

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	301	375

PRESTRESSING NOTES

270 Ksi Low Relaxation Strands:
 Pjack = 7400 kips
 Anchor Set = 0.375 inches
 Total Number of Girders = 4

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

$\mu = 0.15$
 $K = 0.0002 / ft$

Concrete: $f'c = 5.0$ ksi @ 28 days
 $f'ci = 3.5$ ksi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at $\square = 0.893$ times jacking stress.

Both end stressing shall be performed.

NOTES:

1. For removal details, see "Bridge Removal Details" sheet.
2. For details not shown, see "Girder Details No. 1" and "Girder Details No. 2" sheets.

LEGEND:

- Indicates existing structure
- Indicates girder stem width in inches

Jan M. Hueser
 REGISTERED CIVIL ENGINEER 3/14/12 DATE

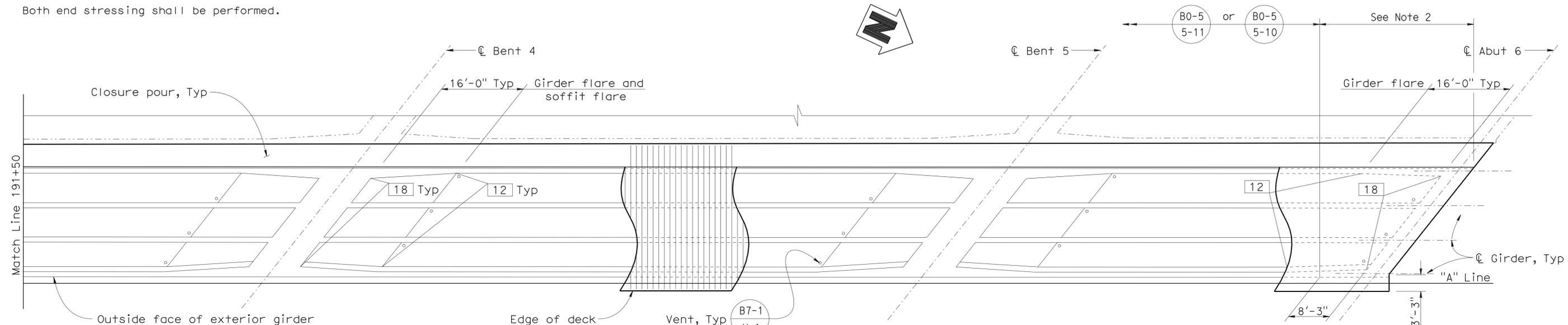
6-11-12
 PLANS APPROVAL DATE

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

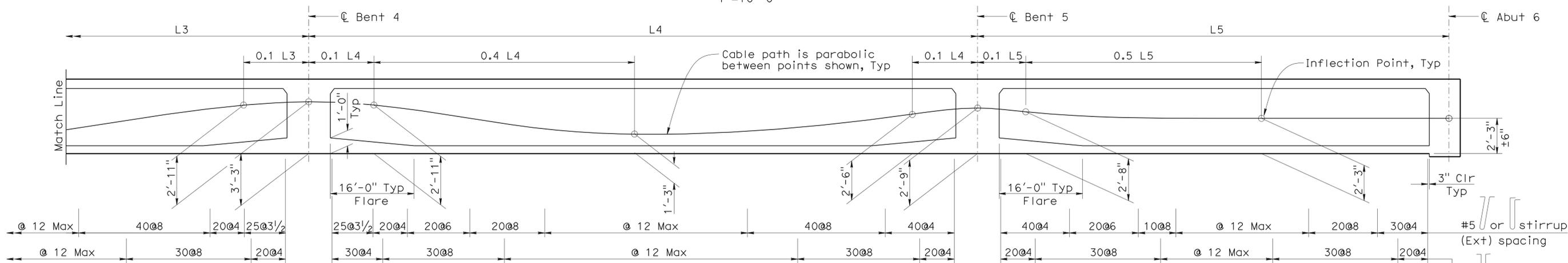
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997

SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



PLAN
 1"=10'-0"



LONGITUDINAL SECTION

No Scale

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

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY H. Choi/J. Hueser	CHECKED S. Landis/G. Rowe
DETAILS	BY L. Davis	CHECKED S. Landis/G. Rowe
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284L
POST MILE	3.65

ROUTE 101S/ 116 SOH (WIDEN)

GIRDER LAYOUT No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
3-21-10 5-20-11 1-13-12 3-14-12	17	35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	302	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 3/14/12

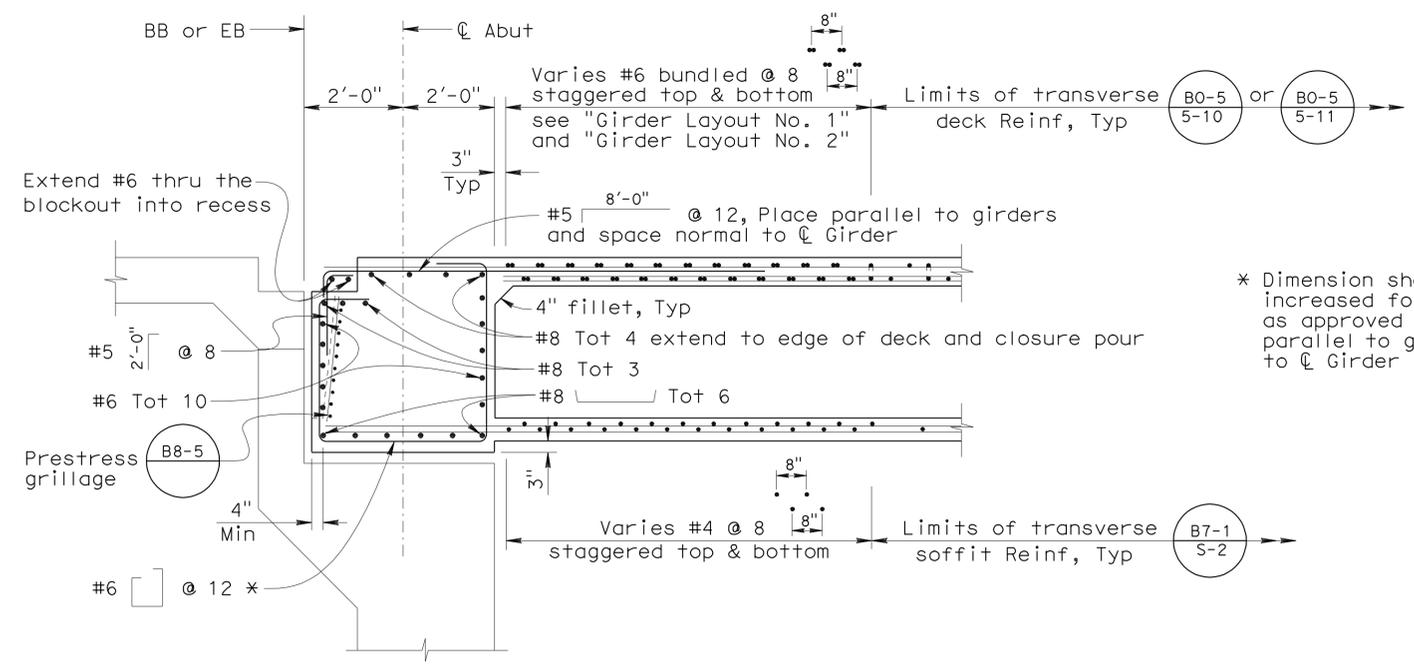
6-11-12
 PLANS APPROVAL DATE

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

SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

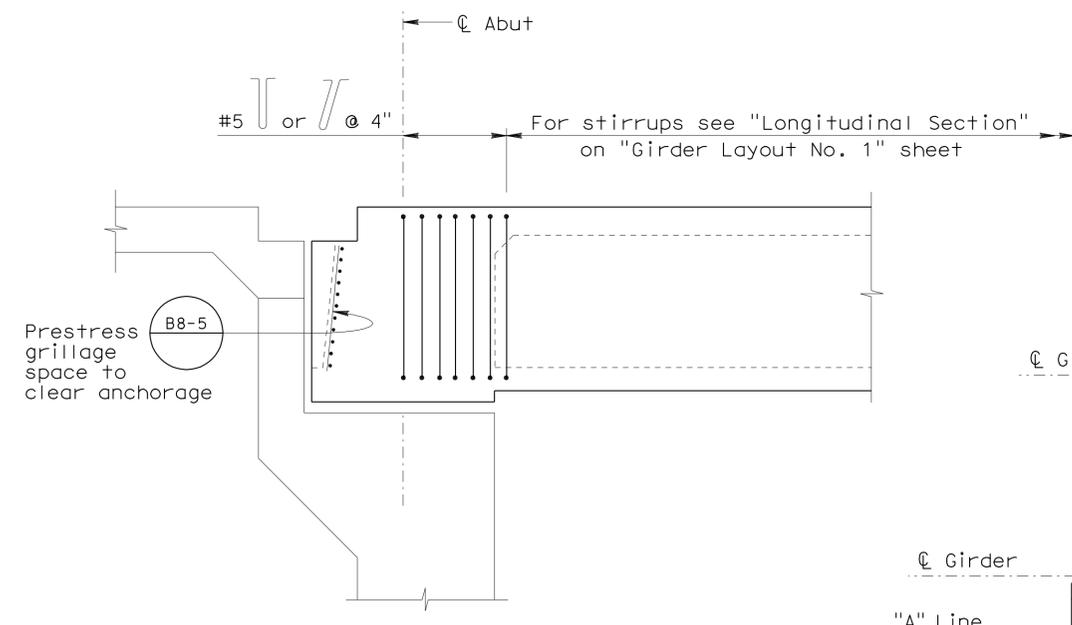


* Dimension shown is a Min and may be increased for prestressing anchorage as approved by the engineer. Place parallel to girders and space normal to C Girder

NOTES:

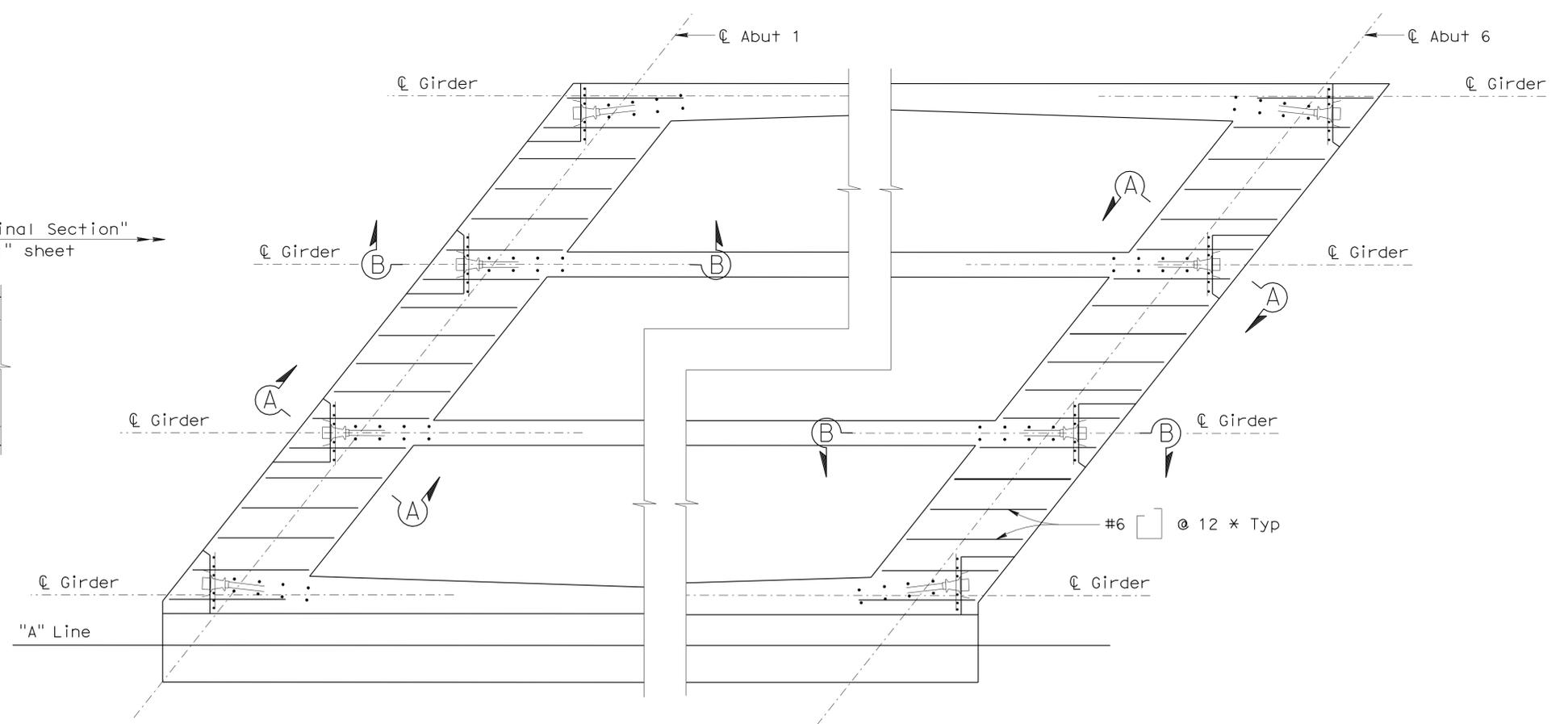
- 1. For details not shown, see "Girder Details No. 2" sheet.

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



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

Note: For reinforcement not shown, see "Section A-A"



PARTIAL PLAN
 $\frac{3}{8}'' = 1'-0''$

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

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY H. Choi/J. Hueser	CHECKED S. Landis/G. Rowe
DETAILS	BY L. Davis	CHECKED S. Landis/G. Rowe
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284L
POST MILE	3.65

**ROUTE 101S/ 116 SOH (WIDEN)
 GIRDER DETAILS No. 1**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

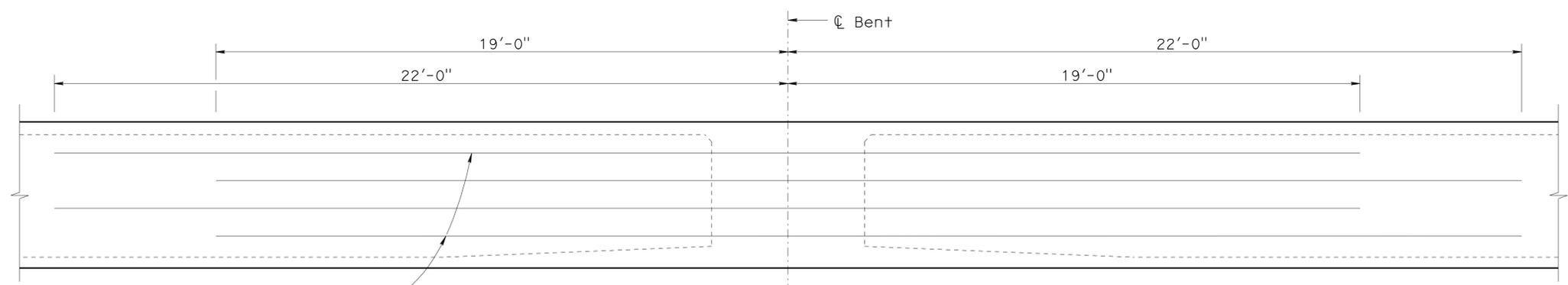
REVISION DATES	SHEET	OF
3-21-10 5-20-11 1-13-12 3-14-12	18	35

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 12:41

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	303	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 3/14/12
 PLANS APPROVAL DATE 6-11-12
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



#8 x 41'-0" Tot 4 per girder, Typ

ADDITIONAL GIRDER REINFORCEMENT

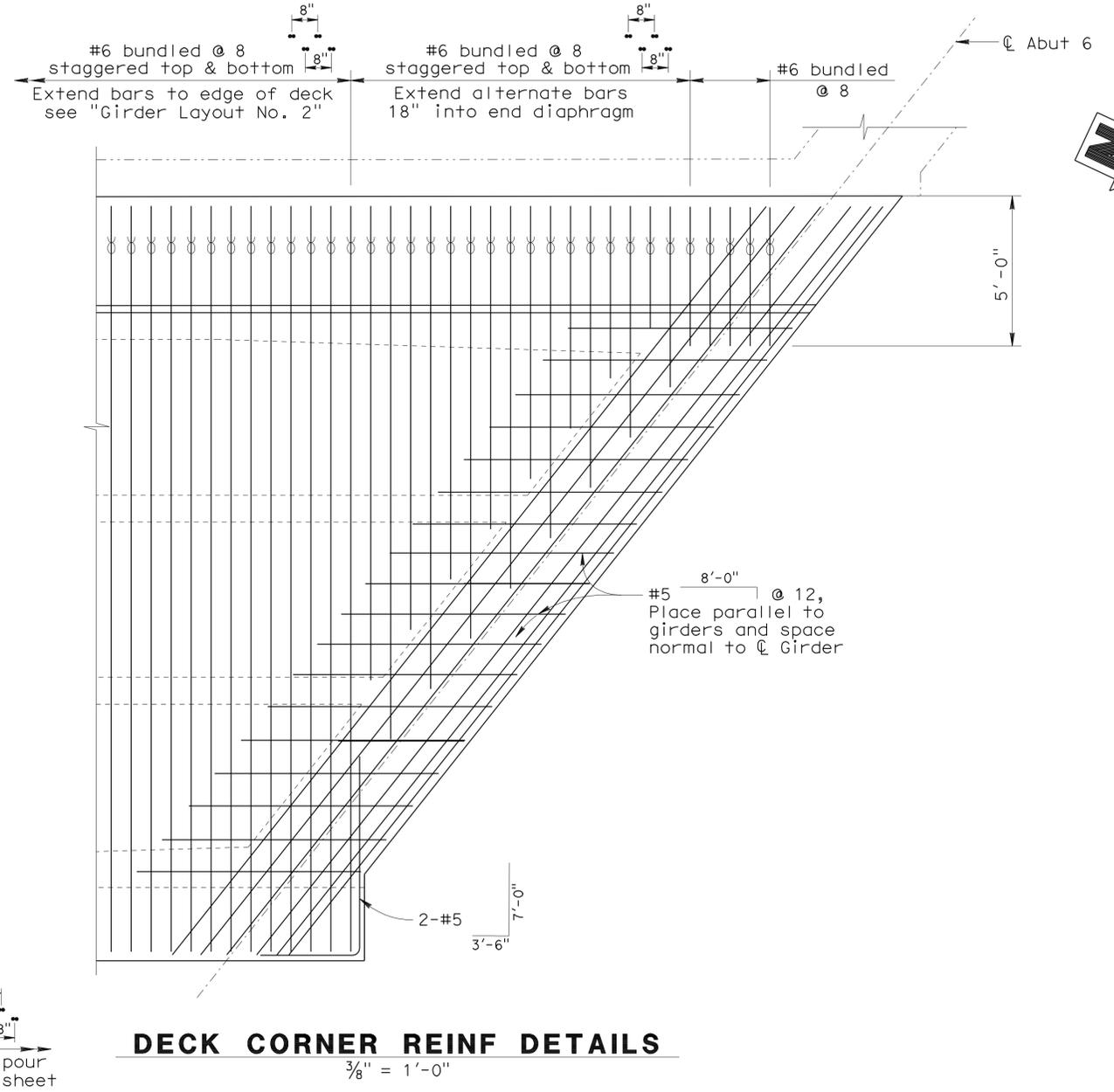
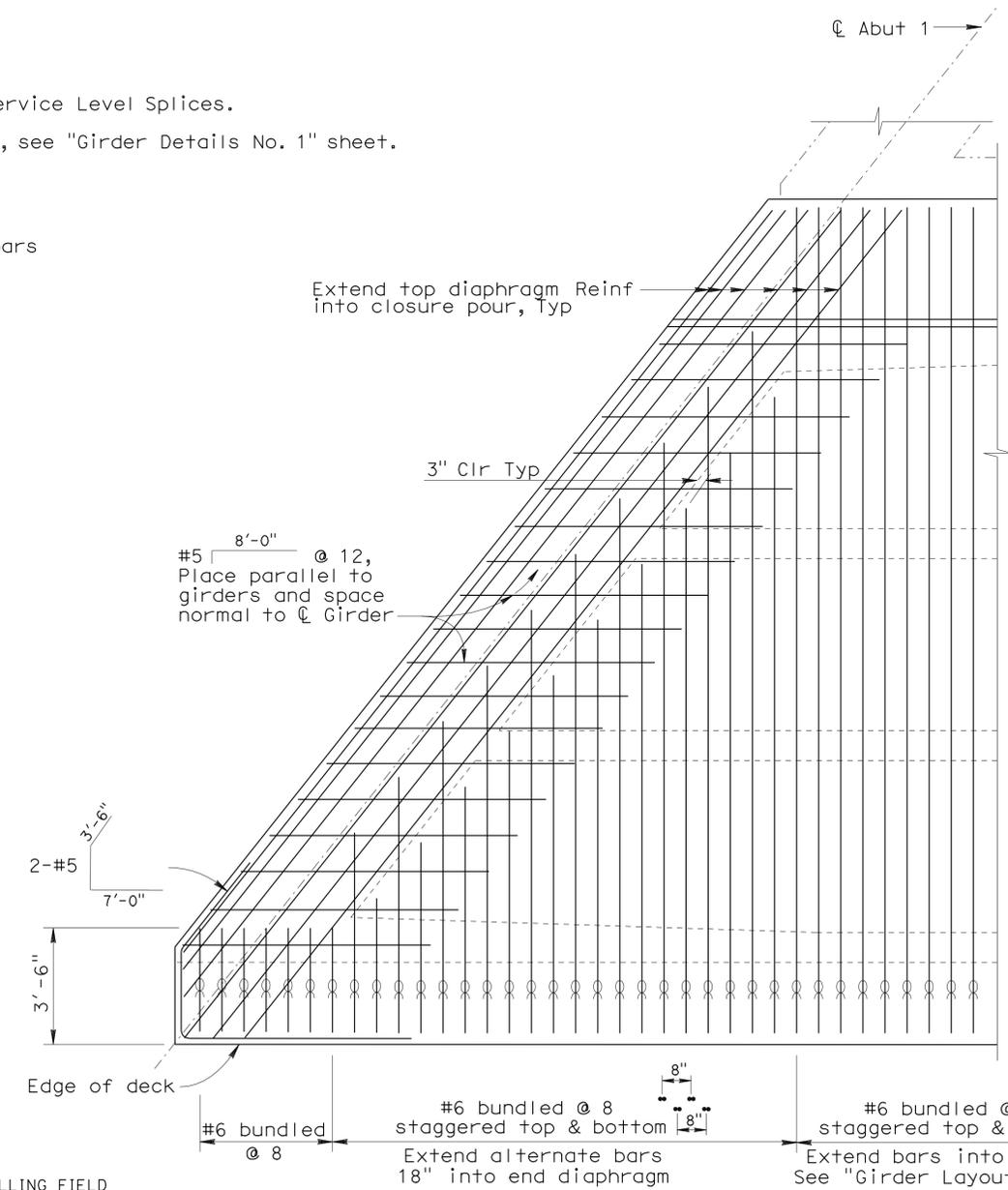
No Scale

NOTES:

- All splices shall be Service Level Splices.
- For details not shown, see "Girder Details No. 1" sheet.

LEGEND:

∞ Indicates bundled bars



DECK CORNER REINF DETAILS

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

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY H. Choi/J. Hueser	CHECKED S. Landis/G. Rowe
DETAILS	BY L. Davis	CHECKED S. Landis/G. Rowe
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284L
POST MILE	3.65

ROUTE 101S/ 116 SOH (WIDEN)
GIRDER DETAILS No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



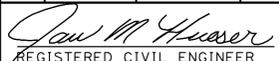
UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061
 CONTRACT NO.: 04-2640K4

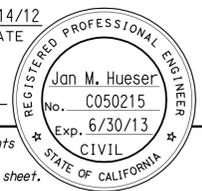
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
3-21-10 5-28-11 1-13-12 3-14-12	19	35

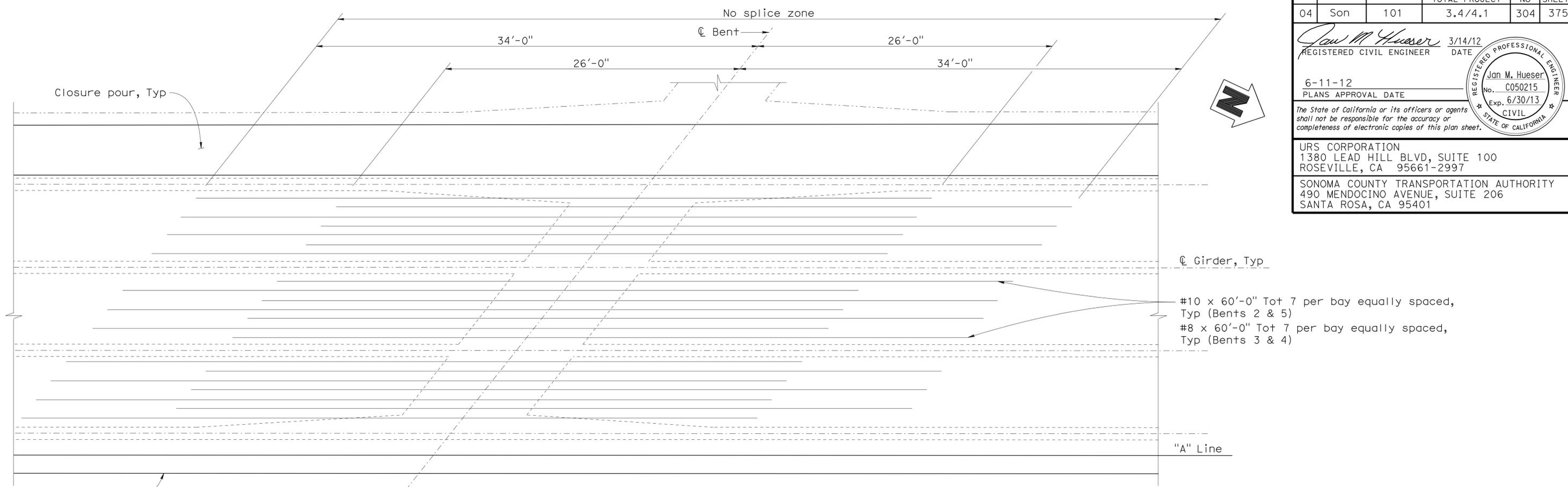
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	304	375

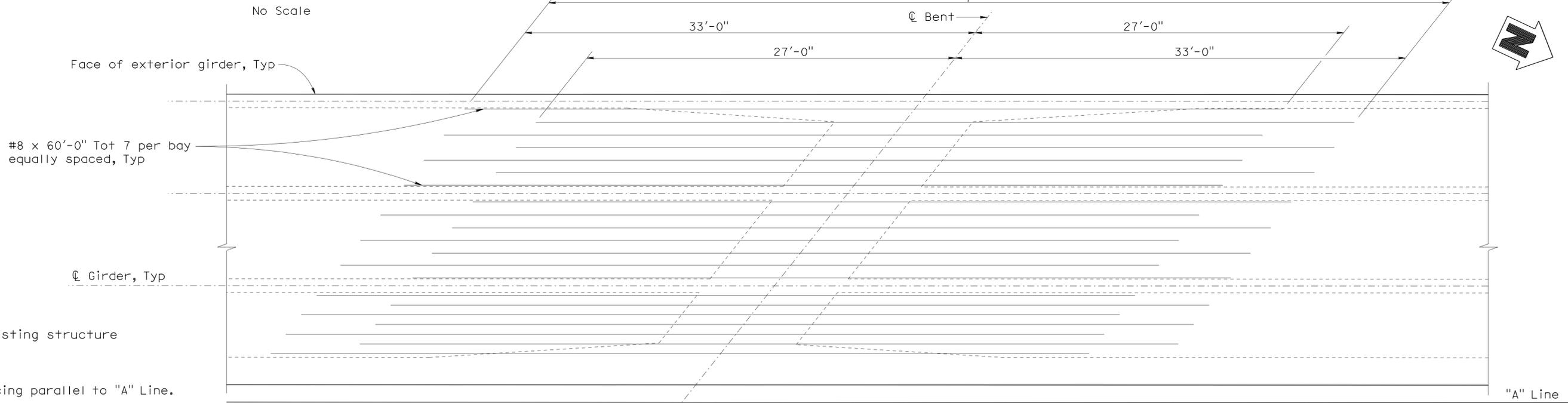

 REGISTERED CIVIL ENGINEER DATE 3/14/12
 6-11-12
 PLANS APPROVAL DATE
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



ADDITIONAL TOP REINFORCEMENT



ADDITIONAL BOTTOM REINFORCEMENT

No Scale

LEGEND:
 ----- Indicates existing structure

NOTES:
 1. Place all reinforcing parallel to "A" Line.

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


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY H. Choi/J. Hueser	CHECKED S. Landis/G. Rowe
DETAILS	BY L. Davis	CHECKED S. Landis/G. Rowe
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284L
POST MILE	3.65

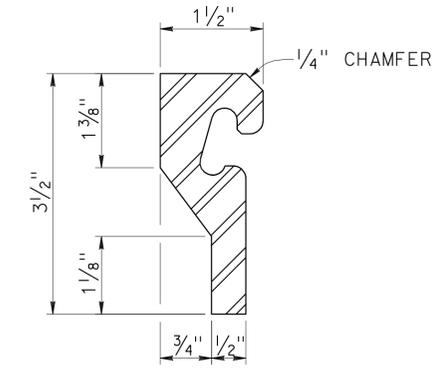
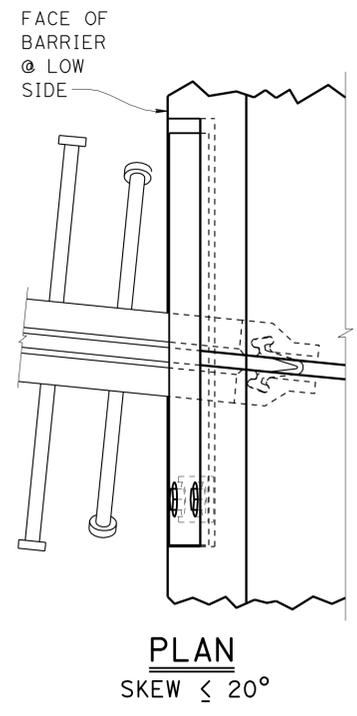
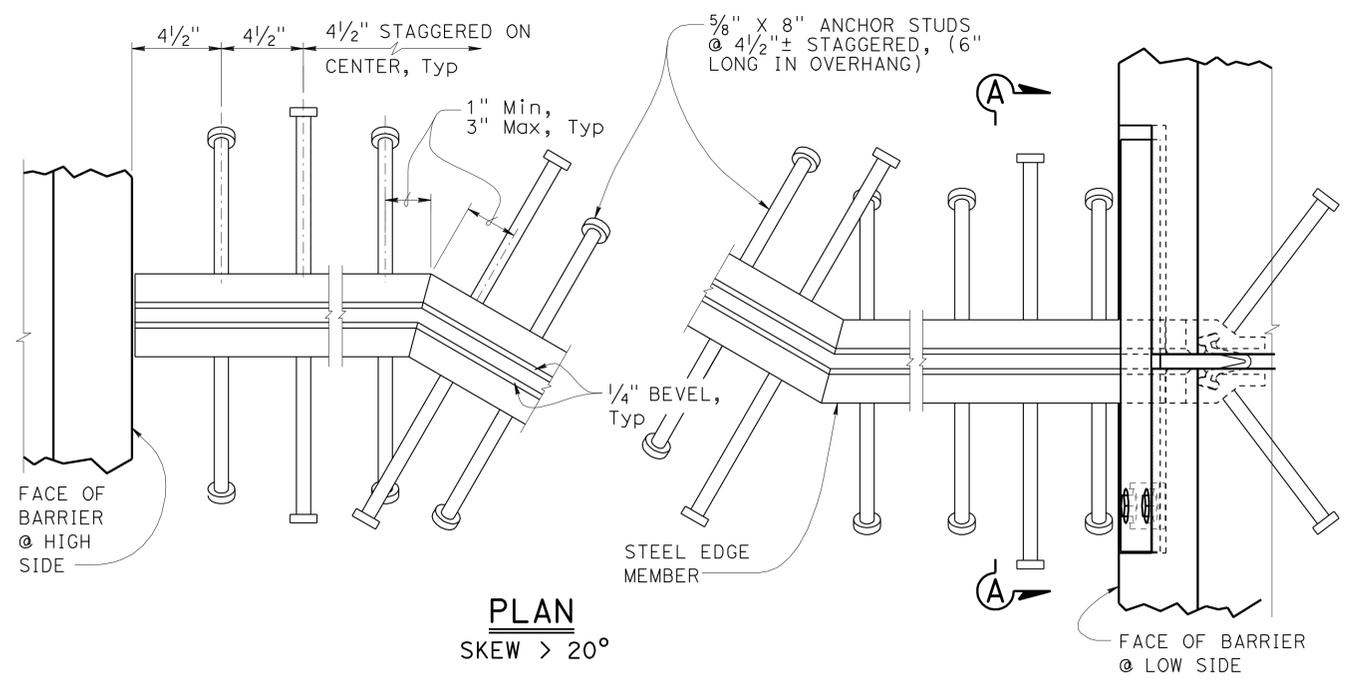
ROUTE 101S/ 116 SOH (WIDEN)
GIRDER REINFORCEMENT

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 14:03

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	305	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE: 3/14/12
 PLANS APPROVAL DATE: 6-11-12
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



STEEL EDGE MEMBER

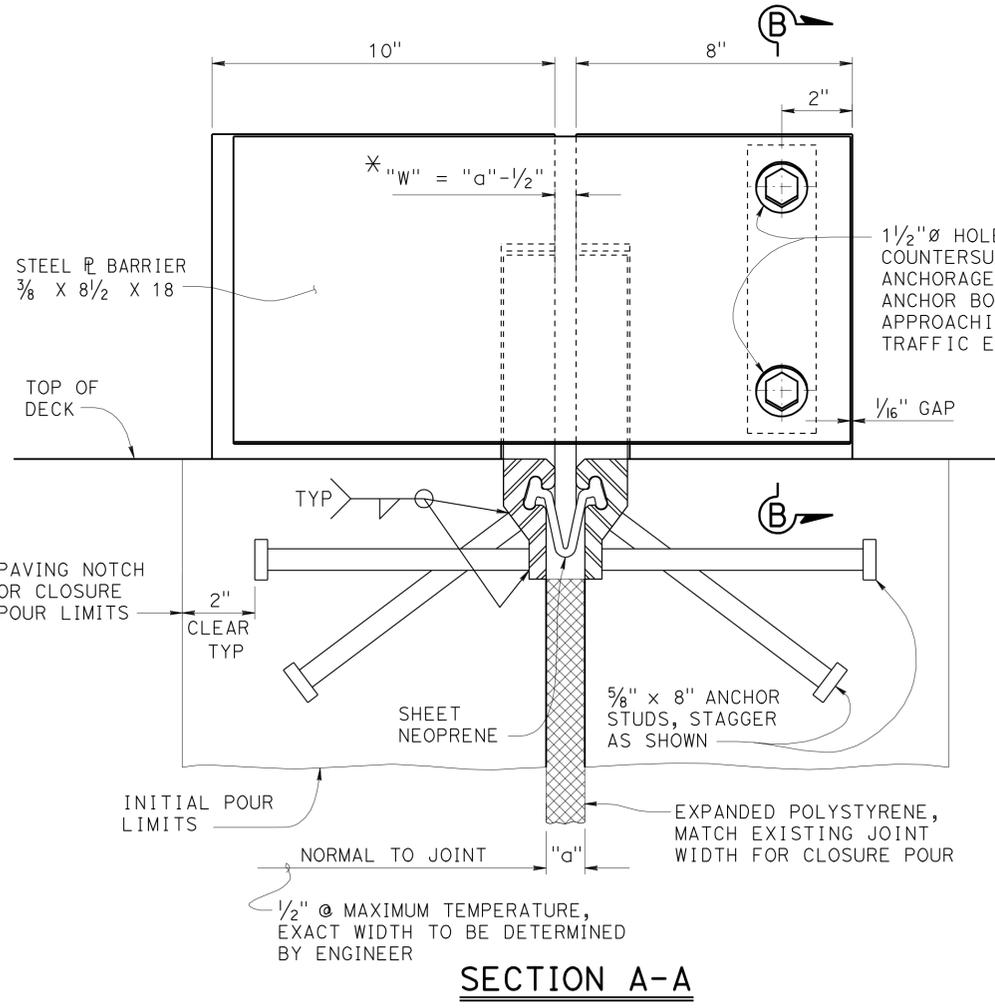
NOTES:

1. Full penetration butt welds may be substituted for fillet welds on all anchor studs
2. Alternate types of anchor studs may be permitted subject to the approval by the Engineer
3. Joint seal assembly to be used in conjunction with closure pour. (See other sheets for limits). Closure pour shall not be placed until final deck surface is within the tolerances specified
4. Use joint at crown of roadway, at any change in traverse slope in deck and at changes in horizontal direction. Place other joints at or near lanes. All metal parts to be painted or galvanized after fabrication
5. Sheet Neoprene shall be fabricated in one continuous piece and shall be fabricated to bend around corners
6. Insert assembly or expansion anchorage for 5/8" x 1 3/4" bolts. Use installation bolts extended 1/2" minimum past nut and coat with bond breaker, after concrete has cured, remove installation bolts, install A325 bolts and sheet neoprene
7. Sidewalk Detail similar to Barrier Detail on low side at both sides if the roadway is crowned or if the difference in elevation between the ends of the seal is 0.5' or less

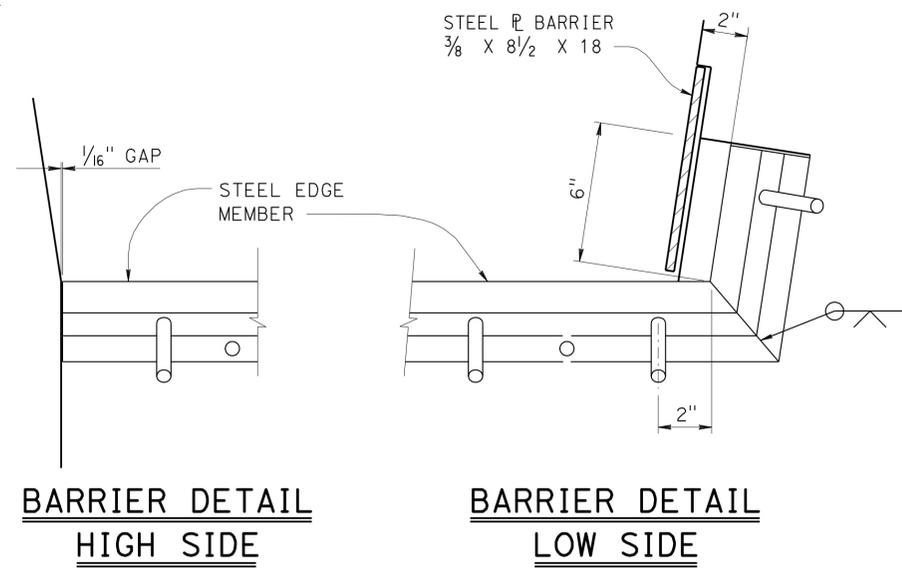
JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Abut 1	4"	38°44'36"±	2 1/4"	1 3/4"	1 1/8"
Abut 6	4"	38°44'36"±	2 1/4"	1 5/8"	1 1/8"

* TO SET MINIMUM JOINT OPENING "W"

$$"W" = \begin{cases} \frac{1}{2} + [(maximum\ structure\ temperature\ in\ F^\circ) - (actual\ structure\ temperature\ in\ F^\circ)] \\ (0.000006)(1200)(contributory\ length\ in\ feet)(0.01) \\ \frac{1}{2} \text{ Minimum} \end{cases}$$

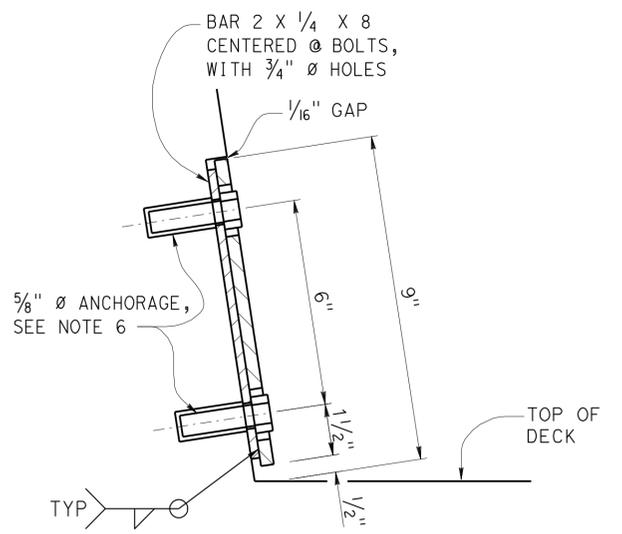


SECTION A-A



BARRIER DETAIL HIGH SIDE

BARRIER DETAIL LOW SIDE



SECTION B-B

NO SCALE

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

STANDARD DRAWING	
FILE NO. xs8-010	APPROVAL DATE July 2011

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 20-0284L	ROUTE 101S/ 116 SOH (WIDEN)
		POST MILE 3.65	

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

UNIT: 0714 PROJECT NUMBER & PHASE: 04120004061 CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	3-21-10 5-20-11 1-13-12 3-14-12	21	35

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

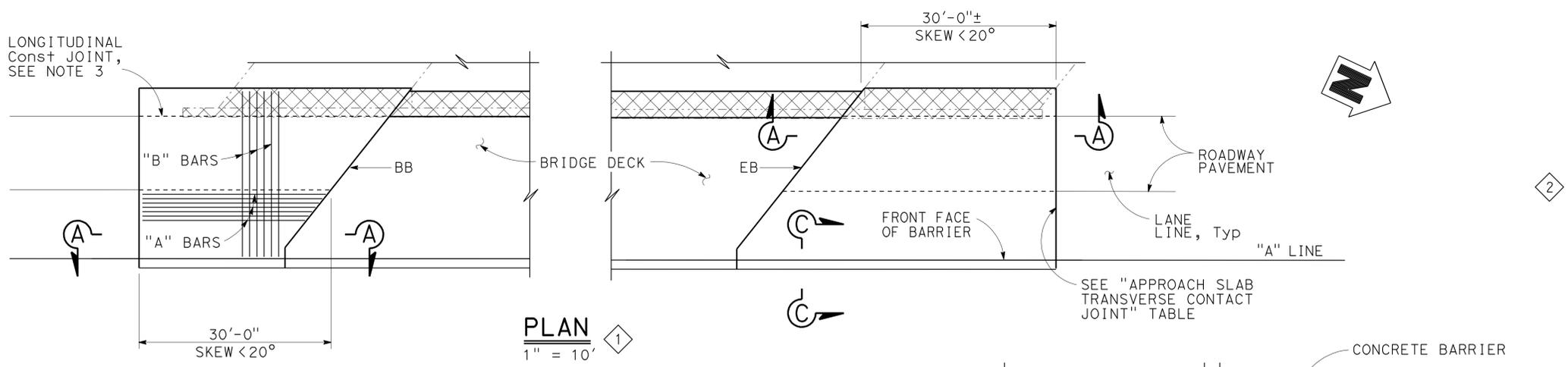
FILE => 20-0284L-q-jnfdt.dgn

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 14:03

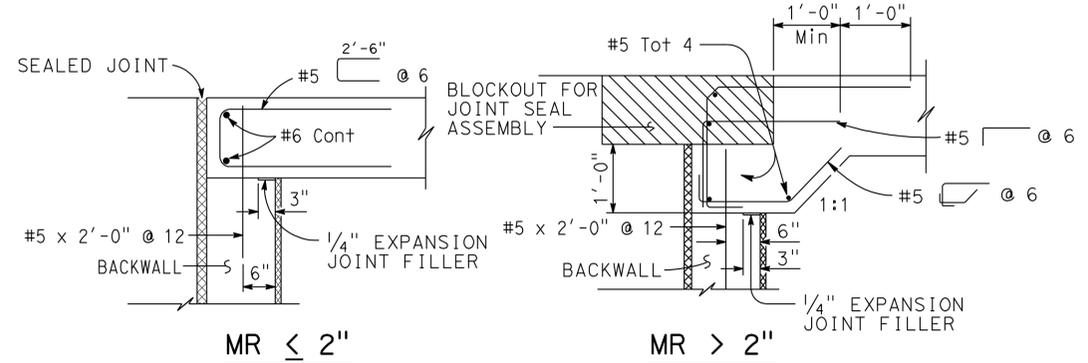
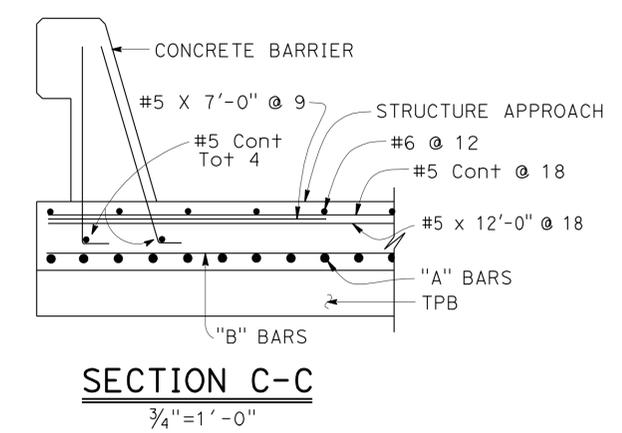
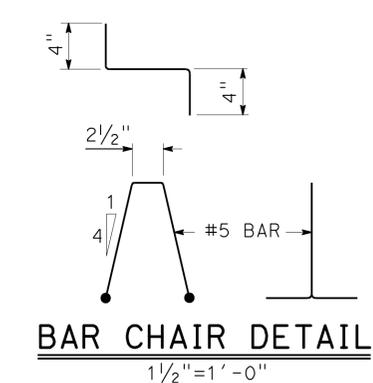
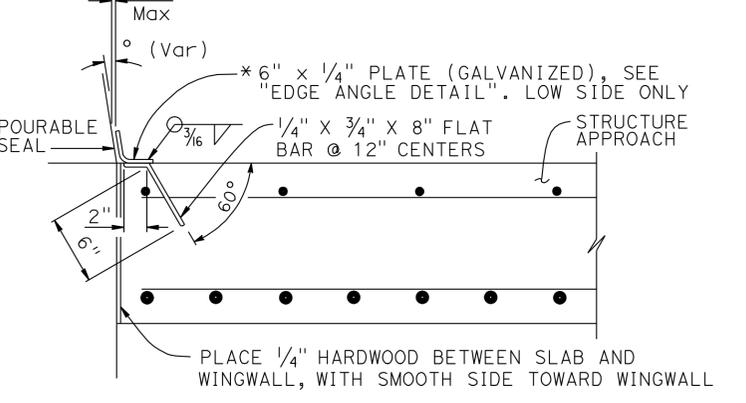
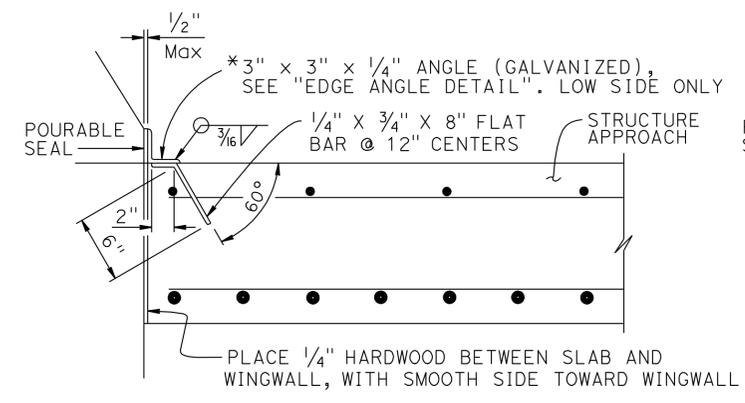
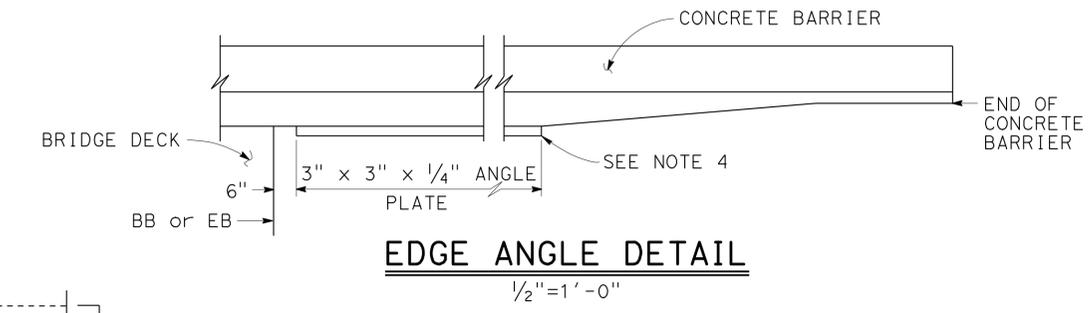
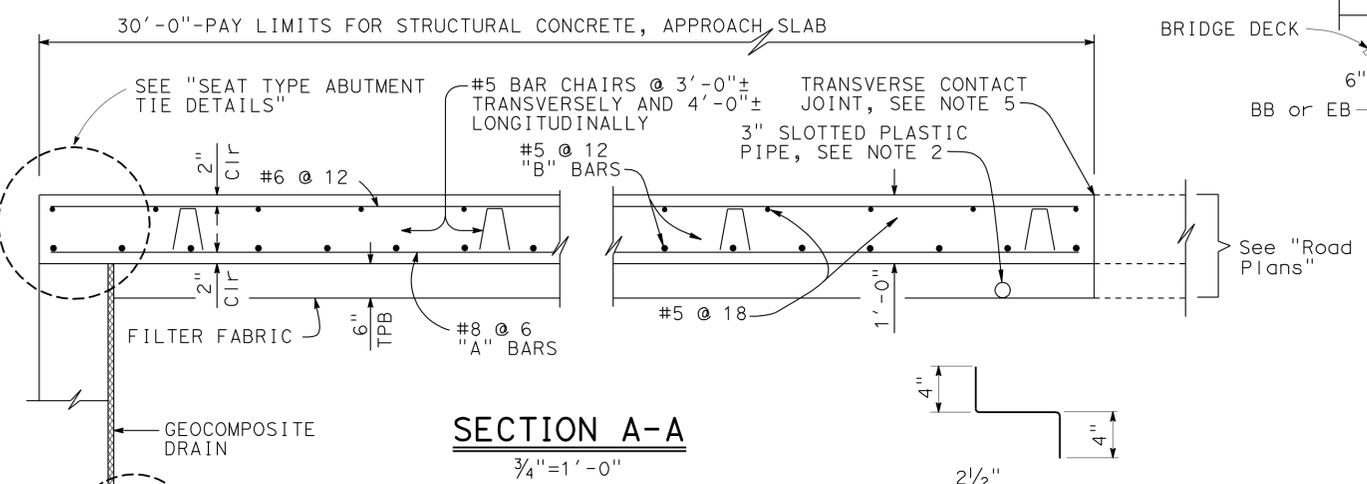
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	306	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 3/14/12
 PLANS APPROVAL DATE 6-11-12

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



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



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

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

REVISED STANDARD DRAWING	1 Revised detail	3 Revised note
FILE NO. xs3-120	2 Deleted detail	
APPROVAL DATE July 2011		

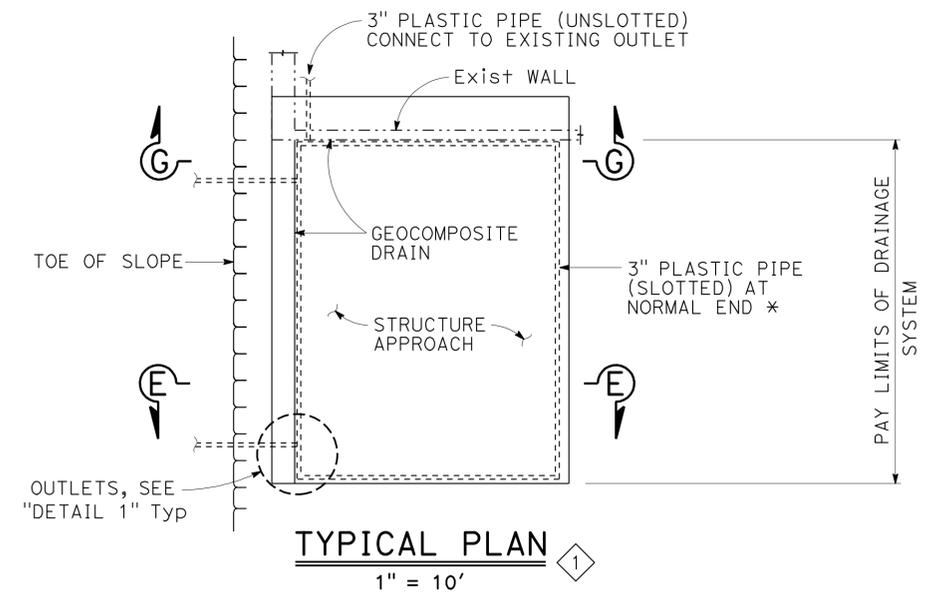
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 BRIDGE NO. 20-0284L
 POST MILE 3.65
ROUTE 101S/ 116 SOH (WIDEN)
STRUCTURE APPROACH TYPE N(30S)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	307	375

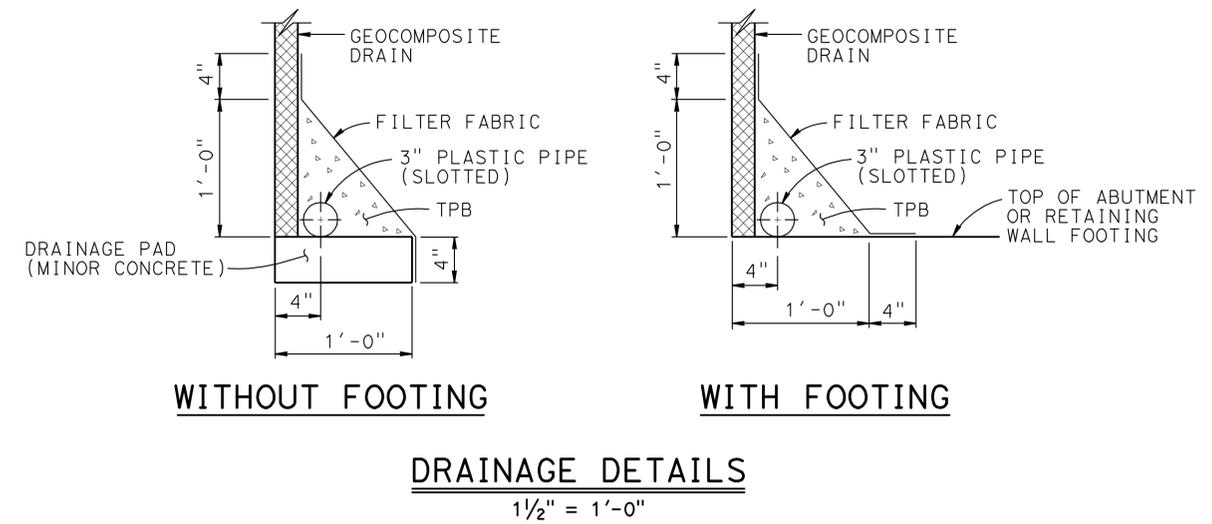
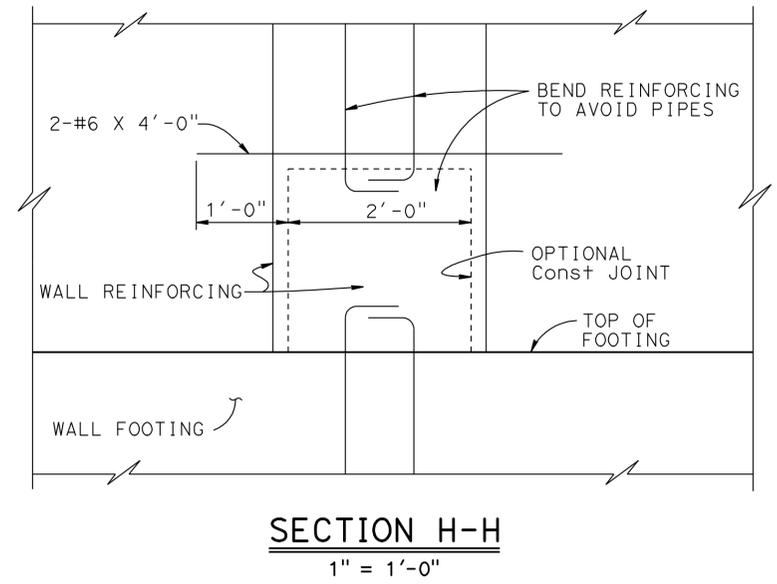
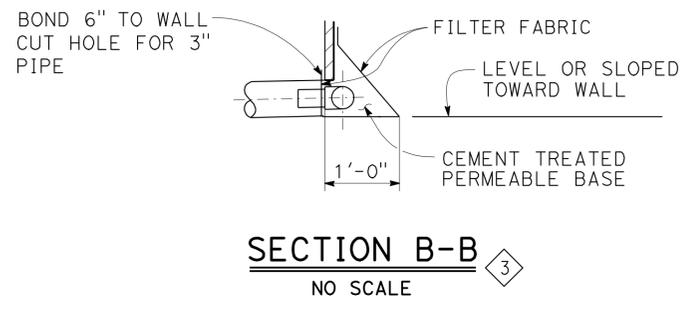
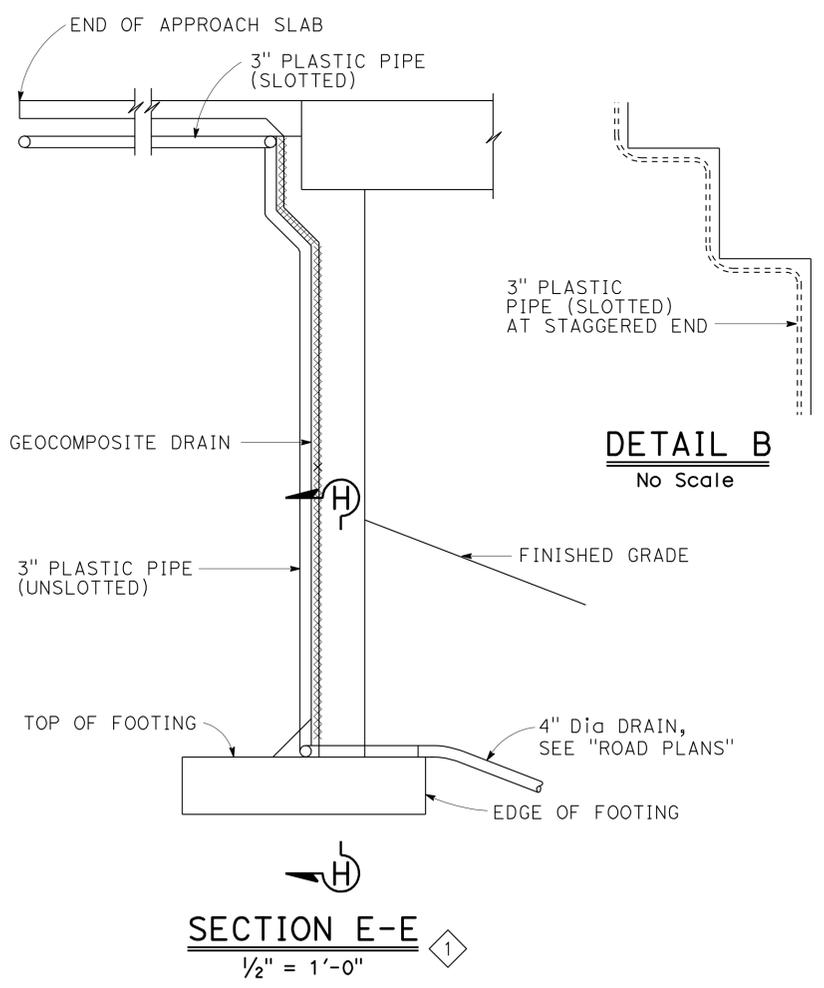
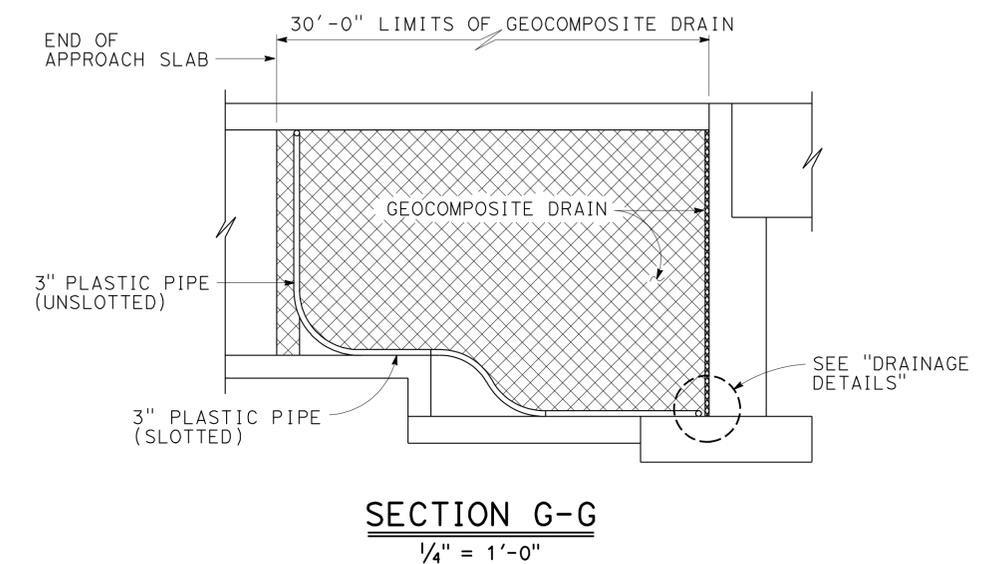
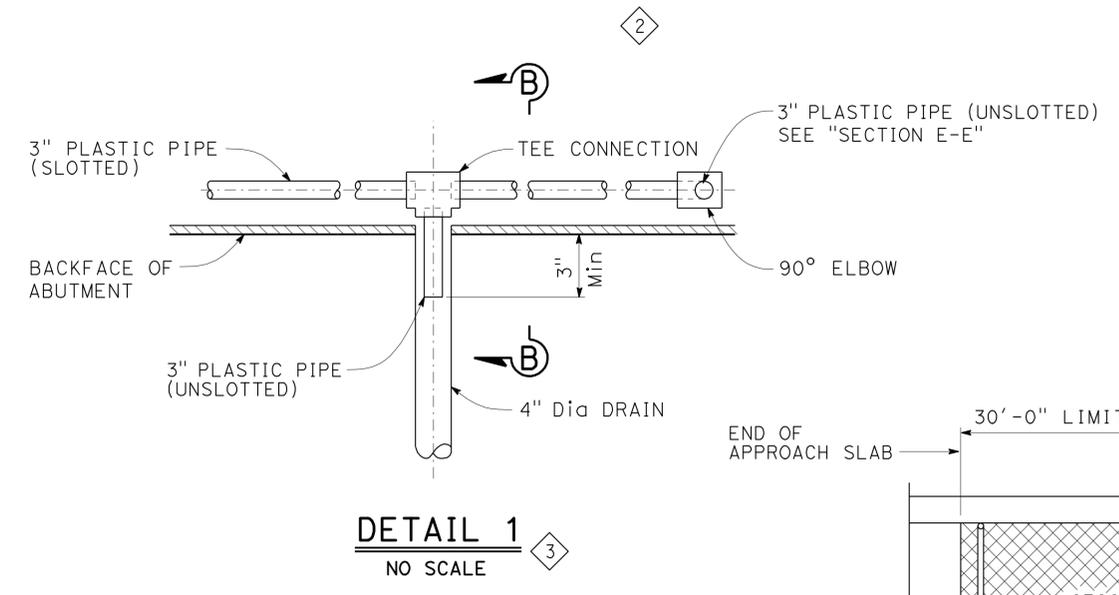
Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 3/14/12
 PLANS APPROVAL DATE 6-11-12
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



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



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

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

STANDARD DRAWING	1 Revised detail	3 Added detail
FILE NO. xs3-110	2 Deleted detail	
APPROVAL DATE July 2011		

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 20-0284L	ROUTE 101S/ 116 SOH (WIDEN)
DEPARTMENT OF TRANSPORTATION		POST MILE 3.65	STRUCTURE APPROACH DRAINAGE DETAILS

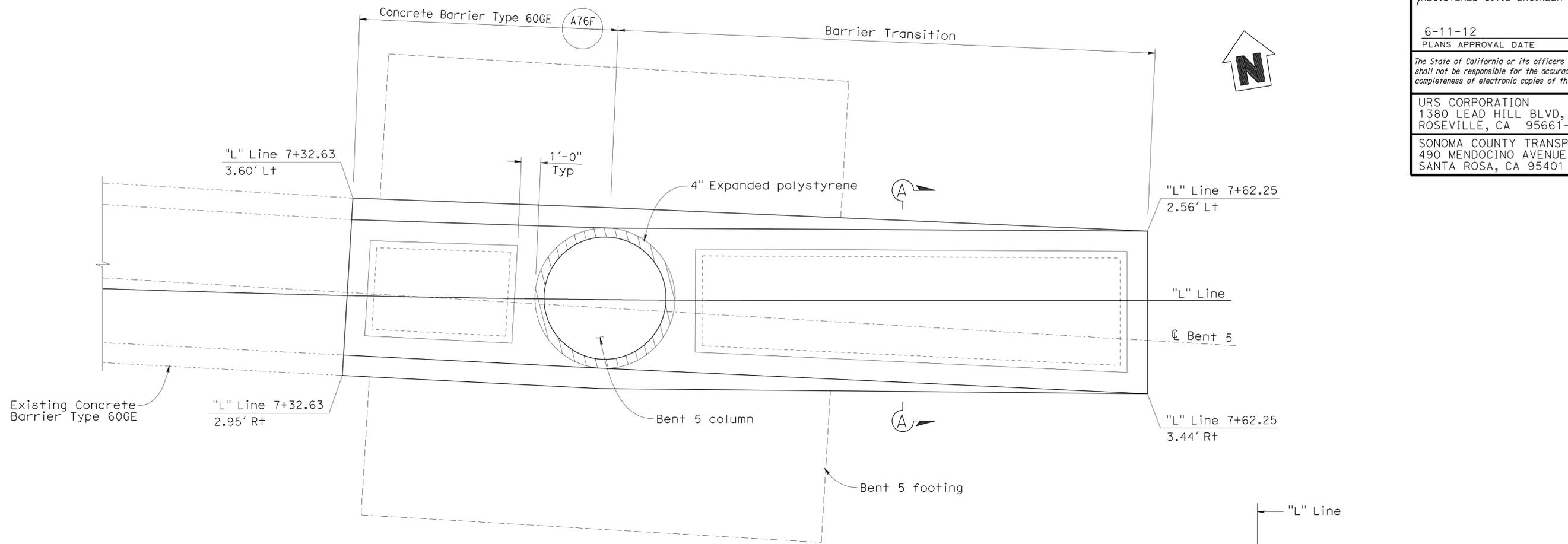
UNIT: 0714	PROJECT NUMBER & PHASE: 04120004061	CONTRACT NO.: 04-2640K4
------------	-------------------------------------	-------------------------

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 23	OF 35
	3-21-10 5-20-11 1-13-12 3-14-12		

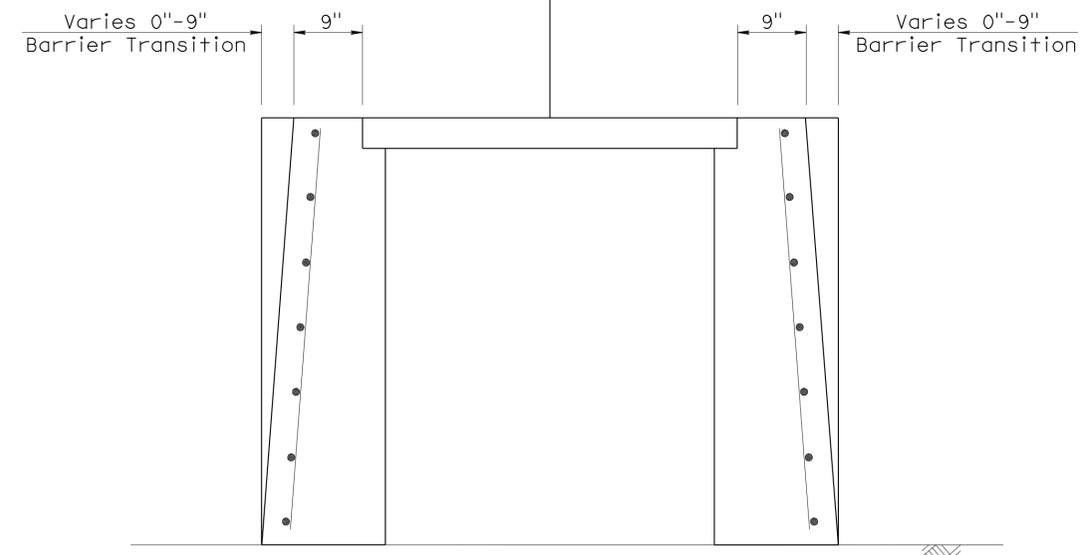
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	308	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 3/14/12
 PLANS APPROVAL DATE 6-11-12
 REGISTERED PROFESSIONAL ENGINEER
 Jan M. Hueser
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



PLAN
1/2" = 1'-0"



SECTION A-A
1" = 1'-0" A76F

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

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY H. Choi/J. Hueser	CHECKED S. Landis/G. Rowe
DETAILS	BY L. Davis	CHECKED S. Landis/G. Rowe
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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

Walt LaFranchi
 PROJECT ENGINEER
 BRIDGE NO. 20-0284L
 POST MILE 3.65

**ROUTE 101S/ 116 SOH (WIDEN)
 BARRIER TRANSITION DETAILS**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
3-21-10 5-20-11 1-13-12 3-14-12	24	35

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 14:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	309	375

REGISTERED CIVIL ENGINEER 3/14/12 DATE

6-11-12

 PLANS APPROVAL DATE

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

URS CORPORATION

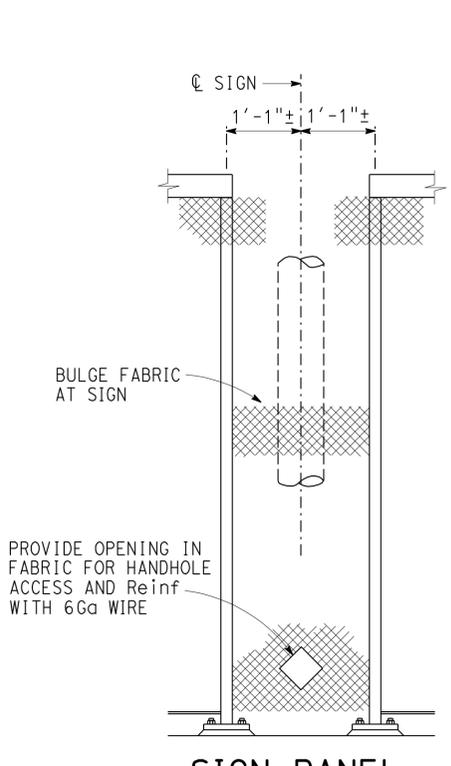
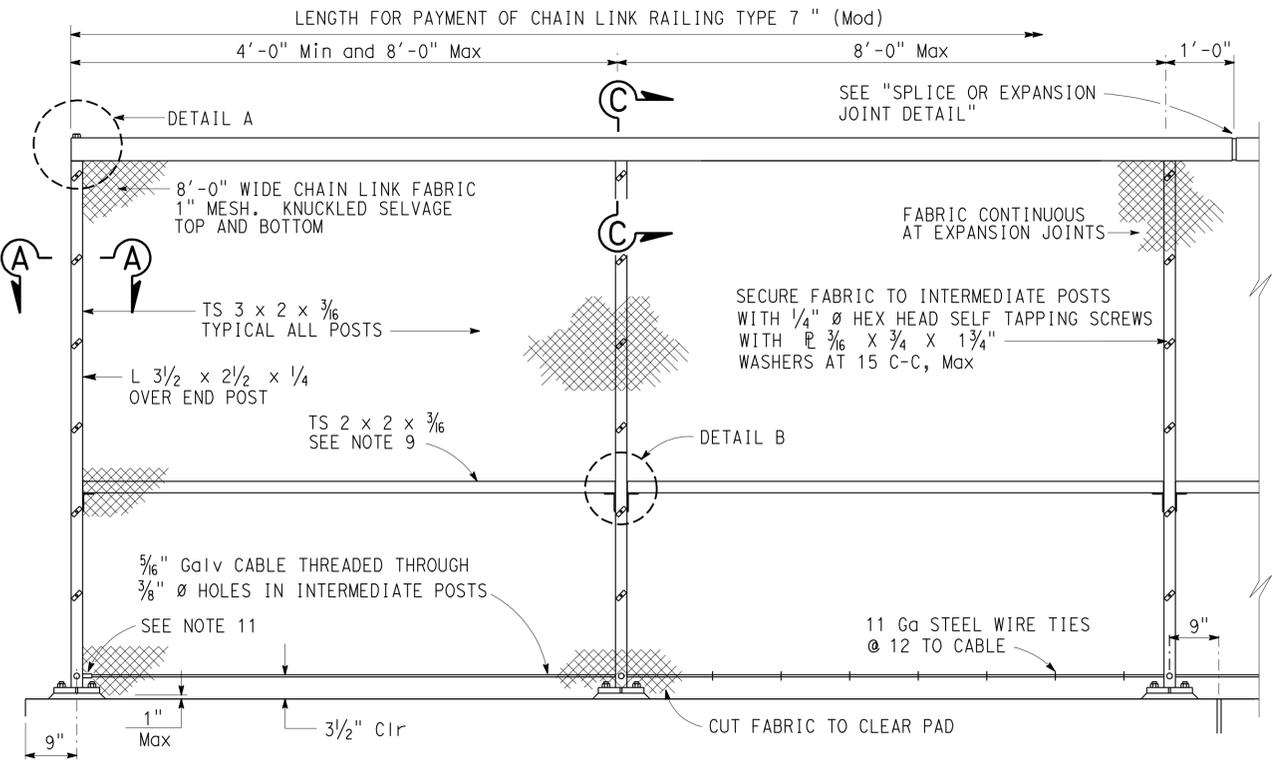
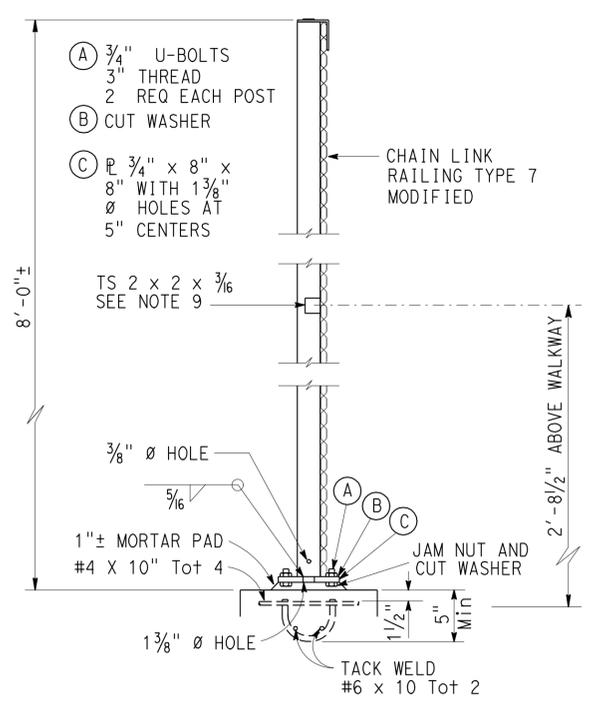
 1380 LEAD HILL BLVD, SUITE 100

 ROSEVILLE, CA 95661-2997

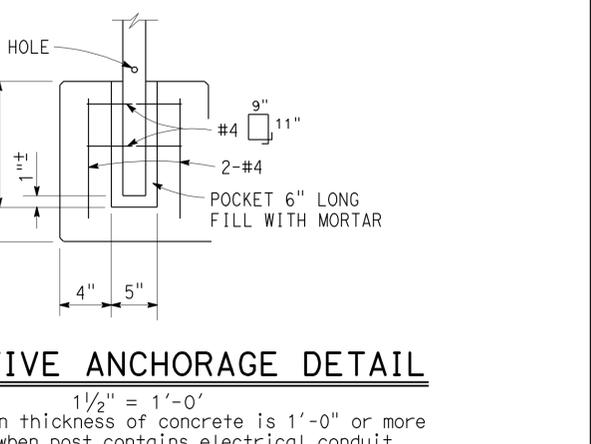
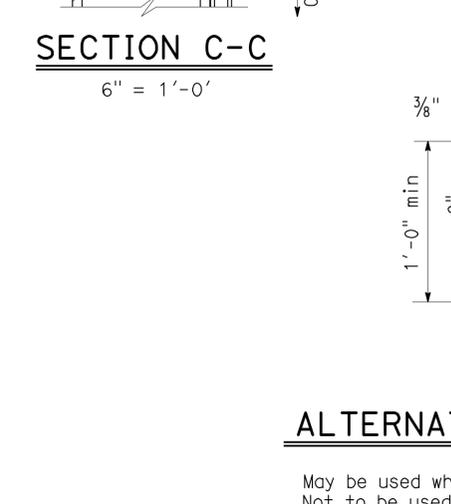
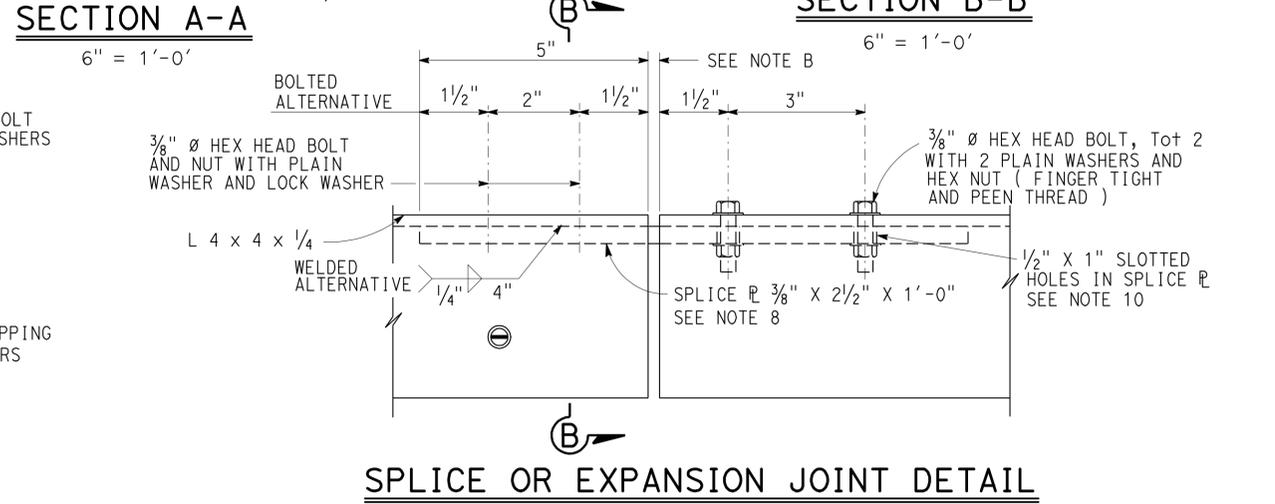
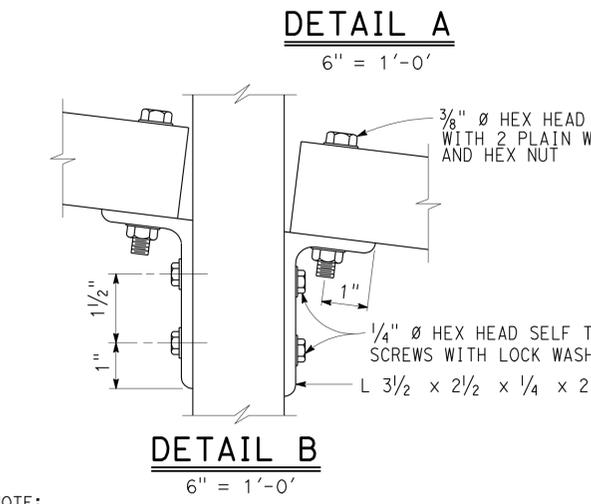
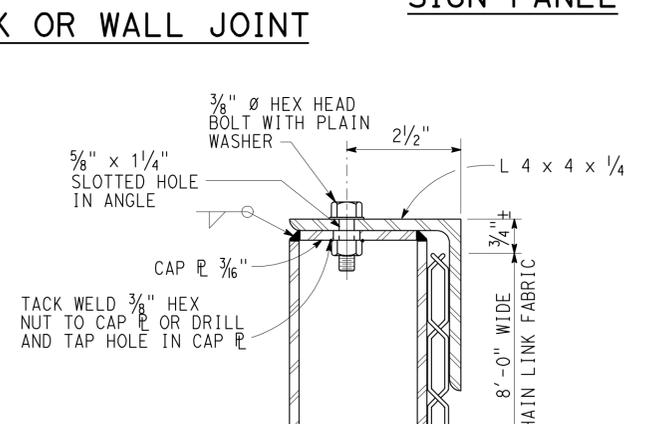
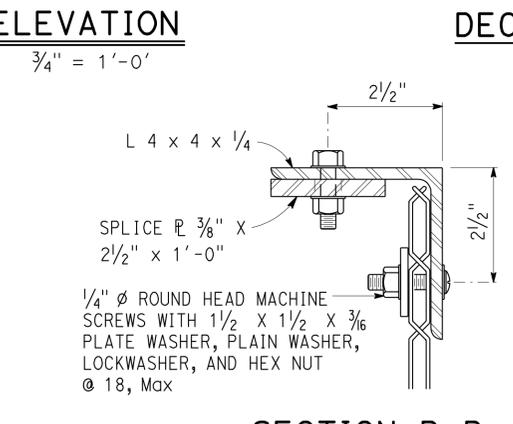
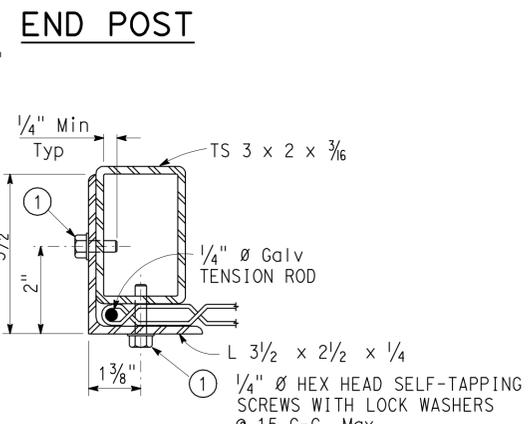
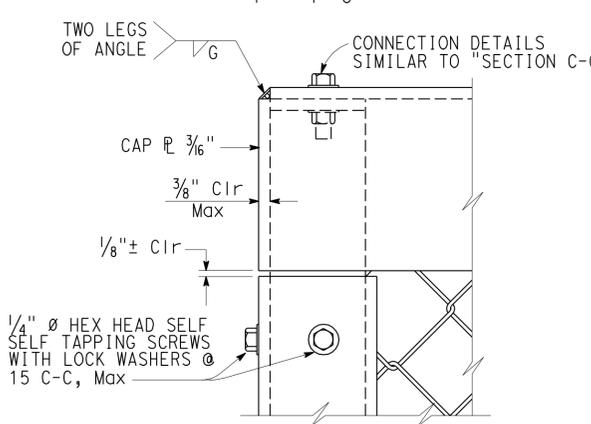
 SONOMA COUNTY TRANSPORTATION AUTHORITY

 490 MENDOCINO AVENUE, SUITE 206

 SANTA ROSA, CA 95401



- NOTES:
- Railing assembly except chain link fabric to be galvanized after fabrication
 - Railing shall conform to horizontal and vertical alignment. Post shall be vertical. Horizontal angle shall be bent to conform to horizontal alignment if radius is 150'-0" or less.
 - Horizontal angle shall be continuous over not less than two intermediate posts, except that a shorter length is permitted at expansion joints and other rail discontinuities.
 - When railing is placed on curved horizontal alignment with radius of 150'-0" or less, drill 1/2" ϕ x 3" deep hole in slab and set in epoxy adhesives 3/8" ϕ welded eyebolt for 3/8" cable to limit the mid-ordinate distance between the 3/8" cable and curve to be 1" Max.
 - Place fabric parallel to slope.
 - Alternative details may be submitted by the Contractor for Engineer's approval.
 - Provide thimbles at all cable loops.
 - Peen all exposed bolts.
 - TS 2 x 2 x 3/16 required for curves with radius of 150'-0" or less. Bend to conform to curve.
 - Expansion joint same dimension as expansion joint in deck or wall. Increase slotted hole length and splice ℓ length correspondingly.
 - Anchor 5/16" galvanized cable at end post and end posts adjacent to electrolier openings or deck or wall joints with 1/2" ϕ stud socket assembly or 1/2" ϕ welded eyebolt and crimped sleeve clamp. Provide 1/2" minimum take-up at each anchorage.



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

REVISED STANDARD DRAWING	1 Revised detail
FILE NO. xs16-220-1	APPROVAL DATE July 2011

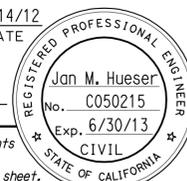
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 20-0284L
 POST MILE 3.65

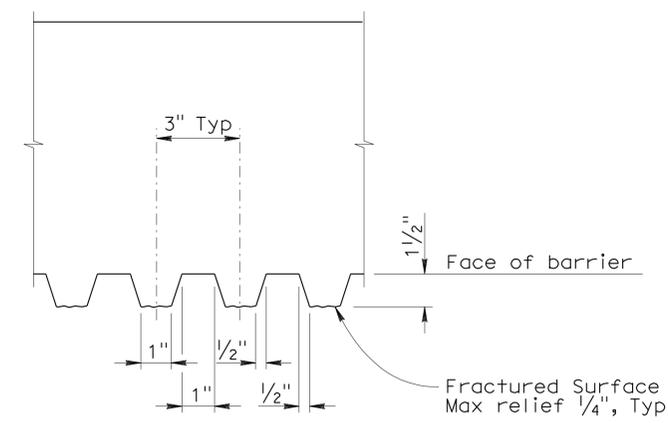
ROUTE 101S/ 116 SOH (WIDEN)
CHAIN LINK RAILING (TYPE 7 MODIFIED)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	310	375



Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE: 3/14/12
 PLANS APPROVAL DATE: 6-11-12
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

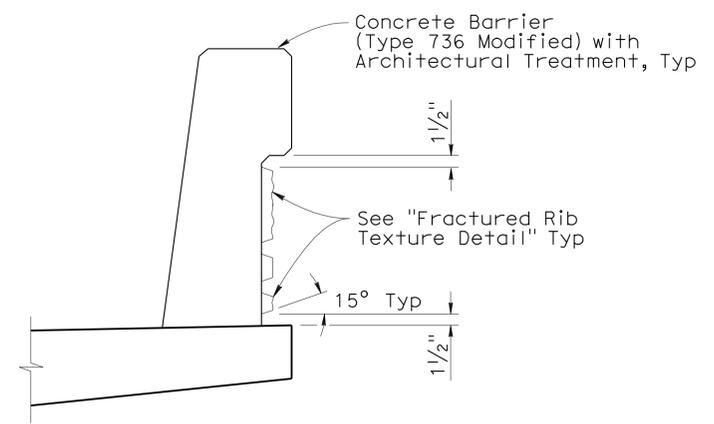


Notes:

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

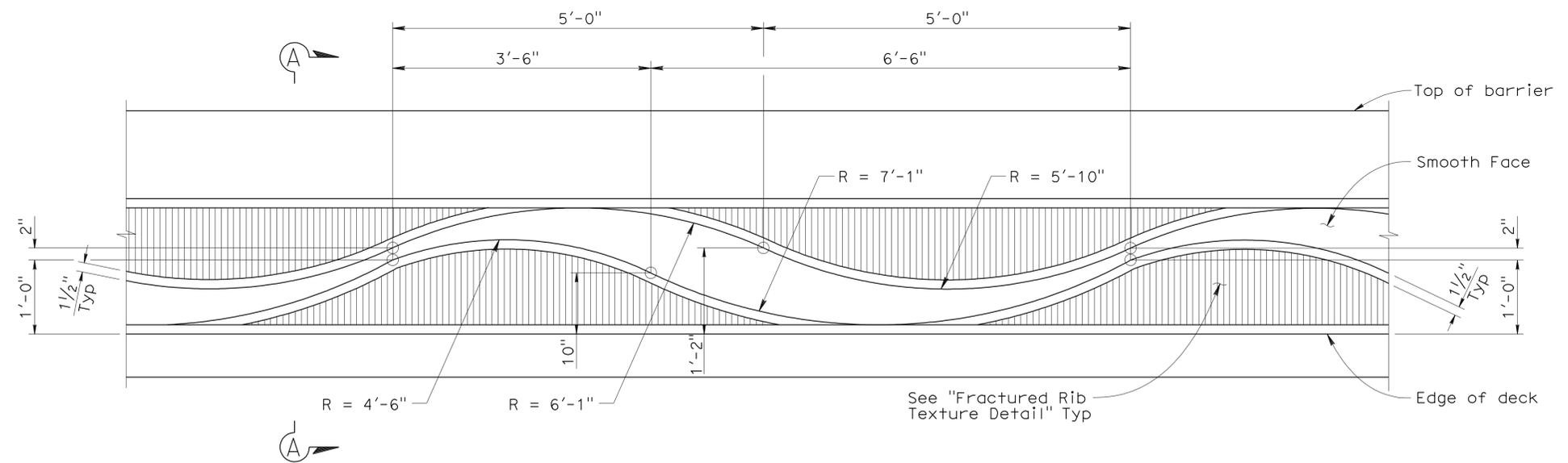
FRACTURED RIB TEXTURE DETAIL

No Scale



BARRIER SECTION A-A

No Scale



BARRIER ELEVATION

No Scale

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


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY H. Choi/J. Hueser	CHECKED S. Landis/G. Rowe
DETAILS	BY L. Davis	CHECKED S. Landis/G. Rowe
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284L
POST MILE	3.65

**ROUTE 101S/ 116 SOH (WIDEN)
 ARCHITECTURAL DETAILS**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



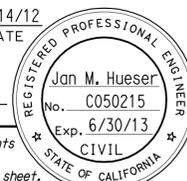
UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

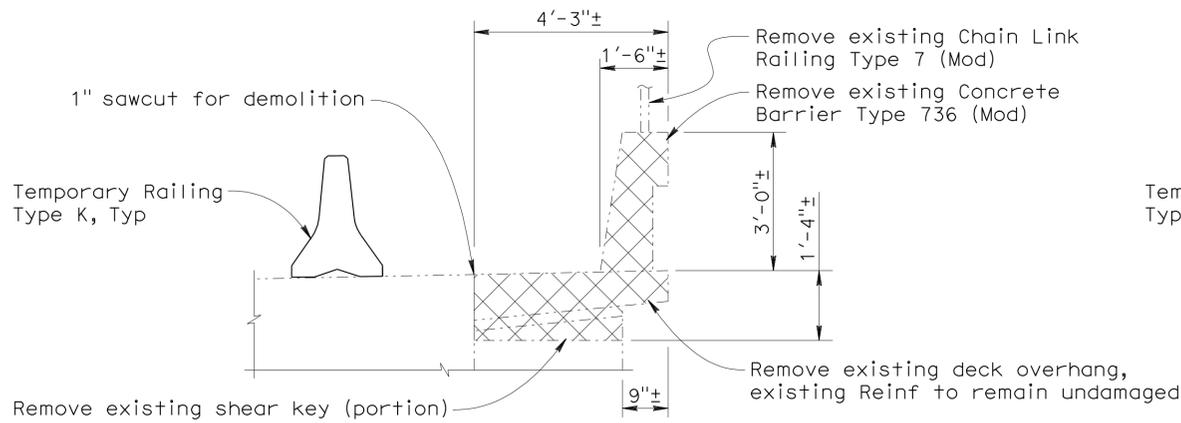
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
3-21-10 5-28-11 1-13-12 3-14-12	26	35

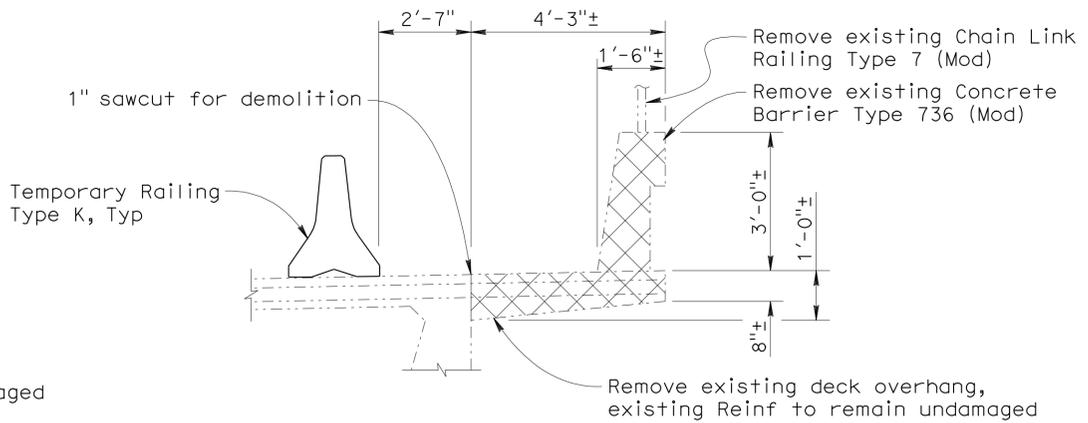
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	311	375


 REGISTERED CIVIL ENGINEER
 DATE 3/14/12
 6-11-12
 PLANS APPROVAL DATE
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

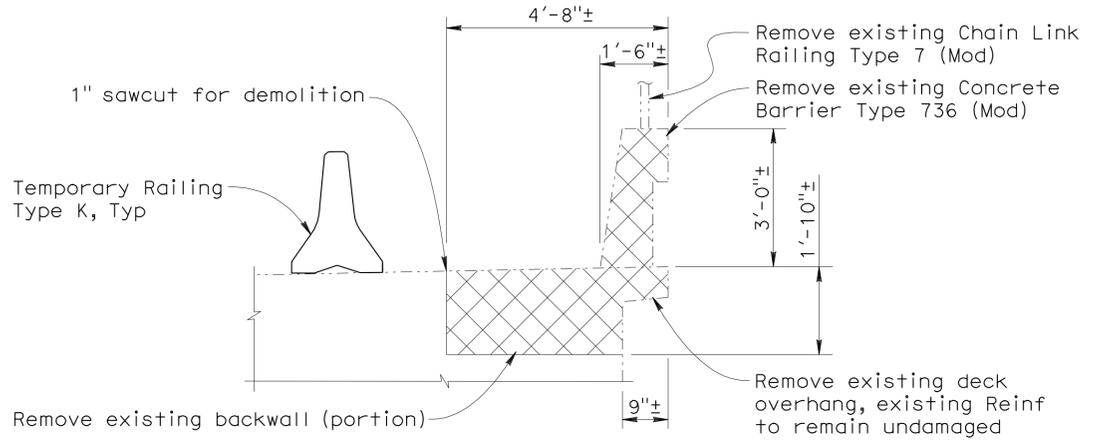


SECTION C-C AT SHEAR KEY

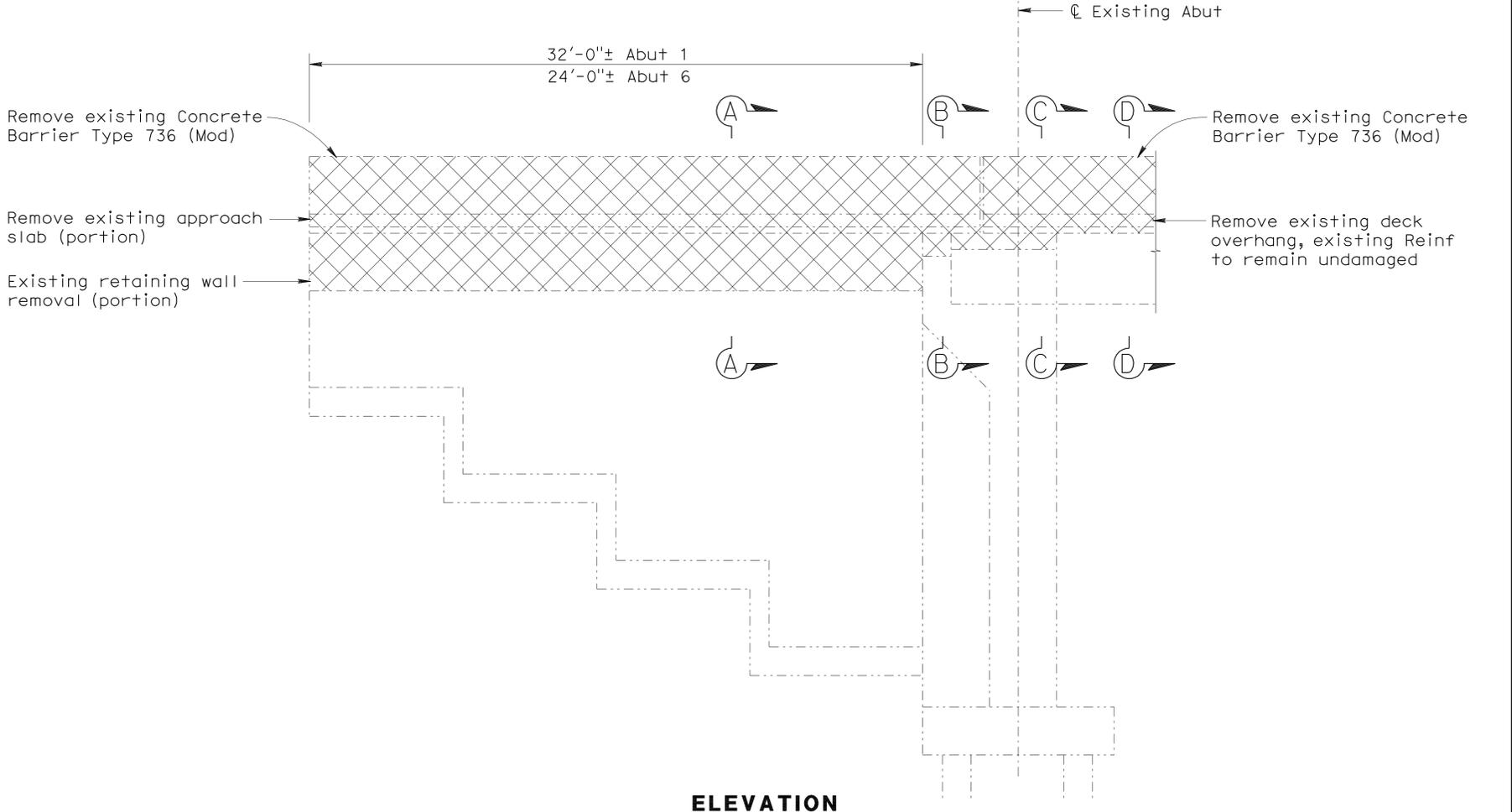


SECTION D-D AT OVERHANG

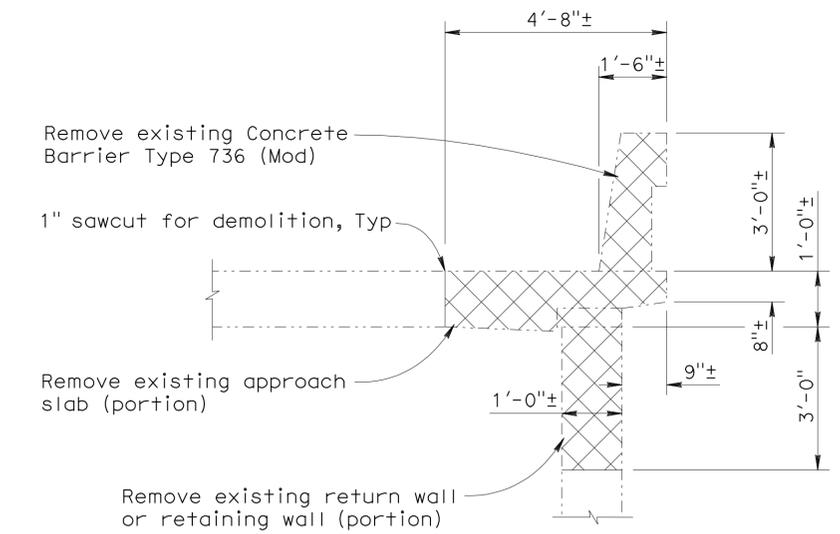
LEGEND:
 - - - - - Denotes existing structure
 X X X X Denotes bridge removal (portion)



SECTION B-B AT BACKWALL



ELEVATION



SECTION A-A AT RETURN WALL

LIMITS OF REMOVAL OF EXISTING CONCRETE BARRIER TYPE 736 (MOD), APPROACH SLAB, AND WALL (PORTION)
 1/2" = 1'-0"

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


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY H. Choi/J. Hueser	CHECKED S. Landis/G. Rowe
DETAILS	BY L. Davis	CHECKED S. Landis/G. Rowe
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284L
POST MILE	3.65

ROUTE 101S/ 116 SOH (WIDEN) BRIDGE REMOVAL DETAILS

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
PROJECT NUMBER & PHASE: 04120004061

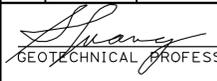
CONTRACT NO.: 04-2640K4

REVISION DATES	SHEET	OF
3-21-10 5-20-11 1-13-12 3-14-12	27	35

FILE => 20-0284L-u-miscd+01.dgn

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 12:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	312	375


 GEOTECHNICAL PROFESSIONAL DATE 3/14/12
 6-11-12
 PLANS APPROVAL DATE
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URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

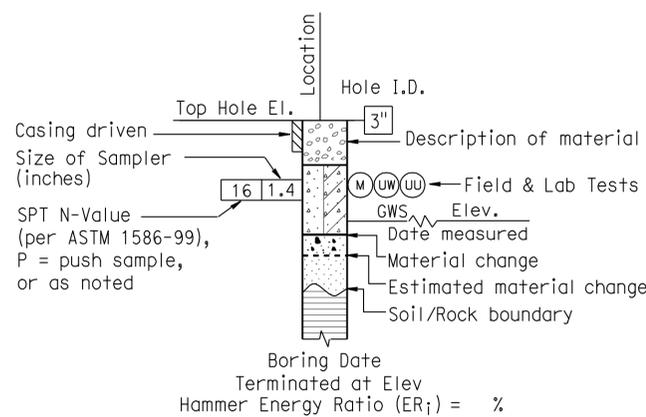
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

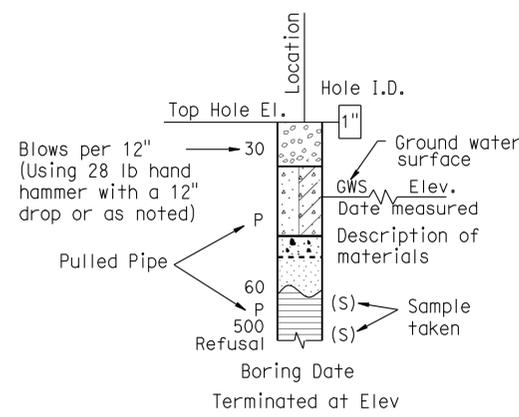
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

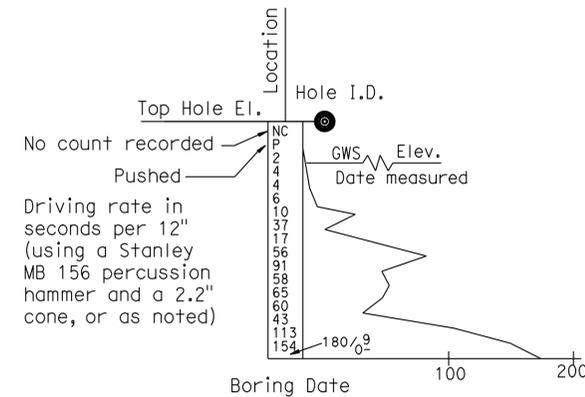
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the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



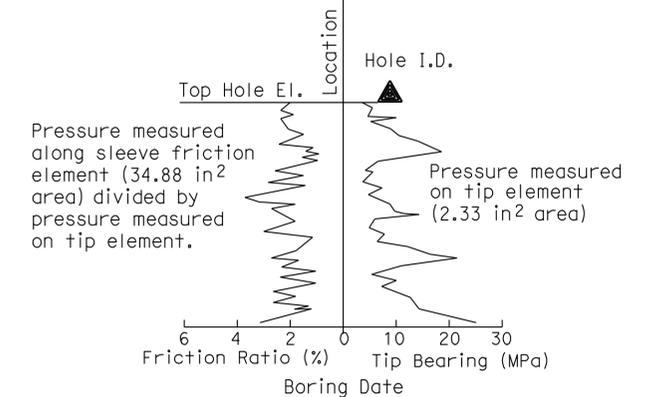
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

SOIL LEGEND

DESIGN OVERSIGHT
 Tracy L Bertram
 4-17-12
 SIGN OFF DATE

DRAWN BY
 A. CHEUNG
 CHECKED BY
 MANOHARAN

FIELD INVESTIGATION BY:
 C. RAMBO
 DATE:

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

S. HUANG
 PROJECT ENGINEER

BRIDGE NO.
 20-0284L
 POST MILES
 3.65

ROUTE 101S/ 116 SOH (WIDEN)
LOG OF TEST BORINGS 1 OF 8

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW Well-graded GRAVEL		Lean CLAY
	GW Well-graded GRAVEL with SAND		Lean CLAY with SAND
	GP Poorly graded GRAVEL		Lean CLAY with GRAVEL
	GP Poorly graded GRAVEL with SAND		SANDY lean CLAY
	GW-GM Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	GW-GM Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	GW-GC Well-graded GRAVEL with CLAY		GRAVELLY lean CLAY with SAND
	GW-GC Well-graded GRAVEL with CLAY and SAND		SILTY CLAY
	GW-GC Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with SAND
	GW-GC Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with GRAVEL
	GP-GM Poorly graded GRAVEL with SILT		SANDY SILTY CLAY
	GP-GM Poorly graded GRAVEL with SILT and SAND		SANDY SILTY CLAY with GRAVEL
	GP-GC Poorly graded GRAVEL with CLAY		GRAVELLY SILTY CLAY
	GP-GC Poorly graded GRAVEL with CLAY and SAND		GRAVELLY SILTY CLAY with SAND
	GM SILTY GRAVEL		SILT
	GM SILTY GRAVEL with SAND		SILT with SAND
	GC CLAYEY GRAVEL		SILT with GRAVEL
	GC CLAYEY GRAVEL with SAND		SANDY SILT
	GC-GM SILTY, CLAYEY GRAVEL		SANDY SILT with GRAVEL
	GC-GM SILTY, CLAYEY GRAVEL with SAND		GRAVELLY SILT
	SW Well-graded SAND		GRAVELLY SILT with SAND
	SW Well-graded SAND with GRAVEL		ORGANIC lean CLAY
	SP Poorly graded SAND		ORGANIC lean CLAY with SAND
	SP Poorly graded SAND with GRAVEL		ORGANIC lean CLAY with GRAVEL
	SW-SM Well-graded SAND with SILT		SANDY ORGANIC lean CLAY
	SW-SM Well-graded SAND with SILT and GRAVEL		GRAVELLY ORGANIC lean CLAY
	SW-SC Well-graded SAND with CLAY		GRAVELLY ORGANIC lean CLAY with SAND
	SW-SC Well-graded SAND with CLAY and GRAVEL		Elastic SILT
	SP-SM Poorly graded SAND with SILT		Elastic SILT with SAND
	SP-SM Poorly graded SAND with SILT and GRAVEL		Elastic SILT with GRAVEL
	SP-SC Poorly graded SAND with CLAY		SANDY elastic SILT
	SP-SC Poorly graded SAND with CLAY and GRAVEL		SANDY elastic SILT with GRAVEL
	SM SILTY SAND		GRAVELLY elastic SILT
	SM SILTY SAND with GRAVEL		GRAVELLY elastic SILT with SAND
	SC CLAYEY SAND		ORGANIC fat CLAY
	SC CLAYEY SAND with GRAVEL		ORGANIC fat CLAY with SAND
	SC-SM SILTY, CLAYEY SAND		ORGANIC fat CLAY with GRAVEL
	SC-SM SILTY, CLAYEY SAND with GRAVEL		SANDY ORGANIC fat CLAY
	PT PEAT		SANDY ORGANIC fat CLAY with GRAVEL
	PT PEAT		GRAVELLY ORGANIC fat CLAY
	COBBLES		GRAVELLY ORGANIC fat CLAY with SAND
	COBBLES and BOULDERS		ORGANIC elastic SILT
	BOULDERS		ORGANIC elastic SILT with SAND
	BOULDERS		ORGANIC elastic SILT with GRAVEL

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

3/14/12
DATE

6-11-12
PLANS APPROVAL DATE

Stephen Huang
No. C 42289
Exp. 03/31/12
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

URS CORPORATION
100 WEST SAN FERNANDO STREET, SUITE 200
SAN JOSE, CA 95113

SONOMA COUNTY TRANSPORTATION AUTHORITY
490 MENDOCINO AVENUE, SUITE 206
SANTA ROSA, CA 95401

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

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

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

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

SOIL LEGEND

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	314	375

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

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

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

RELATIVE STRENGTH OF INTACT ROCK

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

BEDDING SPACING

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

3/14/12
 GEOTECHNICAL PROFESSIONAL DATE
 Stephen Huang
 No. C 42289
 Exp. 03/31/12
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 GEOTECHNICAL

6-11-12
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URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113

SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

LEGEND OF ROCK MATERIALS

	IGNEOUS ROCK
	SEDIMENTARY ROCK
	METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

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

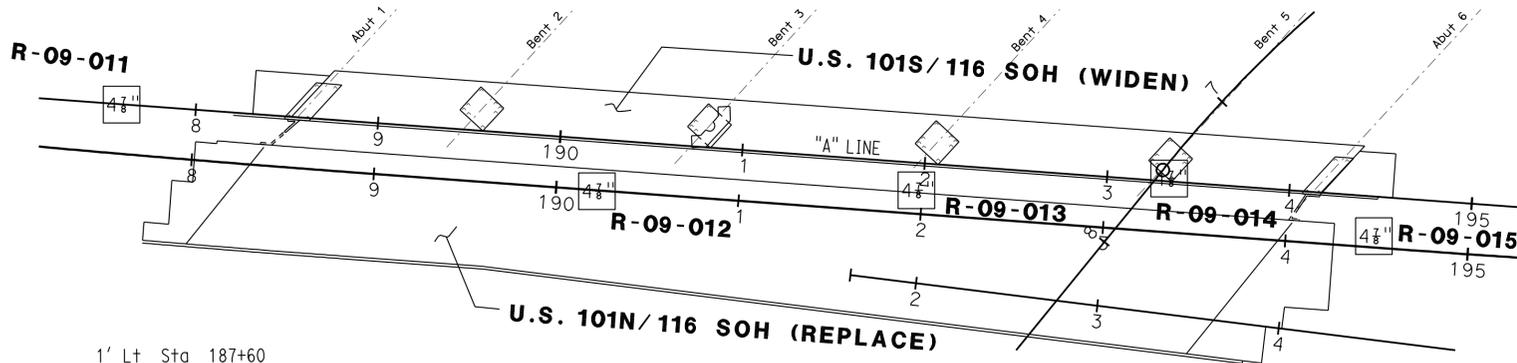
FRACTURE DENSITY

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

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

ROCK LEGEND

DESIGN OVERSIGHT Tracy L Bertram 4-17-12 SIGN OFF DATE	DRAWN BY A. CHEUNG	CHECKED BY MANOHARAN	C. RAMBO FIELD INVESTIGATION BY: DATE:	BRIDGE NO. 20-0284L	POST MILES 3.65	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	S. HUANG PROJECT ENGINEER	ROUTE 101S/ 116 SOH (WIDEN) LOG OF TEST BORINGS 3 OF 8
---	-----------------------	-------------------------	--	------------------------	--------------------	---	------------------------------	---



BENCH MARK:
 B.M.: JK121
 B. M. Elev.: 81.98 US Survey Feet
 Northing: 2276227.207
 Easting: 5954272.578
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and
 tack along the northbound shoulder
 of Stat Route 101 across from a
 "Sonoma-Napa-Right Lane" sign; 10.7
 feet easterly of a metal beam guard rail
 and at top slope.

B.M.: JK122
 B. M. Elev.: 52.65 US Survey Feet
 Northing: 2277835.878
 Easting: 5953598.199
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and
 tack along the northbound median
 of Stat Route 101; 50 feet northerly
 of a "Petaluma Blvd South-3/4 mile"
 sign; 16 feet westerly of the edge of
 pavement and witnessed by a carsonite
 witness post.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	315	375

DATE: 3/14/12
 GEOTECHNICAL PROFESSIONAL
 Stephen Huang
 No. C 42289
 Exp. 03/31/12
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 GEOTECHNICAL

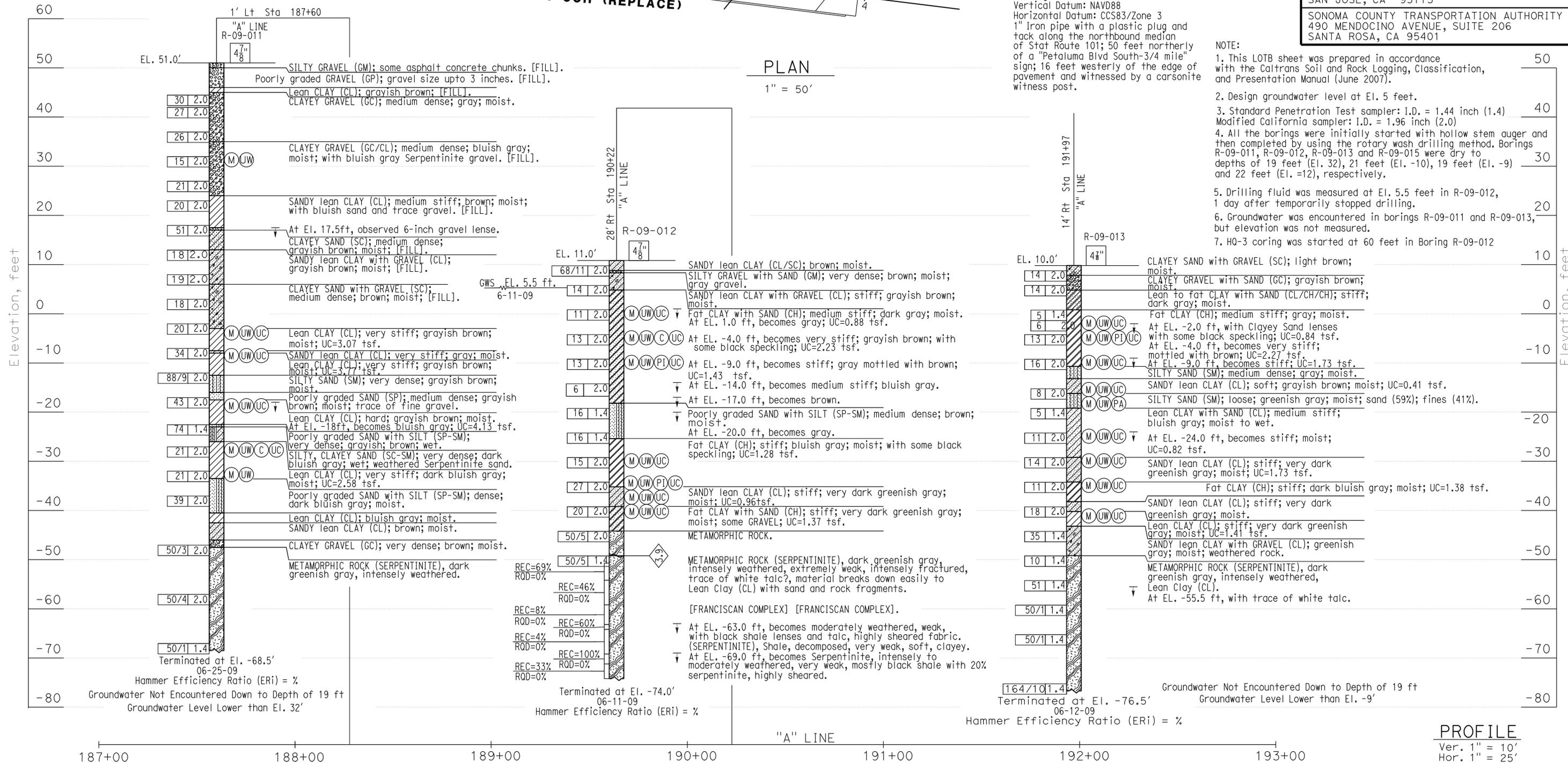
PLANS APPROVAL DATE: 6-11-12

URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113

SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

PLAN
 1" = 50'

- NOTE:**
1. This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification, and Presentation Manual (June 2007).
 2. Design groundwater level at El. 5 feet.
 3. Standard Penetration Test sampler: I.D. = 1.44 inch (1.4) Modified California sampler: I.D. = 1.96 inch (2.0)
 4. All the borings were initially started with hollow stem auger and then completed by using the rotary wash drilling method. Borings R-09-011, R-09-012, R-09-013 and R-09-015 were dry to depths of 19 feet (El. 32), 21 feet (El. -10), 19 feet (El. -9) and 22 feet (El. -12), respectively.
 5. Drilling fluid was measured at El. 5.5 feet in R-09-012, 1 day after temporarily stopped drilling.
 6. Groundwater was encountered in borings R-09-011 and R-09-013, but elevation was not measured.
 7. HQ-3 coring was started at 60 feet in Boring R-09-012



PROFILE
 Ver. 1" = 10'
 Hor. 1" = 25'

 DESIGN OVERSIGHT Tracy L. Bertram 4-17-12 SIGN OFF DATE	DRAWN BY A. CHEUNG	C. RAMBO FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 20-0284L	ROUTE 101S/116 SOH (WIDEN) LOG OF TEST BORINGS 4 OF 8			
	CHECKED BY MANOHARAN	DATE:		PROJECT ENGINEER S. HUANG		POST MILES 3.65		
GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 0714 PROJECT NUMBER & PHASE: 04120003311	CONTRACT NO.: 04-2640K4	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 3-28-10 5-20-11 1-13-12 3-14-12	SHEET 31 OF 35

FILE => 20-0284L-z-1+D04.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	316	375

3/14/12
Stephen Huang
 GEOTECHNICAL PROFESSIONAL ENGINEER
 No. C 42289
 Exp. 03/31/12
 STATE OF CALIFORNIA

6-11-12
 PLANS APPROVAL DATE

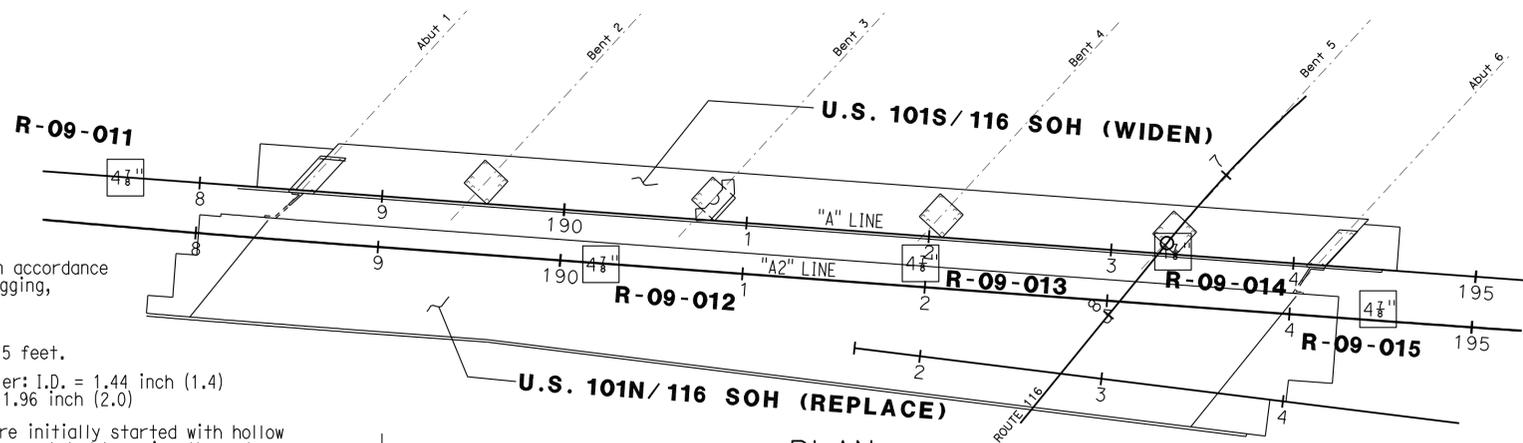
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113

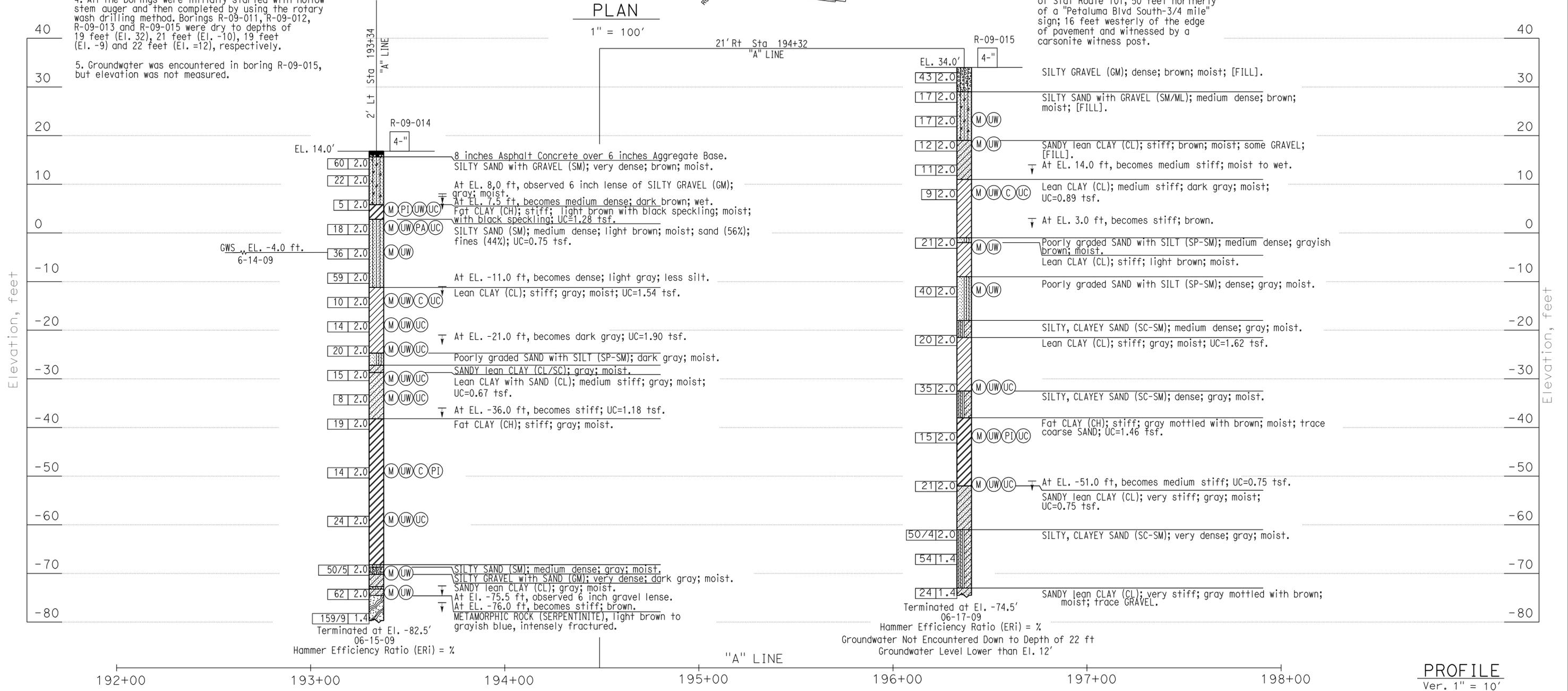
SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

BENCH MARK:
 B.M: JK121
 B. M Elev.: 81.98 US Survey Feet
 Northing: 2276227.207
 Easting: 5954272.578
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and tack along the northbound shoulder of Stat Route 101 across from a "Sonoma-Napa-Right Lane" sign; 10.7 feet easterly of a metal beam guard rail and at top slope.

B.M: JK122
 B. M Elev.: 52.65 US Survey Feet
 Northing: 2277835.878
 Easting: 5953598.199
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and tack along the northbound median of Stat Route 101; 50 feet northerly of a "Petaluma Blvd South-3/4 mile" sign; 16 feet westerly of the edge of pavement and witnessed by a carsonite witness post.



- NOTE:**
1. This LOTB sheet was prepared in accordance with the caltrans soil and Rock logging, Classification, and Presentation Manual (June 2007).
 2. Design groundwater level at El. 5 feet.
 3. Standard Penetration Test Sampler: I.D. = 1.44 inch (1.4) Modified California Sampler: I.D. = 1.96 inch (2.0)
 4. All the borings were initially started with hollow stem auger and then completed by using the rotary wash drilling method. Borings R-09-011, R-09-012, R-09-013 and R-09-015 were dry to depths of 19 feet (El. 32), 21 feet (El. -10), 19 feet (El. -9) and 22 feet (El. =12), respectively.
 5. Groundwater was encountered in boring R-09-015, but elevation was not measured.



DESIGN OVERSIGHT
 Tracy L Bertram
 4-17-12
 SIGN OFF DATE

DRAWN BY
 A. CHEUNG

CHECKED BY
 MANOHARAN

C. RAMBO
 FIELD INVESTIGATION BY:
 DATE:

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

S. HUANG
 PROJECT ENGINEER

BRIDGE NO.
 20-0284L

POST MILES
 3.65

ROUTE 101S/116 SOH (WIDEN)
LOG OF TEST BORINGS 5 OF 8



DIST.	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	5.6/6.3	148	148

08-05-02

REGISTERED ENGINEER CIVIL

PLANS APPROVAL DATE 3-15-04

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Caltrans now has a web site! To get to the web site, go to: <http://www.dgs.gov>



TO ACCOMPANY PLANS DATED 6-11-12

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	Son	101	3.4/4.1	319	375

DATE 1/13/12

CERTIFIED ENGINEERING GEOLOGIST

ROUTE 101S/116 SOH (WIDEN)

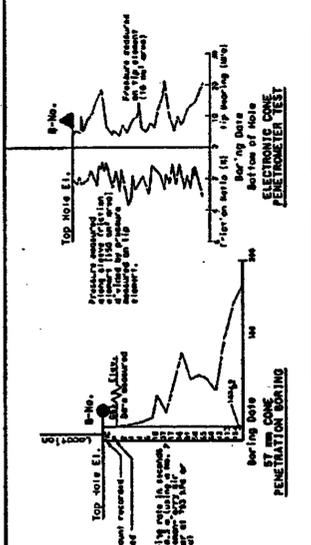
LOG OF TEST BORINGS 8 OF 8

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

Revisions made to this Log of Test Borings from the original 2002 Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from "A" Line
CPT-1	189+28	72.8 Lt
BH-1	189+21	72.6 Lt

BRIDGE No. 0714 04-2640K4
PROJECT NUMBER & PHASE: 04000007361
20-0284L 35 35



LEGEND OF BORING OPERATIONS

ST. ST. CONE PENETROMETER (SPT) TEST (10' BLows)

CONE PENETROMETER (CPT) TEST (10' Blows)

ASBESTOS TEST (AT)

SOIL SAMPLES (S)

WATER SAMPLES (W)

GRAVEL (G)

SAND (S)

SILT (SI)

CLAY (C)

ORGANIC MATTER (OM)

ILL MINERAL (IM)

TOXIC ROCK (TR)

SUBSTRATE ROCK (SR)

WEATHERED ROCK (WR)

VERY SOFT (VS)

SOFT (S)

STIFF (ST)

VERY STIFF (VST)

VERY HARD (VH)

VERY STIFF (VST)

VERY HARD (VH)

LEGEND OF EARTH MATERIALS

GRAVEL (G)

SAND (S)

SILT (SI)

CLAY (C)

ORGANIC MATTER (OM)

ILL MINERAL (IM)

TOXIC ROCK (TR)

SUBSTRATE ROCK (SR)

WEATHERED ROCK (WR)

VERY SOFT (VS)

SOFT (S)

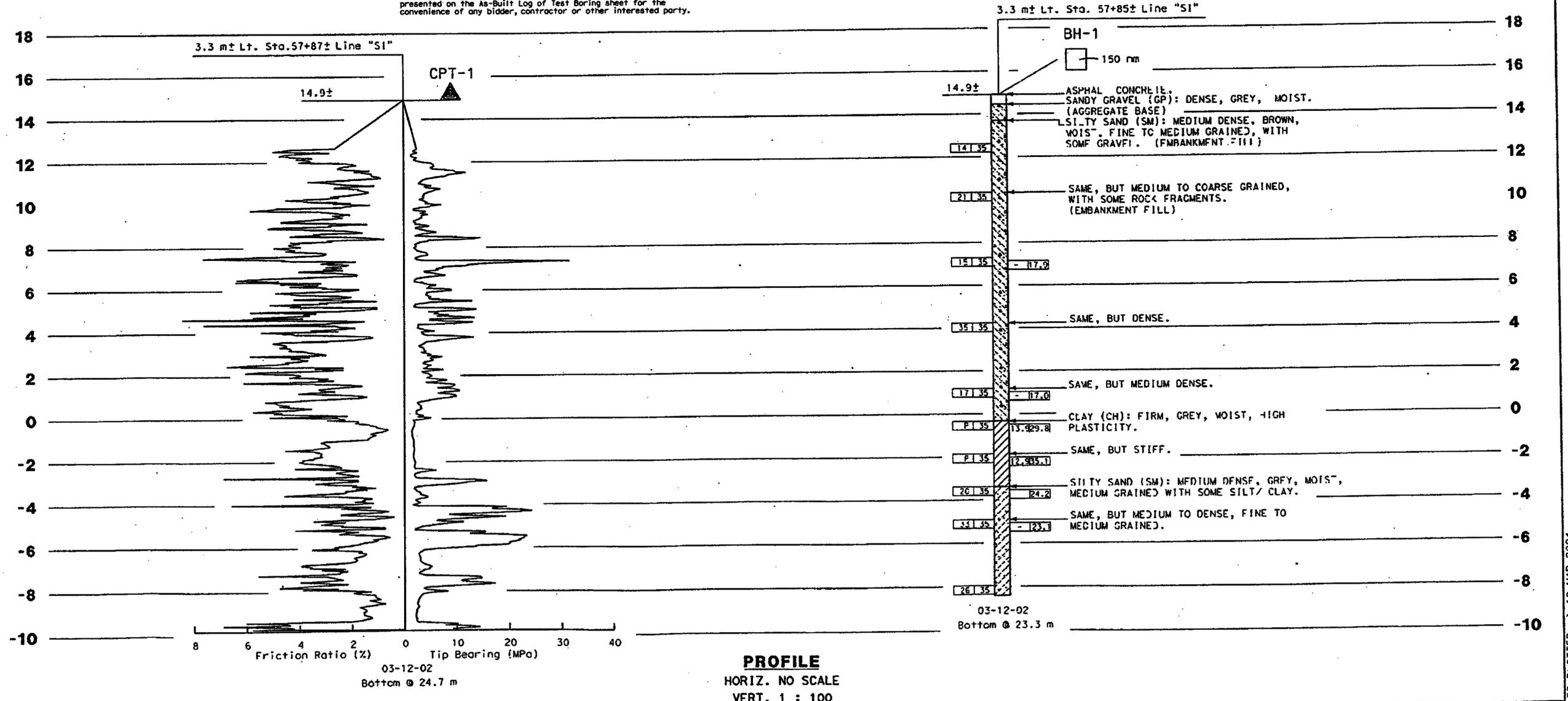
STIFF (ST)

VERY STIFF (VST)

VERY HARD (VH)

VERY STIFF (VST)

VERY HARD (VH)



DIVISION OF ENGINEERING SERVICES		FIELD INVESTIGATION BY: T. NGUYEN		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		GEOTECHNICAL SERVICES OFFICE OF GEOTECHNICAL DESIGN - WEST		BRIDGE NO. 0714		MECHANICALLY STABILIZED EMBANKMENT	
DRAWN BY: M. REYNOLDS 06/02		CHECKED BY: S. KAKIHARA		CU 04276 EA 276001		USERNAME => tmarjak		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 2 OF 2	

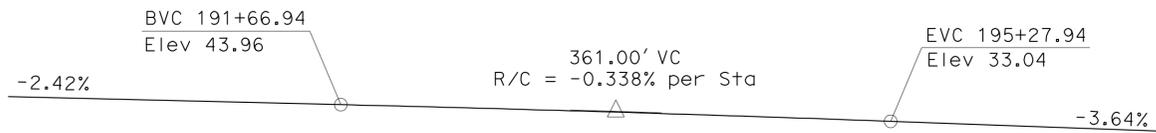
DATE PLOTTED => 19-MAR-2004
TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	320	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER 4/4/12 DATE
 6-11-12 PLANS APPROVAL DATE
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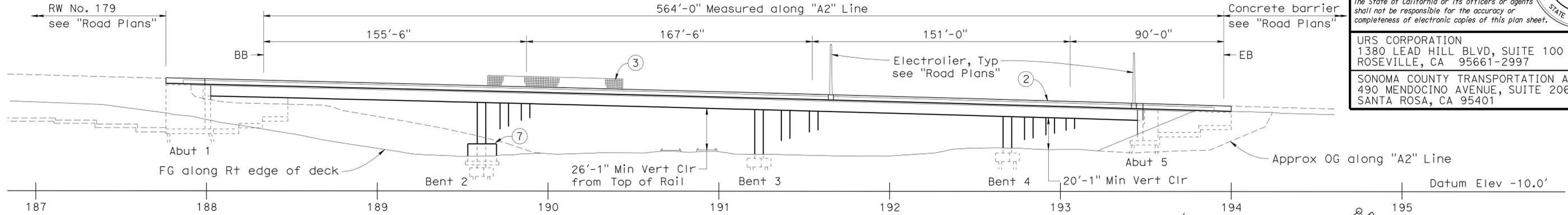
Jan M. Hueser
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



PROFILE GRADE- "A2" LINE

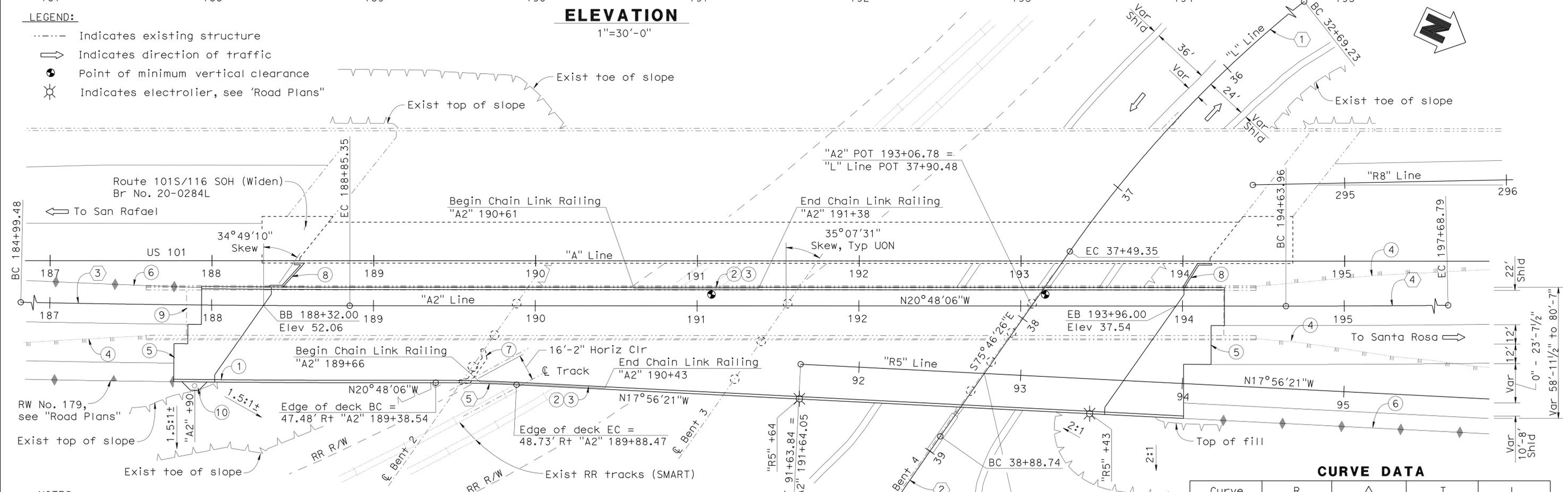
No Scale



ELEVATION

1"=30'-0"

- LEGEND:**
- Indicates existing structure
 - Indicates direction of traffic
 - Point of minimum vertical clearance
 - ☼ Indicates electrolier, see 'Road Plans'



PLAN

1"=30'-0"

Note:
 For "General Notes", "Standard Plans", "Index to Plans" see "Index to Plans" sheet. For "Quantities" see "General Plan No. 2" sheet.

- NOTES:**
- ① Paint Bridge Number 20-0284R, Bridge Name and Year Completed
 - ② Concrete Barrier (Type 736 Modified) with Architectural Treatment
 - ③ Chain Link Railing (Type 7 Modified)
 - ④ Remove existing MBGR, see "Road Plans"
 - ⑤ Structure Approach Type N(30S)
 - ⑥ Barrier Railing, see "Road Plans"
 - ⑦ Concrete Crash Wall
 - ⑧ Median Retaining Wall
 - ⑨ Bridge removal (Br No. 20-0155R)
 - ⑩ Overhead Sign Pilaster

CURVE DATA

Curve	R	Δ	T	L
①	750'	36°40'42"	248.61'	480.12'
②	4000'	02°52'51"	100.58'	201.12'
③	10000'	01°12'39"	192.96'	385.87'
④	10000'	01°44'48"	152.43'	304.84'
⑤	1000'	02°51'45"	24.99'	49.96'

Tracy L. Bertram
 DESIGN OVERSIGHT
 4-17-12
 SIGN OFF DATE

DESIGN BY S. Landis/J. Hueser
 CHECKED A. Dubovik
 DETAILS BY L. Davis
 CHECKED A. Dubovik
 QUANTITIES BY M. Jackson
 CHECKED S. Landis

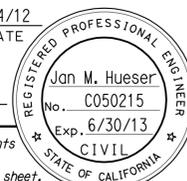
LOAD & RESISTANCE FACTOR DESIGN BY S. Landis
 LAYOUT BY S. Landis
 SPECIFICATIONS BY D. Harnagel
 LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
 CHECKED J. Hueser
 PLANS AND SPECS COMPARED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER Walt LaFranchi

BRIDGE NO. 20-0284R
 POST MILES 3.57

ROUTE 101N/116 SOH (REPLACE)
GENERAL PLAN No. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	321	375


 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
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.

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

CONSTRUCTION NOTES:

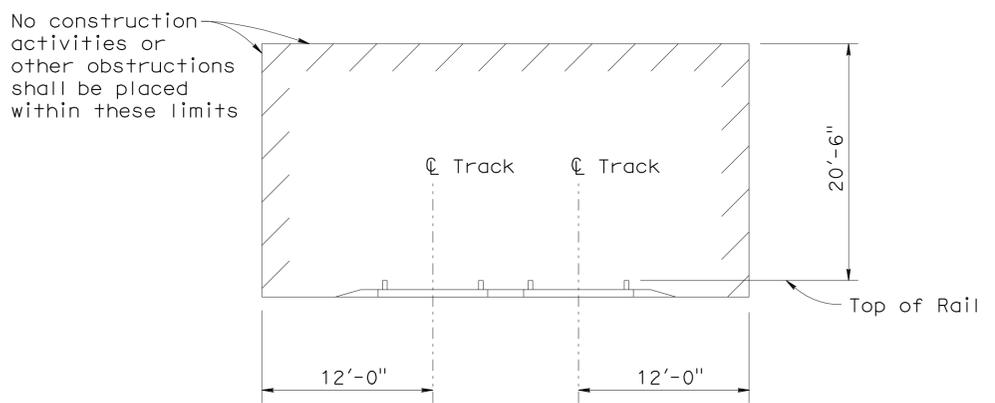
- Any shoring system that impacts the Railroad's operation and/or supports the Railroad's embankment shall be designed and constructed per Railroad Guidelines for temporary shoring.
- All demolition within the Railroad's right-of-way and/or demolition that may impact the Railroad's tracks or operations shall comply with the Railroad's Demolition requirements.
- Erection over the Railroad's track shall be planned such that it enables the track(s) to remain open to traffic per Railroad requirements.
- The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.
- The proposed grade separation project shall not change the quantity and/or characteristics of the flow in the Railroad ditches and/or drainage structures.
- The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.
- For Railroad coordination please refer to the Railroad's Coordination requirements as part of the Specifications or Special Provisions of the project.
- Temporary Construction Clearances, including falsework clearances, shall comply with the figure shown.
- All permanent clearances shall be verified before project closeout.

LEGEND:

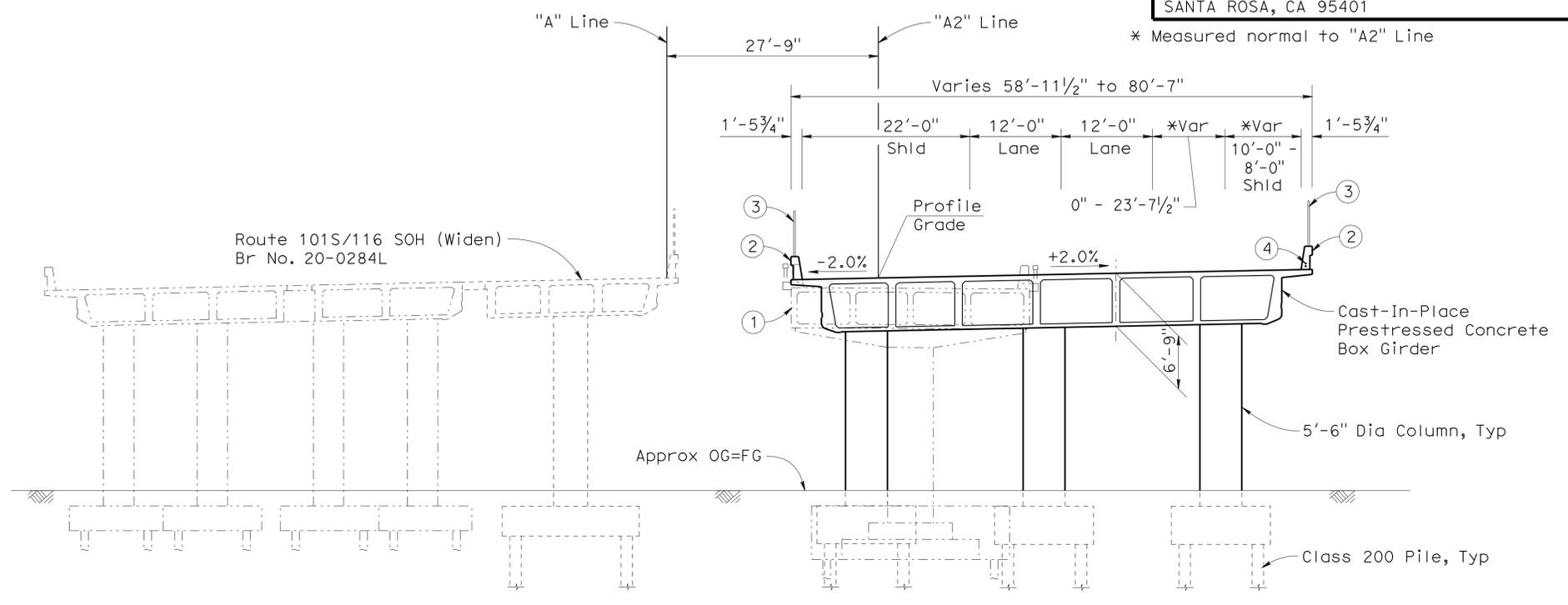
----- Indicates existing structure

NOTES:

- Bridge removal (Br No. 20-0155R)
- Concrete Barrier (Type 736 Modified) with Architectural Treatment
- Chain Link Railing (Type 7 Modified) over RR R/W
- 2" Conduit, Tot 2



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE
No Scale



TYPICAL SECTION
1"=10'-0"

QUANTITIES

DESCRIPTION	UNIT	SUM
BRIDGE REMOVAL		
STRUCTURE EXCAVATION (BRIDGE)	CY	1,019
STRUCTURE EXCAVATION (TYPE D)	CY	807
STRUCTURE EXCAVATION (RETAINING WALL)	CY	288
STRUCTURE EXCAVATION (TYPE D)(CRASH WALL)	CY	28
STRUCTURE BACKFILL (BRIDGE)	CY	1,514
STRUCTURE BACKFILL (RETAINING WALL)	CY	362
STRUCTURE BACKFILL (CRASH WALL)	CY	16
FURNISH PILING (CLASS 140)	LF	1,535
(ALTERNATIVE "X")		
DRIVE PILE (CLASS 140)(ALTERNATIVE "X")	EA	18
FURNISH PILING (CLASS 200)	LF	13,846
(ALTERNATIVE "X")		
DRIVE PILE (CLASS 200)(ALTERNATIVE "X")	EA	203
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM	
STRUCTURAL CONCRETE, BRIDGE FOOTING	CY	532
STRUCTURAL CONCRETE, BRIDGE	CY	3,904
STRUCTURAL CONCRETE (CRASH WALL)	CY	40
STRUCTURAL CONCRETE, RETAINING WALL	CY	114
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	CY	188
JOINT SEAL ASSEMBLY (MR 6")	LF	68
JOINT SEAL (MR 2")	LF	94
BAR REINFORCING STEEL (BRIDGE)	LB	1,167,466
BAR REINFORCING STEEL (RETAINING WALL)	LB	14,447
BAR REINFORCING STEEL (CRASH WALL)	LB	5,561
HEADED BAR REINFORCEMENT	EA	75
CHAIN LINK RAILING (TYPE 7 MODIFIED)	LF	154
CABLE RAILING	LF	36
CONCRETE BARRIER (TYPE 60R)	LF	97
CONCRETE BARRIER (TYPE 736 MODIFIED)	LF	1,256


 DESIGN OVERSIGHT
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY L. Davis	CHECKED A. Dubovik	LAYOUT	BY S. Landis
QUANTITIES	BY M. Jackson	CHECKED S. Landis	SPECIFICATIONS	BY D. Harnagel
			PLANS AND SPECS COMPARED	S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILES	3.57

ROUTE 101N/116 SOH (REPLACE)
GENERAL PLAN No. 2

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 13:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	322	375

Jan M. Hueser
REGISTERED CIVIL ENGINEER
DATE 6/13/12
6-11-12
PLANS APPROVAL DATE
No. C050215
Exp. 6/30/13
CIVIL
STATE OF CALIFORNIA

URS CORPORATION
1380 LEAD HILL BLVD, SUITE 100
ROSEVILLE, CA 95661-2997
SONOMA COUNTY TRANSPORTATION AUTHORITY
490 MENDOCINO AVENUE, SUITE 206
SANTA ROSA, CA 95401

GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition and the California Amendments preface dated 2008; except that Abutments, Abutment Foundations, Concrete barriers, and Bridge Details taken from Standard Plans 2006, Standard Bridge Details XS Sheets, are designed using Bridge Design Specifications April 2000 ('96 AASHTO with Revisions by Caltrans)

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.4 June 2006; except that shear keys are designed using Caltrans Seismic Design Criteria (SDC), Version 1.6 November 2010

DEAD LOAD: Includes 35 psf for future wearing surface

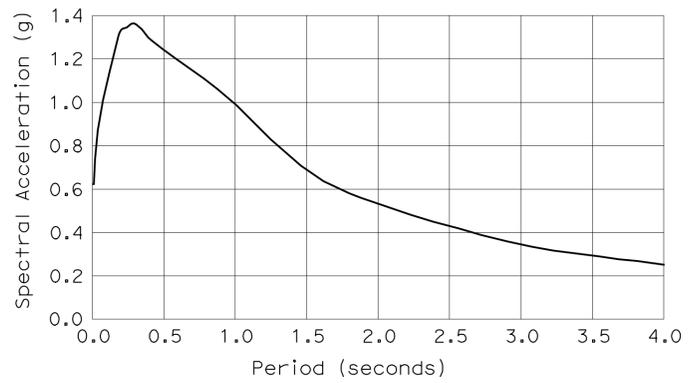
LIVE LOAD: HL93 and permit design load

SEISMIC LOAD: See site specific "ARS Curve"
M = 7.1
Peak Rock (Vs = 2,500 feet/sec) Acceleration = 0.6g

CONCRETE: fy = 60 ksi
f'c = 3.6 ksi
n = 8
See prestressing notes on "Girder Layout No. 3" sheet

INDEX TO PLANS

SHEET NO.	TITLE	SHEET NO.	TITLE
1	GENERAL PLAN No. 1	25	CRASH WALL DETAILS
2	GENERAL PLAN No. 2	26	TYPICAL SECTION
3	INDEX TO PLANS	27	GIRDER LAYOUT No. 1
4	DECK CONTOURS & CAMBER	28	GIRDER LAYOUT No. 2
5	FOUNDATION PLAN	29	GIRDER LAYOUT No. 3
6	ABUTMENT 1 LAYOUT	30	GIRDER DETAILS No. 1
7	ABUTMENT 5 LAYOUT	31	GIRDER DETAILS No. 2
8	ABUTMENT 1 DETAILS No. 1	32	GIRDER REINFORCEMENT
9	ABUTMENT 1 DETAILS No. 2	33	JOINT SEAL-ABUTMENT DETAILS MOVEMENT RATING GREATER THAN 4"
10	ABUTMENT 5 DETAILS No. 1	34	STRUCTURE APPROACH TYPE N(30S)
11	ABUTMENT 5 DETAILS No. 2	35	STRUCTURE APPROACH DRAINAGE DETAILS
12	ABUTMENT DETAILS No. 1	36	BARRIER-CONCRETE TYPE 60R TRANSITION AT BRIDGE COLUMN
13	ABUTMENT DETAILS No. 2	37	CHAIN LINK RAILING (TYPE 7 MODIFIED)
14	ABUTMENT DETAILS No. 3	38	ARCHITECTURAL DETAILS
15	MEDIAN RETAINING WALL DETAILS No. 1	39	LOG OF TEST BORINGS 1 OF 8
16	MEDIAN RETAINING WALL DETAILS No. 2	40	LOG OF TEST BORINGS 2 OF 8
17	BENT 2 LAYOUT	41	LOG OF TEST BORINGS 3 OF 8
18	BENT 2 DETAILS	42	LOG OF TEST BORINGS 4 OF 8
19	BENT 3 LAYOUT	43	LOG OF TEST BORINGS 5 OF 8
20	BENT 3 DETAILS	44	LOG OF TEST BORINGS 6 OF 8
21	BENT 4 LAYOUT	45	LOG OF TEST BORINGS 7 OF 8
22	BENT 4 DETAILS	46	LOG OF TEST BORINGS 8 OF 8
23	BENT DETAILS No. 1		
24	BENT DETAILS No. 2		

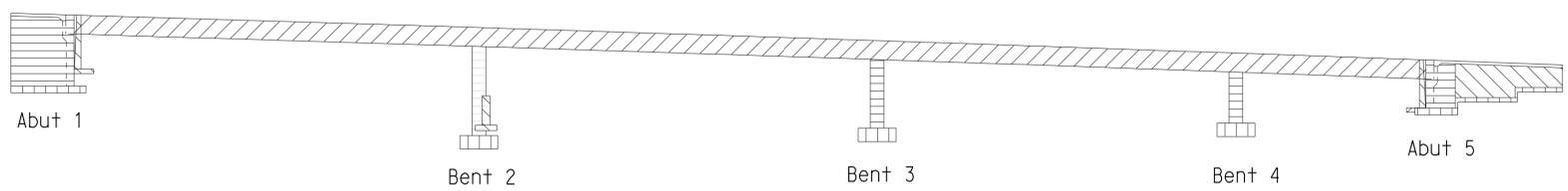
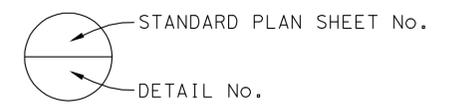


ARS CURVE

Caltrans ARS Online (2009), Shear wave velocity for the top 100 feet of soil, Vs30 = 1,000 feet/sec; adjusted for Near-Field effects per Caltrans Seismic Design Criteria

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)
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
B2-5	PILE DETAILS CLASS 90 AND CLASS 140
B2-8	PILE DETAILS CLASS 200
B3-1	RETAINING WALL TYPE 1 H = 4' THROUGH 30'
B3-8	RETAINING WALL DETAILS No. 1
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-47	CABLE RAILING
B11-56	CONCRETE BARRIER TYPE 736
ES-6B	ELECTRICAL SYSTEMS (LIGHTING STANDARD TYPES 15 AND 21 BARRIER RAIL MOUNTED DETAILS)
S3	OVERHEAD SIGNS-TRUSS SINGLE TYPE BASE PLATE AND ANCHORAGE DETAILS



	Structural Concrete, Bridge (see "Girder Layout No. 3" sheet)		Structural Concrete, Retaining Wall and Crash Wall
	Structural Concrete, Bridge (f'c = 4 ksi @ 28 days)		Structural Concrete, Bridge Footing (f'c = 4 ksi @ 28 days)
	Structural Concrete, Bridge (f'c = 4.5 ksi @ 28 days)		Structural Concrete, Approach Slab

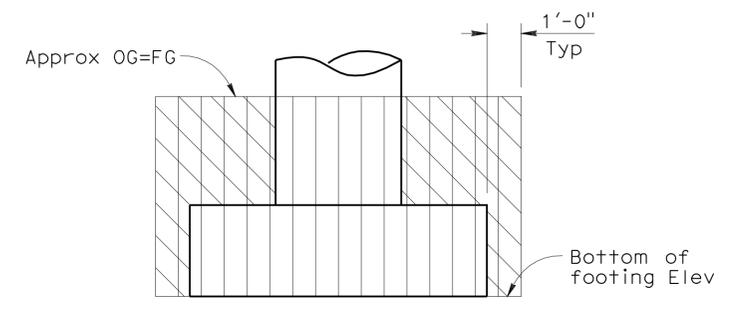
CONCRETE STRENGTH AND TYPE LIMITS

No Scale

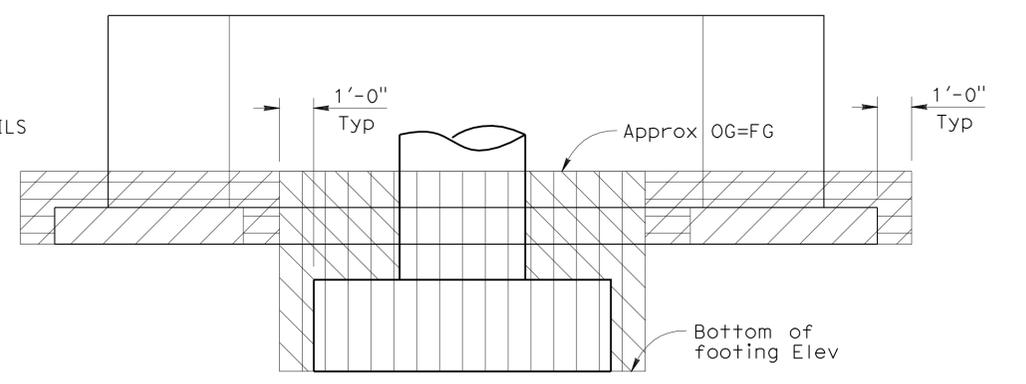


TIE DETAIL

No Scale



TYPICAL COLUMN



COLUMN AT CRASH WALL

	Indicates Limits of Structure Excavation (Type D)
	Indicates Limits of Structure Excavation (Type D) (Crash Wall)
	Indicates Limits of Structure Backfill (Bridge)
	Indicates Limits of Structure Backfill (Crash Wall)

LIMITS OF STRUCTURE EXCAVATION

No Scale

Tracy L. Bertram
DESIGN OVERSIGHT
6-19-12
SIGN OFF DATE

DESIGN BY S. Landis/J. Hueser
DETAILS BY L. Davis
QUANTITIES BY M. Jackson

CHECKED A. Dubovik
CHECKED A. Dubovik
CHECKED S. Landis

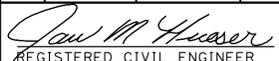
PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
PROJECT ENGINEER

BRIDGE NO. 20-0284R
POST MILE 3.57

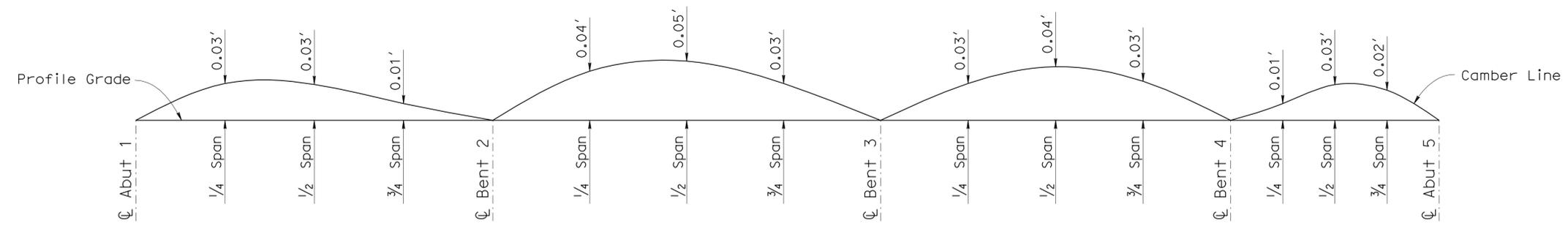
ROUTE 101N/116 SOH (REPLACE)
INDEX TO PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	323	375


 REGISTERED CIVIL ENGINEER DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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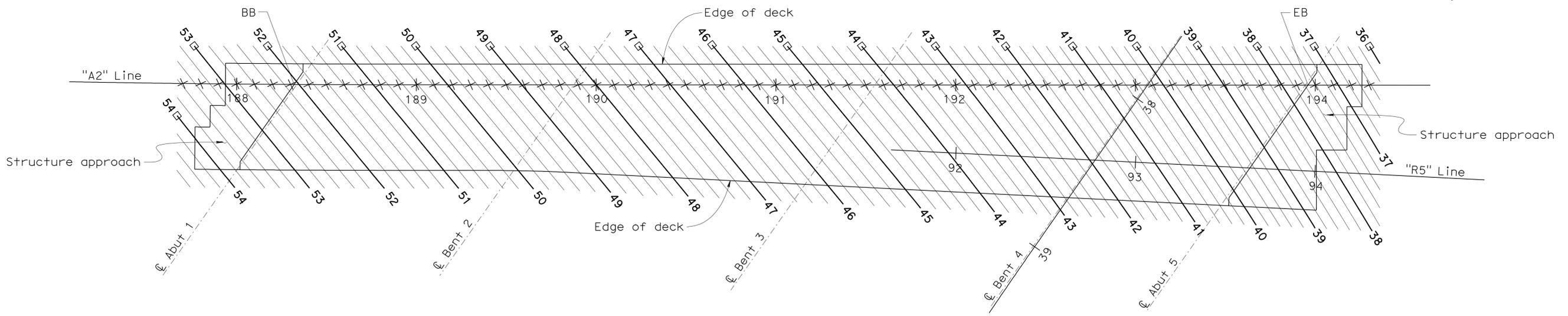
URS CORPORATION
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 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



CAMBER DIAGRAM

No Scale

Does not include allowance for falsework deflection and settlement



PLAN

1"=30'-0"

NOTES:

1. Contours do not include camber.
 2. Contour interval = 0.2'.
- X Indicates 10' interval measured along "A2" Line.
 □ Indicates even foot contours.


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

**PREPARED FOR THE
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Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

**ROUTE 101N/116 SOH (REPLACE)
 DECK CONTOURS & CAMBER**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	4	46

PILE DATA TABLE						
Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	Class 200 Alt "X"	390	0	-47 (a) +2.5 (c)	-47	390
Bent 2	Class 200 Alt "X"	370	0	-47 (a) -16 (c)	-47	370
Bent 3	Class 200 Alt "X"	360	0	-56 (a) -17 (c)	-56	360
Bent 4	Class 200 Alt "X"	340	0	-68 (a) -11 (c)	-68	340
Abut 5	Class 200 Alt "X"	340	0	-64 (a) -5 (c)	-64	340
Abut 5 RW	Class 140 Alt "X"	280	0	-62 (a) +2 (c)	-62	280
Abut 5 Median RW	Class 140 Alt "X"	280	0	-61 (a) -5 (c)	-61	280

Notes: Design tip elevation are controlled by: (a) Compression, (b) Tension, (c) Lateral Loads.

BENCH MARK					
BENCH MARK	N	E	ELEV	DESCRIPTION	
JK121	2276227.207	5954272.578	81.98	1" Iron pipe with a plastic plug and tack along the northbound shoulder of State Route 101 across from a "Sonoma-Napa-Right Lane" sign; 10.7 feet easterly of a metal beam guard rail and at top of slope.	
JK122	2277835.878	5953598.199	52.65	1" Iron pipe with a plastic plug and tack along the northbound median of State Route 101; 50 feet northerly of a "Petaluma Blvd South-3/4 mile" sign; 16 feet westerly of the edge of pavement and witnessed by a carsonite witness post.	

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), Epoch 2007.00. Vertical control is the National Geodetic Vertical Datum (NAVD88).

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	324	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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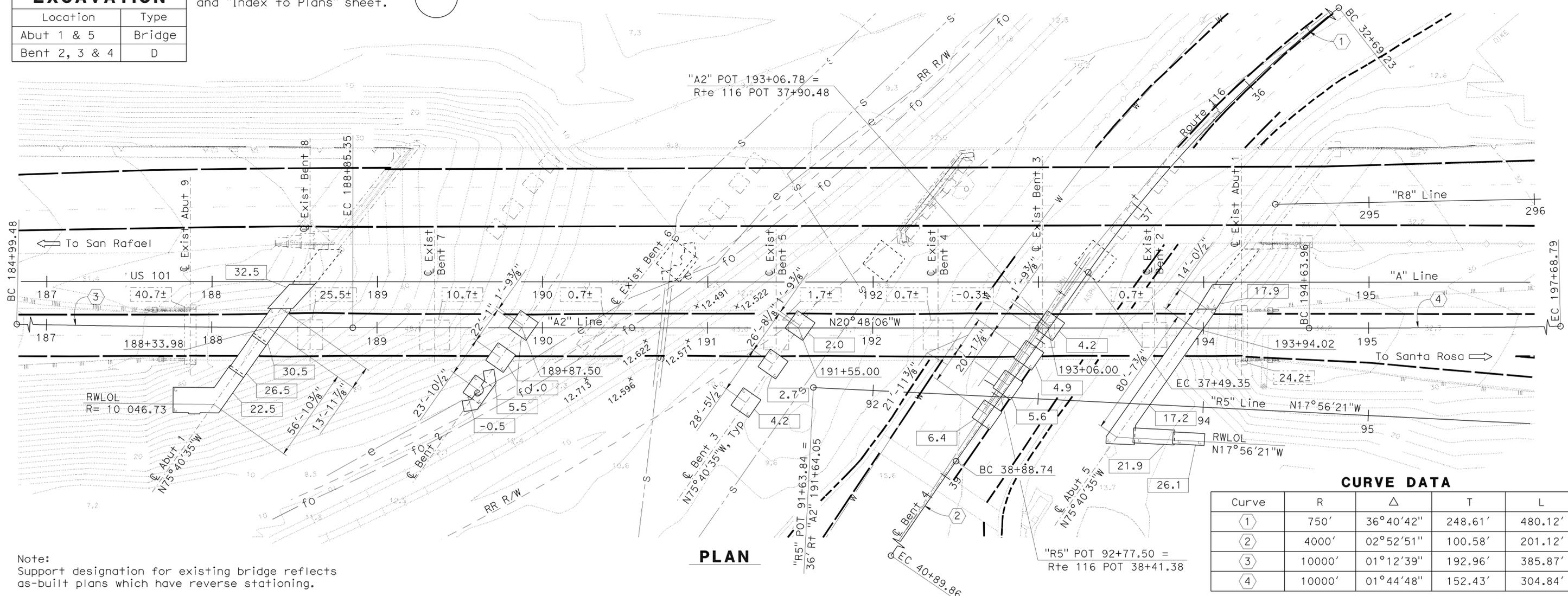
REGISTERED PROFESSIONAL ENGINEER
 Jan M. Hueser
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

STRUCTURE EXCAVATION	
Location	Type
Abut 1 & 5	Bridge
Bent 2, 3 & 4	D

For Structure Excavation and Structure Backfill Limits, see and "Index to Plans" sheet. A62C

- LEGEND:**
- Indicates piles (not all piles shown)
 - Indicates bottom of footing elevation
 - Indicates along existing top of rail



PLAN

Note: Support designation for existing bridge reflects as-built plans which have reverse stationing.

CURVE DATA				
Curve	R	Δ	T	L
①	750'	36°40'42"	248.61'	480.12'
②	4000'	02°52'51"	100.58'	201.12'
③	10000'	01°12'39"	192.96'	385.87'
④	10000'	01°44'48"	152.43'	304.84'

4-4-12
 GEOTECHNICAL PROFESSIONAL APPROVAL DATE
Tracy L. Bertram

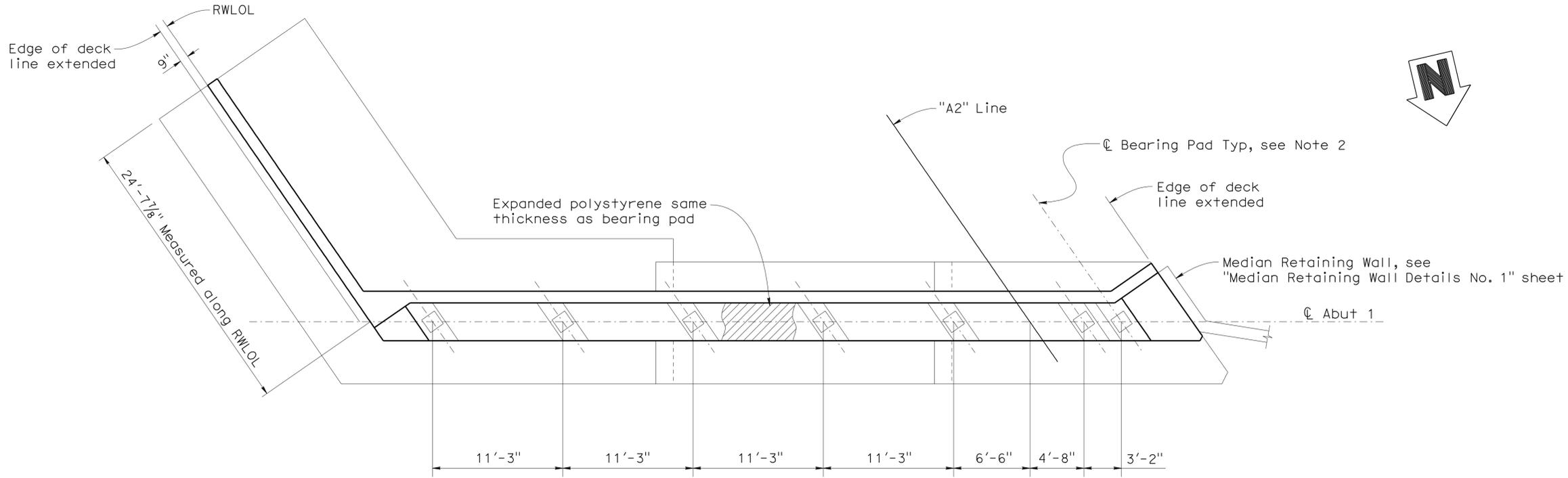
DESIGN (OVERSIGHT) BY: Tracy L. Bertram 4-17-12 SIGN OFF DATE	SCALE: 1"=30'-0" PHOTOGRAMMETRY AS OF:	VERT. DATUM: NAVD 88 ALIGNMENT TIES	HORIZ. DATUM: NAD 83 (1991.35)	DESIGN BY: S. Landis/J. Hueser CHECKED: A. Dubovik	DETAILS BY: L. Davis CHECKED: A. Dubovik	QUANTITIES BY: M. Jackson CHECKED: S. Landis	BRIDGE NO.: 20-0284R POST MILE: 3.57	ROUTE 101N/116 SOH (REPLACE) FOUNDATION PLAN
DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 0714 PROJECT NUMBER & PHASE: 04120004061	CONTRACT NO.: 04-2640K4	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 9-28-10, 1-13-12, 3-14-12, 4-4-12 SHEET 5 OF 46

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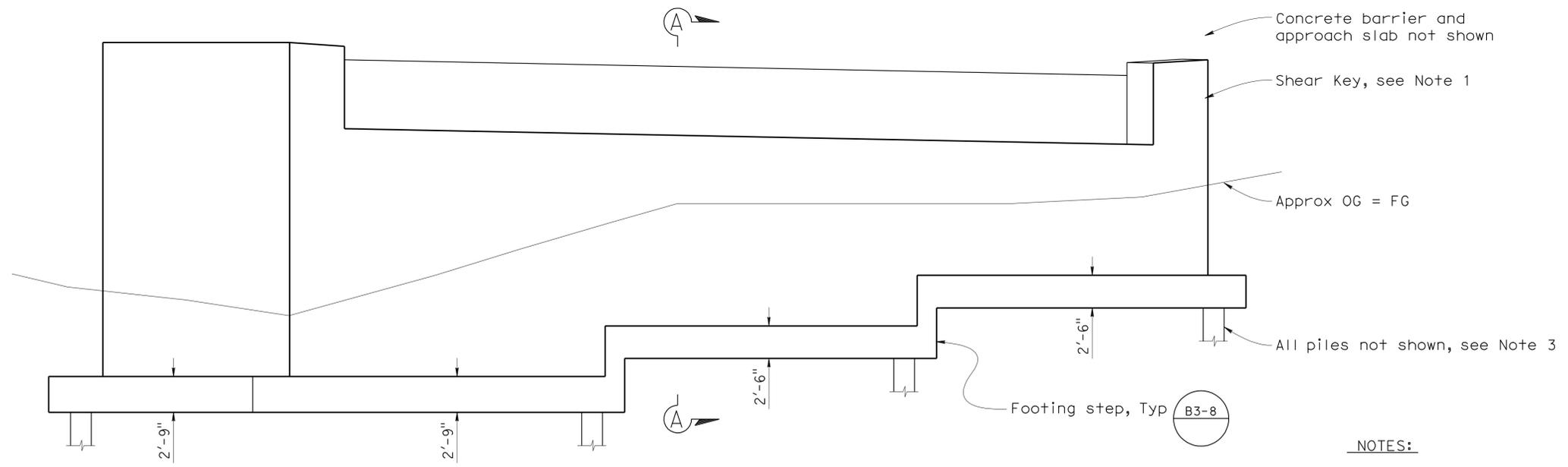
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	325	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



PLAN
3/16" = 1'-0"



ELEVATION
3/16" = 1'-0"

- NOTES:**
- For "Shear Key Details" and "Section A-A", see "Abutment 1 Details No. 1" sheet.
 - For "Bearing Pad Detail" see "Abutment Details No. 1" sheet.
 - For "Pile Layout" and "Return Wall" see "Abutment 1 Details No. 2" sheet.

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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Walt LaFranchi
 PROJECT ENGINEER
 BRIDGE NO. 20-0284R
 POST MILE 3.57

**ROUTE 101N/116 SOH (REPLACE)
 ABUTMENT 1 LAYOUT**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

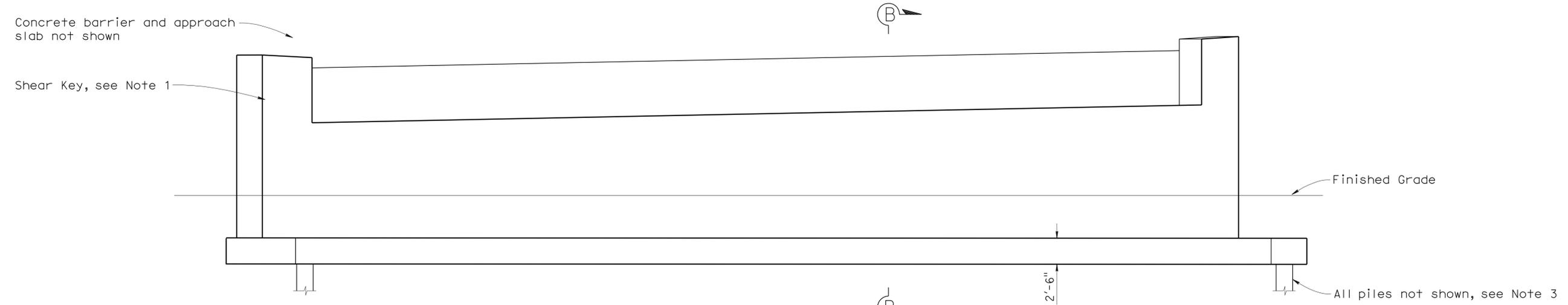
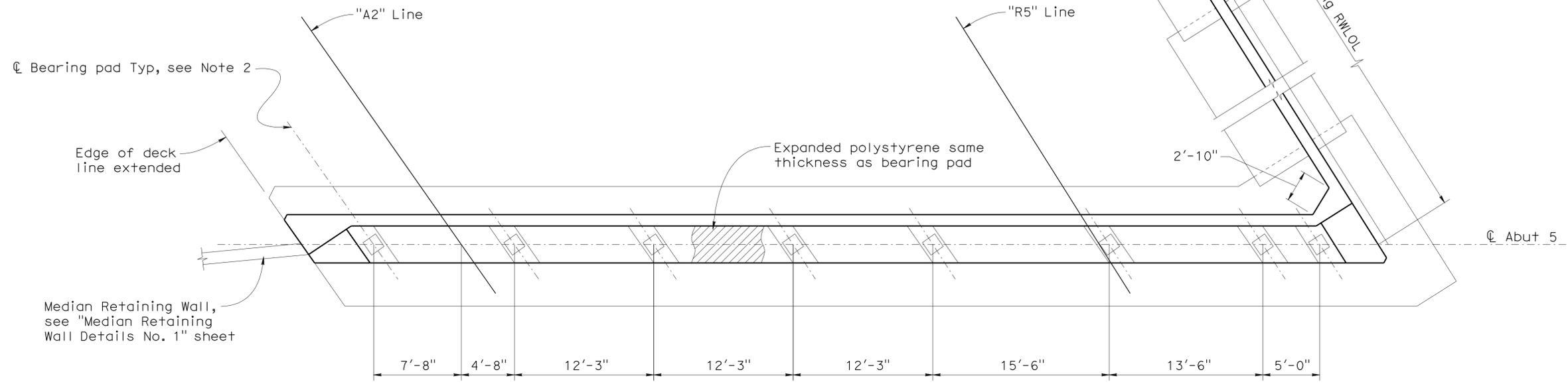
REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	6	46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	326	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
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 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

- NOTES:**
1. For "Shear Key Details" and "Section B-B", see "Abutment 5 Details No. 1" sheet.
 2. For "Bearing Pad Detail" see "Abutment Details No. 1" sheet.
 3. For "Pile Layout" and "Retaining Wall" see "Abutment 5 Details No. 2" sheet.



Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
ABUTMENT 5 LAYOUT

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	7	46

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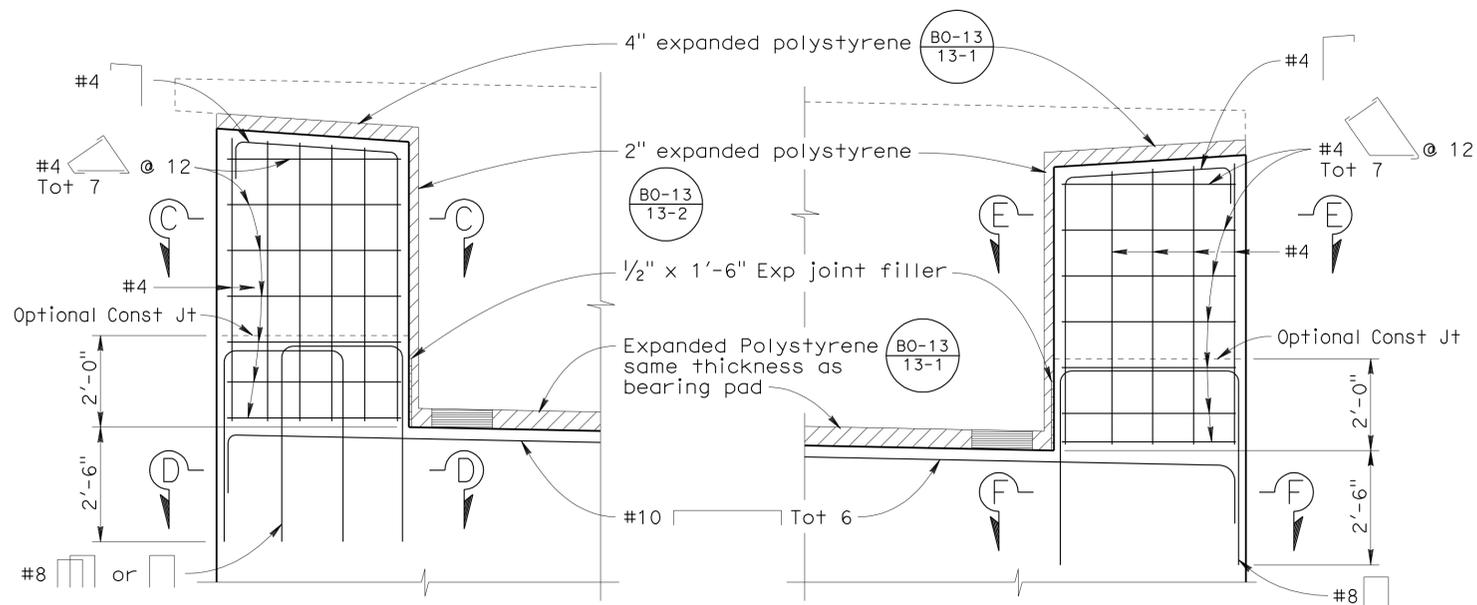
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	327	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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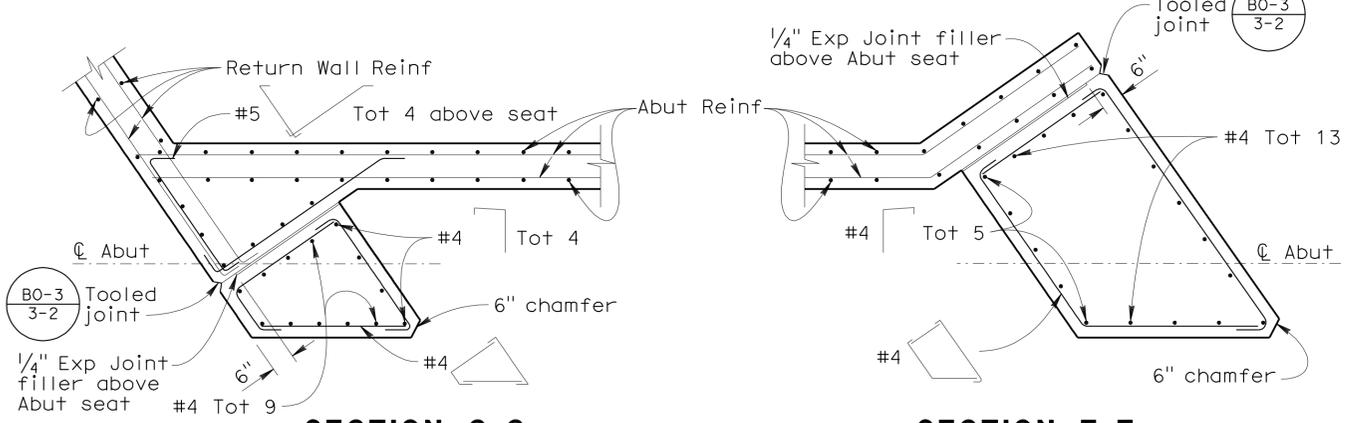
REGISTERED PROFESSIONAL ENGINEER
 Jan M. Hueser
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

NOTES:
 1. For location of "Section A-A" and Shear Keys, see "Abutment 1 Layout" sheet.

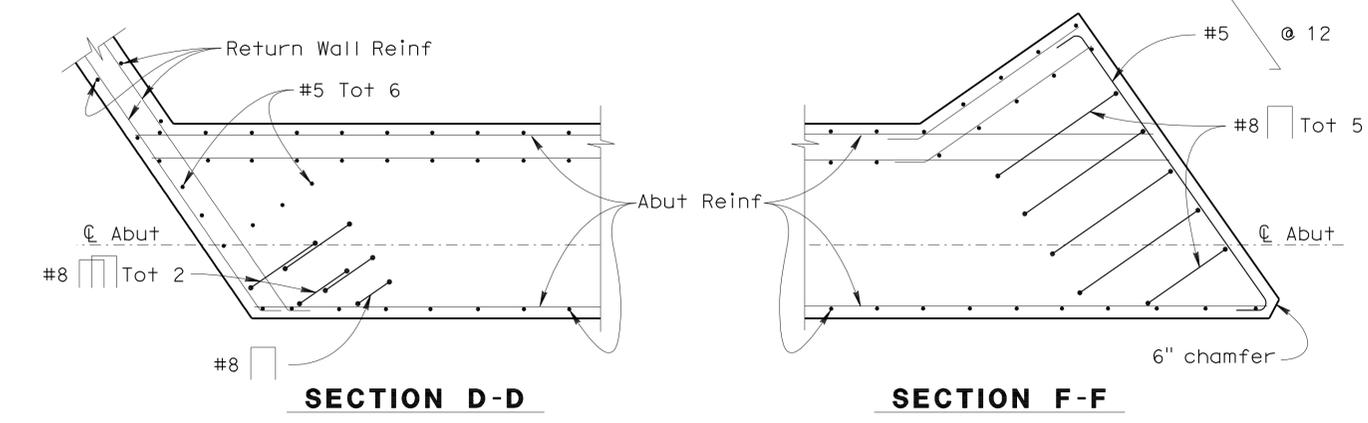


ELEVATION



SECTION C-C

SECTION E-E

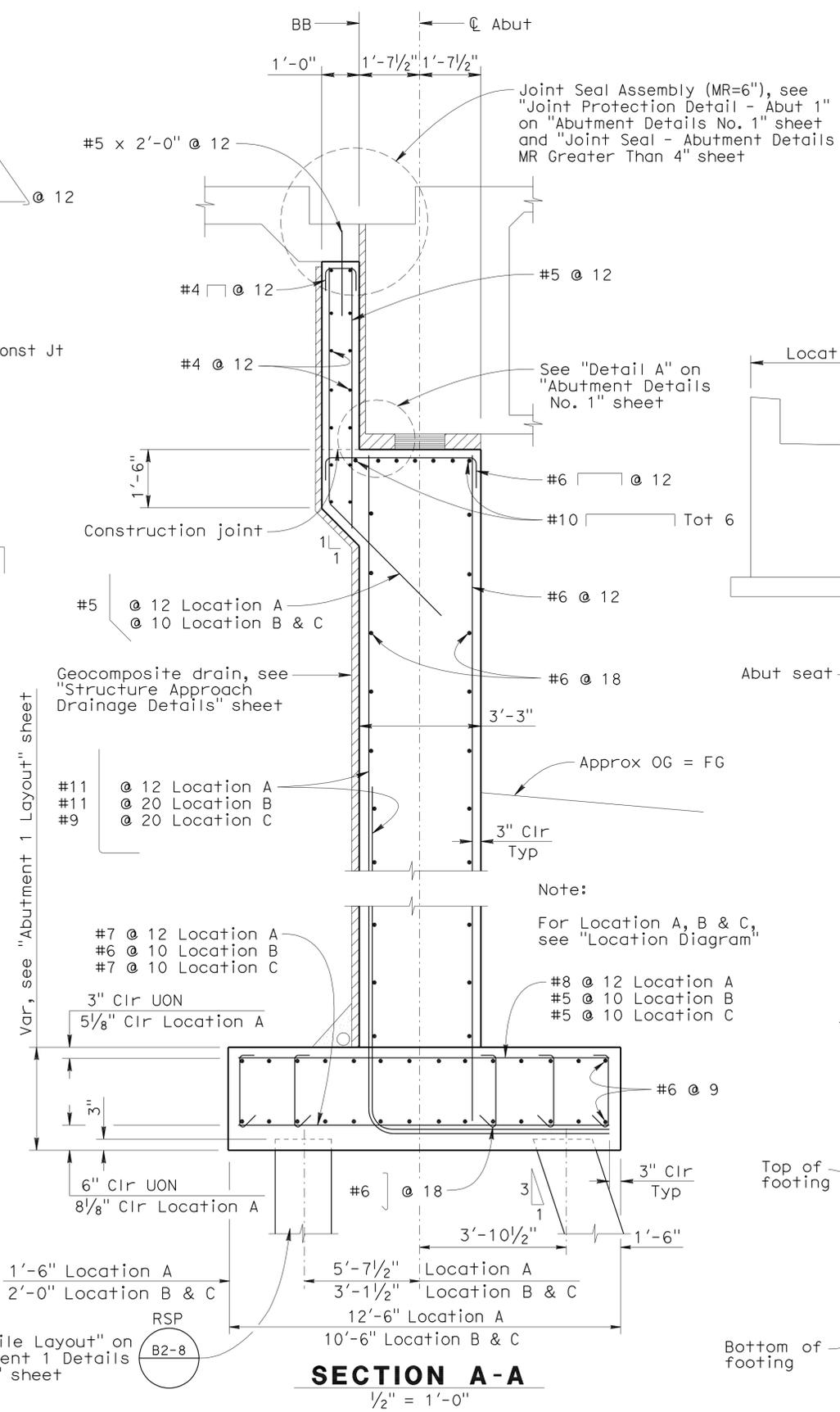


SECTION D-D

SECTION F-F

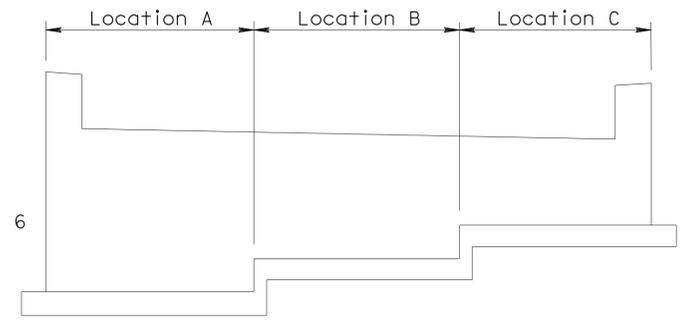
SHEAR KEY DETAILS

1/2" = 1'-0"



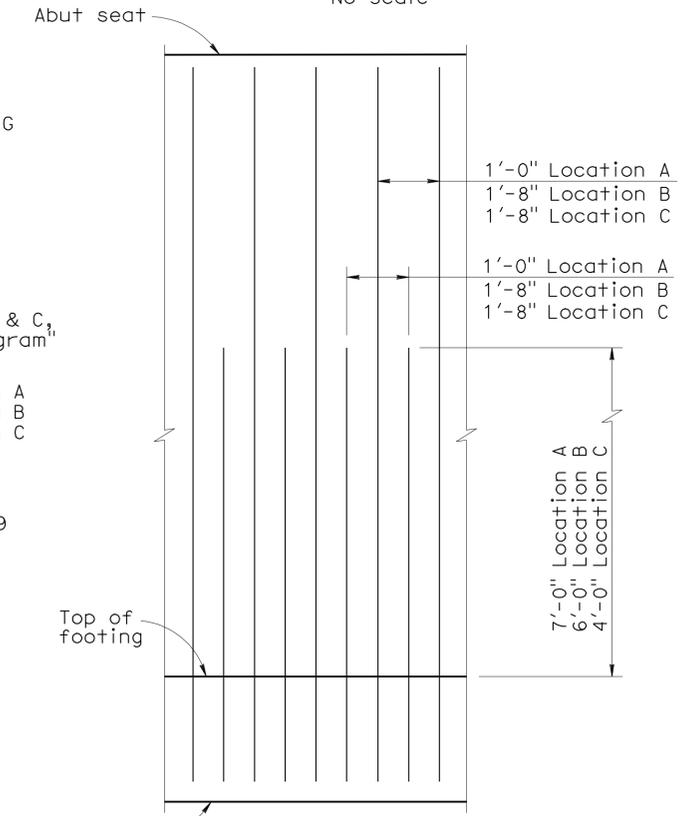
SECTION A-A

1/2" = 1'-0"



LOCATION DIAGRAM

No Scale



ELEVATION

No Scale

Tracy L. Bertram
 DESIGN OVERSIGHT
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
ABUTMENT 1 DETAILS No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

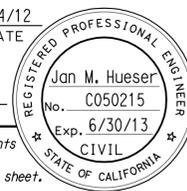
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DISREGARD PRINTS BEARING EARLIER REVISION DATES

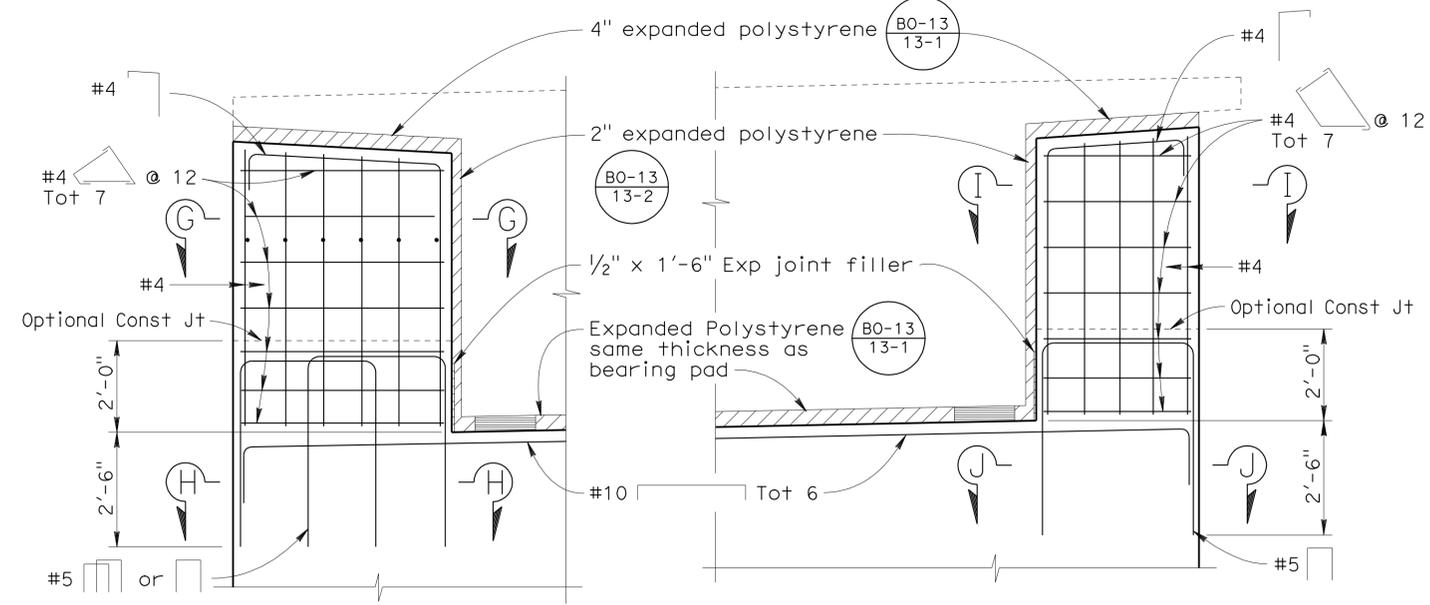
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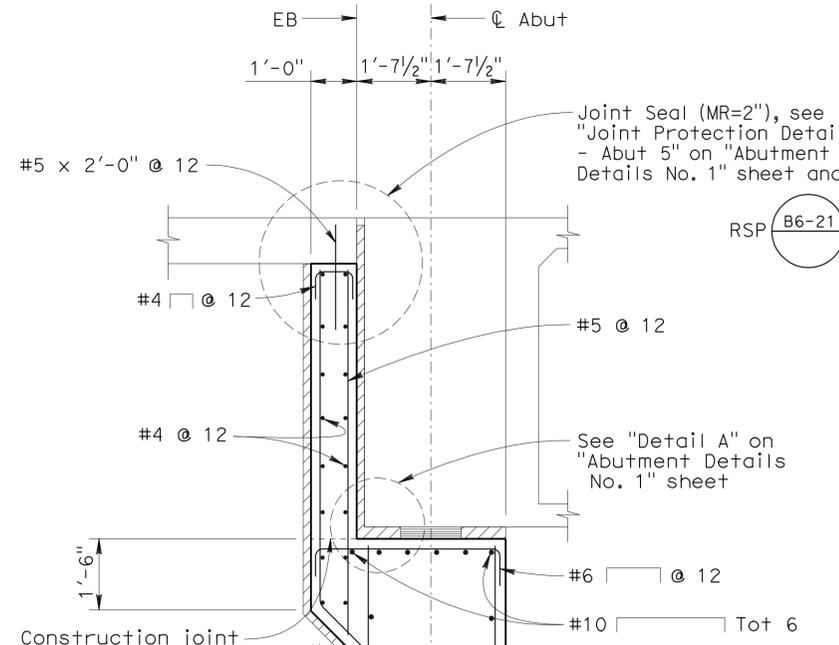
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	329	375


 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

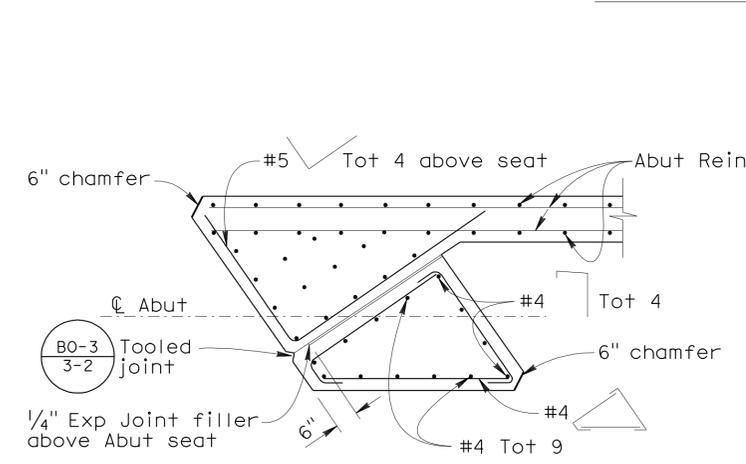


ELEVATION

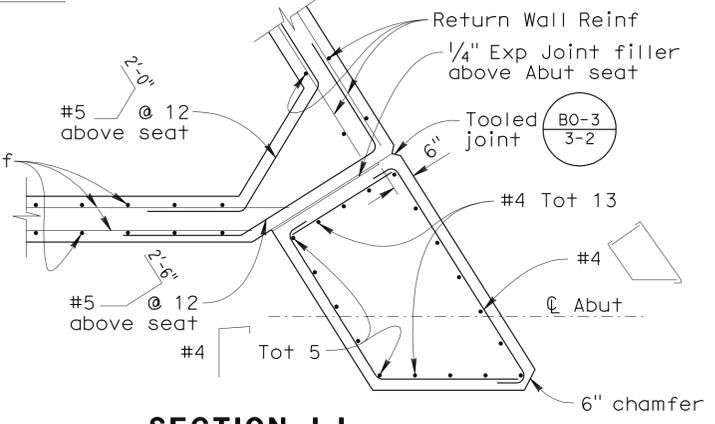


SECTION B-B

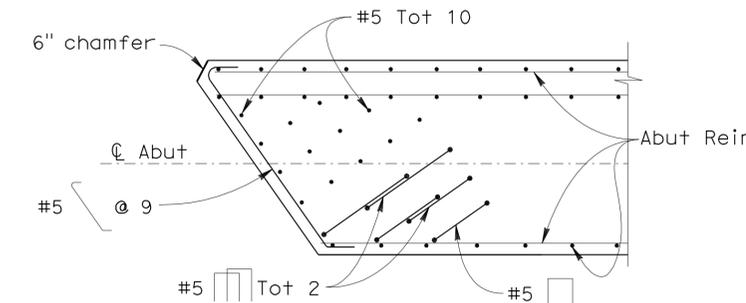
1/2" = 1'-0"



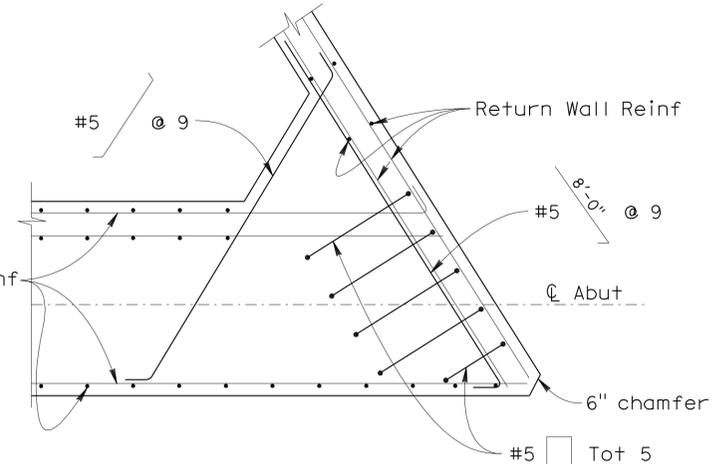
SECTION G-G



SECTION I-I



SECTION H-H

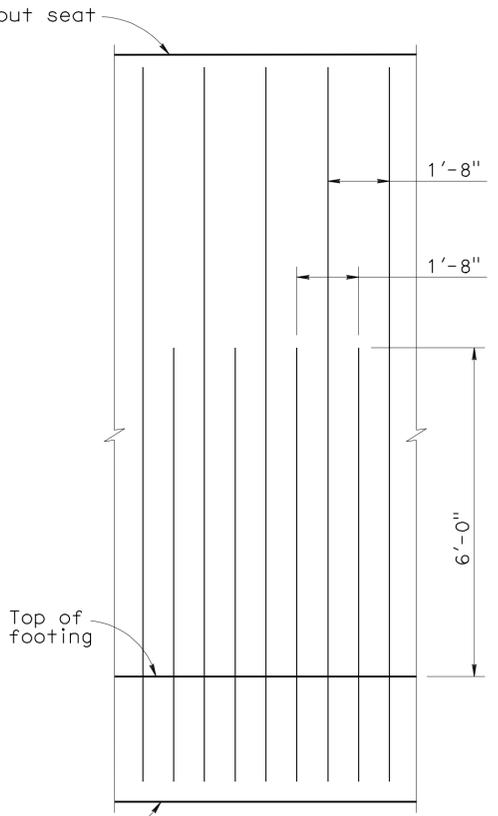


SECTION J-J

SHEAR KEY DETAILS

1/2" = 1'-0"

- NOTES:**
- For location of "Section B-B" and Shear Keys, see "Abutment 5 Layout" sheet.



ELEVATION

No Scale

DESIGN OVERSIGHT Tracy L Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

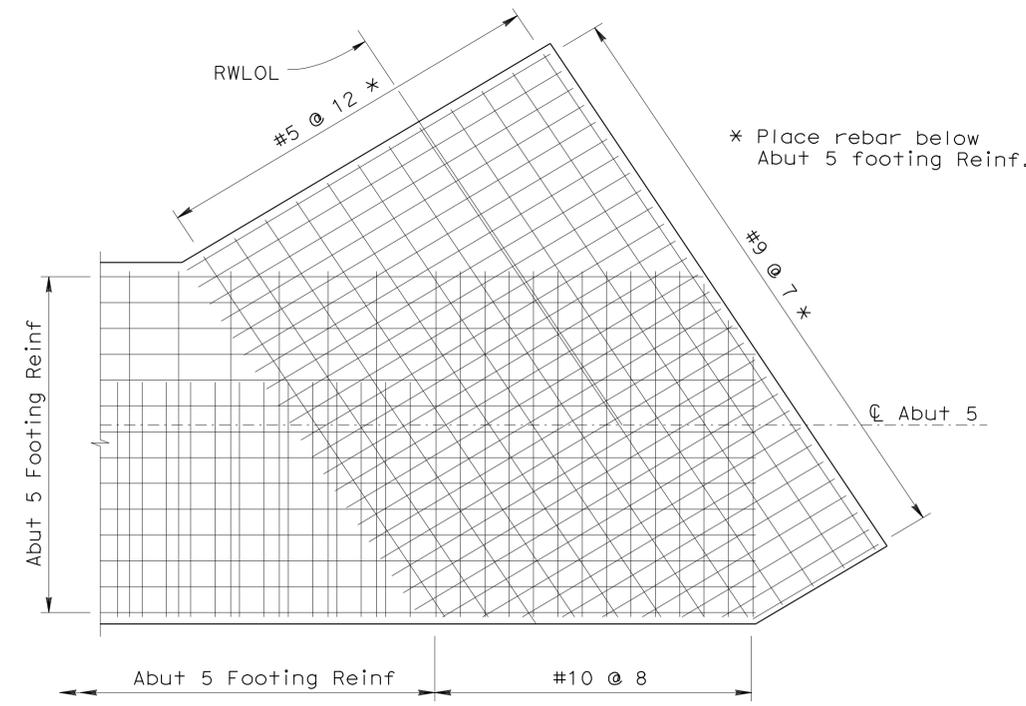
BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
ABUTMENT 5 DETAILS No. 1

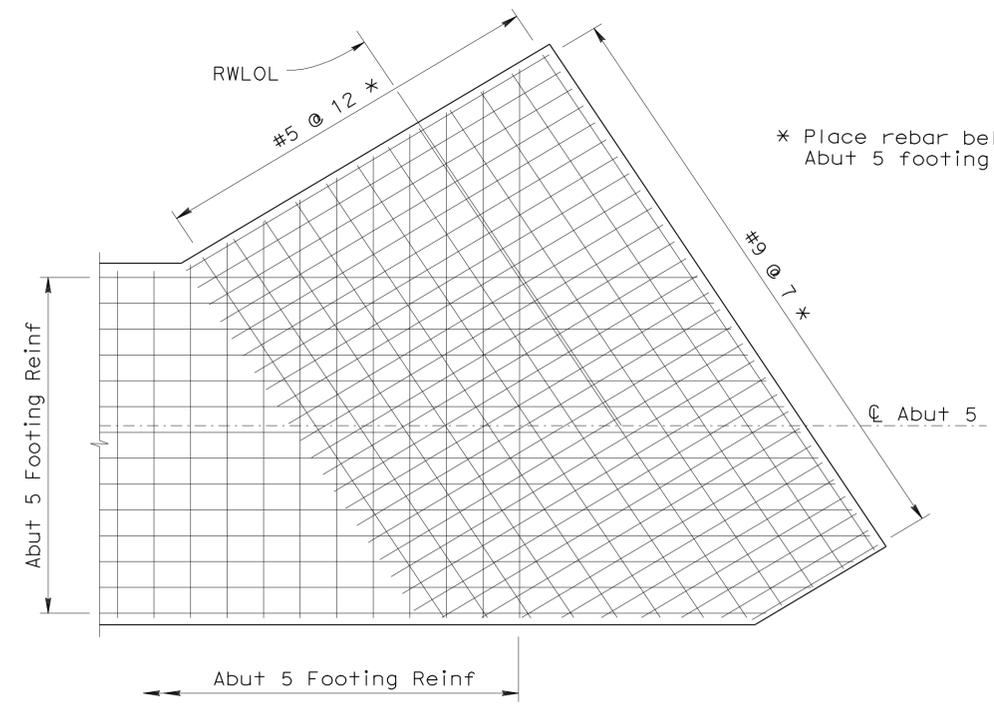
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	331	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER 4/4/12 DATE
 6-11-12 PLANS APPROVAL DATE
 No. C050215 Exp. 6/30/13
 CIVIL STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

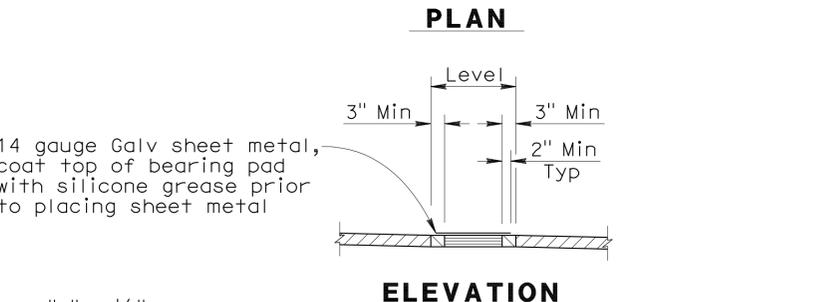
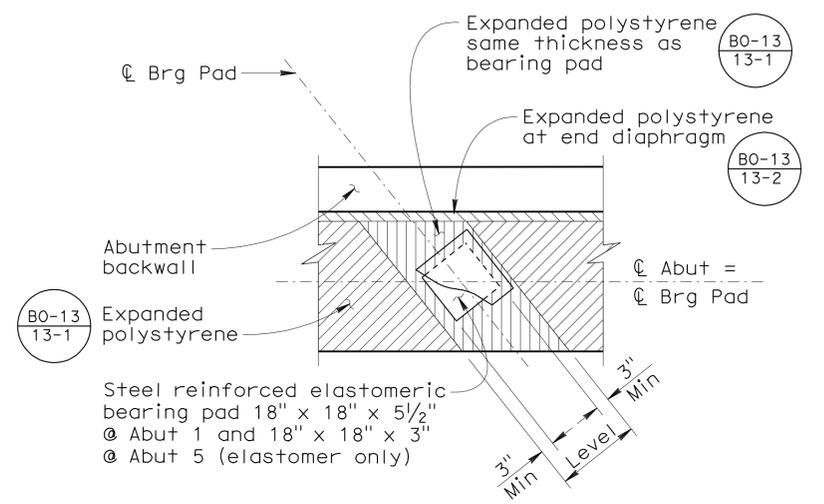
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



CORNER DETAIL (BOTTOM MAT) AT ABUT 5
 $\frac{3}{8}'' = 1'-0''$

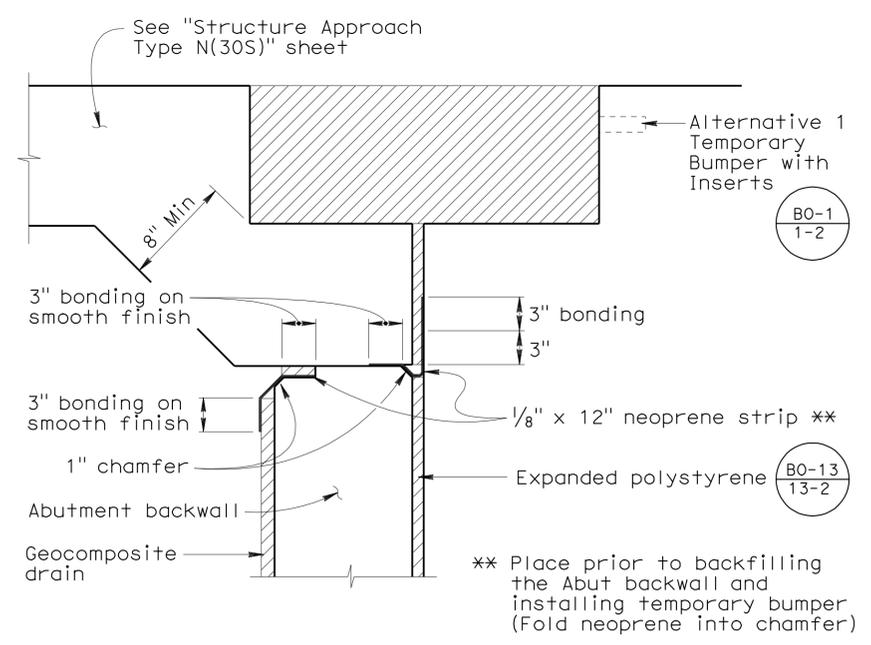


CORNER DETAIL (TOP MAT) AT ABUT 5
 $\frac{3}{8}'' = 1'-0''$

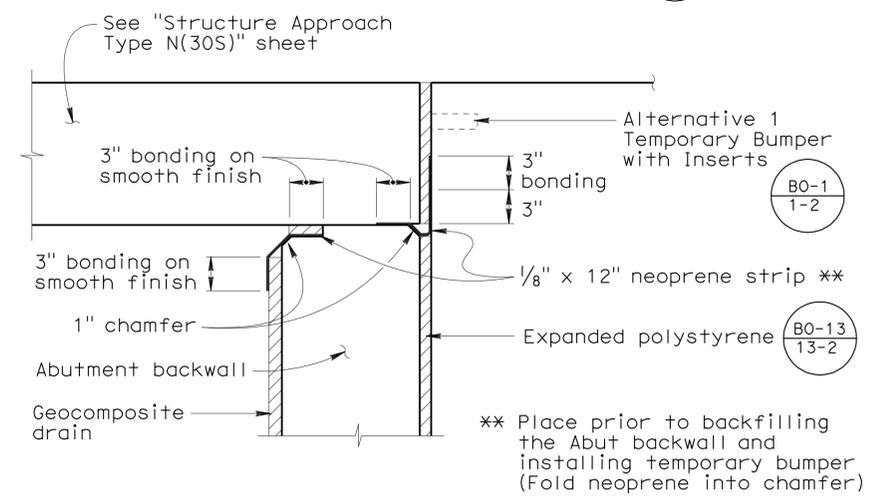


BEARING PAD DETAIL
 No Scale

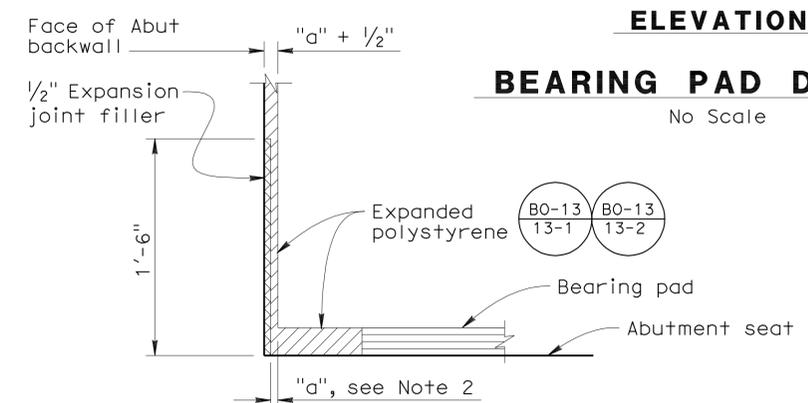
- NOTES:**
- For location of bearing pads, see "Abutment 1 Layout" and "Abutment 5 Layout" sheets.
 - For location of "Joint Protection Detail" and "Detail A", see "Abutment 1 Details No. 1" and "Abutment 5 Details No. 1" sheets.
 - For dimension "a", see "Joint Seal - Abutment Details Movement Rating Greater Than 4" sheet and (B6-21) RSP



JOINT PROTECTION DETAIL - ABUT 1
 No Scale



JOINT PROTECTION DETAIL - ABUT 5
 No Scale



DETAIL A
 No Scale

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

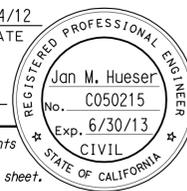
BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
ABUTMENT DETAILS No. 1

REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	12	46

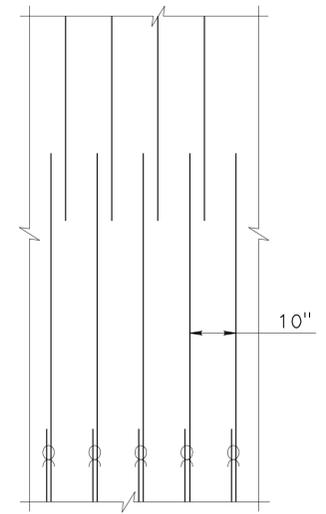
USERNAME => s124496 DATE PLOTTED => 16-JUN-2012 TIME PLOTTED => 08:40

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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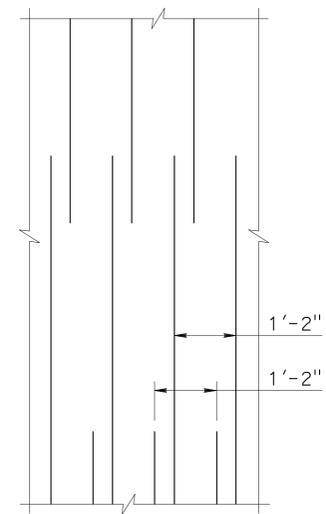

 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

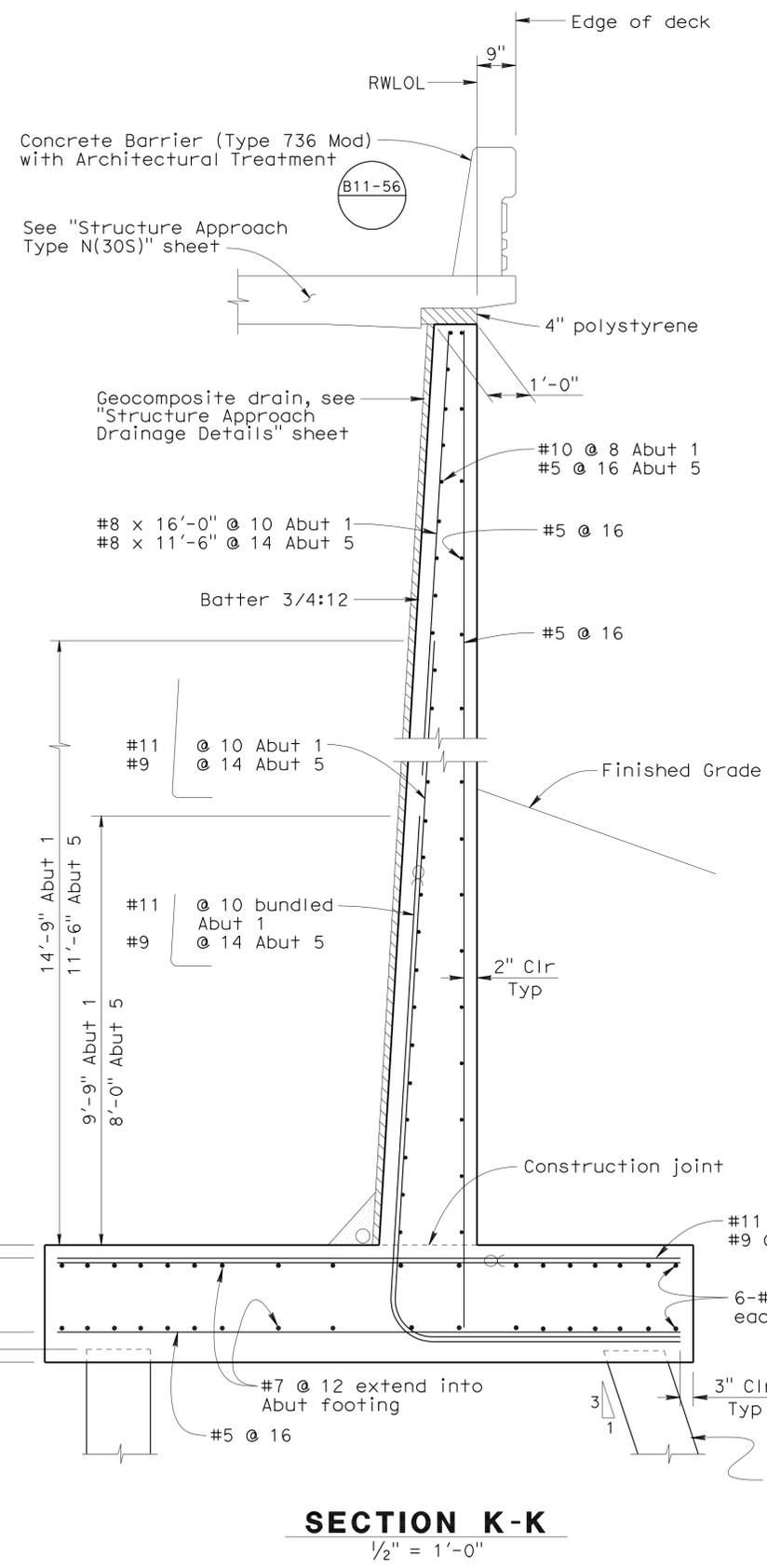
- NOTES:**
- For location of "Section K-K" and "Section L-L", see "Abutment 1 Details No. 2" and "Abutment 5 Details No. 2" sheets.



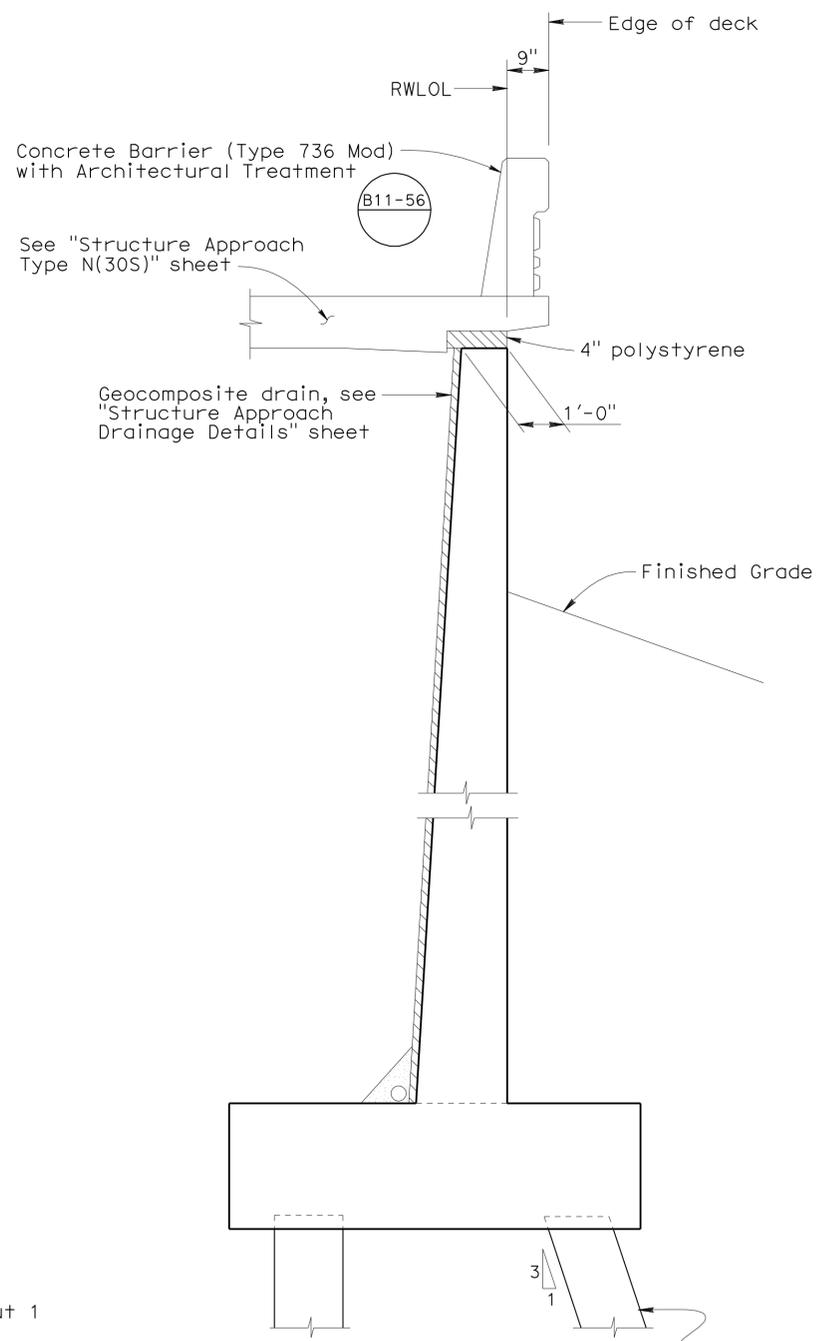
ELEVATION (ABUT 1)
No Scale



ELEVATION (ABUT 5)
No Scale



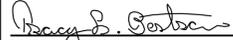
SECTION K-K
1/2" = 1'-0"



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

Not all piles shown, see "Pile Layout" on "Abutment 5 Details No. 2" sheet

Not all piles shown, see "Pile Layout" on "Abutment 1 Details No. 2" and "Abutment 5 Details No. 2" sheets


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

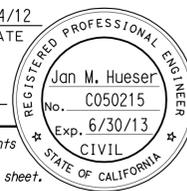
DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

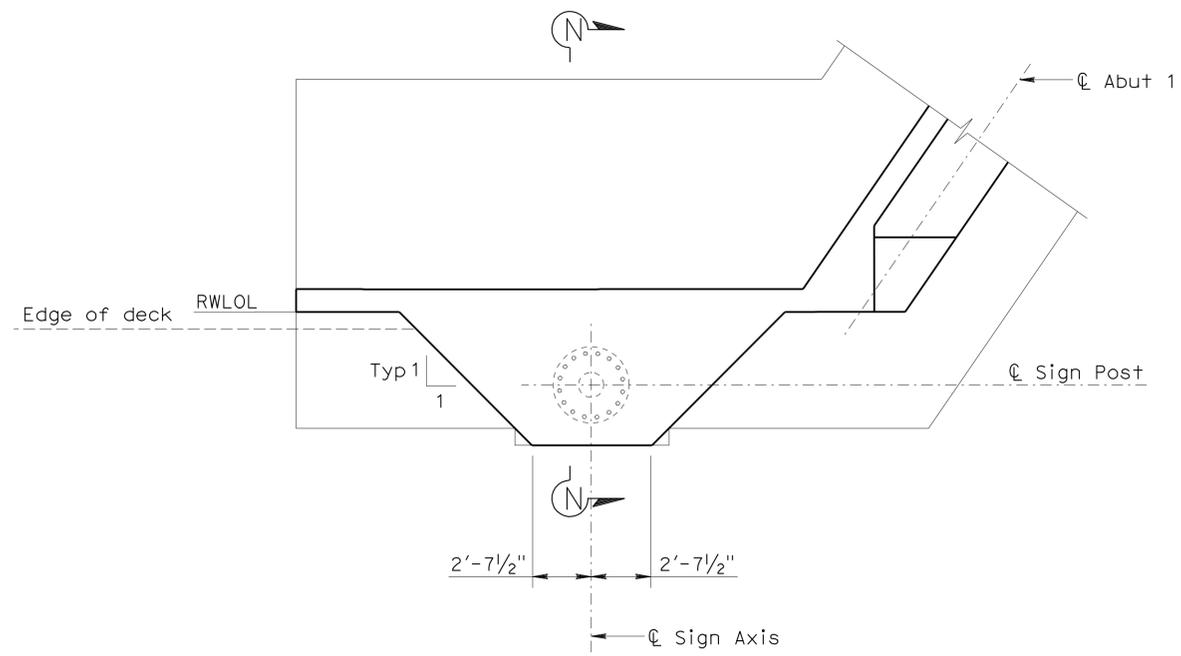
ROUTE 101N/116 SOH (REPLACE)
ABUTMENT DETAILS No. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	333	375



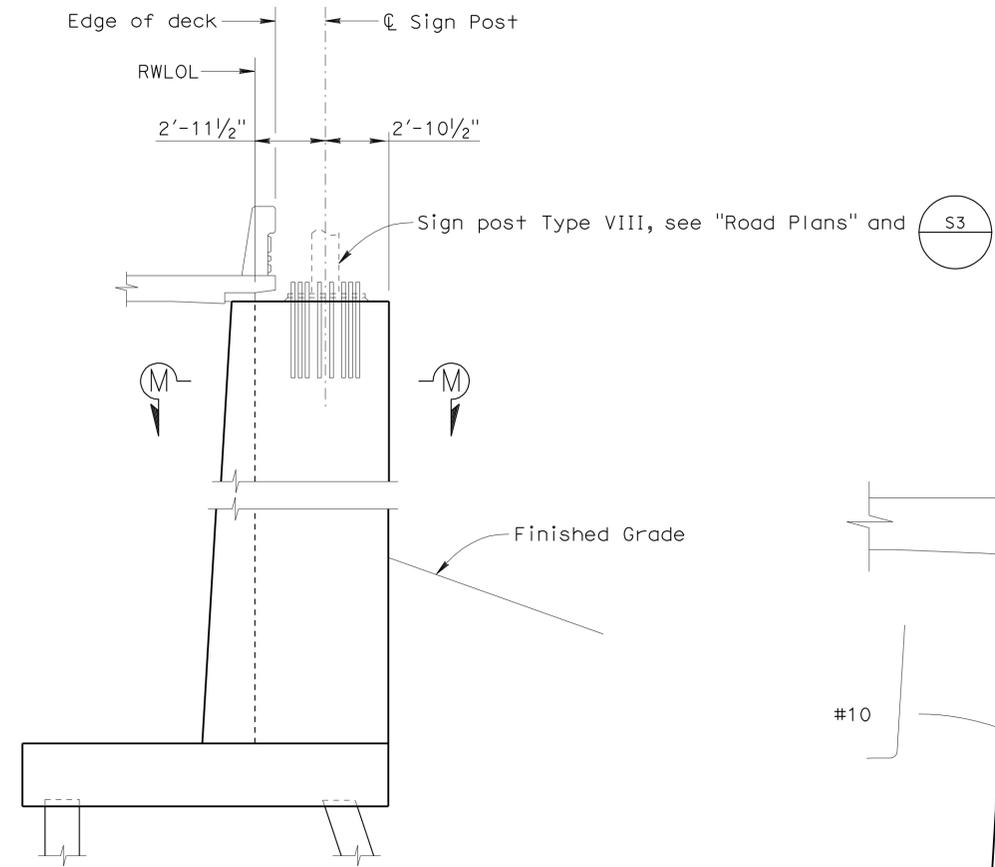
Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

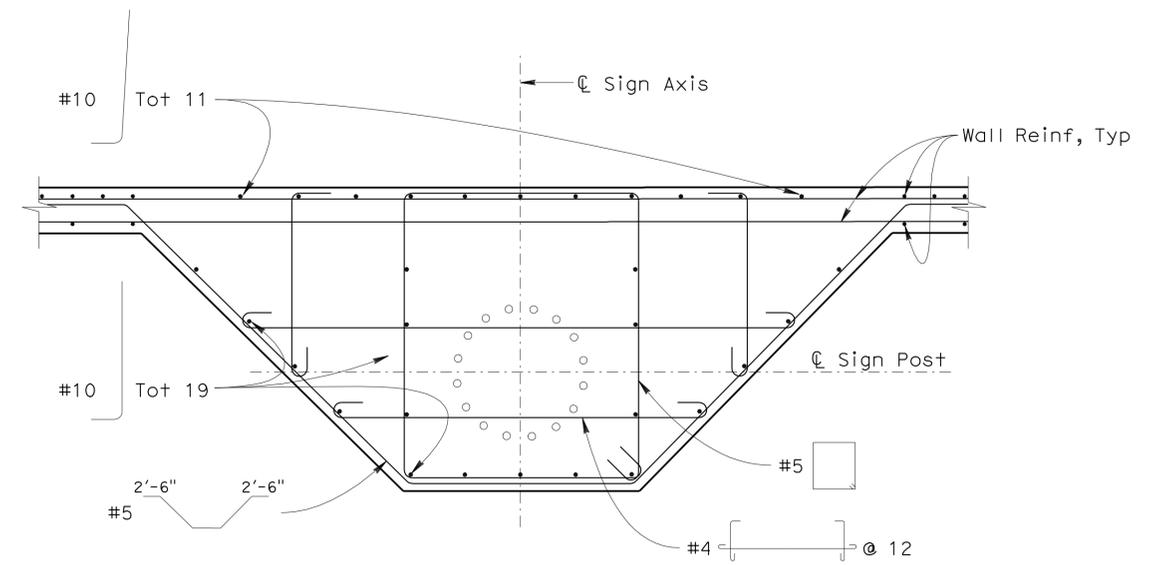


PLAN AT OVERHEAD SIGN PILASTER
1/4" = 1'-0"

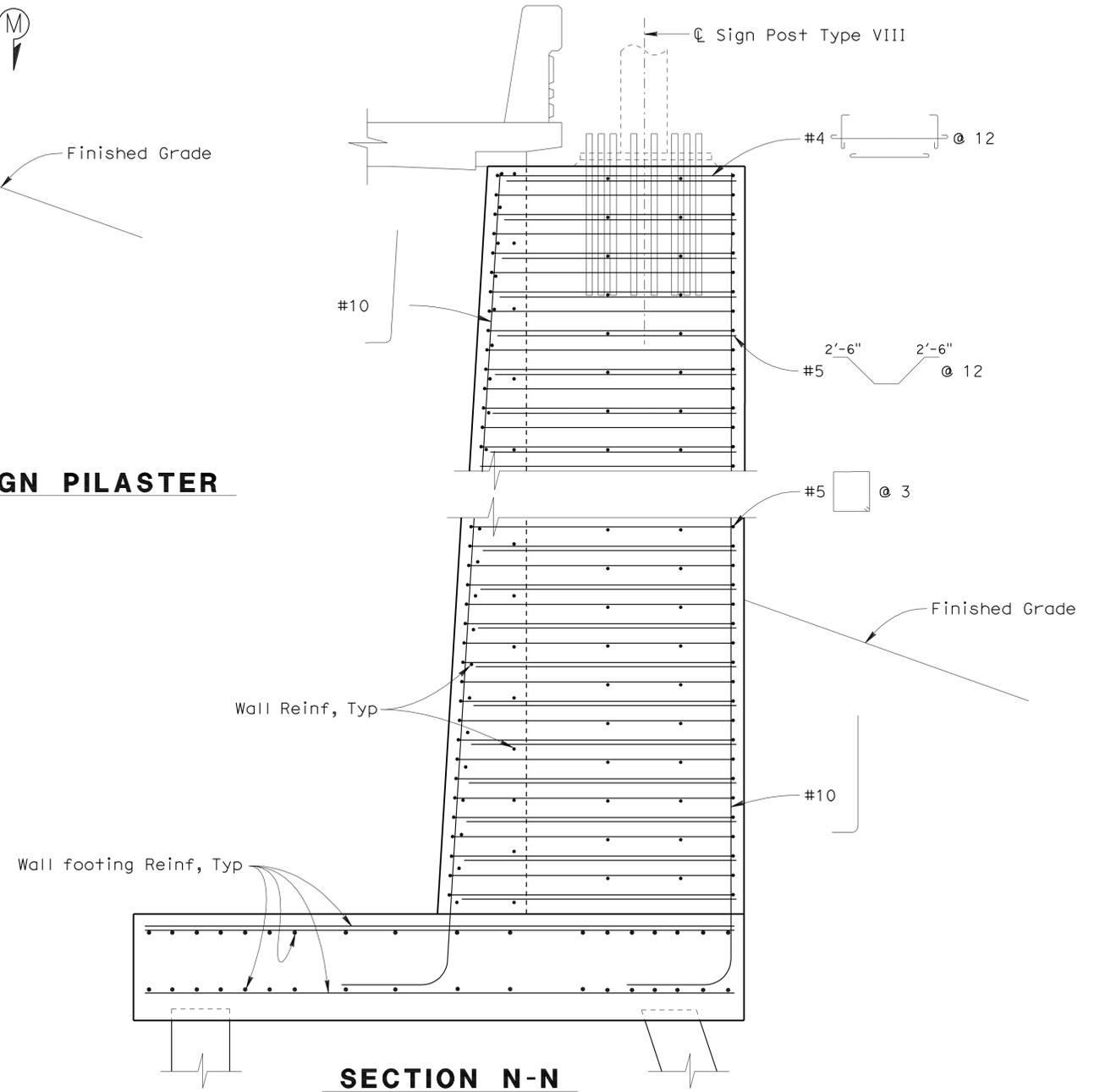
- NOTES:
1. For location of pilaster, see "General Plan" sheet.
 2. For pile layout, see "Abutment 1 Details No. 2" sheet.
 3. For return wall Reinf, see "Abutment Details No. 2" sheet.



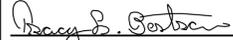
SECTION AT OVERHEAD SIGN PILASTER
1/4" = 1'-0"



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



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


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

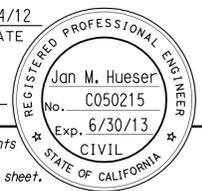
PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

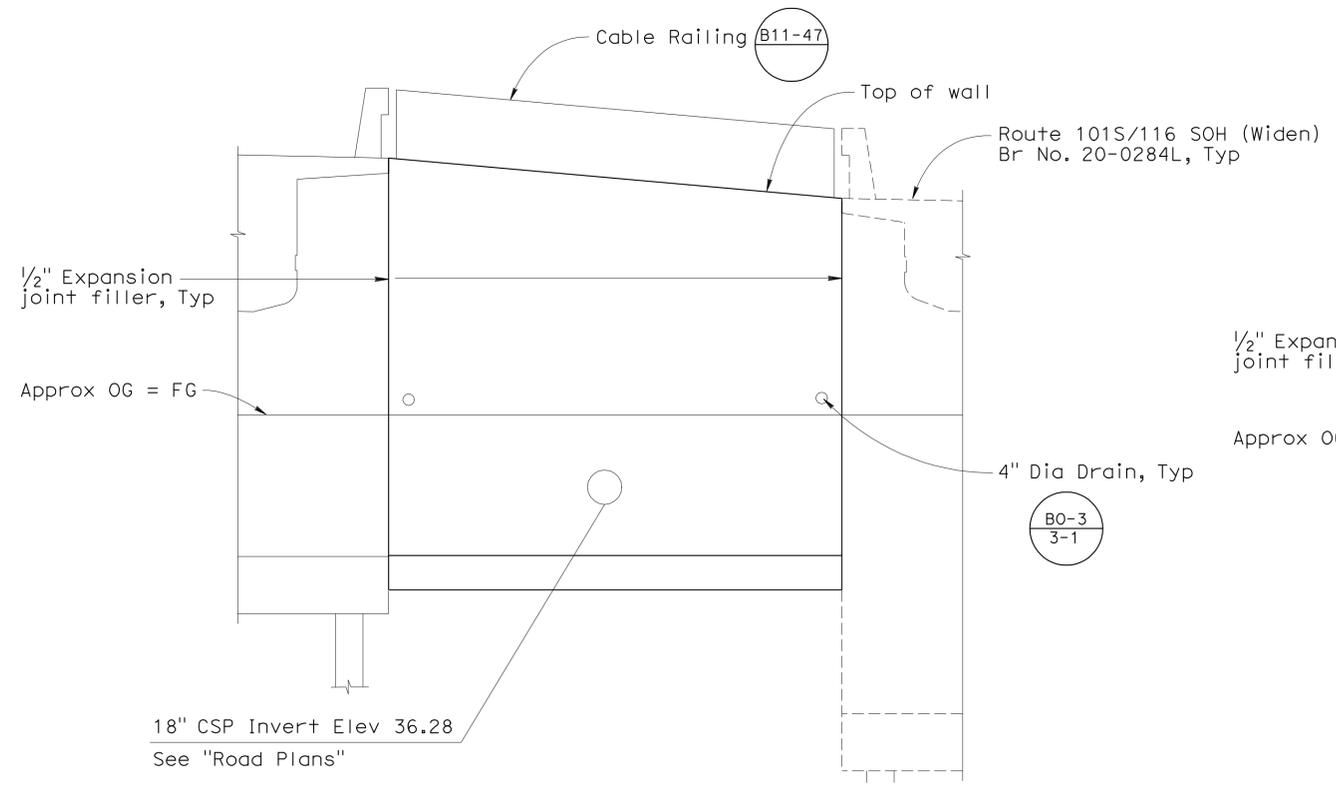
ROUTE 101N/116 SOH (REPLACE)
ABUTMENT DETAILS No. 3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	334	375

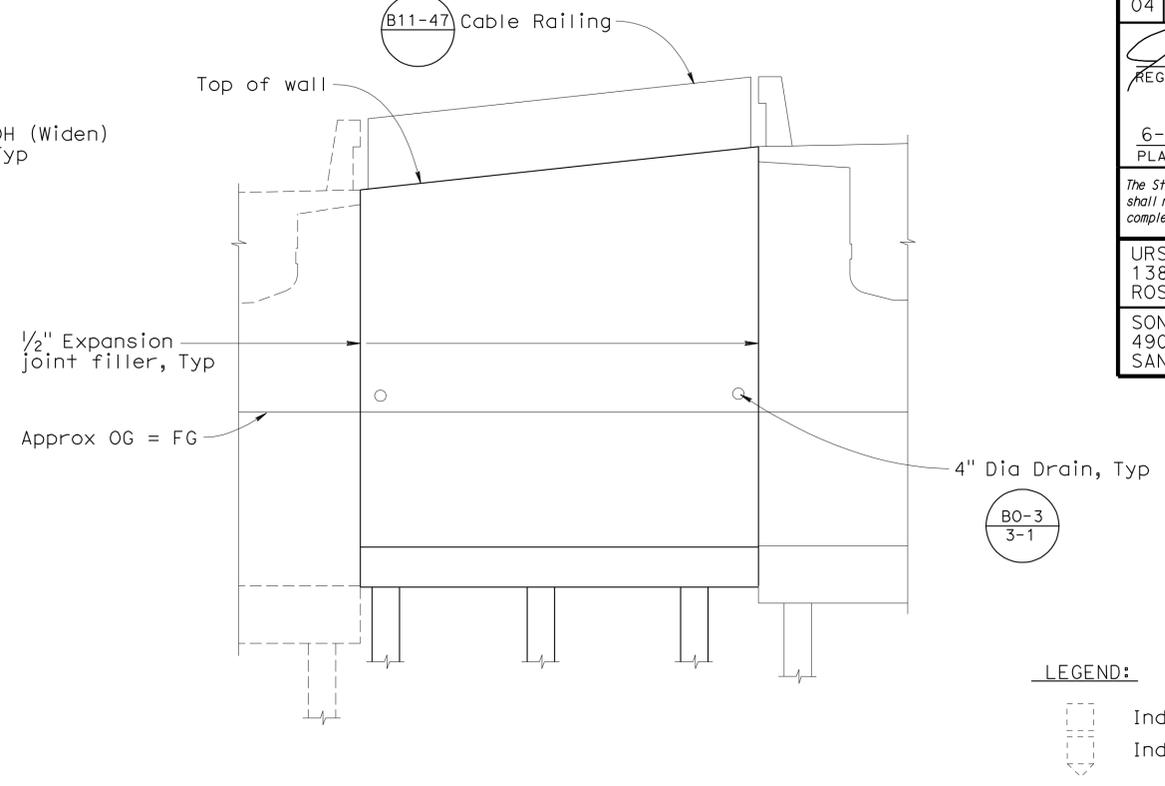

 REGISTERED CIVIL ENGINEER DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



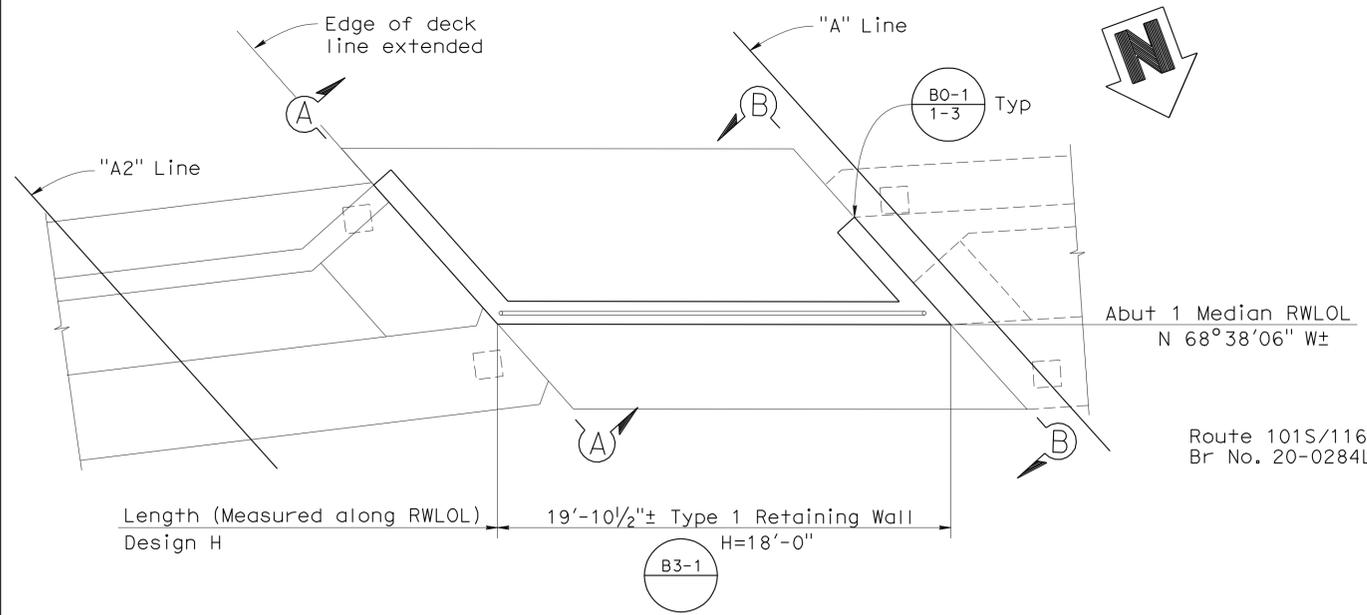
ABUT 1 ELEVATION
1/4" = 1'-0"



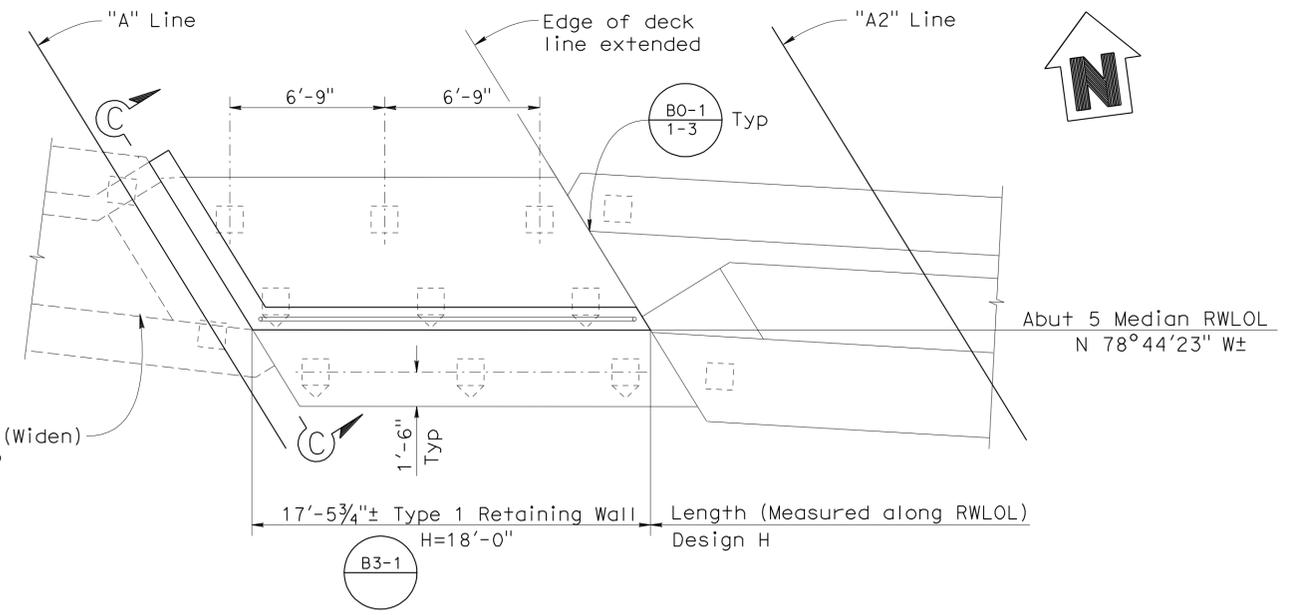
ABUT 5 ELEVATION
1/4" = 1'-0"

LEGEND:
 Indicates vertical piles
 Indicates 3:1 battered piles

NOTE:
 1. For "View A-A" thru "View C-C" and details not shown, see "Median Retaining Wall Details No. 2" sheet.



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



ABUT 5 PLAN
1/4" = 1'-0"


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
MEDIAN RETAINING WALL DETAILS No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

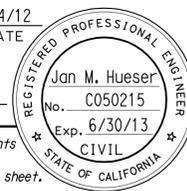
REVISION DATES	SHEET	OF
3-28-10 1-13-12 3-14-12 4-4-12	15	46

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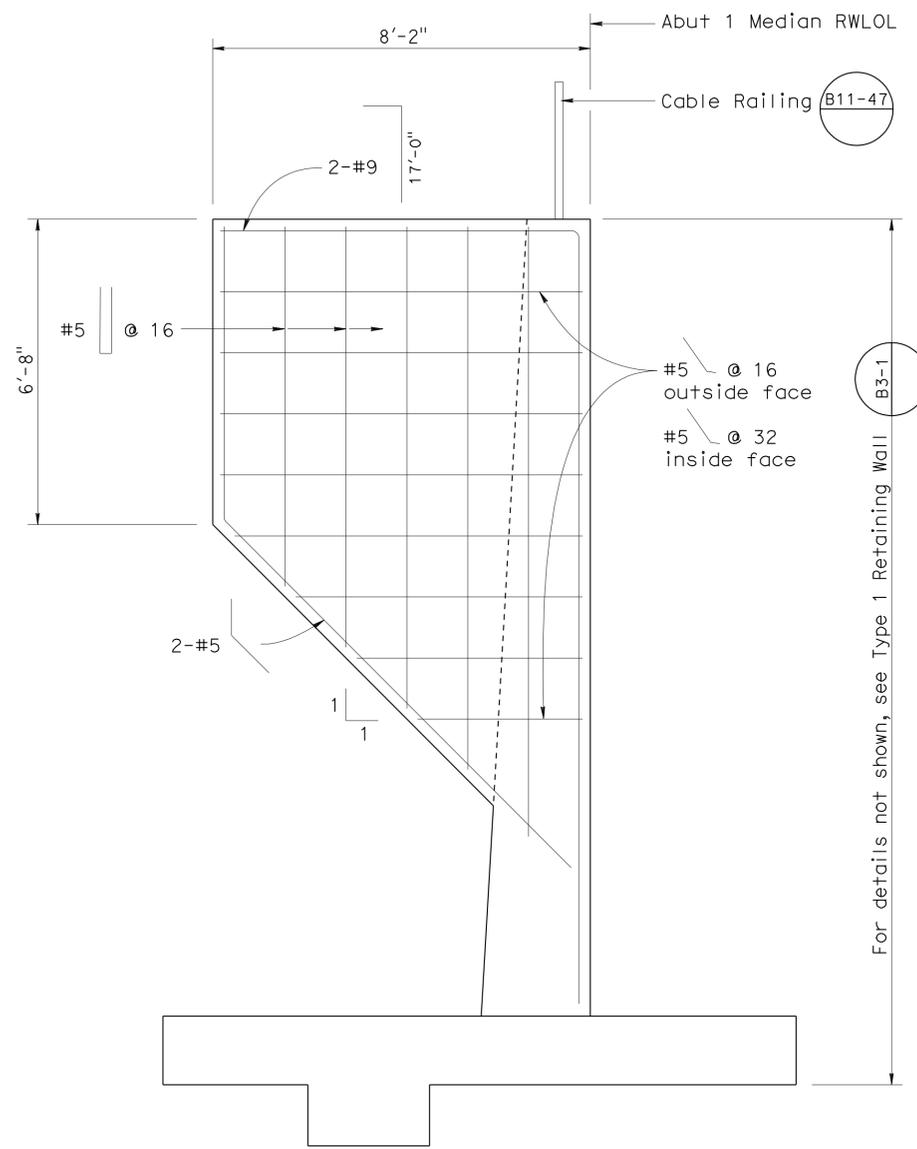
USERNAME => s124496 DATE PLOTTED => 16-JUN-2012 TIME PLOTTED => 08:40

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	335	375

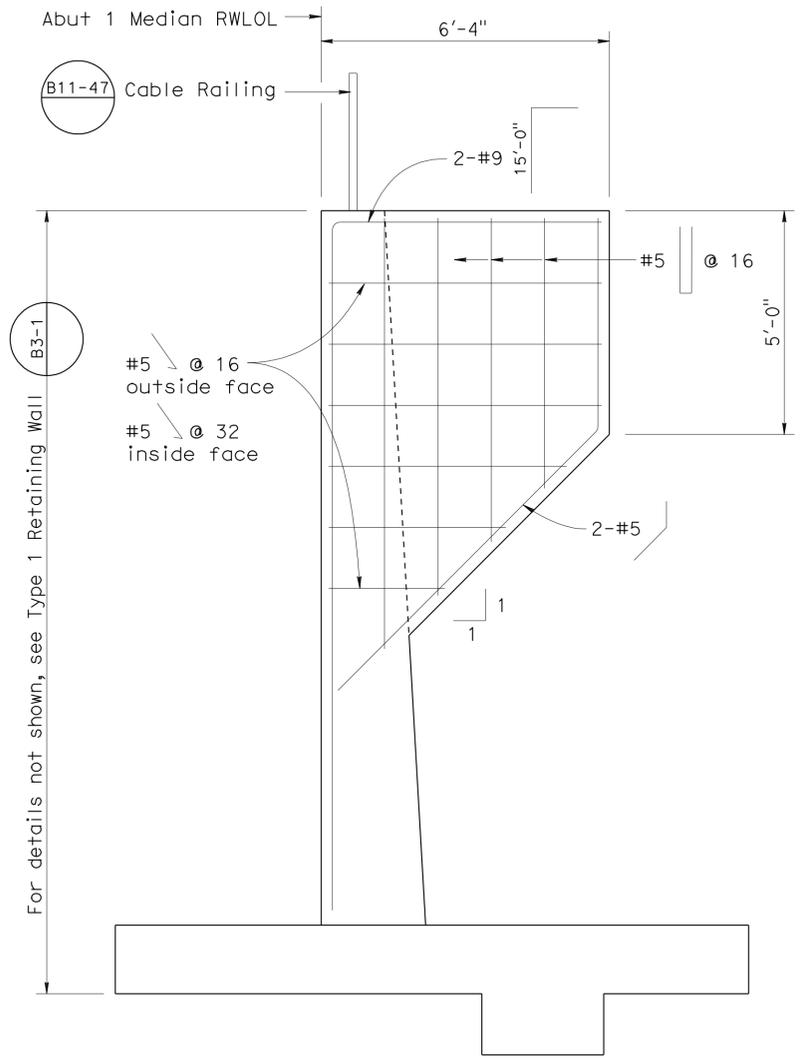
Jan M. Hueser
 REGISTERED CIVIL ENGINEER 4/4/12 DATE
 6-11-12
 PLANS APPROVAL DATE
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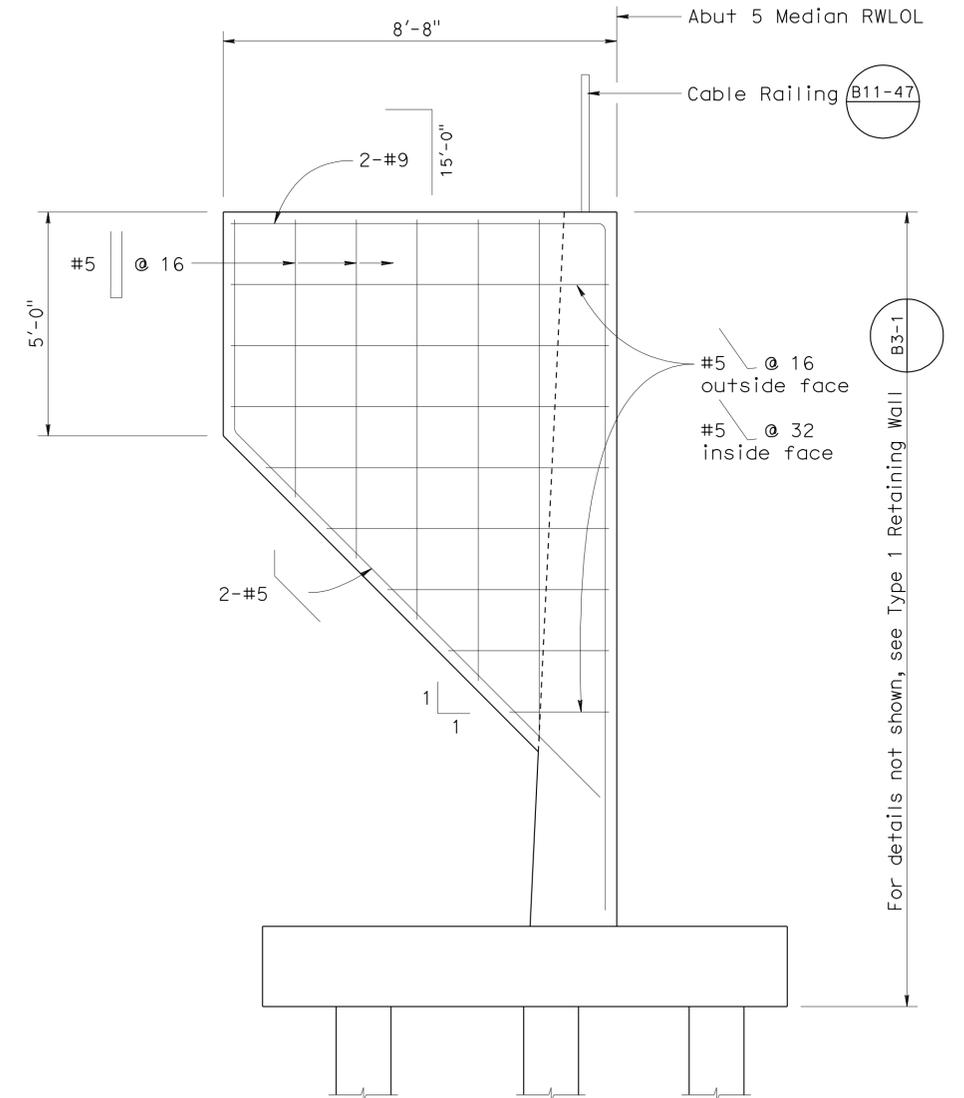
URS CORPORATION
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 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



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



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



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

NOTE:
1. For location of "View A-A" thru "View C-C", see "Median Retaining Wall Details No. 1" sheet.

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

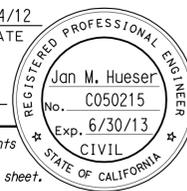
Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

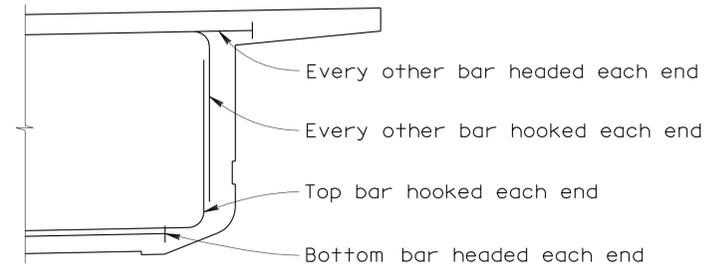
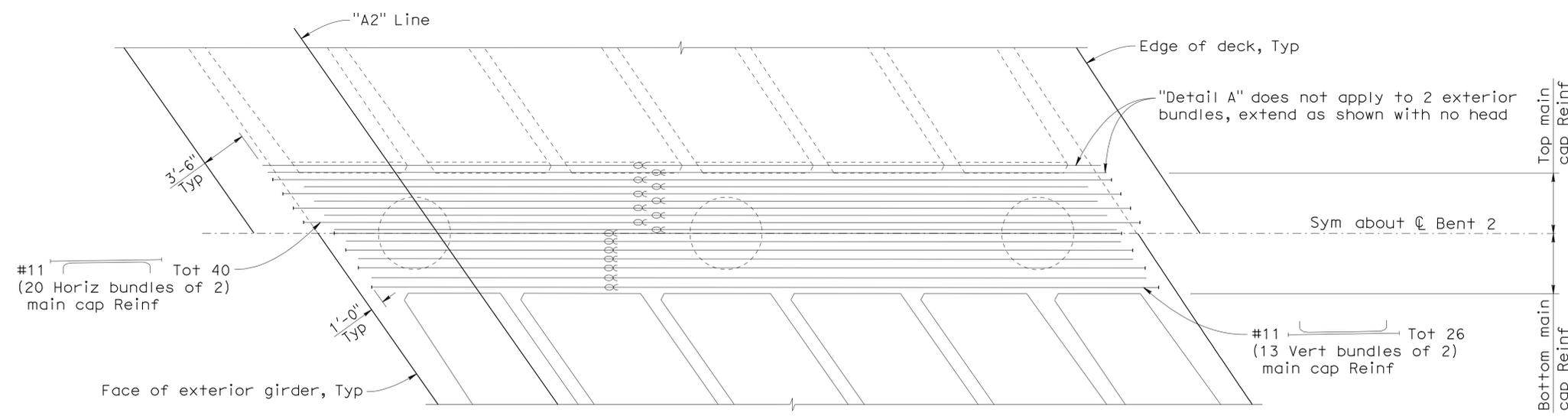
ROUTE 101N/116 SOH (REPLACE)
MEDIAN RETAINING WALL DETAILS No. 2

REVISION DATES	SHEET	OF
3-28-10 1-13-12 3-14-12 4-4-12	16	46

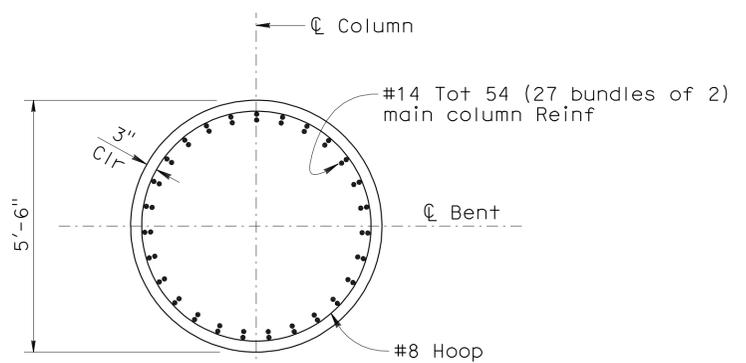
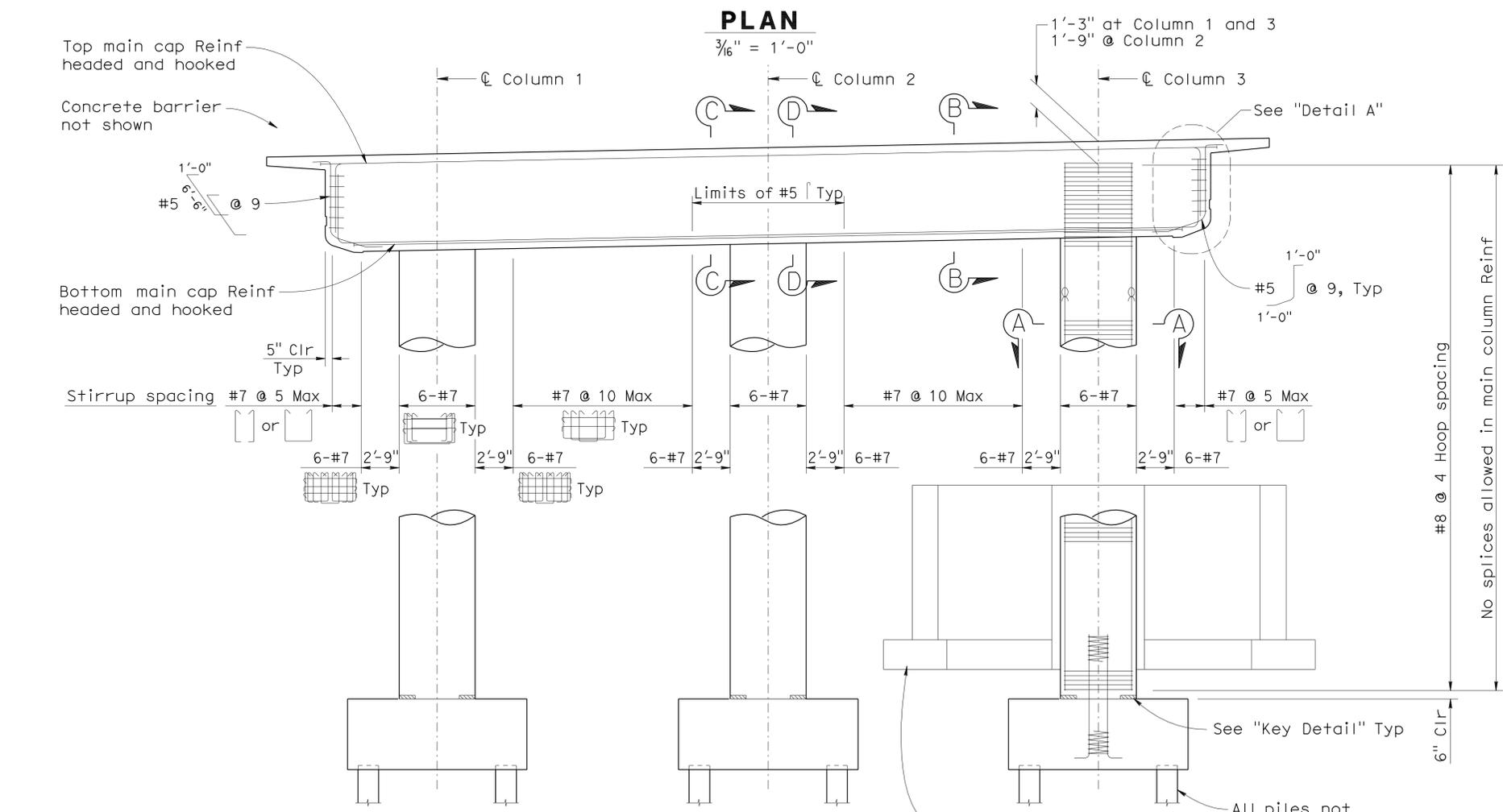
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	336	375


 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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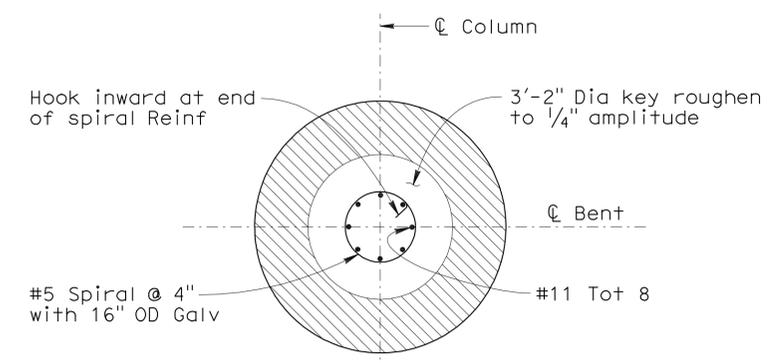
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



DETAIL A
No Scale



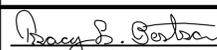
SECTION A-A
1/2" = 1'-0"



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

NOTES:

- ∞ Indicates bundled bars.
- For footing details, see "Bent Details No. 2" sheet.
- For "Section B-B", "Section C-C" and "Section D-D" see "Bent 2 Details" sheet.
- All hoops shall be "Ultimate" Butt Spliced.
- Only service level splices are allowed in main bent cap Reinf.
- For bent cap corner reinforcement details, see "Bent Details No. 1" sheet.


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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

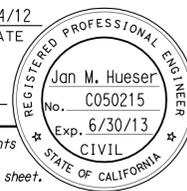
Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

**ROUTE 101N/116 SOH (REPLACE)
 BENT 2 LAYOUT**

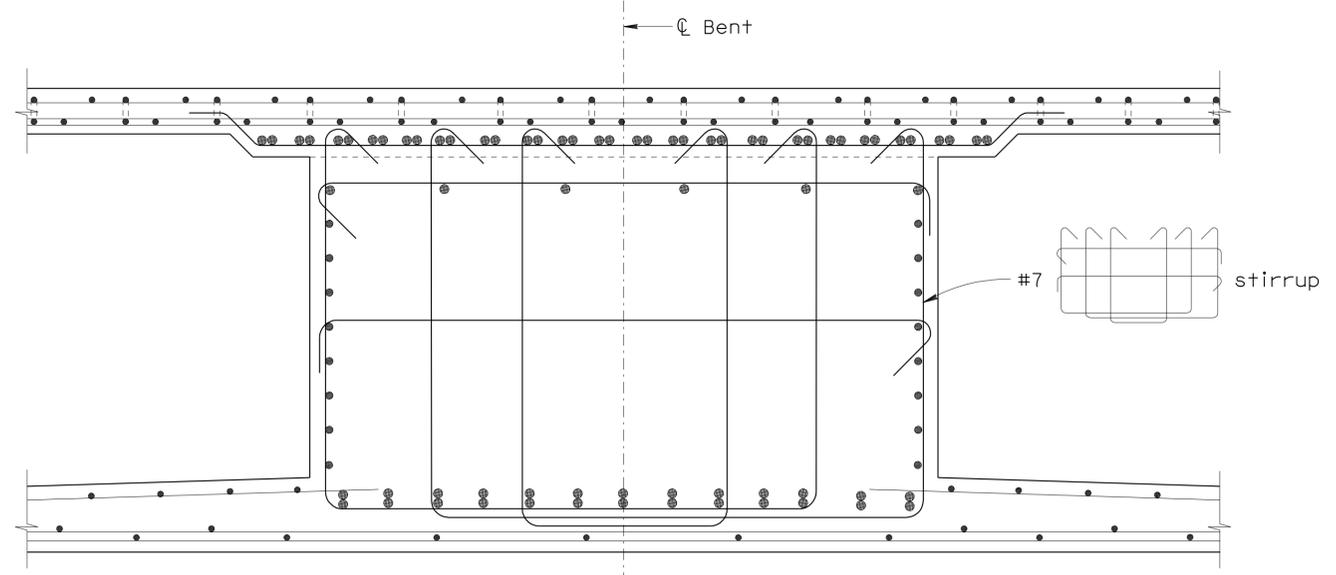
REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	17	46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	337	375



Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

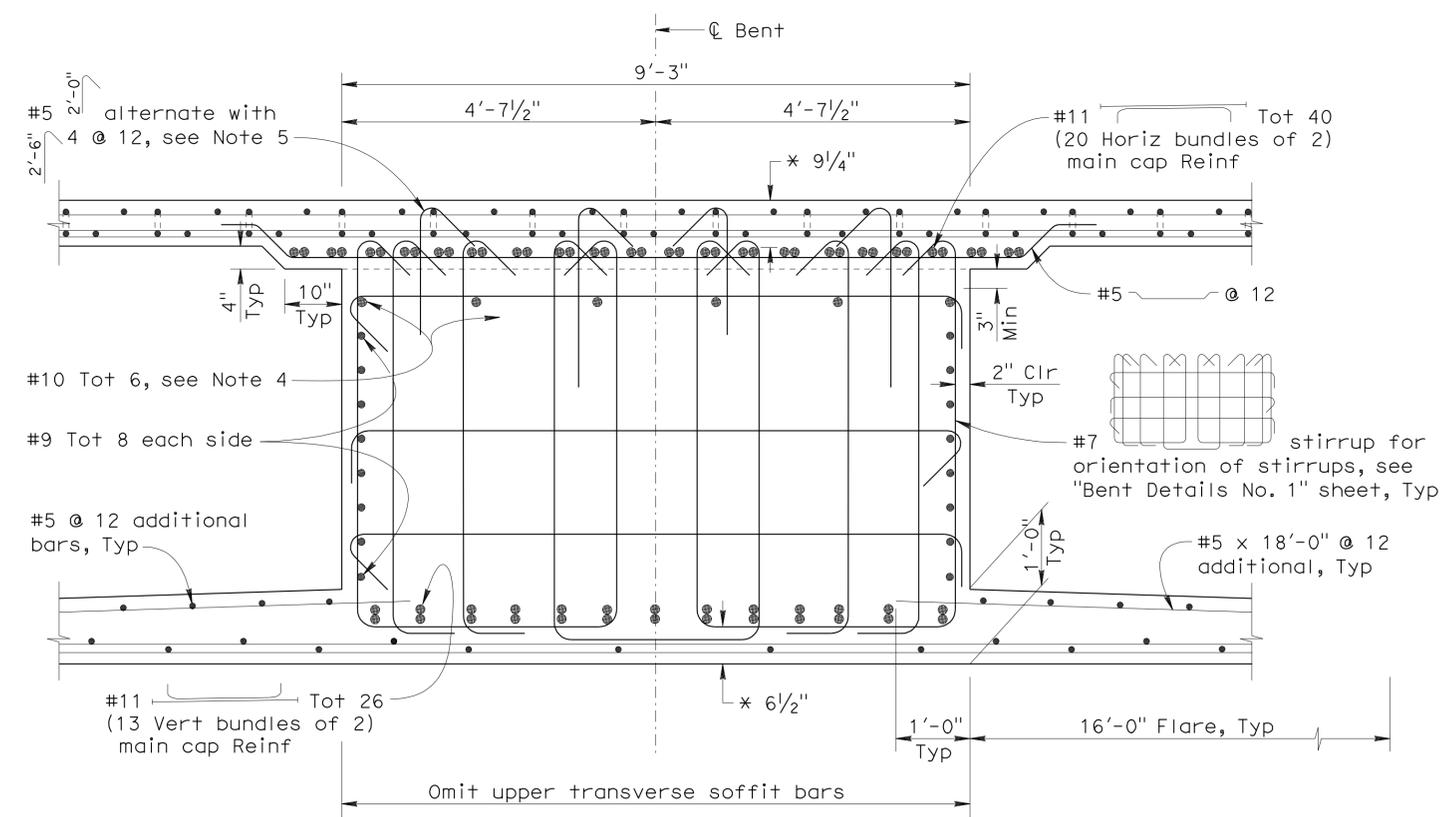


SECTION B-B
3/4" = 1'-0"

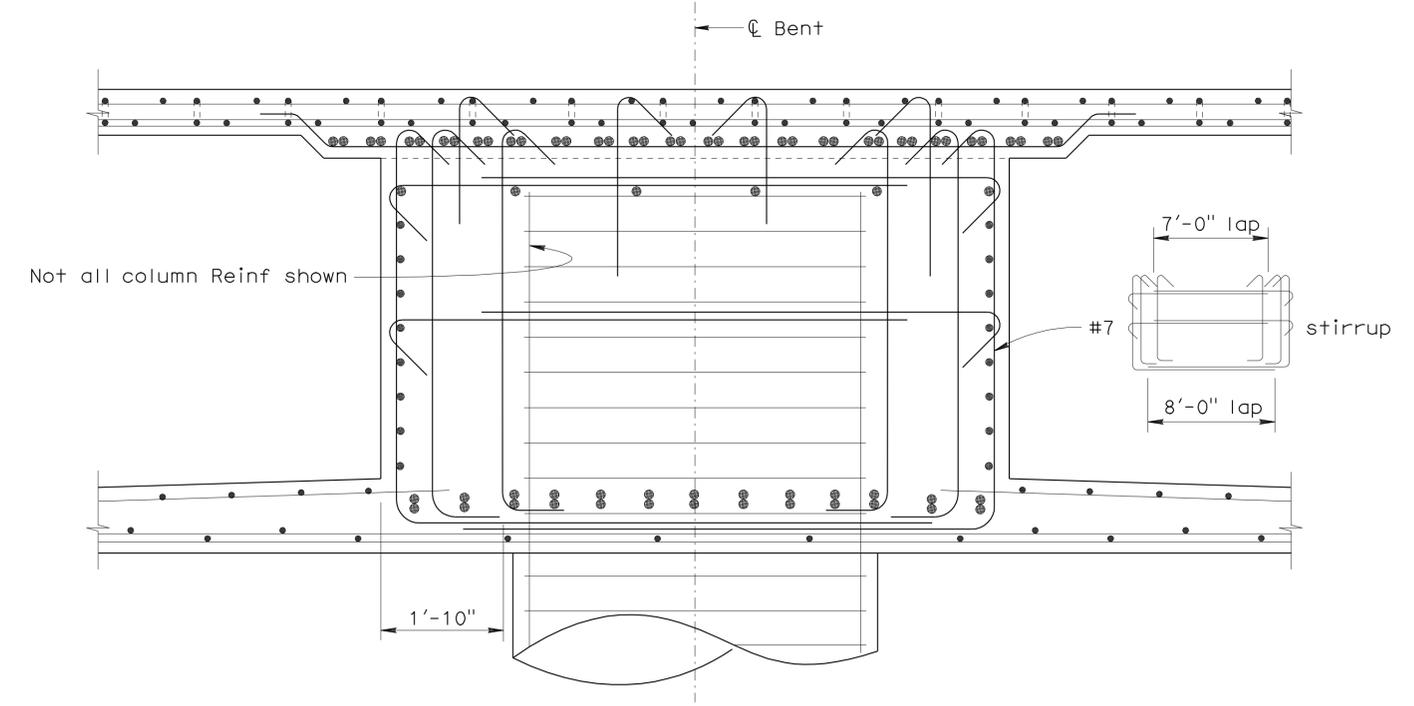
For information not shown, see "Section C-C"

NOTES:

- * Indicates clearance to main cap reinforcement.
- For column reinforcement, see "Bent 2 Layout" sheet.
- For location of "Section B-B", "Section C-C" and "Section D-D" see "Bent 2 Layout" sheet.
- Reinforcement may be bent or lowered to clear prestressing ducts, subject to the approval of the Engineer.
- For limits of reinforcement, see "Bent 2 Layout" sheet.
- Main Cap Reinf headed and hooked, see "Bent 2 Layout" sheet for details.



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



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

For information not shown, see "Section C-C"


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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

BRIDGE NO.	20-0284R
PROJECT MILE	3.57

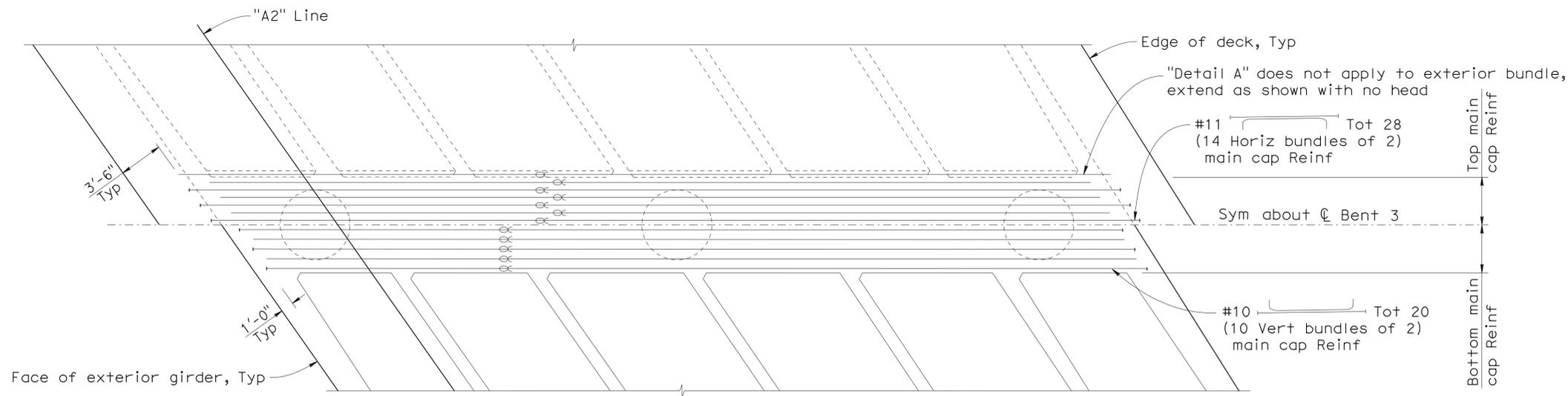
ROUTE 101N/116 SOH (REPLACE)
BENT 2 DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	338	375

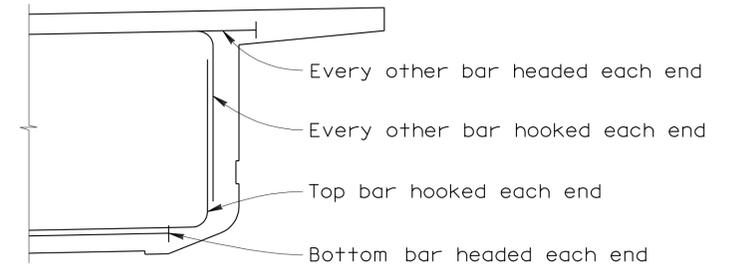


Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE
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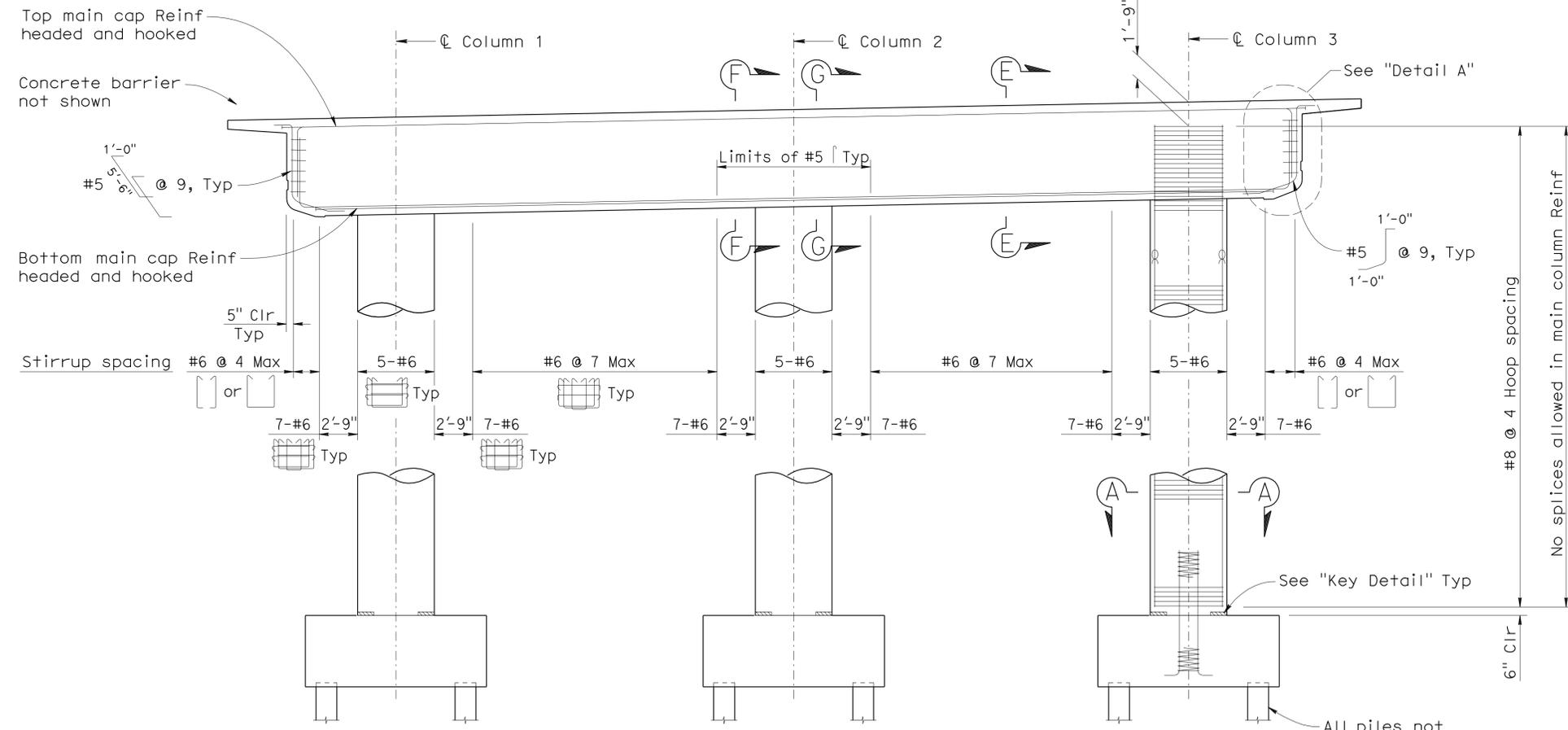
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



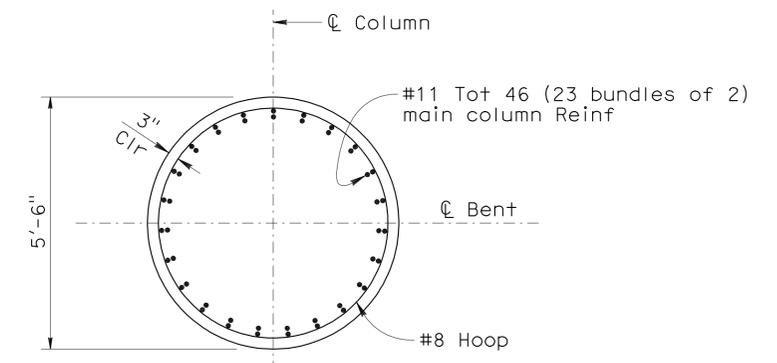
PLAN
3/16" = 1'-0"



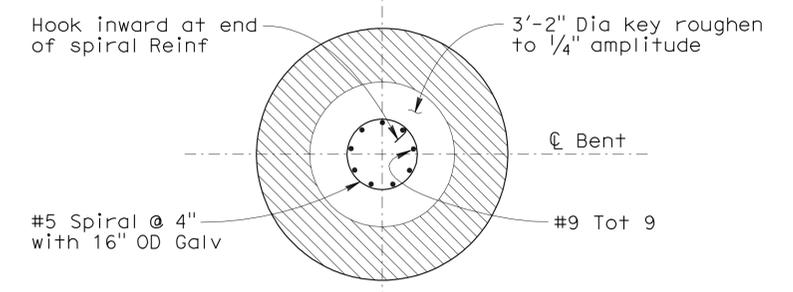
DETAIL A
No Scale



ELEVATION
3/16" = 1'-0"



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



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

- NOTES:**
- ∞ Indicates bundled bars.
 - For footing details, see "Bent Details No. 2" sheet.
 - For "Section E-E", "Section F-F" and "Section G-G" see "Bent 3 Details" sheet.
 - All hoops shall be "Ultimate" Butt Spliced.
 - Only service level splices are allowed in main bent cap Reinf.
 - For bent cap corner reinforcement details, see "Bent Details No. 1" sheet.


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

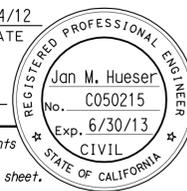
PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
PROJECT MILE	3.57

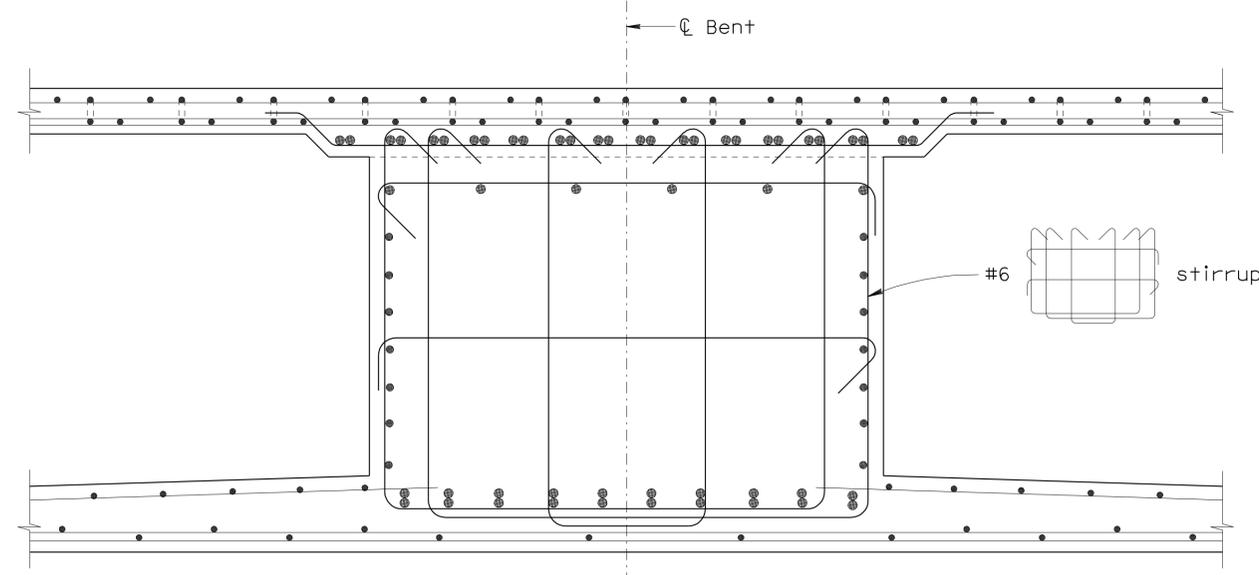
ROUTE 101N/116 SOH (REPLACE)
BENT 3 LAYOUT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	339	375



Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

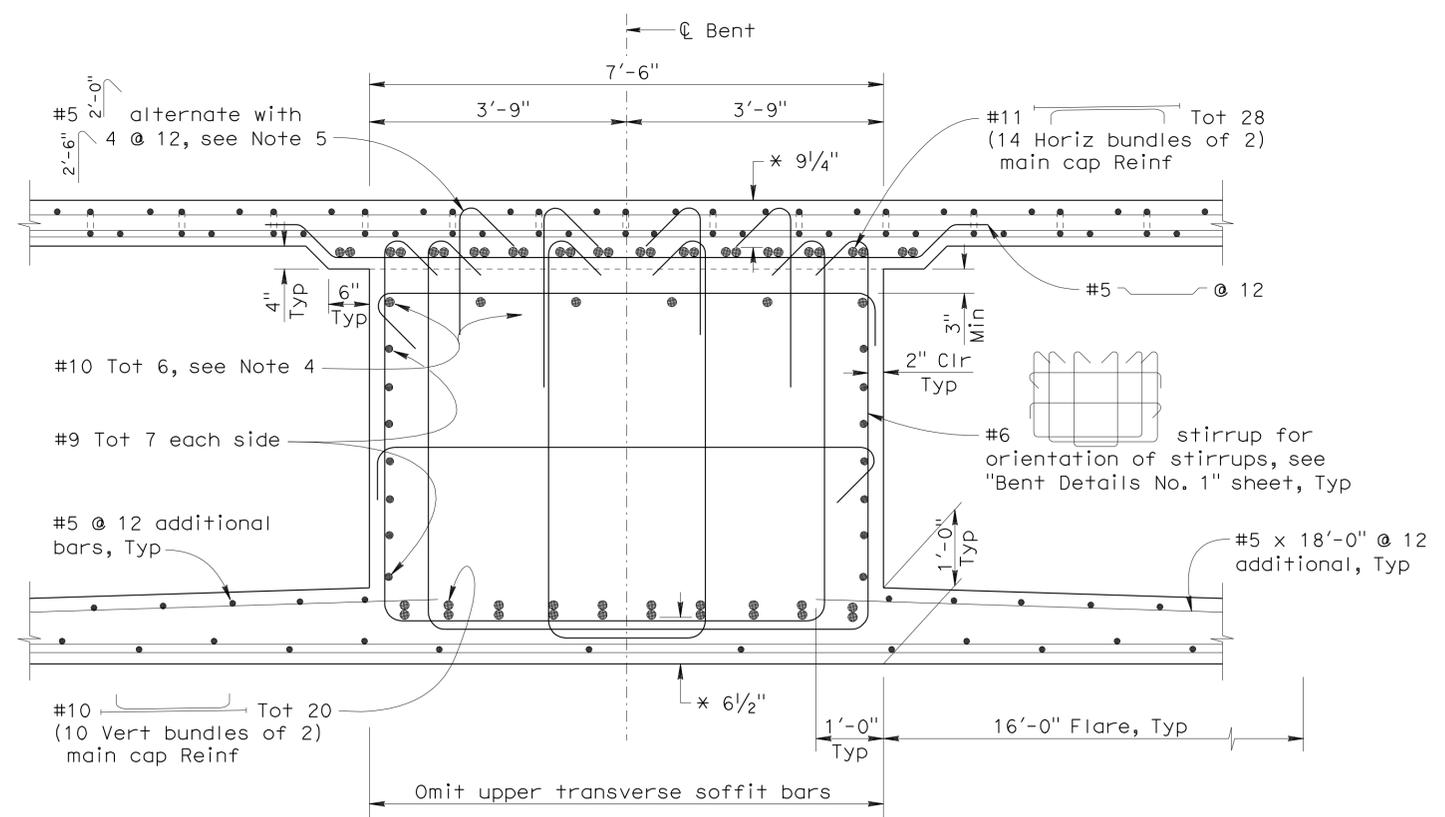


SECTION E-E
3/4" = 1'-0"

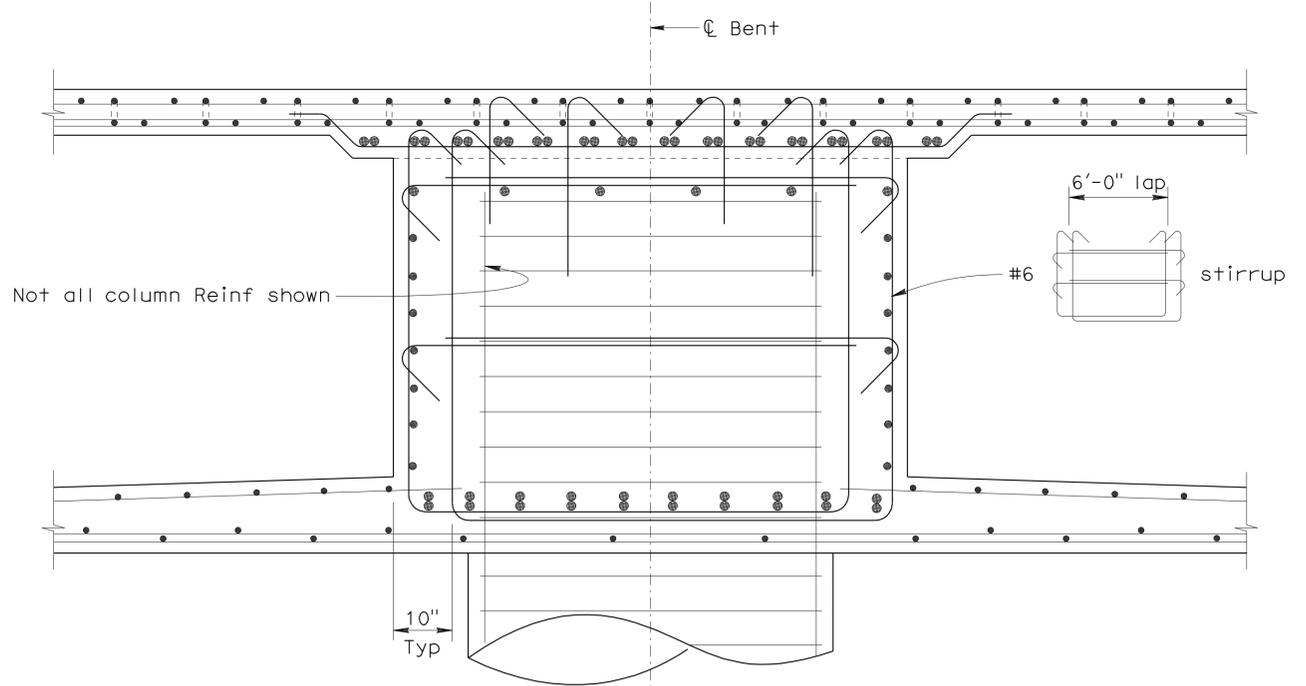
For information not shown, see "Section F-F"

NOTES:

- * Indicates clearance to main cap reinforcement.
- For column reinforcement, see "Bent 3 Layout" sheet.
- For location of "Section E-E", "Section F-F" and "Section G-G" see "Bent 3 Layout" sheet.
- Reinforcement may be bent or lowered to clear prestressing ducts, subject to the approval of the Engineer.
- For limits of reinforcement, see "Bent 3 Layout" sheet.
- Main Cap Reinf headed and hooked, see "Bent 3 Layout" sheet for details.



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



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

For information not shown, see "Section F-F"


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

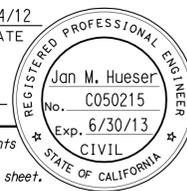
DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

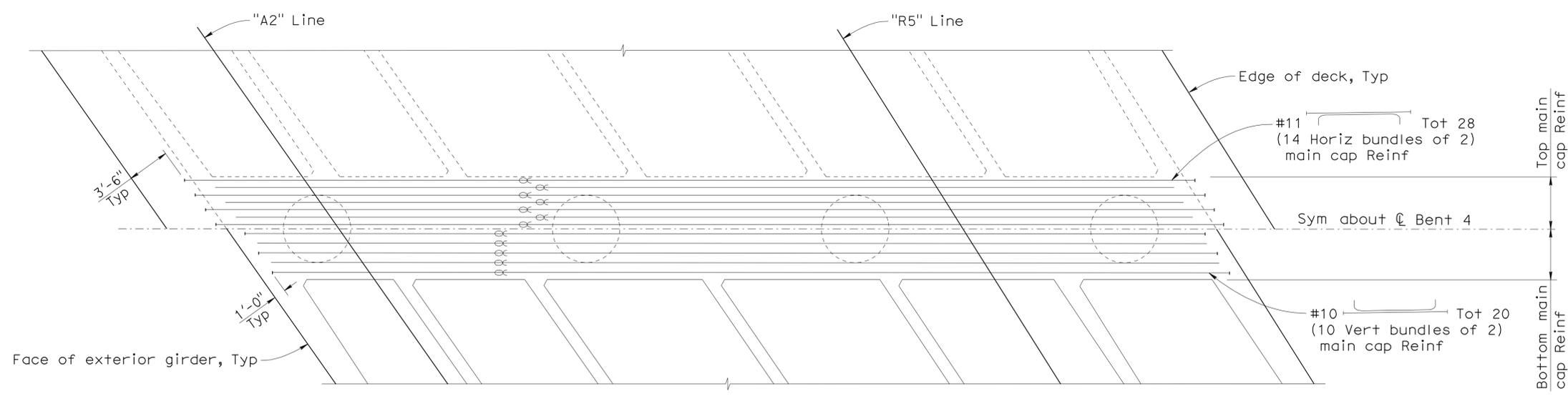
ROUTE 101N/116 SOH (REPLACE)
BENT 3 DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	340	375

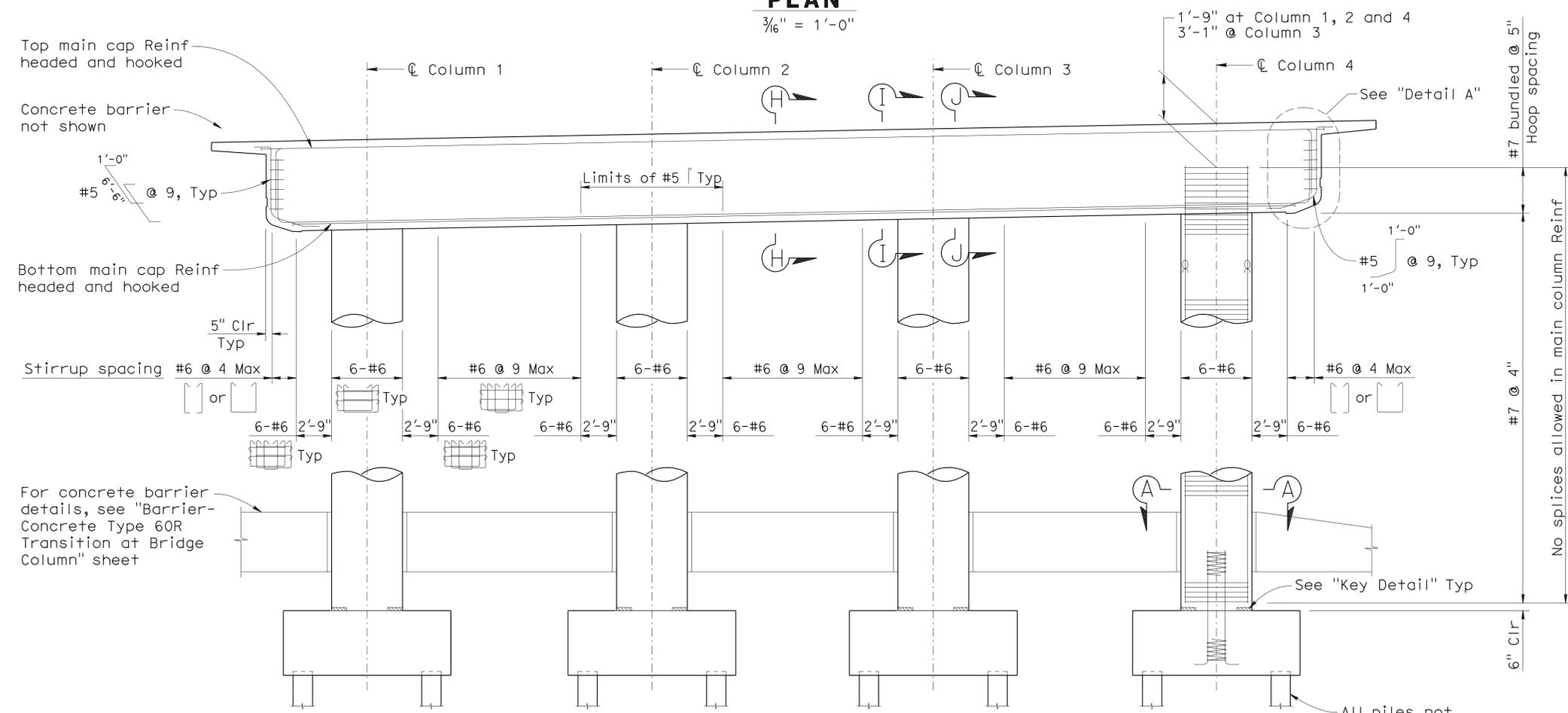


Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE
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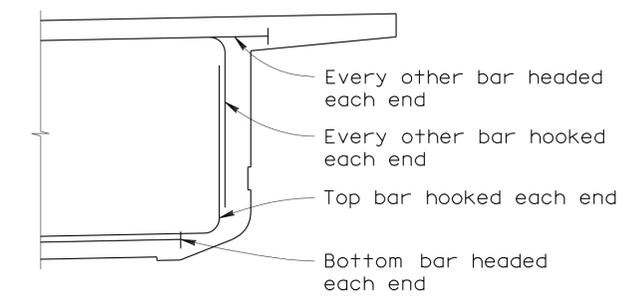
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



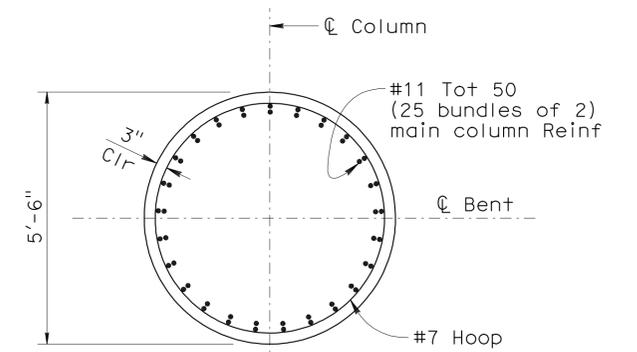
PLAN
3/16" = 1'-0"



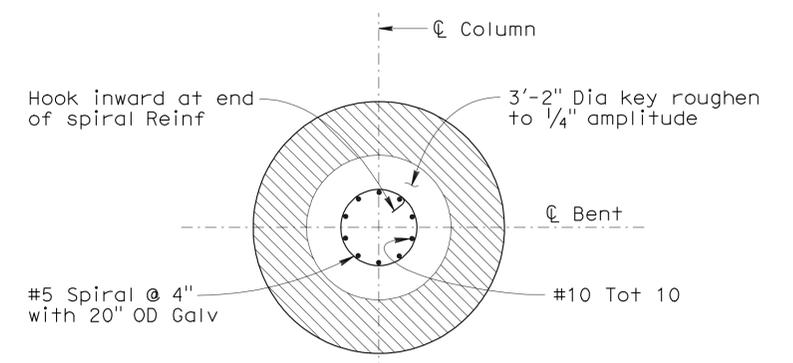
ELEVATION
3/16" = 1'-0"



DETAIL A
No Scale



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



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

- NOTES:**
- ∞ Indicates bundled bars.
 - For footing details, see "Bent Details No. 2" sheet.
 - For "Section H-H", "Section I-I" and "Section J-J" see "Bent 4 Details" sheet.
 - All hoops shall be "Ultimate" Butt Spliced.
 - Only service level splices are allowed in main bent cap Reinf.
 - For bent cap corner reinforcement details, see "Bent Details No. 1" sheet.


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

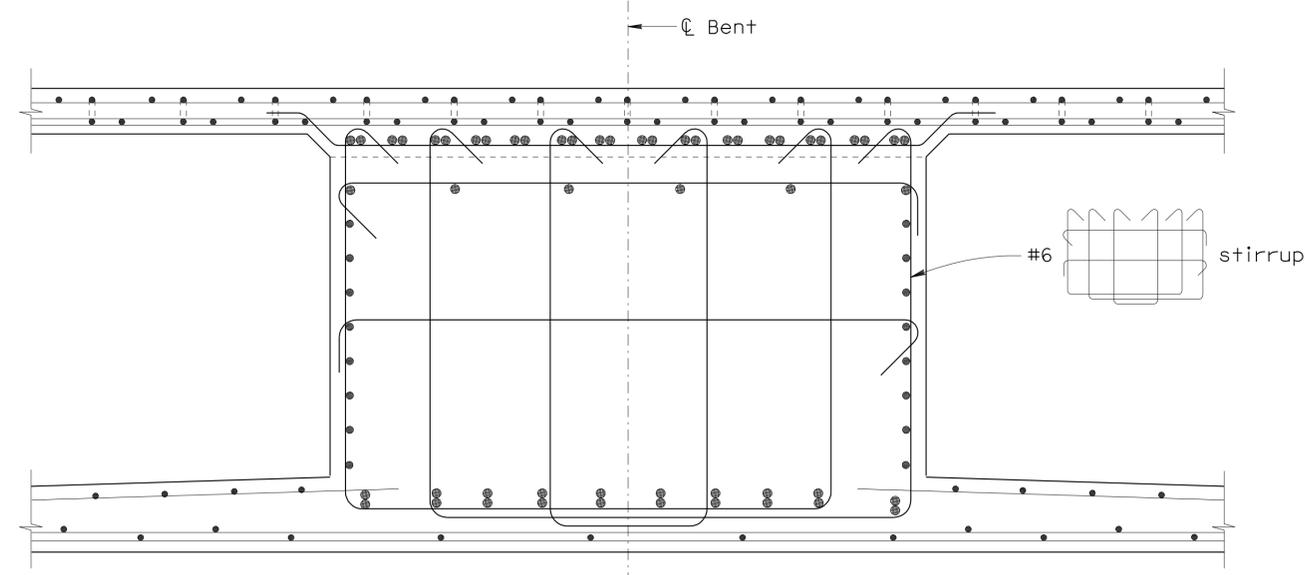
ROUTE 101N/116 SOH (REPLACE)
BENT 4 LAYOUT

REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	21	46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	341	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

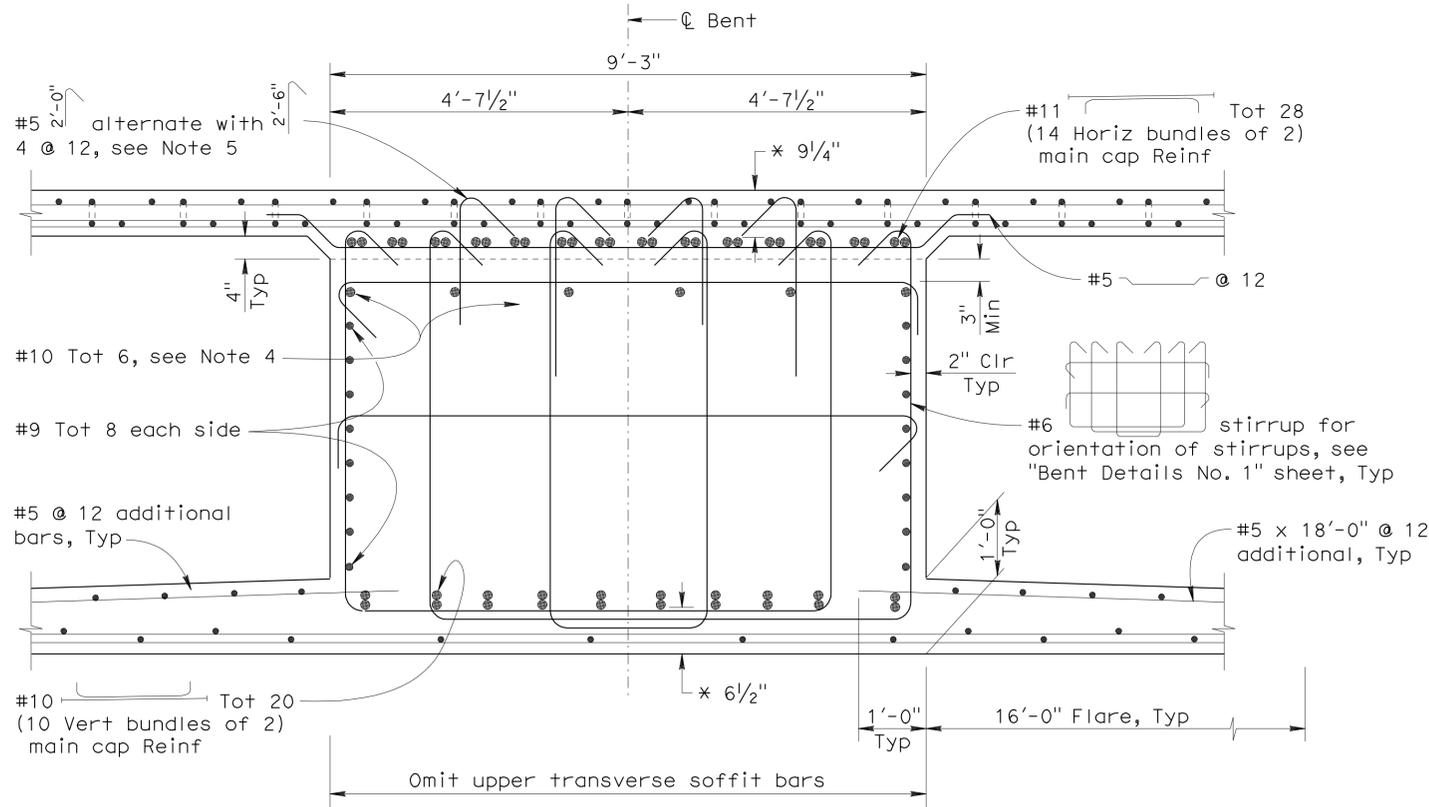


SECTION H-H
 $\frac{3}{4}'' = 1'-0''$

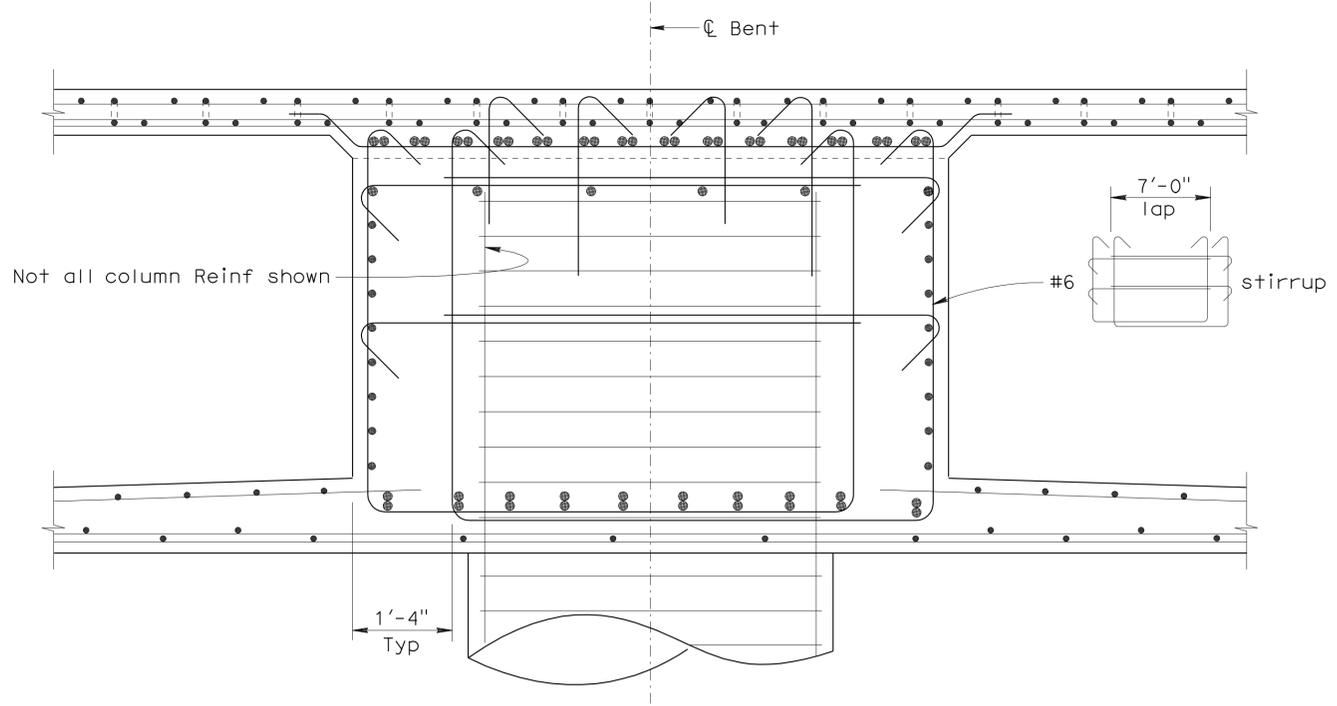
For information not shown, see "Section I-I"

NOTES:

- * Indicates clearance to main cap reinforcement.
- For column reinforcement, see "Bent 4 Layout" sheet.
- For location of "Section H-H", "Section I-I" and "Section J-J" see "Bent 4 Layout" sheet.
- Reinforcement may be bent or lowered to clear prestressing ducts, subject to the approval of the Engineer.
- For limits of reinforcement, see "Bent 4 Layout" sheet.
- Main Cap Reinf headed and hooked, see "Bent 4 Layout" sheet for details.



SECTION I-I
 $\frac{3}{4}'' = 1'-0''$



SECTION J-J
 $\frac{3}{4}'' = 1'-0''$

For information not shown, see "Section I-I"

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

**ROUTE 101N/116 SOH (REPLACE)
 BENT 4 DETAILS**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	22	46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	342	375

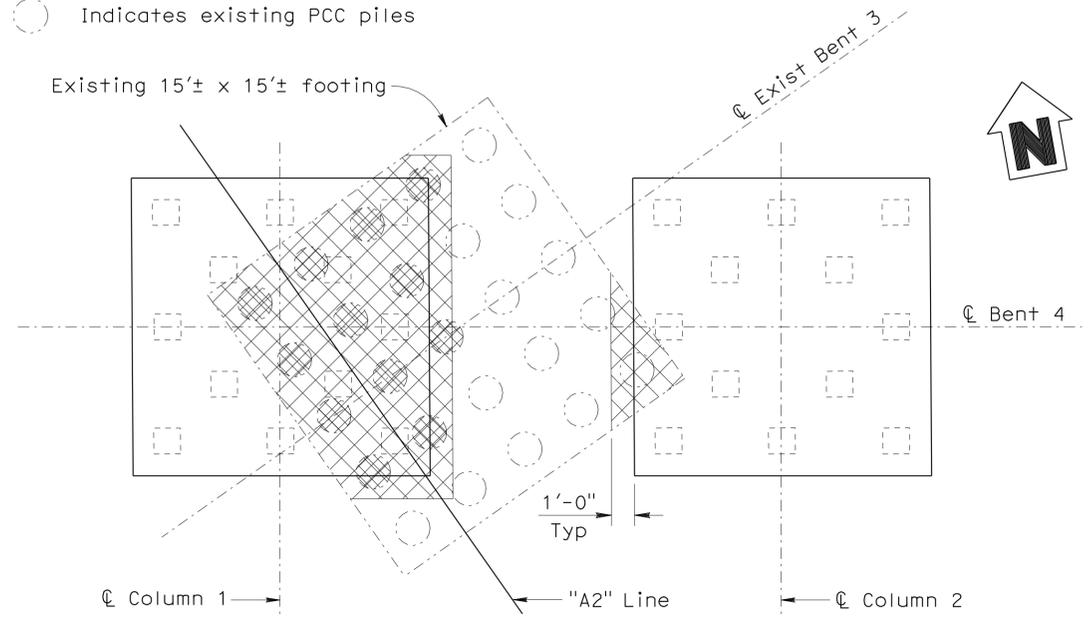
Jan M. Hueser
 REGISTERED CIVIL ENGINEER DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jan M. Hueser
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

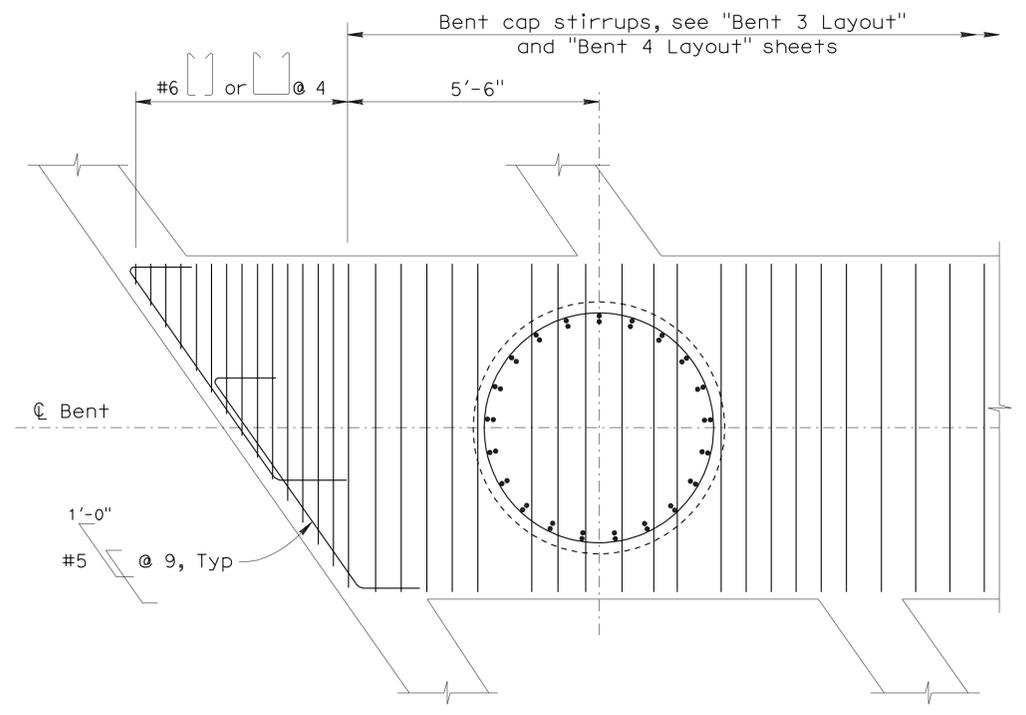
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

LEGEND:

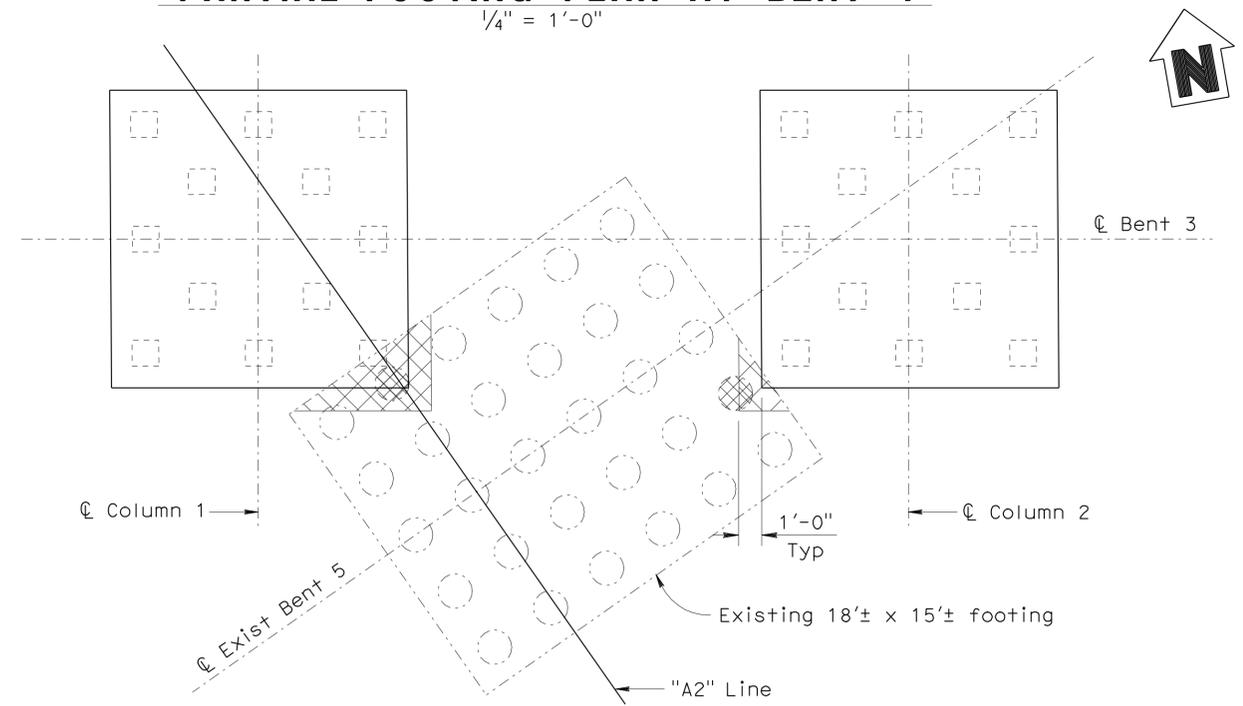
- Indicates existing structure
- Indicates piles - Layout shall be adjusted as directed by the Engineer to miss existing piles. Engineer shall approve pile layout prior to driving piles.
- ⊗ Indicates PCC piles anticipated to interfere with proposed footing. Remove interfering piles 3'-0" below bottom of new footing elevation and backfill with structure backfill.
- ⊗⊗⊗ Indicates bridge removal
- Indicates existing PCC piles



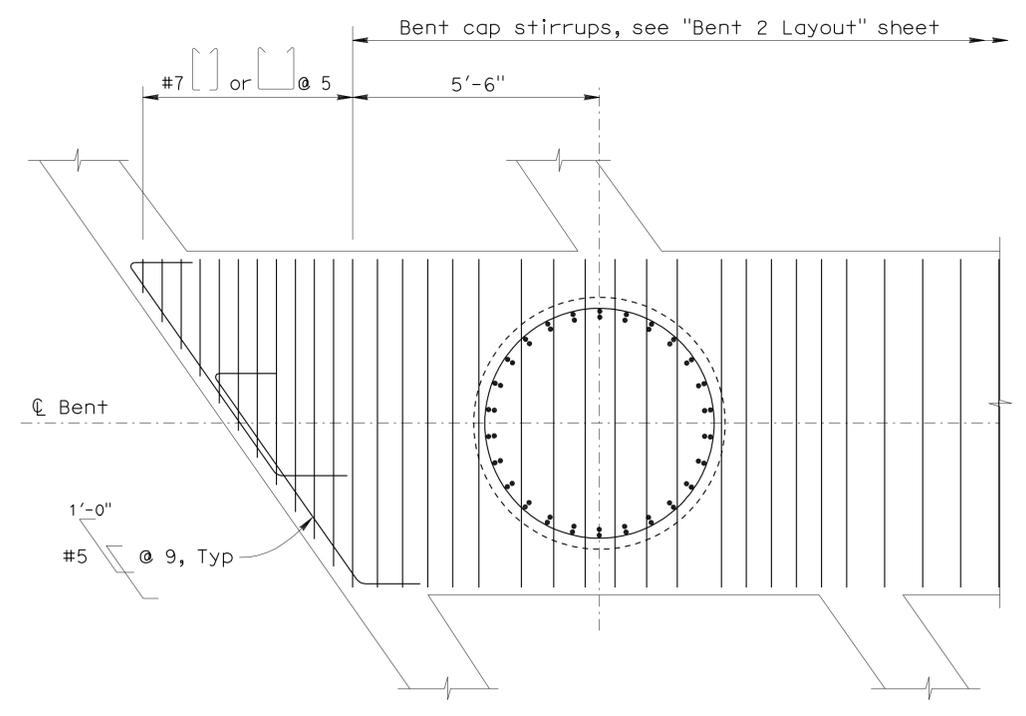
PARTIAL FOOTING PLAN AT BENT 4
 1/4" = 1'-0"



BENT CAP CORNER REINFORCEMENT AT BENT 3 & 4
 No Scale



PARTIAL FOOTING PLAN AT BENT 3
 1/4" = 1'-0"



BENT CAP CORNER REINFORCEMENT AT BENT 2
 No Scale

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

**PREPARED FOR THE
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 DEPARTMENT OF TRANSPORTATION**

Walt LaFranchi
 PROJECT ENGINEER
 BRIDGE NO. 20-0284R
 POST MILE 3.57

ROUTE 101N/116 SOH (REPLACE)
BENT DETAILS No. 1

USERNAME => s124496 DATE PLOTTED => 16-JUN-2012 TIME PLOTTED => 08:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	343	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12

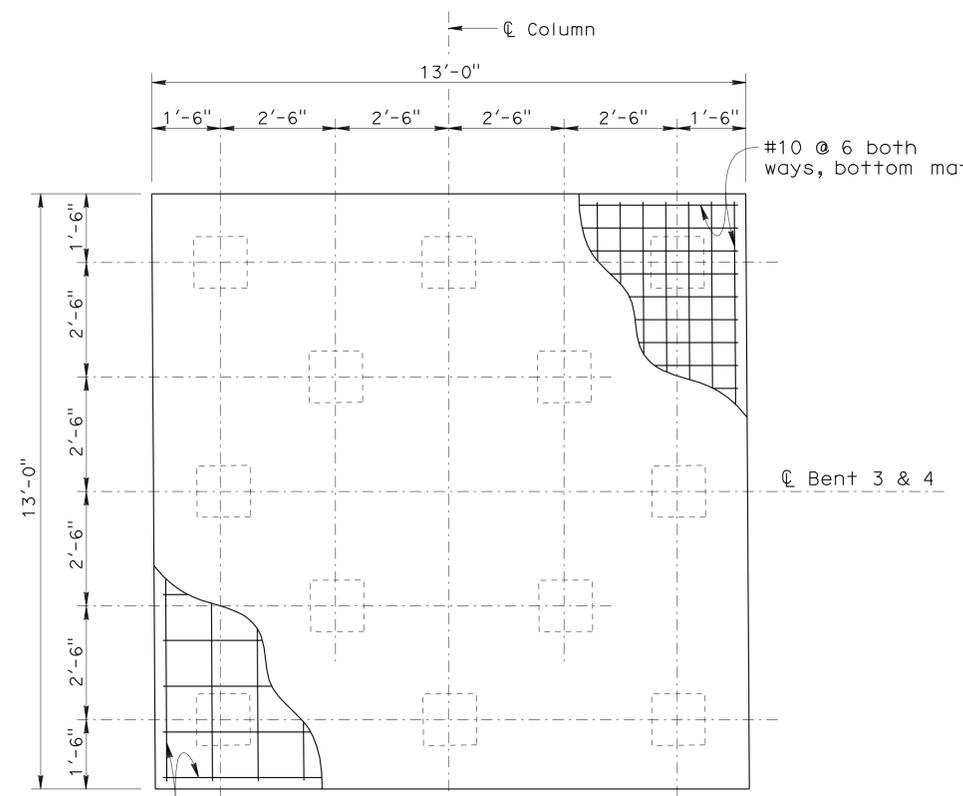
6-11-12
 PLANS APPROVAL DATE

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

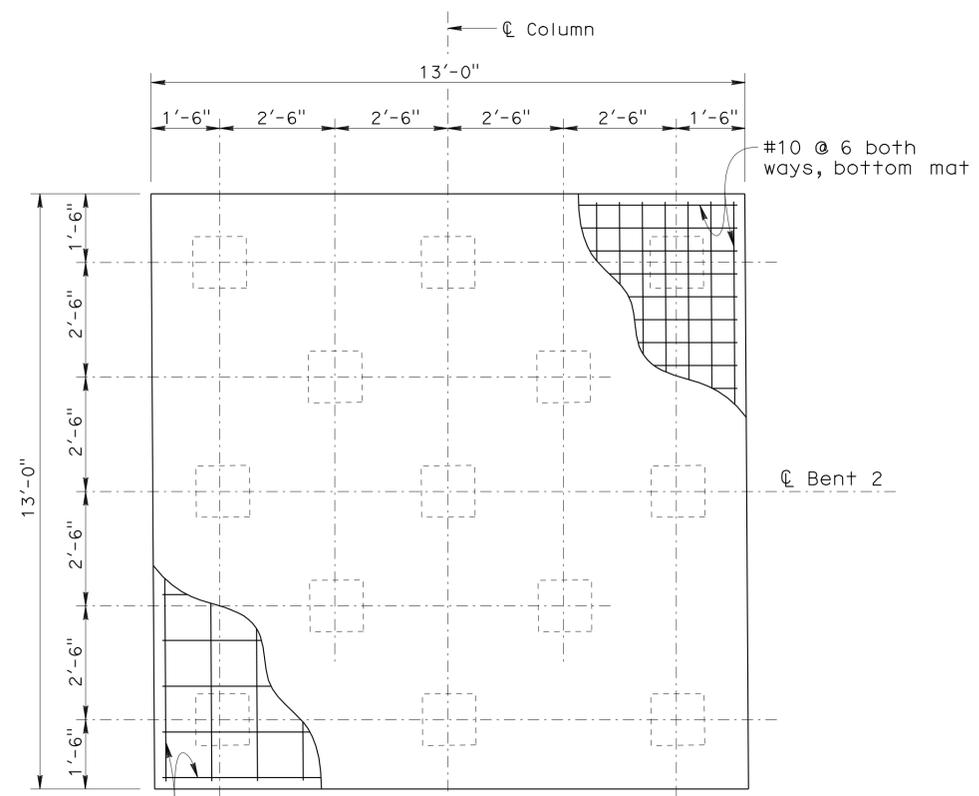
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URS CORPORATION
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 ROSEVILLE, CA 95661-2997

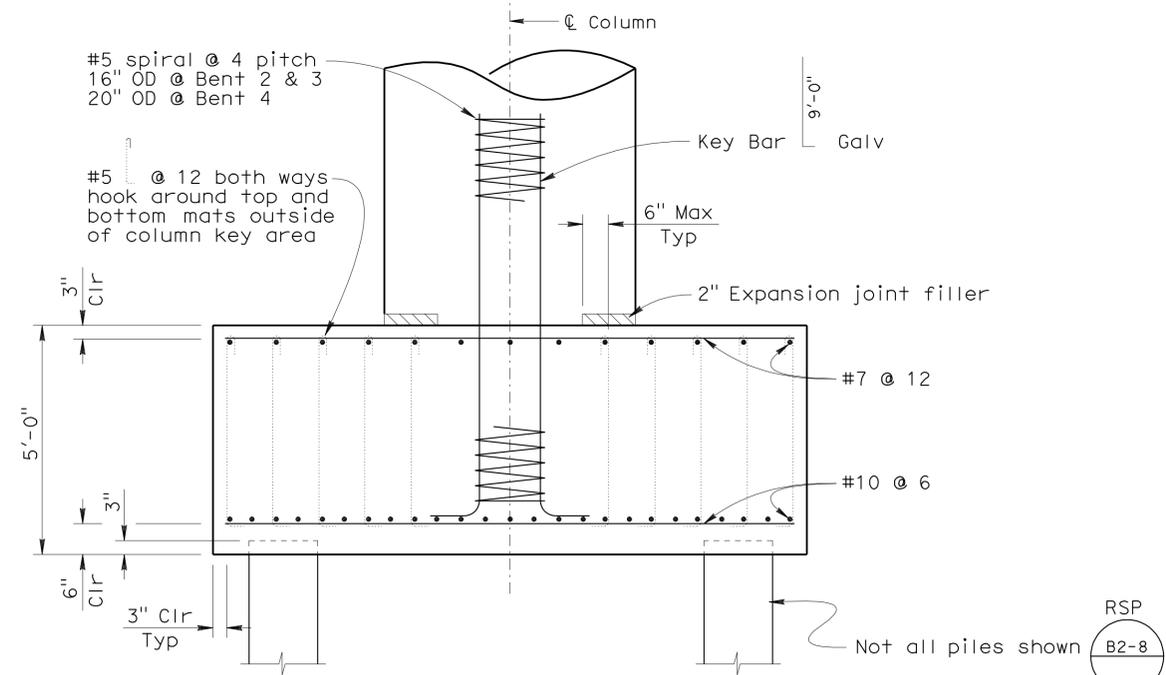
SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



BENT 3 & 4 FOOTING PLAN
 $\frac{1}{2}'' = 1'-0''$



BENT 2 FOOTING PLAN
 $\frac{1}{2}'' = 1'-0''$



FOOTING ELEVATION
 $\frac{1}{2}'' = 1'-0''$

Tracy L. Bertram
 DESIGN OVERSIGHT
 Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Walfrido LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
BENT DETAILS No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

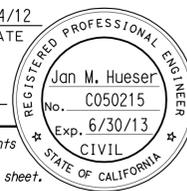
CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
9-28-10	24	46

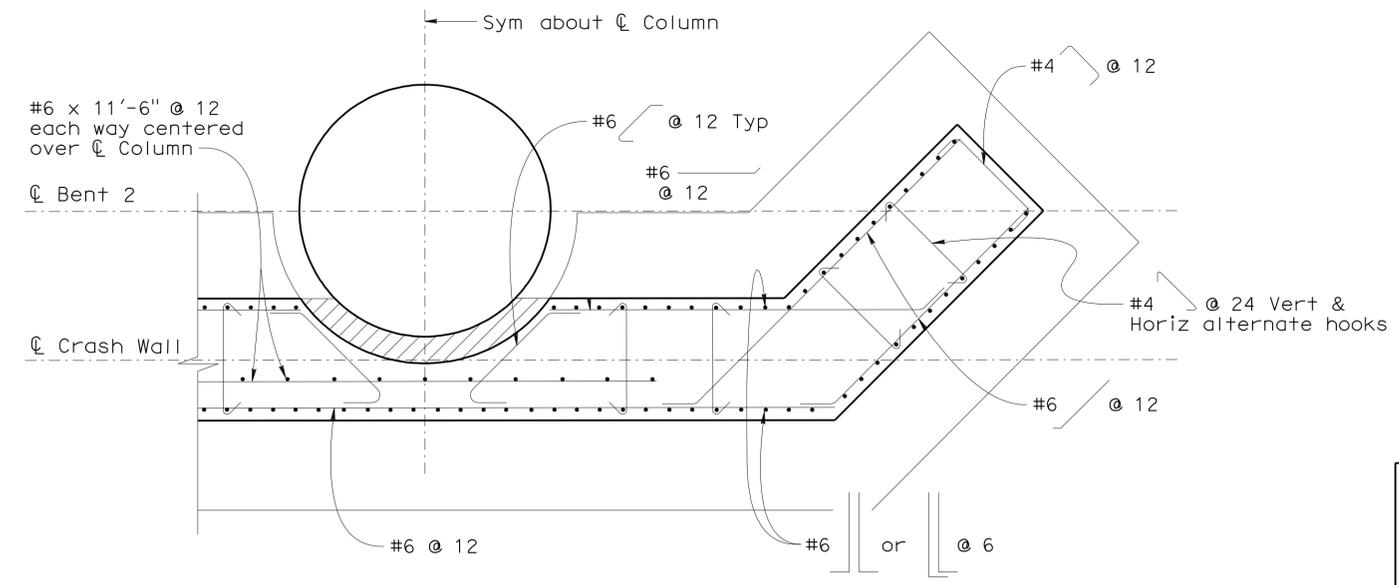
USERNAME => s124496 DATE PLOTTED => 16-JUN-2012 TIME PLOTTED => 09:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	344	375

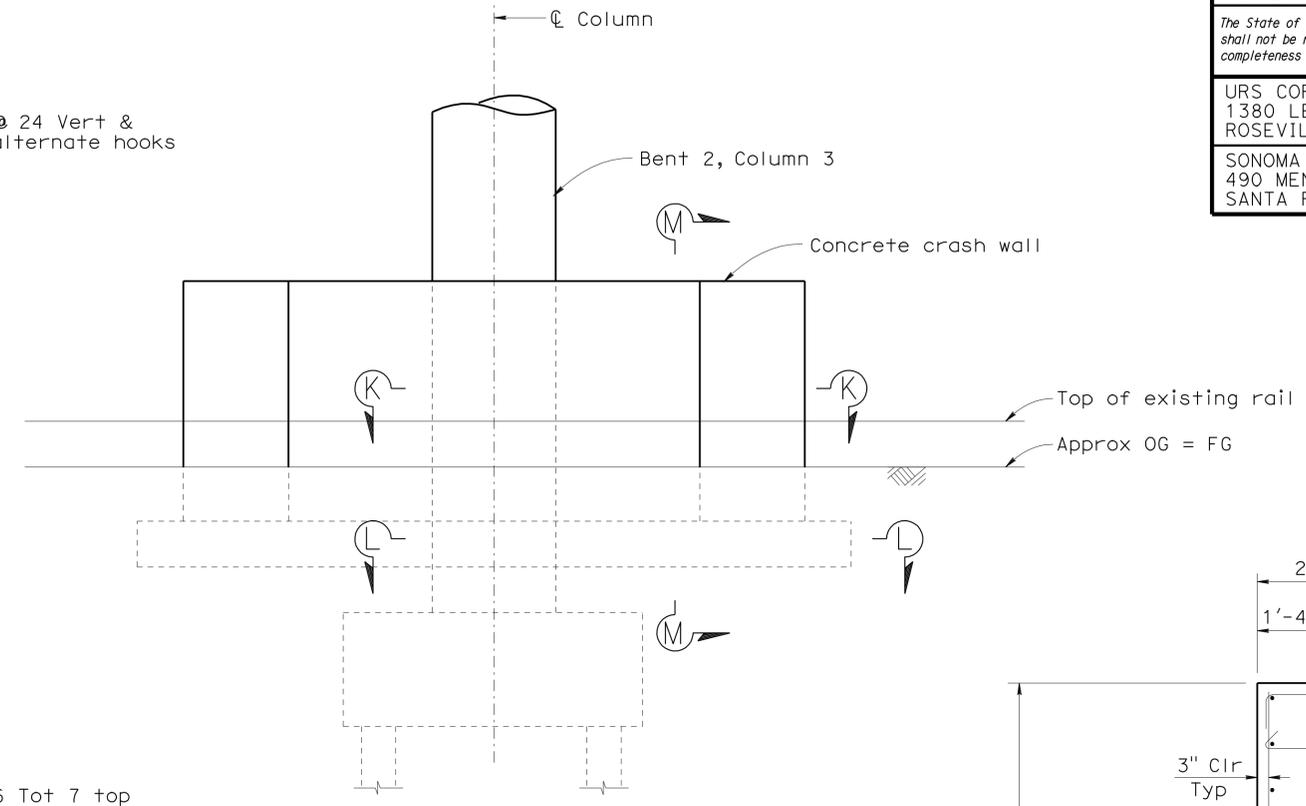


Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE
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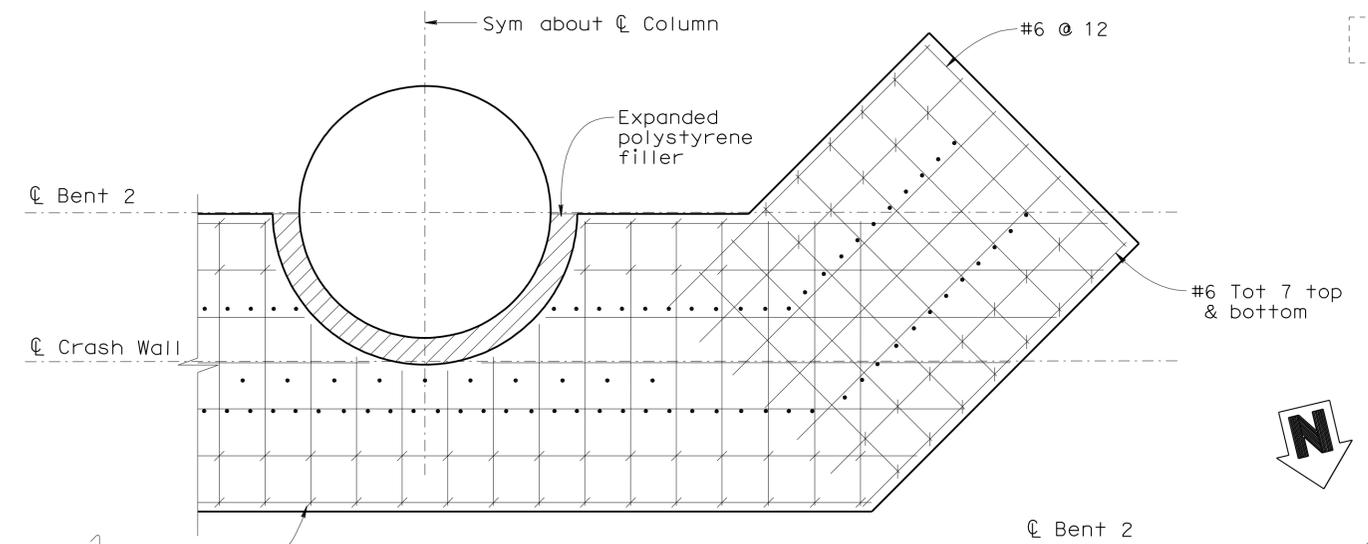
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



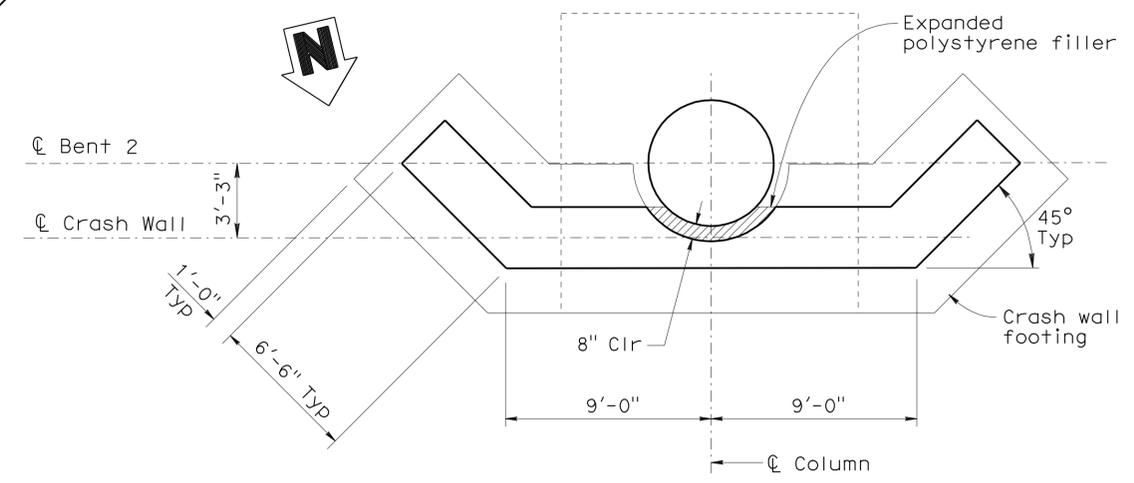
PART SECTION K-K
1/2" = 1'-0"



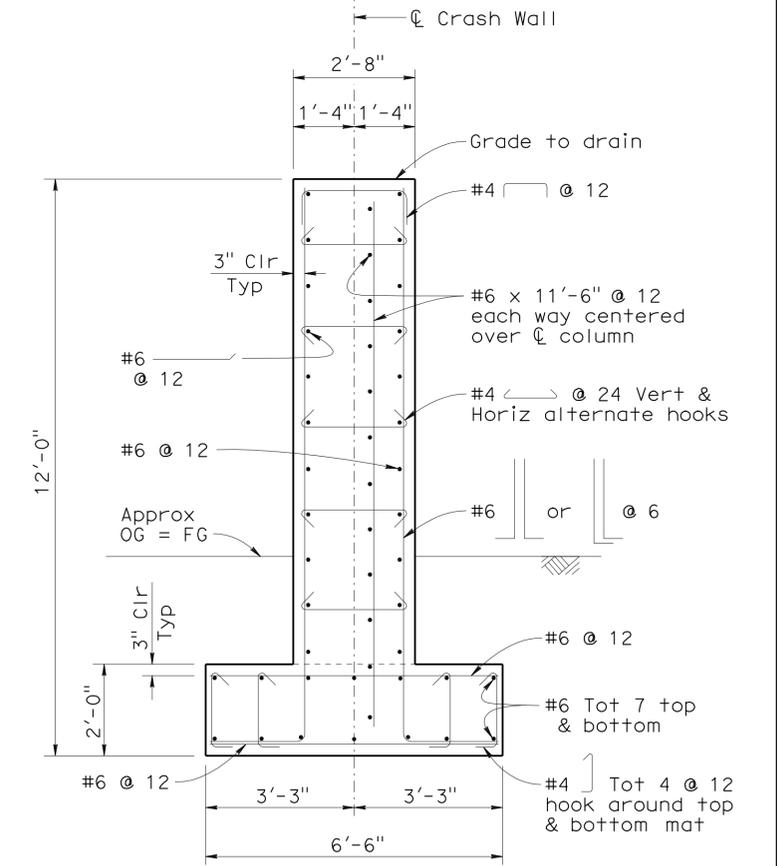
ELEVATION



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



PLAN
CRASH WALL DETAILS
1/4" = 1'-0"



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


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

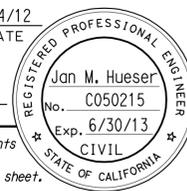
PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
CRASH WALL DETAILS

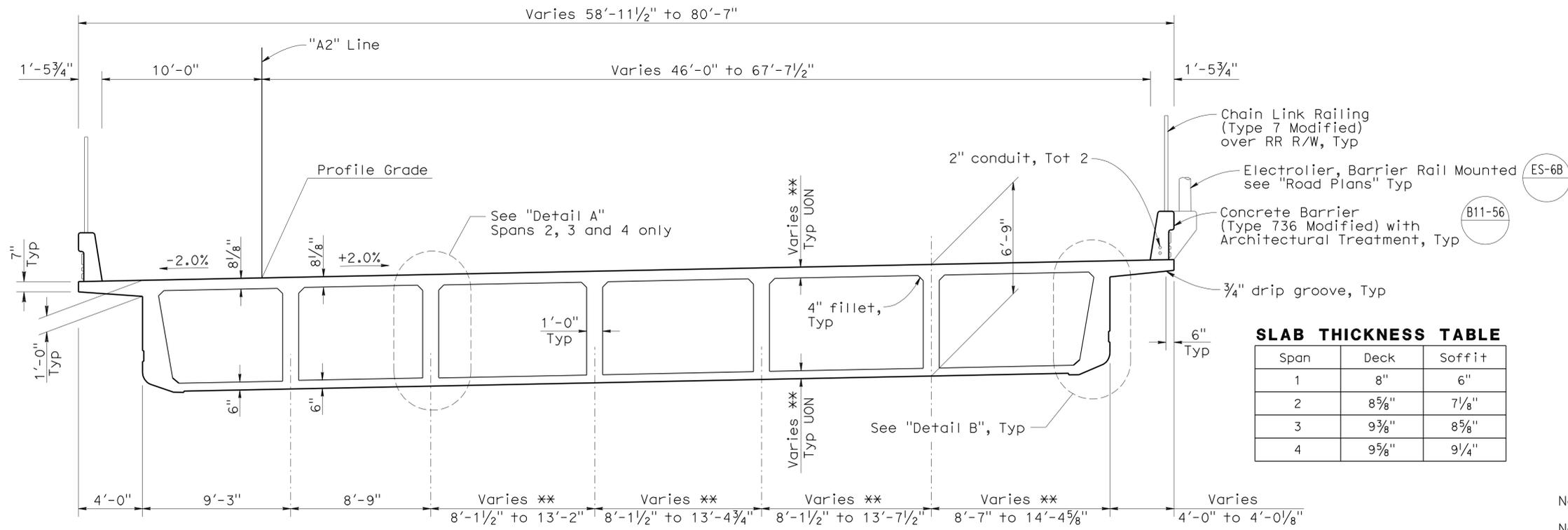
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	345	375



Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE

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URS CORPORATION
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 ROSEVILLE, CA 95661-2997
SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

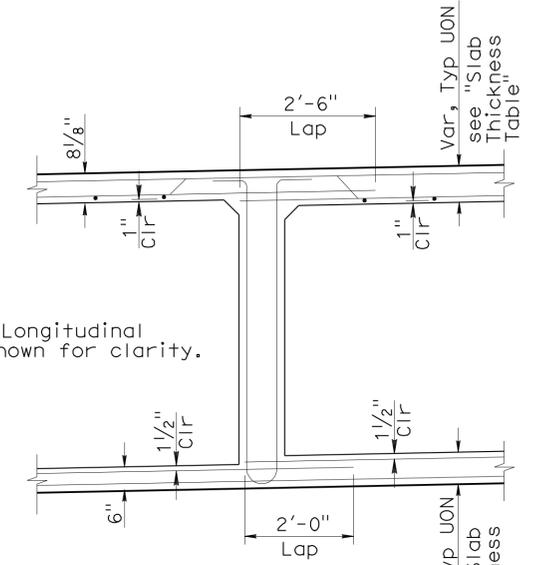


TYPICAL SECTION
1/4" = 1'-0"

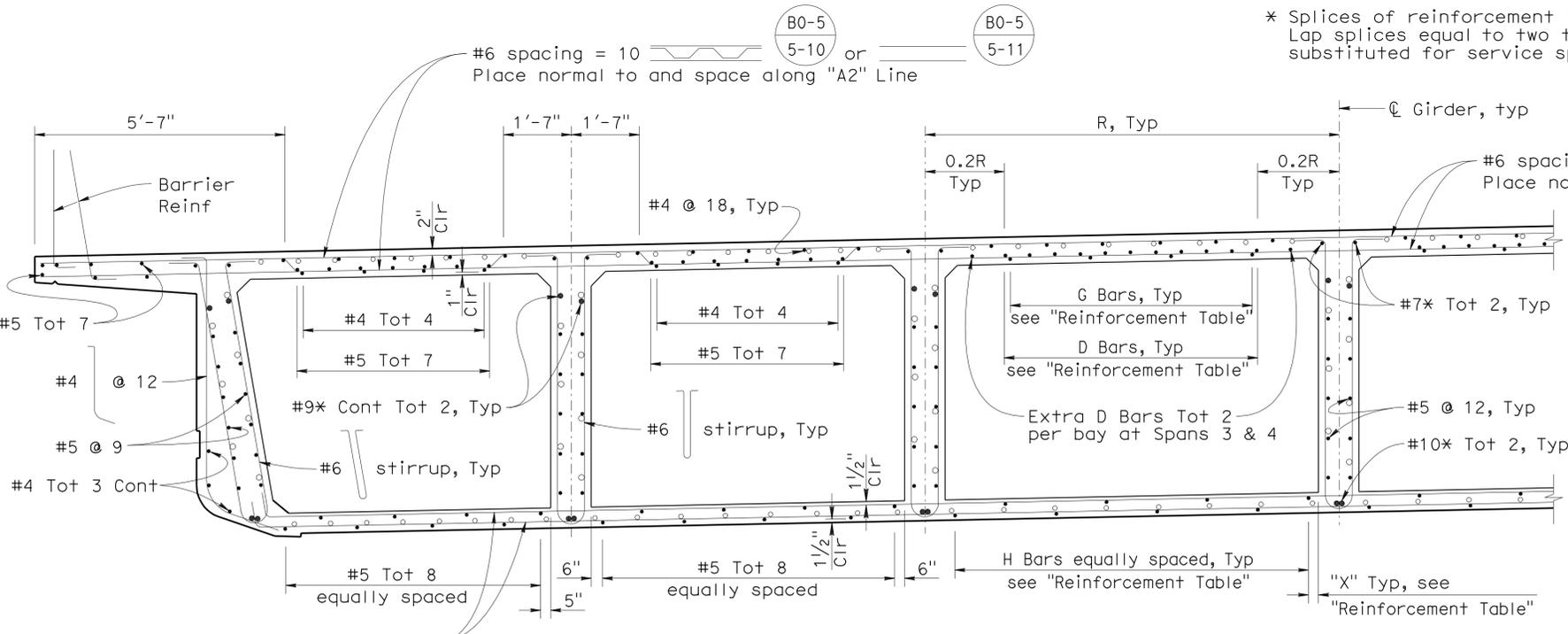
** For varies spans, see "Slab Thickness Table" for deck and soffit thickness

NOTES:

- For details not shown see "Girder Layout" sheets.
 - For additional reinforcement see "Girder Reinforcement" sheet.
- * 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.



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

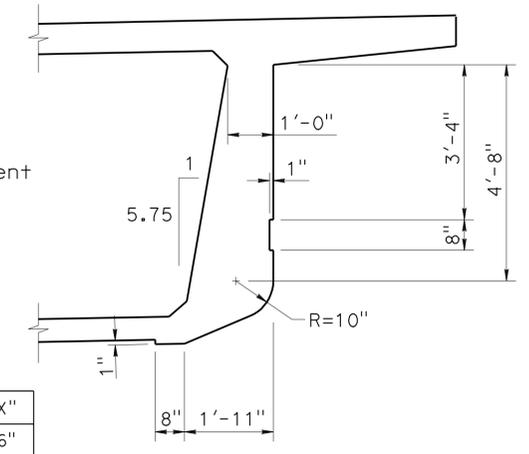


PART TYPICAL SECTION
1/2" = 1'-0"

LEGEND:

○ Indicates additional mild reinforcement

Span	D Bars	G Bars	H Bars	"X"
1	#5 Tot 7	#4 Tot 4	#5 Tot 7	6"
2	#5 Tot 11	#4 Tot 4	#6 Tot 8	6"
3	#5 Tot 13	#4 Tot 5	#7 Tot 8	8"
4	#5 Tot 14	#4 Tot 5	#7 Tot 10	9"



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


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER
 BRIDGE NO. 20-0284R
 POST MILE 3.57

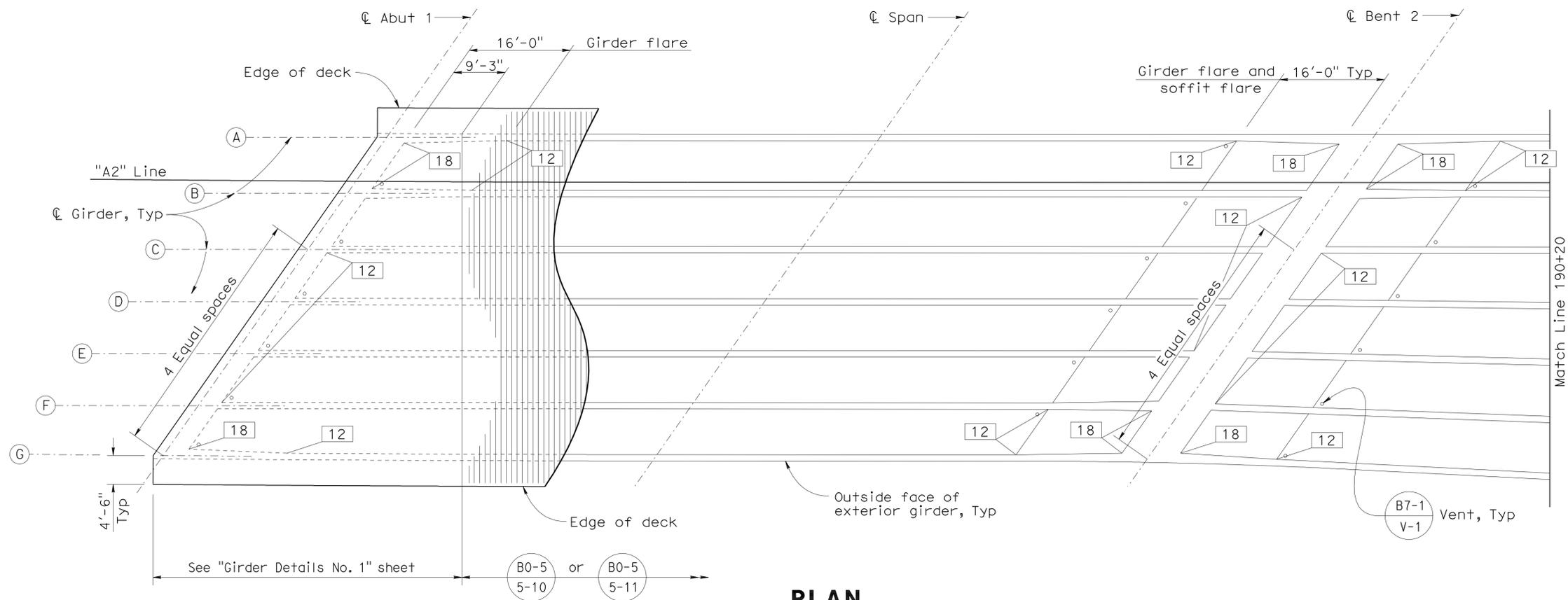
ROUTE 101N/116 SOH (REPLACE)
TYPICAL SECTION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	346	375


 REGISTERED CIVIL ENGINEER DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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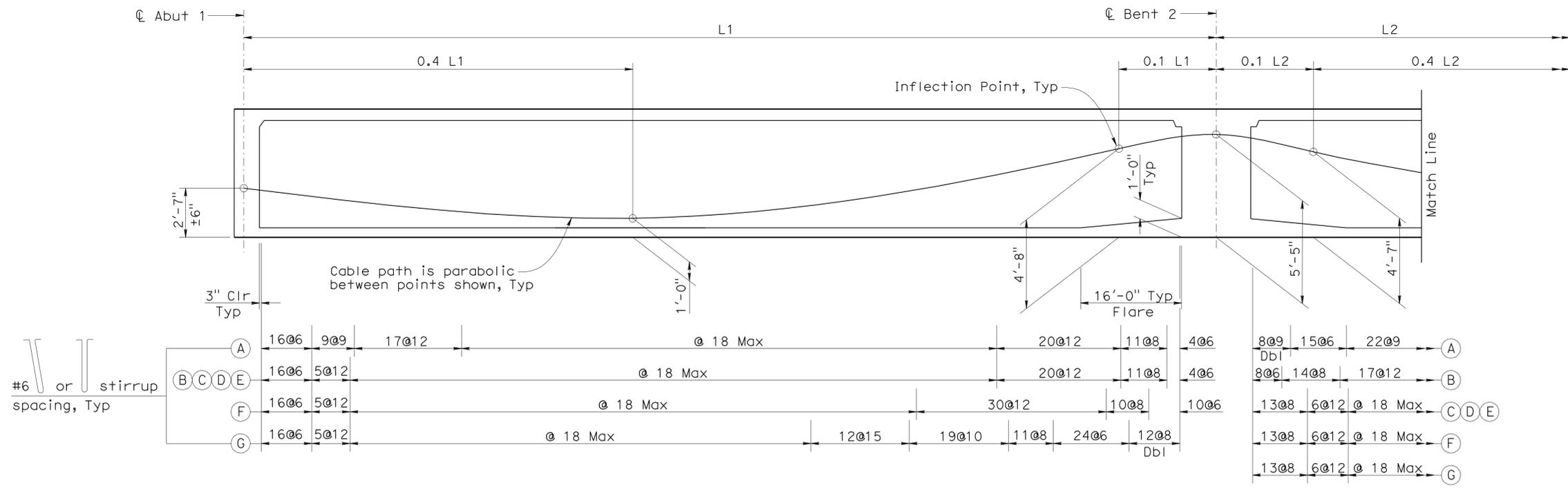


URS CORPORATION
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 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

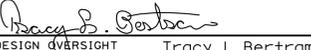


PLAN
1"=10'-0"

- NOTES:**
1.  Indicates girder stem width, see B7-1 S-3
 2. Lengths are measured along C Girder.
 3. L - Indicates length between C of supports.



LONGITUDINAL SECTION
No Scale


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

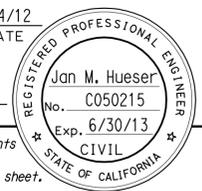
BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
GIRDER LAYOUT No. 1

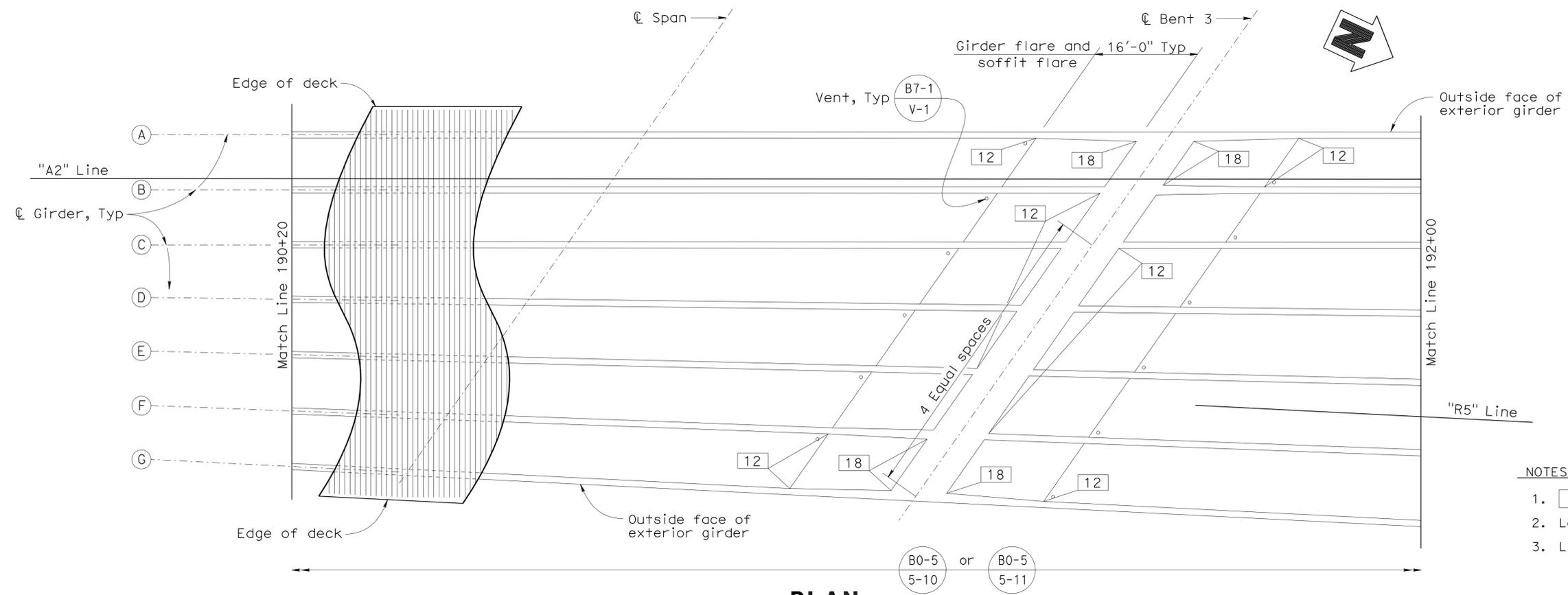
REVISION DATES	SHEET	OF
3-28-10 1-13-12 3-14-12 4-4-12	27	46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	347	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

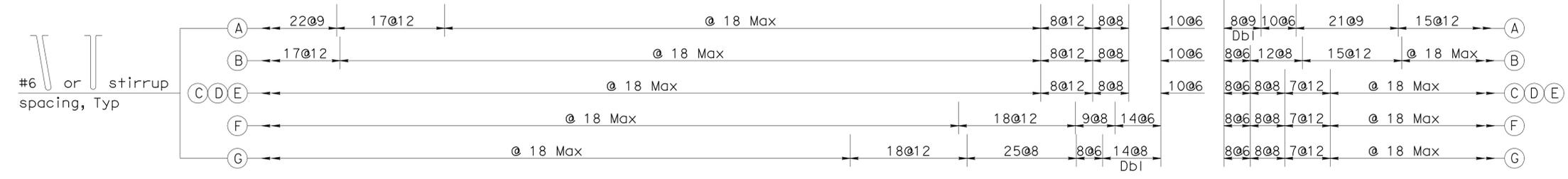
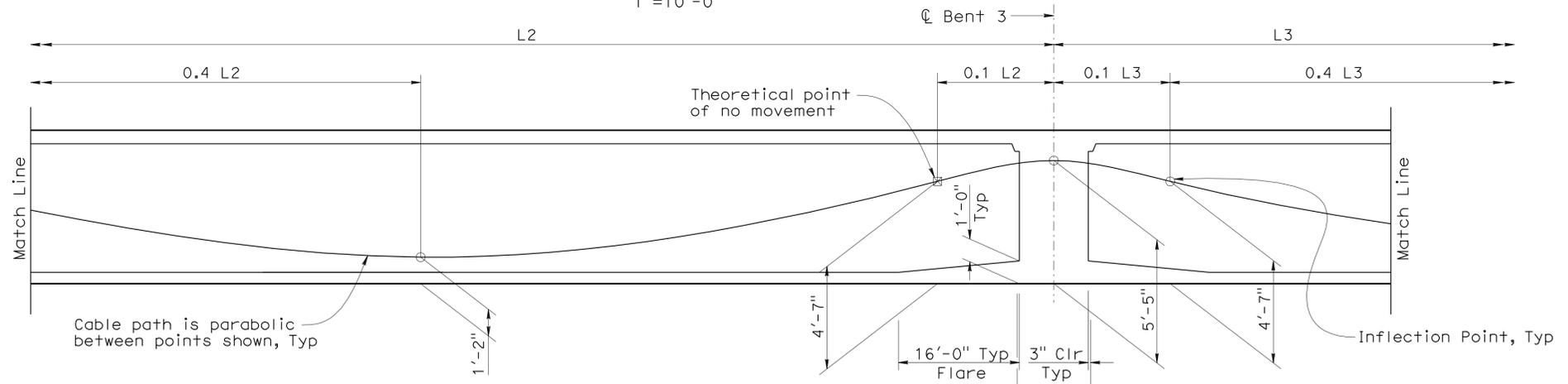


URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



PLAN
1"=10'-0"

- NOTES:**
1. [Symbol] Indicates girder stem width, see B7-1 S-3
 2. Lengths are measured along Ⓞ Girder.
 3. L - Indicates length between Ⓞ of supports.



LONGITUDINAL SECTION
No Scale

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO. 20-0284R
 POST MILE 3.57
ROUTE 101N/116 SOH (REPLACE)
GIRDER LAYOUT No. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	349	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12

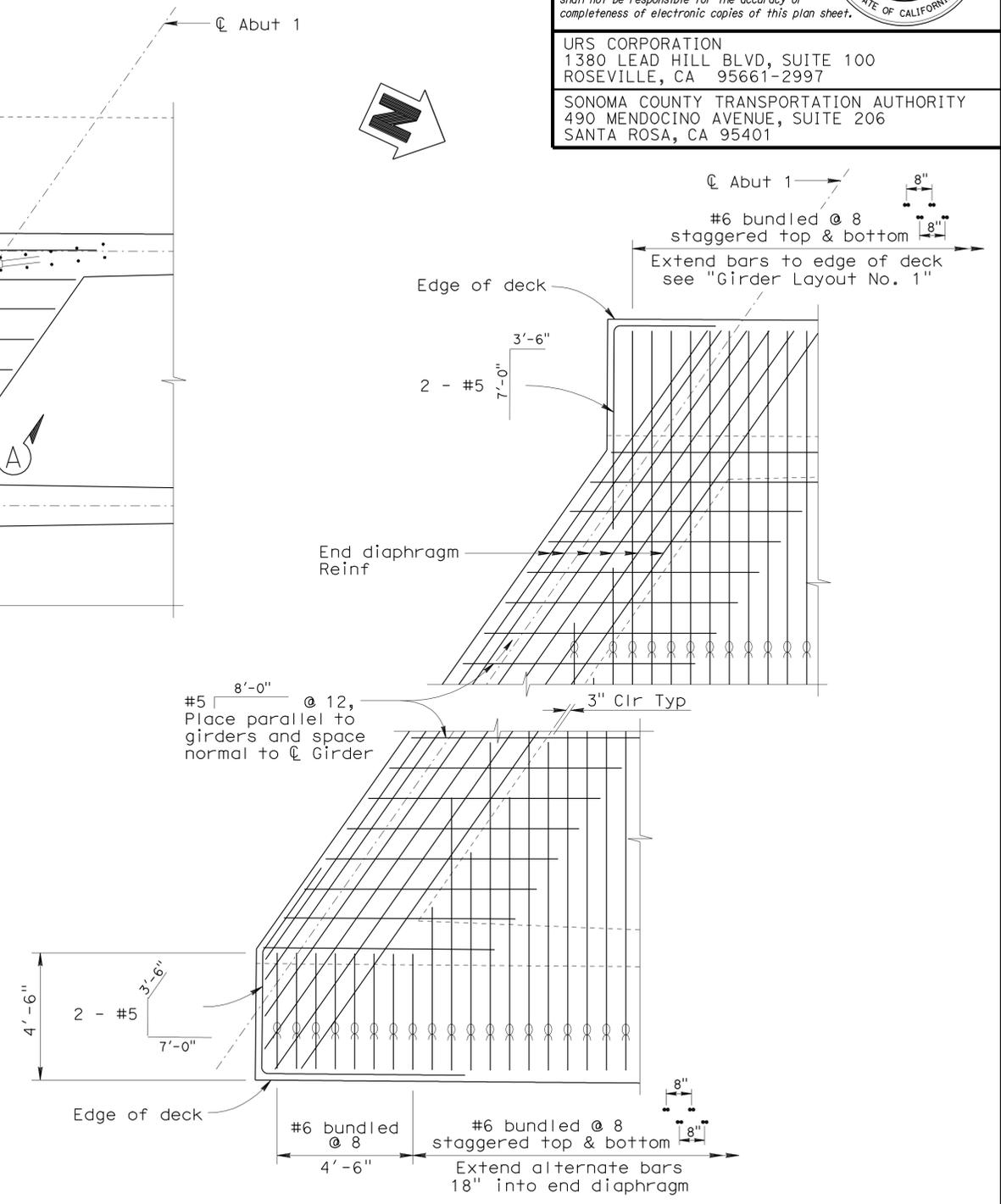
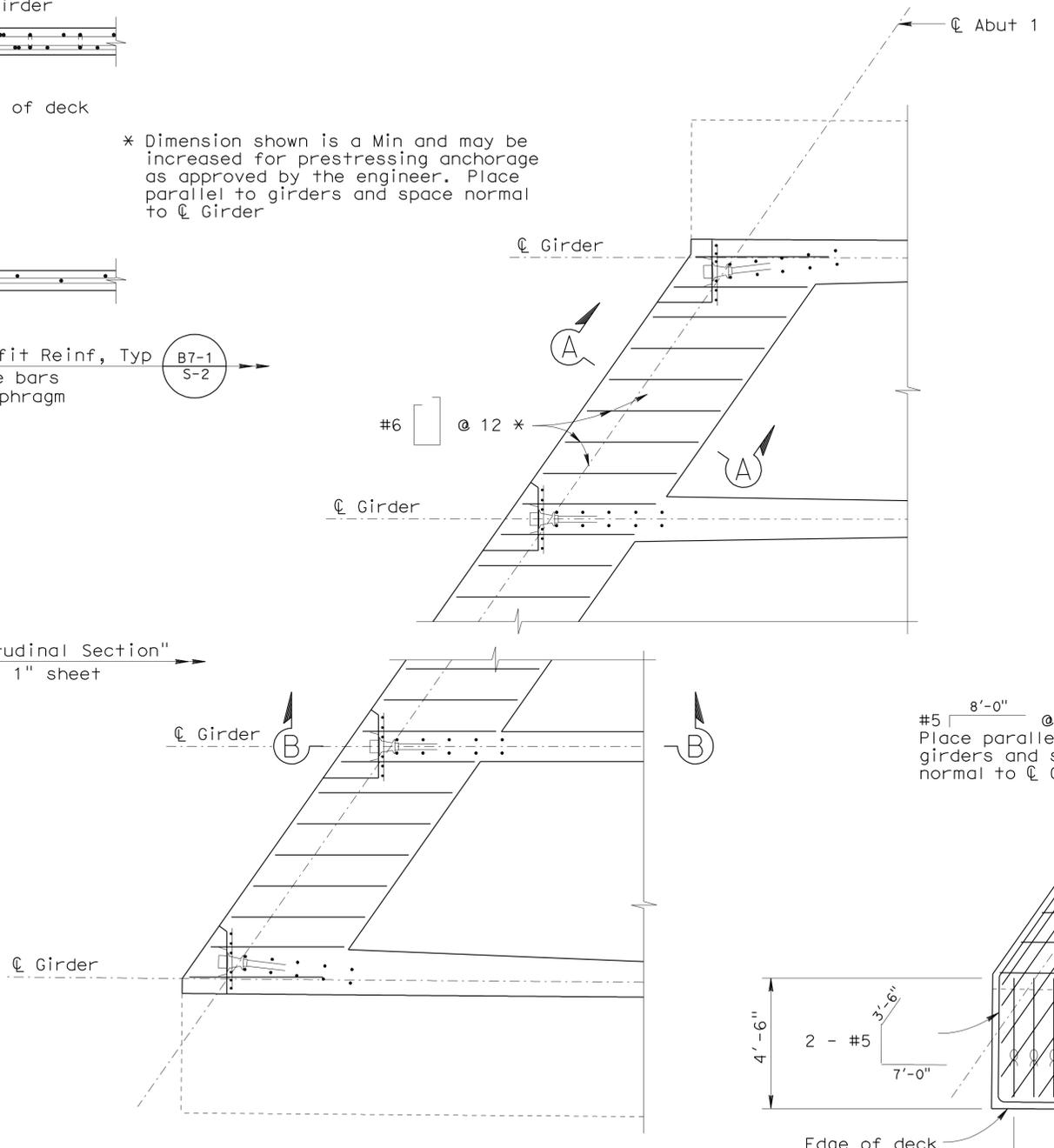
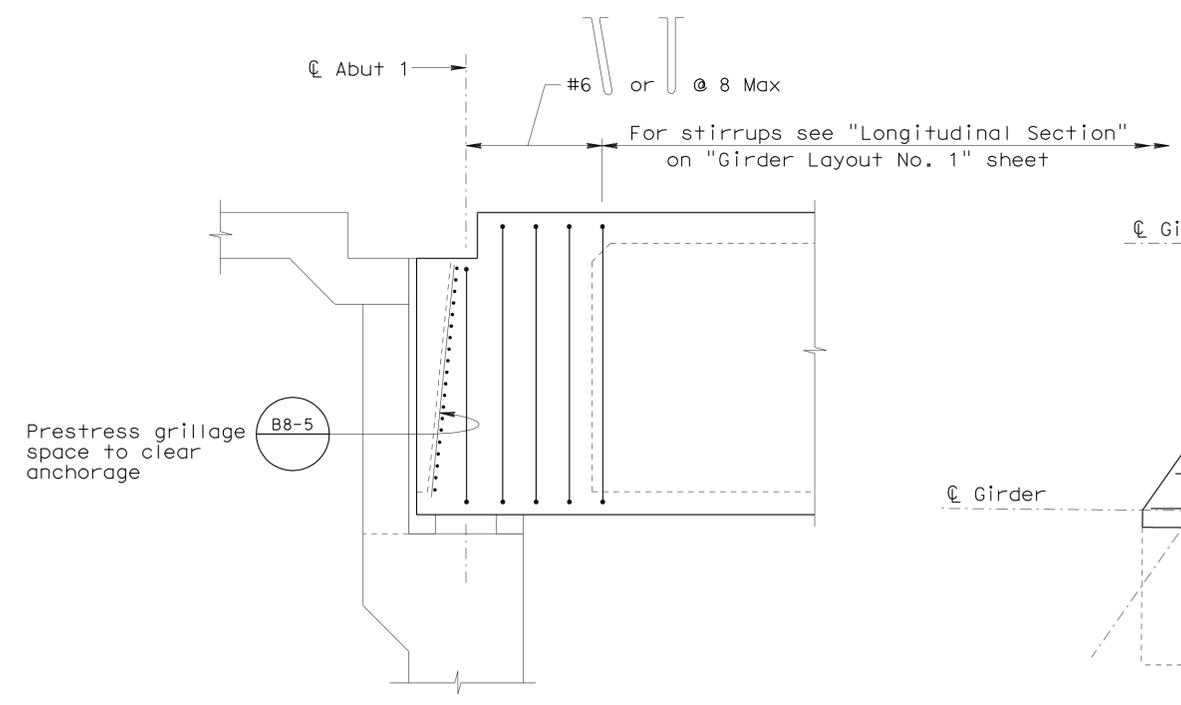
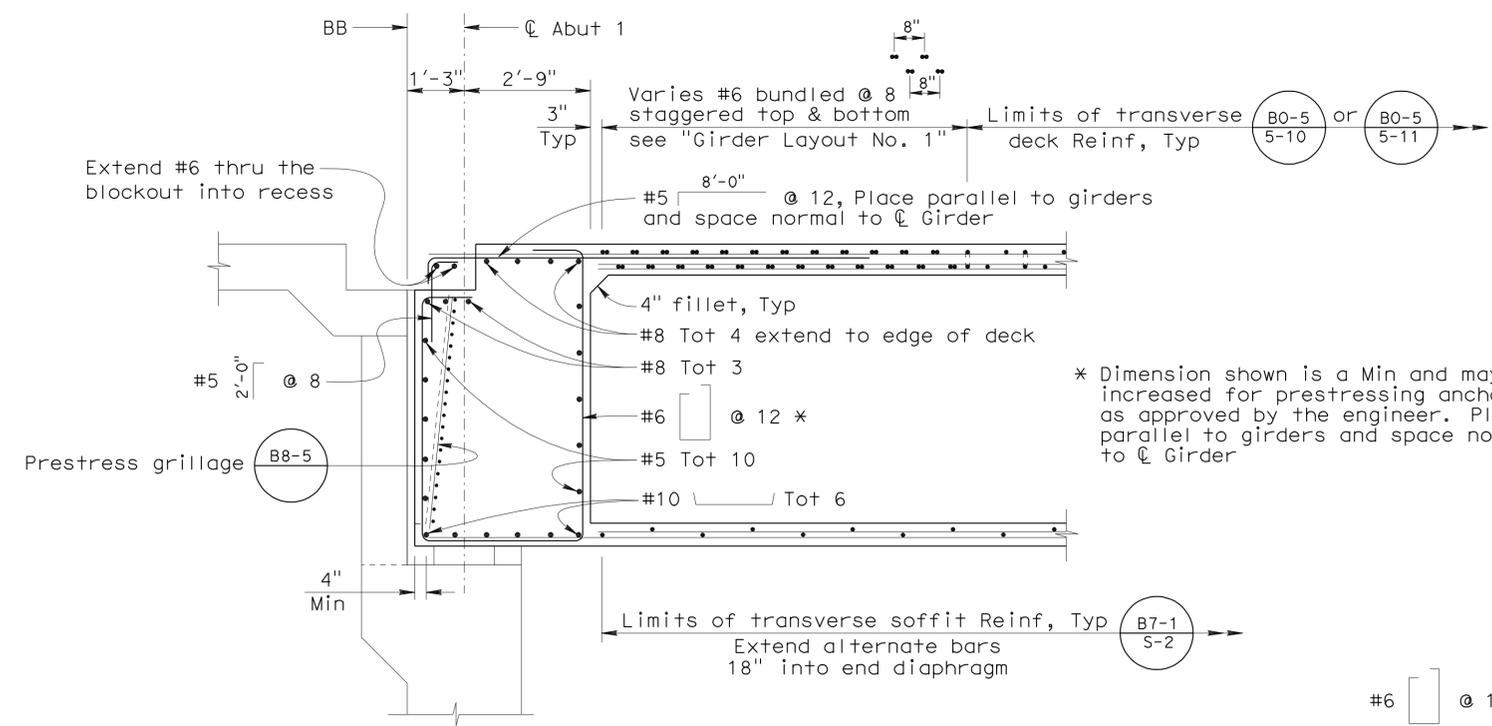
6-11-12
 PLANS APPROVAL DATE

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

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

SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

NOTES:
 1. ∞ Indicates bundled bars.



Note: For reinforcement not shown, see "Section A-A"

Note: Not all reinforcement shown for clarity.

Tracy L. Bertram
 DESIGN OVERSIGHT
 Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

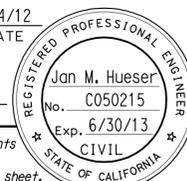
PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
 GIRDER DETAILS No. 1

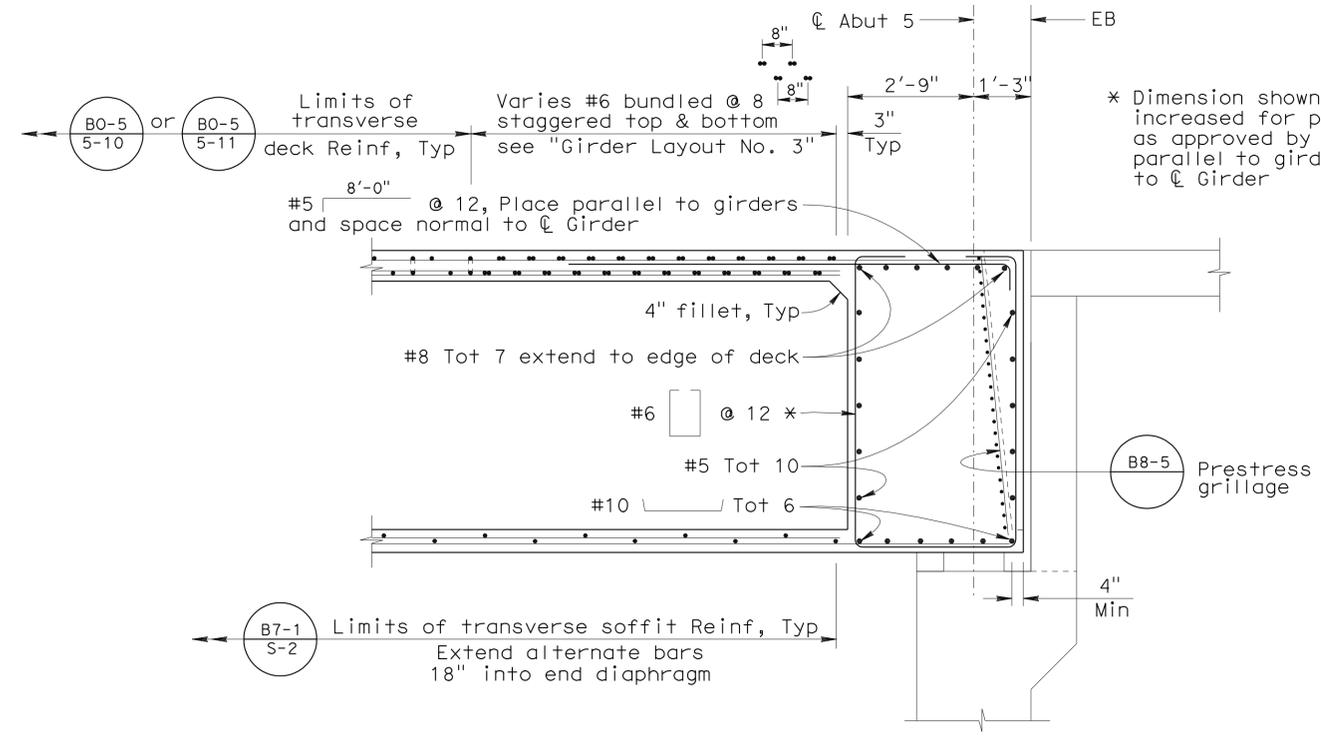
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	350	375



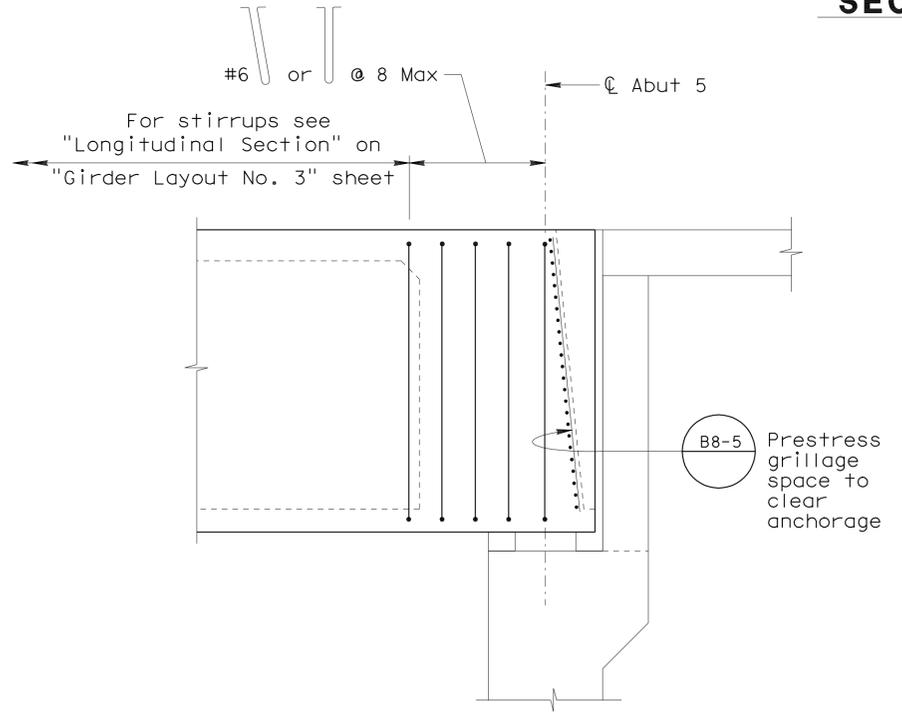
 REGISTERED CIVIL ENGINEER DATE 4/4/12
 6-11-12 PLANS APPROVAL DATE
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URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

NOTES:
 1. ∞ Indicates bundled bars.

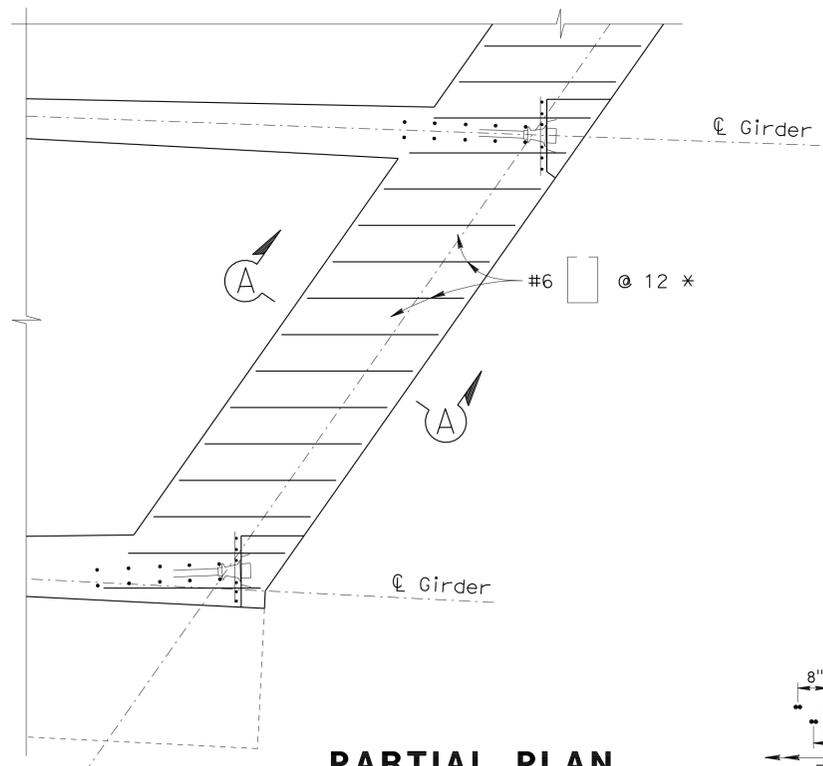


SECTION A-A
 $\frac{1}{2}'' = 1'-0''$



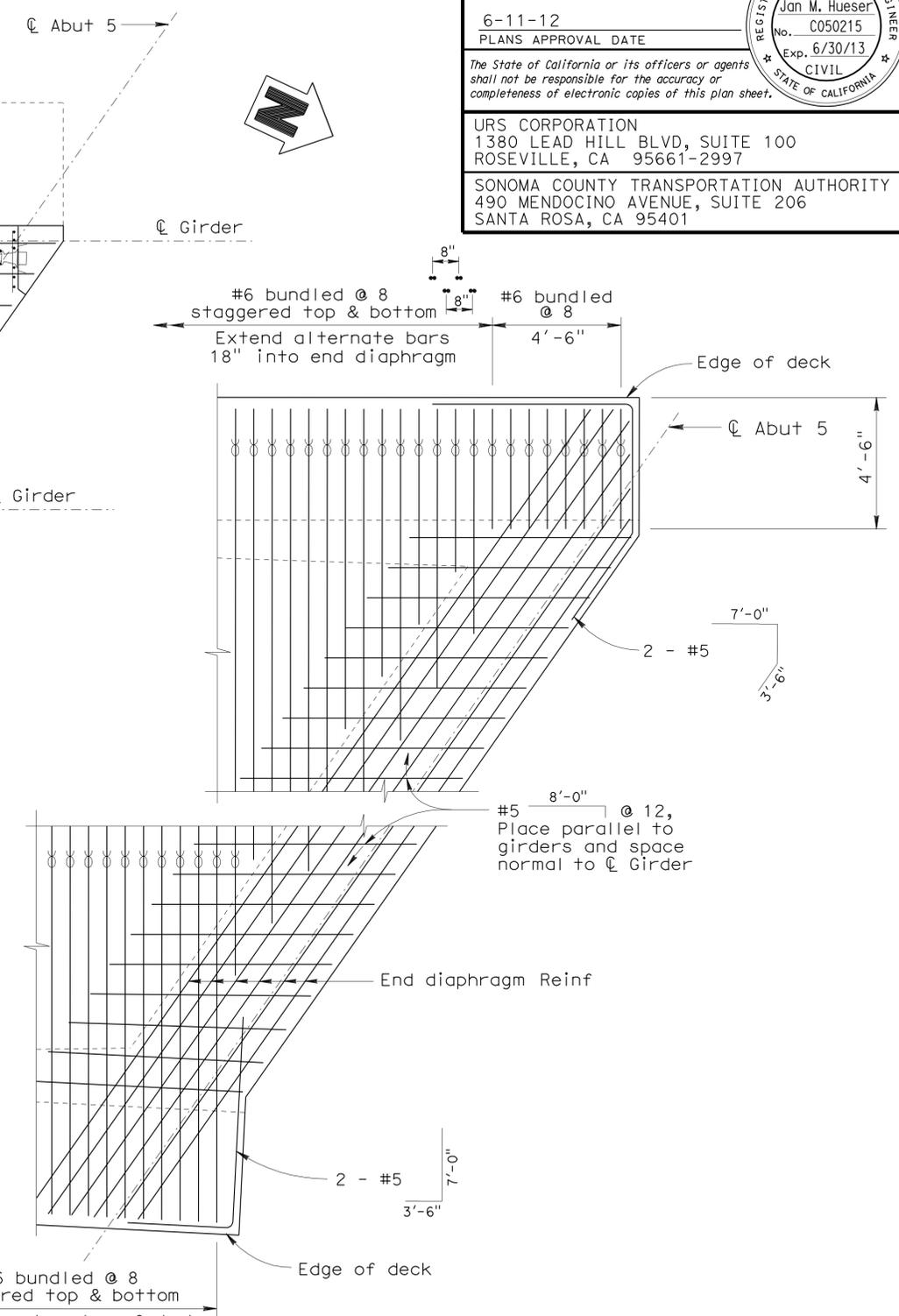
SECTION B-B
 $\frac{1}{2}'' = 1'-0''$

Note: For reinforcement not shown, see "Section A-A"

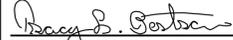


PARTIAL PLAN
 $\frac{3}{8}'' = 1'-0''$

Note: Not all reinforcement shown for clarity.



DECK CORNER REINF DETAILS
 $\frac{3}{8}'' = 1'-0''$


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

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DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

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STATE OF CALIFORNIA
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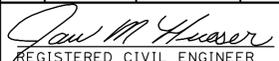
Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
GIRDER DETAILS No. 2

REVISION DATES	SHEET	OF
9-28-10 1-13-12 3-14-12 4-4-12	31	46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	351	375


 REGISTERED CIVIL ENGINEER DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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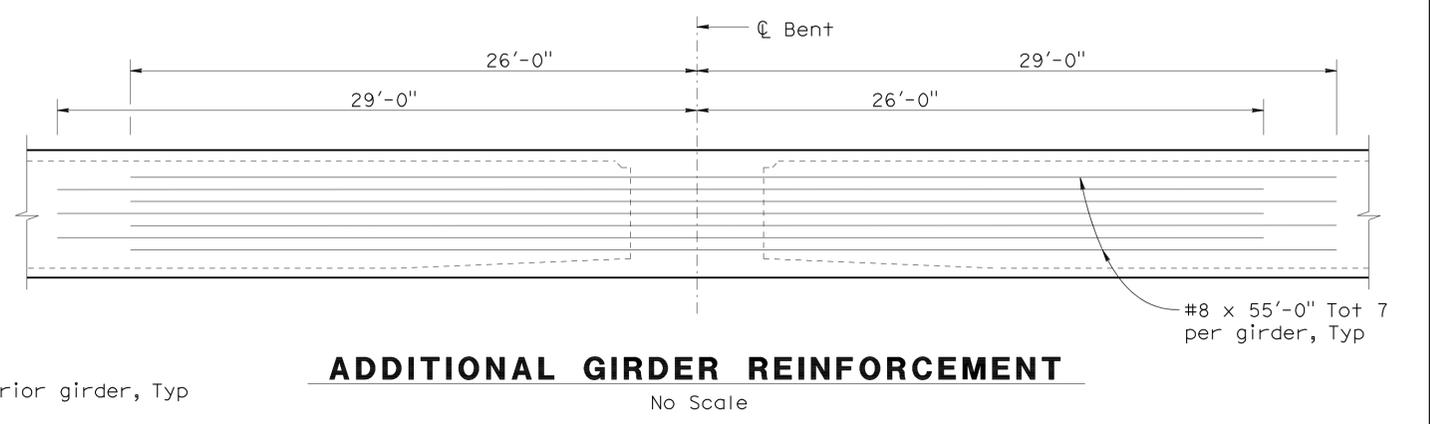
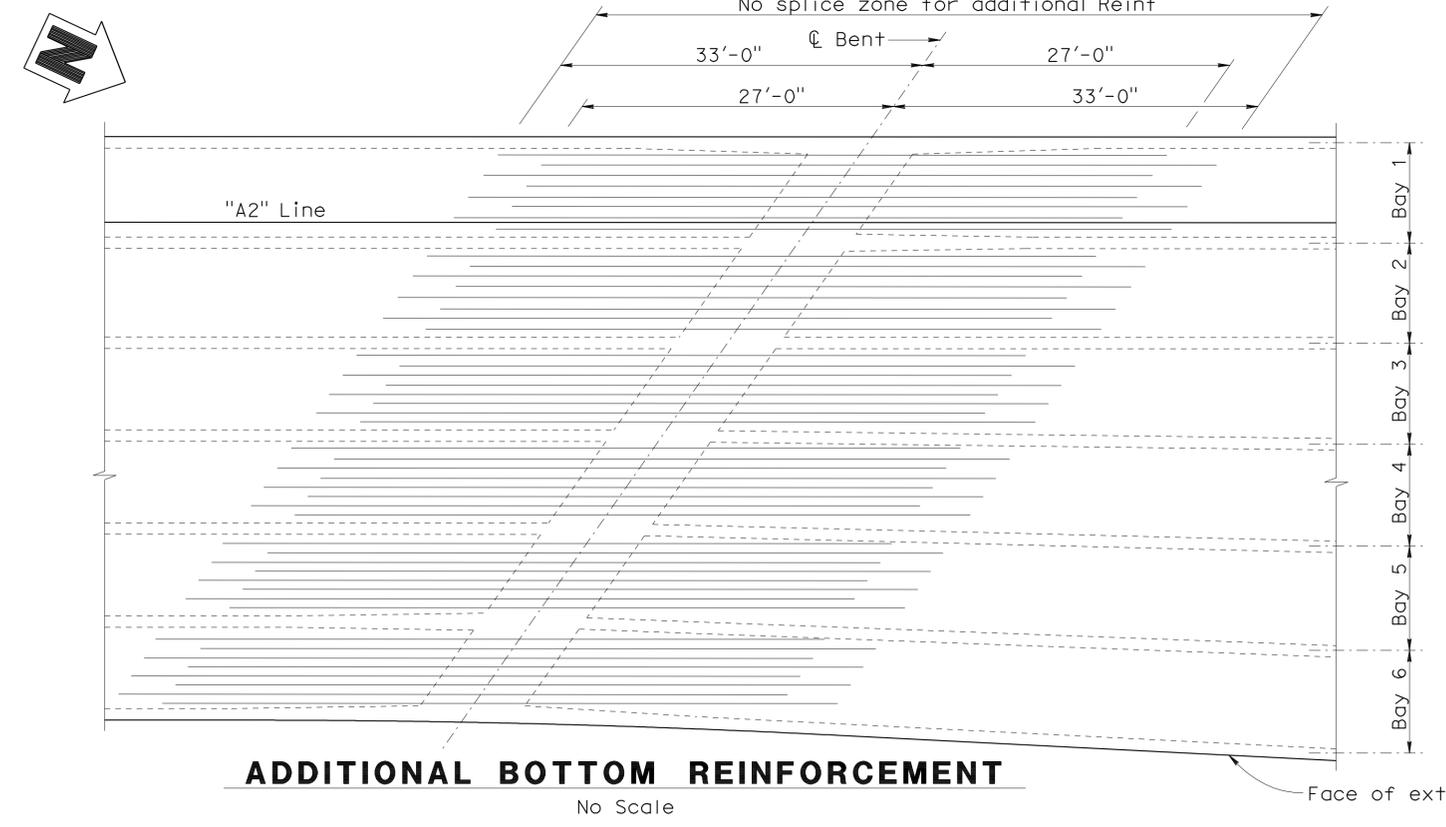
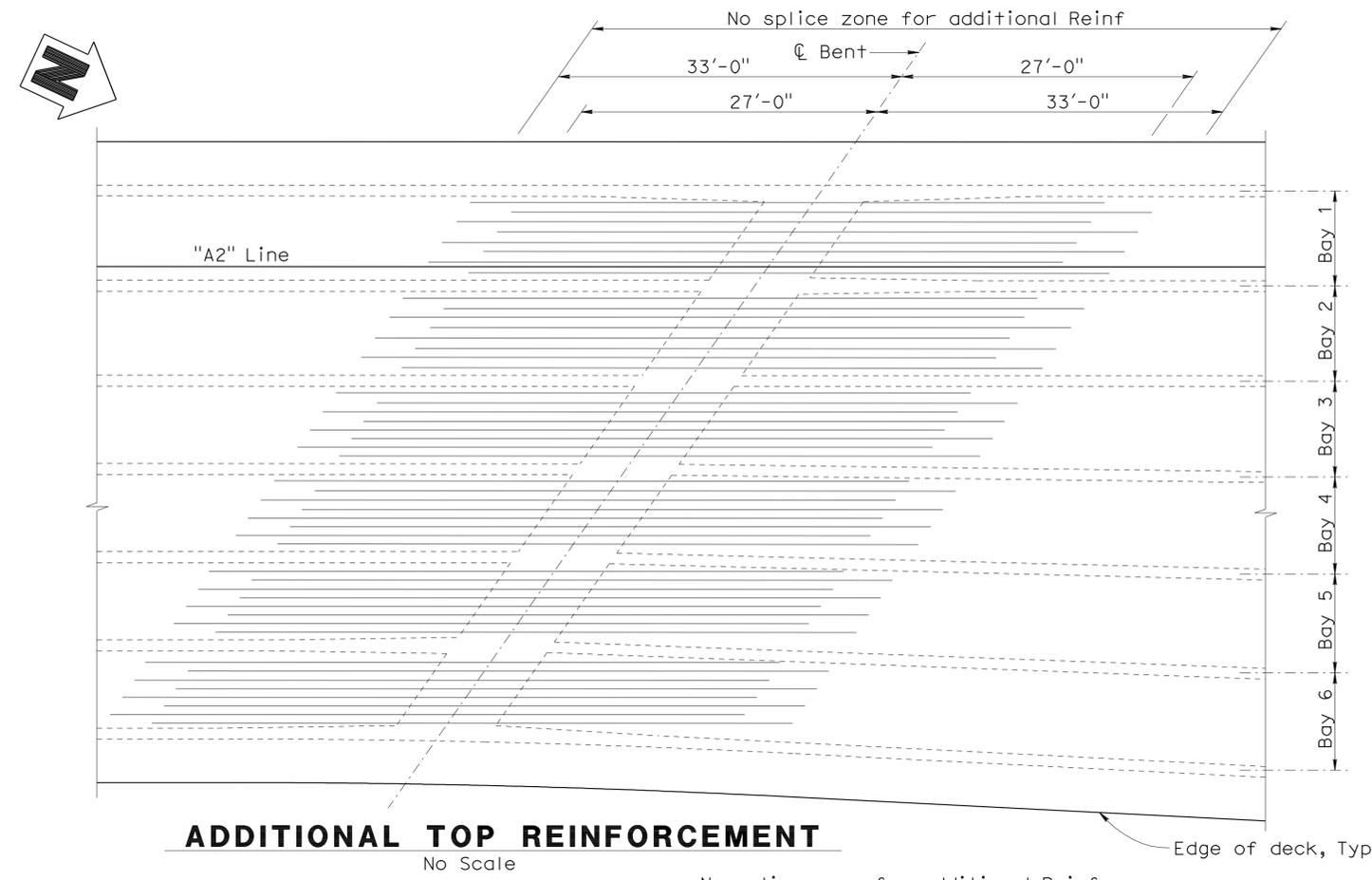


URS CORPORATION
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 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

TOP & BOTTOM REINFORCEMENT TABLE

Location		Top Slab Reinf		Location		Bottom Slab Reinf	
		Size	No.			Size	No.
Bent 2	Bay 1	#7	9	Bent 2	Bay 1	#7	8
Bent 2	Bay 2	#7	9	Bent 2	Bay 2	#7	8
Bent 2	Bay 3	#7	9	Bent 2	Bay 3	#7	8
Bent 2	Bay 4	#7	9	Bent 2	Bay 4	#7	8
Bent 2	Bay 5	#7	9	Bent 2	Bay 5	#7	8
Bent 2	Bay 6	#7	9	Bent 2	Bay 6	#7	8
Bent 3	Bay 1	#7	9	Bent 3	Bay 1	#7	8
Bent 3	Bay 2	#7	9	Bent 3	Bay 2	#7	8
Bent 3	Bay 3	#7	10	Bent 3	Bay 3	#7	9
Bent 3	Bay 4	#7	10	Bent 3	Bay 4	#7	9
Bent 3	Bay 5	#7	10	Bent 3	Bay 5	#7	9
Bent 3	Bay 6	#7	10	Bent 3	Bay 6	#7	9
Bent 4	Bay 1	#7	9	Bent 4	Bay 1	#7	8
Bent 4	Bay 2	#7	9	Bent 4	Bay 2	#7	8
Bent 4	Bay 3	#7	11	Bent 4	Bay 3	#7	10
Bent 4	Bay 4	#7	11	Bent 4	Bay 4	#7	10
Bent 4	Bay 5	#7	11	Bent 4	Bay 5	#7	10
Bent 4	Bay 6	#7	11	Bent 4	Bay 6	#7	10

- NOTE:**
- Place all additional top and bottom Reinf parallel to "A2" Line.
 - Splices of additional girder Reinf shall be service level splices.




 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

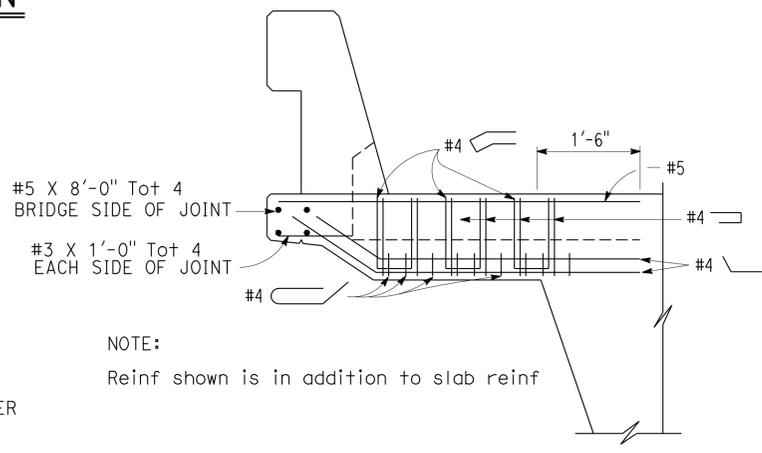
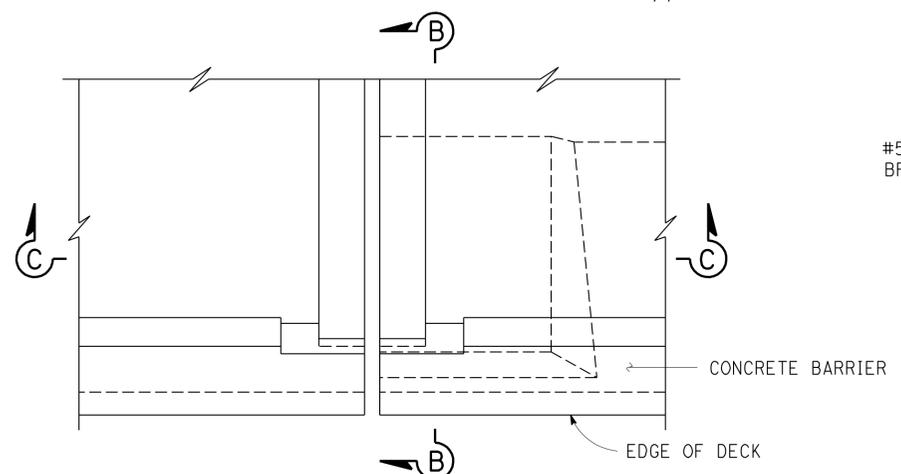
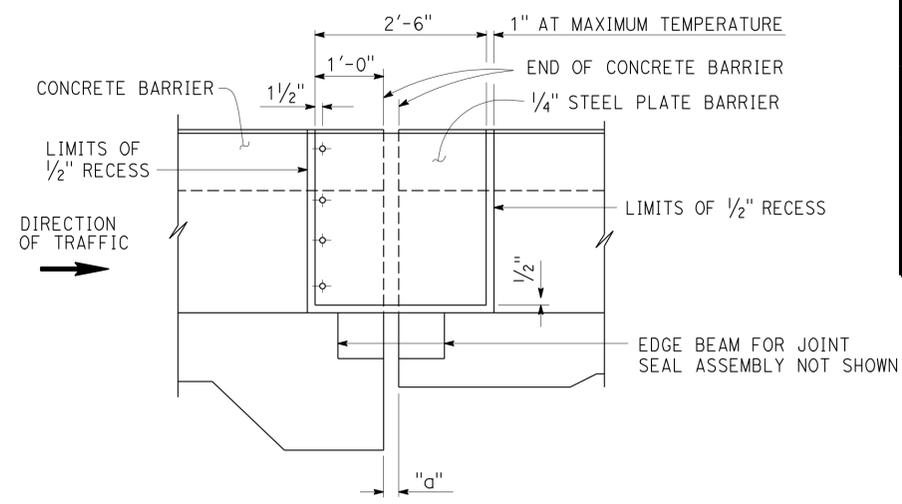
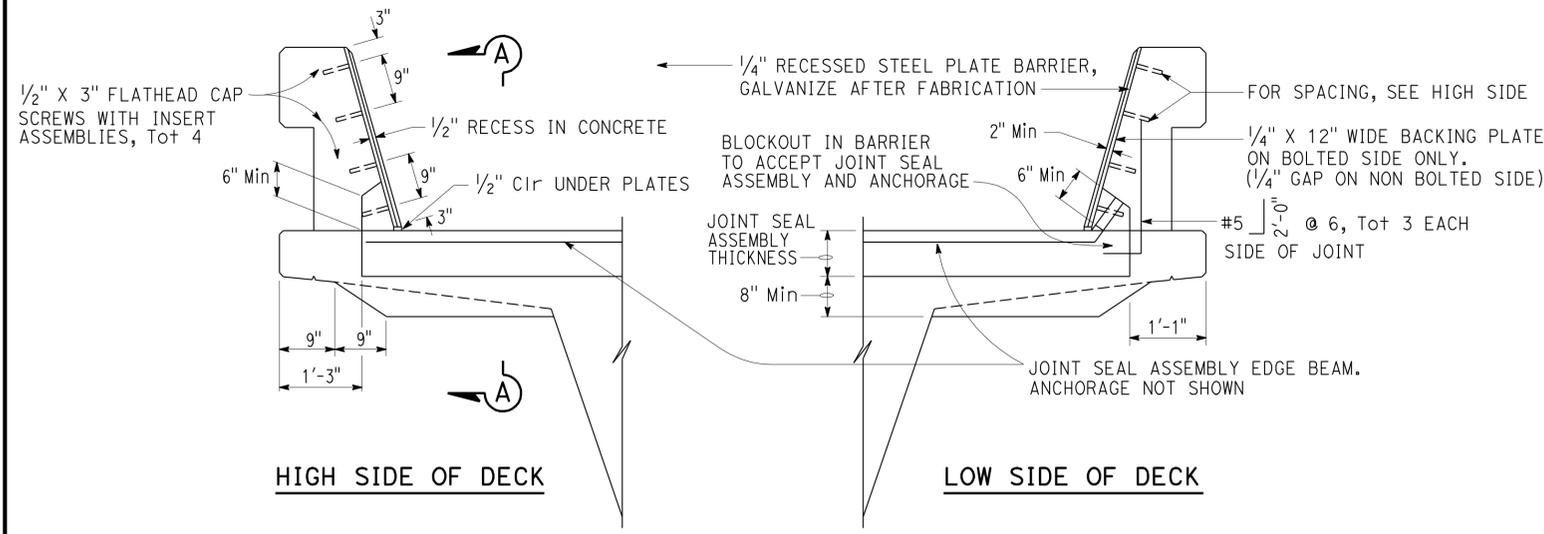
BRIDGE NO. 20-0284R
 POST MILE 3.57
ROUTE 101N/116 SOH (REPLACE)
GIRDER REINFORCEMENT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	352	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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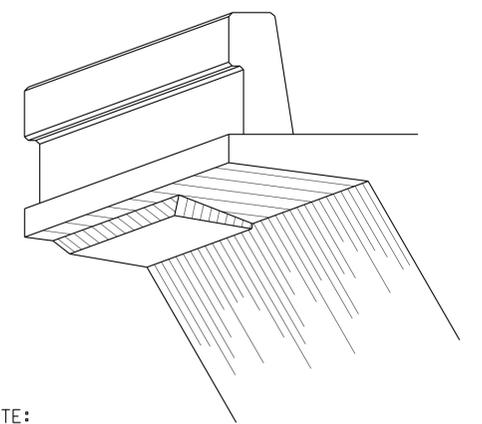
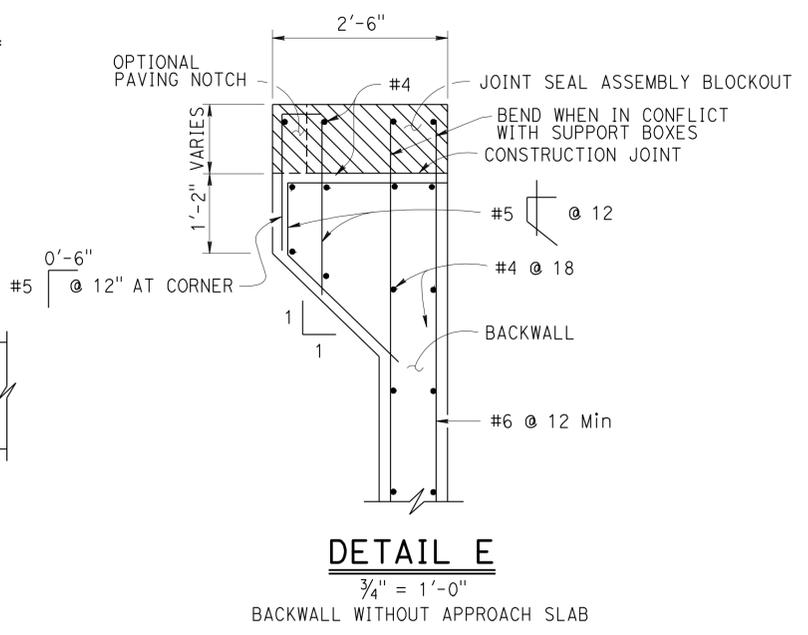
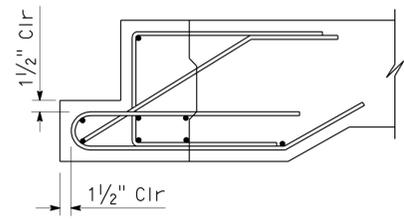
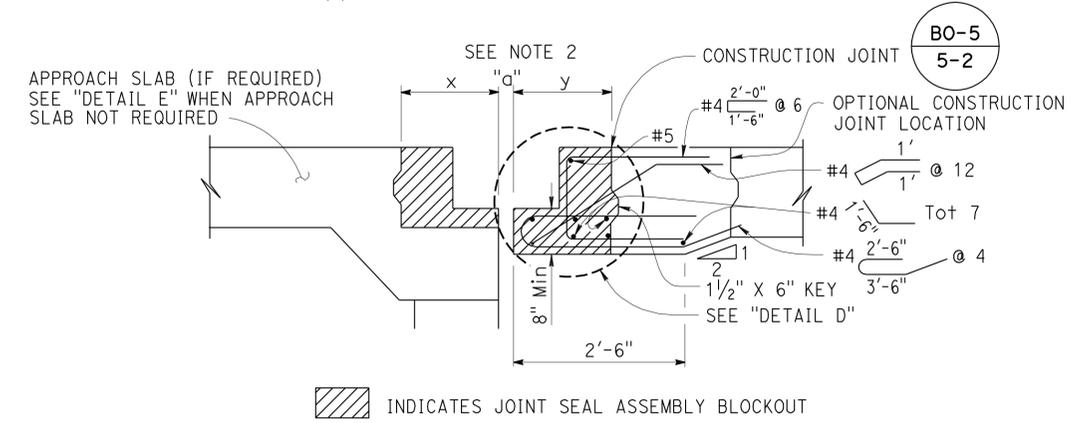
REGISTERED PROFESSIONAL ENGINEER
 Jan M. Hueser
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



JOINT INFORMATION		"a" DIMENSIONS			
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Abut 1	6"	2.490	3 1/2"	1 3/4"	2 5/8"

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



NOTE: Abutment not shown

REVISED STANDARD DRAWING
 FILE NO. **xs8-030**
 APPROVAL DATE July 2011

1 Revised barrier

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

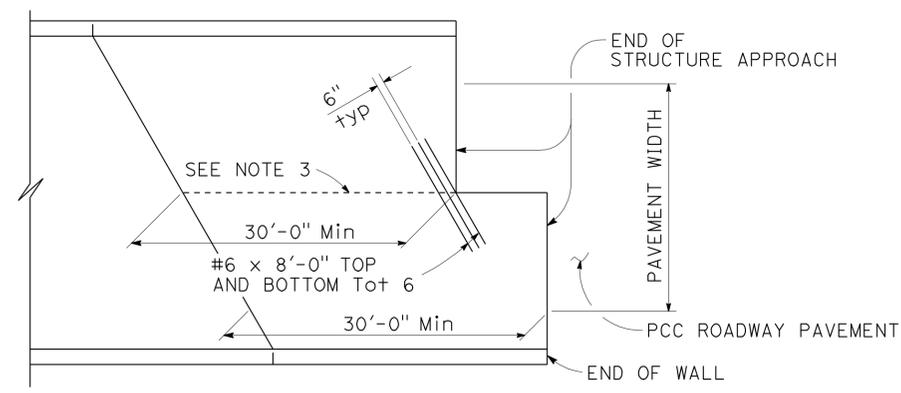
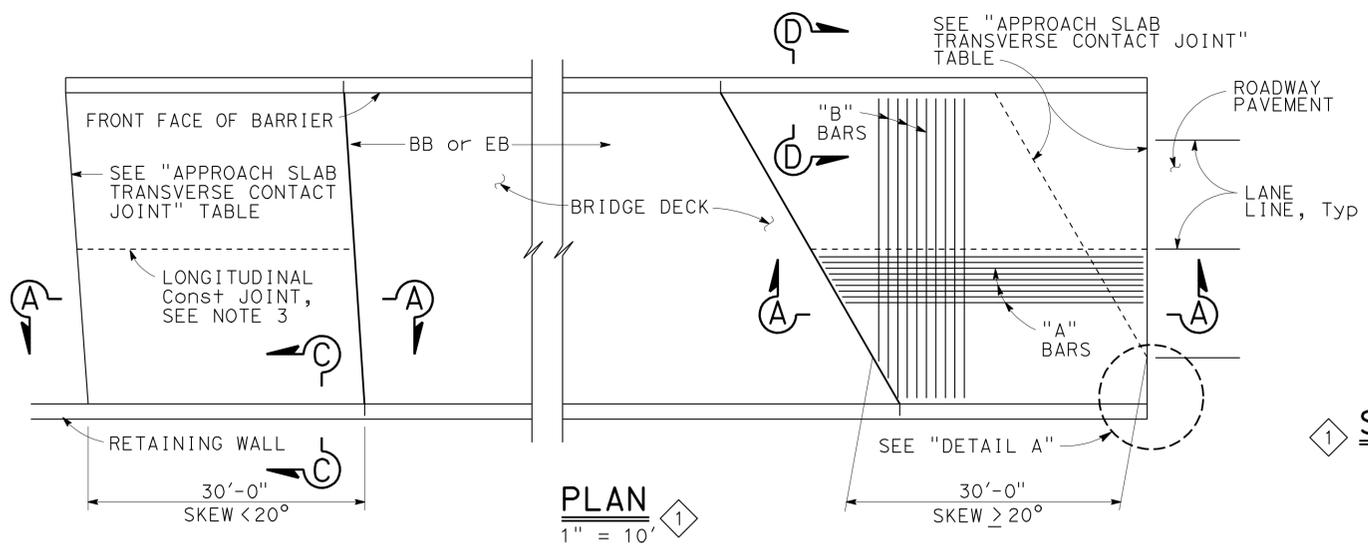
BRIDGE NO. 20-0284R
 POST MILE 3.57
ROUTE 101N/116 SOH (REPLACE)
JOINT SEAL-ABUTMENT DETAILS MR GREATER THAN 4"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	353	375

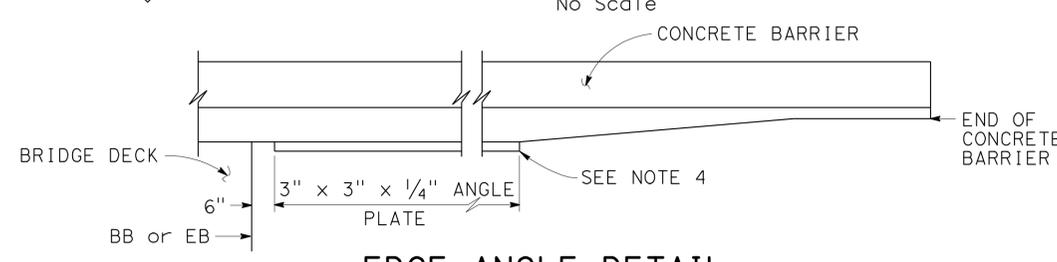
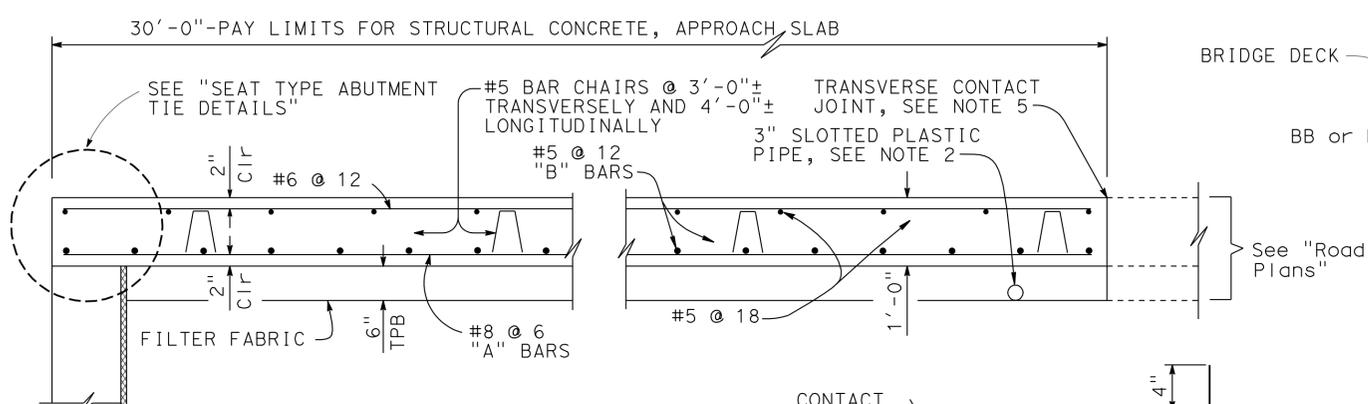
Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jan M. Hueser
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 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

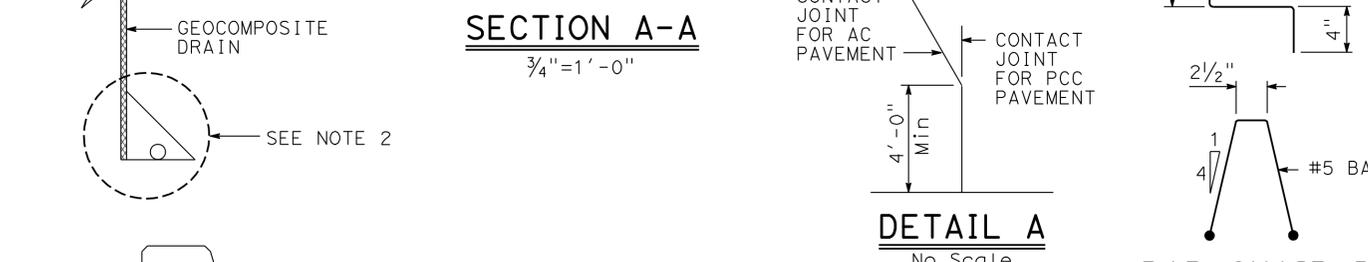


STRUCTURE APPROACH - END STAGGER DETAIL

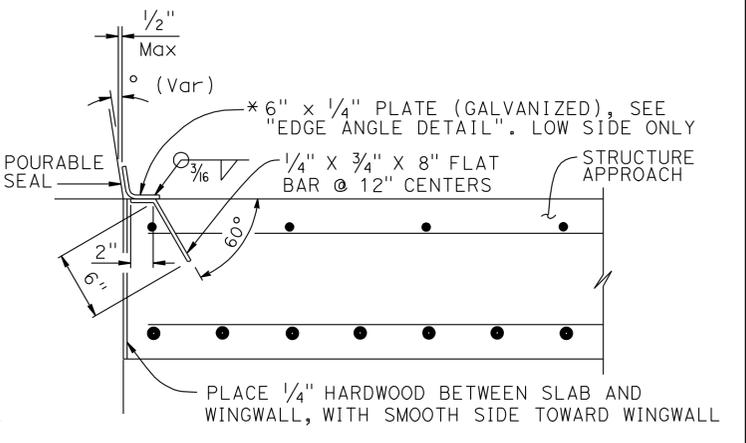
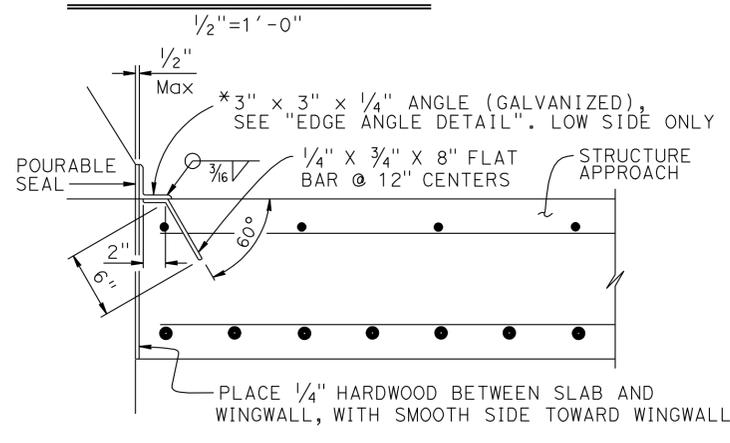


EDGE ANGLE DETAIL

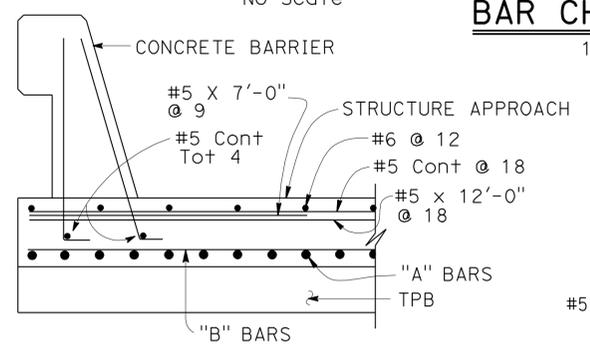
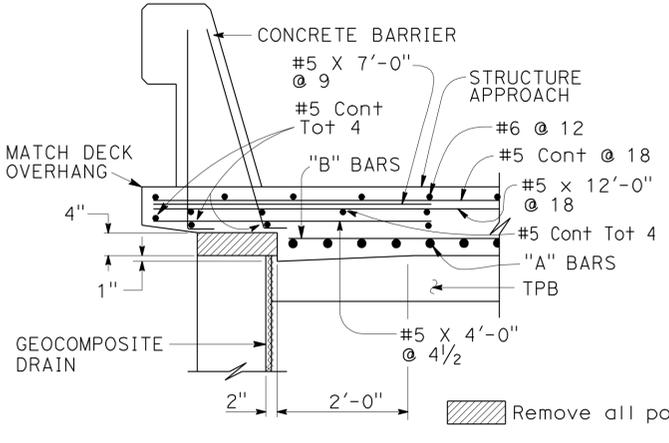
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE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



BAR CHAIR DETAIL

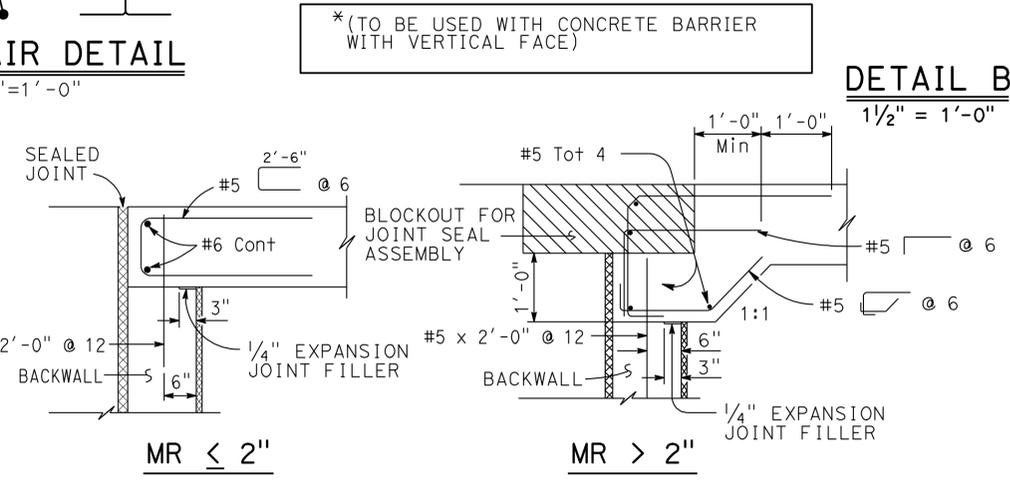


DETAIL B



SECTION C-C

SECTION D-D



SEAT TYPE ABUTMENT TIE DETAILS (SEE NOTE 1)

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

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

1 Revised detail

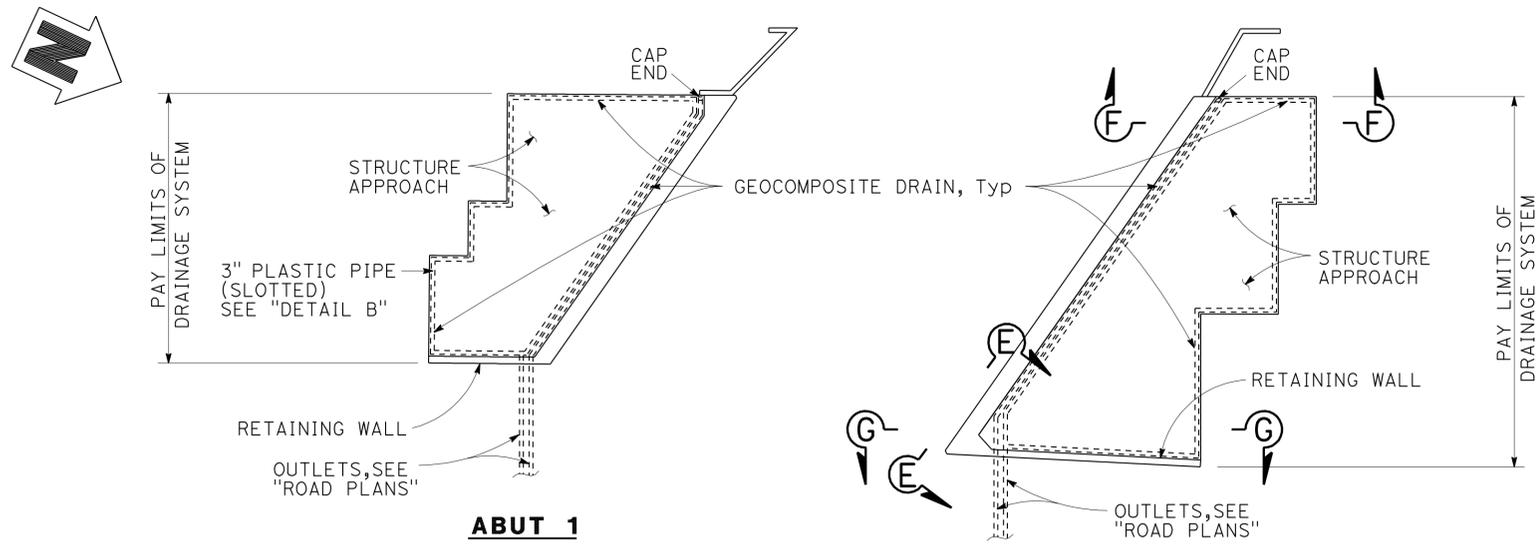
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 20-0284R
 POST MILE 3.57
ROUTE 101N/116 SOH (REPLACE)
STRUCTURE APPROACH TYPE N(30S)

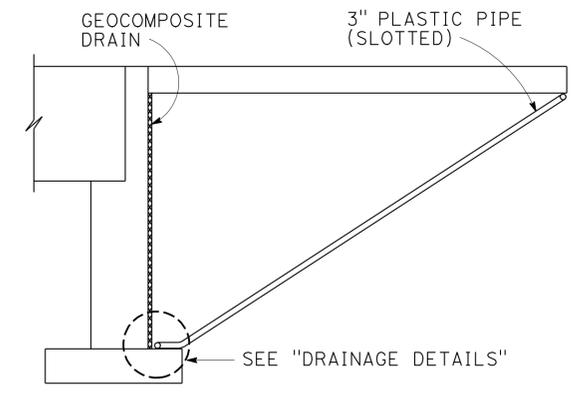
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	354	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

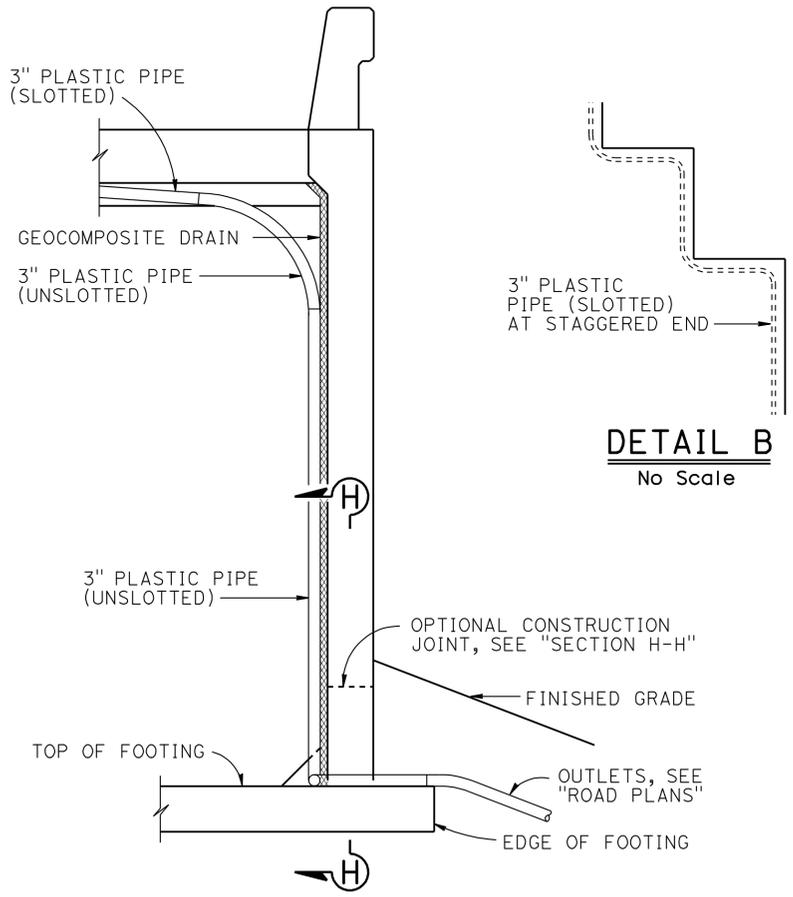
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



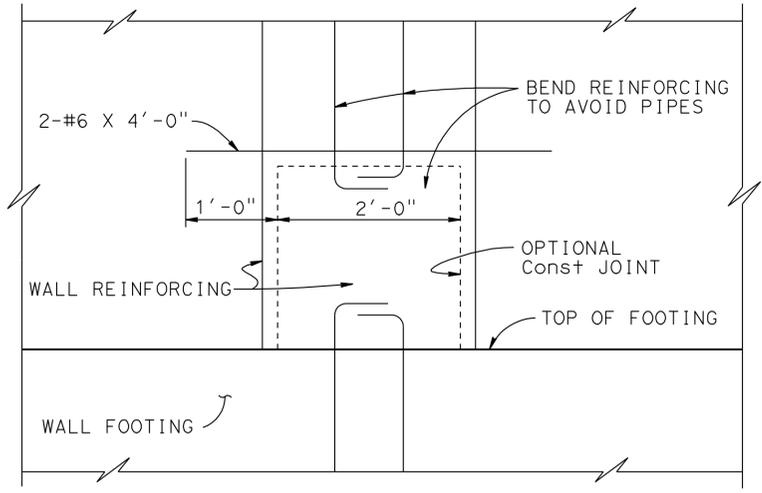
TYPICAL PLAN
 1" = 10'
ABUT 1 **ABUT 5**



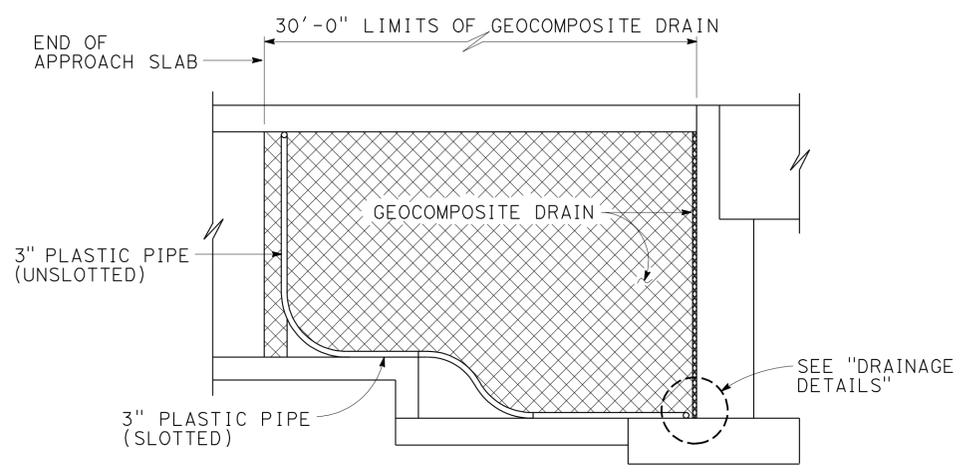
SECTION F-F
 1/4" = 1'-0"



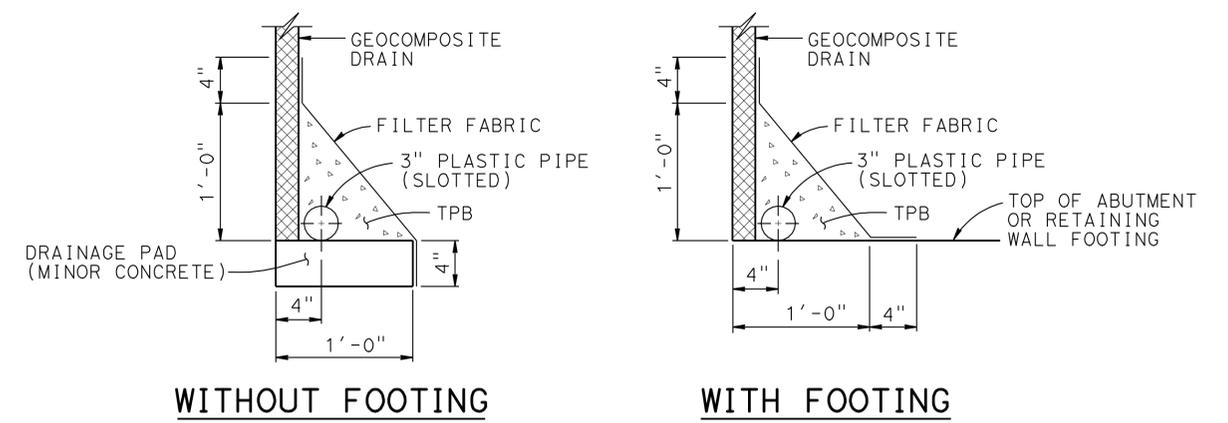
DETAIL B
 No Scale



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



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



WITHOUT FOOTING

WITH FOOTING

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

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

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

REVISED STANDARD DRAWING
 FILE NO. **xs3-110**
 APPROVAL DATE July 2011

1 Revised detail

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 20-0284R
 POST MILE 3.57

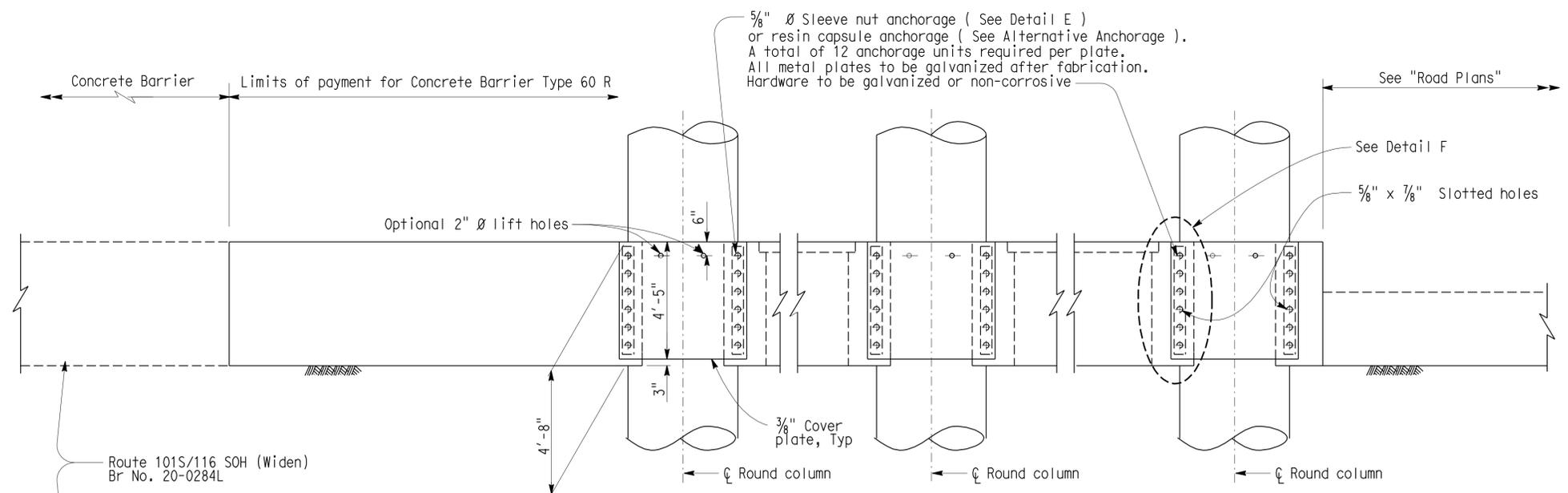
ROUTE 101N/116 SOH (REPLACE)
STRUCTURE APPROACH DRAINAGE DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	355	375

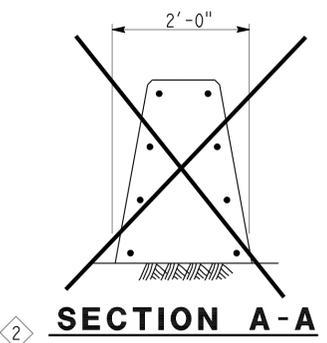
Jan M. Hueser 4/4/12
 REGISTERED CIVIL ENGINEER DATE
 6-11-12
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jan M. Hueser
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

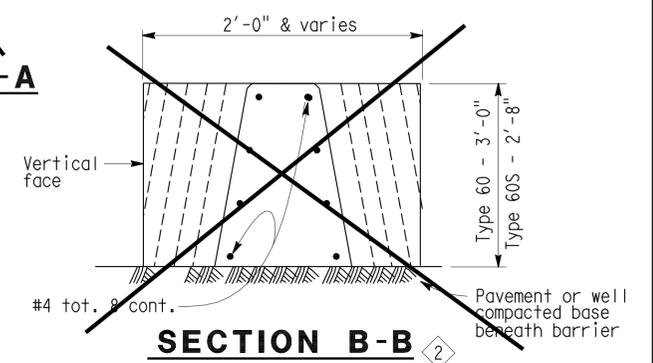
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



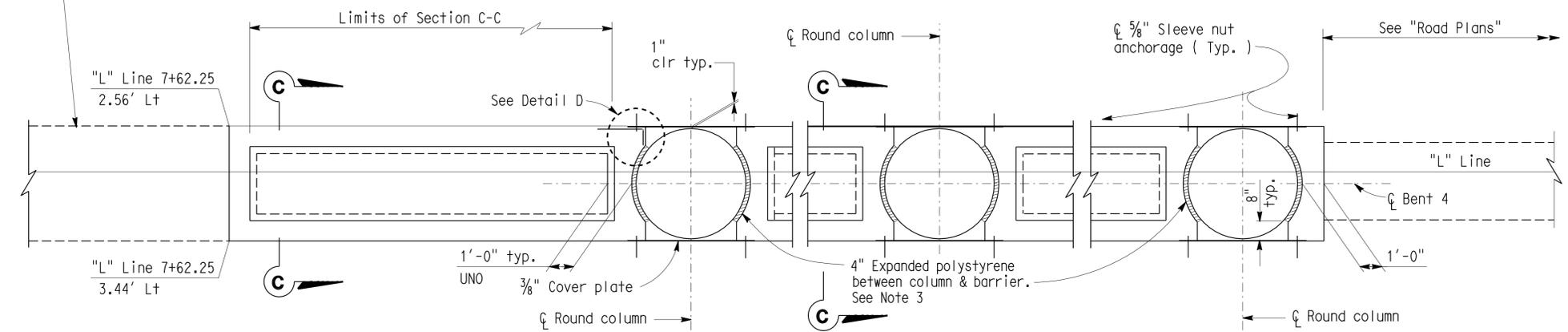
ELEVATION 1



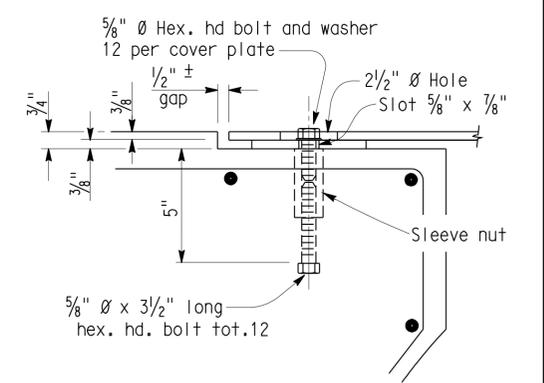
SECTION A-A



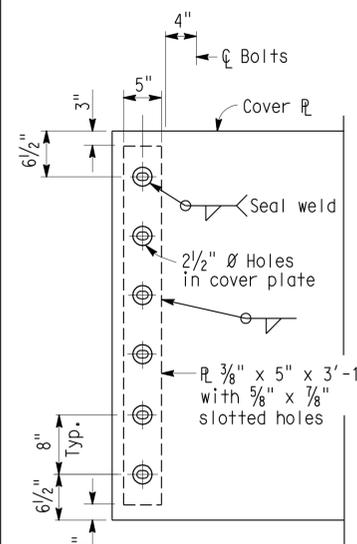
SECTION B-B



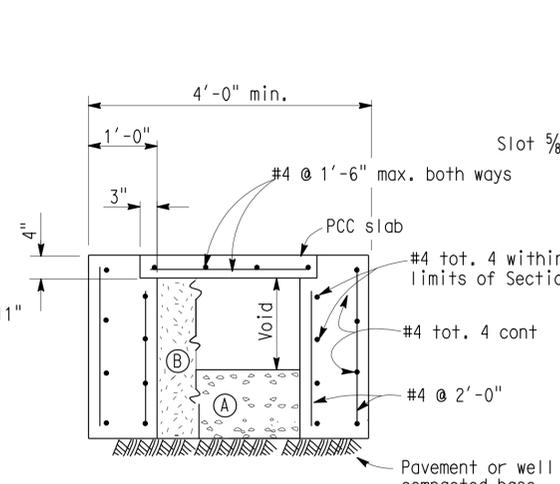
PLAN 1



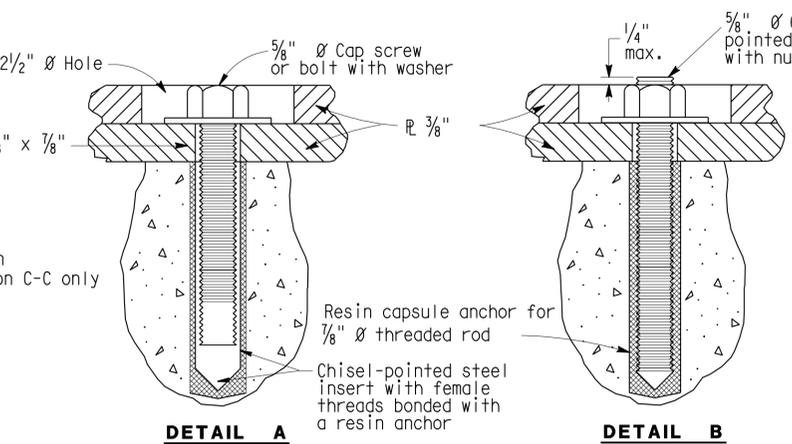
DETAIL E



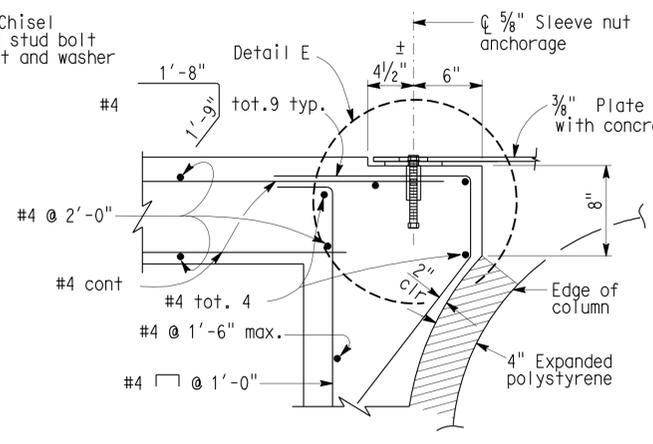
DETAIL F



SECTION C-C



ALTERNATIVE ANCHORAGE



DETAIL D

NOTES: 1) Resin capsule anchorage is subject to approval of the Engineer. Installation procedures shall comply with manufacturer's instructions.
 2) Detail B similar to Detail A except for anchorage devices.

- NOTES:**
- Contractor options for fill between barrier walls.
 - (A) Place 2'-0" PCC at base between barrier walls.
 - (B) Place granular material from base to bottom of 4" cap.
 - Forming material for 4" cap may remain in place.
 - Enclose column with 4" expanded polystyrene at locations where concrete or cement treated base encases the column.
 - For Detail G, see Transition at Bridge Column sheet 2 of 2.

NO SCALE SPECIAL DETAILS

STANDARD DRAWING			
FILE NO. xs16-090-1e	APPROVED BY T SATTER RESPONSIBLE TECHNICAL SPECIALIST	RELEASED BY ROBERTO LACALLE RESPONSIBLE OFFICE CHIEF	
	APPROVAL DATE 4-15-08	RELEASE DATE 4-15-08	

1 Revised detail
2 Detail not used

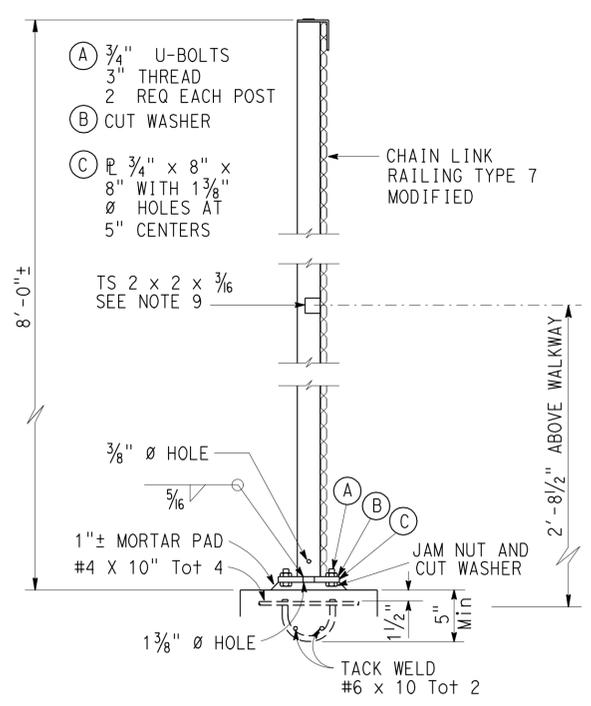
PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Walt LaFranchi PROJECT ENGINEER
---	------------------------------------

BRIDGE NO. 20-0284R	ROUTE 101N/116 SOH (REPLACE)
POST MILE 3.57	BARRIER-CONCRETE TYPE 60R TRANSITION AT BRIDGE COLUMN

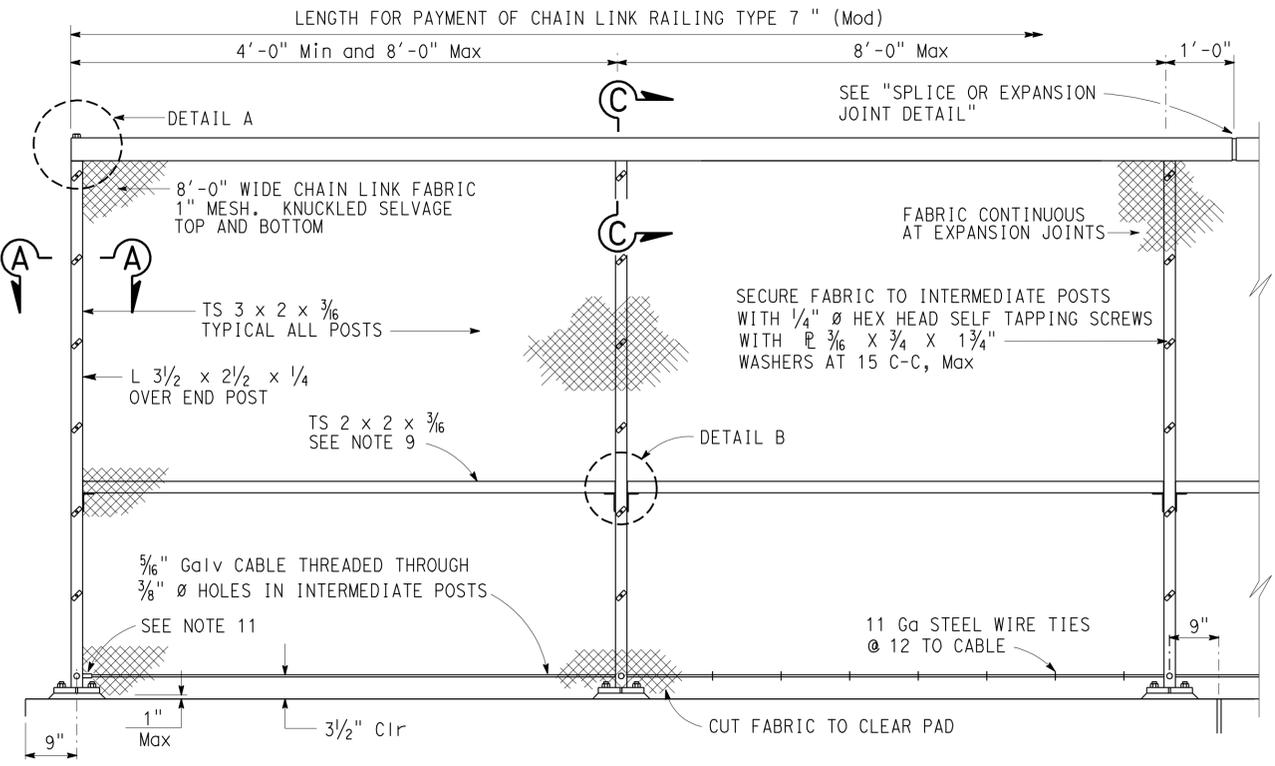
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	356	375

REGISTERED CIVIL ENGINEER 4/4/12 DATE
 6-11-12 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

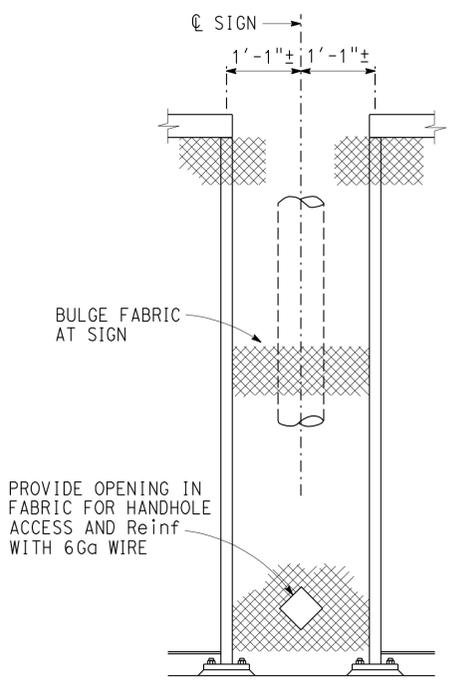
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



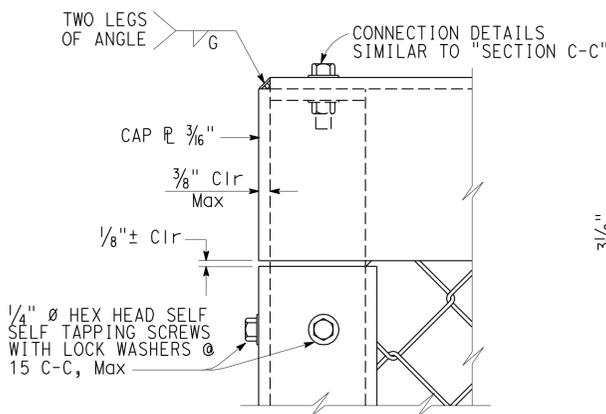
TYPICAL POST DETAIL
1" = 1'-0'



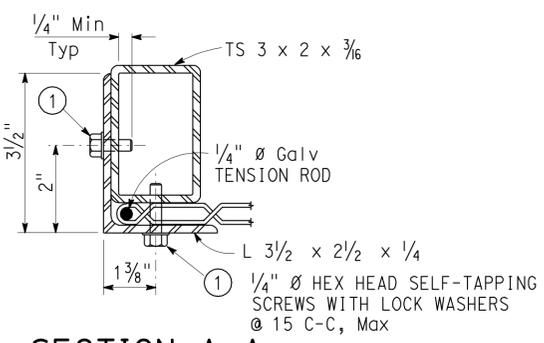
END POST **ELEVATION** **DECK OR WALL JOINT**
 3/4" = 1'-0'



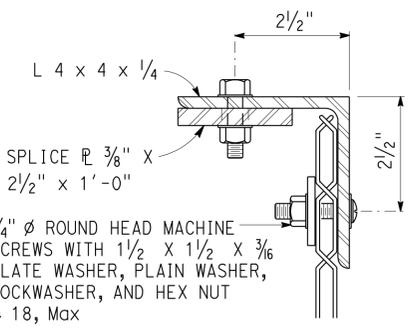
SIGN PANEL



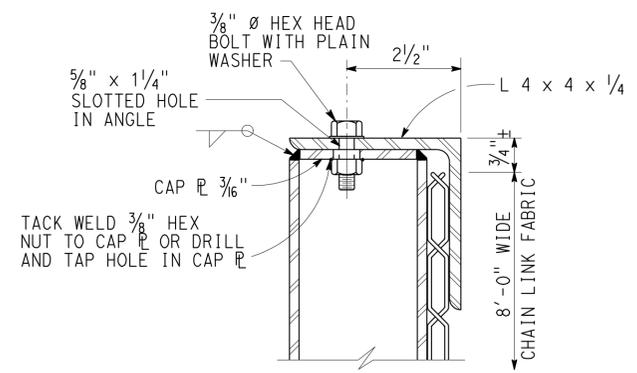
DETAIL A
6" = 1'-0'



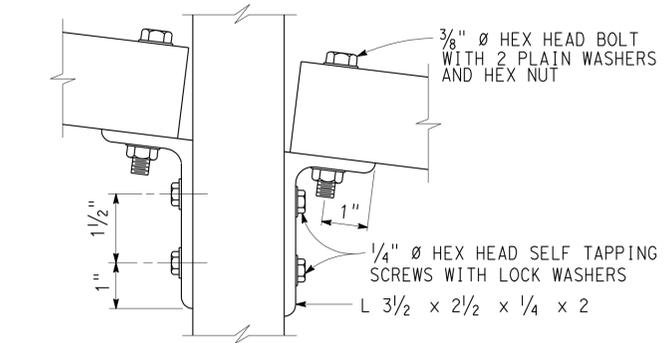
SECTION A-A
6" = 1'-0'



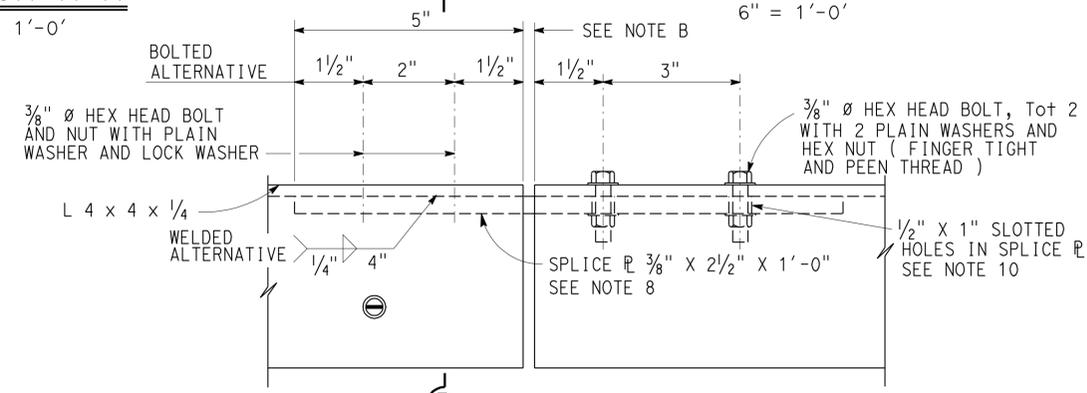
SECTION B-B
6" = 1'-0'



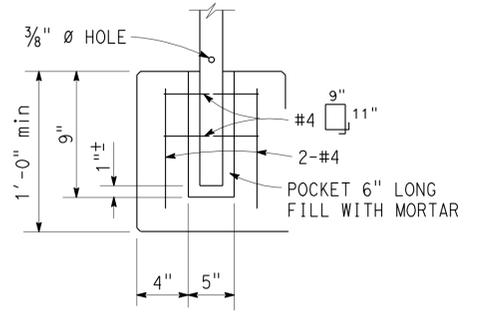
SECTION C-C
6" = 1'-0'



DETAIL B
6" = 1'-0'



SPLICE OR EXPANSION JOINT DETAIL
6" = 1'-0'



ALTERNATIVE ANCHORAGE DETAIL
1 1/2" = 1'-0"

May be used when thickness of concrete is 1'-0" or more
 Not to be used when post contains electrical conduit

- NOTES:
- Railing assembly except chain link fabric to be galvanized after fabrication
 - Railing shall conform to horizontal and vertical alignment. Post shall be vertical. Horizontal angle shall be bent to conform to horizontal alignment if radius is 150'-0" or less.
 - Horizontal angle shall be continuous over not less than two intermediate posts, except that a shorter length is permitted at expansion joints and other rail discontinuities.
 - When railing is placed on curved horizontal alignment with radius of 150'-0" or less, drill 1/2" ϕ x 3" deep hole in slab and set in epoxy adhesives 3/8" ϕ welded eyebolt for 3/8" cable to limit the mid-ordinate distance between the 3/8" cable and curve to be 1" Max.
 - Place fabric parallel to slope.
 - Alternative details may be submitted by the Contractor for Engineer's approval.
 - Provide thimbles at all cable loops.
 - Peen all exposed bolts.
 - TS 2 x 2 x 3/16 required for curves with radius of 150'-0" or less. Bend to conform to curve.
 - Expansion joint same dimension as expansion joint in deck or wall. Increase slotted hole length and splice ℓ length correspondingly.
 - Anchor 5/16" galvanized cable at end post and end posts adjacent to electrolier openings or deck or wall joints with 1/2" ϕ stud socket assembly or 1/2" ϕ welded eyebolt and crimped sleeve clamp. Provide 1/2" minimum take-up at each anchorage.

REVISED STANDARD DRAWING
 FILE NO. **xs16-220-1**
 APPROVAL DATE July 2011

Revised detail

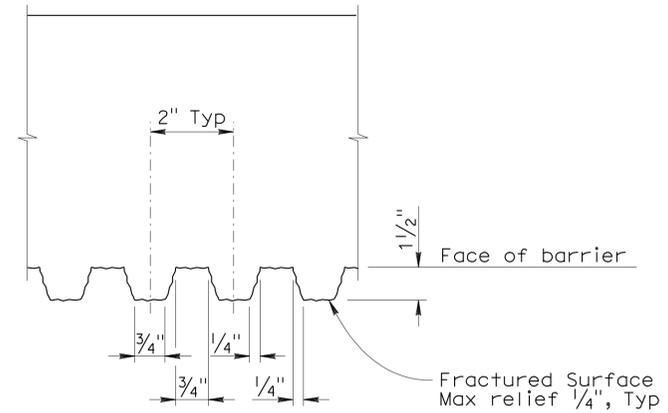
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 20-0284R
 POST MILE 3.57
ROUTE 101N/116 SOH (REPLACE)
CHAIN LINK RAILING (TYPE 7 MODIFIED)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	357	375

Jan M. Hueser
 REGISTERED CIVIL ENGINEER
 DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
 No. C050215
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

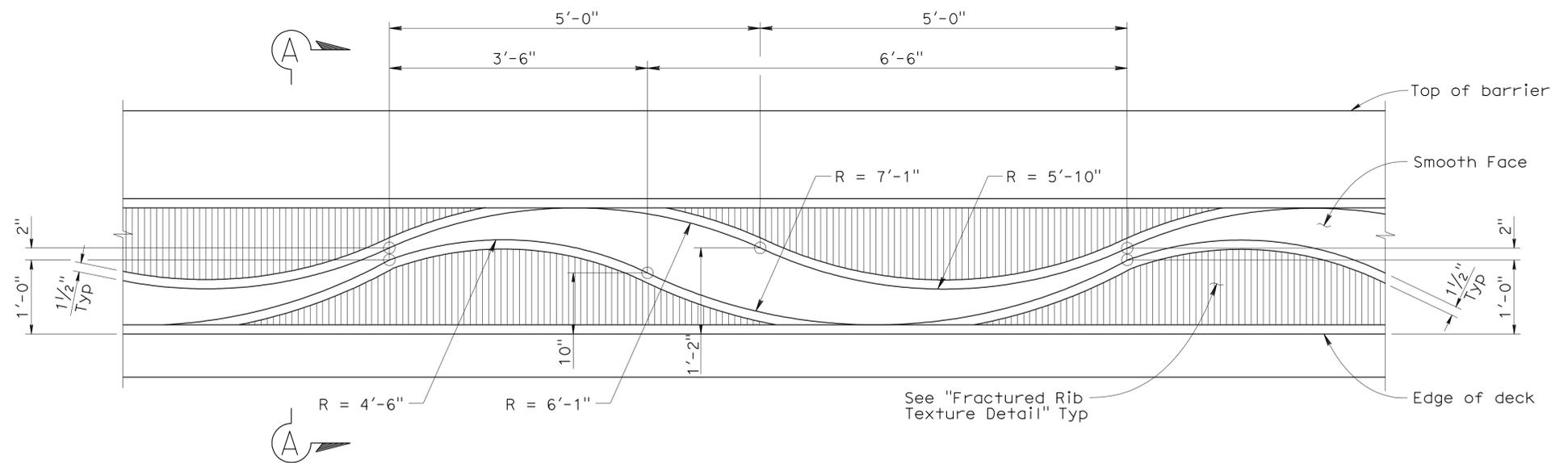
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



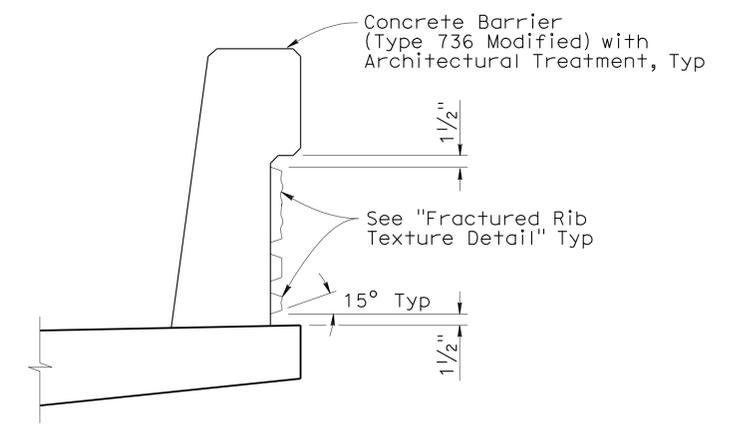
Notes:

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

FRACTURED RIB TEXTURE DETAIL
No Scale



BARRIER ELEVATION
No Scale



BARRIER SECTION A-A
No Scale

Tracy L. Bertram
 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY S. Landis/J. Hueser	CHECKED A. Dubovik
DETAILS	BY L. Davis	CHECKED A. Dubovik
QUANTITIES	BY M. Jackson	CHECKED S. Landis

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20-0284R
POST MILE	3.57

ROUTE 101N/116 SOH (REPLACE)
ARCHITECTURAL DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	358	375


 4/4/12
 GEOTECHNICAL PROFESSIONAL DATE
 6-11-12
 PLANS APPROVAL DATE
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 SAN JOSE, CA 95113
 SONOMA COUNTY TRANSPORTATION AUTHORITY
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 SANTA ROSA, CA 95401

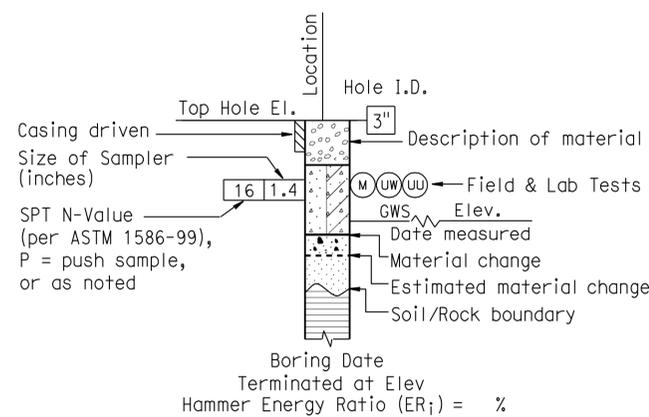
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

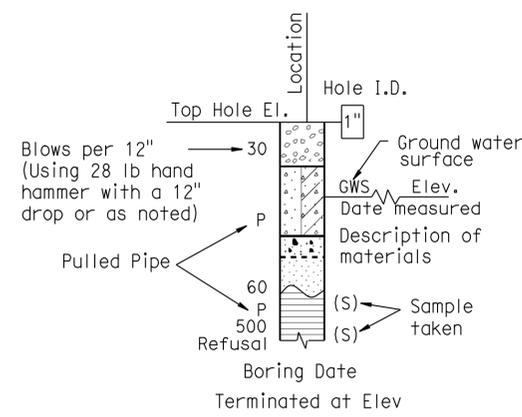
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

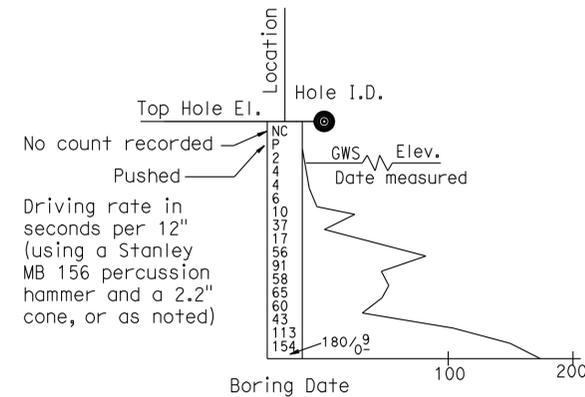
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the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



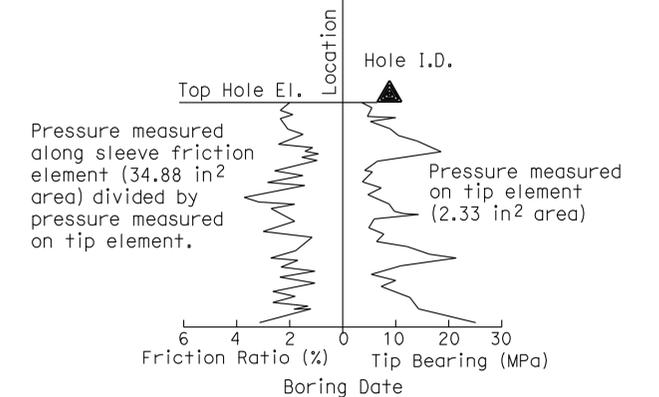
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

SOIL LEGEND

DESIGN OVERSIGHT
 Tracy L Bertram
 4-17-12
 SIGN OFF DATE

DRAWN BY
 A. CHEUNG
 CHECKED BY
 MANOHARAN

C. RAMBO
 FIELD INVESTIGATION BY:
 DATE:

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

S. HUANG
 PROJECT ENGINEER

BRIDGE NO.
 20-0284R
 POST MILES
 3.57

ROUTE 101N/116 SOH (REPLACE)
LOG OF TEST BORINGS 1 OF 8

4/4/12
DATE

6-11-12
PLANS APPROVAL DATE

Stephen Huang
No. C 42289
Exp. 03/31/14
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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SAN JOSE, CA 95113

SONOMA COUNTY TRANSPORTATION AUTHORITY
490 MENDOCINO AVENUE, SUITE 206
SANTA ROSA, CA 95401

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

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

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

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

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

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

SOIL LEGEND

 DESIGN OVERSIGHT Tracy L Bertram 4-17-12 SIGN OFF DATE	DRAWN BY A. CHEUNG	C. RAMBO FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 20-0284R	ROUTE 101N/116 SOH (REPLACE) LOG OF TEST BORINGS 2 OF 8			
	CHECKED BY MANOHARAN	DATE:	S. HUANG PROJECT ENGINEER	POST MILES 3.57				
GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 0714 PROJECT NUMBER & PHASE: 04120003311	CONTRACT NO.: 04-2640K4	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 3-28-10 1-13-12 3-14-12 4-4-12	SHEET 40 OF 46

USERNAME => s124496 DATE PLOTTED => 16-JUN-2012 TIME PLOTTED => 08:57

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

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

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

RELATIVE STRENGTH OF INTACT ROCK

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

BEDDING SPACING

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

4/4/12
 GEOTECHNICAL PROFESSIONAL DATE
 Stephen Huang
 No. C 42289
 Exp. 03/31/14
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 GEOTECHNICAL

URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

LEGEND OF ROCK MATERIALS

	IGNEOUS ROCK
	SEDIMENTARY ROCK
	METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

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

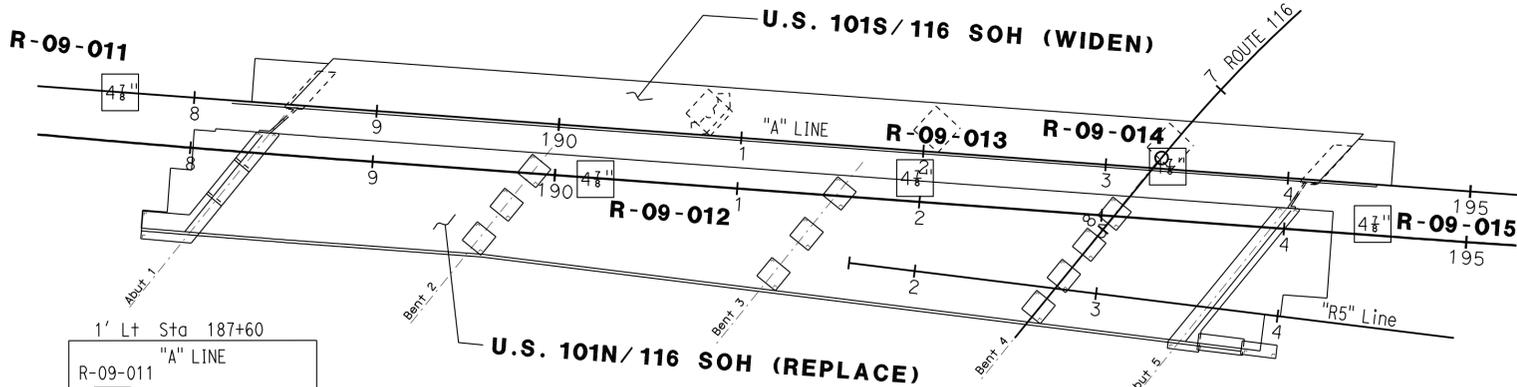
FRACTURE DENSITY

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

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

ROCK LEGEND

DESIGN OVERSIGHT Tracy L Bertram 4-17-12 SIGN OFF DATE	DRAWN BY A. CHEUNG	CHECKED BY MANOHARAN	C. RAMBO FIELD INVESTIGATION BY: DATE:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	S. HUANG PROJECT ENGINEER	BRIDGE NO. 20-0284R POST MILES 3.57	ROUTE 101N/116 SOH (REPLACE) LOG OF TEST BORINGS 3 OF 8
---	-----------------------	-------------------------	--	---	------------------------------	--	--



PLAN

1" = 50'

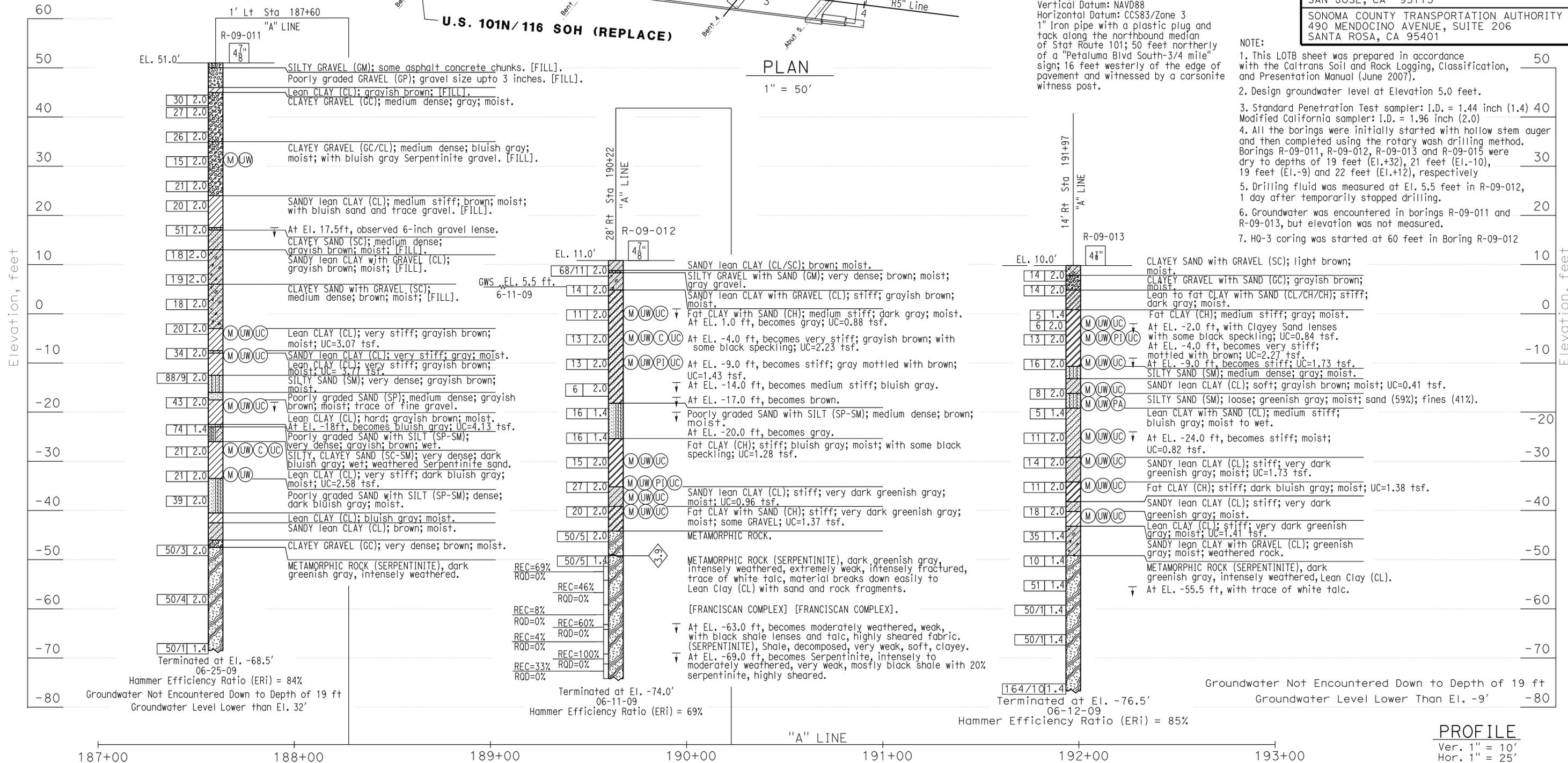
BENCH MARK:
 B.M.: JK121
 B. M. Elev.: 81.98 US Survey Feet
 Northing: 2276227.207
 Easting: 5954272.578
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and
 tack along the northbound shoulder
 of Stat Route 101 across from a
 "Sonoma-Napa-Right Lane" sign; 10.7
 feet easterly of a metal beam guard rail
 and at top slope.
 B.M.: JK122
 B. M. Elev.: 52.65 US Survey Feet
 Northing: 2277835.878
 Easting: 5953598.199
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and
 tack along the northbound median
 of Stat Route 101; 50 feet northerly
 of a "Petaluma Blvd South-3/4 mile"
 sign; 16 feet westerly of the edge of
 pavement and witnessed by a carsonite
 witness post.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	361	375

4/4/12
 GEOTECHNICAL PROFESSIONAL DATE
 Stephen Huang
 No. C 42289
 Exp. 03/31/14
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 GEOTECHNICAL

URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

- NOTE:
1. This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification, and Presentation Manual (June 2007).
 2. Design groundwater level at Elevation 5.0 feet.
 3. Standard Penetration Test sampler: I.D. = 1.44 inch (1.4) 40 Modified California sampler: I.D. = 1.96 inch (2.0)
 4. All the borings were initially started with hollow stem auger and then completed using the rotary wash drilling method. Borings R-09-011, R-09-012, R-09-013 and R-09-015 were dry to depths of 19 feet (El.+32), 21 feet (El.-10), 19 feet (El.-9) and 22 feet (El.+12), respectively
 5. Drilling fluid was measured at El. 5.5 feet in R-09-012, 1 day after temporarily stopped drilling.
 6. Groundwater was encountered in borings R-09-011 and R-09-013, but elevation was not measured.
 7. HQ-3 coring was started at 60 feet in Boring R-09-012



PROFILE

Ver. 1" = 10'
 Hor. 1" = 25'

DESIGN OVERSIGHT Tracy L Bertram 4-17-12 SIGN OFF DATE	DRAWN BY A. CHEUNG	C. RAMBO FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 20-0284R	ROUTE 101N/116 SOH (REPLACE) LOG OF TEST BORINGS 4 OF 8
	CHECKED BY MANOHARAN	DATE:		PROJECT ENGINEER S. HUANG	

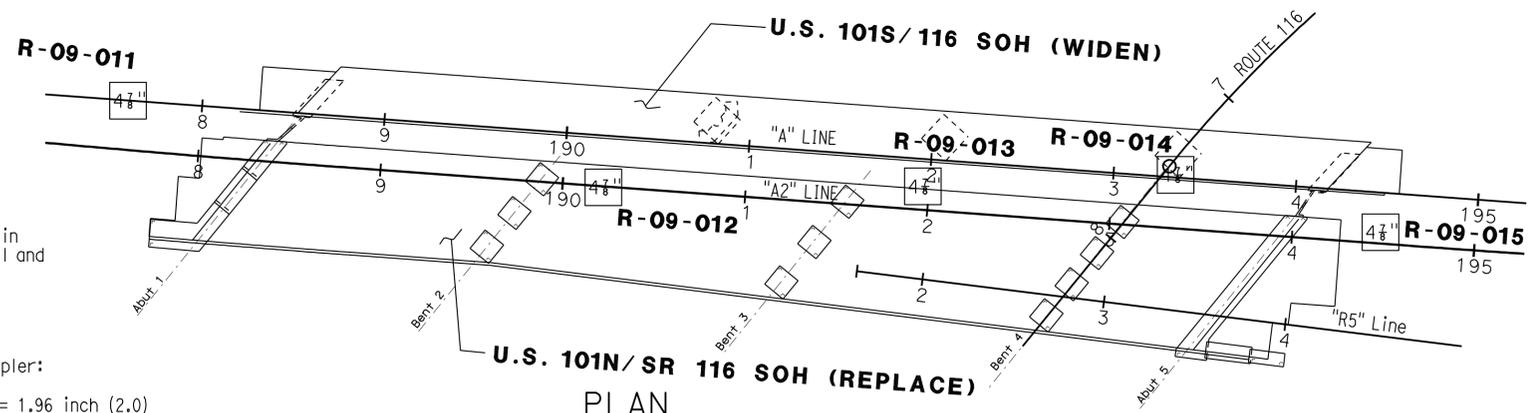
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	362	375


 GEOTECHNICAL PROFESSIONAL DATE 4/4/12
 6-11-12
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

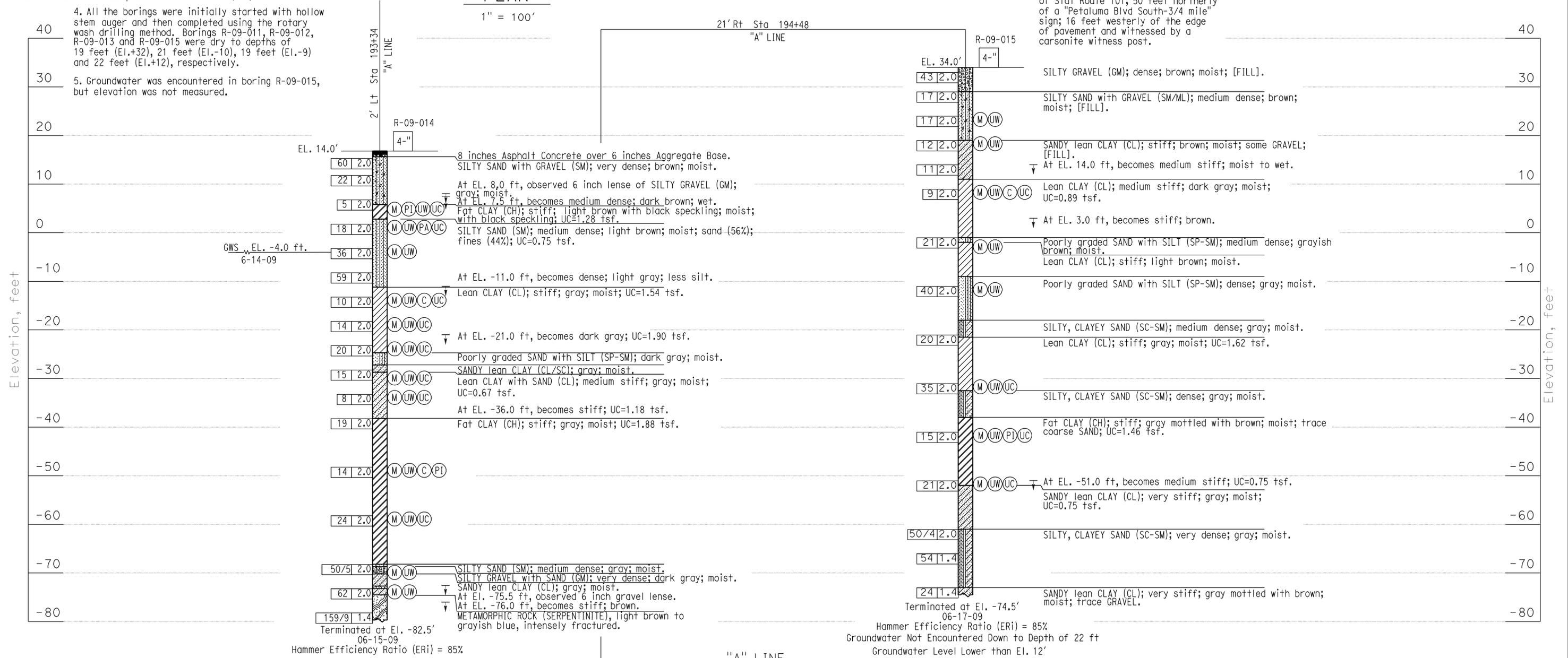
URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

BENCH MARK:
 B.M: JK121
 B. M Elev.: 81.98 US Survey Feet
 Northing: 2276227.207
 Easting: 5954272.578
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and tack along the northbound shoulder of Stat Route 101 across from a "Sonoma-Napa-Right Lane" sign; 10.7 feet easterly of a metal beam guard rail and at top slope.

B.M: JK122
 B. M Elev.: 52.65 US Survey Feet
 Northing: 2277835.878
 Easting: 5953598.199
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and tack along the northbound median of Stat Route 101; 50 feet northerly of a "Petaluma Blvd South-3/4 mile" sign; 16 feet westerly of the edge of pavement and witnessed by a carsonite witness post.



- NOTE:**
- This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification, and Presentation Manual (June 2007).
 - Design groundwater level at Elevation 5.0 feet.
 - Standard Penetration Test sampler: I.D. = 1.44 inch (1.4)
Modified California sampler: I.D. = 1.96 inch (2.0)
 - All the borings were initially started with hollow stem auger and then completed using the rotary wash drilling method. Borings R-09-011, R-09-012, R-09-013 and R-09-015 were dry to depths of 19 feet (El.+32), 21 feet (El.-10), 19 feet (El.-9) and 22 feet (El.+12), respectively.
 - Groundwater was encountered in boring R-09-015, but elevation was not measured.



DESIGN OVERSIGHT
 Tracy L Bertram
 4-17-12
 SIGN OFF DATE

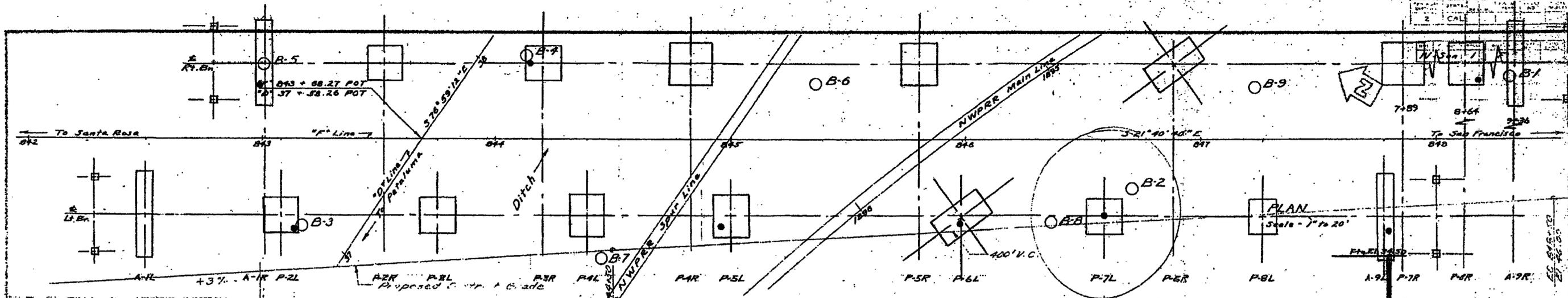
DRAWN BY
 A. CHEUNG
 CHECKED BY
 MANOHARAN

C. RAMBO
 FIELD INVESTIGATION BY:
 DATE:

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 S. HUANG
 PROJECT ENGINEER

BRIDGE NO.
 20-0284R
 POST MILES
 3.57

ROUTE 101N/116 SOH (REPLACE)
LOG OF TEST BORINGS 5 OF 8



Design File Loading: 327
 Type Pile: Raymond, Step Taper 108P42, Pile EL 21.30
 "H" Pile 850mm Dia. (Kaiser)
 Diameter: Top 10" - Bt 15 1/2"
 Total Number Piles: 455
 Linear Ft. Piles "As Built": 22,873
 Linear Ft. Piles Called for on Plans: 16,072
 Hammer: Vulcan #1
 Remarks: All piles in Abutment were driven through fill in 20' dia. shafts. No water table was observed.



TO ACCOMPANY PLANS DATED 6-11-12

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, 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	Son	101	3.4/4.1	364	375

DATE: 4/4/12

ROUTE 101N/116 SOH (REPLACE)

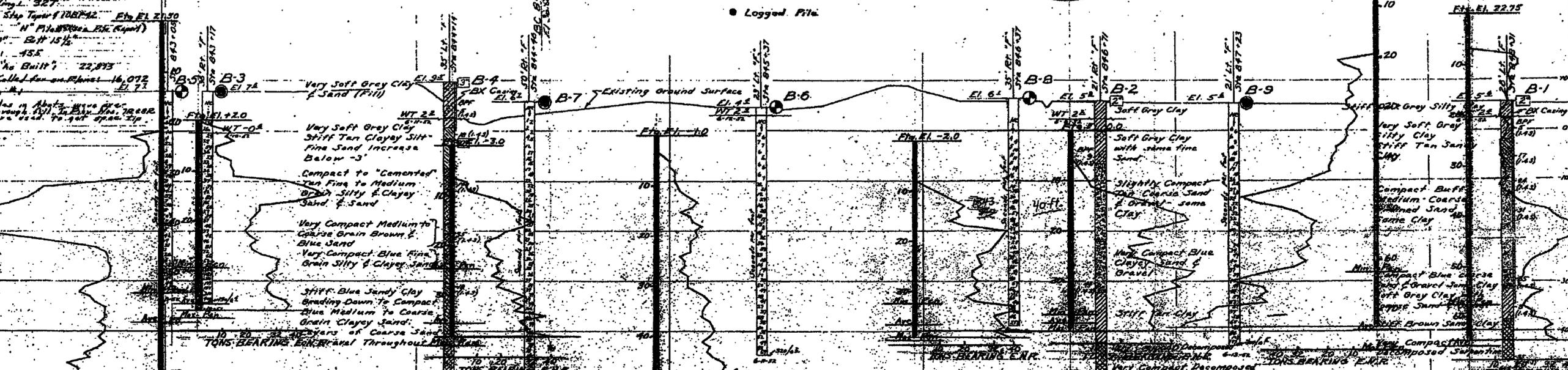
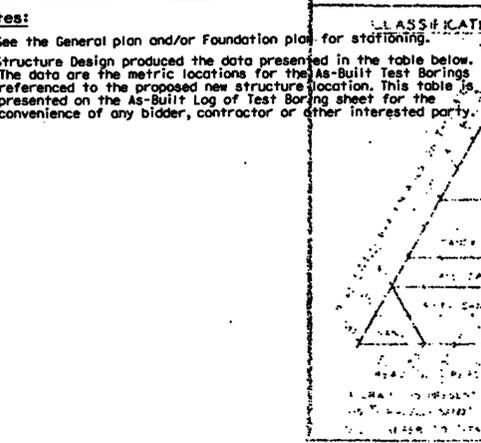
LOG OF TEST BORINGS 7 OF 8

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA. UNIT: Q714 PROJECT NUMBER & PHASE: 04120003311

BRIDGE No.	Sheet	of
20-0284R	45	46

Revisions made to this Log of Test Borings from the original 1992 Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from A Line
B-1	188+75	39.3 Rt
B-9	189+80	38.5 Rt
B-2	190+49	13.3 Lt
B-8	190+93	37.1 Lt
B-6	191+19	28.1 Rt
B-7	192+81	28.5 Lt
B-4	193+17	37.7 Rt
B-3	194+05	14.1 Lt
B-5	194+20	31.9 Rt



Caltrans now has a web site! To get to the web site, go to: <http://www.dot.ca.gov>

LEGEND OF BORING OPERATIONS

PLAN OF BORING	CASING
SAMPLER BORING	JET BOR
ROTARY WASH BORING	SAMPLE
CLAYED SAMPLER DRIVEN	1 1/2" A-F
2 1/2" PENETROMETER DRIVEN	2 1/2" CON
1 1/2" SAMPLER BORING	
2 1/2" SAMPLER BORING	
5 1/2" SAMPLER BORING	

THE APPROPRIATE SYMBOLS OF SIGN METHOD OF OPER SHOWN AT THE HAND CORNER OF THE RESPECTIVE BORING WHERE LOG CHANGES WERE MADE DURING THE BORING OPERATION SYMBOLS ARE SHOWN AT THE POINT OF CHANGE.

Revisions made to this Log of Test Borings from the original 1992 Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from "S" Line
B-1	57+76	7.9 m Left
B-2	58+25	8.4 m Right
B-3	58+33	10.9 m Right
B-4	58+09	10.7 m Left
B-5	59+38	9.4 m Left
B-8	58+85	7.0 m Left
B-7	58+83	15.2 m Right
B-8	58+85	7.0 m Right
B-9	60+09	6.4 m Left

DIVISION OF ENGINEERING SERVICES - OFFICE OF GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal, 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	Son	101	5.6/6.3	121	148

DATE: 3-15-04

1017 TTS SOH (REPLACE)

LOG OF TEST BORINGS

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA. UNIT: Q714 PROJECT NUMBER & PHASE: 04120003311

BRIDGE No.	Sheet	of
20-0155L	27	27



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NOTES

1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 2, ARTICLE (C) OF THE STANDARD SPECIFICATIONS AND TO THE SPECIAL PROVISIONS ACCOMPANYING THIS SET OF PLANS.

2. CLASSIFICATION OF EARTH MATERIAL AS SHOWN ON THIS SHEET IS BASED UPON FIELD INSPECTION AND IS NOT TO BE CONSIDERED TO IMPLY MECHANICAL ANALYSIS.

3. Alignment & Profile data was obtained from District 11 (Project 13-0000-2 #P 08111) & PE-2832-2.

FOR PRELIMINARY REPORT

ROUTE 101 SEPARATION AND OVERHEAD LOG OF TEST BORINGS

SCALE: as noted

BRIDGE NO. 20-155

DATE: 3-15-04

DRAWING NO. PR 8000-2



DIST.	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	5.6/6.3	148	148

08-05-02

REGISTERED ENGINEER CIVIL

3-15-04

PLANS APPROVAL DATE

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Caltrans now has a web site! To get to the web site, go to: <http://www.dgs.gov>



TO ACCOMPANY PLANS DATED 6-11-12

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	Son	101	3.4/4.1	365	375

DATE 4/4/12

CERTIFIED ENGINEERING GEOLOGIST

ROUTE 101N/110 SOH (REPLACE)

LOG OF TEST BORINGS 8 OF 8

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

UNIT: 0714 04-2640K4
PROJECT NUMBER & PHASE: 04120003311

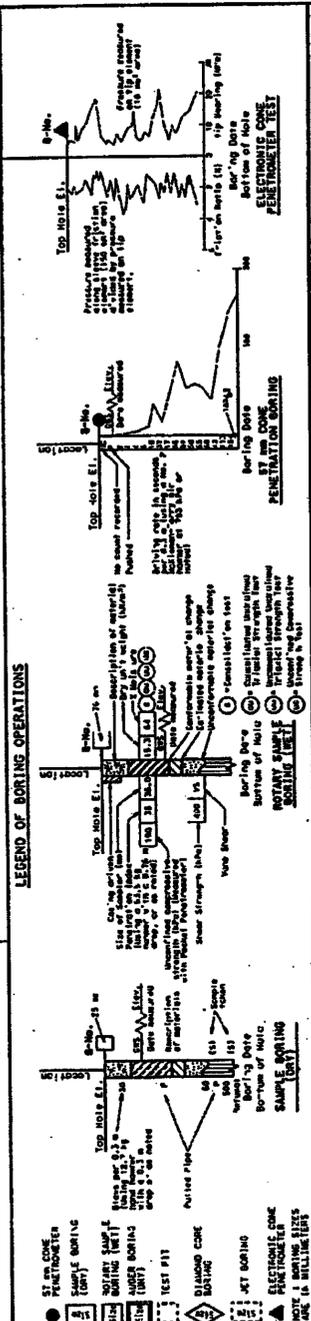
BRIDGE No.	Sheet	of
20-0284R	46	46

Revisions made to this Log of Test Borings from the original 2002 Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from "A" Line
CPT-1	189+28	72.8 Lt
BH-1	189+21	72.6 Lt

Notes:

- See the General plan and/or Foundation plan for stationing.
- Structure Design produced the data presented in the table below. The data are the metric locations for the As-Built Test Borings referenced to the proposed new structure location. This table is presented on the As-Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.



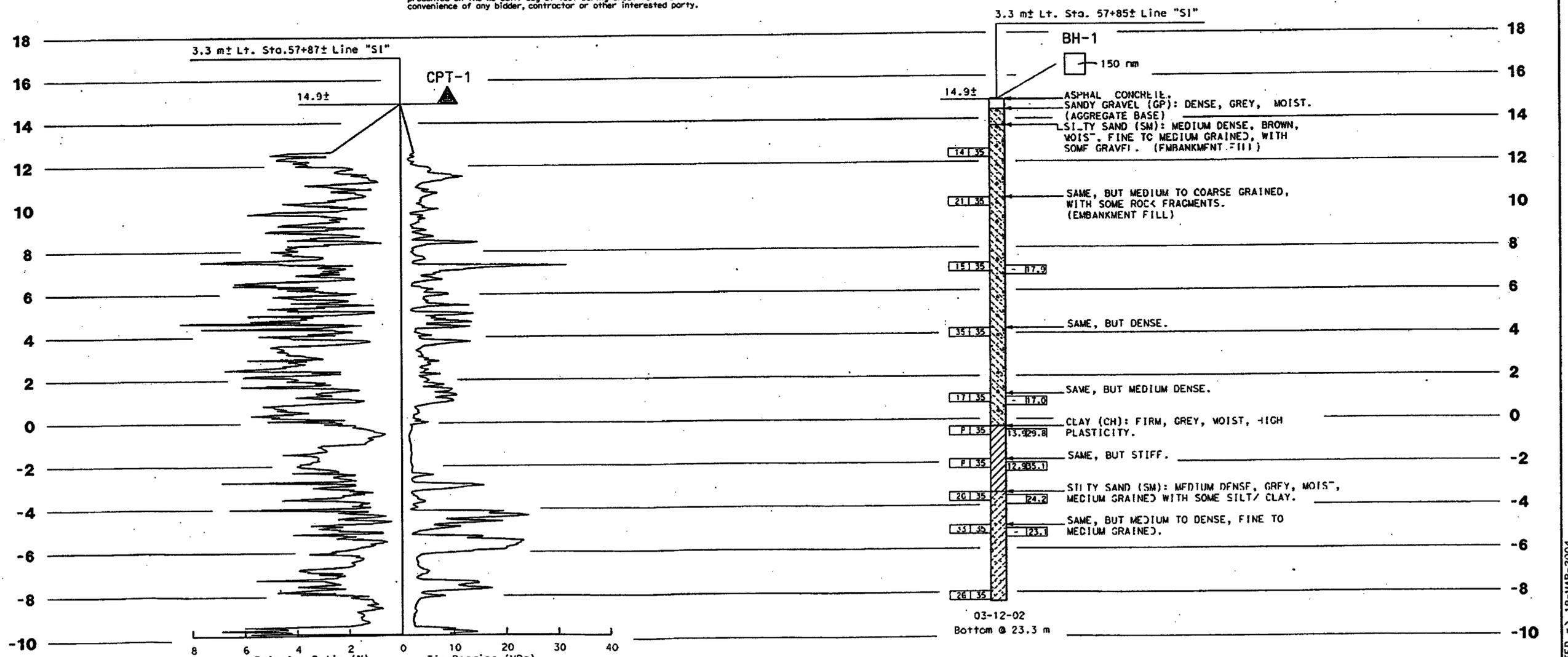
LEGEND OF EARTH MATERIALS

Consistency	Symbol	Consistency	Symbol
Very Soft	○	Very Stiff	○
Soft	○	Stiff	○
Medium	○	Very Stiff	○
Hard	○	Very Stiff	○

CONSISTENCY CLASSIFICATION FOR SOILS

CU	US	US	US
0-4	0-4	0-4	0-4
5-10	5-10	5-10	5-10
11-20	11-20	11-20	11-20
21-30	21-30	21-30	21-30
31-50	31-50	31-50	31-50
51	51	51	51

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



DIVISION OF ENGINEERING SERVICES		FIELD INVESTIGATION BY:		STATE OF CALIFORNIA		GEOTECHNICAL SERVICES		MECHANICALLY STABILIZED EMBANKMENT	
DRAWN BY: M. REYNOLDS 06/02		T. NGUYEN		DEPARTMENT OF TRANSPORTATION		OFFICE OF GEOTECHNICAL DESIGN - WEST		LOG OF TEST BORINGS	
CHECKED BY: S. KAKIHARA				CU 04276 EA 276001		BRIDGE NO. / KILOMETER POST		SHEET 2 OF 2	

DATE PLOTTED => 19-MAR-2004
TIME PLOTTED => 10:129

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	366	375

RETAINING WALL NO. 293, BR# 20E0060

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	891	CY
STRUCTURE BACKFILL (RETAINING WALL)	865	CY
FURNISH PILING (CLASS 90) (ALTERNATIVE "X")	5,076	LF
DRIVE PILE (CLASS 90)(ALTERNATIVE "X")	72	EA
STRUCTURAL CONCRETE, RETAINING WALL	389	CY
SOUND WALL (MASONRY BLOCK)	3,672	SOFT
BAR REINFORCING STEEL (RETAINING WALL)	38,602	LB
CONCRETE BARRIER (TYPE 736A MODIFIED)	408	LF

REGISTERED CIVIL ENGINEER DATE 4/4/12

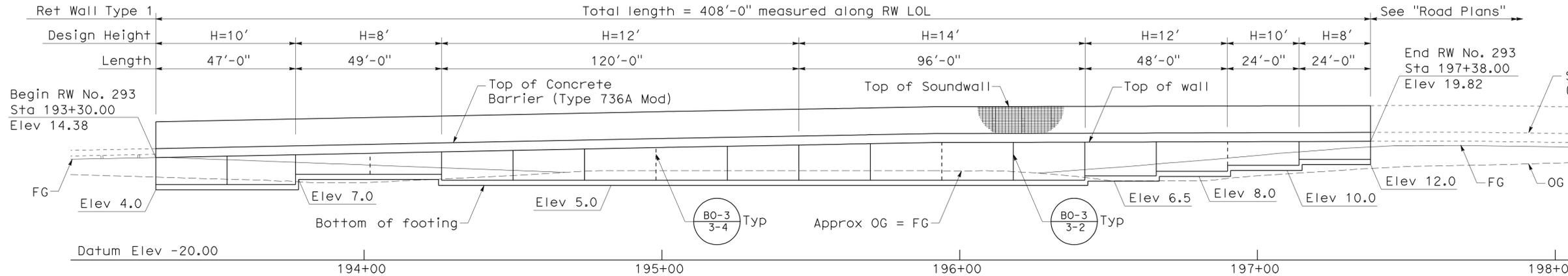
6-11-12
PLANS APPROVAL DATE

David W. Harnagel
No. C36542
Exp. 6/30/12
CIVIL
STATE OF CALIFORNIA

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

SONOMA COUNTY TRANSPORTATION AUTHORITY
490 MENDOCINO AVENUE, SUITE 206
SANTA ROSA, CA 95401

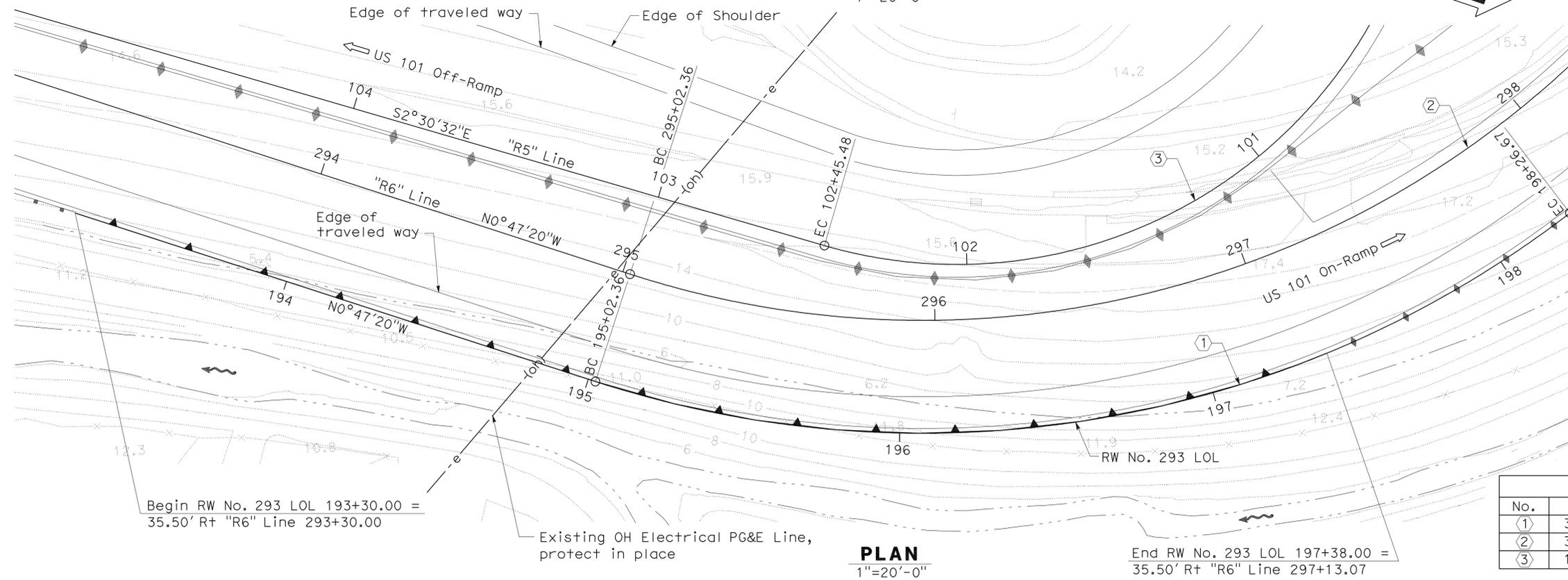


DEVELOPED ELEVATION

1"=20'-0"



TOP OF WALL ELEVATION	
Sta	Elev
193+30	14.38
193+50	14.78
193+70	15.18
193+90	15.58
194+10	15.98
194+30	16.38
194+50	16.78
194+70	17.18
194+90	17.58
195+10	17.96
195+30	18.32
195+50	18.68
195+70	19.04
195+90	19.39
196+10	19.48
196+30	19.53
196+50	19.58
196+70	19.64
196+90	19.69
197+10	19.74
197+30	19.80



PLAN

1"=20'-0"

CURVE DATA				
No.	R	Δ	T	L
①	335.50'	55°23'05"	176.08'	324.31'
②	300.00'	67°08'02"	199.07'	351.51'
③	150.00'	195°25'49"	N/A	511.63'

DESIGN OVERSIGHT Tracy L Bertram
4-17-12
SIGN OFF DATE

DESIGN BY D. Harnagel	CHECKED D. Anderson	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS BY L. Davis	CHECKED D. Anderson	LAYOUT BY D. Harnagel	CHECKED D. Anderson
QUANTITIES BY M. Jackson	CHECKED D. Anderson	SPECIFICATIONS BY D. Harnagel	PLANS AND SPECS COMPARED D. Anderson

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
PROJECT ENGINEER

BRIDGE NO.	20E0060
POST MILES	3.7

RETAINING WALL No. 293
GENERAL PLAN No. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 1	OF 10
	3-28-10 5-28-11 1-13-12 4-4-12		

FILE => 20E0060-a-gp01.dgn

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 14:29

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	367	375


 REGISTERED CIVIL ENGINEER DATE 3/14/12
 PLANS APPROVAL DATE 6-11-12
 No. C36542
 Exp. 6/30/12
 CIVIL
 STATE OF CALIFORNIA

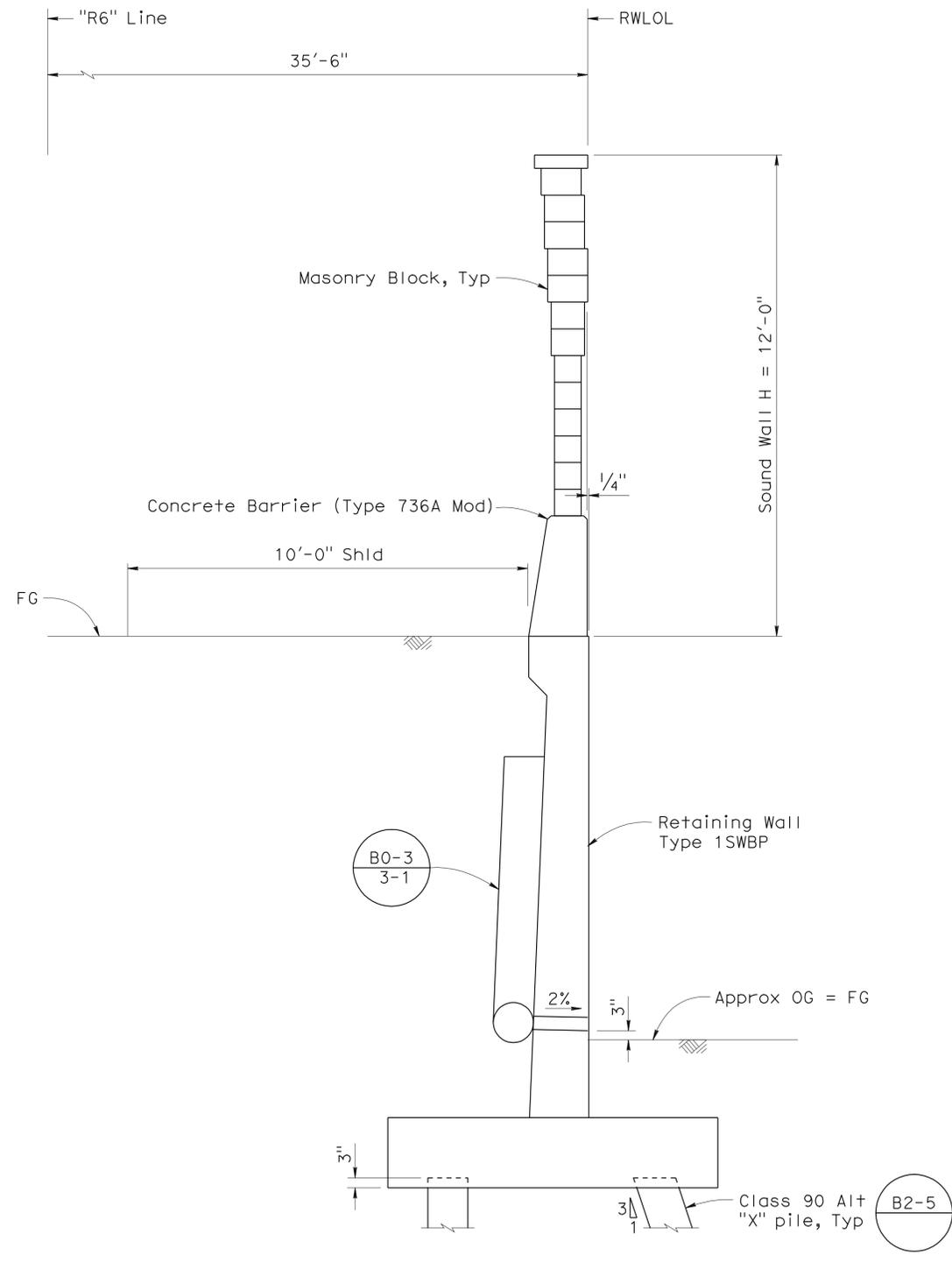
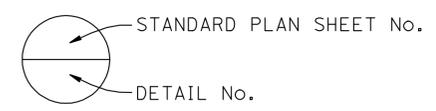
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN No. 1
2	GENERAL PLAN No. 2
3	PILE LAYOUT
4	RETAINING WALL TYPE 1SWBP - DETAIL No. 1
5	RETAINING WALL TYPE 1SWBP - DETAIL No. 2
6	SOUND WALL AESTHETICS No. 1
7	SOUND WALL AESTHETICS No. 2
8	LOG OF TEST BORINGS 1 OF 3
9	LOG OF TEST BORINGS 2 OF 3
10	LOG OF TEST BORINGS 3 OF 3

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
B2-5	PILE DETAILS CLASS 90 AND CLASS 140
B3-8	RETAINING WALL DETAILS No. 1
B11-56	CONCRETE BARRIER TYPE 736
RSP B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
RSP B15-7	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)



TYPICAL SECTION

1/2" = 1'-0"


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY	CHECKED	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DESIGN	D. Harnagel	D. Anderson	BY	D. Anderson
DETAILS	L. Davis	D. Anderson	LAYOUT	D. Harnagel
QUANTITIES	M. Jackson	D. Anderson	SPECIFICATIONS	D. Harnagel
			CHECKED	D. Anderson
			PLANS AND SPECS COMPARED	D. Anderson

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.
20E0060
POST MILES
3.7

RETAINING WALL No. 293

GENERAL PLAN No. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
PROJECT NUMBER & PHASE: 04120004061

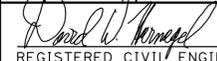
CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
3-21-10 5-28-11 1-13-12 3-14-12	2	10

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 14:29

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	368	375


 REGISTERED CIVIL ENGINEER DATE 4/4/12
 PLANS APPROVAL DATE 6-11-12
 No. C36542
 Exp. 6/30/12
 CIVIL
 STATE OF CALIFORNIA

PILE DATA TABLE						
Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Station 193+30 to 197+38.00	Class 90 Alt "X"	180	90	-62.0 (a), -36.0 (b), -15.0 (c)	-62.0	270

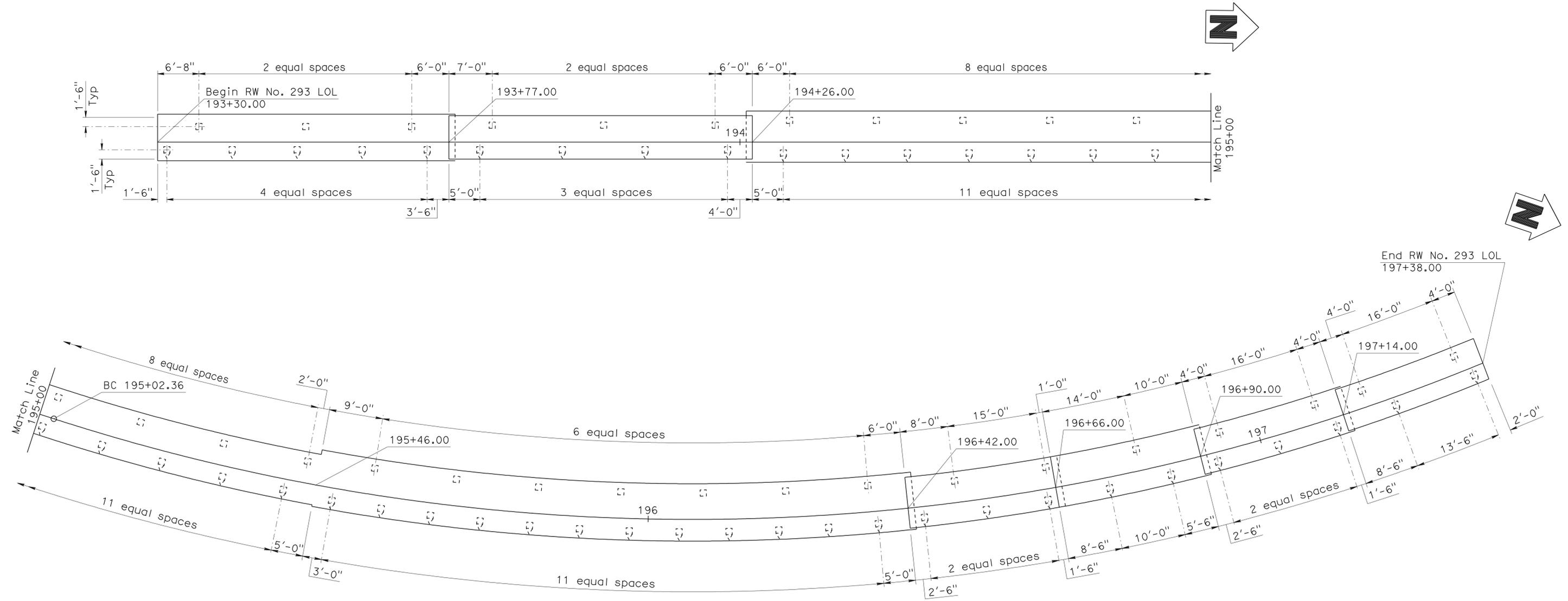
Notes: Design tip elevation are controlled by: (a) Compression, (b) Tension, (c) Lateral.

- LEGEND:**
- Indicates vertical piles
 - ▤ Indicates 3:1 battered piles

NOTE:

- All dimensions are measured along RWLOL.

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



PILE LAYOUT
1/8" = 1'-0"


 DESIGN OVERSIGHT Tracy L. Bertram
 4-17-12
 SIGN OFF DATE

DESIGN	BY D. Harnagel	CHECKED D. Anderson
DETAILS	BY L. Davis	CHECKED D. Anderson
QUANTITIES	BY M. Jackson	CHECKED D. Anderson

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

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20E0060
POST MILE	3.7

**RETAINING WALL No. 293
PILE LAYOUT**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120004061

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
3-21-10 5-28-11 1-13-12 4-4-12	3	10

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 14:29

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	369	375

REGISTERED CIVIL ENGINEER
 David W. Harnogel
 No. C36542
 Exp. 6/30/12
 CIVIL
 STATE OF CALIFORNIA

3/14/12
 DATE

6-11-12
 PLANS APPROVAL DATE

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

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

SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

DESIGN DATA

DESIGN: LOAD FACTOR DESIGN (LFD)
CONCRETE: REINFORCED CONCRETE, $f'_c = 3600$ psi
 $f_y = 60000$ psi

LOADING CASE:
 LEVEL GROUND WITH 240 psf LIVE LOAD SURCHARGE AND 16' SOUNDWALL.
 SEISMIC LOAD = 0.3 DEAD LOAD
 WIND LOAD = 30 psf
 DEAD LOAD OF SOUNDWALL = 1414 lb/lf
 DEAD LOAD OF BARRIER = 372 lb/lf

SEISMIC LOAD: SOIL
 $K_h = 0.3g$
 $K_v = 0.0$
 K_{ae} : MONONOBE-OKABE METHOD

SOIL: $\phi = 34^\circ$ $\gamma = 120$ pcf
 EQUIVALENT FLUID PRESSURE:
 = 36 pcf FOR DETERMINATION OF TOE PRESSURE
 = 27 pcf FOR DETERMINATION OF HEEL PRESSURE

LOAD COMBINATIONS:
 GROUP A : $\beta D + 1.7E + 1.7SC$
 GROUP B : $\beta D + 1.7E + 1.3W$
 GROUP C :
 STEM : $1.0D + 1.0E + 1.0EQD + 1.0EQE$
 FOOTING : $D + PYM$
 WHERE : $\beta = 1.0$ OR 1.3 WHICHEVER CONTROLS DESIGN
 D = DEAD LOAD
 E = LATERAL EARTH PRESSURE
 SC = SURCHARGE
 W = WIND LOAD
 EQD = SEISMIC DEAD LOAD
 EQE = SEISMIC LATERAL EARTH PRESSURE
 PYM = PROBABLE YIELD MOMENT (1.3 * NOMINAL YIELD MOMENT OF STEM)

GENERAL NOTES

- CLASS 90-CONCRETE PILES WERE USED FOR THE DESIGN.
- PILE BATTER SHOWN ARE 1:3.
- MINIMUM DISTANCE BETWEEN CENTER PILE AND EDGE OF FOOTING IS 1'-6".
- REDUCTION FACTORS:
 GROUPS A & B : $\phi = 0.75$
 GROUP C : $\phi = 1.0$
- LATERAL RESISTANCE OF EACH PILE:
 GROUPS A & B : = 30 kip
 GROUP C : = 40 kip
- MAXIMUM SPACING BETWEEN PILES IS SHOWN IN THE TABLE. REDUCE TO SUIT THE LENGTH OF FOOTING.
- MINIMUM DISTANCE BETWEEN ANY TWO PILES IS 3'-0".
- LIMIT OF NO SPLICING FOR REBARS = 3 TIMES THE BOTTOM THICKNESS OF STEM.

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

TABLE OF PILE SPACING: CLASS 90 - CONCRETE PILES

DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
W	6'-9"	7'-0"	7'-6"	8'-3"	9'-3"	10'-3"	11'-0"	12'-0"	13'-0"	14'-3"	16'-3"	16'-9"	18'-0"	20'-6"
C	2'-9"	2'-9"	3'-0"	3'-3"	3'-6"	4'-0"	4'-3"	4'-9"	5'-0"	5'-6"	6'-3"	6'-9"	7'-3"	7'-9"
B	4'-0"	4'-3"	4'-6"	5'-0"	5'-9"	6'-3"	6'-9"	7'-3"	8'-0"	8'-9"	10'-0"	10'-0"	10'-9"	12'-9"
F	1'-6"	1'-6"	1'-6"	1'-9"	1'-9"	2'-0"	2'-6"	2'-9"	3'-0"	3'-0"	3'-3"	3'-6"	3'-9"	4'-0"
M	1'-3"	1'-3"	1'-6"	1'-9"	2'-0"	2'-6"	2'-9"	3'-3"	3'-6"	4'-0"	4'-9"	5'-3"	5'-9"	6'-3"
N	2'-6"	2'-9"	3'-0"	3'-6"	4'-3"	4'-9"	5'-3"	5'-9"	6'-6"	7'-3"	8'-6"	8'-6"	9'-3"	11'-3"
ROW 1	16'-0"	14'-0"	12'-0"	10'-0"	8'-0"	6'-6"	5'-6"	4'-6"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
ROW 2	24'-0"	21'-0"	18'-0"	15'-0"	14'-0"	13'-0"	11'-0"	9'-0"	8'-0"	12'-0"	10'-0"	6'-0"	4'-0"	4'-0"
ROW 3										8'-0"	5'-0"	4'-0"	4'-0"	6'-0"
ROW 4														6'-0"
CONFIGURATION	I	I	I	I	I	I	I	I	I	II	II	II	II	III

TABLE 1: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	STEM WITH HAUNCH													
	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
STEM BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	3/4:12	7/8:12	1:12	1:12
STEM THICKNESS @ TOP	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
STEM THICKNESS @ HAUNCH	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
(a) BARS				#6@18**	#7@18**	#8@18**	#9@18**	#10@18**	#8 @ 9*	#8 @ 9*	#7 @ 6*	#10@12**	#9 @ 9*	#11@12**
X				CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT
Y				8'-0"	6'-6"	7'-6"	8'-6"	9'-6"	9'-6"	11'-0"	11'-6"	13'-0"	14'-0"	15'-6"
(b) BARS	#5 @ 12	#5 @ 12	#5 @ 9	#6@18**	#7@18**	#8@18**	#9@18**	#10@18**	#8 @ 9*	#8 @ 9*	#7 @ 6*	#10@12**	#9 @ 9*	#11@12**
X	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT
Y	CONT	CONT	CONT	CONT	10'-6"	13'-0"	15'-0"	17'-6"	19'-6"	21'-0"	18'-6"	19'-0"	25'-6"	23'-6"
(c) BARS				#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 12	#7 @ 12	#7 @ 18	#7 @ 12
(d) BARS	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 9	#5 @ 9	#6 @ 9	#5 @ 6	#7 @ 9	#7 @ 9	#6 @ 6	#7 @ 6
TOTAL (e) BARS	6 #5	6 #5	6 #5	6 #5	8 #5	8 #5	10 #5	10 #5	10 #5	10 #5	12 #5	12 #5	12 #5	14 #5
TOTAL (f) BARS	6 #5	6 #5	6 #5	6 #5	6 #5	8 #5	8 #5	8 #5	8 #5	10 #5	10 #5	10 #5	12 #5	12 #5

TABLE 2: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	STEM WITH HAUNCH							STEM WITHOUT HAUNCH						
	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
BATTER	0	0	0	0	0	0	0	0	0	0	1/4:12	1/2:12	1/2:12	1/2:12
STEM THICKNESS @ TOP	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
STEM THICKNESS @ HAUNCH	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-3"	1'-3"							
(a) BARS				#6@12**	#5 @ 6*	#9@18**	#9@12**	#9@12**	#9@12**	#7 @ 6*	#7 @ 6*	#7 @ 6*	#9 @ 9*	#11@12**
X				CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT
Y				5'-6"	5'-6"	8'-6"	8'-6"	8'-6"	8'-6"	9'-6"	11'-0"	12'-6"	13'-6"	14'-6"
(b) BARS	#5 @ 12	#5 @ 9	#6 @ 9	#6@12**	#5 @ 6*	#9@18**	#9@12**	#9@12**	#9@12**	#7 @ 6*	#7 @ 6*	#7 @ 6*	#9 @ 9*	#11@12**
X	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT
Y	CONT	CONT	CONT	CONT	CONT	11'-6"	11'-6"	12'-0"	12'-0"	17'-6"	20'-0"	21'-6"	24'-0"	24'-0"
(c) BARS						#7 @ 18	#7 @ 12	#7 @ 12	#7 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 18	#7 @ 12
(d) BARS	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 9	#5 @ 9	#6 @ 9	#5 @ 6	#7 @ 9	#7 @ 9	#6 @ 6	#7 @ 6
TOTAL (e) BARS	6 #5	6 #5	6 #5	6 #5	8 #5	8 #5	10 #5	10 #5	10 #5	10 #5	12 #5	12 #5	12 #5	14 #5
TOTAL (f) BARS	6 #5	6 #5	6 #5	6 #5	6 #5	8 #5	8 #5	8 #5	8 #5	10 #5	10 #5	10 #5	12 #5	12 #5

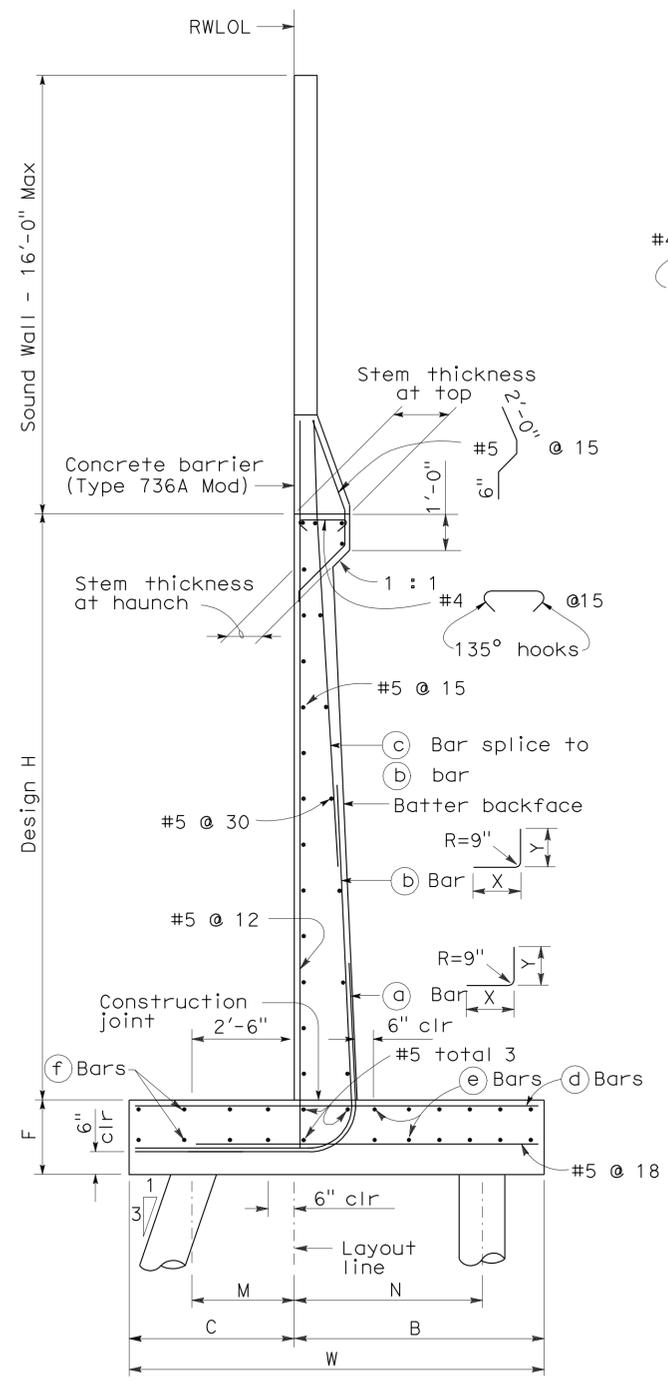
SPECIAL DETAILS

STANDARD DRAWING FILE NO. xs14-320-1e APPROVED BY: <u>G. WANG</u> RESPONSIBLE TECHNICAL SPECIALIST APPROVAL DATE: <u>5-29-09</u> RELEASED BY: <u>ROBERTO LACALLE</u> RESPONSIBLE OFFICE CHIEF RELEASE DATE: <u>5-29-09</u>			STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION			DIVISION OF ENGINEERING SERVICES			BRIDGE NO. 20E0060 POST MILE 3.7			RETAINING WALL No. 293 RETAINING WALL TYPE 1SWBP - DETAIL No. 1								
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3												UNIT: 0714 PROJECT NUMBER & PHASE: 04120004061 CONTRACT NO.: 04-2640K4			DISREGARD PRINTS BEARING EARLIER REVISION DATES			REVISION DATES: 3-24-10, 5-20-11, 1-13-12, 3-14-12 SHEET 4 OF 10		

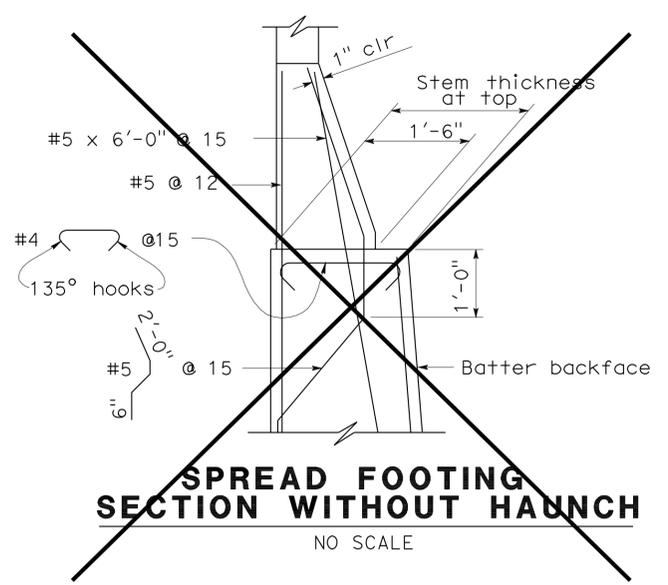
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	370	375

David W. Harnagel
 REGISTERED CIVIL ENGINEER
 DATE 6/12/12
 PLANS APPROVAL DATE 6-11-12
 No. C36542
 Exp. 6/30/12
 CIVIL
 STATE OF CALIFORNIA

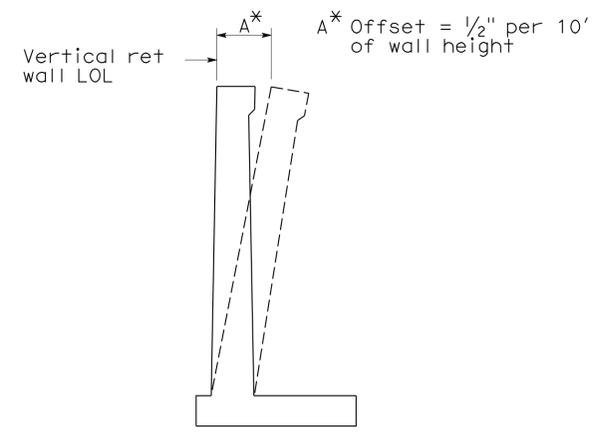
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



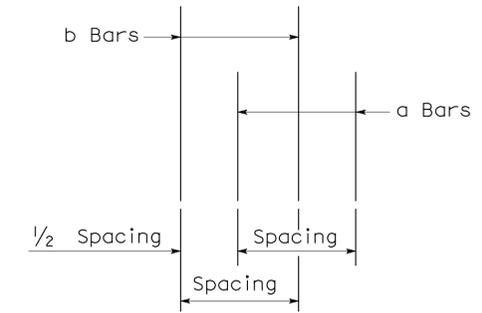
PILE FOOTING SECTION
NO SCALE



SPREAD FOOTING SECTION WITHOUT HAUNCH
NO SCALE



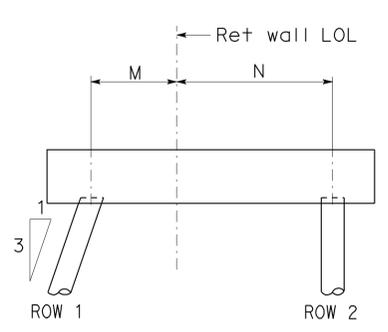
WALL OFFSET
NO SCALE
Values for offsetting forms to be determined by the engineer



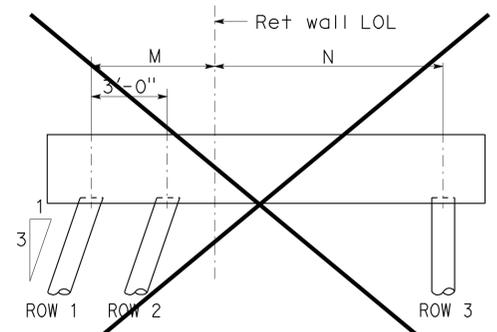
DETAIL A
NO SCALE

NOTES

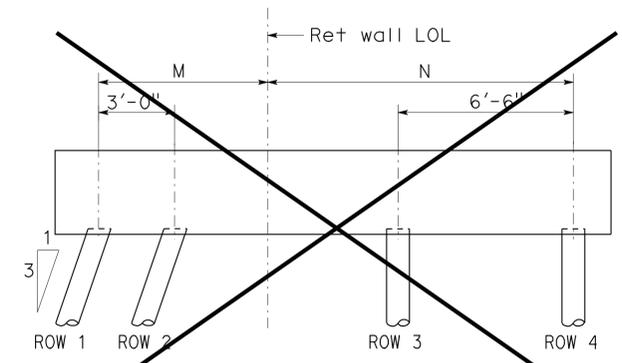
- For soundwall and retaining wall architectural finish or texture, see details elsewhere in project plans.
- For details not shown and drainage notes, see B3-8
- Footing cover, 1'-6" minimum.
- For soundwall and barrier reinforcements, see "Soundwall Masonry Block on Barriers" Sheets in Standard Plans.



CONFIGURATION I



CONFIGURATION II



CONFIGURATION III

SPECIAL DETAILS

STANDARD DRAWING		
FILE NO. xs14-320-2e	APPROVED BY <u>G. WANG</u> RESPONSIBLE TECHNICAL SPECIALIST	RELEASED BY <u>ROBERTO LACALLE</u> RESPONSIBLE OFFICE CHIEF
	APPROVAL DATE <u>5-13-08</u>	RELEASE DATE <u>5-13-08</u>

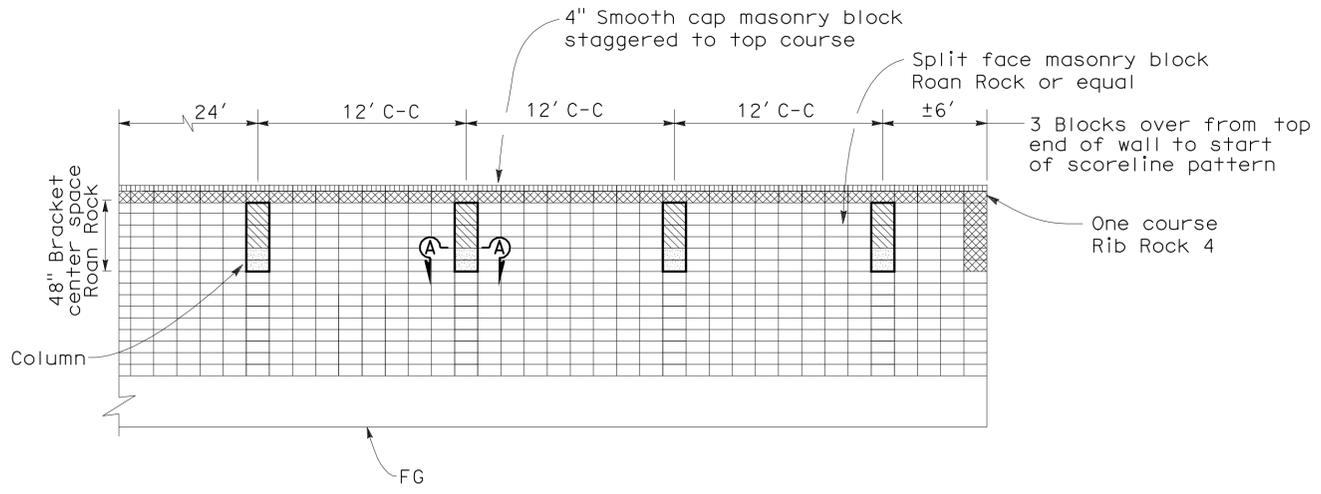
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 20E0060	RETAINING WALL No. 293
POST MILE 3.7	
RETAINING WALL TYPE 1SWBP - DETAIL No. 2	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	371	375

David W. Harnagel
 REGISTERED CIVIL ENGINEER
 DATE: 6/12/12
 PLANS APPROVAL DATE: 6-11-12
 No. C36542
 Exp. 6/30/12
 CIVIL
 STATE OF CALIFORNIA

URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



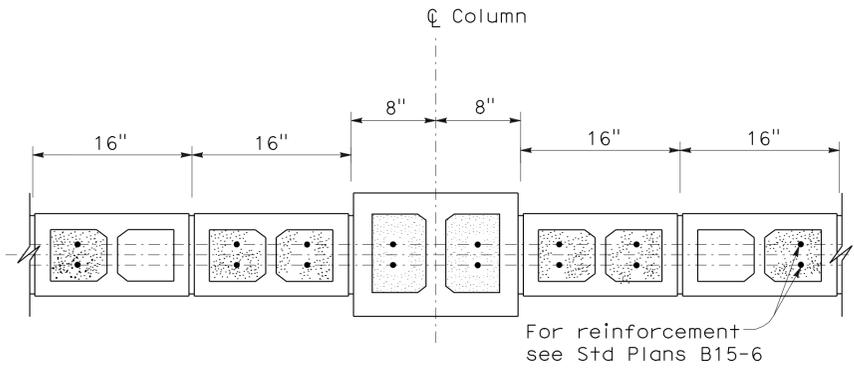
NOTES:

- Columns are 24' on center except at end of wall where they shall be 12' on center as shown on "Sound Wall Pattern" details on this sheet.
- Additional bond beam #5 in 4" X 2" deep opening. Length = 7'-6" centered about C of column.
- Internal cells of the masonry blocks shall be on the center line of the wall, not the center of the blocks if possible.
- For details not shown on "Section A-A", see Standard Plans B15-6 and B15-7.
- Proprietary masonry blocks shown below are listed only to provide color and basic features. Masonry block from other manufacturers may be used provided these requirements are met.

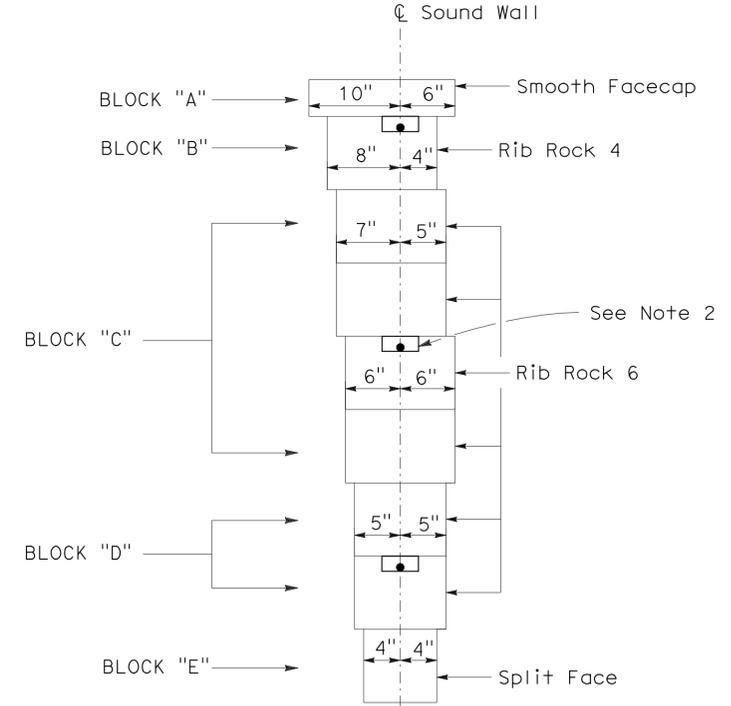
SOUND WALL PATTERN
No Scale

LEGEND:

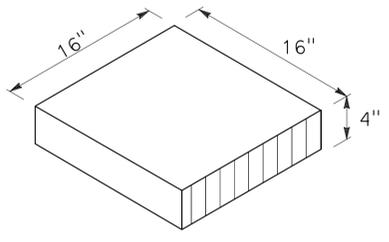
- BLOCK "A"
- BLOCK "B"
- BLOCK "C"
- BLOCK "D"
- BLOCK "E"



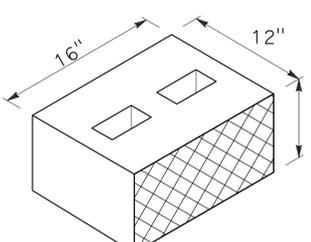
SECTION A-A
No Scale



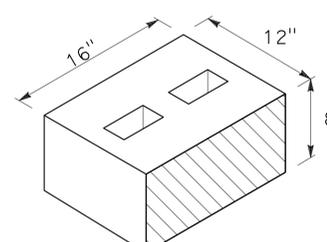
PARTIAL TYPICAL SOUND WALL SECTION AT COLUMNS
No Scale



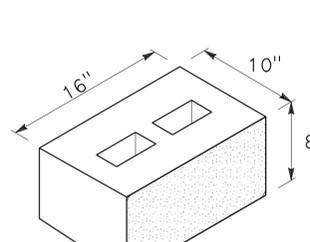
COLOR: GRAY PRECISION CALSTONE 100 (SMOOTH FACECAP) ON BOTH SIDES
BLOCK "A"



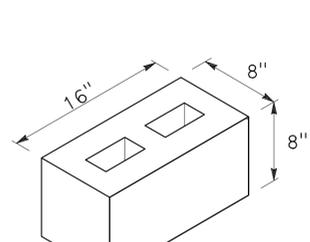
COLOR: SLATE CALSTONE 142 (RIB ROCK 4) ON BOTH SIDES
BLOCK "B"
 * Cells width to match 8" block



COLOR: SLATE CALSTONE 142 (RIB ROCK 6) ON BOTH SIDES
BLOCK "C"
 * Cells width to match 8" block



COLOR: SLATE CALSTONE 142 (RIB ROCK 6) ON BOTH SIDES
BLOCK "D"
 * Cells width to match 8" block



COLOR: GOLD CALSTONE 149 (SPLIT FACE) ON BOTH SIDES
BLOCK "E"

Tracy L. Bertram
 DESIGN OVERSIGHT
 6-18-12
 SIGN OFF DATE

DESIGN	BY D. Harnagel	CHECKED D. Anderson
DETAILS	BY L. Davis	CHECKED D. Anderson
QUANTITIES	BY M. Jackson	CHECKED D. Anderson

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20E0060
POST MILE	3.7

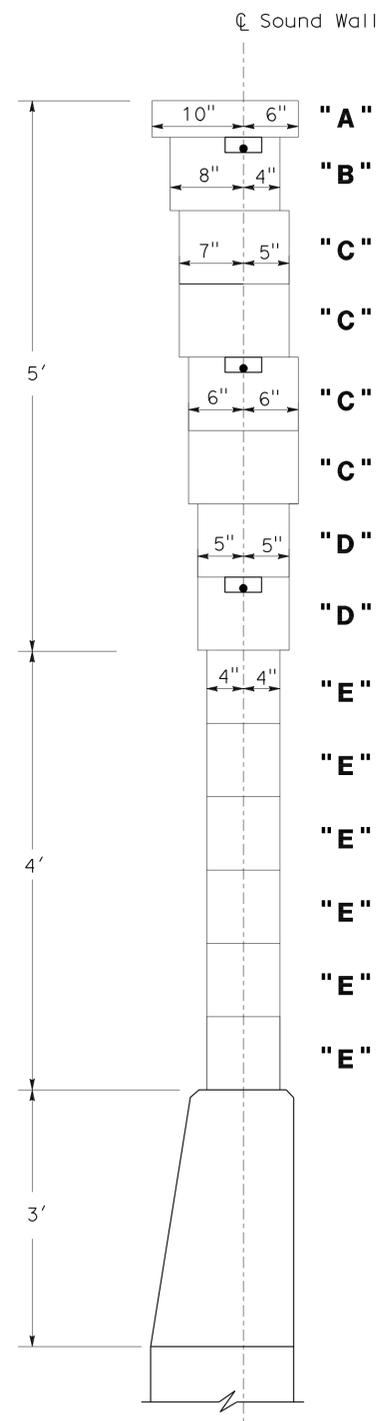
RETAINING WALL No. 293
SOUND WALL AESTHETICS No. 1

REVISION DATES	SHEET	OF
3-24-10 5-20-11 1-13-12 6-12-12	6	10

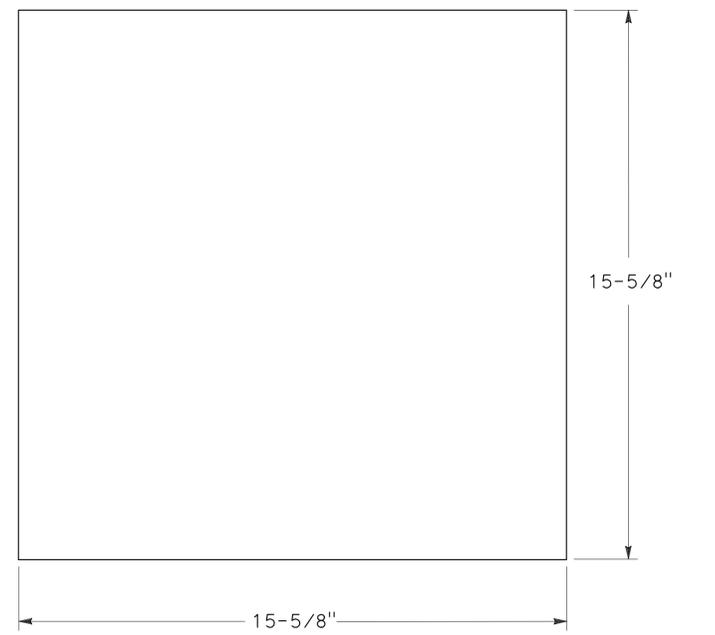
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	372	375

David W. Harnagel
 REGISTERED CIVIL ENGINEER
 DATE 6/12/12
 PLANS APPROVAL DATE 6-11-12
 No. C36542
 Exp. 6/30/12
 CIVIL
 STATE OF CALIFORNIA

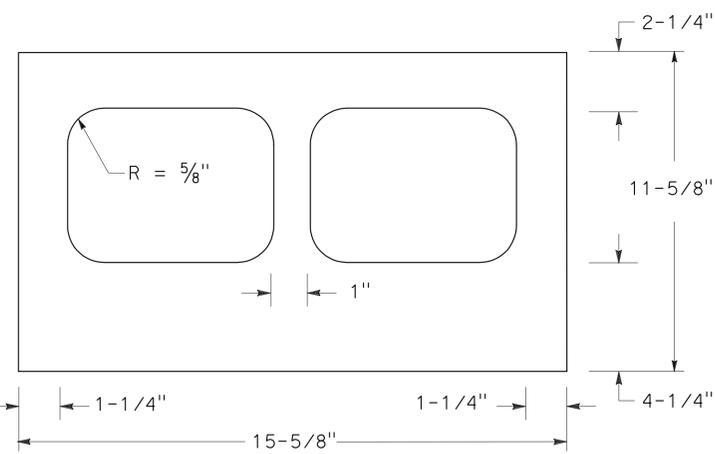
URS CORPORATION
 1380 LEAD HILL BLVD, SUITE 100
 ROSEVILLE, CA 95661-2997
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



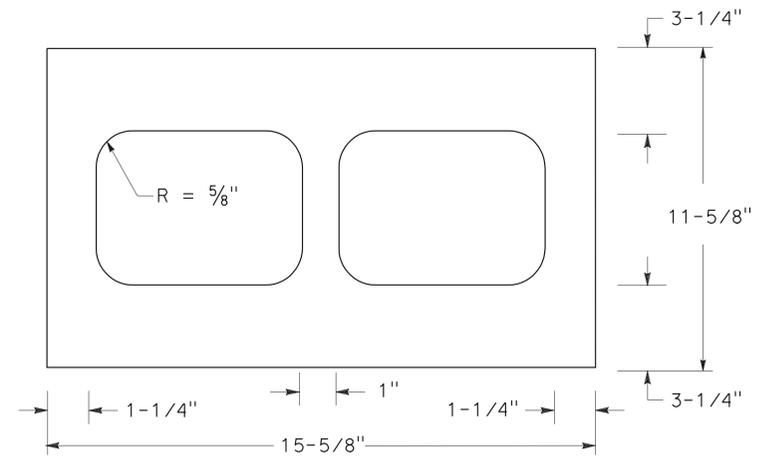
TYPICAL SOUND WALL SECTION AT COLUMNS
No Scale



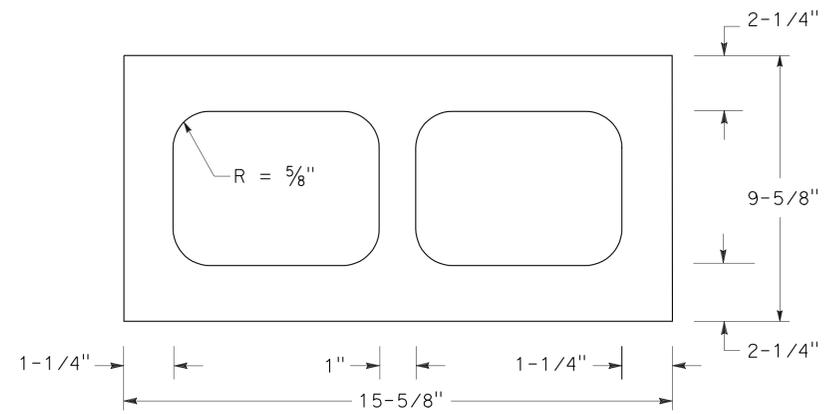
**BLOCK "A"
(2" OFFSET)
16-INCH BLOCK**
No Scale



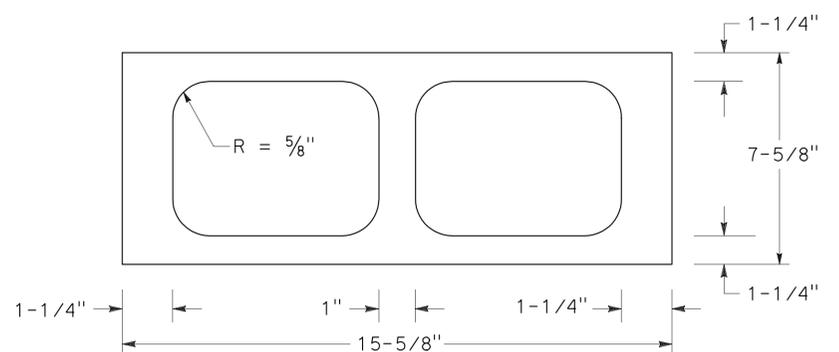
**BLOCK "B"
(2" OFFSET)
12-INCH BLOCK**
No Scale



**BLOCK "C"
(0" AND 1" OFFSET)
12-INCH BLOCK**
No Scale



**BLOCK "D"
(0" OFFSET)
10-INCH BLOCK**
No Scale



**BLOCK "E"
(0" OFFSET)
8-INCH BLOCK**
No Scale

Tracy L. Bertram
 DESIGN OVERSIGHT
 6-18-12
 SIGN OFF DATE

DESIGN	BY D. Harnagel	CHECKED D. Anderson
DETAILS	BY L. Davis	CHECKED D. Anderson
QUANTITIES	BY M. Jackson	CHECKED D. Anderson

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

Walt LaFranchi
 PROJECT ENGINEER

BRIDGE NO.	20E0060
POST MILE	3.7

**RETAINING WALL No. 293
SOUND WALL AESTHETICS No. 2**

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 0714
 PROJECT NUMBER & PHASE: 04120003311

CONTRACT NO.: 04-2640K4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
3-21-10	7	10
5-20-11		
1-13-12		
6-12-12		

USERNAME => s121614 DATE PLOTTED => 19-JUN-2012 TIME PLOTTED => 14:41

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	373	375


 GEOTECHNICAL PROFESSIONAL DATE 3/14/12
 6-11-12
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401

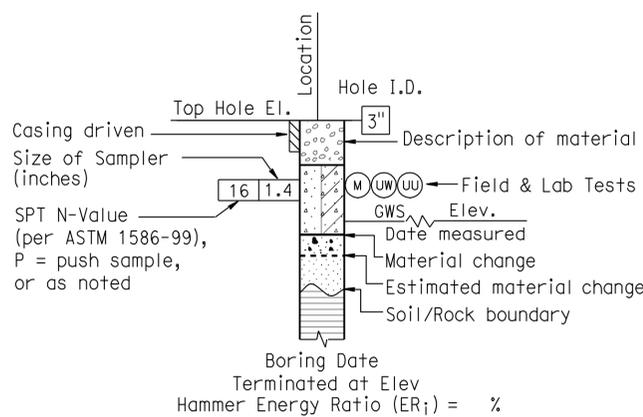
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

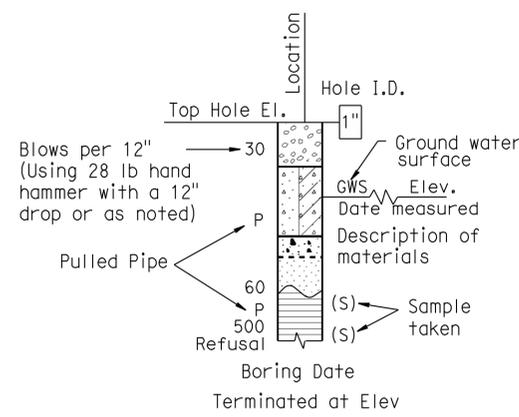
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

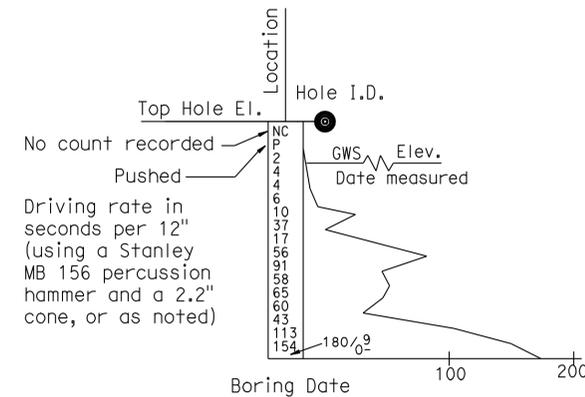
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the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



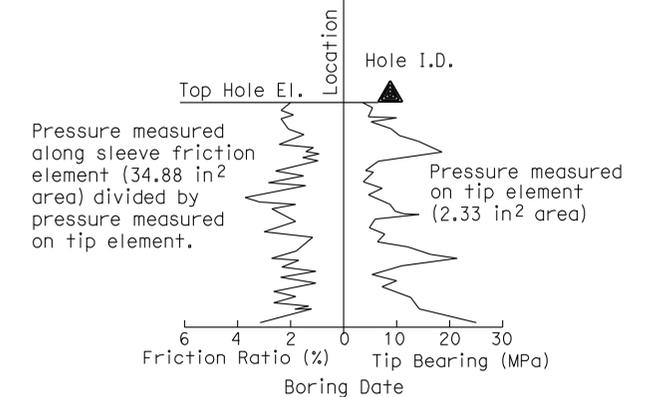
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

SOIL LEGEND

DESIGN OVERSIGHT
 Tracy L Bertram
 4-17-12
 SIGN OFF DATE

DRAWN BY
 A. CHEUNG
 CHECKED BY
 MANOHARAN

C. RAMBO
 FIELD INVESTIGATION BY:
 DATE:

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

S. HUANG
 PROJECT ENGINEER

BRIDGE NO.
 20E0060
 POST MILES
 3.7

RETAINING WALL No. 293
LOG OF TEST BORINGS 1 OF 3

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

FIELD AND LABORATORY TESTING

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

3/14/12
DATE

6-11-12
PLANS APPROVAL DATE

Stephen Huang
No. C 42289
Exp. 03/31/12
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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

URS CORPORATION
100 WEST SAN FERNANDO STREET, SUITE 200
SAN JOSE, CA 95113

SONOMA COUNTY TRANSPORTATION AUTHORITY
490 MENDOCINO AVENUE, SUITE 206
SANTA ROSA, CA 95401

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

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

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

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

SOIL LEGEND

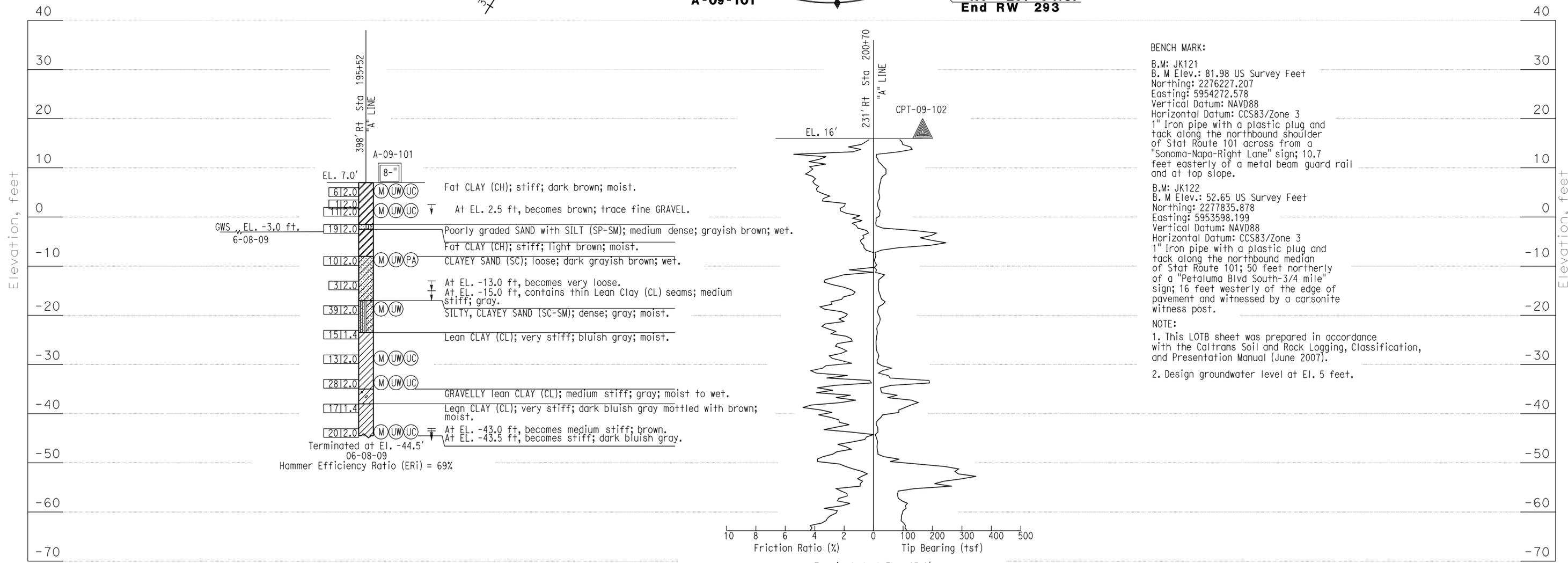
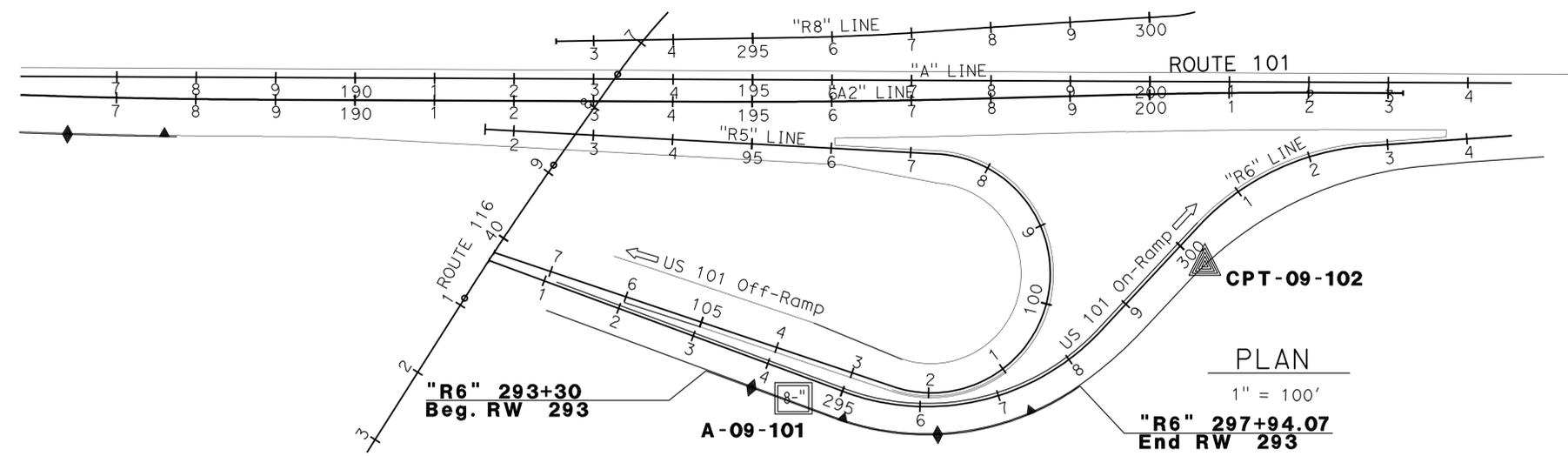
 DESIGN OVERSIGHT Tracy L Bertram 4-17-12 SIGN OFF DATE	DRAWN BY A. CHEUNG	C. RAMBO FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 20E0060	RETAINING WALL No. 293 LOG OF TEST BORINGS 2 OF 3			
	CHECKED BY MANOHARAN	DATE:	S. HUANG PROJECT ENGINEER	POST MILES 3.7				
GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 0714 PROJECT NUMBER & PHASE: 04120003311	CONTRACT NO.: 04-2640K4	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 3-28-10 5-20-11 1-13-12 3-14-12	SHEET OF 9 10

USERNAME => s124496 DATE PLOTTED => 15-JUN-2012 TIME PLOTTED => 14:30

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	3.4/4.1	375	375

3/14/12 DATE
 GEOTECHNICAL PROFESSIONAL
 6-11-12 PLANS APPROVAL DATE
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URS CORPORATION
 100 WEST SAN FERNANDO STREET, SUITE 200
 SAN JOSE, CA 95113
 SONOMA COUNTY TRANSPORTATION AUTHORITY
 490 MENDOCINO AVENUE, SUITE 206
 SANTA ROSA, CA 95401



BENCH MARK:
 B.M: JK121
 B. M Elev.: 81.98 US Survey Feet
 Northing: 2276227.207
 Easting: 5954272.578
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and tack along the northbound shoulder of Stat Route 101 across from a "Sonoma-Napa-Right Lane" sign; 10.7 feet easterly of a metal beam guard rail and at top slope.
 B.M: JK122
 B. M Elev.: 52.65 US Survey Feet
 Northing: 2277835.878
 Easting: 5953598.199
 Vertical Datum: NAVD88
 Horizontal Datum: CCS83/Zone 3
 1" Iron pipe with a plastic plug and tack along the northbound median of Stat Route 101; 50 feet northerly of a "Petaluma Blvd South-3/4 mile" sign; 16 feet westerly of the edge of pavement and witnessed by a carsonite witness post.
NOTE:
 1. This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification, and Presentation Manual (June 2007).
 2. Design groundwater level at El. 5 feet.

PROFILE
 Ver. 1" = 10'
 Hor. 1" = 50'

 DESIGN OVERSIGHT Tracy L. Bertram 4-17-12 SIGN OFF DATE	DRAWN BY A. CHEUNG	C. RAMBO FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 20E0060	RETAINING WALL No. 293 LOG OF TEST BORINGS 3 OF 3
	CHECKED BY S. MANOHARAN	DATE:		PROJECT ENGINEER S. HUANG	
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