CURVE DATA

No.	R	Δ	T	L
Ⓐ	5000.00	26°19'23"	1169.20	2297.12
Ⓑ	5439.14	15°1'06"	716.96	1425.71

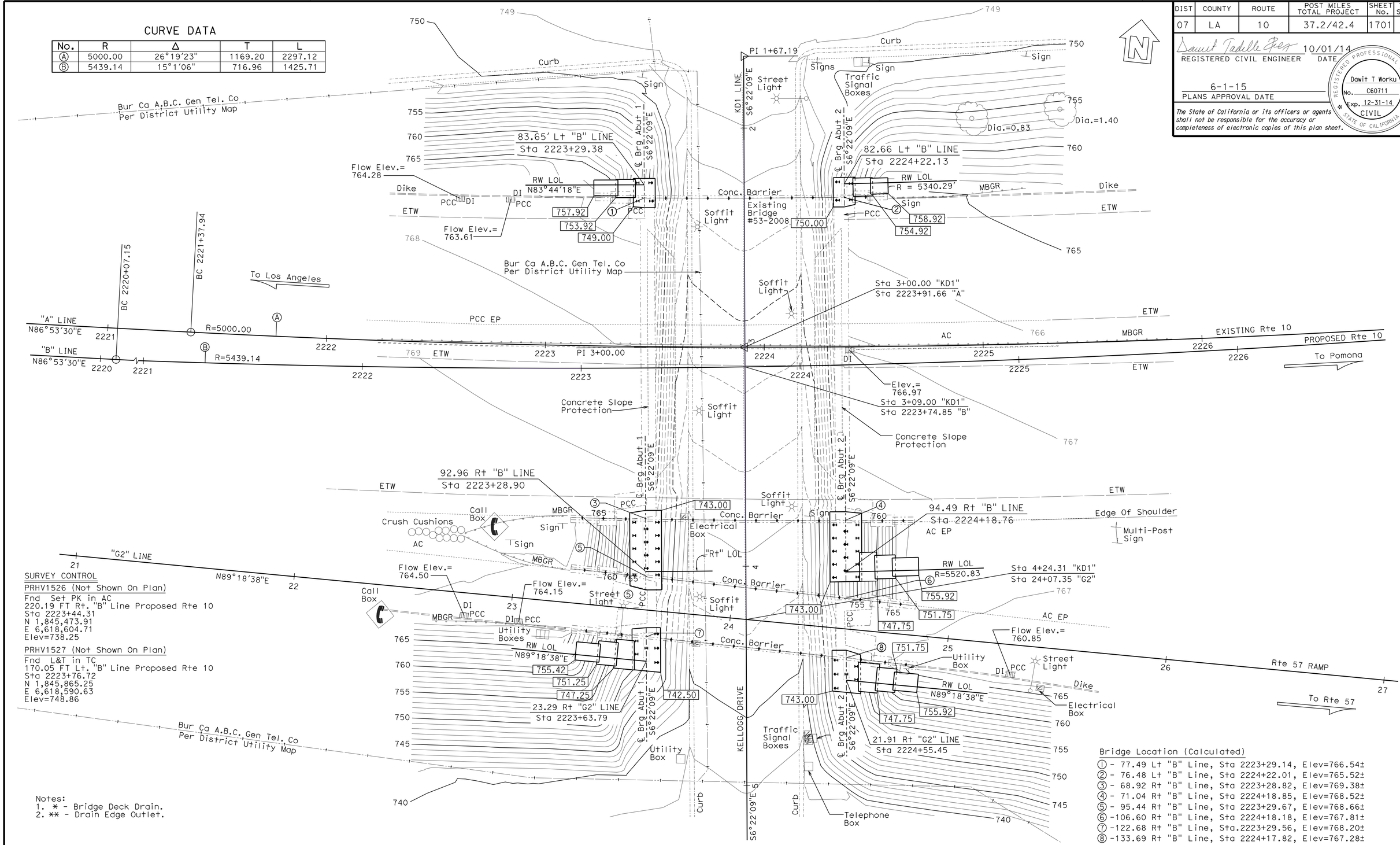
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1701	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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



SURVEY CONTROL

PRHV1526 (Not Shown On Plan)
Fnd Set PK in AC
220.19 FT Rt. "B" Line Proposed Rte 10
Sta 2223+44.31
N 1,845,473.91
E 6,618,604.71
Elev=738.25

PRHV1527 (Not Shown On Plan)
Fnd L&T in TC
170.05 FT Lt. "B" Line Proposed Rte 10
Sta 2223+76.72
N 1,845,865.25
E 6,618,590.63
Elev=748.86

Notes:
1. * - Bridge Deck Drain.
2. ** - Drain Edge Outlet.

Bridge Location (Calculated)

① - 77.49 Lt "B" Line, Sta 2223+29.14, Elev=766.54±
② - 76.48 Lt "B" Line, Sta 2224+22.01, Elev=765.52±
③ - 68.92 Rt "B" Line, Sta 2223+28.82, Elev=769.38±
④ - 71.04 Rt "B" Line, Sta 2224+18.85, Elev=768.52±
⑤ - 95.44 Rt "B" Line, Sta 2223+29.67, Elev=768.66±
⑥ -106.60 Rt "B" Line, Sta 2224+18.18, Elev=767.81±
⑦ -122.68 Rt "B" Line, Sta.2223+29.56, Elev=768.20±
⑧ -133.69 Rt "B" Line, Sta 2224+17.82, Elev=767.28±

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD83 (1991.35)	SURVEYED	BY District	CHECKED	BY C.Fassett 07/2010
	ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY T.Zolnikov 07/2010	CHECKED	BY T.Schmalz 07/2010

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED	FEIRUZ ABERRA
DETAILS	BY ANTONETTE L. ONG	CHECKED	FEIRUZ ABERRA
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED	FEIRUZ ABERRA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DR UC (WIDENING)
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/20/13	01/22/14		06/27/13	4	31

FILE => 53-2008-b-fdp101.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1702	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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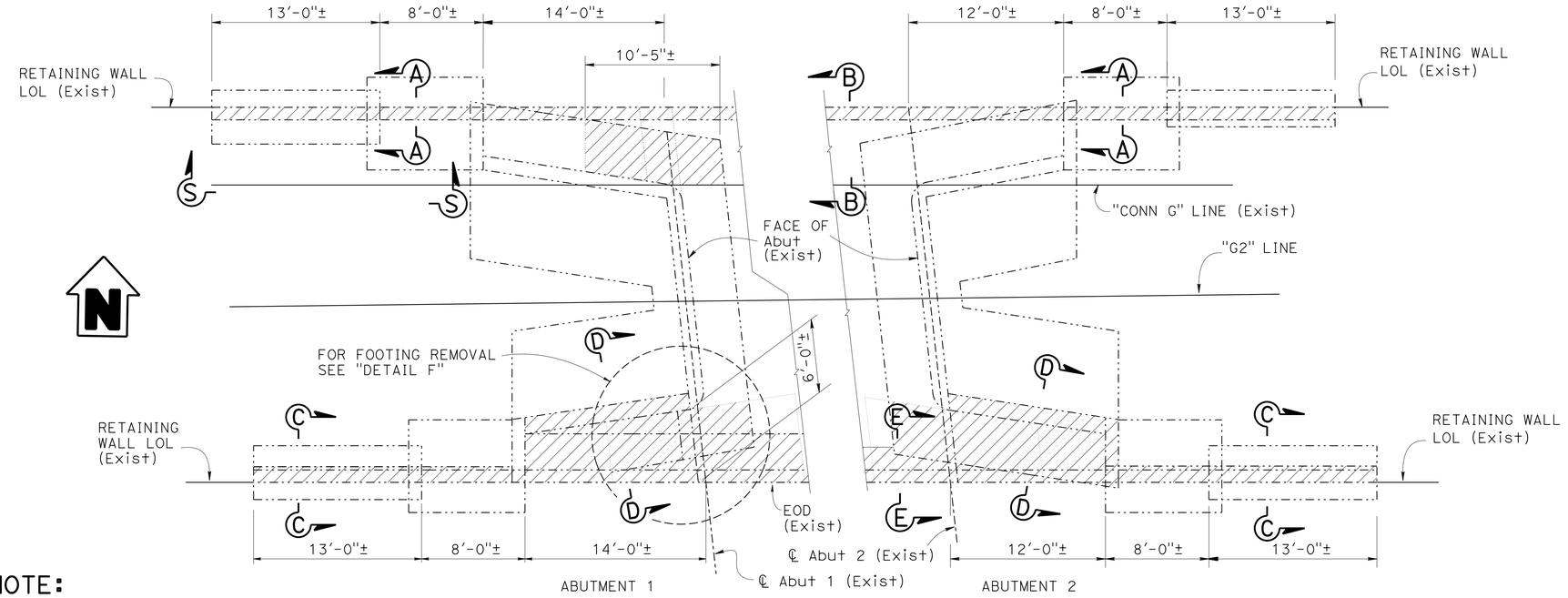
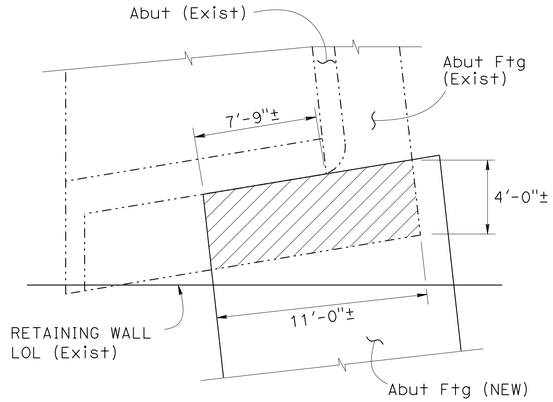
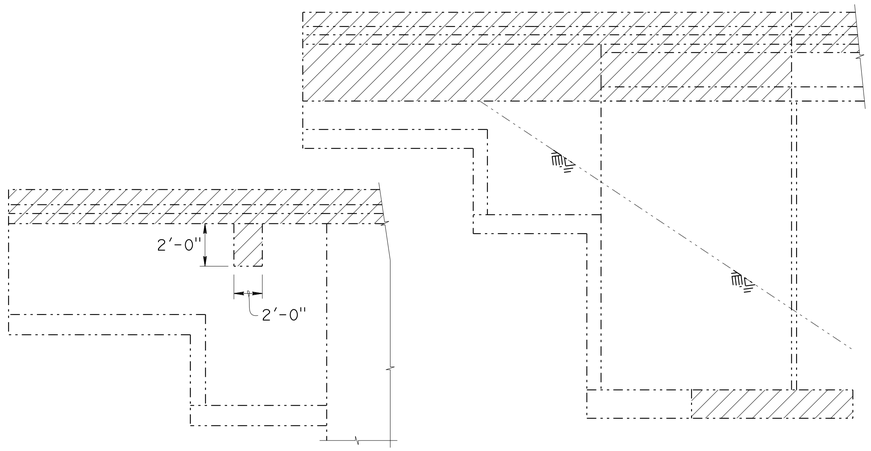


PLAN
3/16" = 1'

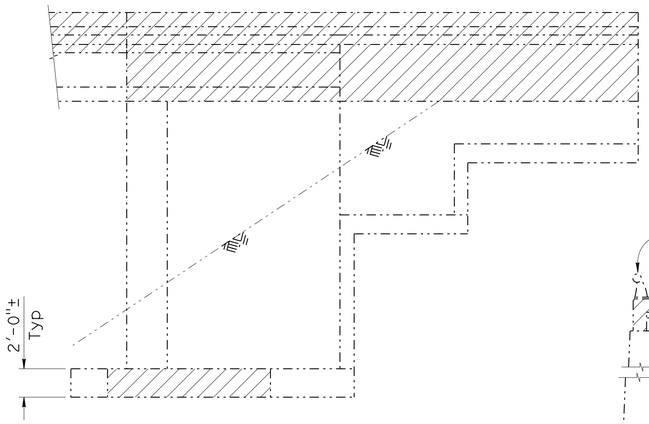


DETAIL F
1/4" = 1'-0"
FOOTING REMOVAL DETAIL

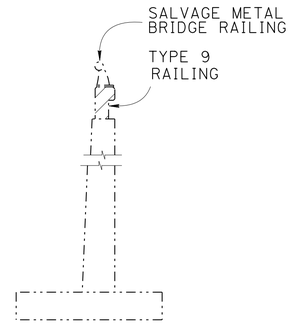
NOTE:
1. For Sections "C-C" and Section "D-D" see, "CONCRETE REMOVAL DETAILS No. 2" sheet



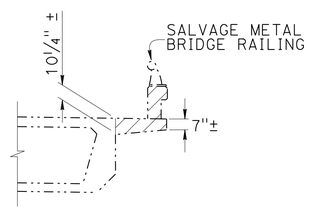
PART ELEVATION S-S
1" = 5'-0"



ELEVATION
3/16" = 1'-0"



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



SECTION E-E
1/4" = 1'-0"

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

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

LEGEND:
- Indicates Existing Structure
- Bridge Removal (Portion)
- Indicates New Costruction

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA	
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC RAMP (WIDEN)
CONCRETE REMOVAL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES 05/14/14 05/21/14 07/22/14

SHEET 5 OF 31

FILE => 53-2008-c-cr01dt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1703	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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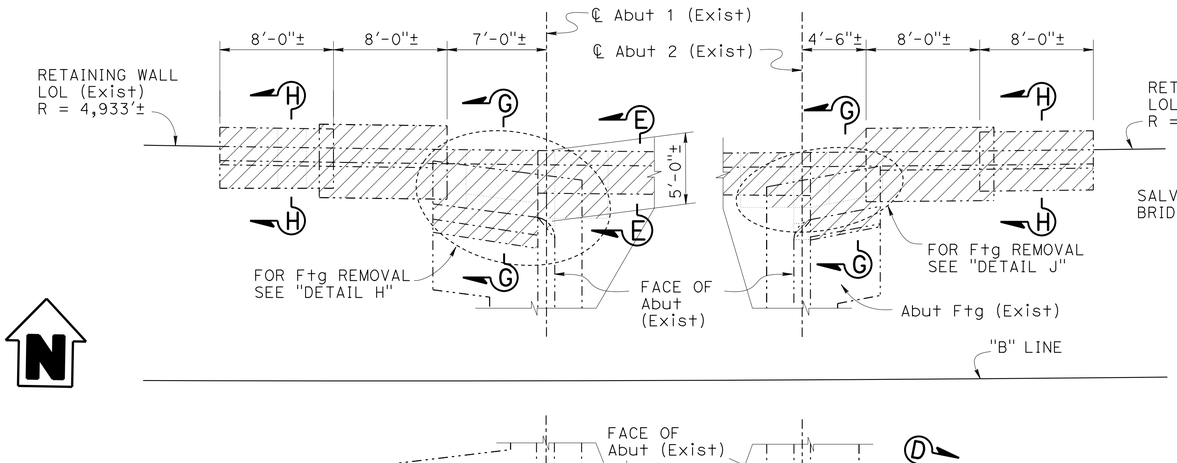
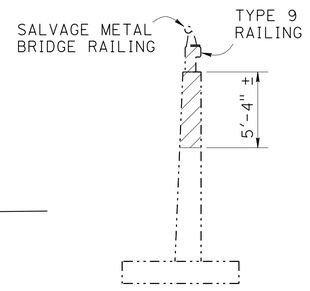
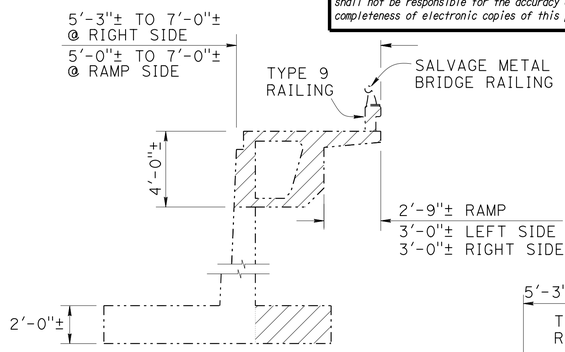


PLAN
3/16" = 1'

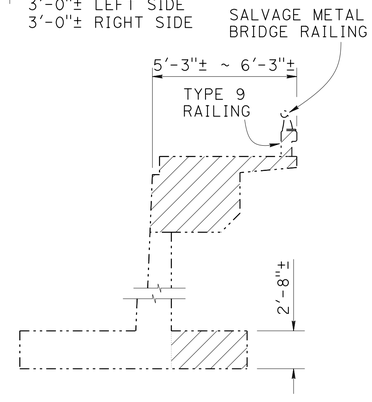


SECTION C-C
1/4" = 1'-0"

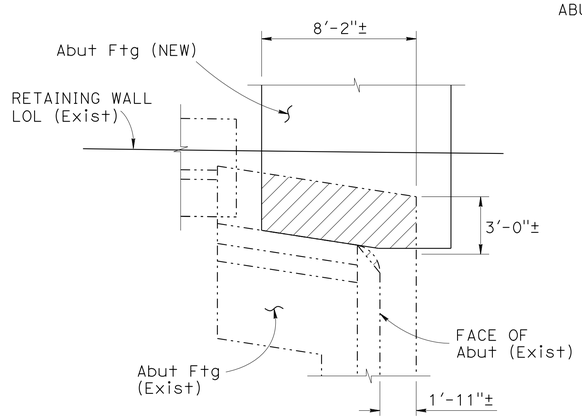


SECTION D-D
NO SCALE

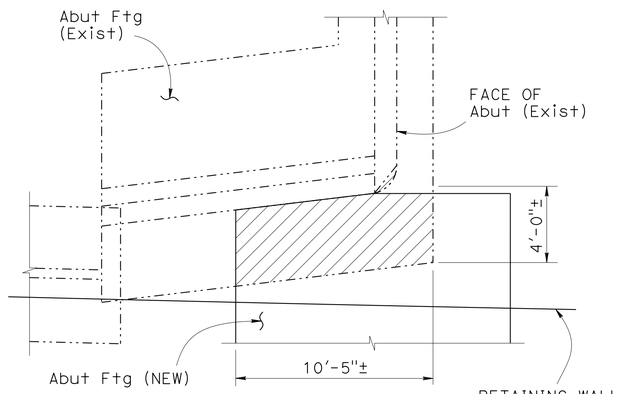
NOTES:
- Existing Reinforcement to remain
- For Details not shown, see "SECTION E-E"



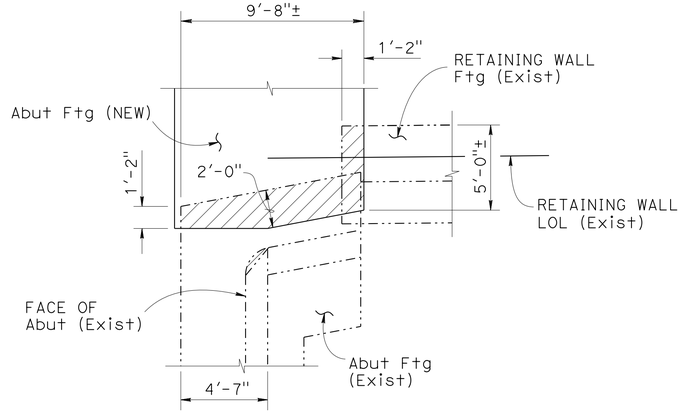
SECTION G-G
NO SCALE



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



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

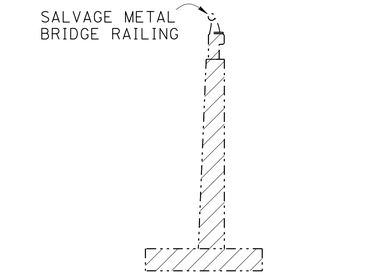


DETAIL J
1/4" = 1'-0"

FOOTING REMOVAL DETAIL

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

NOTE:
Abutment 1 Shown, Abutment 2 similar



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

LEGEND:
- Indicates Existing Structure
- Bridge Removal (Portion)
- Indicates New Construction

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA			POST MILE 42.12
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)
CONCRETE REMOVAL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/21/14	07/22/14		03/03/15	6	31

FILE => 53-2008-c-cr02dt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1704	2313

Dawit Tadelle Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

Dawit T Worku No. C60711 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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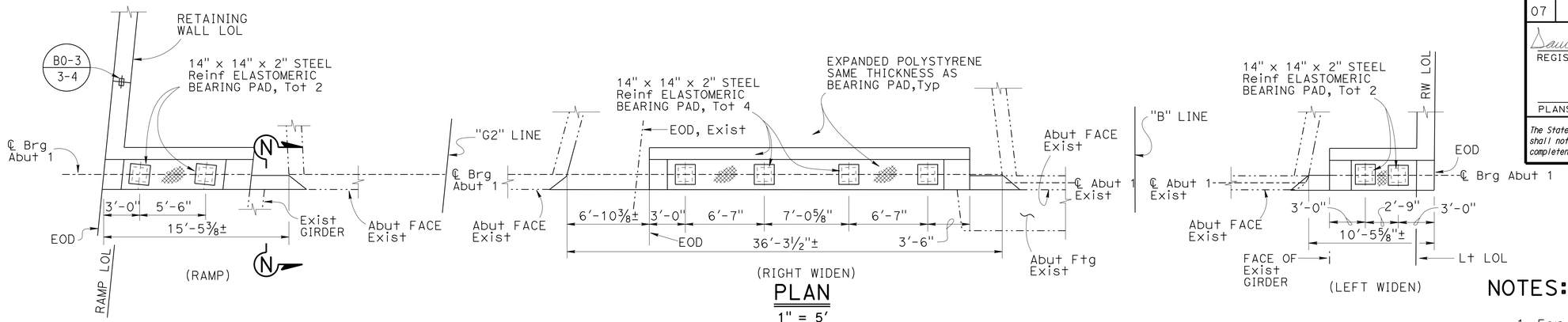
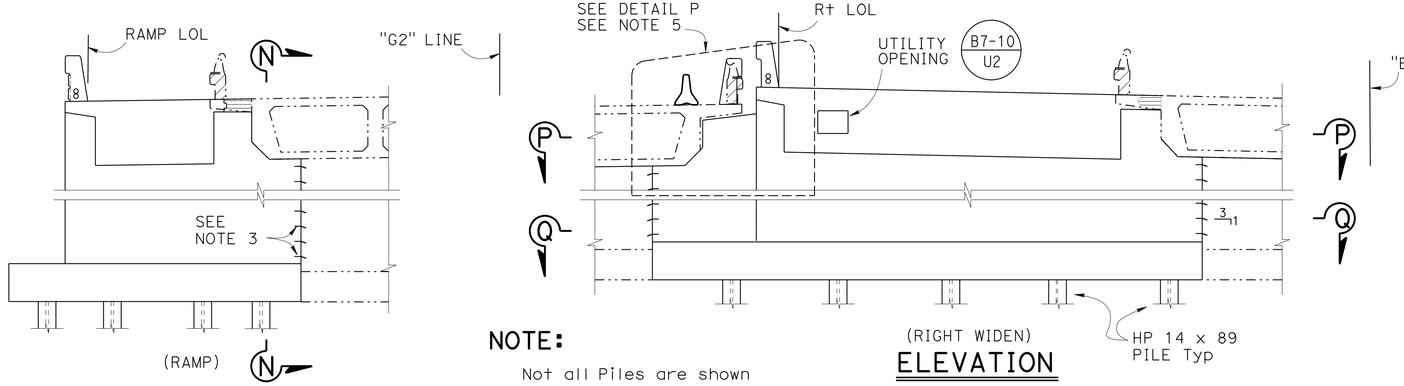


PLAN
1" = 5'



NOTE:
Not all Piles are shown

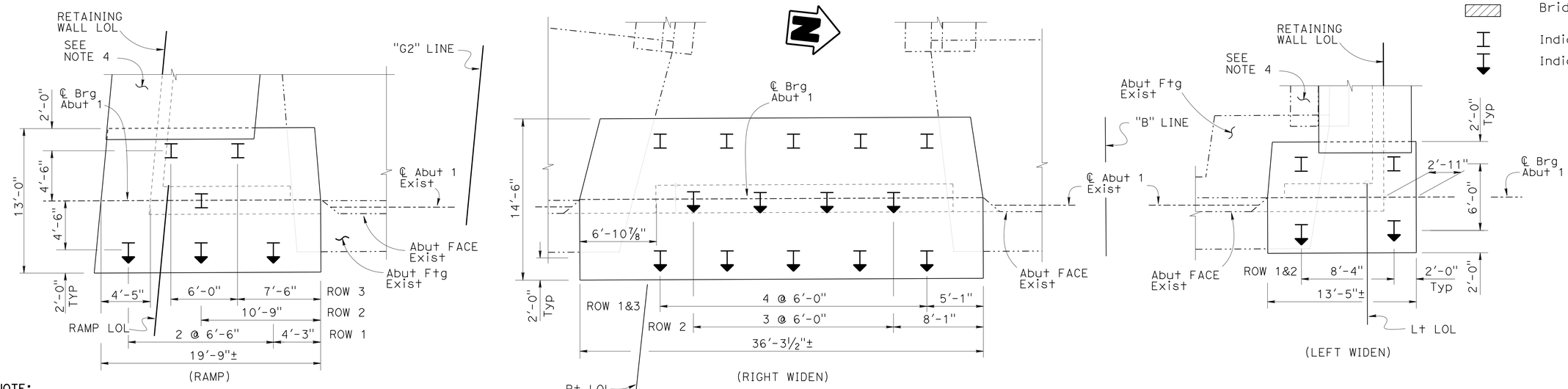
ELEVATION
1" = 5'-0"

NOTES:

1. For Concrete Removal, see "CONCRETE REMOVAL DETAILS No. 2" sheet
2. For Section "P-P", "Q-Q" and "N-N", see "ABUTMENT DETAILS No. 4" sheet
3. For Drill and Bond details, see "ABUTMENT DETAILS No. 3" sheet
4. For Retaining Wall details, see "RETAINING WALL LAYOUT No. 1" and "RETAINING WALL LAYOUT No. 2" sheets
5. For Detail "P", Sections "N-N", "P-P" and "Q-Q", see "ABUTMENT DETAILS No. 4" sheet

LEGEND:

- Indicates New Construction
- Indicates Existing Structures
- Indicates Closure Pour
- Bridge Removal (Portion)
- Indicates Vertical Piles
- Indicates Battered Piles 3:1



FOOTING LAYOUT
1" = 5'-0"

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

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA	
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)
ABUTMENT 1 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
09/26/14	05/21/14	07/22/14	7	31

FILE => 53-2008-f-a01_lo1.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1705	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

Dawit T Worku No. C60711 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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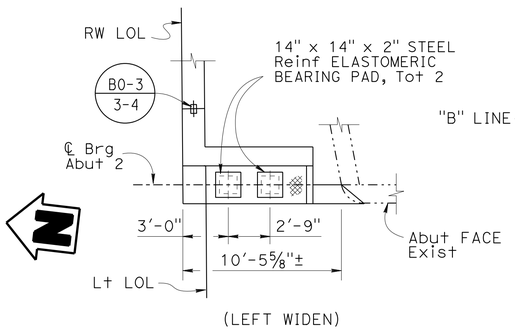
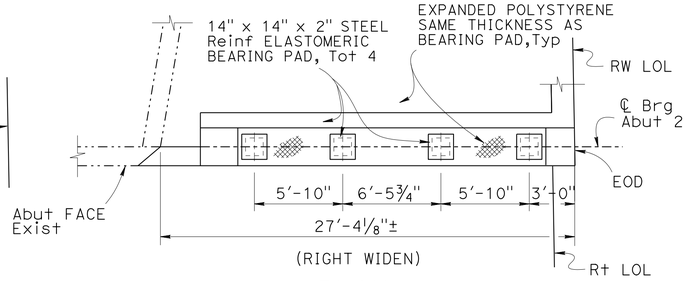
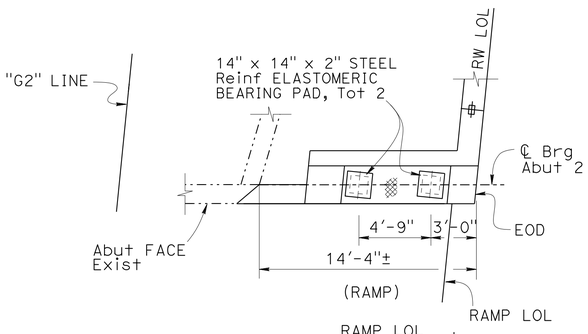
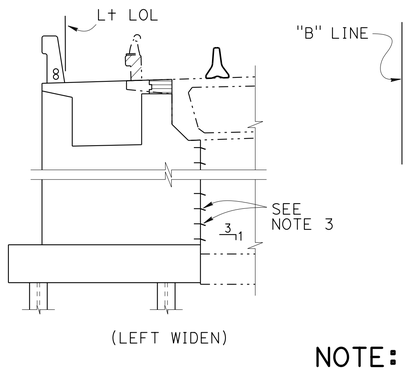
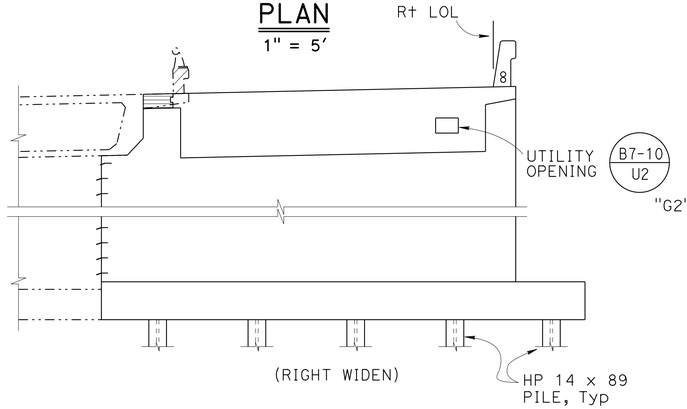


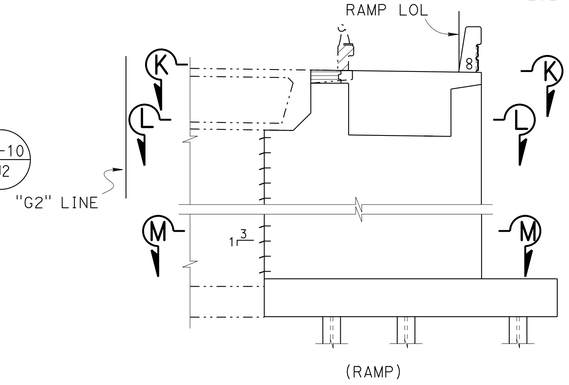




PLAN
1" = 5'

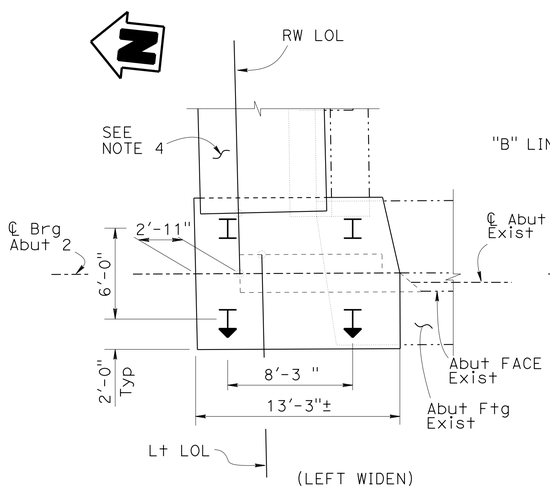


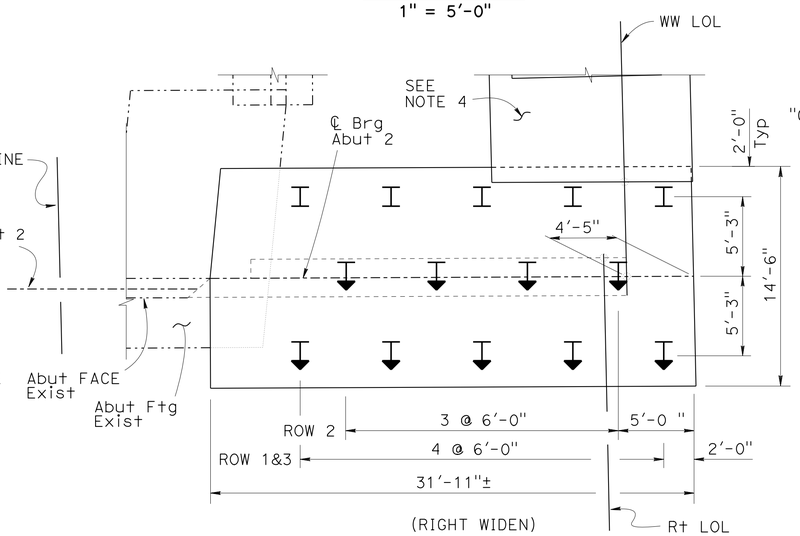


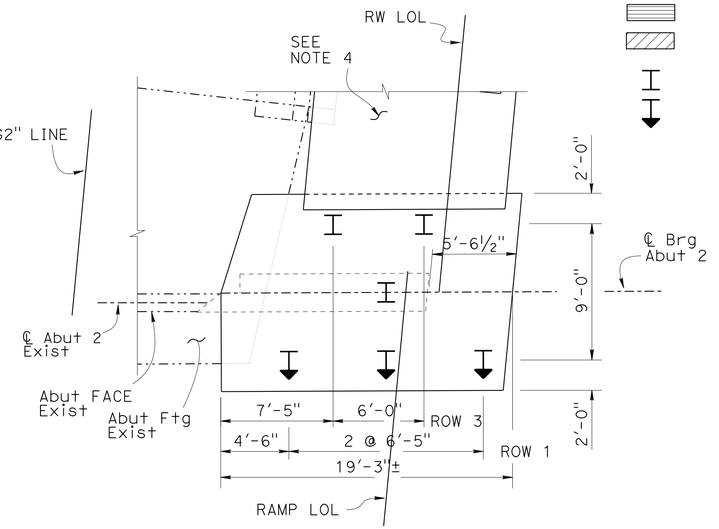


NOTE:
Not all Piles are shown

ELEVATION
1" = 5'-0"







FOOTING LAYOUT
1" = 5'-0"

NOTES:

1. For Concrete Removal, see "CONCRETE REMOVAL DETAILS No. 2" sheet
2. For Section "K-K", "L-L" and "M-M", see "ABUTMENT DETAILS No. 2" sheet
3. For Drill and Bond details, see "ABUTMENT DETAILS No. 3" sheet
4. For Retaining Wall details, see "RETAINING WALL LAYOUT No. 1" and "RETAINING WALL LAYOUT No. 2" sheets

LEGEND:

- Indicates New Construction
- Indicates Existing Structures
- Indicates Closure Pour
- Bridge Removal (Portion)
- Indicates Vertical Piles
- Indicates Battered Piles 3:1

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

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	BRIDGE NO. 53-2008 53-2008G POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)
ABUTMENT 2 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
12/03/13	05/27/14	07/22/14	8	31

FILE => 53-2008-f-a02_lo2.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1706	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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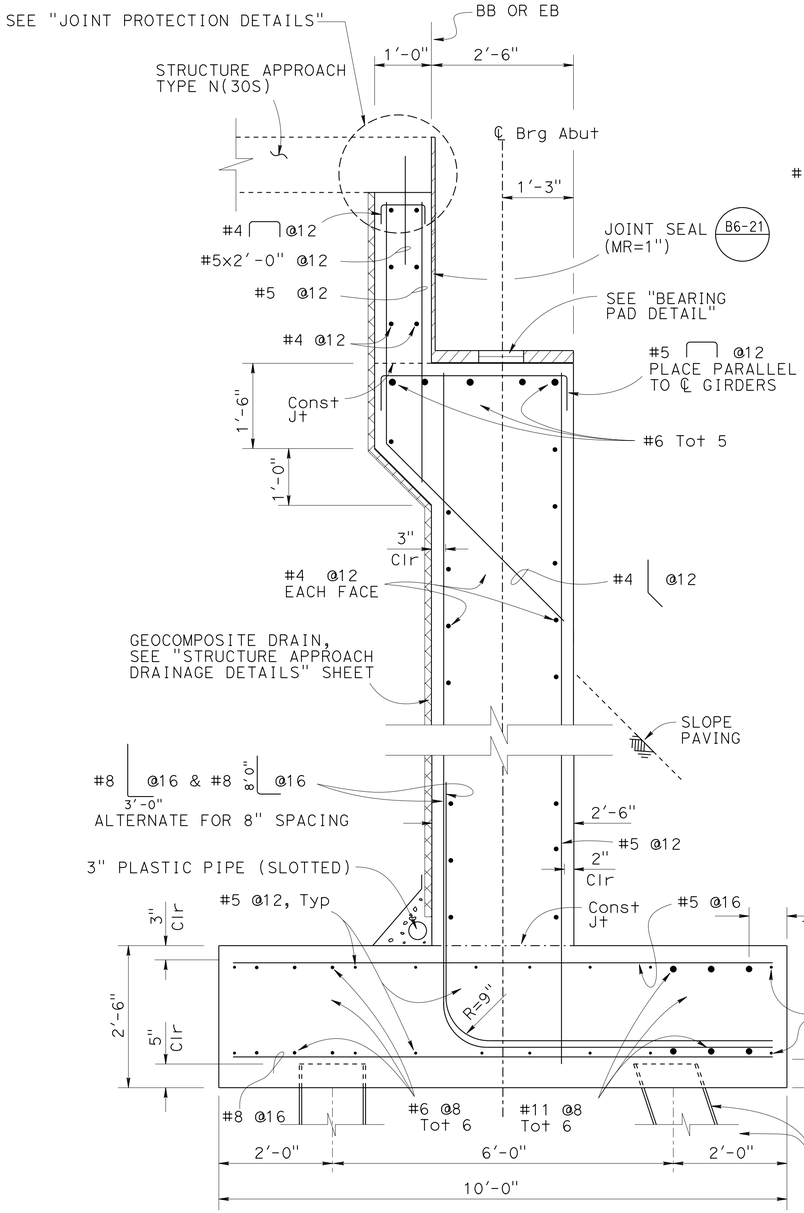
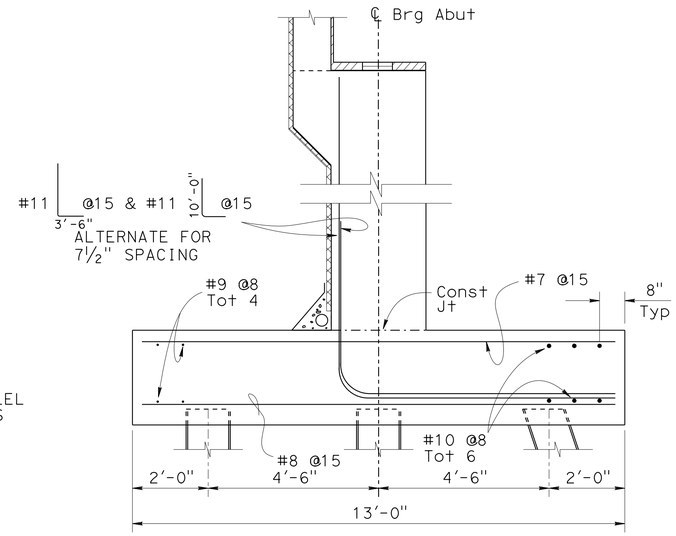


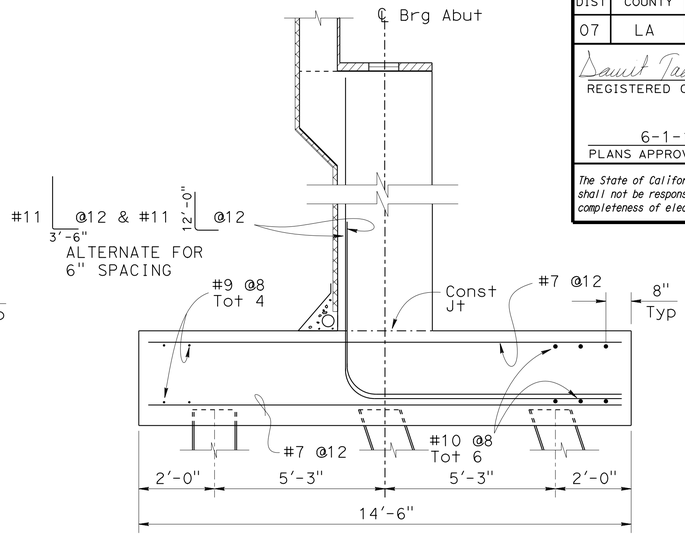
ABUTMENT SECTION (LEFT WIDENING)

¾" = 1'-0"



ABUTMENT SECTION (RAMP WIDENING)

½" = 1'-0"

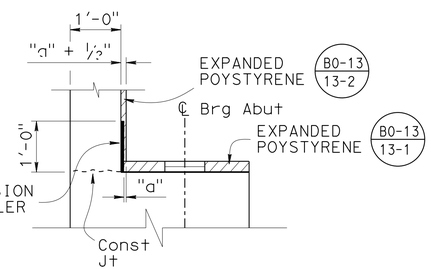


ABUTMENT SECTION (RIGHT WIDENING)

NO SCALE

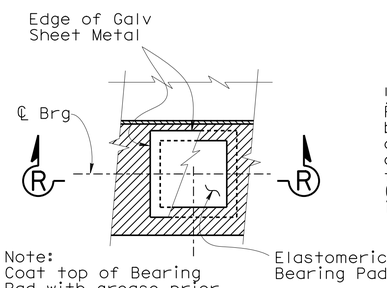
NOTES:

Abutment 1 shown, Abutment 2 similar
For details not shown, see Abutment Section Left Widening
For details not shown, see "STRUCTURE APPROACH TYPE R(30D)" sheet

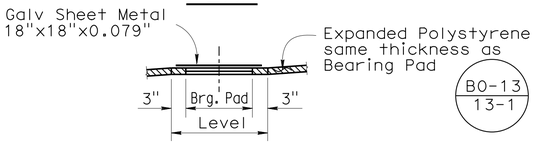


BACKWALL BASE DETAIL

NO SCALE



PLAN

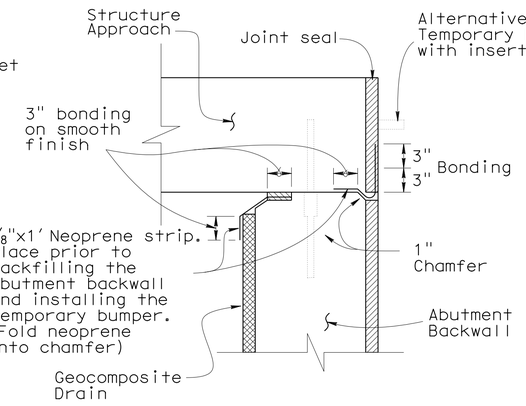


SECTION R-R

BEARING PAD DETAIL

NO SCALE

Details typical at all bearing pads



JOINT PROTECTION DETAILS

NO SCALE

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

NOTE:

Abutment 1 shown, Abutment 2 similar

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA	
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)

ABUTMENT DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/25/13	11/05/13	07/24/14		9	31

FILE => 53-2008-g-a01dt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1707	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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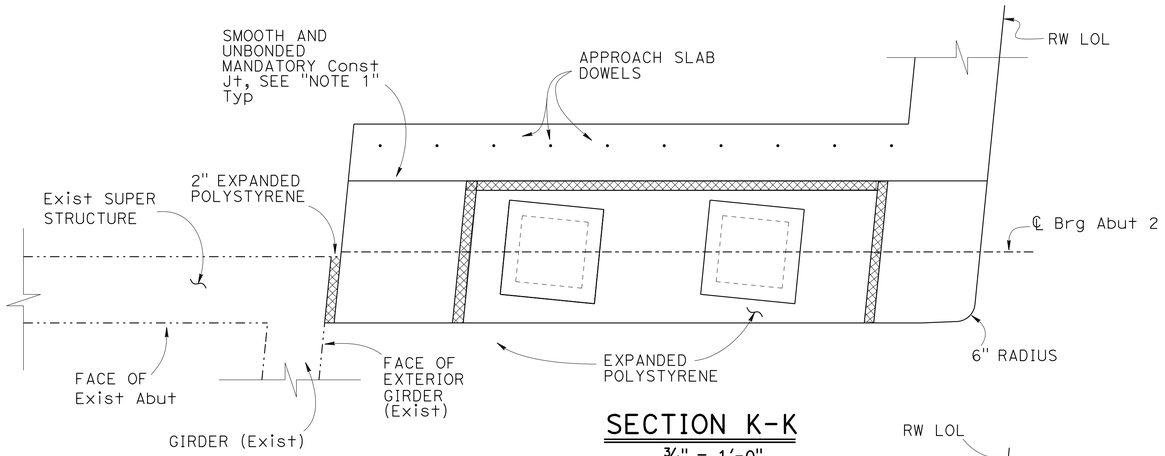
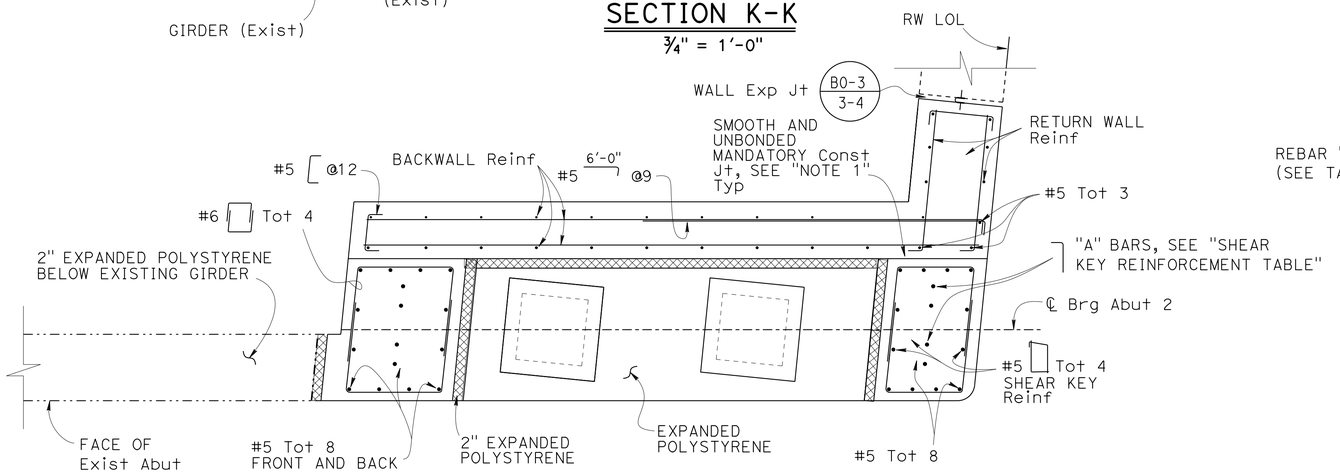
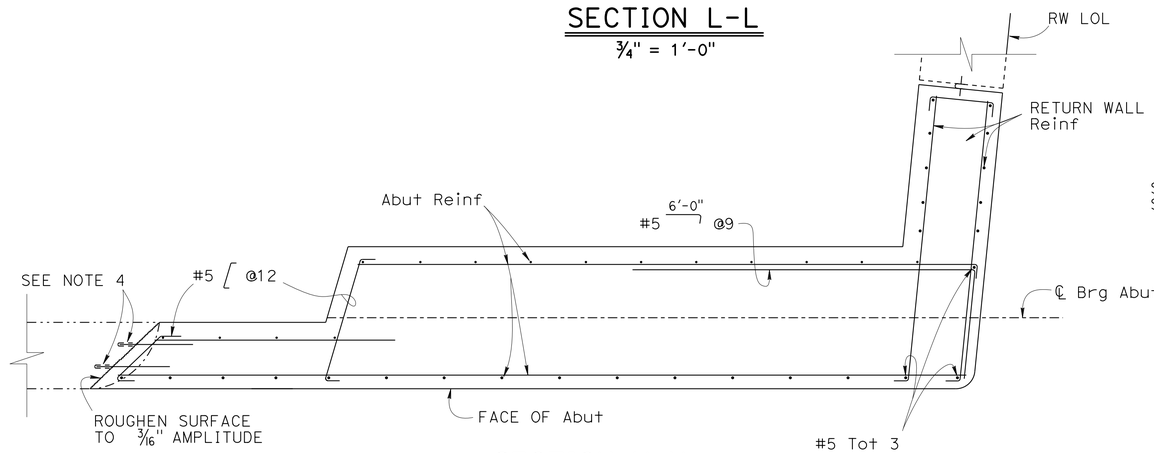


SECTION K-K
3/4" = 1'-0"

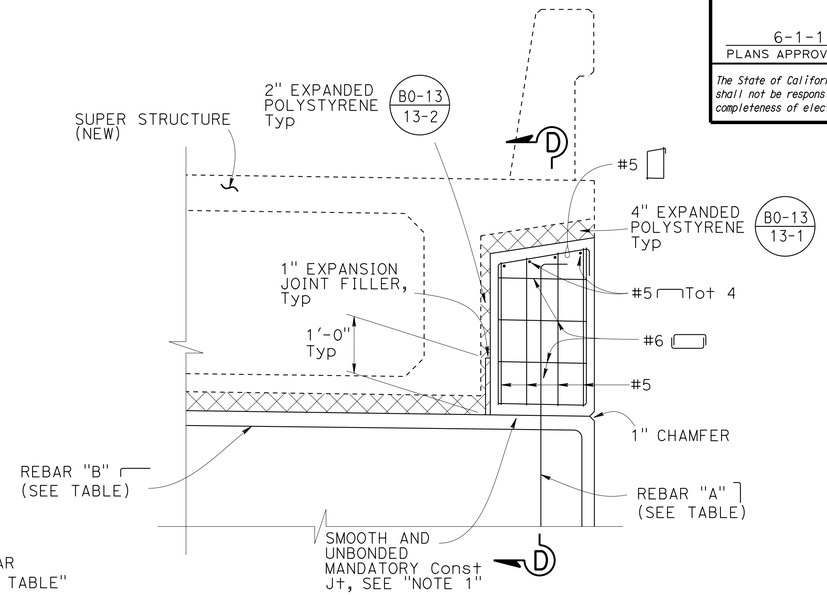


SECTION L-L
3/4" = 1'-0"

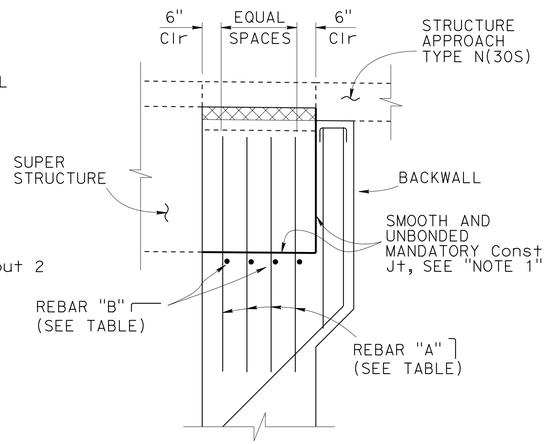


SECTION M-M
3/4" = 1'-0"

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



SHEAR KEY DETAIL
3/4" = 1'-0"



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

SHEAR KEY REINFORCEMENT TABLE

LOCATION	DIMENSION "X"	REBAR "A"	REBAR "B"
LEFT WIDEN	12"	#6 5'-0" Tot 3	#8 5'-0" Tot 3
RIGHT WIDEN	12"	#7 5'-0" Tot 6	#10 6'-6" Tot 6
RAMP WIDEN	12"	#6 5'-0" Tot 4	#9 5'-6" Tot 4

LEGEND:

- Indicates New Construction
- Indicates Existing Structures
- Indicates Expanded Polystyrene

NOTES:

1. Mandatory construction joint surface to be smooth finished and lined with 15 lb Construction Paper
2. Vertical Shear Key reinforcement to be Galvanized
3. Abut 2 Ramp (Widen) shown,
   - Abut 1 Ramp (Widen) similar
   - Abut 1 and Abut 2 Left (Widen) similar
4. For Drill and Bond limit and detail, see "ABUTMENT DETAILS No. 3" sheet

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA	
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)
ABUTMENT DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
05/22/14	07/24/14	02/26/15	10	31

FILE => 53-2008-g-a02dt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1708	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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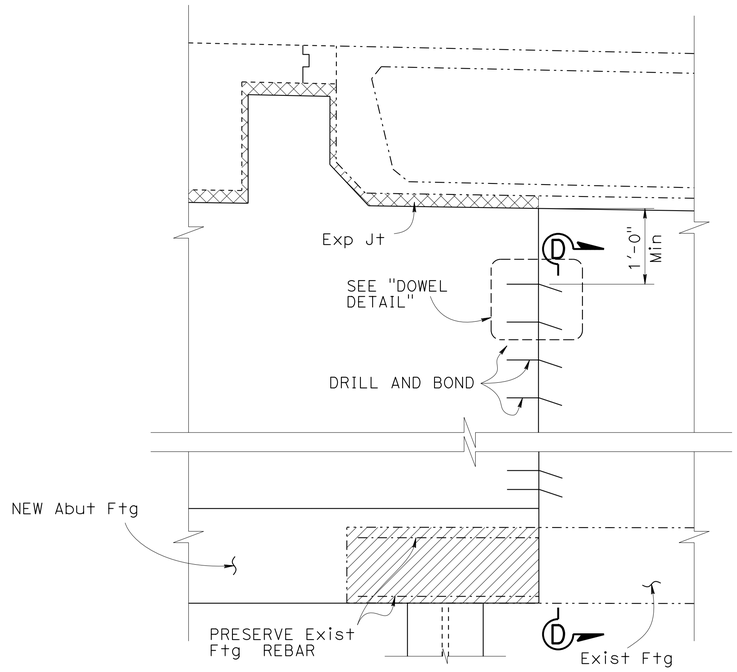
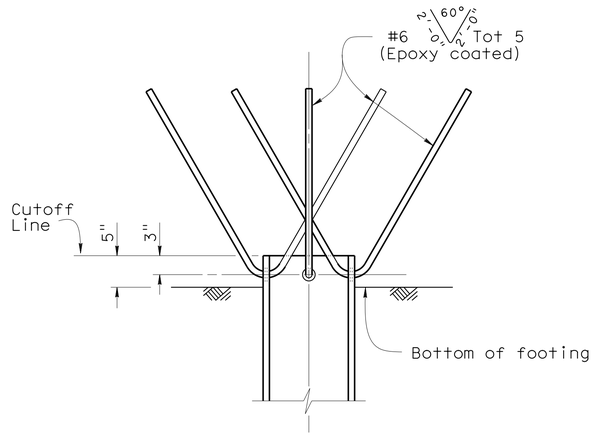
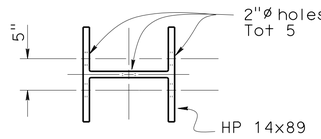


ABUTMENT JOINT DETAIL

½" = 1'-0"



ELEVATION



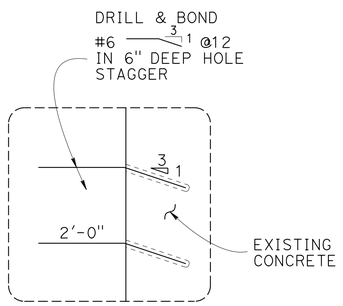
PLAN

(200 kip Pile)

STEEL PILE ANCHOR

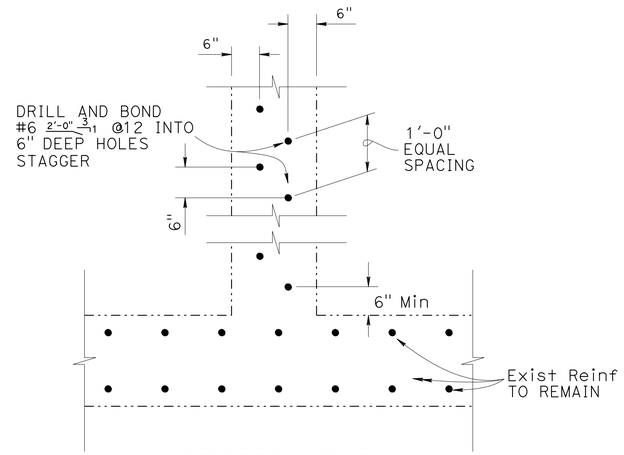
DESIGN CAPACITY:

Tension = 200 kips (Nominal axial reistance)



DOWEL DETAIL

1" = 1'-0"



SECTION D-D

3/4" = 1'-0"

LEGEND:

- Indicates New Construction
- Indicates Existing Structures
- Indicates Bridge Removal (Portion)
- Indicates Expanded Polystyrene

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

	BY	CHECKED
DESIGN	MOHAMMAD MUQTADIR	FEIRUZ ABERRA
DETAILS	K. FARAHZADI/A. ONG	FEIRUZ ABERRA
QUANTITIES	MOHAMMAD MUQTADIR	FEIRUZ ABERRA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)
ABUTMENT DETAILS NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
12/05/13	02/26/14	05/22/14	11	31

FILE => 53-2008-g-a03d+03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1709	2313

Dawit Tadille Feyissa 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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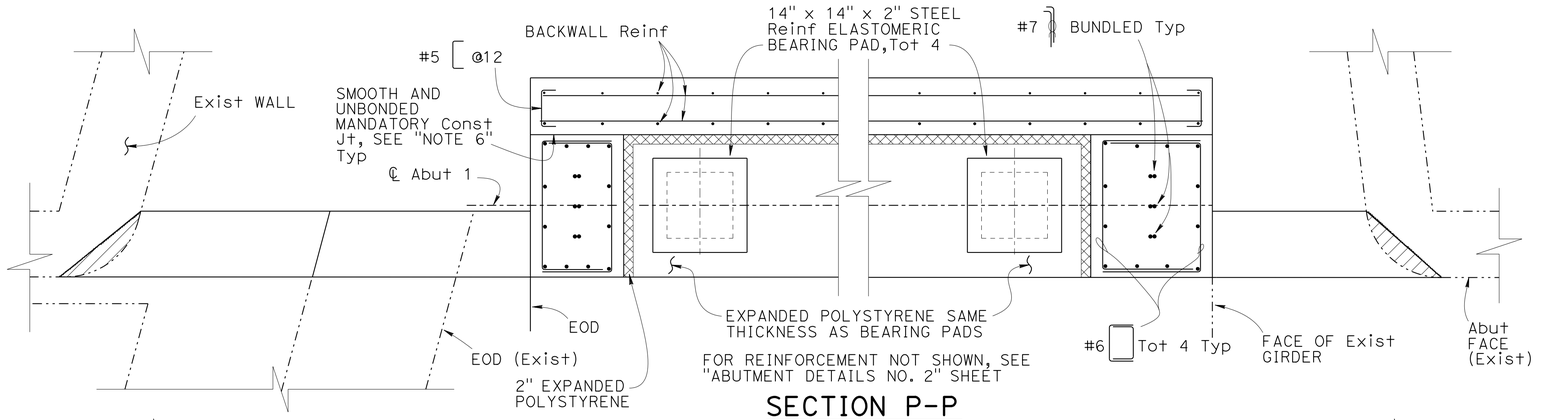
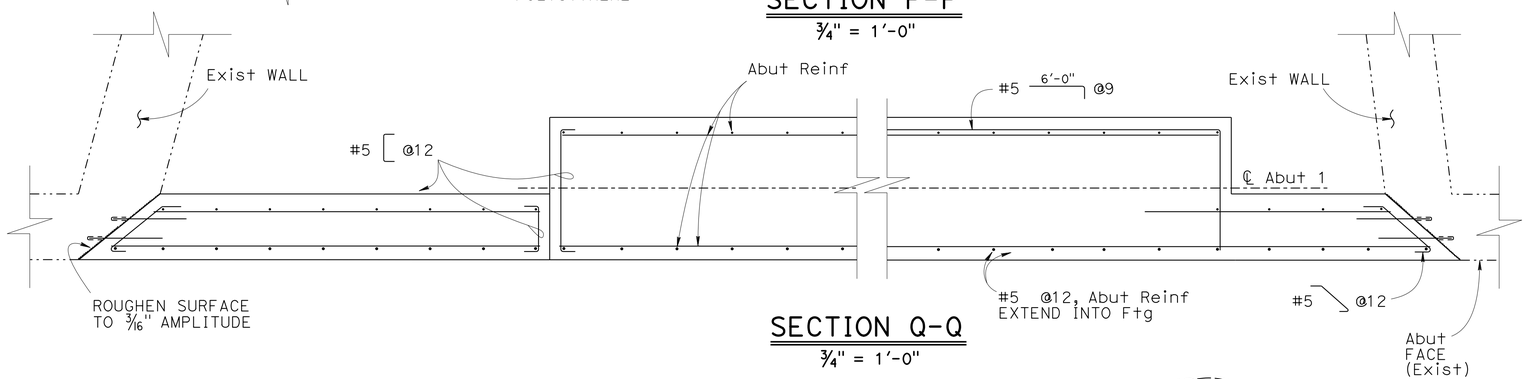


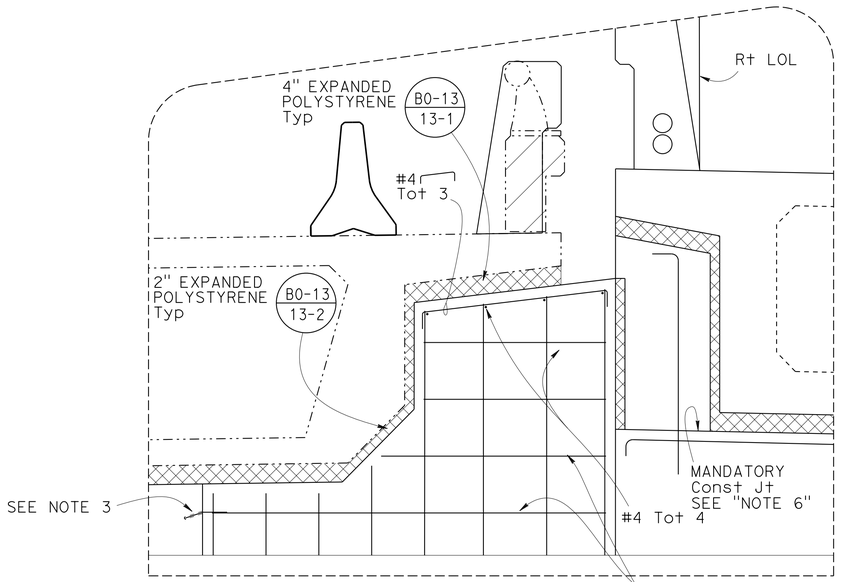
SECTION P-P

¾" = 1'-0"



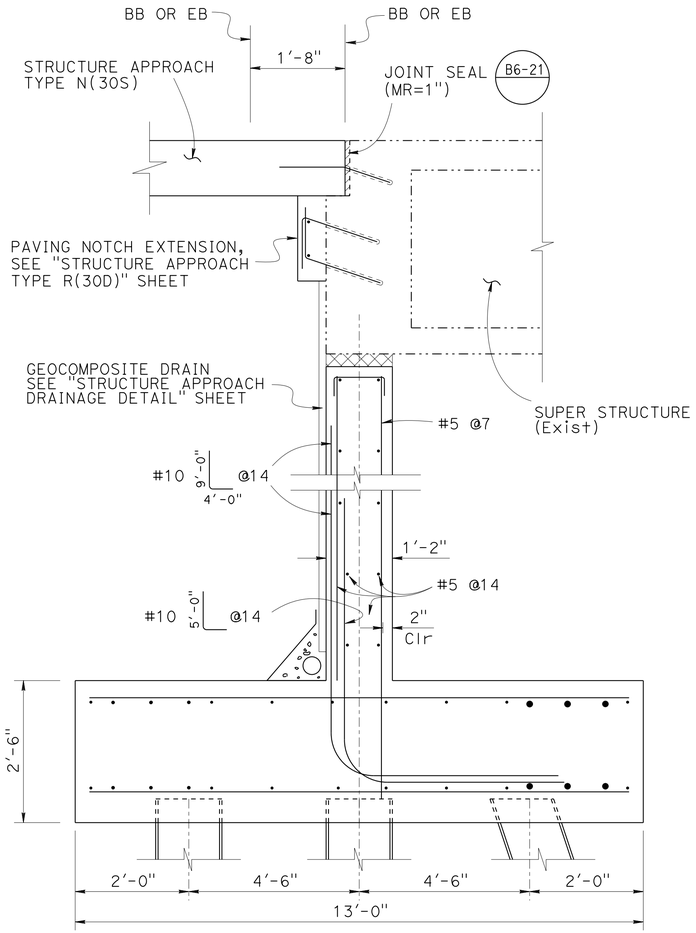
SECTION Q-Q

¾" = 1'-0"



DETAIL P

¾" = 1'-0"



SECTION N-N

NO SCALE

NOTES:

1. "Section N-N" shown at RAMP WIDEN, other locations similar
2. For Shear Key reinforcement details, see "ABUTMENT DETAILS No. 2" sheet
3. For Abutment reinforcement, see "ABUTMENT DETAILS No. 1" sheet
4. For Drill and Bond details, see "ABUTMENT DETAILS No. 3" sheet
5. For Reinf bar details see Section N-N
6. Mandatory Construction Joint Surface to be smooth finished and lined with 15 lb Construction Paper

LEGEND:

- Indicates New Construction
- Indicates Existing Structures
- Bridge Removal (Portion)
- Indicates Expanded Polystyrene

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

	BY	CHECKED
DESIGN	MOHAMMAD MUQTADIR	FEIRUZ ABERRA
DETAILS	K. FARAHZADI/A. ONG	FEIRUZ ABERRA
QUANTITIES	MOHAMMAD MUQTADIR	FEIRUZ ABERRA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)

ABUTMENT DETAILS NO. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/29/14	06/03/14	01/22/14		12	31

FILE => 53-2008-g-a04dt04.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1710	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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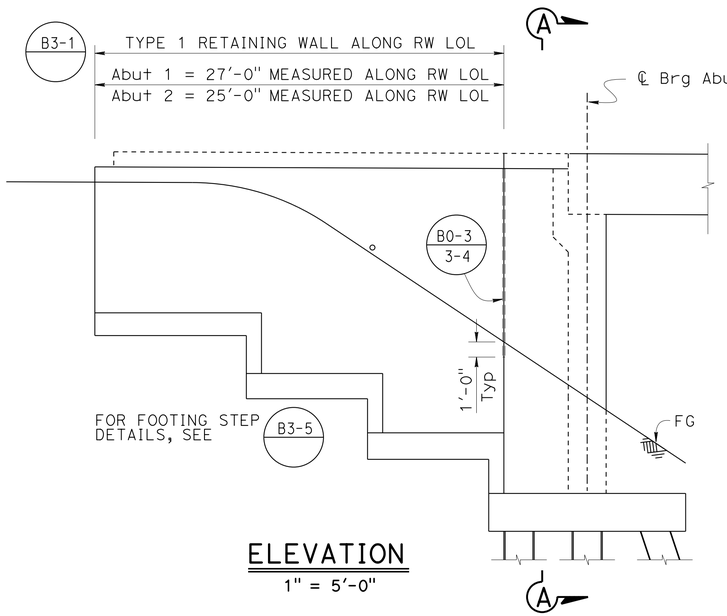
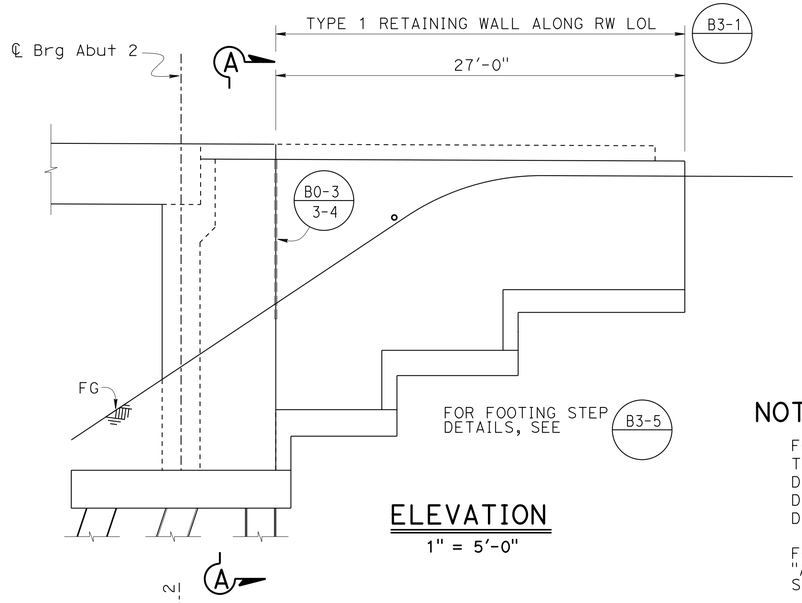
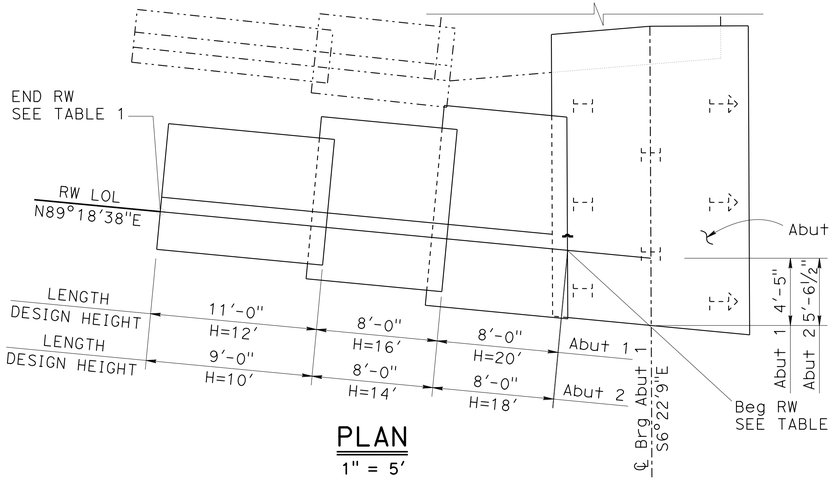


ELEVATION
1" = 5'-0"



ELEVATION
1" = 5'-0"



PLAN
1" = 5'

RETAINING WALL (RAMP)

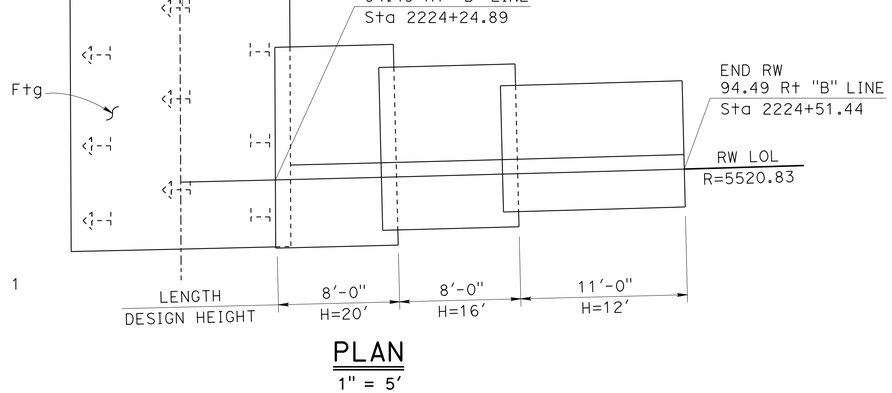
TABLE 1

LOCATION	LOCATION OF POINT FROM "G2" LINE			
	Beg RW		END RW	
	OFFSET	STATION	OFFSET	STATION
Abut 1	23.29' Rt	2223+58.27	23.29' Rt	2223+31.27
Abut 2	23.29' Rt	2224+61.07	23.29' Rt	2224+88.07

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

NOTES:

1. Concrete Barrier not shown
2. Retaining Wall (Ramp) Abut 1 shown, Abut 2 is similar



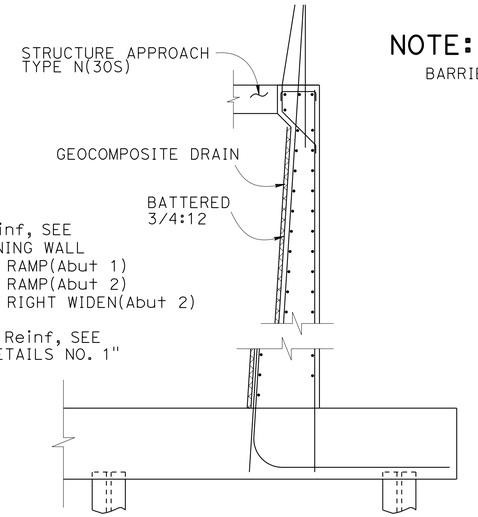
PLAN
1" = 5'

RETAINING WALL (RIGHT WIDEN) ABUTMENT 2

LEGEND:

——— Indicates New Construction

·—·—· Indicates Existing Structures



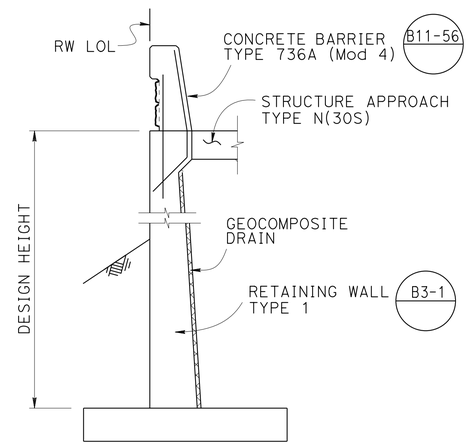
NOTES:

FOR STEM Reinf, SEE TYPE1 RETAINING WALL
DESIGN H=24' RAMP(Abut 1)
DESIGN H=22' RAMP(Abut 2)
DESIGN H=24' RIGHT WIDEN(Abut 2)

FOR FOOTING Reinf, SEE "ABUTMENT DETAILS NO. 1" SHEET

NOTE:
BARRIER IS NOT SHOWN

SECTION A-A
⅜" = 1'-0"



TYPICAL RETAINING WALL SECTION
NO SCALE

DESIGN	BY	MOHAMMAD MUQTADIR	CHECKED	FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008 53-2008G
DETAILS	BY	K. FARAHZADI/A. ONG	CHECKED	FEIRUZ ABERRA			POST MILE 42.12
QUANTITIES	BY	MOHAMMAD MUQTADIR	CHECKED	FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)
RETAINING WALL LAYOUT NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
02/26/14	01/22/14		01/22/14	13	31

FILE => 53-2008-h-rw_la01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1711	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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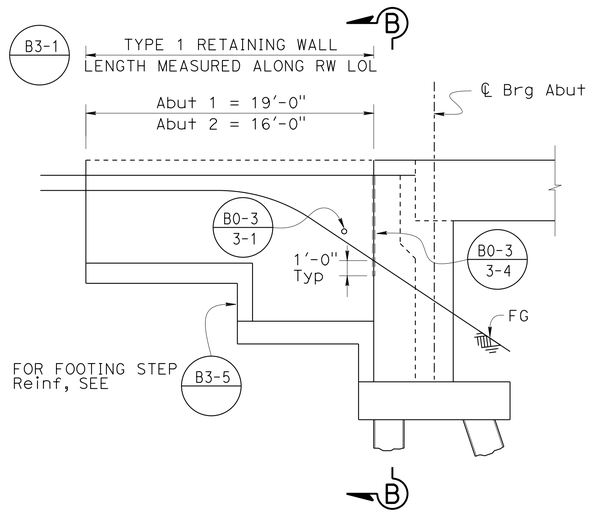
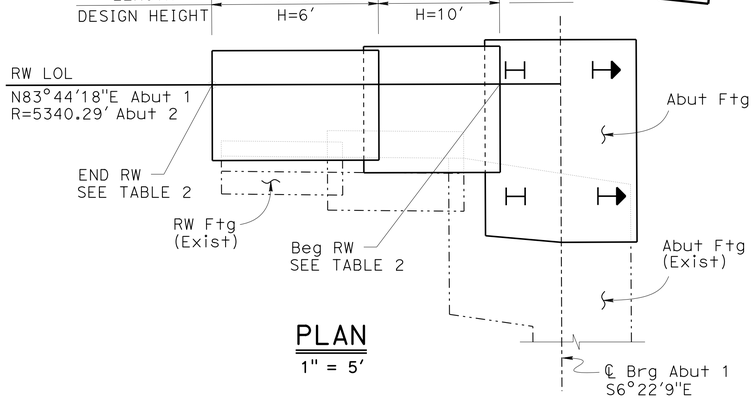


RETAINING WALL (LEFT WIDEN) ABUTMENT 1

MIRROR ELEVATION

1" = 5'-0"

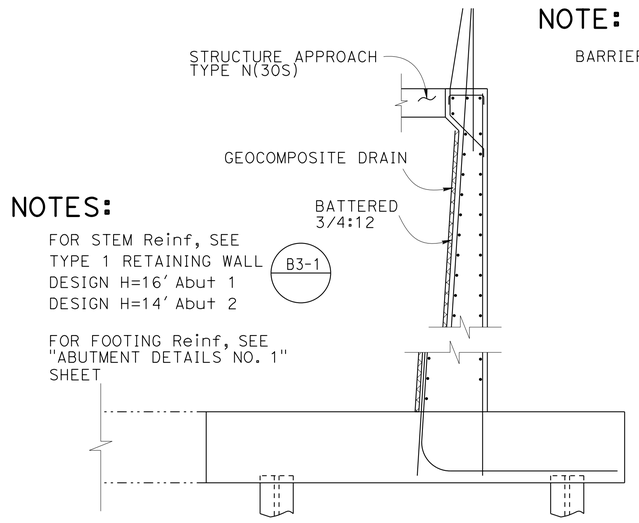


PLAN

1" = 5'

RETAINING WALL (LEFT WIDEN) ABUTMENT 1

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

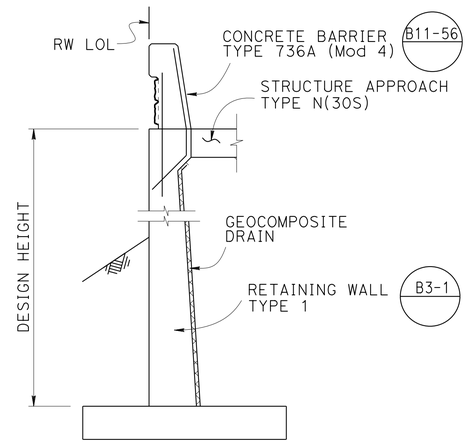


SECTION B-B

3/8" = 1'-0"

NOTE:

BARRIER IS NOT SHOWN



TYPICAL RETAINING WALL SECTION

NO SCALE

TABLE 2

LOCATION	LOCATION OF POINT FROM "B" LINE			
	Beg RW		END RW	
	OFFSET	STATION	OFFSET	STATION
Abut 1	83.65' Lt	2223+25.31	83.65' Lt	2223+06.02
Abut 2	82.66' Lt	2224+26.19	82.66' Lt	2224+42.44

NOTES:

1. For Concrete Barrier details , see B11-56
2. Abut 1 Retaining Wall Left Widen is shown, Abut 2 Retaining Wall Left Widen is similar

LEGEND:

——— Indicates New Construction

·—·—· Indicates Existing Structures

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA			POST MILE 42.12
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)
RETAINING WALL LAYOUT NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
12/04/13	01/27/14	01/22/14		14	31

FILE => 53-2008-h-rw_lo02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1712	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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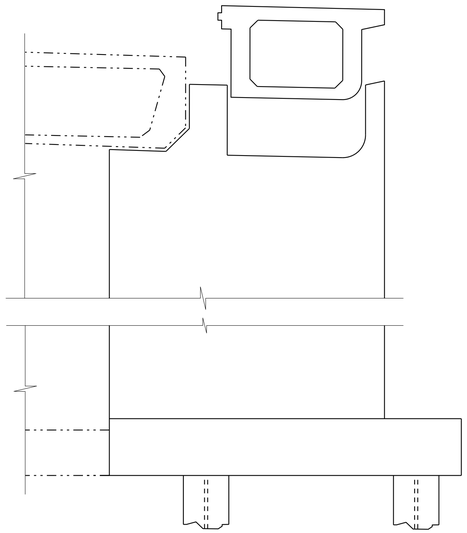
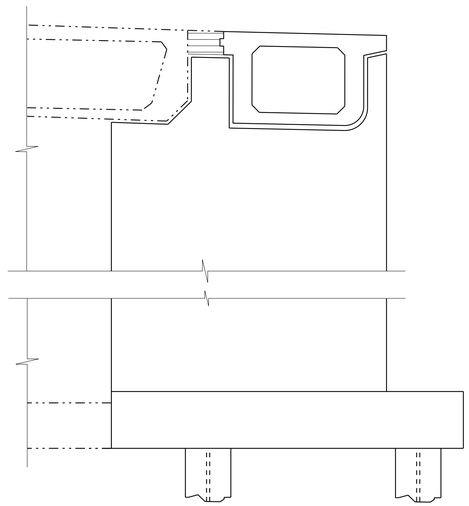


SUPER STRUCTURE IN RAISED POSITION

NO SCALE



SUPER STRUCTURE IN FINAL POSITION

NO SCALE

NOTE:

Abutment 1 shown, Abutment 2 similar

LEGEND:

——— Indicates New Construction

·····—·····— Indicates Existing Structures

▭ Indicates Closure Pour

CONSTRUCTION SEQUENCE (BUILD UP & LOWER TO GRADE)

1. Construct Abutment Seat
2. Cast Superstructure in Raised Position
3. Stress and Grout Tendons
4. Install Jacks and Backup Support System
5. Remove Falsework
6. Lower Superstructure to Final Grade
7. Cast Shear Key, Abutment Backwall and Retaining Wall
8. Construct Concrete Barrier
9. Construct Deck Closure Pour

ESTIMATED JACKING LOAD TABLE		
LOCATION	Design Dead Load (Kip)	Minimum Lateral Design Load (Kip)
Abut 1	110	28
Abut 2	110	28

NOTES:

1. Loads given are total unfactored dead load at the specified locations
2. The jacking load at each specified jack location equals the total divided by the number of jacks
3. Contractor to determine height for casting deck based on falsework depth and clearance requirements
4. Jacking loads shown only include structure unfactored dead load
5. Structure to be lowered simultaneously at Abutments
6. Contractor to design lowering system. Shop drawings to be submitted for approval, lowering system to include a minimum of two hydraulic jacks at each Abutment

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

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA			POST MILE 42.12
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)

BRIDGE JACKING DETAILS (LEFT WIDEN)

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/20/13	02/28/14	05/14/14		15	31

FILE => 53-2008-i-bjdt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1713	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

Dawit T Worku
No. C60711
Exp. 12-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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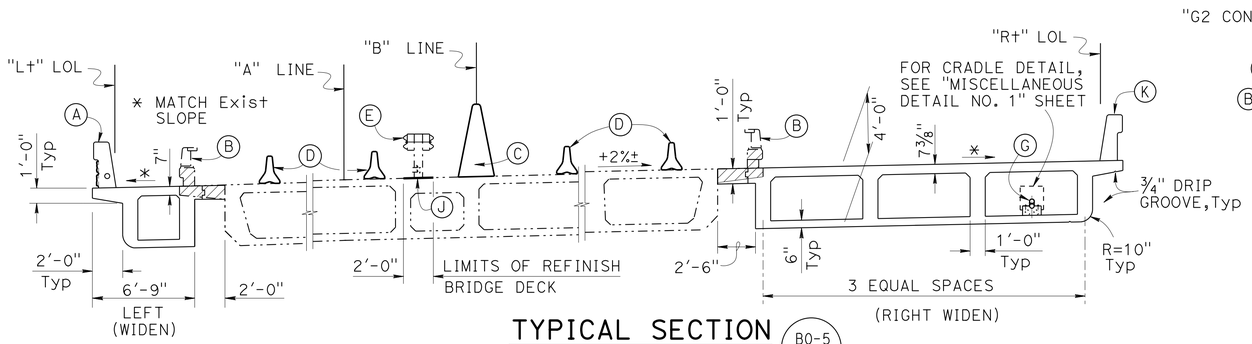
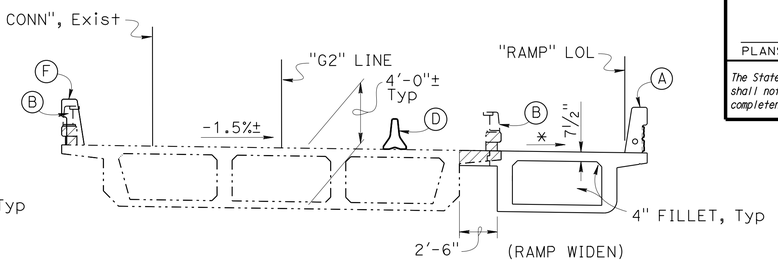
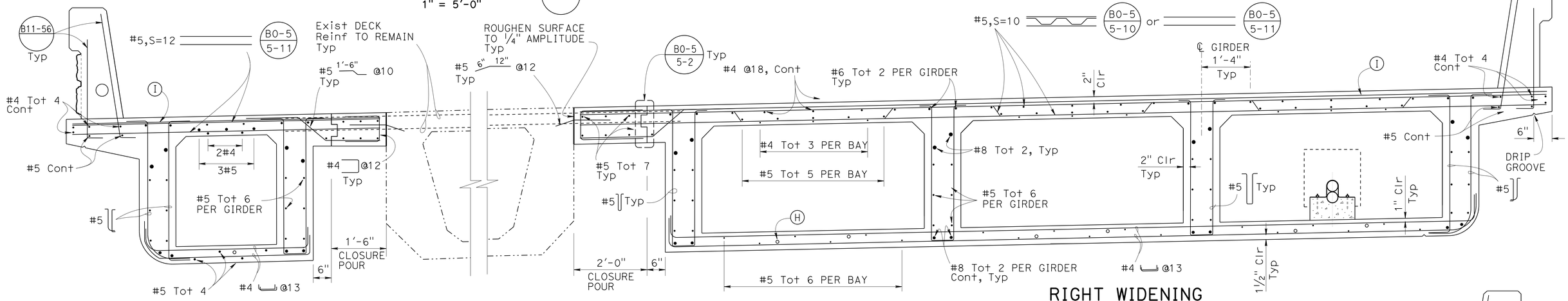




TYPICAL SECTION
B0-5
1" = 5'-0"



LEFT WIDENING

RIGHT WIDENING

NOTES:

- (A) Concrete Barrier Type 736 (Mod 4)
- (B) Remove Barrier Railing, Type 9 Salvage Metal Bridge Railing
- (C) Concrete Barrier Type 60GA (Mod), see "MISCELLANEOUS DETAILS" sheet
- (D) Temporary Railing Type K, see "MISCELLANEOUS DETAILS" sheet
- (E) Remove MBGR, see "ROAD PLANS"
- (F) Concrete Barrier Type 736 (Mod 3), see "MISCELLANEOUS DETAILS" sheet
- (G) 2-3½" Communication Conduits, see "ROAD PLANS"
- (H) For additional reinforcement, see "GIRDER REINFORCEMENT No. 1" and "GIRDER REINFORCEMENT No. 2" sheets
- (I) Additional #5 bars L = 5'-0" bundled, alternating with each top transverse bar
- (J) Refinish Bridge Deck
- (K) Concrete Barrier Type 736

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

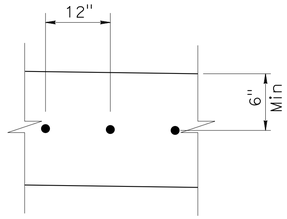
PART TYPICAL SECTION
¾" = 1'-0"
B0-5 5-11 | B7-1 | B8-5 | B11-56

FALSEWORK RELEASE

FALSEWORK SHALL BE RELEASED AS SOON AS PERMITTED BY THE SPECIFICATIONS. CLOSURE POUR SHALL NOT BE PLACED SOONER THAN 60 DAYS AFTER THE FALSE-WORK HAD BEEN RELEASED.

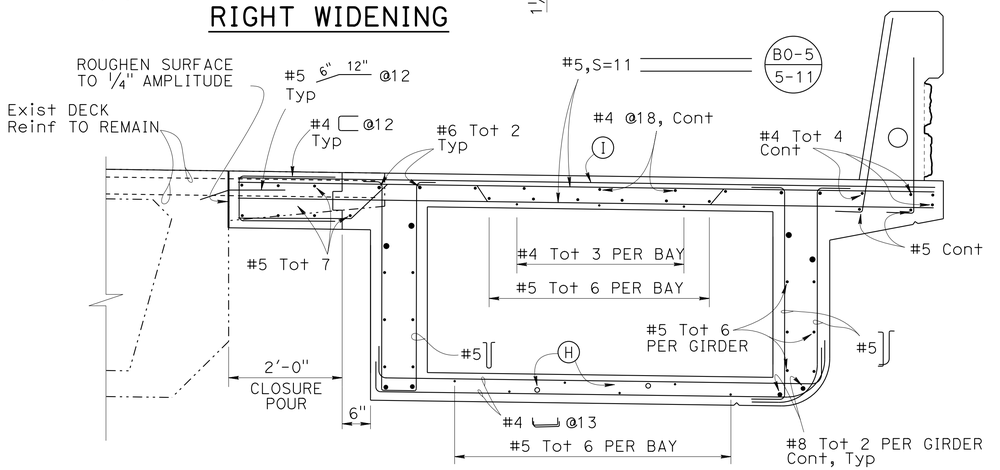
LEGEND:

- Indicates New Construction
- Indicates Existing Structure
- Bridge Removal (Portion)



DOWEL LAYOUT

For Girder spacing, see "GIRDER LAYOUT No. 1" and "GIRDER LAYOUT No. 2" sheets



RAMP WIDENING

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008 53-2008G
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA			POST MILE 42.12
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)
TYPICAL SECTION

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-4 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/14/14	05/28/14	07/23/14		16	31

FILE => 53-2008-k-ts01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1714	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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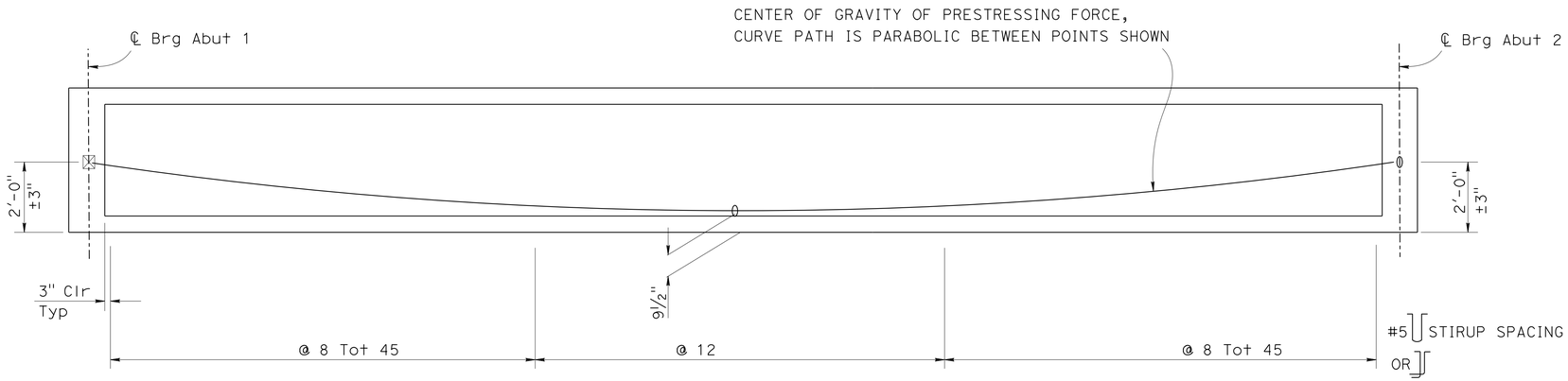


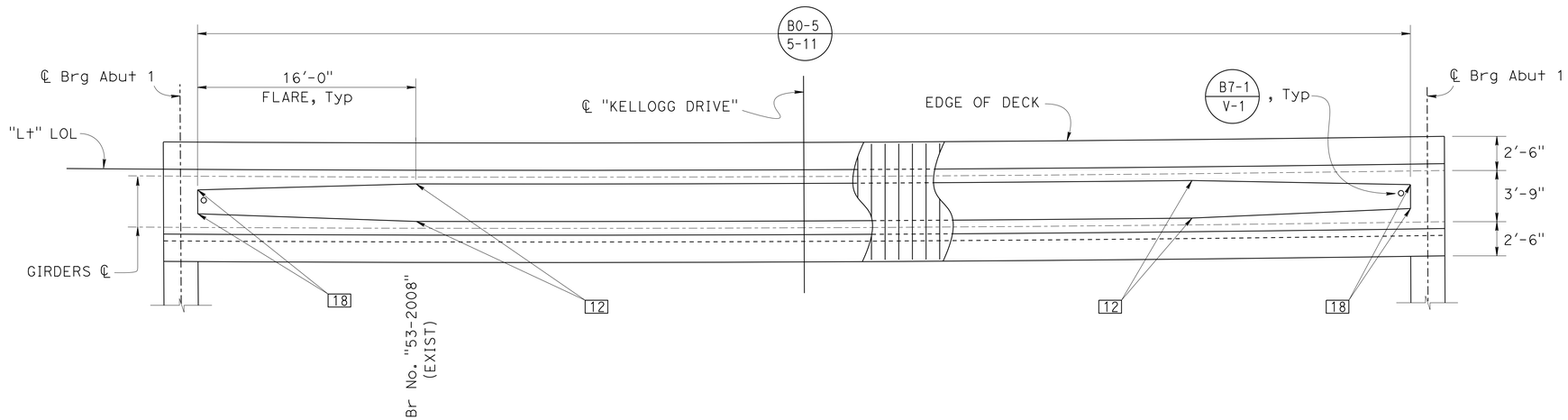
LONGITUDINAL SECTION

NO SCALE

NOTE:

This box girder is to be built high and lowered in place.

XX Denotes girder width in inches



GIRDER LAYOUT (LEFT WIDEN)

1" = 5'-0"

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

PRESTRESSING NOTES: (LEFT WIDEN)

270 KSI Low Relaxation Strand:

P_{jack} = 2560 kips

Anchor Set = 0.37 in

Total Number of Girders = 2

Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 1:1

Concrete: f'_c = 5.0 ksi @ 28 days

f'_{ci} = 3.5 ksi @ time of stressing

Design based on μ = 0.15 AND k = 0.0002/FT

Contractor shall submit elongation calculations based on initial stress at

☒ = 0.9523 times jacking stress.

One end stressing shall be performed.

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA			POST MILE 42.12
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)

GIRDER LAYOUT NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
08/20/10	11/20/10	06/17/13	17	31

FILE => 53-2008-1-g_1001.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1715	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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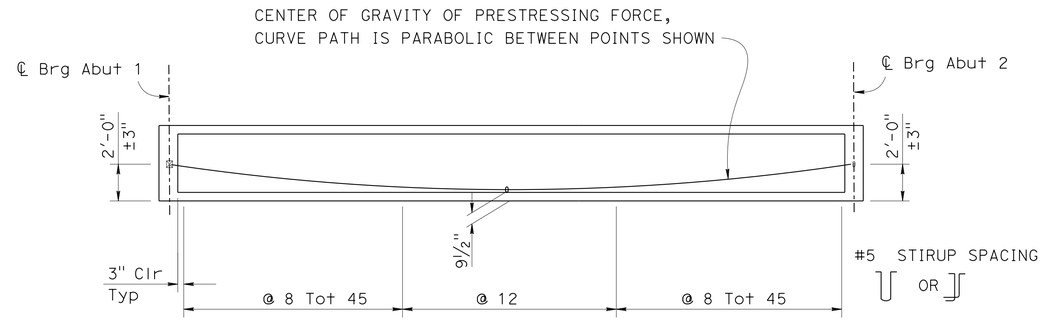
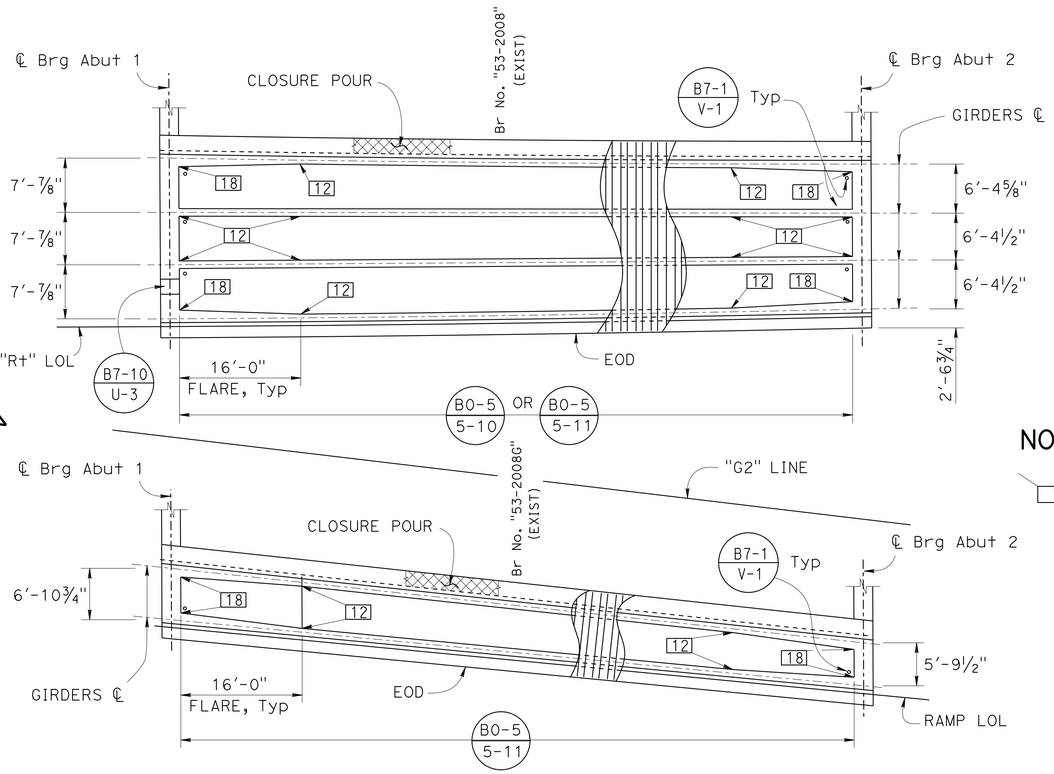


LONGITUDINAL SECTION

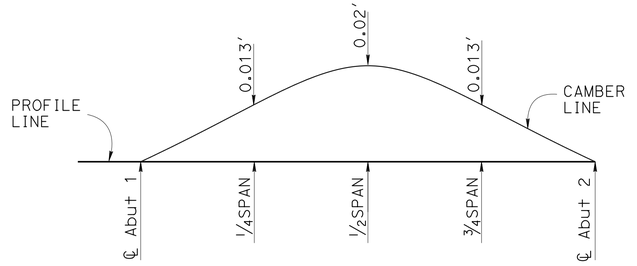
NO SCALE



GIRDER LAYOUT

1" = 10'-0"

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



CAMBER DIAGRAM (RIGHT WIDENING)

NO SCALE

DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT

PRESTRESSING NOTES: (RIGHT WIDEN)

270 KSI Low Relaxation Strand:

P_{jack} = 5310 kips

Anchor Set = 0.37 in

Total Number of Girders = 4

Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 3:2. Maximum final force variation between girders shall not exceed 725 kips.

Concrete: f'_c = 5.0 psi @ 28 days

f'_{ci} = 3.5 psi @ time of stressing

Design based on μ = 0.15 and k = 0.0002/Ft

Contractor shall submit elongation calculations based on initial stress at

☒ = 0.9523 times jacking stress.

One end stressing shall be performed.

NOTE:

XX Denotes girder width in inches

PRESTRESSING NOTES: (RAMP WIDEN)

270 KSI Low Relaxation Strand:

P_{jack} = 3300 kips

Anchor Set = 0.37 in

Total Number of Girders = 2

Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 1:1. Maximum final force variation between girders shall not exceed 725 kips.

Concrete: f'_c = 5.0 psi @ 28 days

f'_{ci} = 3.5 psi @ time of stressing

Design based on μ = 0.15 and k = 0.0002/ft

Contractor shall submit elongation calculations based on initial stress at

☒ = 0.9525 times jacking stress.

One end stressing shall be performed.

	BY	CHECKED
DESIGN	MOHAMMAD MUQTADIR	FEIRUZ ABERRA
DETAILS	K. FARAHZADI/A. ONG	FEIRUZ ABERRA
QUANTITIES	MOHAMMAD MUQTADIR	FEIRUZ ABERRA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)

GIRDER LAYOUT NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 12/04/13 | 11/16/10 | 06/18/13

SHEET 18 OF 31

FILE => 53-2008-1-g_lo02.dgn

DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

USERNAME => s125624

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1716	2313

Dawit Tadille Ferz 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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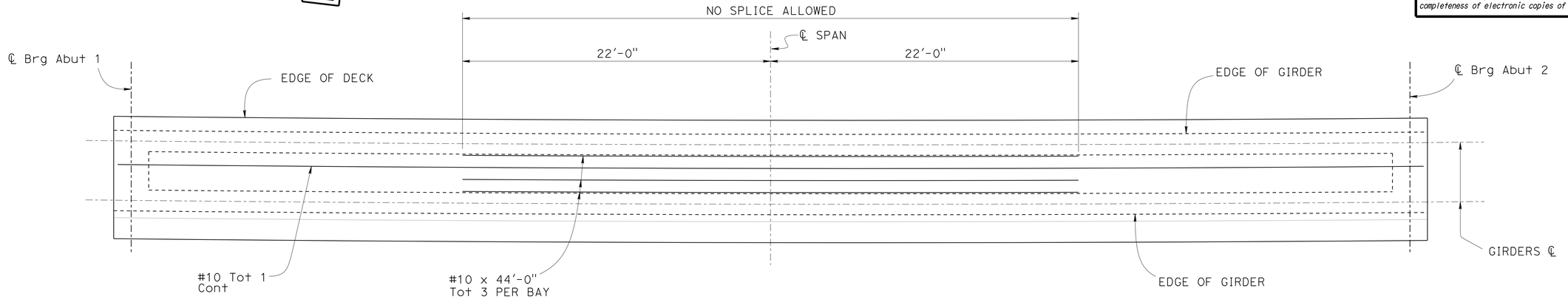
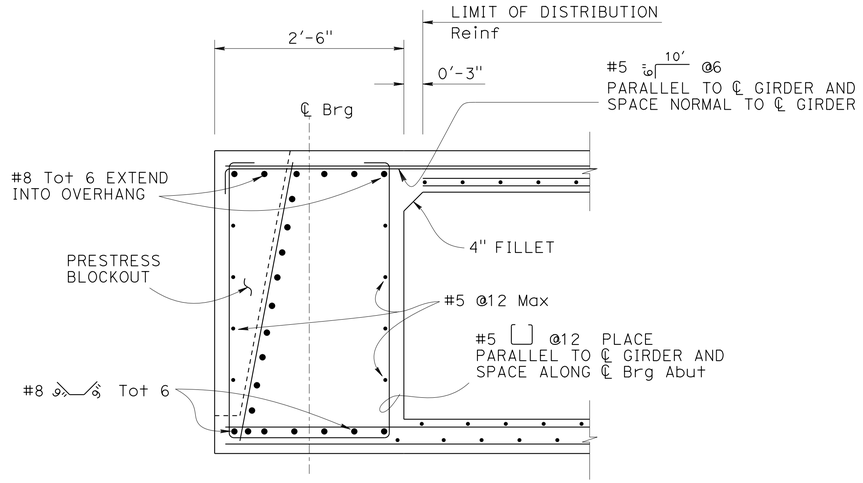


BOTTOM LONGITUDINAL REINFORCEMENT (LEFT WIDEN)

1/4" = 1′-0"



ABUTMENT END DIAPHRAGM (AT GIRDER)

B8-5

1" = 1′-0"

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

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA	
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)
GIRDER REINFORCEMENT NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/04/13	07/28/14	01/23/14		19	31

FILE => 53-2008-o-gir_rf01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1717	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
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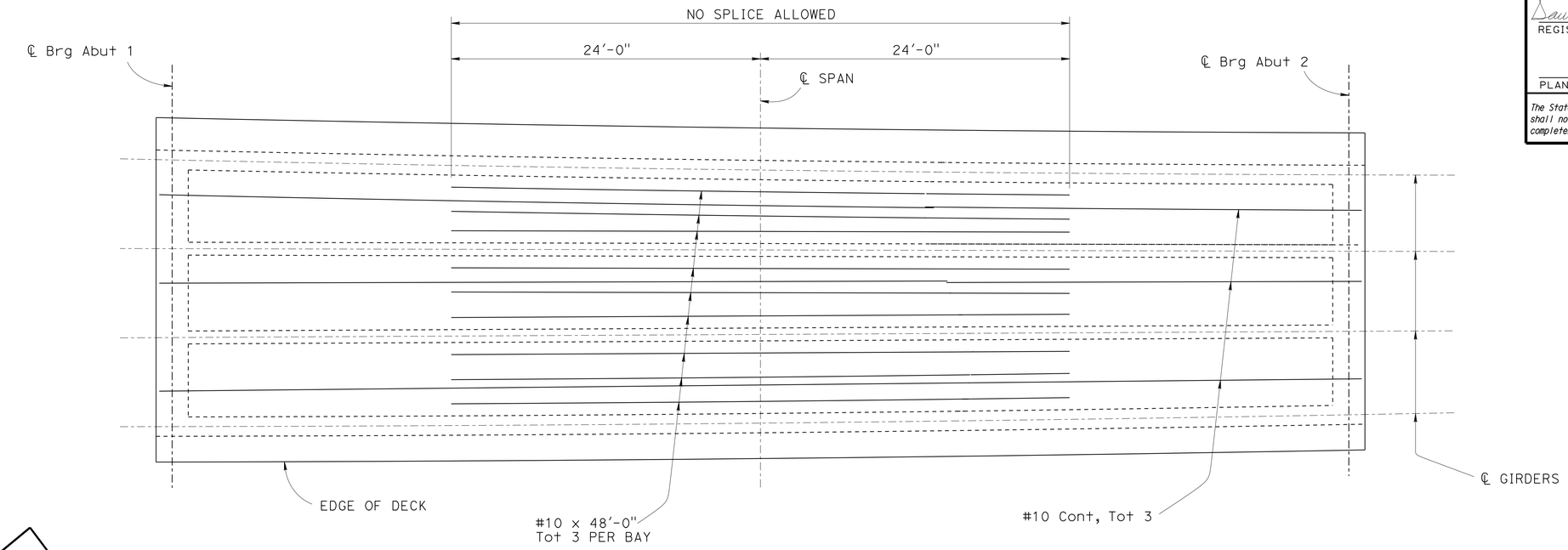
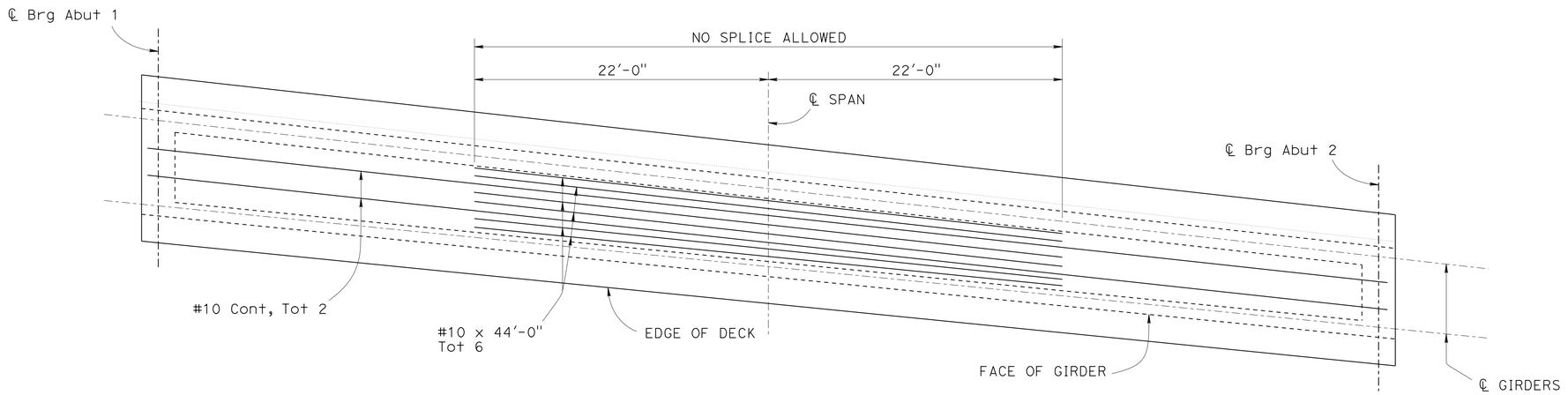


BOTTOM LONGITUDINAL REINFORCEMENT (RIGHT WIDEN)

1" = 5'-0"



BOTTOM LONGITUDINAL REINFORCEMENT (RAMP WIDEN)

1" = 5'-0"

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

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008 53-2008G POST MILE 42.12
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA			
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)
GIRDER REINFORCEMENT NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
02/26/14	07/23/14		06/19/15	20	31

FILE => 53-2008-o-gir_rf02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1718	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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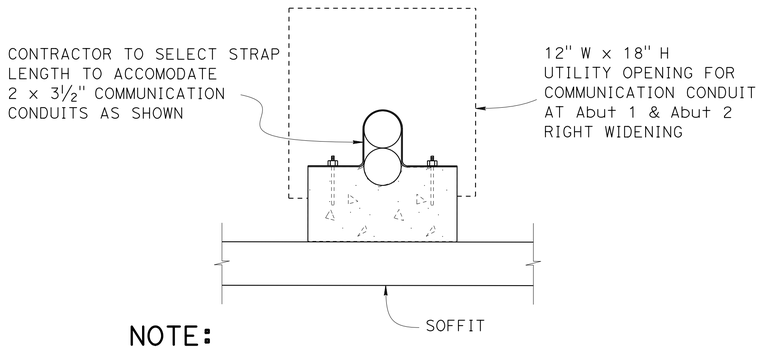
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA



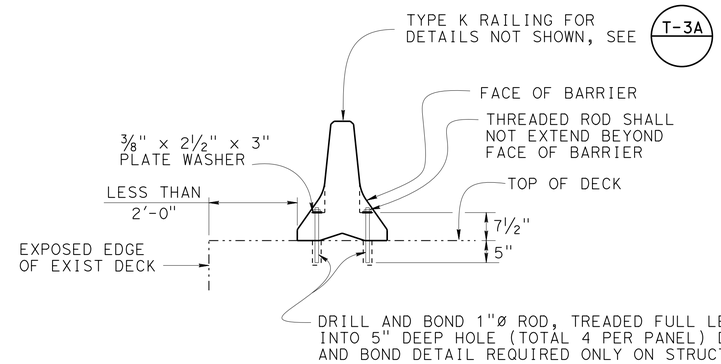
NOTE:

Detail only for use with communication conduits, see "ROAD PLANS"

For details not shown, see B14-3

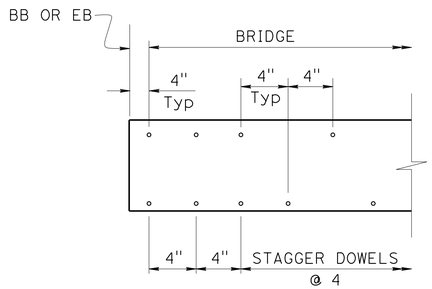
MODIFIED CONCRETE CRADDLE DETAIL

NO SCALE



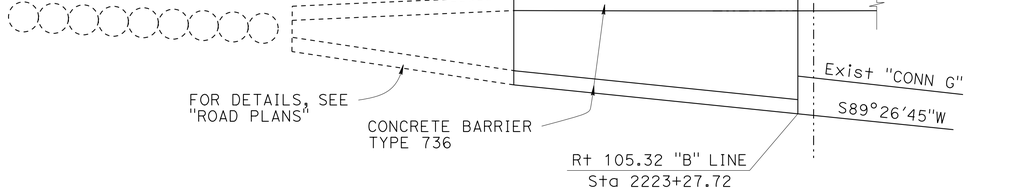
TYPE K RAILING ATTACHMENT DETAIL (SEE "ROAD PLANS")

NO SCALE



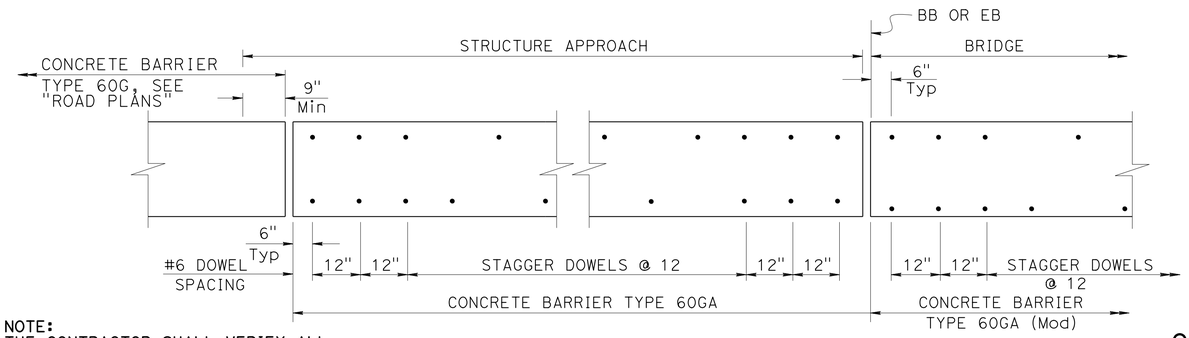
CONCRETE BARRIER TYPE 736 (MOD 3)-DOWEL LAYOUT

NO SCALE



CONCRETE BARRIER (TYPE 736)-LAYOUT

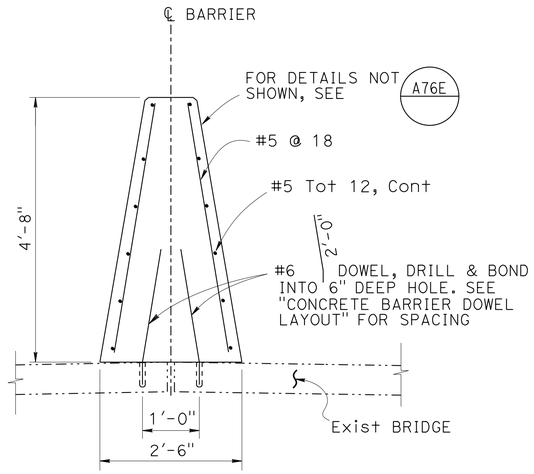
⅛" = 1'-0"



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

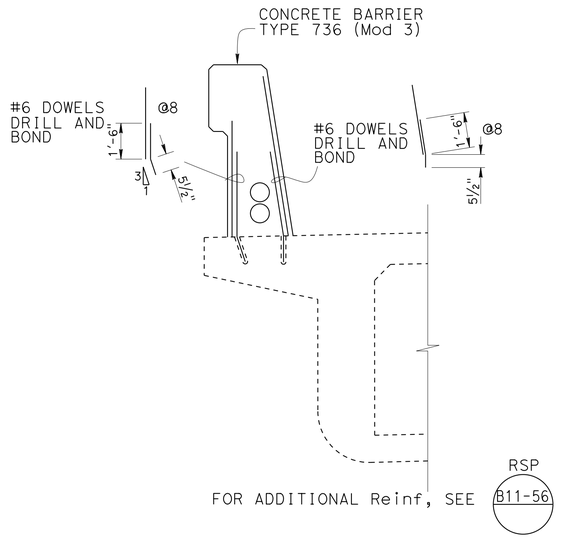
CONCRETE BARRIER DOWEL LAYOUT

NO SCALE



CONCRETE BARRIER TYPE 60GA (MOD)

¾" = 1'-0"



CONCRETE BARRIER TYPE 736 (MOD 3)

¾" = 1'-0"

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008 53-2008G
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED FEIRUZ ABERRA			POST MILE 42.12
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)

MISCELLANEOUS DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-4
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
05/07/14	05/22/14	06/03/14	21	31

FILE => 53-2008-t-miscdt01.dgn

USERNAME => S125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1719	2313

Dawit Tadille Feiz 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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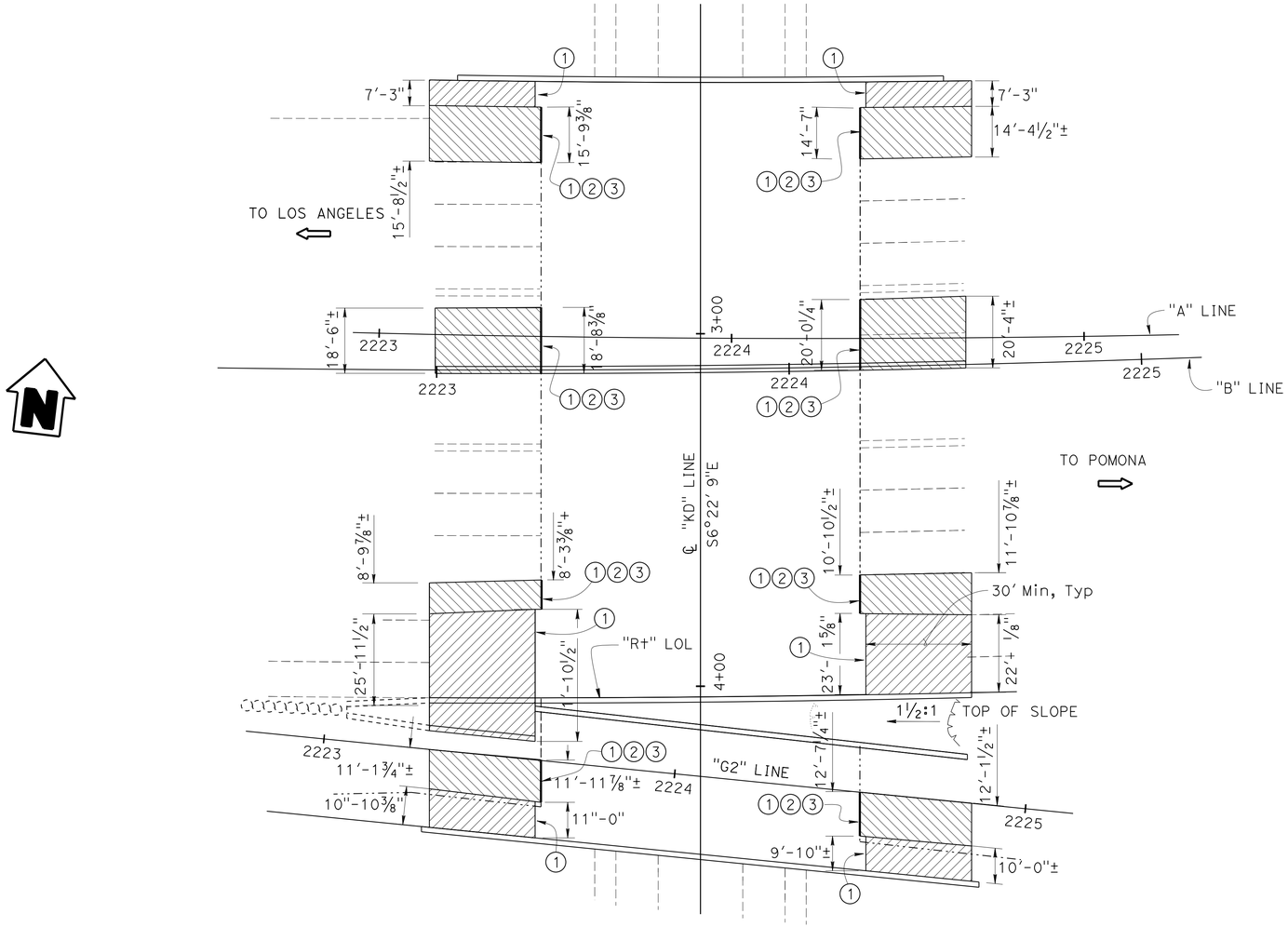
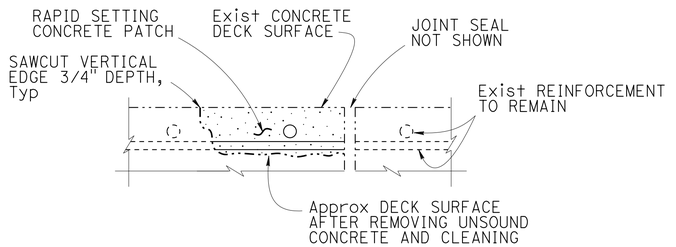


PLAN
1" = 20'



JOINT SPALL REPAIR DETAIL
NO SCALE

NOTE: REINFORCEMENT MAY BE ENCOUNTERED DURING DECK CONCRETE REMOVAL AND IS TO REMAIN UNDAMAGED. LOCATIONS TO BE DETERMINED BY THE ENGINEER

JOINT SPALL REPAIR TABLE

LOCATION	APPROX DEPTH OF JOINT SPALLS (Inch)	APPROX WIDTH OF JOINT SPALLS (Inch)	APPROX LENGTH OF JOINT SPALLS (Feet)
Abut 1	3	6	4
Abut 2	3	6	4

NOTES:
1. Joint seal MR = 1"
2. Prior to placement of new joint seal, remove unsound concrete and patch with rapid setting concrete
3. Paving notch extension

LEGEND:
- Indicates New Construction
- Indicates Existing Structure
- Indicates Joint Seal
- Indicates Structure Approach Type N(30S)
- Indicates Structure Approach Type R(30D)

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

DESIGN	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008 53-2008G POST MILE 42.12
DETAILS	BY K. FARAHZADI/A. ONG	CHECKED MOHAMMAD MUQTADIR			
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA			

KELLOGG DRIVE UC (WIDEN)

APPROACH SLAB LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/14/14		02/18/14	03/24/14	22	31

FILE => 53-2008-v-as-1001.dgn

USERNAME => s1125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1720	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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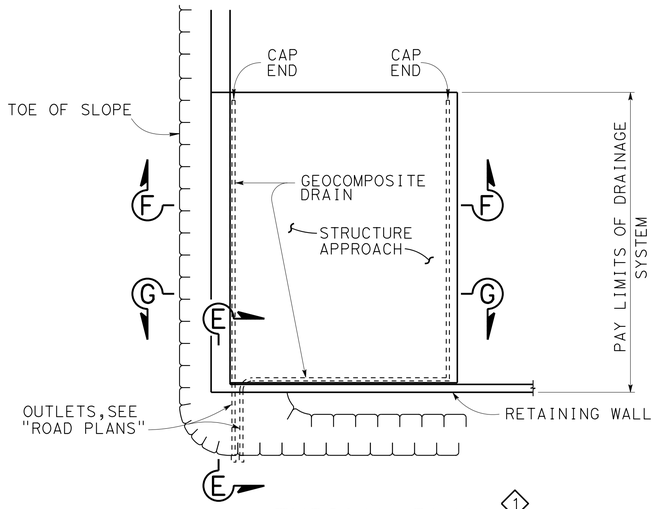
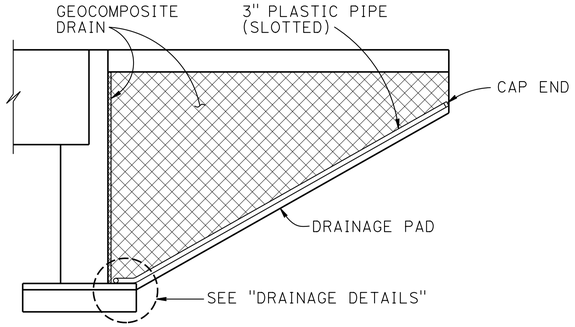


TYPICAL PLAN ◇1

1" = 10'

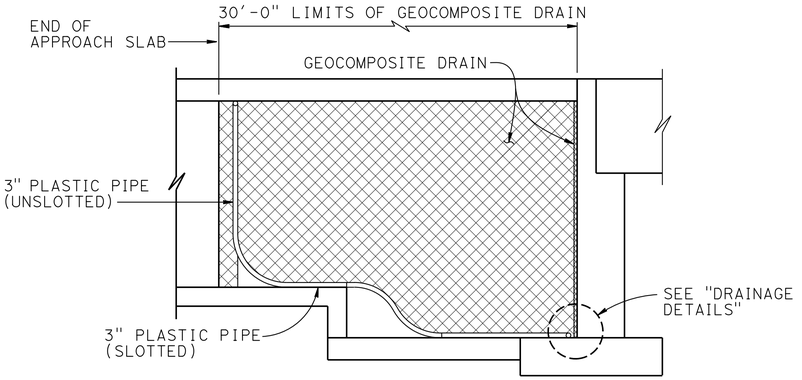
* FOR PIPE LAYOUT AT STAGGERED END, SEE "DETAIL B"



CANTILEVER WINGWALL

SECTION F-F

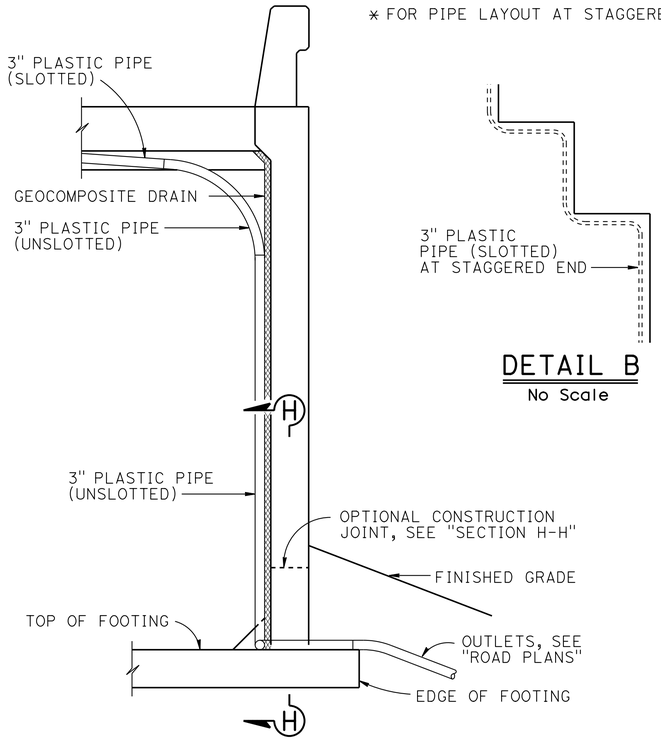
¼" = 1'-0"



RETAINING WALL WINGWALL DRAINAGE DETAILS

SECTION G-G

¼" = 1'-0"



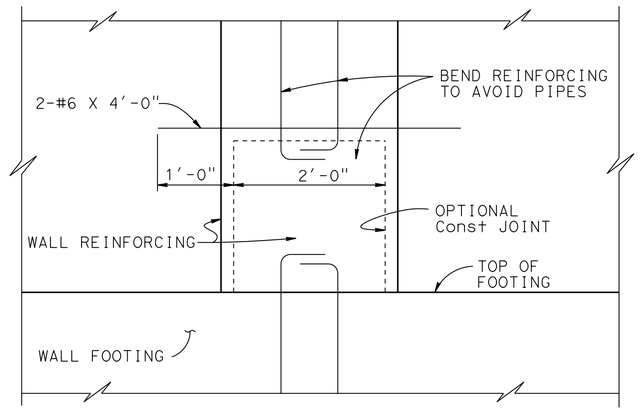
SECTION E-E

½" = 1'-0"

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

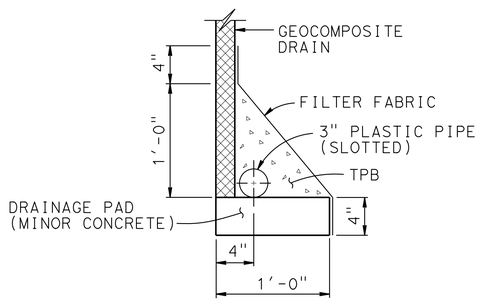
DETAIL B

No Scale

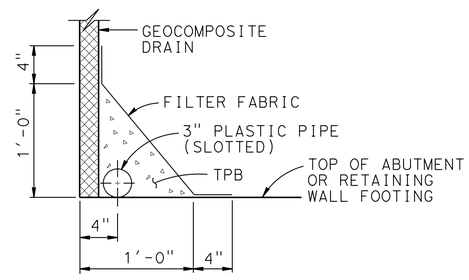


SECTION H-H

1" = 1'-0"



WITHOUT FOOTING



WITH FOOTING

DRAINAGE DETAILS

1½" = 1'-0"

REVISED STANDARD DRAWING

FILE NO. xs3-110

APPROVAL DATE July 2011

◇1 MODIFIED DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53-2008 53-2008G

POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)

STRUCTURE APPROACH DRAINAGE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
06/20/13				23	31

FILE => 53-2008-v-saddt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1721	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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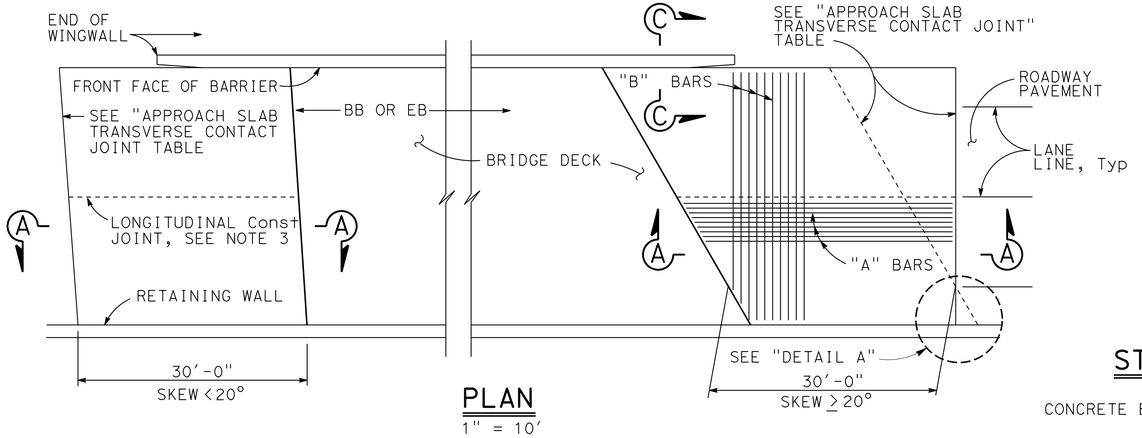
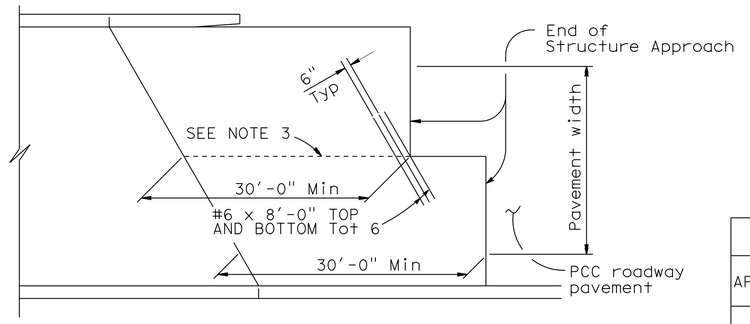
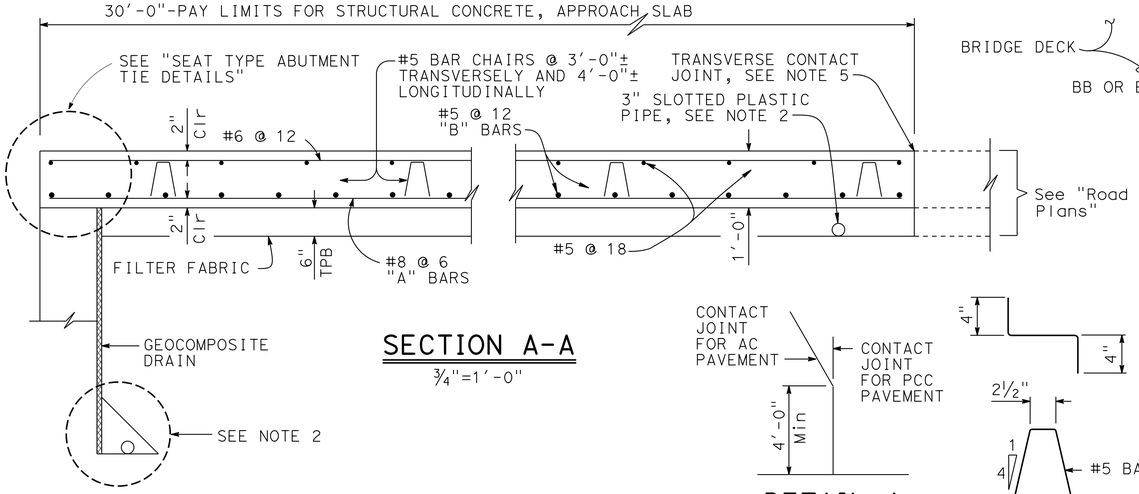


PLAN
1" = 10'

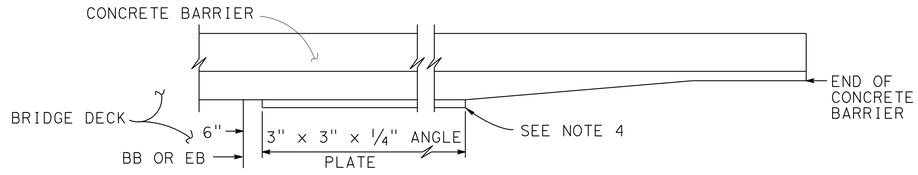


STRUCTURE APPROACH - END STAGGER DETAIL
No Scale

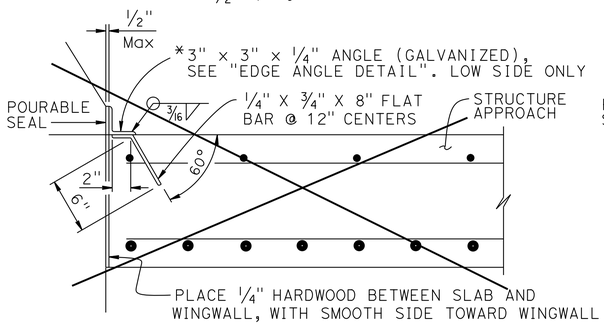
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE



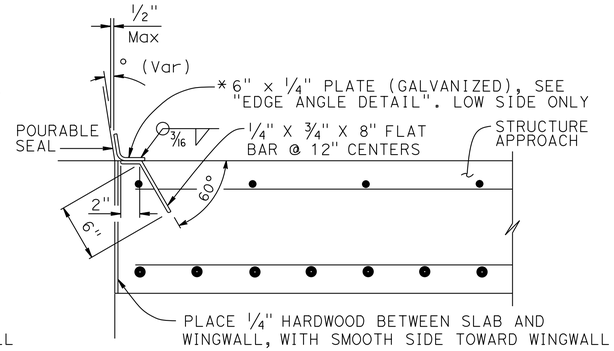
SECTION A-A
¾"=1'-0"



EDGE ANGLE DETAIL
½"=1'-0"



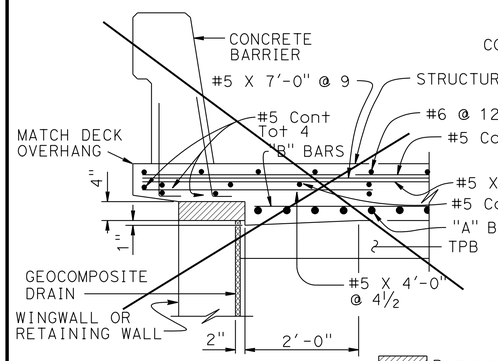
*(TO BE USED WITH CONCRETE BARRIER WITH VERTICAL FACE) ①



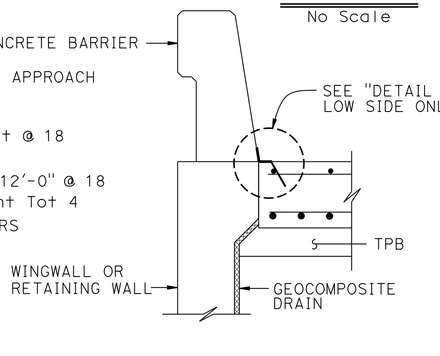
*(TO BE USED WITH CONCRETE BARRIER WITH SLOPING FACE)

DETAIL A
No Scale

BAR CHAIR DETAIL
1½"=1'-0"



TYPE E-1

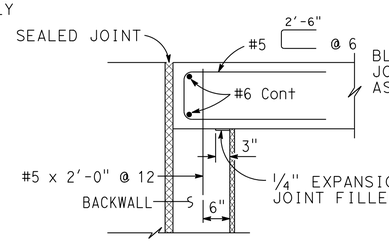


TYPE E-2

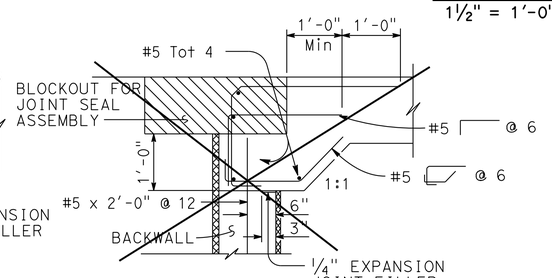
Remove all polystyrene

SECTION C-C ①
¾"=1'-0"

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



MR ≤ 2"



MR > 2" ①

SEAT TYPE ABUTMENT TIE DETAILS (SEE NOTE 1)
¾"=1'-0"

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

STANDARD DRAWING
FILE NO. xs3-120
APPROVAL DATE July 2011

① DELETED DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.12

KELLOGG DRIVE UC (WIDEN)
STRUCTURE APPROACH TYPE N(30S)

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
06/20/13				24	31

FILE => 53-2008-w-sasIab-N(30S).dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1722	2313

Dawit Tadilla Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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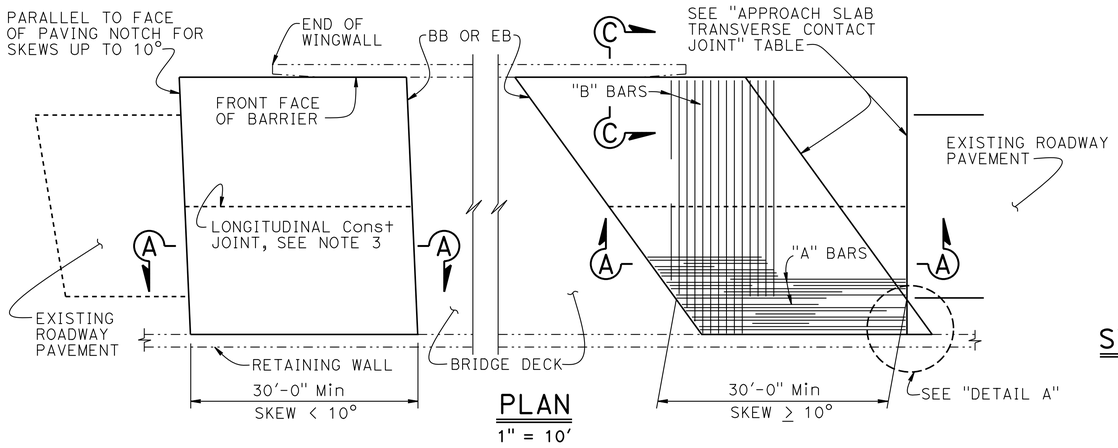
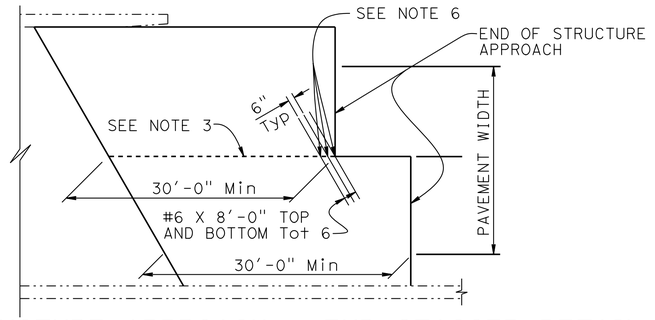
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

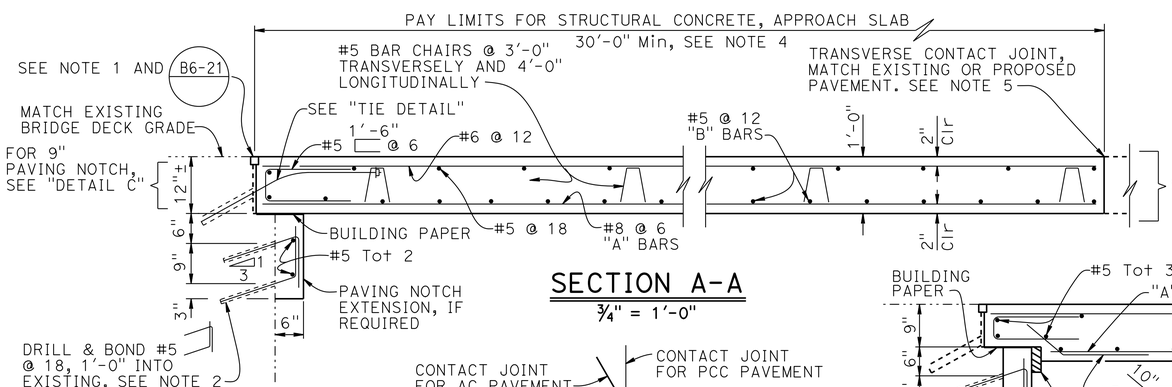


PLAN
1" = 10'

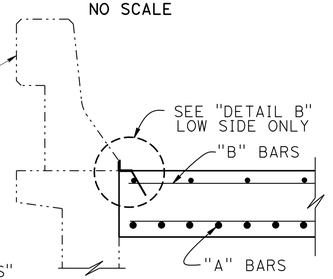


STRUCTURE APPROACH - END STAGGER DETAIL
NO SCALE

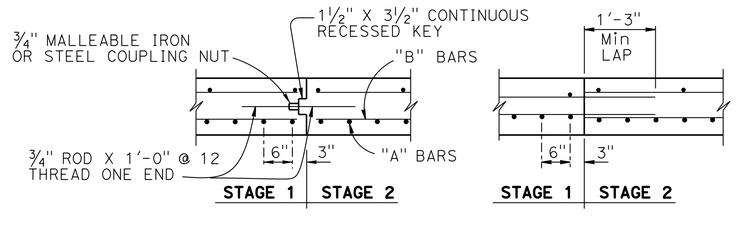
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PAVING NOTCH
10° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE

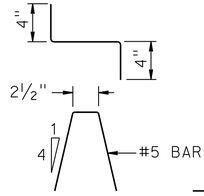


SECTION A-A
¾" = 1'-0"

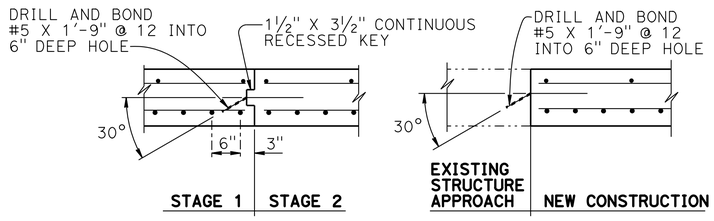


SECTION C-C
¾" = 1'-0"

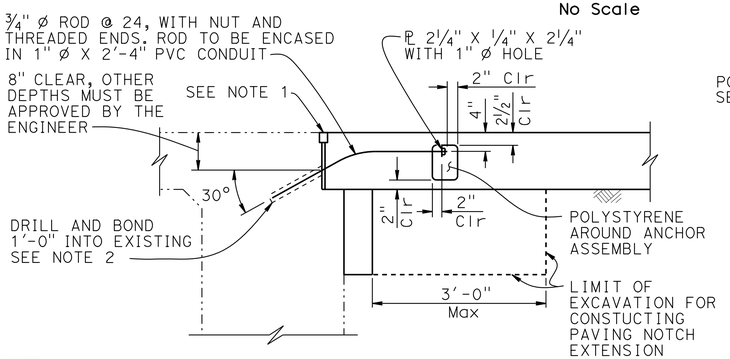




BAR CHAIR DETAIL
1½" = 1'-0"



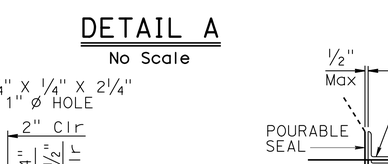
LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
¾" = 1'-0"



TIE DETAIL
¾" = 1'-0"

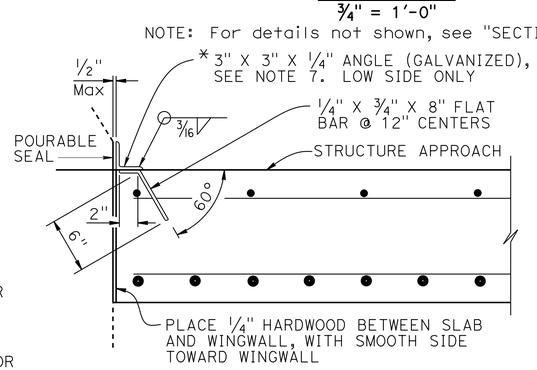
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DETAIL C
¾" = 1'-0"

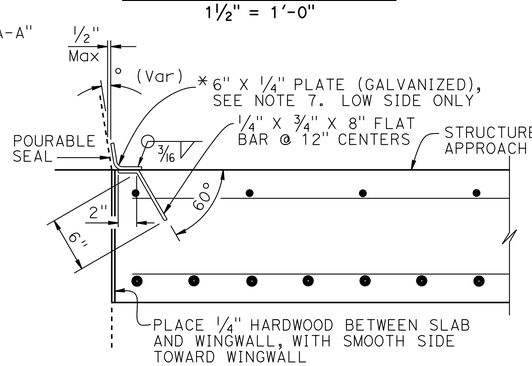


DETAIL A
No Scale

NOTE: For details not shown, see "SECTION A-A"



*(TO BE USED WITH CONCRETE BARRIER WITH VERTICAL FACE)



*(TO BE USED WITH CONCRETE BARRIER WITH SLOPING FACE)

DETAIL B
1½" = 1'-0"

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

STANDARD DRAWING

FILE NO. xs3-150

APPROVAL DATE July 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	
53-2008	
53-2008G	
POST MILE	
42.12	

KELLOGG DRIVE UC (WIDEN)
STRUCTURE APPROACH TYPE R(30D)

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
				25	31

FILE => 53-2008-w-sastab-R(30D).dgn

USERNAME => s1125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

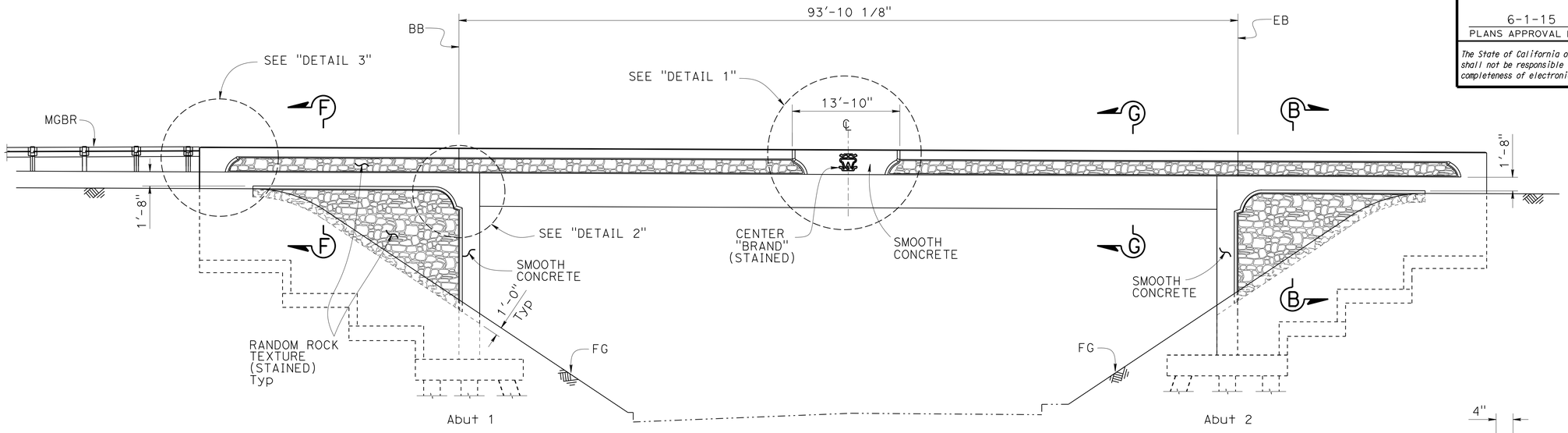
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1723	2313

Dawit Tadille Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

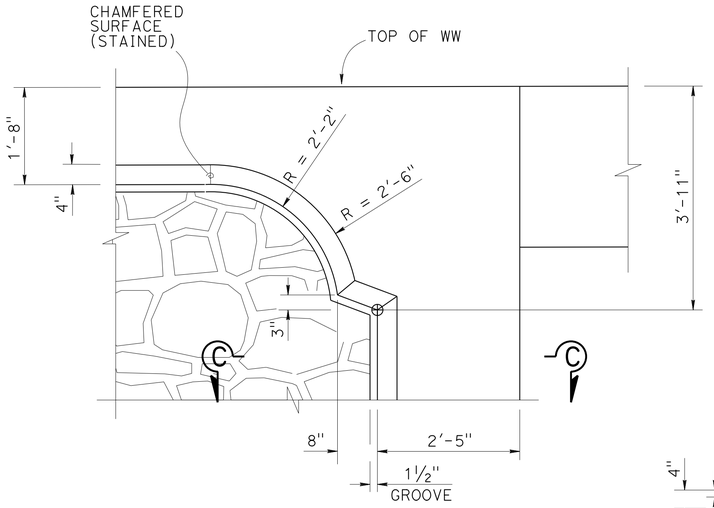
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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

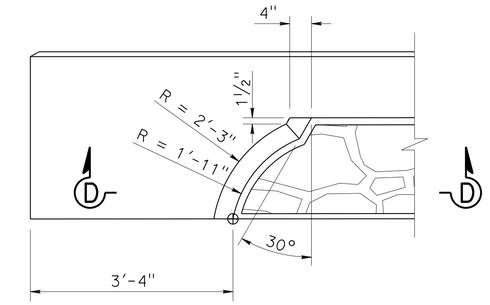


ELEVATION
NO SCALE

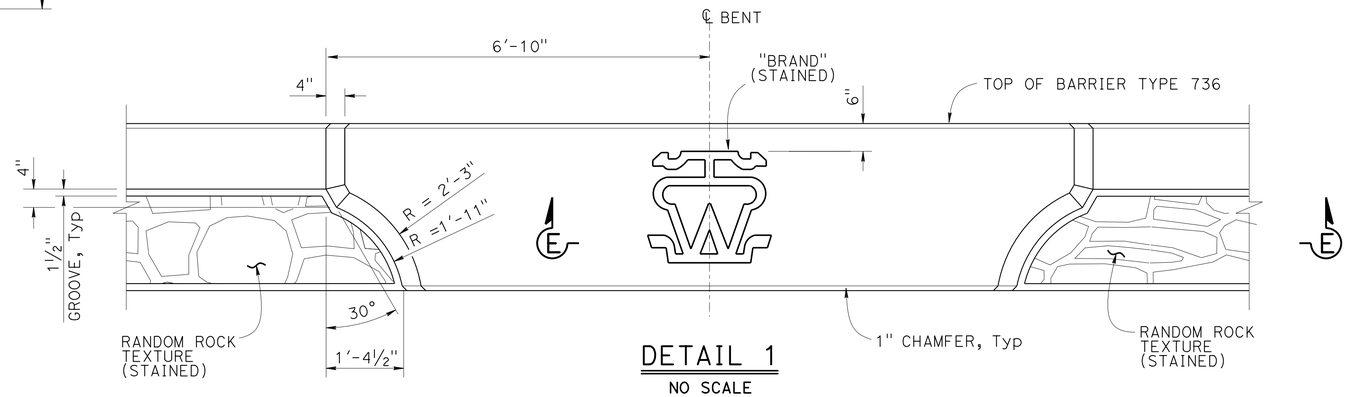
NOTE:
Ramp Widening, Abut 1, and Abut 2 shown.
Abut 1, Abut 2 Left Widening and Abut 2 Right Widening similar.



DETAIL 2
NO SCALE



DETAIL 3-TYPICAL FOR BARRIER END
NO SCALE



DETAIL 1
NO SCALE

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

DESIGN	BY VALERIE MOORE	CHECKED MOHAMMAD MUQTADIR	
DETAILS	BY ANTONETTE L. ONG	CHECKED MOHAMMAD MUQTADIR	
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53-2008 53-2008G
POST MILE 42.1

KELLOG DRIVE UC (WIDEN)
ARCHITECTURAL TREATMENT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0700000097-1
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/22/14		11/22/13	01/22/14	26	31

FILE => 53-2008-x_aesth01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

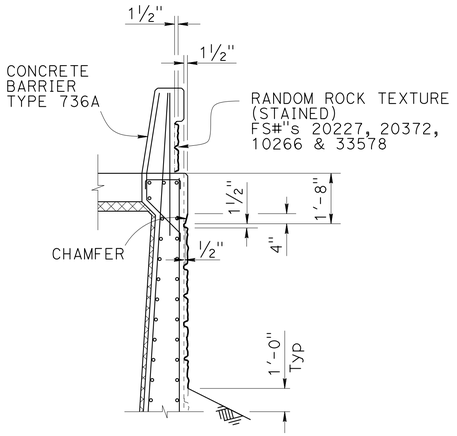
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1724	2313

Dawit Tadille Feyo — REGISTERED CIVIL ENGINEER — 10/01/14 DATE

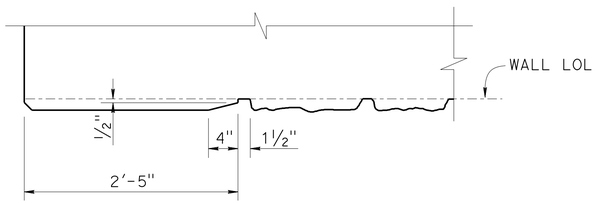
6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

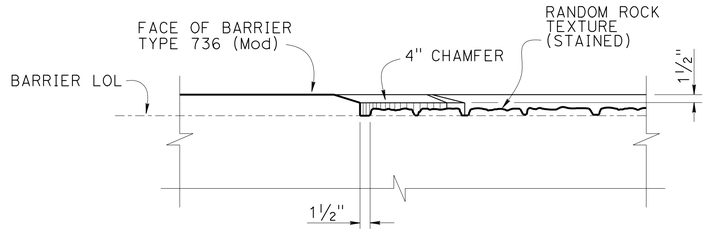
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



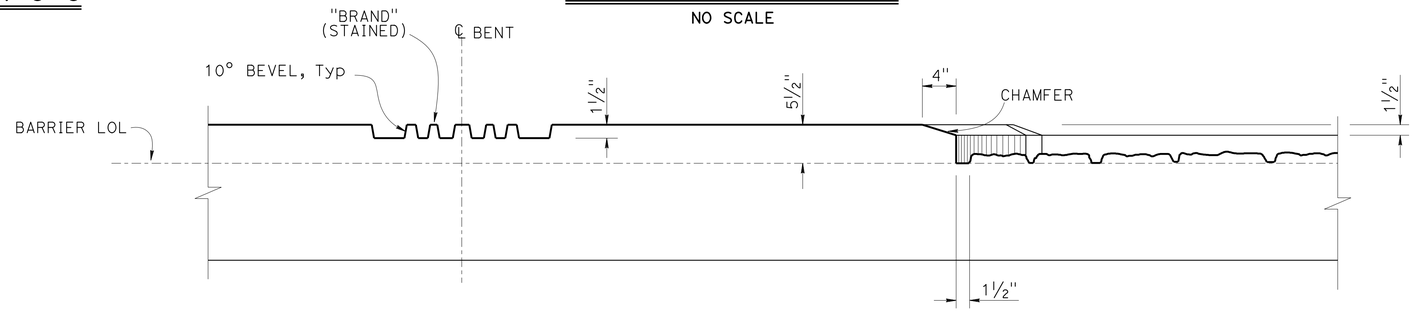
SECTION B-B
NO SCALE



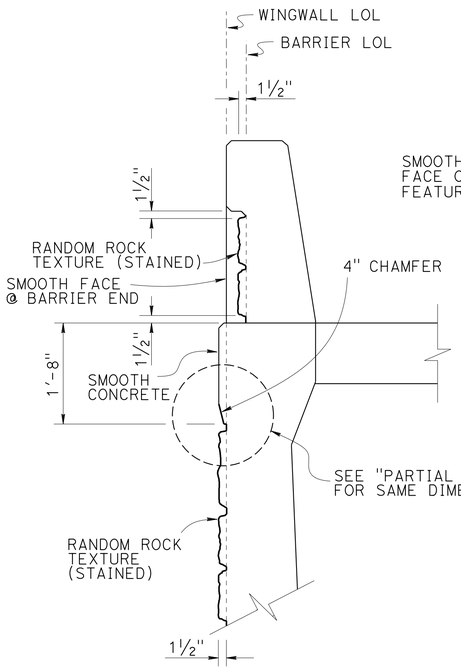
PARTIAL SECTION C-C
NO SCALE



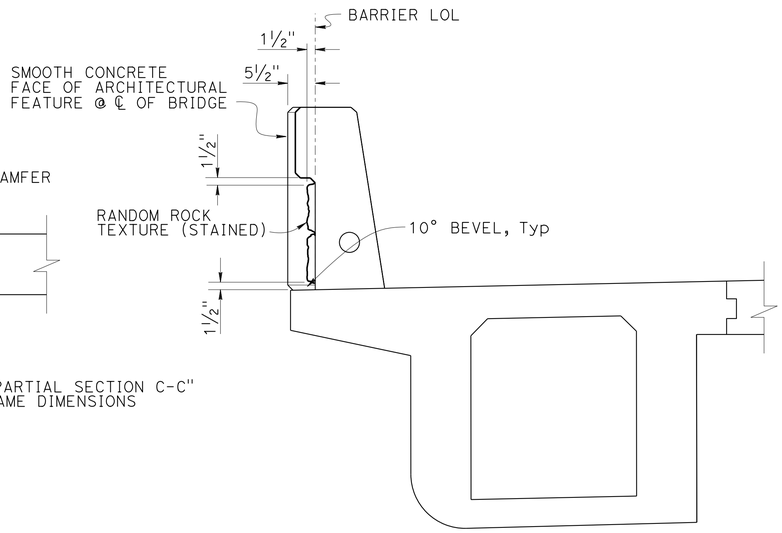
PARTIAL SECTION D-D
NO SCALE



PARTIAL SECTION E-E
NO SCALE



SECTION F-F
NO SCALE

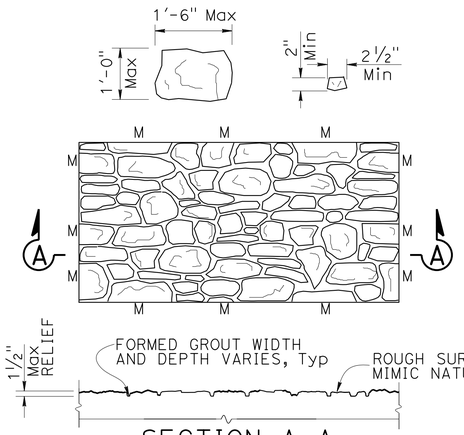


SECTION G-G
NO SCALE

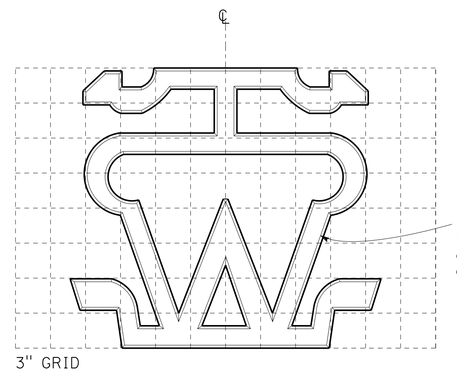
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

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

STAINED RANDOM ROCK
FS# 33578, 30372, 30257, 30117, 30099
FS (denotes Federal Standard Color)



SECTION A-A
RANDOM ROCK TEXTURE
NO SCALE



ARCHITECTURAL SURFACE TREATMENT (CATTLE BRAND PATTERN)

NOTE:
1. Stain Federal Color 30117

DESIGN	BY VALERIE MOORE	CHECKED MOHAMMAD MUQTADIR	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008 53-2008G	KELLOG DRIVE UC (WIDEN)	
DETAILS	BY ANTONETTE L. ONG	CHECKED MOHAMMAD MUQTADIR			POST MILE 42.1	ARCHITECTURAL TREATMENT DETAILS	
QUANTITIES	BY MOHAMMAD MUQTADIR	CHECKED FEIRUZ ABERRA					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0700000097-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12/13/13	01/06/14	02/20/14		27	31

FILE => 53-2008-x_aesth02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1725	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-13-14 DATE

6-1-15
PLANS APPROVAL DATE

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

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

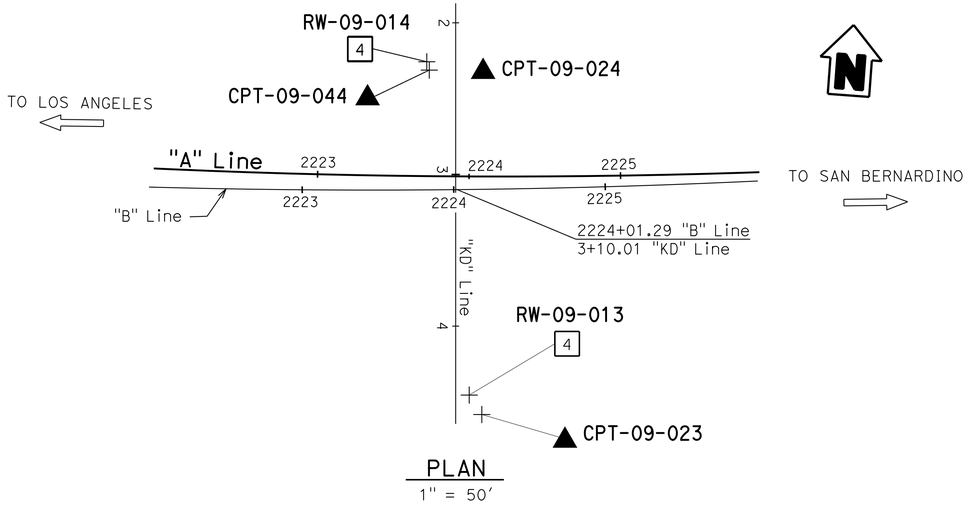
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

BENCH MARKS

SUHV 1355 Elev 767.280
Fd PK N. Aereal Panel W/B I-10
E. of Kellogg Off-Ramp.
NAVD 88

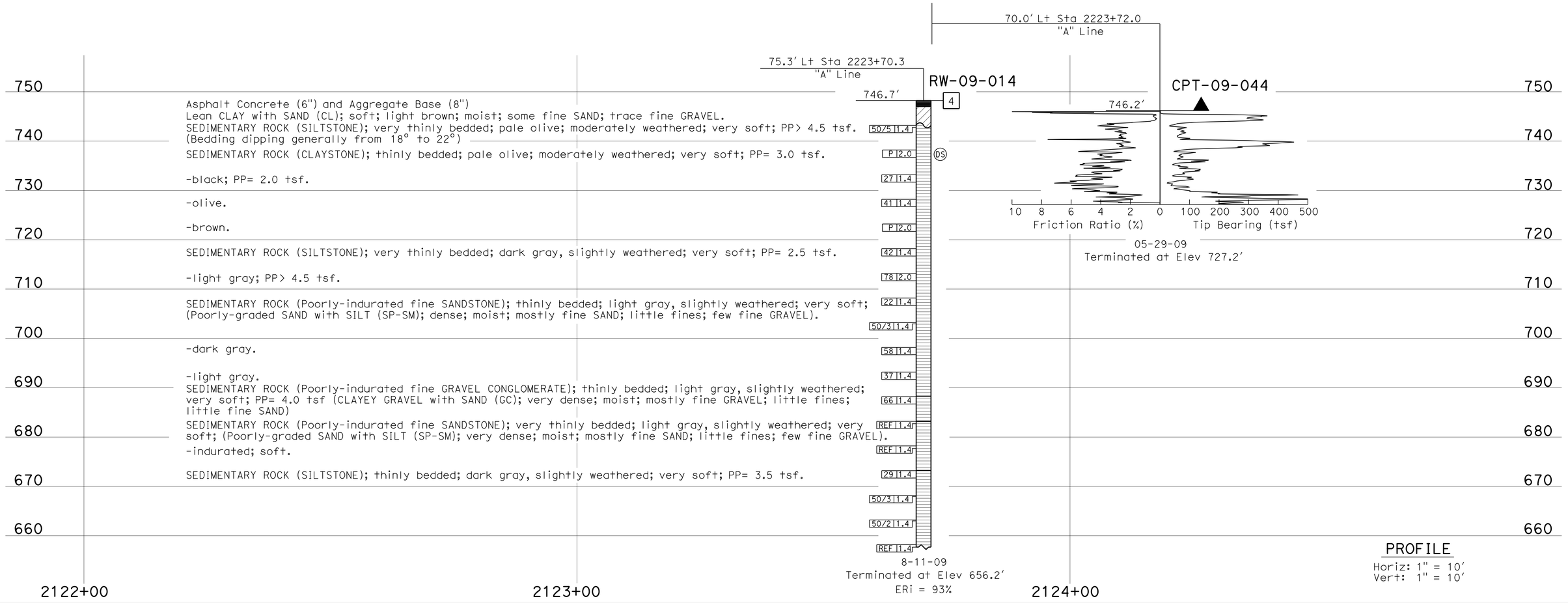
1526 Elev 738.25
Fd PK in AC
229.68′ Rt Sta 2223+64.41
NAVD 88

1527 Elev 748.86
Fd L&T in TC
161.06′ Lt Sta 2223+90.12
NAVD 88



PLAN
1" = 50′

Note: Groundwater was measured in Boring RW-09-228 (Retaining Wall No. 2181), located at Approx 0.1 miles west on E/B Kellogg Dr Off-Ramp, 14.10 Ft below ground surface on January 07, 2013.



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.	KELLOGG DRIVE UC (WIDEN)
FUNCTIONAL SUPERVISOR	DRAWN BY: F. Nguyen , I.G-Remmen	FIELD INVESTIGATION BY:		DESIGN BRANCH 20	53-2008 53-2008G	LOG OF TEST BORINGS 1 OF 4
NAME: D. Jang	CHECKED BY: H. Liu	M. Salisbury, H. P. Yang			POST MILE 37.2/42.4	

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
06/08/12	07/26/12	01/13/14		28	31

FILE => 53-2008-z-1tb01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1726	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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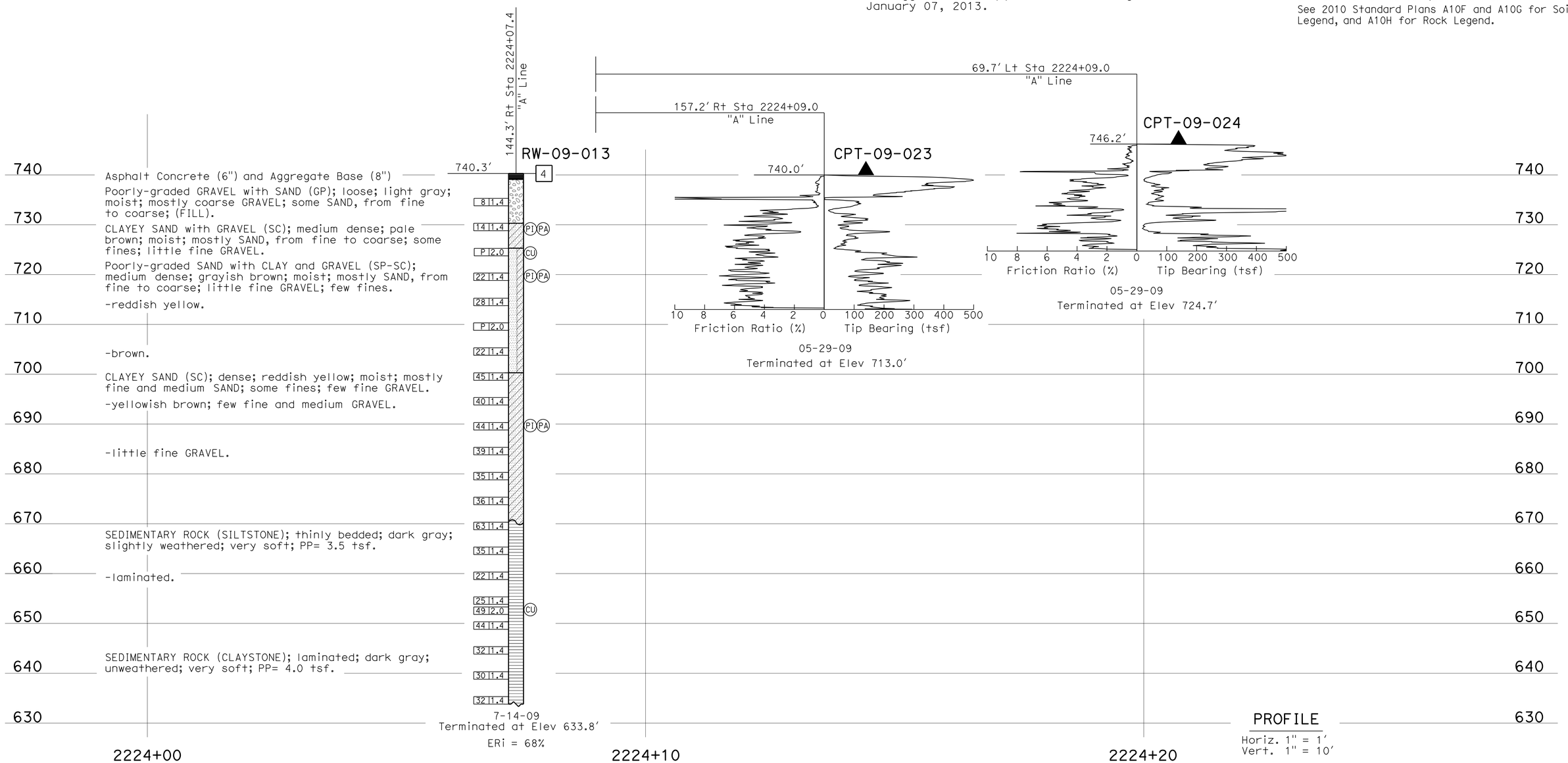
FOR PLAN VIEW, SEE "LOG OF TEST BORINGS 1 OF 4"

Note: Groundwater was measured in Boring RW-09-228 (Retaining Wall No. 2181), located at Approx 0.1 miles west on E/B Kellogg Dr Off-Ramp, 14.10 Ft below ground surface on January 07, 2013.

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.



ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-2008 53-2008G POST MILE 42.1/42.2	KELLOGG DRIVE UC (WIDEN) LOG OF TEST BORINGS 2 OF 4
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: F. Nguyen, I.G-Remmen CHECKED BY: H. Liu	FIELD INVESTIGATION BY: M. Salisbury, H. P. Yang				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071-1 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
06/08/12	07/20/12	01/13/14		29	31

FILE => 53-2008-z-ltb02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

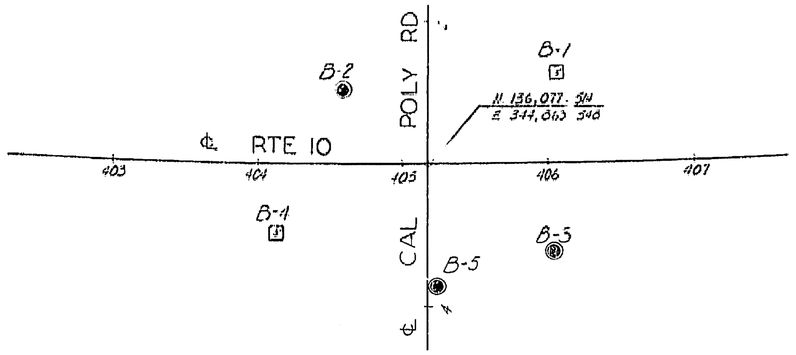
Dist	County	Route	Post Mile	Sheet No.	Total Sheets
07	LA	10	37.2/42.4	1727	2313

Registered Civil Engineer No. 8109

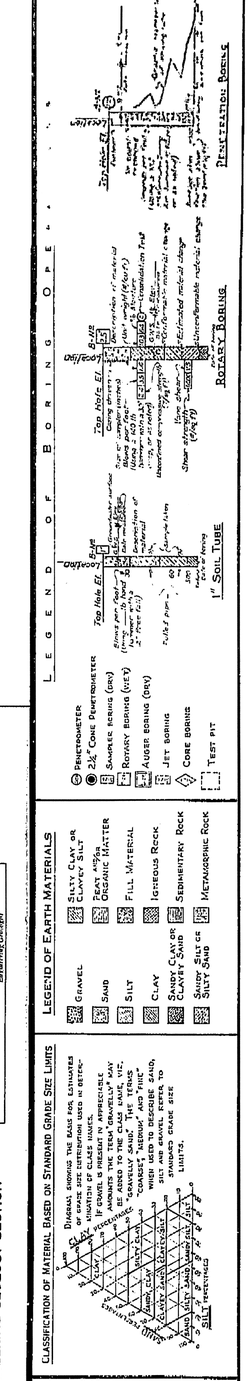
Date Approved January 6, 1969

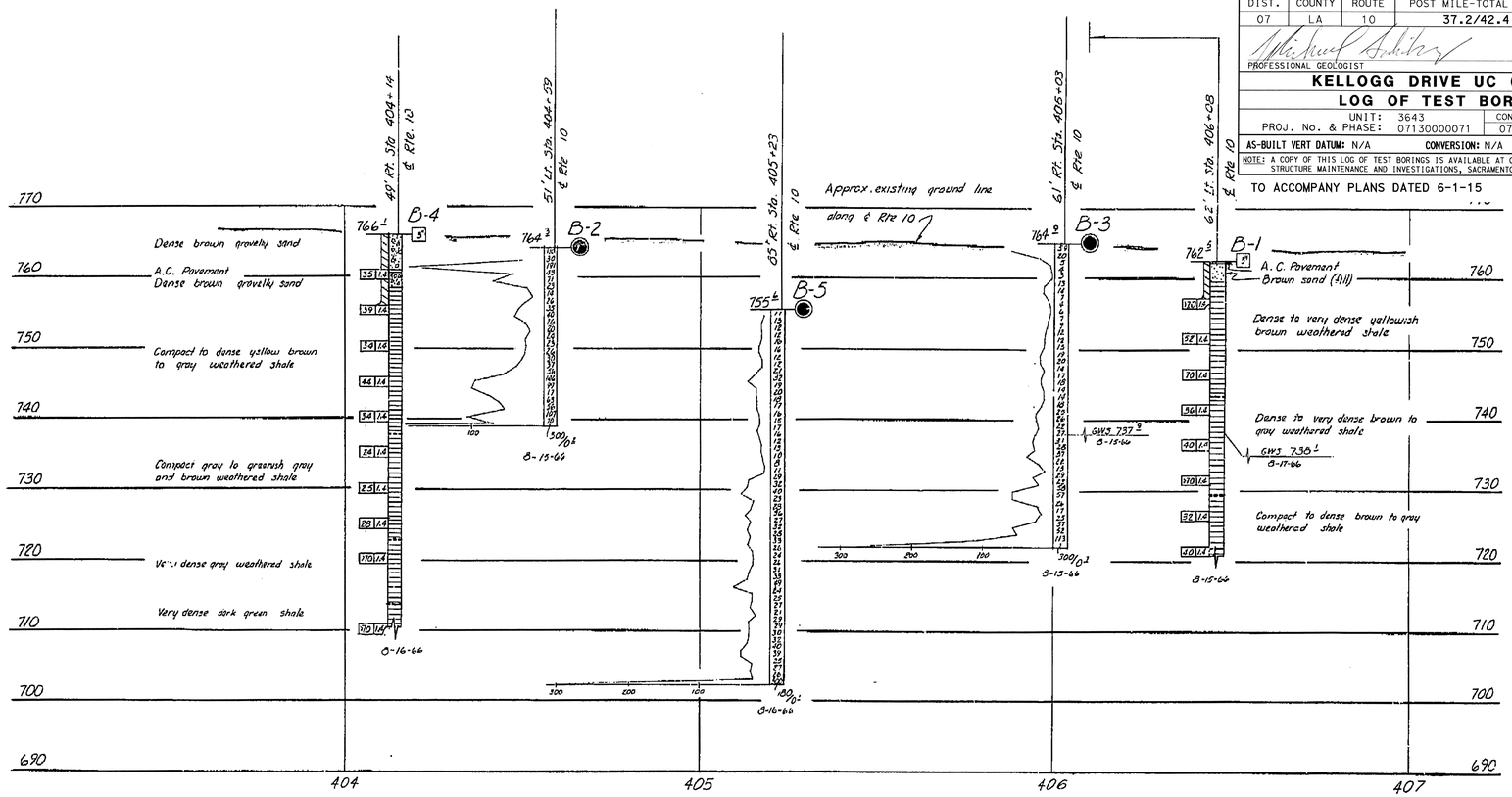
BENCH MARK

BM" 2-F-65 Elev. 753.19
Set Chis. knob in N.W. corner electrolier "M 3046 at East side of throat to Off-On Ramp for "CAL POLY", SAN DIMAS AVE. 150' So. of SAN BERDO FRWY.



PLAN
Scale 1" = 50'





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

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	1727	2313

PROFESSIONAL GEOLOGIST — DATE 01/13/2014

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

KELLOGG DRIVE UC (WIDEN)

LOG OF TEST BORINGS 3 OF 4

UNIT: 3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE: 0713000071	07-1193U1	53-2008
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

TO ACCOMPANY PLANS DATED 6-1-15

AS BUILT PLANS
Contract No. 07-012414
Date Completed 10-72
Document No. 6029

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

CHECKED By R. COKESLEY 10-7-66
Approval Recommended

Sheet 12 of 13

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

KELLOGG DRIVE UNDERCROSSING

LOG OF TEST BORINGS 1

SCALE As Noted | BRIDGE 53-2008 | FILE | DRAWING 53-2008-12

Charge 07213
N.A. 012411

Disregard prints bearing earlier numbers → PREL. DRAWING NO. PR- 70/1

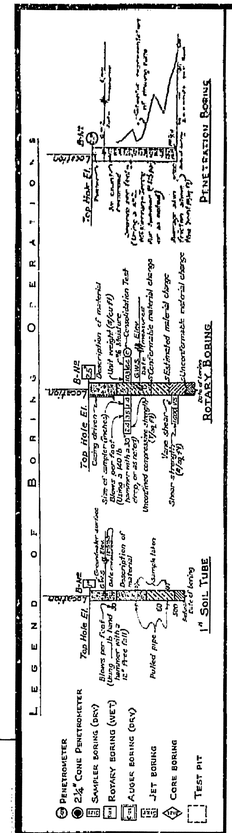
DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	37.2/42.4	1728	2313

	BY	DATE
FIELD STUDY	C. GONZALEZ	10-66-66
DRAWN	M. ALLENDE	10-25-66
CHECKED	W. HEFFNER	9-7-66

Approval Recommended: Charles F. Thomas
Structural Geologist

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

LEGEND OF BORING OPERATIONS

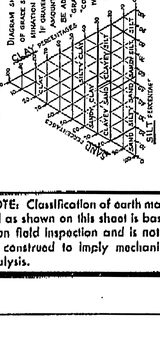


- Penetrometer
- 2½" Cone Penetrometer
- Sampler boring (dry)
- Sampler boring (wet)
- Rotary boring (dry)
- Rotary boring (wet)
- Auger boring (dry)
- Jet boring
- Core boring
- Test pit

LEGEND OF EARTH MATERIALS

- Gravel
- Silty Clay or Clayey Silt
- Peat and/or Organic Matter
- Sand
- Fill Material
- Silt
- Igneous Rock
- Clay
- Sedimentary Rock
- Sandy Clay or Clayey Sand
- Metamorphic Rock
- Silty Sand or Sandy Silt

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS



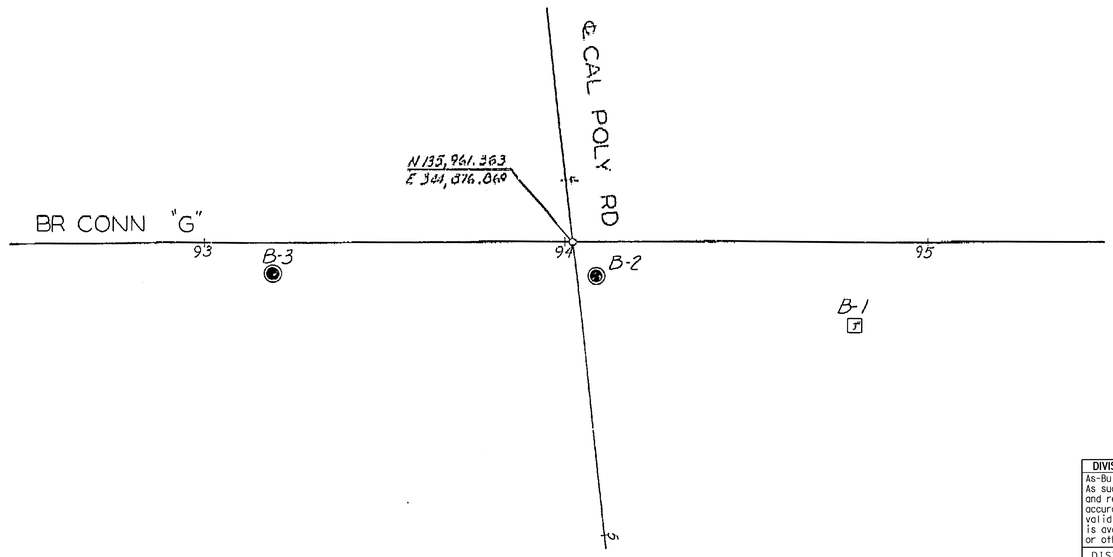
NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

BENCH MARK

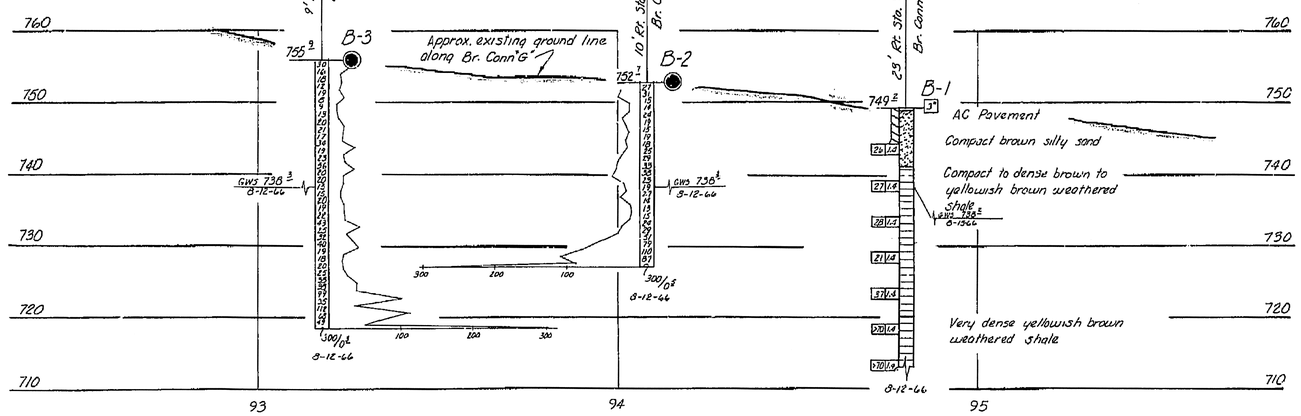
Baker Summary 3-A

BM "12-F-65" Elev 758.19

Set chis. knob in N.W. corner electrolier "M3046 At east side of throat to off-on Ramp for "Cal. Poly". San Dimas Ave. 150' So of San Bardo. Fwy.



PLAN
Scale 1"=20'



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

AS BUILT PLANS
Contract No. 07-012414
Date Completed 10-72
Document No. 6029

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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PROFESSIONAL GEOLOGIST — DATE 2/13/2014

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

KELLOGG DRIVE UC (WIDEN)

LOG OF TEST BORINGS 4 OF 4

UNIT: 3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE: 07130000071	07-1193U1	53-2008

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

TO ACCOMPANY PLANS DATED 6-1-15

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
07	LA	10	37.2/42.4	1731	2313

IN RESPONSIBLE CHARGE OF SURVEY — REGISTERED CIVIL ENGINEER 8200

DATE SURVEYED January 6, 1969

INFORMATION ON FOUNDATION CONDITIONS ON FILE IN BRIDGE GEOLOGY SECTION

Sheet 13 of 13

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

KELLOGG DRIVE UNDERCROSSING

LOG OF TEST BORINGS 2

SCALE As Noted | BRIDGE 53-2008 | FILE | DRAWING 53-2008-F-13

Charge 07213
W.A. 012411

Disregard prints bearing earlier numbers → PREL. DRAWING No. PR-

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1729	2313

John J Lane — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

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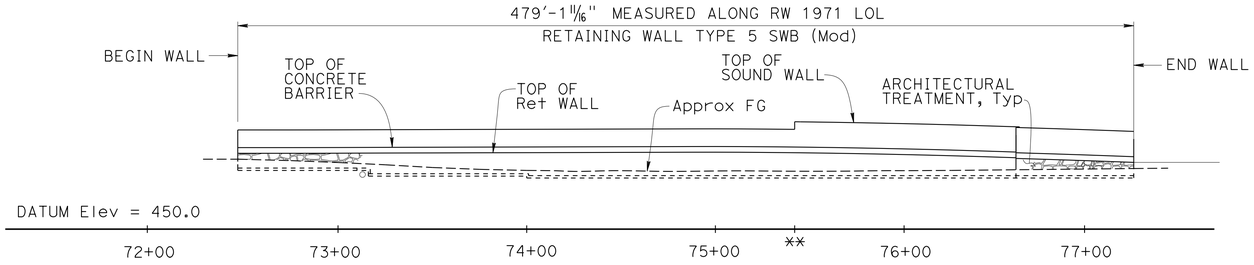
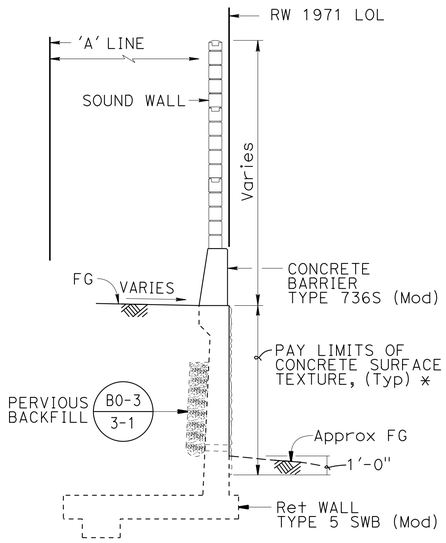
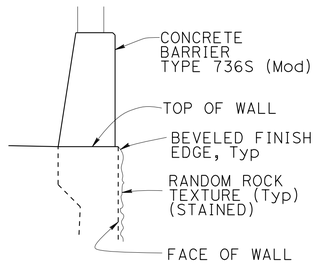


ELEVATION
1" = 40'

NOTES:
* This limit also applies to Prepare and Stain Concrete

** At 75+41.86 RW LOL, Soundwall height increases from 12'-4" to 16'-4"





INDEX TO PLANS

STANDARD PLANS DATED 2010

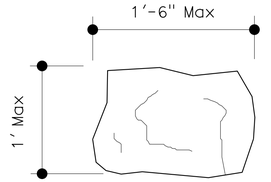
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
B0-3	BRIDGE DETAILS
RSP B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
RSP B15-9	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (3)

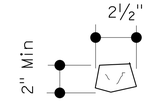
QUANTITIES

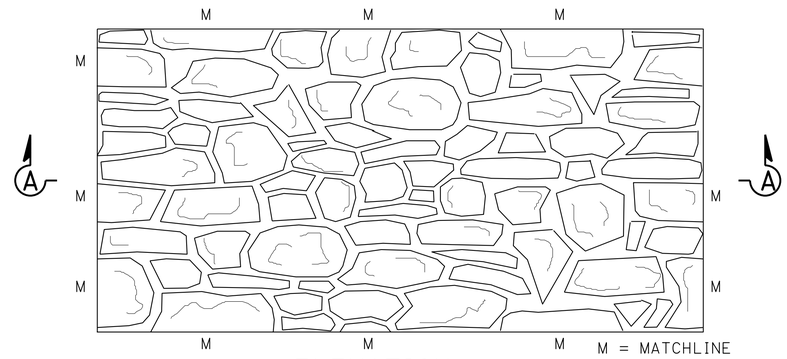
STRUCTURE EXCAVATION (RETAINING WALL)	1,432	CY
STRUCTURE BACKFILL (RETAINING WALL)	1,715	CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	83	CY
STRUCTURAL CONCRETE, RETAINING WALL	535	CY
CONCRETE SURFACE TEXTURE	5,460	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	52,123	LB
SOUND WALL (MASONRY BLOCK)	5,032	SQFT
PREPARE AND STAIN CONCRETE	5,460	SQFT
CONCRETE BARRIER (TYPE 736S MODIFIED)	480	LF

TYPICAL SECTION
¼" = 1'-0"

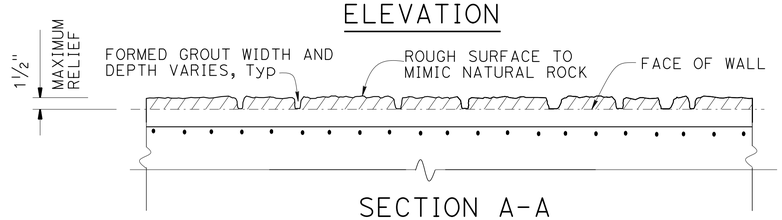
NOTE:
Seamless random rock pattern to have a minimum 2 to maximum 4 matchlines for each side (top and bottom, and side to side)



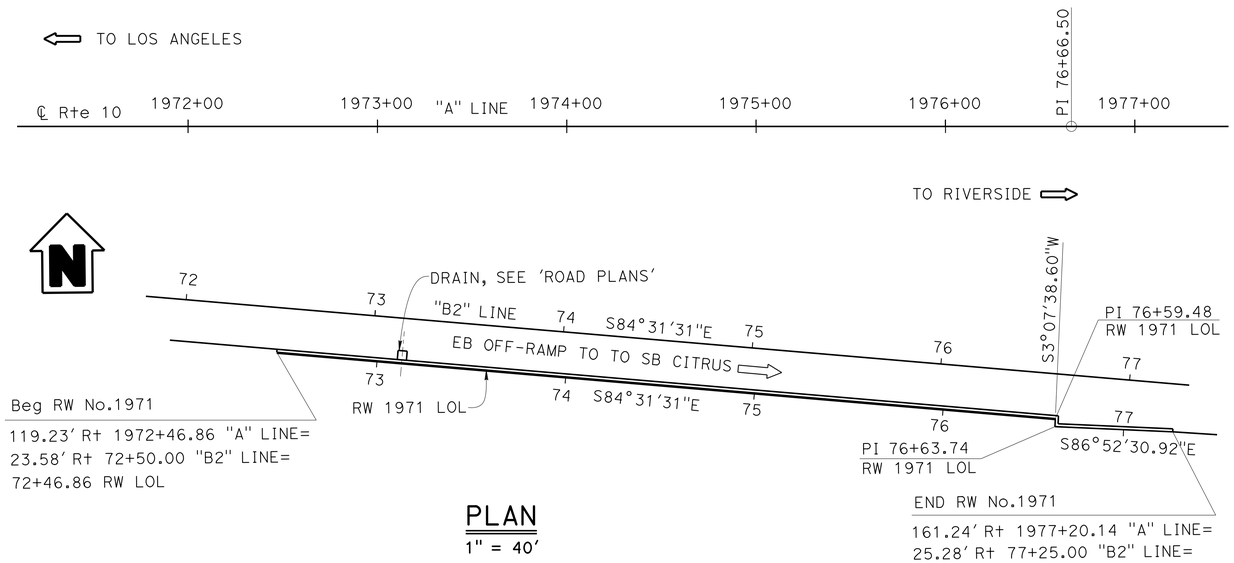




ELEVATION



SECTION A-A
RANDOM ROCK TEXTURE
No Scale



PLAN
1" = 40'

DESIGN	BY John J Lane	CHECKED Javad Massoomi	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE			
DETAILS	BY Bob Huddleston	CHECKED Javad Massoomi	LAYOUT	BY John J Lane	CHECKED Javad Massoomi		
QUANTITIES	BY John J Lane	CHECKED Javad Massoomi	SPECIFICATIONS	BY Xiaodong Chen	PLANS AND SPECS COMPARED Xiaodong Chen		

Douglas J Dunnuck — DESIGN ENGINEER

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. 53E0321
POST MILE 37.33/37.44

RETAINING WALL NO. 1971
GENERAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-09-14	02-05-15	02-13-15	7-24-14	1	9

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

FILE => rw1971-a-gp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1730	2313

John J. Lane — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

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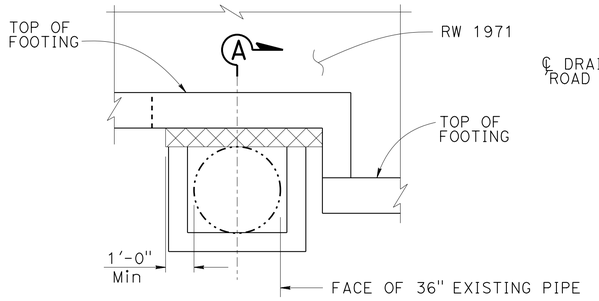
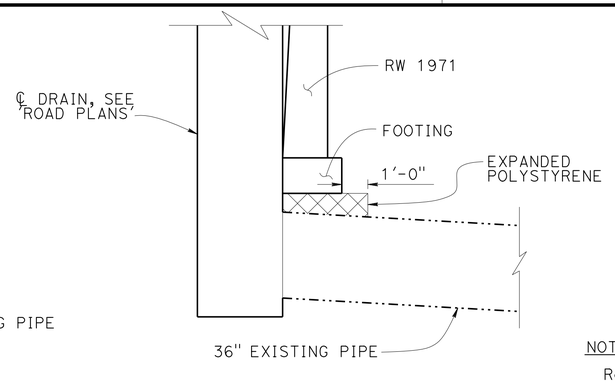


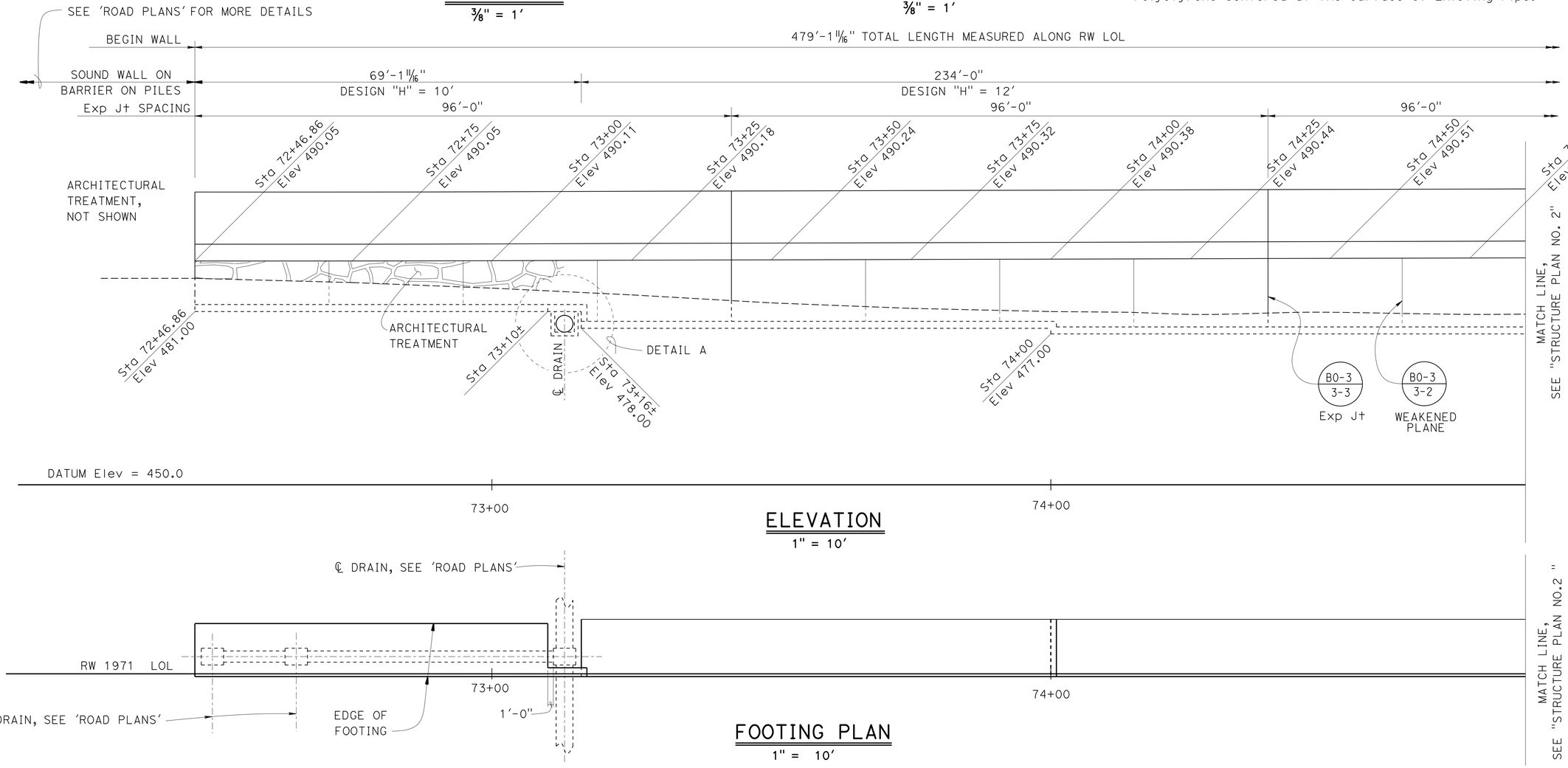
DETAIL A
3/8" = 1'



SECTION A-A
3/8" = 1'

NOTE:

Remove the soil between bottom of Footing and Top of Existing 36" Pipe. Place 5' x 3' expanded Polystyrene centered at the surface of Existing Pipe.



ELEVATION
1" = 10'

FOOTING PLAN
1" = 10'

DESIGN	BY John J. Lane	CHECKED Javad Massoomi	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0321
DETAILS	BY Bob Huddleston	CHECKED Javad Massoomi			POST MILE 37.33/37.44
QUANTITIES	BY John J. Lane	CHECKED Javad Massoomi			

RETAINING WALL NO. 1971
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: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
07-17-14	08-15-14	09-09-14	06-02-14	2	9

FILE => rw1971-b-sp_01.dgn

USERNAME => 8125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1731	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp 06-30-16 — CIVIL — STATE OF CALIFORNIA

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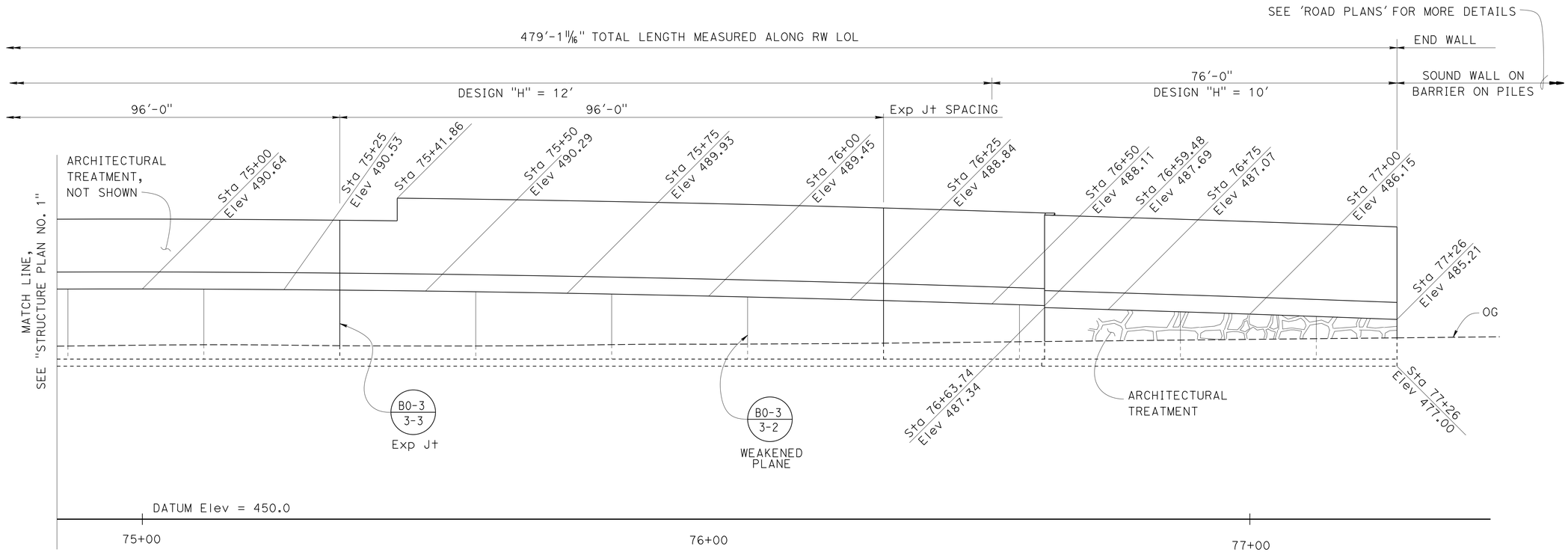
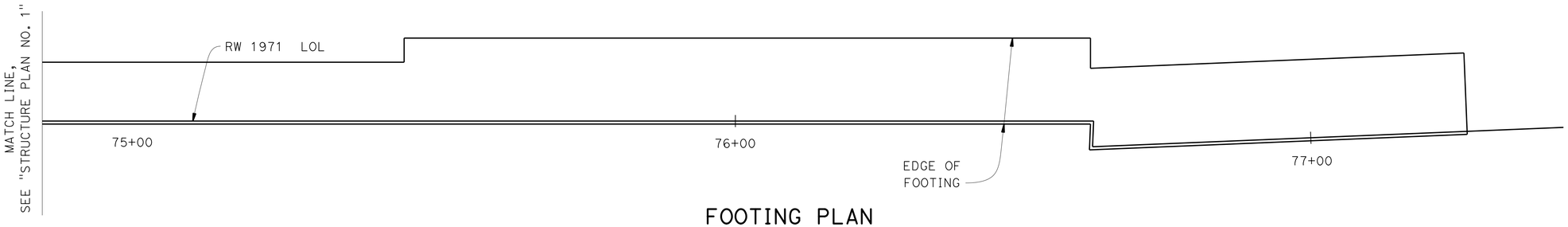


ELEVATION
1" = 10'



FOOTING PLAN
1" = 10'

DESIGN	BY John J. Lane	CHECKED Javad Massoomi	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0321	RETAINING WALL NO. 1971 STRUCTURE PLAN NO. 2	
DETAILS	BY Bob Huddleston	CHECKED Javad Massoomi			POST MILE 37.33/37.44		
QUANTITIES	BY John J. Lane	CHECKED Javad Massoomi					

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
07-17-14	09-08-14	02-05-15	02-10-15	3	9

FILE => rw1971-b-sp_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	137.2/42.4	1732	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

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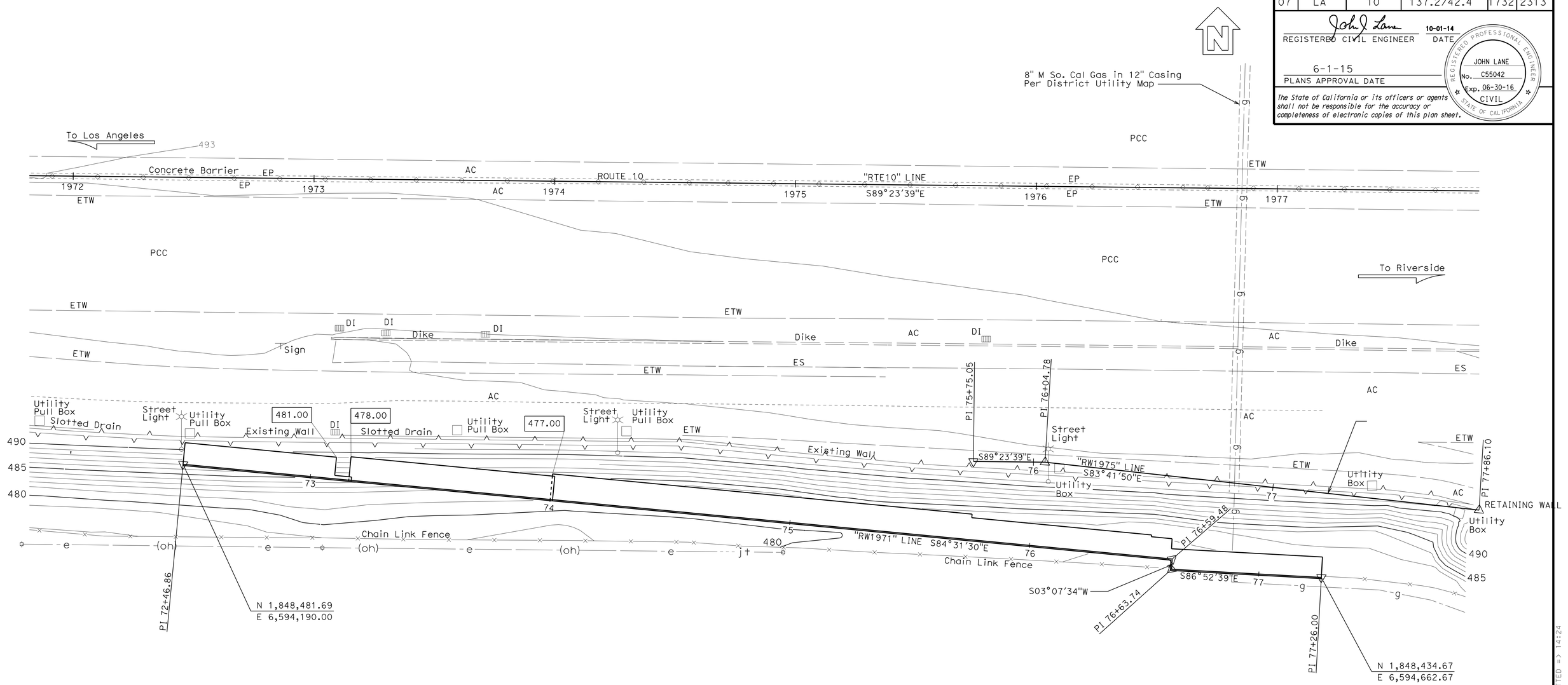

SURVEY CONTROL

SUHV441 (NOT SHOWN ON PLAN)
Fnd 1" IP/PLUG
109.66 Rt "RTE10" LINE
Sta 2023+44.40
N 1,848,437.36
E 6,594,287.35
Elev = 506.84

SUHV454 (NOT SHOWN ON PLAN)
Fnd 1" IP/PLUG
80.39 Lt "RTE10" LINE
Sta. 2023+90.21
N 1,848,626.92
E 6,599,335.17
Elev = 508.75

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD83	SURVEYED	BY District	CHECKED	BY C. Fassett 01/2014
ALIGNMENT TIES Dist TRAVERSE SHEET		DRAFTED	BY T. Zolnikov 01/2014	CHECKED	BY C. Fassett 01/2014

DESIGN	BY X	CHECKED X
DETAILS	BY X	CHECKED X
QUANTITIES	BY X	CHECKED X

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0321
POST MILE 37.33/32.48

RETAINING WALL 1971
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3646
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 97-1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-09-14	4/25/14	05/06/14	07-17-14	4	9

FILE => rw1971-c-fp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1733	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

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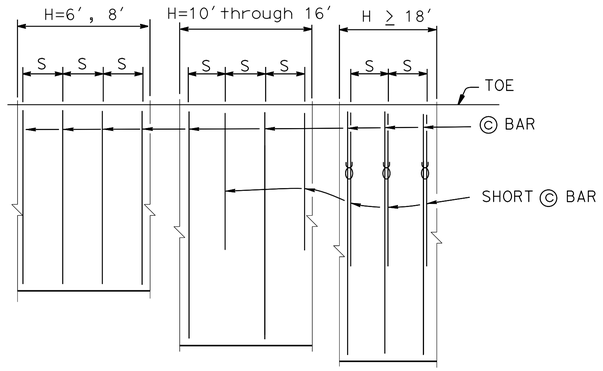
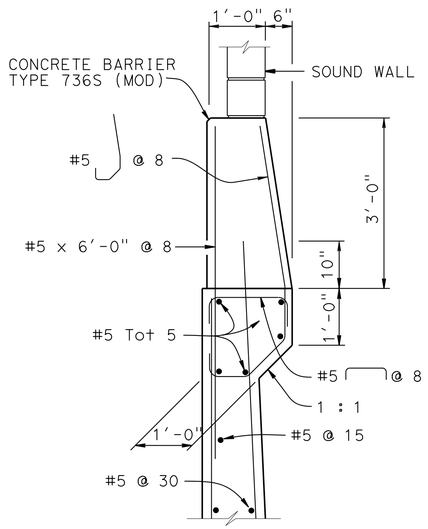
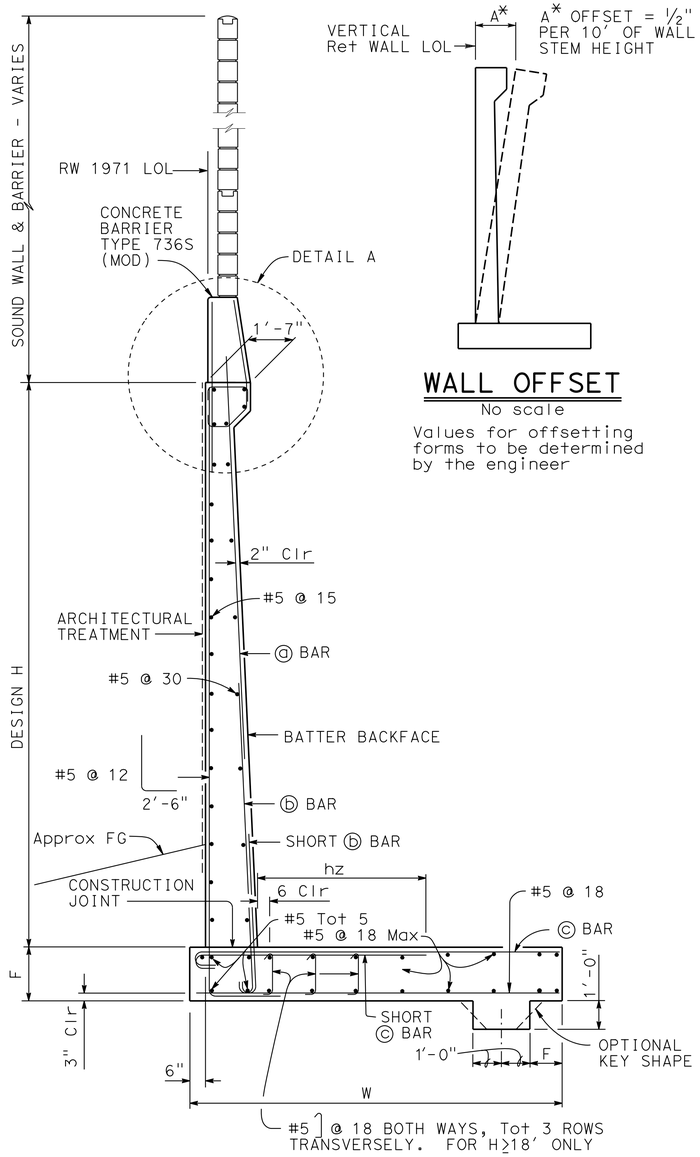


PLAN
NO SCALE

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



DETAIL A
¾" = 1′-0"



① SPREAD FOOTING SECTION
⅜" = 1′-0"

WALL OFFSET
No scale

Values for offsetting forms to be determined by the engineer

DESIGN DATA

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

WS: 33 psf on Sound Wall and Barrier

LS: Varied surcharge on level ground surface

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

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

Soil: ø = 34°
γ = 120 pcf

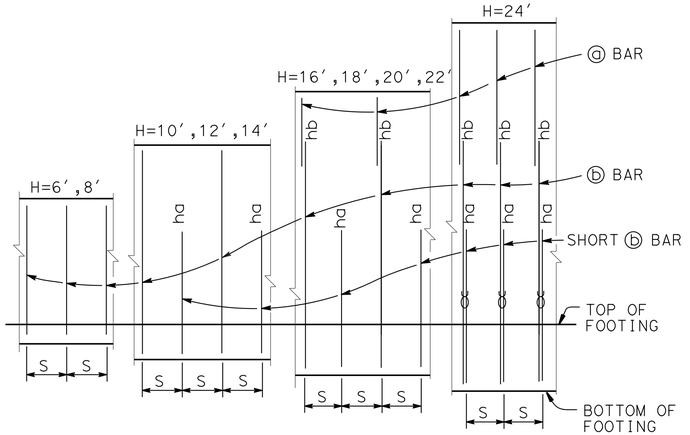
Reinforced Concrete: f′c = 3600 psi
fy = 60,000 psi

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=aDC+βEV+1.50EH+1.75LS
Strength III	Q=aDC+βEV+1.50EH+1.40WS
Strength V	Q=aDC+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

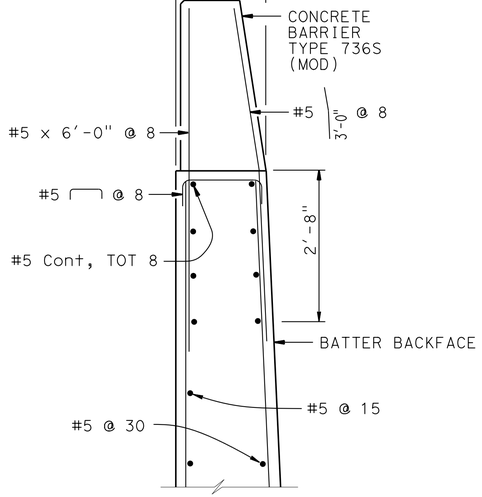
Where:

Q: Force Effects
a: 1.25 or 0.90, Which ever Controls Design
β: 1.35 or 1.00, which ever Controls Design
DC: Dead Load of Structure Components
EV: Vertical Earth Fill Pressure
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



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"

NOTES:
① 1. For retaining wall ArchitecturalTreatment, see "GENERAL PLAN" sheet. For Sound wall Architectural treament, see "ROAD 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 "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
FILE NO. xs14-350-1
APPROVAL DATE July 2011

① MODIFIED DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0321
POST MILE 37.33/37.44

RETAINING WALL NO. 1971
RETAINING WALL TYPE 5SWB-DETAILS NO. 1

OS 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
09-09-14	02-05-15	4-16-14	05-29-14	5	9

FILE => rw1971-g-rwdt_01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1734	2313

John J. Lane — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	6′	8′	10′	12′	14′	16′	18′	20′	22′	24′
W	9′-0"	9′-0"	9′-6"	10′-3"	11′-3"	12′-9"	14′-0"	15′-9"	17′-3"	18′-9"
F SPREAD FOOTING	1′-3"	1′-3"	1′-3"	1′-3"	1′-6"	1′-9"	2′-0"	2′-3"	2′-6"	2′-6"
STEM WITH HAUNCH, BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12
ⓐ BARS						#7 @ 15	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6
ⓑ BARS	#8 @ 12	#8 @ 12	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7.5	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6 ℧
ha			5′-0"	6′-0"	7′-0"	7′-0"	6′-0"	7′-0"	6′-9"	7′-6"
hb						11′-6"	12′-0"	13′-3"	16′-0"	15′-6"
ⓒ BARS	#7 @ 12	#8 @ 12	#7 @ 6	#9 @ 6	#9 @ 6	#11@ 7.5	#8 @ 6℧	#9 @ 6℧	#9 @ 6℧	#10 @ 6℧
hz			3′-6"	4′-0"	4′-9"	7′-0"	5′-9"	6′-9"	7′-6"	9′-0"
SER I: B′(ft), q_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. 53E0321

POST MILE 37.33/37.44

RETAINING WALL NO. 1971

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
5-12-14	07-17-14	09-09-14		6	9

FILE => rw1971-g-rwdt_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1735	2313

John J. Lane — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

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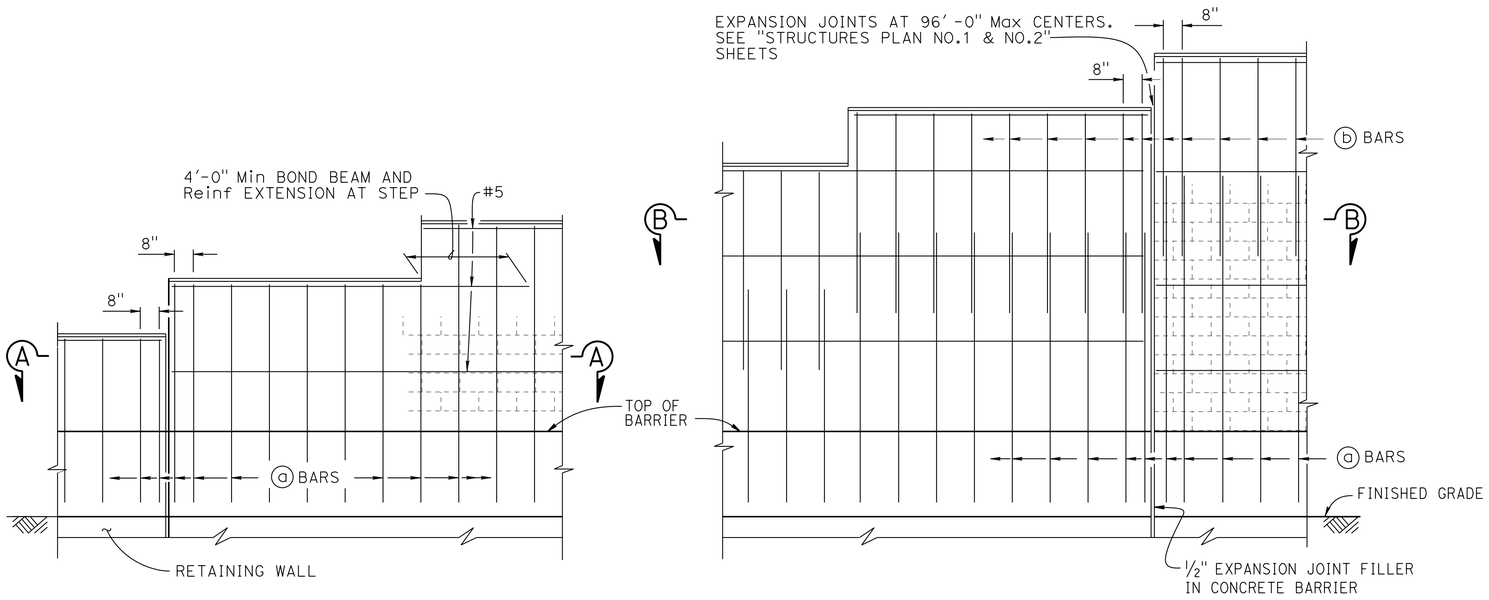
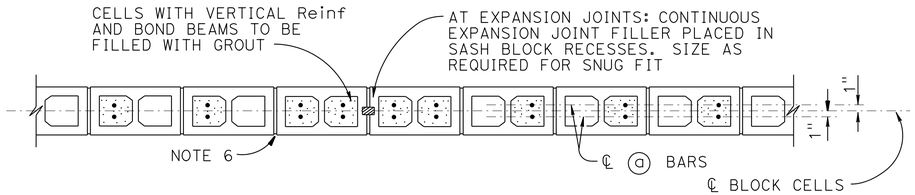


H=6'-4" THRU H=10'-4"

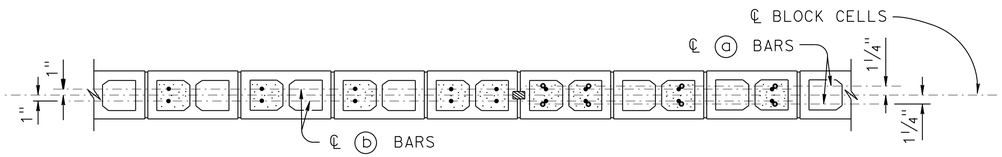
H=12'-4" THRU H=16'-4"

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 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

STANDARD DRAWING

FILE NO. xs15-130-1

APPROVAL DATE July 2012

1 MODIFIED DETAIL

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0321

POST MILE 37.33/37.44

NO SCALE

RETAINING WALL 1971

MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL

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
01-23-14	2-14-14	07-17-14	09-09-14	7	9

FILE => rw1971-h-swdt_01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1736	2313

John J Lane — REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN LANE — No. C55042 — Exp. 06-30-16 — CIVIL — STATE OF CALIFORNIA

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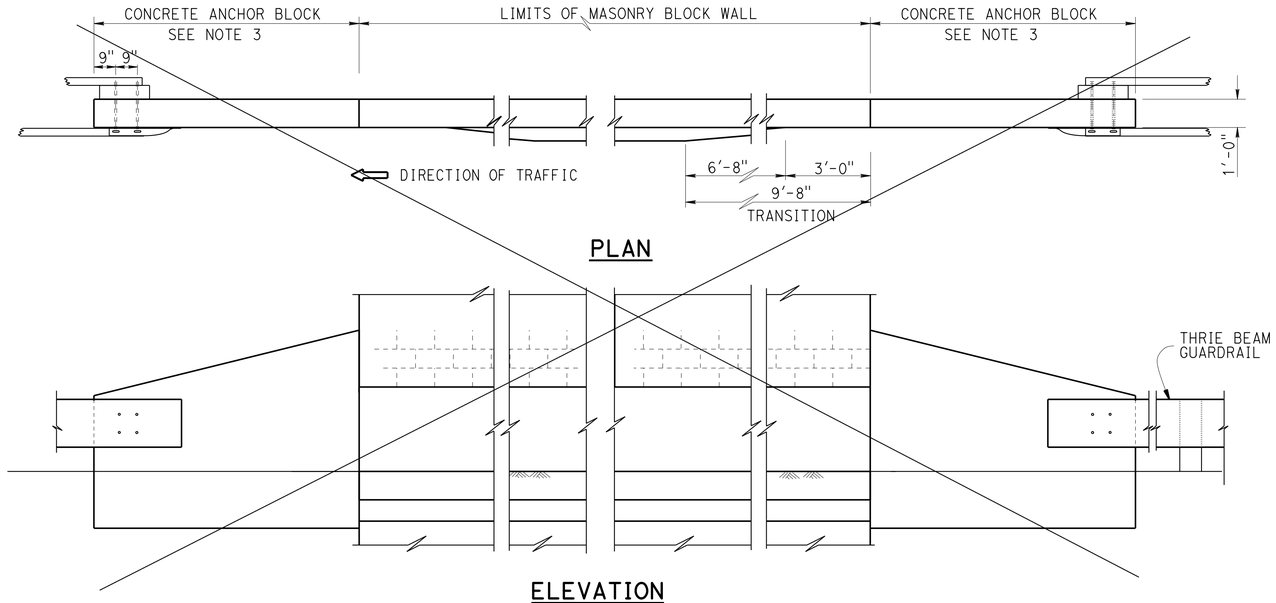
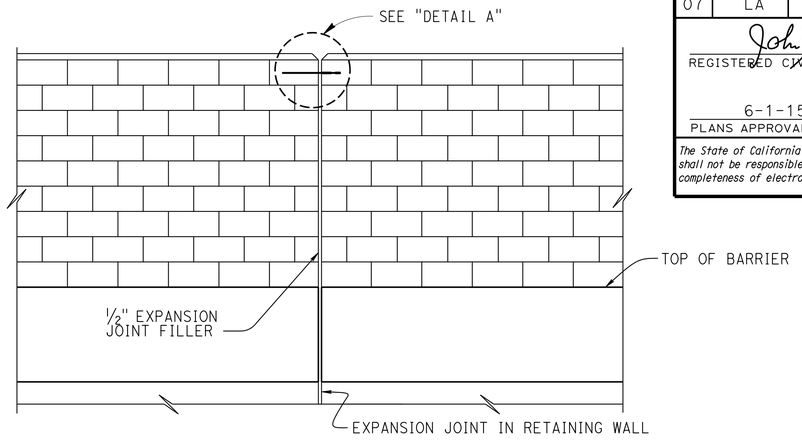
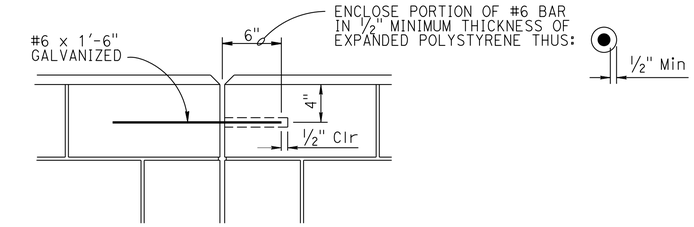


METAL BEAM GUARDRAIL ANCHORAGE ◇3

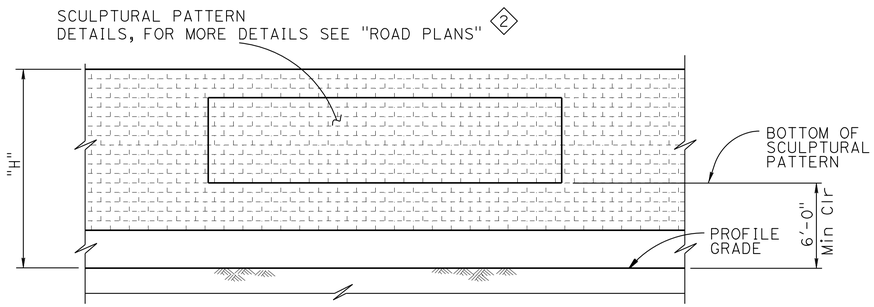
For details not shown, see STANDARD PLAN B11-56



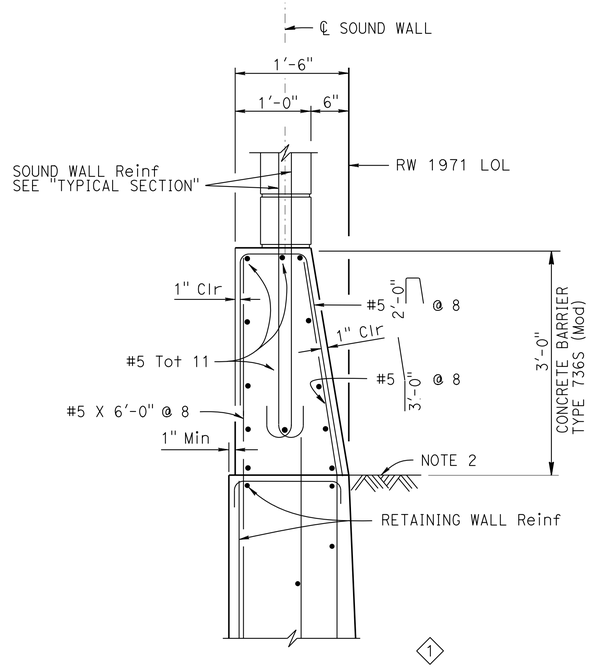
ALIGNMENT KEY DETAIL



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

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. 53E0321

POST MILE 37.33/37.44

RETAINING WALL 1971

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
07-17-14	09-09-14	02-24-14	05-29-14	8	9

FILE => rw1971-h-swdt_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1737	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-16-14 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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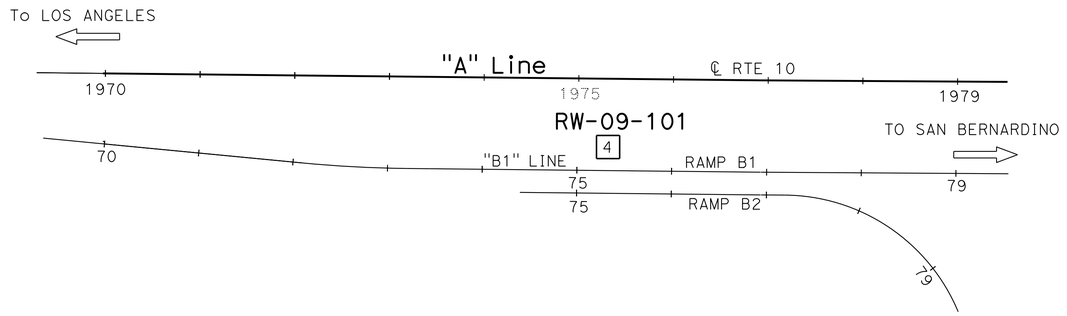
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

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

BENCH MARK

SUHV 32608 Elev 492.05′
Fd Pk N in Citrus E/B Off-Ramp Gore,
"A" Line Sta 1972+91.2 Rt 65.97′
NAVD 88



PLAN
1" = 80′

74.5′ Rt Sta 1975+33.0 "A" Line

RW-09-101

492.3′ — 4

Concrete (6").

7 | 1.4 — PA PI — SILTY CLAYEY SAND with GRAVEL (SC-SM); loose; very dark gray; moist; mosty fine to coarse SAND; some fines; little fine GRAVEL.

31 | 1.4 — SILTY SAND (SM); dense; dark yellowish brown; moist; mostly fine SAND; some fines.

8 | 1.4 — PA — SILTY SAND (SM); loose; very dark grayish brown; moist; mostly fine to coarse SAND; little fines; trace fine GRAVEL.

No recovery.

13 | 1.4

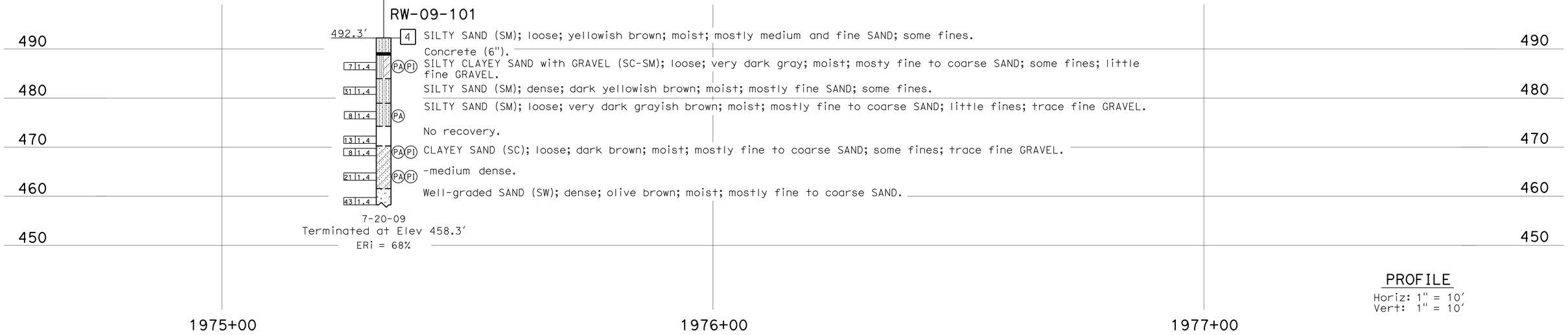
8 | 1.4 — PA PI — CLAYEY SAND (SC); loose; dark brown; moist; mostly fine to coarse SAND; some fines; trace fine GRAVEL.

21 | 1.4 — PA PI — -medium dense.

43 | 1.4 — Well-graded SAND (SW); dense; olive brown; moist; mostly fine to coarse SAND.

7-20-09
Terminated at Elev 458.3′
ERi = 68%

Note: Ground water was not measured 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. 53E0321	RETAINING WALL NO. 1971
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: W. Tang 5/10, I.G-Remmen; CHECKED BY: H. Liu	FIELD INVESTIGATION BY: Y. Choi/C. Bugarin		POST MILE 37.33/37.44	LOG OF TEST BORINGS

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

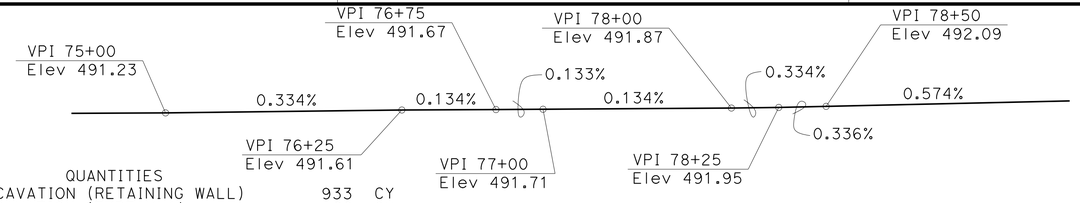
UNIT: 3643
PROJECT NUMBER & PHASE: 07130000071 — CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
11-14-13	01-15-14			9	9

FILE => rw1971-i-lotb.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24



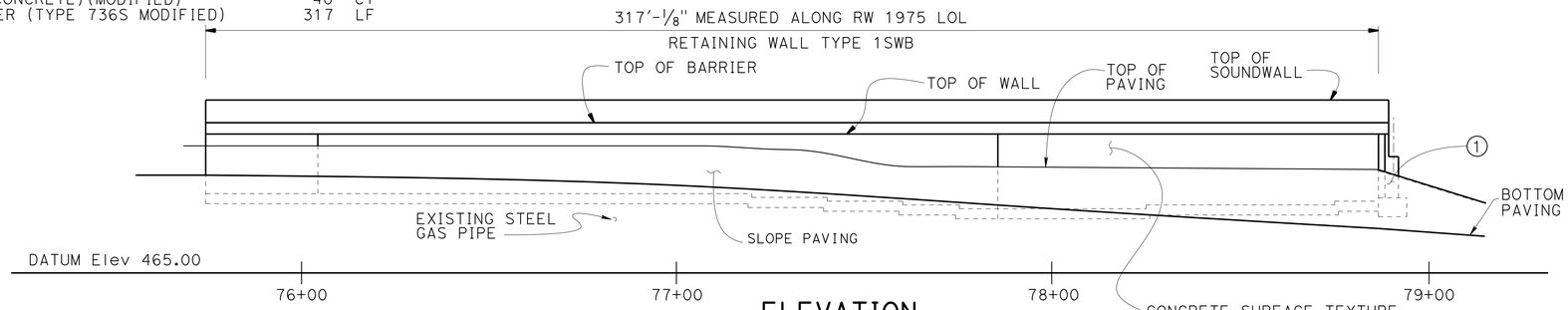
PROFILE GRADE

TOP OF WALL

No Scale

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	933	CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALLY DEPOSITED LEAD)	29	CY
STRUCTURE BACKFILL (RETAINING WALL)	518	CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	12	CY
STRUCTURAL CONCRETE, RETAINING WALL	282	CY
CONCRETE SURFACE TEXTURE	2,472	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	25,660	LB
SOUND WALL (MASONRY BLOCK)	2,959	SQFT
SLOPE PAVING (CONCRETE)(MODIFIED)	40	CY
CONCRETE BARRIER (TYPE 736S MODIFIED)	317	LF



ELEVATION

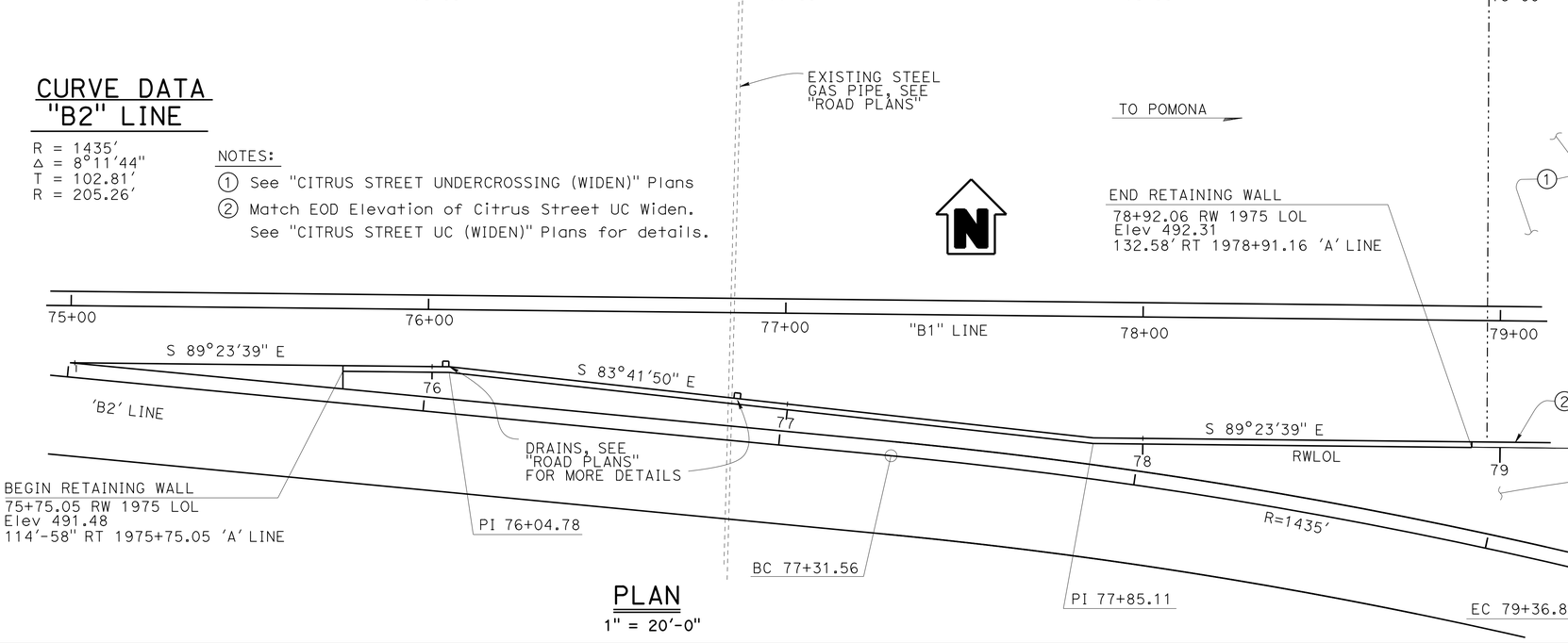
1" = 20'-0"

CURVE DATA "B2" LINE

R = 1435'
Δ = 8°11'44"
T = 102.81'
R = 205.26'

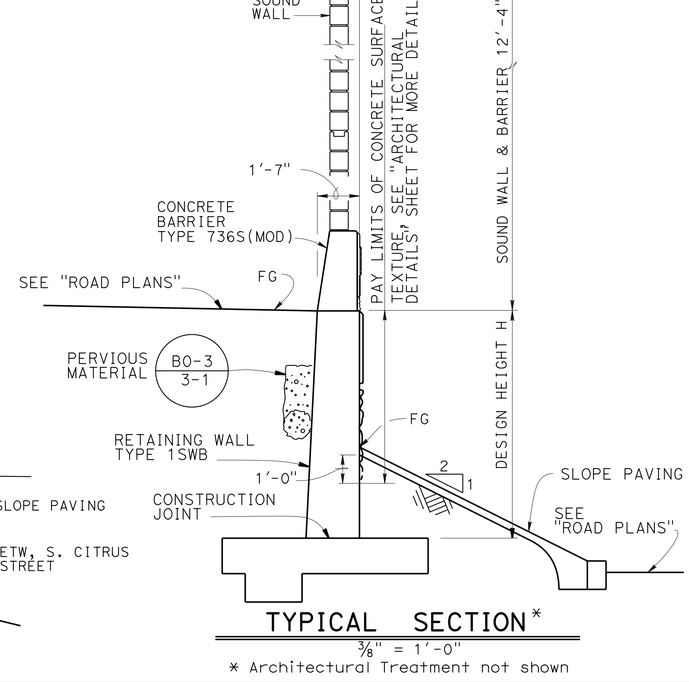
NOTES:

1. See "CITRUS STREET UNDERCROSSING (WIDEN)" Plans
2. Match EOD Elevation of Citrus Street UC Widen. See "CITRUS STREET UC (WIDEN)" Plans for details.



PLAN

1" = 20'-0"



TYPICAL SECTION*

3/8" = 1'-0"

* Architectural Treatment not shown

INDEX TO PLANS

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

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
	A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
	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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1738	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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Douglas J. Dunnuck
DESIGN ENGINEER

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

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

	BY	CHECKED
LAYOUT	V. Ramakrishnan	J. Lane
SPECIFICATIONS	Xiaodong Chen	PLANS AND SPECS COMPARED Xiaodong Chen

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0320
POST MILE 37.42/37.48

RETAINING WALL 1975
GENERAL PLAN

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
7-24-14	07-24-14	09-08-14	2-13-15	1	11

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

FILE => rw1975-a-gp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1739	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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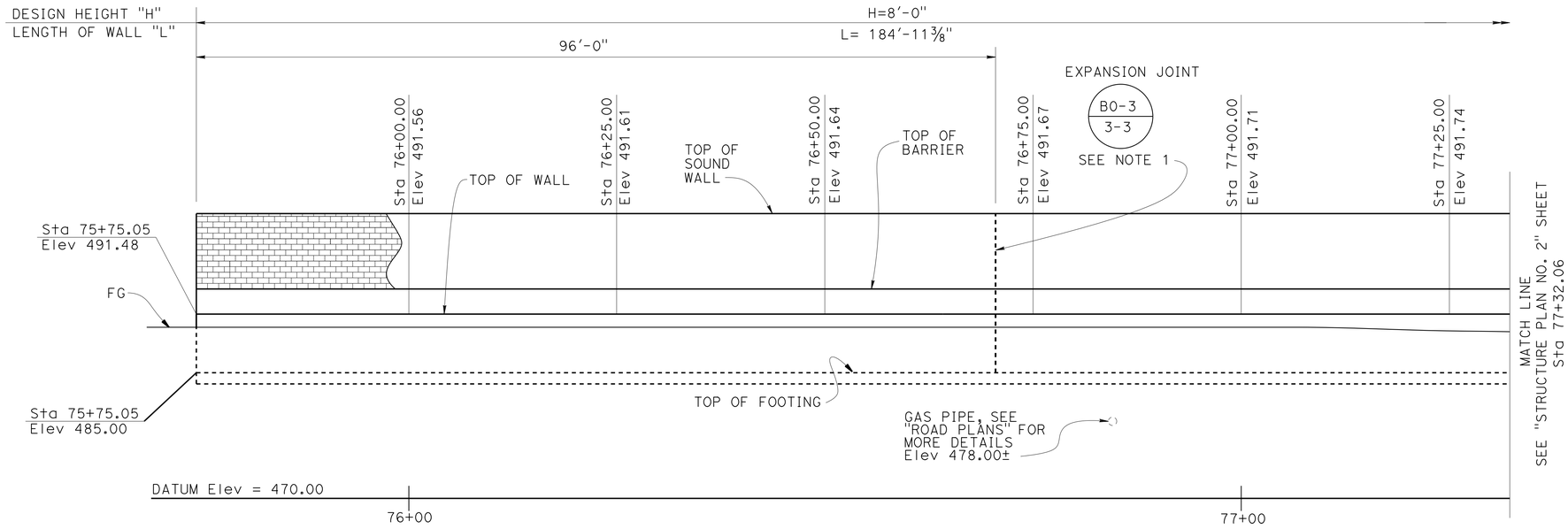
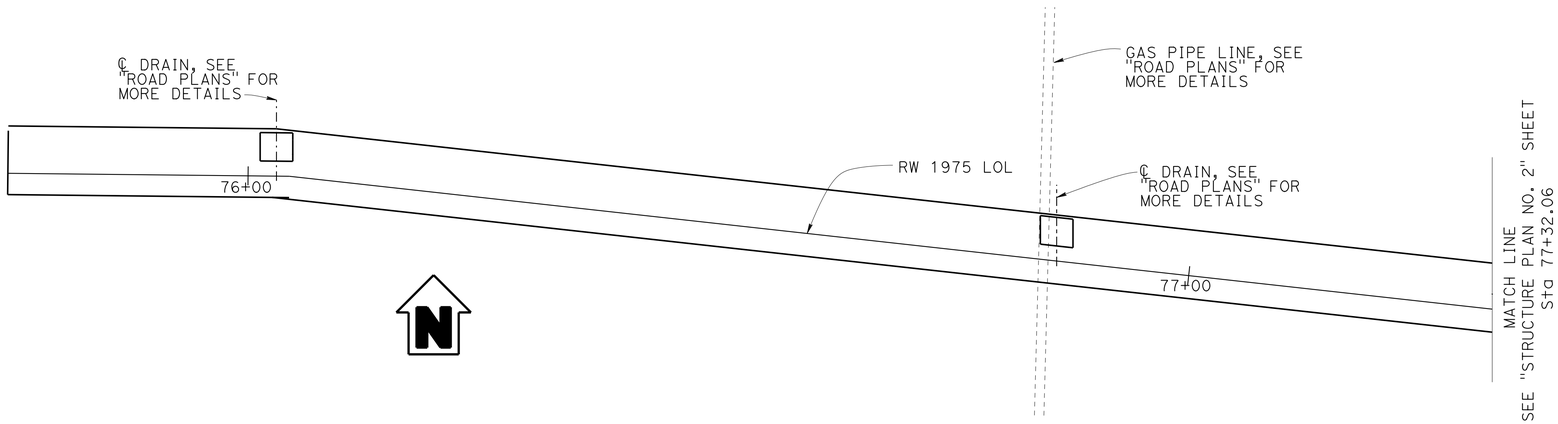


ELEVATION

⅛" = 1'-0"

NOTE:

1. Weakened Planes and Drains not shown. See STANDARD PLAN B0-3 "BRIDGE DETAILS" for more details.



PLAN

⅛" = 1'-0"

DESIGN	BY V. Ramakrishnan	CHECKED J. Lane	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0320	RETAINING WALL 1975 STRUCTURE PLAN NO. 1	
DETAILS	BY L. Xiong	CHECKED J. Lane			POST MILE 37.42/37.48		
QUANTITIES	BY V. Ramakrishnan	CHECKED J. Lane					

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
09-09-14	05-29-14	07-25-14	07-29-14	2	11

FILE => rw1975-c-sp_01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1740	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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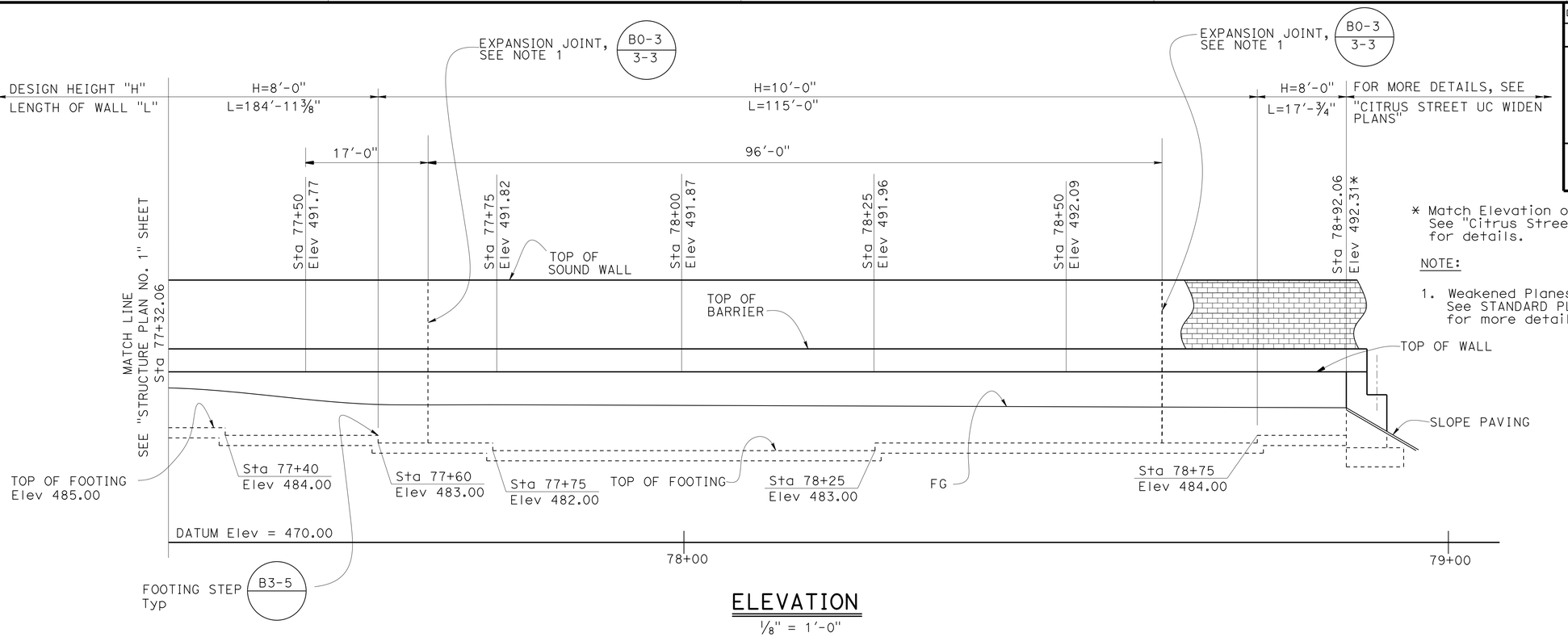


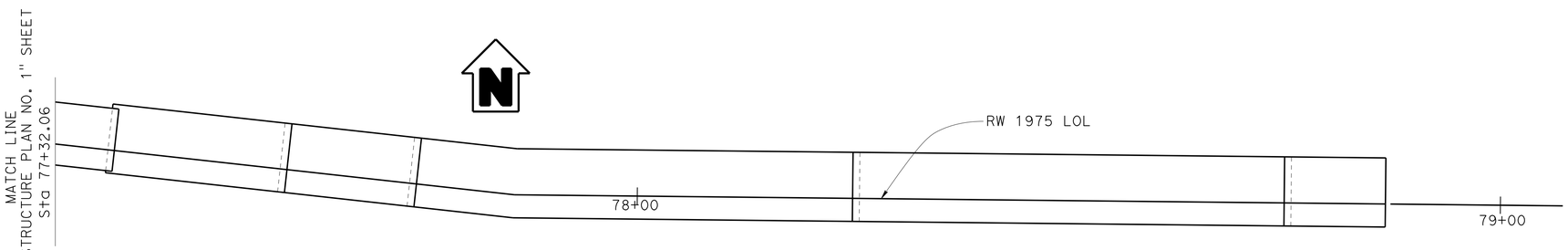
ELEVATION

⅛" = 1'-0"

* Match Elevation of EOD of Citrus Street UC Widen. See "Citrus Street UC Widen PLANS" for details.

NOTE:

1. Weakened Planes & Drains not shown. See STANDARD PLAN B0-3 ,"BRIDGE DETAILS" for more details.



PLAN

⅛" = 1'-0"

DESIGN	BY V. Ramakrishnan	CHECKED J. Lane	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY L. Xiong	CHECKED J. Lane	
QUANTITIES	BY V. Ramakrishnan	CHECKED J. Lane	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0320
POST MILE 37.42/37.48

RETAINING WALL 1975
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: 3613
PROJECT NUMBER & PHASE: 07130000071
CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
07-21-14	09-09-14	4-16-14	05-21-14	3	11

FILE => rw1975-c-sp_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1741	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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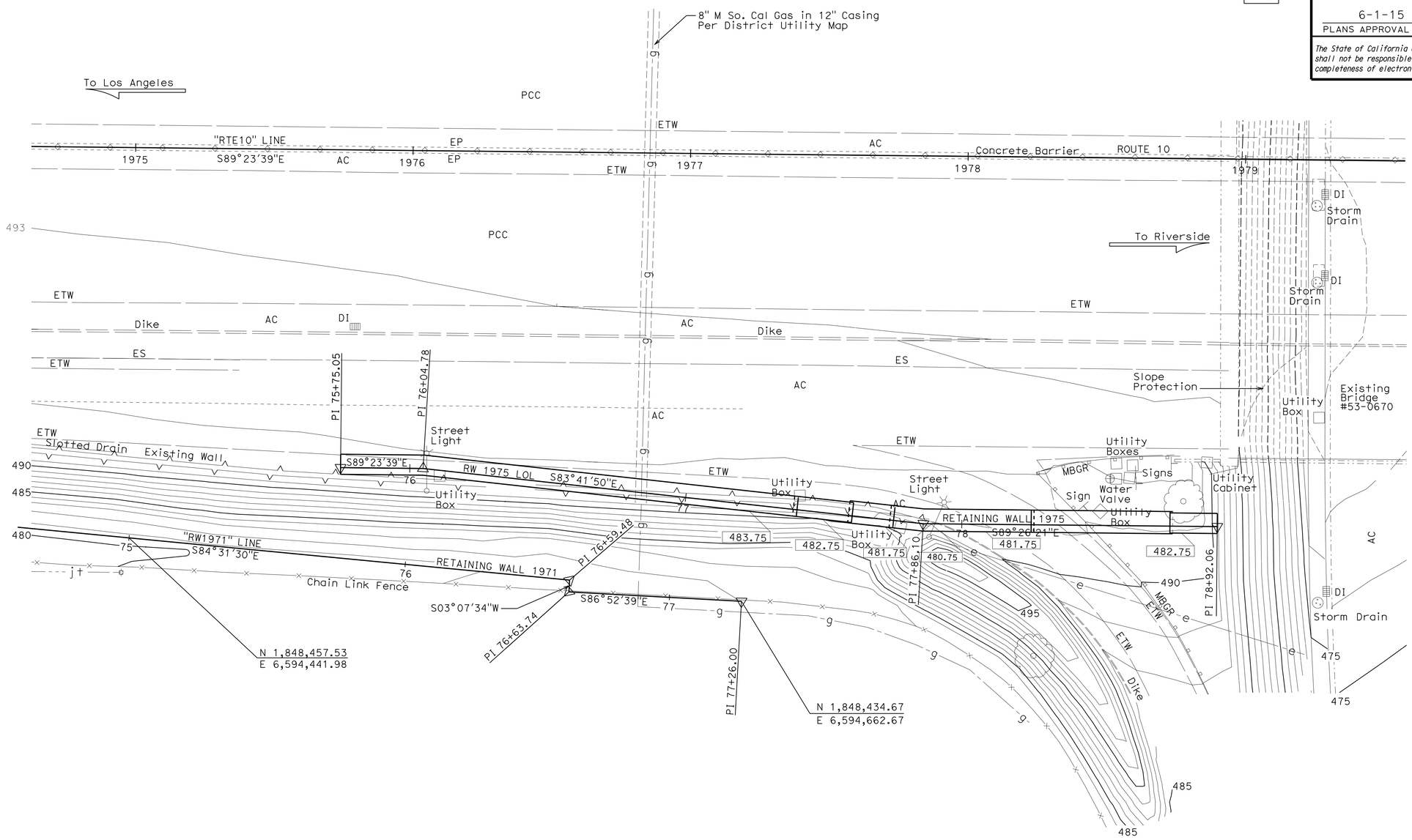


PRELIMINARY INVESTIGATION SECTION							DESIGN	BY V. Ramakrishnan	CHECKED J. Lane
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X					DETAILS	BY K. Kubo	CHECKED V. Ramakrishnan
	HORZ.DATUM NAD83	SURVEYED	BY District	CHECKED	BY C. Fassett	01/2014	QUANTITIES	BY V. Ramakrishnan	CHECKED J. Lane
	ALIGNMENT TIES Dist TRAVERSE SHEET	DRAFTED	BY T. Zolnikov 01/2014	CHECKED	BY C. Fassett	01/2014			

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

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. 53E0320
POST MILE 37.42/37.48

RETAINING WALL 1975
FOUNDATION PLAN

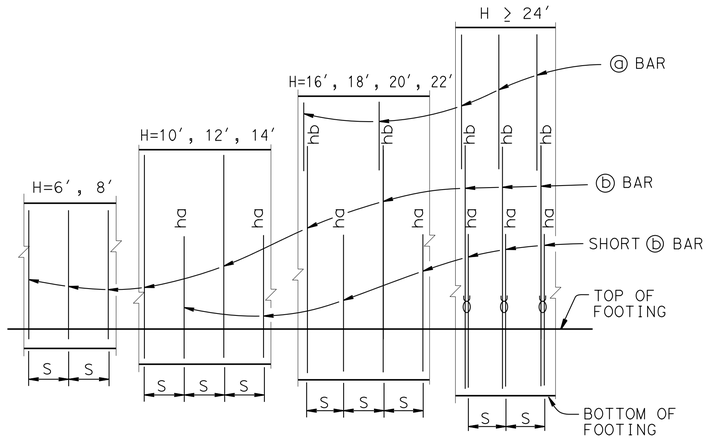
UNIT: 3646
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 97-1193U

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-09-14	04/25/14	05/08/14	07/21/14	4	11

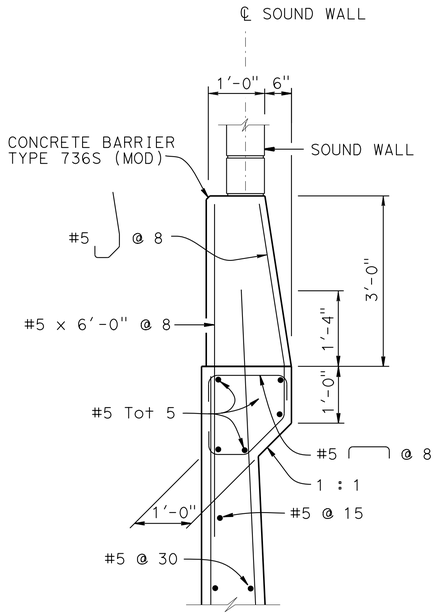
FILE => rw1975-e-fp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24



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

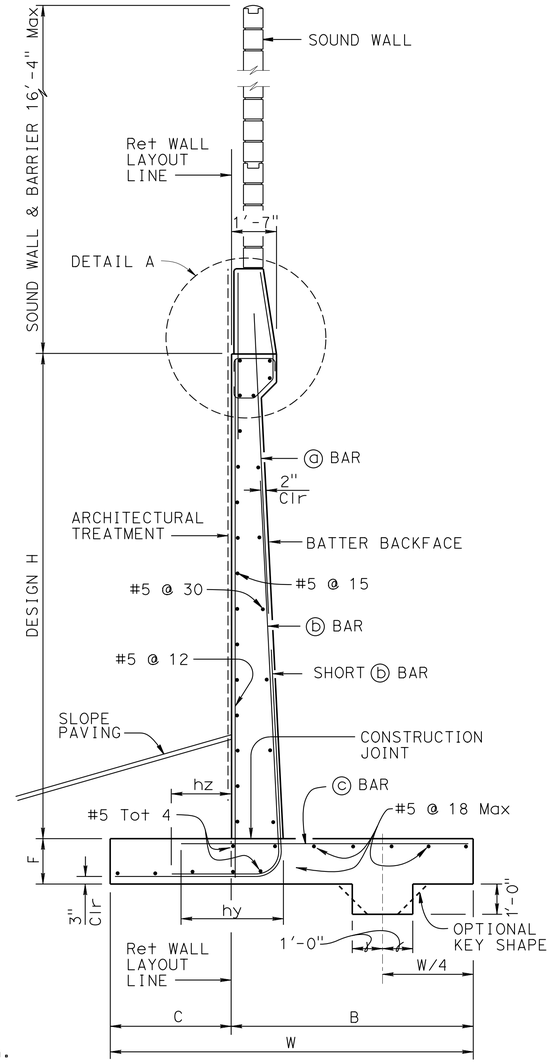
Soil: Ø = 34°
γ = 120 pcf

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

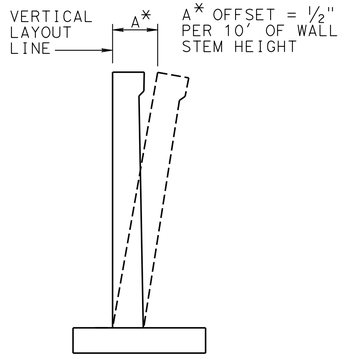
Load Combinations and Limit States

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

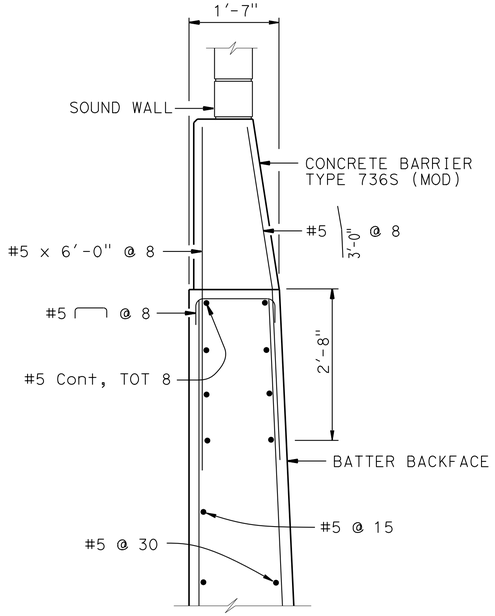


SPREAD FOOTING SECTION ⟨1⟩
No Scale



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.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1742	2313

V. Ramakrishnan 10-01-14
REGISTERED CIVIL ENGINEER 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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STANDARD DRAWING
FILE NO. xs14-220-1
APPROVAL DATE July 2011

⟨1⟩ MODIFIED DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0320
POST MILE 37.42/37.48

RETAINING WALL NO. 1975
RETAINING WALL TYPE 1 SWB-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
3-10-14	07-21-14	09-09-14	3-4-15	5	11

FILE => rw1975-g-rwdt_01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1743	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. 06-30-16 — CIVIL — STATE OF CALIFORNIA

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

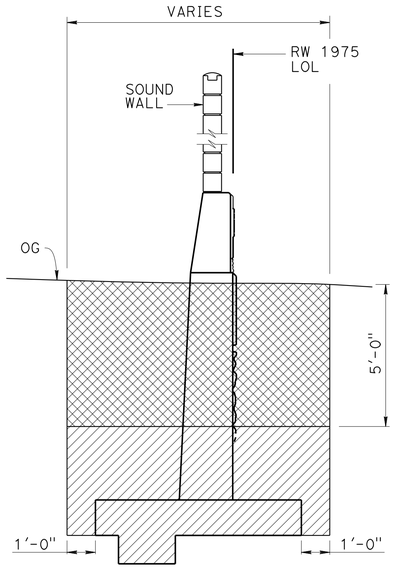
DESIGN H	6′	8′	10′	12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′
W	6′-9″	7′-3″	8′-0″	8′-9″	10′-0″	11′-6″	12′-9″	14′-0″	15′-9″	18′-0″	19′-9″	21′-9″	23′-3″	25′-3″
C	2′-3″	2′-5″	2′-8″	2′-11″	3′-4″	3′-10″	4′-3″	4′-8″	5′-3″	6′-0″	6′-7″	7′-3″	7′-9″	8′-5″
B	4′-6″	4′-10″	5′-4″	5′-10″	6′-8″	7′-8″	8′-6″	9′-4″	10′-6″	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 Ŏ	#8 @ 6 Ŏ	#8 @ 6 Ŏ	#10 @ 9 Ŏ	#11 @ 9 Ŏ
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 Ŏ	#10 @ 9 Ŏ	#11 @ 9 Ŏ
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)

Ŏ : 2 bar bundle



LEGEND:

STRUCTURAL EXCAVATION (RETAINING WALL)

STRUCTURAL EXCAVATION (TYPE Y-1)
(AERIALLY DEPOSITED LEAD)

① LIMITS OF PAYMENT FOR EXCAVATION

⅜″ = 1′-0″

STANDARD DRAWING

FILE NO. xs14-220-2

APPROVAL DATE December 2012

① Added Detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0320

POST MILE 37.42/37.48

RETAINING WALL NO. 1975

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: 2-13-15 | 02-26-14 | 07-21-14 | 09-09-14

SHEET 6 OF 11

FILE => rw1975-g-rwdt_02.dgn

USERNAME => s1125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1744	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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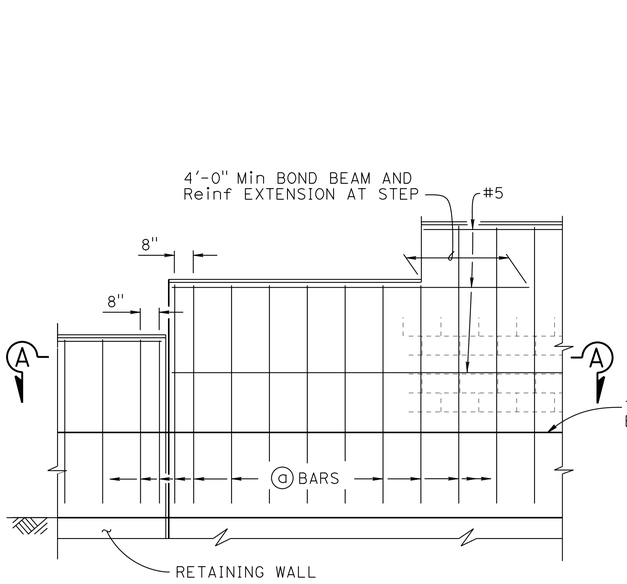
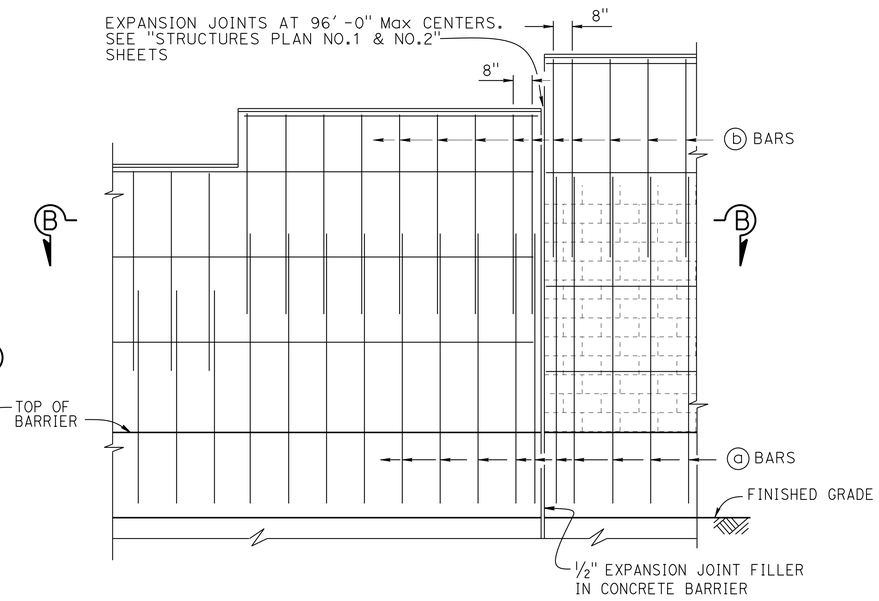


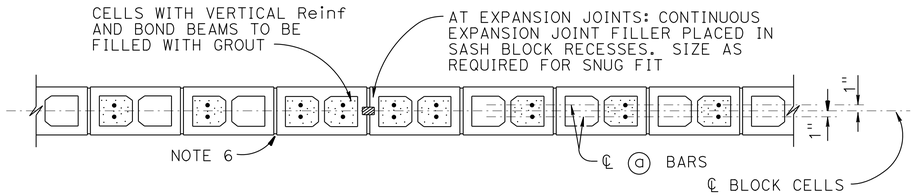
H=6'-4" THRU H=10'-4"



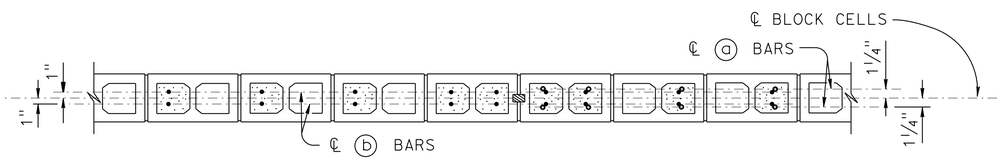
H=12'-4" THRU H=16'-4"

PART ELEVATION

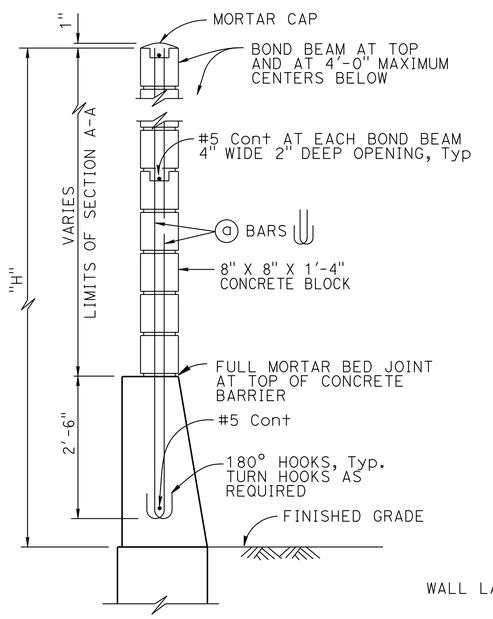
SOUND WALL REINFORCEMENT TABLE						
MAXIMUM "H"	ⓐ BARS @ 1'-4" Max	ⓑ BARS @ 1'-4" Max	"Y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	MAXIMUM "H"
6'-4"	#4	———	———	1500	1900	6'-4"
8'-4"	#4	———	———	1500	1900	8'-4"
10'-4"	#4	———	———	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"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



SECTION A-A

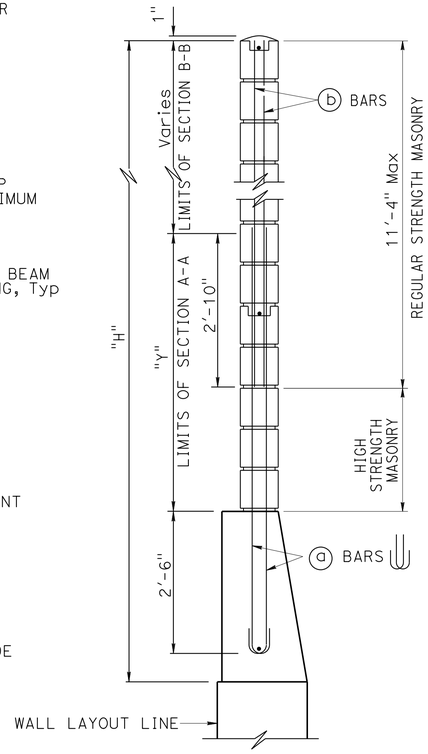


SECTION B-B



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 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

RETAINING WALL 1975

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. 53E0320

POST MILE 37.42/37.48

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
07-24-14	09-09-14	02-06-14	02-20-14	7	11

FILE => rw1975-m-swdt_01.dgn

USERNAME => s1125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1745	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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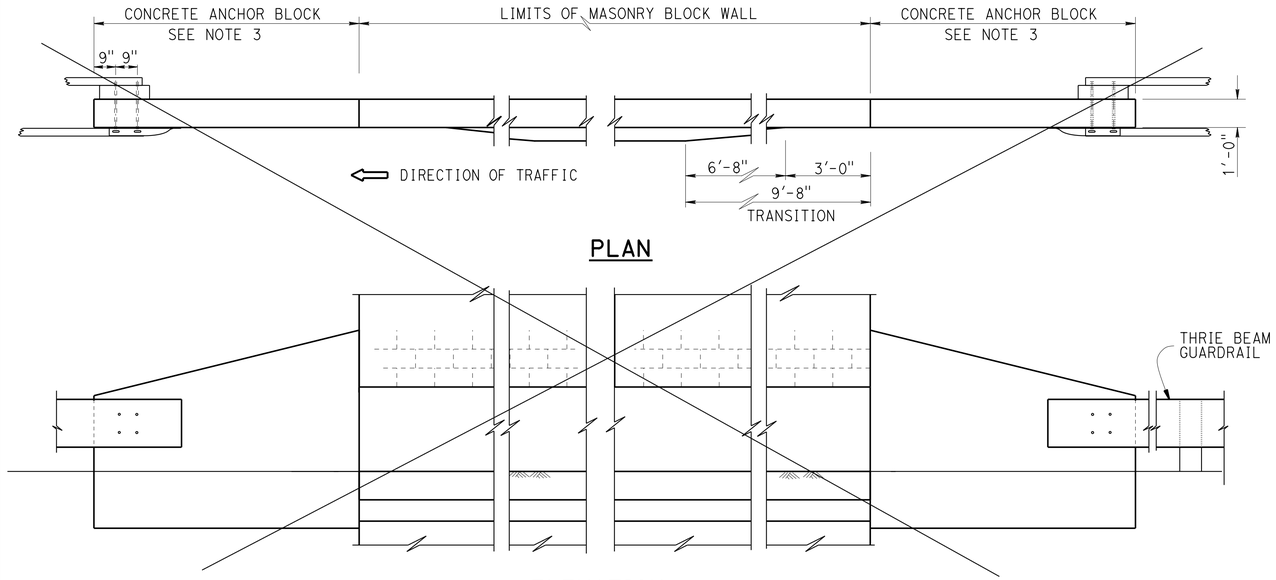
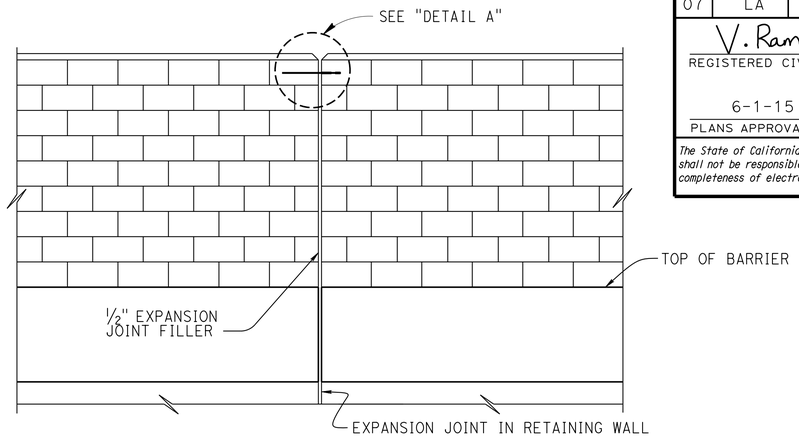
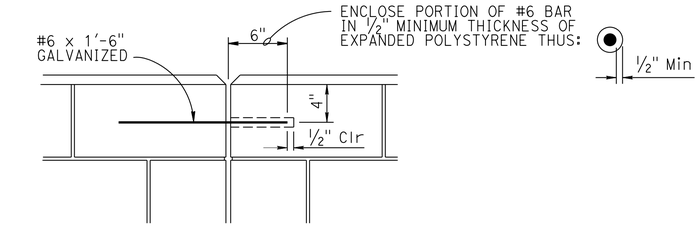


METAL BEAM GUARDRAIL ANCHORAGE ◇3

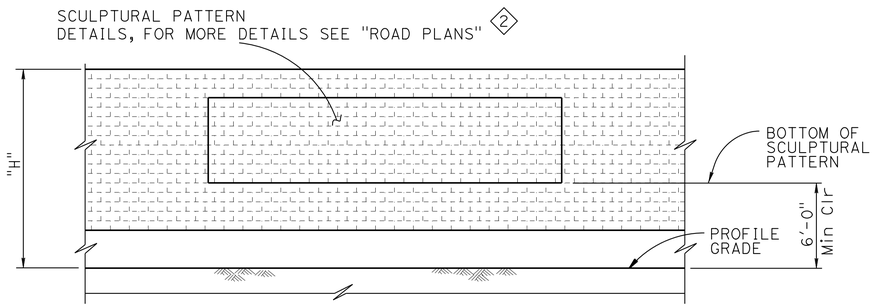
For details not shown, see STANDARD PLAN B11-56



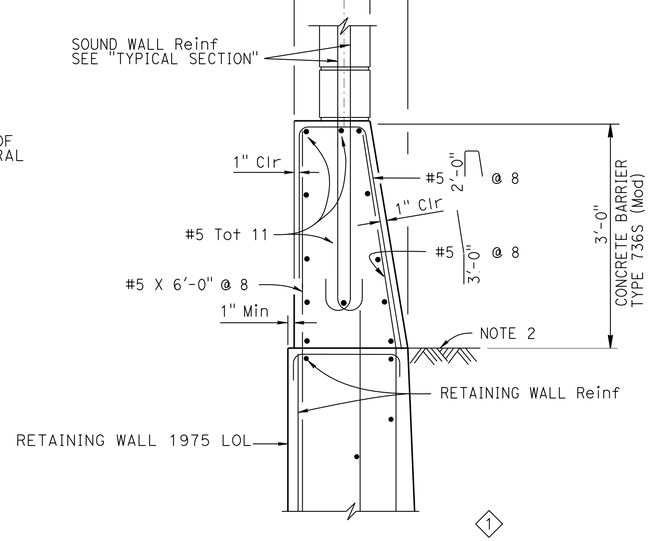
ALIGNMENT KEY DETAIL



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 STANDARD PLAN B15-6
2. Slope ground at traffic side of barrier to drain. Maximum slope ±10% See STANDARD PLAN 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

RETAINING WALL 1975

MASONRY BLOCK SOUND WALL WITH BARRIER ON RETAINING WALL

DETAILS NO. 2

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. 53E0320

POST MILE 37.42/37.48

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: 02-24-14 05-23-14 07-11-14 09-09-14

SHEET 8 OF 11

FILE => rw1975-m-swdt_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1746	2313

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

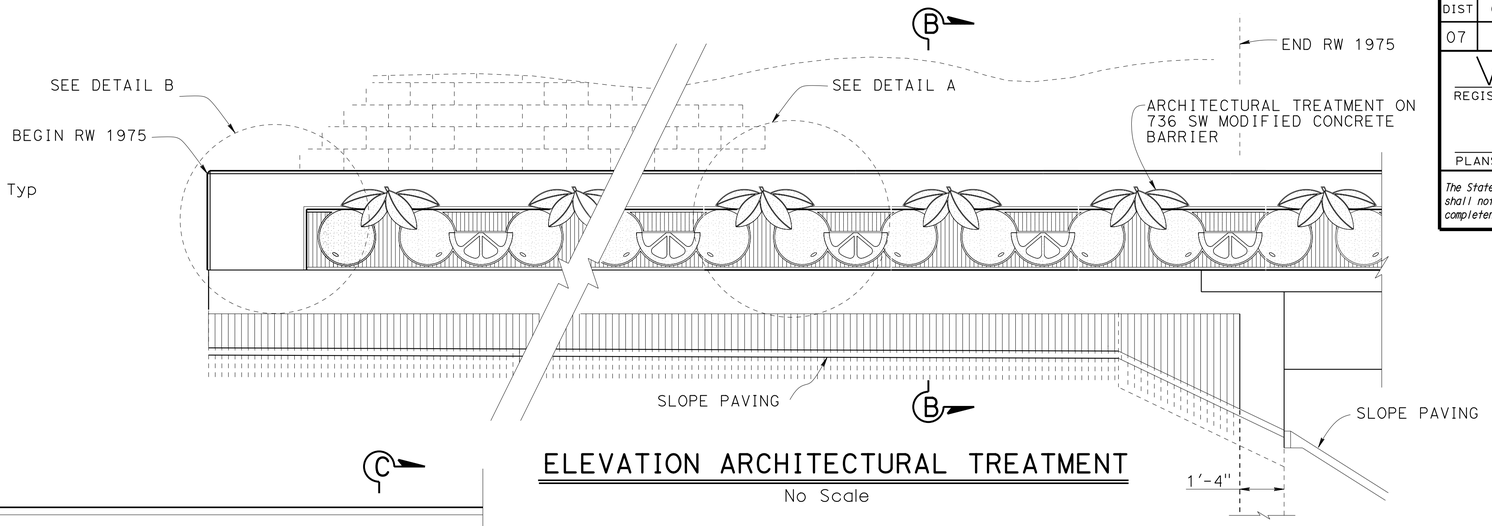
6-1-15 PLANS APPROVAL DATE

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

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.

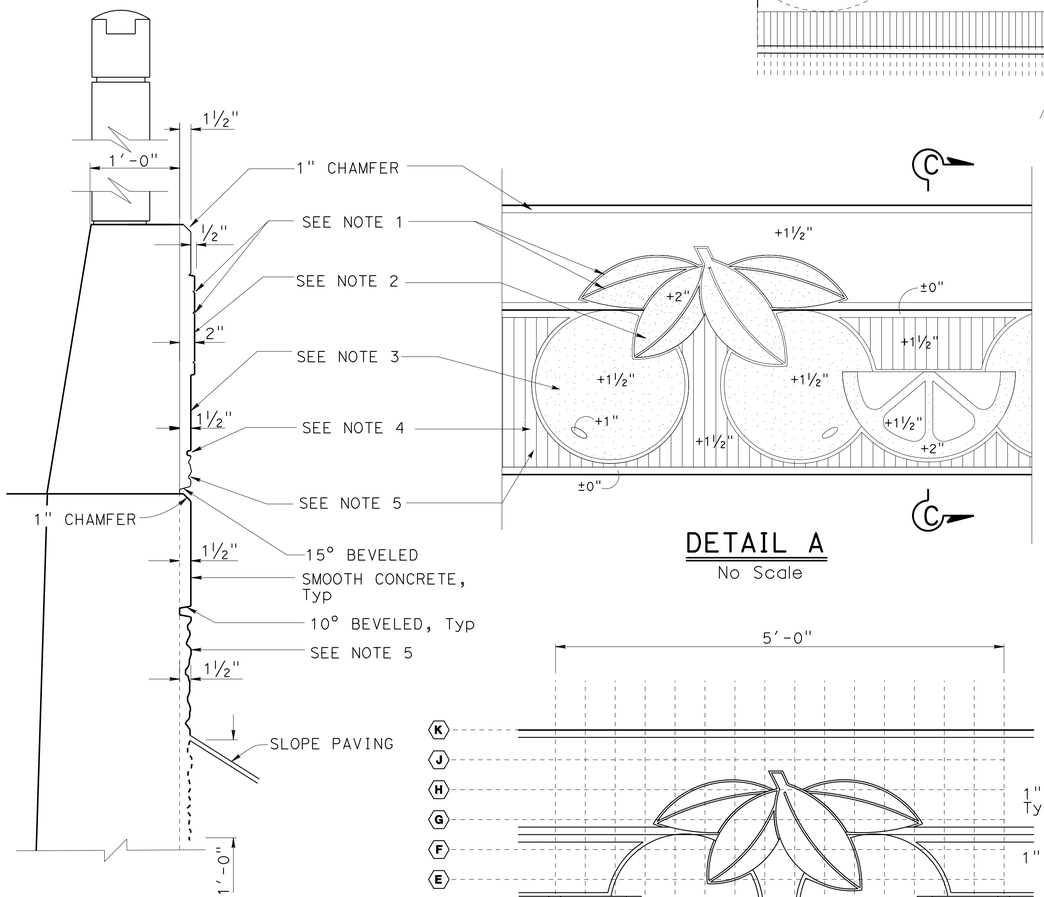
NOTES:

1. Leaf Vain & Edge 1/4" V Grooves, Typ
2. Leaf Surface light Sandblast, Texture, Typ
3. Orange Surface Heavy Sandblast Texture, Typ
4. 1/2" wide Grove between Ribs and Orange, Typ
5. Fractured Rib Texture, Typ



ELEVATION ARCHITECTURAL TREATMENT

No Scale

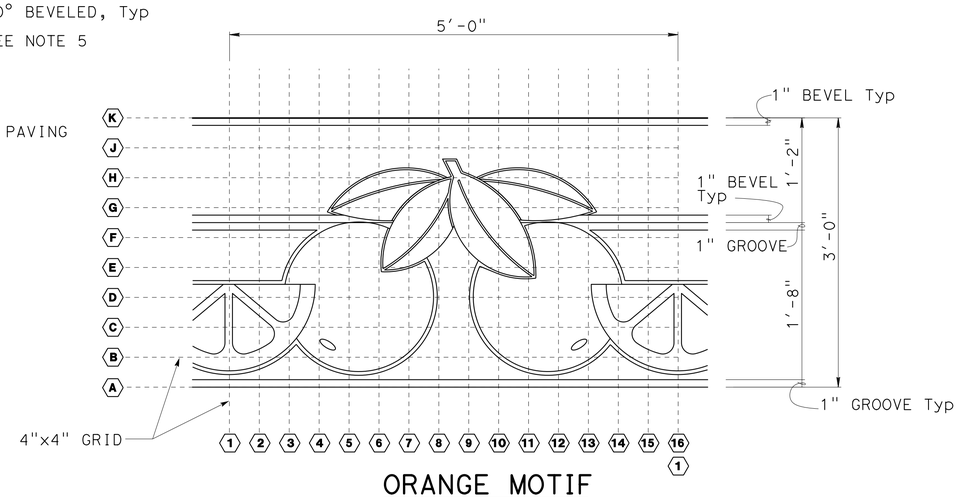


SECTION B-B

No Scale

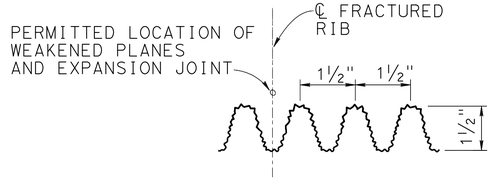
DETAIL A

No Scale



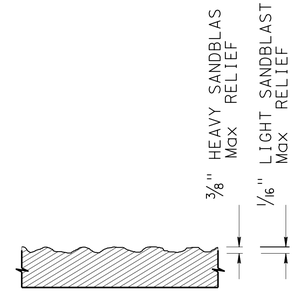
ORANGE MOTIF

No Scale



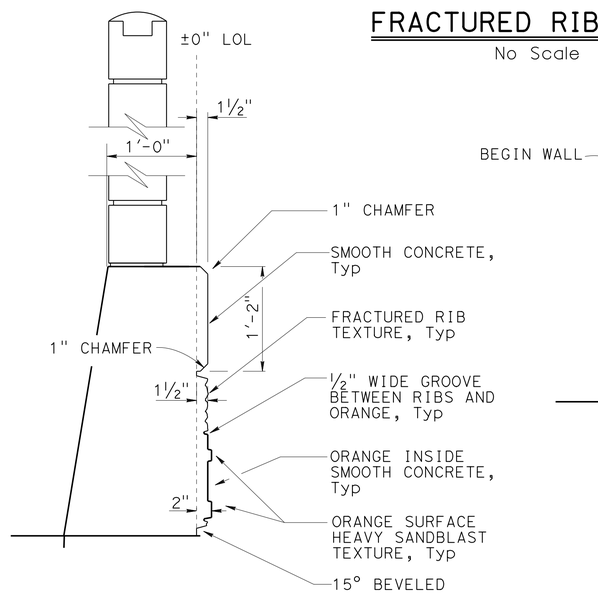
FRACTURED RIB DETAIL

No Scale



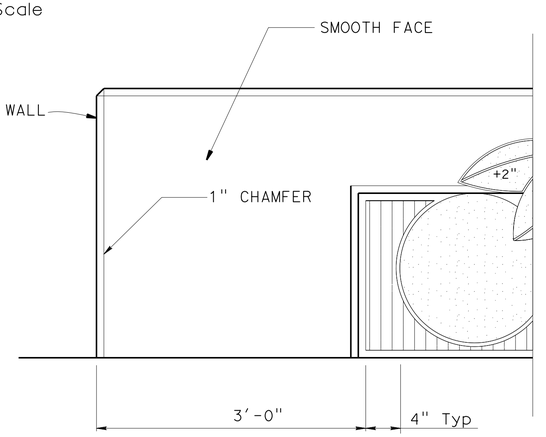
SANDBLAST DETAIL

No Scale



SECTION C-C

No Scale



DETAIL B
BARRIER ENDING TYPICAL

No Scale

DESIGN	BY V. Moore	CHECKED V. Ramakrishnan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY V. Moore	CHECKED V. Ramakrishnan	
QUANTITIES	BY V. Ramakrishnan	CHECKED J. Lane	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN — DESIGN BRANCH 14

BRIDGE NO. 53E0320 — POST MILE 37.42/37.48

RETAINING WALL 1975
ARCHITECTURAL 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
3-4-14	07-21-14	09-11-14	02-25-15	9	11

FILE => rw1975-n-archdt.dgn

DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24
USERNAME => s125624

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1747	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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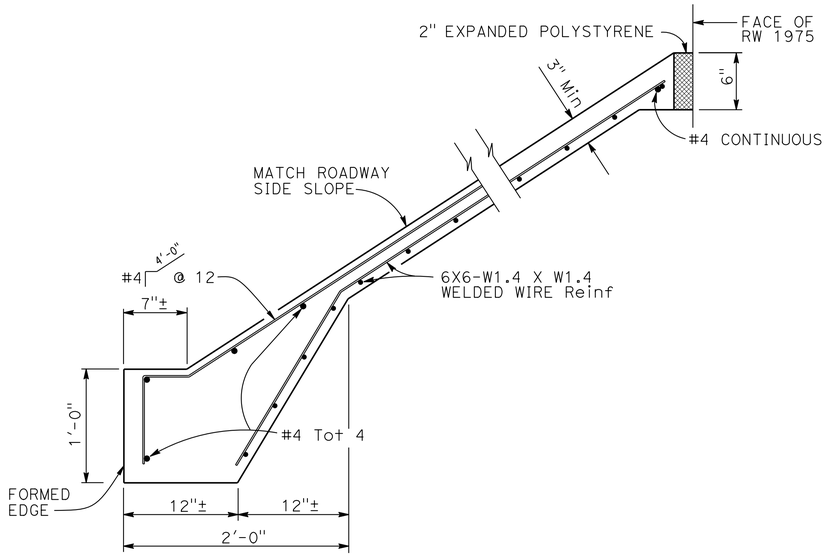
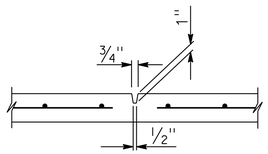
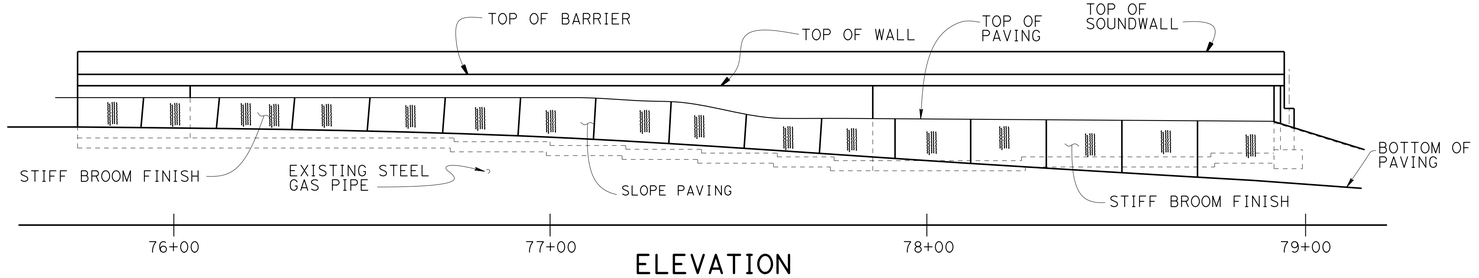


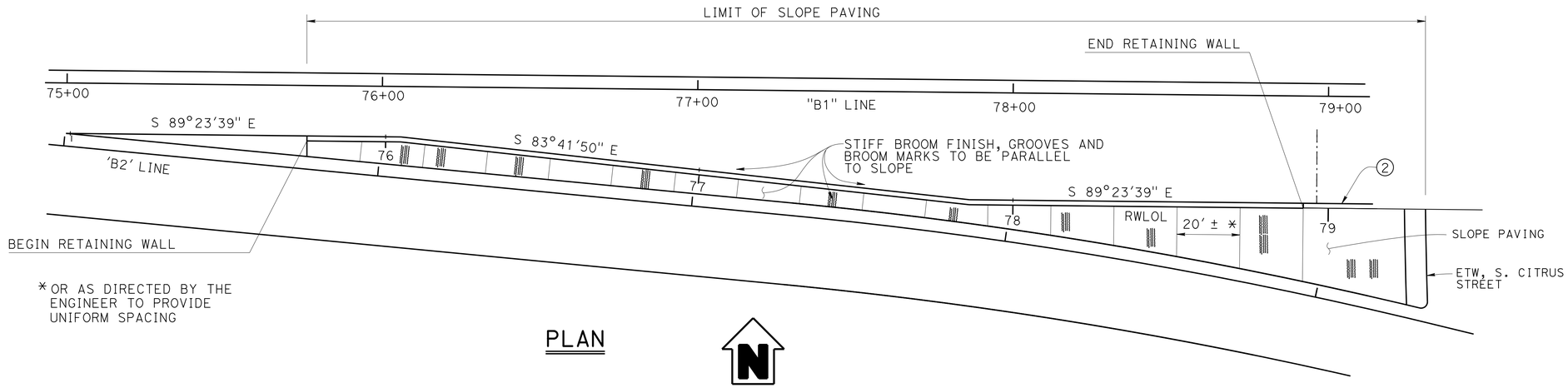
TYPICAL SECTION - CONCRETE PAVING



PREFORMED GROOVE



ELEVATION



PLAN

NO SCALE

DESIGN	BY V. Ramakrishnan	CHECKED J. Lane	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0320	RETAINING WALL 1975
DETAILS	BY L. Xiong	CHECKED J. Lane			POST MILE 37.42/37.48	SLOPE PAVING
QUANTITIES	BY V. Ramakrishnan	CHECKED J. Lane				

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
05-21-14	07-21-14	09-11-14		10	11

FILE => rw1975-o-spav.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1748	2313

CERTIFIED ENGINEERING GEOLOGIST 1-16-14 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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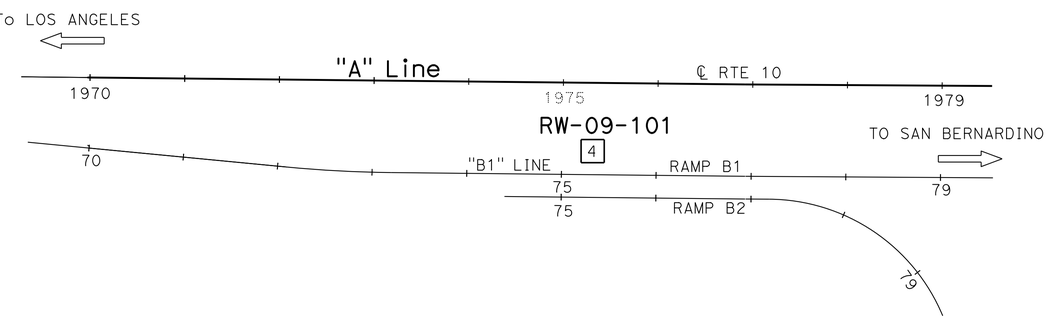
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

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

BENCH MARK

SUHV 32608 Elev 492.05′
Fd Pk N in Citrus E/B Off-Ramp Gore,
"A" Line Sta 1972+91.2 Rt 65.97′
NAVD 88



PLAN
1" = 80′

74.5′ Rt Sta 1975+33.0
"A" Line

RW-09-101

492.3′ — 4 — SILTY SAND (SM); loose; yellowish brown; moist; mostly medium and fine SAND; some fines.

Concrete (6").

7 | 1.4 — PA PI — SILTY CLAYEY SAND with GRAVEL (SC-SM); loose; very dark gray; moist; mosty fine to coarse SAND; some fines; little fine GRAVEL.

31 | 1.4 — SILTY SAND (SM); dense; dark yellowish brown; moist; mostly fine SAND; some fines.

8 | 1.4 — PA — SILTY SAND (SM); loose; very dark grayish brown; moist; mostly fine to coarse SAND; little fines; trace fine GRAVEL.

No recovery.

13 | 1.4

8 | 1.4 — PA PI — CLAYEY SAND (SC); loose; dark brown; moist; mostly fine to coarse SAND; some fines; trace fine GRAVEL.

21 | 1.4 — PA PI — -medium dense.

Well-graded SAND (SW); dense; olive brown; moist; mostly fine to coarse SAND.

43 | 1.4

7-20-09
Terminated at Elev 458.3′
ERi = 68%

490 480 470 460 450

1975+00 1976+00 1977+00

Note: Ground water was not measured 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. 53E0320	RETAINING WALL NO. 1975
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: W. Tang 5/10, I.G-Remmen	FIELD INVESTIGATION BY: Y. Choi/C. Bugarin		POST MILE 37.42/37.48	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
10-08-13	11-18-13	11-21-13	01-15-14	11	11

FILE => rw1975-u-lotb.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1749	2313

John Peterson 10-01-14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN PETERSON No. C56837 Exp 06-30-15 CIVIL — STATE OF CALIFORNIA

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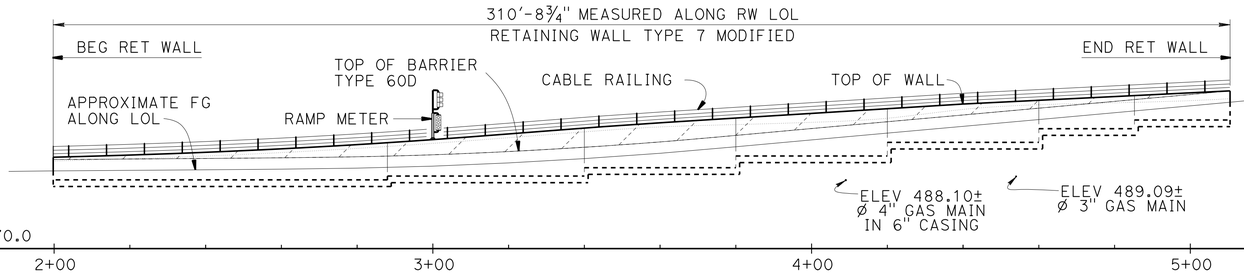
INDEX TO PLANS

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	B3-5	RETAINING WALL DETAILS NO. 1
RSP	B11-47	CABLE RAILING

STANDARD PLAN SHEET NO.

DETAIL NO.

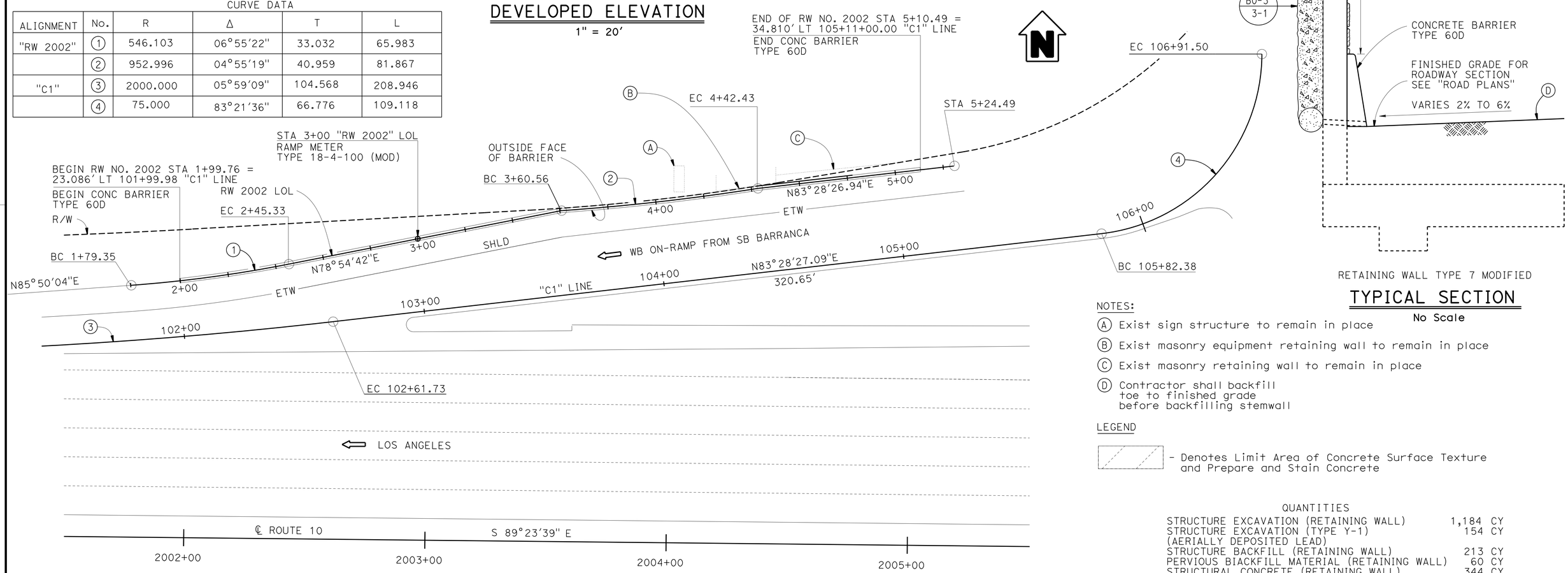


CURVE DATA

ALIGNMENT	No.	R	Δ	T	L
"RW 2002"	①	546.103	06°55'22"	33.032	65.983
	②	952.996	04°55'19"	40.959	81.867
"C1"	③	2000.000	05°59'09"	104.568	208.946
	④	75.000	83°21'36"	66.776	109.118

DEVELOPED ELEVATION

1" = 20'



PLAN

1" = 20'

RETAINING WALL TYPE 7 MODIFIED

TYPICAL SECTION

No Scale

NOTES:

(A) Exist sign structure to remain in place

(B) Exist masonry equipment retaining wall to remain in place

(C) Exist masonry retaining wall to remain in place

(D) Contractor shall backfill toe to finished grade before backfilling stemwall

LEGEND

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

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	1,184 CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALLY DEPOSITED LEAD)	154 CY
STRUCTURE BACKFILL (RETAINING WALL)	213 CY
PERVIOUS BIACKFILL MATERIAL (RETAINING WALL)	60 CY
STRUCTURAL CONCRETE (RETAINING WALL)	344 CY
BAR REINFORCING STEEL (RETAINING WALL)	39,796 LB
PREPARE AND STAIN CONCRETE	1,231 SQFT
CABLE RAILING	311 LF
CONCRETE BARRIER (TYPE 60D)	311 LF

X Douglas J Dunnel
DESIGN ENGINEER

	BY	CHECKED
DESIGN	John M. Peterson	Paul A. Peterson
DETAILS	John M. Peterson	Paul A. Peterson
QUANTITIES	John M. Peterson	V. Ramakrishnan

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

	BY	CHECKED
LAYOUT	John M. Peterson	Paul A. Peterson
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 14

BRIDGE NO.	POST MILE
53E0319	37.92/37.97

RETAINING WALL 2002
GENERAL PLAN

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

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
02-13-15	07-2-14	09-11-14	3-16-15	1	6

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

FILE => rw2002-a-gp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1750	2313

John Peterson 10-01-14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JOHN PETERSON
No. C56837
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

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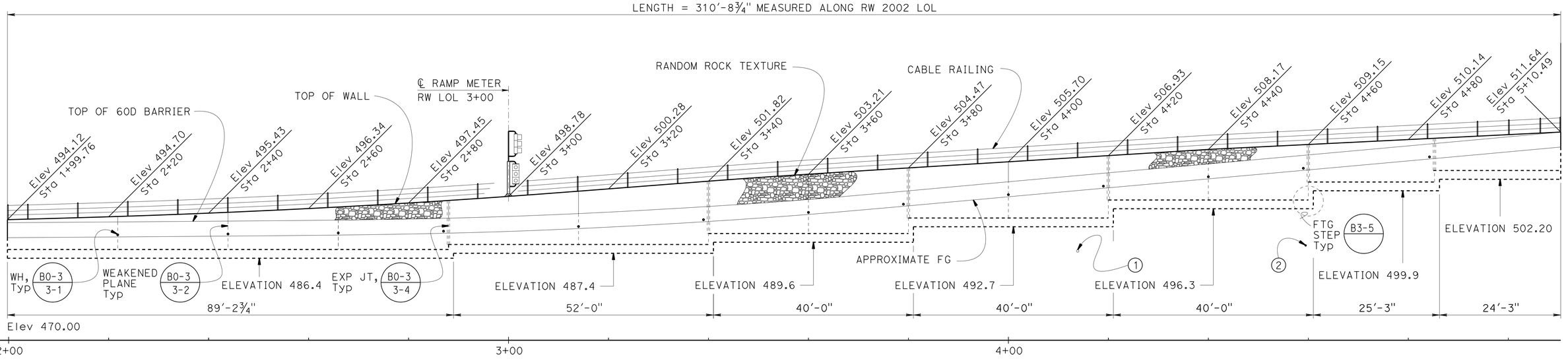


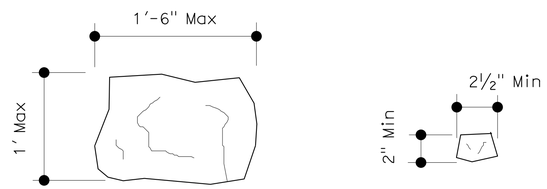
NOTES:

(1) Existing 4" Gas Main in 6" CSG

(2) Existing 3" Gas Main

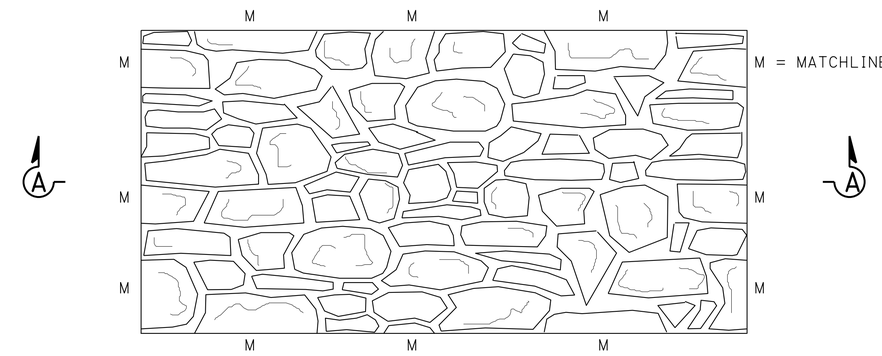
DEVELOPED ELEVATION

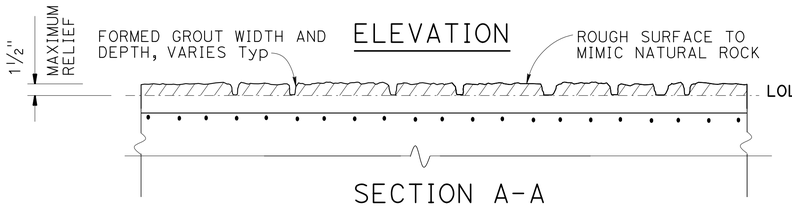
1" = 10'-0"



NOTE:

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





SECTION A-A

RANDOM ROCK TEXTURE

No Scale

DESIGN	BY JOHN M. PETERSON	CHECKED PAUL A. PETERSON	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0319
DETAILS	BY JOHN M. PETERSON	CHECKED PAUL A. PETERSON			POST MILE 37.92/37.97
QUANTITIES	BY JOHN M. PETERSON	CHECKED V. RAMAKRISHNAN			

RETAINING WALL 2002
STRUCTURE 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

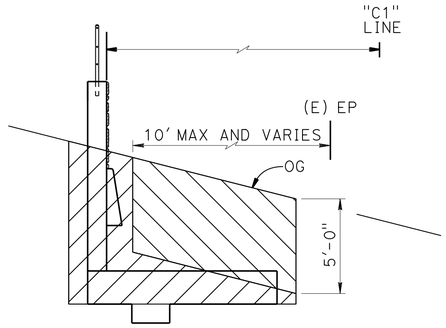
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-11-14	01-15-14	02-03-14	02-26-14	2	6

FILE => rw2002-b-sp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

No.	R	Δ	T	L
①	546.103	06°55′22"	33.032	65.983
②	952.996	04°55′19"	40.959	81.867
③	2000.000	05°59′09"	104.568	208.946
④	75.000	83°21′36"	66.776	109.118



TYPICAL SECTION

NO SCALE

LEGEND

STRUCTURE EXCAVATION (RETAINING WALL)
SEE STANDARD PLAN A62B FOR AREAS OUTSIDE AERIALLY DEPOSITED LEAD ZONES

STRUCTURE EXCAVATION (TYPE Y-1)
(ARERIALLY DEPOSITED LEAD),
SEE PLAN FOR LOCATIONS
APPROXIMATELY 154 CY±

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1751	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

6-1-15
PLANS APPROVAL DATE

JOHN PETERSON No. C56837 Exp 06-30-15 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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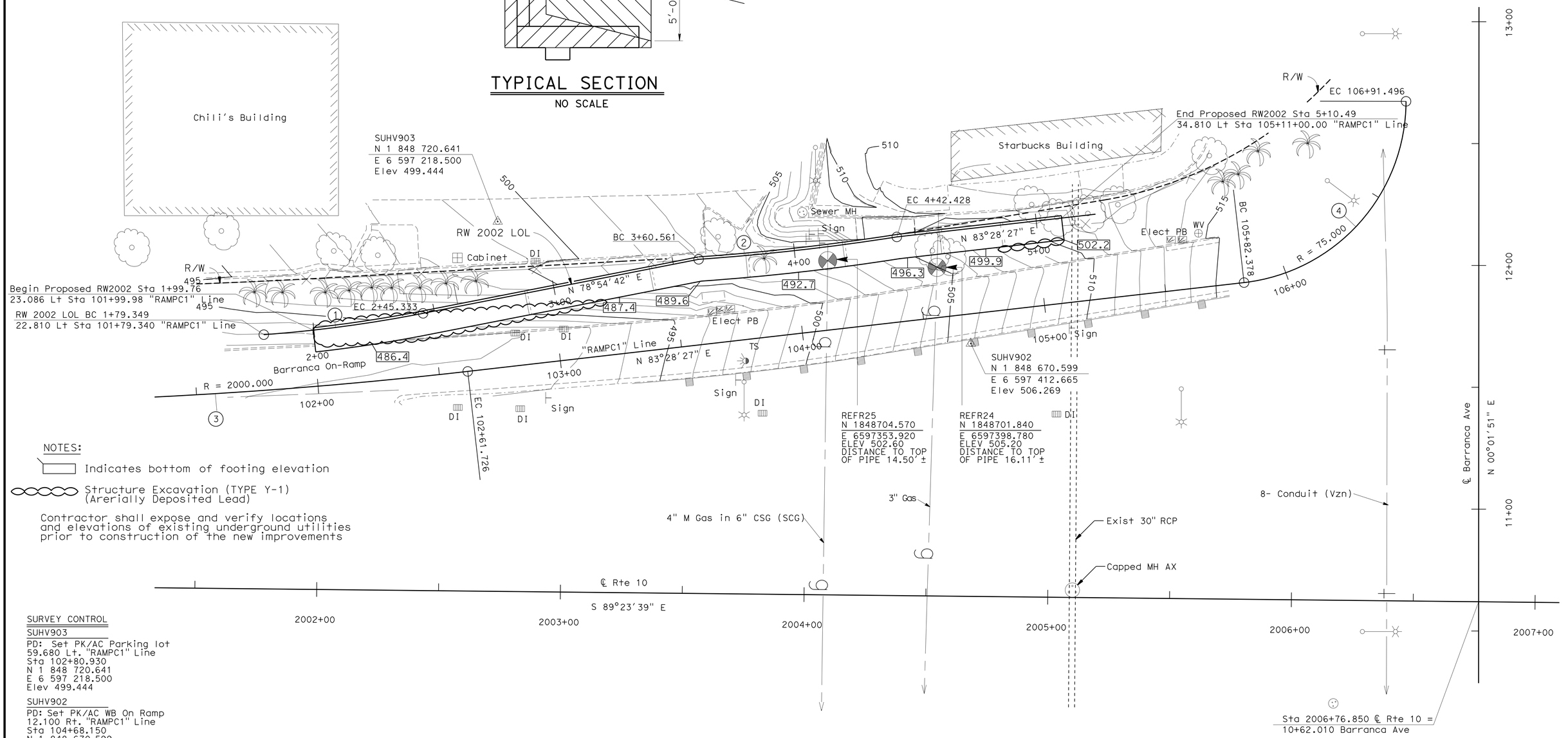


NOTES:

Indicates bottom of footing elevation

Structure Excavation (TYPE Y-1)
(Arerially Deposited Lead)

Contractor shall expose and verify locations and elevations of existing underground utilities prior to construction of the new improvements

SURVEY CONTROL

SUHV903

PD: Set PK/AC Parking lot
59.680 Lt. "RAMPC1" Line
Sta 102+80.930
N 1 848 720.641
E 6 597 218.500
Elev 499.444

SUHV902

PD: Set PK/AC WB On Ramp
12.100 Rt. "RAMPC1" Line
Sta 104+68.150
N 1 848 670.599
E 6 597 412.665
Elev 506.269

PRELIMINARY INVESTIGATION SECTION					
SCALE 1"=20′	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD83	SURVEYED	BY T. Phung	CHECKED	BY C. Stewart
	ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED	BY C. Pham	CHECKED	BY E. Viajar

	BY	CHECKED
DESIGN	JOHN M. PETERSON	PAUL A. PETERSON
DETAILS	JOHN M. PETERSON	PAUL A. PETERSON
QUANTITIES	JOHN M. PETERSON	V. RAMAKRISHNAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0319
POST MILE 37.92/37.97

RETAINING WALL 2002
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
02/04/15	2-13-15	09-11-14	12-05-13	3	6

FILE => rw2002-e-fp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1752	2313

John Peterson 10-01-14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN PETERSON — No. C56837 — Exp. 06-30-15 — CIVIL — STATE OF CALIFORNIA

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

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: $\emptyset$ = 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=aDC+BEV+1.50EH+1.75LS+Td

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

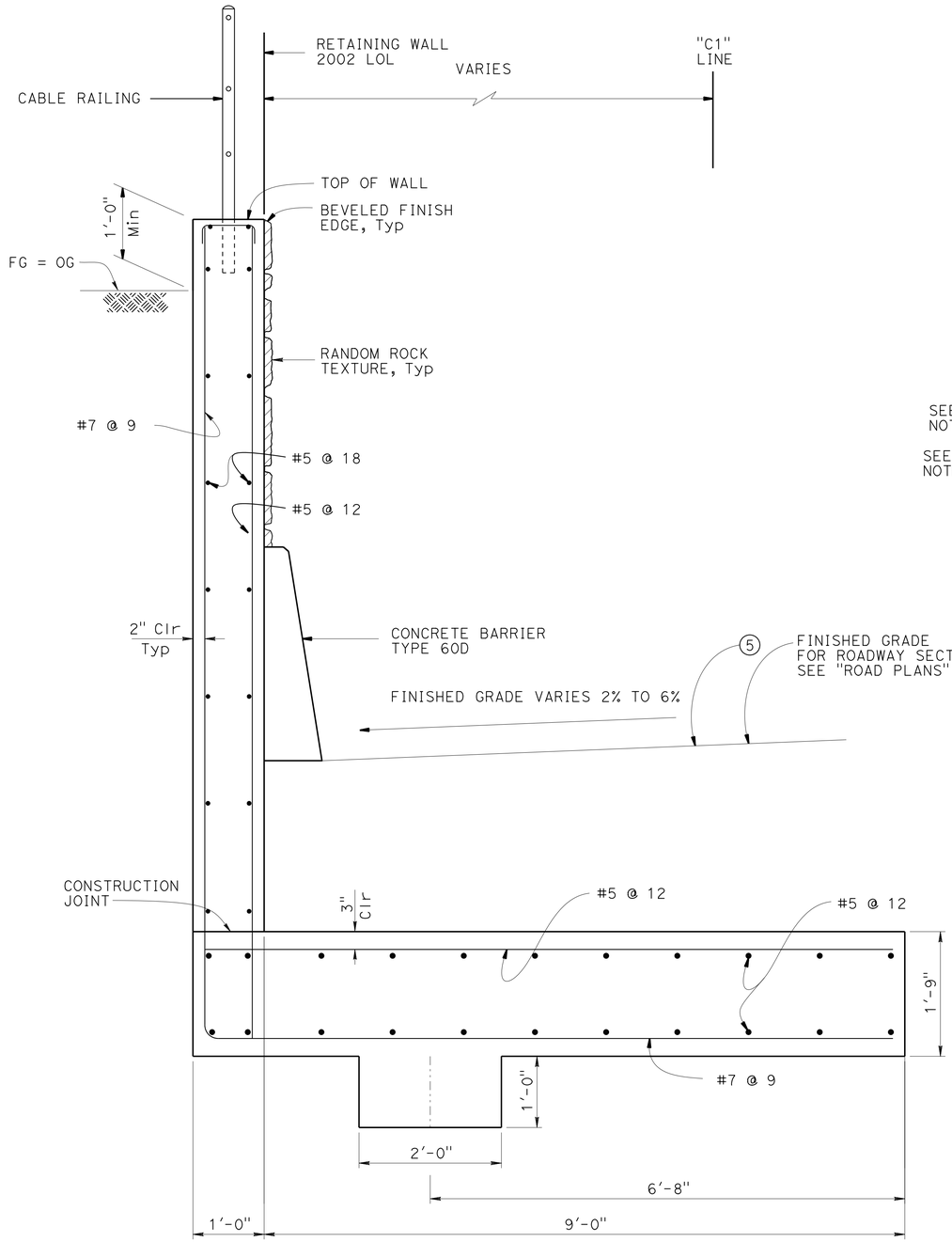
Extreme II Q=1.00DC+1.00EV+1.00EH+1.00CT+Td

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

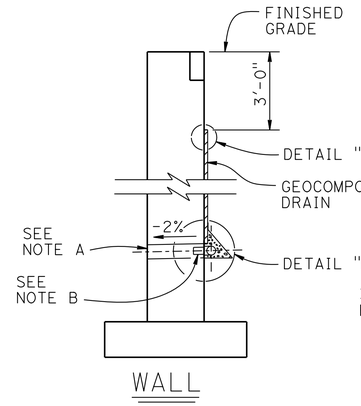
SOIL BEARING DATA	
Ser: B', q_o	7.4, 0.7
Str: B', q_o	4.4, 2.5
Ext I: B', q_o	5.6, 2.1
Ext II: B', q_o	9.0, 1.3

NOTES:

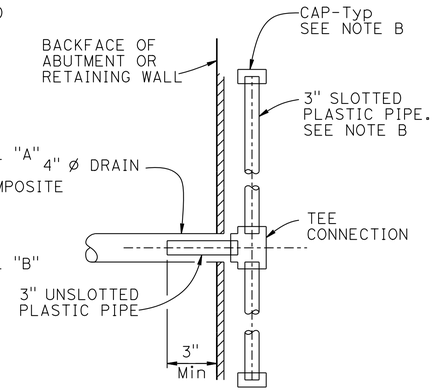
1. Extend Random Rock Texture from top of wall to 60D Barrier
2. For Random Rock Texture details, see "RETAINING WALL LAYOUT" sheet
3. For Railing Details not shown, see B11-47
4. Contractor shall backfill footing to finished grade before backfilling wall
5. Dimensions may vary with roadway cross slope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



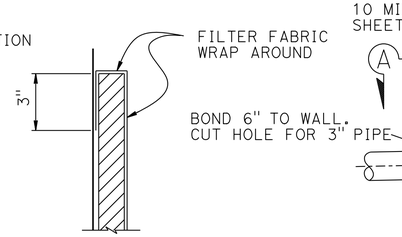
TYPICAL SECTION



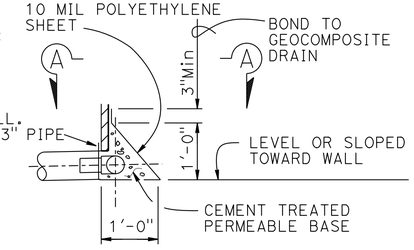
WALL SECTION



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.

NO SCALE

	BY	CHECKED
DESIGN	JOHN M. PETERSON	PAUL A. PETERSON
DETAILS	JOHN M. PETERSON	PAUL A. PETERSON
QUANTITIES	JOHN M. PETERSON	V. RAMAKRISHNAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0319
POST MILE 37.92/37.97

RETAINING WALL 2002
RETAINING WALL 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	01-15-14	01-30-14	02-26-14	4	6

FILE => rw2002-g-rwdt_01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1753	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

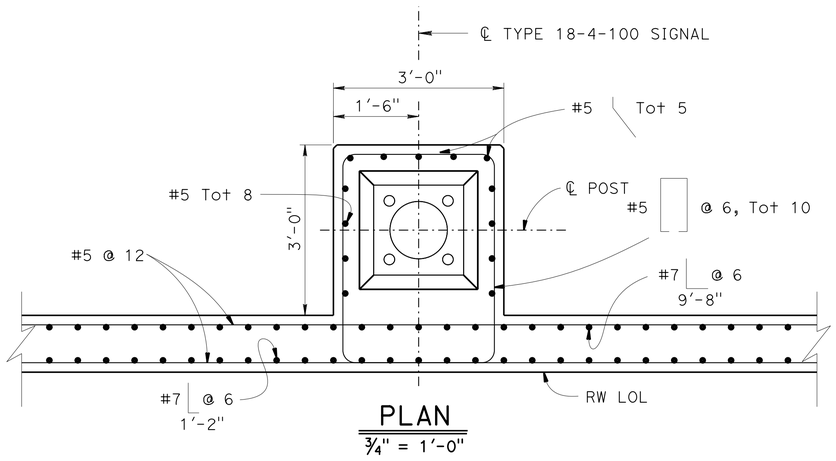
6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOHN PETERSON No. C56837 Exp 06-30-15 CIVIL — STATE OF CALIFORNIA

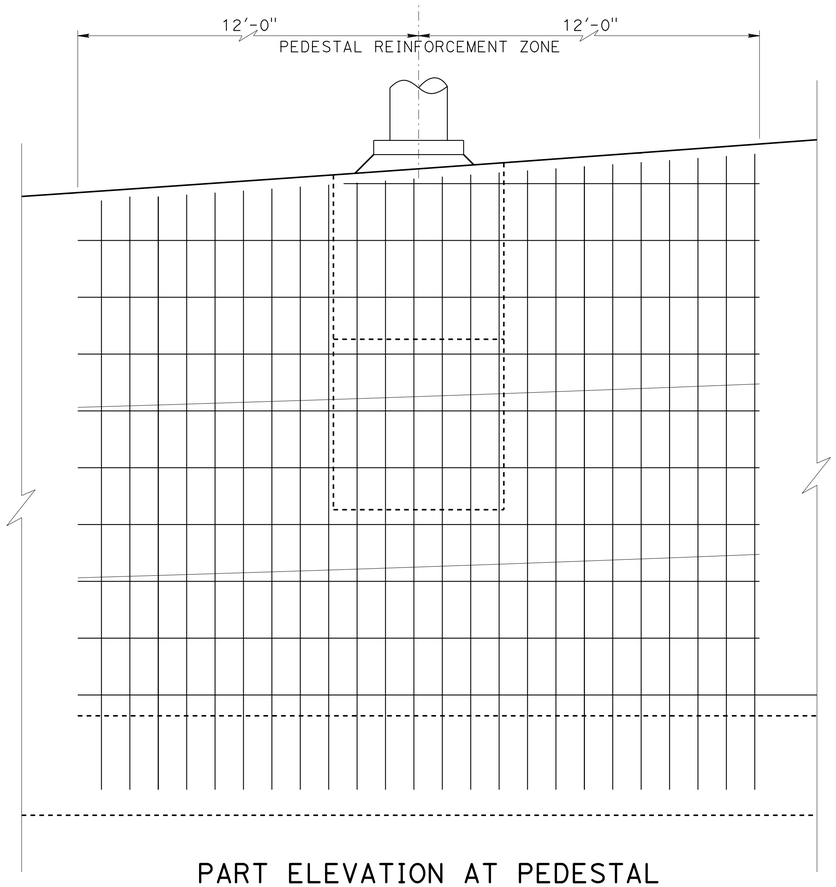
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

NOTES:

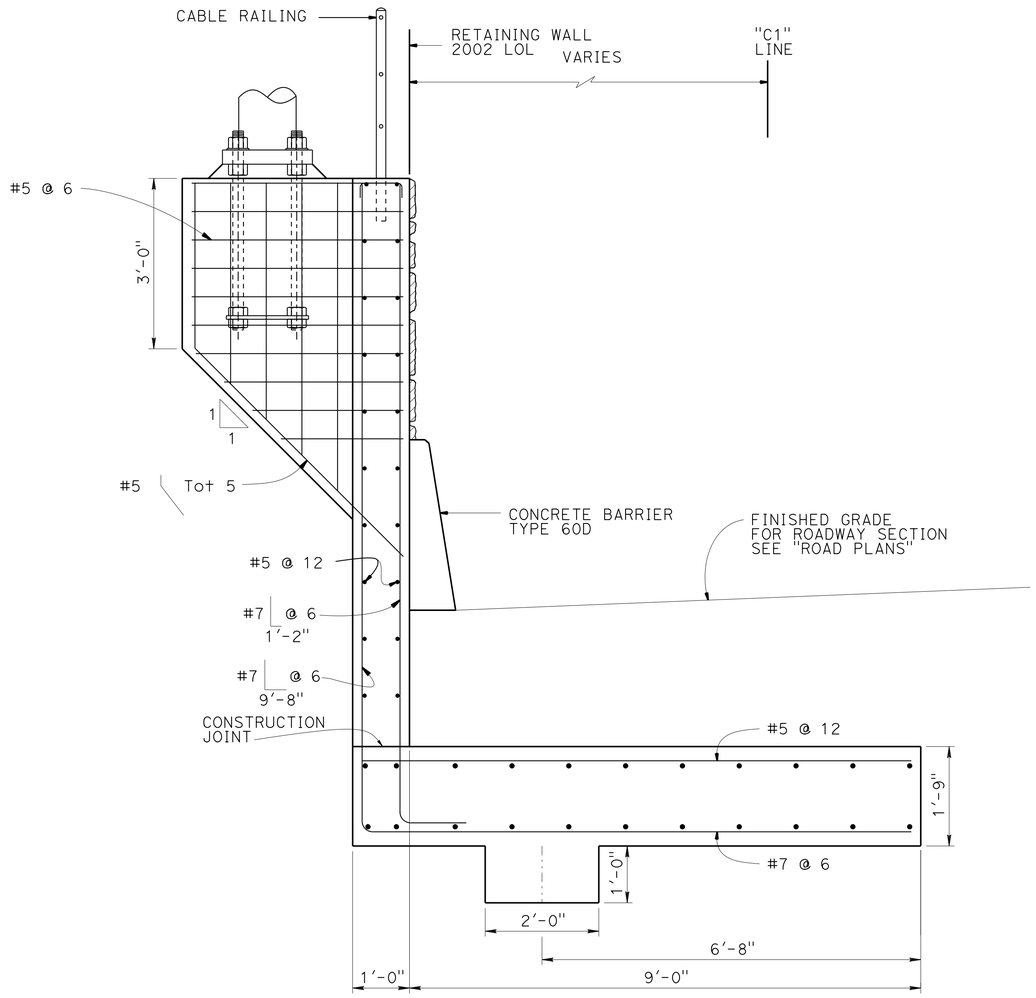
1. Reinforcement callouts pertain to the Pedestal Reinforcement Zone only
2. For Pole details, see "ROAD PLANS"
3. For additional information, see "ROAD PLANS"



PLAN
3/4" = 1'-0"



PART ELEVATION AT PEDESTAL
No Scale



SECTION AT ℄ OF RAMP METER PEDESTAL
No Scale

	BY	CHECKED
DESIGN	JOHN M. PETERSON	PAUL A. PETERSON
DETAILS	JOHN M. PETERSON	PAUL A. PETERSON
QUANTITIES	JOHN M. PETERSON	V. RAMAKRISHNAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0319
POST MILE 37.92/37.97

RETAINING WALL 2002
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
01-15-14	01-29-14	02-20-14	09-11-14	5	6

FILE => rw2002-g-rwdt_02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

BENCH MARK

BM 3009:
76.97′ Lt Sta 2002+34.17
Elev 492.59′
Northing 1848646.29
Easting 6597179.21
Fd RSN in Gore Nose @ Btm of Barranca Ave On-Ramp
Datum NAVD 88

BM 272:
76.38′ Lt Sta 2005+46.39;
Elev 494.08′
Northing 1848642.40
Easting 6597491.41
Set PK nail in AC berm
Datum NAVD 88

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	37.2/42.4	1754	2313

Tatjana Halda 7-19-12
REGISTERED CIVIL ENGINEER

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tatjana L. Halda — No. C68293 — Exp. 9-30-13 — CIVIL — STATE OF CALIFORNIA

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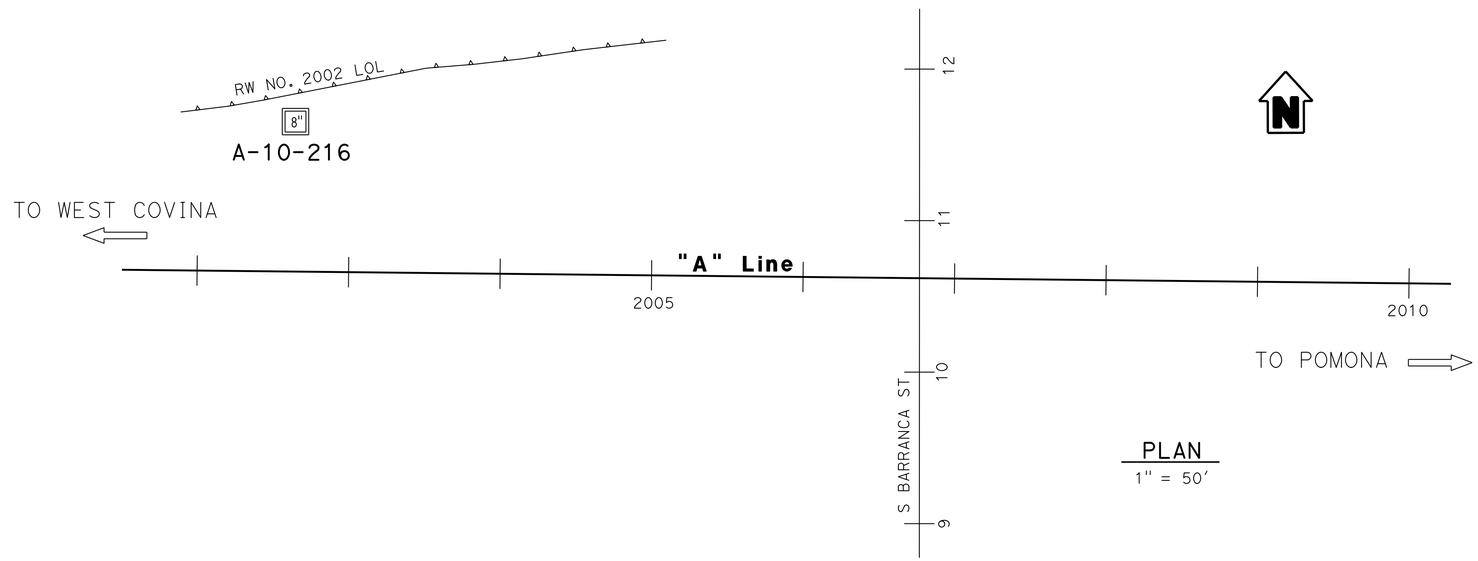
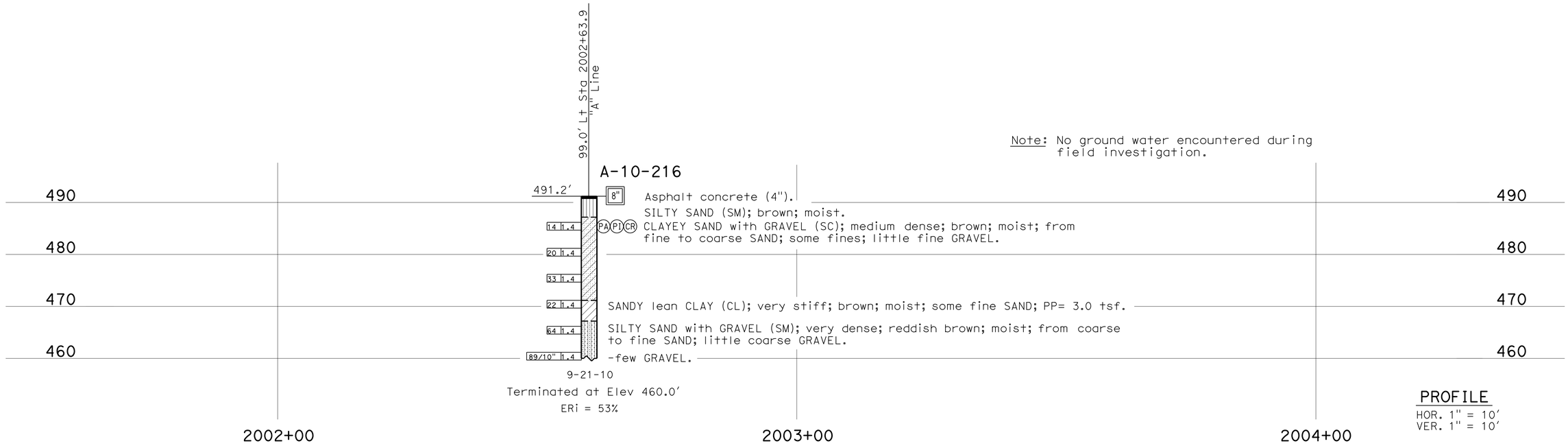
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

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



PLAN
1" = 50′



Note: No ground water encountered during field investigation.

PROFILE
HOR. 1" = 10′
VER. 1" = 10′

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 14	BRIDGE NO. 53E0319	RETAINING WALL NO. 2002
FUNCTIONAL SUPERVISOR NAME: S. Karimi	DRAWN BY: W. Tang 4/11 CHECKED BY: K. Lai, A Mehrazar	FIELD INVESTIGATION BY: C. Bugarin		POST MILE 37.92/37.97	LOG OF TEST BORINGS

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07000000971 CONTRACT NO.: 07-119341

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-16-12	06-27-12	07-16-12		6	6

FILE => rw2002-h-lotb.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

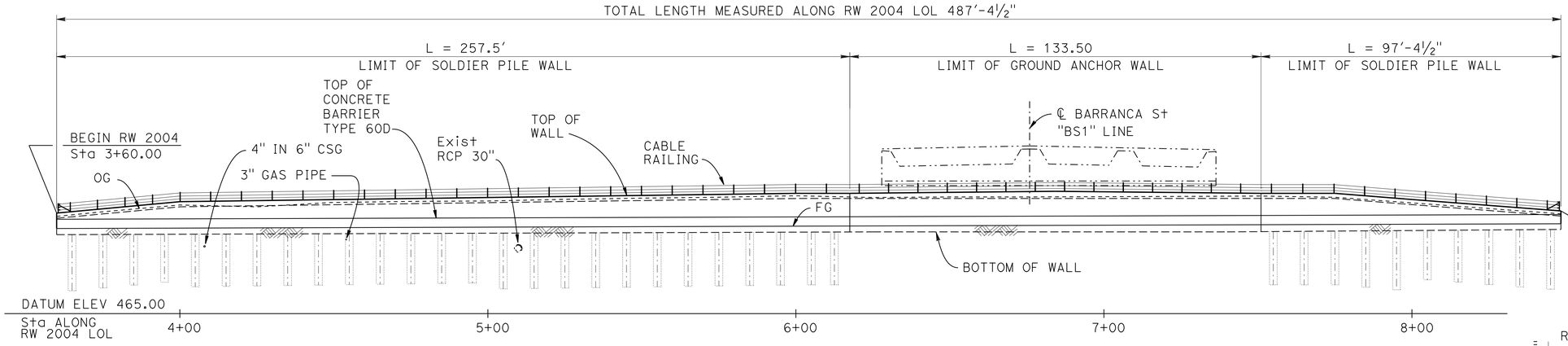
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1755	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp12-31-14 — CIVIL — STATE OF CALIFORNIA



NOTES:

(A) Concrete barrier, Type 60D
(B) Soldier pile wall
(C) Ground Anchor wall
(D) Gutter B3-6
(E) Drain outlet
(F) Cable Railing B11-47 RSP
(G) Architectural treatment

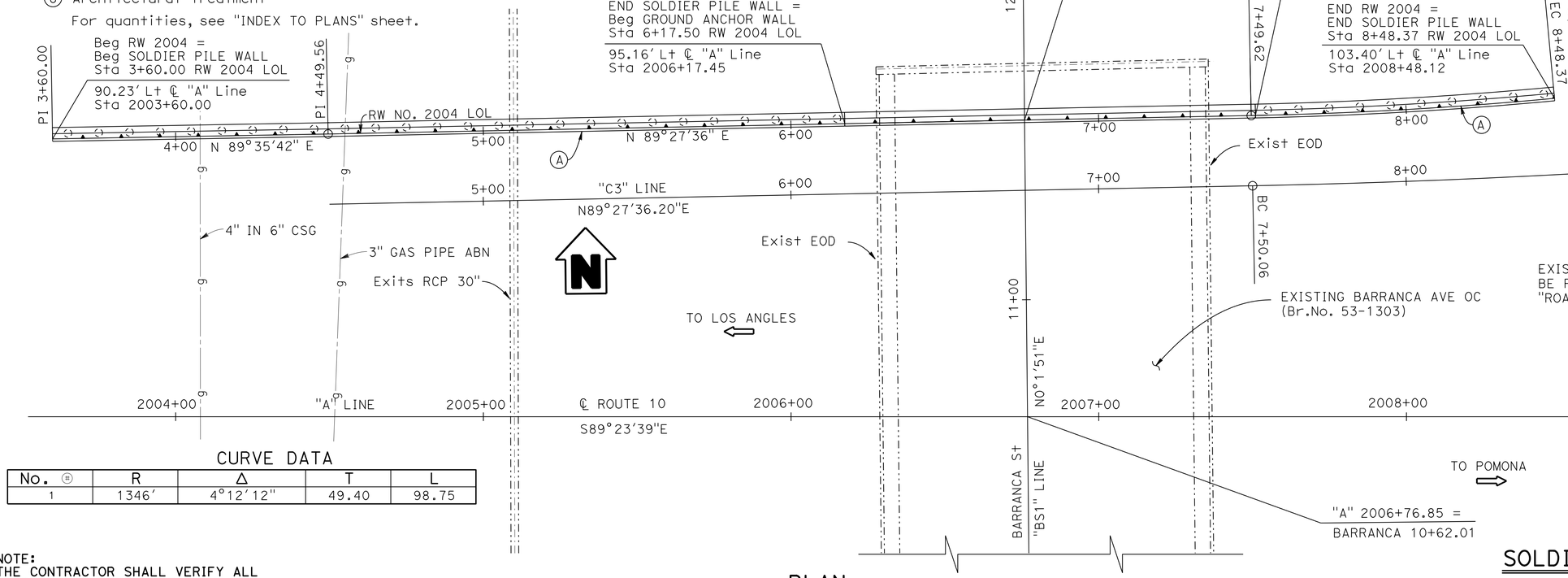
For quantities, see "INDEX TO PLANS" sheet.

LEGEND:

——— New structure
·—·—·—· Existing structure
- - - - - - - - Original Ground

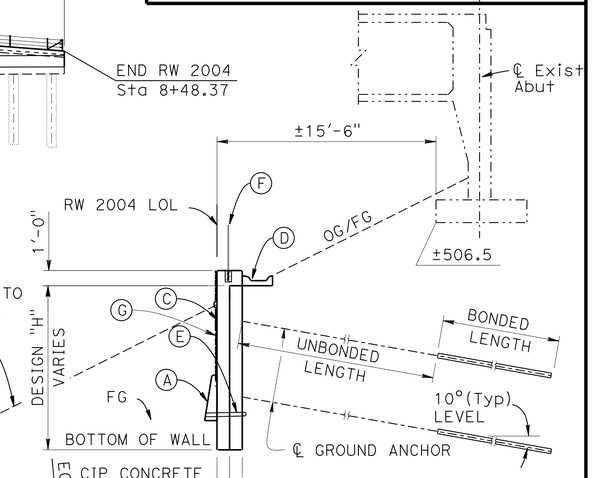
DEVELOPED ELEVATION

1" = 20'



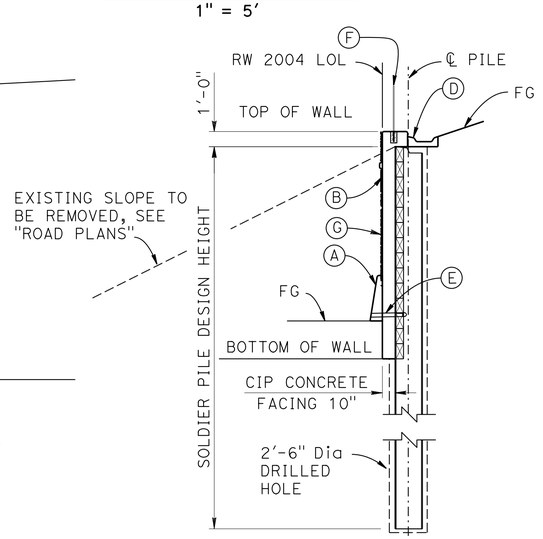
PLAN

1" = 20'



GROUND ANCHOR WALL TYPICAL SECTION

1" = 5'



SOLDIER PILE WALL TYPICAL SECTION

1" = 5'

CURVE DATA

No. (H)	R	Δ	T	L
1	1346'	4°12'12"	49.40	98.75

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

HOWARD NG
DESIGN ENGINEER

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	
DETAILS	BY Lan T Tran	CHECKED Edward B Mu	LAYOUT	BY Homa Iraninejadian	CHECKED Edward B Mu
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott	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 20

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1
CONTRACT NO.: 1193U1

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004
GENERAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
7-16-14		7-16-14	1	21

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

FILE => 53-E0280_RW2004-a-gp01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1756	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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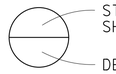
STANDARD PLANS DATED 2010

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
A76A	CONCRETE BARRIER TYPE 60
B0-3	BRIDGE DETAILS
B3-6	RETAINING WALL DETAIL NO. 2
(RSP)B11-47	CABLE RAILING



INDEX TO PLANS

GENERAL NOTES

DESIGN:

AASHTO LRFD Bridge Design Specifications,
4th Edition with California Amendments
Preface dated Nov 2011

LOADING:

2:1 sloping ground with surcharge (240 Psf);
Bridge Abutment (5.1ksf) where applicable

SOIL PARAMETER: (for determination of Design Lateral Earth Pressures)

$\phi = 34°$ $\gamma = 130\ lb/f^3$ $C = 50\ lb/f^2$

REINFORCE CONCRETE:

f'c = 4 Ksi (Concrete compressive streghth at 28 days)
fy = 60 Ksi (Yield strenght of reinforcement)
n = 8

SHOTCRETE:

f'c = 3.6 Ksi

PRESTRESSING STEEL:

See "SUB HORIZONTAL GROUND ANCHOR DETAILS" sheet

QUANTITIES

STRUCTURE EXCAVATION (SOLDIER PILE WALL)	318	CY
STRUCTURE EXCAVATION (GROUND ANCHOR WALL)	129	CY
STRUCTURE BACKFILL (GROUND ANCHOR WALL)	10	CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	28	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	111	CY
LEAN CONCRETE BACKFILL	64	CY
DISPLACEMENT MONITORING PROGRAM	LUMP	SUM
GROUND ANCHOR (SUBHORIZONTAL)	40	EA
STEEL SOLDIER PILE (W 21 X 48)	216	LF
STEEL SOLDIER PILE (W 21 X 57)	260	LF
STEEL SOLDIER PILE (W 21 X 73)	476	LF
30" DRILLED HOLE	961	LF
STRUCTURAL CONCRETE, RETAINING WALL	201	CY
CONCRETE SURFACE TEXTURE	3,081	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	48,273	LB
STRUCTURAL SHOTCRETE	45	CY
TIMBER LAGGING	20	MFBM
CLEAN AND PAINT STEEL SOLDIER PILING	LUMP	SUM
PREPARE AND STAIN CONCRETE	2,858	SQFT
MINOR CONCRETE (GUTTER) (LF)	488	LF
CABLE RAILING	488	LF
CONCRETE BARRIER (TYPE 60D)	488	LF

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

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004
INDEX TO PLANS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
09/09/14		2-26-14	7-16-14	2	21

FILE => 53-E0280_RW2004-a-itp.dgn

USERNAME => s129624 DATE PLOTTED => 28-MAY-2015 TIME PLOTTED => 10:57

NOTES:

1. See "STRUCTURE PLAN NO. 2" for "EXPANTION JOINT DETAIL"
2. Adjust pile spacing to provide clearance for 30" RCP
3. For exact locations of utility lines see Utility sheet on Road Plans
4. For exact locations of existing RCP storm drains see Drainage sheets on Road Plans

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1757	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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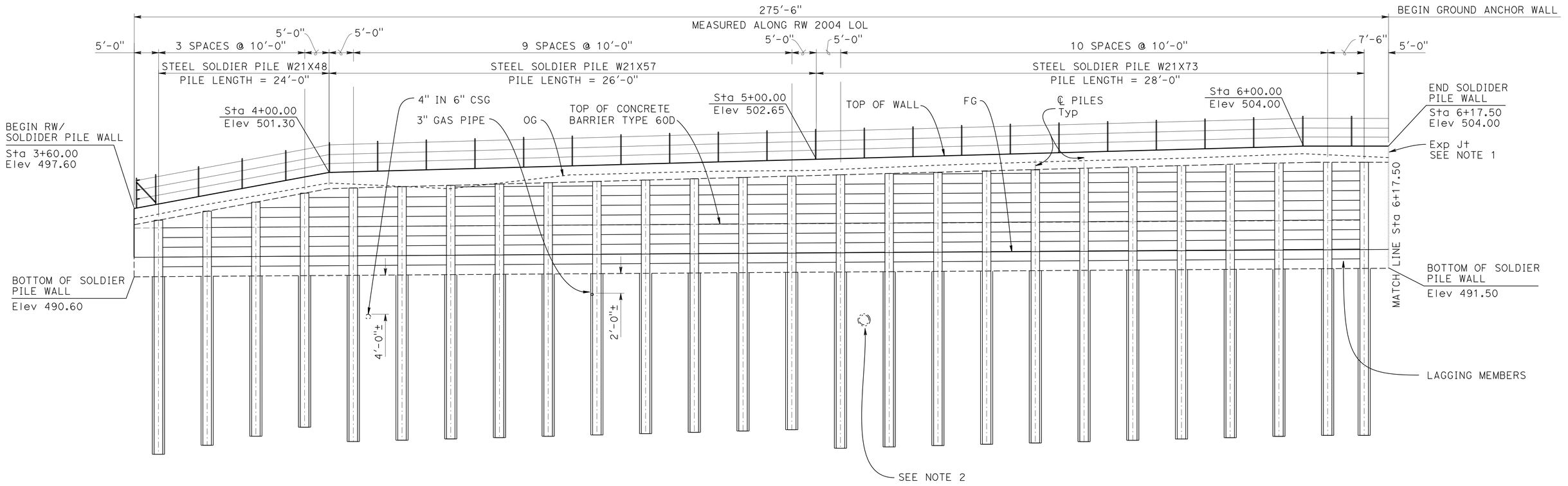

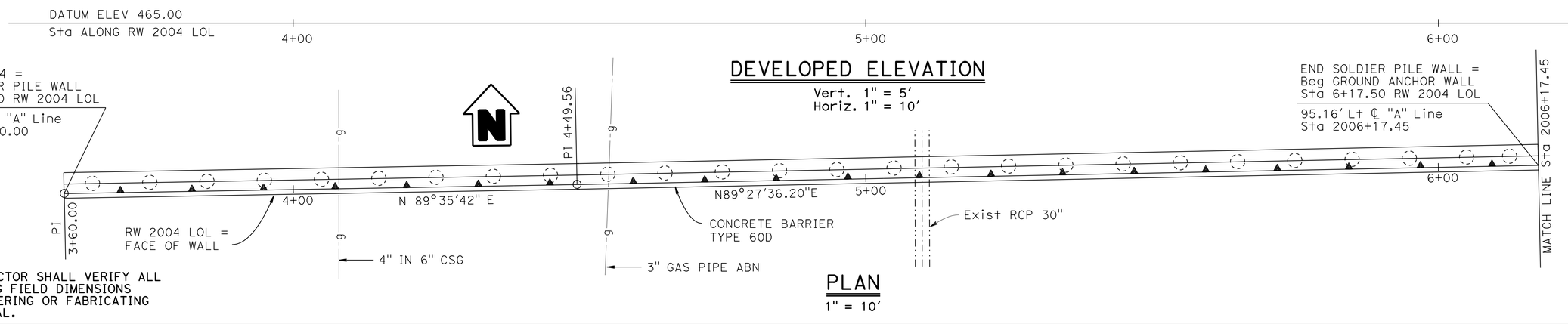

DEVELOPED ELEVATION

Vert. 1" = 5'
Horiz. 1" = 10'

PLAN

1" = 10'

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

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004
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: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
1-16-14	5-28-14	7-23-14		3	21

FILE => 53-E0280_RW2004-c-str01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1758	2313

Dawit Tadille Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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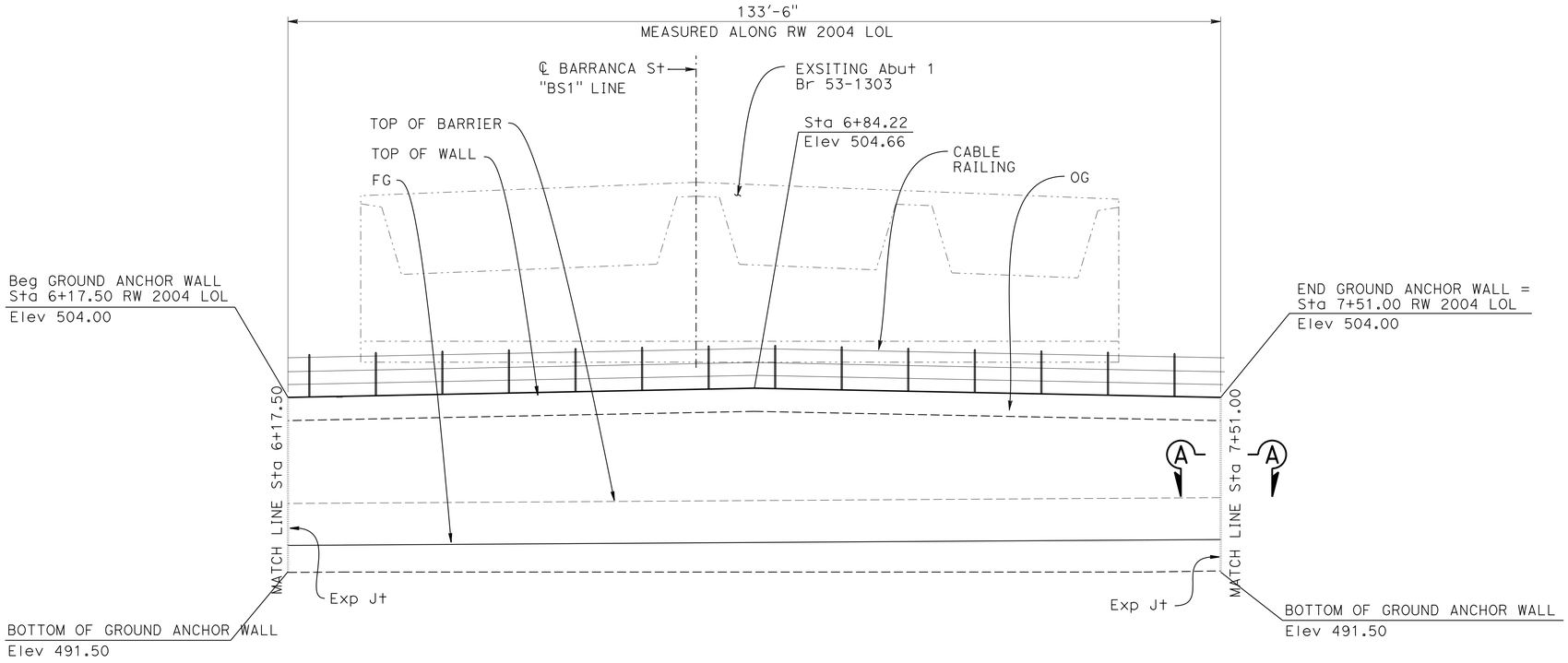
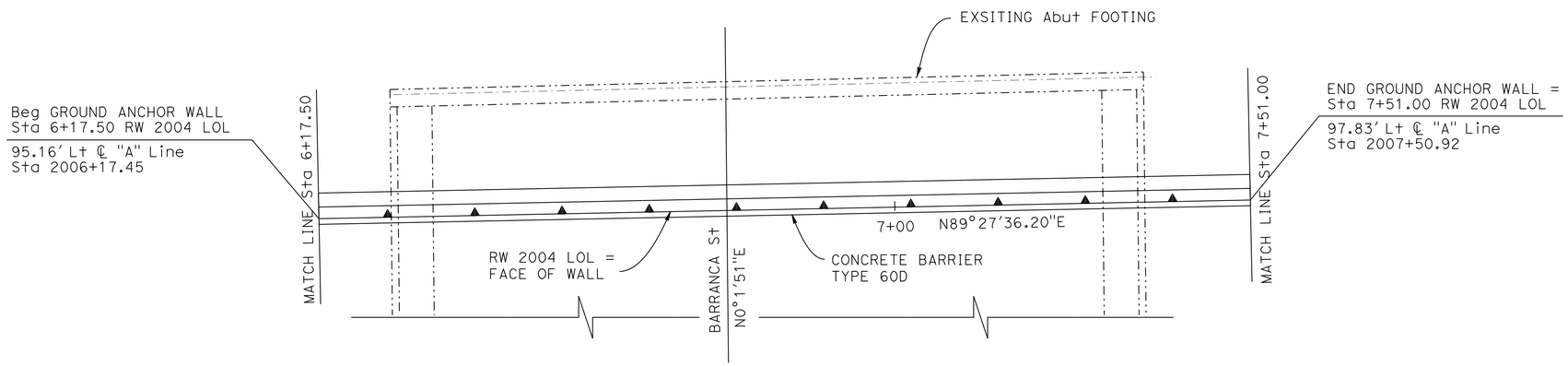


DEVELOPED ELEVATION

Vert. 1" = 5'
Horiz. 1" = 10'



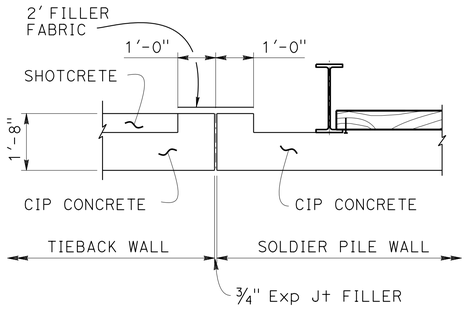
PLAN

1" = 10'

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

NOTE:

For Ground Anchor Wall Details see "RETAINING WALL DETAILS NO. 2" and "RETAINING WALL DETAILS NO. 3" sheets.



SECTION A-A
EXPANSION JOINT DETAIL

NO SCALE

LEGEND:

——— New structure

·—·—·— Existing structure

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0280	RETAINING WALL NO. 2004	
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01	STRUCTURE PLAN NO.2	
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
7-26-13	10-25-13	7-23-14		4	21

FILE => 53-E0280_RW2004-c-str02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1759	2313

Dawit Tadilla Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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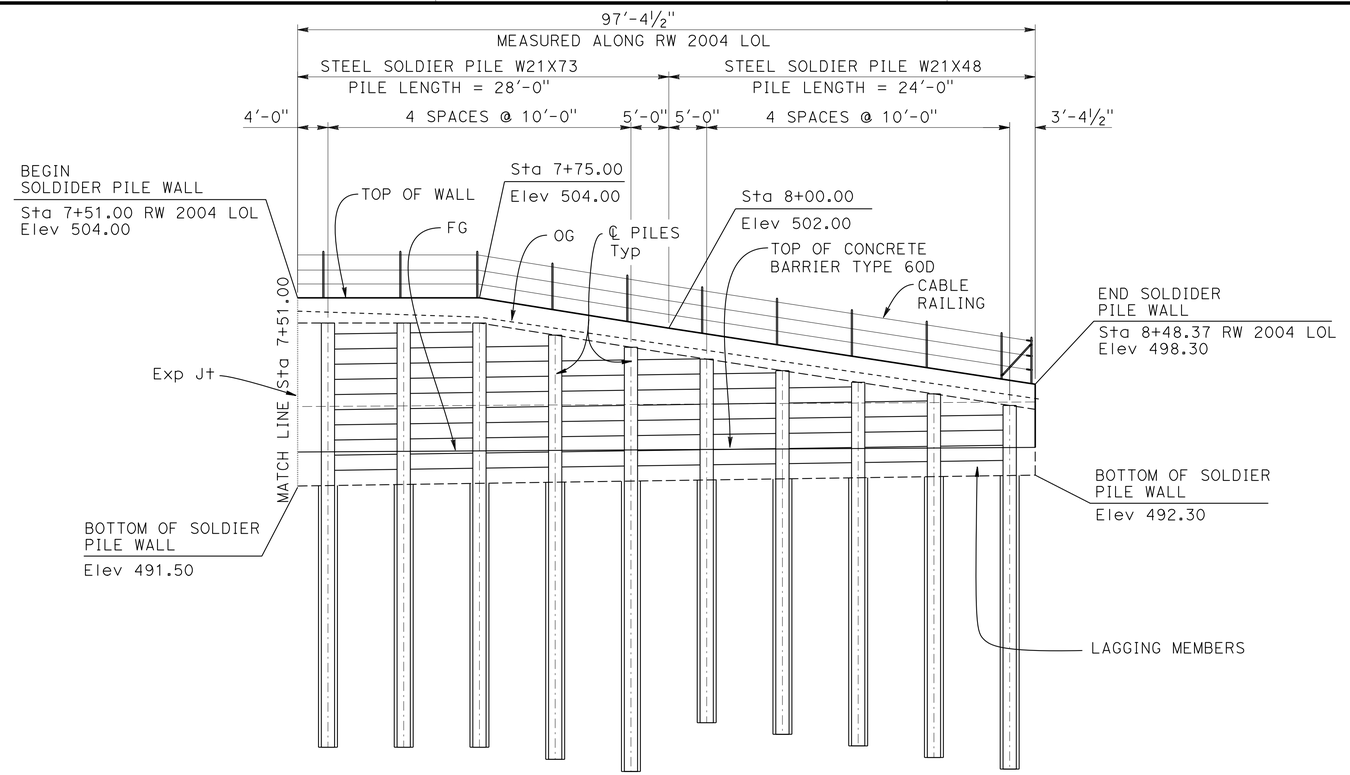
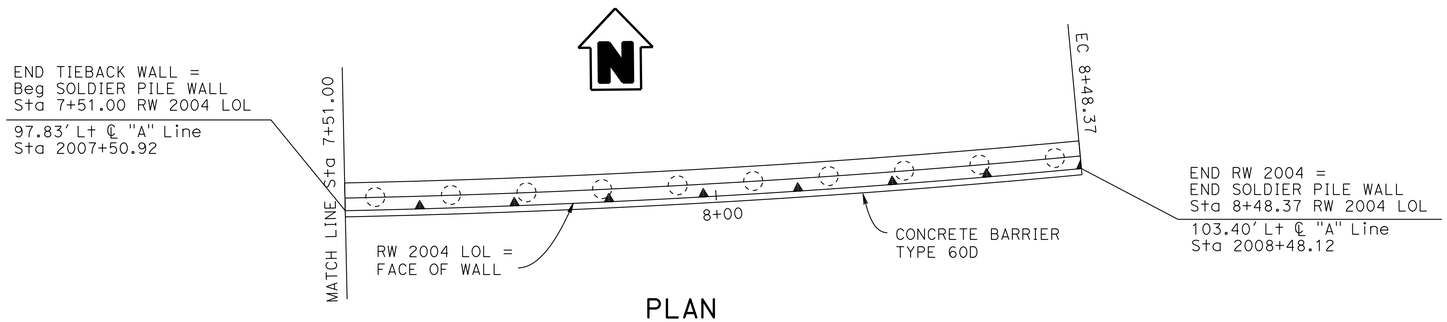


DATUM ELEV 465.00
Sta ALONG RW 2004 LOL

8+00

DEVELOPED ELEVATION

Vert. 1" = 5'
Horiz. 1" = 10'



PLAN

1" = 10'

NOTE:

See "STRUCTURE PLAN NO. 2" for Expansion Joint Detail

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

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0280
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2004
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: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
8-09-13	7-23-14		7-13-15	5	21

FILE => 53-E0280_RW2004-c-str03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1760	2313

Dawit Tadilla Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku No. C60711 Exp12-31-14 CIVIL — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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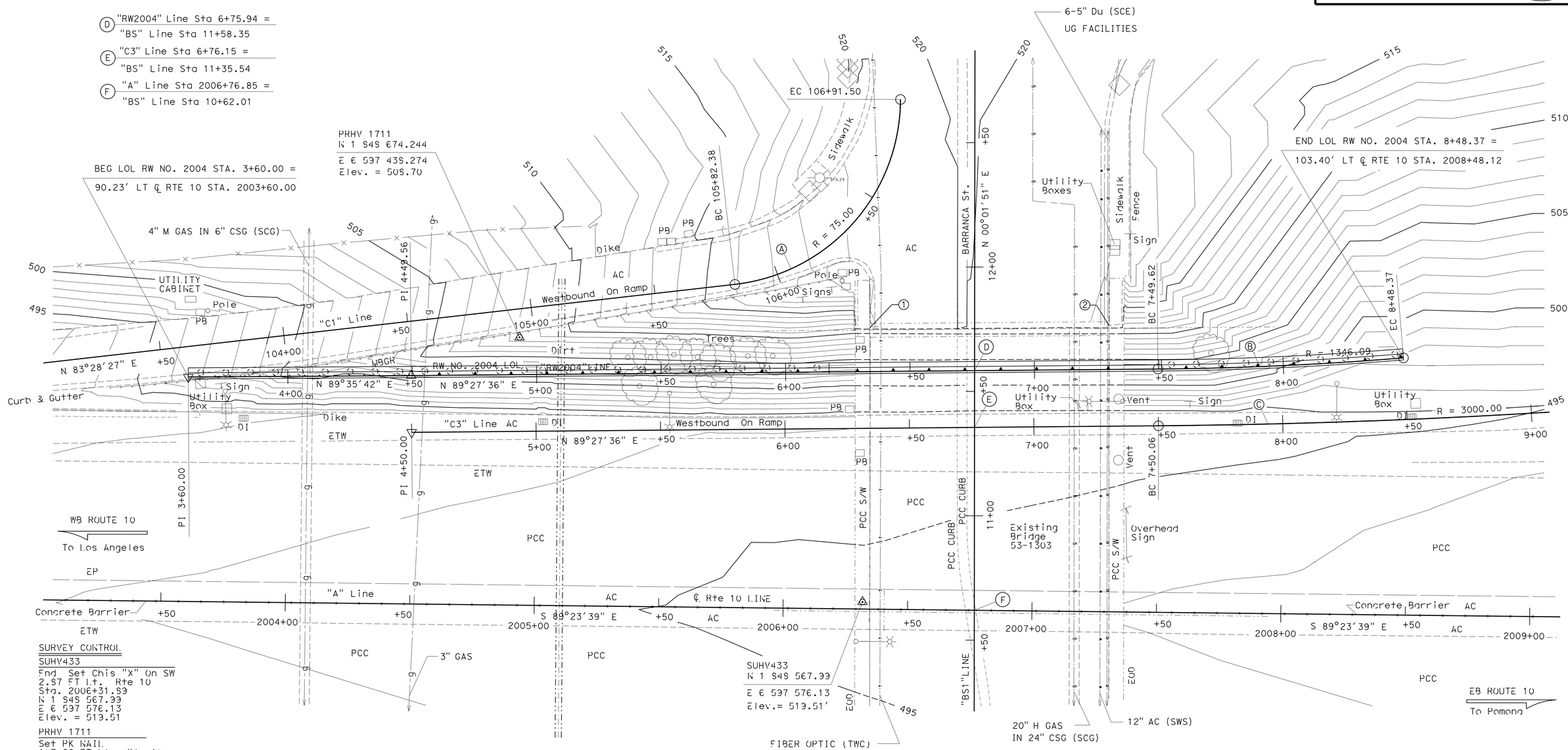
CURVE DATA

No.	R	Δ	T	L
Ⓐ	75.00	83°21'36"	66.78	109.12
Ⓑ	1346.09	04°12'12"	49.40	98.75
Ⓒ	3000.00	03°11'29"	83.57	167.10

Bridge Location
① - 113.23 Lt. "A" Line, Sta.2006+33.74, Elev.= 519.03 ±
② - 115.24 Lt. "A" Line, Sta.2007+29.57, Elev.= 518.91 ±

Ⓓ "RW2004" Line Sta 6+75.94 = "BS" Line Sta 11+58.35
Ⓔ "C3" Line Sta 6+76.15 = "BS" Line Sta 11+35.54
Ⓕ "A" Line Sta 2006+76.85 = "BS" Line Sta 10+62.01



PRELIMINARY INVESTIGATION SECTION

SCALE	VERT.DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X			
1"=20'	HORZ.DATUM NAD 83 (1986)	SURVEYED	BY C.STEWART / T.PHUNG	CHECKED	BY C. STEWART 11/2012
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY S. ABASSY 11/2012	CHECKED	BY S. ALIVIO 11/2012

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu
DETAILS	BY Lan T Tran	CHECKED Edward B Mu
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL 2004
FOUNDATION PLAN

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

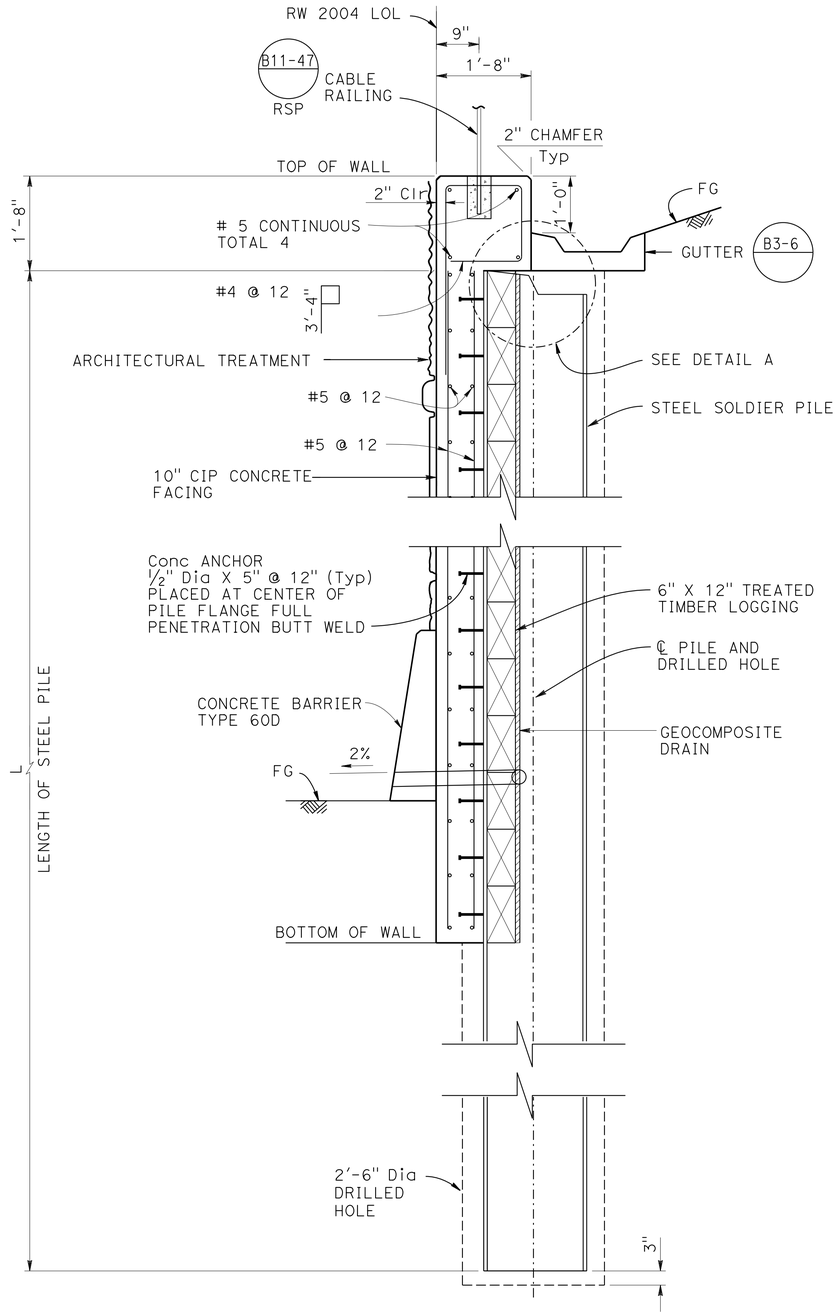
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3647
PROJECT NUMBER & PHASE: 0713000007 - 1 CONTRACT NO.: X

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

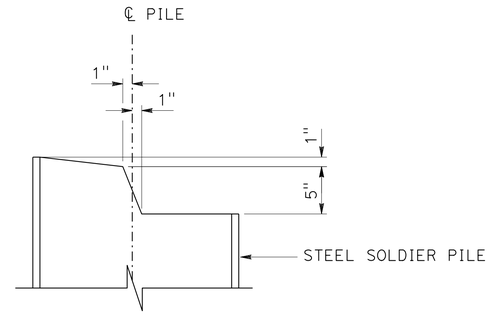
REVISION DATES				SHEET	OF
11/08/2012				6	21

FILE => 53-E0280_RW2004-d-fp101.dgn



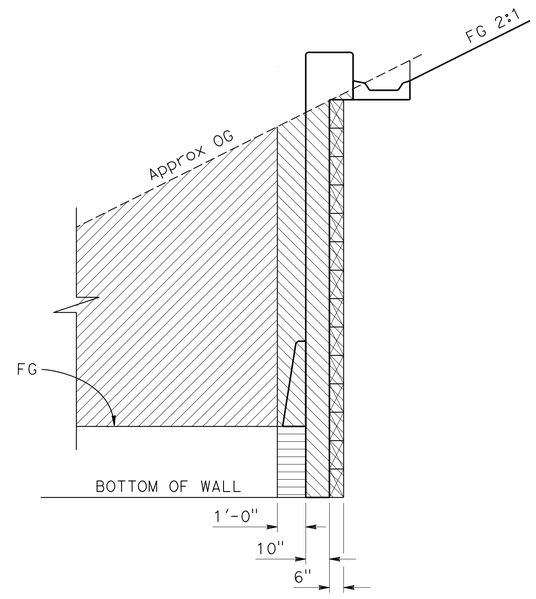
TYPICAL SOLDIER PILE WALL SECTION

3/4" = 1'-0"



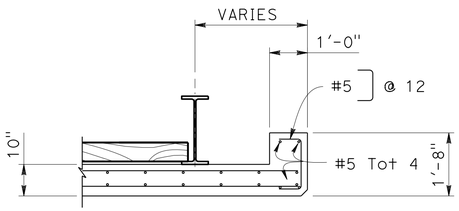
DETAIL A
TOP OF SOLDIER PILE DETAIL

1 1/2" = 1'-0"



LIMITS OF EXCAVATION AND BACKFILL

3/8" = 1'-0"



SOLDIER PILE WALL END WALL DETAIL

NO SCALE

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1761	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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LEGEND:

- Roadway Excavation
- Structure Excavation (Soldier pile wall)
- Structure Backfill (Soldier pile wall)

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004
RETAINING WALL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2-26-14	7-16-14		7-28-13	7	21

FILE => 53-E0280_RW2004-d-walldt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1762	2313

Dawit Tadilla Feleg 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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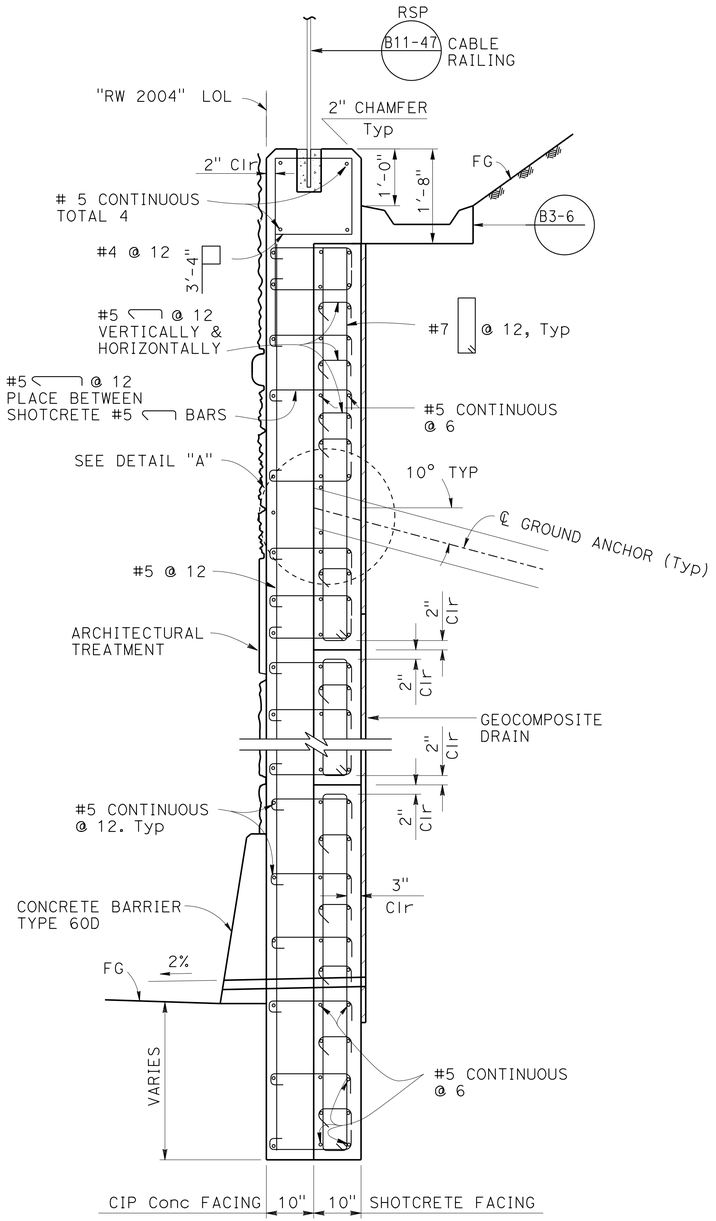
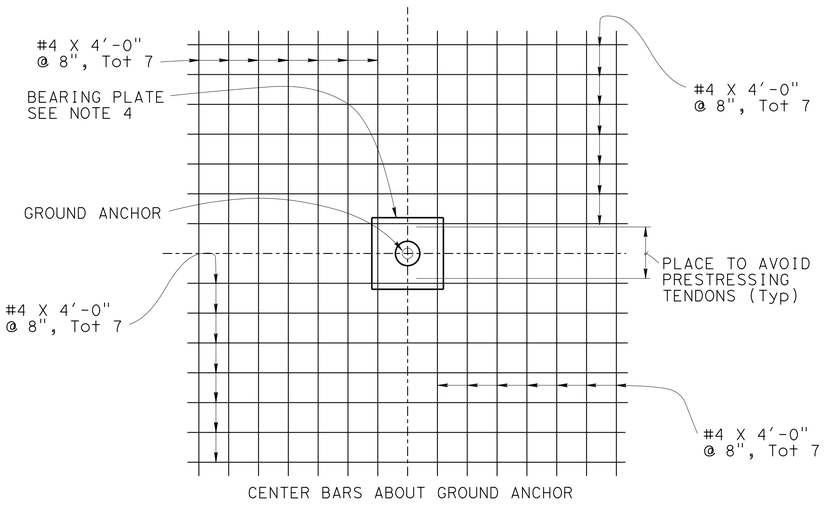


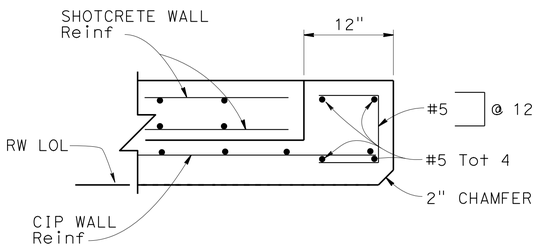
TYPICAL GROUND ANCHOR WALL SECTION

¾" = 1'-0"



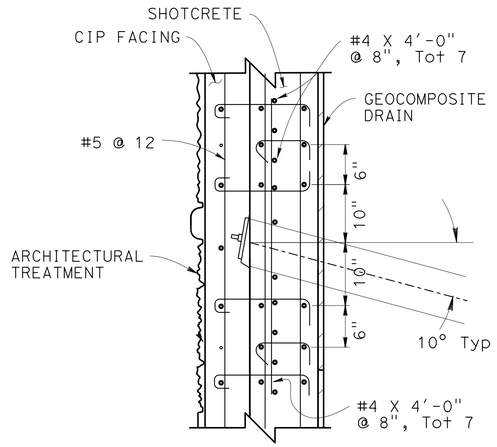
DISTRIBUTION STEEL DETAIL

NO SCALE



END WALL DETAL

NO SCALE



DETAIL "A"

NO SCALE

NOTES:

1. Final Finish Grade after CIP concrete facing is completed
2. For location of construction joint, see "GROUND ANCHOR WALL CONSTRUCTION STAGING" sheet.
3. Number of tiebacks varies as shown on the "RETAINING WALL DETAILS NO. 3" sheet.
4. Bearing plate 14"x14"x2" to be normal to ℄ of tiebacks
5. For Drainage Details see "GROUND ANCHOR WALL DRAINAGE DETAILS"

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

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Lan T Tran	CHECKED Edward B Mu	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott	BRIDGE NO. 53E0280 POST MILE 38.01

RETAINING WALL NO. 2004
RETAINING WALL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
2-26-14		6-18-13 1-28-13	8	21

FILE => 53-E0280_RW2004-d-wall-dt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1763	2313

Dawit Tadille Feyz 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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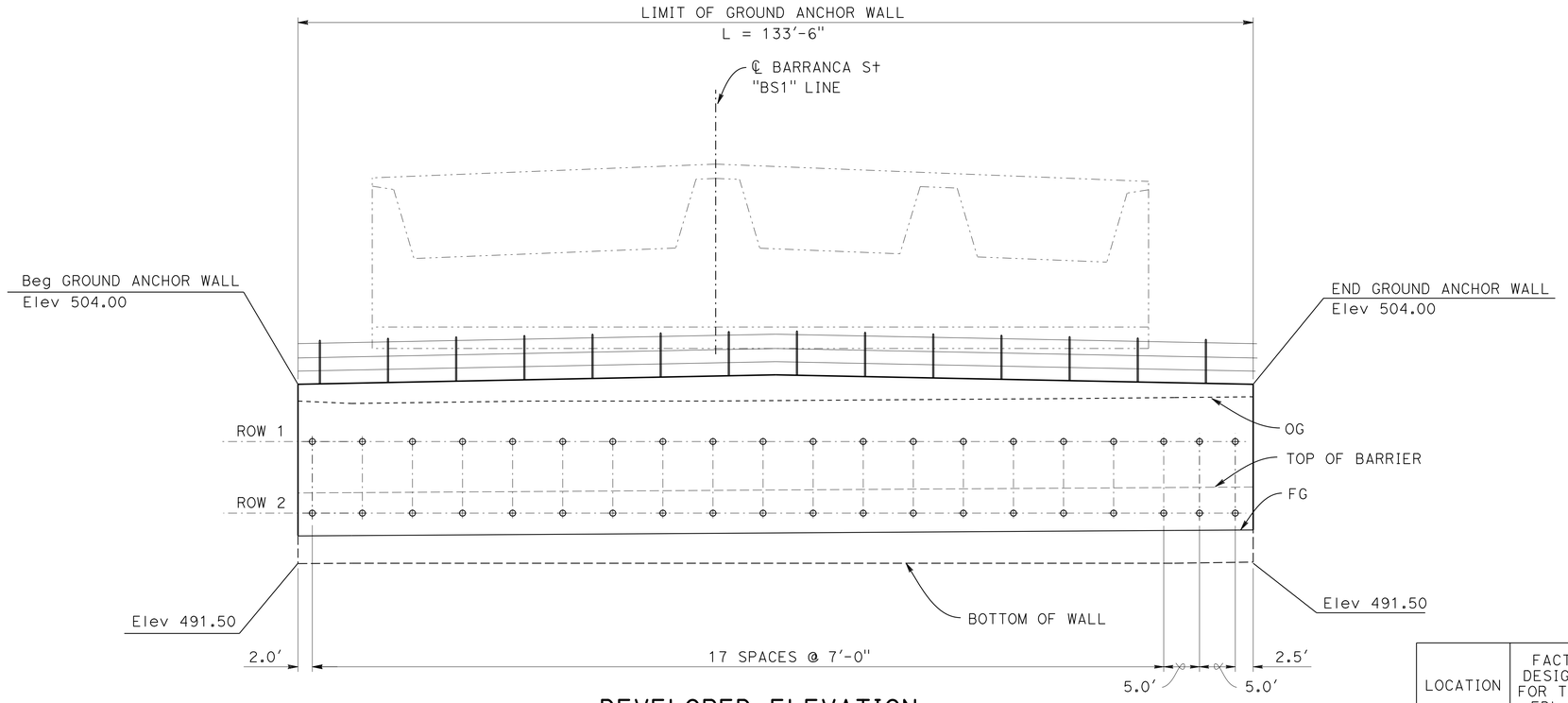
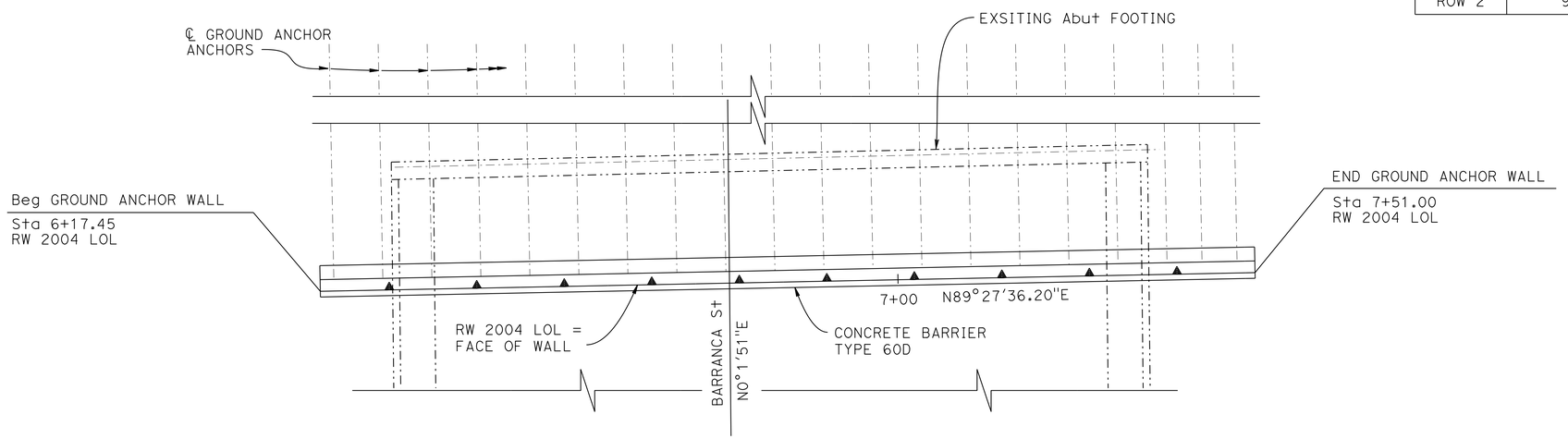


DEVELOPED ELEVATION

Vert. 1" = 5'
Horiz. 1" = 1'



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

N

PLAN

1" = 10'

LEGEND:

⊕ LOCATION OF GROUND ANCHOR ASSSEMBLY

STATION 6+17.45 TO 7+51.00

LOCATION	FACTORED DESIGN LOAD FOR TIEBACKS FDL (kips)	FACTORED TEST LOAD FOR TIEBACKS FTL (kips)	LOCK OFF LOAD FOR TIEBACKS LL (kips)	UNBONDED LENGTH (FT)	ELEVATION (FT)
ROW 1	82	82	55	25	500.00
ROW 2	94	94	63	25	495.00

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004
RETAINING WALL DETAIL NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
7-28-13	7-31-13	7-28-14	7-24-14	9	21

FILE => 53-E0280_RW2004-d-walldt03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1764	2313

Dawit Tadilla Feleq 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA

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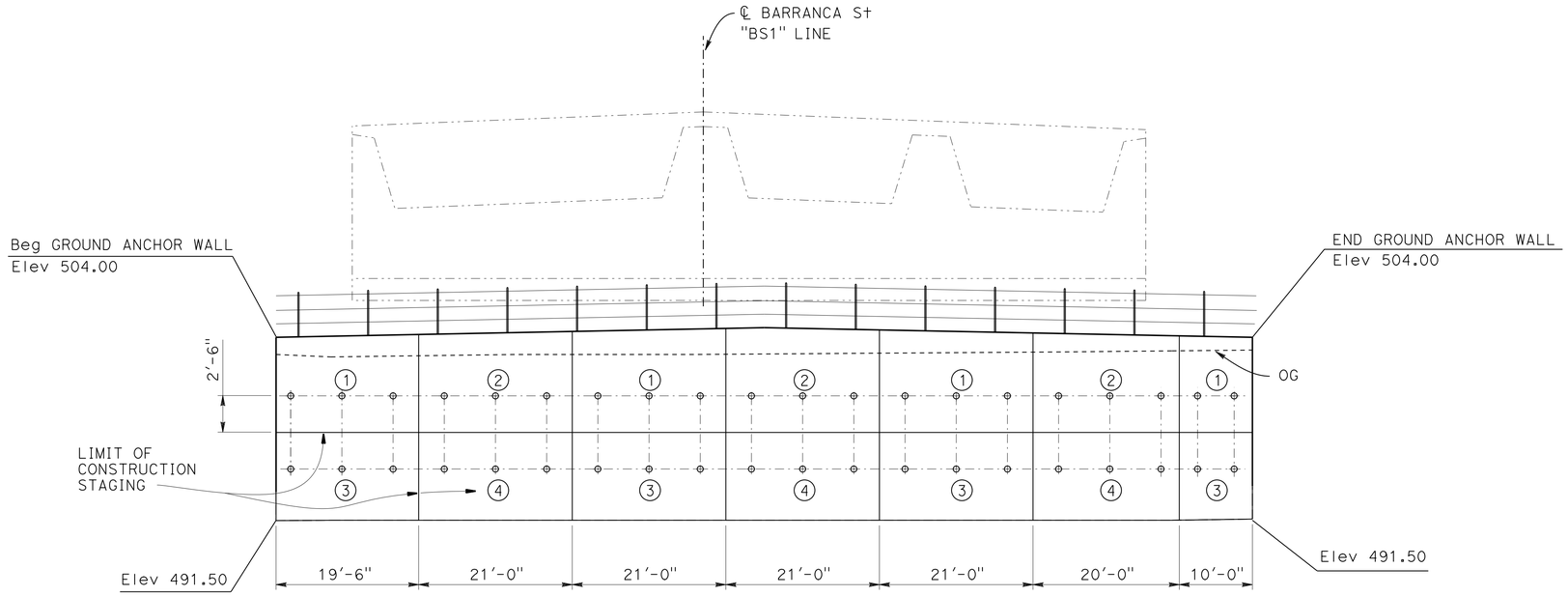
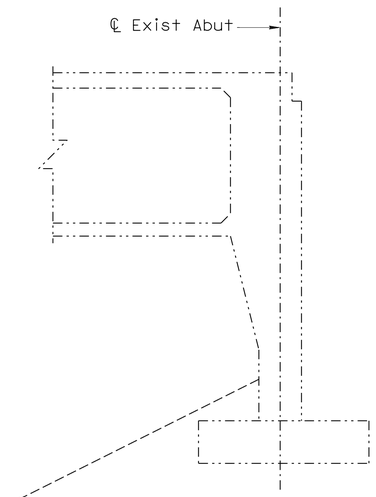
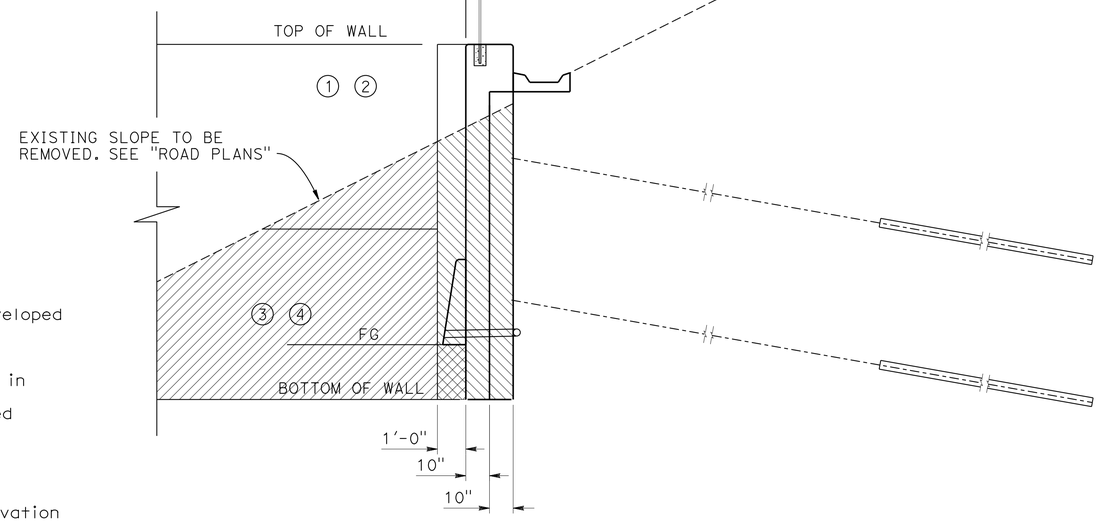


CONSTRUCTION STAGING

Vert. 1" = 5'
Horiz. 1" = 10'





LIMITS OF EXCAVATION AND BACKFILL

SCALE 3/8" = 1'-0"

LEGEND:

- Structure excavation (Ground Anchor Wall)
- Road way excavation, see "ROAD PLANS"
- Structure Backfill (Ground Anchor Wall)
- ⊕ Location of Ground Anchor Assembly
- (X) Order of Construction Staging

NOTES:

1. Ground anchor not to be proof-tested and locked off until the ground anchor wall shotcrete facing has developed the specified unconfined compressive strength
2. Excavation for the segments not to proceed deeper than the dimension as shown on the plan. The staging in the front of existing abutment not to leave more than half of the critical vertical wall face unsuported by shorcrete at anytime
3. During excavation, monitor vertical settlement at abutment footing and, lateral displacement at top of the wall adjacent to the abutment.
   If any of the following conditions are observed, excavation must be stopped and the engineer be contacted for further direction.
   a. Vertical settlement at the abutment exceeds 1/2"
   b. Lateral displacement at top of the wall adjacent to the abutment exceeds 1/2"

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

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Lan T Tran	CHECKED Edward B Mu	
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004
GROUND ANCHOR WALL CONSTRUCTION STAGING

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
7-23-14	7-24-14		5-26-15	10	21

FILE => 53-E0280_RW2004-e-conststage.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1765	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

Dawit T Worku No. C60711 Exp12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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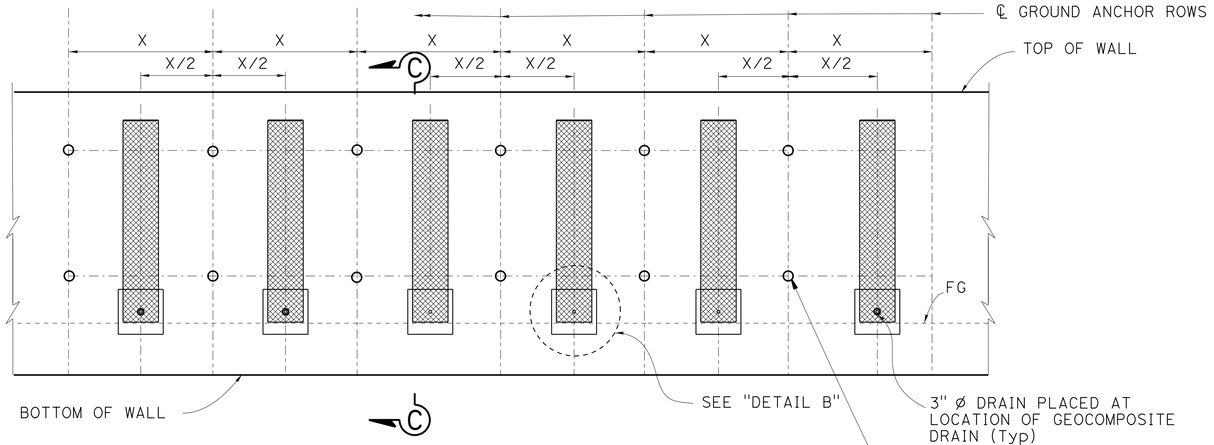
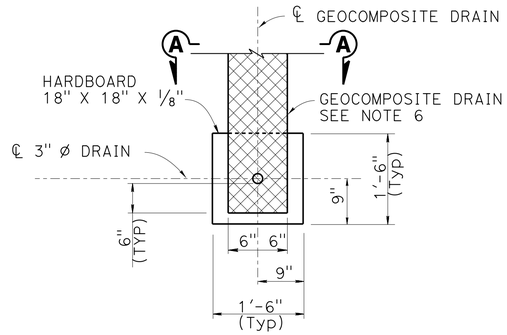


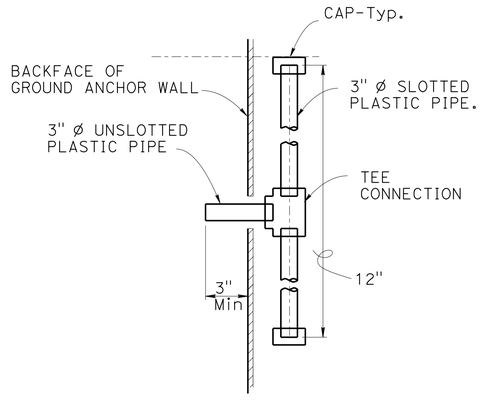
PART ELEVATION GEOCOMPOSITE DRAIN

NO SCALE



DETAIL B

NO SCALE

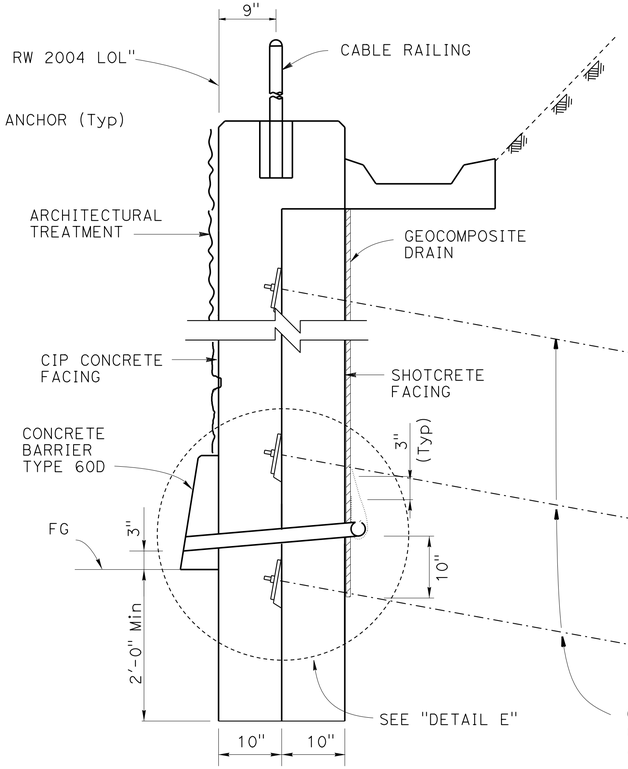


SECTION A-A

1" = 1'-0"

NOTES:

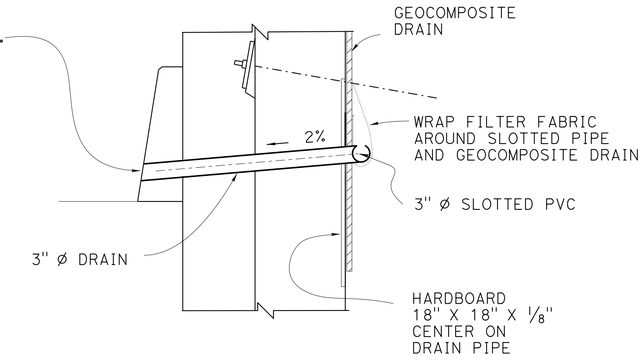
1. Center Geocomposite Drain Ground Anchor Assemblies.
2. Sawcut in Drain Pipe should maintain a snug fit for Drain Pipe connection to Geocomposite Drain.
3. 12" Min Splice length required for Geocomposite Drains.
4. Required Min clearance between bottom of Ground Anchor wall and bottom of geocomposite drain is 5"
5. X-distance from ℄ Ground Anchor to ℄ Ground Anchor
6. Geocomposite drain strip per Section 88 Geosynthetics of the Standard Specifications



SECTION C-C

1" = 1'-0"

PLACE PIPE THROUGH HARDBOARD. REMOVE CORE OF GEOCOMPOSITE DRAIN AT LOCATION OF PIPE. DO NOT DAMAGE FILTER FABRIC ON SOIL SIDE OF VERTICAL DRAIN.



DETAIL E

NO SCALE

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

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0280
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2004
GROUND ANCHOR WALL DRAINAGE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
7-24-14		5-28-14	7-16-14	11	21

FILE => 53-E0280_RW2004-f-tbk drainat.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

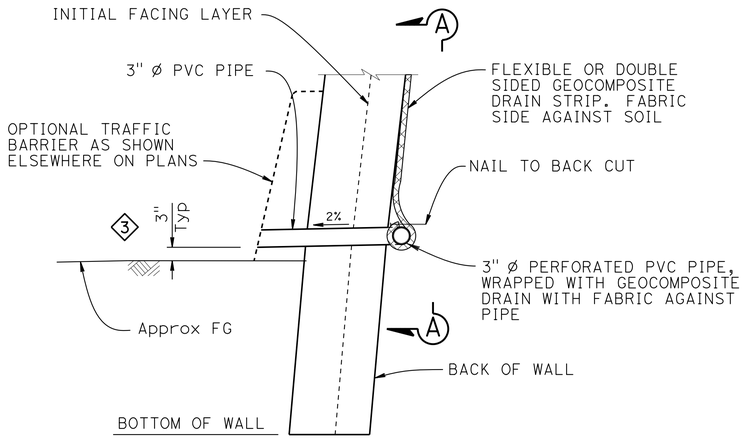
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1766	2313

Dawit Tadille Feyissa 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

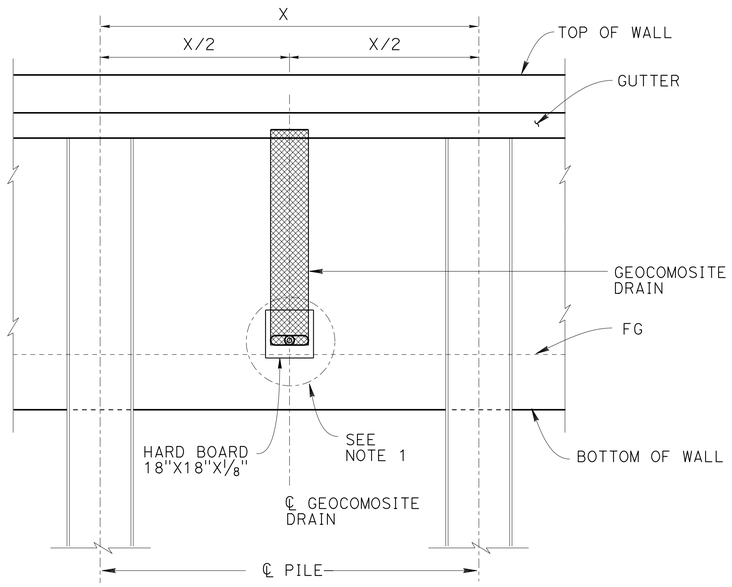
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA



WALL DRAIN DETAIL AT WEEPHOLE OPTION A

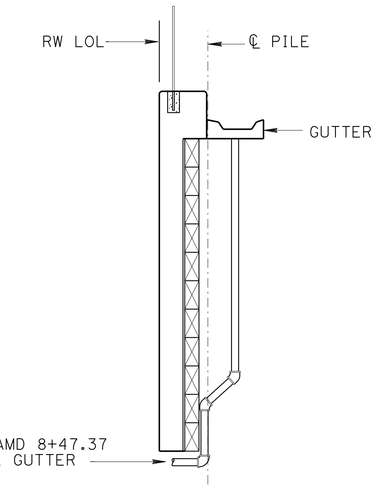
No scale



NOTES:
1. See "DETAIL B" of "GROUND ANCHOR WALL DRAINAGE DETTAILS" sheet.
2. X - DISTANCE FROM ℄ COLUMN TO ℄ COLUMN

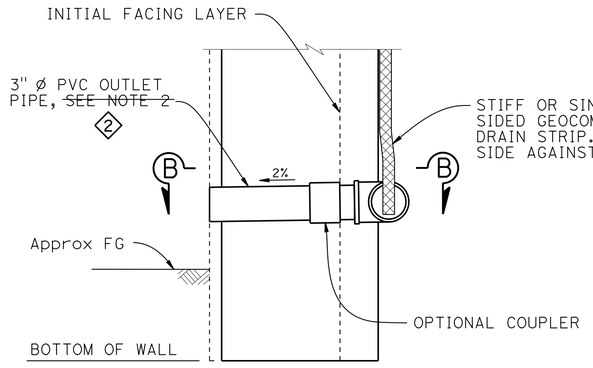
1 PAR ELEVATION DRAIN AT SOLDIER PILE WALL

½" = 1'-0"



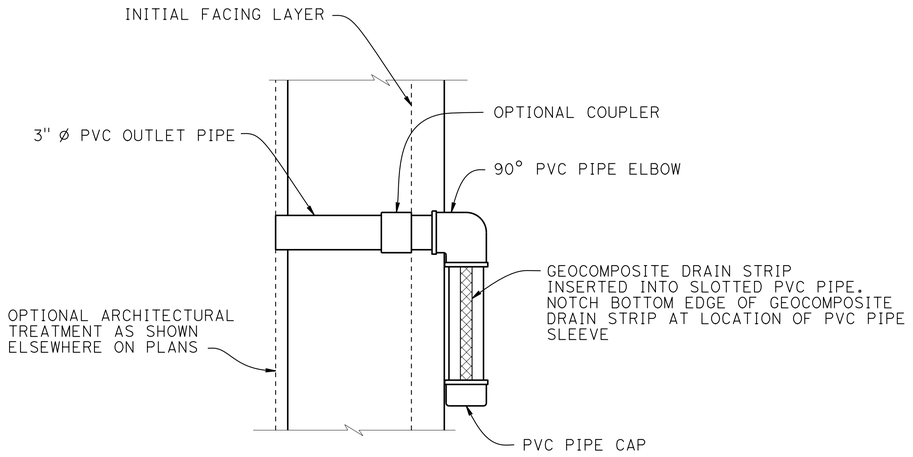
1 WALL DRAIN DETAIL AT BEGIN AND END RETAINING WALL

⅜" = 1'-0"



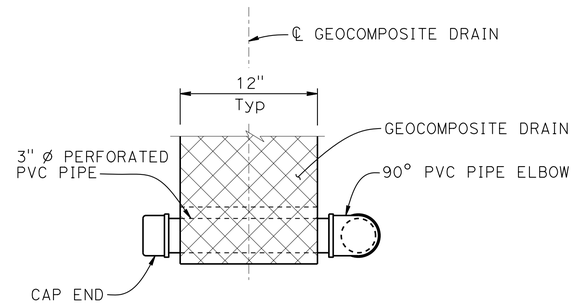
WALL DRAIN DETAIL AT WEEPHOLE OPTION B

No scale



SECTION B-B

No Scale



VIEW A-A

No scale

NOTES:
1. Geocomposite drain strip per Section 88 Geosynthetics of the Standard Specifications
2. ~~Elevation of drains and weepholes as shown elsewhere on plans~~

REVISED STANDARD DRAWING

FILE NO. xs12-021

APPROVAL DATE July 2011

1 Added Detail
2 Deleted Note
3 Modified details

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004

SODIER PILE WALL DRAINAGE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT:3622
PROJECT NUMBER & PHASE:0713000007 1 CONTRACT NO.:1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
4-05-13	5-01-13	6-18-13	7-22-13	12	21

FILE => 53-E0280_RW2004-g-sol draindt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1767	2313

Dawit Tadille Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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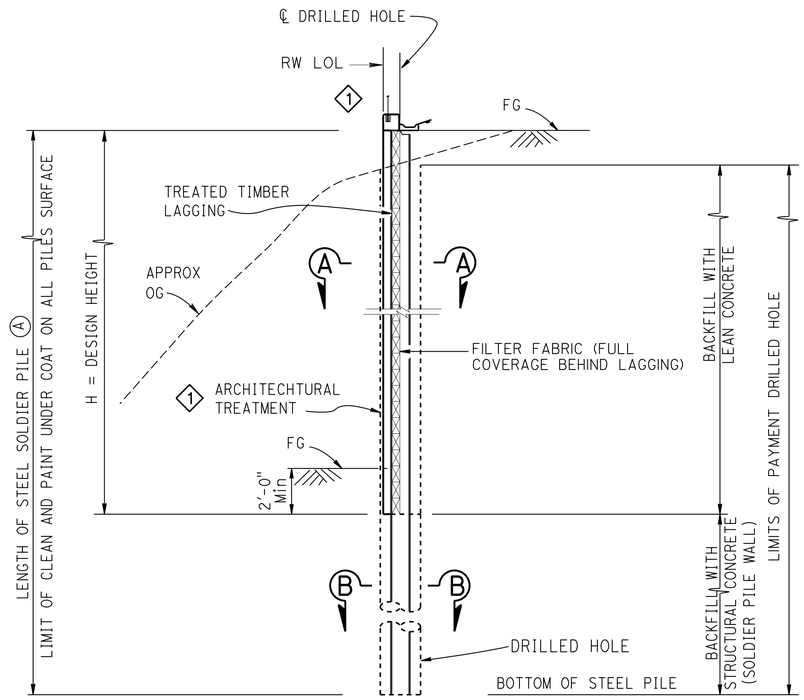


FOR DETAILS NOT SHOWN, SEE "PROJECT PLANS"

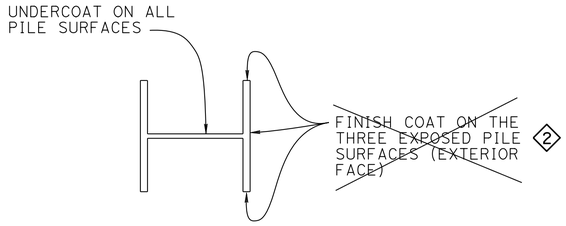
TYPICAL SECTION

NO SCALE

NOTE:

Ⓐ ~~Clean and paint Steel Soldier Pile from top of pile to 5 feet, Min below bottom of lagging.~~ 2

For lagging details see "SOLDIER PILE WALL LAGGING DETAILS"



LIMITS OF CLEAN & PAINT STEEL SOLDIER PILE

NO SCALE

GENERAL NOTES

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

LIVE LOAD: 109 psf equivalent to 2 feet soil weight

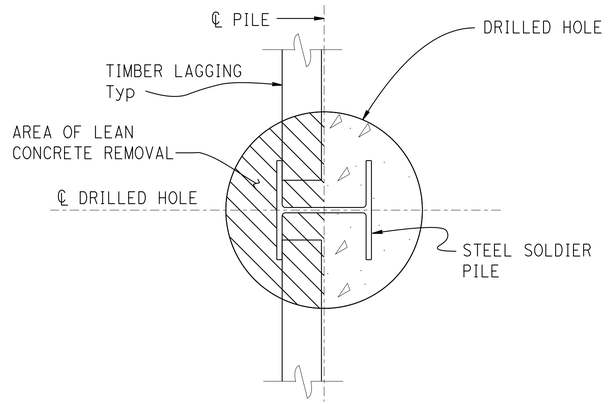
SOIL PARAMETERS: (For determination of Design Lateral Earth Pressures)

Backfill soil weight = 130 lb/ft^3
Friction Angle = 34 °
Active Pressure coefficent, Ka = 0.417
Slope Angle = 26.5 °

STEEL SOLDIER PILES: ASTM A572/A, ASTM 572M Grade 50 Min, or ASTM A36/A36M

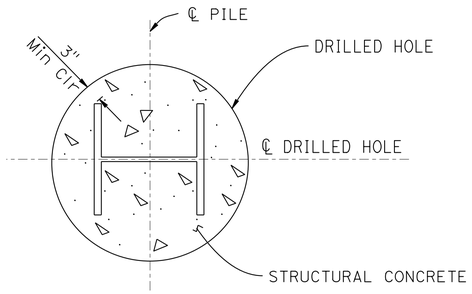
REINFORCED CONCRETE: f'c = 4000 psi
fy = 60 ksi

STRUCTURAL TIMBER: Treated Douglas Fir, Grade No. 1 or better
Timber to be full sawn



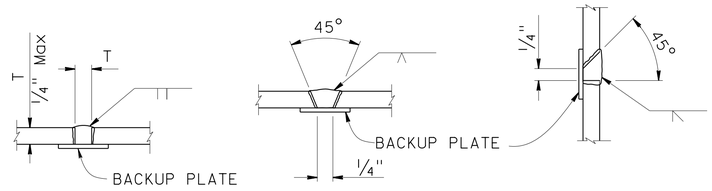
SECTION A-A

NO SCALE



SECTION B-B

NO SCALE



SQUARE GROOVE SINGLE VEE-GROOVE SINGLE BEVEL-GROOVE

PILE WELDING DETAIL-BUTT JOINTS

NO SCALE

NOTES:

1. Single vee-groove and square groove permitted for all positions
2. Single bevel-groove permitted for horizonal joints only

REVISED STANDARD DRAWING

FILE NO. xs12-050

APPROVAL DATE January 2012

1 Modified detail
2 Deleted Note

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0280
POST MILE 38.01

RETAINING WALL NO. 2004
SOLDIER PILE WALL DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-16-14	01-29-14		8-09-13	13	21

FILE => 53-E0280_RW2004-h-sol wallDt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1768	2313

Dawit Tadilla Ferez 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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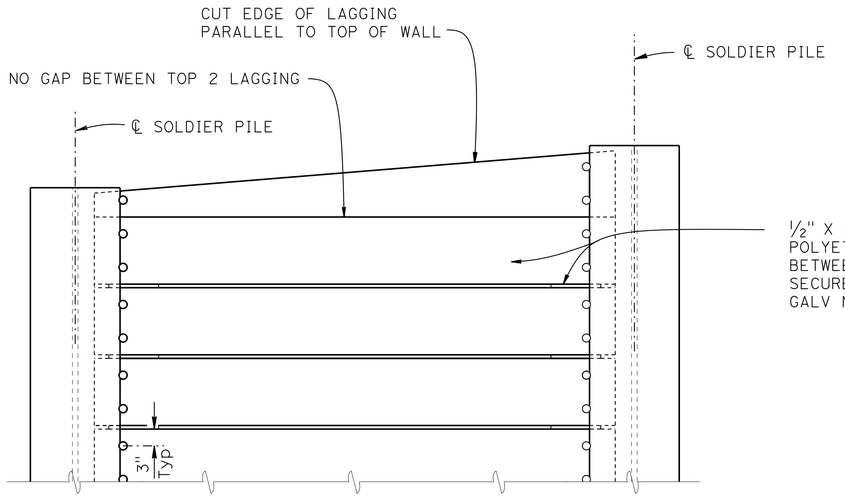
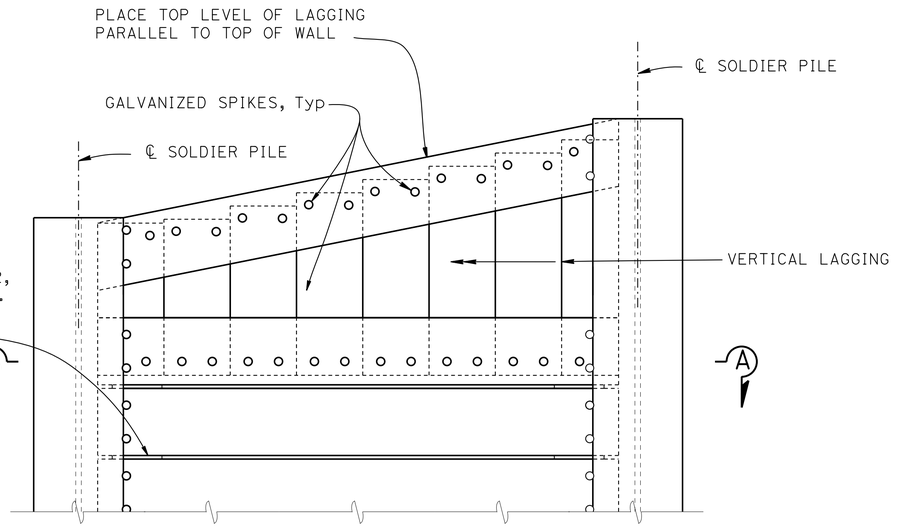


PART ELEVATION

LAGGING DETAILS (ALTERNATIVE 1)

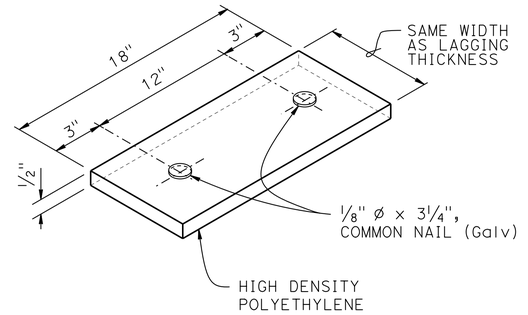
NO SCALE



PART ELEVATION

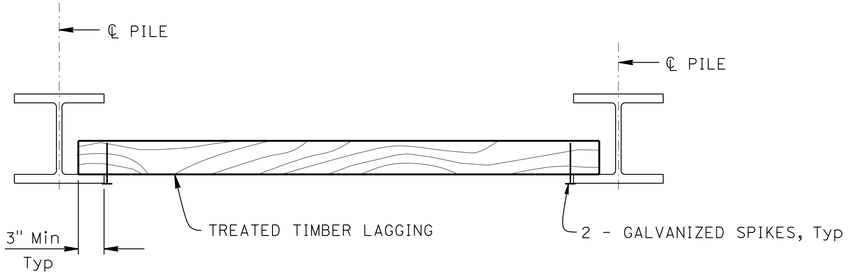
LAGGING DETAILS (ALTERNATIVE 2)

NO SCALE



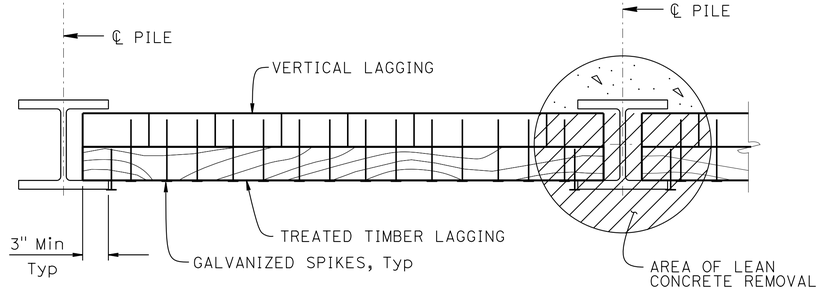
SHIM DETAIL

NO SCALE



PART PLAN

NO SCALE



SECTION A-A

NO SCALE

NOTES:

1. No clipping of timber lagging corners allowed
2. Use 16d Galv wire spikes for 4 x 12 lagging, and 40d Galv wire spikes for 6 x 12 lagging
3. Spikes shall not be bent

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0280	RETAINING WALL NO. 2004
FILE NO. xs12-080	APPROVAL DATE January 2012			POST MILE 38.01	SOLDIER PILE WALL LAGGING DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 14 OF 21

FILE => 53-E0280_RW2004-1-sol laggdt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

GENERAL NOTES

DESIGN:

AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments.

PRESTRESSING STEEL:

Bars - ASTM Designation: A722 Type II (150 ksi)

Strand Tendons-ASTM Designation: A416 (270 Ksi Low Relaxation steel)

FTL = Factored Test Load per anchor (Kips)

fpu = Minimum tensile strength of prestressing steel

As = Minimum cross sectional area of prestressing steel in ground anchor (square inch)

$$As(Min) = \frac{1.0\ FTL}{0.75\ fpu} \quad \text{(Strands)}$$

$$As(Min) = \frac{1.0\ FTL}{0.80\ fpu} \quad \text{(Bars)}$$

NOTES:

(A) Level of initial grouting for drilled hole 6" in diameter or smaller

(B) Level of secondary grouting

(C) Level of initial grouting inside corrugated sheathing

(D) Bonded length shall be determined by the contractor

(E) For unbonded length, see PROJECT PLANS

(F) For inclination, see PROJECT PLANS

(G) Face of Wall Excavation

NOTES:

1. Anchorage enclosure shall only be used when anchor head assembly is not enclosed in concrete.
2. Anchorage enclosure shall have provisions to allow injecting grout at low end and venting at high end. Galvanize after fabrication.
3. Silicone sealant to cover full width of flange.
4. Steel tube (Min thickness = 1/4") welded to bearing plate. Galvanize assembly after fabrication
5. Steel tube welded to bearing plate. Inside diameter of steel tube (Min thickness = 1/4") to be 1" greater than outside diameter of smooth sheathing.
6. Galvanize assembly after fabrication.
7. For other wall details, see PROJECT PLANS.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1769	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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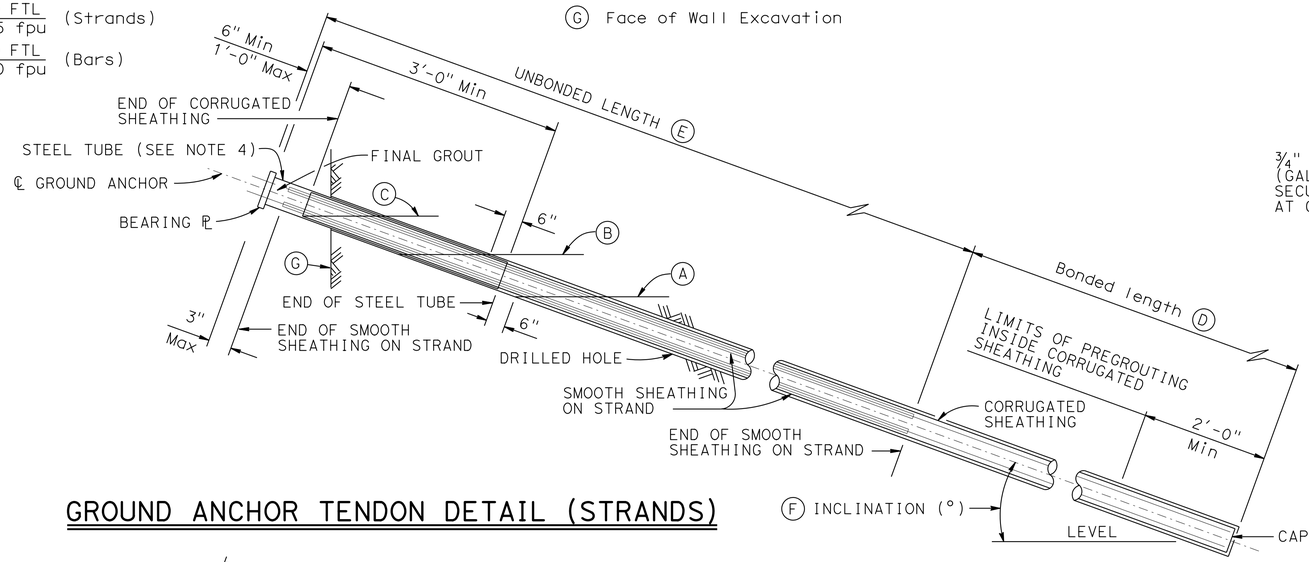
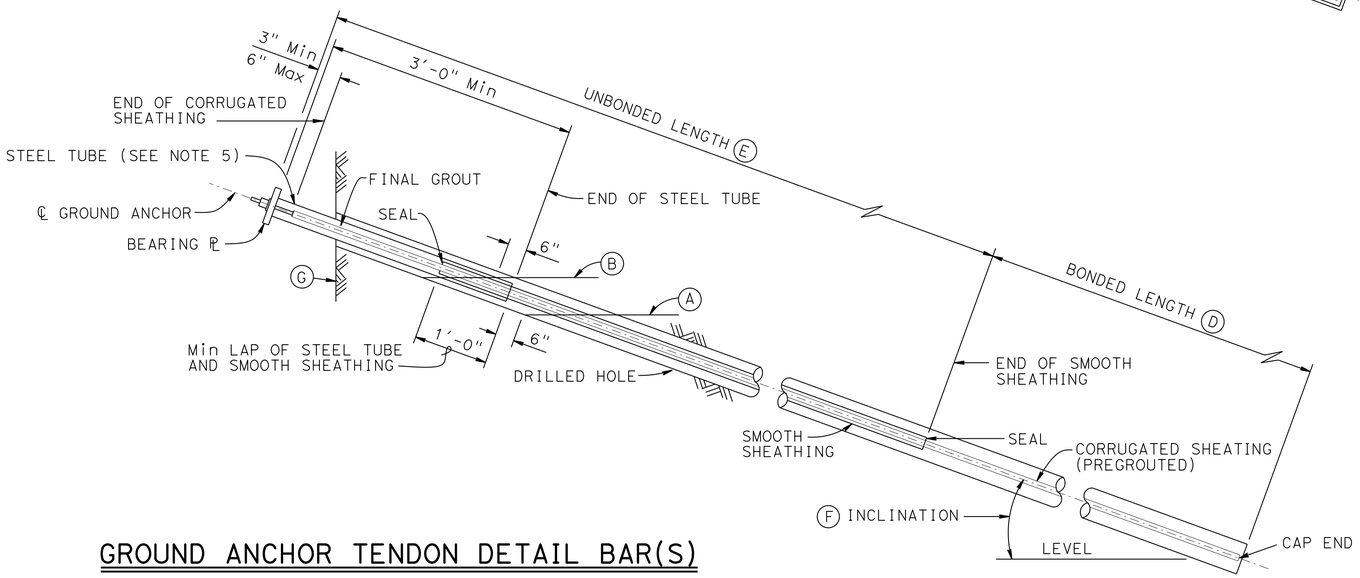
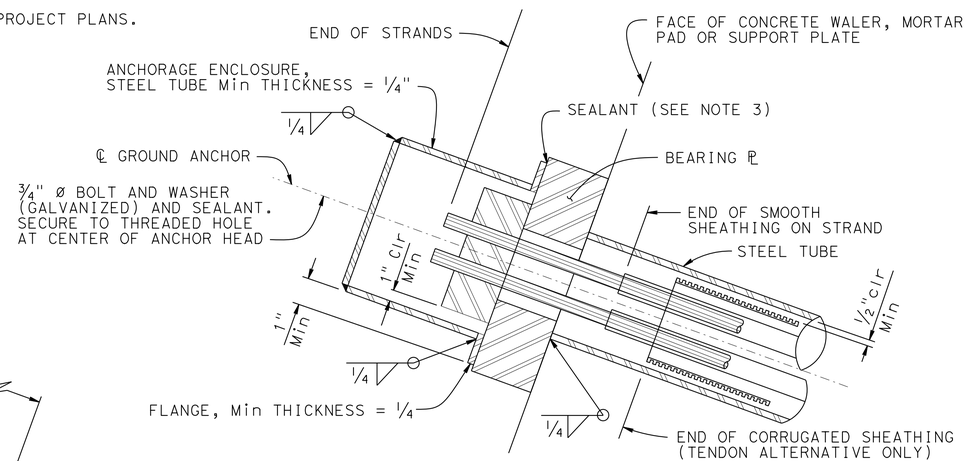


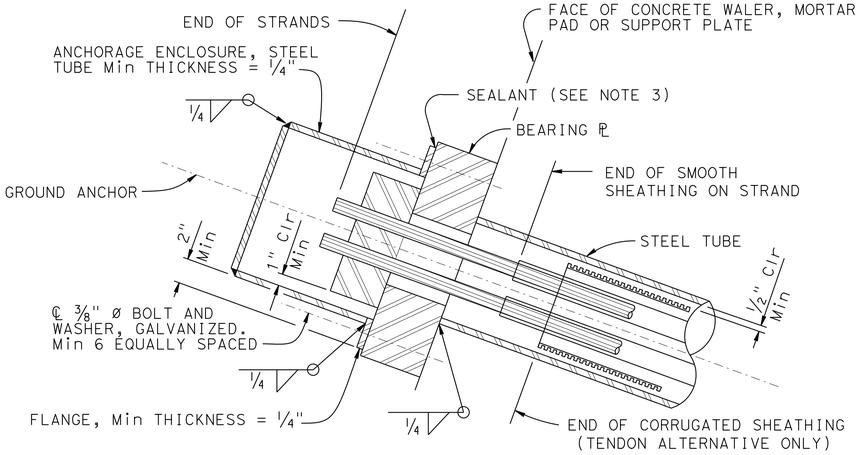
GROUND ANCHOR TENDON DETAIL (STRANDS)



GROUND ANCHOR TENDON DETAIL BAR(S)



ALTERNATIVE X



ALTERNATIVE Y

ANCHORAGE ENCLOSURE DETAILS

NO SCALE

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0280	RETAINING WALL NO. 2004
FILE NO. xs12-040	APPROVAL DATE January 2012			POST MILE 38.01	SUB HORIZONTAL GROUND ANCHOR DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622 PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET 15 | OF 21

FILE => 53-E0280_RW2004-j- grd anchordt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1770	2313

Dawit Tadilla Gebre 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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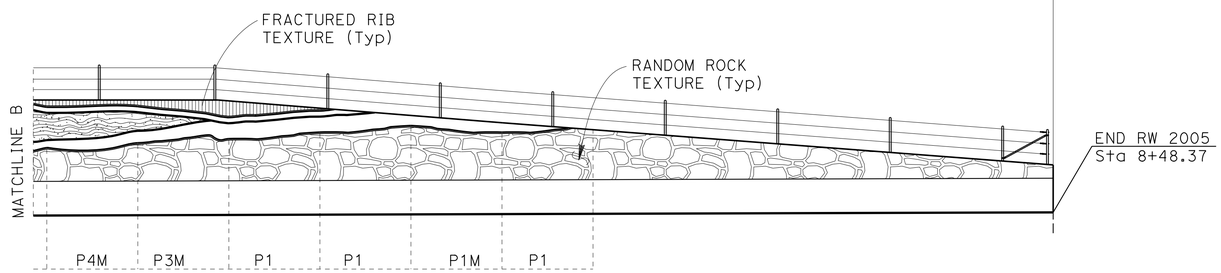
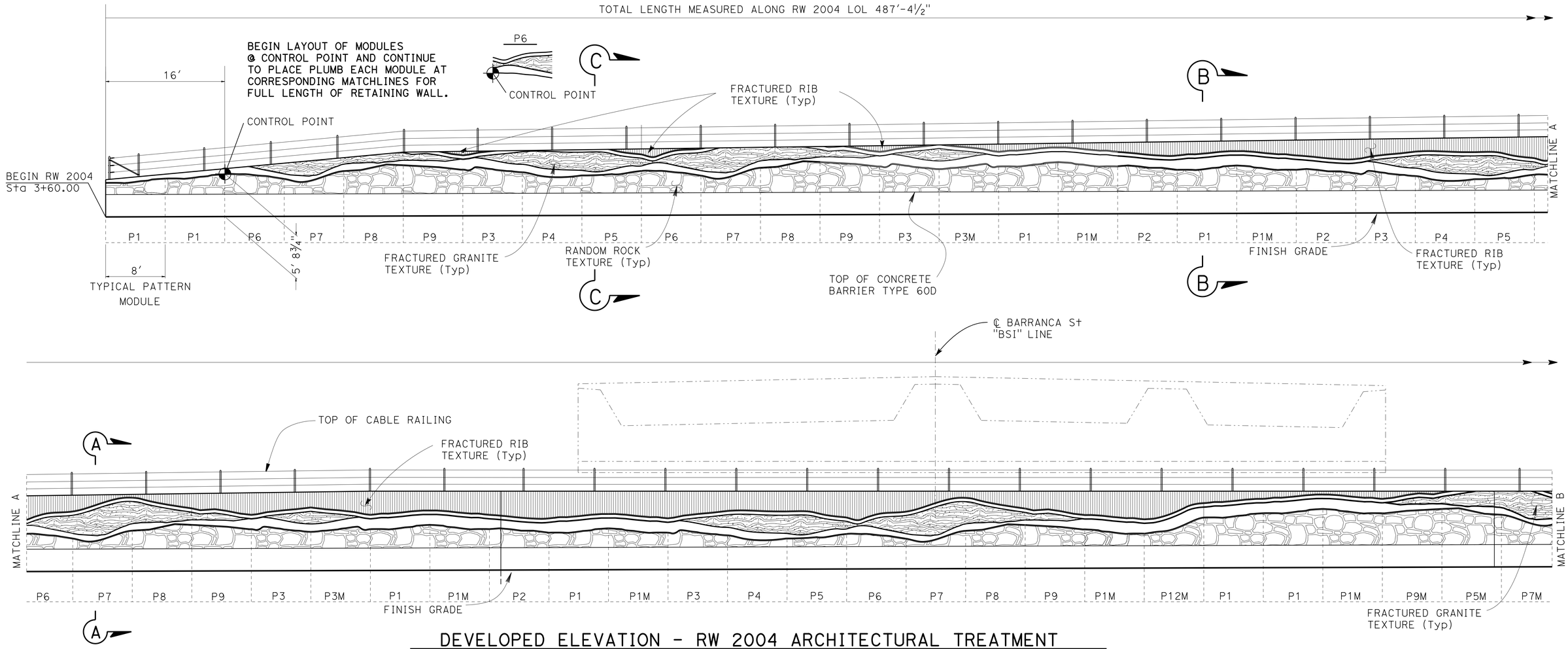
*MODULES USED
P1, P1M, P2, P3, P3M, P4, P5, P5M, P6, P7, P7M, P8, P9, P9M, P12M





DEVELOPED ELEVATION - RW 2004 ARCHITECTURAL TREATMENT

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0280	RETAINING WALL NO. 2004
DETAILS	BY D. Wooten	CHECKED Edward B Mu			POST MILE 38.01	ARCHITECTURAL TREATMENT
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
5-21-14		5-06-13	7-19-13	16	21

FILE => 53-E0280_RW2004-1-arch.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1771	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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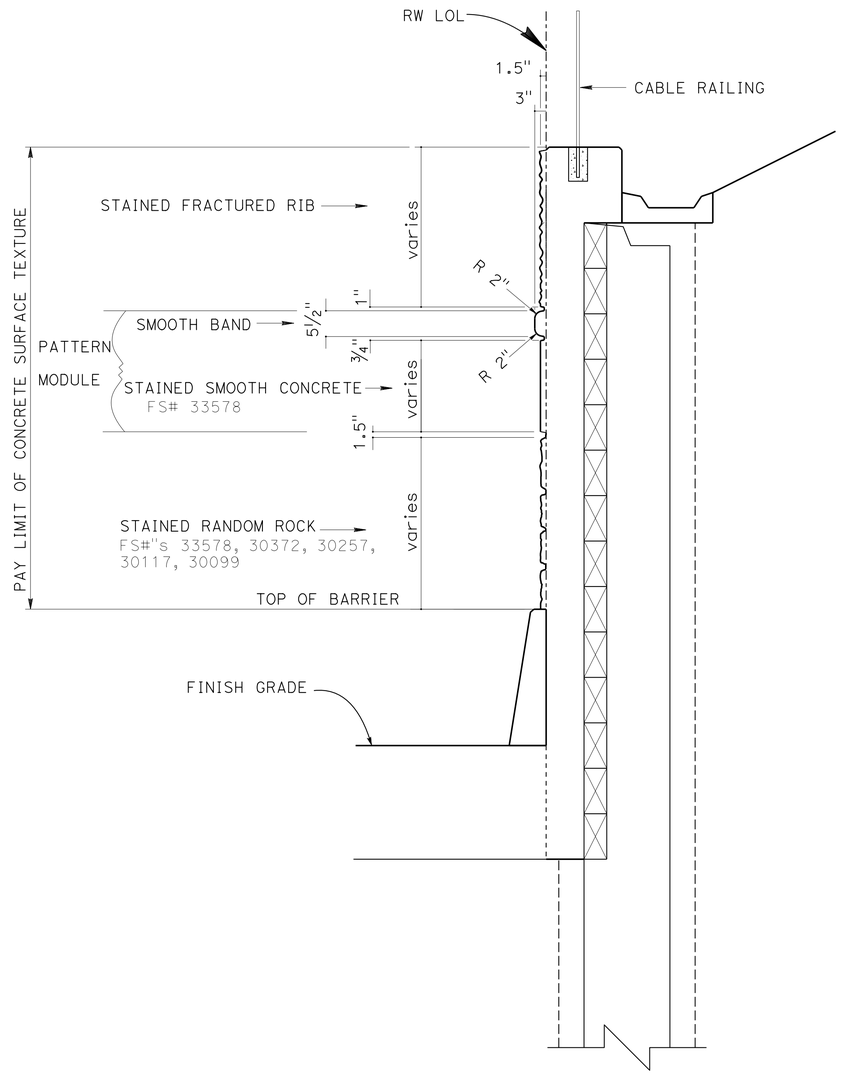
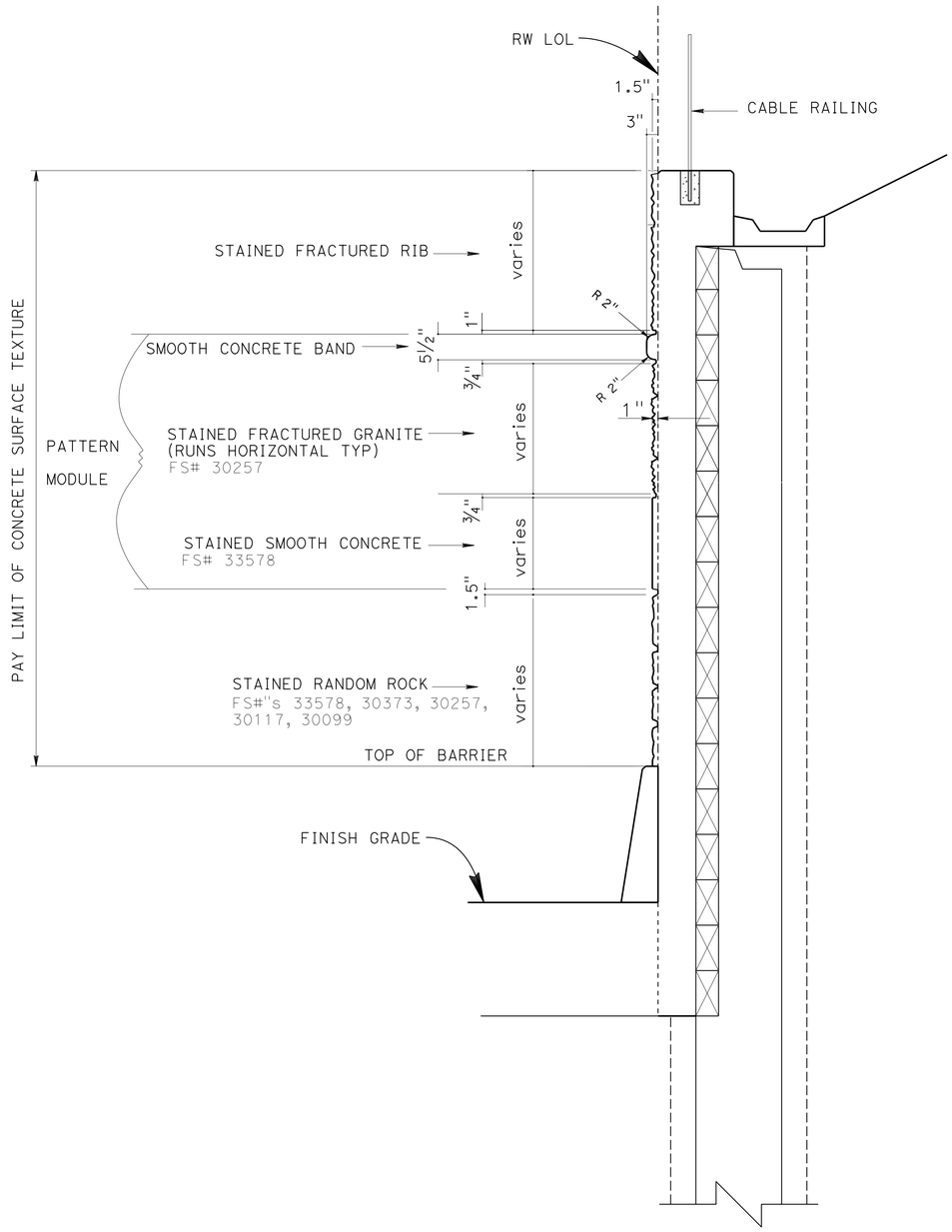


TYPICAL SECTION B-B

NO SCALE

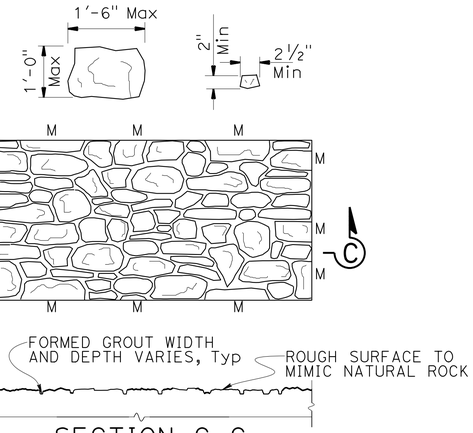


TYPICAL SECTION A-A

NO SCALE

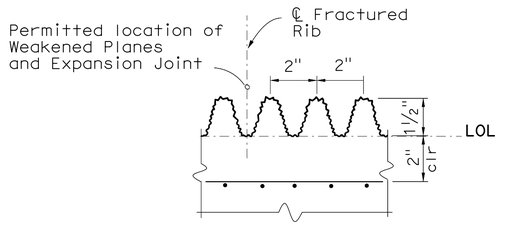
NOTE:
Seamless random rock pattern to have a minimum of 2 to maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).

* STAINED RANDOM ROCK
FS# 33578, 30372, 30257, 30117, 30099
FS (denotes Federal Standard Color)



SECTION C-C
RANDOM ROCK TEXTURE

NO SCALE



FRACTURED RIB TEXTURE

NO SCALE

RW 2004 ARCHITECTURAL TREATMENT - SECTIONS

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0280	RETAINING WALL NO. 2004	
DETAILS	BY D. Wooten	CHECKED Edward B Mu			POST MILE 38.01	ARCHITECTURAL TREATMENT DETAIL NO. 1	
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
7-23-14		7-03-14 5-21-14	17	21

FILE => 53-E0280_RW2004-1-arcndt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

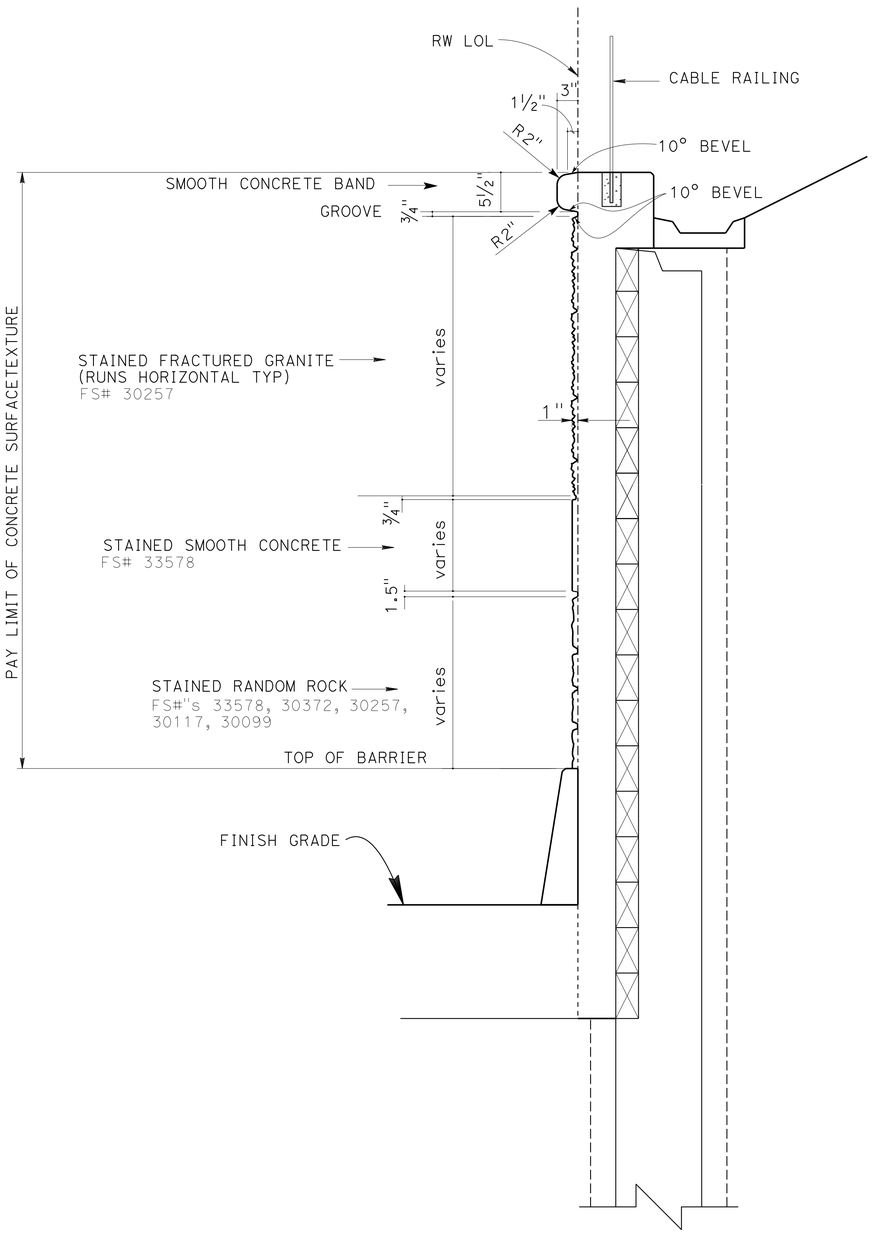
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1772	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

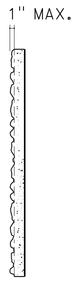
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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



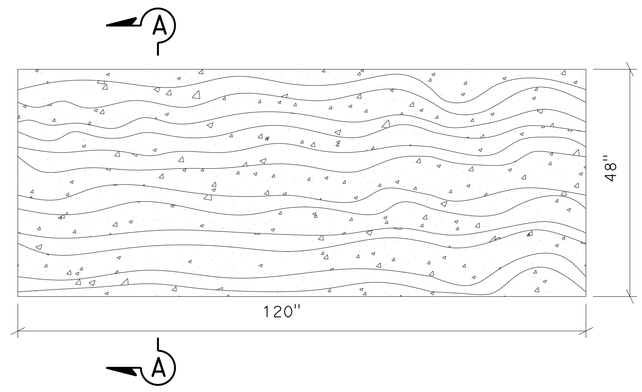
TYPICAL SECTION C-C

NO SCALE



SECTION - A-A

NO SCALE



FRACTURED GRANITE TEXTURE

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0280	RETAINING WALL NO. 2004	
DETAILS	BY D. Wooten	CHECKED Edward B Mu			POST MILE 38.01	ARCHITECTURAL TREATMENT DETAIL NO. 2	
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott					

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
10-14-13	3-06-14	7-23-14		18	21

FILE => 53-E0280_RW2004-1-archdt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

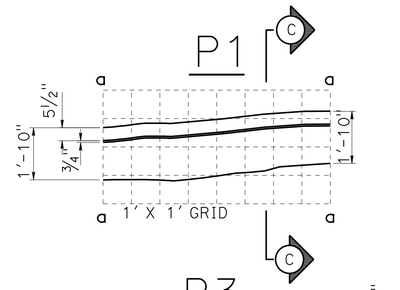
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1773	2313

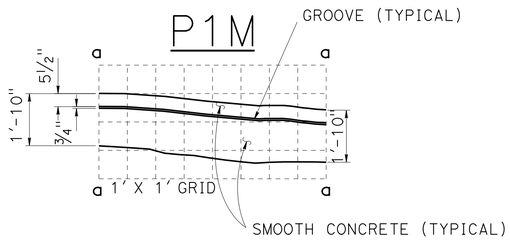
Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

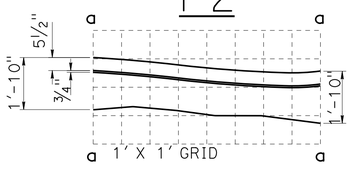
6-1-15
PLANS APPROVAL DATE

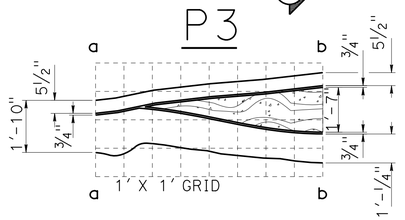
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

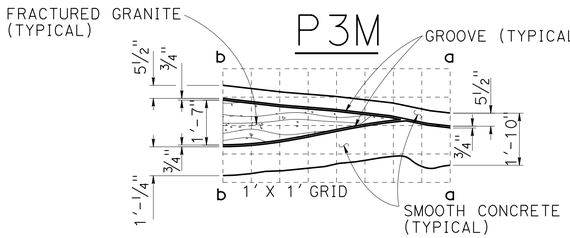
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

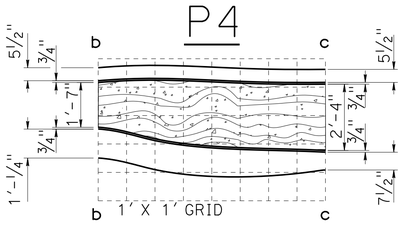


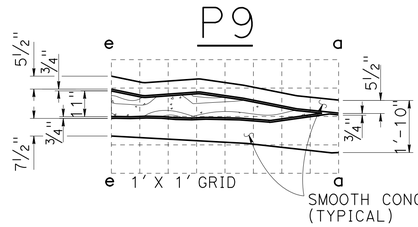


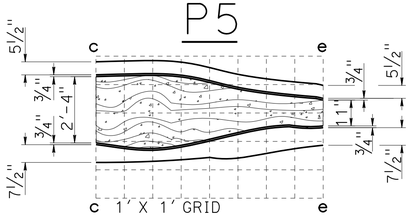


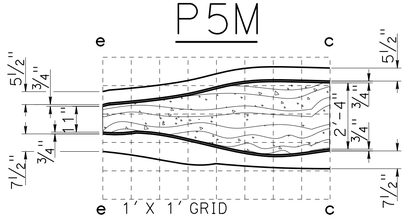


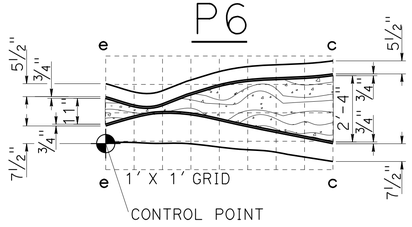


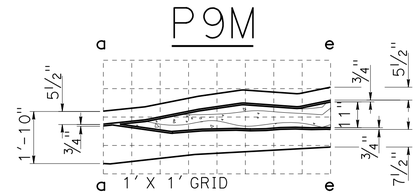


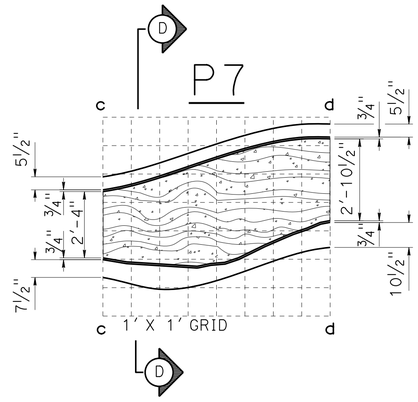


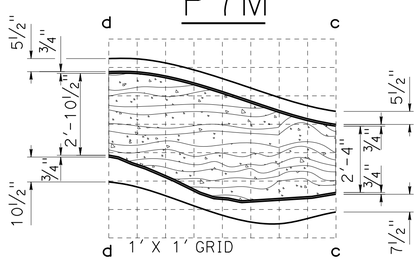


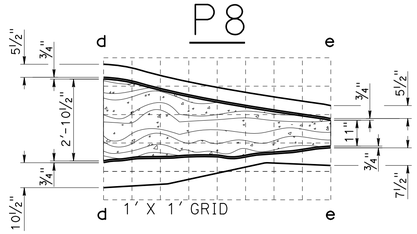


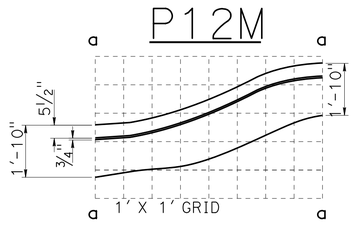












NOTE:

1. Fracture Granite Texture at match lines a-a, b-b, c-c, d-d, e-e must match seamlessly between the interchangeable modules.

INTERCHANGABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0280
DETAILS	BY D. Wooten	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2004

ARCHITECTURAL TREATMENT DETAIL NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
				19	21

FILE => 53-E0280_RW2004-1-archdt03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1774	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-10-14 DATE

6-1-15
PLANS APPROVAL DATE

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

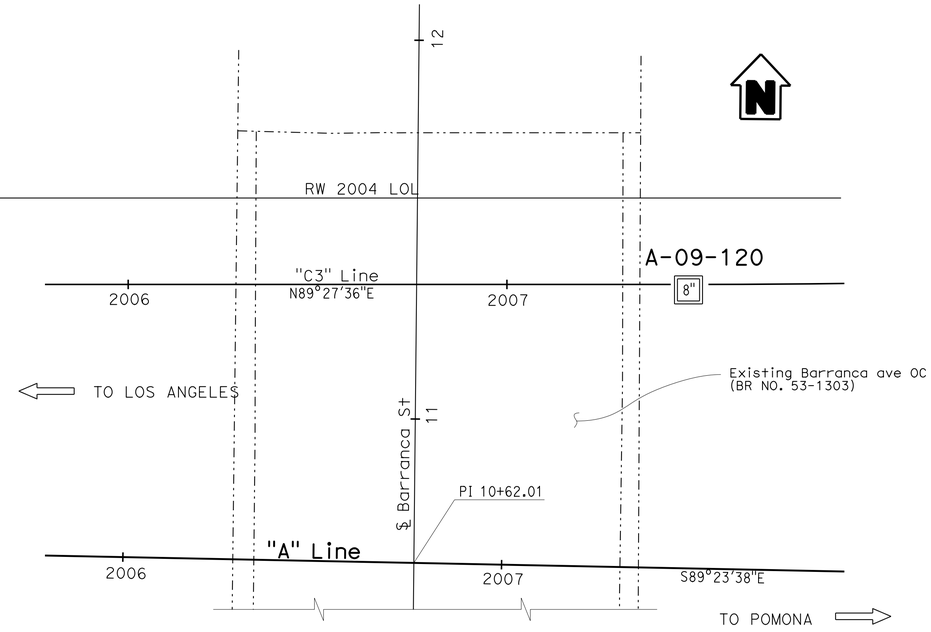
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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.

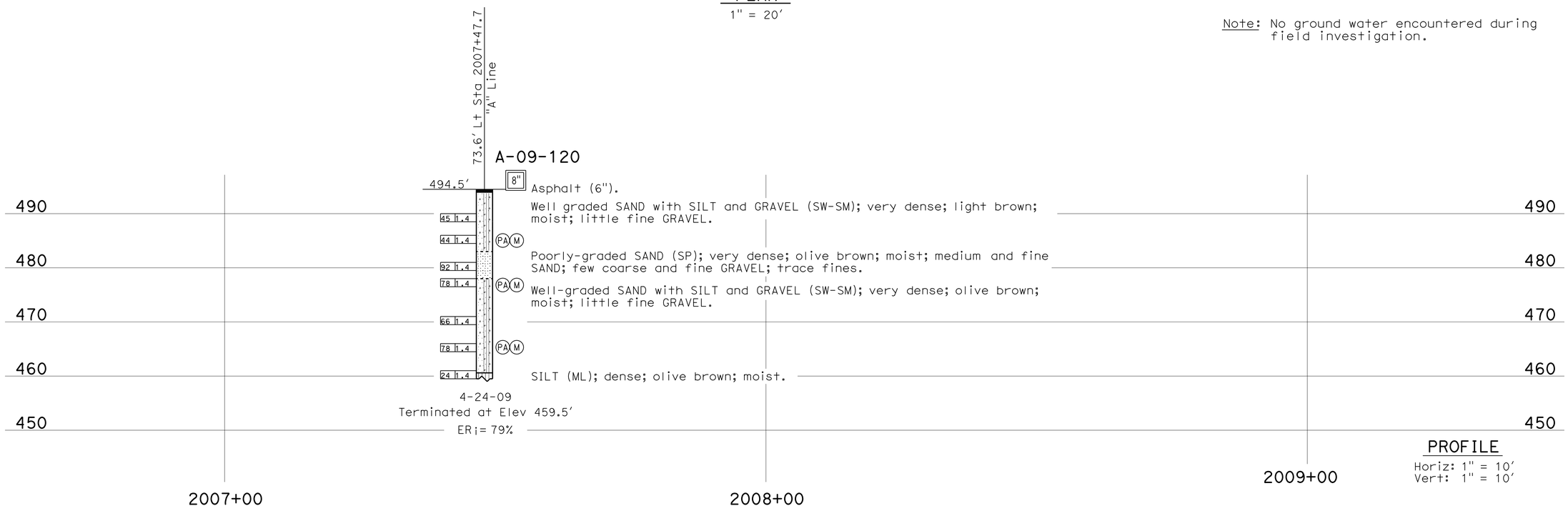
BENCH MARK

BM 5053 Elev 493.450′
Set 2x2&T E/B 10
Shldr Under Barranca
St O/C.
NAVD 88



PLAN
1" = 20′

Note: No ground water encountered during field investigation.



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

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	RETAINING WALL NO. 2004
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen		DESIGN BRANCH 20	53E0280	LOG OF TEST BORINGS 1 OF 2
NAME: D. Jang	CHECKED BY: K. Lai	FIELD INVESTIGATION BY: S. Hoon		POST MILE 38.01	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 07000000971 CONTRACT NO.: 07-1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-25-11	06-14-11	01-10-14		20	21

FILE => 53-E0280_RW2004-Z-ltb01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

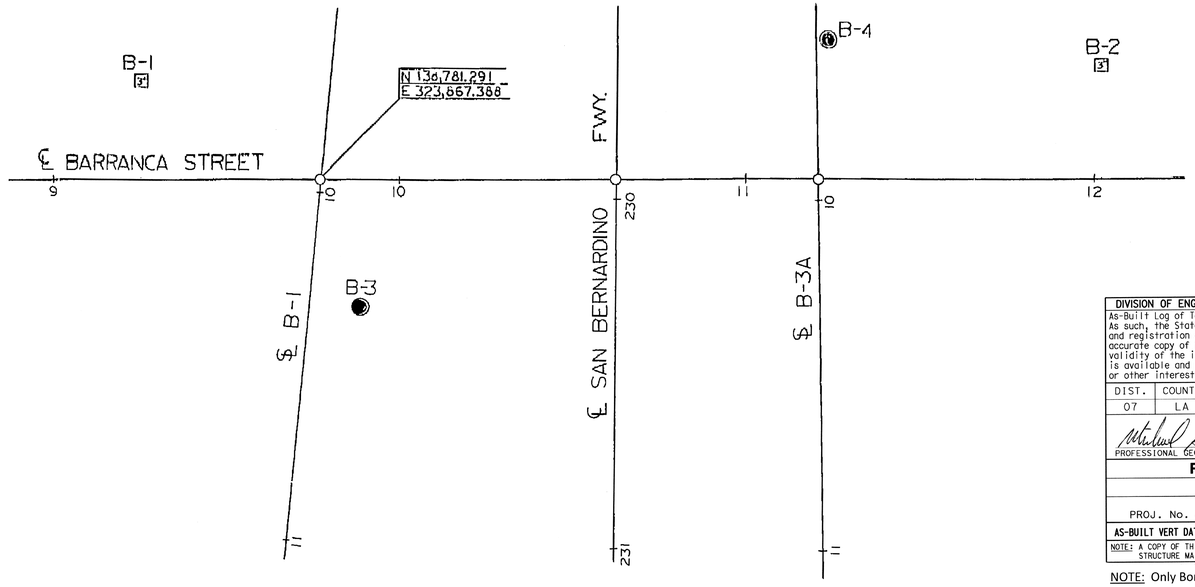
DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/40.9	562	749

R E Hawkamp
DESIGN SECTION A SUPERVISOR — REGISTERED CIVIL ENGINEER NO. 21188
DATE APPROVED November 29, 1971

BENCH MARKS

BM # 219 B-Cov-57 Elev. 497.62
Found Ramset and washer on east curb over north abutment of Barranca Bridge over freeway centerline, 302 feet south of the E of Freeway (LA 010 16-I,J).

BM # 219 C-Cov-57 Elev. 517.17
Found Ramset on west bound on-ramp at right-of-way fence line Prod. left of station 12+65 Barranca Overcrossing (LA 010 16-I,J).



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	1775	2313

Michael A. Salisbury — 01/09/2014
PROFESSIONAL GEOLOGIST — DATE

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

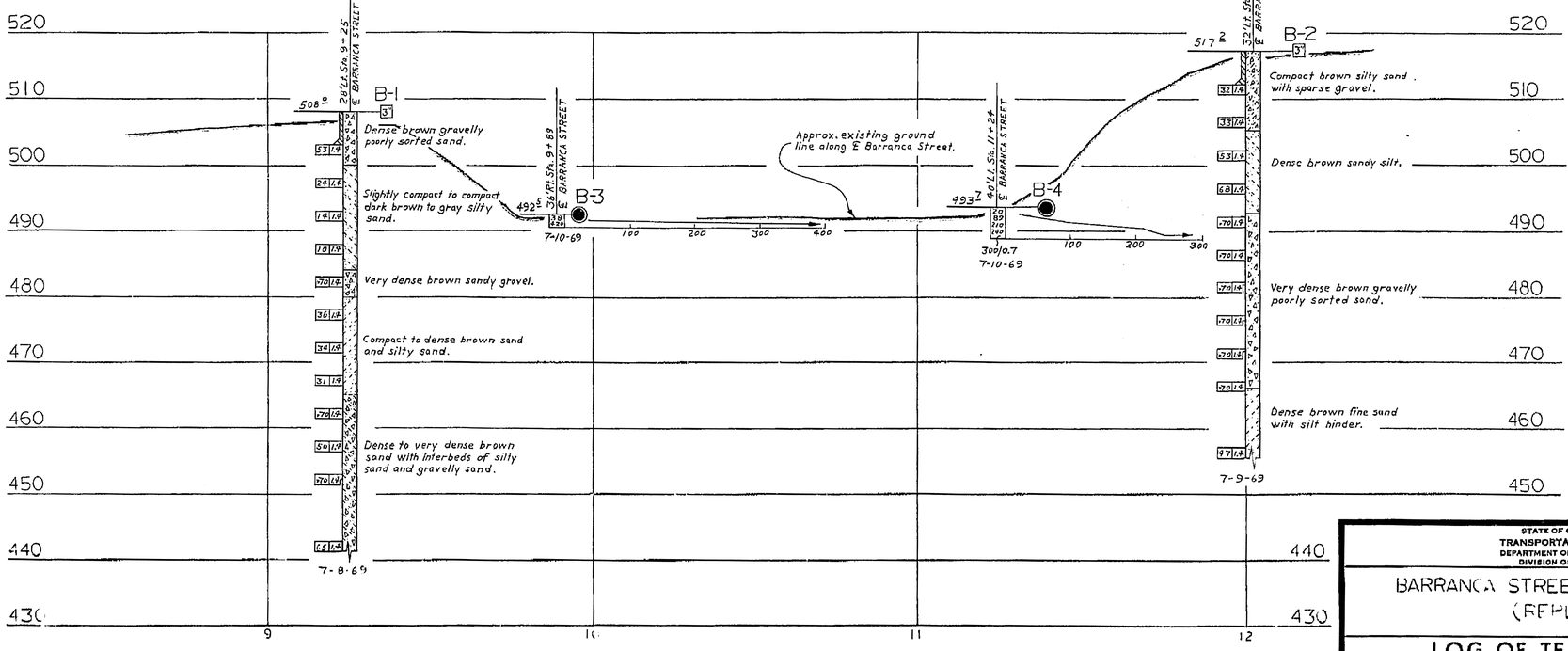
RETAINING WALL NO. 2004

LOG OF TEST BORINGS 2 OF 2

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

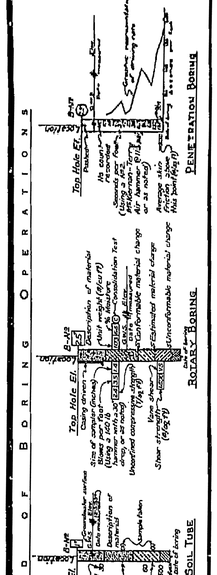
NOTE: Only Boring B-2 is considered for current project.

TO ACCOMPANY PLANS DATED 6-1-15



AS BUILT None 4-11-75
CORRECTIONS BY Paul Vucovich
CONTRACT NO. 07-038824
DATE 8-5-75

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

Gravel; Sand; Silt; Clay; Silty Clay or Clayey Silt; Poly Amps. Organic Matter; Fill Material; Igneous Rock; Sandy Clay or Clayey Sand; Sandy Silt or Silty Sand; Sedimentary Rock; Metamorphic Rock

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

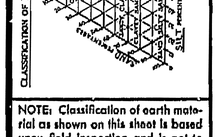


DIAGRAM SHOWING THE LIMIT FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES.
IF GRAVEL IS PRESENT IN APPRECIABLE QUANTITIES THE TERM "GRAVELLY" SHALL BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "SILTY" AND "CLAYEY" SHALL BE USED WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

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

DRAWN	By E.S. JIMENEZ	7-21-69
CHECKED	By D. MUNCE	7-21-69

Approval Recommended by Engineering Geologist

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

562

AS BUILT PLANS
Contract No. 07-038824

STATE OF CALIFORNIA
TRANSPORTATION AGENCY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

BARRANCA STREET OVERCROSSING (REPLACE)

LOG OF TEST BORINGS

BRIDGE NO. 53-1303	POST MILE 38.0	DRAWING NO.	SHEET 10	OF 10

REVISION DATES (PRELIMINARY STAGE ONLY) — 7/7/71

WO 038821
CU 07213

Disregard prints bearing earlier revision dates →

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1776	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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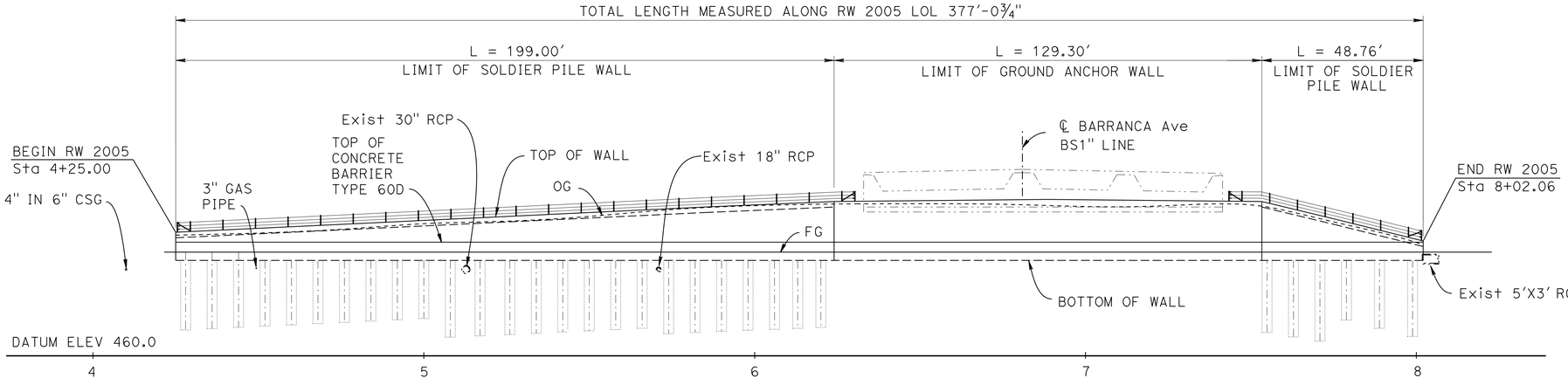
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA



NOTES:

(A) Concrete barrier, Type 60D
(B) Soldier pile wall
(C) Ground anchor wall
(D) Gutter B3-6
(E) Drain outlet
(F) Cable Railing B11-47 RSP
(G) Architectural treatment

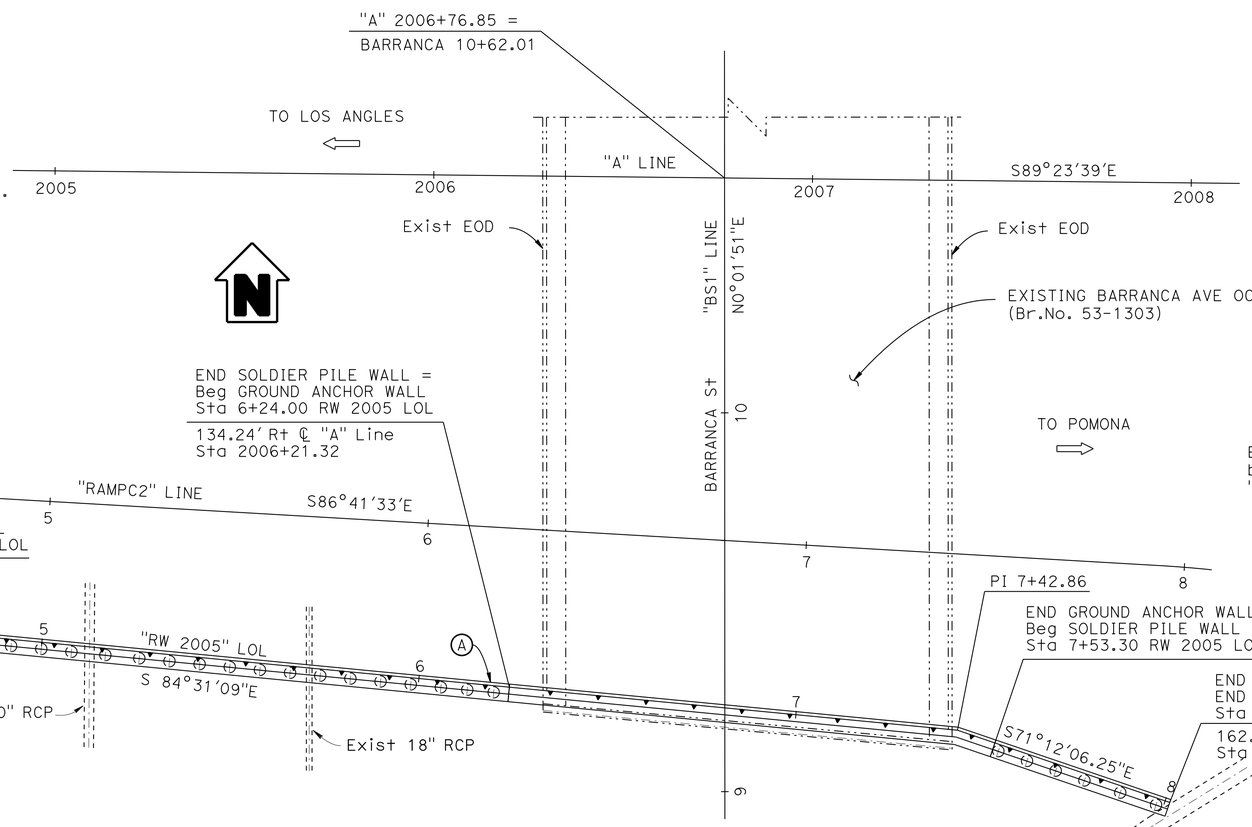
For quantities, see "INDEX TO PLANS" sheet.

LEGEND:

——— New structure
-·-·-·- Existing structure
·-·-·-·- Original Ground

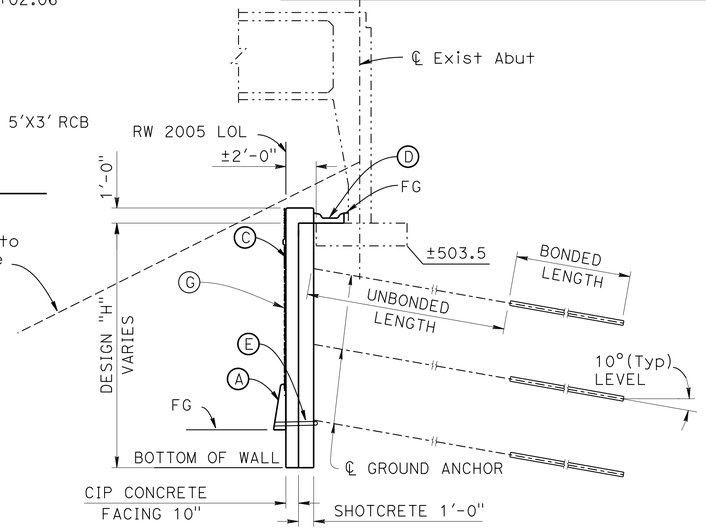
DEVELOPED MIRROR ELEVATION

1" = 20'-0"



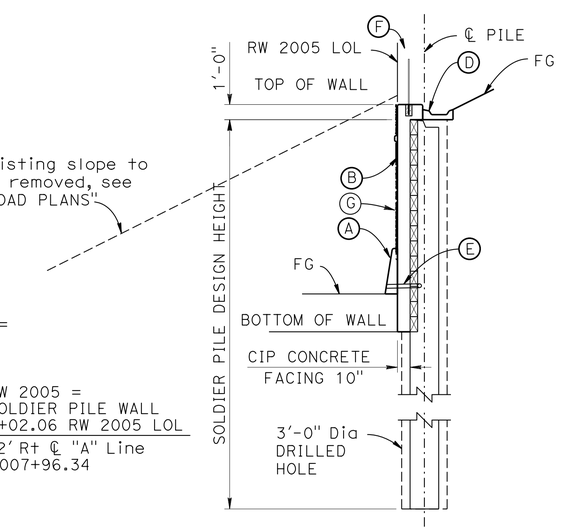
PLAN

1" = 20'-0"



TYPICAL SECTION GROUND ANCHOR WALL

1" = 5'-0"



TYPICAL SECTION SOLDIER PILE WALL

1" = 5'-0"

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

X HOWARD NG
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	D. Wooten\ Lan Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

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

	BY	CHECKED
LAYOUT	Homa Iraninejadian	Edward B Mu
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 20

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
GENERAL PLAN

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007-1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
5-21-14	7-10-14	7-16-14		1	21

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

FILE => 53-E0281_RW2005-a-gp01.dgn

USERNAME => s1125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1777	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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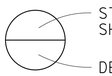
STANDARD PLANS DATED 2010

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
A76A	CONCRETE BARRIER TYPE 60
B0-3	BRIDGE DETAILS
B3-6	RETAINING WALL DETAIL NO. 2
(RSP)B11-47	CABLE RAILING



INDEX TO PLANS

GENERAL NOTES

DESIGN:

AASHTO LRFD Bridge Design Specifications,
4th Edition with California Amendments
Preface dated Nov 2011

LOADING:

2:1 sloping ground with surcharge (240 Psf);
Bridge Abutment (5.1ksf) where applicable

SOIL PARAMETER: (for determination of Desigh Lateral Earth Pressures)

$\phi = 34°$ $\gamma = 130\ lb/f^3$ $C = 50\ lb/f^2$

REINFORCE CONCRETE:

f'c = 4 Ksi (Concrete compressive streghth at 28 days)
fy = 60 Ksi (Yield strenght of reinforcement)
n = 8

SHOTCRETE:

f'c = 3.6 Ksi

PRESTRESSING STEEL:

See "SUB HORIZONTAL GROUND ANCHOR DETAILS" sheet

QUANTITIES

STRUCTURE EXCAVATION (SOLDIER PILE WALL)	275	CY
STRUCTURE EXCAVATION (GROUND ANCHOR WALL)	195	CY
STRUCTURE BACKFILL (GROUND ANCHOR WALL)	11	CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	25	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	190	CY
LEAN CONCRETE BACKFILL	94	CY
DISPLACEMENT MONITORING PROGRAM	LUMP	SUM
GROUND ANCHOR (SUBHORIZONTAL)	64	EA
STEEL SOLDIER PILE (W 21 X 73)	364	LF
STEEL SOLDIER PILE (W 21 X 93)	272	LF
STEEL SOLDIER PILE (W 21 X 111)	360	LF
36" DRILLED HOLE	1,005	LF
STRUCTURAL CONCRETE, RETAINING WALL	189	CY
CONCRETE SURFACE TEXTURE	3,503	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	64,069	LB
STRUCTURAL SHOTCRETE	77	CY
TIMBER LAGGING	17	MFBM
CLEAN AND PAINT STEEL SOLDIER PILING	LUMP	SUM
PREPARE AND STAIN CONCRETE	3,330	SQFT
MINOR CONCRETE (GUTTER) (LF)	377	LF
CABLE RAILING	266	LF
CONCRETE BARRIER (TYPE 60D)	377	LF

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

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
INDEX TO PLANS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
3-03-14	7-16-14	09/09/14		2	21

FILE => 53-E0281_RW2005-a-itp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

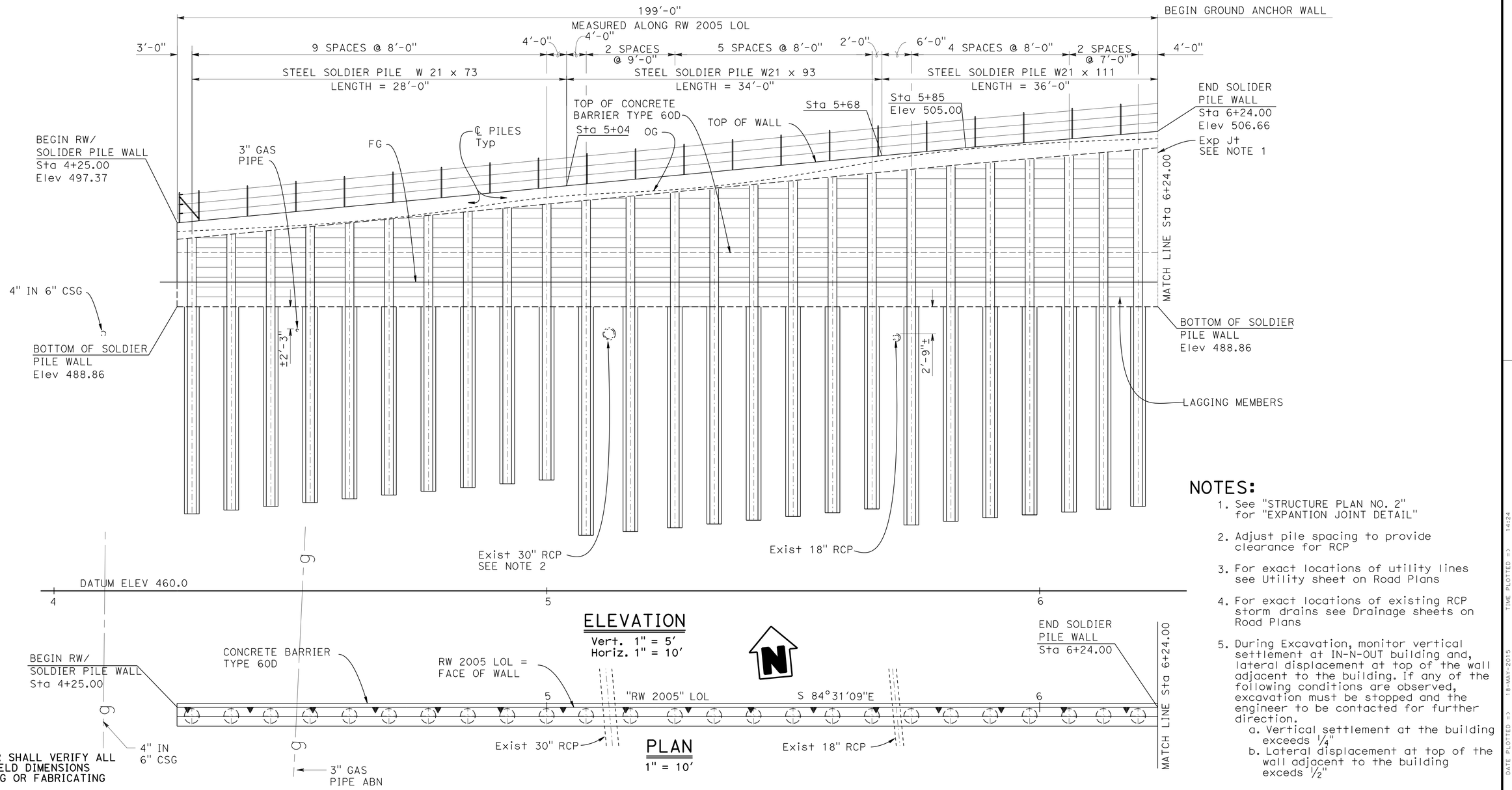
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1778	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA

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



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

NOTES:

1. See "STRUCTURE PLAN NO. 2" for "EXPANTION JOINT DETAIL"
2. Adjust pile spacing to provide clearance for RCP
3. For exact locations of utility lines see Utility sheet on Road Plans
4. For exact locations of existing RCP storm drains see Drainage sheets on Road Plans
5. During Excavation, monitor vertical settlement at IN-N-OUT building and, lateral displacement at top of the wall adjacent to the building. If any of the following conditions are observed, excavation must be stopped and the engineer to be contacted for further direction.
   a. Vertical settlement at the building exceeds 1/4"
   b. Lateral displacement at top of the wall adjacent to the building exceeds 1/2"

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
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: 3622
PROJECT NUMBER & PHASE: 0713000007 1
CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
12-11-13	3-03-14	5-28-14	5-28-14	3	21

FILE => 53-E0281_RW2005-c-str01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1779	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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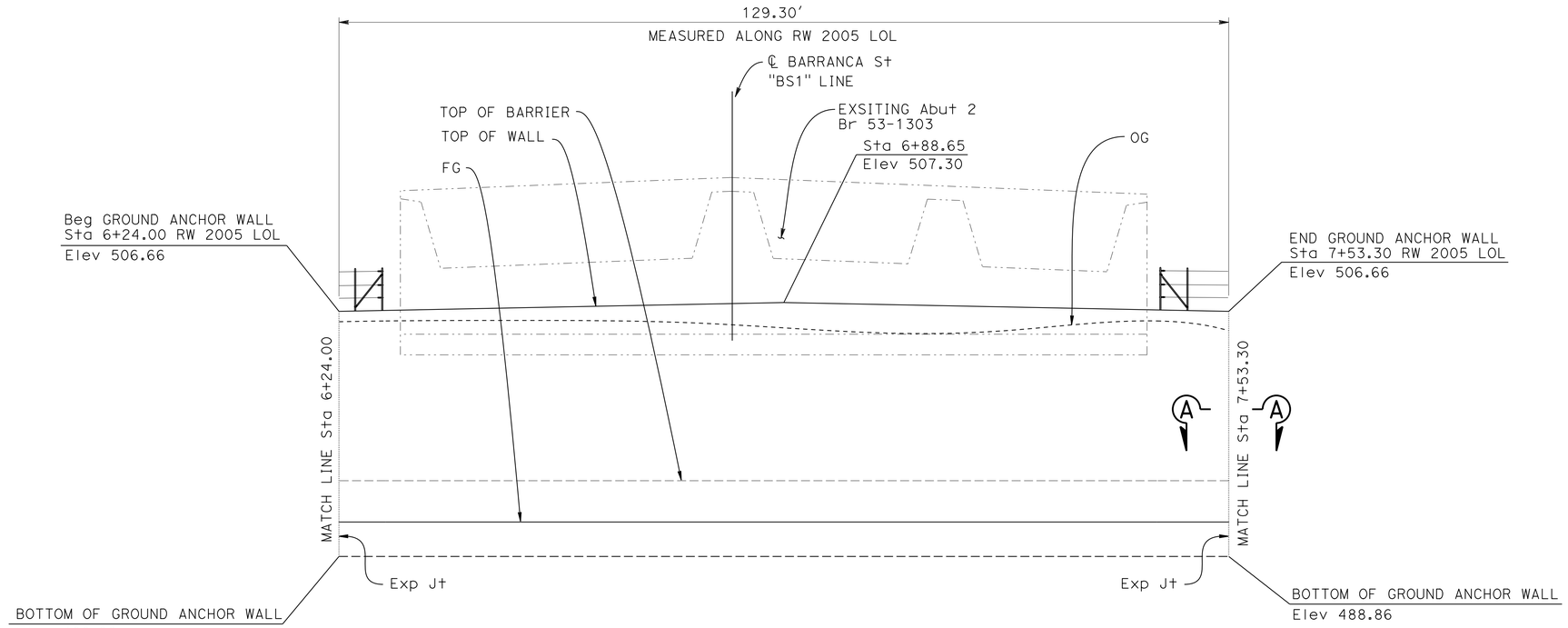
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

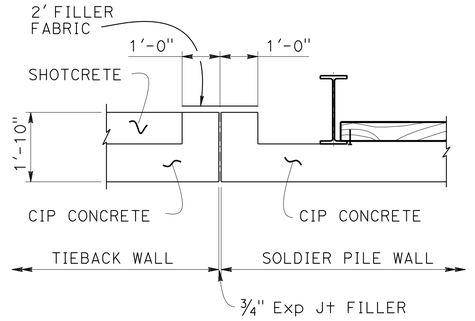
NOTE:

For GROUND ANCHOR Wall Details see "RETAINING WALL DETAILS NO. 2" and "RETAINING WALL DETAILS NO. 3" sheets.



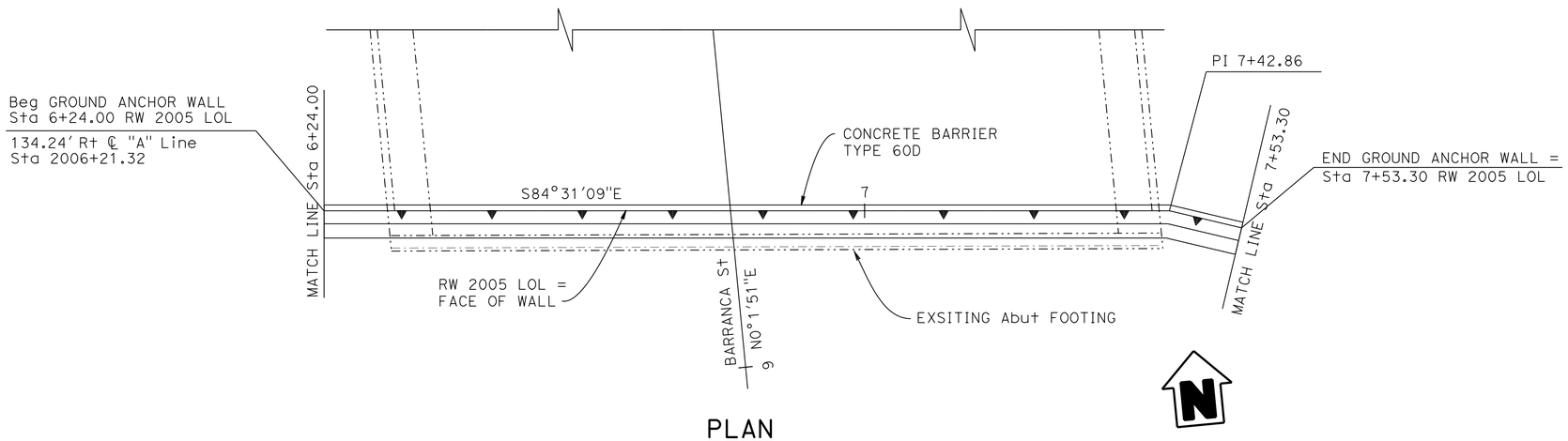
MIRROR ELEVATION

Vert. 1" = 5'
Horiz. 1" = 10'



SECTION A-A
EXPANSION JOINT DETAIL

NO SCALE



PLAN

1" = 10'

LEGEND:

——— New structure

-·-·-·- Existing structure

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

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Lan T Tran	CHECKED Edward B Mu	
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott	

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
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: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
5-21-14	7-24-14		10-24-13	4	21

FILE => 53-E0281_RW2005-c-str02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1780	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA

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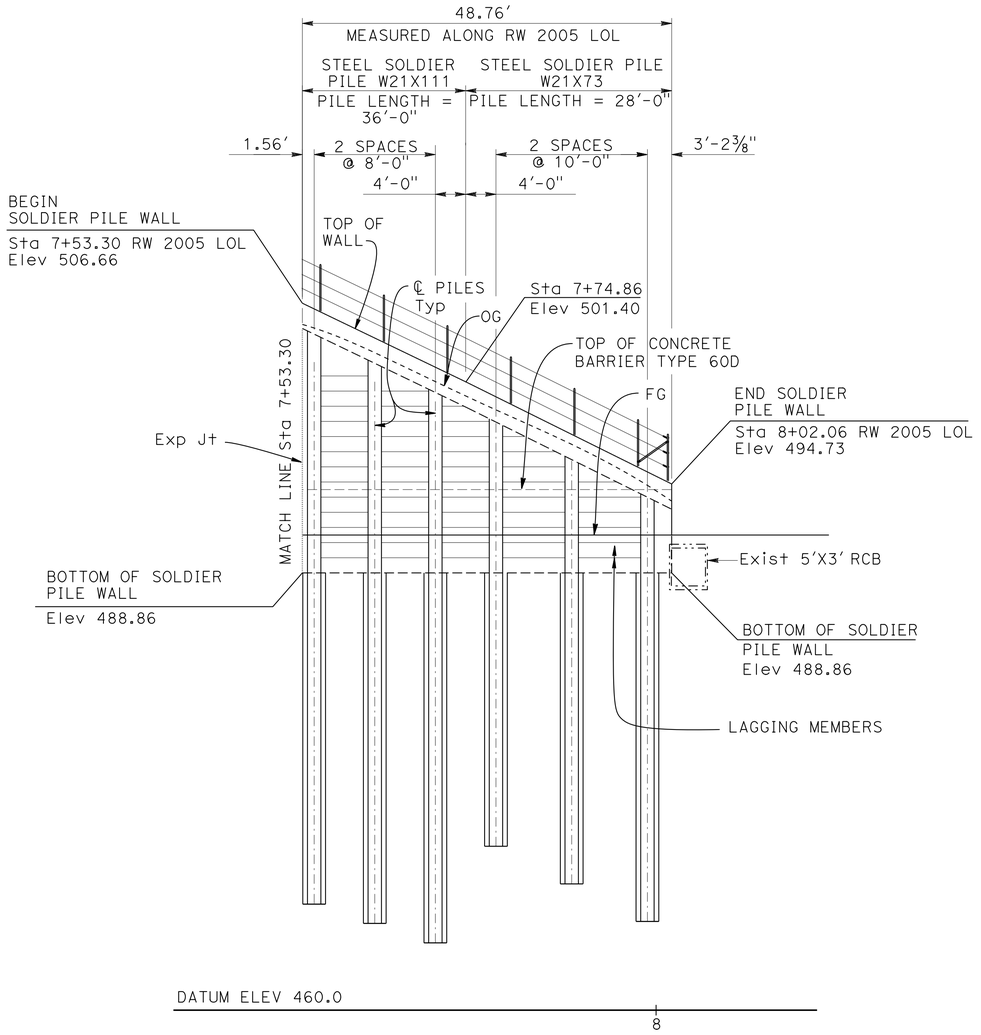
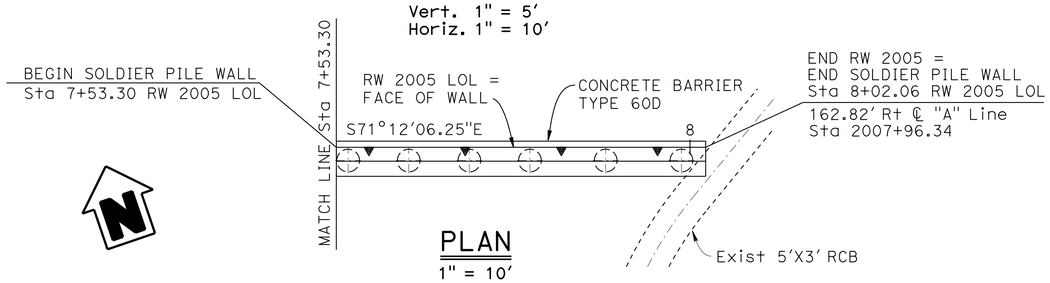


ELEVATION

Vert. 1" = 5'
Horiz. 1" = 10'



PLAN

1" = 10'

NOTE:

See "STRUCTURE PLAN NO. 2" for Expansion Joint Detail

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

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
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: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 7-24-14 | 7-26-13 | 8-28-13

SHEET 5 OF 21

FILE => 53-E0281_RW2005-c-str03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1781	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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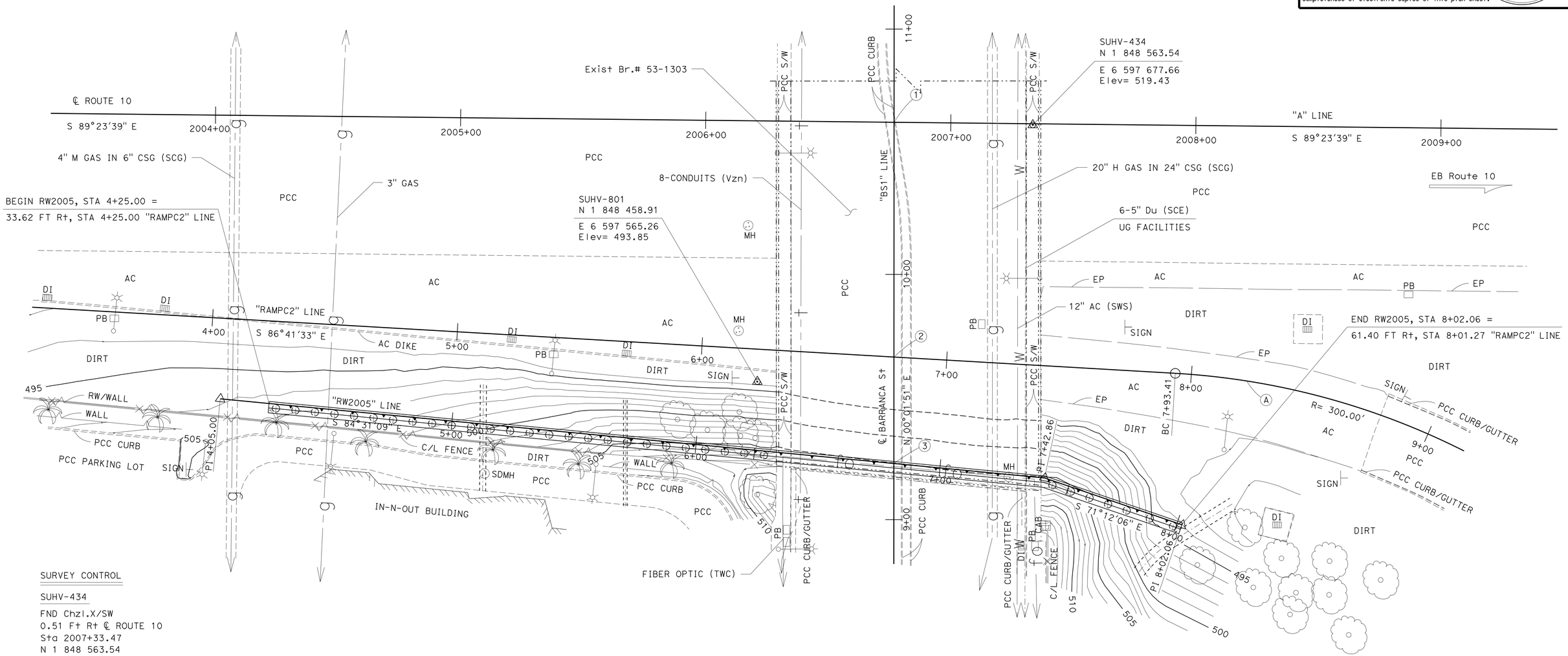
① Sta 10+62.01, "BS1" LINE =
Sta 2006+76.85, "A" LINE

② Sta 9+66.31, "BS1" LINE =
Sta 6+78.44, "RAMPC2" LINE

③ Sta 9+22.90, "BS1" LINE =
Sta 6+81.11, "RW2005" LINE

CURVE DATA				
No.	R	Δ	T	L
(A)	300.00′	57°17′00"	163.85′	299.94′



SURVEY CONTROL

SUHV-434

FND Chzl.X/SW
0.51 Ft R† ℄ ROUTE 10
Sta 2007+33.47
N 1 848 563.54
E 6 597 677.66
Elev= 519.43

SUHV-801

FND Set Spk
106.32F† R† ℄ ROUTE 10
Sta 2006+22.17
N 1 848 458.91
E 6 597 565.26
Elev= 493.85

NOTES:

UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE

PRELIMINARY INVESTIGATION SECTION					
SCALE 1"=20′	VERT.DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD 83 (1986)	SURVEYED	BY T.PHUNG 10/2012	CHECKED	BY C.STEWART 10/2012
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY V.PHAM 10/2012	CHECKED	BY S.ALIVIO 10/2012

	BY	CHECKED
DESIGN	Homa Iraninejadian	Edward B Mu
DETAILS	Lan T Tran	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO.2005
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3647
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: X

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09/17/13		03/14/13	07/14/13	6	21

FILE => 53-E0281_RW2005-d-fp101.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1782	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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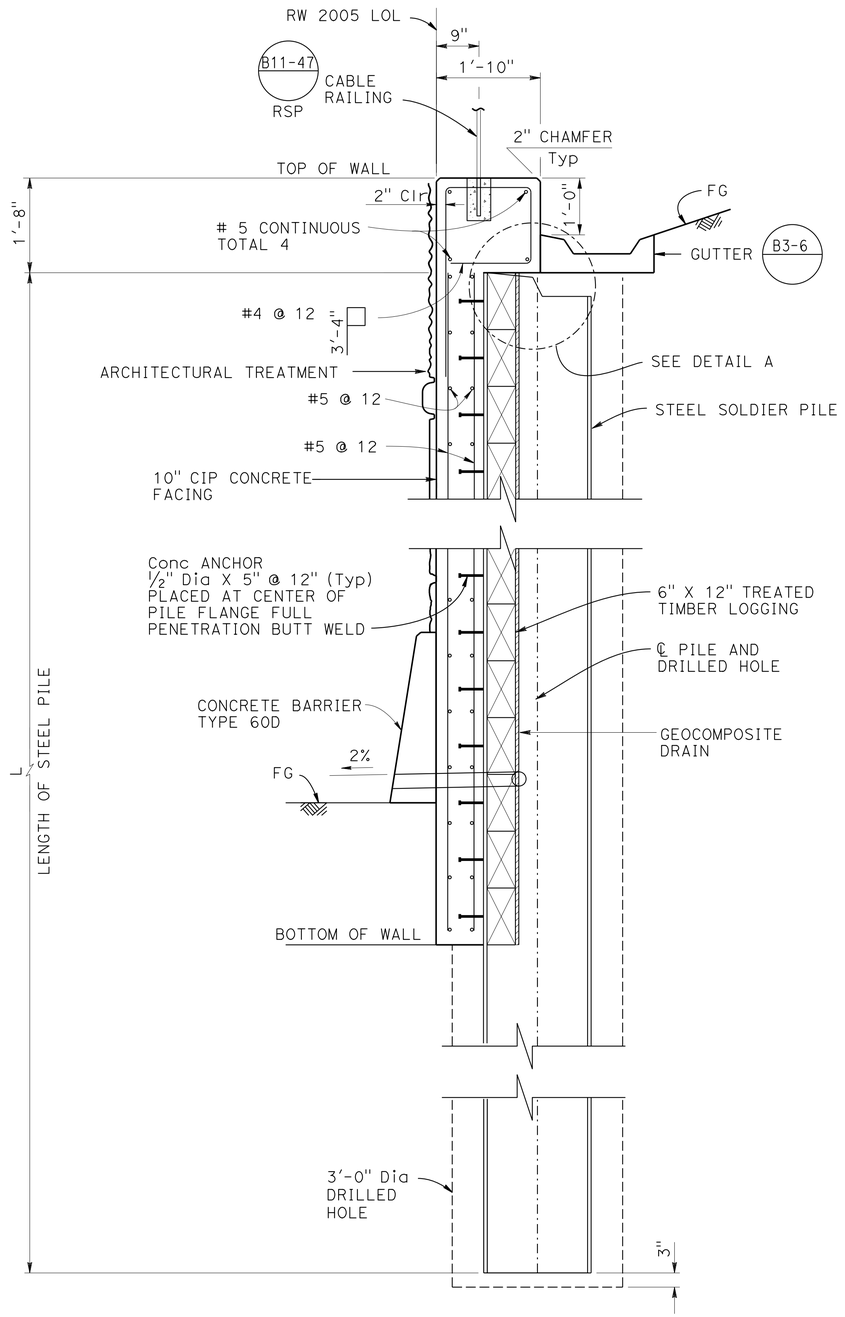
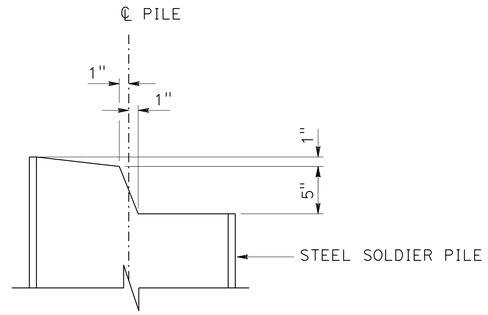


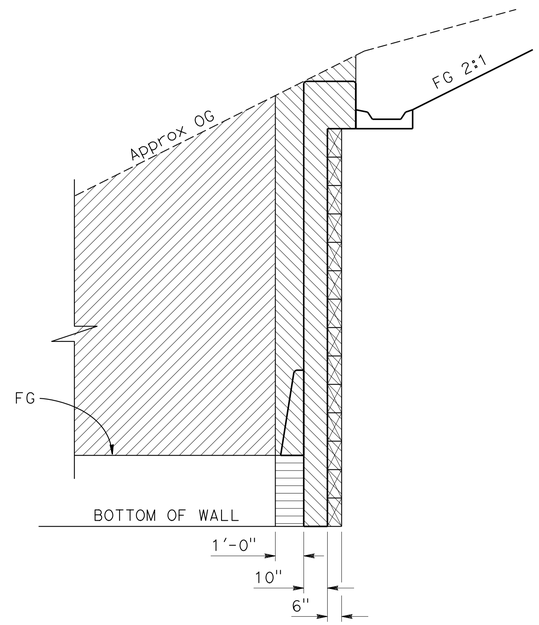
TYPICAL SOLDIER PILE WALL SECTION

3/4" = 1'-0"



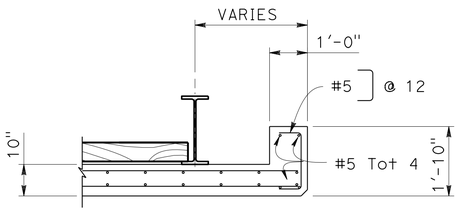
DETAIL A
TOP OF SOLDIER PILE DETAIL

1 1/2" = 1'-0"



LIMITS OF EXCAVATION AND BACKFILL

3/8" = 1'-0"



SOLDIER PILE WALL END WALL DETAIL

NO SCALE

LEGEND:

- Roadway Excavation
- Structure Excavation (Soldier pile wall)
- Structure Backfill (Soldier pile wall)

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

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0281
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2005
RETAINING WALL DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
3-05-14	5-21-14		8-19-13	7	21

FILE => 53-E0281_RW2005-d-walldt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1783	2313

Dawit Tadilla Feleg 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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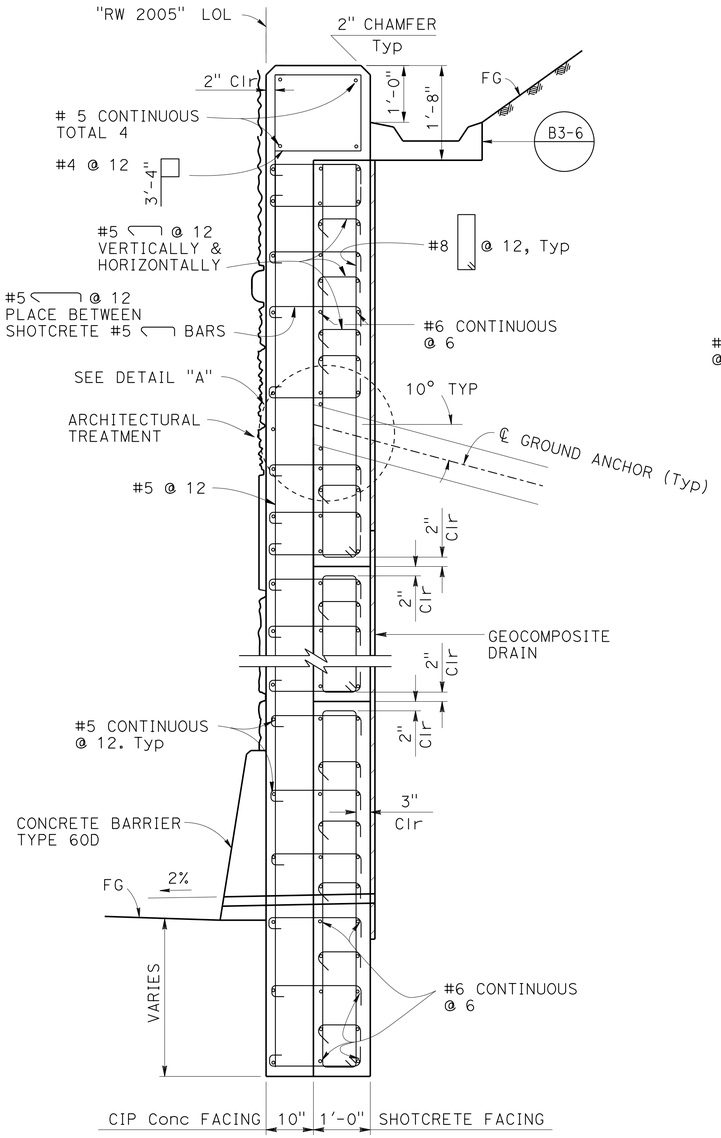
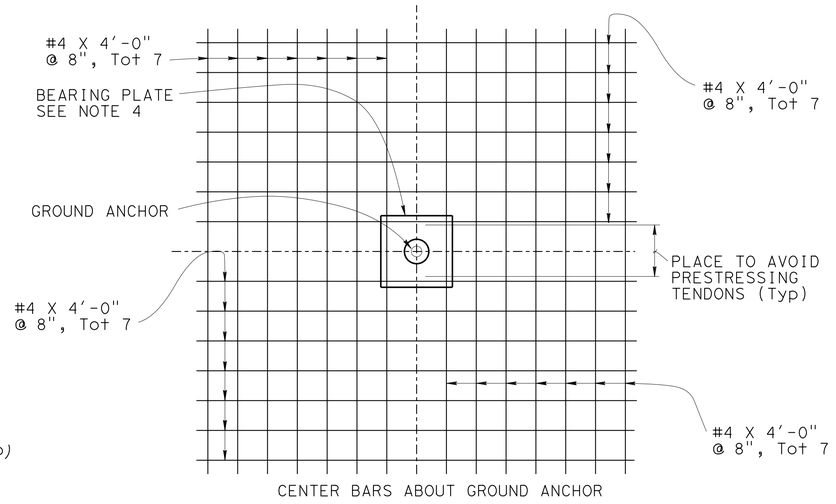


TYPICAL GROUND ANCHOR WALL SECTION

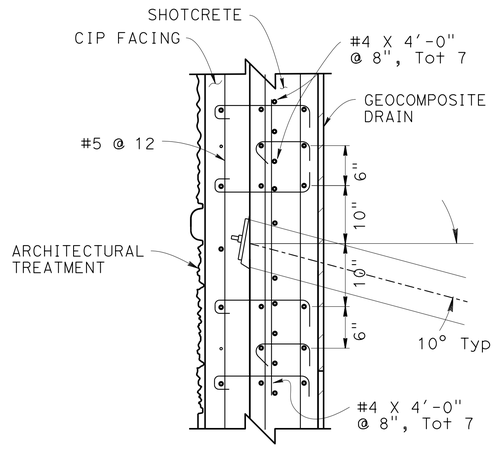
¾" = 1'-0"

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



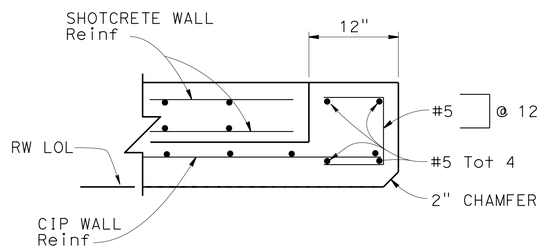
DISTRIBUTION STEEL DETAIL

NO SCALE



DETAIL "A"

NO SCALE



END WALL DETAL

NO SCALE

NOTES:

1. Final Finish Grade after CIP concrete facing is completed
2. For location of construction joint, see "GROUND ANCHOR WALL CONSTRUCTION STAGING" sheet.
3. Number of tiebacks varies as shown on the "RETAINING WALL DETAILS NO. 3" sheet.
4. Bearing plate 14"x14"x2" to be normal to ℄ of tiebacks
5. For Drainage Details see "GROUND ANCHOR WALL DRAINAGE DETAILS"

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0281
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2005
RETAINING WALL DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
3-03-14	5-21-14		7-28-13	8	21

FILE => 53-E0281_RW2005-d-walldt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1784	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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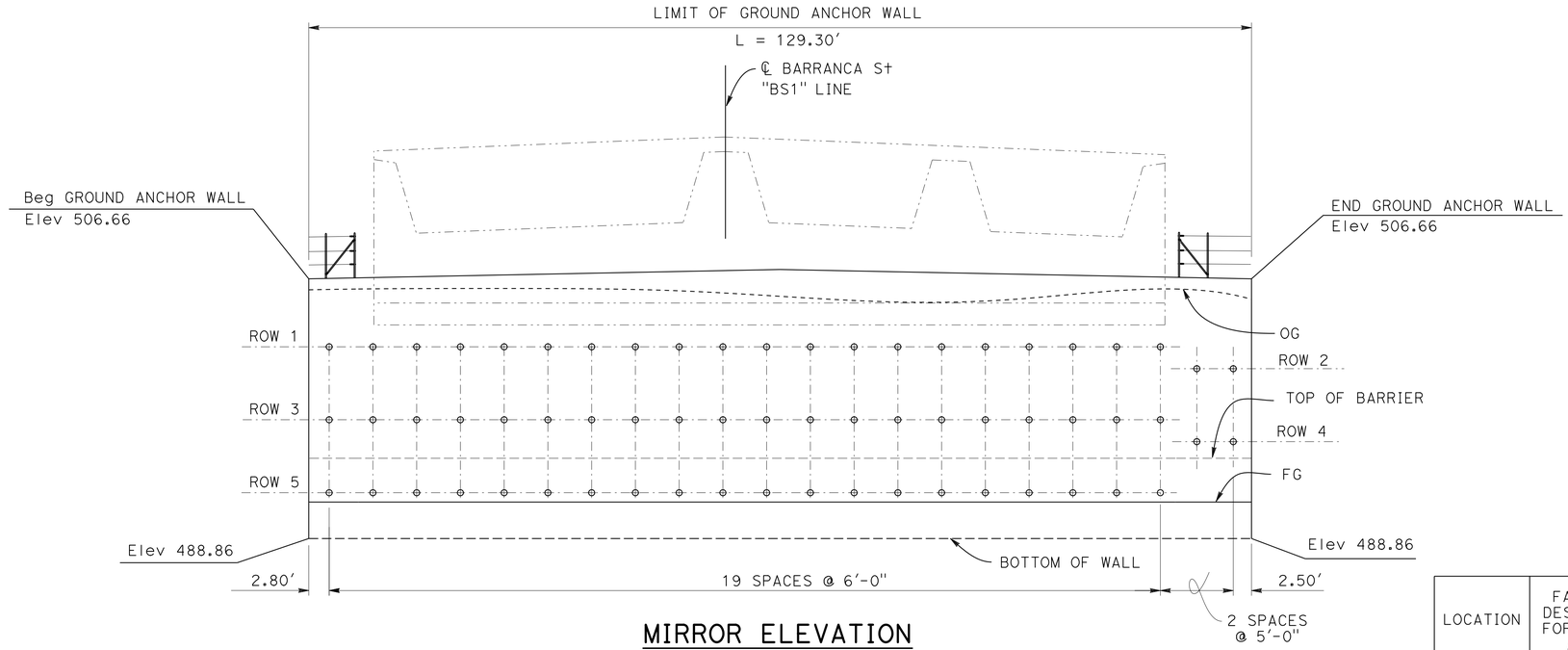
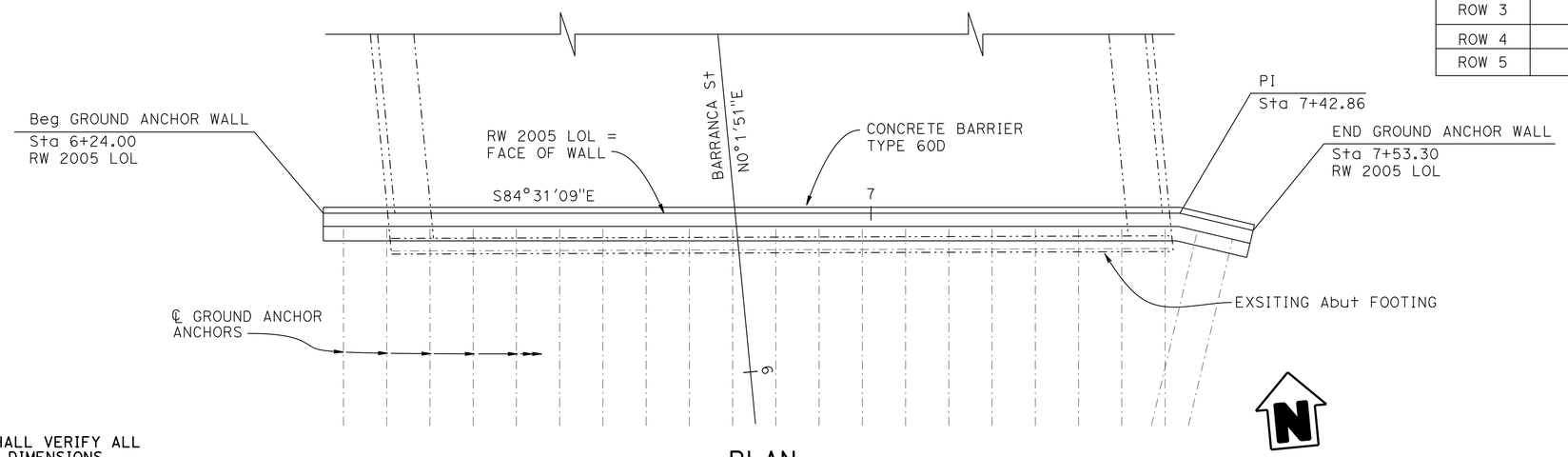


MIRROR ELEVATION

Vert. 1" = 5'
Horiz. 1" = 1'



PLAN

1" = 10'

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

LEGEND:

⊕ LOCATION OF GROUND ANCHOR ASSSEMBLY

STATION 6+24.00 TO 7+53.30

LOCATION	FACTORED DESIGN LOAD FOR GROUND ANCHOR FDL (kips)	FACTORED TEST LOAD FOR GROUND ANCHOR FTL (kips)	LOCK OFF LOAD FOR GROUND ANCHOR LL (kips)	UNBONDED LENGTH (FT)	ELEVATION (FT)
ROW 1	150	150	101	20	502
ROW 2	137	137	92	25	500.5
ROW 3	107	107	72	20	497
ROW 4	50	50	34	25	495.5
ROW 5	50	50	34	20	492

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0281
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2005
RETAINING WALL DETAIL NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 7-31-13 | 8-12-13 | | 7-16-13

SHEET 9 OF 21

FILE => 53-E0281_RW2005-d-wall-dt03.dgn

USERNAME => S125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1785	2313

Dawit Tadilla Feleke 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA

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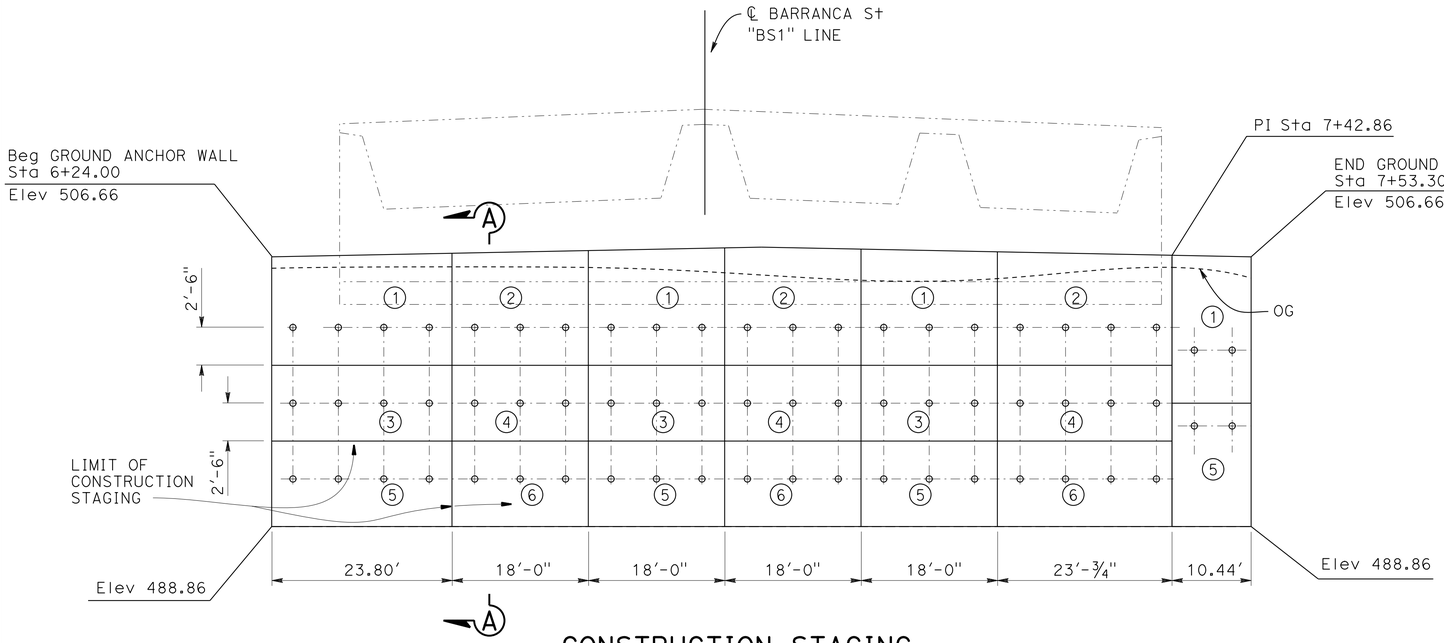
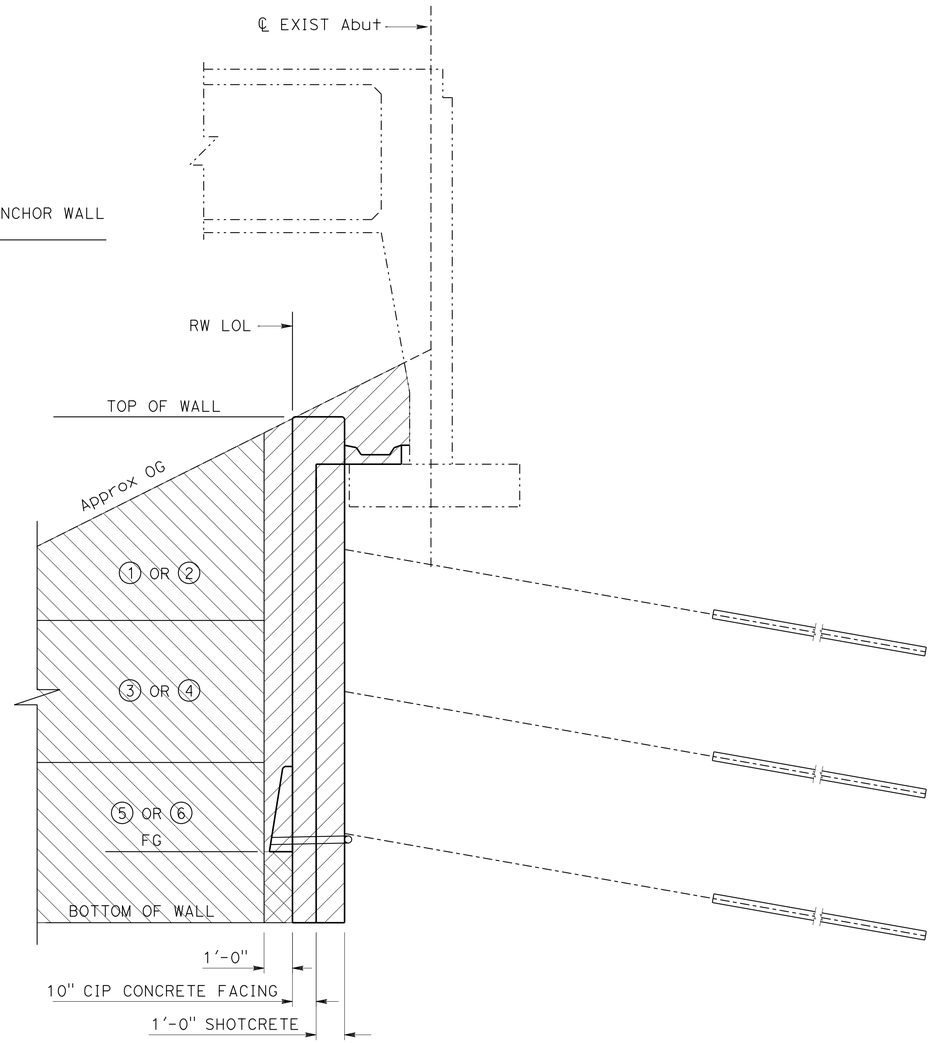


CONSTRUCTION STAGING

Vert. 1" = 5'
Horiz. 1" = 10'



SECTION A-A
LIMITS OF EXCAVATION AND BACKFILL

SCALE ⅜" = 1'-0"

LEGEND:

- ⊕ Location of Ground Anchor Asssembly
- (X) Order of Construction Staging
- Roadway Excavation, See "ROAD PLANS
- Structure Excavation (Ground Anchor Wall)
- Structure Backfill (Ground Anchor Wall)

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

NOTES:

1. Ground anchor not to be proof-tested and locked off until the ground anchor wall shotcrete facing has developed the specified unconfined compressive strength
2. Excavation for the segments not to proceed deeper than the dimension as shown on the plan. The staging in the front of existing abutment not to leave more than half of the critical vertical wall face unsuported by shorcrete at anytime
3. During excavation, monitor vertical settlement at abutment footing and, lateral displacement at top of the wall adjacent to the abutment.
   If any of the following conditions are observed, excavation must be stopped and the engineer be contacted for further direction.
   a. Vertical settlement at the abutment exceeds ½"
   b. Lateral displacement at top of the wall adjacent to the abutment exceeds ½"

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0281
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2005
GROUND ANCHOR WALL CONSTRUCTION STAGING

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
5-28-14	7-23-14	7-24-14		10	21

FILE => 53-E0281_RW2005-e-conststage.dgn

USERNAME => s129624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1786	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp12-31-14 — CIVIL — STATE OF CALIFORNIA

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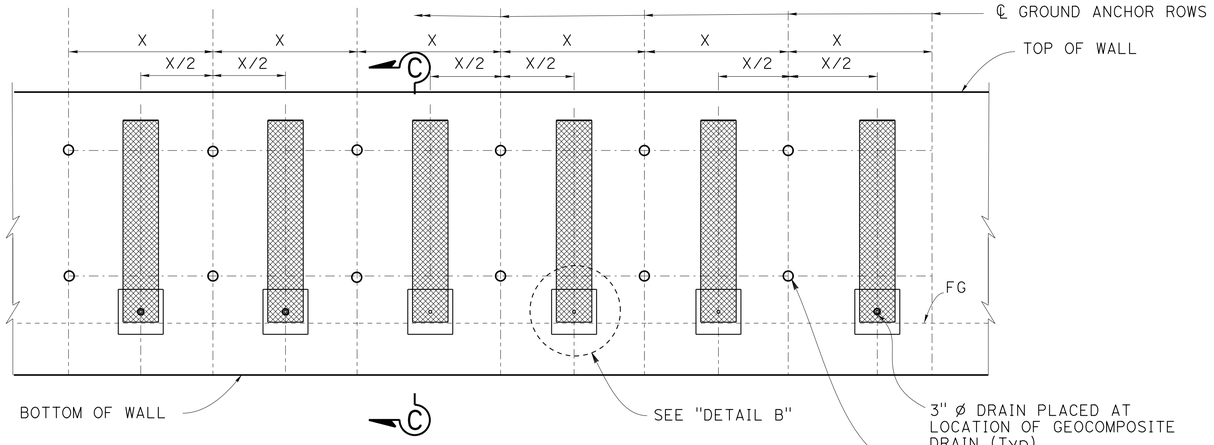
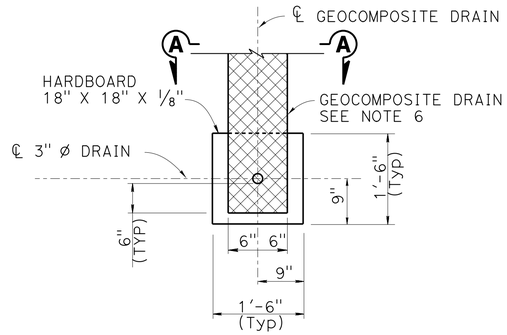


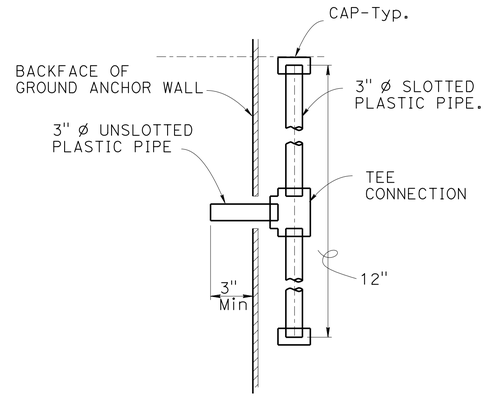
PART ELEVATION GEOCOMPOSITE DRAIN

NO SCALE



DETAIL B

NO SCALE



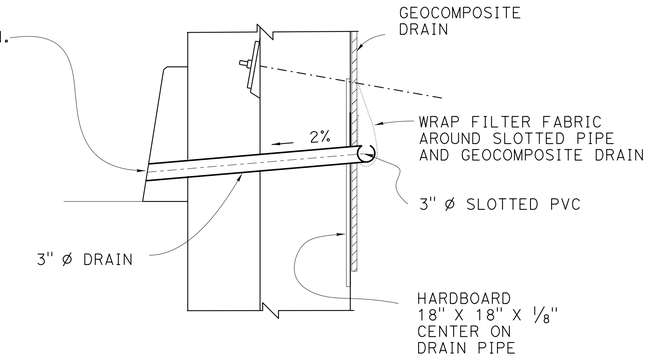
SECTION A-A

1" = 1'-0"

NOTES:

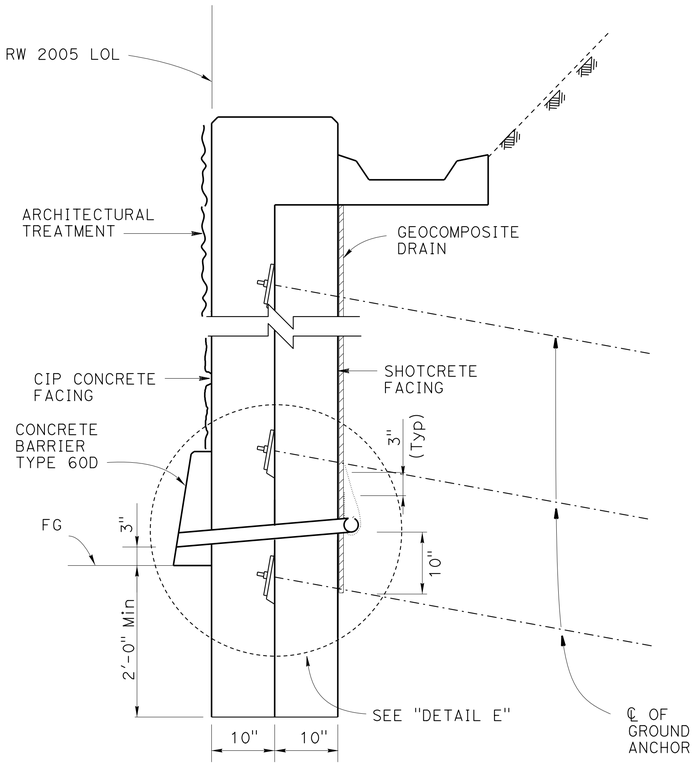
1. Center Geocomposite Drain Ground Anchor Assemblies.
2. Sawcut in Drain Pipe should maintain a snug fit for Drain Pipe connection to Geocomposite Drain.
3. 12" Min Splice length required for Geocomposite Drains.
4. Required Min clearance between bottom of Ground Anchor wall and bottom of geocomposite drain is 5"
5. X-distance from ℄ Ground Anchor to ℄ Ground Anchor
6. Geocomposite drain strip per Section 88 Geosynthetics of the Standard Specifications

PLACE PIPE THROUGH HARDBOARD. REMOVE CORE OF GEOCOMPOSITE DRAIN AT LOCATION OF PIPE. DO NOT DAMAGE FILTER FABRIC ON SOIL SIDE OF VERTICAL DRAIN.



DETAIL E

NO SCALE



SECTION C-C

1" = 1'-0"

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

DESIGN	BY Homa Iraninejadian	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0281
DETAILS	BY Lan T Tran	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2005

GROUND ANCHOR WALL DRAINAGE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
7-25-13	3-03-14	5-21-14	5-28-14	11	21

FILE => 53-E0281_RW2005-f-tbk drainat.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1787	2313

Dawit Tadille Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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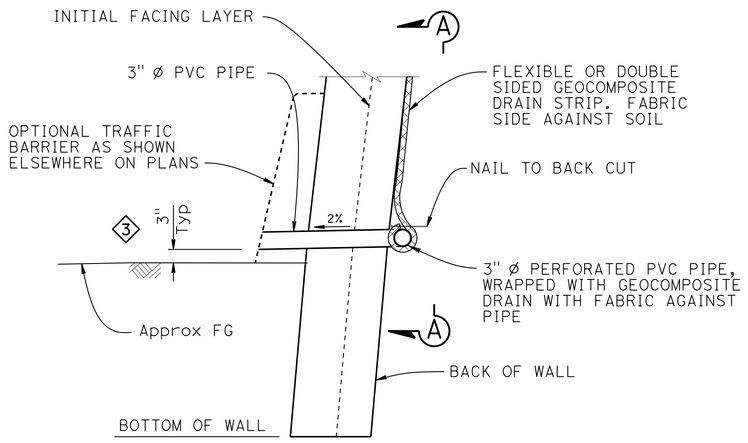
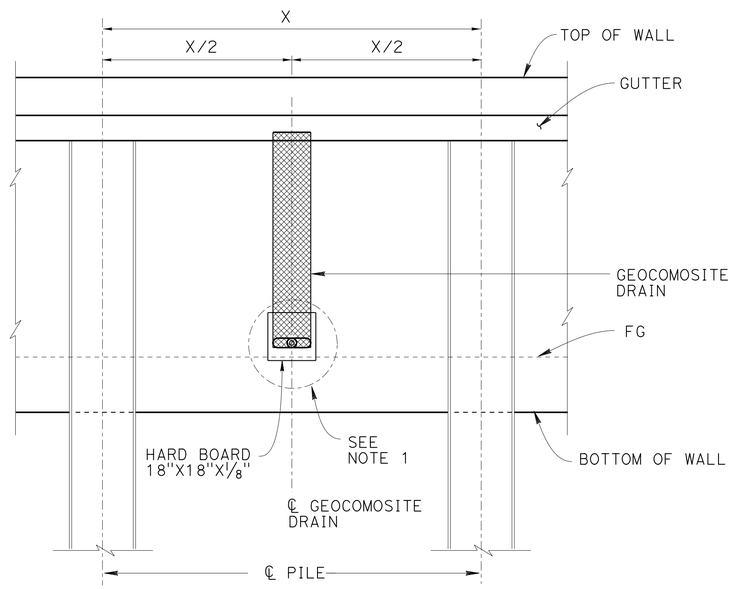


WALL DRAIN DETAIL AT WEEPHOLE OPTION A

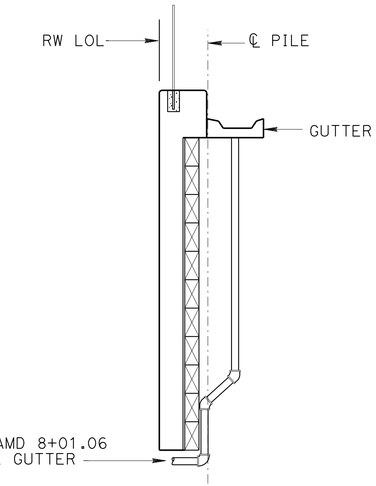
No scale



NOTES:
1. See "DETAIL B" of "TIEBACK WALL DRAINAGE DETTAILS" sheet.
2. X - DISTANCE FROM ℄ COLUMN TO ℄ COLUMN

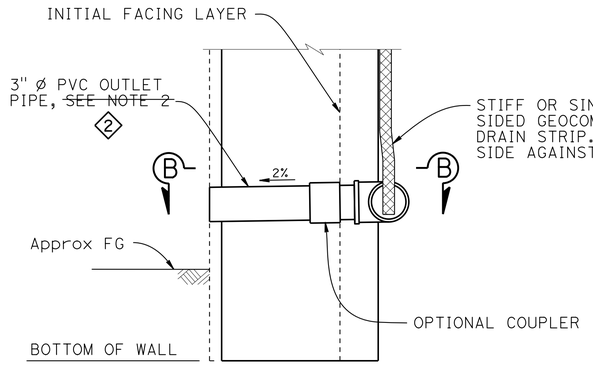
① PAR ELEVATION DRAIN AT SOLDIER PILE WALL

1/2" = 1'-0"



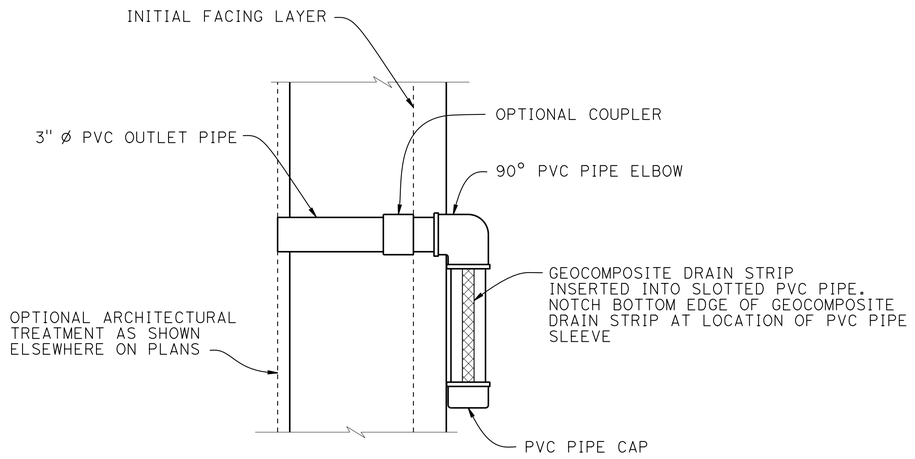
① WALL DRAIN DETAIL AT BEGIN AND END RETAINING WALL

3/8" = 1'-0"



WALL DRAIN DETAIL AT WEEPHOLE OPTION B

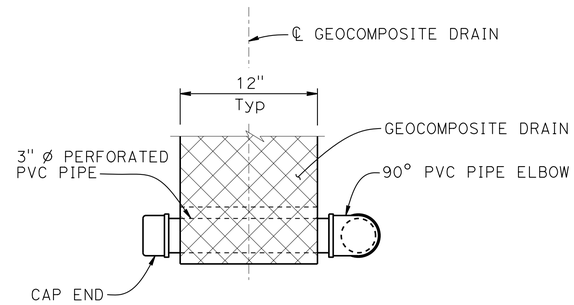
No scale



SECTION B-B

No Scale

NOTES:
1. Geocomposite drain strip per Section 88 Geosynthetics of the Standard Specifications
2. ~~2. Elevation of drains and weepholes as shown elsewhere on plans~~



VIEW A-A

No scale

REVISED STANDARD DRAWING

FILE NO. xs12-021

APPROVAL DATE July 2011

① Added Detail
② Deleted Note
③ Modified details

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
SODIER PILE WALL DRAINAGE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT:3622
PROJECT NUMBER & PHASE:0713000007 1 CONTRACT NO.:1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
4-05-13	5-21-13	6-12-13		12	21

FILE => 53-E0281_RW2005-g-sol draindt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1788	2313

Dawit Tadille Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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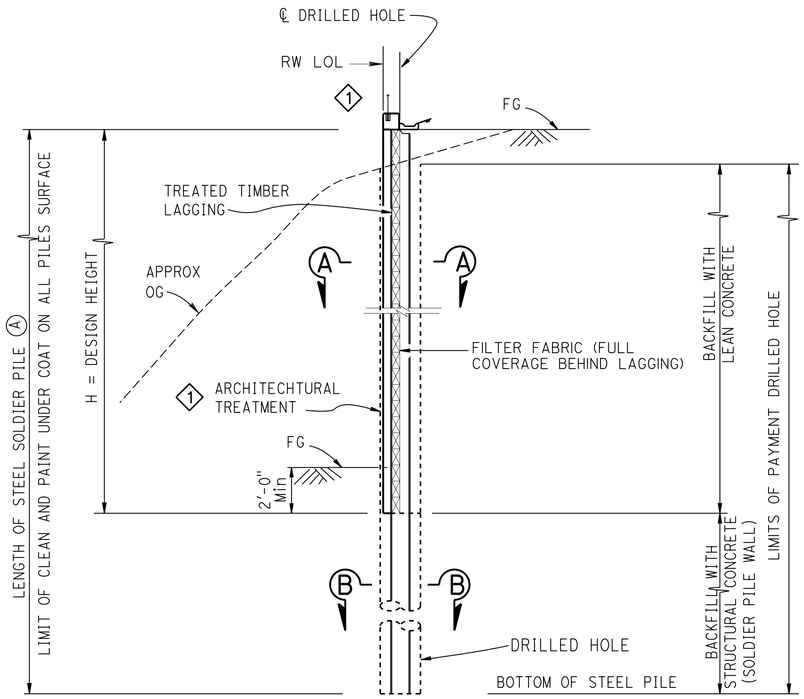


FOR DETAILS NOT SHOWN, SEE "PROJECT PLANS"

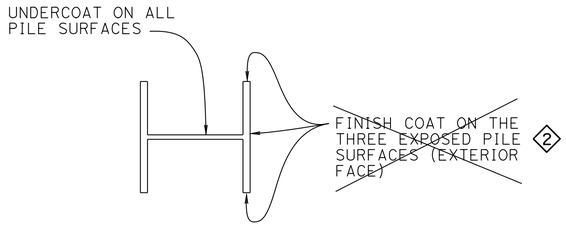
TYPICAL SECTION

NO SCALE

NOTE:

(A) ~~Clean and paint Steel Soldier Pile from top of pile to 5 feet, Min below bottom of lagging.~~ 2

For lagging details see "SOLDIER PILE WALL LAGGING DETAILS"



LIMITS OF CLEAN & PAINT STEEL SOLDIER PILE

NO SCALE

GENERAL NOTES

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

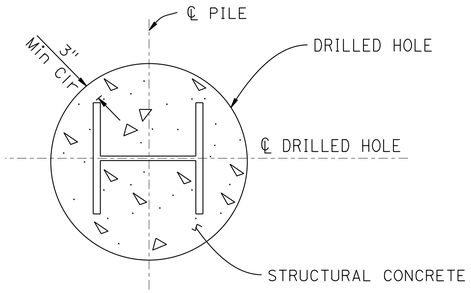
LIVE LOAD: 112 psf equivalent to 2 feet soil weight

SOIL PARAMETERS: (For determination of Design Lateral Earth Pressures)
Backfill soil weight = 120 lb/ft^3
Friction Angle = 32 °
Active Pressure coefficent, Ka = 0.469
Slope Angle = 26.5 °

STEEL SOLDIER PILES: ASTM A572/A, ASTM 572M Grade 50 Min, or ASTM A36/A36M

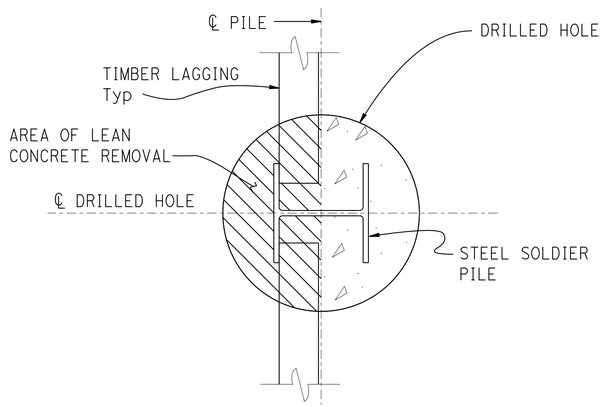
REINFORCED CONCRETE: f'c = 4000 psi
fy = 60 ksi

STRUCTURAL TIMBER: Treated Douglas Fir, Grade No. 1 or better
Timber to be full sawn



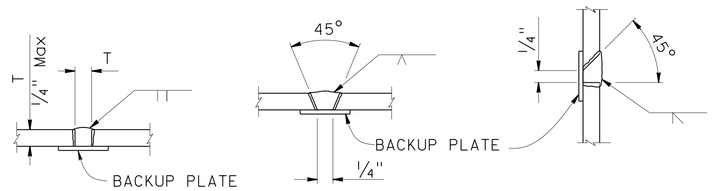
SECTION B-B

NO SCALE



SECTION A-A

NO SCALE



SQUARE GROOVE SINGLE VEE-GROOVE SINGLE BEVEL-GROOVE

PILE WELDING DETAIL-BUTT JOINTS

NO SCALE

NOTES:

1. Single vee-groove and square groove permitted for all positions
2. Single bevel-groove permitted for horizonal joints only

REVISED STANDARD DRAWING

FILE NO. xs12-050

APPROVAL DATE January 2012

1 Modified detail
2 Deleted Note

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
SOLDIER PILE WALL DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
01-13-14		6-12-13	8-16-13	13	21

FILE => 53-E0281_RW2005-h-sol wallDt.dgn

USERNAME => s1256624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1789	2313

Dawit Tadilla Ferez 10/01/14
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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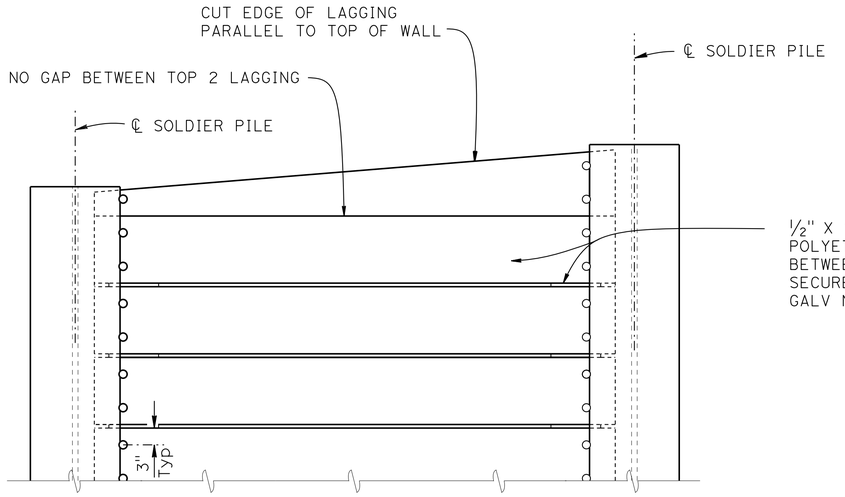
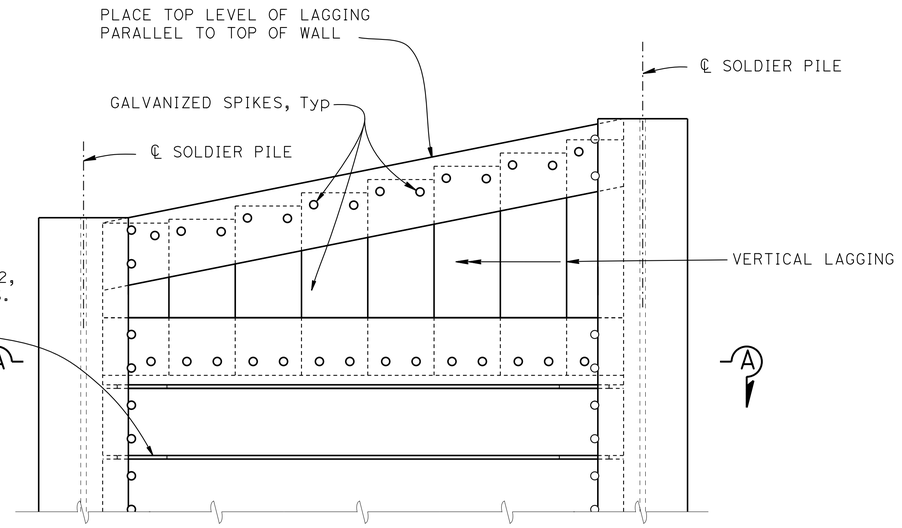


PART ELEVATION

LAGGING DETAILS (ALTERNATIVE 1)

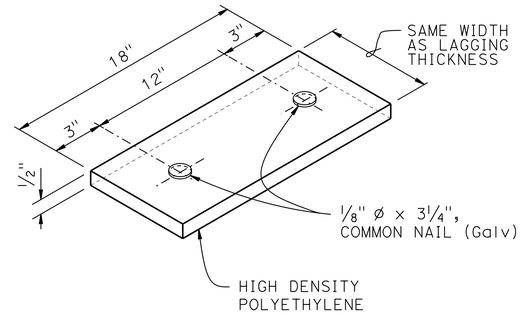
NO SCALE



PART ELEVATION

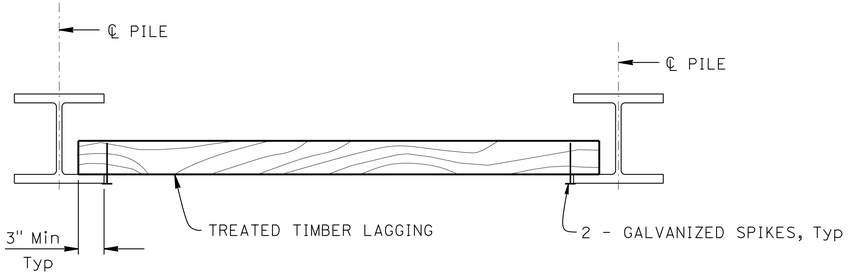
LAGGING DETAILS (ALTERNATIVE 2)

NO SCALE



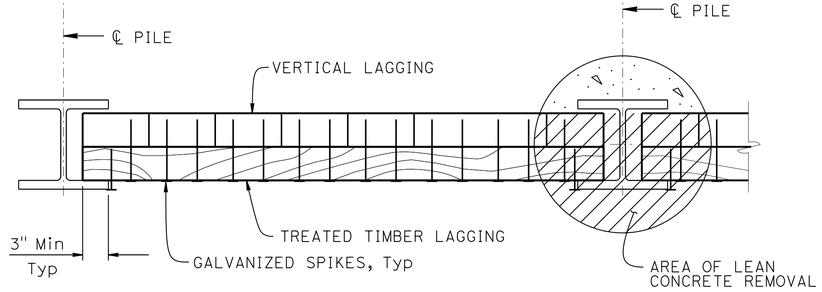
SHIM DETAIL

NO SCALE



PART PLAN

NO SCALE



SECTION A-A

NO SCALE

NOTES:

1. No clipping of timber lagging corners allowed
2. Use 16d Galv wire spikes for 4 x 12 lagging, and 40d Galv wire spikes for 6 x 12 lagging
3. Spikes shall not be bent

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0281	RETAINING WALL NO. 2005
FILE NO. xs12-080	APPROVAL DATE January 2012			POST MILE 38.01	SOLDIER PILE WALL LAGGING DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 14 OF 21

FILE => 53-E0281_RW2005-1-sol laggdt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

GENERAL NOTES

DESIGN:

AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments.

PRESTRESSING STEEL:

Bars - ASTM Designation: A722 Type II (150 ksi)

Strand Tendons-ASTM Designation: A416 (270 Ksi Low Relaxation steel)

FTL = Factored Test Load per anchor (Kips)

fpu = Minimum tensile strength of prestressing steel

As = Minimum cross sectional area of prestressing steel in ground anchor (square inch)

$$As(Min) = \frac{1.0\ FTL}{0.75\ fpu} \quad \text{(Strands)}$$

$$As(Min) = \frac{1.0\ FTL}{0.80\ fpu} \quad \text{(Bars)}$$

NOTES:

(A) Level of initial grouting for drilled hole 6" in diameter or smaller

(B) Level of secondary grouting

(C) Level of initial grouting inside corrugated sheathing

(D) Bonded length shall be determined by the contractor

(E) For unbonded length, see PROJECT PLANS

(F) For inclination, see PROJECT PLANS

(G) Face of Wall Excavation

NOTES:

1. Anchorage enclosure shall only be used when anchor head assembly is not enclosed in concrete.
2. Anchorage enclosure shall have provisions to allow injecting grout at low end and venting at high end. Galvanize after fabrication.
3. Silicone sealant to cover full width of flange.
4. Steel tube (Min thickness = 1/4") welded to bearing plate. Galvanize assembly after fabrication
5. Steel tube welded to bearing plate. Inside diameter of steel tube (Min thickness = 1/4") to be 1" greater than outside diameter of smooth sheathing.
6. Galvanize assembly after fabrication.
7. For other wall details, see PROJECT PLANS.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1790	2313

Dawit Tadille Gelaw 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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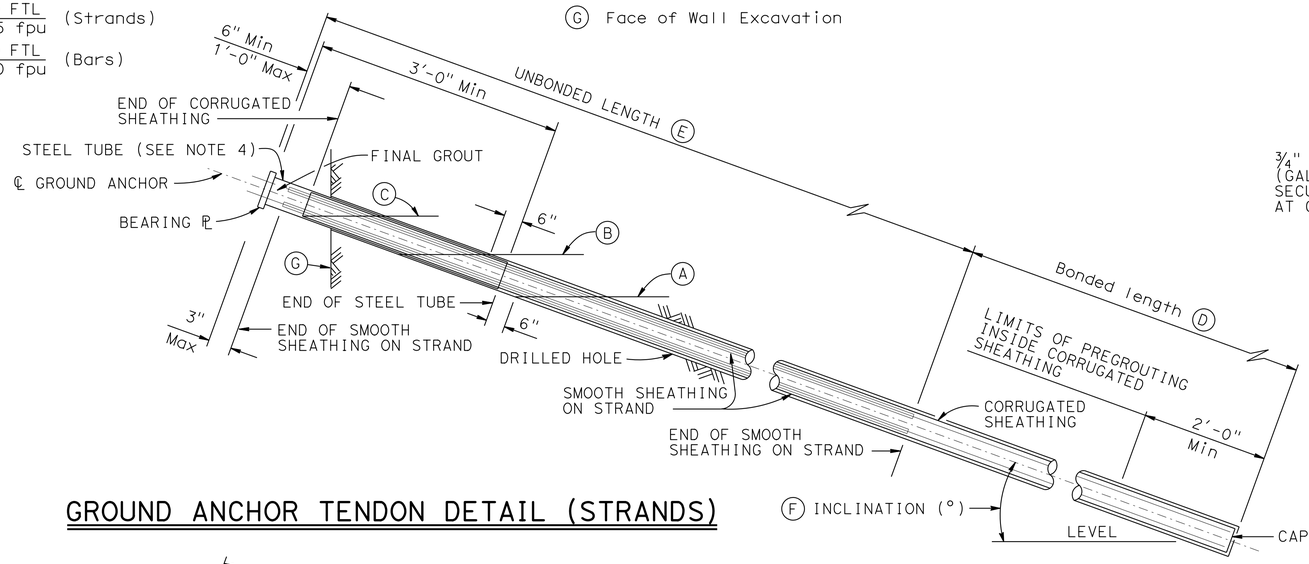
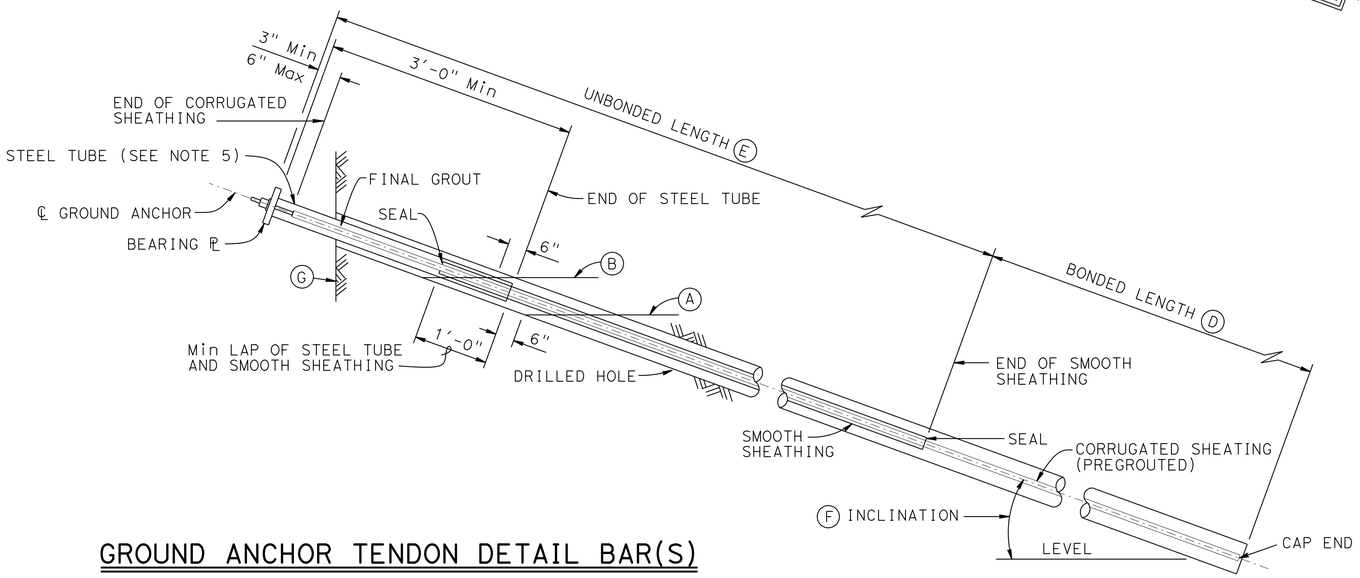
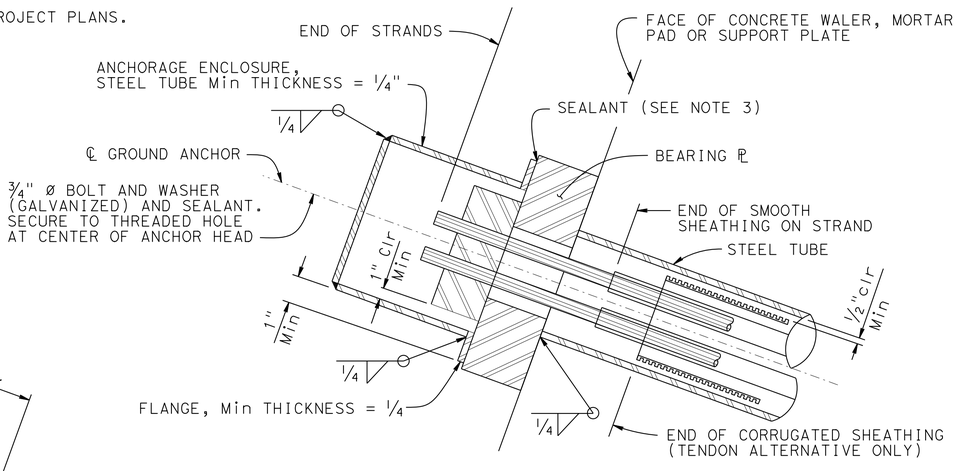


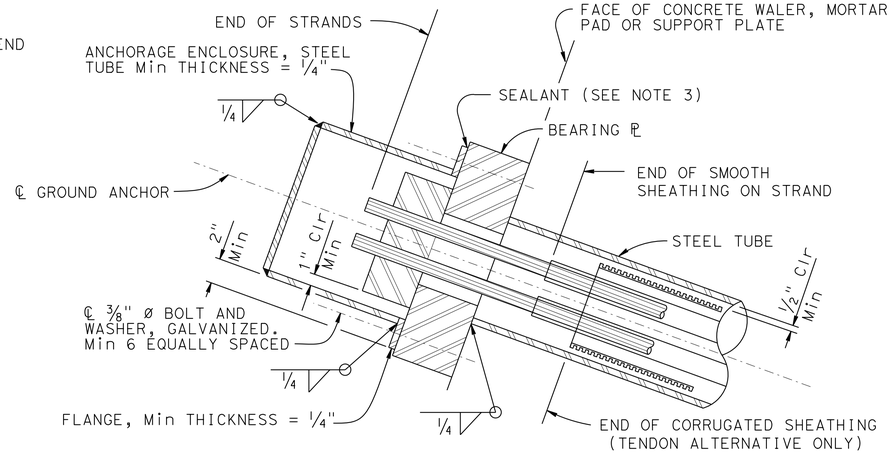
GROUND ANCHOR TENDON DETAIL (STRANDS)



GROUND ANCHOR TENDON DETAIL BAR(S)



ALTERNATIVE X



ALTERNATIVE Y

ANCHORAGE ENCLOSURE DETAILS

NO SCALE

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E0281	RETAINING WALL NO. 2005
FILE NO. xs12-040	APPROVAL DATE January 2012			POST MILE 38.01	SUB HORIZONTAL GROUND ANCHOR DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET 15 | OF 21

FILE => 53-E0281_RW2005-j- grd anchordt.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1791	2313

Dawit Tadilla Feyissa 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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*MODULES USED

P1, P1M, P2, P3, P3M, P4, P5, P6, P7, P8, P9

P6

CONTROL POINT

BEGIN LAYOUT OF MODULES @ CONTROL POINT AND CONTINUE TO PLACE PLUMB EACH MODULE AT CORRESPONDING MATCHLINES FOR FULL LENGTH OF RETAINING WALL.

℄ BARRANCA St "BS1" LINE

TOTAL LENGTH MEASURED ALONG RW 2005 LOL 377′-03/4"

*EASE TRIM FRACTURED RIB FROM POINT TO POINT AS SHOWN WITH FREEHAND RADIAL EASING AND JAGGED CUTS TO MIMIC AUTHENTIC MOUNTAIN SKYLINE

77" 39" 43" 38" 45" 27" 72" 38" 32" 32½" 36½" 59" 5′-7" 24′-2" 24" 55" 39" 58" 36" 101" 15" 57½"

28½" 31"

16′

TOP OF CABLE RAILING

SMOOTH CONCRETE

SMOOTH CONCRETE

TOP OF WALL

0" 12" 14" 23" 28" 34" 19" 17" 14" 15" 5" 0" 0" 25½" 23½" 8½" 0" 0" 9¼" 7¼"

BEGIN RW 2005
Sta 4+25.00

6′-7⅝"

MATCHLINE A

P5 P6 P7 P8 P9 P3 P4 P5 P6 P7 P8 P9 P3 P3M P1 P1M P2 P1 P1M P2 P3 P4 P5

8′

FRACTURED GRANITE TEXTURE (Typ)

RANDOM ROCK TEXTURE (Typ)

FG @ RW LOL

5½" BAND (SEE PATTERN MODULE TYPICAL SECTION)

MATCHLINE A

3′

1-1"

0"

TOP OF CABLE RAILING

FRACTURED RIB TEXTURE (Typ)

TOP OF WALL

END RW 2005
Sta 8+02.06

P6 P7 P8 P9 P3 P3M P1 P1M P2 P1 P1M P3 P4 P5 P6 P7 P8 P9 P1M P1M P1M P1 P1M P1M

RANDOM ROCK TEXTURE (Typ)

FG @ RW LOL

TOP OF CONCRETE BARRIER TYPE 60D

DEVELOPED ELEVATION - RW 2005 ARCHITECTURAL TREATMENT

NO SCALE

	BY	CHECKED
DESIGN	Valerie Moore	Edward B Mu
DETAILS	D. Wooten	Edward B Mu
QUANTITIES	Homa Iraninejadian	Eddy Scott

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO. 53E0281
POST MILE 38.01

RETAINING WALL NO. 2005
ARCHITECTUAL TREATMENT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
3-15-13	4-08-13	5-08-13	5-21-14	16	21

FILE => 53-E0281_RW2005-1-arch.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

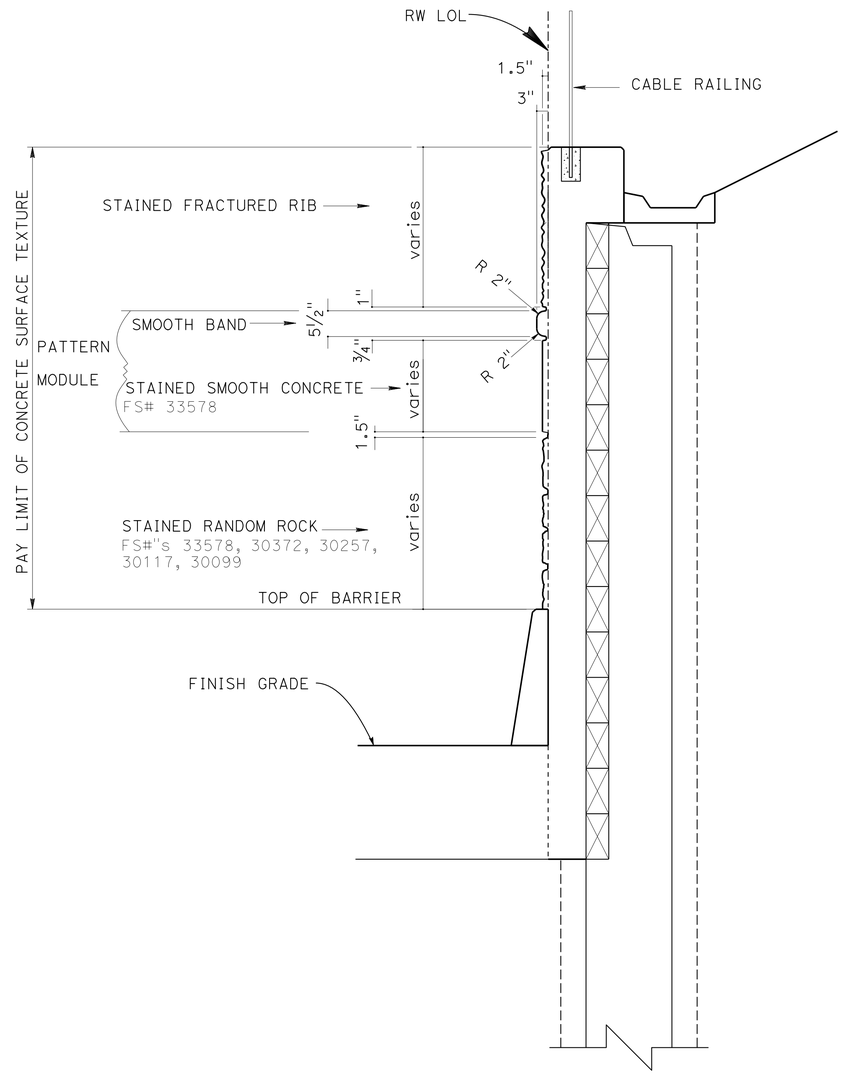
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1792	2313

Dawit Tadille Feyo 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

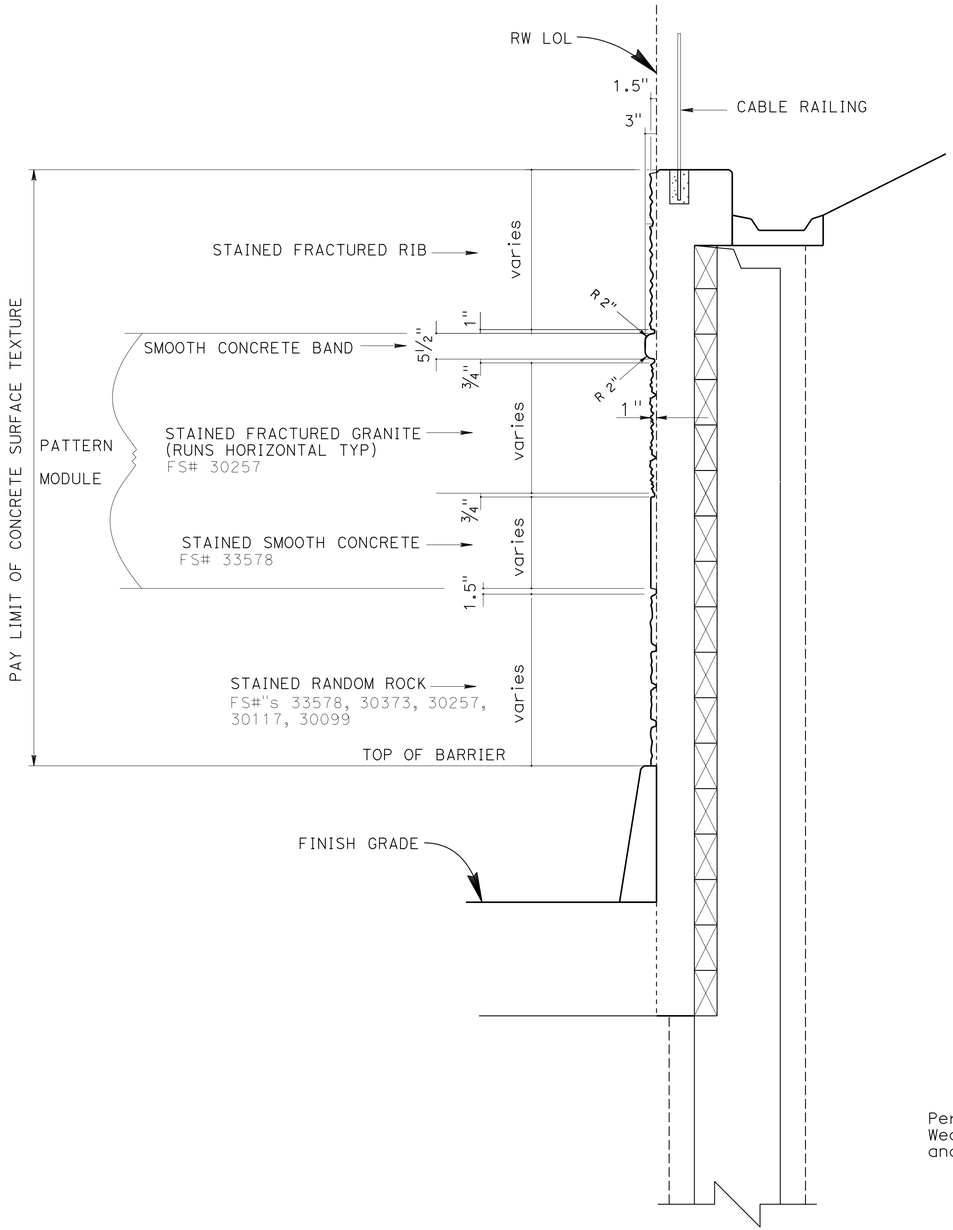
REGISTERED PROFESSIONAL ENGINEER — Dawit T Worku — No. C60711 — Exp 12-31-14 — CIVIL — STATE OF CALIFORNIA

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



TYPICAL SECTION B-B

NO SCALE

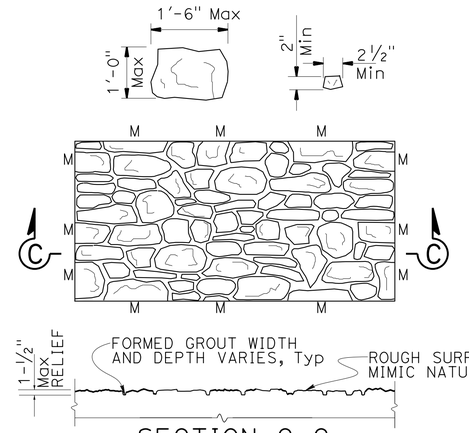


TYPICAL SECTION A-A

NO SCALE

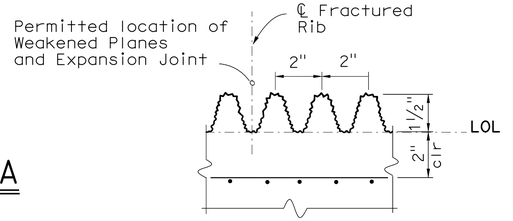
NOTE:
Seamless random rock pattern to have a minimum of 2 to maximum of 4 match points (denoted by "M") for each side (top to bottom and side to side).

* STAINED RANDOM ROCK
FS# 33578, 30372, 30257, 30117, 30099
FS (denotes Federal Standard Color)



SECTION C-C
RANDOM ROCK TEXTURE

NO SCALE



FRACTURED RIB TEXTURE

NO SCALE

RW 2005 ARCHITECTURAL TREATMENT - SECTIONS

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY D. Wooten	CHECKED Edward B Mu	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott	BRIDGE NO. 53E0281 POST MILE 38.01

RETAINING WALL NO. 2005
ARCHITECTURAL TREATMENT DETAIL NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1
CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
7-23-14		7-28-14	9-24-14	17	21

FILE => 53-E0281_RW2005-1-archdt01.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1793	2313

Dawit Tadilla Worku 10/01/14
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp12-31-14
CIVIL
STATE OF CALIFORNIA

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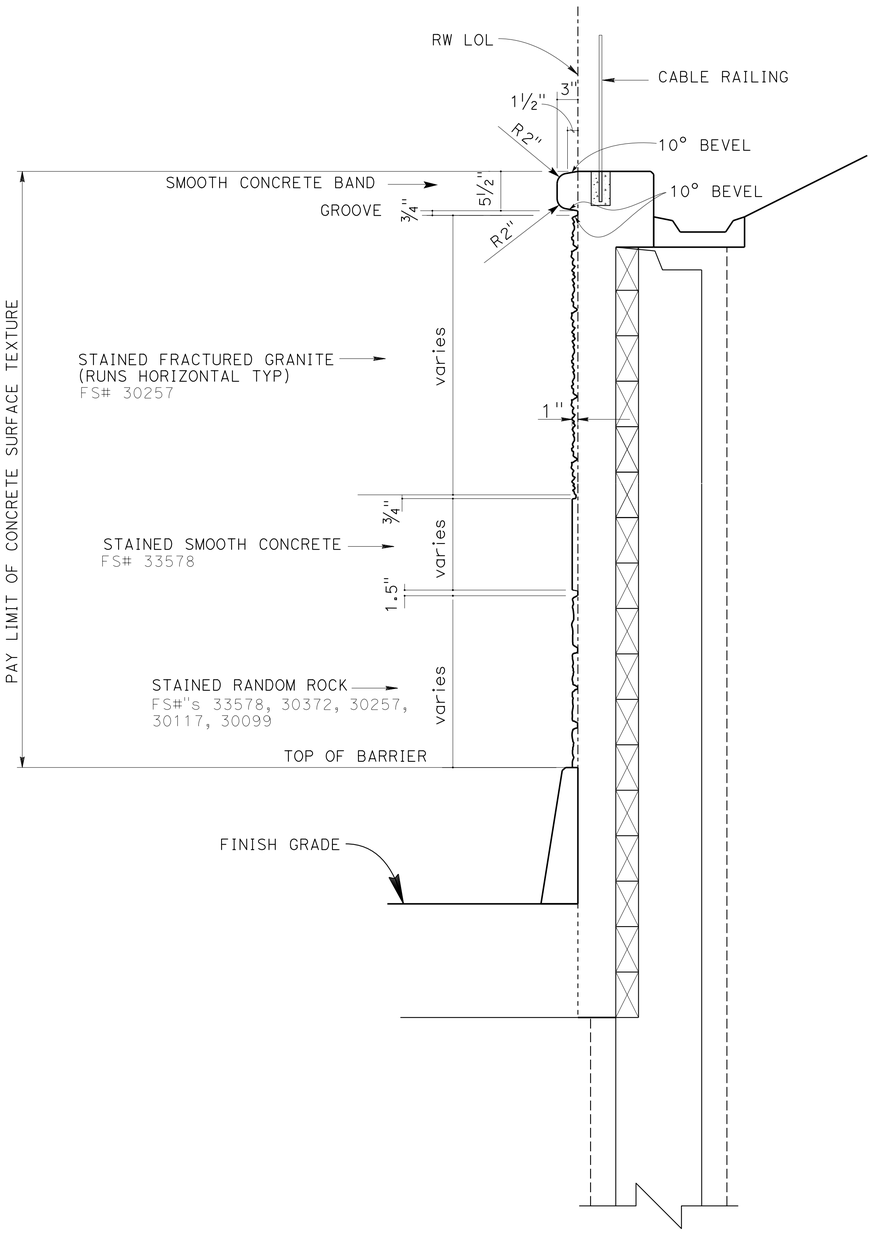
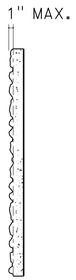


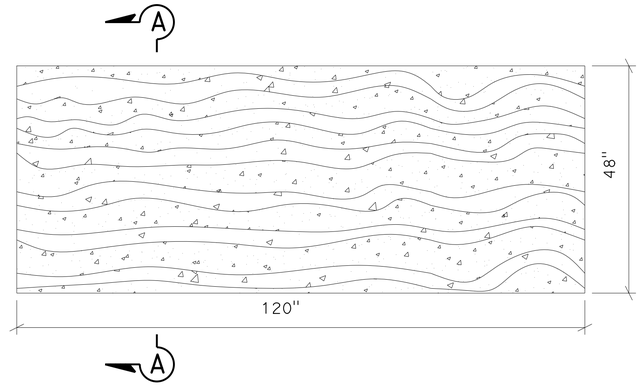
SECTION - C-C

No scale



SECTION - A-A

NO SCALE



FRACTURED GRANITE TEXTURE

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0281
DETAILS	BY D. Wooten	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2005

ARCHITECTURAL TREATMENT DETAIL NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
5-23-14	7-23-14		9-05-14	18	21

FILE => 53-E0281_RW2005-1-archdt02.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

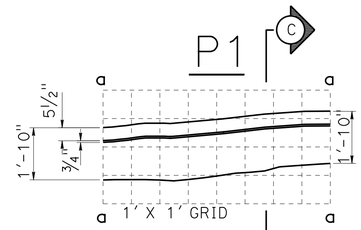
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1794	2313

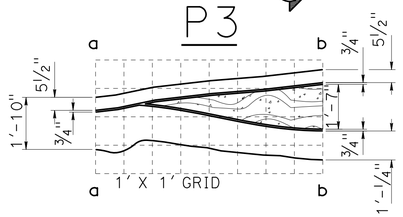
Dawit Tadilla Ejigu 10/01/14
REGISTERED CIVIL ENGINEER DATE

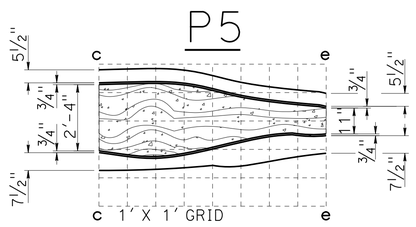
6-1-15
PLANS APPROVAL DATE

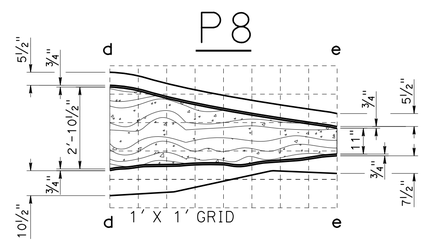
REGISTERED PROFESSIONAL ENGINEER
Dawit T Worku
No. C60711
Exp 12-31-14
CIVIL
STATE OF CALIFORNIA

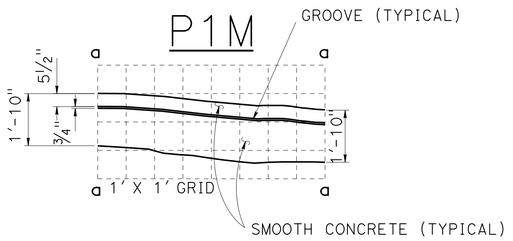
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

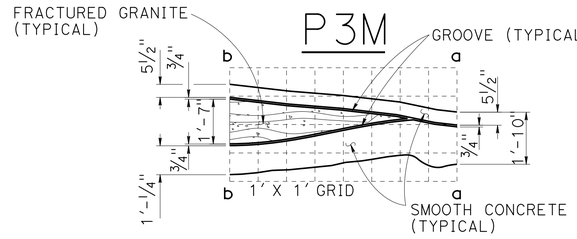


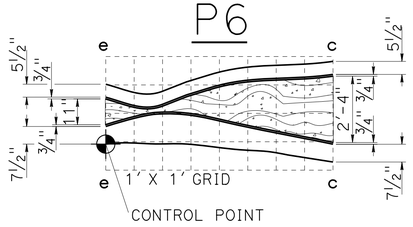


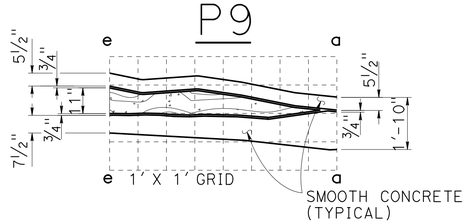


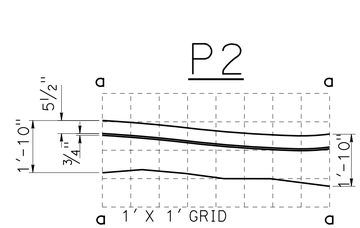


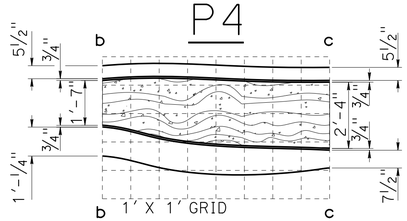


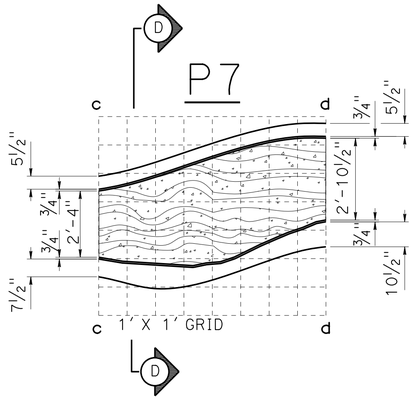












NOTE:

1. Fracture Granite Texture at match lines a-a, b-b, c-c, d-d, e-e must match seamlessly between the interchangeable modules.

INTERCHANGABLE PATTERN MOTIF MODULES

NO SCALE

DESIGN	BY Valerie Moore	CHECKED Edward B Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53E0281
DETAILS	BY D. Wooten	CHECKED Edward B Mu			POST MILE 38.01
QUANTITIES	BY Homa Iraninejadian	CHECKED Eddy Scott			

RETAINING WALL NO. 2005

ARCHITECTURAL TREATMENT DETAIL NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3622
PROJECT NUMBER & PHASE: 0713000007 1 CONTRACT NO.: 1193U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
				19	21

FILE => 53-E0281_RW2005-1-archdt03.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1795	2313

CERTIFIED ENGINEERING GEOLOGIST — 1-10-14 DATE

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

6-1-15
PLANS APPROVAL DATE

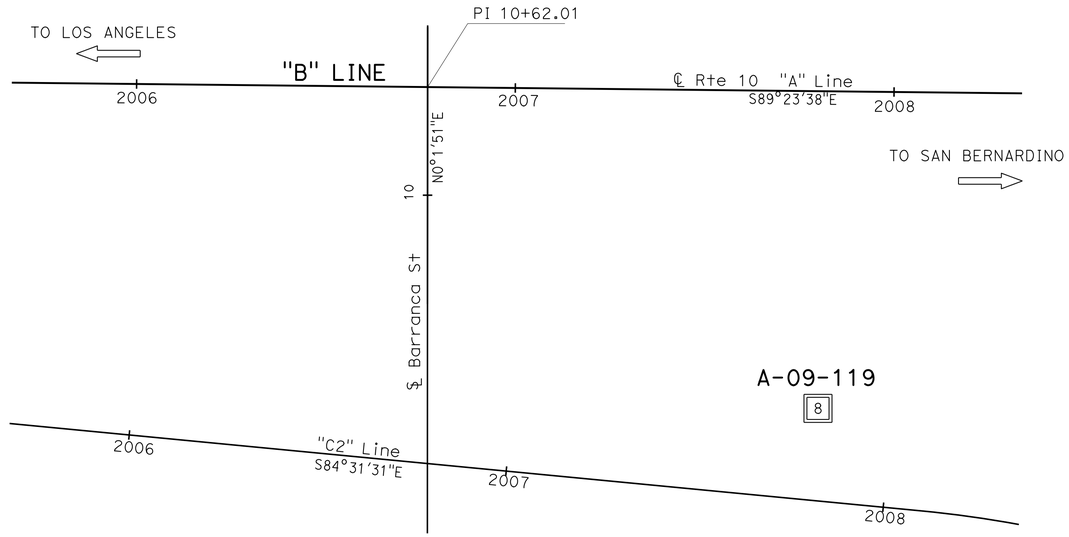
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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.

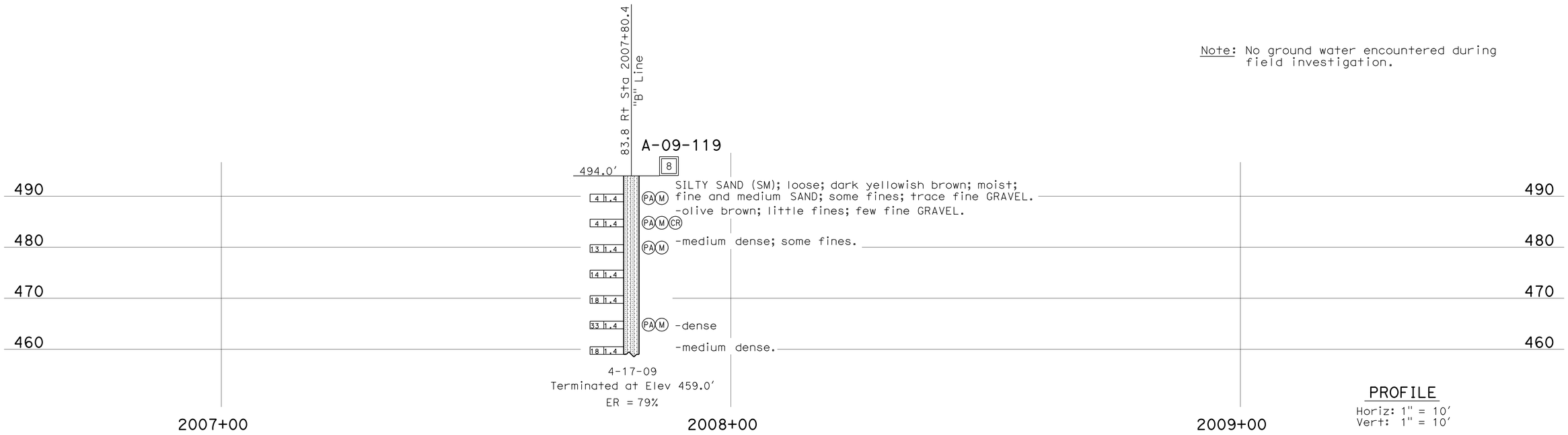
BENCH MARK

SUHV 5051 Elev 494.488′
Fd 2x2&T E/B 10 Shldr
Barranca St Off Rmp "B" Line
Sta 2007+84.76, 78.688′ Rt
NAVD88



PLAN
1" = 20′

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 20	BRIDGE NO. 53E0281	RETAINING WALL NO. 2005
FUNCTIONAL SUPERVISOR NAME: D. Jang	DRAWN BY: I.G-Remmen; CHECKED BY: H. Liu	FIELD INVESTIGATION BY: S. Cho		POST MILE 37.3	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 →

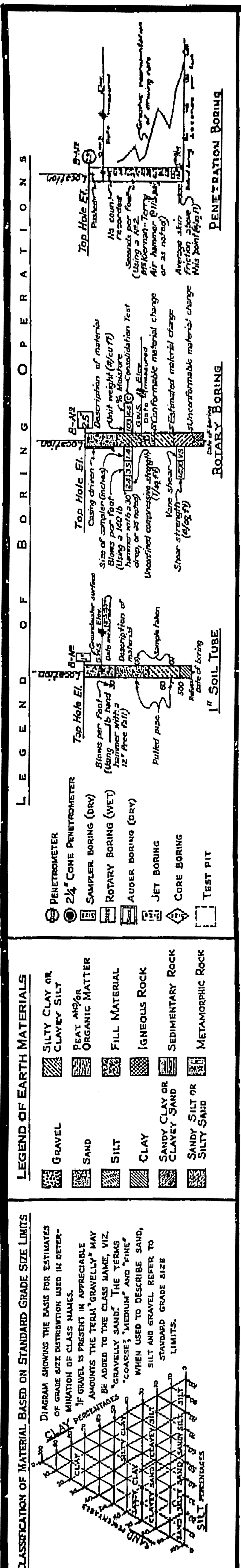
REVISION DATES				SHEET	OF
11-15-13				20	21

FILE => 53-E0281_RW2005-z-ltb01.dgn

USERNAME => s1256c24 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/40.9	562	749

R. E. Havenkamp
DESIGN SECTION SUPERVISOR — REGISTERED CIVIL ENGINEER
DATE APPROVED November 29, 1971



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.

FIELD STUDY	By R.E. CORBALEY	7-10-69
DRAWN	By E.S. JIMENEZ	7-29-69
CHECKED	By D. MIKE	

Approval Recommended by [signature] Engineering Geologist

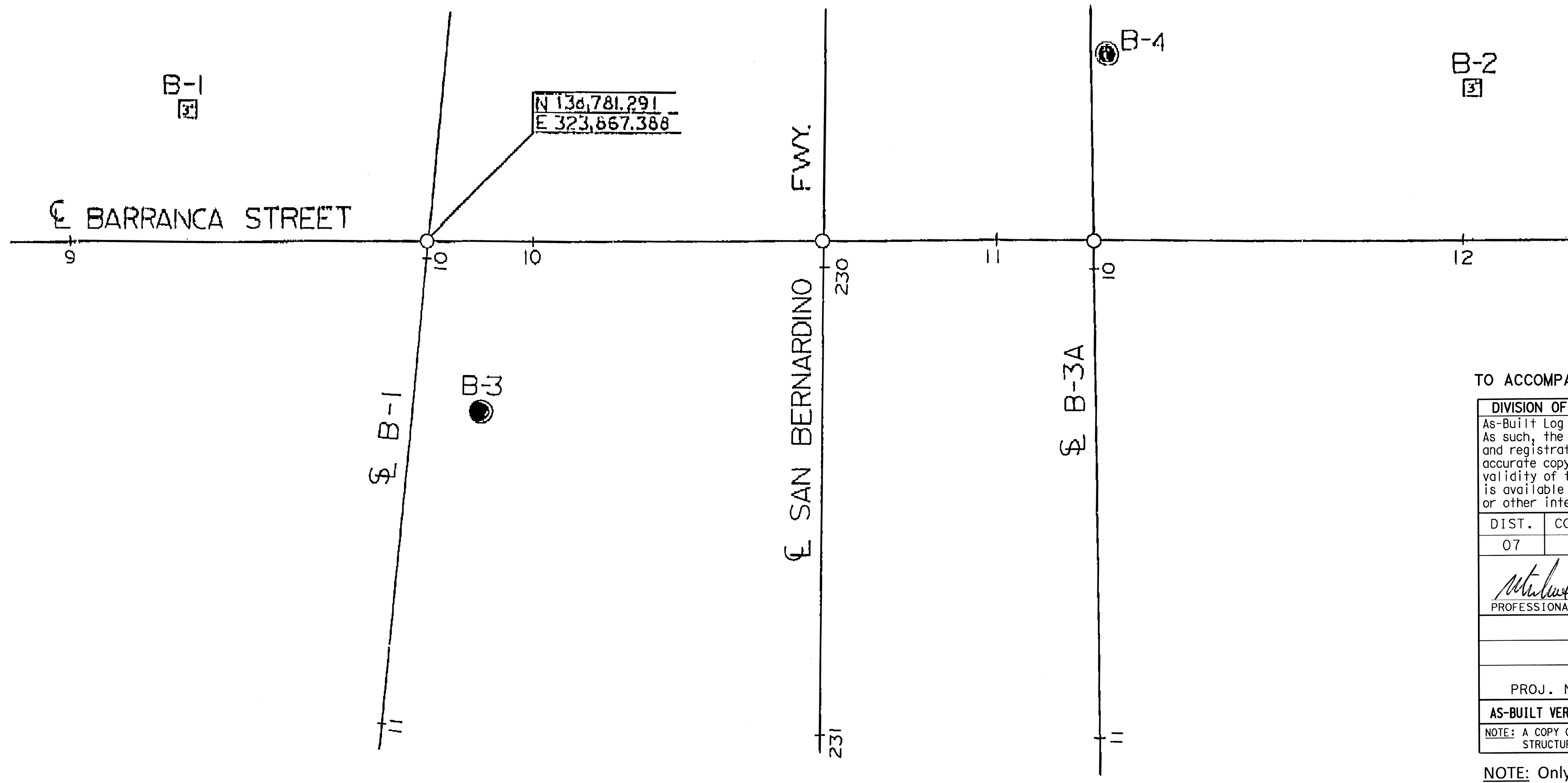
BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

562

BENCH MARKS

BM # 219 B-Cov-57 — Elev. 497.62
Found Ramset and washer on east curb over north abutment of Barranca Bridge over flood control channel, 300 feet south of the ℄ of Freeway (LA 010 16-I,J).

BM # 219 C-Cov-57 — Elev. 517.17
Found Ramset on west bound on-ramp at right-of-way fence line Prod. left of station 12+65 Barranca Overcrossing (LA 010 16-I,J).



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	1796	2313

PROFESSIONAL GEOLOGIST [signature] — DATE 01/09/2014

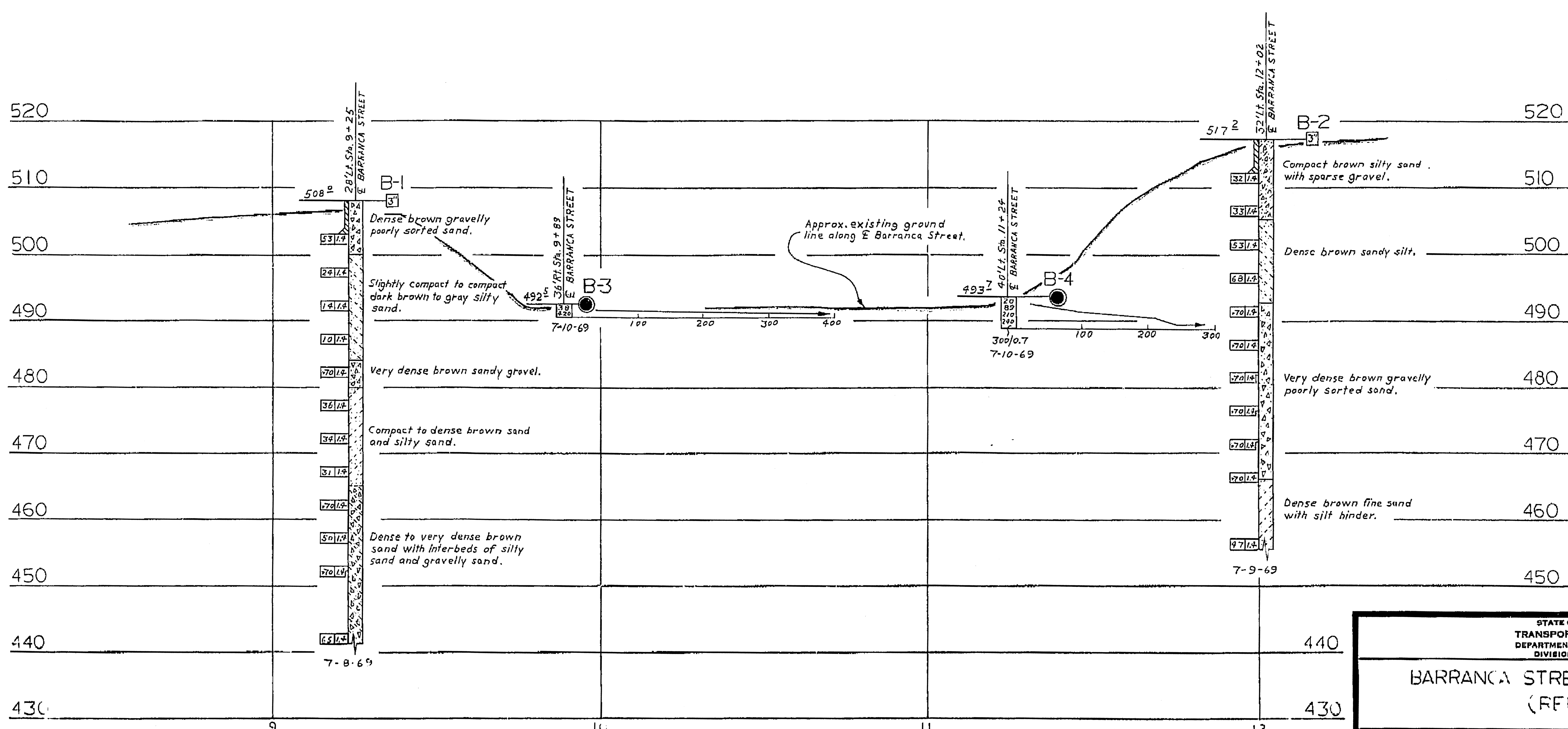
PROFESSIONAL GEOLOGIST — Michael A. Salisbury — No. 2462 — Exp. 2-28-15 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

RETAINING WALL NO. 2005
LOG OF TEST BORINGS 2 OF 2

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

NOTE: Only Boring B-1 is used for current project.



AS BUILT None
CORRECTIONS BY Paul Vucovich 4/11/75
CONTRACT NO. 07-038824
DATE 8-5-75

AS BUILT PLANS
Contract No. 07-038824

STATE OF CALIFORNIA
TRANSPORTATION AGENCY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

BARRANCA STREET OVERCROSSING (REPLACE)

LOG OF TEST BORINGS

BRIDGE NO.	POST MILE	DRAWING NO.	SHEET	OF
53-1303	38.0		10	10

WO 038821
CU 07213

Disregard prints bearing earlier revision dates → REVISION DATES 7/7/71 (PRELIMINARY STAGE ONLY)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1797	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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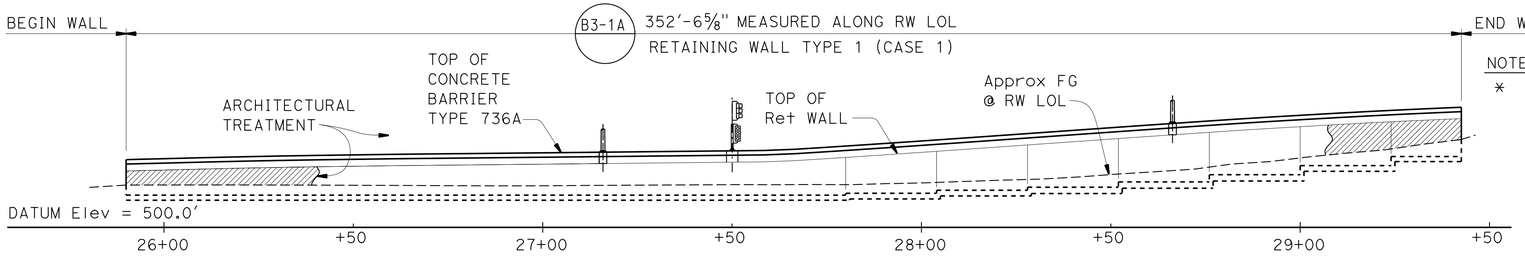
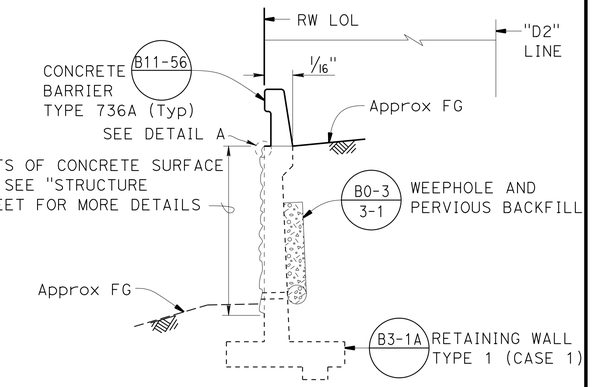


DEVELOPED MIRRORED ELEVATION

1" = 20'

NOTE:

* This limit also applies to Prepare and Stain Concrete



TYPICAL SECTION

¼" = 1'-0"

INDEX TO PLANS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	STRUCTURE PLAN
3.	FOUNDATION PLAN
4.	RETAINING WALL TYPE 1 (CASE 1)
5.	ELECTROLIER PEDESTAL DETAILS
6.	METER PEDESTAL DETAILS
7.	LOG OF TEST BORINGS

STANDARD PLAN SHEET No.

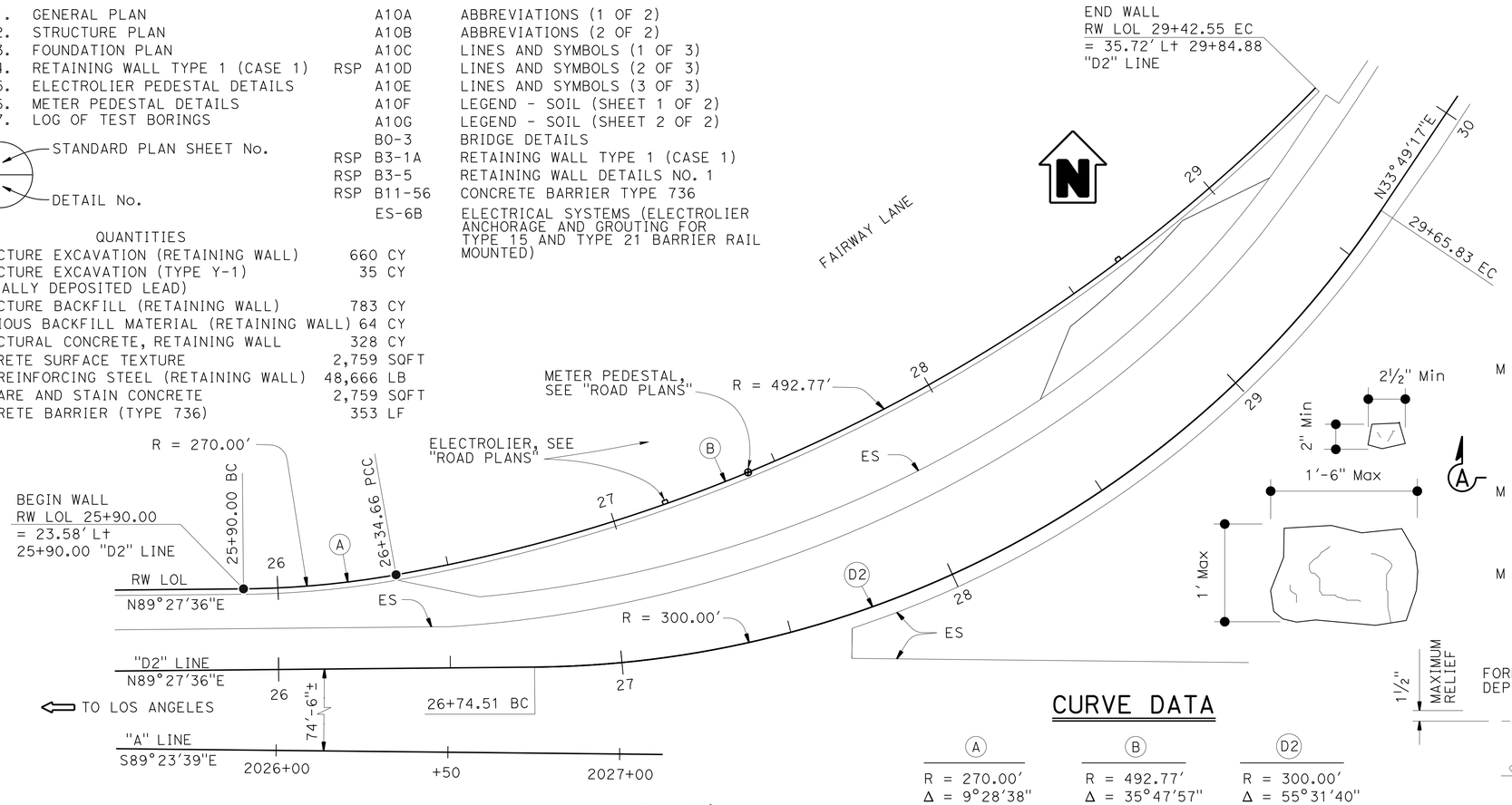
DETAIL No.

STANDARD PLANS 2010

	A10A	ABBREVIATIONS (1 OF 2)
	A10B	ABBREVIATIONS (2 OF 2)
	A10C	LINES AND SYMBOLS (1 OF 3)
RSP	A10D	LINES AND SYMBOLS (2 OF 3)
	A10E	LINES AND SYMBOLS (3 OF 3)
	A10F	LEGEND - SOIL (SHEET 1 OF 2)
	A10G	LEGEND - SOIL (SHEET 2 OF 2)
	B0-3	BRIDGE DETAILS
RSP	B3-1A	RETAINING WALL TYPE 1 (CASE 1)
RSP	B3-5	RETAINING WALL DETAILS NO. 1
RSP	B11-56	CONCRETE BARRIER TYPE 736
	ES-6B	ELECTRICAL SYSTEMS (ELECTROLIER ANCHORAGE AND GROUTING FOR TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED)

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	660 CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALLY DEPOSITED LEAD)	35 CY
STRUCTURE BACKFILL (RETAINING WALL)	783 CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	64 CY
STRUCTURAL CONCRETE, RETAINING WALL	328 CY
CONCRETE SURFACE TEXTURE	2,759 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	48,666 LB
PREPARE AND STAIN CONCRETE	2,759 SQFT
CONCRETE BARRIER (TYPE 736)	353 LF

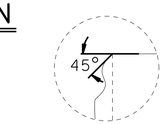


PLAN

1" = 20'

CURVE DATA

(A)	(B)	(D2)
R = 270.00'	R = 492.77'	R = 300.00'
Δ = 9°28'38"	Δ = 35°47'57"	Δ = 55°31'40"
T = 22.38'	T = 159.16'	T = 157.37'
L = 44.66'	L = 307.89'	L = 289.87'

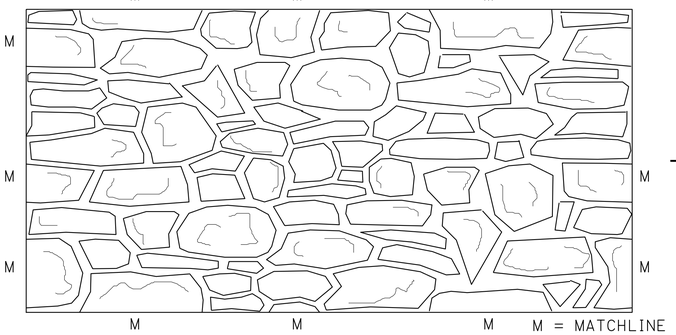


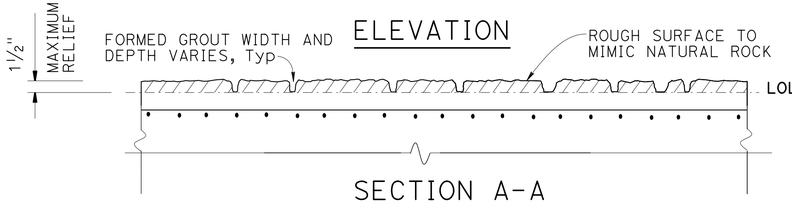
DETAIL A

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)





SECTION A-A

RANDOM ROCK TEXTURE

No Scale

DESIGN	BY P. Peterson / D. Dunrud	CHECKED John Peterson	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE			
DETAILS	BY Huddleston / Peterson	CHECKED John Peterson	LAYOUT	BY P. Peterson	CHECKED John Peterson		
QUANTITIES	BY V. Ramakrishnan	CHECKED D. Dunrud	SPECIFICATIONS	BY Xiaodong Chen	PLANS AND SPECS COMPARED Xiaodong Chen		

Douglas J. Dunrud
DESIGN ENGINEER

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
GENERAL PLAN

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
02-06-15	2-13-15			1	7

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

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

FILE => rw2026-a-gp.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1798	2313

REGISTERED CIVIL ENGINEER — 10-01-14 DATE

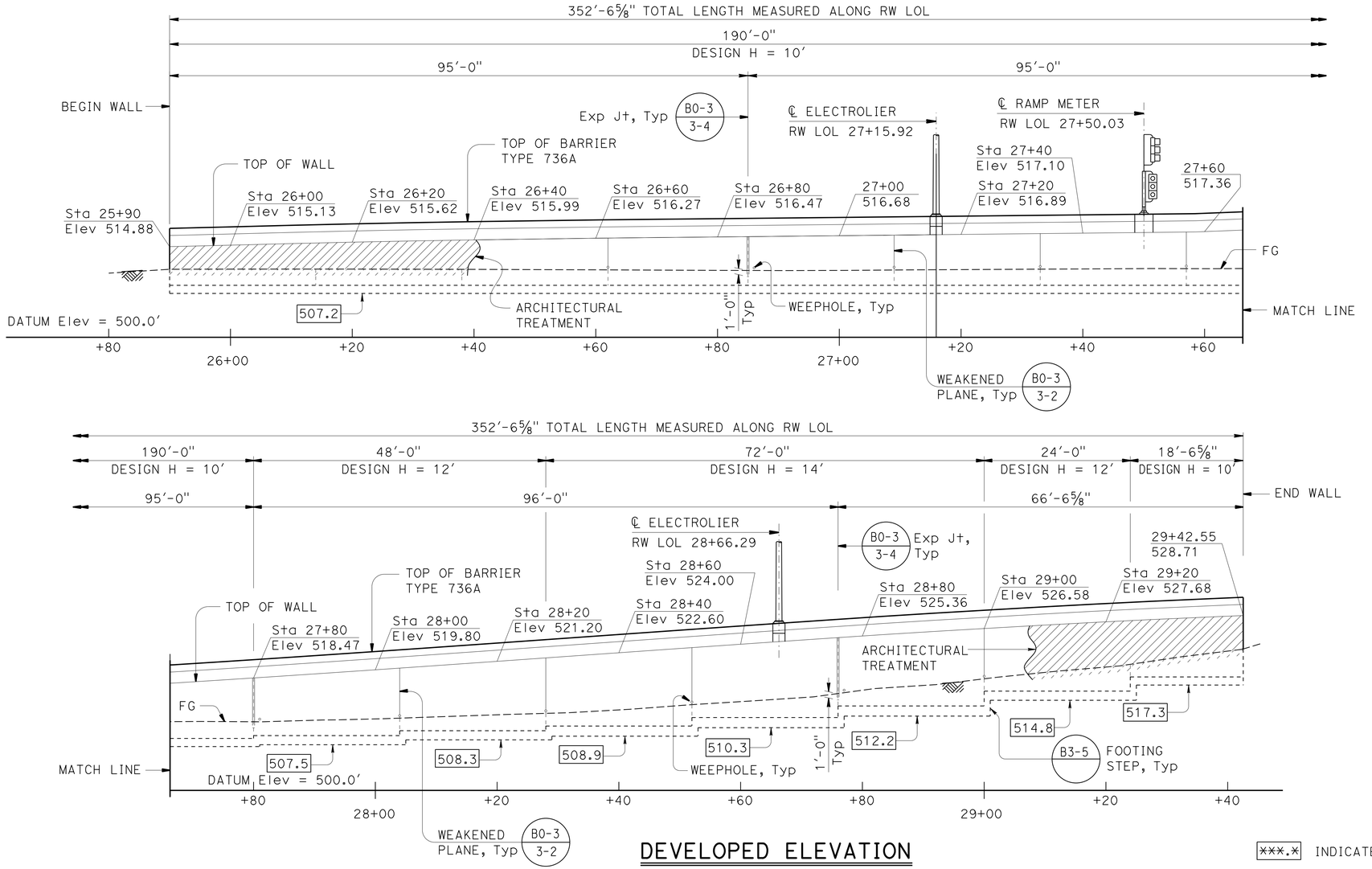
PAUL PETERSON No. C66764 Exp 09-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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 details not shown, see "RSP B3-1A, RETAINING WALL TYPE 1 (CASE 1)" sheet.
2. Expansion joints, weepholes and weakened planes shall be placed per Standard Plan B0-3.
3. For Concrete Barrier Type 736A, see Standard Plan B11-56.
4. Contractor shall locate all utilities prior to footing excavation. See "ROAD PLANS".
5. For architectural treatment see "ARCHITECTURAL TREATMENT" sheet.



DEVELOPED ELEVATION

1" = 10'

[***.*] INDICATES BOTTOM OF FOOTING ELEVATION

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

RETAINING WALL NO. 2026
STRUCTURE 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
05-02-14	09-11-14	02-02-14	02-20-14	2	7

FILE => rw2026-c-sp.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
7	LA	10	37.2/42.4	1799	2313

10-01-14
REGISTERED CIVIL ENGINEER 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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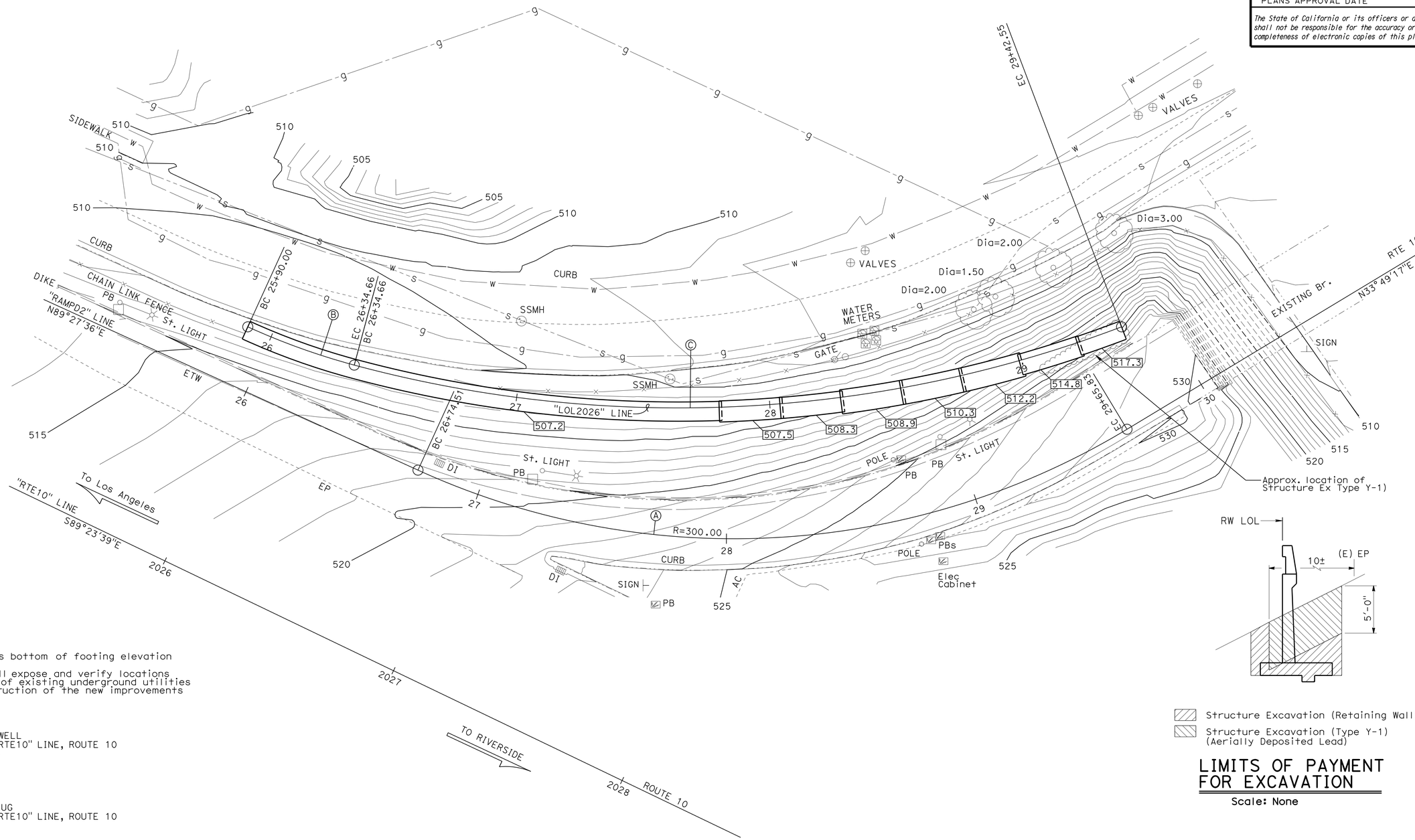
CURVE DATA

No. Ⓡ	R	Δ	T	L
Ⓐ	300.00	55°38'19"	158.30	291.32
Ⓑ	270.00	09°28'34"	22.38	44.66
Ⓒ	492.77	35°47'60"	159.16	307.89



Structure Excavation (Retaining Wall)

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

LIMITS OF PAYMENT FOR EXCAVATION

Scale: None

NOTES:

Indicates bottom of footing elevation

Contractor shall expose and verify locations and elevations of existing underground utilities prior to construction of the new improvements

SURVEY CONTROL

PT-PRHV9

Fnd MONUMENT WELL
153.98 FT Lt. "RTE10" LINE, ROUTE 10
Sta. 2059+92.93
N 1848053.26
E 6602895.64
Elev. = 575.10

PT-PRHV463

Fnd 1"IP w/ PLUG
147.27 FT Rt. "RTE10" LINE, ROUTE 10
Sta. 2056+76.02
N 1847956.37
E 6602471.71
Elev. = 567.27

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 D. DUNRUD	CHECKED P. A. PETERSON
DETAILS	BY J. M. PETERSON	CHECKED P. A. PETERSON
QUANTITIES	BY V. RAMAKRISHMAN	CHECKED D. DUNRUD

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0318
POST MILE 37.92/37.98

RETAINING WALL 2026
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
02/05/15				3	7

FILE => rw2026-d-fp.dgn

USERNAME => s1125824 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	37.2/42.4	1800	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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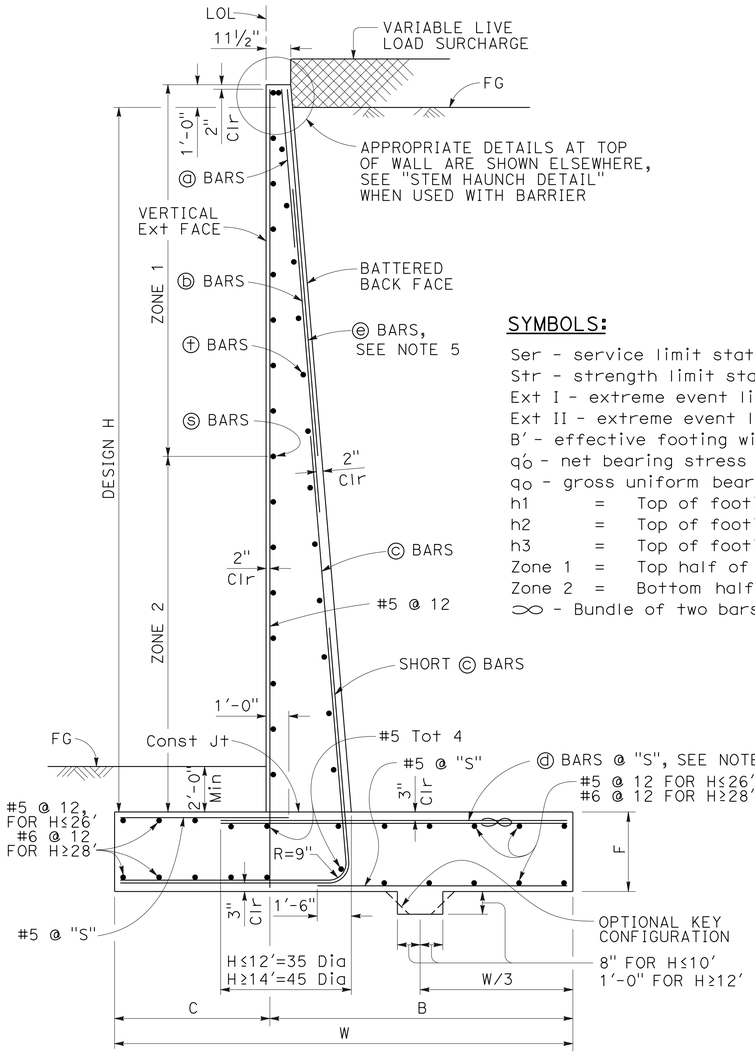
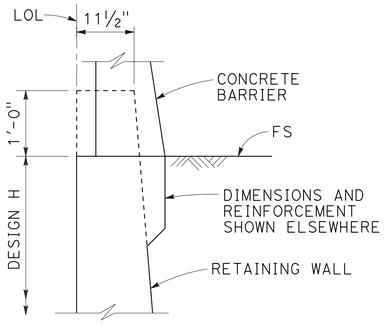


TYPICAL SECTION

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At ⓒ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.
4. Bundle ⓓ bars for H = 34' & 36'.
5. Provide #6 @ 10" x 15'-0" ⓔ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations. For H < 14', hook e bar into footing and reduce bar length as needed to maintain Min Clr cover.



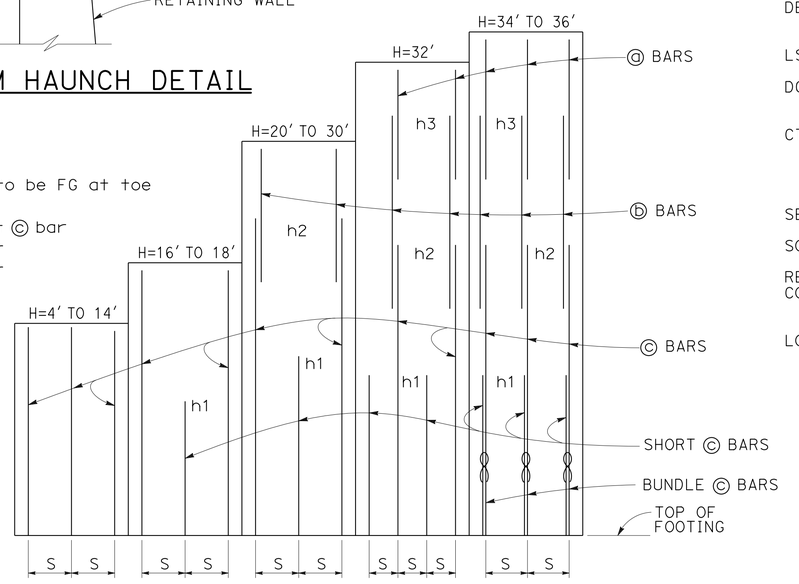
STEM HAUNCH DETAIL

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext I - extreme event limit state I
Ext II - extreme event limit state II
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)
h1 = Top of footing to top of short ⓒ bar
h2 = Top of footing to top of ⓒ bar
h3 = Top of footing to top of ⓑ bar
Zone 1 = Top half of stem height
Zone 2 = Bottom half of stem height
∞ - Bundle of two bars

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.



ELEVATION

DESIGN NOTES:

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

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied at He = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.

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

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: f'c = 3,600 psi, fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

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

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia
CT:	Vehicular Collision Force

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"	9'-7"	10'-9"	12'-0"	13'-3"	14'-6"	15'-9"	17'-1"	18'-5"	19'-10"	21'-2"	22'-7"	24'-0"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"	6'-0"	6'-6"	7'-2"	7'-8"	8'-2"	9'-0"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"	6'-7"	7'-3"	8'-0"	8'-9"	9'-6"	10'-4"	11'-1"	11'-11"	12'-8"	13'-6"	14'-5"	15'-0"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"	1'-8"	1'-8"	1'-9"	1'-9"	1'-11"	2'-2"	2'-5"	2'-10"	3'-3"	3'-6"	4'-0"	4'-3"
BATTER	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	⅝: 12	⅝: 12	⅝: 12	⅞: 12	1 : 12	1 : 12	1 : 12
SPACING "S"	9"	9"	9"	9"	9"	7"	6"	5"	6"	6"	6"	6"	6"	6"	6"	10"	8"
ⓐ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#7	#7	#6
ⓑ BARS	-	-	-	-	-	-	-	-	#7	#7	#7	#7	#7	#7	#9	#9	#8
ⓒ BARS	#6	#6	#6	#6	#6	#6	#7	#7	#8	#9	#9	#10	#10	#10	#11	#11	#11
ⓓ BARS	#5	#5	#6	#6	#6	#6	#9	#8	#8	#9	#9	#10	#10	#10	#11	#11	#11
h1	-	-	-	-	-	-	5'-9"	5'-10"	8'-0"	9'-0"	10'-1"	11'-0"	12'-1"	13'-0"	13'-0"	12'-7"	11'-6"
h2	-	-	-	-	-	-	-	-	10'-5"	13'-0"	14'-7"	17'-6"	19'-0"	20'-5"	19'-0"	18'-0"	20'-2"
h3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21'-2"	21'-10"	24'-0"
ZONE 1 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12
ZONE 1 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12
ZONE 2 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Ser: B', q'_o	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0	7.5, 2.1	8.6, 2.2	9.8, 2.3	11.0, 2.4	12.1, 2.5	13.2, 2.8	14.4, 2.9	15.5, 3.1	16.8, 3.3	18.0, 3.5	19.2, 3.7	20.6, 3.7
Str: B', q_o	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0	4.3, 3.8	5.3, 3.7	6.4, 3.7	7.4, 3.8	8.2, 4.1	9.0, 4.4	9.9, 4.6	10.7, 4.9	11.7, 5.2	12.6, 5.4	13.6, 5.8	14.6, 5.9
Ext I: B', q_o	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8	3.2, 5.3	3.6, 5.7	4.1, 6.1	4.6, 6.4	5.0, 6.9	5.3, 7.6	5.8, 8.1	6.1, 8.9	6.7, 9.4	7.1, 10.0	7.5, 10.7	8.2, 10.9
Ext II: B', q_o	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6	5.2, 3.3	6.7, 3.1	8.3, 3.0	9.8, 3.0	11.2, 3.1	12.5, 3.2	13.9, 3.4	15.2, 3.6	16.7, 3.8	18.0, 4.0	19.3, 4.2	20.8, 4.3

NO SCALE

RSP B3-1A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

DESIGN	BY D. Dunrud/P. Peterson	CHECKED John Peterson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY Huddleson / Perterson	CHECKED John Peterson	
QUANTITIES	BY V. Ramakrishnan	CHECKED D. Dunrud	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 14

BRIDGE NO. 53E0318
POST MILE 38.37/38.43

RETAINING WALL NO. 2026

RETAINING WALL TYPE 1 (CASE 1)

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
12-20-13	01-14-14	02-28-14	09-11-14	4	7

FILE => rw2026-f-rw.dgn

USERNAME => s125624 DATE PLOTTED => 18-MAY-2015 TIME PLOTTED => 14:25