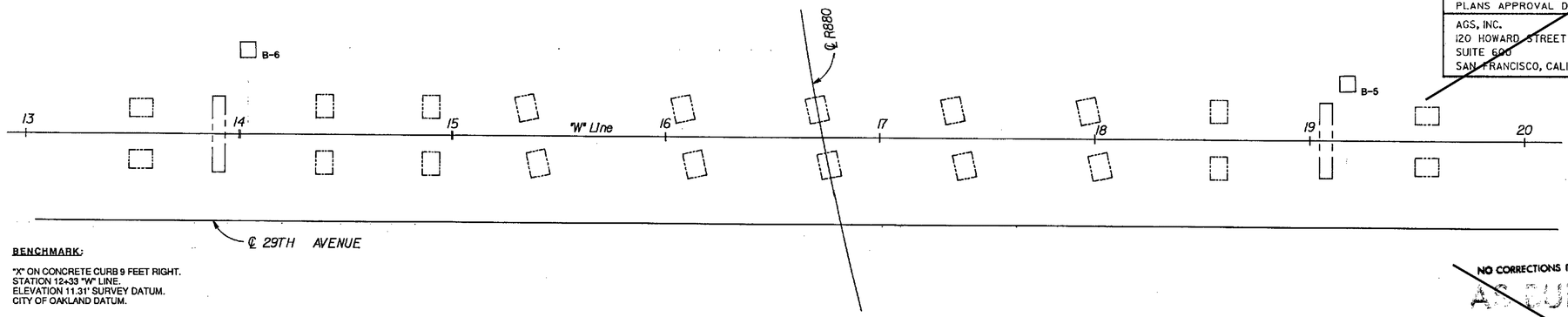
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	77,880	0.3, 27.6/29.2	82	108

Bahram Khamenehpour
GEOTECHNICAL PROFESSIONAL

11-7-94
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — BAHRAM KHAMENEHPOUR — No. 2104 — Exp. 12/31/93 — GEOTECHNICAL — STATE OF CALIFORNIA

AGS, INC.
120 HOWARD STREET
SUITE 600
SAN FRANCISCO, CALIFORNIA 94105



PLAN
1"=30'

BENCHMARK:

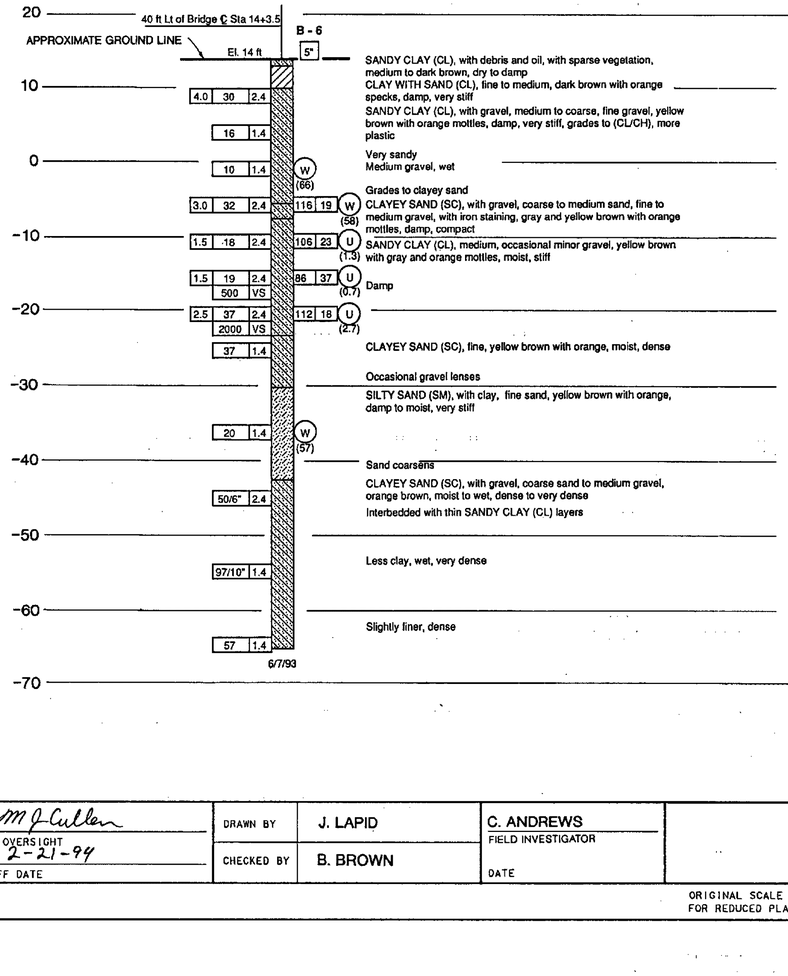
"X" ON CONCRETE CURB 9 FEET RIGHT.
STATION 12+33 "W" LINE.
ELEVATION 11.31' SURVEY DATUM.
CITY OF OAKLAND DATUM.

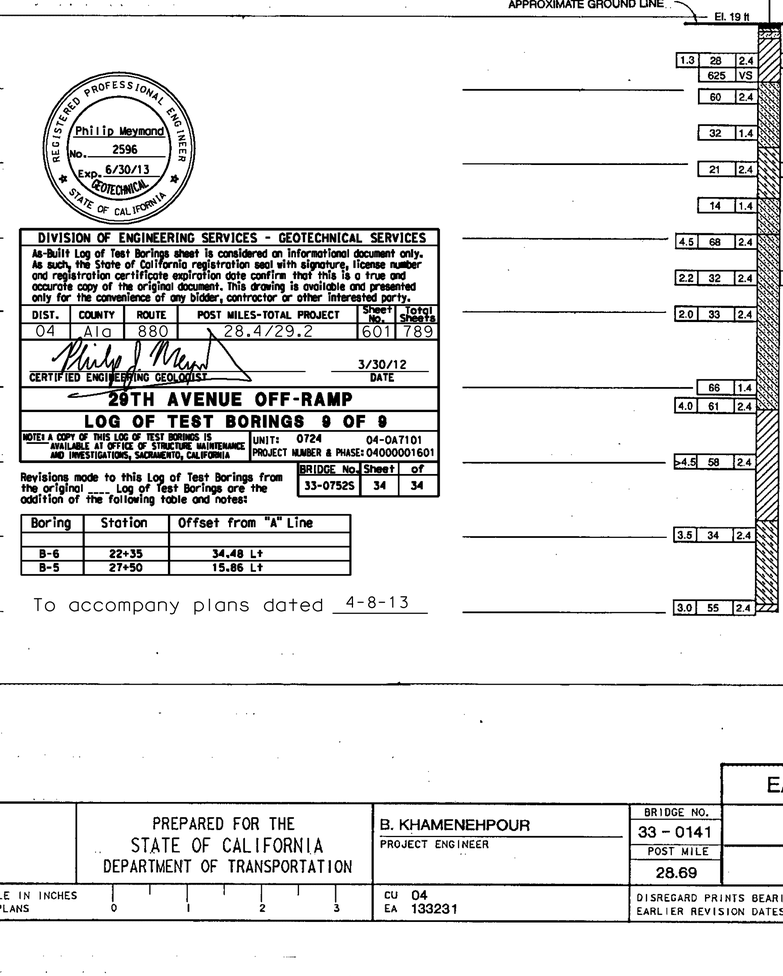
LABORATORY TESTS

(W) WASH ANALYSIS (WITH % FINES CONTENT)

(U) UNCONFINED COMPRESSION (WITH UNCONFINED COMPRESSIVE STRENGTH IN TSF)

NO CORRECTIONS THIS SHEET
AS BUILT
CORRECTIONS BY DT
CONTRACT NO. 14-122224
DATE 11/6/95 - 9/6/99





Philip Meymand
REGISTERED PROFESSIONAL ENGINEER
No. 2596
Exp. 6/30/13
GEOTECHNICAL
STATE OF CALIFORNIA

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	601	789

Philip J. Meymand — 3/30/12
CERTIFIED ENGINEERING GEOLOGIST — DATE

29TH AVENUE OFF-RAMP

LOG OF TEST BORINGS 9 OF 9

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

UNIT: 0724 — 04-0A7101
PROJECT NUMBER & PHASE: 04000001601

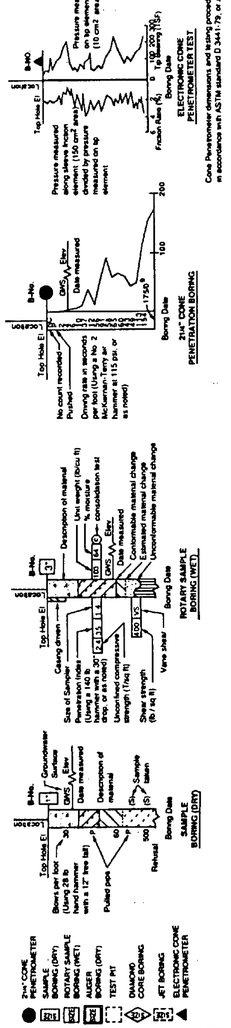
BRIDGE No.	Sheet	of
33-0752S	34	34

Revisions made to this Log of Test Borings from the original ____ Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from "A" Line
B-6	22+35	34.48 Lt
B-5	27+50	15.86 Lt

To accompany plans dated 4-8-13

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · SILTY CLAY · CLAYEY SILT · PEAT and/or ORGANIC MATTER · FILL MATERIAL · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Index (Blows / Ft)	Granular	Cohesive
0-4	Very loose	Very soft
5-9	Loose	Soft
10-19	Slightly compact	Slightly stiff
20-34	Compact	Stiff
35-69	Dense	Hard
>70	Very dense	Very hard

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

M J Cullen — DESIGN OVERSIGHT 2-21-94 — SIGN OFF DATE	DRAWN BY	J. LAPID	C. ANDREWS — FIELD INVESTIGATOR — DATE
	CHECKED BY	B. BROWN	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

B. KHAMENEHPOUR — PROJECT ENGINEER

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 133231

BRIDGE NO. 33 - 0141
POST MILE 28.69

EARTHQUAKE RETROFIT PROJECT NO. 83
29TH AVE OVERCROSSING
LOG OF TEST BORINGS

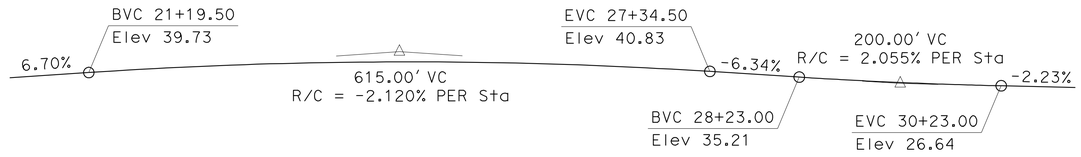
DISREGARD PRINTS BEARING EARLIER REVISION DATES → 7/7/93, 7/31/93, 10/8/93

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
	7	7

33-0752S-z-ltb09.tif

NOTES:

(A) Concrete Barrier (Type 732 Modified) with Architectural Treatment
(B) Concrete Barrier (Type 26 Modified) with Architectural Treatment
(C) Chain Link Railing Type 7
(D) Structure Approach Type N(30S)
(E) Remove existing 23rd Ave OC North, Bridge No. 33-0149
(F) Remove existing 23rd Ave OC South, Bridge No. 33-0139
(G) Concrete Barrier (Type 60R Mod), see "Road Plans"
(H) Overhead sign pedestal



PROFILE GRADE - "B" LINE

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	602	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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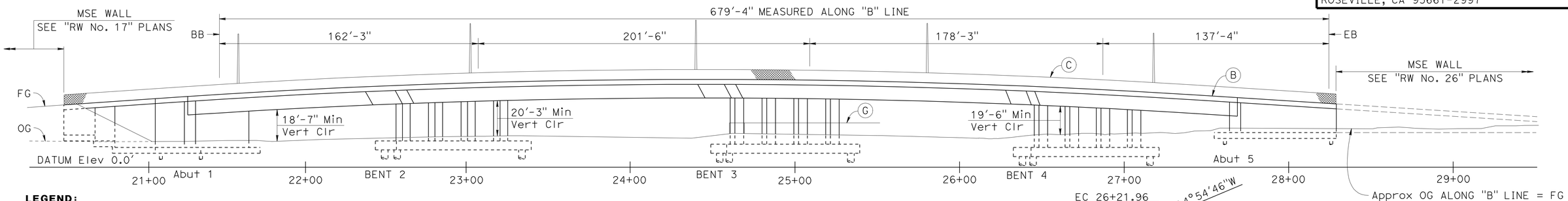
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

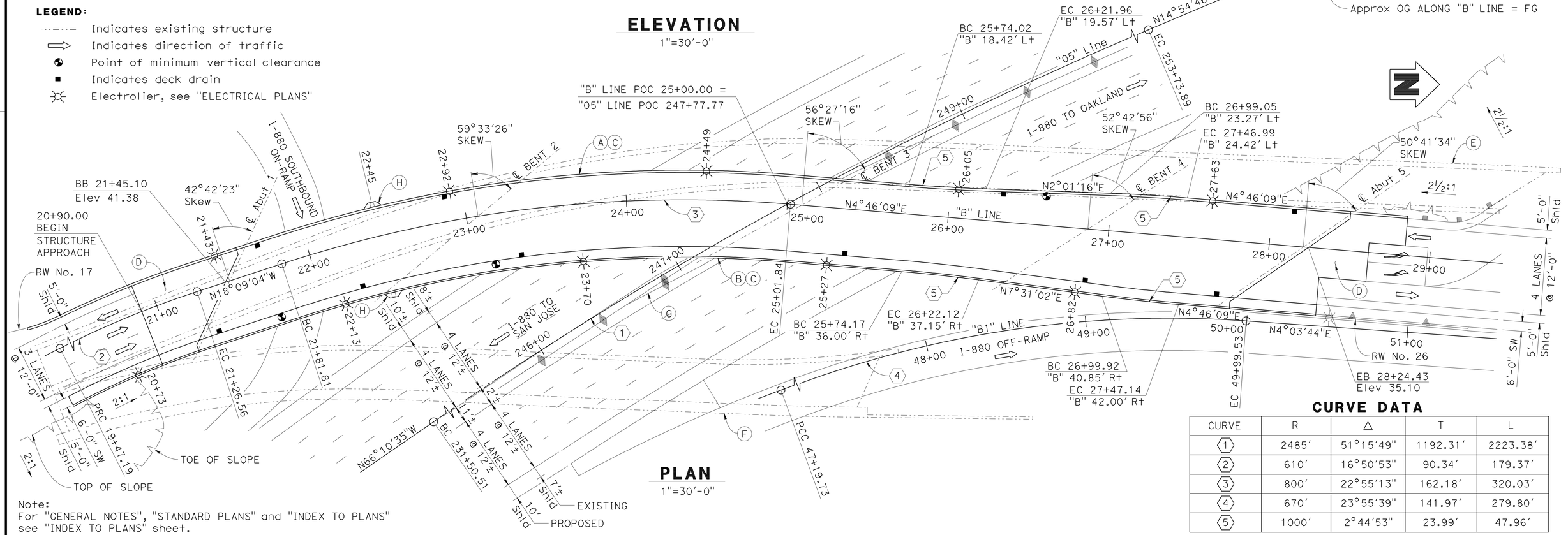


ELEVATION

1"=30'-0"

LEGEND:

- Indicates existing structure
- Indicates direction of traffic
- Point of minimum vertical clearance
- Indicates deck drain
- Electrolier, see "ELECTRICAL PLANS"



PLAN

1"=30'-0"

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

CURVE DATA

CURVE	R	Δ	T	L
(1)	2485'	51°15'49"	1192.31'	2223.38'
(2)	610'	16°50'53"	90.34'	179.37'
(3)	800'	22°55'13"	162.18'	320.03'
(4)	670'	23°55'39"	141.97'	279.80'
(5)	1000'	2°44'53"	23.99'	47.96'

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
8-8-12
SIGN OFF DATE

DESIGN	BY A. Prince	CHECKED N. Suan	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	
DETAILS	BY R. Lim	CHECKED N. Suan	LAYOUT	BY J. Hueser	CHECKED N. Suan
QUANTITIES	BY A. Prince	CHECKED M. Soltani	SPECIFICATIONS	BY D. Harnagel	PLANS AND SPECS COMPARED J. Hueser

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	33-0753
POST MILES	28.95

23RD AVENUE OC (REPLACE)

GENERAL PLAN No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	8-7-12	1	52

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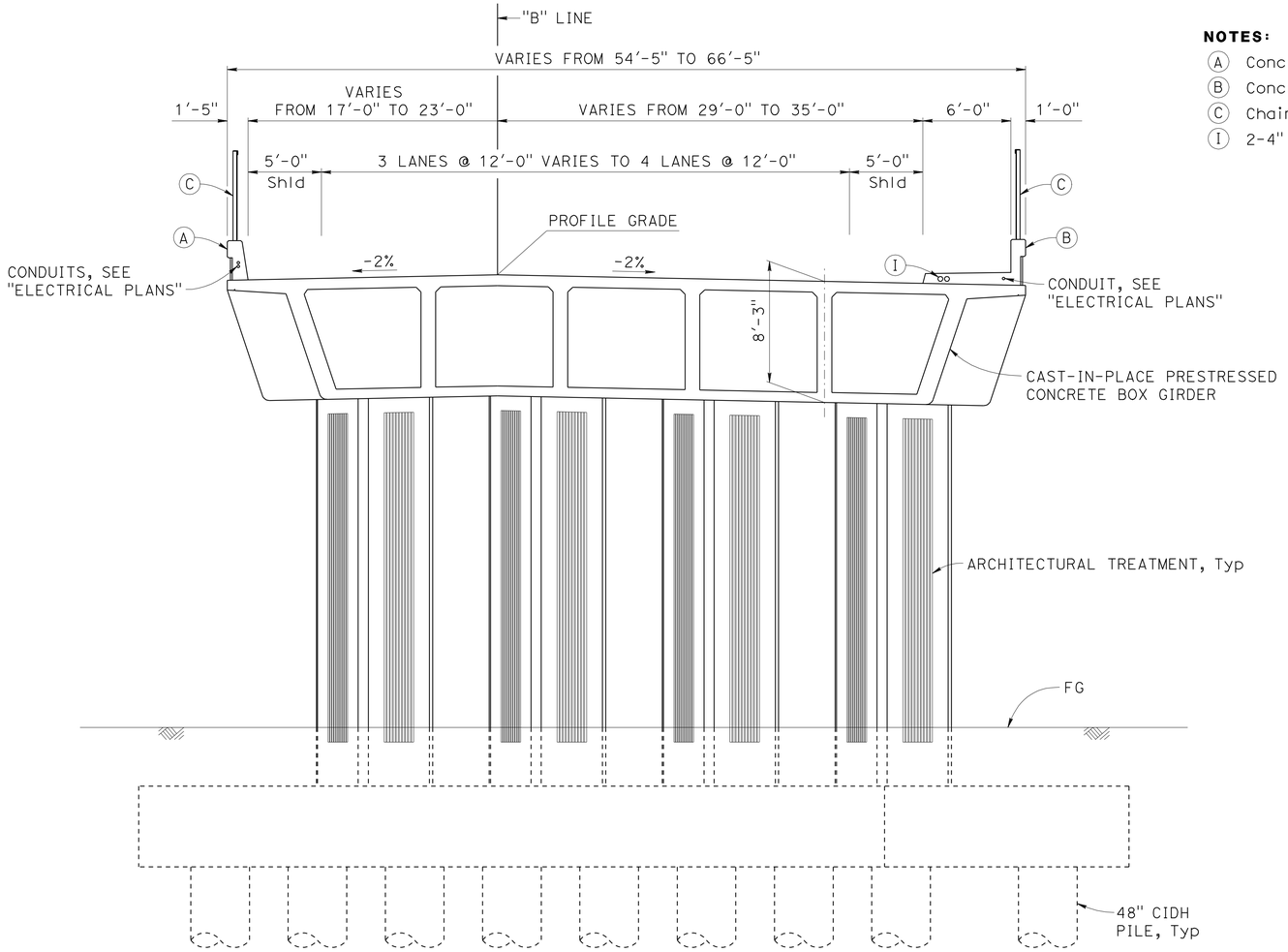
USERNAME => s1124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51



TYPICAL SECTION

1" = 5'-0"

NOTES:

(A) Concrete Barrier (Type 732 Modified) with Architectural Treatment
(B) Concrete Barrier (Type 26 Modified) with Architectural Treatment
(C) Chain Link Railing Type 7
(I) 2-4" Dia Future Utility Openings

23RD AVENUE OC (REPLACE)

QUANTITIES

BRIDGE REMOVAL, LOCATION A	LUMP	SUM
BRIDGE REMOVAL, LOCATION B	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	3,133	CY
STRUCTURE EXCAVATION (RETAINING WALL)	847	CY
STRUCTURE BACKFILL (BRIDGE)	1,722	CY
STRUCTURE BACKFILL (RETAINING WALL)	1,020	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	6,515	LF
48" CAST-IN-DRILLED-HOLE CONCRETE PILING	4,548	LF
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	1,489	CY
STRUCTURAL CONCRETE, BRIDGE	4,934	CY
STRUCTURAL CONCRETE, RETAINING WALL	740	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	205	CY
FRACTURED RIB TEXTURE	8,169	SQFT
JOINT SEAL ASSEMBLY (MR 9")	179	LF
BAR REINFORCING STEEL (BRIDGE)	2,337,212	LB
BAR REINFORCING STEEL (RETAINING WALL)	121,837	LB
HEADED BAR REINFORCEMENT	336	EA
WELDED STEEL PIPE CASING (BRIDGE)	240	LF
BRIDGE DECK DRAINAGE SYSTEM	9,181	LB
CHAIN LINK RAILING (TYPE 7)	1,660	LF
CONCRETE BARRIER (TYPE 26 MODIFIED)	787	LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	873	LF

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	603	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

DESIGN	BY A. Prince	CHECKED N. Suan	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		
DETAILS	BY R. Lim	CHECKED N. Suan	LAYOUT	BY J. Hueser	CHECKED N. Suan	
QUANTITIES	BY A. Prince	CHECKED M. Soltani	SPECIFICATIONS	BY D. Harnagel	PLANS AND SPECS COMPARED J. Hueser	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

GENERAL PLAN No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 9-6-11 | 1-30-12 | 3-30-12 | 7-11-12

SHEET 2 OF 52

FILE => 33-0753-a-gp02.dgn

USERNAME => s1244986 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	604	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Jan M. Hueser
No. C050215
Exp. 6/30/13
CIVIL
STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

INDEX TO PLANS

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated September 2010; except that concrete barriers and bridge details taken from Standard Plans 2006 are designed using Bridge Design Specifications ('96 AASHTO with Revisions by Caltrans).

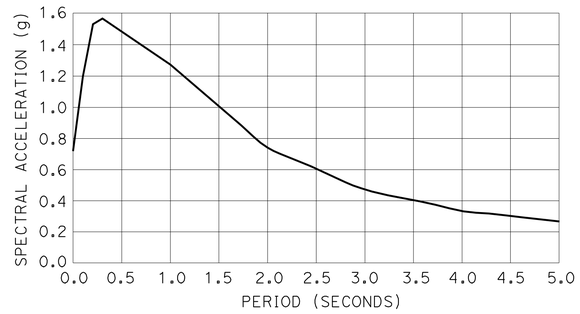
SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.6 Dated November 2010.

DEAD LOAD: Includes 35 psf for future wearing surface.

LIVE LOAD: HL93 and permit design load.

SEISMIC LOAD: Soil profile: Type D
Shear wave velocity, Vs30 = 985 ft/sec for the top 100 ft of soil
Moment Magnitude: 7.3g
Peak Ground Acceleration = 0.72g

CONCRETE: fy = 60 ksi
f'c = 3.6 ksi
n = 8
See prestressing notes on "GIRDER LAYOUT No. 1" sheet.



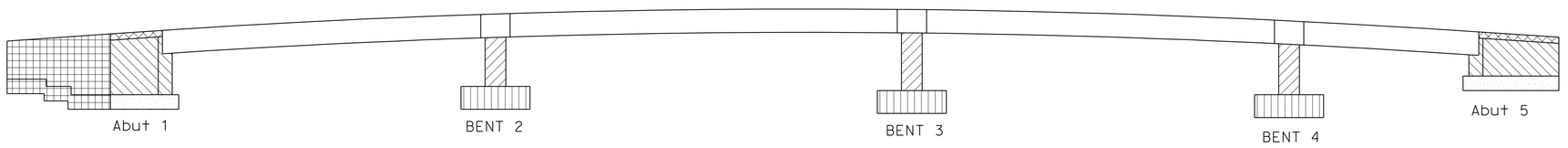
ARS CURVE

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONUMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B3-8	RETAINING WALL DETAILS No. 1
B7-1	BOX GIRDER DETAILS
B7-6	DECK DRAINS TYPES D-1 AND D-2
B7-8	DECK DRAINAGE DETAILS
B7-10	UTILITY OPENING BOX GIRDER
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-52	CHAIN LINK RAILING TYPE 7
B11-54	CONCRETE BARRIER TYPE 26
B11-55	CONCRETE BARRIER TYPE 732

STANDARD PLAN SHEET No.

DETAIL No.



STRUCTURAL CONCRETE, BRIDGE (SEE "GIRDER LAYOUT No. 1" SHEET)
STRUCTURAL CONCRETE, BRIDGE FOOTING (f'c = 4.0 ksi @ 28 DAYS)
STRUCTURAL CONCRETE, BRIDGE FOOTING
STRUCTURAL CONCRETE, BRIDGE
STRUCTURAL CONCRETE, BRIDGE (f'c = 5.0 ksi @ 28 DAYS)
STRUCTURAL CONCRETE, STRUCTURE APPROACH
STRUCTURAL CONCRETE, RETAINING WALL

CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
8-8-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
INDEX TO PLANS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-30-12	3-30-12	8-1-12	3	52

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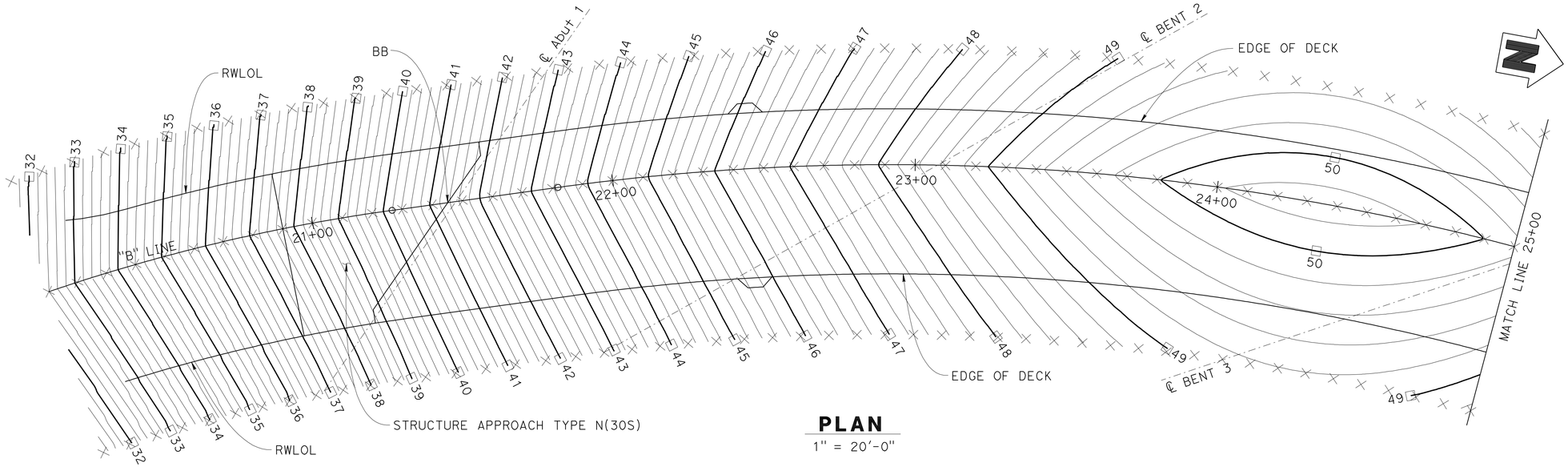
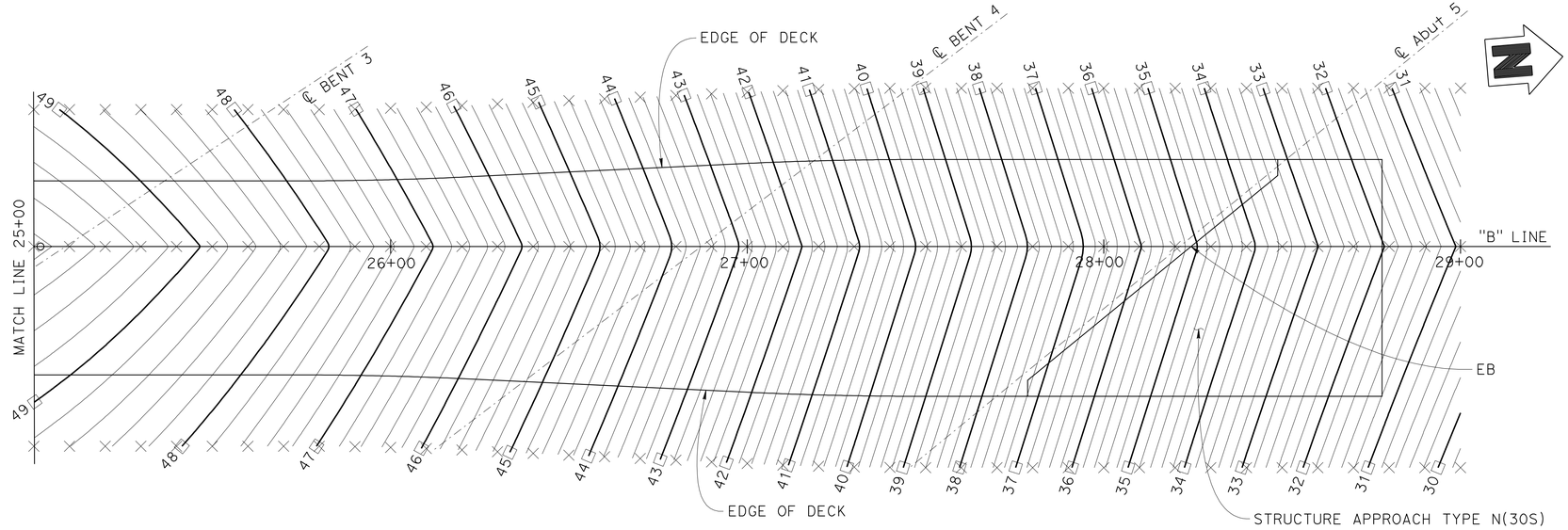


PLAN
1" = 20'-0"



PLAN
1" = 20'-0"

NOTES:

1. Contours do not include camber.
2. Contour interval = 0.20'.

LEGEND:

× Indicates 10' interval measured along "B" Line.

□ Indicates even foot contours.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	605	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
DECK CONTOURS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	4	52

FILE => 33-0753-d-dc.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	606	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

PILE DATA TABLE

LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
		COMPRESSION	TENSION		
Abut 1	24" CIDH	400	0	-51(A), -12(C)	-51
Abut 1 RW Lt A	24" CIDH	280	0	-38(A), -24(C)	-38
Abut 1 RW Lt B	24" CIDH	310	120	-42(A), -24(B), -12(C)	-42
Abut 1 RW Rt A	24" CIDH	220	0	-22(A), -6(C)	-22
Abut 1 RW Rt B	24" CIDH	180	20	-20(A), 8(B), -8(C)	-20
Abut 1 RW Rt C	24" CIDH	230	10	-32(A), 5(B), -12(C)	-32
Abut 1 RW Rt D	24" CIDH	240	150	-33(A), -28(B), -17(C)	-33
BENT 2	48" CIDH	1370	0	-77(A), -50(C)	-77
BENT 3	48" CIDH	1500	0	-84(A), -44(C)	-84
BENT 4	48" CIDH	1530	0	-86(A), -57(C)	-86
Abut 5 Lt	24" CIDH	380	0	-45(A), -9(C)	-45
Abut 5 Rt	24" CIDH	390	0	-43(A), -6(C)	-43
Abut 5 WW Lt	24" CIDH	60	0	14(A), 5(C)	5
Abut 5 RW Rt	24" CIDH	340	90	-37(A), -5(B), -16(C)	-37

DESIGN TIP ELEVATION IS CONTROLLED BY THE FOLLOWING DEMANDS:
(A) COMPRESSION, (B) TENSION, (C) LATERAL LOADS.

BENCH MARK

BENCH MARK	N	E	ELEV	DESCRIPTION
559	2111652.831	6059661.064	18.04	BRASS PIN IN CONCRETE IN WELL MONUMENT/CALCOT PI
28979	2109837.492	6059763.032	28.84	2.25" BRONZE DISK /23rd Ave (NEED ADDITIONAL INFO)

SURVEY CONTROL
HORIZONTAL CONTROL FOR THIS SURVEY IS BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE 3, US SURVEY FEET, NORTH AMERICAN DATUM OF 1983 (NAD83 2007),
VERTICAL CONTROL IS THE NORTH AMERICAN VERTICAL DATUM (NAVD88 RCFCD).

CURVE DATA

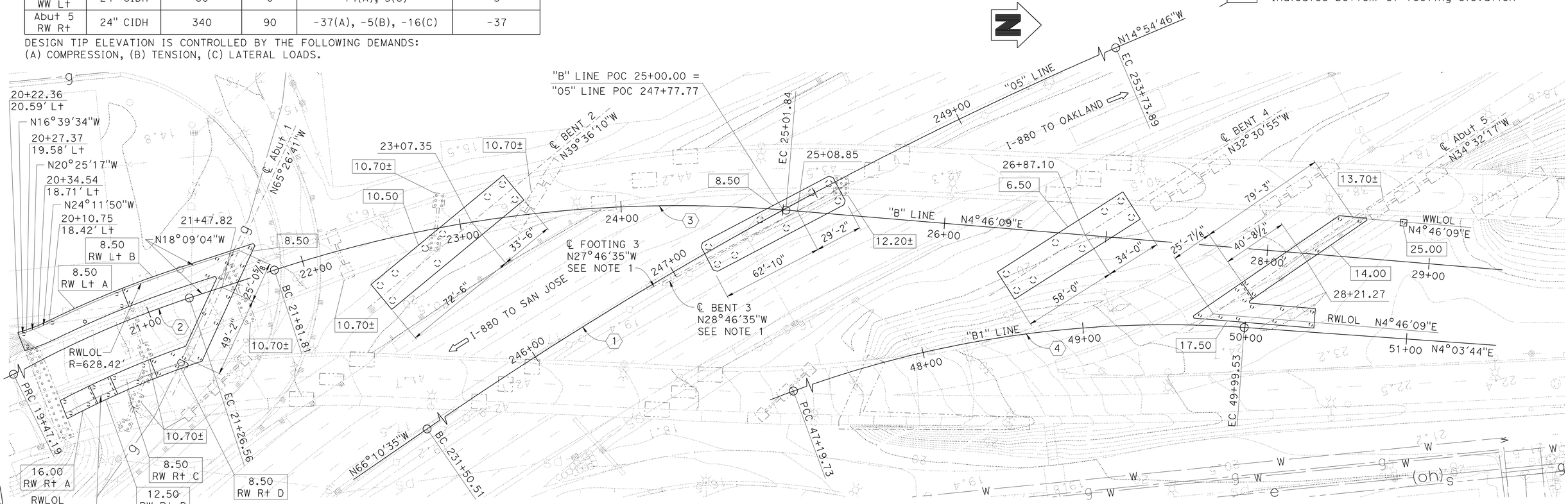
CURVE	R	Δ	T	L
1	2485′	51°15′49"	1192.31′	2223.38′
2	610′	16°50′53"	90.34′	179.37′
3	800′	22°55′13"	162.18′	320.03′
4	670′	23°55′39"	141.97′	279.80′

NOTES:

1. At this location ℄ Footing does not match ℄ Bent, see "BENT 3 DETAILS No. 3" for details.
2. For location of existing utilities, see "UTILITY PLANS".

LEGEND:

- Indicates existing structure
- Indicates direction of traffic
- Indicates piles (not all piles shown)
- Indicates bottom of footing elevation



PLAN

DESIGN OVERSIGHT: Paul Cotter	SCALE: 1"=30′-0"	VERT.DATUM NAVD88	HORZ.DATUM CCS83, Zone 3
7-16-12 SIGN OFF DATE	PHOTOGRAMMETRY AS OF: 9-04-08	ALIGNMENT TIES	
	SURVEYED BY D. Bustamante	DRAFTED BY	
	FIELD CHECKED BY D. Baumann	CHECKED BY	

DESIGN	BY A. Prince	CHECKED N. Suan
DETAILS	BY R. Lim	CHECKED N. Suan
QUANTITIES	BY A. Prince	CHECKED M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	33-0753
POST MILES	28.95

23RD AVENUE OC (REPLACE)
FOUNDATION PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 01-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			
9-6-11	1-18-12	3-30-12	7-11-12

SHEET 5 OF 52

FILE => 33-0753-e-fdp1.dgn

USERNAME => s1244496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51

Mindy J Wood 7/11/12
GEOTECHNICAL/PROFESSIONAL APPROVAL DATE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	607	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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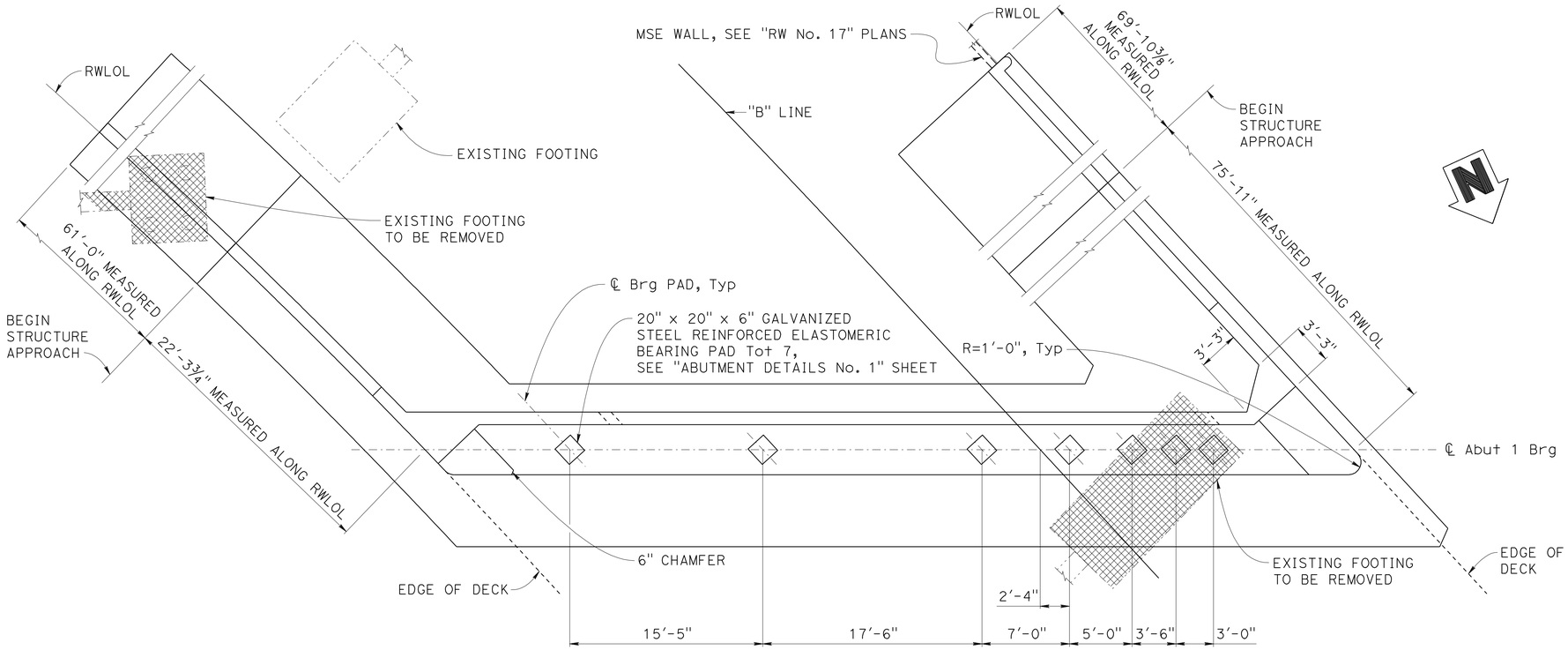
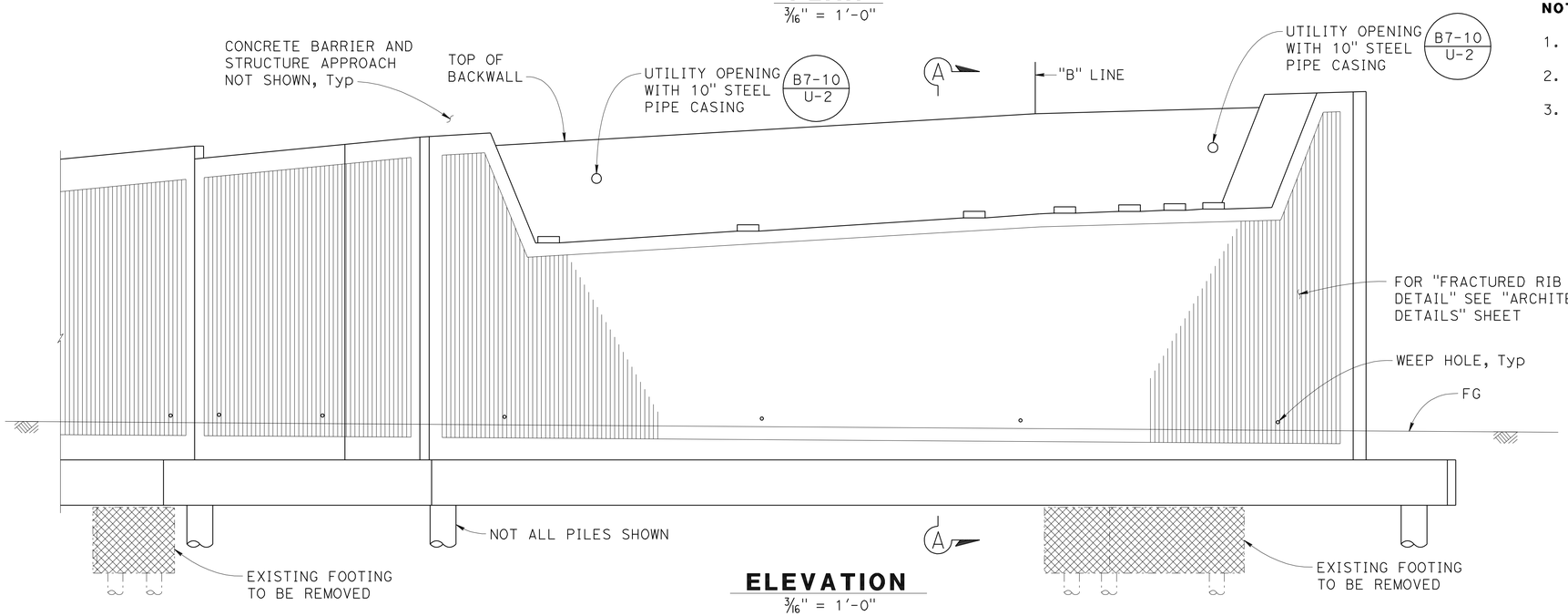
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



PLAN
3/16" = 1'-0"



ELEVATION
3/16" = 1'-0"

LEGEND:

- Indicates existing structure
- Indicates bridge removal
  Remove pile cap and interfering piles
  3'-0" below bottom of new footing elevation
  and backfill with structural backfill

NOTES:

1. For "SECTION A-A", see "ABUTMENT DETAILS No. 1" sheet.
2. For "SHEAR KEY DETAIL", see "ABUTMENT DETAILS No. 2" sheet.
3. For retaining wall details, see "ABUTMENT DETAILS No. 3" and "ABUTMENT DETAILS No. 4" sheets.

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
8-8-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
ABUTMENT 1 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-30-12	5-30-12	8-7-12	6	52

FILE => 33-0753-f-a01_lo.dgn

USERNAME => s1244936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	608	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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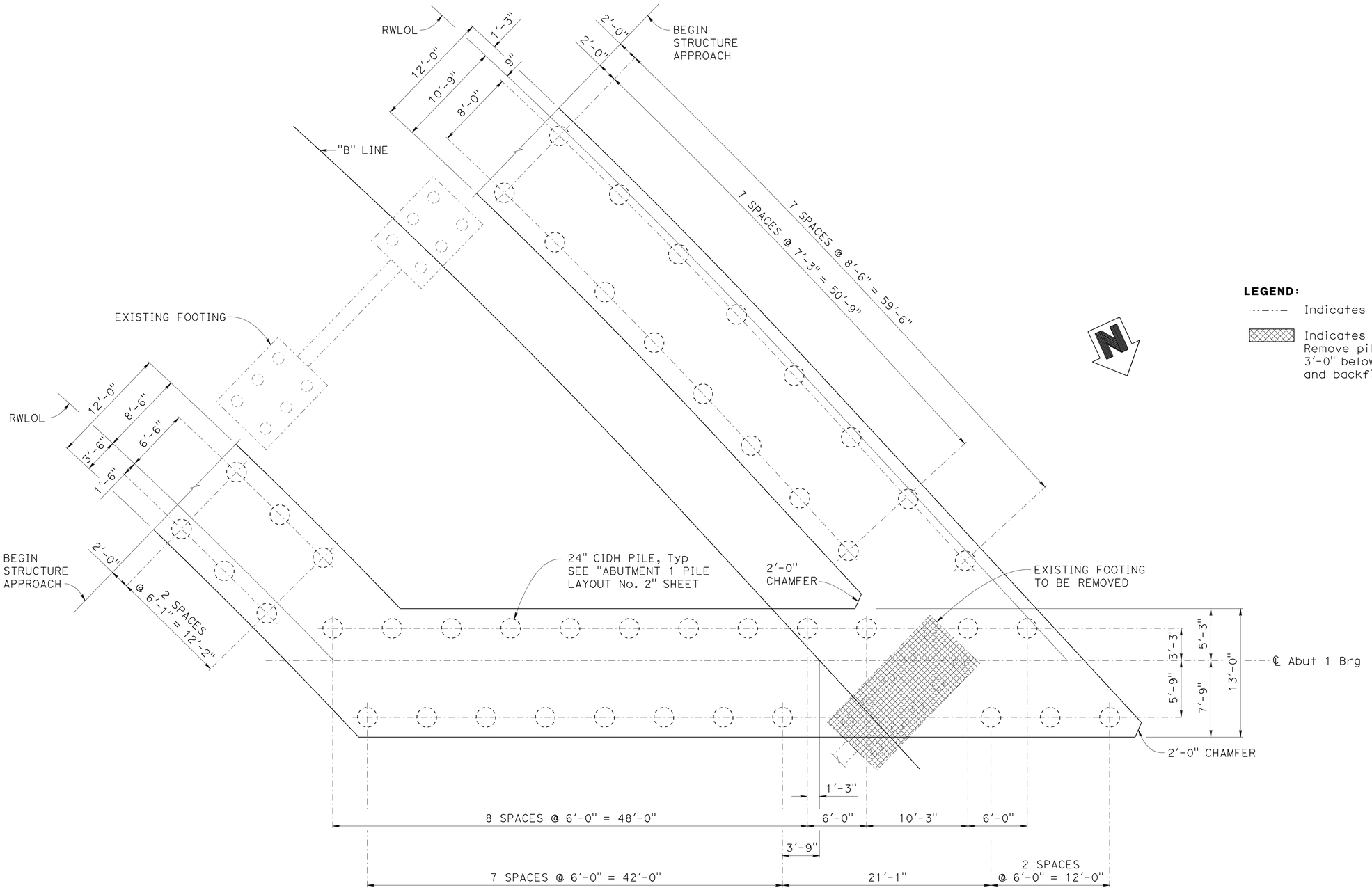
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



LEGEND:

Indicates existing structure

Indicates bridge removal
Remove pile cap and interfering piles
3'-0" below bottom of new footing elevation
and backfill with structural backfill

PILE LAYOUT

3/16" = 1'-0"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

ABUTMENT 1 PILE LAYOUT No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-30-12	3-30-12	7-11-12	7	52

FILE => 33-0753-f-a01_plo01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	609	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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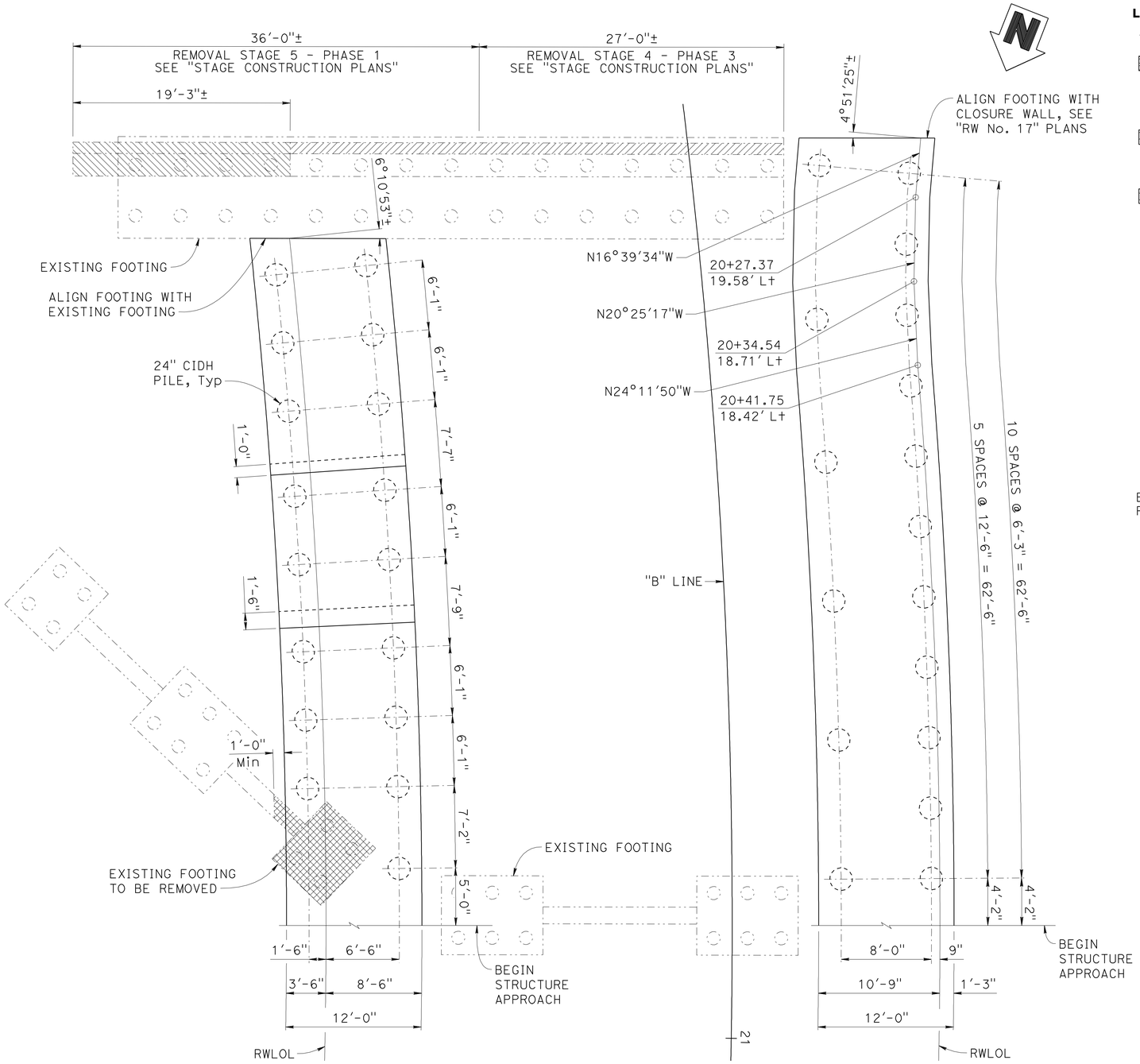
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

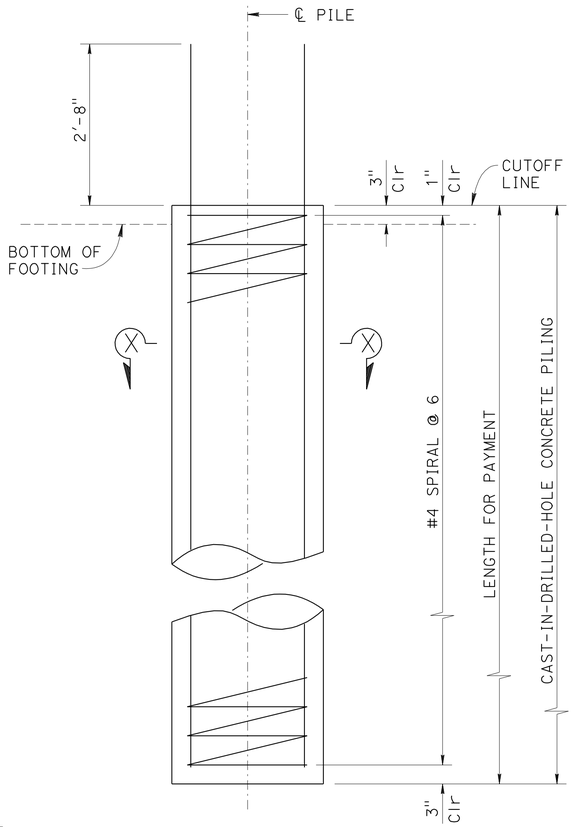
LEGEND:

- Indicates existing structure
- Indicates bridge removal
  Remove pile cap and interfering piles
  3'-0" below bottom of new footing elevation
  and backfill with structural backfill
- Indicates bridge removal
  Remove existing abutment backwall
  and backfill with structural backfill
- Indicates bridge removal
  Remove existing abutment backwall and seat
  and backfill with structural backfill



PILE LAYOUT

3/16" = 1'-0"

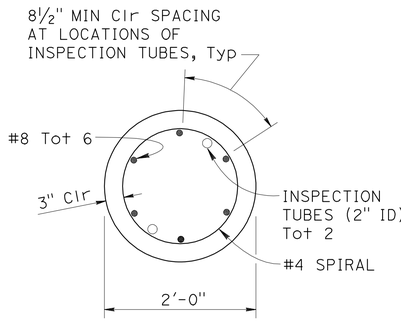


ELEVATION - 24" CIDH PILE

NO SCALE

PILE DESIGN NOTES

REINFORCED CONCRETE: f'c = 4 ksi



SECTION X-X

NO SCALE

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
8-8-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

ABUTMENT 1 PILE LAYOUT No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-9-11	1-10-12	3-30-12	8-7-12	8	52

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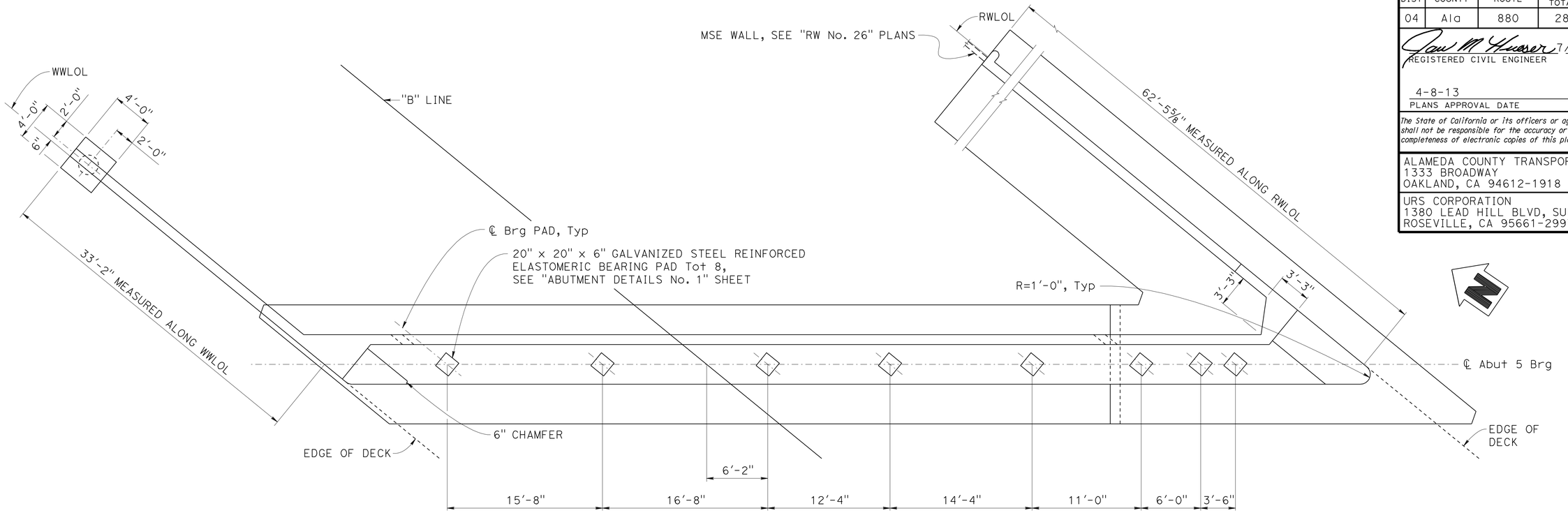
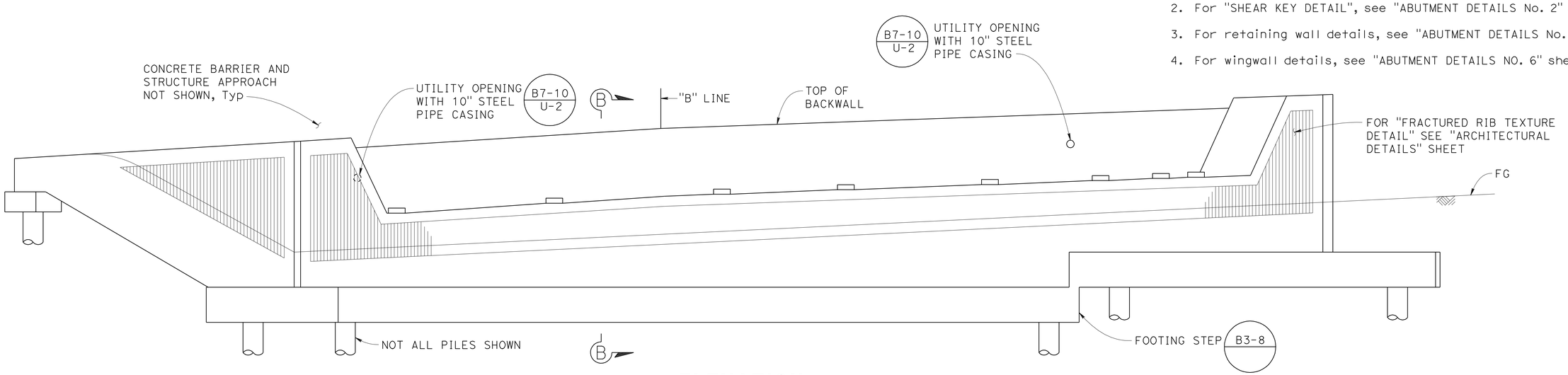


PLAN
3/16" = 1'-0"

NOTES:

1. For "SECTION B-B", see "ABUTMENT DETAILS No. 1" sheet.
2. For "SHEAR KEY DETAIL", see "ABUTMENT DETAILS No. 2" sheet.
3. For retaining wall details, see "ABUTMENT DETAILS No. 5" sheet.
4. For wingwall details, see "ABUTMENT DETAILS NO. 6" sheet.



ELEVATION
3/16" = 1'-0"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	610	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
8-8-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
ABUTMENT 5 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	8-7-12	9	52

FILE => 33-0753-f-a05_lo.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	611	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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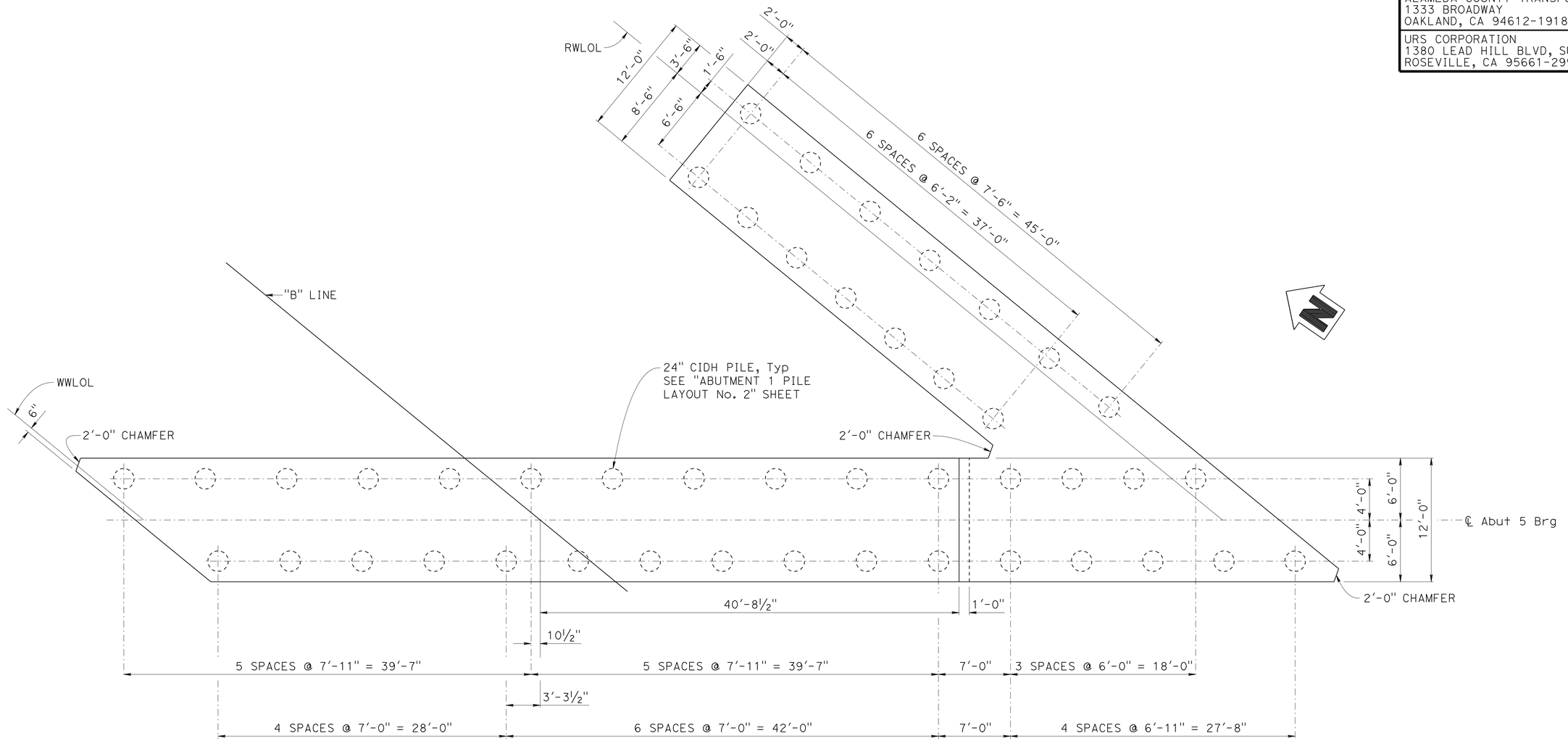
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



PILE LAYOUT

3/16" = 1'-0"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

ABUTMENT 5 PILE LAYOUT

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-30-12	3-30-12	7-11-12	10	52

FILE => 33-0753-f-a05_plo.dgn

USERNAME => s1244936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	612	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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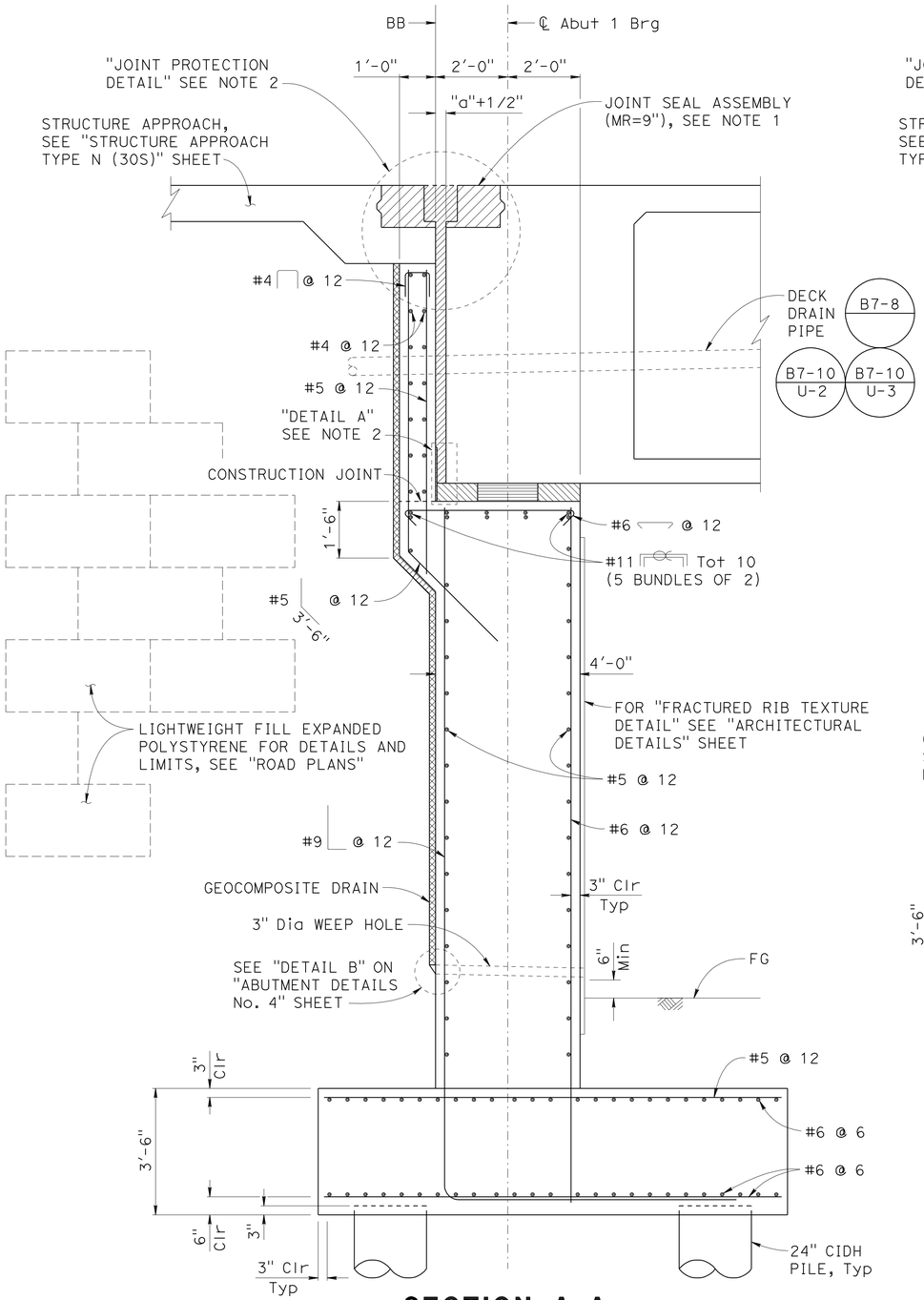
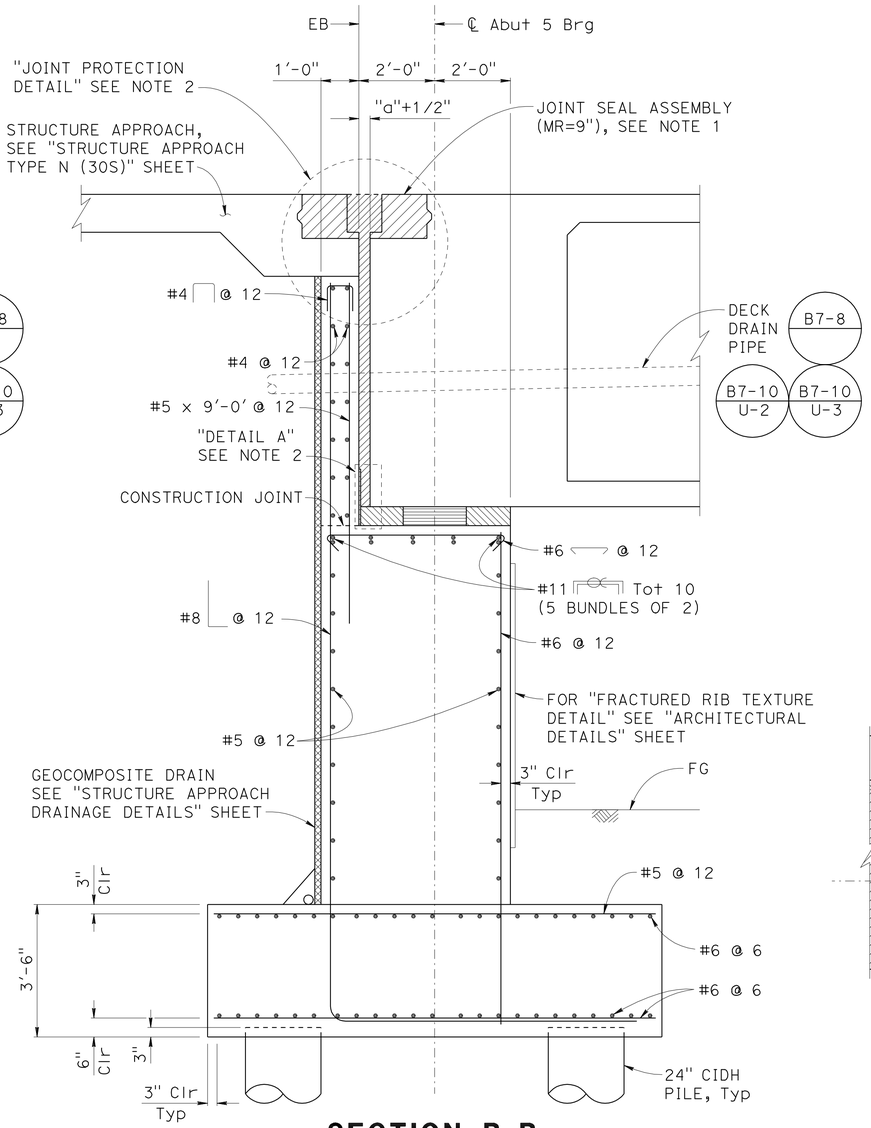
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



SECTION A-A
½" = 1'-0"



SECTION B-B
½" = 1'-0"

NOTES:

1. For joint seal assembly details, see "JOINT SEAL - ABUTMENT DETAILS MOVEMENT RATING GREATER THAN 4" " sheet.
2. For "DETAIL A" and "JOINT PROTECTION DETAIL" see "ABUTMENT DETAILS No. 6" sheet.

BEARING PAD DETAIL
NO SCALE

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	POST MILES
33-0753	28.95

23RD AVENUE OC (REPLACE)
ABUTMENT DETAILS No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-9-11	1-30-12	5-30-12	7-11-12	11	52

FILE => 33-0753-f-adt01.dgn

USERNAME => s1244936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	613	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

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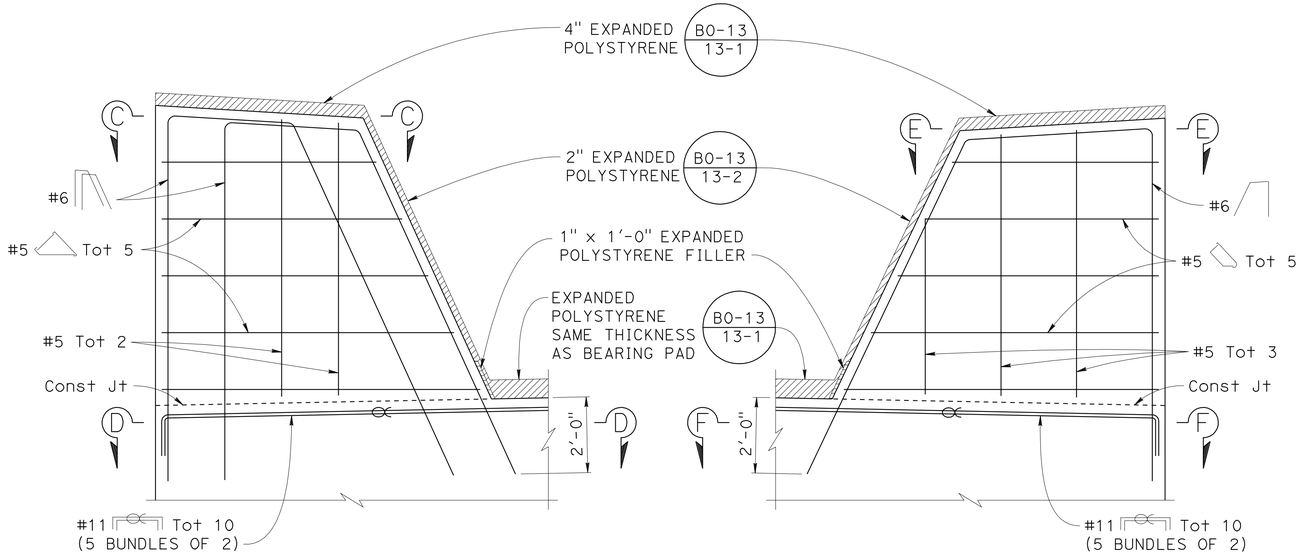
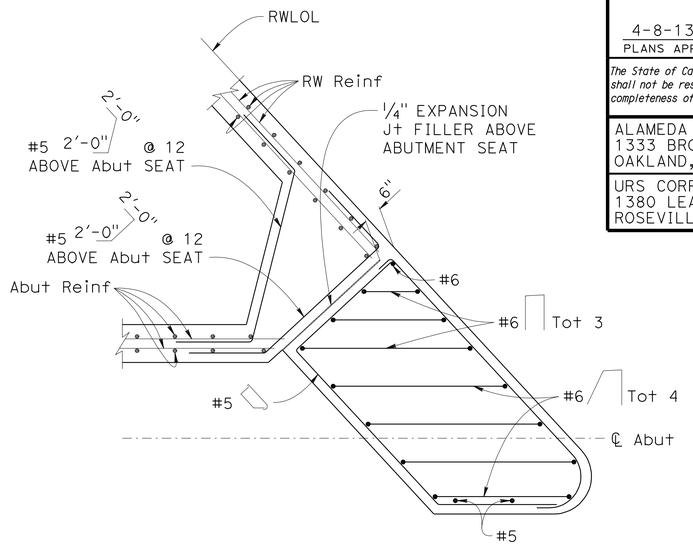
REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

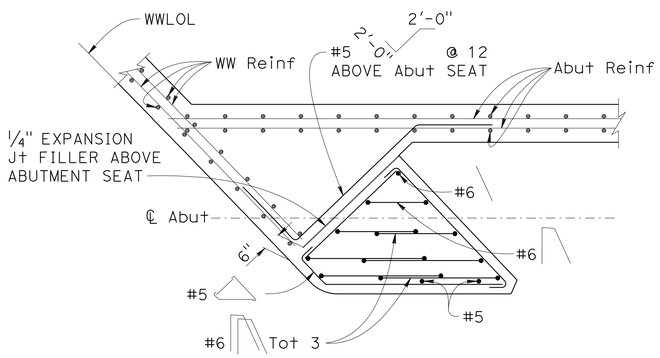
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



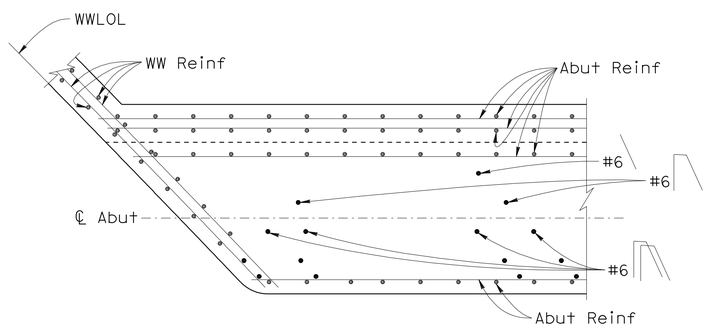
SHEAR KEY DETAIL
1/2" = 1'-0"



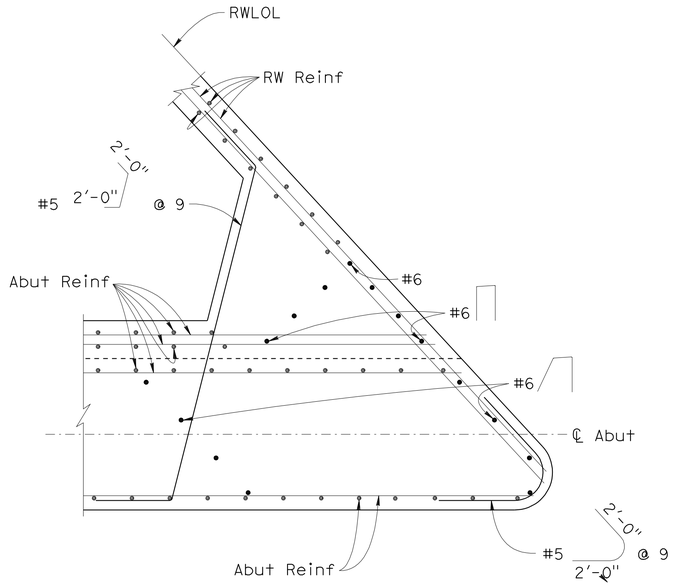
SECTION E-E
1/2" = 1'-0"



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



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



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

NOTE:

1. Abutment 5 shown, Abutment 1 similar.

LEGEND:

∝ Indicates bundled bars

Paul Cotter DESIGN OVERSIGHT Paul Cotter 7-16-12 SIGN OFF DATE		DESIGN	BY A. Prince	CHECKED N. Suan	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
		DETAILS	BY R. Lim	CHECKED N. Suan	
		QUANTITIES	BY A. Prince	CHECKED M. Soltani	
Jan Hueser PROJECT ENGINEER	BRIDGE NO. 33-0753	POST MILES 28.95	23RD AVENUE OC (REPLACE) ABUTMENT DETAILS No. 2		
DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 0724 PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101	DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES 3-6-11 1-30-12 3-30-12 7-11-12	SHEET 12 OF 52
		FILE => 33-0753-f-adt02.dgn			

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	614	789

REGISTERED CIVIL ENGINEER — DATE 7/11/12

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

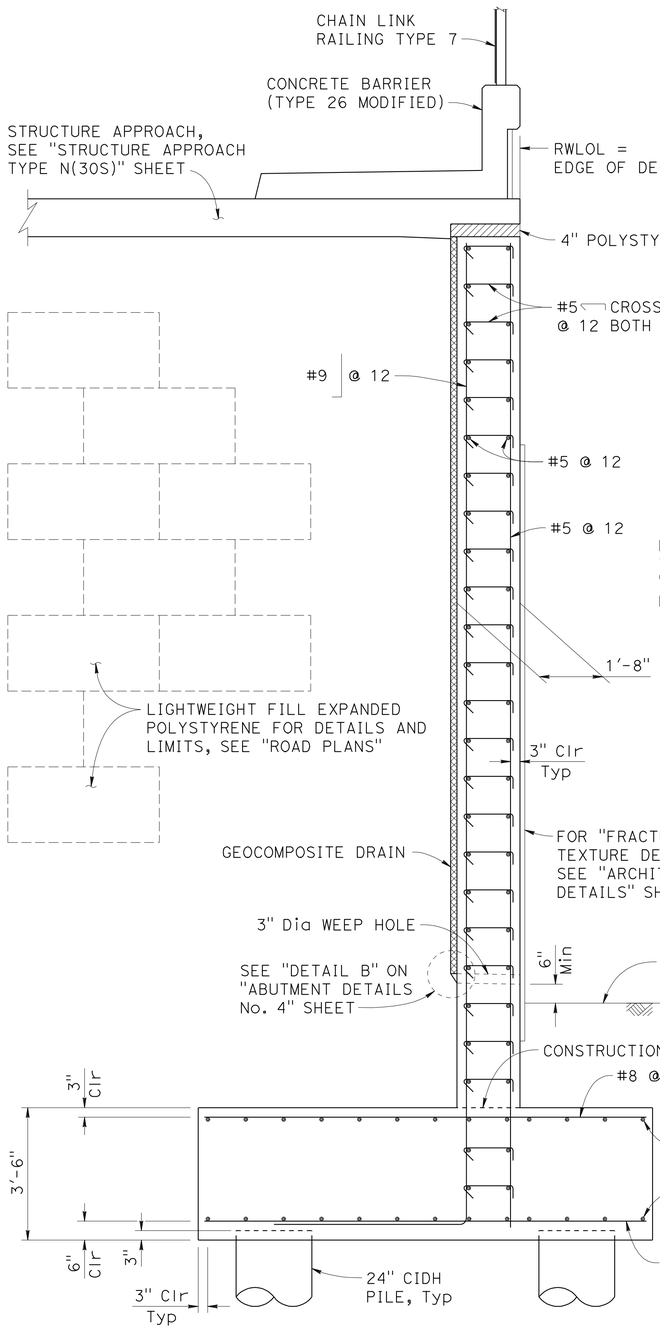
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

NOTE:

1. For "SECTION H-H", "SECTION I-I" and "SECTION J-J", see "ABUTMENT DETAILS No. 4" sheet.

LEGEND:

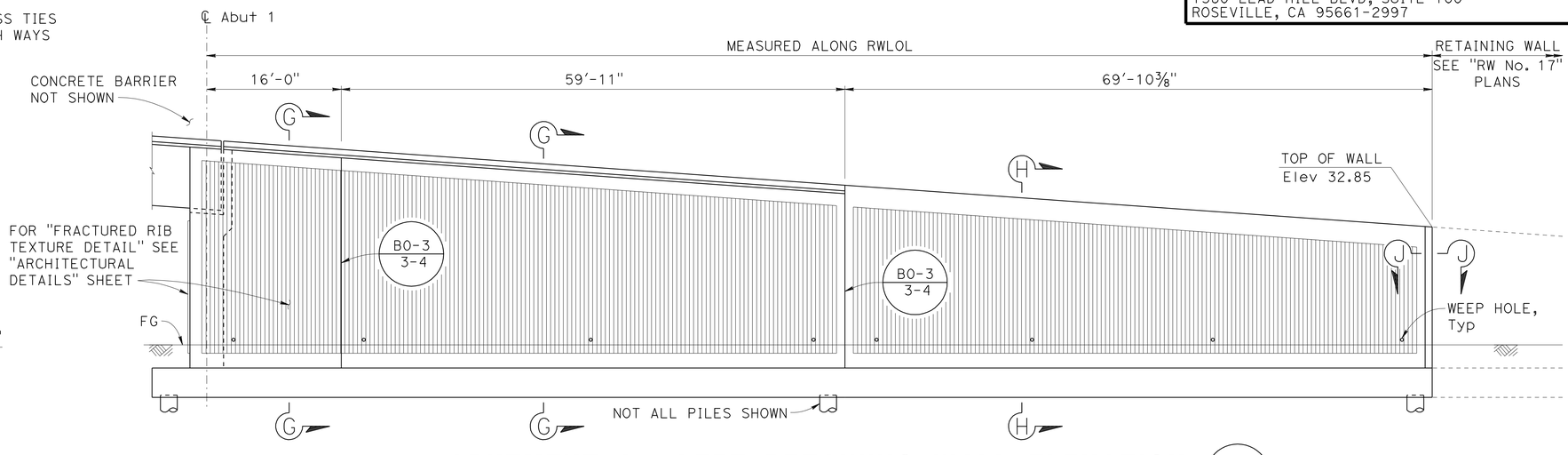
Indicates bridge removal
Remove existing abutment backwall and seat and backfill with structural backfill, for limits of removal see "ABUTMENT 1 PILE LAYOUT No. 2" sheet



SECTION G-G

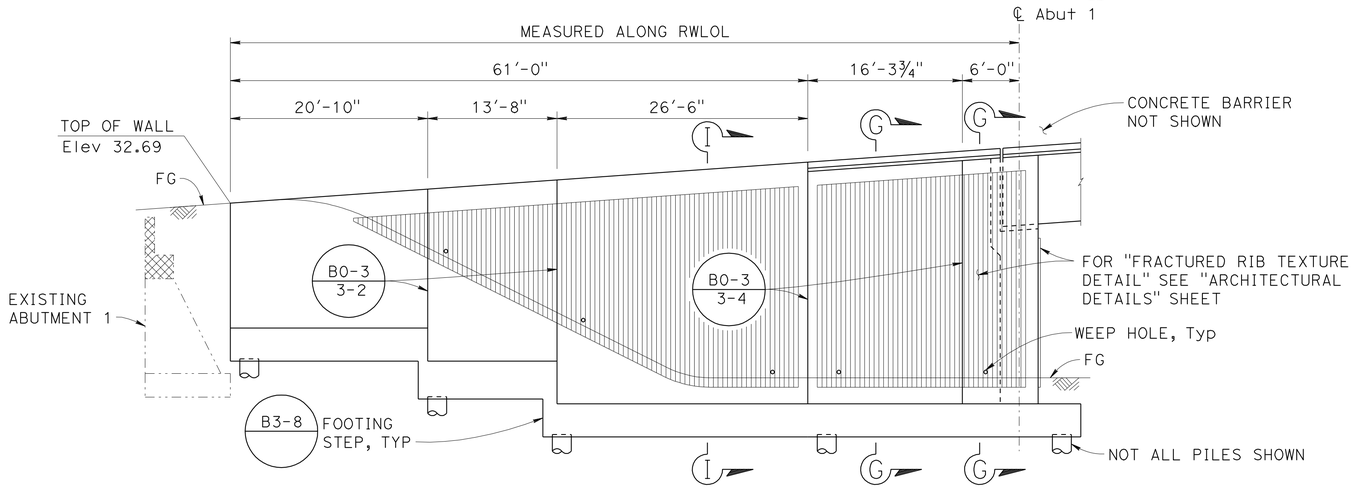
1/2" = 1'-0"

ABUTMENT 1 RW R+ SHOWN, ABUTMENT 1 RW L+ SIMILAR



ABUTMENT 1 - LEFT RETAINING WALL ELEVATION

1/8" = 1'-0"



ABUTMENT 1 - RIGHT RETAINING WALL ELEVATION

1/8" = 1'-0"

DESIGN OVERSIGHT Paul Cotter		DESIGN	BY A. Prince	CHECKED N. Suan	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
7-16-12 SIGN OFF DATE		DETAILS	BY R. Lim	CHECKED N. Suan	Jan Hueser PROJECT ENGINEER
		QUANTITIES	BY A. Prince	CHECKED M. Soltani	BRIDGE NO. 33-0753 POST MILES 28.95

23RD AVENUE OC (REPLACE)

ABUTMENT DETAILS No. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	13	52

FILE => 33-0753-f-adt03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	615	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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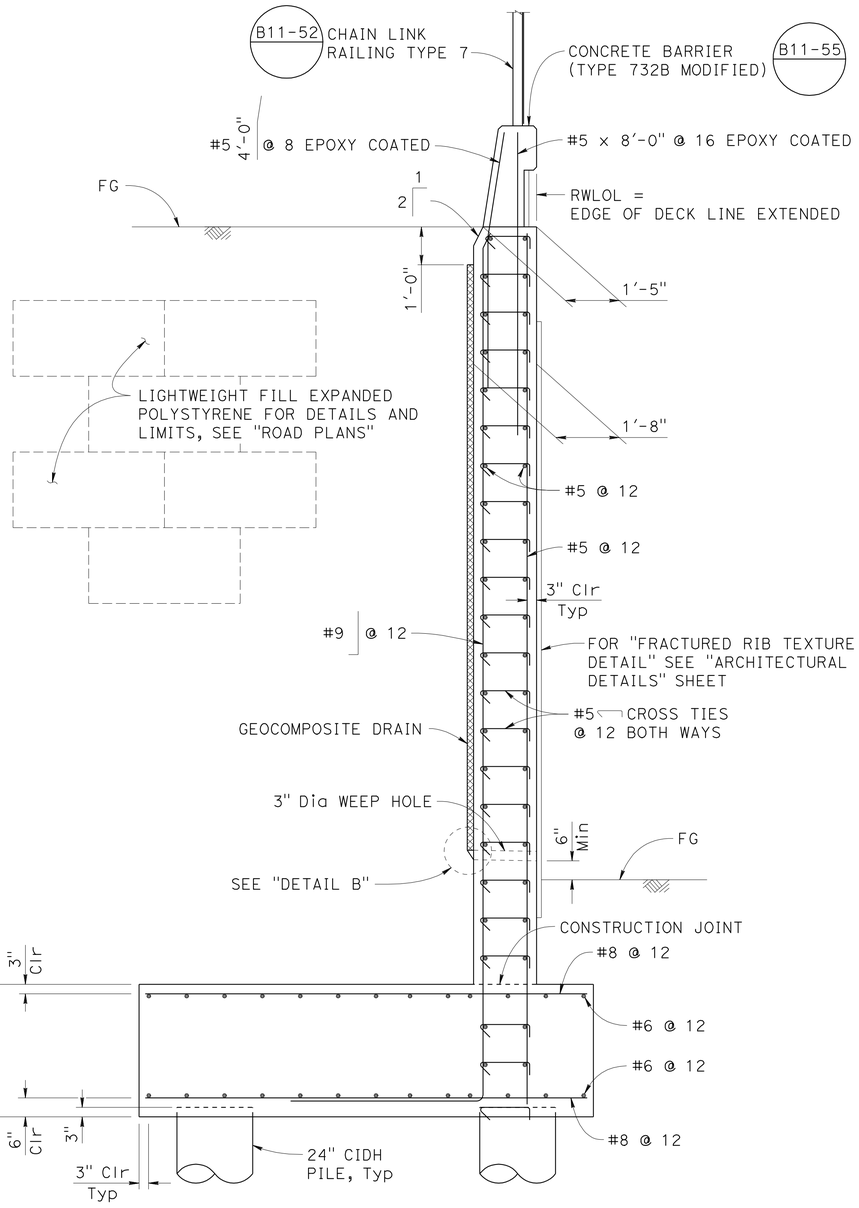
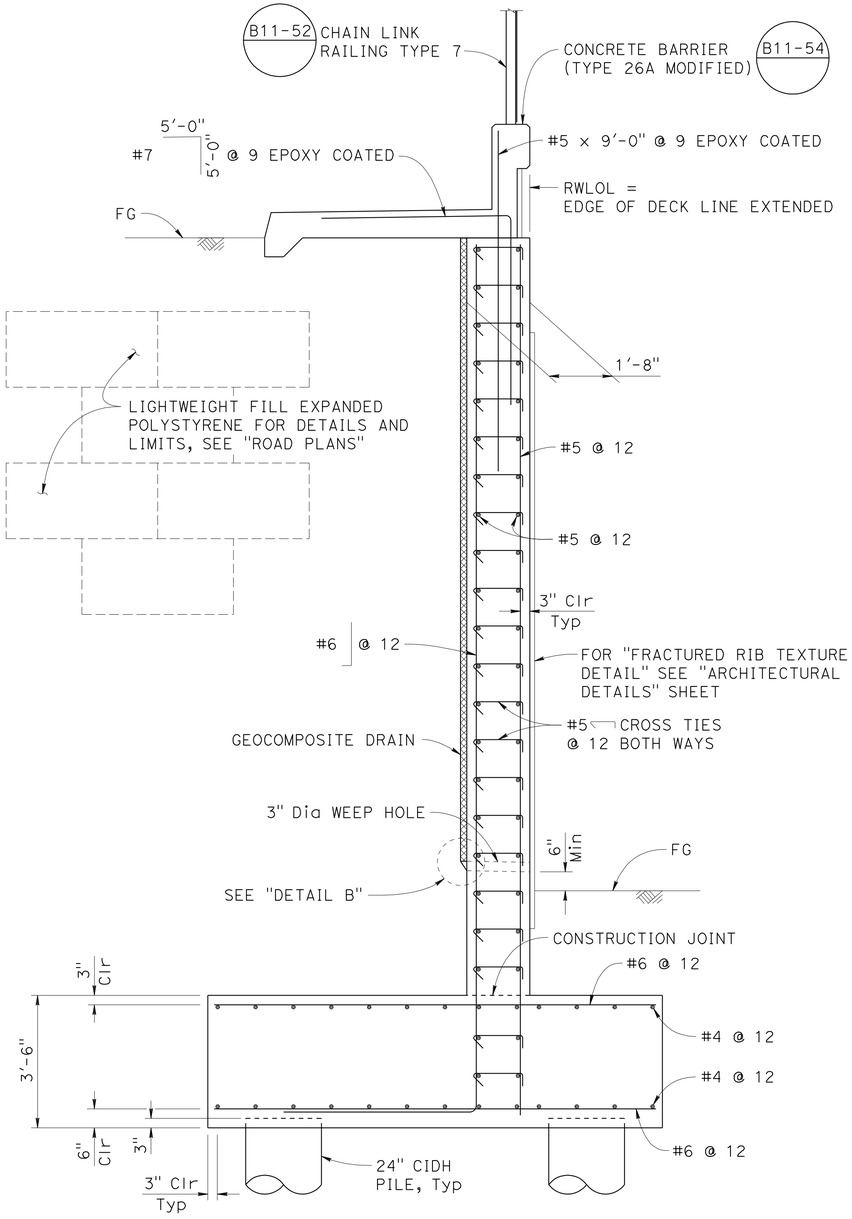
1333 BROADWAY
OAKLAND, CA 94612-1918

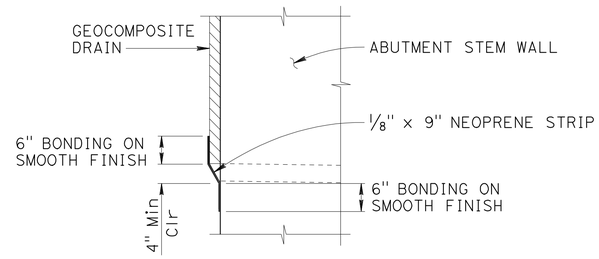
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



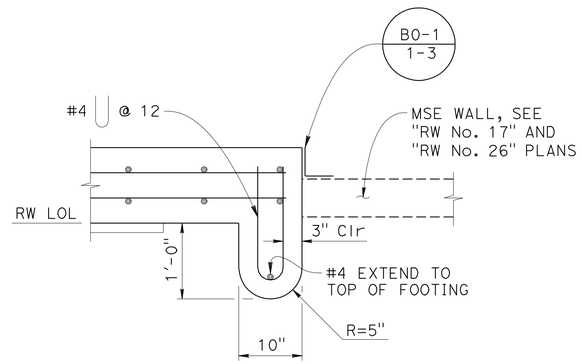
SECTION H-H
½"=1'-0"



SECTION I-I
½"=1'-0"



DETAIL B
NO SCALE



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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
ABUTMENT DETAILS No. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	14	52

FILE => 33-0753-f-adt04.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	616	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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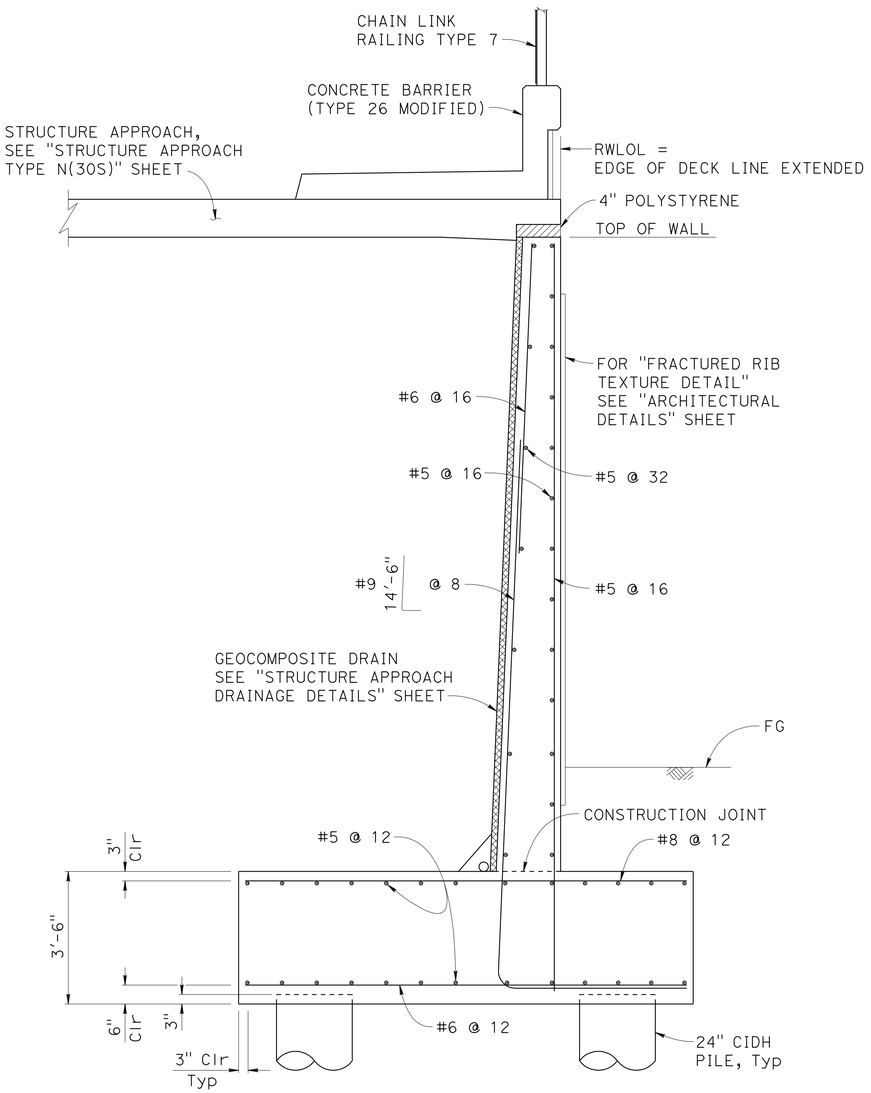
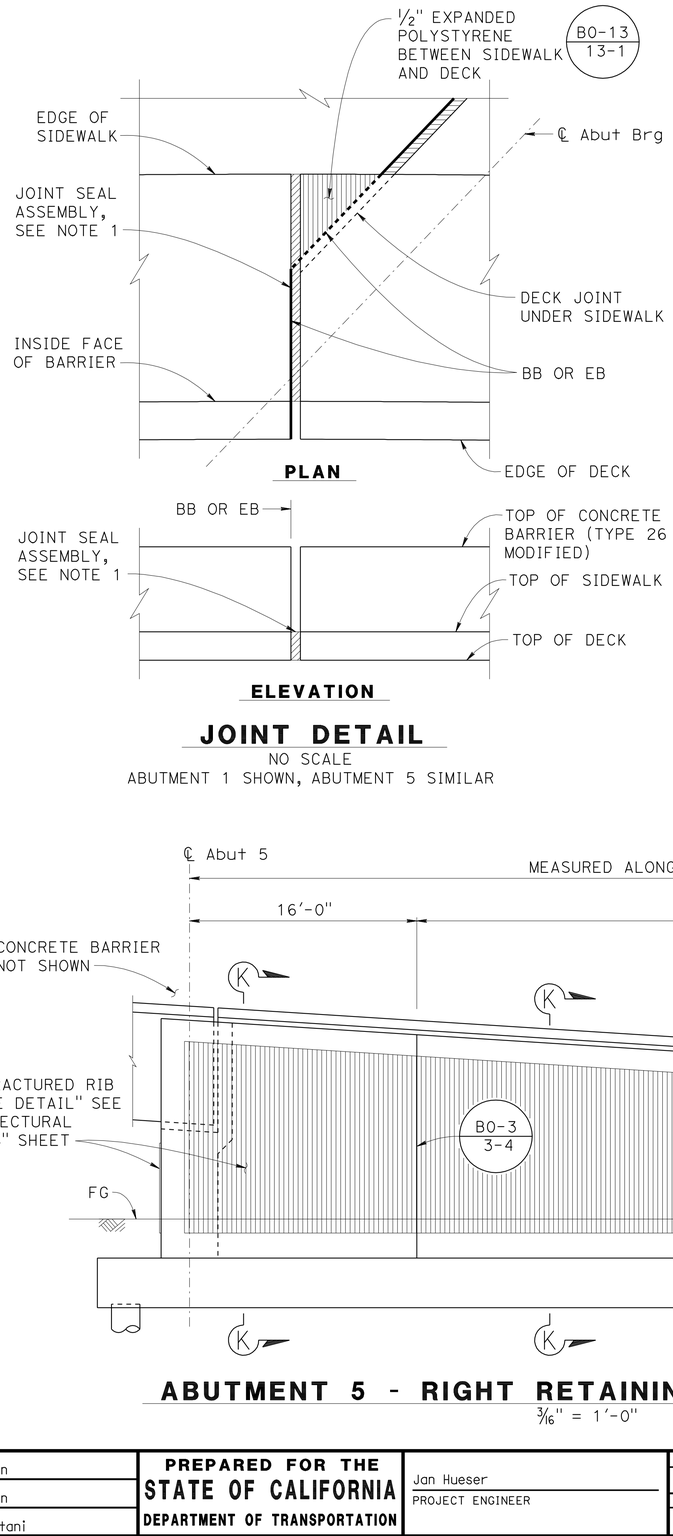
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



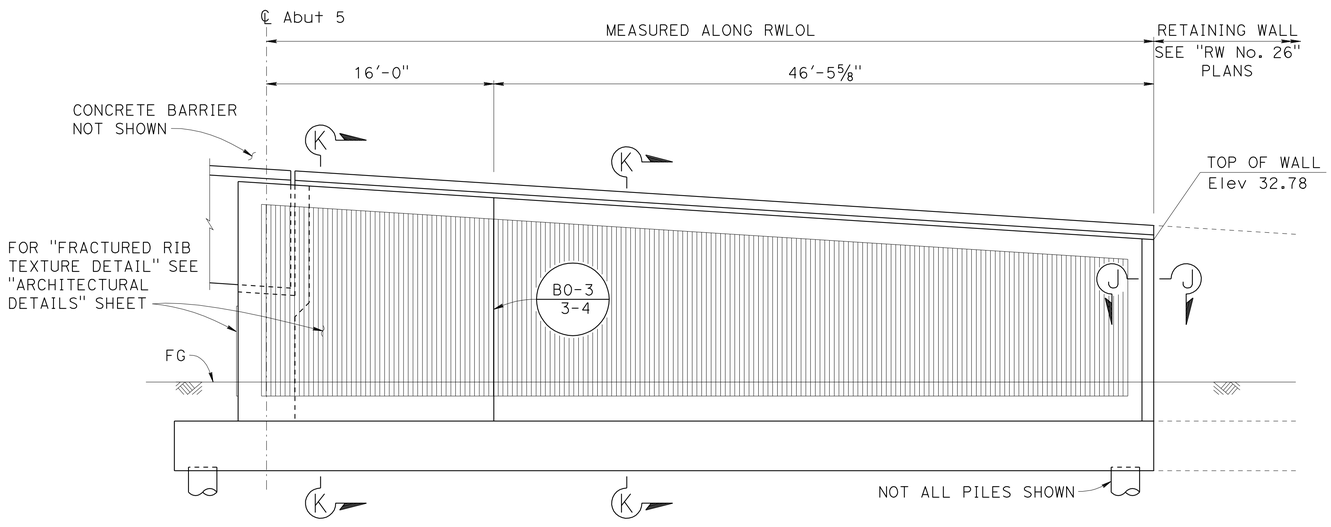
SECTION K-K
1/2" = 1'-0"



JOINT DETAIL
NO SCALE
ABUTMENT 1 SHOWN, ABUTMENT 5 SIMILAR

NOTES:

1. For joint seal assembly details, see "JOINT SEAL - ABUTMENT DETAILS MOVEMENT RATING GREATER THAN 4" " sheet.
2. For "SECTION J-J", see "ABUTMENT DETAILS No. 4" sheet.



ABUTMENT 5 - RIGHT RETAINING WALL ELEVATION
3/16" = 1'-0"

B0-3 3-3

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
ABUTMENT DETAILS No. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	15	52

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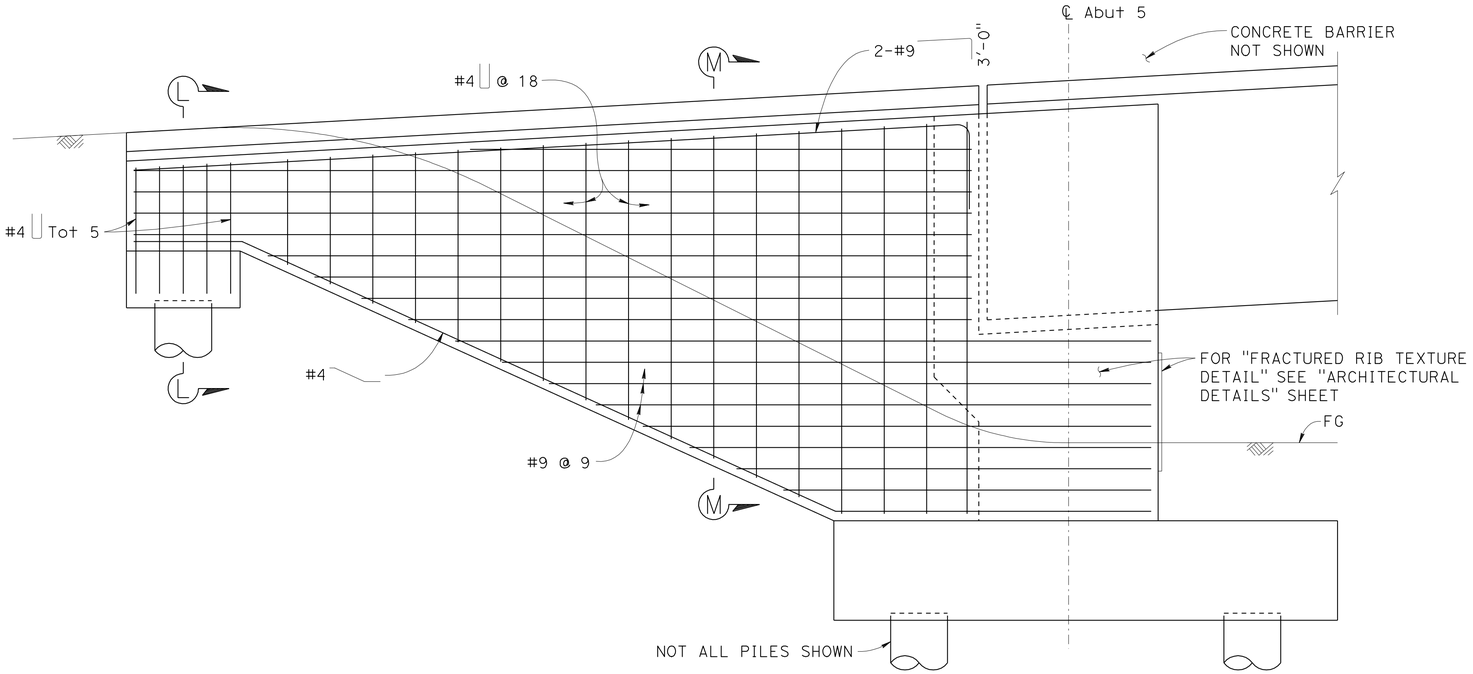
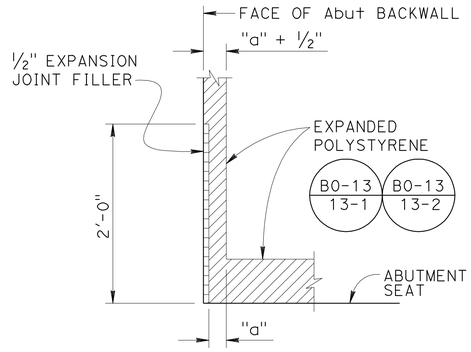
USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52



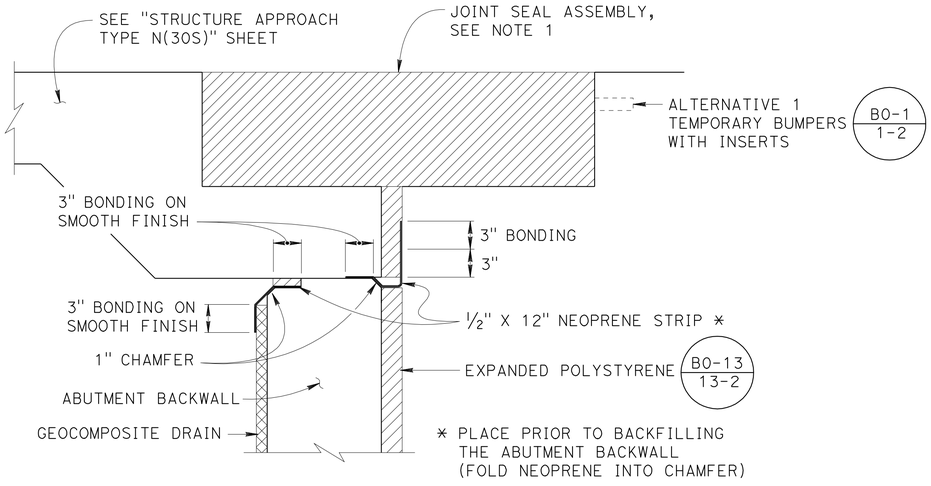
ABUTMENT 5 - WINGWALL ELEVATION

3/8" = 1'-0"



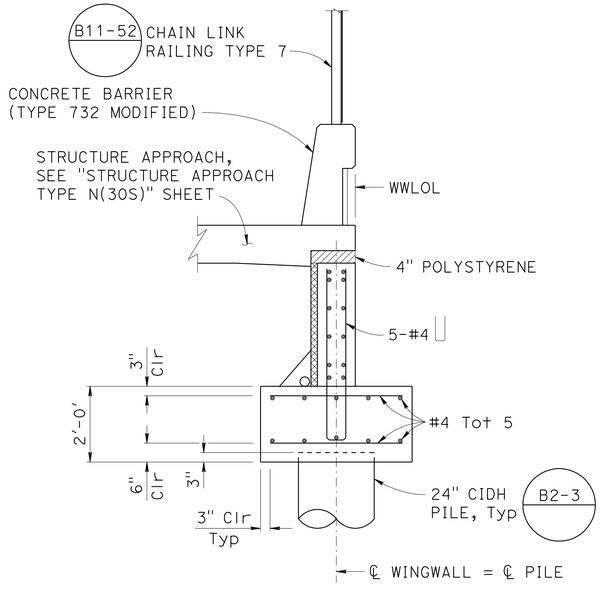
DETAIL A

NO SCALE



JOINT PROTECTION DETAIL

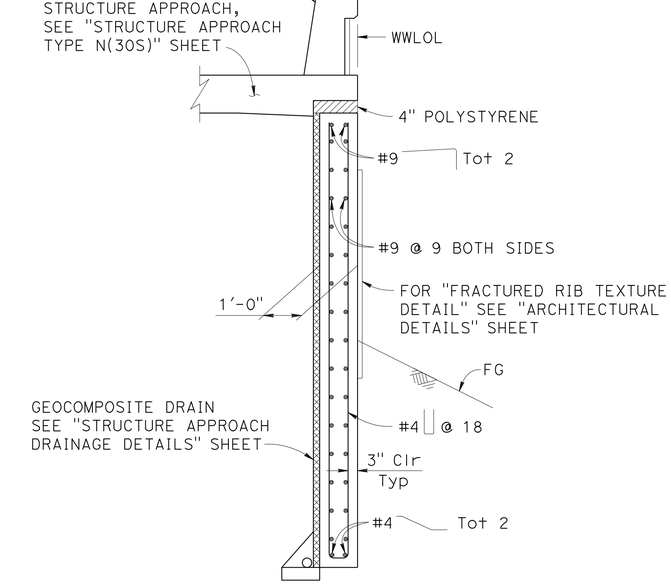
NO SCALE



SECTION L-L

1/2" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION M-M"



SECTION M-M

1/2" = 1'-0"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	617	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

ABUTMENT DETAILS No. 6

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	5-30-12	7-11-12	16	52

FILE => 33-0753-f-adt06.dgn

USERNAME => s124436 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	618	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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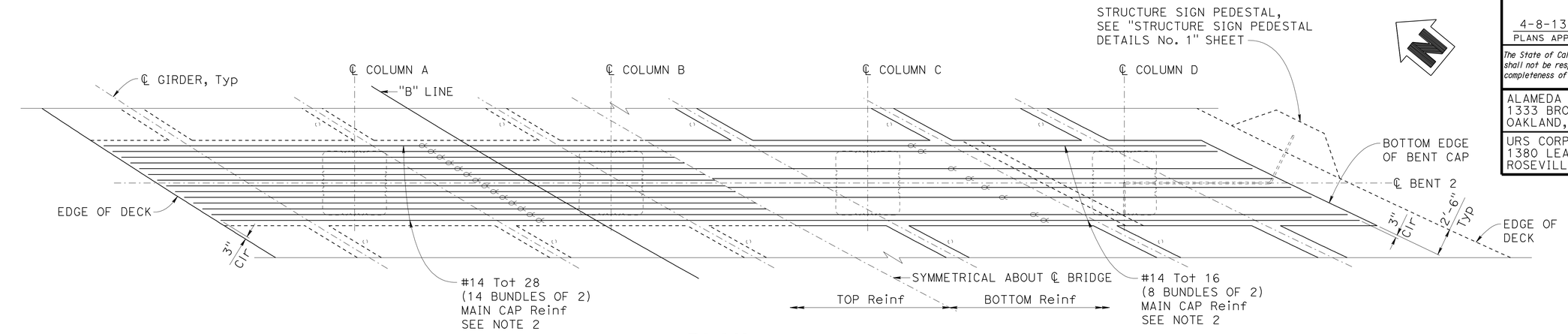
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

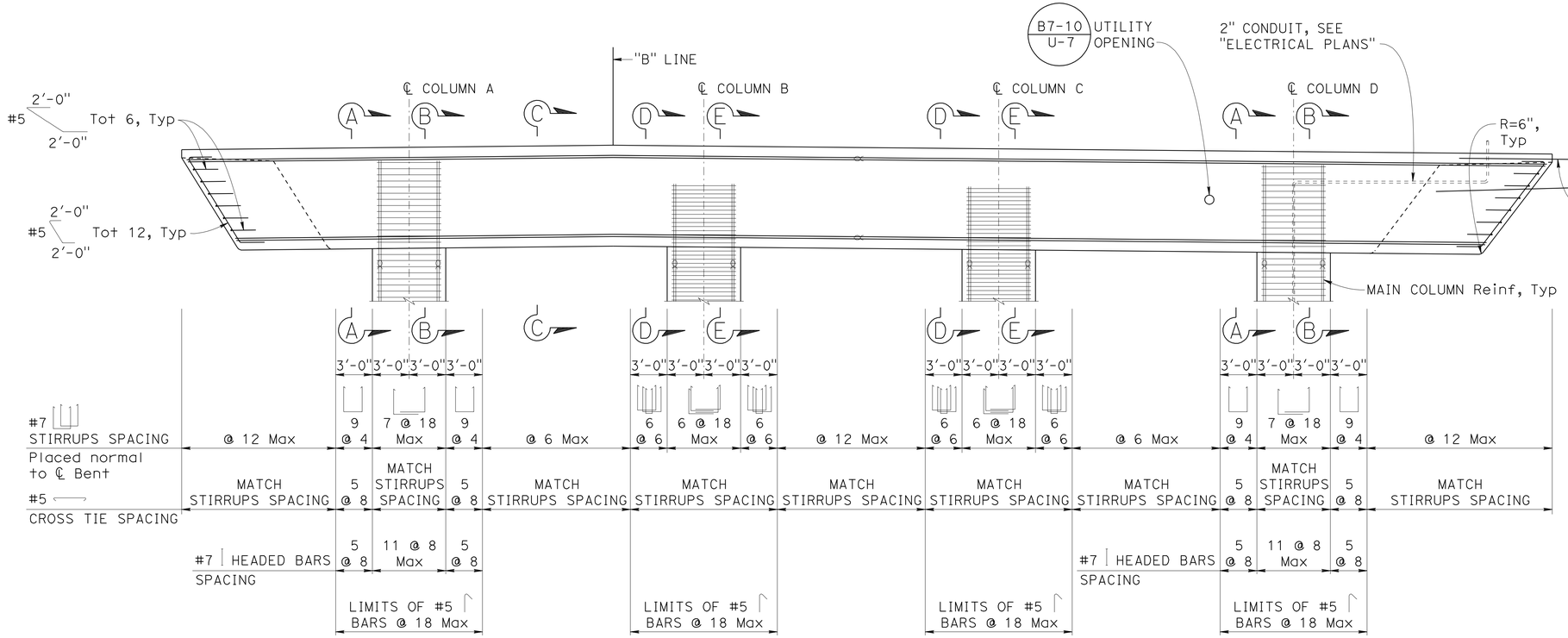
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



PLAN
3/16" = 1'-0"

NOTES:

1. For "SECTION A-A, B-B, C-C, D-D and E-E", see "BENT 2 DETAILS No. 1" sheet.
2. Only staggered "SERVICE LEVEL" splices are allowed in main cap Reinf.



ELEVATION
3/16" = 1'-0"

LEGEND:

∝ Indicates bundled bars

DESIGN OVERSIGHT	Paul Cotter		
7-16-12 SIGN OFF DATE			
DESIGN	BY A. Prince	CHECKED N. Suan	
DETAILS	BY R. Lim	CHECKED N. Suan	
QUANTITIES	BY A. Prince	CHECKED M. Soltani	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	33-0753
POST MILES	28.95

23RD AVENUE OC (REPLACE)
BENT 2 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

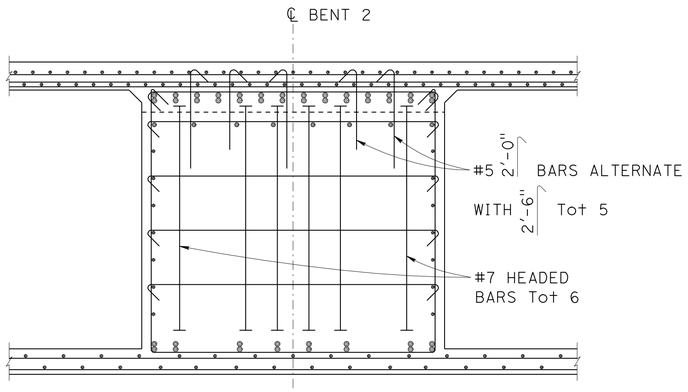
UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	17	52

FILE => 33-0753-h-b02_lo.dgn

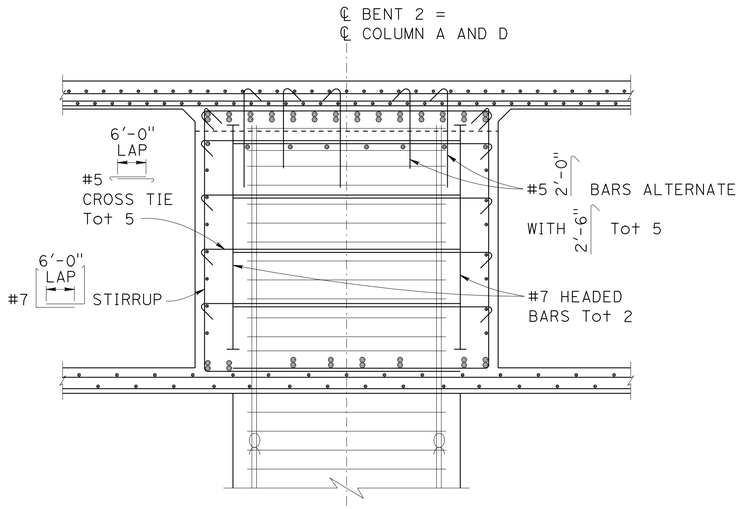
USERNAME => s124096 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52



SECTION A-A

½" = 1'-0"

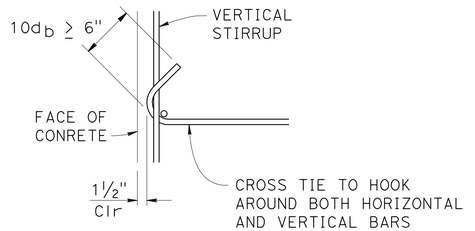
FOR DETAILS NOT SHOWN, SEE "SECTION C-C"



SECTION B-B

½" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION C-C"



CROSS TIE DETAIL

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	619	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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1333 BROADWAY
OAKLAND, CA 94612-1918

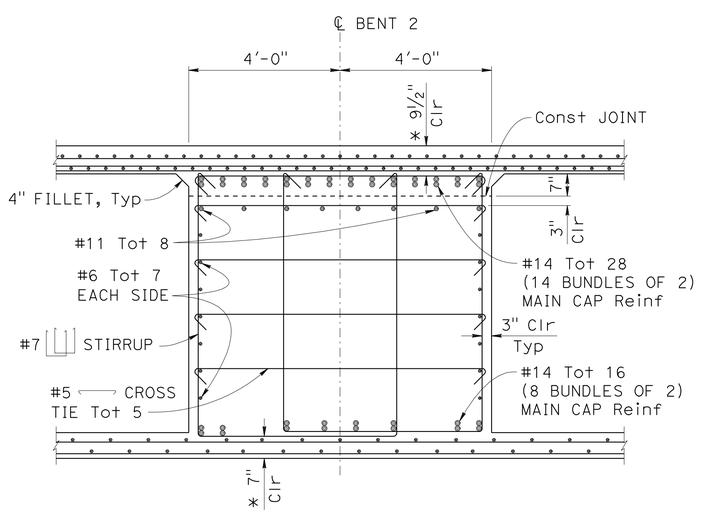
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

NOTE:

1. Reinforcement may be bent or lowered to clear prestressing ducts, subject to the approval of the Engineer.

LEGEND:

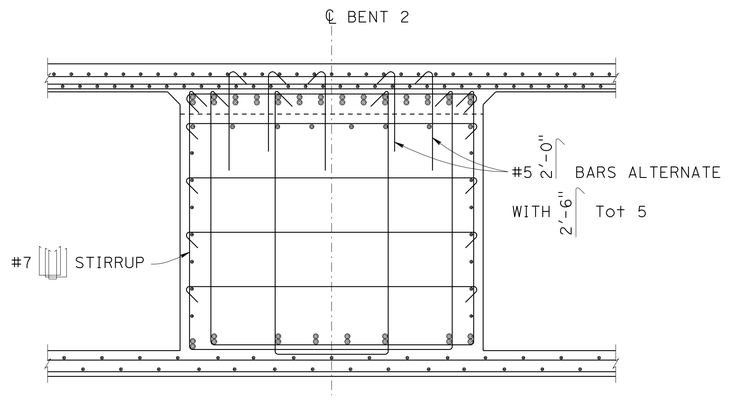
℄ Indicates bundled bars



SECTION C-C

½" = 1'-0"

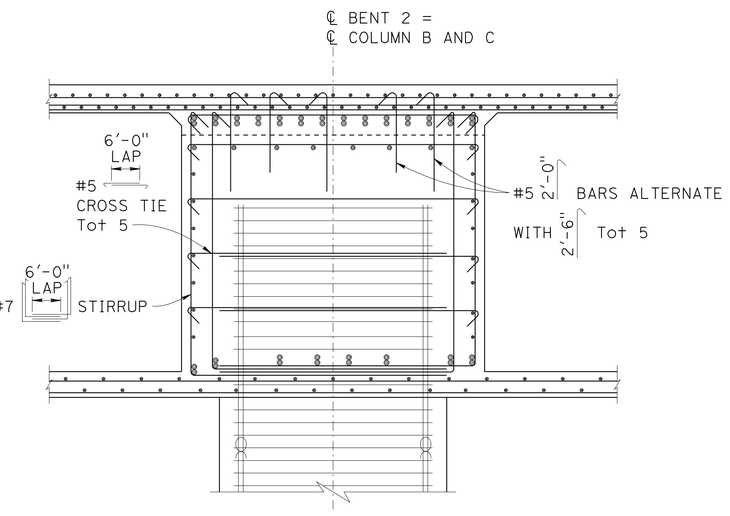
* CLEARANCE TO MAIN CAP Reinf



SECTION D-D

½" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION C-C"



SECTION E-E

½" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION C-C"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	POST MILES
33-0753	28.95

23RD AVENUE OC (REPLACE)

BENT 2 DETAILS No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

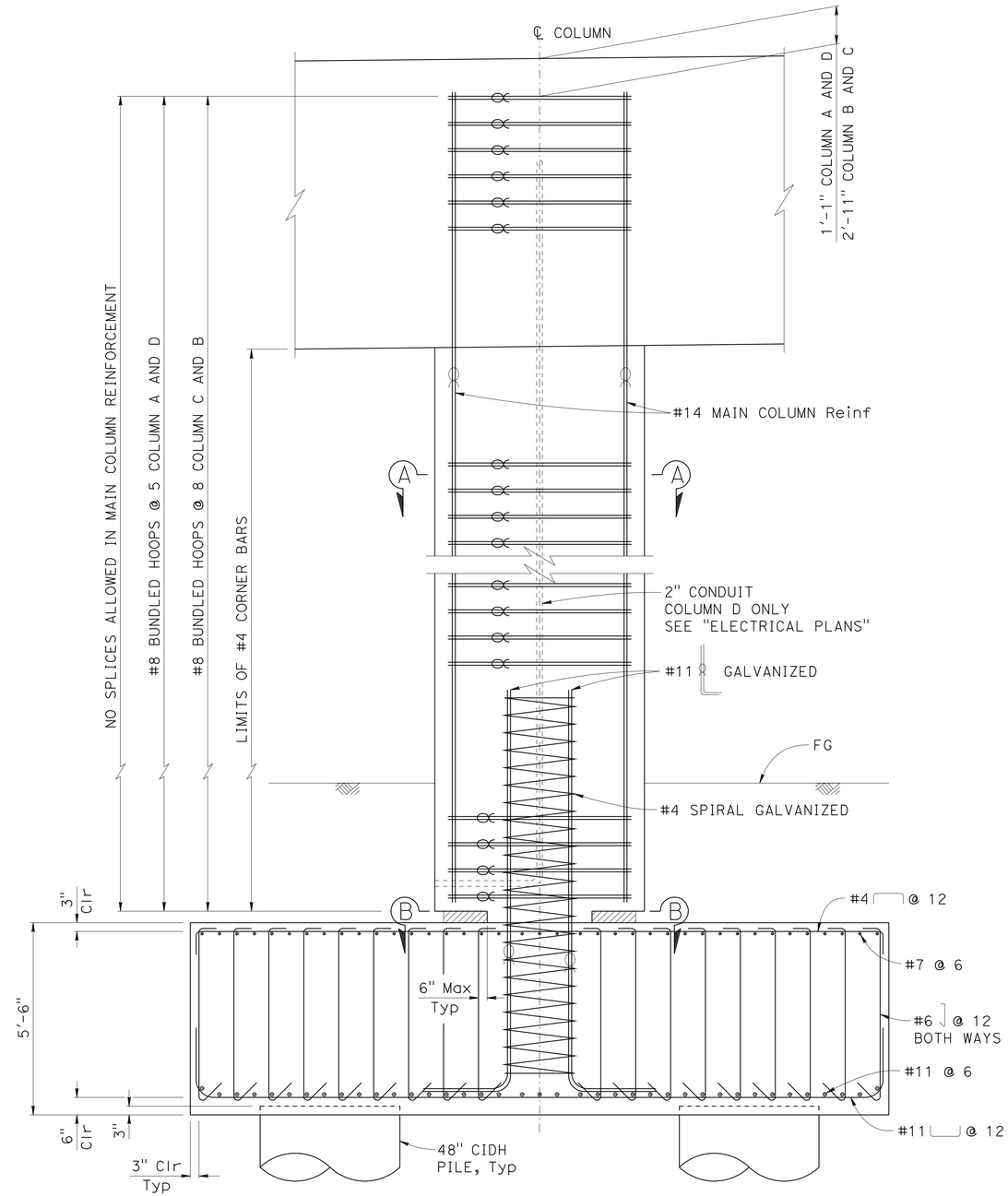
UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	18	52

FILE => 33-0753-h-b02dt01.dgn

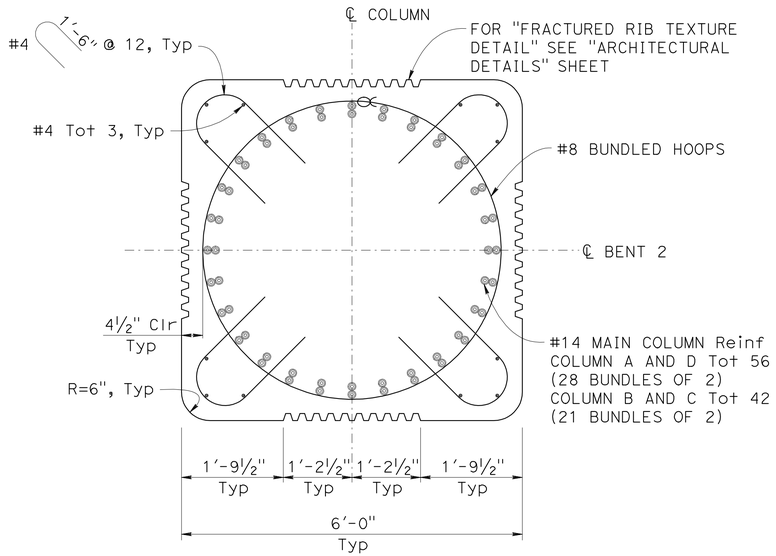
USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52



COLUMN ELEVATION

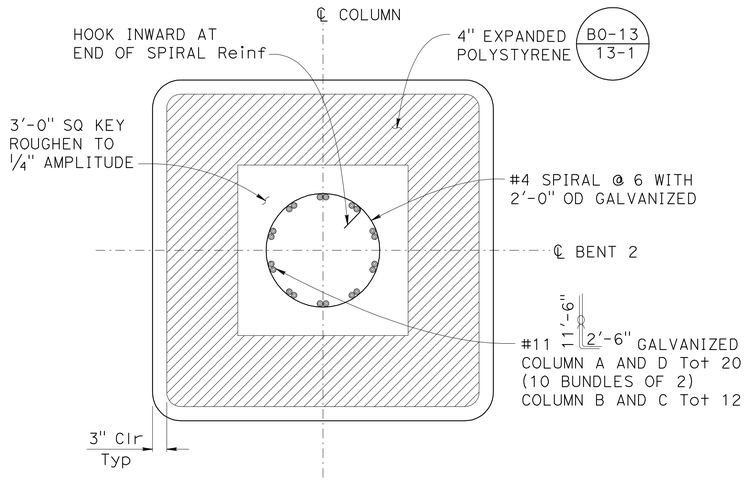
½" = 1'-0"

COLUMN A SHOWN, COLUMNS B, C AND D SIMILAR



SECTION A-A

¾" = 1'-0"



SECTION B-B

¾" = 1'-0"

NOTES:

1. For "FOOTING DETAIL", see "BENT 2 DETAILS No. 3" sheet.
2. All hoops shall be "Ultimate" butt spliced.

LEGEND:

∝ Indicates bundled bars

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	620	789

Jan M. Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

BENT 2 DETAILS No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 9-6-11 | 1-18-12 | 3-30-12 | 7-11-12

SHEET 19 OF 52

FILE => 33-0753-h-b02dt02.dgn

USERNAME => s1214436 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	621	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Jan M. Hueser
No. C050215
Exp. 6/30/13
CIVIL
STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

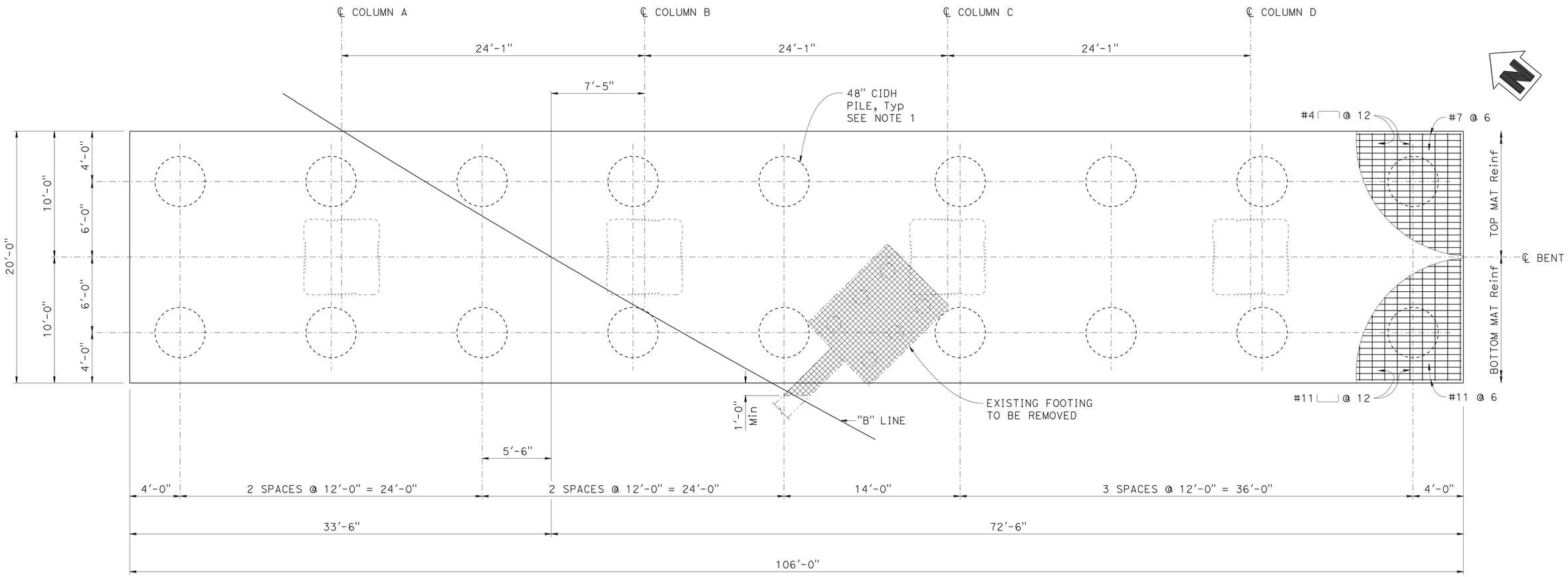
NOTE:

1. For pile details, see "48 INCH CIDH PILE DETAILS" SHEET.

LEGEND:

Indicates existing structure

Indicates bridge removal
Remove pile cap and interfering piles
3'-0" below bottom of new footing elevation
and backfill with structural backfill



FOOTING DETAIL

1/4" = 1'-0"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	POST MILES
33-0753	28.95

23RD AVENUE OC (REPLACE)

BENT 2 DETAILS No. 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	20	52

FILE => 33-0753-h-b02dt03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	622	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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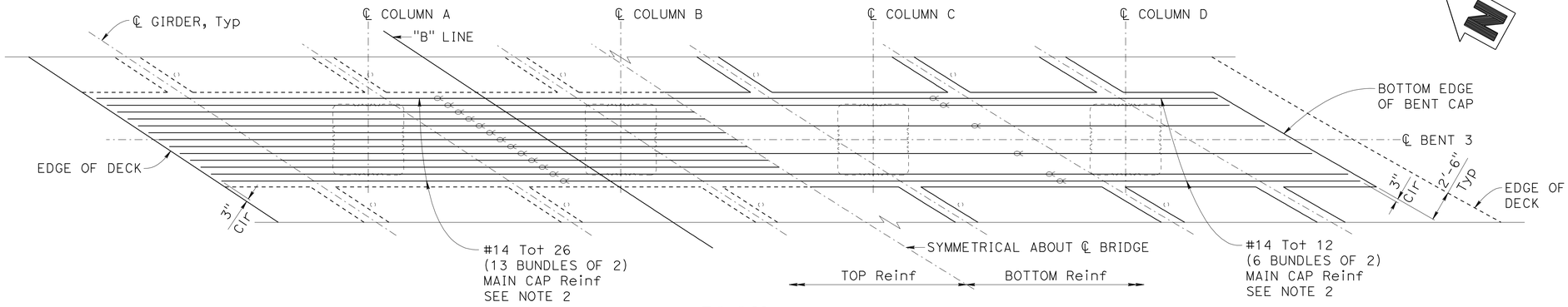
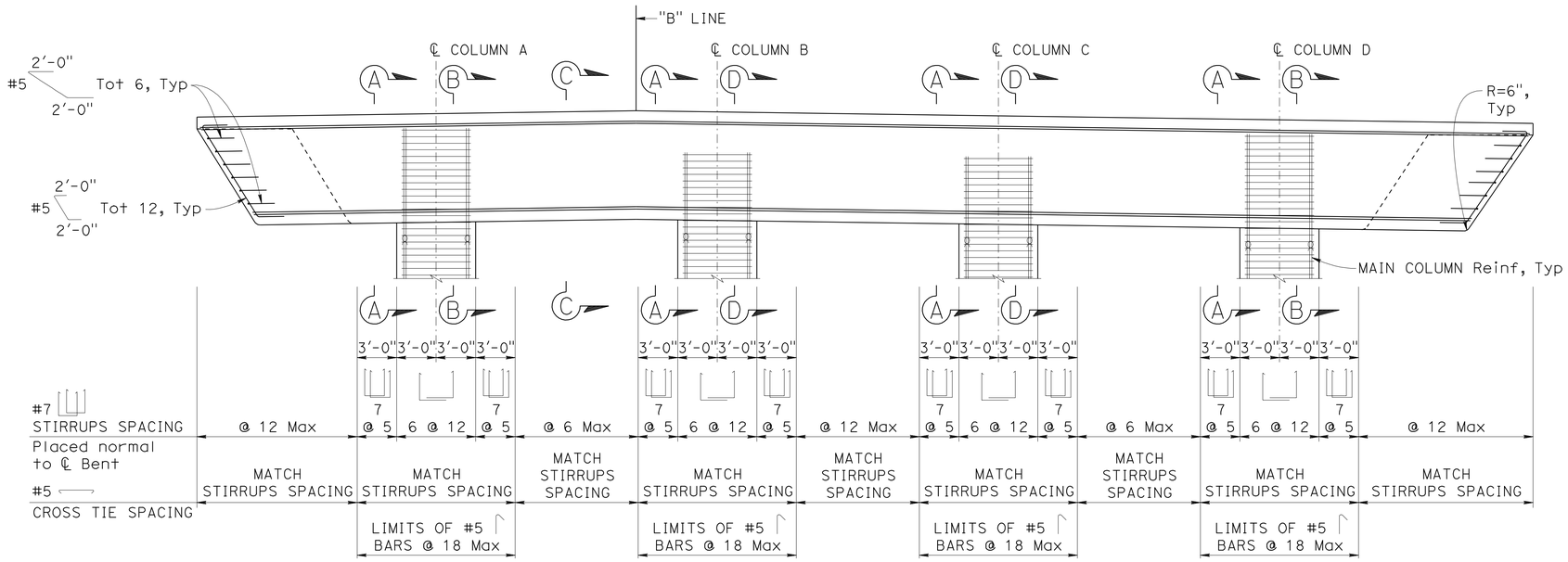
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



PLAN
3/16" = 1'-0"



ELEVATION
3/16" = 1'-0"

NOTES:

1. For "SECTION A-A, B-B, C-C and D-D", see "BENT 3 DETAILS No. 1" sheet.
2. Only staggered "SERVICE LEVEL" splices are allowed in main cap Reinf.

LEGEND:

∝ Indicates bundled bars

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
BENT 3 LAYOUT

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			
~~9-6-11~~	~~1-10-12~~	~~3-30-12~~	7-11-12

SHEET 21 OF 52

FILE => 33-0753-h-b03_lo.dgn

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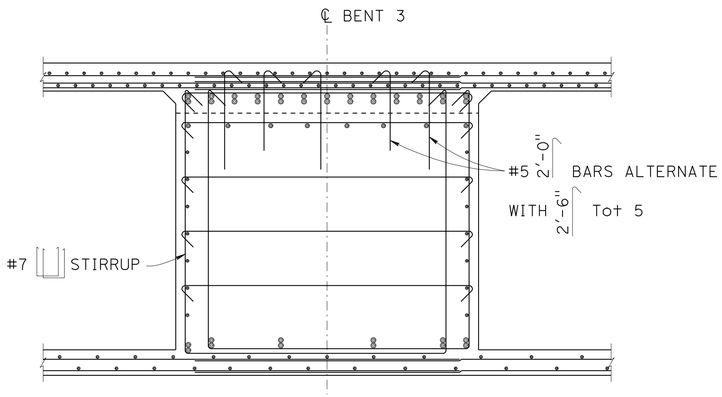
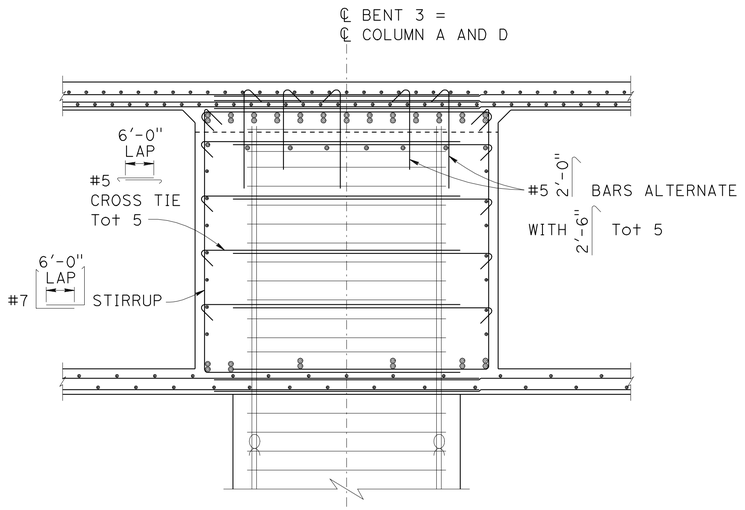


SECTION A-A

½" = 1'-0"

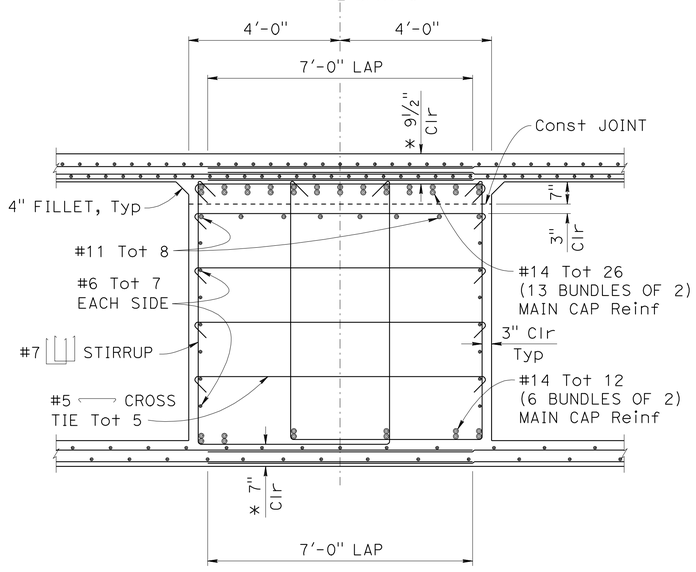
FOR DETAILS NOT SHOWN, SEE "SECTION C-C"



SECTION B-B

½" = 1'-0"

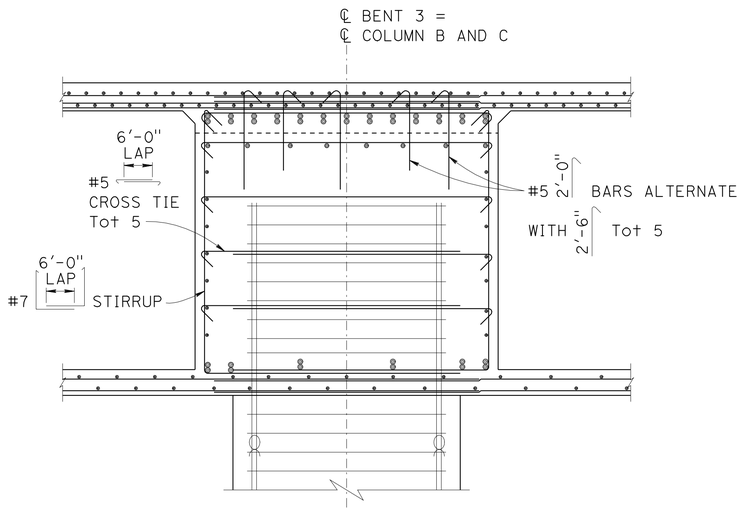
FOR DETAILS NOT SHOWN, SEE "SECTION C-C"



SECTION C-C

½" = 1'-0"

* CLEARANCE TO MAIN CAP Reinf



SECTION D-D

½" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION C-C"

NOTES:

1. Reinforcement may be bent or lowered to clear prestressing ducts, subject to the approval of the Engineer.
2. For "CROSS TIE DETAIL", see "BENT 2 DETAILS No. 1" sheet.

LEGEND:

℄ Indicates bundled bars

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	623	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

BENT 3 DETAILS No. 1

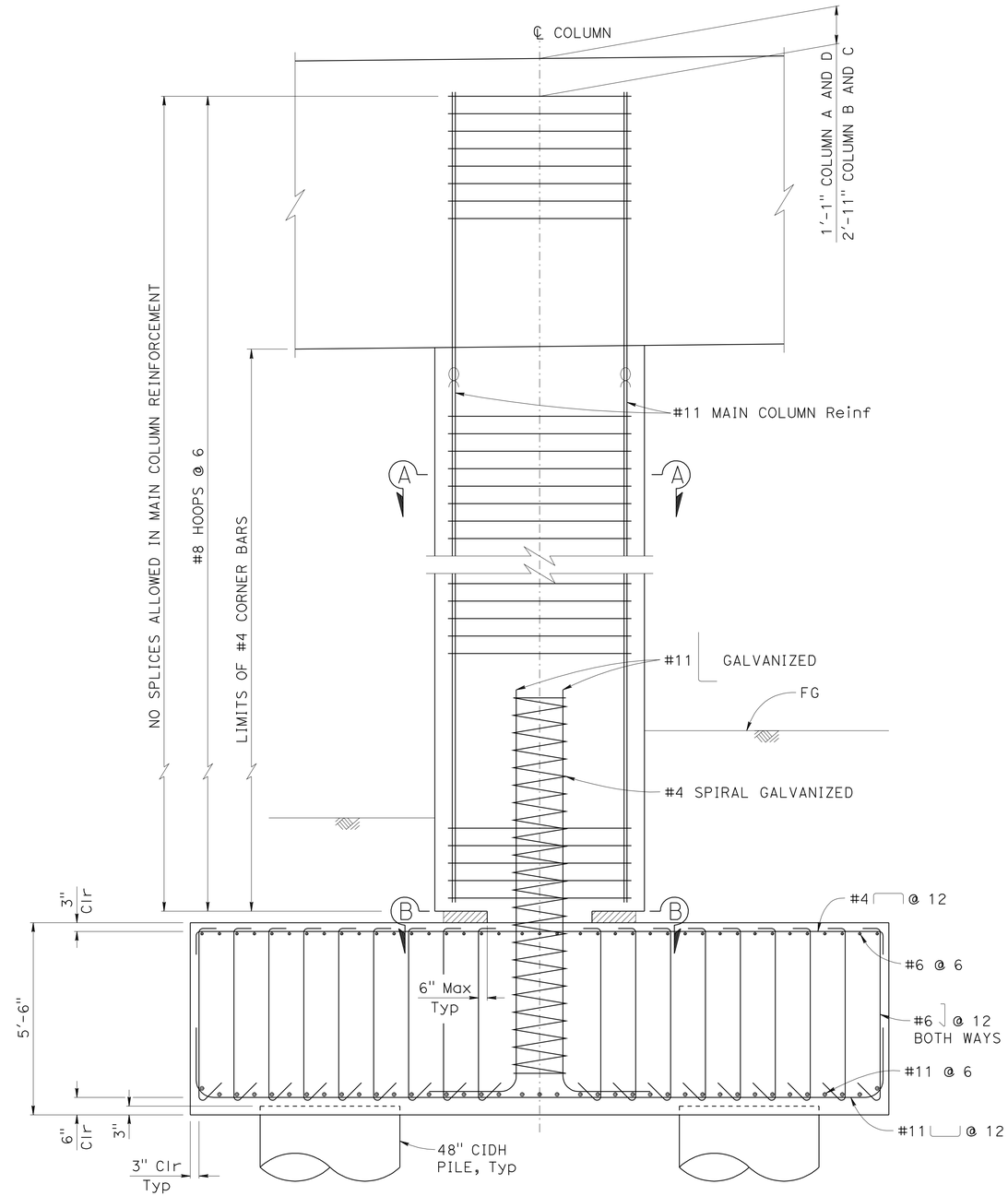
UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	22	52

FILE => 33-0753-h-b03dt01.dgn

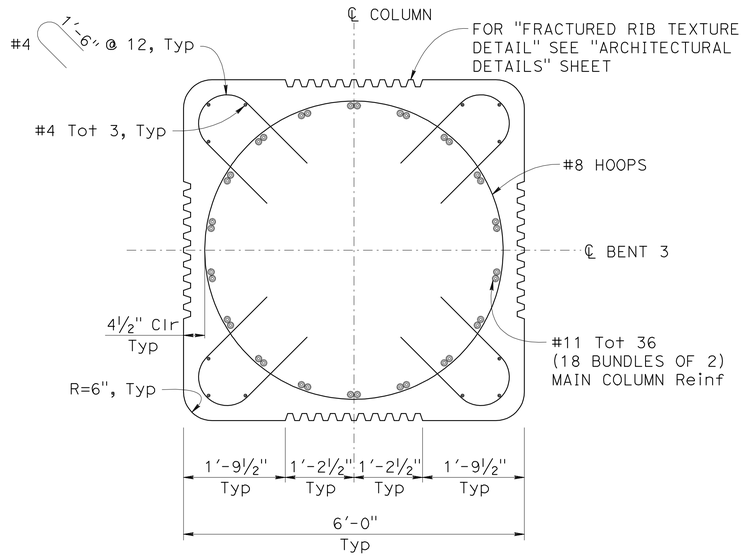
USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52



COLUMN ELEVATION

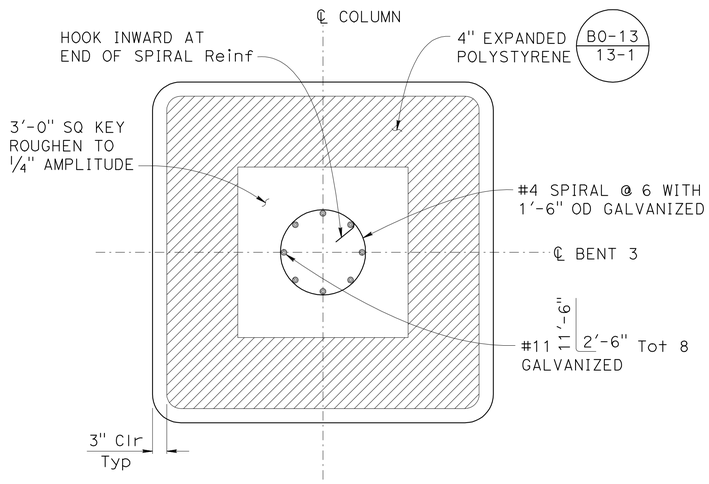
½" = 1'-0"

COLUMN A SHOWN, COLUMNS B, C AND D SIMILAR



SECTION A-A

¾" = 1'-0"



SECTION B-B

¾" = 1'-0"

NOTES:

1. For "FOOTING DETAIL", see "BENT 3 DETAILS No. 3" sheet.
2. All hoops shall be "Ultimate" butt spliced.

LEGEND:

∝ Indicates bundled bars

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	624	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

BENT 3 DETAILS No. 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 9-6-11 | 1-18-12 | 3-30-12 | 7-11-12

SHEET 23 OF 52

FILE => 33-0753-h-b03dt02.dgn

USERNAME => s124436 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	625	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

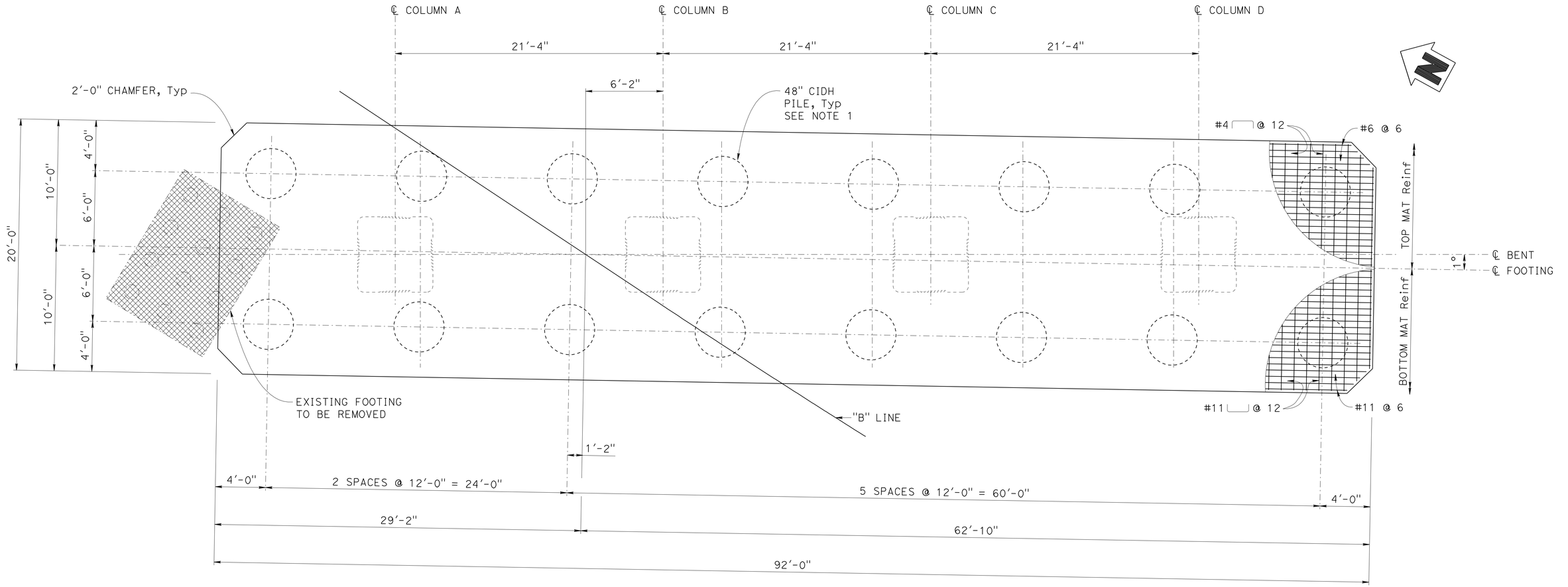
NOTE:

1. For pile details, see "48 INCH CIDH PILE DETAILS" SHEET.

LEGEND:

-·-·- Indicates existing structure

Indicates bridge removal
Remove pile cap and interfering piles
3'-0" below bottom of new footing elevation
and backfill with structural backfill



FOOTING DETAIL

1/4" = 1'-0"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

BENT 3 DETAILS No. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-30-12	3-30-12	7-11-12	24	52

FILE => 33-0753-h-b03dt03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 06:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	626	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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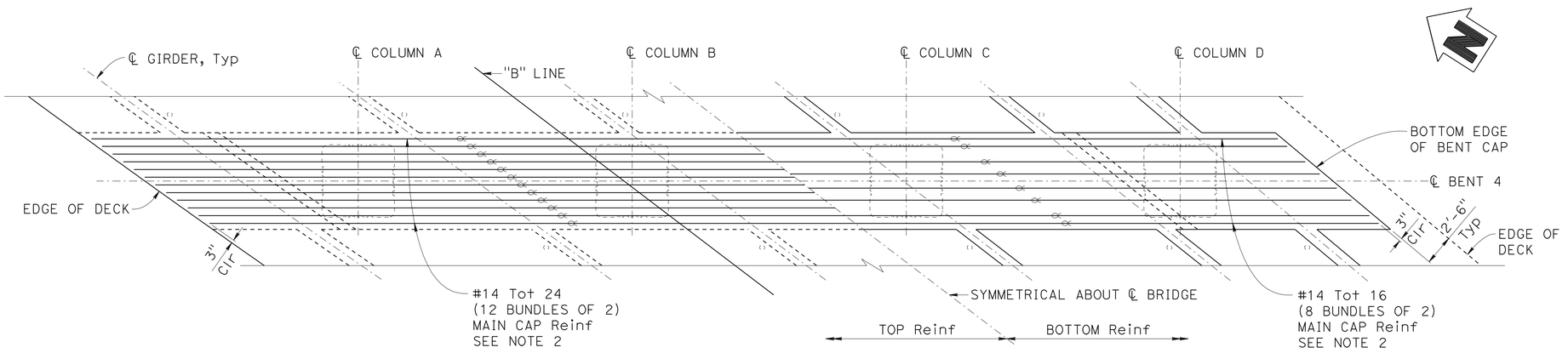
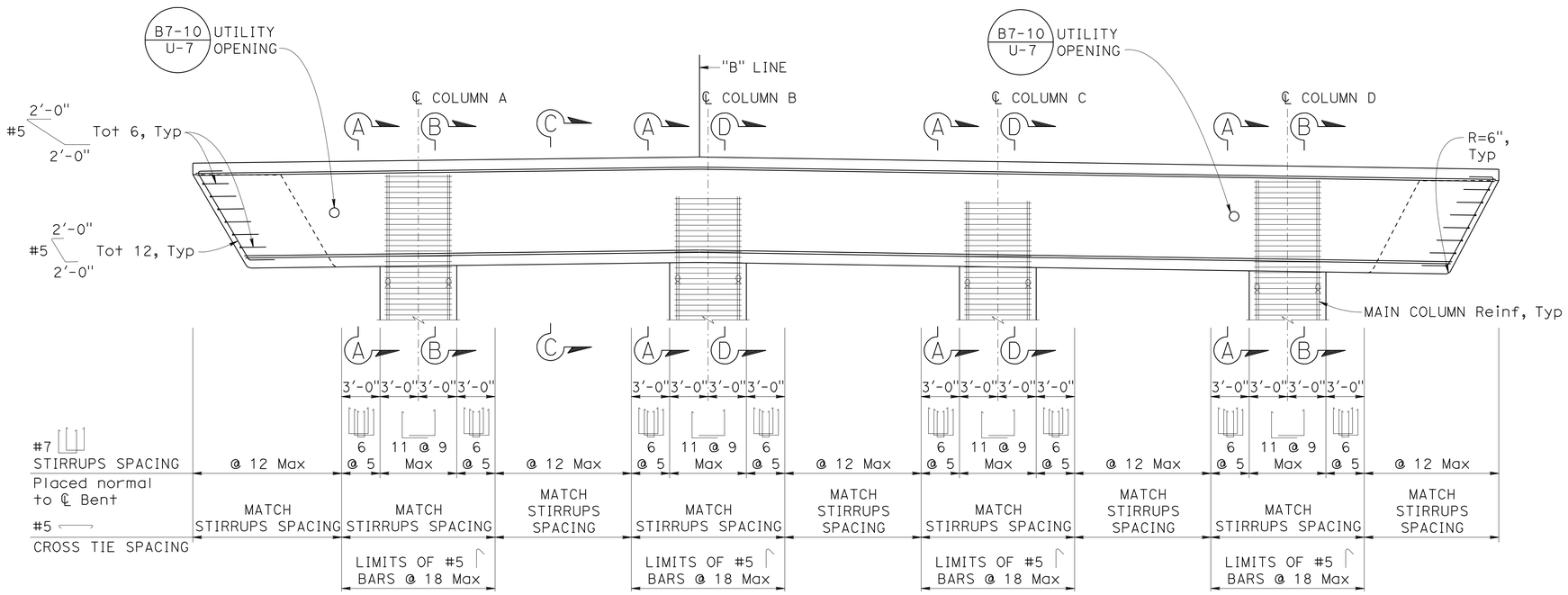
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



PLAN
3/16" = 1'-0"



ELEVATION
3/16" = 1'-0"

NOTES:

1. For "SECTION A-A, B-B, C-C and D-D", see "BENT 4 DETAILS No. 1" sheet.
2. Only staggered "SERVICE LEVEL" splices are allowed in main cap Reinf.

LEGEND:

∝ Indicates bundled bars

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	33-0753
POST MILES	28.95

23RD AVENUE OC (REPLACE)
BENT 4 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	25	52

FILE => 33-0753-h-b04_lo.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	627	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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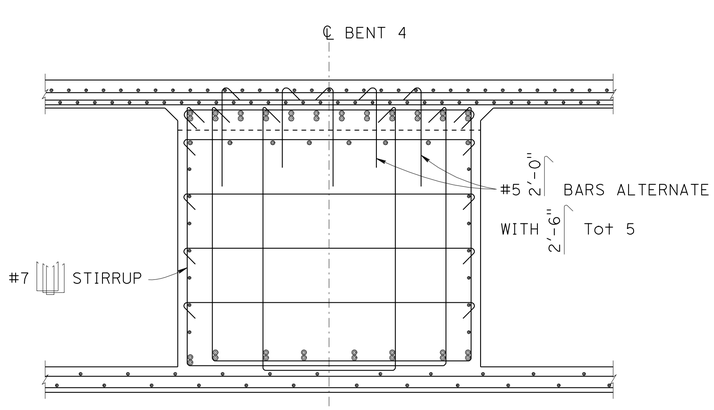
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

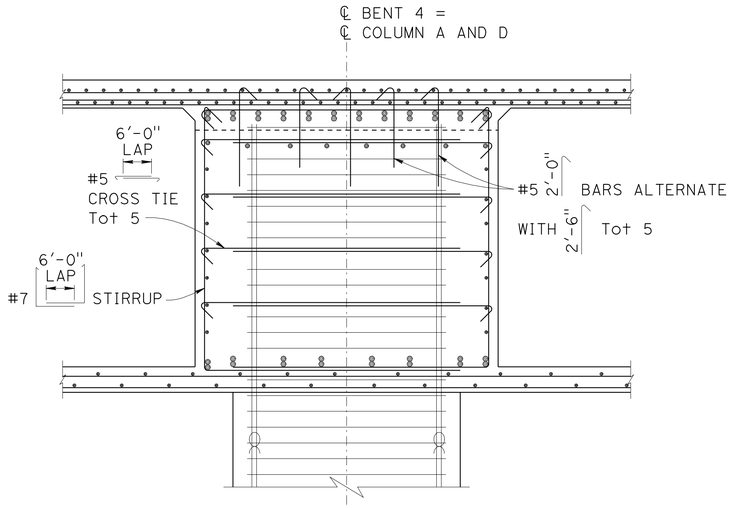
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



SECTION A-A

½" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION C-C"



SECTION B-B

½" = 1'-0"

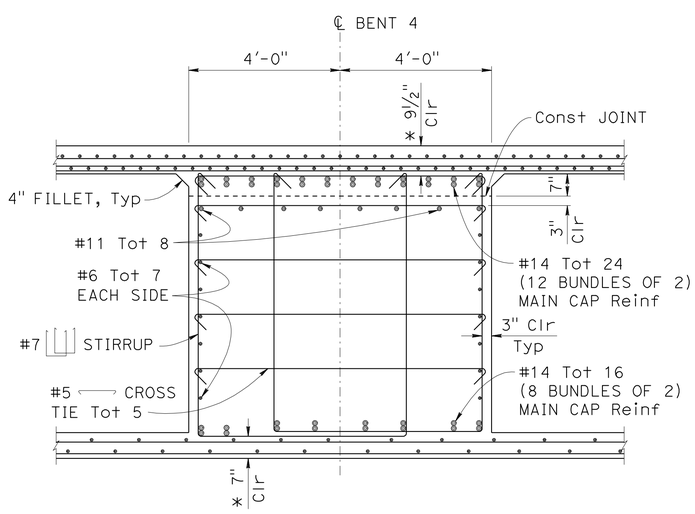
FOR DETAILS NOT SHOWN, SEE "SECTION C-C"

NOTES:

1. Reinforcement may be bent or lowered to clear prestressing ducts, subject to the approval of the Engineer.
2. For "CROSS TIE DETAIL", see "BENT 2 DETAILS No. 1" sheet.

LEGEND:

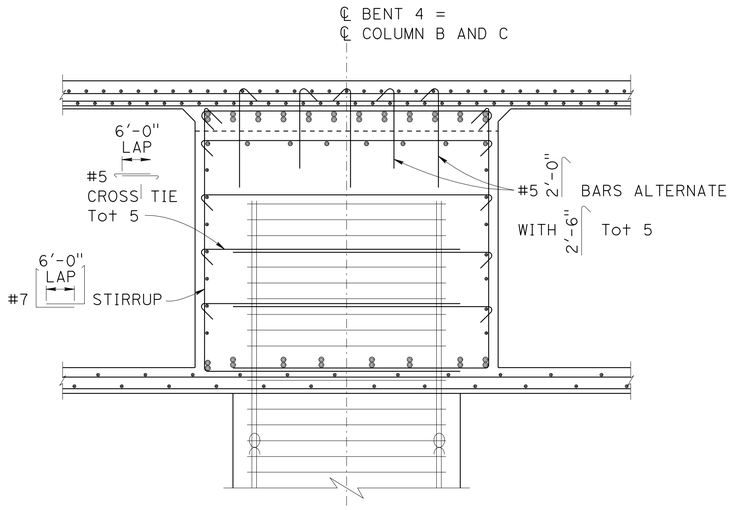
℄ Indicates bundled bars



SECTION C-C

½" = 1'-0"

* CLEARANCE TO MAIN CAP Reinf



SECTION D-D

½" = 1'-0"

FOR DETAILS NOT SHOWN, SEE "SECTION C-C"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

BENT 4 DETAILS No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

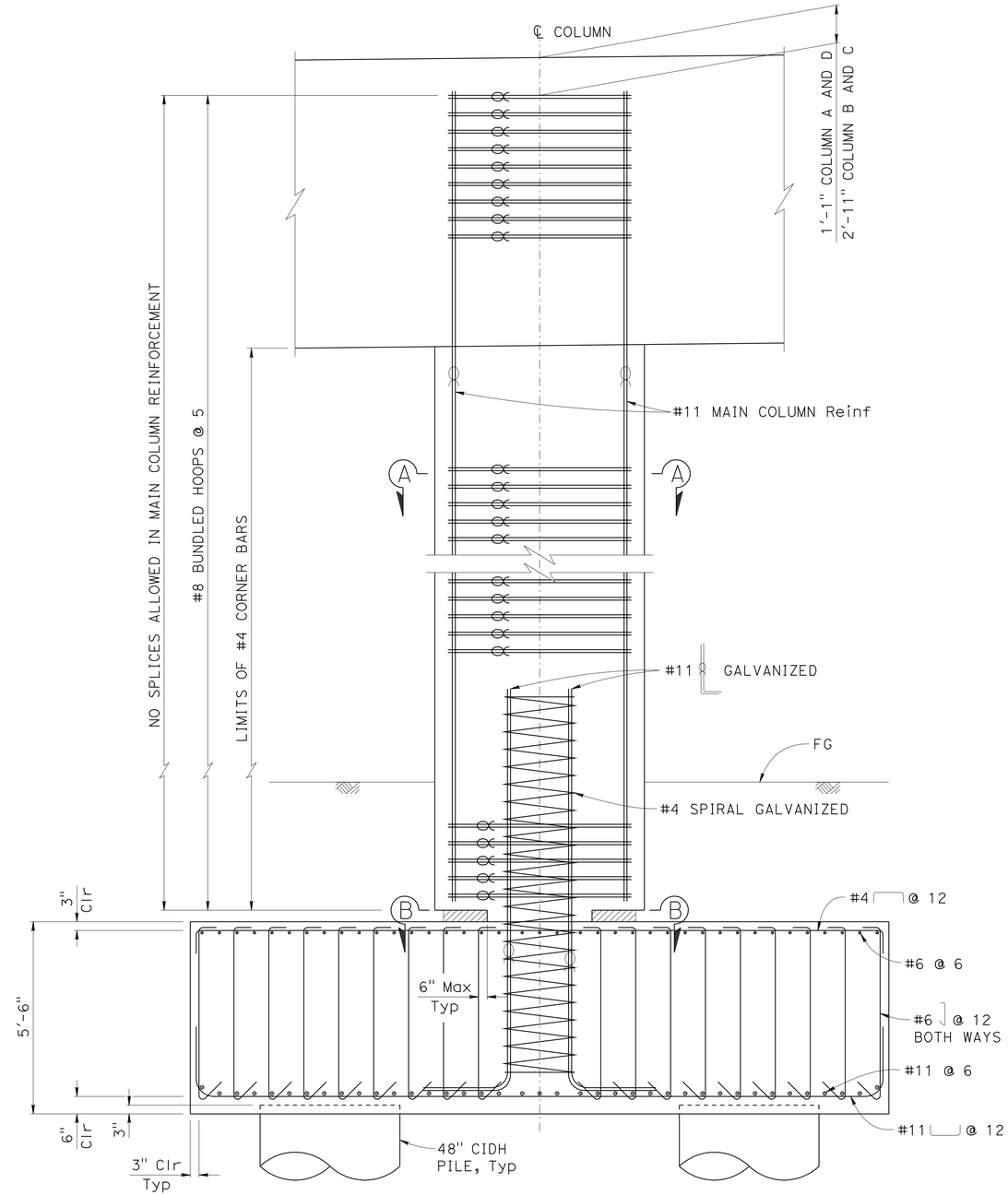
UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	26	52

FILE => 33-0753-h-b04dt01.dgn

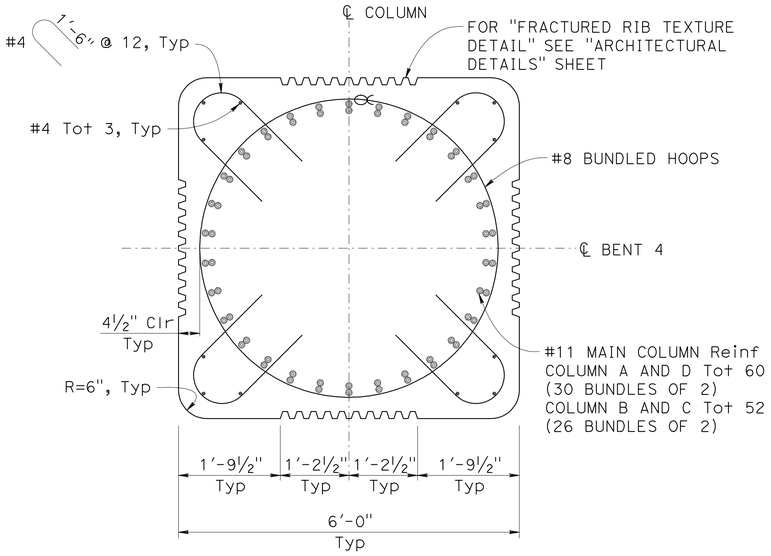
USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26



COLUMN ELEVATION

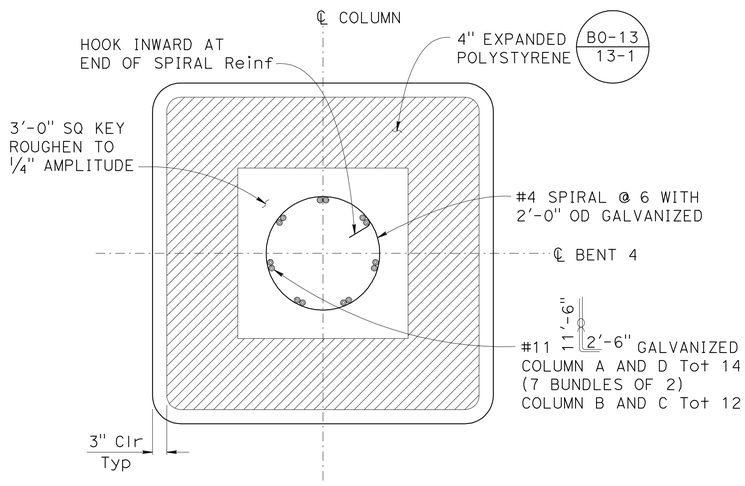
½" = 1'-0"

COLUMN A SHOWN, COLUMNS B, C AND D SIMILAR



SECTION A-A

¾" = 1'-0"



SECTION B-B

¾" = 1'-0"

NOTES:

1. For "FOOTING DETAIL", see "BENT 4 DETAILS No. 3" sheet.
2. All hoops shall be "Ultimate" butt spliced.

LEGEND:

∝ Indicates bundled bars

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	628	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

BENT 4 DETAILS No. 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			SHEET	OF
9-6-11	1-30-12	3-30-12	7-11-12	27	52

FILE => 33-0753-h-b04dt02.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	629	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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1333 BROADWAY
OAKLAND, CA 94612-1918

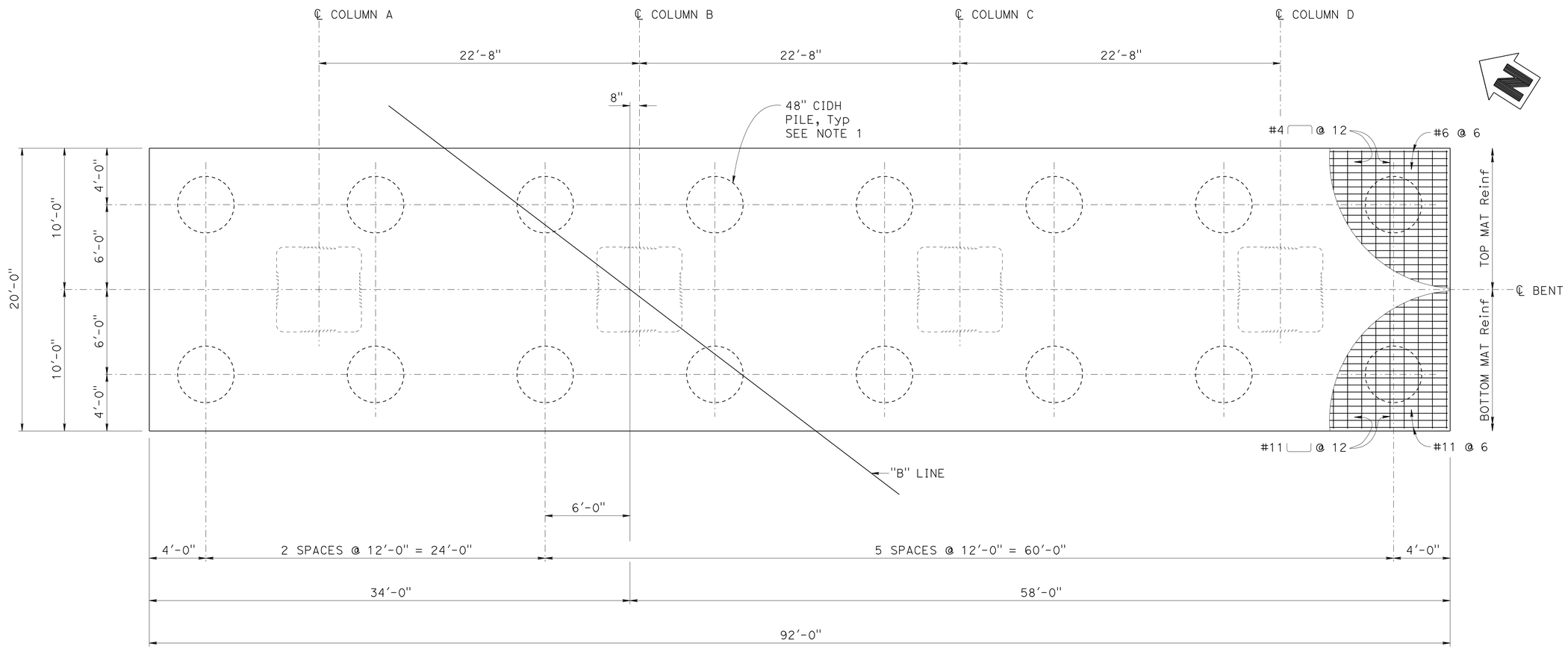
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

NOTE:

1. For pile details, see "48 INCH CIDH PILE DETAILS" SHEET.

LEGEND:

-·-·- Indicates existing structure



FOOTING DETAIL

1/4" = 1′-0"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

BENT 4 DETAILS No. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

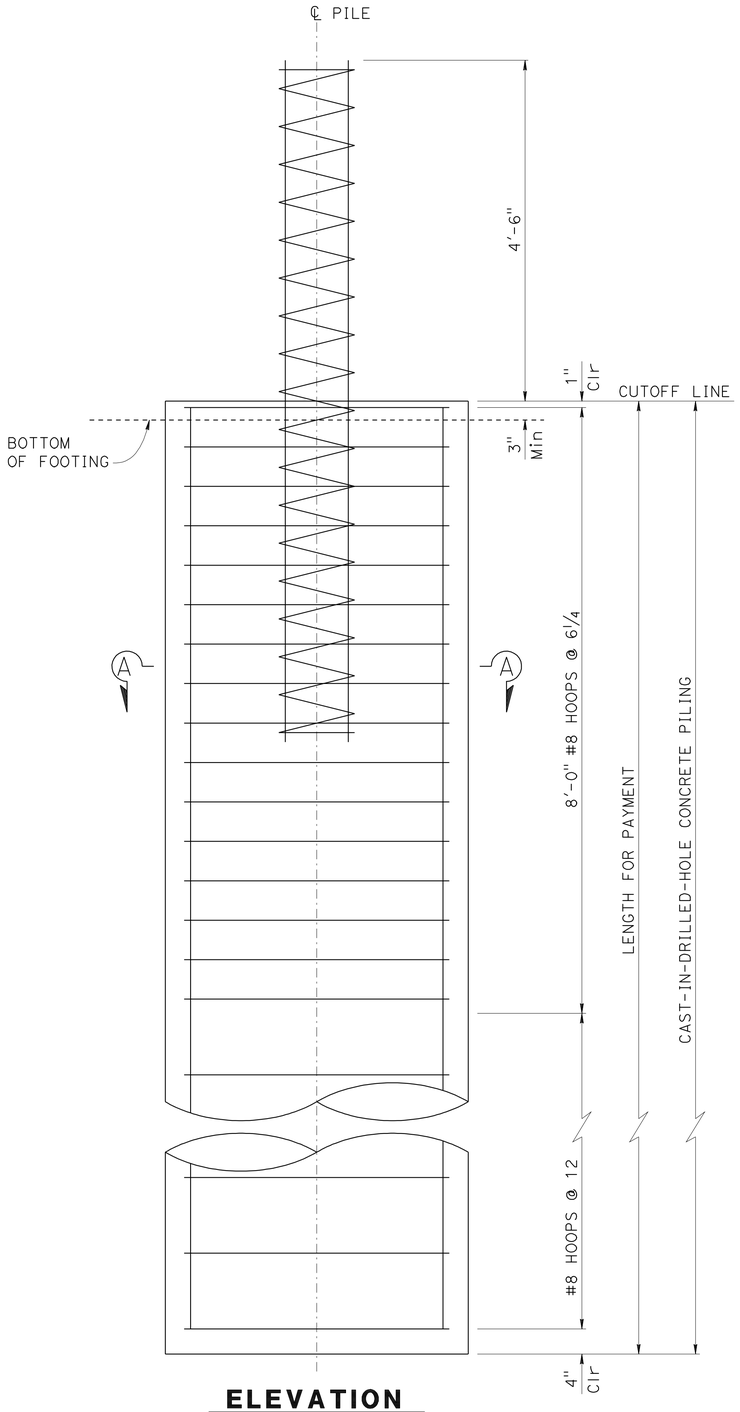
UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	28	52

FILE => 33-0753-h-b04dt03.dgn

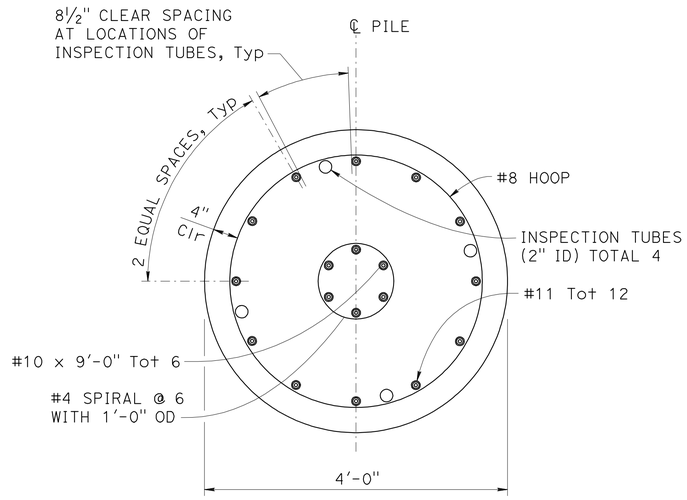
USERNAME => s124436 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26



ELEVATION
1" = 1'-0"

PILE DESIGN NOTES

REINFORCED
CONCRETE: f'c = 4 ksi



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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	630	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
8-8-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
48 INCH CIDH PILE DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	8-7-12	29	52

FILE => 33-0753-h-piledt.dgn

USERNAME => s1244496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	631	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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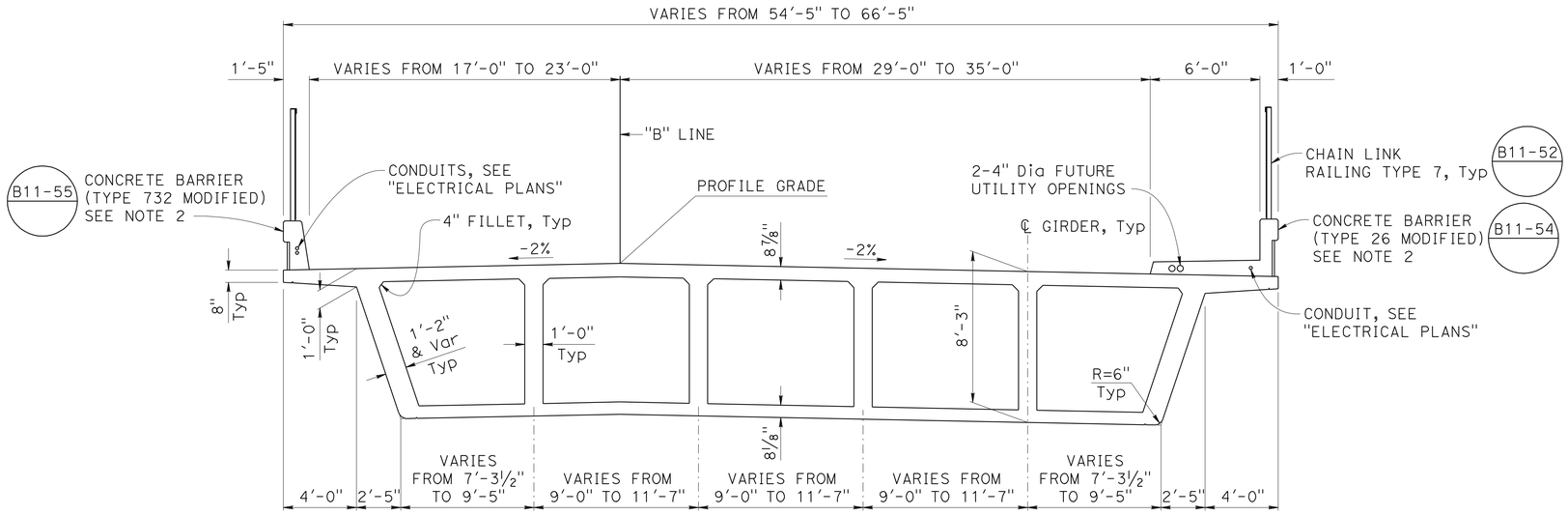
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



TYPICAL SECTION

1/4" = 1'-0"

LEGEND:

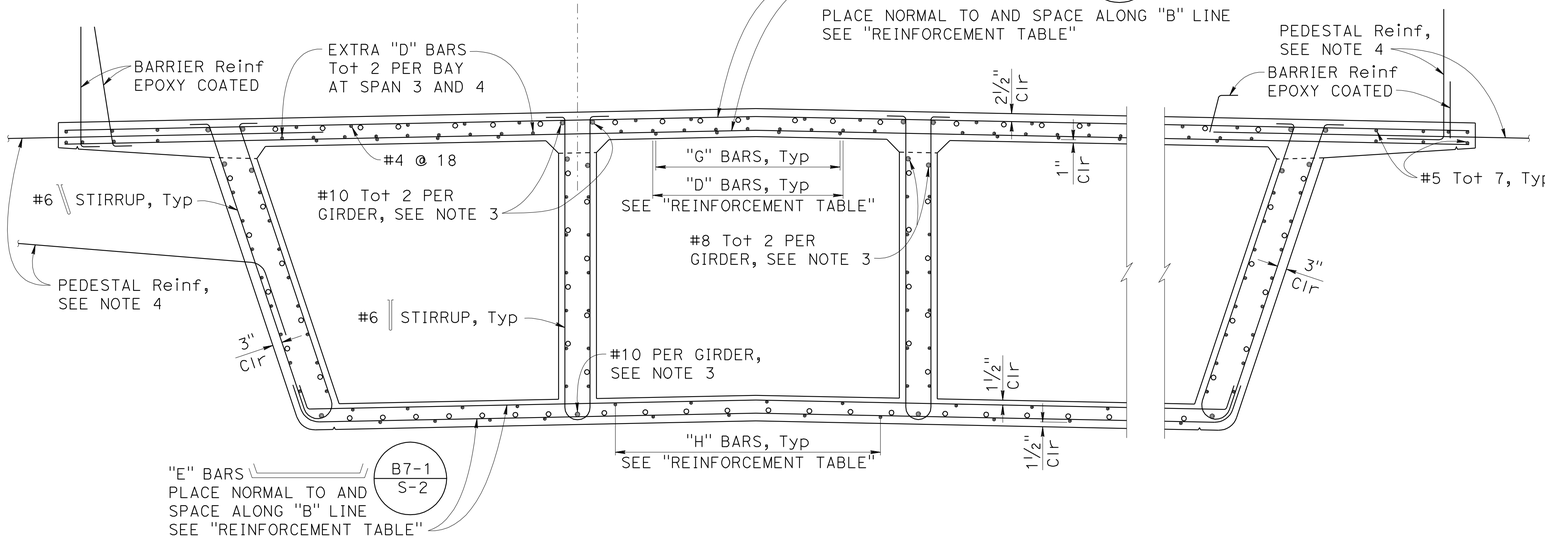
- ∘ Indicates additional reinforcement

NOTES:

1. For additional reinforcement, see "GIRDER REINFORCEMENT" sheets.
2. For Architectural Treatment, see "ARCHITECTURAL DETAILS" sheet.
3. Splices of reinforcement indicated shall be service level splices. Lap splices equal to two times the standard lap splice may be substituted for service splices.
4. For pedestal reinforcement, see "STRUCTURE SIGN PEDESTAL DETAILS No. 2" sheet.
5. Do not place duct tie reinforcing in bent cap or end diaphragms.

REINFORCEMENT TABLE

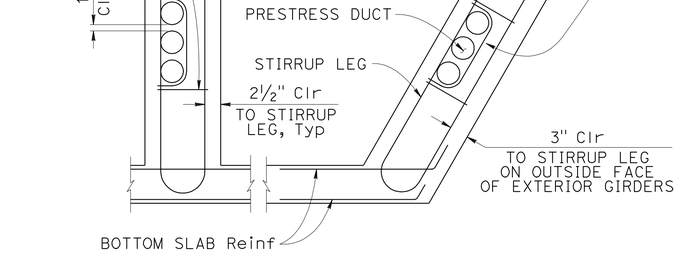
SPAN	TRANSVERSE BARS	"D" BARS	"G" BARS	"E" BARS	"H" BARS
1	#5, S=11	#5 Tot 7	#4 Tot 4	#4 @ 12	#5 Tot 8
2	#5, S=11	#5 Tot 7	#4 Tot 4	#4 @ 12	#5 Tot 8
3	#6, S=11	#5 Tot 12	#4 Tot 5	#5 @ 16	#7 Tot 7
4	#6, S=11	#5 Tot 12	#4 Tot 5	#5 @ 15	#7 Tot 8



PART TYPICAL SECTION

1/2" = 1'-0"

B0-5 B7-1 B8-5



Note:
Details shown are for a curve to the right with the section taken looking ahead on station. These details supersede duct patterns shown in Standard Plan B8-5.

DUCT TIE DETAIL

NO SCALE

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

TYPICAL SECTION

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	30	52

FILE => 33-0753-k-ts.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	632	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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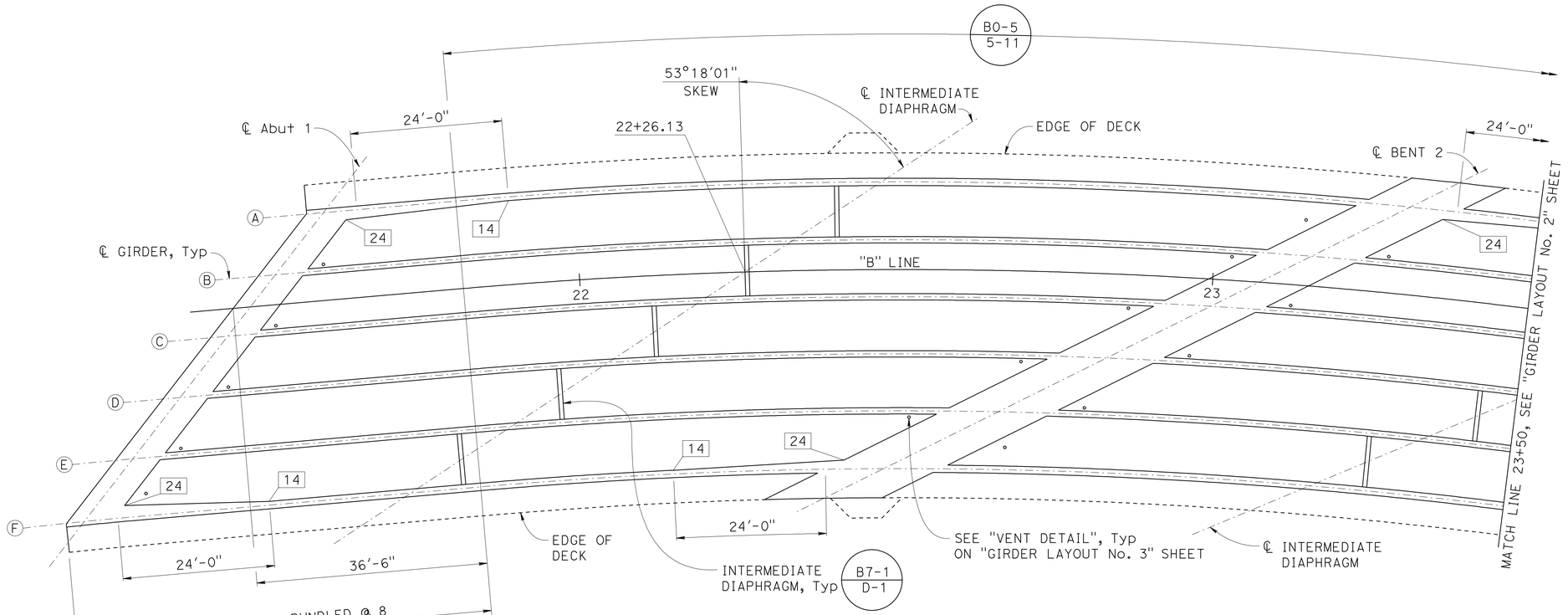
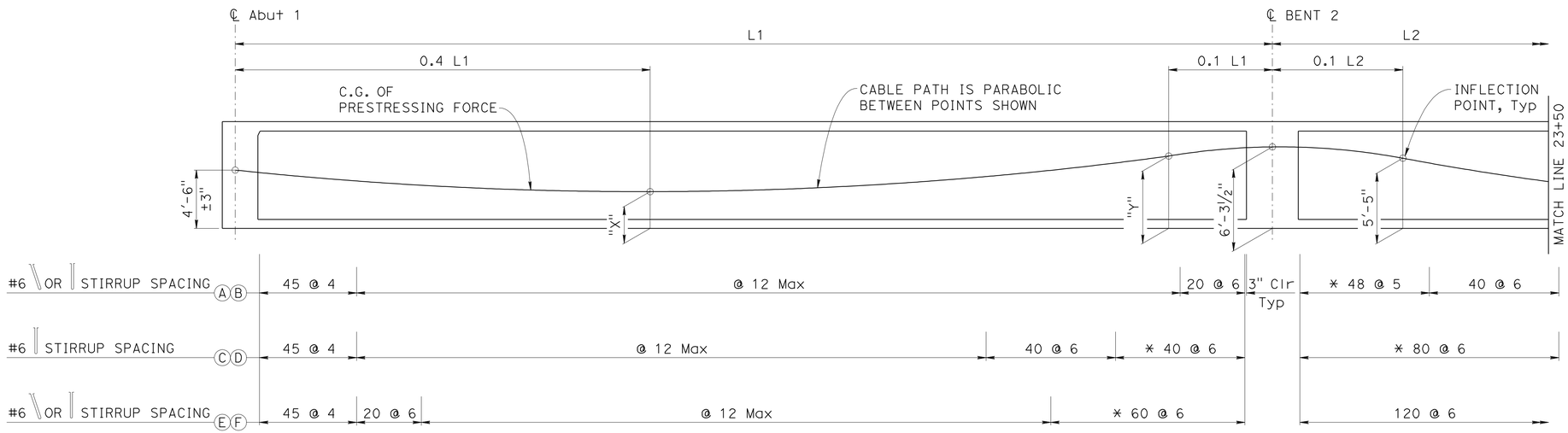
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



GIRDER LAYOUT
1" = 10'-0"



* BARS IN THIS AREA ARE BUNDLES OF 2

LONGITUDINAL SECTION
NO SCALE

GIRDER	"X"	"Y"
A	1'-9"	5'-6½"
B	2'-1"	5'-7"
C	2'-7"	5'-8"
D	2'-10"	5'-8½"
E	3'-3"	5'-9½"
F	3'-8"	5'-10¼"

PRESTRESSING NOTES:

270 ksi Low Relaxation Strand:

Pjack = 19,000 kips

Anchor Set = ⅜"

Total Number of Girders = 6

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.

μ = 0.20

K = 0.0002 / ft

Concrete: f'c = 5.5 ksi @ 28 days
f'ci = 4.0 ksi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at ☒ = 0.814 times jacking stress.

Both end stressing shall be performed

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
GIRDER LAYOUT No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-9-11	1-10-12	3-30-12	7-11-12	31	52

FILE => 33-0753-1-g_lo01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	633	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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OAKLAND, CA 94612-1918

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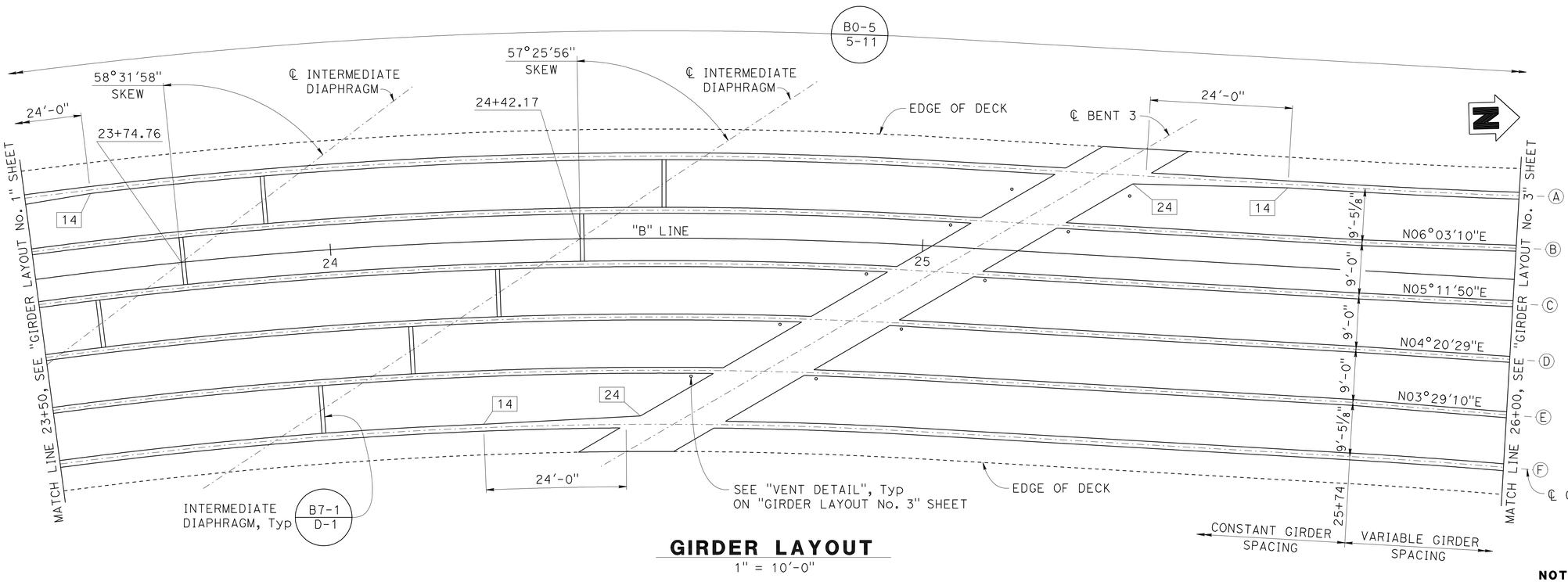
ROSEVILLE, CA 95661-2997

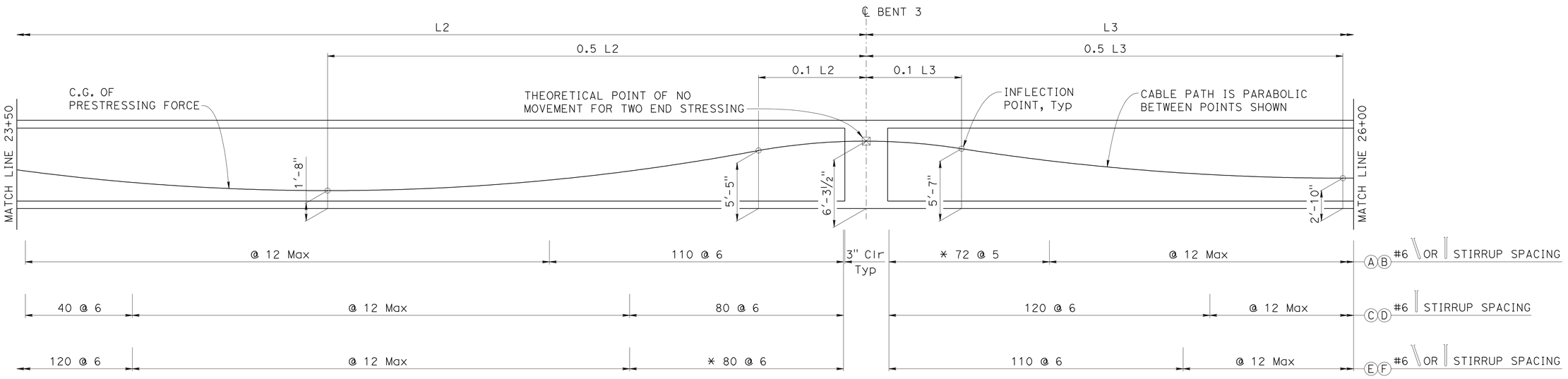


GIRDER LAYOUT

1" = 10'-0"

NOTE:

1. For "PRESTRESSING NOTES", see "GIRDER LAYOUT No. 1" sheet.



LONGITUDINAL SECTION

NO SCALE

* BARS IN THIS AREA ARE BUNDLES OF 2

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	33-0753
POST MILES	28.95

23RD AVENUE OC (REPLACE)

GIRDER LAYOUT No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	32	52

FILE => 33-0753-1-g_1o02.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	634	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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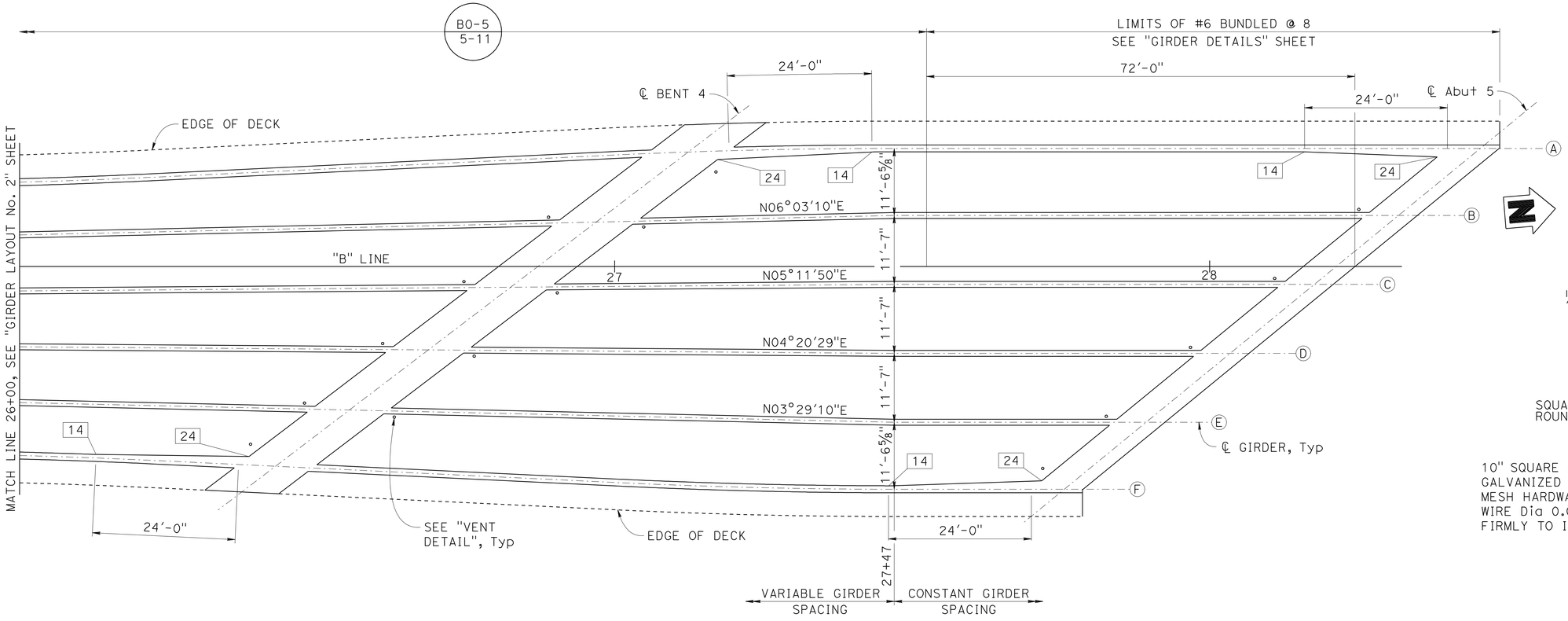
OAKLAND, CA 94612-1918

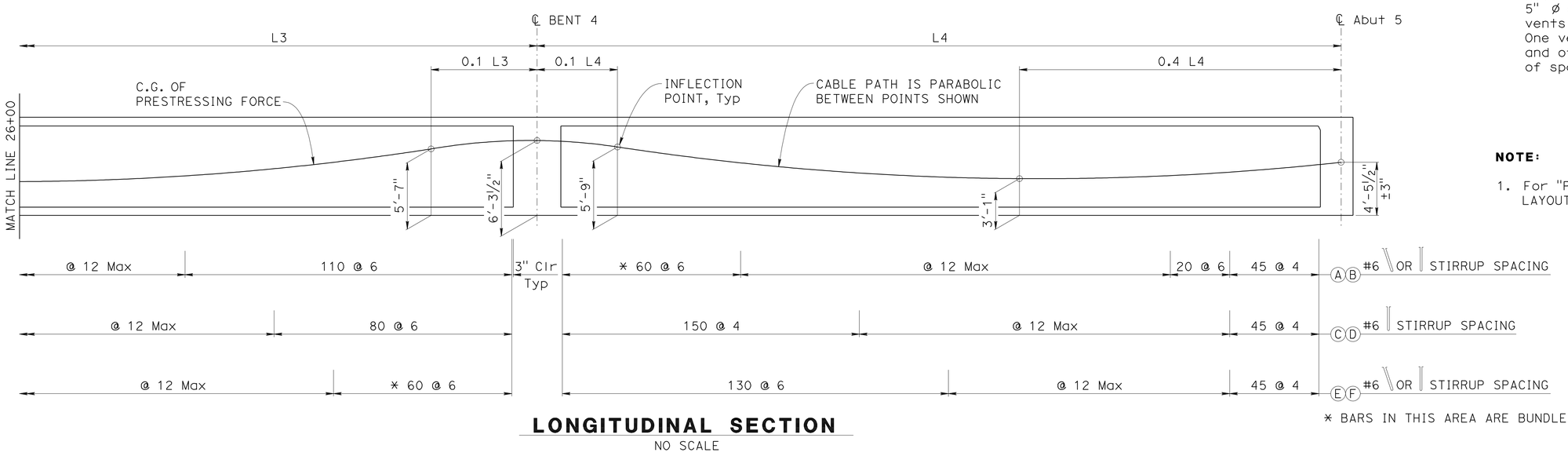
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

B0-5
5-11



GIRDER LAYOUT

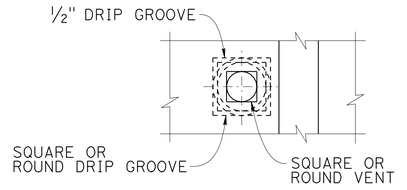
1" = 10'-0"



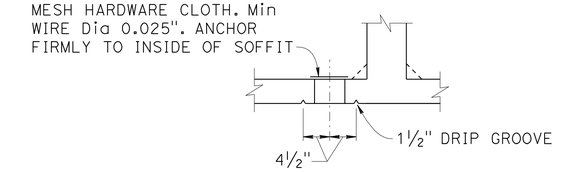
LONGITUDINAL SECTION

NO SCALE

* BARS IN THIS AREA ARE BUNDLES OF 2



PLAN



ELEVATION

Note:
5" ø or ф vent in lower slab. Minimum of two vents per span in each bay between girders. One vent to be located at low point of span and other vent to be located at opposite end of span @ 1'-6" from face of abutment or bent.

VENT DETAIL

NO SCALE

NOTE:

1. For "PRESTRESSING NOTES", see "GIRDER LAYOUT No. 1" sheet.

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

GIRDER LAYOUT No. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	33	52

FILE => 33-0753-1-g_lo03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	635	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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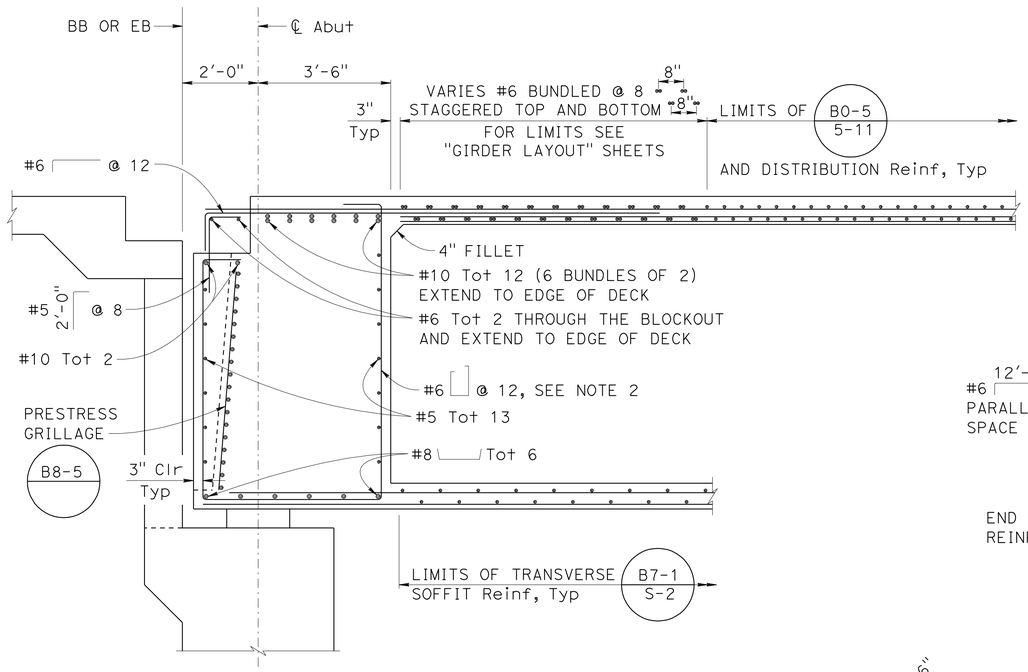
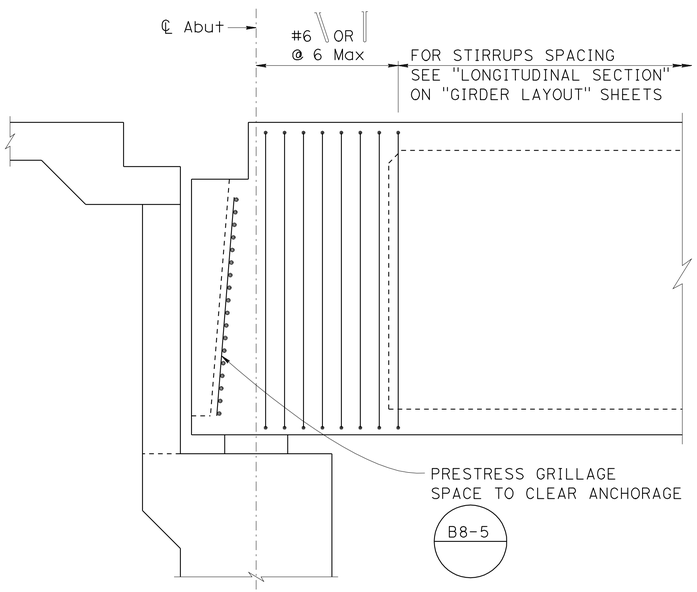
ROSEVILLE, CA 95661-2997



SECTION A-A

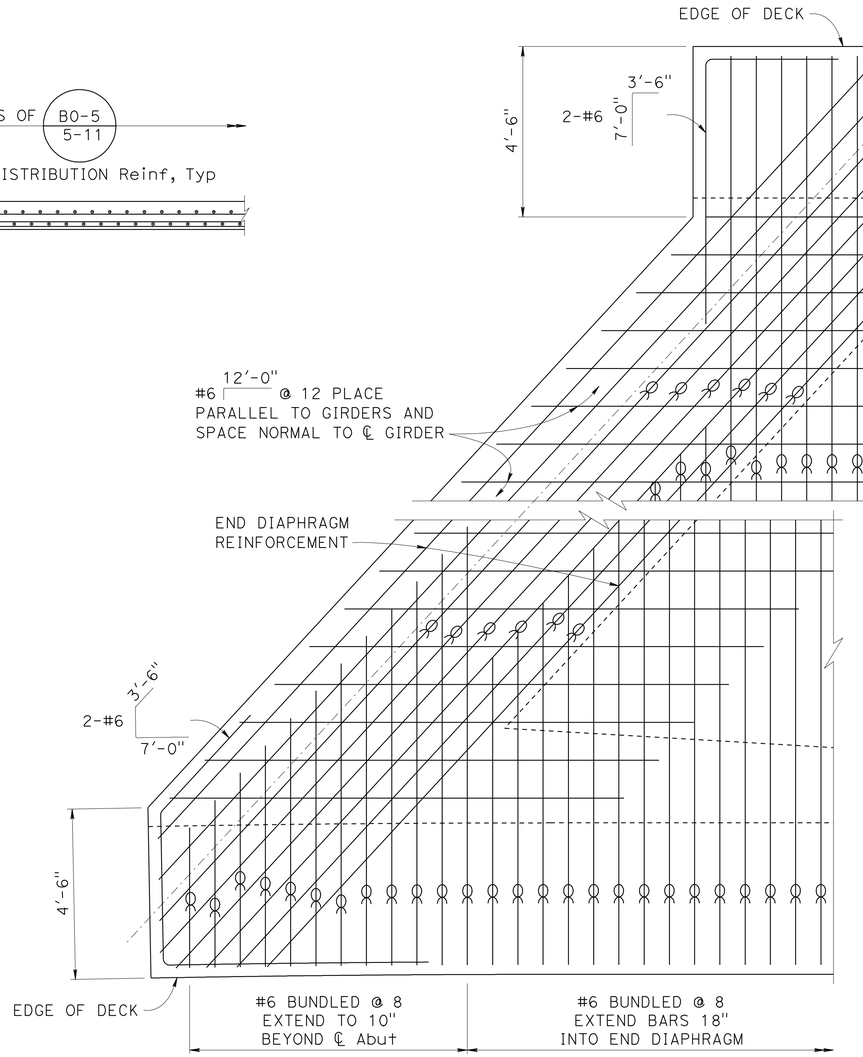
½" = 1'-0"



SECTION B-B

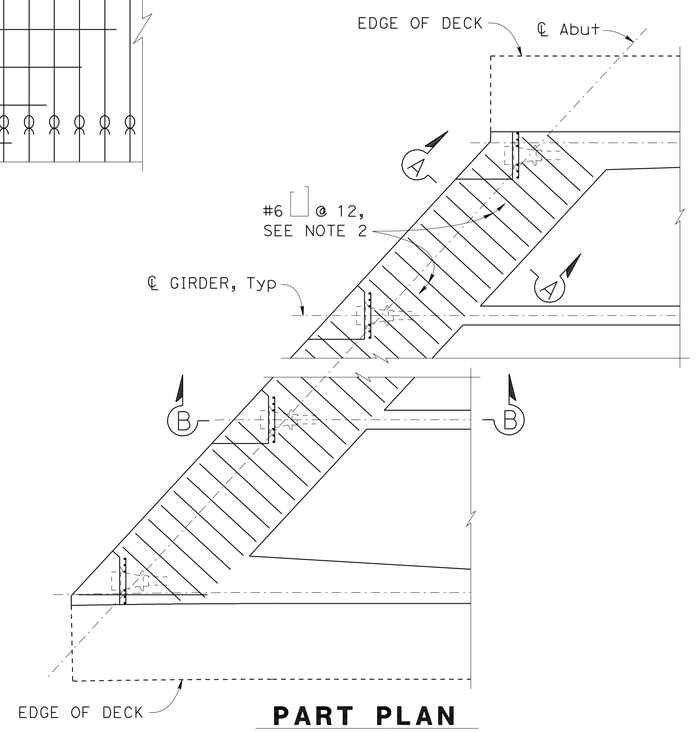
½" = 1'-0"

FOR REINFORCEMENT NOT SHOWN, SEE "SECTION A-A"



DECK CORNER REINFORCEMENT DETAIL

½" = 1'-0"



PART PLAN

¼" = 1'-0"

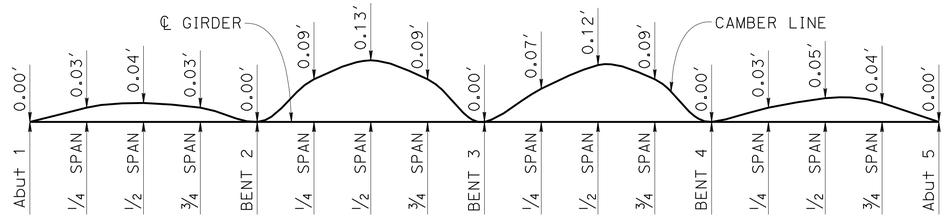
NOT ALL REINFORCEMENT SHOWN FOR CLARITY

NOTES:

1. Abutment 1 shown, Abutment 5 similar.
2. Dimension shown is a minimum and may be increased for prestressing anchorage as approved by the Engineer. Place normal and space parallel to ℄ Abutment.

LEGEND:

∝ Indicates bundled bars



CAMBER DIAGRAM

NO SCALE

DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

GIRDER DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-9-11	1-30-12	3-30-12	7-11-12	34	52

FILE => 33-0753-1-gdt.dgn

USERNAME => s1124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	636	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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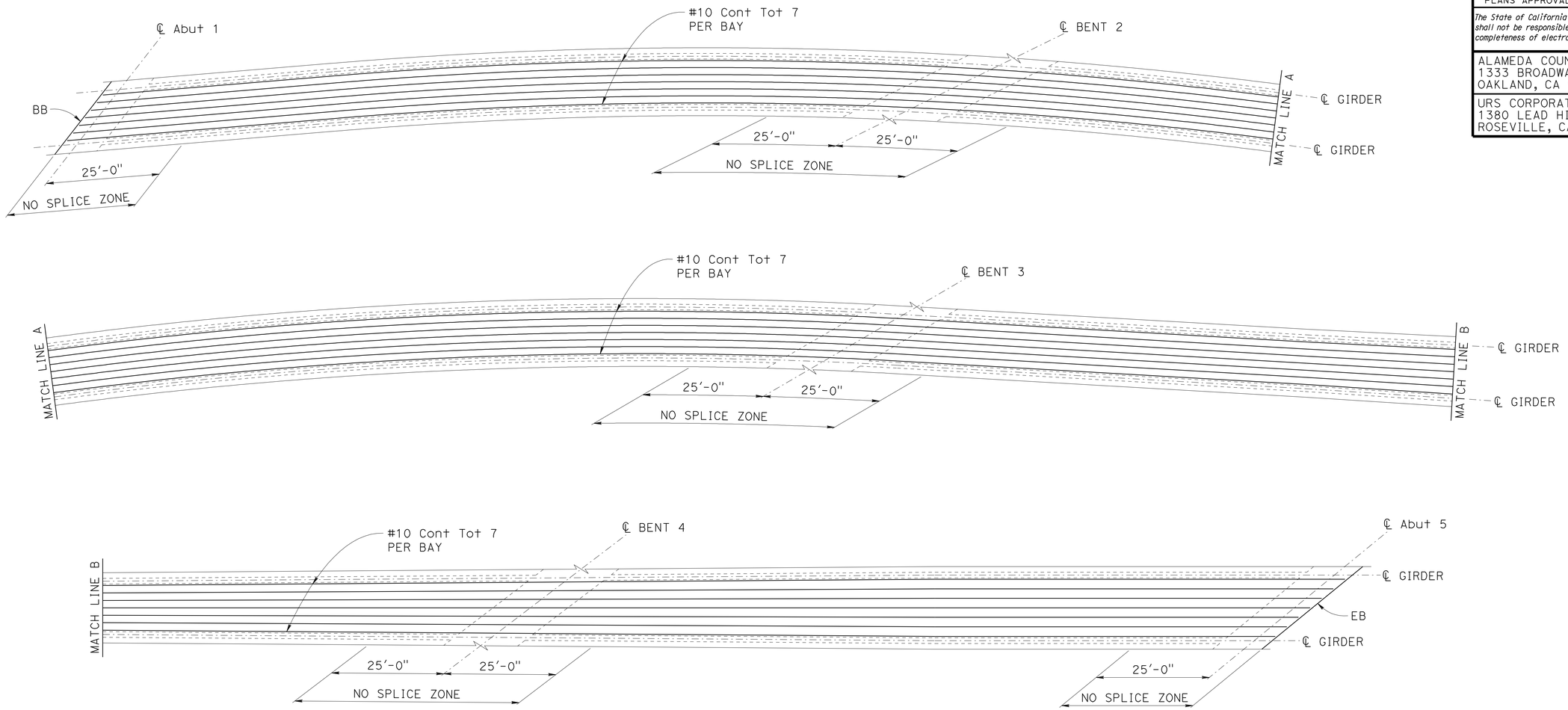
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



TYPICAL BAY - ADDITIONAL TOP REINFORCEMENT

NO SCALE

NOTE:

1. Splices of reinforcement indicated shall be staggered service level splices. Lap splices equal to two times the standard lap splice may be substituted for service splices.

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

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DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	33-0753
POST MILES	28.95

23RD AVENUE OC (REPLACE)
GIRDER REINFORCEMENT No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	35	52

FILE => 33-0753-o-gir_rf01.dgn

USERNAME => s124936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	637	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Jan M. Hueser
No. C050215
Exp. 6/30/13
CIVIL
STATE OF CALIFORNIA

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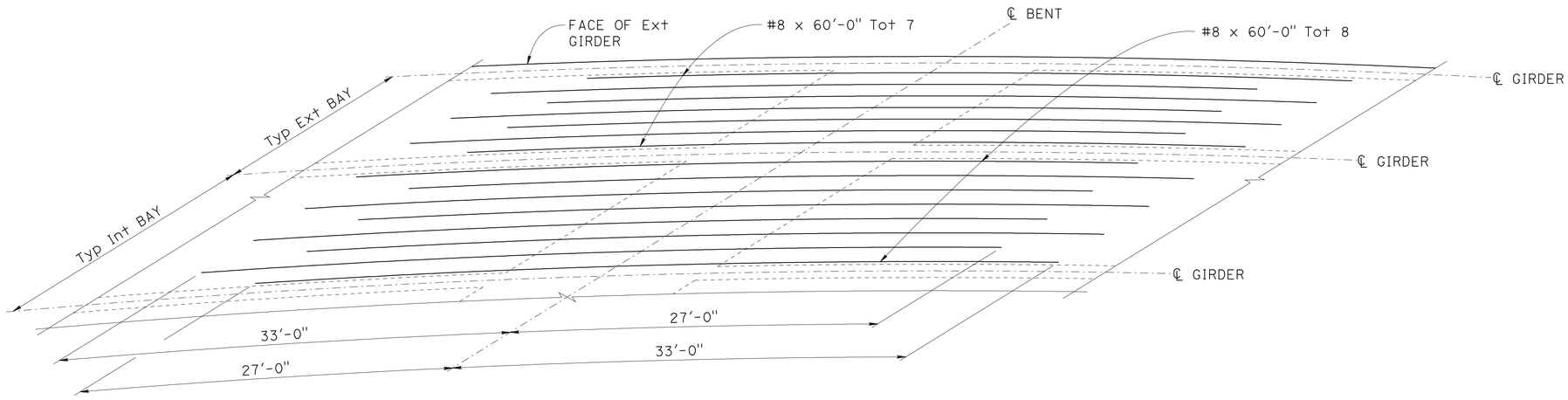
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

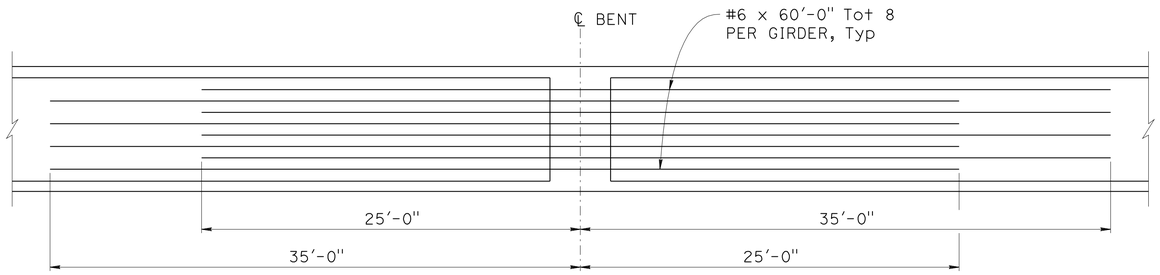


ADDITIONAL BOTTOM REINFORCEMENT

NO SCALE

NOTE:

1. No splices allowed in additional bottom reinforcement and additional girder reinforcement.



TYPICAL ADDITIONAL GIRDER REINFORCEMENT

NO SCALE

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	23RD AVENUE OC (REPLACE)
33-0753	
POST MILES	GIRDER REINFORCEMENT No. 2
28.95	

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-18-12	7-11-12	36	52

FILE => 33-0753-o-gir_rf02.dgn

USERNAME => s124936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	638	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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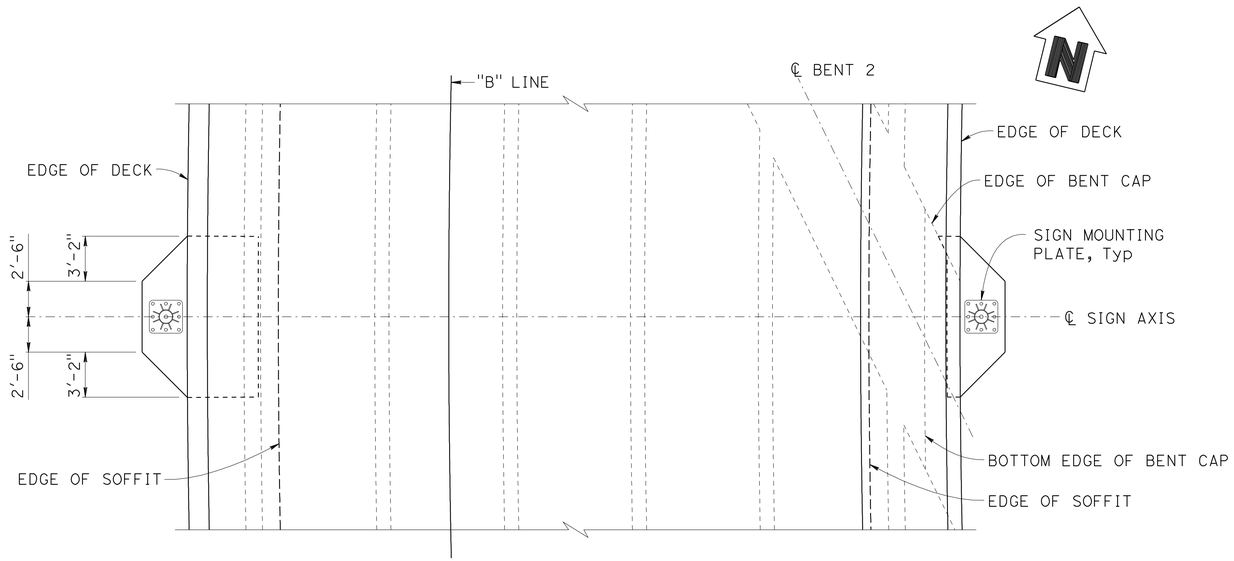
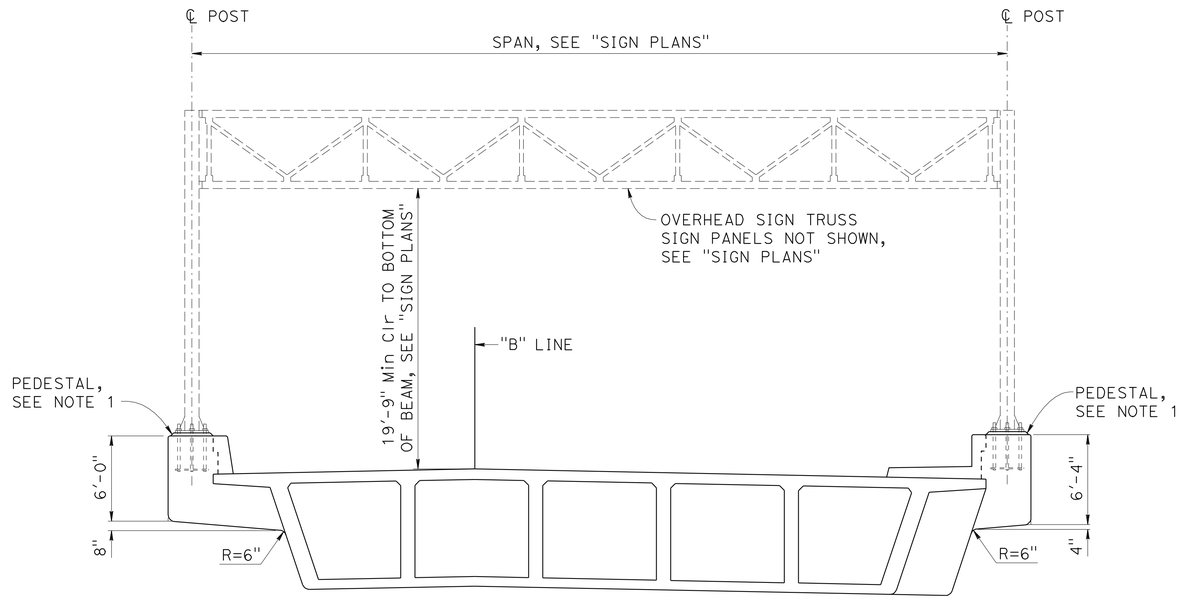
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



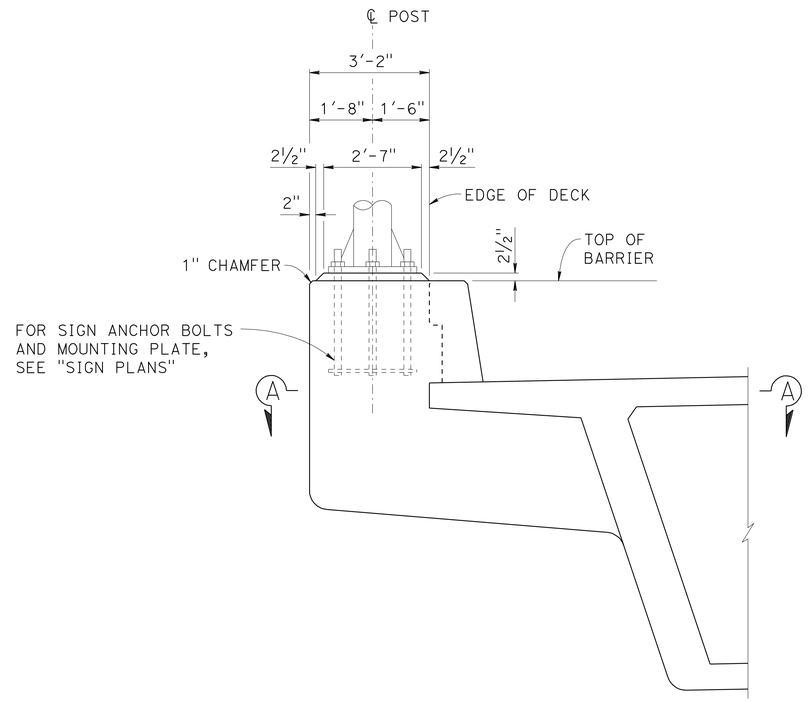
PLAN
3/16" = 1'-0"



ELEVATION
3/16" = 1'-0"

NOTE:

1. For "SECTION A-A" and pedestal details, see "STRUCTURE SIGN PEDESTAL DETAILS No. 2" sheet.
2. For "OVERHEAD SIGN DETAILS" see "ROAD PLANS"



PART ELEVATION
½" = 1'-0"
L+ SIDE PEDESTAL SHOWN, R+ SIDE PEDESTAL SIMILAR

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	POST MILES
33-0753	28.95

23RD AVENUE OC (REPLACE)

STRUCTURE SIGN PEDESTAL DETAILS No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-18-12	7-11-12	37	52

FILE => 33-0753-p-sspdt01.dgn

USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	639	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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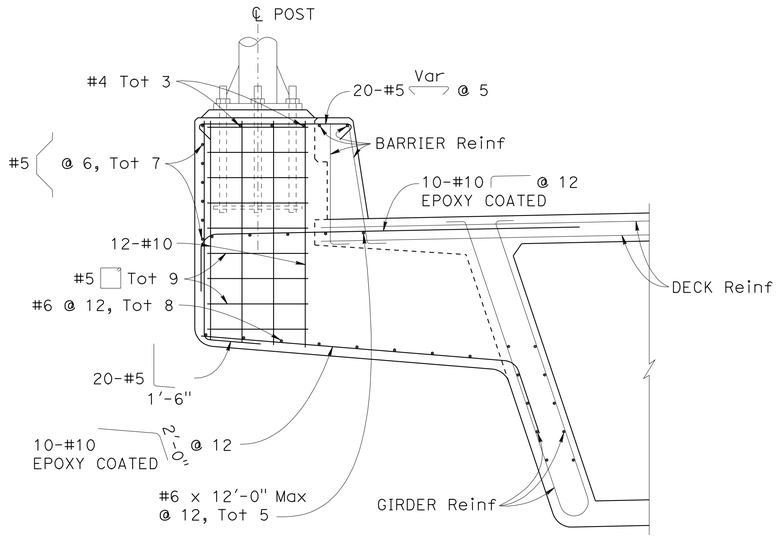
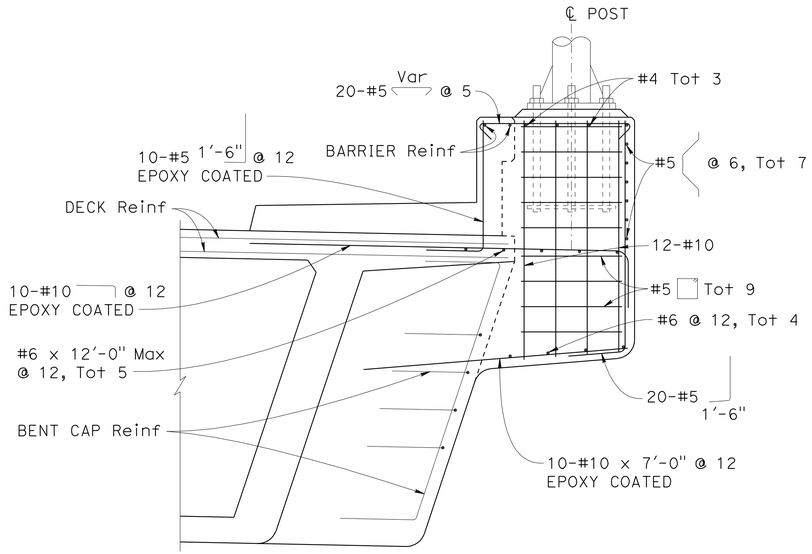
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



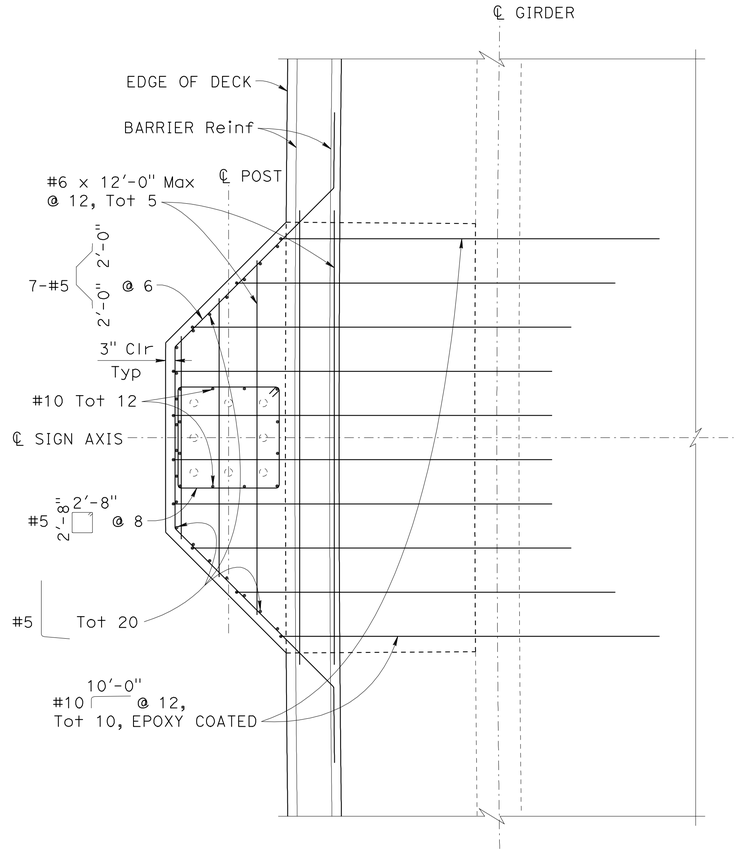
LEFT SIDE PEDESTAL DETAIL

½" = 1'-0"



RIGHT SIDE PEDESTAL DETAIL

½" = 1'-0"



SECTION A-A

½" = 1'-0"

L† SIDE PEDESTAL SHOWN, R† SIDE PEDESTAL SIMILAR

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

STRUCTURE SIGN PEDESTAL DETAILS No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-9-11	1-30-12	5-30-12	7-11-12	38	52

FILE => 33-0753-p-sspdt02.dgn

USERNAME => s124936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	640	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

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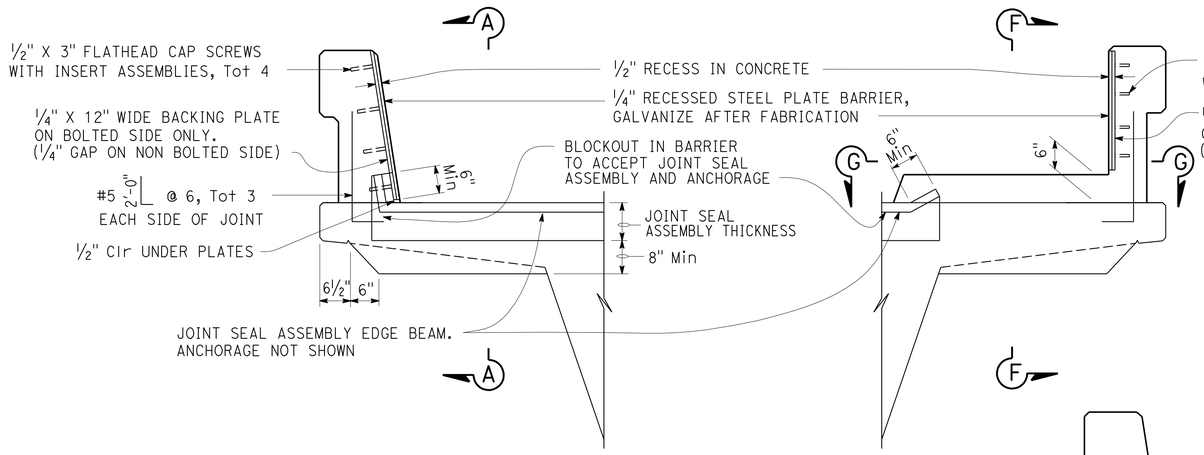
REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

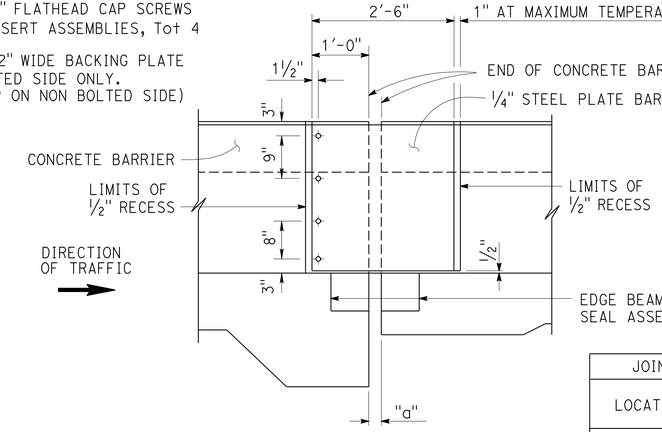
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



SEAL INSTALLATION ◇1

¾" = 1'-0"

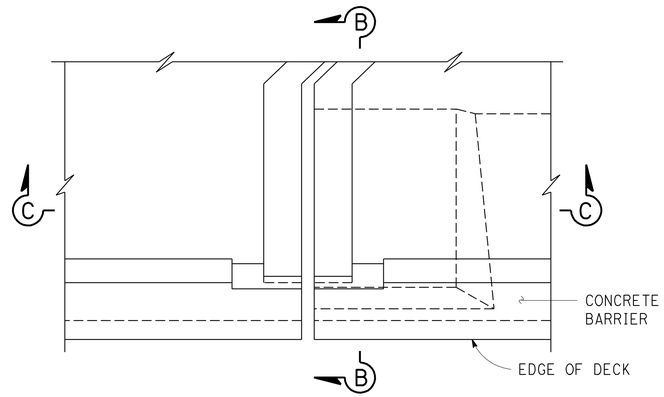


ELEVATION A-A ◇1

NO SCALE

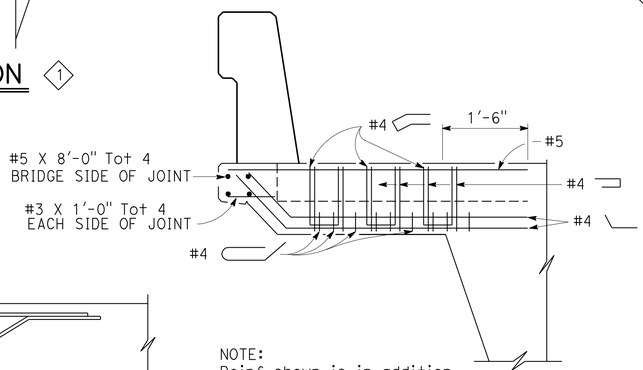
JOINT INFORMATION		"a" DIMENSIONS			
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Abut 1	9"	42°42'23"	6.0"	4.5"	3.0"
Abut 5	9"	50°41'34"	6.7"	5.0"	3.3"

NOTES:
1. For details not shown, see Project Plans
2. x is greater than or equal to y



PLAN - DECK JOINT

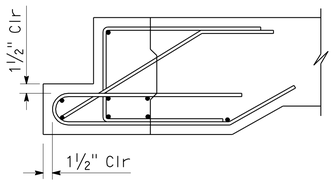
¾" = 1'-0"



NOTE:
Reinf shown is in addition to slab reinf

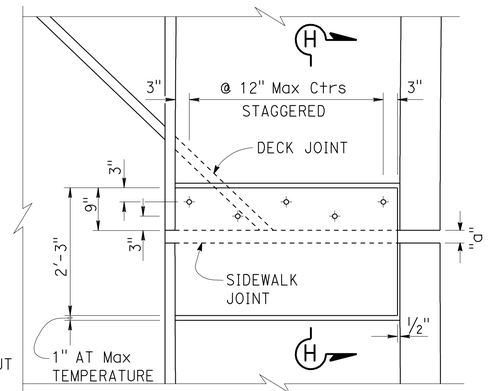
SECTION B-B

¾" = 1'-0"



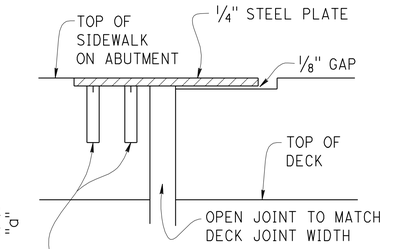
DETAIL D

1" = 1'-0"



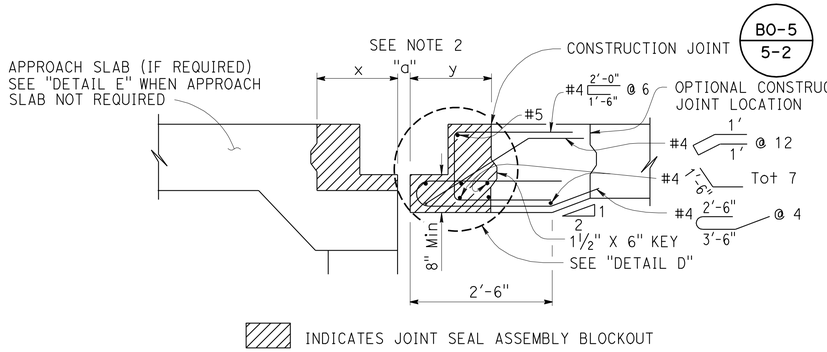
PLAN G-G ◇2

¾" = 1'-0"



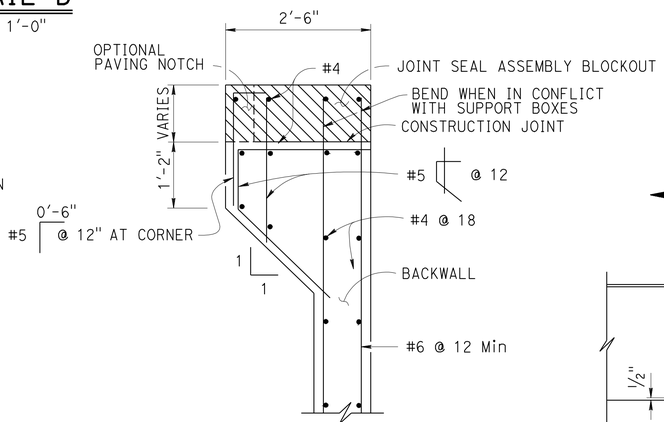
SECTION H-H ◇2

NO SCALE



SECTION C-C

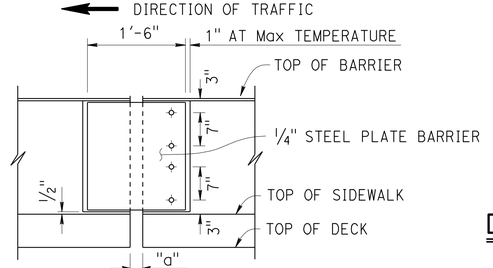
¾" = 1'-0"



DETAIL E

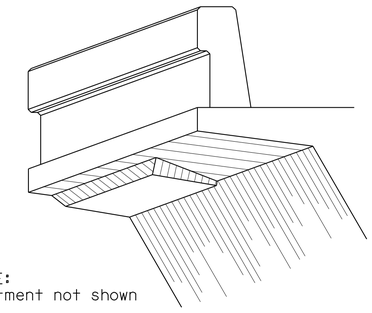
¾" = 1'-0"

BACKWALL WITHOUT APPROACH SLAB



ELEVATION F-F ◇2

NO SCALE



NOTE:
Abutment not shown

DECK OVERHANG AT ABUTMENT

NO SCALE

SPECIAL DETAILS

23RD AVENUE OC (REPLACE)

JOINT SEAL - ABUTMENT DETAILS

MOVEMENT RATING GREATER THAN 4"

REVISED STANDARD DRAWING

FILE NO. xs8-030

APPROVAL DATE July 2011

◇1 Revised detail
◇2 Detail added

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 33-0753
POST MILES 28.95

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

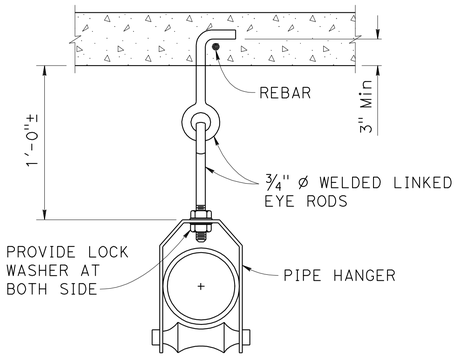
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101
FILE => 33-0753-q-js-abutdt.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	39	52

USERNAME => s1224496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:27



PIPE HANGER DETAIL
NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	641	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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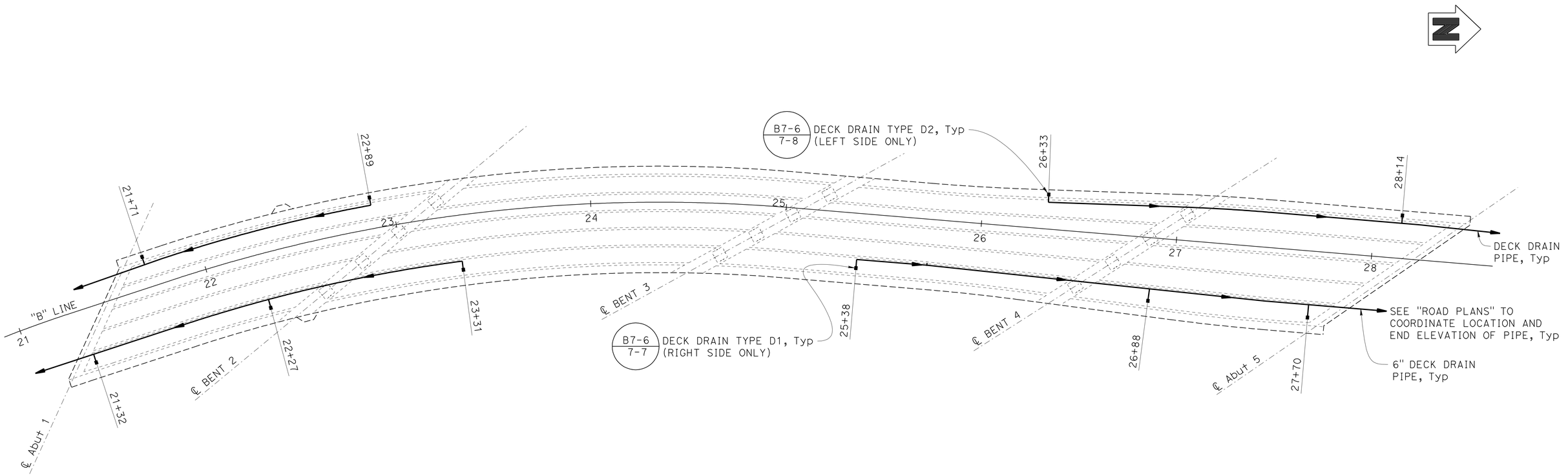
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



PLAN
NO SCALE

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
8-8-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
DECK DRAIN LAYOUT

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-30-12	3-30-12	8-7-12	40	52

FILE => 33-0753-r-dd_lo.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	642	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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URS CORPORATION
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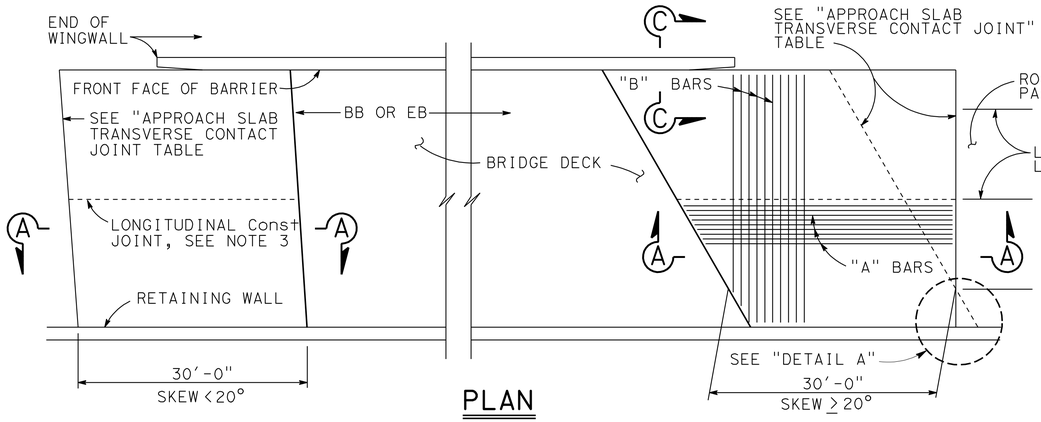
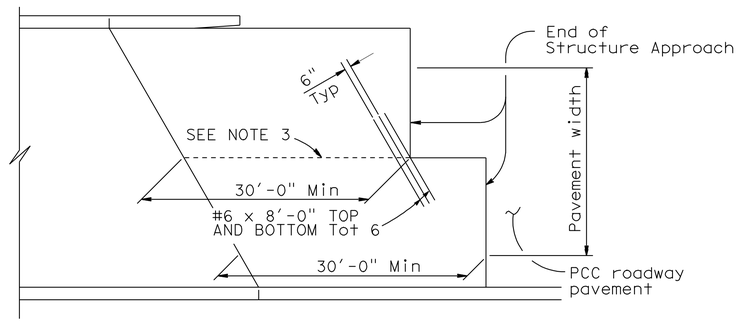
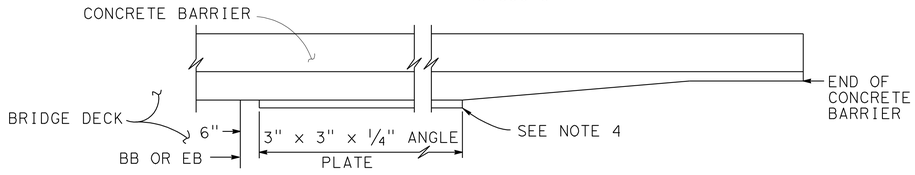
ROSEVILLE, CA 95661-2997



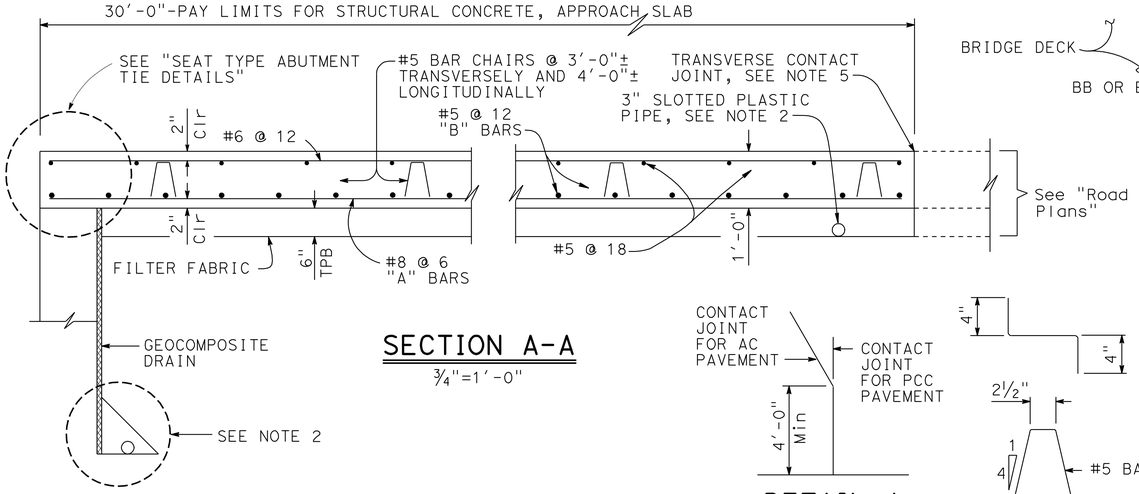
PLAN
1" = 10'



STRUCTURE APPROACH - END STAGGER DETAIL
No Scale



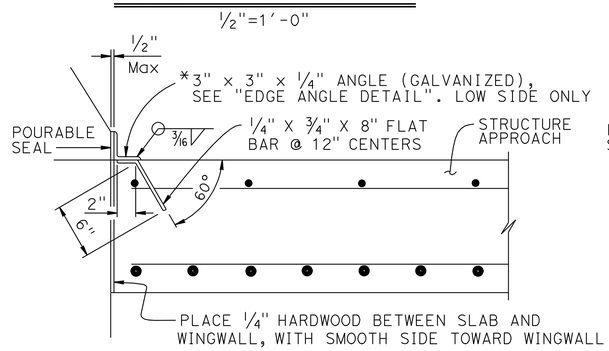
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE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



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

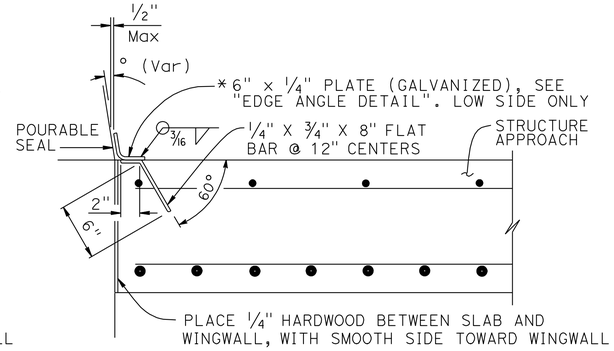
DETAIL A
No Scale

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



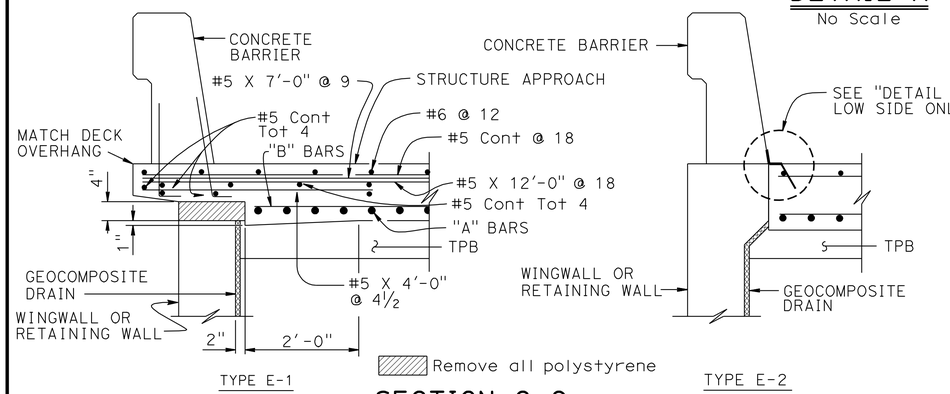
*(TO BE USED WITH CONCRETE BARRIER WITH VERTICAL FACE)

EDGE ANGLE DETAIL
1/2"=1'-0"

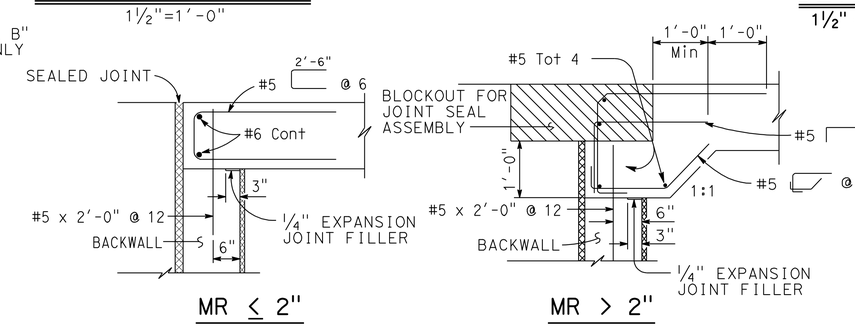


*(TO BE USED WITH CONCRETE BARRIER WITH SLOPING FACE)

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



SECTION C-C
3/4"=1'-0"
(Type E-1 to be used, unless otherwise shown on plans)



SEAT TYPE ABUTMENT TIE DETAILS (SEE NOTE 1)
3/4"=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

SPECIAL DETAILS

REVISED STANDARD DRAWING

FILE NO. xs3-120

APPROVAL DATE July 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
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: 0724
PROJECT NUMBER & PHASE: 04000001601
CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	41	52

FILE => 33-0753-s-sa.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	643	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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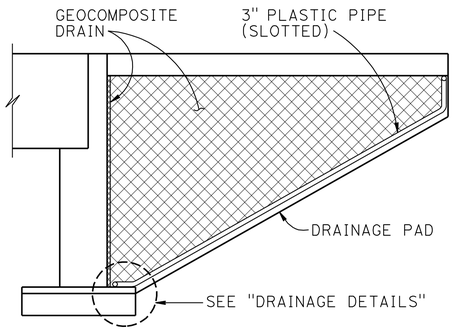
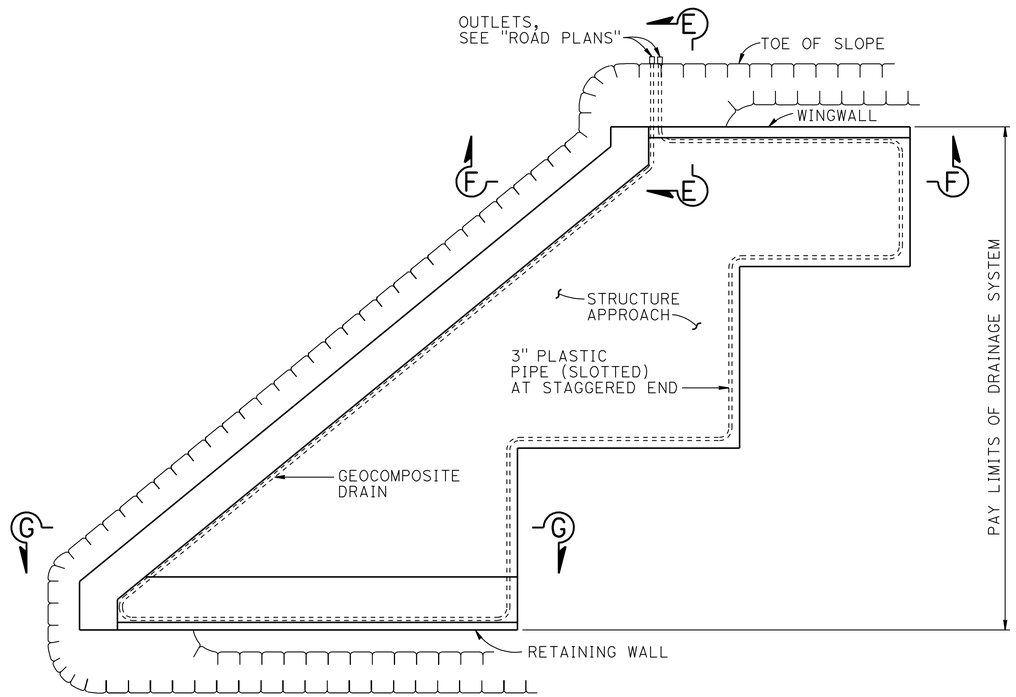
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997

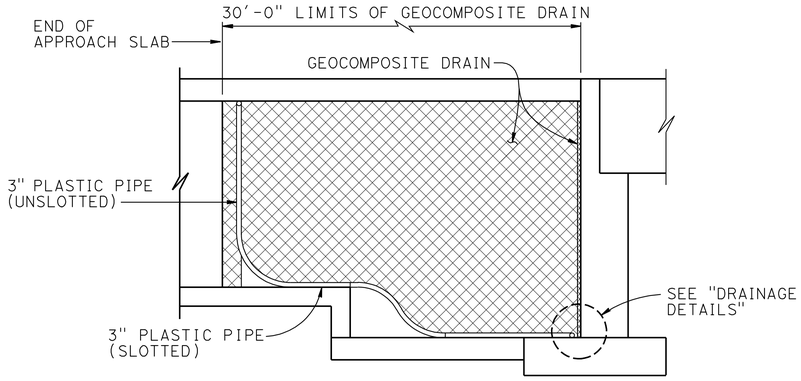


CANTILEVER WINGWALL

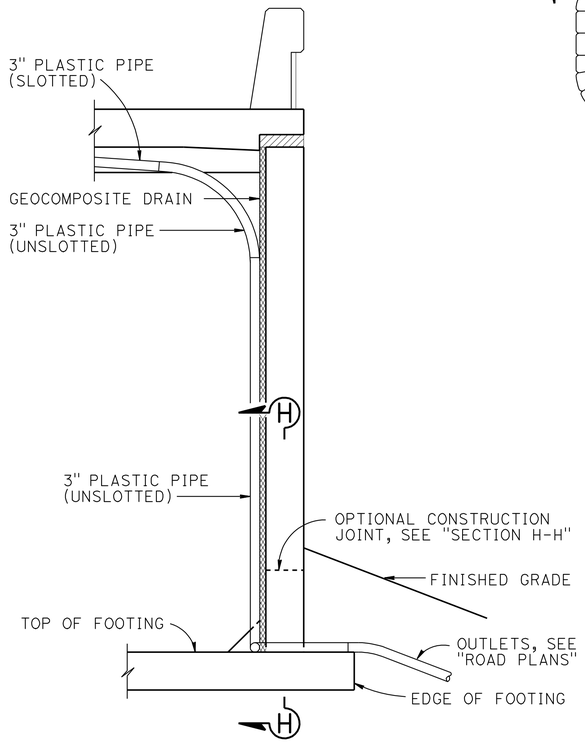
SECTION F-F ⟨1⟩
1/4" = 1'-0"



TYPICAL PLAN ⟨1⟩
1" = 10'

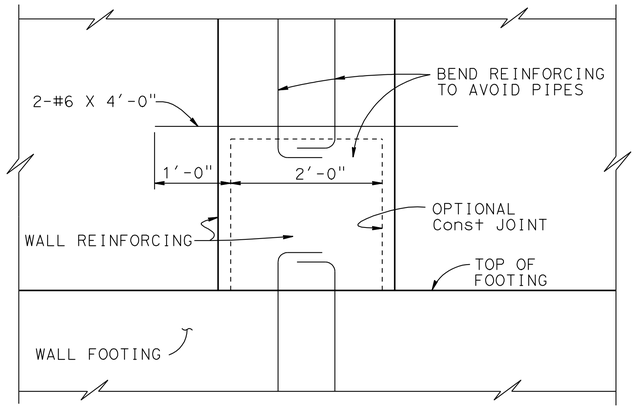


RETAINING WALL WINGWALL DRAINAGE DETAILS



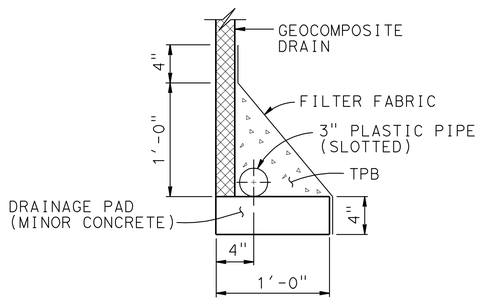
SECTION E-E ⟨1⟩
1/2" = 1'-0"

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

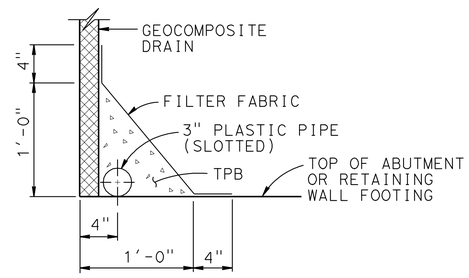


SECTION H-H
1" = 1'-0"

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



WITHOUT FOOTING



WITH FOOTING

DRAINAGE DETAILS
1 1/2" = 1'-0"

SPECIAL DETAILS

REVISED STANDARD DRAWING	⟨1⟩ Revised detail	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 33-0753	23RD AVENUE OC (REPLACE)
FILE NO. xs3-110 APPROVAL DATE July 2011				POST MILES 28.95	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

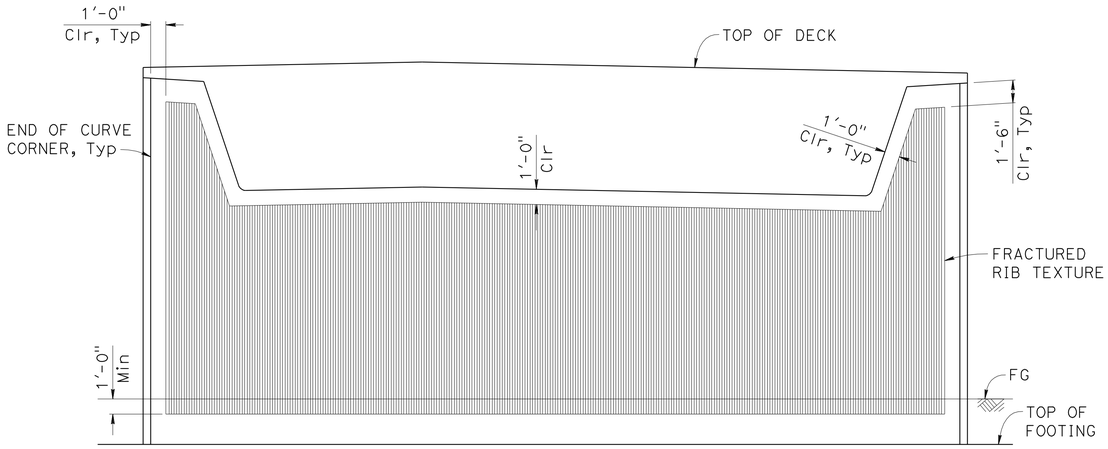
UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

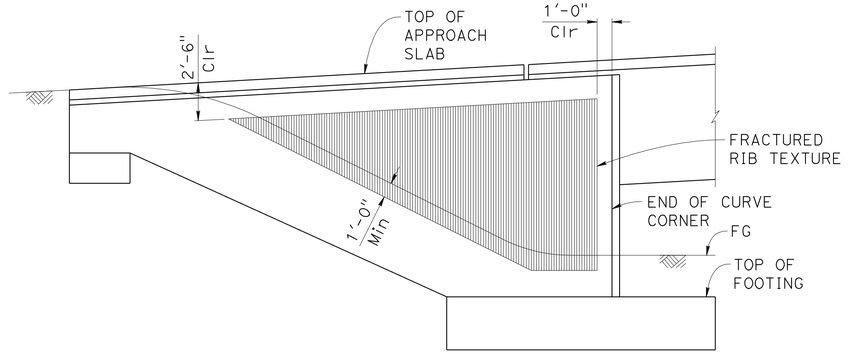
REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	7-11-12	42	52

FILE => 33-0753-s-sadd.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:27



ABUTMENT
NO SCALE



WINGWALL
NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	644	789

Jan M Hueser 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Jan M. Hueser — No. C050215 — Exp. 6/30/13 — CIVIL — STATE OF CALIFORNIA

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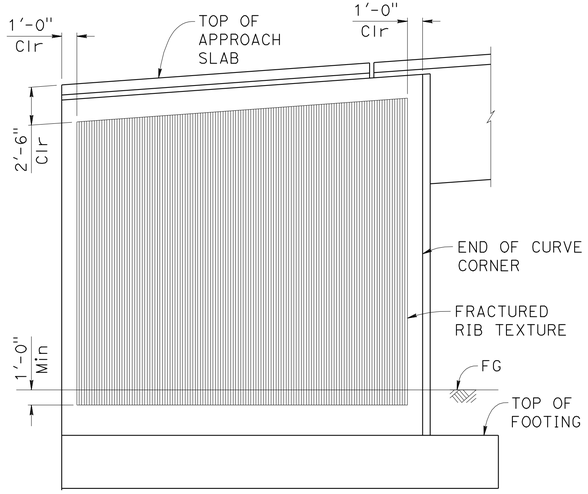
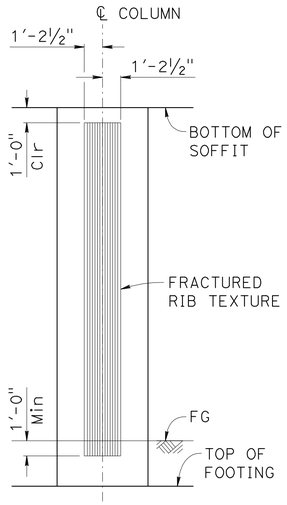
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY
OAKLAND, CA 94612-1918

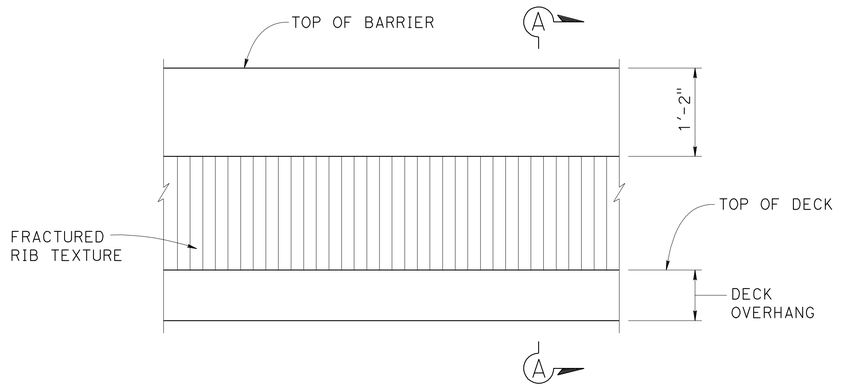
URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997



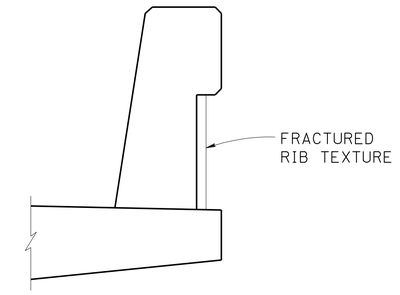
RETAINING WALL
NO SCALE



COLUMN
NO SCALE



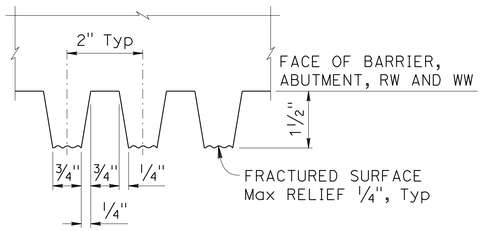
TYPICAL BARRIER
NO SCALE



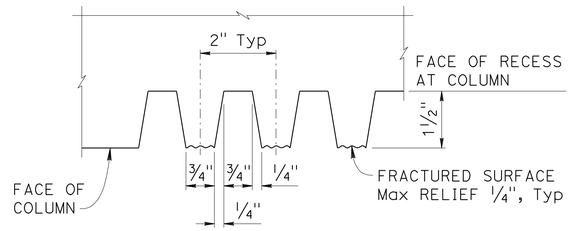
SECTION A-A
NO SCALE

NOTES:

1. Vertical joints in form liners will be at center of trough between ribs. Min spacing of form liner vertical joints will be 4'-0".
2. No horizontal joints will be permitted in form liners.



AT BARRIER, ABUTMENT, RW AND WW



AT COLUMN

FRACTURED RIB TEXTURE DETAIL
NO SCALE

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

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

	BY	CHECKED
DESIGN	A. Prince	N. Suan
DETAILS	R. Lim	N. Suan
QUANTITIES	A. Prince	M. Soltani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
ARCHITECTURAL DETAILS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 9-6-11 | 1-18-12 | 3-30-12 | 7-11-12

SHEET 43 OF 52

FILE => 33-0753-u-adt.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:12

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	645	789

Philip J. Meymand 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612

CEMENTATION

DESCRIPTION	CRITERIA
WEAK	CRUMBLES OR BREAKS WITH HANDLING OR LITTLE FINGER PRESSURE.
MODERATE	CRUMBLES OR BREAKS WITH CONSIDERABLE FINGER PRESSURE.
STRONG	WILL NOT CRUMBLE OR BREAK WITH FINGER PRESSURE.

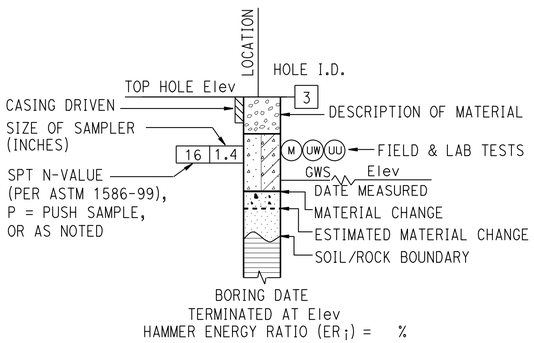
BOREHOLE IDENTIFICATION

SYMBOL	HOLE TYPE	DESCRIPTION
Size	A	AUGER BORING (HOLLOW OR SOLID STEM BUCKET)
Size	R	ROTARY DRILLED BORING (CONVENTIONAL)
	RW	ROTARY DRILLED WITH SELF-CASING WIRE-LINE
	RC	ROTARY CORE WITH CONTINUOUSLY-SAMPLED, SELF-CASING WIRE-LINE
	P	ROTARY PERCUSSION BORING (AIR)
Size	R	ROTARY DRILLED DIAMOND CORE
Size	HD	HAND DRIVEN (1-INCH SOIL TUBE)
	HA	HAND AUGER
●	D	DYNAMIC CONE PENETRATION BORING
▲	CPT	CONE PENETRATION TEST (ASTM D 5778)
⬚	O	OTHER (NOTE ON LOTB)

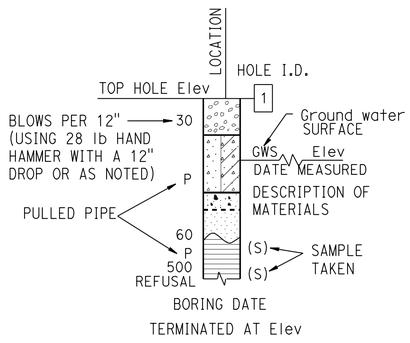
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

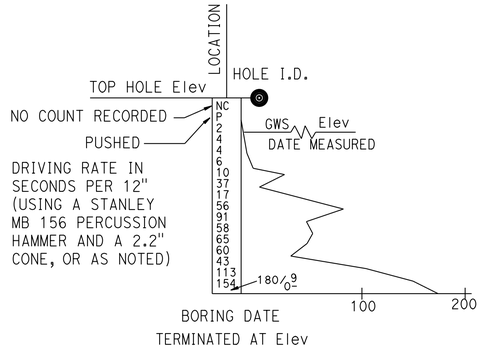
DESCRIPTION	SHEAR STRENGTH (tsf)	POCKET PENETROMETER MEASUREMENT, PP, (tsf)	TORVANE MEASUREMENT, TV, (tsf)	VANE SHEAR MEASUREMENT, VS, (tsf)
VERY SOFT	LESS THAN 0.12	LESS THAN 0.25	LESS THAN 0.12	LESS THAN 0.12
SOFT	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
MEDIUM STIFF	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
STIFF	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
VERY STIFF	1 - 2	2 - 4	1 - 2	1 - 2
HARD	GREATER THAN 2	GREATER THAN 4	GREATER THAN 2	GREATER THAN 2



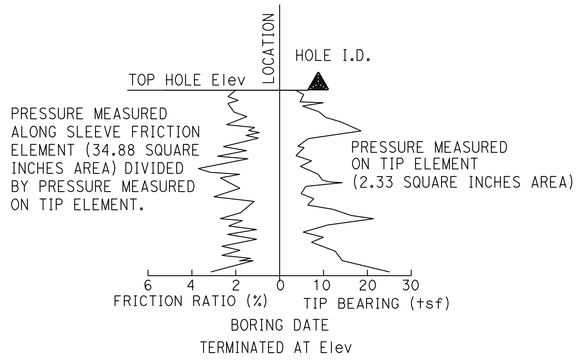
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

Paul Cotter. DESIGN OVERSIGHT Paul Cotter	DRAWN BY	N. HUTTON	S. JANOWSKI FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Jan Hueser PROJECT ENGINEER	BRIDGE NO. 33-0753	23RD AVENUE OC (REPLACE)
7-16-12 SIGN OFF DATE	CHECKED BY	C. TSAI	DATE: 04-25-11 TO 05-04-11			POST MILES 28.95	LOG OF TEST BORINGS 1 OF 9

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	44	52

FILE => 33-0753-z-1tb01.dgn

USERNAME => s12614 DATE PLOTTED => 11-APR-2013 TIME PLOTTED => 13:48

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

GRAPHIC/SYMBOL	GROUP NAMES	GRAPHIC/SYMBOL	GROUP NAMES
GW	WELL-GRADED GRAVEL WELL-GRADED GRAVEL WITH SAND	CL	LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL SANDY LEAN CLAY SANDY LEAN CLAY WITH GRAVEL GRAVELLY LEAN CLAY GRAVELLY LEAN CLAY WITH SAND
GP	POORLY-GRADED GRAVEL POORLY-GRADED GRAVEL WITH SAND		
GW-GM	WELL-GRADED GRAVEL WITH SILT WELL-GRADED GRAVEL WITH SILT AND SAND	CL-ML	SILTY CLAY SILTY CLAY WITH SAND SILTY CLAY WITH GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY WITH GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY WITH SAND
GW-GC	WELL-GRADED GRAVEL WITH CLAY (OR SILTY CLAY) WELL-GRADED GRAVEL WITH CLAY AND SAND (OR SILTY CLAY AND SAND)		
GP-GM	POORLY-GRADED GRAVEL WITH SILT POORLY-GRADED GRAVEL WITH SILT AND SAND	ML	SILT SILT WITH SAND SILT WITH GRAVEL SANDY SILT SANDY SILT WITH GRAVEL GRAVELLY SILT GRAVELLY SILT WITH SAND
GP-GC	POORLY-GRADED GRAVEL WITH CLAY (OR SILTY CLAY) POORLY-GRADED GRAVEL WITH CLAY AND SAND (OR SILTY CLAY AND SAND)		
GM	SILTY GRAVEL SILTY GRAVEL WITH SAND	OL	ORGANIC LEAN CLAY ORGANIC LEAN CLAY WITH SAND ORGANIC LEAN CLAY WITH GRAVEL SANDY ORGANIC LEAN CLAY SANDY ORGANIC LEAN CLAY WITH GRAVEL GRAVELLY ORGANIC LEAN CLAY GRAVELLY ORGANIC LEAN CLAY WITH SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL WITH SAND	OL	ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT WITH GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT WITH SAND
SW	WELL-GRADED SAND WELL-GRADED SAND WITH GRAVEL		
SP	POORLY-GRADED SAND POORLY-GRADED SAND WITH GRAVEL	CH	FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL SANDY FAT CLAY SANDY FAT CLAY WITH GRAVEL GRAVELLY FAT CLAY GRAVELLY FAT CLAY WITH SAND
SW-SM	WELL-GRADED SAND WITH SILT WELL-GRADED SAND WITH SILT AND GRAVEL		
SW-SC	WELL-GRADED SAND WITH CLAY (OR SILTY CLAY) WELL-GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)	MH	ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL SANDY ELASTIC SILT SANDY ELASTIC SILT WITH GRAVEL GRAVELLY ELASTIC SILT GRAVELLY ELASTIC SILT WITH SAND
SP-SM	POORLY-GRADED SAND WITH SILT POORLY-GRADED SAND WITH SILT AND GRAVEL		
SP-SC	POORLY-GRADED SAND WITH CLAY (OR SILTY CLAY) POORLY-GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)	OH	ORGANIC FAT CLAY ORGANIC FAT CLAY WITH SAND ORGANIC FAT CLAY WITH GRAVEL SANDY ORGANIC FAT CLAY SANDY ORGANIC FAT CLAY WITH GRAVEL GRAVELLY ORGANIC FAT CLAY GRAVELLY ORGANIC FAT CLAY WITH SAND
SM	SILTY SAND SILTY SAND WITH GRAVEL		
SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL	OH	ORGANIC ELASTIC SILT ORGANIC ELASTIC SILT WITH SAND ORGANIC ELASTIC SILT WITH GRAVEL SANDY ORGANIC ELASTIC SILT SANDY ORGANIC ELASTIC SILT WITH GRAVEL GRAVELLY ORGANIC ELASTIC SILT GRAVELLY ORGANIC ELASTIC SILT WITH SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND WITH GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL WITH SAND ORGANIC SOIL WITH GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL WITH GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL WITH SAND
	COBBLES COBBLES AND BOULDERS BOULDERS		

FIELD AND LABORATORY TESTING

- (C) CONSOLIDATION (ASTM D 2435)
- (CL) COLLAPSE POTENTIAL (ASTM D 5333)
- (CP) COMPACTION CURVE (CTM 216)
- (CR) CORROSIVITY TESTING (CTM 643, CTM 422, CTM 417)
- (CU) CONSOLIDATED UNDRAINED TRIAXIAL (ASTM D 4767)
- (DS) DIRECT SHEAR (ASTM D 3080)
- (EI) EXPANSION INDEX (ASTM D 4829)
- (M) MOISTURE CONTENT (ASTM D 2216)
- (OC) ORGANIC CONTENT-% (ASTM D 2974)
- (P) PERMEABILITY (CTM 220)
- (PA) PARTICLE SIZE ANALYSIS (ASTM D 422)
- (PI) PLASTICITY INDEX (AASHTO T 90) LIQUID LIMIT (AASHTO T 89)
- (PL) POINT LOAD INDEX (ASTM D 5731)
- (PM) PRESSURE METER
- (R) R-VALUE (CTM 301)
- (SE) SAND EQUIVALENT (CTM 217)
- (SG) SPECIFIC GRAVITY (AASHTO T 100)
- (SL) SHRINKAGE LIMIT (ASTM D 427)
- (SW) SWELL POTENTIAL (ASTM D 4546)
- (UC) UNCONFINED COMPRESSION-SOIL (ASTM D 2166)
UNCONFINED COMPRESSION-ROCK (ASTM D 2938)
- (UU) UNCONSOLIDATED UNDRAINED TRIAXIAL (ASTM D 2850)
- (UW) UNIT WEIGHT (ASTM D 4767)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	646	789

Philip J Meymand 7/11/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612

APPARENT DENSITY OF COHESIONLESS SOILS

DESCRIPTION	SPT N_{60} (BLOWS / 12 INCHES)
VERY LOOSE	0 - 5
LOOSE	5 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	GREATER THAN 50

MOISTURE

DESCRIPTION	CRITERIA
DRY	NO DISCERNABLE MOISTURE
MOIST	MOISTURE PRESENT, BUT NO FREE WATER
WET	VISIBLE FREE WATER

PERCENT OR PROPORTION OF SOILS

DESCRIPTION	CRITERIA
TRACE	PARTICLES ARE PRESENT BUT ESTIMATED TO BE LESS THAN 5%
FEW	5% - 10%
LITTLE	15% - 25%
SOME	30% - 45%
MOSTLY	50% - 100%

PARTICLE SIZE

DESCRIPTION		SIZE
BOULDER		GREATER THAN 12"
COBBLE		3" - 12"
GRAVEL	COARSE	3/4" - 3"
	FINE	1/5" - 3/4"
SAND	COARSE	1/16" - 1/5"
	MEDIUM	1/64" - 1/16"
	FINE	1/300" - 1/64"
SILT AND CLAY		LESS THAN 1/300"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

DRAWN BY N. HUTTON
CHECKED BY C. TSAI

S. JANOWSKI
FIELD INVESTIGATION BY:
DATE: 04-25-11 TO 05-04-11

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
LOG OF TEST BORINGS 2 OF 9

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	45	52

FILE => 33-0753-z-1tb02.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	647	789

Philip J Meymand 7/11/12
REGISTERED CIVIL ENGINEER DATE

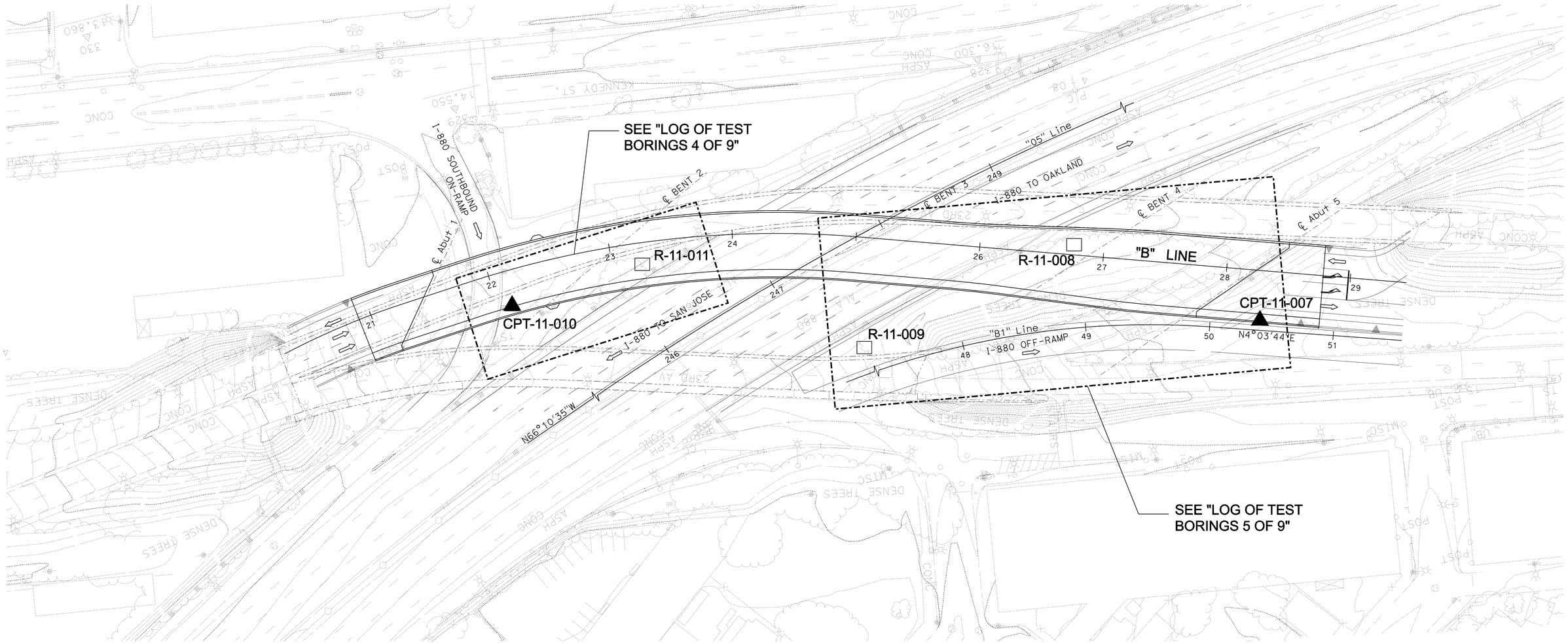
4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Philip Meymand
No. 2596
Exp. 6/30/13
GEOTECHNICAL
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.

ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612



PLAN
1"=40'-0"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

DRAWN BY N. HUTTON
CHECKED BY C. TSAI

S. JANOWSKI
FIELD INVESTIGATION BY:
DATE: 04-25-11 TO 05-04-11

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)
LOG OF TEST BORINGS 3 OF 9

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	46	52

FILE => 33-0753-z-1tb03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 01:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	648	789

Philip J Meymand 7/11/12
REGISTERED CIVIL ENGINEER — DATE

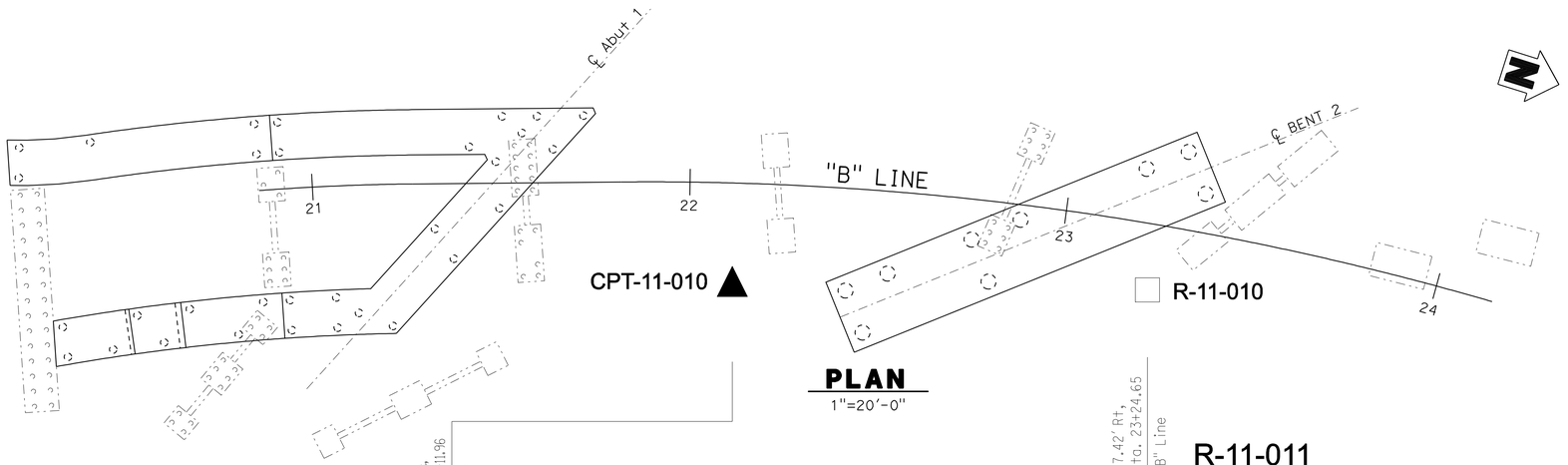
4-8-13
PLANS APPROVAL DATE

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 — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612



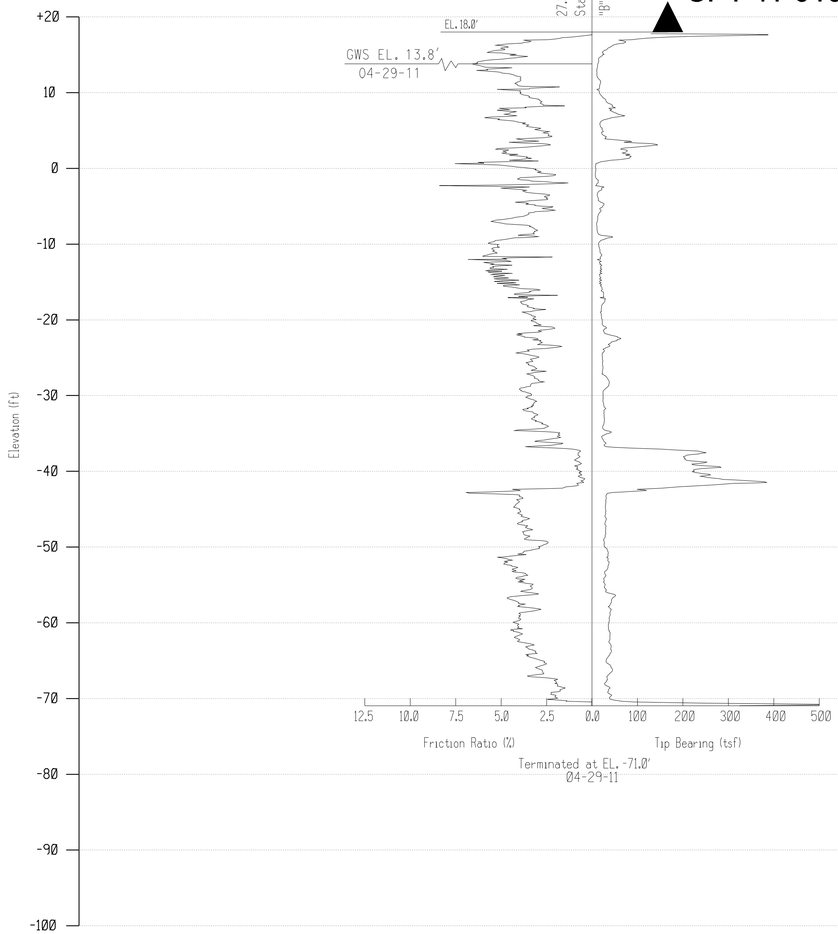
PLAN
1"=20'-0"

NOTES:

1. Ground water table was not measured in the borings due to rotary wash drilling.
2. Hammer energy ratio calibration not performed.
3. The borings were hand augered in the top 5 ft to check for the existence of underground utilities.

CPT-11-010

27.37' Rt, Sta. 22+11.96 "B" Line



Terminated at El. -71.0'
04-29-11

R-11-011

17.42' Rt, Sta. 23+24.65 "B" Line

EL. 20.0' 5"

21	2.0			SANDY lean CLAY with GRAVEL (CL); brown; dry to moist; about 10% COBBLES; about 10% subangular to subrounded GRAVEL, max. 1 in. dia.; about 40% coarse to medium SAND; about 40% medium plasticity fines; subrounded; (FILL).
				CONCRETE.
14	2.0	M	UW UC	Fat CLAY (CH); very stiff; dark gray; moist; trace fine SAND; medium to high plasticity, very high dry strength fines; Orange and brown mottling; metal debris in hand auger cuttings.
36	1.4	PA		PP=2.25 tsf (ALLUVIUM).
				Lean CLAY with SAND (CL); stiff; medium brown; moist; about 25% fine SAND; about 75% low plasticity fines; PP=3.75 tsf.
15	2.0			CLAYEY SAND with GRAVEL (SC); dense; dark brown; moist; about 34% angular to subangular GRAVEL, max. 1 in. dia.; about 49% medium to fine SAND; about 17% low plasticity fines.
3	1.4	M	UW C PI UU	Lean CLAY with SAND (CL); stiff; brown; moist; about 10%
push	2.5			subangular GRAVEL, max. 1/2 in. dia.; about 25% fine SAND; about 65% low plasticity fines; PP=2.75 tsf.
13	2.0			Fat CLAY (CH); medium stiff; light brown; moist; about 10 to 15% fine SAND; about 80% high plasticity fines; PP=0.75 tsf.
				-very stiff; PP=2.50 tsf.
10	2.0			-about 5-10% fine sand; medium to high plasticity fines; PP=2.75 tsf.
12	2.0			-stiff; about 20% fine sand; thin shell lens at 36 ft; PP=1.75 tsf.
15	1.4			SANDY lean CLAY (CL); stiff; medium brown; moist; trace GRAVEL; about 40% fine SAND; about 60% low plasticity fines; shells at 41 ft; depositional transition; sand grain size increasing with depth; PP=1.5 tsf.
17	2.0	M	UW UU	Lean CLAY with SAND (CL); stiff; medium brown; moist; about 20% fine SAND; about 80% medium plasticity fines; PP=1.5-2.25 tsf.
				-very stiff; PP=2.5 tsf.
21	1.4			PP=3.75 tsf.
20	2.0	M	UW UC	-stiff; PP=2.5 tsf.
				Lean CLAY (CL); hard; medium brown; moist; trace fine SAND; medium plasticity fines; PP=>4.5 tsf.
38	2.0	M	UW	
				SANDY lean CLAY (CL); very stiff; medium brown; moist; about 40% fine SAND; about 60% low to medium plasticity fines; PP=3.5 tsf.
41	2.0			
36	1.4			-about 50% fine sand; about 50% medium plasticity fines; PP=2.0 tsf.

Terminated at El. -81.5'
04-25-11

Paul Cotter
DESIGN OVERSIGHT — Paul Cotter
7-16-12
SIGN OFF DATE

DRAWN BY	N. HUTTON	S. JANOWSKI	
CHECKED BY	C. TSAI	FIELD INVESTIGATION BY:	
		DATE: 04-25-11 TO 05-04-11	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser
PROJECT ENGINEER

BRIDGE NO.	33-0753
POST MILES	28.95

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 4 OF 9

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	47	52

FILE => 33-0753-z-1tb04.dgn

USERNAME => s1244936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	649	789

Philip J Meymand 7/11/12
REGISTERED CIVIL ENGINEER — DATE

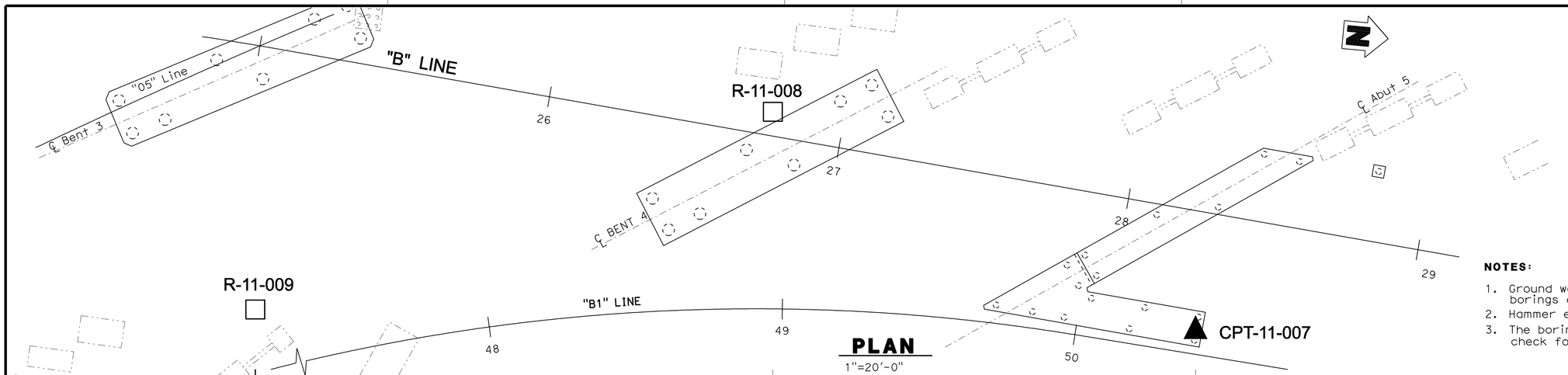
4-8-13
PLANS APPROVAL DATE

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 — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612



PLAN
1"=20'-0"

NOTES:

1. Ground water table was not measured in the borings due to rotary wash drilling.
2. Hammer energy ratio calibration not performed.
3. The borings were hand augered in the top 5 ft to check for the existence of underground utilities.

R-11-009

88.57' Rt, Sta. 25+14 "B" Line — EL. 17.0' — 5"

Fat CLAY (CH); very stiff; dark gray; dry to moist; about 10% fine SAND; about 90% medium to high plasticity, very high dry strength fines; PP=2.5 tsf (FILL).

SANDY lean CLAY (CL); very stiff; medium to dark brown; dry to moist; about 10% coarse, angular GRAVEL; about 40% medium SAND; about 50% low plasticity fines; PP=3.5 tsf.

SANDY lean CLAY (CL); very stiff; medium brown; moist; about 30% fine SAND; about 70% medium plasticity fines; trace coarse sand; PP=2.75 tsf (ALLUVIUM).

Lean CLAY with SAND (CL); stiff; medium brown; moist; trace coarse GRAVEL; about 20% fine SAND; about 80% medium plasticity fines; sample disturbed; PP=3.0 tsf.

-very stiff about 15% subrounded gravel up to 1/2 in; black and red mottles; PP=3.25-3.75 tsf.

-no evident gravel; black; mottles very common; stiff; about 15% fine sand; PP=1.75 tsf.

-very stiff; trace angular gravel to 1/2 in; PP=3.5 tsf.

Lean CLAY (CL); very stiff; medium brown; moist; about 5% fine SAND; about 95% medium plasticity fines; PP=3.0 tsf.

SANDY lean CLAY (CL); medium stiff; brown and gray; moist; about 25% fine SAND; about 75% medium plasticity fines; PP=1.75 tsf.

Poorly graded SAND with SILT and GRAVEL (SP-SM); dense; brown; wet; about 26% subangular GRAVEL, max. 3/4 in. dia.; about 63% coarse to medium SAND; about 11% nonplastic fines.

Fat CLAY (CH); very stiff; gray; moist; about 5% fine SAND; about 95% medium to high plasticity, very high dry strength fines; PP=2.0-3.0 tsf.

Lean CLAY with SAND (CL); hard; greenish-gray; dry to moist; about 5% fine, subangular GRAVEL; about 25% fine SAND; about 70% low plasticity fines; PP=>4.5 tsf.

-brown; very stiff; about 10% fine sand; medium plasticity fines; PP=3.0 tsf.

SANDY lean CLAY (CL); very stiff to hard; brown and gray; moist; about 35% fine SAND; about 65% low plasticity fines; PP=>4.5 tsf.

-very stiff; occasional black mottles; PP=3.0 tsf.

-hard coarse sand lens at 90.5 ft; <1 in thick; PP=4.25 tsf.

-very stiff; about 45% fine sand; about 55% low plasticity fines; PP=3.25 tsf.

Terminated at El. -84.5'
04-28-11

R-11-008

8.18' Lt, Sta. 26+75.71 "B" Line — EL. 19.0' — 5"

Fat CLAY (CH); dark gray; dry; about 5% fine SAND; about 95% high plasticity, very high dry strength fines; (FILL).

-hard; moist; PP=4.25 tsf.

Lean CLAY with SAND (CL); hard; medium brown; moist; about 5% fine, subangular to subrounded GRAVEL; about 15% fine SAND; about 80% medium plasticity fines; light brown mottles; PP=3.25-4.25 tsf; (ALLUVIUM).

-stiff; PP=1.75 tsf.

SANDY lean CLAY with GRAVEL (CL); stiff to very stiff; medium brown; moist; about 20% subrounded GRAVEL, max. 1/2 in. dia.; about 40% medium to fine SAND; about 40% medium plasticity fines; PP=1.5-2.0 tsf.

Lean CLAY with SAND (CL); stiff; medium brown; moist; about 5% fine, subangular to subrounded GRAVEL; about 15% fine SAND; about 80% medium plasticity fines; PP=1.75 tsf.

Lean CLAY (CL); stiff to very stiff; medium brown; moist; about 5% fine SAND; about 95% medium plasticity fines; PP=1.0-2.0 tsf.

PP=3.0 tsf.

SANDY lean CLAY (CL); very stiff; medium brown; moist; about 40% fine SAND; about 60% low plasticity fines; PP=2.5 tsf.

Fat CLAY (CH); very stiff; medium brown; moist; about 5% fine SAND; about 95% high plasticity, very high dry strength fines; PP=2.0-2.75 tsf.

SILTY SAND with GRAVEL (SM); medium dense; brown; moist; about 40% subrounded GRAVEL, max. 1 in. dia.; about 43% coarse to medium SAND; about 17% nonplastic fines.

SANDY lean CLAY (CL); stiff; medium brown; moist; about 35% fine SAND; about 65% medium plasticity fines; PP=1.0 tsf.

Poorly graded SAND with SILT (SP-SM); dense; medium brown; moist; trace GRAVEL, max. 1/4 in. dia.; about 90% coarse to medium SAND; about 10% nonplastic fines; PP=>4.5 tsf.

SANDY lean CLAY (CL); very stiff; medium brown; moist; about 45% fine SAND; about 55% medium plasticity fines.

SILTY SAND (SM); dense; medium brown; moist; about 85% medium SAND; about 15% low plasticity fines.

SANDY lean CLAY (CL); very stiff; brown and gray; moist; trace subangular GRAVEL, max. 1/3 in. dia.; about 30% fine SAND; about 70% medium plasticity fines; Manganese and iron staining; PP=2.25-2.75 tsf.

-stiff; sand lens 81 to 81.25 ft; PP=4.5 tsf.

-very stiff; PP=3.5 tsf.

PP=2.25 tsf.

Terminated at El. -82.5'
04-27-11

CPT-11-007

39.31' Rt, Sta. 28+30.1 "B" Line — EL. 25.0'

GWS EL. 10.9'
04-29-11

Terminated at EL. -63.3'
04-29-11

Elevation (ft): +20, 10, 0, -10, -20, -30, -40, -50, -60, -70, -80, -90

DESIGN OVERSIGHT	DRAWN BY	CHECKED BY	FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER	BRIDGE NO.	POST MILES
Paul Cotter — Paul Cotter — 7-16-12 SIGN OFF DATE	N. HUTTON	C. TSAI	S. JANOWSKI — DATE: 04-25-11 TO 05-04-11		Jan Hueser	33-0753	28.95

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 5 OF 9

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	7-11-12	48	52

FILE => 33-0753-z-11b05.dgn

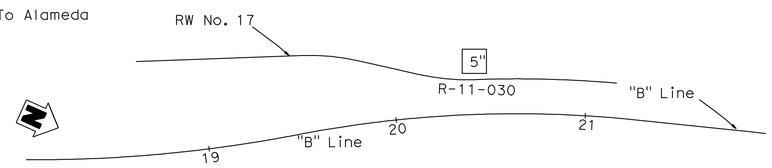
USERNAME = s124096 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:27

BENCH MARK:

DESIGNATION: ALA8 ELEV=14.521
FOUND BRASS DISK STAMPED "ALA8" IN THE SIDEWALK AT THE WEST CORNER OF EAST 8TH STREET AND 5TH AVENUE.
DESIGNATION: ALA7 ELEV=15.591
FOUND BRASS DISK STAMPED "ALA7" IN THE SIDEWALK AT THE WEST SIDE OF 7TH STREET ALONG THE NORTH SIDE OF LAKE MERRITT CHANNEL.
DESIGNATION: 8TH/37TH ELEV=20.262
FOUND A CITY OF OAKLAND PIN IN CONCRETE IN A MONUMENT WELL AT THE INTERSECTION OF EAST 8TH STREET AND 37TH AVENUE.

DESIGNATION: ALA13 ELEV=15.318
FOUND BRASS DISK STAMPED "ALA13" INSIDE A 1 INCH IRON PIPE WITH A CONCRETE COLLAR 24.6 FEET NORTH OF THE NORTH SIDE OF HIGH STREET,
56 FEET WEST OF THE WEST SIDE OF THE OFFRAMP FROM SOUTHBOUND STATE ROUTE 880 AND 4.99 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS.

DESIGNATION: KA121 ELEV=15.768
FOUND 1 INCH IRON PIPE WITH RED PLASTIC PLUG AND TACK STAMPED "CALTRANS" ALONG THE EAST SIDE OF OAKPORT STREET ABOUT 230 FEET SOUTH OF THE SOUTH SIDE OF
HIGH STREET, ACROSS FROM 4401 OAKPORT STREET, 6.92 FEET NORTH OF THE FLOWLINE OF THE CURB.



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2		

REGISTERED ENGINEER — DATE

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 — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

TO ACCOMPANY PLANS DATED 4-8-13

5"
R-11-031

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	650	789

CERTIFIED ENGINEERING GEOLOGIST — 7/11/12 DATE

REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 6 OF 9

UNIT: 0724	CONTRACT No.	BRIDGE No.
PROJECT NUMBER & PHASE: 04000001601	04-0A7101	33-0753

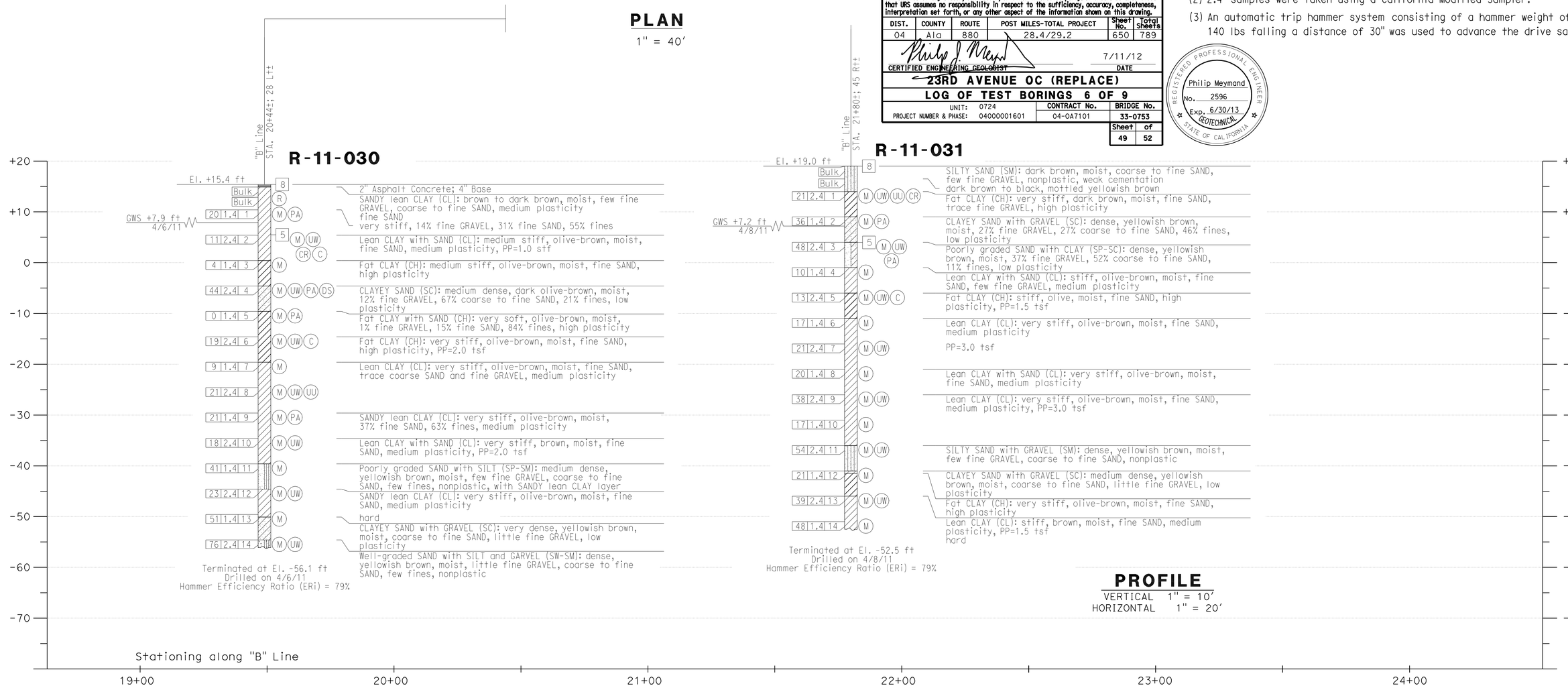
Sheet	of
49	52

NOTES:

(1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
(2) 2.4" samples were taken using a California Modified Sampler.
(3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.

PLAN

1" = 40'



PROFILE

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

DESIGN OVERSIGHT Paul Cotter	DRAWN BY	J. Fang	K. Thant	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L. Cheang	BRIDGE NO. -
7-16-12 SIGN OFF DATE	CHECKED BY	G. J. Gunaranjan	FIELD INVESTIGATION BY: DATE: 3/2011, 4/2011		PROJECT ENGINEER	POST MILES Varies

RETAINING WALL No. 17

LOG OF TEST BORINGS 1 OF 1

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0247
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET | OF

FILE => 33-0753-z-ltb06.dgn

CONTRACT NO.:04-0A7100 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 07:28

BENCH MARK:

DESIGNATION: ALA8 ELEV=14.521
FOUND BRASS DISK STAMPED "ALA8" IN THE SIDEWALK AT THE WEST CORNER OF EAST 8TH STREET AND 5TH AVENUE.

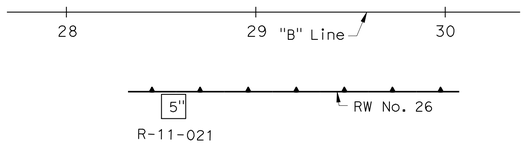
DESIGNATION: ALA7 ELEV=15.591
FOUND BRASS DISK STAMPED "ALA7" IN THE SIDEWALK AT THE WEST SIDE OF 7TH STREET ALONG THE NORTH SIDE OF LAKE MERRITT CHANNEL.

DESIGNATION: 8TH/37TH ELEV=20.262
FOUND A CITY OF OAKLAND PIN IN CONCRETE IN A MONUMENT WELL AT THE INTERSECTION OF EAST 8TH STREET AND 37TH AVENUE.

DESIGNATION: ALA13 ELEV=15.318
FOUND BRASS DISK STAMPED "ALA13" INSIDE A 1 INCH IRON PIPE WITH A CONCRETE COLLAR 24.6 FEET NORTH OF THE NORTH SIDE OF HIGH STREET,
56 FEET WEST OF THE WEST SIDE OF THE OFFRAMP FROM SOUTHBOUND STATE ROUTE 880 AND 4.99 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS.

DESIGNATION: KA121 ELEV=15.768
FOUND 1 INCH IRON PIPE WITH RED PLASTIC PLUG AND TACK STAMPED "CALTRANS" ALONG THE EAST SIDE OF OAKPORT STREET ABOUT 230 FEET SOUTH OF THE SOUTH SIDE OF HIGH STREET, ACROSS FROM 4401 OAKPORT STREET, 6.92 FEET NORTH OF THE FLOWLINE OF THE CURB.

← To Alameda



N

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2		

REGISTERED ENGINEER — DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — 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.

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

TO ACCOMPANY PLANS DATED 4-8-13

PLAN
1" = 40'

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	651	789

Philip J. Meymand — 7/11/12
CERTIFIED ENGINEERING GEOLOGIST — DATE

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 7 OF 9

UNIT: 0724	CONTRACT No.	BRIDGE No.
PROJECT NUMBER & PHASE: 04000001601	04-0A7101	33-0753
		Sheet 50 of 52

REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

NOTES:

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

(2) 2.4" samples were taken using a California Modified Sampler.

(3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.

R-11-021

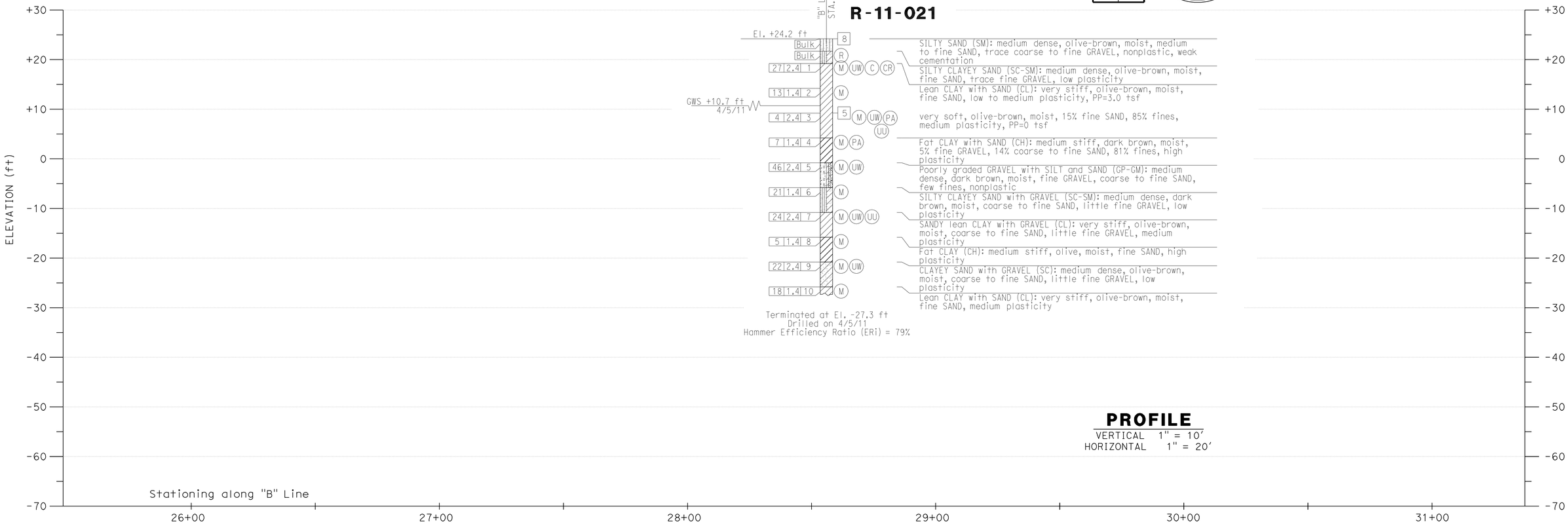
El. +24.2 ft

Bulk		8				SILTY SAND (SM): medium dense, olive-brown, moist, medium to fine SAND, trace coarse to fine GRAVEL, nonplastic, weak cementation
Bulk		R				
27	2.4	1	M	UW	C, CR	SILTY CLAYEY SAND (SC-SM): medium dense, olive-brown, moist, fine SAND, trace fine GRAVEL, low plasticity
13	1.4	2	M			Lean CLAY with SAND (CL): very stiff, olive-brown, moist, fine SAND, low to medium plasticity, PP=3.0 tsf
4	2.4	3	5	M	UW, PA, UU	very soft, olive-brown, moist, 15% fine SAND, 85% fines, medium plasticity, PP=0 tsf
7	1.4	4	M	PA		Fat CLAY with SAND (CH): medium stiff, dark brown, moist, 5% fine GRAVEL, 14% coarse to fine SAND, 81% fines, high plasticity
46	2.4	5	M	UW		Poorly graded GRAVEL with SILT and SAND (GP-GM): medium dense, dark brown, moist, fine GRAVEL, coarse to fine SAND, few fines, nonplastic
21	1.4	6	M			SILTY CLAYEY SAND with GRAVEL (SC-SM): medium dense, dark brown, moist, coarse to fine SAND, little fine GRAVEL, low plasticity
24	2.4	7	M	UW	UU	SANDY lean CLAY with GRAVEL (CL): very stiff, olive-brown, moist, coarse to fine SAND, little fine GRAVEL, medium plasticity
5	1.4	8	M			Fat CLAY (CH): medium stiff, olive, moist, fine SAND, high plasticity
22	2.4	9	M	UW		CLAYEY SAND with GRAVEL (SC): medium dense, olive-brown, moist, coarse to fine SAND, little fine GRAVEL, low plasticity
18	1.4	10	M			Lean CLAY with SAND (CL): very stiff, olive-brown, moist, fine SAND, medium plasticity

GWS +10.7 ft 4/5/11

Terminated at El. -27.3 ft
Drilled on 4/5/11
Hammer Efficiency Ratio (ERi) = 79%

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



DESIGN OVERSIGHT: Paul Cotter	DRAWN BY	J. Fang	K. Thant	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L. Cheang, PROJECT ENGINEER
7-16-12 SIGN OFF DATE	CHECKED BY	G. J. Gunaranjan	FIELD INVESTIGATION BY: DATE: 3/2011, 4/2011		

BRIDGE NO. -
POST MILES Varies

RETAINING WALL No. 26
LOG OF TEST BORING 1 OF 1

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0247
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET X | OF

FILE => 33-0753-z-ltb07.dgn

CONTRACT NO.:04-0A7100 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 01:28

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.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	77,880	0.3, 27.6/29.2	107	108

Bahram Khamenehpour
GEOTECHNICAL PROFESSIONAL

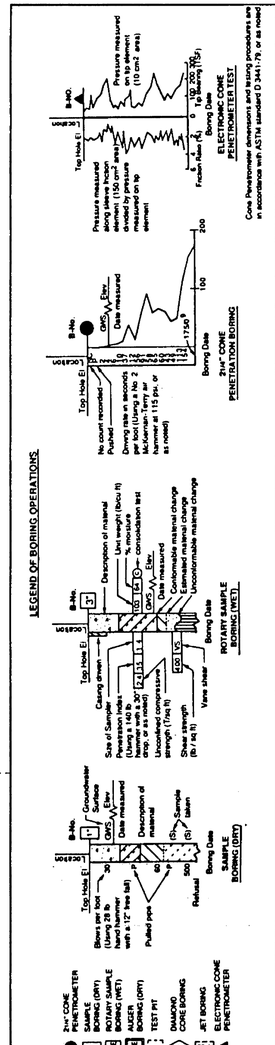
REGISTERED PROFESSIONAL ENGINEER — BAHRAM KHAMENEHPOUR — No. 2104 — Exp. 12/31/93 — GEOTECHNICAL — STATE OF CALIFORNIA

11-7-94
PLANS APPROVAL DATE

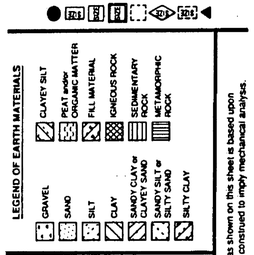
AGS, INC.
120 HOWARD STREET
SUITE 600
SAN FRANCISCO, CALIFORNIA 94105

NO CORRECTIONS THIS SHEET
AS BUILT
CORRECTIONS BY DT
CONTRACT 04-133234
DATE 1/6/97 MST 9/6/97

LEGEND OF BORING OPERATIONS



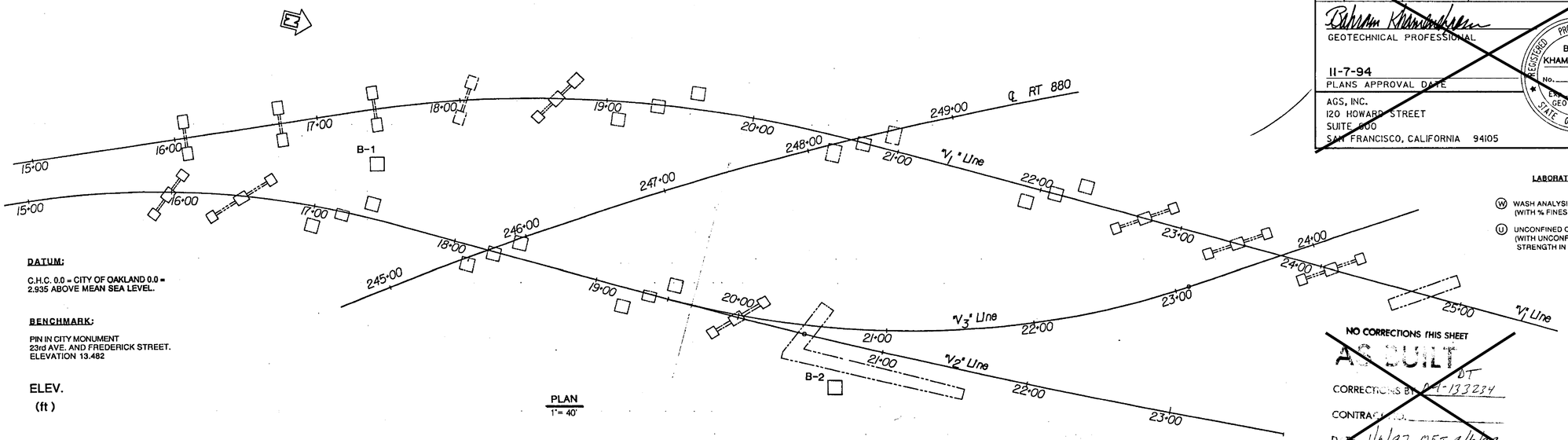
LEGEND OF EARTH MATERIALS



CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

Penetration Index (Blows / Ft)	Granular	Cohesive
0-4	Very loose	Very soft
5-9	Loose	Soft
10-19	Slightly compact	Slight
20-34	Compact	Very stiff
35-68	Dense	Hard
>70	Very dense	Very hard

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



PLAN
1"= 40'

DATUM:

C.H.C. 0.0 = CITY OF OAKLAND 0.0 = 2.935 ABOVE MEAN SEA LEVEL.

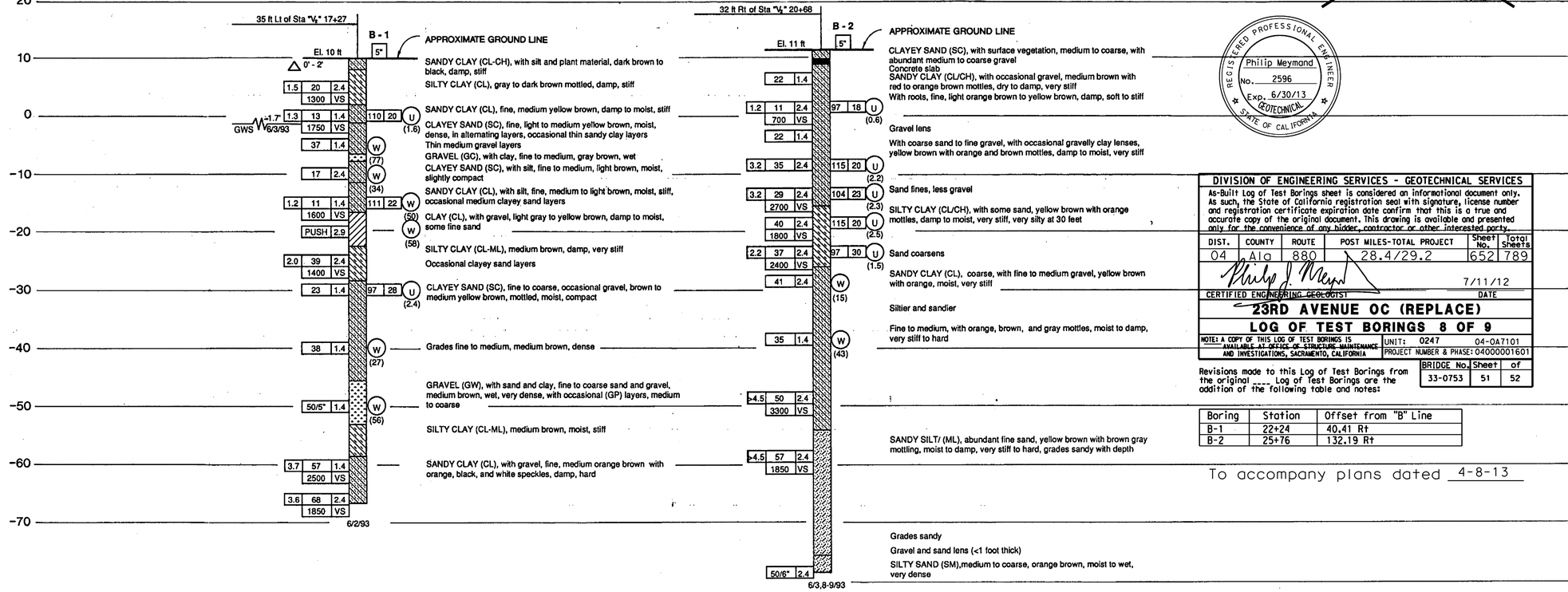
BENCHMARK:

PIN IN CITY MONUMENT
23rd AVE. AND FREDERICK STREET.
ELEVATION 13.482

LABORATORY TESTS

(W) WASH ANALYSIS (WITH % FINES CONTENT)

(U) UNCONFINED COMPRESSION (WITH UNCONFINED COMPRESSIVE STRENGTH IN TSF)



REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	652	789

Philip J. Meymand — 7/11/12
CERTIFIED ENGINEERING GEOLOGIST — DATE

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 8 OF 9

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

UNIT: 0247 04-0A7101
PROJECT NUMBER & PHASE: 04000001601

BRIDGE No.	Sheet	of
33-0753	51	52

Revisions made to this Log of Test Borings from the original ____ Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from "B" Line
B-1	22+24	40.41 Rt
B-2	25+76	132.19 Rt

To accompany plans dated 4-8-13

M J Cullen
DESIGN OVERSIGHT
2-21-99
SIGN OFF DATE

DRAWN BY J. LAPID
CHECKED BY B. BROWN

C. ANDREWS
FIELD INVESTIGATOR
DATE

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

B. KHAMENEHPOUR
PROJECT ENGINEER

BRIDGE NO. 33 - 0149
POST MILE 28.93

CU 04
EA 133231

EARTHQUAKE RETROFIT PROJECT NO. 83

23RD AVE OVERCROSSING

LOG OF TEST BORINGS (NORTHBOUND)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 7/7/93 7/31/93 10/8/93

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 25 OF 26

33-0753-z-1tb08.tif

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	77,880	0.3, 27.6/29.2	108	108

Bahram Khamenehpour
GEOTECHNICAL PROFESSIONAL

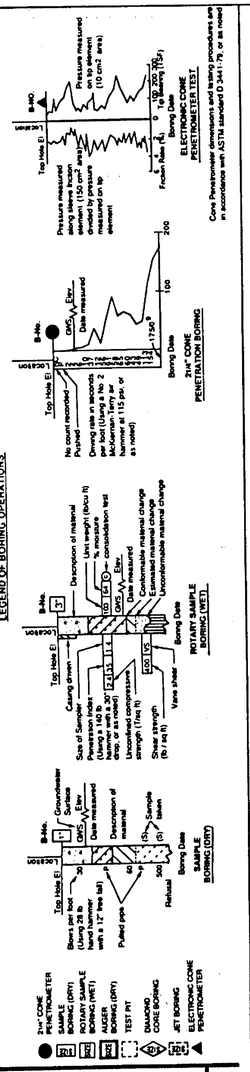
REGISTERED PROFESSIONAL ENGINEER — BAHRAM KHAMENEHPOUR — No. 2104 — Exp. 12/31/93 — GEOTECHNICAL — STATE OF CALIFORNIA

11-7-94
PLANS APPROVAL DATE

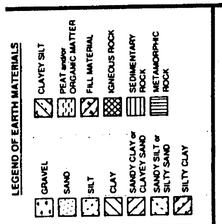
AGS, INC.
120 HOWARD STREET
SUITE 600
SAN FRANCISCO, CALIFORNIA 94105

NO CORRECTIONS THIS SHEET
AS BUILT
CORRECTIONS BY DT
CONTRACT NO. 04-133234
DATE 6/6/97 MET 9/6/96

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS



CONSISTENCY CLASSIFICATION FOR SOILS

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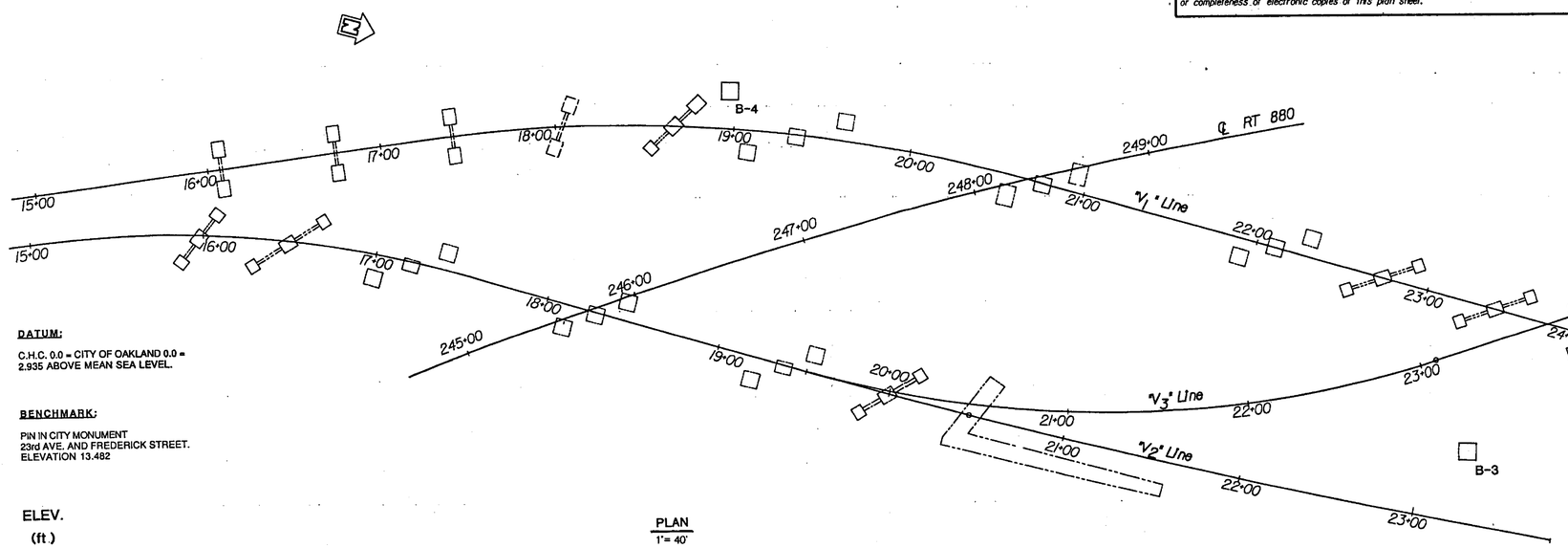
NOTE Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



PLAN
1"= 40'

DATUM:

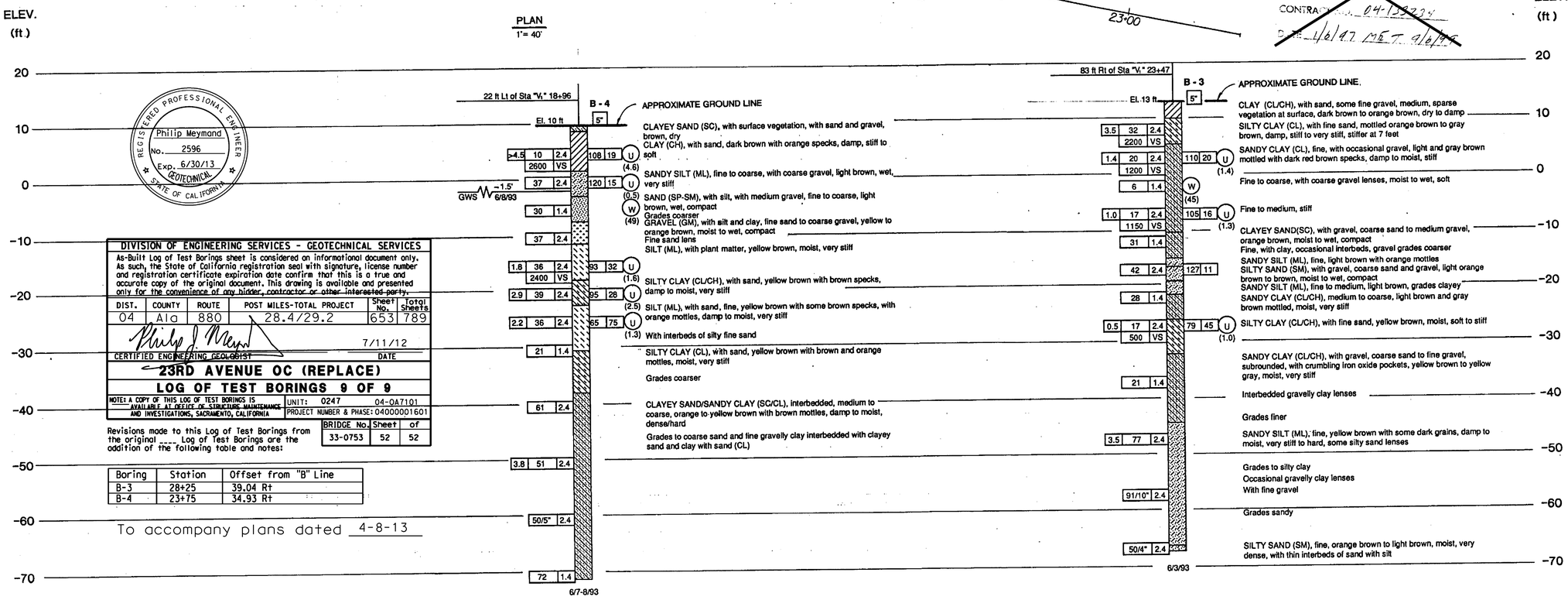
C.H.C. 0.0 = CITY OF OAKLAND 0.0 = 2.935 ABOVE MEAN SEA LEVEL.

BENCHMARK:

PIN IN CITY MONUMENT
23rd AVE. AND FREDERICK STREET.
ELEVATION 13.482

LABORATORY TESTS

(W) WASH ANALYSIS (WITH % FINES CONTENT)
(U) UNCONFINED COMPRESSION (WITH UNCONFINED COMPRESSIVE STRENGTH IN TSF)



REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	653	789

Philip J. Meymand
CERTIFIED ENGINEERING GEOLOGIST — 7/11/12 DATE

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 9 OF 9

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

UNIT: 0247 04-0A7101
PROJECT NUMBER & PHASE: 04000001601

BRIDGE No.	Sheet	of
33-0753	52	52

Revisions made to this Log of Test Borings from the original ____ Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from "B" Line
B-3	28+25	39.04 Rt
B-4	23+75	34.93 Rt

To accompany plans dated 4-8-13

M J Cullen
DESIGN OVERSIGHT 2-21-94
SIGN OFF DATE

DRAWN BY J. LAPID
CHECKED BY B. BROWN

C. ANDREWS
FIELD INVESTIGATOR
DATE

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

B. KHAMENEHPOUR
PROJECT ENGINEER

CU 04
EA 133231

BRIDGE NO. 33 - 0139
POST MILE 28.93

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES (PRELI) 7/7/93 7/31/93 10/8/93

EARTHQUAKE RETROFIT PROJECT NO. 83

23RD AVE OVERCROSSING

LOG OF TEST BORINGS "HBOUND)

SHEET	OF
26	26

33-0753-z-ltb09.tif

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	654	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

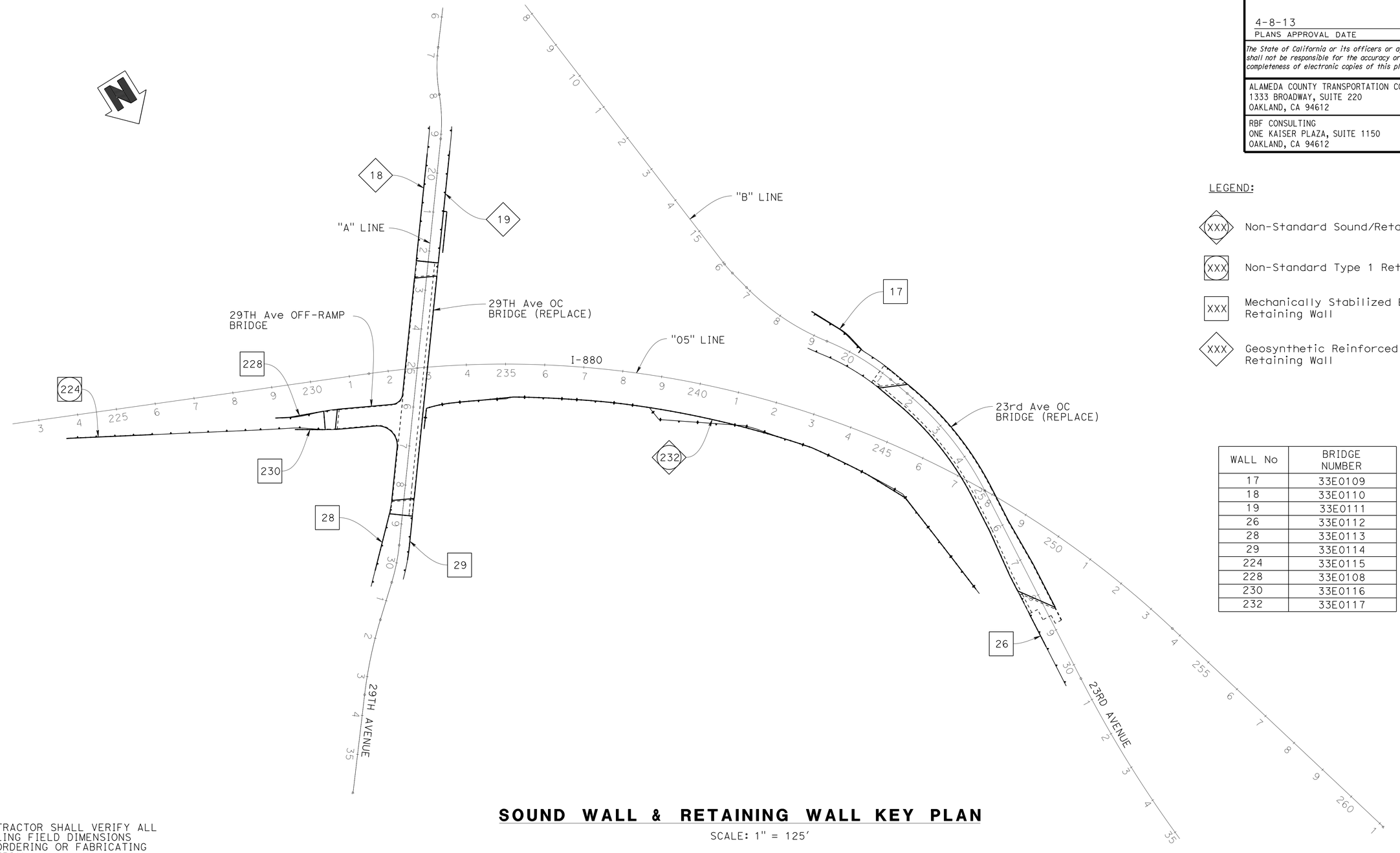
4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
S.McCauley
No. 71495
Exp. 12-31-13
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.

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



LEGEND:

- XXX — Non-Standard Sound/Retaining Wall
- XXX — Non-Standard Type 1 Retaining Wall
- XXX — Mechanically Stabilized Embankment Retaining Wall
- XXX — Geosynthetic Reinforced Embankment Retaining Wall

WALL No	BRIDGE NUMBER
17	33E0109
18	33E0110
19	33E0111
26	33E0112
28	33E0113
29	33E0114
224	33E0115
228	33E0108
230	33E0116
232	33E0117

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

SOUND WALL & RETAINING WALL KEY PLAN

SCALE: 1" = 125'

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
4-3-13
SIGN OFF DATE

DESIGN	BY S. McCauley	CHECKED C. Cho	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY J. Saldana	CHECKED S. McCauley	
QUANTITIES	BY C. Cho	CHECKED S. McCauley	

Chad Harden
PROJECT ENGINEER

BRIDGE NO. See Above
POST MILES Varies

SOUNDWALL & RETAINING WALL KEY PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/30/12	6/26/12		1	1

FILE => 33-E0000-a-kp01.dgn

USERNAME => s12614 DATE PLOTTED => 11-APR-2013 TIME PLOTTED => 13:49

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	655	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

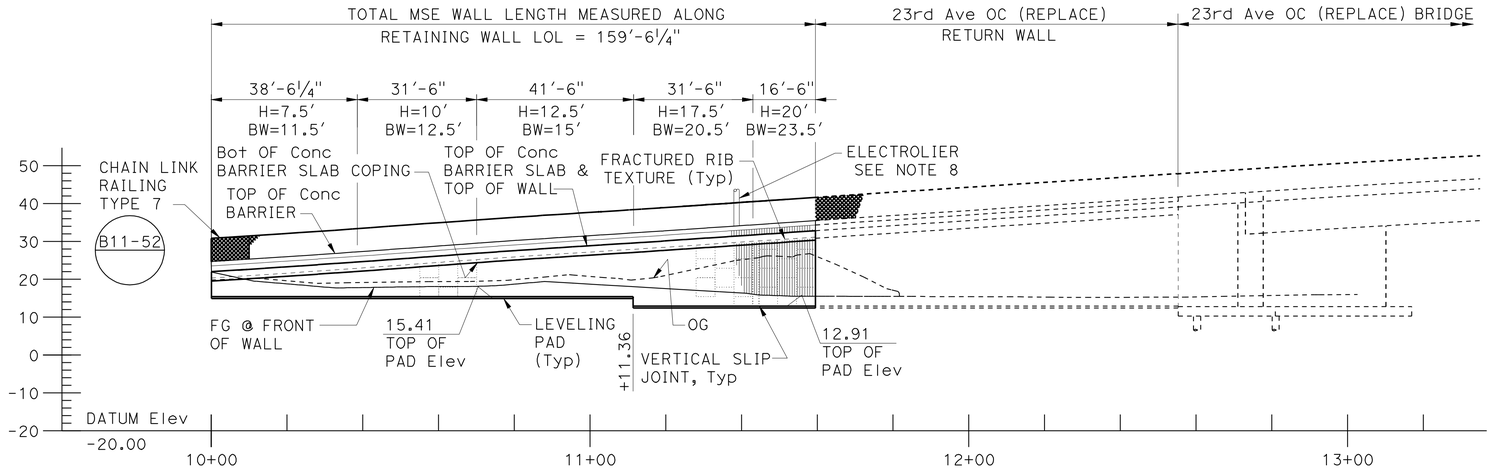
4-8-13
PLANS APPROVAL DATE

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 — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



MIRRORED ELEVATION

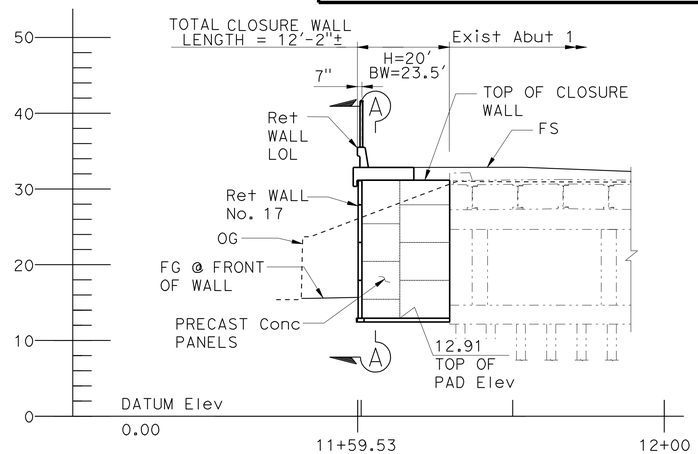
SCALE: 1" = 20'

CURVE DATA

CURVE No.	R	△	T	L
①	725.00′	26°16′17"	189.33′	370.39′
②	610.00′	16°50′53"	90.34′	179.37′
③	800.00′	22°55′13"	162.18′	320.03′
④	628.42′	07°57′59"	43.76′	87.37′

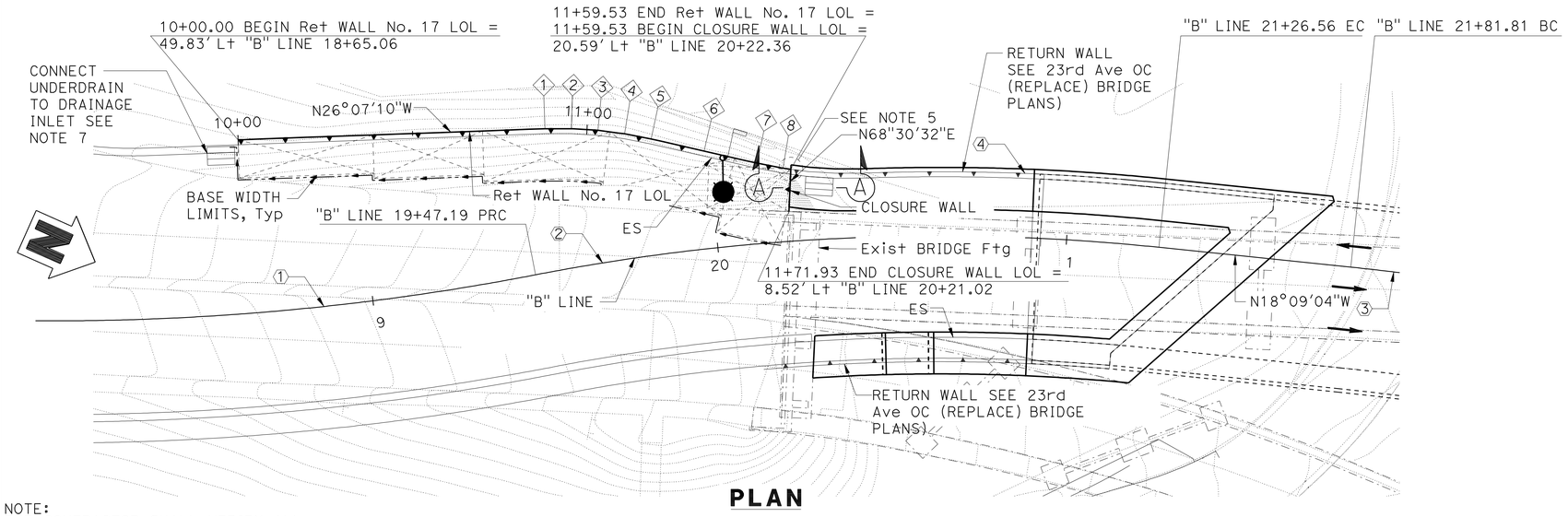
TANGENT DATA

POINT No.	Ret WALL No. 17 LOL Sta	"B" LINE Sta	"B" LINE OFFSET	BEARING BETWEEN POINTS
◇1	10+87.94	19+57.10	40.67′	N24°12′37"W
◇2	10+95.52	19+64.11	39.41′	N20°24′32"W
◇3	11+03.15	19+71.11	37.74′	N16°39′26"W
◇4	11+10.85	19+78.10	35.65′	N12°59′08"W
◇5	11+18.61	19+85.06	33.15′	N11°11′17"W
◇6	11+34.16	19+99.01	27.93′	N11°11′17"W
◇7	11+49.66	20+13.14	23.07′	N12°59′08"W
◇8	11+57.30	20+20.24	21.03′	N16°39′26"W
END WALL	11+59.53	20+22.36	20.59′	



MIRRORED ELEVATION OF CLOSURE WALL

SCALE: 1" = 10'



PLAN

SCALE 1" = 20'

LEGEND:

- Indicates direction of traffic
- Drainage inlet, See Note 7
- Electrolier, see Note 8
- Underdrain Pipe Flow Line, see Note 6

NOTES:

1. "BW" indicates Base Width. "H" indicates Design Height.
2. For Utility Information not Shown, See ROADWAY PLANS.
3. For the Typical Section and Section A-A, See "GENERAL PLAN No. 2" Sheet.
4. For Top of Wall Elevations Table, See "GENERAL PLAN No. 2" Sheet.
5. For Corner Details, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 3" Sheet.
6. For Wall Drainage Details, see "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 4" Sheet.
7. For Location of Drainage Inlet, see DRAINAGE PLANS.
8. For Electrolier Pedestal on MSE Wall Details, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 7" sheet.

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

Paul Cotter DESIGN OVERSIGHT Paul Cotter 4-3-13 SIGN OFF DATE	DESIGN	BY S. McCauley	CHECKED C. Cho	LOAD & RESISTANCE FACTOR DESIGN — LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		
	DETAILS	BY J. Saldana	CHECKED S. McCauley	LAYOUT	BY J. Saldana	CHECKED S. McCauley
	QUANTITIES	BY C. Cho	CHECKED S. McCauley	SPECIFICATIONS	BY C. Harden	PLANS AND SPECS COMPARED S. Sheikh

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO.	RETAINING WALL No. 17
33E0109	GENERAL PLAN No. 1
POST MILES 28.8	

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/30/12	5/26/12	3/29/13	1	14

FILE => 33-E0109-a-gp01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	656	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

TOP OF WALL ELEVATION TABLE

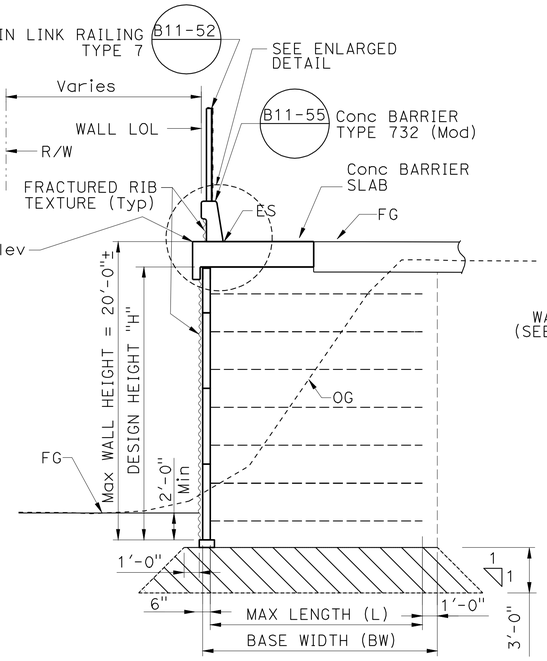
	WALL LOL STATION	TOP OF WALL Elev (Ft)
Beg Ret WALL No. 17 →	10+00.00	21.95
	+10	22.58
	+20	23.24
	+30	23.92
	+40	24.62
	+50	25.35
	+60	26.08
	+70	26.82
	+80	27.53
	+90	28.18
	11+00.00	28.84
	+10	29.50
	+20	30.16
	+30	30.83
	+40	31.50
END Ret WALL No. 17 →	+50	32.18
	11+59.53	32.82
Beg CLOSURE WALL →	11+71.53	31.15
END CLOSURE WALL →	11+71.53	31.15

INDEX TO PLANS

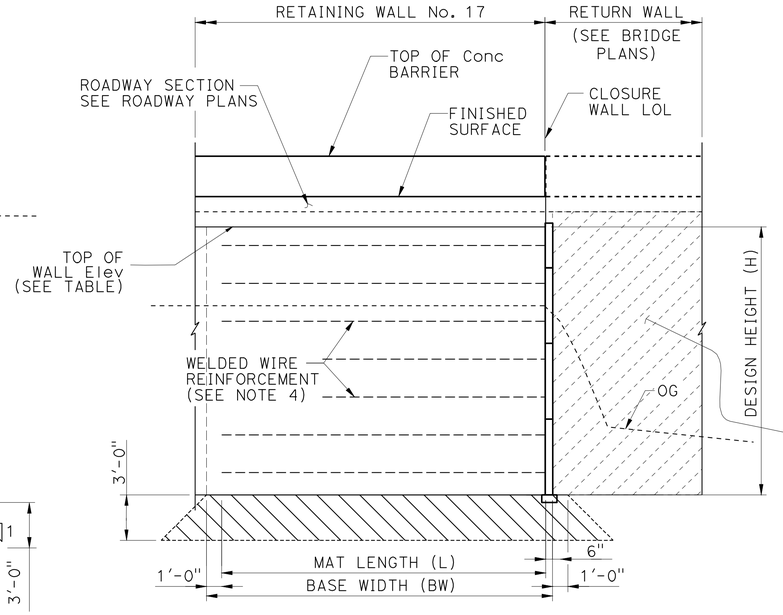
STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)	B11-55	CONCRETE BARRIER TYPE 732
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)	B11-52	CHAIN LINK RAILING, TYPE 7
A10C	SYMBOLS (SHEET 1 OF 2)		
A10D	SYMBOLS (SHEET 2 OF 2)		
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL		
BO-3	BRIDGE DETAILS		

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



TYPICAL MSE SECTION
NO SCALE



TYPICAL CLOSURE WALL SECTION
SECTION A-A
NO SCALE

RETAINING WALL 17

QUANTITIES

MECHANICALLY STABILIZED EMBANKMENT	1,981	SQFT
STRUCTURAL CONCRETE, BARRIER SLAB	82	CY
CHAIN LINK RAILING (TYPE 7)	160	LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	160	LF

STANDARD PLAN SHEET No.
DETAIL No.

LEGEND:

Overexcavation Depth

ENLARGED DETAIL
NO SCALE

NOTES:

1. For All Pipes and Drainage Inlet and Outlet Locations, See ROADWAY PLANS.
2. For Existing Pipes and Utilities, See ROADWAY PLANS.
3. For Closure Wall Details, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 3" sheet.
4. Stagger Lifts per Notes and Details on "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 3" Sheet.

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S. McCauley	C. Cho
DETAILS	J. Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

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

	BY	CHECKED
LAYOUT	J. Saldana	S. McCauley
SPECIFICATIONS	C. Harden	PLANS AND SPECS COMPARED: S. Sheikh

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0109
POST MILES 28.8

RETAINING WALL No. 17
GENERAL PLAN No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	5/24/12	3/29/13	2	14

FILE => 33-E0109-a-gp02.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	657	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER — DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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RBF CONSULTING
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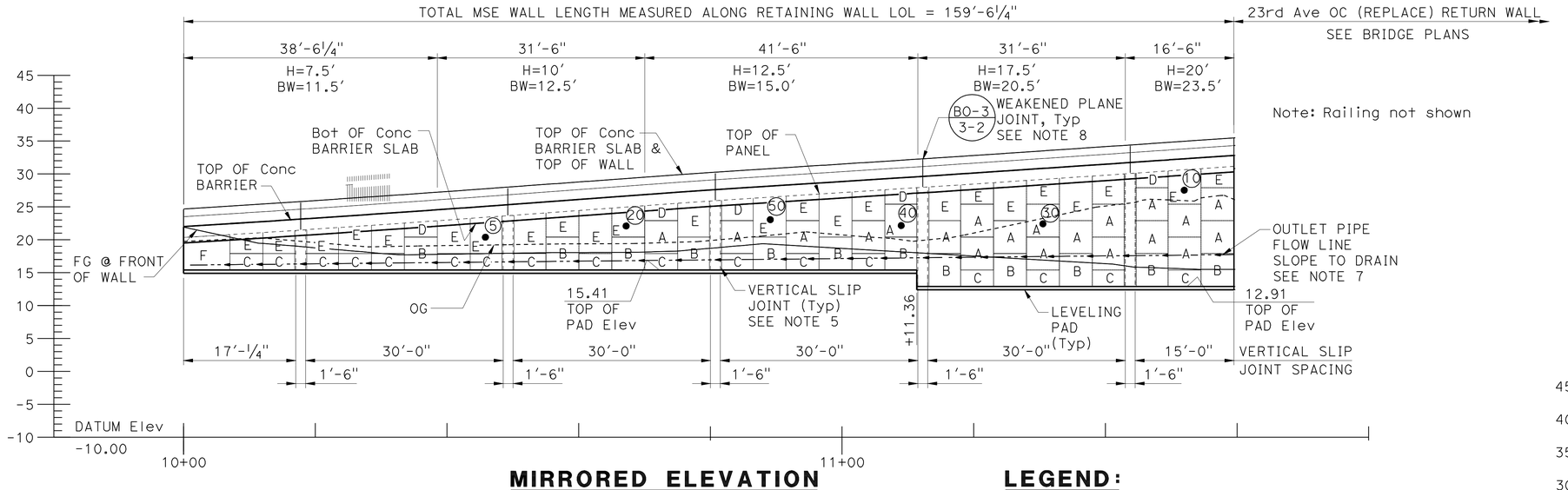
OAKLAND, CA 94612



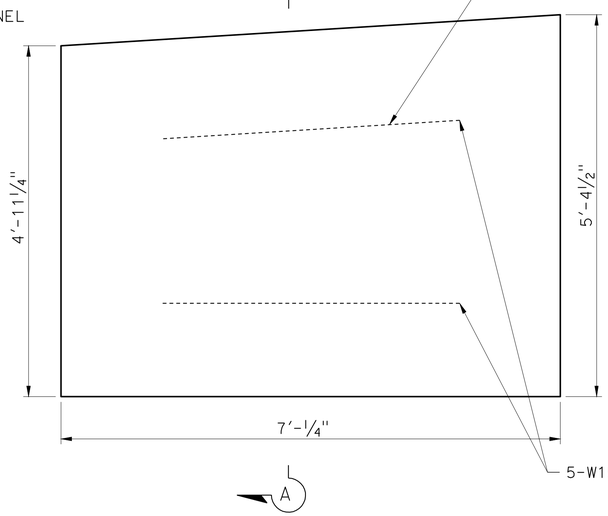
MIRRORED ELEVATION

SCALE: 1" = 10'

PANEL	DESCRIPTION
A	INTERMEDIATE PANEL
B	BOTTOM PANEL
C	BOTTOM HALF PANEL
D	TOP HALF PANEL
E	TOP PANEL WITH MULTIPLE MATS
F	SPECIAL DESIGN PANEL
G	SPECIAL DESIGN TOP HALF PANEL
H	SPECIAL DESIGN INTERMEDIATE PANEL
I	SPECIAL DESIGN BOTTOM PANEL

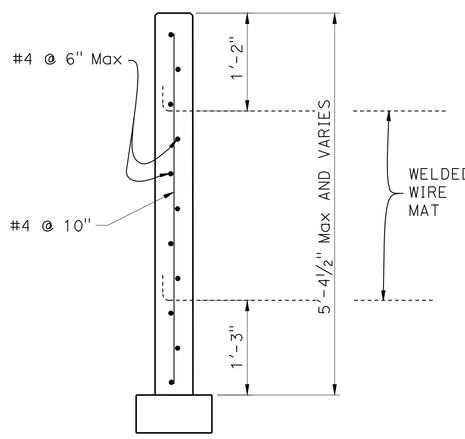
LEGEND:

- Indicates Interval in Years from Time of Construction to Time of Removal of Inspection Wire
- Indicates Inspection Wire Panel (See Note 6)
- Indicates Panel Type (See Note 4)
- Underdrain Pipe Flow Line

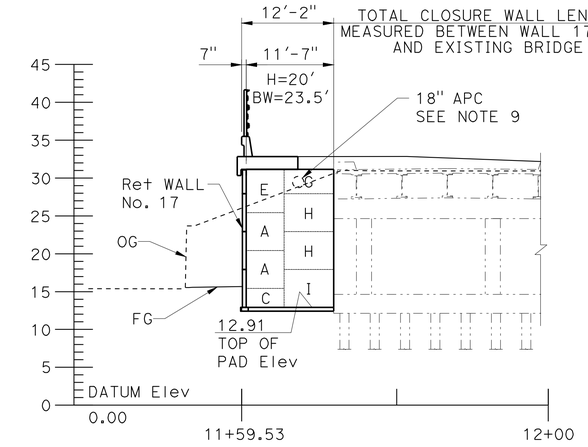


SPECIAL DESIGN PANEL

NO SCALE



SECTION A-A



CLOSURE WALL ELEVATION

SCALE: 1" = 10'

NOTES:

1. "BW" Indicates Base Width. "H" Indicates Design Height.
2. MSE Indicates "MECHANICALLY STABILIZED EMBANKMENT".
3. For General Notes, see "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 2" Sheet.
4. For Precast Panel Detail and Reinforcing not shown, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 1" and "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 2" Sheets.
5. For Vertical Slip Joint Details, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 6" Sheet.
6. For Inspection Wire Details, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 3" Sheet.
7. For Wall Drainage Details, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 4" Sheet.
8. Provide Weakened Plane Joints in Concrete Barrier and Concrete Barrier Slab at Centerline of each Vertical Slip Joint.
9. For Opening Details, see "PIPE PENETRATIONS THROUGH MSE PANEL" detail on "MECHANICALLY STABILIZING EMBANKMENT DETAILS No. 7" Sheet.

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

Paul Cotter
DESIGN OVERSIGHT — Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0109
POST MILES 28.8

RETAINING WALL No. 17
LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12	3/29/13	3	14

FILE => 33-E0109-g-rw_lo01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	658	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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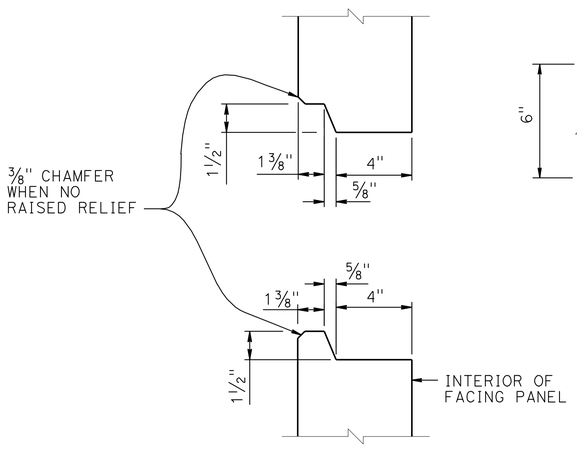
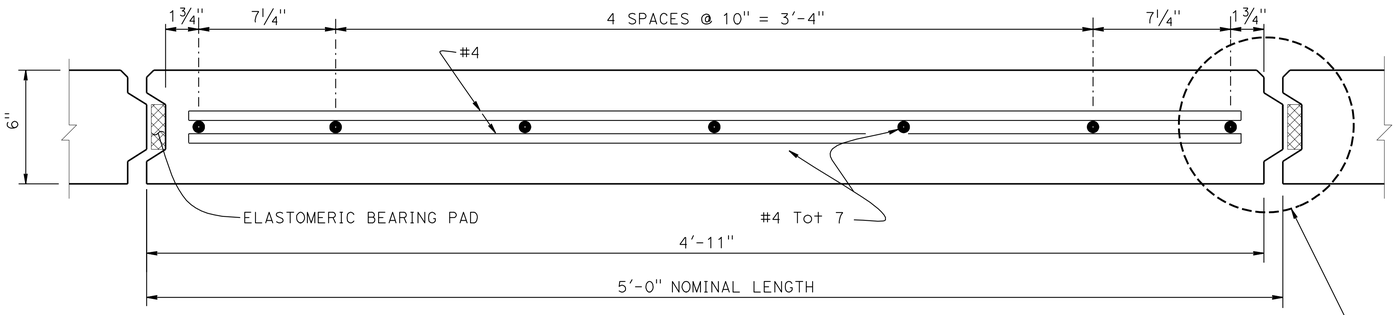


HORIZONTAL JOINT DETAIL

3" = 1'-0"

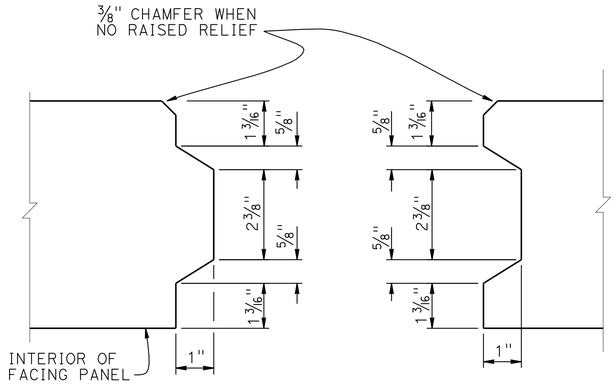


PLAN - FACING PANEL

3" = 1'-0"

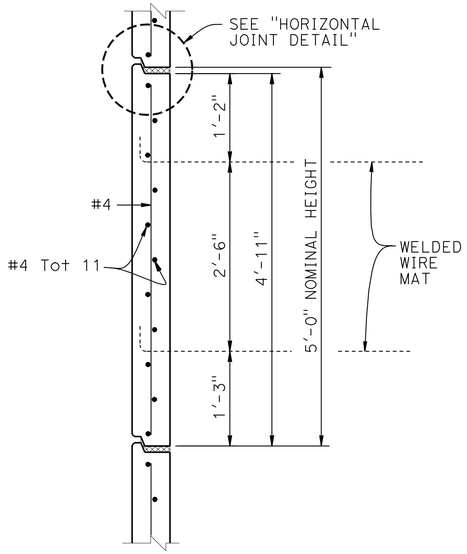
NOTES:

1. Architectural Treatment Not Shown.
2. Place Reinforced Elastomeric Bearing Pads in All of the Panel Joints Between the Panels. Place One in Each Vertical Joint where the Horizontal Joints Intersect. Place Two per Panel in each Horizontal Joint:
   3/4" x 2 3/8" x 6" for Vertical Joints
   3/4" x 4" x 6" for Horizontal Joints
3. Bond a Strip of Filter Fabric, 1'-0" Wide, Cover the Full Length of all Panel Joints.
4. Top Layer of Welded Wire Mats Attached Parallel to Top of Panel when Top of Wall is Angled or Curved as Shown Elsewhere in "STRUCTURE PLANS".
5. Eliminate Mid Level Mat when Closer than 6" to Top Mat, Continue Variable Dimension Between Remaining Mats.



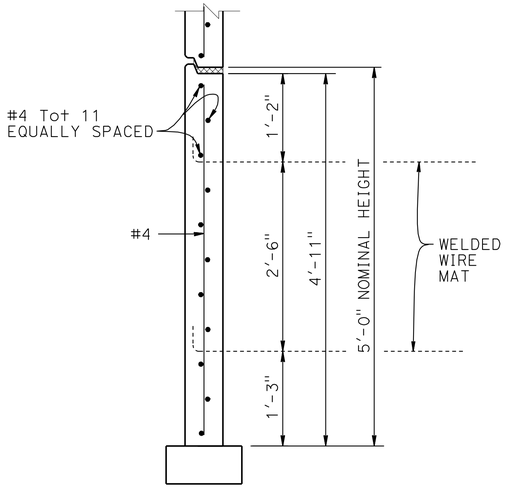
VERTICAL JOINT DETAIL

6" = 1'-0"



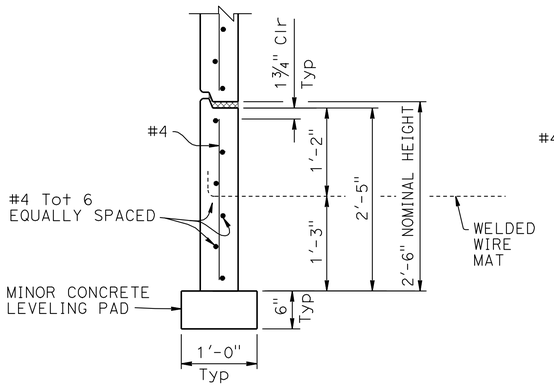
INTERMEDIATE PANEL

1" = 1'-0"



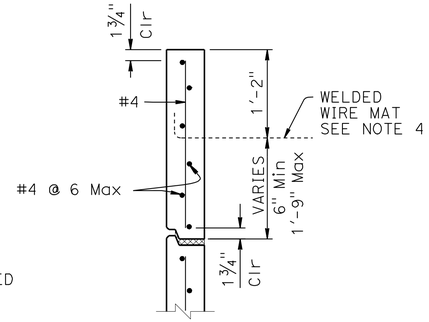
BOTTOM PANEL

1" = 1'-0"



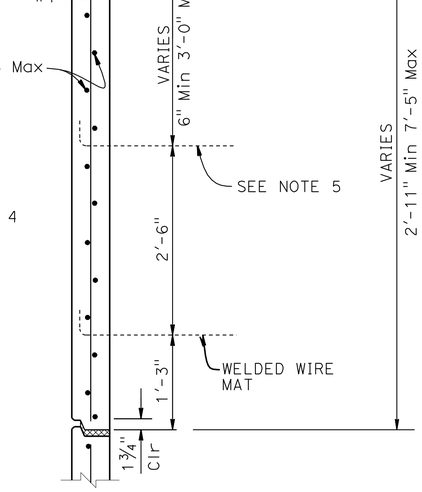
BOTTOM HALF PANEL

1" = 1'-0"



TOP HALF PANEL

1" = 1'-0"



TOP PANEL WITH MULTIPLE MATS

1" = 1'-0"

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 33E0109	RETAINING WALL No. 17
FILE NO. xs13-020-1	APPROVAL DATE January 2012			POST MILE 28.8	MECHANICALLY STABILIZED EMBANKMENT 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

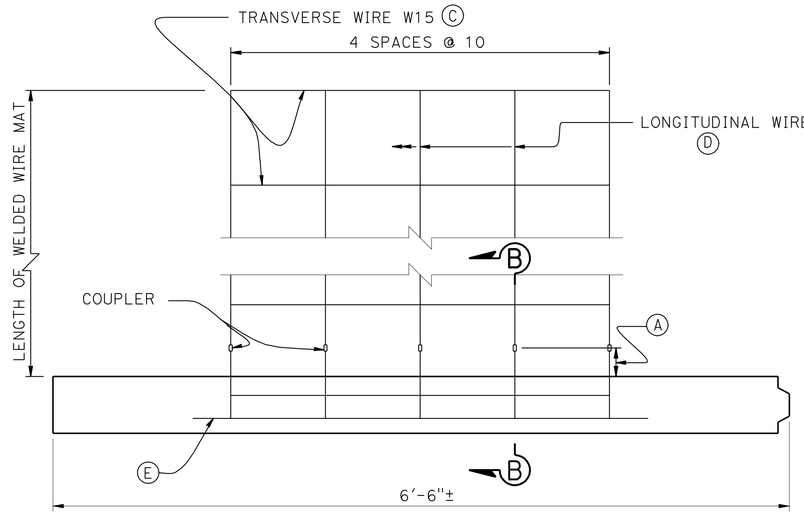
UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12		4	14

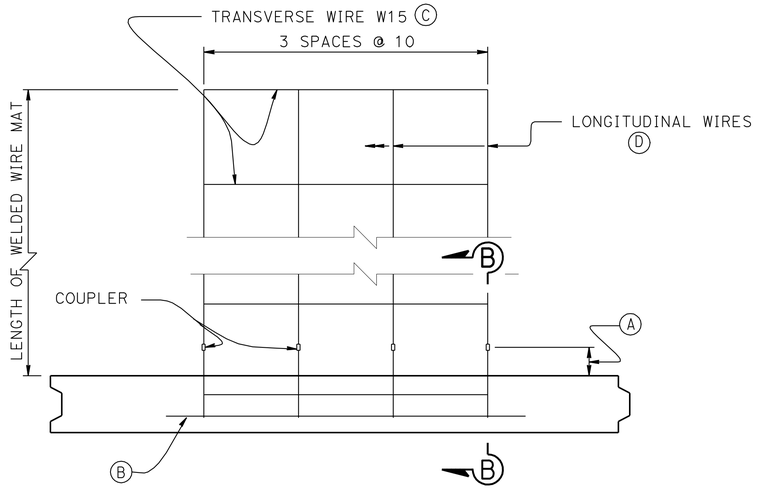
FILE => 33-E0109-u-miscdt01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:15



◇2◇3 PLAN OF SPECIAL DESIGN PANELS G, H, & I

1½" = 1'-0"



PLAN OF PANEL WITH FOUR WIRE MAT

1½" = 1'-0"

GENERAL NOTES
LOAD & RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
FHWA Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Slopes, dated November 2009
Publication No. FHWA-NHI 10-024

COLLISION FORCE: F_t = 54 kips on barriers

LIVE LOAD: Surcharge = 240 lb/ft^3

SOIL PARAMETERS:

Internal design ϕ(Reinforced Backfill) = 34°, γ = 120 lb/ft^3, kh = 0.36 ◇1

External design ϕ(Retained Backfill) = 30°, γ = 120 lb/ft^3
Coefficient of friction, μ = 0.35
K_h = 0.24

PRECAST CONCRETE PANELS:

f'c = 4,000 psi (Concrete compressive strength at 28 days)
fy = 60,000 psi (Yield strength of reinforcement)

SOIL REINFORCEMENT:

Welded wire mats: fy = 65,000 psi (Yield strength)
Coupler: fy = 36,000 psi (Yield strength)
Corrosion rate = 1.1 mils/year

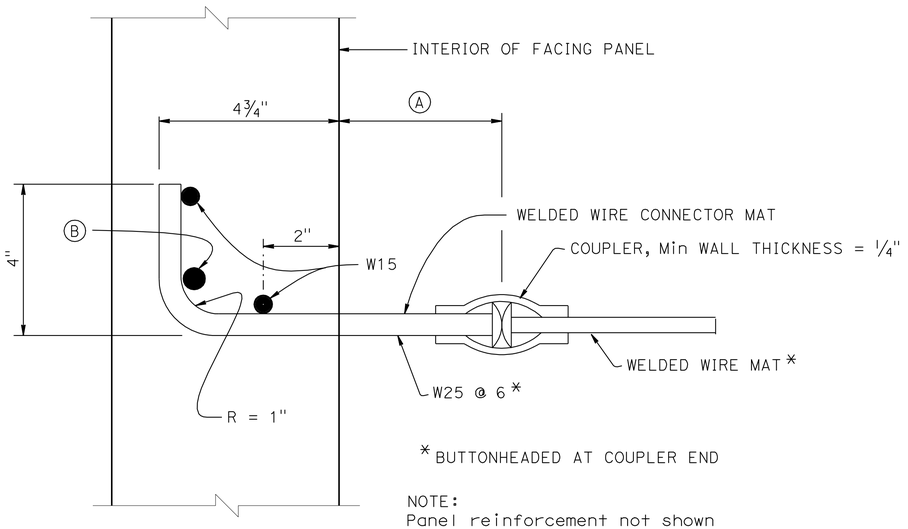
REINFORCED CONCRETE:

f'c = 3,600 psi, except as noted
(Concrete compressive strength at 28 days)
fy = 60,000 psi (Yield strength of reinforcement)

MSE = Mechanically Stabilized Embankment

NOTES:

(A) Distance as required to permit coupler to be swaged
(B) Place #4 x 3'-2", centered on connector mat, but not welded to it
(C) All transverse wires size W15 at various spacing as shown elsewhere in plans
(D) Size of longitudinal wires shown elsewhere in plans
◇4 (E) Place #4 x 4'-8", centered on connector mat, but not welded to fit



NOTE:
Panel reinforcement not shown

SECTION B-B

6" = 1'-0"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	659	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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SPECIAL DETAILS

RETAINING WALL No. 17

MECHANICALLY STABILIZED EMBANKMENT

DETAILS NO. 2

STANDARD DRAWING
FILE NO. xs13-020-2
APPROVAL DATE January 2012

◇1 Soil Parameters Modified ◇3 Detail Added
◇2 Detail Removed ◇4 Note Added

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 33E0109
POST MILE 28.8

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0247
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 2/24/11 3/30/12 6/26/12

SHEET 5 OF 14

FILE => 33-E0109-u-miscdt02.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	660	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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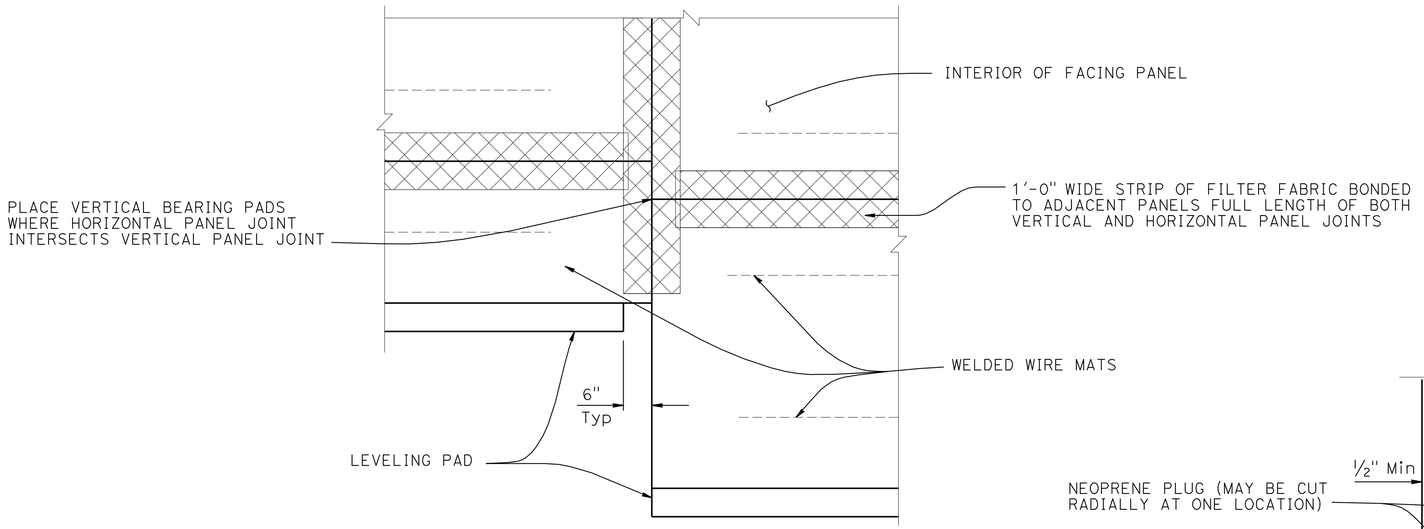
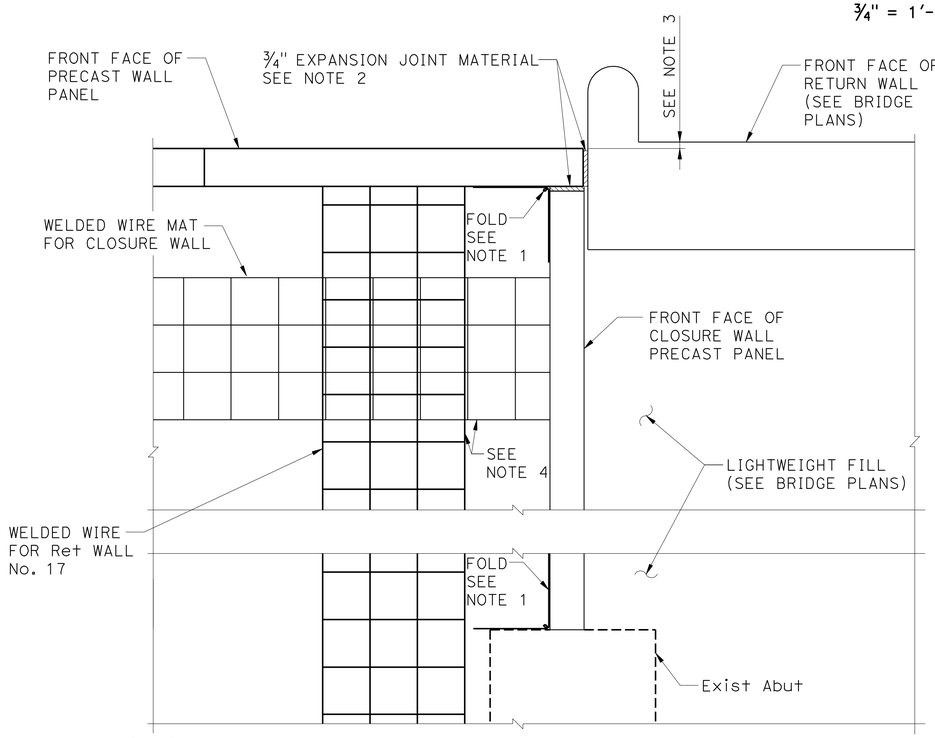


PART ELEVATION

3/4" = 1'-0"

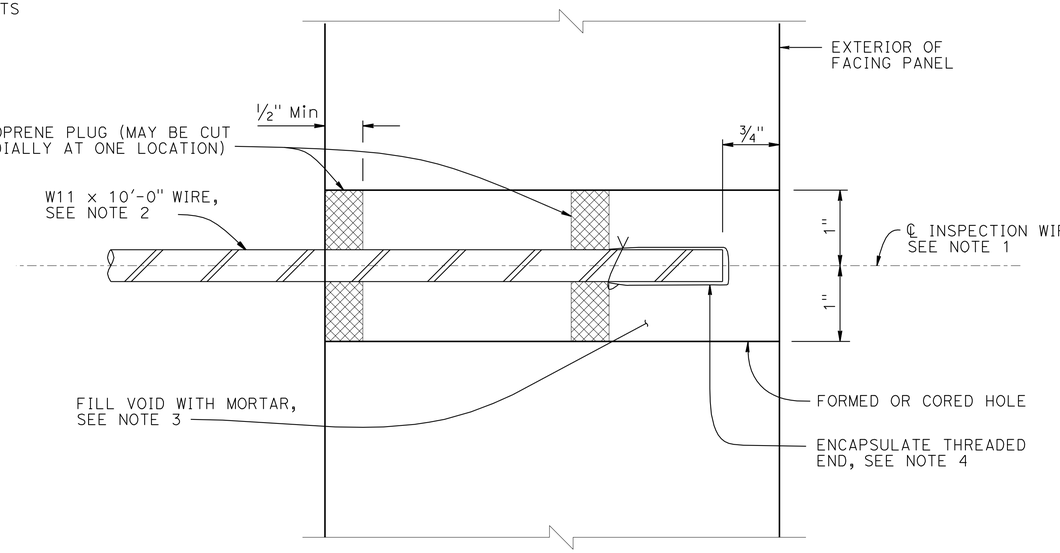


1 2 CORNER DETAIL AT CLOSURE WALL - PLAN

NO SCALE

NOTES:

1. Bond a strip of filter fabric, 1'-6" wide, to back of adjacent MSE panels for entire length of vertical joint
2. Bond expansion joint material to concrete wall
3. Offset between face of MSE facing panel and face of the concrete wall as directed by location of layout lines elsewhere in "STRUCTURE PLANS"
4. Stagger Lifts for Closure Wall and Wall No. 17 such that the Overlapping Soil Reinforcement Layers are Separated Vertically by at Least 4 Inches.



SECTION THRU INSPECTION WIRE

NO SCALE

SPECIAL DETAILS

RETAINING WALL No. 17

MECHANICALLY STABILIZED EMBANKMENT

DETAILS NO. 3

STANDARD DRAWING		1 Detail Removed	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 33E0109	POST MILE 28.8
FILE NO. xs13-020-3	APPROVAL DATE January 2012	2 Detail Added				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	5/26/12	3/29/13	6	14

FILE => 33-E0109-u-miscdt03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	661	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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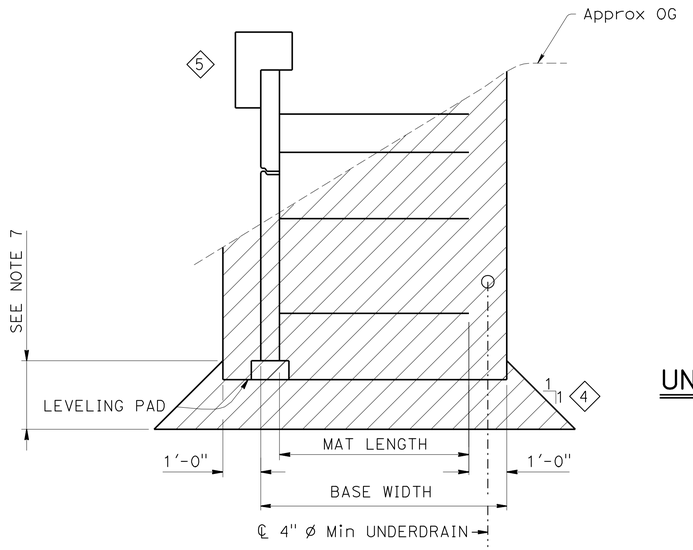
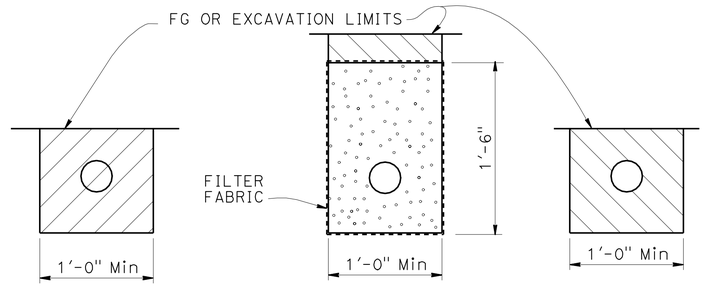


LIMITS OF EXCAVATION

½" = 1'-0"



OUTLET PIPE CLEANOUT PIPE

EXCAVATION BACKFILL

UNPERFORATED OUTLET OR CLEAN OUT PIPE FOR UNDERDRAIN

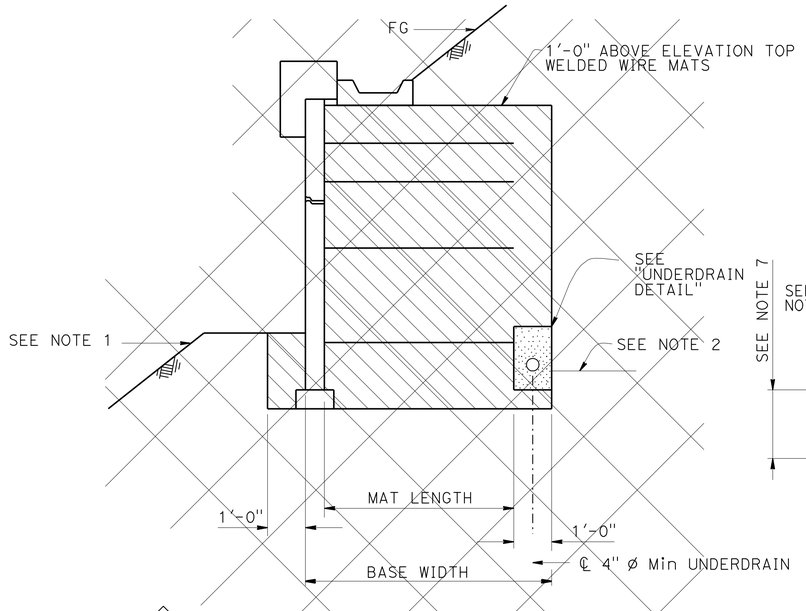
NO SCALE

NOTES:

1. Limits to FG except to GP when in roadway section
2. Locate underdrain behind bottom level of welded wire mats wherever possible, or at elevation needed to drain, as shown elsewhere on plans
3. Place perforated pipe underdrain of diameter shown elsewhere on plans or minimum 4" ø smoothed wall PVC or minimum 8" ø corrugated HDPE
4. Maximum spacing of outlet pipe is 200 feet
5. At sags in profile of underdrain, install outlet pipe for each direction of flow
6. For Drainage Inlet Location and Details, See "DRAINAGE PLANS"
4. 7. For overexcavation depth see "GENERAL PLAN No. 2" sheet

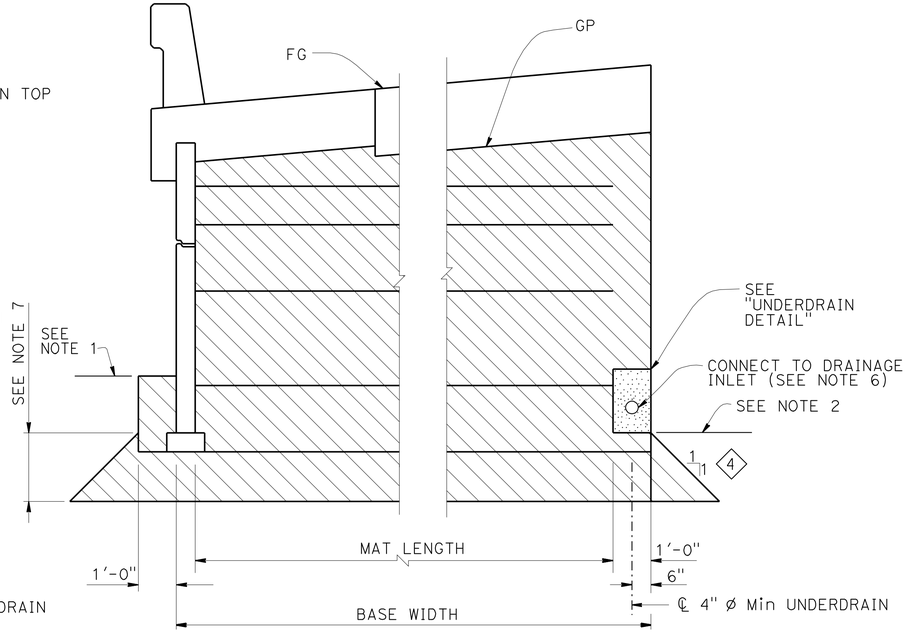
LEGEND:

- Limits of Structure Excavation
- Limits of Structure Backfill
- Limits of Permeable Material



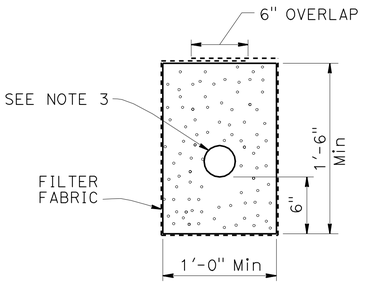
1 SLOPING FINISHED SURFACE

½" = 1'-0"



2 ROADWAY SECTION

½" = 1'-0"



UNDERDRAIN DETAIL

LIMITS OF BACKFILL

SPECIAL DETAILS

RETAINING WALL No. 17

MECHANICALLY STABILIZED EMBANKMENT

DETAILS NO. 4 3

STANDARD DRAWING
FILE NO. xs13-020-6
APPROVAL DATE January 2012

1 Does Not Apply
2 Detail Modified
3 Changed Sheet Title
4 Added Overexcavation Limit
5 Revised "Limits of Excavation"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 33E0109
POST MILE 28.8

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601
CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	5/29/12	3/29/13	7	14

FILE => 33-E0109-u-miscdt04.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	662	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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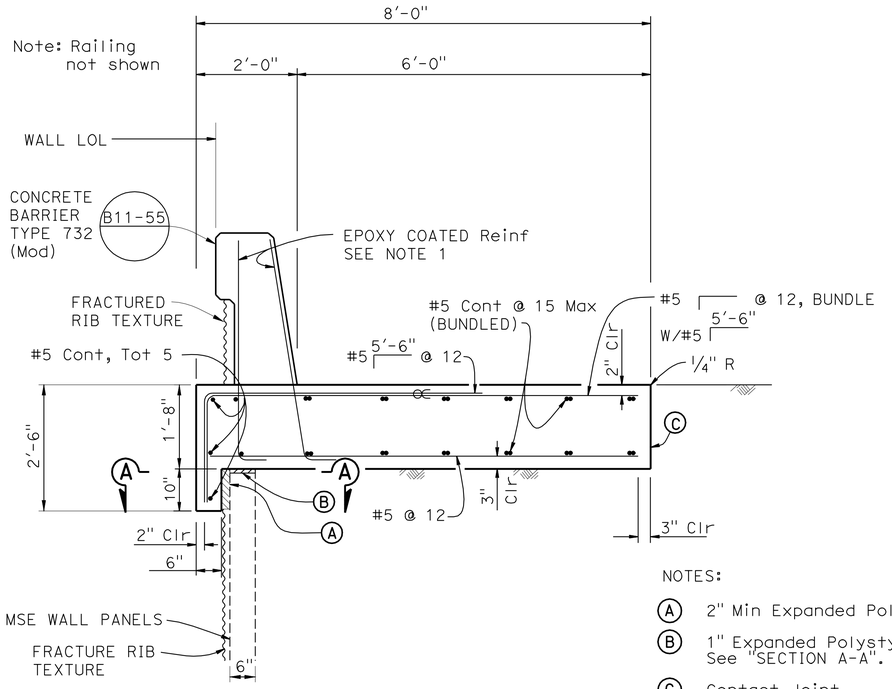
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



CONCRETE BARRIER SLAB

3/4" = 1'-0"

NOTES:

(A) 2" Min Expanded Polystyrene.

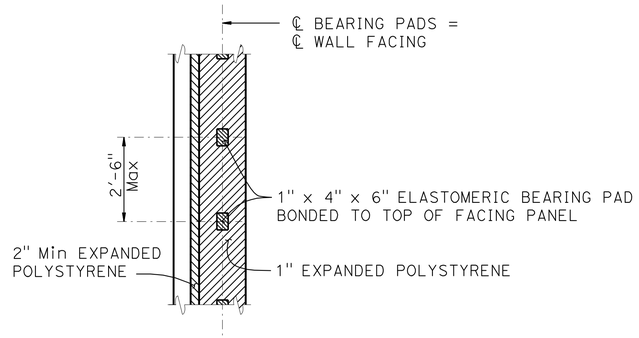
(B) 1" Expanded Polystyrene See "SECTION A-A".

(C) Contact Joint.

∝ Indicates Bundled Bars.

NOTES:

1. For dimensions and reinforcement not shown see, STANDARD PLAN B11-55
2. Minimum barrier slab length 40'-0"



SECTION A-A

1/2" = 1'-0"

ONLY FOR CLOSURE WALL SPECIAL DESIGN PANELS G, H, & I

DESIGN HEIGHT, H (Ft)	7.5	10.0	12.5	20.0	20.0
Max. WALL HEIGHT (Ft)	9.17	11.67	14.17	21.67	21.67
MAT LENGTH, L (Ft)	9.5	11.0	13.5	22.0	22.0
BASE WIDTH, BW (Ft)	11.0	12.5	15.0	23.5	23.5
WELDED WIRE REINFORCING PER LEVEL	TOP 4-WI5xWI5@6" I@ 4-WI5xWI5@6" Bot 4-WI5xWI5@6"	TOP 4-WI5xWI5@6" 2 @ 4-WI5xWI5@6" Bot 4-W20xWI5@9"	TOP 4-WI5xWI5@6" 3 @ 4-WI5xWI5@6" Bot 4-W20xWI5@9"	TOP 4-WI5xWI5@6" 4 @ 4-WI5xWI5@6" 2 @ 4-W20xWI5@9" Bot 4-W20xWI5@12"	TOP 5-WI5xWI5@6" 4 @ 5-WI5xWI5@6" 2 @ 5-W20xWI5@9" Bot 5-W20xWI5@12"

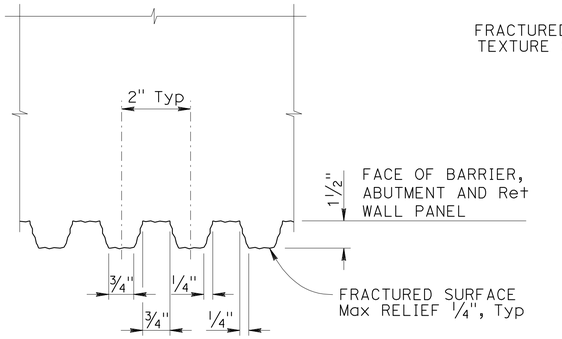
NOTE:

Mesh Configuration is:

No. Longitudinal Wires - Longitudinal Wire Size x Transverse Wire Size @ Transverse Wire Spacing

MECHANICALLY STABILIZED EMBANKMENT WALL REINFORCEMENT

NO SCALE

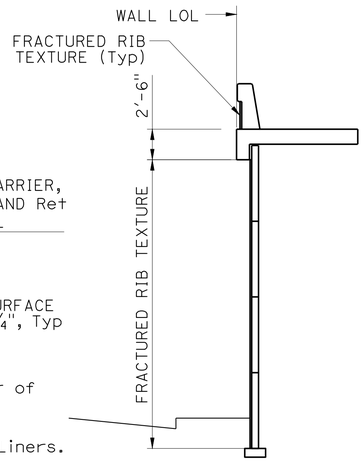


NOTES:

1. Vertical Joints in Form Liners will be at Center of Trough between Ribs. Min Spacing of Form Liner Vertical Joints will be 4'-0".
2. No Horizontal Joints will be Permitted in Form Liners.

FRACTURED RIB TEXTURE

NO SCALE



LIMITS OF PAYMENT

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0109
POST MILES 28.8

RETAINING WALL No. 17

MECHANICALLY STABILIZED EMBANKMENT

DETAILS NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

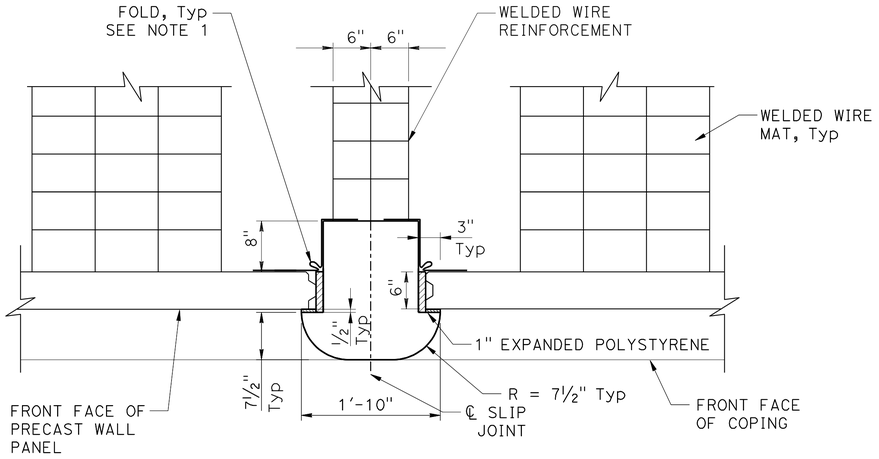
UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	5/30/12	6/26/12		8	14

FILE => 33-E0109-u-miscdt05.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16



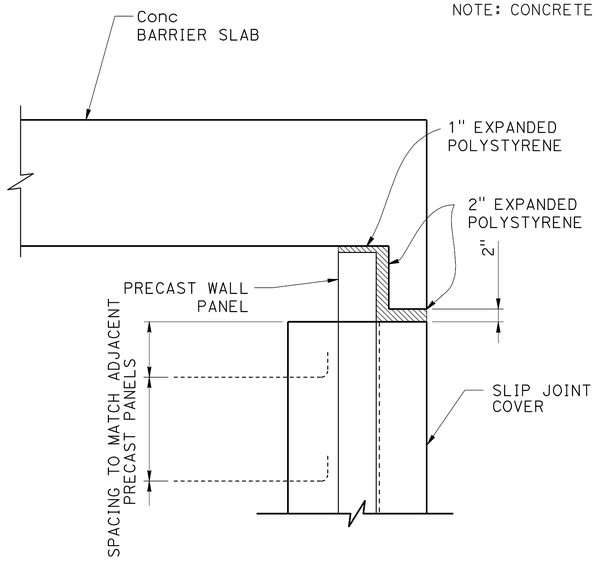
VERTICAL SLIP JOINT TYPICAL SECTION

NO SCALE

NOTES:

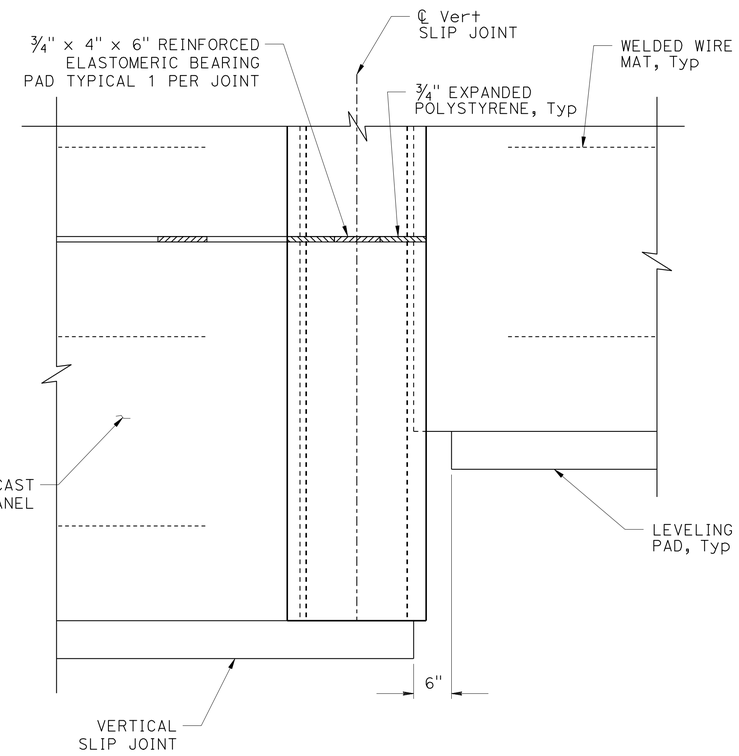
1. Bond a strip of Filter Fabric, 1'-6" wide to back of vertical slip joint and adjacent MSE panels for entire length of vertical joint.

NOTE: CONCRETE BARRIER NOT SHOWN



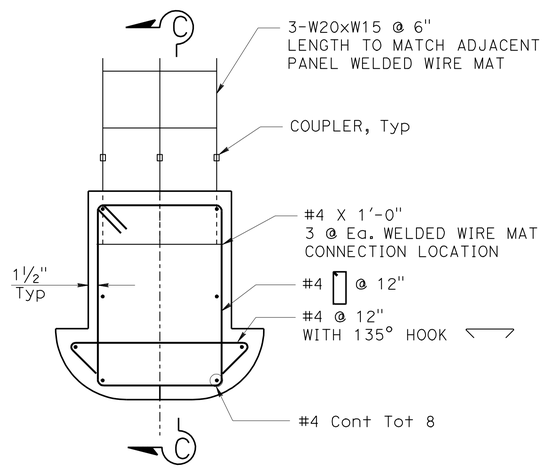
VERTICAL SLIP JOINT TOP DETAIL

NO SCALE



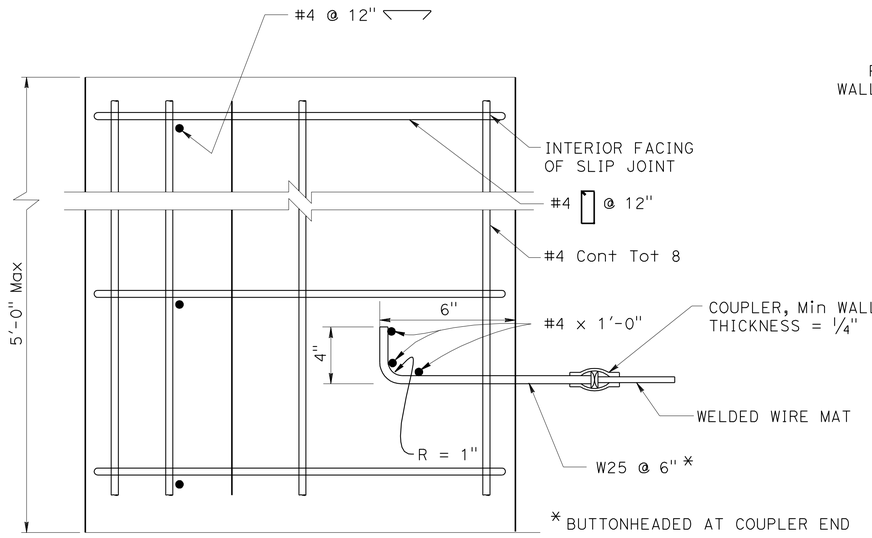
PARTIAL ELEVATION AT FOOTING STEP

NO SCALE



VERTICAL SLIP JOINT REINFORCING DETAIL

NO SCALE



SECTION C-C

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
04	Ala	880	28.4/29.2	663	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
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OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0109
POST MILES 28.8

RETAINING WALL No. 17
MECHANICALLY STABILIZED EMBANKMENT
DETAILS NO. 6

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	5/30/12	6/26/12		9	14

FILE => 33-E0109-u-miscdt06.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	664	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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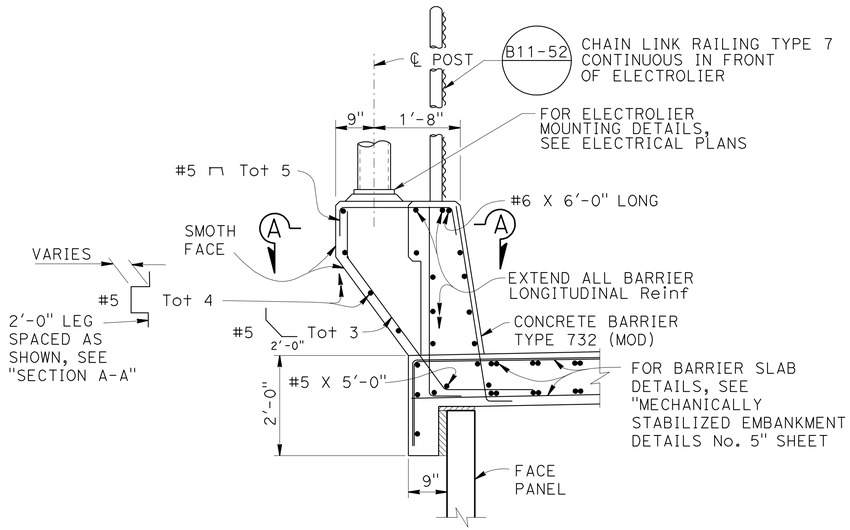
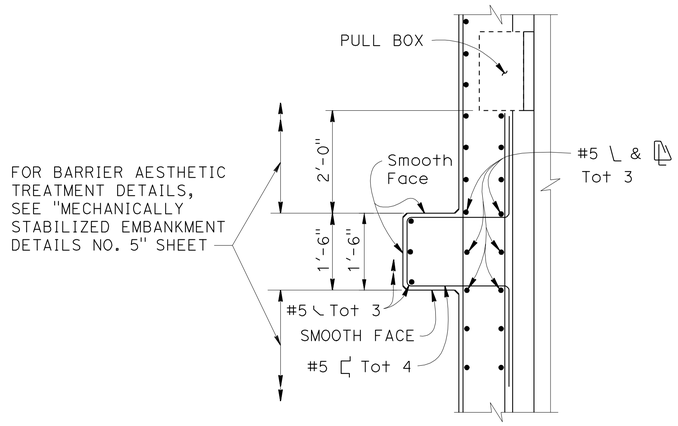
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



ELEVATION

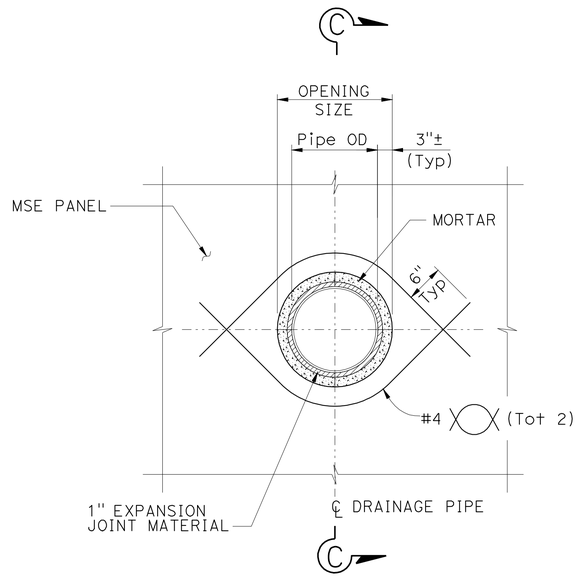


SECTION A-A

NOTE: This Special Detail Supercedes "PEDESTAL ELEVATION" on B11-55, Page 273, of the Standard Plans, Dated May 2006.

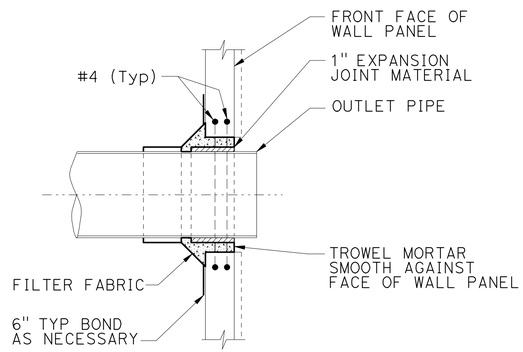
ELECTROLIER PEDESTAL ON MSE WALL

NO SCALE



DETAIL 1
PIPE PENETRATION THROUGH MSE PANEL

NO SCALE



SECTION C-C

NO SCALE

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0109
POST MILES 28.8

RETAINING WALL No. 17
MECHANICALLY STABILIZED EMBANKMENT
DETAILS NO. 7

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12	3/29/13	10	14

FILE => 33-E0109-u-miscdt07.dgn

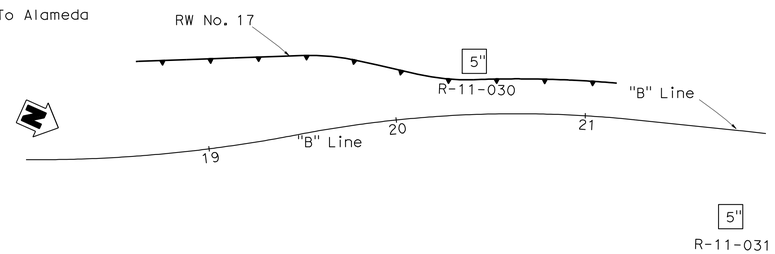
USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

BENCH MARK:

DESIGNATION: ALA8 ELEV=14.521
FOUND BRASS DISK STAMPED "ALA8" IN THE SIDEWALK AT THE WEST CORNER OF EAST 8TH STREET AND 5TH AVENUE.
DESIGNATION: ALA7 ELEV=15.591
FOUND BRASS DISK STAMPED "ALA7" IN THE SIDEWALK AT THE WEST SIDE OF 7TH STREET ALONG THE NORTH SIDE OF LAKE MERRITT CHANNEL.
DESIGNATION: 8TH/37TH ELEV=20.262
FOUND A CITY OF OAKLAND PIN IN CONCRETE IN A MONUMENT WELL AT THE INTERSECTION OF EAST 8TH STREET AND 37TH AVENUE.

DESIGNATION: ALA13 ELEV=15.318
FOUND BRASS DISK STAMPED "ALA13" INSIDE A 1 INCH IRON PIPE WITH A CONCRETE COLLAR 24.6 FEET NORTH OF THE NORTH SIDE OF HIGH STREET,
56 FEET WEST OF THE WEST SIDE OF THE OFFRAMP FROM SOUTHBOUND STATE ROUTE 880 AND 4.99 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS.

DESIGNATION: KA121 ELEV=15.768
FOUND 1 INCH IRON PIPE WITH RED PLASTIC PLUG AND TACK STAMPED "CALTRANS" ALONG THE EAST SIDE OF OAKPORT STREET ABOUT 230 FEET SOUTH OF THE SOUTH SIDE OF
HIGH STREET, ACROSS FROM 4401 OAKPORT STREET, 6.92 FEET NORTH OF THE FLOWLINE OF THE CURB.



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	665	789

Lino Cheang 6-25-12
REGISTERED ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

4-8-13
PLANS APPROVAL DATE

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

NOTES:

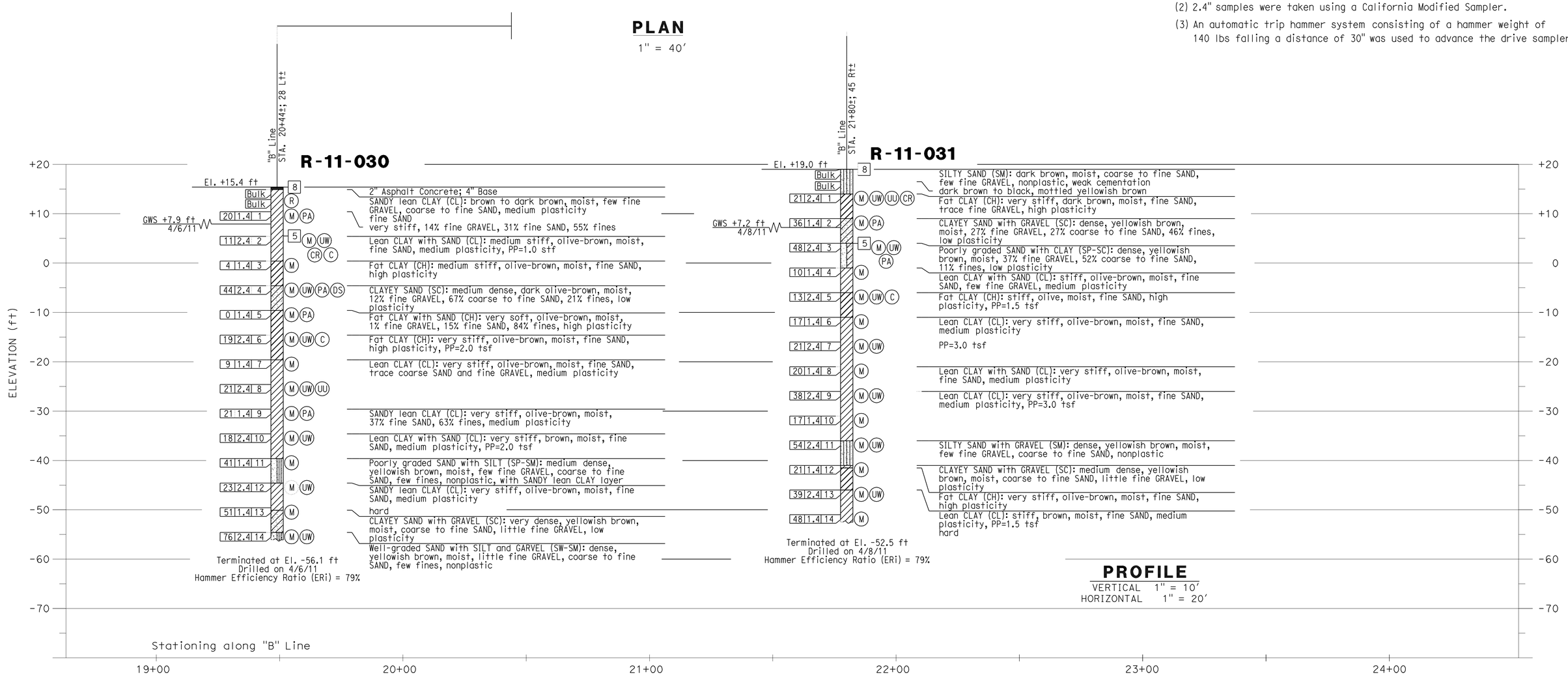
(1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).

(2) 2.4" samples were taken using a California Modified Sampler.

(3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.

PLAN

1" = 40'



PROFILE

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

Paul Cotter. DESIGN OVERSIGHT Paul Cotter; 7-16-12 SIGN OFF DATE	DRAWN BY	J. Fang	K. Thant FIELD INVESTIGATION BY: DATE: 3/2011, 4/2011	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L. Cheang PROJECT ENGINEER	BRIDGE NO. 33E0109; POST MILES 28.8	RETAINING WALL No. 17
	CHECKED BY	G. J. Gunaranjan					LOG OF TEST BORINGS 1 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET 11 | OF 14

FILE => 33-E0109-z-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	880	Ala			

REGISTERED CIVIL ENGINEER — 3/30/12 DATE

PLANS APPROVAL DATE

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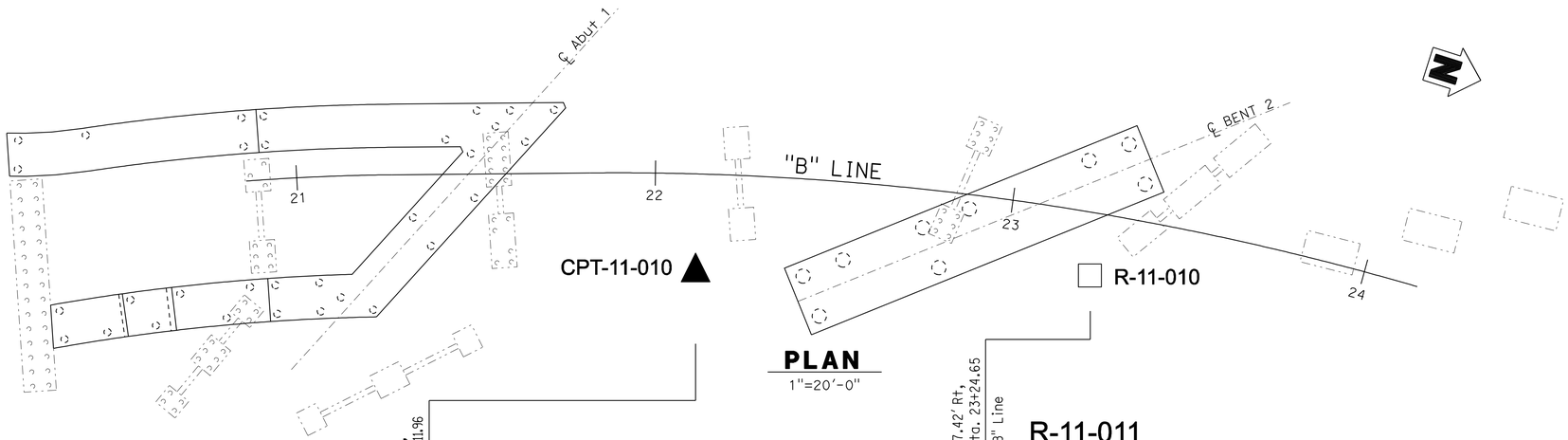
REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

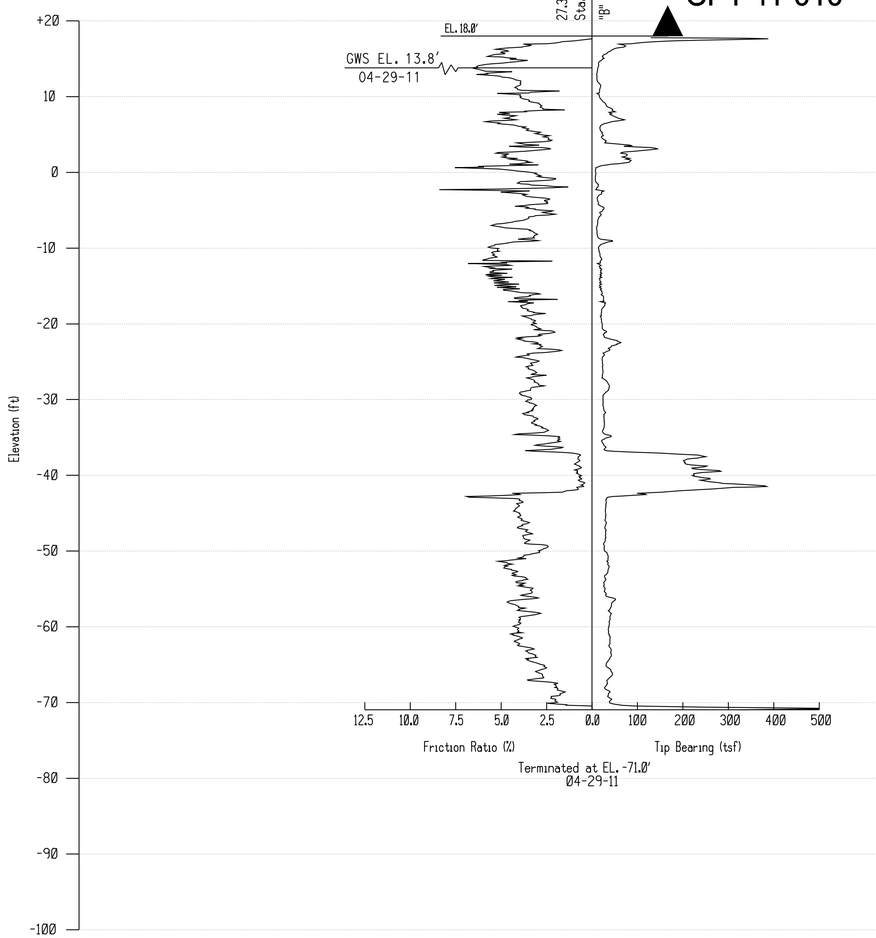
URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612

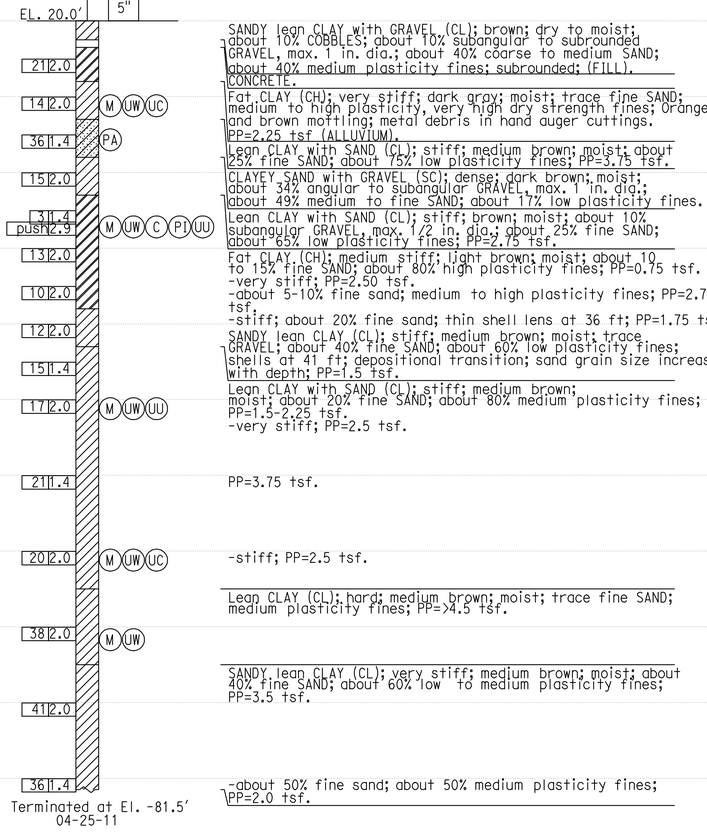


PLAN
1"=20'-0"

NOTES:

1. Ground water table was not measured in the borings due to rotary wash drilling.
2. Hammer energy ratio calibration not performed.
3. The borings were hand augered in the top 5 ft to check for the existence of underground utilities.





SANDY lean CLAY with GRAVEL (CL); brown; dry to moist; about 10% COBBLES; about 10% subangular to subrounded GRAVEL, max. 1 in. dia.; about 40% coarse to medium SAND; about 40% medium plasticity fines; subrounded; (FILL).

CONCRETE.

Fat CLAY (CH); very stiff; dark gray; moist; trace fine SAND; medium to high plasticity, very high dry strength fines; Orange and brown mottling; metal debris in hand auger cuttings.

PP=2.25 tsf (ALLUVIUM).

Lean CLAY with SAND (CL); stiff; medium brown; moist; about 25% fine SAND; about 75% low plasticity fines; PP=3.75 tsf.

CLAYEY SAND with GRAVEL (SC); dense; dark brown; moist; about 34% angular to subangular GRAVEL, max. 1 in. dia.; about 49% medium to fine SAND; about 17% low plasticity fines.

Lean CLAY with SAND (CL); stiff; brown; moist; about 10% subangular GRAVEL, max. 1/2 in. dia.; about 25% fine SAND; about 65% low plasticity fines; PP=2.75 tsf.

Fat CLAY (CH); medium stiff; light brown; moist; about 10 to 15% fine SAND; about 80% high plasticity fines; PP=0.75 tsf.
-very stiff; PP=2.50 tsf.
-about 5-10% fine sand; medium to high plasticity fines; PP=2.75 tsf.
-stiff; about 20% fine sand; thin shell lens at 36 ft; PP=1.75 tsf.

SANDY lean CLAY (CL); stiff; medium brown; moist; trace GRAVEL; about 40% fine SAND; about 60% low plasticity fines; shells at 41 ft; depositional transition; sand grain size increasing with depth; PP=1.5 tsf.

Lean CLAY with SAND (CL); stiff; medium brown; moist; about 20% fine SAND; about 80% medium plasticity fines; PP=1.5-2.25 tsf.
-very stiff; PP=2.5 tsf.

PP=3.75 tsf.

-stiff; PP=2.5 tsf.

Lean CLAY (CL); hard; medium brown; moist; trace fine SAND; medium plasticity fines; PP=>4.5 tsf.

SANDY lean CLAY (CL); very stiff; medium brown; moist; about 40% fine SAND; about 60% low to medium plasticity fines; PP=3.5 tsf.

-about 50% fine sand; about 50% medium plasticity fines; PP=2.0 tsf.

TO ACCOMPANY PLANS DATED 4-8-13

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	666	789

Lino Cheang — CERTIFIED ENGINEERING GEOLOGIST — 6/25/12 DATE

RETAINING WALL No. 17

LOG OF TEST BORINGS 2 OF 4

UNIT: 0724	CONTRACT No.	BRIDGE No.
PROJECT NUMBER & PHASE: 04000001601	04-0A7101	33E0109

Sheet	of
12	14

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

Paul Cotter — DESIGN OVERSIGHT — Paul Cotter
7-16-12 — SIGN OFF DATE

DRAWN BY: N. HUTTON
CHECKED BY: C. TSAI

S. JANOWSKI — FIELD INVESTIGATION BY:
DATE: 04-25-11 TO 05-04-11

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser — PROJECT ENGINEER

BRIDGE NO. 33-0753
POST MILES 28.95

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 2 OF 2

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	6-20-12	47	51

FILE => 33-E0109-z-ltb2.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	667	789

Lino Cheang
REGISTERED ENGINEER — 6-25-12 DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

CEMENTATION

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

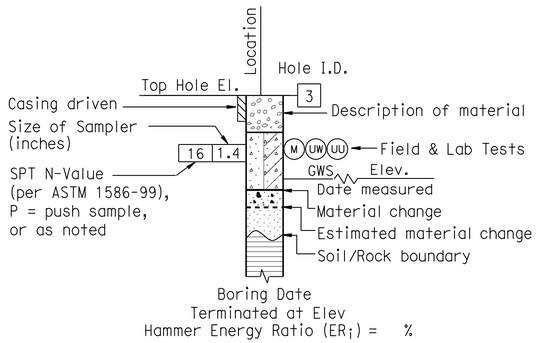
BOREHOLE IDENTIFICATION

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

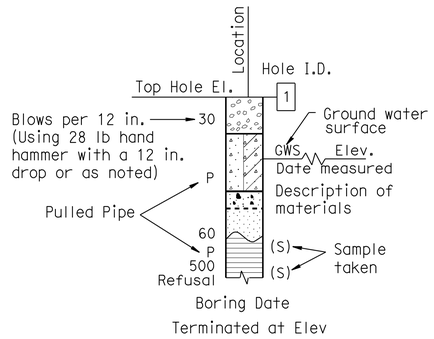
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

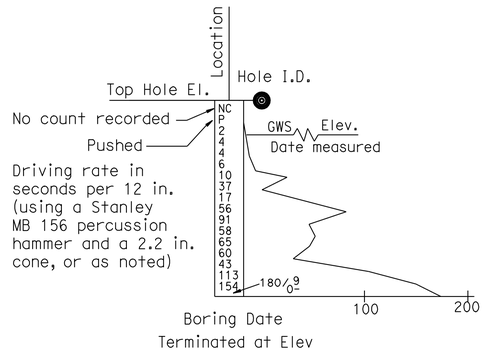
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 -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



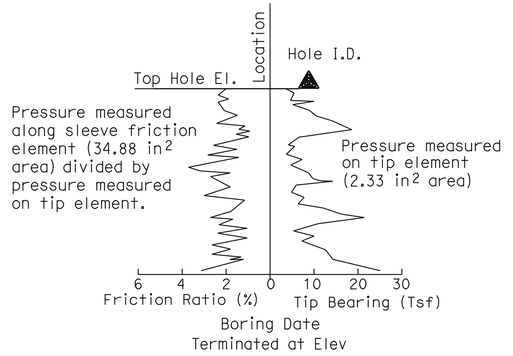
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

Paul Cotter DESIGN OVERSIGHT Paul Cotter 7-16-12 SIGN OFF DATE	DRAWN BY	J. Fang	K. Thant FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L. Cheang PROJECT ENGINEER	BRIDGE NO. 33E0109 POST MILES 28.8	RETAINING WALL No. 17 LOG OF TEST BORINGS 3 OF 4
	CHECKED BY	G. J. Gunaranjan	DATE: 3/2011, 4/2011				

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 13 OF 14

FILE => 33-E0109-z-soil legend-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

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

FIELD AND LABORATORY TESTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	668	789

Liwo Cheang 6-25-12
REGISTERED ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER L. CHEANG NO. GE 2345 EXP. 9-30-13 GEOTECHNICAL STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

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

PERCENT OR PROPORTION OF SOILS

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

PARTICLE SIZE

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

DRAWN BY J. Fang
CHECKED BY G. J. Gunaranjan

K. Thant
FIELD INVESTIGATION BY:
DATE: 3/2011, 4/2011

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

L. Cheang
PROJECT ENGINEER

BRIDGE NO. 33E0109
POST MILES 28.8

RETAINING WALL No. 17
LOG OF TEST BORINGS 4 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 14 OF 14

FILE => 33-E0109-z-soil legend-ltb2.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	669	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER — DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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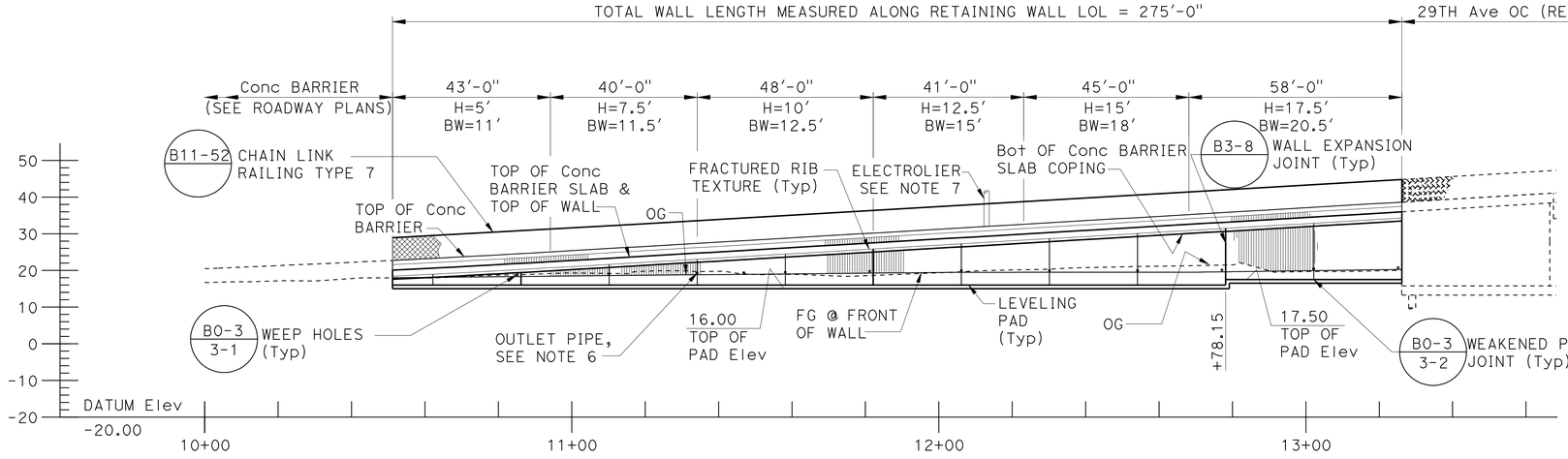
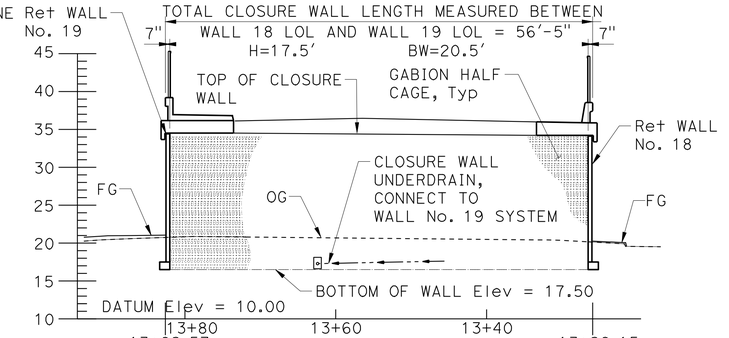
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



ELEVATION
SCALE: 1" = 20'



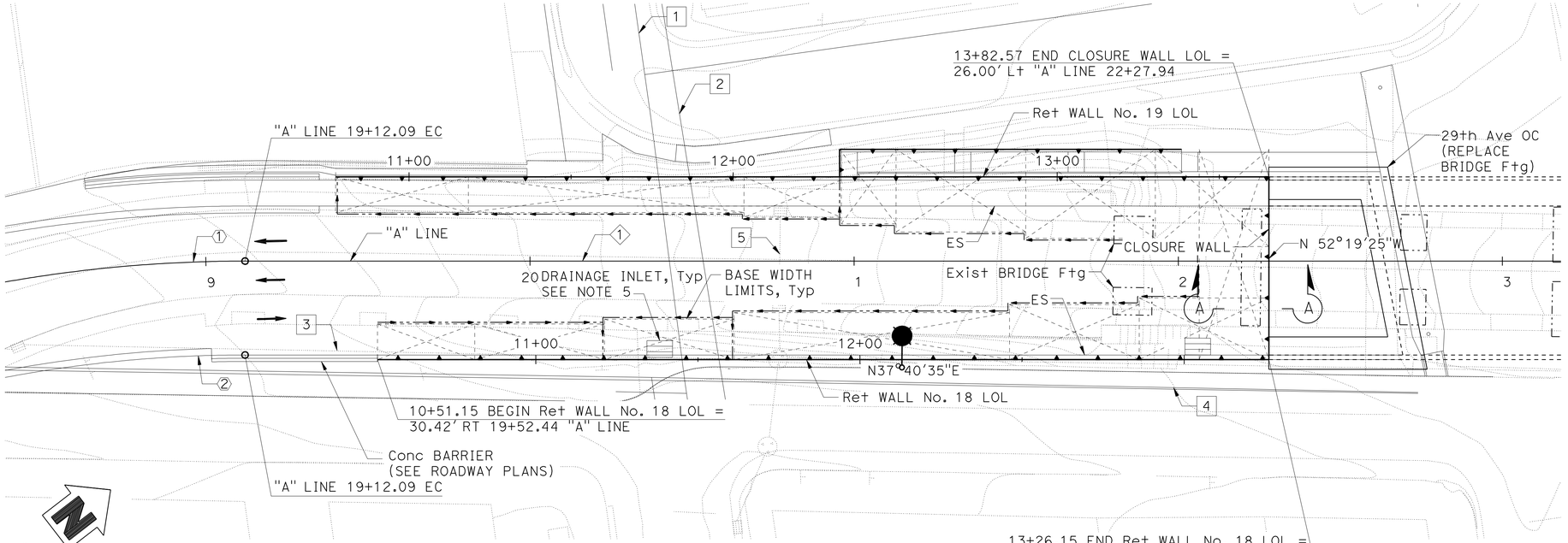
CLOSURE WALL MIRRORED ELEVATION
SCALE: 1" = 10'

CURVE DATA

CURVE No.	R	△	T	L
①	427.00'	15°18'59"	57.42'	114.15'
②	396.58'	01°29'15"	5.15'	10.30'

TANGENT DATA

◇1 N37°40'35"E



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

PLAN
SCALE: 1" = 20'

LEGEND:

- Indicates direction of traffic
- Drainage inlet, See Note 5
- Electrolier, See Note 7
- Underdrain pipe Flowline, see Note 6

UTILITIES:

1. Exist 24" Water (EBMUD)
2. Exist Electric OH (PG&E)
3. Exist 30" RCP (To be Abandonded)
4. Exist 12" Sewer (City of Oakland)
5. Exist 12" RCP (To be Abandonded)

NOTES:

1. "BW" Indicates Base Width. "H" Indicates Design Height.
2. For Utility Information not Shown, See ROADWAY PLANS.
3. For the Typical Section And Section A-A, See "GENERAL PLAN No. 2" Sheet.
4. For Top of Wall Elevations Table, See "GENERAL PLAN No. 2" Sheet.
5. For Location of Drainage Inlet, See DRAINAGE PLANS.
6. For Wall Drainage and Outlet Details, See "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 3" Sheet.
7. For Electrolier Pedestal on GRE Wall, See "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 2" Sheet.

Paul Cotter
DESIGN OVERSIGHT — Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S. McCauley	C. Cho
DETAILS	J. Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

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

	BY	CHECKED
LAYOUT	J. Saldana	S. McCauley
SPECIFICATIONS	C. Harden	PLANS AND SPECS COMPARED: S. Sheikh

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0110
POST MILES 28.6

RETAINING WALL No. 18
GENERAL PLAN No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/30/12	6/26/12	3/29/13	1	11

FILE => 33-E0110-a-gp01.dgn

USERNAME => s1244936 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	670	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

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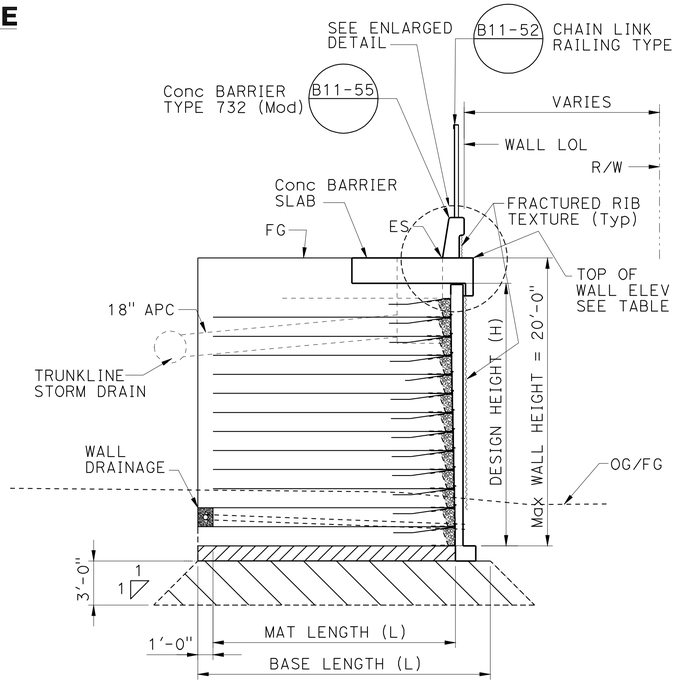
REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

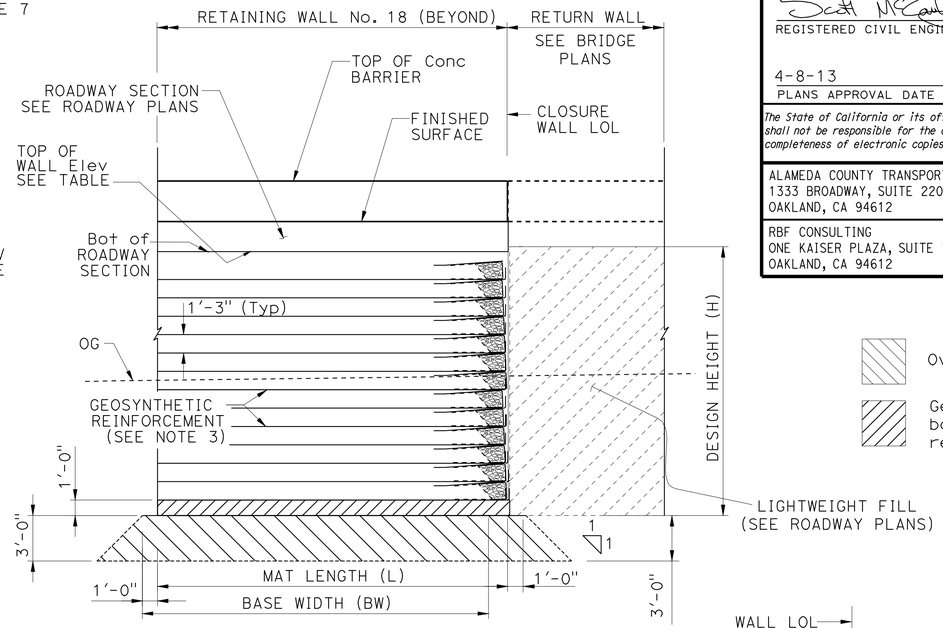
TOP OF WALL ELEVATION TABLE

	WALL LOL STATION	TOP OF WALL Elev (Ft)
Beg Ret WALL No. 18 →	10+51.15	20.07
	+60	20.51
	+70	21.03
	+80	21.57
	+90	22.13
	11+00.00	22.71
	+10	23.29
	+20	23.88
	+30	24.47
	+40	25.05
	+50	25.64
	+60	26.22
	+70	26.81
	+80	27.39
	+90	27.98
	12+00.00	28.57
	+10	29.15
	+20	29.74
	+30	30.32
	+40	30.91
	+50	31.49
	+60	32.08
	+70	32.67
	+80	33.25
	+90	33.84
	13+00.00	34.42
	+10	35.01
END Ret WALL No. 18 →	+20	35.59
	13+26.15	35.96
Beg CLOSURE WALL →	13+26.15	34.29
END CLOSURE WALL →	13+82.57	34.53



TYPICAL SECTION

NO SCALE



CLOSURE WALL TYPICAL SECTION SECTION A-A

NO SCALE

LEGEND:

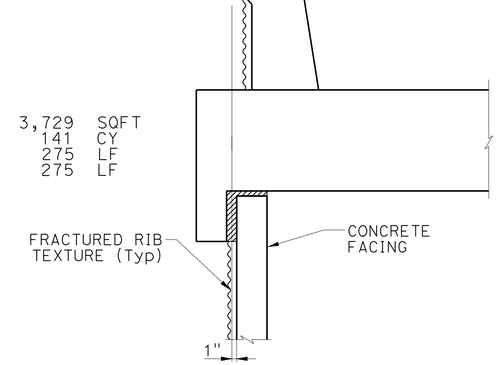
Overexcavation depth

Geosynthetic Wall backfill below lowest reinforcement level

RETAINING WALL 18

QUANTITIES

GEOSYNTHETIC REINFORCED EMBANKMENT	3,729	SQFT
STRUCTURAL CONCRETE, BARRIER SLAB	141	CY
CHAIN LINK RAILING (TYPE 7)	275	LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	275	LF



ENLARGED DETAIL

NO SCALE

INDEX TO PLANS

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
BO-3	BRIDGE DETAILS
B3-8	RETAINING WALL DETAILS No. 1
B11-52	CHAIN LINK RAILING TYPE 7
B11-55	CONCRETE BARRIER TYPE 732

STANDARD PLAN SHEET No.

DETAIL No.

NOTES:

1. For All Pipes and Drainage Inlet and Outlet Locations, See ROADWAY PLANS.
2. For Existing Pipes and Utilities, See ROADWAY PLANS.
3. Geosynthetic Reinforcing shall be continuous at corner of Geosynthetic Reinforced Embankment Wall and Closure Wall. Provide double mat of reinforcing at this location with 5'-0" minimum lap splice in each direction.

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S. McCauley	C. Cho
DETAILS	J. Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

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

	BY	CHECKED
LAYOUT	J. Saldana	S. McCauley
SPECIFICATIONS	C. Harden	PLANS AND SPECS COMPARED S. Sheikh

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0110
POST MILES 28.6

RETAINING WALL No. 18
GENERAL PLAN No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12	3/29/13	2	11

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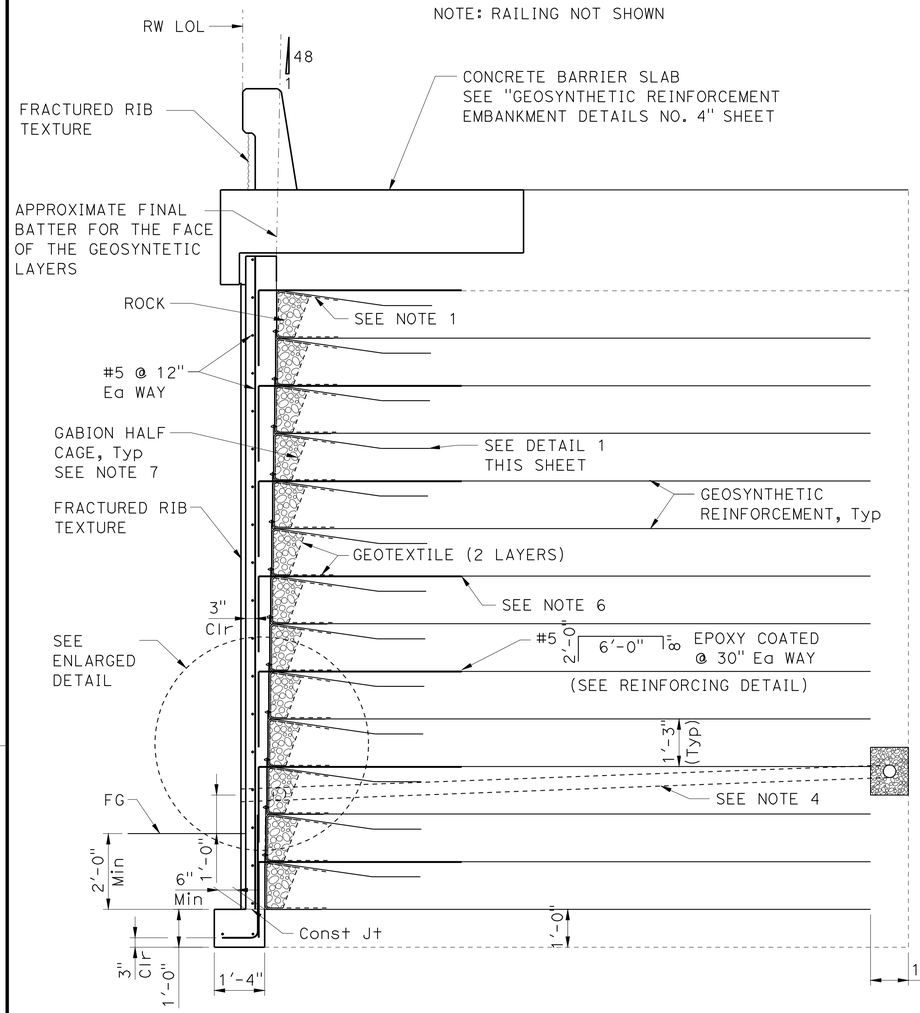
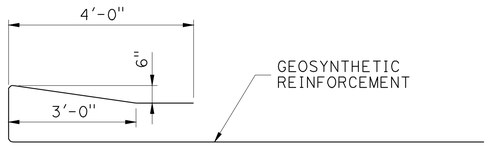
USERNAME => s1244196 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16



PERMANENT GEOSYNTHETIC RETAINING WALL WITH CAST-IN-PLACE OR SHOTCRETE CONCRETE FASCIA

1/2" = 1'-0"



DETAIL 1

NO SCALE

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

GENERAL NOTES
LOADS & RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LFRD Bridge Design Specifications, 4th Edition with California Amendments
FHWA Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Slopes, dated November 2009
Publication No. FHWA-NHI 10-024

LIVE LOAD: Surcharge = 240 lb/ft^2

COLLISION FORCE: F_t = 54 kips on Barrier

SOIL PARAMETERS:

Internal design ϕ (Reinforced Backfill) = 34°, γ= 120 lb/ft^3, k_h= 0.36

External design ϕ(Retained Backfill) = 30°, γ= 120 lb/ft^3
Coefficient of Friction, μ = 0.35
K_h= 0.24

CONCRETE FASCIA:

f'c = 4,000 psi (Concrete compressive strength at 28 days)

fy = 60,000 psi (Yield strength of reinforcement)

GEOSYNTHETIC REINFORCEMENT:

LTDS = 4,000 lb/ft (SEE NOTE 4)

Reduction Factors RF_{ID} = 1.10
RF_{CR} = 2.60
RF_D = 1.10

Soil Reinforcing Coverage = 100%

Gabion half cage: fy = 65,000 psi (Yield strength)

Coupler: fy = 36,000 psi (Yield strength)

Corrosion rate = 1.1 mils/year

REINFORCED CONCRETE:

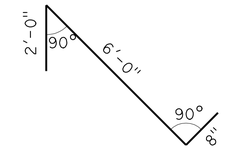
f'c = 3,600 psi, except as noted
(Concrete compressive strength at 28 days)

fy = 60,000 psi (Yield strength of reinforcement)

GRE = Geosynthetic Reinforced Embankment

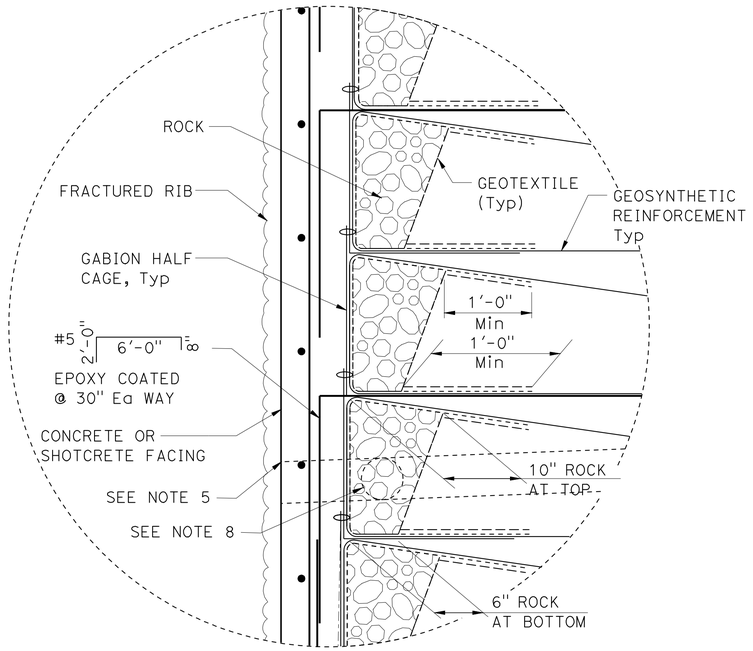
NOTES:

1. Geotextile for underground drainage Class A, moderate survivability
2. 1'-0" Min. Geotextile overlap, top and bottom.
3. The Reinforced Soil shall obtain its maximum anticipated settlement, prior to construction at final facing.
4. Outlet Pipe must be sloped to provide positive drainage towards opening in wall facing. Provide double mat of Geosynthetic reinforcing where cut is provided to accomodate outlet pipe.
5. Provide Weepholes at Expansion and Weakened Plane Joints per Standard Plan B0-3 in addition to Underdrain Outlet Pipe. For Outlet Pipe Details, see "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 3" Sheet.
6. Reinforcing hook is not designed for construction loads including Concrete hydraulic loads and formwork.
7. For Gabion Half Cage Detail, See "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 2" Sheet.
8. Provide 4" perforated PVC pipe along length of Closure Wall and outlet at closest Weep Hole at Wall No. 18 facing. Slope pipe to drain.



ISOMETRIC REINFORCING DETAIL

NO SCALE



ENLARGED DETAIL

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	671	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley No. 71495 Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0110
POST MILES 28.6

RETAINING WALL No. 18
GEOSYNTHETIC REINFORCED EMBANKMENT
DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12		3	11

FILE => 33-E0110-u-miscdt01.dgn

USERNAME => s1124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	672	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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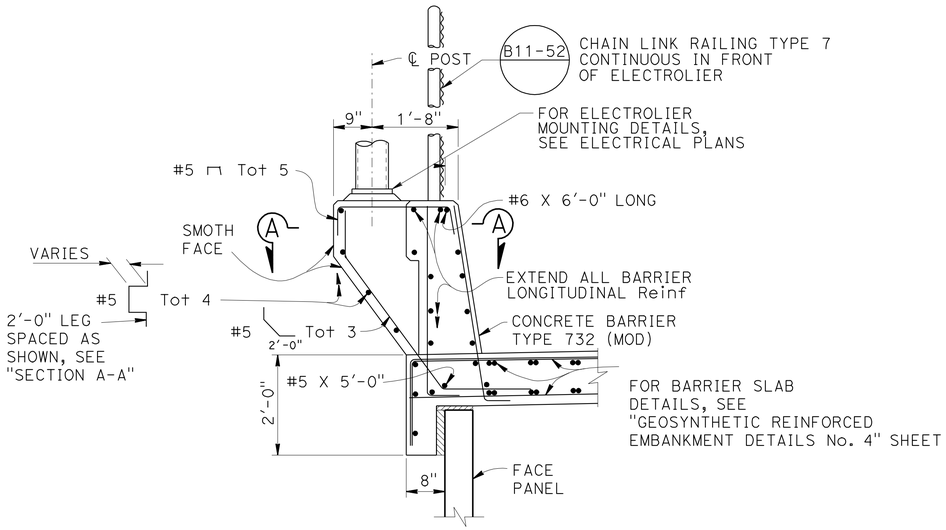
OAKLAND, CA 94612

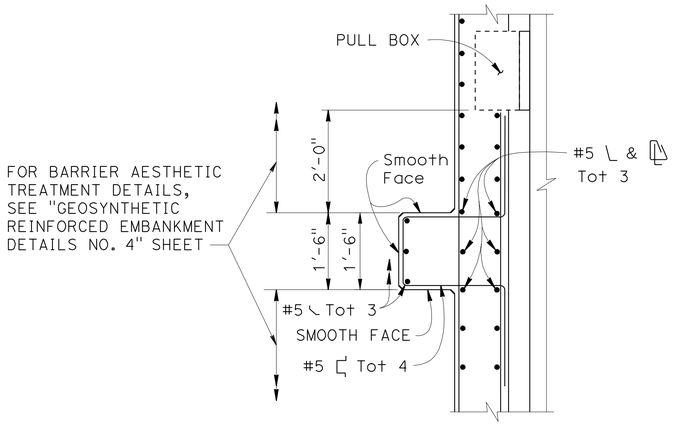
RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



ELEVATION

NOTES: 1. This Special Detail Supercedes "PEDESTAL ELEVATION" on B11-55, Page 273, of the Standard Plans, Dated May 2006.

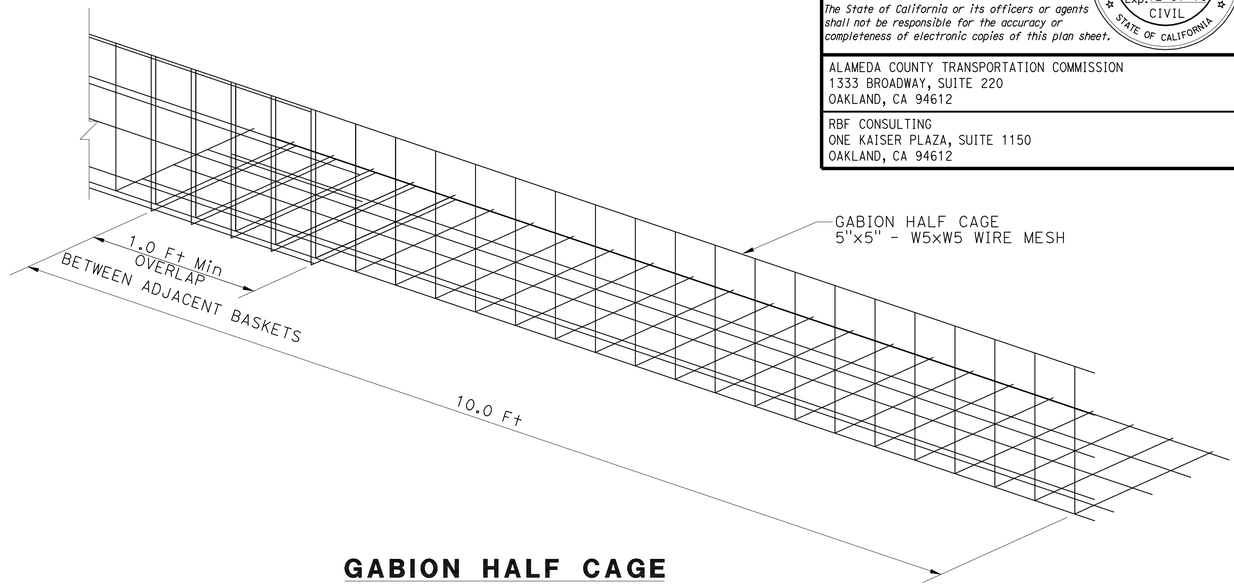
2. Electrolier Shall Be Located a Minimum of 10' From Wall Expansion Joints.



SECTION A-A

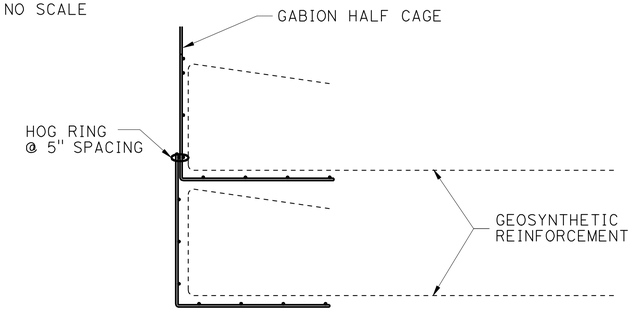
ELECTROLIER PEDESTAL ON GRE WALL

NO SCALE



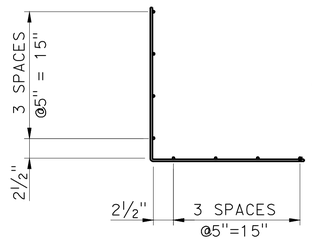
GABION HALF CAGE

NO SCALE



GABION HALF CAGE ATTACHMENT DETAIL

NO SCALE



GABION HALF CAGE GEOMETRY

NO SCALE

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

RETAINING WALL No. 18

GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS NO. 2

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0110
POST MILES 28.6

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/28/12	3/29/13	4	11

FILE => 33-E0110-u-miscdt02.dgn

USERNAME => s1124196 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	673	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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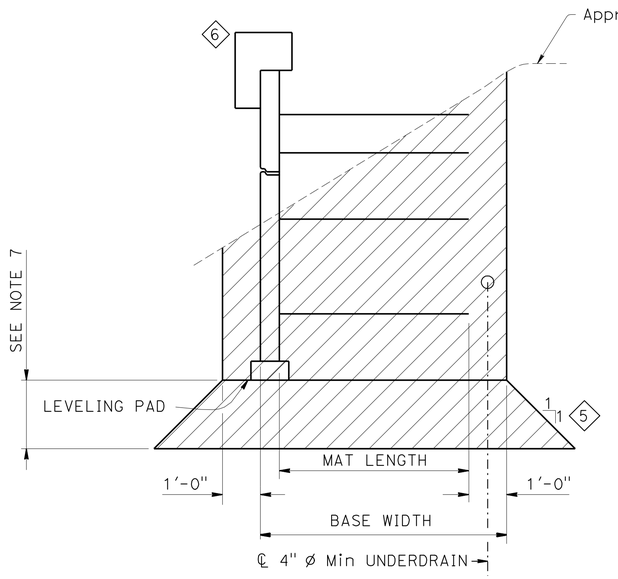
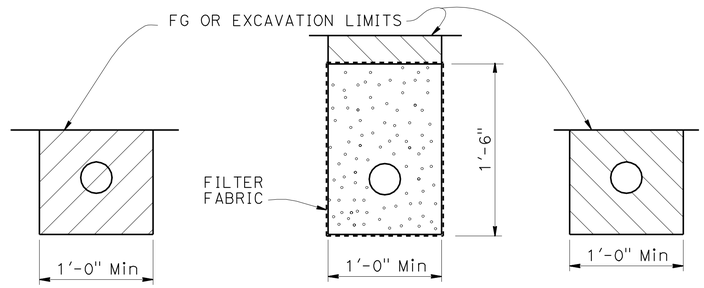
RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



LIMITS OF EXCAVATION

½" = 1'-0"

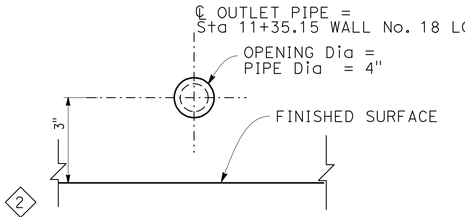


OUTLET PIPE CLEANOUT PIPE

EXCAVATION BACKFILL

UNPERFORATED OUTLET OR CLEAN OUT PIPE FOR UNDERDRAIN

NO SCALE



OUTLET PIPE OPENING

NO SCALE

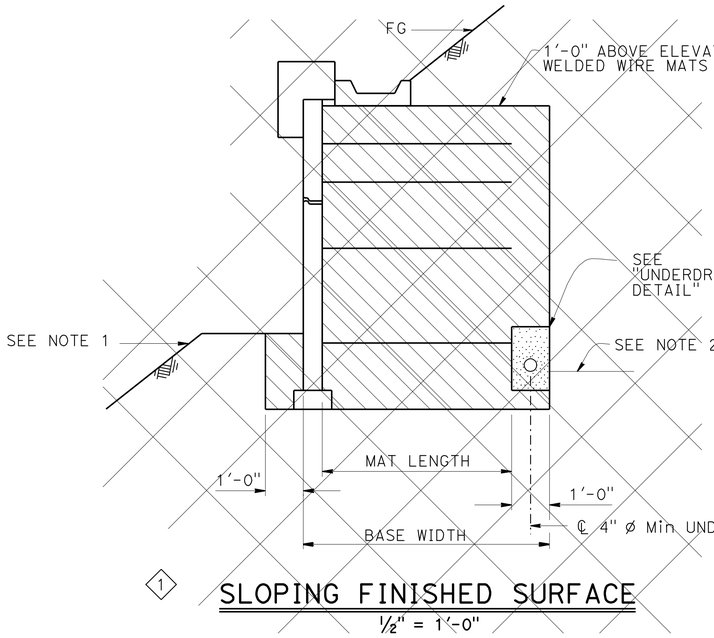
NOTES:

1. Limits to FG except to GP when in roadway section
2. Locate underdrain behind bottom level of welded wire mats wherever possible, or at elevation needed to drain, as shown elsewhere on plans
3. Place perforated pipe underdrain of diameter shown elsewhere on plans or minimum 4" ø smoothed wall PVC or minimum 8" ø corrugated HDPE
4. Maximum spacing of outlet pipe is 200 feet
5. At sags in profile of underdrain, install outlet pipe for each direction of flow
6. For Drainage Inlet Location and Details, See "DRAINAGE PLANS"

5 7. For overexcavation depth see "GENERAL PLAN No. 2" sheet

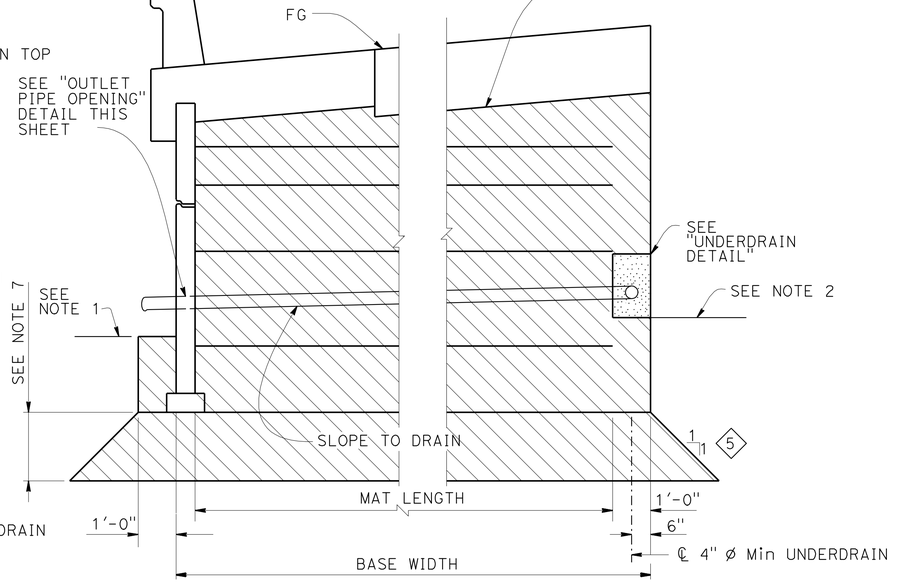
LEGEND:

- Limits of Structure Excavation
- Limits of Structure Backfill
- Limits of Permeable Material



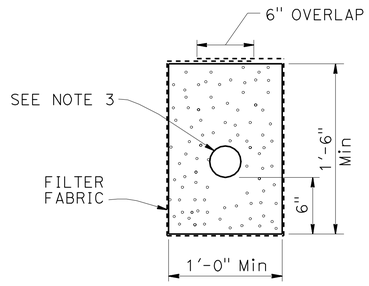
1 SLOPING FINISHED SURFACE

½" = 1'-0"



3 ROADWAY SECTION

½" = 1'-0"



UNDERDRAIN DETAIL

LIMITS OF BACKFILL

SPECIAL DETAILS

RETAINING WALL No. 18

GEOSYNTHETIC REINFORCED EMBANKMENT

DETAILS NO. 3 4

STANDARD DRAWING					
FILE NO. xs13-020-6	APPROVAL DATE January 2012	1 Does Not Apply	3 Detail Modified	5 Added Overexcavation Limit	
		2 Detail Added	4 Changed Sheet Title	6 Revised "Limits of Excavation"	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 33E0110
POST MILE 28.6

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601
CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	5/28/12	3/29/13	5	11

FILE => 33-E0110-u-miscdt03.dgn

USERNAME => s8124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	674	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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OAKLAND, CA 94612

RBF CONSULTING
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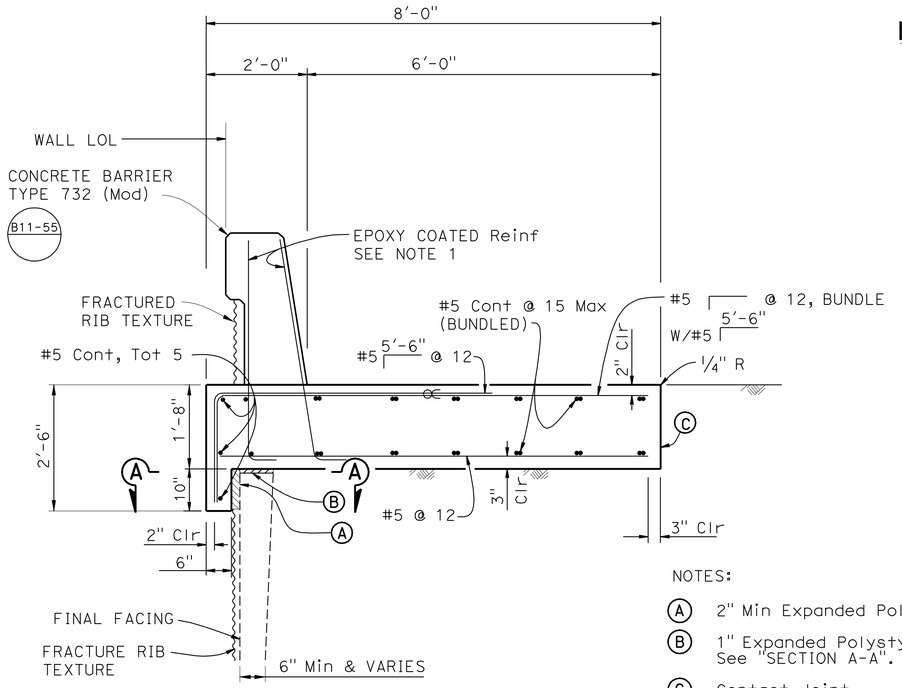
OAKLAND, CA 94612



CONCRETE BARRIER SLAB

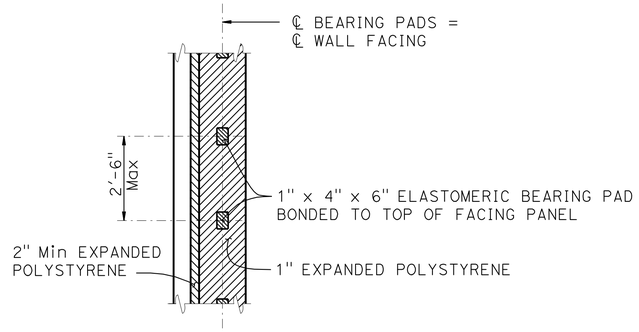
3/4" = 1'-0"

NOTES:

1. For dimensions and reinforcement not shown see, STANDARD PLAN B11-55
2. Minimum barrier slab length 40'-0"

NOTES:

- (A) 2" Min Expanded Polystyrene.
- (B) 1" Expanded Polystyrene See "SECTION A-A".
- (C) Contact Joint.
- ∝ Indicates Bundled Bars.



SECTION A-A

1/2" = 1'-0"

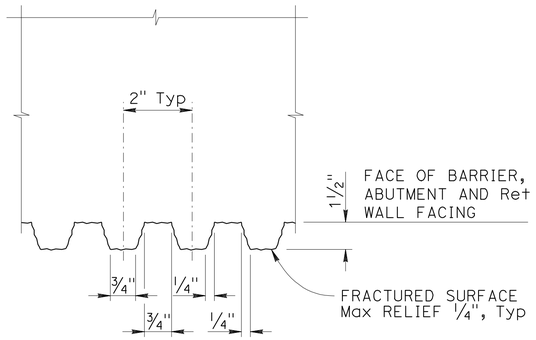
DESIGN HEIGHT, H (Ft)	5.0	7.5	10.0
Max. WALL HEIGHT (Ft)	6.67	9.17	11.67
MAT LENGTH, L (Ft)	9.5	9.5	11.0
BASE WIDTH, BW (Ft)	11.0	11.0	12.5

DESIGN HEIGHT, H (Ft)	12.5	15.0	17.5
Max. WALL HEIGHT (Ft)	14.17	16.67	19.17
MAT LENGTH, L (Ft)	13.5	16.5	19.0
BASE WIDTH, BW (Ft)	15.0	18.0	20.5

GEOSYNTHETIC REINFORCEMENT

NO SCALE

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

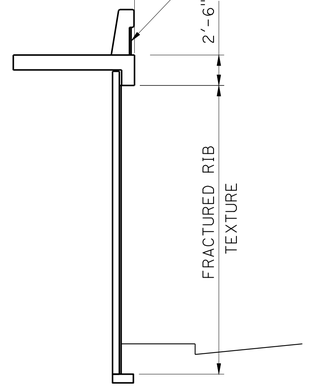


NOTES:

1. Vertical joints in form liners will be at center of trough between ribs. Min spacing of form liner vertical joints will be 4'-0".
2. No horizontal joints will be permitted in form liners.

FRACTURED RIB TEXTURE

NO SCALE



LIMITS OF PAYMENT

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO.	33E0110
POST MILES	28.6

RETAINING WALL No. 18
GEOSYNTHETIC REINFORCED EMBANKMENT
DETAILS NO. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12	3/29/13	6	11

FILE => 33-E0110-u-miscdt04.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	675	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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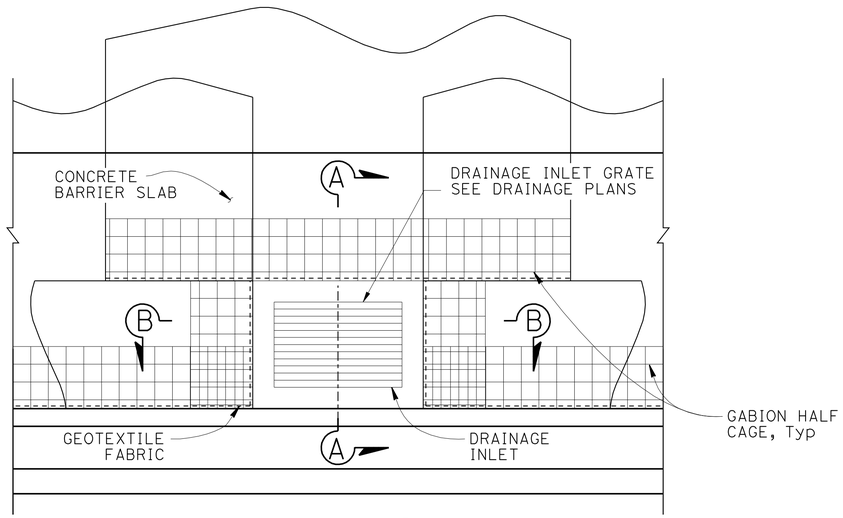
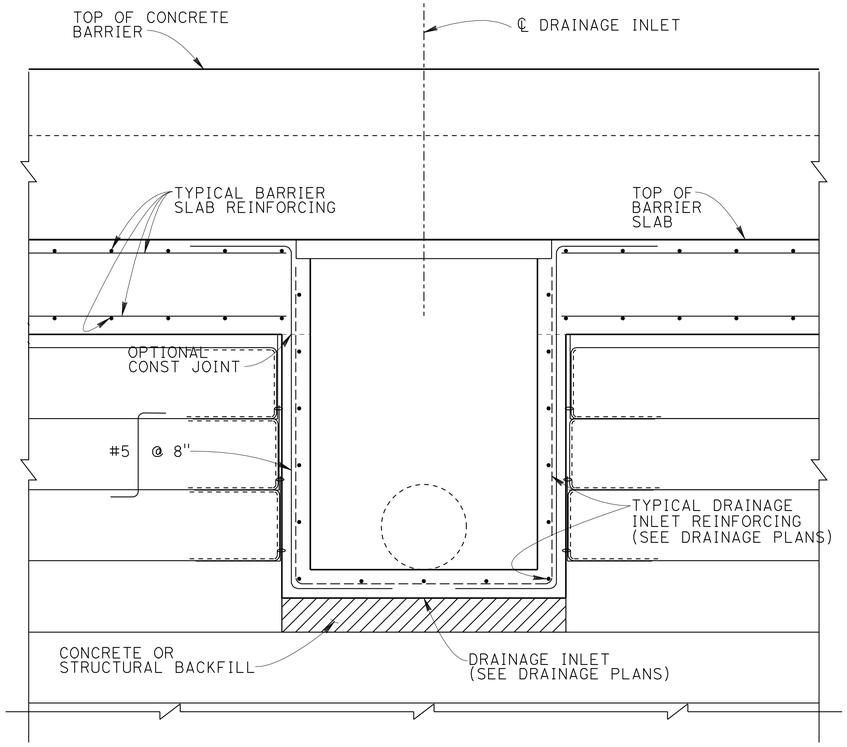
RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



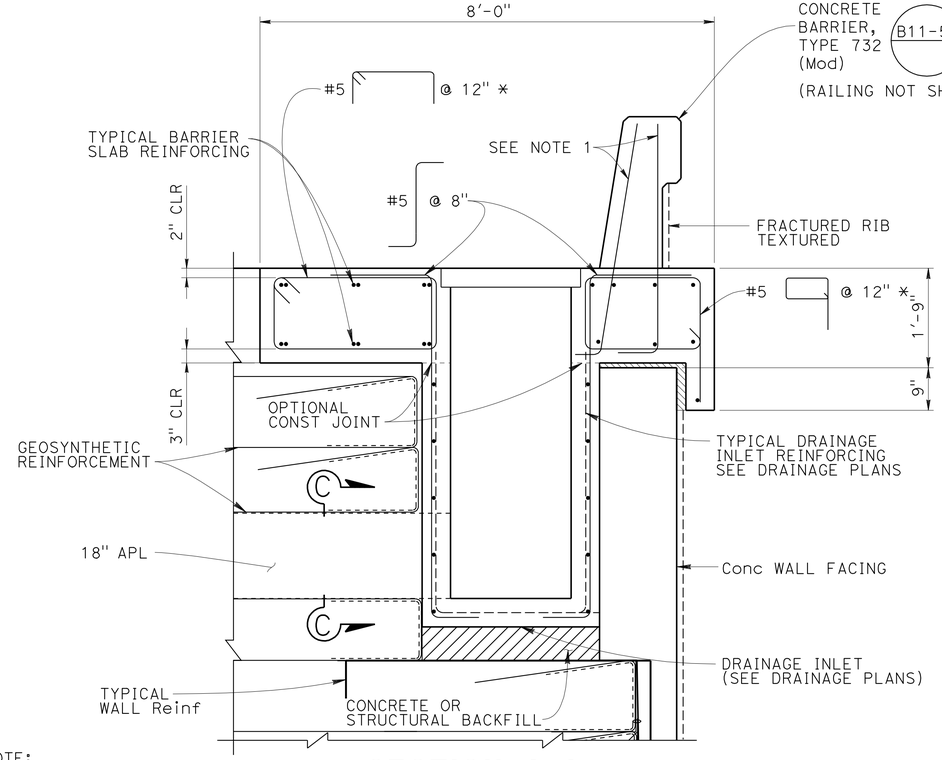
PLAN - DRAINAGE INLET

NO SCALE



SECTION B-B

¾" = 1'-0"



NOTE:
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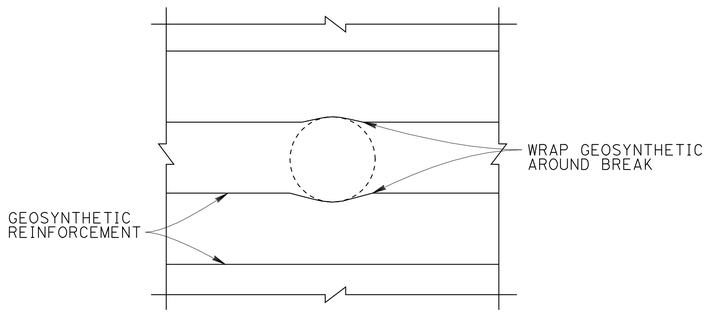
SECTION A-A

¾" = 1'-0"



SECTION C-C

¾" = 1'-0"

NOTES:

1. For Drainage Details not shown, Including Pipe Size and Type, See Drainage Plans
2. Reinforcement Shown is in Addition to all other Reinforcement. See "GRE DETAILS No. 4" Sheet

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0110
POST MILES 28.6

RETAINING WALL No. 18

GEOSYNTHETIC REINFORCED EMBANKMENT

DETAILS NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/28/12	3/29/13	7	11

FILE => 33-E0110-u-miscdt05.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

BENCH MARK:

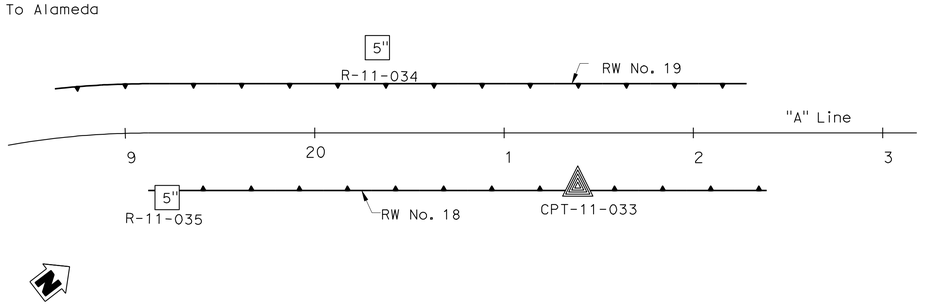
DESIGNATION: ALA8 ELEV=14.521
FOUND BRASS DISK STAMPED "ALA8" IN THE SIDEWALK AT THE WEST CORNER OF EAST 8TH STREET AND 5TH AVENUE.

DESIGNATION: ALA7 ELEV=15.591
FOUND BRASS DISK STAMPED "ALA7" IN THE SIDEWALK AT THE WEST SIDE OF 7TH STREET ALONG THE NORTH SIDE OF LAKE MERRITT CHANNEL.

DESIGNATION: 8TH/37TH ELEV=20.262
FOUND A CITY OF OAKLAND PIN IN CONCRETE IN A MONUMENT WELL AT THE INTERSECTION OF EAST 8TH STREET AND 37TH AVENUE.

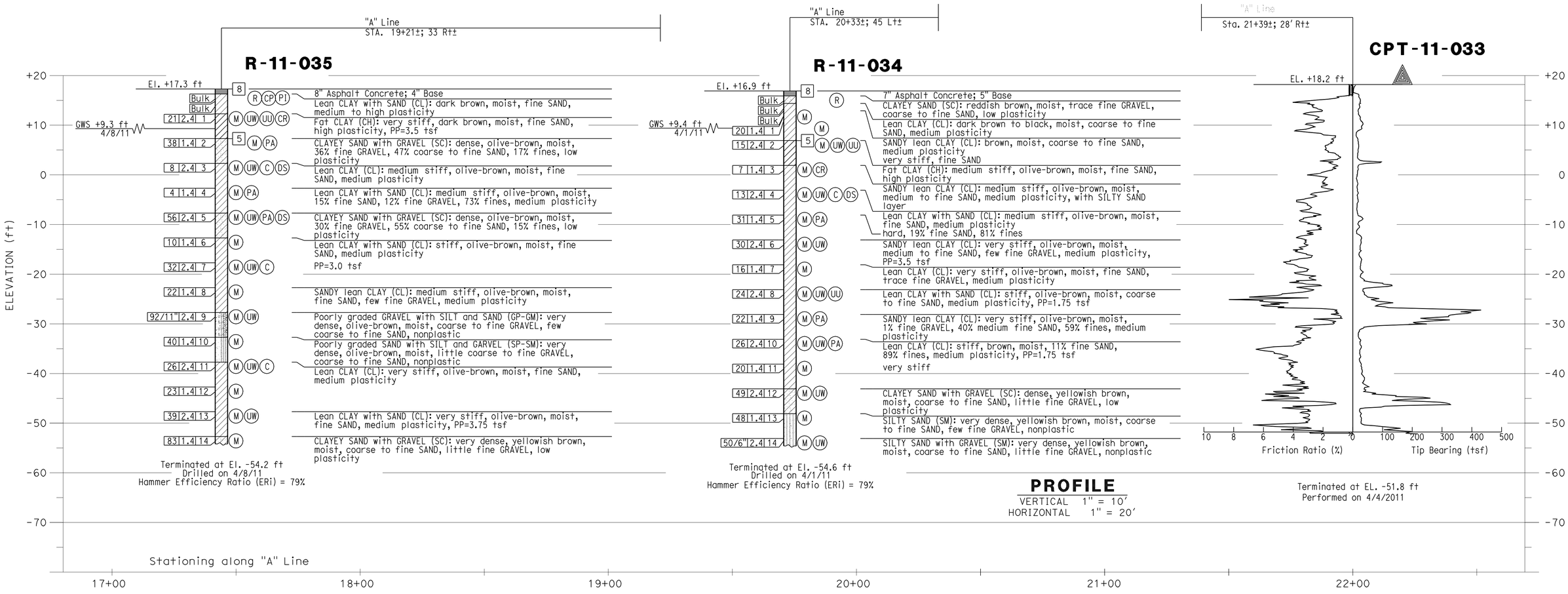
DESIGNATION: ALA13 ELEV=15.318
FOUND BRASS DISK STAMPED "ALA13" INSIDE A 1 INCH IRON PIPE WITH A CONCRETE COLLAR 24.6 FEET NORTH OF THE NORTH SIDE OF HIGH STREET,
56 FEET WEST OF THE WEST SIDE OF THE OFFRAMP FROM SOUTHBOUND STATE ROUTE 880 AND 4.99 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS.

DESIGNATION: KA121 ELEV=15.768
FOUND 1 INCH IRON PIPE WITH RED PLASTIC PLUG AND TACK STAMPED "CALTRANS" ALONG THE EAST SIDE OF OAKPORT STREET ABOUT 230 FEET SOUTH OF THE SOUTH SIDE OF HIGH STREET, ACROSS FROM 4401 OAKPORT STREET, 6.92 FEET NORTH OF THE FLOWLINE OF THE CURB.



PLAN
1" = 40'

NOTES:
(1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
(2) 2.4" samples were taken using a California Modified Sampler.
(3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.



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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	676	789

Lino Cheang — REGISTERED ENGINEER — 6-25-12 DATE
4-8-13 PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

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1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

Paul Cotter — DESIGN OVERSIGHT — Paul Cotter — 7-16-12 SIGN OFF DATE

DRAWN BY: J. Fang
CHECKED BY: G. J. Gunaranjan
K. Thant — FIELD INVESTIGATION BY:
DATE: 3/2011, 4/2011

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

L. Cheang — PROJECT ENGINEER

BRIDGE NO. 33E0110
POST MILES Varies

RETAINING WALL No. 18
LOG OF TEST BORINGS 1 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 8 OF 11

FILE => 33-E0110-z-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s1c24496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	880	Ala			

Philip J. Meymand — 6/25/12
REGISTERED CIVIL ENGINEER — DATE

PLANS APPROVAL DATE

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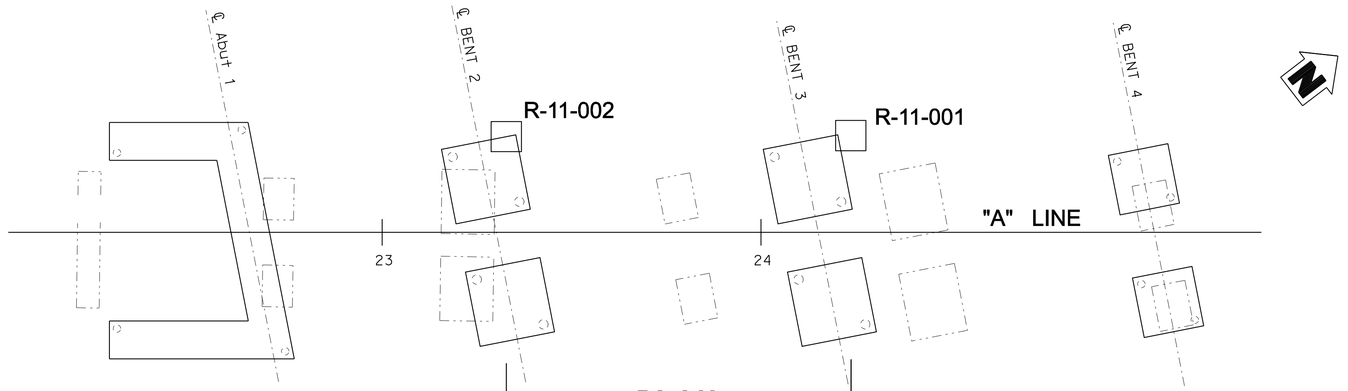
REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

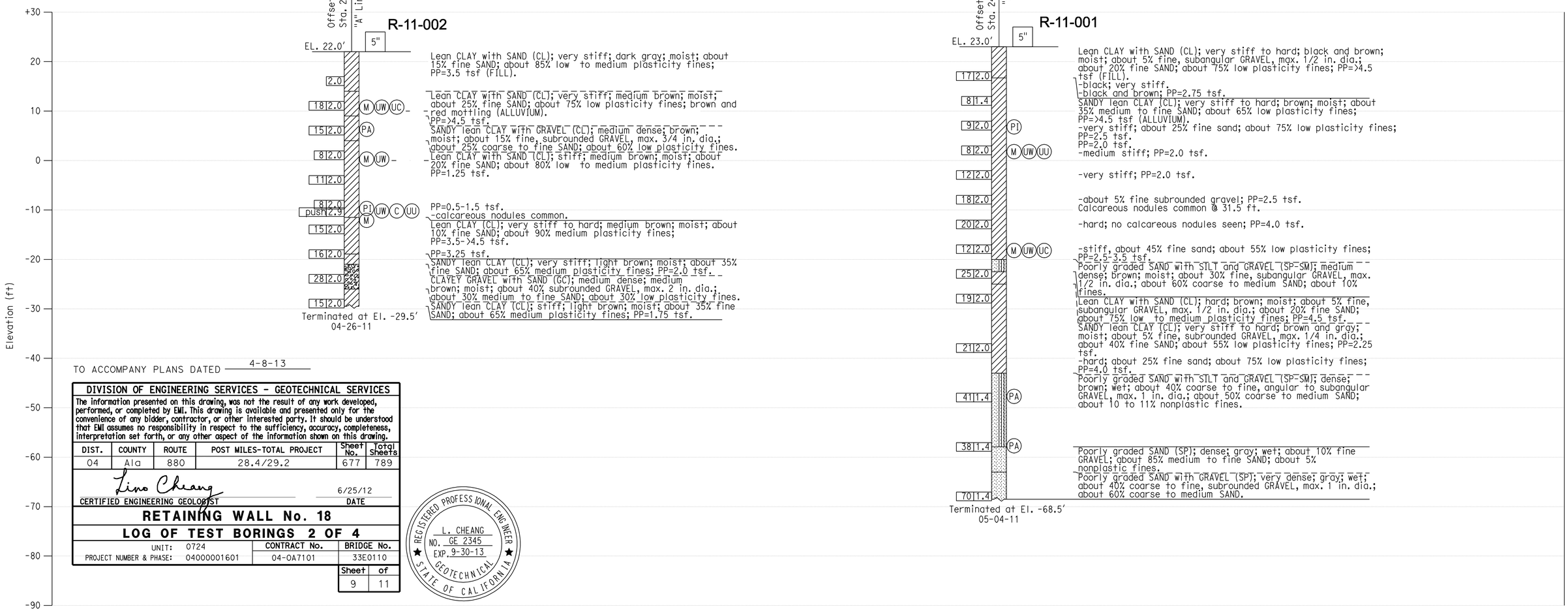
URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612



PLAN
1"=20'-0"

NOTES:

1. Ground water table was not measured in the borings due to rotary wash drilling.
2. Hammer energy ratio calibration not performed.
3. The borings were hand augered in the top 5 ft to check for the existence of underground utilities.



TO ACCOMPANY PLANS DATED 4-8-13

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

The information presented on this drawing, was not the result of any work developed, performed, or completed by EMI. This drawing is available and presented only for the convenience of any bidder, contractor, or other interested party. It should be understood that EMI assumes no responsibility in respect to the sufficiency, accuracy, completeness, interpretation set forth, or any other aspect of the information shown on this drawing.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	677	789

Lino Cheang — 6/25/12
CERTIFIED ENGINEERING GEOLOGIST — DATE

RETAINING WALL No. 18

LOG OF TEST BORINGS 2 OF 4

UNIT: 0724	CONTRACT No.	BRIDGE No.
PROJECT NUMBER & PHASE: 04000001601	04-0A7101	33E0110

Sheet	of
9	11

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

Paul Cotter — DESIGN OVERSIGHT — Paul Cotter — 7-16-12 — SIGN OFF DATE

DRAWN BY: N. HUTTON
CHECKED BY: C. TSAI

S. JANOWSKI — FIELD INVESTIGATION BY:
DATE: 04-25-11 TO 05-04-11

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser — PROJECT ENGINEER

BRIDGE NO. 33-0751
POST MILES 28.69

29TH AVENUE OC (REPLACE)
LOG OF TEST BORINGS 2 OF 2

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	6-20-12	55	60

FILE => 33-E0110-z-ltb2.dgn

USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	678	789

Lino Cheang — REGISTERED ENGINEER — 6-25-12 DATE

4-8-13 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

CEMENTATION

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

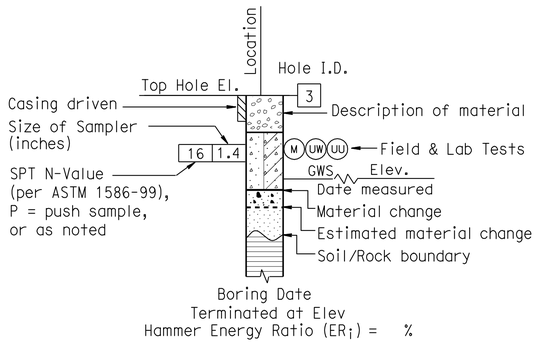
BOREHOLE IDENTIFICATION

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

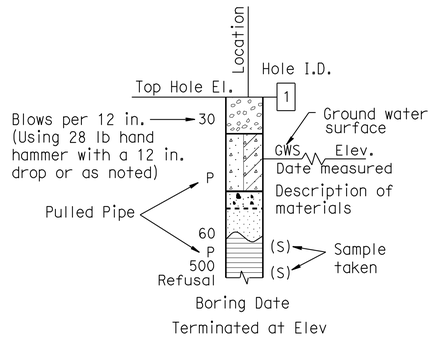
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

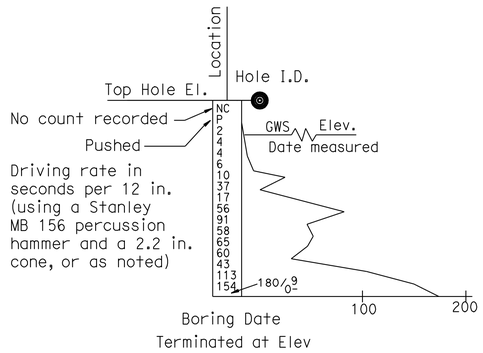
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 -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



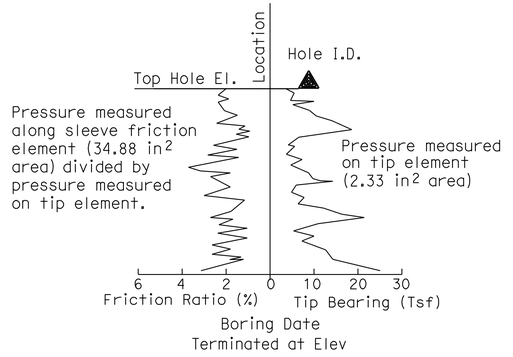
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

Paul Cotter — DESIGN OVERSIGHT: Paul Cotter	DRAWN BY	J. Fang	K. Thant — FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L. Cheang — PROJECT ENGINEER	BRIDGE NO. 33E0110	RETAINING WALL No. 18
7-16-12 — SIGN OFF DATE	CHECKED BY	G. J. Gunaranjan	DATE: 3/2011, 4/2011			POST MILES 28.6	LOG OF TEST BORINGS 3 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 10 OF 11

FILE => 33-E0110-z-soil legend-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

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

FIELD AND LABORATORY TESTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	679	789

Lino Cheang 6-25-12
REGISTERED ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER L. CHEANG NO. GE 2345 EXP. 9-30-13 GEOTECHNICAL STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

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

PERCENT OR PROPORTION OF SOILS

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

PARTICLE SIZE

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

DRAWN BY J. Fang

CHECKED BY G. J. Gunaranjan

K. Thant
FIELD INVESTIGATION BY:

DATE: 3/2011, 4/2011

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

L. Cheang
PROJECT ENGINEER

BRIDGE NO. 33E0110
POST MILES 28.6

RETAINING WALL No. 18
LOG OF TEST BORINGS 4 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 11 OF 11

FILE => 33-E0110-z-soil legend-ltb2.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	680	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER — DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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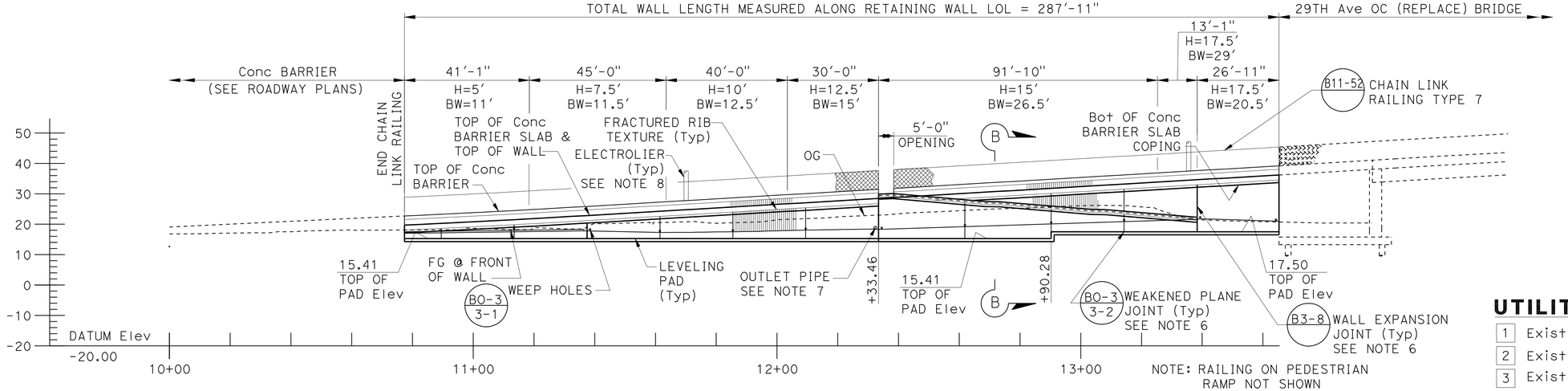
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



MIRRORED ELEVATION

SCALE: 1" = 20'

UTILITIES:

1. Exist 24" Water (EBMUD)
2. Exist 6" Gas (PG&E)
3. Exist Electric OH (PG&E)
4. Exist 12" RCP (To be Abandoned)

CURVE DATA

CURVE No.	R	△	T	L
①	427.00'	15°18'59"	57.42'	114.15'
②	453.00'	06°15'04"	24.73'	49.42'

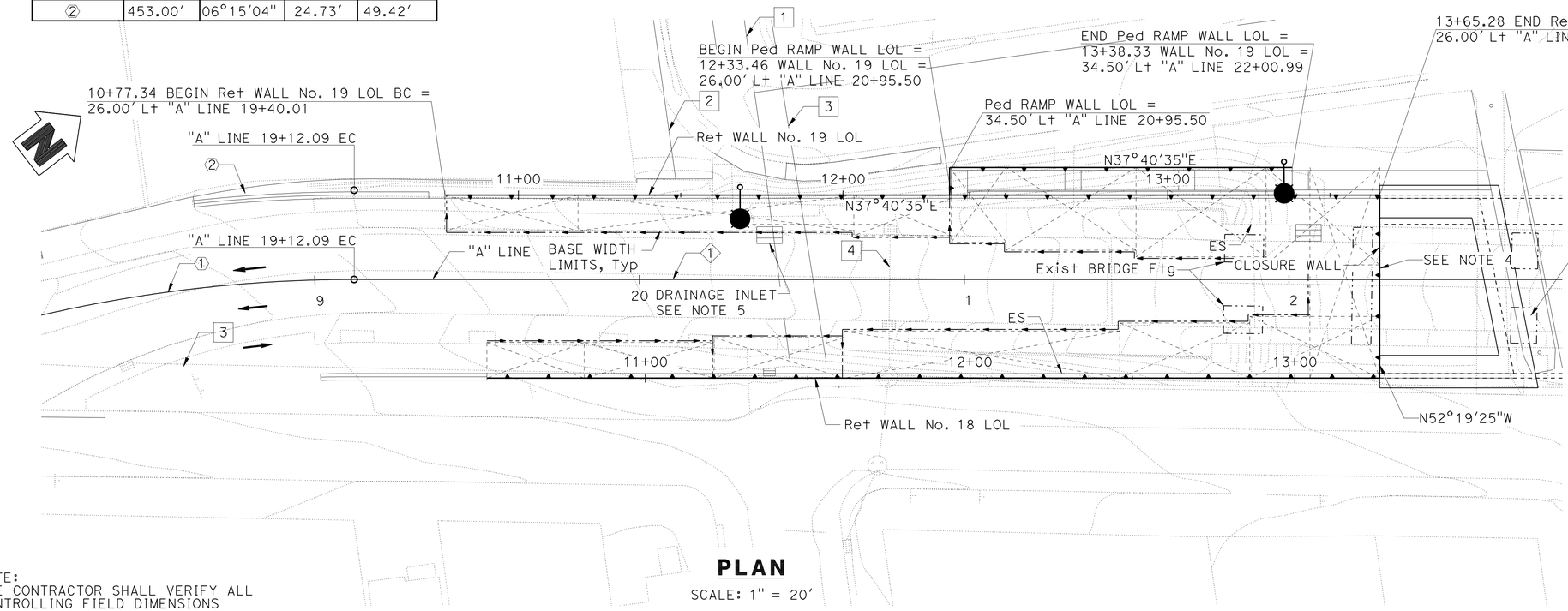
TANGENT DATA

① N37°40'35"E

RETAINING WALL 19

QUANTITIES

GEOSYNTHETIC REINFORCED EMBANKMENT	2,892	SQFT
STRUCTURAL CONCRETE, BARRIER SLAB	184	CY
CHAIN LINK RAILING (TYPE 7)	283	LF
CONCRETE BARRIER (TYPE 26 MODIFIED)	283	LF



PLAN

SCALE: 1" = 20'

LEGEND:

- Indicates Direction of Traffic
- Drainage Inlet, See Note 5
- Electrolier
- Underdrain Pipe Flowline, See Note 7

NOTES:

1. "BW" indicates Base Width. "H" Indicates Design Height.
2. For Utility Information not Shown, See ROADWAY PLANS
3. For the Typical Section and Section B-B, See "GENERAL PLAN No. 2" Sheet.
4. For Closure Wall Layout Information, See "RETAINING WALL No. 18 - GENERAL PLAN No. 1" Sheet.
5. For Location of Drainage Inlets, See DRAINAGE PLANS. For Drainage Inlet through reinforcement details, see "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS NO. 2" Sheet.
6. For Expansion Joint and Weakened Plane Joint Locations, See "GENERAL PLAN No. 2" Sheet.
7. For Wall Drainage and Outlet Details, see "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 3" Sheet.
8. For Electrolier Pedestal on Wall, see "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 2" Sheet.

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

Paul Cotter
DESIGN OVERSIGHT — Paul Cotter
4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S. McCauley	C. Cho
DETAILS	J. Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

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

	BY	CHECKED
LAYOUT	J. Saldana	S. McCauley
SPECIFICATIONS	C. Harden	PLANS AND SPECS COMPARED S. Sheikh

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0111
POST MILES 28.6

RETAINING WALL No. 19
GENERAL PLAN No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES			
2/04/11	3/30/12	6/26/12	3/29/13

SHEET 1 OF 10

FILE => 33-E0111-a-gp01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	681	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
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 — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

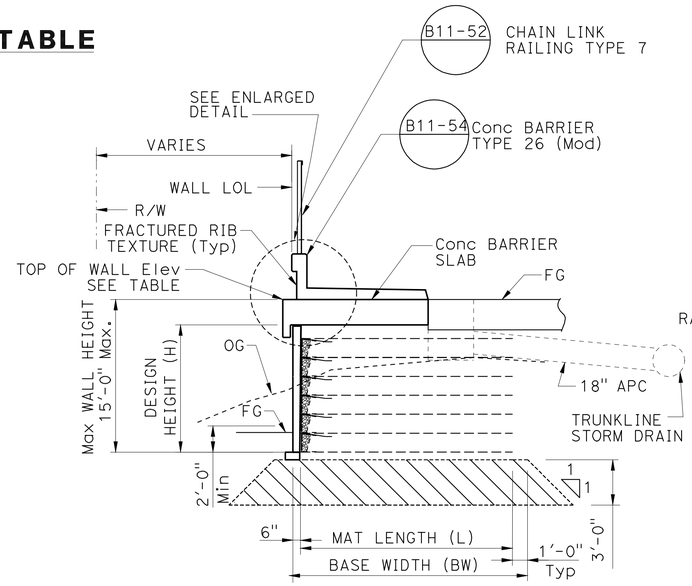
TOP OF WALL ELEVATION TABLE

	WALL LOL STATION	TOP OF WALL ELEV (Ft)
Beg Ret WALL No. 19 →	10+77.34	19.70
	+80	19.82
	+90	20.30
	11+00.00	20.80
	+10	21.32
	+20	21.86
	+30	22.42
	+40	23.00
	+50	23.59
	+60	24.18
	+70	24.76
	+80	25.35
	+90	25.93
	12+00.00	26.52
	+10	27.10
	+20	27.69
	+30	28.28
	+40	28.86
	+50	29.45
	+60	30.03
	+70	30.62
	+80	31.20
	+90	31.79
	13+00.00	32.38
	+10	32.96
	+20	33.55
	+30	34.13
	+40	34.72
	+50	35.30
	+60	35.89
END Ret WALL No. 19 →	13+65.28	36.20

INDEX TO PLANS

STANDARD PLAN SHEET NO.
DETAIL NO.

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



TYPICAL SECTION

NO SCALE

LEGEND:

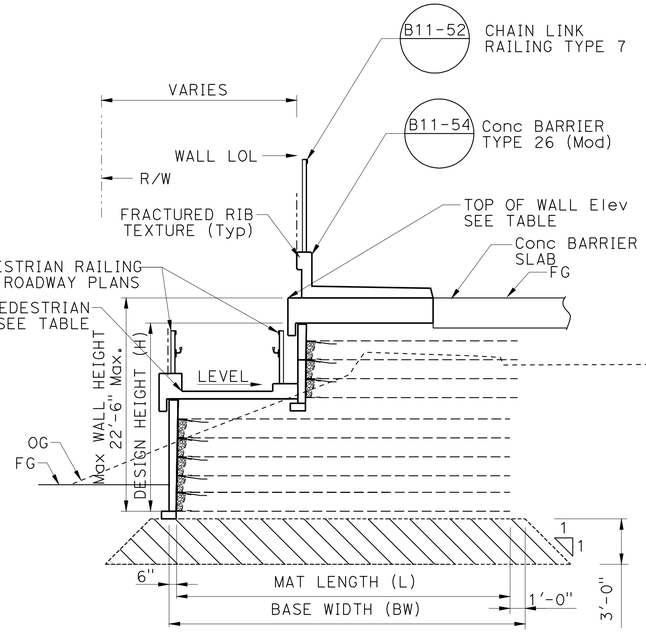
Overexcavation Depth

TOP OF PEDESTRIAN WALL ELEVATION TABLE

	WALL LOL STATION	TOP OF WALL ELEV (Ft)	WALL No. 19 LOL OFFSET
Beg Ped RAMP →	12+33.46	29.30	1.00
	12+33.46	29.40	1.58
	12+33.46	29.52	7.58
	12+38.21	29.58	1.00
	12+38.21	29.49	1.58
	12+38.21	29.45	7.58
	12+68.33	26.98	4.58
	12+73.33	26.88	4.58
	13+03.33	24.38	4.58
	13+08.33	24.28	4.58
END Ped RAMP →	13+38.33	21.78	4.58

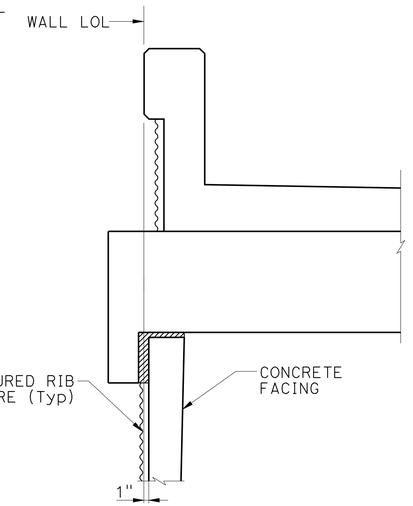
STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
B0-3	BRIDGE DETAILS
B3-8	RETAINING WALL DETAILS No. 1
B11-52	CHAIN LINK RAILING TYPE 7
B11-54	CONCRETE BARRIER TYPE 26



SECTION B-B

NO SCALE



ENLARGED DETAIL

NO SCALE

EXPANSION/ WEAKENED PLANE JOINT TABLE

WALL STATION	JOINT TYPE
10+89.46	WEAKENED PLANE
11+13.46	WEAKENED PLANE
11+37.46	EXPANSION
11+61.46	WEAKENED PLANE
11+85.46	WEAKENED PLANE
12+33.46	EXPANSION
12+61.87	WEAKENED PLANE
12+90.28	WEAKENED PLANE
13+14.28	WEAKENED PLANE
13+38.33	EXPANSION

NOTES:

1. For All Pipes and Drainage Inlet and Outlet Locations, See ROADWAY PLANS.
2. For Existing Pipes and Utilities, See ROADWAY PLANS.

DESIGN OVERSIGHT Paul Cotter	DESIGN	BY S. McCauley	CHECKED C. Cho	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		
4-3-13 SIGN OFF DATE	DETAILS	BY J. Saldana	CHECKED S. McCauley	LAYOUT	BY J. Saldana	CHECKED S. McCauley	
	QUANTITIES	BY C. Cho	CHECKED S. McCauley	SPECIFICATIONS	BY C. Harden	PLANS AND SPECS COMPARED S. Sheikh	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0111
POST MILES 28.6

RETAINING WALL No. 19
GENERAL PLAN No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

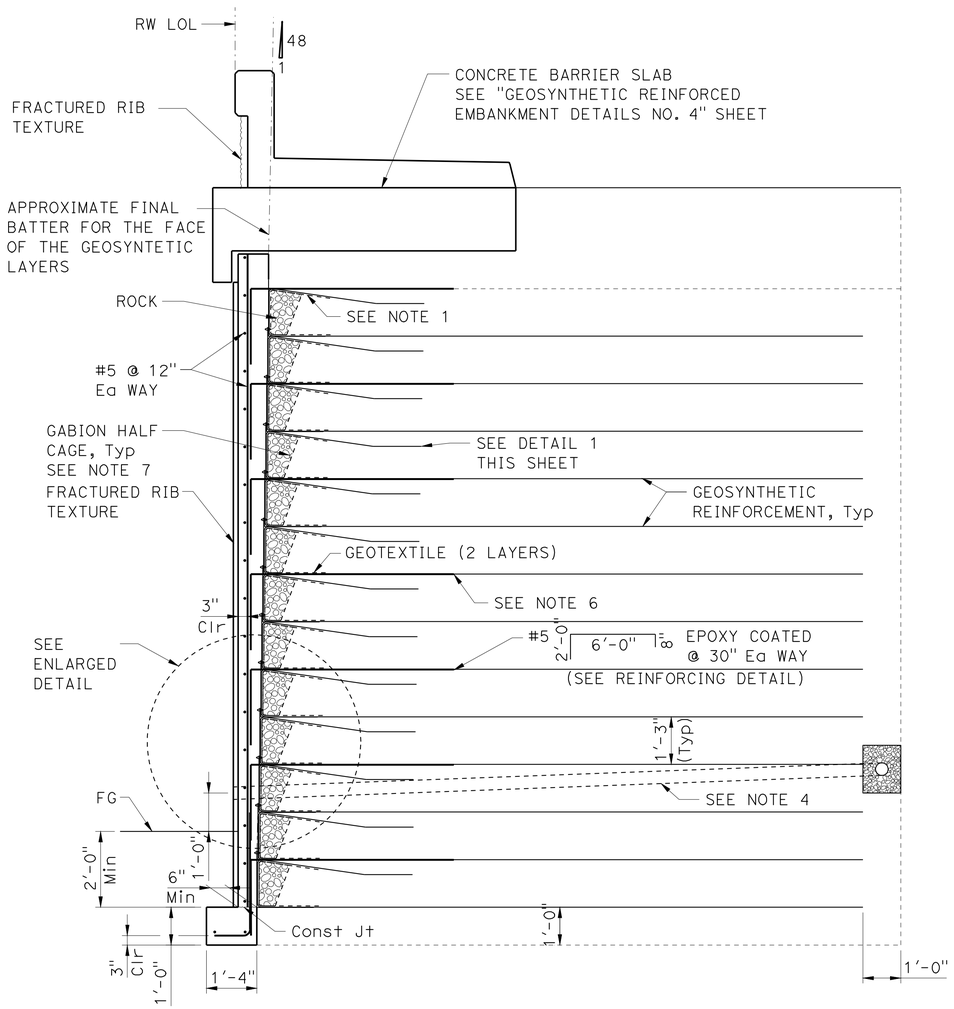
UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/30/12	6/26/12	3/29/13	2	10

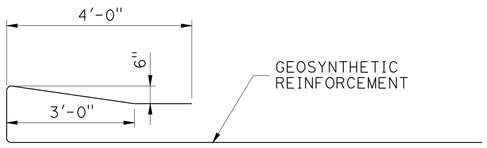
FILE => 33-E0111-a-gp02.dgn

USERNAME => s1244%6 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:17



PERMANENT GEOSYNTHETIC RETAINING WALL WITH CAST-IN-PLACE OR SHOTCRETE CONCRETE FASCIA

1/2" = 1'-0"



DETAIL 1

NO SCALE

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

GENERAL NOTES
LOADS & RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LFRD Bridge Design Specifications, 4th Edition with California Amendments
FHWA Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Slopes, dated November 2009
Publication No. FHWA-NHI 10-024

LIVE LOAD: Surcharge = 240 lb/ft^2

COLLISION FORCE: F_t = 54 kips on Barrier

SOIL PARAMETERS:

Internal design ϕ (Reinforced Backfill) = 34°, γ= 120 lb/ft^3, K_h= 0.36

External design ϕ(Retained Backfill) = 30°, γ= 120 lb/ft^3
Coefficient of Friction, μ = 0.35
K_h= 0.24

CONCRETE FASCIA:

f'c = 4,000 psi (Concrete compressive strength at 28 days)

fy = 60,000 psi (Yield strength of reinforcement)

GEOSYNTHETIC REINFORCEMENT:

LTDS = 4,000 lb/ft (SEE NOTE 4)
Reduction Factors RF_{ID} = 1.10
RF_{CR} = 2.60
RF_D = 1.10
Soil Reinforcing Coverage = 100%
Gabion half cage: fy = 65,000 psi (Yield strength)
Coupler: fy = 36,000 psi (Yield strength)
Corrosion rate = 1.1 mils/year

REINFORCED CONCRETE:

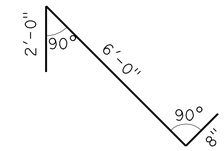
f'c = 3,600 psi, except as noted
(Concrete compressive strength at 28 days)

fy = 60,000 psi (Yield strength of reinforcement)

GRE = Geosynthetic Reinforced Embankment

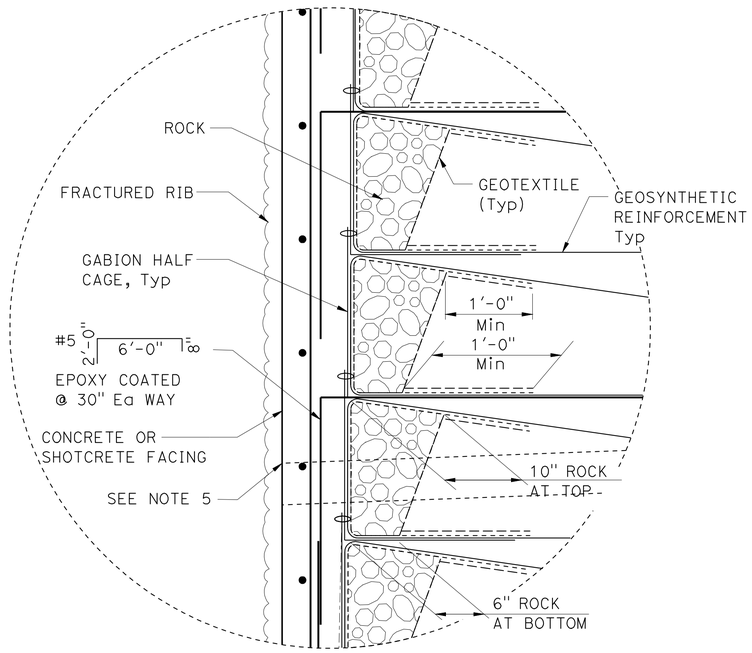
NOTES:

1. Geotextile for underground drainage Class A, moderate survivability
2. 1'-0" Min. Geotextile overlap, top and bottom.
3. The Reinforced Soil shall obtain its maximum anticipated settlement, prior to construction at final facing.
4. Outlet Pipe must be sloped to provide positive drainage towards opening in wall facing. Provide double mat of Geosynthetic reinforcing where cut is provided to accomodate outlet pipe.
5. Provide Weepholes at Expansion and Weakened Plane Joints per Standard Plan B0-3 in addition to Underdrain Outlet Pipe. For Outlet Pipe Details, see "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 3" Sheet.
6. Reinforcing hook is not designed for construction loads including Concrete hydraulic loads and formwork.
7. For Gabion Half Cage Detail, See "GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS No. 2" Sheet.



ISOMETRIC REINFORCING DETAIL

NO SCALE



ENLARGED DETAIL

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	682	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0111
POST MILES 28.6

RETAINING WALL No. 19
GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 2/24/11 | 3/30/12 | 6/26/12

SHEET 3 OF 10

FILE => 33-E0111-u-miscdt01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	683	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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OAKLAND, CA 94612

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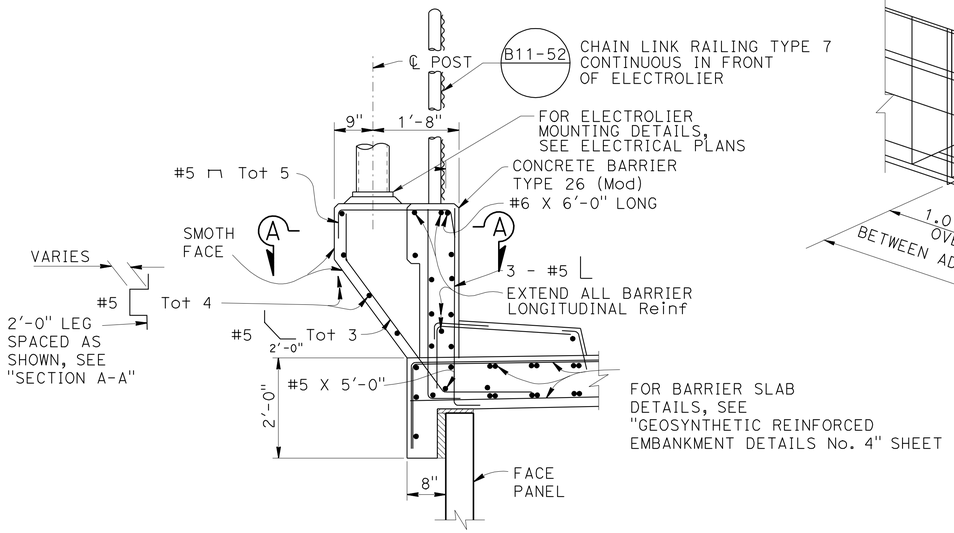
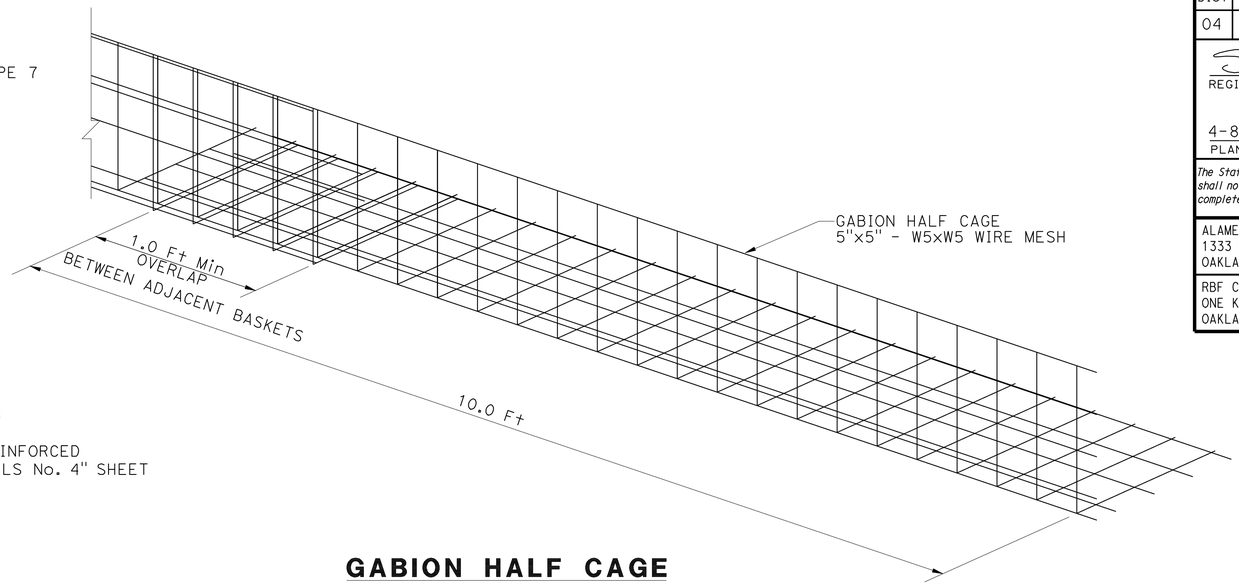
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612



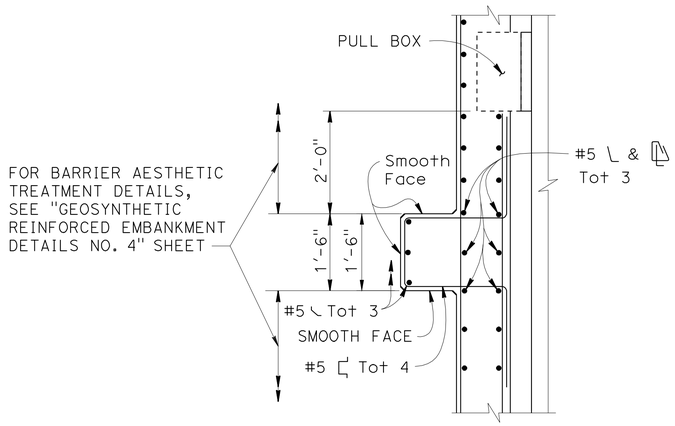
ELEVATION

NOTES: 1. Electrolier Shall Be Located a Minimum of 10' From Wall Expansion Joints.



GABION HALF CAGE

NO SCALE



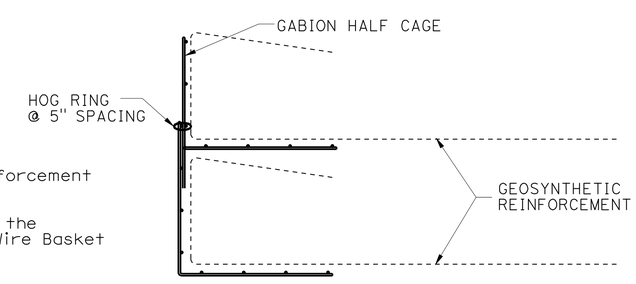
SECTION A-A

ELECTROLIER PEDESTAL ON GRE WALL

NO SCALE

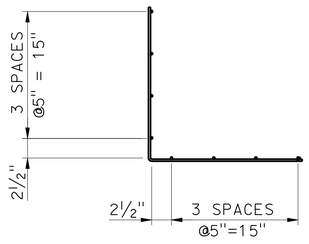
NOTES:

1. Do not cut Geosynthetic Reinforcement to install Wire Basket Hooks.
2. A 1" slot cut may be made in the Geotextile Fabric to install Wire Basket Hook.



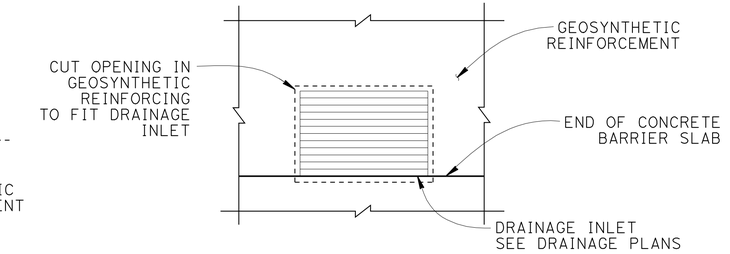
GABION HALF CAGE ATTACHMENT DETAIL

NO SCALE



GABION HALF CAGE GEOMETRY

NO SCALE



PLAN - DRAINAGE INLET

NO SCALE

NOTE: Provide double mat of reinforcement at location of drainage inlet at each interrupted mat.

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0111
POST MILES 28.6

RETAINING WALL No. 19

GEOSYNTHETIC REINFORCED EMBANKMENT DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12	3/29/13	4	10

FILE => 33-E0111-u-miscdt02.dgn

USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	684	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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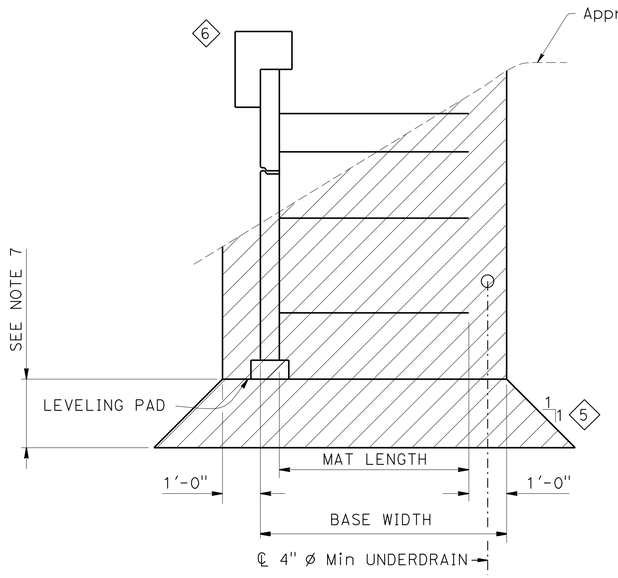
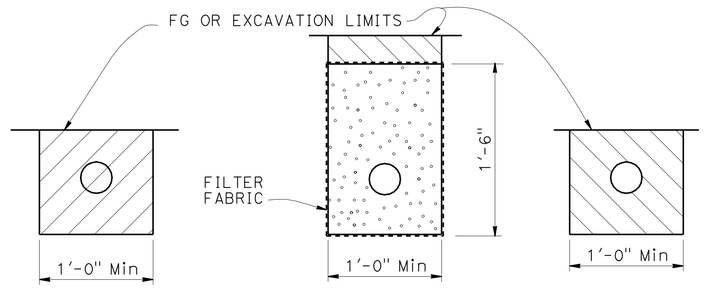
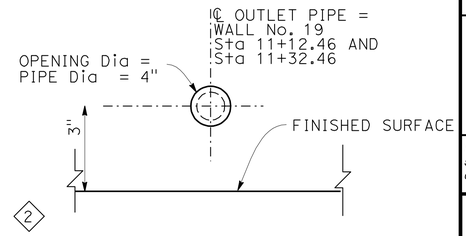


LIMITS OF EXCAVATION
½" = 1'-0"



OUTLET PIPE CLEANOUT PIPE
EXCAVATION BACKFILL
UNPERFORATED OUTLET OR CLEAN OUT PIPE FOR UNDERDRAIN
NO SCALE



OUTLET PIPE OPENING
NO SCALE

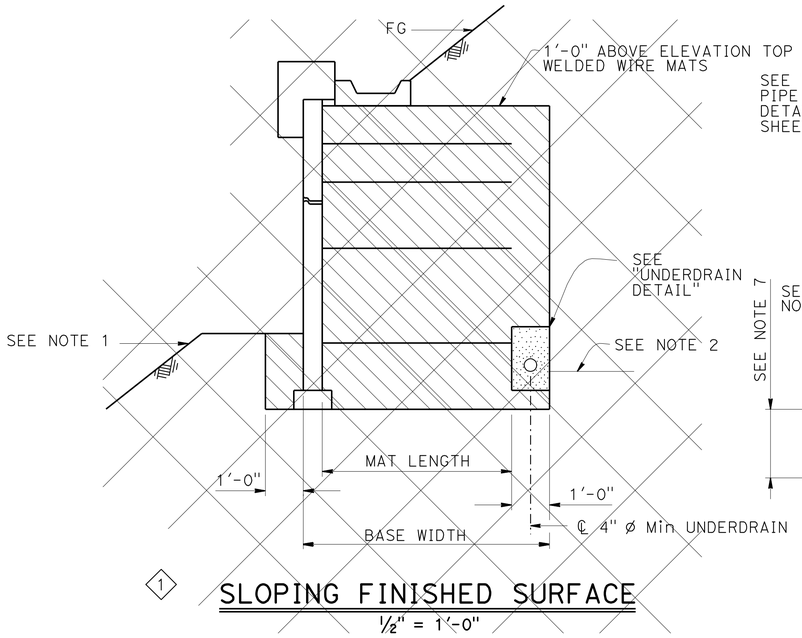
NOTES:

1. Limits to FG except to GP when in roadway section
2. Locate underdrain behind bottom level of welded wire mats wherever possible, or at elevation needed to drain, as shown elsewhere on plans
3. Place perforated pipe underdrain of diameter shown elsewhere on plans or minimum 4" ø smoothed wall PVC or minimum 8" ø corrugated HDPE
4. Maximum spacing of outlet pipe is 200 feet
5. At sags in profile of underdrain, install outlet pipe for each direction of flow
6. For Drainage Inlet Location and Details, See "DRAINAGE PLANS"

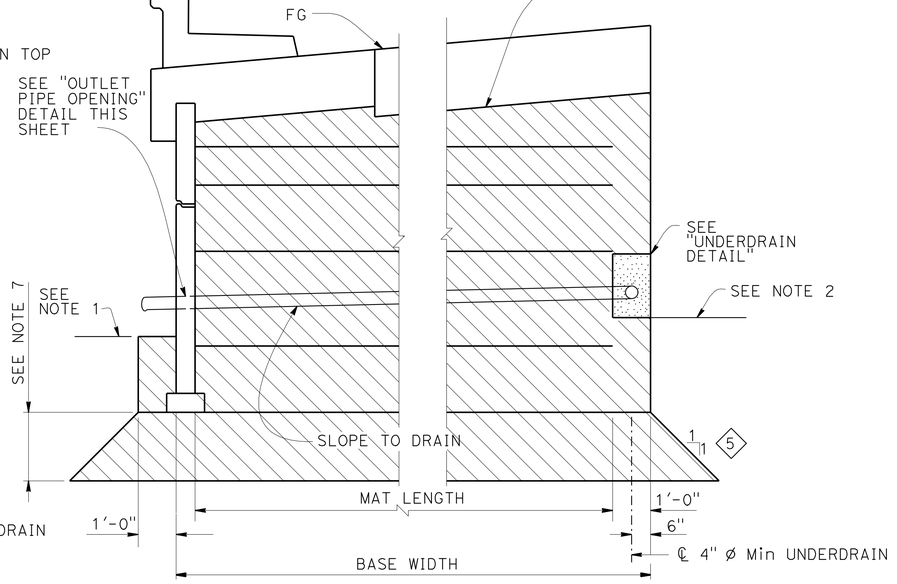
◇5 7. For overexcavation depth see "GENERAL PLAN No. 2" sheet

LEGEND:

- Limits of Structure Excavation
- Limits of Structure Backfill
- Limits of Permeable Material

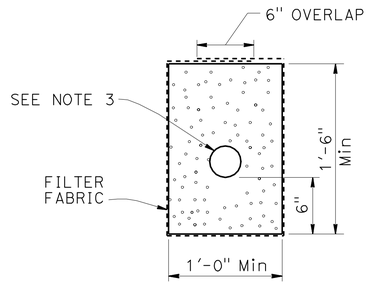


SLOPING FINISHED SURFACE
½" = 1'-0"



ROADWAY SECTION
½" = 1'-0"

LIMITS OF BACKFILL



UNDERDRAIN DETAIL

SPECIAL DETAILS

RETAINING WALL No. 19
GEOSYNTHETIC REINFORCED EMBANKMENT
DETAILS NO. 3 ◇4

STANDARD DRAWING							
FILE NO. xs13-020-6	APPROVAL DATE January 2012	◇1 Does Not Apply	◇3 Detail Modified	◇5 Added Overexcavation Limit	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 33E0111
		◇2 Detail Added	◇4 Changed Sheet Title	◇6 Revised "Limits of Excavation"			POST MILE 28.6

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/28/12	3/29/13	5	10

FILE => 33-E0111-u-miscdt03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	685	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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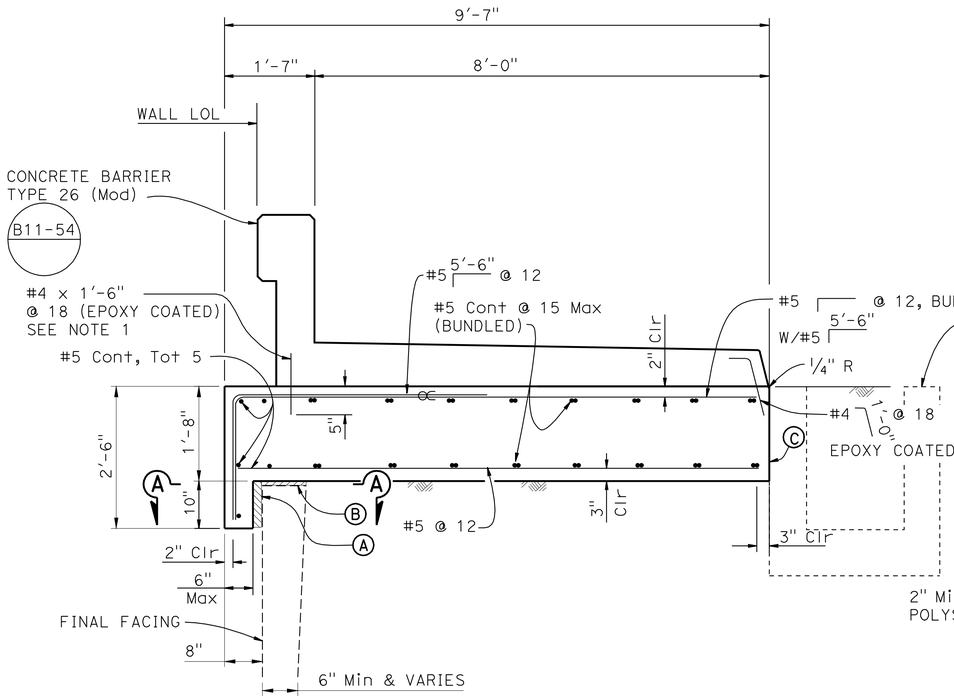
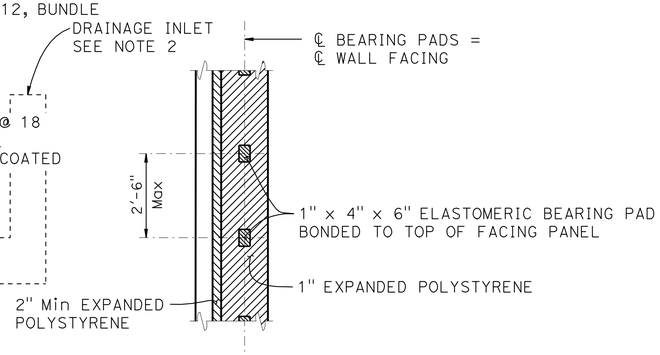
OAKLAND, CA 94612



CONCRETE BARRIER SLAB

3/4" = 1'-0"

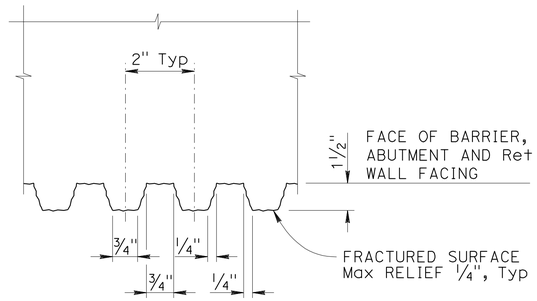


SECTION A-A

1/2" = 1'-0"

NOTES:

1. For Reinforcement not shown see Standard Plan B11-54.
2. For Dimensions and Locations of Drainage Inlet, See DRAINAGE PLANS. For Geosynthetic Reinforcement Details Around Drainage Inlet, See "GEOSYNTHETIC REINFORCEMENT EMBANKMENT DETAILS No. 2" Sheet.
3. Minimum Barrier Slab length = 40'-0".



NOTES:

1. Vertical joints in form liners will be at center of trough between ribs. Min spacing of form liner vertical joints will be 4'-0".
2. No horizontal joints will be permitted in form liners.

NOTES:

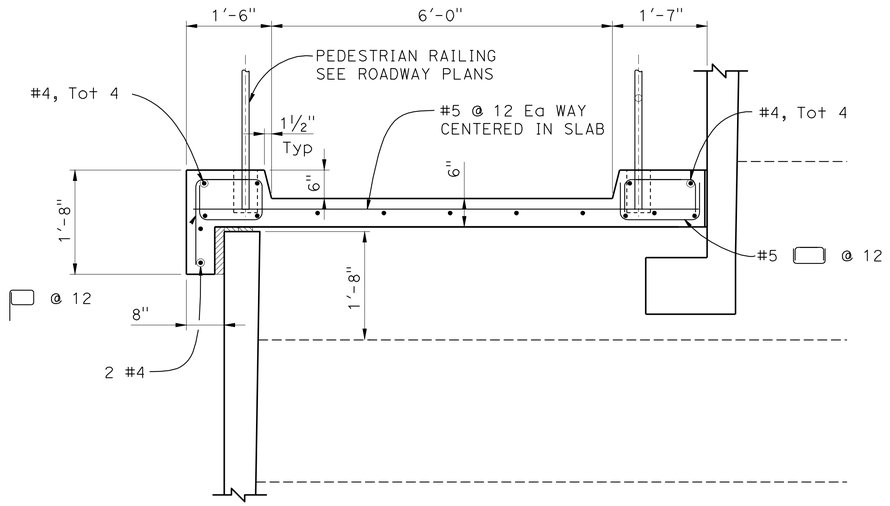
- (A) 2" Min Expanded Polystyrene.
- (B) 1" Expanded Polystyrene See "SECTION A-A".
- (C) Contact Joint.
- ∝ Indicates Bundled Bars.

DESIGN HEIGHT, H (ft)	5.0	7.5	10.0	12.5	15.0	17.5
Max. WALL HEIGHT (ft)	6.67	9.17	11.67	14.17	16.67	19.17
MAT LENGTH, L (ft)	9.5	10.0	11.0	13.5	16.5	19.0
BASE WIDTH, BW (ft)	11.0	11.5	12.5	15.0	18.0	20.5

GEOSYNTHETIC WALL REINFORCEMENT

No Scale

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

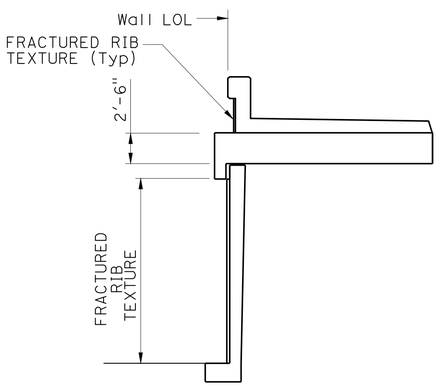


PEDESTRIAN RAMP DETAIL

3/4" = 1'-0"

FRACTURED RIB TEXTURE

No Scale



LIMITS OF PAYMENT

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

4-3-13
SIGN OFF DATE

DESIGN	BY S McCauley	CHECKED C. Cho	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY J Saldana	CHECKED S. McCauley	
QUANTITIES	BY C. Cho	CHECKED S. McCauley	

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0111
POST MILES 28.6

RETAINING WALL No. 19
GEOSYNTHETIC REINFORCED EMBANKMENT
DETAILS NO. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12	3/29/13	6	10

FILE => 33-E0111-u-miscdt04.dgn

USERNAME => s1241496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18

BENCH MARK:

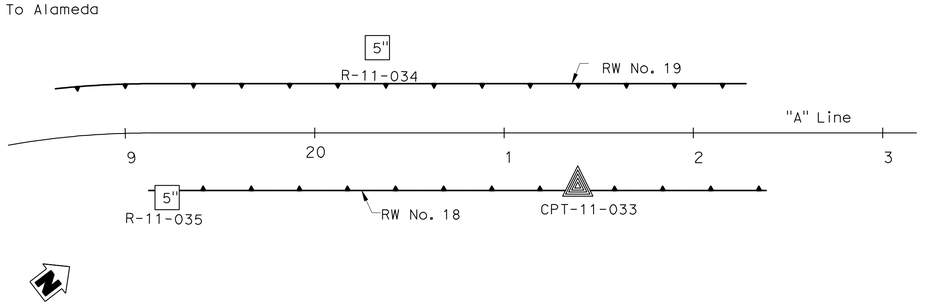
DESIGNATION: ALA8 ELEV=14.521
FOUND BRASS DISK STAMPED "ALA8" IN THE SIDEWALK AT THE WEST CORNER OF EAST 8TH STREET AND 5TH AVENUE.

DESIGNATION: ALA7 ELEV=15.591
FOUND BRASS DISK STAMPED "ALA7" IN THE SIDEWALK AT THE WEST SIDE OF 7TH STREET ALONG THE NORTH SIDE OF LAKE MERRITT CHANNEL.

DESIGNATION: 8TH/37TH ELEV=20.262
FOUND A CITY OF OAKLAND PIN IN CONCRETE IN A MONUMENT WELL AT THE INTERSECTION OF EAST 8TH STREET AND 37TH AVENUE.

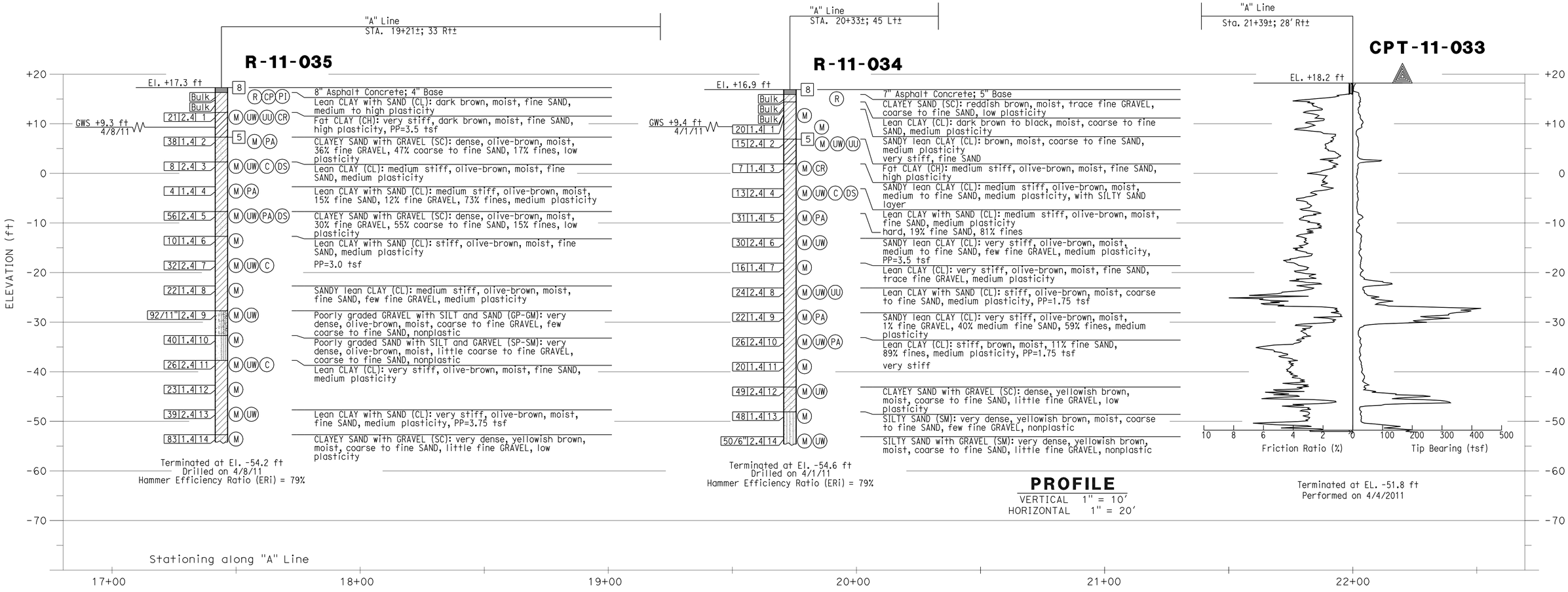
DESIGNATION: ALA13 ELEV=15.318
FOUND BRASS DISK STAMPED "ALA13" INSIDE A 1 INCH IRON PIPE WITH A CONCRETE COLLAR 24.6 FEET NORTH OF THE NORTH SIDE OF HIGH STREET,
56 FEET WEST OF THE WEST SIDE OF THE OFFRAMP FROM SOUTHBOUND STATE ROUTE 880 AND 4.99 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS.

DESIGNATION: KA121 ELEV=15.768
FOUND 1 INCH IRON PIPE WITH RED PLASTIC PLUG AND TACK STAMPED "CALTRANS" ALONG THE EAST SIDE OF OAKPORT STREET ABOUT 230 FEET SOUTH OF THE SOUTH SIDE OF HIGH STREET, ACROSS FROM 4401 OAKPORT STREET, 6.92 FEET NORTH OF THE FLOWLINE OF THE CURB.



PLAN
1" = 40'

NOTES:
(1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2010).
(2) 2.4" samples were taken using a California Modified Sampler.
(3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.



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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	686	789

Lino Cheang
REGISTERED ENGINEER
6-25-12
DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
L. CHEANG
NO. GE 2345
EXP. 9-30-13
GEOTECHNICAL
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.

ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
7-16-12
SIGN OFF DATE

DRAWN BY J. Fang
CHECKED BY G. J. Gunaranjan
K. Thant
FIELD INVESTIGATION BY:
DATE: 3/2011, 4/2011

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

L. Cheang
PROJECT ENGINEER

BRIDGE NO. 33E0111
POST MILES 28.6

RETAINING WALL No. 19
LOG OF TEST BORINGS 1 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES | SHEET 7 | OF 10

FILE => 33-E0111-z-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	880	Ala			

REGISTERED CIVIL ENGINEER — 6/25/12 DATE

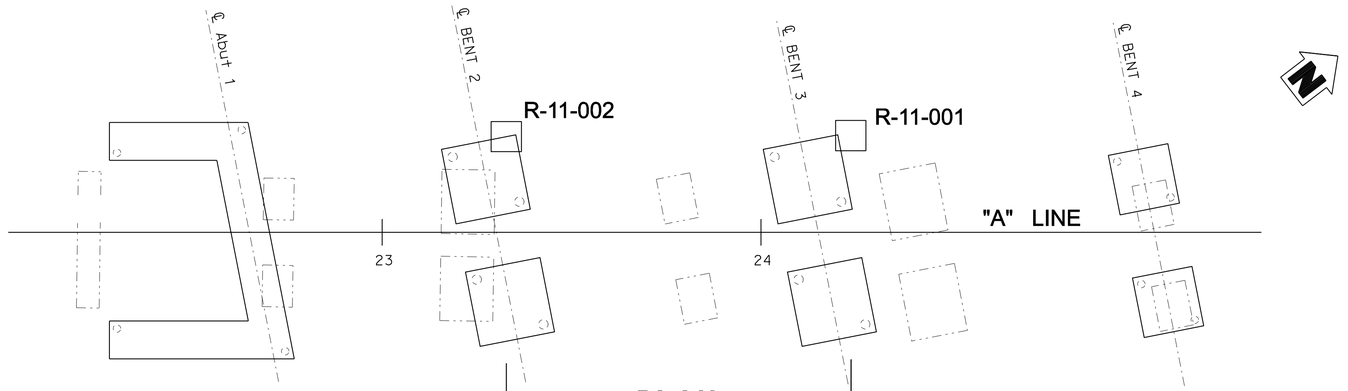
PLANS APPROVAL DATE

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 — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

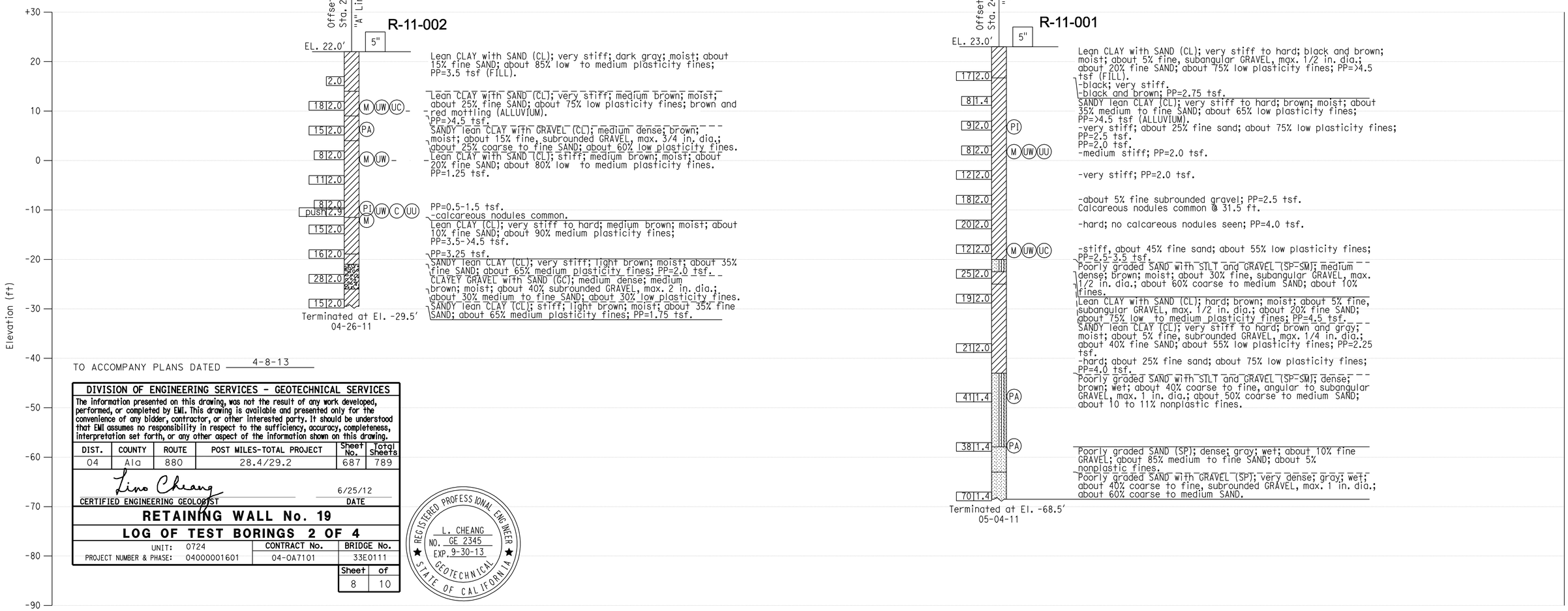
URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612



PLAN
1"=20'-0"

NOTES:

1. Ground water table was not measured in the borings due to rotary wash drilling.
2. Hammer energy ratio calibration not performed.
3. The borings were hand augered in the top 5 ft to check for the existence of underground utilities.



TO ACCOMPANY PLANS DATED 4-8-13

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

The information presented on this drawing, was not the result of any work developed, performed, or completed by EMI. This drawing is available and presented only for the convenience of any bidder, contractor, or other interested party. It should be understood that EMI assumes no responsibility in respect to the sufficiency, accuracy, completeness, interpretation set forth, or any other aspect of the information shown on this drawing.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	687	789

Lino Cheang — CERTIFIED ENGINEERING GEOLOGIST — 6/25/12 DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

RETAINING WALL No. 19

LOG OF TEST BORINGS 2 OF 4

UNIT: 0724	CONTRACT No.	BRIDGE No.
PROJECT NUMBER & PHASE: 04000001601	04-0A7101	33E0111

Sheet	of
8	10

Paul Cotter — DESIGN OVERSIGHT — Paul Cotter — 7-16-12 SIGN OFF DATE

DRAWN BY: N. HUTTON
CHECKED BY: C. TSAI

S. JANOWSKI — FIELD INVESTIGATION BY:
DATE: 04-25-11 TO 05-04-11

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser — PROJECT ENGINEER

BRIDGE NO. 33-0751
POST MILES 28.69

29TH AVENUE OC (REPLACE)
LOG OF TEST BORINGS 2 OF 2

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-18-12	3-30-12	6-25-12	55	60

FILE => 33-E0111-z-itb2.dgn

USERNAME => s124096 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	688	789

Lino Cheang — REGISTERED ENGINEER — 6-25-12 DATE

4-8-13 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

CEMENTATION

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

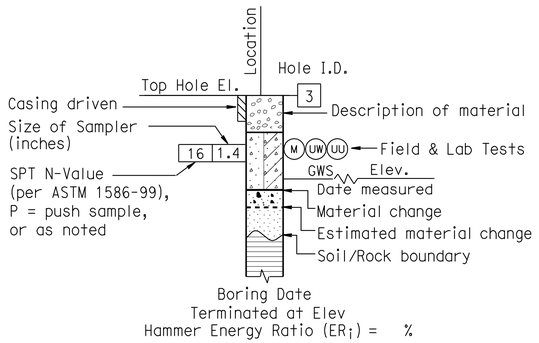
BOREHOLE IDENTIFICATION

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

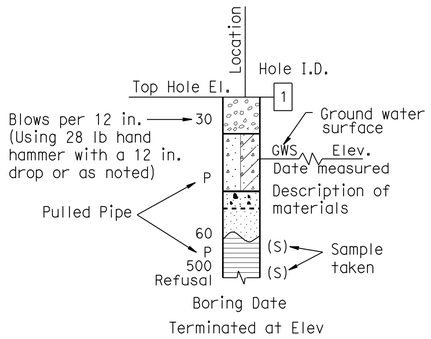
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

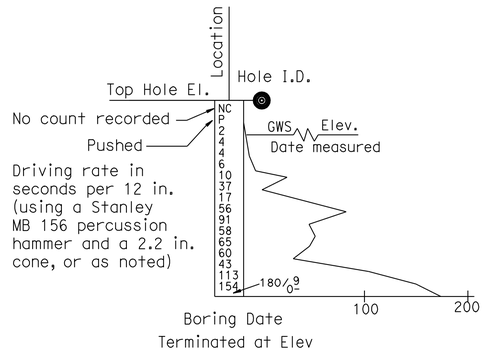
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 -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



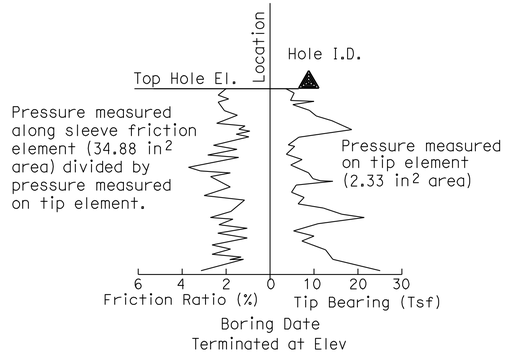
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

Paul Cotter — DESIGN OVERSIGHT — Paul Cotter

7-16-12 SIGN OFF DATE

DRAWN BY: J. Fang

CHECKED BY: G. J. Gunaranjan

K. Thant — FIELD INVESTIGATION BY:

DATE: 3/2011, 4/2011

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

L. Cheang — PROJECT ENGINEER

BRIDGE NO. 33E0111

POST MILES 28.6

RETAINING WALL No. 19

LOG OF TEST BORINGS 3 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724

PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 9 OF 10

FILE => 33-E0111-z-soil legend-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

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

FIELD AND LABORATORY TESTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	689	789

Lino Cheang 6-25-12
REGISTERED ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER L. CHEANG NO. GE 2345 EXP. 9-30-13 GEOTECHNICAL STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

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

PERCENT OR PROPORTION OF SOILS

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

PARTICLE SIZE

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

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

4-3-13
SIGN OFF DATE

DRAWN BY J. Fang
CHECKED BY G. J. Gunaranjan

K. Thant
FIELD INVESTIGATION BY:
DATE: 3/2011, 4/2011

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

L. Cheang
PROJECT ENGINEER

BRIDGE NO. 33E0111
POST MILES 28.6

RETAINING WALL No. 19
LOG OF TEST BORINGS 4 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

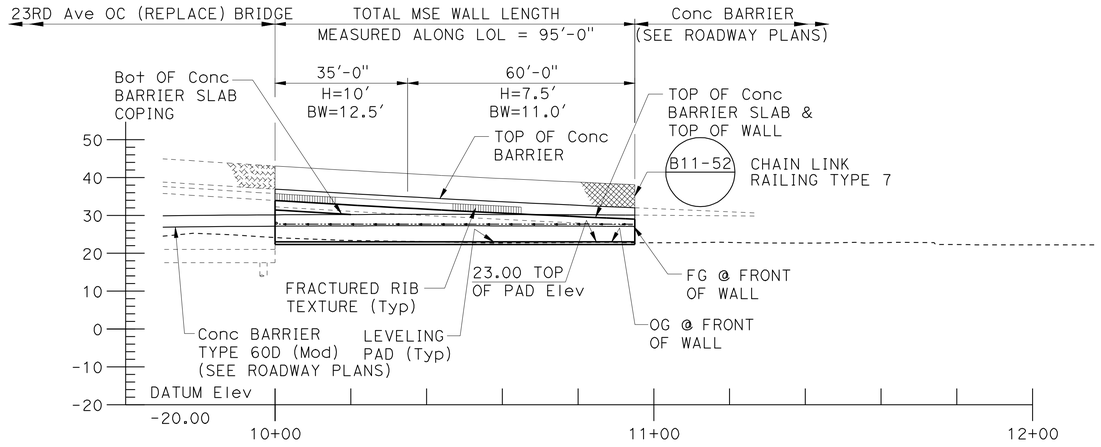
REVISION DATES

SHEET 10 OF 10

FILE => 33-E0111-z-soil legend-ltb2.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18



ELEVATION

SCALE: 1" = 20'

TOP OF WALL ELEVATION TABLE

WALL LOL STATION	TOP OF WALL Elev (Ft)
9+99.98	33.93
10+00.00	33.93
+10	33.32
+20	32.74
+30	32.17
+40	31.63
+50	31.11
+60	30.61
+70	30.12
+80	29.66
+90	29.22
11+94.98	29.01

Beg Ret WALL No. 26

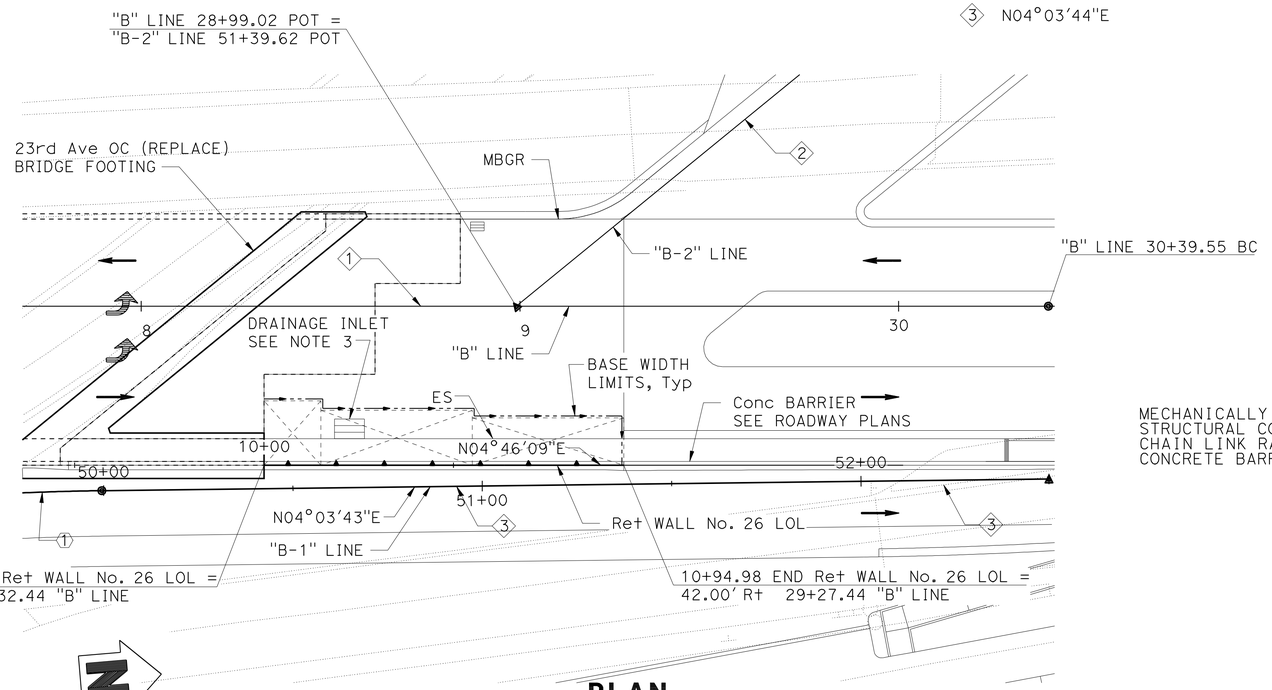
END Ret WALL No. 26

CURVE DATA

CURVE No.	R	△	T	L
①	670.00'	23°55'39"	141.97'	279.80'

TANGENT DATA

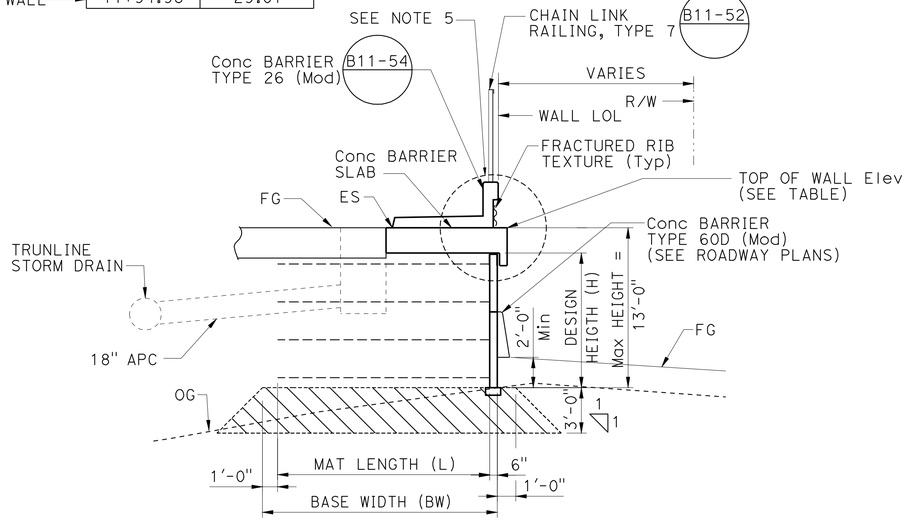
1. N04°46'09"E
2. N34°27'50"W
3. N04°03'44"E



PLAN

SCALE: 1" = 20'

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



TYPICAL SECTION

NO SCALE

RETAINING WALL 26

QUANTITIES

MECHANICALLY STABILIZED EMBANKMENT	632	SQFT
STRUCTURAL CONCRETE, BARRIER SLAB	49	CY
CHAIN LINK RAILING (TYPE 7)	95	LF
CONCRETE BARRIER (TYPE 26 MODIFIED)	95	LF

LEGEND:

- Indicates direction of traffic
- Drainage inlet, See Note 3
- Underdrain Pipe Flow Line, see Note 4
- Overexcavation depth

NOTES:

1. "BW" indicates Base Width. "H" Indicates Design Height.
2. For Utility Information not Shown, See ROADWAY PLANS.
3. For Location of Drainage Inlets, See DRAINAGE PLANS.
4. For Wall Drainage Details See, "MECHANICALLY STABILIZED EMBANKMENT DETAILS No.4" sheet.
5. For Enlarged Detail, see "LAYOUT" sheet.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	690	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER S.McCauley No. 71495 Exp.12-31-13 CIVIL STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

Paul Cotter
DESIGN OVERSIGHT Paul Cotter
4-3-13
SIGN OFF DATE

DESIGN	BY S. McCauley	CHECKED C. Cho	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE		
DETAILS	BY J. Saldana	CHECKED S. McCauley	LAYOUT	BY J. Saldana	CHECKED S. McCauley	
QUANTITIES	BY C. Cho	CHECKED S. McCauley	SPECIFICATIONS	BY C. Harden	PLANS AND SPECS COMPARED S. Sheikh	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0112
POST MILES 28.9

RETAINING WALL No. 26
GENERAL PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/30/12	6/26/12	3/29/13	1	12

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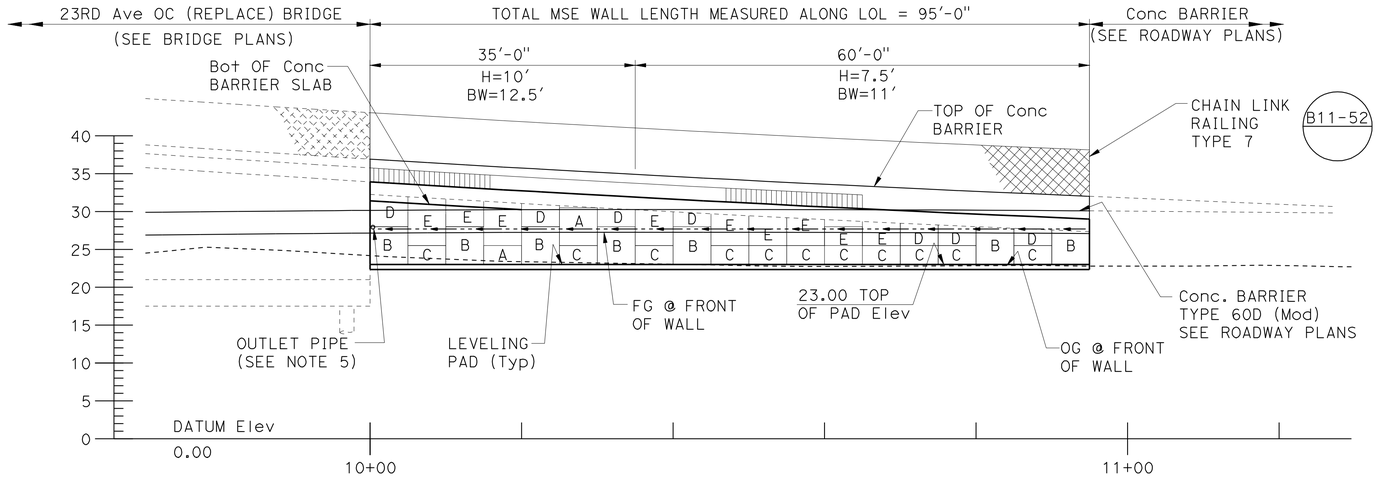
USERNAME => s1244396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:18



ELEVATION

SCALE: 1" = 10'

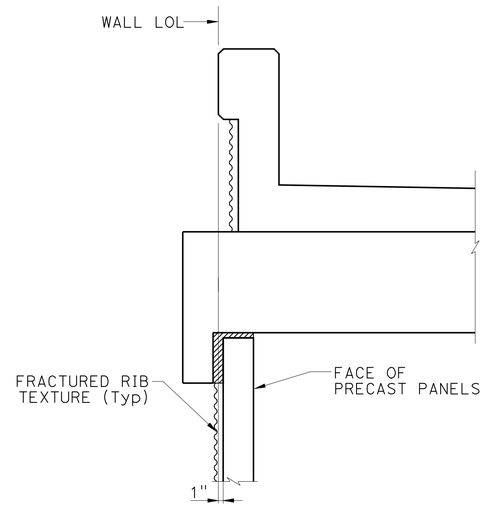
PANEL	DESCRIPTION
A	INTERMEDIATE PANEL
B	BOTTOM PANEL
C	BOTTOM HALF PANEL
D	TOP HALF PANEL
E	TOP PANEL WITH MULTIPLE MATS

INDEX TO PLANS

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)	B11-52	CHAIN LINK RAILING TYPE 7
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)	B11-54	CONCRETE BARRIER TYPE 26
A10C	SYMBOLS (SHEET 1 OF 2)		
A10D	SYMBOLS (SHEET 2 OF 2)		
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL		

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



ENLARGED DETAIL

NO SCALE

STANDARD PLAN SHEET NO.

DETAIL NO.

LEGEND:

A — Indicates Panel Type (See Note 4)

Underdrain Pipe Flow Line

NOTES:

1. "BW" Indicates Base Width. "H" Indicates Design Height.
2. MSE Indicates "MECHANICALLY STABILIZED EMBANKMENT".
3. For General Notes, see "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 2 Sheet.
4. For Precast Panel Detail and Reinforcing not shown, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 1" and "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 2" Sheets.
5. For Outlet Pipe and Wall Drainage Details, See "MECHANICALLY STABILIZED EMBANKMENT DETAILS No. 4" Sheet.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	691	789

Scott McCauley — 6/26/12
REGISTERED CIVIL ENGINEER — DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 CIVIL — STATE OF CALIFORNIA

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OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

Paul Cotter — DESIGN OVERSIGHT — Paul Cotter
7-16-12 — SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden — PROJECT ENGINEER

BRIDGE NO. 33E0112
POST MILES 28.9

RETAINING WALL No. 26
LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/30/12	6/26/12		2	12

FILE => 33-E0112-g-rw_lo01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	692	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER — DATE

4-8-13
PLANS APPROVAL DATE

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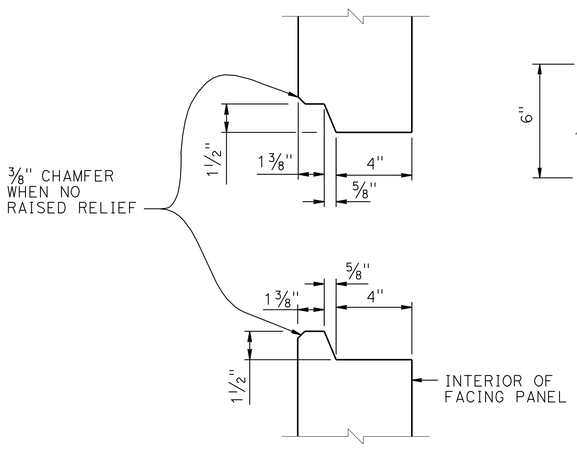
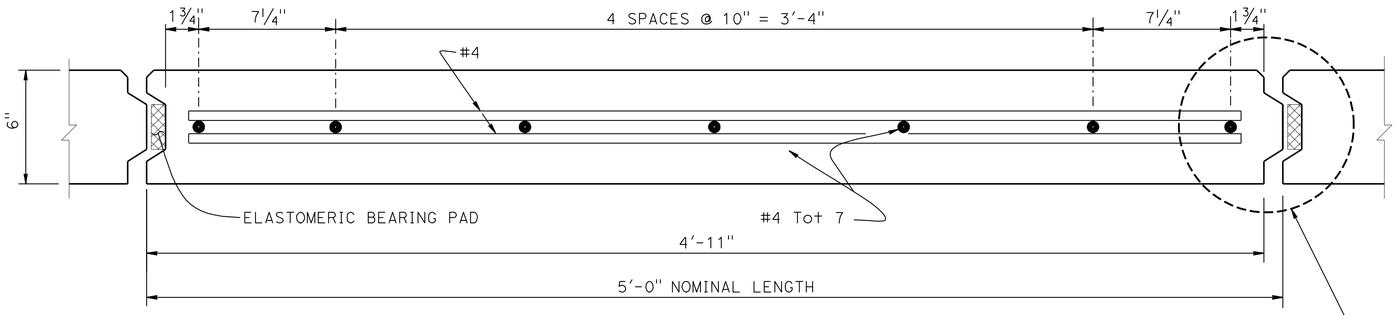
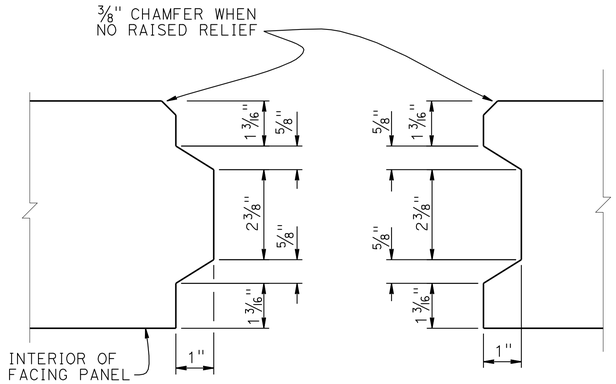


HORIZONTAL JOINT DETAIL
3" = 1'-0"

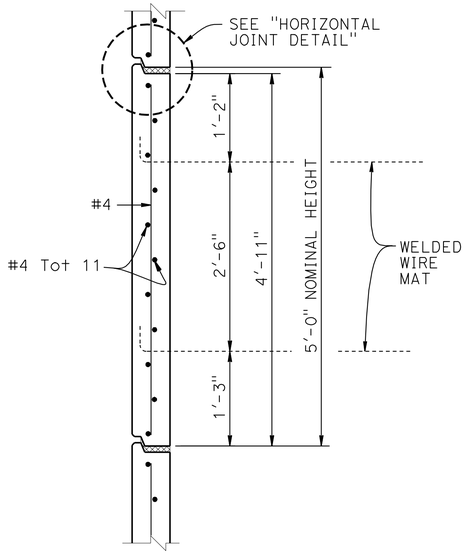


PLAN - FACING PANEL
3" = 1'-0"

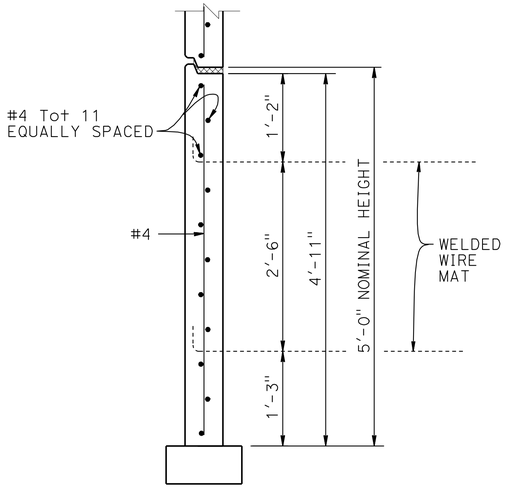
NOTES:
1. Architectural Treatment Not Shown.
2. Place Reinforced Elastomeric Bearing Pads in All of the Panel Joints Between the Panels. Place One in Each Vertical Joint where the Horizontal Joints Intersect. Place Two per Panel in each Horizontal Joint:
   3/4" x 2 3/8" x 6" for Vertical Joints
   3/4" x 4" x 6" for Horizontal Joints
3. Bond a Strip of Filter Fabric, 1'-0" Wide, Cover the Full Length of all Panel Joints.
4. Top Layer of Welded Wire Mats Attached Parallel to Top of Panel when Top of Wall is Angled or Curved as Shown Elsewhere in "STRUCTURE PLANS".
5. Eliminate Mid Level Mat when Closer than 6" to Top Mat, Continue Variable Dimension Between Remaining Mats.



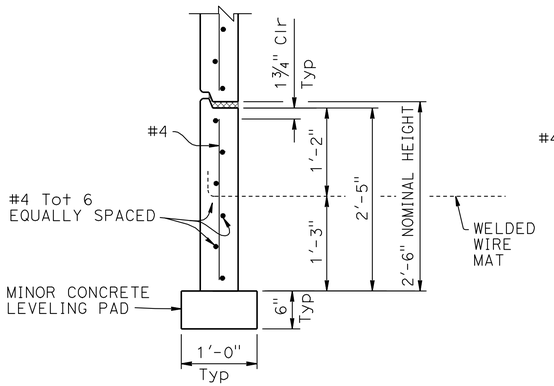
VERTICAL JOINT DETAIL
6" = 1'-0"



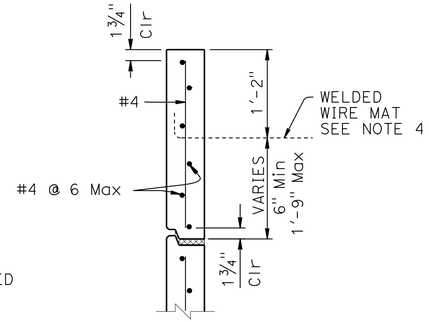
INTERMEDIATE PANEL
1" = 1'-0"



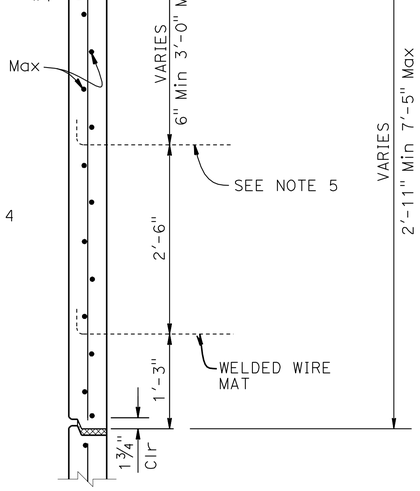
BOTTOM PANEL
1" = 1'-0"



BOTTOM HALF PANEL
1" = 1'-0"



TOP HALF PANEL
1" = 1'-0"



TOP PANEL WITH MULTIPLE MATS
1" = 1'-0"

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 33E0112	RETAINING WALL No. 26
FILE NO. xs13-020-1	APPROVAL DATE January 2012			POST MILE 28.9	MECHANICALLY STABILIZED EMBANKMENT 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: 0724
PROJECT NUMBER & PHASE: 040000001601
CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12		3	12

FILE => 33-E0112-u-miscdt01.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	693	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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RBF CONSULTING
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OAKLAND, CA 94612

GENERAL NOTES
LOAD & RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
FHWA Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Slopes, dated November 2009
Publication No. FHWA-NHI 10-024

COLLISION FORCE: F_t = 54 kips on barriers

LIVE LOAD: Surcharge = 240 lb/ft^3

SOIL PARAMETERS:

Internal design ϕ(Reinforced Backfill) = 34°, γ = 120 lb/ft^3, kh = 0.36 ◇1

External design ϕ(Retained Backfill) = 30°, γ = 120 lb/ft^3
Coefficient of friction, μ = 0.35
K_h = 0.24

PRECAST CONCRETE PANELS:

f'c = 4,000 psi (Concrete compressive strength at 28 days)
fy = 60,000 psi (Yield strength of reinforcement)

SOIL REINFORCEMENT:

Welded wire mats: fy = 65,000 psi (Yield strength)
Coupler: fy = 36,000 psi (Yield strength)
Corrosion rate = 1.1 mils/year

REINFORCED CONCRETE:

f'c = 3,600 psi, except as noted
(Concrete compressive strength at 28 days)
fy = 60,000 psi (Yield strength of reinforcement)

MSE = Mechanically Stabilized Embankment

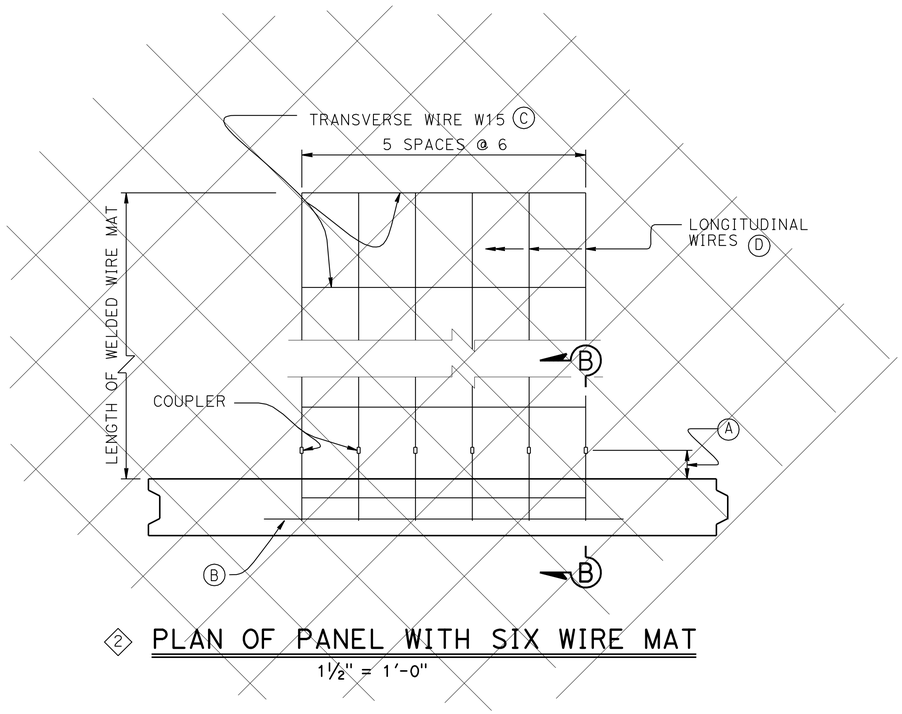
NOTES:

(A) Distance as required to permit coupler to be swaged

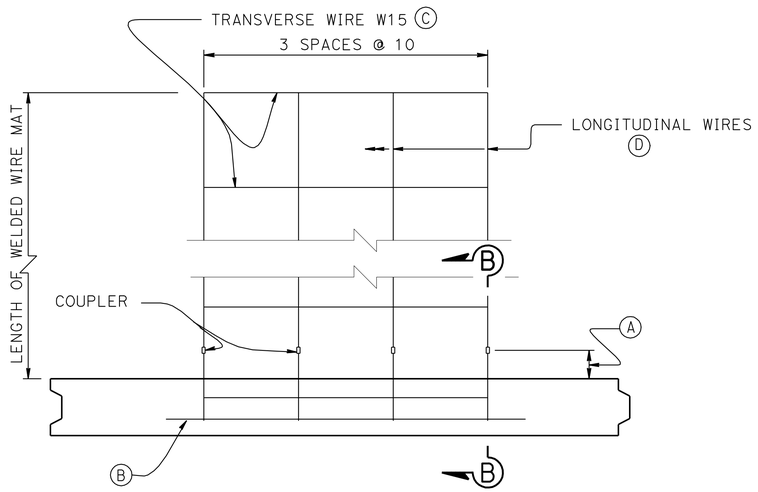
(B) Place #4 x 3'-2", centered on connector mat, but not welded to it

(C) All transverse wires size W15 at various spacing as shown elsewhere in plans

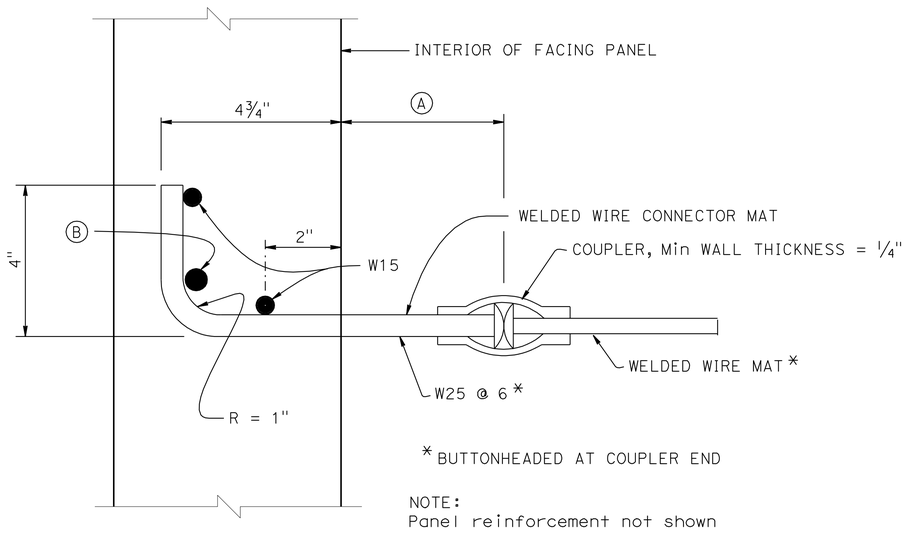
(D) Size of longitudinal wires shown elsewhere in plans



◇2 PLAN OF PANEL WITH SIX WIRE MAT
1½" = 1'-0"



PLAN OF PANEL WITH FOUR WIRE MAT
1½" = 1'-0"



NOTE:
Panel reinforcement not shown

SECTION B-B
6" = 1'-0"

SPECIAL DETAILS

STANDARD DRAWING		◇1 Soil Parameters Modified	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 33E0112	RETAINING WALL No. 26
FILE NO. xs13-020-2	APPROVAL DATE January 2012	◇2 Detail Removed			POST MILE 28.9	MECHANICALLY STABILIZED EMBANKMENT 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: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/28/12	6/26/12		4	12

FILE => 33-E0112-u-miscdt02.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	694	789

Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
S.McCauley
No. 71495
Exp. 12-31-13
CIVIL
STATE OF CALIFORNIA

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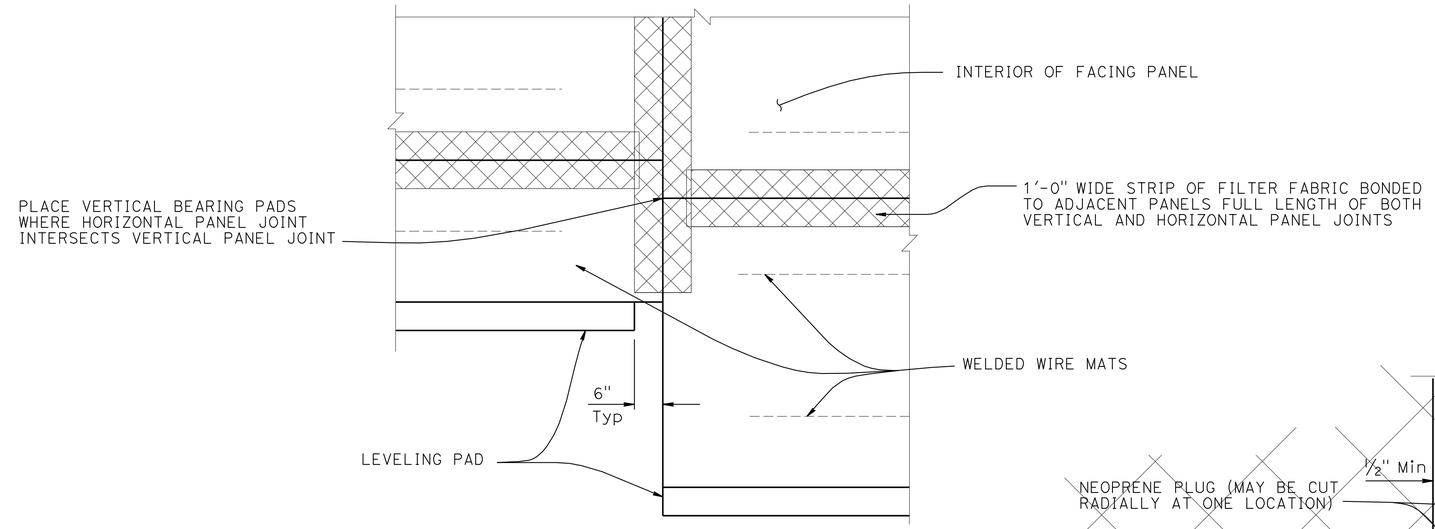
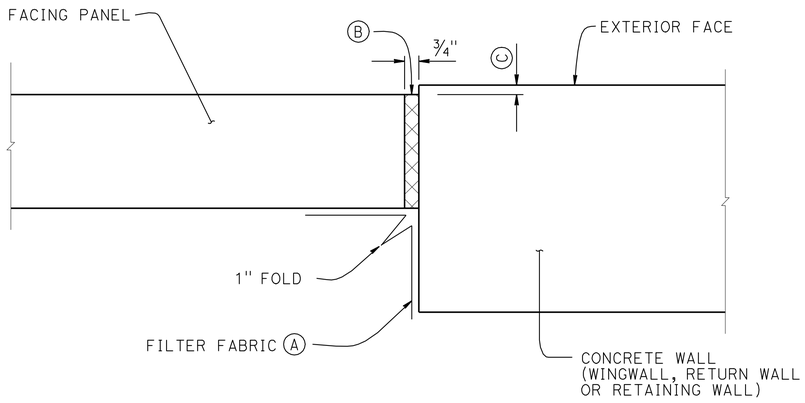


PART ELEVATION

3/4" = 1'-0"



MSE FACING PANEL-TO-CONCRETE WALL JOINT DETAIL

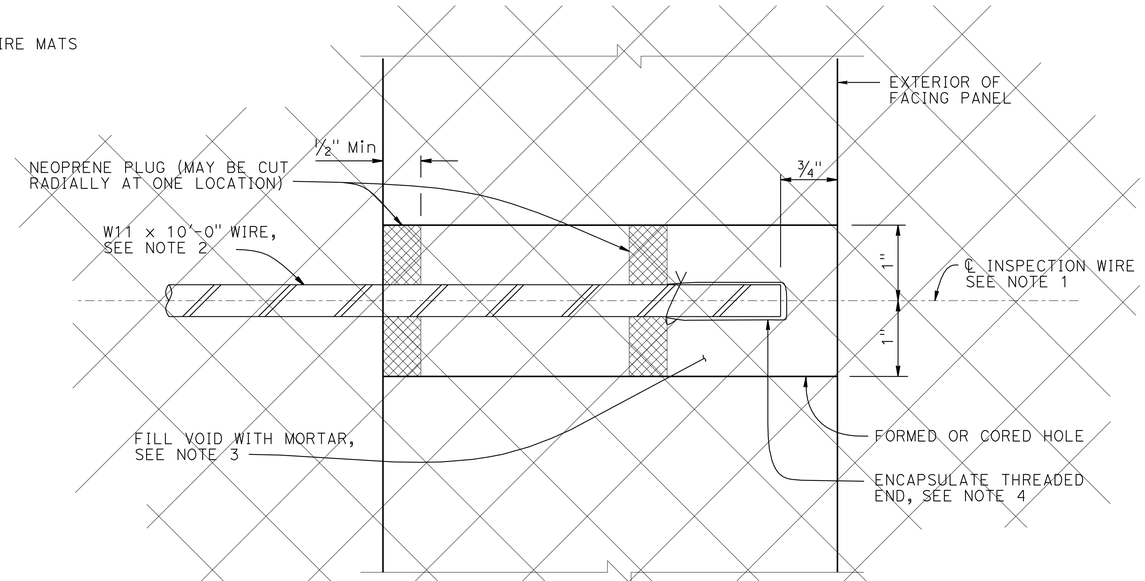
3" = 1'-0"

NOTES:

(A) Bond a strip of filter fabric, 1'-6" wide, to back of MSE panels and the adjacent concrete wall for entire length of vertical joint

(B) Bond expansion joint material to the concrete wall

(C) Offset between face of MSE facing panel and face of the concrete wall as dictated by location of layout lines shown elsewhere in "STRUCTURE PLANS"



SECTION THRU INSPECTION WIRE

NO SCALE (1)

NOTES:

1. Center inspection wire in facing panel.
2. Fabricated inspection wire from W11 wire representative of the welded wire mats, with 3/8" Ø 16 UNC threads for at least 1 1/2" of one end.
3. Place inspection wire horizontal and perpendicular to the wall panel prior to backfilling.
4. Encapsulate threaded end with corrosion inhibiting mastic, vinyl covering, and secure with plastic tie.

UNC = Unified Coarse Threads

SPECIAL DETAILS

STANDARD DRAWING	(1) Does Not Apply	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 33E0112	RETAINING WALL No. 26
FILE NO. xs13-020-3 APPROVAL DATE January 2012				POST MILE 28.9	MECHANICALLY STABILIZED EMBANKMENT DETAILS NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 040000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/26/12		5	12

FILE => 33-E0112-u-mlscdt03.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	880	28.4/29.2	695	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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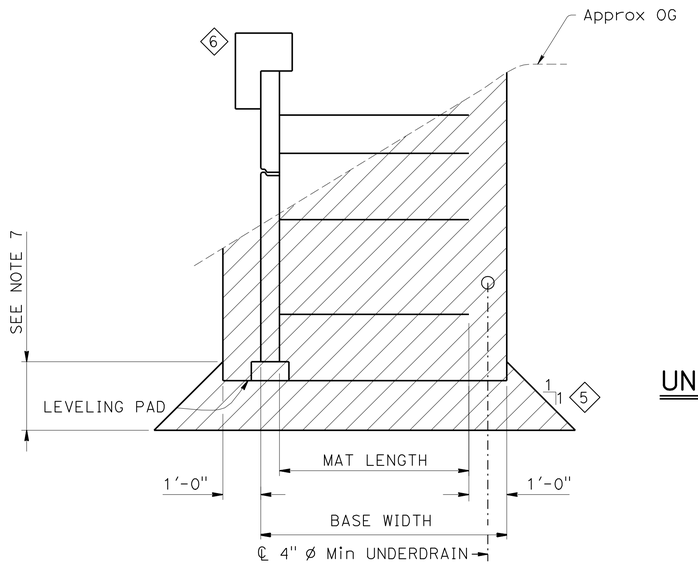
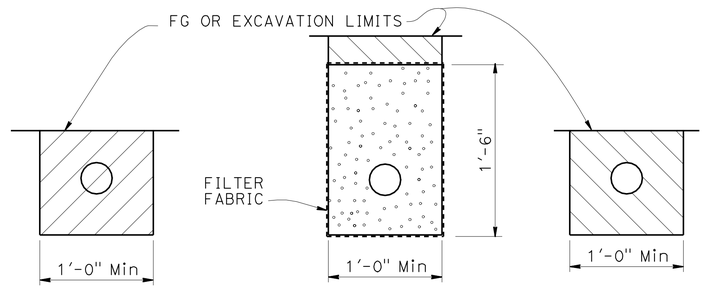


LIMITS OF EXCAVATION

½" = 1'-0"

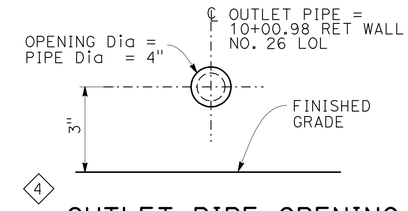


OUTLET PIPE CLEANOUT PIPE

EXCAVATION BACKFILL

UNPERFORATED OUTLET OR CLEAN OUT PIPE FOR UNDERDRAIN

NO SCALE



OUTLET PIPE OPENING

NO SCALE

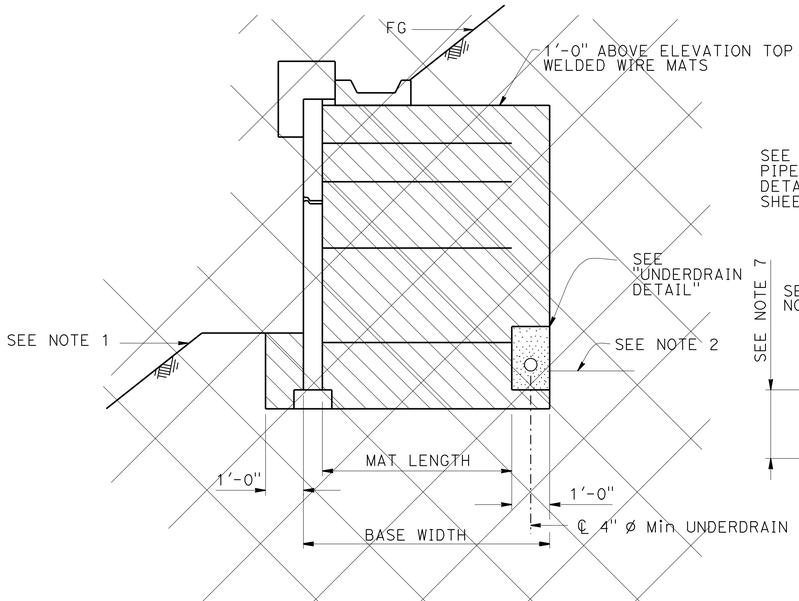
NOTES:

1. Limits to FG except to GP when in roadway section
2. Locate underdrain behind bottom level of welded wire mats wherever possible, or at elevation needed to drain, as shown elsewhere on plans
3. Place perforated pipe underdrain of diameter shown elsewhere on plans or minimum 4" ø smoothed wall PVC or minimum 8" ø corrugated HDPE
4. Maximum spacing of outlet pipe is 200 feet
5. At sags in profile of underdrain, install outlet pipe for each direction of flow
6. For Drainage Inlet Location and Details, See "DRAINAGE PLANS"

<5> 7. For overexcavation depth see "GENERAL PLAN No. 2" sheet

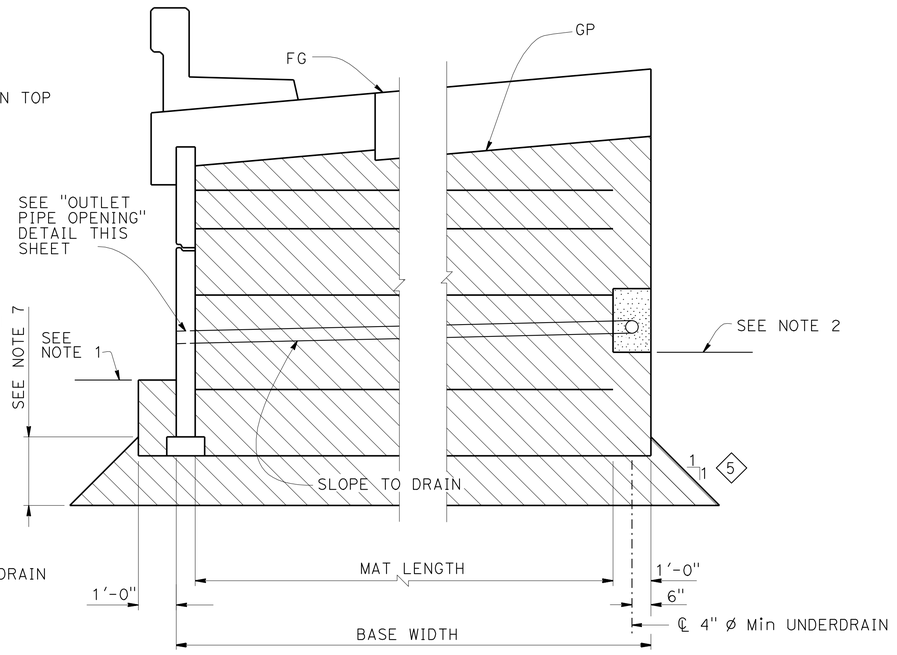
LEGEND:

- Limits of Structure Excavation
- Limits of Structure Backfill
- Limits of Permeable Material



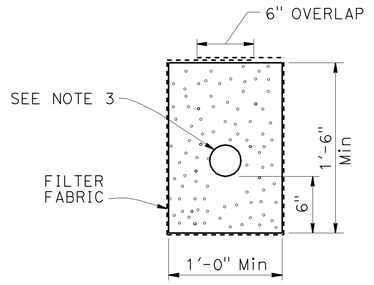
SLOPING FINISHED SURFACE

½" = 1'-0"



ROADWAY SECTION

½" = 1'-0"



UNDERDRAIN DETAIL

LIMITS OF BACKFILL

SPECIAL DETAILS

RETAINING WALL No. 26

MECHANICALLY STABILIZED EMBANKMENT

DETAILS NO. 4 <3>

STANDARD DRAWING
FILE NO. xs13-020-6
APPROVAL DATE January 2012

<1> Does Not Apply
<2> Detail Modified
<3> Changed Sheet Title
<4> Detail Added
<5> Added Overexcavation Limit
<6> Revised "Limits of Excavation"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 33E0112
POST MILE 28.9

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601
CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/28/12	5/28/12	3/29/13	6	12

FILE => 33-E0112-u-miscdt04.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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Scott McCauley 6/26/12
REGISTERED CIVIL ENGINEER DATE

4-8-13
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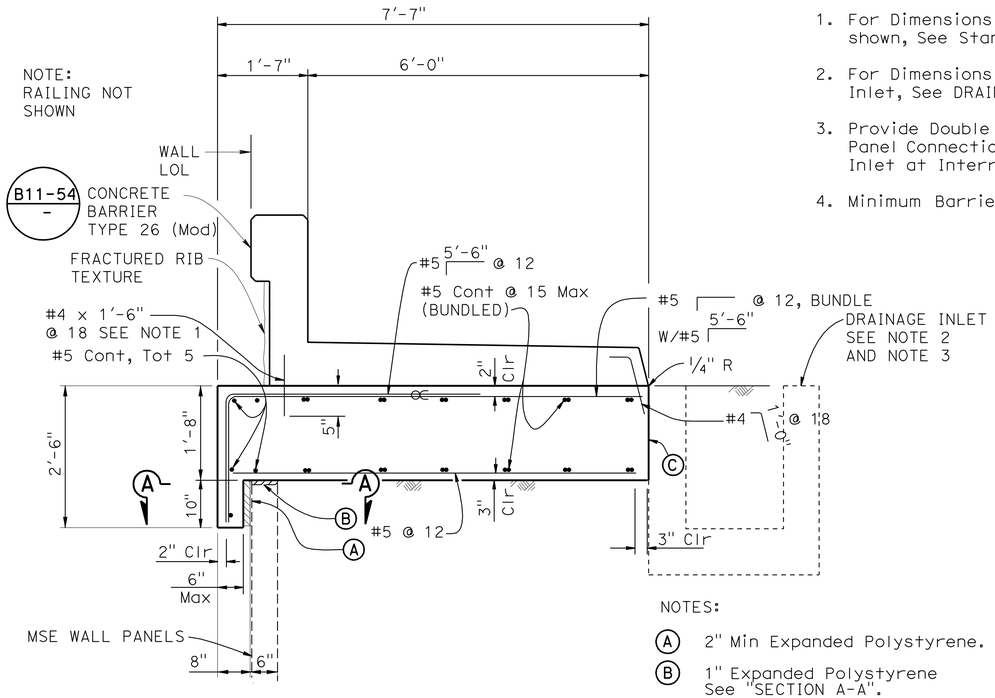
NOTES:

1. For Dimensions and Reinforcement not shown, See Standard Plan B11-54
2. For Dimensions and Locations of Drainage Inlet, See DRAINAGE PLANS.
3. Provide Double Mat of Reinforcementand Panel Connections on side of Drop Inlet at Interrupted Top Reinforcement Mat.
4. Minimum Barrier Slab Length = 40'-0"

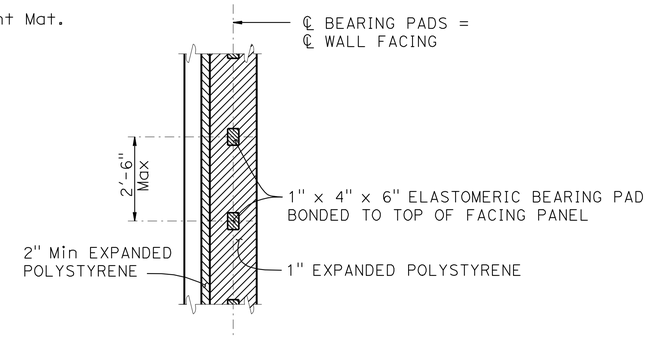


CONCRETE BARRIER SLAB

3/4" = 1'-0"

NOTES:

- (A) 2" Min Expanded Polystyrene.
- (B) 1" Expanded Polystyrene See "SECTION A-A".
- (C) Contact Joint.
- ∝ Indicates Bundled Bars.



SECTION A-A

1/2" = 1'-0"

DESIGN HEIGHT, H (Ft)	7.5	10.0
Max. WALL HEIGHT (Ft)	9.17	11.67
MAT LENGTH, L (Ft)	10.0	11.0
BASE WIDTH, BW (Ft)	11.0	12.5
WELDED WIRE REINFORCING PER LEVEL	TOP 4-WI5xWI5@6" I@ 4-WI5xWI5@6" Bot 4-WI5xWI5@6"	TOP 4-WI5xWI5@6" 2 @ 4-WI5xWI5@6" Bot 4-W20xWI5@9"

NOTE:

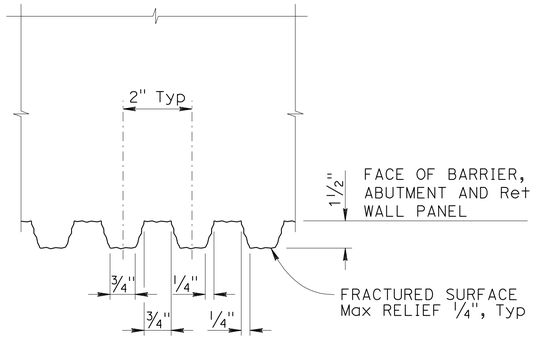
Mesh Configuration is:

No. Longitudinal Wires - Longitudinal Wire Size x Transverse Wire Size @ Transverse Wire Spacing

MECHANICALLY STABILIZED EMBANKMENT WALL REINFORCEMENT

No Scale

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

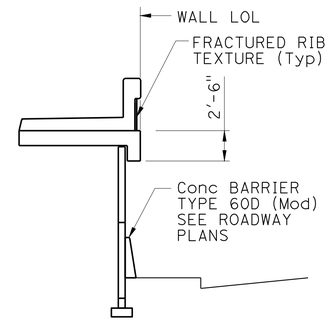


NOTES:

1. Vertical Joints in Form Liners will be at Center of Trough between Ribs. Min Spacing of Form Liner Vertical Joints will be 4'-0".
2. No Horizontal Joints will be Permitted in Form Liners.

FRACTURED RIB TEXTURE

NO SCALE



LIMITS OF PAYMENT

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

7-16-12
SIGN OFF DATE

DESIGN	BY S McCauley	CHECKED C. Cho	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY J Saldana	CHECKED S. McCauley	
QUANTITIES	BY C. Cho	CHECKED S. McCauley	

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0112
POST MILES 28.9

RETAINING WALL No. 26
MECHANICALLY STABILIZED EMBANKMENT
DETAILS NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/04/11	3/30/12	6/26/12		7	12

FILE => 33-E0112-u-miscdt05.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	697	789

Scott McCauley 3/29/13
REGISTERED CIVIL ENGINEER DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S.McCauley — No. 71495 — Exp. 12-31-13 — CIVIL — STATE OF CALIFORNIA

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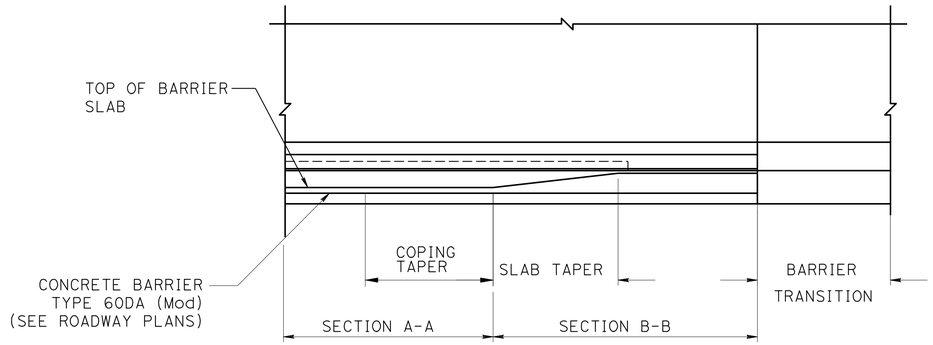
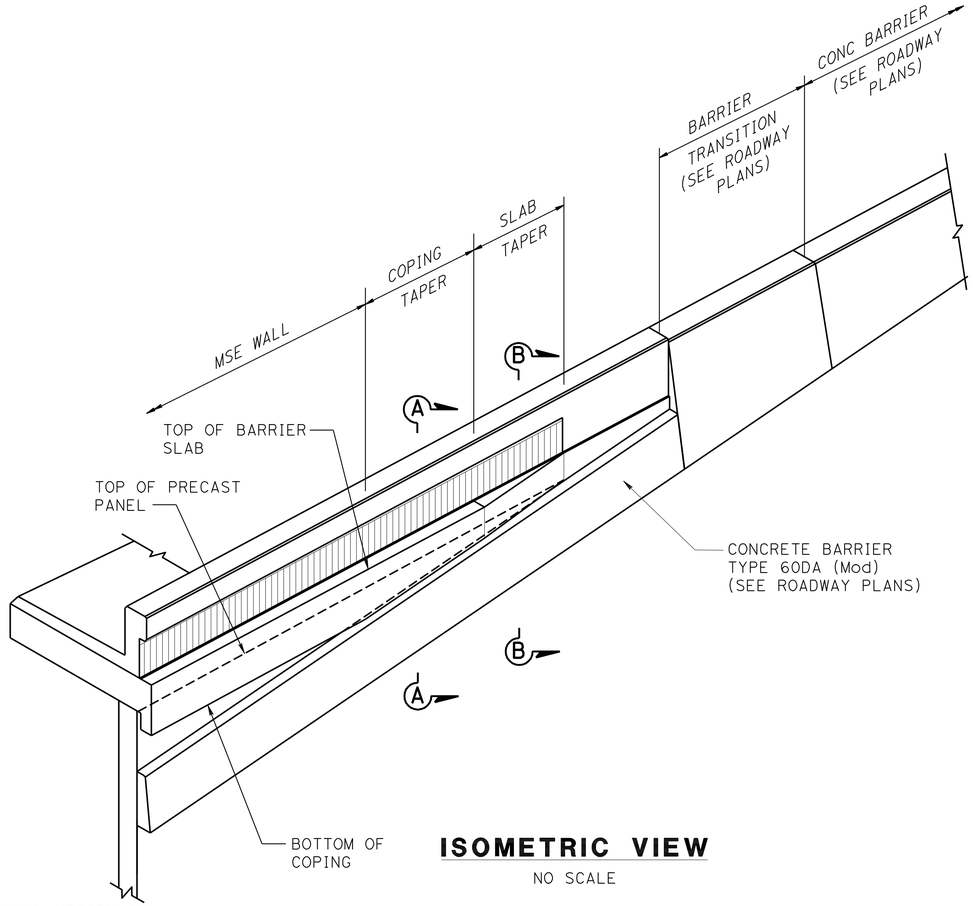
ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

RBF CONSULTING
ONE KAISER PLAZA, SUITE 1150
OAKLAND, CA 94612

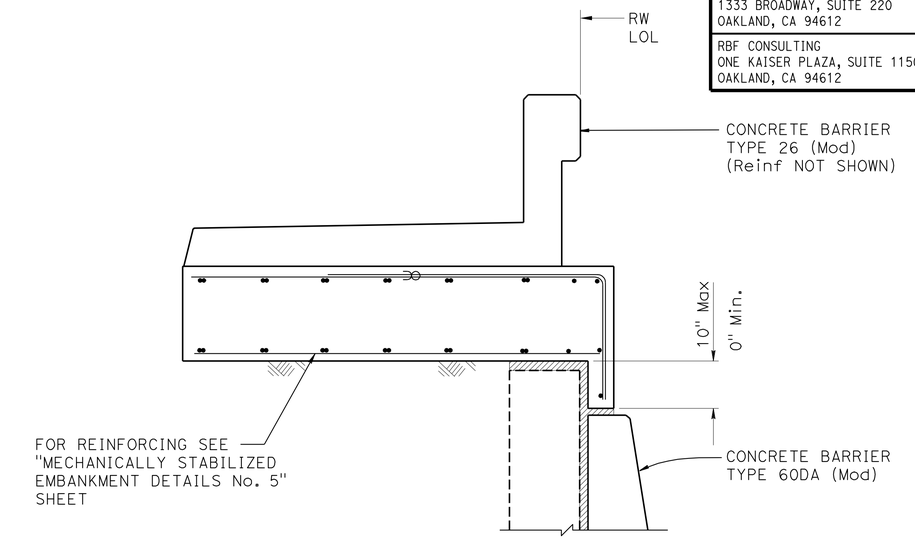


PLAN VIEW
NO SCALE

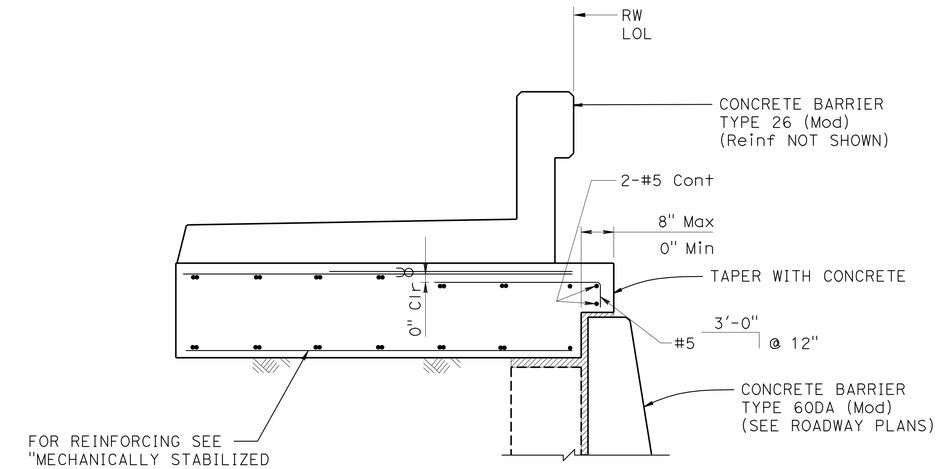


ISOMETRIC VIEW
NO SCALE

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



SECTION A-A
¾" = 1'-0"



SECTION B-B
¾" = 1'-0"

Paul Cotter
DESIGN OVERSIGHT Paul Cotter

4-3-13
SIGN OFF DATE

	BY	CHECKED
DESIGN	S McCauley	C. Cho
DETAILS	J Saldana	S. McCauley
QUANTITIES	C. Cho	S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Chad Harden
PROJECT ENGINEER

BRIDGE NO. 33E0112
POST MILES 28.9

RETAINING WALL No. 26
MECHANICALLY STABILIZED EMBANKMENT DETAILS NO. 6

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601 CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
2/24/11	3/30/12	6/28/12	3/29/13	8	12

FILE => 33-E0112-u-miscdt06.dgn

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	698	789

Lino Cheang — 6-25-12
REGISTERED ENGINEER — DATE

4-8-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

BENCH MARK:

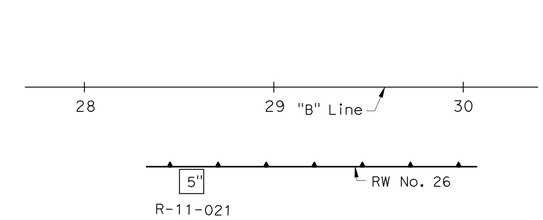
DESIGNATION: ALA8 ELEV=14.521
FOUND BRASS DISK STAMPED "ALA8" IN THE SIDEWALK AT THE WEST CORNER OF EAST 8TH STREET AND 5TH AVENUE.

DESIGNATION: ALA7 ELEV=15.591
FOUND BRASS DISK STAMPED "ALA7" IN THE SIDEWALK AT THE WEST SIDE OF 7TH STREET ALONG THE NORTH SIDE OF LAKE MERRITT CHANNEL.

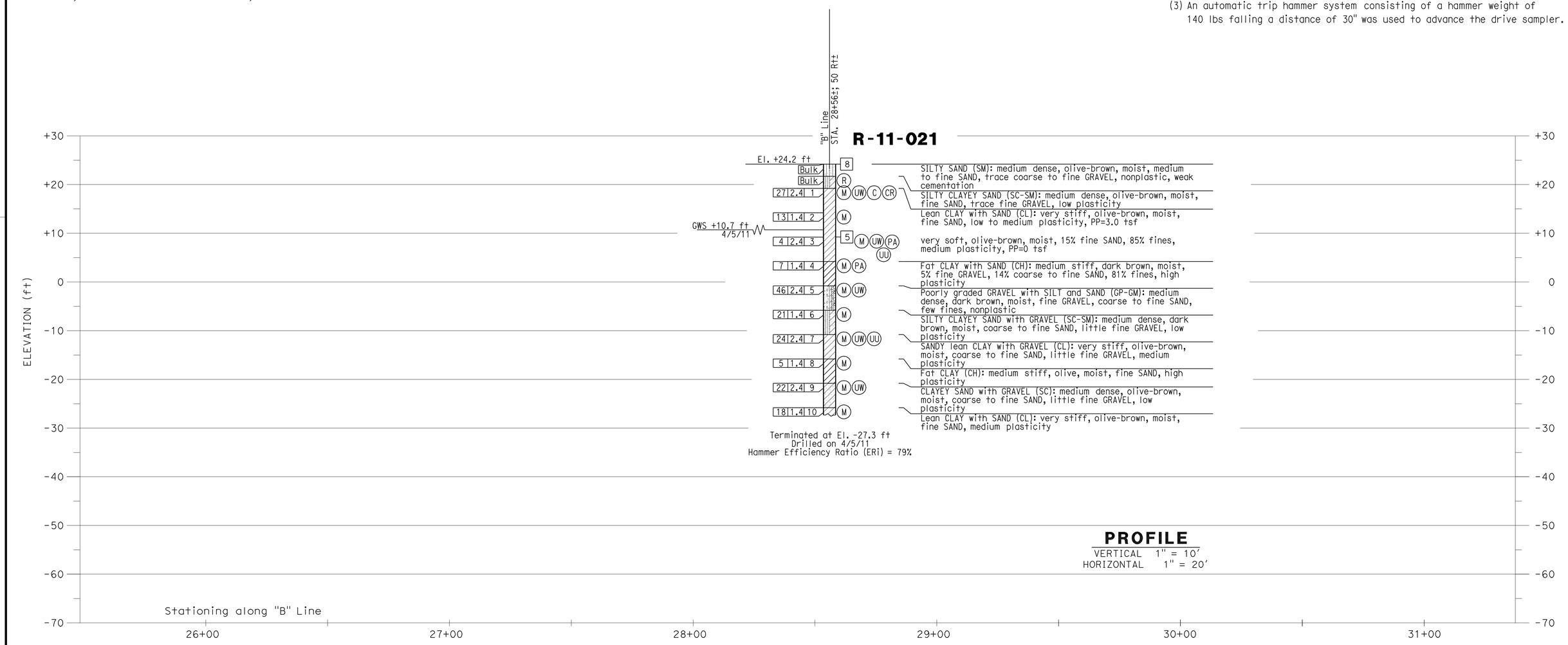
DESIGNATION: 8TH/37TH ELEV=20.262
FOUND A CITY OF OAKLAND PIN IN CONCRETE IN A MONUMENT WELL AT THE INTERSECTION OF EAST 8TH STREET AND 37TH AVENUE.

DESIGNATION: ALA13 ELEV=15.318
FOUND BRASS DISK STAMPED "ALA13" INSIDE A 1 INCH IRON PIPE WITH A CONCRETE COLLAR 24.6 FEET NORTH OF THE NORTH SIDE OF HIGH STREET,
56 FEET WEST OF THE WEST SIDE OF THE OFFRAMP FROM SOUTHBOUND STATE ROUTE 880 AND 4.99 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS.

DESIGNATION: KA121 ELEV=15.768
FOUND 1 INCH IRON PIPE WITH RED PLASTIC PLUG AND TACK STAMPED "CALTRANS" ALONG THE EAST SIDE OF OAKPORT STREET ABOUT 230 FEET SOUTH OF THE SOUTH SIDE OF HIGH STREET, ACROSS FROM 4401 OAKPORT STREET, 6.92 FEET NORTH OF THE FLOWLINE OF THE CURB.



PLAN
1" = 40'



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

NOTES:

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

(2) 2.4" samples were taken using a California Modified Sampler.

(3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.

Paul Cotter
DESIGN OVERSIGHT — Paul Cotter
7-16-12
SIGN OFF DATE

DRAWN BY: J. Fang
CHECKED BY: G. J. Gunaranjan

K. Thant
FIELD INVESTIGATION BY:
DATE: 3/2011, 4/2011

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

L. Cheang
PROJECT ENGINEER

BRIDGE NO. 33E0112
POST MILES 28.9

RETAINING WALL No. 26
LOG OF TEST BORING 1 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 9 OF 12

FILE => 33-E0112-z-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124496 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

TO ACCOMPANY PLANS DATED 4-8-13

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Ala	880	28.4/29.2	699	789

Lino Cheang — 6/25/12
CERTIFIED ENGINEERING GEOLOGIST — DATE

RETAINING WALL No. 26

LOG OF TEST BORINGS 2 OF 4

UNIT:	0724	CONTRACT No.	BRIDGE No.
PROJECT NUMBER & PHASE:	04000001601	04-0A7101	33E0112

Sheet	of
10	12

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	880	Ala			

Philip J Meymand — 3/30/12
REGISTERED CIVIL ENGINEER — DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Philip Meymand — No. 2596 — Exp. 6/30/13 — GEOTECHNICAL — STATE OF CALIFORNIA

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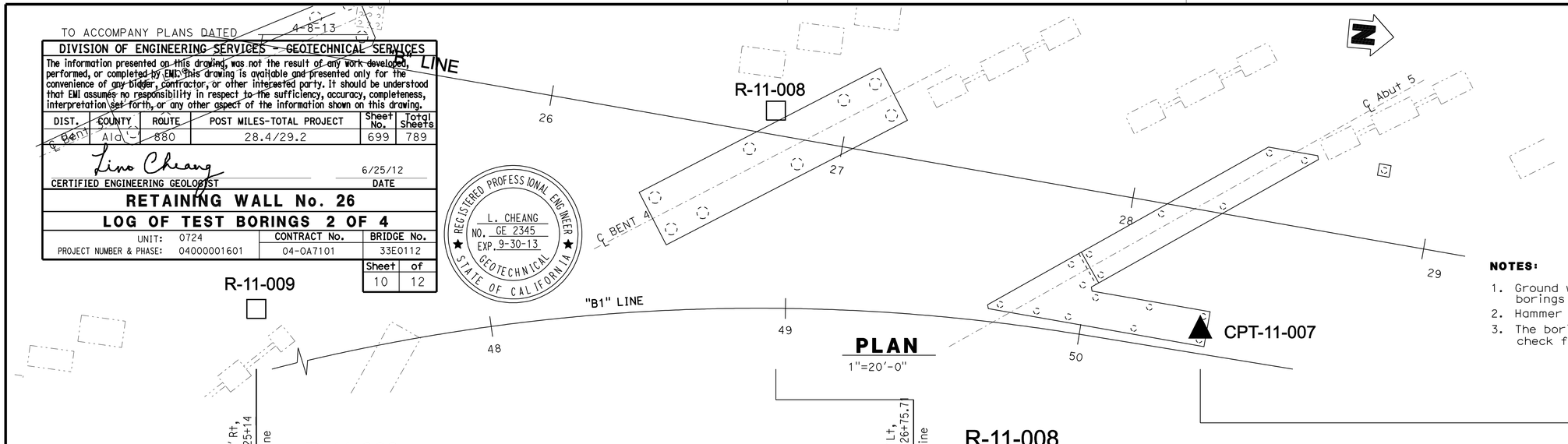
ALAMEDA COUNTY TRANSPORTATION
1333 BROADWAY
OAKLAND, CA 94612

URS CORPORATION
1333 BROADWAY, SUITE 800
OAKLAND, CA 94612

NOTES:

1. Ground water table was not measured in the borings due to rotary wash drilling.
2. Hammer energy ratio calibration not performed.
3. The borings were hand augered in the top 5 ft to check for the existence of underground utilities.



PLAN
1"=20'-0"

R-11-009

88.57' Rt, Sta. 25+14 "B" Line — EL. 17.0'

5"			Fat CLAY (CH); very stiff; dark gray; dry to moist; about 10% fine SAND; about 90% medium to high plasticity, very high dry strength fines; PP=2.5 tsf (FILL).
16	2.0		SANDY lean CLAY (CL); very stiff; medium to dark brown; dry to moist; about 10% coarse, angular GRAVEL; about 40% medium SAND; about 50% low plasticity fines; PP=3.5 tsf.
22	2.0		SANDY lean CLAY (CL); very stiff; medium brown; moist; about 30% fine SAND; about 70% medium plasticity fines; trace coarse sand; PP=2.75 tsf (ALLUVIUM).
18	2.0	M UW UC	Lean CLAY with SAND (CL); stiff; medium brown; moist; trace coarse GRAVEL; about 20% fine SAND; about 80% medium plasticity fines; sample disturbed; PP=3.0 tsf.
12	2.0		-very stiff about 15% subrounded gravel up to 1/2 in; black and red mottles; PP=3.25-3.75 tsf.
13	2.0		-no evident gravel; black; mottles very common; stiff; about 15% fine sand; PP=1.75 tsf.
17	2.0		-very stiff; trace angular gravel to 1/2 in; PP=3.5 tsf.
8	2.0	M UW UU	Lean CLAY (CL); very stiff; medium brown; moist; about 5% fine SAND; about 95% medium plasticity fines; PP=3.0 tsf.
35	11.4	PA	SANDY lean CLAY (CL); medium stiff; brown and gray; moist; about 25% fine SAND; about 75% medium plasticity fines; PP=1.75 tsf.
38	11.4		Poorly graded SAND with SILT and GRAVEL (SP-SM); dense; brown; wet; about 26% subangular GRAVEL, max. 3/4 in. dia.; about 63% coarse to medium SAND; about 11% nonplastic fines.
15	2.0	M PI	Fat CLAY (CH); very stiff; gray; moist; about 5% fine SAND; about 95% medium to high plasticity, very high dry strength fines; PP=2.0-3.0 tsf.
40	2.0	M UW	Lean CLAY with SAND (CL); hard; greenish-gray; dry to moist; about 5% fine, subangular GRAVEL; about 25% fine SAND; about 70% low plasticity fines; PP=>4.5 tsf.
27	2.0		-brown; very stiff; about 10% fine sand; medium plasticity fines; PP=3.0 tsf.
40	2.0	M PI	SANDY lean CLAY (CL); very stiff to hard; brown and gray; moist; about 35% fine SAND; about 65% low plasticity fines; PP=>4.5 tsf. -very stiff; occasional black mottles; PP=3.0 tsf.
28	11.4		-hard coarse sand lens at 90.5 ft; <1 in thick; PP=4.25 tsf.
38	2.0	M UW UU	-very stiff; about 45% fine sand; about 55% low plasticity fines; PP=3.25 tsf.

Terminated at El. -84.5'
04-28-11

R-11-008

8.18' Lt, Sta. 26+75.7 "B" Line — EL. 19.0'

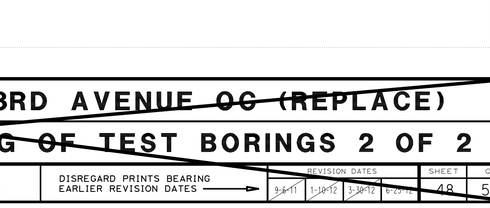
5"			Fat CLAY (CH); dark gray; dry; about 5% fine SAND; about 95% high plasticity, very high dry strength fines; (FILL).
26	2.0	M UW UC	-hard; moist; PP=4.25 tsf.
12	2.0	C PI	Lean CLAY with SAND (CL); hard; medium brown; moist; about 5% fine, subangular to subrounded GRAVEL; about 15% fine SAND; about 80% medium plasticity fines; light brown mottles; PP=3.25-4.25 tsf; (ALLUVIUM).
9	11.4		-stiff; PP=1.75 tsf.
12	2.0	M UW UC	SANDY lean CLAY with GRAVEL (CL); stiff to very stiff; medium brown; moist; about 20% subrounded GRAVEL, max. 1/2 in. dia.; about 40% medium to fine SAND; about 40% medium plasticity fines; PP=1.5-2.0 tsf.
11	2.0	M UW	Lean CLAY with SAND (CL); stiff; medium brown; moist; about 15% fine, subangular to subrounded GRAVEL; about 15% fine SAND; about 80% medium plasticity fines; PP=1.75 tsf.
19	2.0		Lean CLAY (CL); stiff to very stiff; medium brown; moist; about 5% fine SAND; about 95% medium plasticity fines; PP=1.0-2.0 tsf.
14	2.0	M PI	PP=3.0 tsf. SANDY lean CLAY (CL); very stiff; medium brown; moist; about 40% fine SAND; about 60% low plasticity fines; PP=2.5 tsf.
32	2.0	PA	Fat CLAY (CH); very stiff; medium brown; moist; about 5% fine SAND; about 95% high plasticity, very high dry strength fines; PP=2.0-2.75 tsf.
12	11.4		SILTY SAND with GRAVEL (SM); medium dense; brown; moist; about 40% subrounded GRAVEL, max. 1 in. dia.; about 43% coarse to medium SAND; about 17% nonplastic fines.
55	2.0		SANDY lean CLAY (CL); stiff; medium brown; moist; about 35% fine SAND; about 65% medium plasticity fines; PP=1.0 tsf.
47	2.0		Poorly graded SAND with SILT (SP-SM); dense; medium brown; moist; trace GRAVEL, max. 1/4 in. dia.; about 90% coarse to medium SAND; about 10% nonplastic fines; PP=>4.5 tsf. SANDY lean CLAY (CL); very stiff; medium brown; moist; about 45% fine SAND; about 55% medium plasticity fines.
14	11.4		SILTY SAND (SM); dense; medium brown; moist; about 85% medium SAND; about 15% low plasticity fines. SANDY lean CLAY (CL); very stiff; brown and gray; moist; trace subangular GRAVEL, max. 1/3 in. dia.; about 30% fine SAND; about 70% medium plasticity fines; Manganese and iron staining; PP=2.25-2.75 tsf.
35	2.0	M UW UU	-stiff; sand lens 81 to 81.25 ft; PP=4.5 tsf.
22	11.4		-very stiff; PP=3.5 tsf.
30	11.4		PP=2.25 tsf.

Terminated at El. -82.5'
04-27-11

CPT-11-007

39.31' Rt, Sta. 28+30.1 "B" Line — EL. 25.0'

GWS EL. 10.9'
04-29-11



Terminated at EL. -63.3'
04-29-11

Elevation (ft): +20, 10, 0, -10, -20, -30, -40, -50, -60, -70, -80, -90

DESIGN OVERSIGHT	DRAWN BY	CHECKED BY	FIELD INVESTIGATION BY	DATE
Paul Cotter — 7-16-12 — SIGN OFF DATE	N. HUTTON	C. TSAI	S. JANOWSKI	04-25-11 TO 05-04-11

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Jan Hueser — PROJECT ENGINEER

BRIDGE NO. 33-0753 — POST MILES 28.95

23RD AVENUE OC (REPLACE)

LOG OF TEST BORINGS 2 OF 2

GS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724 — PROJECT NUMBER & PHASE: 04000001601 — CONTRACT NO.: 04-0A7101

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
9-6-11	1-10-12	3-30-12	6-25-12	48	51

FILE => 33-E0112-z-ltb2.dgn

USERNAME => s124096 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Ala	880	28.4/29.2	700	789

Lino Cheang — REGISTERED ENGINEER — 6-25-12 DATE

4-8-13 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — L. CHEANG — NO. GE 2345 — EXP. 9-30-13 — GEOTECHNICAL — STATE OF CALIFORNIA

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ALAMEDA COUNTY TRANSPORTATION COMMISSION
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

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

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

CEMENTATION

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

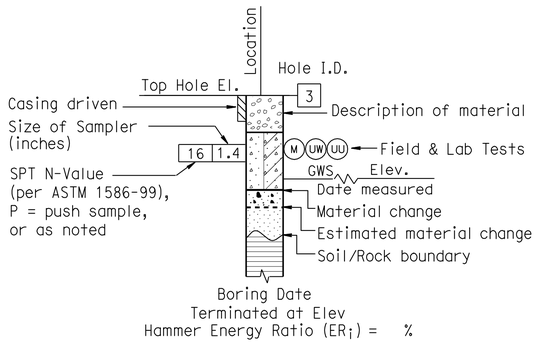
BOREHOLE IDENTIFICATION

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

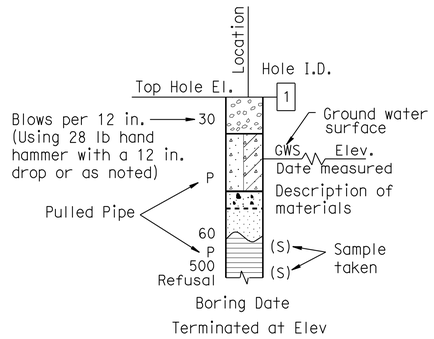
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

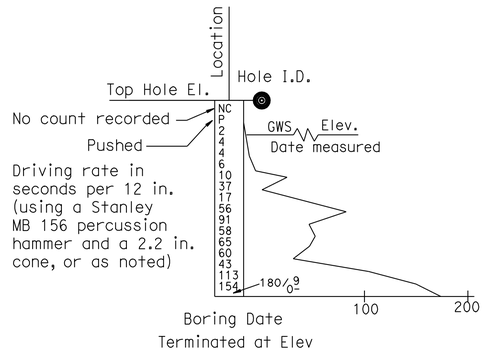
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 -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



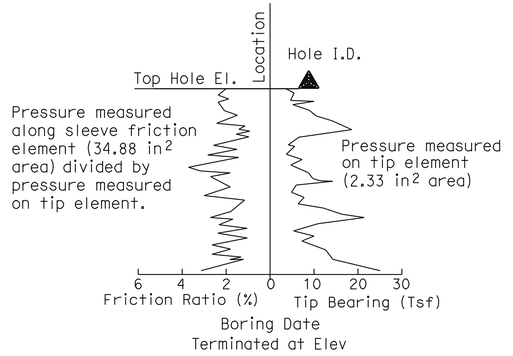
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

Paul Cotter — DESIGN OVERSIGHT: Paul Cotter	DRAWN BY	J. Fang	K. Thant — FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L. Cheang — PROJECT ENGINEER	BRIDGE NO. 33E0112	RETAINING WALL No. 26
7-16-12 — SIGN OFF DATE	CHECKED BY	G. J. Gunaranjan	DATE: 3/2011, 4/2011			POST MILES 28.9	LOG OF TEST BORINGS 3 OF 4

GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 0724
PROJECT NUMBER & PHASE: 04000001601

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 11 OF 12

FILE => 33-E0112-z-soil legend-ltb1.dgn

CONTRACT NO.:04-0A7101 PROJECT ID:

USERNAME => s124396 DATE PLOTTED => 10-APR-2013 TIME PLOTTED => 08:49