DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1801	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — PAUL PETERSON No. C66764 Exp. 09-30-16 CIVIL — STATE OF CALIFORNIA

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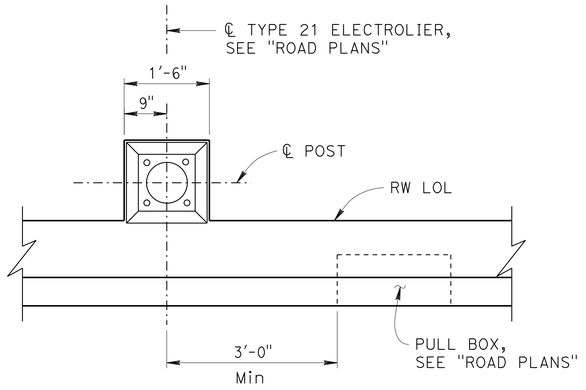
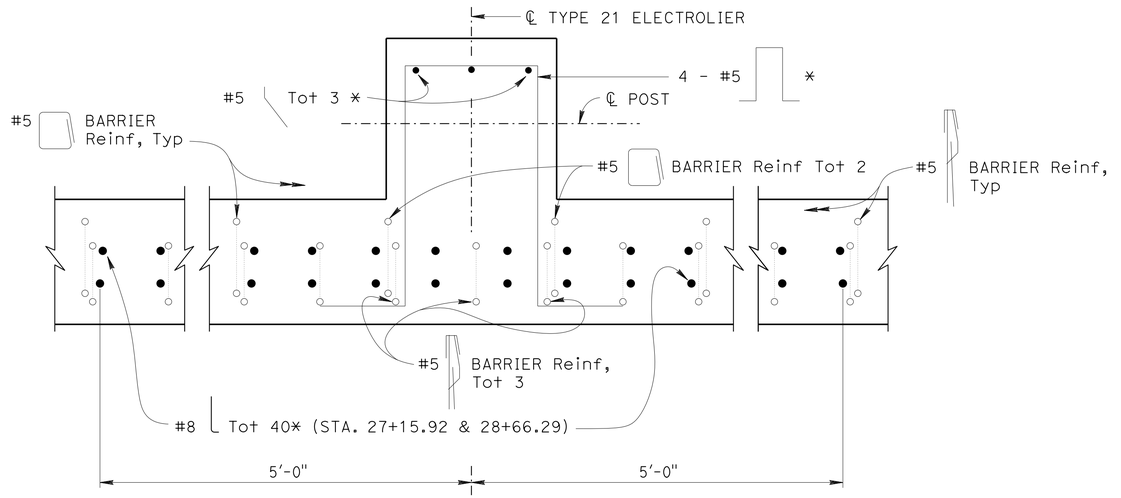
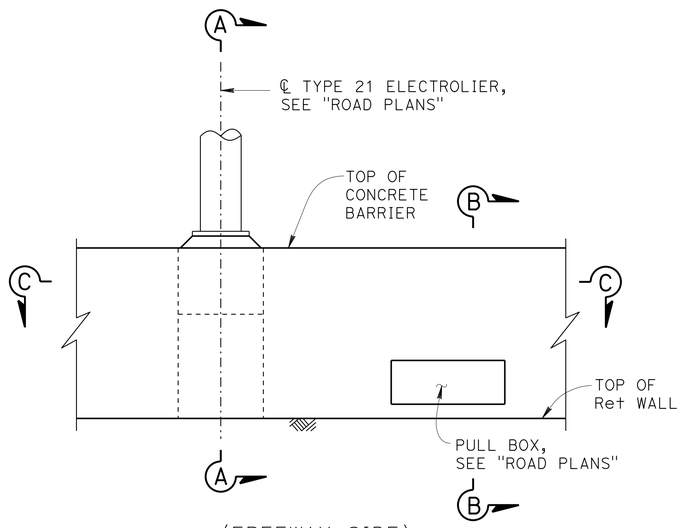


PLAN
3/4" = 1'-0"

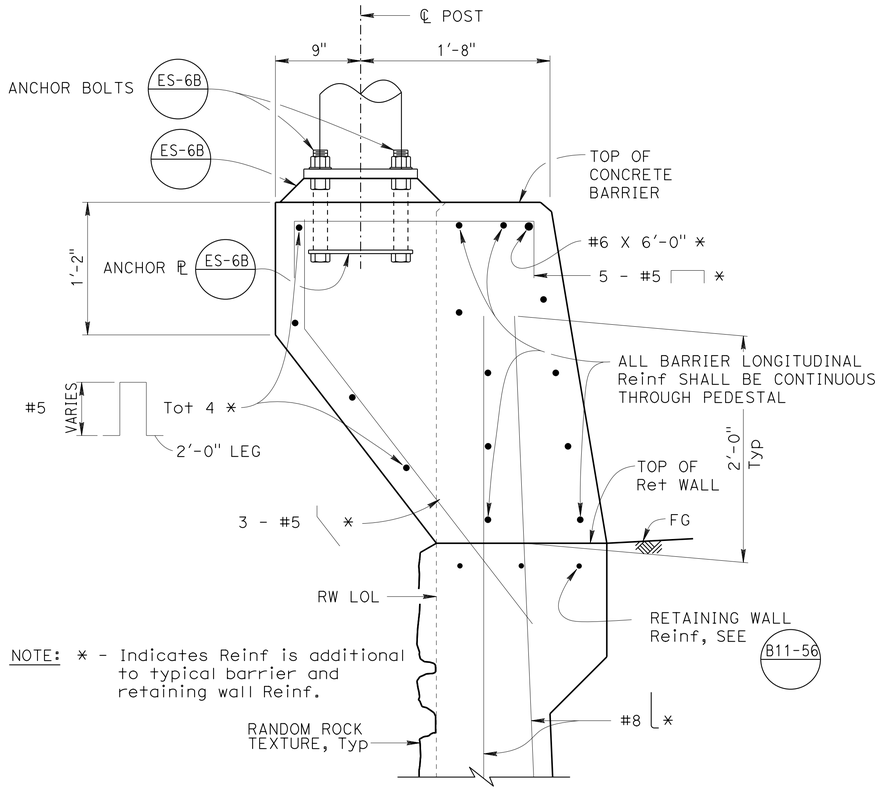


SECTION C-C
1 1/2" = 1'-0"



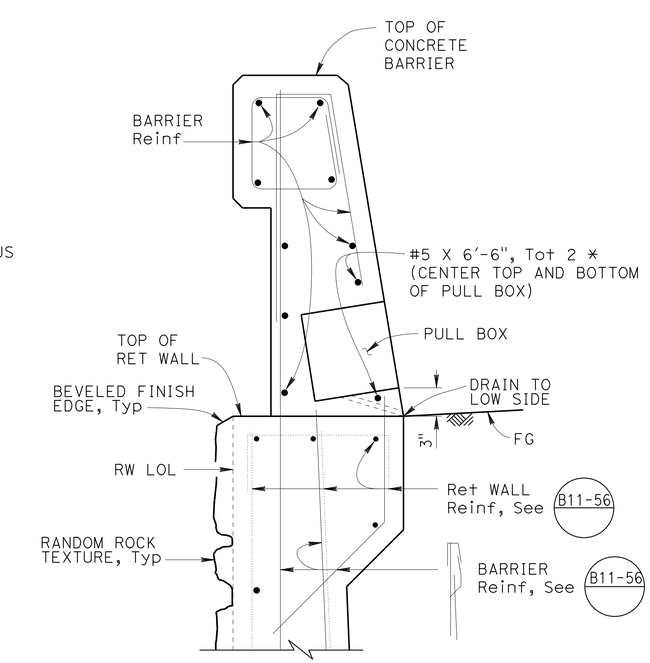
(FREEWAY SIDE)

ELEVATION
3/4" = 1'-0"



NOTE: * - Indicates Reinf is additional to typical barrier and retaining wall Reinf.

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



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

NOTES:

1. For barrier details not shown, see Standard Plan B11-56.
2. For locations of electroliers, see "STRUCTURE PLAN" sheets.
3. For electrolier and electrical details, see "ROAD PLANS".
4. The maximum number of conduits in the barrier is limited to (2) 2" conduits along with (1) 3" conduit.

	BY	CHECKED
DESIGN	P. A. Peterson	John Peterson
DETAILS	P. A. Peterson	John Peterson
QUANTITIES	P. A. Peterson	John Peterson

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0318
POST MILE 38.37/38.43

RETAINING WALL NO. 2026
ELECTROLIER PEDESTAL DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09/11/14	01/14/14	02/28/14	07/24/14	5	7

FILE => rw2026-g-epdt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1802	2313

REGISTERED CIVIL ENGINEER — DATE 10-01-14

PLANS APPROVAL DATE 6-1-15

REGISTERED PROFESSIONAL ENGINEER — PAUL PETERSON — No. C66764 — Exp. 09-30-16 — CIVIL — STATE OF CALIFORNIA

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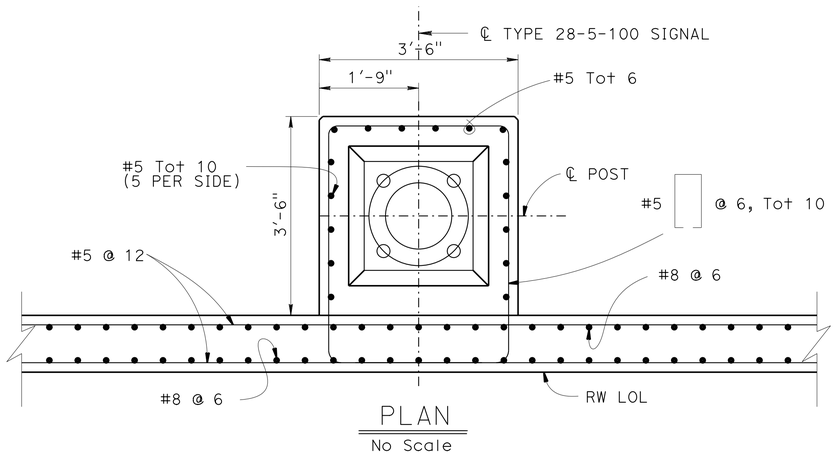
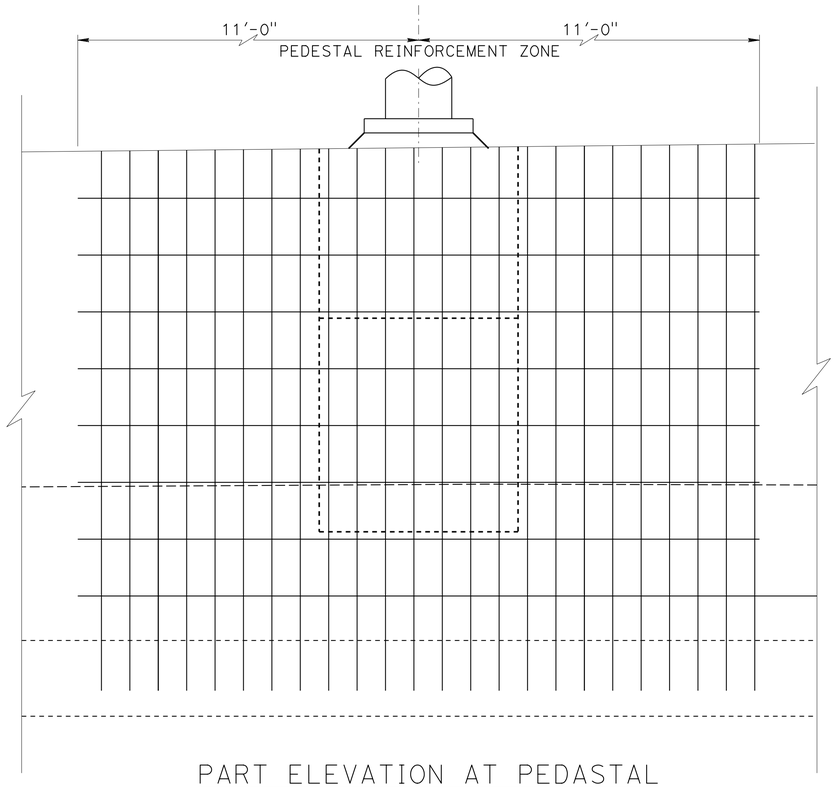
NOTES:

1. Reinforcement callouts pertain to the Pedestal Reinforcement Zone only
2. For Pole Details, see "ROAD PLANS"
3. For additional information, see "ROAD PLANS"



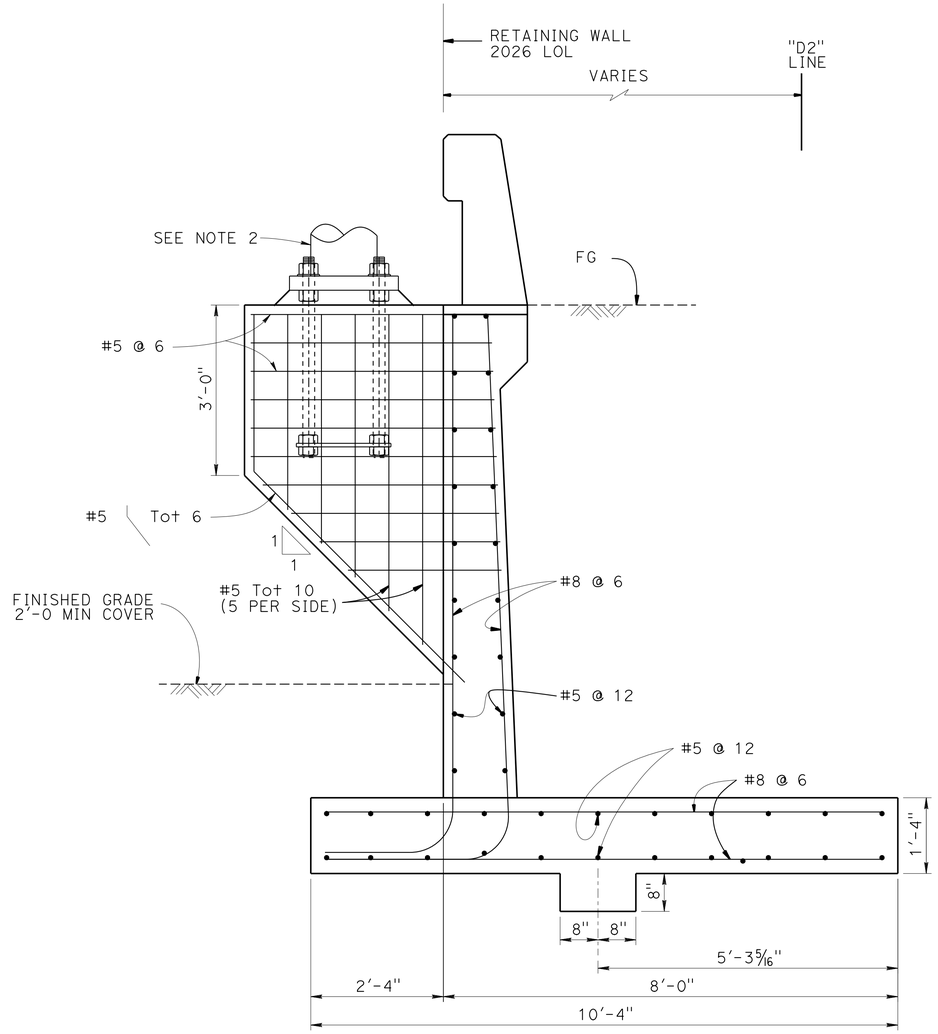
PLAN

No Scale



PART ELEVATION AT PEDASTAL

No Scale



PEDESTAL REINFORCENT ZONE STATION 27+40 TO STATION 27+60

SECTION AT ℄ OF RAMP METER PEDASTAL

No Scale

DESIGN	BY J. Peterson/P. Peterson	CHECKED J. Peterson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY J. Peterson	CHECKED P. Peterson	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14
QUANTITIES	BY V. Ramakrishnan	CHECKED Douglas Dunurd	BRIDGE NO. 53E0318 POST MILE 38.37/38.43

RETAINING WALL 2026

METER PEDESTAL DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09-11-14	02-11-14	02-20-14	05-27-14	6	7

FILE => rw2026-h-mpdt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1803	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-13-14 DATE

6-1-15
PLANS APPROVAL DATE

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

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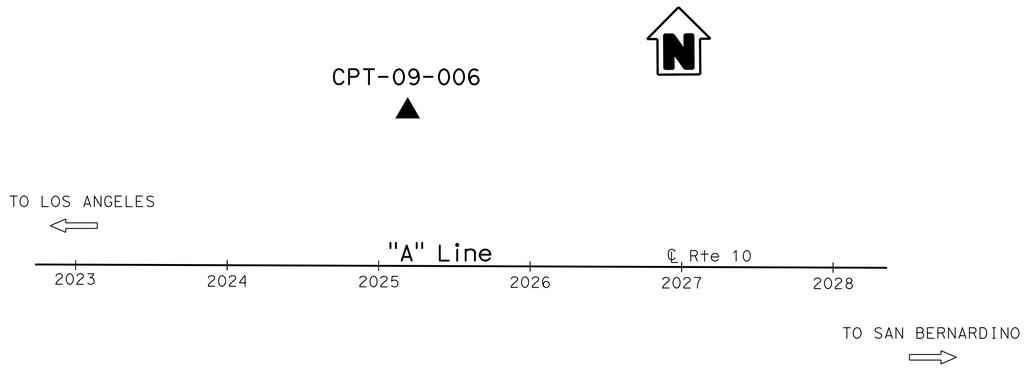
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

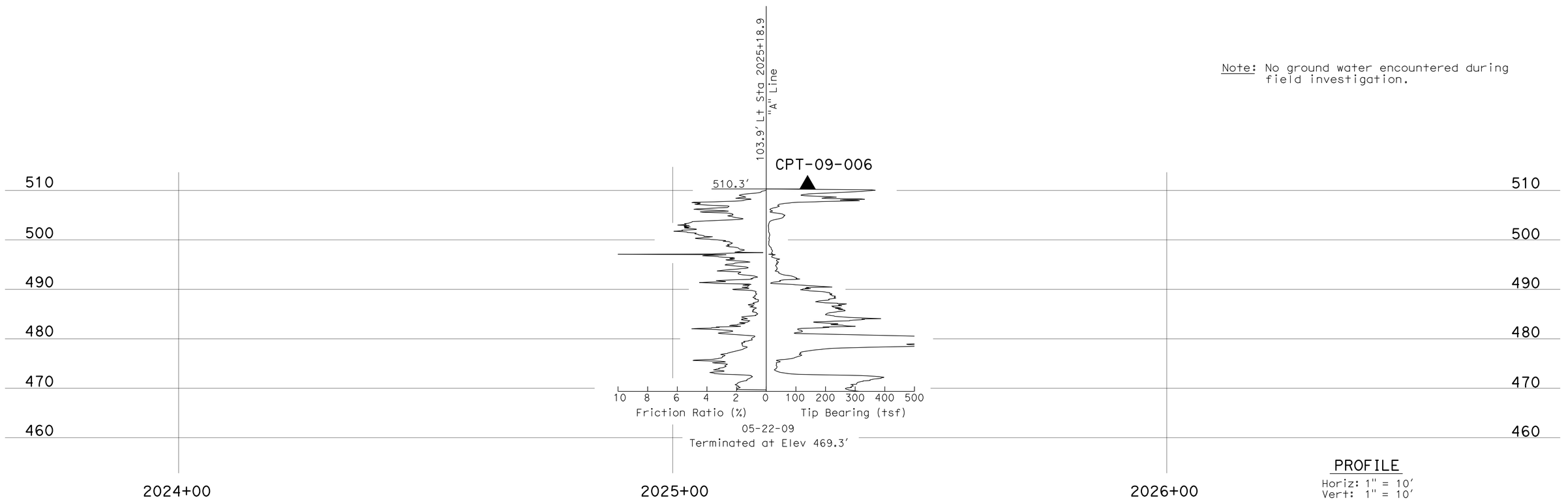
BENCH MARK

SUHV 449 Elev 508.97′
Fd PK in driveway,
144.1′ Lt Sta 2024+17.10
"A" Line
NAVD 88



PLAN
1" = 50′

Note: No ground water encountered during field investigation.



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

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	RETAINING WALL NO. 2026
FUNCTIONAL SUPERVISOR	DRAWN BY: I. G-Remmen 10/13		DESIGN BRANCH 14	53E0318	LOG OF TEST BORINGS
NAME: D. Jang	CHECKED BY: H. Liu	FIELD INVESTIGATION BY: C. Bugarin		POST MILE 38.37/38.43	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
10-16-13	01-13-14			7	7

FILE => rw2026-1-lotb.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1804	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — PAUL PETERSON — No. C66764 — Exp 09-30-16 — CIVIL — STATE OF CALIFORNIA

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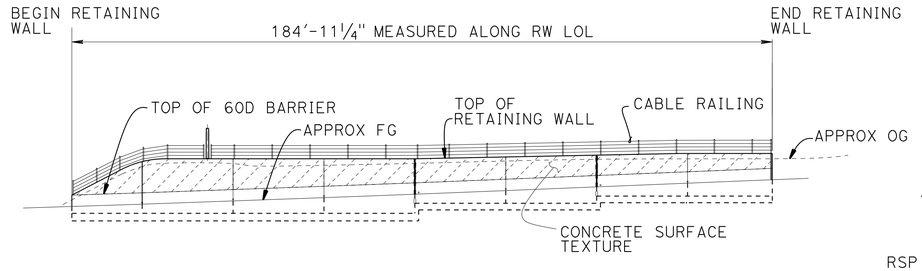
INDEX TO PLANS

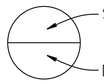


DEVELOPED MIRRORED ELEVATION

1" = 20'

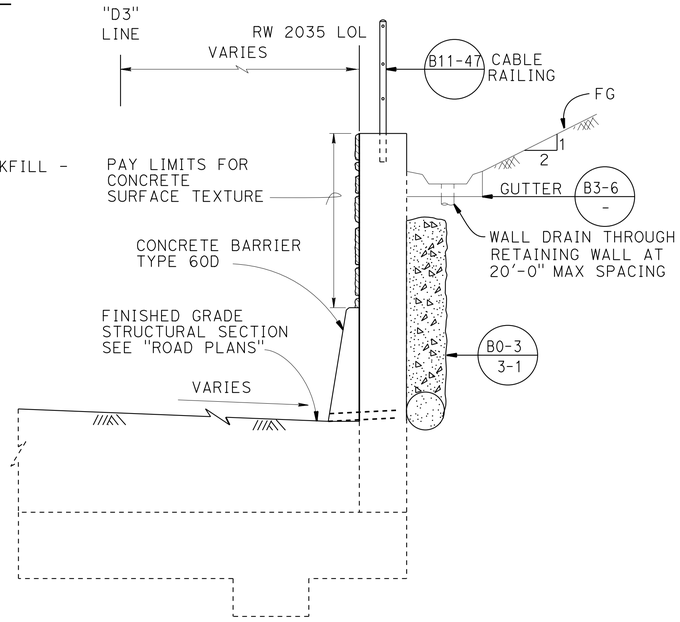
STANDARD PLANS DATED MAY 2010

	A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
	A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
	B0-3	BRIDGE DETAILS
RSP	B3-1	RETAINING WALL TYPE 1 H = 4' - 30'
RSP	B3-5	RETAINING WALL DETAILS No. 1
	B3-6	RETAINING WALL DETAILS No. 2
RSP	B11-47	CABLE RAILING



PLAN

1" = 20'



RETAINING WALL TYPE 7 MODIFIED

TYPICAL SECTION

½" = 1'-0"

NOTES:

1. For "DESIGN NOTES", see Standard Plan B3-8.

New Electrolier, see "ROAD PLANS."

New Sign Sructure, see "ROAD PLANS."

LEGEND

- Denotes Limit Area of Concrete Surface Texture and Prepare and Stain Concrete

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	912 CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALLY DEPOSITED LEAD)	88 CY
STRUCTURE BACKFILL (RETAINING WALL)	236 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	46 CY
STRUCTURAL CONCRETE, RETAINING WALL	250 CY
CONCRETE SURFACE TEXTURE	1,325 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	29,246 LB
PREPARE AND STAIN CONCRETE	1,325 SQFT
MINOR CONCRETE (GUTTER) (LF)	185 LF
CABLE RAILING	185 LF
CONCRETE BARRIER (TYPE 60D)	185 LF

X Douglas J Dunnel
DESIGN ENGINEER

DESIGN	BY P. A. PETERSON	CHECKED JOHN PETERSON	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	
DETAILS	BY P. A. PETERSON	CHECKED JOHN PETERSON	LAYOUT	BY P. A. PETERSON	CHECKED P. A. PETERSON
QUANTITIES	BY P. A. PETERSON	CHECKED V. RAMAKRISHNAN	SPECIFICATIONS	BY XIAODONG CHEN	PLANS AND SPECS COMPARED ENGR

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

BRIDGE NO. 53E0317
POST MILE 38.53/38.57

RETAINING WALL NO. 2035
GENERAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
12-31-15	2-13-15			1	5

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

FILE => rw2035-a-gp.dgn

USERNAME => s1125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1805	2313

10-01-14
REGISTERED CIVIL ENGINEER DATE

PAUL PETERSON No. C66764 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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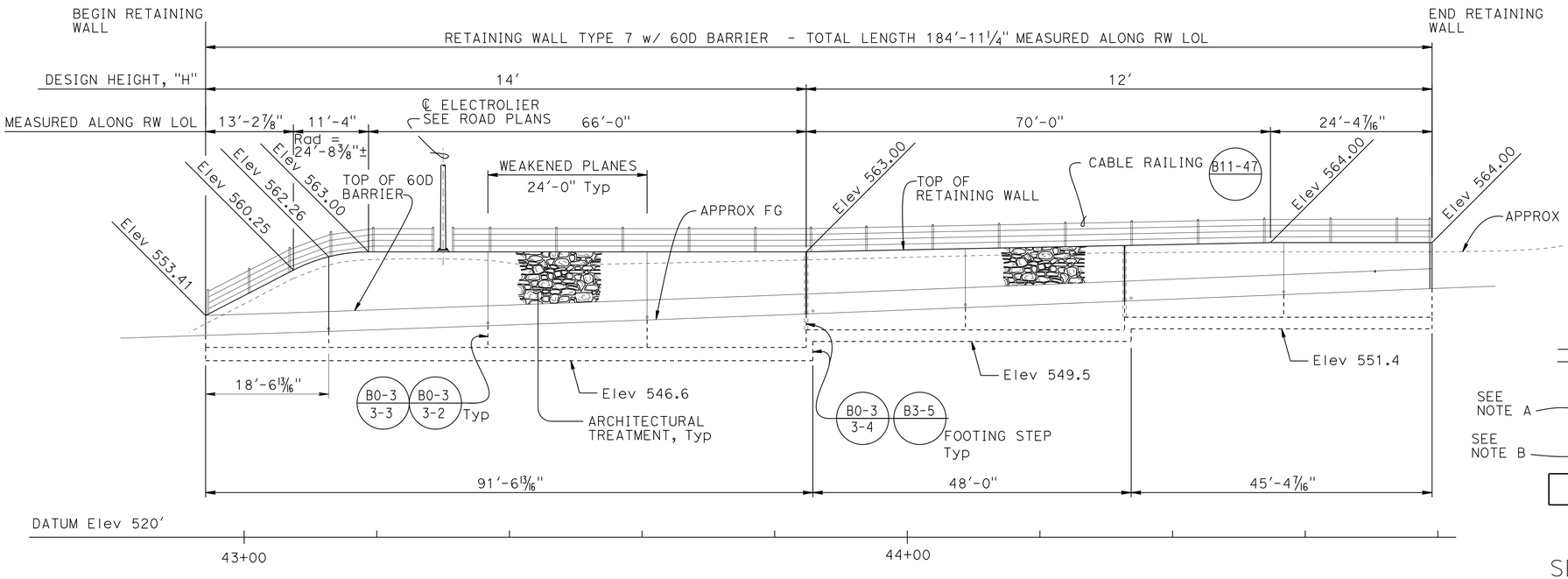
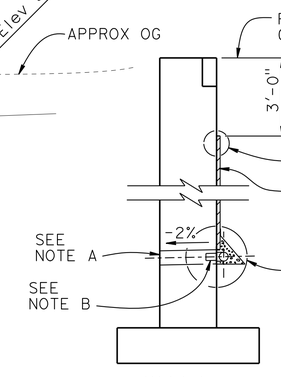
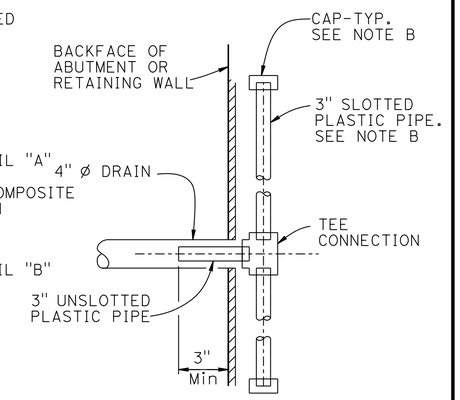


DEVELOPED MIRRORED ELEVATION

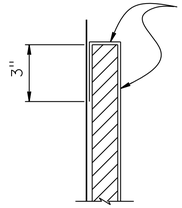
1" = 10'



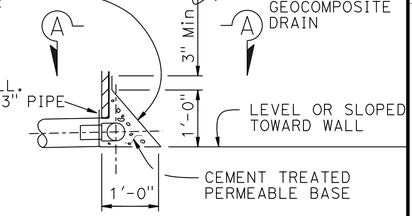
WALL SECTION



SECTION A-A



DETAIL "A"



DETAIL "B"

WEEP HOLE AND GEOCOMPOSITE DRAIN

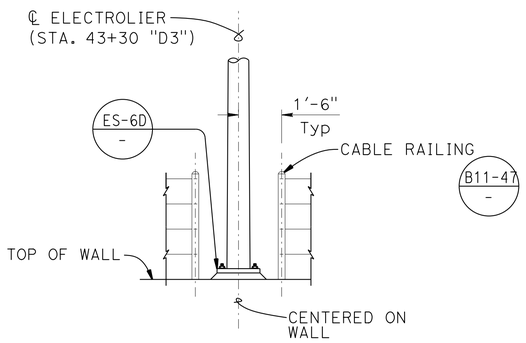
ALTERNATIVE TO BRIDGE DETAIL BO-3 3-1

NOTES:

A. 4" ø drains at intermediate sag points and at 25' max center to center (9' c-c for Type 3 and 9'-3" c-c for Type 4 retaining walls).
For walls adjacent to sidewalks or curbs, provide 4" cast iron or asbestos cement pipe under the sidewalk to discharge through curb face.
Exposed wall drains shall be located 3"± above finished grade.

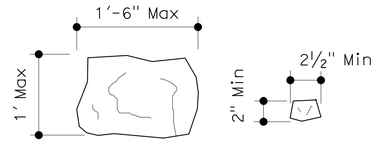
B. Geocomposite drain, cement treated permeable base, and 3"ø slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4" ø drain.

C. Connect the low end of plastic pipe to the main outlet pipe as applicable.



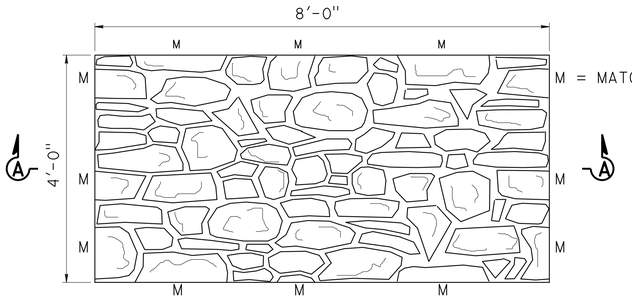
ELECTROLIER

No Scale

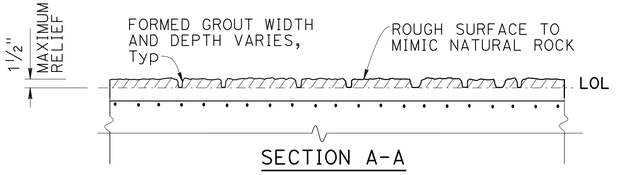


NOTE:

Seamless random rock pattern to have a minimum 2 to maximum 4 matchlines for each side (top and bottom, and side to side).



ELEVATION



SECTION A-A

RANDOM ROCK TEXTURE

No Scale

DESIGN	BY P. A. PETETERSON	CHECKED JOHN PETERSON	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0317	RETAINING WALL NO. 2035		
DETAILS	BY P. A. PETERSON	CHECKED JOHN PETERSON			POST MILE 38.53/38.57	STRUCTURE PLAN		
QUANTITIES	BY P. A. PETERSON	CHECKED V.RAMAKRISHNAN						

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09-11-14	01-14-14	02-18-14	02-21-14	2	5

FILE => rw2035-b-sp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1806	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

PAUL PETERSON No. C66764 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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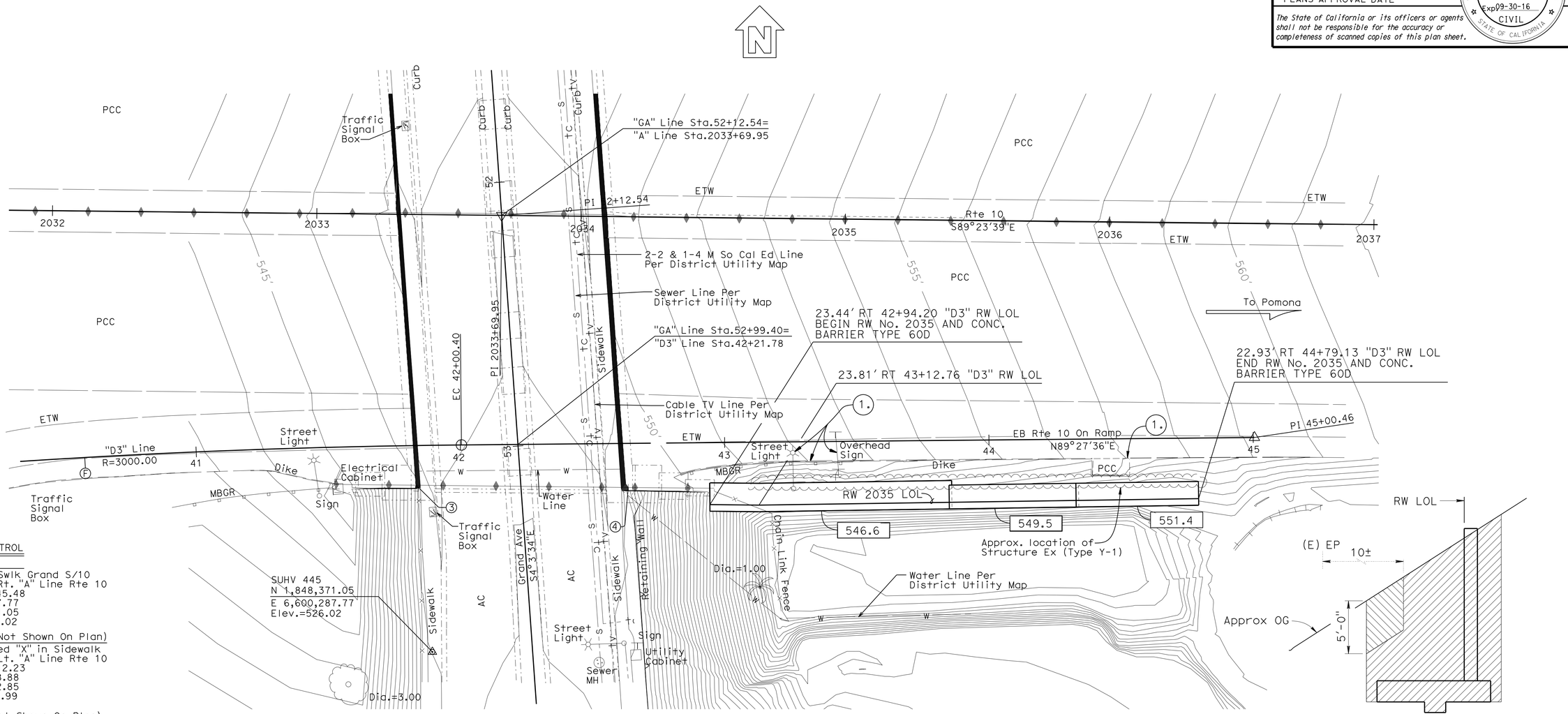


SURVEY CONTROL

SUHV 445
Fnd '+' W/Swlk Grand S/10
165.39 FT Rt. "A" Line Rte 10
Sta. 2033+45.48
N 6,600,287.77
E 1,848,371.05
Elev. = 526.02

SUHV 455 (Not Shown On Plan)
Fnd Scribed "X" in Sidewalk
246.09 FT Lt. "A" Line Rte 10
Sta. 2033+12.23
N 6,600,258.88
E 1,848,782.85
Elev. = 521.99

PRHV463 (Not Shown On Plan)
Fnd Set 1" IP w/Plug
147.27 Ft Rt "RTE10" Line, Rte 10
Sta 2056+76.02
N 1,847,956.37
E 6,602,471.71
Elev= 567.96

PRHV465 (Not Shown On Plan)
Fnd Set 1" IP w/ Plug
89.65 Ft Lt "RTE10" Line, Rte 10
Sta 2058+17.15
N 1,848,090.02
E 6,602,712.11
Elev= 592.96

1. EXITING STRUCTURES TO BE REMOVED OR RELOCATED, SEE "ROAD PLANS."
2. BRIDGE IMPROVEMENTS NOT SHOWN.

CURVE DATA

No.	R	Δ	T	L
(A)	5000.00	3°46'23"	164.69	329.26
(B)	400.00	24°38'21"	87.36	172.01
(C)	1000.00	4°52'29"	42.57	85.08
(D)	140.00	42°40'40"	54.69	104.28
(E)	140.00	103°22'54"	177.21	252.61
(F)	3000.00	3°11'29"	83.57	167.10

Bridge Location (Calculated)
(1) - 163.87 Lt. "A" Line, Sta.2033+17.56, Elev.=542.48 ±
(2) - 157.13 Lt. "A" Line, Sta.2033+96.75, Elev.=550.65 ±
(3) - 102.32 Rt. "A" Line, Sta.2033+38.57, Elev.=545.94 ±
(4) - 102.36 Rt. "A" Line, Sta.2034+18.94, Elev.=549.19 ±

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

LIMITS OF PAYMENT FOR EXCAVATION

Scale: None

	BY	CHECKED
DESIGN	P. A. PETERSON	JOHN PETERSON
DETAILS	P. A. PETERSON	JOHN PETERSON
QUANTITIES	P. A. PETERSON	V. RAMAKRISHNAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0317
POST MILE 38.53/38.57

RETAINING WALL NO. 2035
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09-11-14	02-04-15			3	5

FILE => rw2035-c-fp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1807	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

PLANS APPROVAL DATE — 6-1-15

REGISTERED PROFESSIONAL ENGINEER — PAUL PETERSON No. C66764 Exp 09-30-16 CIVIL — STATE OF CALIFORNIA

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

DESIGN DATA

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

LS: Varied surcharge on level ground surface

CT:

EQE: Mononabe-Okabe Method
K_h = 0.2
K_v = 0.0

Soil: ϕ = 34°
γ = 120 pcf

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

Load Combinations and Limit States

Service I Q=1.00DC+1.00EV+1.00EH+1.00LS+Td

Strength I Q=αDC+BEV+1.50EH+1.75LS+Td

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

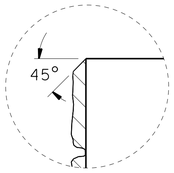
Extreme II Q=1.00DC+1.00EV+1.00EH+1.00CT+Td

Where:
- Q: Force Effects
- α: 1.25 or 0.90, Which ever Controls Design
- B: 1.35 or 1.00, which ever Controls Design
- DC: Dead Load of Structure Components
- EV: Vertical Earth Fill Pressure
- LS: Live Load Surcharge
- EQE: Seismic Earth Pressure
- EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design
- CT: Vehicular Collision Force
- Td: Anchor Design Load

SOIL BEARING DATA		
DESIGN H	12'	14'
Ser: B', q_o	8.9, 0.8	10.6, 0.8
Str: B', q_o	8.8, 1.8	10.5, 1.8
Ext I: B', q_o	3.4, 3.7	4.4, 3.5
Ext II: B', q_o	8.9, 1.3	10.6, 1.4

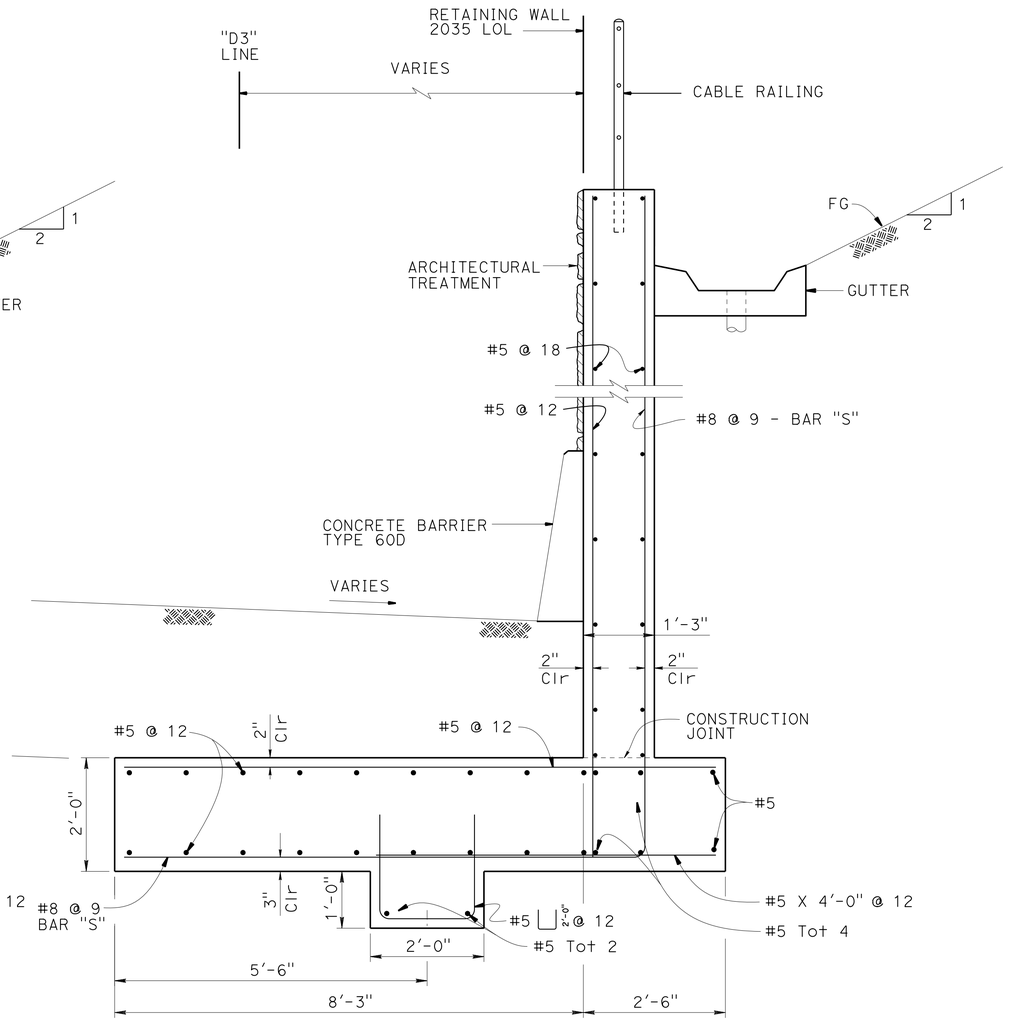
NOTES:

1. For Retaining Wall Architectural finish or texture details, see "RETAINING WALL LAYOUT" Sheet
2. Extend Architectural finish from top of wall to 60D Barrier
3. For Railing Details not shown, see B11-47
4. For Details not shown and Drainage Notes, see B3-5 B3-6
5. Contractor shall backfill footing to finished grade before backfilling wall
6. Dimensions may vary with roadway cross slope and with certain thickness of surfacing, see "Roadway" Plans
7. The Contractor shall expose and varify locations and elevations of existing underground utilities prior to construction of the new improvements



DETAIL A
No Scale

RW 2035 12' DESIGN HT TYPICAL SECTION
No Scale



RW 2035 14' DESIGN HT TYPICAL SECTION
No Scale

DESIGN	BY PAUL A. PETERSON	CHECKED JOHN M. PETERSON	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0317	RETAINING WALL 2035	
DETAILS	BY PAUL A. PETERSON	CHECKED JOHN M. PETERSON			POST MILE 38.53/38.57	RETAINING WALL DETAILS	
QUANTITIES	BY PAUL A. PETERSON	CHECKED V. RAMAKRISHNAN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05-11-14	09-11-14	01-15-14	02-11-14	4	5

FILE => rw2035-d-rwdt.dgn

DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59
USERNAME => s125624

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1808	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-15-14 DATE

6-1-15
PLANS APPROVAL DATE

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

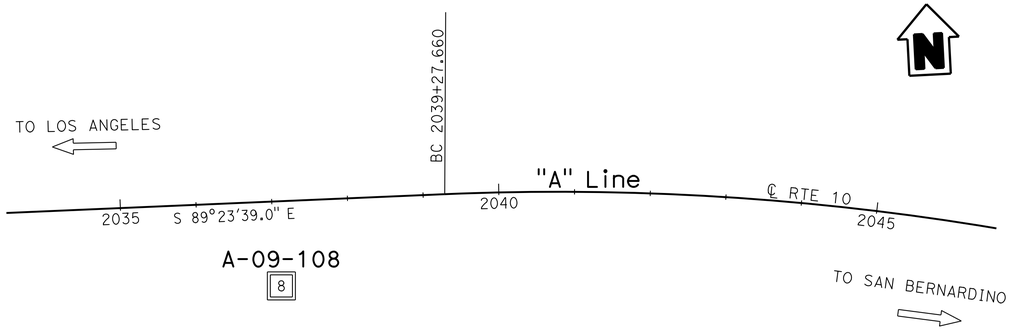
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

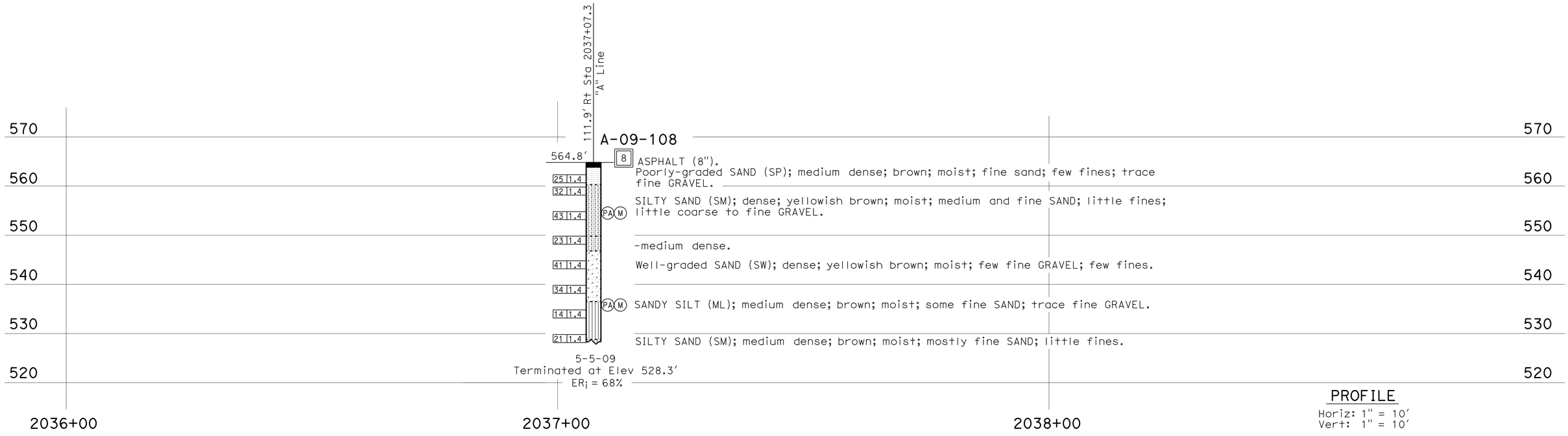
BENCH MARK

SUHV 4020 Elev 572.0
Fd Pk Nail in N. TC of Temple
Way E of Cul-de-Sac,
105.69′ Rt Sta 2039+33.37 "A" Line.
NAVD 88



PLAN
1" = 100′

Note: No ground water encountered during field investigation.



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 14	BRIDGE NO. 53E0317	RETAINING WALL NO. 2035
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: I.G-Remmen	FIELD INVESTIGATION BY: Y. Choi			POST MILE 38.53/38.57	LOG OF TEST BORINGS
	CHECKED BY: H. Liu					

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 0713000007 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11-26-13	01-13-14			5	5

FILE => rw2035-y-lotb.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1809	2313

V. Ramakrishnan — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VIJAYARANI RAMAKRISHNAN — No. C63091 — Exp. 6-30-16 — CIVIL — STATE OF CALIFORNIA

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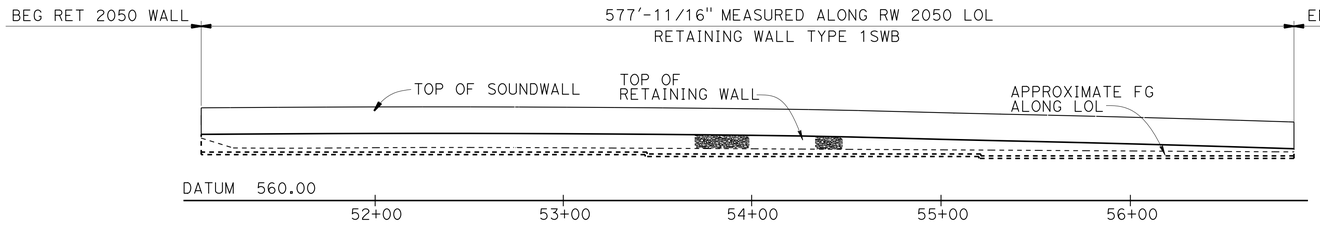


NOTES:

① Masonry Sound Wall H=14'-4"

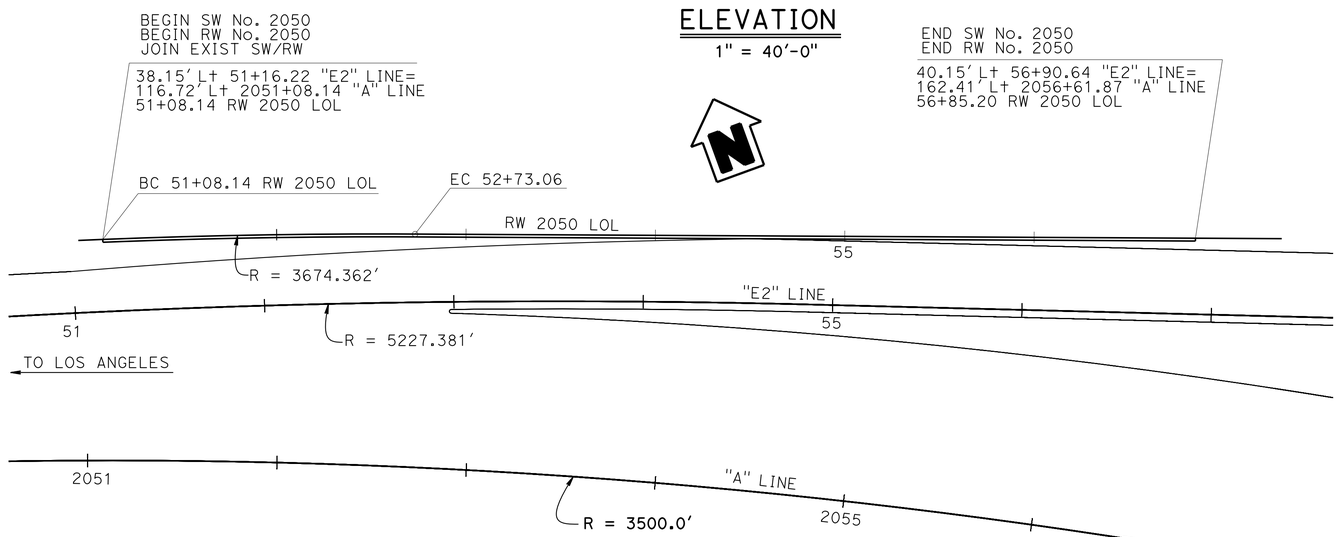
② Concrete Barrier, Type 736S (Mod)

③ Spread Footing Retaining Wall, Type 1SWB

* This limit also applies to Prepare and Stain Concrete

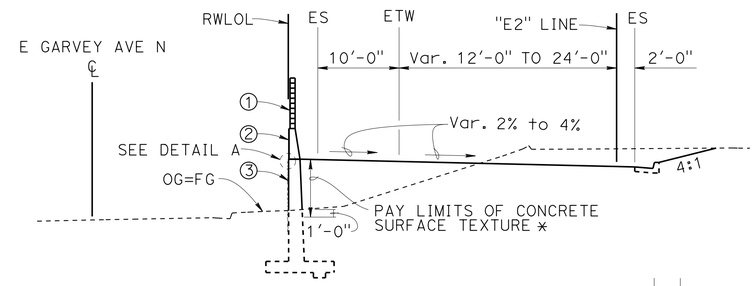
ELEVATION

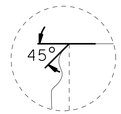
1" = 40'-0"



PLAN

1" = 40'-0"



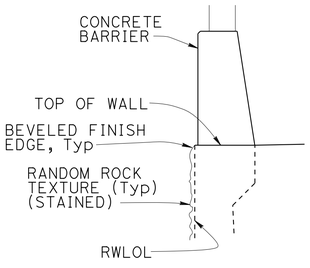


DETAIL A

No Scale

TYPICAL SECTION

1" = 10'-0"



QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	785 CY
STRUCTURE BACKFILL (RETAINING WALL)	768 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	70 CY
STRUCTURAL CONCRETE, RETAINING WALL	534 CY
CONCRETE SURFACE TEXTURE	5,484 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	52,976 LB
SOUND WALL (MASONRY BLOCK)	6,540 SQFT
PREPARE AND STAIN CONCRETE	5,484 SQFT
CONCRETE BARRIER (TYPE 736S MODIFIED)	577 LF

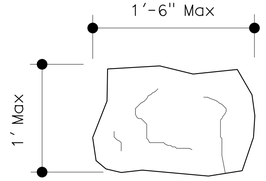
INDEX TO PLANS

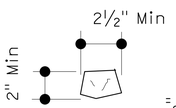
STANDARD PLANS 2010

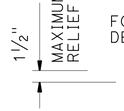
	A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
	A10F	LEGEND - SOIL (SHEET 1 OF 2)
	A10G	LEGEND - SOIL (SHEET 2 OF 2)
	A10H	LEGEND - ROCK
	B0-3	BRIDGE DETAILS
RSP	B3- 5	RETAINING WALL DETAILS No.1
RSP	B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
	B15-9	SOUND WALL MASONRY BLOCK MISCELLANEOUS DETAILS

CURVE DATA

RWLOL	"E2" LINE
△ = 2°34'18"	△ = 7°25'15.6"
R = 3674.362'	R = 5227.381'
L = 164.92'	L = 677.056'
T = 82.473'	T = 339.002'

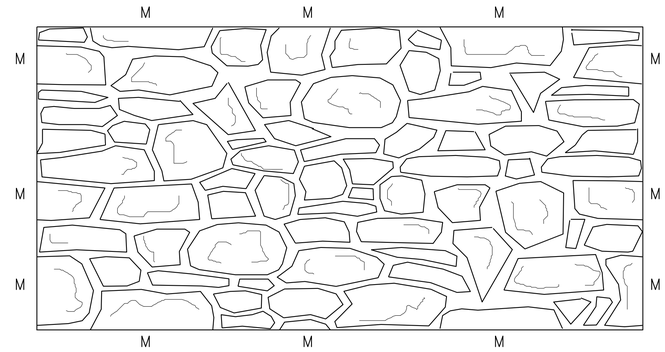




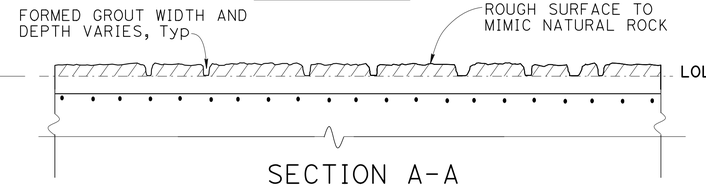


NOTE:

Seamless random rock pattern to have a minimum 2 to maximum 4 matchlines for each side (top and bottom, and side to side)



ELEVATION



SECTION A-A

RANDOM ROCK TEXTURE

No Scale

X Douglas J Dunnel
DESIGN ENGINEER

DESIGN	BY L. Han	CHECKED V. Ramakrishnan	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE			
DETAILS	BY L. Xiong	CHECKED V. Ramakrishnan	LAYOUT	BY L. Han	CHECKED V. Ramakrishnan		
QUANTITIES	BY V. Ramakrishnan	CHECKED M. Schott	SPECIFICATIONS	BY Xiaodong Chen	PLANS AND SPECS COMPARED Xiaodong Chen		

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0316
POST MILE 38.85

RETAINING WALL NO. 2050
GENERAL PLAN

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
07-31-14	08-14-14	09-11-14	05-14-14	1	8

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

FILE => rw2050-a-gp.dgn

USERNAME => s1256624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1810	2313

V. Ramakrishnan — 10-01-14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VIJAYARANI RAMAKRISHNAN — No. C63091 — Exp. 6-30-16 — CIVIL — STATE OF CALIFORNIA

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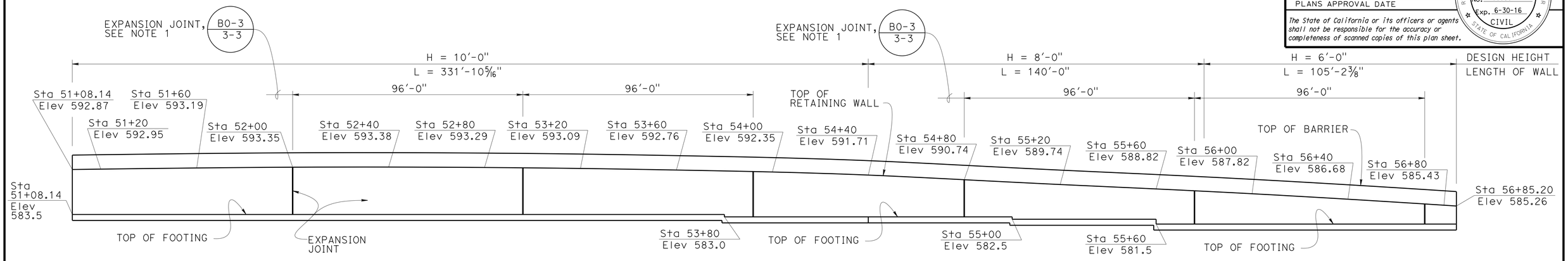
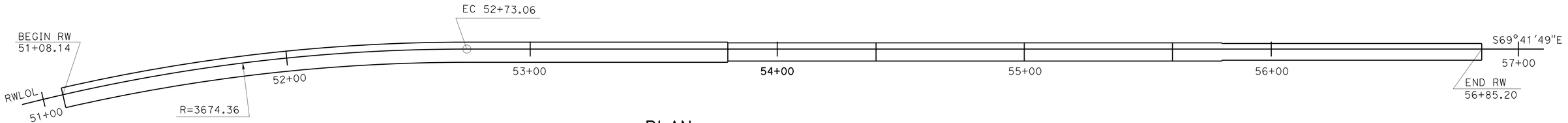


DEVELOPED ELEVATION

Horz 1" = 20′-0"
Vert 1" = 10′-0"

NOTES:
1. Weakened Planes and Drains not shown.
   See Standard Plan B0-3 "BRIDGE DETAILS" for more details.
2. Sound wall not shown.



PLAN

1" = 20′-0"

DESIGN	BY L. Han	CHECKED V. Ramakrishnan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0316	RETAINING WALL NO. 2050 STRUCTURE PLAN	
DETAILS	BY L. Xiong	CHECKED V. Ramakrishnan			POST MILE 38.85/38.95		
QUANTITIES	BY V. Ramakrishnan	CHECKED M. Schott					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-29-14	07-21-14	09-11-14	02-24-15	2	8

FILE => rw2050-b-sp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1811	2313

V. Ramakrishnan — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VIJAYARANI RAMAKRISHNAN — No. C63091 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

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SURVEY CONTROL

PRHV 9

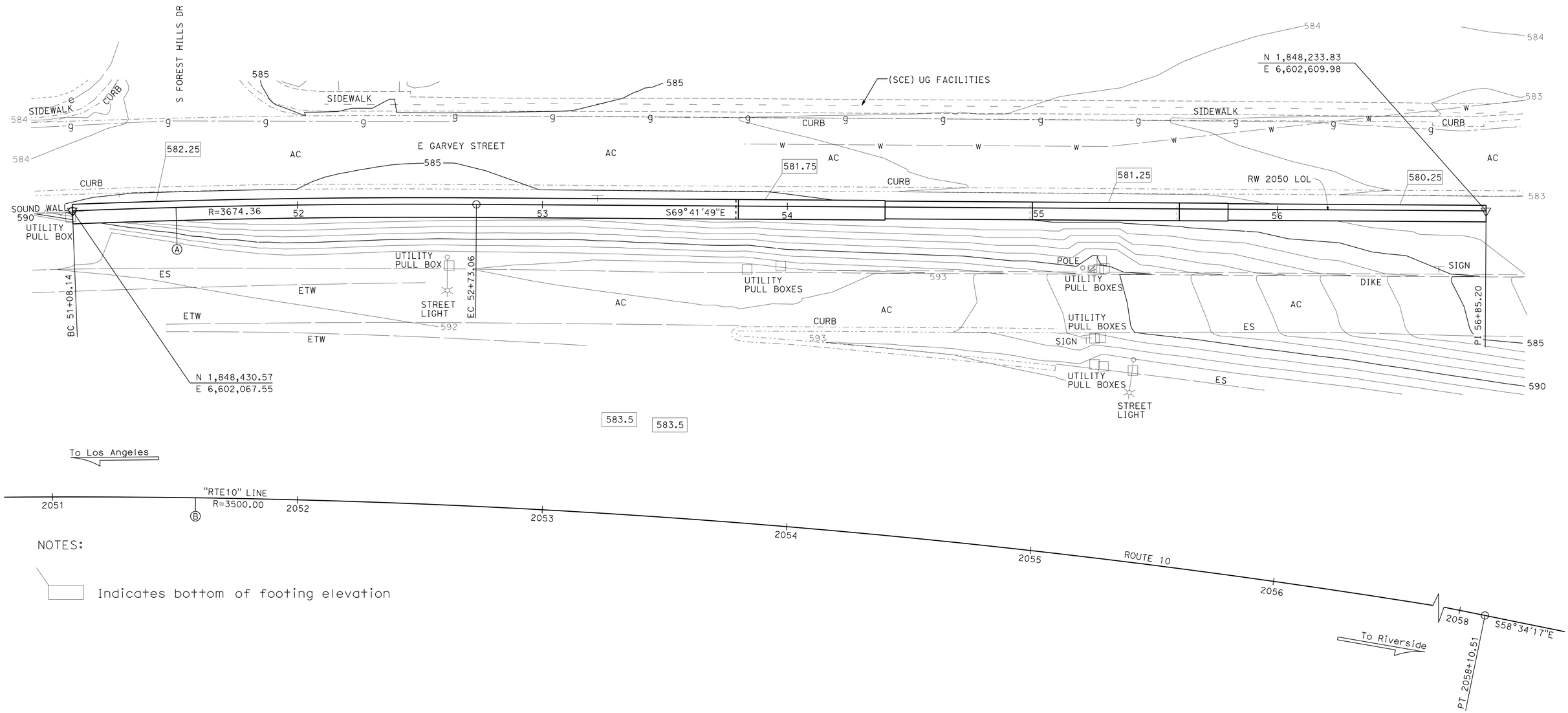
Fnd Well Mon.
153.98 Lt. "RTE10" LINE, ROUTE 10
Sta. 2059+92.93
N 1,848,053.26
E 6,602,895.64
Elev.=575.10

PRHV 463

Fnd 1" I.P. w/ Plug
147.27 Rt. "RTE10" Line, ROUTE 10
Sta. 2056+76.02
N 1,847,956.37
E 6,602,471.71
Elev.=567.96

CURVE DATA

No.	R	Δ	T	L
Ⓐ	3674.36	02°34'18"	82.47	164.92
Ⓑ	3500.00	30°49'22"	964.81	1882.85



NOTES:

Indicates bottom of footing elevation

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

DESIGN	BY V. Ramakrishnan	CHECKED J. Lane
DETAILS	BY L. Xiong	CHECKED V. Ramakrishnan
QUANTITIES	BY V. Ramakrishnan	CHECKED J. Lane

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0316
POST MILE 38.85/38.95

RETAINING WALL 2050
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-11-14	01/28/14	02-26-14	07-21-14	3	8

FILE => rw2050-e-fp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1812	2313

V. Ramakrishnan — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VIJAYARANI RAMAKRISHNAN — No. C63091 — Exp. 6-30-16 — CIVIL — STATE OF CALIFORNIA

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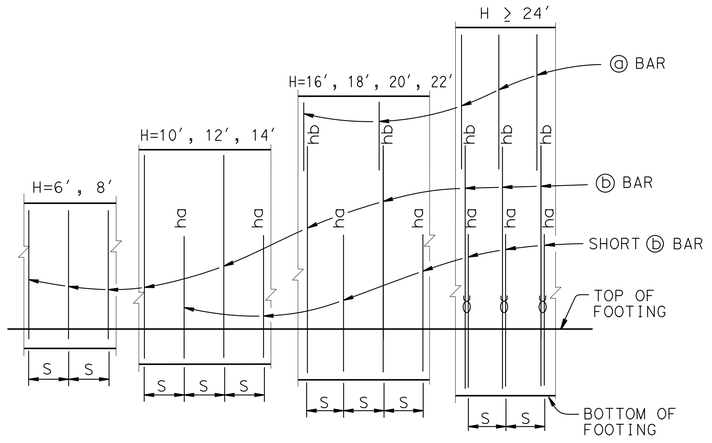
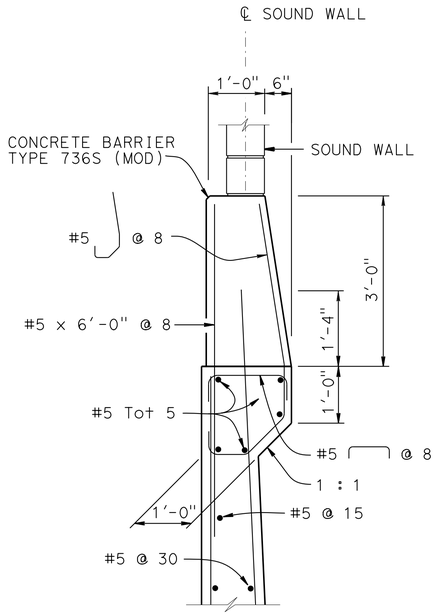


ELEVATION
No Scale

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



DETAIL A
¾ = 1′-0"

DESIGN DATA

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

WS: 33 psf on Sound Wall and Barrier

LS: Varied surcharge on level ground surface

CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward

EQE: Mononabe-Okabe Method
K_h = 0.3
K_v = 0.0

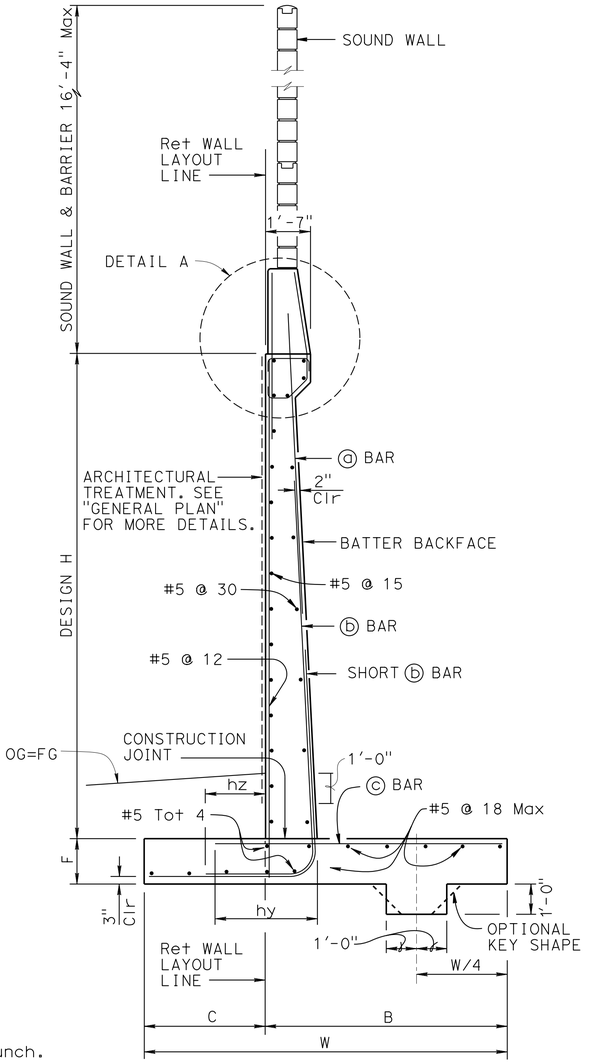
Soil: Ø = 34°
γ = 120 pcf

Reinforced Concrete: f′c = 3600 psi
fy = 60,000 psi

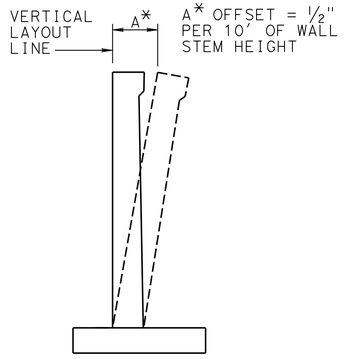
Load Combinations and Limit States

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

Where: Q: Force Effects
α: 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
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design
WS: Wind Load on Sound Wall and Barrier
CT: Vehicular Collision Force

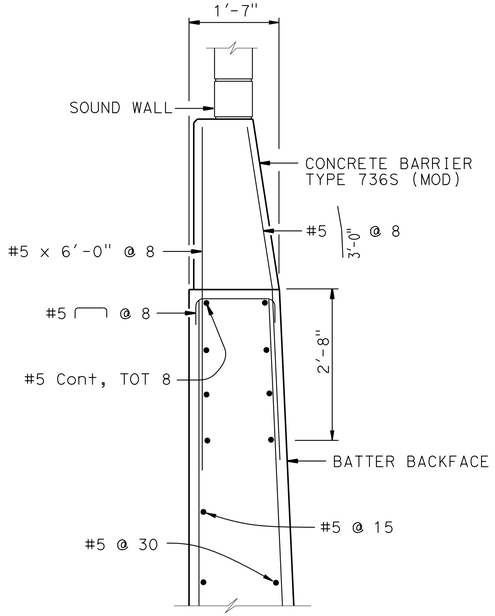


SPREAD FOOTING SECTION
No Scale



WALL OFFSET
No Scale

Values for offsetting forms to be determined by the Engineer



OPTIONAL DETAIL A
¾ = 1′-0"

For Details not shown, see "DETAIL A"

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

STANDARD DRAWING	◇1 MODIFIED DETAIL	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0316	RETAINING WALL NO. 2050
FILE NO. xs14-220-1 APPROVAL DATE July 2011				POST MILE 38.85/38.95	RETAINING WALL TYPE 1SWB-DETAILS NO. 1

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613 PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-11-14	11-05-13	02-26-14	07-21-14	4	8

FILE => rw2050-f-rwdt_01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1813	2313

V. Ramakrishnan
REGISTERED CIVIL ENGINEER

10-01-14
DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VIJAYARANI RAMAKRISHNAN
No. C63091
Exp. 6-30-16
CIVIL
STATE OF CALIFORNIA

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

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	6′	8′	10′	12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′
W	6′-9″	7′-3″	8′-0″	8′-9″	10′-0″	11′-6″	12′-9″	14′-0″	15′-9″	18′-0″	19′-9″	21′-9″	23′-3″	25′-3″
C	2′-3″	2′-5″	2′-8″	2′-11″	3′-4″	3′-10″	4′-3″	4′-8″	5′-3″	6′-0″	6′-7″	7′-3″	7′-9″	8′-5″
B	4′-6″	4′-10″	5′-4″	5′-10″	6′-8″	7′-8″	8′-6″	9′-4″	10′-6″	12′-0″	13′-2″	14′-6″	15′-6″	16′-10″
F SPREAD FOOTING	1′-3″	1′-3″	1′-3″	1′-3″	1′-6″	1′-9″	1′-9″	2′-3″	2′-6″	2′-6″	2′-9″	3′-0″	3′-6″	3′-9″
STEM WITH HAUNCH, BATTER	0	½:12	½:12	½:12	½:12	½:12	½:12	½:12	½:12	⅝:12	¾:12	⅞:12	1:12	1:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	¼:12	¼:12	½:12	¾:12	¾:12	¾:12
ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 9	#9 @ 9
ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6℧	#8 @ 6℧	#8 @ 6℧	#10 @ 9℧	#11 @ 9℧
ha			5′-0″	6′-0″	7′-0″	7′-0″	6′-0″	7′-0″	7′-6″	7′-6″	8′-6″	9′-3″	15′-0″	11′-3″
hb						11′-6″	12′-0″	13′-3″	16′-0″	15′-6″	17′-6″	18′-9″	21′-0″	20′-9″
hy	2′-0″	2′-4″	1′-8″	2′-0″	2′-4″	2′-10″	2′-10″	3′-7″	3′-7″	4′-6″	5′-6″	2′-10″	4′-6″	5′-6″
hz			0	0	3′-1″	3′-7″	4′-0″	4′-5″	5′-0″	3′-0″	3′-0″	3′-6″	5′-6″	3′-0″
ⓒ BARS	#6 @ 12	#7 @ 12	#5 @ 6	#6 @ 6	#7 @ 6	#8 @ 7.5	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#11 @ 6	#8 @ 6℧	#10 @ 9℧	#11 @ 9℧
SER I: B′(ft), q'_0(ksf)	5.9, 1.2	6.0, 1.4	6.5, 1.6	7.0, 1.8	8.1, 1.9	9.7, 2.0	11.0, 2.1	12.1, 2.3	13.8, 2.4	16.6, 2.4	18.5, 2.6	20.7, 2.7	22.1, 2.9	24.3, 3.0
STR Ia: B′(ft), q_0(ksf)	6.3, 1.9	6.3, 2.3	6.7, 2.5	7.0, 2.9	8.1, 3.1	9.5, 3.2	10.8, 3.4	11.8, 3.7	13.4, 4.0	16.2, 4.0	18.0, 4.2	20.2, 4.4	21.5, 5.0	23.7, 5.0
STR, Ib: B′(ft), q_0(ksf)	4.3, 1.6	4.1, 2.0	4.3, 2.4	4.5, 2.8	5.5, 2.9	6.9, 2.9	8.2, 3.0	9.0, 3.4	10.4, 3.5	13.2, 3.4	14.8, 3.5	16.9, 3.6	18.0, 3.9	20.1, 4.1
STR, IIIa: B′(ft), q_0(ksf)	4.3, 2.1	4.8, 2.4	5.5, 2.5	6.2, 2.8	7.4, 2.9	9.1, 3.0	10.4, 3.2	11.5, 3.7	13.3, 3.7	16.1, 3.8	18.0, 4.0	20.3, 4.2	21.6, 4.6	23.8, 4.9
STR, IIIb: B′(ft), q_0(ksf)	3.2, 2.1	3.6, 2.3	4.2, 2.4	4.7, 2.6	5.9, 2.7	7.4, 2.7	8.6, 2.8	9.5, 3.1	11.2, 3.0	14.0, 3.2	15.8, 3.3	17.9, 3.4	19.1, 3.7	21.2, 3.9
STR, Va: B′(ft), q_0(ksf)	5.9, 2.0	5.9, 2.3	6.4, 2.6	6.8, 2.9	7.9, 3.1	9.4, 3.2	10.6, 3.4	11.7, 3.9	13.4, 3.9	16.1, 4.0	18.0, 4.2	20.2, 4.5	21.5 4.9	23.7, 5.1
STR, Vb: B′(ft), q_0(ksf)	3.8, 1.7	3.8, 2.1	4.2, 2.5	4.4, 2.8	5.5, 2.9	7.0, 2.9	8.2, 3.0	9.0, 3.3	10.5, 3.4	13.3, 3.3	15.0, 3.5	17.1, 3.6	18.2 3.9	20.3, 4.0
Ext I: B′(ft), q_0(ksf)	2.5, 2.8	2.0, 4.3	1.7, 6.4	1.2, 10.9	1.3, 13.3	1.7, 12.4	1.9, 13.2	1.9 17.6	2.5, 15.0	4.5, 10.2	5.3, 10.0	6.6, 9.6	6.8, 10.8	8.1, 10.5
Ext II: B′(ft), q_0(ksf)	1.4, 4.9	2.5, 3.5	3.8, 2.8	4.9, 2.7	6.6, 2.5	8.6, 2.5	10.1, 2.5	11.5, 2.6	13.5, 2.8	16.4, 2.8	18.4, 2.9	20.7, 3.1	22.1, 3.3	24.4, 3.5

LEGEND:
SER: service limit state
STR: strength limit state
EXT: extreme event limit state
B′ : effective footing width (ft)
q'_0 : net bearing stress (ksf)

q_0 : gross uniform bearing stress (ksf)

℧ : 2 bar bundle

STANDARD DRAWING
FILE NO. xs14-220-2
APPROVAL DATE December 2012

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0316
POST MILE 38.85/38.95

RETAINING WALL NO. 2050
RETAINING WALL TYPE 1 SWB-DETAILS NO. 2

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
02-26-14	07-21-14	09-11-14	02-19-15	5	8

FILE => rw2050-f-rwdt_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1814	2313

V. Ramakrishnan — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — VIJAYARANI RAMAKRISHNAN — No. C63091 — Exp. 6-30-16 — CIVIL — STATE OF CALIFORNIA

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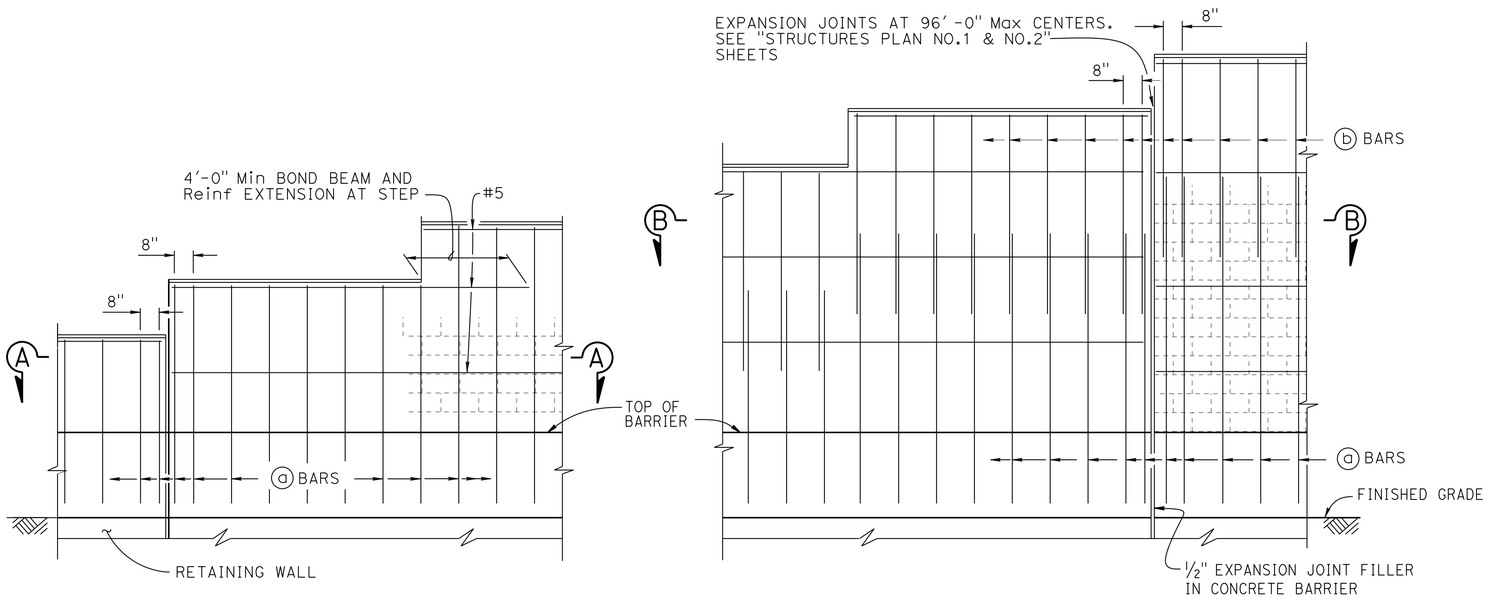


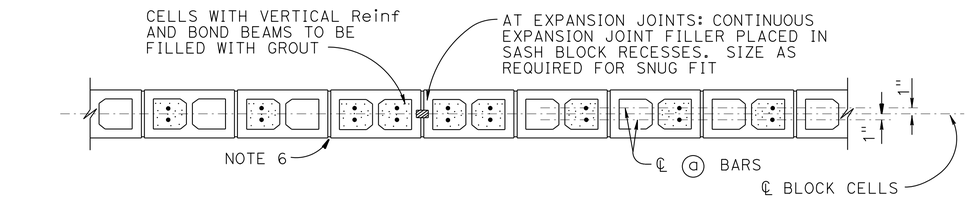
H=6'-4" THRU H=10'-4"

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

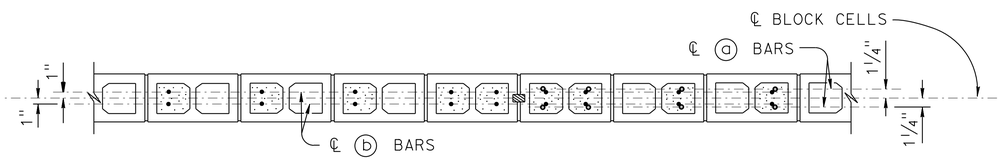
PART ELEVATION

SOUND WALL REINFORCEMENT TABLE

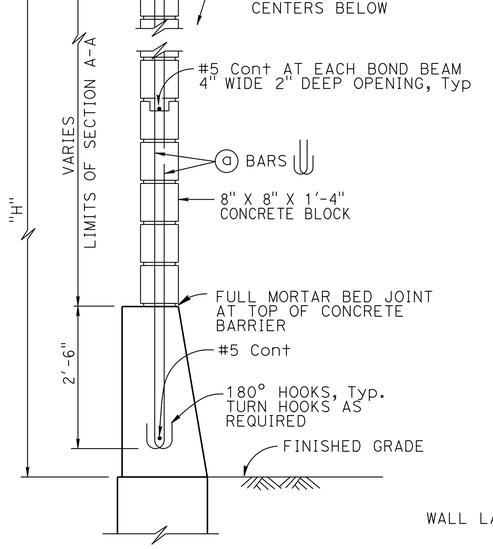
MAXIMUM "H"	ⓐ BARS @ 1'-4" Max	ⓑ BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4	———	———	1500	1900	6'-4"
8'-4"	#4	———	———	1500	1900	8'-4"
10'-4"	#4	———	———	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"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



SECTION A-A



SECTION B-B



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

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

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

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

TYPICAL SECTION

NOTES:

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

NO SCALE

RETAINING WALL 2050

MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL

DETAILS NO. 1

STANDARD DRAWING

FILE NO. xs15-130-1

APPROVAL DATE July 2012

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0316

POST MILE 38.85/38.95

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-29-14	07-29-14	09-11-14	02-26-15	6	8

FILE => rw2050-m-swdt_01.dgn

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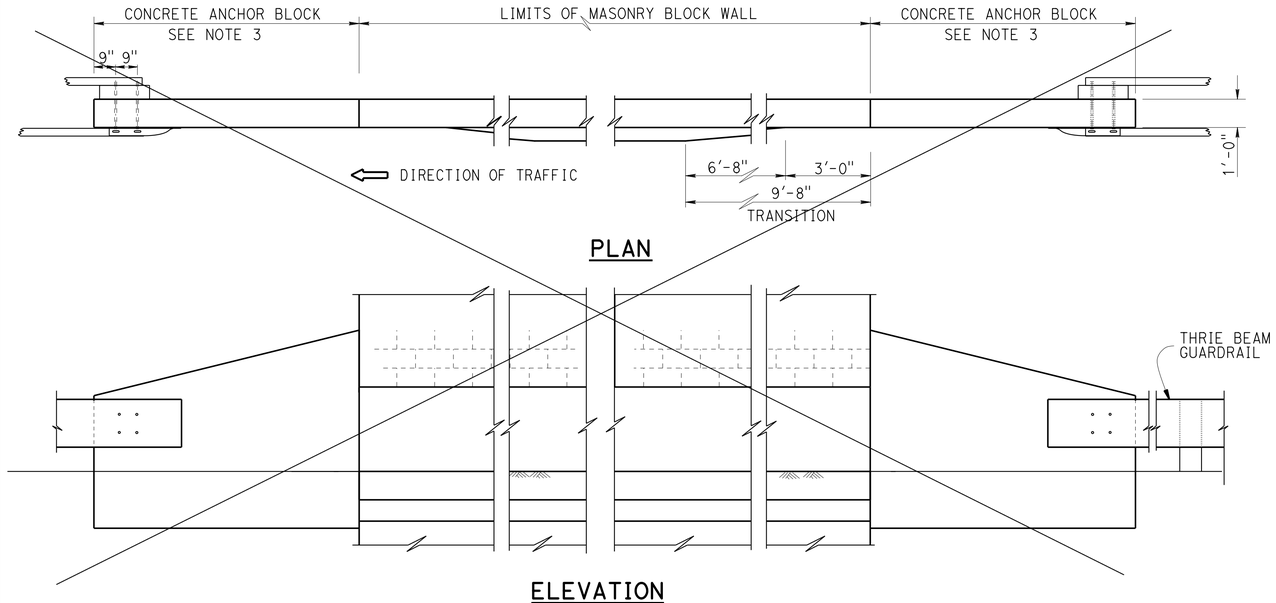
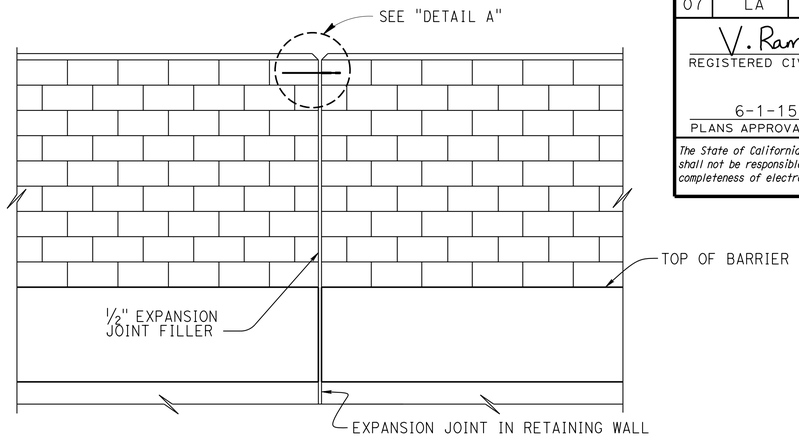
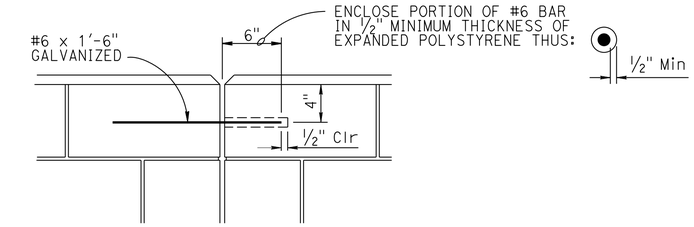


METAL BEAM GUARDRAIL ANCHORAGE ③

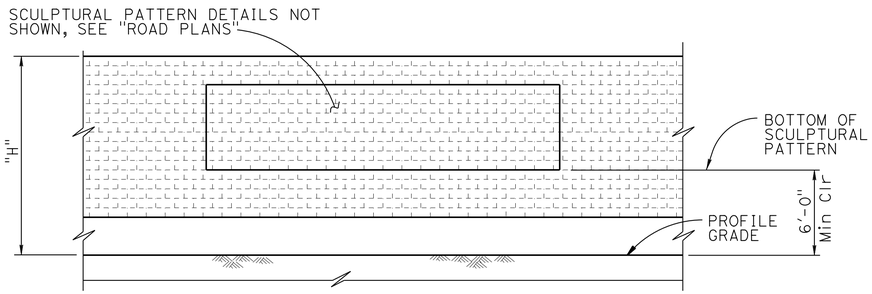
For details not shown, see STANDARD PLAN B11-56



ALIGNMENT KEY DETAIL



DETAIL A



CLEARANCE DETAIL

BARRIER SECTION

DESIGN NOTES

DESIGN

Uniform Building Code, 1997 Edition and the Bridge Design Specifications

DESIGN WIND LOAD

33 psf

DESIGN SEISMIC LOAD

0.57 Dead load

CONCRETE MASONRY

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

NOTES: ②

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

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1815	2313

V. Ramakrishnan — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — VIJAYARANI RAMAKRISHNAN — No. C63091 — Exp. 3-30-16 — CIVIL — STATE OF CALIFORNIA

STANDARD DRAWING

FILE NO. xs15-130-2

APPROVAL DATE July 2011

① MODIFIED DETAIL ③ DELETED DETAILS

② MODIFIED NOTES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0316

POST MILE 38.85/38.95

RETAINING WALL 2050

MASONRY BLOCK SOUND WALL W/BARRIER ON RETAINING WALL

DETAILS NO. 2

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3613
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09-11-14	02-26-14	05-29-14	07-21-14	7	8

FILE => rw2050-m-swdt_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1816	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-14-14 DATE

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

6-1-15
PLANS APPROVAL DATE

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

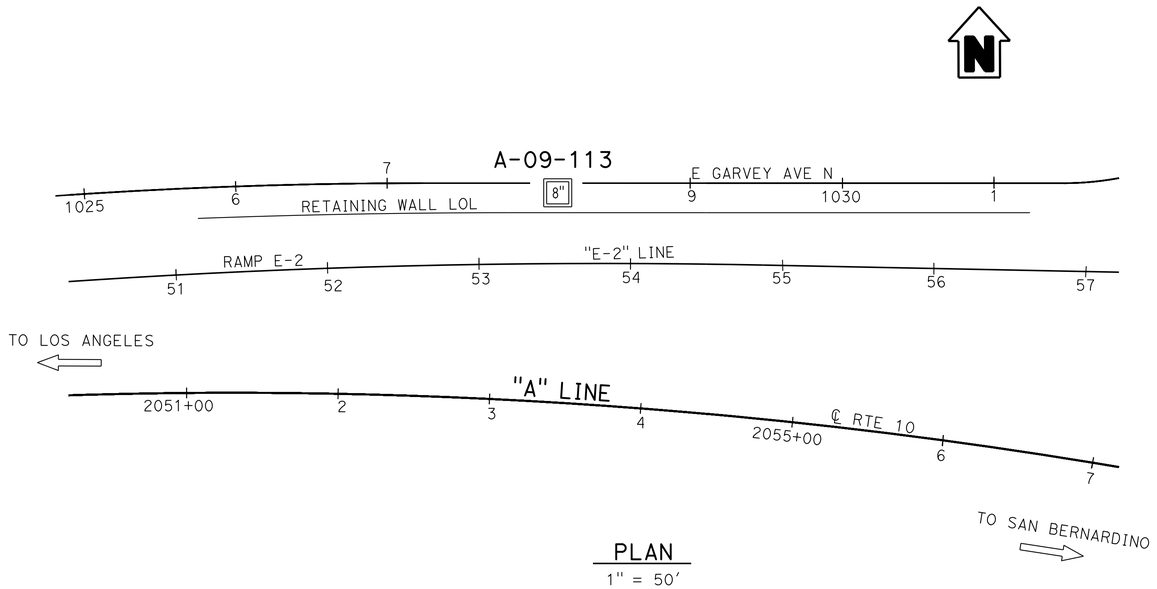
See 2010 Standard Plans A1OF and A10G for Soil Legend, and A10H for Rock Legend.

BENCH MARK

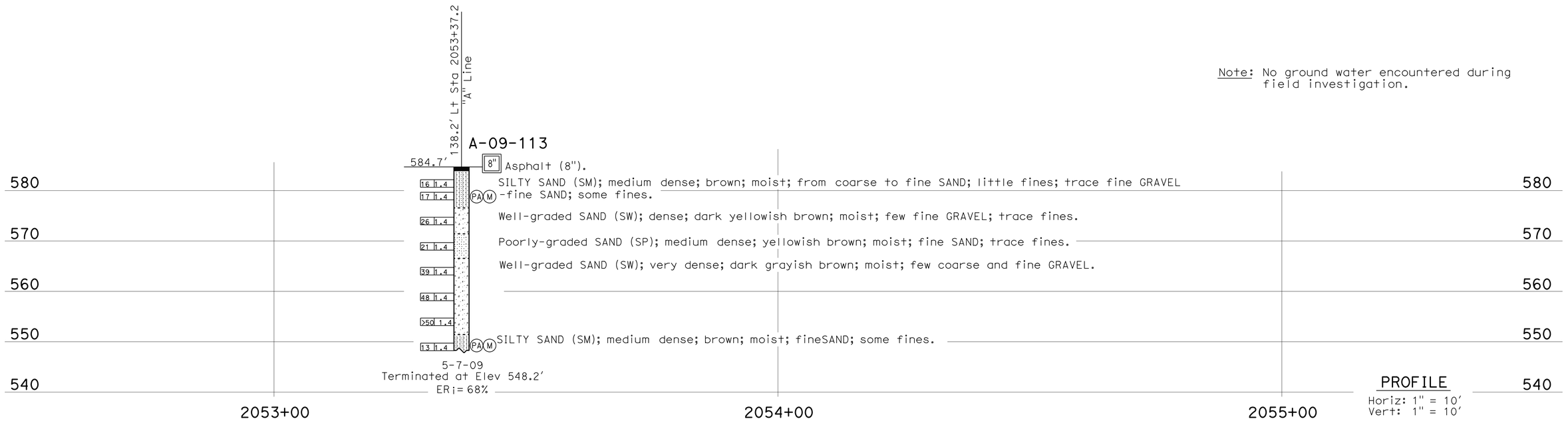
SUHV 1609 Elev 1000.790
Fd PK N. W/B I-10 Shldr
Behind Gdrl
N 1846593.854
E 6612793.794

SUHV 4035 Elev 965.370
Fd 60d N. Spk in Shldr W/B I-10
N 1846925.402
E 6612021.361

NAVD 88



PLAN
1" = 50'



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

Note: No ground water encountered during field investigation.

ENGINEERING SERVICES	GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0316	RETAINING WALL NO. 2050
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: I.G-Remmen	FIELD INVESTIGATION BY: Y. Choi			POST MILE 38.85/38.95	LOG OF TEST BORINGS
	CHECKED BY: H. Liu					

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11-15-13	01-14-14			8	8

FILE => rw2050-n-lotb.dgn

USERNAME => s1256c24 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	FOUNDATION PLAN
3	STRUCTURE PLAN NO. 1
4	STRUCTURE PLAN NO. 2
5	RETAINING WALL TYPE 7B - DETAILS NO. 1
6	RETAINING WALL TYPE 7B - DETAILS NO. 2
7	VERTICAL GROUND ANCHOR - DETAILS NO. 1
8	VERTICAL GROUND ANCHOR - DETAILS NO. 2
9	ARCHITECTURAL DETAILS NO. 1
10	ARCHITECTURAL DETAILS NO. 2
11	ARCHITECTURAL DETAILS NO. 3
12	ARCHITECTURAL DETAILS NO. 4
13	ARCHITECTURAL DETAILS NO. 5
14	LOG OF TEST BORINGS

STANDARD PLANS DATED 2010

SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
B0-3	BRIDGE DETAILS
RSP B3-5	RETAINING WALL DETAILS No. 1
B3-6	RETAINING WALL DETAILS No. 2
B11-52	CHAIN LINK RAILING TYPE 7

STANDARD PLAN SHEET NUMBER

DETAIL NUMBER

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	1,026 CY
STRUCTURE BACKFILL (RETAINING WALL)	347 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	114 CY
GROUND ANCHOR (VERTICAL)	31 EA
STRUCTURAL CONCRETE, RETAINING WALL	591 CY
CONCRETE SURFACE TEXTURE	4,418 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	61,508 LB
PREPARE AND STAIN CONCRETE	4,222 SQFT
CHAIN LINK RAILING (TYPE 7 MODIFIED)	323 LF

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1817	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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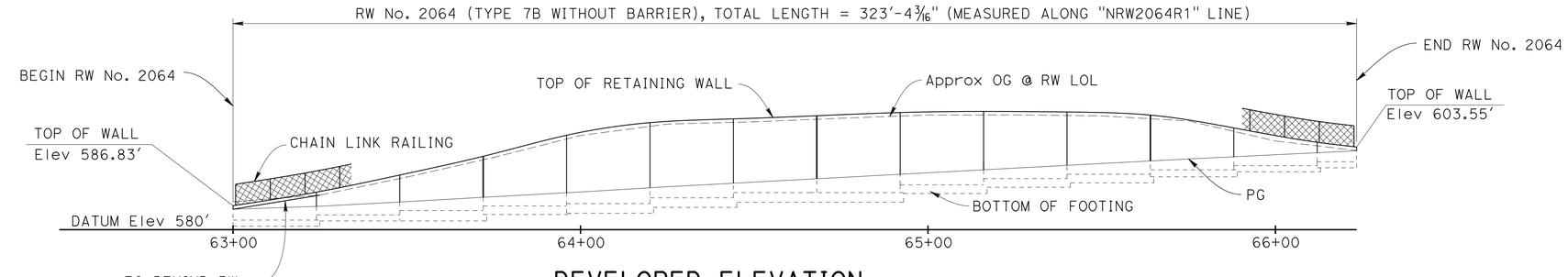
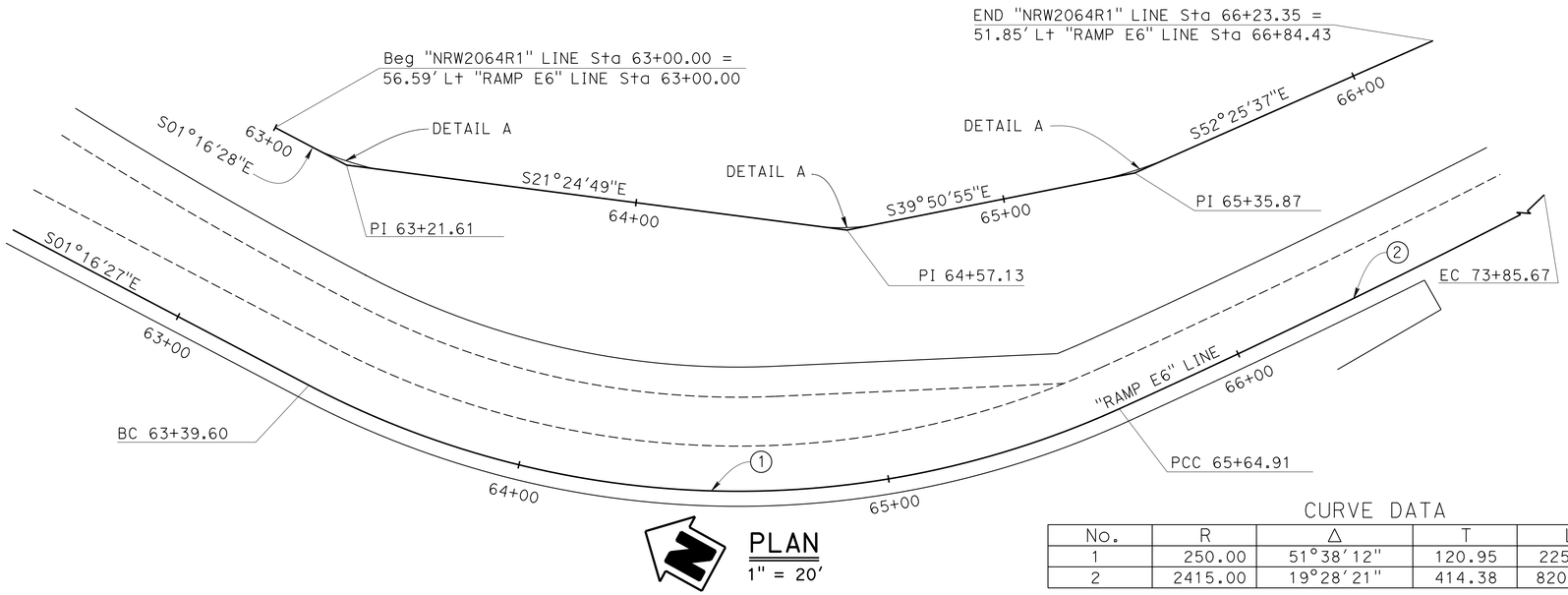


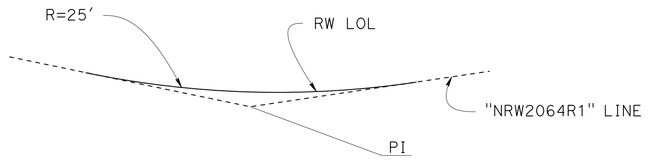
DEVELOPED ELEVATION
1" = 20′



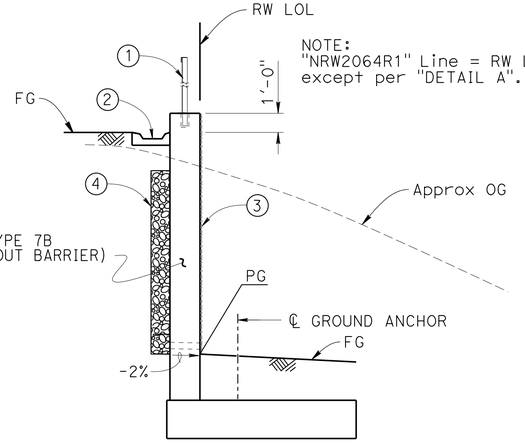
PLAN
1" = 20′

CURVE DATA

No.	R	Δ	T	L
1	250.00	51°38′12"	120.95	225.31
2	2415.00	19°28′21"	414.38	820.76



DETAIL A
NO SCALE



TYPICAL SECTION
1/4" = 1′-0"

B0-3

NOTES:

1. Chain Link Railing Type 7 — B11-52
2. Concrete Gutter from Beg RW to "NRW2064R1" Line Sta 64+57.13, see "ROAD PLANS" — B3-6
3. Architectural Treatment
4. Pervious Backfill Material — B0-3

MICHAEL POPE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Jeff Duffin	Gerrard Hight
DETAILS	Jeff Duffin	Gerrard Hight
QUANTITIES	Jeff Duffin	Gerrard Hight

LOAD & RESISTANCE FACTOR DESIGN — LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE

	BY	CHECKED
LAYOUT	Jeff Duffin	Gerrard Hight
SPECIFICATIONS	Xiaodong Chen	Xiaodong Chen

PLANS AND SPECS COMPARED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0296
POST MILE 39.09

RETAINING WALL NO. 2064
GENERAL PLAN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12-19-13	01-09-14	03/04/14	09/10/14	1	14

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

FILE => 53e0296-a-gp01.dgn

USERNAME => s128624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1818	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

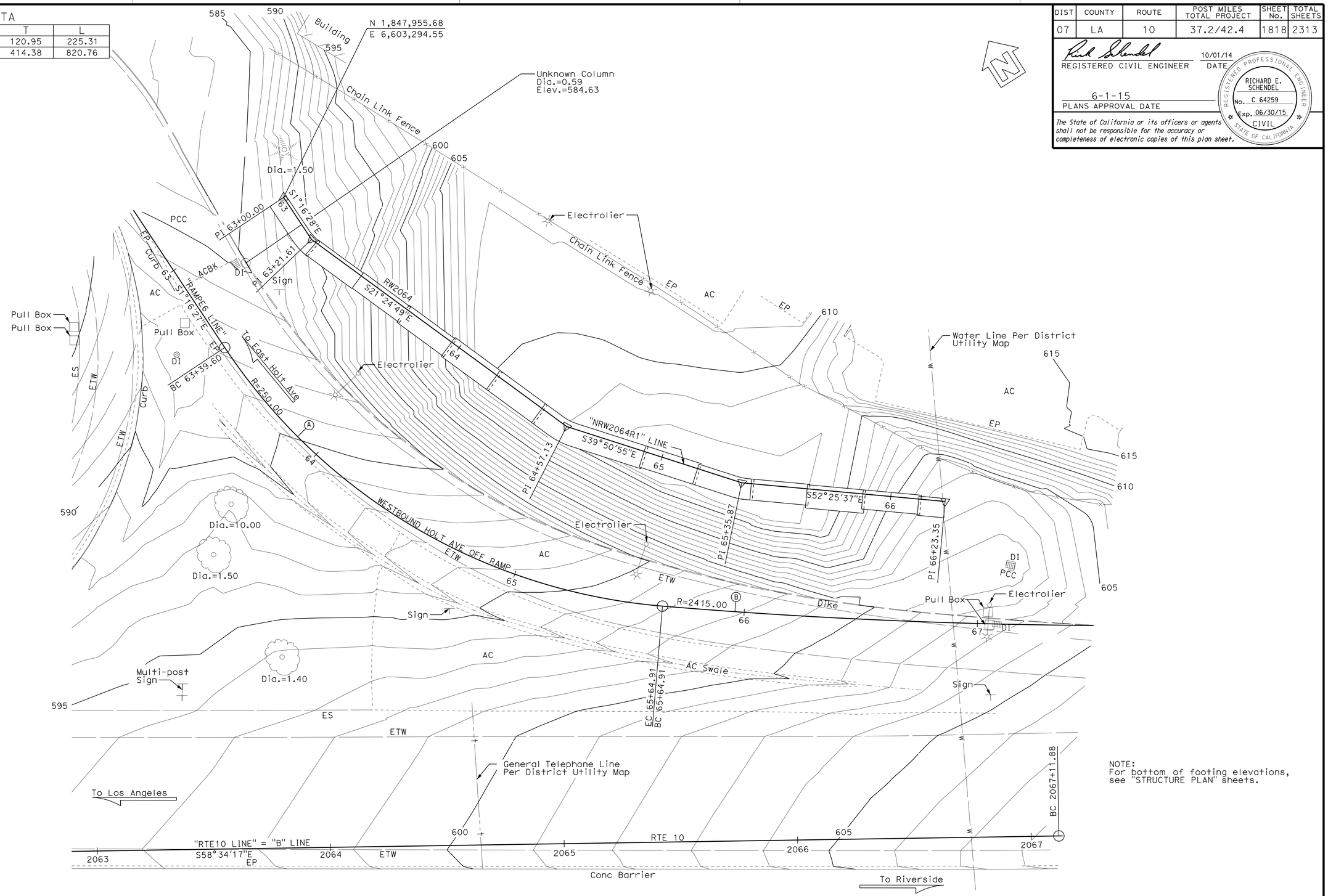
RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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

CURVE DATA

No.	R	Δ	T	L
Ⓐ	250.00	51°38'12"	120.95	225.31
Ⓑ	2415.00	19°28'21"	414.38	820.76



SURVEY CONTROL

PRHV 9 (Not Shown on Plan)

Fnd Well Mon.
153.98 Lt. "RTE10" LINE, RTE 10
Sta. 2059+92.93
N 1,848,053.26
E 6,602,895.64
Elev.=575.10

PRHV 463 (Not Shown on Plan)

Fnd 1" I.P. w/ Plug
147.27 Lt. "RTE10" Line, Rte 10
Sta. 2056+76.02
N 1,847,956.37
E 6,602,471.71
Elev.=567.96

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

PRELIMINARY INVESTIGATION SECTION							
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: 2/2008					
	HORZ.DATUM NAD83	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett	02/2011
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY C. Fassett	02/2011	CHECKED	BY T.Schmalz	02/2011

DESIGN	BY Jeff Duffin	CHECKED	Gerrard Hight
DETAILS	BY Jeff Duffin	CHECKED	Gerrard Hight
QUANTITIES	BY Jeff Duffin	CHECKED	Gerrard Hight

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0296
POST MILE 39.09

RETAINING WALL NO. 2064
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
03/07/11	11/27/13	01/09/14		2	14

FILE => 53e0296-b-fdp1001.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1819	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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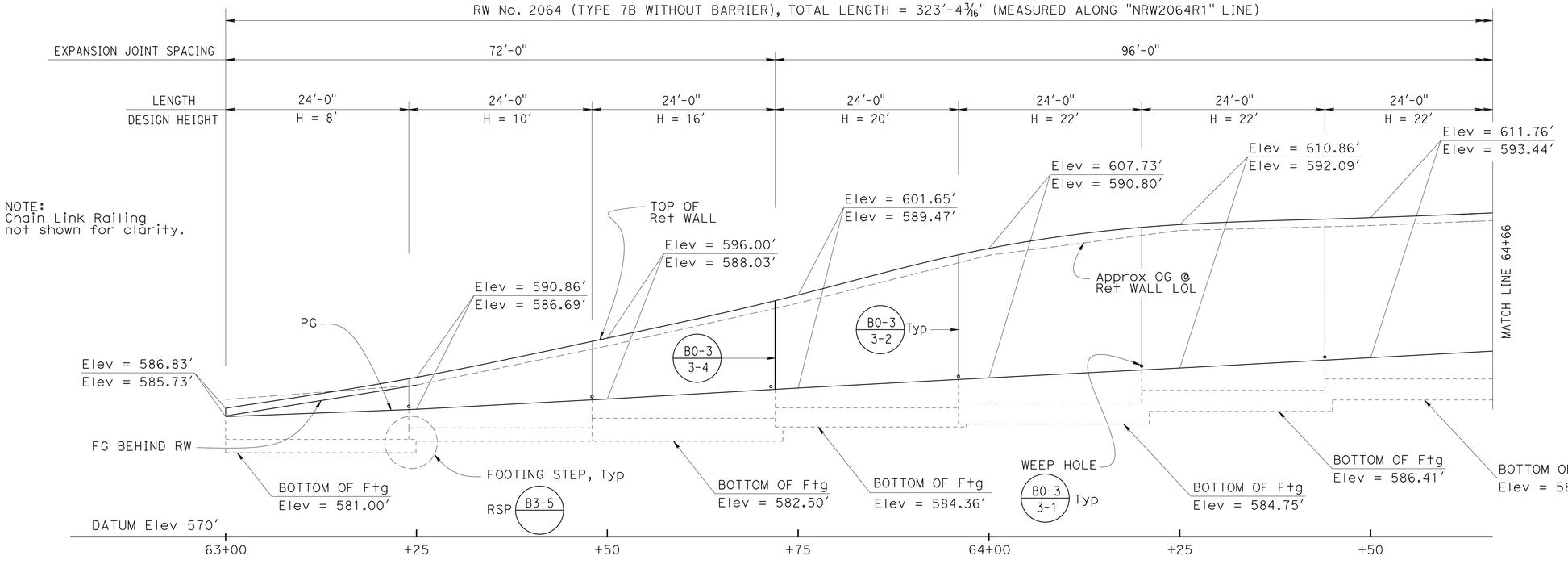


DEVELOPED ELEVATION
1/8" = 1'-0"

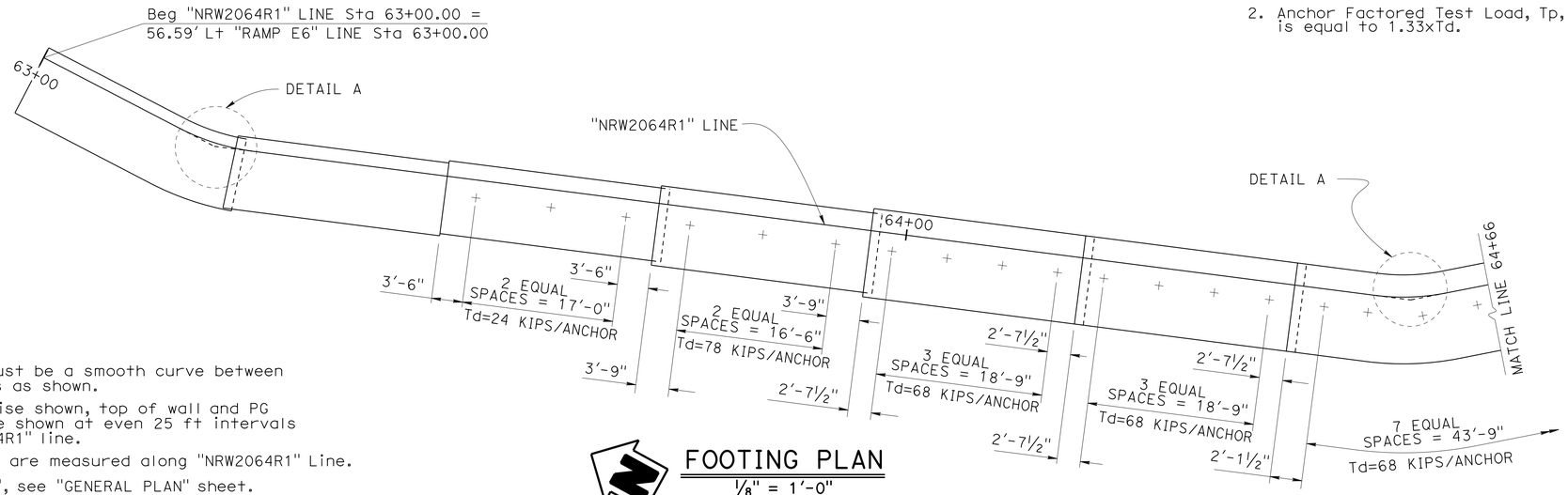
LEGEND

+ Denotes vertical ground anchor

Elev = XXX.XX ← Top of wall Elev
Elev = XXX.XX ← PG Elev

ANCHOR DESIGN NOTES:

1. Anchor Lockoff Load, To, is equal to Anchor Design Load, Td.
2. Anchor Factored Test Load, Tp, is equal to 1.33xTd.



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

NOTES:

1. Top of wall must be a smooth curve between control points as shown.
2. Unless otherwise shown, top of wall and PG elevations are shown at even 25 ft intervals along "NRW2064R1" line.
3. All dimensions are measured along "NRW2064R1" Line.
4. For "DETAIL A", see "GENERAL PLAN" sheet.

DESIGN	BY Jeff Duffin	CHECKED Gerrard Hight	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0296
DETAILS	BY Jeff Duffin	CHECKED Gerrard Hight			POST MILE 39.09
QUANTITIES	BY Jeff Duffin	CHECKED Gerrard Hight			

RETAINING WALL NO. 2064
STRUCTURE PLAN NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
06-11-13	09-10-14	05-13-15	3	14

FILE => 53e0296-c-sp01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1820	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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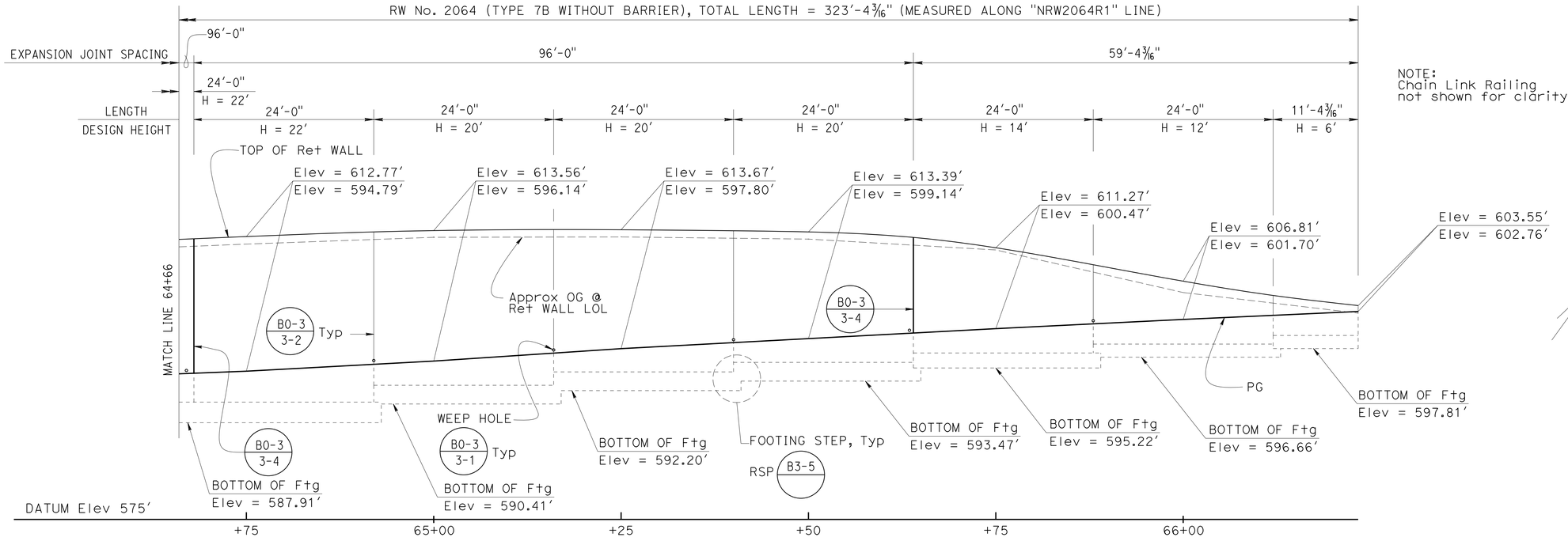


DEVELOPED ELEVATION

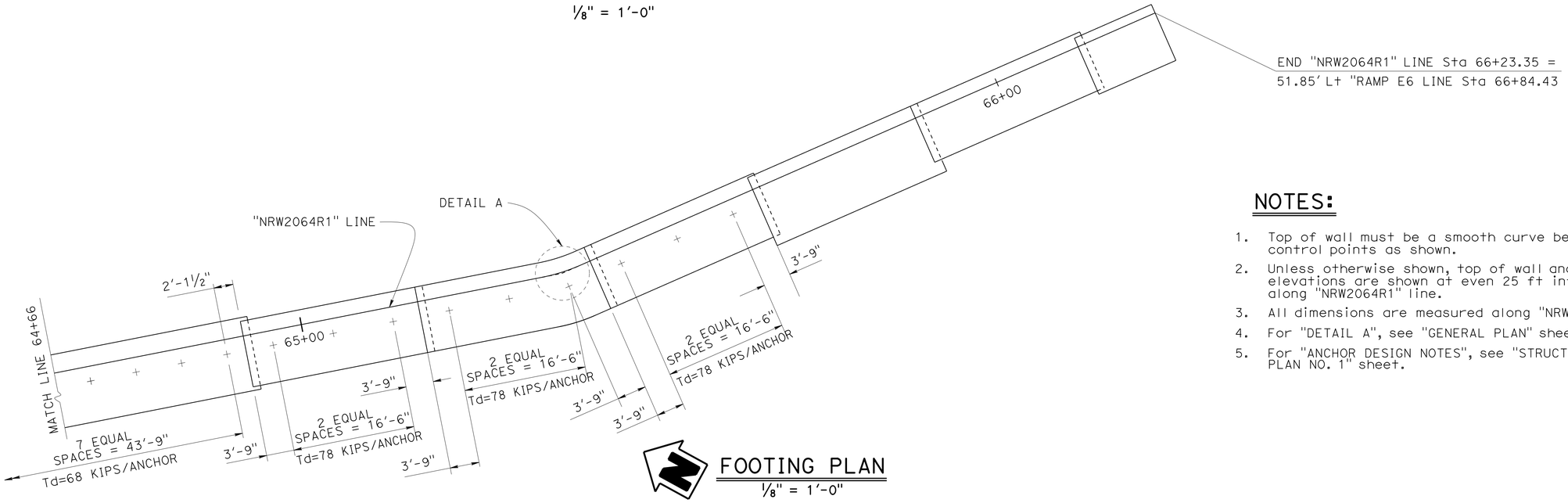
1/8" = 1'-0"

NOTE:
Chain Link Railing not shown for clarity.

LEGEND

+ Denotes vertical ground anchor

Elev = XXX.XX — Top of wall Elev
Elev = XXX.XX — PG Elev



FOOTING PLAN

1/8" = 1'-0"

NOTES:

1. Top of wall must be a smooth curve between control points as shown.
2. Unless otherwise shown, top of wall and PG elevations are shown at even 25 ft intervals along "NRW2064R1" line.
3. All dimensions are measured along "NRW2064R1" Line.
4. For "DETAIL A", see "GENERAL PLAN" sheet.
5. For "ANCHOR DESIGN NOTES", see "STRUCTURE PLAN NO. 1" sheet.

	BY	CHECKED
DESIGN	Jeff Duffin	Gerrard Hight
DETAILS	Jeff Duffin	Gerrard Hight
QUANTITIES	Jeff Duffin	Gerrard Hight

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0296
POST MILE 39.09

RETAINING WALL NO. 2064
STRUCTURE PLAN NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 06-14-13 | 09-10-14 | | 05-13-14

SHEET 4 OF 14

FILE => 53e0296-c-sp02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1821	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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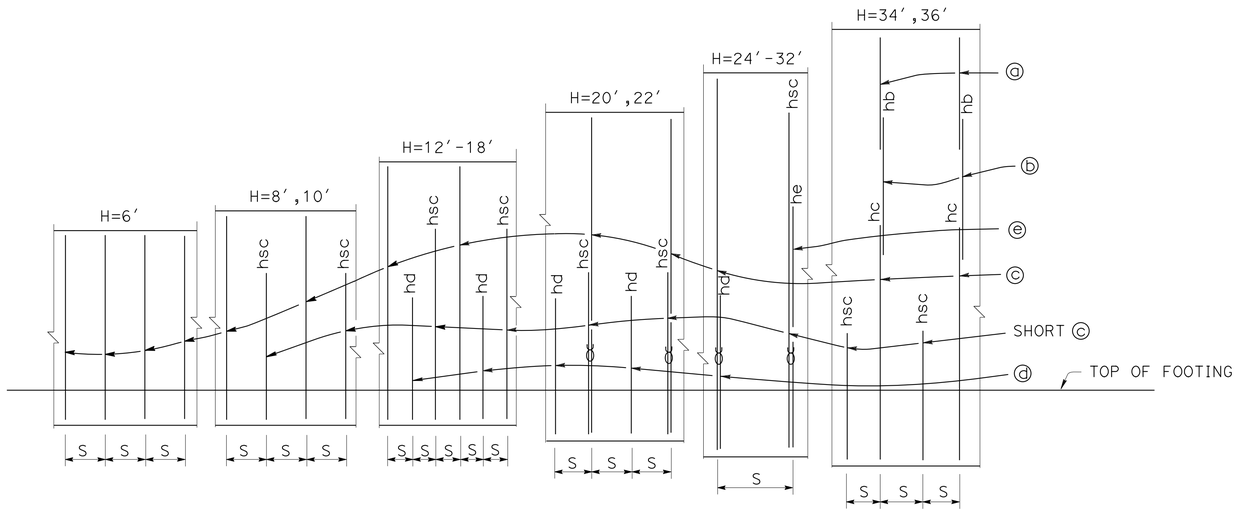
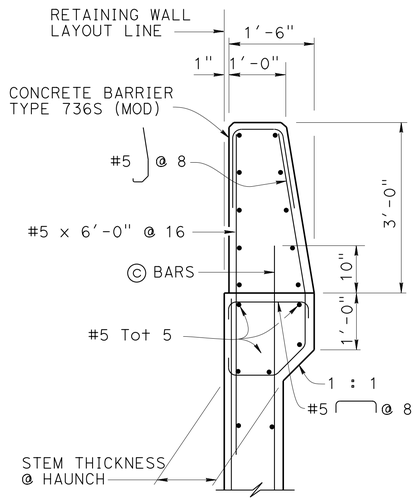


ELEVATION
No Scale

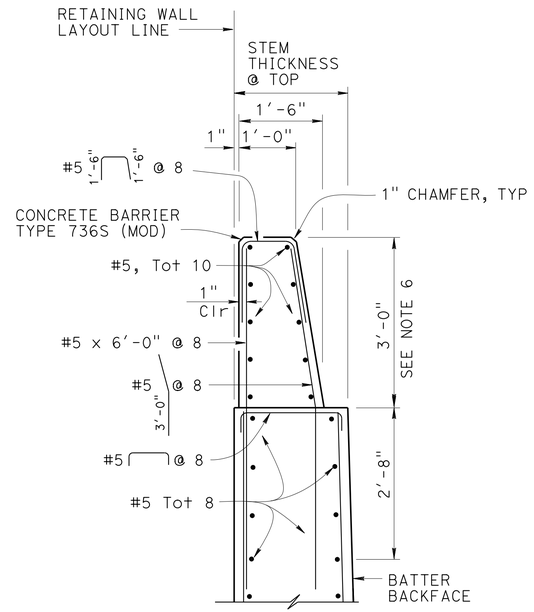
NOTE:

"hb", "hsc", "hc", "hd" and "he" above bars indicate distance from top of footing to upper end of the bars, see table.



DETAIL A - WITH HAUNCH
¾ = 1′-0"

For Details not shown, see "DETAIL A - WITHOUT HAUNCH"



DETAIL A - WITHOUT HAUNCH
¾ = 1′-0"

DESIGN DATA

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

LS: Varied surcharge on level ground surface

CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward

EQE: Mononabe-Okabe Method
K_h = 0.2
K_v = 0.0

Soil: Ø = 34°
γ = 120 pcf

Reinforced Concrete: f′c = 3600 psi
fy = 60,000 psi

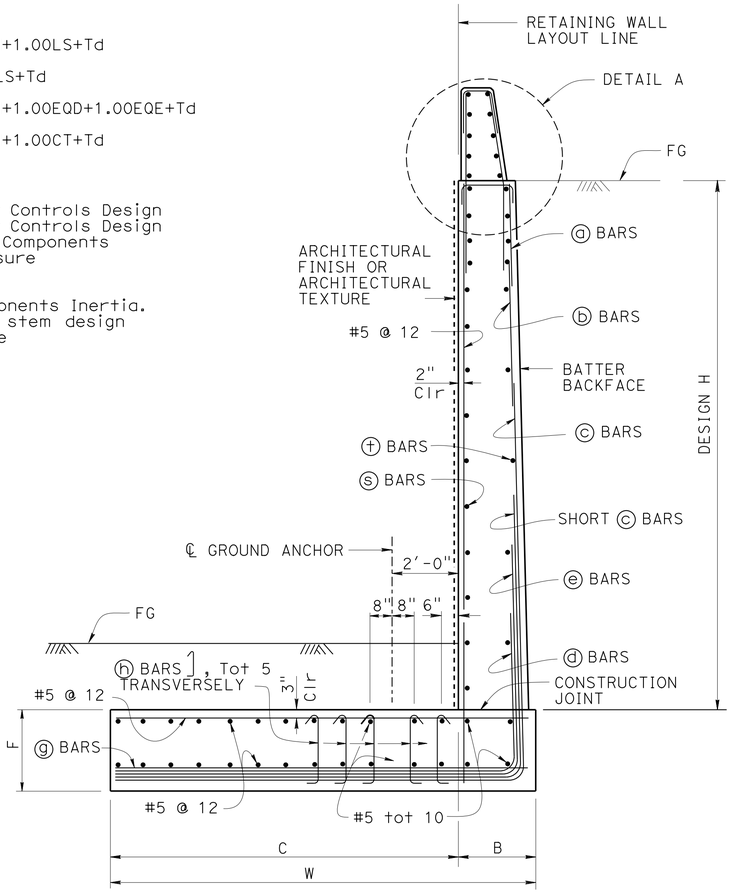
Load Combinations and Limit States

Service I	Q=1.00DC+1.00EV+1.00EH+1.00LS+Td
Strength I	Q=αDC+βEV+1.50EH+1.75LS+Td
Extreme I	Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE+Td
Extreme II	Q=1.00DC+1.00EV+1.00EH+1.00CT+Td

Where:
- Q: Force Effects
- α: 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
- LS: Live Load Surcharge
- EQE: Seismic Earth Pressure
- EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design
- CT: Vehicular Collision Force
- Td: Anchor Design Load

NOTES:

1. For Retaining wall Architectural finish or texture see Details elsewhere in Project Plans
2. For Details not shown and Drainage Notes see B3-5
3. Footing cover, 2′-0" minimum.
4. For H=6′ through 10′, extend ⓒ bars into Barrier for stem with haunch.
5. Shift ⓒ bars, ⓓ bars and ⓔ bars as required to clear formed hole for ground anchor.
6. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
7. Footing is designed to resist 1.33 Td assuming the maximum anchor spacing shown in the table.



SPREAD FOOTING SECTION
No Scale

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0296	RETAINING WALL NO. 2064
FILE NO. xs14-375-1	APPROVAL DATE April 2013			POST MILE 39.09	RETAINING WALL TYPE 7B - DETAILS NO. 1

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
12-06-13	12-12-13	01-16-14		5	14

FILE => 53e0296-g-rwt01.dgn

USERNAME => s1125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1822	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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

TABLE OF WALL DIMENSIONS, REINFORCING STEEL AND BEARING STRESS DATA

DESIGN H	STEM WITH HUANCH			STEM WITHOUT HUANCH												
	6′	8′	10′	12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′	34′	36′
W	8′-3"	8′-3"	8′-3"	8′-3"	10′-0"	8′-3"	8′-6"	9′-0"	10′-0"	10′-9"	11′-9"	12′-6"	13′-6"	14′-6"	15′-6"	16′-0"
C	7′-0"	7′-0"	6′-9"	6′-6"	8′-3"	6′-6"	6′-6"	6′-9"	7′-6"	8′-0"	9′-0"	9′-0"	9′-9"	10′-6"	11′-6"	11′-9"
B	1′-3"	1′-3"	1′-6"	1′-9"	1′-9"	1′-9"	2′-0"	2′-3" ◇1	2′-6"	2′-9"	2′-9"	3′-6"	3′-9"	4′-0"	4′-0"	4′-3"
F	1′-9"	1′-9"	1′-9"	1′-9"	2′-0"	2′-4"	2′-6"	2′-6"	2′-9"	2′-9"	3′-0"	3′-3"	3′-6"	3′-9"	3′-9"	4′-0"
STEM THICKNESS AT TOP				1′-7"	1′-7"	1′-7"	1′-9"	1′-9"	1′-9"	2′-0"	2′-0"	2′-0"	2′-3"	2′-3"	2′-3"	2′-6"
STEM THICKNESS AT HAUNCH	1′-0"	1′-0"	1′-3"													
BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12	1/4:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12
S	0′-8"	0′-8"	0′-7"	0′-6"	0′-5 2/3"	0′-5"	0′-4 1/3"	0′-8"	0′-7½"	0′-9"	0′-7½"	0′-8"	0′-7"	0′-6"	0′-6"	0′-5½"
ⓐ BARS															#5	#5
ⓑ BARS															#8	#7
hb															28′-3"	29′-0"
ⓒ BARS	#5	#5	#5	#5	#5	#5	#5	#5 ℄	#5 ℄	#5	#5	#5	#5	#5	#11	#11
hsc		7′-10"	9′-10"	11′-10"	13′-10"	13′-6"	11′-6"	17′-3"	16′-3"	20′-0"	18′-9"	20′-6"	21′-6"	23′-0"	17′-0"	17′-9"
hc															22′-0"	25′-0"
ⓓ BARS				#5	#7	#7	#7	#10	#10	#7	#7	#7	#7	#7		
hd				3′-3"	5′-6"	6′-0"	6′-6"	11′-3"	12′-0"	13′-0"	16′-6"	16′-0"	17′-0"	19′-3"		
ⓔ BARS										#10	#10	#11	#11	#11		
he										12′-9"	13′-6"	14′-0"	12′-3"	16′-6"		
ⓖ BARS						#5 @ 15	#5 @ 13	#5 @ 16	#6 @ 15	#7 @ 18	#5 @ 15	#8 @ 16	#7 @ 14	#7 @ 12	#5 @ 6	#5 @ 5½
BARS BUNDLED WITH ⓖ in ftg						SHORT ⓒ	SHORT ⓒ	ⓓ	ⓓ	SHORT ⓒ & ⓔ	SHORT ⓒ & ⓔ	SHORT ⓒ & ⓔ	SHORT ⓒ & ⓔ	SHORT ⓒ & ⓔ	ⓒ & SHORT ⓒ	ⓒ & SHORT ⓒ
ⓗ BARS															#5 @ 24	#5 @ 11
ⓢ BARS	#4 @ 12	#4 @ 12	#5 @ 15	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12	#7 @ 12	#7 @ 12
ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Td (KIPS/FT)	0	0	0	0	0	3	6.75	9.75	11.25	12.75	13.5	18.75	19.5	21.75	21.75	26.25
To (KIPS/FT)	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*
Tp = Larger of 1.33 Td & 1.25 To (KIPS/FT)	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*
MAX. ANCHOR SPACING						10′-6"	10′-6"	8′-3"	6′-3"	7′-9"	7′-3"	7′-0"	6′-9"	6′-0"	6′-0"	5′-0"
SER I: B′(ft), q'_0 (ksf)	8.6, 0.3	8.1, 0.4	7.6, 0.5	7.1, 0.8	8.9, 0.7	5.8, 1.9	6.1, 2.7	6.5, 3.3	7.1, 3.5	7.8, 3.7	8.7, 3.6	9.1, 4.5	10.0, 4.5	10.7, 4.6	11.6, 4.5	12.1, 5.0
STR Ia: B′(ft), q_0(ksf)	8.3, 1.0	7.6, 1.2	7.0, 1.4	6.2, 1.8	8.0, 1.8	4.7, 3.8	4.9, 4.9	5.2, 5.7	5.8, 6.3	6.2, 6.4	6.7, 6.4	7.3, 7.6	8.1, 7.6	8.6, 7.9	9.4, 7.7	9.8, 8.6
STR, Ib: B′(ft), q_0(ksf)	7.8, 0.8	6.9, 1.0	6.0, 1.3	5.0, 1.8	6.6, 1.7	3.4, 4.4	3.8, 5.4	4.1, 6.1	4.6, 6.4	5.0, 6.9	5.2, 7.1	5.9, 8.2	6.6, 8.1	7.0, 8.5	7.6, 8.3	8.0, 9.1
Ext I: B′(ft), q_0(ksf)	7.9, 0.8	7.1, 0.9	6.2, 1.2	5.0, 1.7	6.3, 1.8	2.8, 5.2	2.9, 7.1	3.2, 8.3	3.5, 9.3	3.6, 9.6	4.6, 11.3	4.3, 11.5	4.6, 11.7	4.9, 12.4	5.2, 12.2	5.3, 13.8
Ext II: B′(ft), q_0(ksf)	2.8, 2.0	2.9, 2.3	3.2, 2.4	3.3, 2.7	6.0, 1.7	3.8, 3.6	4.7, 4.1	5.6, 4.5	6.5, 4.5	7.4, 4.5	8.8, 5.1	9.0, 5.1	10.1, 5.1	10.9, 5.2	11.9, 4.9	12.4, 5.4

NOTE:

◇1 ⓗ Bar spacing shown is along the length of the retaining wall.
* see "STRUCTURE PLANS" for Anchor Loads.

LEGEND:

SER: service limit state
STR: strength limit state
EXT: extreme event limit state
B′: effective footing width (ft)
q'_0: net bearing stress (ksf)
q_0: gross uniform bearing stress (ksf)
℄: 2 bar bundle
To: Anchor Lockoff Load
Tp: Anchor Factored Test Load

SPECIAL DETAILS

REVISED STANDARD DRAWING

FILE NO. xs14-375-2

APPROVAL DATE July 2011

◇1 Revised

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0296
POST MILE 39.09

RETAINING WALL NO. 2064

RETAINING WALL TYPE 7B - DETAILS NO. 2

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 12-06-13 | 12-12-13 | 01-02-14

SHEET 6 OF 14

FILE => 53e0296-g-rwt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1823	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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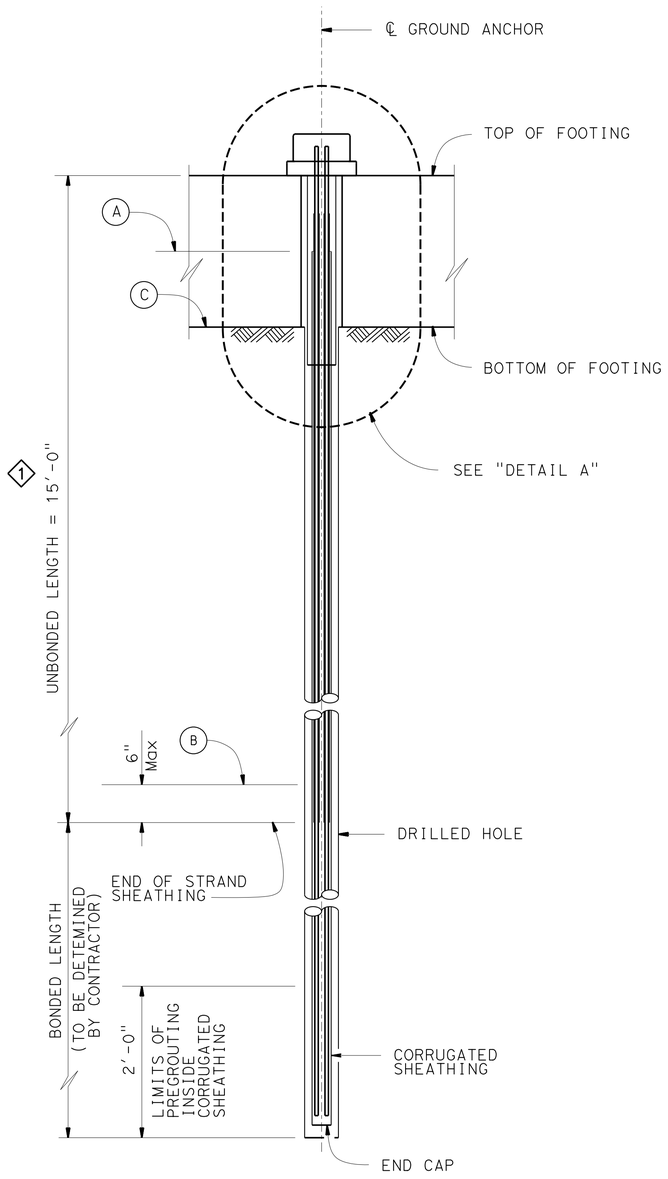
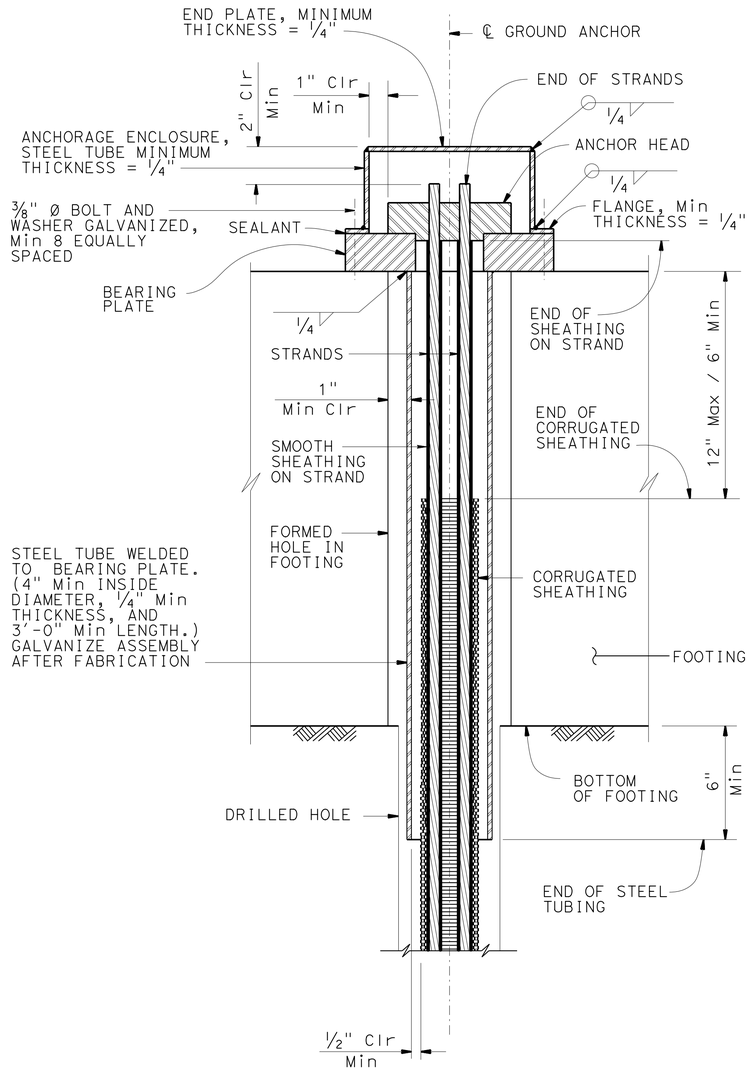
REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — STATE OF CALIFORNIA



GROUND ANCHOR TENDON DETAILS (STRANDS)

1"= 1'-0"



DETAIL A

3" = 1'-0"

GENERAL NOTES

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

PRESTRESSING STEEL (GROUND ANCHORS):

STRANDS - ASTM Designation: A416
Tp = Factored test load per tendon (Kips)
fpu = Minimum tensile strength of prestressing steel (ksi)

As = Minimum cross sectional area of prestressing steel in tendon (square inches)

$$As\ (Min) = \frac{1.0\ Tp}{0.75\ fpu} \quad (Strand)$$

NOTES:

1. Anchorage enclosure must have provisions to allow injecting grout at low end and venting at high end. Galvanize enclosure after fabrication.

2. Alternative anchor enclosure shown on sheet "VERTICAL GROUND ANCHOR DETAILS No. 2" sheet

(A) Level of initial grouting inside corrugated sheathing

(B) Level of initial grouting in drilled hole

(C) Level of secondary grouting in drilled hole

SPECIAL DETAILS

REVISED STANDARD DRAWING
FILE NO. xs12-030-1
APPROVAL DATE July 2011

1 Noted unbonded length

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0296
POST MILE 39.09

RETAINING WALL NO. 2064
VERTICAL GROUND ANCHOR DETAILS NO. 1

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/12/13	12/19/13	02/03/14	05-13-14	7	14

FILE => 53e0296-g-rwt03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1824	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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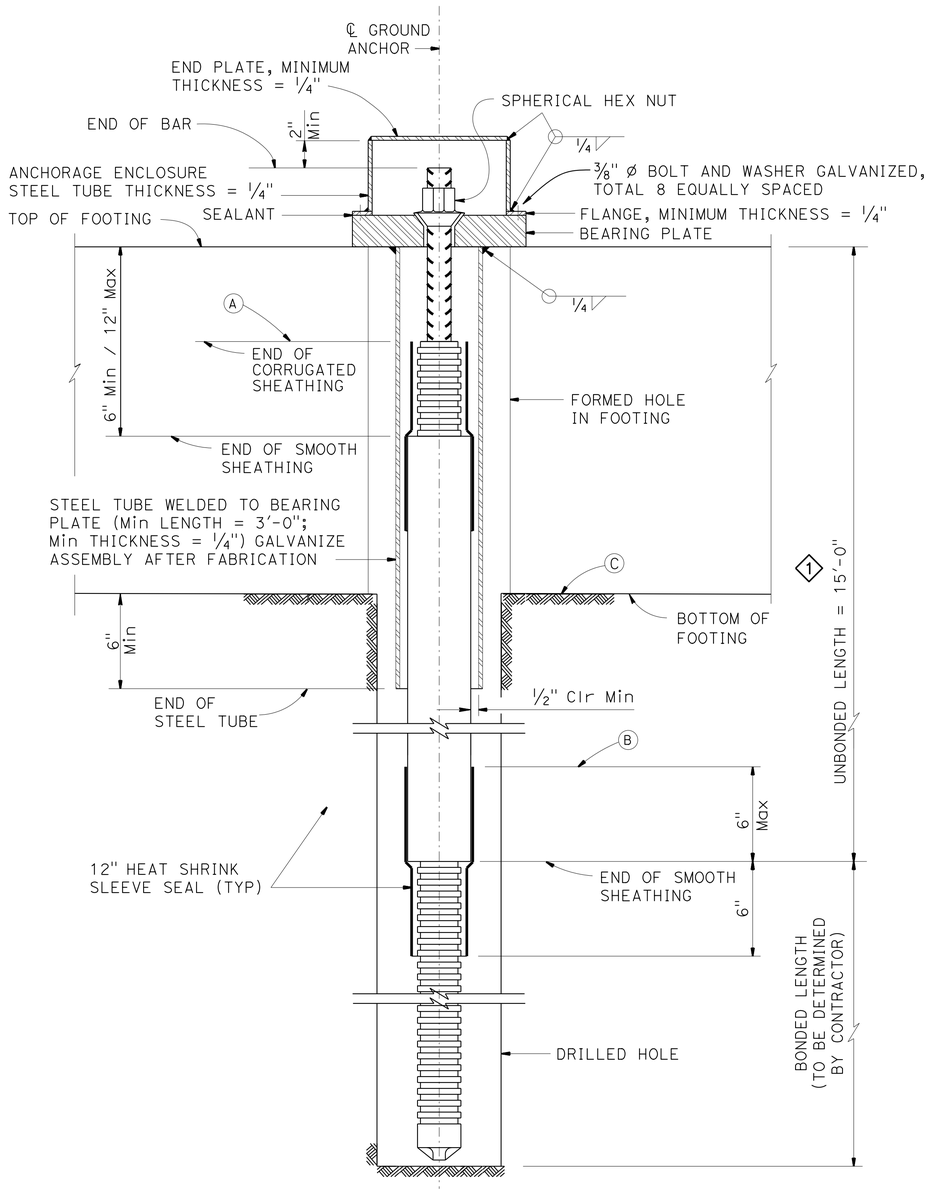
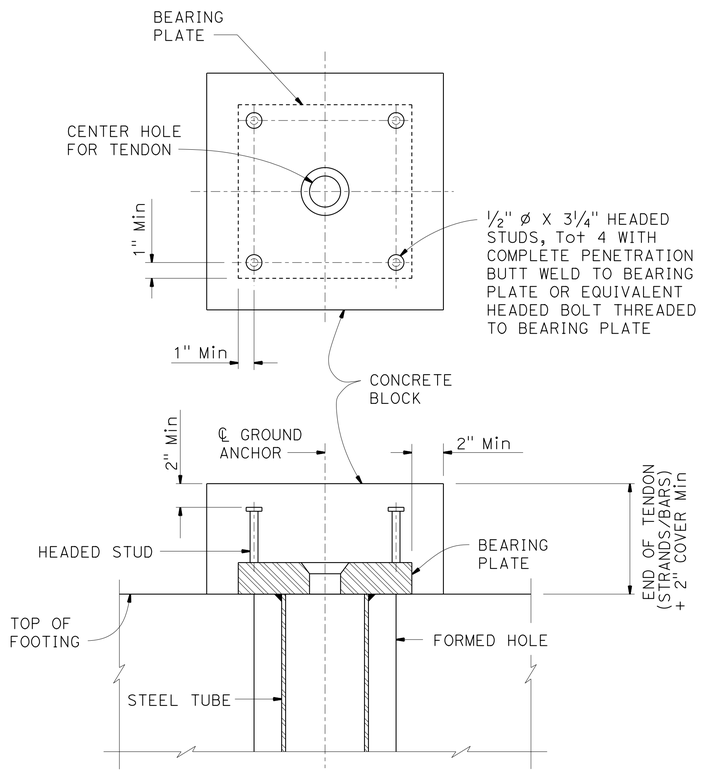


GROUND ANCHOR
TENDON DETAILS (BAR)
3" = 1'-0"



ANCHOR
ENCLOSURE (ALTERNATIVE)
3" = 1'-0"

GENERAL NOTES

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

PRESTRESSING STEEL (GROUND ANCHORS):

BARS - ASTM Designation: A722 Type II
Tp = Factored test load per tendon (Kips)
fpu = Minimum tensile strength of prestressing steel (ksi)

As = Minimum cross sectional area of prestressing steel in tendon (square inches)

$$As\ (Min) = \frac{1.0\ Tp}{0.75\ fpu} \quad (Bar)$$

NOTES:

Anchorage enclosure must have provision to allow injecting grout at low end and venting at high end. Galvanize enclosure after fabrication.

Ⓐ Level of initial grouting inside corrugated sheathing

Ⓑ Level of initial grouting in drilled hole

Ⓒ Level of secondary grouting in drilled hole

SPECIAL DETAILS

REVISED STANDARD DRAWING

FILE NO. xs12-030-2

APPROVAL DATE November 2011

1 Noted unbonded length

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0296
POST MILE 39.09

RETAINING WALL NO. 2064
VERTICAL GROUND ANCHOR DETAILS NO. 2

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/12/13	12/19/13	02/03/14	05-13-14	8	14

FILE => 53e0296-g-rwt04.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1825	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

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

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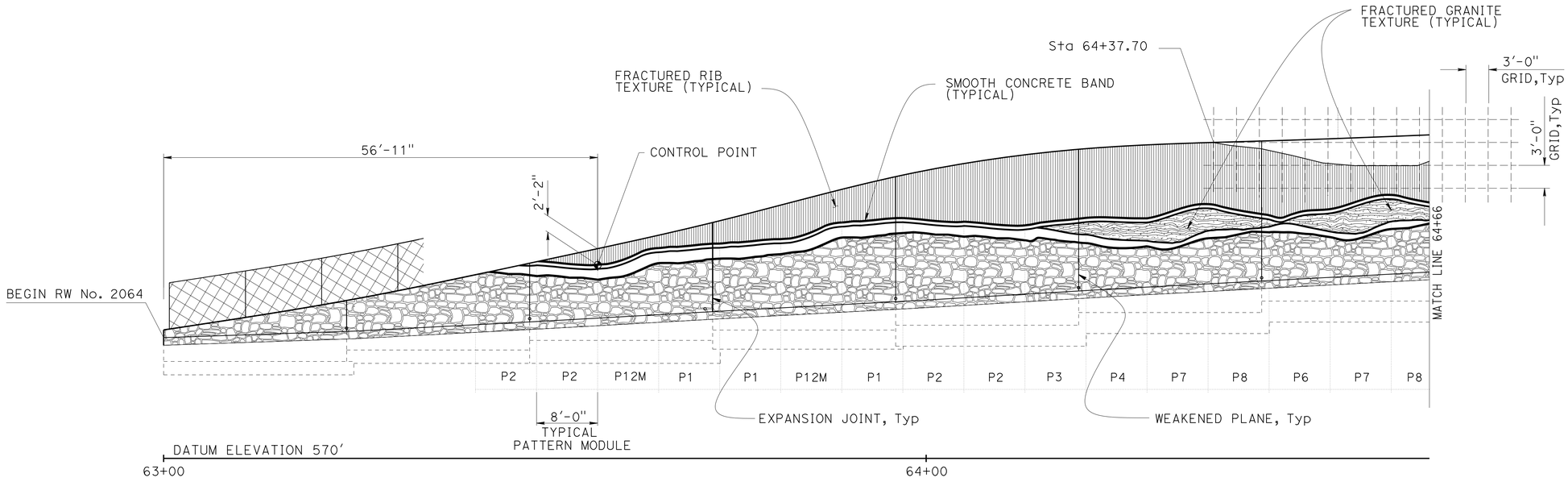
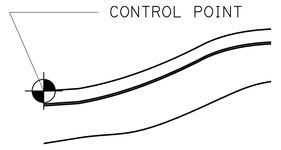


DEVELOPED ELEVATION

NO SCALE

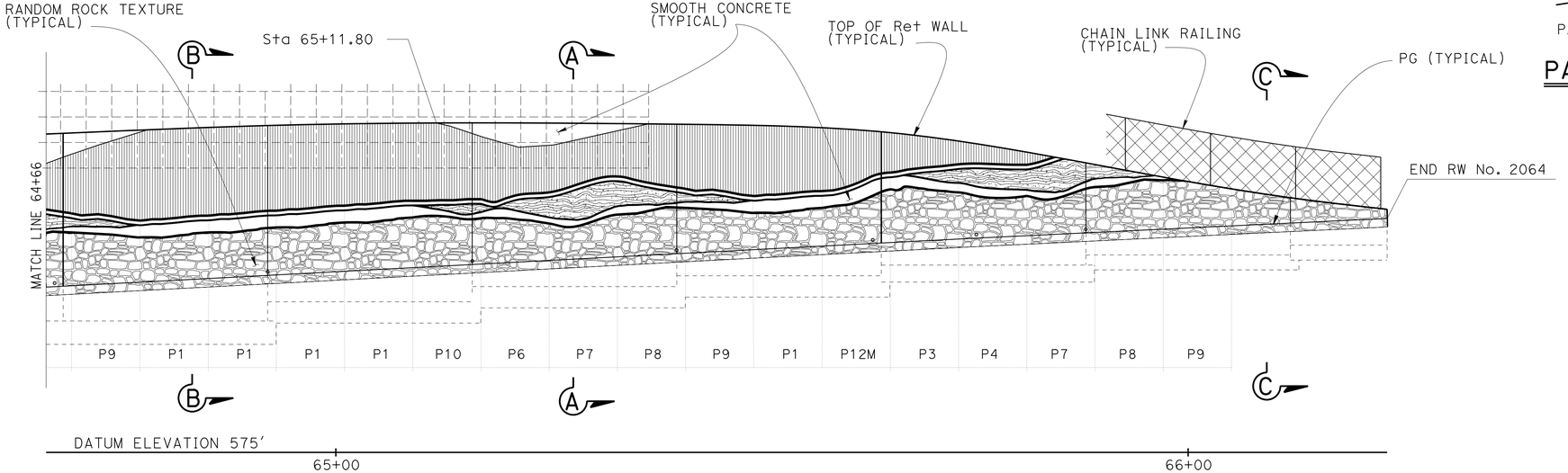


PATTERN MODULE P12M

NOTE:
Begin layout of pattern modules at control point for P12M and continue to place plumb each module at corresponding match lines for limits of pattern modules.

PATTERN MODULE LAYOUT DETAIL

NO SCALE



DEVELOPED ELEVATION

NO SCALE

NOTES:

1. Entire chain link railing not shown for clarity.
2. For TYPICAL SECTIONS "A-A", "B-B", and "C-C", see "ARCHITECTURAL DETAILS NO. 2" sheet.
3. For Fractured Rib, Fractured Granite, and Random Rock Textures, see "ARCHITECTURAL DETAILS NO. 3" sheet.
4. For Pattern Modules, see "ARCHITECTURAL DETAILS NO. 4 & NO. 5" sheets.

DESIGN	BY Valerie Moore	CHECKED Jeff Duffin	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Farideh Hosseinioun	CHECKED Jeff Duffin	
QUANTITIES	BY Jeff Duffin	CHECKED Gerrard Hight	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0296
POST MILE 39.09

RETAINING WALL NO. 2064
ARCHITECTURAL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/22/14	09-10-14			9	14

FILE => 53e0296-u-archdt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1826	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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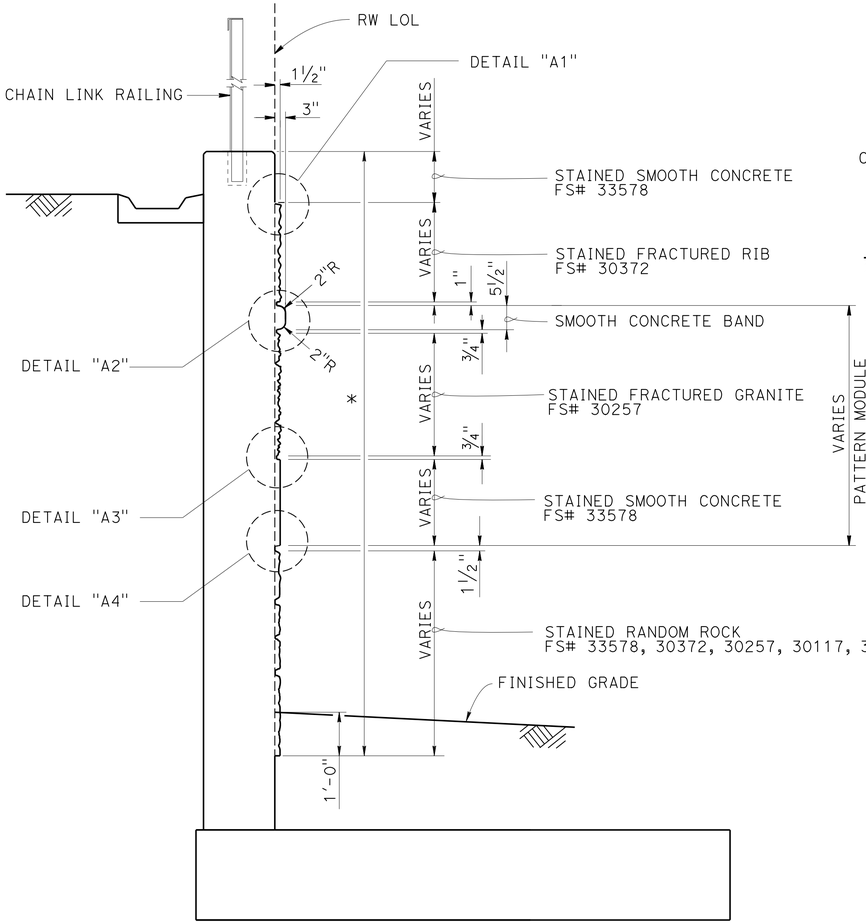
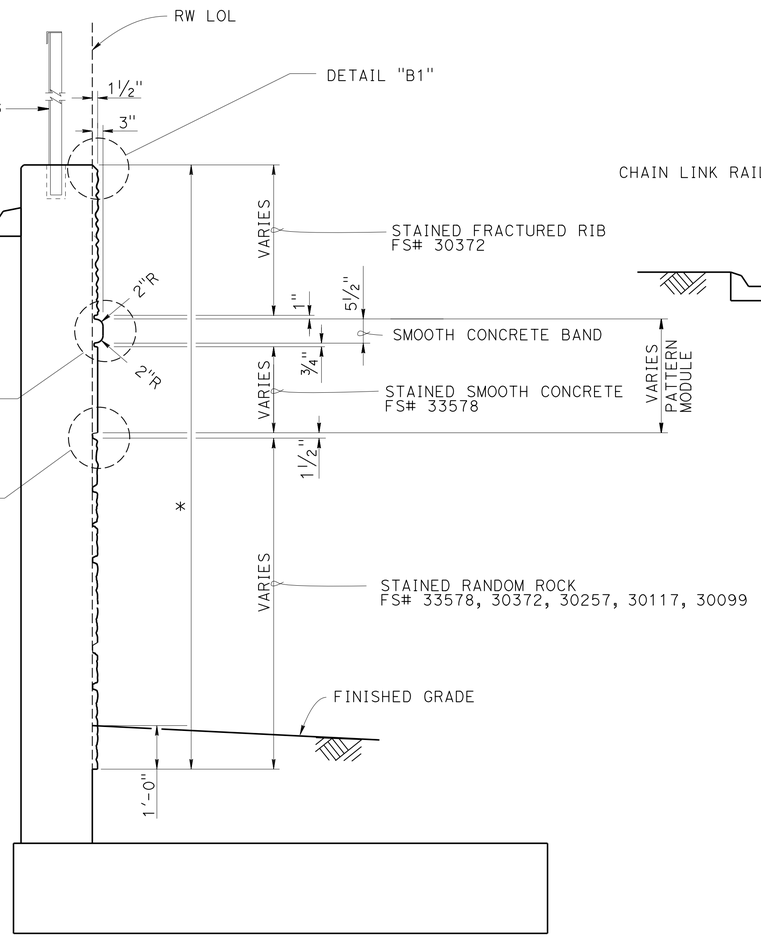


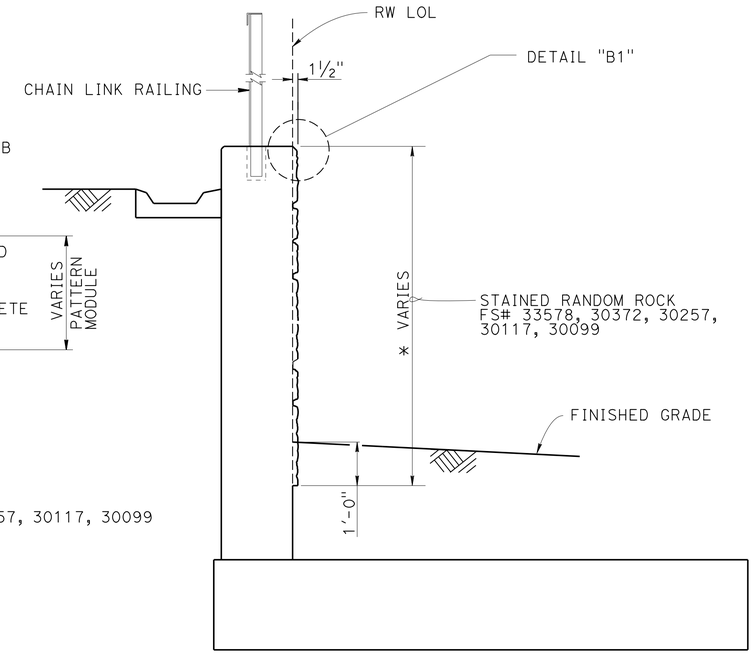
TYPICAL SECTION A-A

NO SCALE



TYPICAL SECTION B-B

NO SCALE



TYPICAL SECTION C-C

NO SCALE

* Pay limits of Concrete Surface Texture

NOTES:

1. For DETAILS "A1", "A2", "A3", "A4", "B1", and "B2", see "ARCHITECTURAL DETAILS NO. 3" sheet.
2. "FS#" is Federal Standard Color Number.

DESIGN	BY Valerie Moore	CHECKED Jeff Duffin	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0296	RETAINING WALL NO. 2064
DETAILS	BY Farideh Hosseinioun	CHECKED Jeff Duffin			POST MILE 39.09	ARCHITECTURAL DETAILS NO. 2
QUANTITIES	BY Jeff Duffin	CHECKED Gerrard Hight				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/31/14	02/26/14	09/10/14		10	14

FILE => 53e0296-u-archdt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1827	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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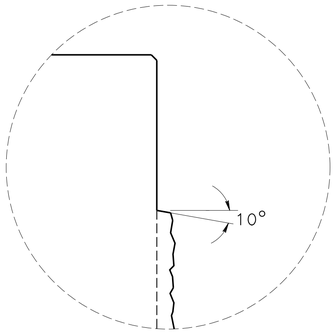
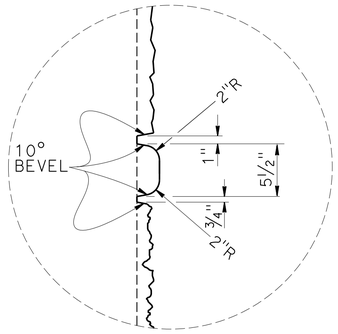
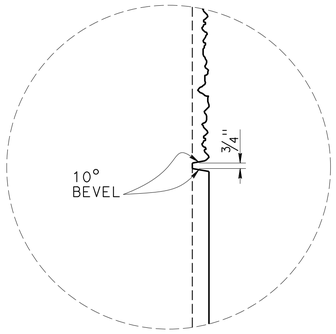


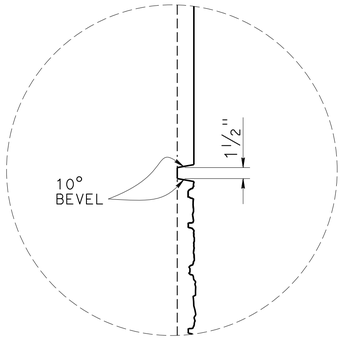
DETAIL A1
NO SCALE



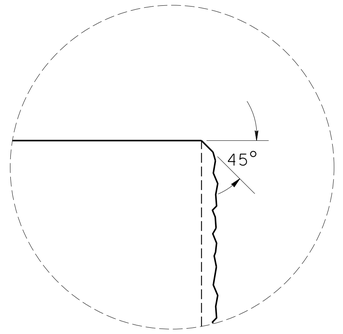
DETAIL A2
NO SCALE



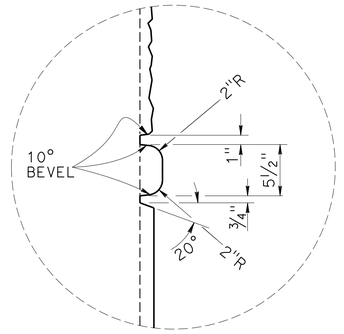
DETAIL A3
NO SCALE



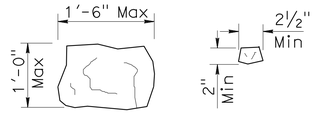
DETAIL A4
NO SCALE



DETAIL B1
NO SCALE

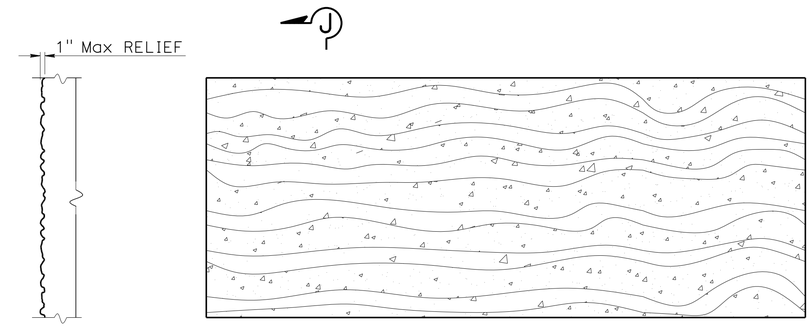


DETAIL B2
NO SCALE



ROCK SIZE

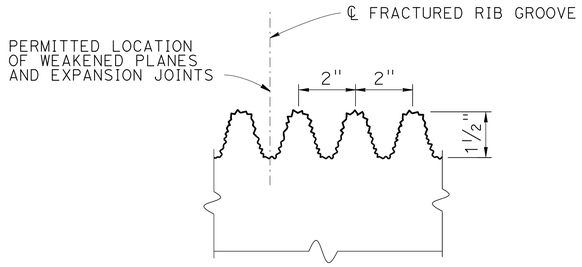
NOTE:
Seamless Random Rock pattern to have a minimum of 2 to a maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).



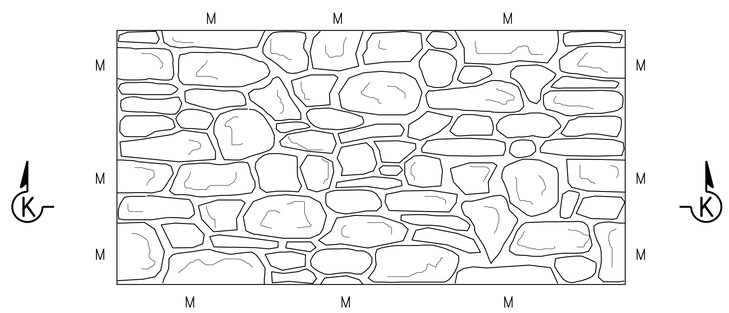
SECTION J-J

ELEVATION

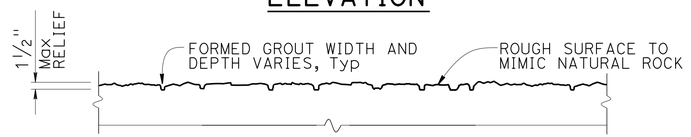
FRACTURED GRANITE TEXTURE
NO SCALE



FRACTURED RIB TEXTURE - SECTION
NO SCALE



ELEVATION



SECTION K-K

RANDOM ROCK TEXTURE
NO SCALE

DESIGN	BY Valerie Moore	CHECKED Jeff Duffin	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0296	RETAINING WALL NO. 2064	
DETAILS	BY Farideh Hosseinioun	CHECKED Jeff Duffin			POST MILE 39.09	ARCHITECTURAL DETAILS NO. 3	
QUANTITIES	BY Jeff Duffin	CHECKED Gerrard Hight					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/06/14				11	14

FILE => 53e0296-u-archdt03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1828	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

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

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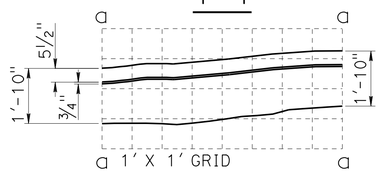
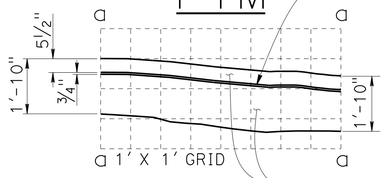


P1M



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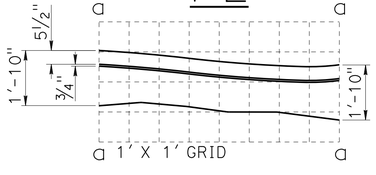
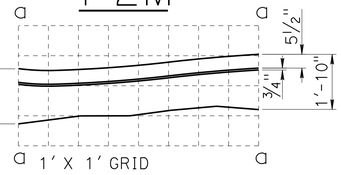


P2M



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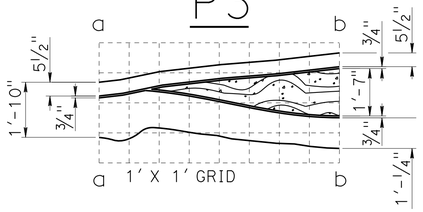
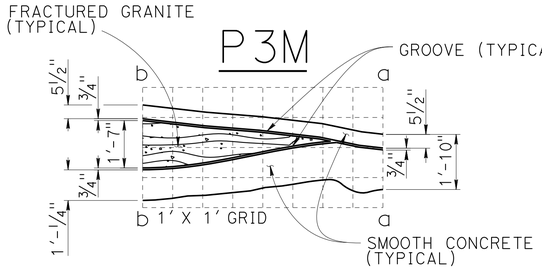


P3M



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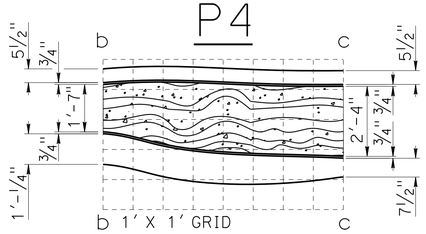
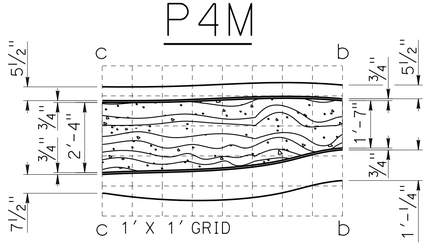


P4M



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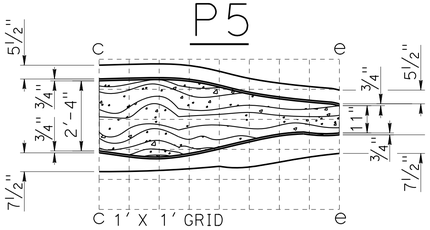
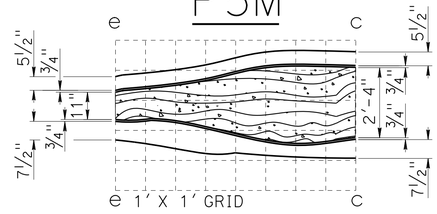


P5M



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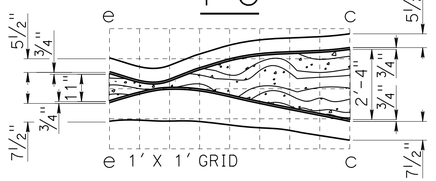
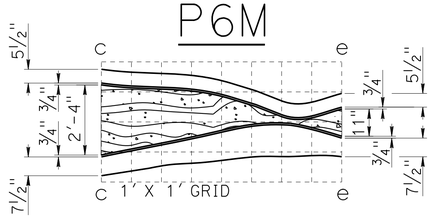
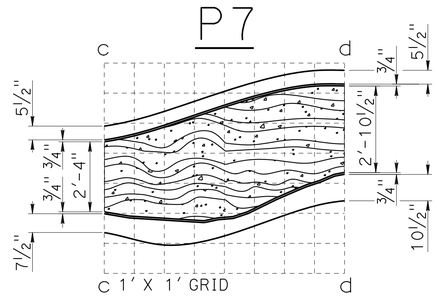


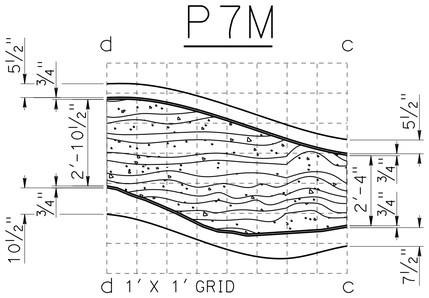
P6M



P7



P7M



NOTES:

1. Fractured Granite texture at match lines a-a, b-b, c-c, d-d, and e-e must match seamlessly between the interchangeable modules.
2. Fractured Rib and Random Rock Textures not show for clarity.

INTERCHANGEABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Jeff Duffin	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0296
DETAILS	BY Farideh Hosseinioun	CHECKED Jeff Duffin			POST MILE 39.09
QUANTITIES	BY Jeff Duffin	CHECKED Gerrard Hight			

RETAINING WALL NO. 2064

ARCHITECTURAL DETAILS NO. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/27/13	02/26/14			12	14

FILE => 53e0296-u-archdt04.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1829	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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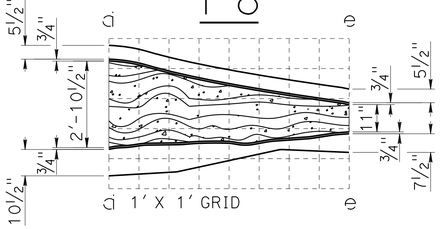
P8



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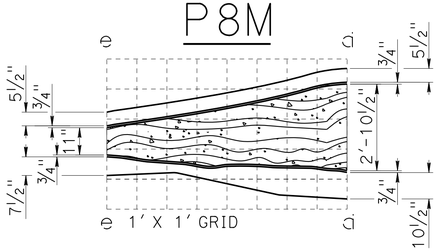

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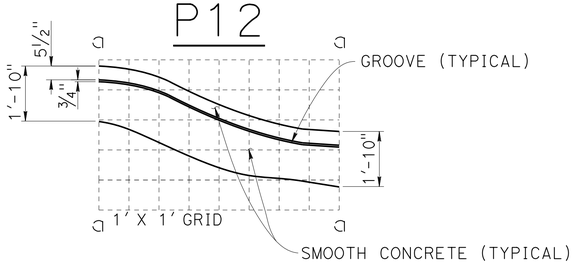

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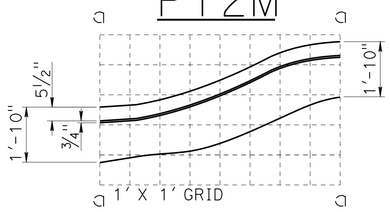
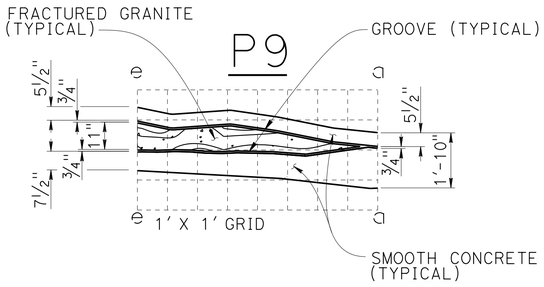


P9



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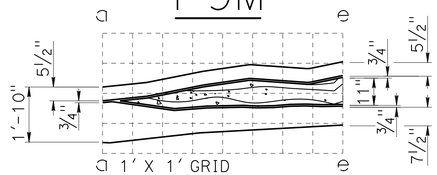

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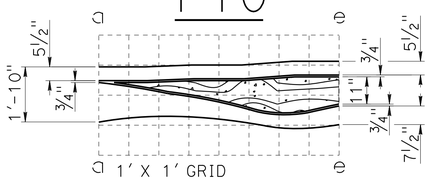

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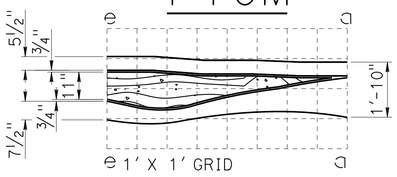

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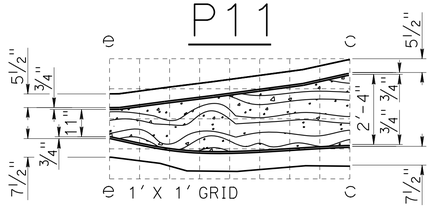

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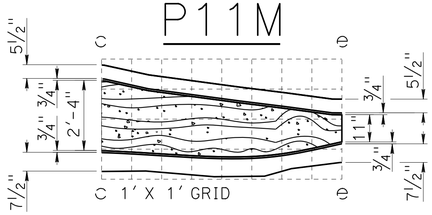

NOTES:

1. Fractured Granite texture at match lines a-a, b-b, c-c, d-d, and e-e must match seamlessly between the interchangeable modules.
2. Fractured Rib and Random Rock Textures not show for clarity.

INTERCHANGEABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Jeff Duffin	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0296
DETAILS	BY Farideh Hosseinioun	CHECKED Jeff Duffin			POST MILE 39.09
QUANTITIES	BY Jeff Duffin	CHECKED Gerrard Hight			

RETAINING WALL NO. 2064
ARCHITECTURAL DETAILS NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/27/13	02/26/14			13	14

FILE => 53e0296-u-archdt05.dgn

USERNAME => s129624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1830	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-15-14 DATE

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

6-1-15
PLANS APPROVAL DATE

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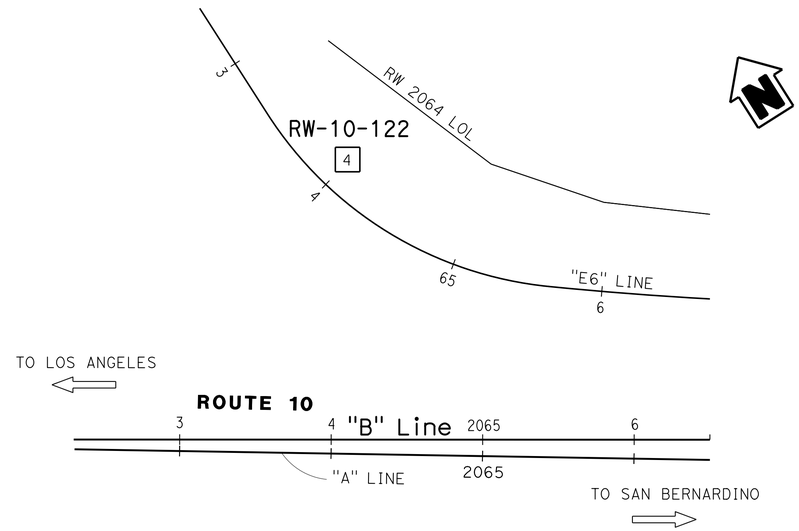
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

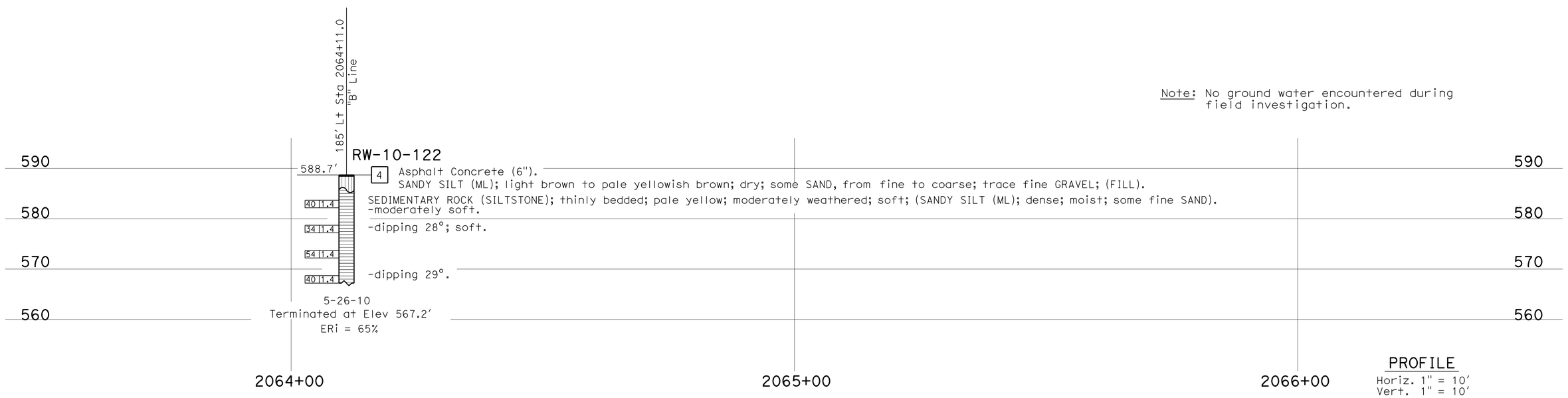
BENCH MARK

SUHV 4012 Elev 598.964′
Fd PK N. in AC Gore Area
W/B I-10 Holt Ave Off-Ramp,
79.35′ Lt Sta 2065+11.93 "B" Line.
N 1,847,708.886
E 6,603,294.856
NAVD 88



PLAN
1" = 50′

Note: No ground water encountered during field investigation.



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 18	BRIDGE NO. 53E0296	RETAINING WALL NO. 2064
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: F. Nguyen	FIELD INVESTIGATION BY: M. Salisbury			POST MILE 39.09	LOG OF TEST BORINGS
	CHECKED BY: H. Liu					

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-29-12	11-14-13	01-15-14		14	14

FILE => 53e0296-z-ltb.dgn

USERNAME => s1256624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1831	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

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

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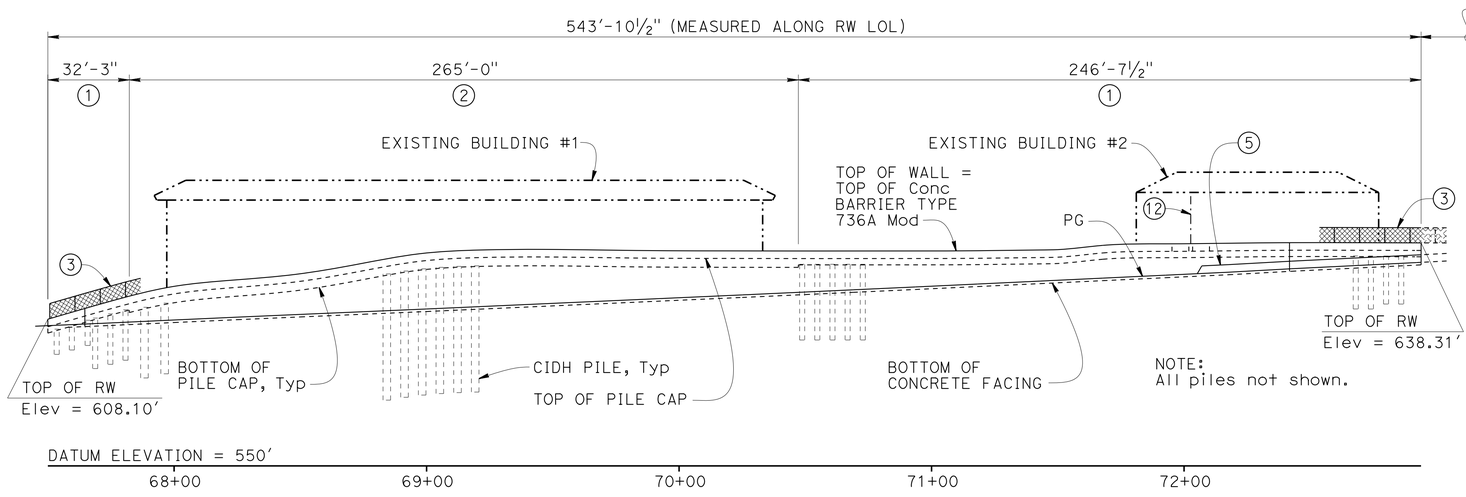


NOTES:

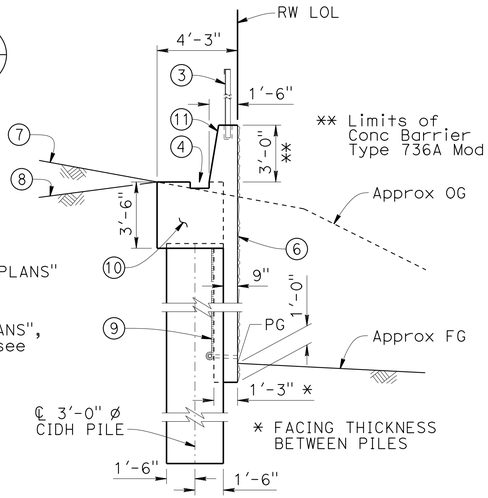
1. 2'-0" ø CIDH Piles
2. 3'-0" ø CIDH Piles
3. Chain Link Railing Type 7 (B11-52)
4. Gutter from begin wall to RW LOL Sta 69+20
5. Concrete Barrier Type 60D from RW LOL Sta 72+05.24 to end of wall (A76A)
6. Concrete Facing with Architectural Treatment
7. Approx OG = FG within limits of gutter
8. Approx OG = FG elsewhere
9. Geocomposite Drain
10. Pile Cap
11. Concrete Barrier Type 736A Mod
12. ℄ Lighting Standard, see "ROAD PLANS"

For "INDEX TO PLANS", "STANDARD PLANS", "GENERAL NOTES", AND "QUANTITIES", see "INDEX TO PLANS" sheet.

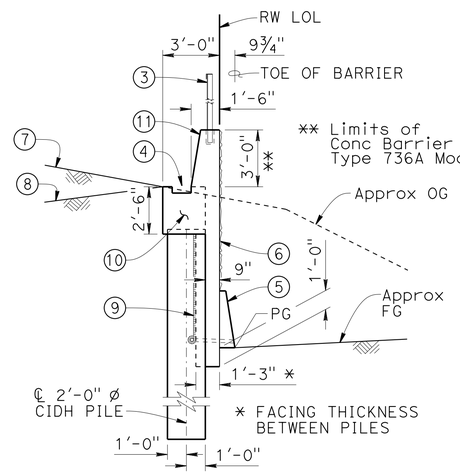
LEGEND:

STANDARD PLAN SHEET No.

DETAIL No.



3'-0" ø CIDH PILES



2'-0" ø CIDH PILES

TYPICAL SECTION

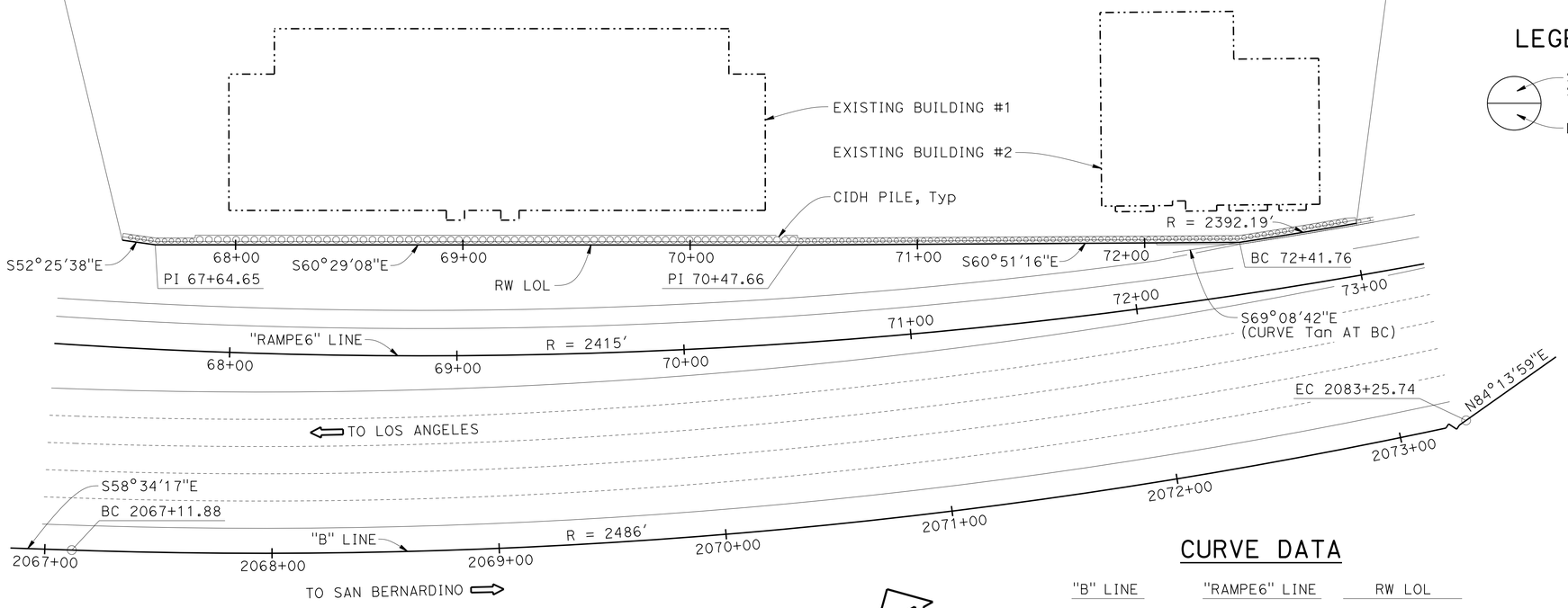
¼" = 1'-0"

BEGIN RW LOL 67+50.00 = BEGIN RW No. 2068
137.08' Lt "B" LINE 2067+30.51
47.23' Lt "RAMPE6" LINE 67+50.05

END RW LOL EC 72+93.88
END RW No. 2068 =
96.32' Lt "B" LINE 2073+00.02
22.81' Lt "RAMPE6" LINE 73+01.79

DEVELOPED ELEVATION

1" = 30'



PLAN

1" = 30'

CURVE DATA

"B" LINE	"RAMPE6" LINE	RW LOL
R = 2486'	R = 2415'	R = 2392.19'
Δ = 37°11'43"	Δ = 19°28'21"	Δ = 01°14'54"
T = 836.52'	T = 414.38'	T = 26.06'
L = 1613.87'	L = 820.76'	L = 52.12'

MICHAEL POPE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Richard Schendel	Prem Rimal
DETAILS	Richard Schendel	Prem Rimal
QUANTITIES	Richard Schendel	Prem Rimal

LOAD & RESISTANCE FACTOR DESIGN — LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE

	BY	CHECKED
LAYOUT	Richard Schendel	Prem Rimal
SPECIFICATIONS	Xiaodong Chen	Xiaodong Chen

PLANS AND SPECS COMPARED

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
GENERAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
04/02/14	05/21/14	06/02/14		1	18

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

FILE => 53e0297-a-gp01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1832	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated November 2011

LIVE LOADING:
Live Load Surcharge, RW LOL
Sta 70+33 to Sta 71+81

SEISMIC LOADING:
$k_h = 0.2$, $k_v = 0.0$

REINFORCED CONCRETE:
$f_y = 60$ ksi, $f'_c = 3.6$ ksi

CONSTRUCTION SEQUENCE

1. Survey existing conditions behind wall.
2. Drill and cast every third pile (Pile Nos. 1, 4, 7 etc).
3. After concrete has set, again drill and cast every third pile (Pile Nos. 2, 5, 8 etc).
4. After concrete has set, drill and cast every remaining pile (Pile Nos. 3, 6, 9 etc).
5. Construct pile cap.
6. Excavate in front of wall below pile cap. Excavation shall not take place until:
   A. A minimum of 10 days after the last pile and pile cap concrete has been placed.
   B. All pile and pile cap concrete has attained at least 28 day design strength.

   During excavation, monitor at a minimum the vertical settlement at the buildings and the lateral displacement at the top of the wall adjacent to the buildings. If the vertical settlement at either building exceeds 1/4" or if the lateral displacement at the top of the wall adjacent to either building exceeds 1/2", stop excavation and contact the Engineer for further direction. Excavation shall not ocurr below the bottom of concrete facing elevation.
7. Place concrete facing.

INDEX TO PLANS

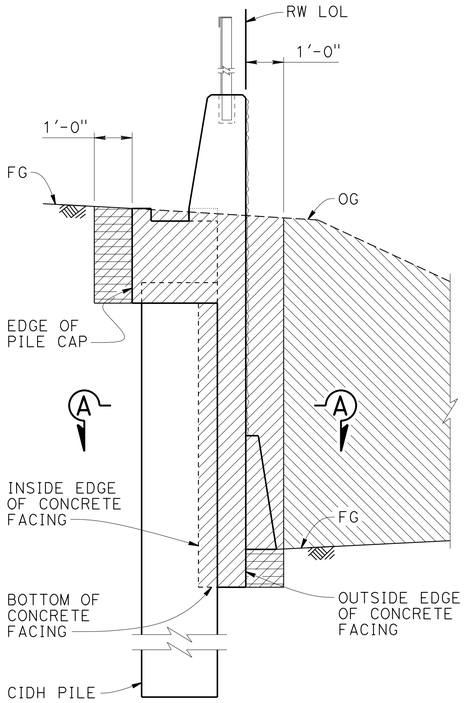
STANDARD PLANS DATED 2010

SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A76A	CONCRETE BARRIER TYPE 60
B0-3	BRIDGE DETAILS
B11-52	CHAIN LINK RAILING TYPE 7

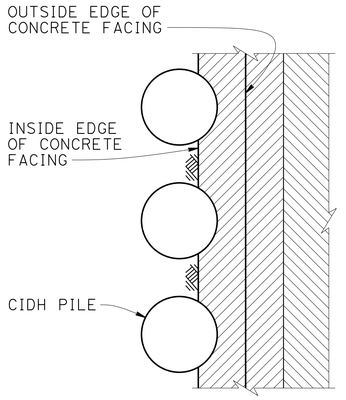
QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	768	CY
STRUCTURE BACKFILL (RETAINING WALL)	80	CY
DISPLACEMENT MONITORING PROGRAM	LUMP	SUM
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	2,181	LF
36" CAST-IN-DRILLED-HOLE CONCRETE PILING	3,013	LF
STRUCTURAL CONCRETE, RETAINING WALL	439	CY
CONCRETE SURFACE TEXTURE	8,510	SQFT
DRILL AND BOND DOWEL	2,832	LF
BAR REINFORCING STEEL (BRIDGE)	392,578	LB
BAR REINFORCING STEEL (RETAINING WALL)	85,166	LB
PREPARE AND STAIN CONCRETE	8,155	SQFT
CHAIN LINK RAILING (TYPE 7 MODIFIED)	544	LF
CONCRETE BARRIER (TYPE 60D)	89	LF
CONCRETE BARRIER (TYPE 736A MODIFIED)	544	LF

TYPICAL SECTION



SECTION A-A



Denotes Structure Excavation (Retaining Wall)

Denotes Structure Backfill (Retaining Wall)

Denotes Roadway Excavation, see "ROAD PLANS"

PAY LIMITS FOR STRUCTURE EXCAVATION AND BACKFILL

NO SCALE

	BY	CHECKED
DESIGN	Richard Schendel	Prem Rimal
DETAILS	Richard Schendel	Prem Rimal
QUANTITIES	Richard Schendel	Prem Rimal

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
INDEX TO PLANS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
04/02/14	07/25/14	09/10/14		2	18

FILE => 53e0297-a-itp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

CURVE DATA

No.	R	Δ	T	L
Ⓐ	2486.00	37°11'43"	836.52	1613.87

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1833	2313

Rick Schendel — REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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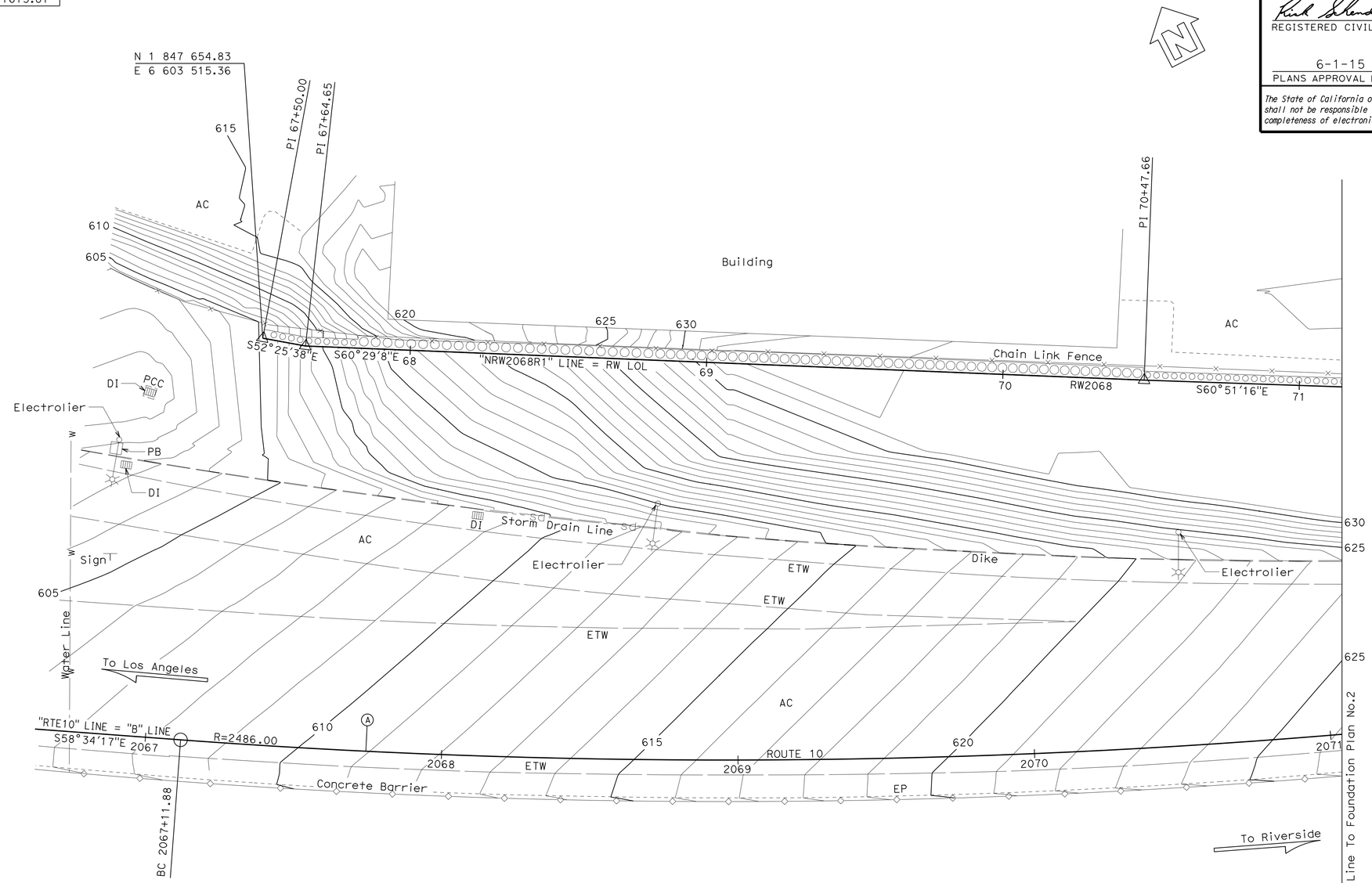

SURVEY CONTROL

PRHV 9 (Not Shown on Plan)

Fnd Well Mon.
153.98 Lt. "RTE10" LINE, RTE 10
Sta. 2059+92.93
N 1,848,053.26
E 6,602,895.64
Elev.=575.10

PRHV 463 (Not Shown on Plan)

Fnd 1" I.P. w/ Plug
147.27 Lt. "RTE10" Line, Rte 10
Sta. 2056+76.02
N 1,847,956.37
E 6,602,471.71
Elev.=567.96

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X				
HORZ.DATUM NAD83	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett	01/2011
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY J.Martinez	01/2011	CHECKED	BY T.Schmalz	01/2011

DESIGN	BY Richard Schendel	CHECKED Prem Rimal
DETAILS	BY Richard Schendel	CHECKED Prem Rimal
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
FOUNDATION PLAN NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 07
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/26/11	03/16/11	12/27/13	12/31/13	3	18

FILE => 53e0297-c-fdp101.dgn

CURVE DATA

No.	R	Δ	T	L
Ⓑ	2392.19	01°14'54"	26.06	52.12
Ⓒ	2023.19	10°13'47"	181.09	361.22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1834	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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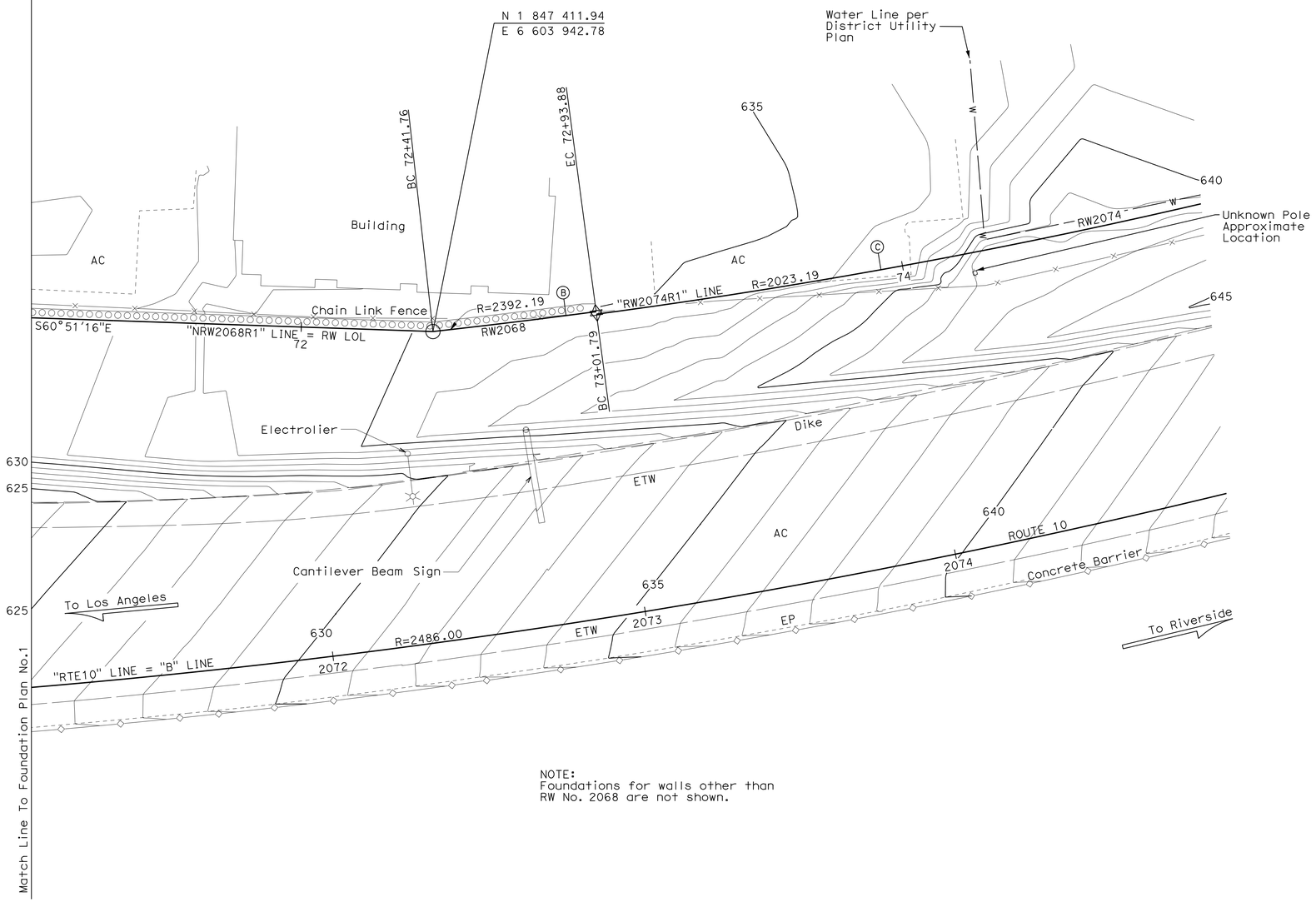

NOTE:
Foundations for walls other than RW No. 2068 are not shown.

For District Controls and Curve Data, See Foundation Plan No.1

PRELIMINARY INVESTIGATION SECTION						
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X				
	HORZ.DATUM NAD83	SURVEYED	BY District 04/2008	CHECKED	BY C.Fassett 01/2011	
	ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY J.Martinez 01/2011	CHECKED	BY T.Schmalz 01/2011	

DESIGN	BY Richard Schendel	CHECKED Prem Rimal
DETAILS	BY Richard Schendel	CHECKED Prem Rimal
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
FOUNDATION PLAN NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 07
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
02/04/14		12/17/13	12/31/13	4	18

FILE => 53e0297-c-fdp102.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1835	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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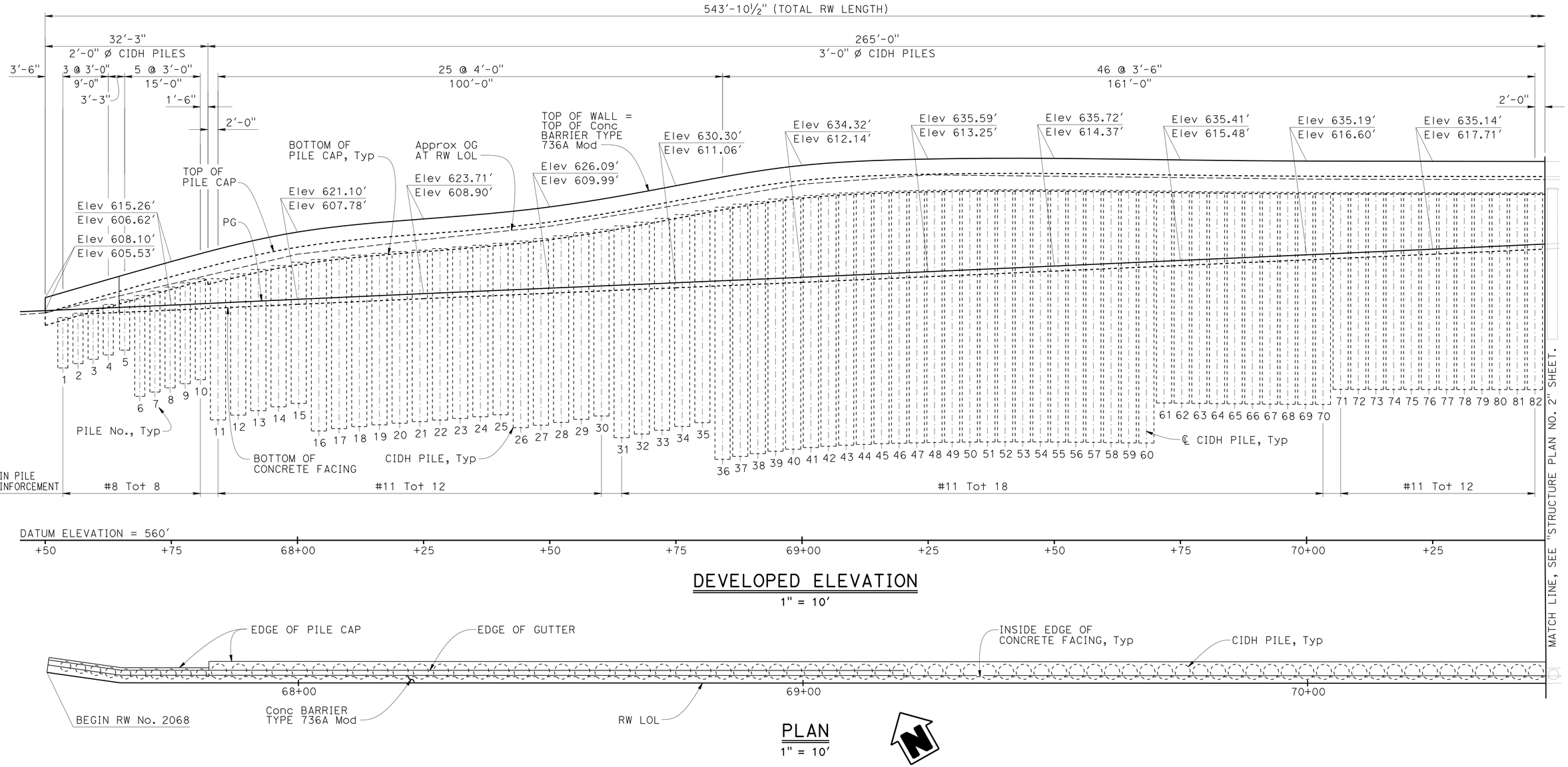
NOTES:

1. Top of wall must be a smooth curve between control points as shown.
2. Unless otherwise shown, top of wall and PG elevations are shown at even 25 ft stations along RW LOL.
3. All dimensions are measured along RW LOL.
4. Chain link railing and weep holes not shown.

LEGEND:

Elev XXX.XX — TOP OF WALL Elev
Elev XXX.XX — PG Elev



DEVELOPED ELEVATION

1" = 10′

PLAN

1" = 10′

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	
DETAILS	BY Richard Schendel	CHECKED Prem Rimal	
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
STRUCTURE PLAN NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/13/14	06/02/14		04/06/14	5	18

FILE => 53e0297-e-sp01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

NOTES:

1. Top of wall must be a smooth curve between control points as shown.
2. Unless otherwise shown, top of wall and PG elevations are shown at even 25 ft stations along RW LOL.
3. All dimensions are measured along RW LOL.
4. Chain link railing and weep holes not shown.

LEGEND:

Elev XXX.XX ← TOP OF WALL Elev
Elev XXX.XX ← PG Elev

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1836	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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

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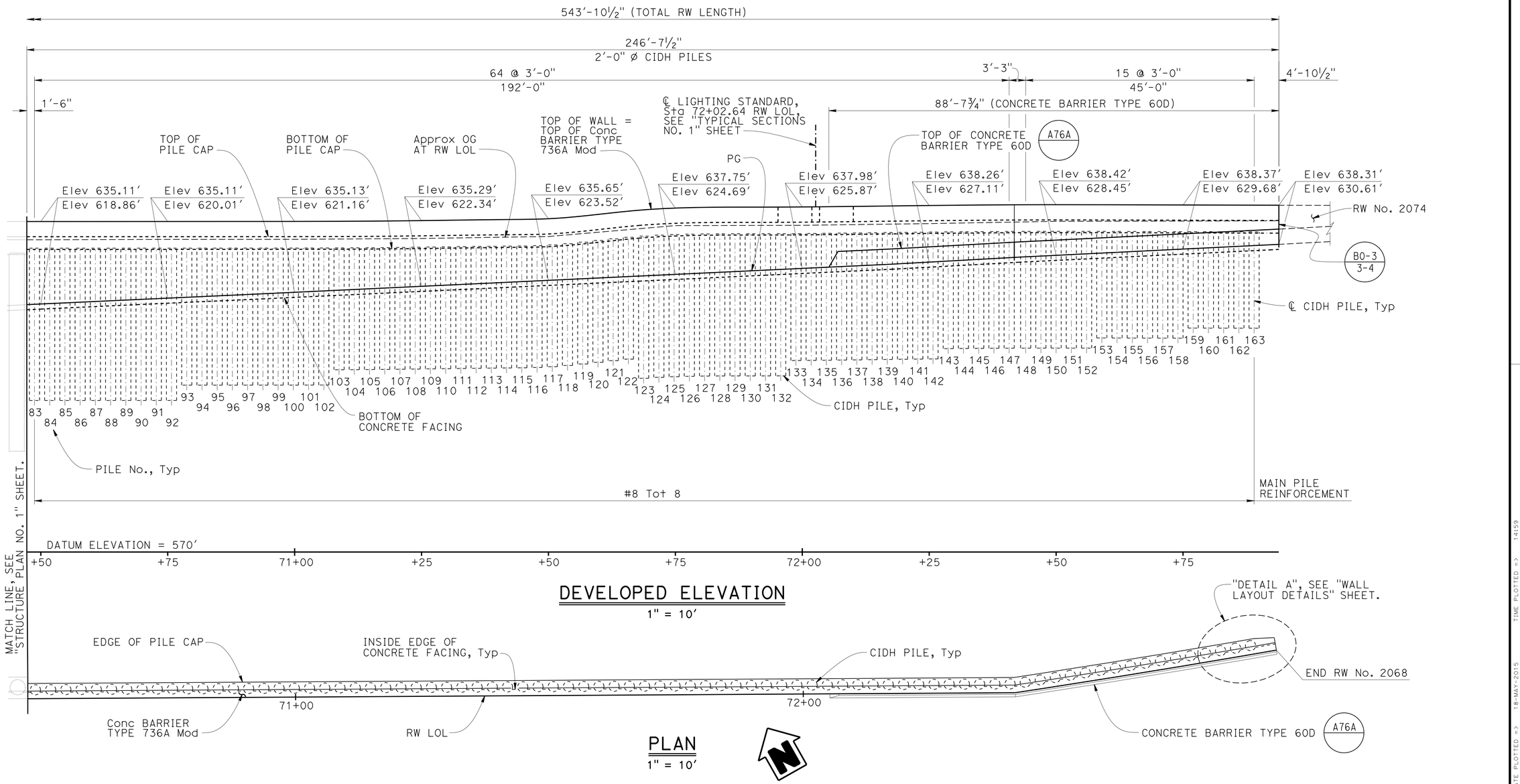

DEVELOPED ELEVATION
1" = 10'

PLAN
1" = 10'

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0297
DETAILS	BY Richard Schendel	CHECKED Prem Rimal			POST MILE 39.15
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal			

RETAINING WALL NO. 2068
STRUCTURE PLAN NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/13/14	05/28/14	06/02/14		6	18

FILE => 53e0297-e-sp02.dgn

USERNAME => s125824 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1837	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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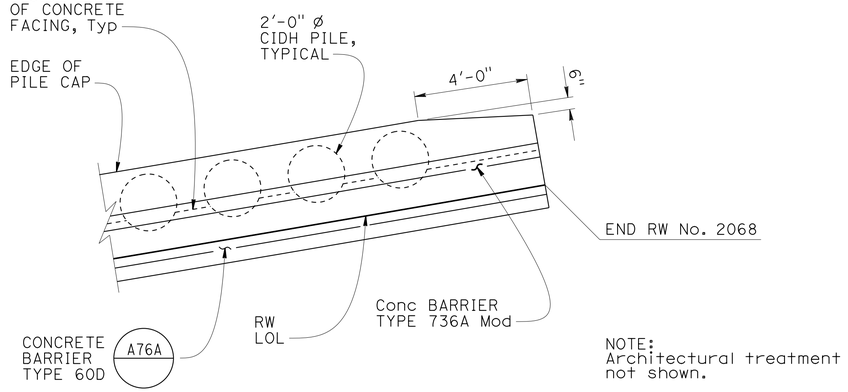
PILE DATA TABLES

Pile No.	Cut-off Elev (ft)	Tip Elev (ft)	Pile Length (ft)
1	604.16	594.16	10'-0"
2	605.03	595.03	"
3	605.89	595.89	"
4	606.76	596.76	"
5	607.69	597.69	"
6	608.54	588.54	20'-0"
7	609.38	589.38	"
8	610.22	590.22	"
9	611.04	591.04	"
10	611.84	591.84	"
11	611.86	583.86	28'-0"
12	612.82	584.82	"
13	613.70	585.70	"
14	614.47	586.47	"
15	615.13	587.13	"
16	615.68	581.68	34'-0"
17	616.14	582.14	"
18	616.54	582.54	"
19	616.89	582.89	"
20	617.21	583.21	"
21	617.52	583.52	"
22	617.83	583.83	"
23	618.15	584.15	"
24	618.50	584.50	"
25	618.89	584.89	"
26	619.32	582.32	37'-0"
27	619.81	582.81	"
28	620.37	583.37	"
29	620.98	583.98	"
30	621.64	584.64	"
31	622.33	580.33	42'-0"
32	623.06	581.06	"
33	623.81	581.81	"
34	624.57	582.57	"
35	625.32	583.32	"
36	626.04	576.04	50'-0"
37	626.63	576.63	"
38	627.17	577.17	"
39	627.65	577.65	"
40	628.05	578.05	"
41	628.37	578.37	"
42	628.64	578.64	"
43	628.85	578.85	"
44	629.01	579.01	"
45	629.14	579.14	"
46	629.24	579.24	"
47	629.32	579.32	"
48	629.39	579.39	"
49	629.43	579.43	"
50	629.47	579.47	"

Pile No.	Cut-off Elev (ft)	Tip Elev (ft)	Pile Length (ft)
51	629.49	579.49	50'-0"
52	629.50	579.50	"
53	629.50	579.50	"
54	629.49	579.49	"
55	629.47	579.47	"
56	629.45	579.45	"
57	629.41	579.41	"
58	629.37	579.37	"
59	629.32	579.32	"
60	629.27	579.27	"
61	629.22	587.22	42'-0"
62	629.18	587.18	"
63	629.13	587.13	"
64	629.09	587.09	"
65	629.05	587.05	"
66	629.02	587.02	"
67	628.99	586.99	"
68	628.96	586.96	"
69	628.94	586.94	"
70	628.93	586.93	"
71	628.92	589.92	39'-0"
72	628.91	589.91	"
73	628.91	589.91	"
74	628.91	589.91	"
75	628.90	589.90	"
76	628.90	589.90	"
77	628.89	589.89	"
78	628.88	589.88	"
79	628.88	589.88	"
80	628.87	589.87	"
81	628.87	589.87	"
82	628.86	589.86	"
83	629.86	599.86	30'-0"
84	629.86	599.86	"
85	629.86	599.86	"
86	629.86	599.86	"
87	629.86	599.86	"
88	629.86	599.86	"
89	629.86	599.86	"
90	629.86	599.86	"
91	629.86	599.86	"
92	629.86	599.86	"
93	629.86	602.86	27'-0"
94	629.87	602.87	"
95	629.87	602.87	"
96	629.87	602.87	"
97	629.87	602.87	"
98	629.87	602.87	"
99	629.87	602.87	"
100	629.88	602.88	"

Pile No.	Cut-off Elev (ft)	Tip Elev (ft)	Pile Length (ft)
101	629.88	602.88	27'-0"
102	629.89	602.89	"
103	629.90	605.90	24'-0"
104	629.92	605.92	"
105	629.94	605.94	"
106	629.97	605.97	"
107	630.00	606.00	"
108	630.03	606.03	"
109	630.07	606.07	"
110	630.12	606.12	"
111	630.16	606.16	"
112	630.19	606.19	"
113	630.23	606.23	"
114	630.26	606.26	"
115	630.29	606.29	"
116	630.35	606.35	"
117	630.50	606.50	"
118	630.74	606.74	"
119	631.04	607.04	"
120	631.37	607.37	"
121	631.69	607.69	"
122	631.99	607.99	"
123	632.23	604.23	28'-0"
124	632.41	604.41	"
125	632.53	604.53	"
126	632.62	604.62	"
127	632.66	604.66	"
128	632.68	604.68	"
129	632.69	604.69	"
130	632.69	604.69	"
131	632.70	604.70	"
132	632.71	604.71	"
133	632.73	607.73	25'-0"
134	632.75	607.75	"
135	632.78	607.78	"
136	632.81	607.81	"
137	632.85	607.85	"
138	632.89	607.89	"
139	632.93	607.93	"
140	632.96	607.96	"
141	633.00	608.00	"
142	633.03	608.03	"
143	633.06	610.06	23'-0"
144	633.09	610.09	"
145	633.11	610.11	"
146	633.13	610.13	"
147	633.15	610.15	"
148	633.16	610.16	"
149	633.17	610.17	"
150	633.17	610.17	"

Pile No.	Cut-off Elev (ft)	Tip Elev (ft)	Pile Length (ft)
151	633.17	610.17	23'-0"
152	633.17	610.17	"
153	633.16	612.16	21'-0"
154	633.16	612.16	"
155	633.15	612.15	"
156	633.14	612.14	"
157	633.13	612.13	"
158	633.12	612.12	"
159	633.11	614.11	19'-0"
160	633.10	614.10	"
161	633.10	614.10	"
162	633.09	614.09	"
163	633.08	614.08	"



DETAIL A

3/8" = 1'-0"

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	
DETAILS	BY Richard Schendel	CHECKED Prem Rimal	
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
WALL LAYOUT DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

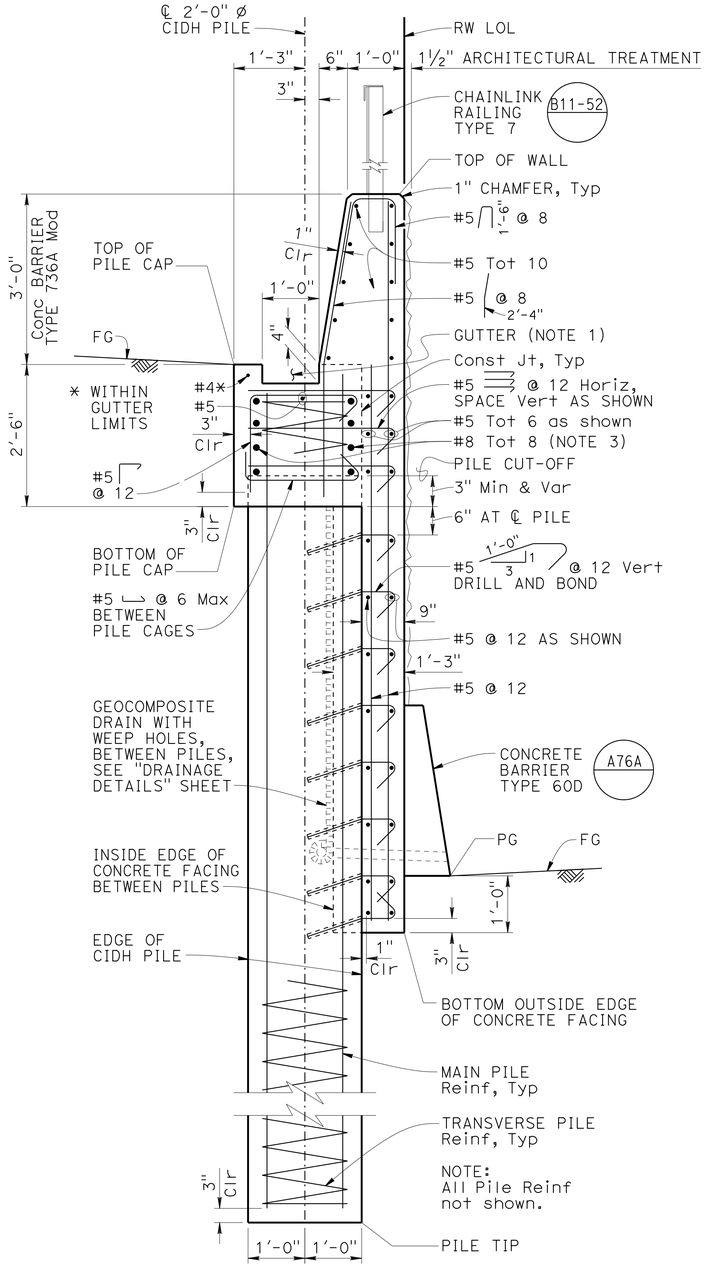
UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/02/14	06/02/14		07/26/14	7	18

FILE => 53e0297-g-rwdt01.dgn

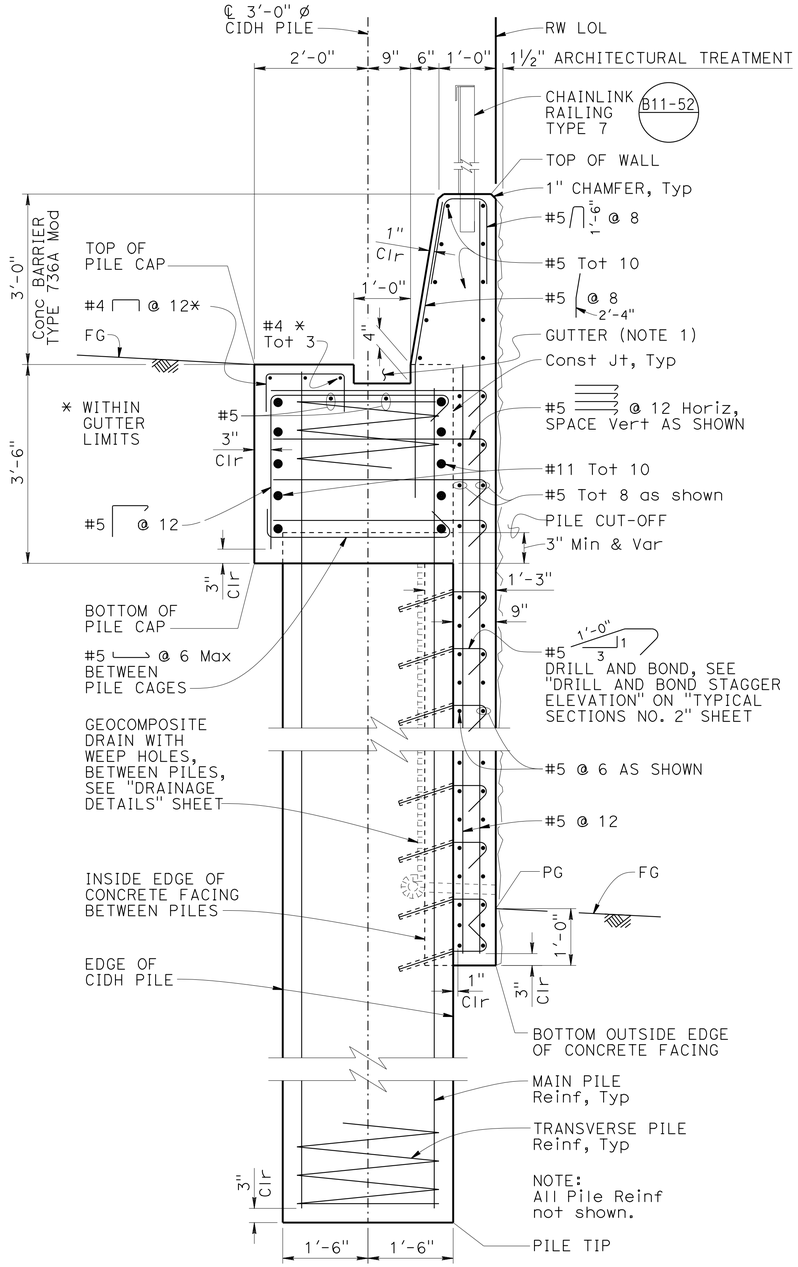
USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59



NOTE:
Section with Type 60D Barrier and gutter shown, other sections similar.

TYPICAL VERTICAL SECTION 2'-0" ø CIDH PILES

¾" = 1'-0"



NOTE:
Section with gutter shown, other sections similar.

TYPICAL VERTICAL SECTION 3'-0" ø CIDH PILES

¾" = 1'-0"

TYPICAL SECTION NOTES:

1. Extend Reinf to 2" clear from top of pile cap outside limits of gutter. Adjust bar spacing accordingly.
2. Clearance to Reinf shall be 2" unless otherwise noted.
3. Extend #8 pile cap Reinf 3'-0" minimum into adjacent 3'-6" deep pile cap.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1838	2313

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

6-1-15
PLANS APPROVAL DATE

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

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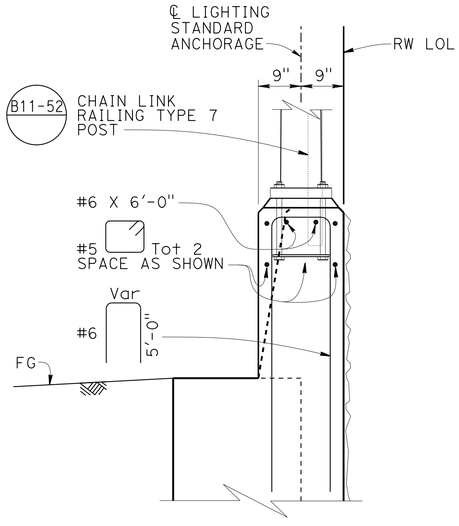
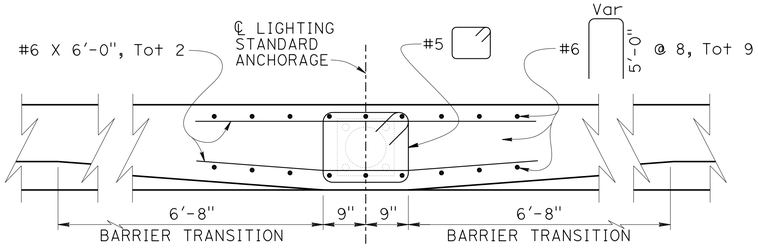


LIGHTING STANDARD DETAIL - SECTION

¾" = 1'-0"

LIGHTING STANDARD NOTES:

1. All reinforcement not shown.
2. For Lighting Standard and Lighting Standard Anchorage details, see "ROAD PLANS".



LIGHTING STANDARD DETAIL - PLAN

¾" = 1'-0"

	BY	CHECKED
DESIGN	Richard Schendel	Prem Rimal
DETAILS	Richard Schendel	Prem Rimal
QUANTITIES	Richard Schendel	Prem Rimal

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
TYPICAL SECTIONS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/04/14	05/22/14	06/02/14		8	18

FILE => 53e0297-k-ts01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1839	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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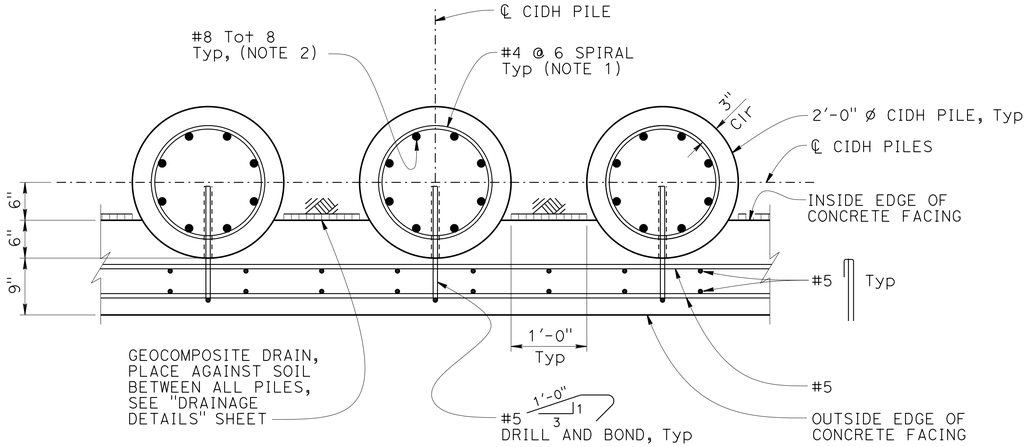
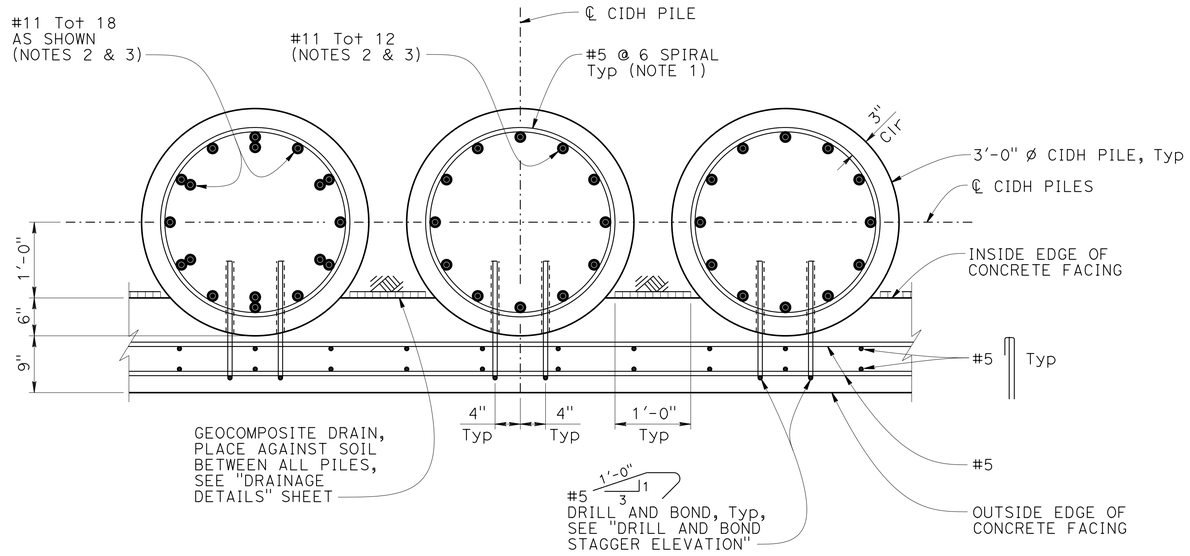


TYPICAL HORIZONTAL SECTION
2'-0" ø CIDH PILES

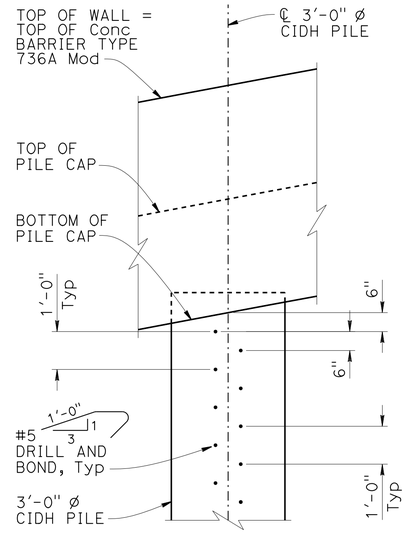
1" = 1'-0"



NOTE: Pile spacing shown at 3'-6". 4'-0" spacing similar.

TYPICAL HORIZONTAL SECTION
3'-0" ø CIDH PILES

1" = 1'-0"



DRILL AND BOND STAGGER ELEVATION

½" = 1'-0"

NOTES:

1. Lapped splices in spiral pile reinforcement must be lapped at least 80 bar diameters. Sprial pile reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.
2. No splices allowed in main pile reinforcement.
3. For main pile reinforcement schedule, see "STRUCTURE PLAN NO. 1" and "STRUCTURE PLAN NO. 2" sheets.
4. Clearance to reinforcement shall be 2" unless otherwise noted.
5. There shall be no voids present behind concrete facing upon wall completion.
6. Architectural treatment not shown.

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Richard Schendel	CHECKED Prem Rimal	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal	BRIDGE NO. 53E0297 POST MILE 39.15

RETAINING WALL NO. 2068
TYPICAL SECTIONS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/13/14	06/02/14		04/08/15	9	18

FILE => 53e0297-k-ts02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1840	2313

Rick Schendel — REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15 PLANS APPROVAL DATE

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

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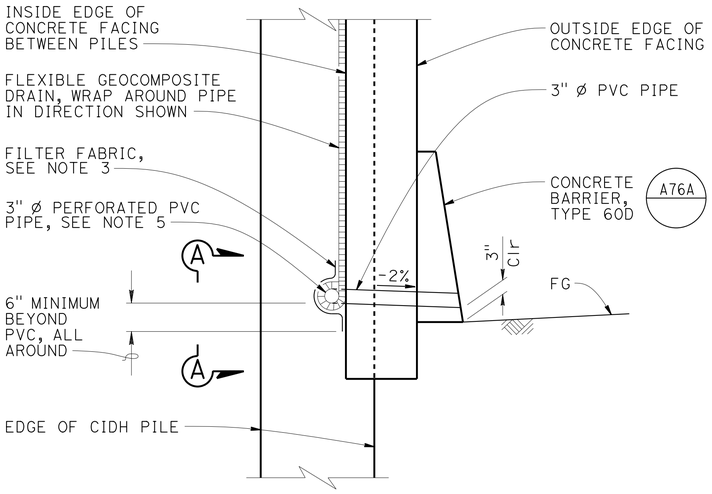
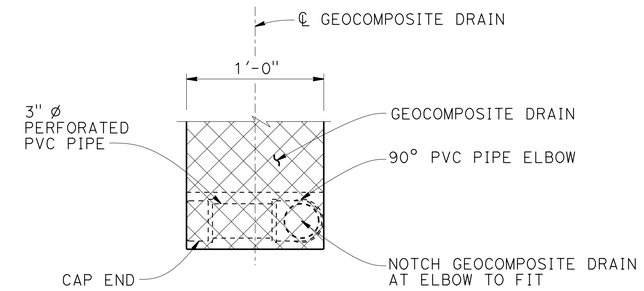


NOTE: Section with Type 60D Barrier shown, other locations similar.

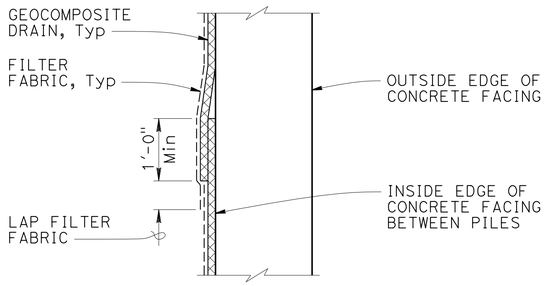
WALL DRAIN DETAIL AT WEEP HOLE - OPTION A

NO SCALE



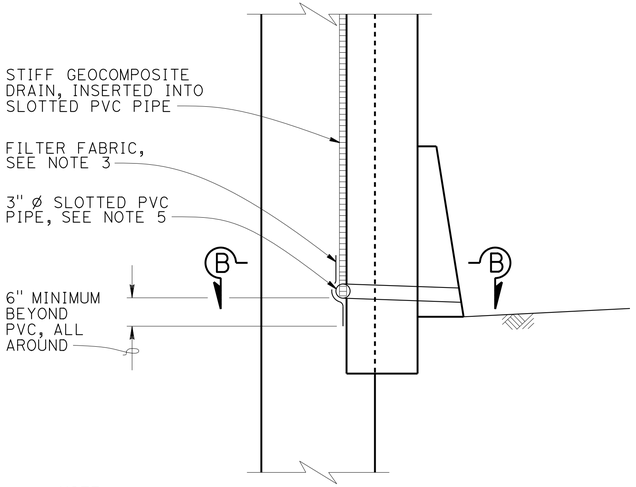
VIEW A-A

NO SCALE



DRAIN SPLICE

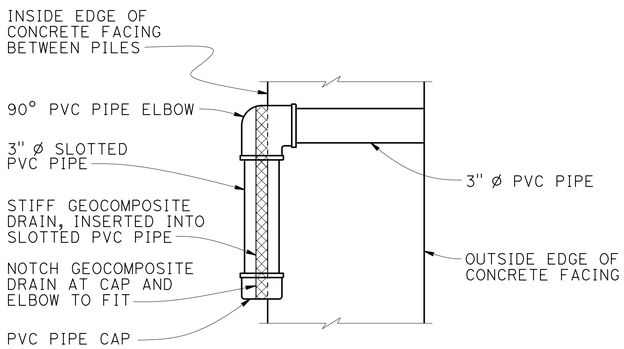
NO SCALE



NOTE:
For details not shown, or for details shown but not noted, see "WALL DRAIN DETAIL AT WEEP HOLE - OPTION A" detail.

WALL DRAIN DETAIL AT WEEP HOLE - OPTION B

NO SCALE



SECTION B-B

NO SCALE

NOTES:

1. Geocomposite Drain is per Section 88 Geosynthetics of the Standard Specifications.
2. Geocomposite Drains must have filter fabric on soil side and wrapped around top and side edges.
3. Provide filter fabric where necessary to prevent soil from entering drain.
4. Geocomposite Drain is to be placed against soil and between all CIDH piles.
5. The location of Geocomposite Drain and PVC Pipes may be adusted to clear the CIDH piles as approved by the Engineer.
6. Alternative drain details may be submitted for Engineer's approval.
7. There shall be no voids present behind concrete facing upon wall completion.

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0297	RETAINING WALL NO. 2068
DETAILS	BY Richard Schendel	CHECKED Prem Rimal			POST MILE 39.15	DRAINAGE DETAILS
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09/26/13	03/04/14			10	18

FILE => 53e0297-r-ddet01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1841	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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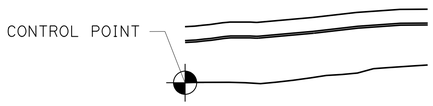
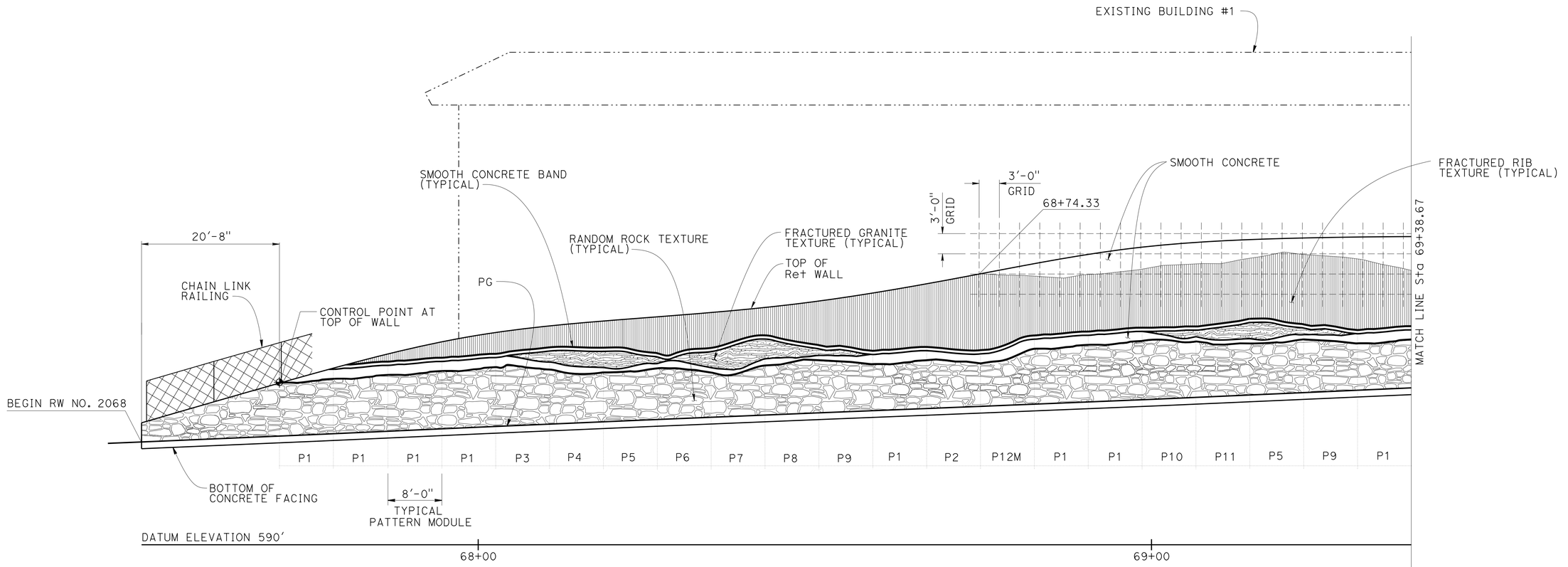


PATTERN MODULE P1

NOTE:
Begin layout of pattern modules at control point for P1 and continue to place plumb each module at corresponding match lines for limits of pattern modules.

PATTERN MODULE LAYOUT DETAIL

NO SCALE



DEVELOPED ELEVATION

NO SCALE

NOTES:

1. Entire chain link railing not shown for clarity.
2. For Typical Sections, see "ARCHITECTURAL DETAILS NO. 2 & NO. 3" sheets.
3. For Fractured Rib, Fractured Granite, and Random Rock Textures, see "ARCHITECTURAL DETAILS NO. 4" sheet.
4. For Pattern Modules, see "ARCHITECTURAL DETAILS NO. 5 & NO. 6" sheets.
5. Random Rock Texture between PG and bottom of concrete facing not shown.

DESIGN	BY Valerie Moore	CHECKED Richard Schendel	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0297	RETAINING WALL NO. 2068
DETAILS	BY Farideh Hosseinioun	CHECKED Richard Schendel			POST MILE 39.15	ARCHITECTURAL DETAILS NO. 1
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
07/22/14	05/09/14			11	18

FILE => 53e0297-u-archdt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1842	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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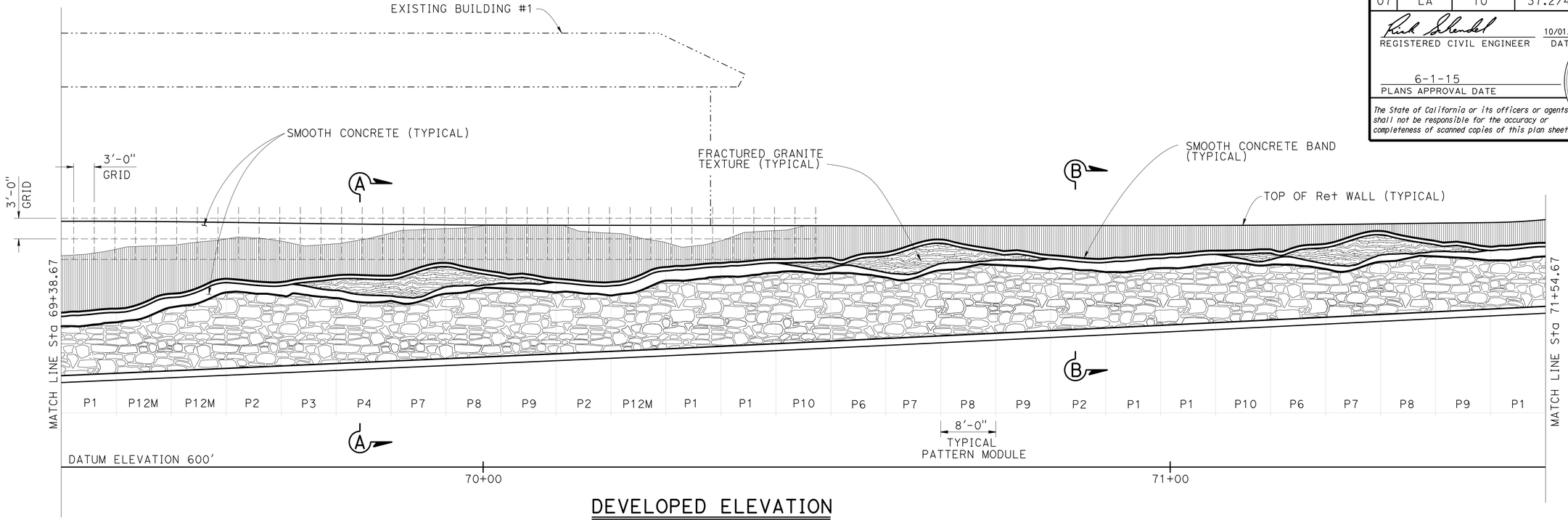
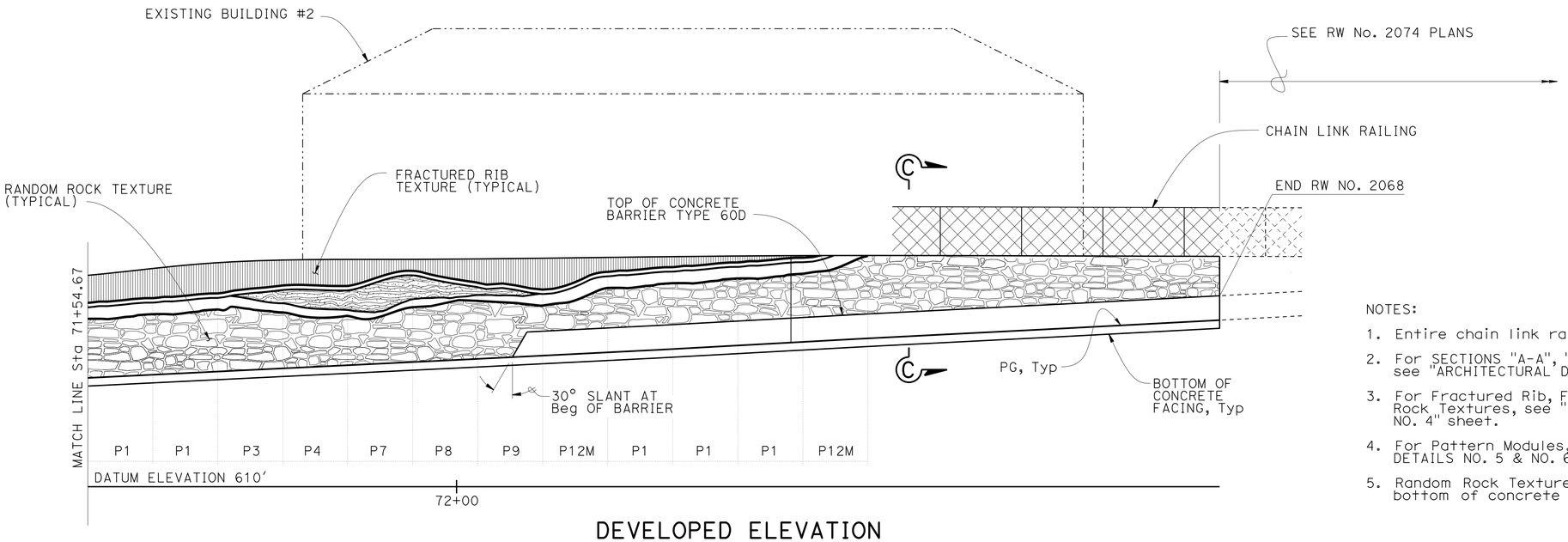


DEVELOPED ELEVATION

NO SCALE



DEVELOPED ELEVATION

NO SCALE

NOTES:

1. Entire chain link railing not shown for clarity.
2. For SECTIONS "A-A", "B-B", and "C-C", see "ARCHITECTURAL DETAILS NO. 3" sheet.
3. For Fractured Rib, Fractured Granite, and Random Rock Textures, see "ARCHITECTURAL DETAILS NO. 4" sheet.
4. For Pattern Modules, see "ARCHITECTURAL DETAILS NO. 5 & NO. 6" sheets.
5. Random Rock Texture between PG and bottom of concrete facing not shown.

DESIGN	BY Valerie Moore	CHECKED Richard Schendel	
DETAILS	BY Farideh Hosseinioun	CHECKED Richard Schendel	
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0297
POST MILE 39.15

RETAINING WALL NO. 2068
ARCHITECTURAL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
07/22/14	05/09/14			12	18

FILE => 53e0297-u-archdt02.dgn

USERNAME => s129624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1843	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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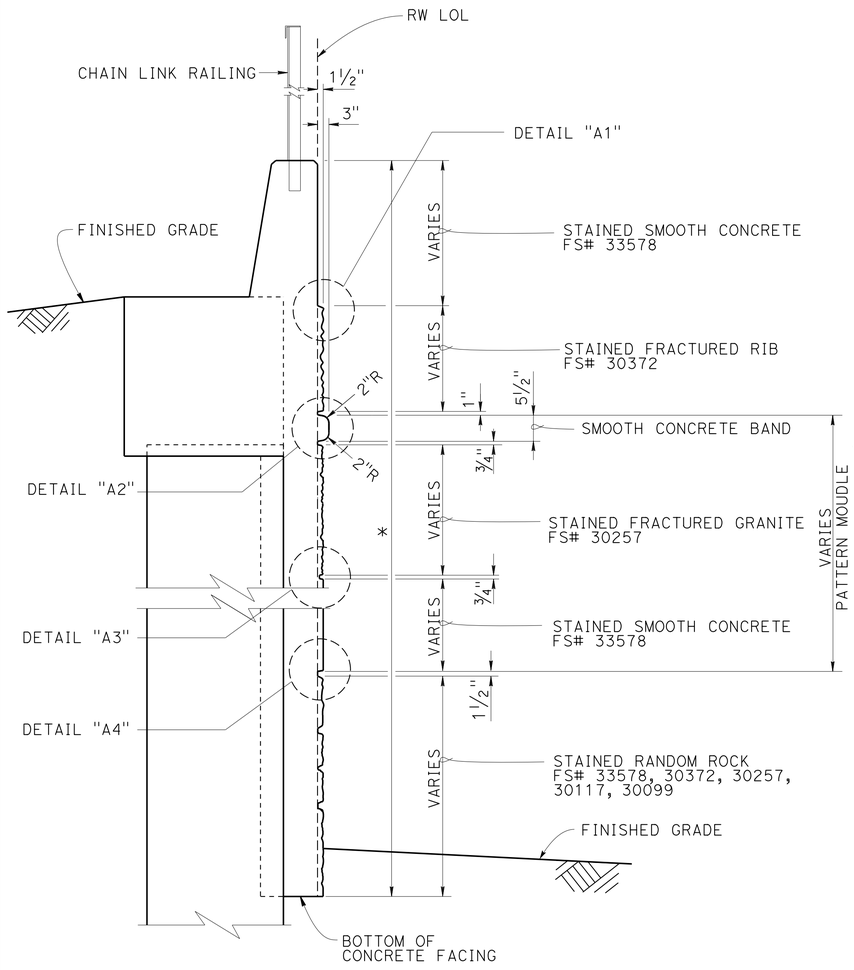
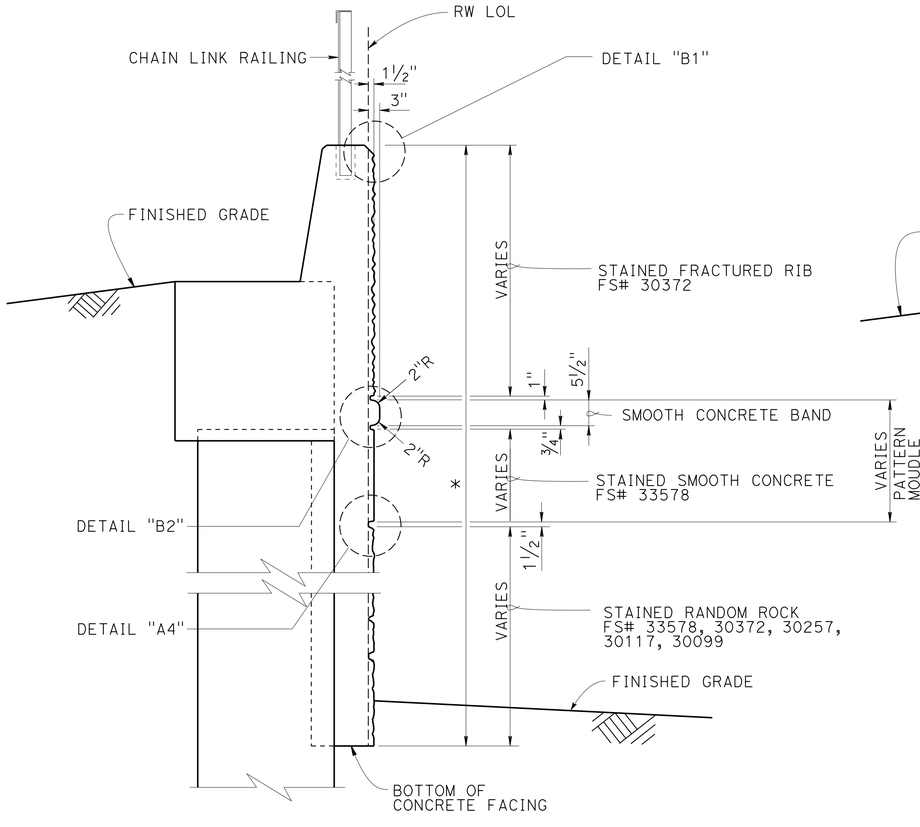


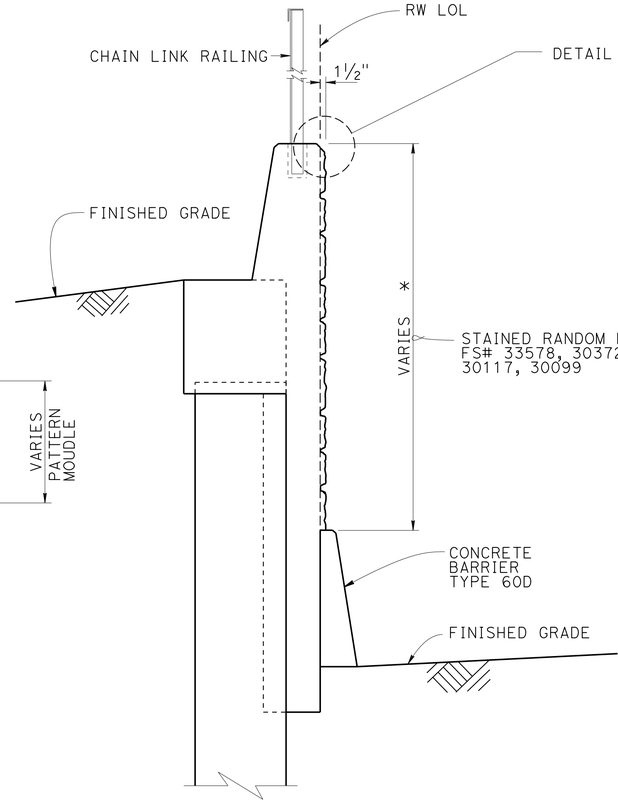
TYPICAL SECTION A-A

NO SCALE



TYPICAL SECTION B-B

NO SCALE



TYPICAL SECTION C-C

NO SCALE

* Pay limits of Concrete Surface Texture

NOTES:

1. For DETAILS "A1", "A2", "A3", "A4", "B1", and "B2", see "ARCHITECTURAL DETAILS NO. 4" sheet.
2. "FS#" is Federal Standard Color Number.

DESIGN	BY Valerie Moore	CHECKED Richard Schendel	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0297
DETAILS	BY Farideh Hosseinioun	CHECKED Richard Schendel			POST MILE 39.15
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal			

RETAINING WALL NO. 2068
ARCHITECTURAL DETAILS NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
01/31/14	02/26/14	04/08/14		13	18

FILE => 53e0297-u-archdt03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1844	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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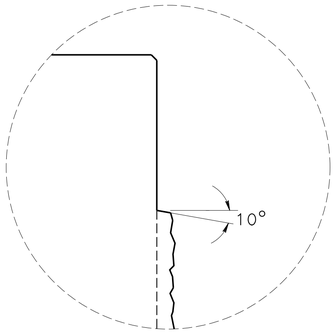
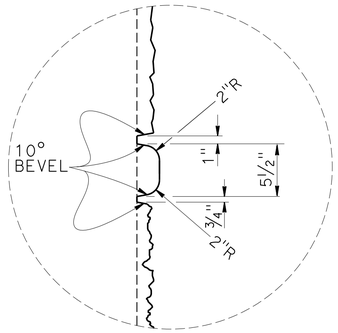
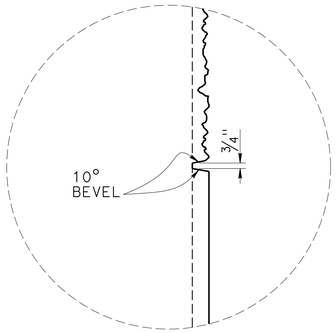


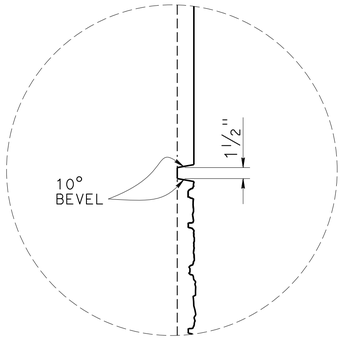
DETAIL A1
NO SCALE



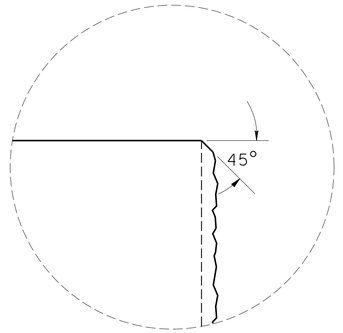
DETAIL A2
NO SCALE



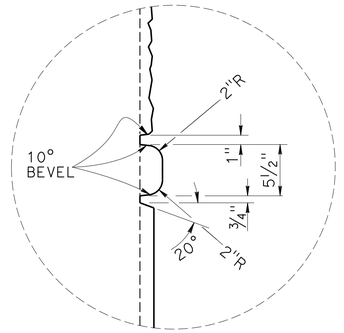
DETAIL A3
NO SCALE



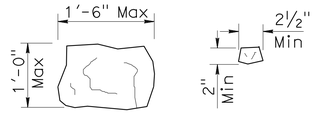
DETAIL A4
NO SCALE



DETAIL B1
NO SCALE

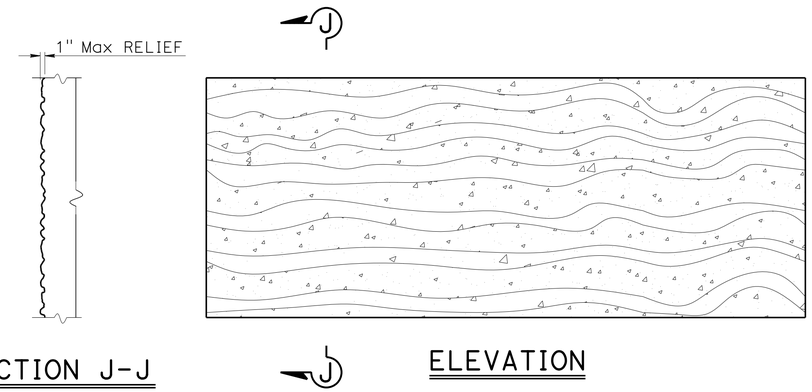


DETAIL B2
NO SCALE



ROCK SIZE

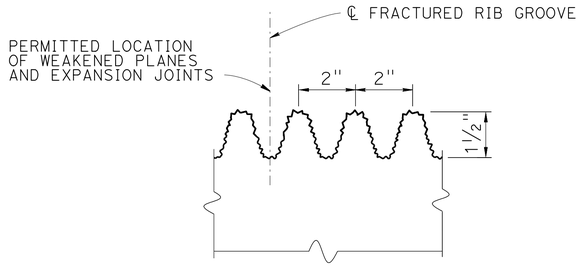
NOTE:
Seamless Random Rock pattern to have a minimum of 2 to a maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).



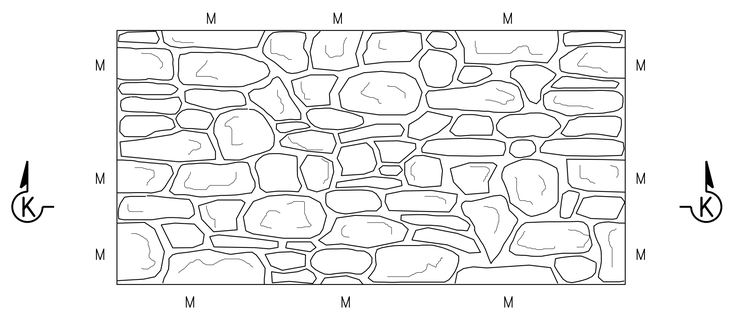
SECTION J-J

ELEVATION

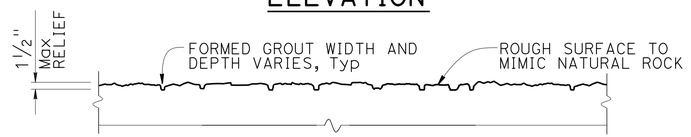
FRACTURED GRANITE TEXTURE
NO SCALE



FRACTURED RIB TEXTURE - SECTION
NO SCALE



ELEVATION



SECTION K-K

RANDOM ROCK TEXTURE
NO SCALE

DESIGN	BY Valerie Moore	CHECKED Richard Schendel	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0297	RETAINING WALL NO. 2068	
DETAILS	BY Farideh Hosseinioun	CHECKED Richard Schendel			POST MILE 39.15	ARCHITECTURAL DETAILS NO. 4	
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/06/14				14	18

FILE => 53e0297-u-archdt04.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1845	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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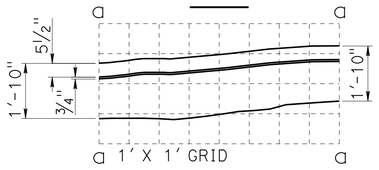
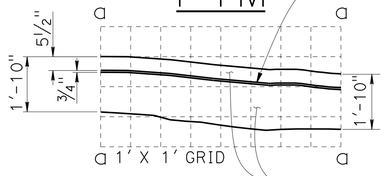
P1



P1M



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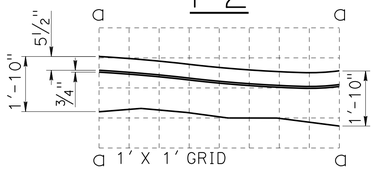
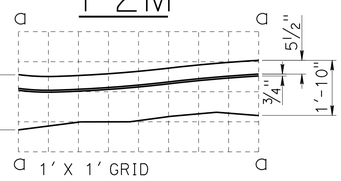


P2M



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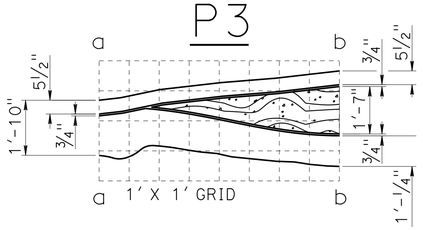
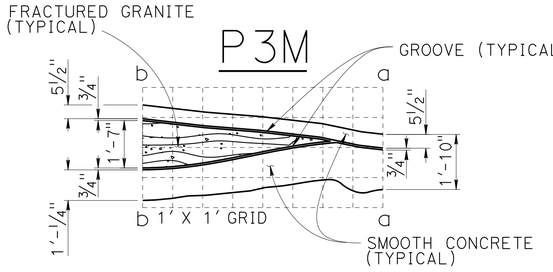


P3M



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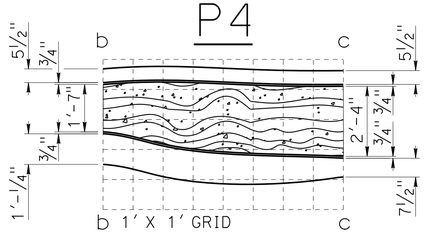
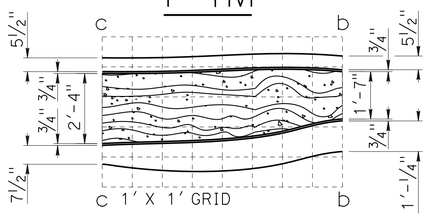


P4M



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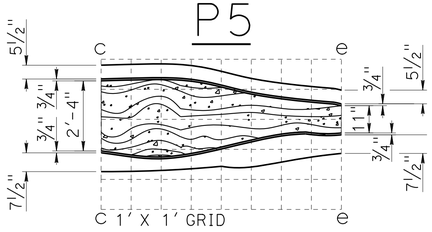

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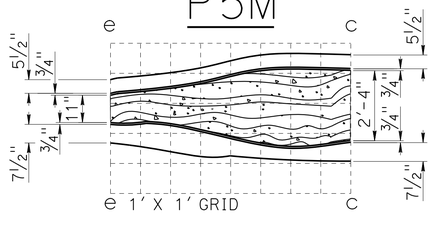

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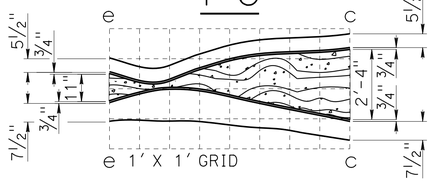

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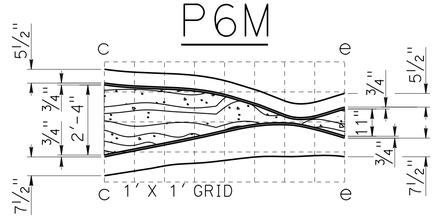
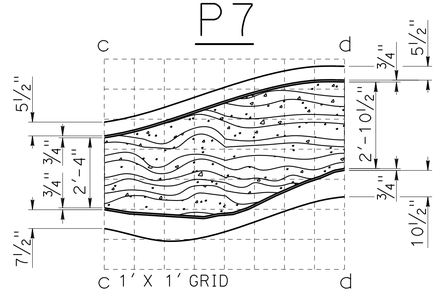
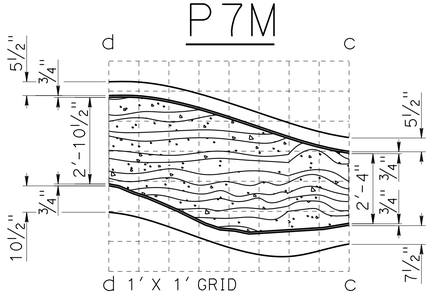


P7



P7M



NOTES:

1. Fractured Granite texture at match lines a-a, b-b, c-c, d-d, and e-e must match seamlessly between the interchangeable modules.
2. Fractured Rib and Random Rock Textures not shown for clarity.

INTERCHANGEABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Richard Schendel	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0297
DETAILS	BY Farideh Hosseinioun	CHECKED Richard Schendel			POST MILE 39.15
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal			

RETAINING WALL NO. 2068

ARCHITECTURAL DETAILS NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
12/27/13	02/26/14		15	18

FILE => 53e0297-u-archdt05.dgn

DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00
USERNAME => s125624

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1846	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

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

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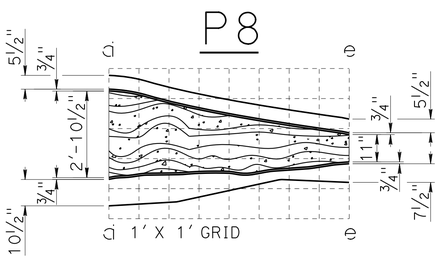
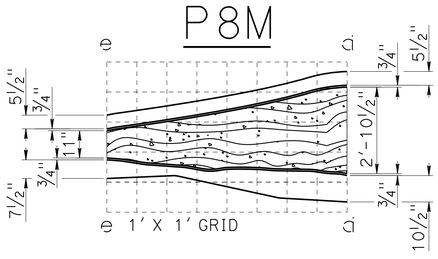
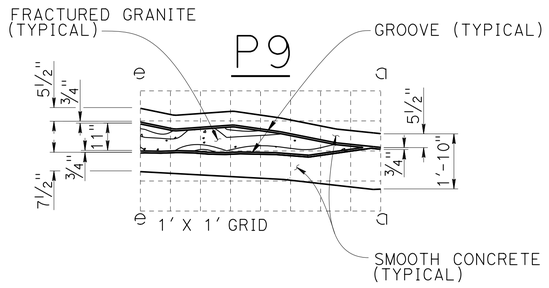
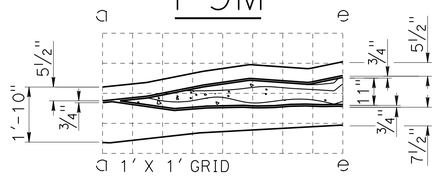
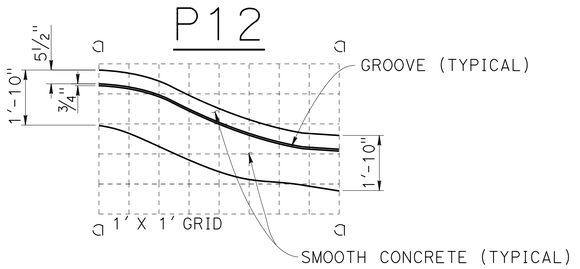
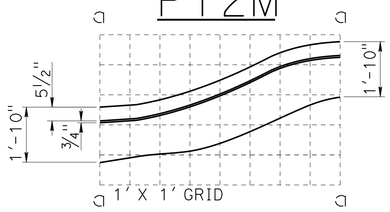


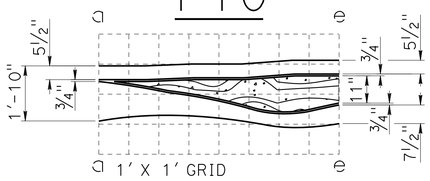


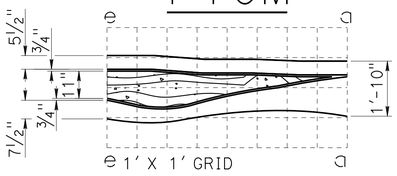


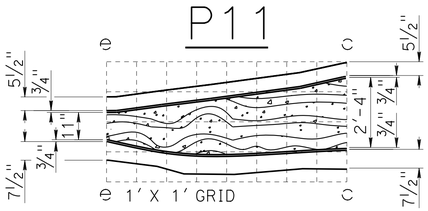


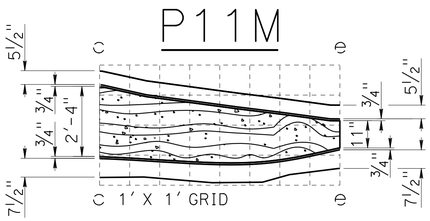












NOTES:

1. Fractured Granite texture at match lines a-a, b-b, c-c, d-d, and e-e must match seamlessly between the interchangeable modules.
2. Fractured Rib and Random Rock Textures not shown for clarity.

INTERCHANGEABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Richard Schendel	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0297	RETAINING WALL NO. 2068	
DETAILS	BY Farideh Hosseinioun	CHECKED Richard Schendel			POST MILE 39.15	ARCHITECTURAL DETAILS NO. 6	
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/27/13	02/26/14			16	18

FILE => 53e0297-u-archdt06.dgn

USERNAME => s129624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	1847	2313

REGISTERED CIVIL ENGINEER 1-15-14

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Hung Po Yang — No. C66376 — Exp. 6-30-14 — CIVIL — STATE OF CALIFORNIA

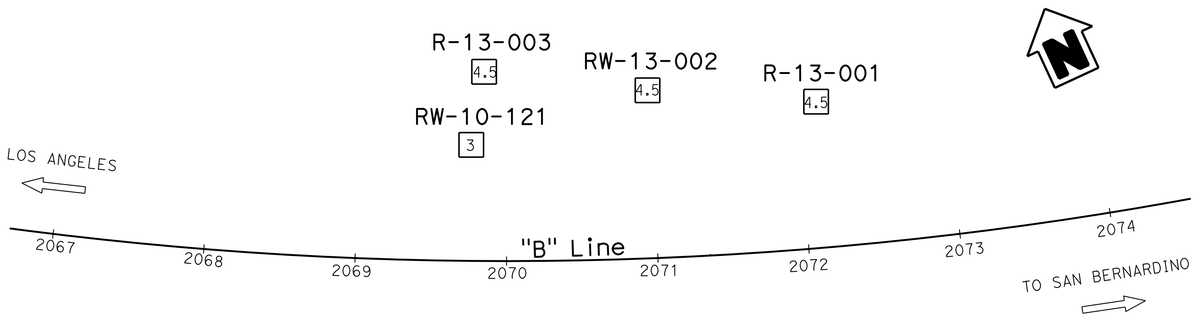
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

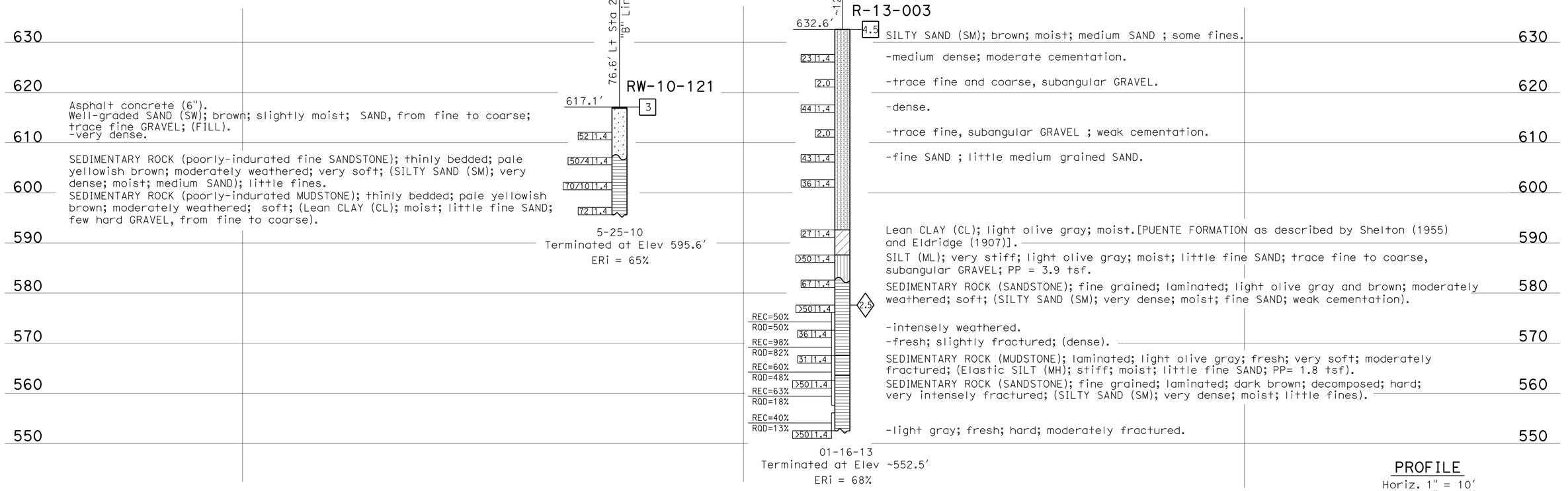
BENCH MARK

SUHV 1517 Elev 634.350′
Fd 1" IP&CT Plug Top Slope
W/B I-10 E of Holt Ave
N 1,847,407.423
E 6,603,873.861
NAVD 88



PLAN
1" = 50′

Note: No ground water encountered during field investigation.



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 18	BRIDGE NO. 53E0297	RETAINING WALL NO. 2068
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: F. Nguyen; CHECKED BY: M. Salisbury; FIELD INVESTIGATION BY: C. Bugarin/ H. Po Yang			POST MILE 39.15	LOG OF TEST BORINGS 1 OF 2

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-16-12		01-15-14	11-15-13	17	18

FILE => 53e0297-z-ltb01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	1848	2313

REGISTERED CIVIL ENGINEER 1-15-14

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hung Po Yang
No. C66376
Exp. 6-30-14
CIVIL
STATE OF CALIFORNIA

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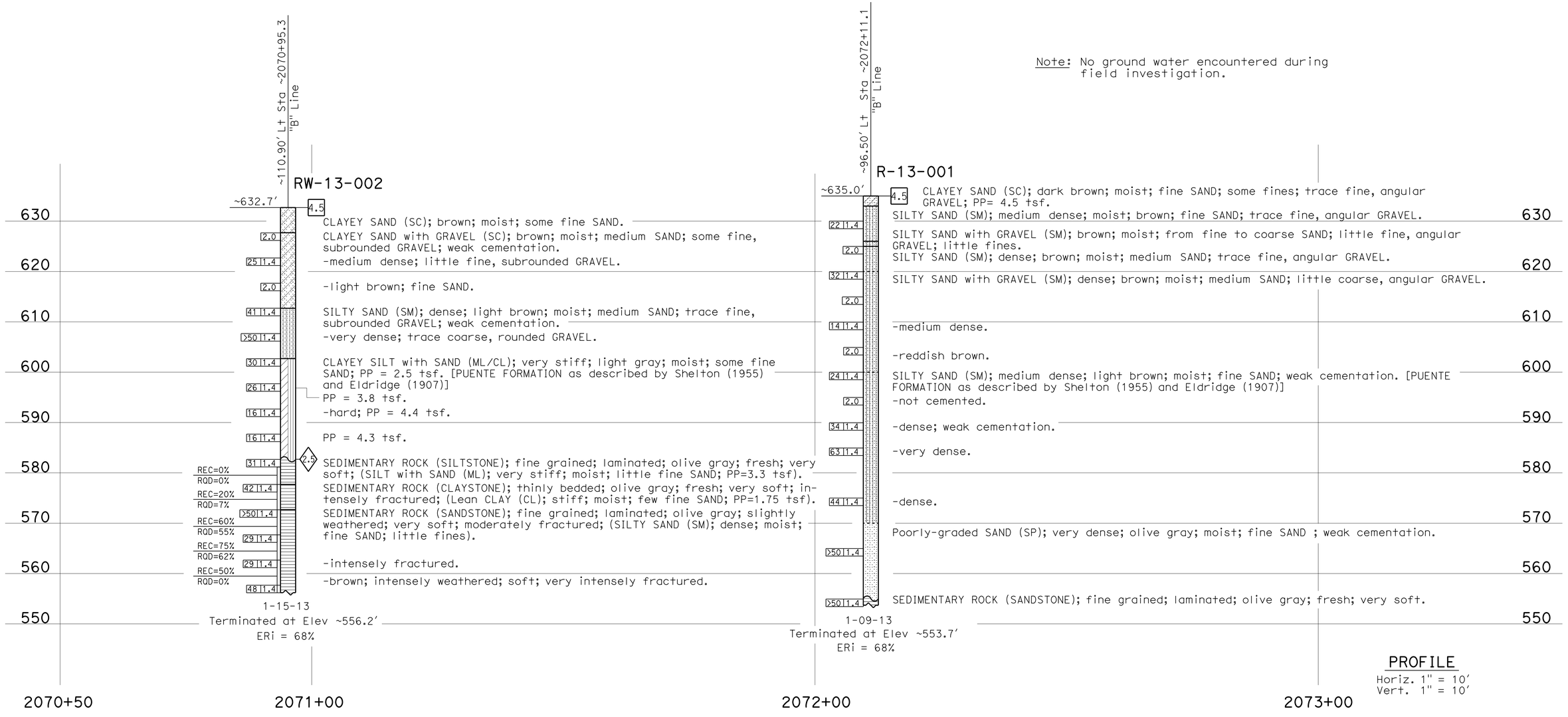
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

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



Note: No ground water encountered during field investigation.

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 18	BRIDGE NO. 53E0297	RETAINING WALL NO. 2068
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: F. Nguyen CHECKED BY: M. Salisbury	FIELD INVESTIGATION BY: H. Po Yang				POST MILE 39.15	LOG OF TEST BORINGS 2 OF 2

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-30-13	10-04-13	11-15-13	01-15-14	18	18

FILE => 53e0297-z-ltb02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

INDEX TO PLANS

NOTE:
For "STANDARD PLANS" and "QUANTITIES", see "STRUCTURE PLAN NO. 1" sheet.

STANDARD PLAN SHEET NUMBER

DETAIL NUMBER

NOTES:

B0-3 / 3-1
1. Masonry Soundwall, see "ROAD PLANS" for architectural details
2. Pervious Backfill Drain
3. Type 736SV (Mod 5) Barrier, Case 2-C
4. Soundwall Masonry Block on Type 736SV (Mod 1) Barrier, Case 2-B
5. Soundwall Masonry Block on Type 736SV (Mod 2) Barrier, Case 2-A
6. Soundwall Masonry Block on Retaining Wall Type 5SWB
7. Type 736S Barrier (Mod)

B11-52
8. Chain Link Railing Type 7 — B15-8
9. 16" ø CIDH Concrete Pile — A76A
10. Concrete barrier Type 60D
11. Architectural Treatment
12. ℄ Lighting Standard, see "ROAD PLANS"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1849	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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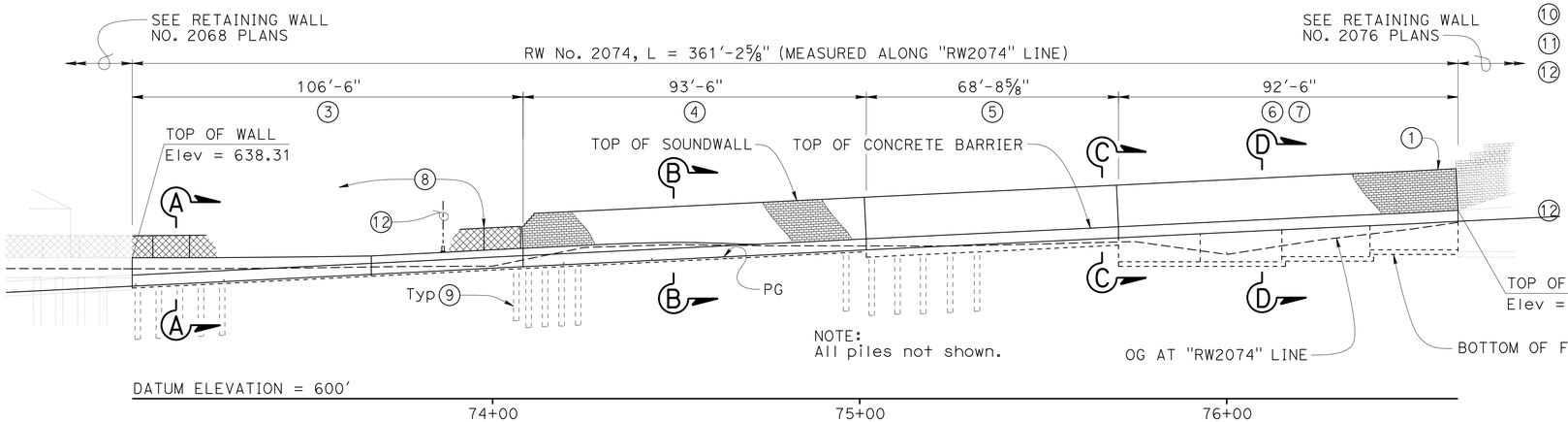
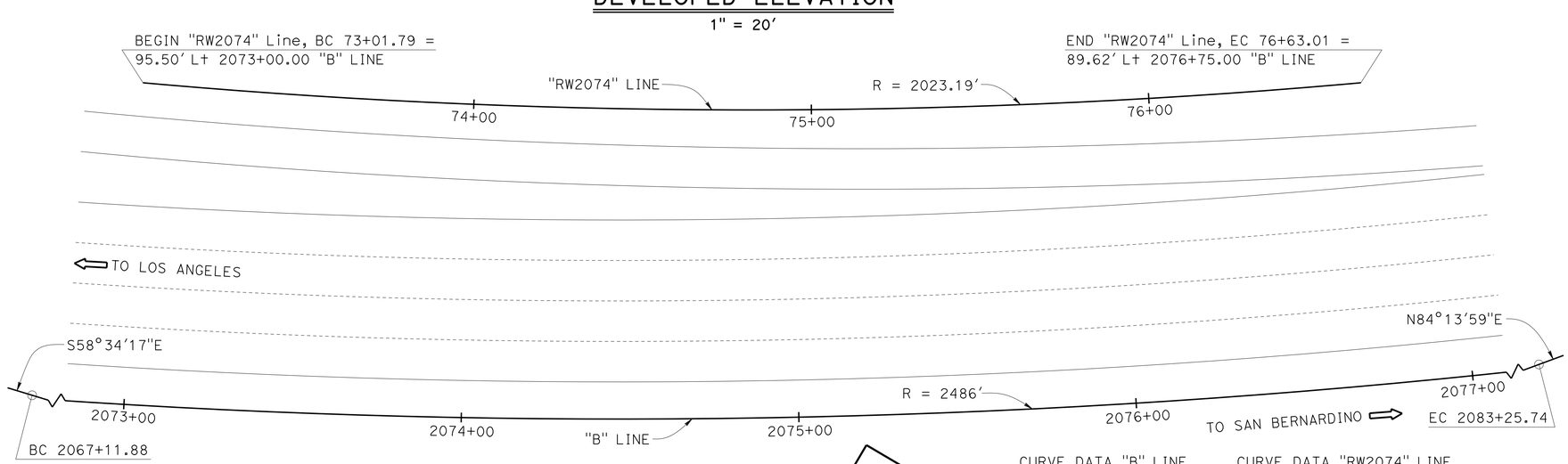


DEVELOPED ELEVATION

1" = 20'

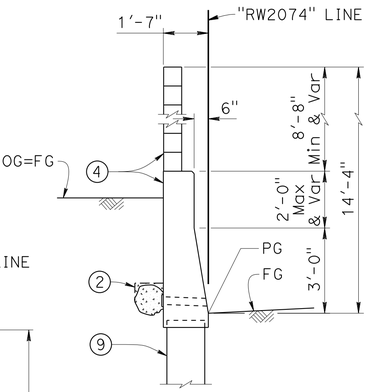


PLAN

1" = 20'

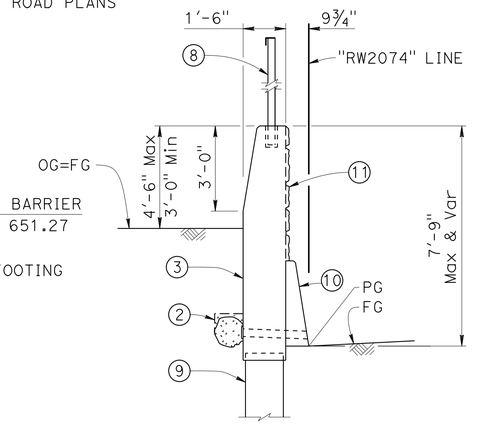
CURVE DATA "B" LINE
R = 2486'
Δ = 37°11'43"
T = 836.52'
L = 1613.87'

CURVE DATA "RW2074" LINE
R = 2023.19'
Δ = 10°13'47"
T = 181.09'
L = 361.22'



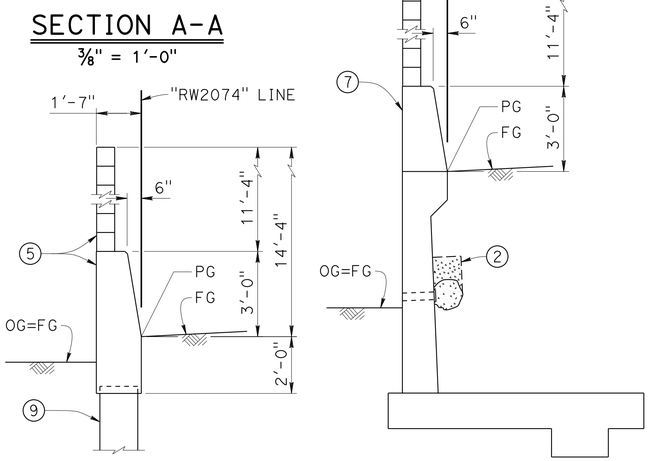
SECTION B-B

⅜" = 1'-0"



SECTION A-A

⅜" = 1'-0"



SECTION C-C

⅜" = 1'-0"

SECTION D-D

⅜" = 1'-0"

MICHAEL POPE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Matthew Schott	Michael Pope
DETAILS	Matthew Schott	Michael Pope
QUANTITIES	Matthew Schott	Michael Pope

LOAD & RESISTANCE FACTOR DESIGN — LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE

	BY	CHECKED
LAYOUT	Matthew Schott	Michael Pope
SPECIFICATIONS	Xiaodong Chen	PLANS AND SPECS COMPARED Xiaodong Chen

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

BRIDGE NO. 53E0298
POST MILE 39.26

RETAINING WALL NO. 2074
GENERAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES: 01/28/14 | 02/26/14 | 05/30/14

SHEET 1 OF 11

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

FILE => 53e0298-a-gp01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1850	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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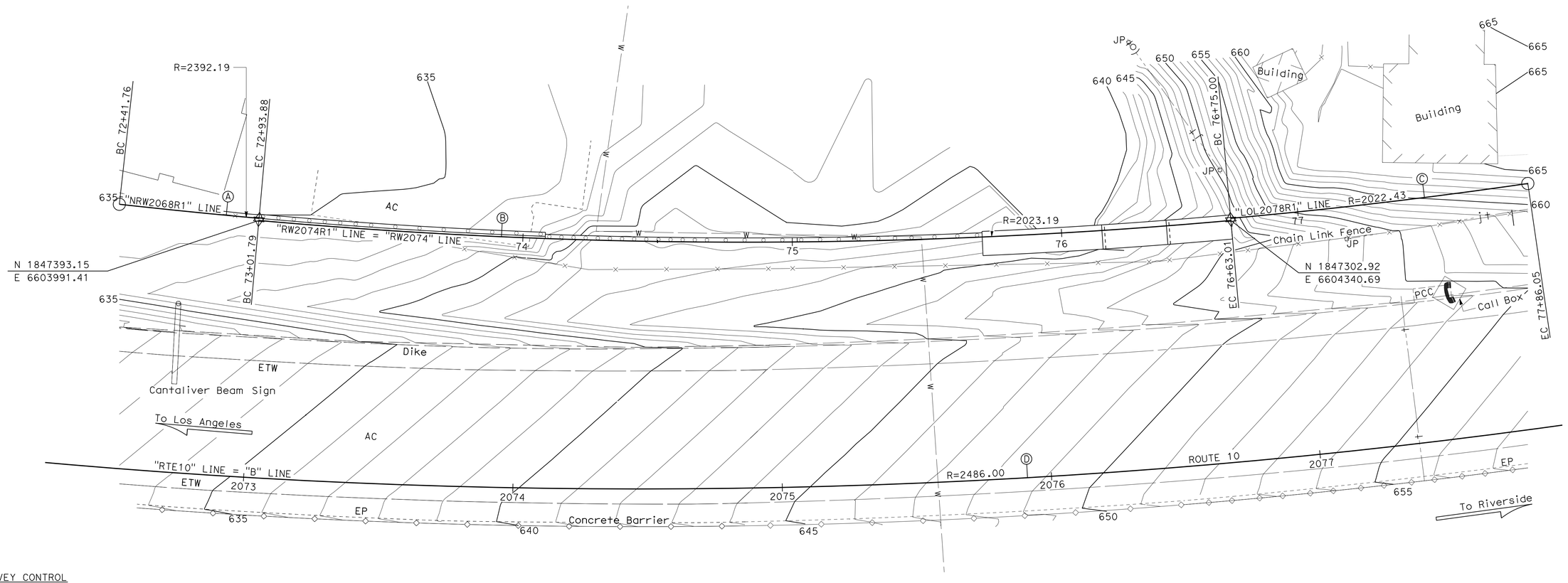
CURVE DATA

No.	R	Δ	T	L
Ⓐ	2392.19	01°14′54"	26.06	52.12
Ⓑ	2023.19	10°13′47"	181.09	361.22
Ⓒ	2022.43	03°08′46"	55.54	111.05
Ⓓ	2486.00	37°11′43"	836.52	1613.87



SURVEY CONTROL

PRHV 9 (Not Shown on Plan)

Fnd Well Mon.
153.98 Lt. "RTE10" LINE, RTE 10
Sta. 2059+92.93
N 1,848,053.26
E 6,602,895.64
Elev.=575.10

PRHV 463 (Not Shown on Plan)

Fnd 1" I.P. w/ Plug
147.27 Lt. "RTE10" Line, Rte 10
Sta. 2056+76.02
N 1,847,956.37
E 6,602,471.71
Elev.=567.96

NOTES:

1. For foundation elevations, see "STRUCTURE PLAN" sheets.
2. Foundations for walls other than RW No. 2074 are not shown.

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20′	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X					
	HORZ.DATUM NAD83	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett	01/2011
	ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY J.Martinez	01/2011	CHECKED	BY T.Schmalz	01/2011

DESIGN	BY Matthew Schott	CHECKED Michael Pope
DETAILS	BY Matthew Schott	CHECKED Michael Pope
QUANTITIES	BY Matthew Schott	CHECKED Michael Pope

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0298
POST MILE 39.26

RETAINING WALL NO. 2074
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/16/14	05/29/14		01/21/15	2	11

FILE => 53e0298-b-fdp001.dgn

USERNAME => s1125824 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

STANDARD PLANS DATED 2010

	SHEET NO.	TITLE
	A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP	A10B	ABBREVIATIONS (SHEET 1 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
	A10F	LEGEND - SOIL (SHEET 1 OF 2)
	A10G	LEGEND - SOIL (SHEET 2 OF 2)
	A10H	LEGEND - ROCK
	A76A	CONCRETE BARRIER TYPE 60
	B0-3	BRIDGE DETAILS
RSP	B3-5	RETAINING WALL DETAILS No. 1
	B11-52	CHAIN LINK RAILING TYPE 7
RSP	B15-6	SOUND WALL MASONRY BLOCK ON 736S/SV BARRIER DETAILS (1)
RSP	B15-7	SOUND WALL MASONRY BLOCK ON 736S/SV BARRIER DETAILS (2)
	B15-8	SOUND WALL MASONRY BLOCK ON 736S/SV BARRIER DETAILS (3)

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	315 CY
STRUCTURE BACKFILL (RETAINING WALL)	231 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	3 CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	669 LF
STRUCTURAL CONCRETE, RETAINING WALL	78 CY
BAR REINFORCING STEEL (RETAINING WALL)	11,635 LB
SOUND WALL (MASONRY BLOCK)	2,785 SQFT
PREPARE AND STAIN CONCRETE	297 SQFT
CHAIN LINK RAILING (TYPE 7 MODIFIED)	107 LF
CONCRETE BARRIER (TYPE 60D)	107 LF
CONCRETE BARRIER (TYPE 736S MODIFIED)	93 LF
CONCRETE BARRIER (TYPE 736SV MODIFIED)	270 LF

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1851	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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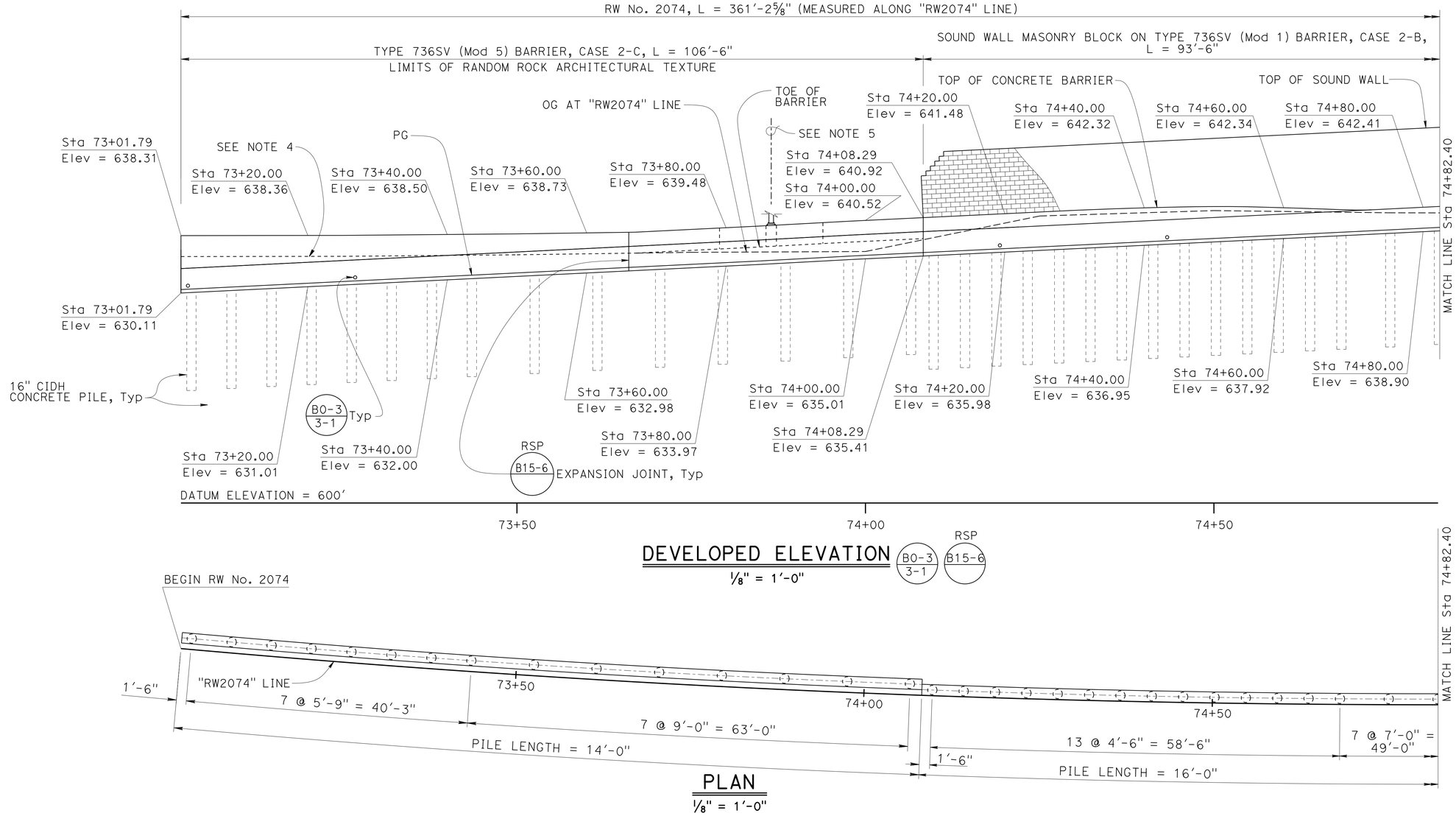

DEVELOPED ELEVATION

B0-3 3-1 RSP B15-6

⅛" = 1'-0"

PLAN

⅛" = 1'-0"

NOTES:

1. Chain Link Railing not shown.
2. For Sound Wall Architectural Details, see "ROAD PLANS".
3. All horizontal dimensions are measured along "RW2074" line.
4. OG is equal to toe of barrier from station 73+01.79 to 73+66.04.
5. ℄ Lighting Standard, "RW2074" line station 73+86.48.

DESIGN	BY Matthew Schott	CHECKED Michael Pope	
DETAILS	BY Minh Tran	CHECKED Matthew Schott	
QUANTITIES	BY Matthew Schott	CHECKED Michael Pope	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0298
POST MILE 39.26

RETAINING WALL NO. 2074
STRUCTURE PLAN NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/30/14	07/01/14	09/10/14		3	11

FILE => 53e0298-c-sp01.dgn

USERNAME => S126624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1852	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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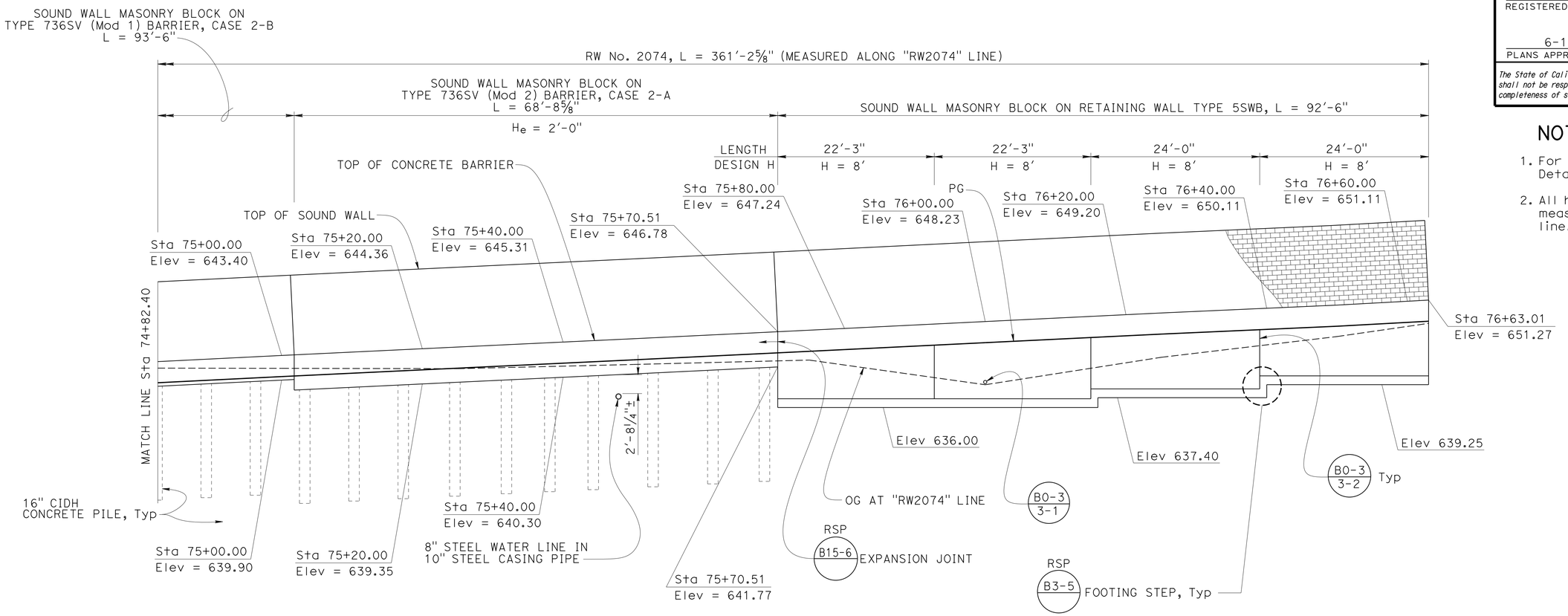
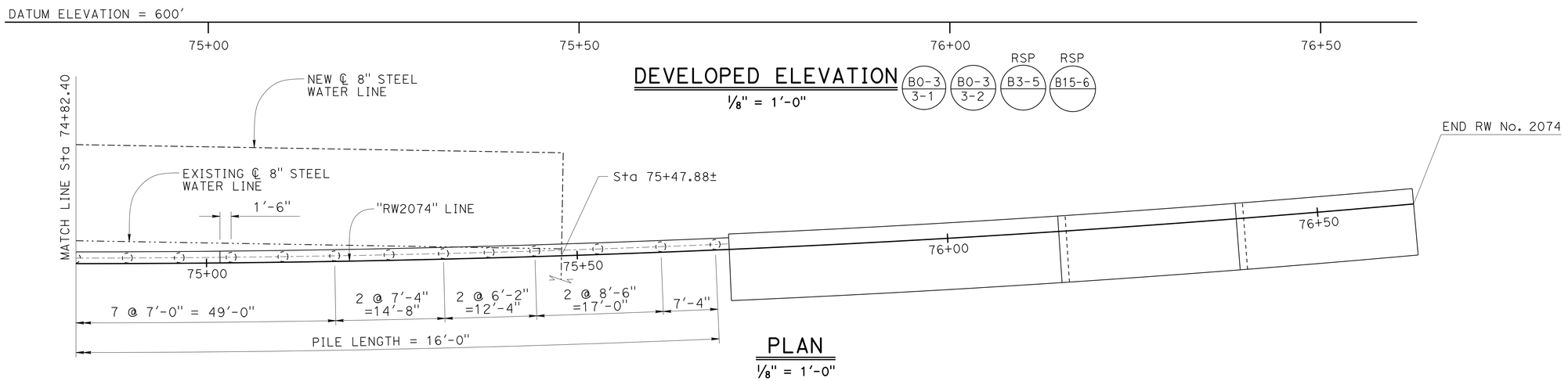
NOTES:

1. For Sound Wall Architectural Details, see "ROAD PLANS"
2. All horizontal dimensions are measured along "RW2074" line.





DESIGN	BY Matthew Schott	CHECKED Michael Pope	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Minh Tran	CHECKED Matthew Schott	
QUANTITIES	BY Matthew Schott	CHECKED Michael Pope	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0298
POST MILE 39.26

RETAINING WALL NO. 2074
STRUCTURE PLAN NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/24/14	05/30/14		02/27/15	4	11

FILE => 53e0298-c-sp02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1853	2313

Rick Schendel — REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15 PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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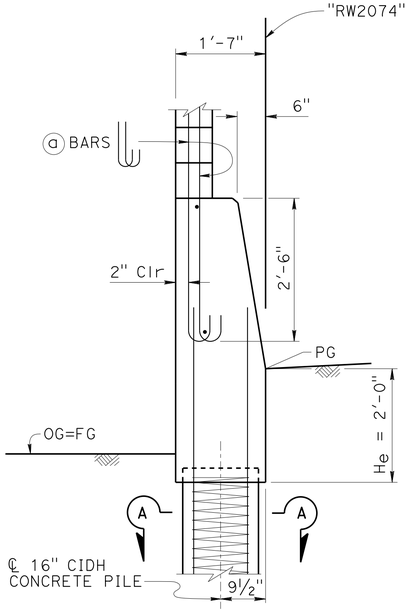
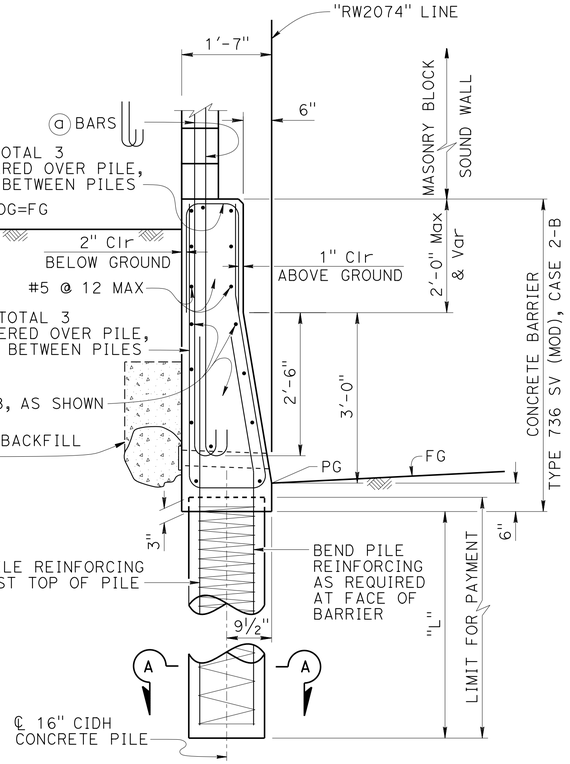
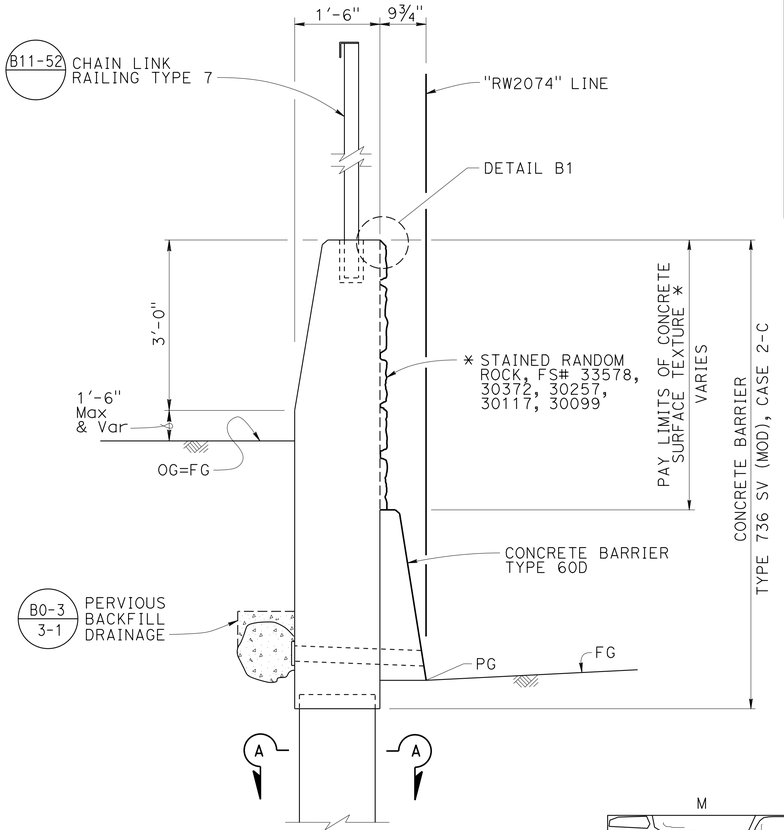


CASE 2-A (MOD 2)



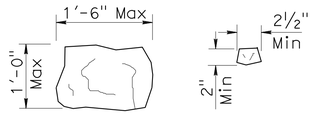
CASE 2-B (MOD 1)



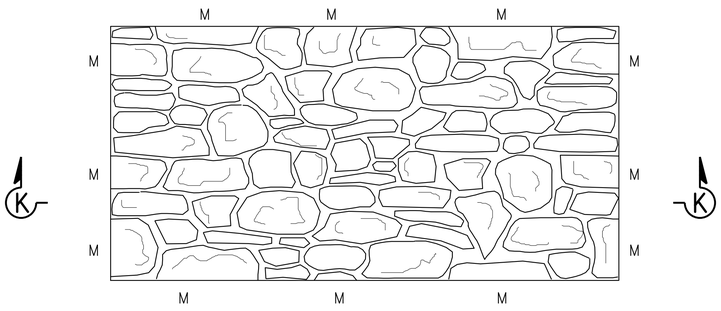
CASE 2-C (MOD 5)

NOTE:

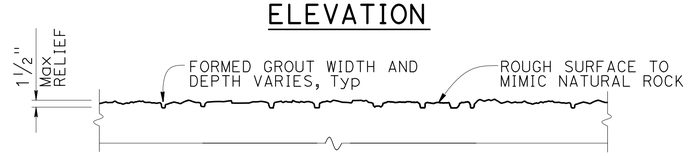
"FS#" is Federal Standard Color Number.



ROCK SIZE



ELEVATION

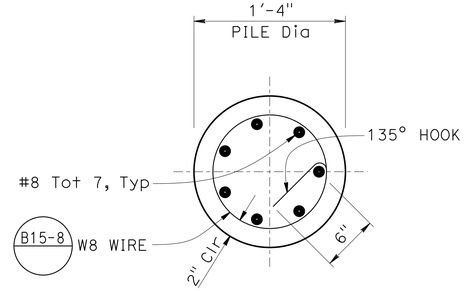


SECTION K-K

RANDOM ROCK TEXTURE

NO SCALE

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



SECTION A-A

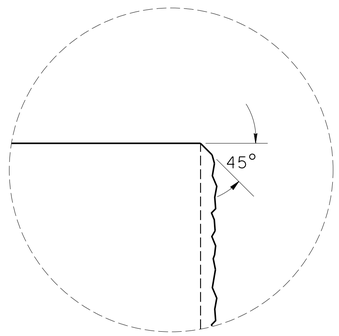
1½" = 1'-0"

TYPE 736SV MODIFIED

¾" = 1'-0"

RSP B15-6 RSP B15-7 B15-8

NOTE:
For details not shown, and for details shown but not noted, see revised standard plans RSP B15-6, RSP B15-7 and standard plan B15-8.



DETAIL B1

NO SCALE

	BY	CHECKED
DESIGN	Matthew Schott	Michael Pope
DETAILS	Matthew Schott	Michael Pope
QUANTITIES	Matthew Schott	Michael Pope

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18

BRIDGE NO. 53E0298 POST MILE 39.26

RETAINING WALL NO. 2074

RETAINING WALL TYPE 736 SV (MOD)

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 04/30/14 05/30/14 03/04/14

SHEET 5 OF 11

FILE => 53e0298-k-ts01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 03:11:01 PM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1854	2313

REGISTERED CIVIL ENGINEER 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL STATE OF CALIFORNIA

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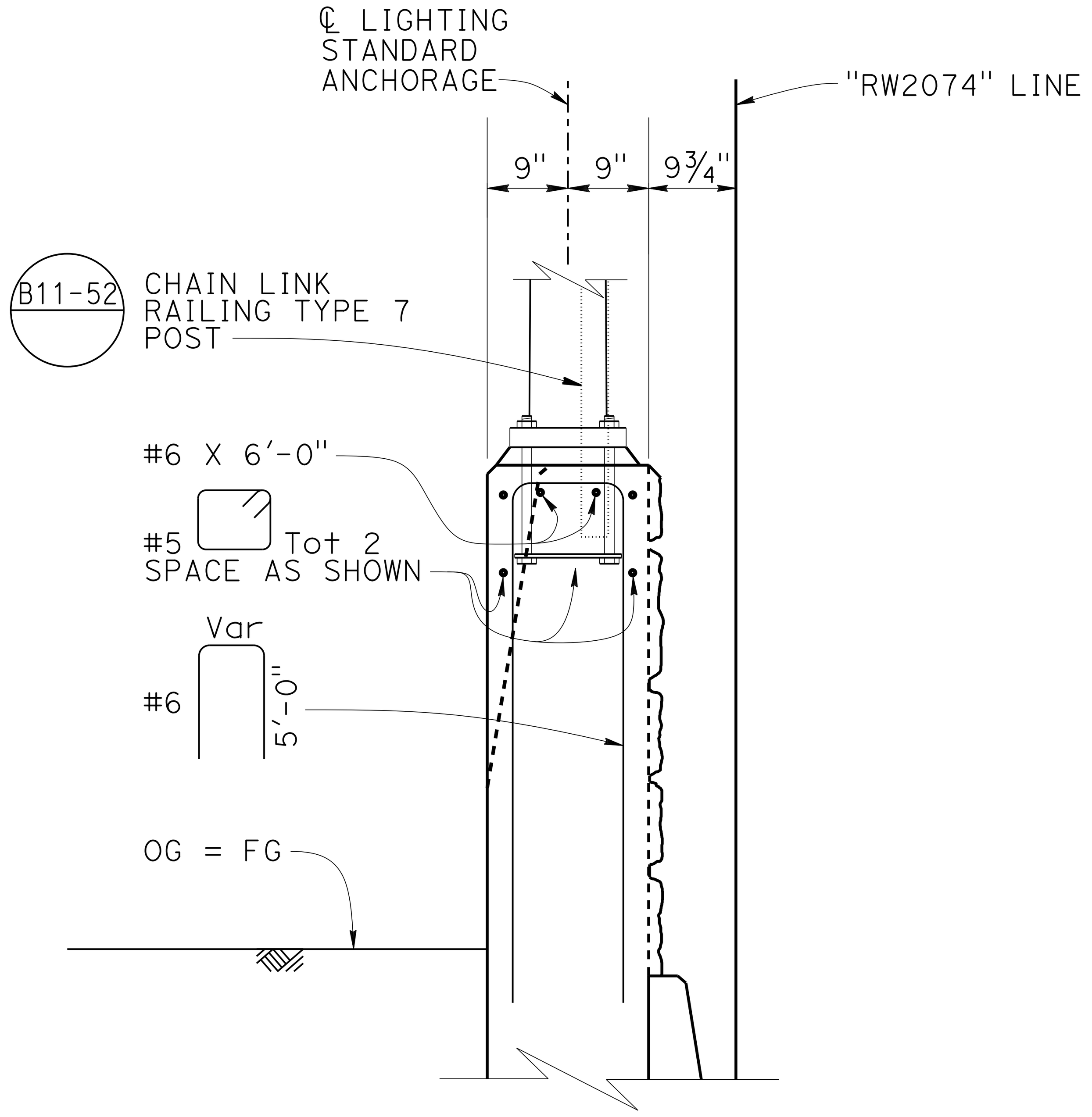
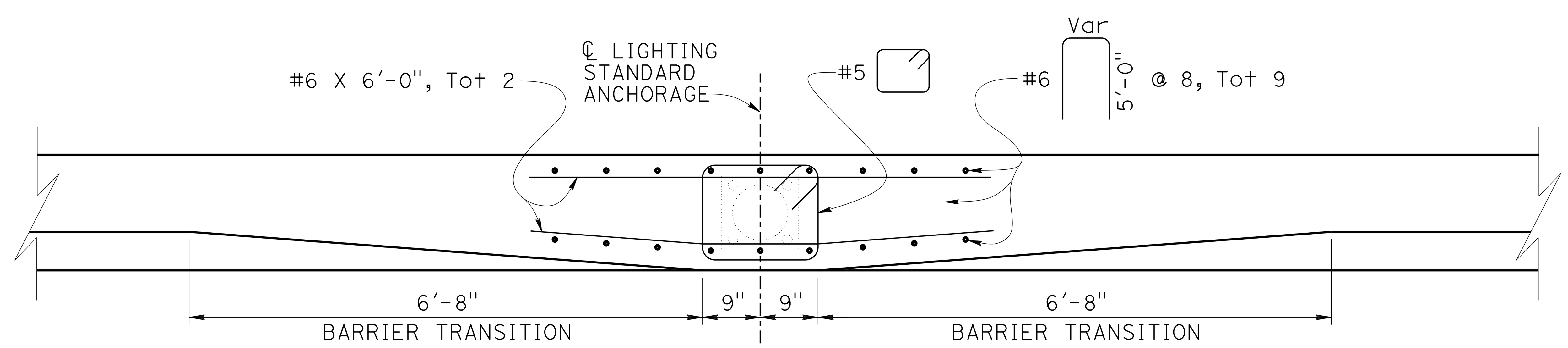


LIGHTING STANDARD DETAIL - SECTION

¾" = 1'-0"

LIGHTING STANDARD NOTES:

1. All Reinforcement not shown.
2. For Lighting Standard and Lighting Standard Anchorage details, see "ROAD PLANS".



LIGHTING STANDARD DETAIL - PLAN

¾" = 1'-0"

DESIGN	BY Matthew Schott	CHECKED Michael Pope
DETAILS	BY Matthew Schott	CHECKED Michael Pope
QUANTITIES	BY Matthew Schott	CHECKED Michael Pope

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0298
POST MILE 39.26

RETAINING WALL NO. 2074
LIGHTING STANDARD DETAIL

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

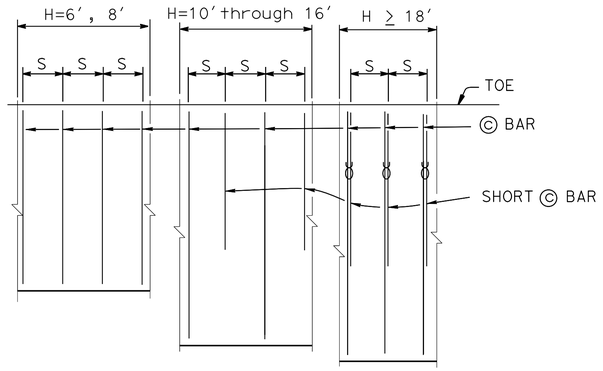
UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES 05/29/14

REVISION DATES | SHEET 6 OF 11

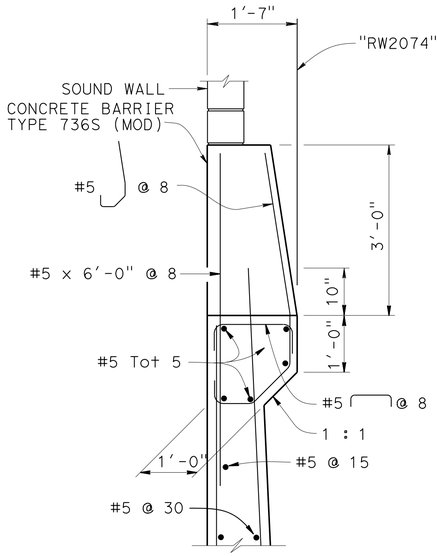
FILE => 53e0298-k-ts01a.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2026 TIME PLOTTED => 00:01

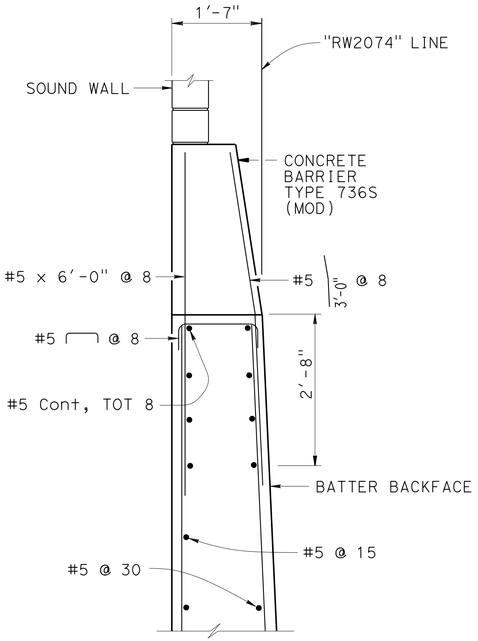


PLAN
NO SCALE

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

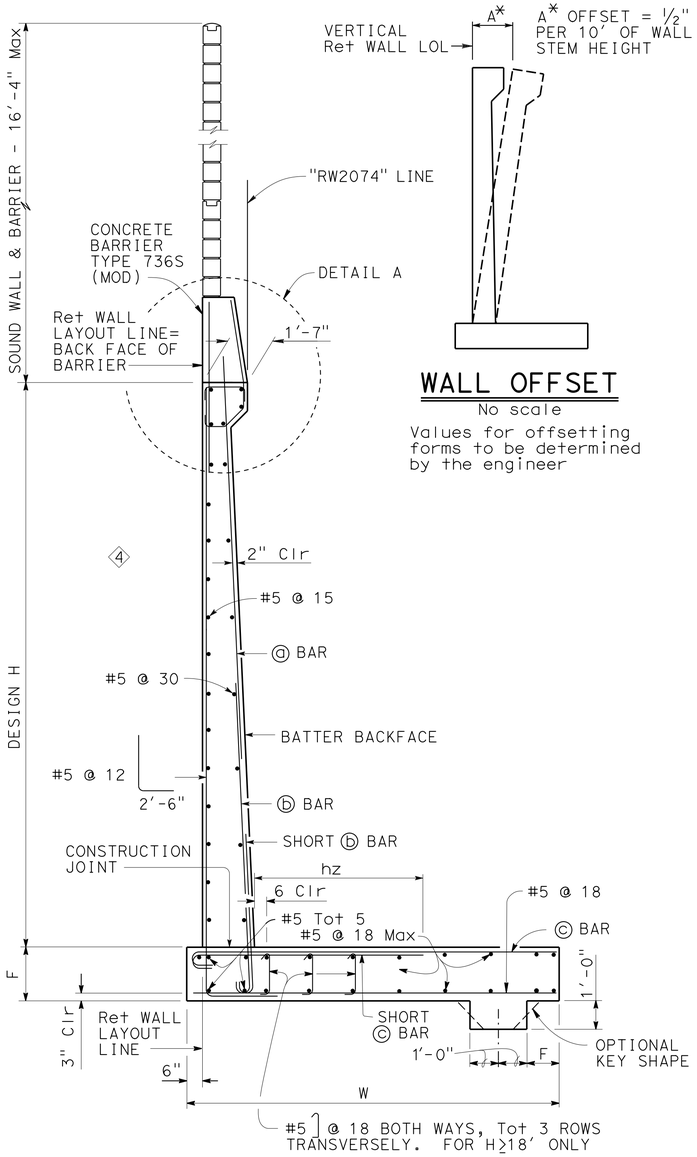


DETAIL A
3/4" = 1′-0" ① ② ③



OPTIONAL DETAIL A
3/4" = 1′-0" ① ② ③

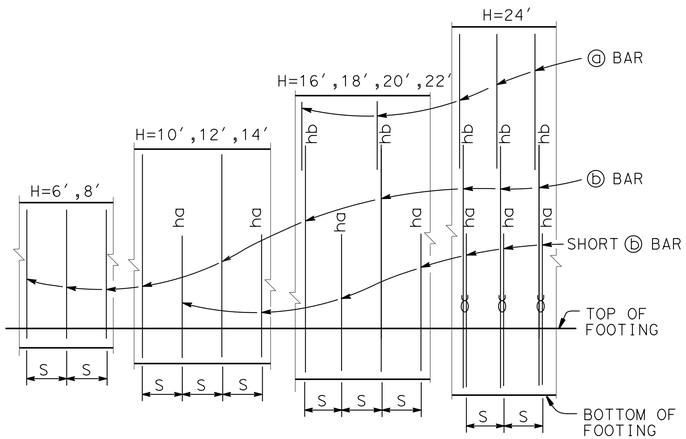
For Details not shown, see "DETAIL A"



SPREAD FOOTING SECTION
3/8" = 1′-0" ① ② ③

WALL OFFSET
No scale

Values for offsetting forms to be determined by the engineer



ELEVATION
No scale

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

DESIGN DATA

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

WS: 33 psf on Sound Wall and Barrier

LS: Varied surcharge on level ground surface

CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward

EQE: Mononabe-Okabe Method
K_h = 0.3
K_v = 0.0

Soil: ø = 34°
γ = 120 pcf

Reinforced Concrete: f′c = 3600 psi
fy = 60,000 psi

Load Combinations and Limit States

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

Where:

Q: Force Effects
α: 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
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design
WS: Wind Load on Sound Wall and Barrier
CT: Vehicular Collision Force

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

SPECIAL DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1855	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

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

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REVISED STANDARD DRAWING

FILE NO. xs14-350-1

APPROVAL DATE July 2011

① Changed location of sound wall
② Extended back of barrier to Ret Wall Layout line
③ Indicated location of "RW2074" LINE
④ Eliminated reference to architectural details

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0298
POST MILE 39.26

RETAINING WALL NO. 2074

RETAINING WALL TYPE 5SWB - DETAILS NO. 1

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/27/13	01/28/14	02/27/14	05/29/14	7	11

FILE => 53e0298-k-ts02.dgn

USERNAME => s1256c4 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1856	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	6′	8′	10′	12′	14′	16′	18′	20′	22′	24′
W	9′-0"	9′-0"	9′-6"	10′-3"	11′-3"	12′-9"	14′-0"	15′-9"	17′-3"	18′-9"
F SPREAD FOOTING	1′-3"	1′-3"	1′-3"	1′-3"	1′-6"	1′-9"	2′-0"	2′-3"	2′-6"	2′-6"
STEM WITH HAUNCH, BATTER	0	½:12	½:12	½:12	½:12	½:12	½:12	½:12	½:12	⅝:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	¼:12	¼:12
ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6
ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6 ℧
ha			5′-0"	6′-0"	7′-0"	7′-0"	6′-0"	7′-0"	6′-9"	7′-6"
hb						11′-6"	12′-0"	13′-3"	16′-0"	15′-6"
ⓒ BARS	#7 @ 12	#8 @ 12	#7 @ 6	#9 @ 6	#9 @ 6	#11@ 7.5	#8 @ 6℧	#9 @ 6℧	#9 @ 6℧	#10 @ 6℧
hz			3′-6"	4′-0"	4′-9"	7′-0"	5′-9"	6′-9"	7′-6"	9′-0"
SER I: B′(ft), q_0'(ksf)	7.5, 1.5	7.1, 1.9	7.2, 2.2	7.6, 2.5	8.3, 2.8	9.6, 3.0	10.6, 3.3	12.1, 3.6	13.3, 3.9	14.6, 4.1
STR, Ia: B′(ft), q_0(ksf)	7.9, 2.9	7.4, 3.3	7.4, 3.7	7.8, 4.1	8.3, 4.5	9.5, 4.8	10.5, 5.0	11.9, 5.6	13.1, 6.0	14.3, 6.4
STR, Ib: B′(ft), q_0(ksf)	6.0, 2.0	5.5, 2.5	5.6, 2.9	5.9, 3.3	6.4, 3.7	7.6, 3.9	8.7, 4.1	9.9, 4.5	11.0, 4.9	12.1, 5.2
STR, IIIa: B′(ft), q_0(ksf)	6.0, 2.7	6.0, 3.0	6.4, 3.4	7.0, 3.7	7.8, 4.1	9.1, 4.4	10.2, 4.6	11.7, 5.1	12.9, 5.4	14.2, 5.7
STR, IIIb: B′(ft), q_0(ksf)	5.3, 2.5	5.2, 2.8	5.5, 3.1	6.0, 3.3	6.7, 3.7	8.0, 3.9	8.9, 4.0	10.4, 4.4	11.5, 4.7	12.7, 5.0
STR, Va: B′(ft), q_0(ksf)	7.5, 2.8	7.1, 3.2	7.2, 3.5	7.6, 3.9	8.2, 4.3	9.4, 4.6	10.4, 4.9	11.8, 5.3	13.0, 5.8	14.3, 6.1
STR, Vb: B′(ft), q_0(ksf)	5.7, 2.2	5.3, 2.6	5.4, 3.0	5.8, 3.4	6.4, 3.8	7.7, 3.9	8.7, 4.0	10.0, 4.5	11.1, 4.9	12.2, 5.1
Ext I: B′(ft), q_0(ksf)	4.0, 3.4	3.0, 4.7	2.5, 6.5	2.1, 9.2	1.8, 13.3	2.1, 14.4	2.3, 16.9	2.6, 17.2	2.9, 18.4	3.3, 19.3
Ext II: B′(ft), q_0(ksf)	3.9, 3.3	4.3, 3.5	5.1, 3.5	6.0, 3.6	7.1, 3.7	8.7, 3.7	9.9, 3.8	11.9, 3.8	13.0, 4.3	14.4, 4.5

LEGEND:

SER: service limit state
STR: strength limit state
EXT: extreme event limit state
B′: effective footing width (ft)
q_0': net bearing stress (ksf)
q_0: gross uniform bearing stress (ksf)

℧ : 2 bar bundle

STANDARD DRAWING

FILE NO. xs14-350-2

APPROVAL DATE July 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0298
POST MILE 39.26

RETAINING WALL NO. 2074

RETAINING WALL TYPE 5SWB - DETAILS NO. 2

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/12/13	05/29/14			8	11

FILE => 53e0298-k-ts03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1857	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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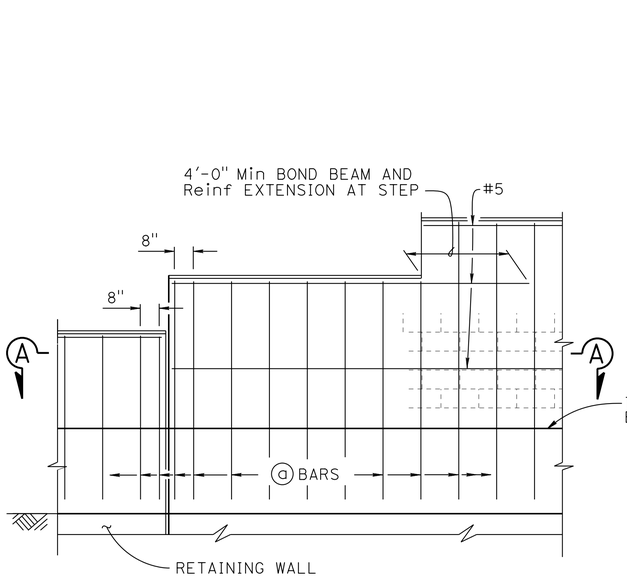
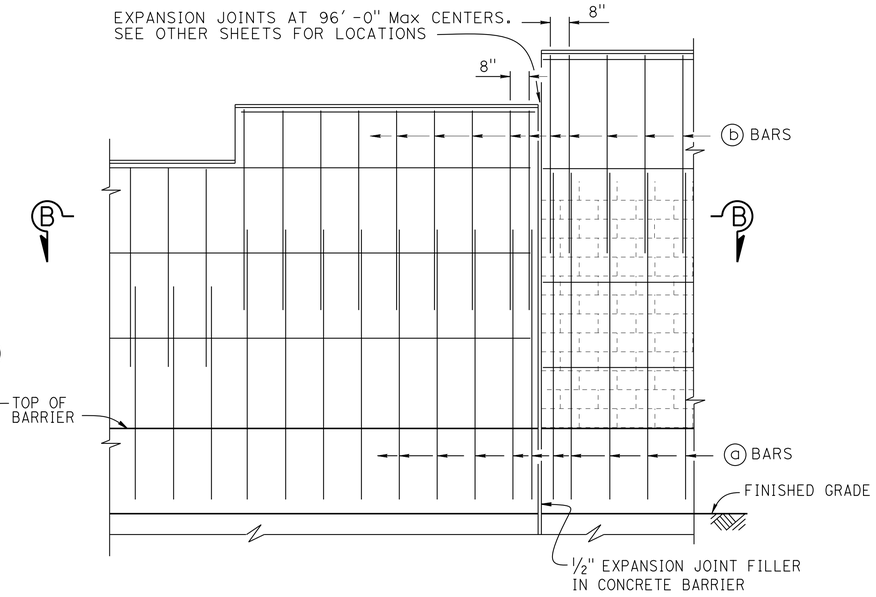
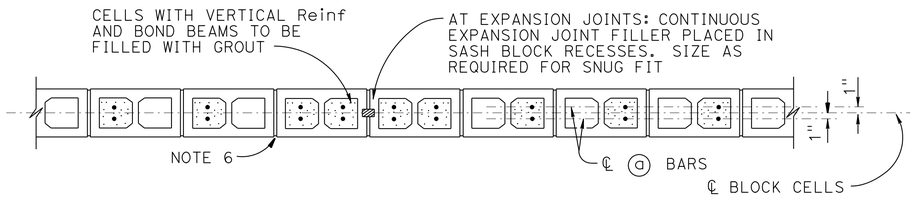


H=6'-4" THRU H=10'-4"

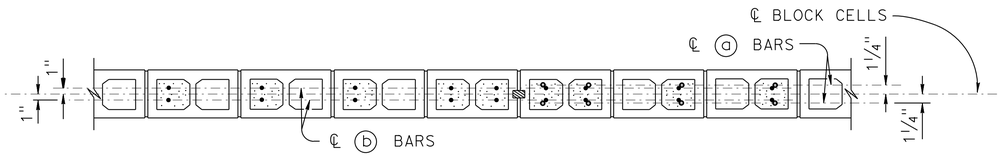


H=12'-4" THRU H=16'-4"

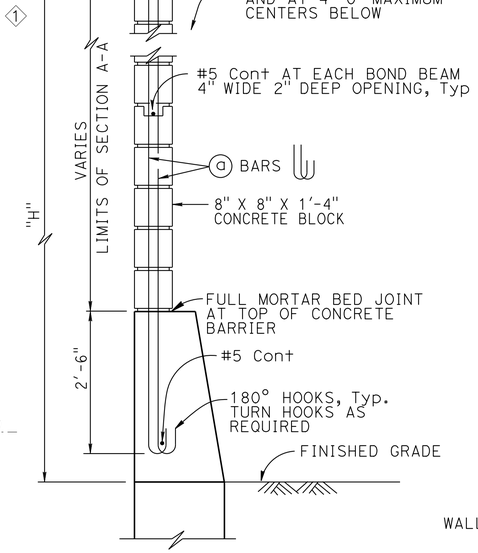
PART ELEVATION



SECTION A-A



SECTION B-B



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

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

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

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

TYPICAL SECTION

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

NOTES:

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

NO SCALE — SPECIAL DETAILS

RETAINING WALL NO. 2074

MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL

DETAILS NO. 1

REVISED STANDARD DRAWING

FILE NO. xs15-130-1

APPROVAL DATE July 2012

① Changed width of barrier and location of sound wall

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0298

POST MILE 39.26

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
7/19/12	01/28/14	05/29/14		9	11

FILE => 53e0298-m-swd01.dgn

USERNAME => s1256624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

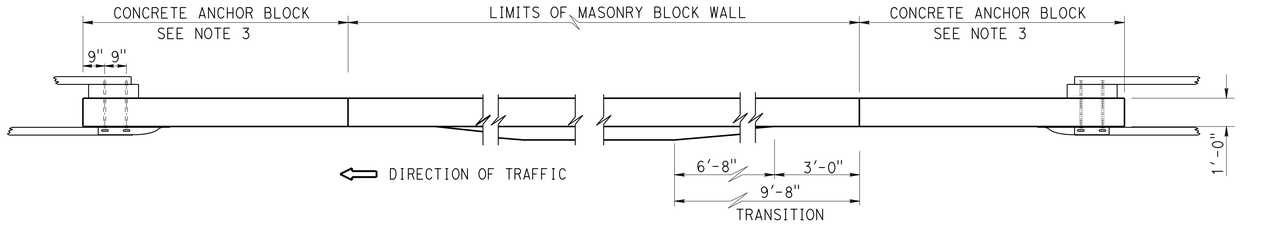
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1858	2313

Rick Schendel — REGISTERED CIVIL ENGINEER — 10/01/14 DATE

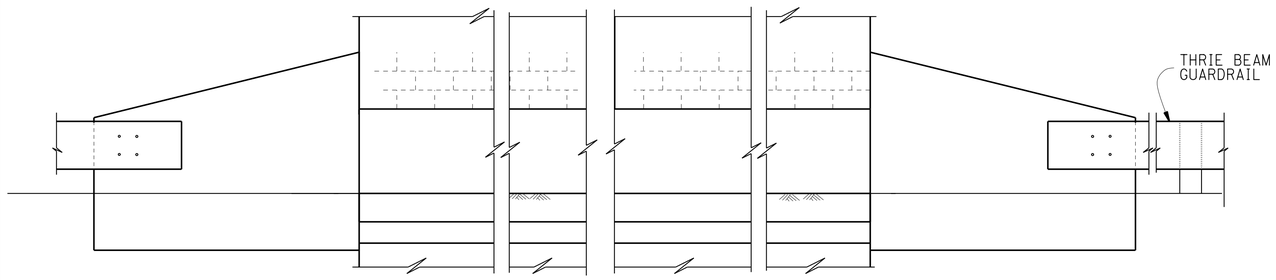
6-1-15 PLANS APPROVAL DATE

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

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



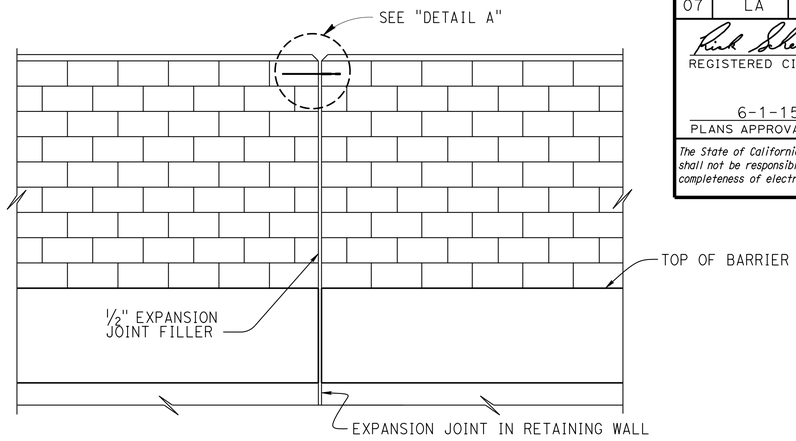
PLAN



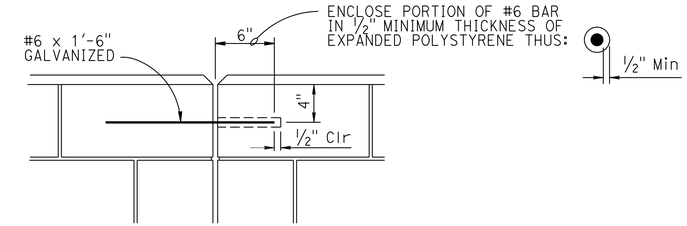
ELEVATION

METAL BEAM GUARDRAIL ANCHORAGE

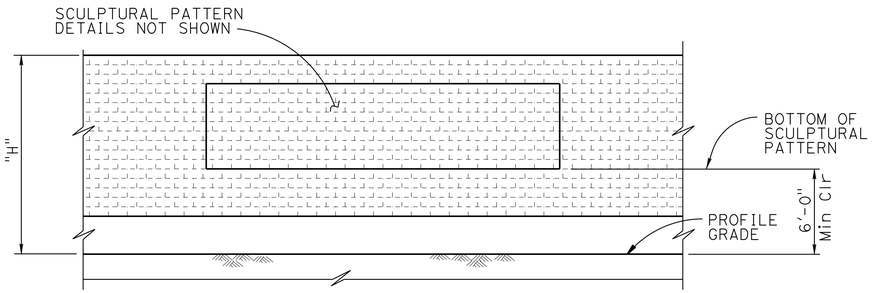
For details not shown, see STANDARD PLAN B11-56



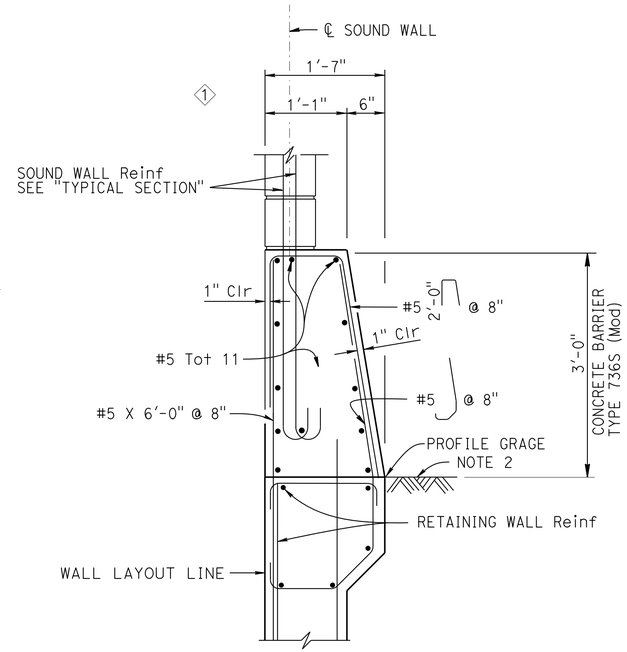
ALIGNMENT KEY DETAIL



DETAIL A



CLEARANCE DETAIL



BARRIER SECTION

DESIGN NOTES

DESIGN

Uniform Building Code, 1997 Edition and the Bridge Design Specifications

DESIGN WIND LOAD	DESIGN SEISMIC LOAD
33 psf	0.57 Dead load

CONCRETE MASONRY

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

NOTES:

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

NO SCALE — SPECIAL DETAILS

RETAINING WALL NO. 2074

MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL

DETAILS NO. 2

REVISED STANDARD DRAWING

FILE NO. xs15-130-2

APPROVAL DATE September 2013

1 Changed width of barrier and location of sound wall

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0298

POST MILE 39.26

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603 PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/28/14	05/28/14	09/10/14		10	11

FILE => 53e0298-m-swd02.dgn

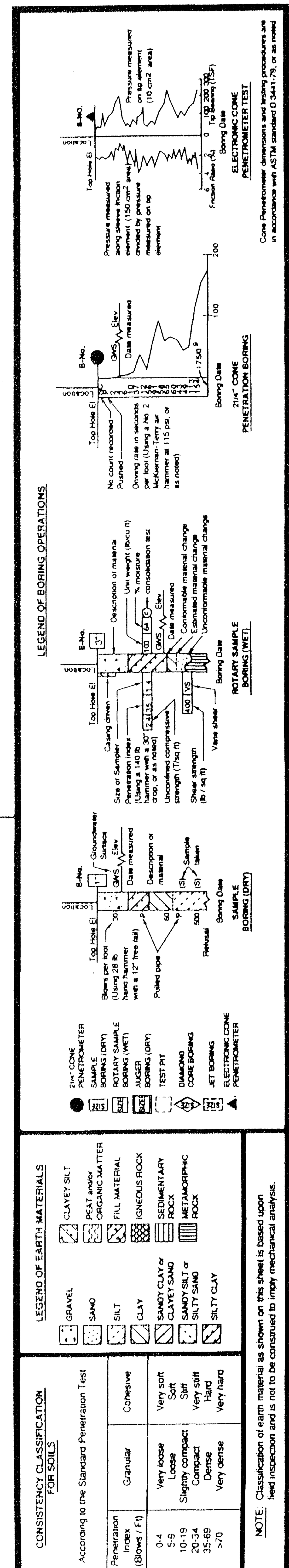
USERNAME => s1256c24 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

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

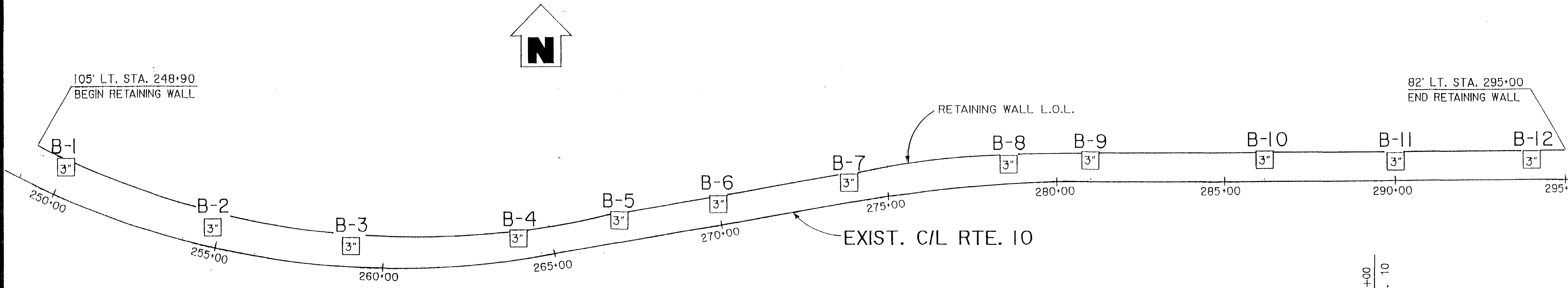
W. Cain
CERTIFIED ENGINEERING GEOLOGIST

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

PLANS APPROVAL DATE



LEGEND OF BORING OPERATIONS
ELECTRONIC CONE PENETROMETER TEST
2 1/4" CONE PENETRATION BORING
ROTARY SAMPLE BORING (WET)
SAMPLE BORING (DRY)
LEGEND OF EARTH MATERIALS
GRAVEL
SAND
SILT
CLAY
SANDY CLAY or CLAYEY SAND
SANDY SILT or SILTY SAND
SILTY CLAY
CLAYEY SILT
PEAT and/or ORGANIC MATTER
FILL MATERIAL
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK
CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test
Penetration Index (Blows / Ft)
0-4
5-9
10-19
20-34
35-69
>70
Granular
Very loose
Loose
Slightly compact
Compact
Dense
Very dense
Cohesive
Very soft
Soft
Stiff
Very stiff
Hard
Very hard
NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



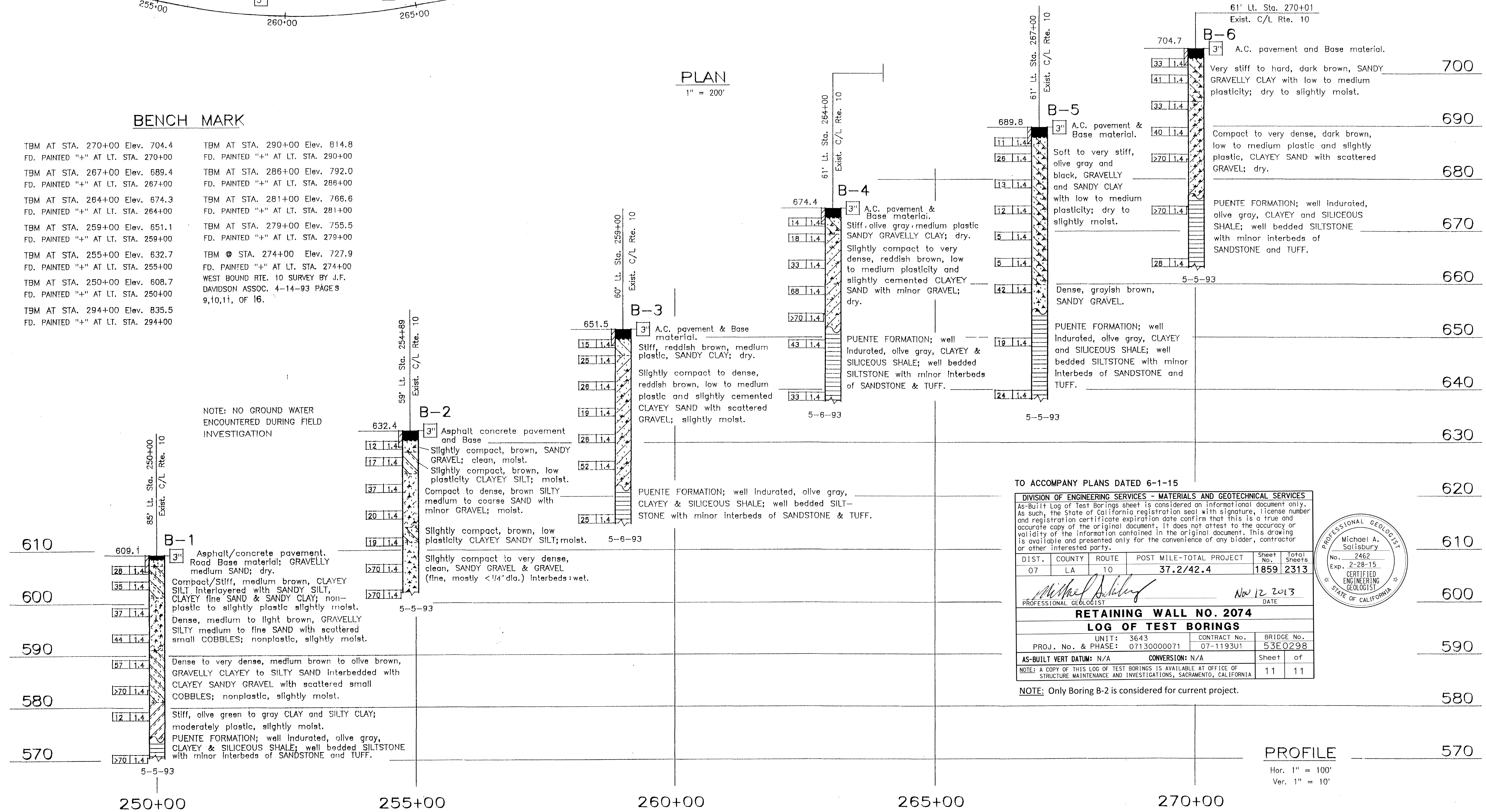
PLAN
1" = 200'

BENCH MARK

TBM AT STA. 270+00 Elev. 704.4
FD. PAINTED "+" AT LT. STA. 270+00
TBM AT STA. 267+00 Elev. 689.4
FD. PAINTED "+" AT LT. STA. 267+00
TBM AT STA. 264+00 Elev. 674.3
FD. PAINTED "+" AT LT. STA. 264+00
TBM AT STA. 259+00 Elev. 651.1
FD. PAINTED "+" AT LT. STA. 259+00
TBM AT STA. 255+00 Elev. 632.7
FD. PAINTED "+" AT LT. STA. 255+00
TBM AT STA. 250+00 Elev. 608.7
FD. PAINTED "+" AT LT. STA. 250+00
TBM AT STA. 294+00 Elev. 835.5
FD. PAINTED "+" AT LT. STA. 294+00

TBM AT STA. 290+00 Elev. 814.8
FD. PAINTED "+" AT LT. STA. 290+00
TBM AT STA. 286+00 Elev. 792.0
FD. PAINTED "+" AT LT. STA. 286+00
TBM AT STA. 281+00 Elev. 766.6
FD. PAINTED "+" AT LT. STA. 281+00
TBM AT STA. 279+00 Elev. 755.5
FD. PAINTED "+" AT LT. STA. 279+00
TBM @ STA. 274+00 Elev. 727.9
FD. PAINTED "+" AT LT. STA. 274+00
WEST BOUND RTE. 10 SURVEY BY J.F. DAVIDSON ASSOC. 4-14-93 PAGES 9,10,11, OF 16.

NOTE: NO GROUND WATER ENCOUNTERED DURING FIELD INVESTIGATION



85' Lt. Sta. 250+00 Exist. C/L Rte. 10
B-1
609.1
3"
Asphalt/concrete pavement. Road Base material; GRAVELLY medium SAND; dry.
Compact/Stiff, medium brown, CLAYEY SILT interlayered with SANDY SILT, CLAYEY fine SAND & SANDY CLAY; non-plastic to slightly plastic slightly moist.
Dense, medium to light brown, GRAVELLY SILTY medium to fine SAND with scattered small COBBLES; nonplastic, slightly moist.
Dense to very dense, medium brown to olive brown, GRAVELLY CLAYEY to SILTY SAND interbedded with CLAYEY SANDY GRAVEL with scattered small COBBLES; nonplastic, slightly moist.
Stiff, olive green to gray CLAY and SILTY CLAY; moderately plastic, slightly moist.
PUENTE FORMATION; well indurated, olive gray, CLAYEY & SILICEOUS SHALE; well bedded SILTSTONE with minor interbeds of SANDSTONE and TUFF.
5-5-93
59' Lt. Sta. 254+89 Exist. C/L Rte. 10
B-2
632.4
3"
Asphalt concrete pavement and Base
Slightly compact, brown, SANDY GRAVEL; clean, moist.
Slightly compact, brown, low plasticity CLAYEY SILT; moist.
Compact to dense, brown SILTY medium to coarse SAND with minor GRAVEL; moist.
Slightly compact, brown, low plasticity CLAYEY SANDY SILT; moist.
Slightly compact to very dense, clean, SANDY GRAVEL & GRAVEL (fine, mostly <1/4" dia.) Interbeds: wet.
5-5-93
60' Lt. Sta. 259+00 Exist. C/L Rte. 10
B-3
651.5
3"
A.C. pavement & Base material.
Stiff, reddish brown, medium plastic, SANDY CLAY; dry.
Slightly compact to dense, reddish brown, low to medium plastic and slightly cemented CLAYEY SAND with scattered GRAVEL; slightly moist.
PUENTE FORMATION; well indurated, olive gray, CLAYEY & SILICEOUS SHALE; well bedded SILTSTONE with minor interbeds of SANDSTONE & TUFF.
5-6-93
61' Lt. Sta. 264+00 Exist. C/L Rte. 10
B-4
674.4
3"
A.C. pavement & Base material.
Stiff, olive gray, medium plastic SANDY GRAVELLY CLAY; dry.
Slightly compact to very dense, reddish brown, low to medium plasticity and slightly cemented CLAYEY SAND with minor GRAVEL; dry.
PUENTE FORMATION; well indurated, olive gray, CLAYEY & SILICEOUS SHALE; well bedded SILTSTONE with minor interbeds of SANDSTONE & TUFF.
5-6-93
61' Lt. Sta. 267+00 Exist. C/L Rte. 10
B-5
689.8
3"
A.C. pavement & Base material.
Soft to very stiff, olive gray and black, GRAVELLY and SANDY CLAY with low to medium plasticity; dry to slightly moist.
Dense, grayish brown, SANDY GRAVEL.
PUENTE FORMATION; well indurated, olive gray, CLAYEY and SILICEOUS SHALE; well bedded SILTSTONE with minor interbeds of SANDSTONE and TUFF.
5-5-93
61' Lt. Sta. 270+01 Exist. C/L Rte. 10
B-6
704.7
3"
A.C. pavement and Base material.
Very stiff to hard, dark brown, SANDY GRAVELLY CLAY with low to medium plasticity; dry to slightly moist.
Compact to very dense, dark brown, low to medium plastic and slightly plastic, CLAYEY SAND with scattered GRAVEL; dry.
PUENTE FORMATION; well indurated, olive gray, CLAYEY and SILICEOUS SHALE; well bedded SILTSTONE with minor interbeds of SANDSTONE and TUFF.
5-5-93
700
690
680
670
660
650
640
630
620
610
600
590
580
570
250+00
255+00
260+00
265+00
270+00

TO ACCOMPANY PLANS DATED 6-1-15

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	10	37.2/42.4	1859	2313

Michael Salisbury — PROFESSIONAL GEOLOGIST — Nov 12 2013 DATE

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

RETAINING WALL NO. 2074
LOG OF TEST BORINGS

UNIT: 3643 — CONTRACT No. 07-1193U1 — BRIDGE No. 53E0298
PROJ. No. & PHASE: 07130000071
AS-BUILT VERT DATUM: N/A — CONVERSION: N/A — Sheet 11 of 11

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

NOTE: Only Boring B-2 is considered for current project.

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

DIVISION OF NEW TECHNOLOGY, MATERIALS AND RESEARCH — OFFICE OF ENGINEERING GEOLOGY
DRAWN BY I. GAMARRA 5/93
CHECKED BY Faramarz Gerami 8-93
FIELD INVESTIGATION BY: F. GERAMI

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN

BRIDGE NO.
POST MILE 37.5/42.4

RETAINING WALL NO. 265
LOG OF TEST BORINGS 1 OF 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3
CU 07234
EA 11934K
DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

TL 6051 REV 2/92

SEP 14 1993

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1860	2313

Rick Schendel — REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15 PLANS APPROVAL DATE

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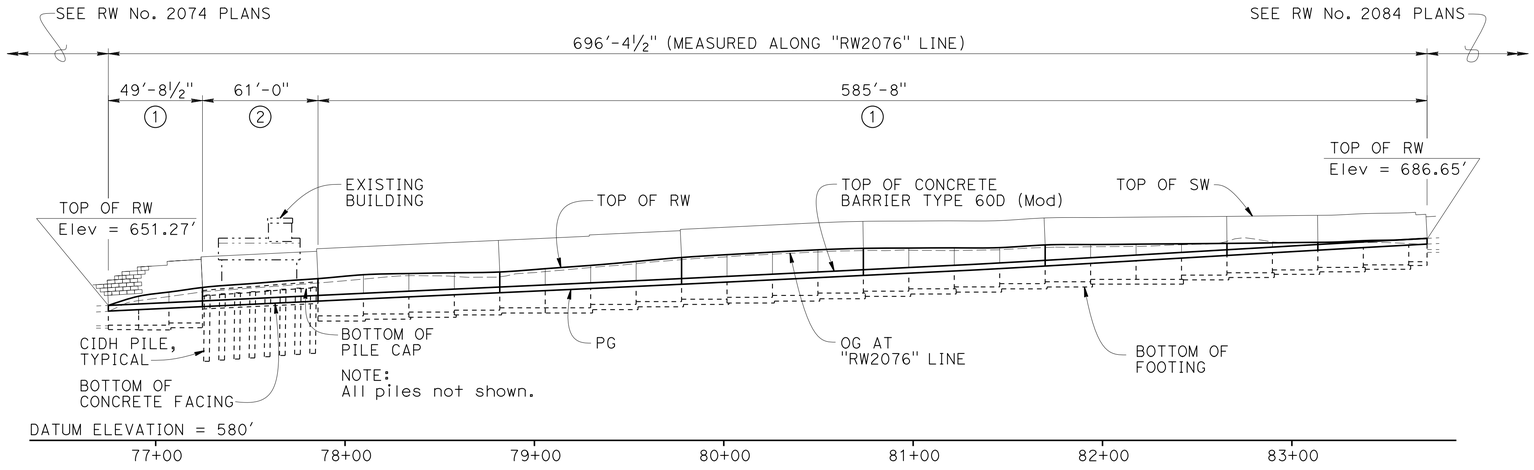
REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL — No. C64259 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA



DEVELOPED ELEVATION

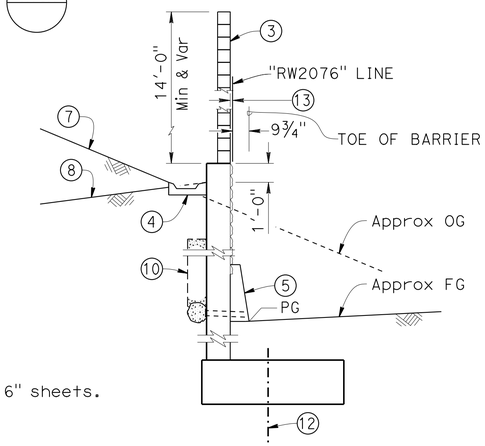
1" = 40'

NOTES:

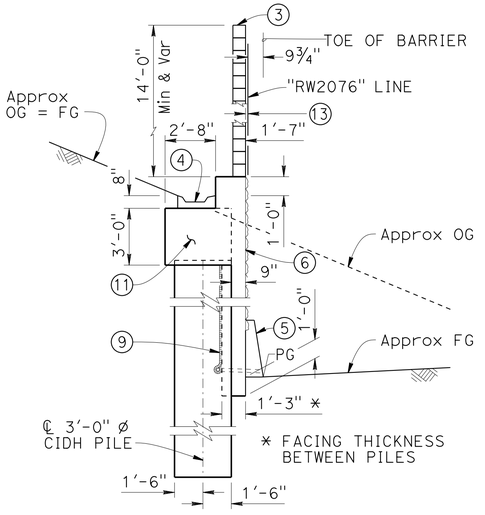
1. Type 7SW Retaining Wall
2. 3'-0" Ø CIDH Pile Wall
3. Mansonry Soundwall, see "ROAD PLANS" for architectural details
4. Gutter, see "ROAD PLANS" (B3-6)
5. Concrete Barrier Type 60D (Mod) (A76A)
6. Concrete Facing with Architectural Texture
7. Approx OG = FG within limits of gutter
8. Approx OG = FG elsewhere
9. Geocomposite Drain
10. Pervious Backfill Drain (B0-3 / 3-1)
11. Pile Cap
12. ℄ Ground Anchor
13. 1½" Architectural Texture

For "INDEX TO PLANS", "STANDARD PLANS", "GENERAL NOTES", AND "QUANTITIES", see "INDEX TO PLANS" sheet.

For Architectural Treatment, see "ARCHITECTURAL DETAILS NO. 1 TO NO. 6" sheets.



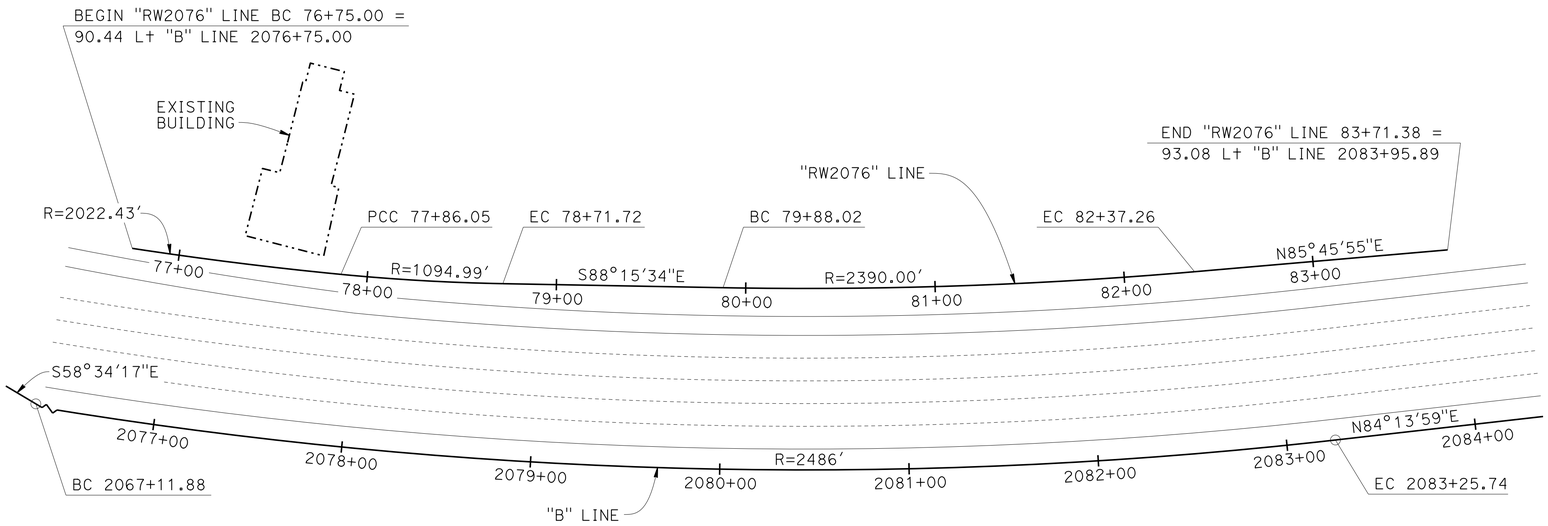
TYPE 7SW RET WALL



3'-0" Ø CIDH PILE WALL

TYPICAL SECTION

¼" = 1'-0"



PLAN

1" = 40'

CURVE DATA "RW2076" LINE

R = 2022.43'	R = 1094.99'	R = 2390.00'
Δ = 03°08'46"	Δ = 04°28'59"	Δ = 05°58'31"
T = 55.54'	T = 42.86'	T = 124.74'
L = 111.05'	L = 85.68'	L = 249.24'

CURVE DATA "B" LINE

R = 2486'
Δ = 37°11'43"
T = 836.52'
L = 1613.86

MICHAEL POPE — DESIGN ENGINEER	DESIGN	BY Prem Rimal	CHECKED R. Schendel/J. Duffin	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		
	DETAILS	BY Richard Schendel	CHECKED Prem Rimal	LAYOUT	BY Prem Rimal	CHECKED Jeff Duffin	
	QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin/Minh Tran	SPECIFICATIONS	BY Xiaodong Chen	PLANS AND SPECS COMPARED Xiaodong Chen	

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES — STRUCTURE DESIGN — DESIGN BRANCH 18

BRIDGE NO. 53E0299 — POST MILE 39.33

RETAINING WALL NO. 2076
GENERAL PLAN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/29/14	02/09/15	11/26/13	01/31/14	1	23

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

FILE => 53e0299-a-gpo1.dgn

USERNAME => s1256:24 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1861	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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GENERAL NOTES - PILE WALL LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated November 2011

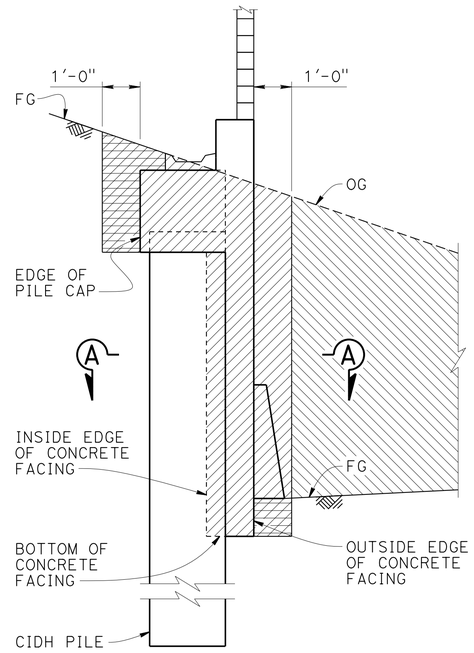
LIVE LOADING:
No Live Load Surcharge

SEISMIC LOADING:
$k_h = 0.2$, $k_v = 0.0$

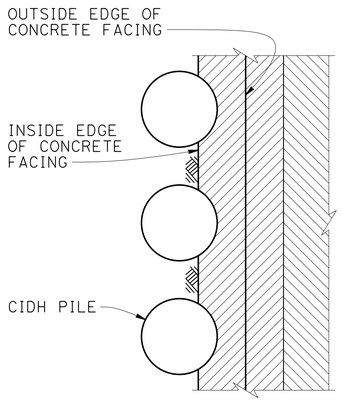
REINFORCED CONCRETE:
$f_y = 60$ ksi, $f'_c = 3.6$ ksi

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	4,334 CY
STRUCTURE BACKFILL (RETAINING WALL)	2,179 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	164 CY
DISPLACEMENT MONITORING PROGRAM	LUMP SUM
GROUND ANCHOR (VERTICAL)	101 EA
36" CAST-IN-DRILLED-HOLE CONCRETE PILING	525 LF
STRUCTURAL CONCRETE, RETAINING WALL	1,567 CY
CONCRETE SURFACE TEXTURE	5,522 SQFT
DRILL AND BOND DOWEL	240 LF
BAR REINFORCING STEEL (BRIDGE)	32,028 LB
BAR REINFORCING STEEL (RETAINING WALL)	173,897 LB
SOUND WALL (MASONRY BLOCK)	10,217 SQFT
PREPARE AND STAIN CONCRETE	5,148 SQFT
CONCRETE BARRIER (TYPE 60D)	697 LF



TYPICAL SECTION



SECTION A-A

Denotes Structure Excavation (Retaining Wall)
Denotes Structure Backfill (Retaining Wall)
Denotes Roadway Excavation, see "ROAD PLANS"

PILE WALL CONSTRUCTION SEQUENCE

1. Survey existing conditions behind wall.
2. Drill and cast every third pile (Pile Nos. 1, 4, 7 etc).
3. After concrete has set, again drill and cast every third pile (Pile Nos. 2, 5, 8 etc).
4. After concrete has set, drill and cast every remaining pile (Pile Nos. 3, 6, 9 etc).
5. Construct pile cap.
6. Excavate in front of wall. Excavation shall not take place until:
   A. A minimum of 10 days after the last pile and pile cap concrete has been placed.
   B. All pile and pile cap concrete has attained at least 28 day design strength.

   During excavation, monitor at a minimum the vertical settlement at the building and the lateral displacement at the top of the wall adjacent to the building. If the vertical settlement at the building exceeds 1/4" or if the lateral displacement at the top of the wall adjacent to the building exceeds 1/2", stop excavation and contact the Engineer for further direction. Excavation must not occur below the bottom of concrete facing elevation.
7. Place concrete facing.

INDEX TO PLANS

PILE WALL PAY LIMITS FOR STRUCTURE EXCAVATION AND BACKFILL

NO SCALE

STANDARD PLANS DATED 2010

STANDARD PLAN SHEET NUMBER
DETAIL NUMBER

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

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Richard Schendel	CHECKED Prem Rimal	
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin/Minh Tran	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0299
POST MILE 39.33

RETAINING WALL NO. 2076
INDEX TO PLANS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
07/01/14	09/10/14	05/29/15	2	23

FILE => 53e0299-b-itp01.dgn

USERNAME => s129624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1862	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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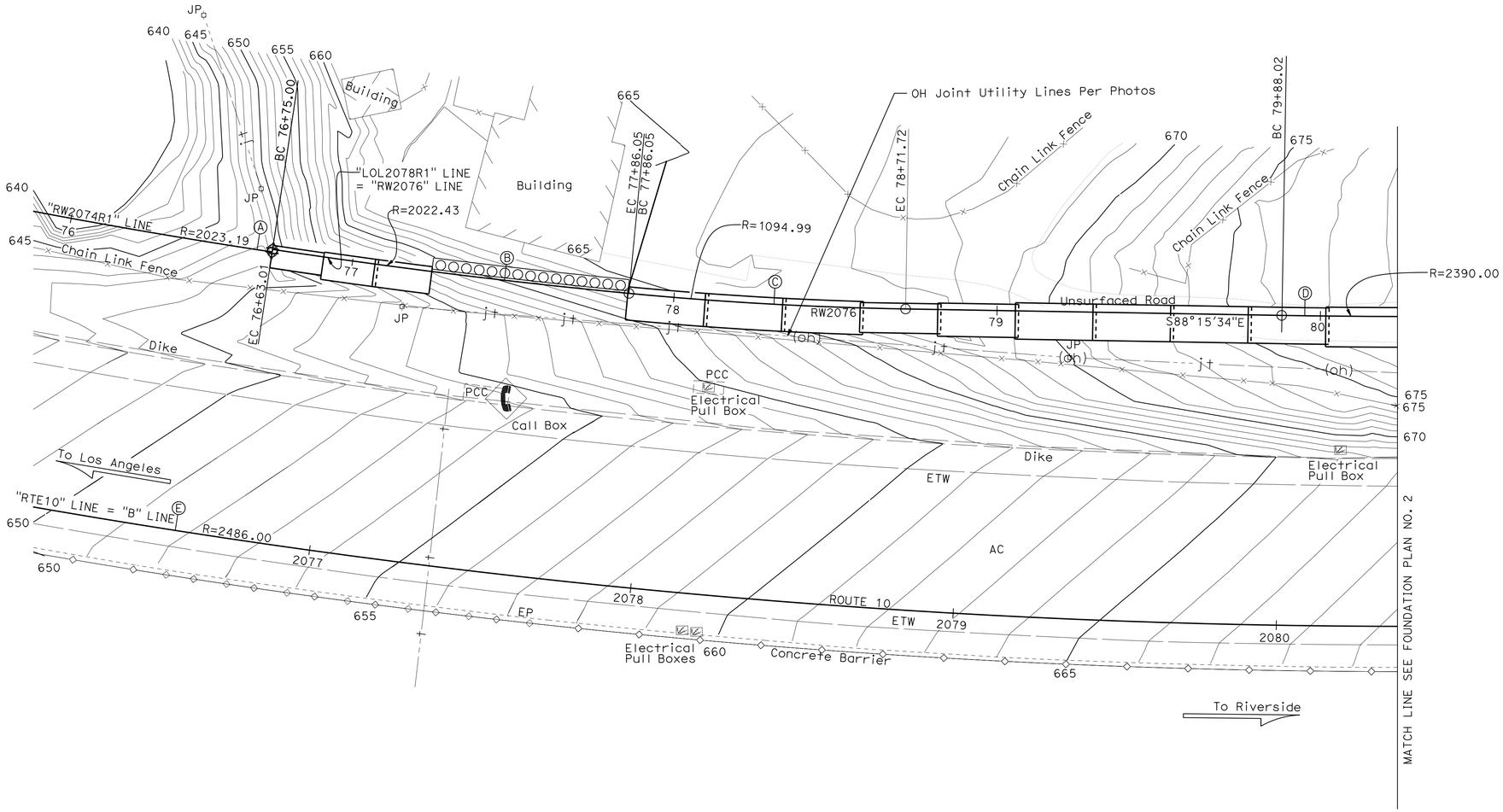
CURVE DATA

No.	R	Δ	T	L
Ⓐ	2023.19	10°13'47"	181.09	361.22
Ⓑ	2022.43	03°08'46"	55.54	111.05
Ⓒ	1094.99	04°28'59"	42.86	85.68
Ⓓ	2390.00	05°58'31"	124.74	249.24
Ⓔ	2486.00	37°11'43"	836.52	1613.86

NOTES:

1. For foundation elevations, see "STRUCTURE PLAN" sheets.
2. Foundations for walls other than RW No. 2076 are not shown.



MATCH LINE SEE FOUNDATION PLAN NO. 2

SURVEY CONTROL

PRHV 9 (Not Shown on Plan)

Fnd Well Mon.
153.98 Lt. "RTE10" LINE, RTE 10
Sta. 2059+92.93
N 1,848,053.26
E 6,602,895.64
Elev.=575.10

PRHV 463 (Not Shown on Plan)

Fnd 1" I.P. w/ Plug
147.27 Lt. "RTE10" Line, Rte 10
Sta. 2056+76.02
N 1,847,956.37
E 6,602,471.71
Elev.=567.96

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X				
	HORZ.DATUM NAD83	SURVEYED	BY District 04/2008	CHECKED	BY C.Fassett 01/2011	
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY J.Martinez 01/2011	CHECKED	BY T.Schmalz 01/2011	

DESIGN	BY Prem Rimal	CHECKED R. Schendel/ J. Duffin
DETAILS	BY Prem Rimal	CHECKED R. Schendel/ J. Duffin
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin/Minh Tran

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0299
POST MILE 39.33

RETAINING WALL NO. 2076
FOUNDATION PLAN NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/29/14	06/09/11	01/21/14	01/31/14	3	23

FILE => 53e0299-c-fpl001_1193u.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1863	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

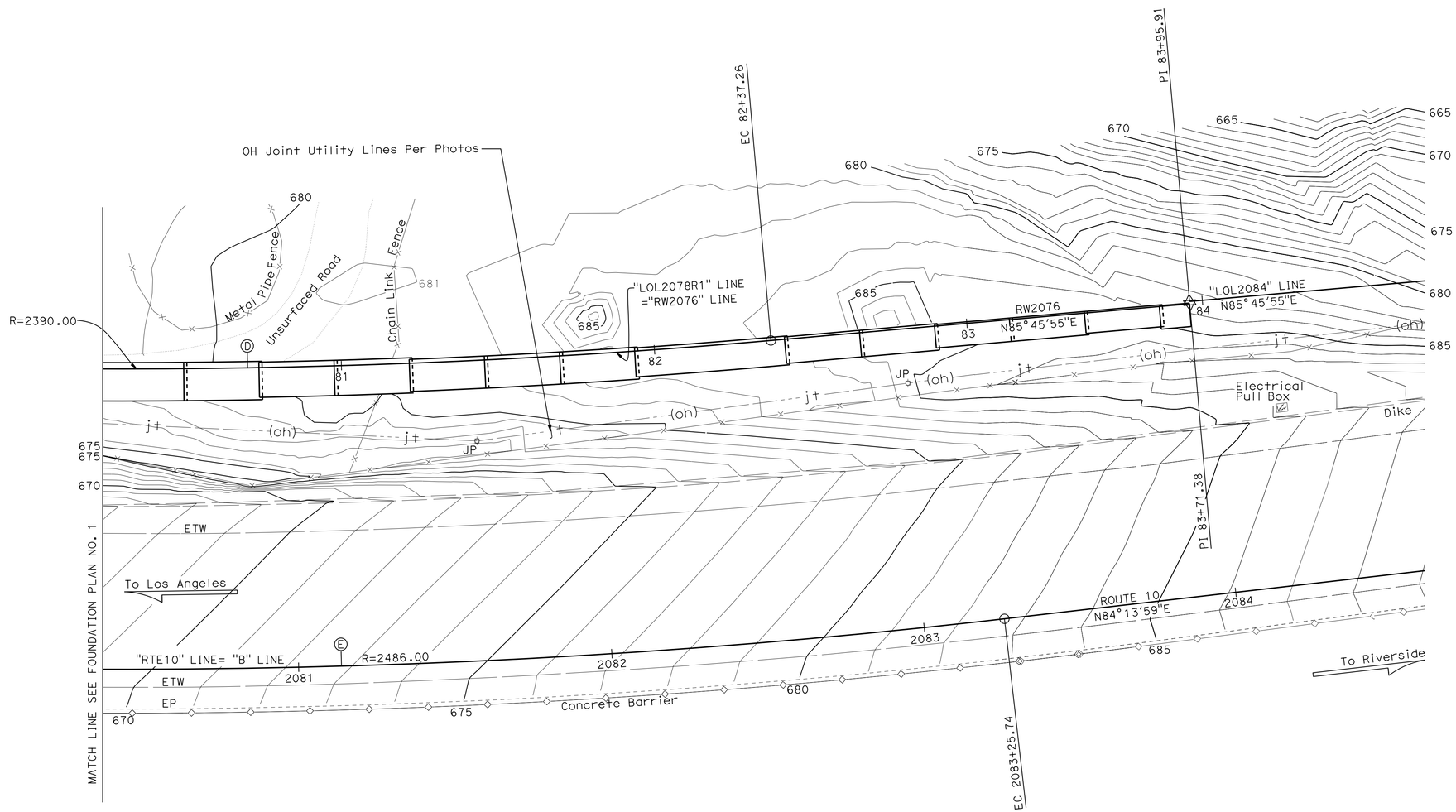
6-1-15
PLANS APPROVAL DATE

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

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

NOTES:

1. For foundation elevations, see "STRUCTURE PLAN" sheets.
2. Foundations for walls other than RW No. 2076 are not shown.
3. For "SURVEY CONTROL" and "CURVE DATA", see "FOUNDATION PLAN NO. 1" sheet.



PRELIMINARY INVESTIGATION SECTION							
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X					
	HORZ.DATUM NAD83	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett	01/2011
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY J.Martinez	01/2011	CHECKED	BY T.Schmalz	01/2011

DESIGN	BY Prem Rimal	CHECKED R. Schendel/J. Duffin
DETAILS	BY Prem Rimal	CHECKED R. Schendel/J. Duffin
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin/Minh Tran

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53E0299
POST MILE	39.33

RETAINING WALL NO. 2076
FOUNDATION PLAN NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/29/14	06/09/11	01/31/14	01/31/14	4	23

FILE => 53e0299-c-fpl002_1193u.dgn

USERNAME => s1125624 DATE PLOTTED => 28-MAY-2015 TIME PLOTTED => 11:04

NOTES:

1. Top of wall must be a smooth curve between control points as shown.
2. Unless otherwise shown, top of wall and PG elevations are shown at even 25 ft stations along "RW2076" Line.
3. All dimensions are measured along "RW2076" Line.

LEGEND:

TOP OF WALL Elev → Elev XXX.XX
PG Elev → Elev XXX.XX

S = EQUAL SPACES
VGAS = VERTICAL GROUND ANCHOR SPACING
+ = VERTICAL GROUND ANCHOR

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1864	2313

REGISTERED CIVIL ENGINEER — DATE 10/01/14

6-1-15
PLANS APPROVAL DATE

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

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

NOTE P:
Place 2" expanded polystyrene around pipe between pipe and RW stem.

ANCHOR DESIGN NOTES:

1. Anchor Lockoff Load, To, is equal to Anchor Design Load, Td.
2. Anchor Factored Test Load, Tp, is equal to 1.33xTd.

DEVELOPED ELEVATION

⅛" = 1'-0" (B0-3) (RSP B3-5)

PLAN

⅛" = 1'-0" (B0-3) (RSP B3-5)

DESIGN	BY Prem Rimal	CHECKED R. Schendel/J. Duffin
DETAILS	BY Prem Rimal	CHECKED R. Schendel/J. Duffin
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin/Minh Tran

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0299
POST MILE 39.33

RETAINING WALL NO. 2076
STRUCTURE PLAN NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES 11/20/13 01/31/14 05/29/14 02/09/15

SHEET 5 OF 23

FILE => 53e0299-d-sp01.dgn

USERNAME => s125624 DATE PLOTTED => 28-MAY-2015 TIME PLOTTED => 11:05

NOTES:

1. Top of wall must be a smooth curve between control points as shown.
2. Unless otherwise shown, top of wall and PG elevations are shown at even 25 ft stations along "RW2076" Line.
3. All dimensions are measured along "RW2076" Line.

LEGEND:

TOP OF WALL Elev — Elev XXX.XX
PG Elev — Elev XXX.XX

S = EQUAL SPACES
VGAS = VERTICAL GROUND ANCHOR SPACING
+ = VERTICAL GROUND ANCHOR

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1865	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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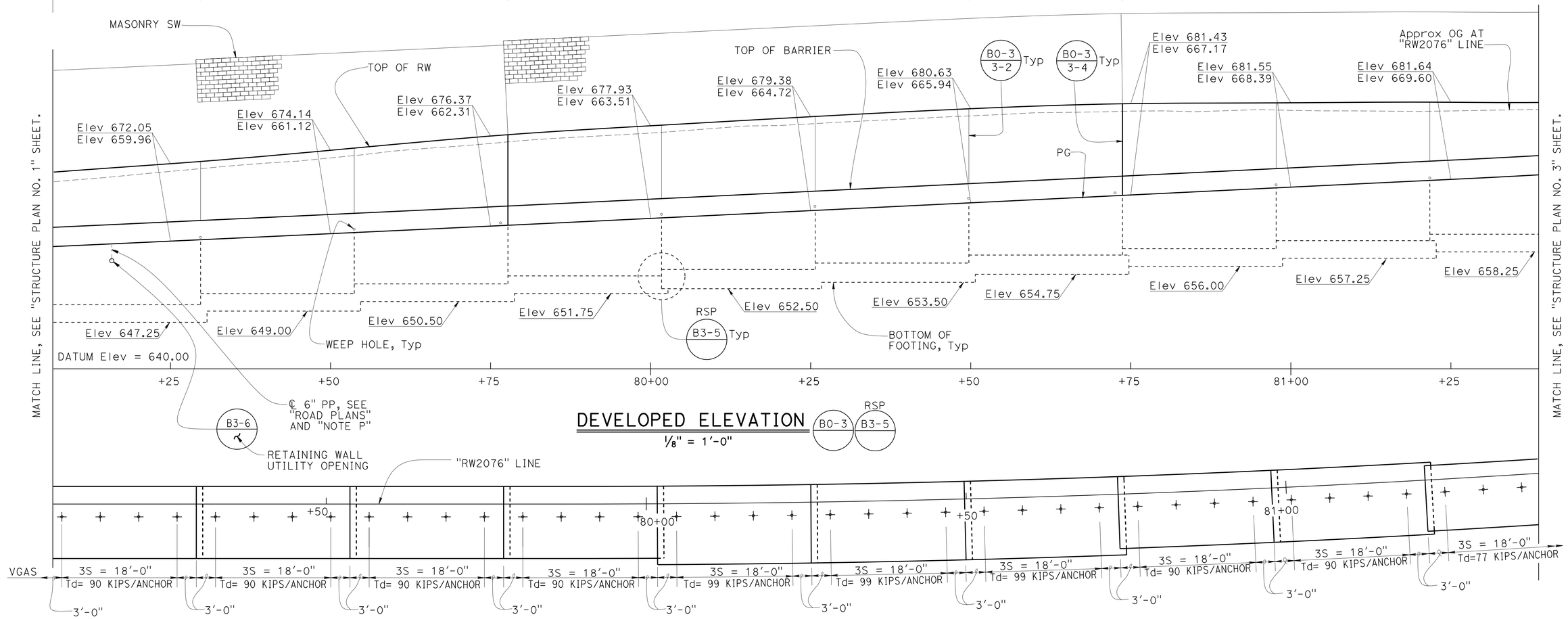
TYPE 7SW Ret WALL
LENGTH = 585'-8" ALONG "RW2076" LINE

LENGTH	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"
DESIGN HEIGHT	H=22'	H=22'	H=22'	H=22'	H=24'	H= 24'	H= 24'	H= 22'	H= 22'	H= 20'	
Exp Jt SPACING	96'-0"			96'-0"				96'-0"			
WEAKENED PLANES	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"	24'-0"



DEVELOPED ELEVATION
RSP B0-3 B3-5
1/8" = 1'-0"

NOTE P:
Place 2" expanded polystyrene around pipe between pipe and RW stem.

N

PLAN
RSP B0-3 B3-5
1/8" = 1'-0"

ANCHOR DESIGN NOTES:

1. Anchor Lockoff Load, To, is equal to Anchor Design Load, Td.
2. Anchor Factored Test Load, Tp, is equal to 1.33xTd.

	BY	CHECKED
DESIGN	Prem Rimal	Jeff Duffin
DETAILS	Prem Rimal	Jeff Duffin
QUANTITIES	Prem Rimal	Jeff Duffin/Minh Tran

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0299
POST MILE 39.33

RETAINING WALL NO. 2076
STRUCTURE PLAN NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
11/20/13	01/31/14	05/28/14	02/09/15	6	23

FILE => 53e0299-d-sp02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

NOTES:

1. Top of wall must be a smooth curve between control points as shown.
2. Unless otherwise shown, top of wall and PG elevations are shown at even 25 ft stations along "RW2076" Line.
3. All dimensions are measured along "RW2076" Line.
4. See RW No. 2084 Plans.
5. Mound of soil located approximately between Sta 82+50 and Sta 83+00 must be graded to one foot below top of wall elevation within a distance of 10 ft from the back of wall.

LEGEND:

TOP OF WALL Elev — Elev XXX.XX

PG Elev — Elev XXX.XX

S = EQUAL SPACES

VGAS = VERTICAL GROUND ANCHOR SPACING

+ = VERTICAL GROUND ANCHOR

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1866	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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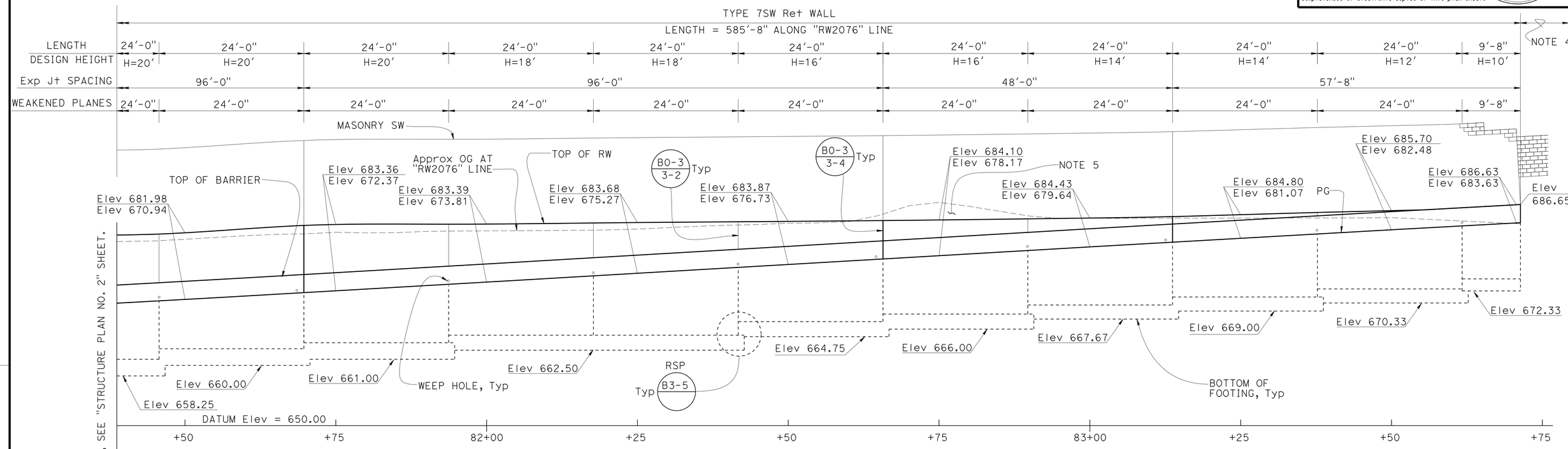
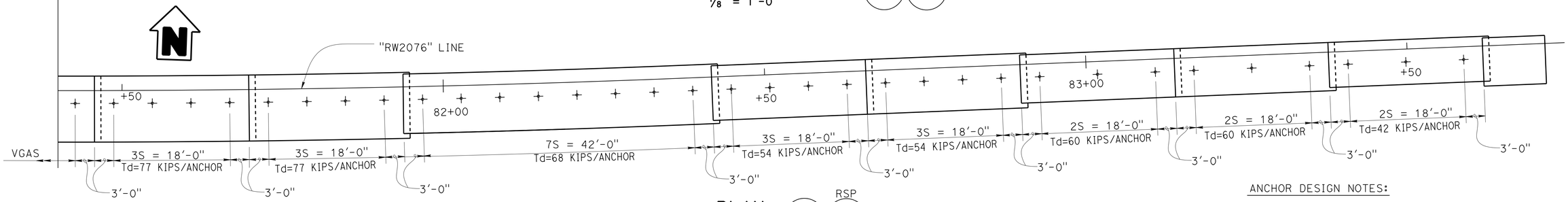


DEVELOPED ELEVATION

RSP B0-3 B3-5

1/8" = 1'-0"



PLAN

RSP B0-3 B3-5

1/8" = 1'-0"

ANCHOR DESIGN NOTES:

1. Anchor Lockoff Load, To, is equal to Anchor Design Load, Td.
2. Anchor Factored Test Load, Tp, is equal to 1.33xTd.

DESIGN	BY Prem Rimal	CHECKED Jeff Duffin	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0299	RETAINING WALL NO. 2076
DETAILS	BY Prem Rimal	CHECKED Jeff Duffin			POST MILE 39.33	STRUCTURE PLAN NO. 3
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin/Minh Tran				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11/20/13	07/31/14	05/29/14		7	23

FILE => 53e0299-d-sp03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1867	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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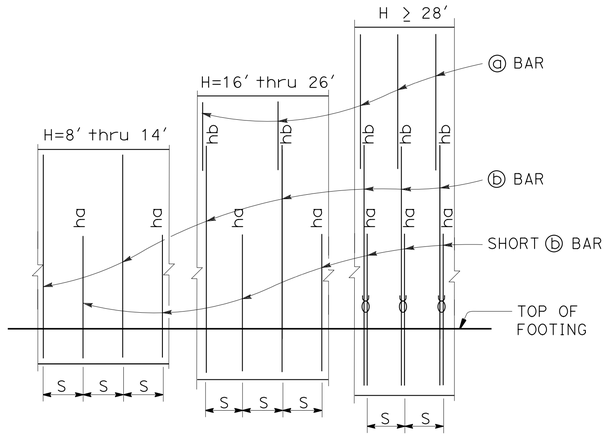
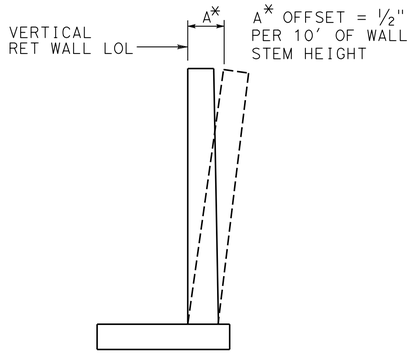


ELEVATION
No Scale

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



WALL OFFSET
No Scale

Values for offsetting forms to be determined by the Engineer

DESIGN DATA

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

WS: 33 psf on Sound wall

LS: Varied surcharge on level ground surface

EQE: Mononabe-Okabe Method
K_h = 0.3
K_v = 0.0

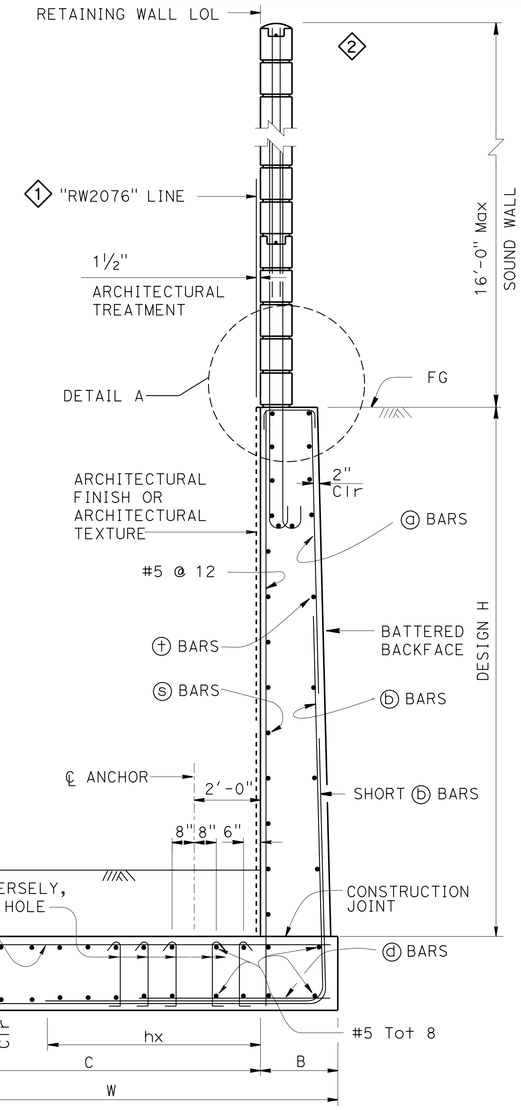
Soil: Ø = 34°
γ = 120 pcf

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

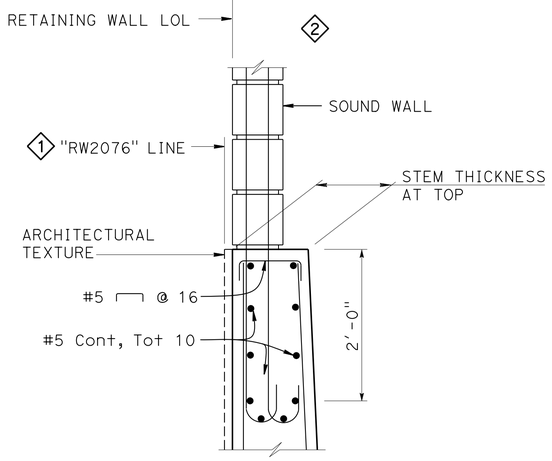
Load Combinations and Limit States

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

Where: Q: Force Effects
α: 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
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
Td: Anchor Design Load



SPREAD FOOTING SECTION
No Scale



DETAIL A
1" = 1'-0"

NOTES:

1. For Sound wall and Retaining wall Architectural finish or texture see Details elsewhere in Project Plans
2. For Details not shown and Drainage Notes see RSP 3-5
3. Footing cover, 2'-0" minimum.
4. For Sound wall reinforcement details, see "MASONRY BLOCK SOUND WALL ON RETAINING WALL" sheets.
5. Shift ⓑ bars and ⓓ bars as required to clear formed hole for ground anchor.
6. Footing is designed to resist 1.33 Td assuming the maximum anchor spacing shown in the table.

SPECIAL DETAILS

REVISED STANDARD DRAWING

FILE NO. xs14-380-1

APPROVAL DATE July 2011

① Added reference to "RW2076" Line

② Modified location of sound wall

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0299

POST MILE 39.33

RETAINING WALL NO. 2076

RETAINING WALL TYPE 7SW - DETAILS NO.1

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11/20/13	01/31/14	02/27/14		8	23

FILE => 53e0299-e-7sw1.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.3/42.4	1868	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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TABLE OF WALL DIMENSIONS, REINFORCING STEEL, AND BEARING STRESS

DESIGN H	8′	10′	12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′
W	6′-9"	7′-6"	7′-0"	7′-6"	8′-6"	9′-3"	10′-3"	11′-3"	12′-3"	13′-0"	14′-3"	15′-3"	16′-3"
C	5′-6"	6′-3"	5′-6"	6′-0"	6′-9"	7′-3"	8′-0"	8′-6"	9′-6"	10′-0"	10′-10"	11′-6"	12′-5"
B	1′-3"	1′-3"	1′-6"	1′-6"	1′-9"	2′-0"	2′-3"	2′-9"	2′-9"	3′-0"	3′-5"	3′-9"	3′-10"
F	1′-6"	2′-0"	2′-4"	2′-4"	2′-6"	2′-6"	2′-9"	2′-9"	3′-0"	3′-3"	3′-6"	3′-9"	4′-0"
STEM THICKNESS AT TOP	1′-0"	1′-0"	1′-3"	1′-3"	1′-7"	1′-9"	2′-0"	2′-0"	2′-0"	2′-0"	2′-0"	2′-3"	2′-3"
BATTER	0	0	0	0	0	0	0	1/4:12	1/4:12	1/4:12	1/2:12	1/2:12	1/2:12
ⓐ BARS					#5 @ 14	#6 @ 13	#6 @ 13	#6 @ 13	#6 @ 11	#7 @ 12	#7 @ 11	#7 @ 10	#8 @ 11
ⓑ BARS	#5 @ 6	#5 @ 5.5	#6 @ 5	#6 @ 5	#8 @ 7	#8 @ 6.5	#9 @ 6.5	#9 @ 6.5	#9 @ 5.5	#10 @ 6	#10 @ 11ϒ	#10 @ 10ϒ	#11 @ 11ϒ
ha	7′-10"	9′-10"	5′-3"	6′-0"	6′-9"	7′-6"	7′-3"	9′-0"	9′-9"	9′-3"	11′-3"	13′-0"	13′-0"
hb					13′-0"	13′-0"	13′-0"	14′-6"	15′-6"	18′-6"	20′-6"	21′-6"	23′-0"
hx	5′-3"	6′-0"	5′-3"	5′-9"	6′-6"	7′-0"	7′-9"	7′-6"	8′-3"	9′-9"	10′-0"	11′-0"	12′-2"
ⓓ BARS	#5 @ 12	#5 @ 11	#5 @ 10	#5 @ 10	#5 @ 14	#5 @ 13	#5 @ 13	#5 @ 13	#5 @ 11	#5 @ 12	#5 @ 11	#5 @ 10	#5 @ 11
ⓓ BAR LENGTH	3′-6"	3′-6"	3′-6"	3′-6"	4′-6"	7′-0"	7′-6"	10′-9"	11′-9"	12′-6"	13′-9"	14′-9"	15′-9"
ⓔ BARS								#4 @ 13	#4 @ 11	#4 @ 12	#4 @ 11	#4 @ 10	#4 @ 11
ⓢ Bars	#4 @ 12	#4 @ 12	#5 @ 15	#5 @ 15	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12
ⓣ Bars	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Td (KIPS/FT)	0	0	5.25	7.5	9.0	11.25	12.75	15.0	16.5	21.0	21.75	24.75	27.75
To (KIPS/FT)	0	0	*	*	*	*	*	*	*	*	*	*	*
Tp = Larger of 1.33 Td & 1.25 To (KIPS/FT)	0	0	*	*	*	*	*	*	*	*	*	*	*
Max ANCHOR SPACING			10′-6"	9′-6"	7′-9"	6′-3"	7′-9"	6′-6"	8′-0"	6′-3"	6′-0"	5′-3"	4′-9"
SER I: B′(ft), q'_0 (ksf)	6.3, 0.6	6.9, 0.7	5.7, 2.1	6.1, 2.4	7.4, 2.4	8.1, 2.7	9.1, 2.8	9.8, 3.0	10.9, 3.0	11.4, 3.5	12.6, 3.5	13.6, 3.7	14.7, 3.8
STR Ia: B′(ft), q_0(ksf)	6.5, 1.3	6.7, 1.6	5.4, 3.3	5.7, 3.7	6.7, 3.8	7.4, 4.2	8.2, 4.3	8.9, 4.8	9.8, 4.9	10.1, 5.5	11.2, 5.6	12.1, 5.9	12.8, 6.2
STR, Ib: B′(ft), q_0(ksf)	5.7, 1.2	5.7, 1.5	4.6, 3.3	5.0, 3.7	5.9, 3.8	6.6, 4.0	7.3, 4.2	7.9, 4.6	8.7, 4.7	9.1, 5.3	10.0, 5.4	10.8, 5.7	11.5, 6.0
STR, IIIa: B′(ft), q_0(ksf)	5.0, 1.9	5.7, 2.6	4.9, 4.0	5.4, 4.4	6.4, 4.0	7.2, 4.5	8.2, 4.6	9.0, 4.9	10.0, 4.9	10.4, 5.4	11.6, 5.4	12.6, 5.7	13.4, 5.8
STR, IIIb: B′(ft), q_0(ksf)	3.7, 2.3	4.2, 2.8	4.0, 4.2	4.5, 4.5	5.6, 4.2	6.3, 4.5	7.2, 4.5	8.0, 4.8	8.9, 4.7	9.4, 5.3	10.4, 5.3	11.3, 5.3	12.1, 5.6
STR, Va: B′(ft), q_0(ksf)	6.0, 1.4	6.4, 1.7	5.2, 3.4	5.5, 3.8	6.6, 3.9	7.3, 4.3	8.2, 4.5	8.8, 4.8	9.8, 4.9	10.2, 5.6	11.2, 5.5	12.2, 5.9	12.9, 6.1
STR, Vb: B′(ft), q_0(ksf)	5.0, 1.3	5.2, 1.6	4.4, 3.4	4.8, 3.8	5.7, 3.8	6.4, 4.2	7.2, 4.4	7.8, 4.7	8.7, 4.8	9.1, 5.5	10.0, 5.4	10.9, 5.8	11.6, 6.0
Ext I: B′(ft), q_0(ksf)	3.4, 2.0	3.1, 3.6	2.4, 6.5	2.6, 8.1	3.0, 7.7	3.3, 9.0	3.5, 9.4	3.9, 10.1	4.3, 10.4	4.4, 11.9	4.9, 11.9	5.3, 12.7	5.5, 13.4

NOTE:

ⓔ Bar spacing shown is along the length of the retaining wall.

(1) * See "STRUCTURE PLANS" for Anchor Loads.

SYMBOLS:

SER: service limit state
STR: strength limit state
EXT: extreme event limit state
B′: effective footing width (ft)
q'_0: net bearing stress (ksf)
q_0: gross uniform bearing stress (ksf)
ϒ: 2 bar bundle
To: Anchor Lockoff Load
Tp: Anchor Factored Test Load

SPECIAL DETAILS

REVISED STANDARD DRAWING

FILE NO. xs14-380-2

APPROVAL DATE July 2011

(1) Note revised

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0299

POST MILE 39.33

RETAINING WALL NO. 2076

RETAINING WALL TYPE 7SW - DETAILS NO.2

OS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11/20/13 | 01/31/14 | | |

SHEET 9 OF 23

FILE => 53e0299-e-7sw2.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1869	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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

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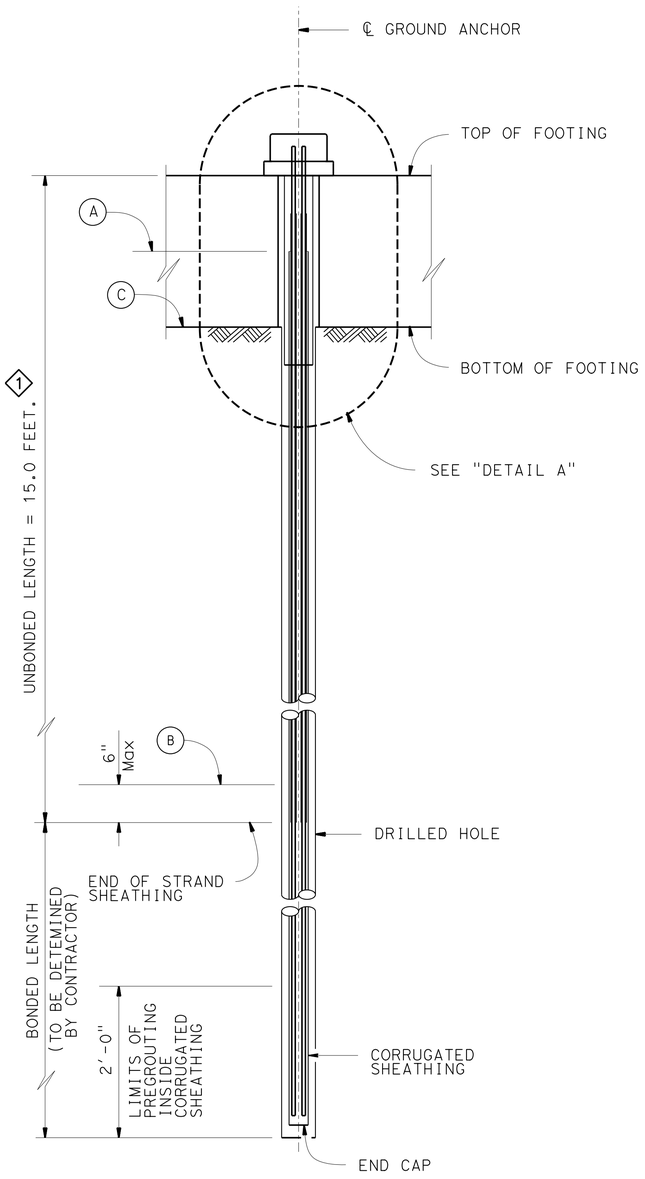
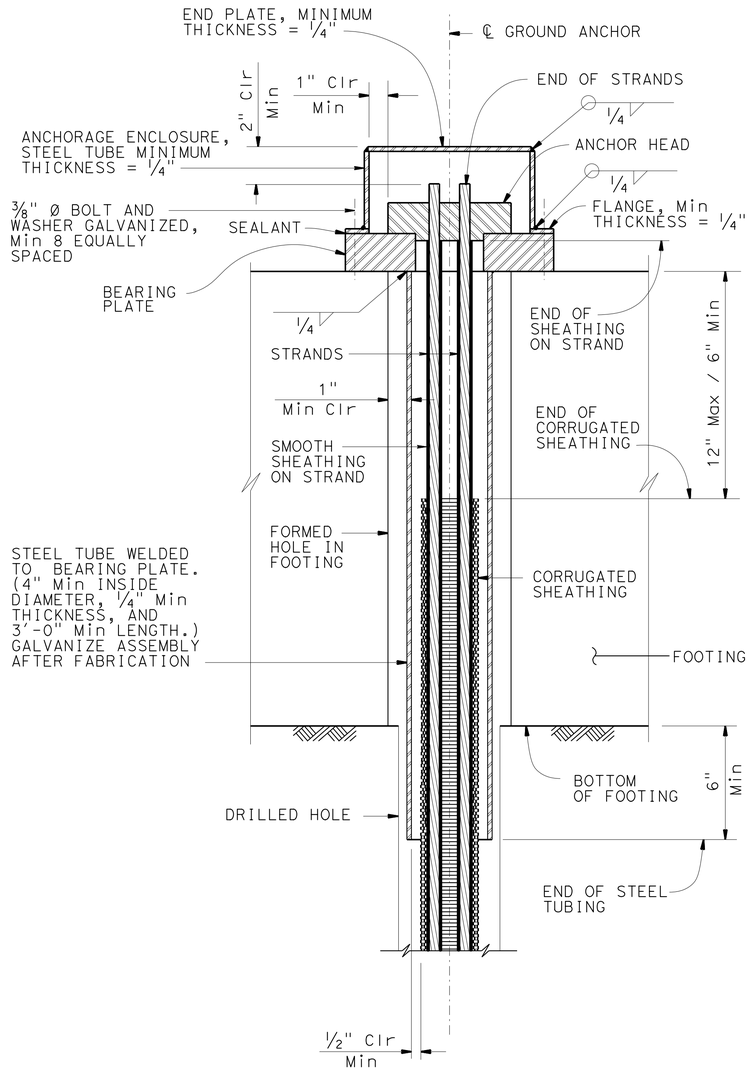


GROUND ANCHOR TENDON DETAILS (STRANDS)

1"= 1'-0"



DETAIL A

3" = 1'-0"

GENERAL NOTES

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

PRESTRESSING STEEL (GROUND ANCHORS):

STRANDS - ASTM Designation: A416
Tp = Factored test load per tendon (Kips)
fpu = Minimum tensile strength of prestressing steel (ksi)

As = Minimum cross sectional area of prestressing steel in tendon (square inches)

$$As\ (Min) = \frac{1.0\ Tp}{0.75\ fpu} \quad (Strand)$$

NOTES:

1. Anchorage enclosure must have provisions to allow injecting grout at low end and venting at high end. Galvanize enclosure after fabrication.

2. Alternative anchor enclosure shown on sheet "VERTICAL GROUND ANCHOR DETAILS No. 2" sheet

(A) Level of initial grouting inside corrugated sheathing

(B) Level of initial grouting in drilled hole

(C) Level of secondary grouting in drilled hole

SPECIAL DETAILS

REVISED STANDARD DRAWING
FILE NO. xs12-030-1
APPROVAL DATE July 2011

1 NOTED UNBONDED LENGTH

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0299
POST MILE 39.33

RETAINING WALL NO. 2076

VERTICAL GROUND ANCHOR DETAILS NO. 1

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/05/13	01/28/14	05/28/14		10	23

FILE => 53e0299-e-vgd1.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1870	2313

Rick Schendel — REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15 PLANS APPROVAL DATE

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

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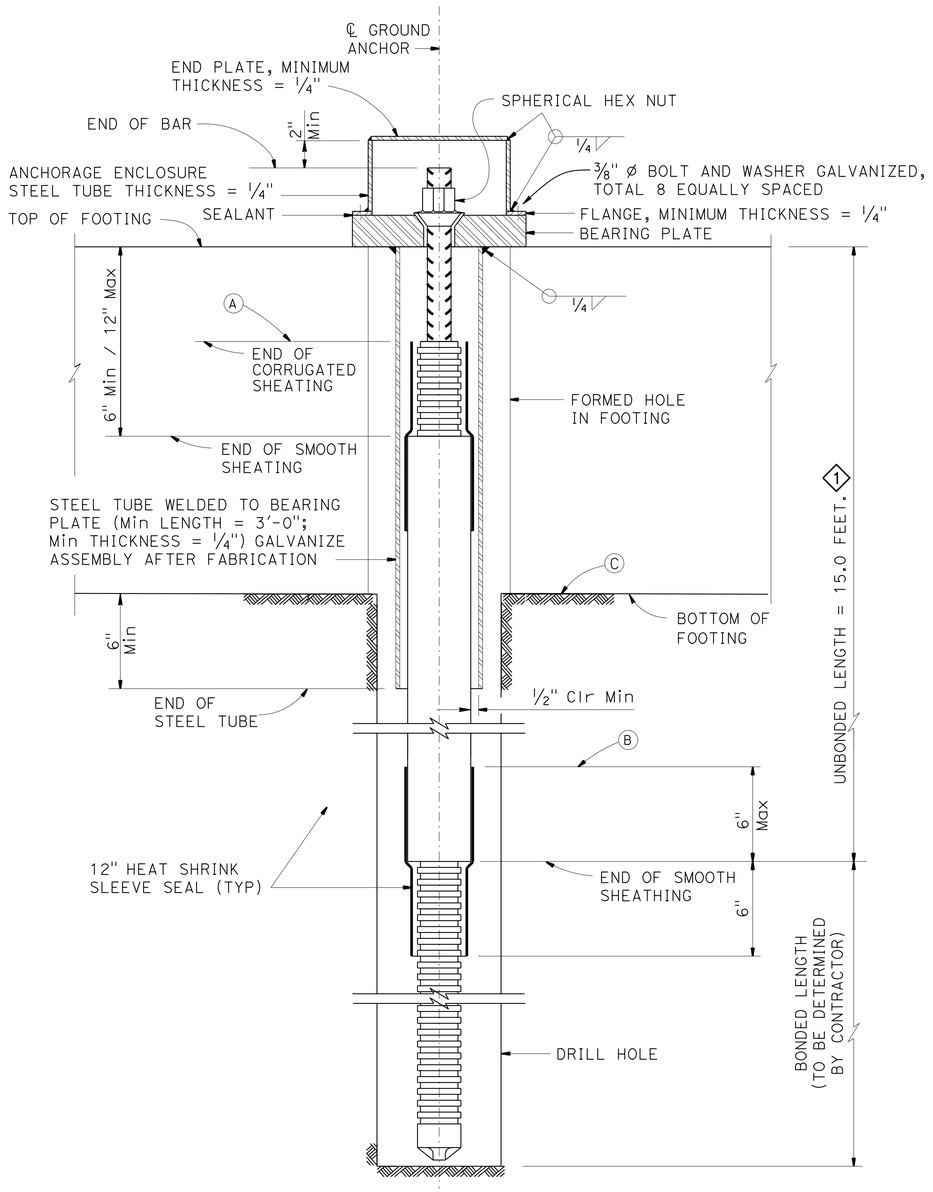
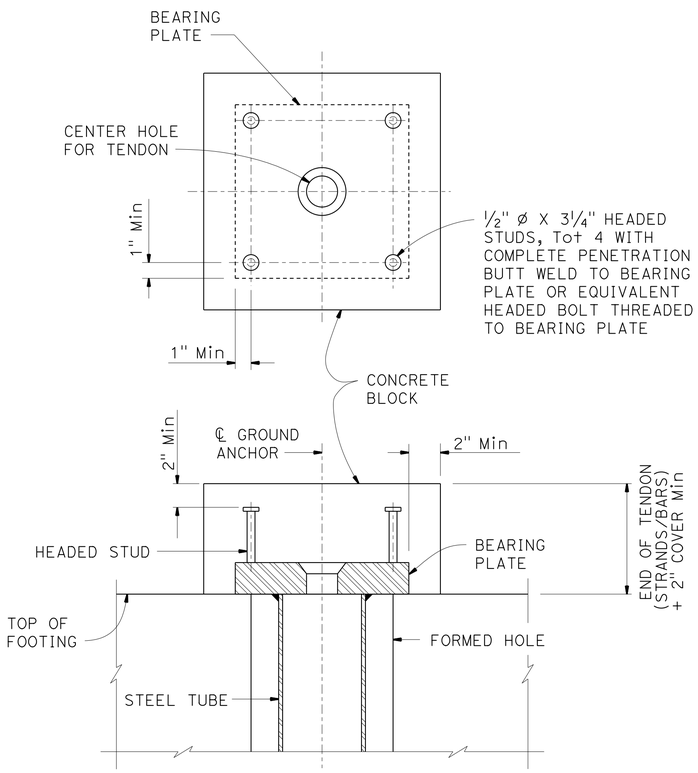


GROUND ANCHOR
TENDON DETAILS (BAR)
3" = 1'-0"



ANCHOR
ENCLOSURE (ALTERNATIVE)
3" = 1'-0"

GENERAL NOTES

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

PRESTRESSING STEEL (GROUND ANCHORS):

BARS - ASTM Designation: A722 Type II
Tp = Factored test load per tendon (Kips)
fpu = Minimum tensile strength of prestressing steel (ksi)

As = Minimum cross sectional area of prestressing steel in tendon (square inches)

$$As\ (Min) = \frac{1.0\ Tp}{0.75\ fpu}\quad (Bar)$$

NOTES:

Anchorage enclosure must have provision to allow injecting grout at low end and venting at high end. Galvanize enclosure after fabrication.

Ⓐ Level of initial grouting inside corrugated sheathing

Ⓑ Level of initial grouting in drilled hole

Ⓒ Level of secondary grouting in drilled hole

REVISED STANDARD DRAWING

FILE NO. xs12-030-2

APPROVAL DATE November 2011

1 NOTED UNBONDED LENGTH

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0299

POST MILE 39.33

SPECIAL DETAILS

RETAINING WALL NO. 2076

VERTICAL GROUND ANCHOR DETAILS NO. 2

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

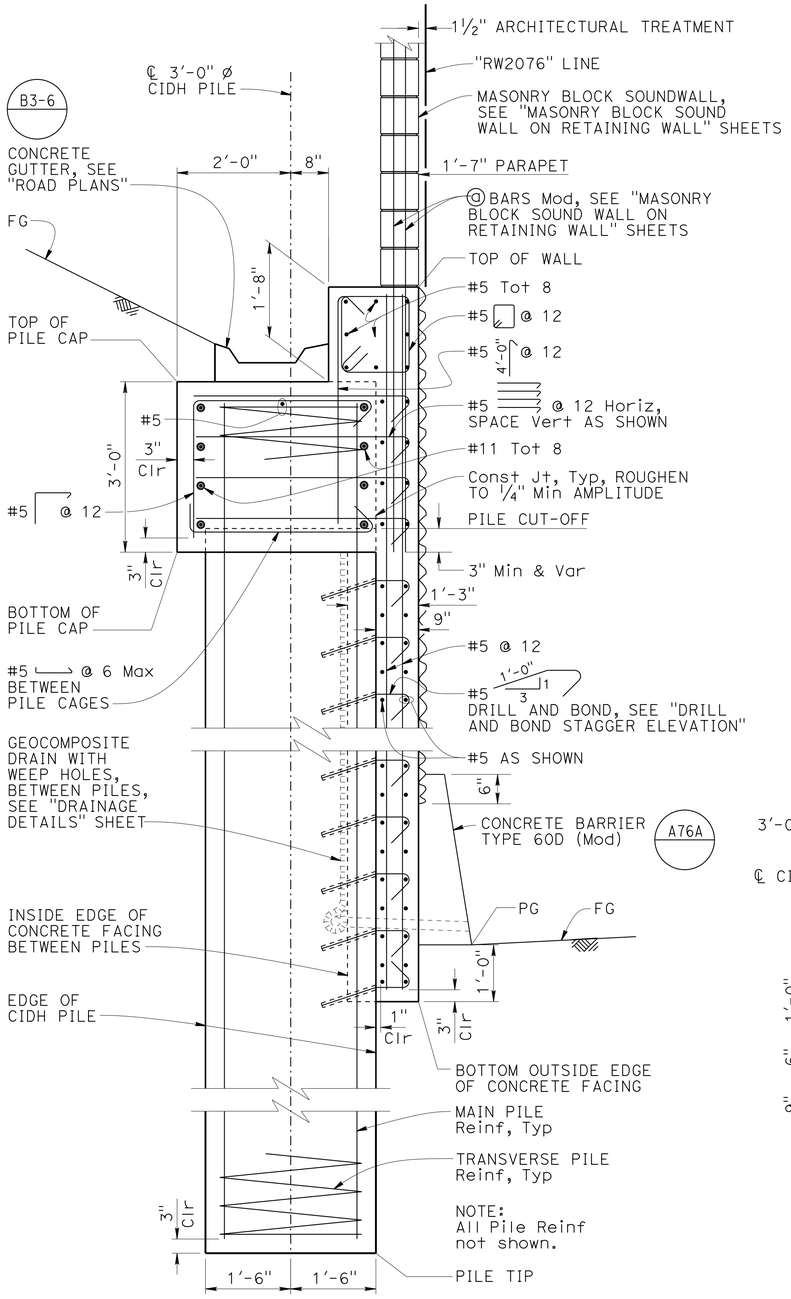
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 12/05/13 | 07/28/14 | 05/28/14

SHEET 11 OF 23

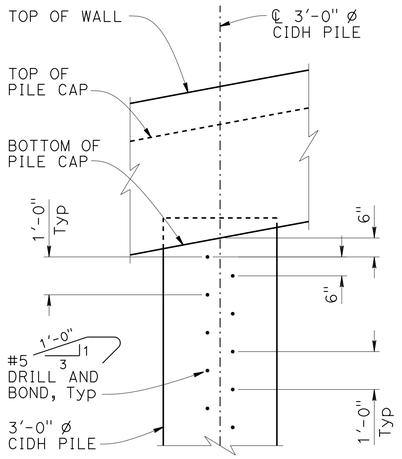
FILE => 53e0299-e-vgd2.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00



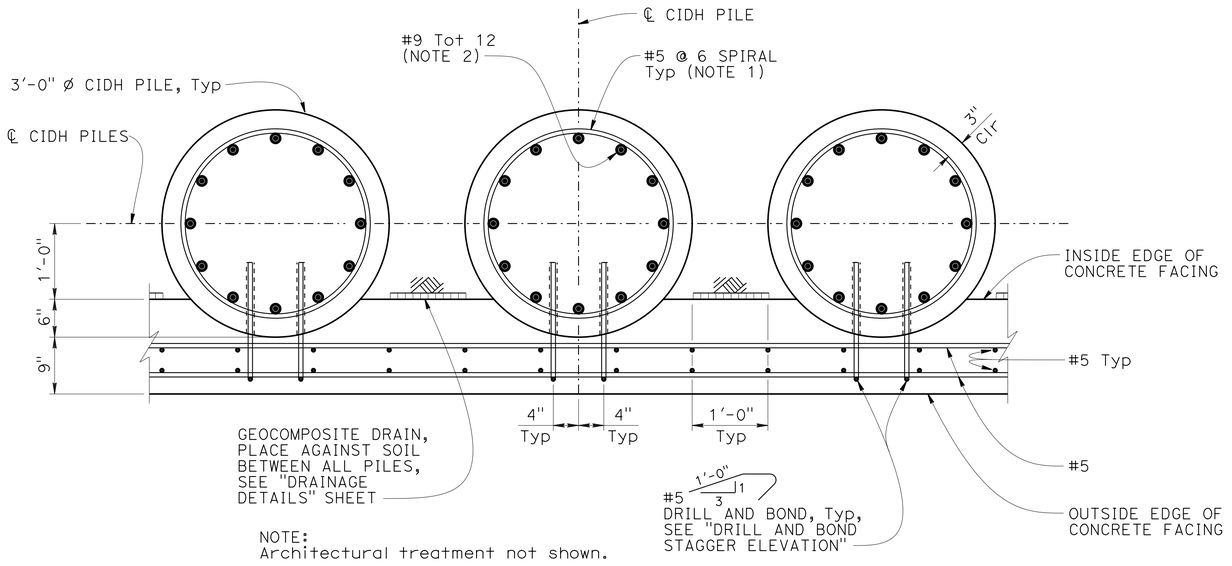
TYPICAL VERTICAL SECTION
3'-0" ø CIDH PILES

¾" = 1'-0"



DRILL AND BOND STAGGER ELEVATION

NO SCALE



TYPICAL HORIZONTAL SECTION
3'-0" ø CIDH PILES

1" = 1'-0"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1871	2313

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

6-1-15
PLANS APPROVAL DATE

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

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NOTES:

1. Lapped splices in spiral pile reinforcement shall be lapped at least 80 bar diameters. Sprial pile reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.
2. No splices allowed in main pile reinforcement.
3. Clearance to reinforcement must be 2" unless otherwise noted.
4. There must be no voids present behind concrete facing upon wall completion.

PILE DATA TABLE

Pile No.	Cut-off Elev (ft)	Tip Elev (ft)	Pile Length (ft)
1	656.74	621.74	35'-0"
2	657.10	622.10	"
3	657.40	622.40	"
4	657.68	622.68	"
5	657.95	622.95	"
6	658.22	623.22	"
7	658.72	623.72	"
8	658.85	623.85	"
9	659.18	624.18	"
10	659.51	624.51	"
11	659.83	624.83	"
12	660.12	625.12	"
13	660.38	625.38	"
14	660.63	625.63	"
15	660.91	625.91	"

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	
DETAILS	BY Richard Schendel	CHECKED Prem Rimal	
QUANTITIES	BY Jeff Duffin/Minh Tran	CHECKED Prem Rimal	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0299
POST MILE 39.33

RETAINING WALL NO. 2076
TYPICAL SECTIONS-PILE WALL

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 05/28/14 | 11/20/13 | 07/29/14 | 02/24/15

SHEET 12 OF 23

FILE => 53e0299-f-ts.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1872	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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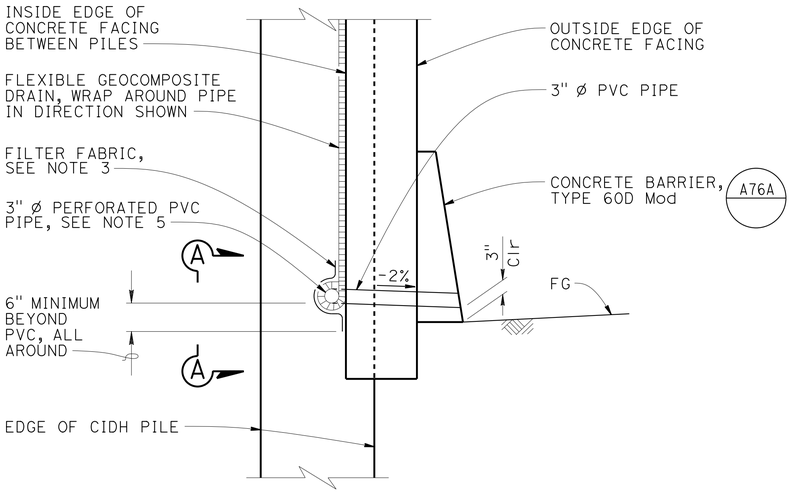
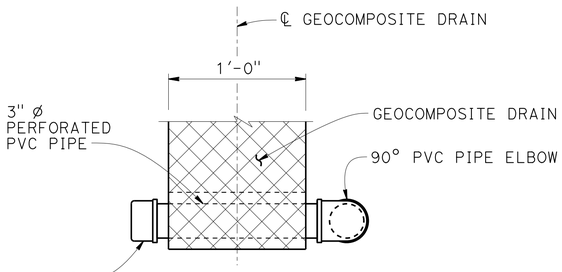


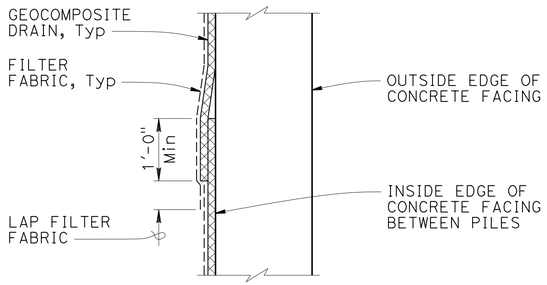
WALL DRAIN DETAILS - OPTION A

NO SCALE



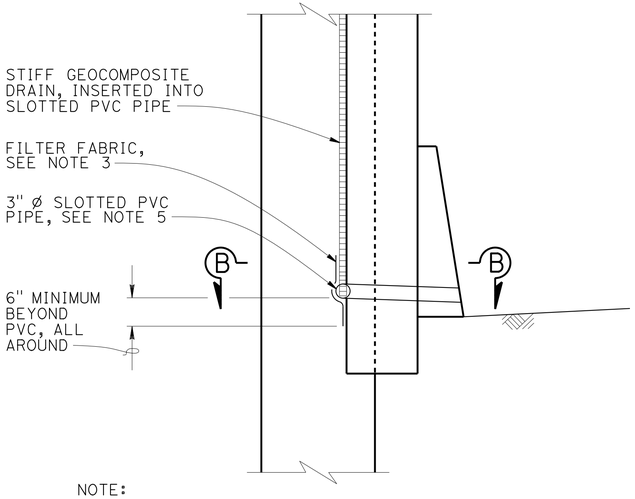
VIEW A-A

NO SCALE



DRAIN SPLICE

NO SCALE

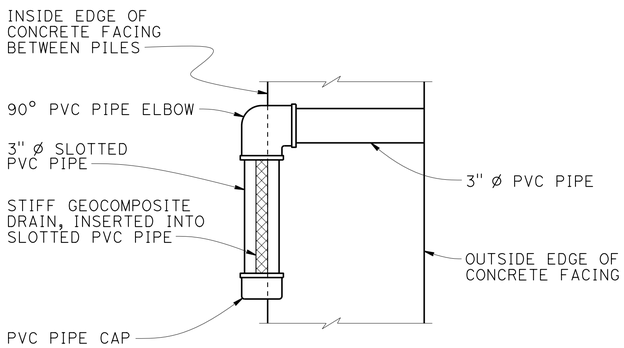


NOTE:

For details not shown, or for details shown but not noted, see "WALL DRAIN DETAILS - OPTION A" detail.

WALL DRAIN DETAILS - OPTION B

NO SCALE



SECTION B-B

NO SCALE

NOTES:

1. Geocomposite Drain is per Section 88 Geosynthetics of the Standard Specifications.
2. Geocomposite Drains must have filter fabric on soil side and wrapped around top and side edges.
3. Provide filter fabric where necessary to prevent soil from entering drain.
4. Geocomposite Drain is to be placed against soil and between all CIDH piles.
5. The location of Geocomposite Drain and PVC Pipes may be adusted to clear the CIDH piles.
6. Alternative drain details may be submitted for Engineer's approval.
7. There must be no voids present behind concrete facing upon wall completion.

DESIGN	BY Richard Schendel	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Richard Schendel	CHECKED Prem Rimal	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18
QUANTITIES	BY Jeff Duffin	CHECKED Prem Rimal	BRIDGE NO. 53E0299 POST MILE 39.33

RETAINING WALL NO. 2076
DRAINAGE DETAILS-PILE WALL

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
08/13/13	11/20/13	07/29/14	03/04/15	13	23

FILE => 53e0299-g-dd.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 13:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1873	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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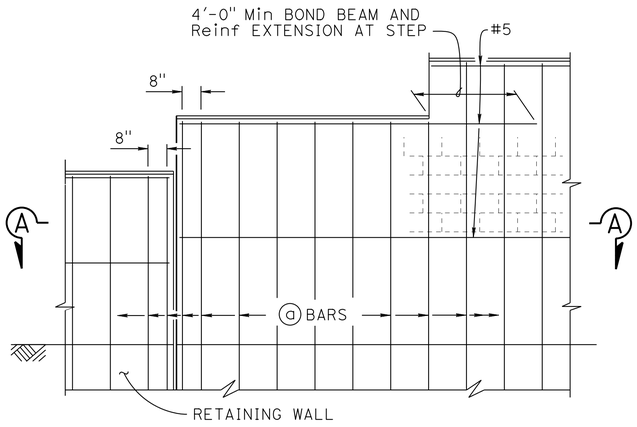
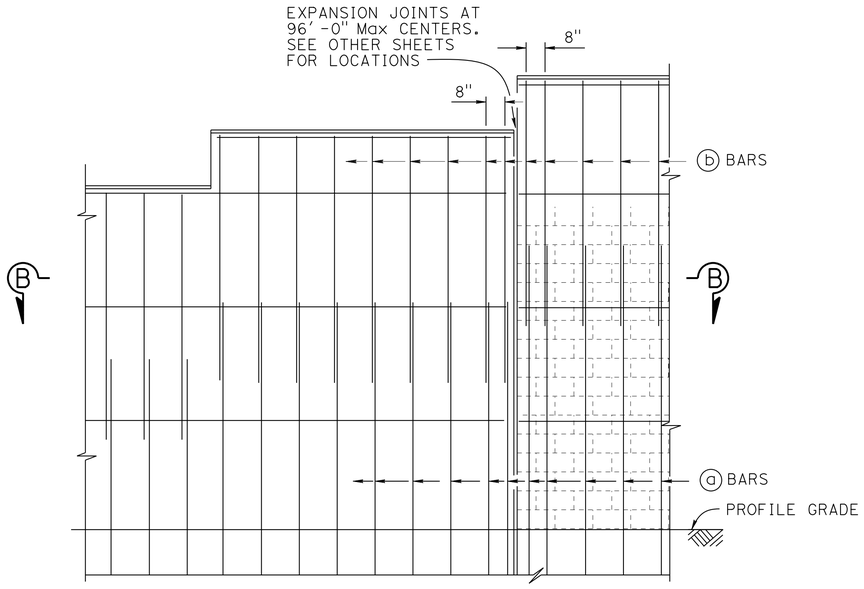


H=6'-0" THRU H=10'-0"



H=12'-0" THRU H=16'-0"

PART ELEVATION

SOUND WALL REINFORCEMENT TABLE						
MAXIMUM "H"	ⓐ BARS @ 1'-4" Max	ⓑ BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-0"	#4	———	———	1500	1900	6'-0"
8'-0"	#4	———	———	1500	1900	8'-0"
10'-0"	#4	———	———	1500	1900	10'-0"
12'-0"	#5	#4	6'-0"	2000	2800	12'-0"
14'-0"	#6	#4	8'-0"	2500	3750	14'-0"
16'-0"	#6	#4	10'-0"	2500	3750	16'-0"

DESIGN NOTES

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

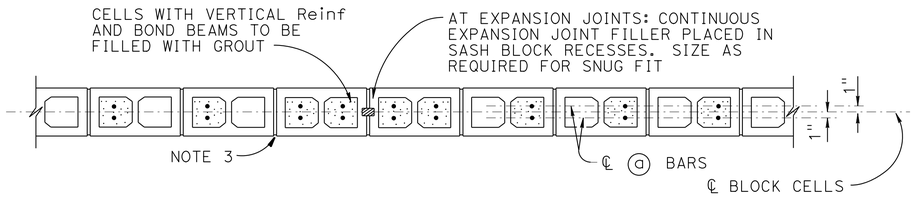
DESIGN WIND LOAD
33 psf

DESIGN SEISMIC LOAD
0.57 Dead load

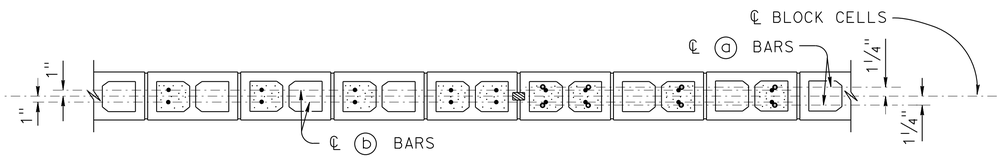
REINFORCED CONCRETE
f'c = 3600 ksi
fy = 60 ksi

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



SECTION A-A



SECTION B-B

NOTES:

1. For type of block and joint finish, see other sheets
2. When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2 - 9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams
3. Horizontal joints must be tooled concave or may be weathered
   Vertical joints must be tooled concave or may be raked
4. For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H"
5. See STANDARD PLANS B15-9 for other details

NO SCALE

RETAINING WALL NO. 2076

MASONRY BLOCK SOUND WALL ON RETAINING WALL

DETAILS NO. 1

STANDARD DRAWING
FILE NO. xs15-120-1
APPROVAL DATE July 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0297
POST MILE 39.33

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11/30/13	01/29/14			14	23

FILE => 53e0299-i-mbd1.dgn

USERNAME => s1256c24 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1874	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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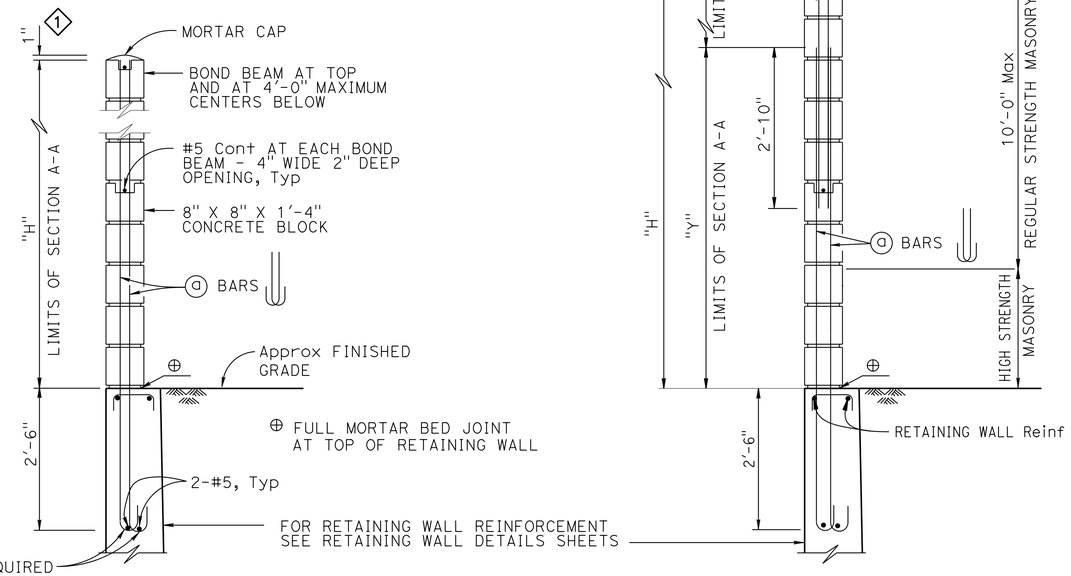


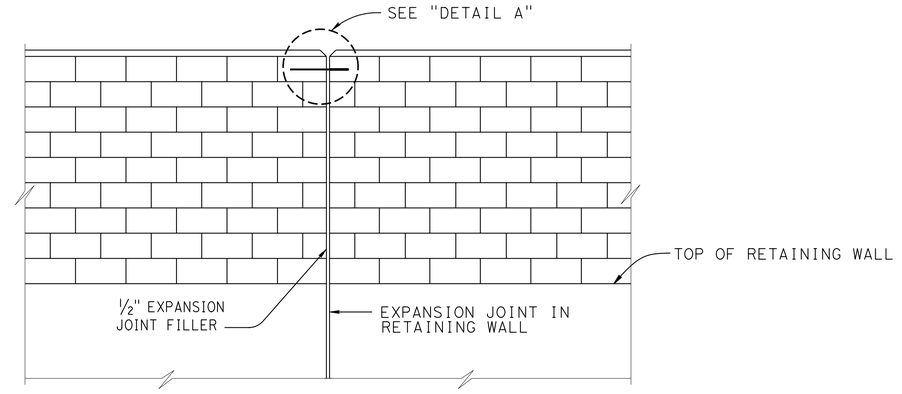
NOTE:
For details not shown, see H=12'-0" thru H=16'-0"

H=6'-0" THRU H=10'-0"

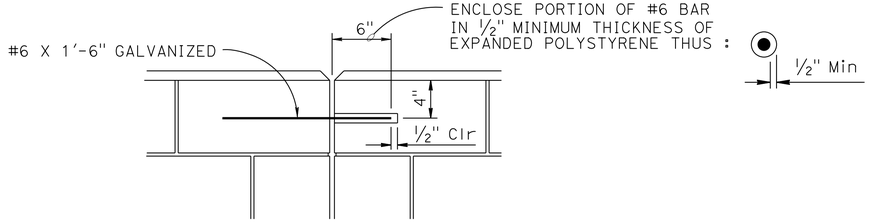
NOTE:
For details not shown, see H=6'-0" thru H=10'-0"

H=12'-0" THRU H=16'-0"

TYPICAL SECTION



ALIGNMENT KEY DETAIL



DETAIL A

SPECIAL DETAILS

NO SCALE

RETAINING WALL NO. 2076

MASONRY BLOCK SOUND WALL ON RETAINING WALL

DETAILS NO. 2

REVISED STANDARD DRAWING

FILE NO. xs15-120-2

APPROVAL DATE July 2012

1 Changed location of sound wall

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0297

POST MILE 39.33

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
7/19/12	11/20/13	01/29/12		15	23

FILE => 53e0299-i-mbd2.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1875	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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

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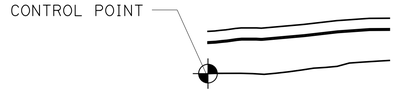
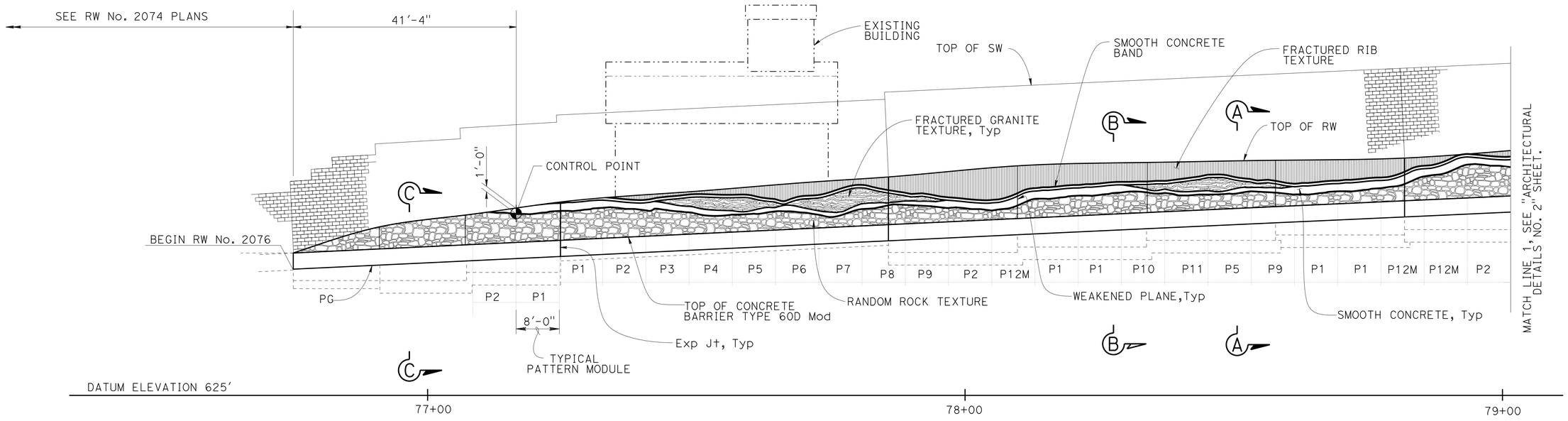


PATTERN MODULE P1

NOTE:
Begin layout of pattern modules at control point for P1 and continue to place plumb each module at corresponding match lines for limits of pattern modules.

PATTERN MODULE LAYOUT DETAIL

NO SCALE



DEVELOPED ELEVATION

NO SCALE

NOTES:

1. For TYPICAL SECTIONS "A-A", "B-B", and "C-C", see "ARCHITECTURAL DETAILS NO. 3" sheet.
2. For Fractured Rib, Fractured Granite, and Random Rock Textures, see "ARCHITECTURE DETAILS NO. 4" Sheet.
3. For Pattern Modules, see "ARCHITECTURAL DETAILS NO. 5 & NO. 6" sheets.

DESIGN	BY Valerie Moore	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0299
DETAILS	BY Farideh Hosseinioun	CHECKED Prem Rimal			POST MILE 39.33
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin			

RETAINING WALL NO. 2076
ARCHITECTURAL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/14/13	01/22/14	02/06/14	02/27/13	16	23

FILE => 53e0299-u-archdt01.dgn

USERNAME => s129624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1876	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

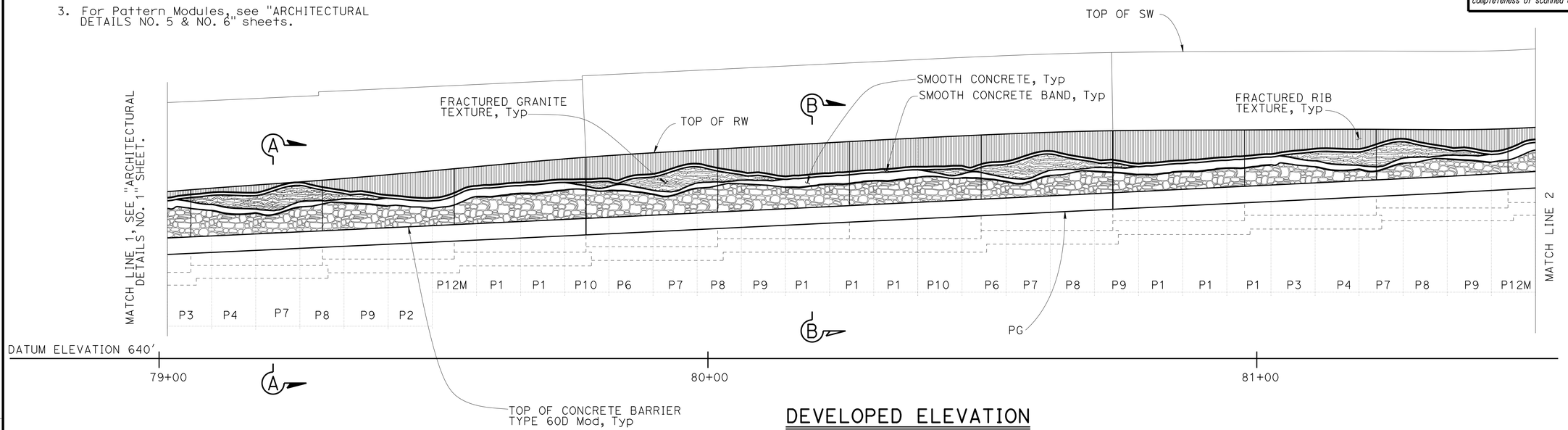
RICHARD E. SCHENDEL No. C64259 Exp. 6-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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

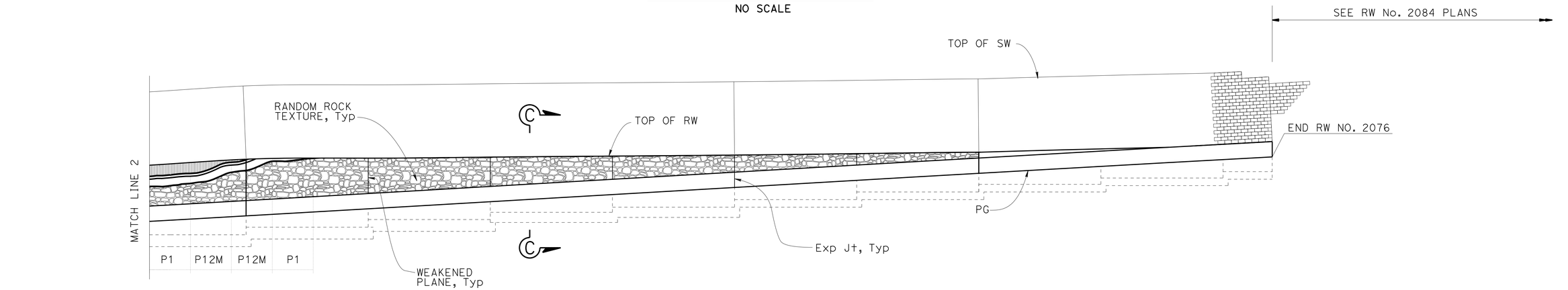
NOTES:

1. For TYPICAL SECTIONS "A-A", "B-B", and "C-C", see "ARCHITECTURAL DETAILS NO. 3" sheet.
2. For Fractured Rib, Fractured Granite, and Random Rock Textures, see "ARCHITECTURE DETAILS NO. 4" Sheet.
3. For Pattern Modules, see "ARCHITECTURAL DETAILS NO. 5 & NO. 6" sheets.



DEVELOPED ELEVATION

NO SCALE



DEVELOPED ELEVATION

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0299
DETAILS	BY Farideh Hosseinioun	CHECKED Prem Rimal			POST MILE 39.33
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin			

RETAINING WALL NO. 2076
ARCHITECTURAL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/14/13	01/22/14	07/31/14	02/24/15	17	23

FILE => 53e0299-u-archdt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

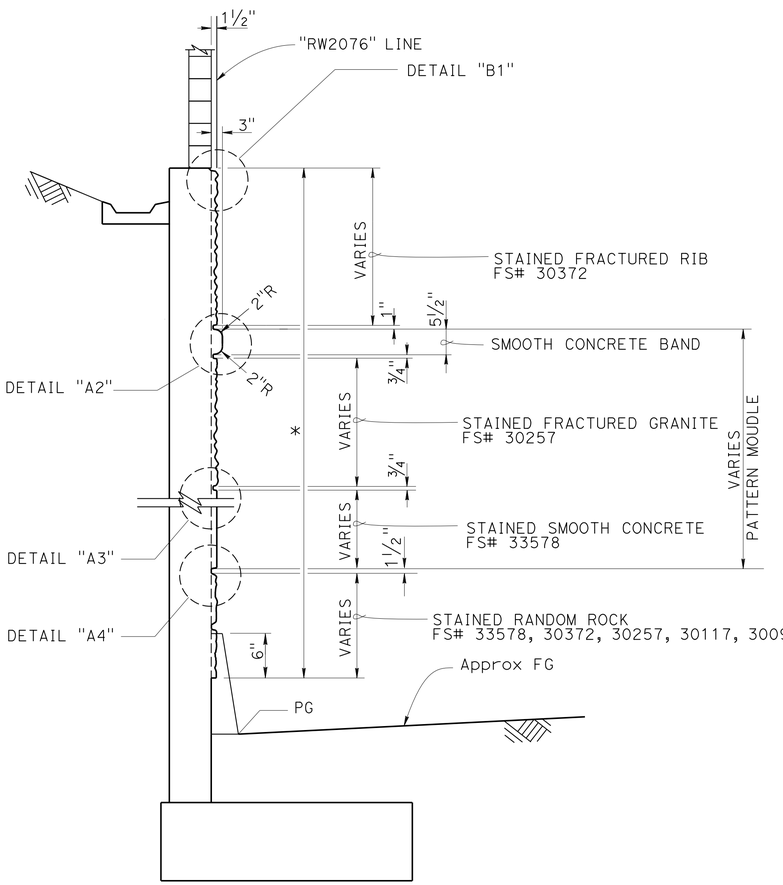
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1877	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

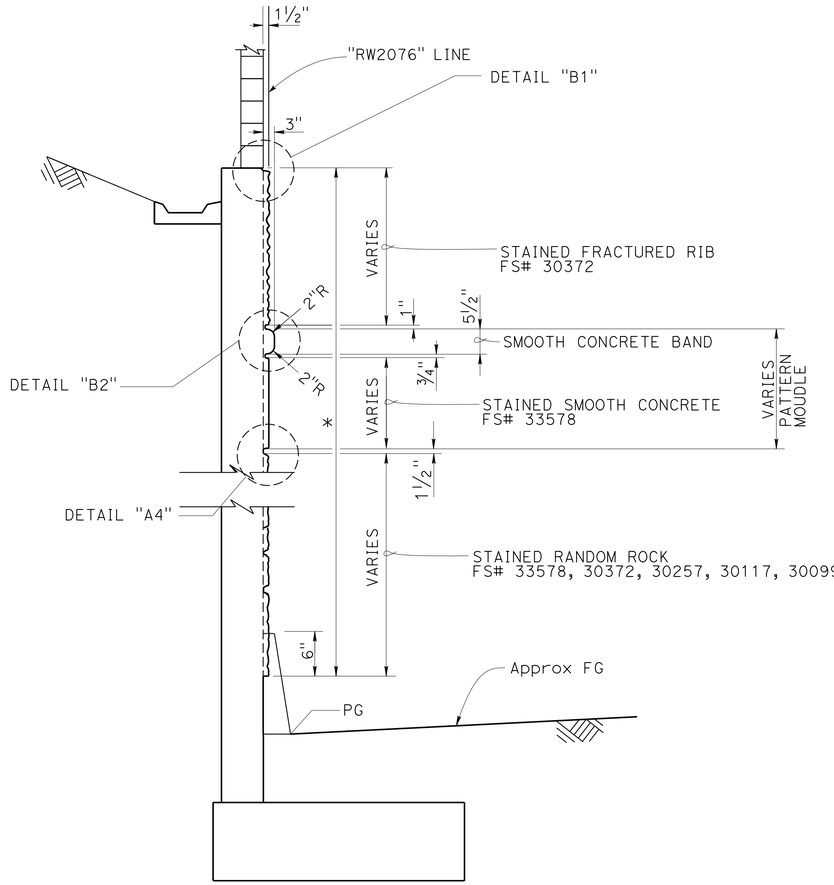
6-1-15
PLANS APPROVAL DATE

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



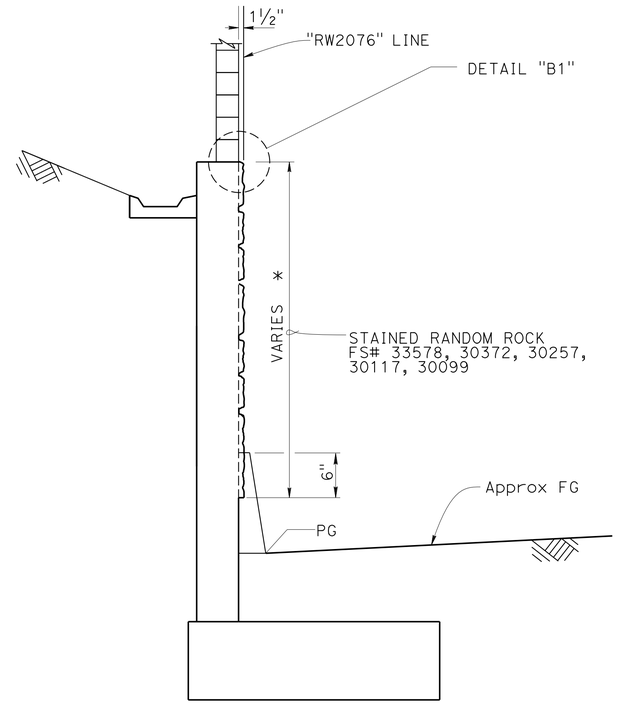
TYPICAL SECTION A-A

NO SCALE



TYPICAL SECTION B-B

NO SCALE



TYPICAL SECTION C-C

NO SCALE

* Pay limits of Concrete Surface Texture

NOTES:

1. For DETAILS "A2", "A3", "A4", "B1", and "B2", see "ARCHITECTURAL DETAILS NO. 4" sheet.
2. "FS#" is Federal Standard Color Number.
3. Sections for Type 7SW wall shown, pile wall section similar.

DESIGN	BY Valerie Moore	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0299
DETAILS	BY Farideh Hosseinioun	CHECKED Prem Rimal			POST MILE 39.33
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin			

RETAINING WALL NO. 2076
ARCHITECTURAL DETAILS NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/14/13	01/22/14	07/31/14	02/27/15	18	23

FILE => 53e0299-u-arcndt03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1878	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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

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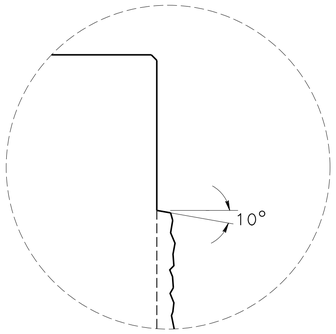
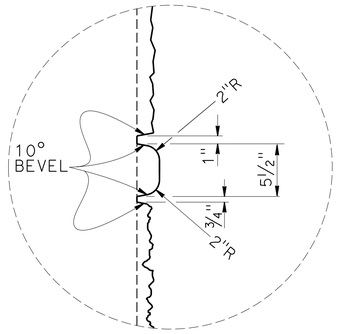
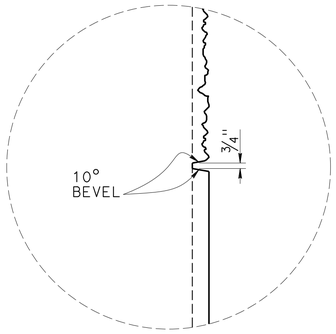


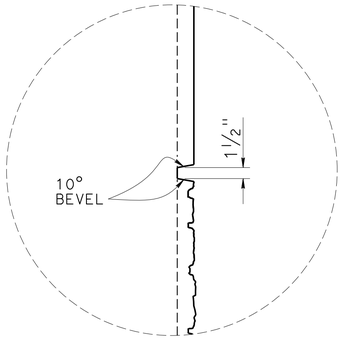
DETAIL A1
NO SCALE



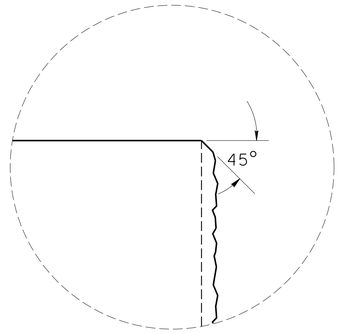
DETAIL A2
NO SCALE



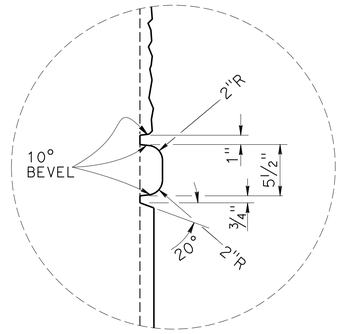
DETAIL A3
NO SCALE



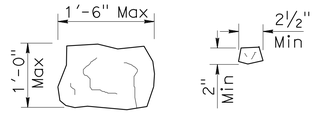
DETAIL A4
NO SCALE



DETAIL B1
NO SCALE

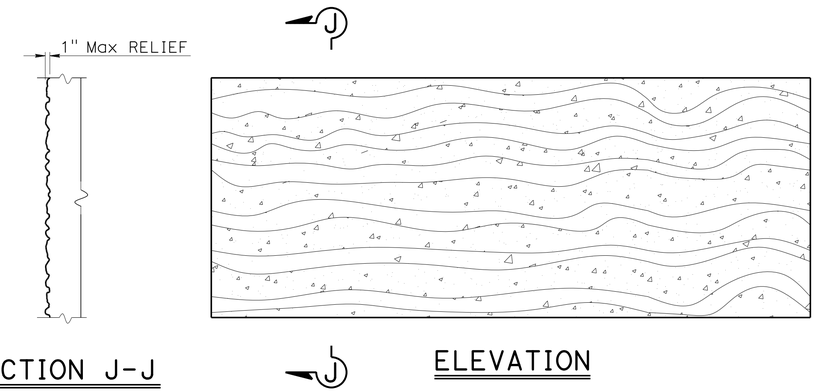


DETAIL B2
NO SCALE



ROCK SIZE

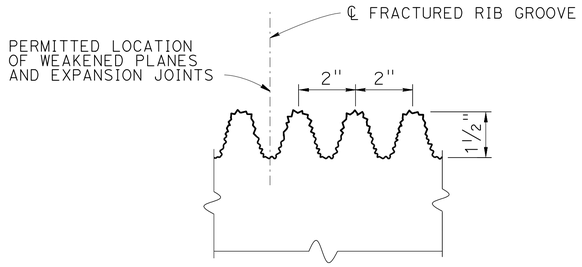
NOTE:
Seamless Random Rock pattern to have a minimum of 2 to a maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).



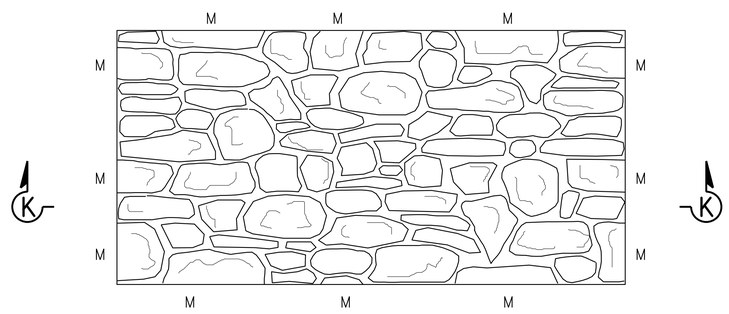
SECTION J-J

ELEVATION

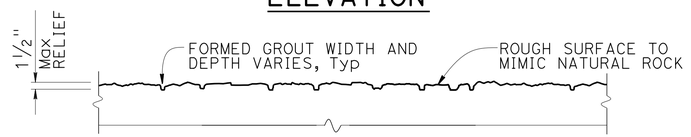
FRACTURED GRANITE TEXTURE
NO SCALE



FRACTURED RIB TEXTURE - SECTION
NO SCALE



ELEVATION



SECTION K-K

RANDOM ROCK TEXTURE
NO SCALE

DESIGN	BY Valerie Moore	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0299	RETAINING WALL NO. 2076	
DETAILS	BY Farideh Hosseinioun	CHECKED Prem Rimal			POST MILE 39.33	ARCHITECTURAL DETAILS NO. 4	
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/06/14				19	23

FILE => 53e0299-u-archdt04.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1879	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

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

6-1-15
PLANS APPROVAL DATE

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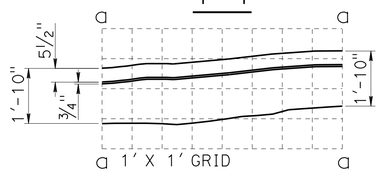
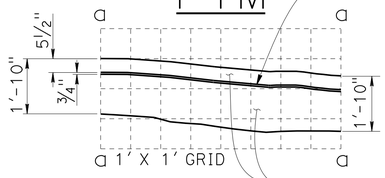
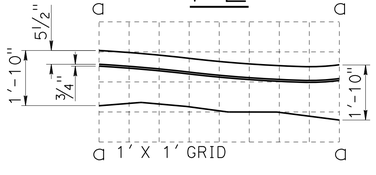
P1



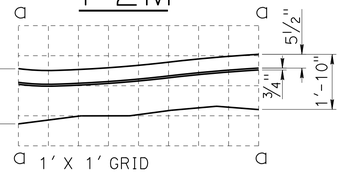
P1M



P2



P2M



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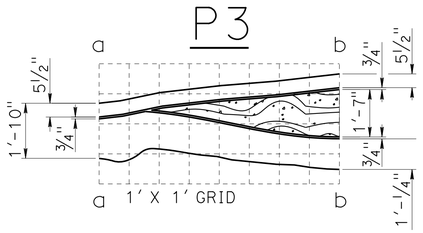
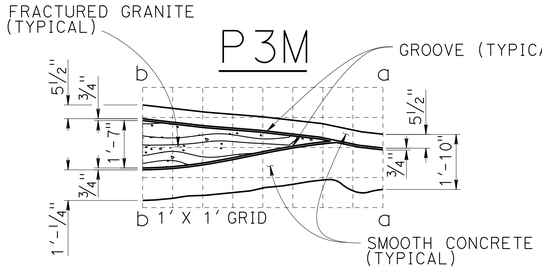


P3M



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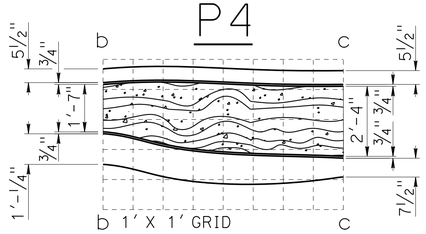
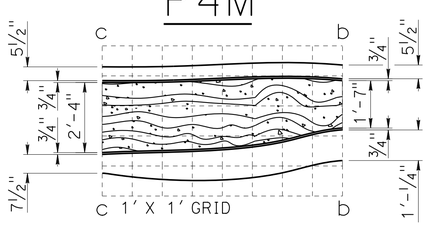


P4M



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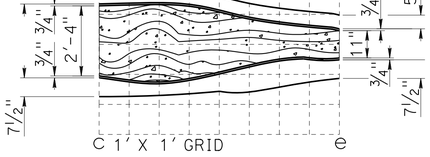

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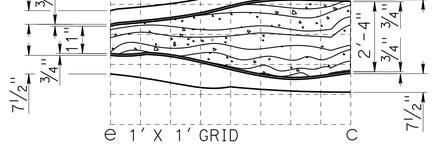

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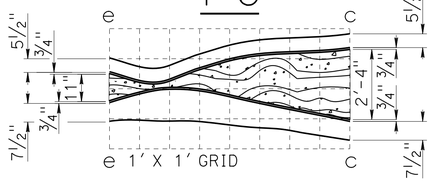
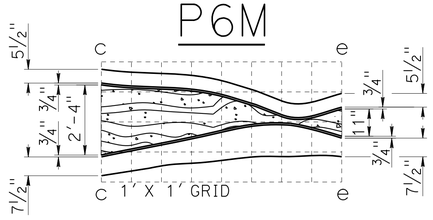


P6M



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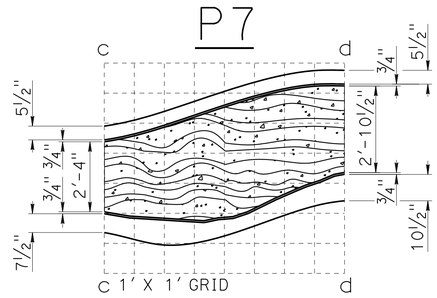
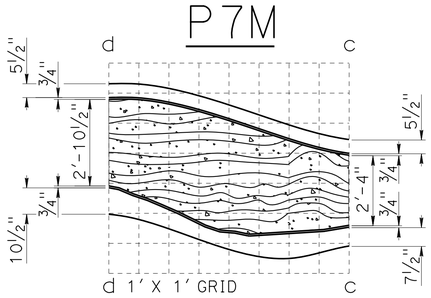


P7M



NOTES:

1. Fractured Granite texture at match lines a-a, b-b, c-c, d-d, and e-e must match seamlessly between the interchangeable modules.
2. Fractured Rib and Random Rock Textures not shown for clarity.

INTERCHANGEABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0299
DETAILS	BY Farideh Hosseinioun	CHECKED Prem Rimal			POST MILE 39.33
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin			

RETAINING WALL NO. 2076

ARCHITECTURAL DETAILS NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/27/13	02/27/14			20	23

FILE => 53e0299-u-archdt05.dgn

DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00
USERNAME => s125624

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1880	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

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

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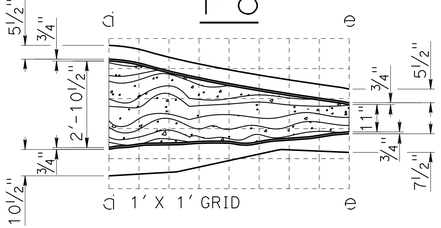
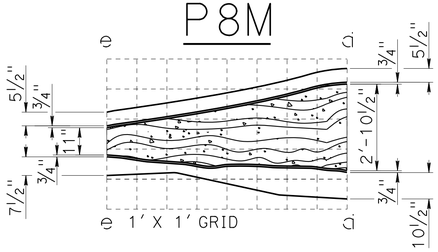
P8



P8M



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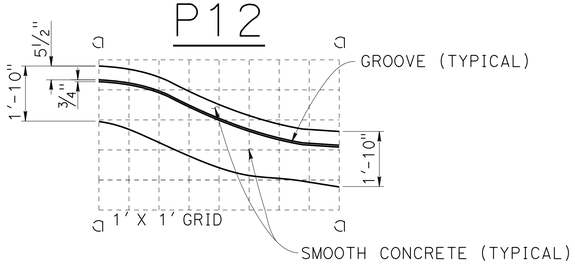

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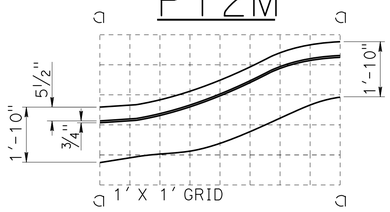

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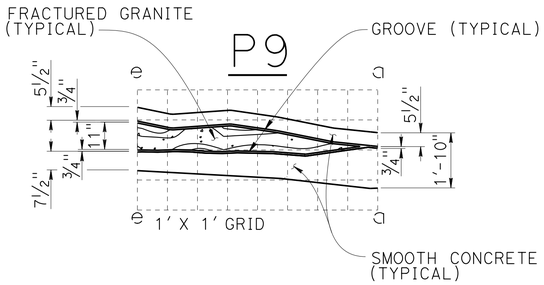

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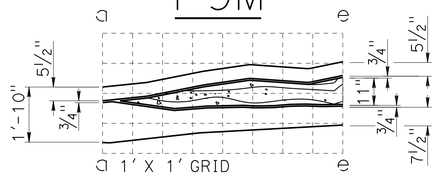
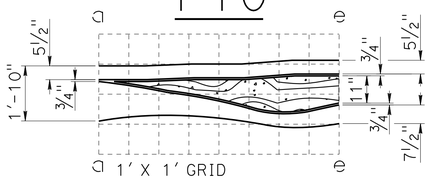


P10



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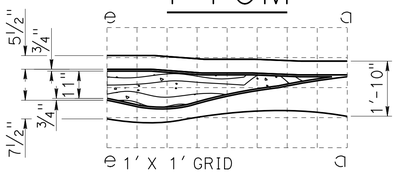
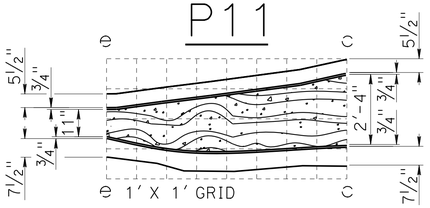
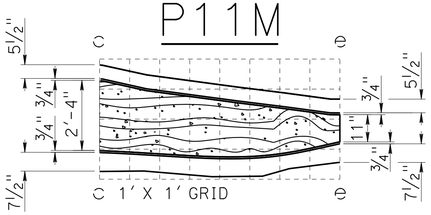


P11



P11M



NOTES:

1. Fractured Granite texture at match lines a-a, b-b, c-c, d-d, and e-e must match seamlessly between the interchangeable modules.
2. Fractured Rib and Random Rock Textures not shown for clarity.

INTERCHANGEABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0299	RETAINING WALL NO. 2076
DETAILS	BY Farideh Hosseinioun	CHECKED Prem Rimal			POST MILE 39.33	ARCHITECTURAL DETAILS NO. 6
QUANTITIES	BY Prem Rimal	CHECKED Jeff Duffin				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 07 1300 0007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/27/13	02/27/14			21	23

FILE => 53e0299-u-archdt06.dgn

USERNAME => s129624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1881	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-14-14 DATE

6-1-15
PLANS APPROVAL DATE

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

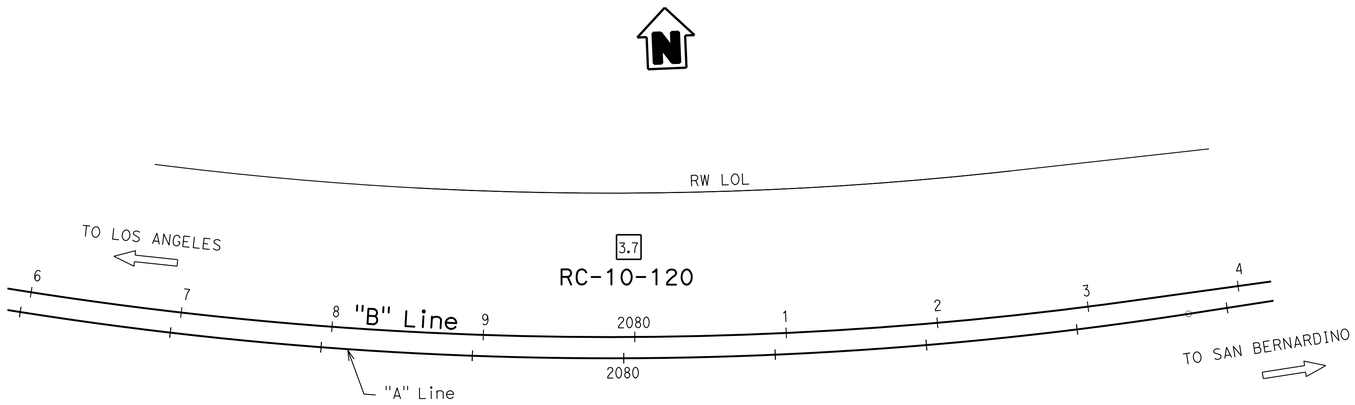
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

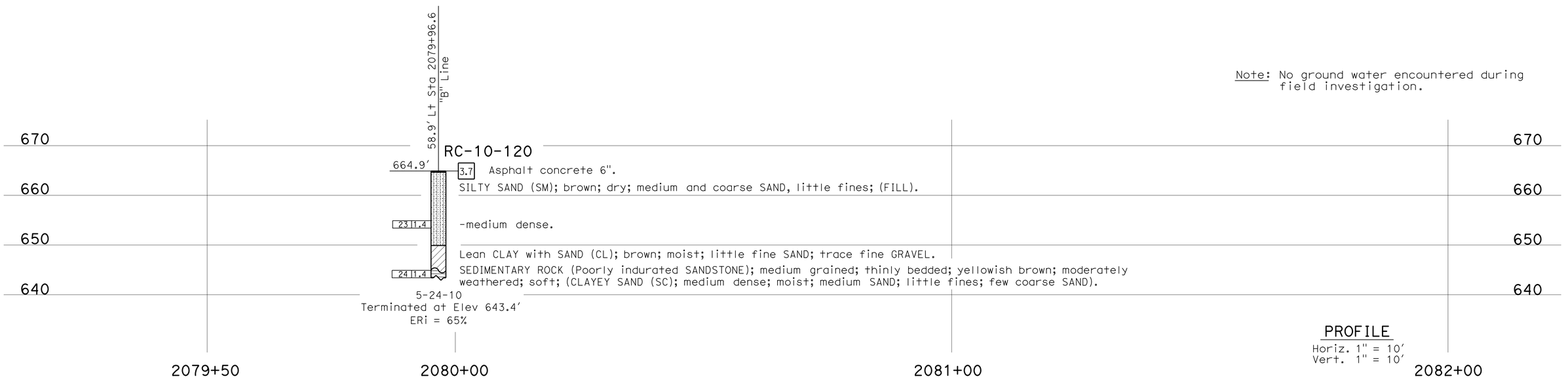
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

BENCH MARK

SUHV 1617 Elev 662.040
Fd PK N. in AC W/B I-10
N 1,847,233.798
E 6,604,585.715
NAVD 88



PLAN
1" = 50'



Note: No ground water encountered during field investigation.

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 18	BRIDGE NO. 53E0299	RETAINING WALL NO. 2076
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: F. Nguyen	FIELD INVESTIGATION BY: M. Salisbury			POST MILE 39.33	LOG OF TEST BORINGS 1 OF 2
	CHECKED BY: H. Liu					

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-30-12	11-21-13	01-14-14		22	23

FILE => 53e0299-v-lotb1.dgn

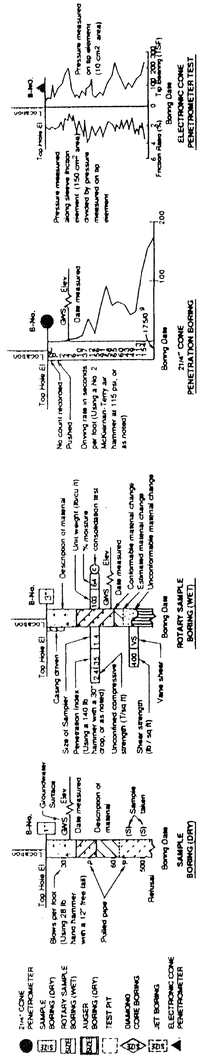
USERNAME => s1256c24 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:00

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

W. Cain
CERTIFIED ENGINEERING GEOLOGIST

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

PLANS APPROVAL DATE



LEGEND OF BORING OPERATIONS

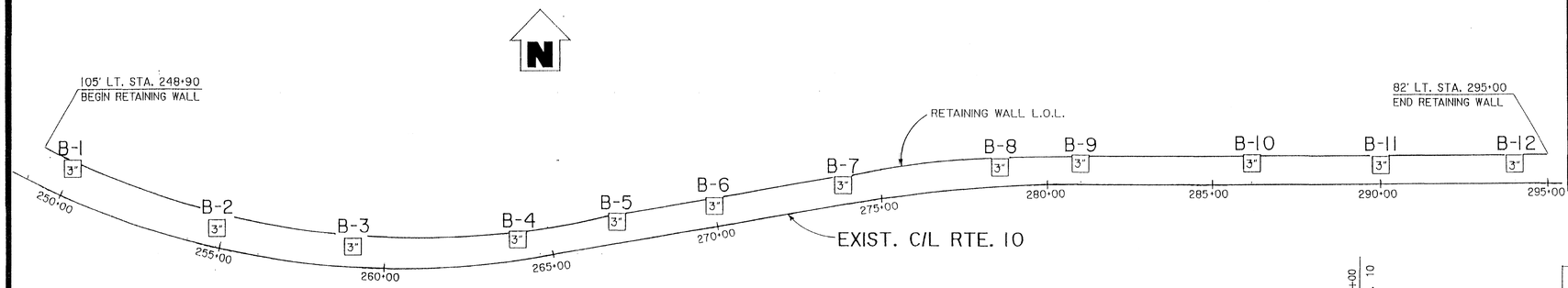
LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · SILTY CLAY · PEAT and other ORGANIC MATTER · FILL MATERIAL · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

Penetration Index (Blows / Ft)	Granular	Cohesive
0-4	Very loose	Very soft
5-9	Loose	Soft
10-19	Slightly compact	Firm
20-34	Compact	Very stiff
35-69	Dense	Hard
>70	Very dense	Very hard

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



BENCH MARK

TBM AT STA. 270+00 Elev. 704.4
FD. PAINTED "+" AT LT. STA. 270+00

TBM AT STA. 267+00 Elev. 689.4
FD. PAINTED "+" AT LT. STA. 267+00

TBM AT STA. 264+00 Elev. 674.3
FD. PAINTED "+" AT LT. STA. 264+00

TBM AT STA. 259+00 Elev. 651.1
FD. PAINTED "+" AT LT. STA. 259+00

TBM AT STA. 255+00 Elev. 632.7
FD. PAINTED "+" AT LT. STA. 255+00

TBM AT STA. 250+00 Elev. 608.7
FD. PAINTED "+" AT LT. STA. 250+00

TBM AT STA. 294+00 Elev. 835.5
FD. PAINTED "+" AT LT. STA. 294+00

TBM AT STA. 290+00 Elev. 814.8
FD. PAINTED "+" AT LT. STA. 290+00

TBM AT STA. 286+00 Elev. 792.0
FD. PAINTED "+" AT LT. STA. 286+00

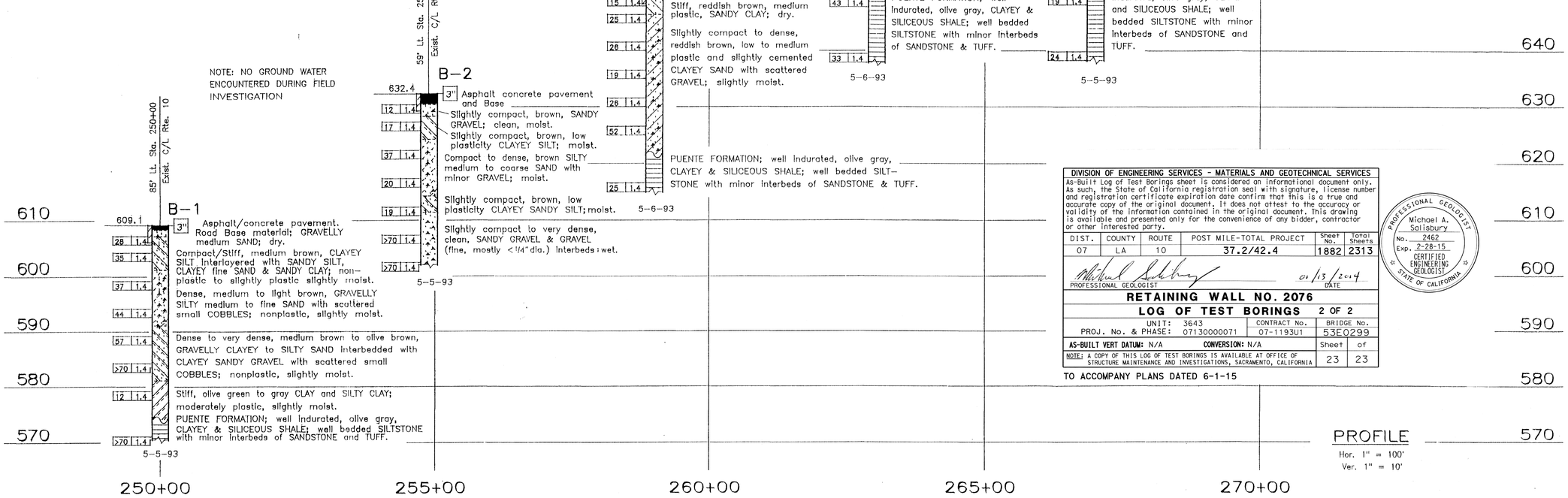
TBM AT STA. 281+00 Elev. 766.6
FD. PAINTED "+" AT LT. STA. 281+00

TBM AT STA. 279+00 Elev. 755.5
FD. PAINTED "+" AT LT. STA. 279+00

TBM @ STA. 274+00 Elev. 727.9
FD. PAINTED "+" AT LT. STA. 274+00
WEST BOUND RTE. 10 SURVEY BY J.F. DAVIDSON ASSOC. 4-14-93 PAGES 9,10,11, OF 16.

PLAN
1" = 200'

NOTE: NO GROUND WATER ENCOUNTERED DURING FIELD INVESTIGATION



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

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	10	37.2/42.4	1882	2313

Michael Salisbury
PROFESSIONAL GEOLOGIST — 01/13/2014 DATE

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

RETAINING WALL NO. 2076
LOG OF TEST BORINGS 2 OF 2

UNIT: 3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE: 07130000071	07-1193U1	53E0299
AS-BUILT VERT DATUM: N/A CONVERSION: N/A	Sheet	of
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA	23	23

TO ACCOMPANY PLANS DATED 6-1-15

DIVISION OF NEW TECHNOLOGY, MATERIALS AND RESEARCH	OFFICE OF ENGINEERING GEOLOGY
DRAWN BY	I. GAMARRA 5/93
CHECKED BY	Faramarz Gerami 8-93

FIELD INVESTIGATION BY: F. GERAMI

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN

BRIDGE NO.	
POST MILE	37.5/42.4

RETAINING WALL NO. 265
LOG OF TEST BORINGS 1 OF 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07234
EA 11934K

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

SEP 14 1993

TL 6051 REV 2/92

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1883	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/15, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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

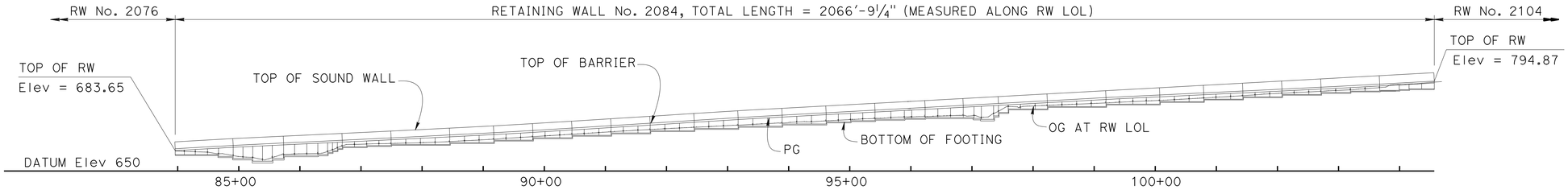
INDEX TO PLANS

STANDARD PLANS DATED 2010

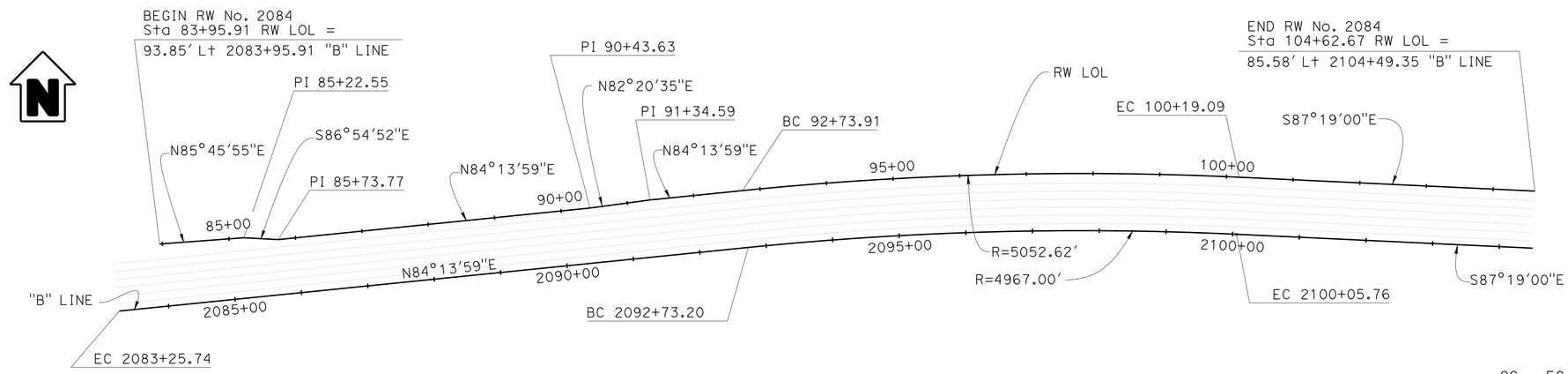
SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62B	LIMITS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

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	7,525 CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALLY DEPOSITED LEAD)	554 CY
STRUCTURE BACKFILL (RETAINING WALL)	9,215 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	379 CY
STRUCTURAL CONCRETE, RETAINING WALL	2,697 CY
CONCRETE SURFACE TEXTURE	18,004 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	423,568 LB
SOUND WALL (MASONRY BLOCK)	23,426 SQFT
PREPARE AND STAIN CONCRETE	18,004 SQFT
CONCRETE BARRIER (TYPE 736S MODIFIED)	2,067 LF



DEVELOPED MIRRORED ELEVATION
1" = 100'

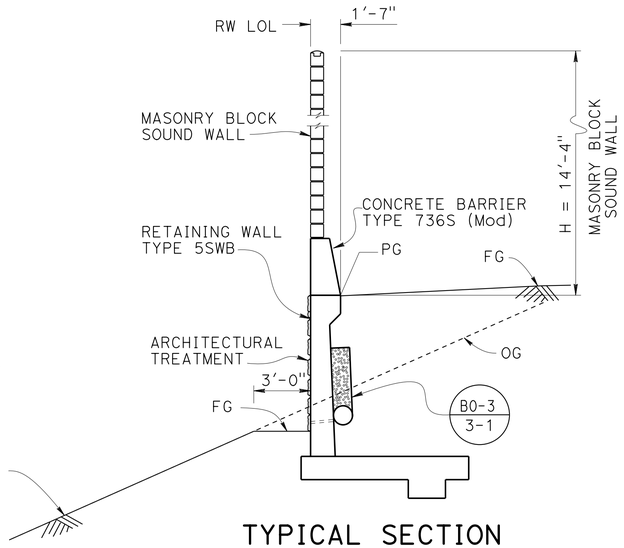


CURVE DATA RW LOL	CURVE DATA "B" LINE
R = 5052.62'	R = 4967.00'
Δ = 8°27'01"	Δ = 8°27'01"
T = 373.27'	T = 366.94'
L = 745.18'	L = 732.56'

PLAN
1" = 100'

NOTES:

1. For Retaining Wall Type 5SWB details, see "RETAINING WALL TYPE 5SWB" sheets.
2. For Masonry Block Sound Wall Architectural Details, see "ROAD PLANS".



TYPICAL SECTION
¼" = 1'-0"

MICHAEL POPE DESIGN ENGINEER	DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300 POST MILE 39.47
	DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT	LAYOUT	BY MINH TRAN	CHECKED GERRARD HIGHT			
	QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN	SPECIFICATIONS	BY XIAODONG CHEN	PLANS AND SPECS COMPARED XIAODONG CHEN			

RETAINING WALL No. 2084
GENERAL PLAN

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

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
02/13/15	02/03/14	02/27/14	05/02/14	1	23

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

FILE => 53e0300-a-gp.dgn

USERNAME => s1256624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1884	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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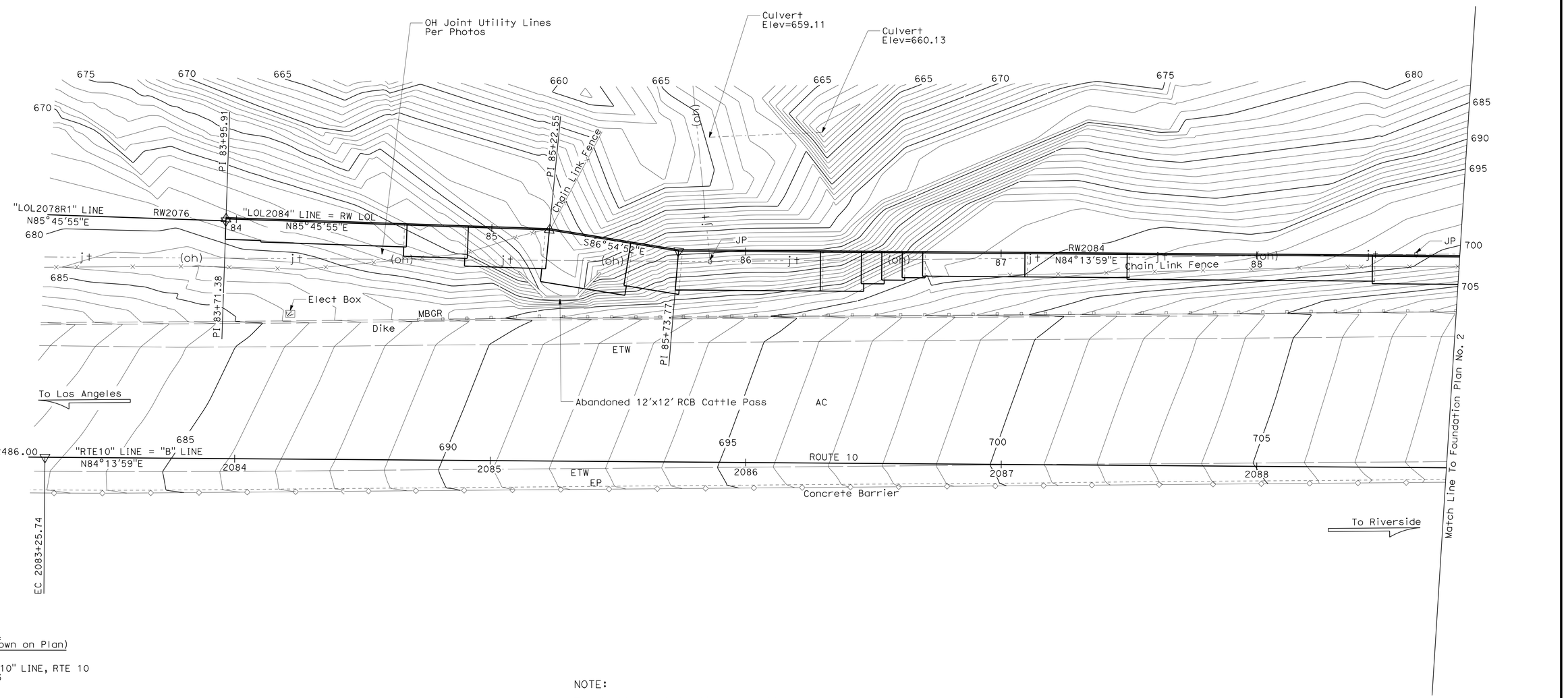

SURVEY CONTROL

PRHV 9 (Not Shown on Plan)

Fnd Well Mon.
153.98 Lt. "RTE10" LINE, RTE 10
Sta. 2059+92.93
N 1,848,053.26
E 6,602,895.64
Elev.=575.10

PRHV 463 (Not Shown on Plan)

Fnd 1" I.P. w/ Plug
147.27 Lt. "RTE10" Line, Rte 10
Sta. 2056+76.02
N 1,847,956.37
E 6,602,471.71
Elev.=567.96

NOTE:

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

PRELIMINARY INVESTIGATION SECTION

SCALE	VERT.DATUM	PHOTOGRAMMETRY AS OF: X					
1"=20'	HORZ.DATUM	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett	01/2011
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY J.Martinez	01/2011	CHECKED	BY T.Schmalz	01/2011

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0300
POST MILE 39.47

RETAINING WALL No. 2084
FOUNDATION PLAN No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 07
PROJECT NUMBER & PHASE: 07130000007 1 CONTRACT NO.: 1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/26/11	01/09/14	01/27/14	05/12/14	2	23

FILE => 53e0300-b-fpl001_1193u.dgn

CURVE DATA

No.	R	Δ	T	L
Ⓐ	5052.62	08°27'01"	373.27	745.18
Ⓑ	4967.00	08°27'01"	366.94	732.56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1885	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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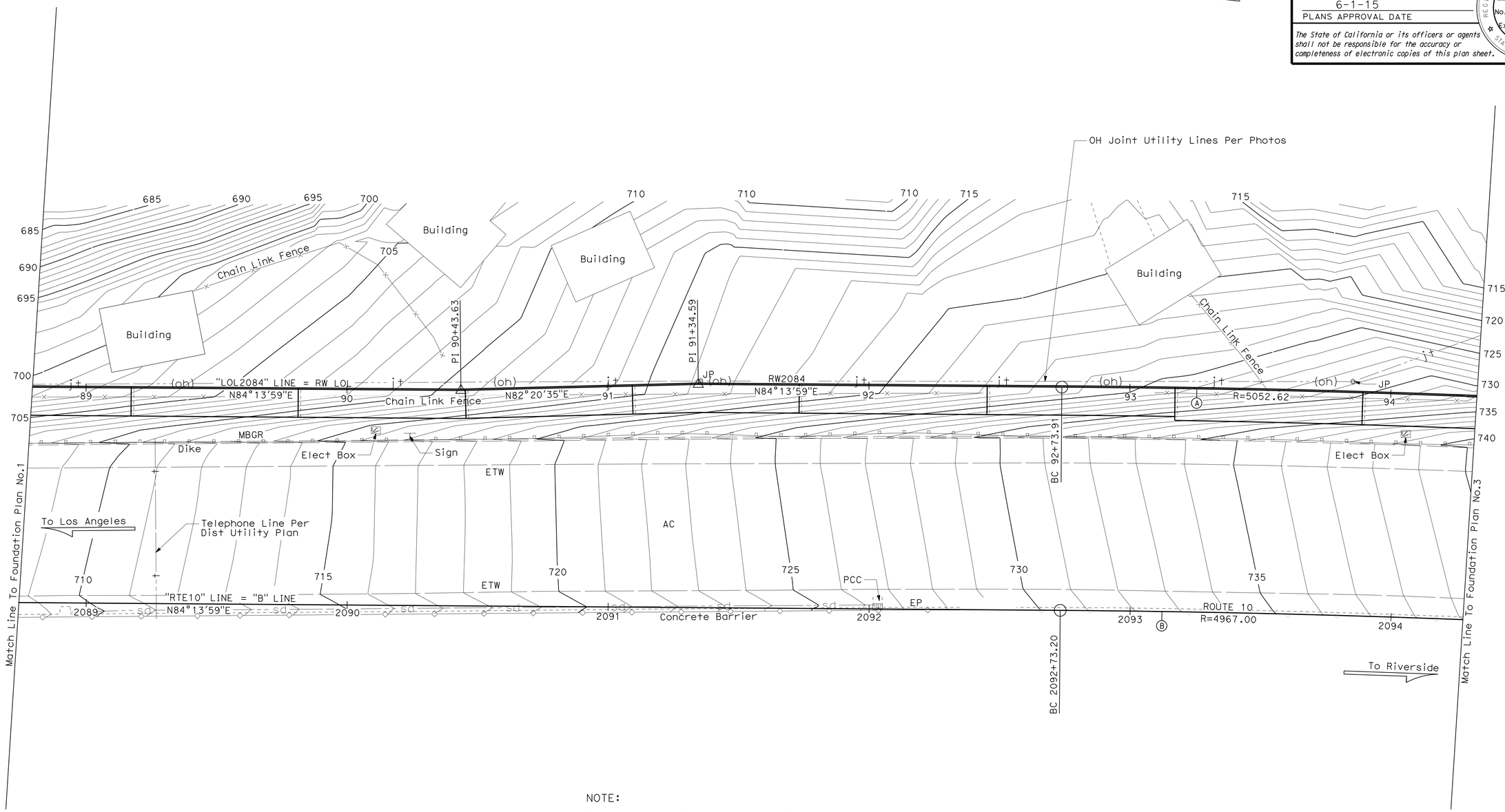

NOTE:

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

For District Controls See Foundation Plan No.1

PRELIMINARY INVESTIGATION SECTION						
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X				
	HORZ.DATUM NAD83	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett 01/2011
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY J.Martinez	01/2011	CHECKED	BY T.Schmalz 01/2011

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0300
POST MILE 39.47

RETAINING WALL No. 2084
FOUNDATION PLAN No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 07
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 01/28/11 01/09/14 01/27/14 02/04/15

SHEET 3 OF 23

FILE => 53e0300-b-fpl002_1193u.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1886	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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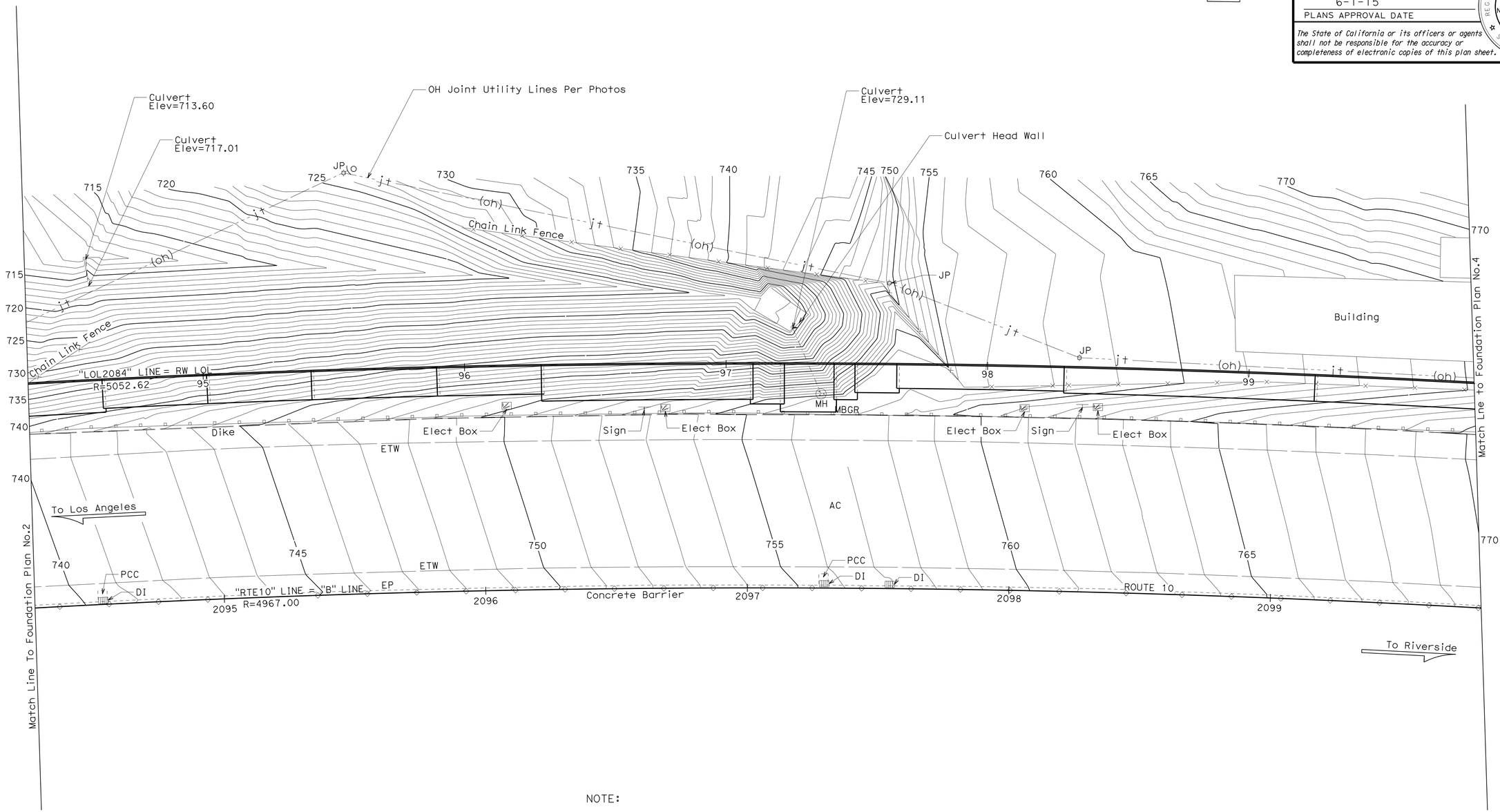

NOTE:

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

For District Controls See Foundation Plan No.1
For Curve Data, see Foundation Plan No. 2

PRELIMINARY INVESTIGATION SECTION							
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X					
HORZ.DATUM NAD83	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett	01/2011	
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY J.Martinez	01/2011	CHECKED	BY T.Schmalz	01/2011	

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53E0300
POST MILE	39.47

RETAINING WALL No. 2084
FOUNDATION PLAN No. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 07
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/26/11	02/04/15		05/22/15	4	23

FILE => 53e0300-b-fpl003_1193u.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1887	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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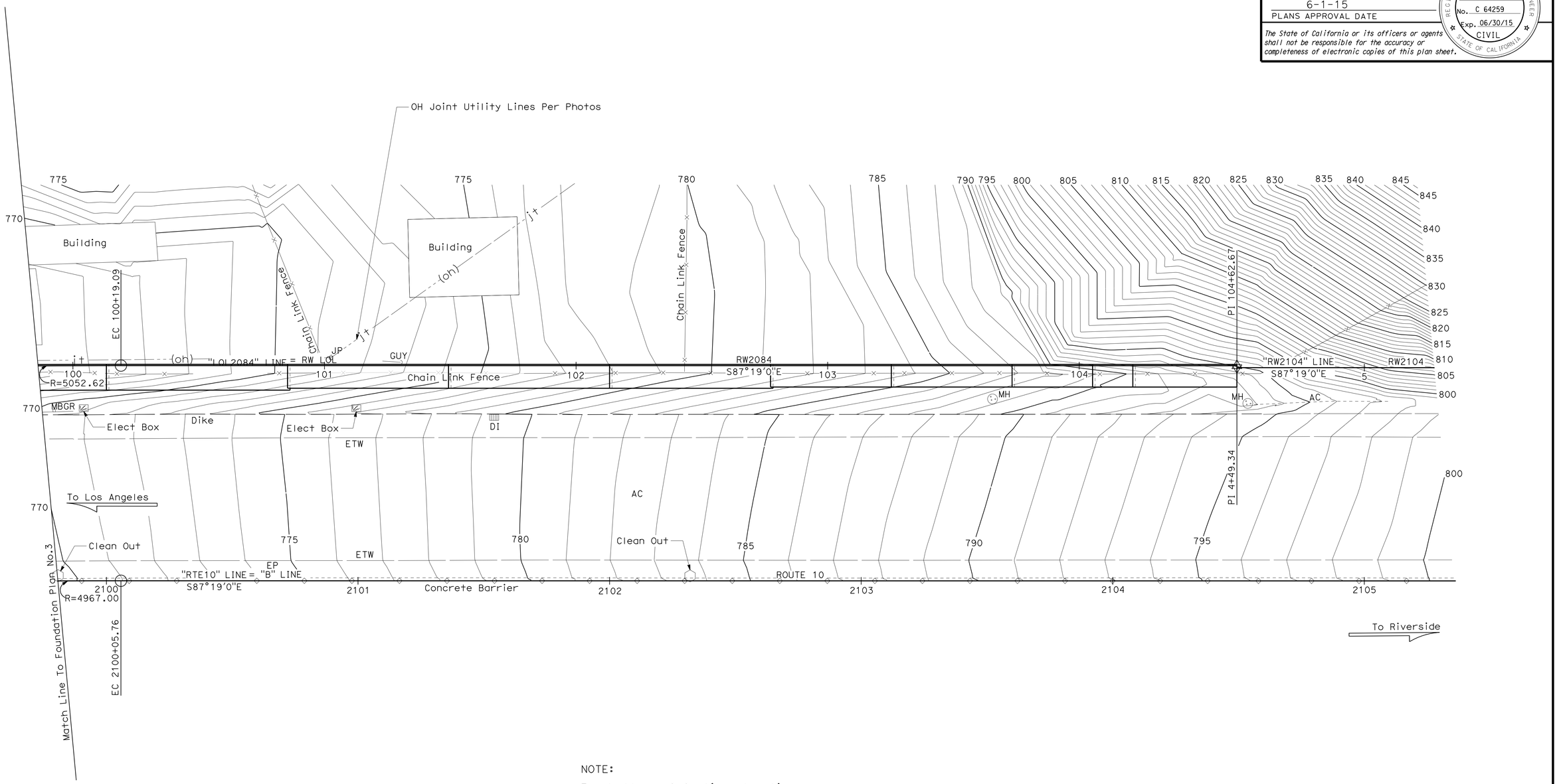

NOTE:

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

For District Controls See Foundation Plan No.1
For Curve Data, see Foundation Plan No. 2

PRELIMINARY INVESTIGATION SECTION							
SCALE	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X					
1"=20'	HORZ.DATUM NAD83	SURVEYED	BY District	04/2008	CHECKED	BY C.Fassett	01/2011
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY J.Martinez	01/2011	CHECKED	BY T.Schmalz	01/2011

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0300
POST MILE 39.47

RETAINING WALL No. 2084
FOUNDATION PLAN No. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 07
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/28/11	02/04/15		05/14/15	5	23

FILE => 53e0300-b-fpl004_1193u.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1888	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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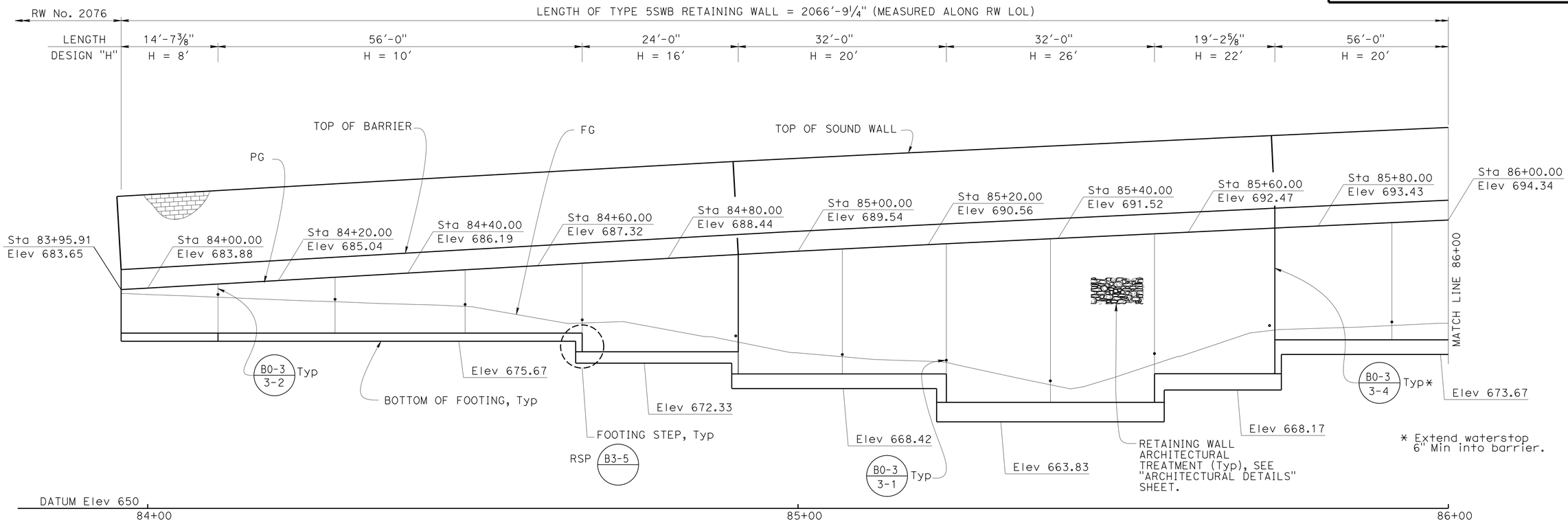
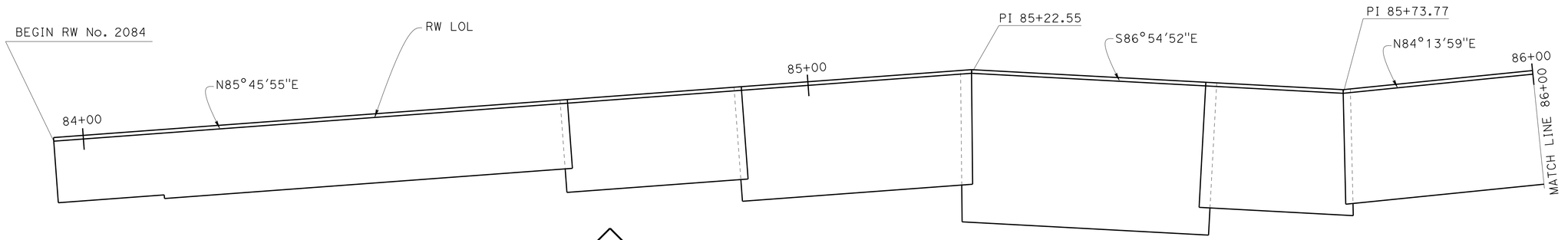


DEVELOPED MIRRORED ELEVATION

⅛" = 1'- 0"



FOOTING PLAN

⅛" = 1'- 0"

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

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084	
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47	STRUCTURE PLAN No. 1	
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/27/14	02/03/14	02/27/14	04/29/14	6	23

FILE => 53e0300-c-sp01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 13:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1889	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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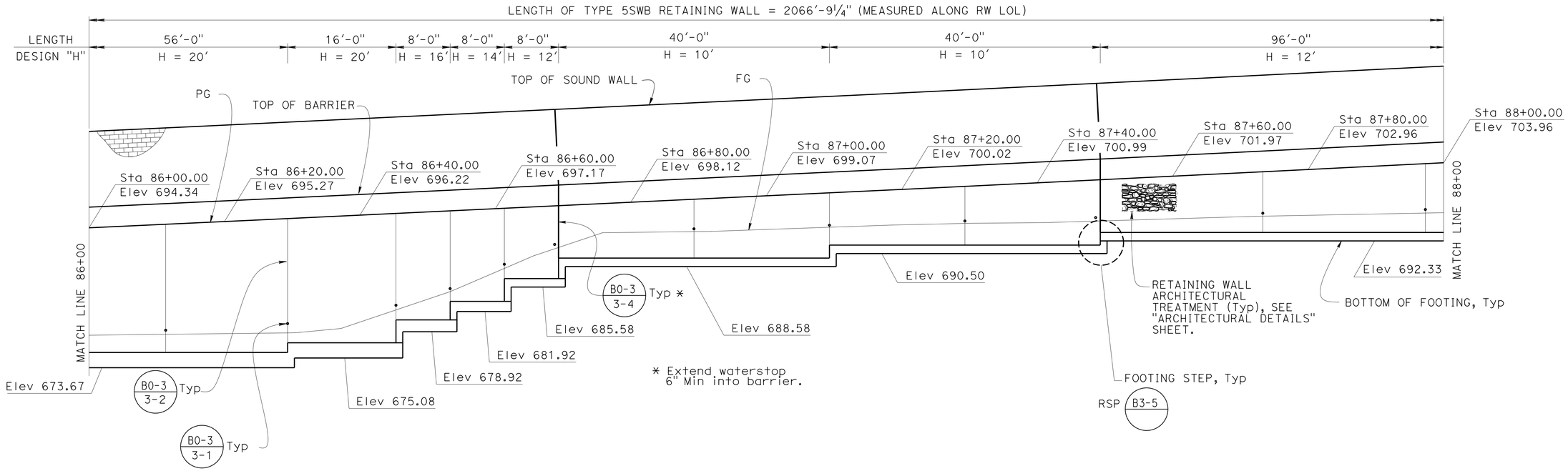
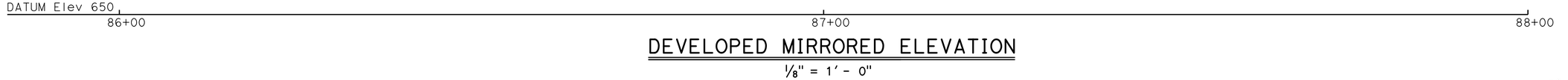
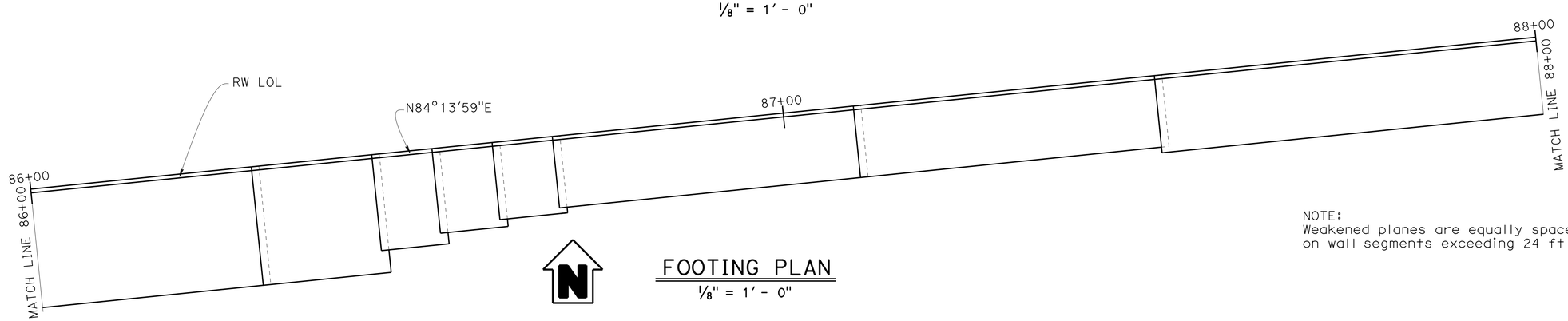




DEVELOPED MIRRORED ELEVATION

⅛" = 1' - 0"



FOOTING PLAN

⅛" = 1' - 0"

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

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN			

RETAINING WALL No. 2084
STRUCTURE PLAN No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 01/09/14 02/03/14 02/27/14

SHEET 7 OF 23

FILE => 53e0300-c-sp02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1890	2313

Rick Schendel
REGISTERED CIVIL ENGINEER — 10/01/14 DATE

6-1-15
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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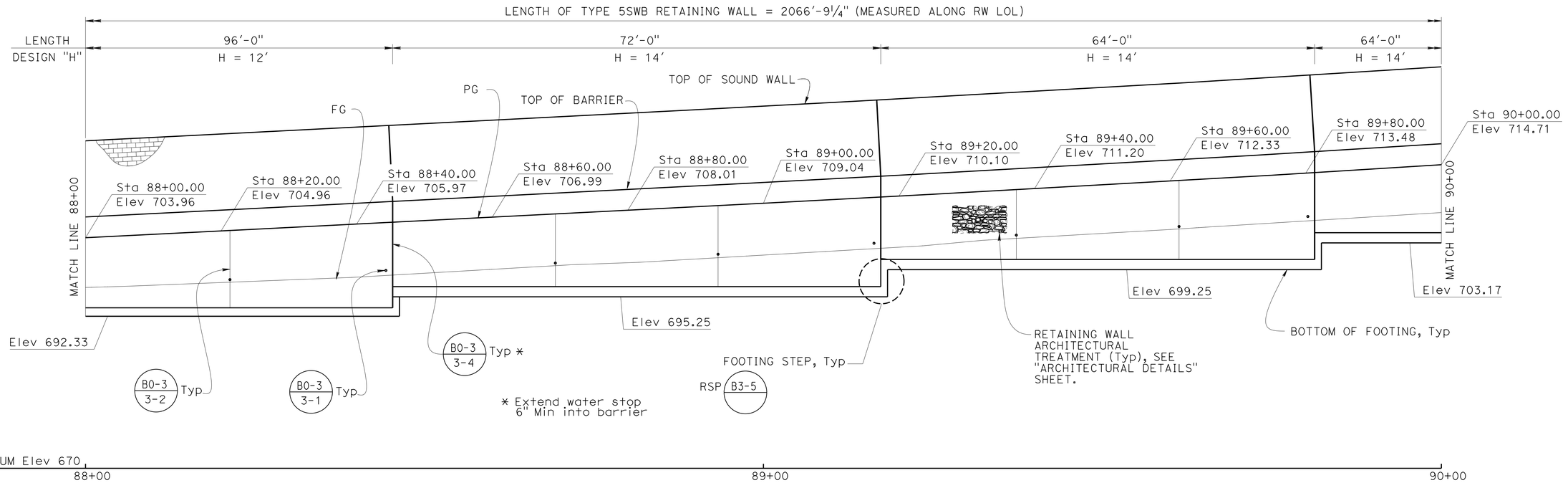
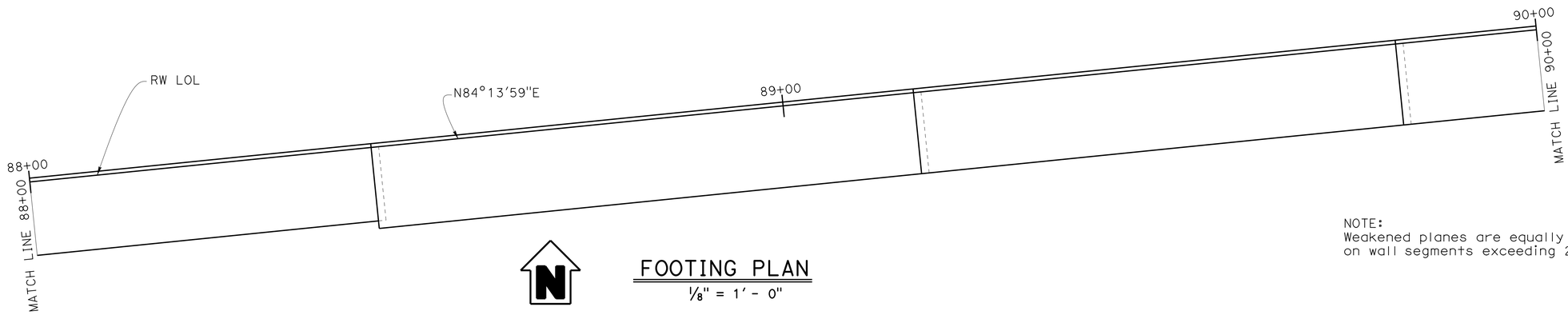


DEVELOPED MIRRORED ELEVATION

1/8" = 1' - 0"



FOOTING PLAN

1/8" = 1' - 0"

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 53E0300
POST MILE 39.47

RETAINING WALL No. 2084
STRUCTURE PLAN No. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES 01/09/14 01/27/14 01/29/14 02/27/14

SHEET 8 OF 23

FILE => 53e0300-c-sp03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1891	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/15, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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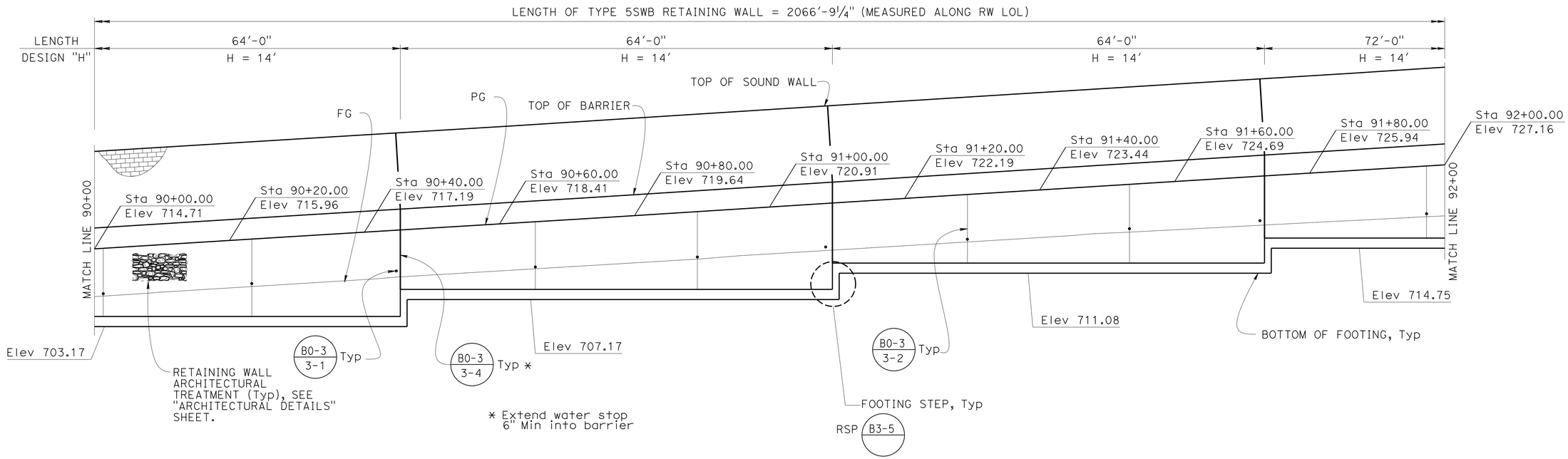

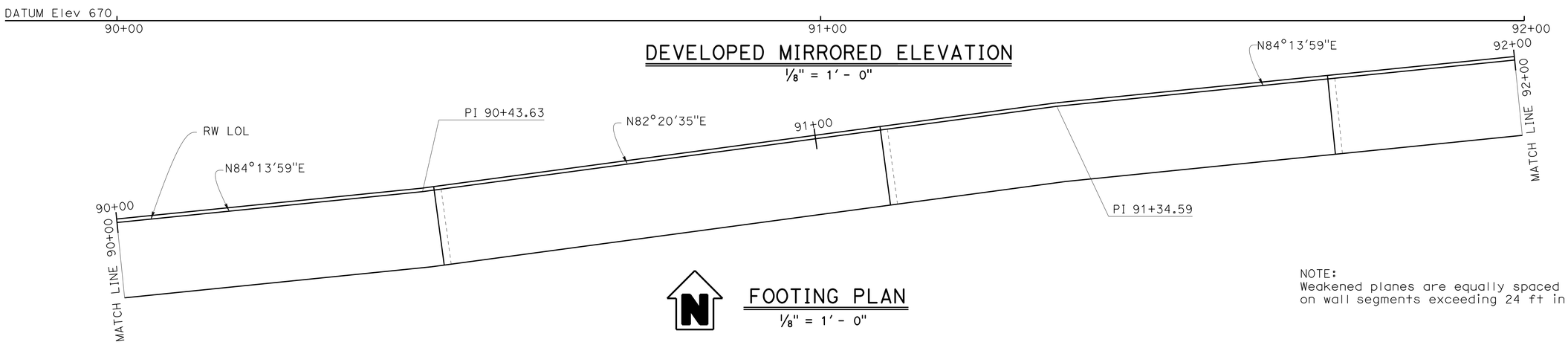

NOTE:
Weakened planes are equally spaced on wall segments exceeding 24 ft in length.

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084	
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47	STRUCTURE PLAN No. 4	
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/09/14	01/23/14	01/27/14	02/27/14	9	23

FILE => 53e0300-c-sp04.dgn

USERNAME => S126624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1892	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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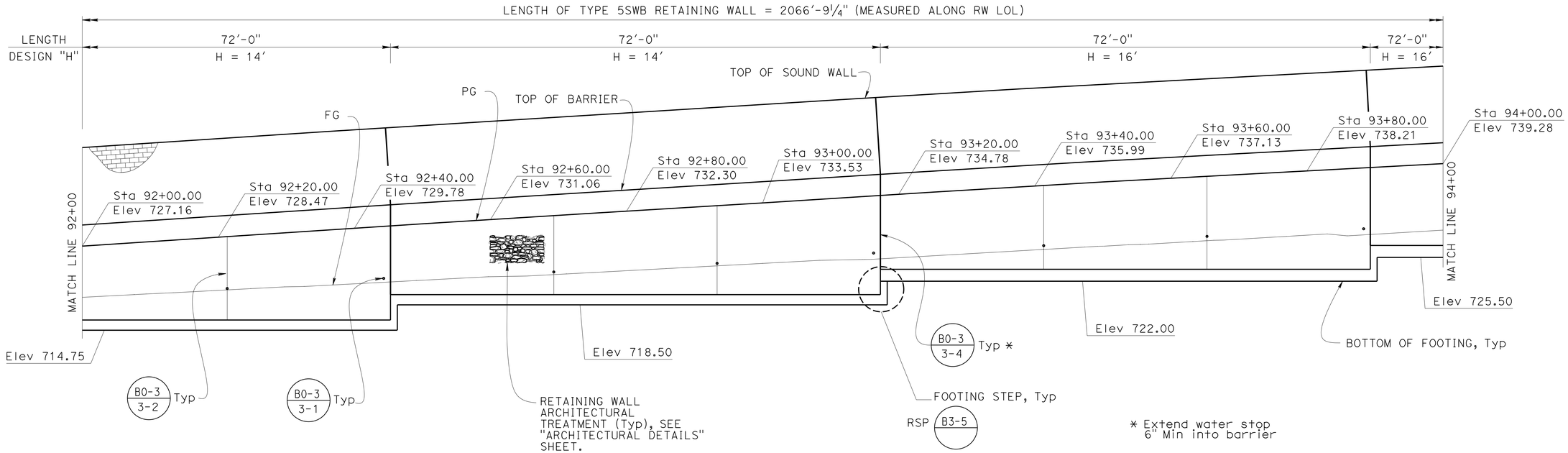
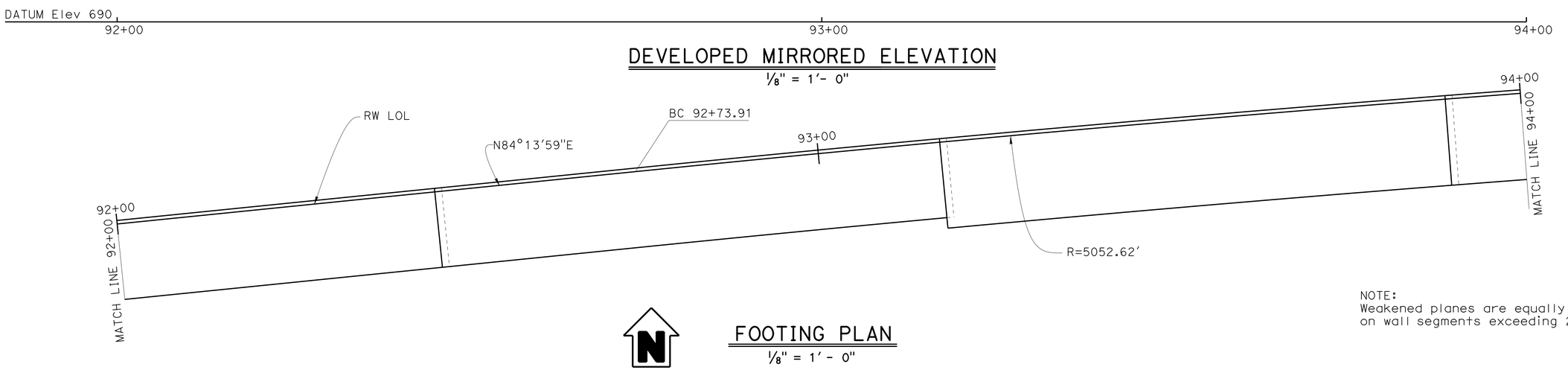


* Extend water stop 6" Min into barrier



DEVELOPED MIRRORED ELEVATION

1/8" = 1'- 0"

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

FOOTING PLAN

1/8" = 1'- 0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084 STRUCTURE PLAN No. 5	
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47		
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 01/09/14 01/27/14 02/07/14 02/27/14

SHEET 10 OF 23

FILE => 53e0300-c-sp05.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1893	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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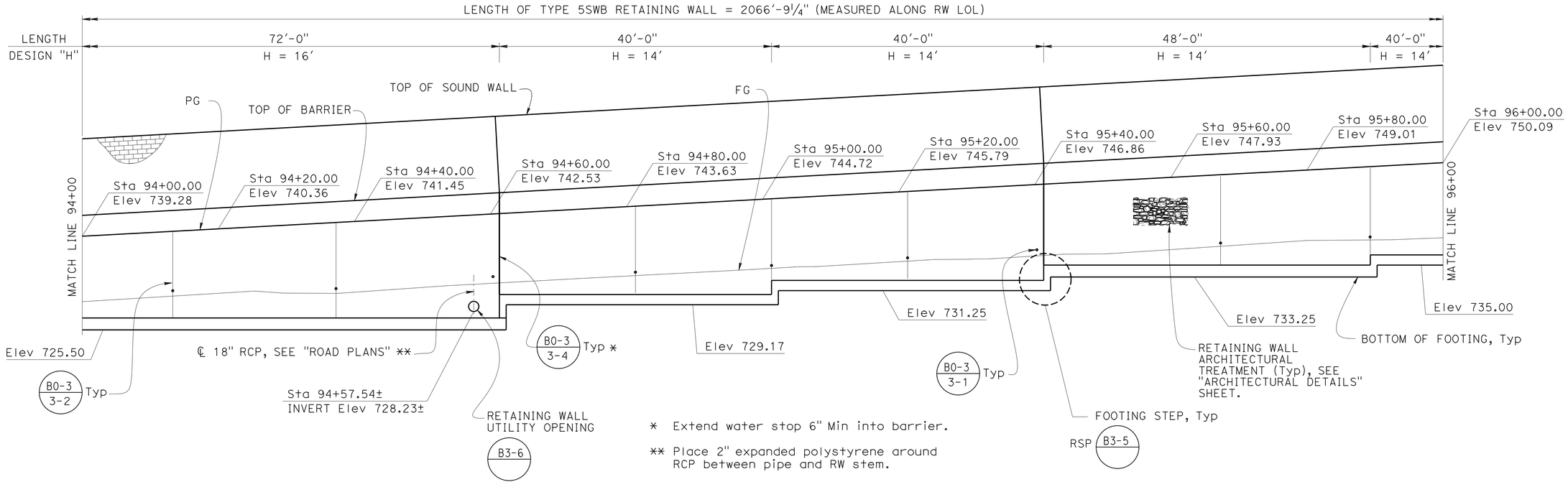
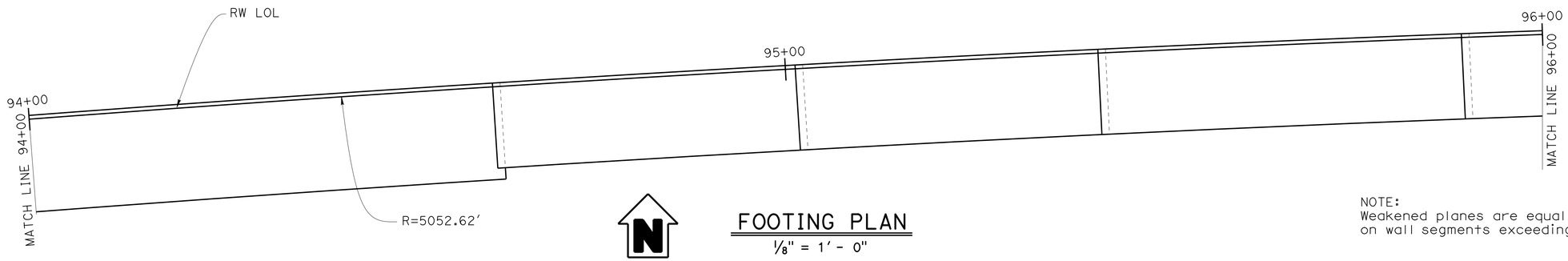


* Extend water stop 6" Min into barrier.

** Place 2" expanded polystyrene around RCP between pipe and RW stem.

DEVELOPED MIRRORED ELEVATION

1/8" = 1' - 0"



FOOTING PLAN

1/8" = 1' - 0"

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

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084	
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47	STRUCTURE PLAN No. 6	
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/27/14	01/27/14	02/27/14	05/14/14	11	23

FILE => 53e0300-c-sp06.dgn

USERNAME => 812562A DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1894	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/15, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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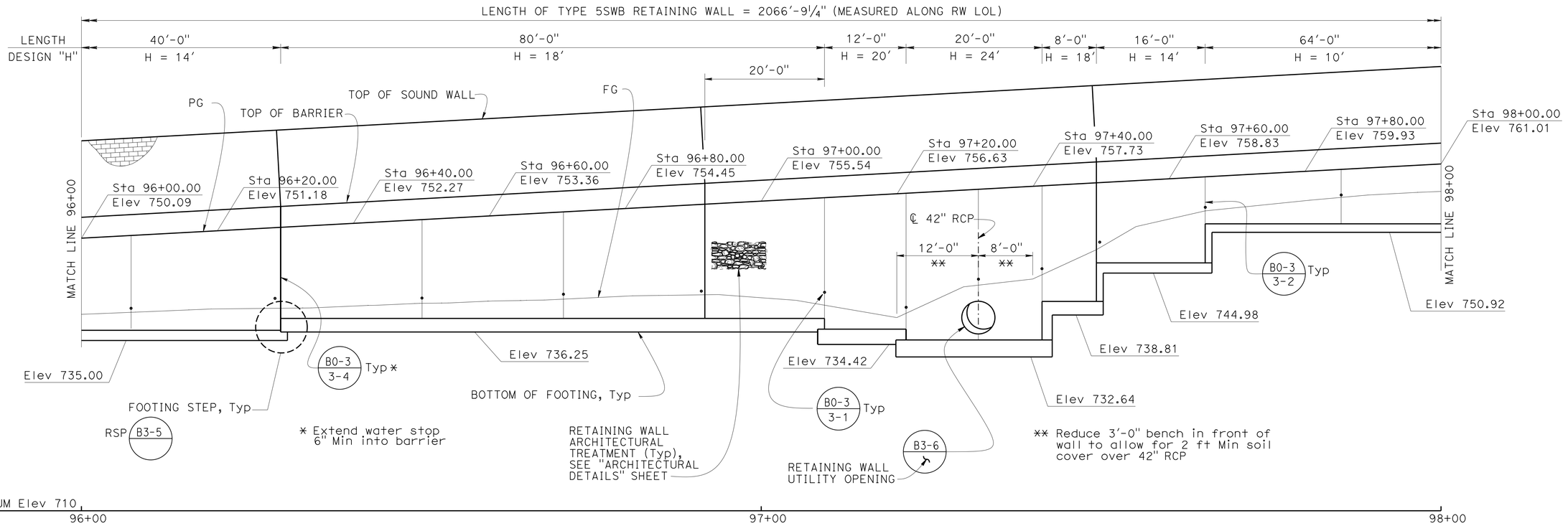
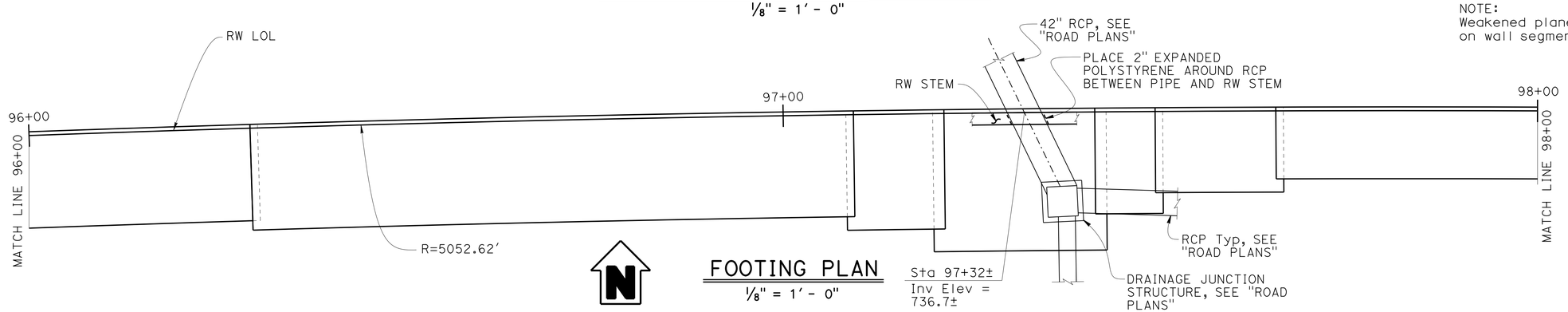


DEVELOPED MIRRORED ELEVATION

⅛" = 1' - 0"



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

FOOTING PLAN

⅛" = 1' - 0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN			

RETAINING WALL No. 2084
STRUCTURE PLAN No. 7

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/08/14		01/27/14	02/27/14	12	23

FILE => 53e0300-c-sp07.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 13:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1895	2313

Rick Schendel — 10/01/14
REGISTERED CIVIL ENGINEER — DATE

6-1-15
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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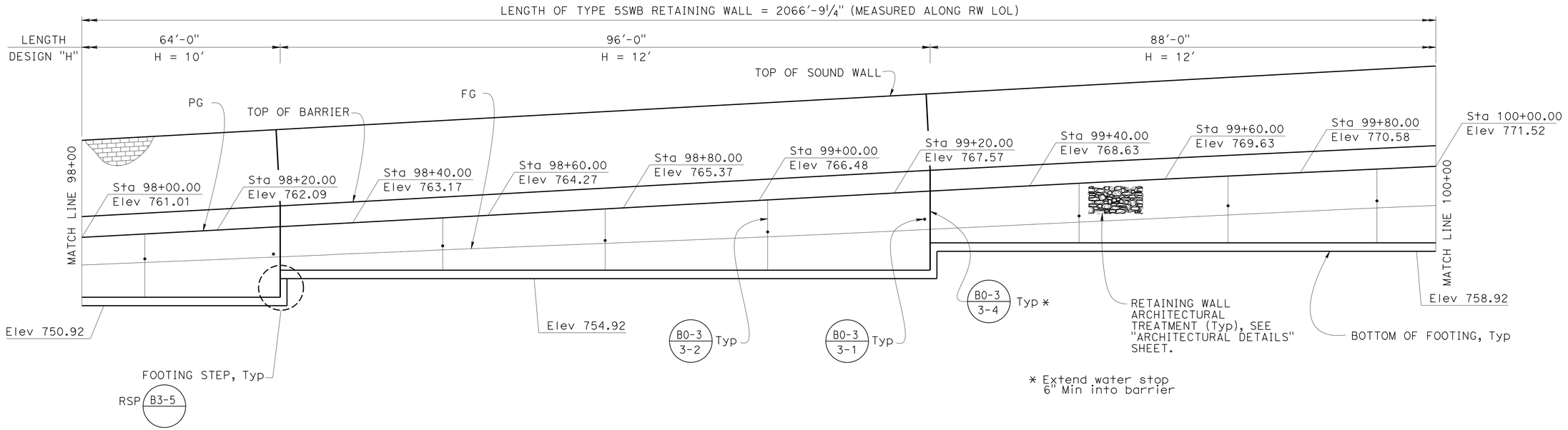
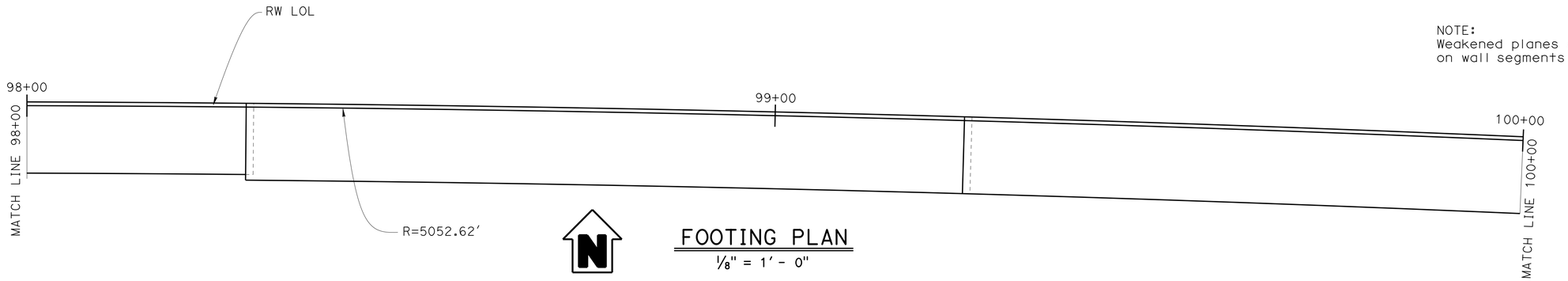


DEVELOPED MIRRORED ELEVATION

⅛" = 1'- 0"



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

FOOTING PLAN

⅛" = 1'- 0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084	
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47	STRUCTURE PLAN No. 8	
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/09/14	01/23/14	01/27/14	02/27/14	13	23

FILE => 53e0300-c-sp08.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1896	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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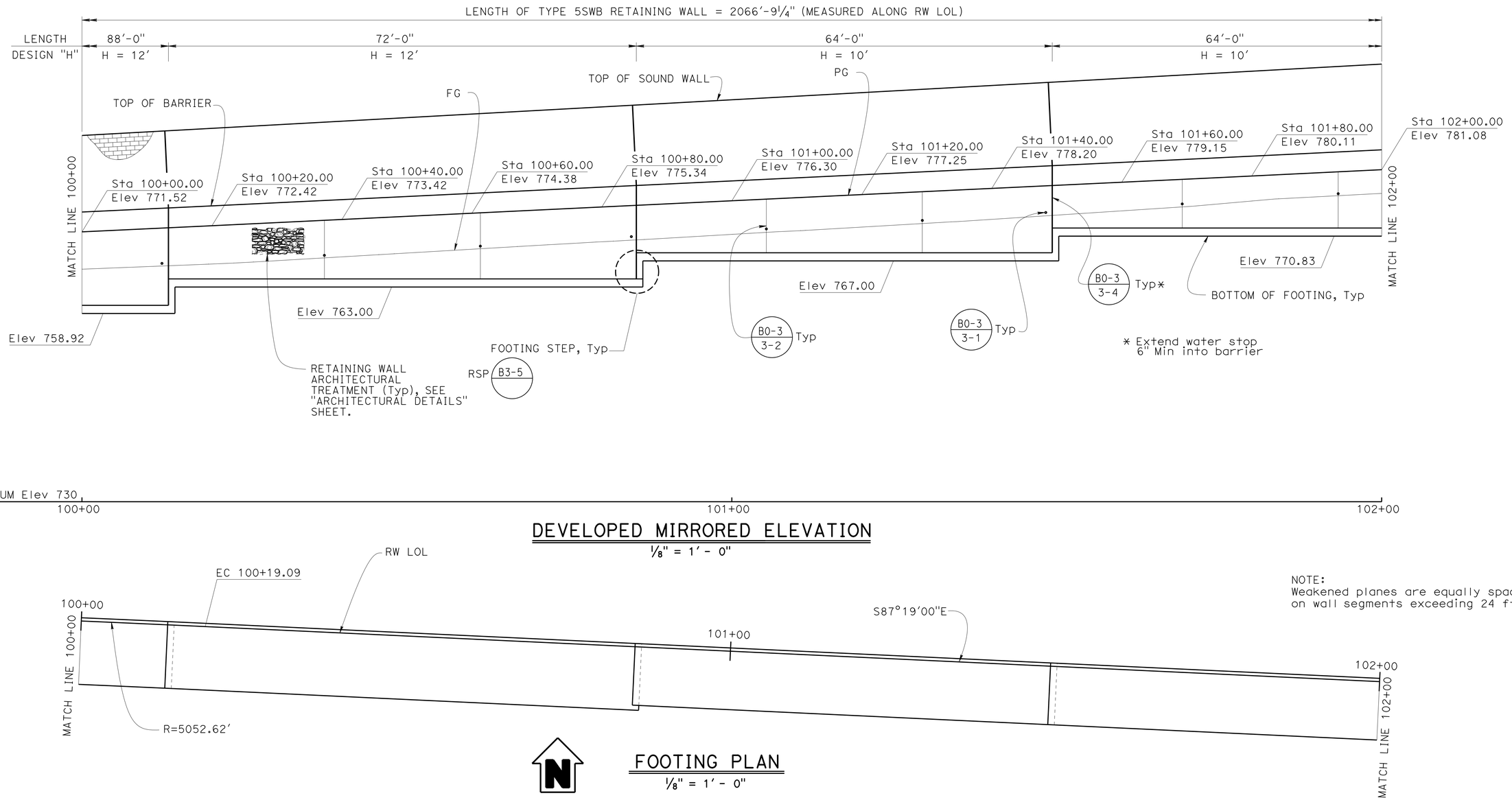

NOTE:
Weakened planes are equally spaced on wall segments exceeding 24 ft in length.

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084	
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47	STRUCTURE PLAN No. 9	
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/09/14	01/27/14	01/29/14	03/04/14	14	23

FILE => 53e0300-c-sp09.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1897	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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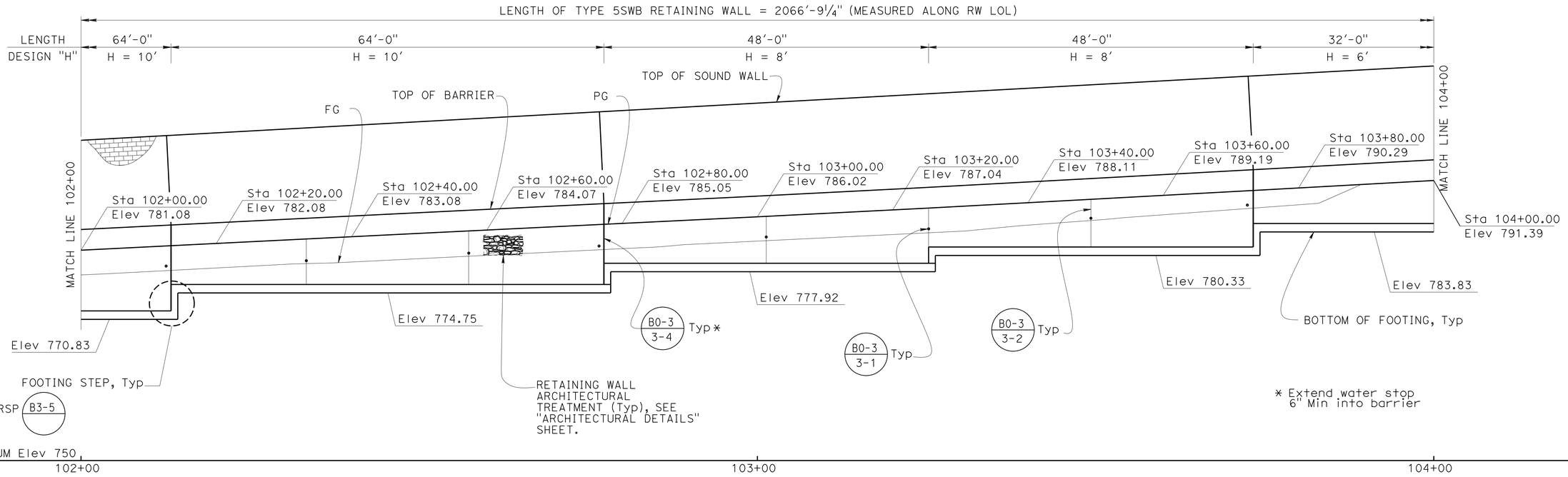
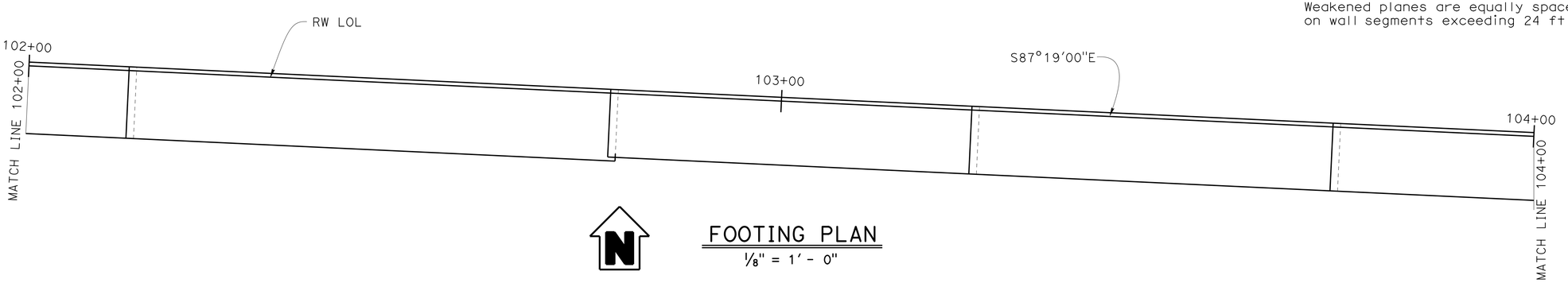


DEVELOPED MIRRORED ELEVATION

⅛" = 1' - 0"

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



FOOTING PLAN

⅛" = 1' - 0"

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084	
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47	STRUCTURE PLAN No. 10	
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/09/14	01/17/14	01/23/14	02/21/14	15	23

FILE => 53e0300-c-sp10.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1898	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/15, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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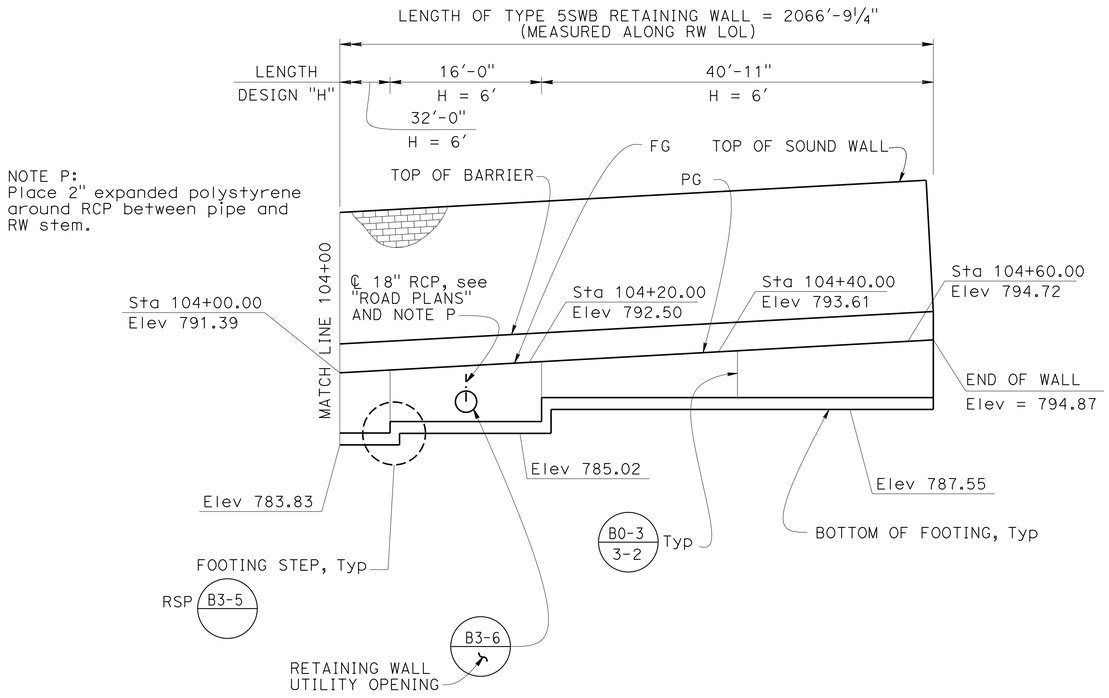
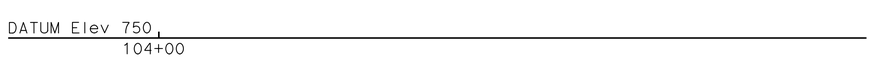
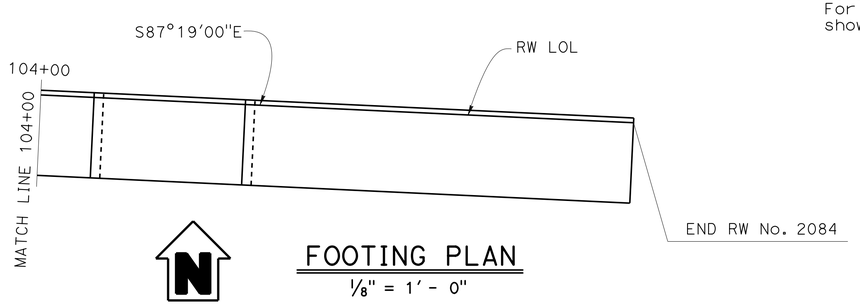




DEVELOPED MIRRORED ELEVATION

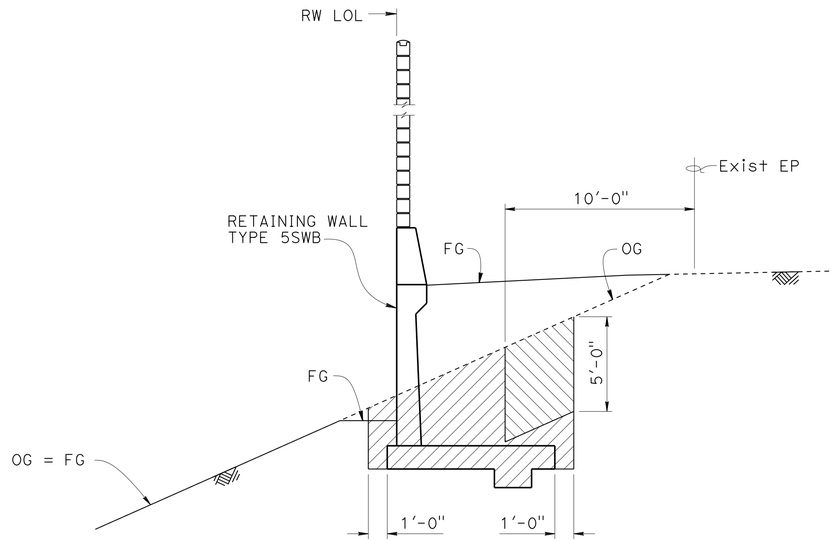
⅛" = 1'- 0"



FOOTING PLAN

⅛" = 1'- 0"

NOTE:
For drainage details not shown, see "ROAD PLANS".



Structure Excavation (Retaining Wall)

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

LIMITS OF PAYMENT FOR EXCAVATION

NO SCALE

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

DESIGN	BY DAVID P. MURRAY	CHECKED GERRARD HIGHT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E0300	RETAINING WALL No. 2084
DETAILS	BY MINH TRAN	CHECKED GERRARD HIGHT			POST MILE 39.47	STRUCTURE PLAN No. 11
QUANTITIES	BY DAVID P. MURRAY	CHECKED JEFF DUFFIN				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

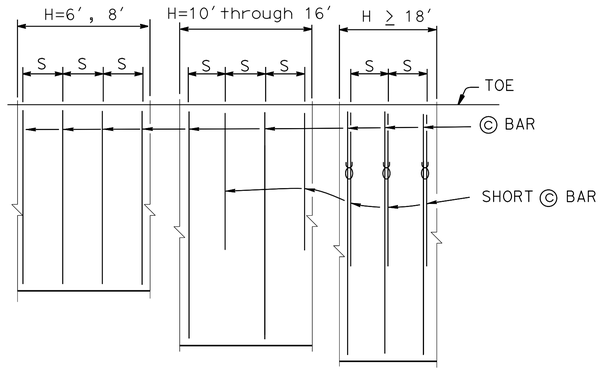
UNIT: 3603
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/17/14	01/31/14	04/08/14	02/04/15	16	23

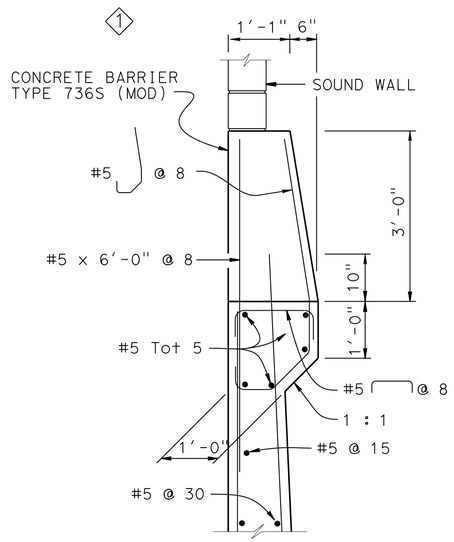
FILE => 53e0300-c-sp11.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

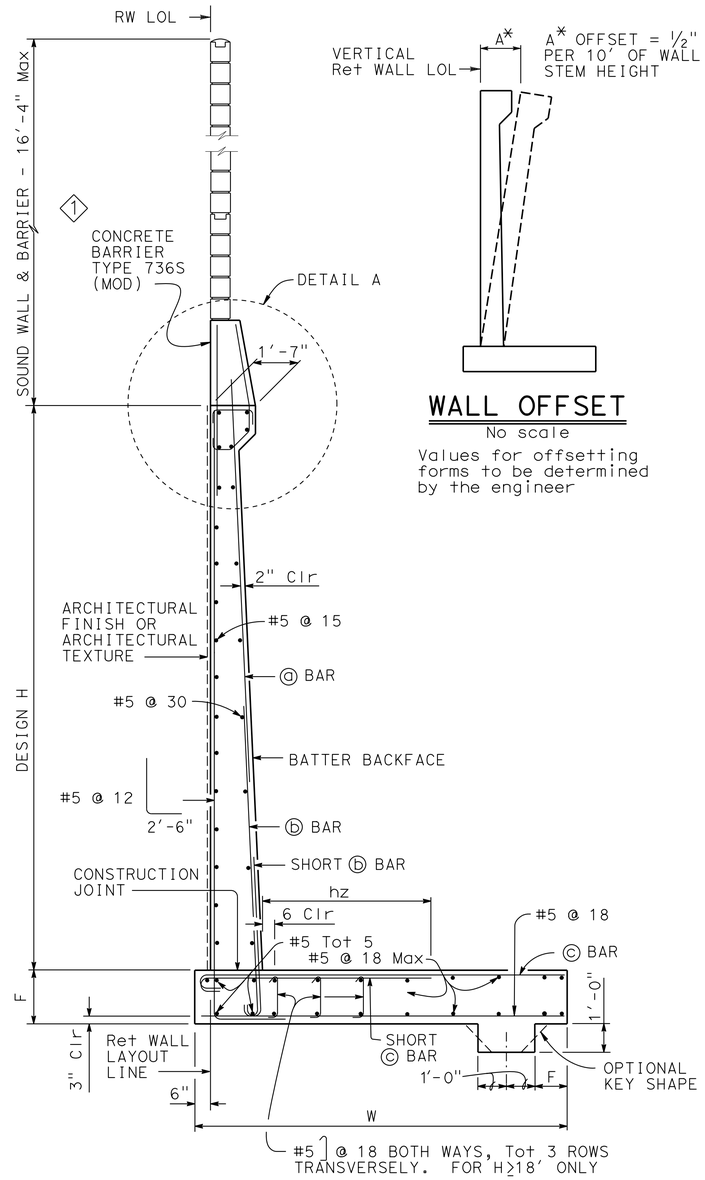


PLAN
NO SCALE

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



DETAIL A
¾" = 1′-0"

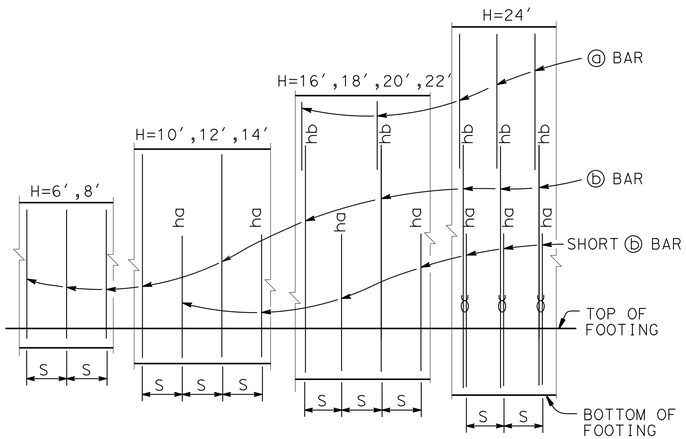


SPREAD FOOTING SECTION
⅜" = 1′-0"

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

WALL OFFSET
No scale

Values for offsetting forms to be determined by the engineer



ELEVATION
No scale

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

OPTIONAL DETAIL A
¾" = 1′-0"

For Details not shown, see "DETAIL A"

DESIGN DATA

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

WS: 33 psf on Sound Wall and Barrier

LS: Varied surcharge on level ground surface

CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward

EQE: Mononabe-Okabe Method
K_h = 0.3
K_v = 0.0

Soil: ø = 34°
γ = 120 pcf

Reinforced Concrete: f′c = 3600 psi
fy = 60,000 psi

Load Combinations and Limit States

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

Where:

Q: Force Effects
α: 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
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design
WS: Wind Load on Sound Wall and Barrier
CT: Vehicular Collision Force

2. For sound wall and barrier reinforcement details, see "MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL" sheets.
5. For H=6′ through 14′, extend ⓑ bars into Barrier for stem with haunch.
6. For H≥16′, extend ⓐ bars into Barrier for stem with haunch.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1899	2313

Rick Schendel 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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SPECIAL DETAILS

REVISED STANDARD DRAWING
FILE NO. xs14-350-1
APPROVAL DATE July 2011

1 Modified barrier width and sound wall location
2 Revised

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0300
POST MILE 39.47

RETAINING WALL No. 2084
RETAINING WALL TYPE 5SWB-DETAILS NO. 1

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES: 11/07/13 | 11/27/13 | 11/27/13

SHEET 17 OF 23

FILE => 53e0300-g-rwdt01-5swb.dgn

USERNAME => s1256c24 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1900	2313

REGISTERED CIVIL ENGINEER — 10/01/14 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	6′	8′	10′	12′	14′	16′	18′	20′	22′	24′	⟨1⟩ 26′	⟨1⟩ 28′
W	9′-0"	9′-0"	9′-6"	10′-3"	11′-3"	12′-9"	14′-0"	15′-9"	17′-3"	18′-9"	21′-0"	22′-9"
F SPREAD FOOTING	1′-3"	1′-3"	1′-3"	1′-3"	1′-6"	1′-9"	2′-0"	2′-3"	2′-6"	2′-6"	3′-0"	3′-3"
STEM WITH HAUNCH, BATTER	0	½:12	½:12	½:12	½:12	½:12	½:12	½:12	½:12	⅝:12	¾:12	⅞:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	¼:12	¼:12	½:12	¾:12
ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#7 @ 6	#7 @ 6
ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6 Ø	#9 @ 6 Ø	#9 @ 6 Ø
ha			5′-0"	6′-0"	7′-0"	7′-0"	6′-0"	7′-0"	6′-9"	7′-6"	9′-6"	10′-6"
hb						11′-6"	12′-0"	13′-3"	16′-0"	15′-6"	19′-6"	21′-6"
ⓒ BARS	#7 @ 12	#8 @ 12	#7 @ 6	#9 @ 6	#9 @ 6	#11@ 7.5	#8 @ 6 Ø	#9 @ 6 Ø	#9 @ 6 Ø	#10 @ 6 Ø	#10 @ 6 Ø	#10 @ 6 Ø
hz			3′-6"	4′-0"	4′-9"	7′-0"	5′-9"	6′-9"	7′-6"	9′-0"	11′-6"	13′-6"
SER I: B′(ft), q_0'(ksf)	7.5, 1.5	7.1, 1.9	7.2, 2.2	7.6, 2.5	8.3, 2.8	9.6, 3.0	10.6, 3.3	12.1, 3.6	13.3, 3.9	14.6, 4.1	16.1, 4.9	17.6, 5.2
STR, Ia: B′(ft), q_0(ksf)	7.9, 2.9	7.4, 3.3	7.4, 3.7	7.8, 4.1	8.3, 4.5	9.5, 4.8	10.5, 5.0	11.9, 5.6	13.1, 6.0	14.3, 6.4	16.2, 6.9	17.6, 7.3
STR, Ib: B′(ft), q_0(ksf)	6.0, 2.0	5.5, 2.5	5.6, 2.9	5.9, 3.3	6.4, 3.7	7.6, 3.9	8.7, 4.1	9.9, 4.5	11.0, 4.9	12.1, 5.2	13.9, 5.5	15.2, 5.8
STR, IIIa: B′(ft), q_0(ksf)	6.0, 2.7	6.0, 3.0	6.4, 3.4	7.0, 3.7	7.8, 4.1	9.1, 4.4	10.2, 4.6	11.7, 5.1	12.9, 5.4	14.2, 5.7	16.1, 6.4	17.6, 6.8
STR, IIIb: B′(ft), q_0(ksf)	5.3, 2.5	5.2, 2.8	5.5, 3.1	6.0, 3.3	6.7, 3.7	8.0, 3.9	8.9, 4.0	10.4, 4.4	11.5, 4.7	12.7, 5.0	14.5, 5.3	15.9, 5.6
STR, Va: B′(ft), q_0(ksf)	7.5, 2.8	7.1, 3.2	7.2, 3.5	7.6, 3.9	8.2, 4.3	9.4, 4.6	10.4, 4.9	11.8, 5.3	13.0, 5.8	14.3, 6.1	16.2, 6.8	17.6, 7.2
STR, Vb: B′(ft), q_0(ksf)	5.7, 2.2	5.3, 2.6	5.4, 3.0	5.8, 3.4	6.4, 3.8	7.7, 3.9	8.7, 4.0	10.0, 4.5	11.1, 4.9	12.2, 5.1	14.0, 5.5	15.3, 5.8
Ext I: B′(ft), q_0(ksf)	4.0, 3.4	3.0, 4.7	2.5, 6.5	2.1, 9.2	1.8, 13.3	2.1, 14.4	2.3, 16.9	2.6, 17.2	2.9, 18.4	3.3, 19.3	3.6, 21.6	3.9, 23.2
Ext II: B′(ft), q_0(ksf)	3.9, 3.3	4.3, 3.5	5.1, 3.5	6.0, 3.6	7.1, 3.7	8.7, 3.7	9.9, 3.8	11.9, 3.8	13.0, 4.3	14.4, 4.5	16.4, 4.8	17.9, 5.1

LEGEND:

SER: service limit state
STR: strength limit state
EXT: extreme event limit state
B′: effective footing width (ft)
q_0': net bearing stress (ksf)
q_0: gross uniform bearing stress (ksf)

Ø : 2 bar bundle

STANDARD DRAWING

FILE NO. xs14-350-2

APPROVAL DATE July 2011

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

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

BRIDGE NO. 53E0300
POST MILE 39.47

RETAINING WALL No. 2084

RETAINING WALL TYPE 5SWB-DETAILS NO. 2

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES 11/07/13 11/27/13 11/27/13

SHEET 18 OF 23

FILE => 53e0300-g-rwdt02-5swb.dgn

USERNAME => s1256624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 15:01