

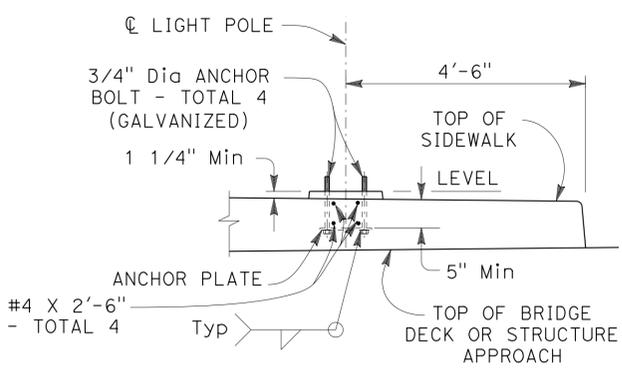


SIGNAL LOCATION PLAN
 1" = 30'-0"



NOTE: Galvanizing of plate not required.

ANCHOR PLATE



SECTION

LIGHT ANCHORAGE DETAILS

No Scale

NOTE: Model 332 Cabinet shown, Model 334 Cabinet similar.

CABINET ANCHORAGE DETAILS

No Scale

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

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED C. Cushing
QUANTITIES	BY C. Cushing	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1222
POST MILES	5.07

PALOMAR STREET OC (REPLACE)
SIGNAL AND LIGHT SUPPORT DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
4-28-11 4-27-11 2-28-12	24	47

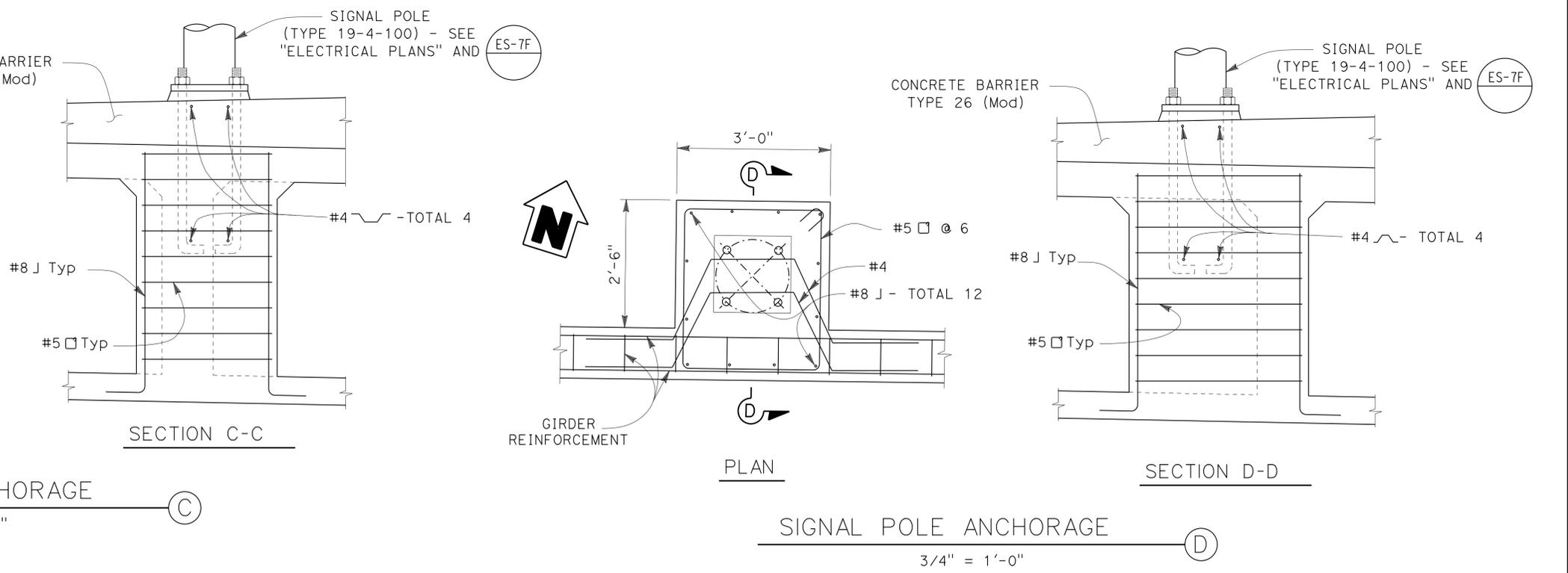
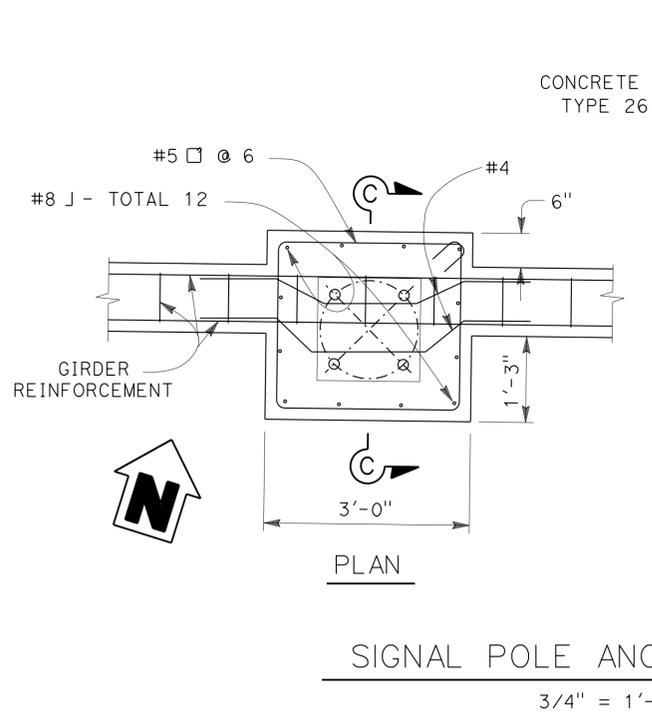
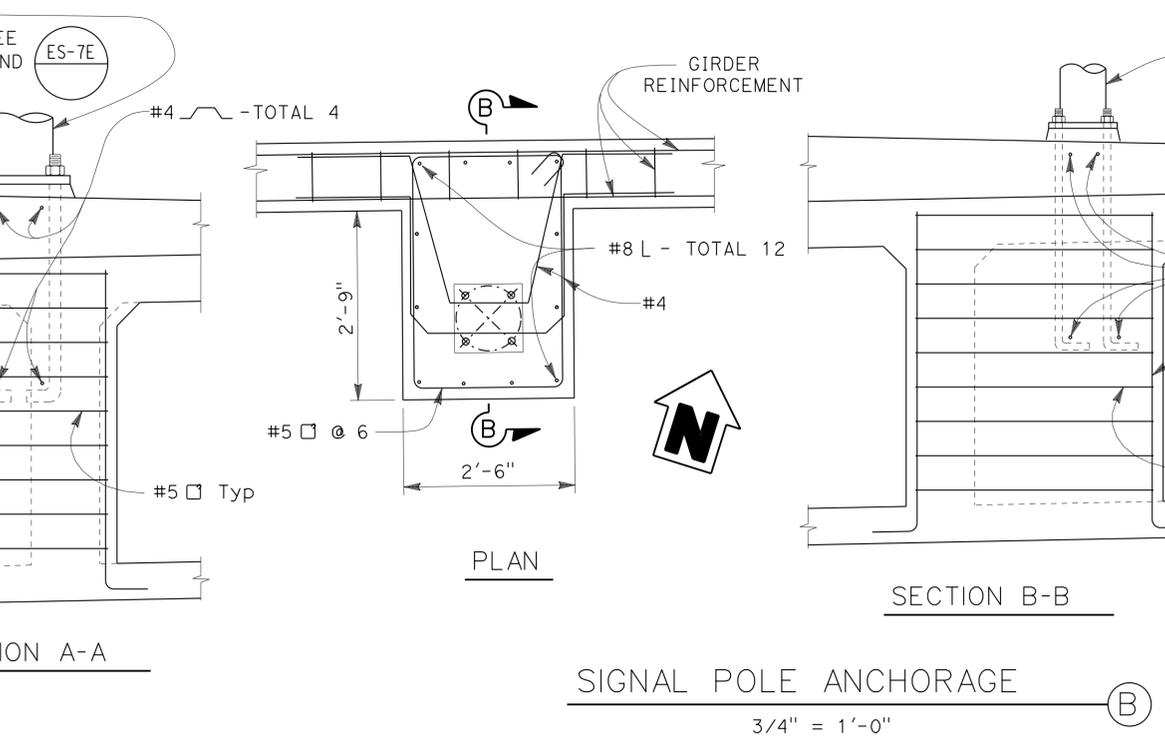
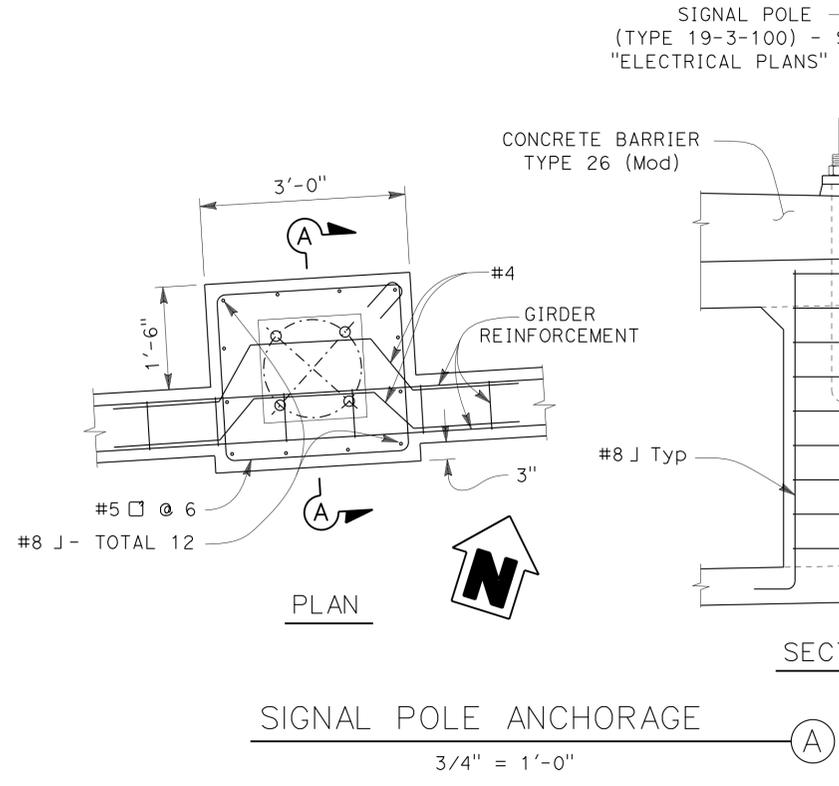
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TIME PLOTTED => 07:58
 USERNAME => s127400 DATE PLOTTED => 13-SEP-2012

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	503	650

REGISTERED CIVIL ENGINEER *Colby A. Cushing* DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
 REGISTERED PROFESSIONAL ENGINEER
 Colby A. Cushing
 No. 76740
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101
 SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



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

DESIGN OVERSIGHT: *Norbert Gee*
 SIGN OFF DATE: 5-4-12

DESIGN	BY: C. Cushing	CHECKED: C. Tornaci
DETAILS	BY: T. Brittain	CHECKED: C. Cushing
QUANTITIES	BY: C. Cushing	CHECKED: C. Tornaci

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER: Craig Shannon

BRIDGE NO.	57-1222
POST MILES	5.07

PALOMAR STREET OC (REPLACE)
SIGNAL AND LIGHT SUPPORT DETAILS NO. 2

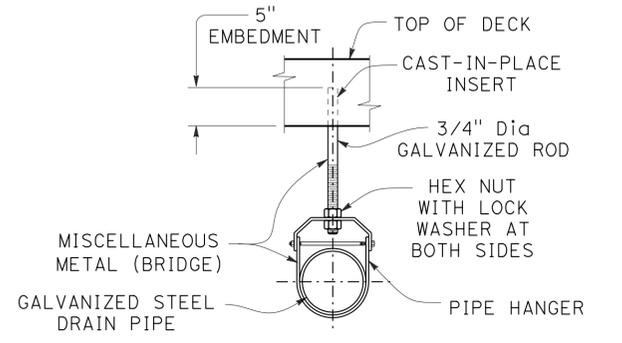
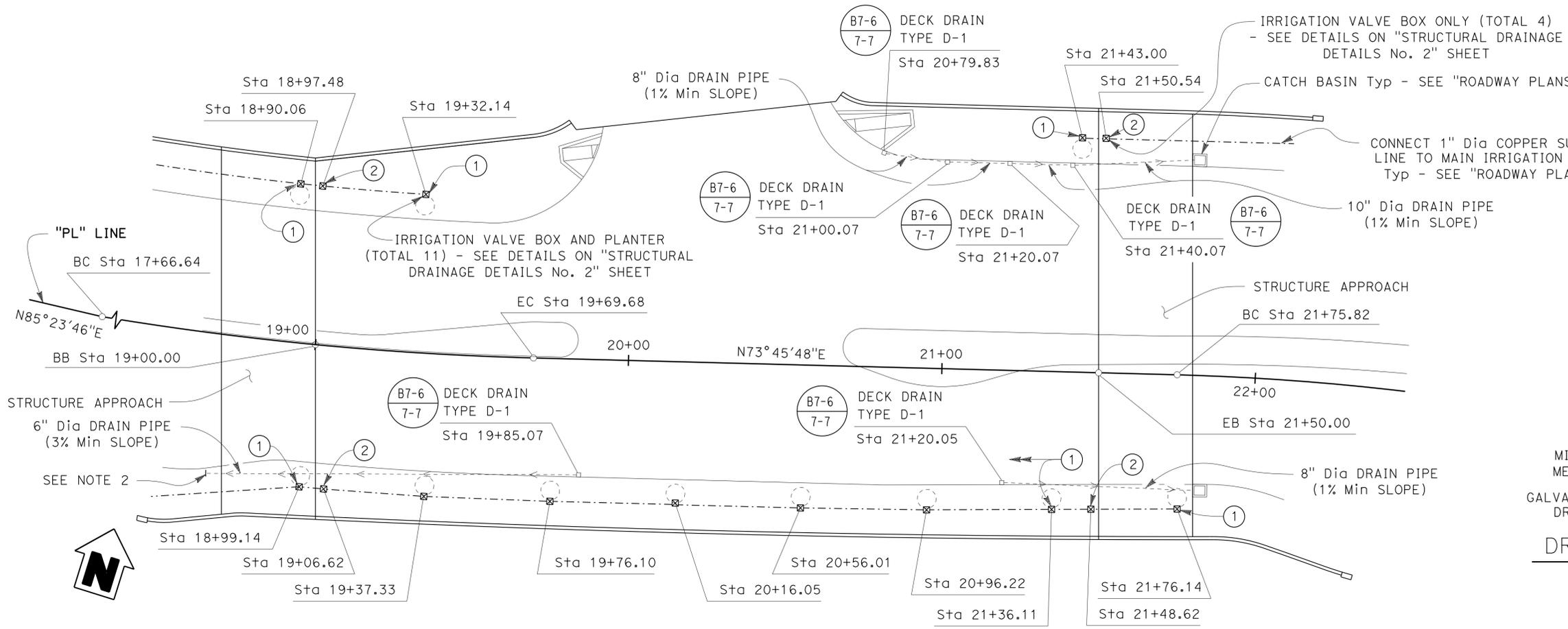
USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:58

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	504	650

REGISTERED CIVIL ENGINEER
 DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
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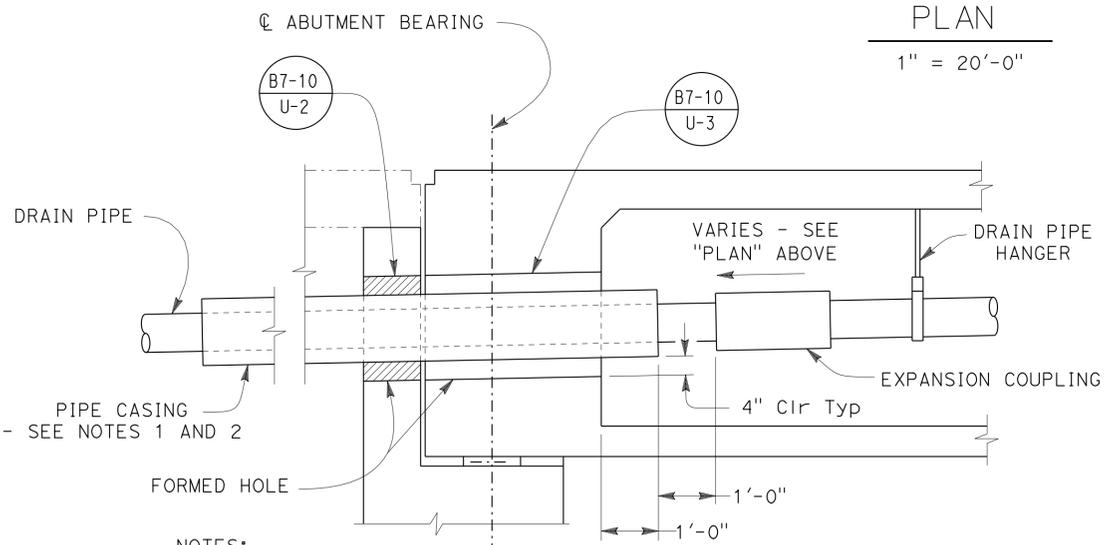
REGISTERED PROFESSIONAL ENGINEER
 Colby A. Cushing
 No. 76740
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
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 SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



DRAIN PIPE HANGER DETAIL

No Scale



- NOTES:
1. Pipe casing OD = drain pipe diameter + 4" (1/4" minimum wall thickness).
 2. Pipe casing shall extend 5'-0" min beyond the end of approach slab or terminate at catch basin, whichever is less.

DECK DRAIN PIPE DETAIL AT ABUTMENT

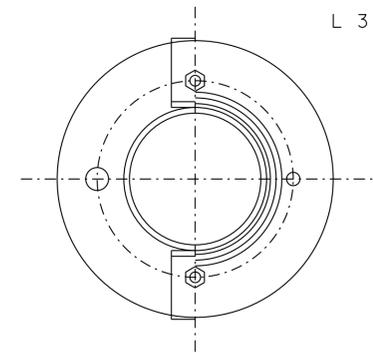
No Scale

LEGEND:

- > Indicates deck drain pipe and direction of Flow
- > Indicates 1" copper supply line in 2" irrigation casing. See details on "STRUCTURE DRAINAGE DETAILS NO. 2" sheet.

NOTES:

1. For irrigation valve box and planter details, see "STRUCTURAL DRAINAGE DETAILS NO. 2" sheet.
2. Connect deck drain into roadway drainage system. See "Roadway Plans".



NOTES:

1. All hardware to be galvanized.
2. For "a" dimension, see B6-21
3. Expansion coupling with 4 bolts shown. Coupling with a greater number of bolts is allowed.
4. Adjust dimension to suit coupler end ring bolt circle.

EXPANSION COUPLING

No Scale

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

DESIGN OVERSIGHT
 Norbert Gee
 SIGN OFF DATE 5-4-12

DESIGN	BY C. Cushing	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED C. Cushing
QUANTITIES	BY C. Cushing	CHECKED C. Tornaci

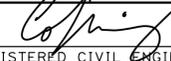
PREPARED FOR THE
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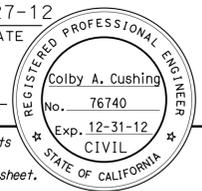
PROJECT ENGINEER
 Craig Shannon

BRIDGE NO. 57-1222
 POST MILES 5.07
PALOMAR STREET OC (REPLACE)
STRUCTURAL DRAINAGE DETAILS NO. 1

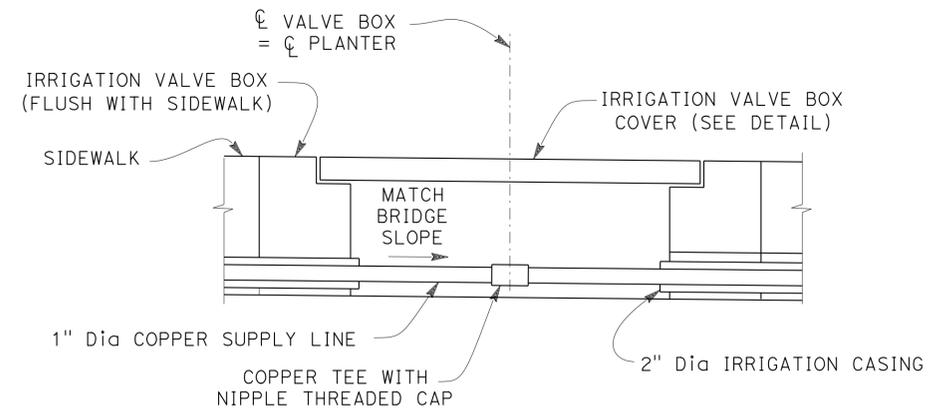
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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 REGISTERED CIVIL ENGINEER DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
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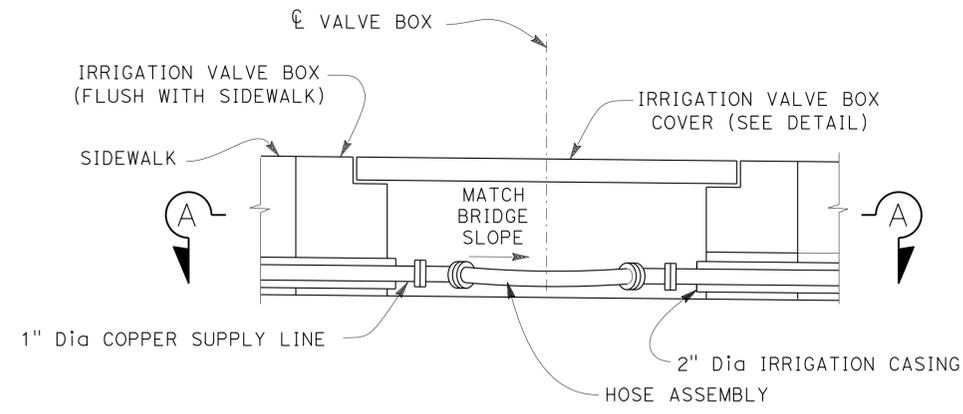


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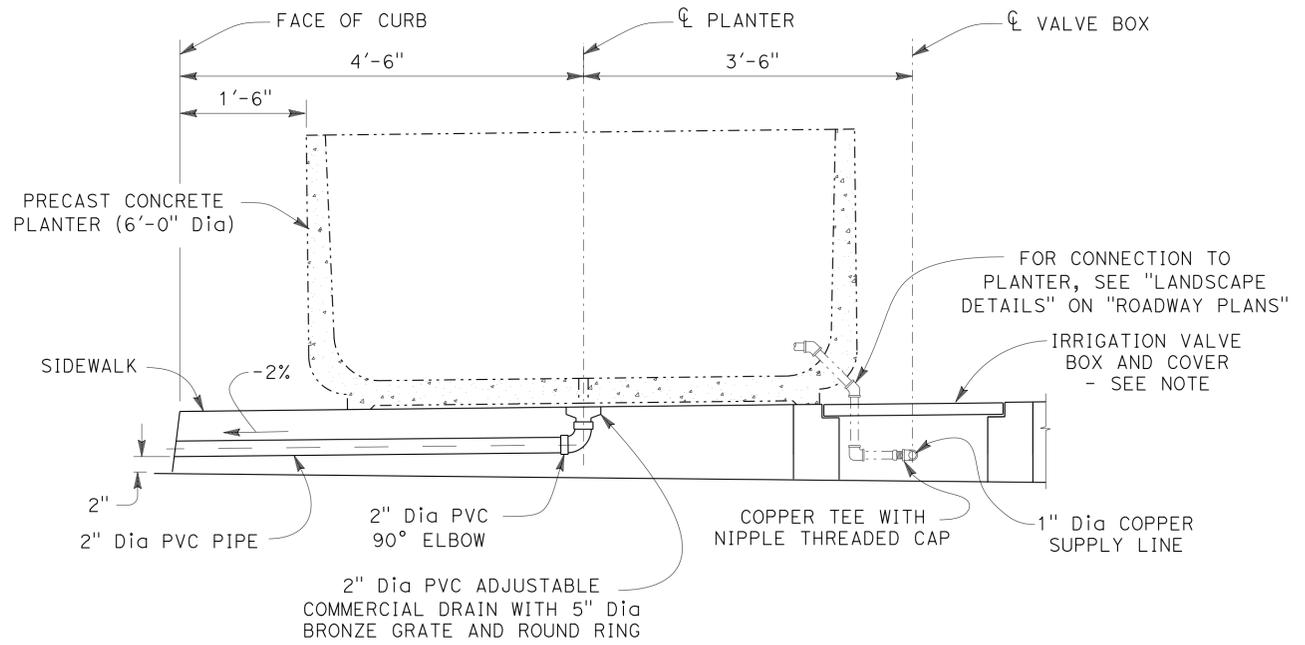
NOTE: Precast concrete planter not shown.

LONGITUDINAL SECTION DETAIL ①



NOTE: These valve boxes are only to provide expansion joint for 1" copper supply line. Precast concrete planters will not be installed at these locations.

LONGITUDINAL SECTION DETAIL ②



NOTE: Irrigation valve box cover shall be clear from the planter base so that the cover can be removed for maintenance.

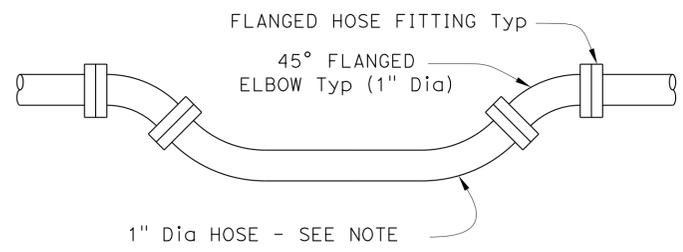
TRANSVERSE SECTION DETAIL ①

- NOTES:
- These details are for future precast concrete planters to be installed after bridge construction.
 - See "LANDSCAPE DETAILS" in "Roadway Plans" for additional details.

IRRIGATION VALVE BOX AND PIPING DETAILS

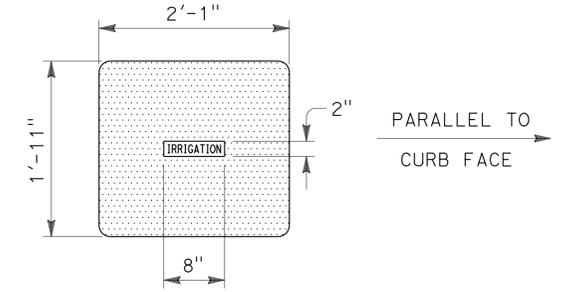
No Scale

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



NOTE: Provide enough slack in hose such that at least 2" of movement is possible in either longitudinal direction and still allows free flow of water.

VIEW A-A HOSE ASSEMBLY



COVER DETAIL


 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED C. Cushing
QUANTITIES	BY C. Cushing	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1222
POST MILES	5.07

PALOMAR STREET OC (REPLACE)
STRUCTURAL DRAINAGE 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: 2762
 PROJECT NUMBER & PHASE: 1100020051

CONTRACT NO.: 11-2T1821

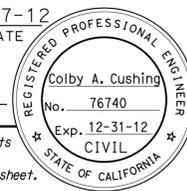
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
4-28-11 4-27-12 2/28/12	27	47

FILE => 57-1222-o-sdet02.dgn

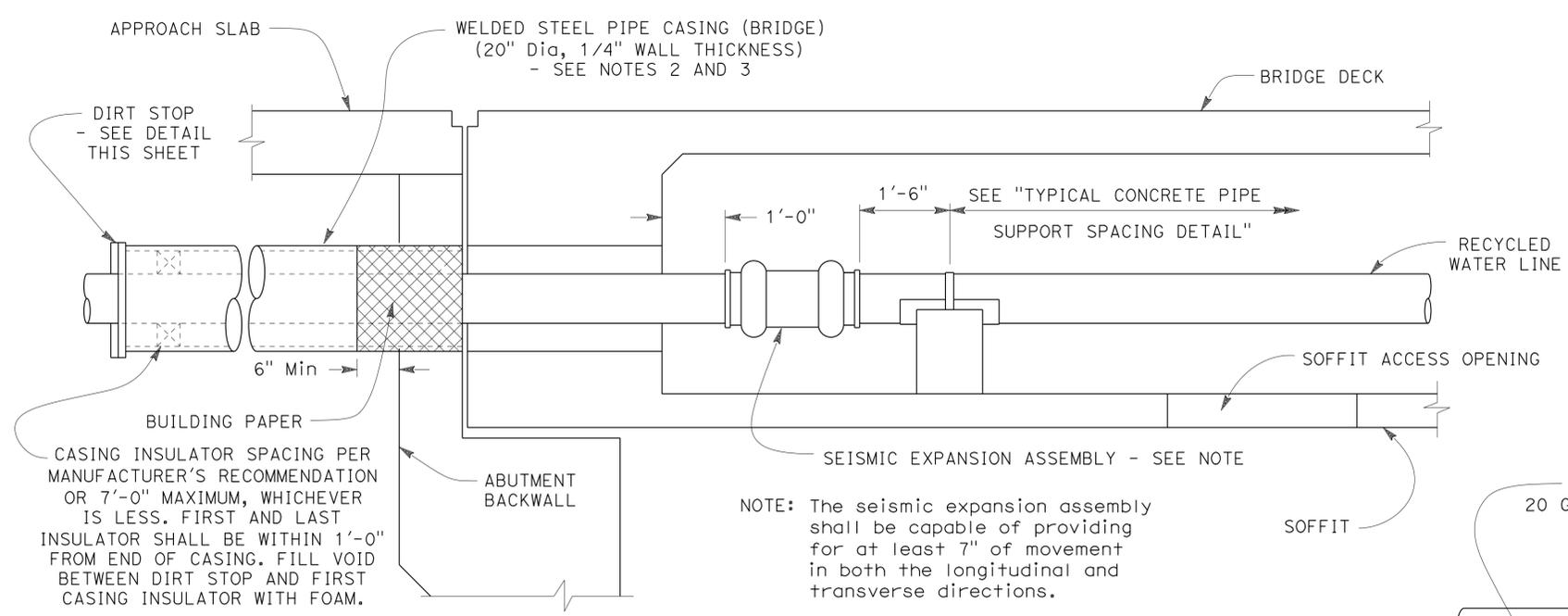
USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:58

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	506	650



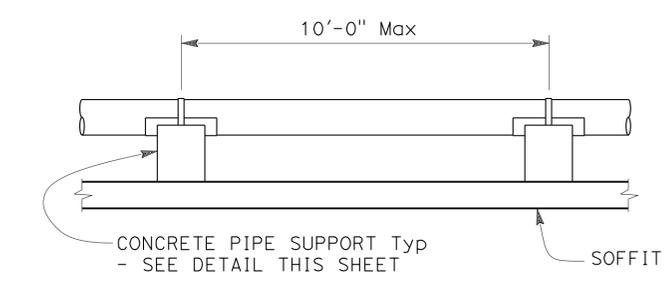
 4-27-12 DATE
 REGISTERED CIVIL ENGINEER
 06-25-12 PLANS APPROVAL DATE
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 SAN DIEGO, CALIFORNIA 92101
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 SAN DIEGO, CALIFORNIA 92131



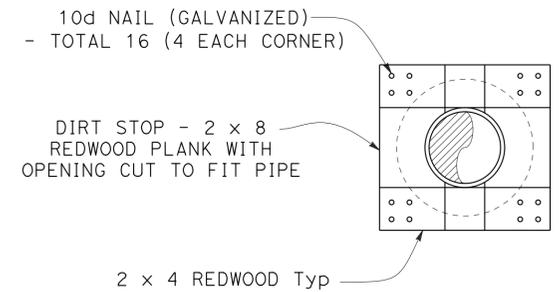
PIPE INSTALLATION AT ABUTMENTS

No Scale



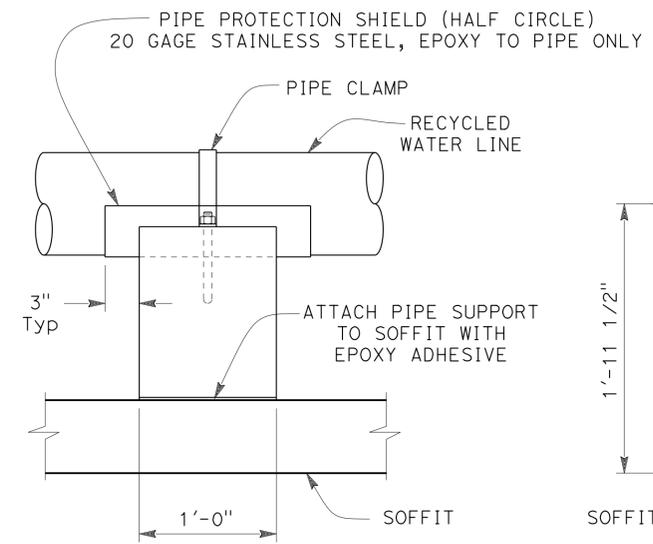
TYPICAL CONCRETE PIPE SUPPORT SPACING DETAIL

No Scale

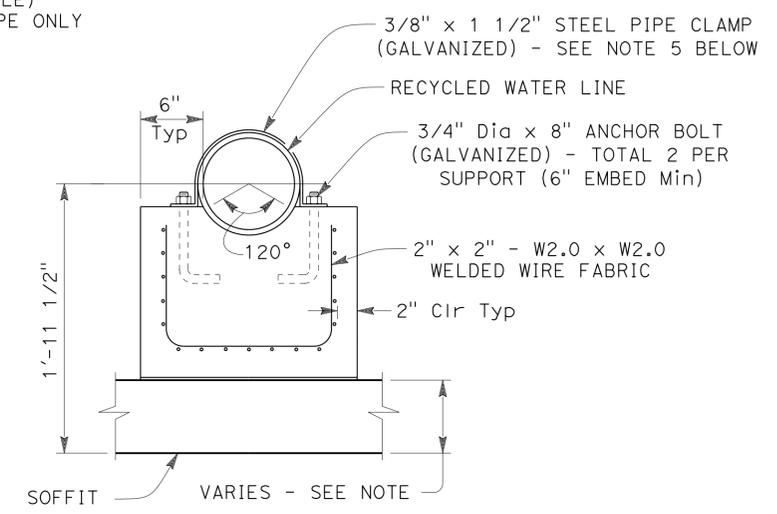


DIRT STOP DETAIL

No Scale

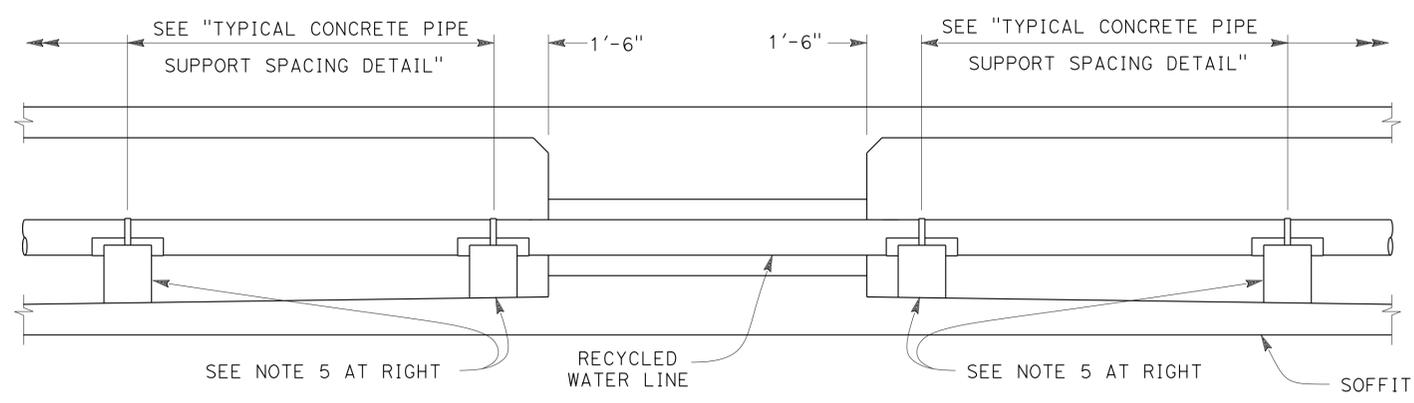


ELEVATION



CONCRETE PIPE SUPPORT

No Scale



PIPE INSTALLATION AT BENT CAP

No Scale

NOTES:

- For size and location of openings at abutments and bent cap, see "GENERAL PLAN (2 OF 2)" sheet.
- Casing shall extend 5'-0" beyond end of approach slab.
- Casing may be cast-in-place after tightly wrapping 2 layers of 15 lb building paper or sealed per Caltrans Standard Plan B7-10 to prevent corrosion.
- For locations of soffit access openings, see "GIRDER LAYOUT NO. 1" sheet.
- Pipe shall be clamped tight at the four pipe supports nearest the bent cap. At all other pipe supports, the pipe clamp shall be shimmed with steel washer plates to provide 1/4" clearance between recycled water line and pipe clamp.

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


 DESIGN OVERSIGHT Norbert Gee
 5-4-12 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED C. Cushing
QUANTITIES	BY C. Cushing	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1222
POST MILES	5.07

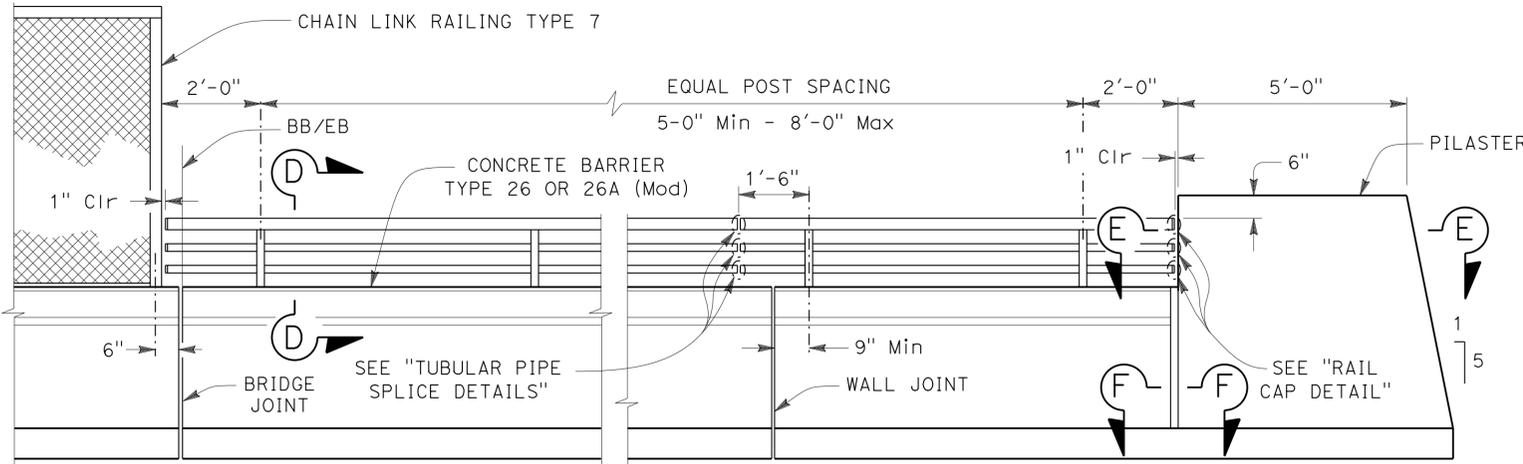
PALOMAR STREET OC (REPLACE)
RECYCLED WATER LINE INSTALLATION

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:58

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	508	650

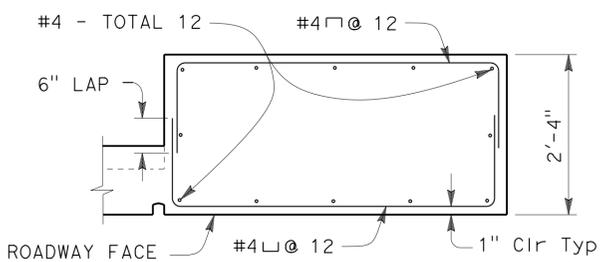
REGISTERED CIVIL ENGINEER
 DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
 REGISTERED PROFESSIONAL ENGINEER
 Colby A. Cushing
 No. 76740
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

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 SAN DIEGO, CALIFORNIA 92131



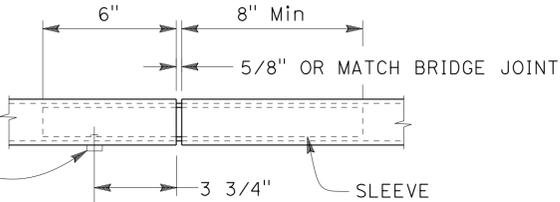
TYPICAL ELEVATION

1/2" = 1'-0"

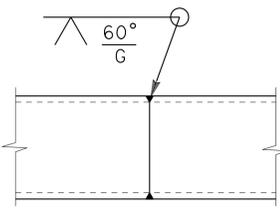


SECTION E-E

3/4" = 1'-0"

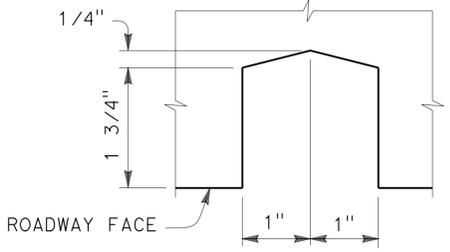


VIEW G-G



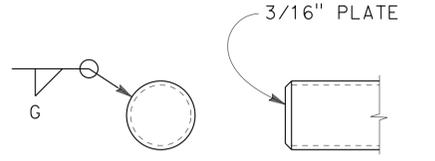
TUBE WELDED SPLICE

No Scale



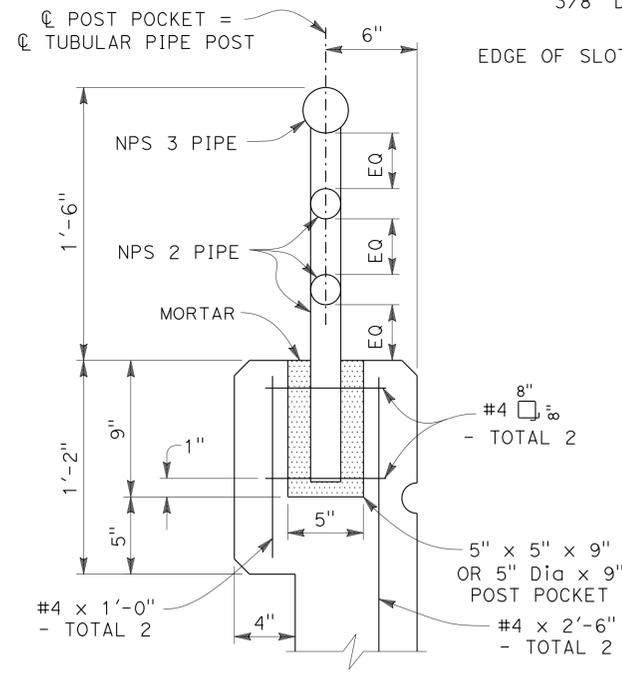
SECTION F-F

No Scale



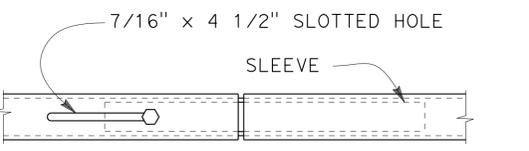
RAIL CAP DETAIL

No Scale

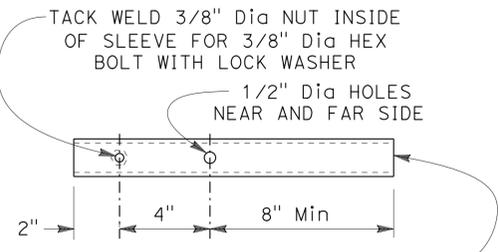


POST ANCHORAGE DETAILS

2" = 1'-0"



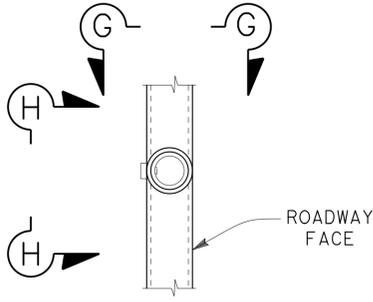
VIEW H-H



SLEEVE

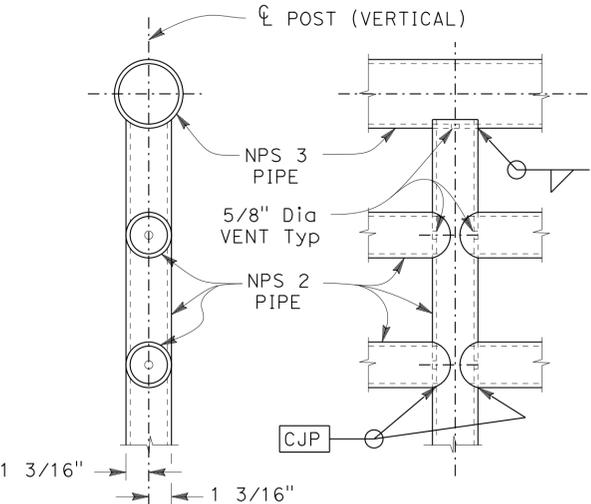
TUBULAR PIPE SPLICE DETAILS

No Scale



SECTION

NOTE: 3/8" nut tack welded to sleeve may be replaced by drilled and tapped hole in sleeve.



SECTION D-D

ELEVATION

For typical welded section

RAIL CONNECTION DETAILS

No Scale

NOTES:

- Galvanize rail assembly after fabrication.
- Post shall be normal to railing.
- Rail tubular pipe shall be shop bent or fabricated to fit horizontal curve when radius is less than 950 feet.
- Tubular pipe splices shall be located in the pipes spanning bridge or wall joints. Increase joint width in pipes to match the expansion joint width and increase sleeve length correspondingly.
- Top rail tubular pipe shall be continuous over not less than two posts.
- For details and reinforcement not shown, see STANDARD PLAN B11-54.
- All tubular pipe posts and rails are NPS standard weight A53 grade B.

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

DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED C. Cushing
QUANTITIES	BY C. Cushing	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER
 Craig Shannon

BRIDGE NO.	57-1222
POST MILES	5.07

PALOMAR STREET OC (REPLACE)
BARRIER AND RAILING 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: 2762 1100020051

CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

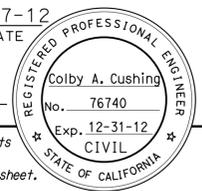
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		30
		47

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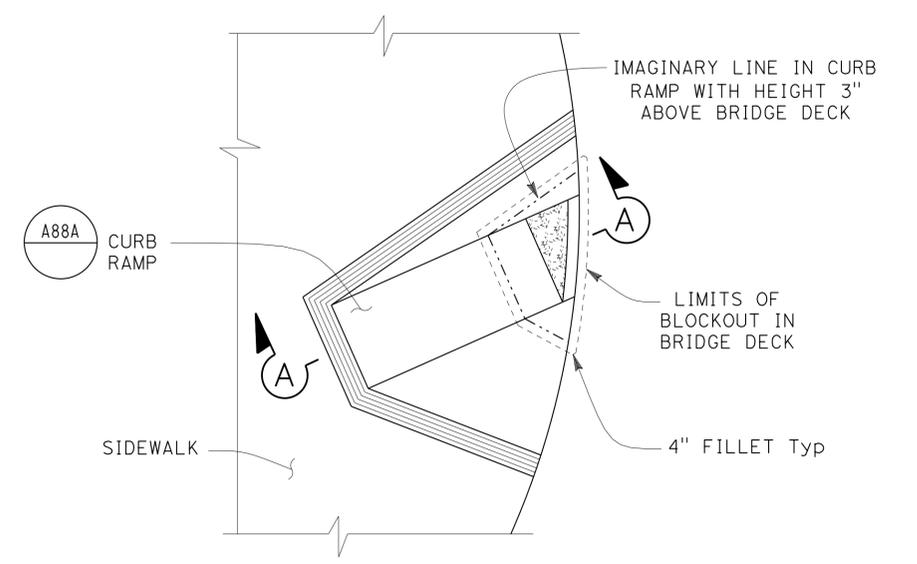
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	509	650


 REGISTERED CIVIL ENGINEER DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
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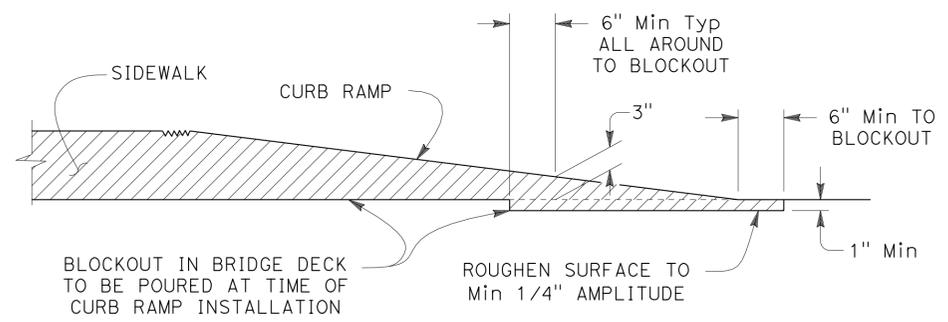


SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101
 SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



NOTE: Northwest curb ramp shown, northeast curb ramp similar.

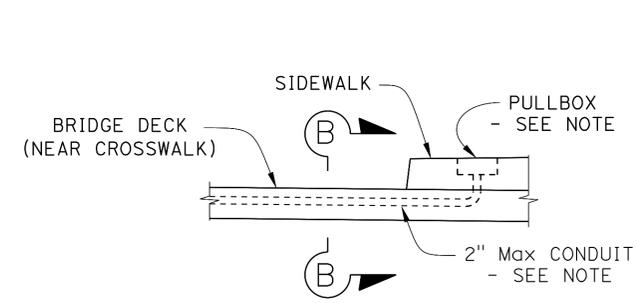
PLAN



NOTE: Contractor may elect to sawcut and remove concrete instead of blockout, but sawcut shall not strike typical deck reinforcement.

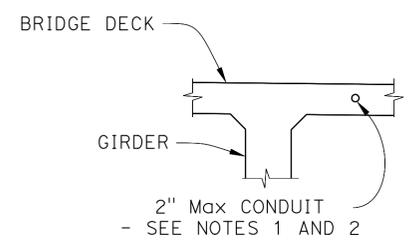
CURB RAMP DETAILS

No Scale



NOTE: For conduit and pullbox locations, see "Electrical Plans".

ELEVATION (LOOKING NORTH)



NOTES:

1. Place conduit between top and bottom layers of deck reinforcement.
2. Conduit to run parallel to typical deck reinforcement (longitudinal).

SECTION B-B

SIGNAL AND LIGHTING CONDUIT DETAILS

No Scale

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


 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED C. Cushing
QUANTITIES	BY C. Cushing	CHECKED C. Tornaci

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1222
POST MILES	5.07

PALOMAR STREET OC (REPLACE)
MISCELLANEOUS DETAILS

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

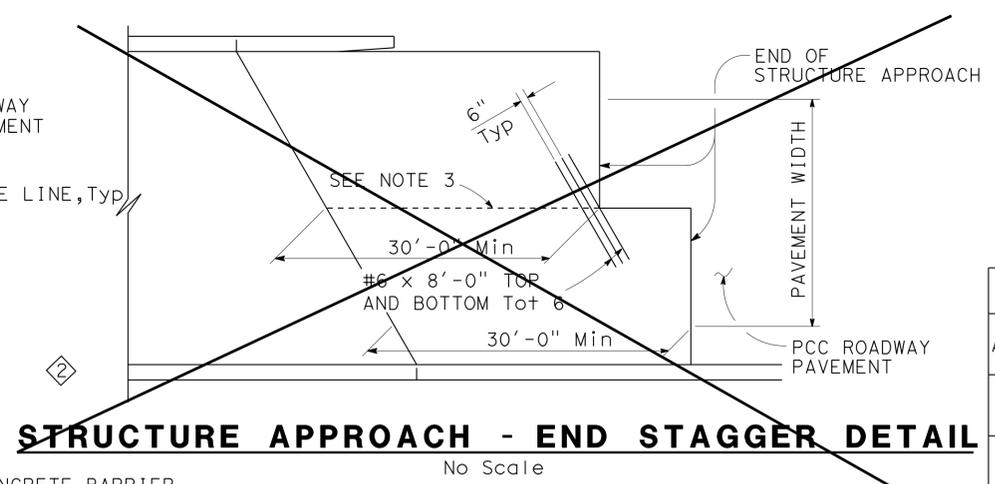
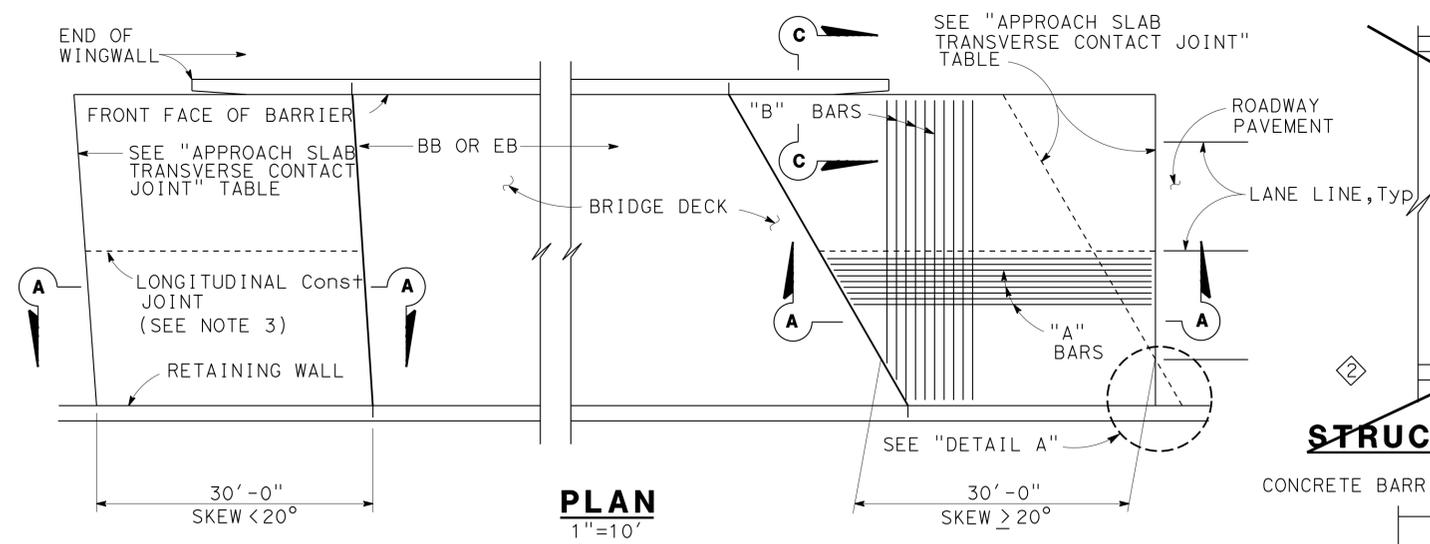
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

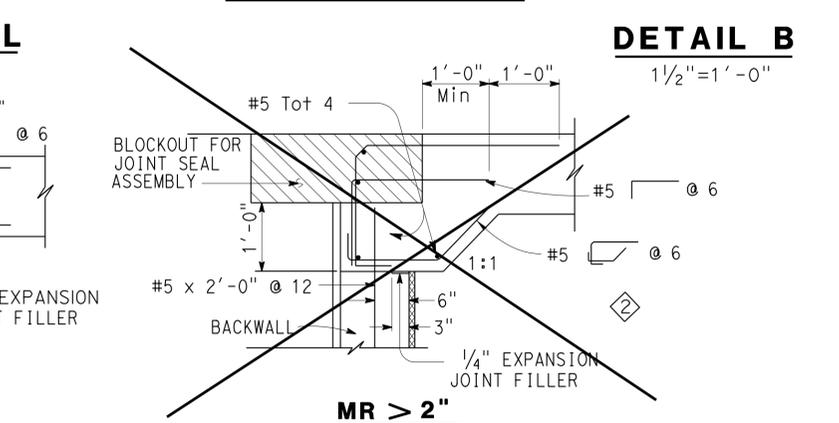
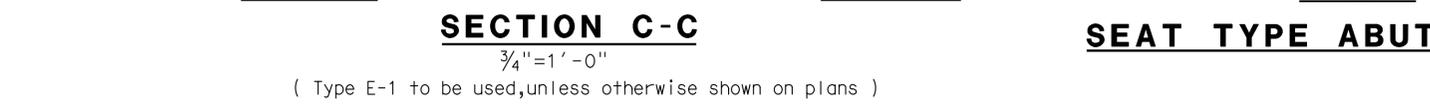
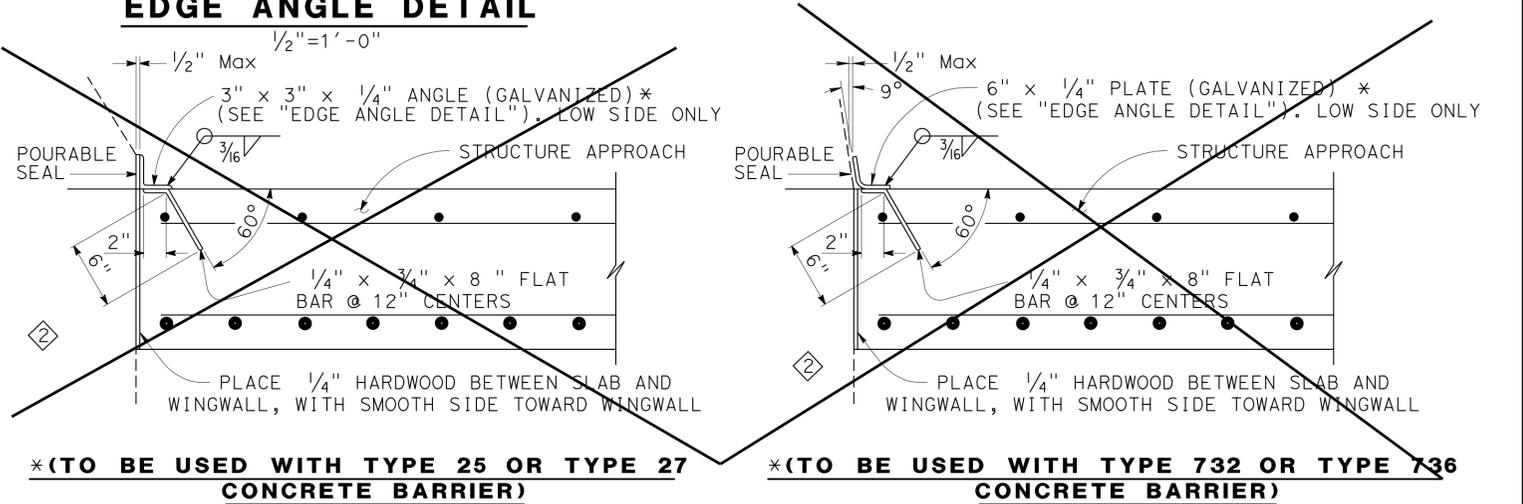
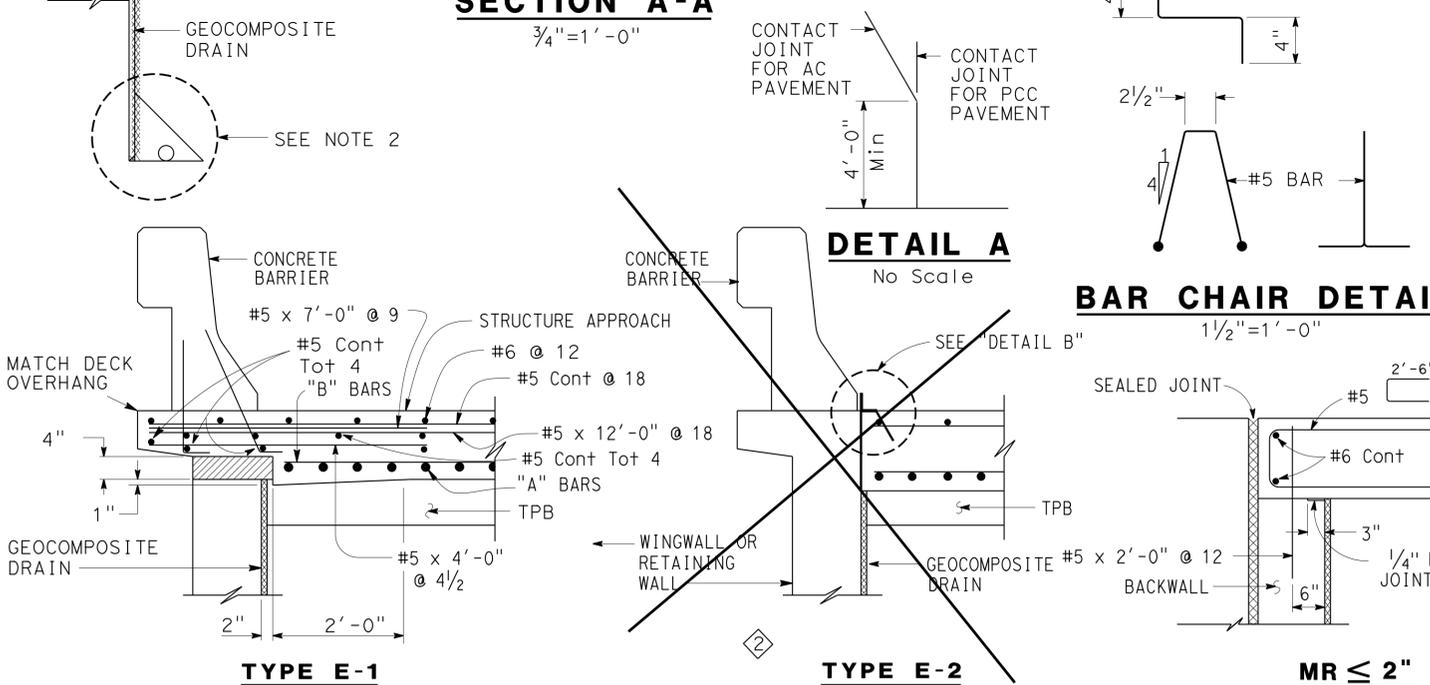
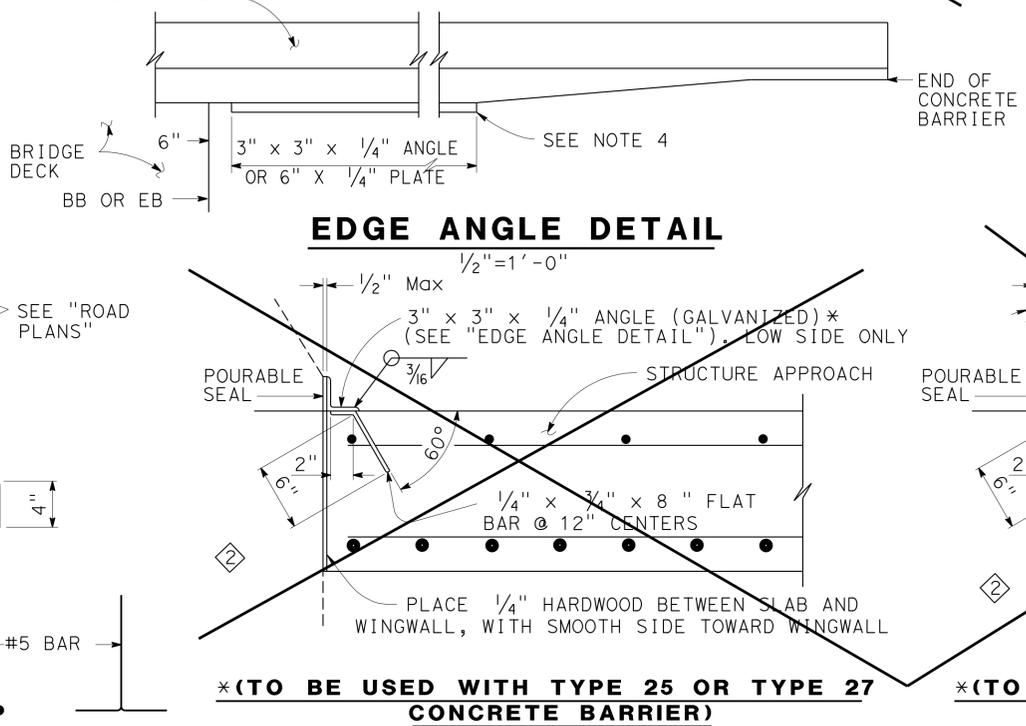
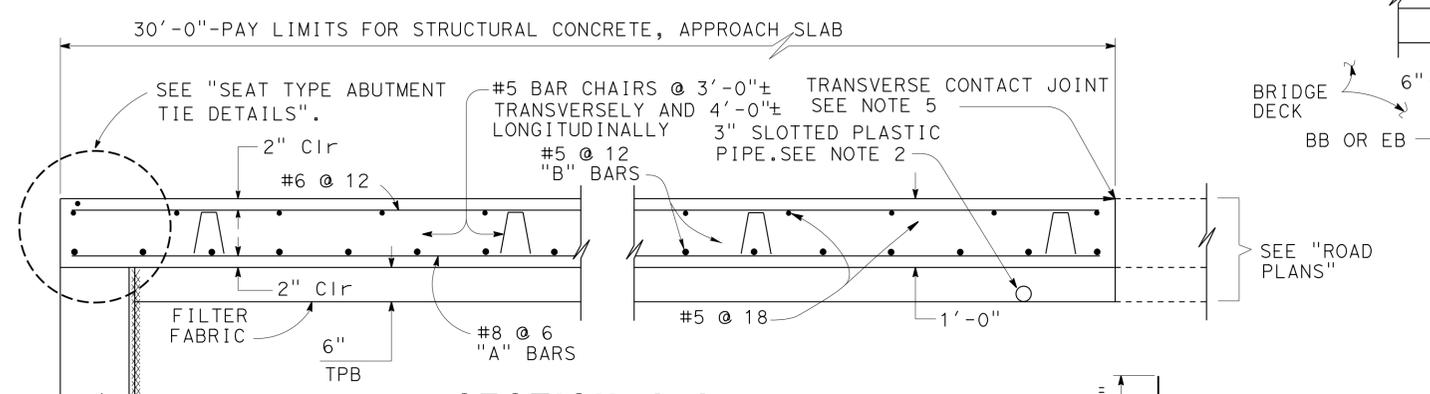
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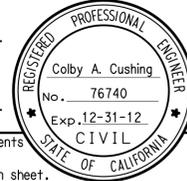


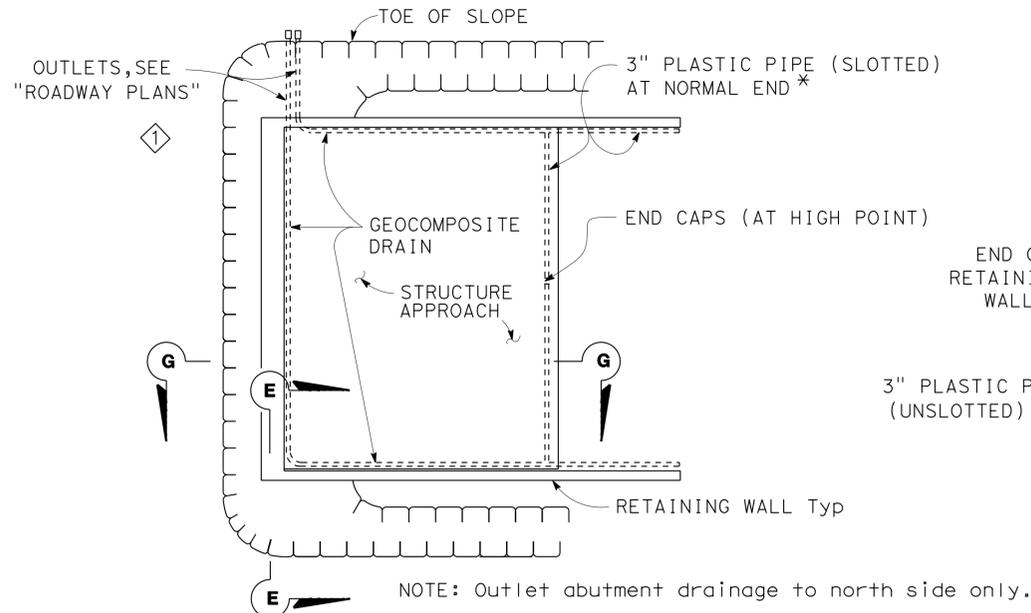
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch



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

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	805	4.7/5.6	511	650

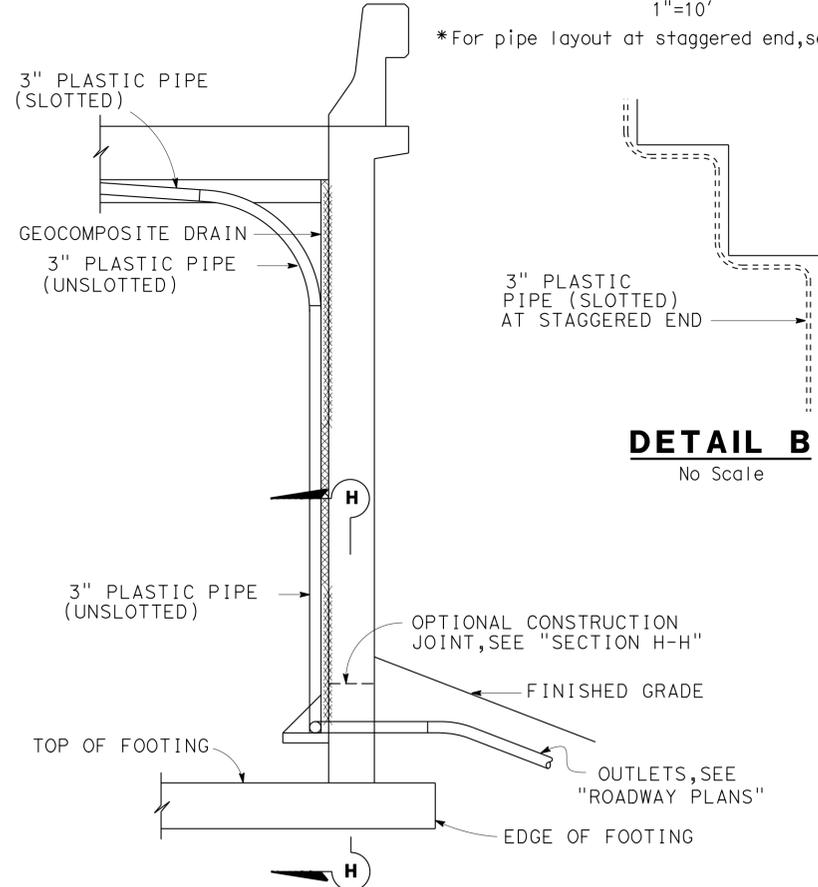
	
4-27-12 REGISTERED ENGINEER - CIVIL	
06-25-12 PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>	



TYPICAL PLAN

1"=10'

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



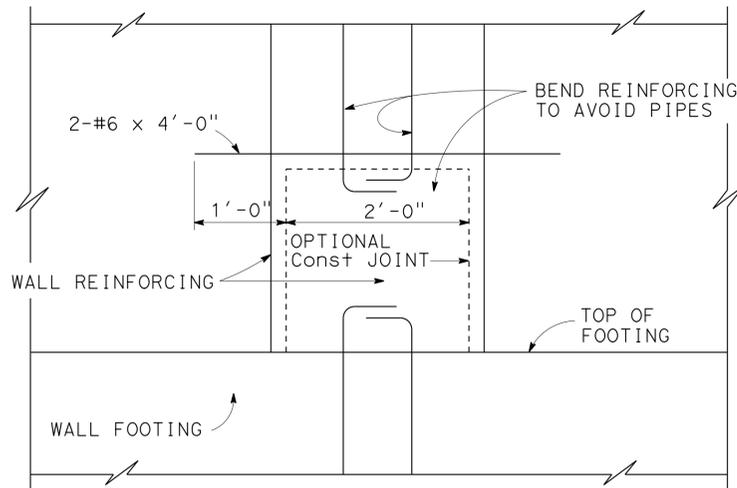
SECTION E-E

1/2"=1'-0"

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

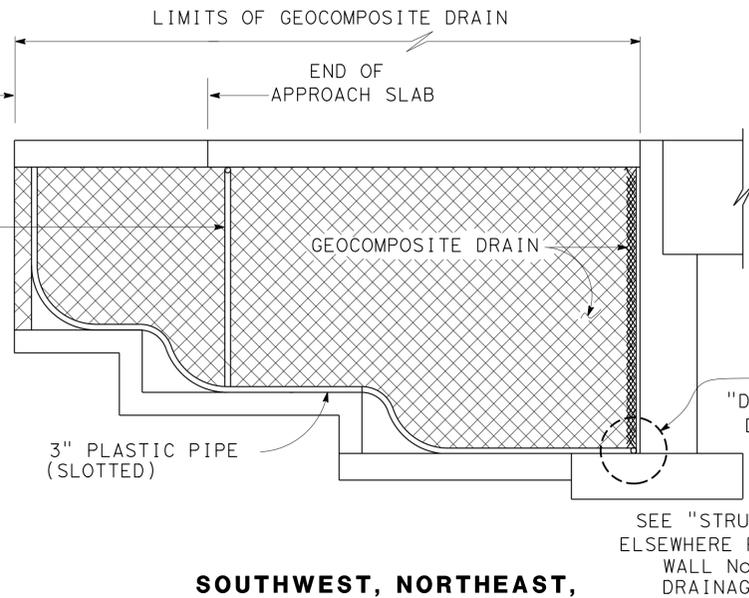
DETAIL B

No Scale

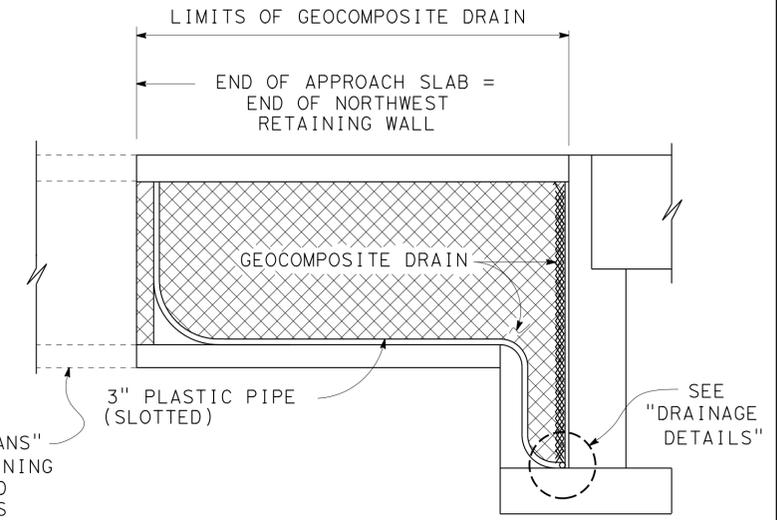


SECTION H-H

1"=1'-0"



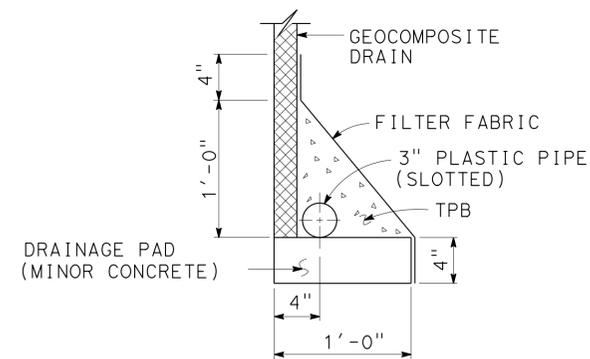
SOUTHWEST, NORTHEAST, AND SOUTHEAST RETAINING WALLS



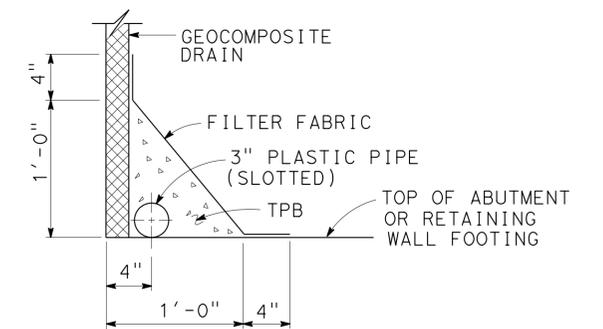
NORTHWEST RETAINING WALL

SECTION G-G

No Scale



WITHOUT FOOTING



WITH FOOTING

DRAINAGE DETAILS

1/2"=1'-0"

SPECIAL DETAILS

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

Modified Drainage system to extend for full length of retaining walls and exit north side of the wall

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	57-1222
MILE POST	5.07

PALOMAR STREET OC (REPLACE)
STRUCTURE APPROACH DRAINAGE DETAILS

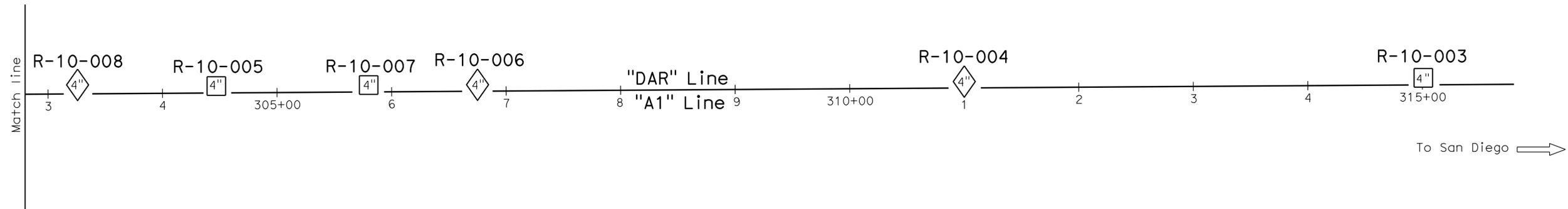
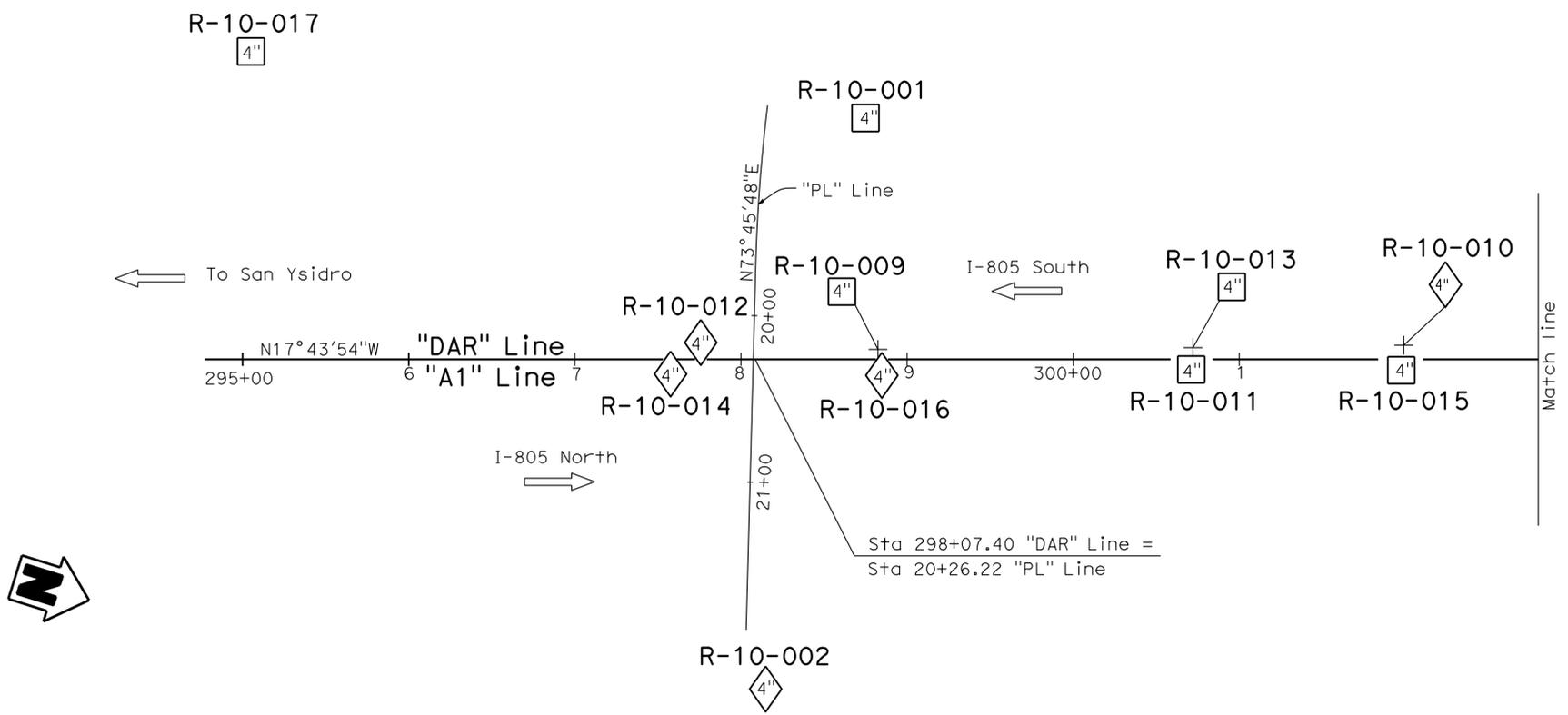
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	512	650

7-14-11
REGISTERED CIVIL ENGINEER
06-25-12
PLANS APPROVAL DATE
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BENCH MARK

BM 805-5.00, Brass disk in sidewalk on north side of E. Palomar St. OC bridge, at Station 298+46.0, Right 60 feet of "DAR" Line/"A1" Line.
Elevation: 300.93 feet
NAVD 1988 (Vertical)
NAD83 (Horizontal)



PLAN
1" = 50'

Notes:

1. Ground water was not encountered during the 2010 subsurface investigation.
2. RQD designated with "NA" (not applicable) indicates that the rock encountered within the drill interval was not sound rock, therefore RQD was not calculated.
3. Plan sheets provided by Design, show that "A1" Line = "DAR" Line.

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1222	PALOMAR STREET OC (REPLACE)	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 02/11	FIELD INVESTIGATION BY: D.T.M Liao/J. Klamecki						POST MILE 5.07	LOG OF TEST BORINGS 1 OF 14	
O&S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 8-9-11 10-25-11 2-10-12
								SHEET 34	OF 47	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:58

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	513	650

7-14-11
REGISTERED CIVIL ENGINEER

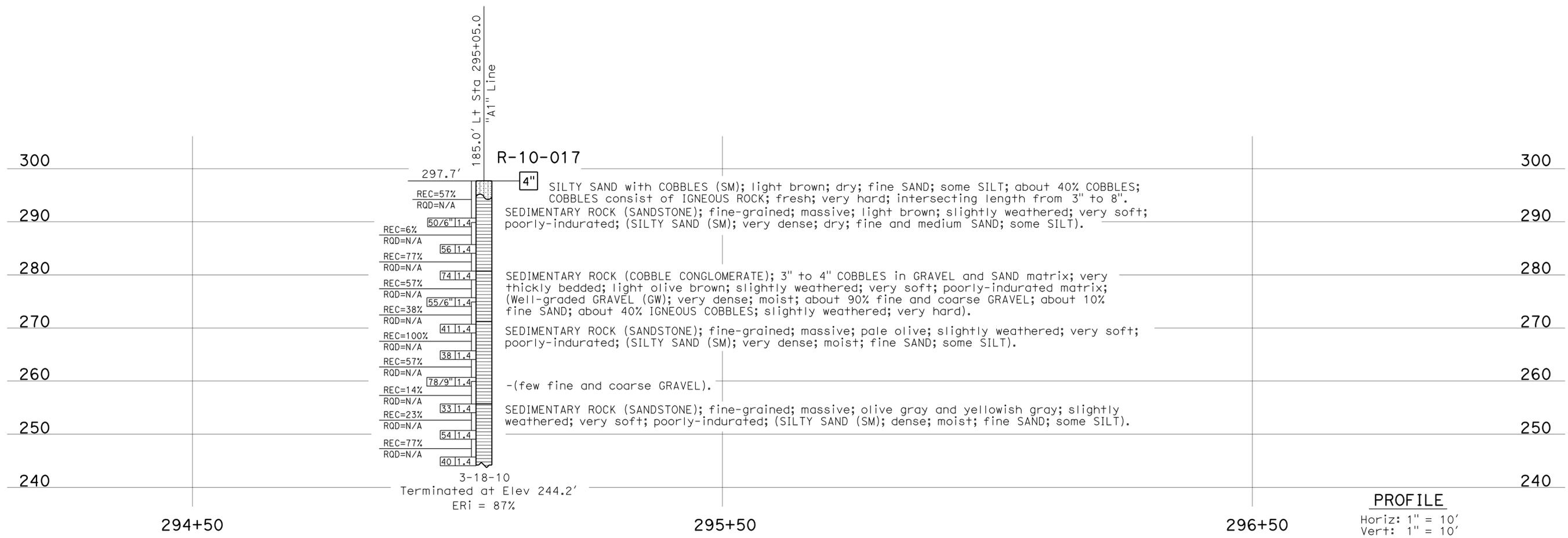
06-25-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 David T-M Liao
 No. C59838
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"



PROFILE

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1222 POST MILE 5.07		PALOMAR STREET OC (REPLACE) LOG OF TEST BORINGS 2 OF 14							
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 02/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES							
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8-5-11	10-25-11	2-10-12															
										SHEET 35	OF 47						

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:58

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	514	650

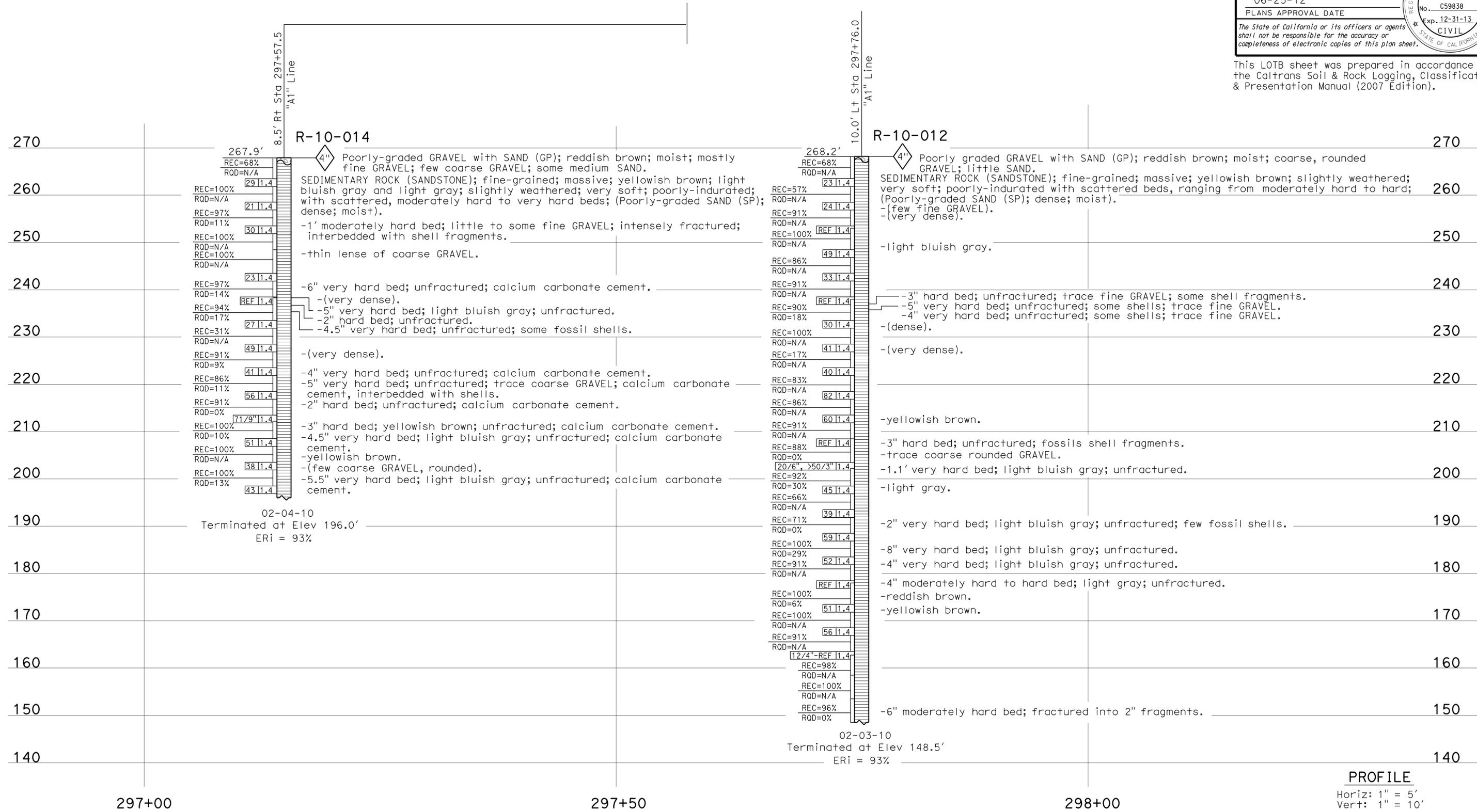
7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PALOMAR STREET OC (REPLACE)	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 02/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57-1222		LOG OF TEST BORINGS 3 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: J. Klamecki		DESIGN BRANCH		POST MILE		5.07	
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762		PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
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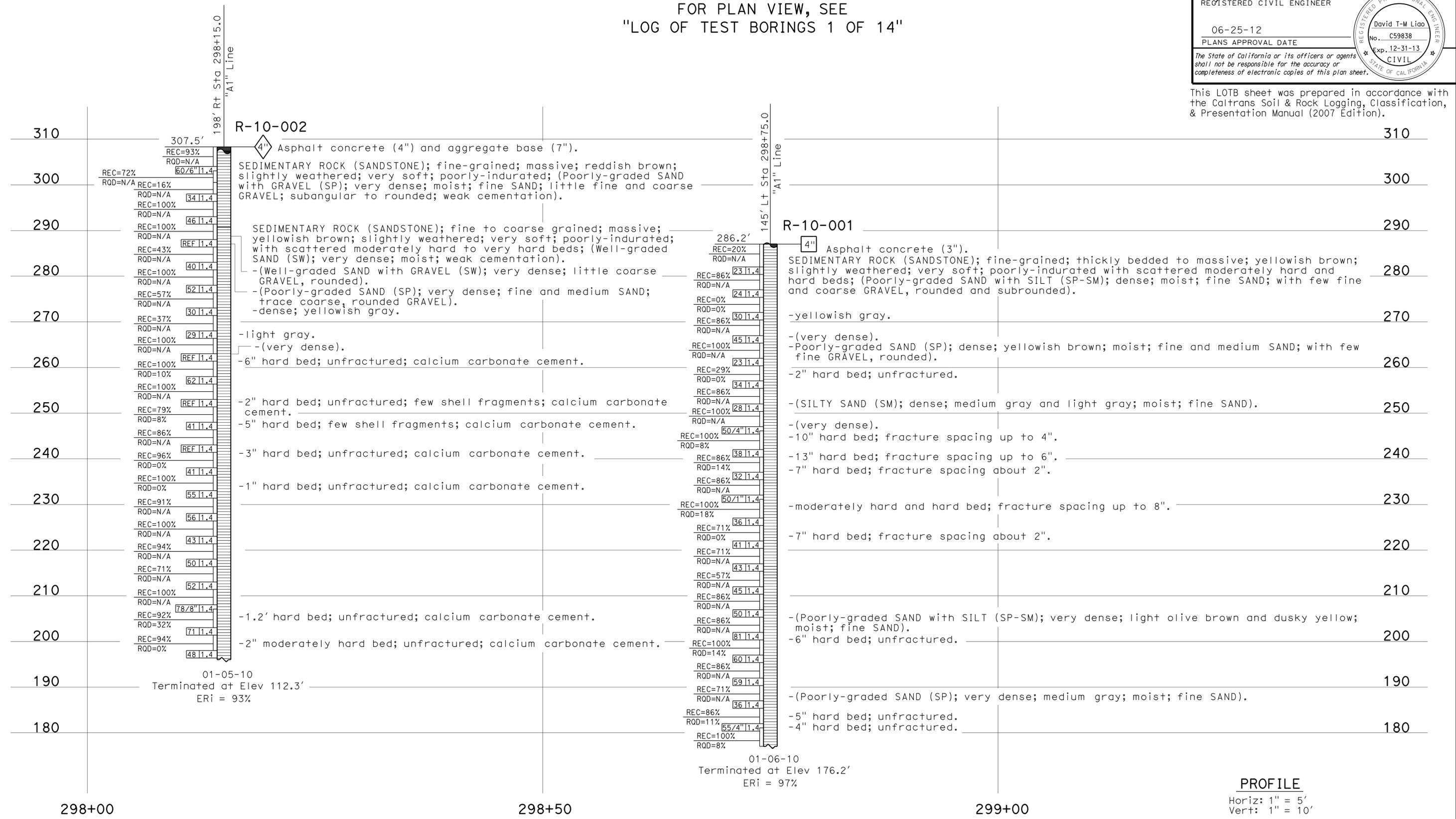
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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7-14-11
REGISTERED CIVIL ENGINEER
06-25-12
PLANS APPROVAL DATE
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

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ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PALOMAR STREET OC (REPLACE)	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 02/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57-1222		LOG OF TEST BORINGS 4 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao/J. Klamecki		DESIGN BRANCH		POST MILE			
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										SHEET 37 OF 47	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	516	650

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

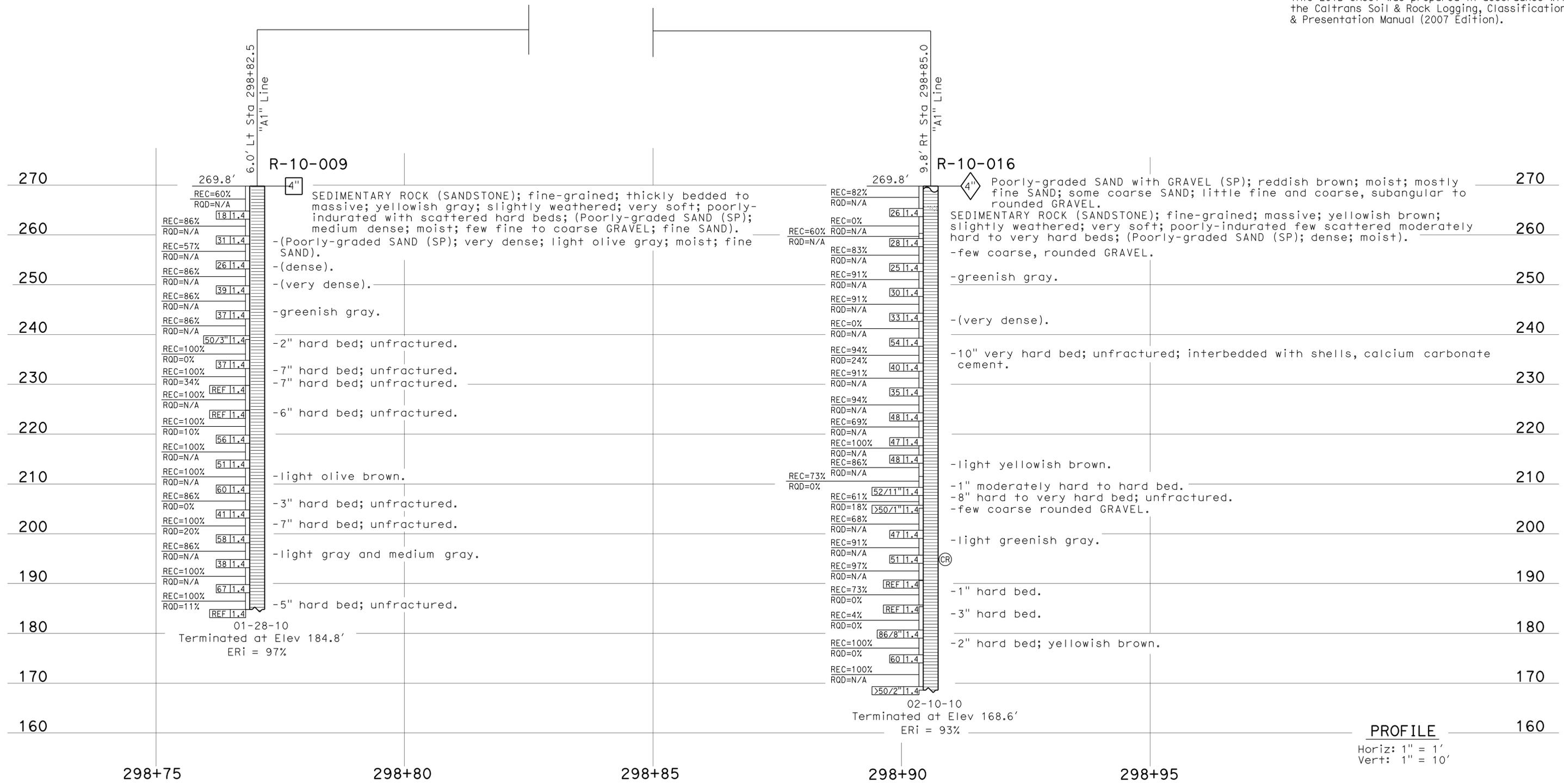
7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL

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ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		PALOMAR STREET OC (REPLACE) LOG OF TEST BORINGS 5 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 02/11 CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: TM Liao/J. Klamecki		BRIDGE NO. 57-1222 POST MILE 5.07		CONTRACT NO.: 11-2T1821		REVISION DATES 8-9-11 10-25-11 2-10-12	
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	517	650

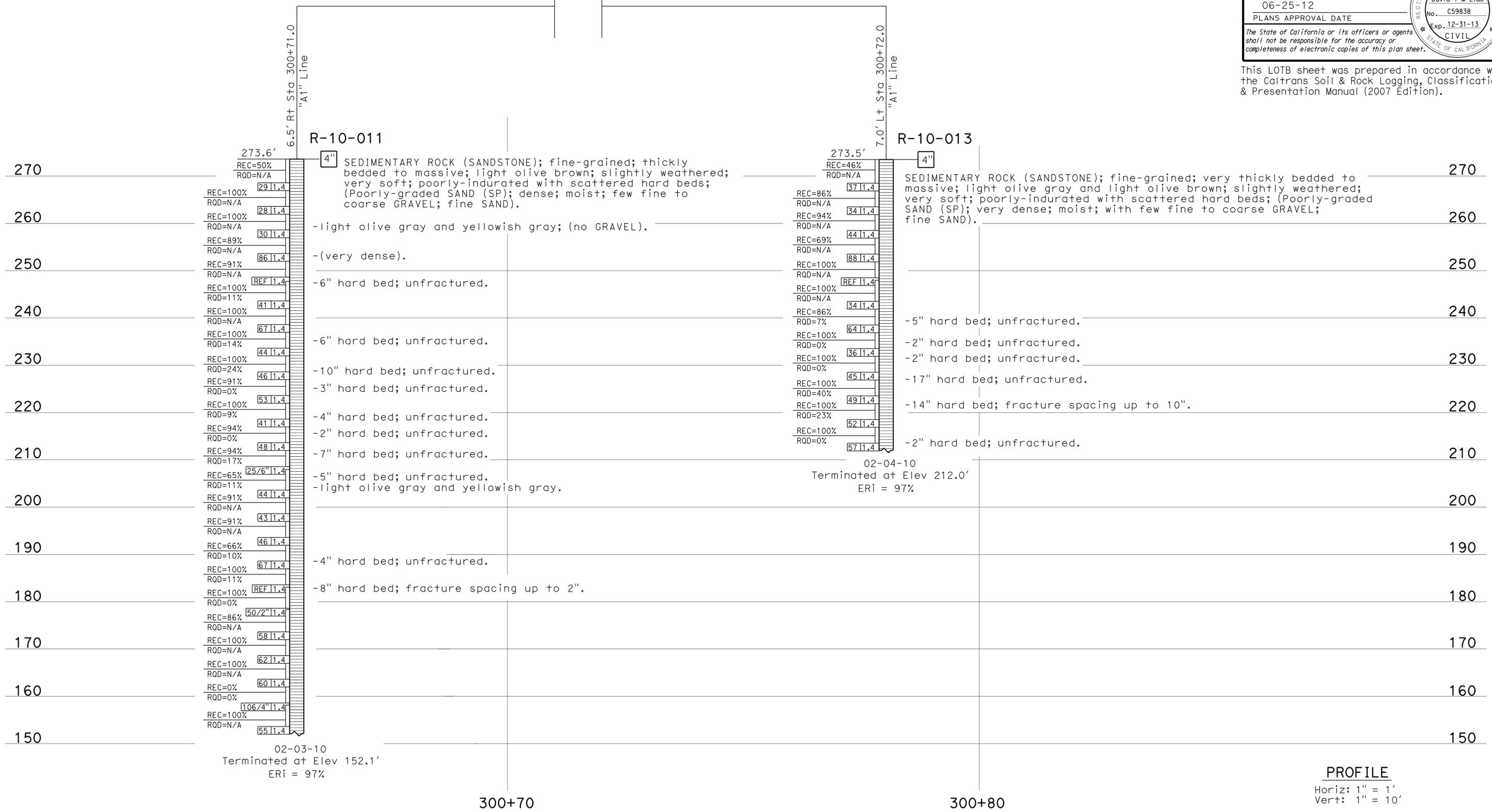
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REGISTERED CIVIL ENGINEER

06-25-12
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REGISTERED PROFESSIONAL ENGINEER
David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1222 POST MILE 5.07		PALOMAR STREET OC (REPLACE) LOG OF TEST BORINGS 6 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 02/11 CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: TM Liao		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 8-9-11 10-25-11 2-10-12 SHEET 39 OF 47	

065 CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE => 57-1222-Z-1+D06.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	518	650

7-14-11
REGISTERED CIVIL ENGINEER

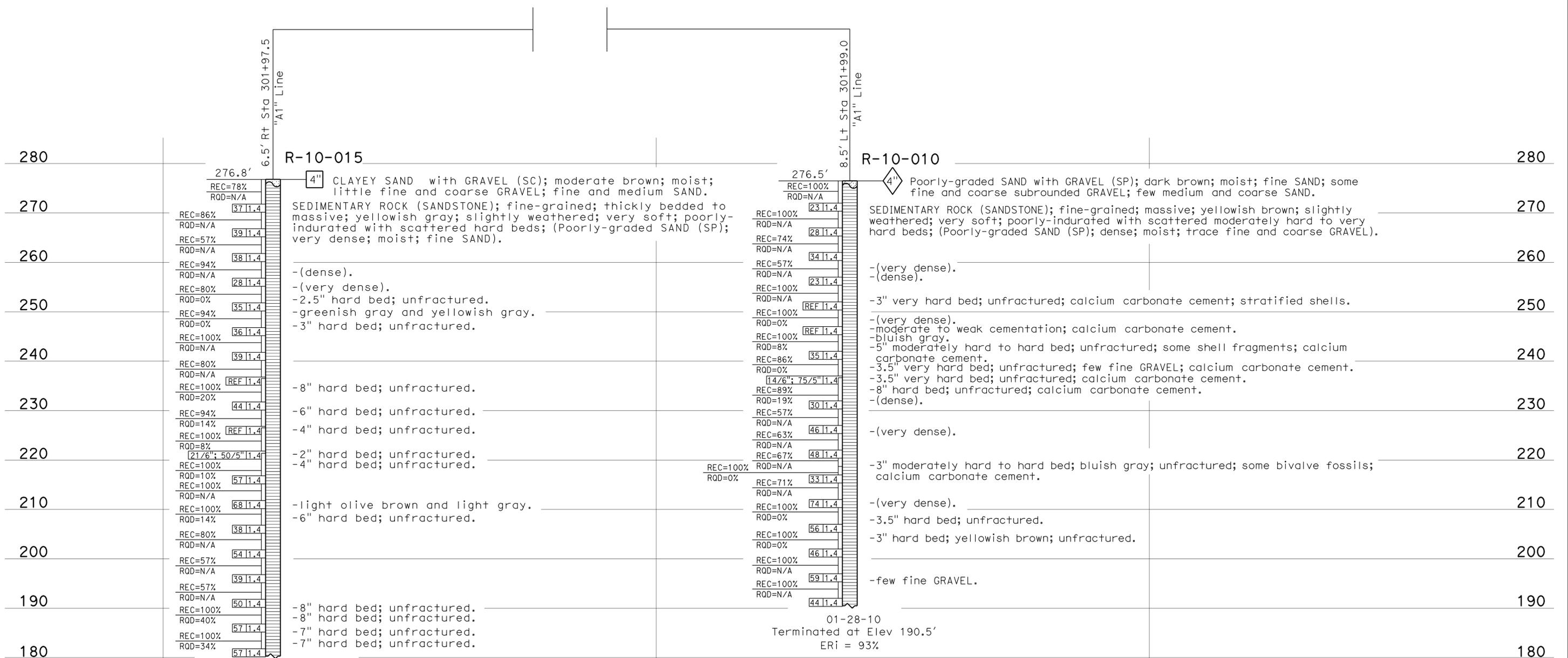
06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PALOMAR STREET OC (REPLACE)	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 02/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57-1222		LOG OF TEST BORINGS 7 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		FIELD INVESTIGATION BY:		DESIGN BRANCH		POST MILE			
				TM Liao/J. Klamecki				5.07			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762		PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
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										8-9-11 10-25-11 2-10-12	
										SHEET 40 OF 47	

FILE => 57-1222-Z-1+D07.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	519	650

7-14-11
REGISTERED CIVIL ENGINEER

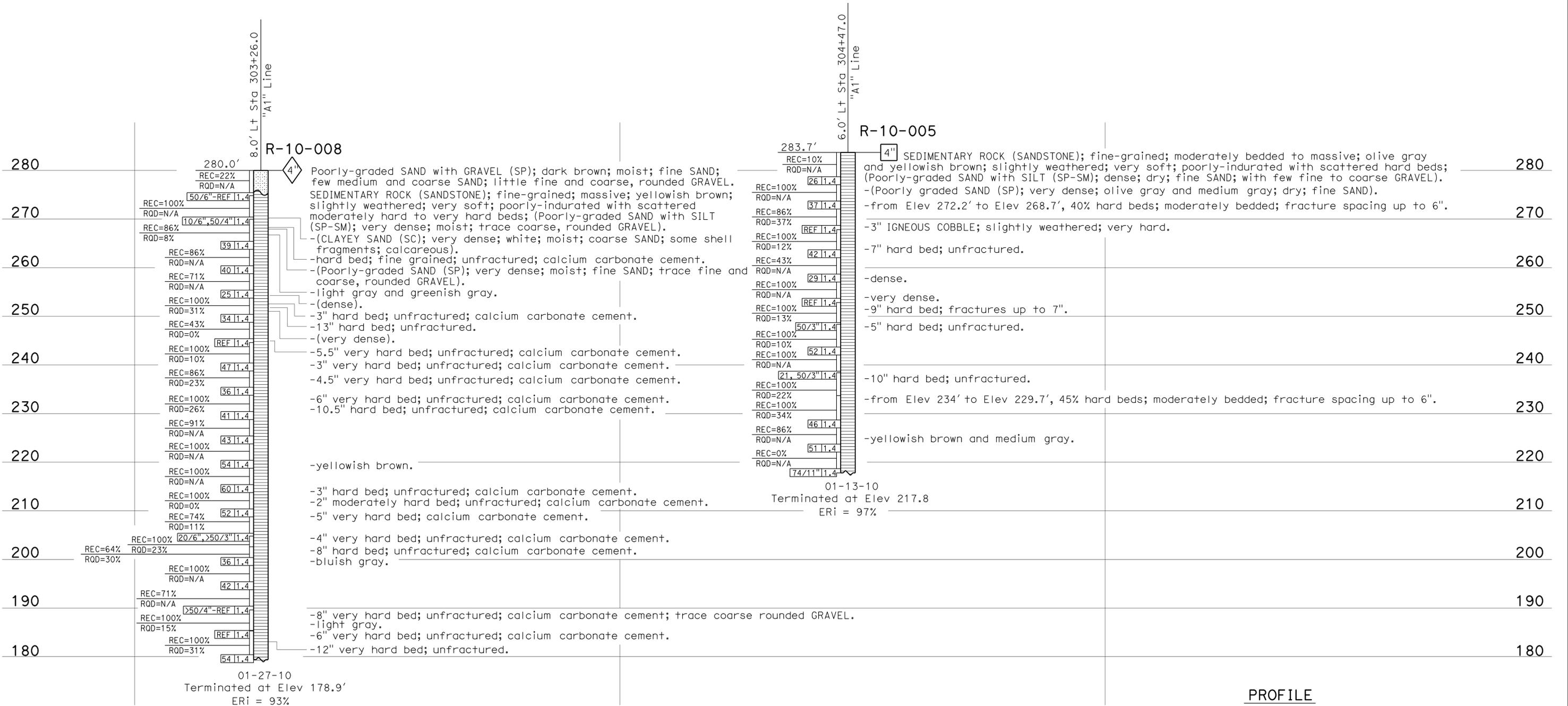
06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL

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

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2007 Edition).



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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1222 POST MILE 5.07		PALOMAR STREET OC (REPLACE) LOG OF TEST BORINGS 8 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 02/11 CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: TM Liao/J. Klamecki		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 01-26-11 10-25-11 2-10-12 SHEET 41 OF 47	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	520	650

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

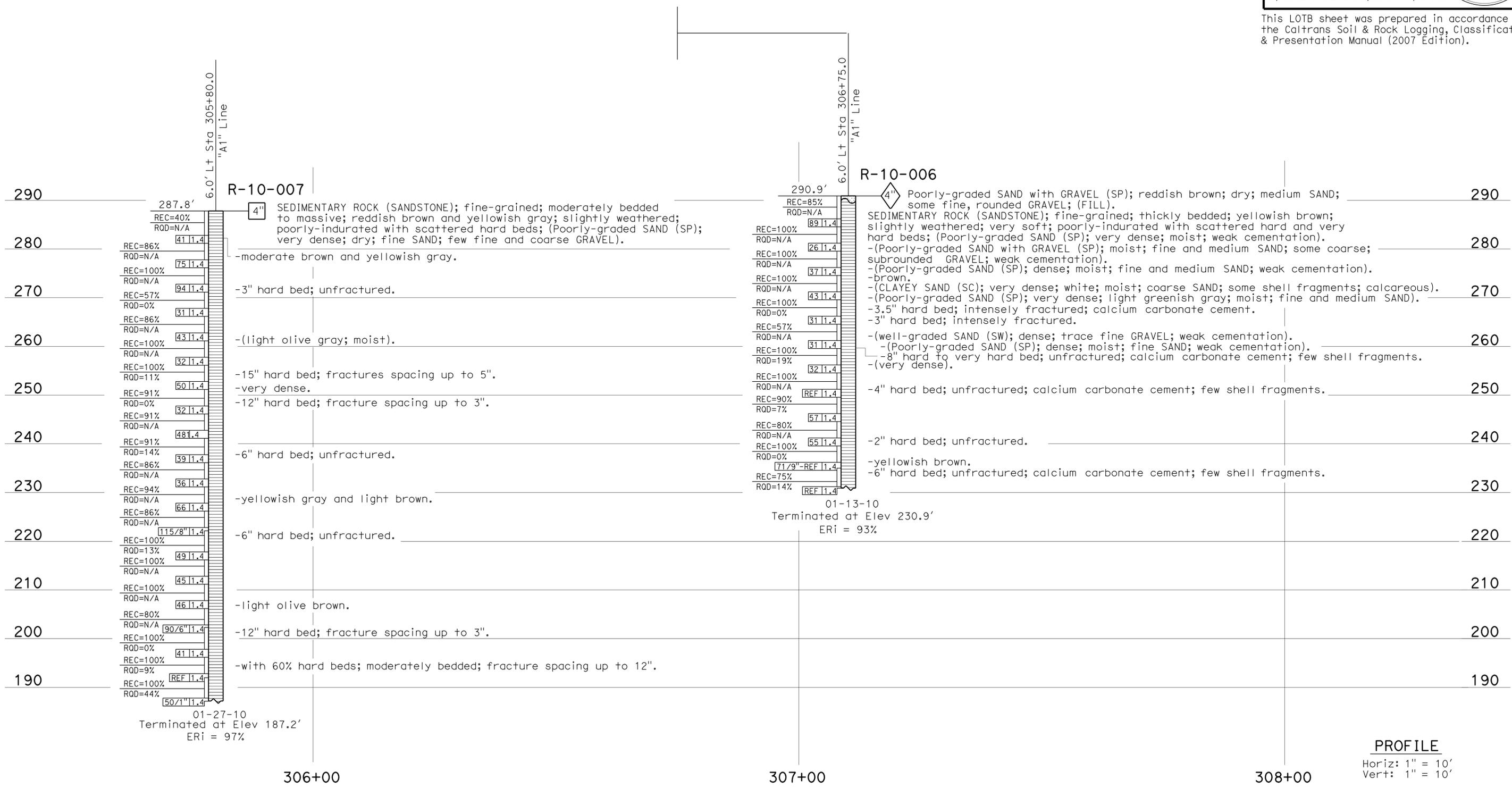
7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1222	PALOMAR STREET OC (REPLACE)	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 02/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao/J. Klamecki		PROJECT NUMBER & PHASE: 1100020051		POST MILE 5.07	LOG OF TEST BORINGS 9 OF 14	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS								UNIT: 2762	CONTRACT NO.: 11-2T1821	
06S CIVIL LOG OF TEST BORINGS SHEET								DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 8-5-11 10-25-11 2-10-12
								SHEET OF 42 47		

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

7-14-11
 REGISTERED CIVIL ENGINEER
 06-25-12
 PLANS APPROVAL DATE
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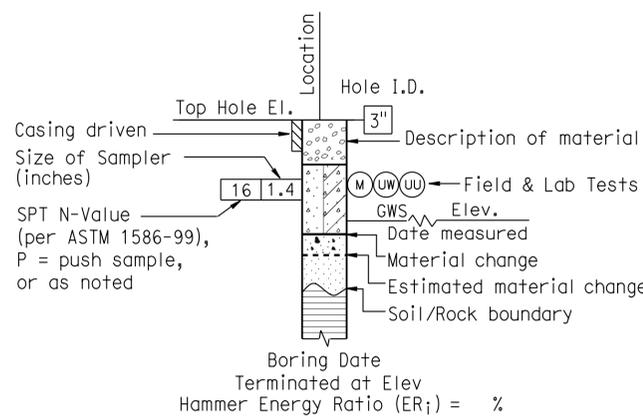
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

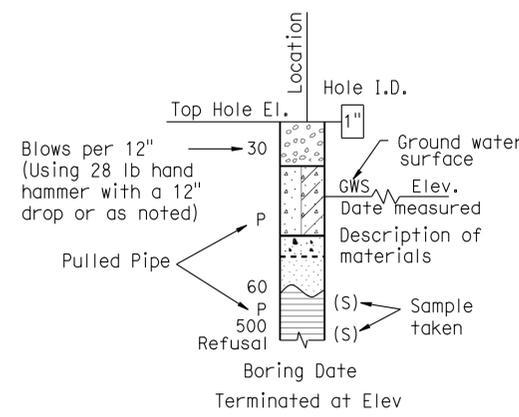
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

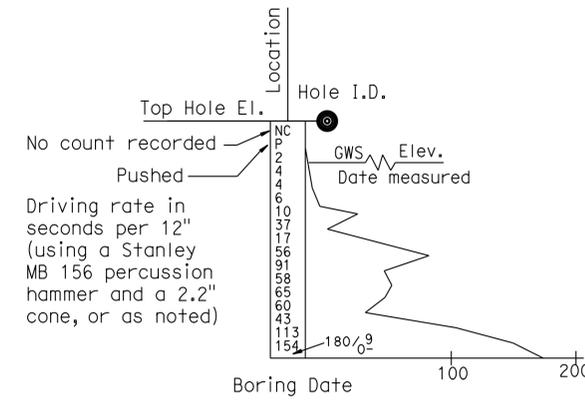
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the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



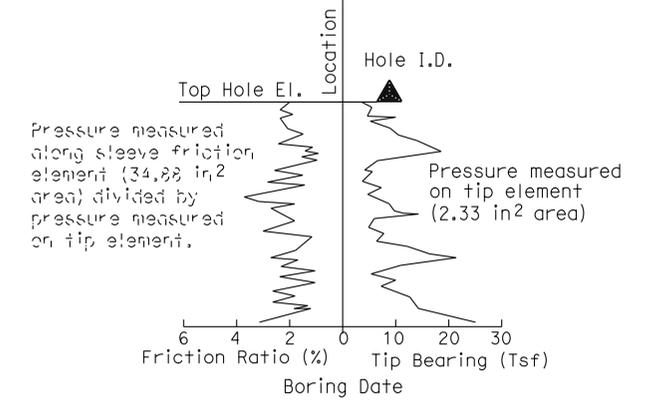
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES PREPARED BY: F. Nguyen 7/11	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 57-1222	PALOMAR STREET OC (REPLACE) LOG OF TEST BORINGS 11 OF 14	
				POST MILE 5.07		
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051	CONTRACT NO.: 11-2T1821	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8-5-11 10-25-11 2-10-12	SHEET 44 OF 47

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	523	650

7-14-11

REGISTERED CIVIL ENGINEER

06-25-12

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

David T-M Liao

No. C59838

Exp. 12-31-13

CIVIL

STATE OF CALIFORNIA

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GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		CL		Lean CLAY
	Well-graded GRAVEL with SAND				Lean CLAY with SAND
	Poorly graded GRAVEL		CL		SANDY lean CLAY
	Poorly graded GRAVEL with SAND				SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT		CL-ML		SILTY CLAY
	Well-graded GRAVEL with SILT and SAND				SILTY CLAY with GRAVEL
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		CL-ML		SANDY SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)				SANDY SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT		ML		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with SILT and SAND				GRAVELLY SILTY CLAY with SAND
	Poorly graded GRAVEL with CLAY (or SILTY CLAY)		ML		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)				GRAVELLY SILTY CLAY with SAND
	SILTY GRAVEL		OL		ORGANIC lean CLAY
	SILTY GRAVEL with SAND				ORGANIC lean CLAY with SAND
	CLAYEY GRAVEL		OL		SANDY ORGANIC lean CLAY
	CLAYEY GRAVEL with SAND				SANDY ORGANIC lean CLAY with GRAVEL
	SILTY, CLAYEY GRAVEL		OL		GRAVELLY ORGANIC lean CLAY
	SILTY, CLAYEY GRAVEL with SAND				GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded SAND		CH		Fat CLAY
	Well-graded SAND with GRAVEL				Fat CLAY with SAND
	Poorly graded SAND		CH		SANDY fat CLAY
	Poorly graded SAND with GRAVEL				SANDY fat CLAY with GRAVEL
	Well-graded SAND with SILT		MH		GRAVELLY fat CLAY
	Well-graded SAND with SILT and GRAVEL				GRAVELLY fat CLAY with SAND
	Well-graded SAND with CLAY (or SILTY CLAY)		MH		Elastic SILT
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)				Elastic SILT with SAND
	Poorly graded SAND with SILT		MH		Elastic SILT with GRAVEL
	Poorly graded SAND with SILT and GRAVEL				SANDY elastic SILT
	Poorly graded SAND with CLAY (or SILTY CLAY)		OH		SANDY elastic SILT
	Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)				SANDY elastic SILT with GRAVEL
	SILTY SAND		OH		GRAVELLY elastic SILT
	SILTY SAND with GRAVEL				GRAVELLY elastic SILT with SAND
	CLAYEY SAND		OH		ORGANIC fat CLAY
	CLAYEY SAND with GRAVEL				ORGANIC fat CLAY with SAND
	SILTY, CLAYEY SAND		OH		ORGANIC fat CLAY with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL				SANDY ORGANIC fat CLAY
	PEAT		OL/OH		SANDY ORGANIC fat CLAY
	COBBLES				GRAVELLY ORGANIC fat CLAY
	COBBLES and BOULDERS		OL/OH		GRAVELLY ORGANIC fat CLAY
	BOULDERS				GRAVELLY ORGANIC fat CLAY with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UU)	Unconfined Compression-Rock (ASTM D 2938)
(UW)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

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

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

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

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

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 57-1222 POST MILE 5.07	PALOMAR STREET OC (REPLACE) LOG OF TEST BORINGS 12 OF 14
	PREPARED BY: F. Nguyen 7/11				
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051	CONTRACT NO.: 11-2T1821	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				REVISION DATES	SHEET 45 OF 47

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

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

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

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

RELATIVE STRENGTH OF INTACT ROCK

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

BEDDING SPACING

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

7-14-11
 REGISTERED CIVIL ENGINEER
 06-25-12
 PLANS APPROVAL DATE
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LEGEND OF ROCK MATERIALS

	IGNEOUS ROCK
	SEDIMENTARY ROCK
	METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

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

FRACTURE DENSITY

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

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

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	805	5.1/8.8	187	285

DATE APPROVED: April 23, 1933

PLAN

Scale 1" = 20'

PROFILE

Scale Vert 1" = 10'
Horiz 1" = 20'

BENCH MARK

B.M. 11-SD-805 Post Mile 5.085 Elev 267.35
C.D.H. Top of P.I. Station 290 + 52.03 74" C.L.

LEGEND

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

Diagonal lines show the base size limit of material in each zone. The base size limit is the size of material which is retained on the sieve immediately below the diagonal line. The base size limit is the size of material which is retained on the sieve immediately below the diagonal line. The base size limit is the size of material which is retained on the sieve immediately below the diagonal line.

LEGEND OF EARTH MATERIALS

SILT CLAY OR CLAYEY SILT
PEAT AND/OR ORGANIC MATTER
FILL MATERIAL
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

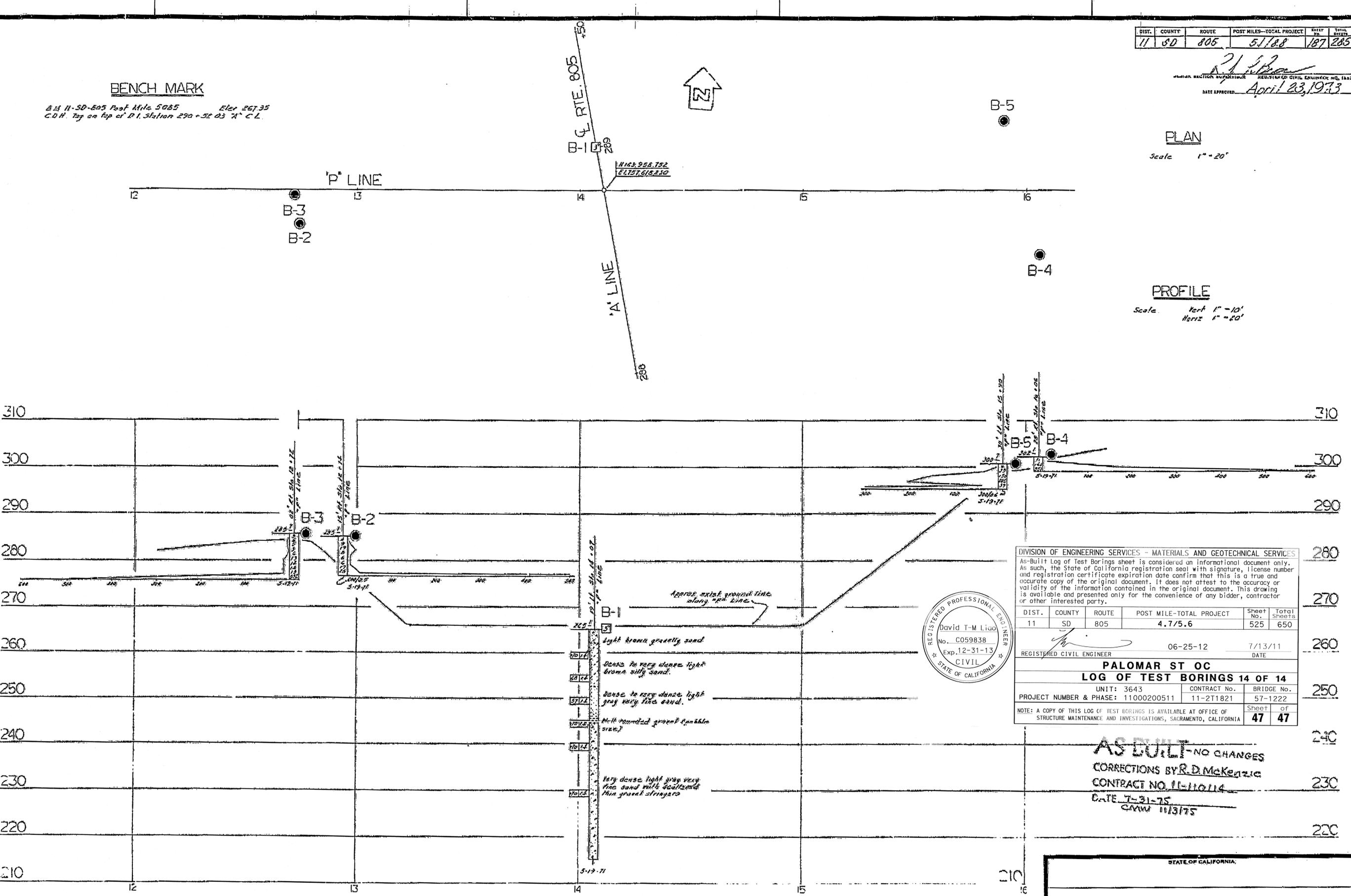
GRAVEL
SAND
SILT
CLAY
SANDY CLAY OR CLAYEY SAND
SANDY SILT OR SILTY SAND

TESTING METHODS

2 1/2" CORE PENETROMETER
2 1/2" SAMPLER BORING (SMB)
ROTARY BORING (RWB)
ALUMINUM BORING (AB)
JET BORING
CORE BORING
TEST PIT

SOIL TYPES

1" SOIL TUBE
ROTARY BORING
PENETRATION BORING



DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
11	SD	805	4.7/5.6	525	650

REGISTERED CIVIL ENGINEER 06-25-12 7/13/11 DATE

PALOMAR ST OC

LOG OF TEST BORINGS 14 OF 14

UNIT: 3643 CONTRACT No. 11-2T1821 BRIDGE No. 57-1222
PROJECT NUMBER & PHASE: 11000200511

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

Sheet 47 of 47



AS BUILT - NO CHANGES

CORRECTIONS BY R.D. McKenzie

CONTRACT NO. 11-110114

DATE 7-31-75
CMM 11/3/75

AS BUILT PLANS

Contract No. 11-110114

Date Completed

NO. 660 100 WATER 11 ENGINEERED
BY: H. P. H. INCE
BRIDGE 11-110114 GEOLOGY SECTION
DATE May 1971

STATE OF CALIFORNIA			
PALOMAR STREET OVERCROSSING			
LOG OF TEST BORINGS			
BRIDGE NO. 57-801	POST MILE 5.1	DRAWING NO.	SHEET 11 OF 11
REVISION DATES (PRELIMINARY STAGE ONLY)			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	526	650

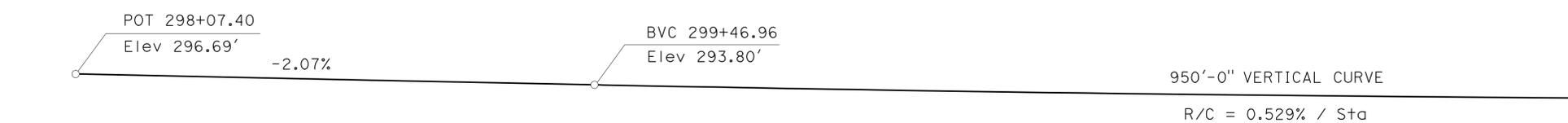
Craig Shannon
 REGISTERED CIVIL ENGINEER
 DATE: 4-27-12
 PLANS APPROVAL DATE: 06-25-12

Craig Shannon
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

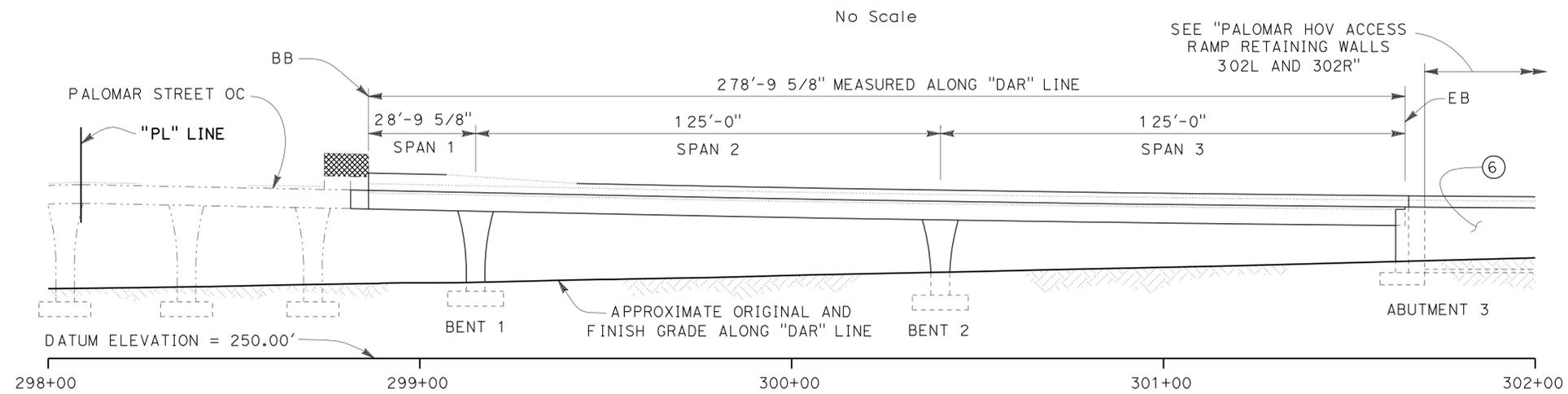
SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101

SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131

- LEGEND:
- ← Indicates direction of traffic
 - ▣ Indicates Deck Drain

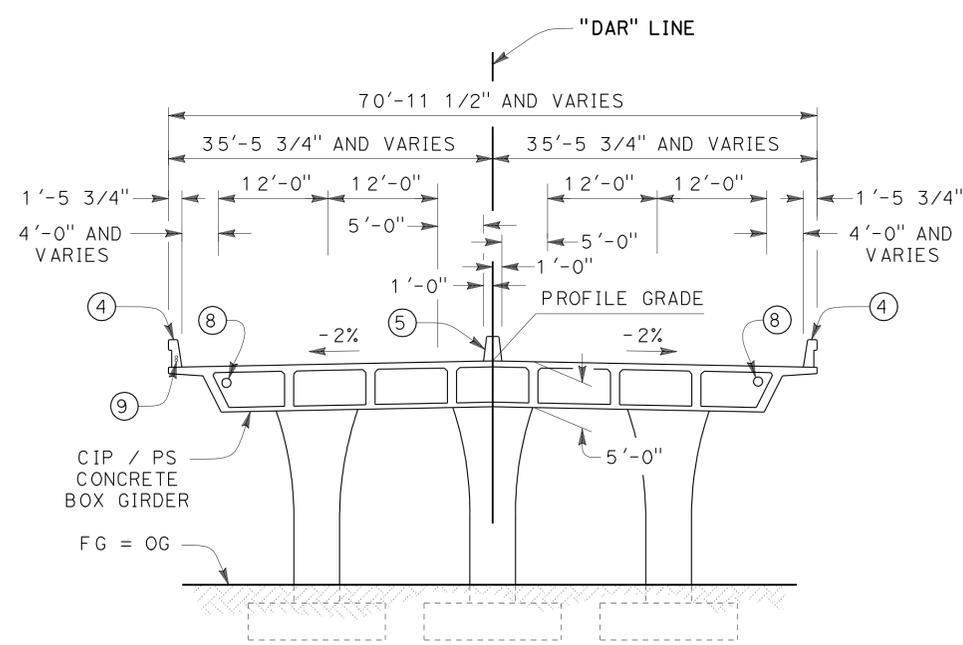
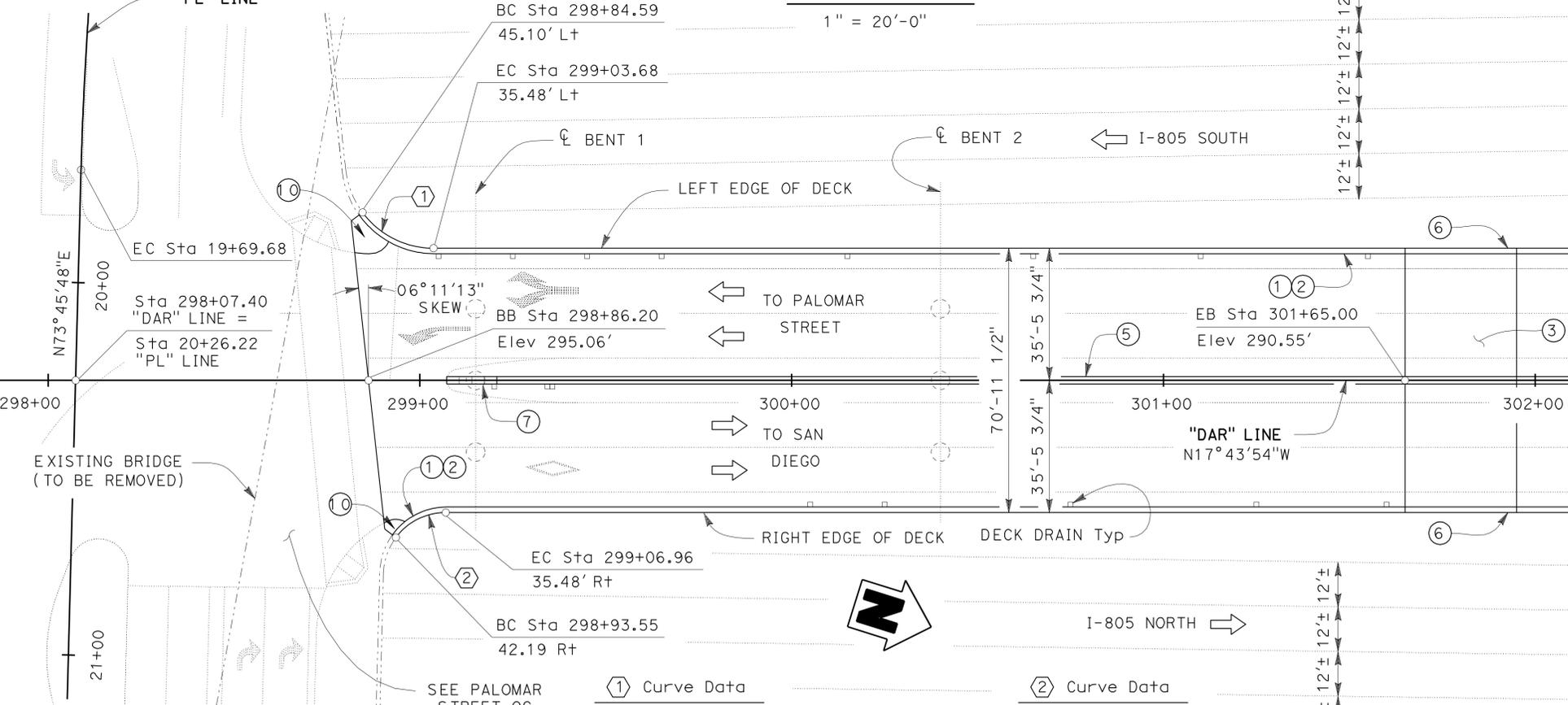


PROFILE GRADE
 No Scale



- NOTES:
- ① Paint "BRIDGE No. 57-1223E" and the year completed
 - ② Paint "PALOMAR STREET HOV ACCESS RAMP"
 - ③ Structure Approach Type N (30S)
 - ④ Concrete Barrier Type 736
 - ⑤ Concrete Barrier Type 60A
 - ⑥ Type 1 Retaining Walls 302 L/R
 - ⑦ Crash Cushion (SCI100GM) - see "Roadway Plans"
 - ⑧ Utility Opening for drainage
 - ⑨ Electrical Conduits - see "Roadway Plans"
 - ⑩ Sidewalk Texture Treatment (Sandblast and Stain) 3' x 3' Sawcut Diamond Pattern with 6" banding

ELEVATION
 1" = 20'-0"



TYPICAL SECTION
 1" = 10'-0"

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

① Curve Data	R = 23.76'	② Curve Data	R = 16.76'
	Δ = 53°28'19"		Δ = 53°09'19"
	L = 22.17'		L = 15.55'

PLAN
 1" = 20'-0"

NOTE: For "INDEX TO PLANS", "GENERAL NOTES", "STANDARD PLANS", and "QUANTITIES", see "INDEX TO PLANS" sheet.

DESIGN OVERSIGHT Norbert Gee 5-4-12 SIGN OFF DATE	DESIGN BY: L. Muco	CHECKED: C. Tornaci	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	BRIDGE NO.: 57-1223E	PALOMAR STREET HOV ACCESS RAMP
	DETAILS BY: T. Brittain	CHECKED: L. Muco	LAYOUT BY: T. Brittain	CHECKED: L. Muco	PROJECT MILES: 5.07	
QUANTITIES BY: L. Muco	CHECKED: C. Tornaci	SPECIFICATIONS BY: A. Powers	PLANS AND SPECS COMPARED: C. Tornaci	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Craig Shannon PROJECT ENGINEER	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	527	650

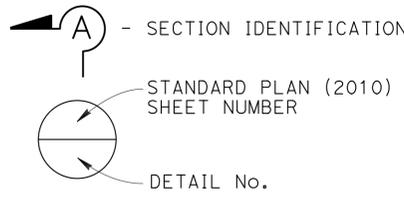
Craig Shannon 4-27-12
 REGISTERED CIVIL ENGINEER DATE

06-25-12
 PLANS APPROVAL DATE

Craig Shannon
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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PLAN SYMBOLS



PALOMAR STREET HOV ACCESS RAMP BRIDGE #57-1223E

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	650	CY
STRUCTURE BACKFILL (BRIDGE)	575	CY
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	255	CY
STRUCTURAL CONCRETE, BRIDGE	1,560	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	80	CY
JOINT SEAL ASSEMBLY (MR 4")	75	LF
JOINT SEAL (MR 2")	71	LF
BAR REINFORCING STEEL (BRIDGE)	484,000	LB
BRIDGE DECK DRAINAGE SYSTEM	15,500	LB
CONCRETE BARRIER (TYPE 26 MODIFIED)	38	LF
CONCRETE BARRIER (TYPE 60A)	252	LF
CONCRETE BARRIER (TYPE 736)	532	LF

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

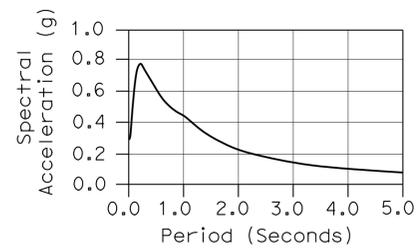
DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION, with 2008 interim revisions and the CALTRANS Amendments, preface dated December 2008; except that wingwalls, abutments, bridge barriers, and railing details are designed using Bridge Design Specifications ('96 AASHTO w/Revisions by Caltrans).

SEISMIC DESIGN: CALTRANS Seismic Design Criteria (SDC), Version 1.6, dated November 2010.

DEAD LOAD: Includes 35 psf for future wearing surface.

LIVE LOADING: HL93 with "Low Boy" and permit design load.

SEISMIC LOADING: Soil Profile: $V_{s30} = 450$ m/s ($M_{MAX} = 7.50$), see curve below (Peak Rock Acceleration = 0.3g)



REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c = 3.6$ ksi (Unless Otherwise Noted)
 $n = 8$

PRESTRESSED CONCRETE: See "PRESTRESSING NOTES" on "GIRDER LAYOUT" sheet.

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	DECK CONTOURS
4	FOUNDATION PLAN
5	ABUTMENT 3 LAYOUT
6	ABUTMENT DETAILS
7	BENT DETAILS NO. 1
8	BENT DETAILS NO. 2
9	BENT DETAILS NO. 3
10	TYPICAL SECTION
11	DECK AND SOFFIT REINFORCEMENT DETAILS
12	GIRDER LAYOUT
13	GIRDER DETAILS
14	SLAB REINFORCEMENT
15	BARRIER DETAILS
16	STRUCTURAL DRAINAGE DETAILS
17	JOINT SEAL ASSEMBLY (MAX MR = 4")
18	JOINT ARMOR - EXPANSION DETAILS (MAX MR = 4")
19	STRUCTURE APPROACH TYPE N (30S)
20	STRUCTURE APPROACH DRAINAGE DETAILS
21	LOG OF TEST BORINGS 1 OF 14
22	LOG OF TEST BORINGS 2 OF 14
23	LOG OF TEST BORINGS 3 OF 14
24	LOG OF TEST BORINGS 4 OF 14
25	LOG OF TEST BORINGS 5 OF 14
26	LOG OF TEST BORINGS 6 OF 14
27	LOG OF TEST BORINGS 7 OF 14
28	LOG OF TEST BORINGS 8 OF 14
29	LOG OF TEST BORINGS 9 OF 14
30	LOG OF TEST BORINGS 10 OF 14
31	LOG OF TEST BORINGS 11 OF 14
32	LOG OF TEST BORINGS 12 OF 14
33	LOG OF TEST BORINGS 13 OF 14
34	LOG OF TEST BORINGS 14 OF 14

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)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
A76A	CONCRETE BARRIER TYPE 60
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS
B7-6	DECK DRAINS - TYPES D-1 AND D-2
B7-7	DECK DRAINS - TYPE D-3
B7-10	UTILITY OPENING BOX GIRDER
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-54	CONCRETE BARRIER TYPE 26
B11-56	CONCRETE BARRIER TYPE 736

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

 DESIGN OVERSIGHT 5-4-12 SIGN OFF DATE	DESIGN BY: L. Muco DETAILS BY: T. Brittain QUANTITIES BY: L. Muco	CHECKED BY: C. Tornaci CHECKED BY: L. Muco CHECKED BY: C. Tornaci	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER Craig Shannon	BRIDGE NO. 57-1223E POST MILES 5.07	PALOMAR STREET HOV ACCESS RAMP INDEX TO PLANS	REVISION DATES 4-28-11 4-27-12 5-10-12	SHEET 2	OF 34

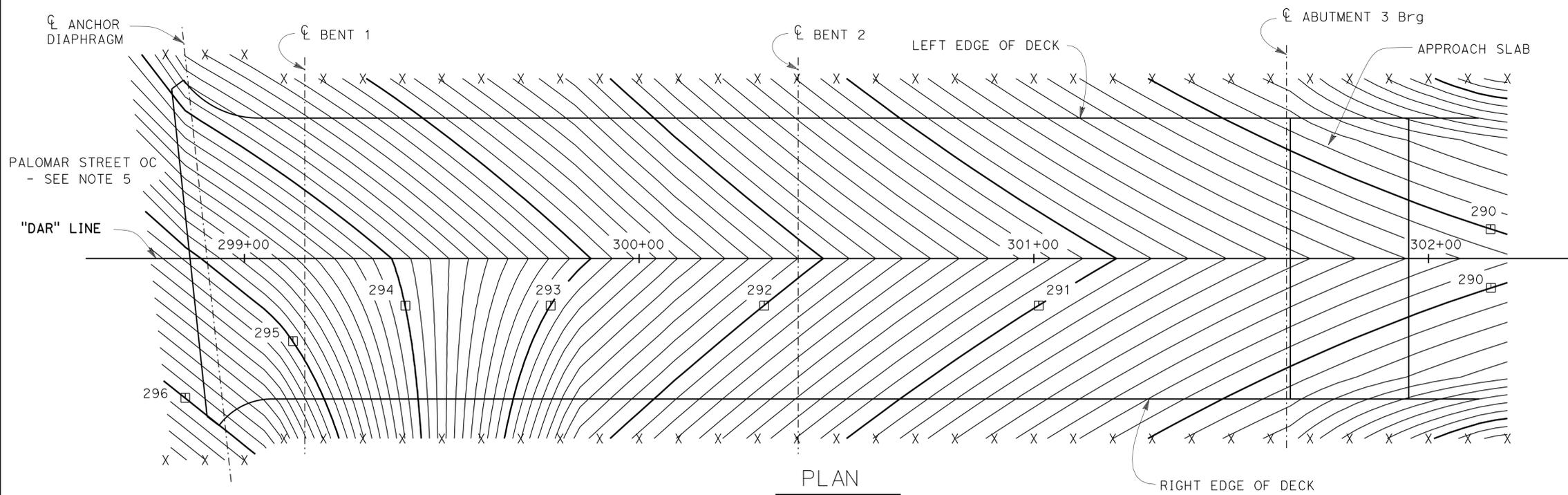
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USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	528	650

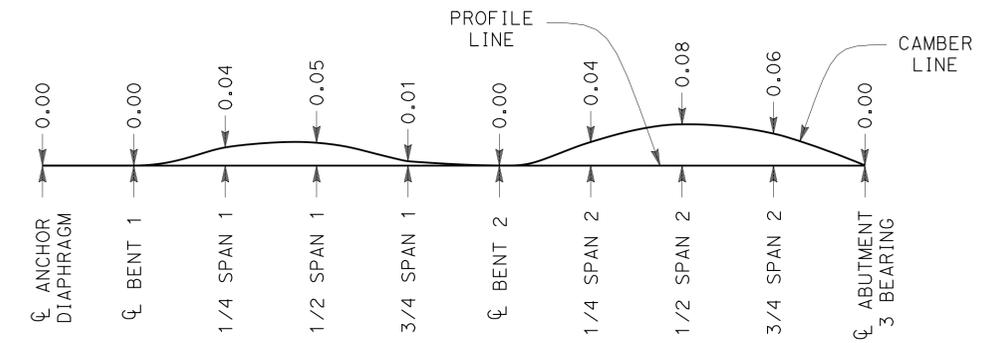
Craig Shannon
 REGISTERED CIVIL ENGINEER
 DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101
 SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



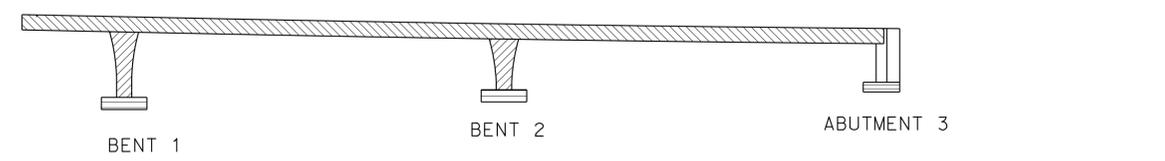
PLAN
 1/16" = 1'-0"

- NOTES:
1. Contour Interval = 0.10 ft.
 2. Contours do not include camber or falsework settlement.
 3. □ - Indicates even foot contours.
 4. X - Indicates 10 foot intervals.
 5. PALOMAR STREET OC to be constructed prior. Adjust southern ends of contours to match existing structure as required.



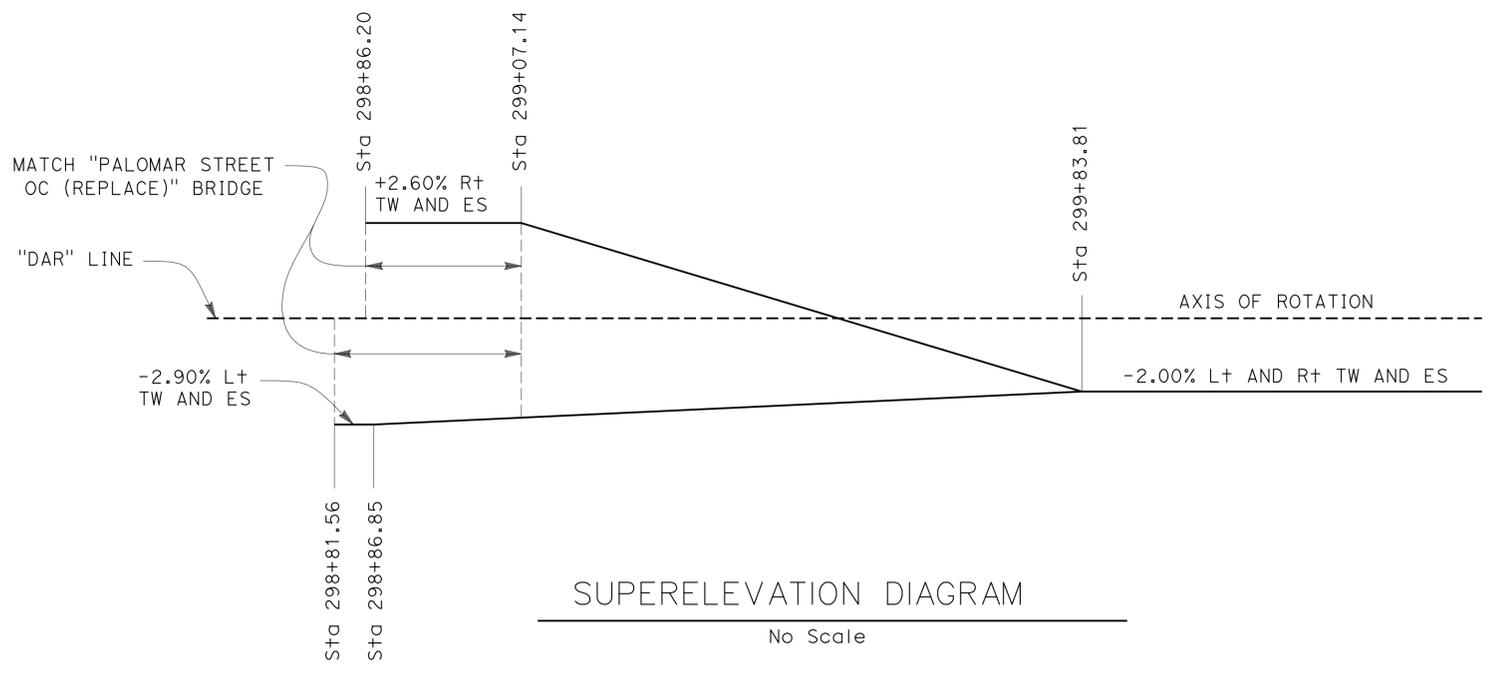
- NOTES:
1. Camber values are in feet.
 2. Camber values do not include allowance for falsework settlement.

CAMBER DIAGRAM
 No Scale



- Structural Concrete, Bridge
- ▨ Structural Concrete, Bridge
- ▩ Structural Concrete, Bridge Footing
- ▧ Structural Concrete, Bridge (f'c = 5.0 ksi)

CONCRETE STRENGTH AND TYPE LIMITS
 No Scale



SUPERELEVATION DIAGRAM
 No Scale

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

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER
 BRIDGE NO. 57-1223E
 POST MILES 5.07

**PALOMAR STREET HOV ACCESS RAMP
 DECK CONTOURS**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
4-28-11	3	34
4-27-12		
2-28-12		

FILE => 57-1223E-d-dc01.dgn

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

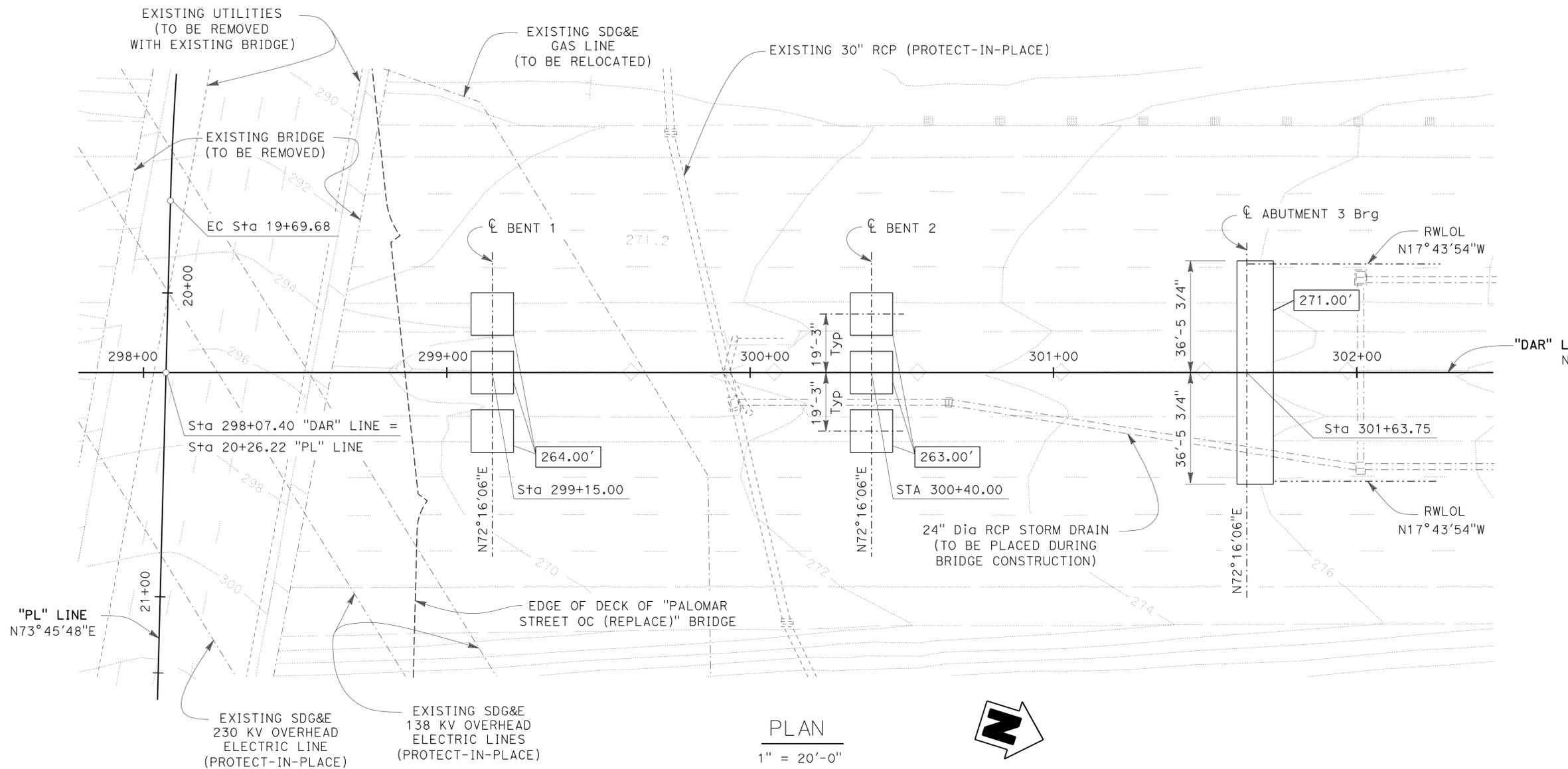
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	529	650

Craig Shannon
 REGISTERED CIVIL ENGINEER
 DATE: 4-27-12
 PLANS APPROVAL DATE: 06-25-12
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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 SAN DIEGO, CALIFORNIA 92101

SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



"DAR" LINE = "A1" LINE
 N17°43'54"W

BENCHMARK

SURVEY CONTROL:

BM#1 805-5.00
 2 1/4" CADT Disk in Sidewalk
 N 1,804,448.16
 E 6,319,094.42
 Elev. = 300.93

BM#2 EPAL1
 Chiseled "X" in Top of Curb
 N 1,804,315.59
 E 6,318,231.60
 Elev. = 275.48

PLAN
 1" = 20'-0"

Support Location	Working Stress Design (WSD)		Load and Resistance Factor Design (LRFD)		
	Permissible Gross Contact Stress (Settlement) (ksf)	Allowable Gross Bearing Capacity (ksf)	Service Permissible Net Contact Stress (Settlement) (ksf)	Strength Factored Gross Nominal Bearing Resistance $\Phi_b = 0.45$ (ksf)	Extreme Event Factored Gross Nominal Bearing Resistance $\Phi_b = 1.00$ (ksf)
Bent 1	N/A	N/A	N/A *	28.0	50.0
Bent 2	N/A	N/A	N/A *	35.0	68.0
Abutment 3	N/A *	15.0	N/A	N/A	N/A

* Settlement is N/A due to Bottom of Footing founded on dense sedimentary formation material.

- LEGEND:**
- Indicates Bottom of Footing Elevation
 - For limits of payment for excavation and backfill bridge, see .

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

 DESIGN OVERSIGHT 5-4-12 SIGN OFF DATE	SCALE: X	VERT. DATUM	HORZ. DATUM	DESIGN BY L. Muco	CHECKED C. Tornaci	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION PROJECT ENGINEER: Craig Shannon	BRIDGE NO. 57-1223E	PALOMAR STREET HOV ACCESS RAMP FOUNDATION PLAN							
	PHOTOGRAMMETRY AS OF:	ALIGNMENT TIES	DETAILS BY T. Brittain	CHECKED L. Muco	POST MILES 5.07										
	SURVEYED BY	DRAFTED BY	QUANTITIES BY L. Muco	CHECKED C. Tornaci											
	FIELD CHECKED BY	CHECKED BY													
FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3								UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051 CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 4-28-11, 4-27-12, 2/28/12		SHEET 4 OF 34	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	530	650

Craig Shannon 4-27-12
 REGISTERED CIVIL ENGINEER DATE

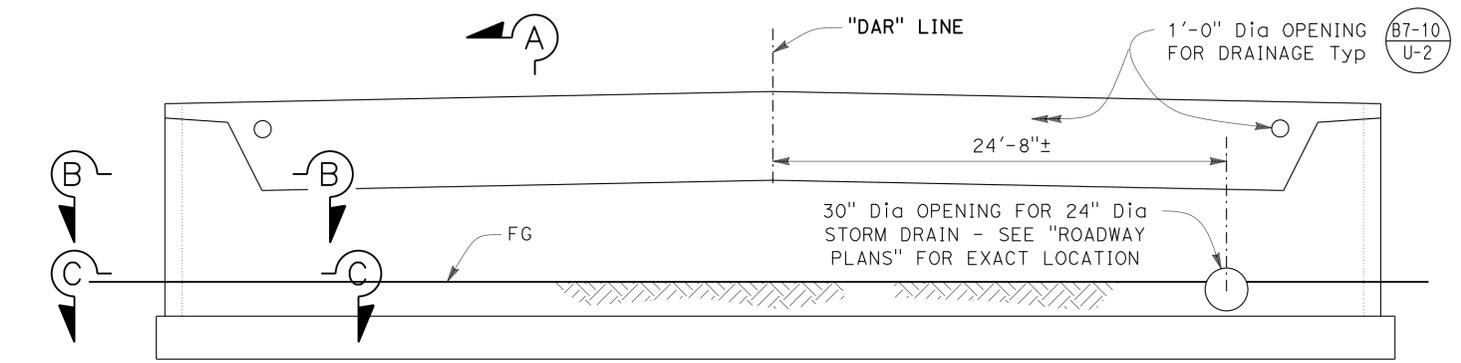
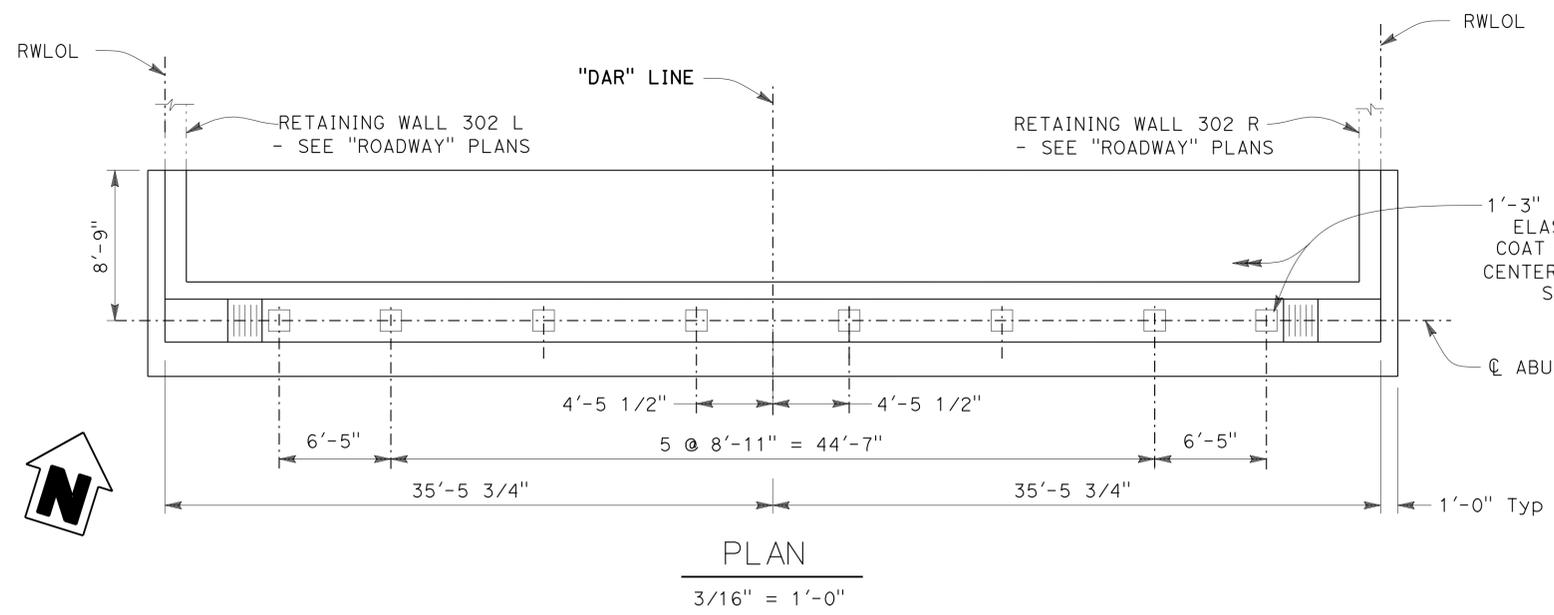
06-25-12
 PLANS APPROVAL DATE

Craig Shannon
 No. 66998
 Exp. 9-30-12
 CIVIL
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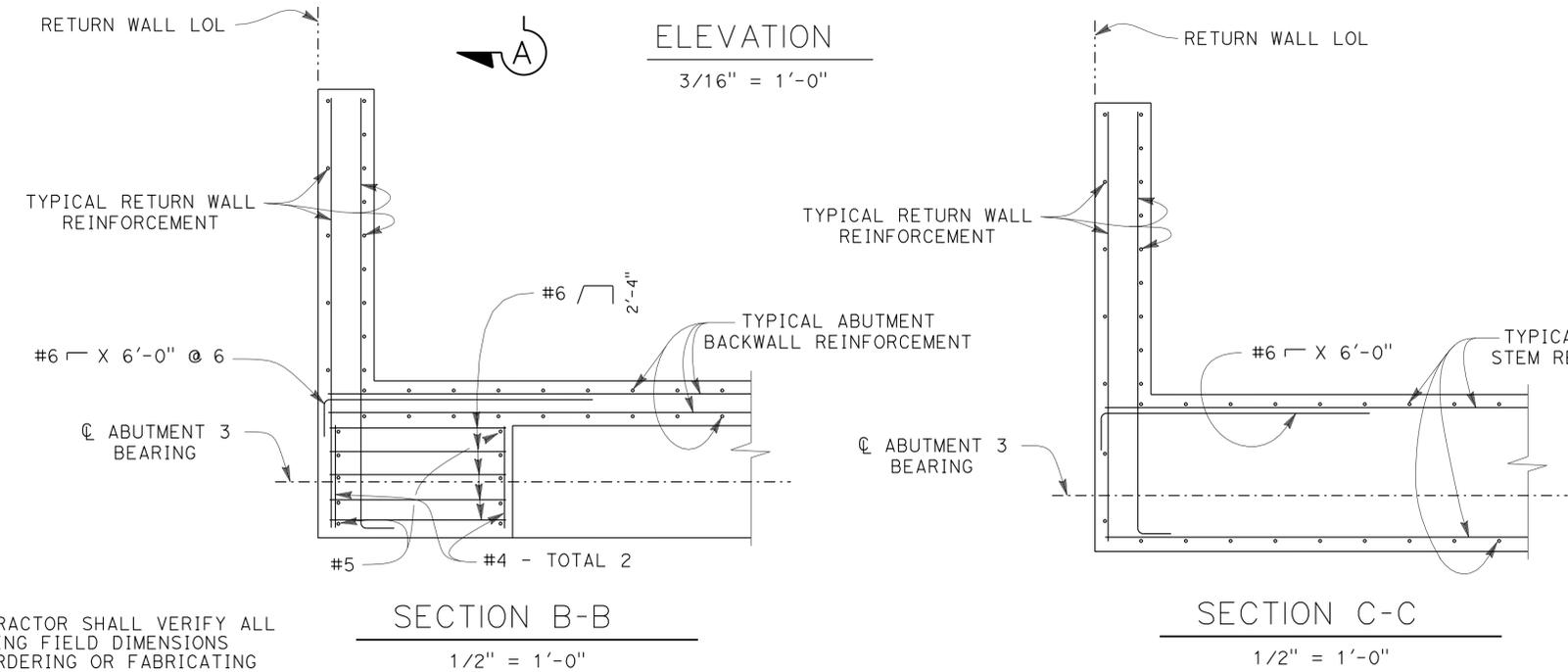
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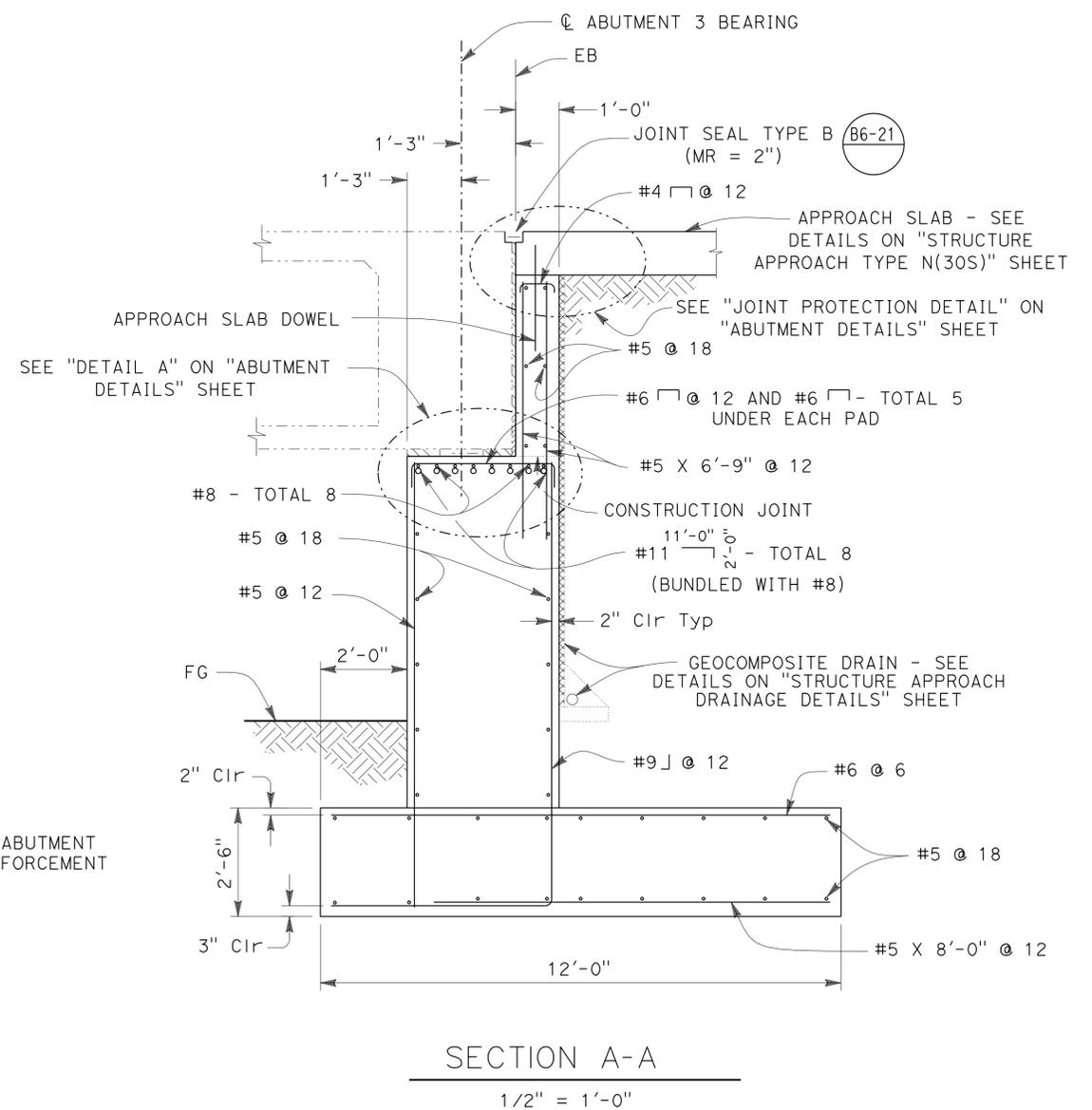
SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



NOTE: See "STORM DRAIN OPENING DETAIL" on "ABUTMENT DETAILS" sheet.



NOTE:
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Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO. 57-1223E
 POST MILES 5.07

PALOMAR STREET HOV ACCESS RAMP
ABUTMENT 3 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
4-28-11 4-27-12 2/28/12	5	34

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 07:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	532	650

Craig Shannon 4-27-12
 REGISTERED CIVIL ENGINEER DATE

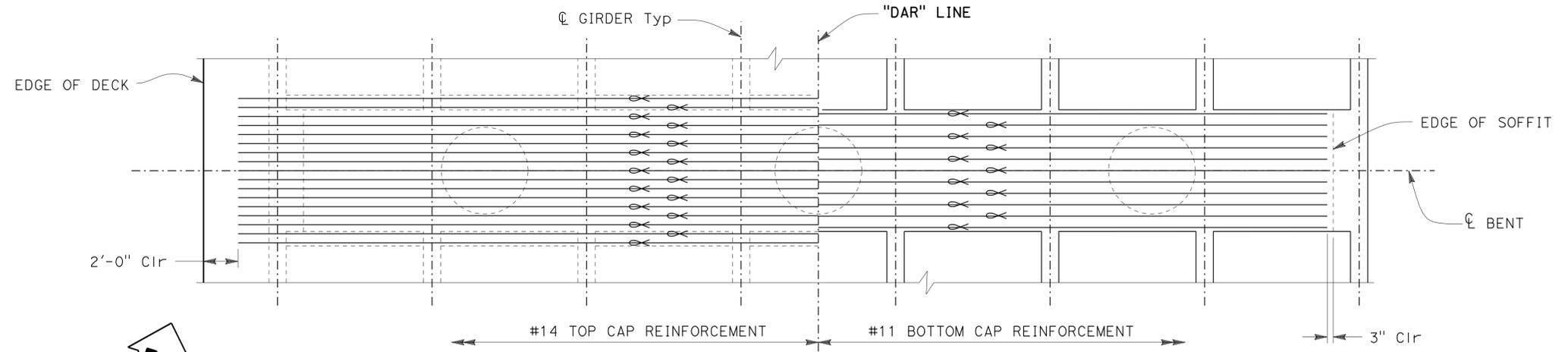
06-25-12
 PLANS APPROVAL DATE

Craig Shannon
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 STATE OF CALIFORNIA

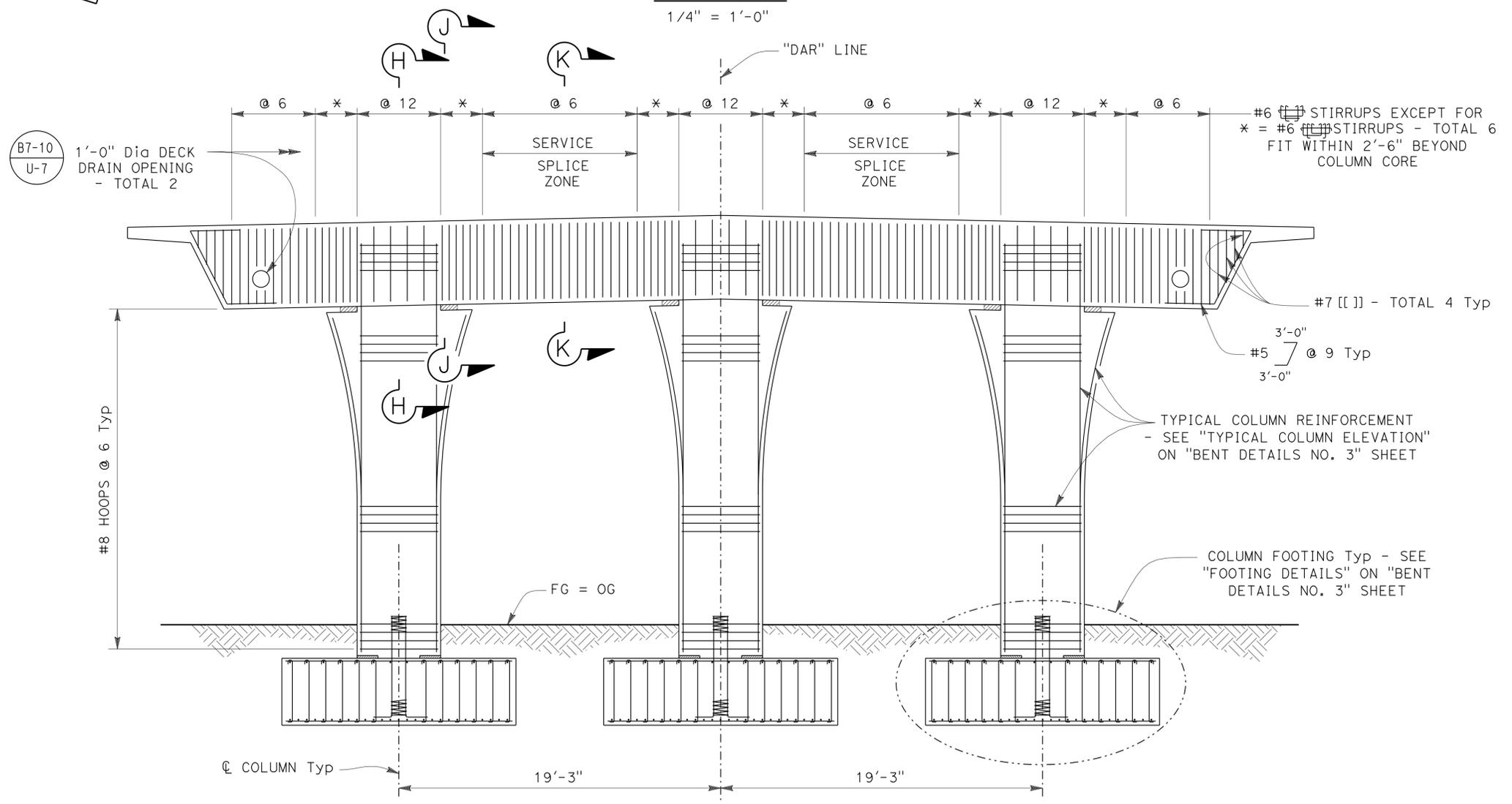
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 SAN DIEGO, CALIFORNIA 92101

SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



PLAN
 1/4" = 1'-0"
 NOTE: ∞ - Indicates vertically bundled bars



ELEVATION
 1/4" = 1'-0"

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

NOTE: No splices allowed in cap reinforcement except service splice allowed in top cap reinforcement as shown on "ELEVATION" this sheet.

NOTE: For Sections "H-H", "J-J", and "K-K", see "BENT DETAILS No. 2" sheet.

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1223E
POST MILES	5.07

PALOMAR STREET HOV ACCESS RAMP BENT DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

REVISION DATES	SHEET	OF
4-28-11 4-27-12 2/28/12	7	34

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	533	650

Craig Shannon 4-27-12
 REGISTERED CIVIL ENGINEER DATE

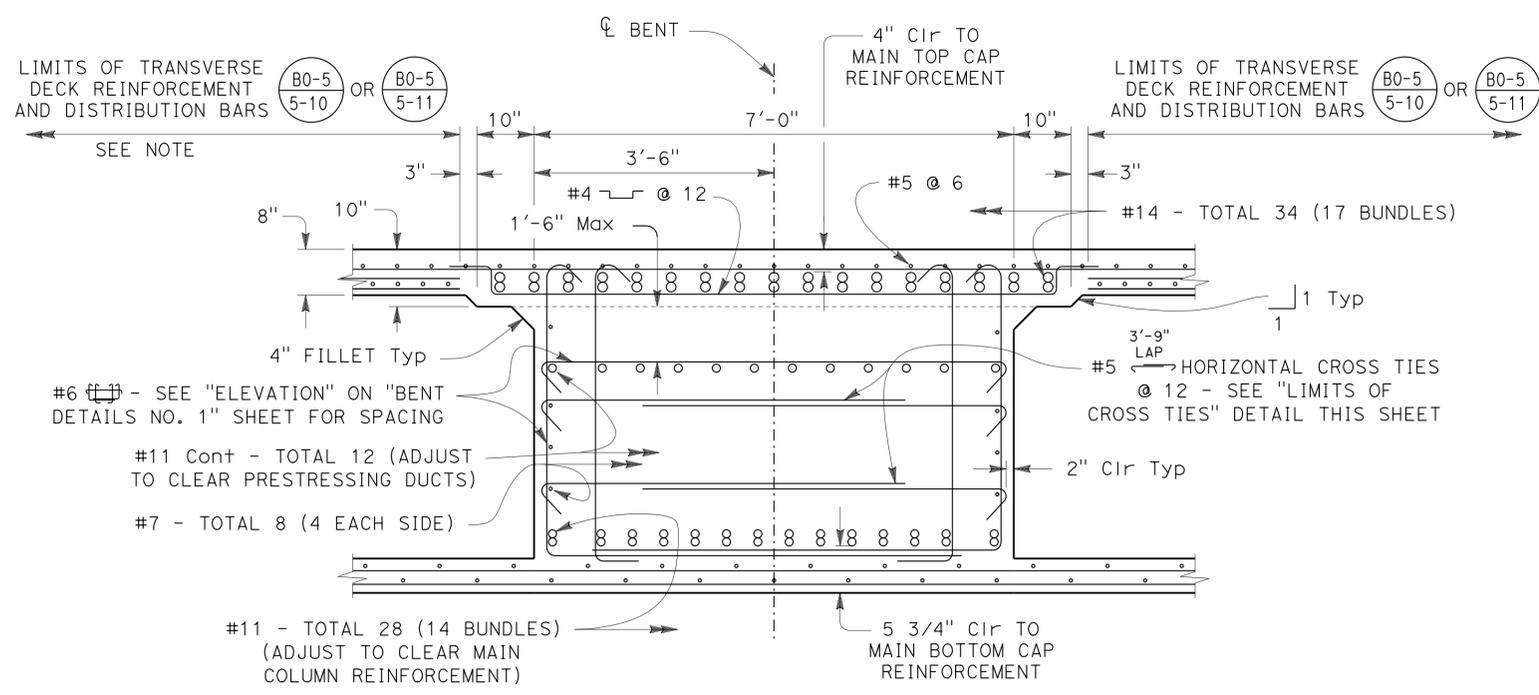
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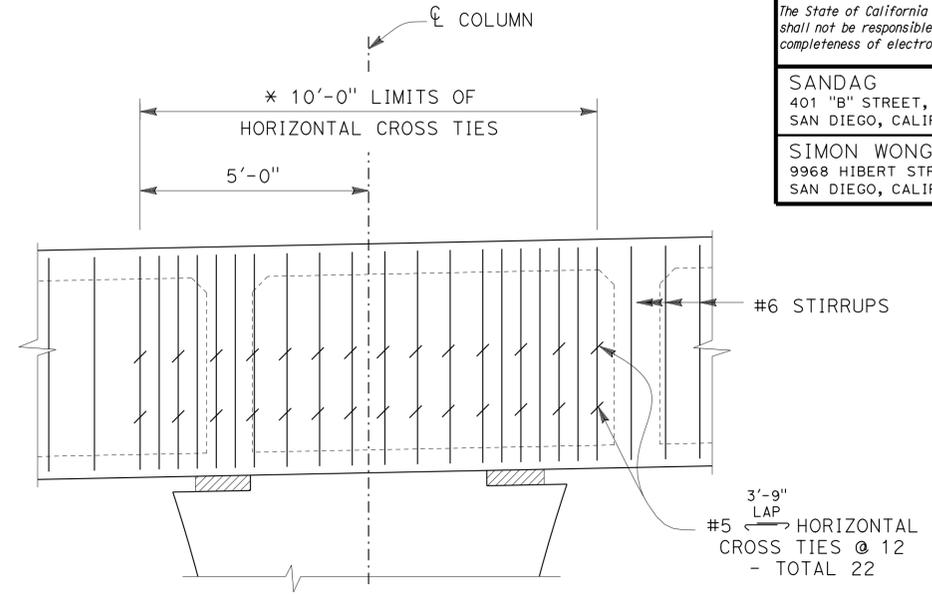
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 SAN DIEGO, CALIFORNIA 92131



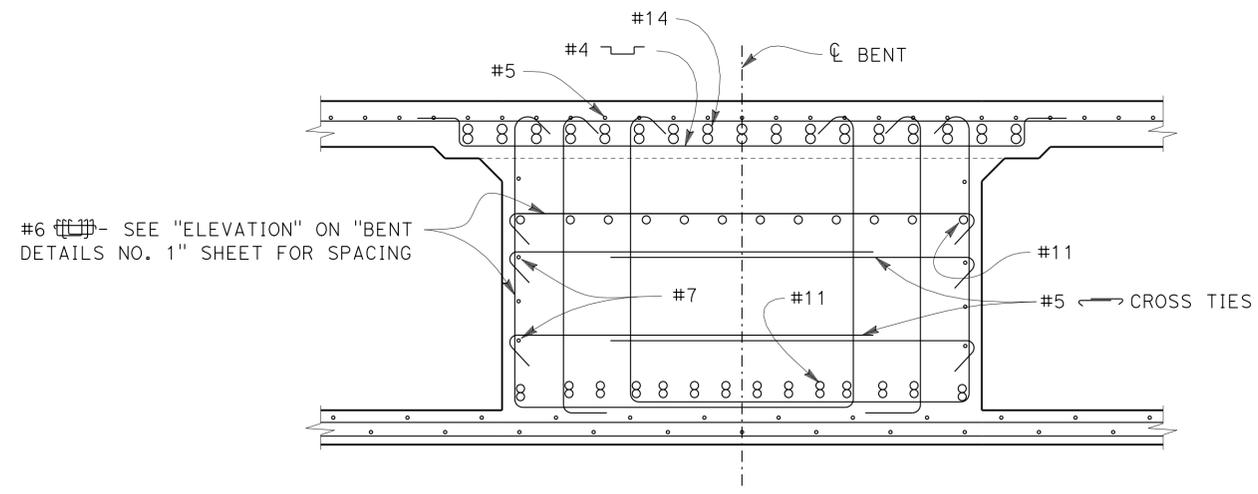
NOTE: Refer to "PARTIAL TYPICAL SECTION (SPAN 1)" on "TYPICAL SECTION" sheet for reinforcement in deck slab for span 1.

SECTION H-H
 3/4" = 1'-0"



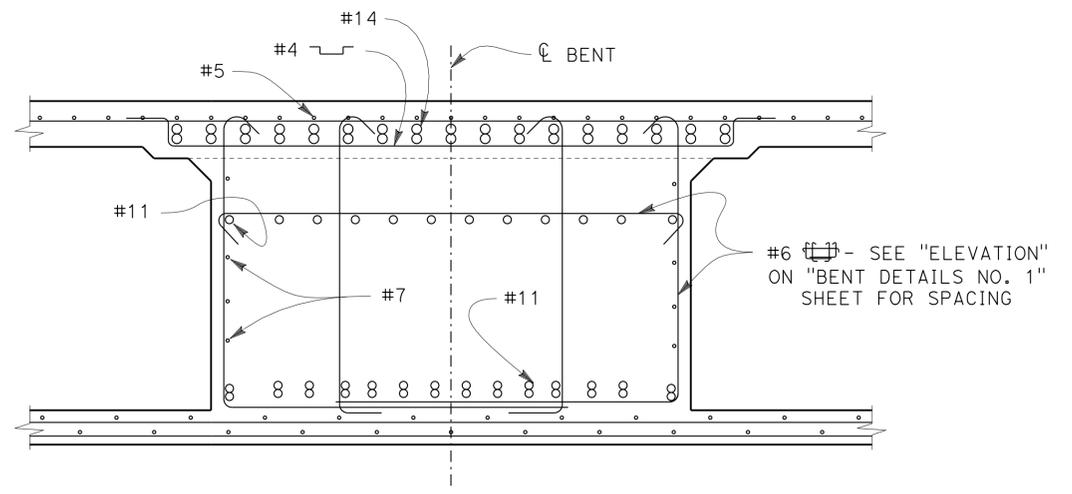
NOTE: Column reinforcement not shown.

LIMITS OF CROSS TIES
 1/2" = 1'-0"



NOTE: For additional details, see "SECTION H-H" this sheet.

SECTION J-J
 3/4" = 1'-0"



NOTE: For additional details, see "SECTION H-H" this sheet.

SECTION K-K
 3/4" = 1'-0"

NOTE:
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Norbert Gee
 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO. 57-1223E
 POST MILES 5.07

PALOMAR STREET HOV ACCESS RAMP
BENT DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051 CONTRACT NO.: 11-2T1821

REVISION DATES	SHEET	OF
4-27-11 4-27-12 2-28-12	8	34

FILE => 57-1223E-h-bde+02.dgn

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

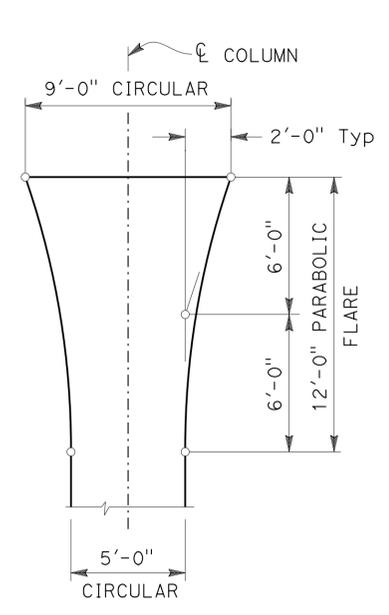
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	534	650

Craig Shannon
 REGISTERED CIVIL ENGINEER
 DATE: 4-27-12
 PLANS APPROVAL DATE: 06-25-12

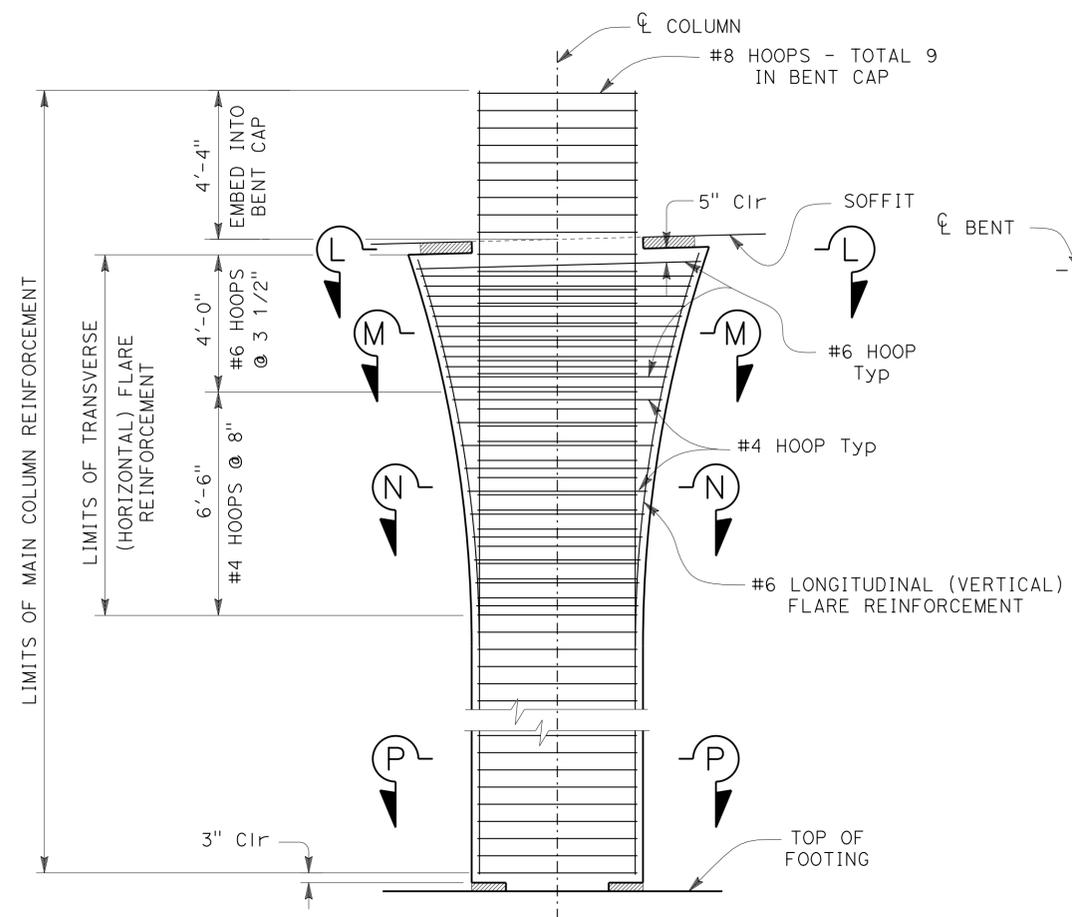
REGISTERED PROFESSIONAL ENGINEER
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101

SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131

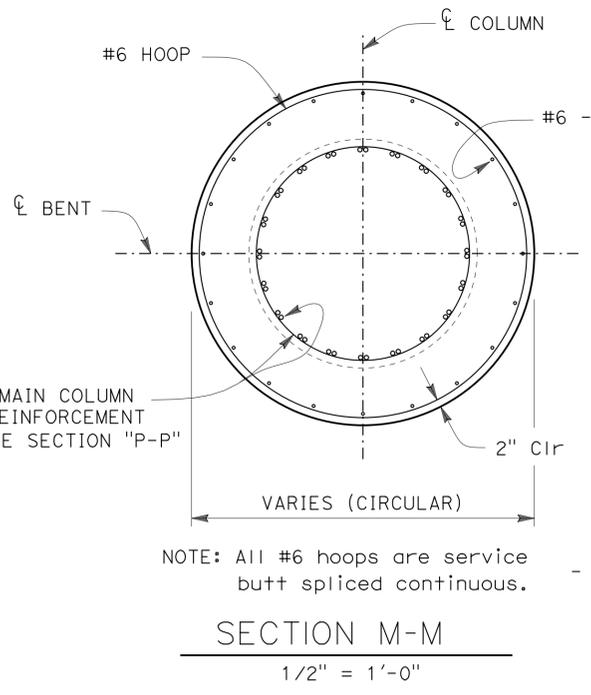


COLUMN FLARE DETAIL
 1/4" = 1'-0"

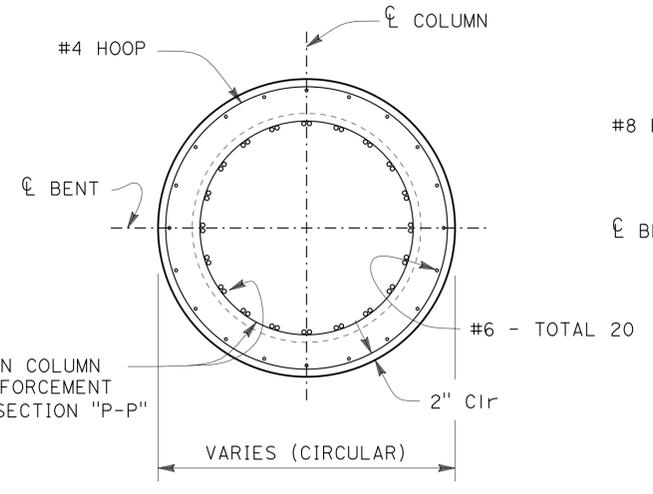


NOTE: No splices allowed in longitudinal main column reinforcement. Ultimate butt splices required for #8 hoops.

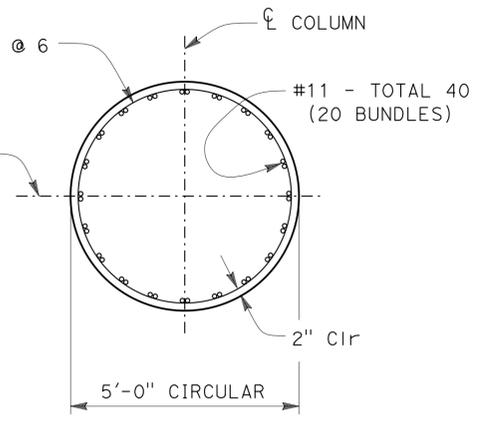
TYPICAL COLUMN ELEVATION
 3/8" = 1'-0"



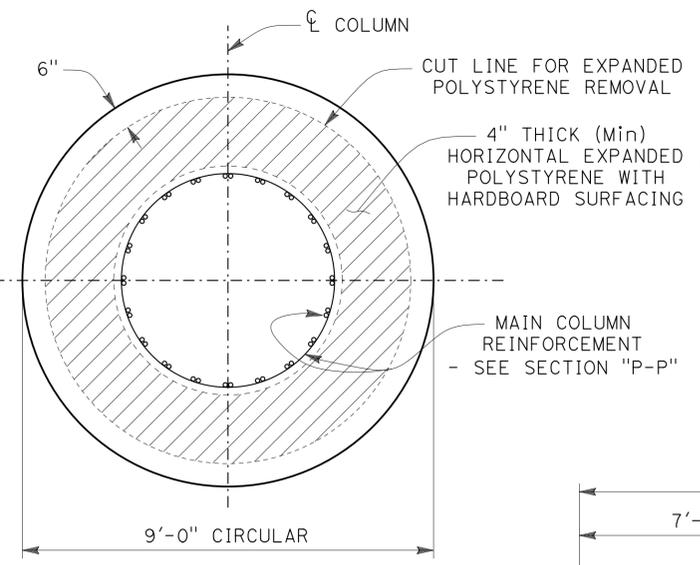
SECTION M-M
 1/2" = 1'-0"



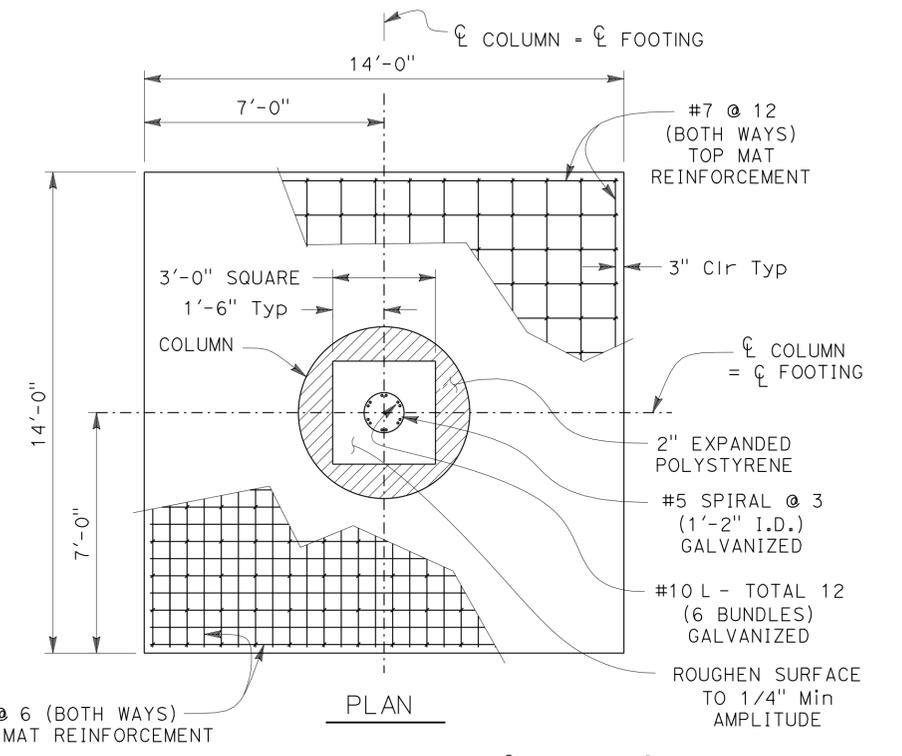
SECTION N-N
 1/2" = 1'-0"



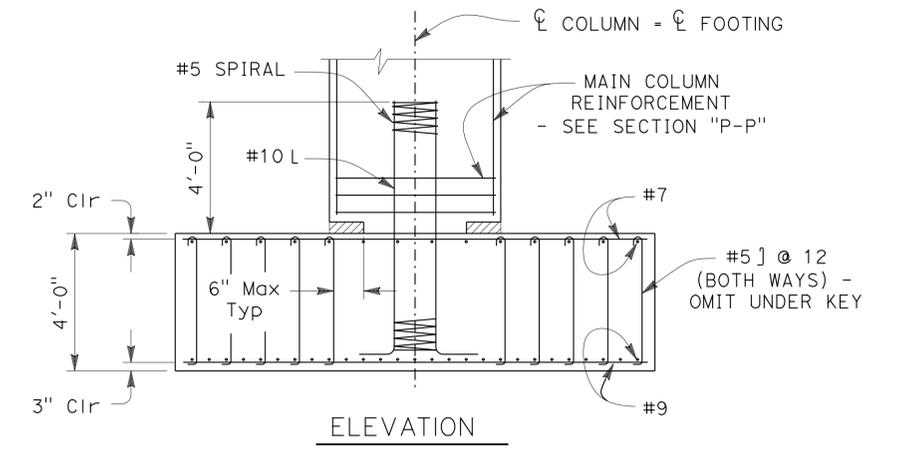
SECTION P-P
 1/2" = 1'-0"



SECTION L-L
 1/2" = 1'-0"



PLAN



FOOTING DETAILS
 3/8" = 1'-0"

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

DESIGN OVERSIGHT: Norbert Gee
 SIGN OFF DATE: 5-4-12

DESIGN	BY: L. Muco	CHECKED: C. Tornaci
DETAILS	BY: T. Brittain	CHECKED: L. Muco
QUANTITIES	BY: L. Muco	CHECKED: C. Tornaci

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1223E
POST MILES	5.07

PALOMAR STREET HOV ACCESS RAMP
BENT DETAILS NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
4-27-12	9	34

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	535	650

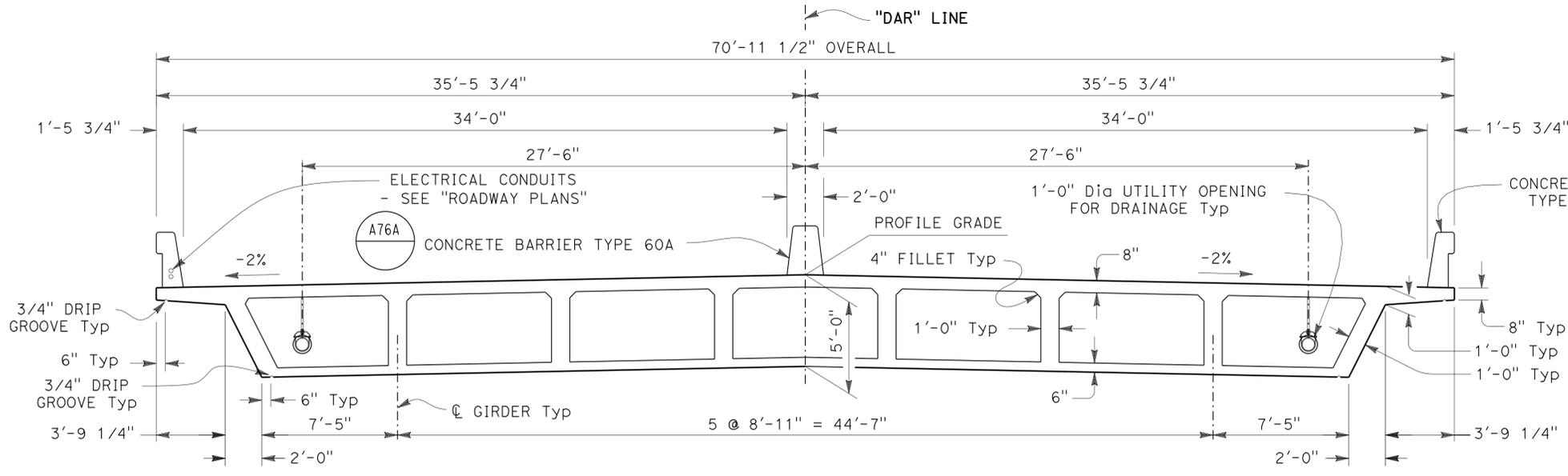
Craig Shannon
 REGISTERED CIVIL ENGINEER
 DATE: 4-27-12
 PLANS APPROVAL DATE: 06-25-12

Craig Shannon
 REGISTERED PROFESSIONAL ENGINEER
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

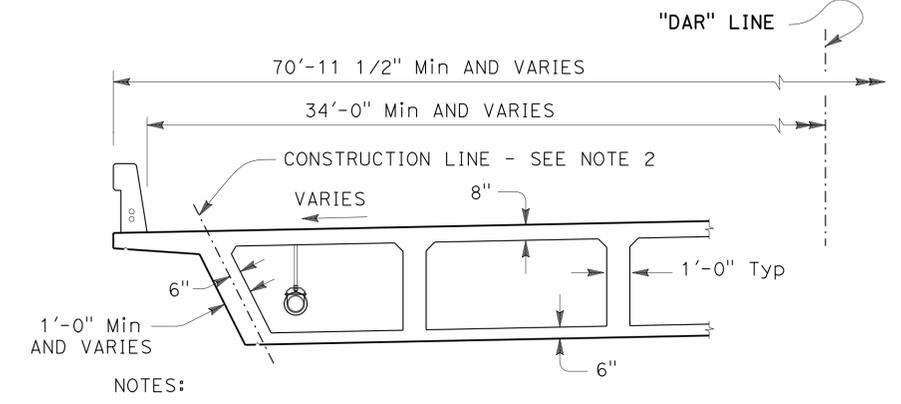
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 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101

SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131

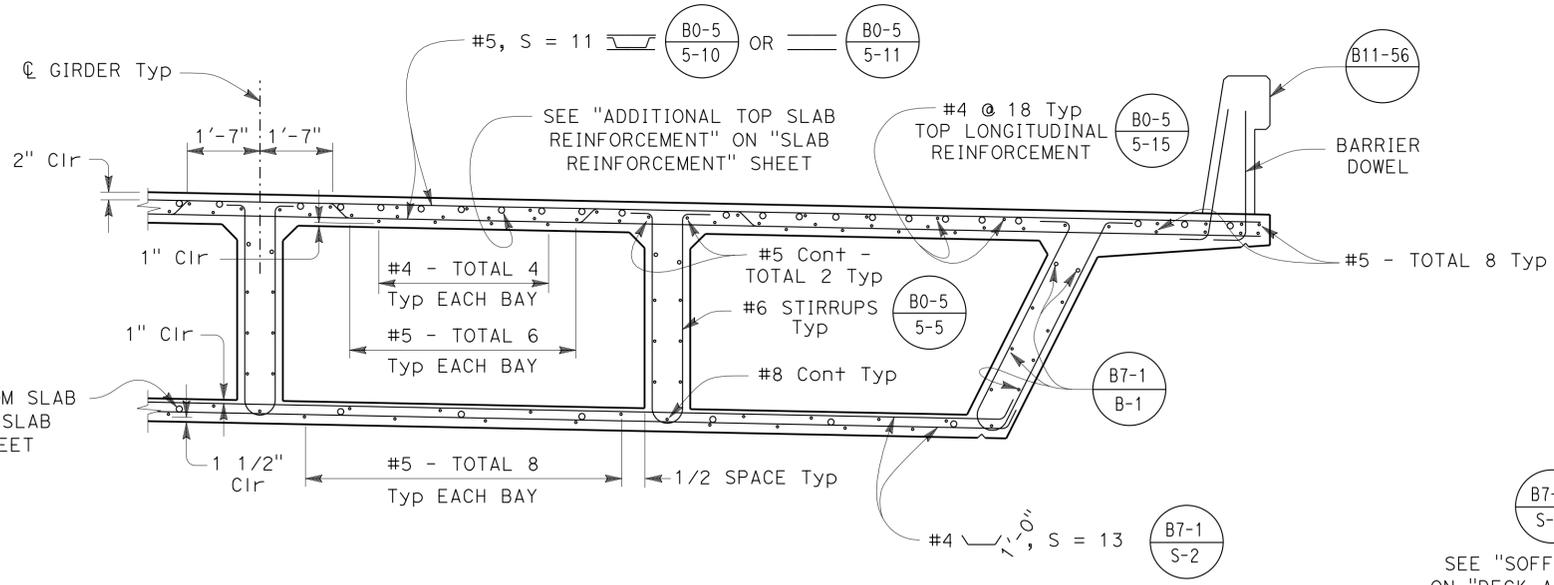


TYPICAL SECTION (SPANS 2 AND 3)
 1/4" = 1'-0"

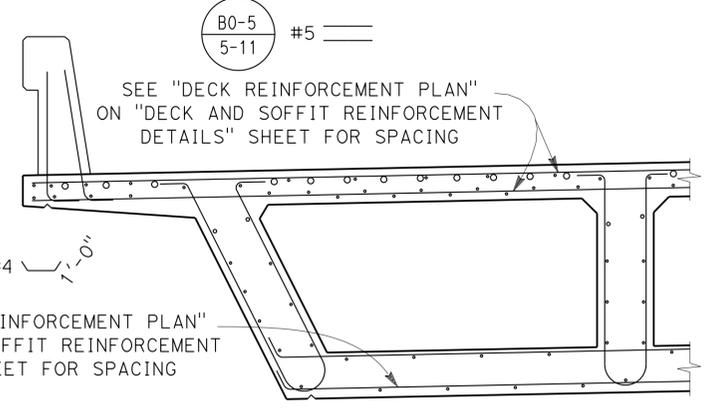


- NOTES:
- Span 1 typical section similar to spans 2 and 3 except as shown. Refer to "TYPICAL SECTION (SPANS 2 AND 3)" for additional information, except for information on barriers refer to "BARRIER DETAILS" sheet.
 - Construction line used for prestressed cable path alignment.

TYPICAL SECTION (SPAN 1)
 1/4" = 1'-0"



PARTIAL TYPICAL SECTION (SPANS 2 AND 3)
 1/2" = 1'-0"



PARTIAL TYPICAL SECTION (SPAN 1)
 1/2" = 1'-0"

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

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO. 57-1223E
 PROJECT MILES 5.07
PALOMAR STREET HOV ACCESS RAMP
TYPICAL SECTION

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 2762 1100020051

CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
4-28-11 4-27-12 2/28/12	10	34

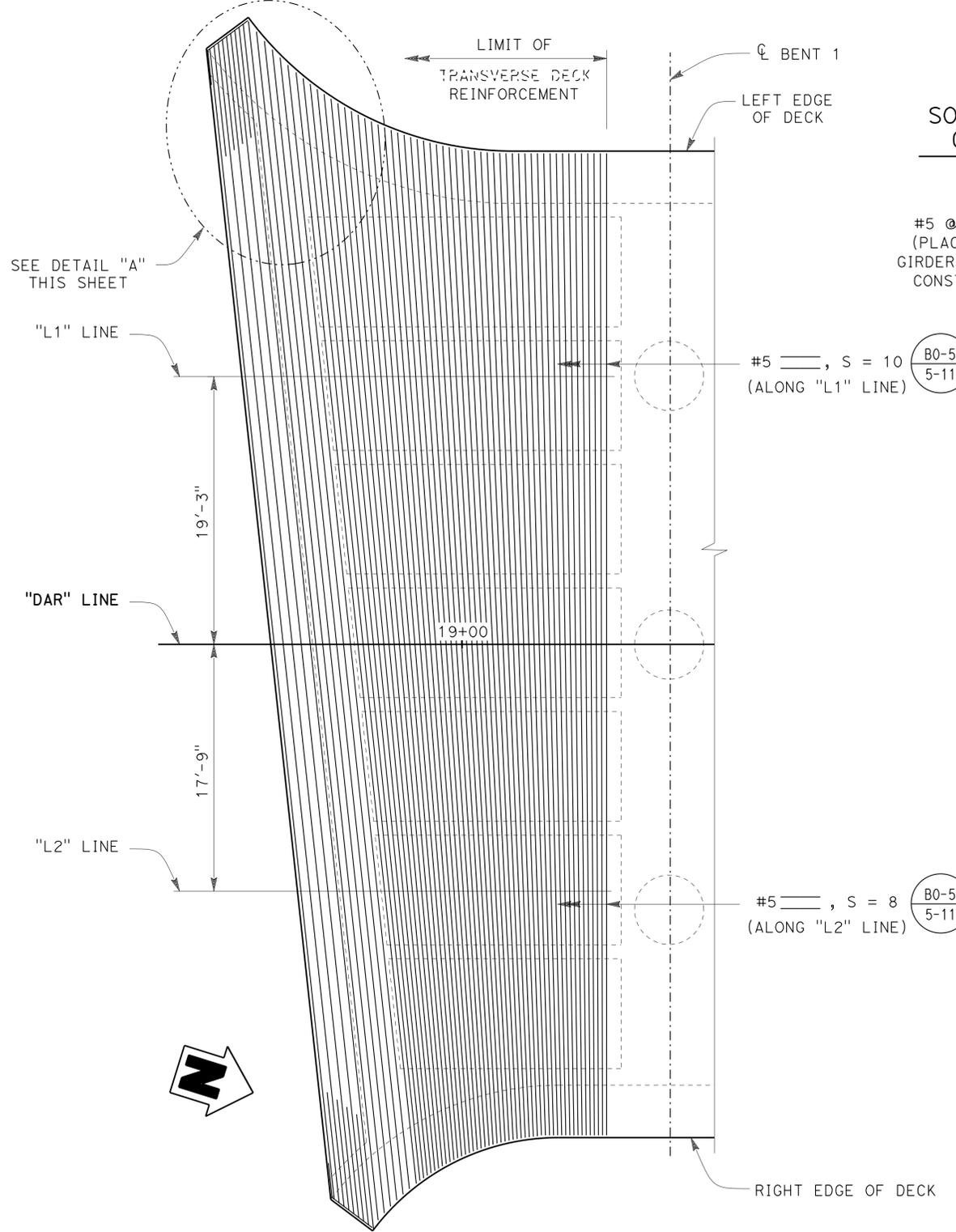
FILE => 57-1223E-k-ts01.dgn

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	536	650

Craig Shannon
 REGISTERED CIVIL ENGINEER DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
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 SAN DIEGO, CALIFORNIA 92131



DECK REINFORCEMENT PLAN

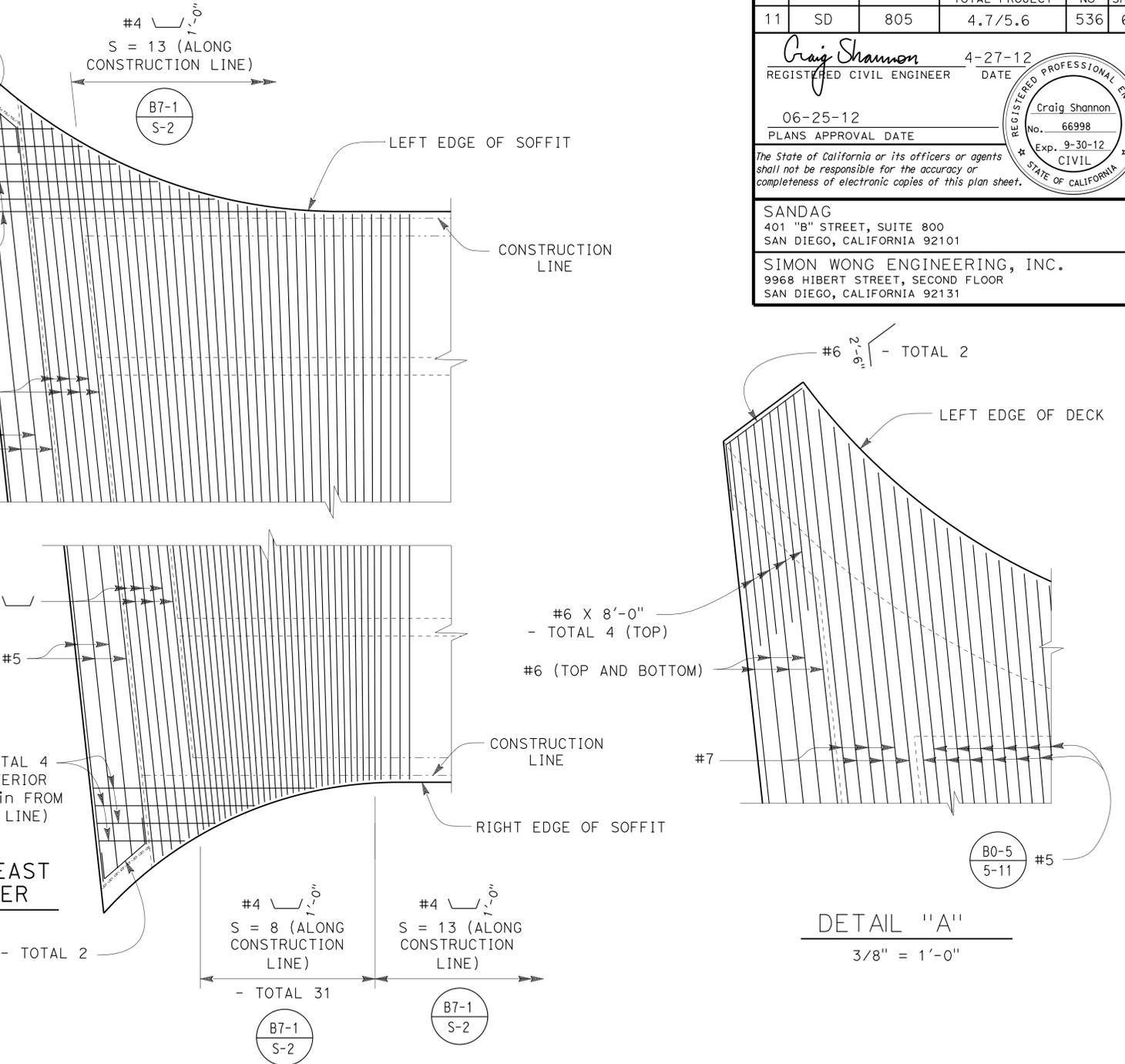
3/16" = 1'-0"

- NOTES:
1. Typical longitudinal reinforcement not shown for clarity.
 2. For additional transverse reinforcement ("A" Bars), see "ANCHOR DIAPHRAGM" on "GIRDER DETAILS" sheet.

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

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci



SOFFIT REINFORCEMENT PLAN

1/4" = 1'-0"

- NOTES:
1. Typical longitudinal reinforcement not shown for clarity.
 2. For additional transverse reinforcement ("B" Bars), see "ANCHOR DIAPHRAGM" on "GIRDER DETAILS" sheet.
 3. Construction line used for prestressed cable path alignment. See "TYPICAL SECTION (SPAN 1)" on "TYPICAL SECTION" sheet.

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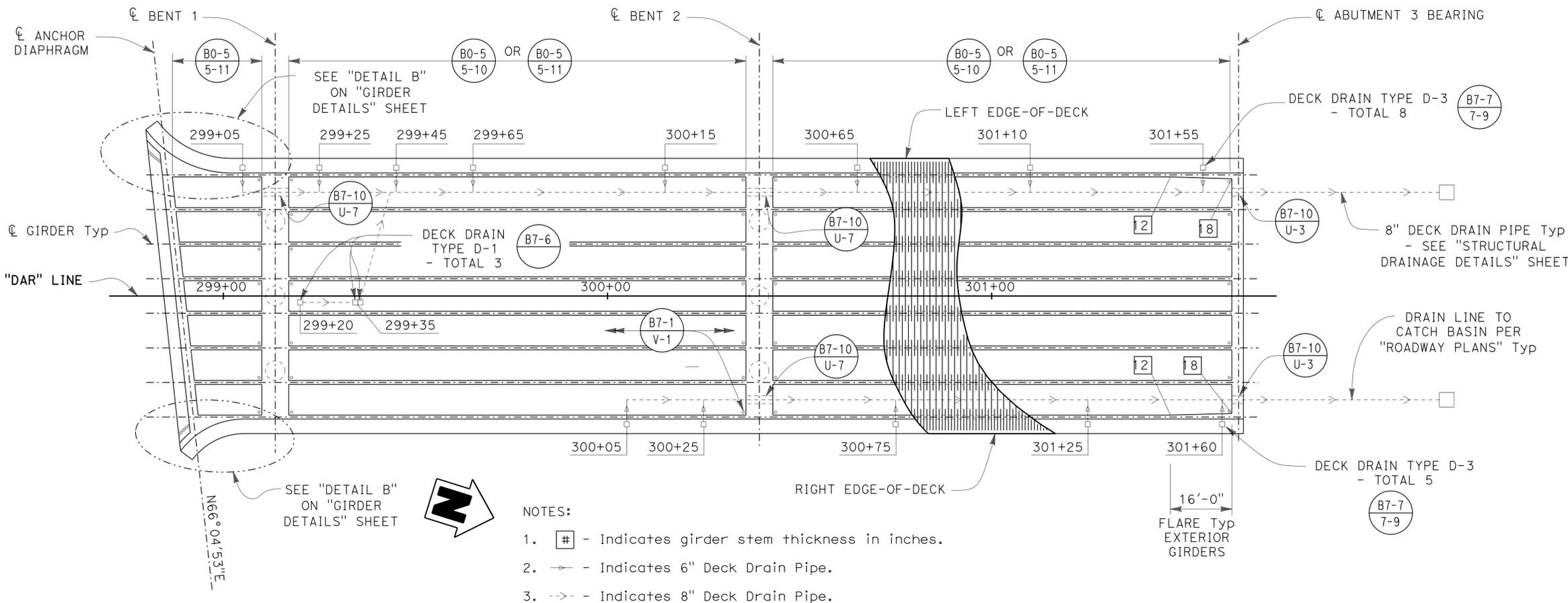
Craig Shannon
 PROJECT ENGINEER
 BRIDGE NO. 57-1223E
 POST MILES 5.07

PALOMAR STREET HOV ACCESS RAMP
DECK AND SOFFIT REINFORCEMENT DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	537	650

Craig Shannon
 REGISTERED CIVIL ENGINEER
 DATE: 4-27-12
 PLANS APPROVAL DATE: 06-25-12
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101
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 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131

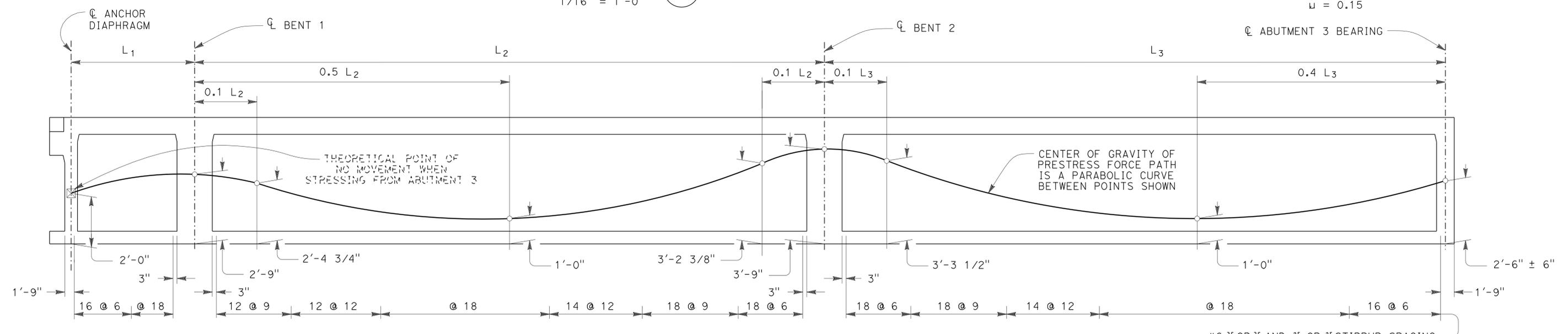


- NOTES:
- # - Indicates girder stem thickness in inches.
 - >- Indicates 6" Deck Drain Pipe.
 - >->- Indicates 8" Deck Drain Pipe.

PLAN
 1/16" = 1'-0"

PRESTRESSING NOTES

270 KSI Low Relaxation Strands:
 Pjack = 12,654 K
 Anchor Set = 3/8"
 Total Number of Girders = 8
 Distribution of prestress force (Pjack) between Girders shall not exceed the ratio of 3:2. Maximum final force variation between Girders shall not exceed 725 K.
 Concrete:
 f'c = 5,000 psi at 28 Days
 f'ci = 3,500 psi at time of stressing
 Contractor shall submit elongation calculation based on initial stress at = 0.870 times jacking stress.
 One end stressing shall be performed from Abutment 3.
 k = 0.0002
 u = 0.15



LONGITUDINAL SECTION
 No Scale

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

DESIGN OVERSIGHT: Norbert Gee
 SIGN OFF DATE: 5-4-12

DESIGN	BY: L. Muco	CHECKED: C. Tornaci
DETAILS	BY: T. Brittain	CHECKED: L. Muco
QUANTITIES	BY: L. Muco	CHECKED: C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER
 BRIDGE NO. 57-1223E
 POST MILES 5.07

**PALOMAR STREET HOV ACCESS RAMP
 GIRDER LAYOUT**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

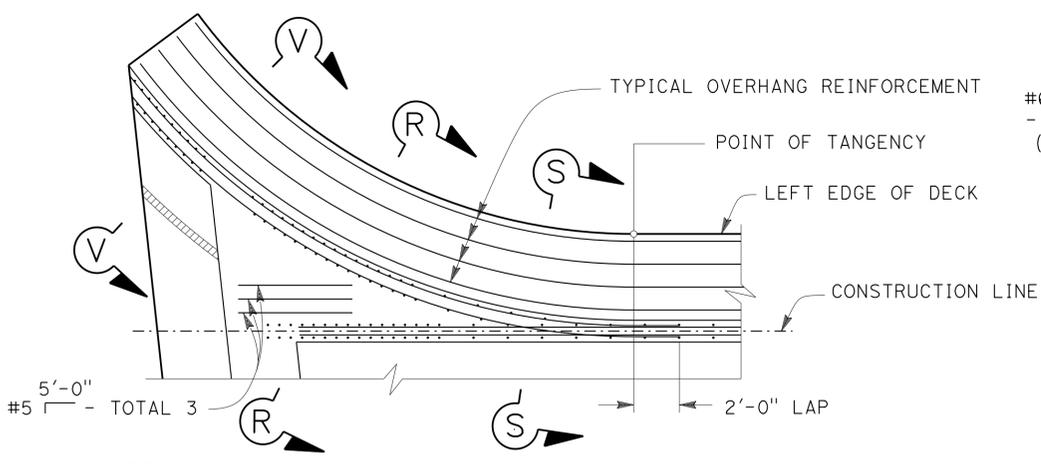
REVISION DATES	SHEET	OF
4-28-11	12	34

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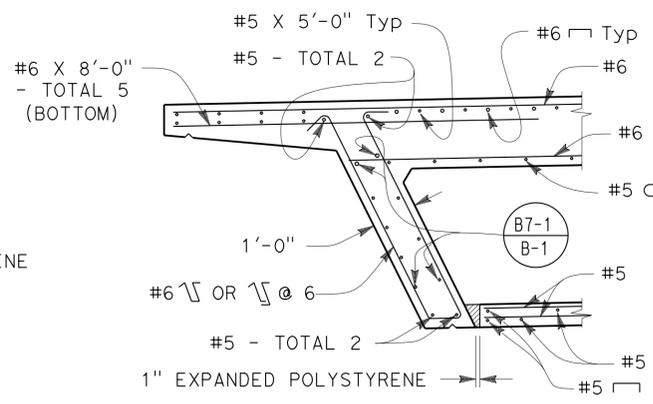
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	538	650

Craig Shannon
 REGISTERED CIVIL ENGINEER DATE 4-27-12
 06-25-12
 PLANS APPROVAL DATE
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101
 SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131

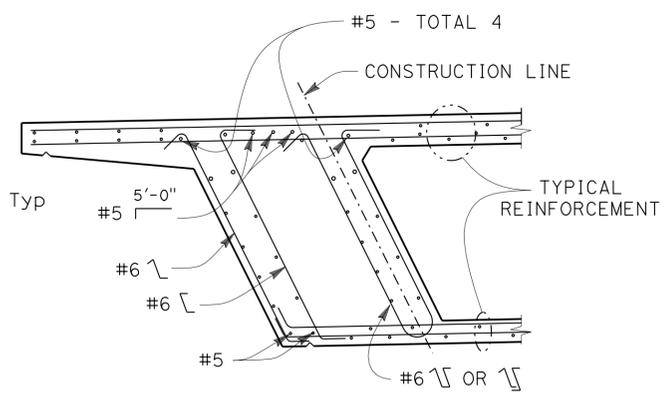


- NOTES:
1. Southwest corner shown, southeast corner similar.
 2. Curve data are shown on the "PLAN" view on the "GENERAL PLAN" sheet.
 3. Detail "B" taken from "PLAN" view on "GIRDER LAYOUT" sheet.



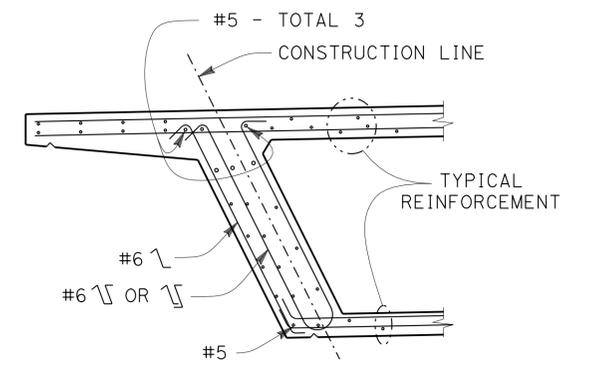
NOTE: See "ANCHOR DIAPHRAGM" on this sheet for more details.

SECTION V-V
 1/2" = 1'-0"



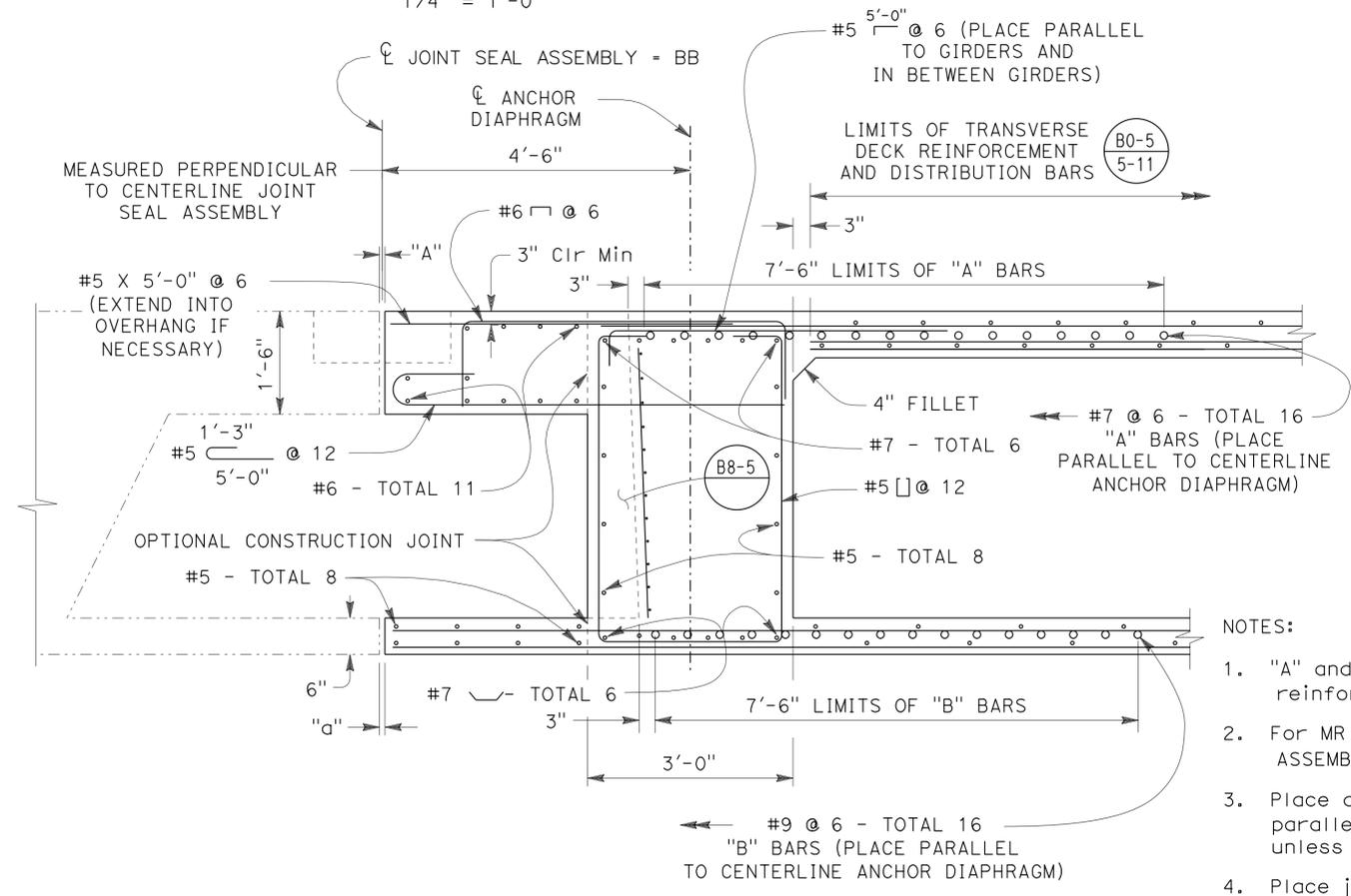
SECTION R-R
 1/2" = 1'-0"

NOTE: Construction line used for prestressed cable path alignment.



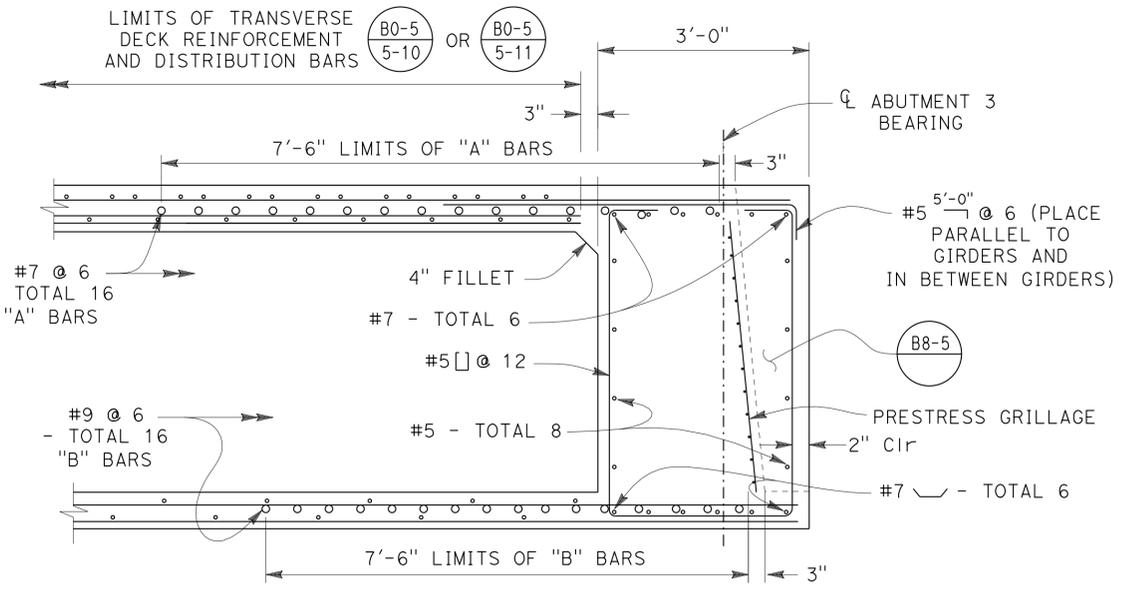
SECTION S-S
 1/2" = 1'-0"

DETAIL "B"
 1/4" = 1'-0"



- NOTES:
1. "A" and "B" Bars are in addition to reinforcement shown elsewhere.
 2. For MR and "a" values, see "JOINT SEAL ASSEMBLY (MAXIMUM MR = 4")" sheet.
 3. Place all longitudinal reinforcement parallel to centerline of girder unless shown otherwise.
 4. Place joint armor over sidewalk. See "JOINT ARMOR - EXPANSION DETAILS (MAXIMUM MOVEMENT RATING = 4")" sheet.
 5. See "DECK AND SOFFIT REINFORCEMENT DETAILS" sheet for anchor diaphragm reinforcement limits.

ANCHOR DIAPHRAGM
 3/4" = 1'-0"



END DIAPHRAGM
 3/4" = 1'-0"

NOTE: "A" and "B" Bars are in addition to reinforcement shown elsewhere.

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

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER
 BRIDGE NO. 57-1223E
 POST MILES 5.07

PALOMAR STREET HOV ACCESS RAMP
GIRDER DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
4-27-12	13	34

FILE => 57-1223E-1-gdet01.dgn

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	539	650

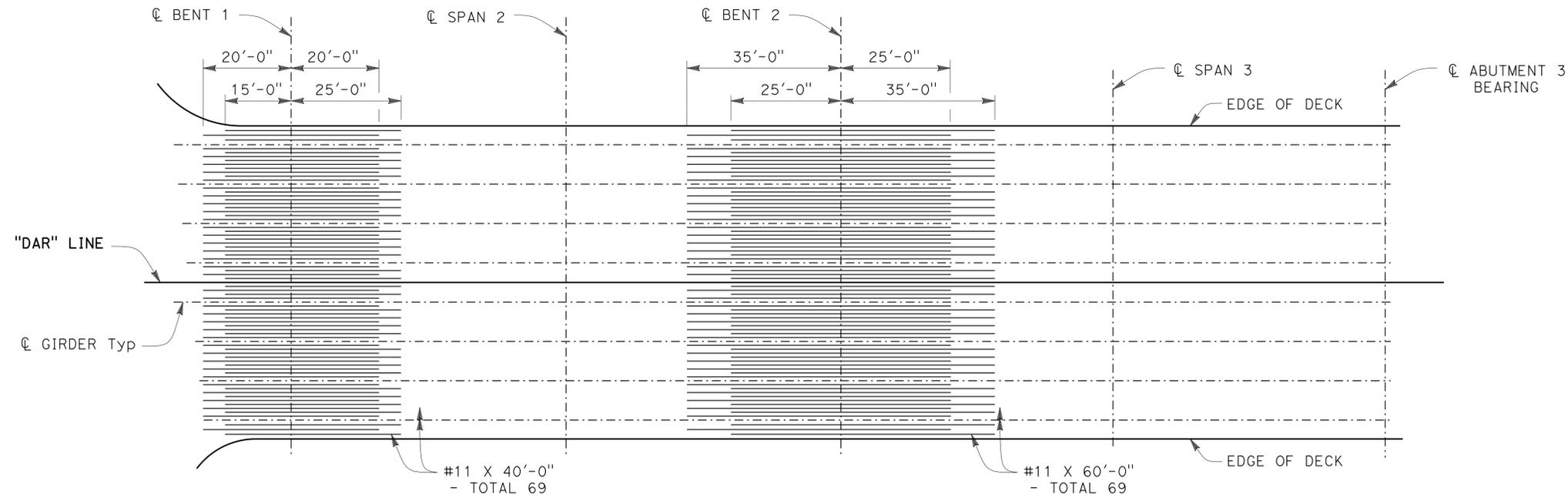
Craig Shannon 4-27-12
 REGISTERED CIVIL ENGINEER DATE

06-25-12
 PLANS APPROVAL DATE

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 SAN DIEGO, CALIFORNIA 92101

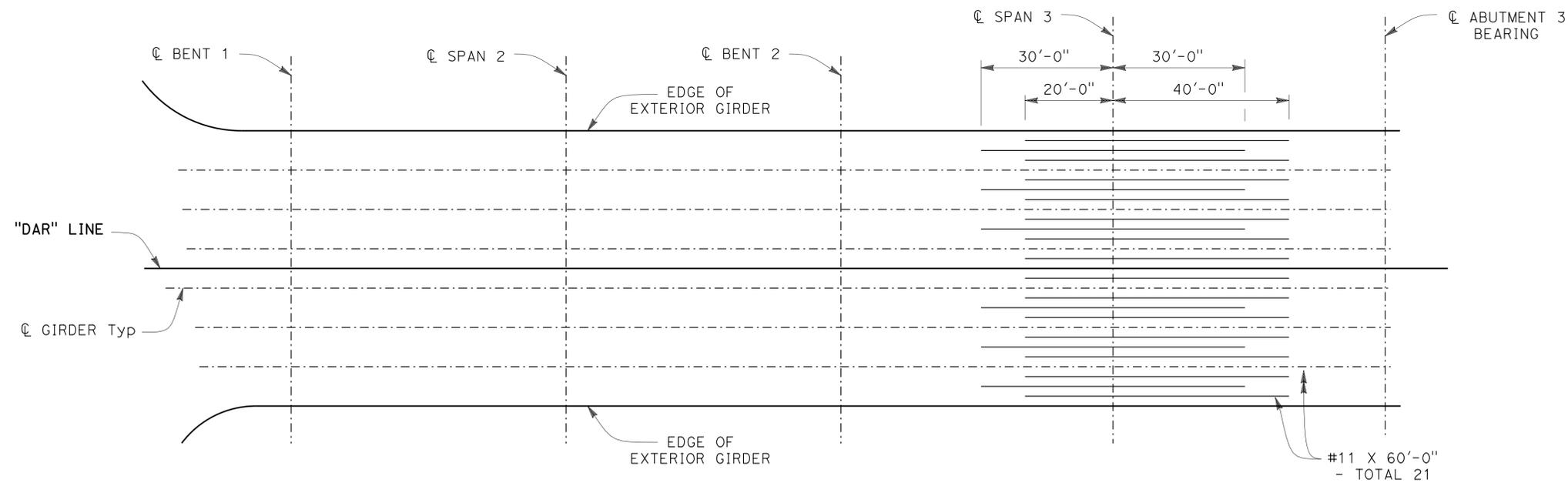
SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



NOTE: Contractor shall coordinate deck reinforcement placement with Crash Cushion (SCI 100 GM) manufacturer and adjust as necessary to accommodate mounting bolt layout.

ADDITIONAL TOP SLAB REINFORCEMENT

No Scale



NOTE: No splices allowed in #11 top or bottom slab reinforcement.

ADDITIONAL BOTTOM SLAB REINFORCEMENT

No Scale

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

Norbert Gee
 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1223E
POST MILES	5.07

**PALOMAR STREET HOV ACCESS RAMP
 SLAB REINFORCEMENT**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

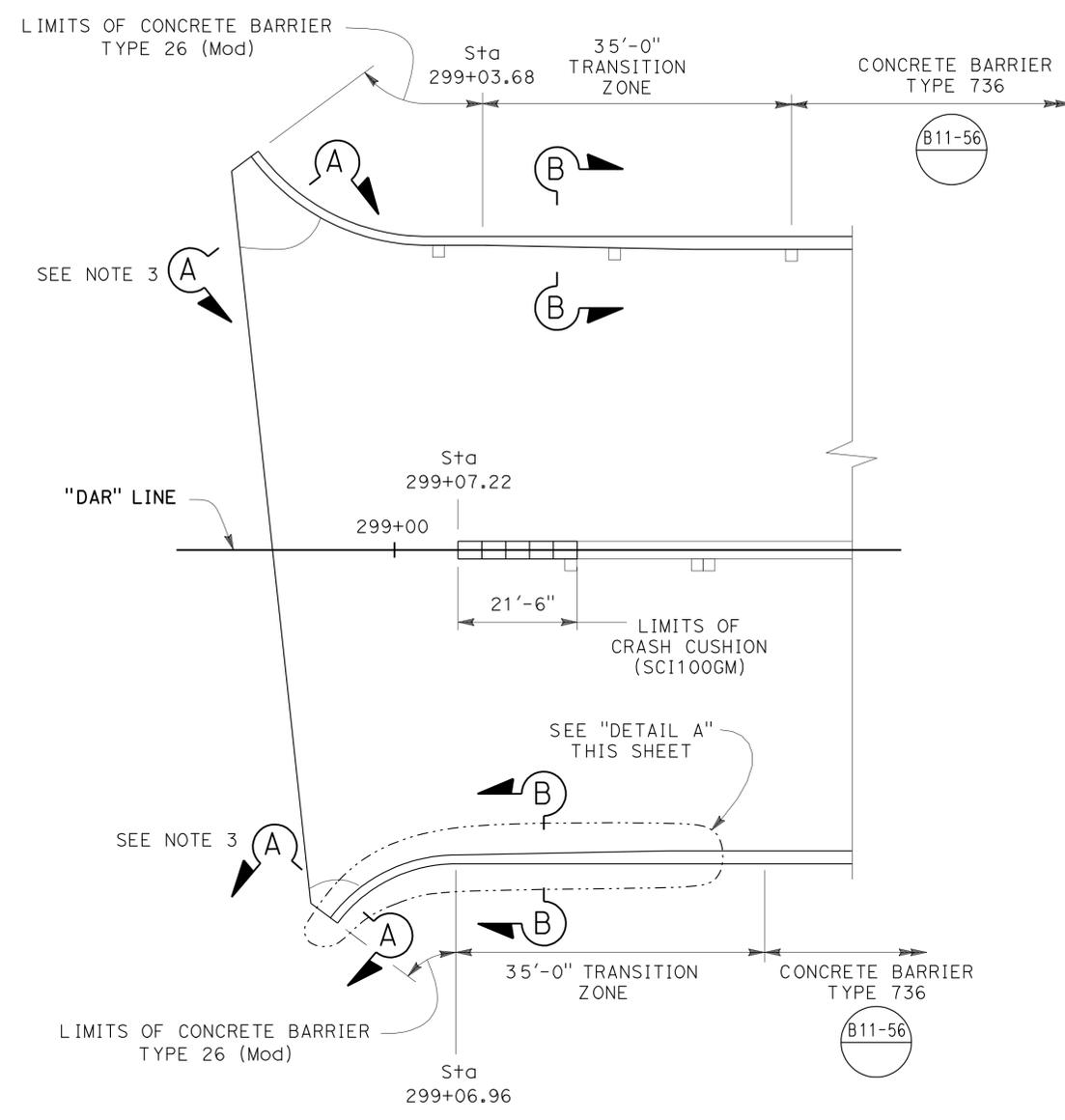
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	4-28-11 4-27-12 2/28/12	14	34

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

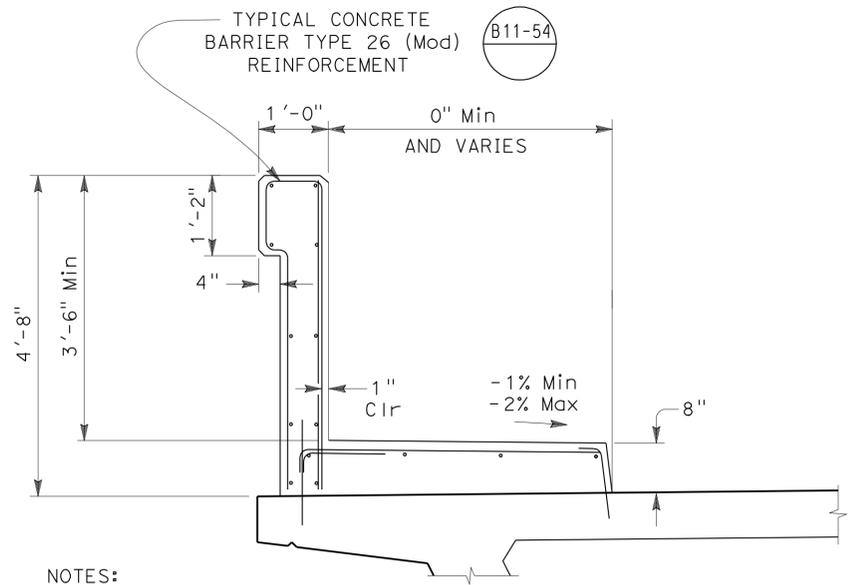
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	540	650

Craig Shannon
 REGISTERED CIVIL ENGINEER
 DATE 4-27-12
 PLANS APPROVAL DATE 06-25-12
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101
 SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



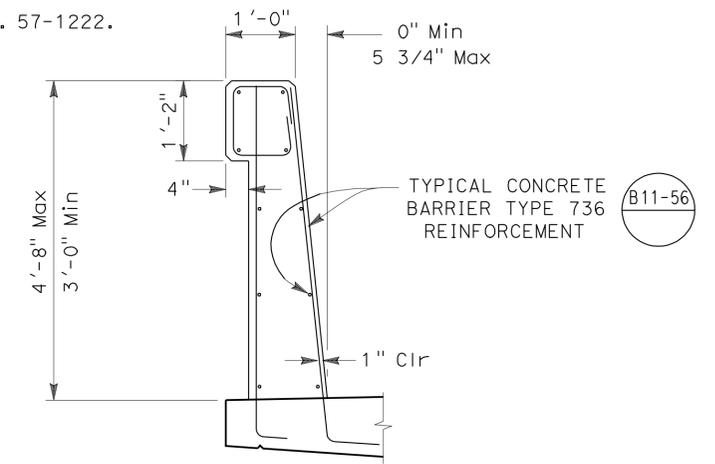
PLAN
 1" = 10'-0"



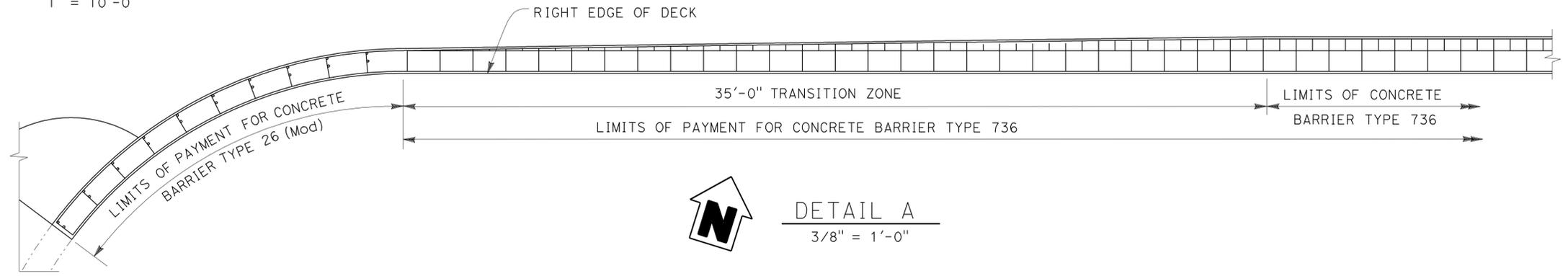
SECTION A-A
 3/4" = 1'-0"

NOTES:

1. For curb layout, see "Roadway Plans".
2. Match curb and sidewalk to PALOMAR STREET OC (REPLACE) BRIDGE No. 57-1222.
3. For architectural treatment and texture details, see "BRIDGE TEXTURE DETAILS" on "Roadway Plans".



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



DETAIL A
 3/8" = 1'-0"

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

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1223E
POST MILES	5.07

**PALOMAR STREET HOV ACCESS RAMP
 BARRIER DETAILS**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

CONTRACT NO.: 11-2T1821

REVISION DATES	SHEET	OF
4-28-11 4-27-12 2-28-12	15	34

USERNAME => s127284 DATE PLOTTED => 14-SEP-2012 TIME PLOTTED => 14:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	541	650

Craig Shannon 4-27-12
 REGISTERED CIVIL ENGINEER DATE

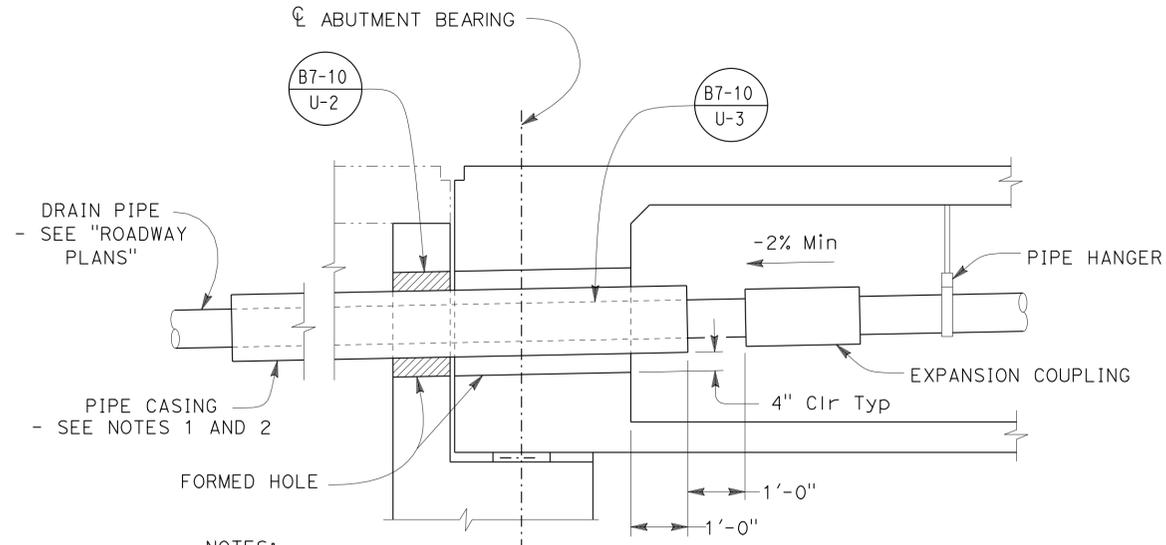
06-25-12
 PLANS APPROVAL DATE

Craig Shannon
 No. 66998
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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 SAN DIEGO, CALIFORNIA 92101

SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131

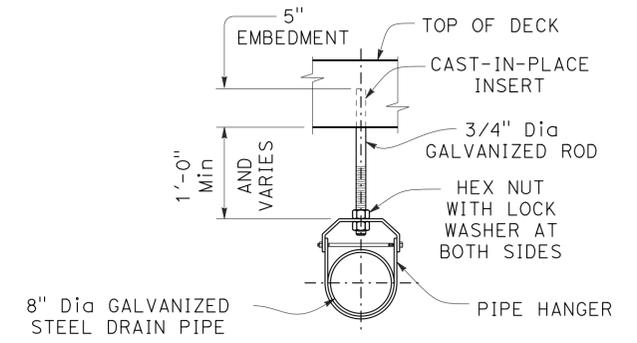


NOTES:

1. Pipe Casing outside diameter = NPS + 4" (1/4" minimum wall thickness).
2. Pipe Casing shall extend 5'-0" beyond the end of approach slab.

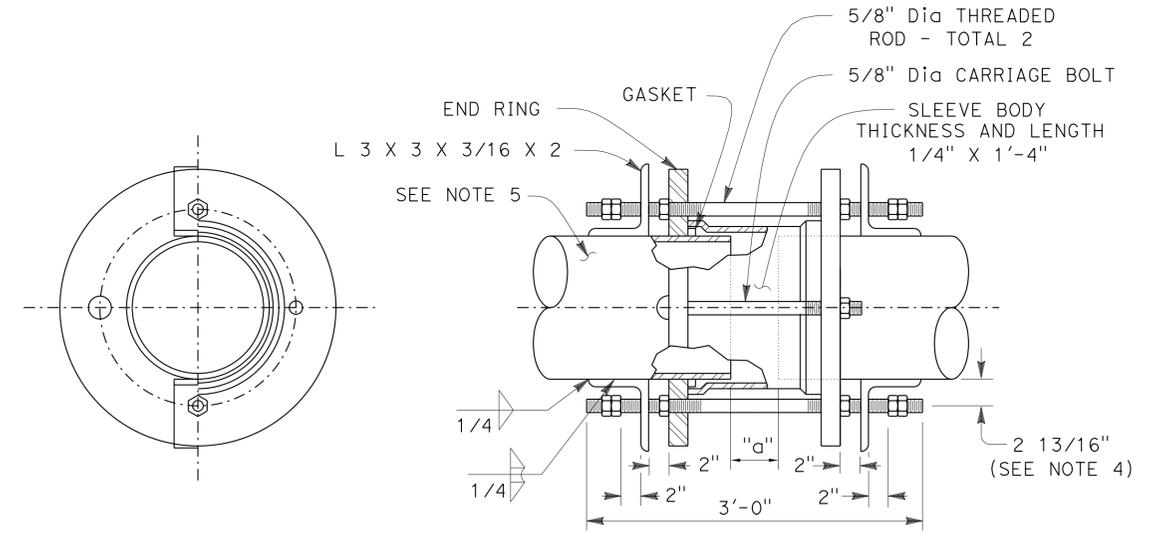
DECK DRAIN PIPE DETAIL AT ABUTMENT

No Scale



DRAIN PIPE HANGER DETAIL

No Scale



NOTES:

1. All hardware to be galvanized.
2. For "a" dimension, see B6-21
3. Expansion coupling with 4 bolts shown. Coupling with a greater number of bolts is allowed.
4. Adjust dimension to suit coupler end ring bolt circle.
5. For pipe diameter see "DRAIN PIPE HANGER DETAIL" this sheet.

EXPANSION COUPLING

No Scale

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

Norbert Gee
 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY L. Muco	CHECKED C. Tornaci
DETAILS	BY T. Brittain	CHECKED L. Muco
QUANTITIES	BY L. Muco	CHECKED C. Tornaci

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Craig Shannon
 PROJECT ENGINEER

BRIDGE NO.	57-1223E
POST MILES	5.07

PALOMAR STREET HOV ACCESS RAMP STRUCTURAL DRAINAGE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051
 CONTRACT NO.: 11-2T1821

REVISION DATES	SHEET OF
4-28-11 4-27-12 2-28-12	16 34

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	805	4.7/5.6	542	650

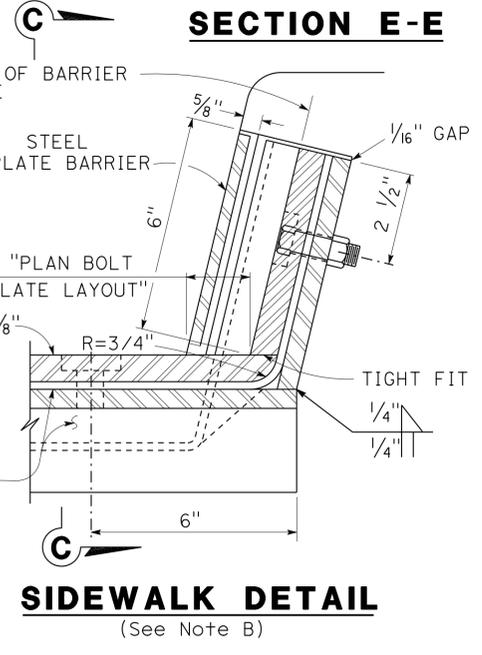
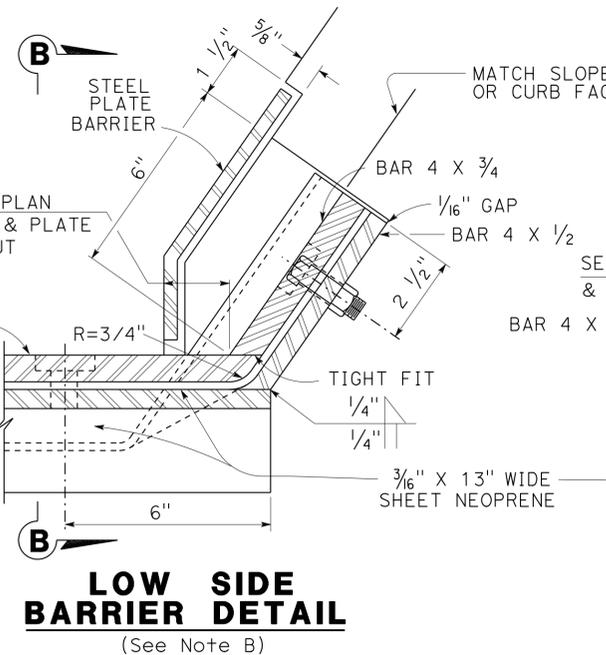
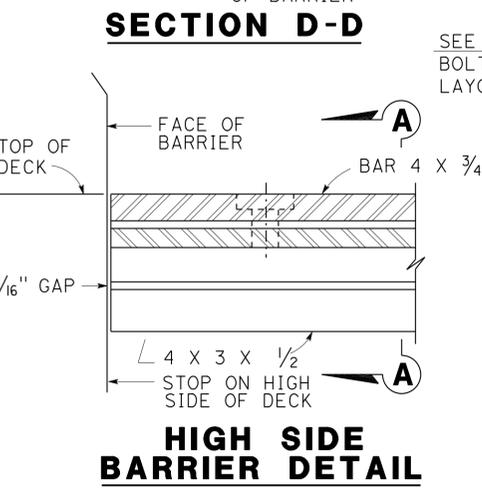
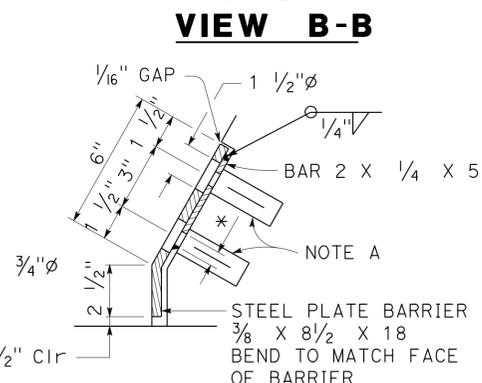
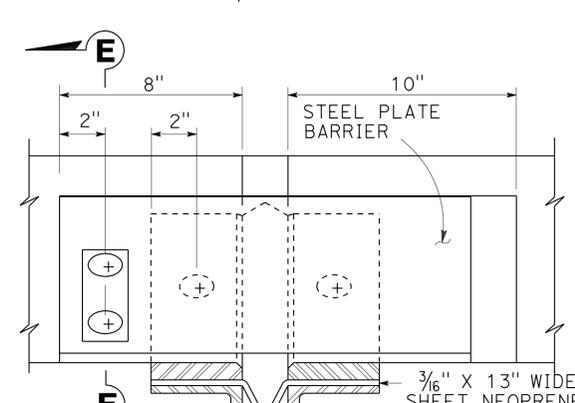
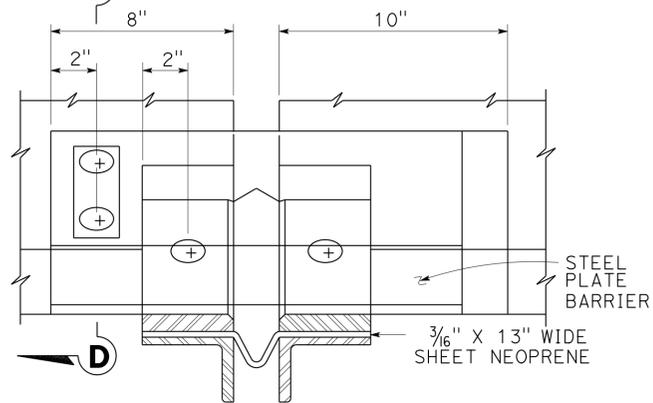
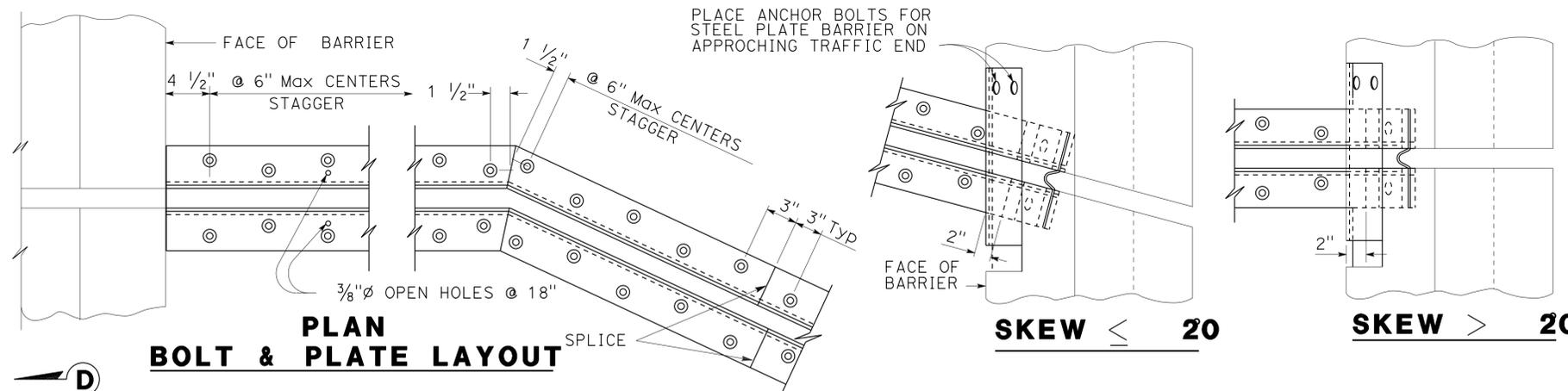
Craig Shannon 4-27-12
REGISTERED ENGINEER - CIVIL

06-25-12
PLANS APPROVAL DATE

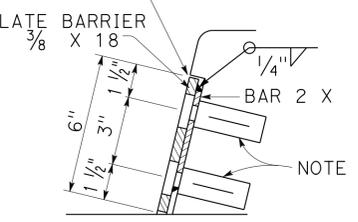
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

SANDAG
401 "B" STREET, SUITE 800
SAN DIEGO, CALIFORNIA 92101

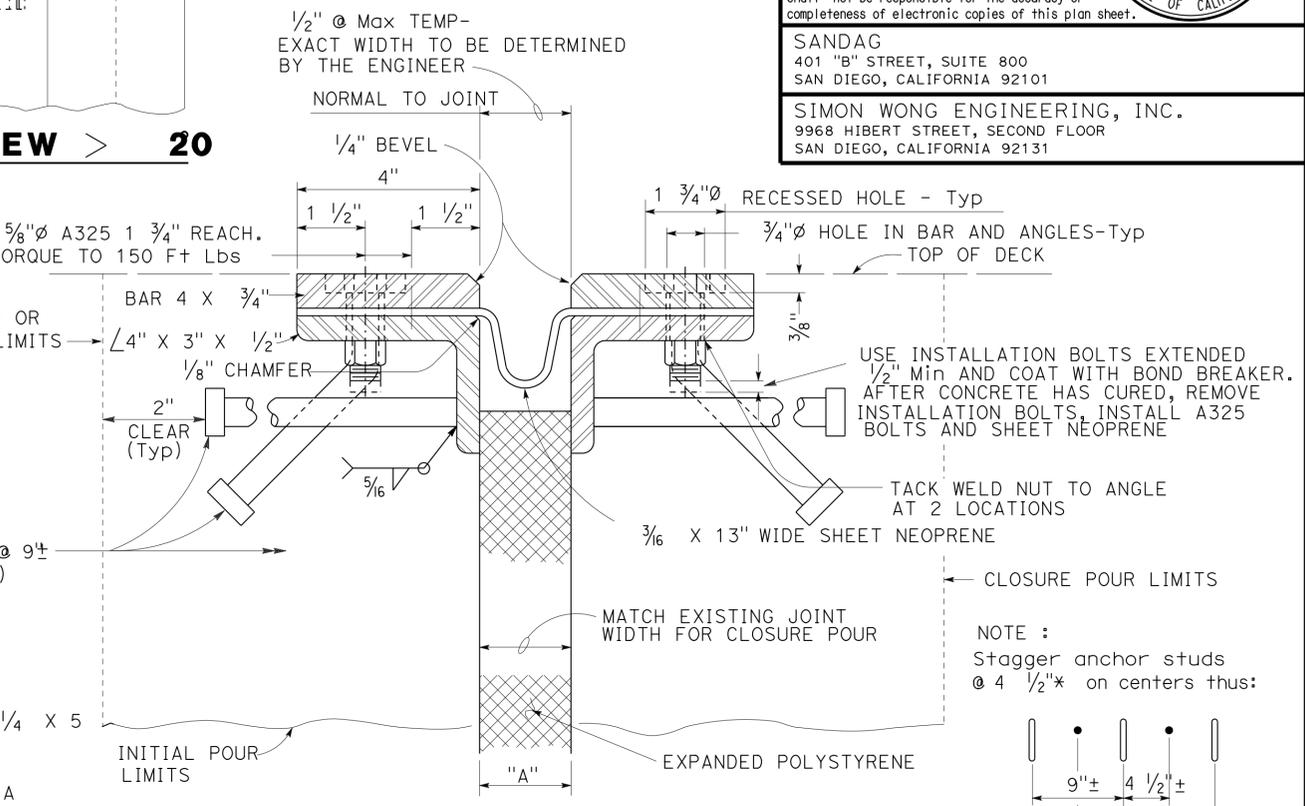
SIMON WONG ENGINEERING, INC.
9968 HIBERT STREET, SECOND FLOOR
SAN DIEGO, CALIFORNIA 92131



SKEW ≤ 20 **SKEW > 20**



SECTION E-E



SECTION A-A

Joint Information			"a" Dimensions		
Location	Movement Rating (MR)	Skew	Winter	Spring & Fall	Summer
BB	4"	06°11'13"	3/4"	2 1/2"	1 5/8"

NOTES: Full penetration butt welds may be substituted for fillet welds on all anchor studs. Alternate types of anchor studs may be permitted subject to the approval by the Engineer. Joint seal assembly to be used in conjunction with closure pour. (See other sheets for limits). Closure pour shall not be placed until final deck surface is within the tolerances specified. Use joint at crown of roadway, at any change in traverse slope in deck and at changes in horizontal direction. Place other joints at or near lanes. All metal parts to be painted or galvanized after fabrication. Sheet neoprene shall be fabricated in one continuous piece or joints shall be vulcanized. Neoprene shall be fabricated to bend around corners. 1" holes in neoprene sheets shall be drilled or punched so that the neoprene is not distorted at the time of installation.

NOTE A
Insert assembly or expansion anchorage for 5/8" x 1 3/4" A325 bolt.

NOTE B
Use the sidewalk Detail at all sidewalk joints. Use the Barrier Detail at both sides if the roadway is crowned or if the difference in elevation between the ends of the seal is 0.5' or less.

STANDARD DRAWING

FILE NO. **xs8-010e**

APPROVED BY: *T. DELIS*
RESPONSIBLE TECHNICAL SPECIALIST

APPROVAL DATE: **5-8-08**

RELEASED BY: *ROBERTO LACALLE*
RESPONSIBLE OFFICE CHIEF

RELEASE DATE: **5-8-08**

◊ Inserted Table Values

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 57-1223E

POST MILE 5.07

PALOMAR STREET HOV ACCESS RAMP

JOINT SEAL ASSEMBLY (MAXIMUM MOVEMENT RATING = 4")

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	805	4.7/5.6	543	650

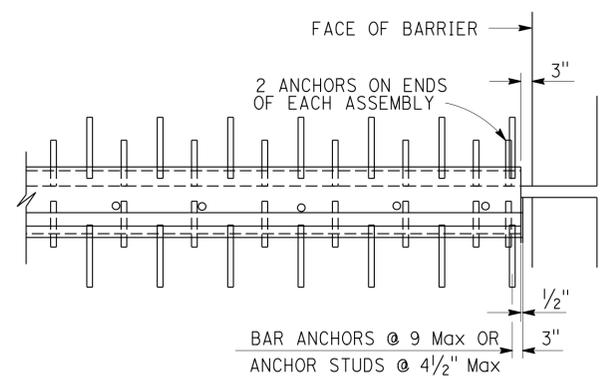
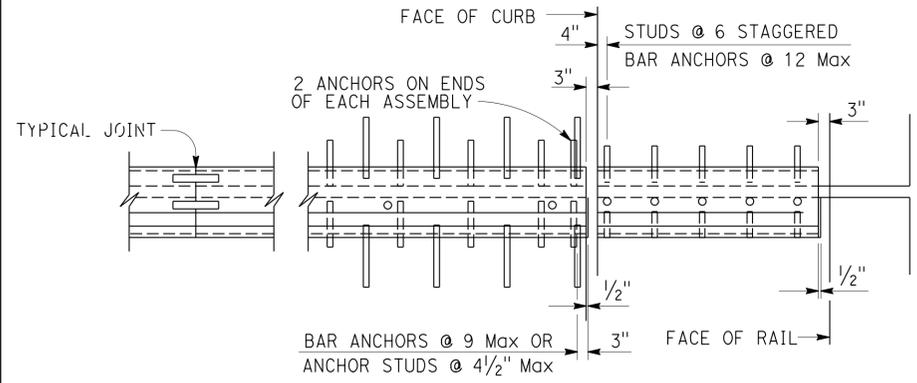
Craig Shannon 4-27-12
 REGISTERED CIVIL ENGINEER DATE

06-25-12
 PLANS APPROVAL DATE

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

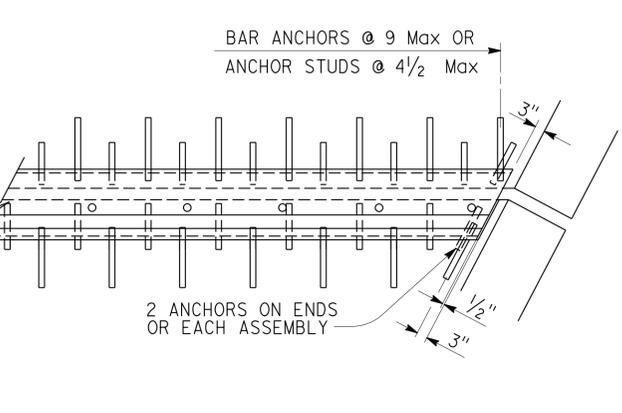
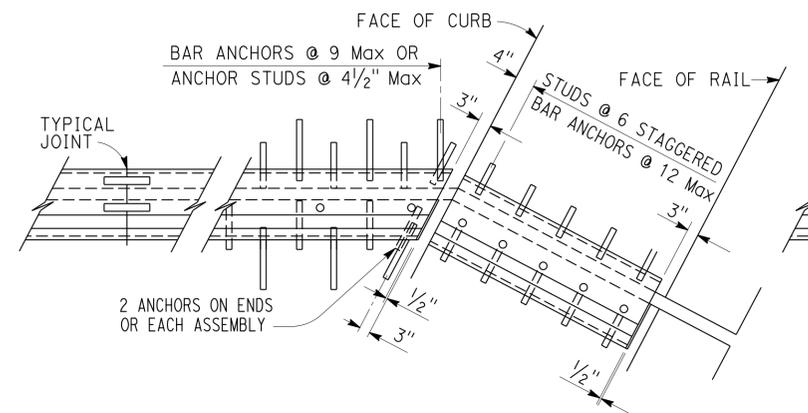
SANDAG
 401 "B" STREET, SUITE 800
 SAN DIEGO, CALIFORNIA 92101

SIMON WONG ENGINEERING, INC.
 9968 HIBERT STREET, SECOND FLOOR
 SAN DIEGO, CALIFORNIA 92131



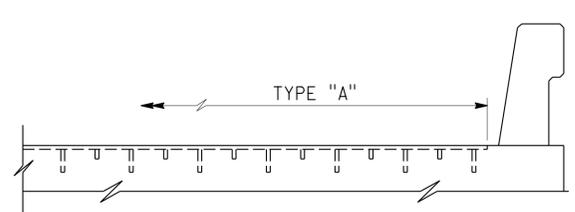
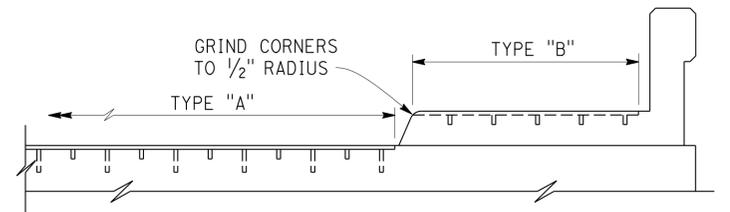
PART PLAN EXPANSION ARMOR NORMAL TO GIRDER

1/2" = 1'-0"



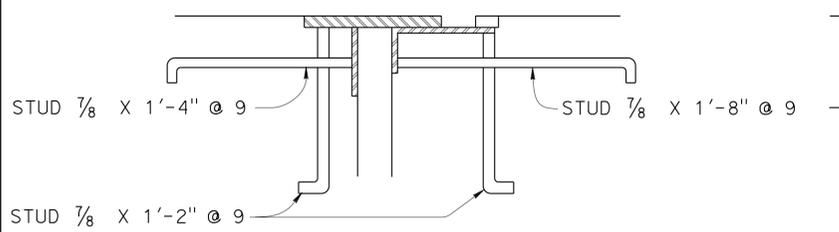
PART PLAN EXPANSION ARMOR SKEWED TO GIRDER

1/2" = 1'-0"

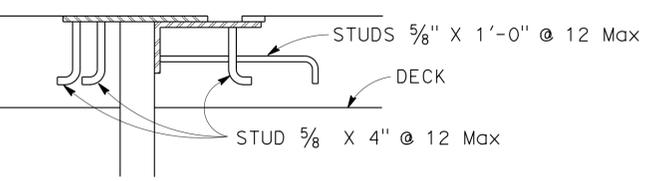


TYPICAL SECTION

1/2" = 1'-0"



TYPE A

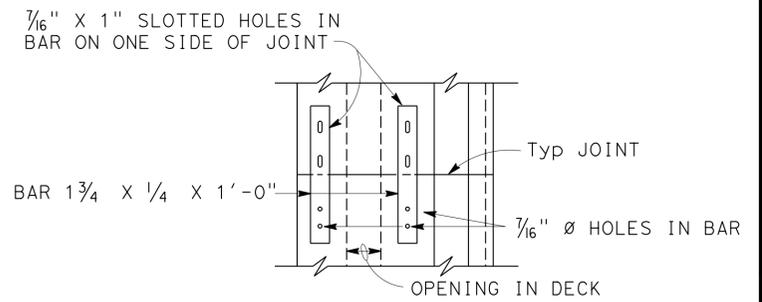


TYPE B

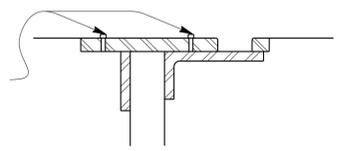
NOTE: For details not shown, see "DETAIL WITH BAR ANCHORS"

DETAIL WITH ANCHOR STUDS

1 1/2" = 1'-0"



PLAN

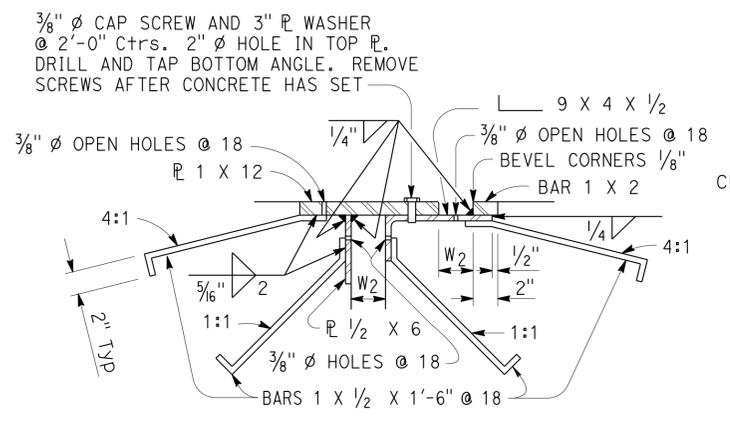


SECTION

TYPICAL JOINT DETAILS

1 1/2" = 1'-0"

Place joint armor over sidewalks only at the connection between the Palomar Street HOV and the Palomar Street OC (Replace) Bridge No. 57-1222.

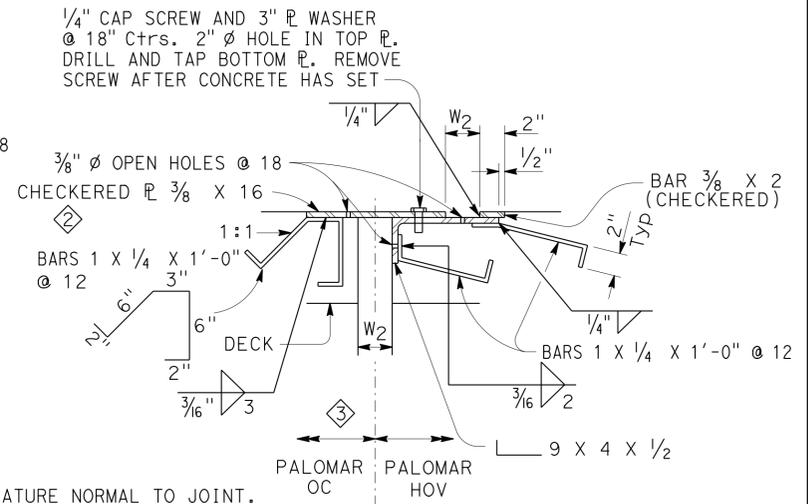


TYPE A

W₂ = 1" AT MAXIMUM TEMPERATURE NORMAL TO JOINT. EXACT WIDTH TO BE DETERMINED BY THE ENGINEER

DETAIL WITH BAR ANCHORS

1 1/2" = 1'-0"



TYPE B

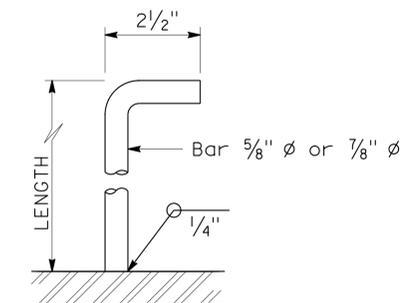
DETAIL WITH BAR ANCHORS

1 1/2" = 1'-0"

NOTES:

- Full penetration butt welds may be substituted for the fillet welds on all anchor studs
- Expansion armor assembly to be galvanized after fabrication except as noted
- Expansion armor assembly to be fabricated in 14' Max lengths
- Use joint at crown of roadway, at any change in transverse slope of deck and at edge of lane
- Quantities shown are for design purpose only

UNIT TYPE	ASSEMBLY	WT LBS/LF
A	Bar Anchor	91
B	Stud Anchor	102
		45



ANCHOR STUD

5" = 1'-0"

NOTE: Alternate types of anchor studs may be permitted subject to the approval of the Engineer

PALOMAR STREET HOV ACCESS RAMP

JOINT ARMOR - EXPANSION DETAILS

MAXIMUM MOVEMENT RATING = 4"

STANDARD DRAWING

FILE NO. **xs8-040**

APPROVAL DATE July 2011

- Added Note
- Modified Plate Dimension
- Added Note

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

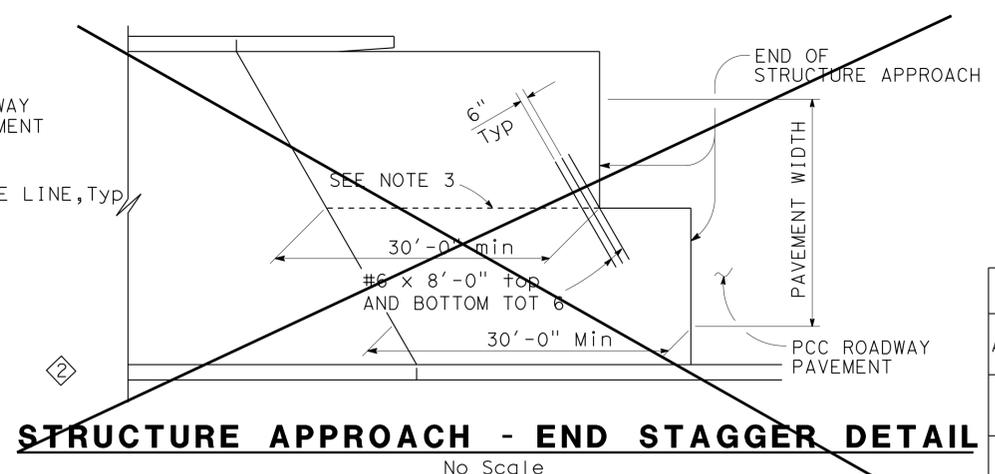
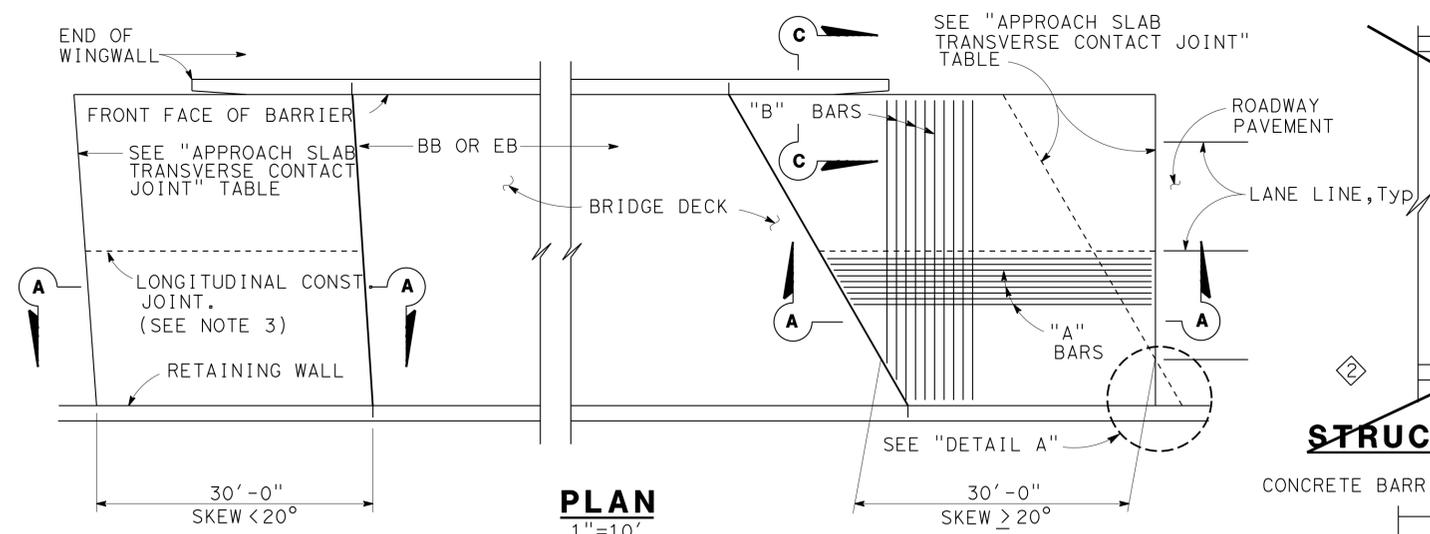
BRIDGE NO. 57-1223E

POST MILE 5.07

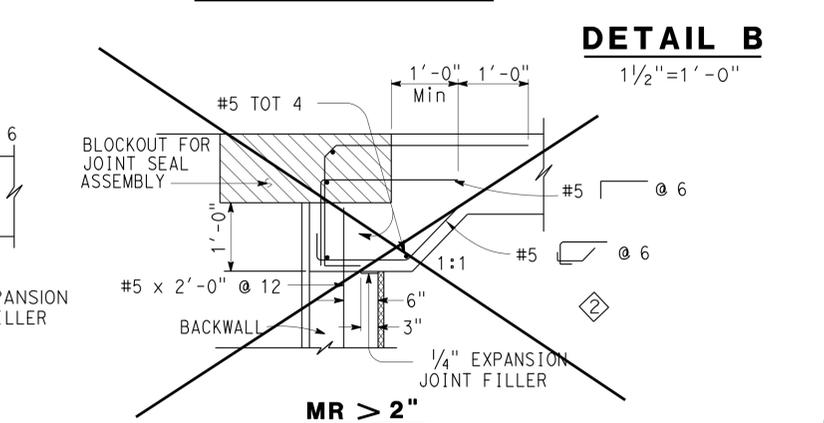
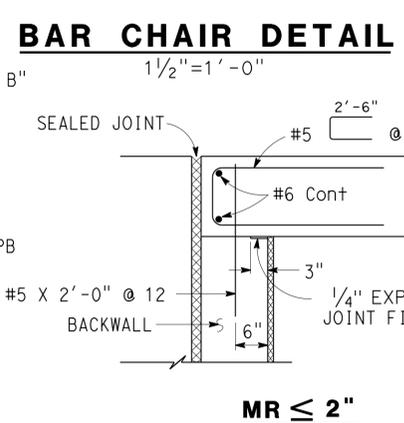
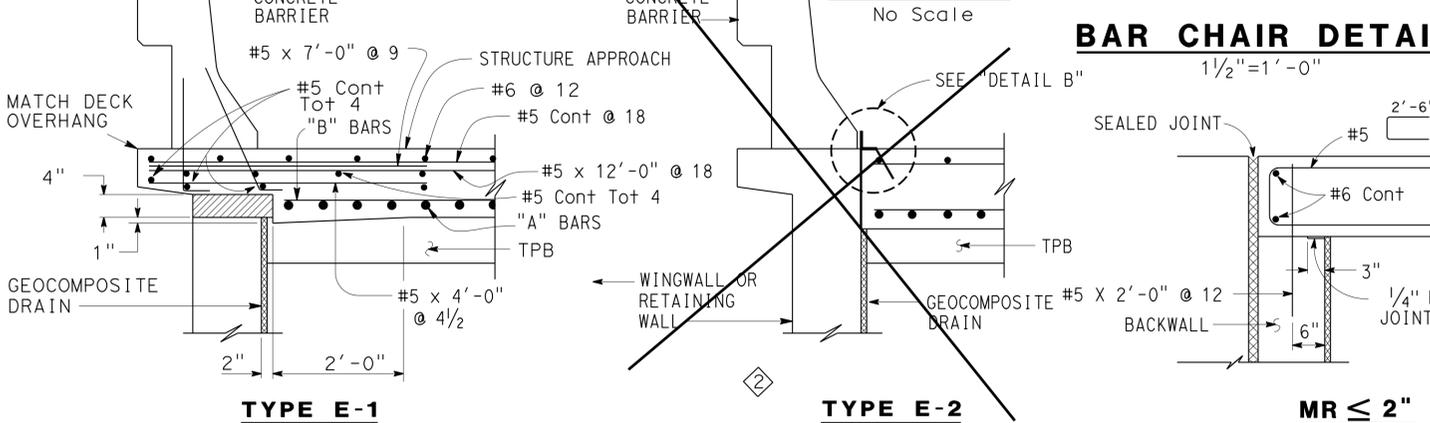
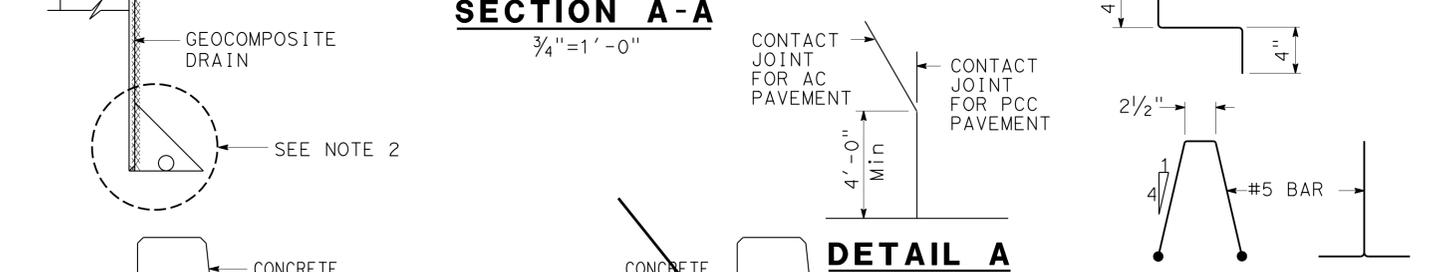
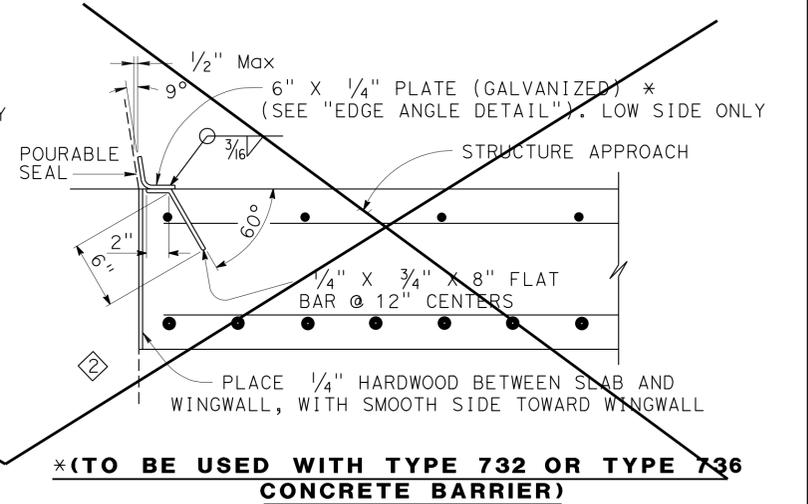
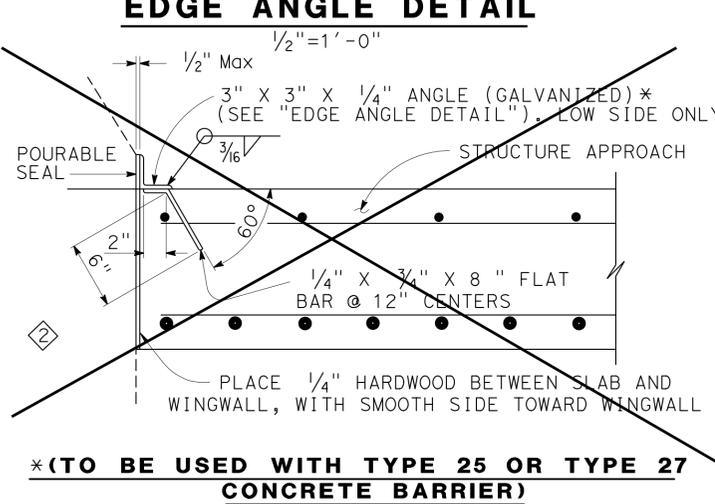
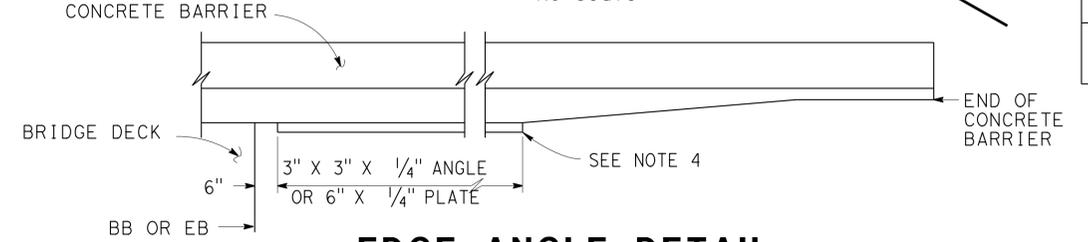
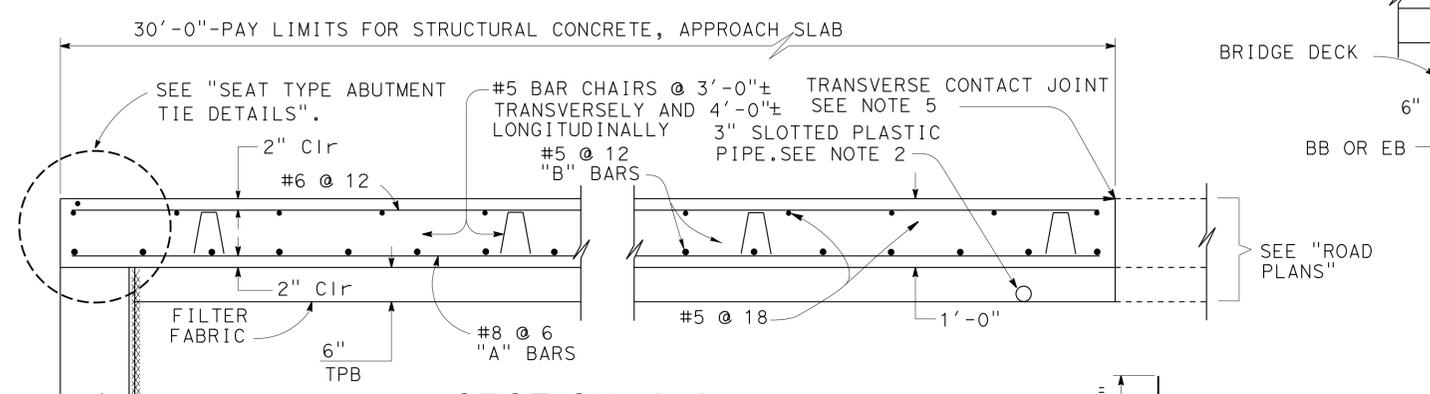
UNIT: 2762 PROJECT NUMBER & PHASE: 11000200051 CONTRACT NO.: 11-2T1821

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
10-25-11 2-18-12 4-27-12	18	34



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch



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

SPECIAL DETAILS

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

- ① Revised Details
- ② Deleted Details

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 57-1223E
MILE POST 5.07

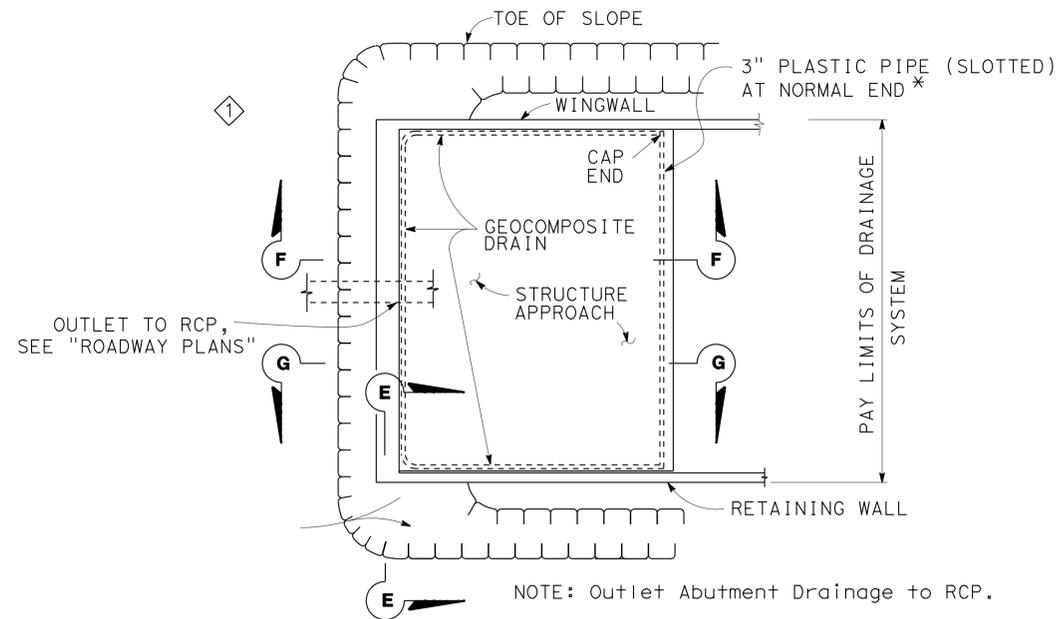
CU 11-2762
EA 1100020051

PALOMAR STREET HOV ACCESS RAMP		SHEET 19 OF 34
STRUCTURE APPROACH TYPE N(30S)		

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	805	4.7/5.6	545	650

Craig Shannon 4-27-12
 REGISTERED ENGINEER - CIVIL
 No. 66998
 Exp. 09-30-12
 CIVIL
 STATE OF CALIFORNIA

06-25-12
 PLANS APPROVAL DATE
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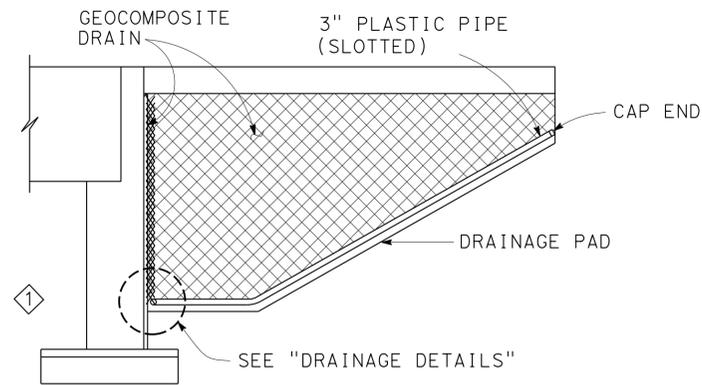


TYPICAL PLAN

1"=10'

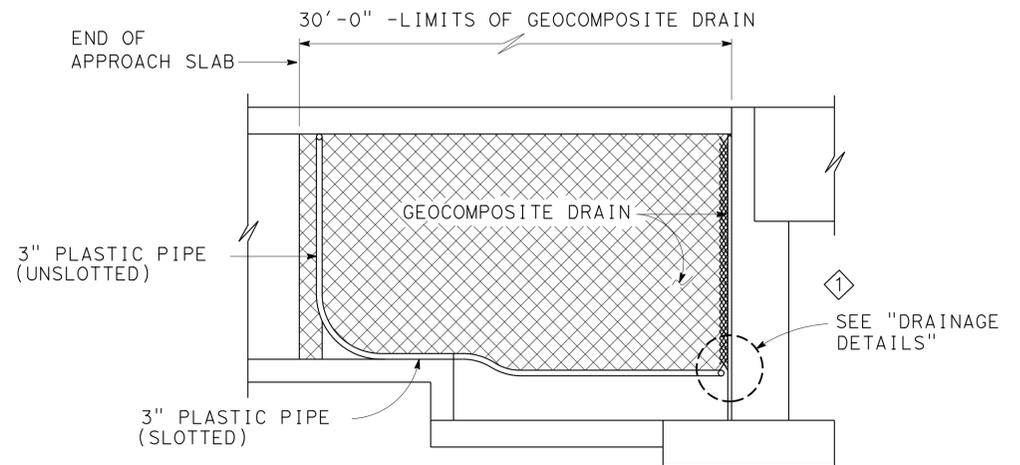
*For pipe layout at staggered end, see "Detail B".

NOTE: Outlet Abutment Drainage to RCP.



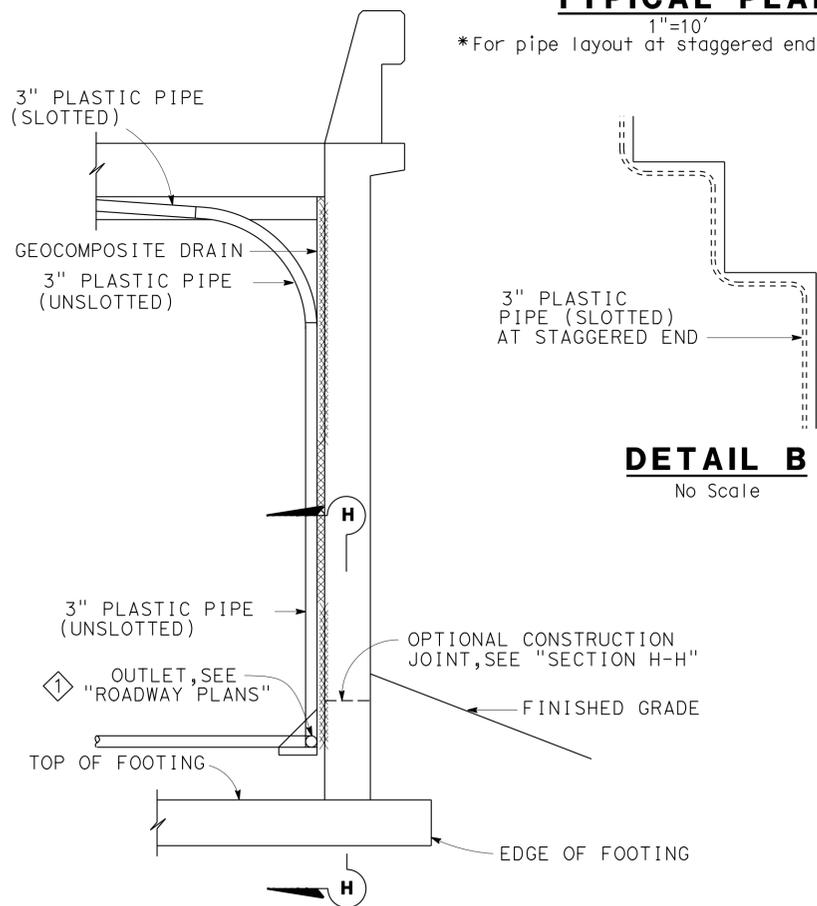
CANTILEVER WINGWALL SECTION F-F

1/4"=1'-0"



RETAINING WALL WINGWALL SECTION G-G

1/4"=1'-0"



SECTION E-E

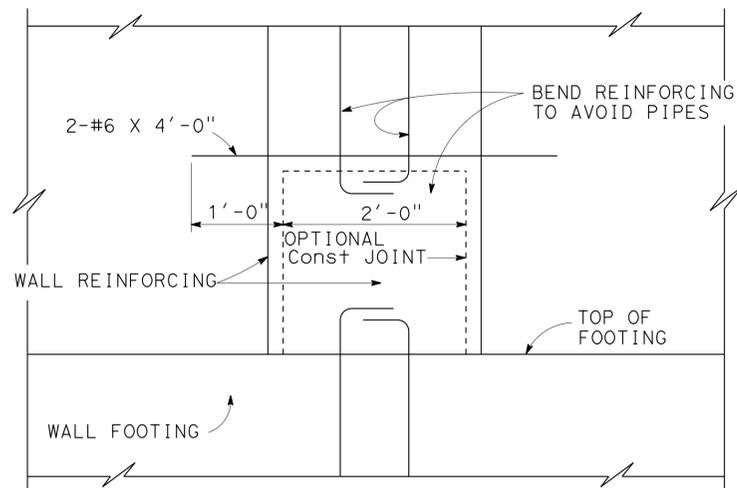
1/2"=1'-0"

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



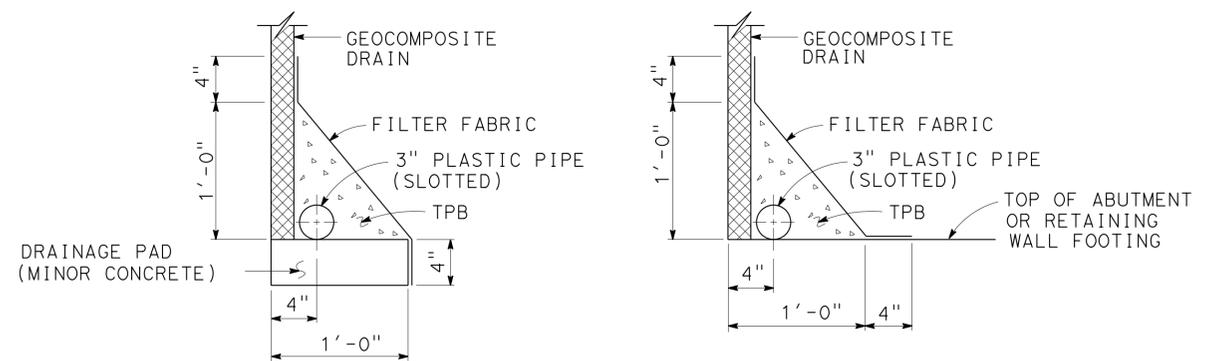
DETAIL B

No Scale



SECTION H-H

1"=1'-0"



WITHOUT FOOTING

WITH FOOTING

DRAINAGE DETAILS

1/2"=1'-0"

Modified Drainage system to connect to RCP

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 57-1223E
MILE POST 5.07

PALOMAR STREET HOV ACCESS RAMP
STRUCTURE APPROACH DRAINAGE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 11-2762
EA 11-00020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)				
4-28-11	8-3-11	10-25-11	2-16-12	4-27-12

SHEET 20 OF 34

USERNAME => s127400

57-1223E-y-gsddet.4

DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

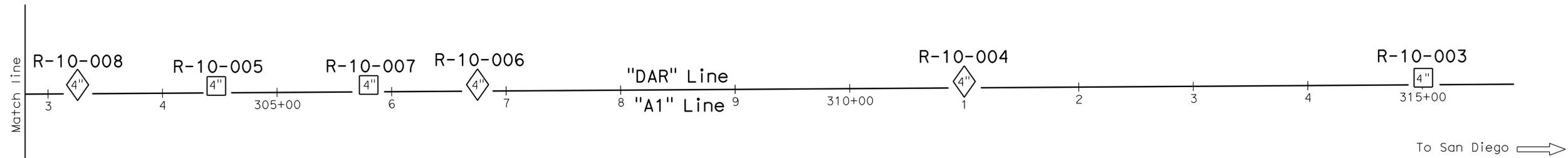
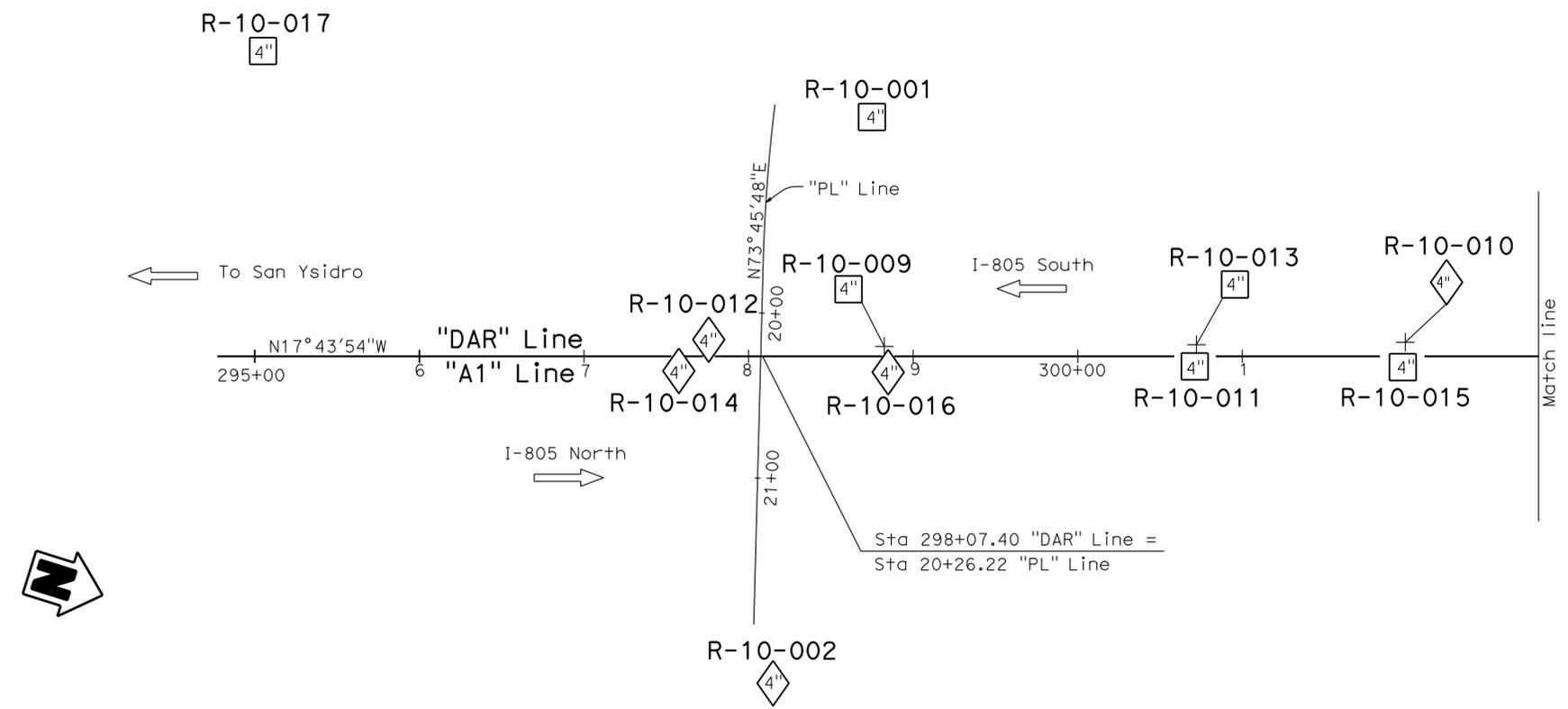
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	546	650

REGISTERED CIVIL ENGINEER 7-14-11
 06-25-12
 PLANS APPROVAL DATE
 David T-M Liao
 No. C59838
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2007 Edition).

BENCH MARK

BM 805-5.00, Brass disk in sidewalk on north side of E. Palomar St. OC bridge, at Station 298+46.0, Right 60 feet of "DAR" Line/"A1" Line.
 Elevation: 300.93 feet
 NAVD 1988 (Vertical)
 NAD83 (Horizontal)



PLAN
 1" = 50'

Notes:

1. Ground water was not encountered during the 2010 subsurface investigation.
2. RQD designated with "NA" (not applicable) indicates that the rock encountered within the drill interval was not sound rock, therefore RQD was not calculated.
3. Plan sheets provided by Design, show that "A1" Line = "DAR" Line.

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PALOMAR STREET HOV ACCESS RAMP	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 07/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57-1223E		LOG OF TEST BORINGS 1 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		FIELD INVESTIGATION BY:		DESIGN BRANCH		POST MILE			
				D.TM Liao/J. Klamecki				5.07			
OGS CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762		PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3						REVISION DATES	
										8-5-11 10-25-11 2-10-12	
										SHEET OF	
										21 34	

FILE => 57-1223E-z-1+01.dgn
 USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	547	650

7-14-11
REGISTERED CIVIL ENGINEER

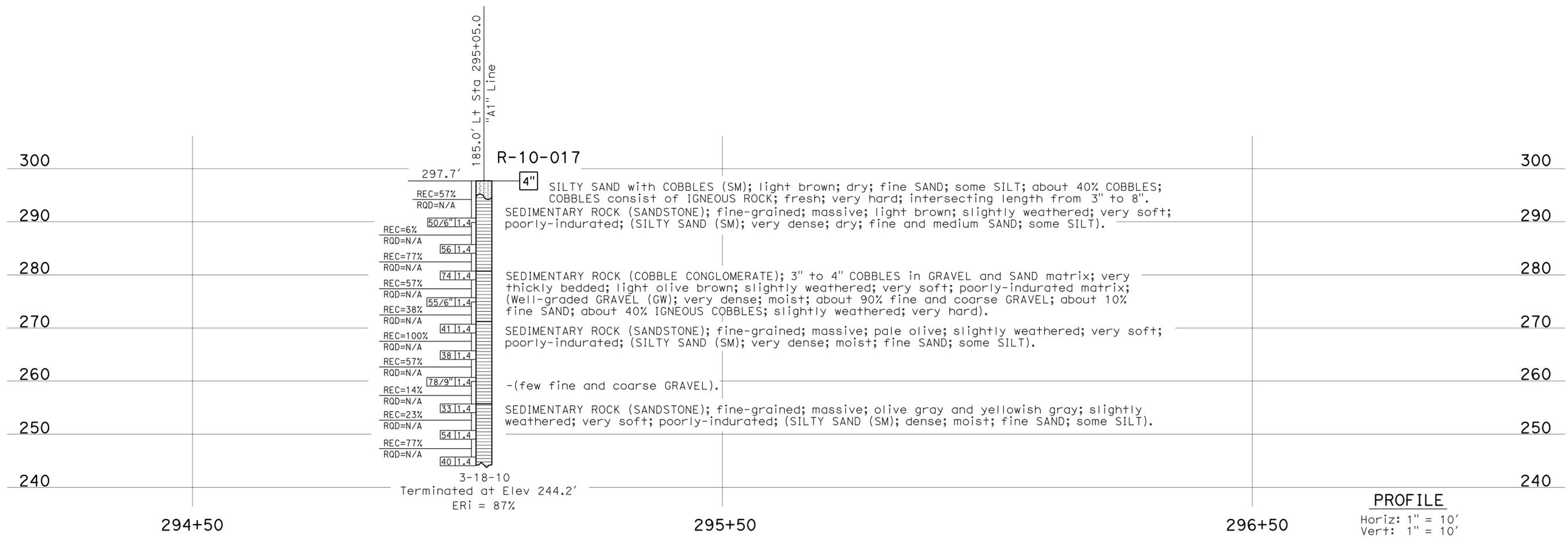
06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PALOMAR STREET HOV ACCESS RAMP	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 07/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57-1223E		LOG OF TEST BORINGS 2 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		TM Liao		DESIGN BRANCH		POST MILE			
								5.07			
OGS CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762		PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3						REVISION DATES	
										8-5-11 10-28-11 2-10-12	
										SHEET 22 OF 34	

FILE => 57-1223E-z-1fb02.dgn

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	548	650

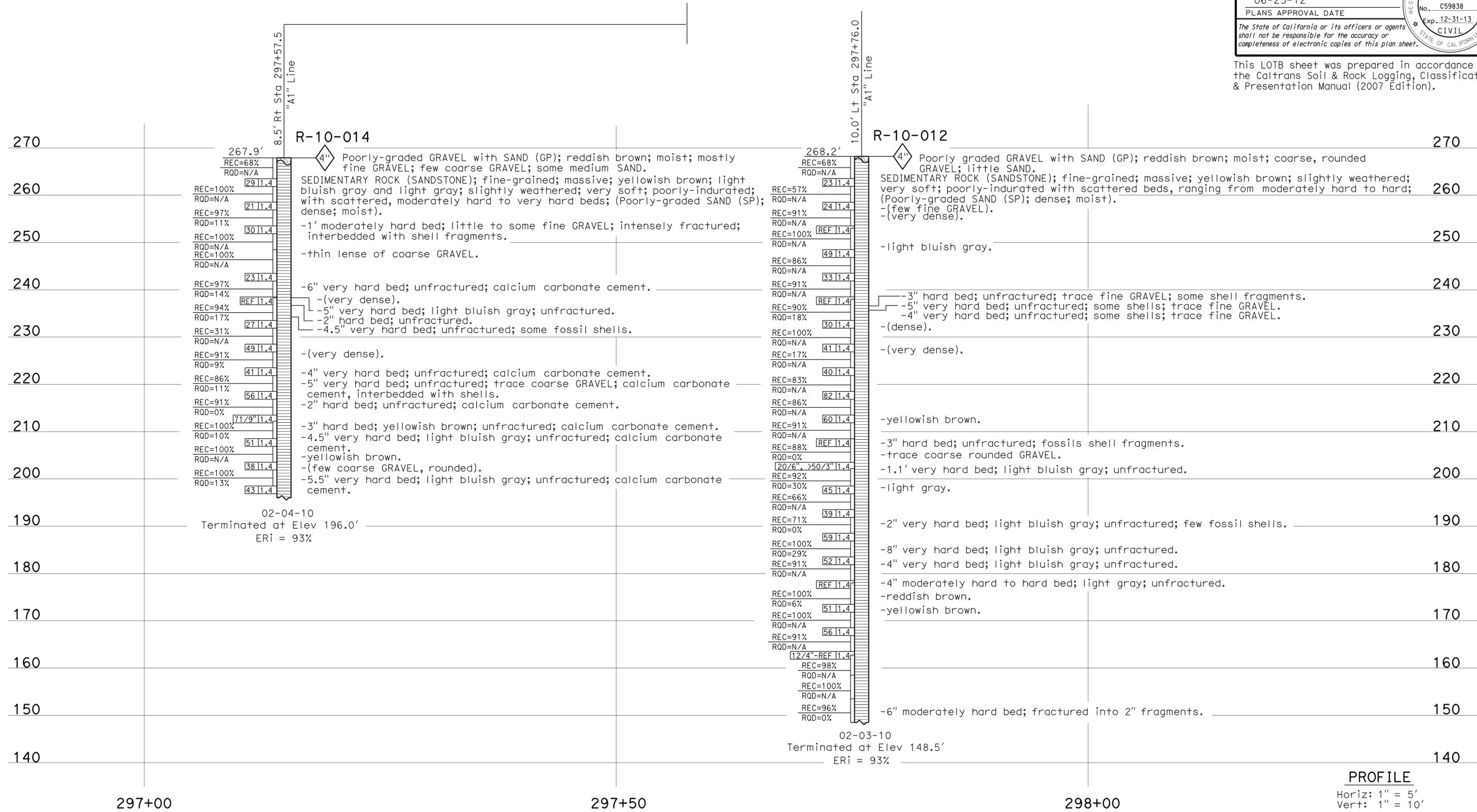
7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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PROFILE
 Horiz: 1" = 5'
 Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PALOMAR STREET HOV ACCESS RAMP	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 07/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57-1223E		LOG OF TEST BORINGS 3 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: J. Klamecki		DESIGN BRANCH		POST MILE			
								5.07			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762		PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
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										8-9-11 10-25-11 2-10-12	
										SHEET 23 OF 34	

FILE => 57-1223E-z-1fb03.dgn
 USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	549	650

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

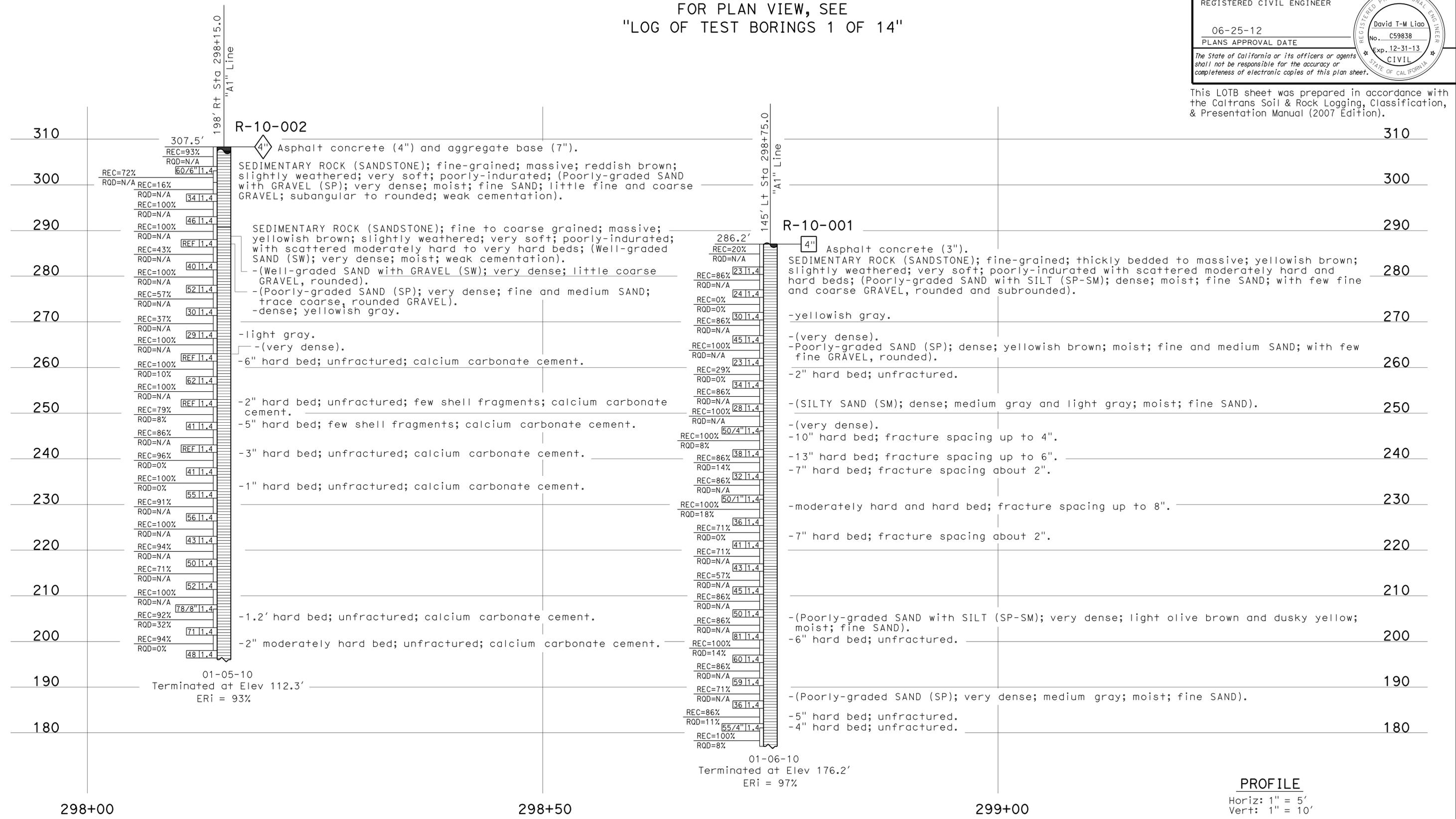
7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

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PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1223E POST MILE 5.07		PALOMAR STREET HOV ACCESS RAMP LOG OF TEST BORINGS 4 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao/J. Klamecki		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
06S CIVIL LOG OF TEST BORINGS SHEET										REVISION DATES 8-8-11 10-25-11 7-10-12	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS										SHEET 24 OF 34	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	550	650

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

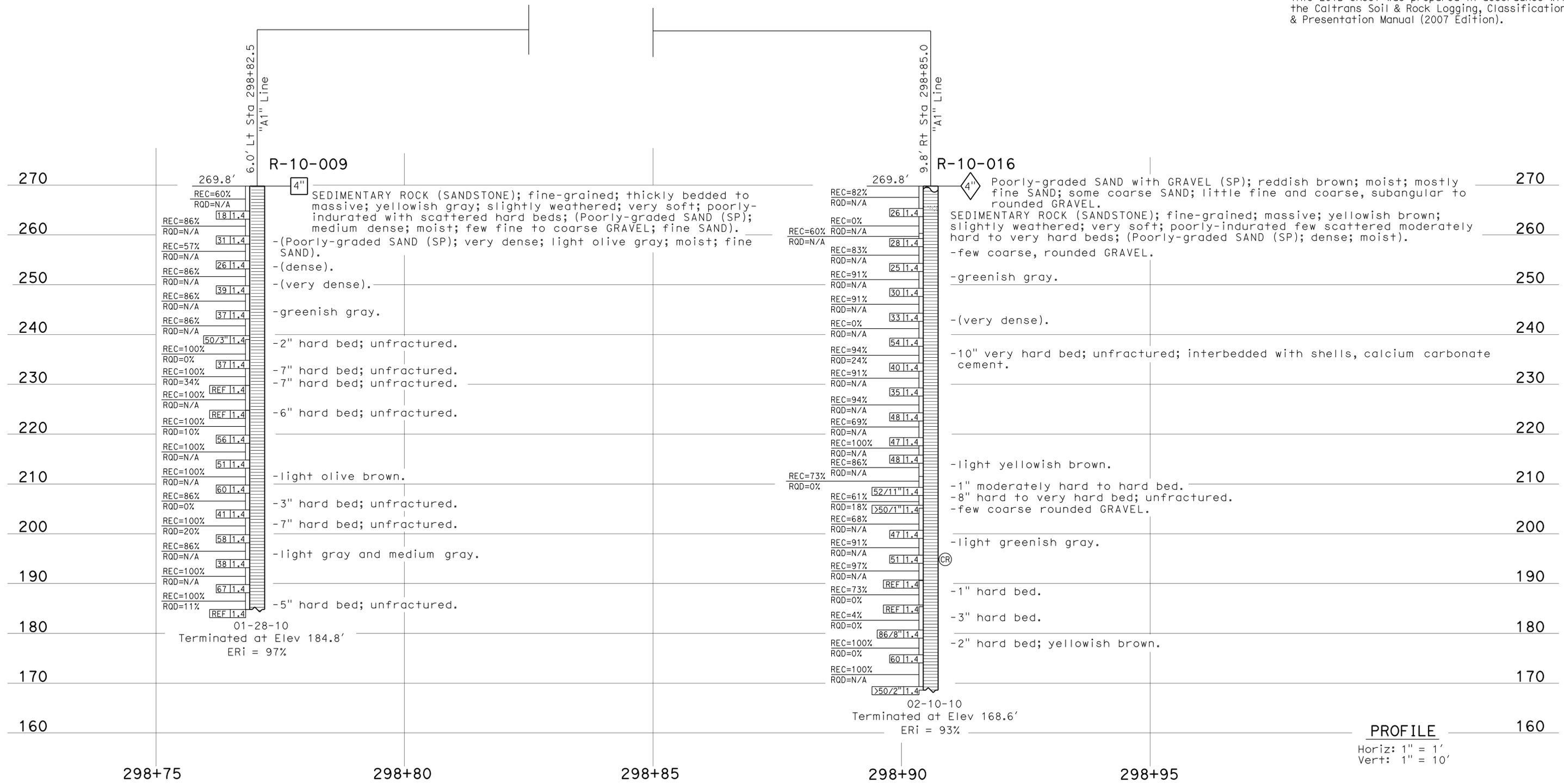
7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PALOMAR STREET HOV ACCESS RAMP	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 07/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57-1223E		LOG OF TEST BORINGS 5 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		FIELD INVESTIGATION BY:		DESIGN BRANCH		POST MILE			
				TM Liao/J. Klamecki				5.07			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2762		PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3						REVISION DATES	
										8-5-11 10-25-11 2-10-12	
										SHEET 25 OF 34	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	551	650

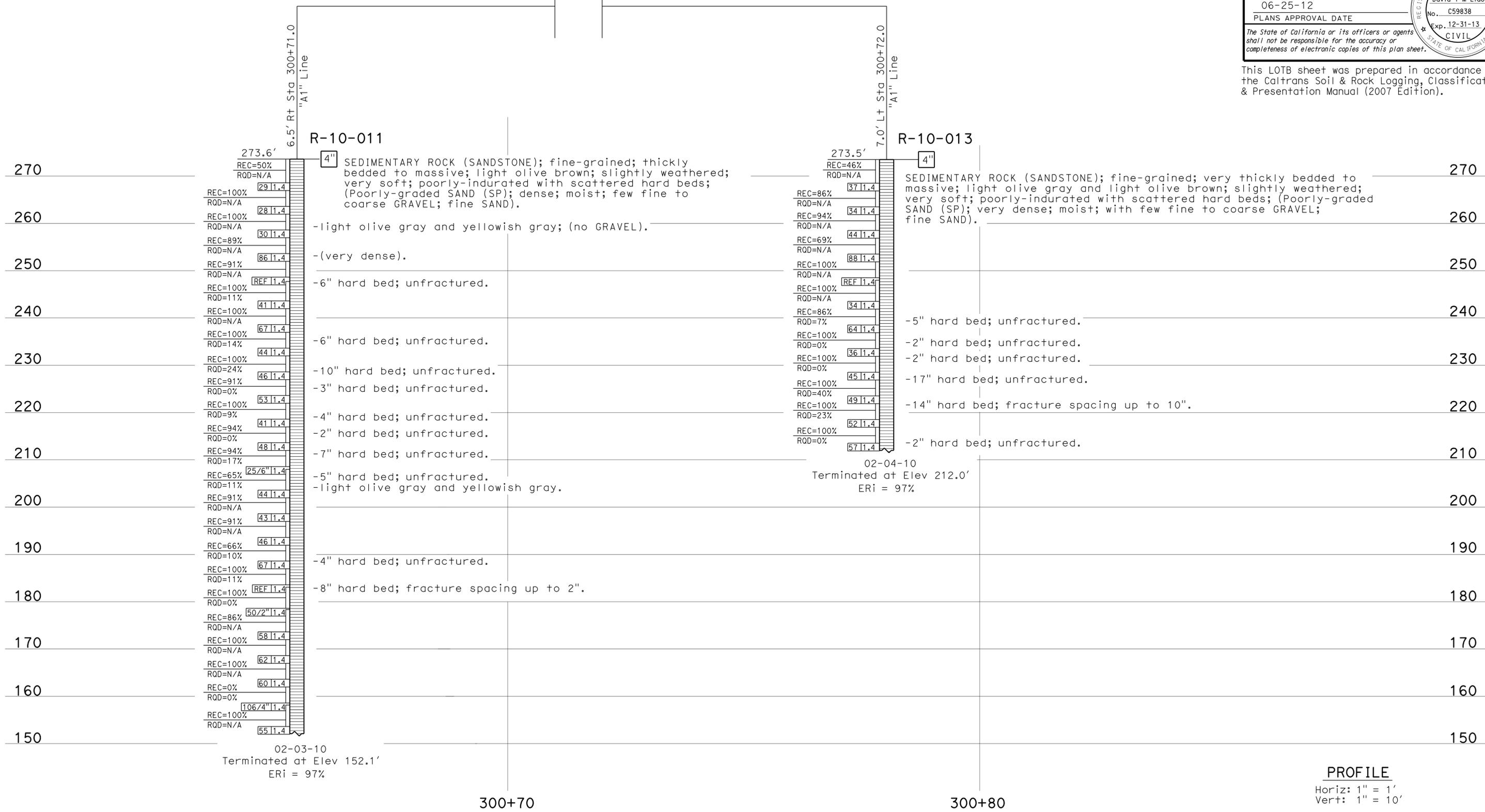
7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1223E POST MILE 5.07		PALOMAR STREET HOV ACCESS RAMP									
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		LOG OF TEST BORINGS 6 OF 14									
06S CIVIL LOG OF TEST BORINGS SHEET								ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		REVISION DATES									
								DISREGARD PRINTS BEARING EARLIER REVISION DATES		<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>8-3-11</td> <td>10-25-11</td> <td>26</td> <td>34</td> </tr> </table>		REV	DATE	SHEET	OF	8-3-11	10-25-11	26	34
REV	DATE	SHEET	OF																
8-3-11	10-25-11	26	34																

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	552	650

7-14-11
REGISTERED CIVIL ENGINEER

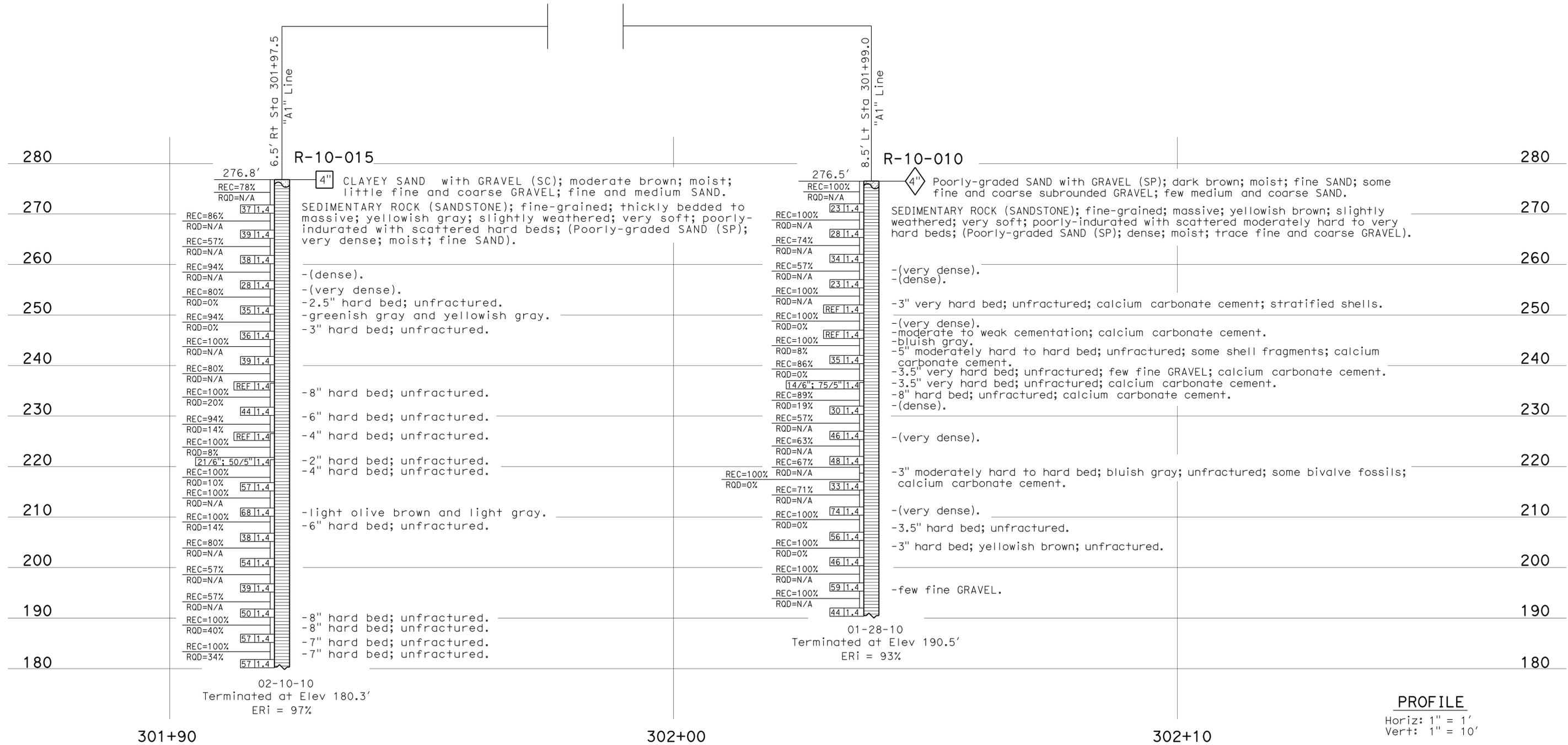
06-25-12
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1223E POST MILE 5.07		PALOMAR STREET HOV ACCESS RAMP LOG OF TEST BORINGS 7 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao/J. Klamecki		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		REVISION DATES		SHEET 27 OF 34		DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	554	650

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

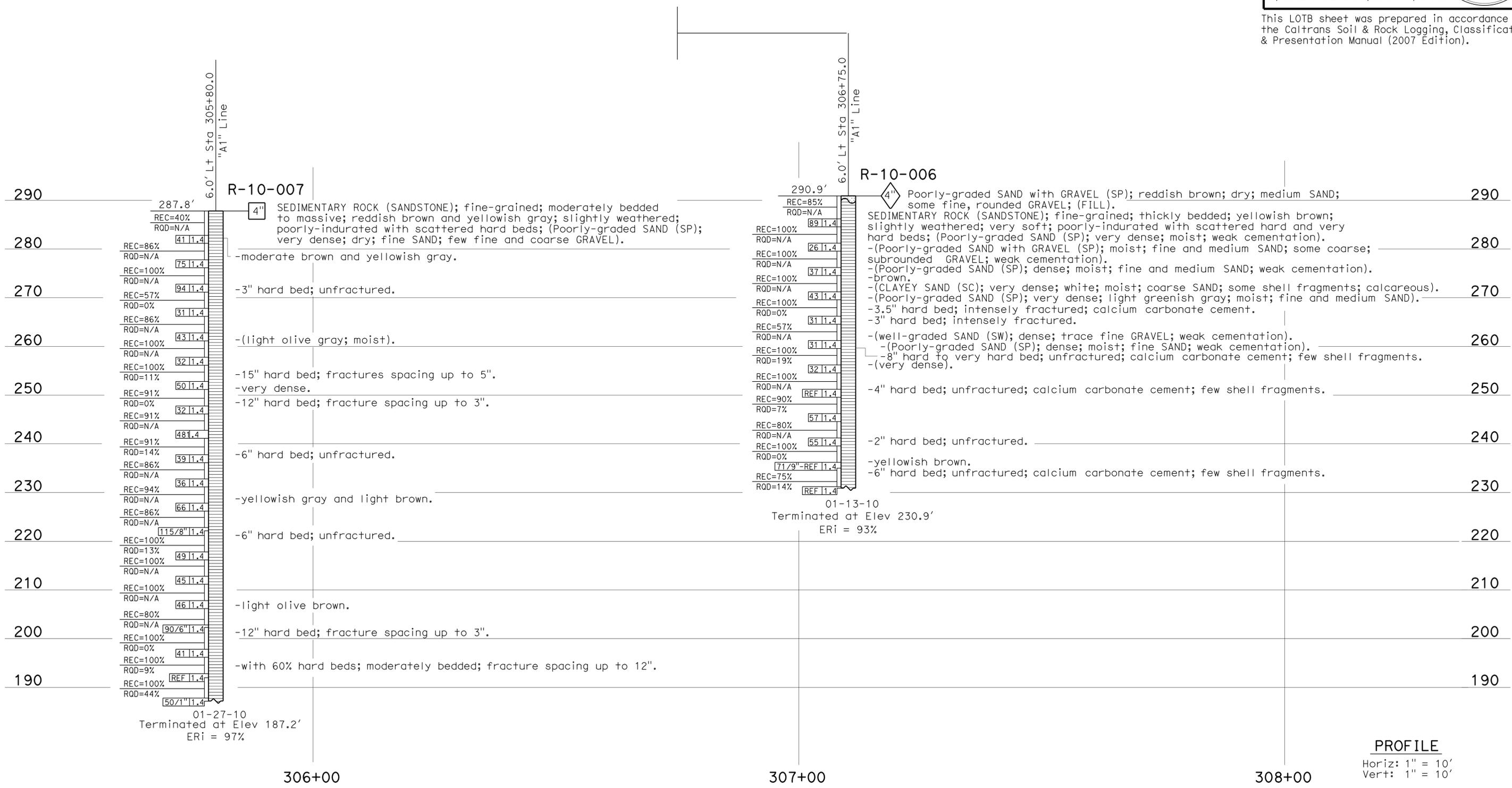
7-14-11
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06-25-12
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PROFILE
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Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH		BRIDGE NO. 57-1223E POST MILE 5.07		PALOMAR STREET HOV ACCESS RAMP LOG OF TEST BORINGS 9 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao/J. Klamecki		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		FILE => 57-1223E-z-1fb09.dgn		REVISION DATES 8-5-11 10-25-11 2-10-12		SHEET OF 29 34	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	556	650

7-14-11
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David T-M Liao
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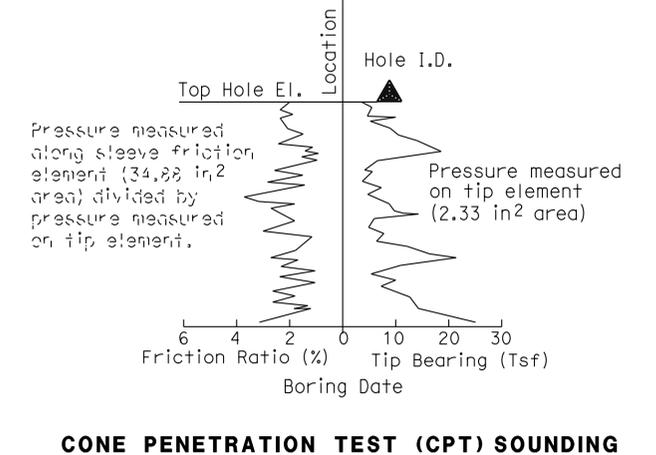
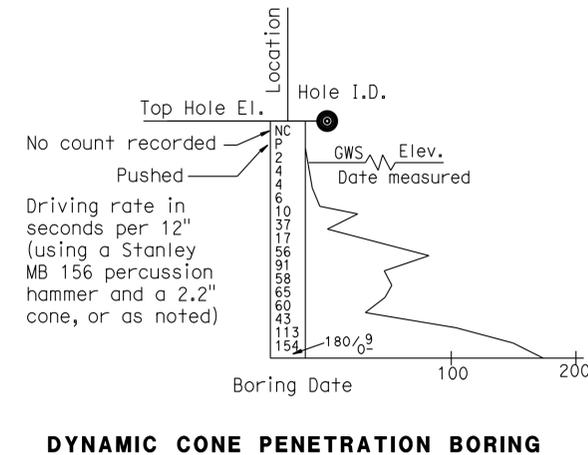
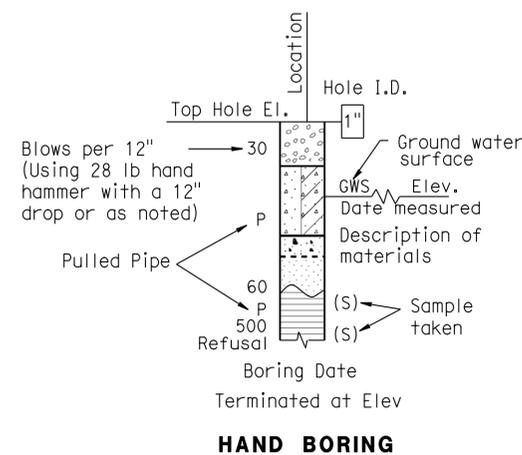
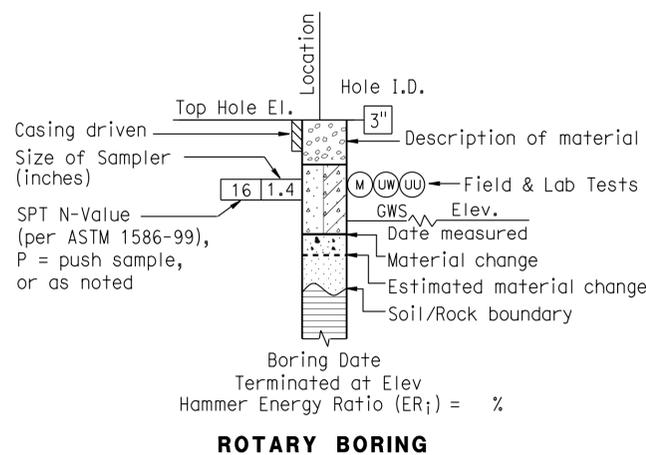
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

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

Note: Size in inches.

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



ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 57-1223E POST MILE 5.07	PALOMAR STREET HOV ACCESS RAMP LOG OF TEST BORINGS 11 OF 14
PREPARED BY: F. Nguyen 7/11		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051		CONTRACT NO.: 11-2T1821	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 8-9-11 10-25-11 2-10-12	
GS LOTB SOIL LEGEND		SHEET 31 OF 34		FILE => 57-1223E-z-1fb11.dgn	

7-14-11
 REGISTERED CIVIL ENGINEER
 06-25-12
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 David T-M Liao
 No. C59838
 Exp. 12-31-13
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 STATE OF CALIFORNIA
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GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		Lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		GRAVELLY lean CLAY with SAND
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SILTY CLAY
	Poorly graded GRAVEL with SILT		SILTY CLAY with SAND
	Poorly graded GRAVEL with SILT and SAND		SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with CLAY (or SILTY CLAY)		SANDY SILTY CLAY
	Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY SILTY CLAY with GRAVEL
	SILTY GRAVEL		GRAVELLY SILTY CLAY
	SILTY GRAVEL with SAND		GRAVELLY SILTY CLAY with SAND
	CLAYEY GRAVEL		SILT
	CLAYEY GRAVEL with SAND		SILT with SAND
	SILTY, CLAYEY GRAVEL		SILT with GRAVEL
	SILTY, CLAYEY GRAVEL with SAND		SANDY SILT
	Well-graded SAND		SANDY SILT with GRAVEL
	Well-graded SAND with GRAVEL		GRAVELLY SILT
	Poorly graded SAND		GRAVELLY SILT with SAND
	Poorly graded SAND with GRAVEL		ORGANIC lean CLAY
	Well-graded SAND with SILT		ORGANIC lean CLAY with SAND
	Well-graded SAND with SILT and GRAVEL		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with CLAY (or SILTY CLAY)		SANDY ORGANIC lean CLAY
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		SANDY ORGANIC lean CLAY with GRAVEL
	Poorly graded SAND with SILT		GRAVELLY ORGANIC lean CLAY
	Poorly graded SAND with SILT and GRAVEL		GRAVELLY ORGANIC lean CLAY with SAND
	Poorly graded SAND with CLAY (or SILTY CLAY)		ORGANIC SILT
	Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		ORGANIC SILT with SAND
	SILTY SAND		ORGANIC SILT with GRAVEL
	SILTY SAND with GRAVEL		SANDY ORGANIC SILT
	CLAYEY SAND		SANDY ORGANIC SILT with GRAVEL
	CLAYEY SAND with GRAVEL		GRAVELLY ORGANIC SILT
	SILTY, CLAYEY SAND		GRAVELLY ORGANIC SILT with SAND
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC fat CLAY
	PEAT		ORGANIC fat CLAY with SAND
	COBBLES		ORGANIC fat CLAY with GRAVEL
	COBBLES and BOULDERS		SANDY ORGANIC fat CLAY
	BOULDERS		SANDY ORGANIC fat CLAY with GRAVEL
			GRAVELLY ORGANIC fat CLAY
			GRAVELLY ORGANIC fat CLAY with SAND
			ORGANIC elastic SILT
			ORGANIC elastic SILT with SAND
			ORGANIC elastic SILT with GRAVEL
			SANDY ORGANIC elastic SILT
			SANDY ORGANIC elastic SILT with GRAVEL
			GRAVELLY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT with SAND
			ORGANIC SOIL
			ORGANIC SOIL with SAND
			ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			SANDY ORGANIC SOIL with GRAVEL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UU)	Unconfined Compression-Rock (ASTM D 2938)
(UW)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

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

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

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

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

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

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

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

RELATIVE STRENGTH OF INTACT ROCK

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

BEDDING SPACING

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

7-14-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

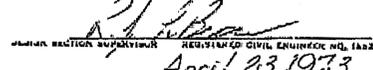
Combination descriptors (such as "slightly weathered to fresh") are permissible where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used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

FRACTURE DENSITY

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

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

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	805	5.1/8.8	187	285


 REGISTERED CIVIL ENGINEER
 DATE APPROVED: April 23, 1973

BENCH MARK

B.M. 11-SD-805 Post Mile 5.085 Elev. 267.35
 C.O.H. Top of P.I. Station 290 + 52.03 2" C.L.

- LEGEND OF BORINGS**
- 2 1/2" CORE PENETROMETER
 - 2 1/2" SAMPLER BORING (W/C)
 - ALUMINUM BORING (W/C)
 - LET BORING
 - CORE BORING
 - TEST PIT

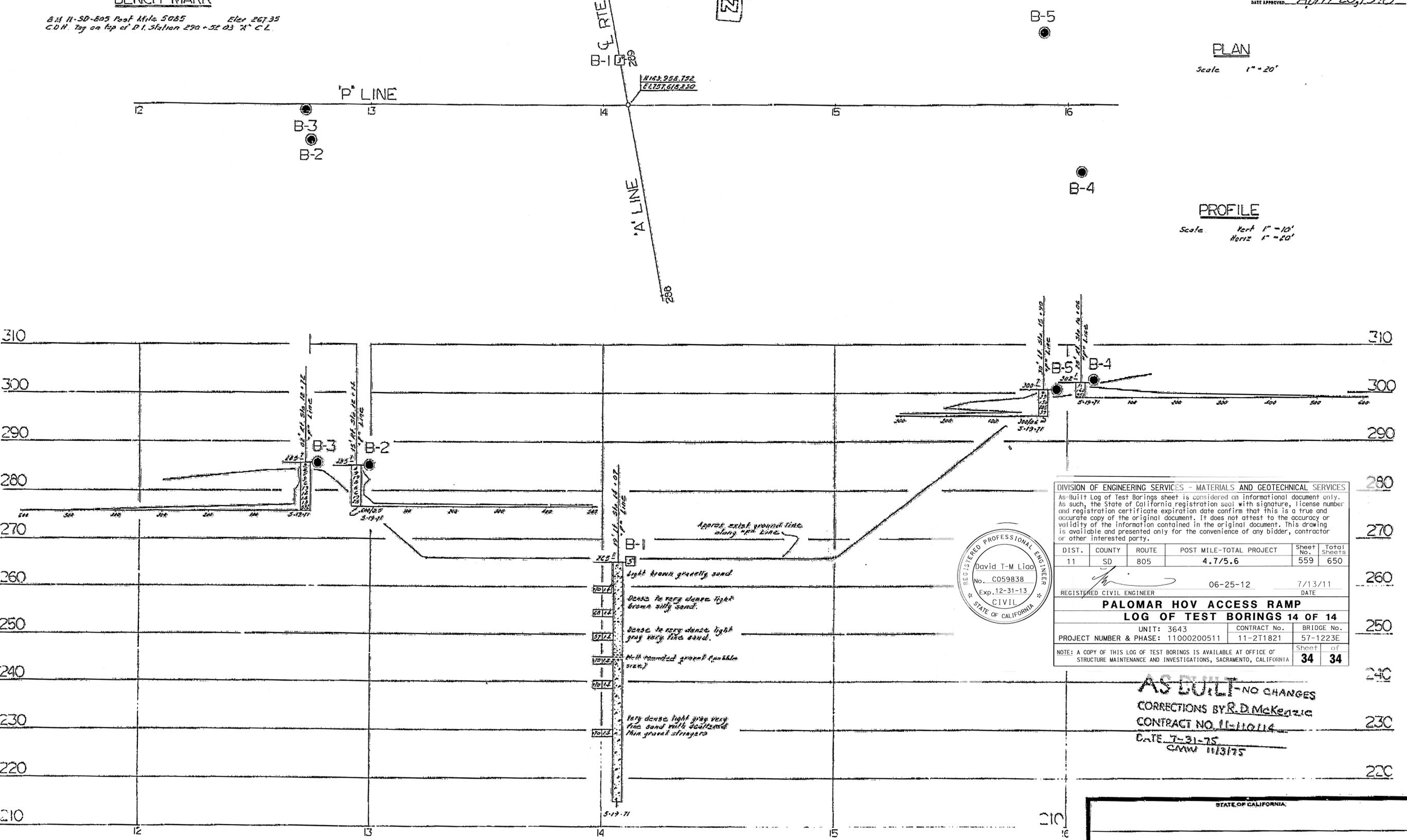
- LEGEND OF EARTH MATERIALS**
- SILT CLAY OR CLAYEY SILT
 - PEAT AND/OR ORGANIC MATTER
 - FILL MATERIAL
 - IGNEOUS ROCK
 - SEDIMENTARY ROCK
 - METAMORPHIC ROCK
 - GRAVEL
 - SAND
 - SILT
 - CLAY
 - SANDY CLAY OR CLAYEY SAND
 - SILT OR CLAYEY SILT

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

Diagrams showing the basis for estimates of range size distribution used in determination of CLAYEY SILT, SANDY CLAY, CLAY, SILT, SAND, GRAVEL, and FINE SAND.

AS BUILT PLANS
 Contract No. 11-110114
 Date Completed

NO GROUND WATER IS INDICATED
 BUT THIS INFORMATION IS FOR
 BRIDGE ENGINEERING SECTION
 DATE May 1971



DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
11	SD	805	4.7/5.6	559	650

REGISTERED CIVIL ENGINEER
 DATE 06-25-12
 7/13/11

PALOMAR HOV ACCESS RAMP

LOG OF TEST BORINGS 14 OF 14

UNIT: 3643
 CONTRACT No. 11-2T1821
 BRIDGE No. 57-1223E
 PROJECT NUMBER & PHASE: 11000200511

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

Sheet 34 of 34

AS BUILT-NO CHANGES
 CORRECTIONS BY R.D. McKenzie
 CONTRACT NO. 11-110114
 DATE 7-31-75
 CMM 11/3/75

STATE OF CALIFORNIA			
PALOMAR STREET OVERCROSSING			
LOG OF TEST BORINGS			
BRIDGE NO. 57-801	POST MILE 5.1	DRAWING NO.	SHEET 11 OF 11
REVISION DATES (PRELIMINARY STAGE ONLY)			

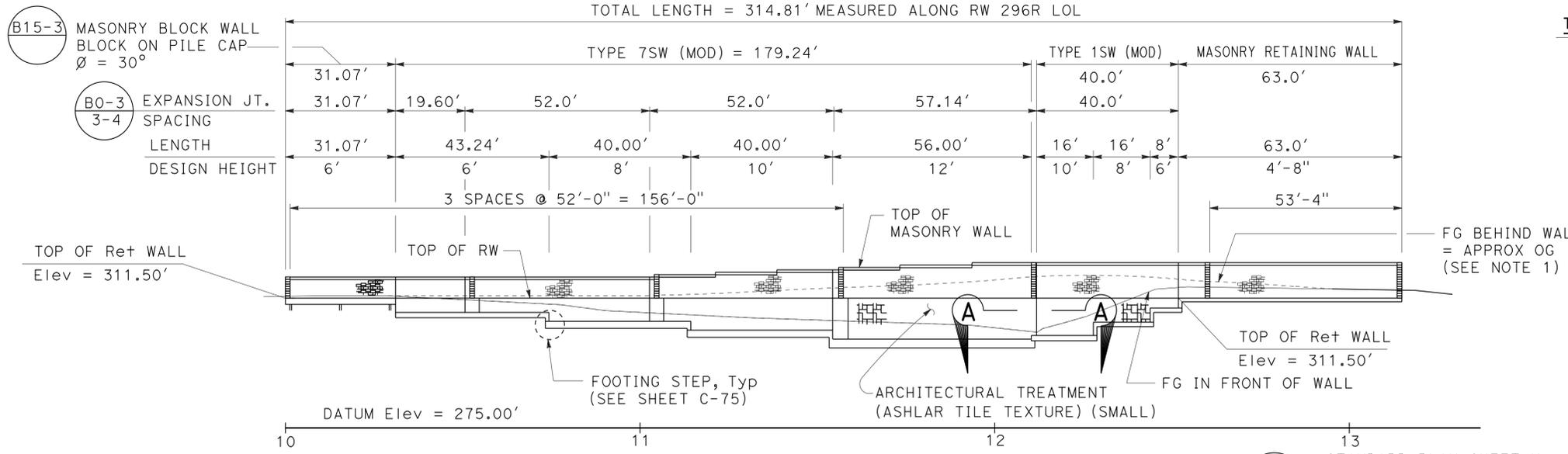
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	560	650

Mason Lee Hancock
 REGISTERED CIVIL ENGINEER
 DATE 4-26-12
 06-25-12
 PLANS APPROVAL DATE
 No. 75048
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

Dokken Engineering
 2365 Iron Point Rd, Suite 200
 Folsom, CA 95630 (916) 858-0642
 SANDAG
 401 B St, Suite 800
 San Diego, CA 92101

INDEX TO PLANS

Sheet No.	Title
1	GENERAL PLAN
2	RETAINING WALL DETAILS NO. 1
3	RETAINING WALL DETAILS NO. 2
4	MASONRY WALL DETAILS NO. 1
5	MASONRY WALL DETAILS NO. 2
6	RETAINING WALL TYPE 7SW (MOD)
7	RETAINING WALL TYPE 1SW (MOD)
8	LOG OF TEST BORINGS 1 OF 4
9	LOG OF TEST BORINGS 2 OF 4
10	LOG OF TEST BORINGS 3 OF 4
11	LOG OF TEST BORINGS 4 OF 4

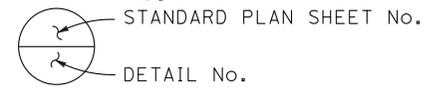


TOP OF MASONRY WALL ELEVATIONS

STATION	ELEVATION
10+00.00	317.50
11+04.00	317.50
11+04.00	318.17
11+21.33	318.17
11+21.33	318.83
11+38.67	318.83
11+38.67	319.50
11+56.00	319.50
11+56.00	320.17
11+73.33	320.17
11+73.33	320.83
11+90.67	320.83
11+90.67	321.50
13+14.81	321.50

DEVELOPED ELEVATION

1" = 20'

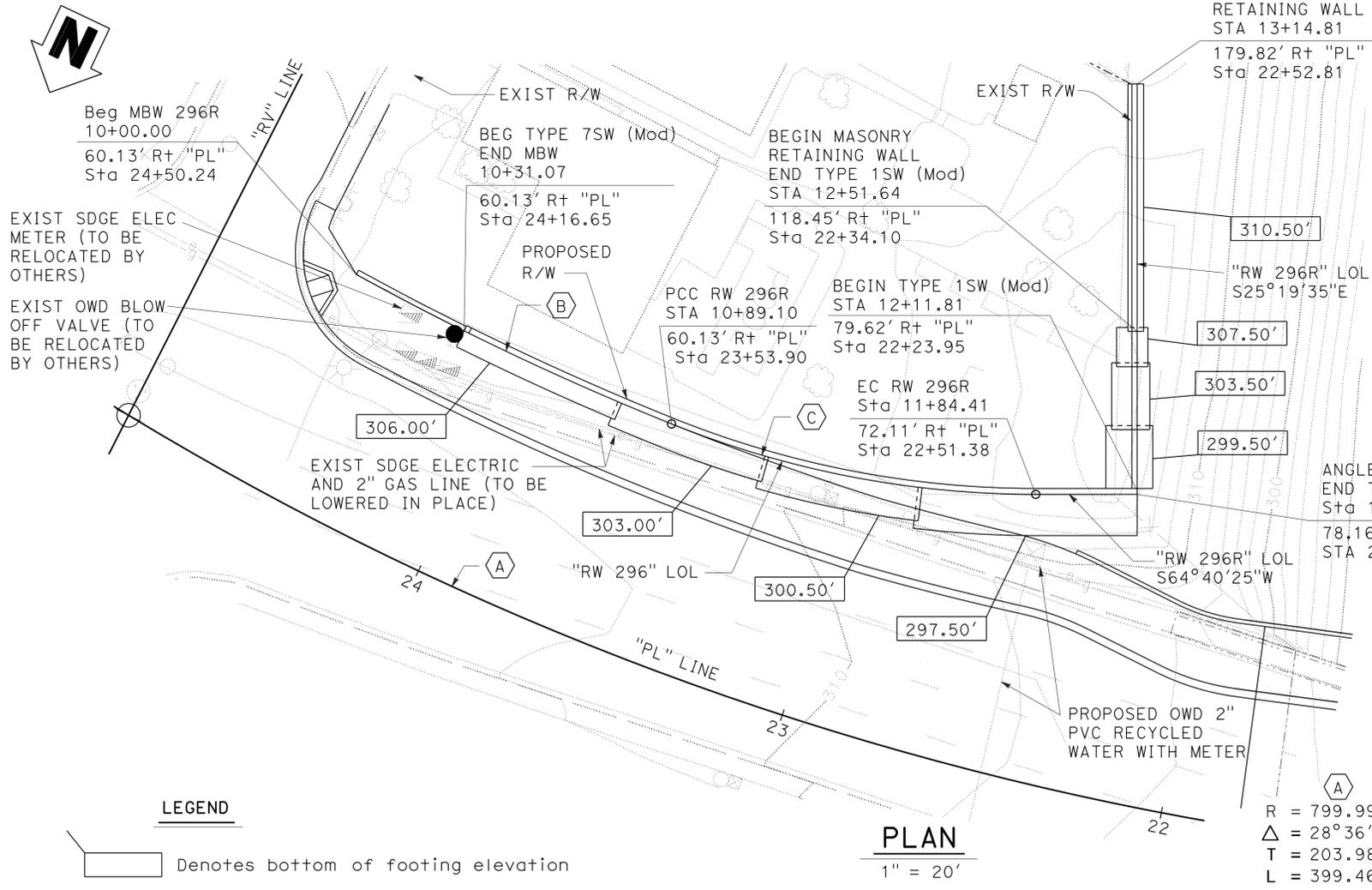


NOTES:

- For Masonry Retaining Wall details, see "MASONRY WALL DETAILS" sheet.
- For SECTION A-A, see "RETAINING WALL DETAILS No. 2" sheet.
- MBW = Masonry Block Wall

STANDARD PLANS DATED 2010

Sheet No.	Title
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)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B3-6	RETAINING WALL DETAILS NO. 2
B15-3	SOUND WALL MASONRY BLOCK ON PILE CAP (1)
B15-4	SOUND WALL MASONRY BLOCK ON PILE CAP (2)
B15-5	SOUND WALL MASONRY BLOCK ON PILE CAP (3)



PLAN

1" = 20'

CURVE DATA

A	B	C
R = 799.99'	R = 739.88'	R = 250.00'
Δ = 28°36'33"	Δ = 06°53'56"	Δ = 21°50'37"
T = 203.98'	T = 44.60'	T = 48.24'
L = 399.46'	L = 89.10'	L = 95.31'

RETAINING WALL 296R #57E0109

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	950	CY
STRUCTURE BACKFILL (RETAINING WALL)	320	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	24	LF
STRUCTURAL CONCRETE, RETAINING WALL	270	CY
MINOR CONCRETE (MINOR STRUCTURE)	24	CY
ARCHITECTURAL TREATMENT (ASHLAR TILE TEXTURE)(SMALL)	1,570	SQFT
MASONRY BLOCK WALL	3,150	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	28,700	LB

LEGEND

Denotes bottom of footing elevation

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

LOAD & RESISTANCE FACTOR DESIGN	BY R. Burns	CHECKED M. Hancock
LAYOUT	BY R. Burns	CHECKED R. Burns
SPECIFICATIONS	BY A. Powers	PLANS AND SPECS COMPARED C. Tornaci

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	57E0109
PROJECT ENGINEER	C. Tornaci
POST MILES	5.1

RETAINING WALL NO. 296R GENERAL PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 1 OF 11
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FILE => RW296-a-gp01.dgn

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PROJECT ID: X

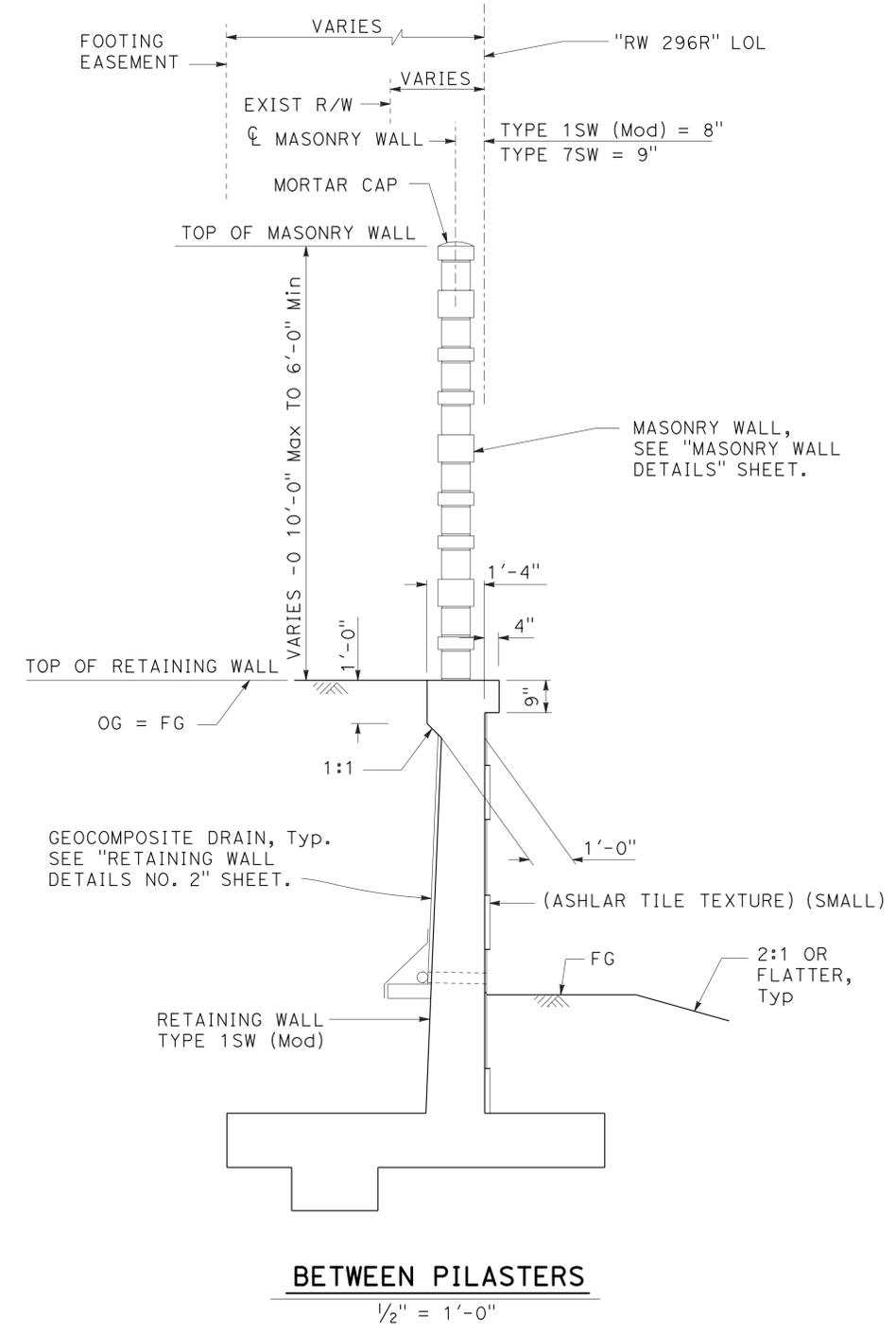
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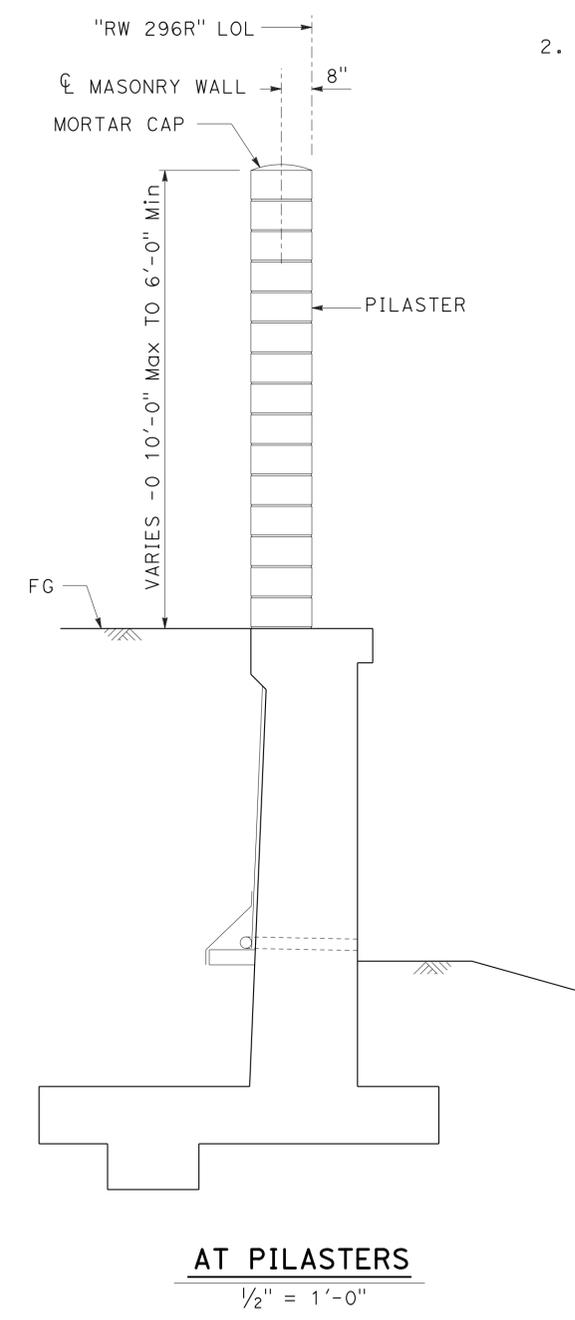

 REGISTERED CIVIL ENGINEER
 DATE: 4-26-12
 PLANS APPROVAL DATE: 06-25-12
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- NOTES:**
- Details shown for Retaining Wall Type 1SW (Mod). Details for Retaining Wall Type 7SW similar except as noted.
 - For "SECTION C-C", see "RETAINING WALL DETAILS NO. 2" sheet.

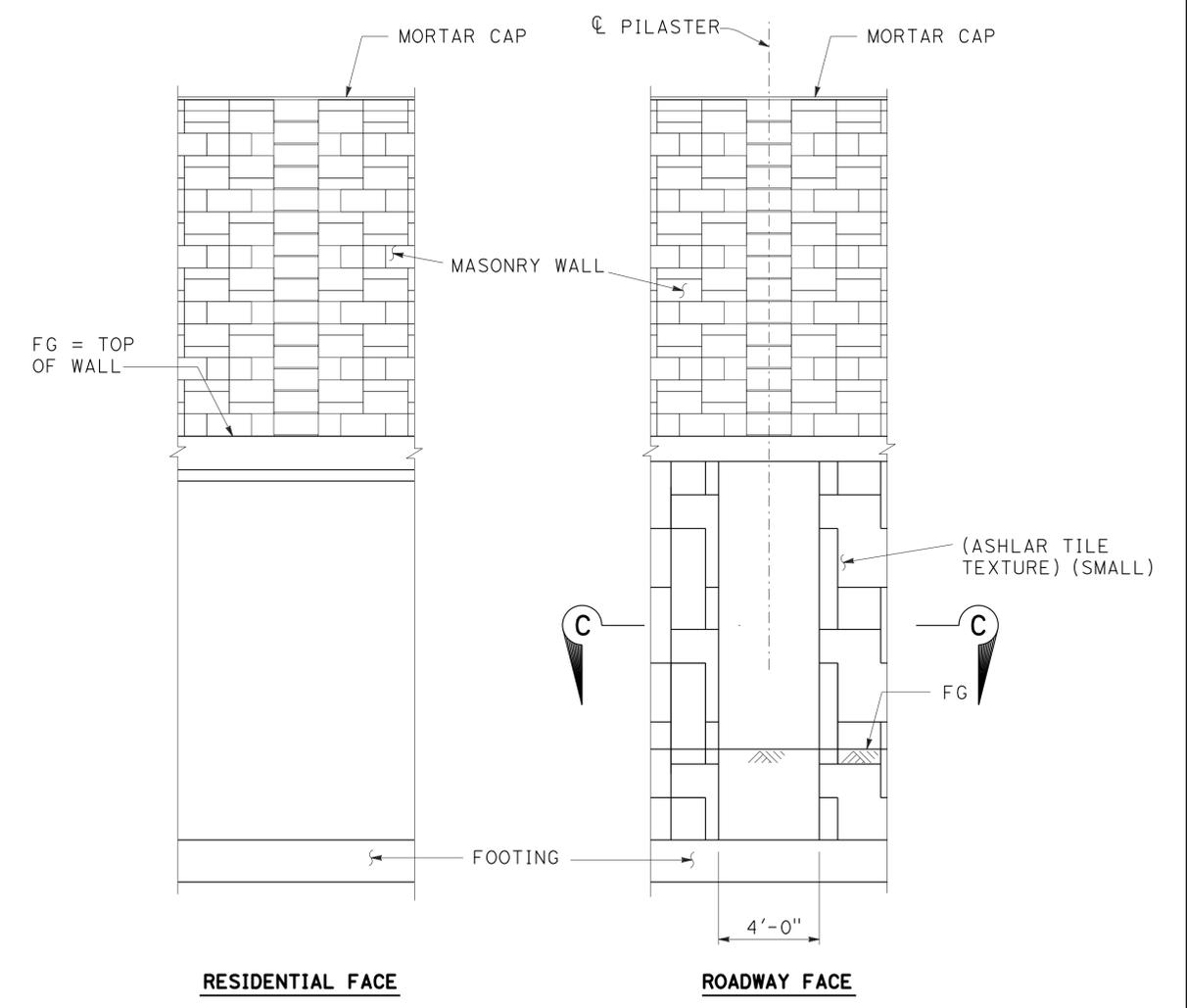


BETWEEN PILASTERS
1/2" = 1'-0"



AT PILASTERS
1/2" = 1'-0"

(For details not shown, see "BETWEEN PILASTERS" detail)



PARTIAL ELEVATION - ARCHITECTURAL TREATMENT
3/8" = 1'-0"


 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

C. Tornaci
 PROJECT ENGINEER

BRIDGE NO.	57E0109
POST MILES	-

RETAINING WALL NO. 296R
RETAINING WALL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

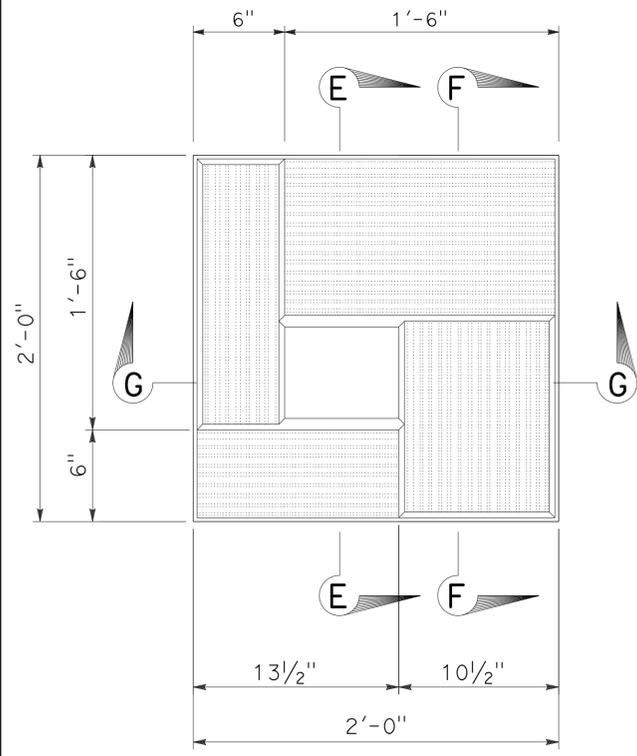
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4-26-11	5-1-11	10-1-11	11-16-11	2-28-12	2	11

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

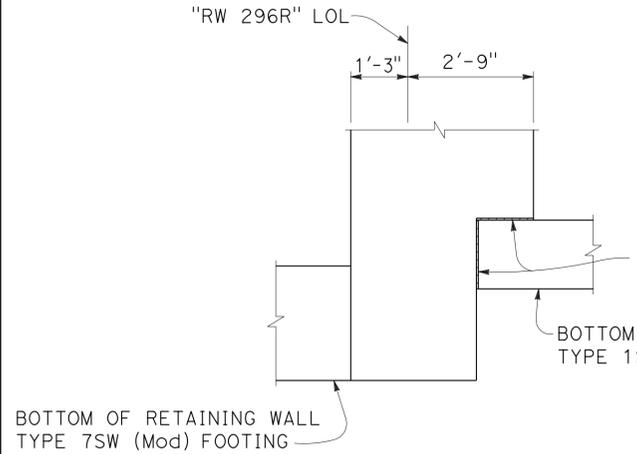
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11	SD	805	4.7/5.6	562	650


 REGISTERED CIVIL ENGINEER
 DATE 4-26-12
 PLANS APPROVAL DATE 06-25-12
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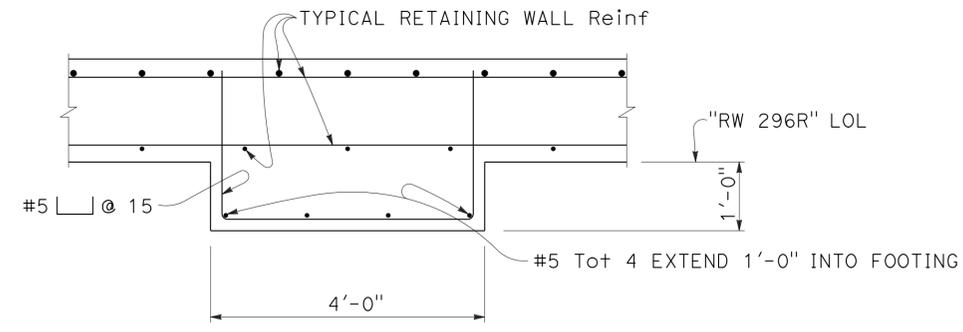
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 San Diego, CA 92101



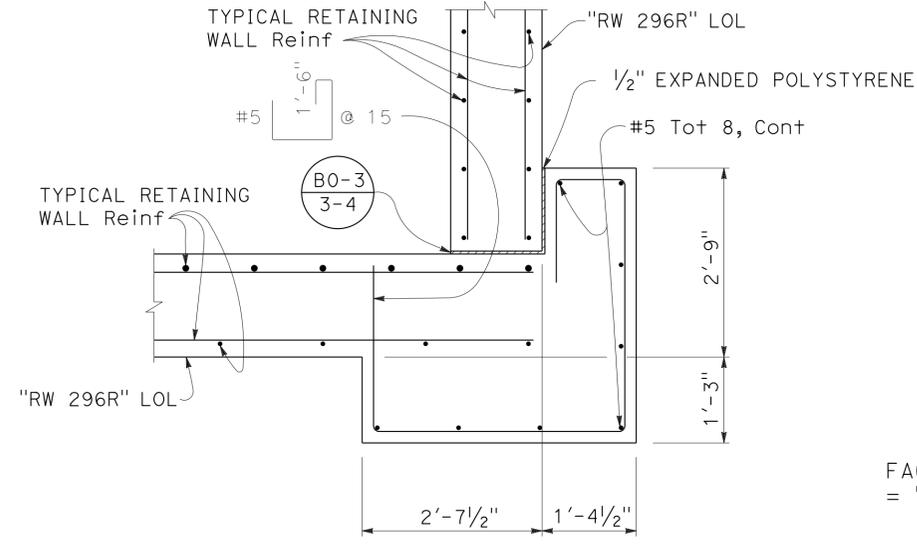
ASHLAR TILE TEXTURE (SMALL) DETAIL
2" = 1'-0"



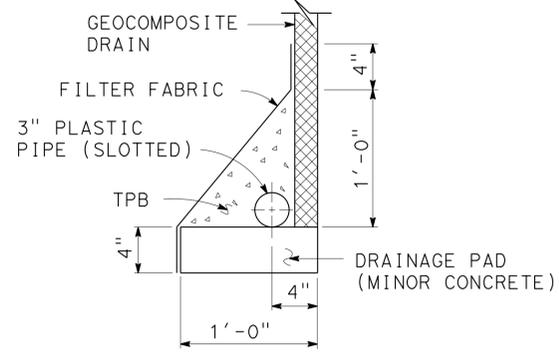
CORNER PILASTER - FOOTING DETAIL
1/2" = 1'-0"



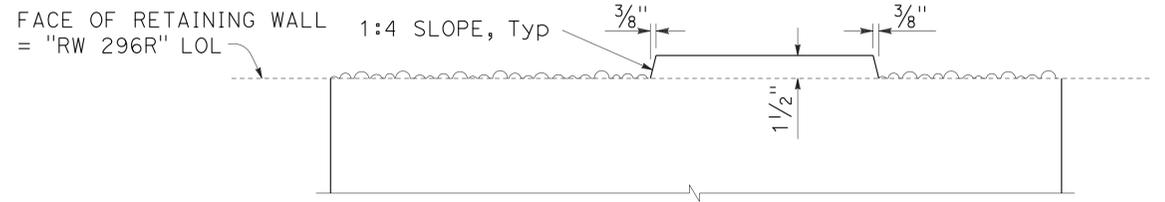
SECTION C-C
3/4" = 1'-0"



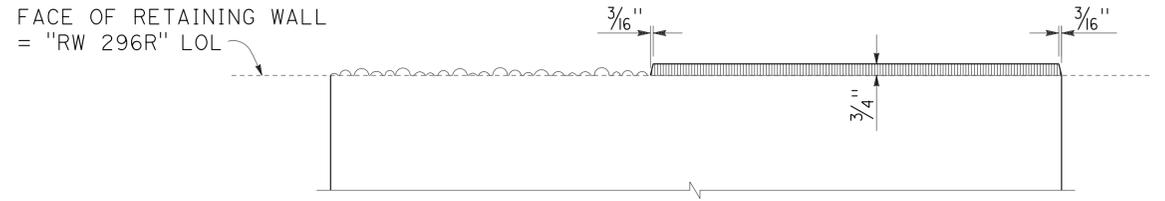
SECTION A-A
3/4" = 1'-0"



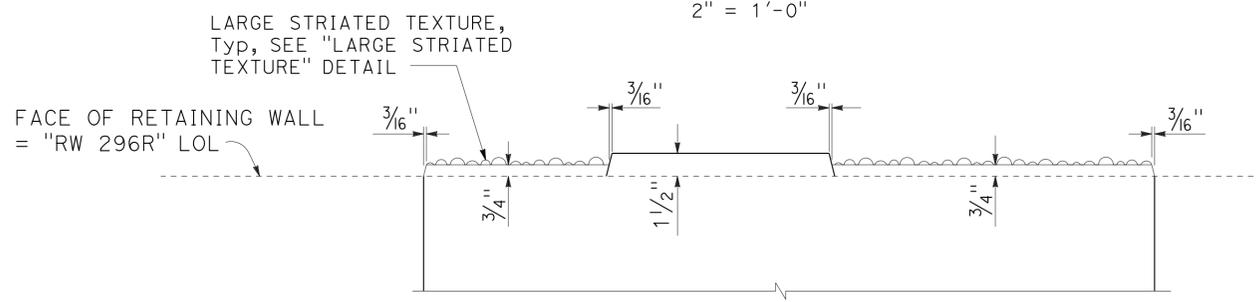
DRAINAGE DETAIL
NO SCALE



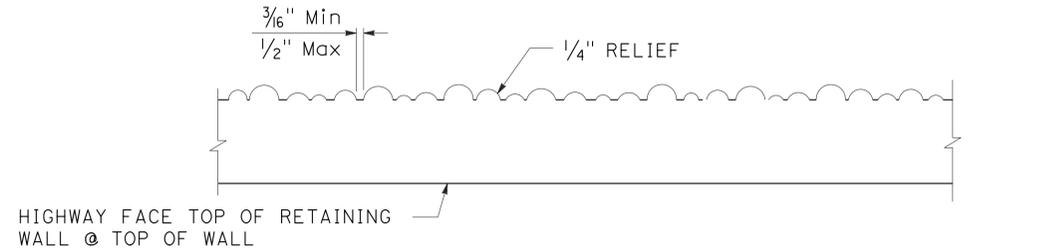
SECTION E-E
2" = 1'-0"



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



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



LARGE STRIATED TEXTURE DETAIL
4" = 1'-0"


 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 C. Tornaci
 PROJECT ENGINEER

BRIDGE NO.	57E0109
POST MILES	-

RETAINING WALL NO. 296R
RETAINING WALL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)						SHEET	OF
4-26-11	5-11-11	10-25-11	11-28-11	2-28-12	4-26-12	3	11

FILE => RW296-g-rwdt02.dgn

CONTRACT NO.: X

PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	563	650


 4-26-12 DATE
 REGISTERED CIVIL ENGINEER
 06-25-12 PLANS APPROVAL DATE
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 SANDAG
 401 B St, Suite 800
 San Diego, CA 92101

LEGEND:

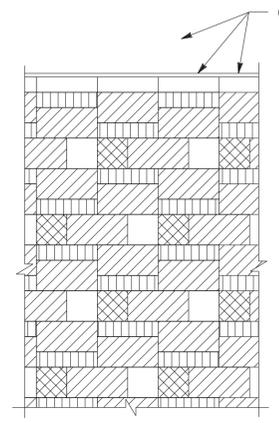
-  Block A - 10" x 8" x 8" smooth face all exposed sides. Block will project 1" on both sides of wall.
-  Block B - 8" x 8" x 8" split face all exposed sides.
-  Block C - 10" x 4" x 16" split face all exposed sides. Block will project 1" on both sides of wall.
-  Block D - 8" x 8" x 16" split face all exposed sides.
-  Block E - 16" x 8" x 16" split face all exposed sides except where face meets field wall..
-  Cap Block - 10" x 4" x 16" precision block for pilaster.

DESIGN NOTES:

DESIGN
 Uniform Building Code, 1997 Edition and the Bridge Design Specifications.
DESIGN WIND LOAD
 35 psf
DESIGN SEISMIC LOAD
 0.57 Dead load
REINFORCED CONCRETE
 $f'_c = 3.6$ ksi
 $f_y = 60$ ksi

CONCRETE MASONRY

REGULAR STRENGTH	HIGH STRENGTH	
$f'_m = 1500$ psi	$f'_m = 2000$ psi	$f'_m = 2500$ psi
$f_b = 495$ psi	$f_b = 660$ psi	$f_b = 830$ psi
$f_s = 24,000$ psi	$f_s = 24,000$ psi	$f_s = 24,000$ psi
$n = 25.8$	$n = 19.3$	$n = 15.5$

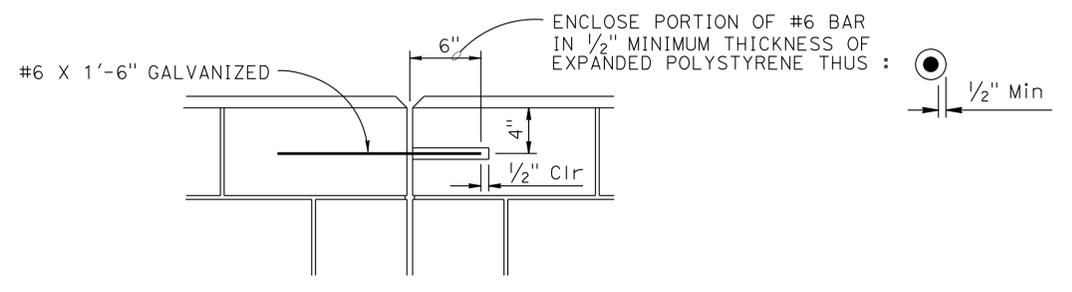


PART PLAN

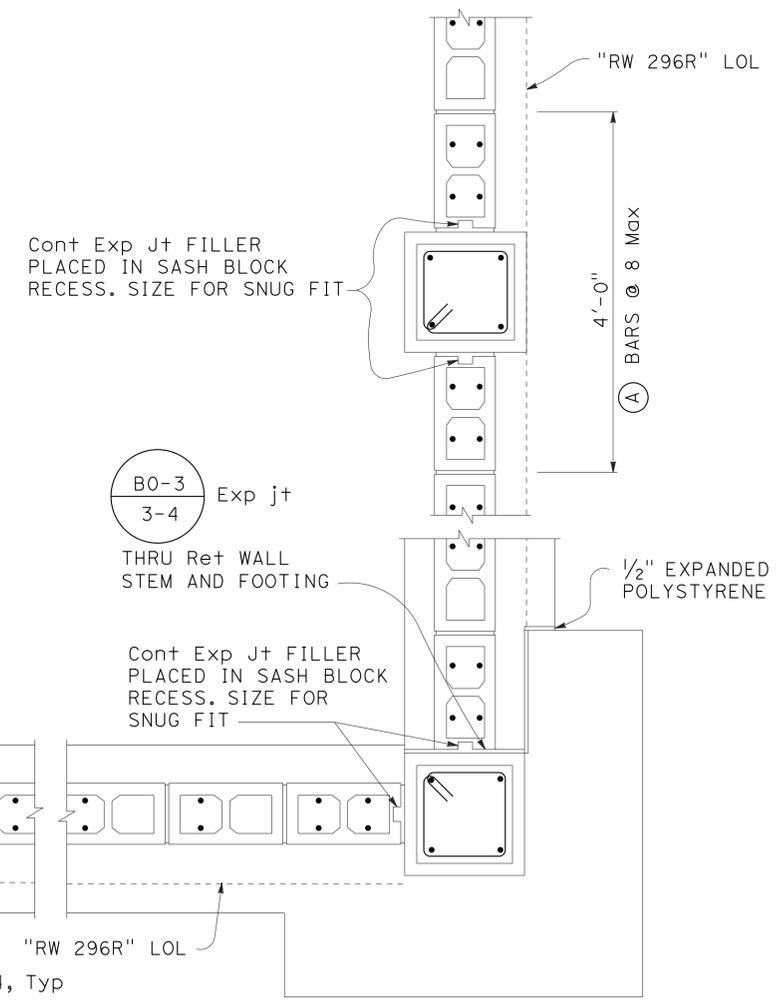
MASONRY BLOCK PATTERN

NO SCALE

- NOTES:**
1. Core size for 10" wide block shall match the core size for 8" wide blocks.
 2. All pilasters shall be plumb.
 3. For details not shown, see Standard Plans B15-3 and B15-4.
 4. All joints to be tooled concave.

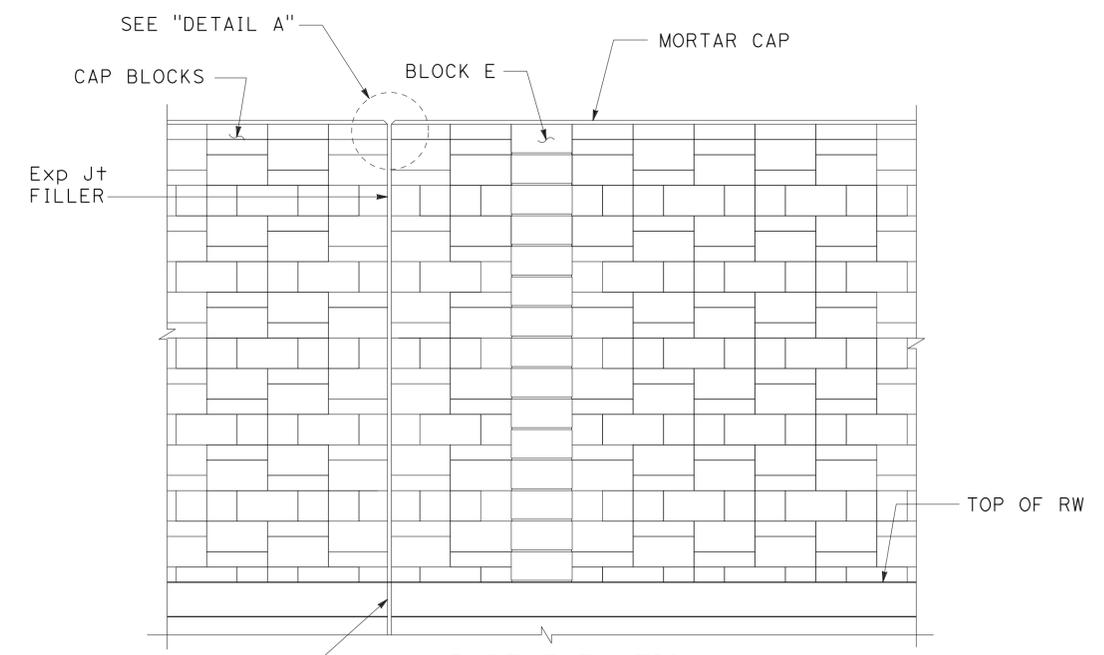


DETAIL A



PILASTER DETAIL

1" = 1'-0"



PART ELEVATION

1/2" = 1'-0"


 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER
 C. Tornaci

BRIDGE NO.	57E0109
POST MILES	-

RETAINING WALL NO. 296R
MASONRY WALL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT:	2762
PROJECT NUMBER & PHASE:	1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-11-11 10-25-11 11-28-11 2-28-12 4-26-12	4	11

FILE => RW296-g-rwd+03.dgn

CONTRACT NO.: X

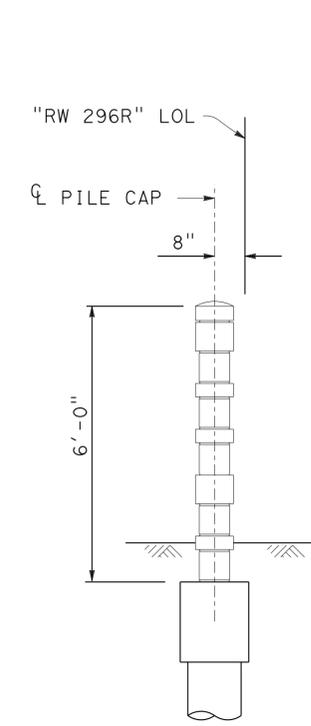
PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	564	650

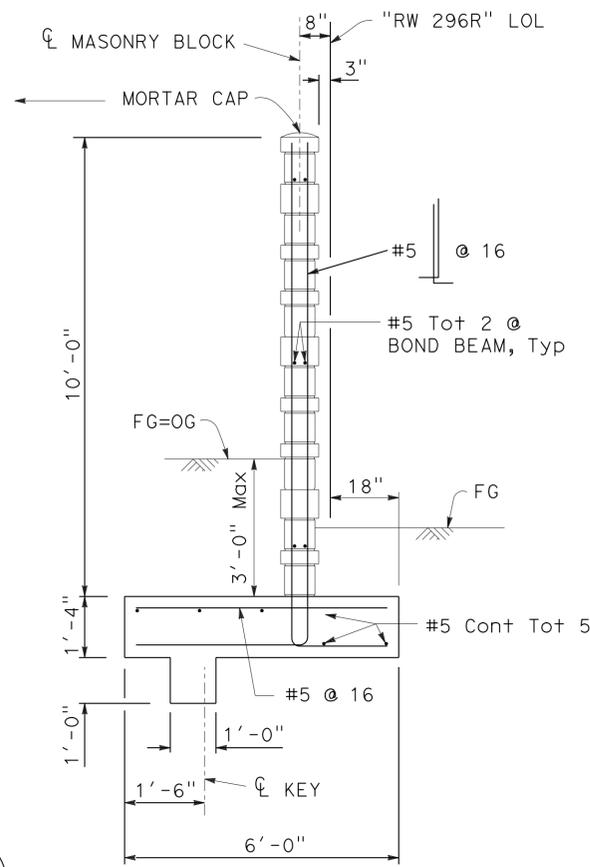

 4-26-12 DATE
 REGISTERED CIVIL ENGINEER
 06-25-12 PLANS APPROVAL DATE
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Dokken Engineering
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 Folsom, CA 95630 (916) 858-0642
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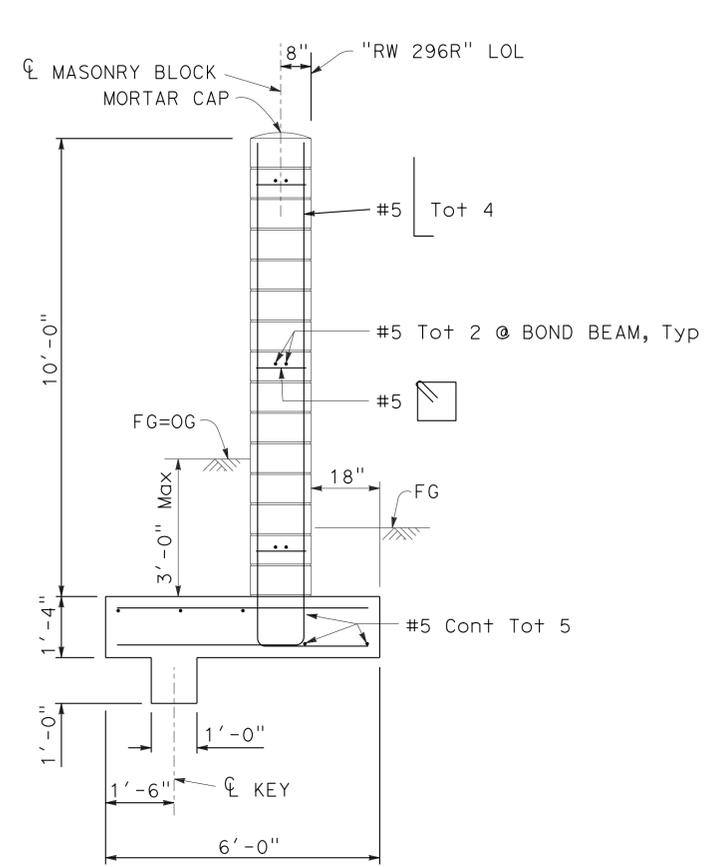


RETAINING WALL MASONRY BLOCK ON PILE CAP

1/2" = 1'-0" (B15-3) (B15-4)



BETWEEN PILASTERS



AT PILASTERS

MASONRY RETAINING WALL
(SEE SHEETS C-76 AND C-77)
1/2" = 1'-0"

DESIGN NOTES:

REINFORCED MASONRY BLOCK DESIGN DATA:
Uniform Building Code, 1997 Edition

CONCRETE MASONRY

REGULAR STRENGTH	HIGH STRENGTH	
f'm = 1500 psi	f'm = 2000 psi	f'm = 2500 psi
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

RETAINING WALL DESIGN DATA:

DESIGN: AASHTO LRFD Bridge Design Specification, 4th Edition with California Amendments

- WS: 33 psf on sound wall
- LS: Varied surcharge on level ground surface
- EQE: Mononobe-okabe Method
 - $K_h = 0.3$
 - $K_v = 0.0$
- Soil: $\phi = 34^\circ$ $\gamma = 125$ pcf
- Reinforced Concrete, $f'_c = 3.6$ ksi
 $f_y = 60$ ksi
- Load Combinations and Limit States
 - Service I $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$
 - Service II $Q=1.00DC+1.00EV+1.00EH+1.00WS$
 - Strength I $Q=aDC+\beta EV+1.50EH+1.75LS$
 - Strength III $Q=aDC+\beta EV+1.50EH+1.40WS$
 - Strength V $Q=aDC+\beta EV+1.50EH+1.35LS+0.40WS$
 - Extreme I $Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$
- Where:
 - Q: Force effects
 - a: 1.25 or 0.90, Which ever Controls Design
 - β : 1.35 or 1.00, Which ever Controls Design
 - DC: Dead Load of Structure Components
 - EV: Vertical Earth Fill Pressure
 - EH: Horizontal Earth Fill Pressure
 - LS: Live Load Surcharge
 - EQE: Seismic Earth Pressure
 - EQD: Soil and Structure Components Inertia. Soil Inertia ignored for stem design
 - WS: Wind Load on Sound Wall and Barrier


 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

C. Tornaci
 PROJECT ENGINEER

BRIDGE NO.	57E0109
POST MILES	-

RETAINING WALL NO. 296R
MASONRY WALL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)						SHEET	OF
4-26-11	5-1-11	10-27-11	11-28-11	2-28-12	4-26-12	5	11

FILE => RW296-g-rwd+04.dgn

CONTRACT NO.: X

PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	565	650

REGISTERED CIVIL ENGINEER DATE 4-26-12

06-25-12

 PLANS APPROVAL DATE

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Dokken Engineering

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 Folsom, CA 95630 (916) 858-0642

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 San Diego, CA 92101

DESIGN DATA

DESIGN: AASHTO LRFD Bridge Design Specification, 4th Edition with California Amendments

WS: 33 psf on sound wall

LS: Varied surcharge on level ground surface

EQE: Mononobe-okabe Method

 $K_h = 0.3$

 $K_v = 0.0$

Soil: $\phi = 34^\circ$ $\gamma = 125$ pcf

Reinforced Concrete, $f'_c = 3.6$ ksi

 $f_y = 60$ ksi

Load Combinations and Limit States

Service I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS + 0.30WS$

 Service II $Q = 1.00DC + 1.00EV + 1.00EH + 1.00WS$

 Strength I $Q = aDC + \beta EV + 1.50EH + 1.75LS$

 Strength III $Q = aDC + \beta EV + 1.50EH + 1.40WS$

 Strength V $Q = aDC + \beta EV + 1.50EH + 1.35LS + 0.40WS$

 Extreme I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$

Where:

 Q: Force effects

 a: 1.25 or 0.90, Which ever Controls Design

 β : 1.35 or 1.00, Which ever Controls Design

 DC: Dead Load of Structure Components

 EV: Vertical Earth Fill Pressure

 EH: Horizontal Earth Fill Pressure

 LS: Live Load Surcharge

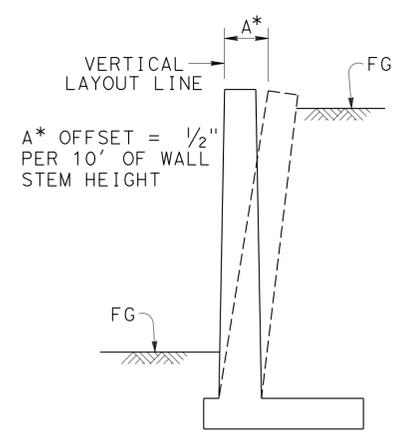
 EQE: Seismic Earth Pressure

 EQD: Soil and Structure Components Inertia. Soil Inertia ignored for stem design

 WS: Wind Load on Sound Wall and Barrier

GENERAL NOTES

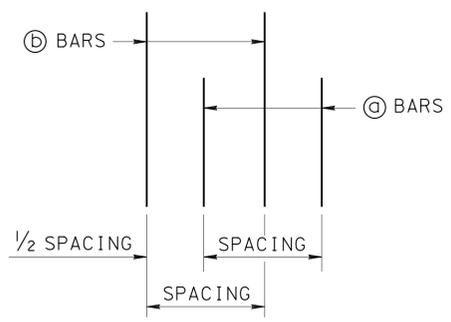
- For sound wall and retaining wall architectural finish or texture, see details elsewhere in project plans.
 - For details not shown and drainage notes, see SHEET C-75
 - Footing cover, 1'-6" minimum.
 - Limit of no splicing (a) & (b) rebars = 3 times the bottom thickness of the stem.
 - Retaining wall is designed for a maximum allowable backfill elevation of 316.00'
 - Placement of reinforcements:
 - (b) & (c) bars are spliced together.
 - * (a) & (b) bars are bundled together.
 - ** Alternate (a) & (b) bars are shown in "Detail B".
- Cont = Continuous.



WALL OFFSET

NO SCALE

VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER



DETAIL B

No Scale

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA								
DESIGN H	6'	8'	10'	12'				
W	6'-0"	8'-0"	10'-0"	12'-0"				
F SPREAD FOOTING	1'-6"	2'-0"	2'-0"	2'-6"				
K	-	1'-0"	2'-0"	2'-6"				
FOOTING COVER	1'-6"	1'-6"	2'-0"	2'-0"				
(a) BARS	#6 @ 9	#7 @ 18	#8 @ 12	#9 @ 12				
X	Cont	Cont	Cont	Cont				
Y	Cont	Cont	5'-0"	5'-0"				
(b) BARS	-	#7 @ 18	#8 @ 12	#9 @ 12				
X	-	Cont	5'-0"	7'-6"				
Y	-	Cont	Cont	Cont				
(c) BARS	-	-	-	#7 @ 12				
(d) BARS	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12				
(e) BARS	-	#5 @ 12	#5 @ 12	#5 @ 12				
SER I: B' (ft), q ₀ (ksf)	6.0	0.7	7.3	0.9	8.5	1.0	9.6	1.2
STR I: B' (ft), q ₀ (ksf)	5.5	1.1	6.3	1.4	6.8	1.8	7.5	2.1
STR III: B' (ft), q ₀ (ksf)	5.4	1.2	6.1	1.4	6.7	1.8	7.4	2.1
STR V: B' (ft), q ₀ (ksf)	5.9	1.2	6.6	1.4	7.1	1.8	7.8	2.1
EXT I: B' (ft), q ₀ (ksf)	6.0	0.9	7.7	1.0	8.8	1.2	10.1	1.5

Note: Load Case 1 of the 2010 Standard Plan B3-5 was used.

SYMBOLS:

 SER: service limit state

 STR: strength limit state

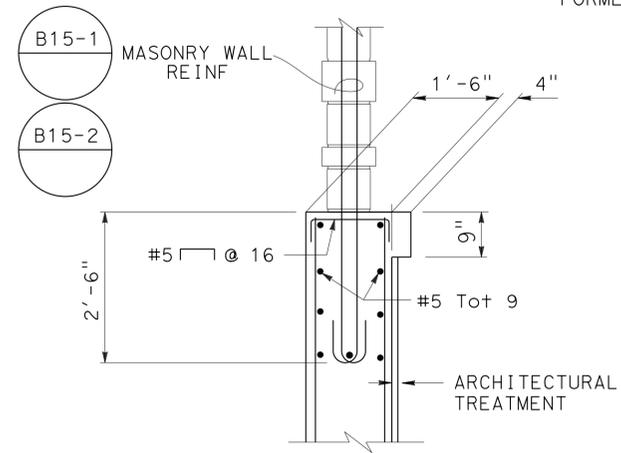
 EXT: extreme event limit state

 B' : effective footing width (ft)

 q₀: net bearing stress (ksf)

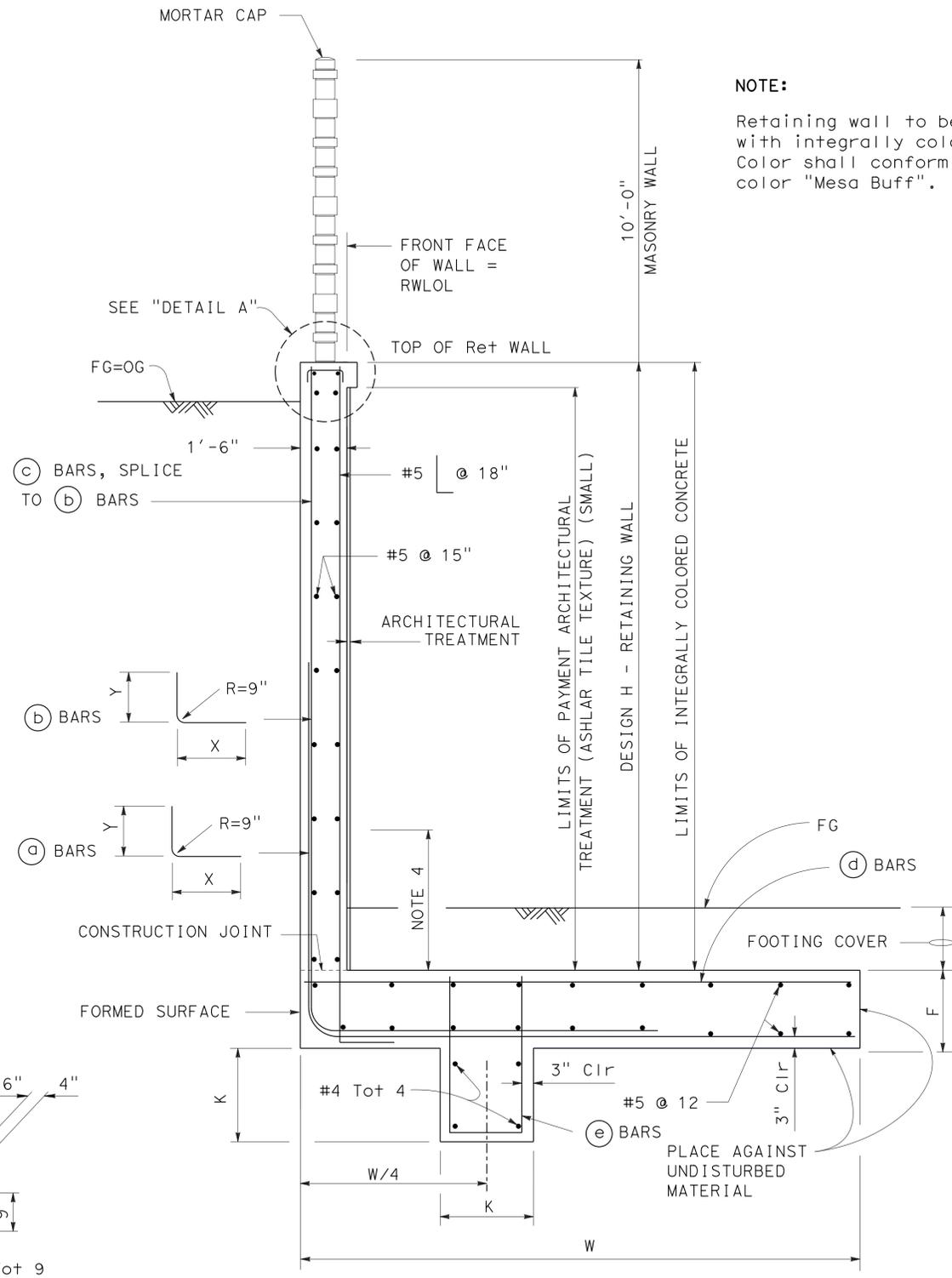
 q_o: gross uniform bearing stress (ksf)

 δ : 2 bar bundle



DETAIL A

NO SCALE



TYPICAL SECTION

NO SCALE

NOTE: FOR DETAILS NOT SHOWN, SEE B3-6 (SEE SHEET C-75)

NOTE:

Retaining wall to be constructed with integrally colored concrete. Color shall conform to Davis color "Mesa Buff".

DESIGN OVERSIGHT Norbert Gee

 5-4-12

 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE STATE OF CALIFORNIA

 DEPARTMENT OF TRANSPORTATION

C. Tornaci

 PROJECT ENGINEER

BRIDGE NO.	57E0109
POST MILES	-

RETAINING WALL NO. 296R

RETAINING WALL TYPE 7SW (MOD)

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051

FILE => RW296-g-rwd+05.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 5-1-11 10-2-11 11-2-11 2-2-12 4-26-12 6-5-12	6	11

CONTRACT NO.: X PROJECT ID: X

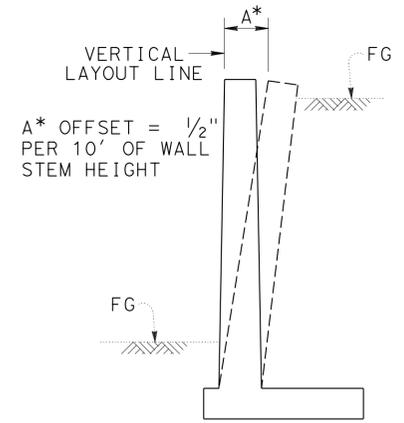
USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	566	650

REGISTERED CIVIL ENGINEER DATE 4-26-12
 06-25-12
 PLANS APPROVAL DATE
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Dokken Engineering
 2365 Iron Point Rd, Suite 200
 Folsom, CA 95630 (916) 858-0642
 SANDAG
 401 B St, Suite 800
 San Diego, CA 92101

NOTE:
 Retaining wall to be constructed with integrally colored concrete. Color shall conform to Davils color "Mesa Bluff".

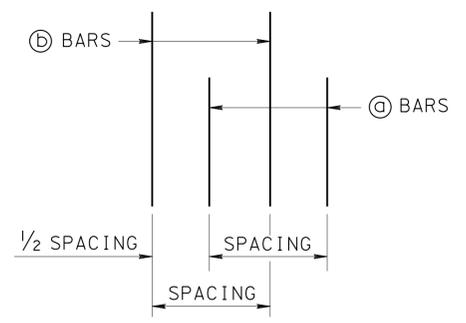


A* OFFSET = 1/2" PER 10' OF WALL STEM HEIGHT

WALL OFFSET

NO SCALE

VALUES FOR OFFSETTING FORMS TO BE DETERMINED BY THE ENGINEER



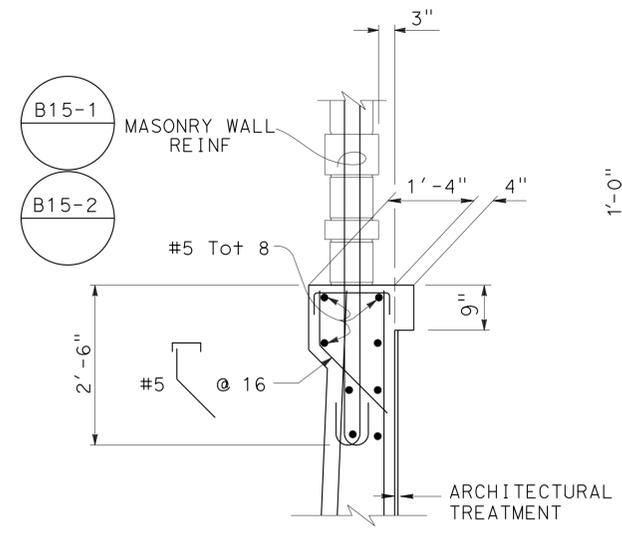
DETAIL B

NO SCALE

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA						
DESIGN H	6'		8'		10'	
W	8'-0"		9'-9"		12'-0"	
C	2'-9"		3'-3"		4'-0"	
B	5'-3"		6'-6"		8'-0"	
F SPREAD FOOTING	1'-3"		1'-3"		1'-6"	
BATTER	1/2 : 12		1/2 : 12		1/2 : 12	
STEM THICKNESS @ TOP	1'-0"		1'-0"		1'-0"	
⊙ BARS			#6 @ 18*		#8 @ 18*	
X	Cont		Cont		Cont	
Y	Cont		8'-0"		7'-6"	
⊖ BARS	#5 @ 12		#6 @ 18*		#8 @ 18*	
X	Cont		Cont		Cont	
Y	Cont		Cont		Cont	
⊙ BARS	#5 @ 12		#5 @ 9		#6 @ 9	
SER I: B' (ft), q _o (ksf)	6.8	0.5	7.4	0.7	8.6	0.9
STR I: B' (ft), q _o (ksf)	7.0	0.8	7.8	1.0	8.3	1.2
STR III: B' (ft), q _o (ksf)	7.6	1.0	7.7	1.3	8.2	1.6
STR V: B' (ft), q _o (ksf)	7.4	0.8	7.8	0.9	8.3	2.0
EXT I: B' (ft), q _o (ksf)	6.2	1.0	5.9	1.3	5.5	1.9

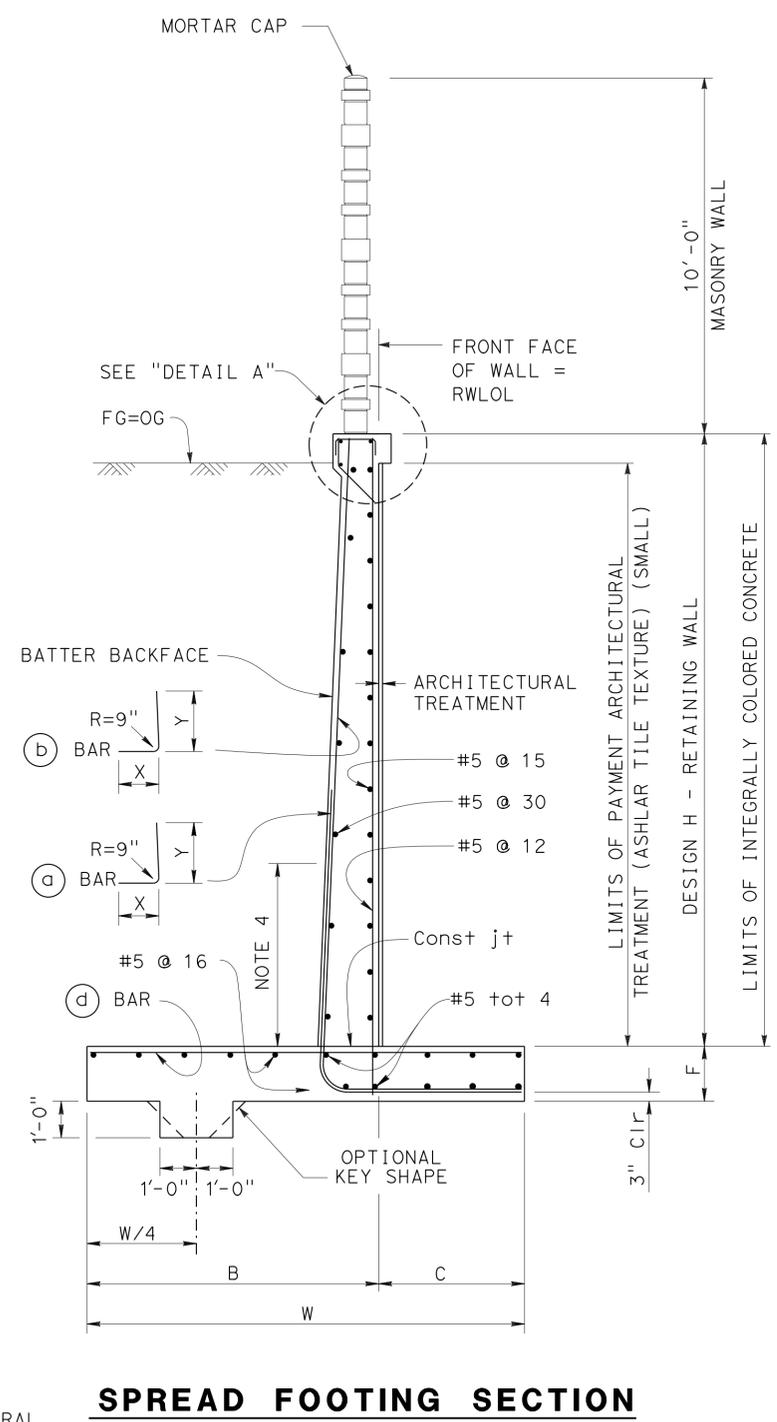
Note: Load Case 1 of the 2010 Standard Plan B3-5 was used.

SYMBOLS:
 SER: service limit state
 STR: strength limit state
 EXT: extreme event limit state
 B' : effective footing width (ft)
 q_o : net bearing stress (ksf)
 q_o : gross uniform bearing stress (ksf)
 λ : 2 bar bundle



DETAIL A

NO SCALE



SPREAD FOOTING SECTION

NO SCALE

DESIGN DATA
 DESIGN: AASHTO LRFD Bridge Design Specification, 4th Edition with California Amendments
 WS: 33 psf on masonry wall
 LS: Varied surcharge on level ground surface
 EQE: Mononabe-okabe Method
 $K_h = 0.3$
 $K_v = 0.0$
 Soil: $\phi = 34^\circ$ $\gamma = 125$ pcf
 Reinforced Concrete, $f'_c = 3.6$ ksi
 $f_y = 60$ ksi
 Load Combinations and Limit States
 Service I $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$
 Service II $Q=1.00DC+1.00EV+1.00EH+1.00WS$
 Strength I $Q=aDC+\beta EV+1.50EH+1.75LS$
 Strength III $Q=aDC+\beta EV+1.50EH+1.40WS$
 Strength V $Q=aDC+\beta EV+1.50EH+1.35LS+0.40WS$
 Extreme I $Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$
 Where:
 Q: Force effects
 a: 1.25 or 0.90, Which ever Controls Design
 β: 1.35 or 1.00, Which ever Controls Design
 DC: Dead Load of Structure Components
 EV: Vertical Earth Fill Pressure
 EH: Horizontal Earth Fill Pressure
 LS: Live Load Surcharge
 EQE: Seismic Earth Pressure
 EQD: Soil and Structure Components Inertia. Soil Inertia ignored for stem design
 WS: Wind Load on Sound Wall and Barrier

GENERAL NOTES

- For masonry wall and retaining wall architectural finish or texture, see details elsewhere in project plans.
- For details not shown and drainage notes, see SHEET C-75.
- Footing cover, 1'-6" minimum.
- Limit of no splicing ⊖ & ⊙ rebars = 3 times the bottom thickness of the stem.
- Retaining wall is designed for a maximum allowable backfill elevation of 316.00'.
- Placement of reinforcements:
 ⊖ & ⊙ bars are spliced together.
 Alternate ⊖ & ⊙ bars are shown in "Detail B".
 * Cont = Continuous.

DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER
 C. Tornaci

RETAINING WALL NO. 296R
RETAINING WALL TYPE 1SW (MOD)
 BRIDGE NO. 57E0109
 POST MILES -

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	567	650

Brian Gutierrez 4-26-12
 REGISTERED CIVIL ENGINEER

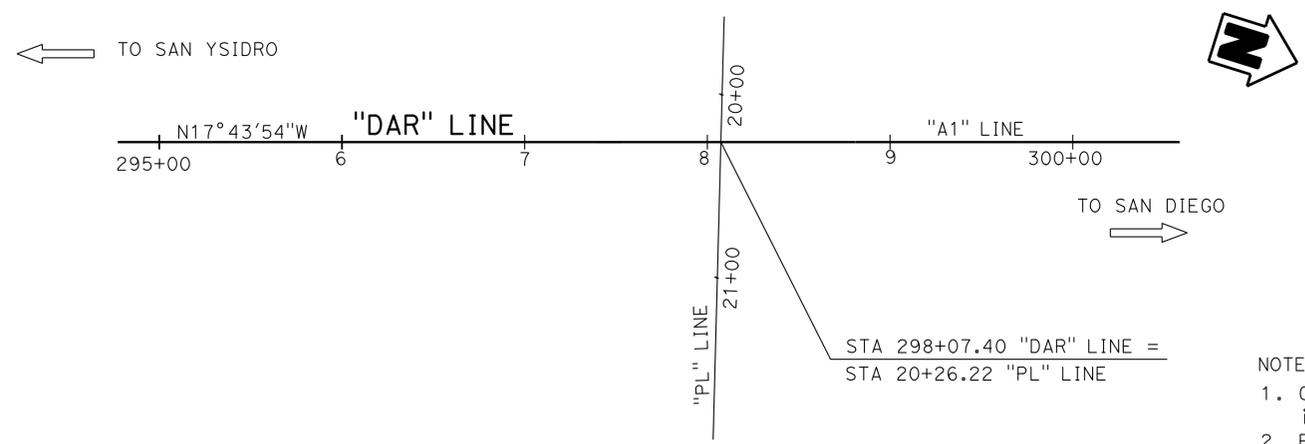
06-25-12
 PLANS APPROVAL DATE

Brian Gutierrez
 No. C66258
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

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BENCH MARK
 BM 805-5.00, Brass disk in sidewalk on north side of E. Palomar St. OC bridge, at Station 298+46.0, Right 60 feet of "DAR" Line/"A1" Line.
 Elevation: 300.93 feet
 NAVD 1988 (Vertical)
 NAD83 (Horizontal)



- NOTES:
- Ground water was not encountered during the 2010 subsurface investigation.
 - RQD designated with "NA" (not applicable) indicates that the rock encountered within the drill interval was not sound rock, therefore RQD was not calculated.
 - Plan sheets provided by Design, show that "A1" Line = "DAR" Line.



PROFILE
 Horiz: 1" = 5'
 Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X		BRIDGE NO. 57E0109 POST MILE 5.07		RETAINING WALL 296R LOG OF TEST BORINGS 1 OF 4					
FUNCTIONAL SUPERVISOR NAME: S. Wei		DRAWN BY: F. Nguyen, I. G-Remmen CHECKED BY: M. Wilson		FIELD INVESTIGATION BY: J. Klamecki		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 12-09-11 4-26-12		SHEET 8 OF 11	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE => RW296-Z-1+tb01.dgn

USERNAME => s127400 DATE PLOTTED =>

Brian Gutierrez 12-19-11
REGISTERED CIVIL ENGINEER

06-25-12
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No. C66258
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STATE OF CALIFORNIA

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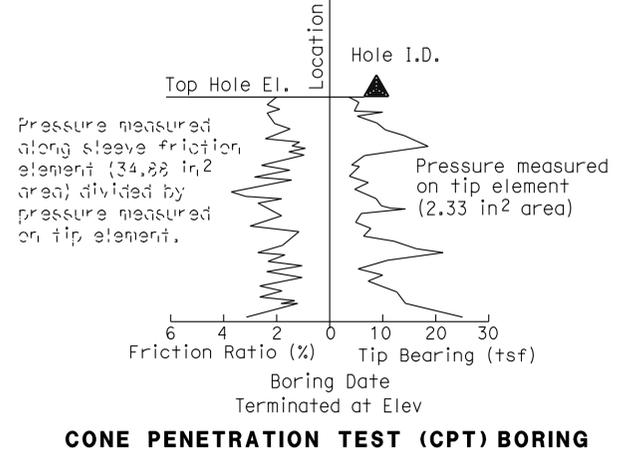
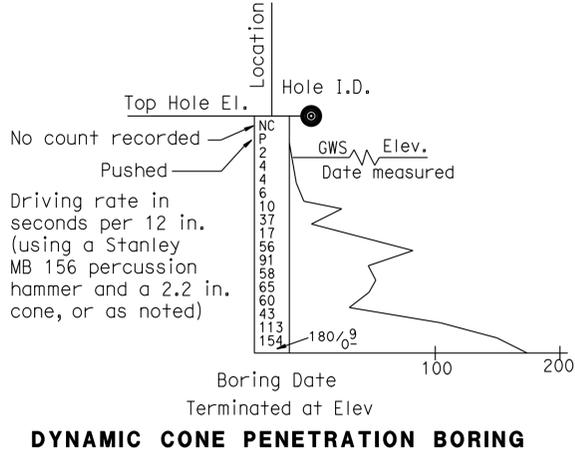
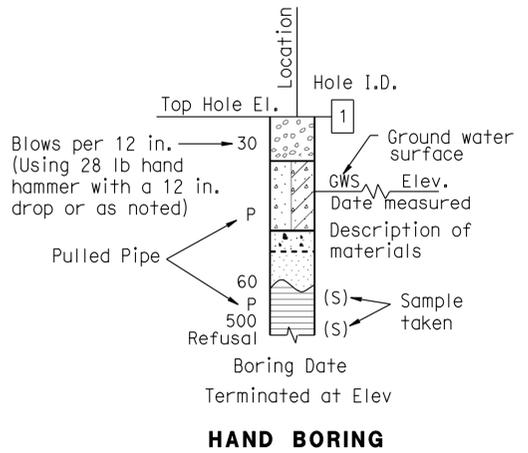
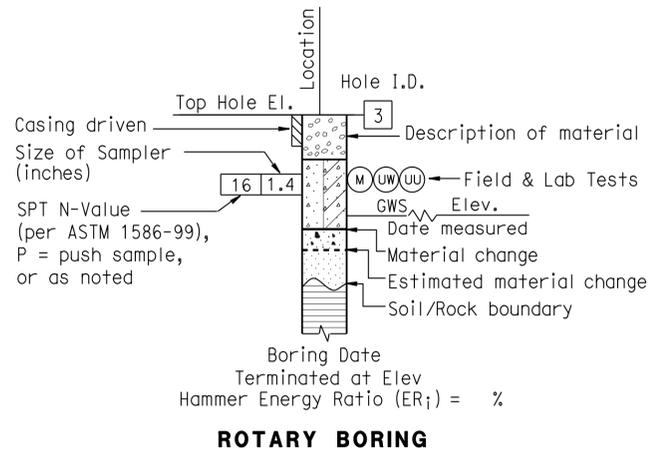
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2007 Edition).

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

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

Note: Size in inches.

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



Brian Gutierrez 12-19-11
 REGISTERED CIVIL ENGINEER
 No. C66258
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

06-25-12
 PLANS APPROVAL DATE

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

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

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

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

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

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

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X	BRIDGE NO. 57E0109	RETAINING WALL 296R LOG OF TEST BORINGS 3 OF 4	
				POST MILE 5.07		
PREPARED BY: I.G-Remmen	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511	CONTRACT NO.: 11-2T1821	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 10 OF 11

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	570	650

Brian Gutierrez 12-19-11
 REGISTERED CIVIL ENGINEER

06-25-12
 PLANS APPROVAL DATE

Brian Gutierrez
 No. C66258
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

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

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

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

RQD* Indicates soundness criteria not met.

BEDDING SPACING

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

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

FRACTURE DENSITY

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

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X	BRIDGE NO. 57E0109 POST MILE 5.07	RETAINING WALL 296R LOG OF TEST BORINGS 4 OF 4
	PREPARED BY: I.G-Remmen				
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511	CONTRACT NO.: 11-2T1821	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 12-19-11

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	571	650

Mason Lee Hancock
REGISTERED CIVIL ENGINEER
DATE 4-26-12

06-25-12
PLANS APPROVAL DATE

No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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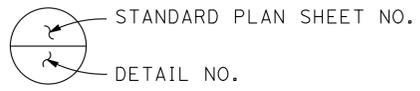
SANDAG
401 B St, Suite 800
San Diego, CA 92101

INDEX TO PLANS

Sheet No.	Title
1	GENERAL PLAN
2	RETAINING WALL DETAILS NO. 1
3	RETAINING WALL DETAILS NO. 2
4	RETAINING WALL DETAILS NO. 3
5	RETAINING WALL TYPE 1SW (MOD)
6	LOG OF TEST BORINGS 1 OF 4
7	LOG OF TEST BORINGS 2 OF 4
8	LOG OF TEST BORINGS 3 OF 4
9	LOG OF TEST BORINGS 4 OF 4

STANDARD PLANS DATED 2010

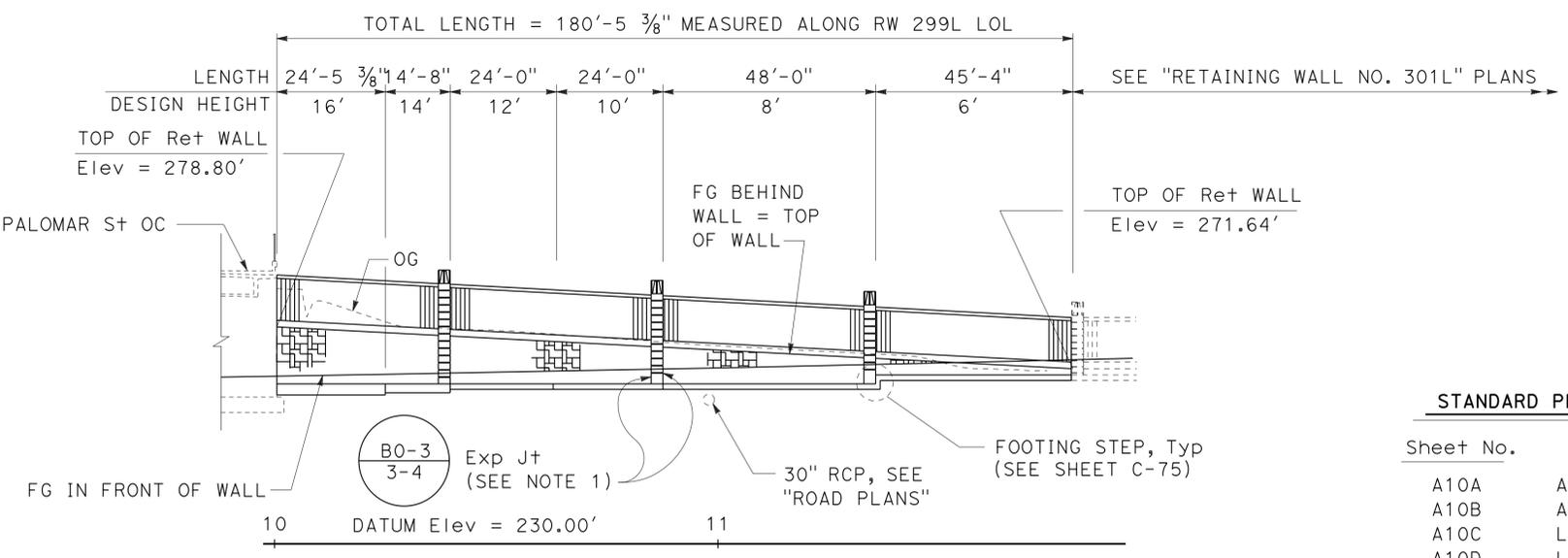
Sheet No.	Title
A10A	ABBREVIATIONS (SHEET 1 OF 2)
A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B3-6	RETAINING WALL DETAILS NO. 2



NOTES:

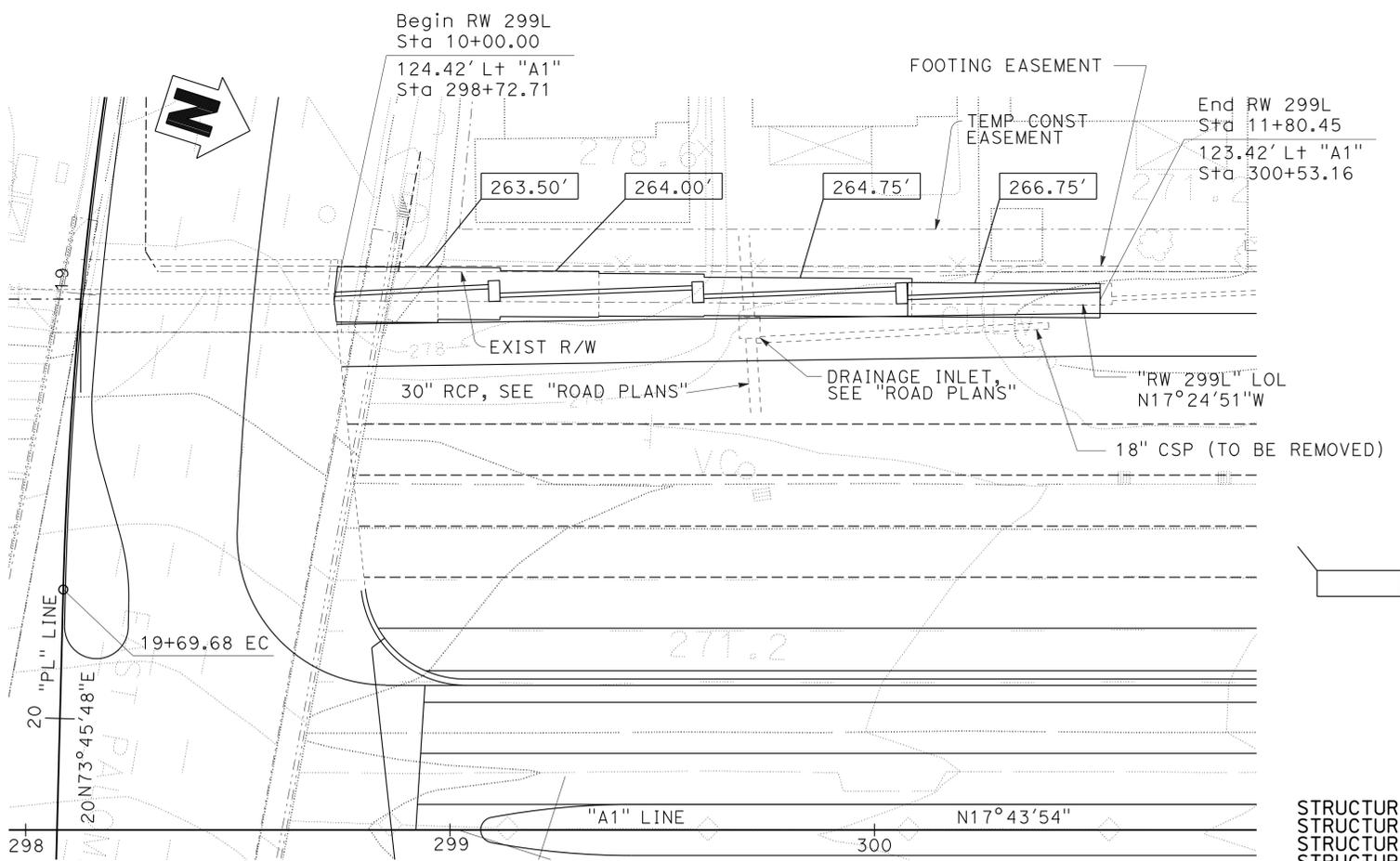
1. Expansion joints required on each side of pilaster and at begin and end of wall. See "RETAINING WALL DETAILS NO. 2" sheet for details.

LEGEND:



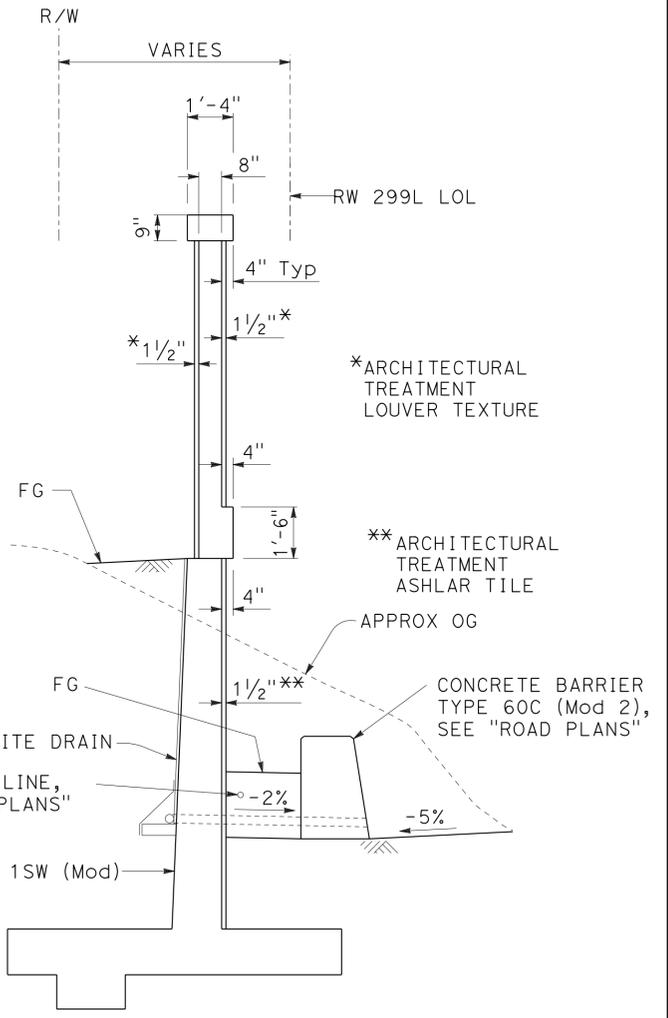
ELEVATION

1" = 20'



PLAN

1" = 20'



TYPICAL SECTION

3/8" = 1'-0"

RETAINING WALL 299L #57E0110

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	950	CY
STRUCTURE BACKFILL (RETAINING WALL)	500	CY
STRUCTURAL CONCRETE, RETAINING WALL	220	CY
STRUCTURAL CONCRETE, SOUND WALL	55	CY
ARCHITECTURAL TREATMENT (ASHLAR TILE TEXTURE)	1,510	SQFT
ARCHITECTURAL TREATMENT (LOUVER TEXTURE)	2,950	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	20,100	LB

Design Oversight: Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY	CHECKED	LOAD & RESISTANCE FACTOR DESIGN
DESIGN	R. Burns	M. Hancock	
DETAILS	C. Houghton	R. Burns	LAYOUT
QUANTITIES	R. Burns	M. Hancock	SPECIFICATIONS
			BY R. Burns
			CHECKED M. Hancock
			PLANS AND SPECS COMPARED C. Tornaci

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0110
POST MILES	5.1

RETAINING WALL NO. 299L
GENERAL PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
1-31-11 4-26-11 8-11-11 10-31-11 11-11-11 11-24-11 2-14-12 4-26-12 6-5-12	1	9

FILE => RW299-a-gp01.dgn

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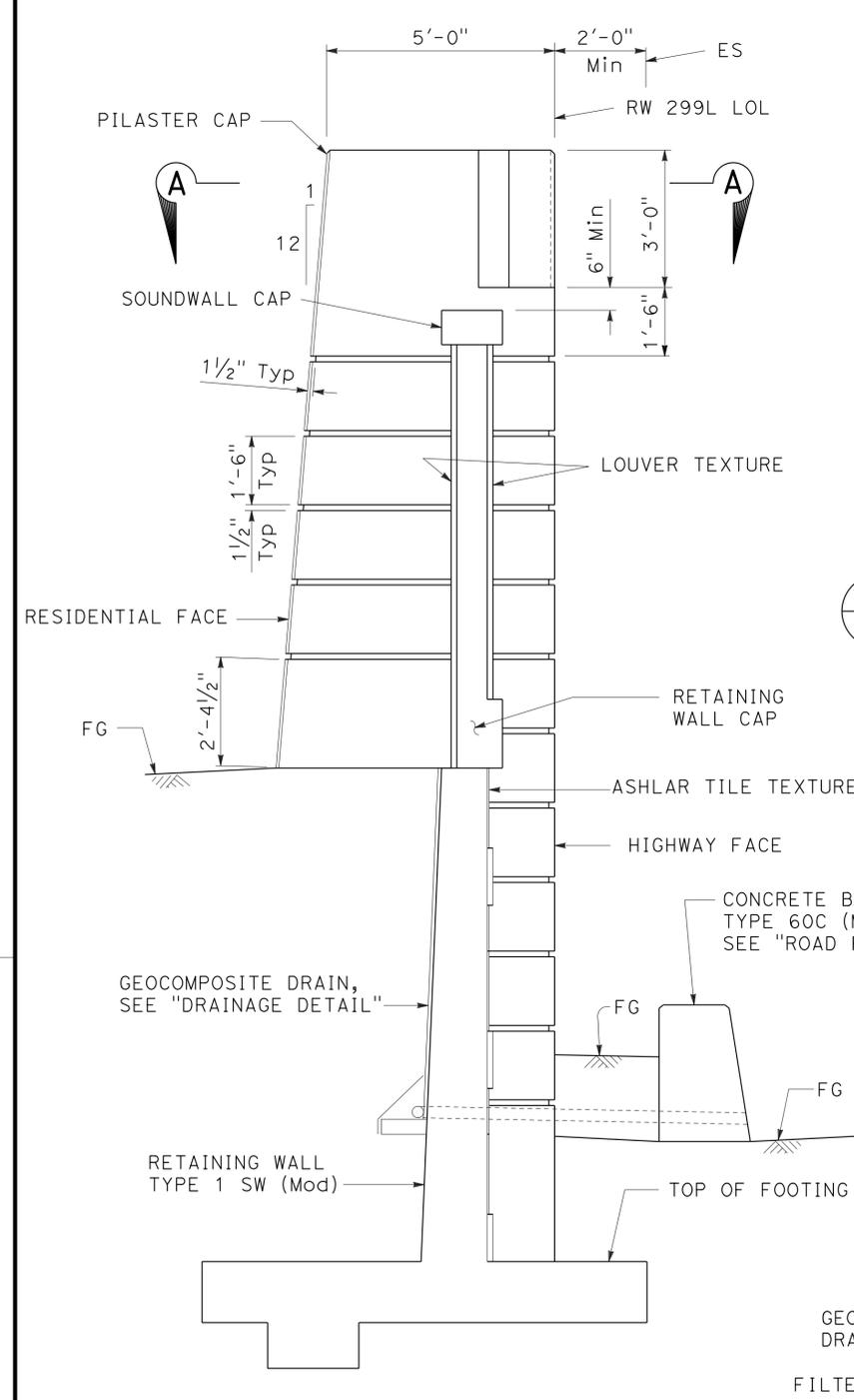
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USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

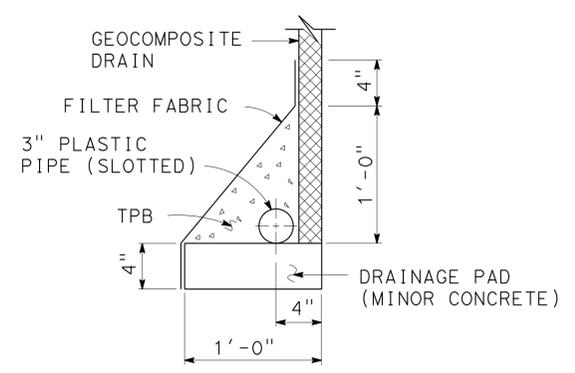
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11	SD	805	4.7/5.6	572	650

Mason Lee Hancock 4-26-12
 REGISTERED CIVIL ENGINEER DATE
 06-25-12
 PLANS APPROVAL DATE
 No. 75048
 Exp. 12-31-13
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 STATE OF CALIFORNIA

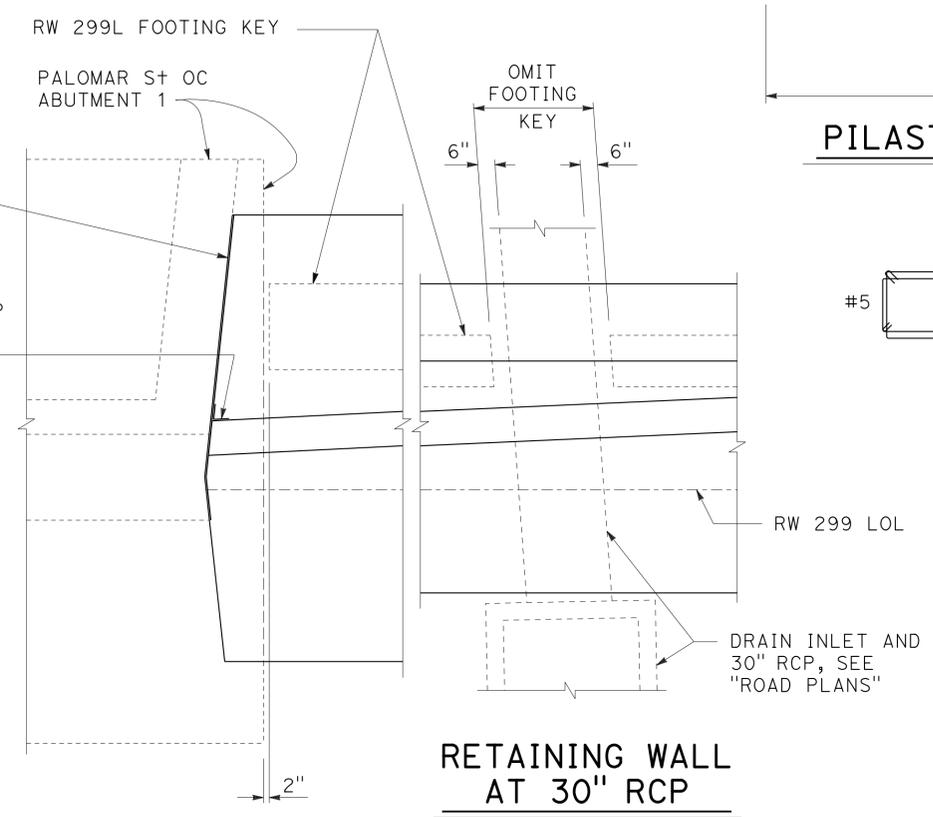
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 San Diego, CA 92101



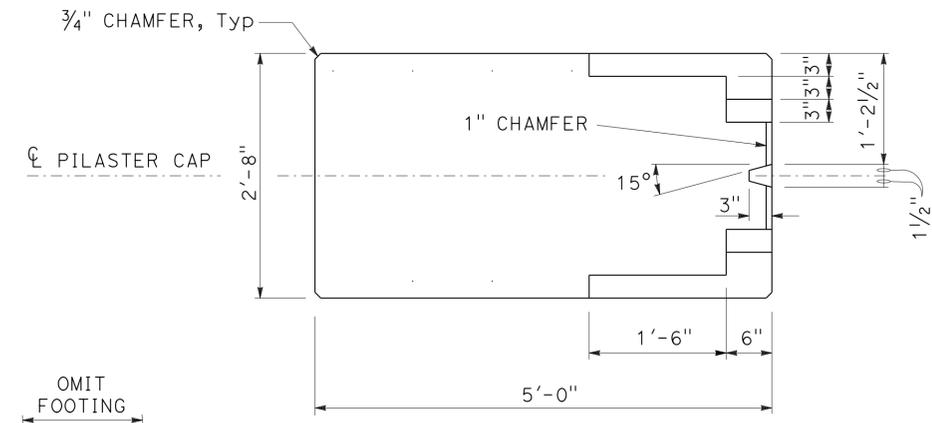
PILASTER SECTION
 1/2" = 1'-0"



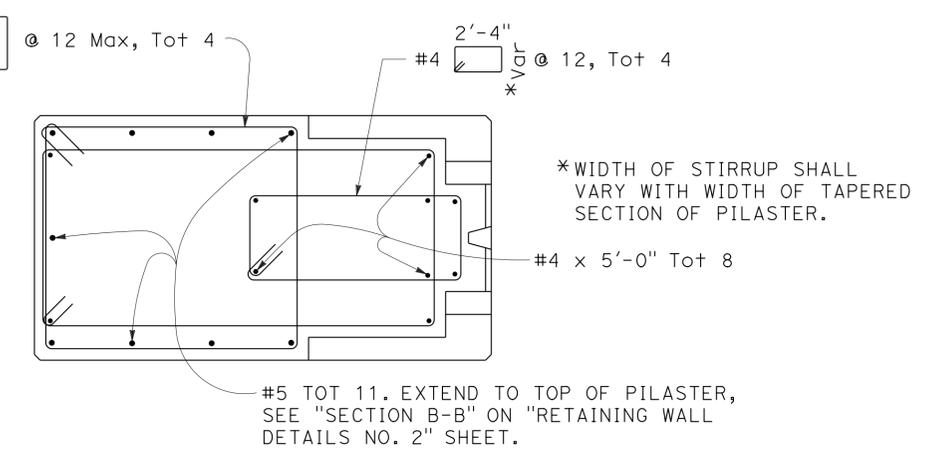
DRAINAGE DETAIL
 NO SCALE



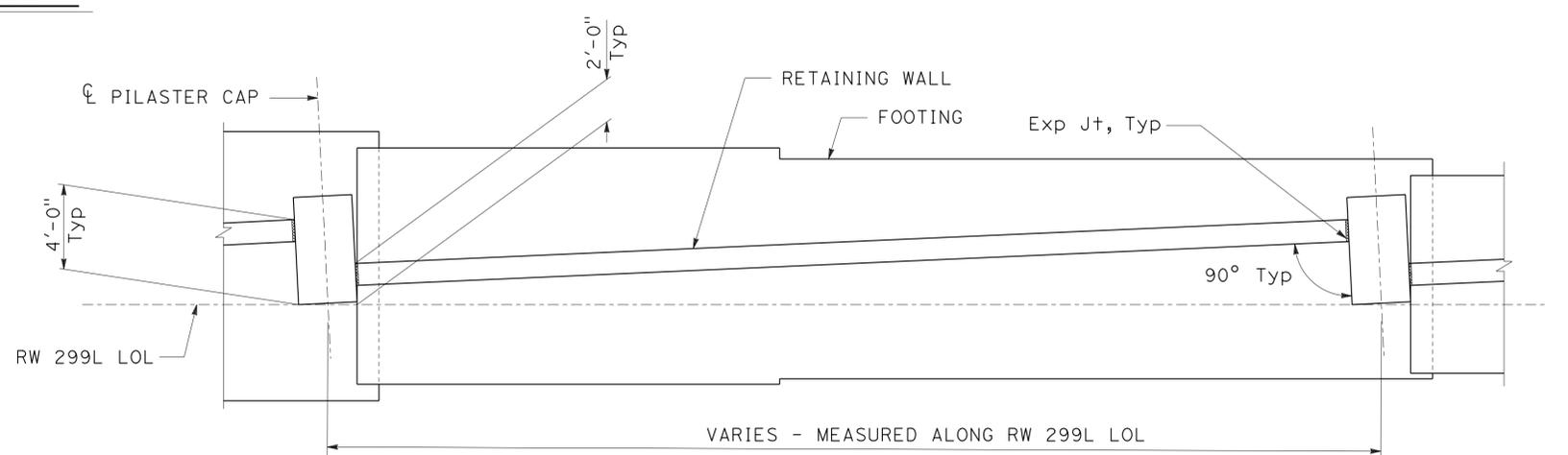
RETAINING WALL AT 30" RCP
 3/8" = 1'-0"



PILASTER CAP PLAN
 1" = 1'-0" (Details are symmetrical about centerline of pilaster cap)



SECTION A-A
 1" = 1'-0"



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

DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

C. Tornaci
 PROJECT ENGINEER

BRIDGE NO.	57E0110
POST MILES	5.1

RETAINING WALL NO. 299L
RETAINING WALL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-1-11 10-15-11 11-1-11 11-26-11 2-28-12 4-26-12	2	9

FILE => RW299-g-rwd+01.dgn

CONTRACT NO.: X

PROJECT ID: X

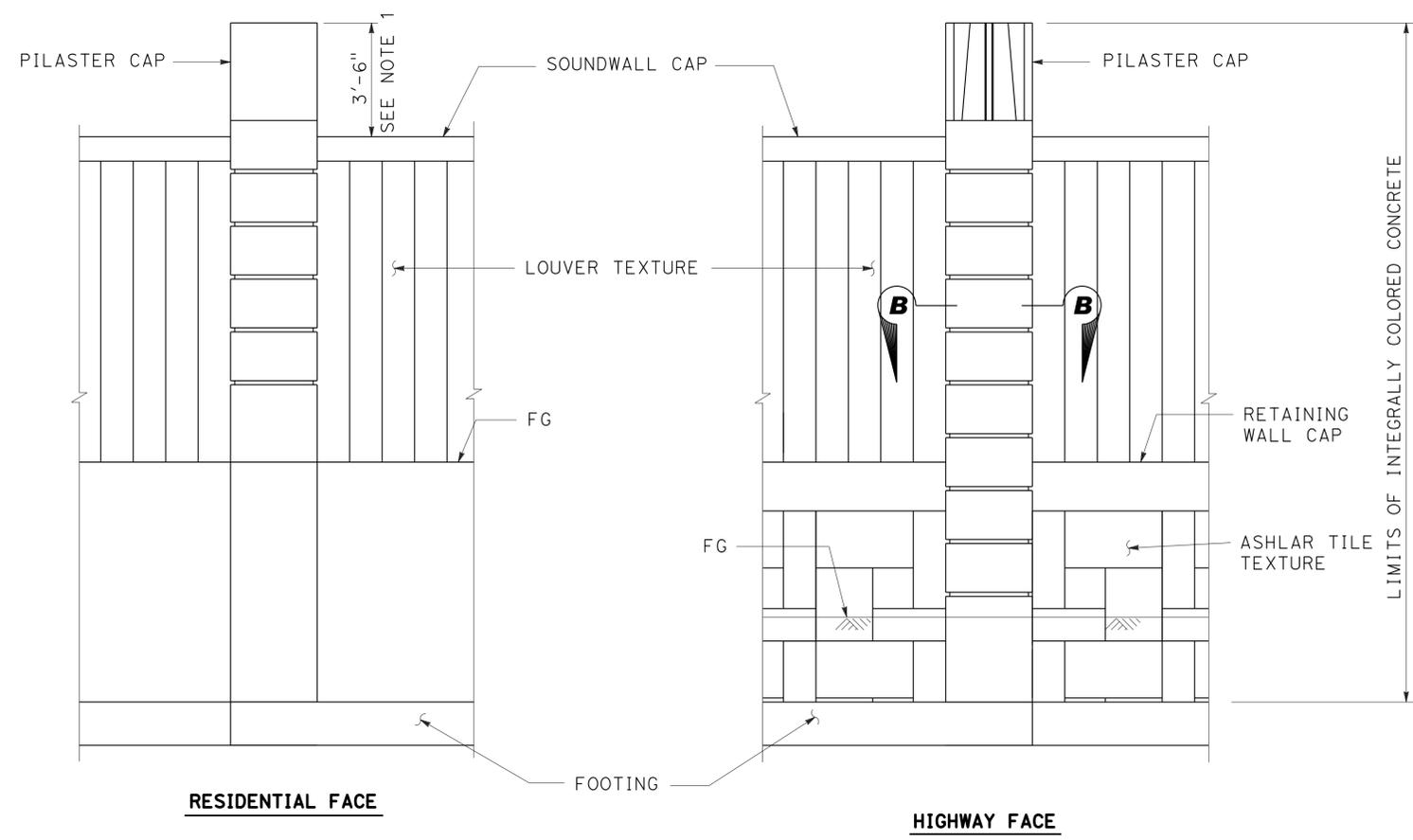
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	573	650

Mason Lee Hancock 4-26-12
 REGISTERED CIVIL ENGINEER DATE
 06-25-12
 PLANS APPROVAL DATE
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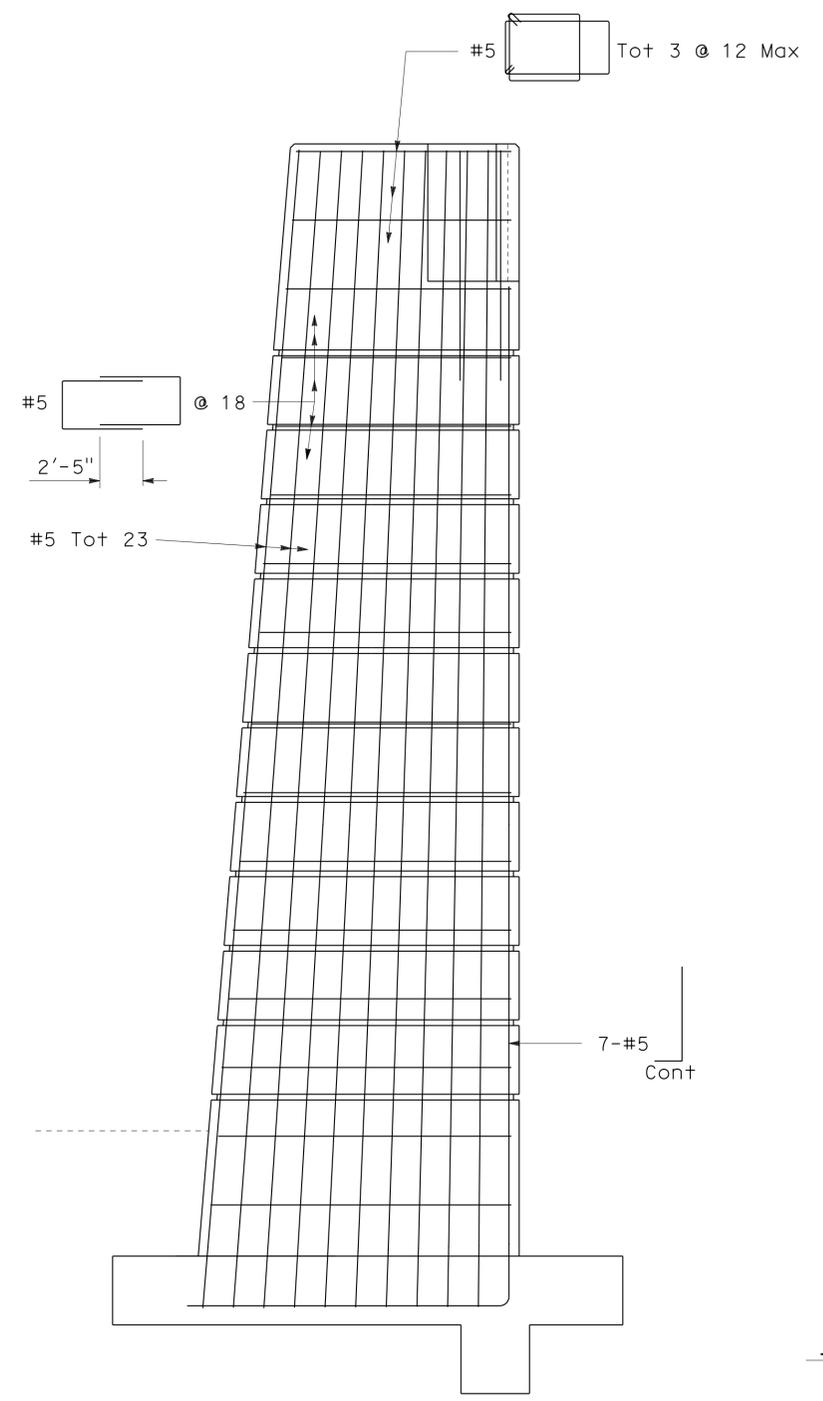


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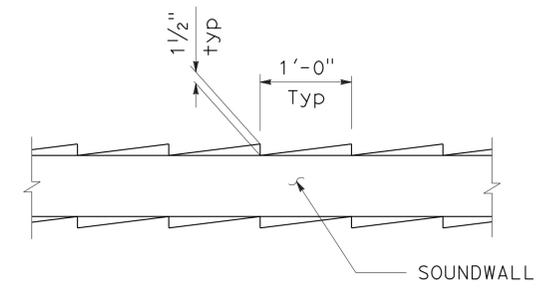


RESIDENTIAL FACE **HIGHWAY FACE**
PARTIAL ELEVATION - ARCHITECTURAL TREATMENT
 $\frac{3}{8}'' = 1'-0''$

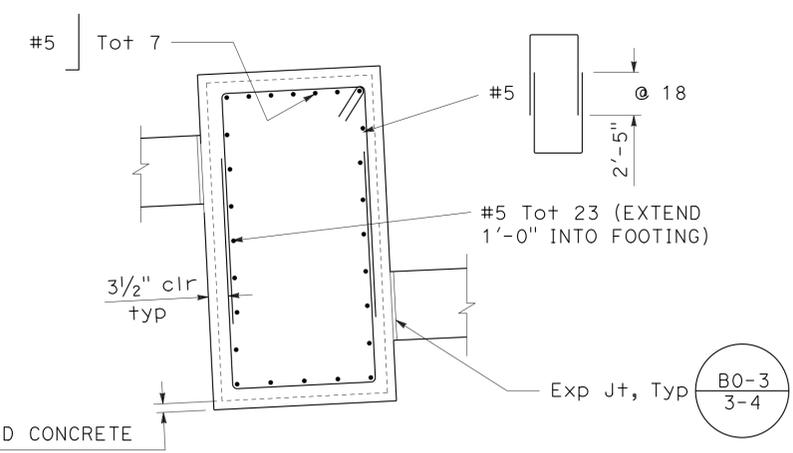
NOTE:
 1. Height of pilaster controlled by upstation height of soundwall.



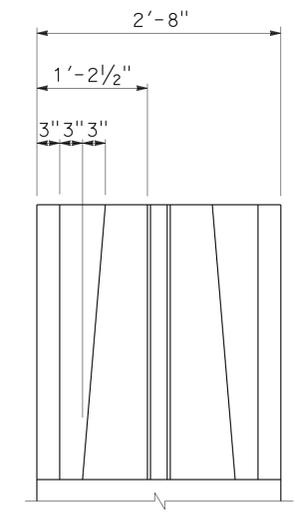
PILASTER TYPICAL SECTION
 $\frac{1}{2}'' = 1'-0''$



LOUVER TEXTURE DETAIL
 $1'' = 1'-0''$



SECTION B-B
 $\frac{3}{4}'' = 1'-0''$
 1/2" RECESSED CONCRETE FOR DETAILS, SEE "PILASTER SECTION" ON "RETAINING WALL DETAILS NO. 1" SHEET.



PILASTER CAP ELEVATION
 $1'' = 1'-0''$

Mason Lee Hancock
 DESIGN OVERSIGHT Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 C. Tornaci
 PROJECT ENGINEER

BRIDGE NO.	57E0110
POST MILES	5.1

RETAINING WALL NO. 299L
RETAINING WALL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-1-11 10-13-11 11-16-11 2-28-12 4-26-12	3	9

FILE => RW299-g-rwdt02.dgn

CONTRACT NO.: X

PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	574	650

Mason Lee Hancock 4-26-12
REGISTERED CIVIL ENGINEER DATE

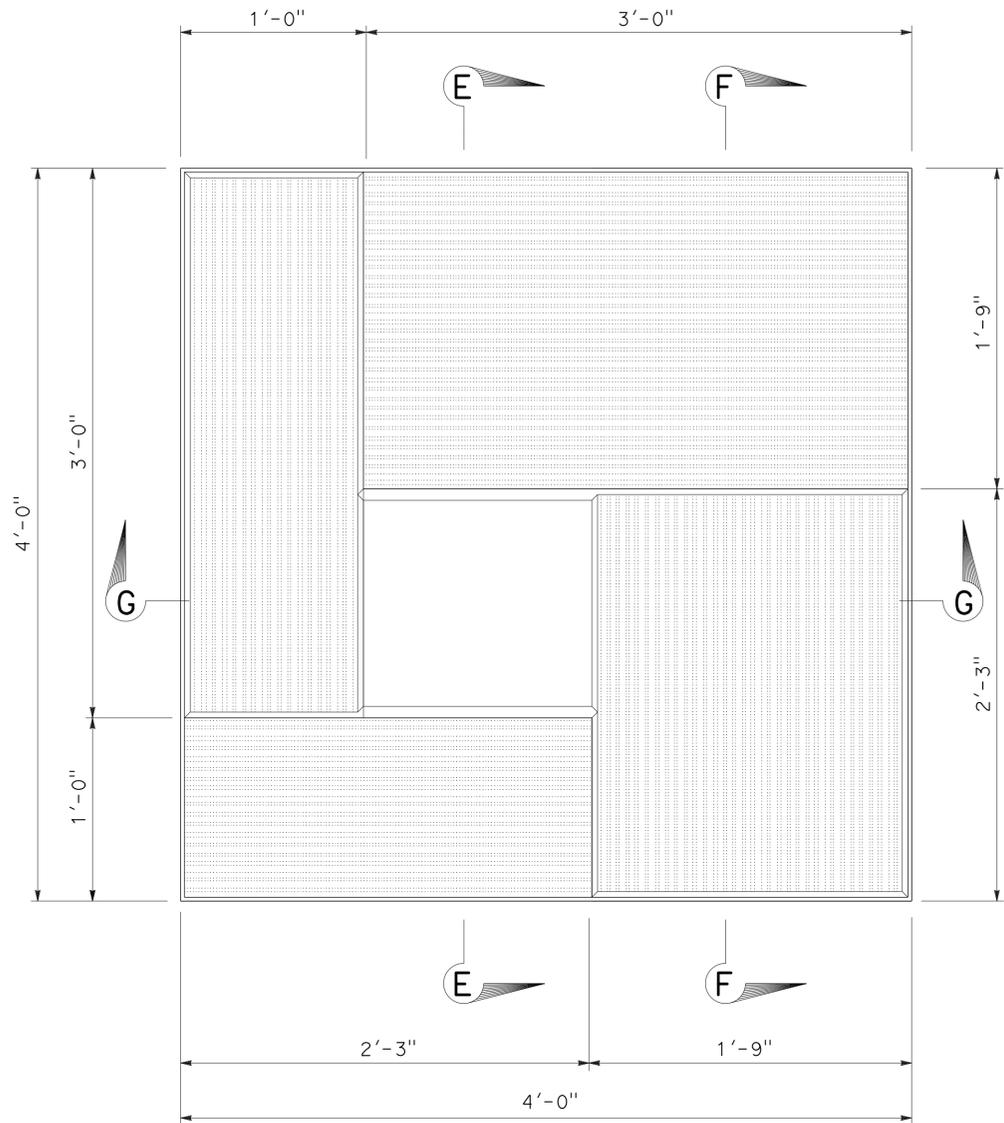
06-25-12
PLANS APPROVAL DATE

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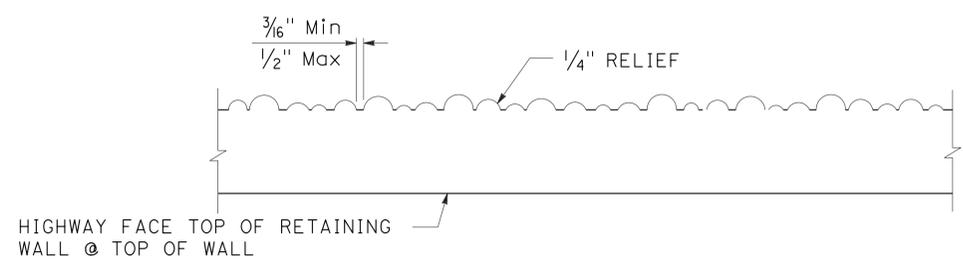
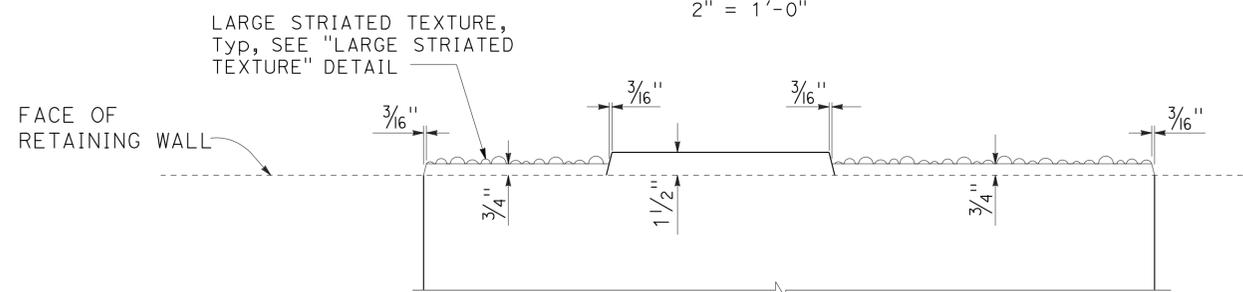
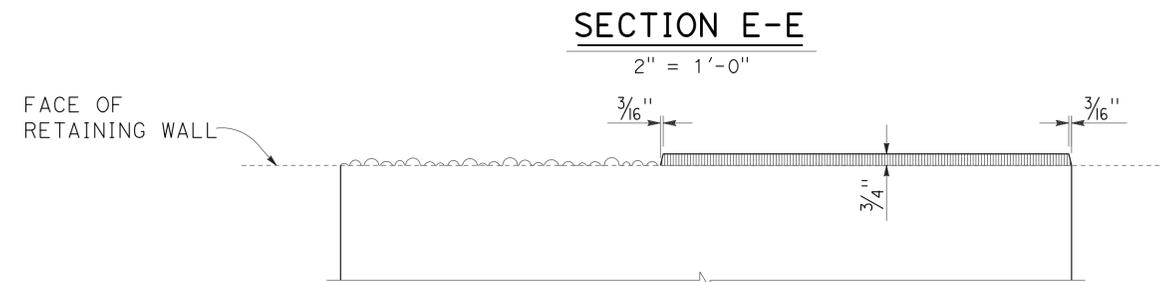
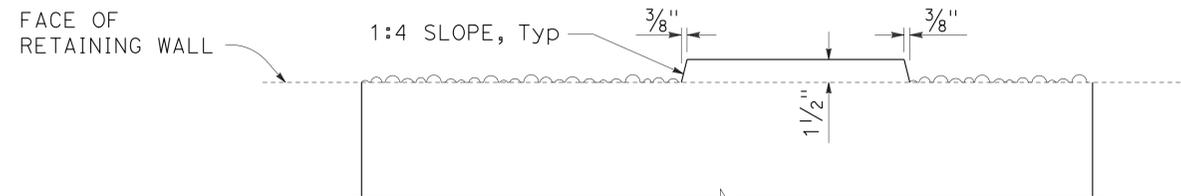
REGISTERED PROFESSIONAL ENGINEER
MASON LEE HANCOCK
No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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ASHLAR TILE TEXTURE DETAIL
2" = 1'-0"



Norbert Gee
DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED M. Hancock

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0110
POST MILES	5.1

RETAINING WALL NO. 299L
RETAINING WALL DETAILS NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-1-11 10-13-11 11-1-11 11-26-11 2-28-12 4-26-12	4	9

FILE => RW299-g-rwd+03.dgn CONTRACT NO.: X PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	575	650

Mason Lee Hancock 4-26-12
 REGISTERED CIVIL ENGINEER DATE
 06-25-12
 PLANS APPROVAL DATE
 No. 75048
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

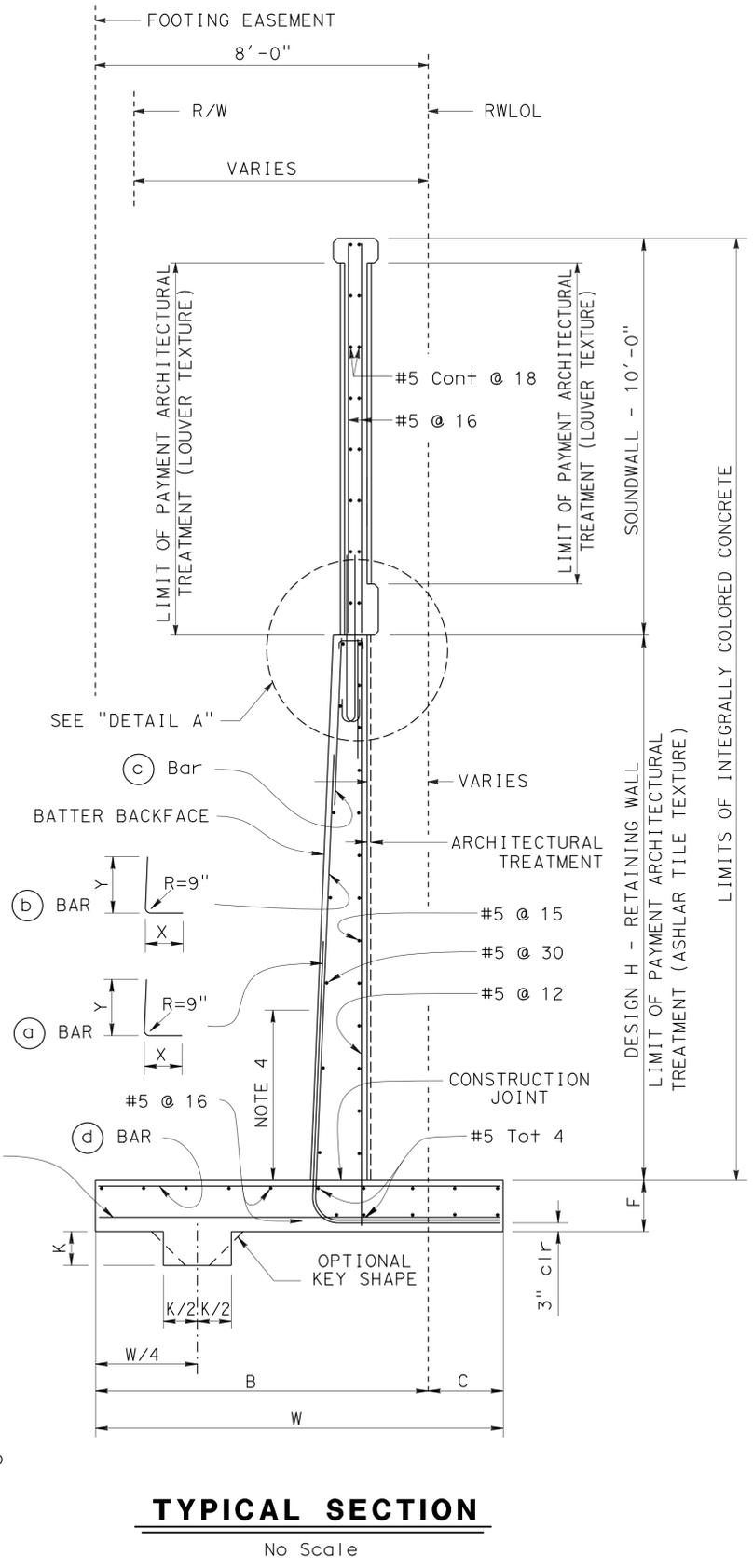
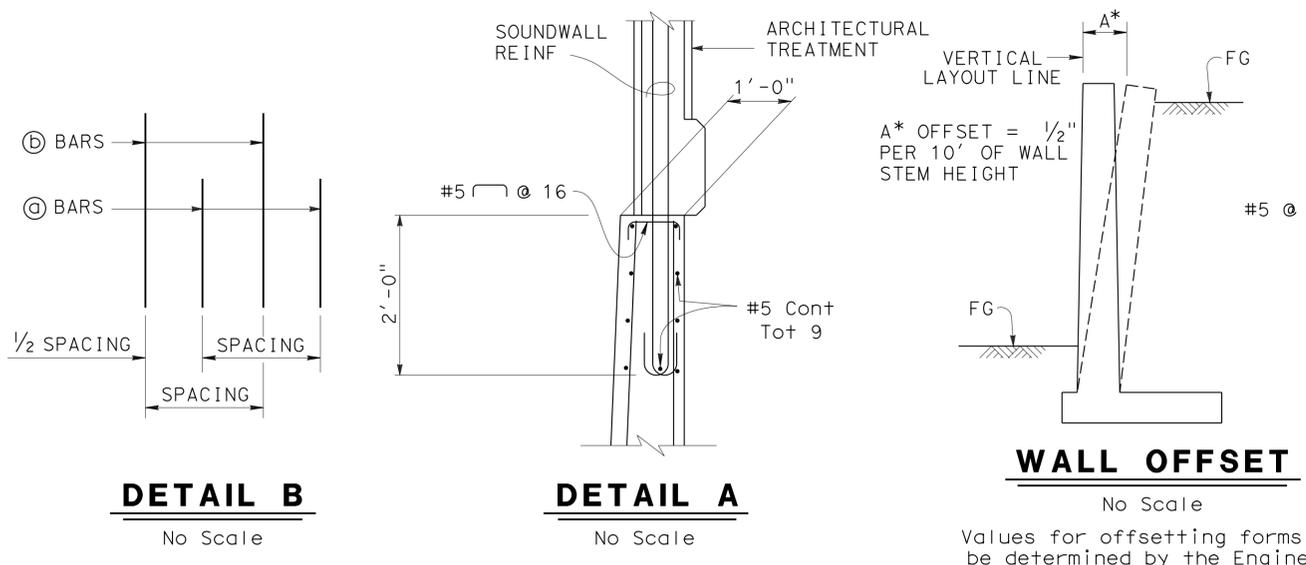
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 SANDAG
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 San Diego, CA 92101

DESIGN H	6'	8'	10'	12'	14'	16'						
W	8'-0"	9'-0"	10'-0"	10'-9"	12'-3"	13'-0"						
C	3'-0"	3'-0"	3'-3"	3'-6"	4'-3"	5'-0"						
B	5'-0"	6'-0"	6'-9"	7'-3"	8'-0"	8'-0"						
K	-	1'-6"	1'-6"	1'-6"	2'-0"	2'-6"						
F	1'-3"	1'-3"	1'-3"	1'-3"	2'-0"	2'-6"						
BATTER	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12						
STEM THICKNESS @ TOP	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"						
Ⓐ BARS	#5 @ 18	#6 @ 18	#7 @ 18	#8 @ 18	#8 @ 18	#9 @ 18						
X	Cont	Cont	Cont	Cont	Cont	Cont						
Y	Cont	Cont	8'-0"	8'-0"	6'-6"	7'-6"						
Ⓑ BARS	#5 @ 18	#6 @ 18	#7 @ 18	#8 @ 18	#8 @ 18	#9 @ 18						
X	Cont	Cont	Cont	Cont	Cont	Cont						
Y	Cont	Cont	Cont	Cont	11'-0"	12'-0"						
Ⓒ BARS	-	-	-	-	#6 @ 18	#6 @ 18						
Ⓓ BARS	#6 @ 9	#6 @ 9	#6 @ 9	#6 @ 6	#6 @ 6	#6 @ 6						
SER I: B' (ft), q _o (ksf)	8.3	0.5	8.7	0.7	9.6	0.9	10.8	1.1	11.9	1.3	12.8	1.4
STR I: B' (ft), q _o (ksf)	7.7	1.7	8.1	2.0	8.9	2.3	10.4	1.4	11.8	1.5	12.6	1.8
STR III: B' (ft), q _o (ksf)	9.3	1.1	9.4	1.3	10.0	1.6	11.0	1.8	11.7	2.1	12.7	2.4
STR V: B' (ft), q _o (ksf)	8.1	1.6	8.4	1.8	9.3	1.2	10.6	1.6	11.3	2.6	12.4	2.9
EXT I: B' (ft), q _o (ksf)	8.7	0.9	8.0	1.2	7.8	1.5	7.8	2.0	7.7	2.5	7.6	3.1

Note: Load Case 1 of the 2010 Standard Plan B3-5 was used.

SYMBOLS:
 SER: service limit state
 STR: strength limit state
 EXT: extreme event limit state
 B': effective footing width (ft)
 q_o: net bearing stress (ksf)
 q_o: gross uniform bearing stress (ksf)
 X: 2 bar bundle

NOTE:
 Retaining wall, pilaster, pilaster cap and sound wall to be constructed with integrally colored concrete. Color shall conform to Davis color "Mesa Buff".



DESIGN DATA

DESIGN: AASHTO LRFD Bridge Design Specification, 4th Edition with California Amendments

WS: 33 psf on soundwall

LS: Varied surcharge on level ground surface

EQE: Mononabe-okabe Method
 $K_h = 0.3$
 $K_v = 0.0$

Soil: $\phi = 34^\circ$ $\gamma = 125$ pcf

Reinforced Concrete, $f'_c = 3.6$ ksi
 $f_y = 60$ ksi

Load Combinations and Limit States

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

Where:

Q: Force effects
 a: 1.25 or 0.90, Which ever Controls Design
 β : 1.35 or 1.00, Which ever Controls Design
 DC: Dead Load of Structure Components
 EV: Vertical Earth Fill Pressure
 EH: Horizontal Earth Fill Pressure
 LS: Live Load Surcharge
 EQE: Seismic Earth Pressure
 EQD: Soil and Structure Components Inertia. Soil Inertia ignored for stem design
 WS: Wind Load on Soundwall and Barrier

GENERAL NOTES

- For soundwall and retaining wall architectural finish or texture, see details elsewhere in project plans.
- For details not shown and drainage notes, see SHEET C-75.
- Footing cover, 1'-6" minimum.
- Limit of no splicing (a) & (b) rebars = 3 times the bottom thickness of the stem.
- Placement of reinforcements:
 (b) & (c) bars are spliced together.
 Alternate (a) & (b) bars are shown in "Detail A".
 Cont = Continuous.

DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN BY R. Burns
 CHECKED M. Hancock
 DETAILS BY C. Houghton
 CHECKED R. Burns
 QUANTITIES BY R. Burns
 CHECKED M. Hancock

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER
 C. Tornaci

BRIDGE NO. 57E0110
 POST MILES 5.1
RETAINING WALL NO. 299L
RETAINING WALL TYPE 1SW (MOD)

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	576	650

Phuoc Long 4-26-12
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

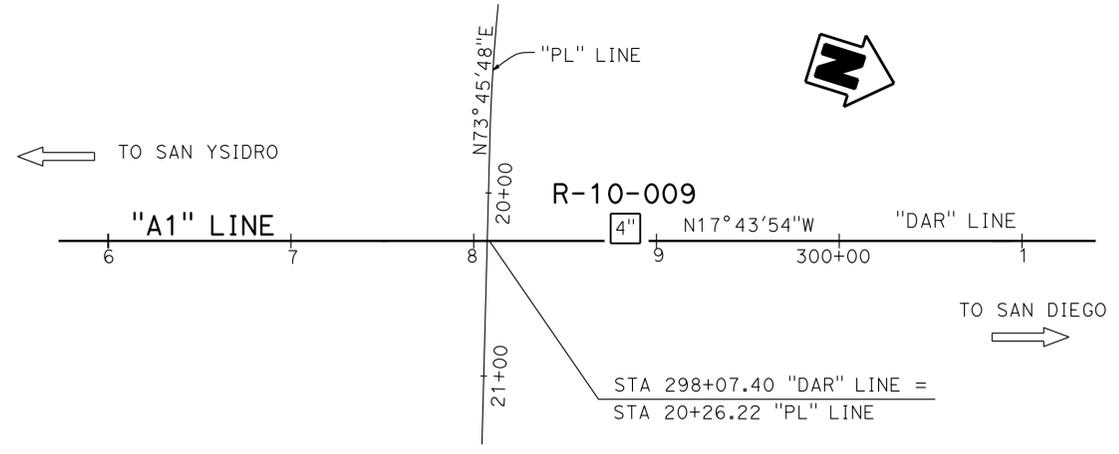
Cuong Nguyen
No. C32414
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2007 Edition).

BENCH MARK

BM 805-5.00, Brass disk in sidewalk on north side of E. Palomar St. OC bridge, at Station 298+46.0, Right 60 feet of "DAR" Line/"A1" Line.
Elevation: 300.93 feet
NAVD 1988 (Vertical)
NAD83 (Horizontal)

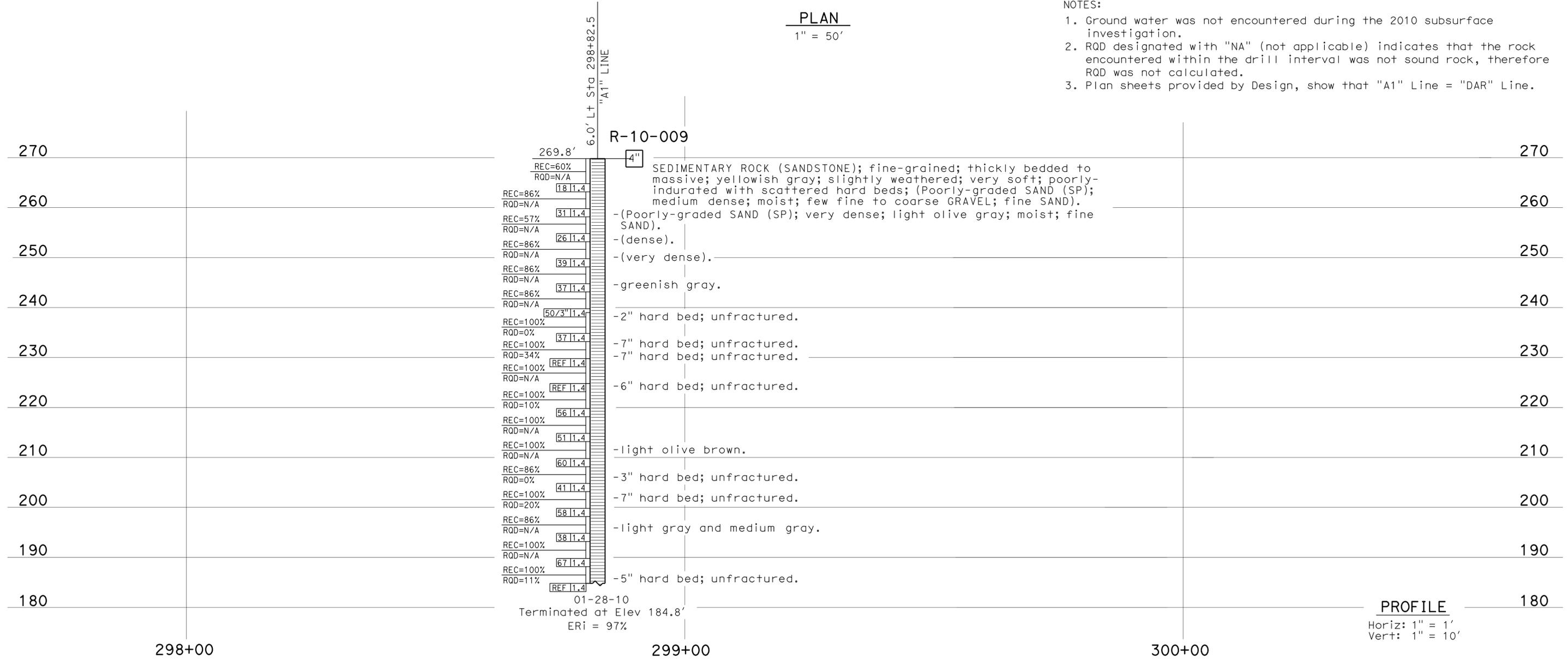


PLAN

1" = 50'

NOTES:

1. Ground water was not encountered during the 2010 subsurface investigation.
2. RQD designated with "NA" (not applicable) indicates that the rock encountered within the drill interval was not sound rock, therefore RQD was not calculated.
3. Plan sheets provided by Design, show that "A1" Line = "DAR" Line.



PROFILE

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		RETAINING WALL 299L	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen, I.G-Remmen		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57E0110		LOG OF TEST BORINGS 1 OF 4	
NAME: S. Wei		CHECKED BY: B. Gutierrez		FIELD INVESTIGATION BY:		DESIGN BRANCH X		POST MILE			
				TM Liao/J. Klamecki				5.07			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3						REVISION DATES	
										SHEET 6 OF 9	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6		577	650

 12-8-11
 REGISTERED CIVIL ENGINEER
 06-25-12
 PLANS APPROVAL DATE
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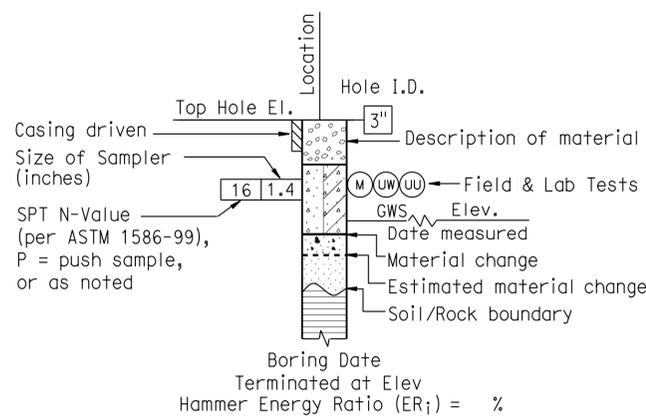
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

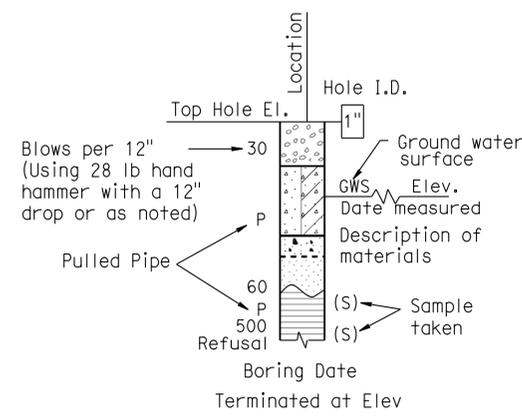
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

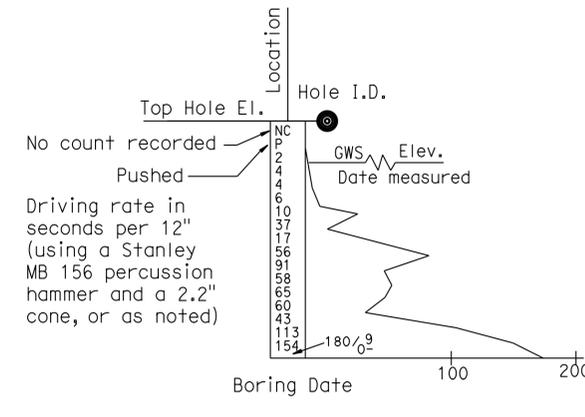
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the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



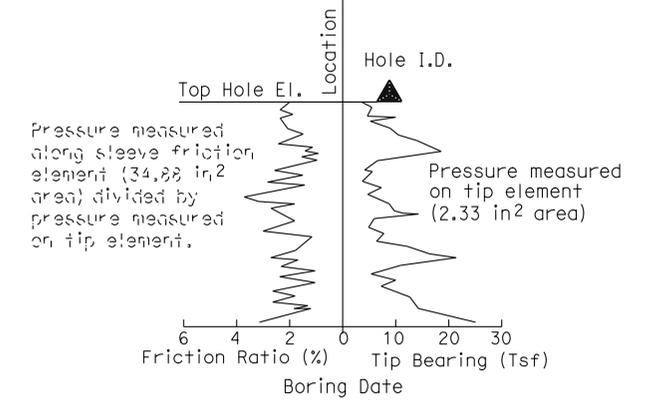
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X	BRIDGE NO. 57E0110	RETAINING WALL 299L LOG OF TEST BORINGS 2 OF 4
				POST MILE 5.07	
PREPARED BY: I.G-Remmen		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511	CONTRACT NO.: 11-2T1821	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3	REVISION DATES	SHEET 7	OF 9

GS LOTB SOIL LEGEND FILE => RW299-2-1tb02.dgn

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	578	650

12-8-11
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Cuong Nguyen
No. C32414
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

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GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		Lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY		GRAVELLY lean CLAY with SAND
	Well-graded GRAVEL with CLAY and SAND		SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with SAND
	Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT		SANDY SILTY CLAY
	Poorly graded GRAVEL with SILT and SAND		SANDY SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with CLAY		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with CLAY and SAND		GRAVELLY SILTY CLAY with SAND
	Poorly graded GRAVEL with CLAY and SAND		SILT
	Poorly graded GRAVEL with CLAY and SAND		SILT with SAND
	SILTY GRAVEL		SILT with GRAVEL
	SILTY GRAVEL with SAND		SANDY SILT
	CLAYEY GRAVEL		SANDY SILT with GRAVEL
	CLAYEY GRAVEL with SAND		GRAVELLY SILT
	CLAYEY GRAVEL with SAND		GRAVELLY SILT with SAND
	CLAYEY GRAVEL with SAND		ORGANIC lean CLAY
	SILTY, CLAYEY GRAVEL		ORGANIC lean CLAY with SAND
	SILTY, CLAYEY GRAVEL with SAND		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND		SANDY ORGANIC lean CLAY
	Well-graded SAND with GRAVEL		GRAVELLY ORGANIC lean CLAY
	Poorly graded SAND		GRAVELLY ORGANIC lean CLAY with SAND
	Poorly graded SAND with GRAVEL		ORGANIC SILT
	Well-graded SAND with SILT		ORGANIC SILT with SAND
	Well-graded SAND with SILT and GRAVEL		ORGANIC SILT with GRAVEL
	Well-graded SAND with CLAY		SANDY ORGANIC SILT
	Well-graded SAND with CLAY and GRAVEL		SANDY ORGANIC SILT with GRAVEL
	Well-graded SAND with CLAY and GRAVEL		GRAVELLY ORGANIC SILT
	Well-graded SAND with CLAY and GRAVEL		GRAVELLY ORGANIC SILT with SAND
	Poorly graded SAND with SILT		ORGANIC fat CLAY
	Poorly graded SAND with SILT and GRAVEL		ORGANIC fat CLAY with SAND
	Poorly graded SAND with CLAY		ORGANIC fat CLAY with GRAVEL
	Poorly graded SAND with CLAY and GRAVEL		SANDY ORGANIC fat CLAY
	Poorly graded SAND with CLAY and GRAVEL		SANDY ORGANIC fat CLAY with GRAVEL
	Poorly graded SAND with CLAY and GRAVEL		GRAVELLY ORGANIC fat CLAY
	SILTY SAND		GRAVELLY ORGANIC fat CLAY with SAND
	SILTY SAND with GRAVEL		ORGANIC elastic SILT
	CLAYEY SAND		ORGANIC elastic SILT with SAND
	CLAYEY SAND with GRAVEL		ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY SAND		SANDY ORGANIC elastic SILT
	SILTY, CLAYEY SAND with GRAVEL		SANDY ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL		GRAVELLY ORGANIC elastic SILT
	SILTY, CLAYEY SAND with GRAVEL		GRAVELLY ORGANIC elastic SILT with SAND
	PEAT		ORGANIC SOIL
	PEAT		ORGANIC SOIL with SAND
	COBBLES		ORGANIC SOIL with GRAVEL
	COBBLES and BOULDERS		SANDY ORGANIC SOIL
	COBBLES and BOULDERS		SANDY ORGANIC SOIL with GRAVEL
	COBBLES and BOULDERS		GRAVELLY ORGANIC SOIL
	COBBLES and BOULDERS		GRAVELLY ORGANIC SOIL with SAND
	COBBLES and BOULDERS		GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UC)	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

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

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

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

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

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X	BRIDGE NO. 57E0110	RETAINING WALL 299L
	PREPARED BY: I.G-Remmen			POST MILE 5.07	LOG OF TEST BORINGS 3 OF 4
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511	CONTRACT NO.: 11-2T1821	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				REVISION DATES	SHEET 8 OF 9

FILE => RW299-Z-1+03.dgn

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST MILE	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6		579	650

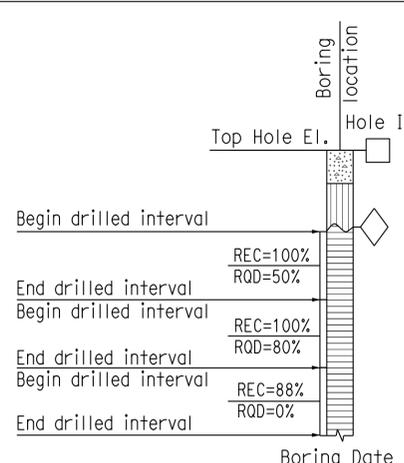


 REGISTERED CIVIL ENGINEER 12-8-11
 06-25-12
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PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)

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

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



RELATIVE STRENGTH OF INTACT ROCK

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

BEDDING SPACING

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

LEGEND OF ROCK MATERIALS

-  IGNEOUS ROCK
-  SEDIMENTARY ROCK
-  METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

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

FRACTURE DENSITY

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

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

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

TOP OF RETAINING WALL ELEVATIONS

STATION ①	ELEVATION	STATION ②	ELEVATION	STATION ①	ELEVATION	STATION ②	ELEVATION	STATION ①	ELEVATION	STATION ②	ELEVATION
10+00.00	-	10+02.67	271.64'	17+60.05	293.43'	17+62.72	293.51'	25+20.10	313.62'	25+22.77	313.67'
10+50.67	272.78'	10+53.34	272.85'	18+10.72	295.03'	18+13.39	295.11'	25+70.77	314.51'	25+73.44	314.55'
11+01.34	274.06'	11+04.01	274.13'	18+61.39	296.56'	18+64.06	296.63'	26+21.44	315.35'	26+24.11	315.31'
11+52.01	275.42'	11+54.68	275.49'	19+12.06	298.06'	19+14.73	298.13'	26+72.11	316.14'	26+74.78	316.14'
12+02.68	276.85'	12+05.35	276.93'	19+62.73	299.56'	19+65.40	299.64'	27+22.78	316.93'	27+25.45	316.96'
12+53.35	278.35'	12+56.02	278.42'	20+13.40	301.10'	20+16.07	301.18'	27+73.45	317.53'	27+76.12	317.56'
13+04.02	280.09'	13+06.69	279.91'	20+64.07	302.55'	20+66.74	302.63'	28+24.12	318.10'	28+26.79	318.13'
13+54.69	281.36'	13+57.36	281.42'	21+14.74	304.02'	21+17.41	304.09'	28+74.79	318.62'	28+77.46	318.65'
14+05.36	282.86'	14+08.03	282.93'	21+65.41	305.44'	21+68.08	305.51'	29+25.46	319.11'	29+28.13	319.14'
14+56.03	284.38'	14+58.70	284.46'	22+16.08	306.80'	22+18.75	306.86'	29+76.13	319.49'	29+78.80	319.51'
15+06.70	285.89'	15+09.37	285.97'	22+66.75	308.09'	22+69.42	308.15'	30+26.80	319.78'	30+29.47	319.80'
15+57.37	287.40'	15+60.04	287.48'	23+17.42	309.29'	23+20.09	309.35'	30+77.47	320.04'	30+80.14	320.05'
16+08.04	288.90'	16+10.71	288.97'	23+68.09	310.52'	23+70.76	310.51'	31+28.14	320.20'	31+30.81	320.20'
16+58.71	290.34'	16+61.38	290.42'	24+18.76	311.59'	24+21.43	311.66'	31+78.81	320.27'	31+81.48	320.27'
17+09.38	291.83'	17+12.05	291.91'	24+69.43	312.66'	24+72.10	312.71'	32+29.48	320.31'	32+32.15	320.24'
								32+80.67	320.36'		

NOTES:

- For location of Station ① and Station ②, see "RETAINING WALL DETAILS No. 1" sheet.
- For "INDEX TO PLANS" and "STANDARD PLANS", see "INDEX TO PLANS" sheet.

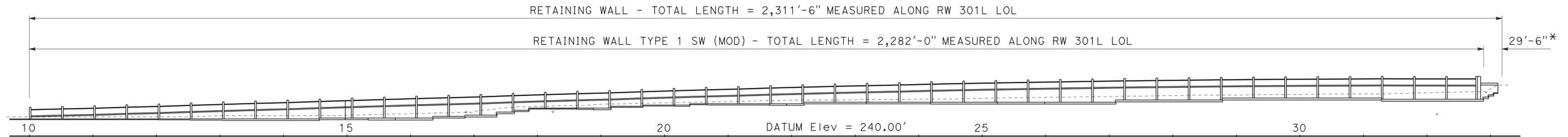
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	580	650

Mason Lee Hancock
 REGISTERED CIVIL ENGINEER
 DATE 4-26-12
 06-25-12
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 MASON LEE HANCOCK
 No. 75048
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

Dokken Engineering
 2365 Iron Point Rd, Suite 200
 Folsom, CA 95630 (916) 858-0642
 SANDAG
 401 B St, Suite 800
 San Diego, CA 92101

*RETAINING WALL TYPE 1 (Mod)



DEVELOPED MIRROR ELEVATION

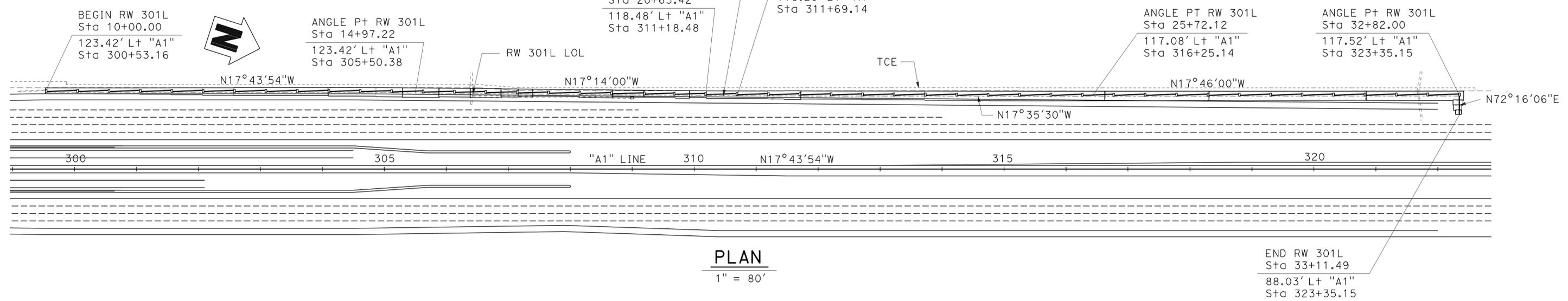
1" = 80'

INDEX TO PLANS		DEVELOPED MIRROR ELEVATION		STANDARD PLANS DATED 2010	
Sheet No.	Title	Sheet No.	Title	Sheet No.	Title
1	GENERAL PLAN	14	LOG OF TEST BORINGS 2 OF 14	A10A	ABBREVIATIONS (SHEET 1 OF 2)
2	STRUCTURE PLAN NO. 1	15	LOG OF TEST BORINGS 3 OF 14	A10B	ABBREVIATIONS (SHEET 2 OF 2)
3	STRUCTURE PLAN NO. 2	16	LOG OF TEST BORINGS 4 OF 14	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
4	STRUCTURE PLAN NO. 3	17	LOG OF TEST BORINGS 5 OF 14	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
5	STRUCTURE PLAN NO. 4	18	LOG OF TEST BORINGS 6 OF 14	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
6	RETAINING WALL DETAILS NO. 1	19	LOG OF TEST BORINGS 7 OF 14	A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
7	RETAINING WALL DETAILS NO. 2	20	LOG OF TEST BORINGS 8 OF 14	B0-1	BRIDGE DETAILS
8	RETAINING WALL DETAILS NO. 3	21	LOG OF TEST BORINGS 9 OF 14	B0-3	BRIDGE DETAILS
9	RETAINING WALL DETAILS NO. 4	22	LOG OF TEST BORINGS 10 OF 14	B3-6	RETAINING WALL DETAILS NO. 2
10	RETAINING WALL DETAILS NO. 5	23	LOG OF TEST BORINGS 11 OF 14		
11	RETAINING WALL TYPE 1SW (MOD)	24	LOG OF TEST BORINGS 12 OF 14		
12	RETAINING WALL TYPE 1 (MOD)	25	LOG OF TEST BORINGS 13 OF 14		
13	LOG OF TEST BORINGS 1 OF 14	26	AS-BUILT LOG OF TEST BORINGS		

RETAINING WALL 301L #57E0111

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL) 10,600 CY
 STRUCTURE BACKFILL (RETAINING WALL) 16,000 CY
 STRUCTURAL CONCRETE, RETAINING WALL 6,200 CY
 STRUCTURAL CONCRETE, SOUND WALL 620 CY
 ARCHITECTURAL TREATMENT (ASHLAR TILE TEXTURE) 36,000 SQFT
 ARCHITECTURAL TREATMENT (LOUVER TEXTURE) 37,000 SQFT
 BAR REINFORCING STEEL (RETAINING WALL) 610,000 LB



PLAN

1" = 80'

 DESIGN OVERSIGHT Norbert Gee 5-4-12 SIGN OFF DATE	DESIGN BY R. Burns	CHECKED M. Hancock	LOAD & RESISTANCE FACTOR DESIGN	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 57E0111	RETAINING WALL NO. 301L GENERAL PLAN	
	DETAILS BY C. Houghton	CHECKED R. Burns	LAYOUT BY R. Burns		C. Tornaci PROJECT ENGINEER		POST MILES 5.1
	QUANTITIES BY R. Burns	CHECKED K. Sorokina	SPECIFICATIONS BY A. Powers		PLANS AND SPECS COMPARED C. Tornaci		UNIT: 2762 PROJECT NUMBER & PHASE: 1100020051

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 0 1 2 3
 FILE => RW301L-a-gp01.dgn
 CONTRACT NO.: X
 PROJECT ID: X

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	581	650

Mason Lee Hancock
REGISTERED CIVIL ENGINEER
DATE 4-26-12
PLANS APPROVAL DATE 06-25-12

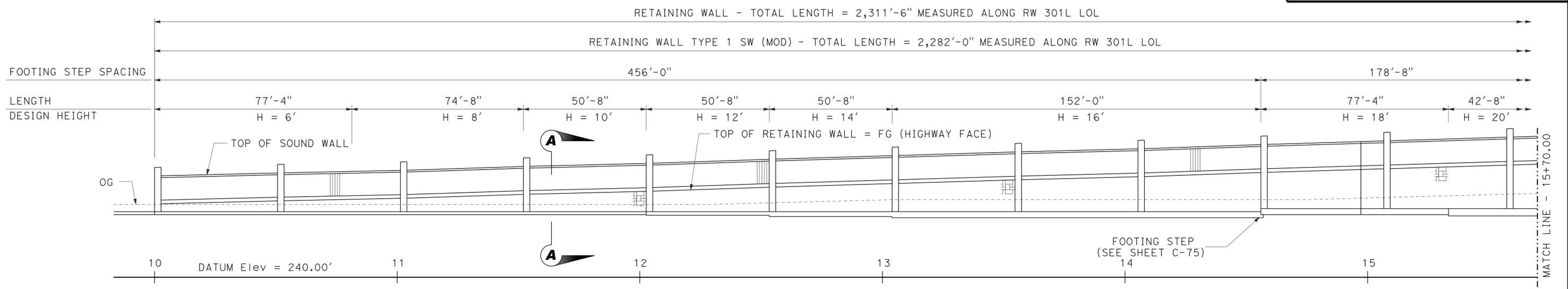
REGISTERED PROFESSIONAL ENGINEER
MASON LEE HANCOCK
No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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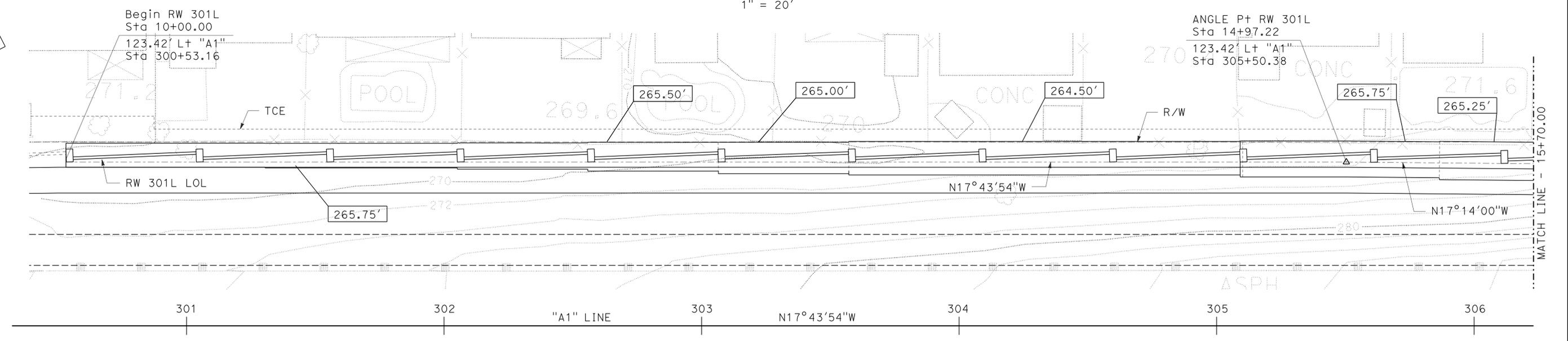
SANDAG
401 B St, Suite 800
San Diego, CA 92101

LEGEND:
 Denotes bottom of footing elevation



DEVELOPED MIRROR ELEVATION

1" = 20'



PLAN

1" = 20'

NOTE:

1. FOR "SECTION A-A", see "RETAINING WALL DETAILS NO. 1" sheet.

Norbert Gee
DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

**RETAINING WALL NO. 301L
STRUCTURE PLAN NO. 1**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11, 5-5-11, 10-15-11, 11-1-11, 11-26-11, 2-28-12, 4-26-12, 6-5-12	2	26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	582	650

Mason Lee Hancock
REGISTERED CIVIL ENGINEER
DATE 4-26-12

06-25-12
PLANS APPROVAL DATE

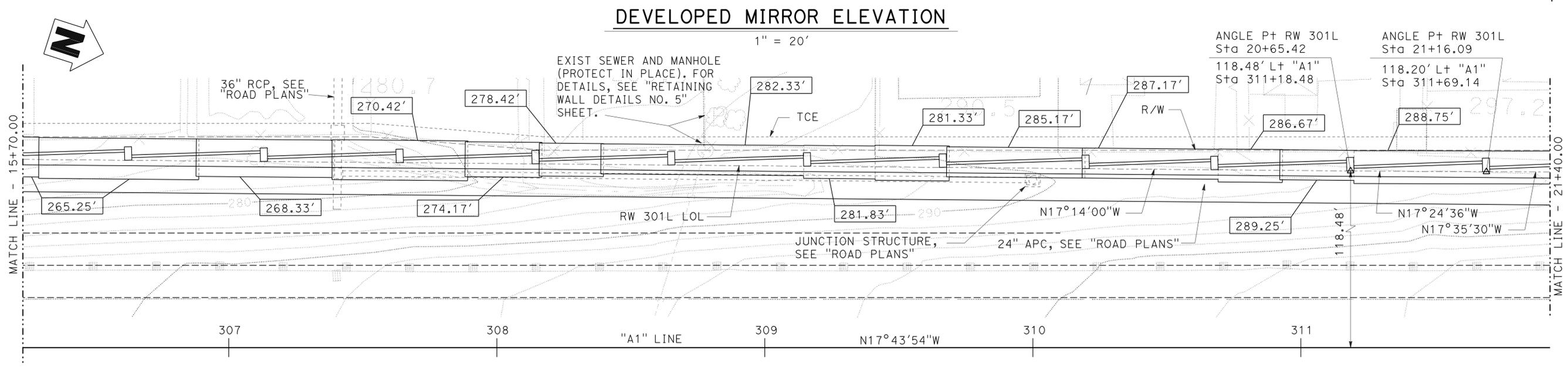
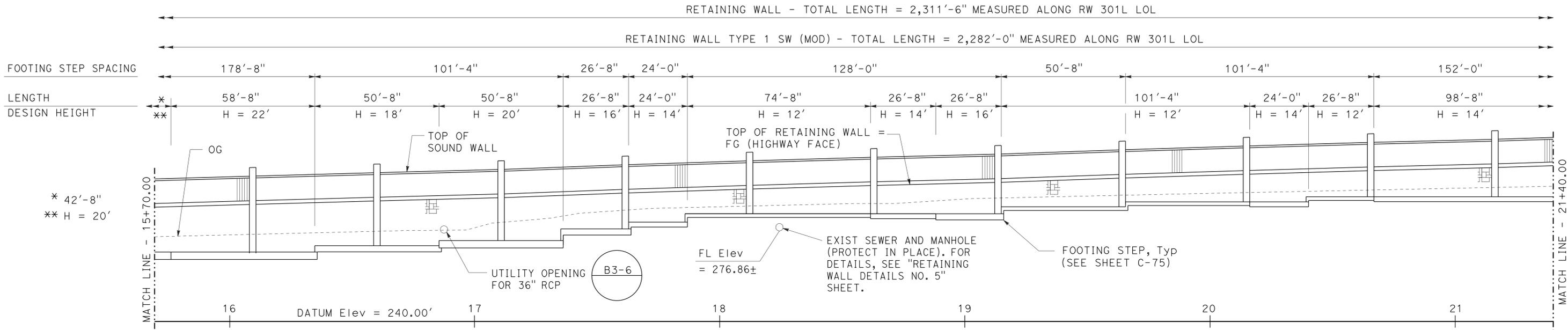
MASON LEE HANCOCK
No. 75048
Exp. 12-31-13
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STATE OF CALIFORNIA

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SANDAG
401 B St, Suite 800
San Diego, CA 92101

LEGEND:
 Denotes bottom of footing elevation



Norbert Gee
DESIGN OVERSIGHT
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

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

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

**RETAINING WALL NO. 301L
STRUCTURE PLAN NO. 2**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 5-5-11 10-15-11 11-16-11 2-28-12 6-5-12	3	26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	583	650

Mason Lee Hancock
REGISTERED CIVIL ENGINEER
DATE: 4-26-12

06-25-12
PLANS APPROVAL DATE

Mason Lee Hancock
REGISTERED PROFESSIONAL ENGINEER
No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

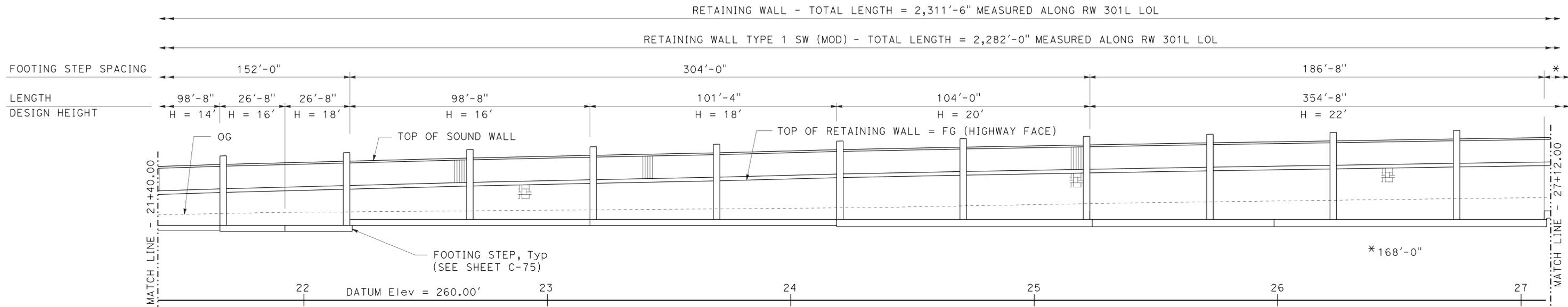
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Folsom, CA 95630 (916) 858-0642

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San Diego, CA 92101

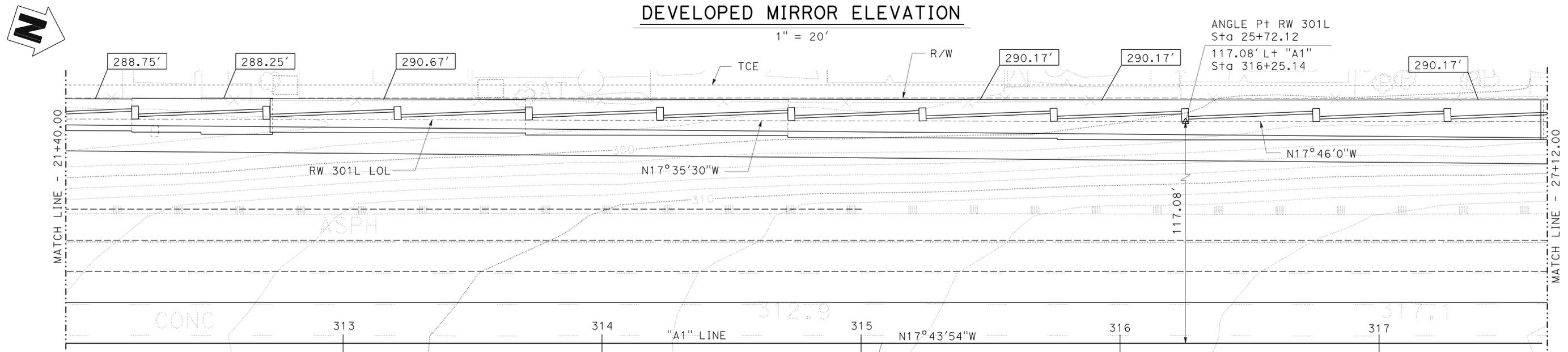
LEGEND

 Denotes bottom of footing elevation



DEVELOPED MIRROR ELEVATION

1" = 20'



PLAN

1" = 20'

Norbert Gee
DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

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

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

**RETAINING WALL NO. 301L
STRUCTURE PLAN NO. 3**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 5-5-11 10-15-11 11-16-11 2-28-12 6-5-12	4	26

FILE => RW301L-c-sp03.dgn

CONTRACT NO.: X

PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	584	650

LEGEND:

 Denotes bottom of footing elevation

NOTE:

1. For SECTION B-B, see "RETAINING WALL DETAILS NO. 1" sheet.

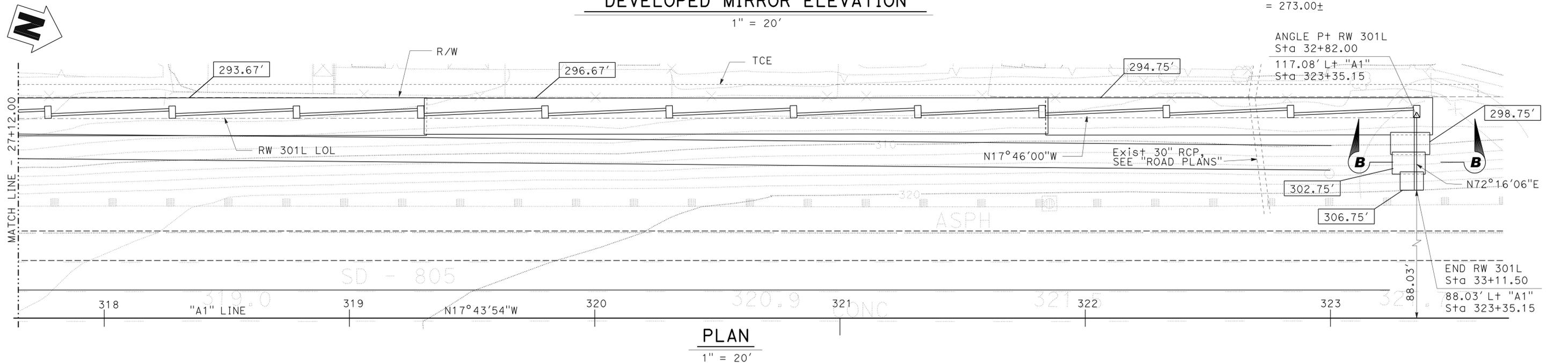
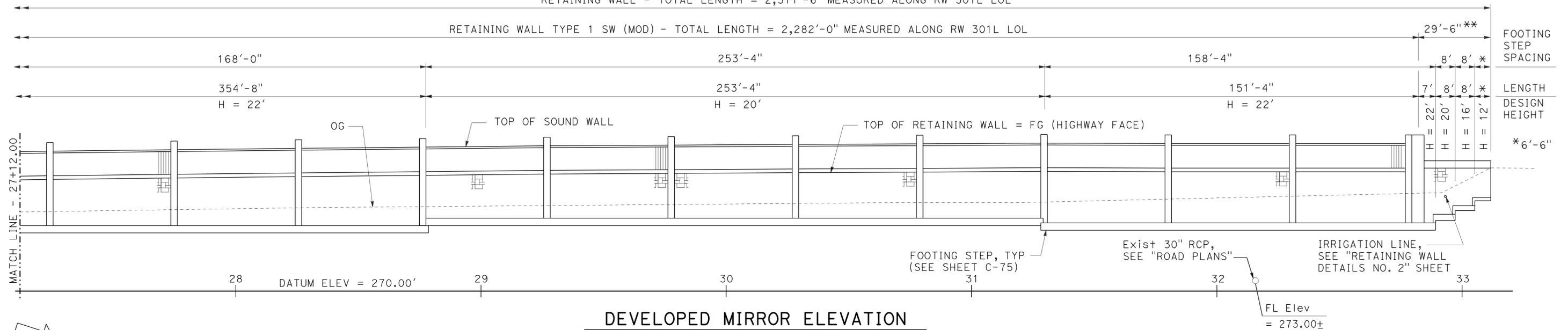
Mason Lee Hancock
 REGISTERED CIVIL ENGINEER 4-26-12 DATE
 06-25-12
 PLANS APPROVAL DATE
 MASON LEE HANCOCK
 No. 75048
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

Dokken Engineering
 2365 Iron Point Rd, Suite 200
 Folsom, CA 95630 (916) 858-0642
 SANDAG
 401 B St, Suite 800
 San Diego, CA 92101

**Retaining Wall Type 1 (Mod)

RETAINING WALL - TOTAL LENGTH = 2,311'-6" MEASURED ALONG RW 301L LOL

RETAINING WALL TYPE 1 SW (MOD) - TOTAL LENGTH = 2,282'-0" MEASURED ALONG RW 301L LOL



Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

C. Tornaci
 PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

**RETAINING WALL NO. 301L
 STRUCTURE PLAN NO. 4**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 6-5-11 10-13-11 11-16-11 2-28-12 6-5-12	5	26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	585	650

Mason Lee Hancock
 REGISTERED CIVIL ENGINEER
 No. 75048
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

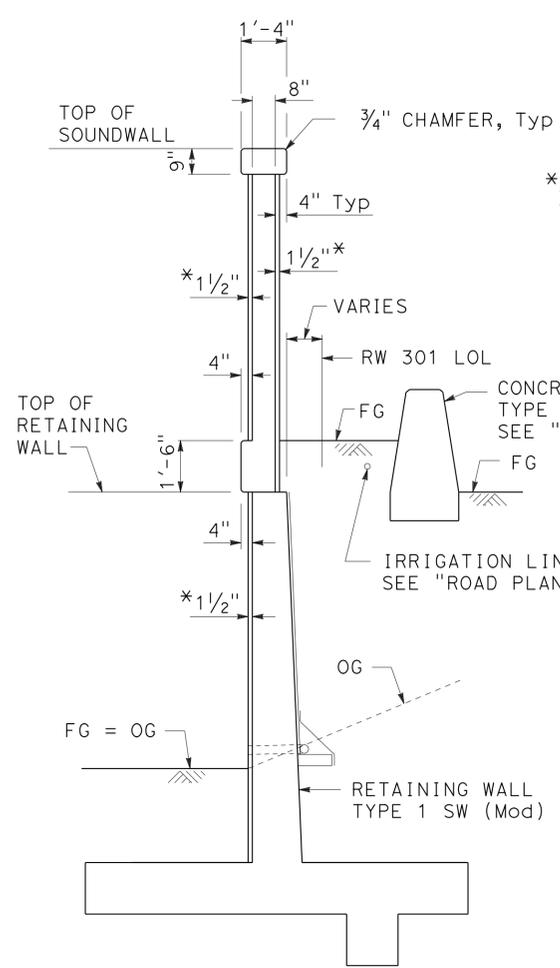
4-26-12
 DATE

06-25-12
 PLANS APPROVAL DATE

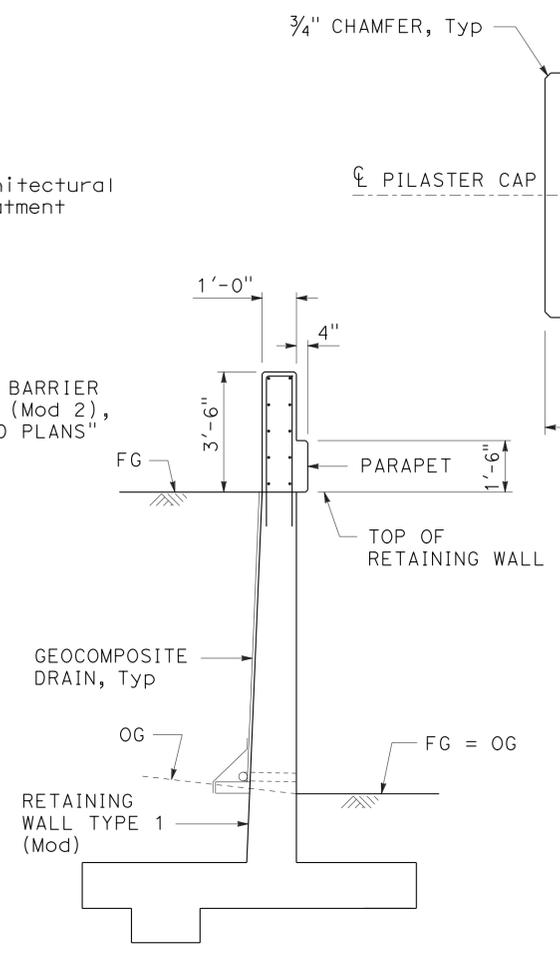
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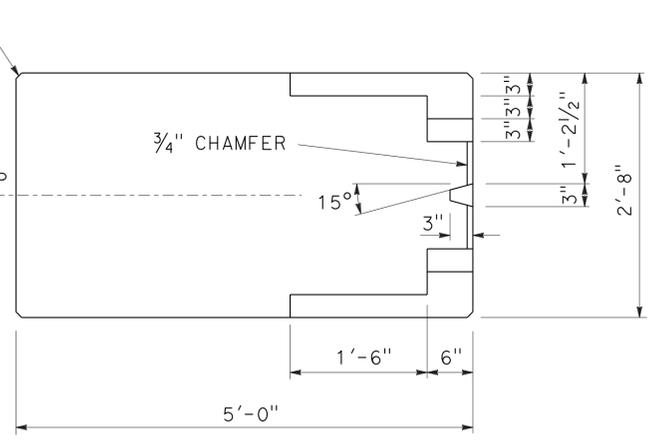
SANDAG
 401 B St, Suite 800
 San Diego, CA 92101



SECTION A-A
 3/8" = 1'-0"

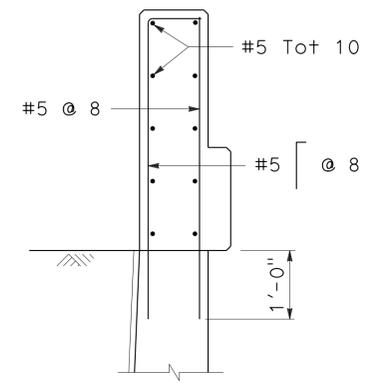


SECTION B-B
 3/8" = 1'-0"

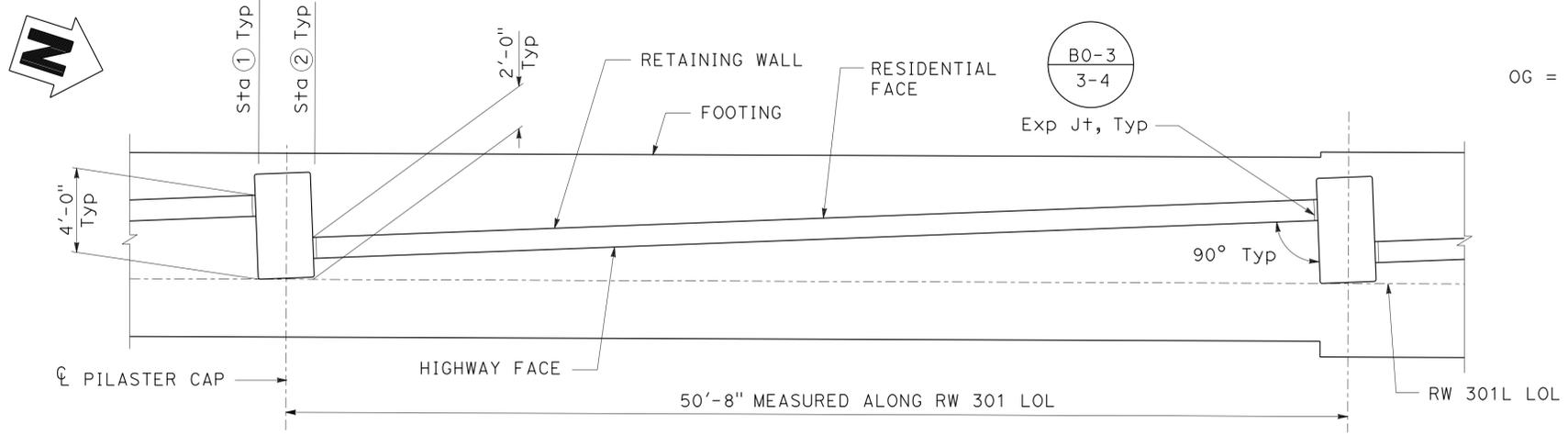


PILASTER CAP PLAN
 1" = 1'-0"

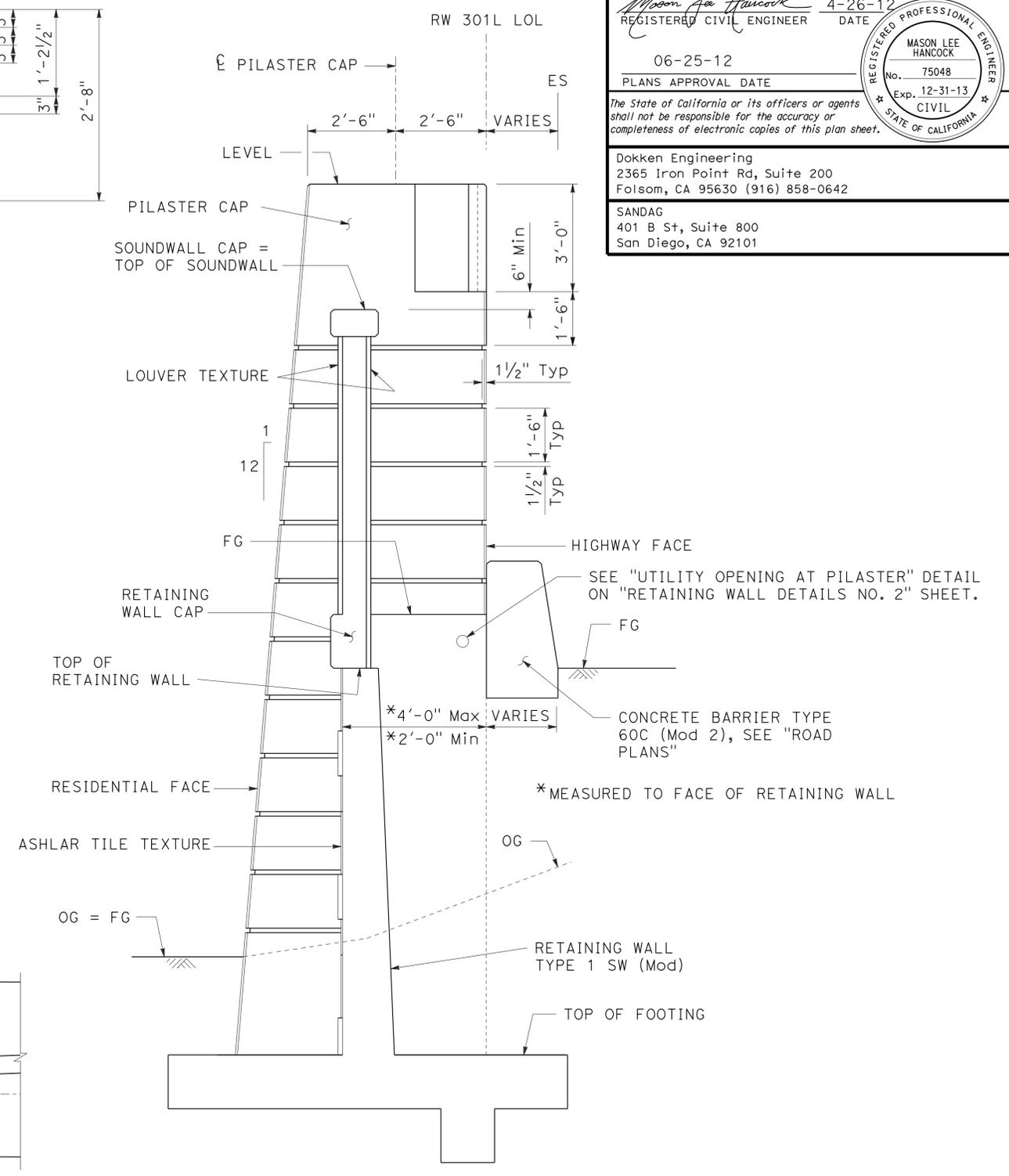
(Details are symmetrical about ϕ pilaster cap)



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



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



PILASTER SECTION AT FACE OF WALL
 1/2" = 1'-0"

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 5-4-12
 SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

C. Tornaci
 PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

RETAINING WALL NO. 301L
RETAINING WALL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
 PROJECT NUMBER & PHASE: 1100020051

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-5-11 10-15-11 11-1-11 11-26-11 2-28-12 4-26-12	6	26

FILE => RW301L-g-rwdt01.dgn CONTRACT NO.: X PROJECT ID: X

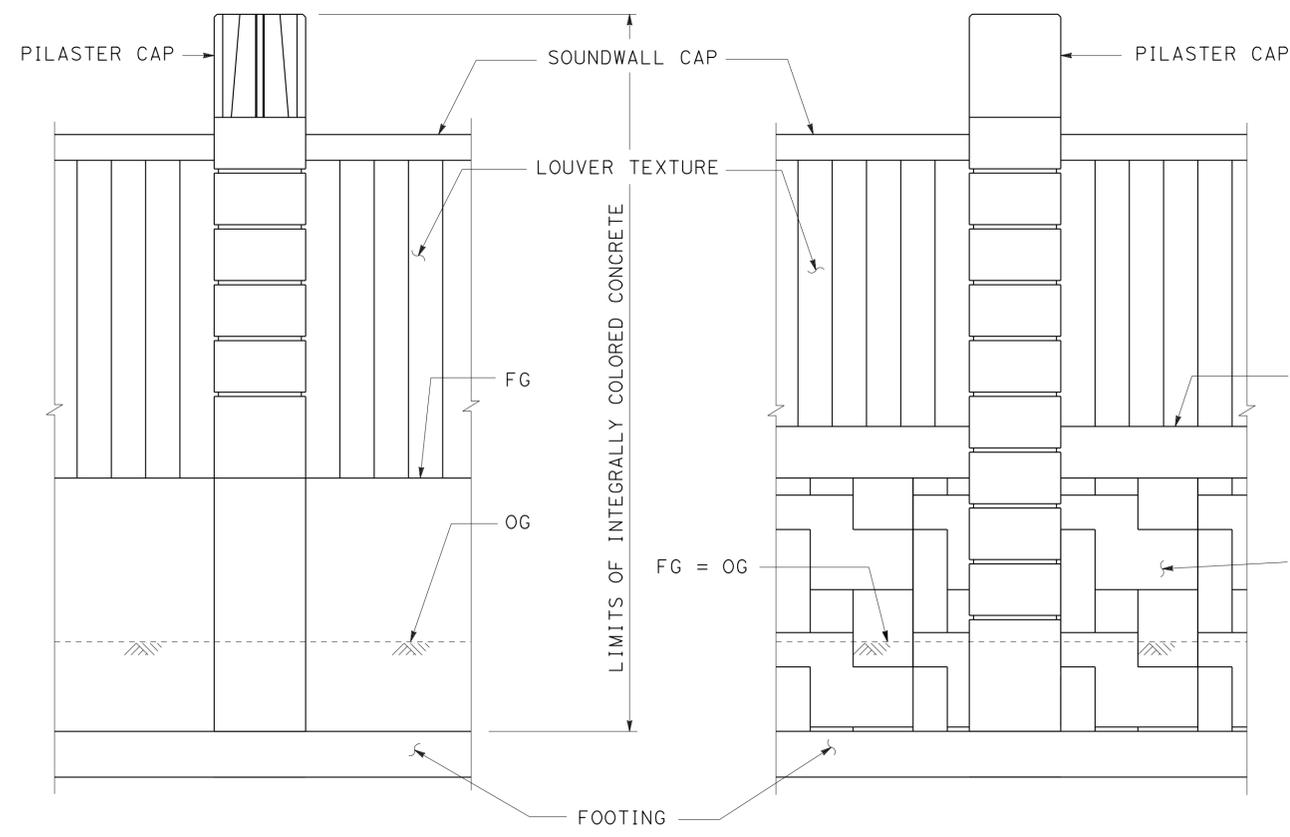
USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	586	650

Mason Lee Hancock
REGISTERED CIVIL ENGINEER
DATE 4-26-12
PLANS APPROVAL DATE 06-25-12
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REGISTERED PROFESSIONAL ENGINEER
MASON LEE HANCOCK
No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

Dokken Engineering
2365 Iron Point Rd, Suite 200
Folsom, CA 95630 (916) 858-0642
SANDAG
401 B St, Suite 800
San Diego, CA 92101

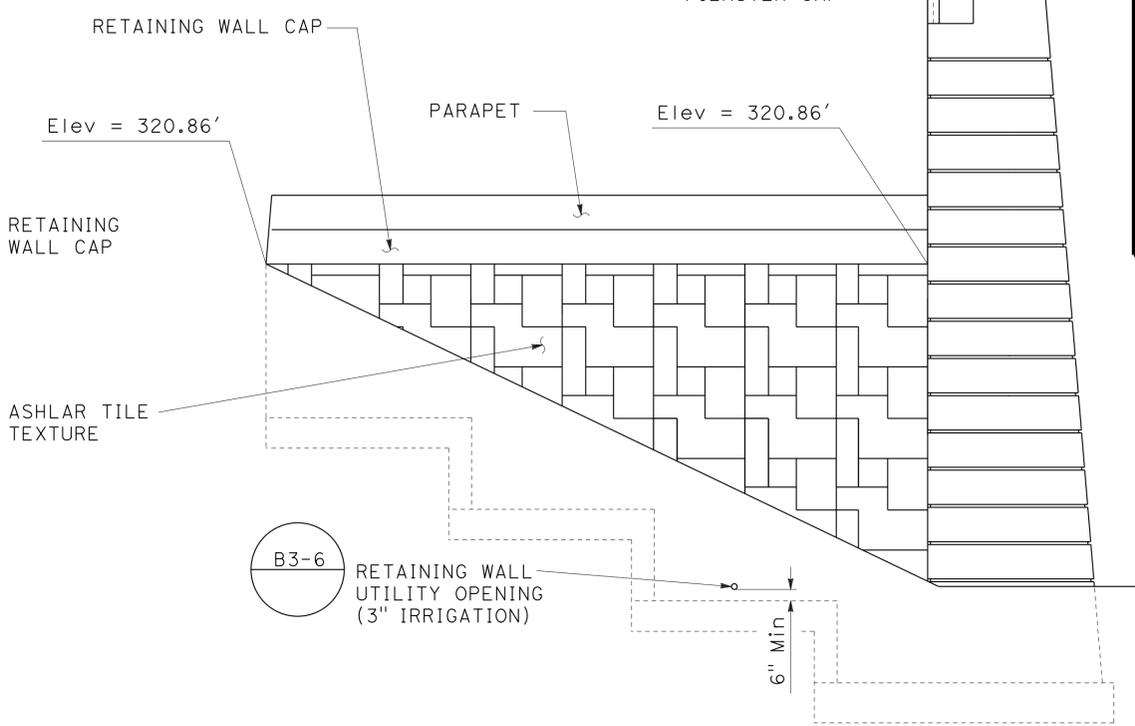


HIGHWAY FACE

RESIDENTIAL FACE

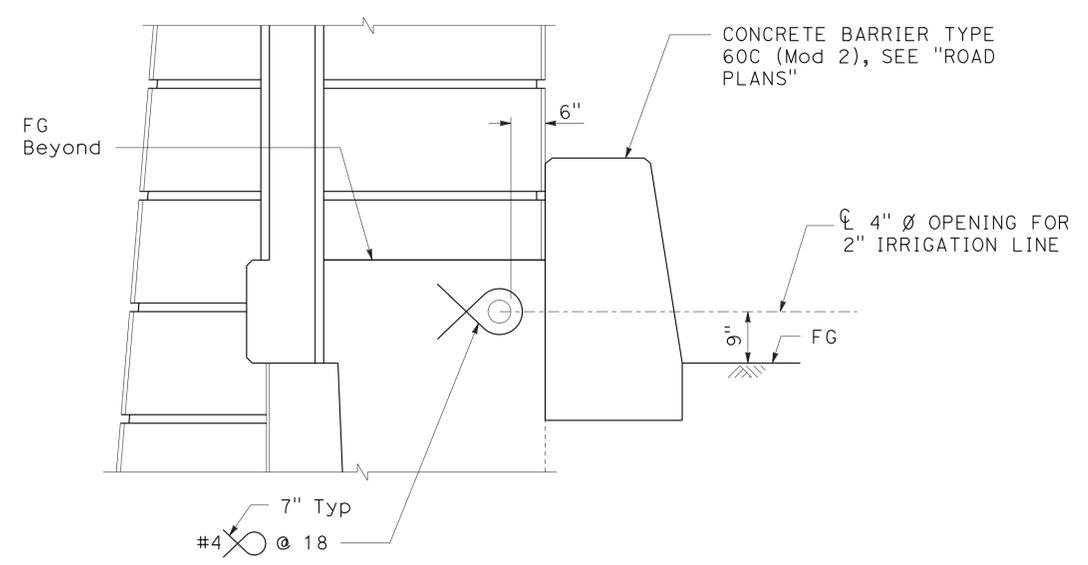
PARTIAL ELEVATION - ARCHITECTURAL TREATMENT

3/8" = 1'-0"



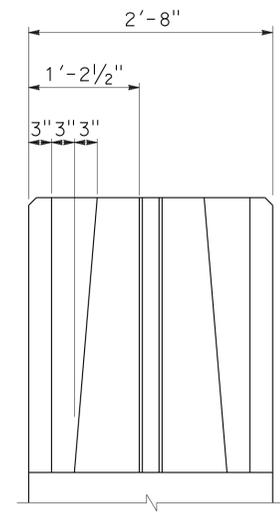
TEMPORARY END WALL

1/4" = 1'-0"



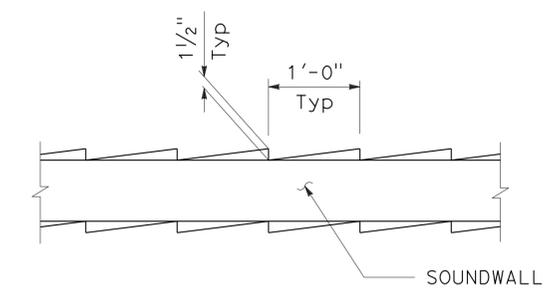
UTILITY OPENING AT PILASTER

3/4" = 1'-0"



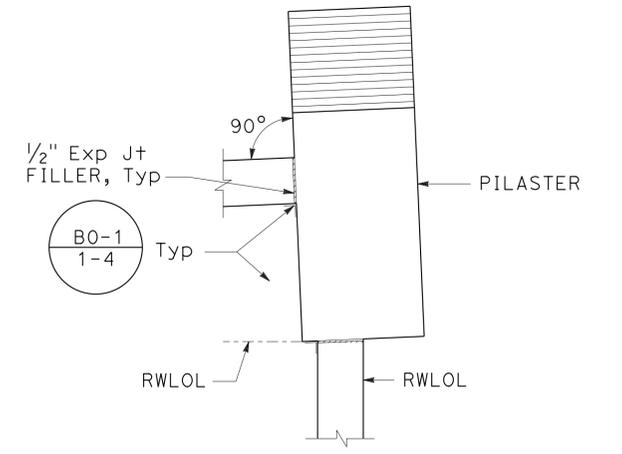
PILASTER CAP ELEVATION

1" = 1'-0"



LOUVER TEXTURE DETAIL

1" = 1'-0"



WALL CORNER DETAIL

1/2" = 1'-0"

Norbert Gee
DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

RETAINING WALL NO. 301L
RETAINING WALL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-5-11 10-13-11 11-16-11 2-28-12 4-26-12	7	26

FILE => RW301L-g-rwdt02.dgn

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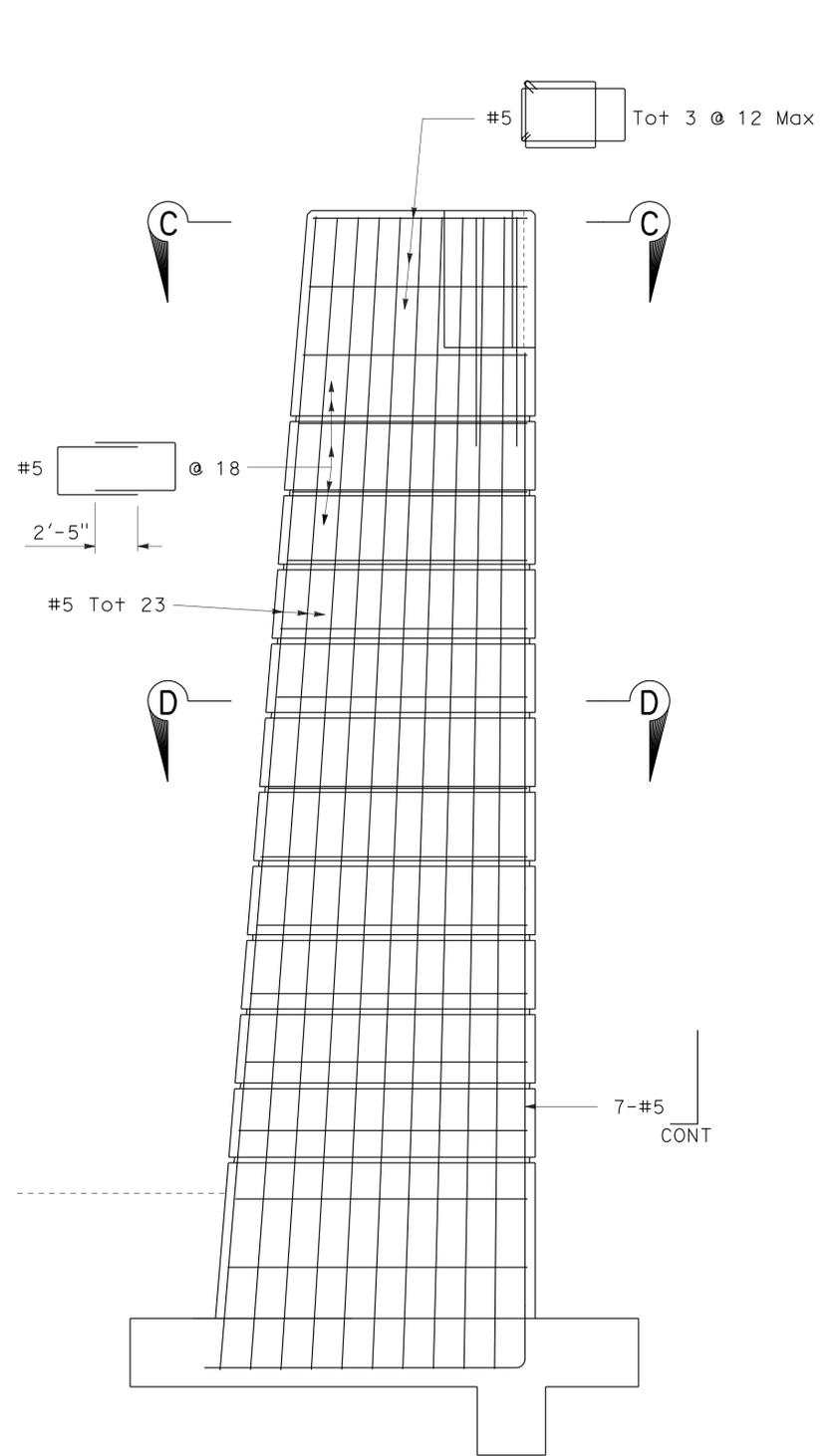
PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

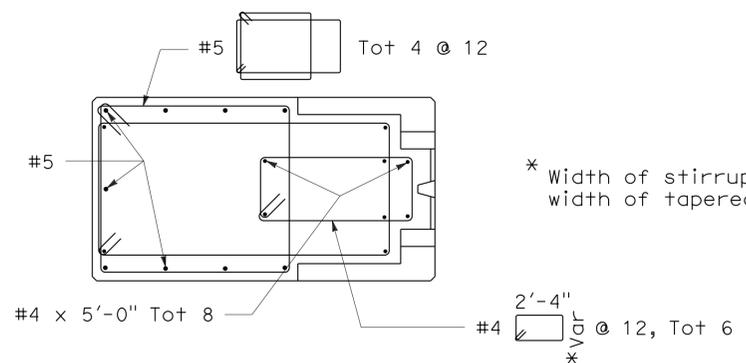
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	587	650

Mason Lee Hancock
REGISTERED CIVIL ENGINEER
DATE 4-26-12
PLANS APPROVAL DATE 06-25-12
No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

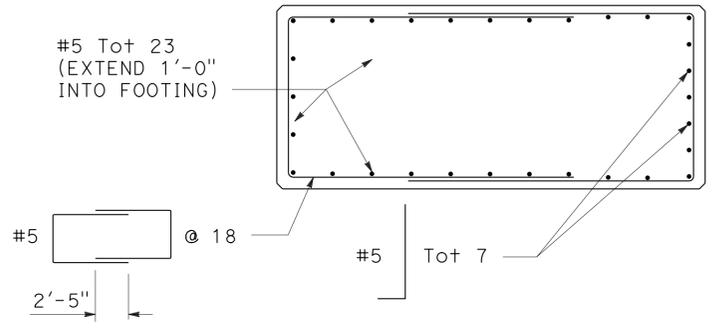
Dokken Engineering
2365 Iron Point Rd, Suite 200
Folsom, CA 95630 (916) 858-0642
SANDAG
401 B St, Suite 800
San Diego, CA 92101



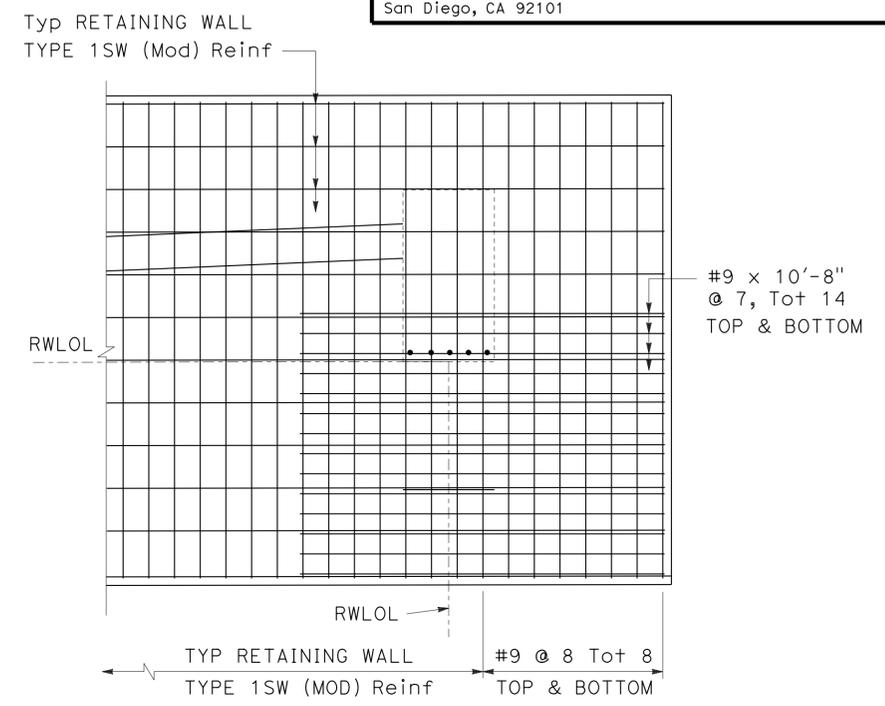
PILASTER TYPICAL SECTION
 $\frac{1}{2}'' = 1'-0''$



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



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



FOOTING CORNER DETAIL
 $\frac{3}{8}'' = 1'-0''$

Norbert Gee
DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

RETAINING WALL NO. 301L
RETAINING WALL DETAILS NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)					SHEET	OF
4-26-11	5-5-11	10-13-11	11-1-11	11-26-11	2-28-12	4-26-12
					8	26

FILE => RW301L-g-rwd+03.dgn

CONTRACT NO.: X

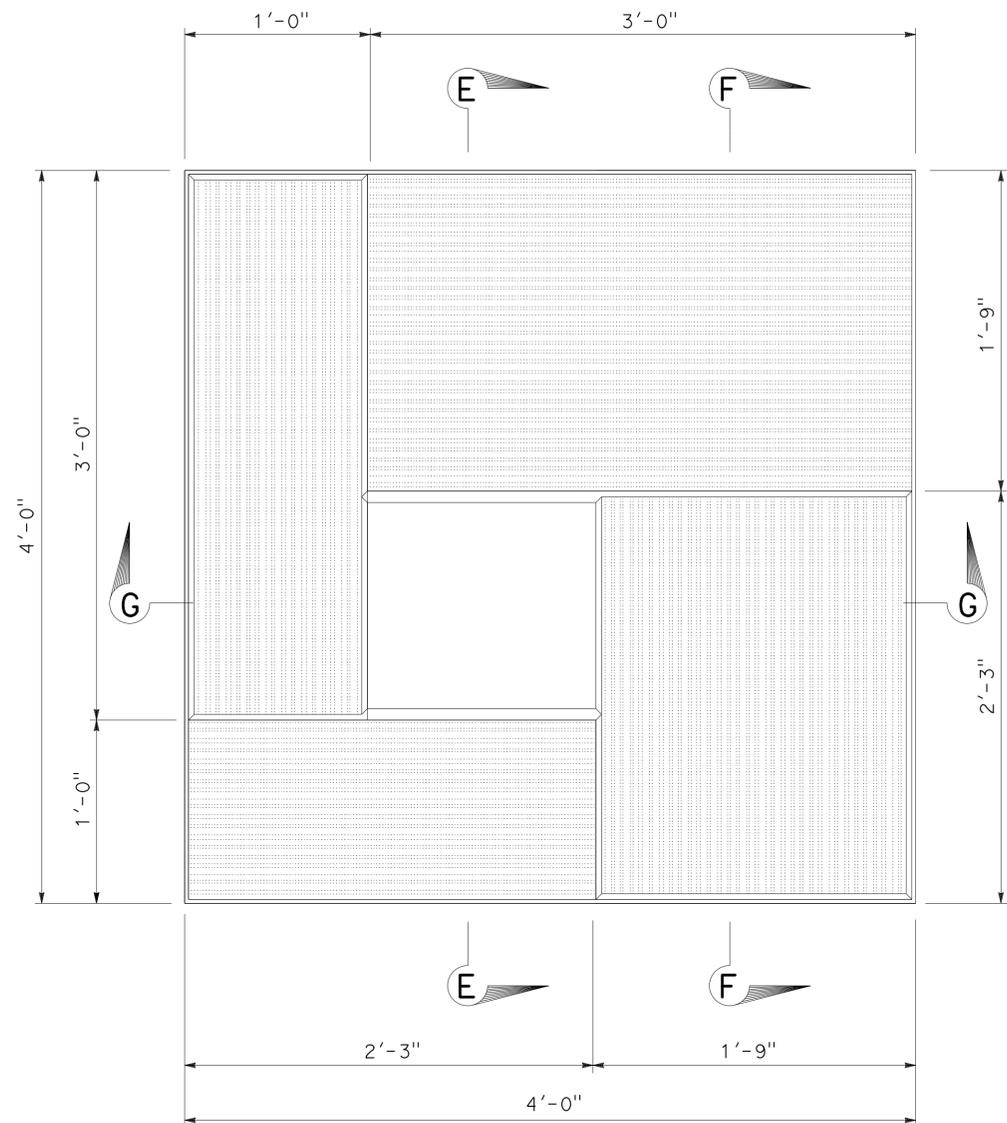
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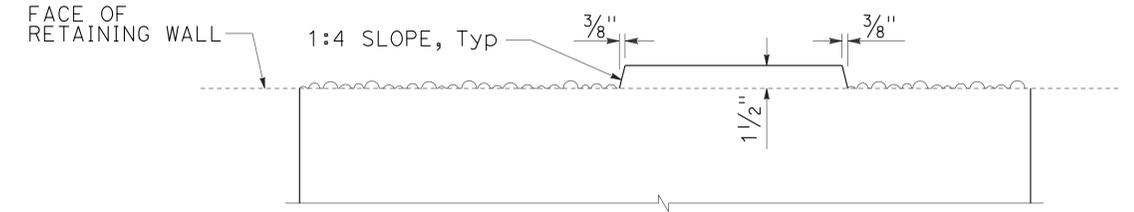
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	588	650

Mason Lee Hancock
REGISTERED CIVIL ENGINEER
DATE 4-26-12
PLANS APPROVAL DATE 06-25-12
No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

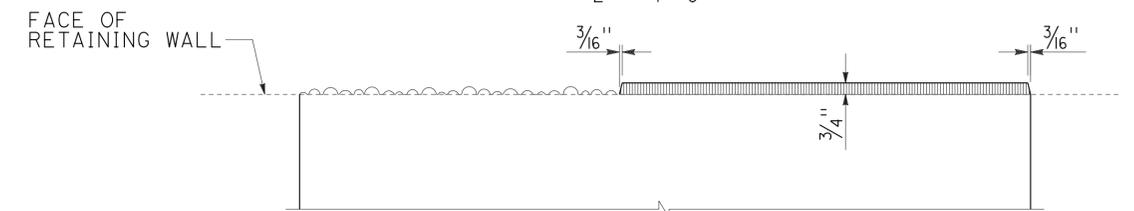
Dokken Engineering
2365 Iron Point Rd, Suite 200
Folsom, CA 95630 (916) 858-0642
SANDAG
401 B St, Suite 800
San Diego, CA 92101



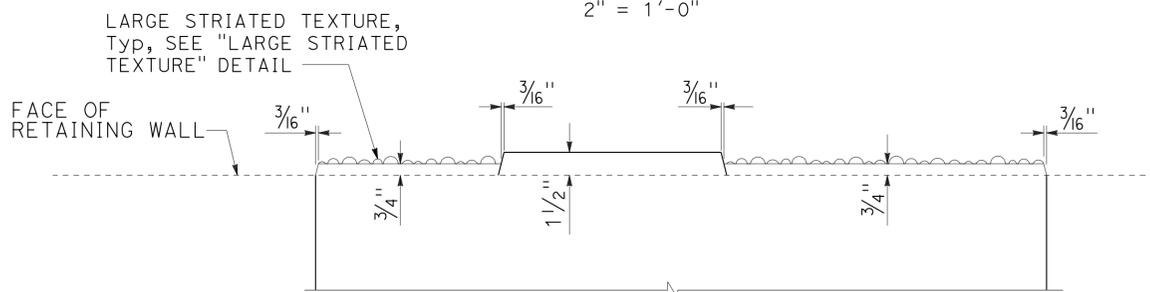
ASHLAR TILE TEXTURE DETAIL
2" = 1'-0"



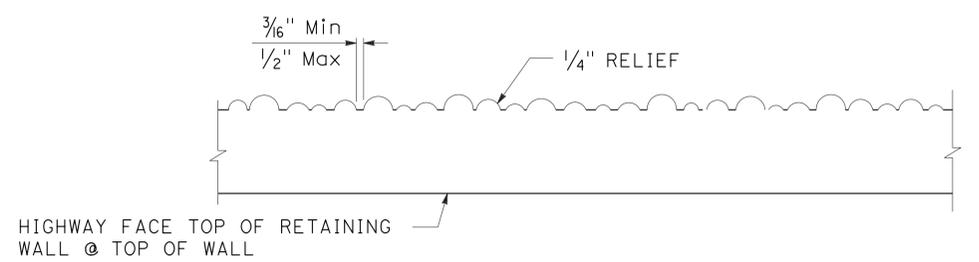
SECTION E-E
2" = 1'-0"



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



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



LARGE STRIATED TEXTURE DETAIL
4" = 1'-0"

Norbert Gee
DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER
BRIDGE NO. 57E0111
POST MILES 5.1

RETAINING WALL NO. 301L
RETAINING WALL DETAILS NO. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-5-11 10-13-11 11-1-11 11-26-11 2-28-12 4-26-12	9	26

FILE => RW301L-g-rwdt04.dgn CONTRACT NO.: X PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	589	650

Mason Lee Hancock 4-26-12
REGISTERED CIVIL ENGINEER DATE

06-25-12
PLANS APPROVAL DATE

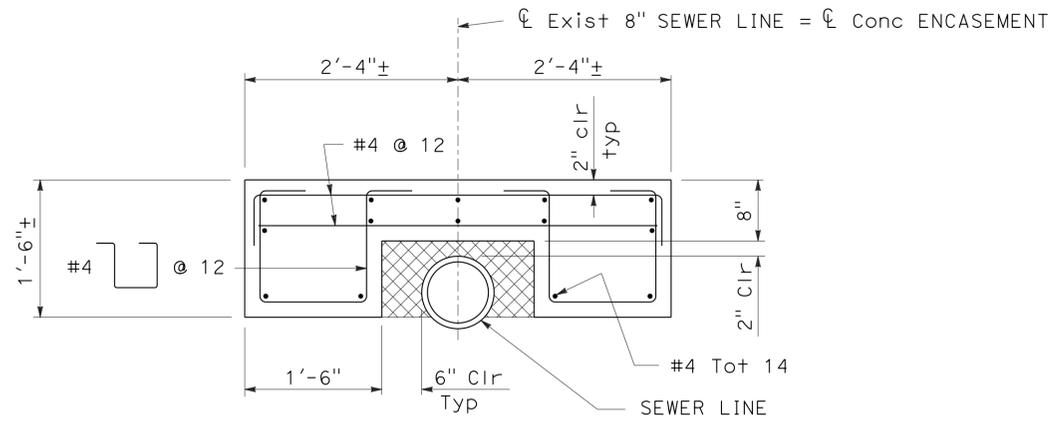
Mason Lee Hancock
REGISTERED PROFESSIONAL ENGINEER
No. 75048
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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Dokken Engineering
2365 Iron Point Rd, Suite 200
Folsom, CA 95630 (916) 858-0642

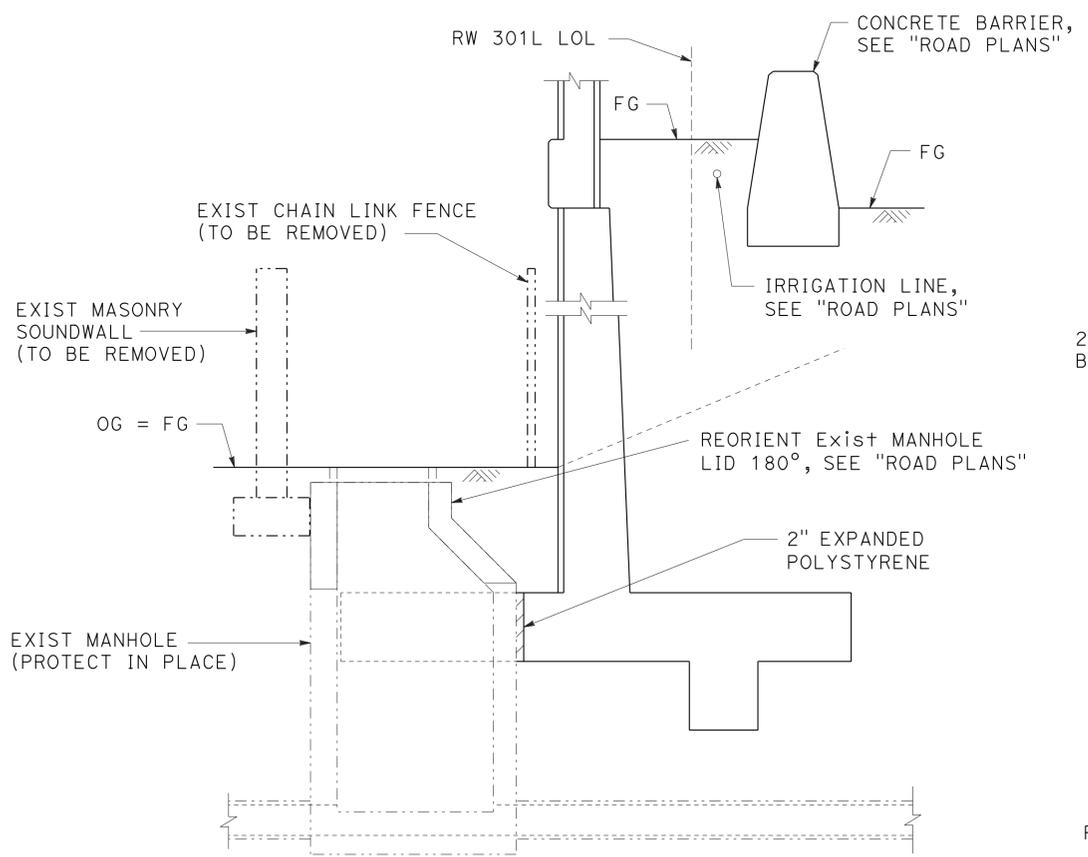
SANDAG
401 B St, Suite 800
San Diego, CA 92101

NOTE:
1. Formwork under slab may encroach within 1" of exist sewer line.

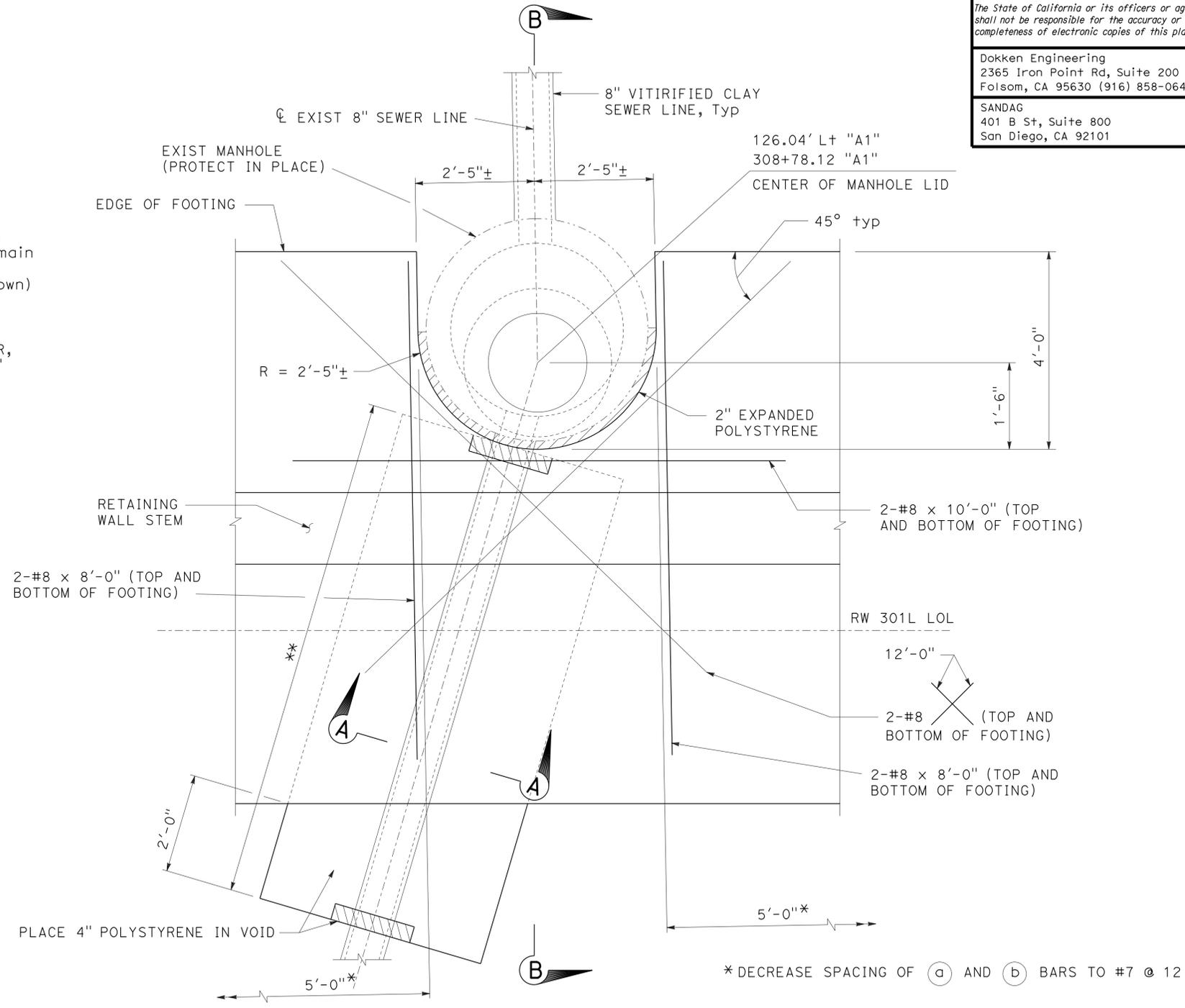


SECTION A-A
1" = 1'-0"

Denotes structure excavation (to remain void except where polystyrene is shown)



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



MANHOLE PLAN VIEW
3/4" = 1'-0"

**LIMITS OF CONC ENCASEMENT

* DECREASE SPACING OF (a) AND (b) BARS TO #7 @ 12

Norbert Gee
DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

RETAINING WALL NO. 301L
RETAINING WALL DETAILS NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-5-11 10-15-11 11-1-11 11-26-11 2-28-12 4-26-12	10	26

FILE => RW301L-g-rwdt05.dgn

CONTRACT NO.: X

PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

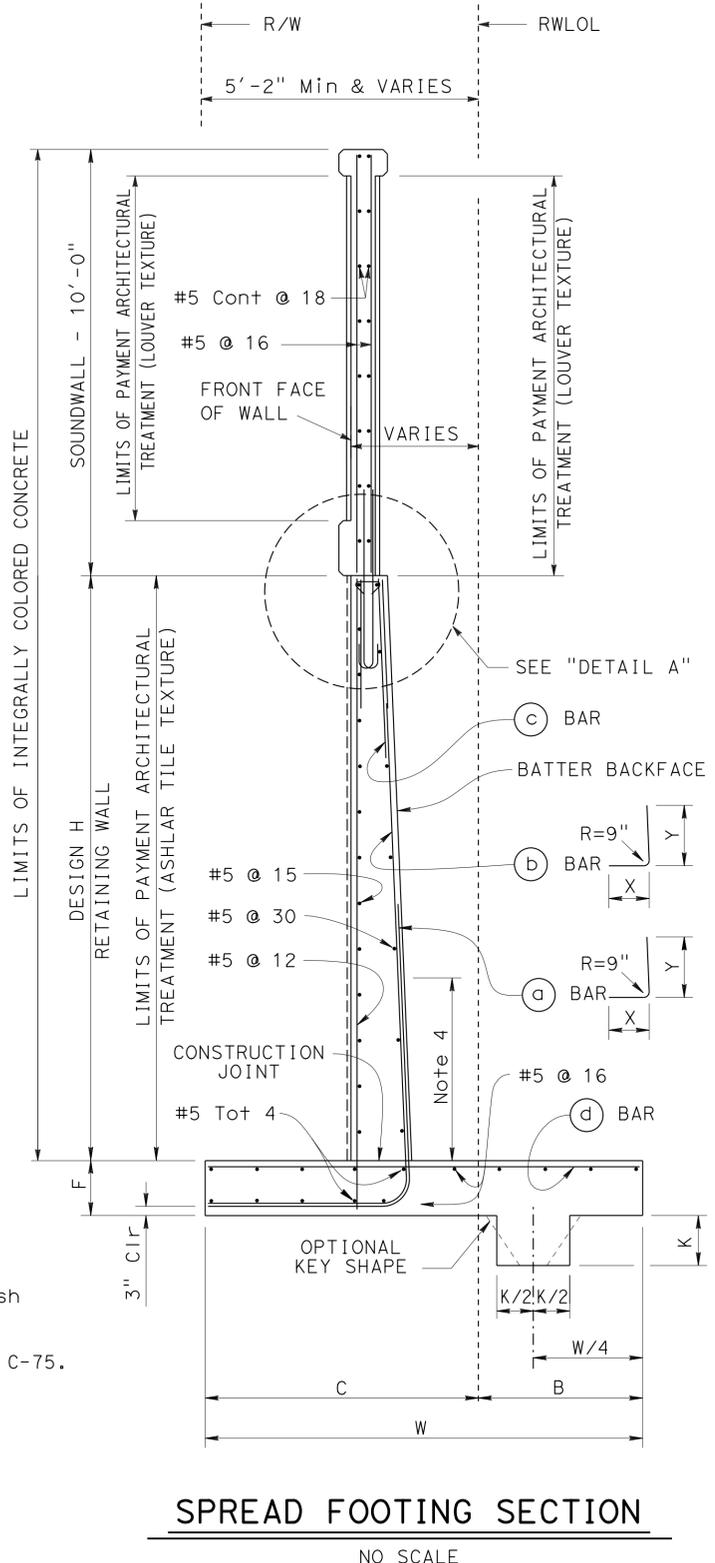
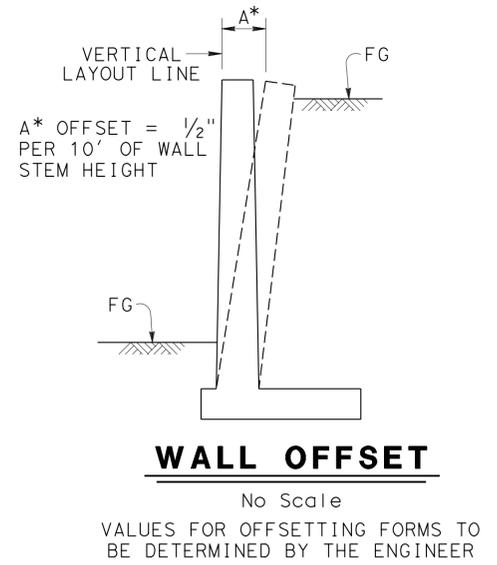
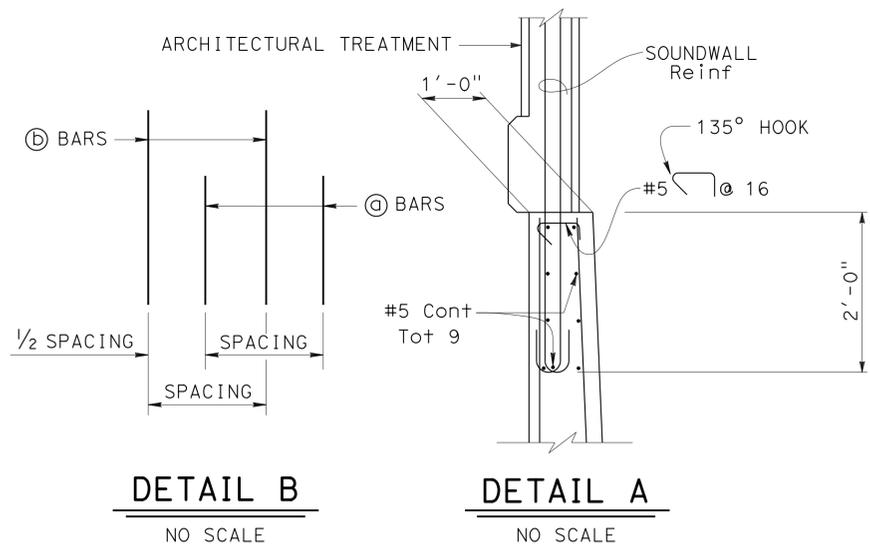
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	590	650

REGISTERED CIVIL ENGINEER
 MASON LEE HANCOCK
 No. 75048
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

4-26-12 DATE
 06-25-12 PLANS APPROVAL DATE

Dokken Engineering
 2365 Iron Point Rd, Suite 200
 Folsom, CA 95630 (916) 858-0642

SANDAG
 401 B St, Suite 800
 San Diego, CA 92101



RETAINING WALL, SOUND WALL AND PILASTER DESIGN DATA

DESIGN: AASHTO LRFD Bridge Design Specification, 4th Edition with California Amendments

WS: 33 psf on soundwall

LS: Level ground with 240 psf and 10' sound wall
EQE: Mononabe-okabe Method
 $K_h = 0.3$
 $K_v = 0.0$

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

Reinforced Concrete, $f'_c = 3.6$ ksi
 $f_y = 60$ ksi

Load Combinations and Limit States

Service I $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$

Service II $Q=1.00DC+1.00EV+1.00EH+1.00WS$

Strength I $Q=aDC+\beta EV+1.50EH+1.75LS$

Strength III $Q=aDC+\beta EV+1.50EH+1.40WS$

Strength V $Q=aDC+\beta EV+1.50EH+1.35LS+0.40WS$

Extreme I $Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$

Where:

- Q: Force effects
- a: 1.25 or 0.90, Which ever Controls Design
- β : 1.35 or 1.00, Which ever Controls Design
- DC: Dead Load of Structure Components
- EV: Vertical Earth Fill Pressure
- EH: Horizontal Earth Fill Pressure
- LS: Live Load Surcharge
- EQE: Seismic Earth Pressure
- EQD: Soil and Structure Components Inertia, Soil Inertia Ignored for stem design
- WS: Wind Load on Soundwall and Barrier

(CONSTANT TOP OF WALL THICKNESS) TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'
W	9'-4"	9'-6"	10'-2"	11'-2"	12'-3"	13'-0"	13'-11"	14'-10"	15'-4"
C	7'-4"	7'-3"	7'-5"	7'-8"	7'-9"	8'-0"	8'-2"	8'-4"	8'-4"
B	2'-0"	2'-3"	2'-9"	3'-6"	4'-6"	5'-0"	5'-9"	6'-6"	7'-0"
F	1'-3"	1'-3"	1'-3"	1'-6"	2'-0"	2'-6"	2'-6"	3'-0"	3'-0"
K	-	1'-6"	1'-6"	1'-6"	1'-6"	2'-6"	2'-6"	2'-9"	2'-9"
BATTER	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	5/8:12	5/8:12
STEM THICKNESS @ TOP	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
Ⓐ BARS				#7@18	#7@18	#9@18	#9@12	#9@9	#10@12
X	Cont	Cont	Cont	Cont	Cont	Cont	Cont	Cont	Cont
Y				8'-0"	6'-6"	7'-6"	8'-6"	9'-6"	10'-6"
Ⓑ BARS	#5@9	#6@9	#6@9	#7@18	#7@18	#9@18	#9@12	#9@9	#10@12
X	Cont	Cont	Cont	Cont	Cont	Cont	Cont	Cont	Cont
Y	Cont	Cont	Cont	Cont	10'-6"	13'-0"	15'-0"	17'-6"	19'-0"
Ⓒ BARS					#6@18	#6@18	#6@18	#6@18	#6@18
Ⓓ BARS	#6@9	#6@9	#6@9	#6@6	#6@6	#6@6	#6@6	#8@9	#9@9
SER I: B' (ft), q ₀ (ksf)	8.3 0.5	8.7 0.7	9.6 0.9	10.8 1.1	11.9 1.3	12.8 1.4	13.4 1.6	13.8 2.1	13.3 3.1
STR I: B' (ft), q ₀ (ksf)	7.7 1.7	8.1 2.0	8.9 2.3	10.4 1.4	11.8 1.5	12.6 1.8	13.2 3.3	14.5 3.6	12.4 4.0
STR III: B' (ft), q ₀ (ksf)	9.3 1.1	9.4 1.3	10.0 1.6	11.0 1.8	11.7 2.1	12.7 2.4	13.5 2.7	14.1 3.1	12.2 4.1
STR V: B' (ft), q ₀ (ksf)	8.1 1.6	8.4 1.8	9.3 1.2	10.6 1.6	11.3 2.6	12.4 2.9	13.4 3.1	14.7 3.4	12.4 4.1
EXT I: B' (ft), q ₀ (ksf)	8.7 0.9	8.0 1.2	7.8 1.5	7.8 2.0	7.7 2.5	7.6 3.1	7.6 3.6	7.1 4.7	8.0 5.0

Note: Load Case 1 of the 2010 Standard Plan B3-5 was used.

GENERAL NOTES

- For soundwall and retaining wall architectural finish or texture, see details elsewhere in project plans.
- For details not shown and drainage notes, see SHEET C-75.
- Footing cover, 1'-6" minimum.
- Limit of no splicing (a) & (b) rebars = 3 times the bottom thickness of the stem.
- Placement of reinforcements:
(b) & (c) bars are spliced together.
Alternate (a) & (b) bars are shown in "Detail B".
Cont = Continuous.

NOTE:
Retaining wall, pilaster, pilaster cap and sound wall to be constructed with integrally colored concrete. Color shall conform to Davis color "Mesa Buff".

DESIGN OVERSIGHT
Norbert Gee
5-4-12
SIGN OFF DATE

DESIGN	BY R. Burns	CHECKED M. Hancock
DETAILS	BY C. Houghton	CHECKED R. Burns
QUANTITIES	BY R. Burns	CHECKED K. Sorokina

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

C. Tornaci
PROJECT ENGINEER

BRIDGE NO.	57E0111
POST MILES	5.1

RETAINING WALL NO. 301L
RETAINING WALL TYPE 1SW (MOD)

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2762
PROJECT NUMBER & PHASE: 1100020051

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
4-26-11 8-5-11 10-15-11 11-1-11 11-26-11 2-28-12 4-26-12 6-5-12	11	26

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CONTRACT NO.: X PROJECT ID: X

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:02

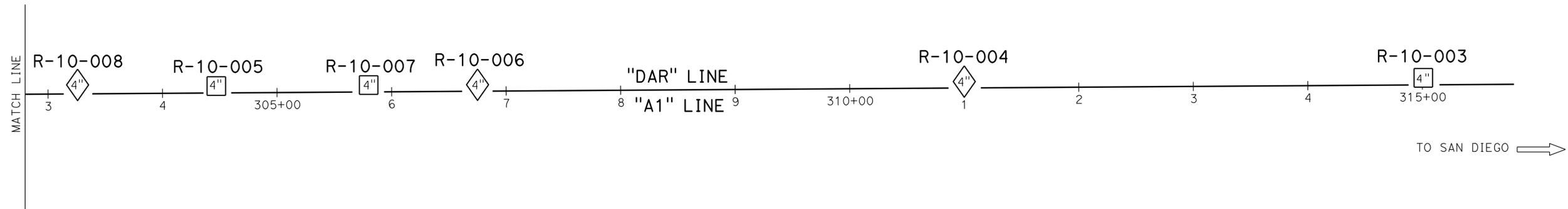
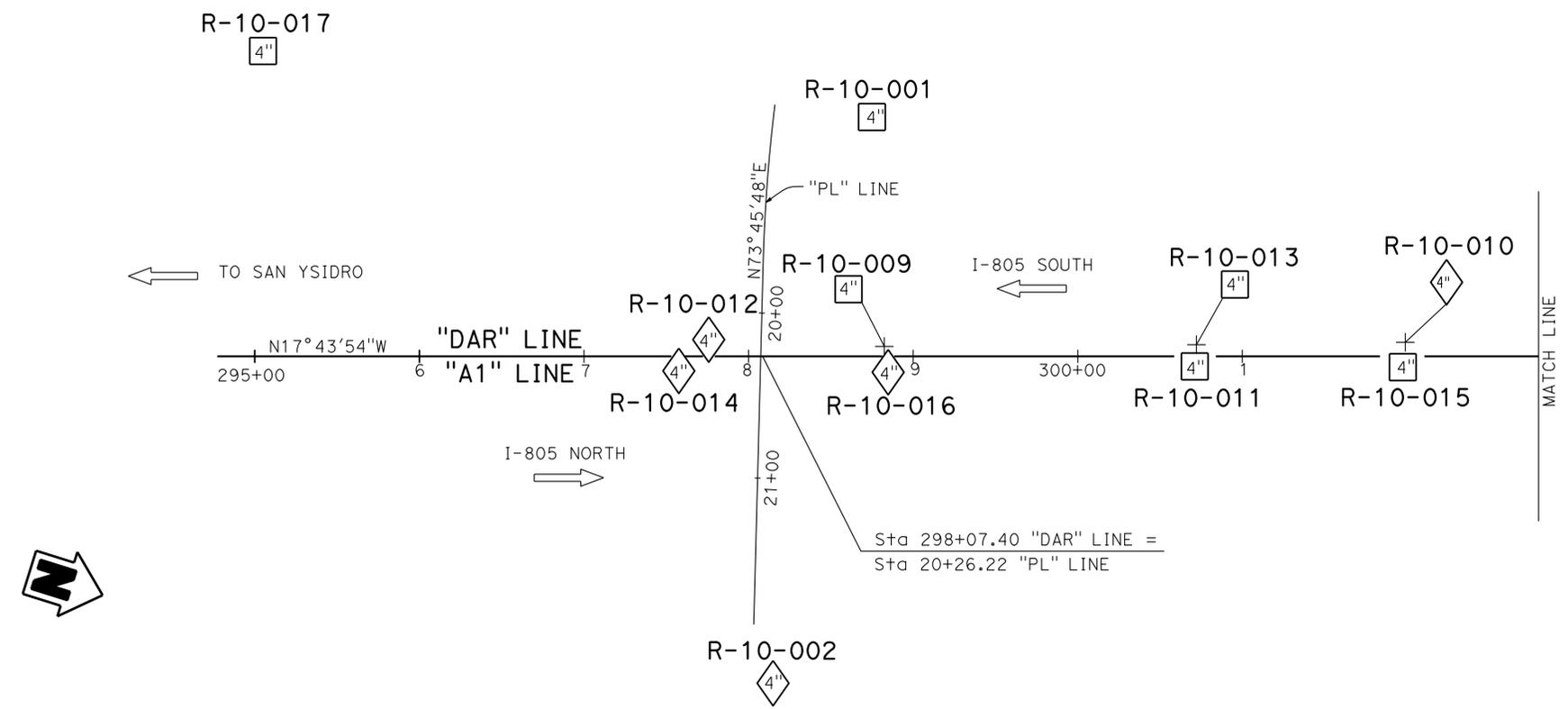
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	592	650

REGISTERED CIVIL ENGINEER
 4-26-12
 06-25-12
 PLANS APPROVAL DATE
 David T-M Liao
 No. C59838
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

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BENCH MARK

BM 805-5.00, Brass disk in sidewalk on north side of E. Palomar St. OC bridge, at Station 298+46.0, Right 60 feet of "DAR" Line/"A1" Line.
 Elevation: 300.93 feet
 NAVD 1988 (Vertical)
 NAD83 (Horizontal)



PLAN
 1" = 50'

- NOTES:
1. Ground water was not encountered during the 2010 subsurface investigation.
 2. RQD designated with "NA" (not applicable) indicates that the rock encountered within the drill interval was not sound rock, therefore RQD was not calculated.
 3. Plan sheets provided by Design, show that "A1" Line = "DAR" Line.

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X		BRIDGE NO. 57E0111 POST MILE 5.07		RETAINING WALL NO. 301L LOG OF TEST BORINGS 1 OF 14					
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: D.T.M Liao/J. Klamecki		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 4-26-12 06-25-12 08-11-11 11-14-11		SHEET 13 OF 26	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:03
 FILE => RW301L-z-1+tb01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	593	650

4-26-12
REGISTERED CIVIL ENGINEER

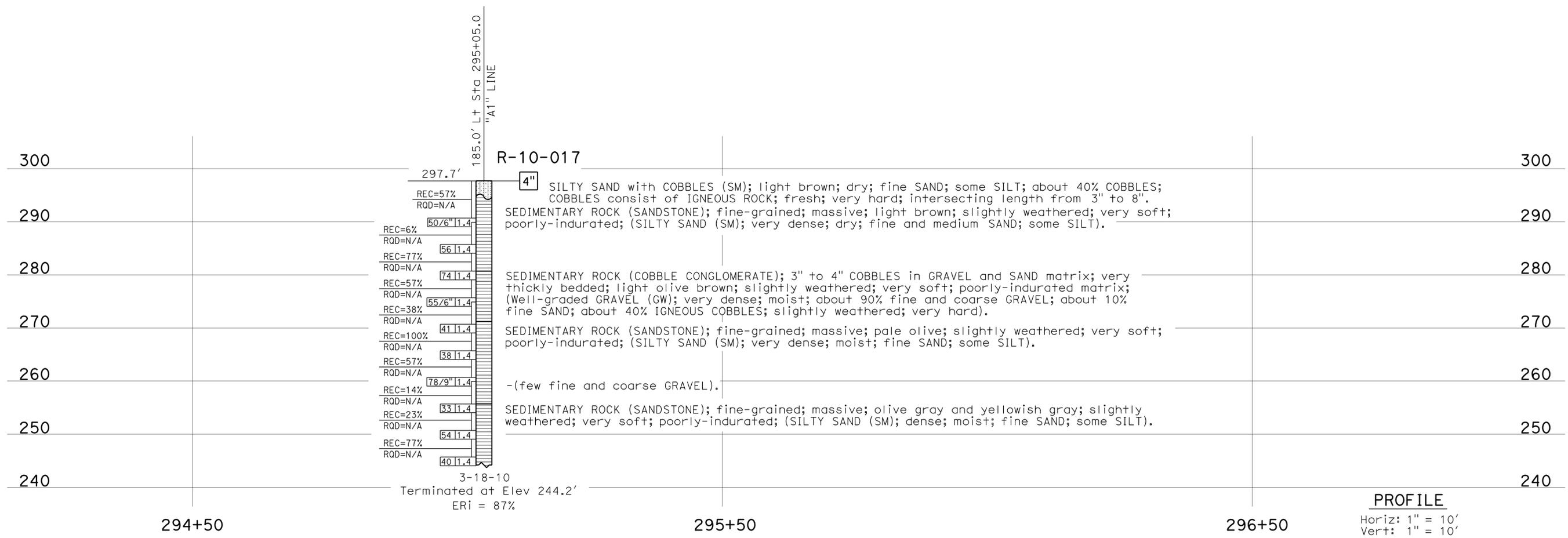
06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
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STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X		BRIDGE NO. 57E0111 POST MILE 5.07		RETAINING WALL NO. 301L LOG OF TEST BORINGS 2 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: TM Liao		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 4-26-12 06-24-11 06-30-11 08-11-11 SHEET 14 OF 26	

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

FILE => RW301L-z-1+tb02.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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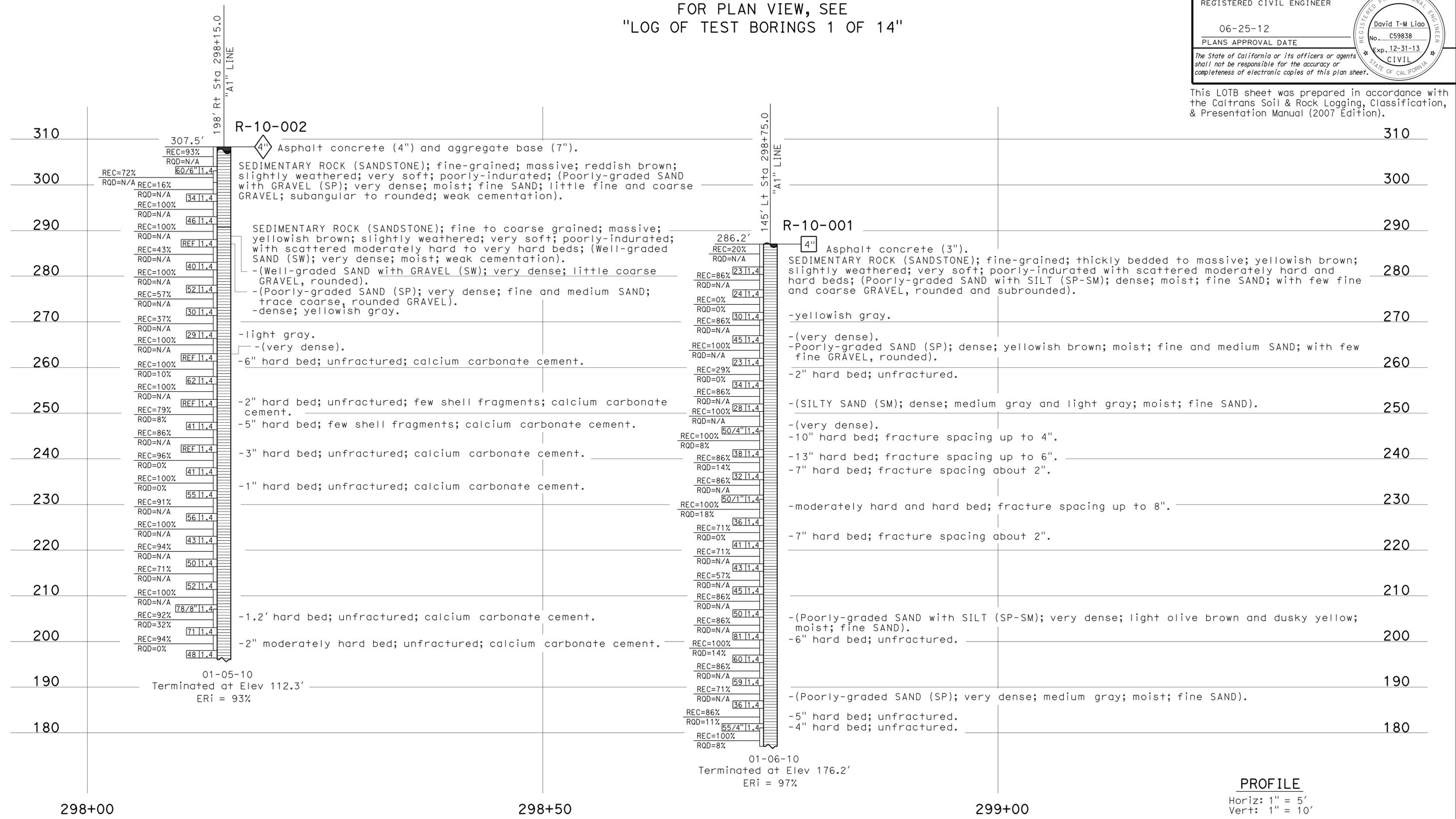
4-26-12
REGISTERED CIVIL ENGINEER
06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
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STATE OF CALIFORNIA

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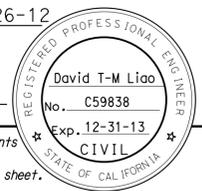
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

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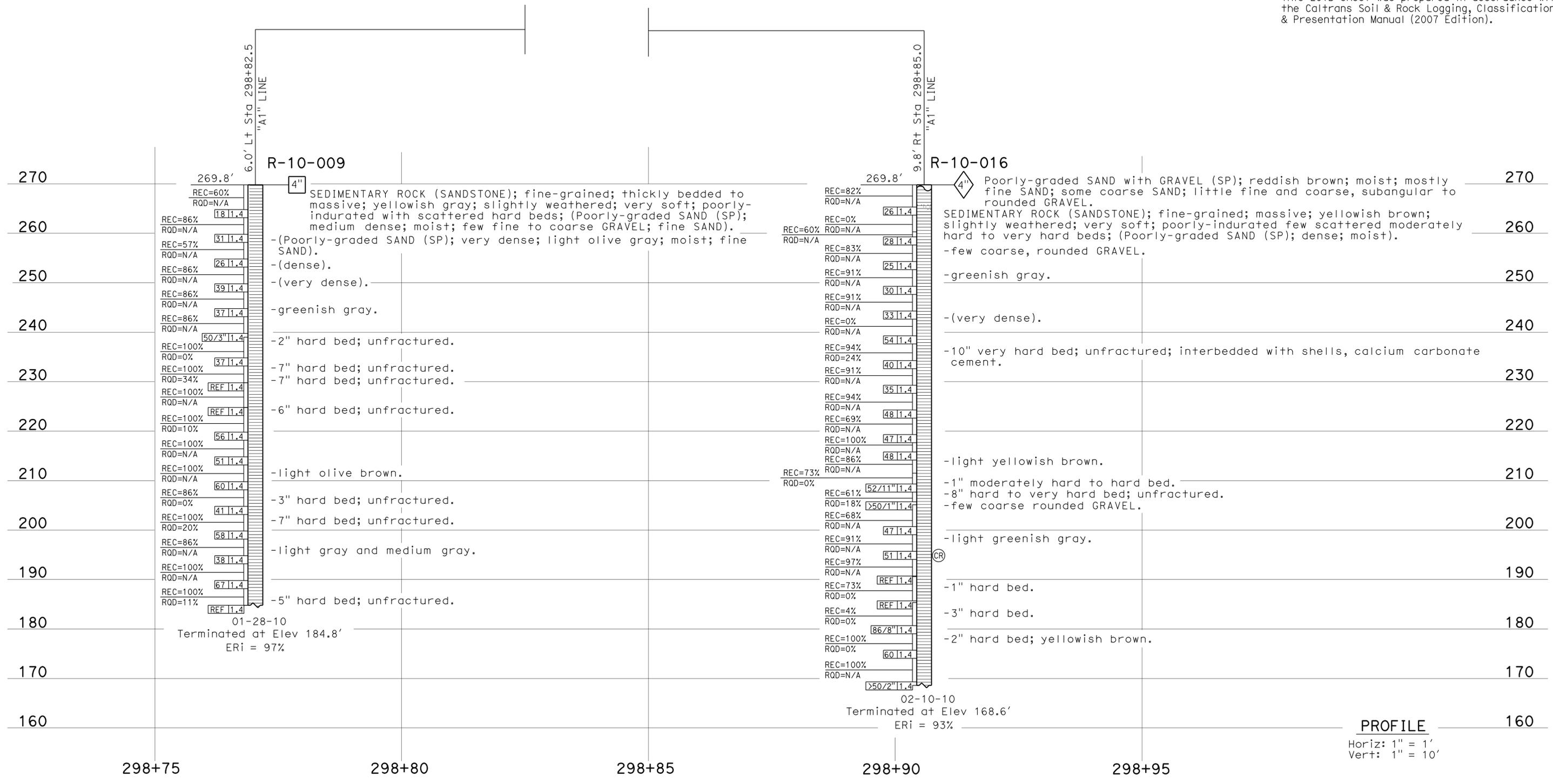
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FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 07/11	FIELD INVESTIGATION BY: TM Liao/J. Klamecki						POST MILE 5.07	LOG OF TEST BORINGS 4 OF 14	
CHECKED BY: E. Neupert									REVISION DATES	SHEET OF
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		16 26

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TIME PLOTTED => 08:03

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	596	650
			4-26-12	REGISTERED CIVIL ENGINEER	
			06-25-12	PLANS APPROVAL DATE	
					
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		RETAINING WALL NO. 301L	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 07/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		57E0111		LOG OF TEST BORINGS 5 OF 14	
NAME: M. DeSalvatore		CHECKED BY: E. Neupert		FIELD INVESTIGATION BY:		DESIGN BRANCH X		POST MILE			
				TM Liao/J. Klamecki				5.07			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
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										SHEET 17 OF 26	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:03

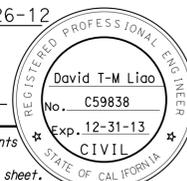
FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	597	650

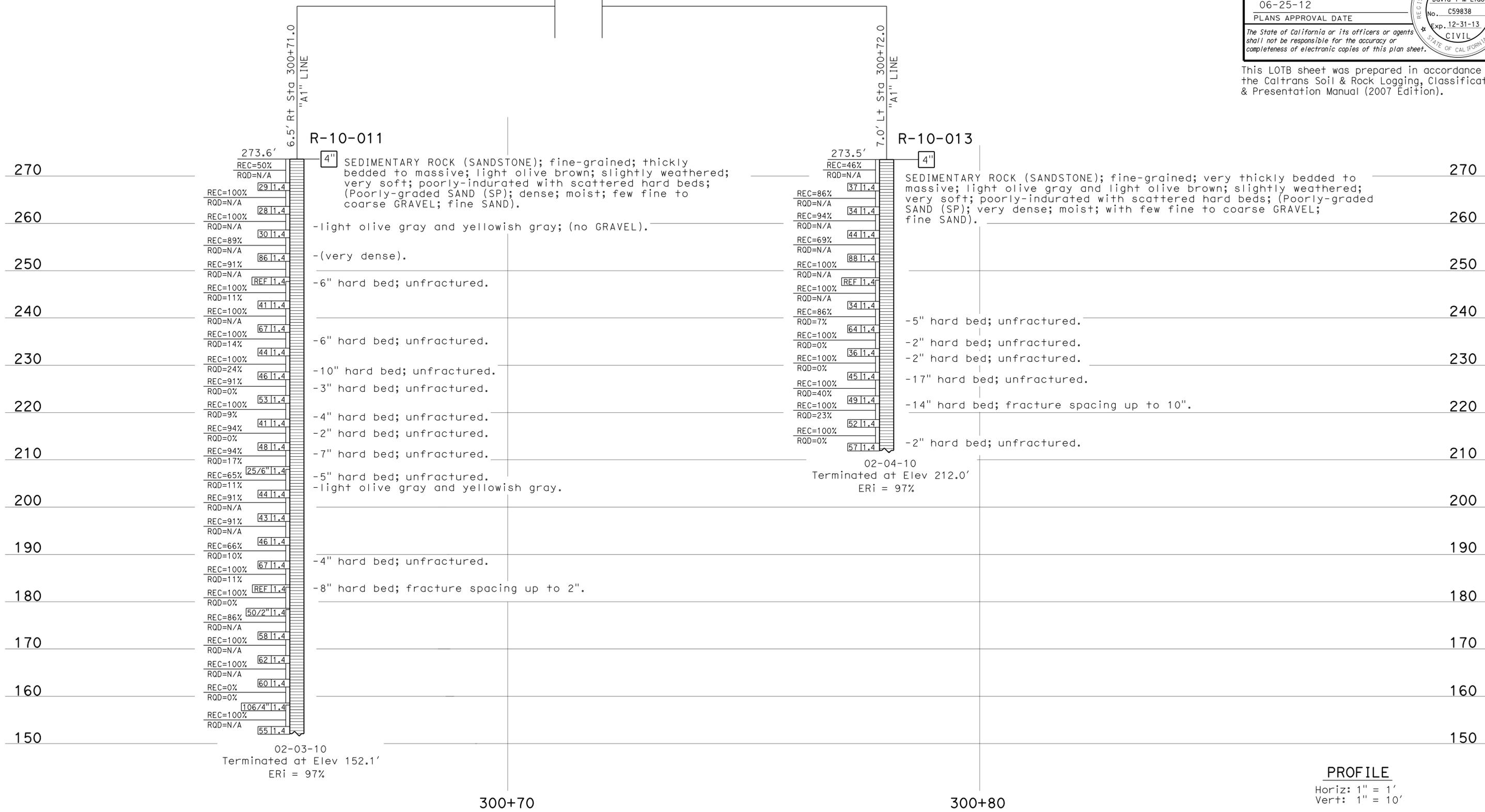
4-26-12
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Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X		BRIDGE NO. 57E0111 POST MILE 5.07		RETAINING WALL NO. 301L LOG OF TEST BORINGS 6 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: TM Liao		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 11-14-11 4-26-12 06-30-11 08-14-11	
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		SHEET 18 OF 26		DATE PLOTTED => 13-SEP-2012		USER NAME => s127400	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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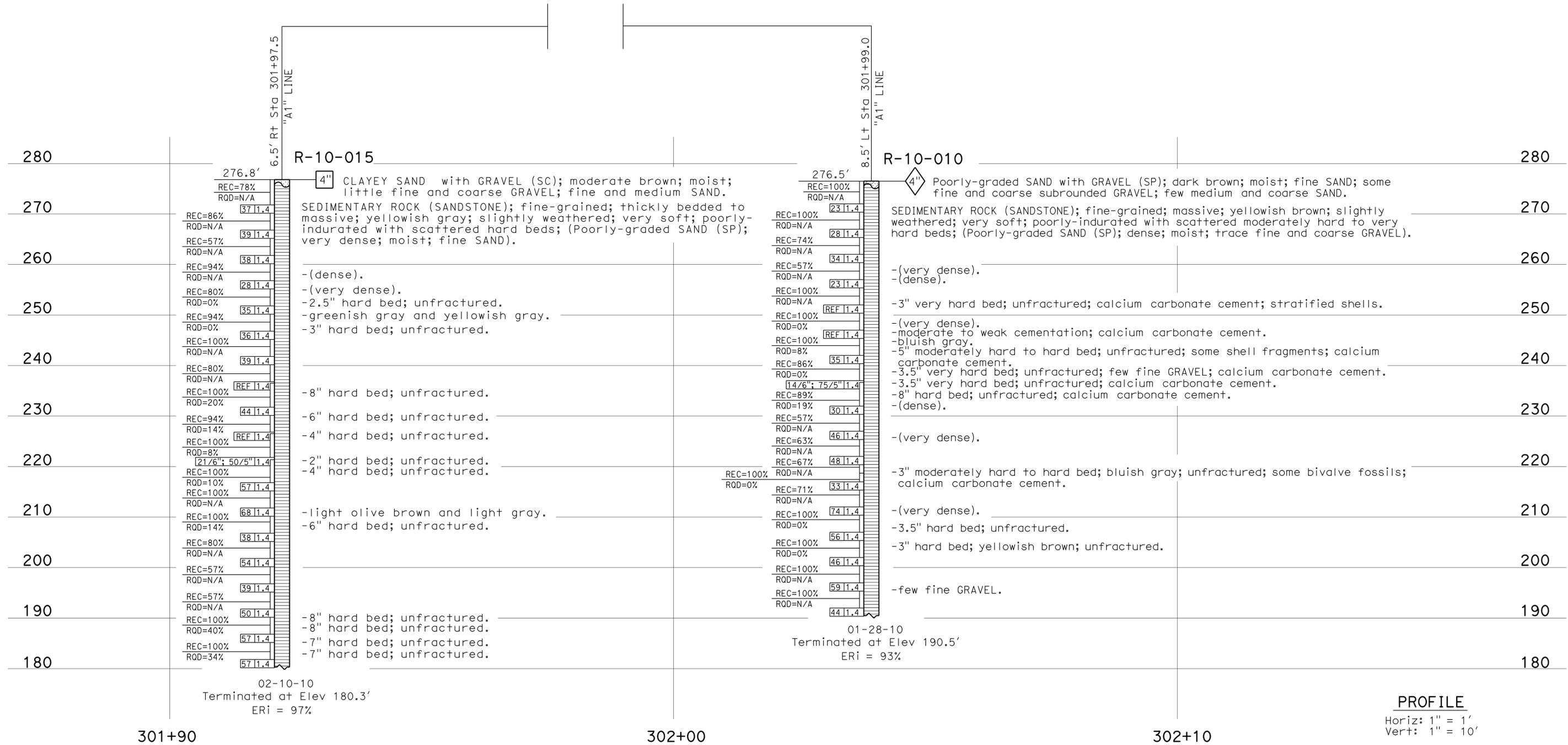
4-26-12
REGISTERED CIVIL ENGINEER
06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

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PROFILE
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Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X		BRIDGE NO. 57E0111 POST MILE 5.07		RETAINING WALL NO. 301L LOG OF TEST BORINGS 7 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao/J. Klamecki		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		REVISION DATES		SHEET 19 OF 26		DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:03	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	805	4.7/5.6	600	650

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 14"

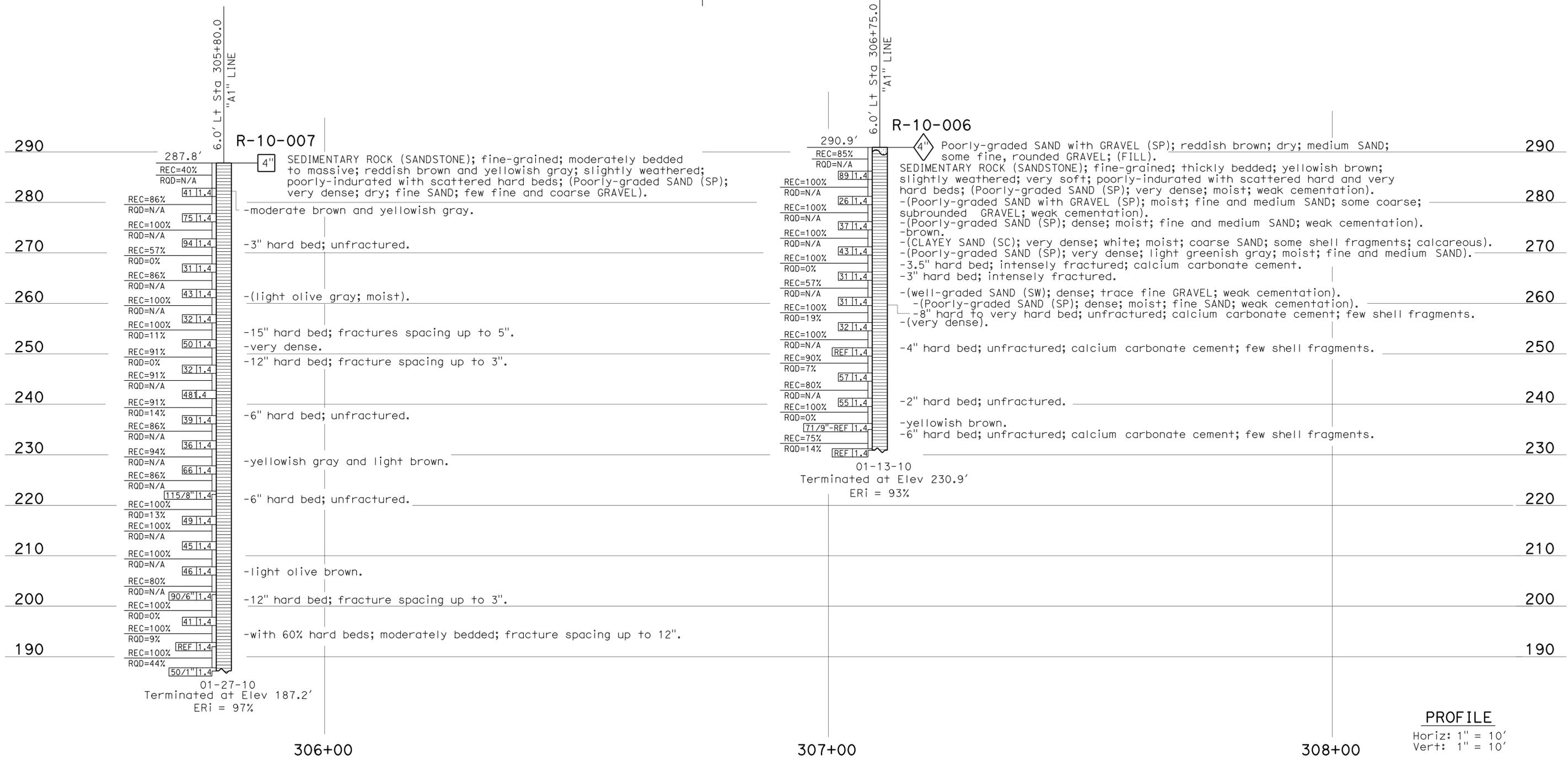
4-26-12
REGISTERED CIVIL ENGINEER

06-25-12
PLANS APPROVAL DATE

David T-M Liao
No. C59838
Exp. 12-31-13
CIVIL

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PROFILE
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Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X		BRIDGE NO. 57E0111 POST MILE 5.07		RETAINING WALL NO. 301L LOG OF TEST BORINGS 9 OF 14	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore		DRAWN BY: F. Nguyen 07/11 CHECKED BY: E. Neupert		FIELD INVESTIGATION BY: TM Liao/J. Klamecki		UNIT: 3643 PROJECT NUMBER & PHASE: 11000200511		CONTRACT NO.: 11-2T1821		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS										REVISION DATES	
06S CIVIL LOG OF TEST BORINGS SHEET										SHEET 21 OF 26	

USERNAME => s127400 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 08:03