

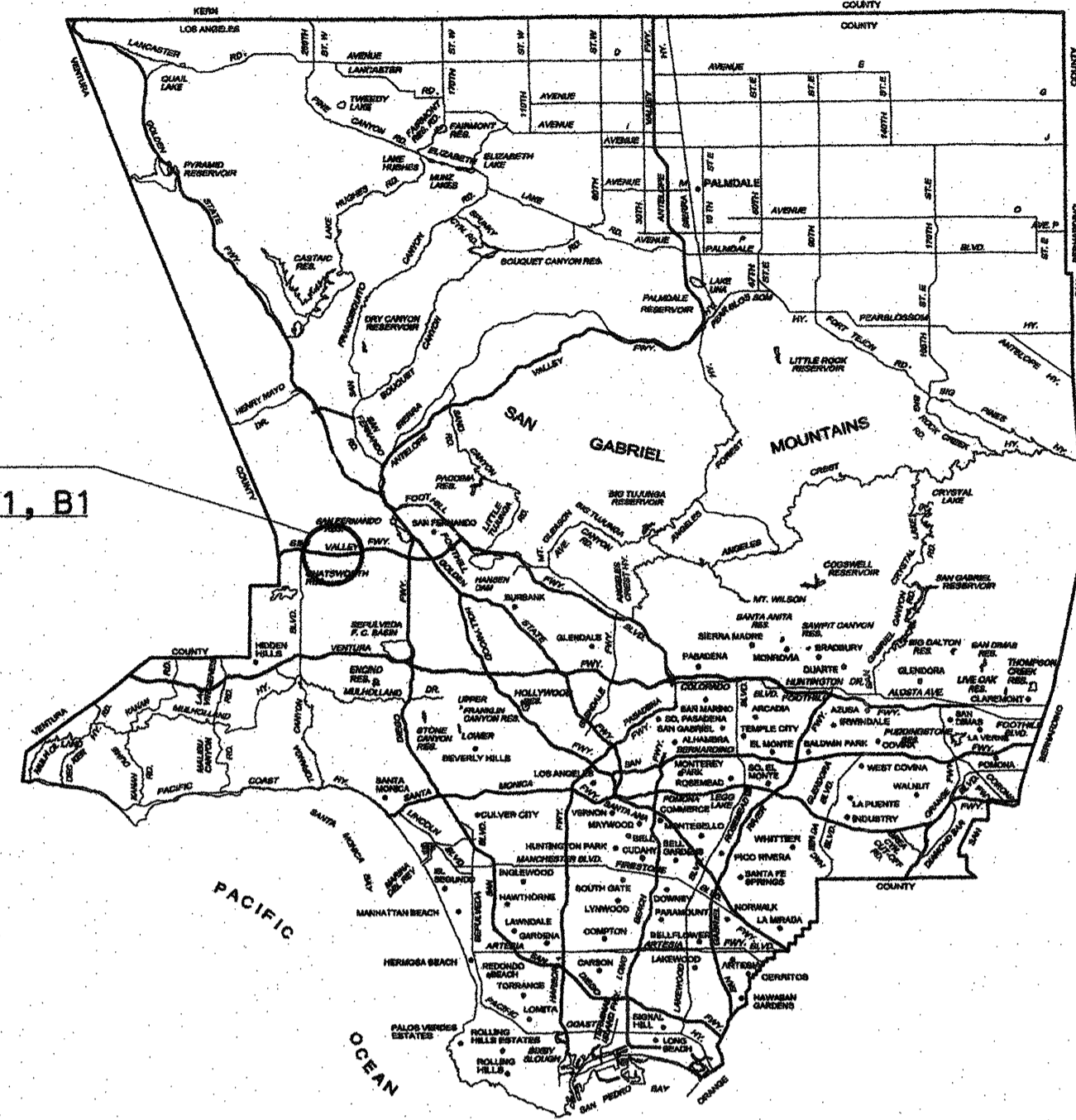
# COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

TRACT NO. 53138  
PLANS FOR BRIDGE  
ON  
POEMA AVENUE  
OVER  
DEVILS CANYON CREEK

## INDEX TO PROJECT DRAWINGS

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PROJECT SITE  
T.G. NO. 500-A1, B1  
RMD 539



LOCATION MAP

NOTE:  
Uncertified fill will be removed and recompacted for proper support of pavement.

### ENGINEER'S/SURVEYOR'S STATEMENT REGARDING THE PRESENCE OF MONUMENTS WITHIN PROJECT LIMITS

I HEREBY ATTEST THAT I HAVE LOCATED AND REFERENCED ON THESE PLANS THE MONUMENTS EXISTING PRIOR TO CONSTRUCTION TO ENSURE PERPETUATION OF THEIR LOCATION IN ACCORDANCE WITH SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE. I FURTHER ATTEST THAT I HAVE PERFORMED A RECORD SEARCH AND FIELD INSPECTION TO IDENTIFY EXISTING MONUMENTS; SHALL SET SUFFICIENT CONTROLLING, WITNESS, AND PERMANENT MONUMENTS; AND SHALL FILE THE REQUISITE CORNER RECORD OR RECORD OF SURVEY WITH THE REFERENCES WITH THE COUNTY SURVEYOR.

*Neil C. Hansen*  
ENGINEER/SURVEYOR  
SEAL AND SIGNATURE

NEIL C. HANSEN  
No. 9027  
DATE 8/5/16  
STATE OF CALIFORNIA

### CONSTRUCTION BENCH MARKS

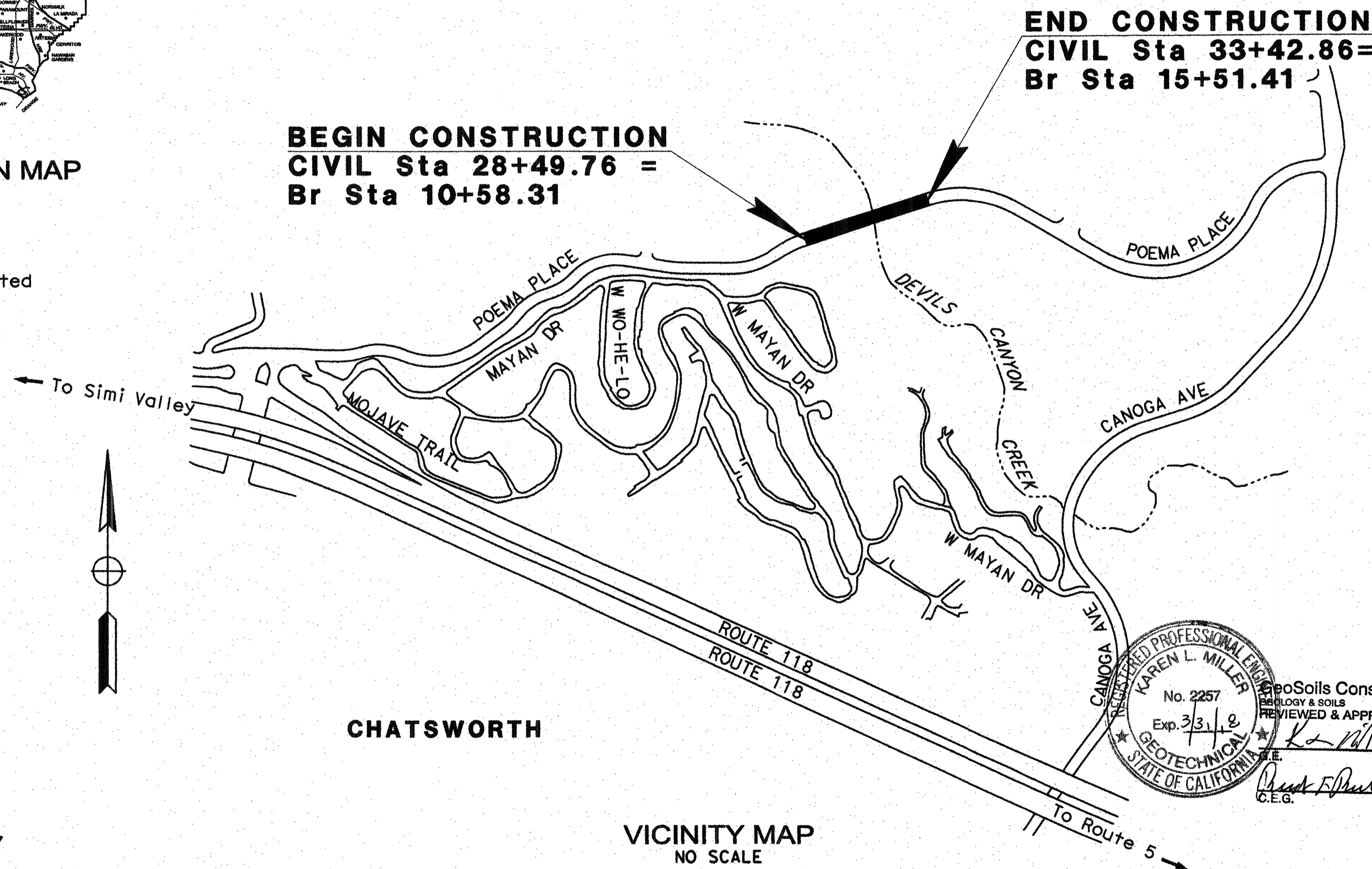
BM 2: N1924588.029 E6380731.075 Elev. 1276.137  
Scribed X on rock

BM 10194: N1924646.761 E6380528.133 Elev. 1334.092  
1.5" IP W/Plug up 0.2 unreadable

Survey Control:  
The horizontal coordinates are based upon the California Coordinate System (CCS 83) Zone 5 based on North American Datum 1983.

Vertical Control - The Vertical Control values are based on North American Vertical Datum of 1988 (NAVD 88)

QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670



CHATSWORTH

VICINITY MAP  
NO SCALE

END CONSTRUCTION  
CIVIL Sta 33+42.86 =  
Br Sta 15+51.41

BEGIN CONSTRUCTION  
CIVIL Sta 28+49.76 =  
Br Sta 10+58.31

PROFESSIONAL ENGINEER  
KAREN L. MILLER  
No. 2257  
Exp. 3/31/18  
GEOLOGICAL & SOILS  
REVIEWED & APPROVED BY:  
*Frank F. Roberts* 8/5/16  
C.E.G.

CERTIFIED ENGINEERING GEOLOGIST  
FRANK F. ROBERTS  
No. 1708  
STATE OF CALIFORNIA

APPROVED GAIL FARMER, DIRECTOR OF PUBLIC WORKS	NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
BY <i>Gail Farmer</i> 8/25/16 ASSISTANT DIVISION ENGINEER DATE					
RECOMMENDED LAND DEVELOPMENT DIVISION BY <i>Joseph Nguyen</i> 8/24/2016 ROAD AND GRADING SECTION DATE					
REVIEWED LAND DEVELOPMENT DIVISION BY <i>Joseph Nguyen</i> 8/15/2016 ROAD AND GRADING SECTION DATE					

PROFESSIONAL ENGINEER  
BRETT V. KORMER  
No. 678417  
Exp. 12/31/15  
CIVIL  
STATE OF CALIFORNIA

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

TITLE SHEET  
POEMA PLACE BRIDGE  
OVER DEVILS CANYON CREEK

PROJECT ENGINEER DATE 7-29-16  
RD 53138 BR. 4200 PB642453 SHEET 1 OF 66

12+32.04 BVC  
Elev 1267.18

18+32.04 EVC  
Elev 1279.18

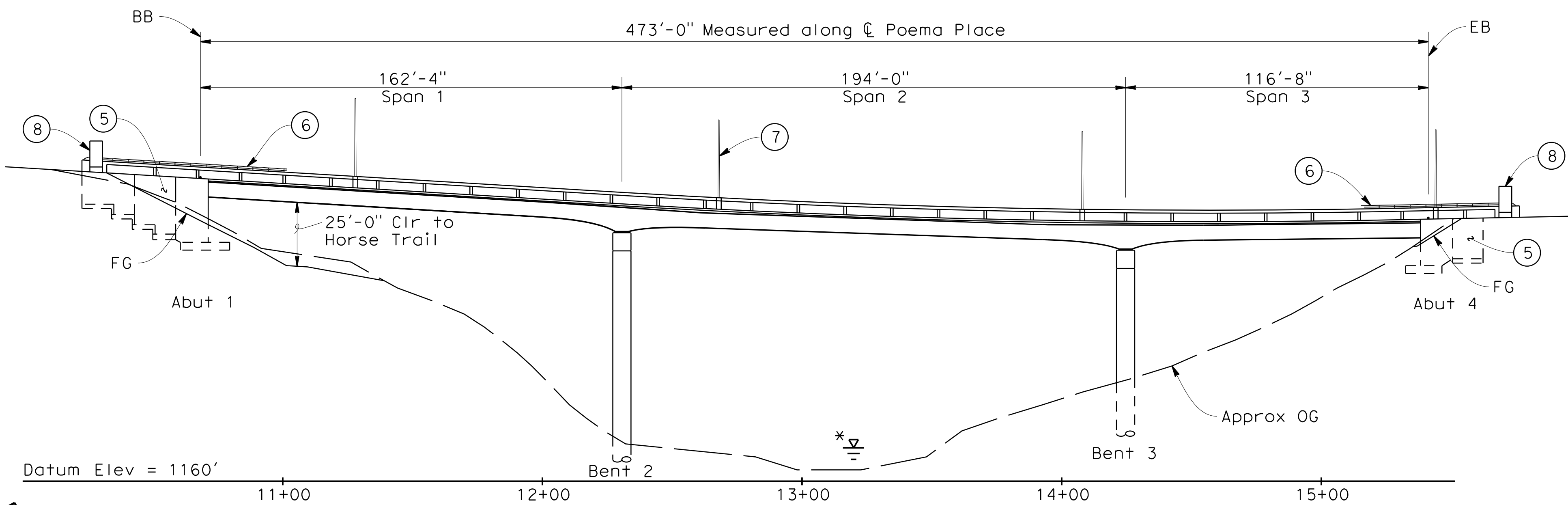
-6.00%

+10.00%

600' VC  
R/C=2.60% per station

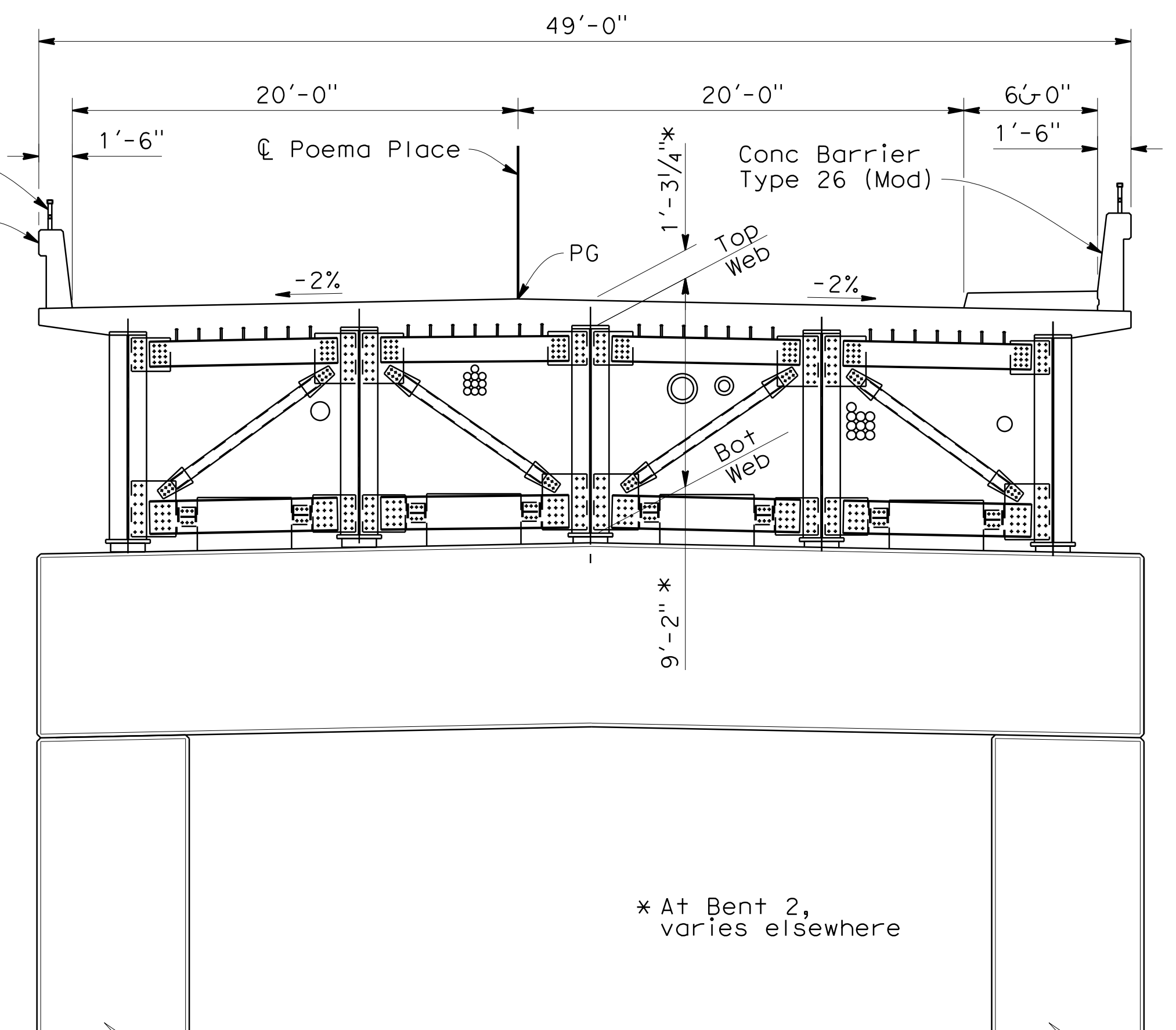
**PROFILE GRADE**

No Scale



**ELEVATION**

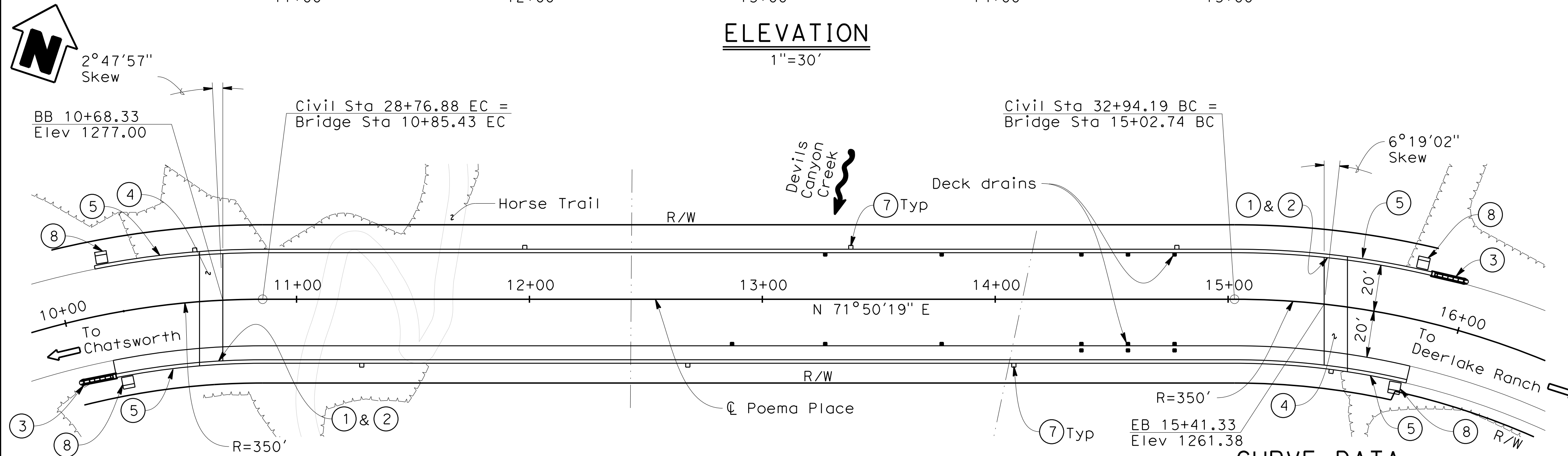
1"=30'



**TYPICAL SECTION**

1"=5'

\* At Bent 2, varies elsewhere



**CURVE DATA**

R = 350.00'  
Δ = 17°26'02"  
T = 53.66'  
L = 106.50'

**PLAN**

1"=30'

**CURVE DATA**

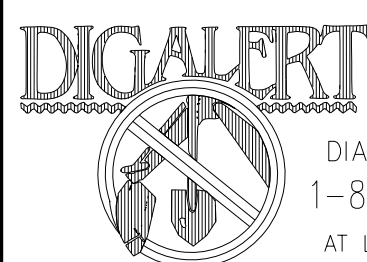
R = 350.00'  
Δ = 48°23'06"  
T = 157.24'  
L = 295.57'

**Legend:**

- ① Paint Bridge "Br No. 4200"
- ② Paint "Poema Place Bridge"
- ③ SHORTTRACC Barrier, see United Civil, Inc "Street Improvements Plan" drawings
- ④ Structure Approach Type EQ (10)
- ⑤ Retaining Walls
- ⑥ Tubular Hand Railing
- ⑦ Electrolier, see "Lighting Plan"
- ⑧ Monument, see "Architectural Details No. 3" sheet
- \* Highwater elevation
- Conservancy Property Line

**Notes:**

1. For General Notes, see "Deck Contours" sheet
2. For Hydrologic Summary, see "Foundation Plan" sheet
3. For Utilities, see "Typical Section" sheet



DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
REVISIONS NOTED  
REVISION CALCULATIONS  
CHECKED  
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE  
THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE  
DESIGN CONCEPT OF THE PROJECT AND GENERAL COM-  
PLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR  
IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF  
DIMENSIONS, WORKER CONSTRUCTION AND INSTALLA-  
TION METHODS, AND FOR FULFILLING ALL CONTRACTUAL  
REQUIREMENTS. ACCEPTANCE INDICATED HEREON  
DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLI-  
GATIONS. 8/8/16

QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



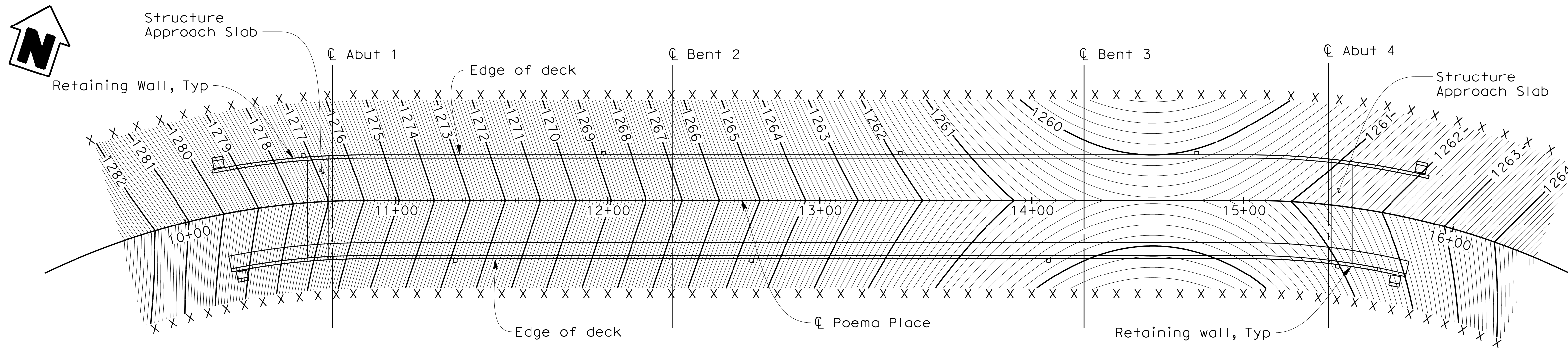
Brett W. Kornek  
6-22-16  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**GENERAL PLAN**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 2 OF 56

A10A	Abbreviations (Sheet 1 of 2)
RSP A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheets 1 of 3)
A10D	Lines and Symbols (Sheets 2 of 3)
A10E	Lines and Symbols (Sheets 3 of 3)
A62B	Limits of Payment for Excavation and Backfill-Bridge Surcharge and Wall
A62C	Limits of Payment for Excavation and Backfill-Bridge
BO-1	Bridge Details
BO-3	Bridge Details
BO-5	Bridge Details
RSP B3-1A	Retaining Wall Type 1 (Case 1)
RSP B3-5	Retaining Wall Details No. 1
B6-10	Utility Openings, T-Beam
B7-6	Deck Drains Types D-1 and D-2
B7-8	Deck Drainage Details
B11-51	Tubular Hand Railing
RSP B11-54	Concrete Barrier Type 26
RSP B11-57	Concrete Barrier Type 742
ES-6A	Electrical Systems (Lighting Standard, Types 15 and 21)
ES-6B	Electrical Systems (Electrical Anchorage and Grouting for Type 15 and 21 Barrier Rail Mounted)

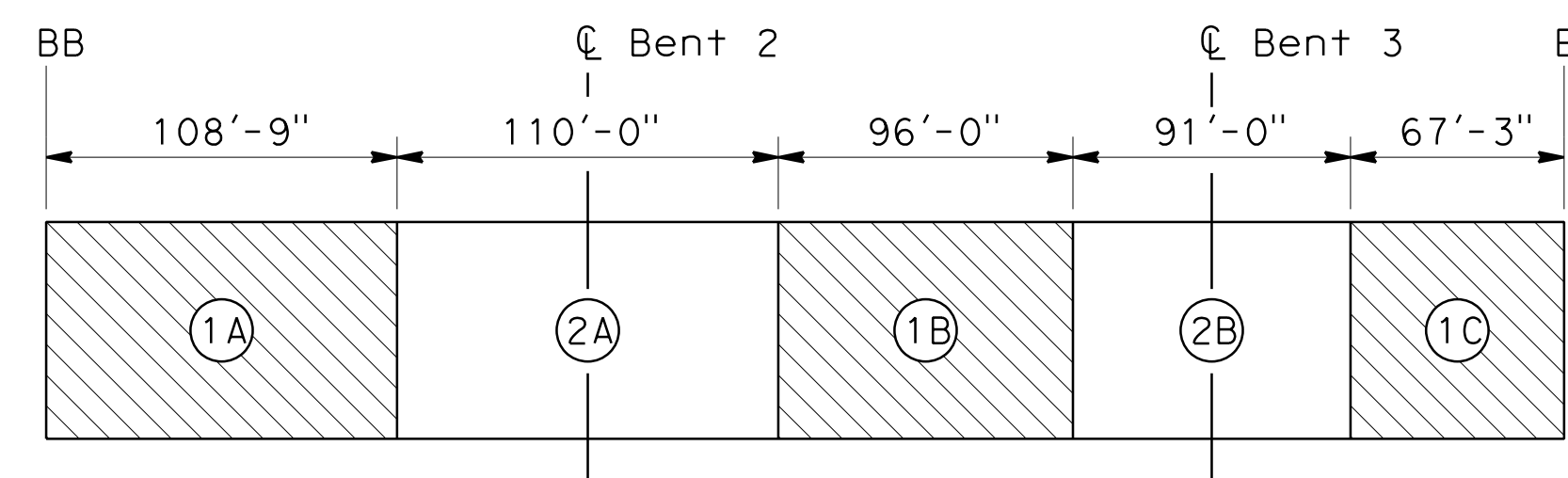


**QUANTITIES**

Structure Excavation (Bridge)	848	CY
Structure Excavation (Retaining Wall)	914	CY
Structure Backfill (Bridge)	870	CY
Structure Backfill (Retaining wall)	903	CY
84" Cast-In-Drilled-Hole Concrete Piling	116	LF
Structure Concrete, Bridge Footing	202	CY
Structural Concrete, Bridge	1560	CY
Structural Concrete, Retaining Wall	237	CY
Structural Concrete, Approach Slab Type E0 (10)	40	CY
Architectural Treatment	1664	SQFT
PTFE Spherical Bearing	20	EA
Joint Seal Assembly (MR = 3.5")	98	LF
Bar Reinforcing Steel (Bridge)	563,522	LB
Bar Reinforcing Steel (Retaining Wall)	32,257	LB
Furnish Structural Steel (Bridge)	992,900	LB
Erect Structural Steel (Bridge)	992,900	LB
Monument - Bridge Gabion Columns	4	EA
Clean and Paint Structural Steel	Lump	Sum
Prepare and Stain Concrete	1664	SQFT
Miscellaneous Metal (Utility Supports and Casing)	Lump	Sum
Bridge Deck Drainage System	27,796	LB
Miscellaneous Metal (Joint Armor for Pedestrian Walkway)	277	LB
Tubular Hand Railing	1131	LF
Concrete Barrier (Type 25 Modified)	555	LF
Concrete Barrier (Type 746 Modified)	575	LF
Lighting (Poema Place Bridge)	Lump	Sum

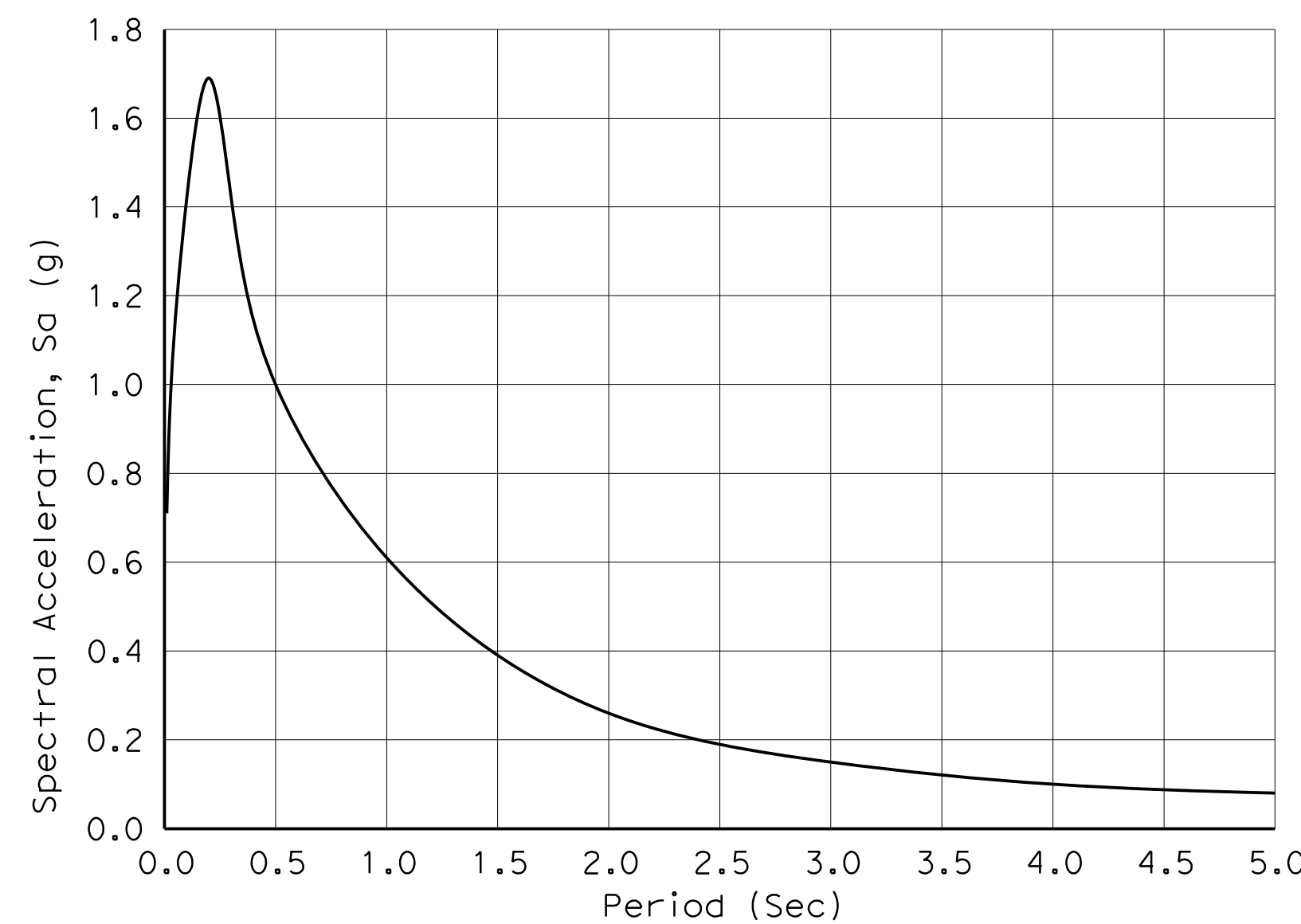
**PLAN**

1"=30'  
 X = 10' intervals along station line  
 Contours Intervals = 0.10'  
 Contours do not include camber



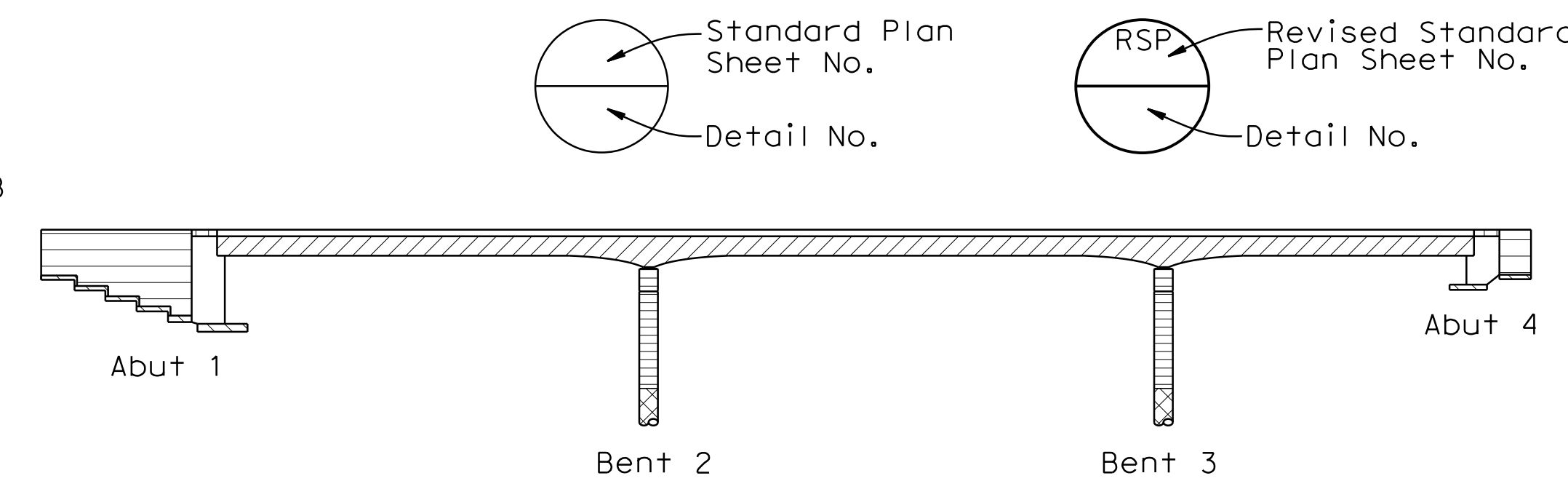
**DECK POUR SCHEDULE**

NO SCALE



**ACCELERATION RESPONSE SPECTRA CURVE**

No Scale



- Structural Concrete, Bridge
- Structural Concrete, Bridge (f'c = 4000 psi at 28 days)
- Structural Concrete, Approach Slab (Type E0)
- Structural Concrete, Retaining Wall
- Structural Concrete, Bridge Footing
- Cast-In-Drilled Hole Concrete Pile (f'c = 4000 psi at 28 days)
- Structural Steel

**CONCRETE TYPE LIMITS**

No Scale

Notes:

1. Deck slab shall be poured in numerical order as shown.
2. Pours 1A, 1B, and 1C can be made in any sequence.
3. Make pours 2A and 2B after pours 1A, 1B, and 1C have reached f'c and have set a minimum of 5 days.
4. Pours 2A and 2B can be made in any sequence.

**GENERAL NOTES**  
**LOAD AND RESISTANCE FACTOR DESIGN**

- DESIGN: AASHTO LRFD Bridge Design Specifications 2012 (6th edition) and Caltrans Amendments (AASHTO-CA BDS-6)
- SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013.
- DEAD LOAD: Includes 35 psf for future wearing surface. The deck load between girders has been increased by 10 psf to allow for the use of steel deck forms.
- LIVE LOADING: HL-93 and P15 permit vehicle.
- SEISMIC LOADING: Soil Profile V<sub>s30</sub> = 2493 ft/s  
 Moment Magnitude = 6.8  
 Peak Ground Acceleration = 0.69 g
- CONCRETE: f<sub>y</sub> = 60 ksi  
 f'c = 3.6 ksi  
 n = 8

STRUCTURAL STEEL: ASTM A709, Grade 50W for plates and rolled sections  
 ASTM A847 for HSS sections  
 ASTM A325 Type 3 for HS bolts  
 ASTM F1554, Grade 55 for HS anchor bolts

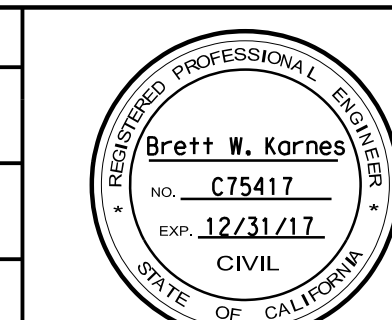
LOS ANGELES COUNTY  
 DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 HAVE CORRECTIONS NOTED  
 REVISED CALCULATIONS  
 REJECTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

DATE 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



Brett W. Kornek 7-29-16  
 PROJECT ENGINEER DATE

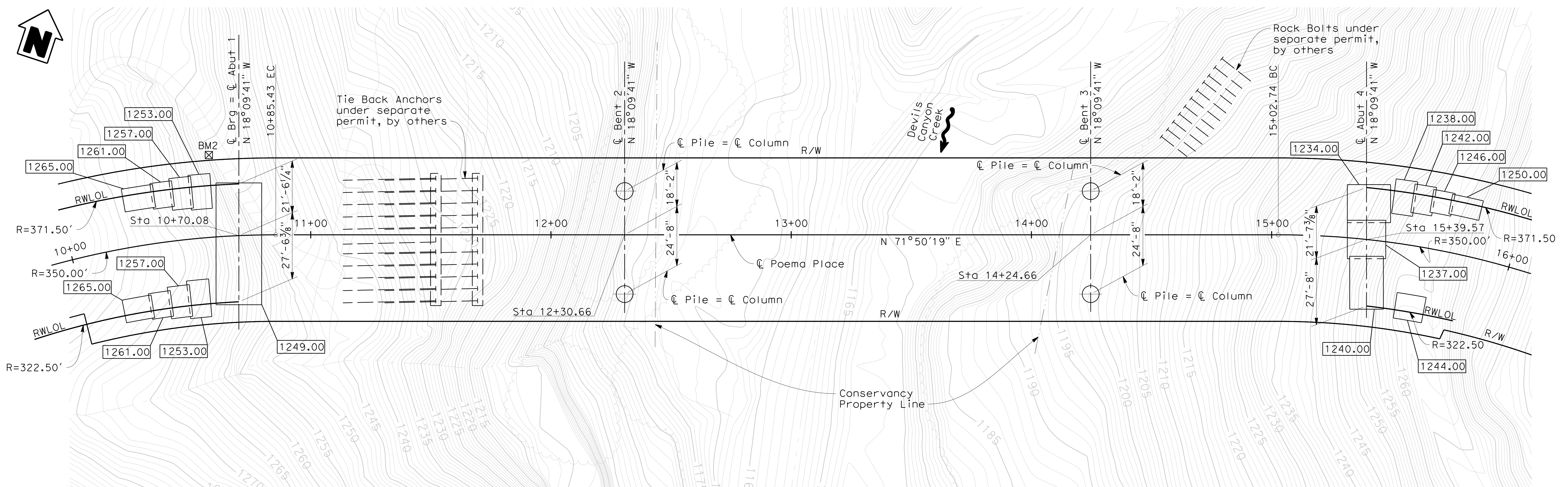
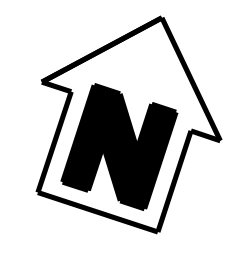
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**DECK CONTOURS**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 3 OF 56 BR. 4200



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 Rancho Cordova, CA 95670



**LOAD AND RESISTANCE FACTOR DESIGN SPREAD FOOTING DATA TABLE**

LOCATION	NET PERMISSIBLE CONTACT STRESS (SERVICE) (SETTLEMENT) ksf	FACTORED GROSS NOMINAL BEARING RESISTANCE (RESISTANCE FACTOR=0.45) (STRENGTH) ksf	FACTORED GROSS NOMINAL BEARING RESISTANCE (RESISTANCE FACTOR=1.00) (EXTREME EVENT) ksf
Abut 1 & Abut 4	NA	22.5	35.0
Retaining Walls	NA	22.5	35.0

Note:  
All footing excavations for bridge foundations and retaining walls must be observed and approved by Geotechnical Consultant prior to placement of steel or concrete.

**PILE DATA TABLE**

LOCATION	PILE TYPE	DESIGN LOADING	NOMINAL RESISTANCE		CUT OFF ELEVATION	DESIGN TIP ELEVATION	SPECIFIED TIP ELEVATION
			COMPRESSION	TENSION			
Bent 2	84" Dia CIDH Pile	3750 kips	5360 kips	-	1174	1145 (1), 1153 (3)	1145(1)
Bent 3 Left	84" Dia CIDH Pile	3250 kips	4650 kips	-	1188	1160 (1), 1168 (3)	1160(1)
Bent 3 Right	84" Dia CIDH Pile	3200 kips	4580 kips	-	1195	1165 (1), 1175 (3)	1165(1)

Note: Design Tip Elevation is controlled by the following demands:  
(1) Compression, (2) Tension, (3) Lateral Loads

Legend:

- Indicates bottom of footing elevation
- Indicates CIDH Pile

**PLAN**

1"=20'

**BENCH MARK DATA**

No.	NORTHING	EASTING	ELEVATION	LINE	STATION	OFFSET	DESCRIPTION
BM2	1924588.029	6380731.075	1276.137	"C"	10+25.48	34.21' Rt	Nail & Shiner
BM10194	1924646.761	6380528.133	1334.092	"C"	8+20.99	99.72' Lt	Nail & Shiner

**SCOUR DATA TABLE**

SUPPORT No.	LONG TERM (DEGRADATION AND CONTRACTION) SCOUR DEPTH (ft)	SHORT TERM (LOCAL) SCOUR DEPTH (ft)
Abut 1	0	0
Bent 2	0	0
Bent 3	0	0
Abut 4	0	0

Note: The bottom of footing foundation will be embedded into the scour-resistant metamorphic rock layer at the specified elevations, and the scour elevations have been revised to not go lower than these elevations.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
MAKE CORRECTIONS NOTED  
REVISE CALCULATIONS  
RECHECKED  
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DATE 8/8/16

**HYDROLOGIC SUMMARY**

Drainage area: 13.3 Square Miles

	Design Flood	Base Flood
Frequency (years)	50	100
Discharge (cubic feet per second)	23236	17600
Water Surface Elev at Bridge (ft)	1185.3	1182.7

Flood plain data based upon information available when the plans were prepared and are shown to meet Federal requirements. The accuracy of said information is not warranted by the County, and interested or affected parties should make their own investigations.



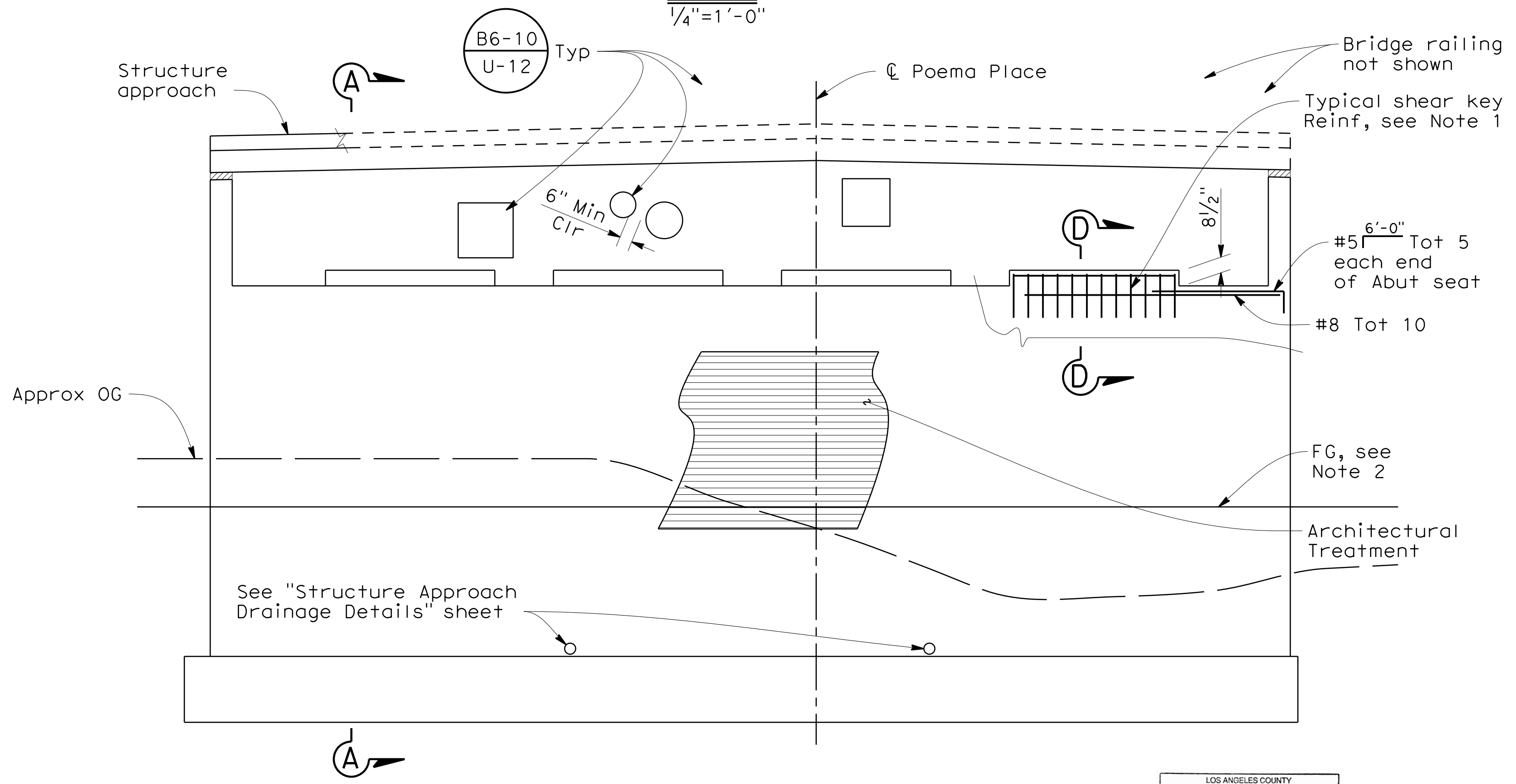
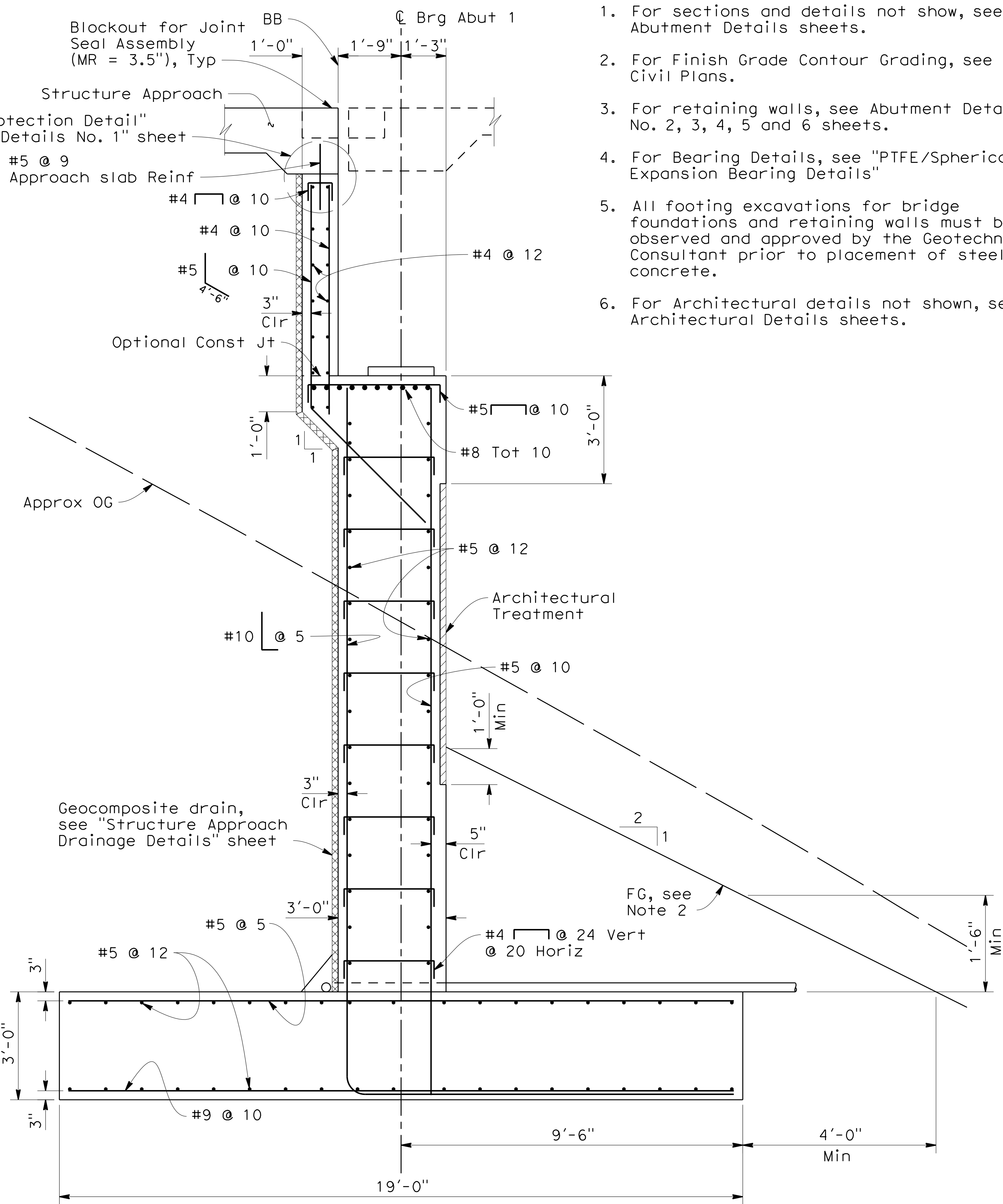
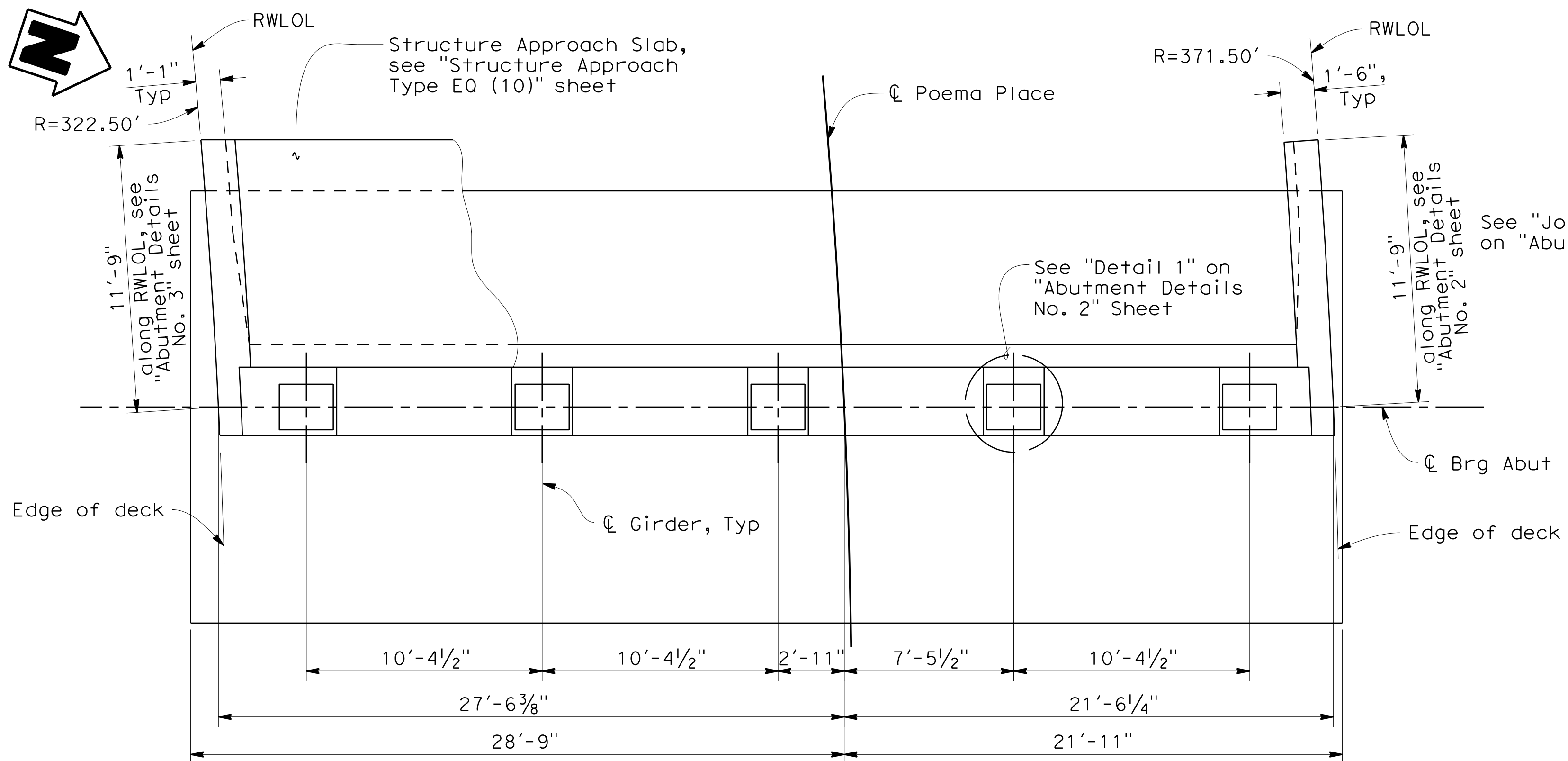
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Rancho Cordova, CA 95670



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**FOUNDATION PLAN**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 4 OF 56



Notes:  
Superstructure and bearings not shown.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MAKE CORRECTIONS NOTED  
REVISE CALCULATIONS  
REJECTED

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DATE 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Kornek  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

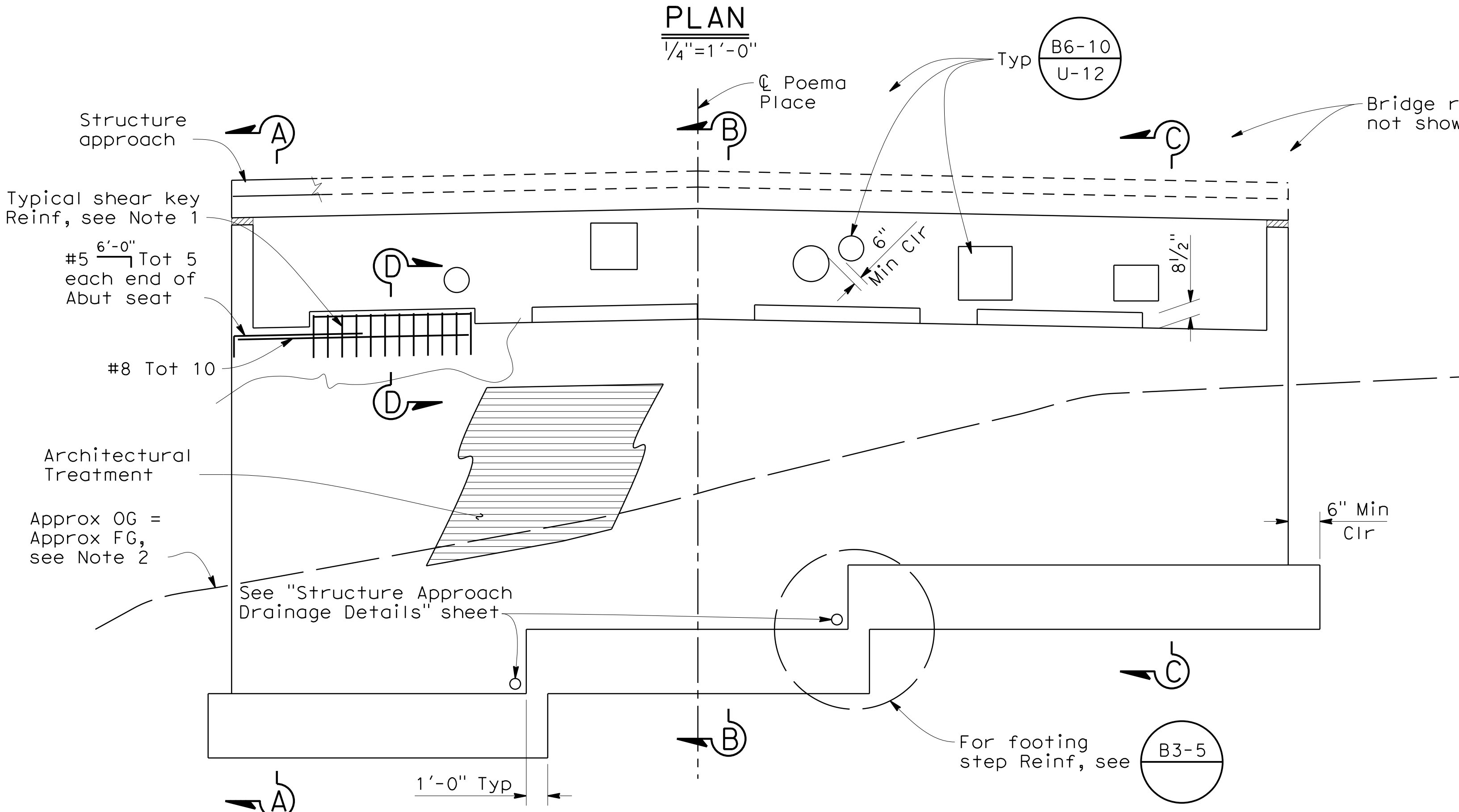
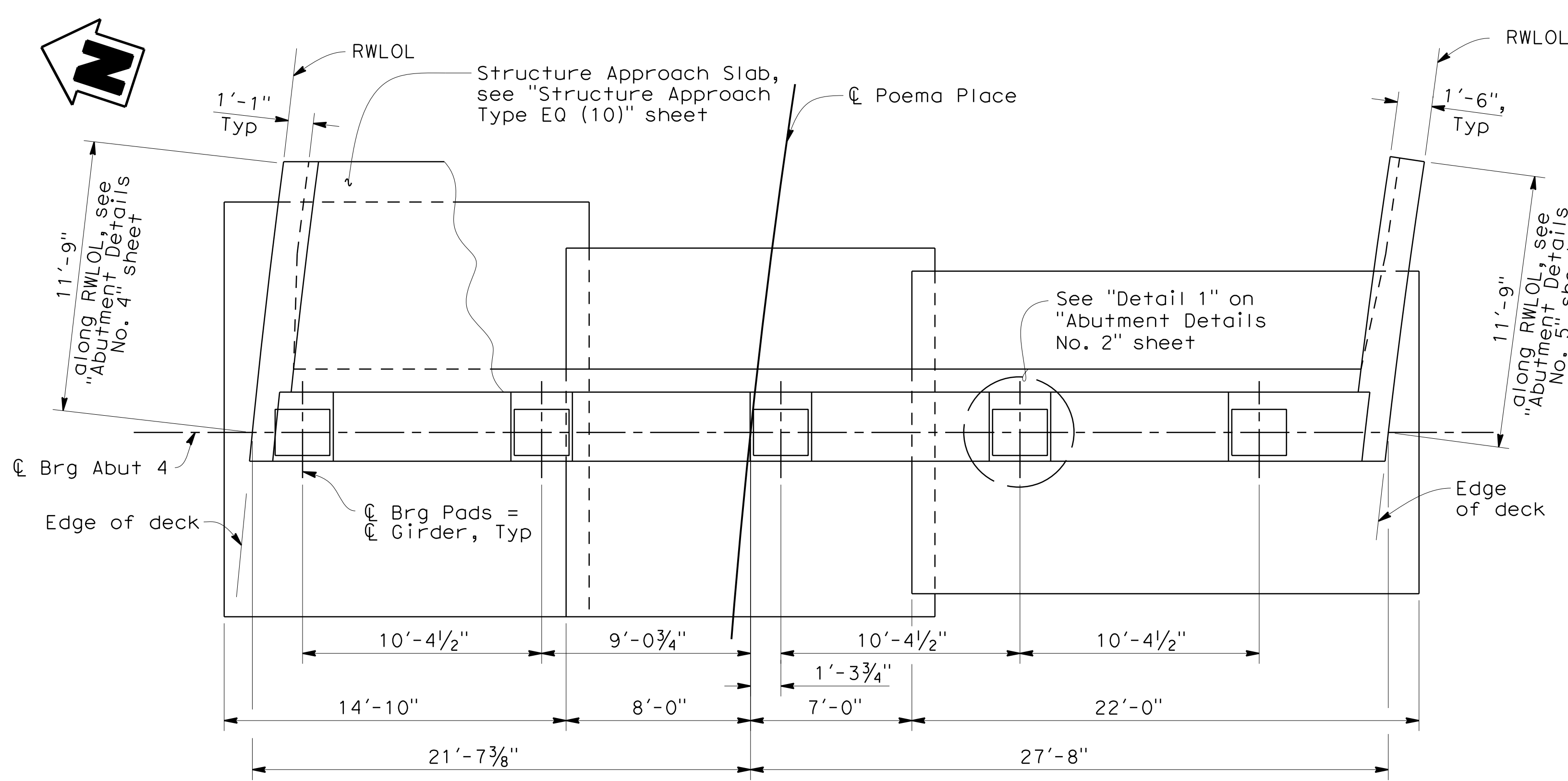
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ABUTMENT 1 LAYOUT**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 5 OF 56



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Rancho Cordova, CA 95670



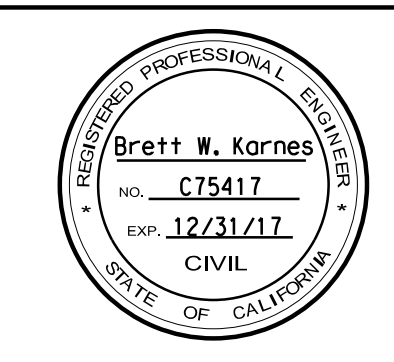
LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ABUTMENT 4 LAYOUT**

**POEMA PLACE BRIDGE**

**OVER DEVILS CANYON CREEK**

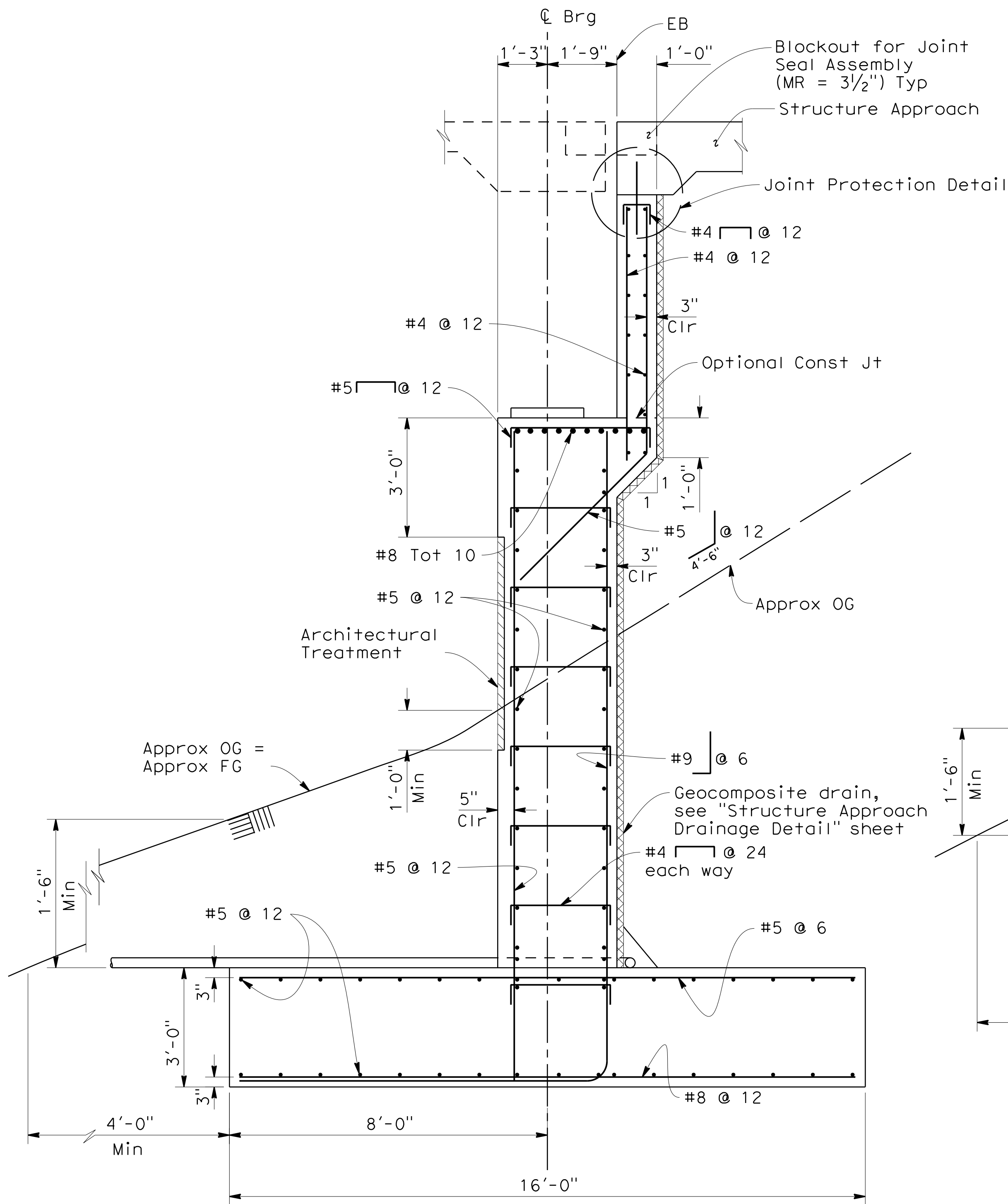
RD 53138 BR. 4200 PB642453 SHEET 6 OF 56

**DIGALERT**

DIAL TOLL FREE  
1-800-227-2600

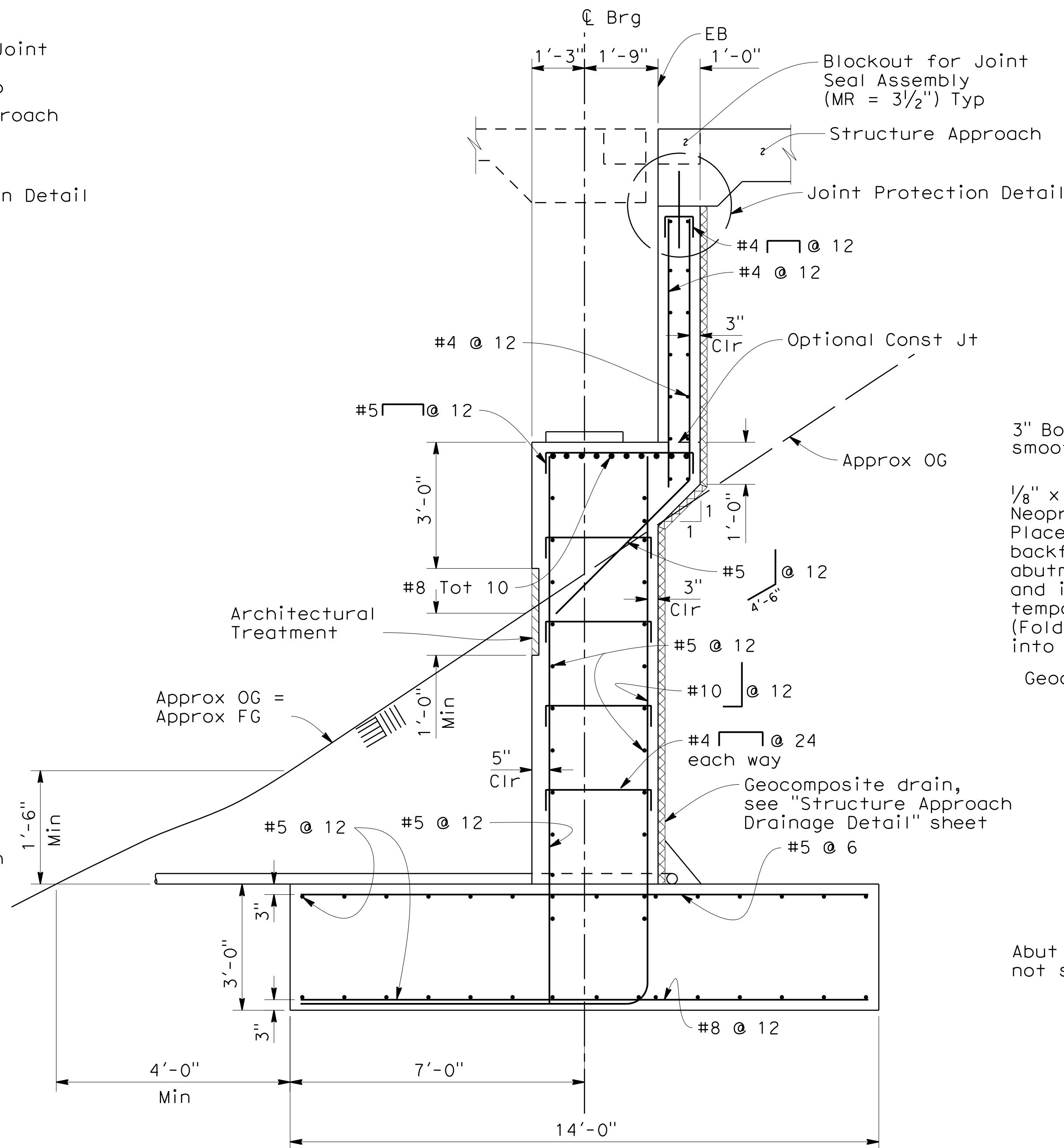
AT LEAST TWO DAYS  
BEFORE YOU DIG

**QUINCY ENGINEERING, INC**  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670

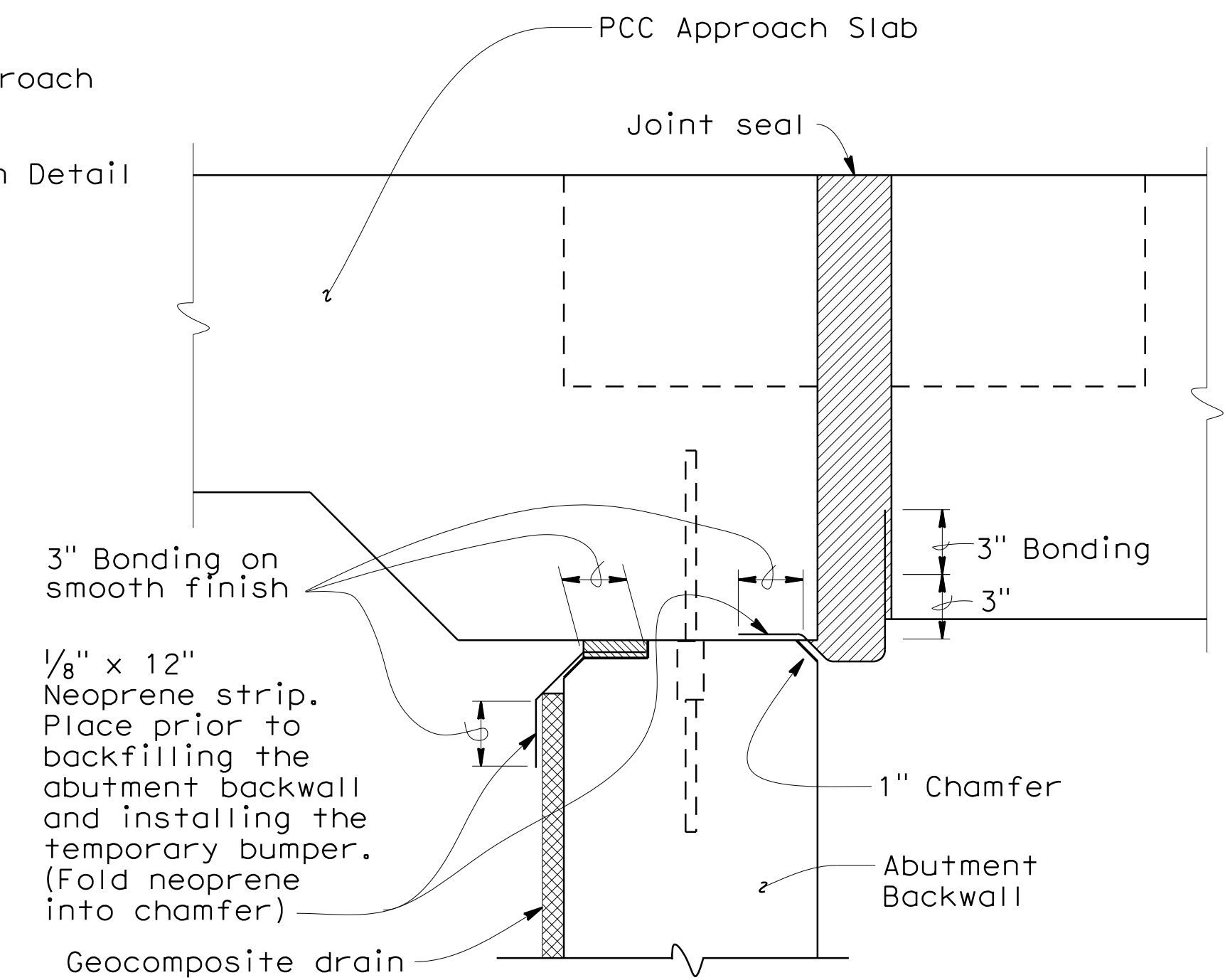


**SECTION B-B**  
1/2"=1'-0"

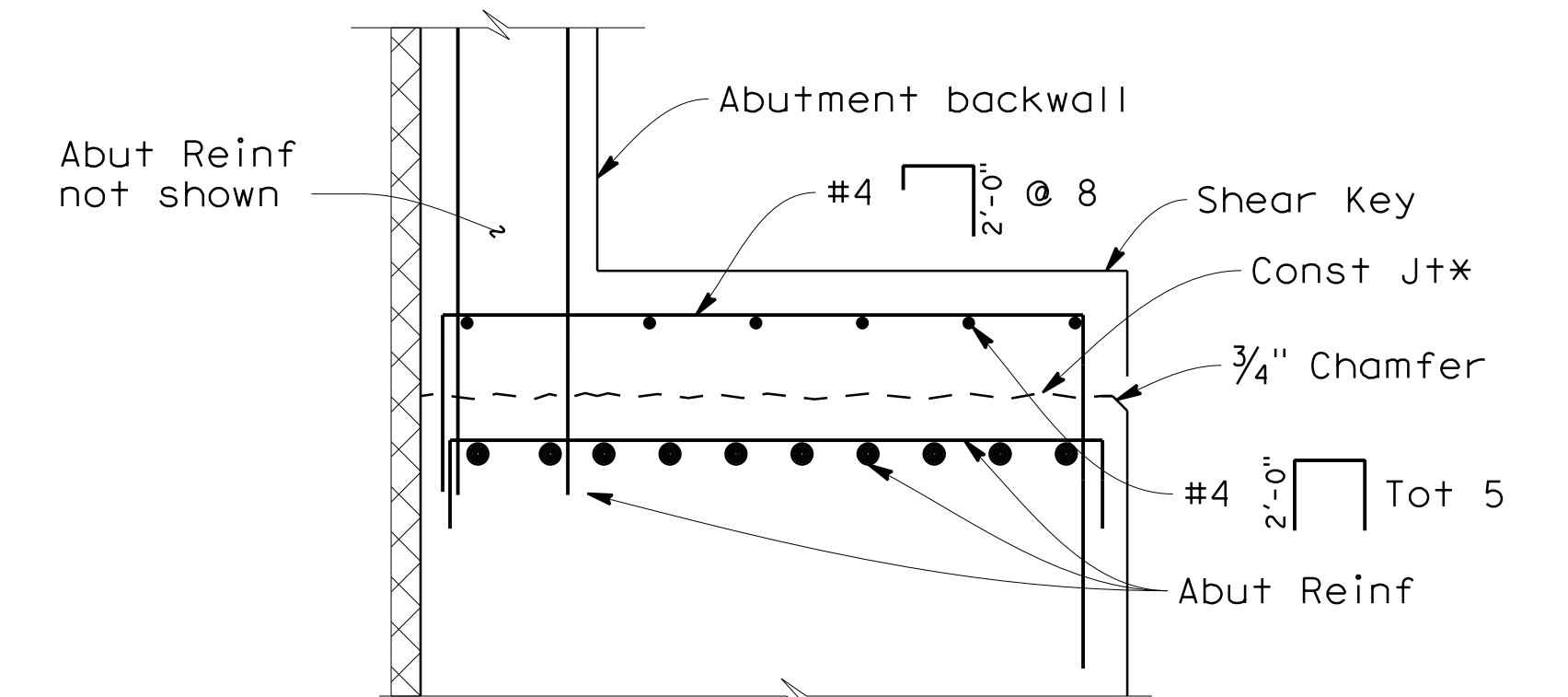
Note:  
For Reinforcement details not shown, see "Section A-A".



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



**JOINT PROTECTION DETAIL**  
No Scale



**SECTION D-D**  
1"=1'-0"

\* Construction joint with roughened surface (1/4" Min deviation from planar surface). Remove sediment, laitance, & weak concrete prior to casting shear key

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
NO REVISIONS NOTED  
REVISIONS CALCULATIONS  
CHECKED  
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.  
BY: [Signature] DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Karnes  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

PROJECT ENGINEER DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

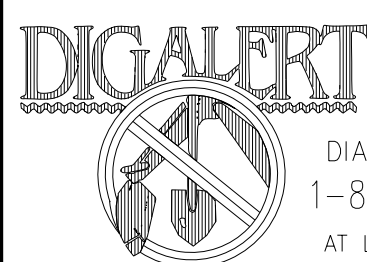
**ABUTMENT DETAILS NO. 1**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138

BR. 4200

PB642453

SHEET 7 OF 56



DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

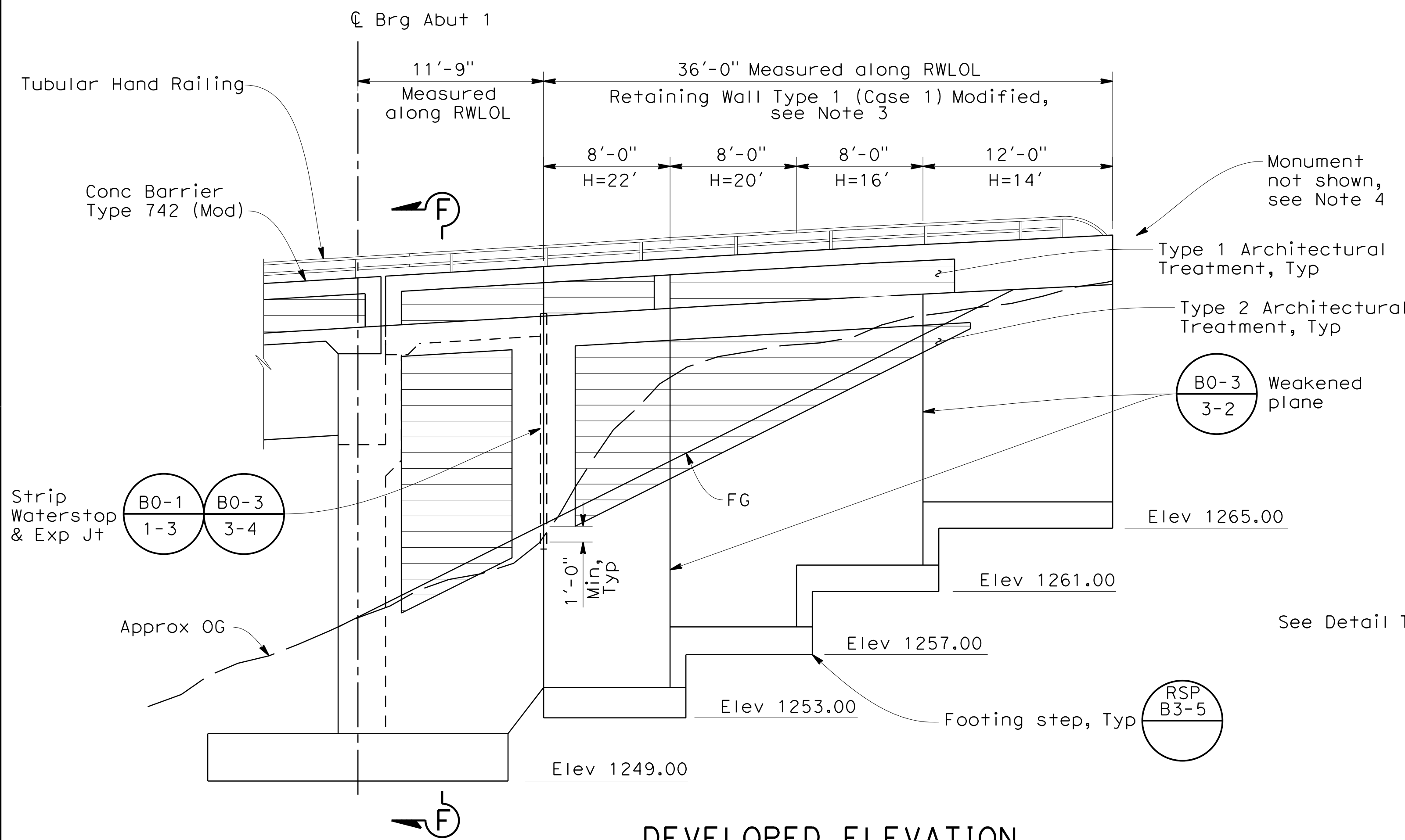
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USERNAME => patrick DATE PLOTTED => 7/29/2016

TIME PLOTTED => 12:53:02 PM

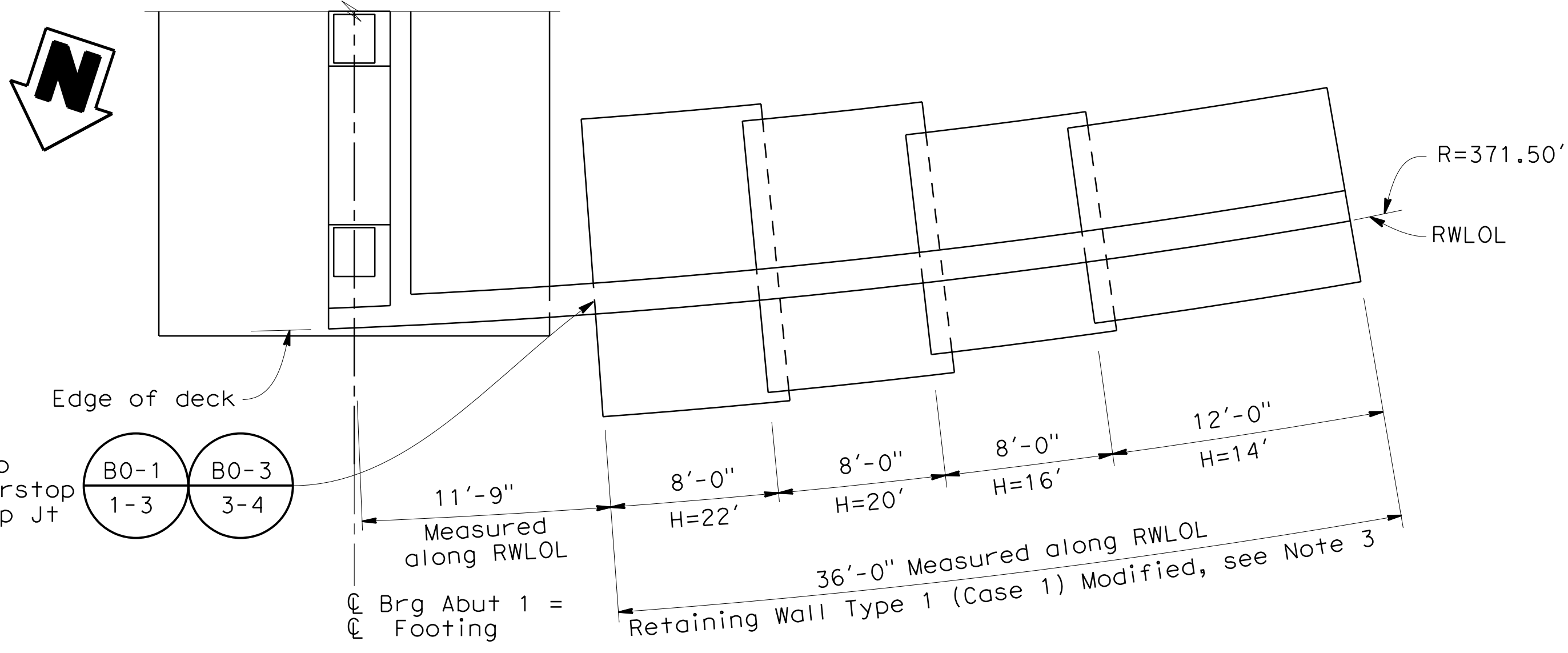
QUINCY ENGINEERING, INC  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670

FILE => S:\Client\Fores\star\F11-100 Deer Lake Ranch\600-Miscellaneous\650 - CADD Files\F11100a - Poema\F11100a-f-ad01.dgn

BR. 4200



**DEVELOPED ELEVATION  
RETAINING WALL - ABUTMENT 1 LEFT**  
3/16"=1'-0"



**PLAN  
RETAINING WALL - ABUTMENT 1 LEFT**  
3/16"=1'-0"

Monument not shown, see Note 4

Type 1 Architectural Treatment, Typ

Type 2 Architectural Treatment, Typ

B0-3 3-2 Weakened plane

Elev 1265.00

Elev 1261.00

Elev 1257.00

Elev 1253.00

Elev 1249.00

Footing step, Typ RSP B3-5

See Detail Type 742A

RSP B11-57

Architectural Treatment see Note 1

1:1 Slope

#5 @ 12 outside face

#8 @ 6 inside face

#5 U @ 12

FG

3" Cir

5" Cir

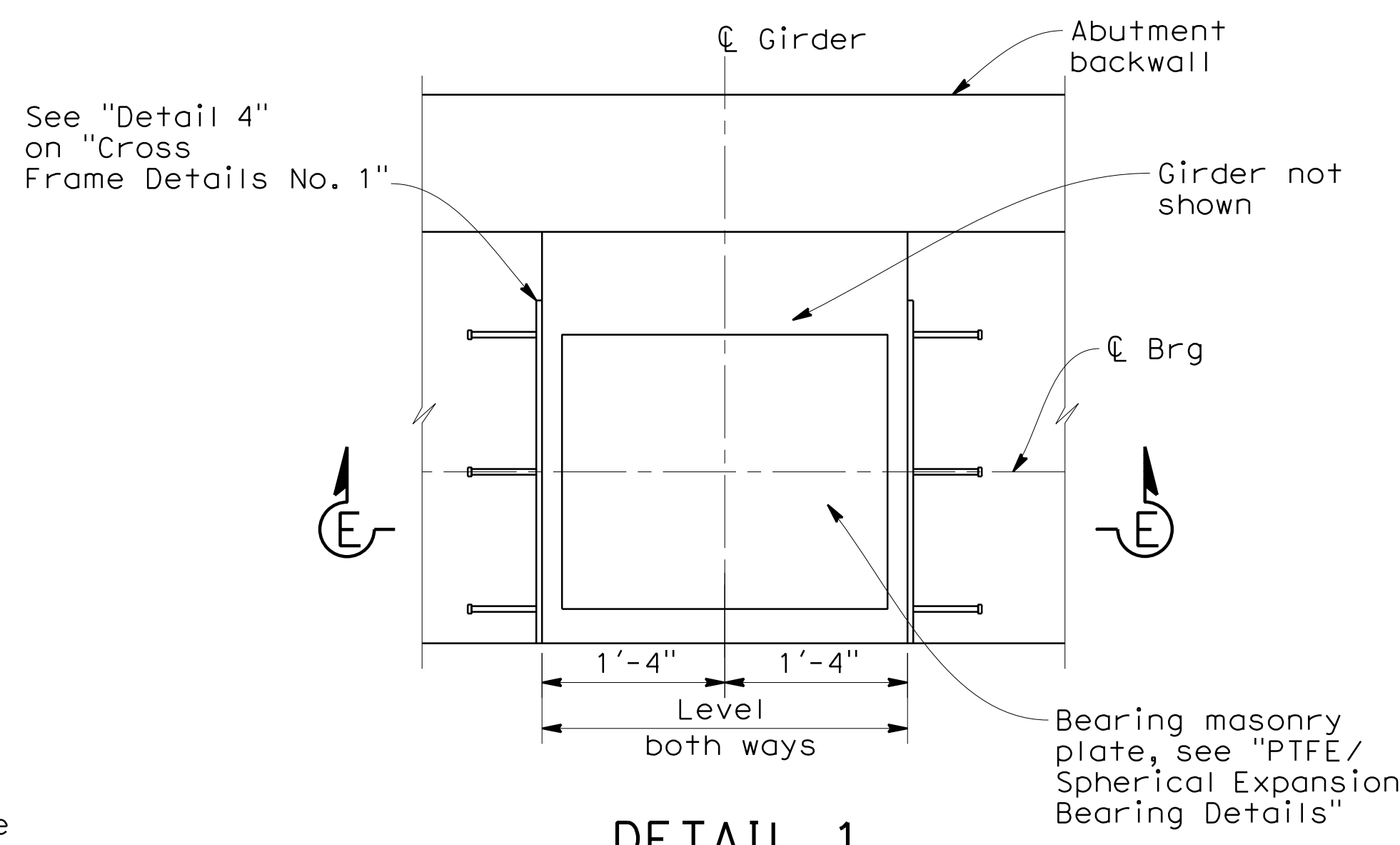
Geocomposite drain, see "Drainage Details" sheet

1/2" Exp Jt material

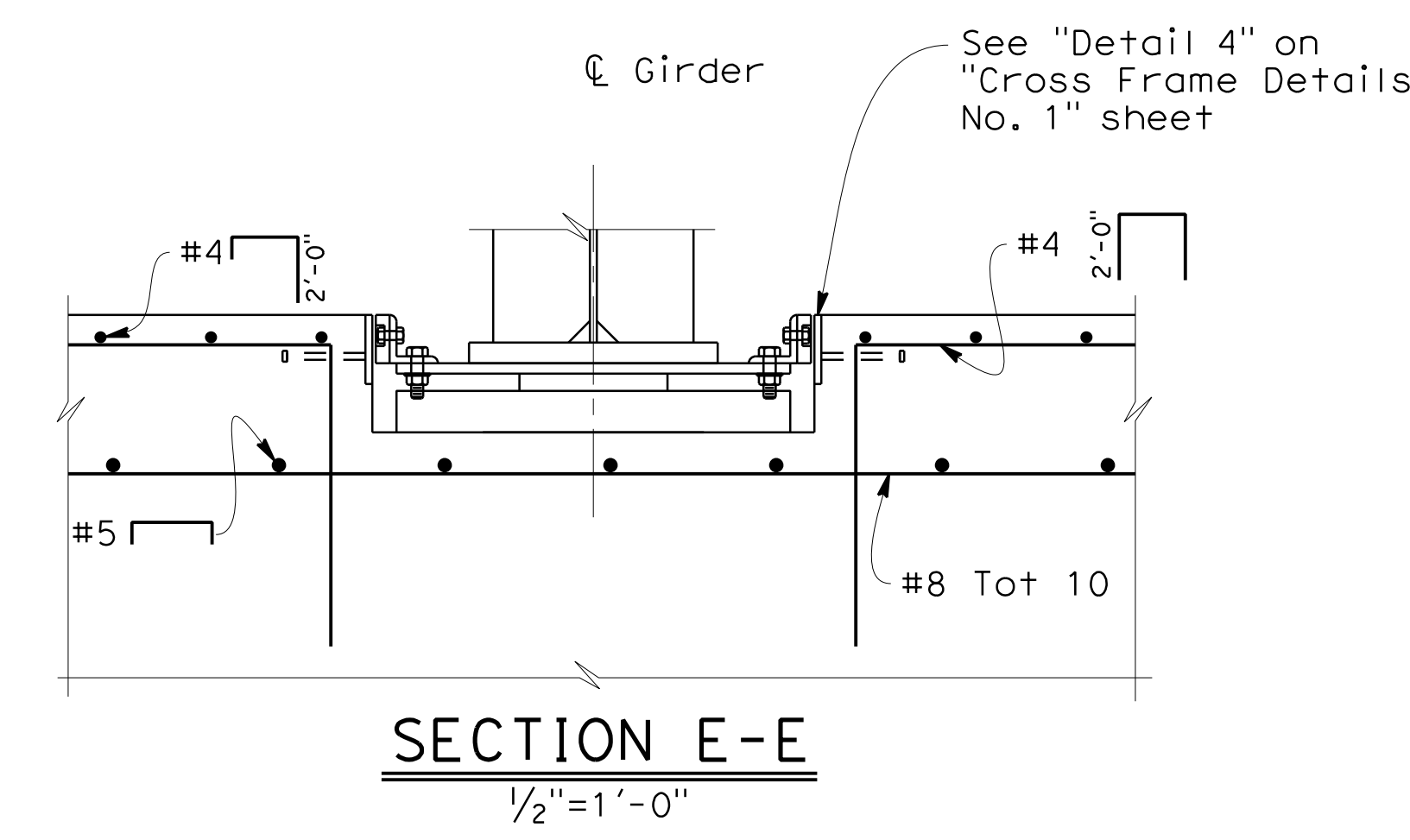
**SECTION F-F**  
1/4"=1'-0"

Notes:

1. For additional information, see "Abutment 1 Layout" sheet.
2. For Architectural details not shown, see Architectural Details sheets.
3. For Retaining Wall details, see "Abutment Details No. 6" sheet.
4. For Monument, see "Architectural Details No. 3" sheet.



**DETAIL 1**  
1"=1'-0"



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

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
NO REVISIONS NOTED  
REVISIONS CALCULATIONS  
REVISIONS  
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.  
DATE 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Kornek  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

PROJECT ENGINEER DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ABUTMENT DETAILS NO. 2**

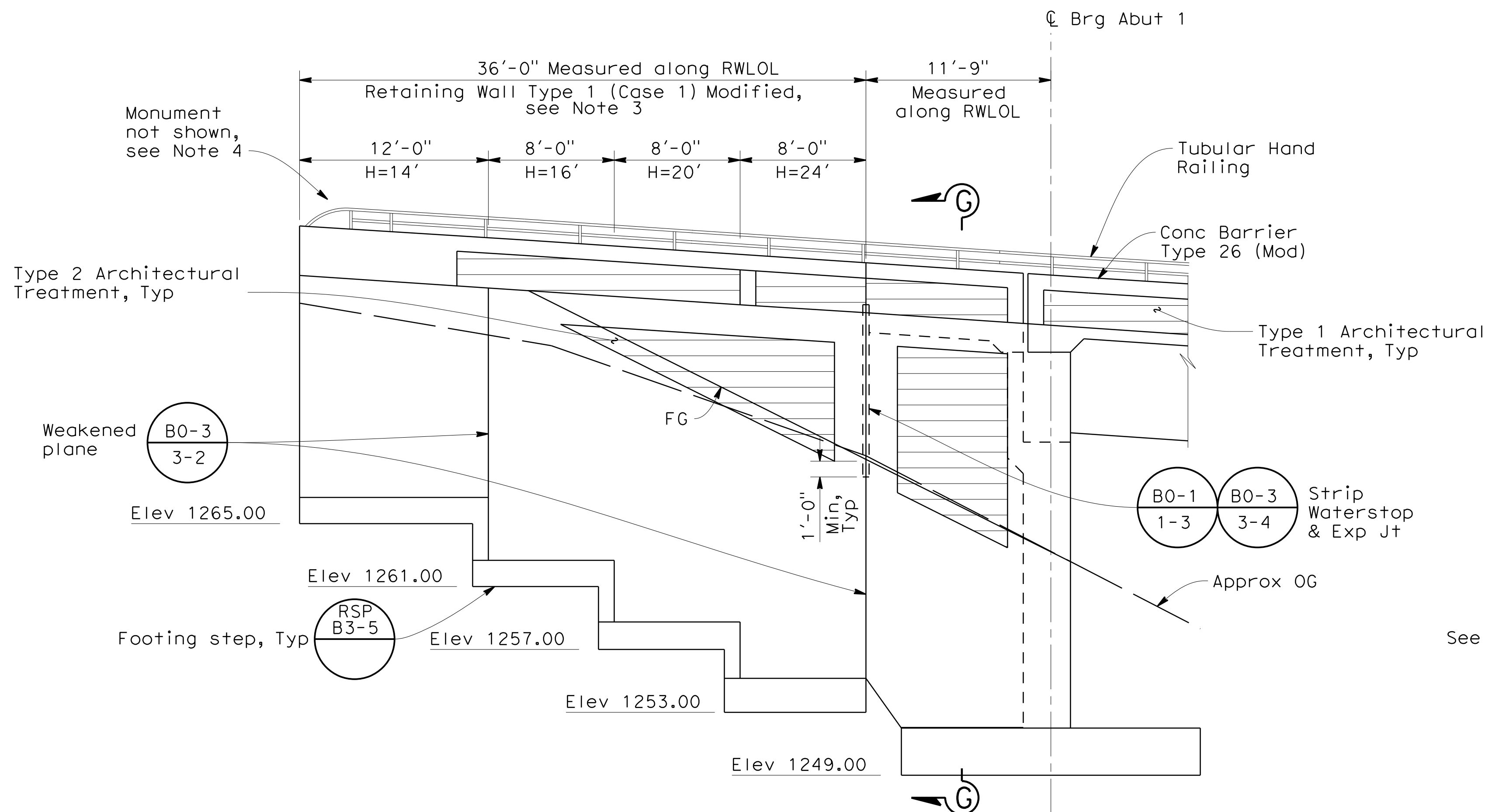
**POEMA PLACE BRIDGE  
OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 8 OF 56

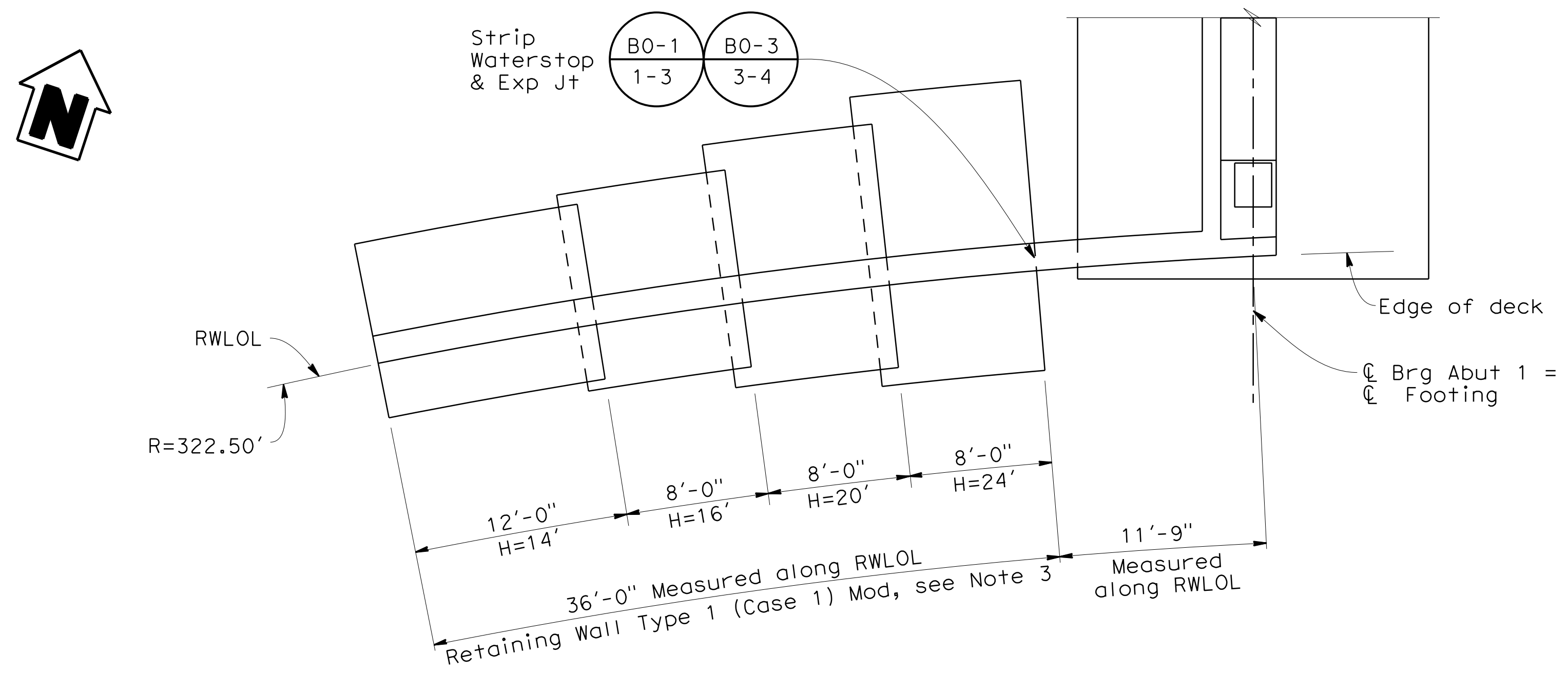
**DIGALERT**  
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

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Rancho Cordova, CA 95670





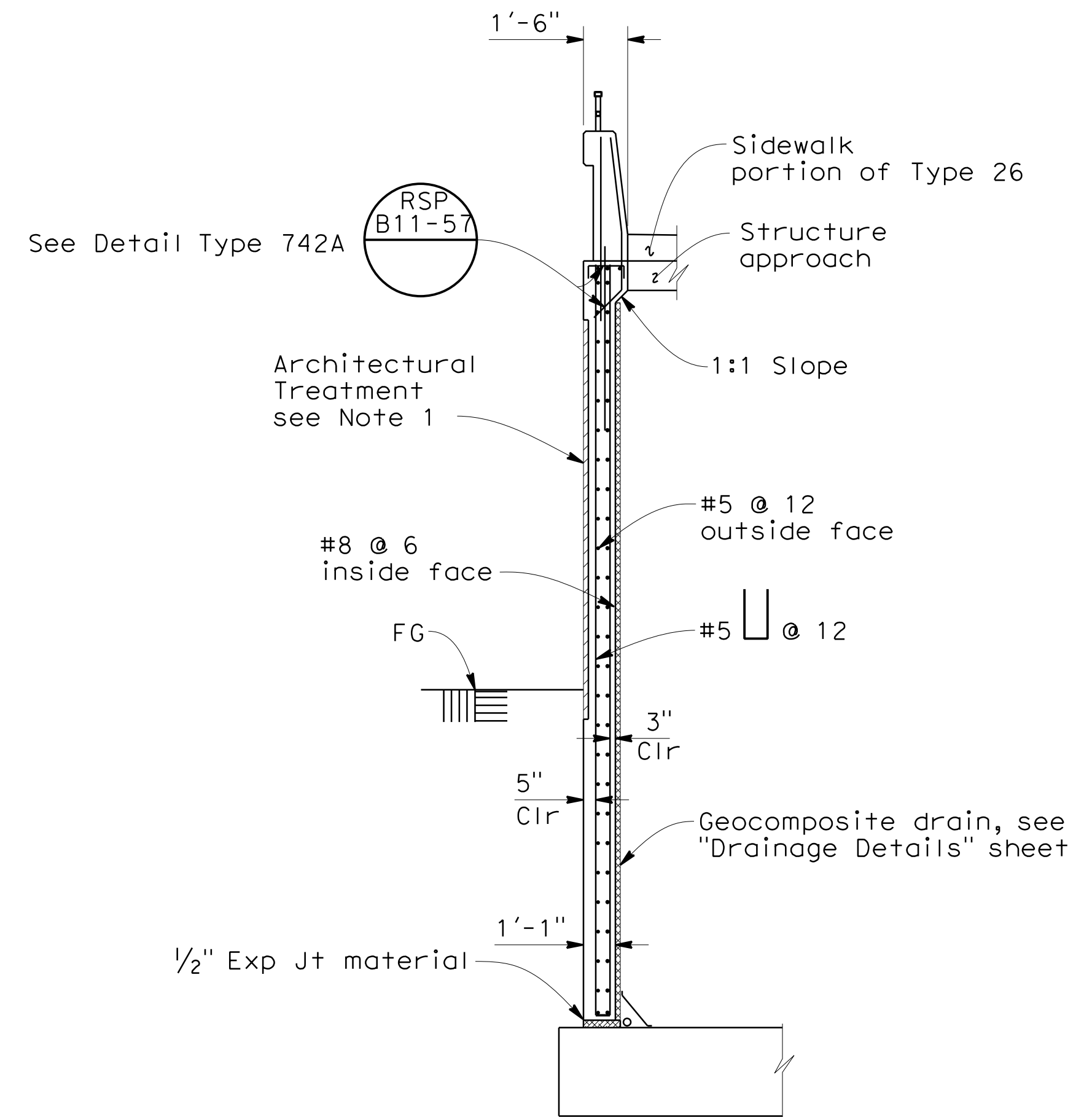
**DEVELOPED ELEVATION - RETAINING WALL - ABUTMENT 1 RIGHT**  
 3/16" = 1'-0"



**PLAN - RETAINING WALL - ABUTMENT 1 RIGHT**  
 3/16" = 1'-0"

**Notes:**

1. For additional information see "Abutment 1 Layout" sheet.
2. For Architectural details not shown, see Architectural Details sheets.
3. For Retaining Wall details, see "Abutment Details No. 6" sheet.
4. For Monument, see "Architectural Details No. 3" sheet.



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

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS	
<input checked="" type="checkbox"/> ACCEPTED	<input type="checkbox"/> MAKE CORRECTIONS NOTED
<input type="checkbox"/> REVISE CALCULATIONS	<input type="checkbox"/> REJECTED
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.	
BY _____	DATE 8/8/16

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Brett W. Kornek 6-22-16  
 PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

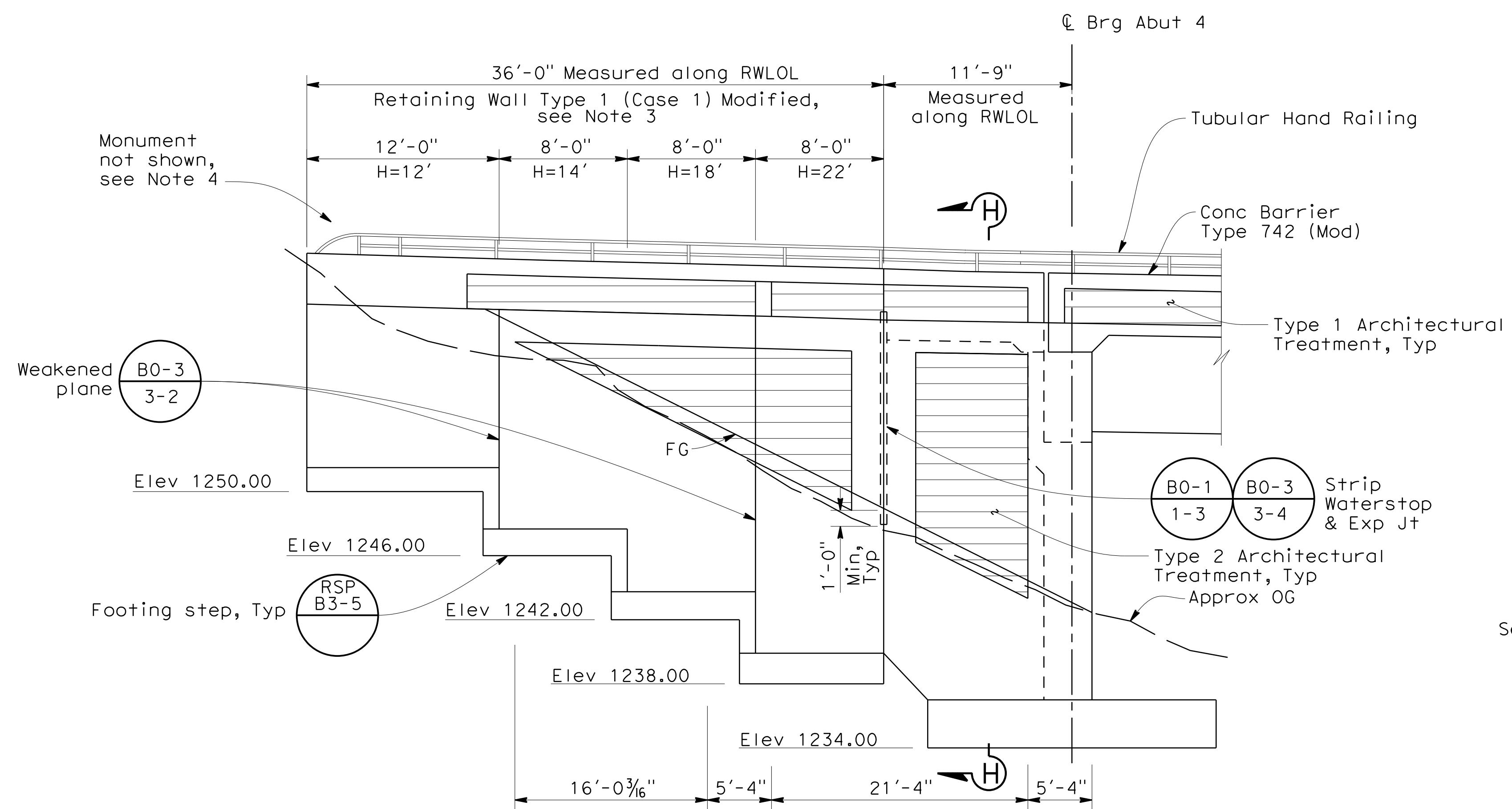
**ABUTMENT DETAILS NO. 3**

**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

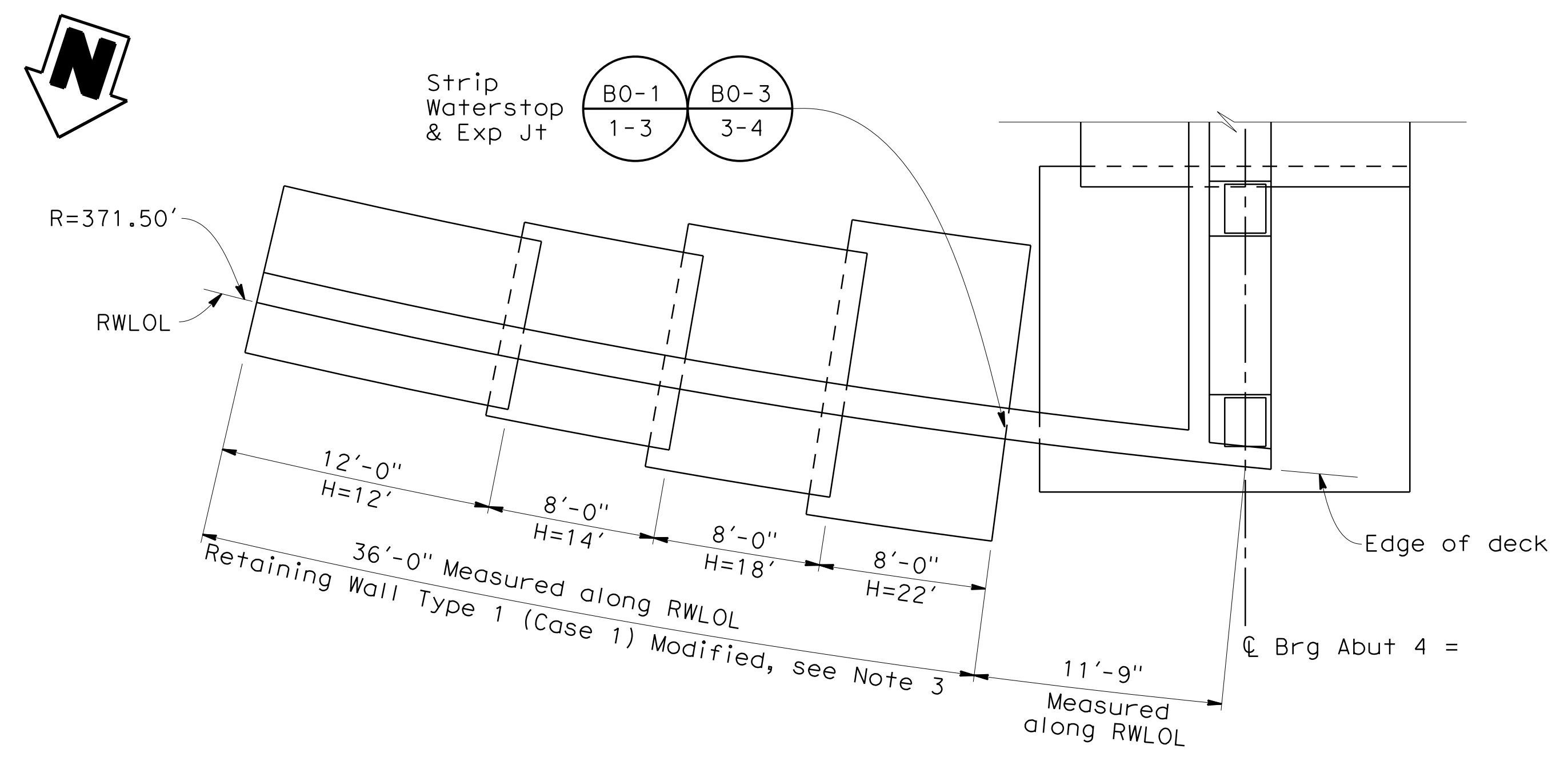
RD 53138 BR. 4200 PB642453 SHEET 9 OF 56



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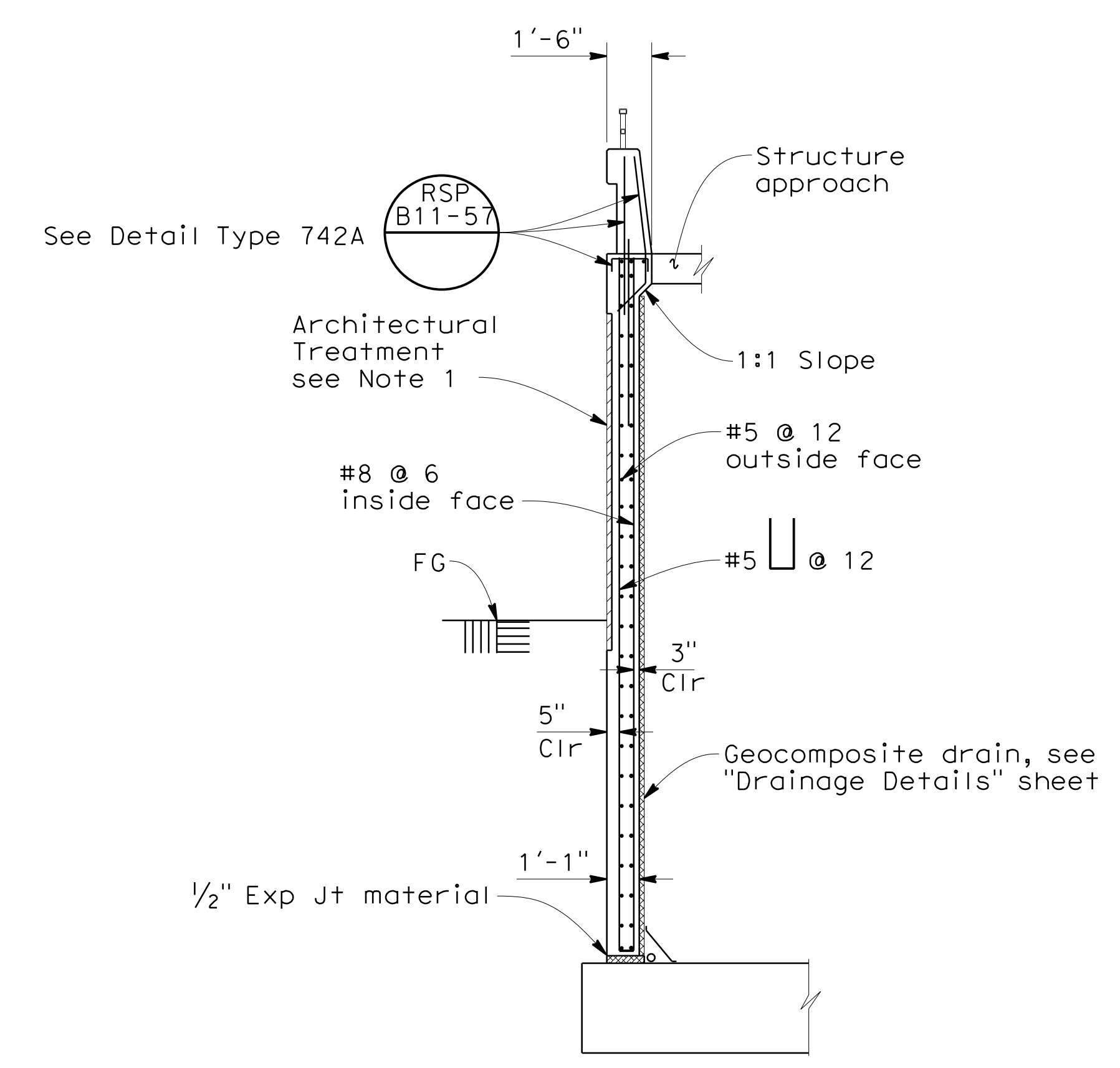
**DEVELOPED ELEVATION - RETAINING WALL - ABUTMENT 4 LEFT**  
 3/16" = 1'-0"



**PLAN - RETAINING WALL - ABUTMENT 4 LEFT**  
 3/16" = 1'-0"

**Notes:**

1. For additional information see "Abutment 4 Layout" sheet.
2. For Architectural details not shown, see Architectural Details sheets.
3. For Retaining Wall details, see "Abutment Details No. 6" sheet.
4. For Monument, see "Architectural Details No. 3" sheet.



Note: Left side shown, Right side similar

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

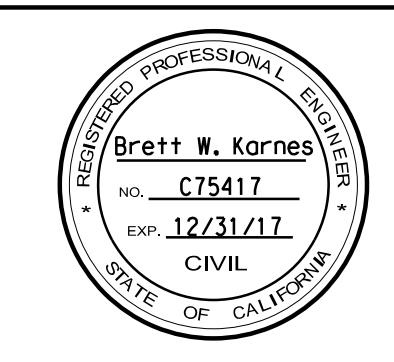
LOS ANGELES COUNTY  
 DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 CHANGE CORRECTIONS NOTED  
 REVISIONS CALCULATIONS  
 REJECTED

NEVER IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL CONFORMANCE WITH THE SPECIFICATIONS THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

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Brett W. Kernes 6-22-16  
 PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

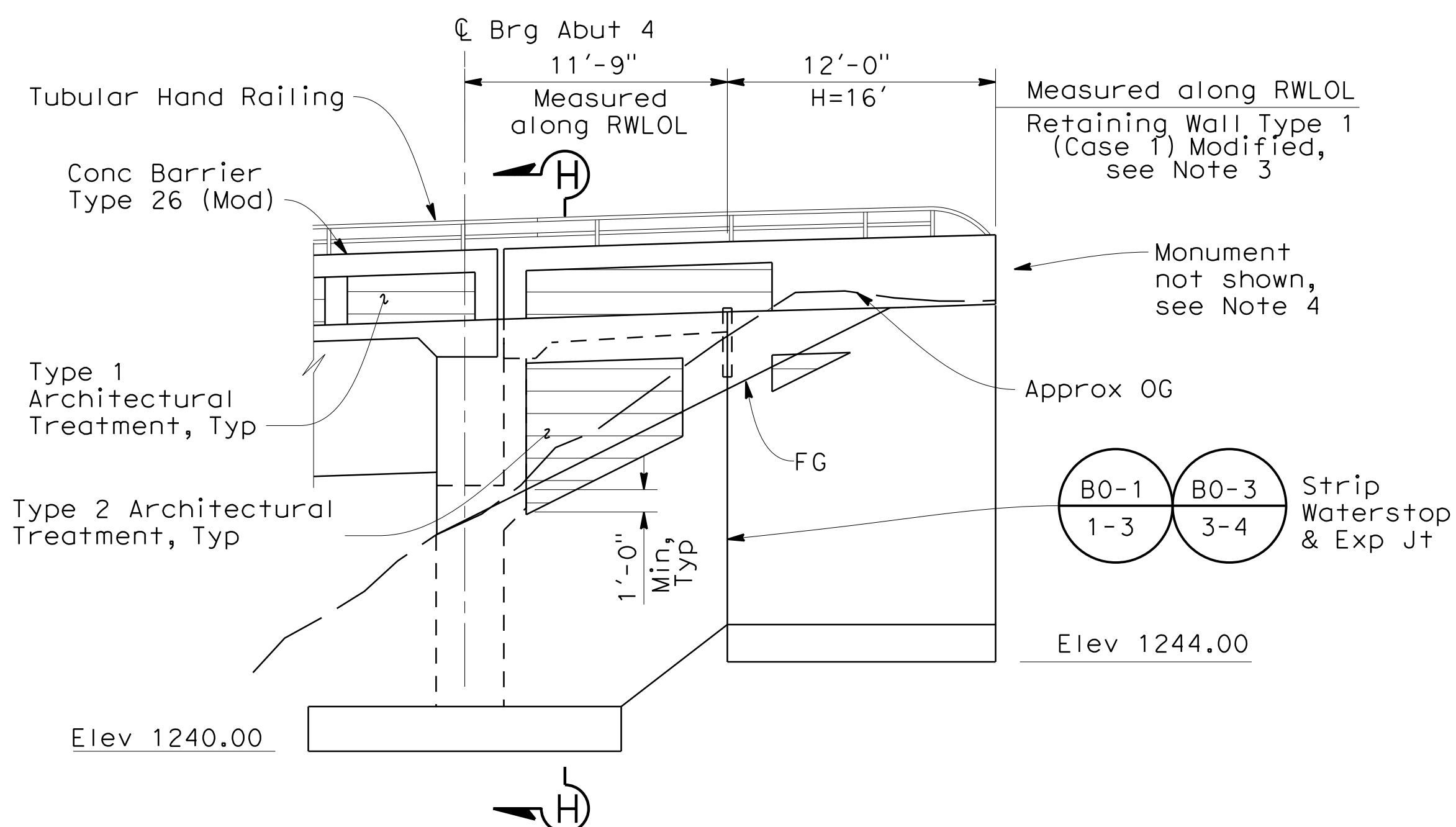
**ABUTMENT DETAILS NO. 4**

**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

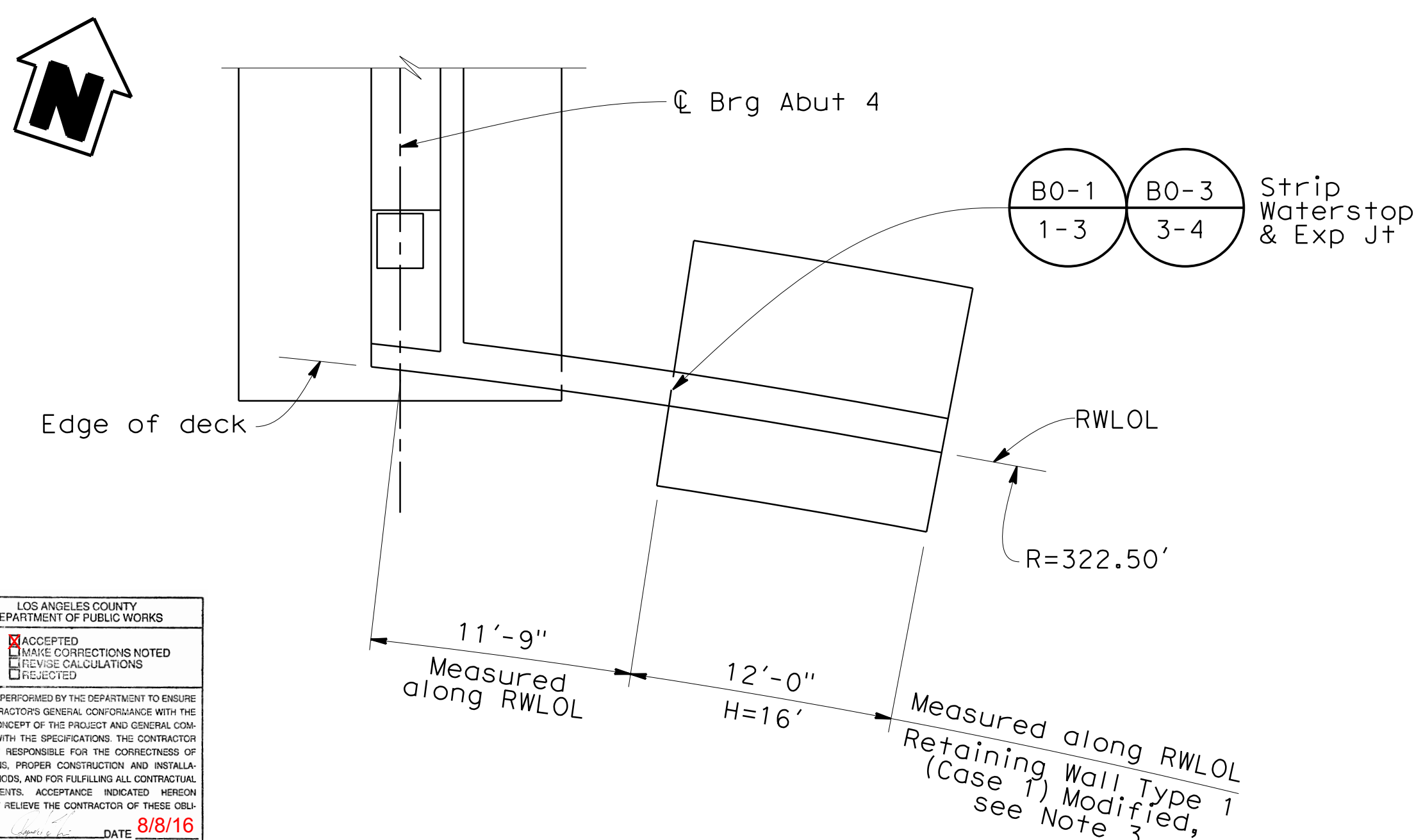
RD 53138 BR. 4200 PB642453 SHEET 10 OF 56



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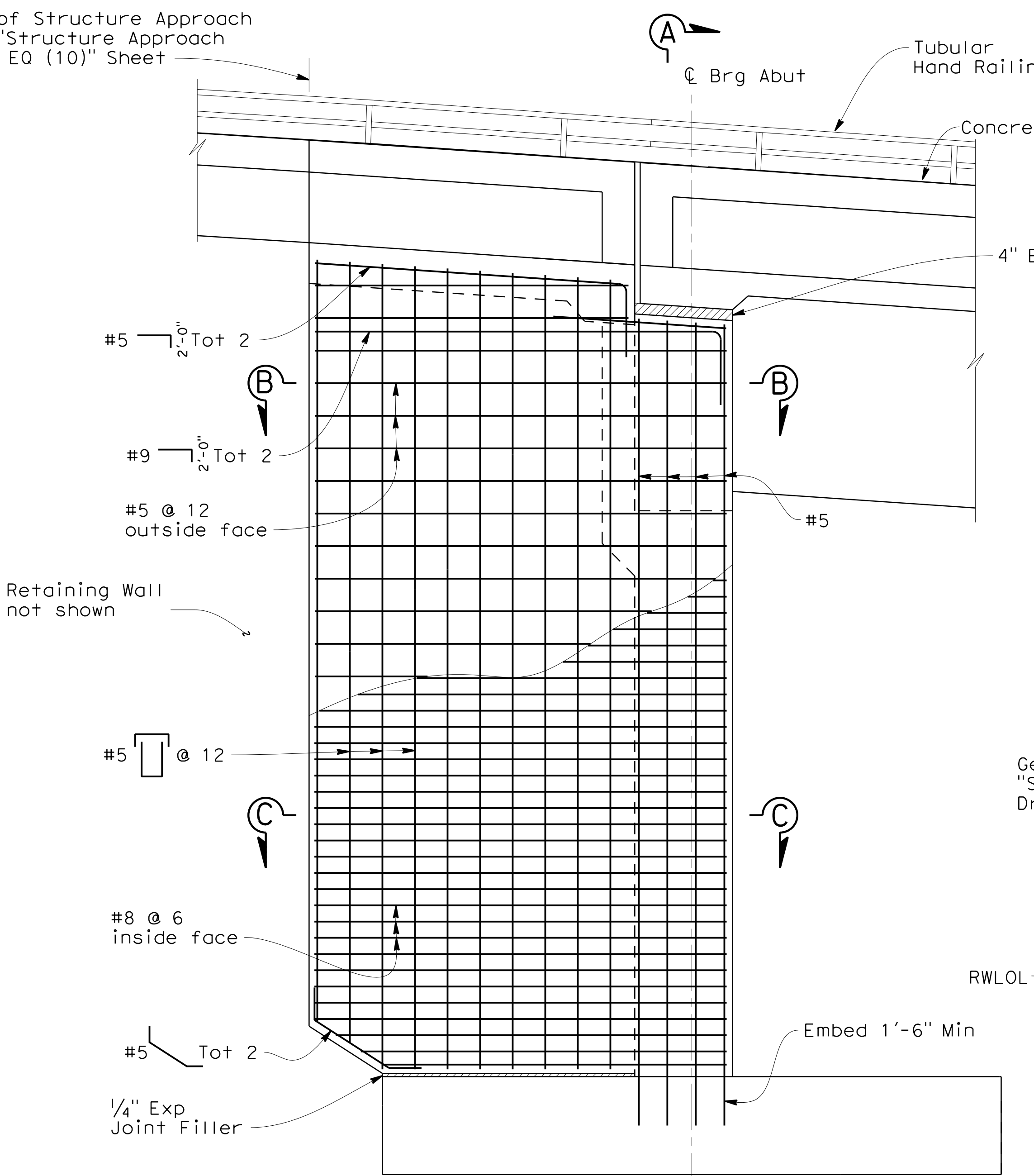


**DEVELOPED ELEVATION  
RETAINING WALL - ABUTMENT 4 RIGHT**  
3/16" = 1'-0"

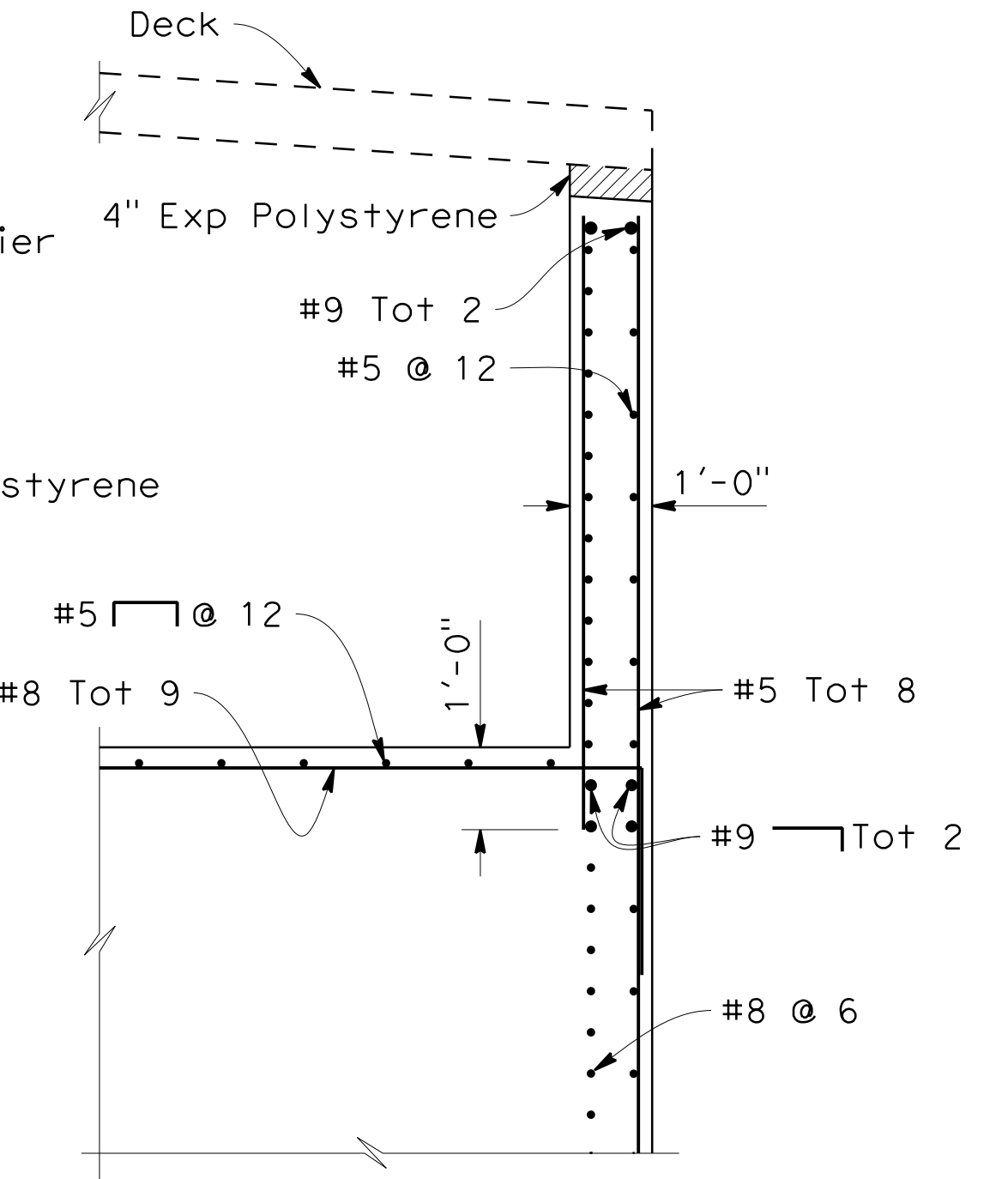


**PLAN  
RETAINING WALL - ABUTMENT 4 RIGHT**  
3/16" = 1'-0"

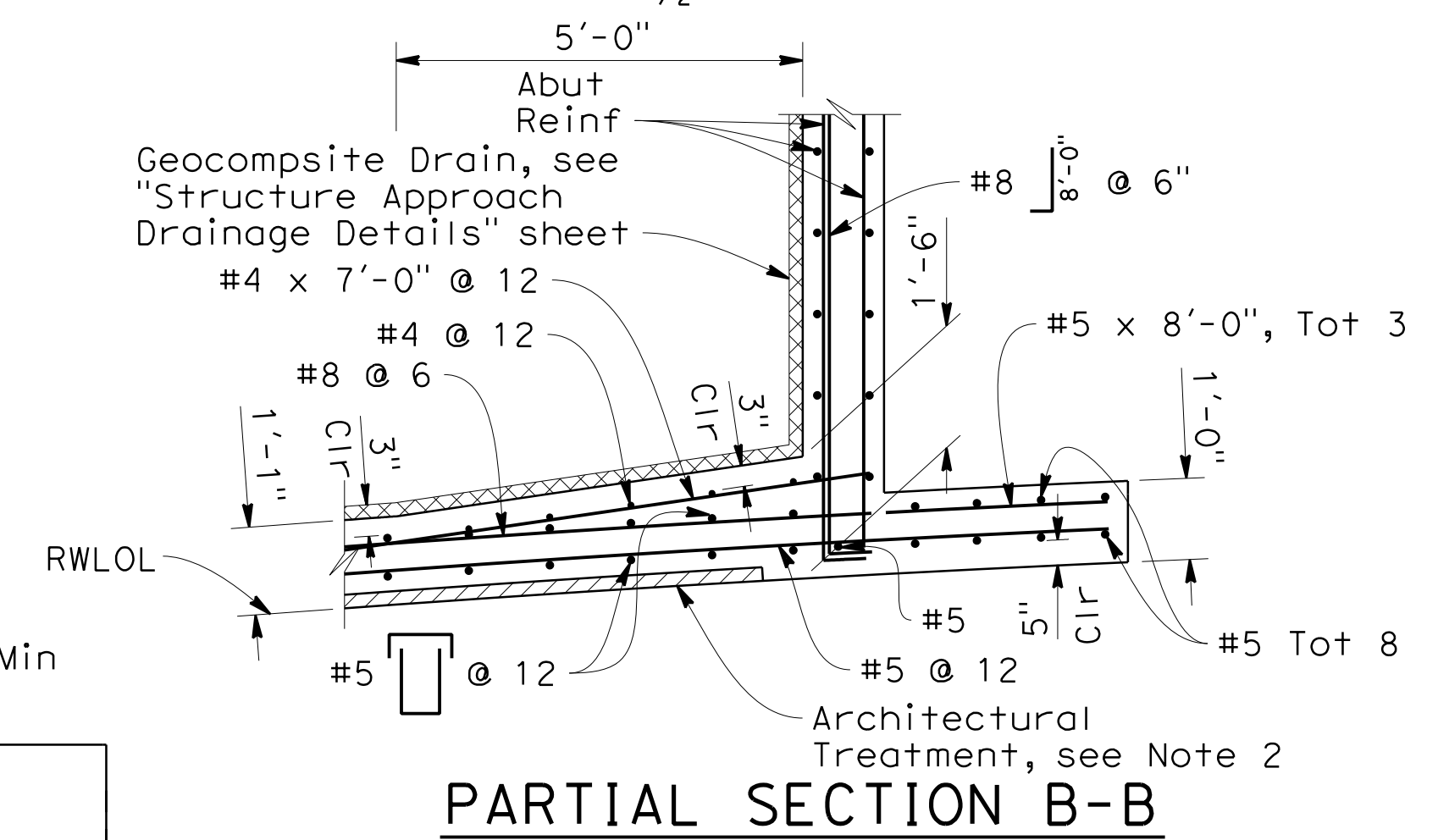
End of Structure Approach  
see "Structure Approach  
Type EQ (10)" Sheet



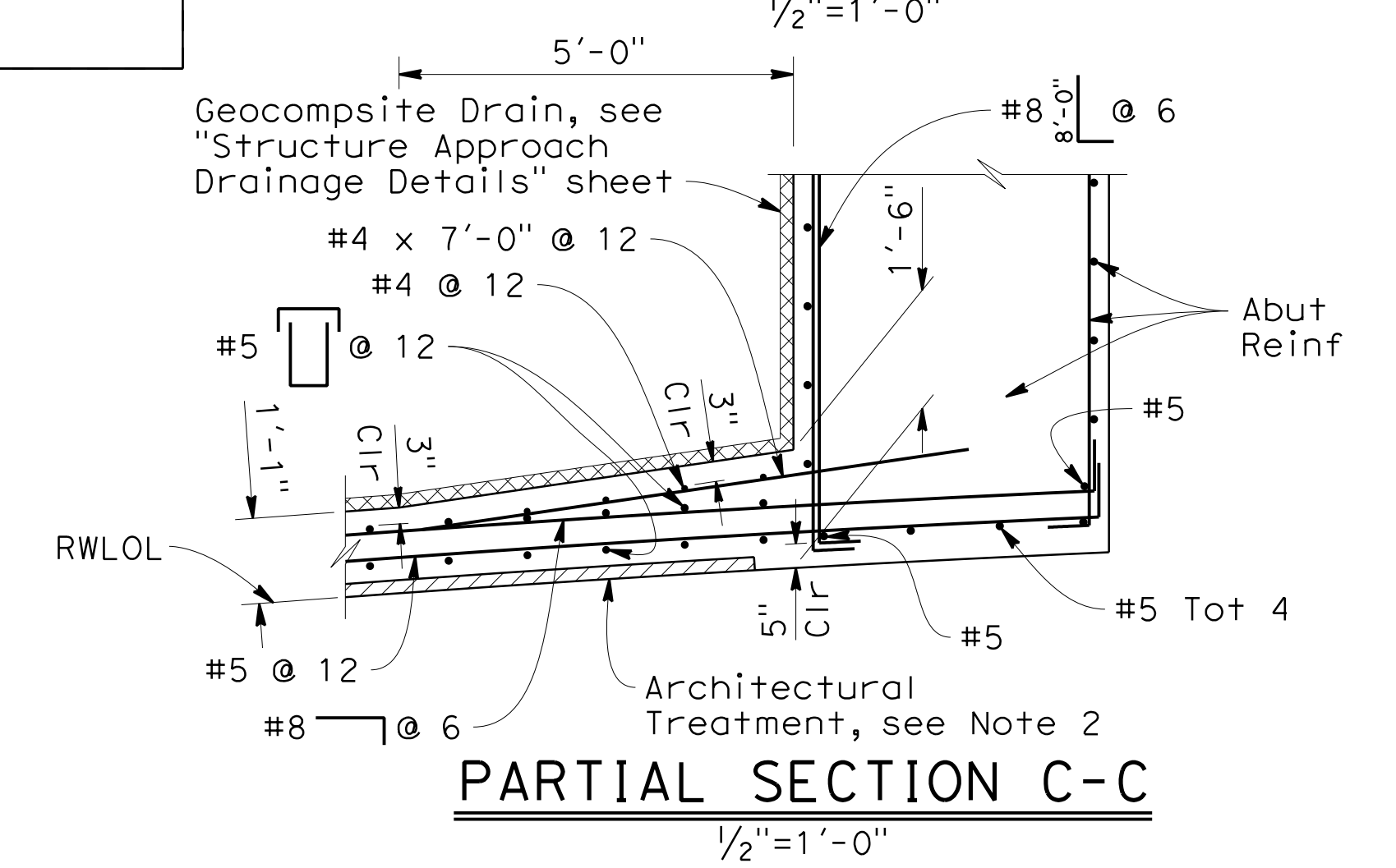
**\* Similar for all wing walls  
WING WALL ELEVATION**  
1/4" = 1'-0"



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



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



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

**Notes:**

1. For additional information, see "Abutment 4 Layout" sheet.
2. For Architectural details not shown, see Architectural Details sheets.
3. For Retaining Wall details, see "Abutment Details No. 6" sheet.
4. For Monument, see "Architectural Details No. 3" sheet.
5. For "Section F-F", see "Abutment Details No. 4" sheet.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
MADE CORRECTIONS NOTED  
REVISED CALCULATIONS  
INDICATED  
HEREIN IS FORWARDED BY THE DEPARTMENT TO ENSURE  
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DESIGN CONCEPT OF THE PROJECT AND GENERAL COM-  
PLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR  
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DIMENSIONS, PROPER CONSTRUCTION AND INSTALLA-  
TION METHODS AND FOR FULFILLING ALL CONTRACTUAL  
REQUIREMENTS. ACCEPTANCE INDICATED HEREIN  
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GATIONS.  
DATE 8/8/16

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UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA  
USERNAME => patrick DATE PLOTTED => 7/29/2016

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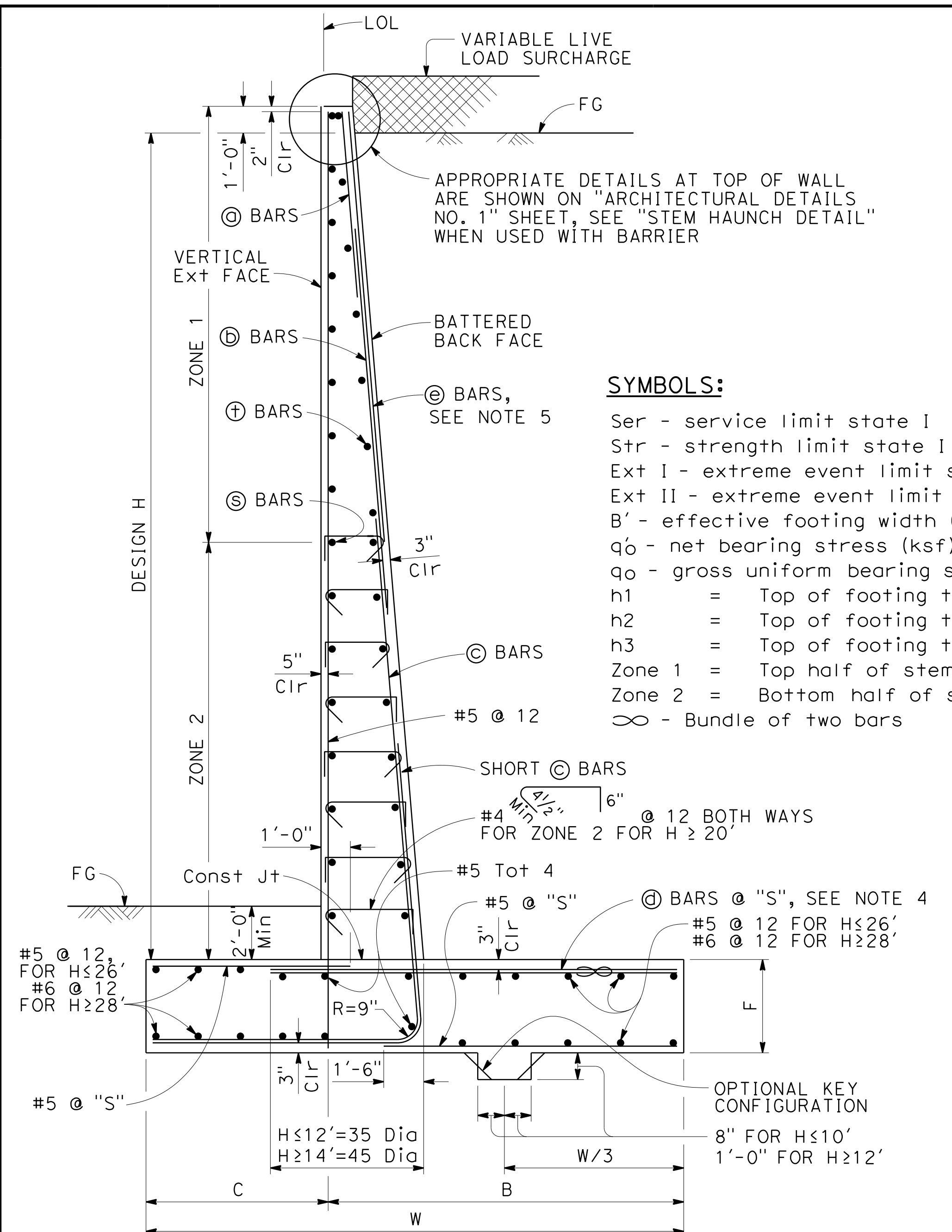
NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

**Brett W. Karnes**  
REGISTERED PROFESSIONAL ENGINEER  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA  
DATE 6-22-18

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ABUTMENT DETAILS NO. 5**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

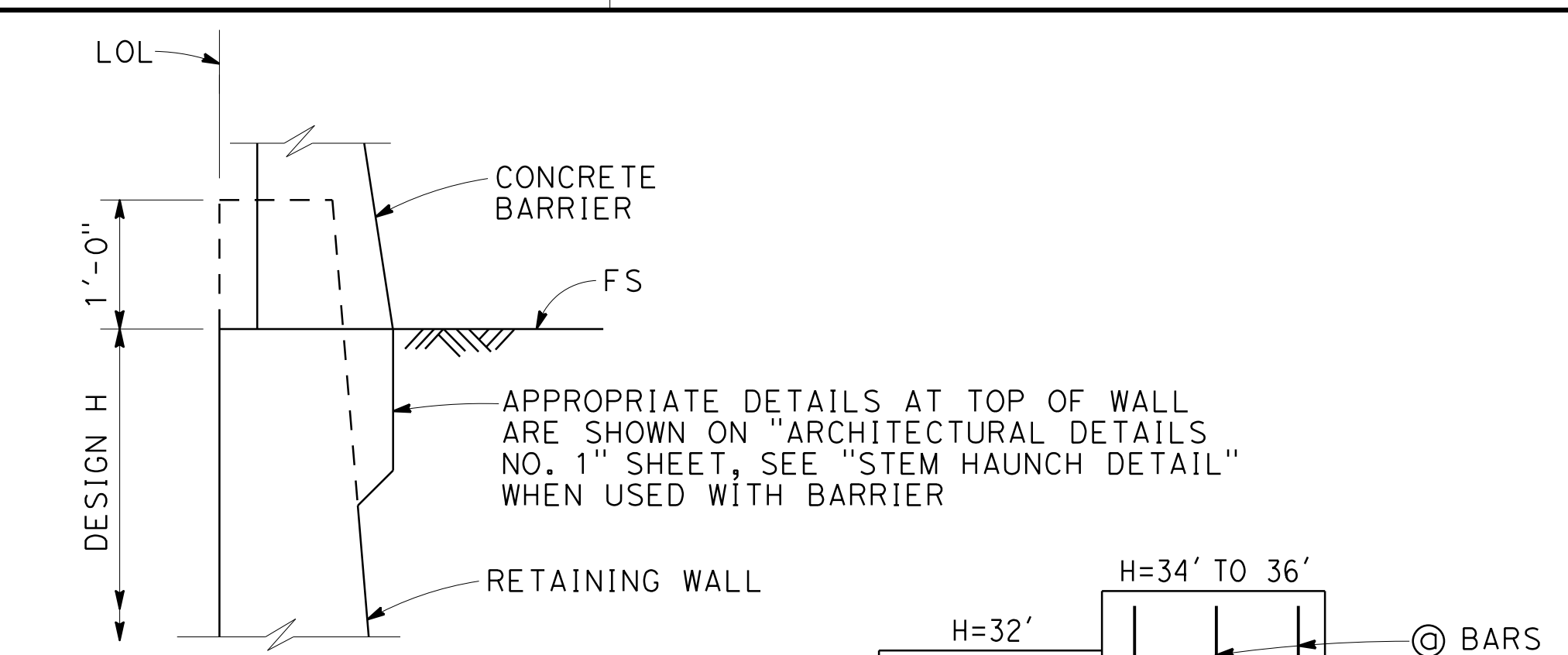
RD 53138 BR. 4200 PB642453 SHEET 11 OF 56



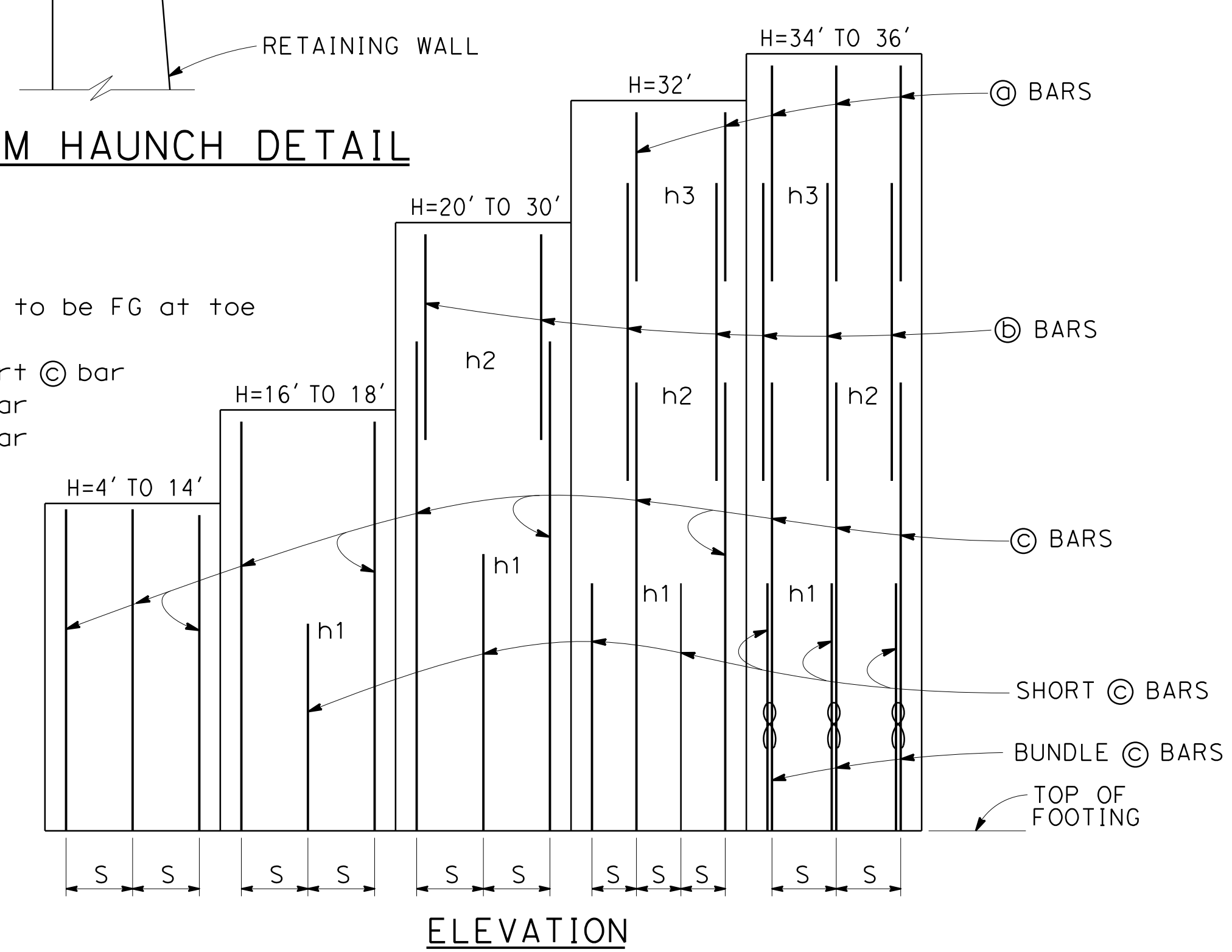
**TYPICAL SECTION**

**NOTES:**

- For details not shown and drainage notes see RSP B3-5
- For wall stem joint details see B0-3 3-3 and B0-3 3-4
- At  $\textcircled{C}$  bars:  
 $H \leq 6'$ , no splices are allowed within 1'-8" above the top of footing.  
 $H > 6'$ , no splices are allowed within  $H/4$  above the top of footing.
- Bundle  $\textcircled{D}$  bars for  $H = 34'$  &  $36'$ .
- Provide #6 @ 10" x 15'-0"  $\textcircled{C}$  bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations. For  $H \leq 14'$ , hook  $\textcircled{C}$  bar into footing and reduce bar length as needed to maintain Min Clr cover.
- Finish grade varies, see Civil plans.



**STEM HAUNCH DETAIL**



**ELEVATION**

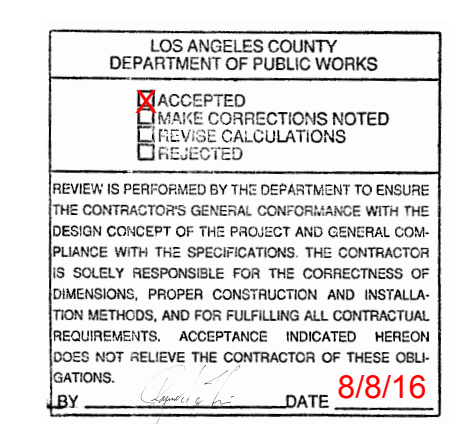
**SYMBOLS:**

- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- $q_0$  - net bearing stress (ksf), OG assumed to be FG at toe
- $q_0$  - gross uniform bearing stress (ksf)
- h1 = Top of footing to top of short  $\textcircled{C}$  bar
- h2 = Top of footing to top of  $\textcircled{C}$  bar
- h3 = Top of footing to top of  $\textcircled{D}$  bar
- Zone 1 = Top half of stem height
- Zone 2 = Bottom half of stem height
- $\infty$  - Bundle of two bars

**DESIGN NOTES:**

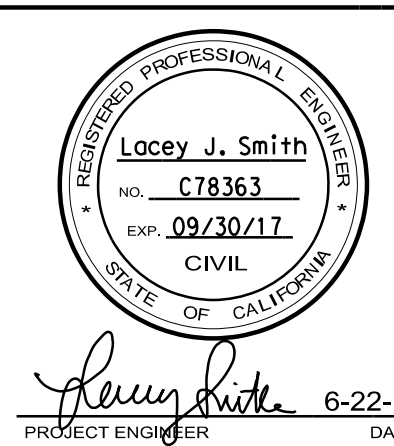
- DESIGN: AASHTO LRFD Bridge Design Specifications, 6th Edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem Architectural Treatment of thickness up to 2" of concrete (25 psf) considered
- CT: 54 kip transverse force applied at  $H_e = 32'$ , distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
- SEISMIC:  $k_H = 0.30, k_V = 0.0, EQE = 23 \text{ pcf}$
- SOIL:  $\phi = 34^\circ, \gamma = 120 \text{ pcf}$
- REINFORCED CONCRETE:  $f'_c = 3,600 \text{ psi}$   
 $f_y = 60,000 \text{ psi}$
- LOAD COMBINATIONS AND LIMIT STATES:  
 Service I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$   
 Strength I  $Q = \alpha DC + \beta EV + \eta EH + 1.75LS$   
 Extreme I  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$   
 Extreme II  $Q = 1.00DC + 1.00EV + 1.00EH + 1.00CT$
- Where:  
 Q: Force Effects  
 $\alpha$ : 1.25 or 0.90, Whichever Controls Design  
 $\beta$ : 1.35 or 1.00, Whichever Controls Design  
 $\eta$ : 1.50 or 0.90, Whichever Controls Design  
 DC: Dead Load of Structure Components  
 EH: Horizontal Earth Fill Pressure  
 EV: Vertical Earth Pressure from Earth Fill Weight  
 LS: Live Load Surcharge  
 EQE: Seismic Earth Pressure  
 EQD: Soil and Structural and Nonstructural Components Inertia  
 CT: Vehicular Collision Force

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA							
DESIGN H	12'	14'	16'	18'	20'	22'	24'
W	8'-4"	9'-7"	10'-9"	12'-0"	13'-3"	14'-6"	15'-9"
C	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"
B	5'-10"	6'-7"	7'-3"	8'-0"	8'-9"	9'-6"	10'-4"
F	1'-6"	1'-8"	1'-8"	1'-9"	1'-9"	1'-11"	2'-2"
BATTER	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	5/8: 12
SPACING "S"	9"	7"	6"	5"	6"	6"	6"
$\textcircled{C}$ BARS	-	-	-	-	-	-	-
$\textcircled{D}$ BARS	-	-	-	-	#7	#7	#7
$\textcircled{C}$ BARS	#6	#6	#7	#7	#8	#9	#9
$\textcircled{D}$ BARS	#6	#6	#9	#8	#8	#9	#9
h1	-	-	5'-9"	5'-10"	8'-0"	9'-0"	10'-1"
h2	-	-	-	-	10'-5"	13'-0"	14'-7"
h3	-	-	-	-	-	-	-
ZONE 1 $\textcircled{S}$ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12
ZONE 2 $\textcircled{S}$ BARS	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 1 $\textcircled{+}$ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12
ZONE 2 $\textcircled{+}$ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12



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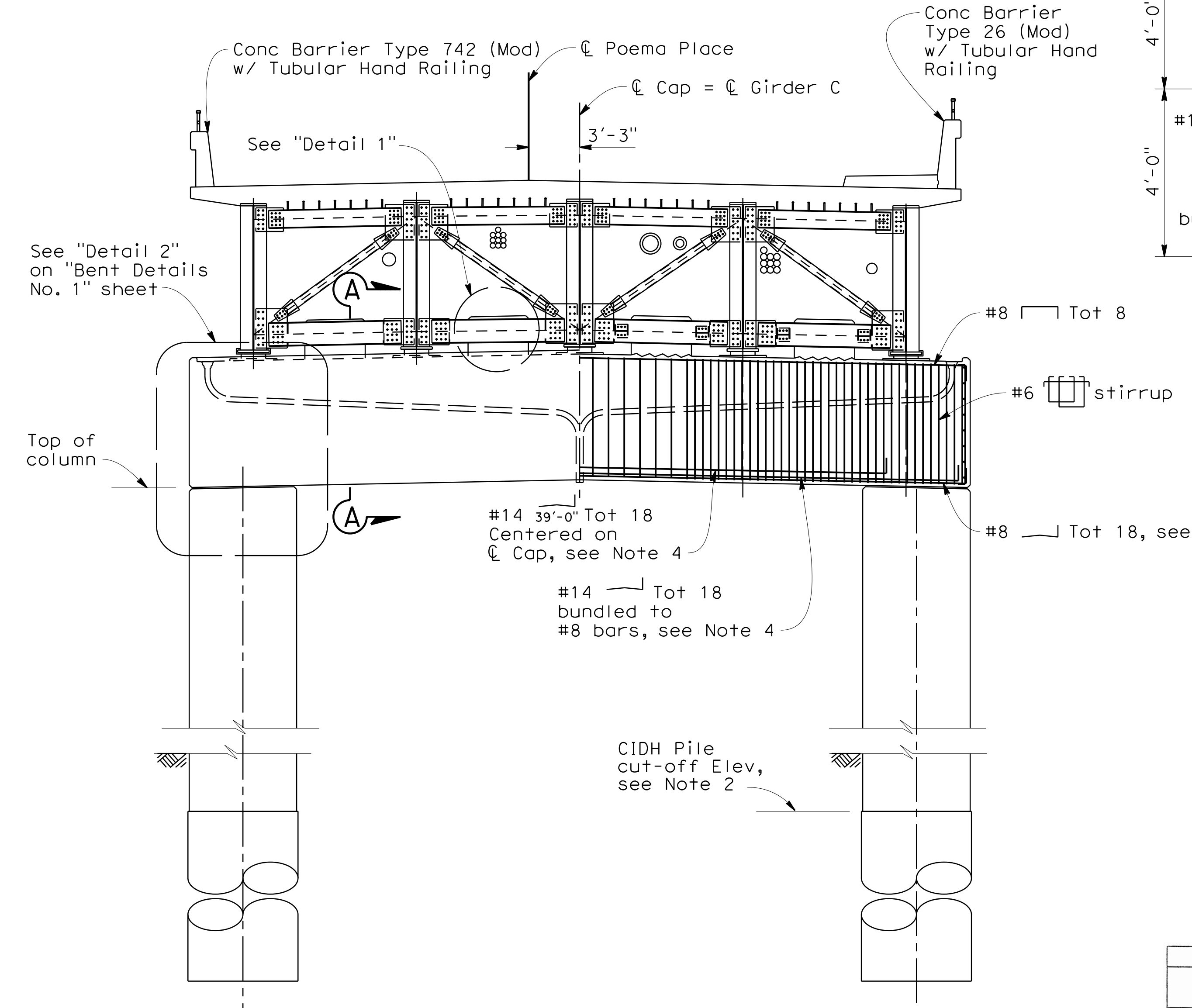
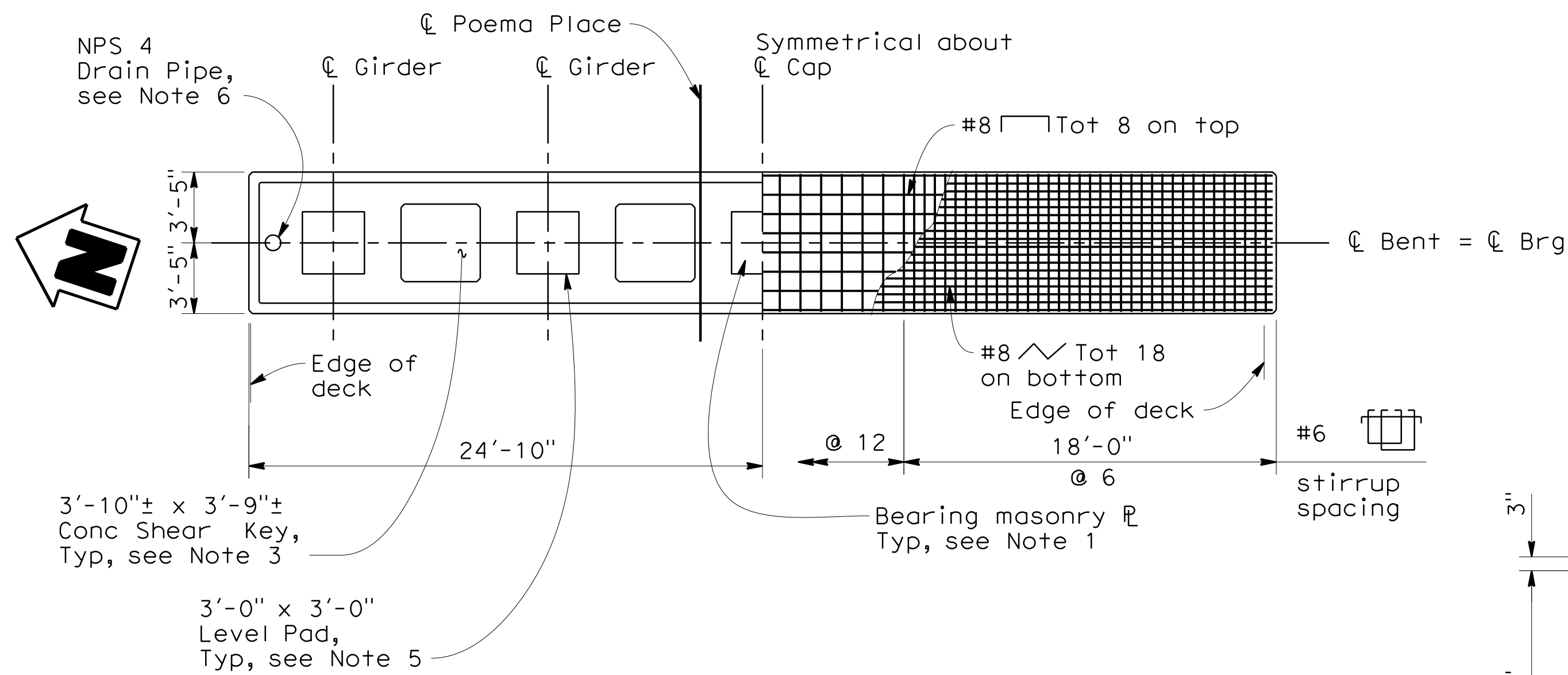


COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

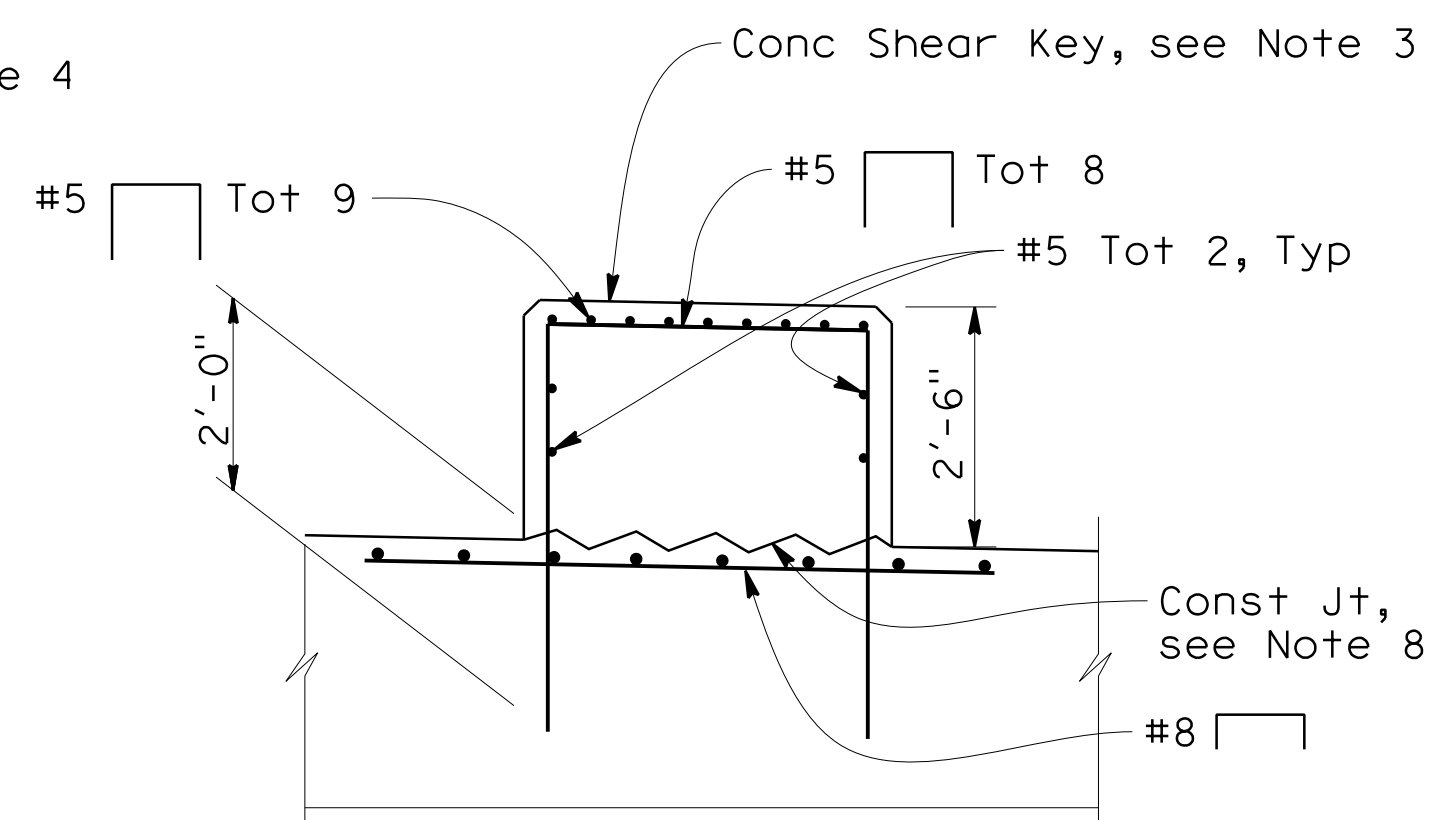
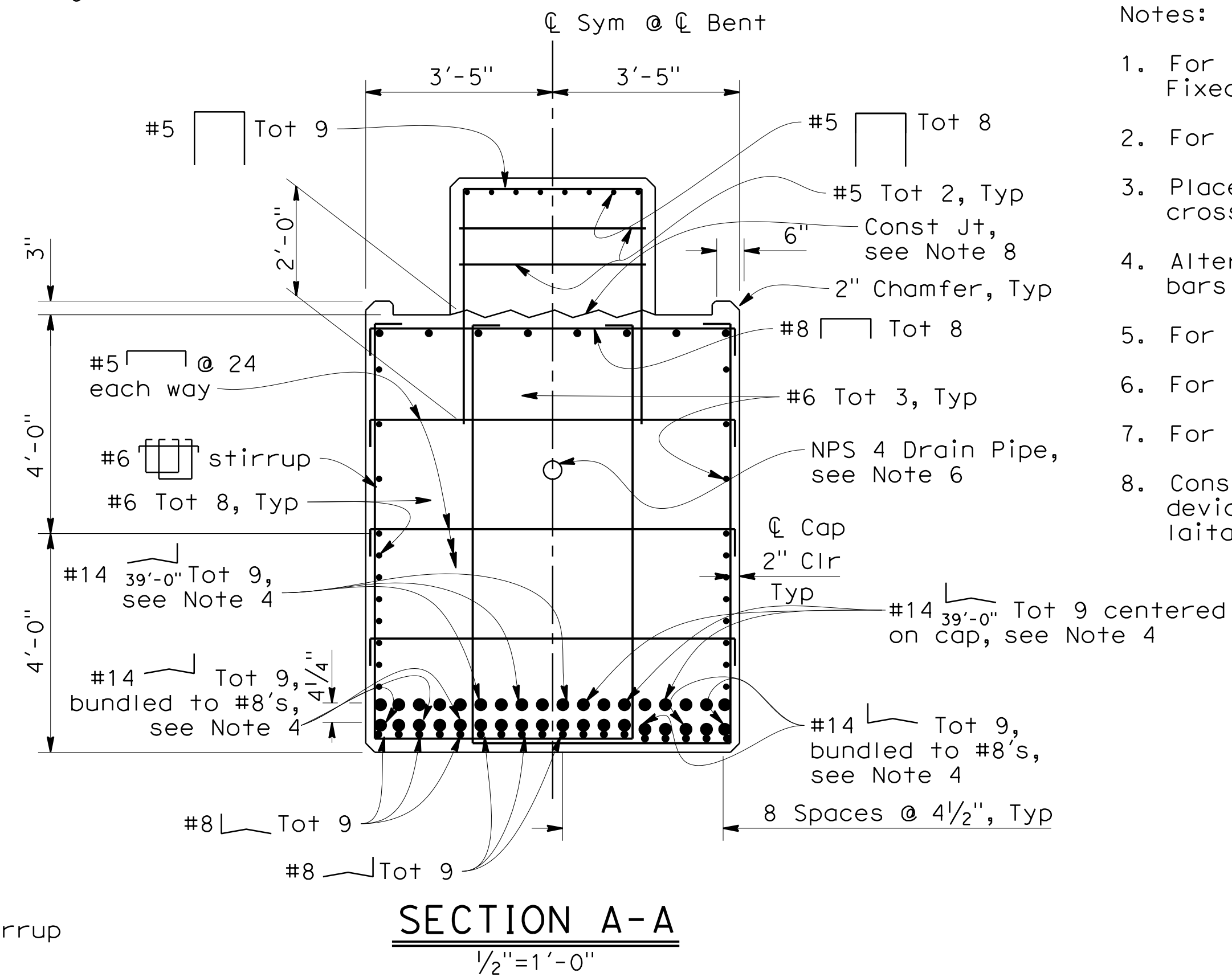
**ABUTMENT DETAILS NO. 6**

**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 12 OF 56



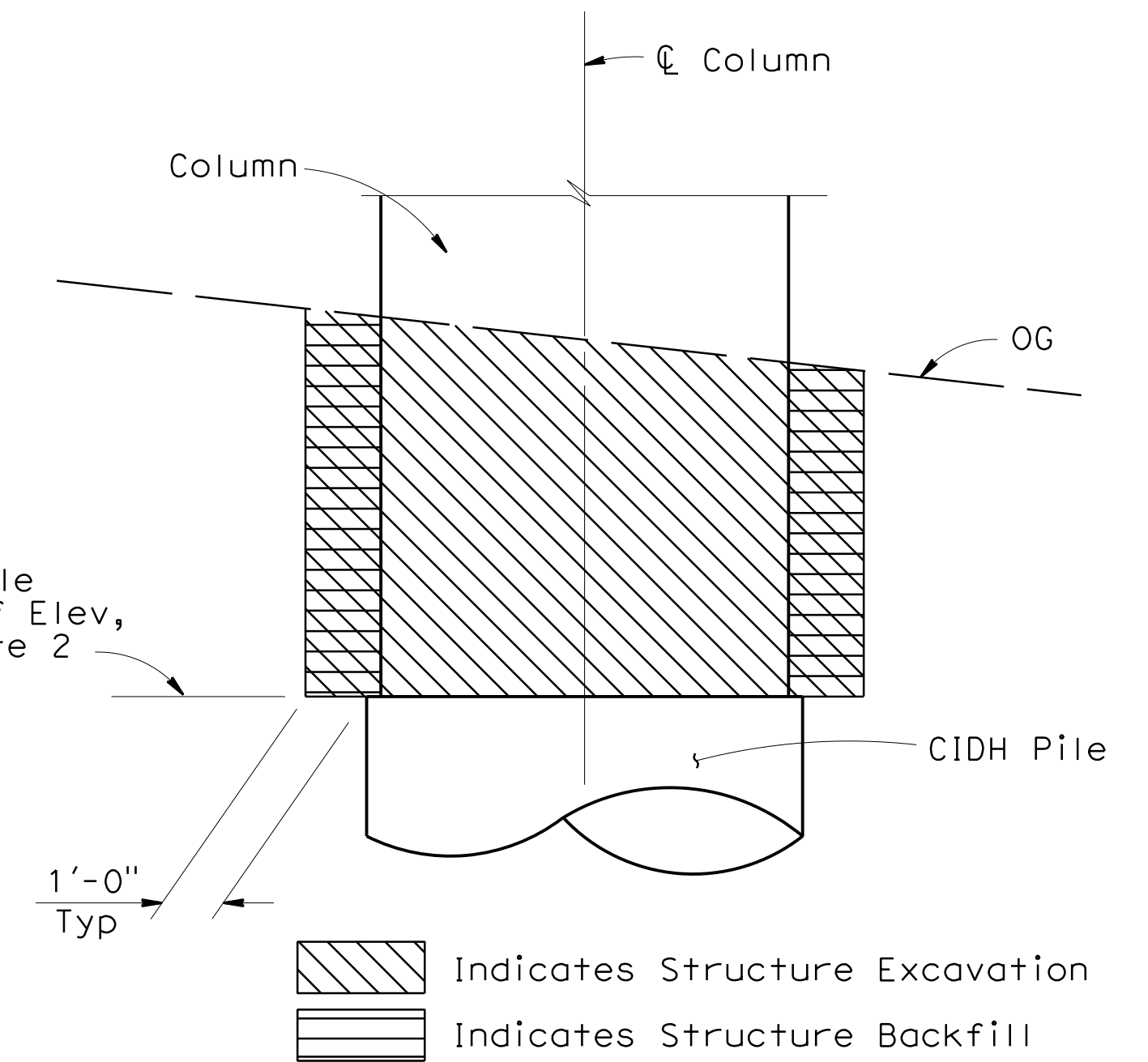
**ELEVATION**  
3/16" = 1'-0"



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

**Notes:**

1. For Bearing Details, see PTFE/Spherical Fixed Bearing Details sheets.
2. For pile tip and cut-off elevations, see "Foundation Plan".
3. Place concrete shear key after erecting steel girders and cross frames.
4. Alternate bars hooked at left of  $\text{C} \cap$  Bent (Tot 9) with bars hooked at right of  $\text{C} \cap$  Bent (Tot 9).
5. For level pad, see "Bent Details No. 2".
6. For NPS 4 drain pipe, see "Bent Details No. 2".
7. For Detail 2, see "Bent Details No. 1" sheet.
8. Construction joint with roughened surface (1/4" Min deviation from planar surface). Remove sediment, laitance, & weak concrete prior to casting shear key.



**LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL**  
No Scale

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
REVISIONS NOTED  
REVISIONS CALCULATED  
REVISIONS CHECKED  
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DATE 8/8/16

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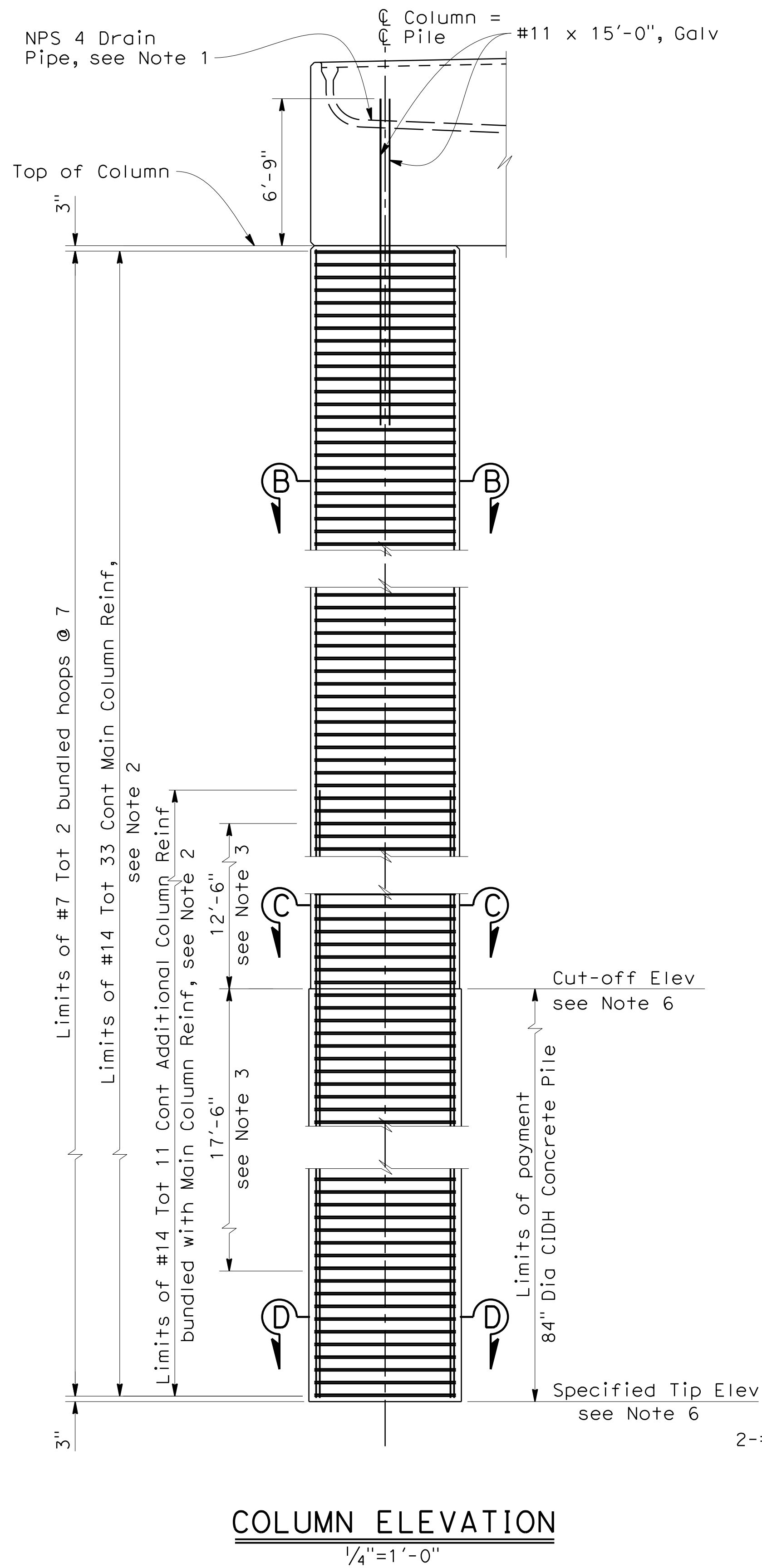
PROJECT ENGINEER DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS  
**BENT LAYOUT**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

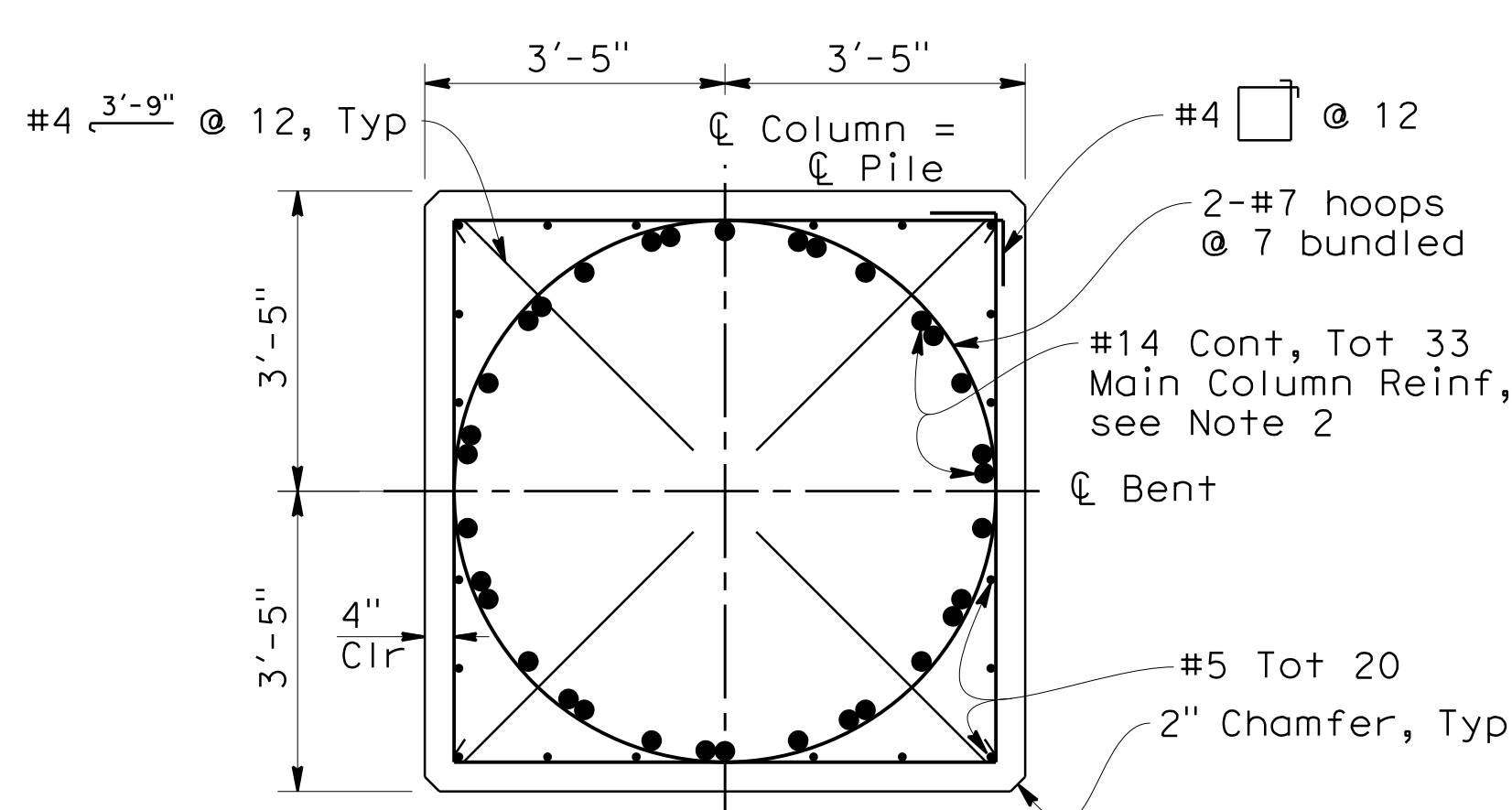
RD 53138 BR. 4200 PB642453 SHEET 13 OF 56

**DIGALERT**  
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

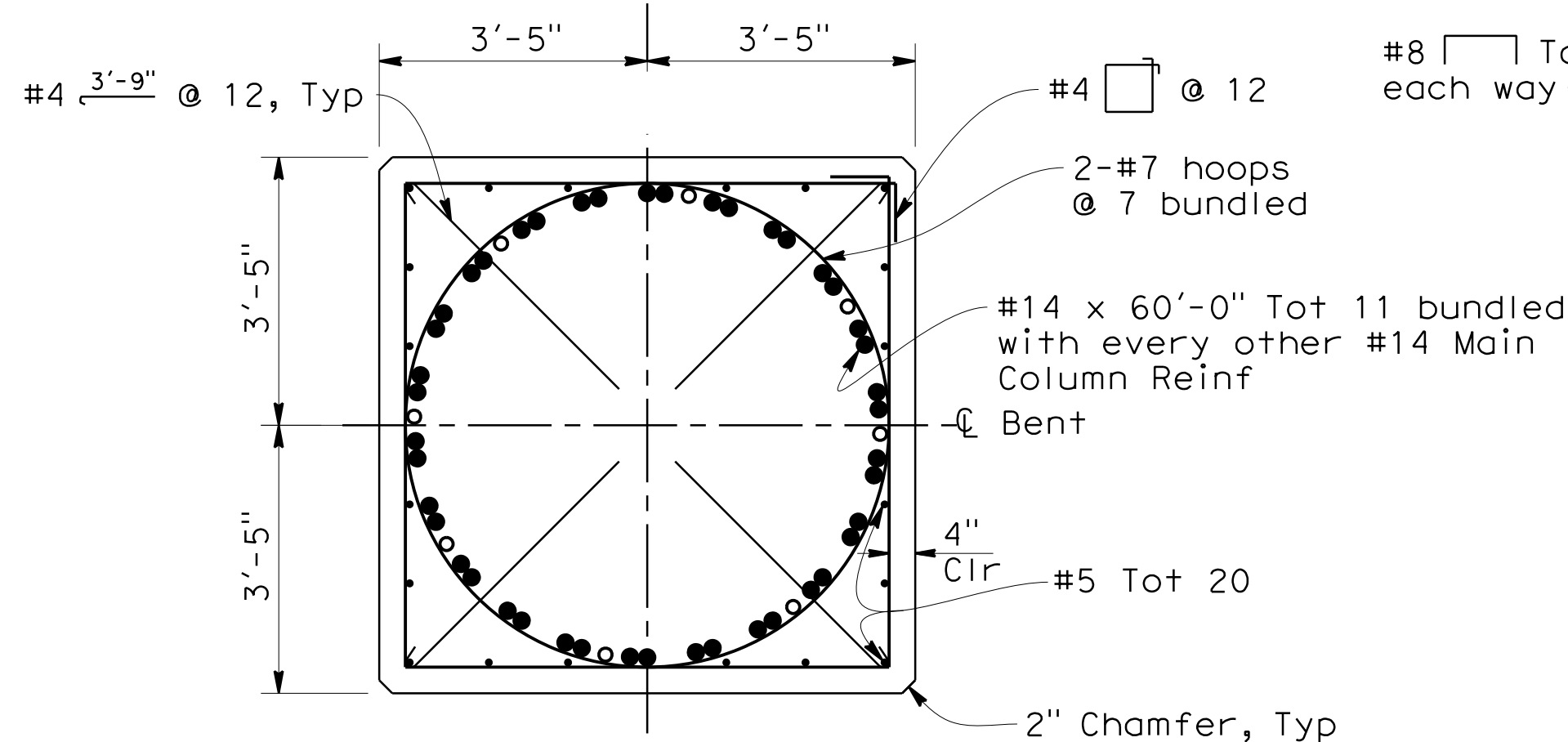
QUINCY ENGINEERING, INC  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670



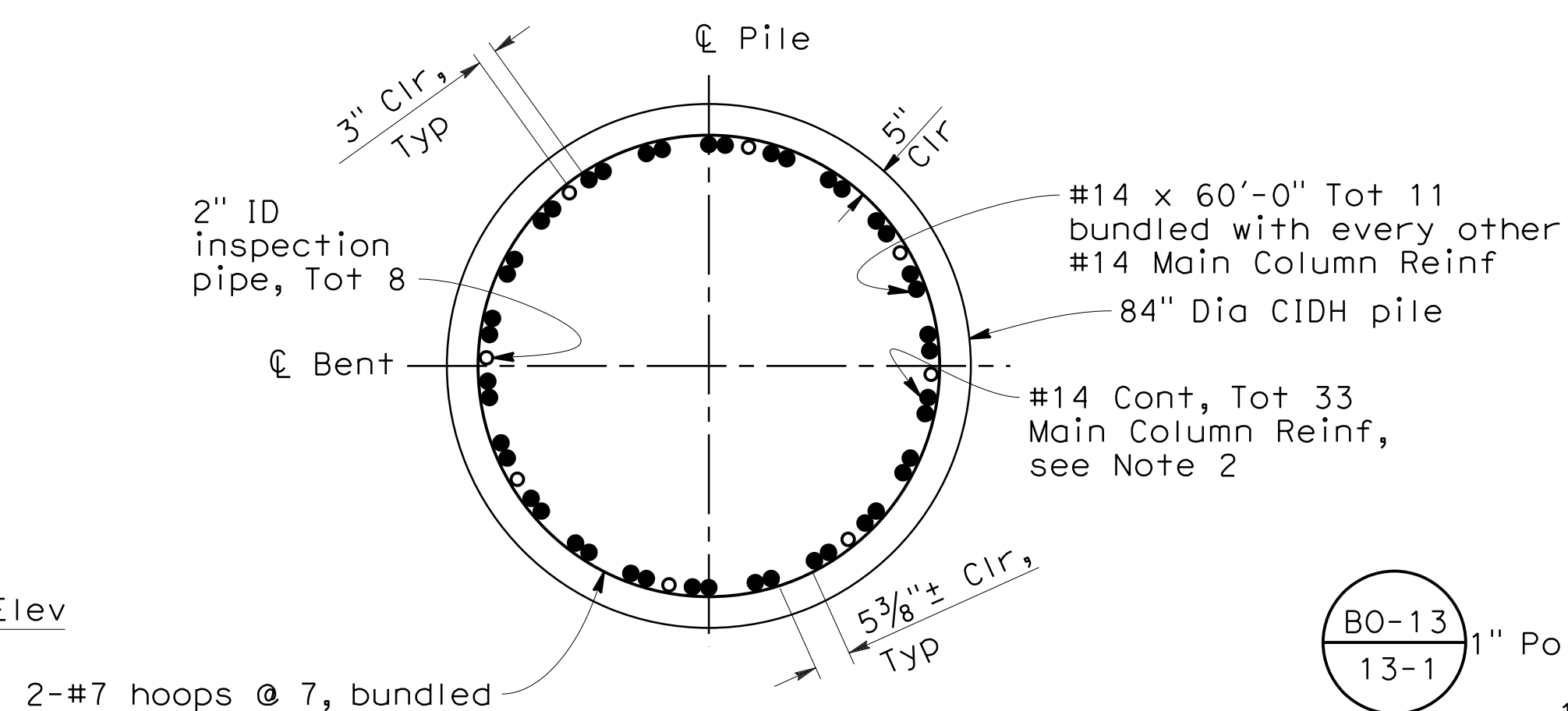
**COLUMN ELEVATION**  
1/4"=1'-0"



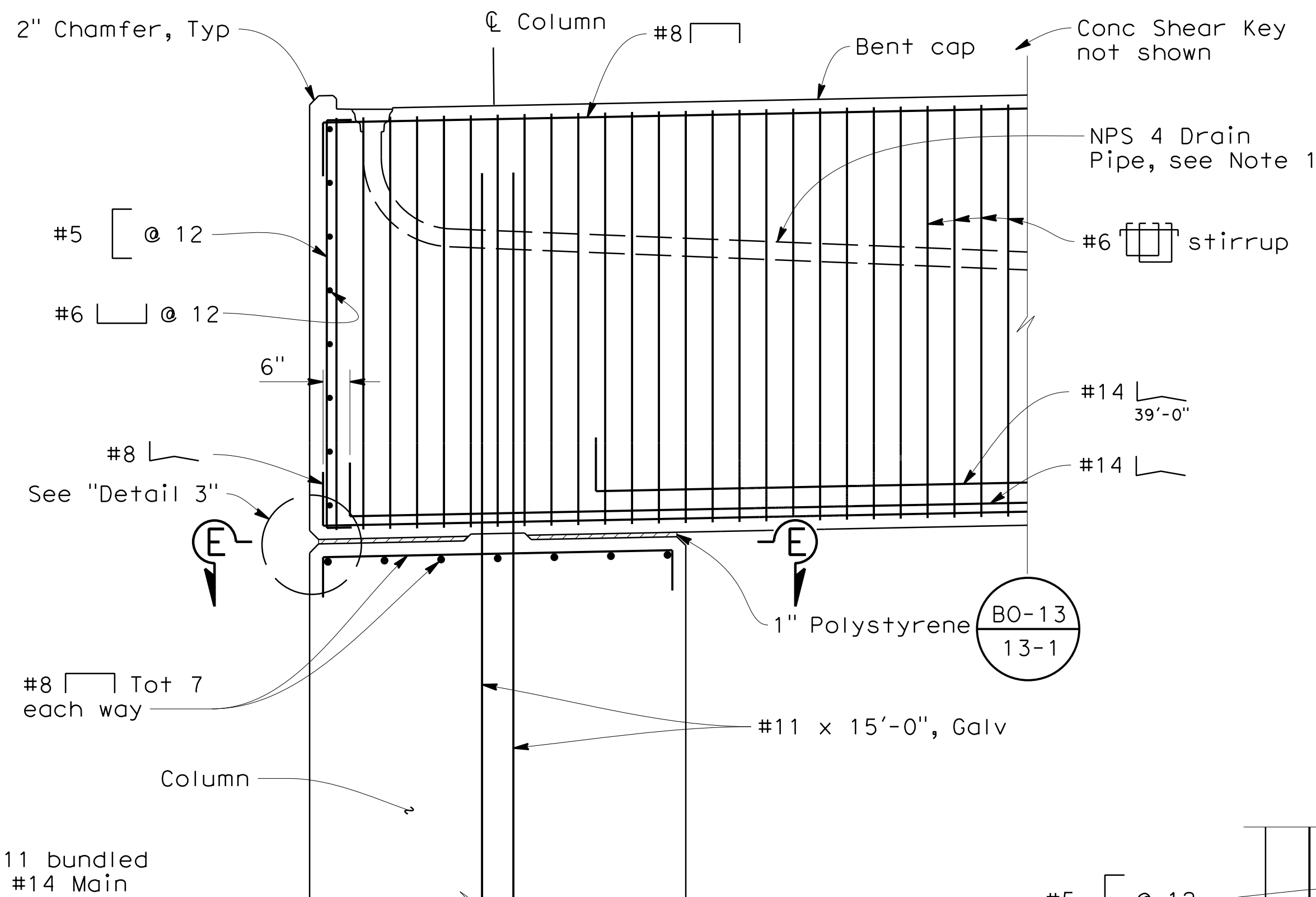
**SECTION B-B**  
1/2"=1'-0"



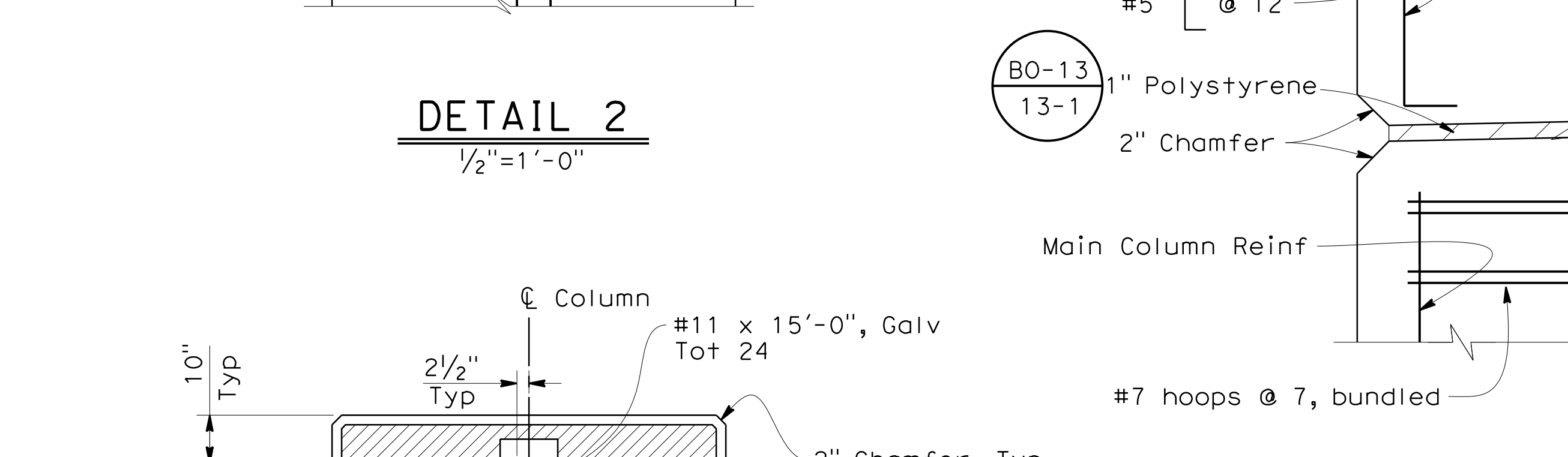
**SECTION C-C**  
1/2"=1'-0"



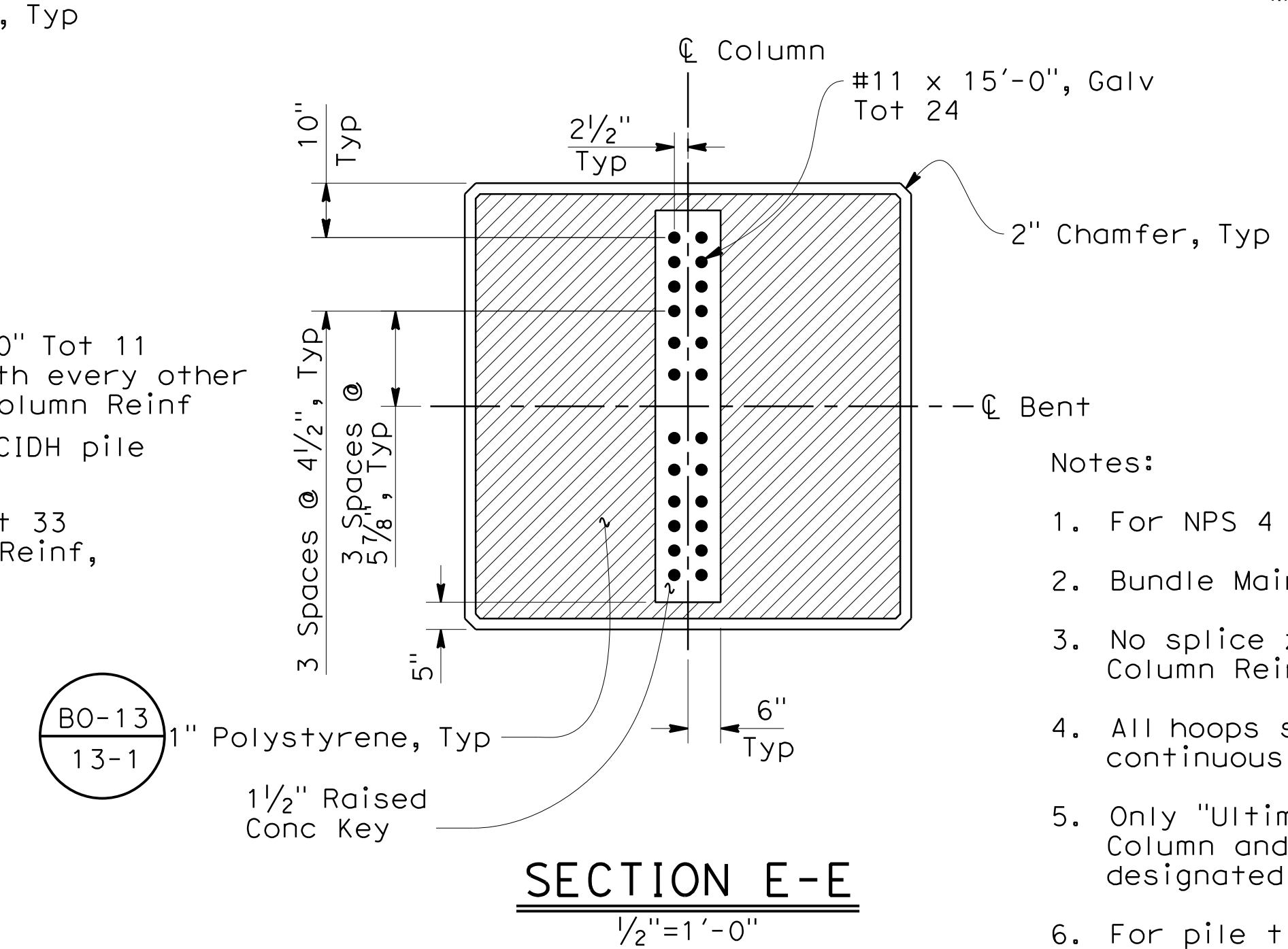
**SECTION D-D**  
1/2"=1'-0"



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



**DETAIL 3**  
No Scale



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

- Notes:
1. For NPS 4 drain pipe, see "Bent Details No. 2".
  2. Bundle Main Column Reinf every other space.
  3. No splice zone for Main Column & Additional Column Reinforcement.
  4. All hoops shall be "Ultimate" butt splice continuous in Main Column & CIDH pile.
  5. Only "Ultimate" Butt Splice are allowed in Main Column and Additional Column Reinforcement in designated zone.
  6. For pile tip and cut-off elevations, see "Foundation Plan".



LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MAKE CORRECTIONS NOTED  
REVISE CALCULATIONS  
REJECTED

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DATE: 8/8/16

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Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



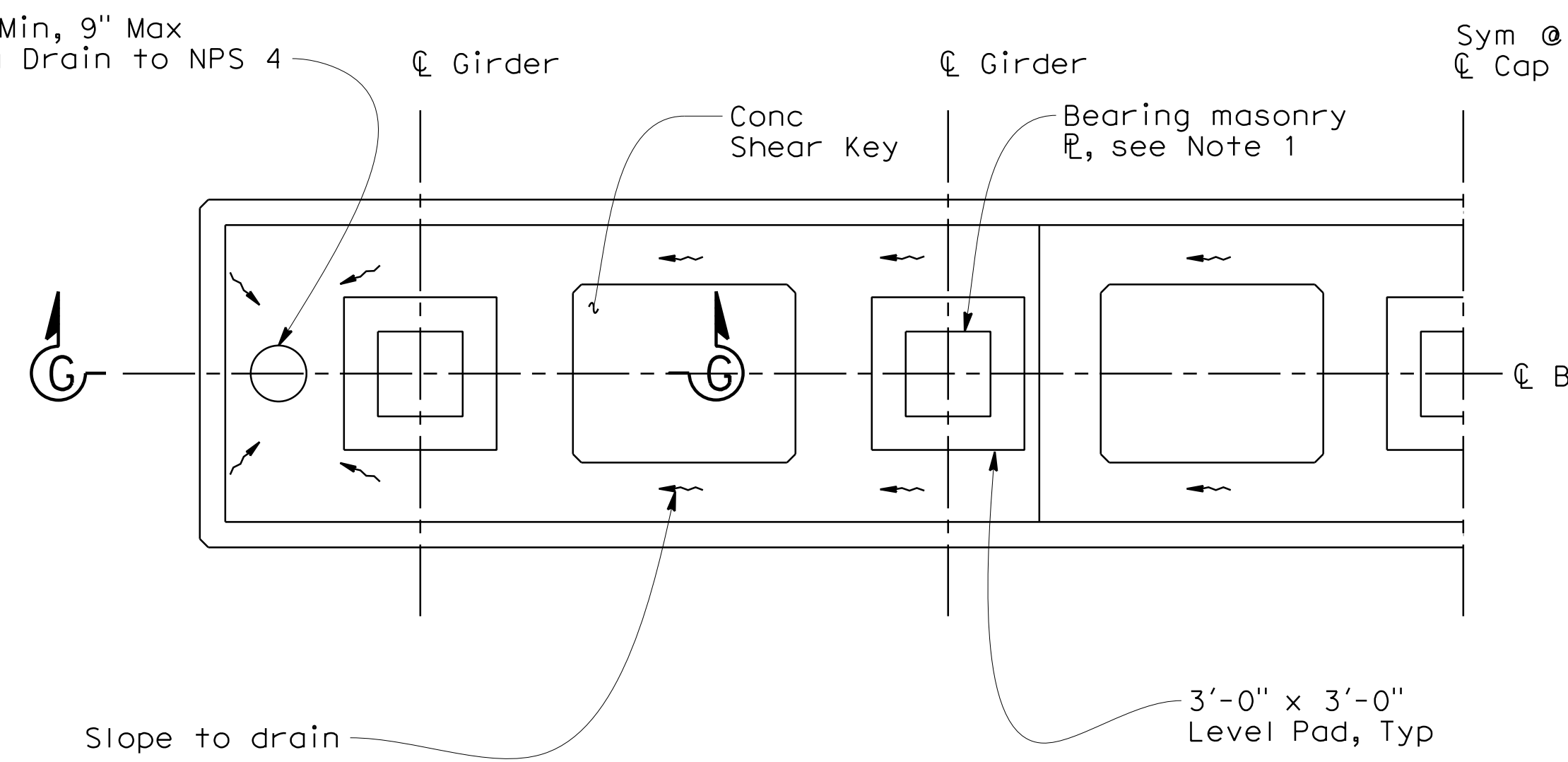
Brett W. Karnes  
PROJECT ENGINEER  
DATE: 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

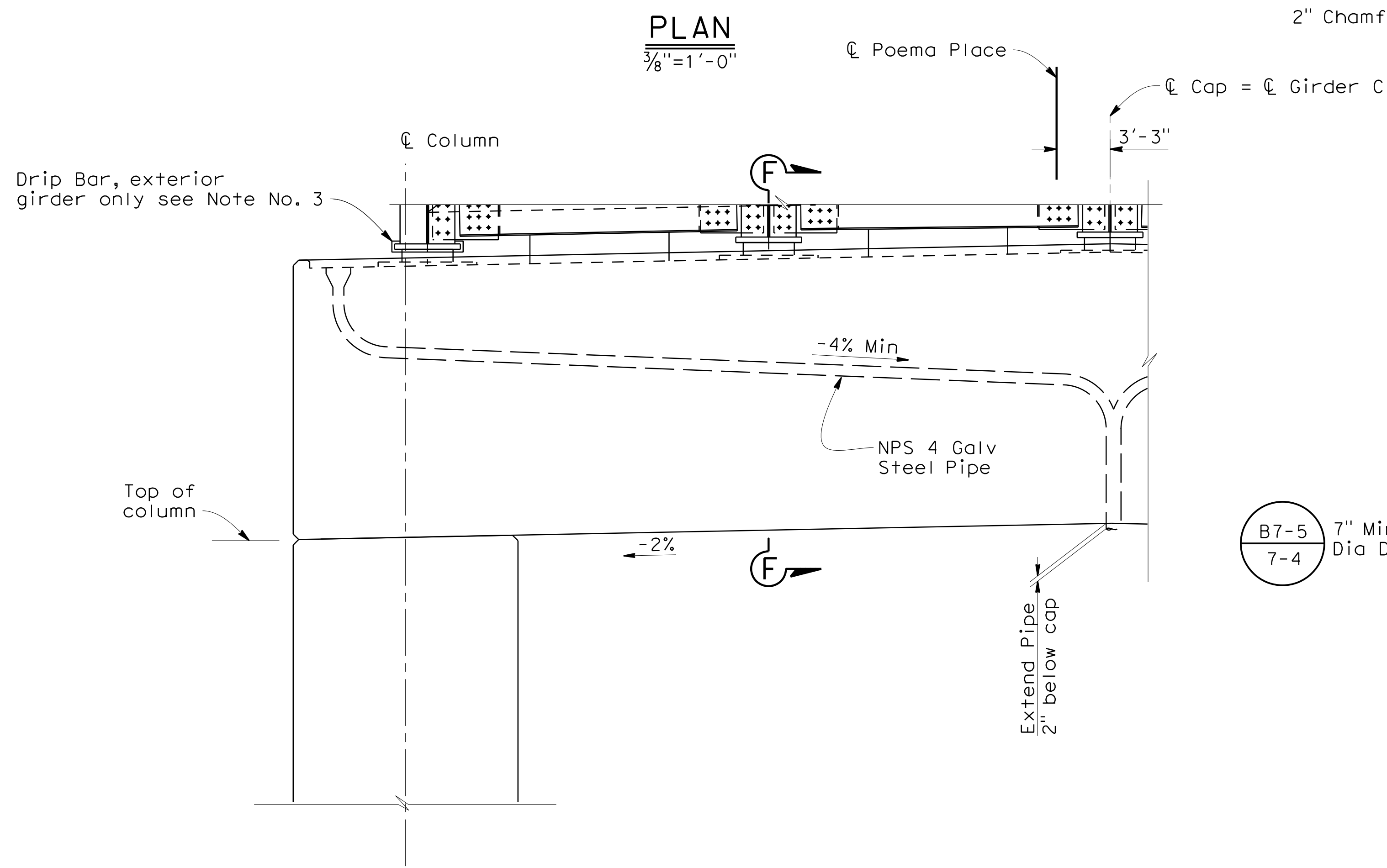
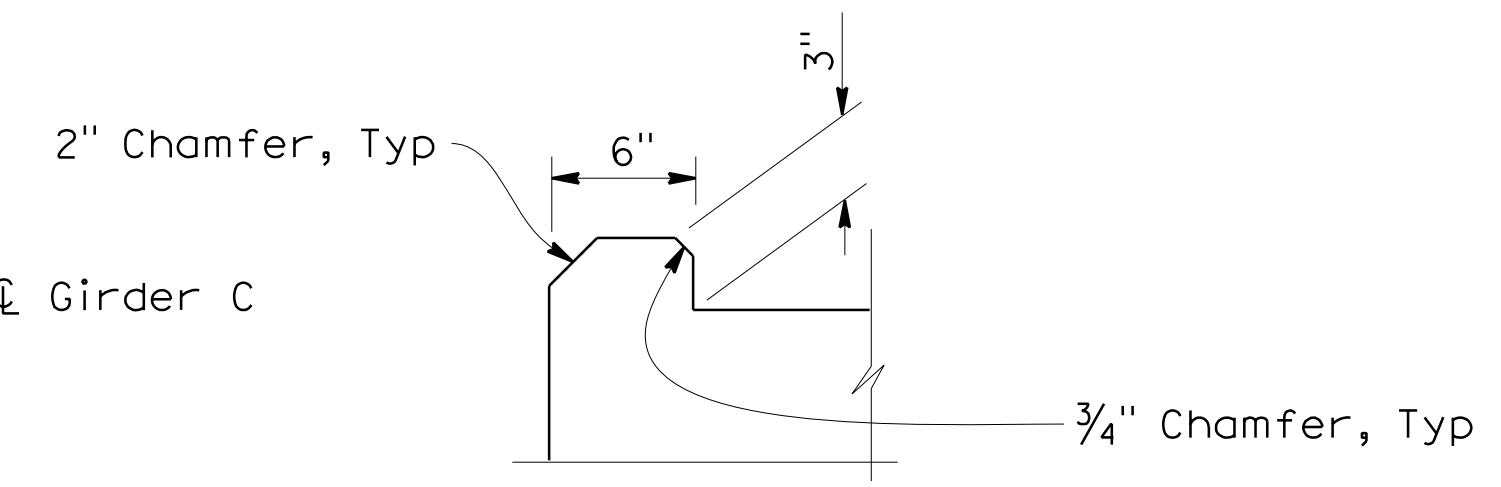
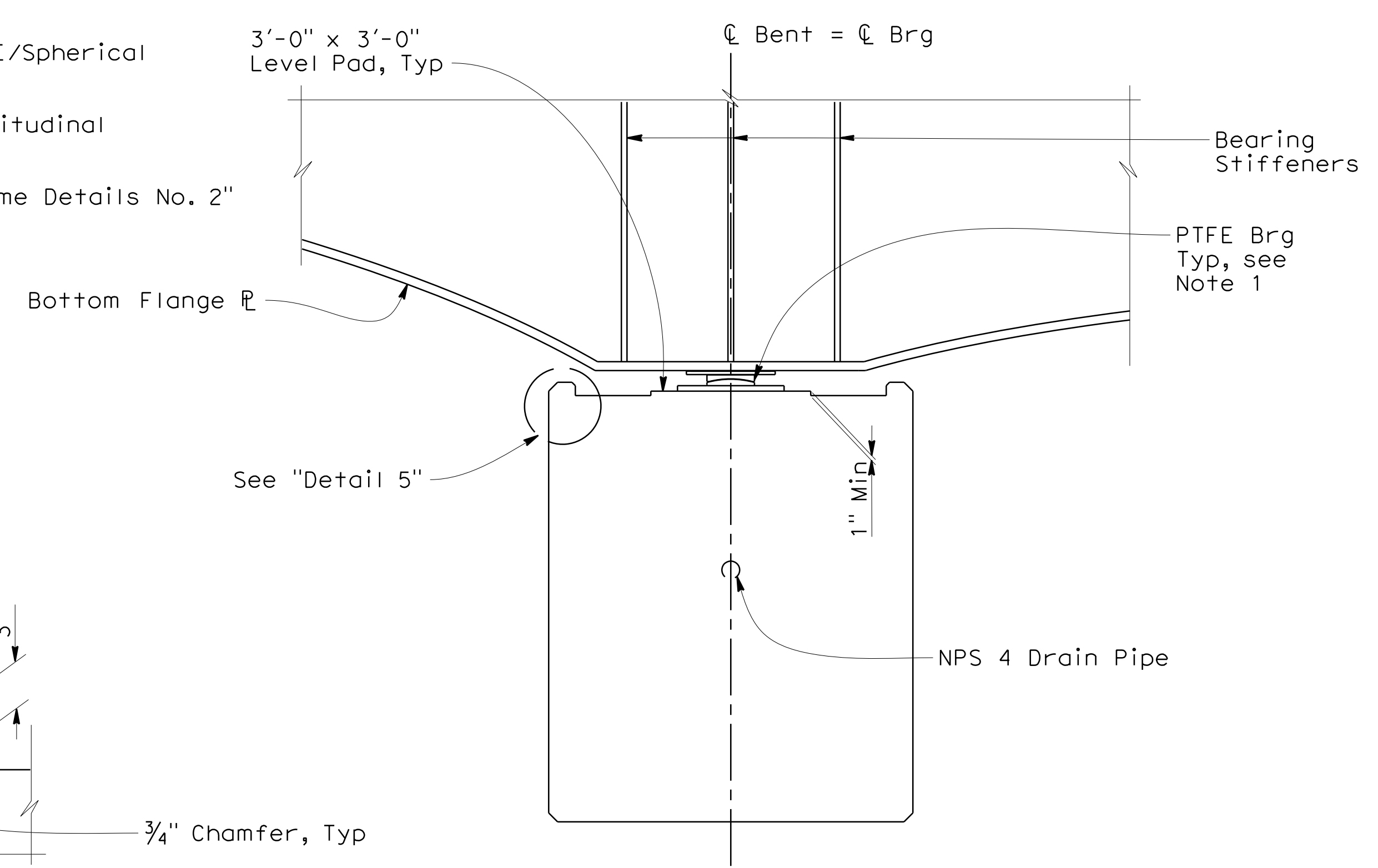
**BENT DETAILS NO. 1**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 14 OF 56

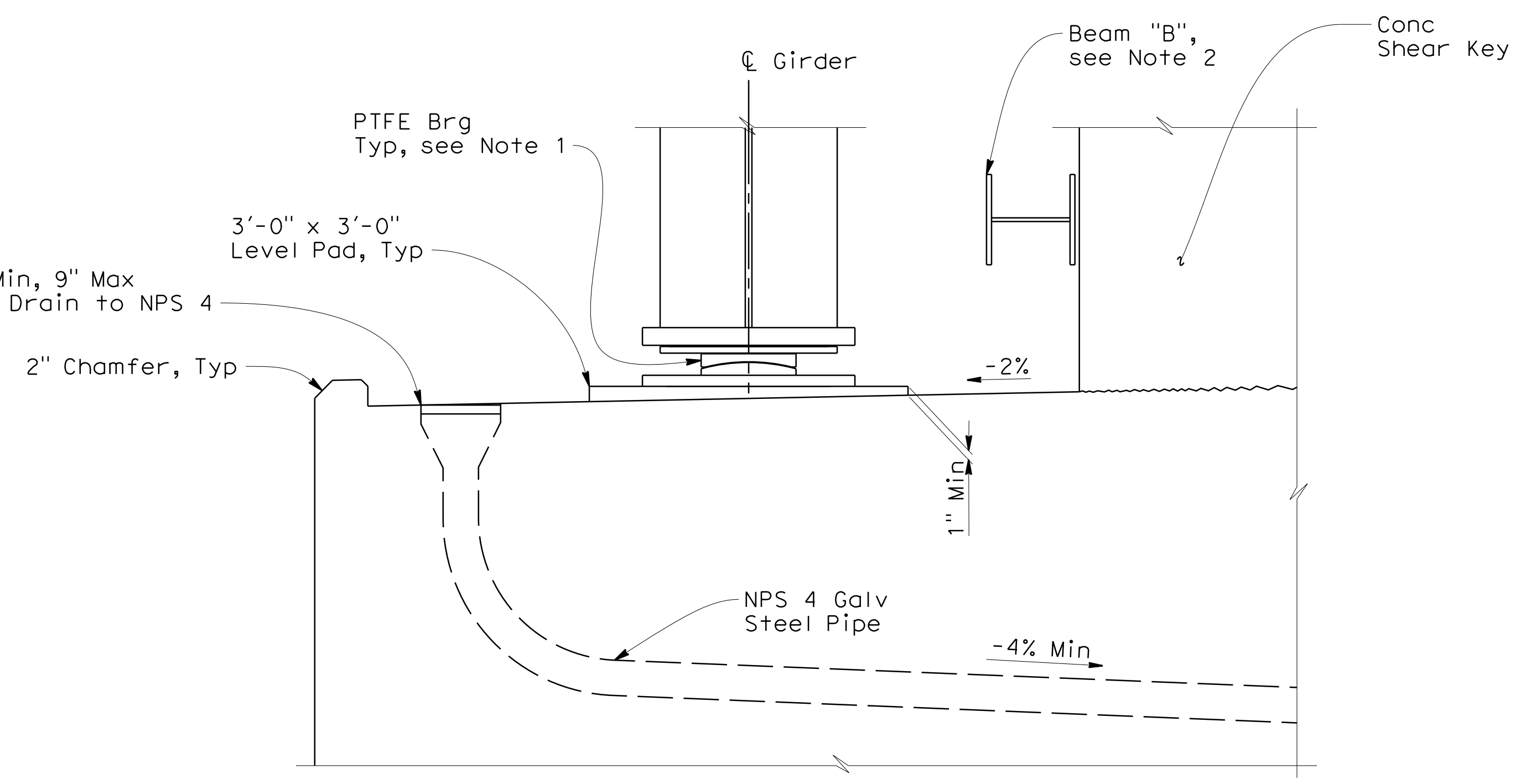
B7-5 7" Min, 9" Max  
7-4 Dia Drain to NPS 4



- Notes:
1. For Bearing Details, see PTFE/Spherical Fixed Bearing Details sheets.
  2. For Beam "B", see "Bent Longitudinal Bracing" sheet.
  3. For Drip Bar, see "Cross Frame Details No. 2" sheet.



B7-5 7" Min, 9" Max  
7-4 Dia Drain to NPS 4



LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MINOR CORRECTIONS NOTED  
REVISED CALCULATIONS  
CORRECTED

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BY: [Signature] DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Kornek  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

Brett W. Kornek 6-22-16  
PROJECT ENGINEER DATE

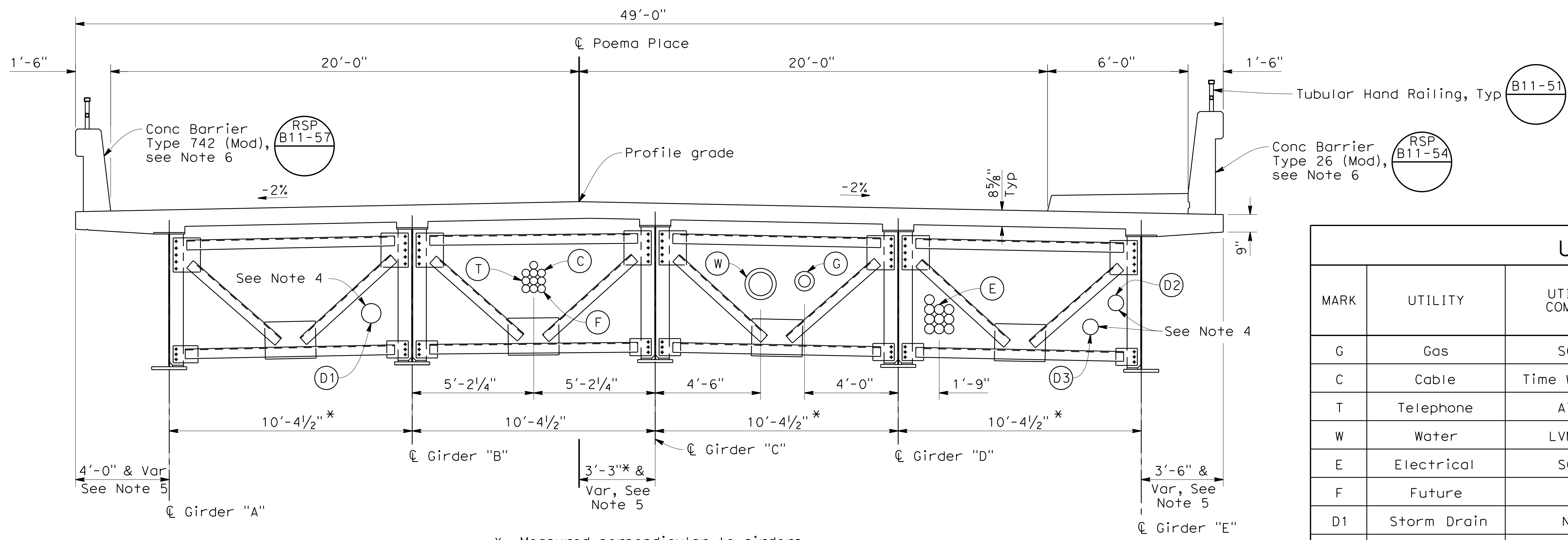
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**BENT DETAILS NO. 2**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 15 OF 56

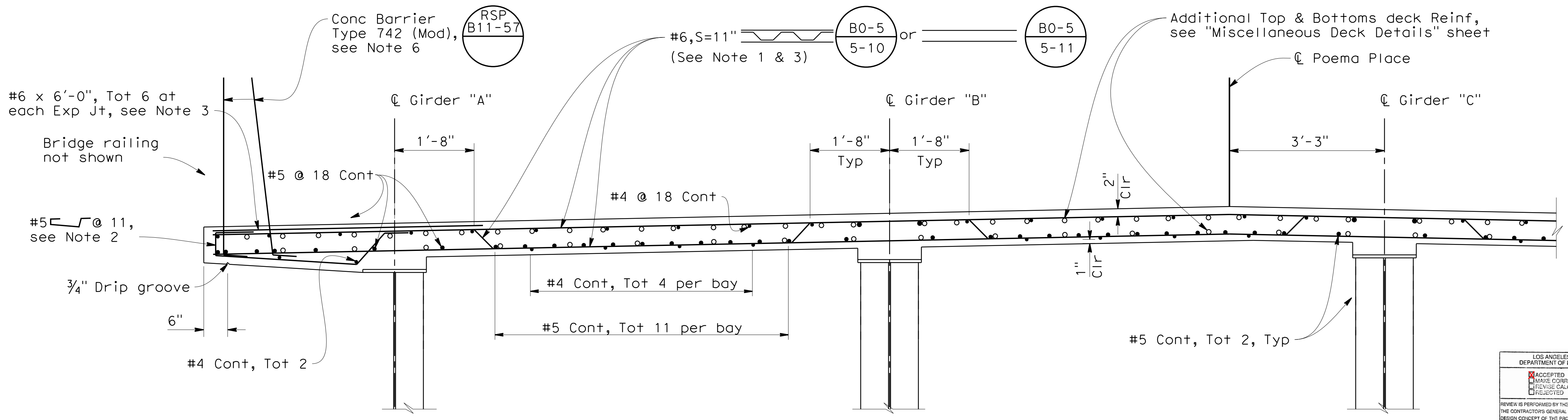
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BEFORE YOU DIG

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11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670



UTILITY TABLE						
MARK	UTILITY	UTILITY COMPANY	PIPE SIZING	CASING SIZE	OPENING SIZE	
					ABUT 1 BACKWALL	ABUT 4 BACKWALL
G	Gas	SCG	6"	10"	10" Dia	10" Dia
C	Cable	Time Warner	4-4"	None	26Wx26H	26Wx26H
T	Telephone	ATT	4-4"	None	26Wx26H	26Wx26H
W	Water	LVMWD	12"	16"	20" Dia	20" Dia
E	Electrical	SCE	10-5"	None	30Wx30H	30Wx30H
F	Future		2-4"	None	26Wx26H	26Wx26H
D1	Storm Drain	NA	10"	None	NA	14" Dia
D2	Storm Drain	NA	8"	None	NA	25Wx20H
D3	Storm Drain	NA	8"	None	NA	NA

\* Measured perpendicular to girders  
**TYPICAL SECTION**  
 $\frac{3}{8}'' = 1'-0''$



**PART TYPICAL SECTION** (B0-5)  
 $\frac{3}{4}'' = 1'-0''$   
 Left side shown, right side similar

- Notes:
- Place transverse top and bottom slab reinforcement perpendicular to girders.
  - Adjust #5 transverse deck reinforcement as required to extend to edge of concrete deck along span.
  - Provide #6 x 6'-0" bundled to every other top transverse bar for 5'-0" on each side of barrier expansion joints.
  - For Deck Drainage Details, see "Drainage Layout" sheet.
  - All Girders are straight, see "Girder Layout" sheet.
  - For additional barrier details, see Architectural Details sheets.

LOS ANGELES COUNTY  
 DEPARTMENT OF PUBLIC WORKS  
 ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REJECTED  
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 BY: [Signature] DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
 Brett W. Karnes  
 NO. C75417  
 EXP. 12/31/17  
 CIVIL  
 STATE OF CALIFORNIA  
 PROJECT ENGINEER DATE: 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

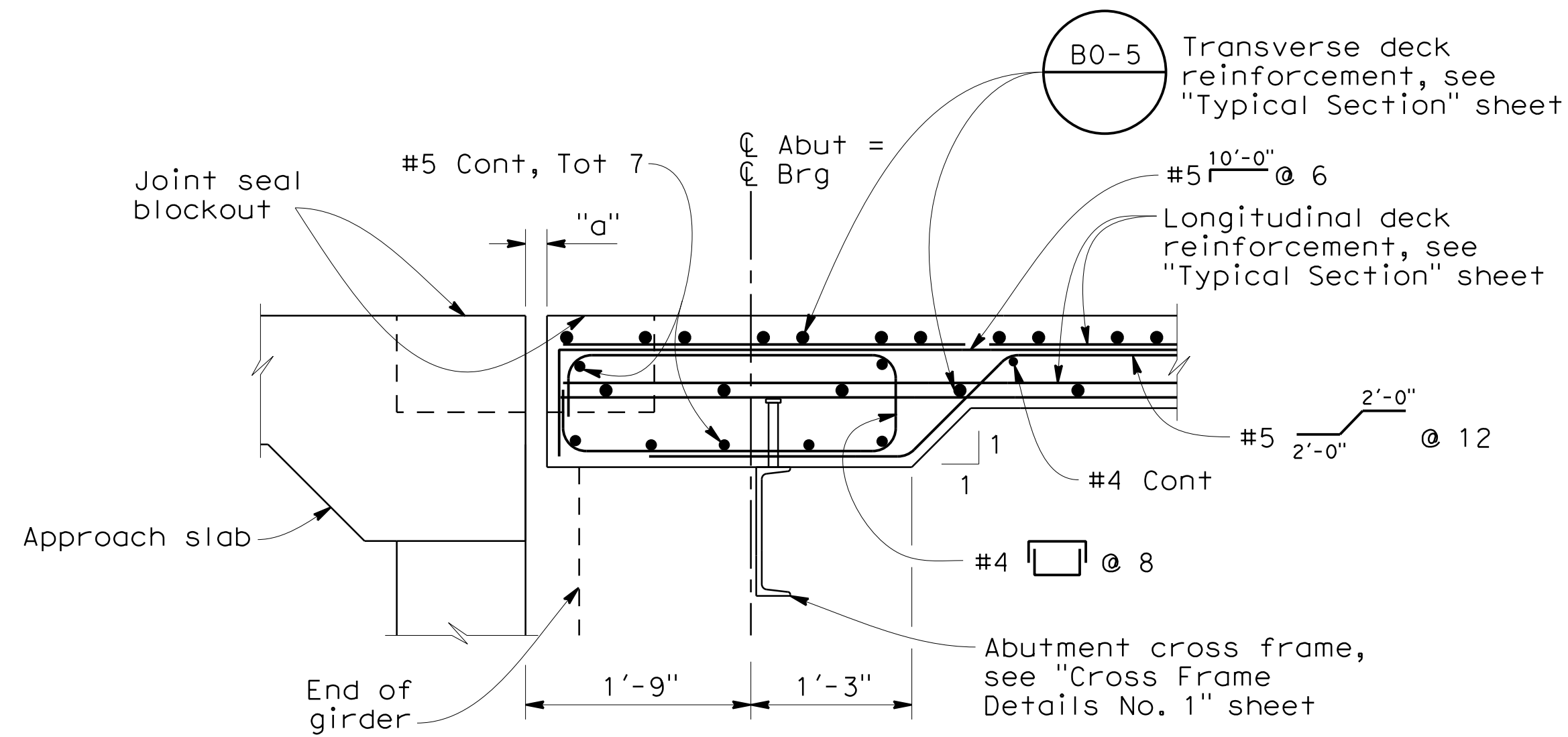
**TYPICAL SECTION**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 16 OF 56

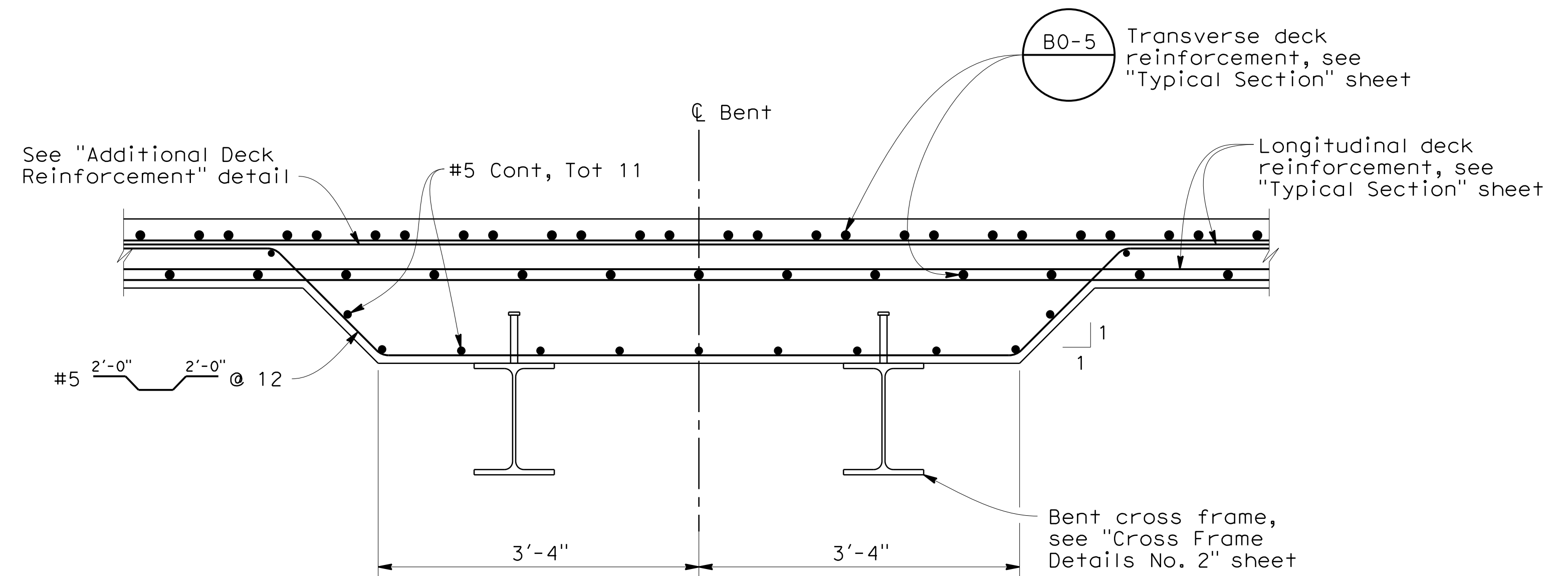


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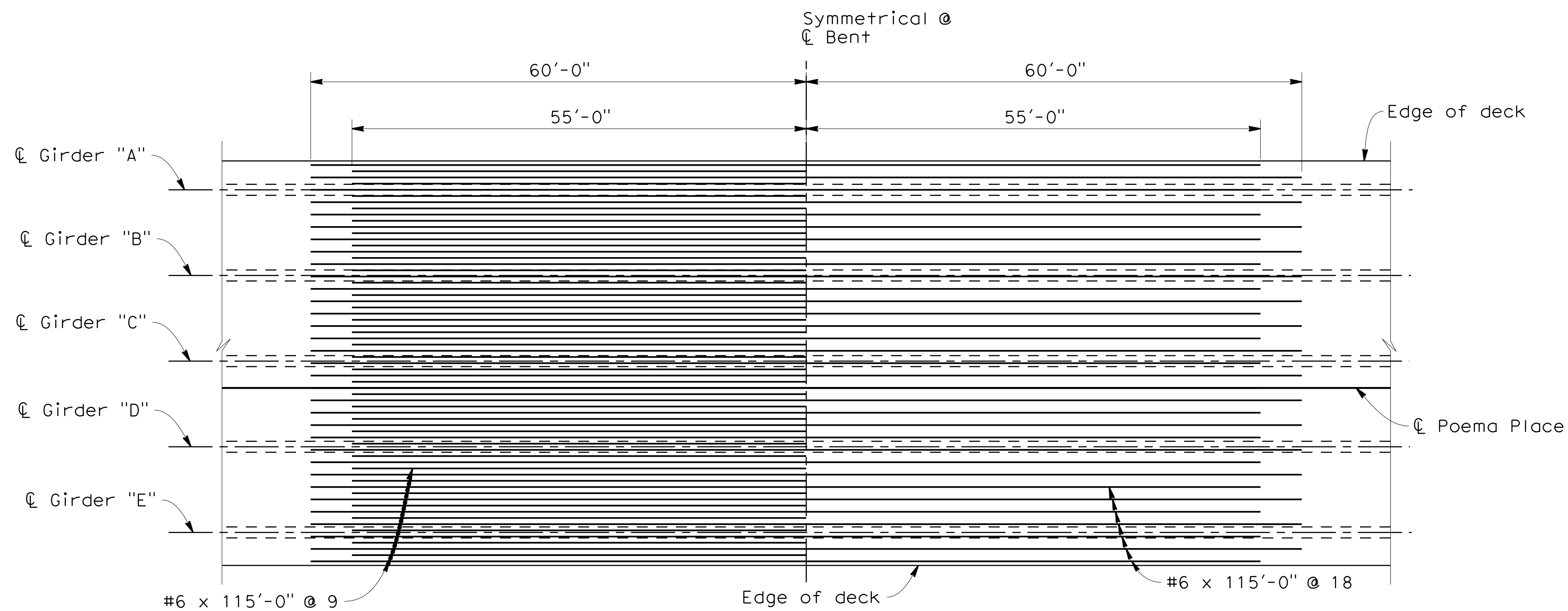




**CONCRETE HAUNCH AT ABUTMENT**  
1"=1'-0"



**CONCRETE HAUNCH AT BENTS**  
1"=1'-0"



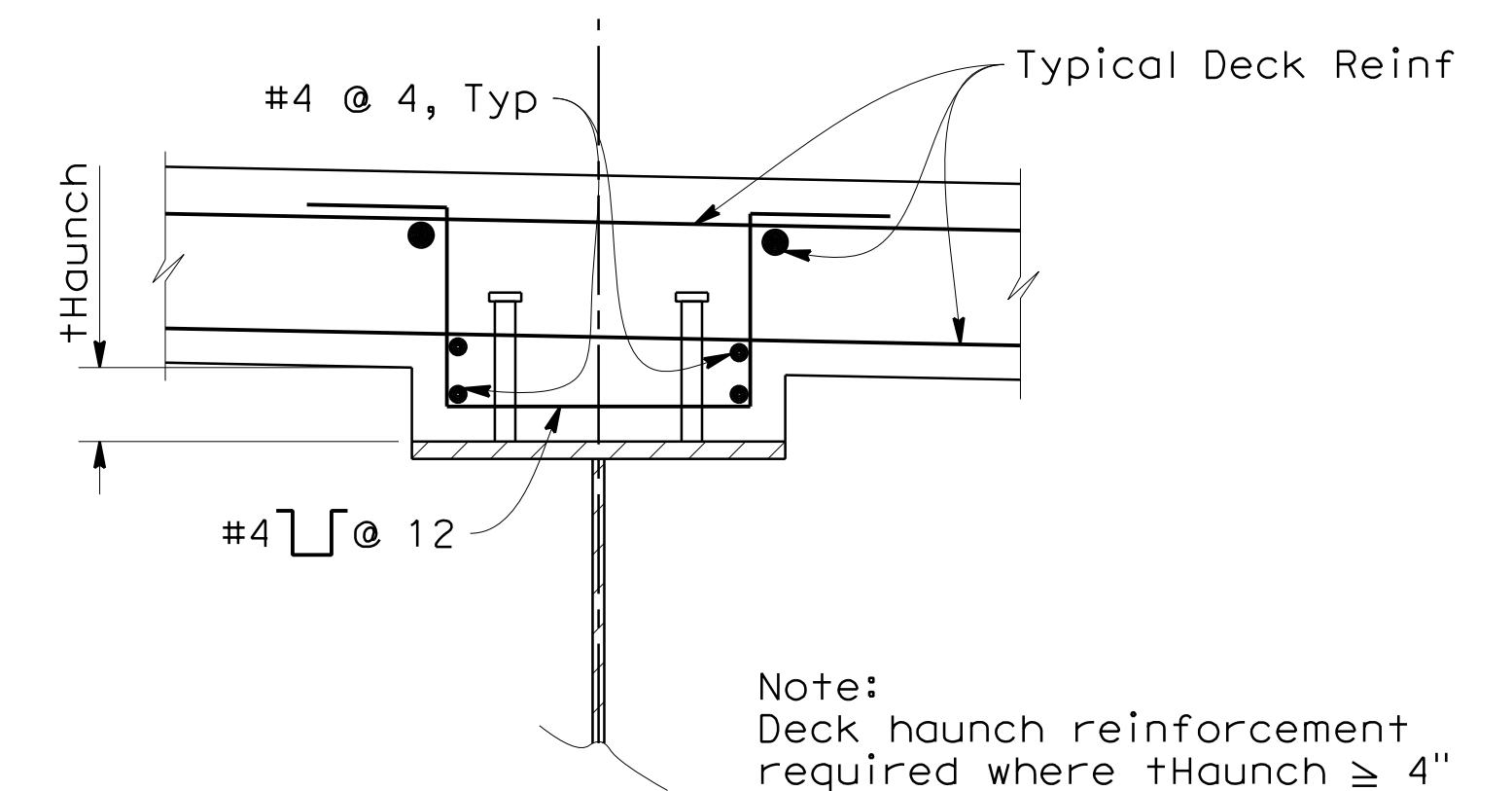
**TOP REINFORCEMENT**

**BOTTOM REINFORCEMENT**

**ADDITIONAL DECK REINFORCEMENT**  
1"=10'-0"

Notes:

1. Bent 2 shown, Bent 3 similar.
2. Lap splices shall be 5'-0".

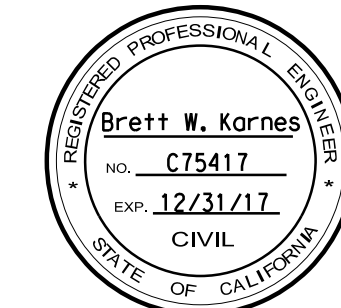


**DECK HAUNCH REINFORCEMENT**  
1/2"=1'-0"

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS	
<input checked="" type="checkbox"/> ACCEPTED	<input type="checkbox"/> MAKE CORRECTIONS NOTED
<input type="checkbox"/> RECALCULATED	<input type="checkbox"/> REJECTED
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.	
BY: <i>[Signature]</i>	DATE: 8/8/16



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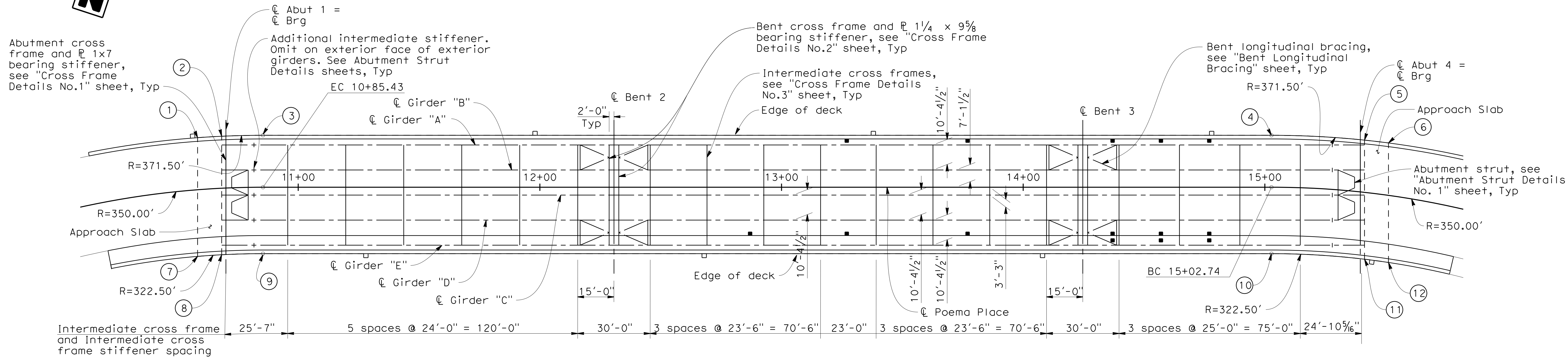
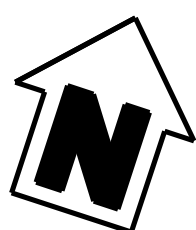


*[Signature]* 6-22-16  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**MISCELLANEOUS DECK DETAILS**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 17 OF 56



**PLAN**  
1"=20'

Notes:

1. All Girders are straight.
2. For Girder Layout at abutments, see "Abutment Layout" sheet.
3. Omit intermediate stiffeners on exterior face of exterior girders.

**EDGE OF DECK LAYOUT**

No. (X)	STATION CL POEMA PLACE	OFFSET
1	10+59.94	21.50' L+
2	10+68.33	21.50' L+
3	10+85.43 EC	21.50' L+
4	15+02.74 BC	21.50' L+
5	10+68.33	21.50' L+
6	15+47.94	21.50' L+
7	10+56.57	27.50' R+
8	15+41.33	27.50' R+
9	10+85.43 EC	27.50' R+
10	15+02.74 BC	27.50' R+
11	15+41.33	27.50' R+
12	15+54.30	27.50' R+

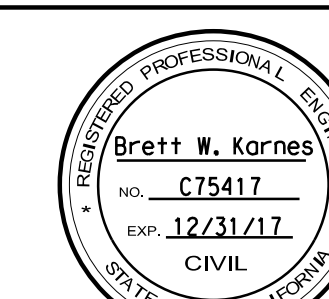
LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MAKE CORRECTIONS NOTED  
REVISE CALCULATIONS  
PROCESSED

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DATE 8/8/16

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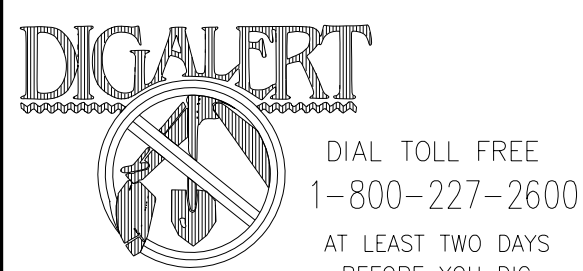


Brett W. Kornek  
PROJECT ENGINEER DATE 6-22-16

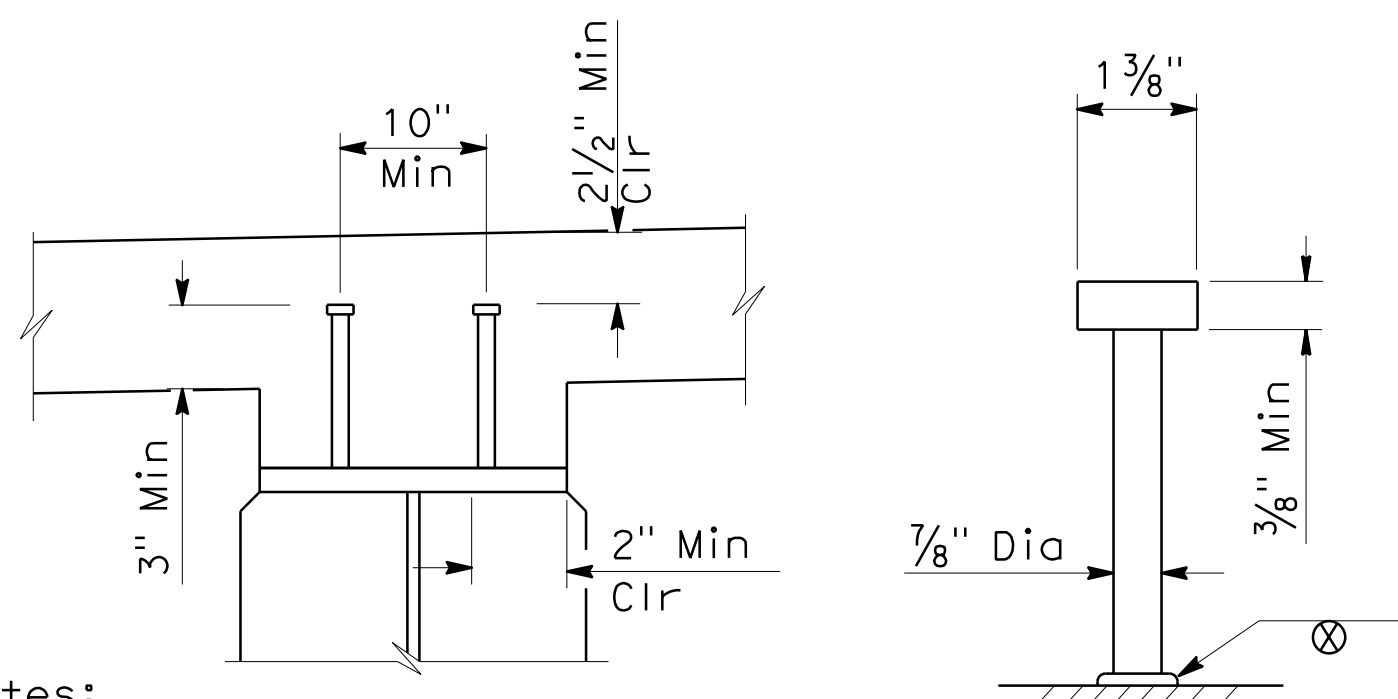
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**GIRDER LAYOUT**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 18 OF 56



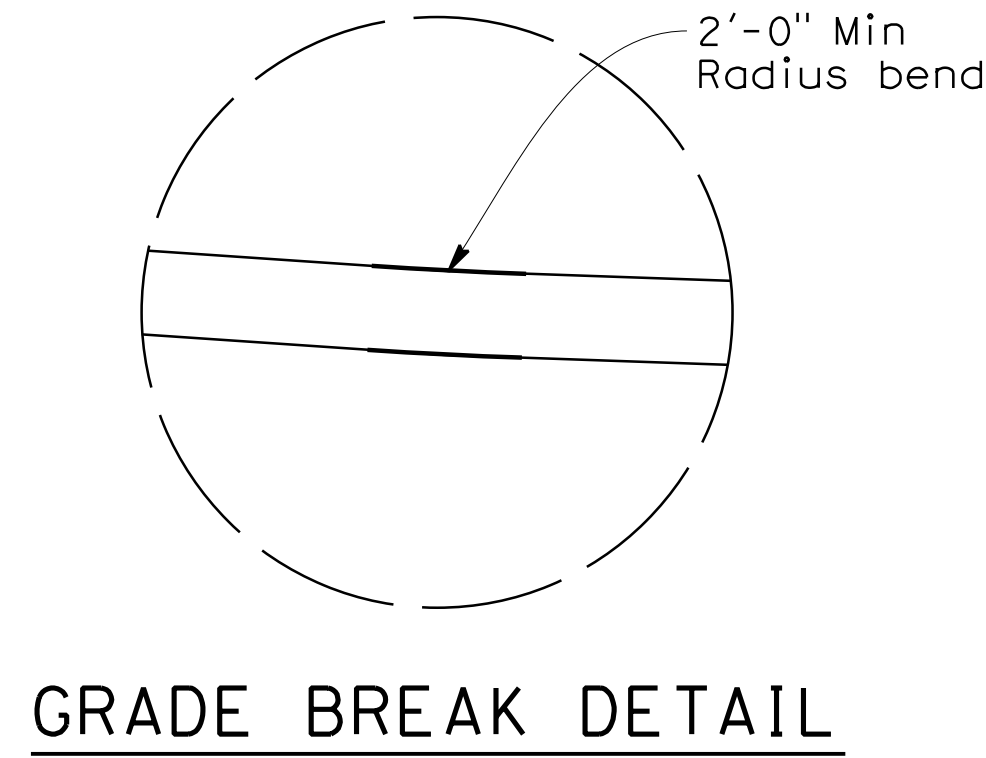
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Rancho Cordova, CA 95670



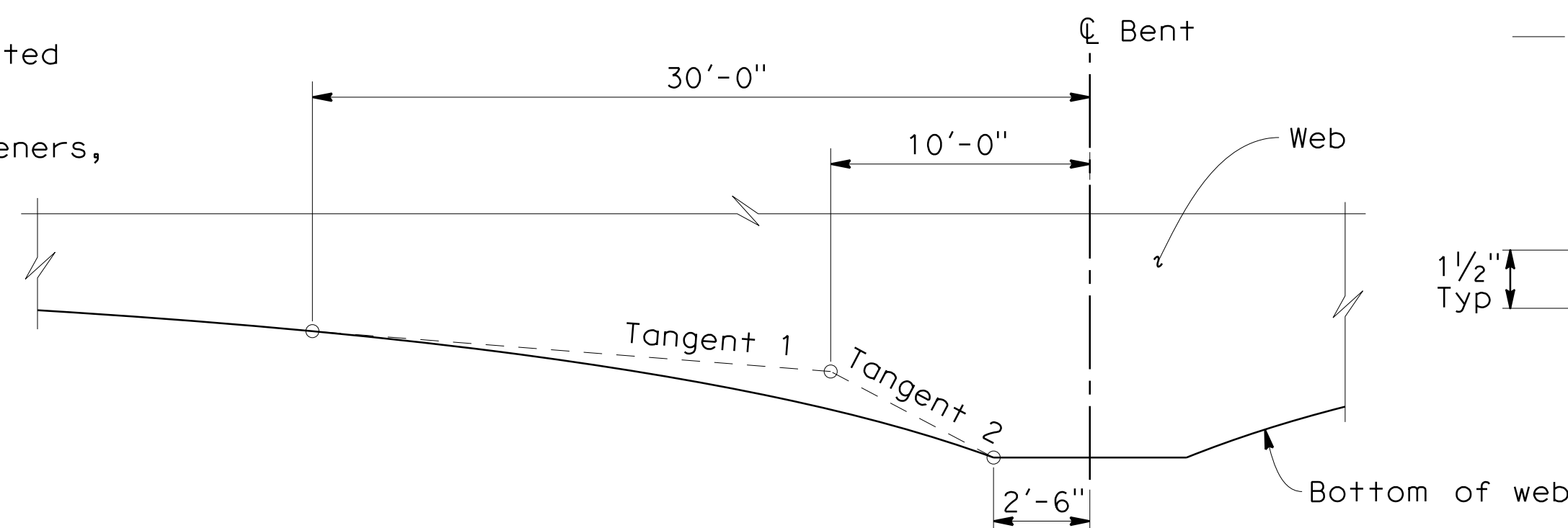
Notes:

1. Lengths of studs to be determined by the contractor, minimum length is 6".
2. Alternative types of shear connectors may be permitted subject to approval by the engineer.
3. Limits of painting Girder Web, Flanges, Bearing Stiffeners, End Frame, Stiffeners, and Longitudinal Bracing.
4.  $\text{C}$  Bearing Stiffener =  $\text{C}$  Bearing Abutment at 75°F.

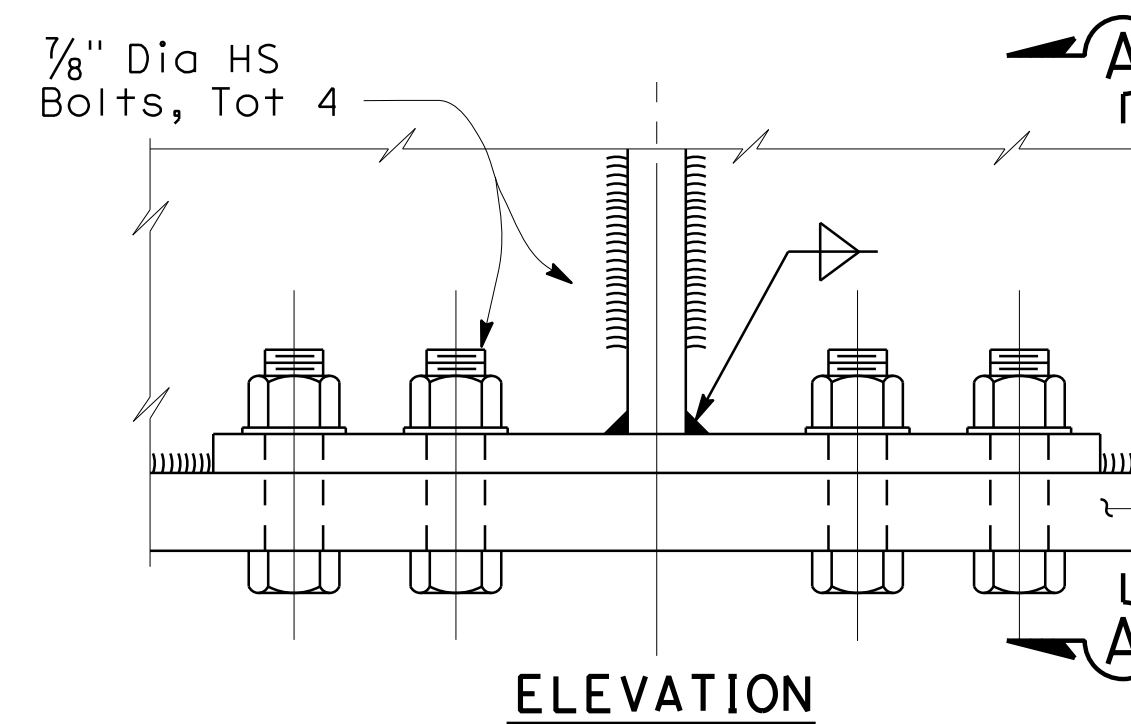
**STUD CONNECTOR**  
No Scale



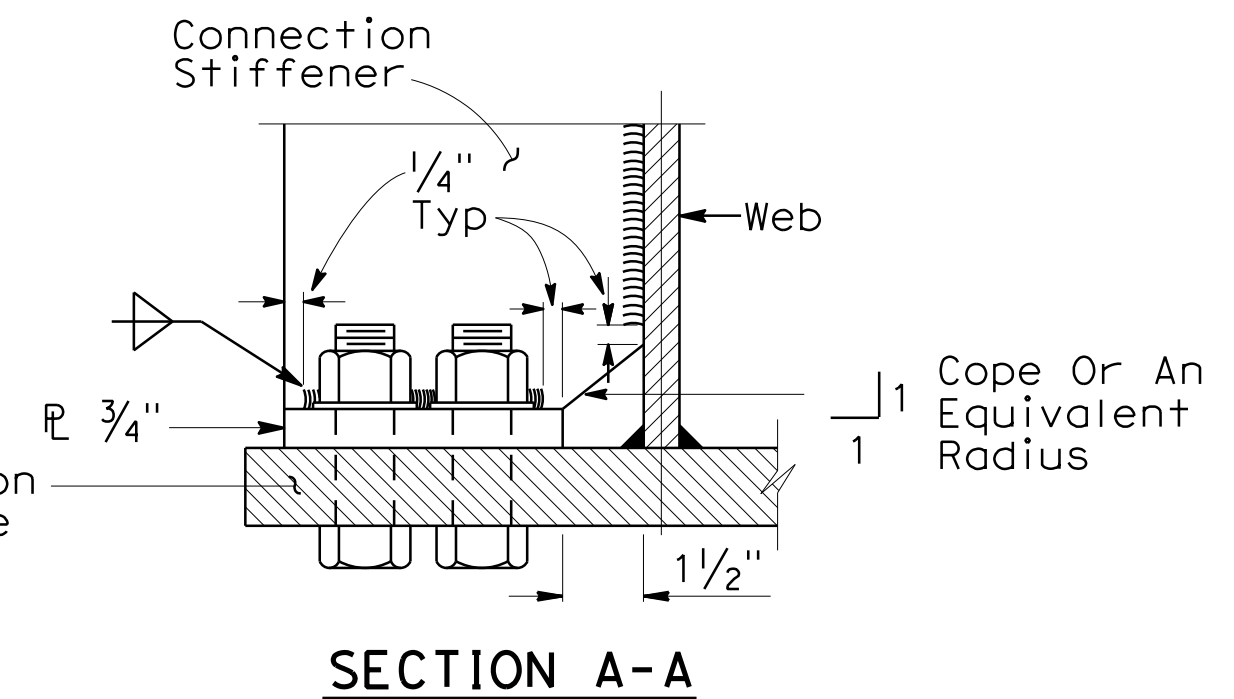
**GRADE BREAK DETAIL**  
No Scale



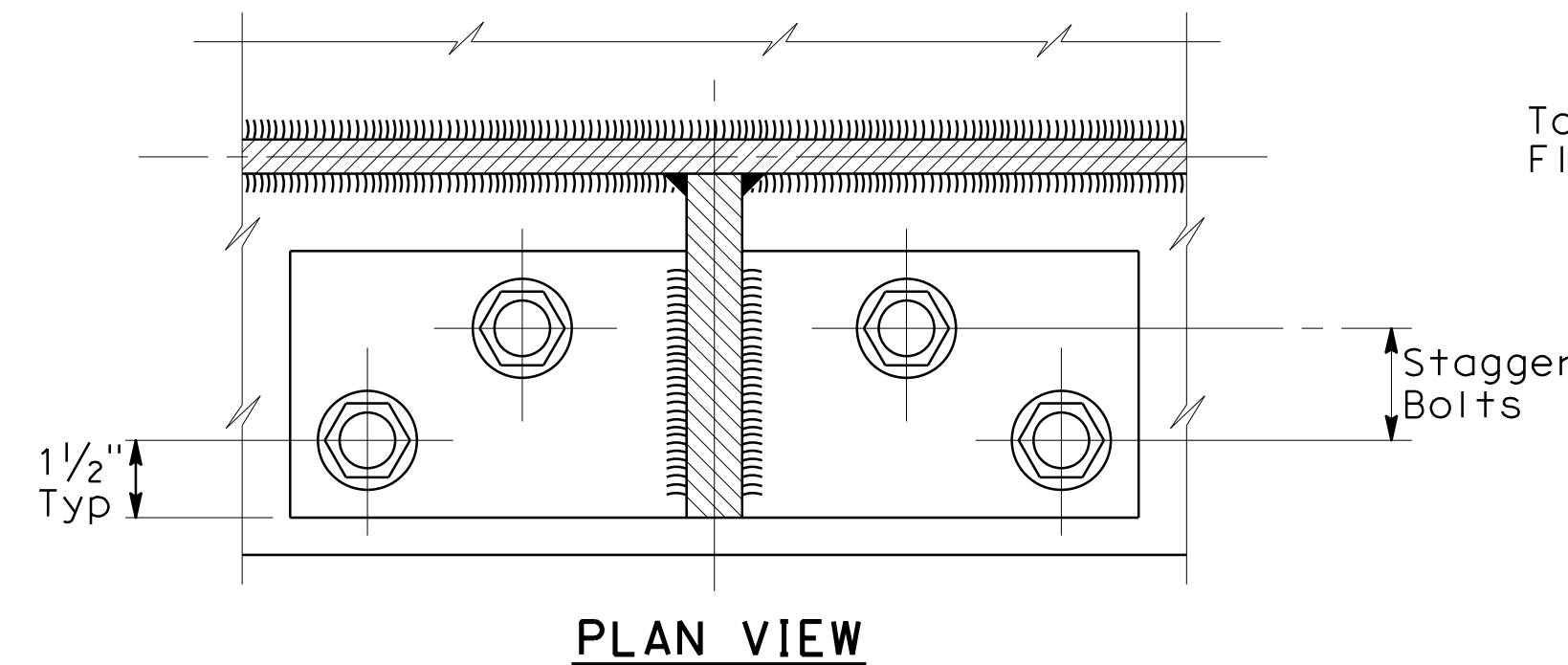
**PARABOLIC HAUNCH DETAIL**  
No Scale



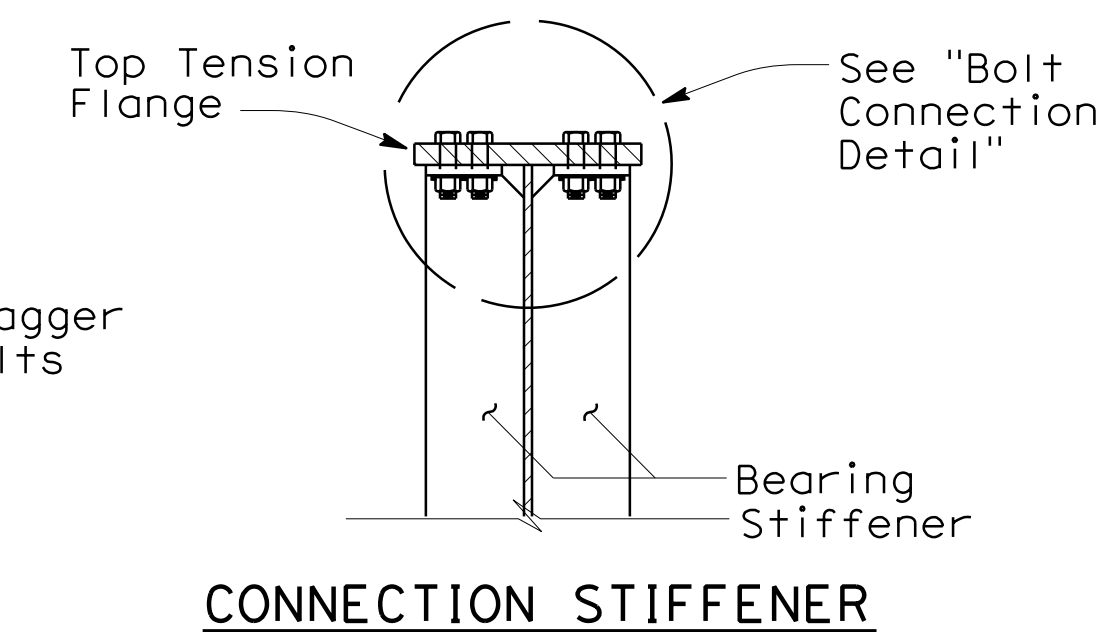
**ELEVATION**



**SECTION A-A**



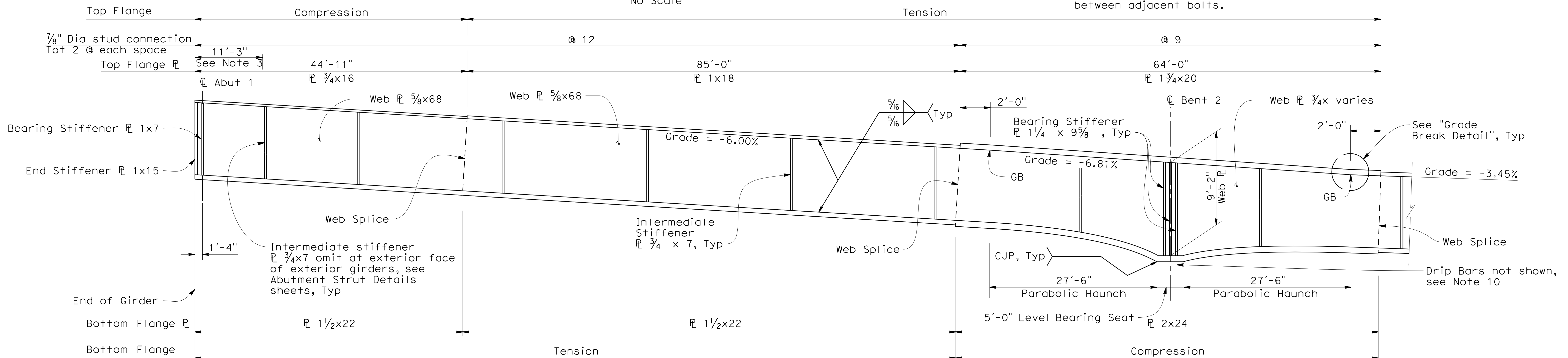
**PLAN VIEW**



**CONNECTION STIFFENER**

**BOLT CONNECTION DETAIL**

For 3/4" plate:  
Width to be as drawn. Length to be minimum to provide for installation clearance and 2 3/8" C-C between adjacent bolts.



**GIRDER ELEVATION**  
No Scale

5. For Web and Flange Splices, see Splice Plate Details No.1 & 2 sheets.
6. End Stiffener shall be flush with end of girder, see "Section A-A" on "Girder Details No. 3" sheet.
7. Fillet Weld size to be minimum size from Project Specifications unless otherwise shown on Project Plan sheets.
8. Omit interchange stiffeners on exterior face of exterior girders.
9. Web plate depth is perpendicular to top flange unless otherwise shown.
10. See "Drip Bar Detail" on "Cross Frame Details No. 2" sheet. Total 2 each exterior girder.

LEGEND:  
GB = Grade Break

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MAKE CORRECTIONS NOTED  
REVIEW CALCULATIONS  
REJECTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CRITERIA OF THIS PROJECT AND GENERAL CONFORMANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

DATE 8/8/16

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11017 Cobblestone Drive, Suite 100  
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NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

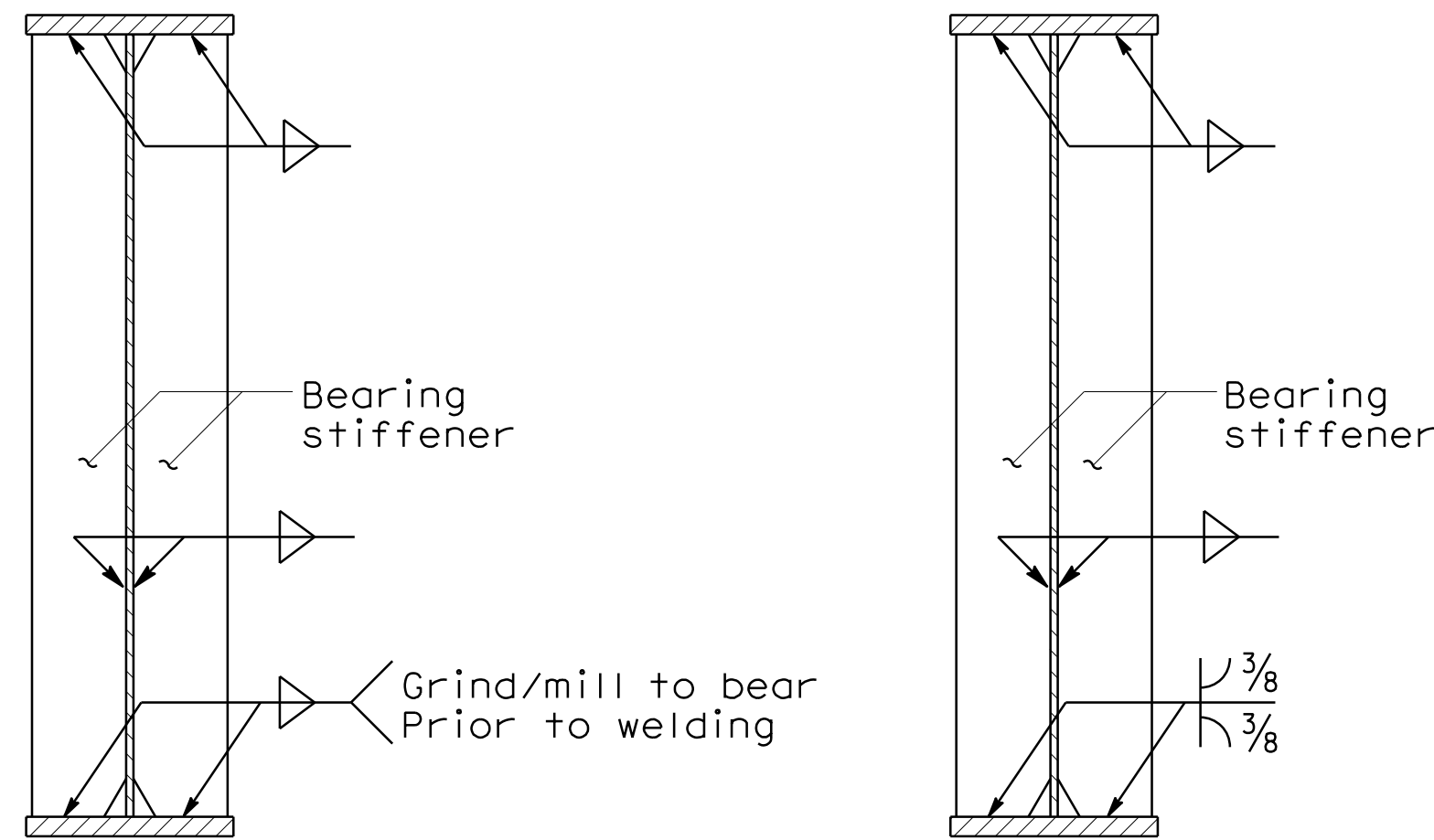


Brett W. Korne  
PROJECT ENGINEER  
DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**GIRDER DETAILS NO. 1**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**





**ALTERNATIVE 1**

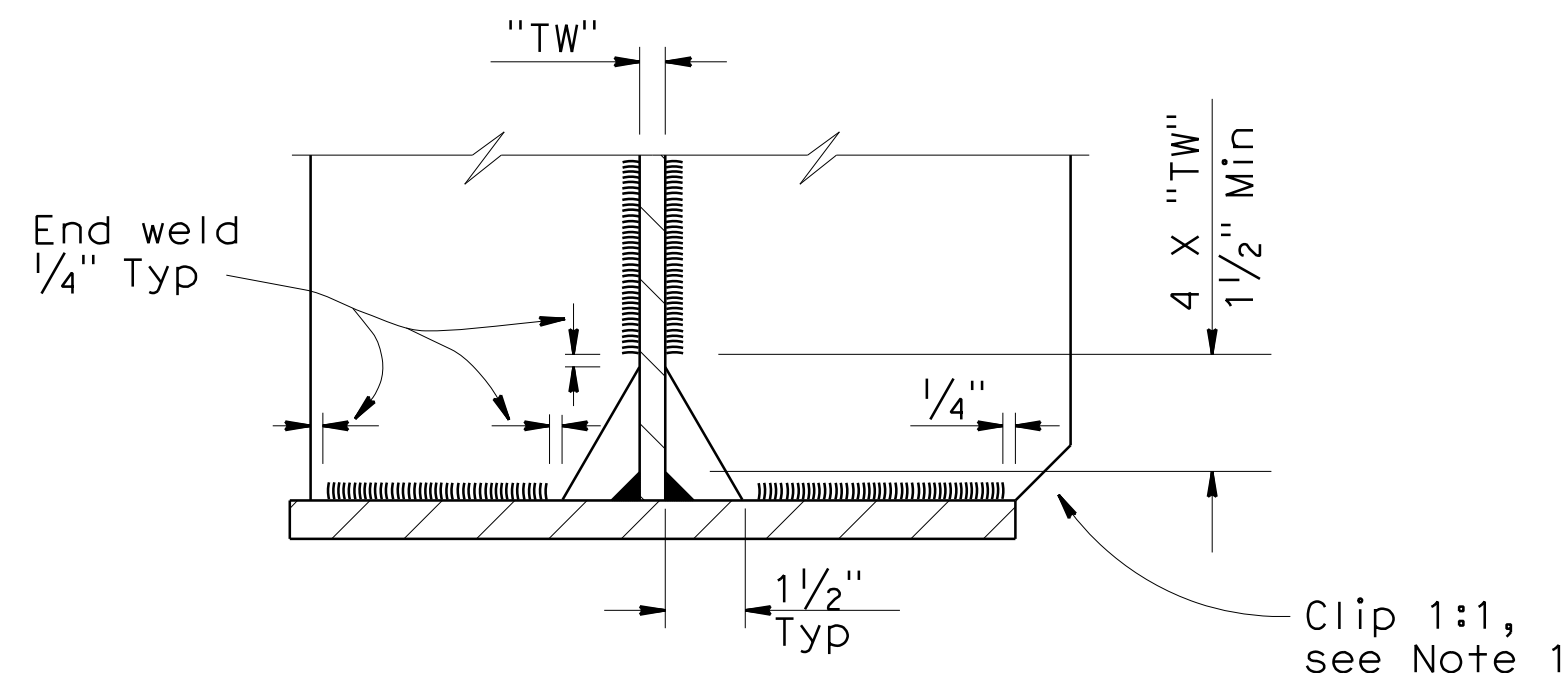
Allowed at abutments only

**ALTERNATIVE 2**

Cross frame not shown

**BEARING STIFFENER**

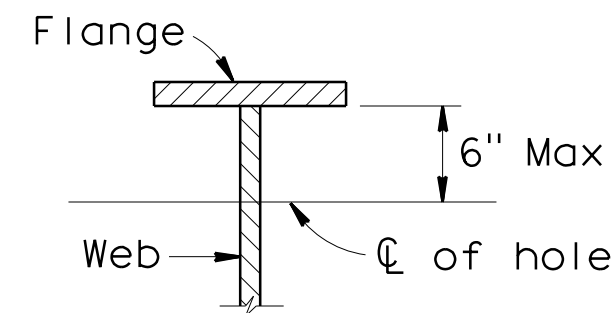
No Scale



Note: Omit clip at bottom flange when less than 2"

**COPE AND WELDING DETAIL**

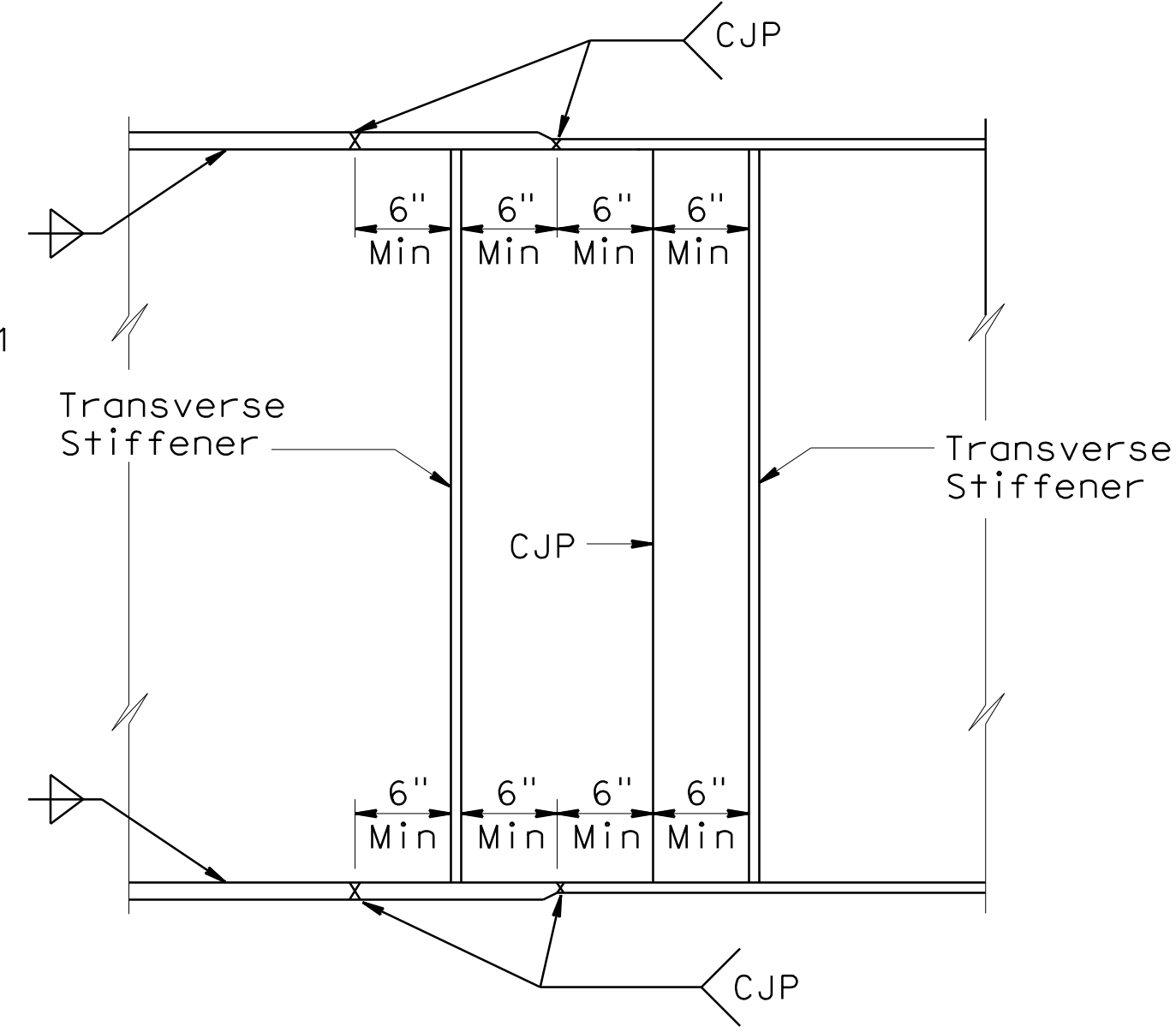
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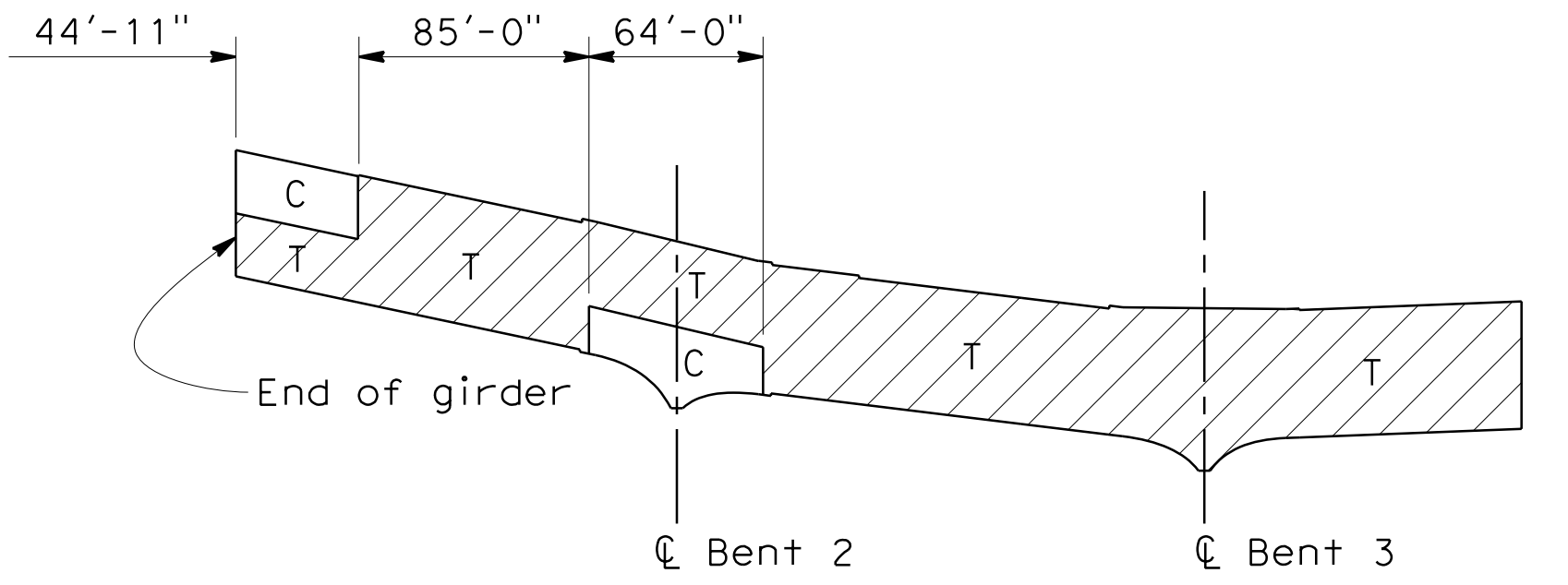
1" Max Dia hole at 4± Min spacing to be used for falsework support when specified by the contractor. Contractor to determine location, size and spacing.

2" Max Dia hole to be drilled where lighting conduit passes through girder web. For location and size of hole see Road Plans.

**HOLES FOR CONDUIT AND FALSEWORK**



**GIRDER SHOP SPLICE**



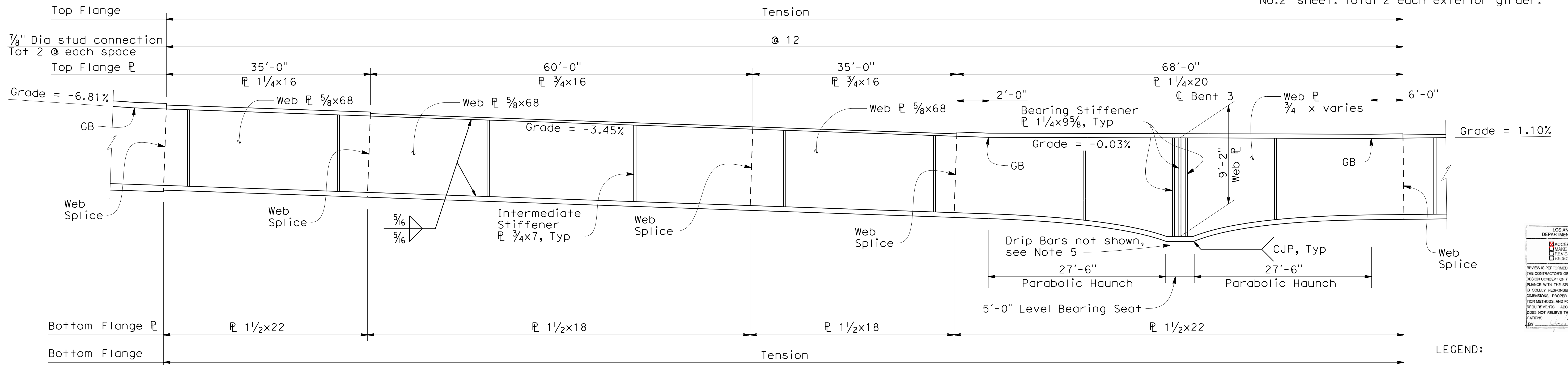
T - Denotes main tension member (Nonfracture-Critical Member)  
 C - Denotes main compression member  
 T & C zones shown extend to middle depth of web

**MAIN MEMBER DESIGNATIONS DETAIL**

No Scale

Notes:

- Alternative girder splices may be permitted subject to approval by the Engineer.
- Web splices:  
Grind all weld surfaces flush on the exterior face of exterior girders.
- Flange splices:  
Grind all weld surfaces flush on tension flanges.  
Grind all weld surfaces flush on compression flanges when required for non-destructive testing (NDT)  
Grind all exterior weld surfaces flush on all bottom compression flanges.
- For Web and Flange Splices, see Splice Plate Details No.1 & 2 sheets.
- See "Drip Bar Detail" on "Cross Frame Details No.2" sheet. Total 2 each exterior girder.



**GIRDER ELEVATION**

No Scale

LOS ANGELES COUNTY  
 DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 UNREVIEWED

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BY: [Signature] DATE: 8/8/16

LEGEND:

GB = Grade Break, see Grade Break Detail on "Girder Detail No.1" sheet



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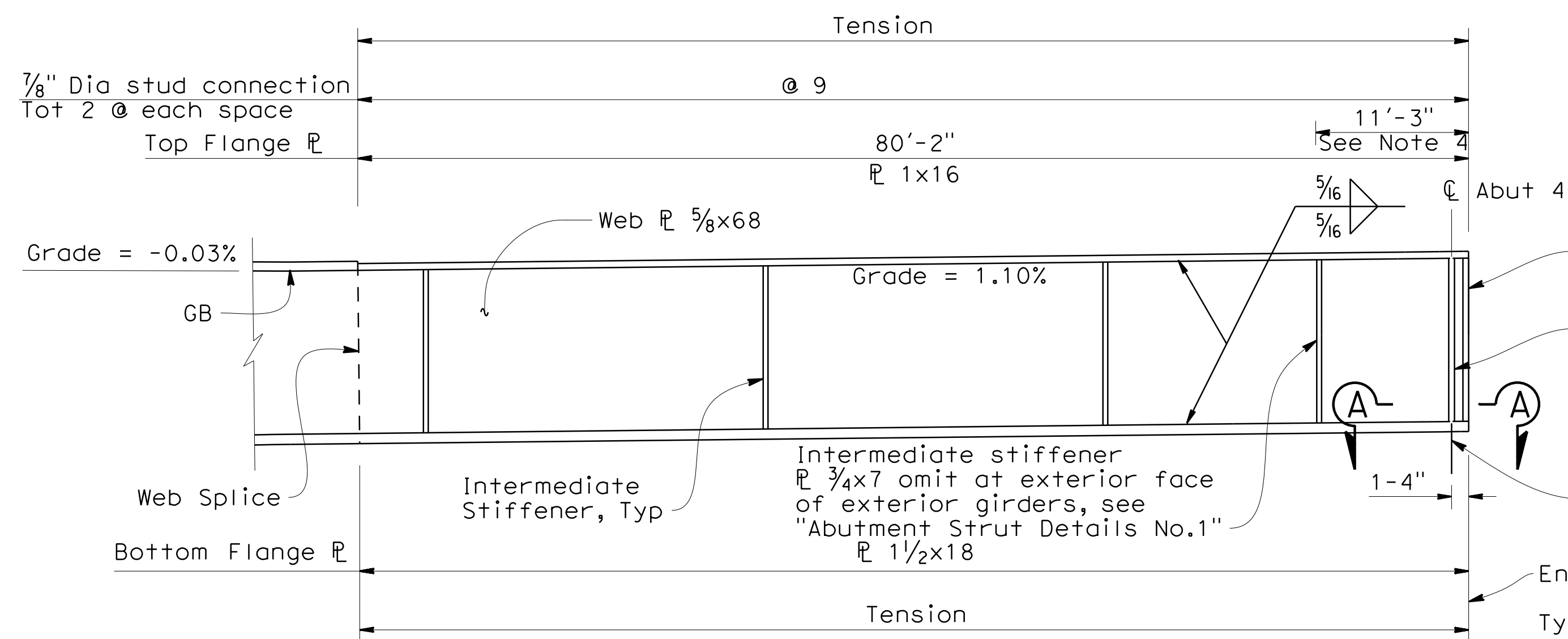


PROJECT ENGINEER DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**GIRDER DETAILS NO. 2  
 POEMA PLACE BRIDGE  
 OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 20 OF 56

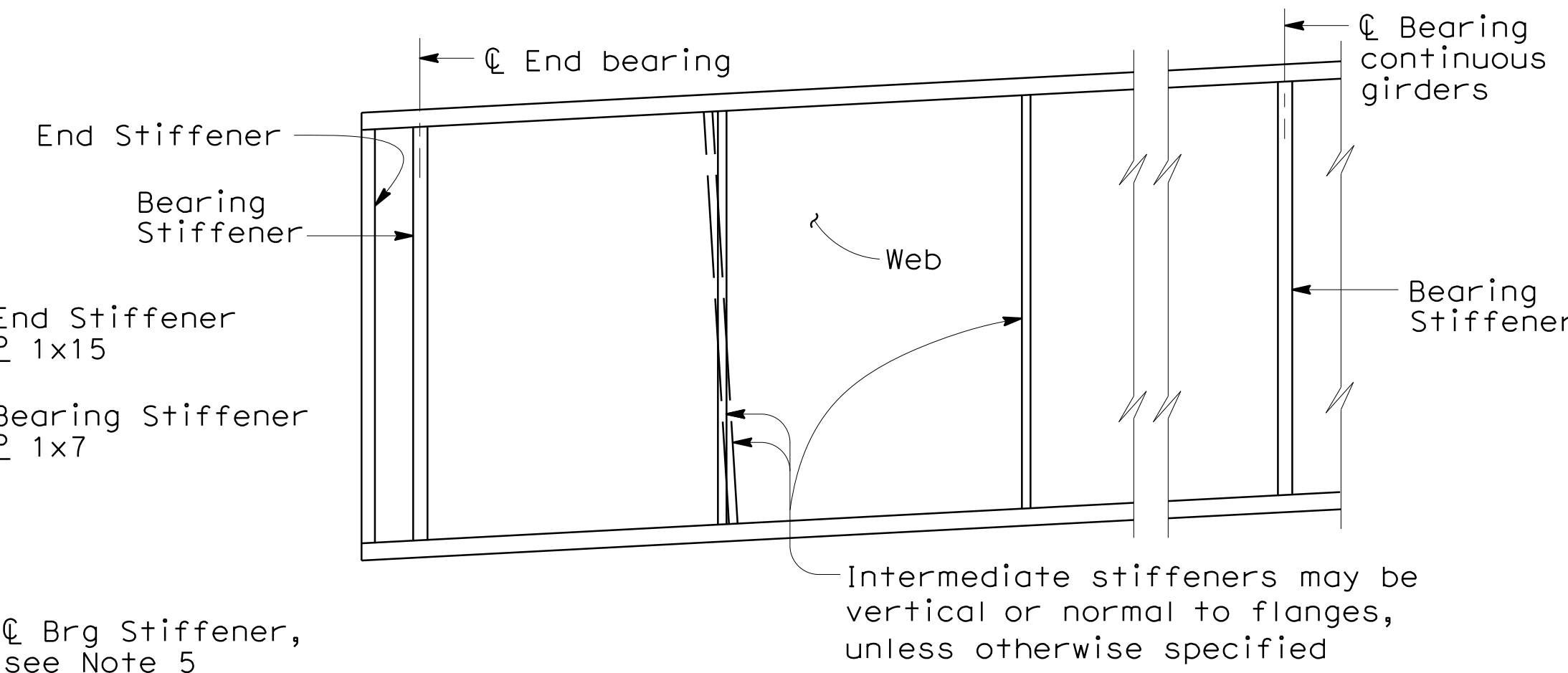


**LEGEND:**  
 GB = Grade Break, see Grade Break Detail on "Girder Detail No.1" sheet

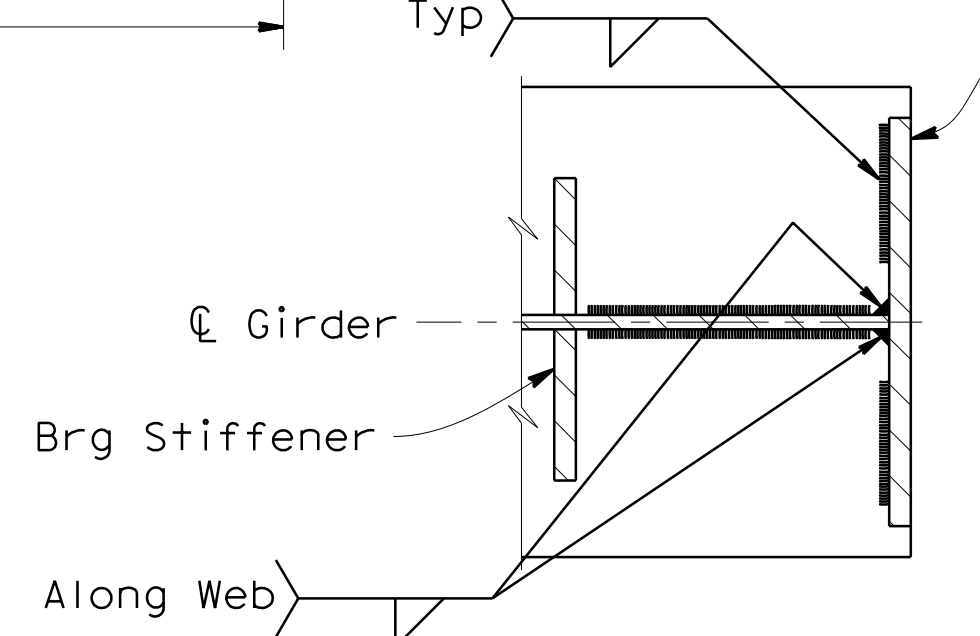
**Note:**

- For Web and Flange Splices, see Splice Plate Details No.1 & 2 sheets.
- End Stiffener shall be flush with end of girder.

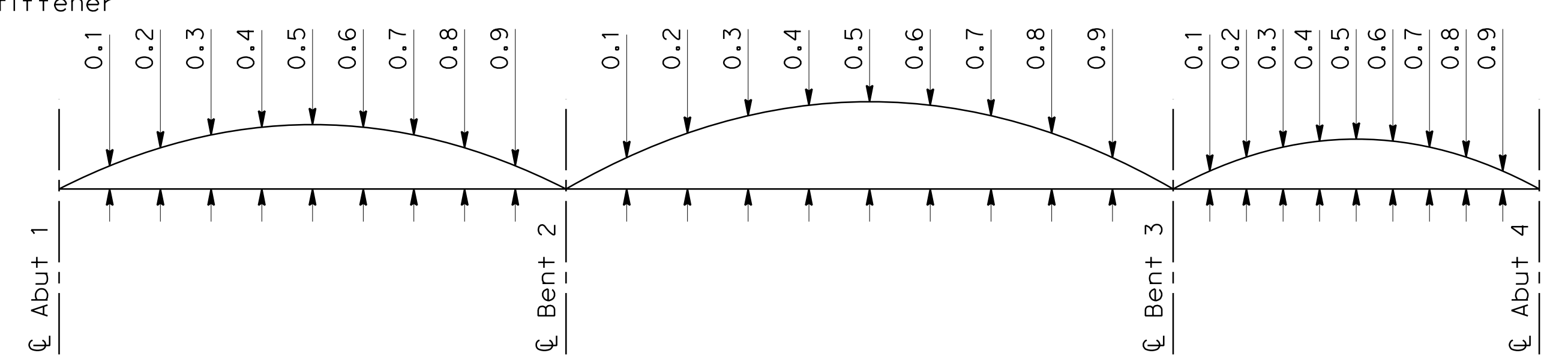
**GIRDER ELEVATION**  
 No Scale



**TRANSVERSE STIFFENERS**



**SECTION A-A**  
 No Scale



**CAMBER DIAGRAM**  
 No Scale

- Notes:**
- Under full dead load as shown on the camber diagram, girder ends and bearing stiffeners shall be vertical except they may be normal to grade for grades less than 2%.
  - Fillet Weld size to be minimum size from Project Specifications unless otherwise shown on Project Plan sheets.
  - For Bearing Stiffeners which have Cross Frames attached, use details shown on this sheet. For top tension flange alternative connection see "Connection Stiffener" detail on "Girder Details No.1" sheet.
  - Limits of painting Girder Web, Flanges, Bearing Stiffeners, End Frame, Stiffeners, and Longitudinal Bracing.
  - Centerline Bearing Stiffener = Centerline Bearing Abutment at 75°F.

GIRDER	CAMBER COMPONENT	SPAN 1									SPAN 2									SPAN 3									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
"A"	1. Steel	0.32	0.55	0.71	0.75	0.68	0.53	0.34	0.16	0	0	0.19	0.41	0.61	0.73	0.72	0.58	0.35	0.15	0	0	0	0	0	0	0	0		
	2. Deck	1.01	1.77	2.22	2.31	2.06	1.53	0.92	0.35	0	0.28	0.94	1.80	2.62	3.10	3.05	2.46	1.55	0.68	-0.32	-0.36	-0.40	-0.25	-0.12	0	0.10	0.13	0.10	
	3. Rail, Sidewalk and utilities	0.28	0.49	0.64	0.68	0.63	0.50	0.33	0.15	0	0.10	0.23	0.45	0.65	0.76	0.74	0.59	0.36	0.15	0	-0.10	0	0	0.12	0.09	0.17	0.16	0.10	
	1+2+3 =	1.61	2.81	3.57	3.74	3.37	2.56	1.59	0.66	0.10	0.38	1.36	2.66	3.88	4.59	4.51	3.63	2.26	0.98	-0.32	-0.46	-0.40	-0.25	0	0.19	0.27	0.29	0.20	
"B" thru "D"	1. Steel	0.33	0.57	0.73	0.77	0.70	0.54	0.35	0.16	0	0	0.20	0.42	0.64	0.76	0.75	0.60	0.36	0.15	0	0	0	0	0	0	0	0		
	2. Deck	1.06	1.82	2.29	2.39	2.13	1.58	0.97	0.36	0.10	0.31	0.98	1.89	2.73	3.23	3.17	2.55	1.60	0.69	-0.22	-0.34	-0.37	-0.18	0	0.11	0.17	0.20	0.13	
	3. Rail, Sidewalk and utilities	0.28	0.49	0.64	0.68	0.63	0.50	0.33	0.15	0	0.11	0.23	0.45	0.66	0.76	0.74	0.59	0.36	0.15	-0.10	-0.10	0	0	0	0.17	0.18	0.16	0.10	
	1+2+3 =	1.67	2.88	3.66	3.84	3.46	2.62	1.65	0.67	0.10	0.42	1.41	2.76	4.03	4.75	4.66	3.74	2.32	0.99	-0.32	-0.44	-0.37	-0.18	0	0.28	0.35	0.36	0.23	
"E"	1. Steel	0.32	0.55	0.71	0.75	0.68	0.53	0.34	0.16	0	0	0.19	0.41	0.61	0.73	0.72	0.58	0.35	0.15	0	0	0	0	0	0	0	0		
	2. Deck	0.98	1.69	2.15	2.22	1.97	1.46	0.87	0.32	0.10	0.31	0.96	1.84	2.65	3.14	3.09	2.50	1.56	0.68	-0.32	-0.36	-0.41	-0.23	0	0	0	0.12	0	
	3. Rail, Sidewalk and utilities	0.28	0.50	0.64	0.68	0.63	0.50	0.33	0.15	0	0.10	0.23	0.46	0.66	0.77	0.75	0.59	0.36	0.15	0	-0.11	0	0	0	0	0.18	0.25	0.16	0.18
	1+2+3 =	1.58	2.74	3.50	3.65	3.28	2.49	1.54	0.63	0.10	0.41	1.38	2.71	3.92	4.64	4.56	3.67	2.27	0.98	-0.32	-0.47	-0.41	-0.23	0	0.18	0.25	0.28	0.18	

Note: All values in inches.



LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 HAVE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REJECTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

DATE: 8/8/16

QUINCY ENGINEERING, INC  
 11017 Cobblecreek Drive, Suite 100  
 Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

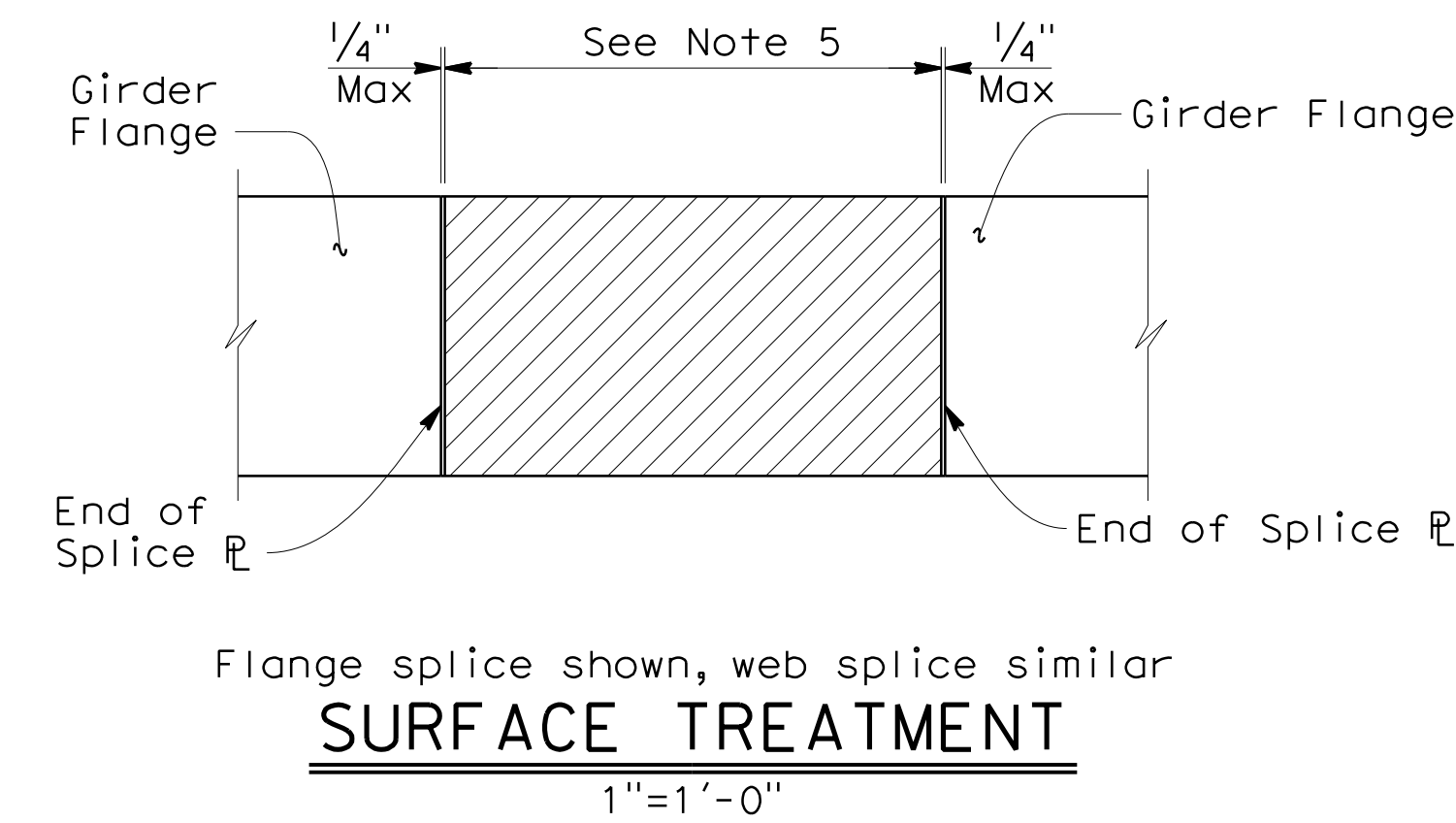
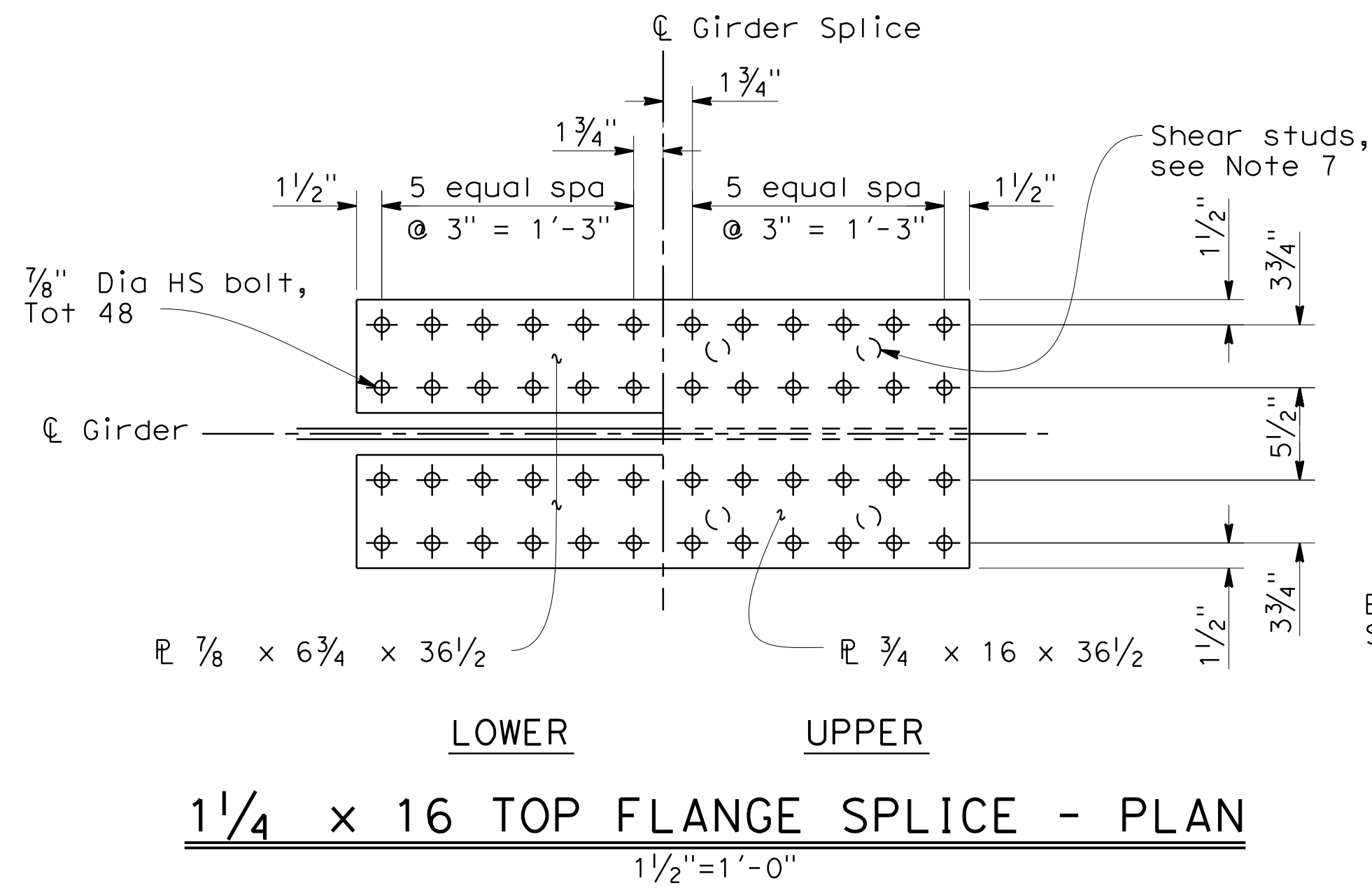
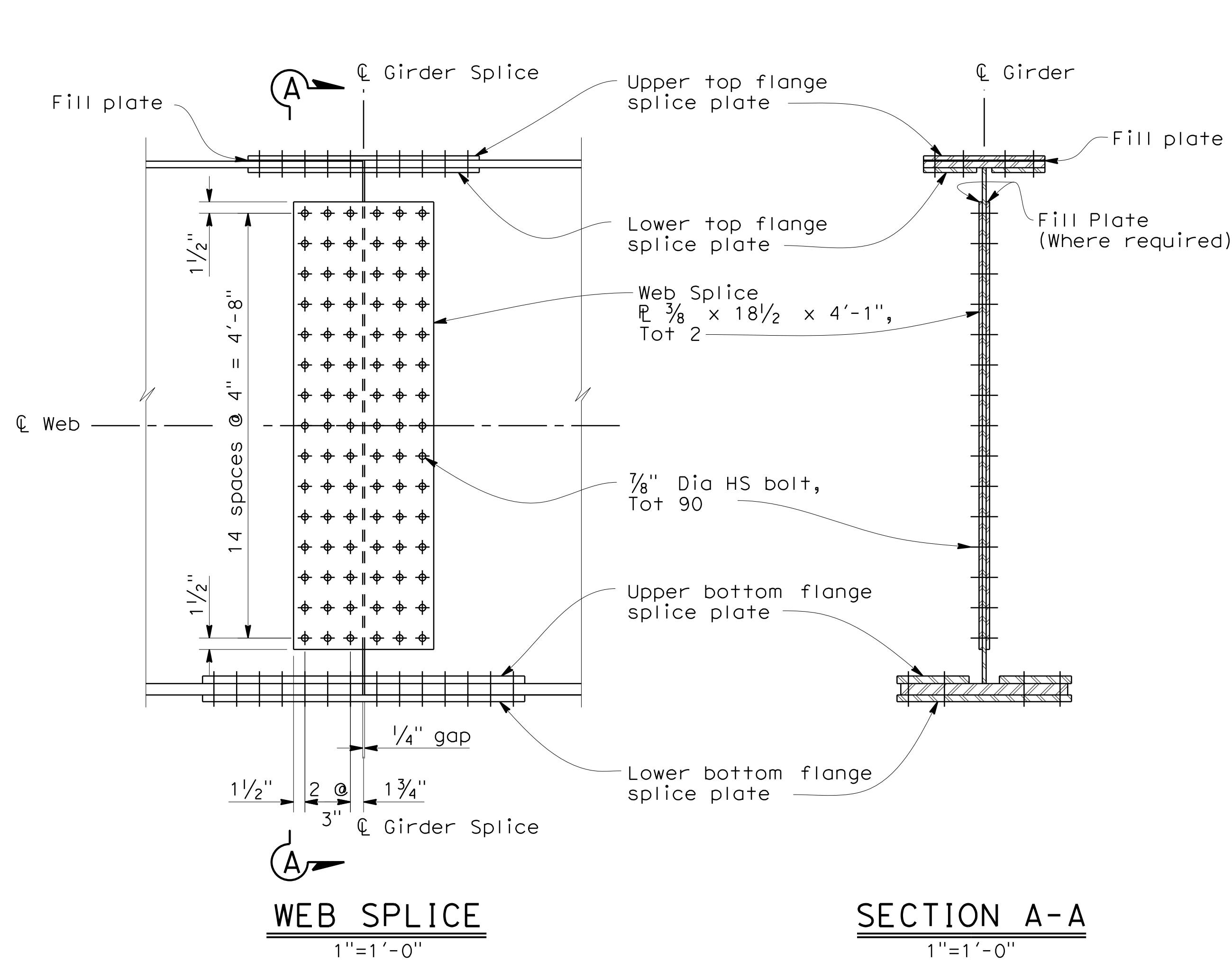
REGISTERED PROFESSIONAL ENGINEER  
 Brett W. Kornek  
 NO. C75417  
 EXP. 12/31/17  
 CIVIL  
 STATE OF CALIFORNIA

DATE: 6-22-16

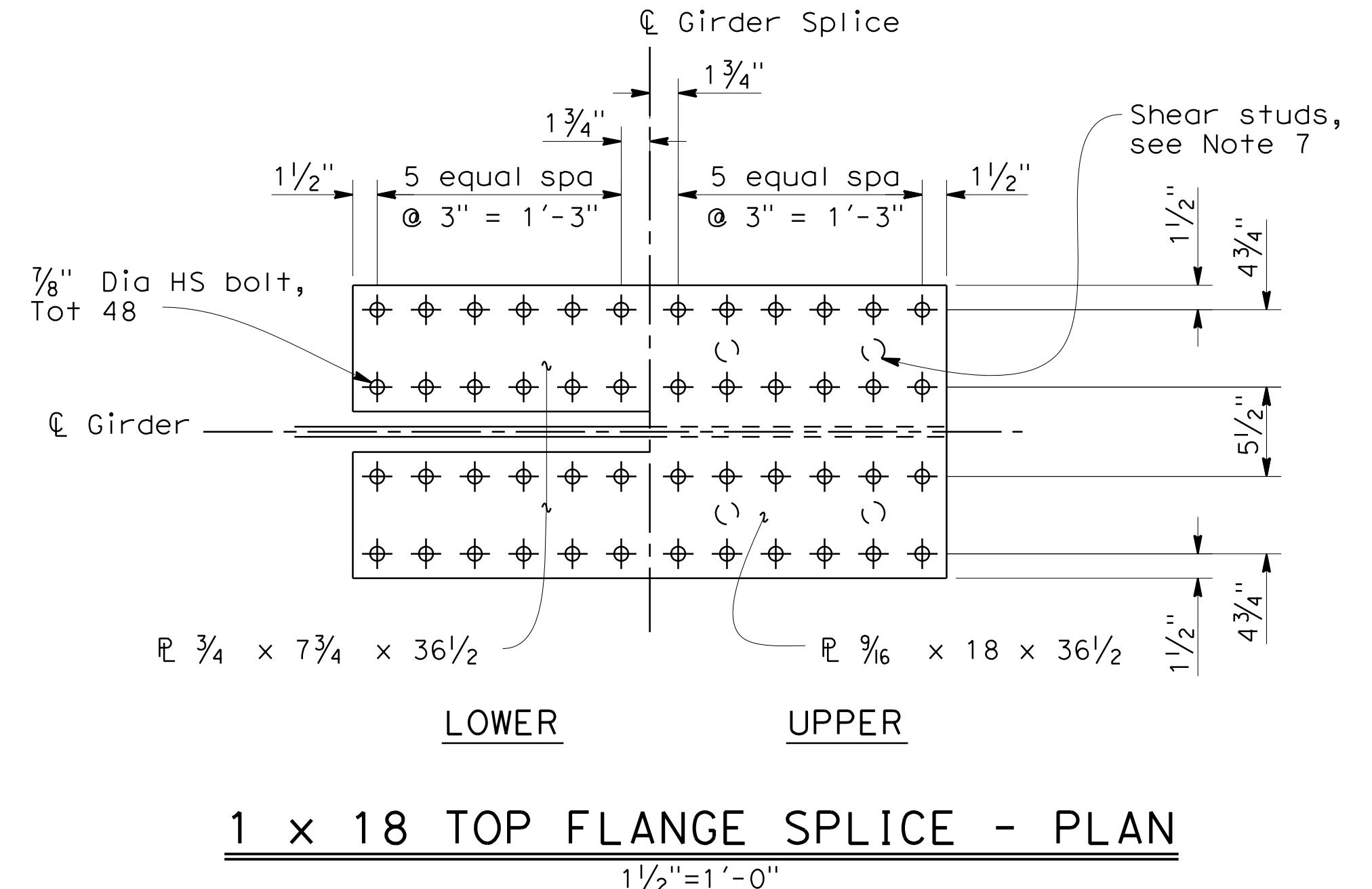
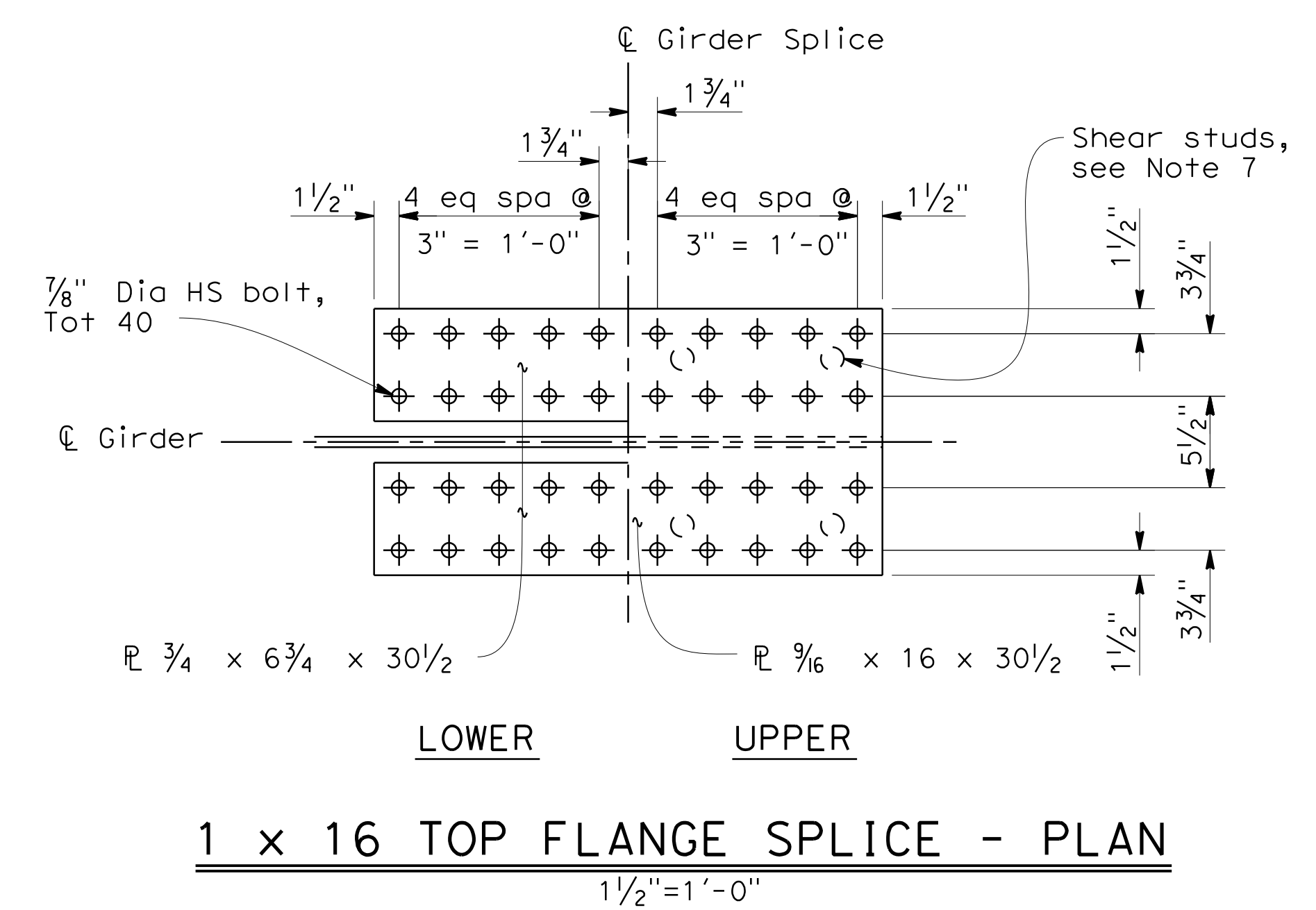
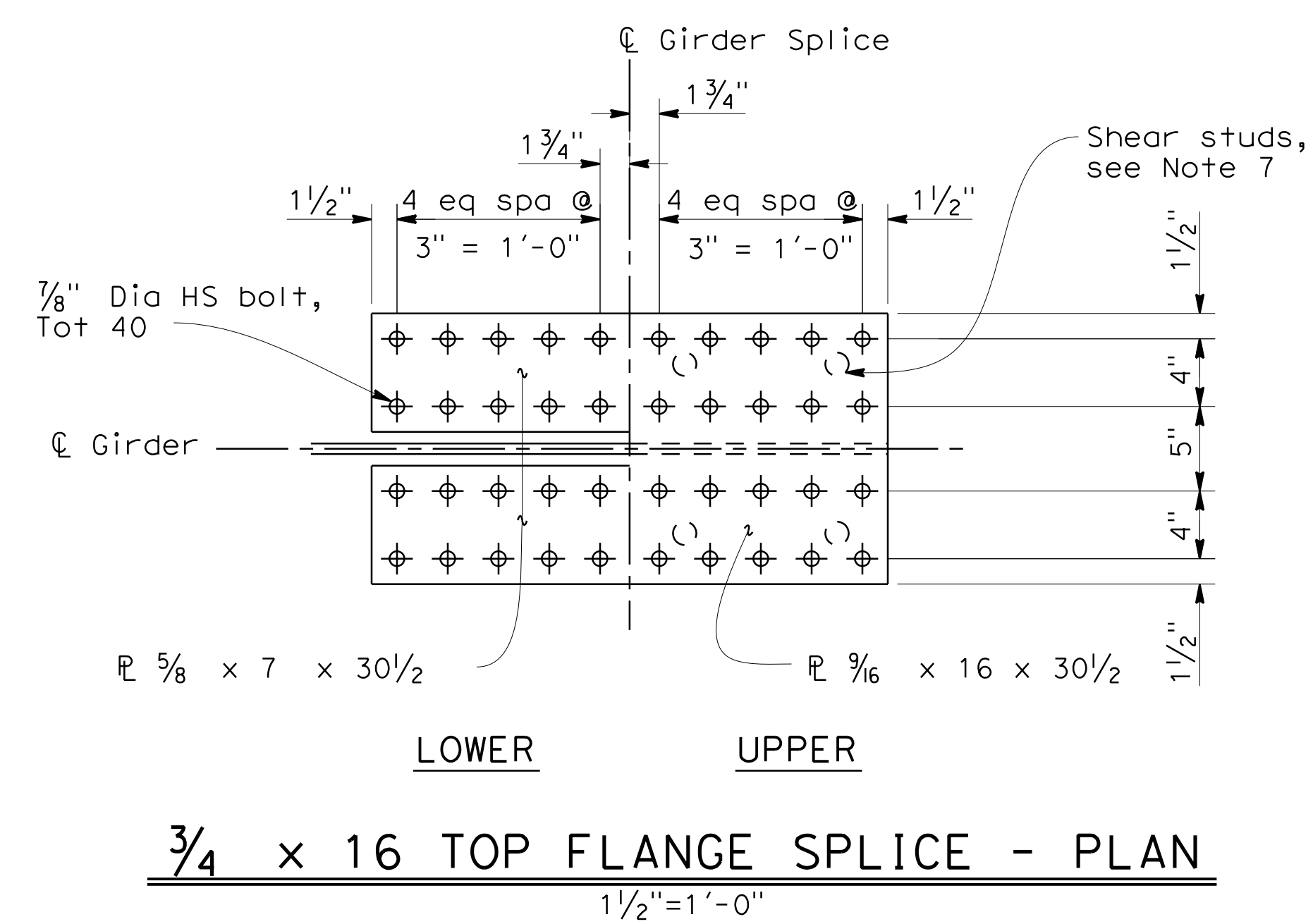
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**GIRDER DETAILS NO. 3**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 21 OF 56



- Notes:
1. Flange splice size refers to the smaller flange at the splice location.
  2. Fill R size and thickness varies by location.
  3. See "Splice Plate Details No.2" for bottom flange splice details.
  4. Splice plates and bolt locations are symmetrical about C splice and C girder.
  5. All contact surfaces shall be blast-cleaned and coated with Class B coatings to the limits shown.
  6. Girder splices are designed for 100 percent of the strength of the member.
  7. See Girder Details sheets for stud spacing.



LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
REVISIONS NOTED  
REVISED CALCULATIONS  
INDICATED

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BY: [Signature] DATE: 8/8/16

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11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

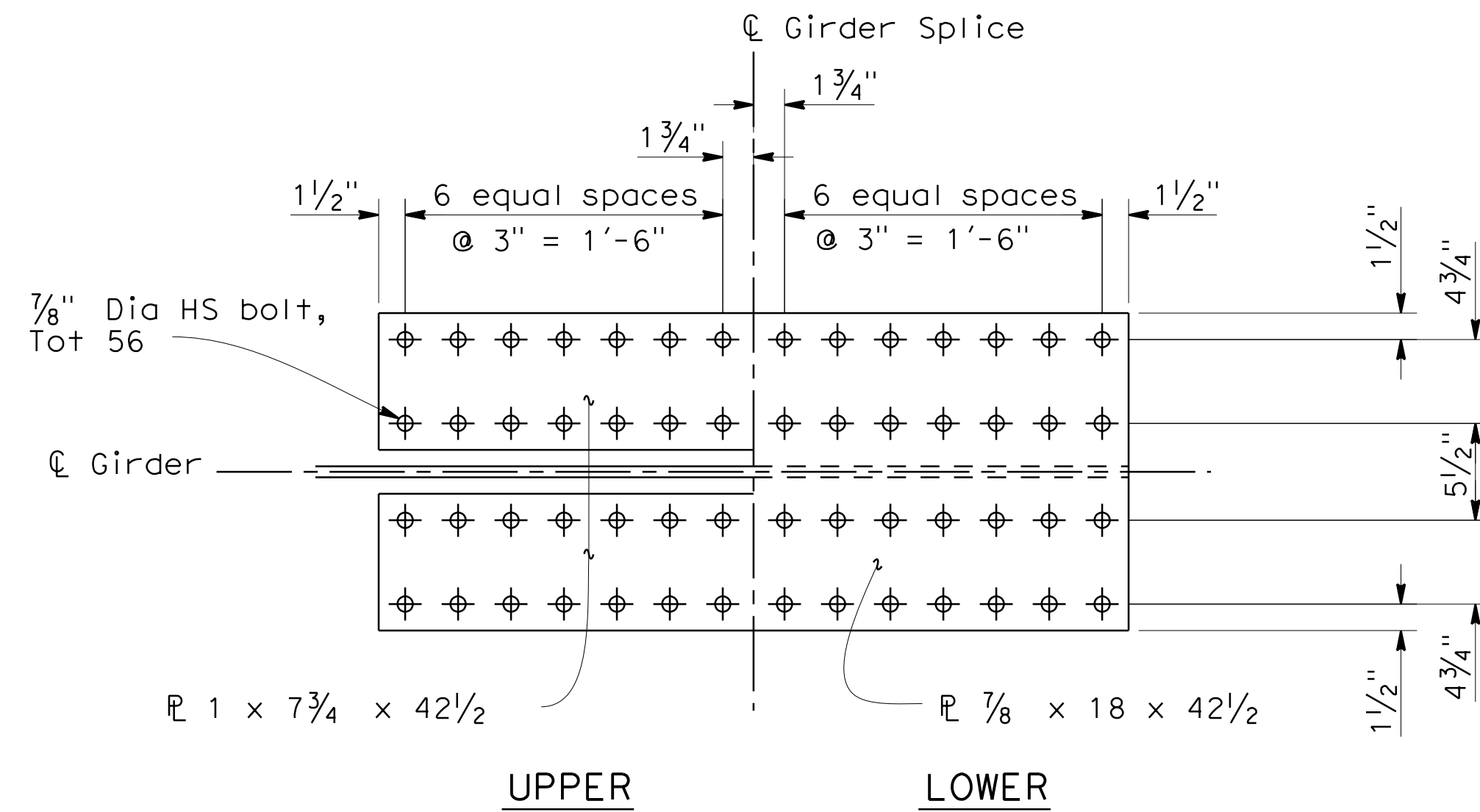
REGISTERED PROFESSIONAL ENGINEER  
Brett W. Kornek  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

6-22-16  
PROJECT ENGINEER DATE

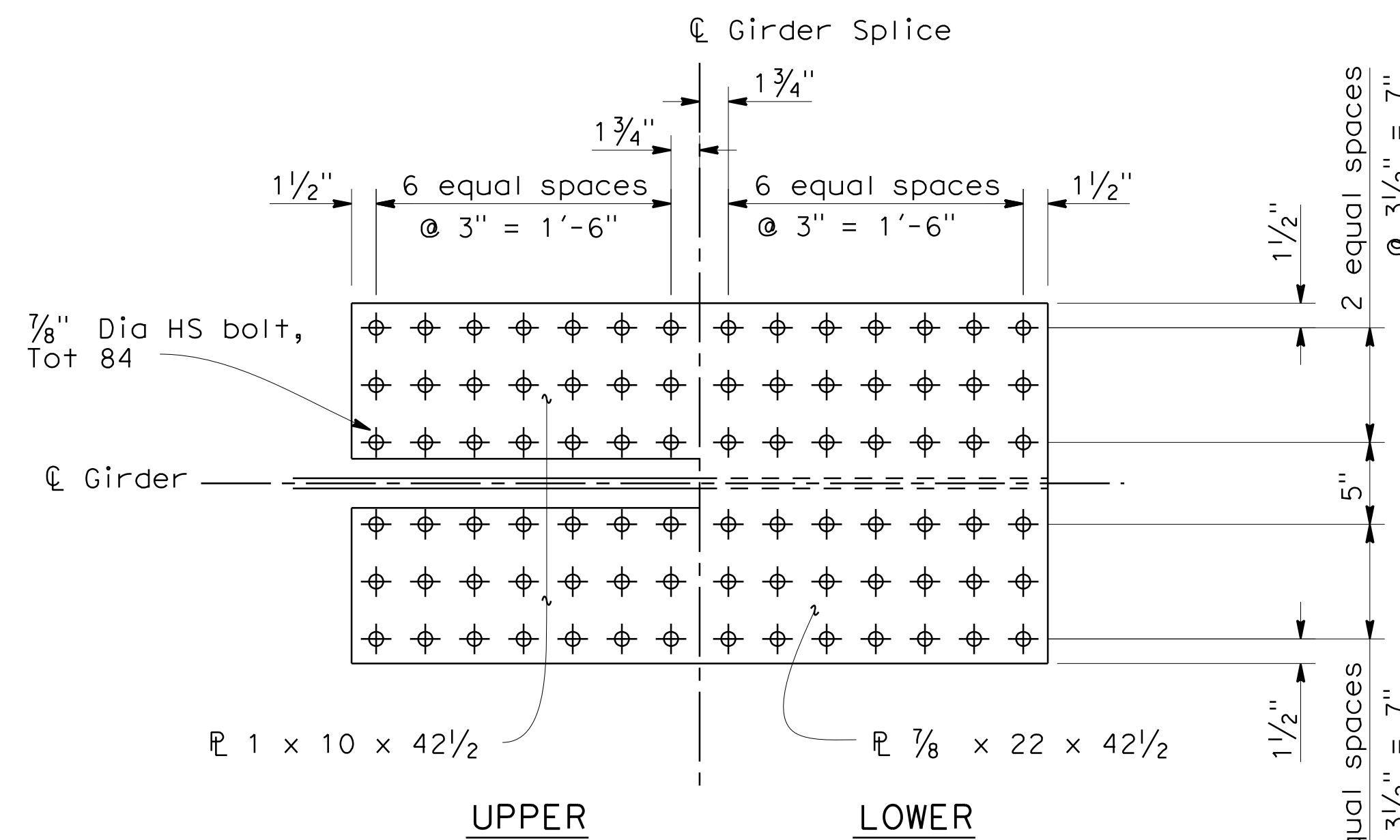
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**SPLICE PLATE DETAILS NO. 1**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 22 OF 56



**1 1/2 x 18 BOTTOM FLANGE SPLICE - PLAN**  
1 1/2" = 1'-0"



**1 1/2 x 22 BOTTOM FLANGE SPLICE - PLAN**  
1 1/2" = 1'-0"

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

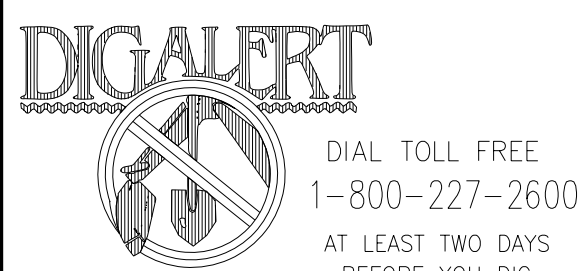
ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 RESUBMITTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

BY: *[Signature]* DATE: 8/8/16

Notes:

1. Flange splice size refers to the smaller flange at the splice location.
2. Fill P size and thickness varies by location.
3. For Top Flange Splice Details, see "Splice Plate Details No.1"



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Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

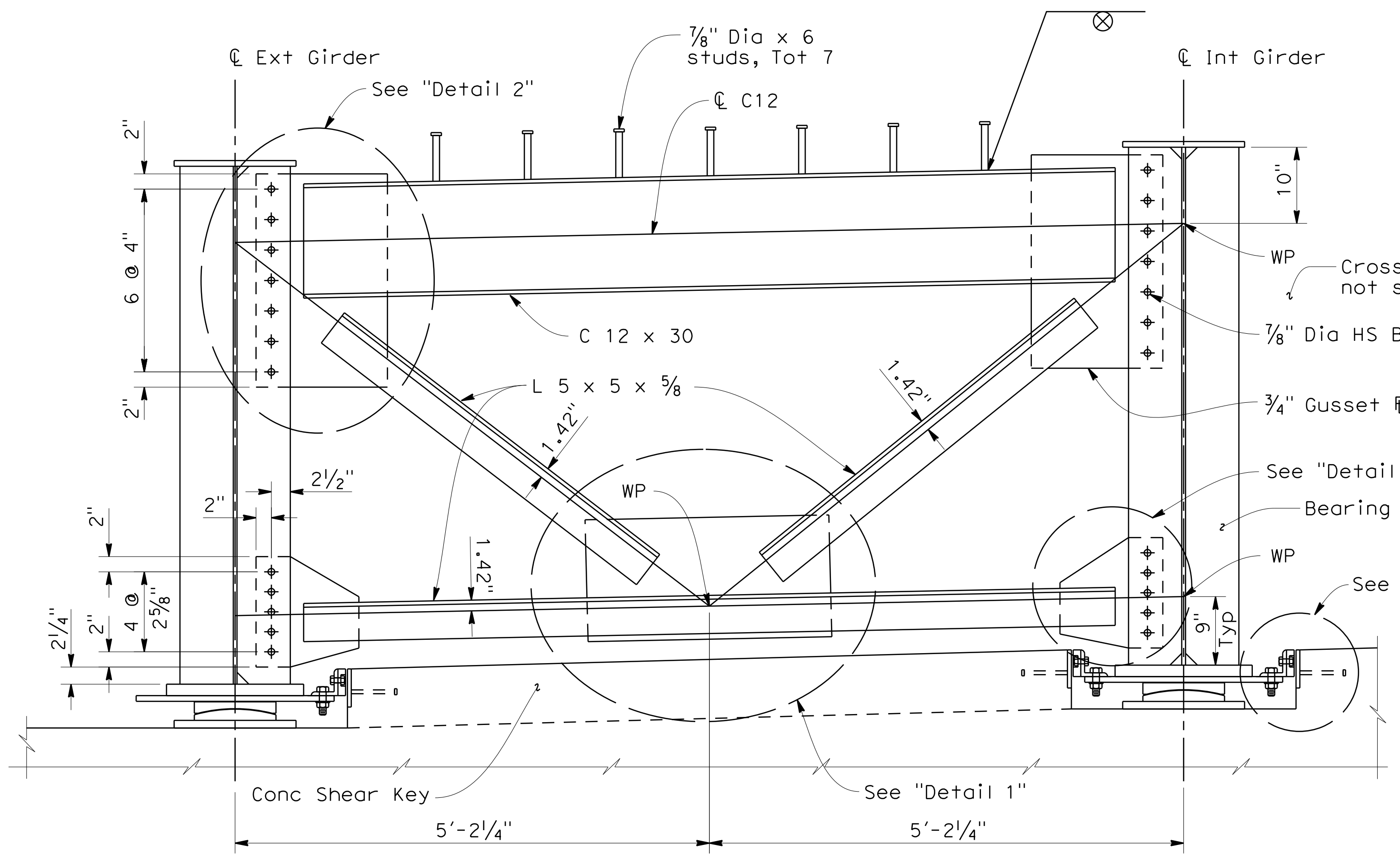


*[Signature]* 6-22-16  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

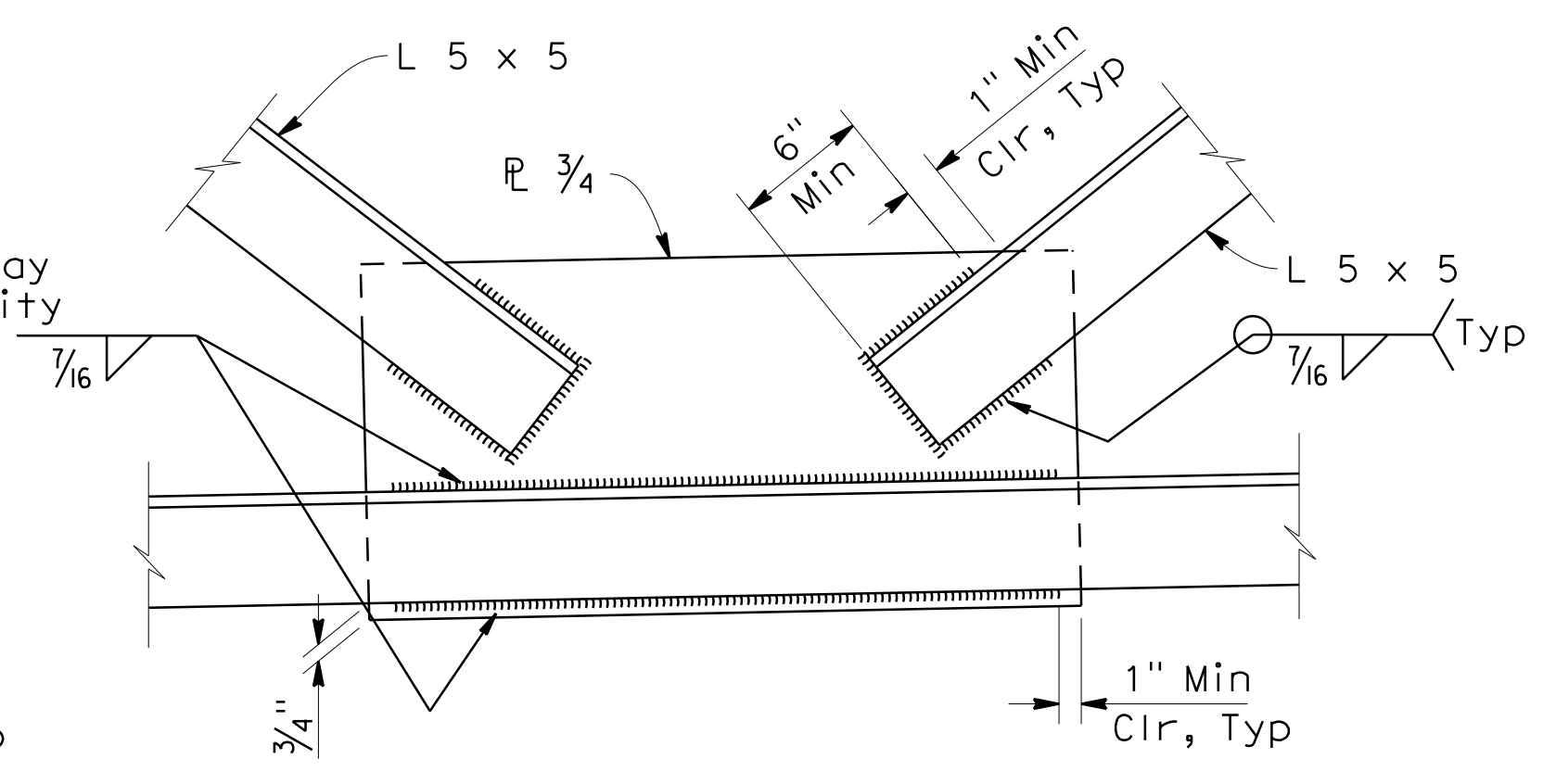
**SPLICE PLATE DETAILS NO. 2**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 23 OF 56

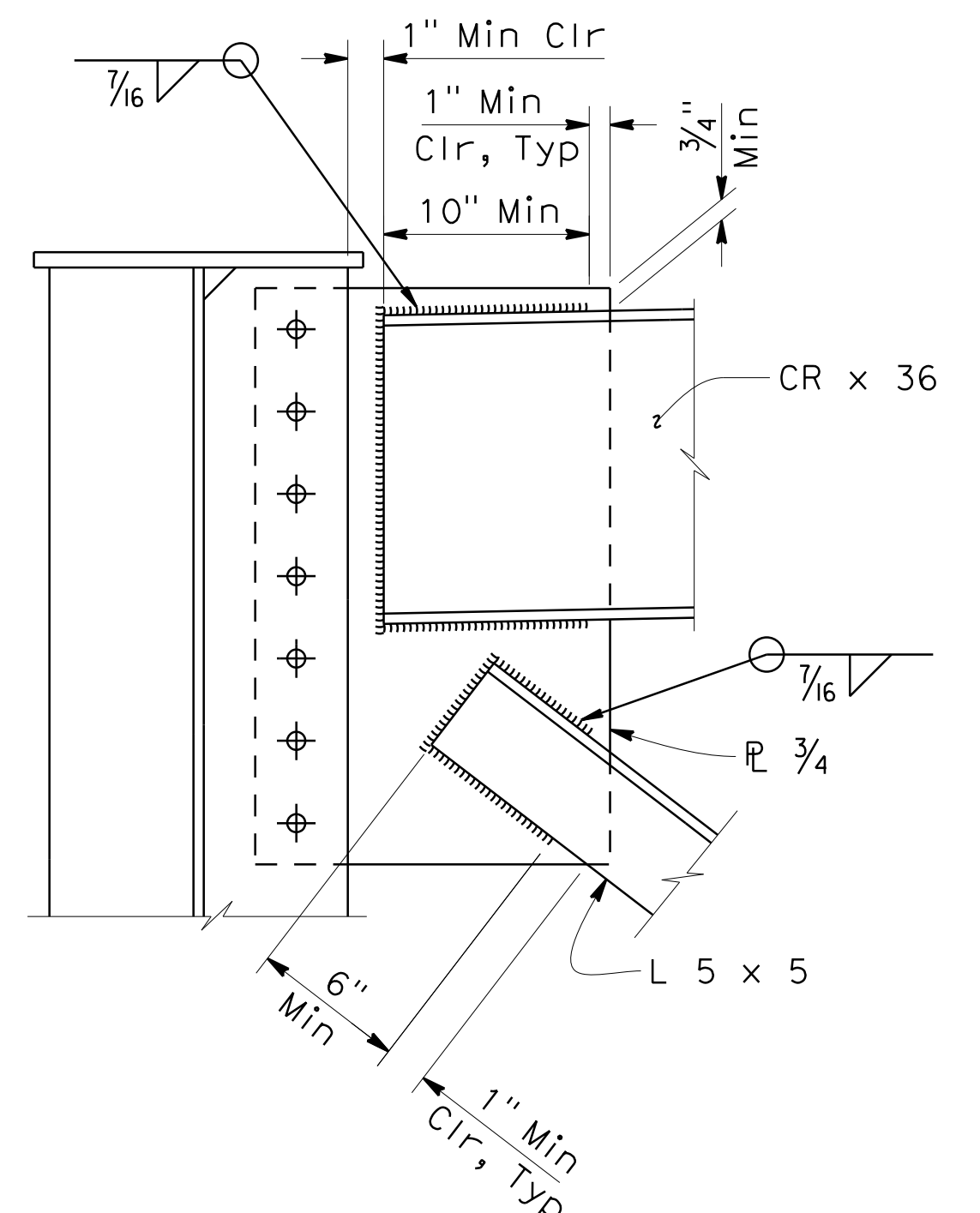


**ABUTMENT CROSS FRAME**

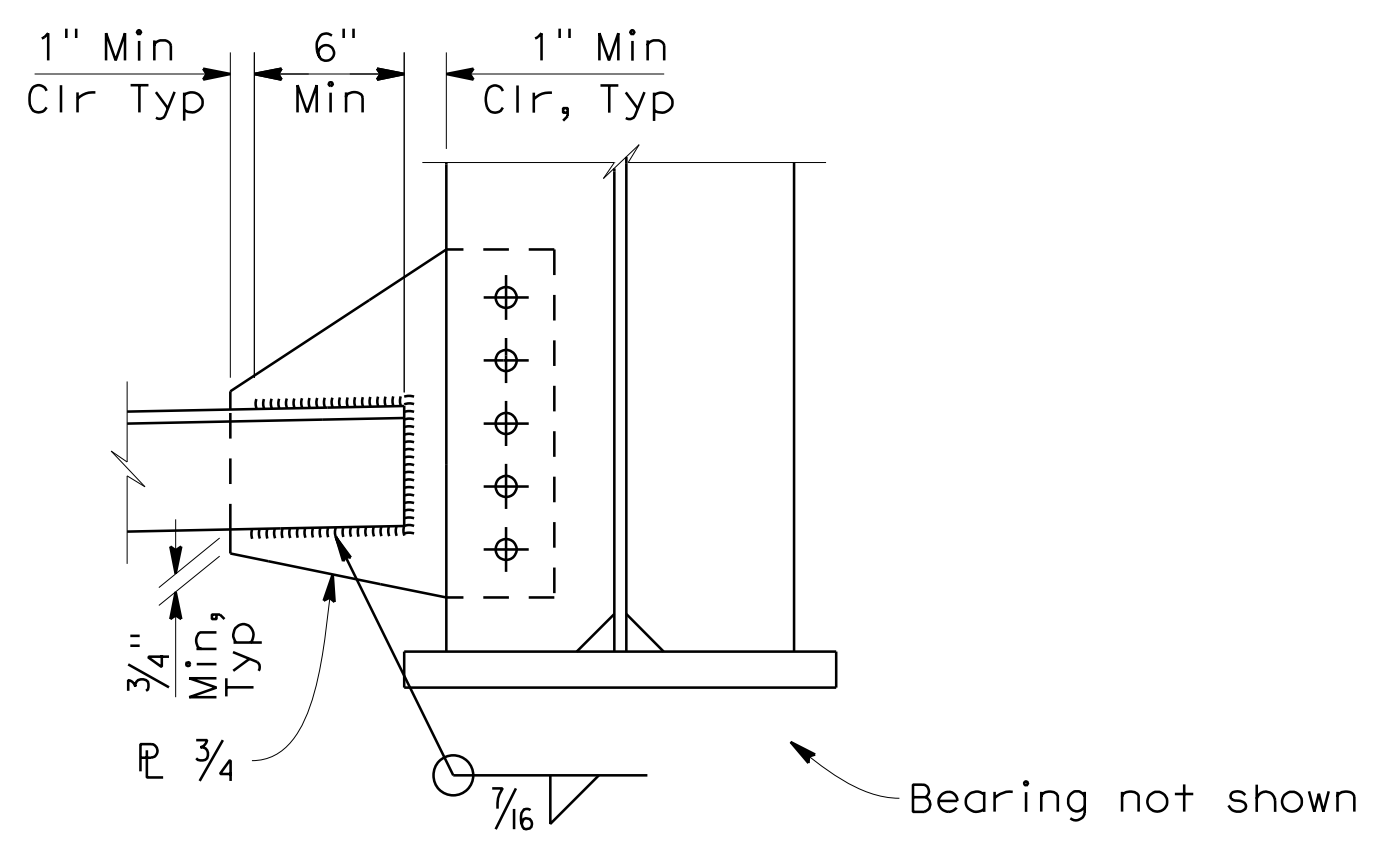
1"=1'-0"  
 Abutment 4 shown, Abutment 1 similar.  
 Cross Frames typical for all 4 bays between girders.



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

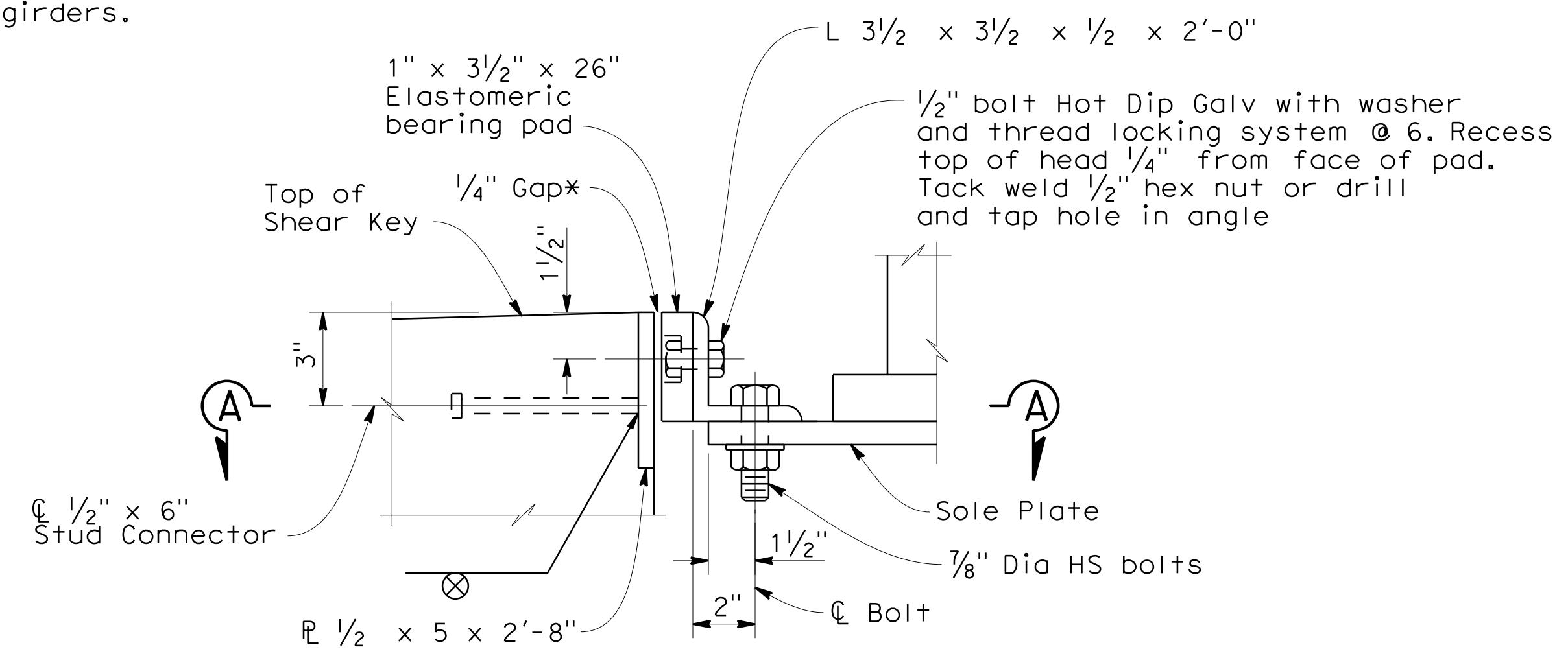


**DETAIL 2**  
 1 1/2"=1'-0"



**DETAIL 3**  
 1 1/2"=1'-0"

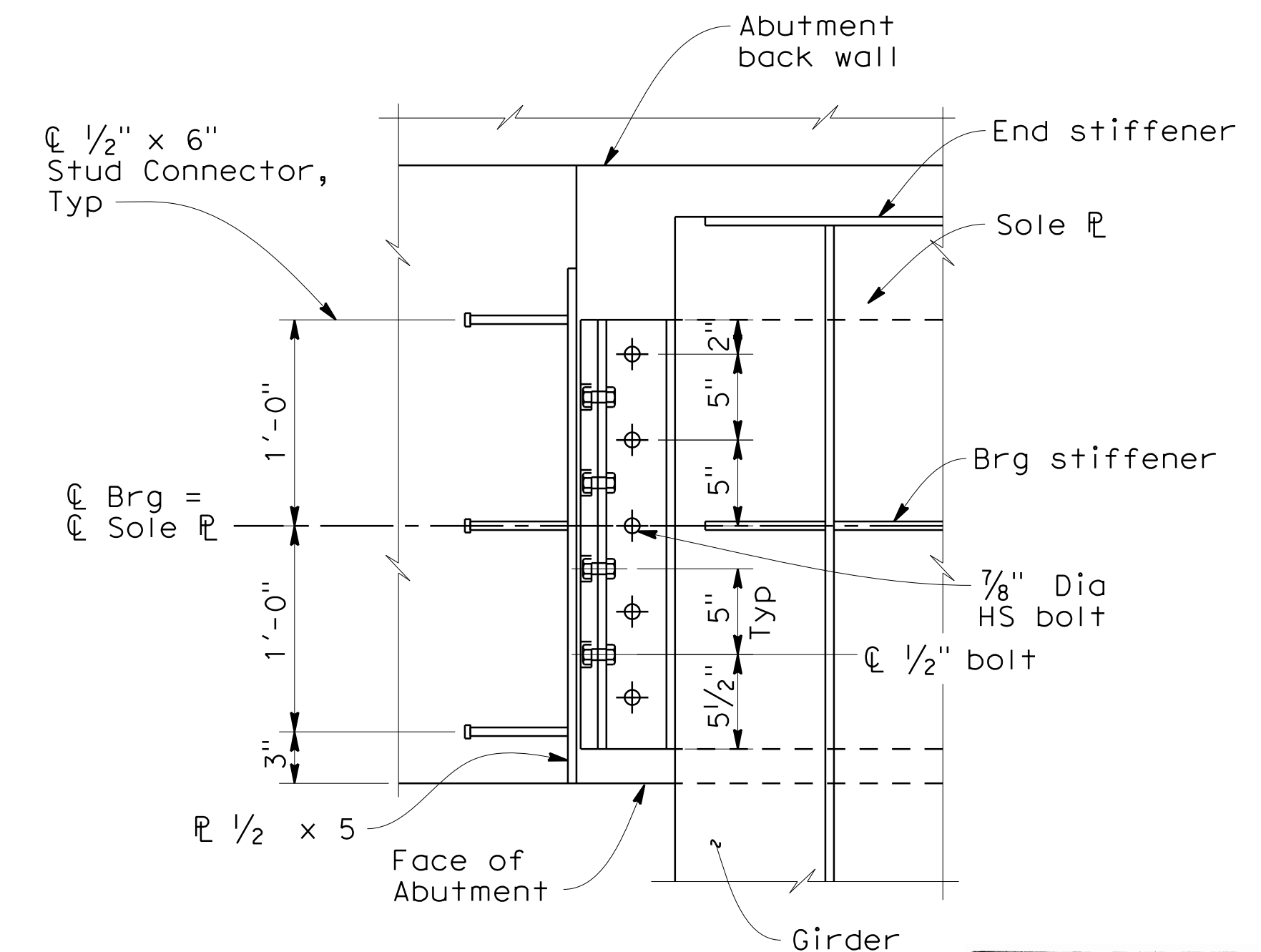
Note:  
 Minimum edge distance from 7/8" bolt shall be 1/2".



**DETAIL 4**  
 3"=1'-0"

Note:  
 Hot Dip Galvanize 1/2" x 5 x 2'-6" and 1/2" Dia x 6" stud connectors after fabrication.

\* All gap dimensions at all girders to be identical (Tolerance 1/16")

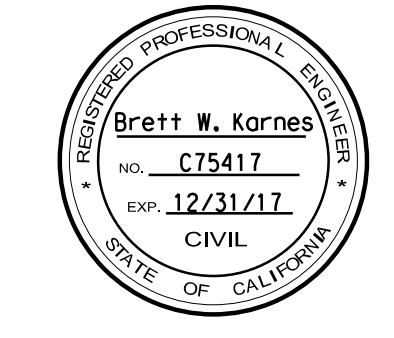


**SECTION A-A**  
 1 1/2"=1'-0"

LOS ANGELES COUNTY  
 DEPARTMENT OF PUBLIC WORKS  
 ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REJECTED  
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 BY: [Signature] DATE: 8/8/16



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 11017 Cobblestone Drive, Suite 100  
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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

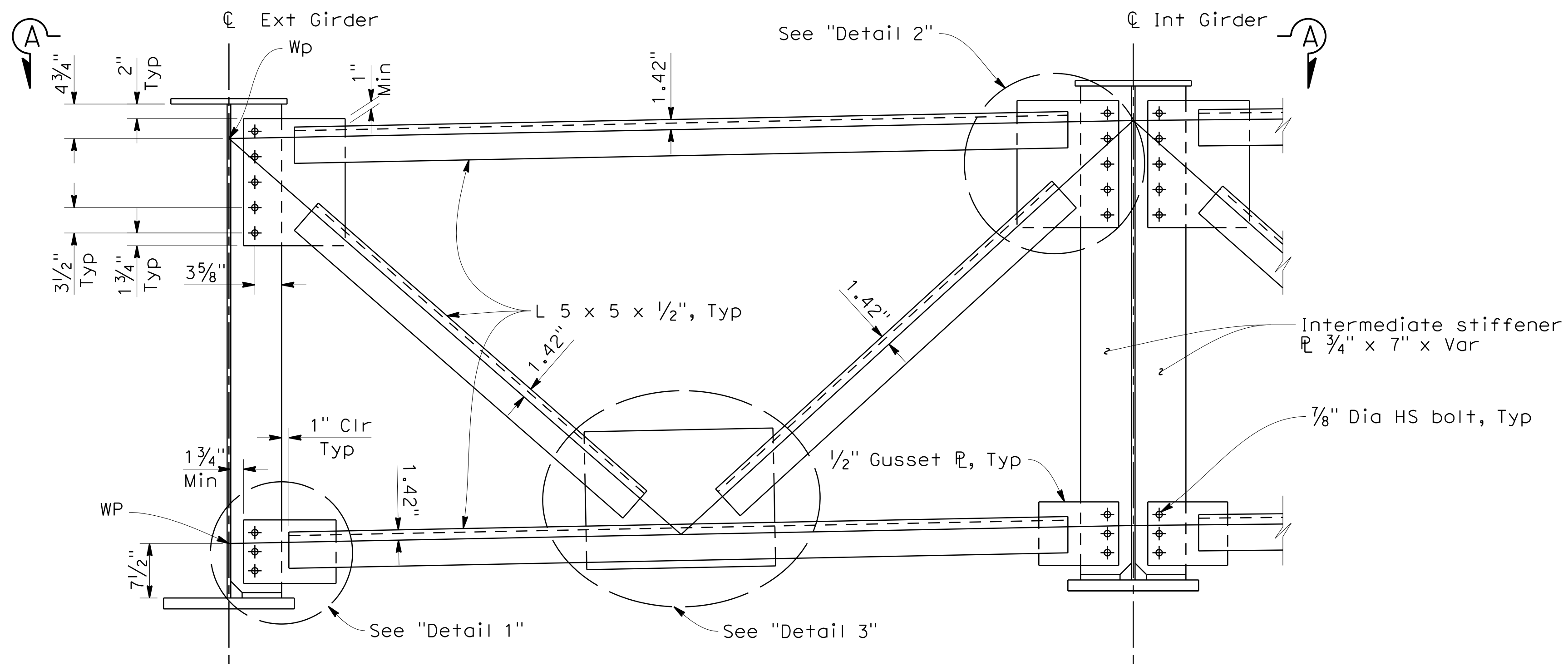
**CROSS FRAME DETAILS NO. 1**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 24 OF 56

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



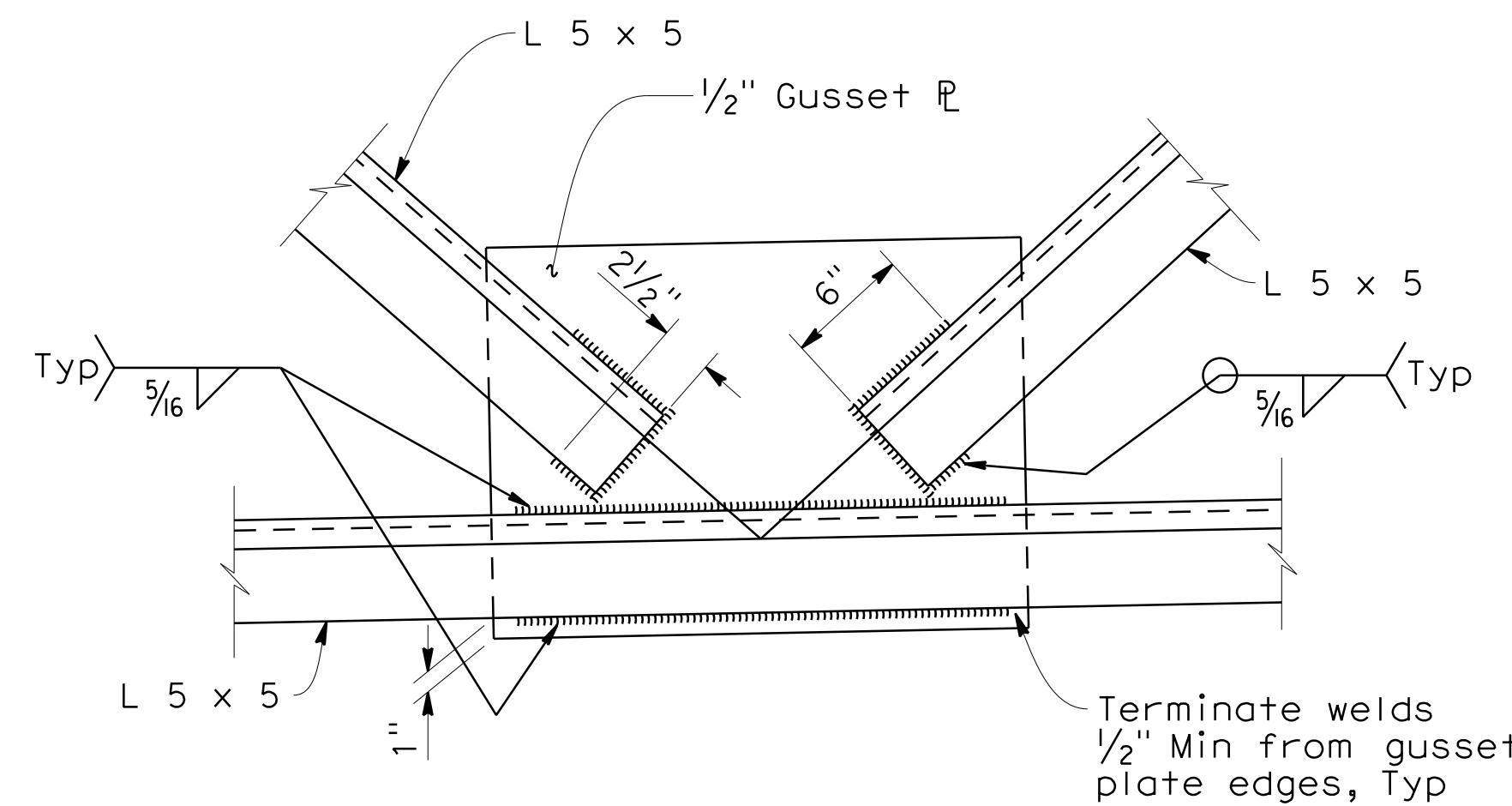




**INTERMEDIATE CROSS FRAME**

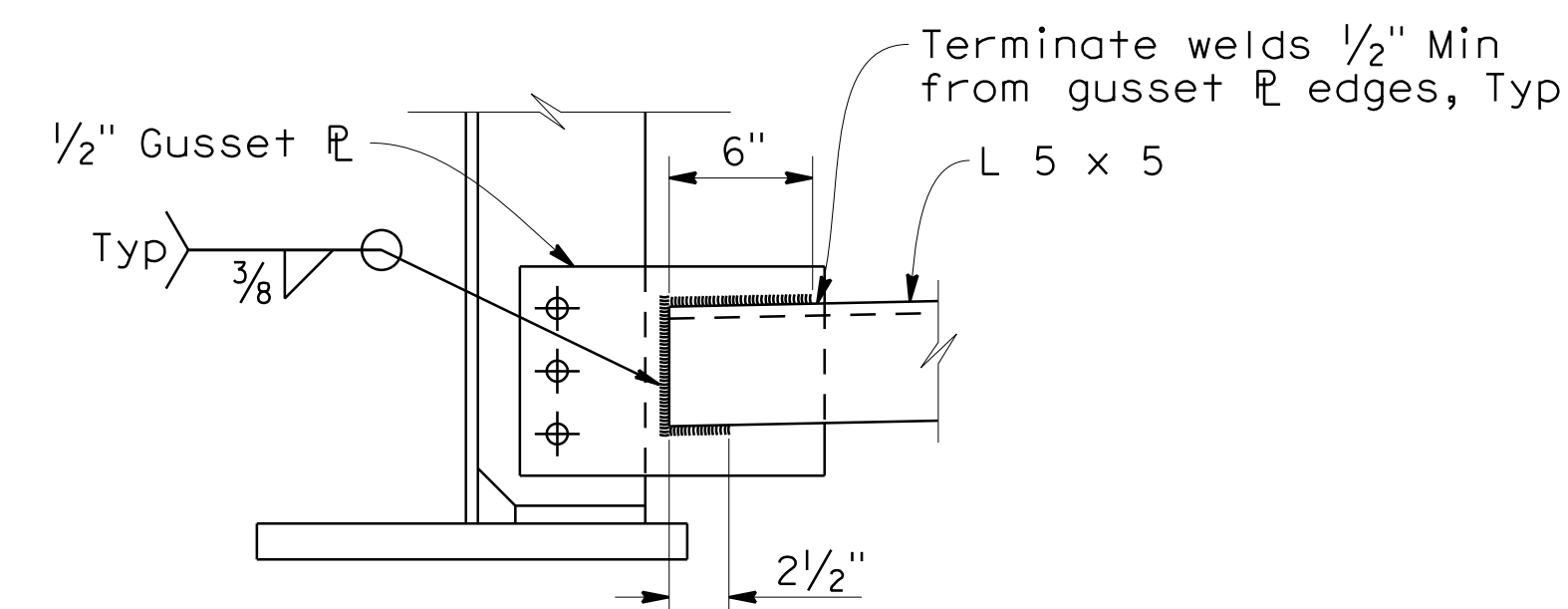
1 1/2"=1'-0"

Cross frames typical for all 4 bays between girders



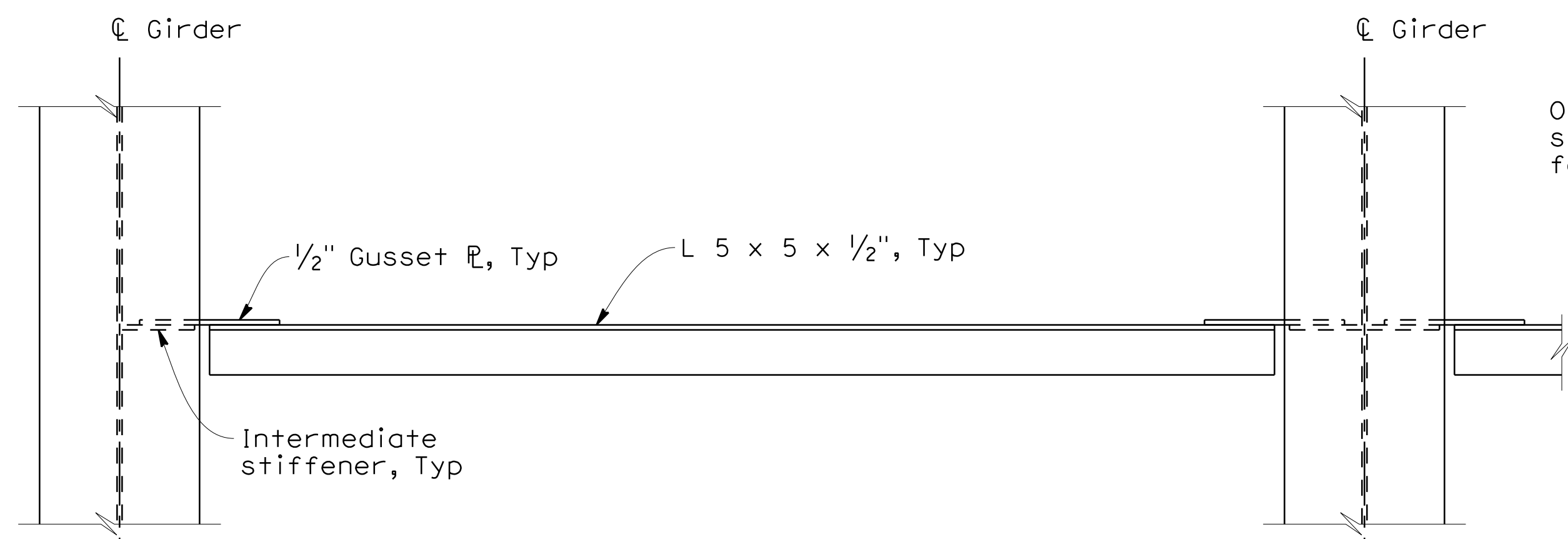
**DETAIL 3**

1 1/2"=1'-0"



**DETAIL 1**

1 1/2"=1'-0"

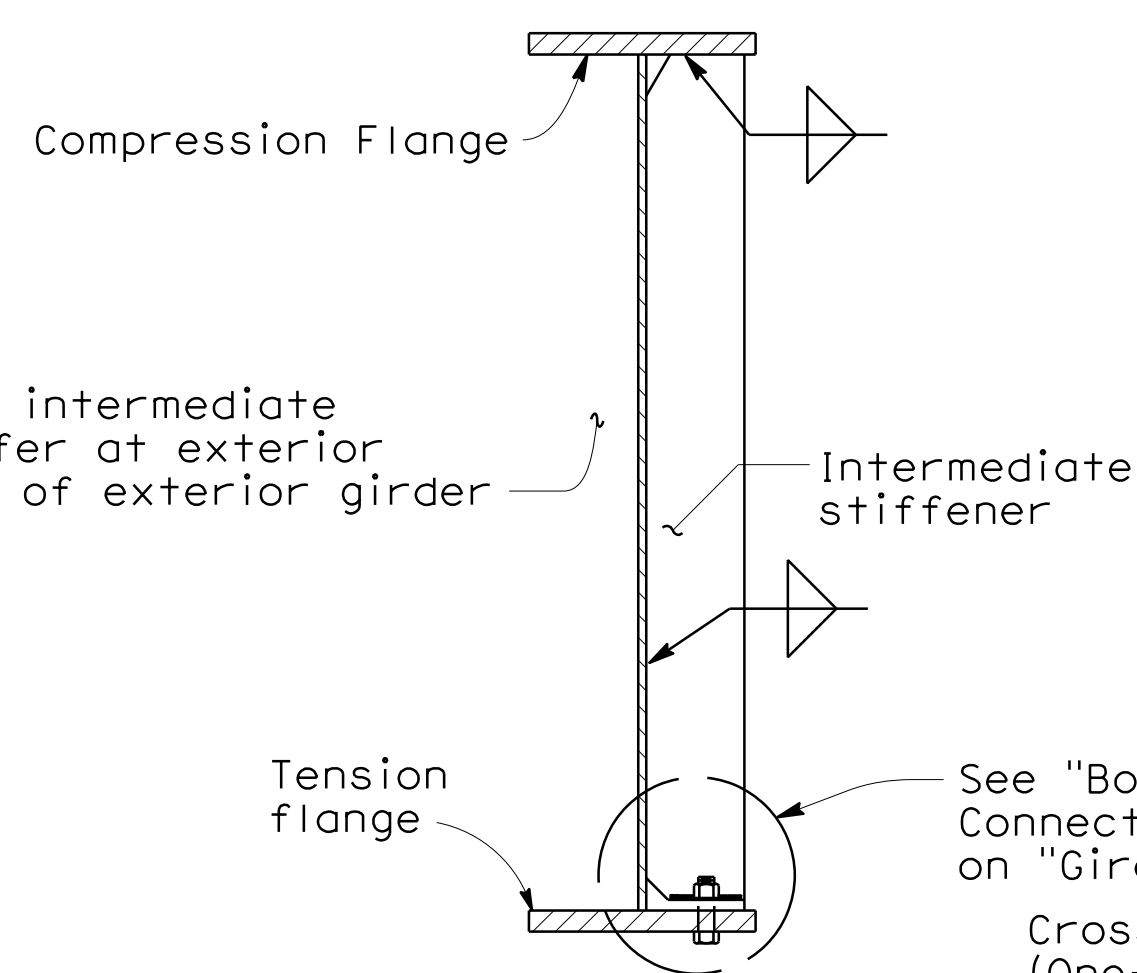


**VIEW A-A**

1 1/2"=1'-0"

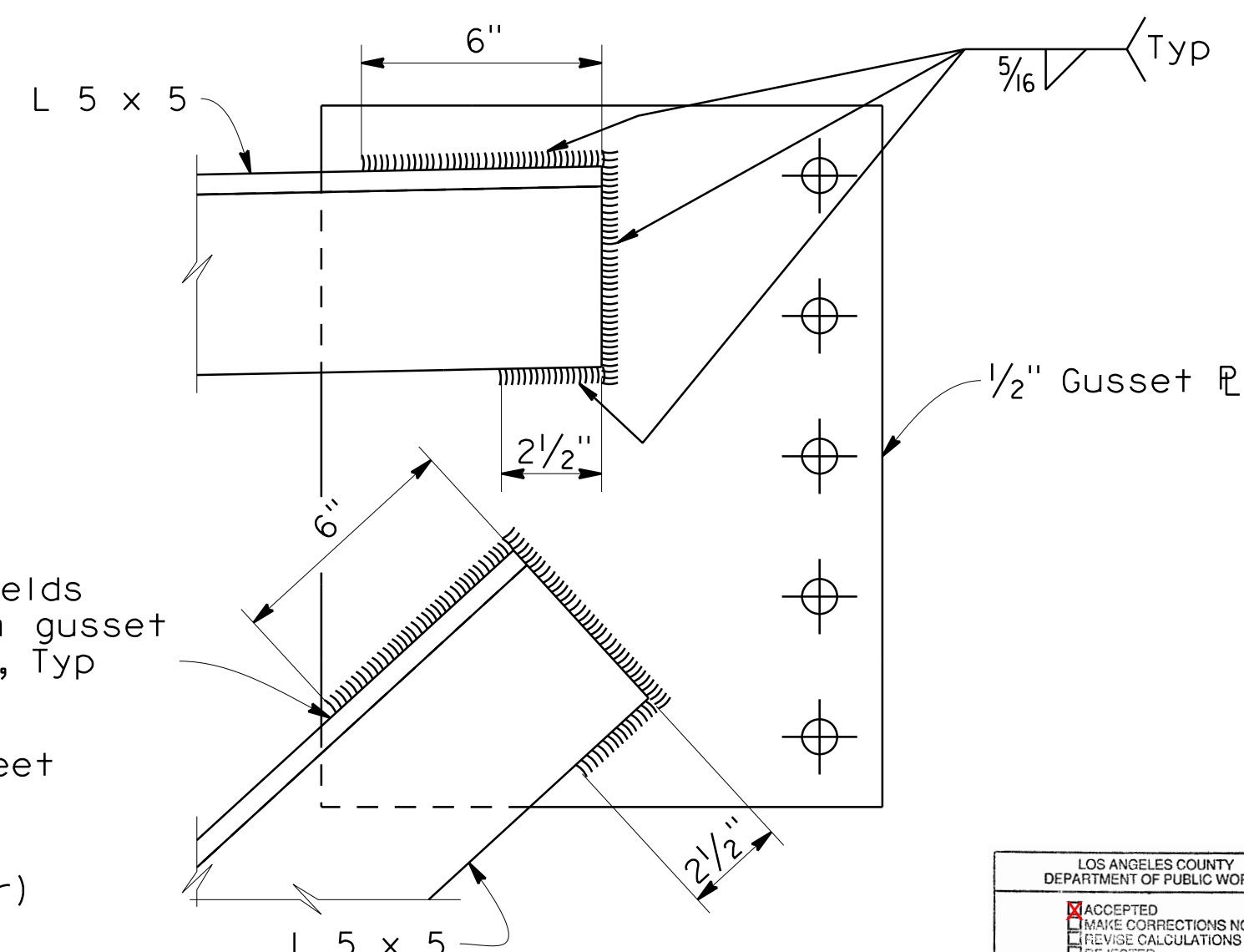
Notes:

1. Bolts are to be 7/8" diameter HS bolts unless noted otherwise.



**INTERMEDIATE STIFFENER**

No Scale

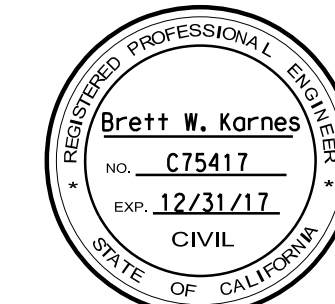


**DETAIL 2**

No Scale

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
MAKE CORRECTIONS NOTED  
REVISE CALCULATIONS  
REQUESTED  
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE  
THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE  
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PLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR  
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DIMENSIONS, PROPER CONSTRUCTION AND INSTAL-  
LATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL  
REQUIREMENTS. ACCEPTANCE INDICATED HEREIN  
DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLI-  
GATIONS.  
DATE 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

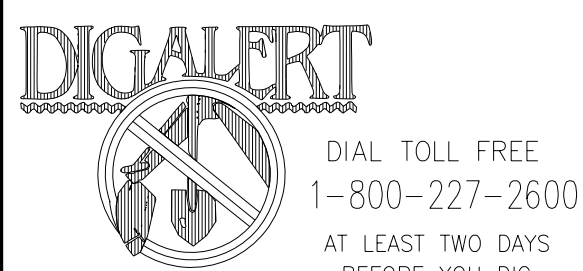


Brett W. Korne  
PROJECT ENGINEER DATE 6-22-18

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

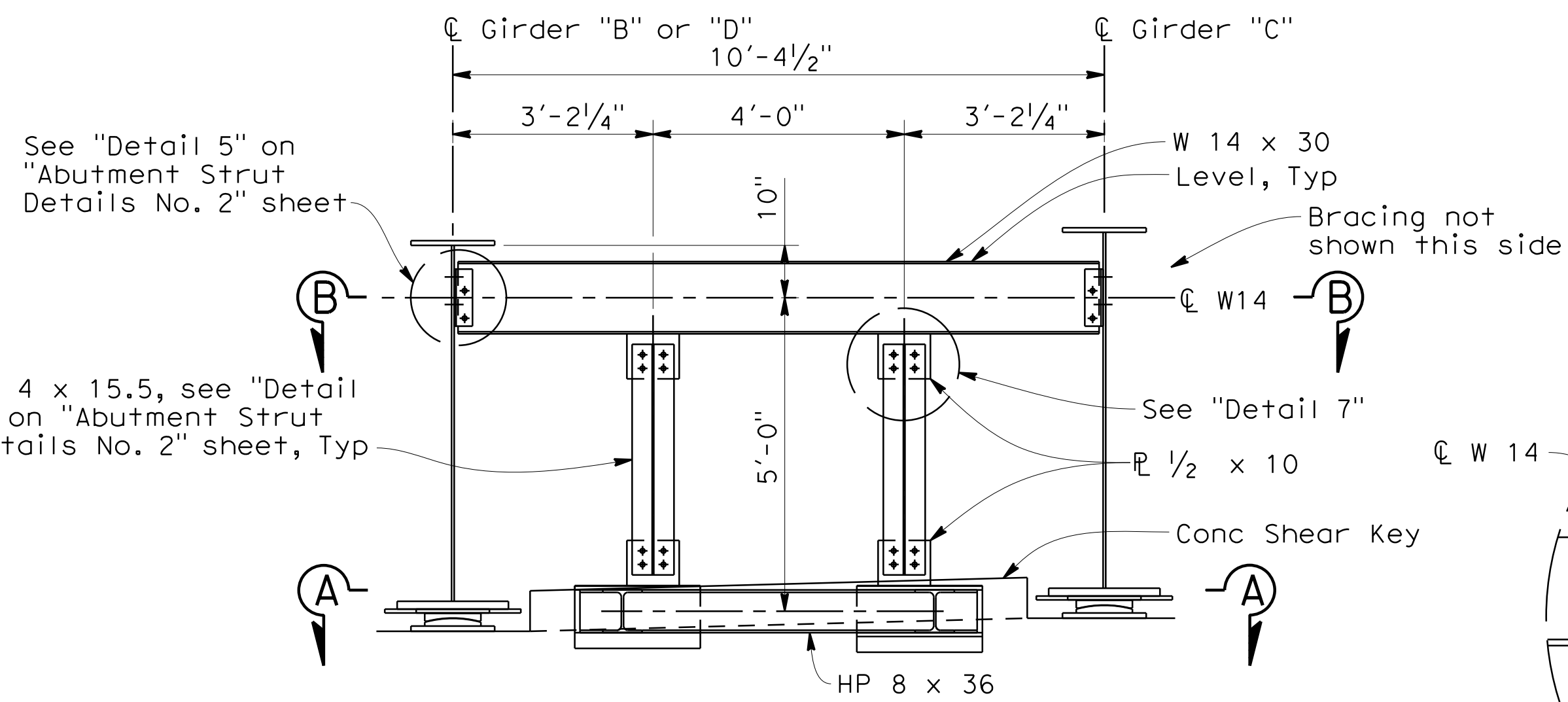
**CROSS FRAME DETAILS NO. 3**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 26 OF 56

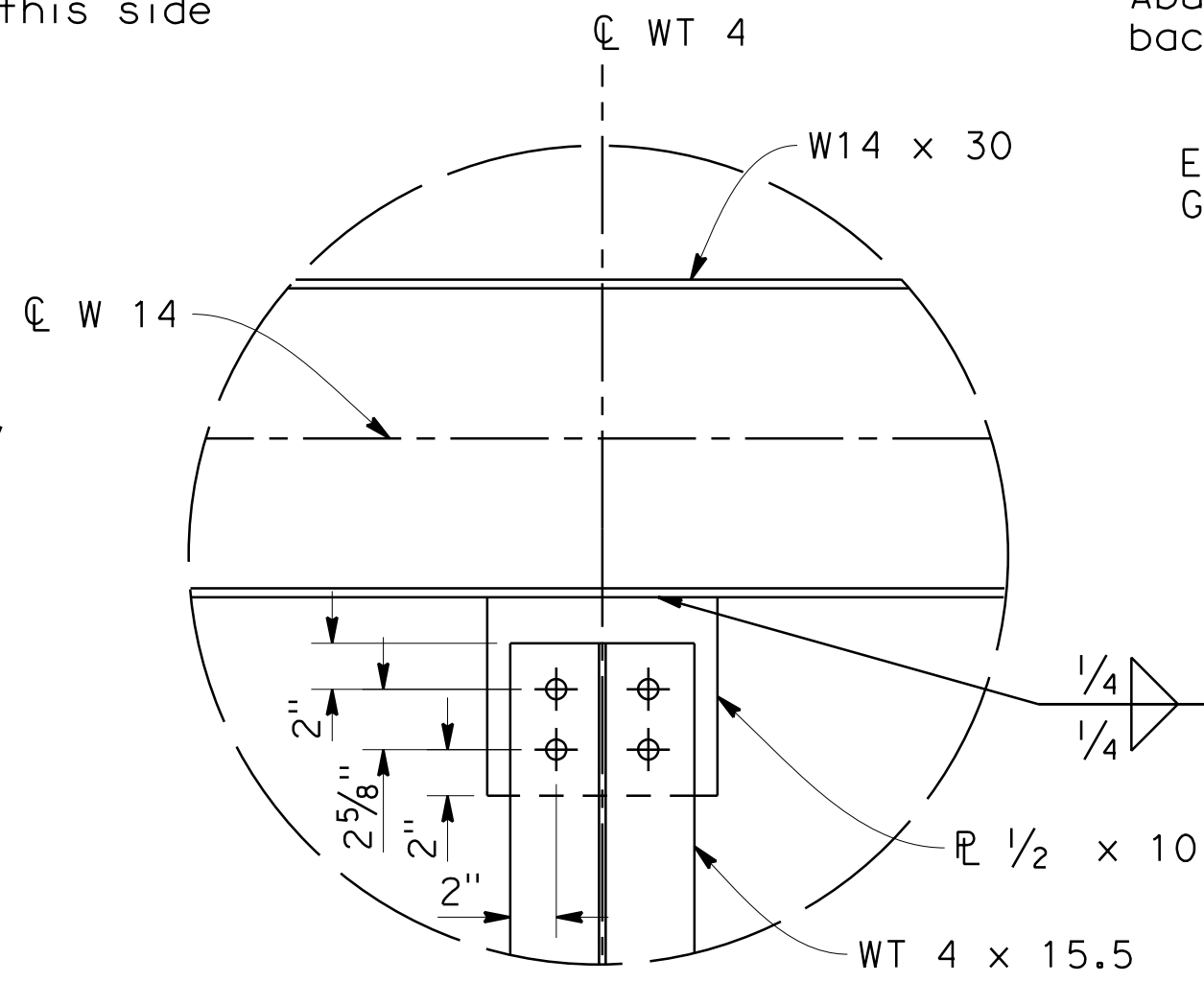


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Rancho Cordova, CA 95670

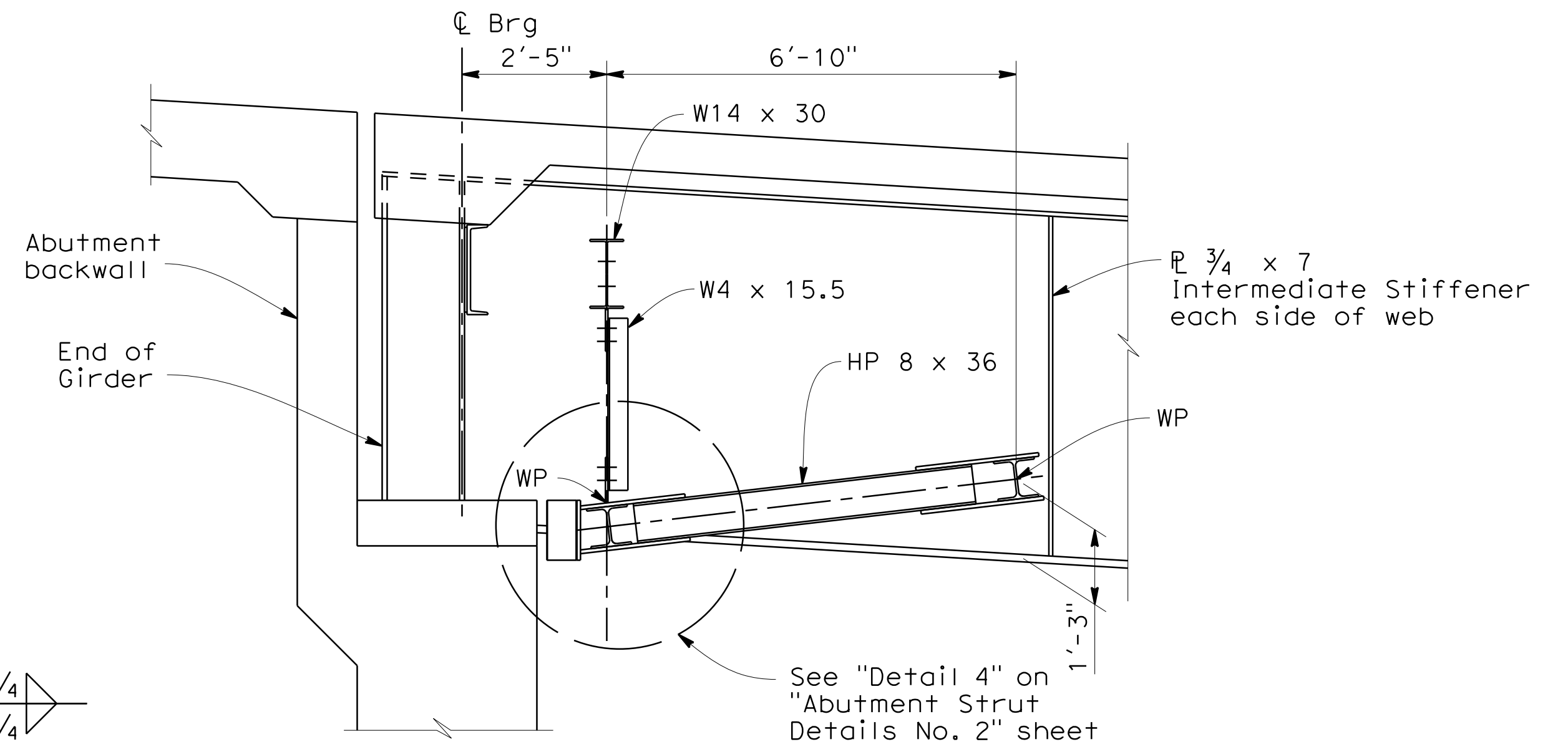




**ELEVATION**  
1/2"=1'-0"

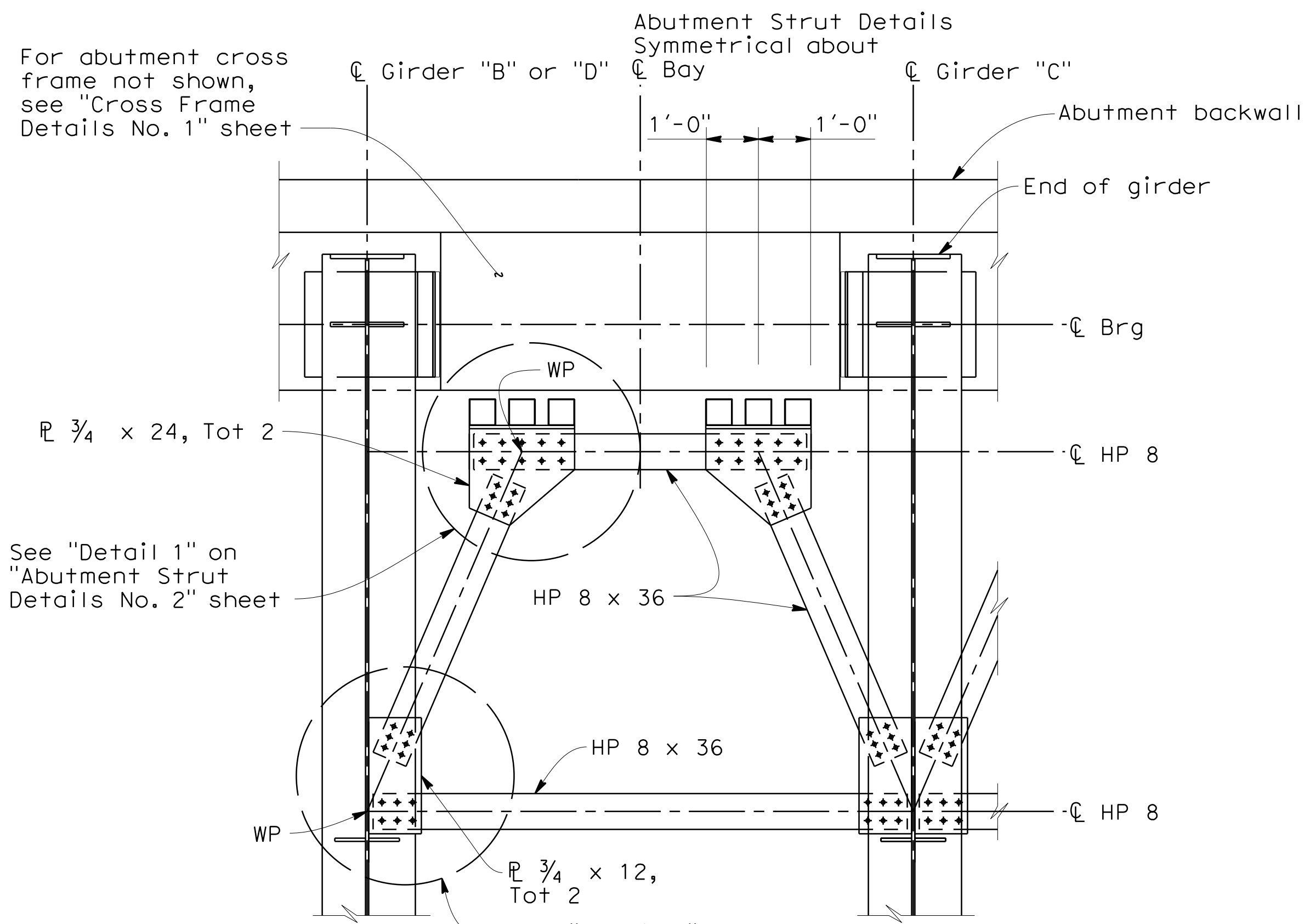


**DETAIL 7**  
1/2"=1'-0"

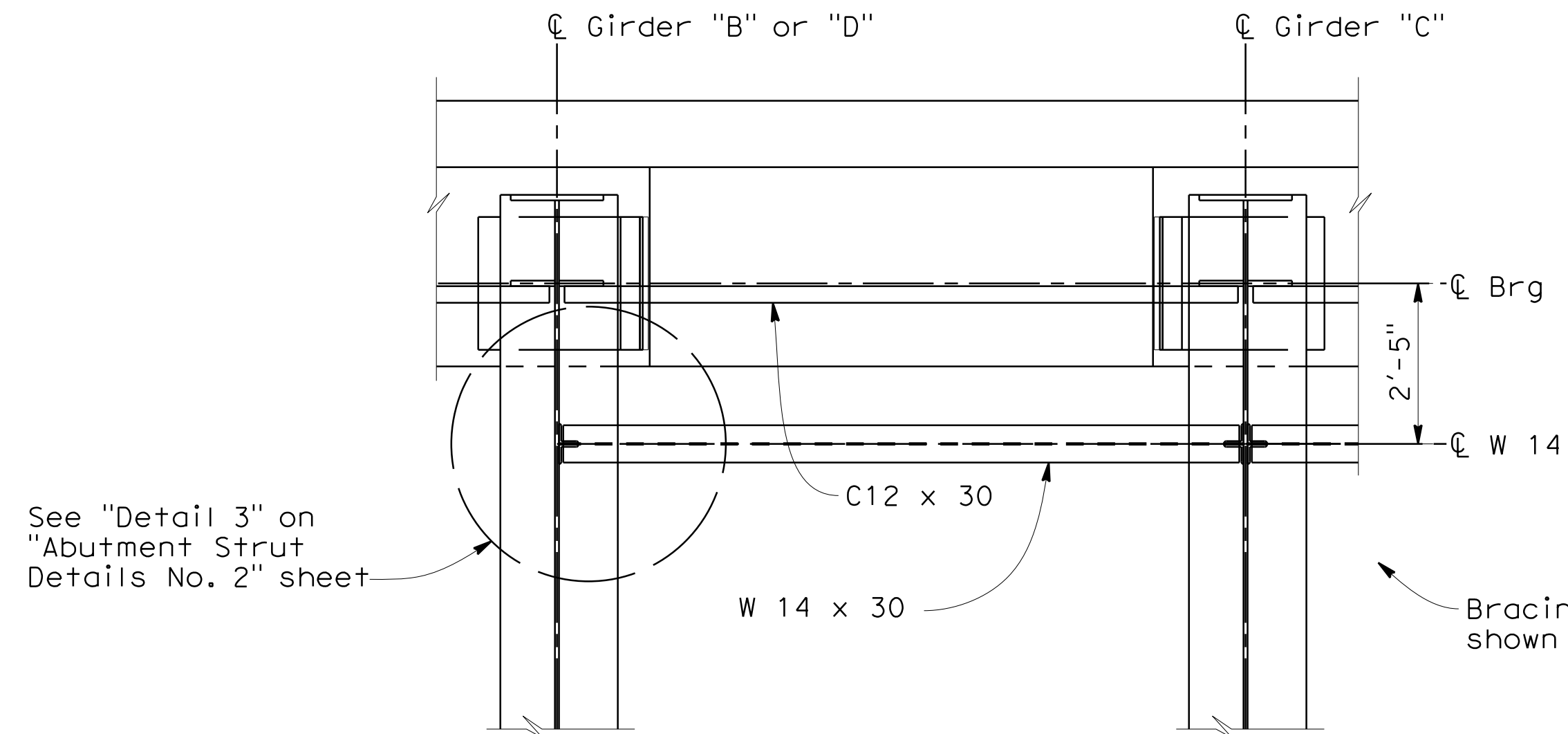


**STRUT AT ABUTMENT 1**  
1/2"=1'-0"

Note:  
Abutment 1 shown, Abutment 4 similar.



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



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

Note:  
Bolts are to be 7/8" diameter  
HS bolts unless noted otherwise.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 BASIC CORRECTIONS NOTED  
 REVISION CALCULATIONS  
 REJECTED

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BY: [Signature] DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

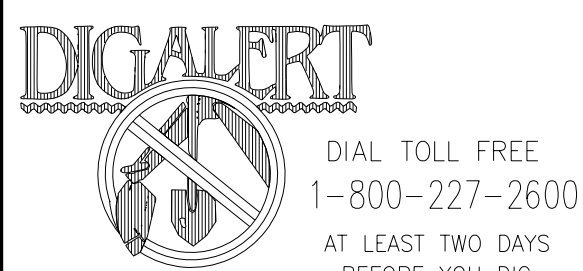
REGISTERED PROFESSIONAL ENGINEER  
 Brett W. Kornek  
 NO. C75417  
 EXP. 12/31/17  
 CIVIL  
 STATE OF CALIFORNIA

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ABUTMENT STRUT DETAILS NO. 1**

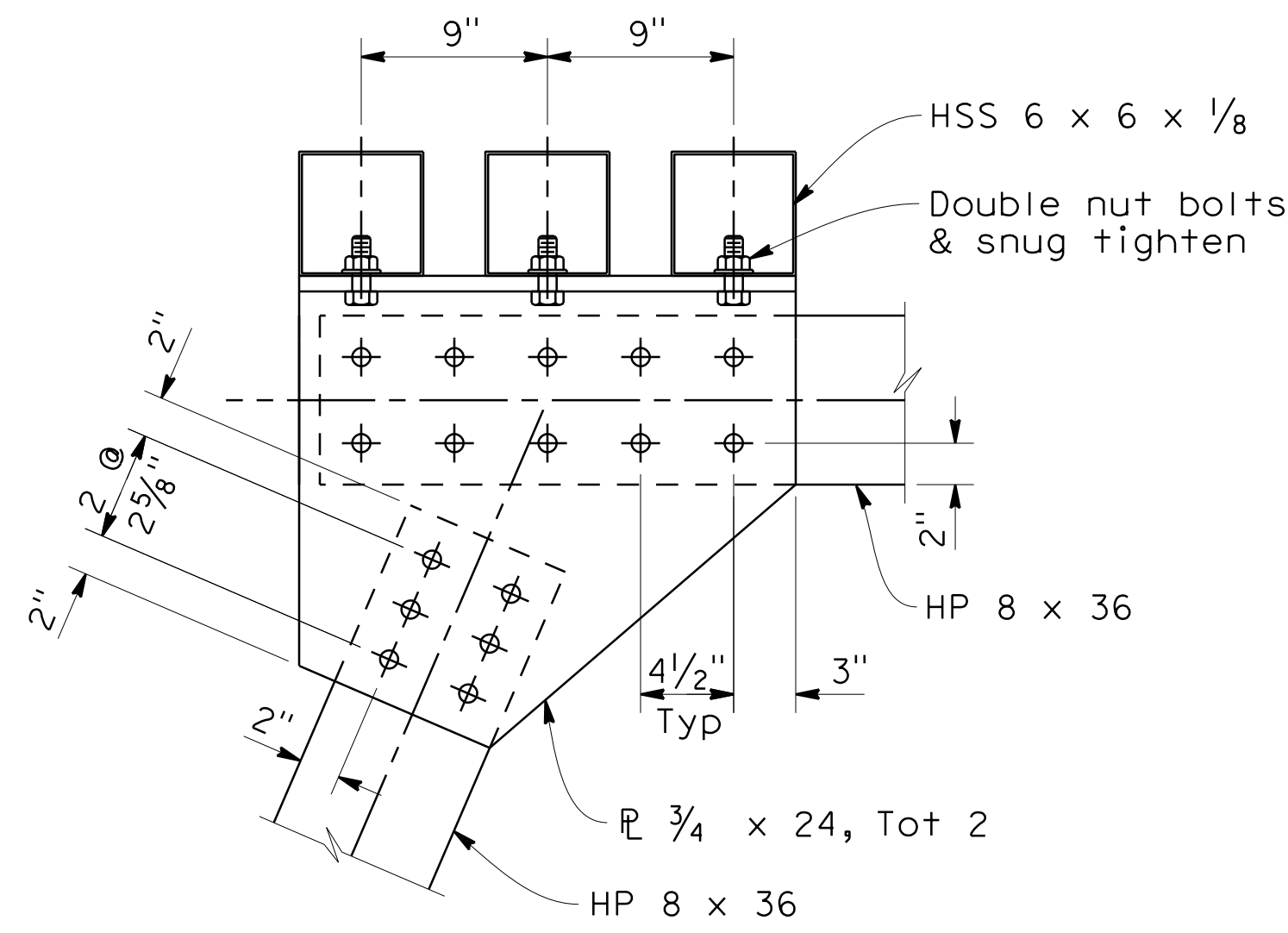
**POEMA PLACE BRIDGE  
OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 28 OF 56

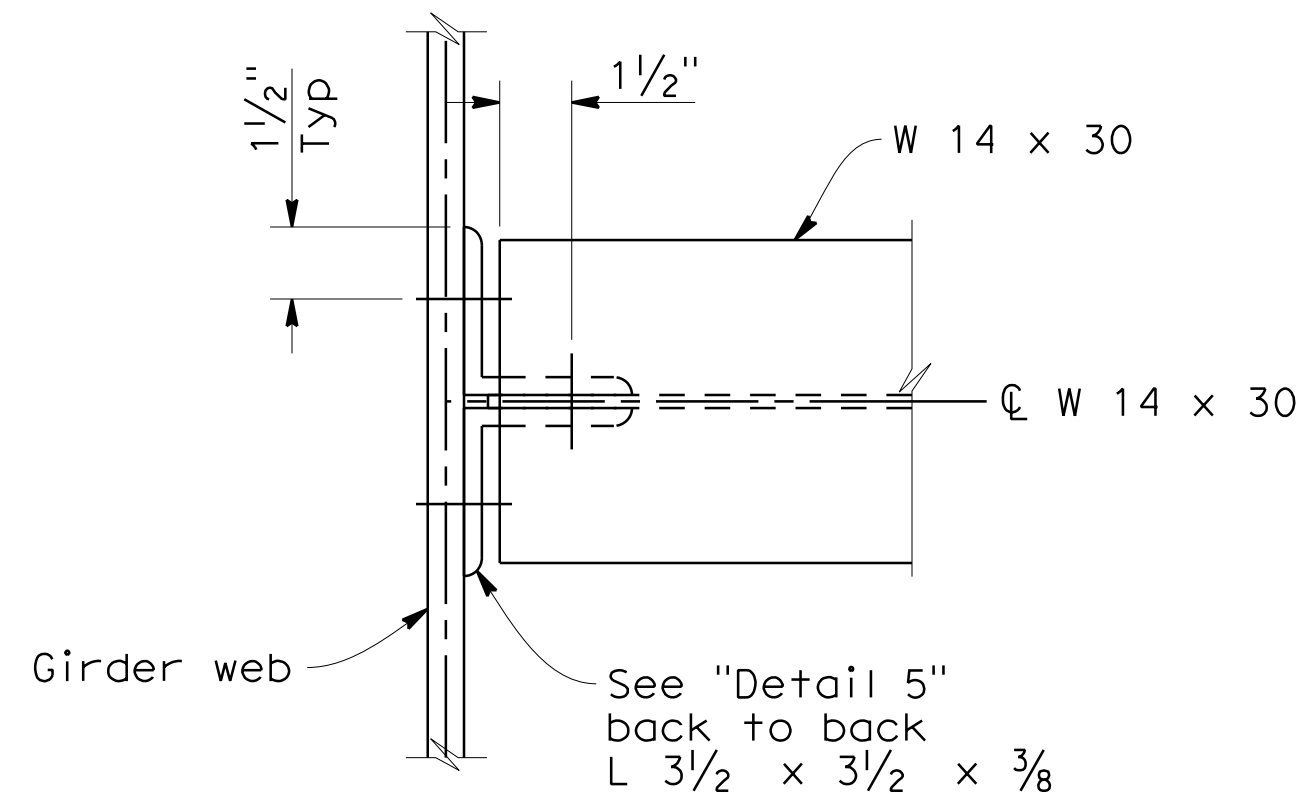


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 Rancho Cordova, CA 95670

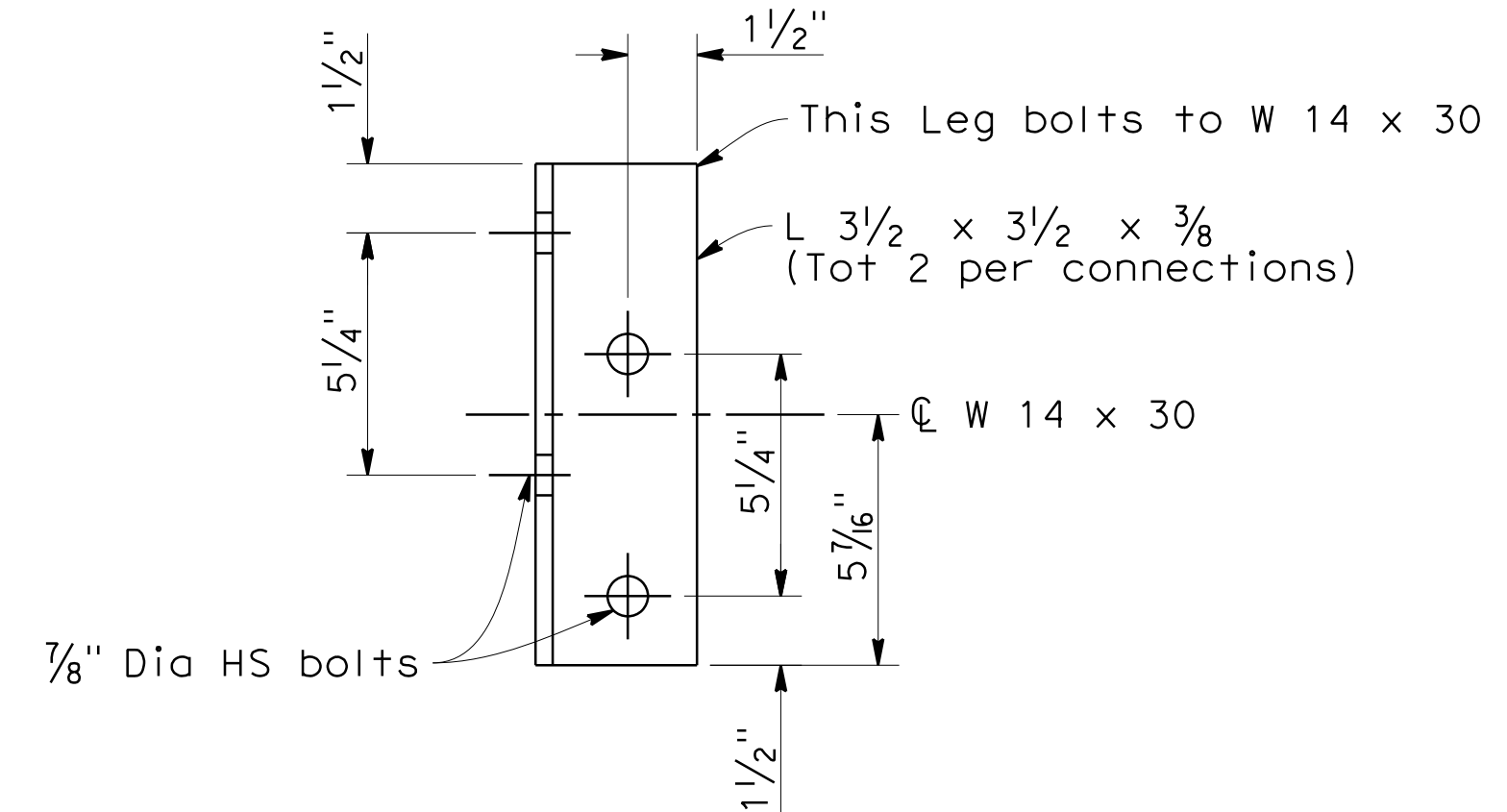
Brett W. Kornek 6-22-16  
 PROJECT ENGINEER DATE



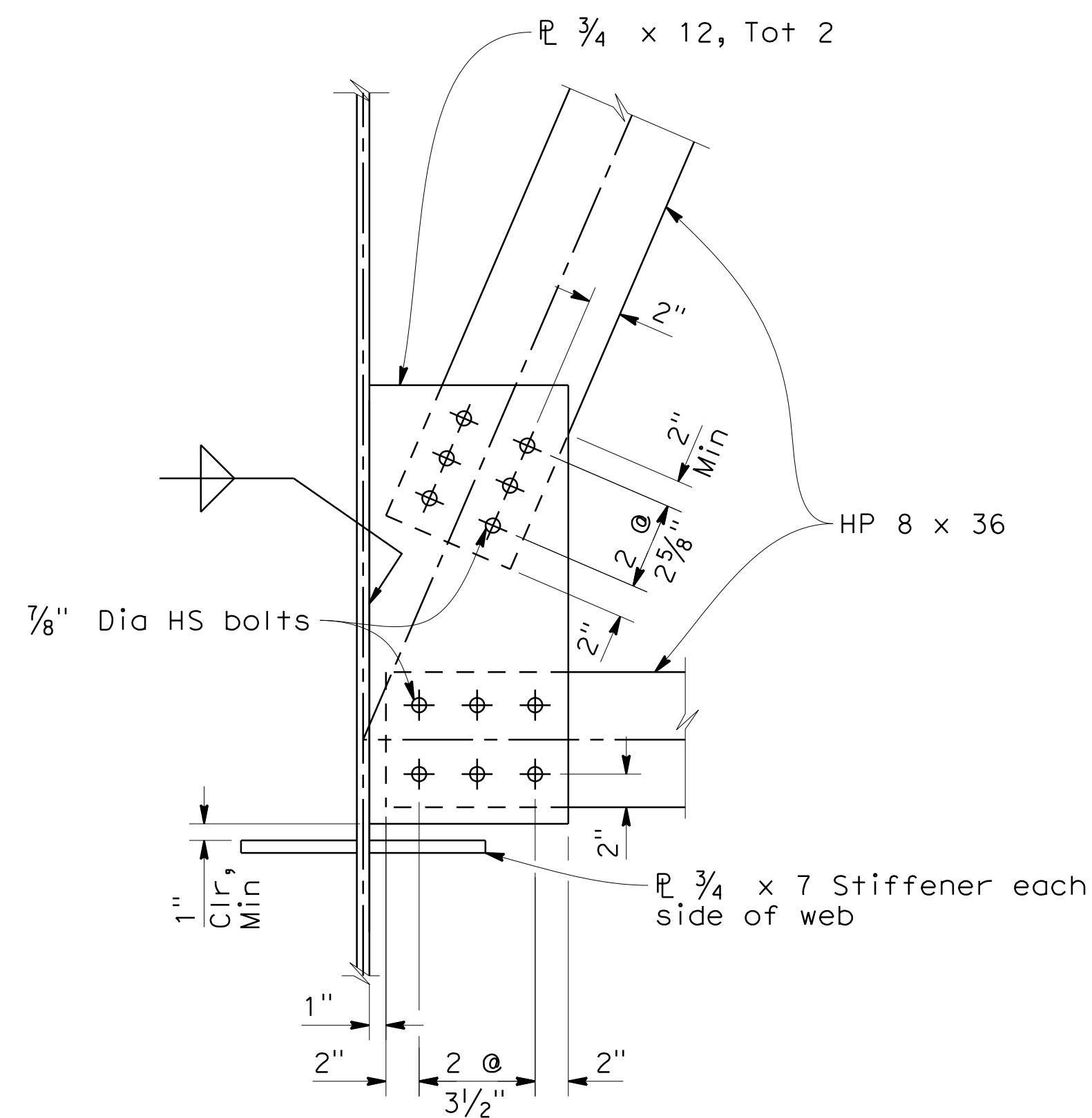
**DETAIL 1**  
1 1/2" = 1'-0"



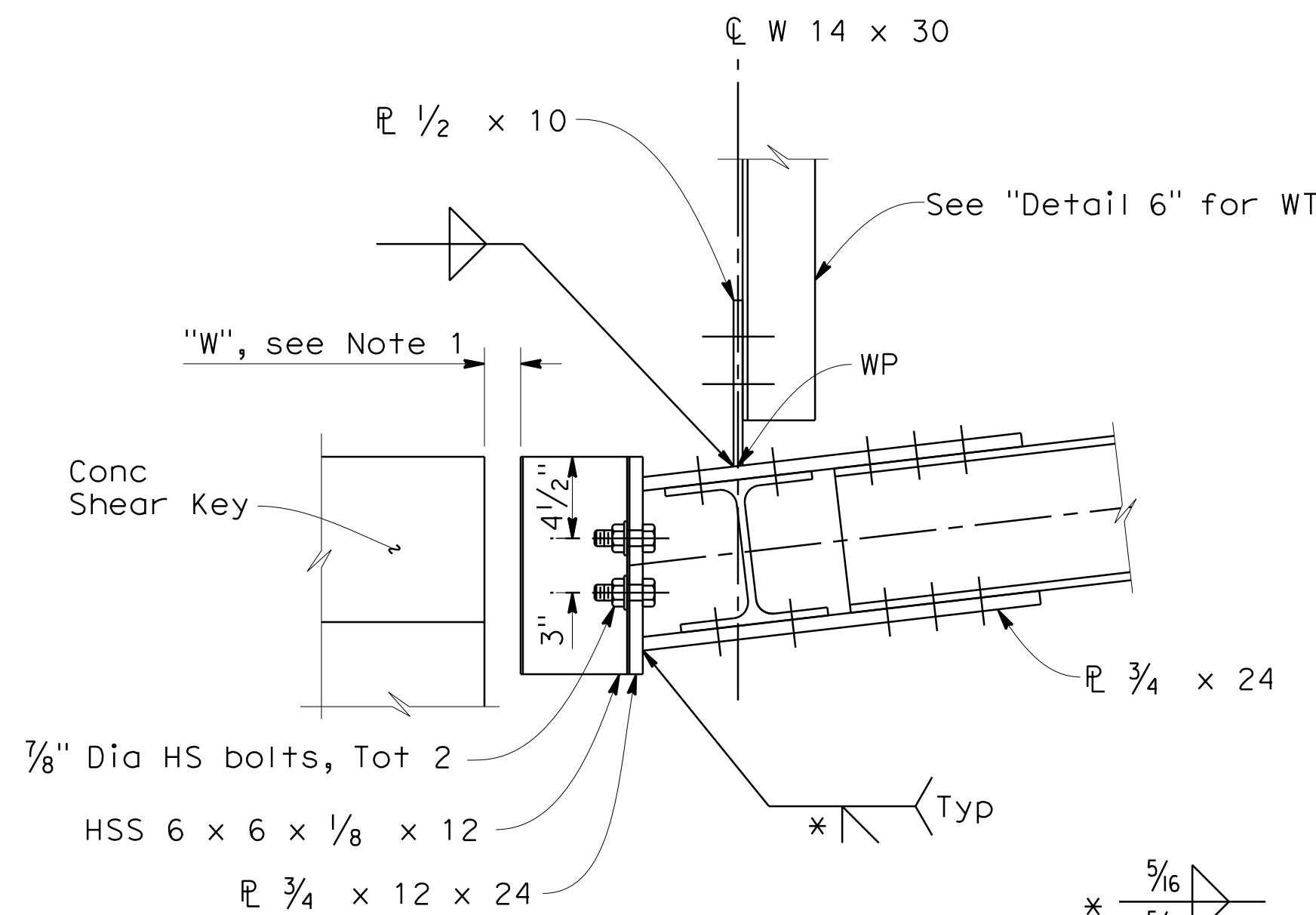
**DETAIL 3**  
3" = 1'-0"



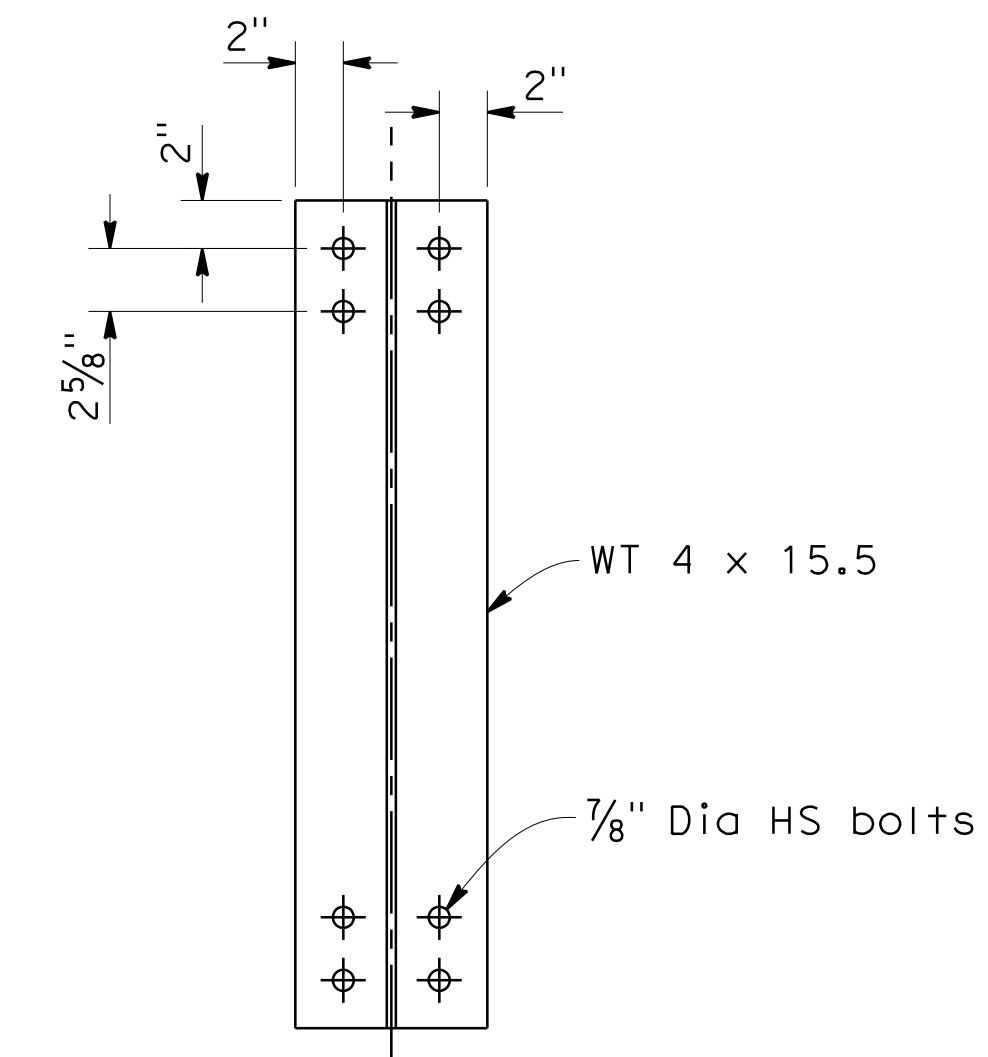
**DETAIL 5**  
3" = 1'-0"



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



**DETAIL 4**  
1 1/2" = 1'-0"



**DETAIL 6**  
1 1/2" = 1'-0"

Note:

1. For "W" see "Joint Seal (Max MR = 3.5")" sheet.
2. Bolts are to be 7/8" diameter HS bolts unless noted otherwise.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
REVISIONS NOTED  
REVISION CALCULATIONS  
DISCLOSED

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EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

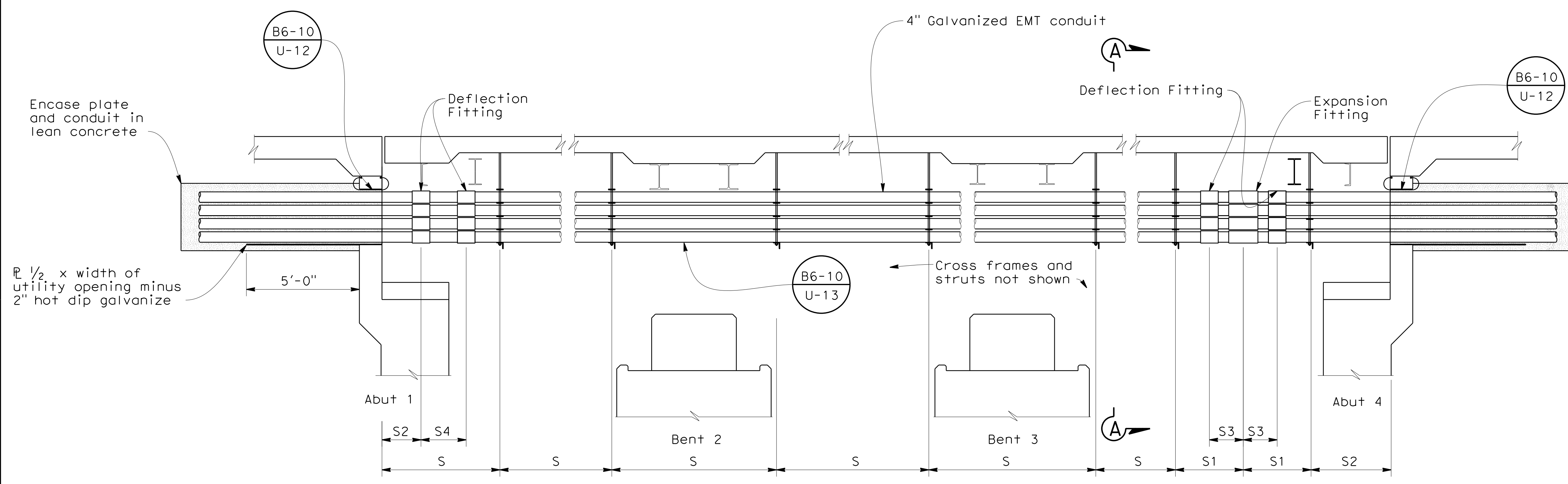
[Signature] 6-22-16  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ABUTMENT STRUT DETAILS NO. 2**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

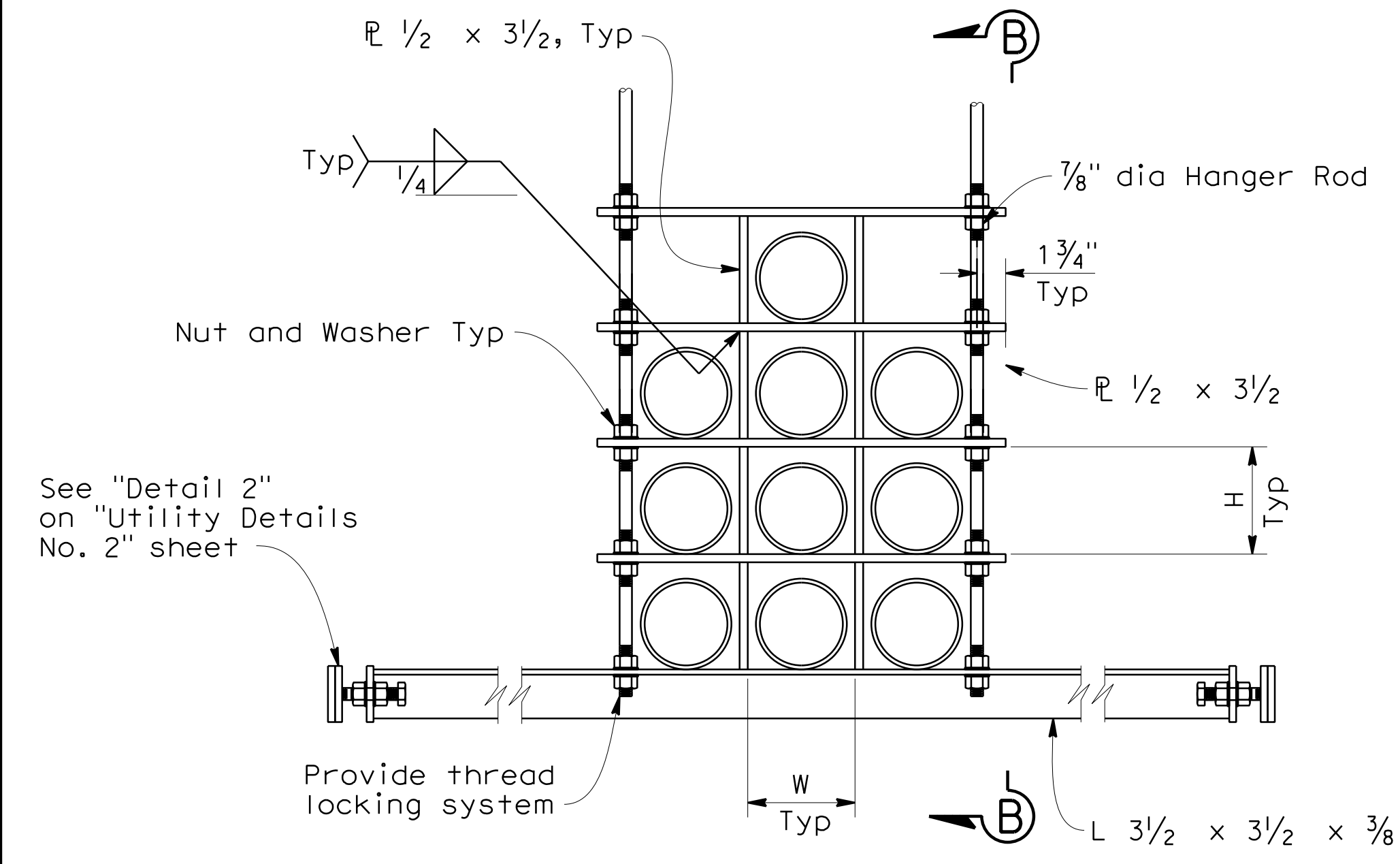
RD 53138 BR. 4200 PB642453 SHEET 29 OF 56



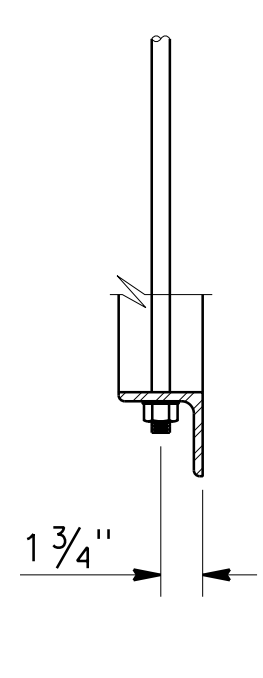


- Notes:
1. The telephone, cable, and future utility conduit, hanger rods, bracing, and anchor bolts shall be furnished and installed by the Contractor.
  2. These details show the general arrangement and standard details for the pipe supports. Submit for authorization.
  3. All pipe support components and hardware, including nuts and bolts shall hot dipped galvanized after fabrication.
  4. Alternative details which provide equal functions are permissible provided they are approved by the Engineer.
  5. S = 7'-0" maximum
  6. S1 = 3'-6" maximum
  7. S2 = 5'-0" maximum
  8. S3 = 15" to 18"
  9. S4 = 21" to 24"
  10. Plates shall conform to ASTM A36.
  11. Hanger rods shall conform to ASTM A572 Grade50.
  12. Anchor Bolts shall conform to ASTM F1554 Grade 55
  13. Hex Coupling nuts shall conform to ASTM A653 Grade B, D, or DH.

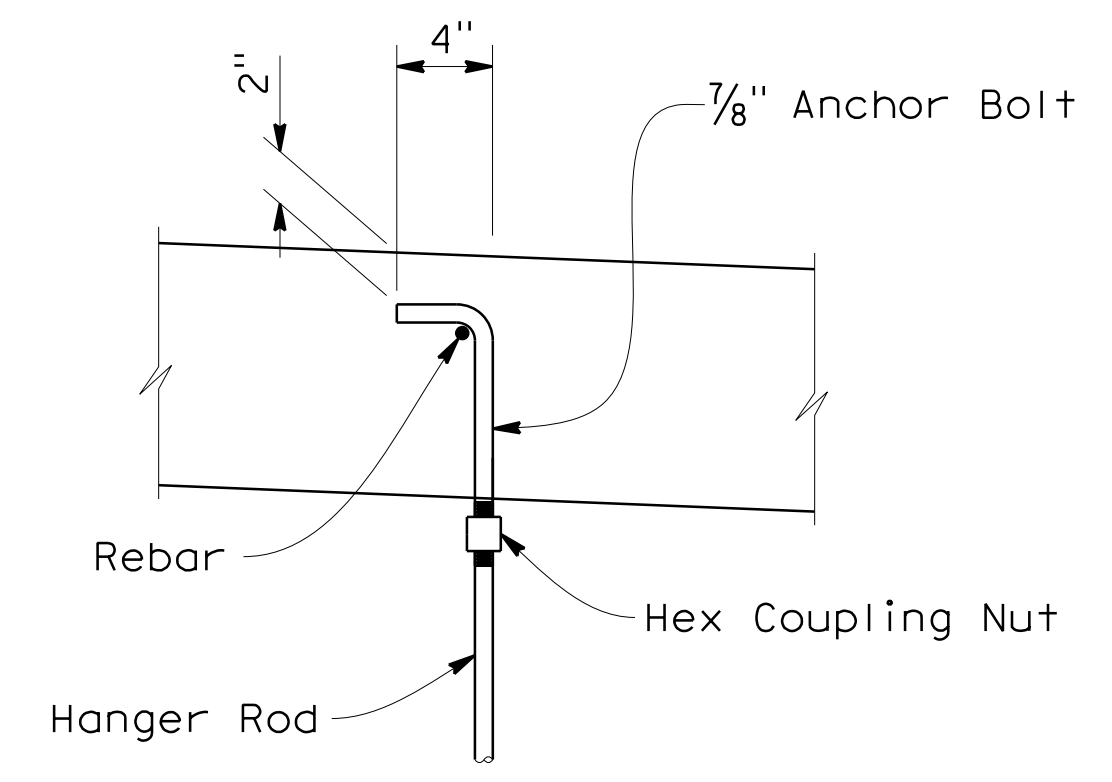
**TELEPHONE/CABLE/FUTURE UTILITY SUPPORT DETAIL**  
NO SCALE



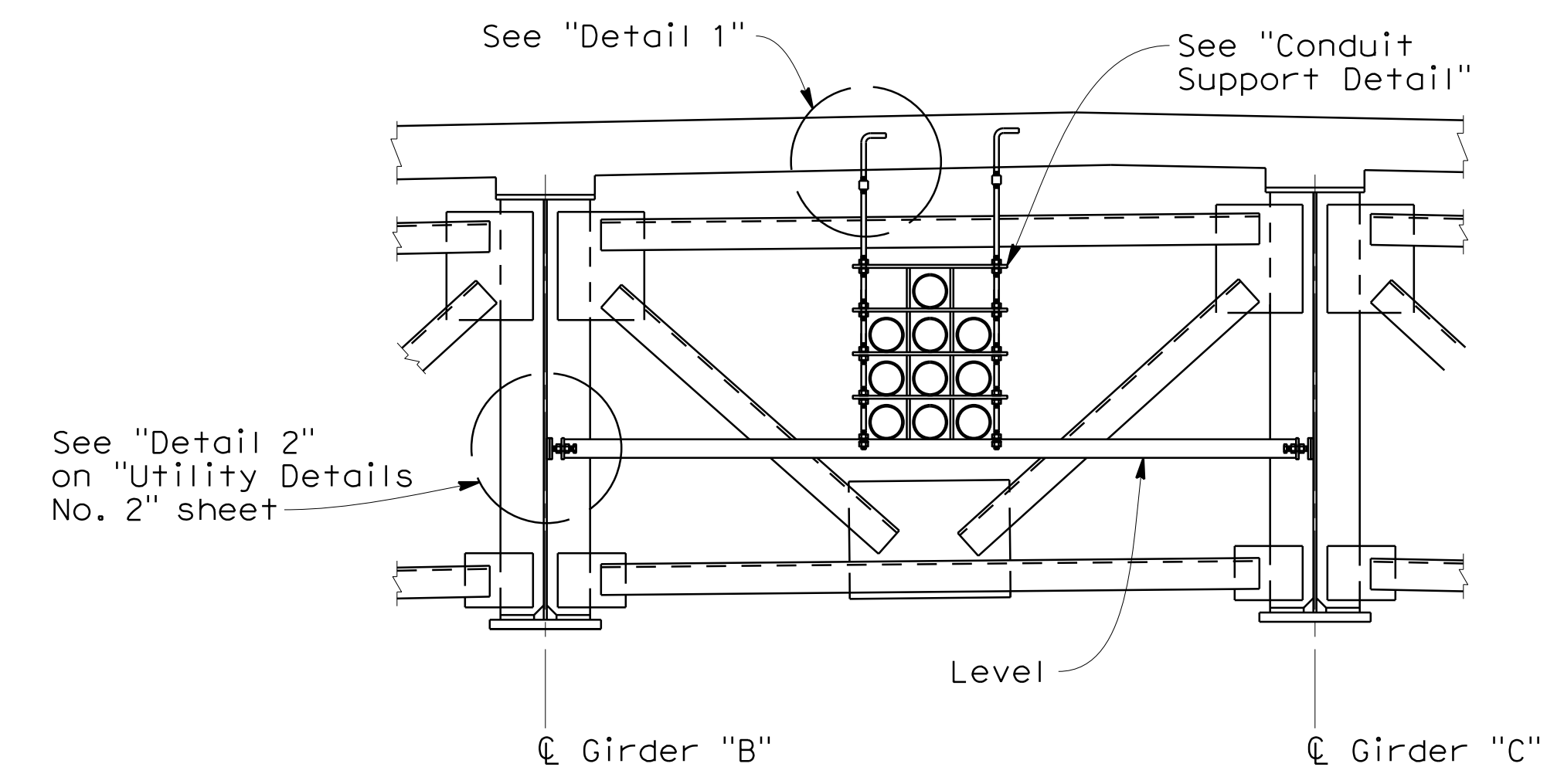
**CONDUIT SUPPORT DETAIL**  
Electrical conduit layout shown  
communication conduit layout similar



**SECTION B-B**  
NO SCALE



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



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

- Notes:
1. W = Maximum of Conduit Outside Diameter plus 1.0 inch or Expansion/Deflection Fitting Outside Diameter plus 0.50 inch
  2. H = Maximum of Conduit Outside Diameter plus 1.0 inch or Expansion/Deflection Fitting Outside Diameter plus 0.50 inch

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
REVISIONS NOTED  
REVISE CALCULATIONS  
IF INDICATED  
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.  
DATE 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Karnes  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA  
DATE 6-22-16

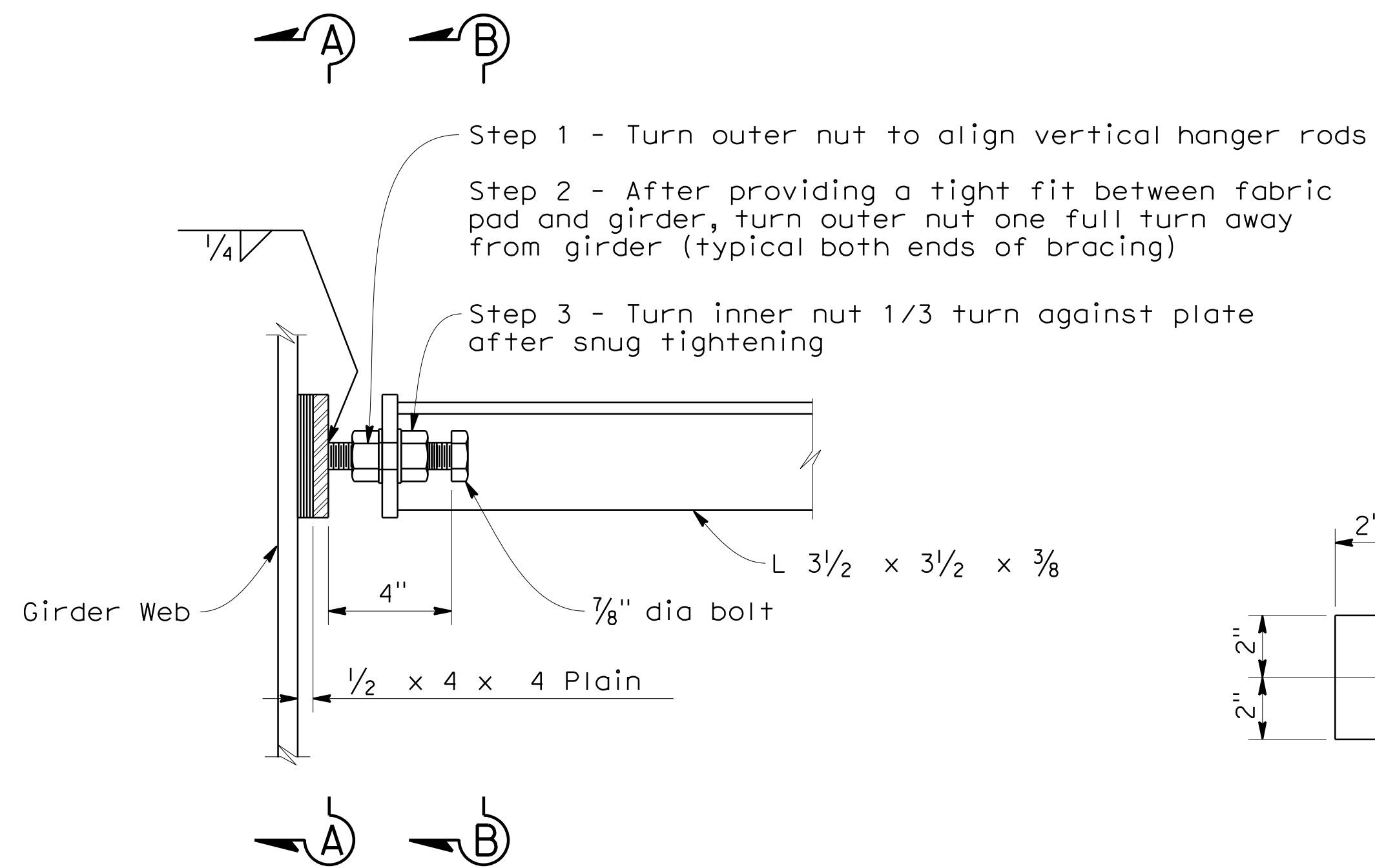
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**UTILITY DETAILS NO. 1**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 30 OF 56

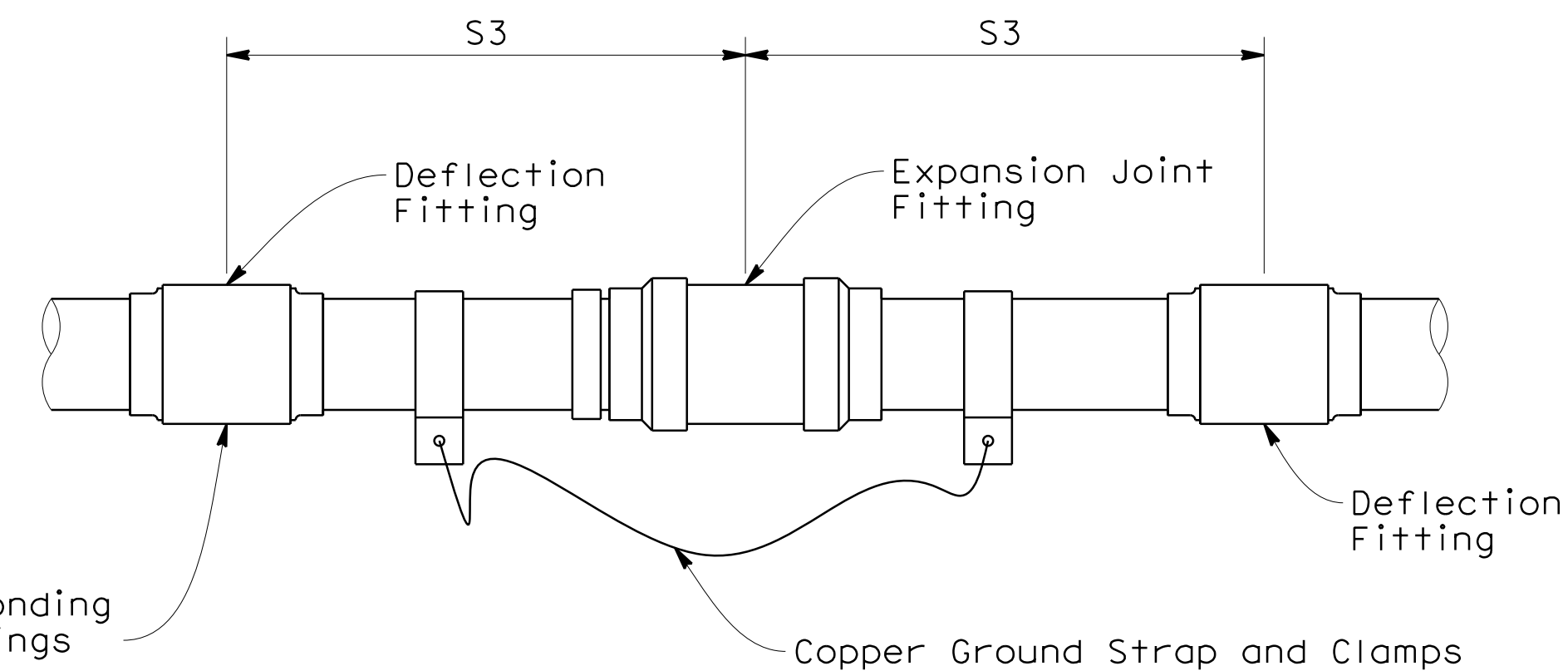
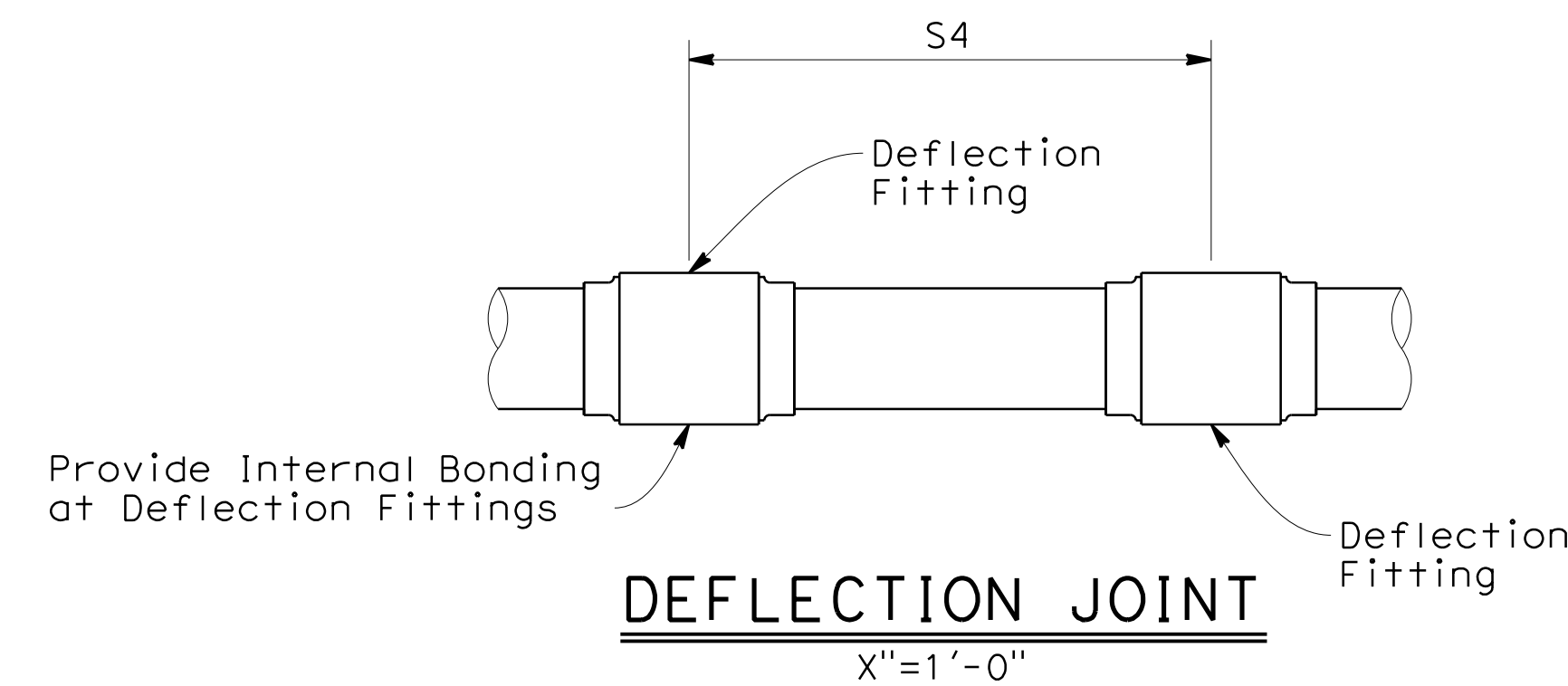
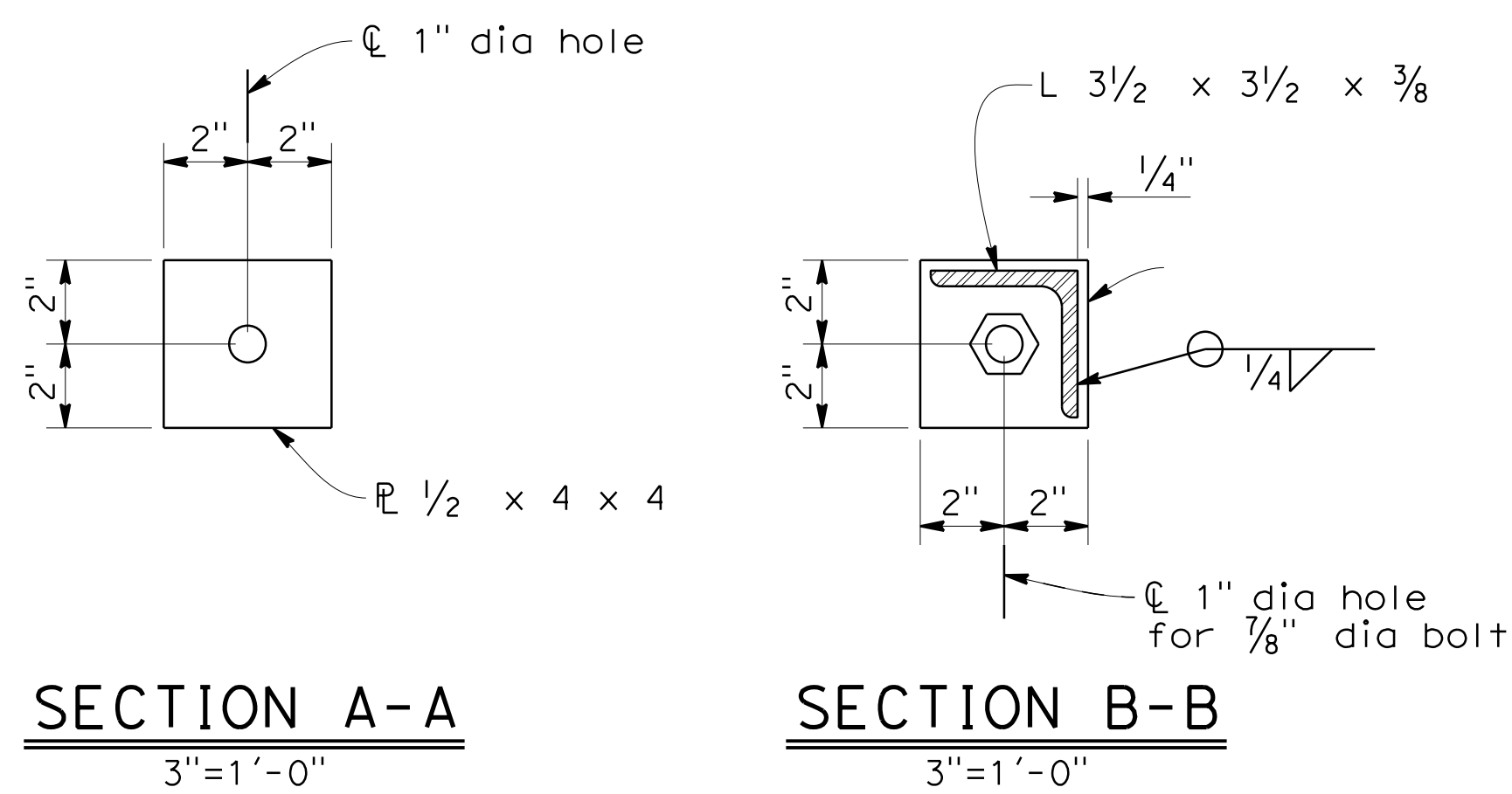
**DIGALERT**  
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG  
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA  
USERNAME => patrick DATE PLOTTED => 7/29/2016

**QUINCY ENGINEERING, INC**  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670

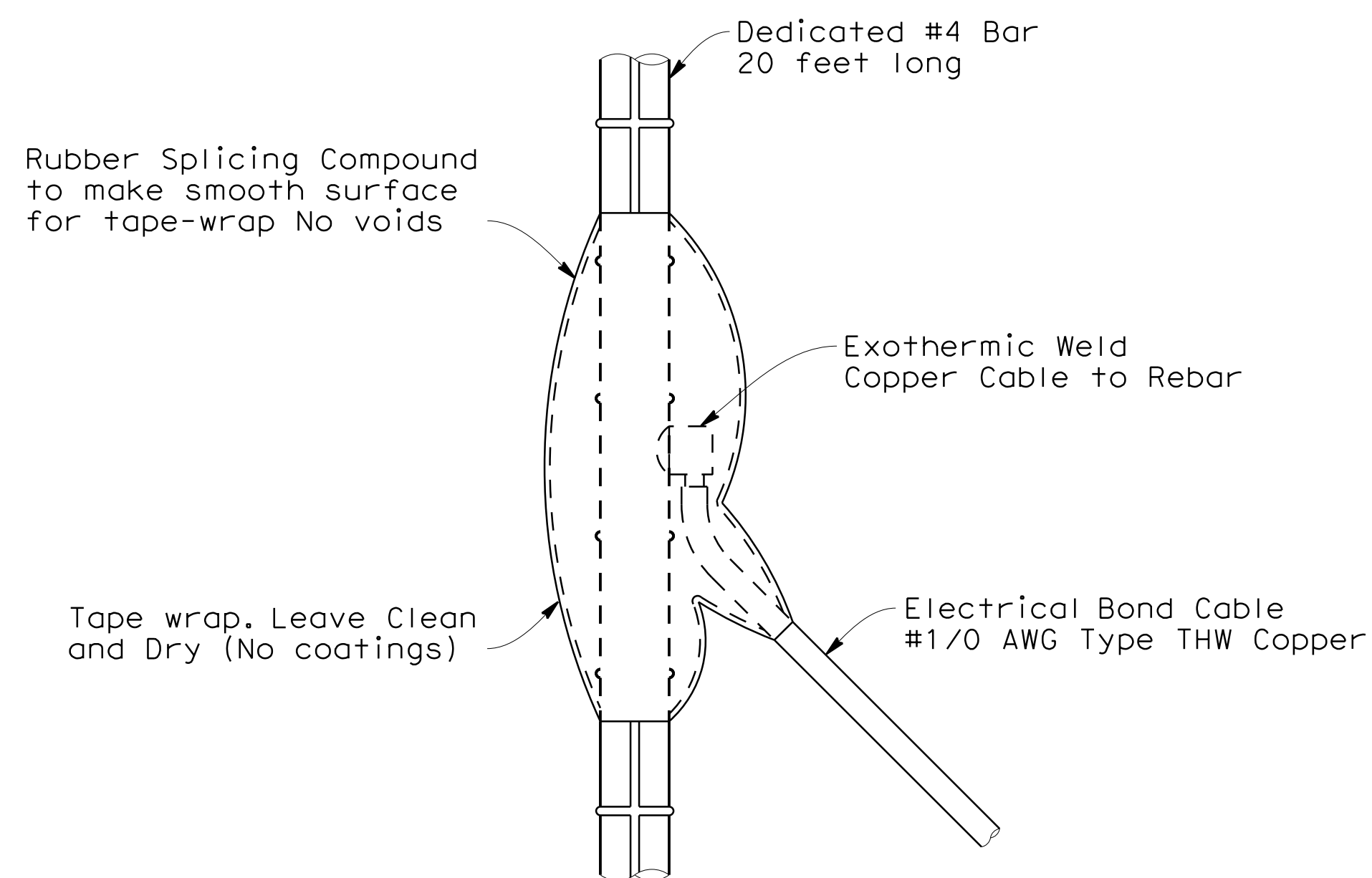


**DETAIL 2**  
3"=1'-0"

Plates and angles shall conform to ASTM A36  
Bolts shall conform to ASTM A307  
All components shall be hot dipped galvanized



- Notes:
- Expansion Joint Fitting shall accommodate 4 inch longitudinal movement
  - Deflection Fitting shall accommodate for a deflection of 30 degrees from normal in any direction



**STRUCTURE BOND CONNECTION DETAIL**  
NO SCALE

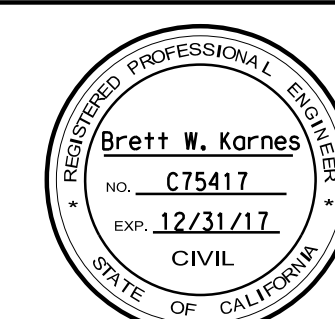
LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REDESIGNED

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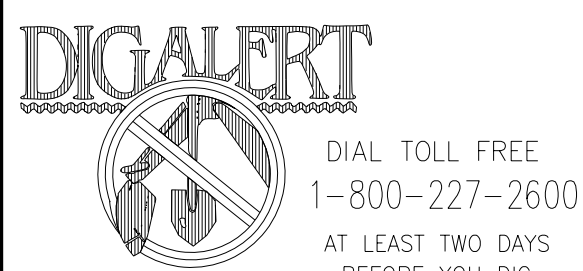
DATE **8/8/16**

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



*Brett W. Kornek* 6-22-16  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			
<b>UTILITY DETAILS NO. 2</b>			
<b>POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK</b>			
RD 53138	BR. 4200	PB642453	SHEET 31 OF 56



**QUINCY ENGINEERING, INC**  
11017 Coblerock Drive, Suite 100  
Rancho Cordova, CA 95670

2" dia vent pipe - Typical at both ends of bridge See Casing Vent Detail

Shield or Protective Structure See Note 4

Min Burial Depth = 30"  
Casing End Seal  
Roll immediately downward to required depth

B6-10  
U-12

NPS 6 Sch 40 Grade B-35 Natural Gas carrier pipe installed in casing with pipe skids at appropriate to prevent CP shorting and coating damage

NPS 10" x Sch 40 Steel Casing Pipe, fusion-bonded epoxy lined and coated 0.01" thick

Approach Slab

Cross frames and struts not shown

Abut 1

Abut 1

Bent 2

Bent 2

Bent 3

Bent 3

Abut 4

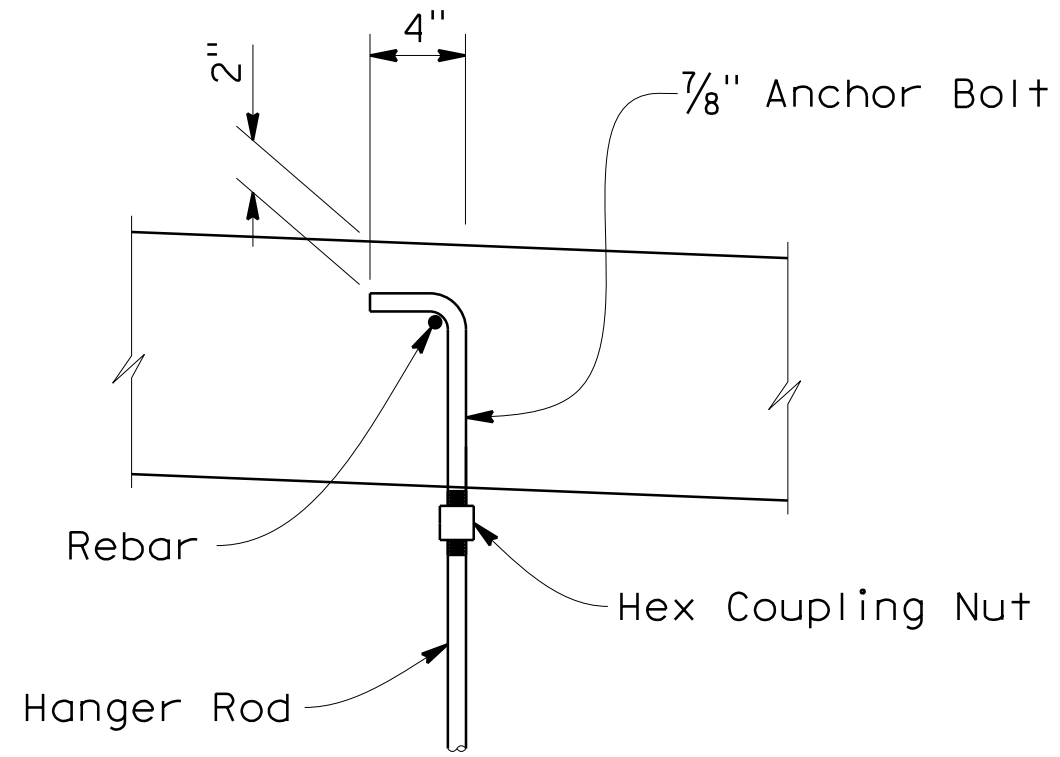
B6-10  
U-12

**GAS UTILITY SUPPORT**

NO SCALE

Notes:

1. The natural gas carrier pipe casing, hanger rods, bracing, and anchor bolts shall be furnished and installed by the contractor.
2. These details show the general arrangement and standard details for the pipe supports. Submit shop drawings for authorization.
3. All pipe support components and hardware, including nuts and bolts shall be hot dipped galvanized.
4. For carrier piping less than the minimum burial depth of 30 inch but more than 24 inch, use either 1/2" min thick x 36" wide steel plate or half section of casing pipe. For carrier piping having less than 24" burial an engineered protective structure shall be designed by Southern California Gas Company.
5. The casing pipe shall be spliced with full penetration welds.
6. Alternative details which provide equal functions are permissible provided they are approved by the Engineer.
7. S = 15'-0" maximum
8. Hanger Rods shall conform to ASTM A572 Grade 50
9. Anchor Bolts shall conform to ASTM F1554 Grade 55
10. Hex Coupling Nuts shall conform to ASTM A563 Grade B, D or DH
11. All components shall be hot dipped galvanized



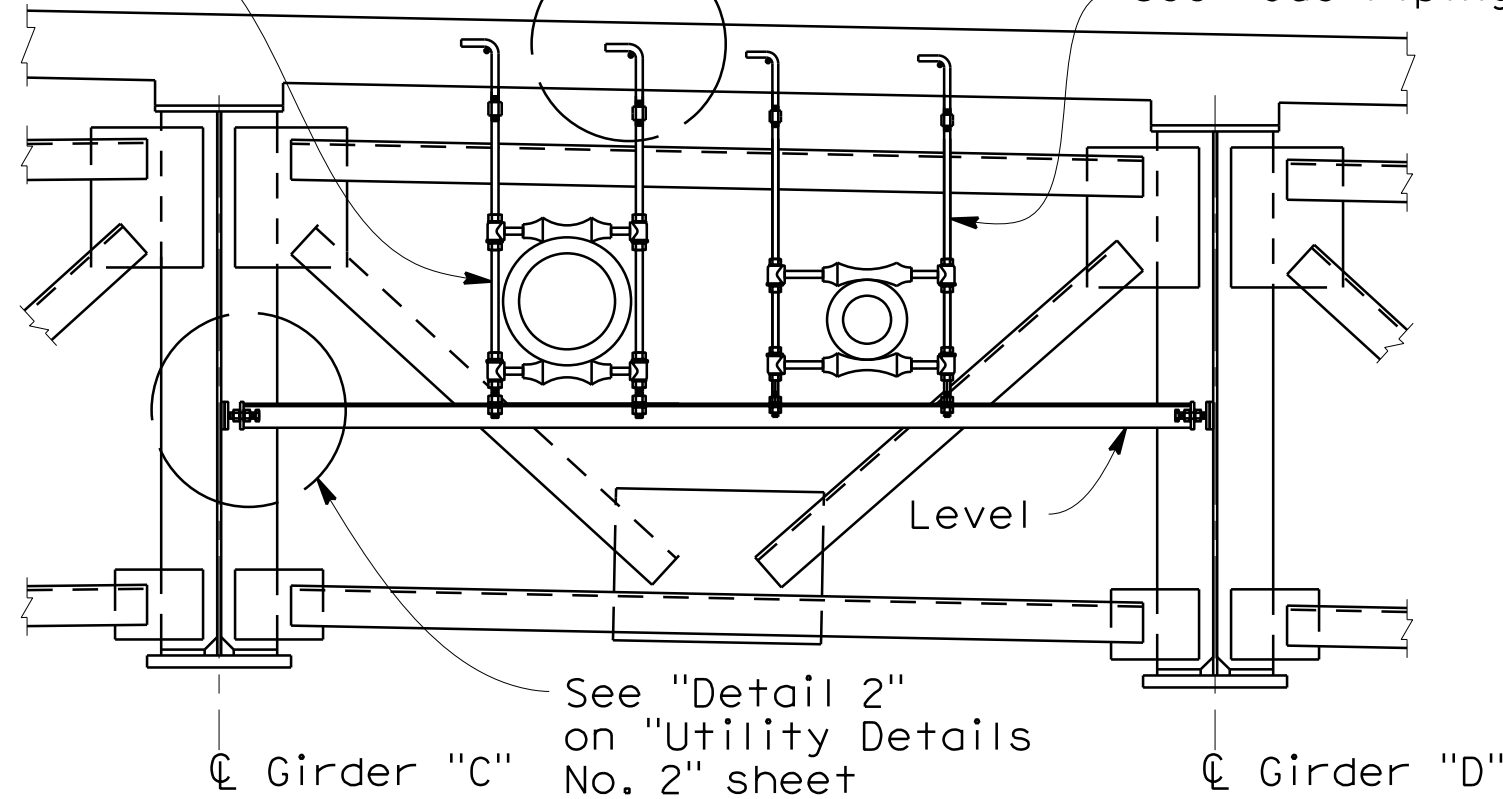
**DETAIL 1**

1 1/2" = 1'-0"

See "Water Piping Support Detail" on "Utility Details No. 5" sheet

See "Detail 1"

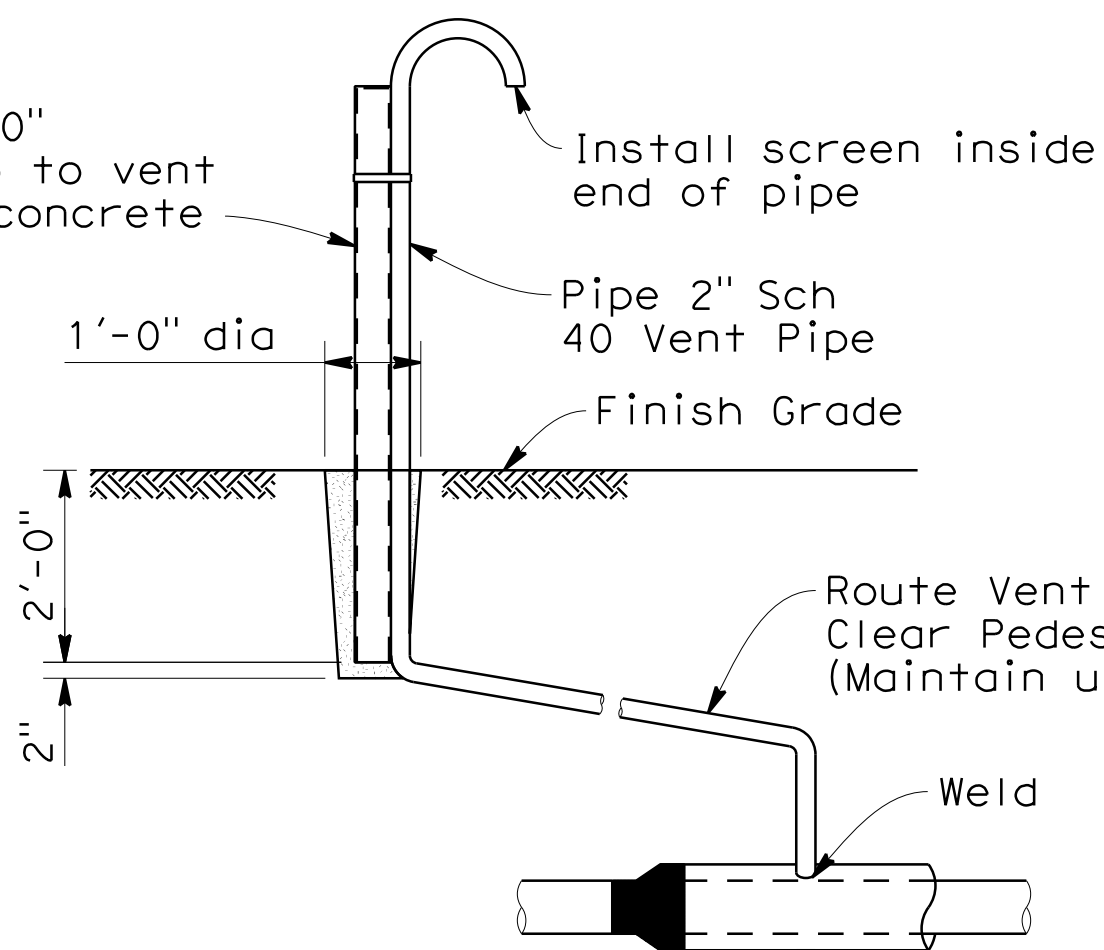
See "Gas Piping Support Detail"



**SECTION A-A**

1/2" = 1'-0"

Pipe 4" Std x 6'-0" Guard Post Strap to vent pipe and set in concrete



**CASING VENT DETAIL**

NO SCALE

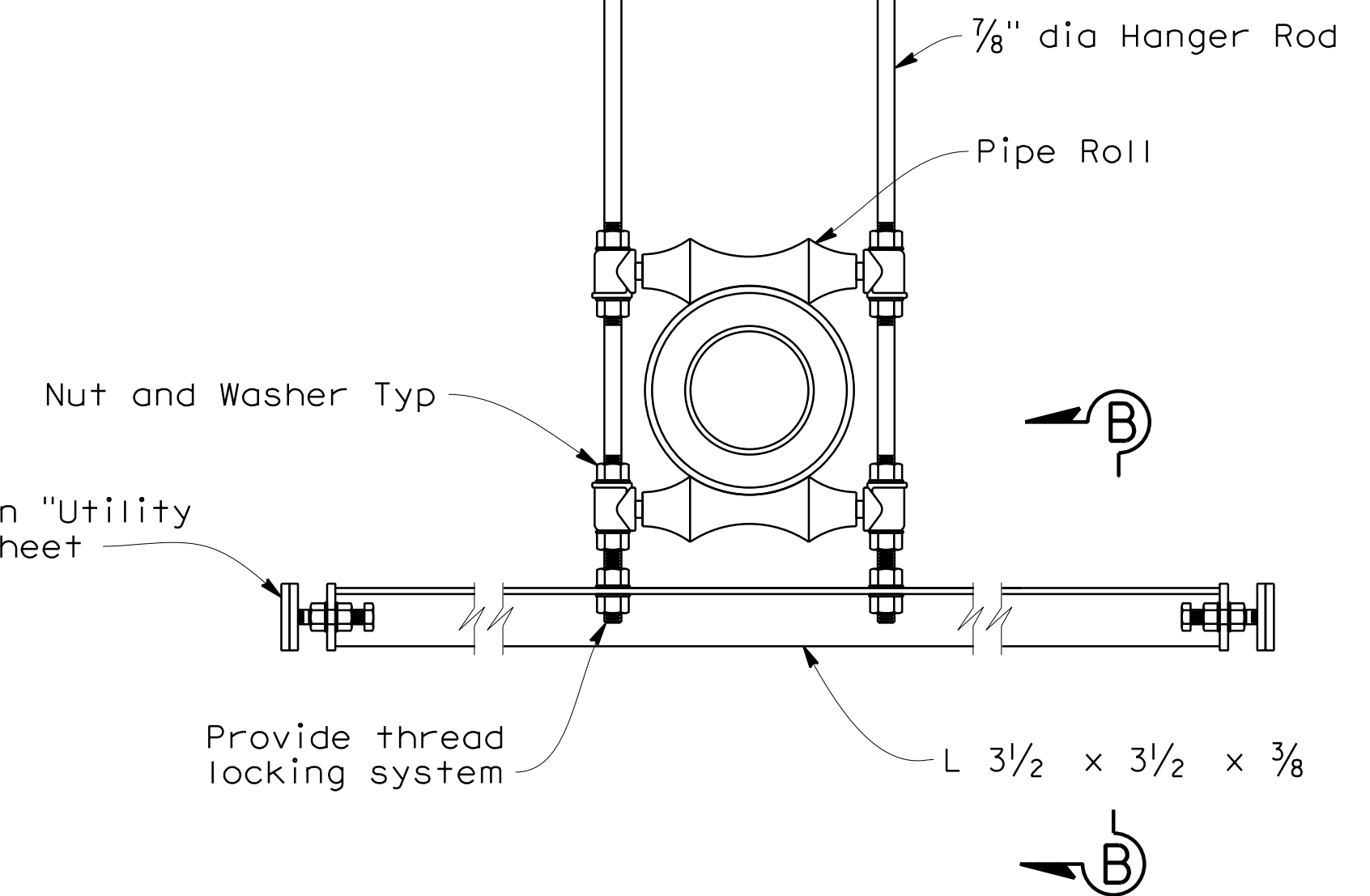
See "Detail 2" on "Utility Details No. 2" sheet

Nut and Washer Typ

Provide thread locking system

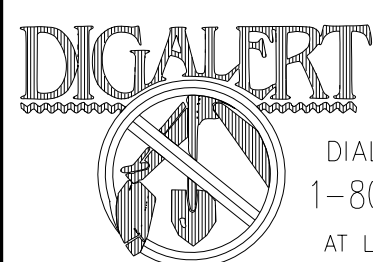
**GAS PIPING SUPPORT DETAIL**

NO SCALE



**SECTION B-B**

NO SCALE



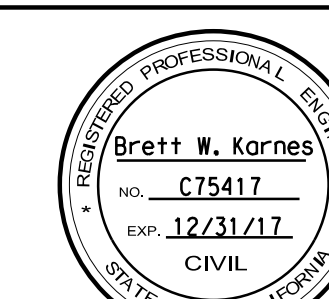
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
MAKE CORRECTIONS NOTED  
REVISE CALCULATIONS  
RECHECKED  
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DATE 8/8/16

QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

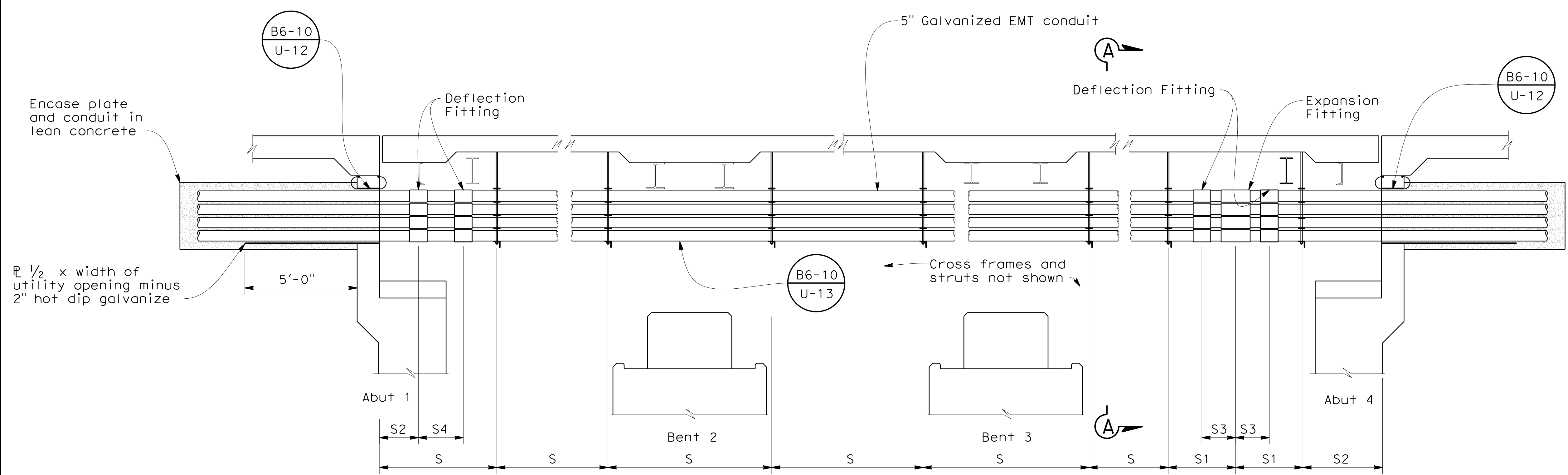


Brett W. Korne  
PROJECT ENGINEER  
DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

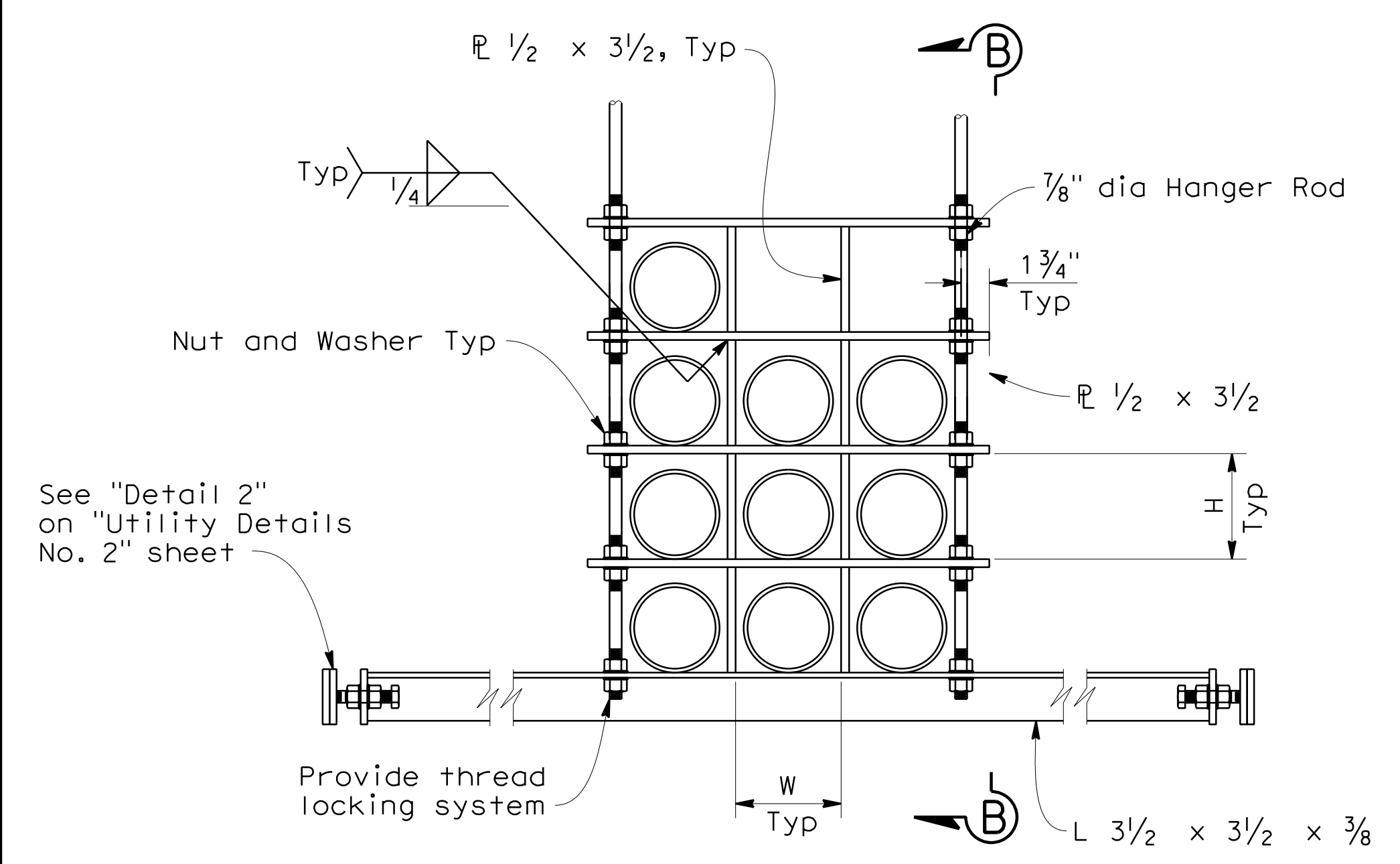
**UTILITY DETAILS NO. 3**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**



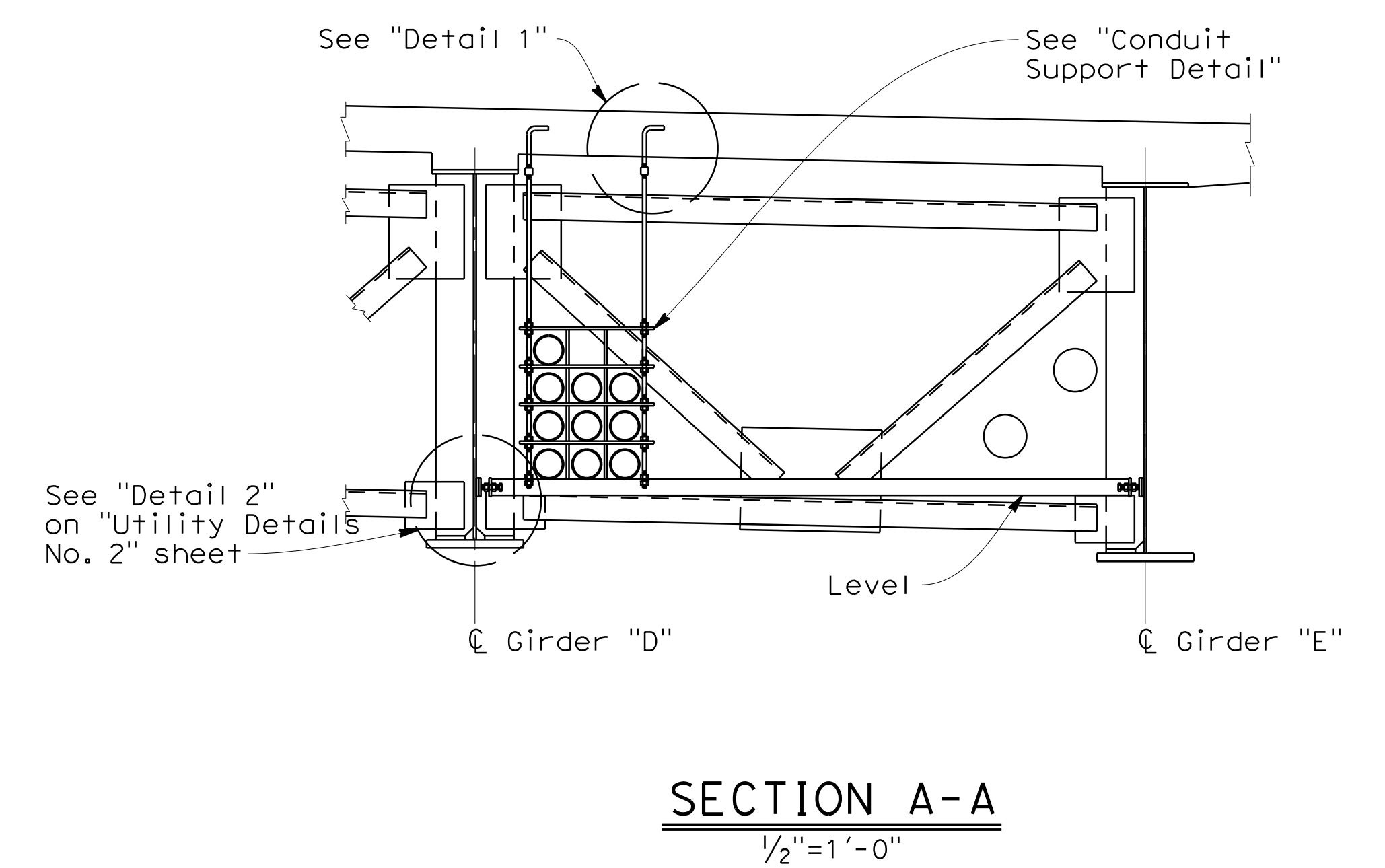
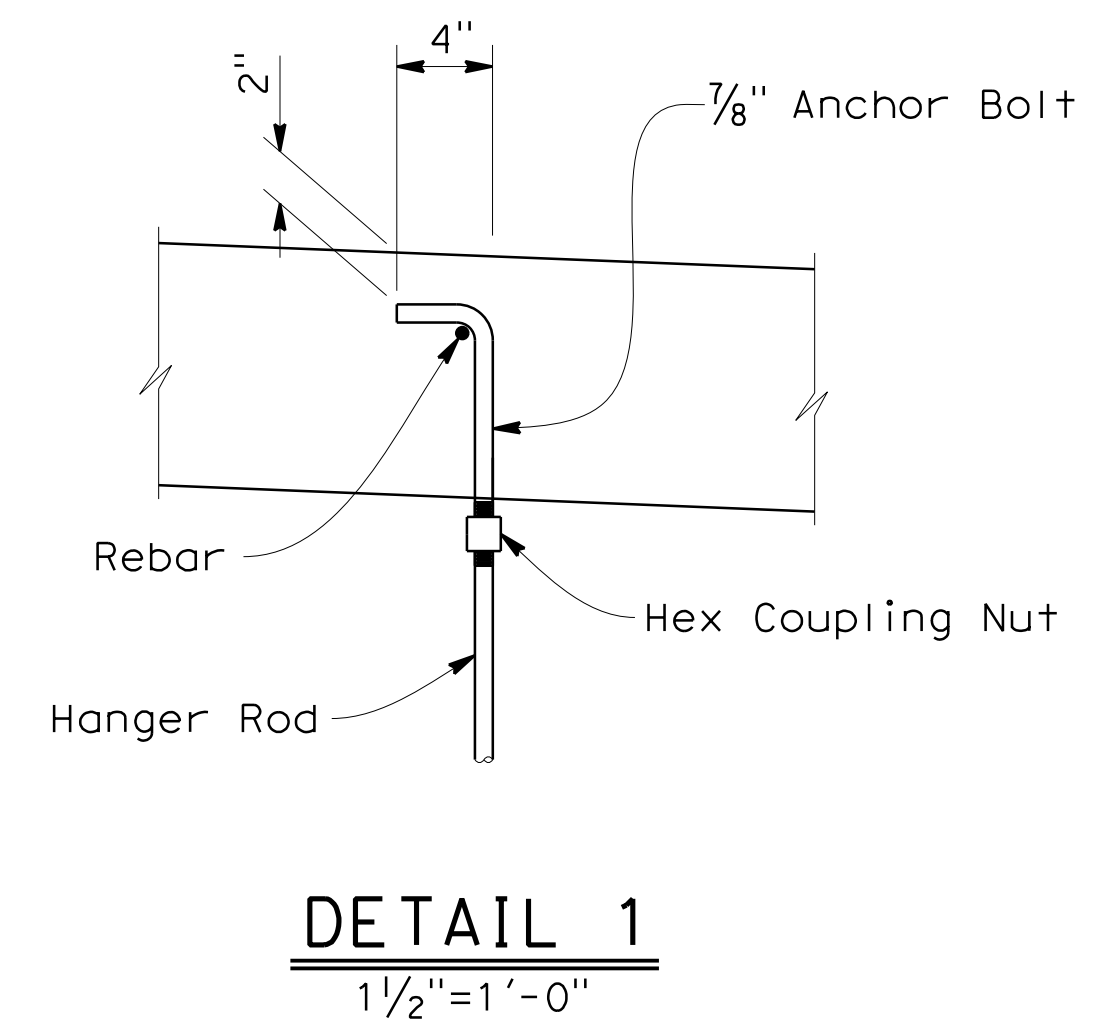
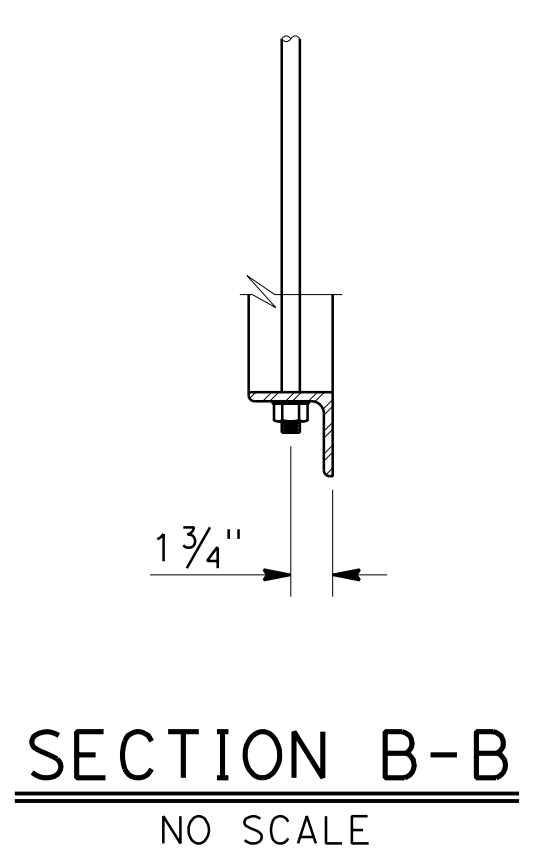


- Notes:
1. The electrical conduit, hanger rods, bracing, and anchor bolts shall be furnished and installed by the Contractor.
  2. These details show the general arrangement and standard details for the pipe supports. Submit shop drawings for authorization.
  3. All pipe support components and hardware, including nuts and bolts shall hot dipped galvanized after fabrication.
  4. Alternative details which provide equal functions are permissible provided they are approved by the Engineer.
  5. S = 7'-0" maximum
  6. S1 = 3'-6" maximum
  7. S2 = 5'-0" maximum
  8. S3 = 15" to 18"
  9. S4 = 21" to 24"
  10. Plates shall conform to ASTM A36.
  11. Hanger rods shall conform to ASTM A572 Grade50.
  12. Anchor Bolts shall conform to ASTM F1554 Grade 55
  13. Hex Coupling nuts shall conform to ASTM A653 Grade B, D, or DH.

**ELECTRICAL UTILITY SUPPORT DETAIL**  
NO SCALE



**CONDUIT SUPPORT DETAIL**  
Electrical conduit layout shown  
communication conduit layout similar



- Notes:
1. W = Maximum of Conduit Outside Diameter plus 1.0 inch or Expansion/Deflection Fitting Outside Diameter plus 0.50 inch
  2. H = Maximum of Conduit Outside Diameter plus 1.0 inch or Expansion/Deflection Fitting Outside Diameter plus 0.50 inch

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MAKE CORRECTIONS NOTED  
REVISED CALCULATIONS  
REJECTED

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DATE 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Karnes  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

6-22-16  
PROJECT ENGINEER DATE

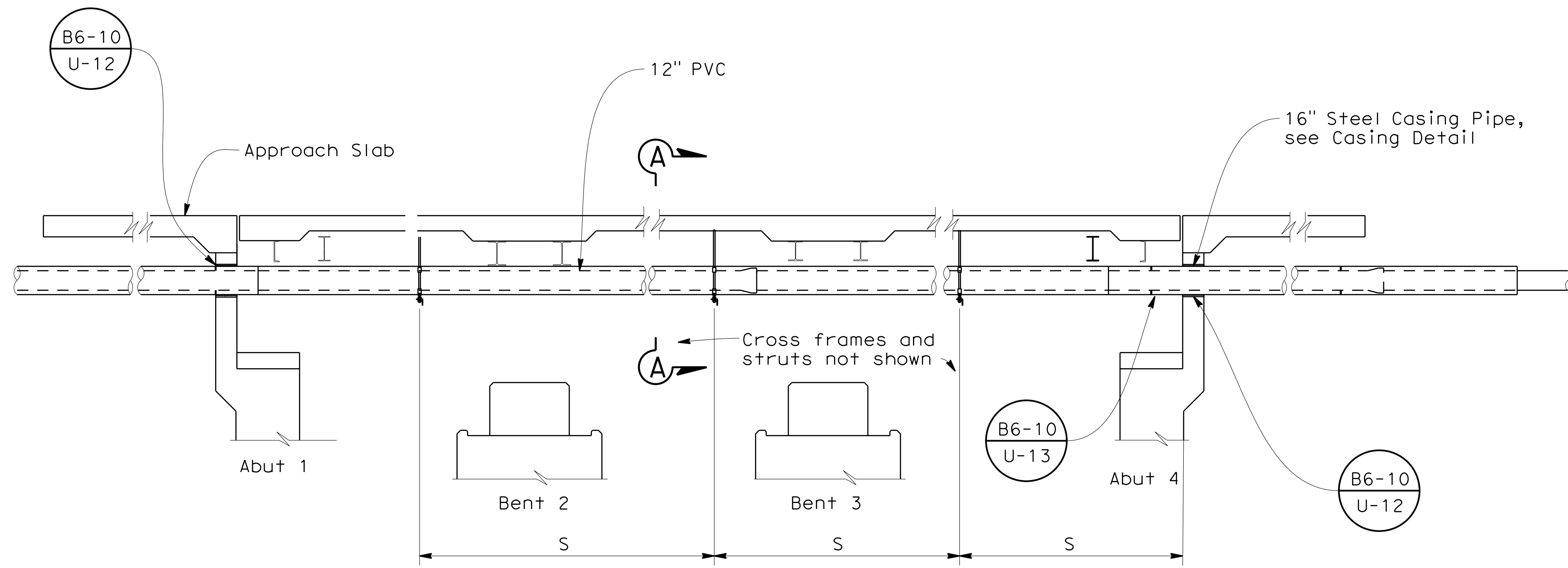
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**UTILITY DETAILS NO. 4**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 33 OF 56

**DIGALERT**  
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

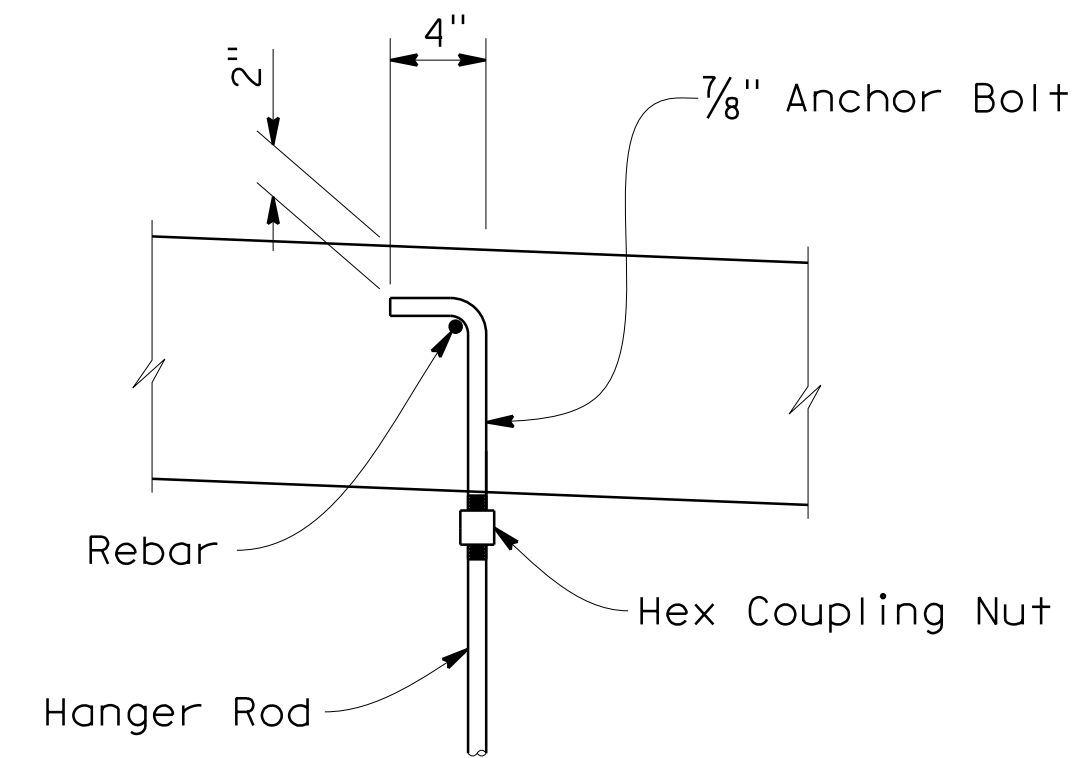
QUINCY ENGINEERING, INC  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670



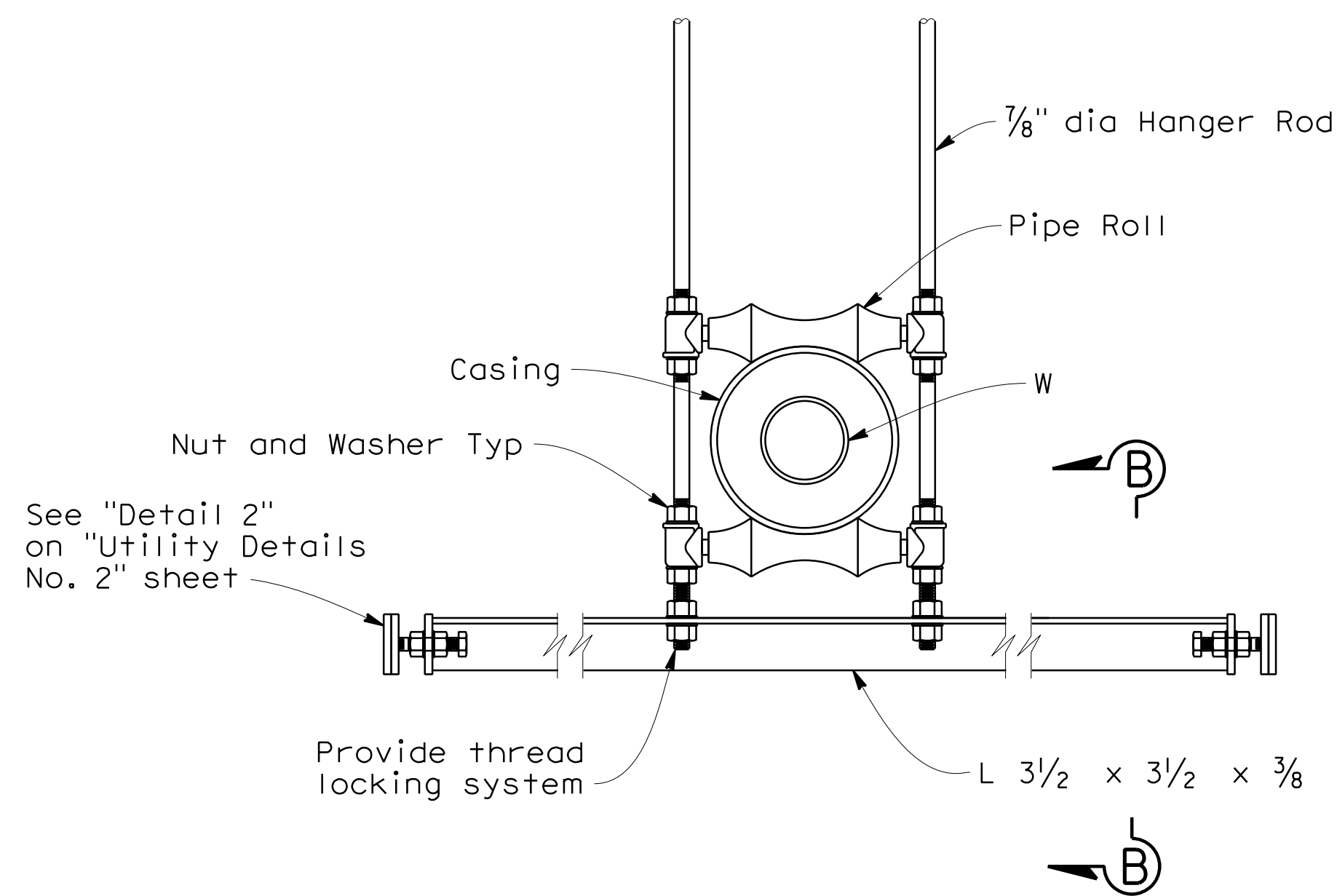
**WATER UTILITY SUPPORT**  
NO SCALE

Notes:

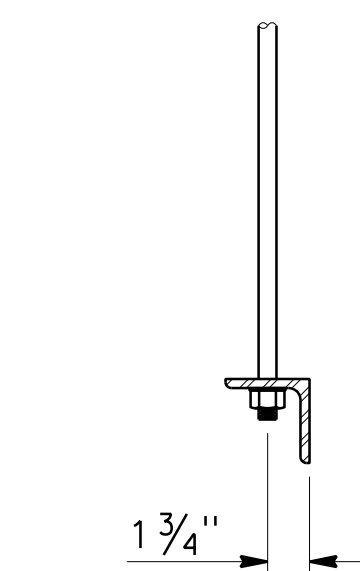
1. The water pipe casing, hanger rods, bracing, and anchor bolts shall be furnished and installed by the contractor.
2. These details show the general arrangement and standard details for the pipe supports. Submit shop drawings for authorization.
3. All pipe support components and hardware, including nuts and bolts shall be hot dipped galvanized.
4. Alternative details which provide equal functions are permissible provided they are approved by the Engineer.
5. S = 15'-0" maximum
6. Refer to "Utility Details No. 1" sheet for Section A-A.
7. Hanger Rods shall conform to ASTM A572 Grade 50
8. Anchor Bolts shall conform to ASTM F1554 Grade 55
9. Hex Coupling Nuts shall conform to ASTM A563 Grade B, D or DH
10. All components shall be hot dipped galvanized
11. Refer to civil drawings for water pipe.



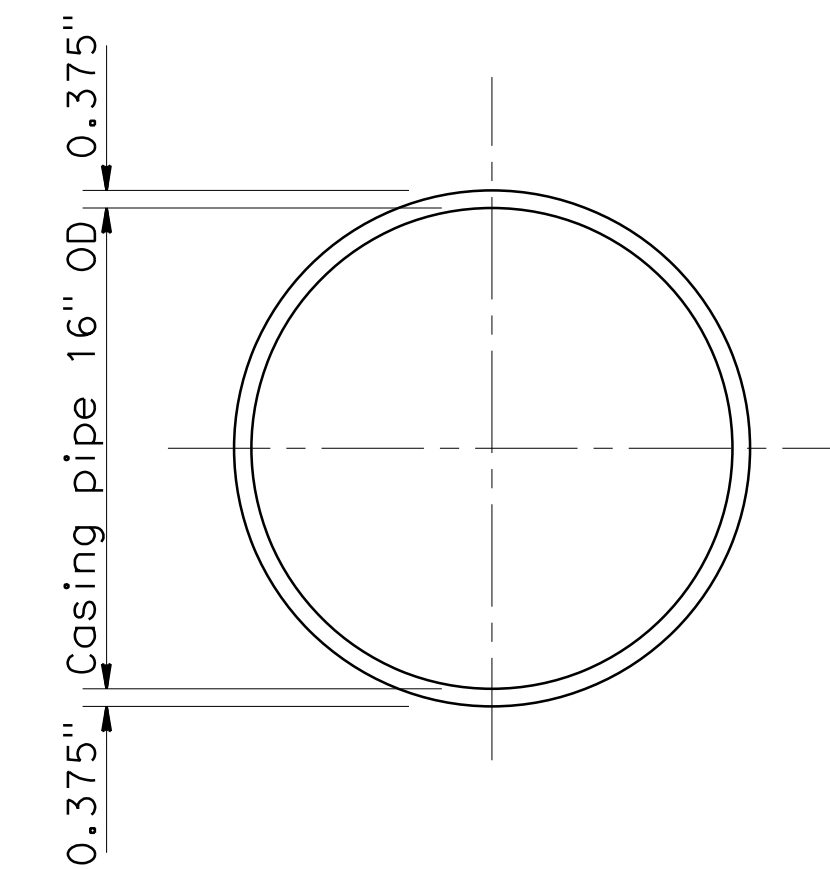
**DETAIL 1**  
1 1/2" = 1'-0"



**WATER PIPING SUPPORT DETAIL**  
NO SCALE



**SECTION B-B**  
NO SCALE



Note: 3/8" Wall thickness steel pipe (casing pipe), fusion-bonded epoxy lined and coated 0.01" thick,

**CASING DETAIL**  
NO SCALE

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 RESUBMIT

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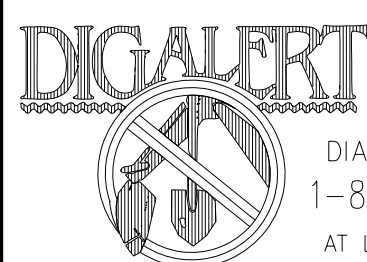


Brett W. Kornek  
PROJECT ENGINEER DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**UTILITY DETAILS NO. 5**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 34 OF 56



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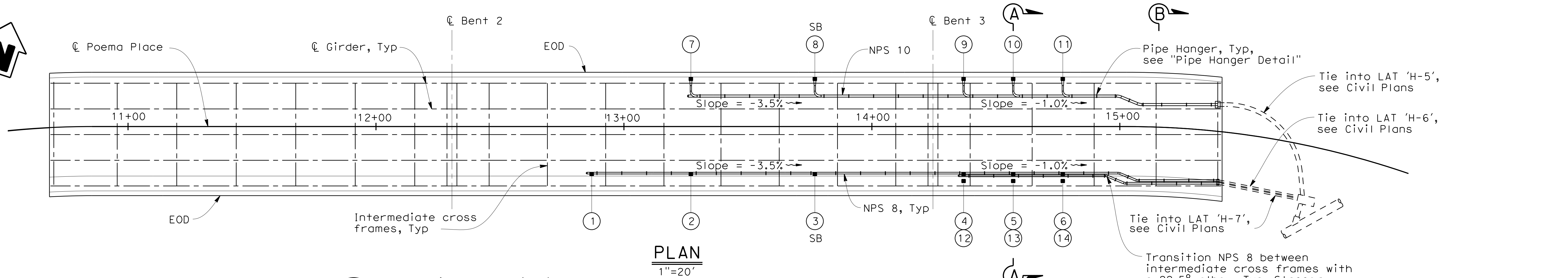
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TIME PLOTTED => 12:57:34 PM

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Rancho Cordova, CA 95670

FILE => S:\Client\Forestar\F11-100 Deer Lake Ranch\600-Miscellaneous\650 - CADD Files\F11100a - Poema\F11100a-n-util1d+05.dgn

BR. 4200



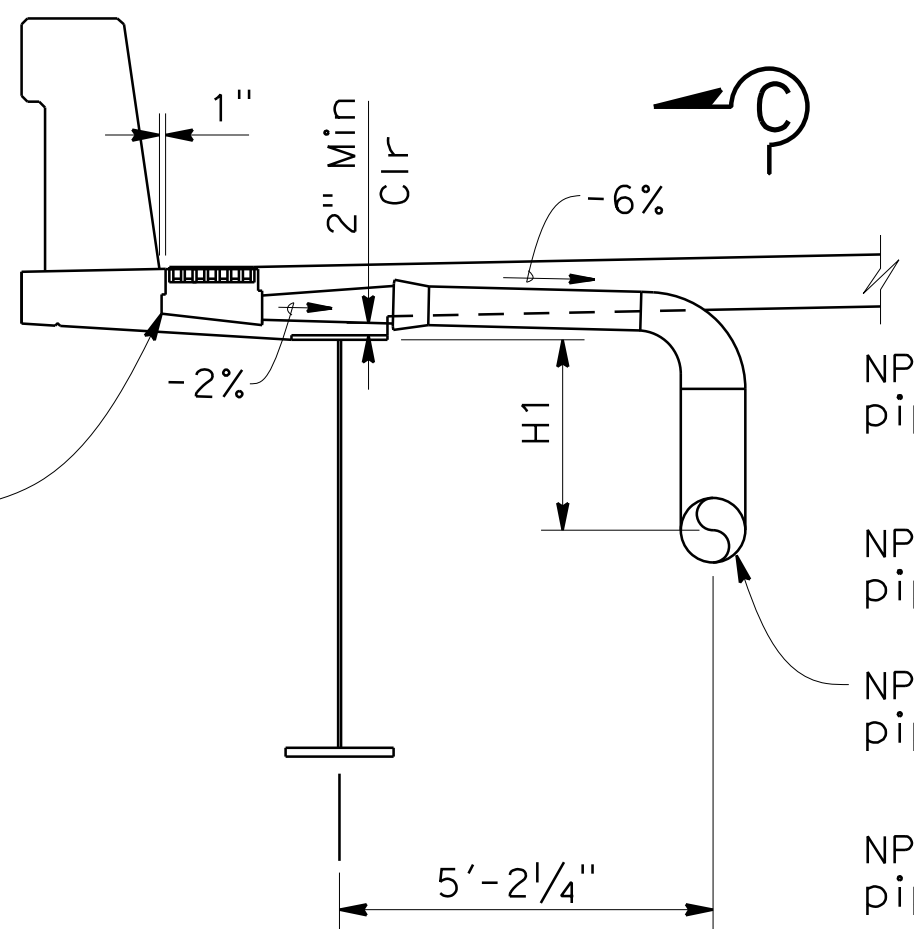
(B7-6 / 7-7) Deck drain type D-1 (Mod), modify for NPS 8 drain from bottom of box. Install with Galv bicycle proof grates

(B7-6 / 7-8) Deck drain type D-2 (Mod), modify for NPS 10 drain from bottom of box. Increase depth of box to 6" on both sides. Install with Galv, ADA compliant grate

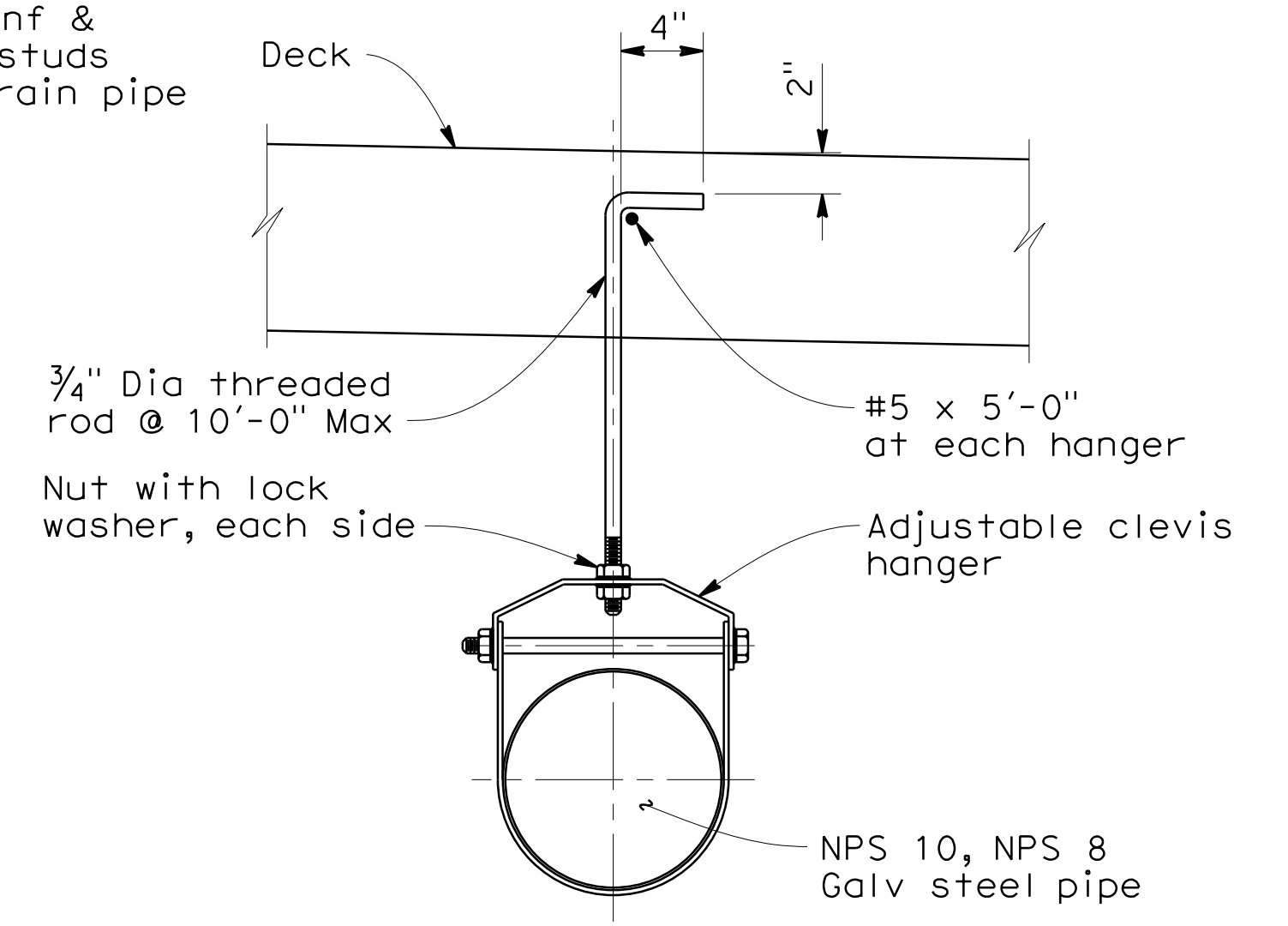
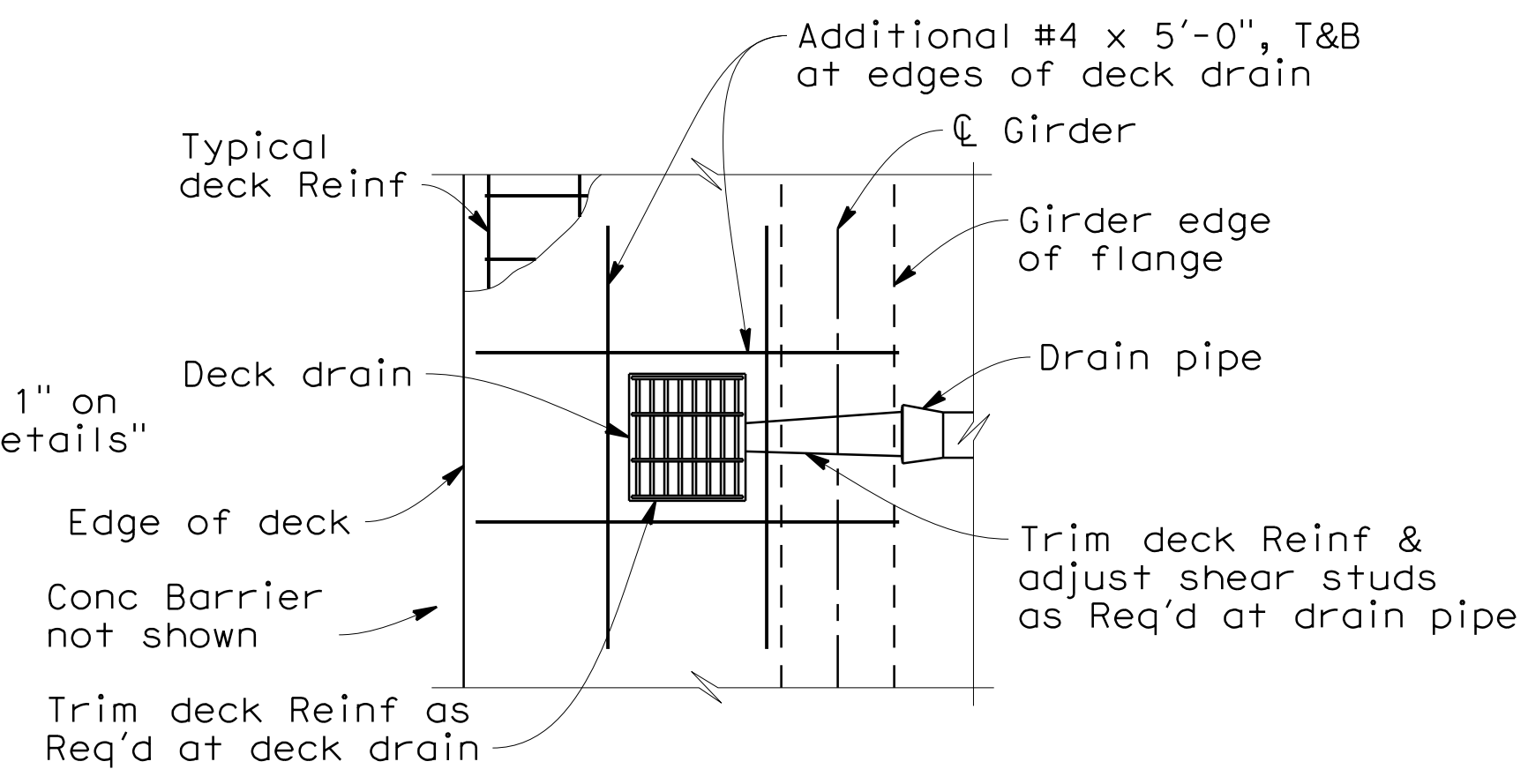
Tie into LAT 'H-5', see Civil Plans  
Tie into LAT 'H-6', see Civil Plans  
Tie into LAT 'H-7', see Civil Plans  
Transition NPS 8 between intermediate cross frames with a 22.5° elbow, Typ. Stagger transition by 5'-0" Min

- LEGEND:**
- Indicates deck drainage pipe & direction of flow
  - SB Denotes Slope Break
  - Indicates drainage inlet
  - Indicates drainage inlet number

(B7-6 / 7-8) Deck drain type D-2 install with Galv bicycle proof grate



NPS 8 Galv steel collector pipe for drains (4) thru (6)  
NPS 8 Galv steel collector pipe for drains (1) thru (3)  
NPS 10 Galv steel collector pipe for drains (7) thru (11)  
NPS 10 Galv steel collector pipe for drains (12) thru (14)



Expansion coupler and details not shown, see (B7-8)

DRAIN (X)	STATION	H1	H2	H3	PIPE ELEVATIONS		
					NPS 10 (H1)	NPS 8 Lt (H2)	NPS 8 Rt (H3)
1	12+87.00	-	2'-3 3/4"	-	-	-	-
2 & 7	13+27.00	2'-2"	2'-3 3/4"	-	-	-	-
3 & 8	13+77.00	2'-2 1/4"	2'-4"	-	-	-	-
4, 9 & 12	14+37.00	2'-0 3/4"	2'-2 1/2"	1'-4 3/4"	-	-	-
5, 10 & 13	14+57.00	2'-2 3/4"	2'-2 1/2"	1'-6 3/4"	-	-	-
6, 11 & 14	14+77.00	2'-7 3/4"	2'-9 1/2"	1'-11 3/4"	-	-	-
Abut 4 @ Brg	15+39.57	3'-11"	4'-1 1/4"	3'-3 1/2"	1256.02	1255.88	1256.68
Off bridge Lt	15+51.30	-	-	-	1255.89	-	-
Off bridge Rt	15+55.90	-	-	-	-	1255.75	1256.55

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
REVISIONS NOTED  
REVISE CALCULATIONS  
REJECTED

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BY: [Signature] DATE: 8/8/16

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
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QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

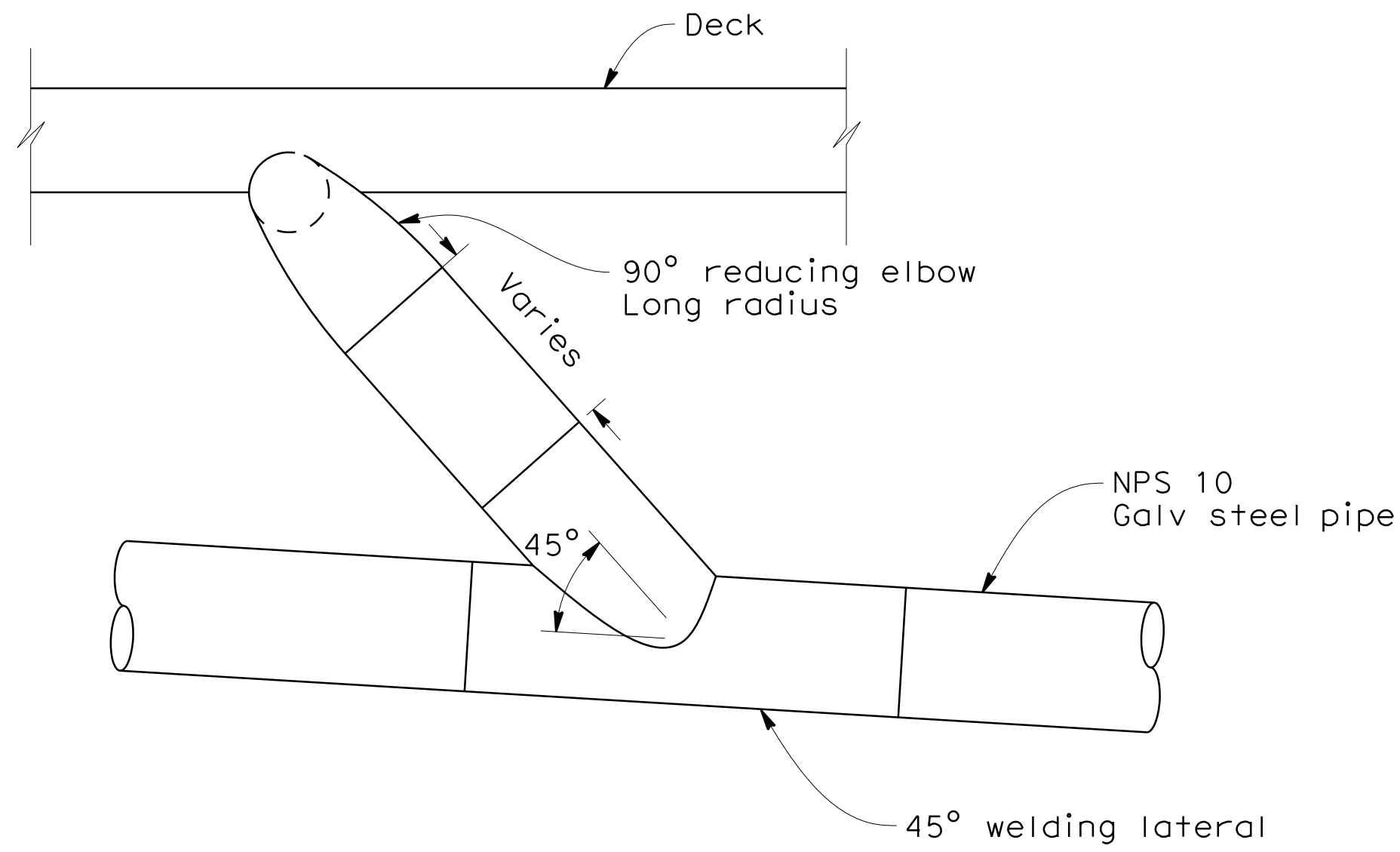
REGISTERED PROFESSIONAL ENGINEER  
Brett W. Kornek  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA  
6-22-16  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

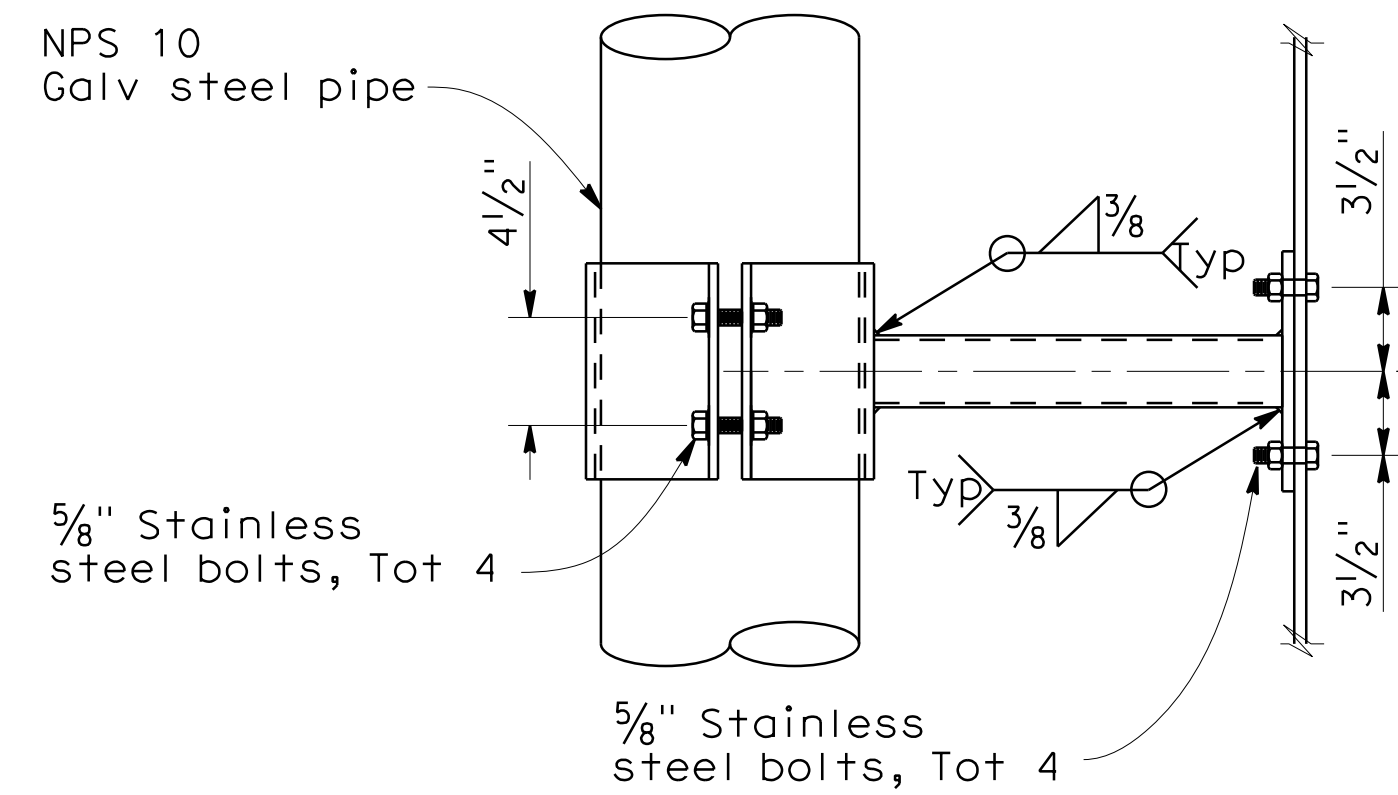
**DRAINAGE LAYOUT**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 35 OF 56

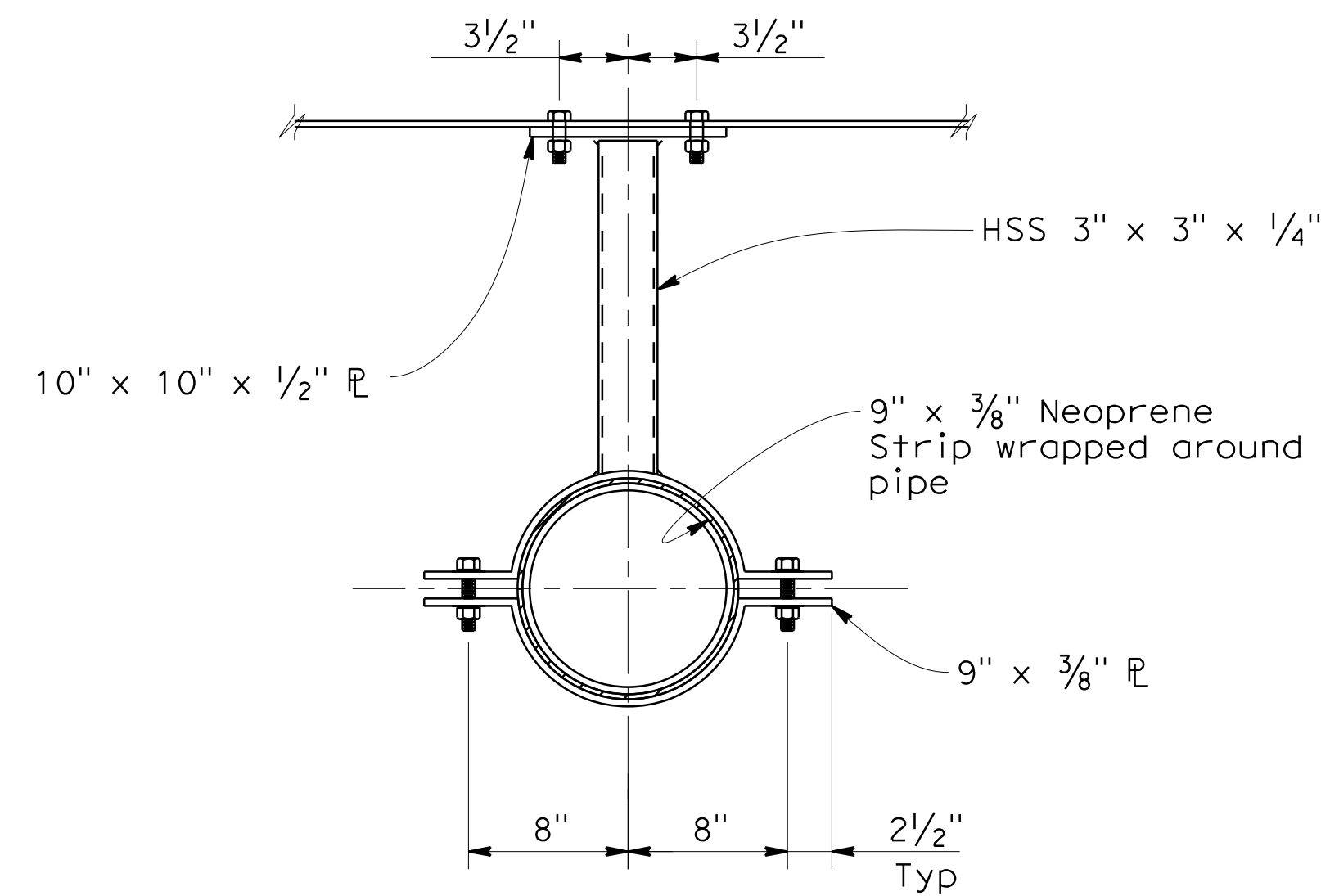
**DIGALERT**  
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG



**SECTION C-C**  
No Scale



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



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

**Notes:**

1. Conduit to be anchored at each Expansion Joint by solvent welding collars on conduit at each side of hanger support.
2. Expansion Joints shall be installed per manufacturer's specifications compensating for ambient temperature.
3. Hanger supports to be 10' maximum spacing for Schedule 40 (Min) pipe.
4. Hanger and cantilever supports to be hot dipped galvanized after fabrication. All bolts, studs, nuts, etc., to be stainless steel.
5. Peen, center punch, or spot weld at thread line of all bolts to lock nuts in place.
6. All pipes, drainage boxes and inserts shall be galvanized.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REJECTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL COMPLIANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

DATE 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



*Brett W. Karnes* 6-22-16  
PROJECT ENGINEER DATE

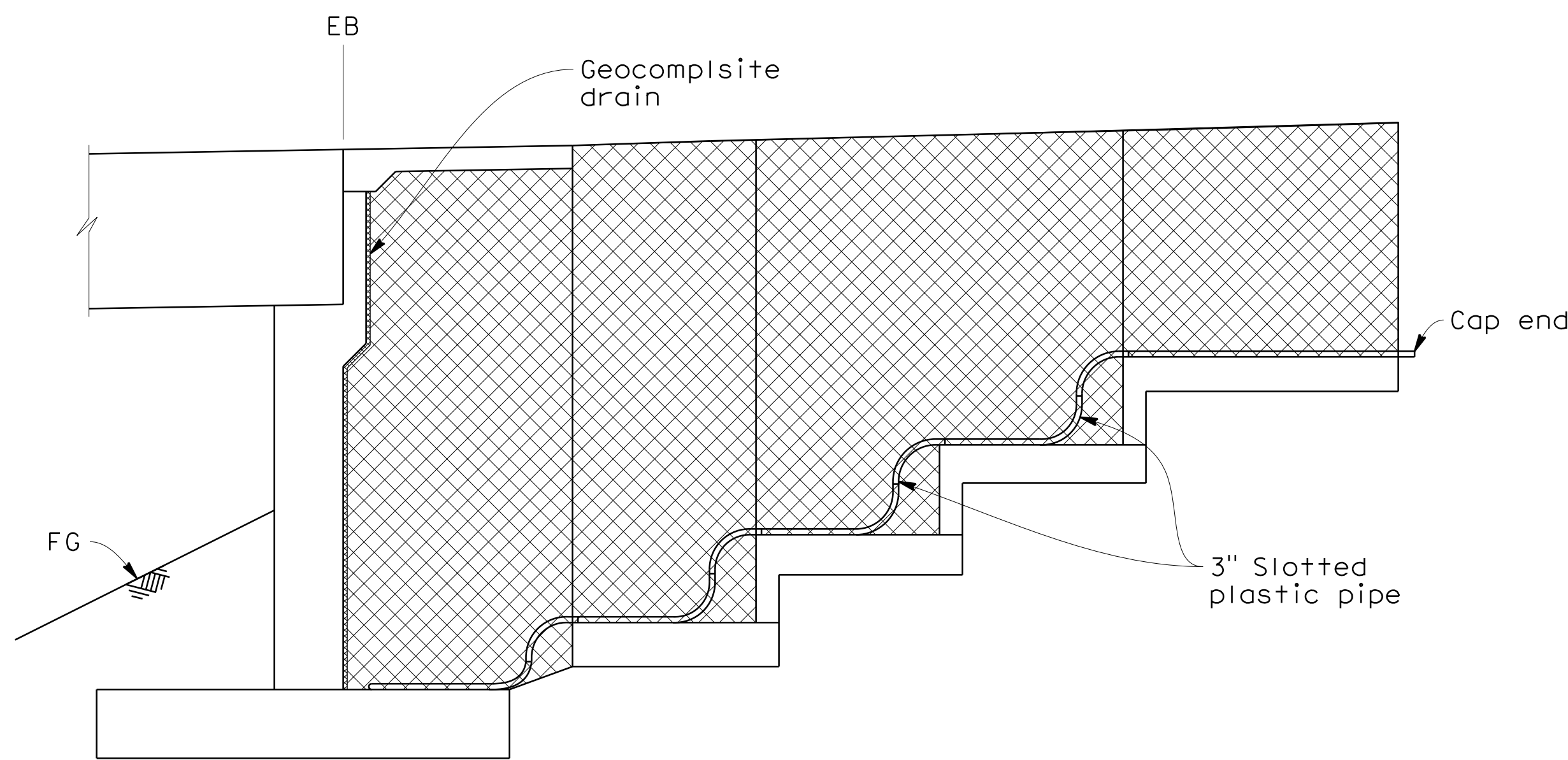
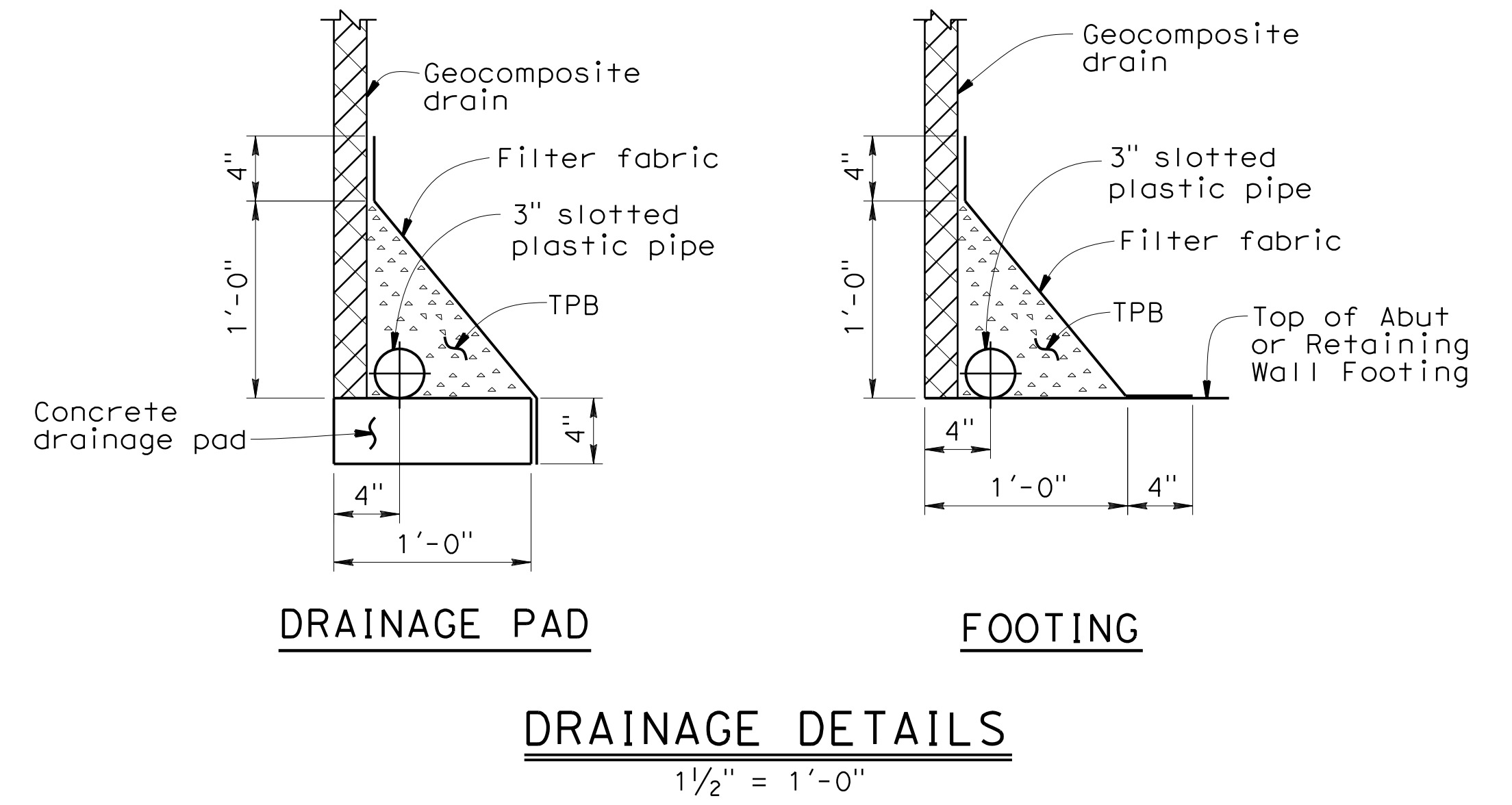
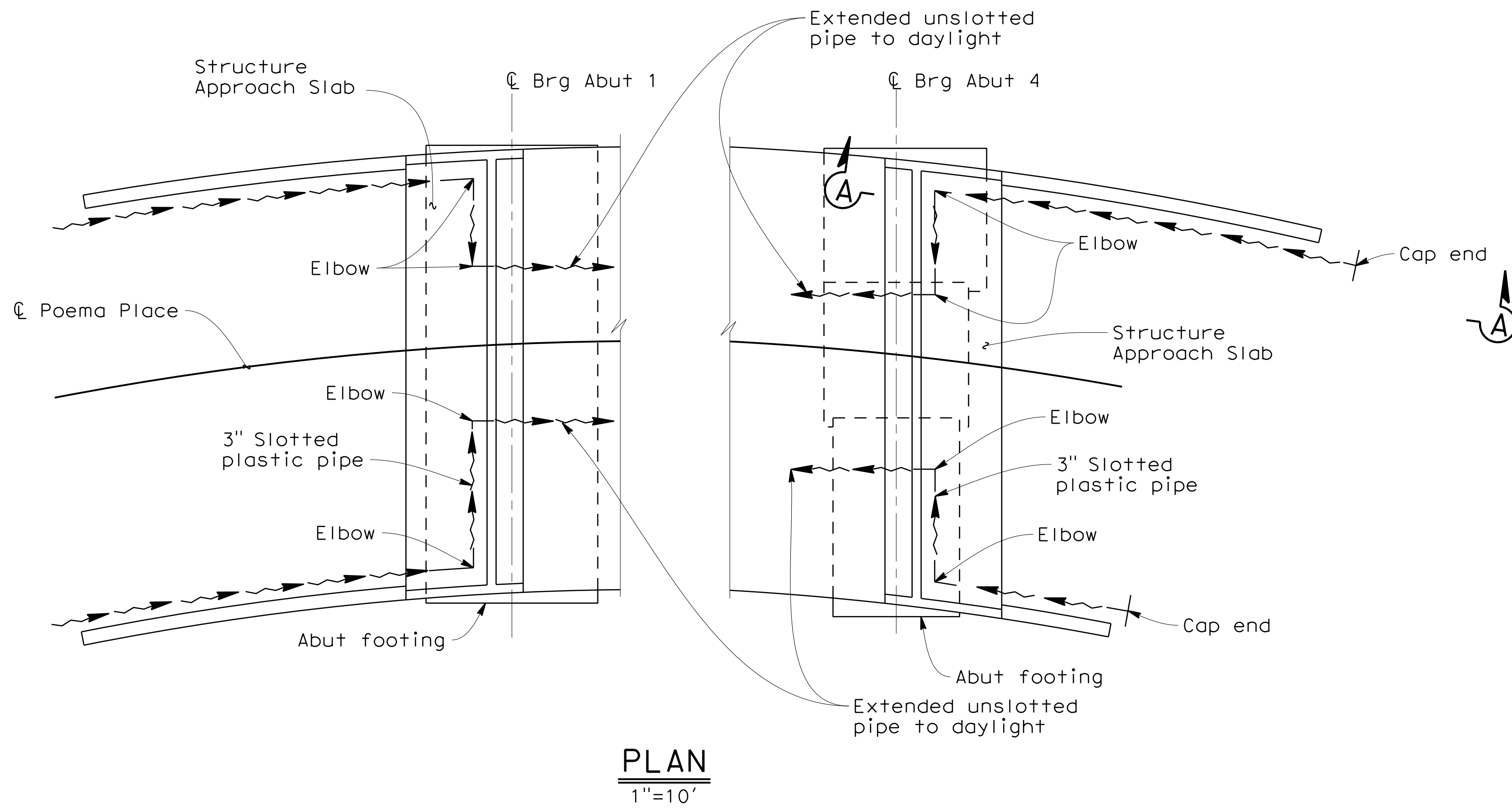
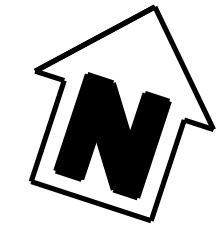
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**DRAINAGE DETAILS**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 36 OF 56



**QUINCY ENGINEERING, INC**  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670

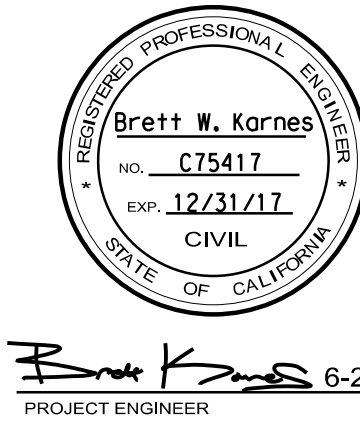


Notes:

- All bends in plastic pipe must have 3'-0" minimum radius. Plastic pipe used for bends is not required to be slotted.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS	
<input checked="" type="checkbox"/>	ACCEPTED
<input type="checkbox"/>	MAKE CORRECTIONS NOTED
<input type="checkbox"/>	REVISE CALCULATIONS
<input type="checkbox"/>	REJECTED
<small>REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.</small>	
BY: <i>[Signature]</i>	DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**STRUCTURE APPROACH  
DRAINAGE DETAILS  
POEMA PLACE BRIDGE  
OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 37 OF 56

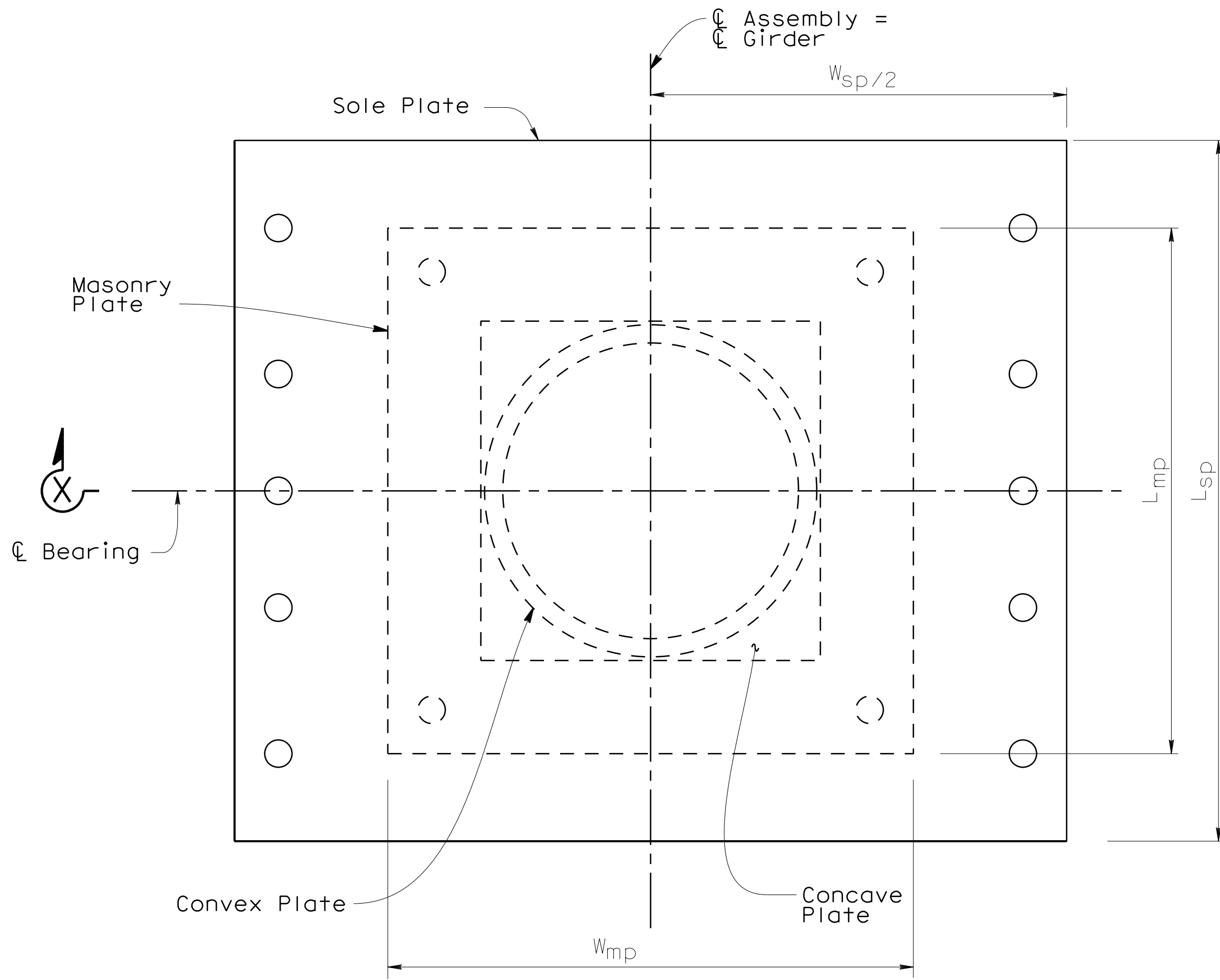


**QUINCY ENGINEERING, INC**  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

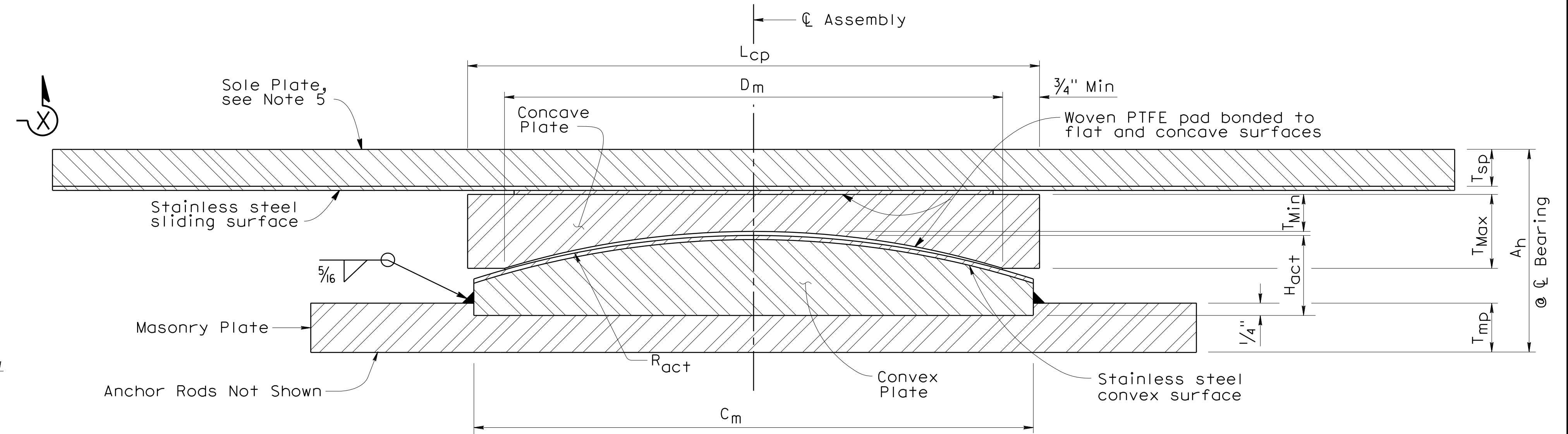
# EXPANSION BEARING TABLE

LOCATION	SERVICE LOADS		DESIGN ROTATION (Degrees)	CONCAVE PLATE						CONVEX PLATE		MASONRY PLATE			SOLE PLATE			ASSEMBLY HEIGHT
	MAXIMUM VERTICAL LOAD (kips)	MINIMUM DEAD LOAD (kips)		WIDTH / LENGTH	FLAT PTFE AREA (in <sup>2</sup> )	DIAMETER	SPHERICAL RADIUS	MINIMUM THICKNESS	MAXIMUM THICKNESS	DIAMETER	MAXIMUM THICKNESS	WIDTH	LENGTH	THICKNESS	WIDTH	LENGTH	THICKNESS	
				L <sub>cp</sub>	A <sub>PTFE</sub>	D <sub>m</sub>	R <sub>act</sub>	T <sub>min</sub>	T <sub>max</sub>	C <sub>m</sub>	H <sub>act</sub>	W <sub>mp</sub>	L <sub>mp</sub>	T <sub>mp</sub>	W <sub>sp</sub>	L <sub>sp</sub>	T <sub>sp</sub>	A <sub>h</sub>
ABUT 1	279	133	2	11 5/8	80	10 1/8	18 3/4	3/4	1 1/2	11 3/8	1 5/8	18	18	1	28.5	24	3/4 Min	4 1/8
ABUT 4	208	81	2	10 1/4	60	8 3/4	10 3/4	3/4	1 3/4	9 3/8	1 7/8	16	16	1	28.5	24	3/4 Min	4 1/4

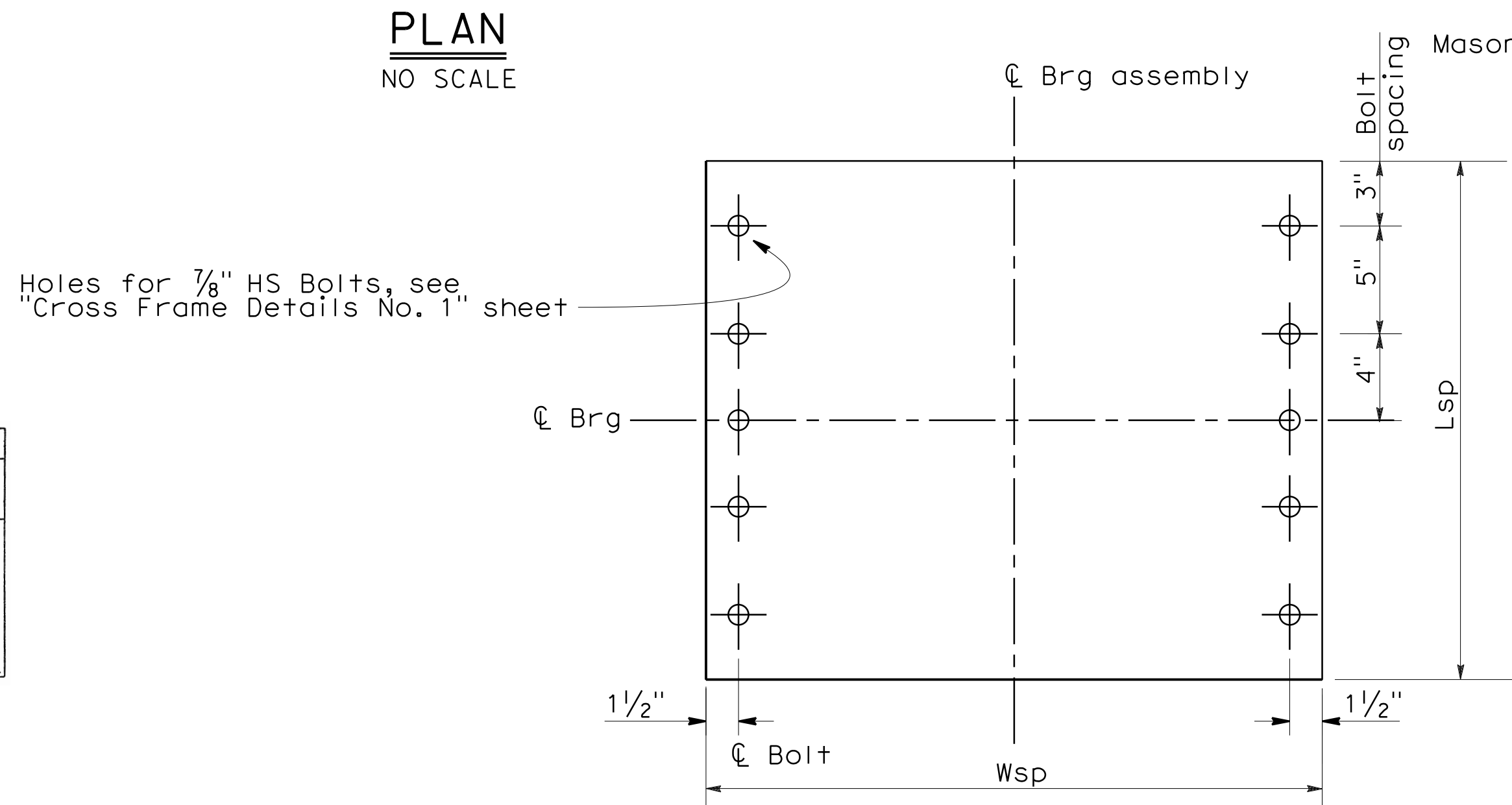
NOTE: All units in table are in inches unless otherwise noted.



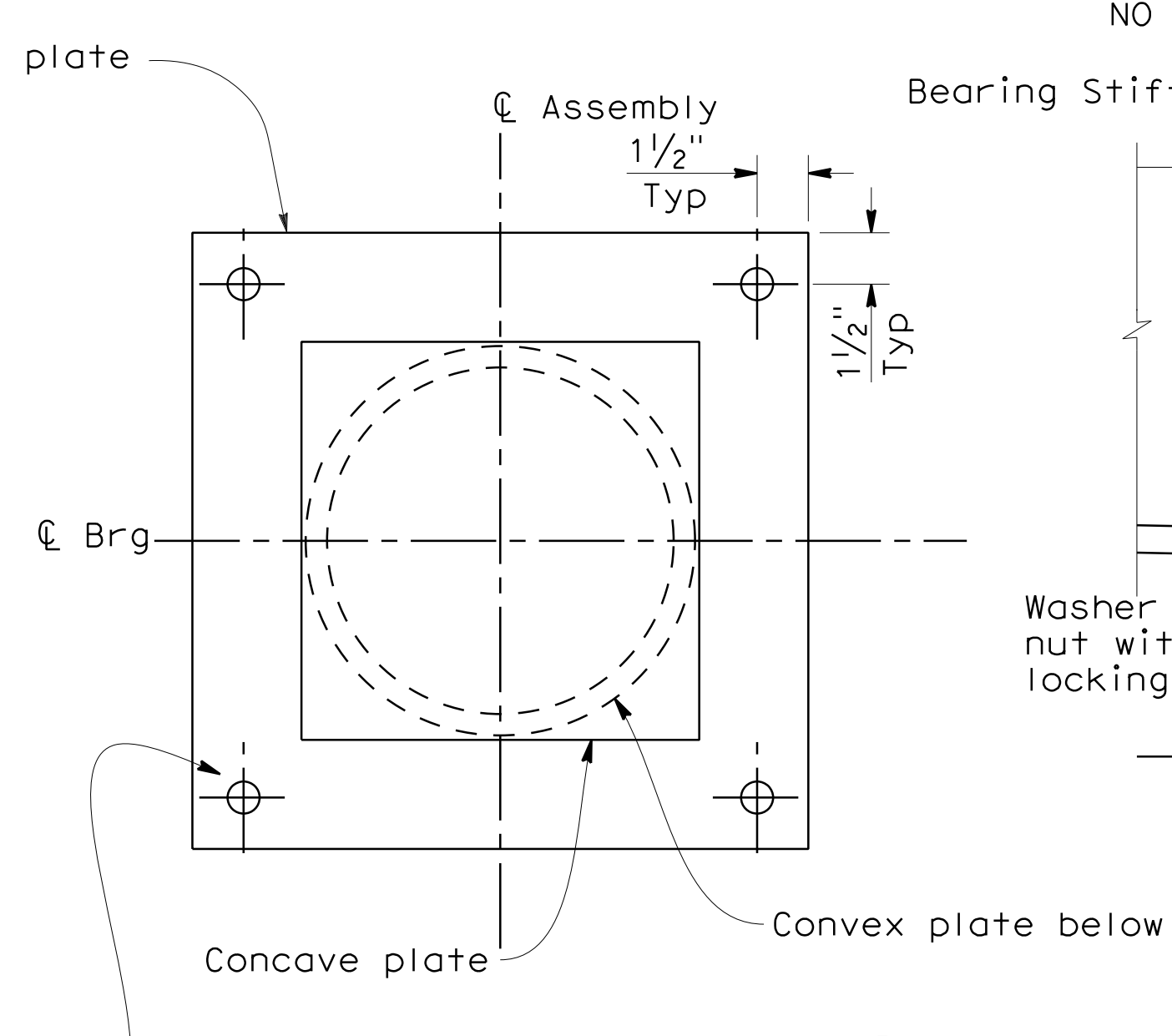
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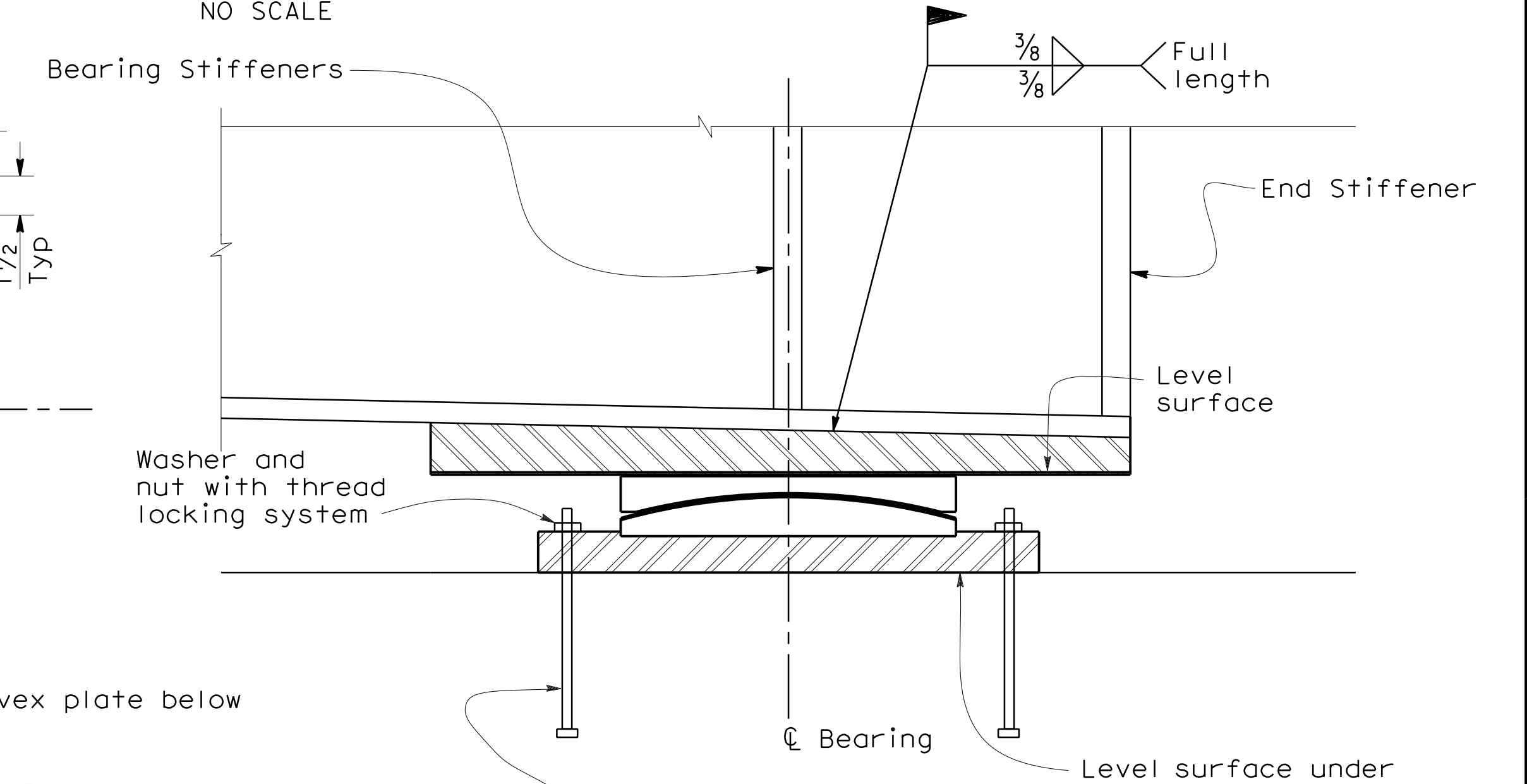
**SECTION X-X**  
NO SCALE



**SOLE PLATE**  
No Scale



**MASONRY PLATE**  
No Scale



**BEARING DETAIL**  
No Scale

- Notes:
- All dimensions shown are steel only unless otherwise noted.
  - H<sub>act</sub> includes stainless steel.
  - A<sub>h</sub> includes PTFE, substratum and stainless steel, (varies).
  - R<sub>act</sub> is to sliding surface.
  - Exact location of sole plate based on actual field survey of  $\phi$  Bent.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
MADE CORRECTIONS NOTED  
ANALYSIS CALCULATIONS  
PROJECTED  
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREIN DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.  
DATE 8/8/16



QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**PTFE / SPHERICAL EXPANSION BEARING DETAILS**

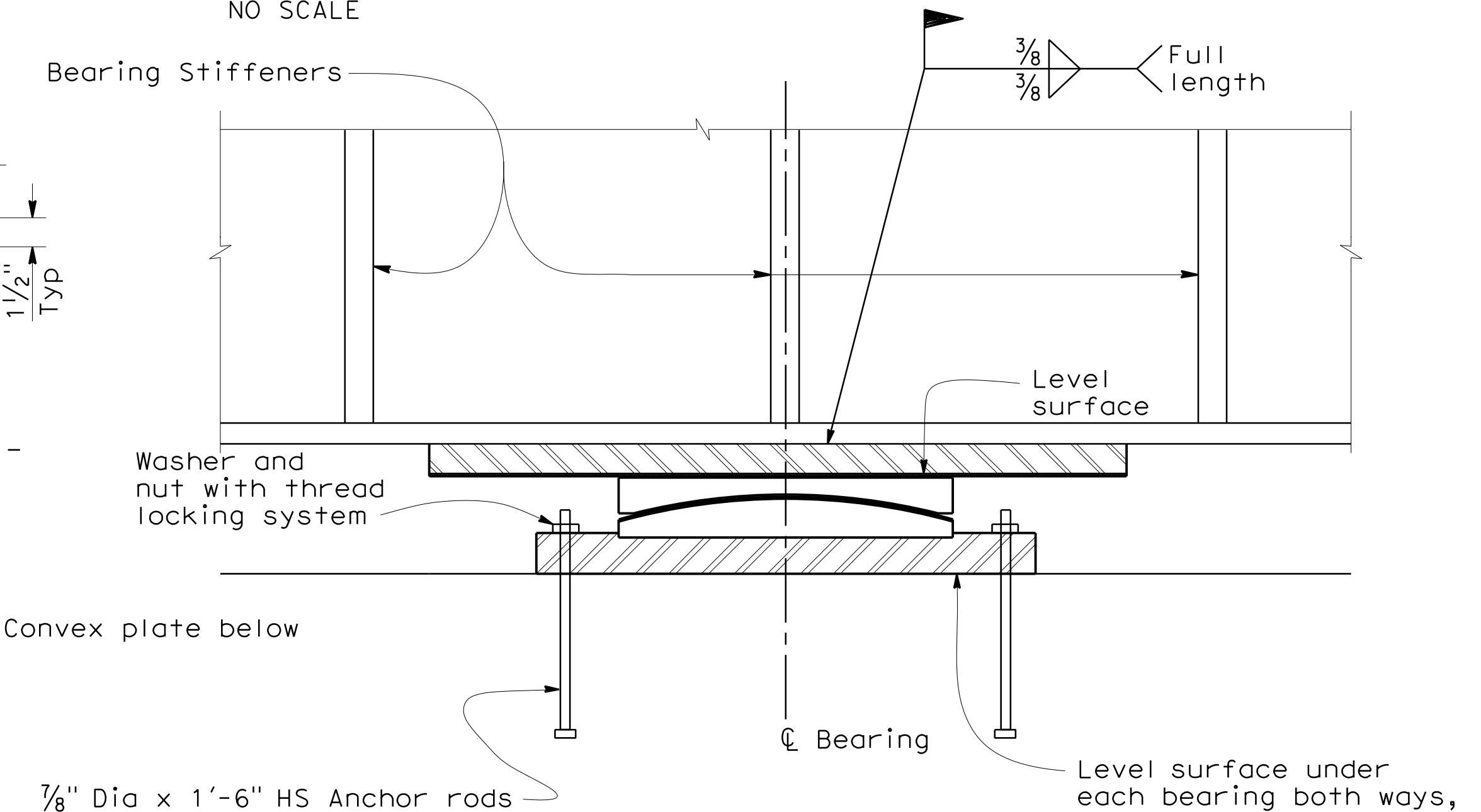
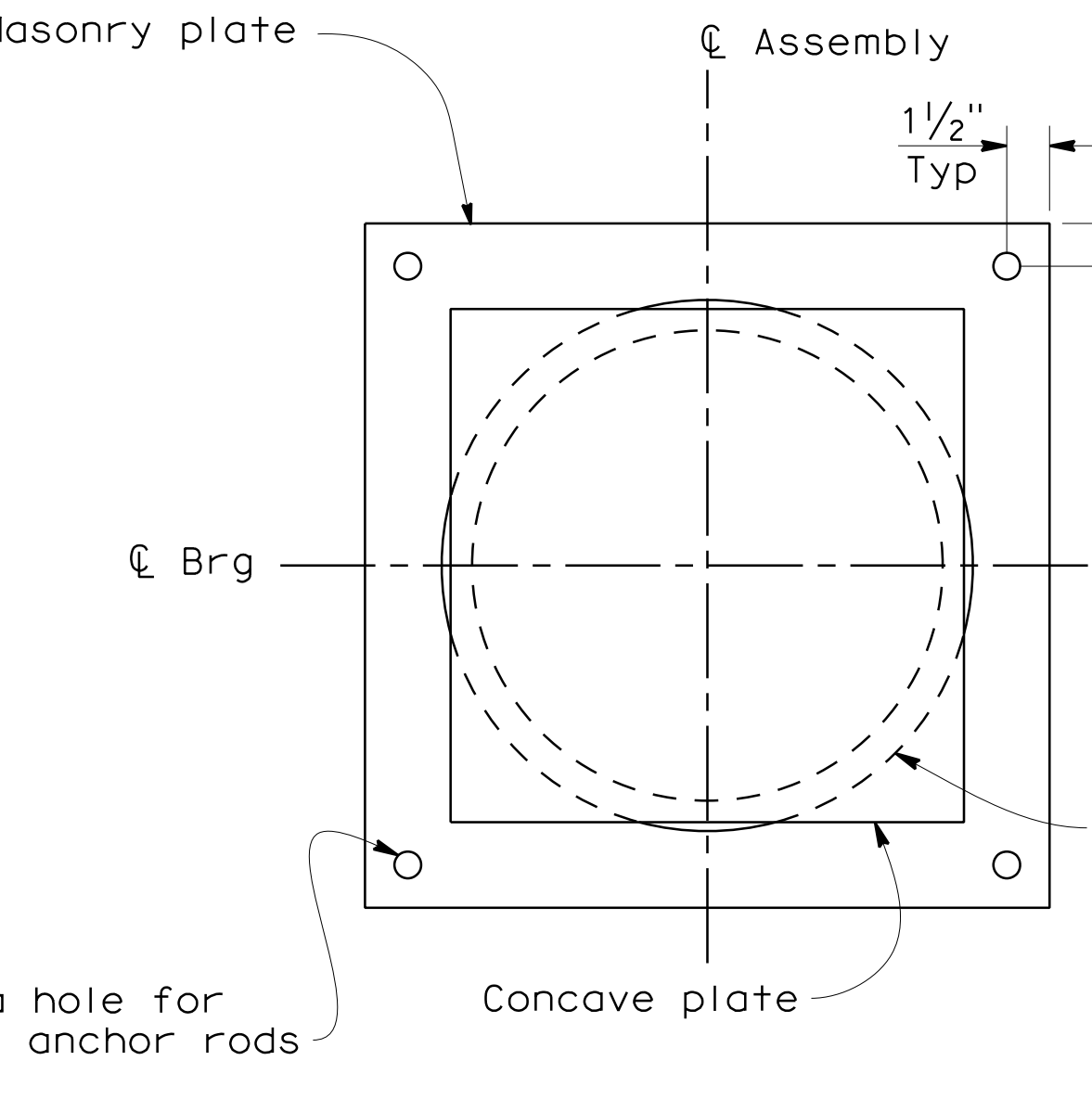
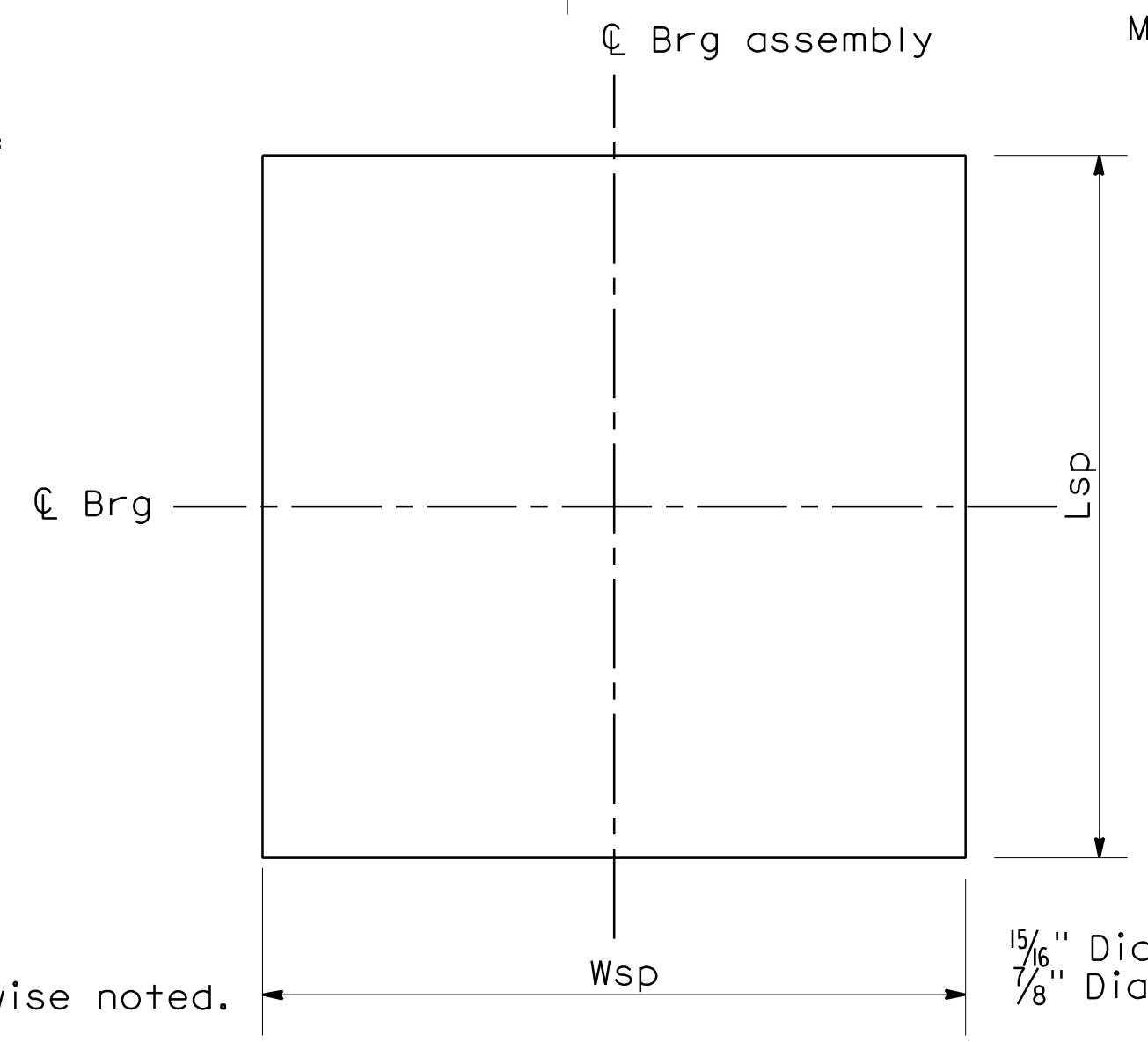
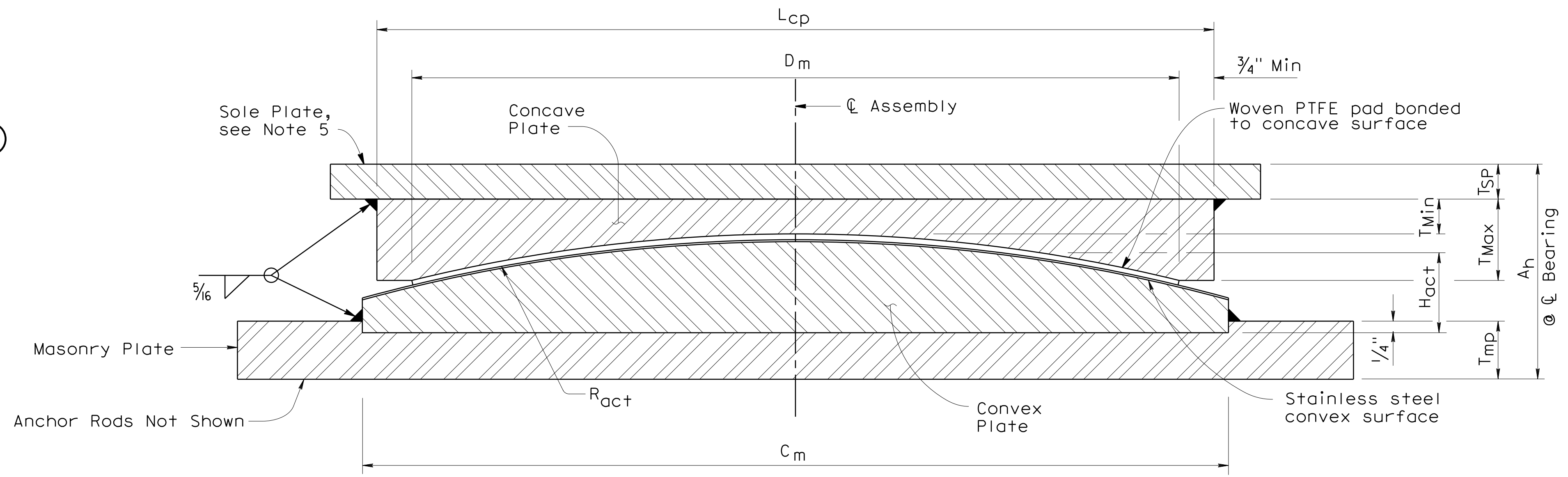
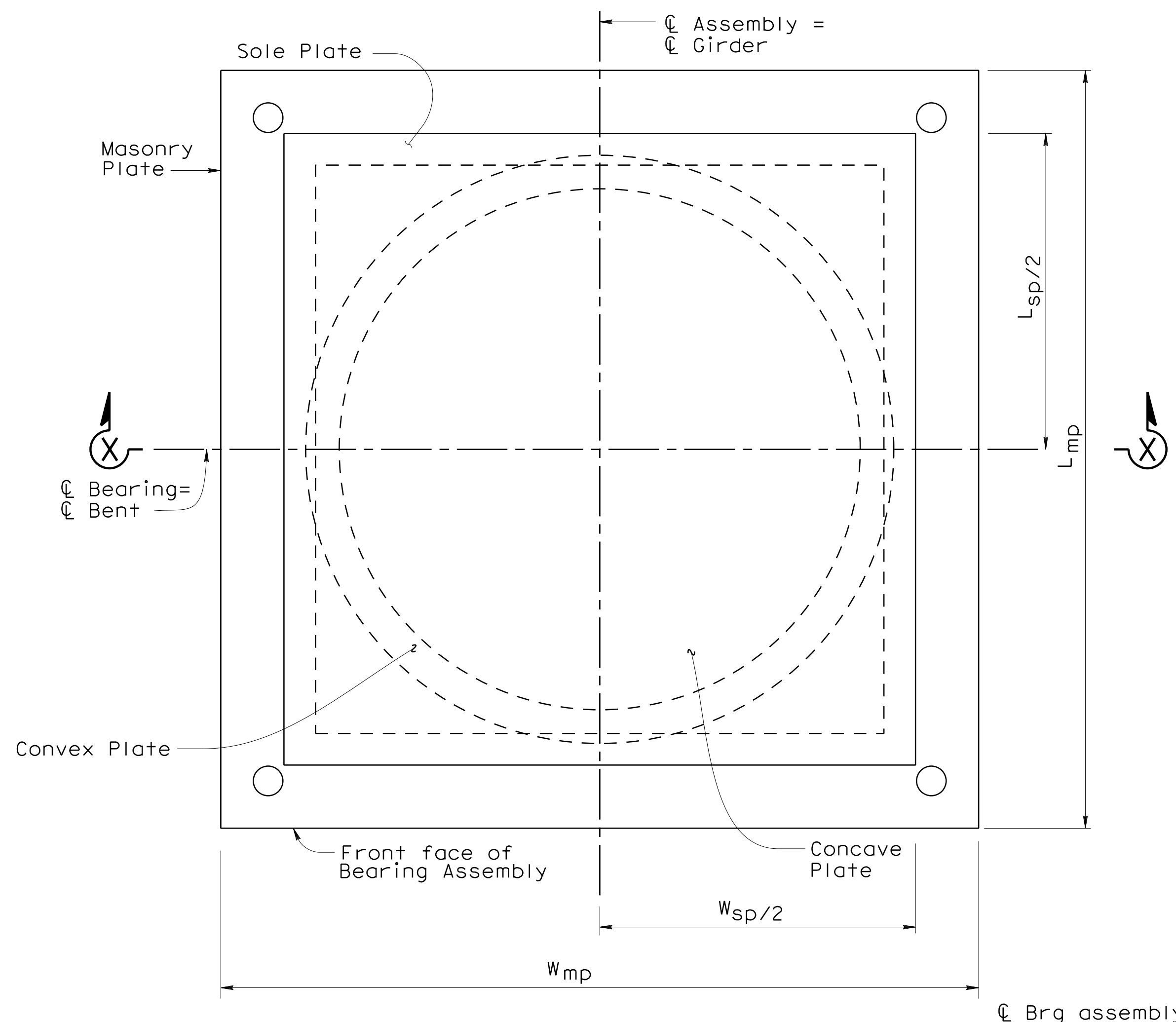
**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 38 OF 56

# FIXED BEARING TABLE

LOCATION	SERVICE LOADS		DESIGN ROTATION (Degrees)	CONCAVE PLATE					CONVEX PLATE		MASONRY PLATE			SOLE PLATE			ASSEMBLY HEIGHT
	MAXIMUM VERTICAL LOAD (kips)	MINIMUM DEAD LOAD (kips)		WIDTH / LENGTH	DIAMETER	SPHERICAL RADIUS	MINIMUM THICKNESS	MAXIMUM THICKNESS	DIAMETER	MAXIMUM THICKNESS	WIDTH	LENGTH	THICKNESS	WIDTH	LENGTH	THICKNESS	
				$L_{cp}$	$D_m$	$R_{act}$	$T_{min}$	$T_{max}$	$C_m$	$H_{act}$	$W_{mp}$	$L_{mp}$	$T_{mp}$	$W_{sp}$	$L_{sp}$	$T_{sp}$	$A_h$
BENT 2&3	728	447	2	18	16 1/2	35 1/4	3/4	1 3/4	18 5/8	2	24	24	1 1/4	20	20	3/4	4 5/8

NOTE: All units in table are in inches unless otherwise noted.



- Notes:
- All dimensions shown are steel only unless otherwise noted.
  - $H_{act}$  includes stainless steel.
  - $A_h$  includes PTFE, substratum and stainless steel, (varies).
  - $R_{act}$  is to sliding surface.
  - Exact location of sole plate based on actual field survey of  $\text{CL}$  Bent.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 HAVE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REJECTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL COMPLIANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

BY: [Signature] DATE: 8/8/16

QUINCY ENGINEERING, INC  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
**Brett W. Korne**  
 NO. C75417  
 EXP. 12/31/17  
 CIVIL  
 STATE OF CALIFORNIA

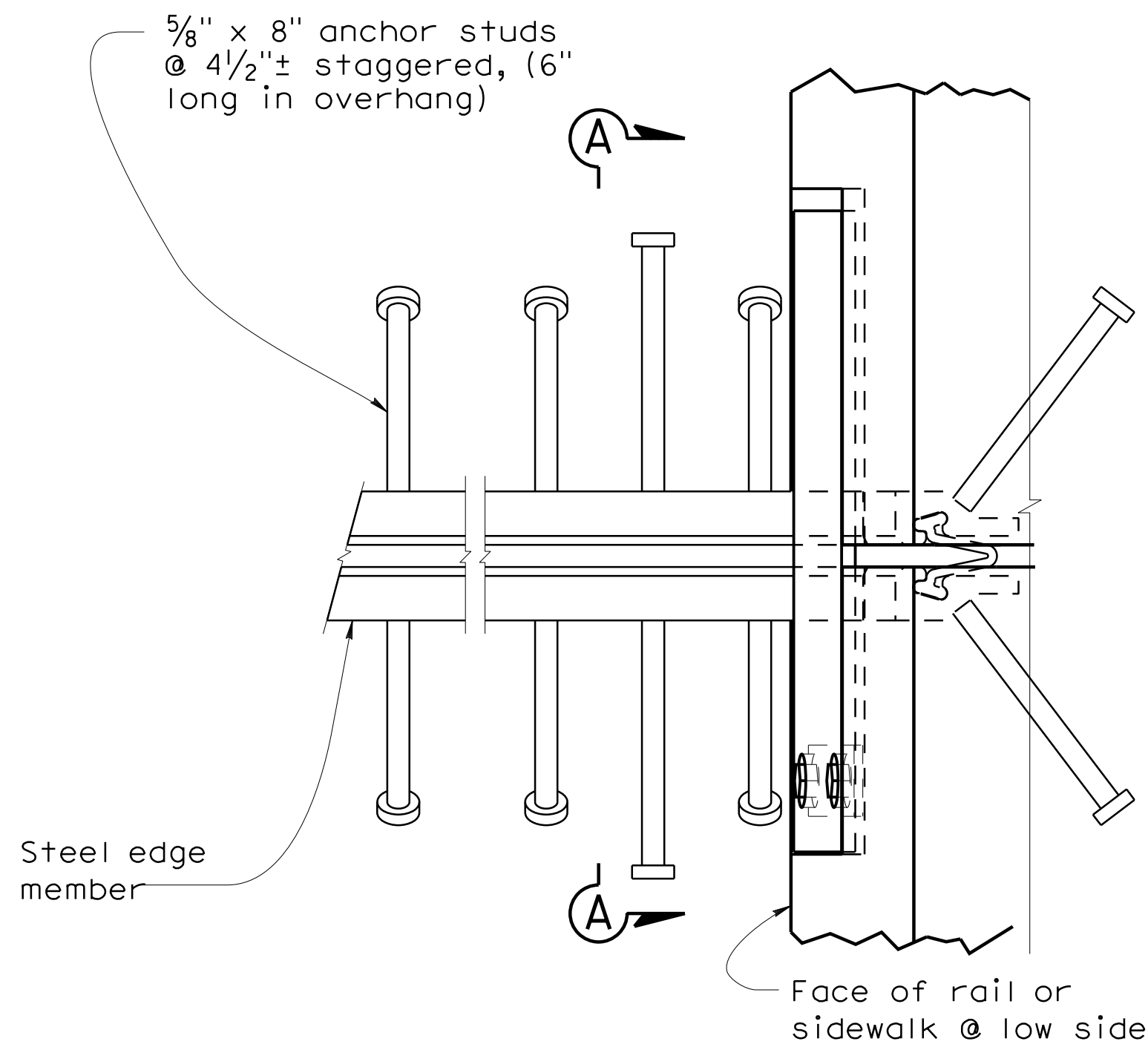
Brett W. Korne 6-22-16  
 PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

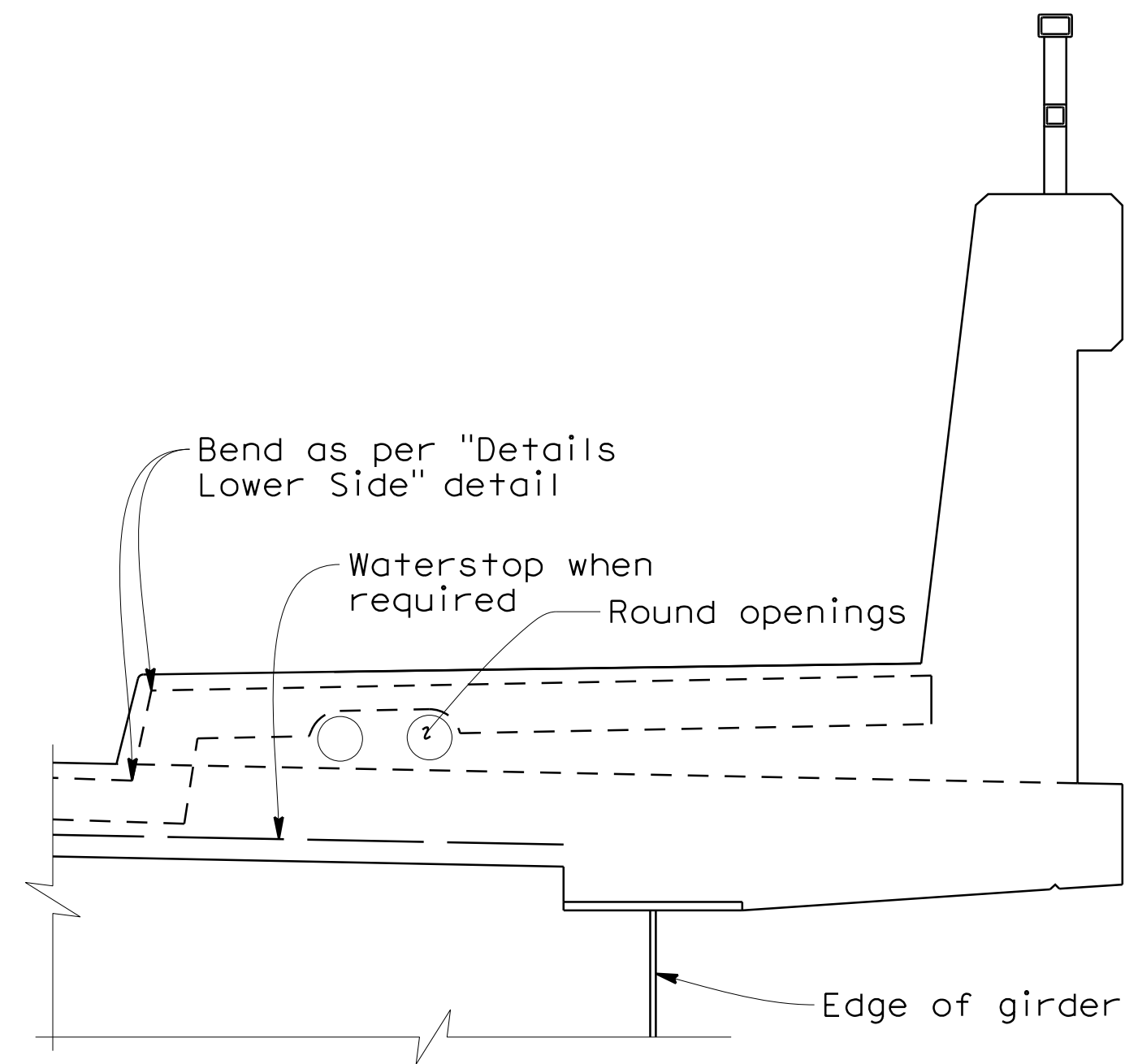
**PTFE/ SPHERICAL FIXED BEARING DETAILS**  
**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 39 OF 56

**DIGALERT**  
 DIAL TOLL FREE  
 1-800-227-2600  
 AT LEAST TWO DAYS BEFORE YOU DIG



**PLAN**  
SKEW  $\leq 20^\circ$



Note:  
Type "B" seal shown, Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

**CONCRETE BARRIER AND SIDEWALK**

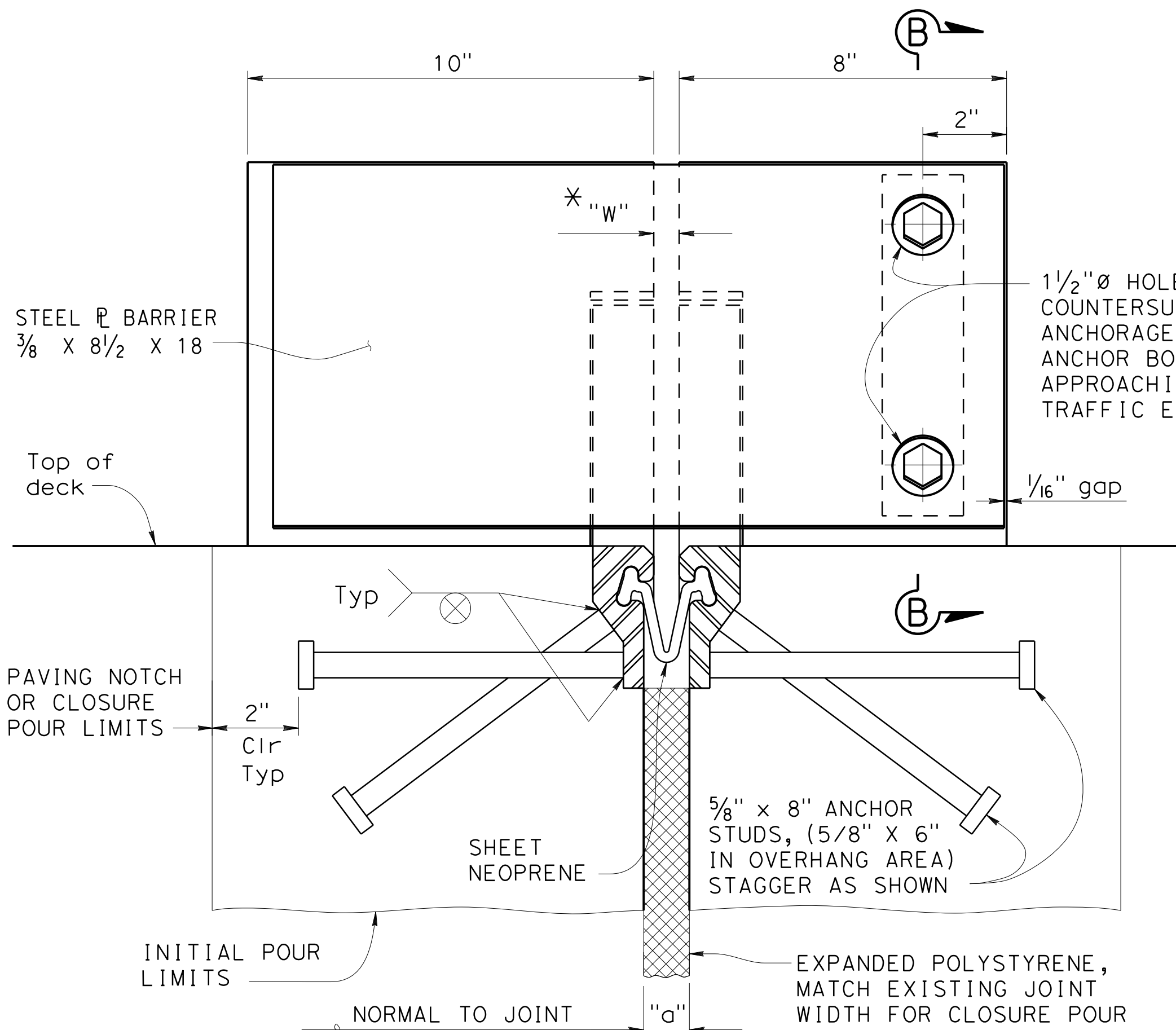
No Scale

JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
ABUT 1	3.5	2°30'48"	3.5"	2.625"	1.75"
ABUT 4	3.5	6°01'45"	3.5"	2.625"	1.75"

\* TO SET MINIMUM JOINT OPENING "w"

$$w = \frac{1}{2} + [(120^\circ F) - (\text{actual Str temperature in } ^\circ F)] * (a_c \text{ or } a_s) (12) (\text{contributory } l \text{ in feet})$$

$a_c = 0.000060$   
 $a_s = 0.000065$

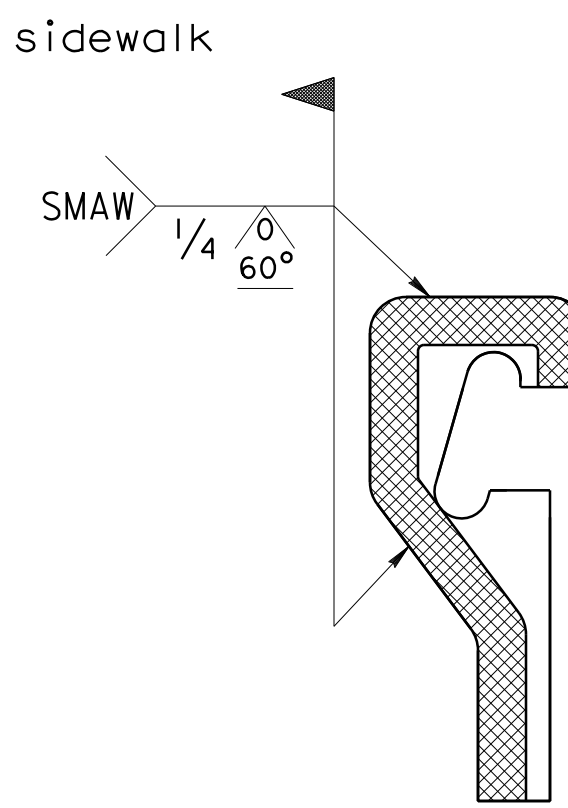


**SECTION A-A**  
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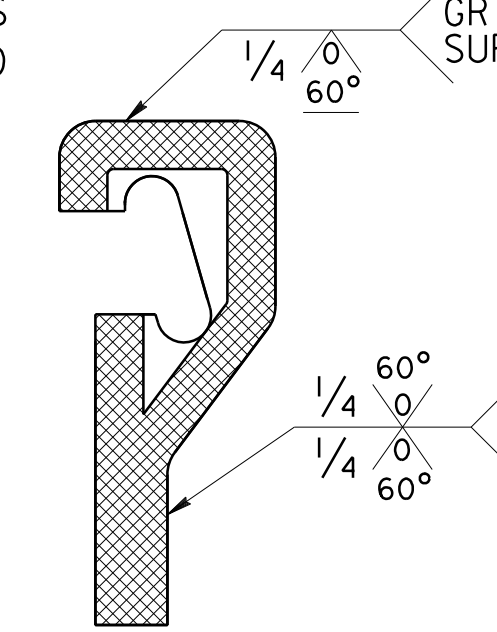
LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
ACCEPTED  
REVISIONS CORRECTIONS NOTED  
REVISED CALCULATIONS  
REVISOR'S INITIALS  
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.  
DATE 8/8/16

QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

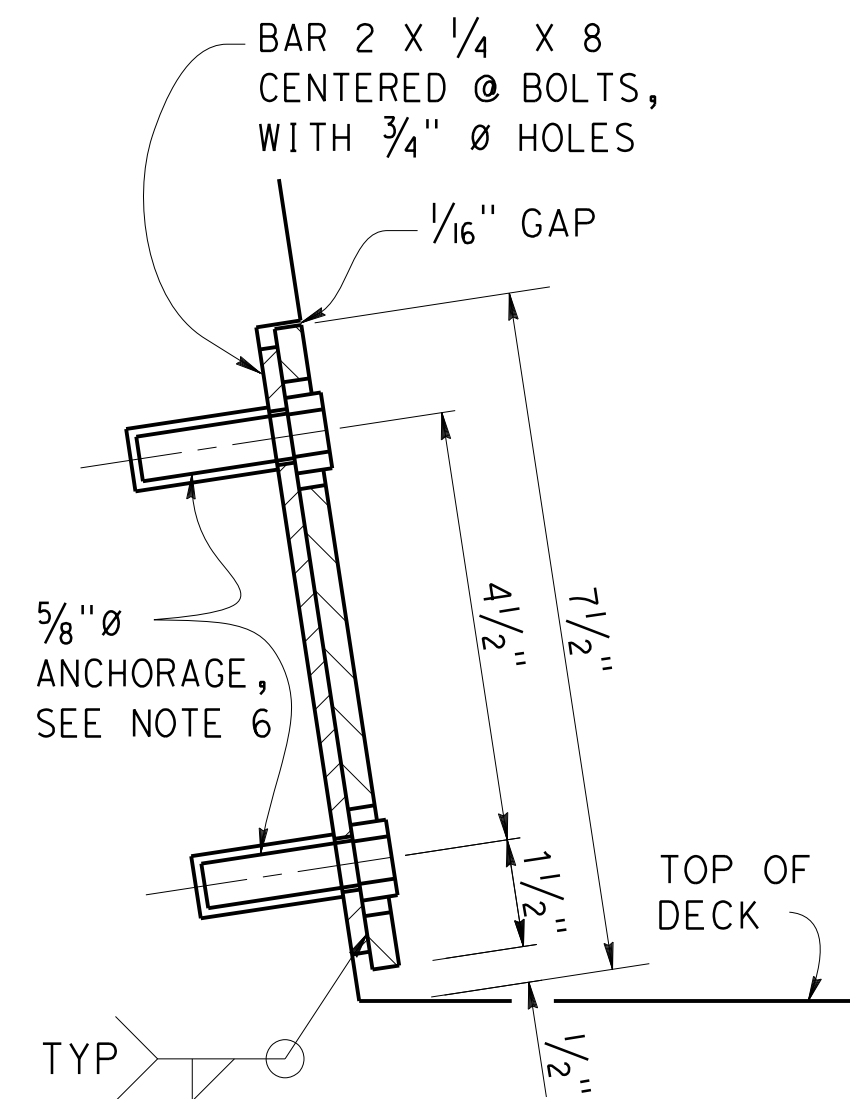
**DETAIL**  
**LOW SIDE**  
NO SCALE



**SCHEMATIC FIELD WELD DETAIL**  
NO SCALE



**SCHEMATIC SHOP WELD DETAIL**  
NO SCALE



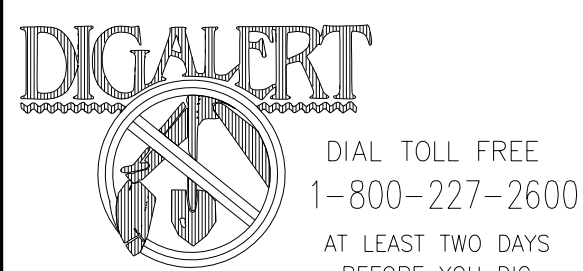
**SECTION B-B**  
NO SCALE

**SCHEMATIC STEEL EDGE MEMBER**

NO SCALE

NOTES:

- Alternatively, fillet or complete penetration welds may be used at anchor studs.
- Alternate types of anchor studs may be permitted subject to the authorization by the Engineer.
- Joint seal assembly to be used in conjunction with closure pour. (See other sheets for limits). Closure pour shall not be placed until final deck surface is within the tolerances specified.
- Use joint at crown of roadway, at any change in traverse slope in deck and at changes in horizontal direction. Place other joints at or near lanes. All metal parts to be painted or galvanized after fabrication.
- Sheet Neoprene shall be fabricated in one continuous piece and shall be fabricated to bend around corners. Field splices of the neoprene are not allowed.
- Insert assembly or expansion anchorage for 5/8 x 1 3/4 inch bolts. Use installation bolts extended 1/2 inch minimum past nut and coat with bond breaker, after concrete has cured, remove installation bolts, install HS bolts and sheet neoprene.
- 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.
- $a_c$ ,  $a_s$ , are the thermal expansion coefficients for concrete and steel respectively.
- Anchor studs shall conform to ASTM 108.

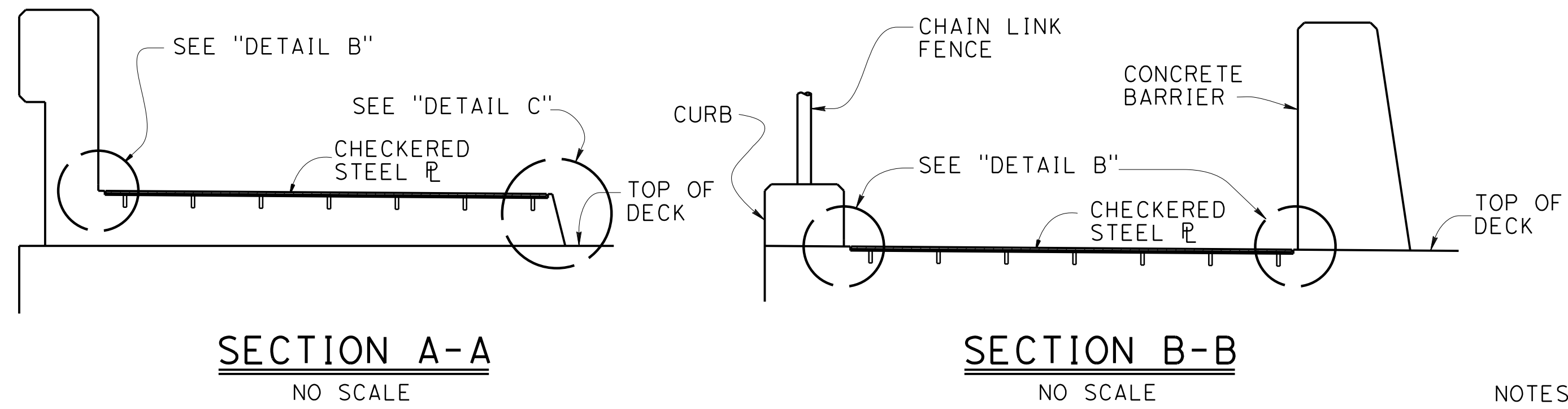


Brett W. Korne  
6-22-16  
PROJECT ENGINEER DATE

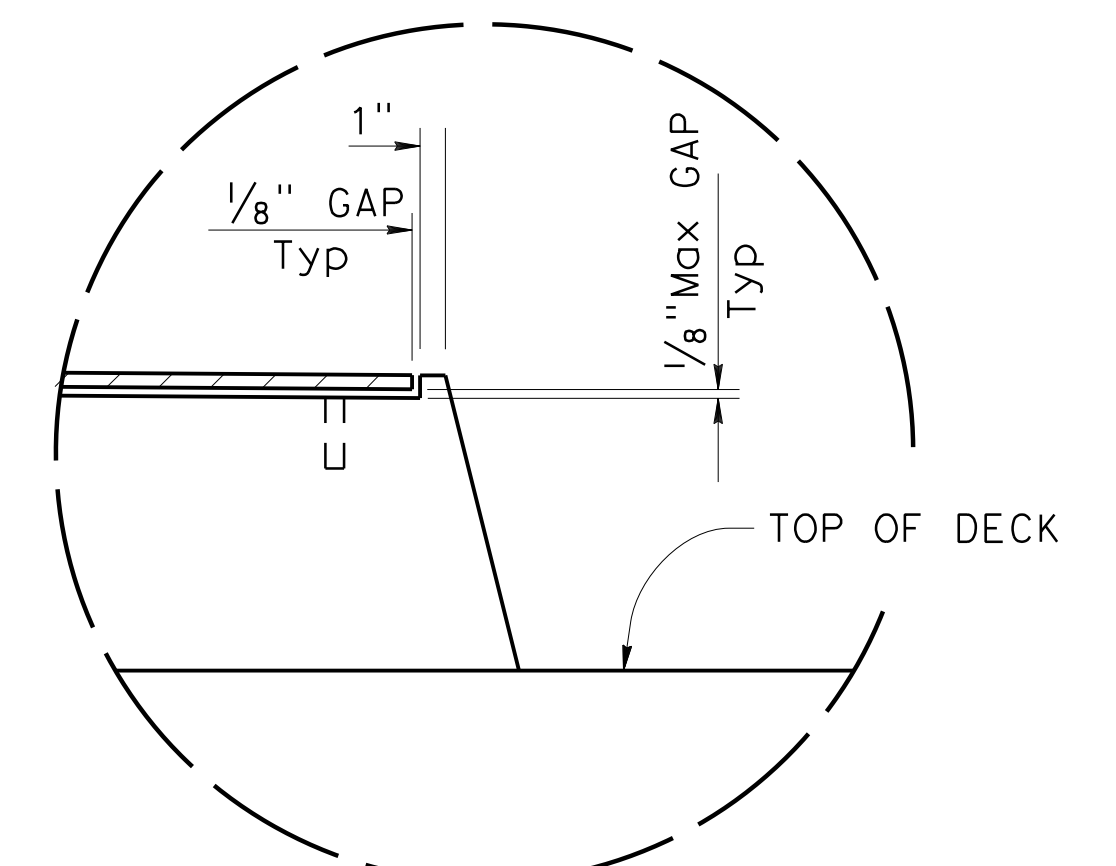
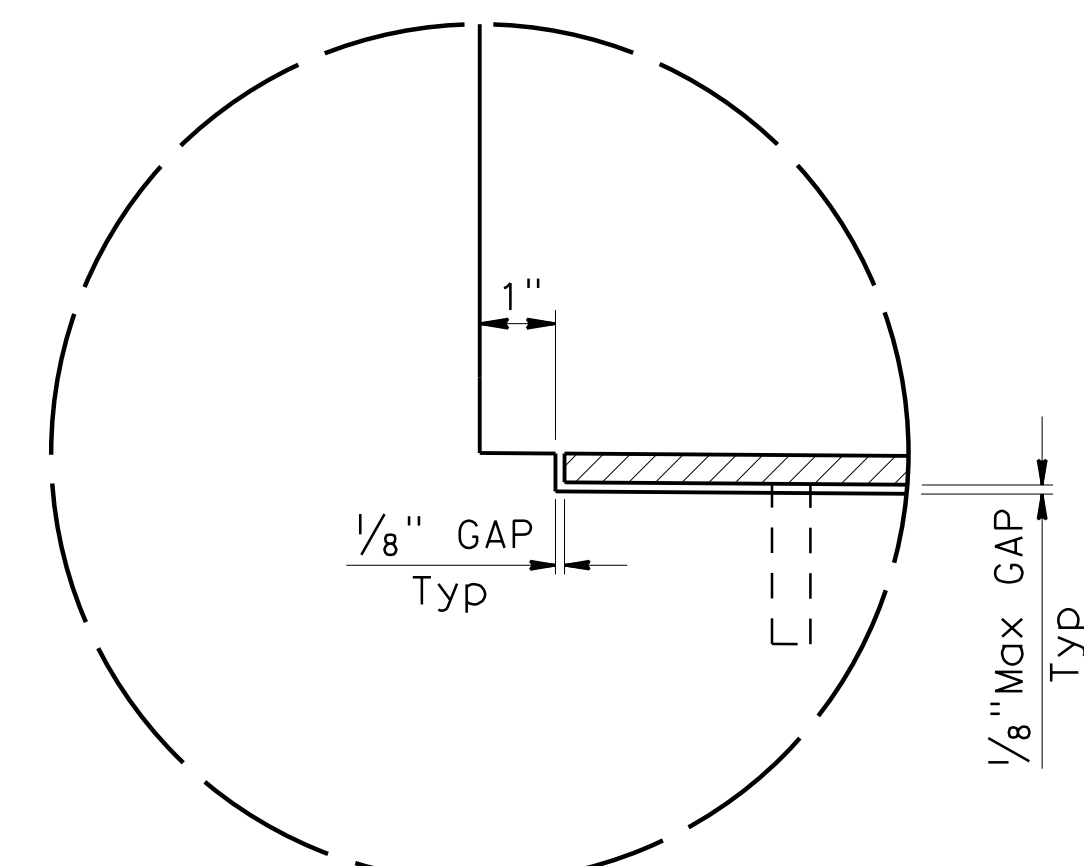
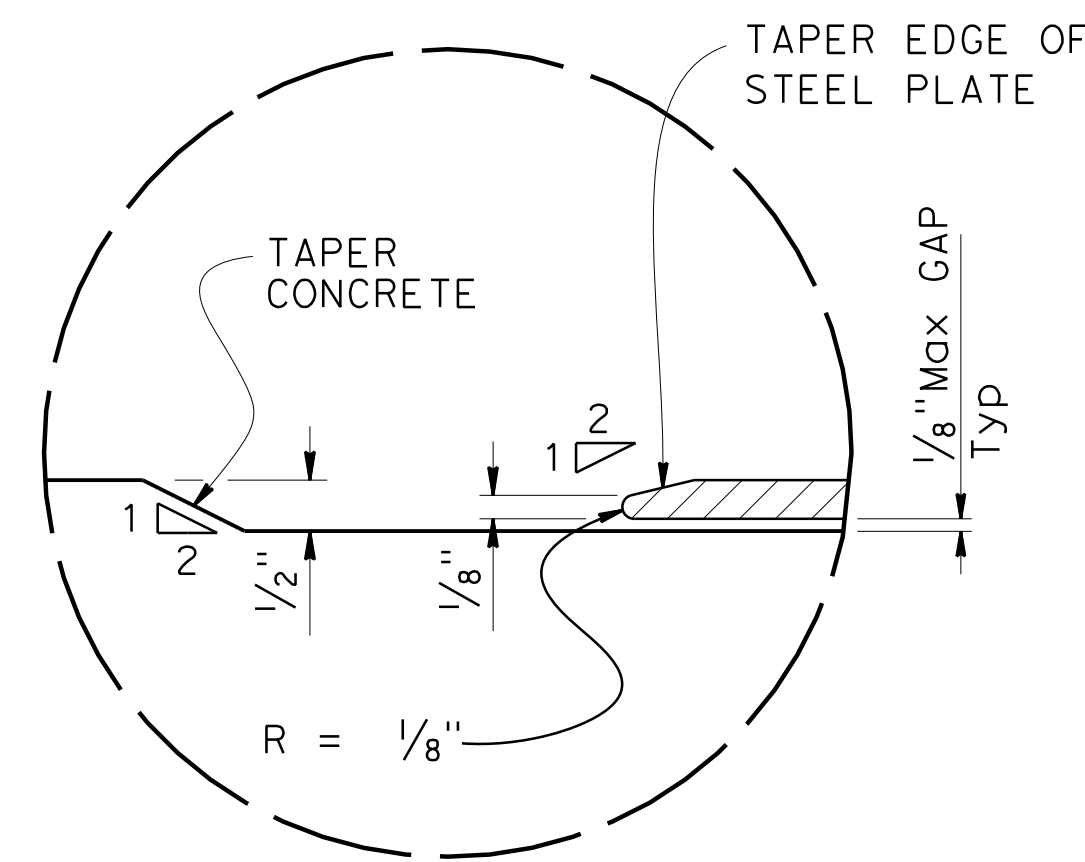
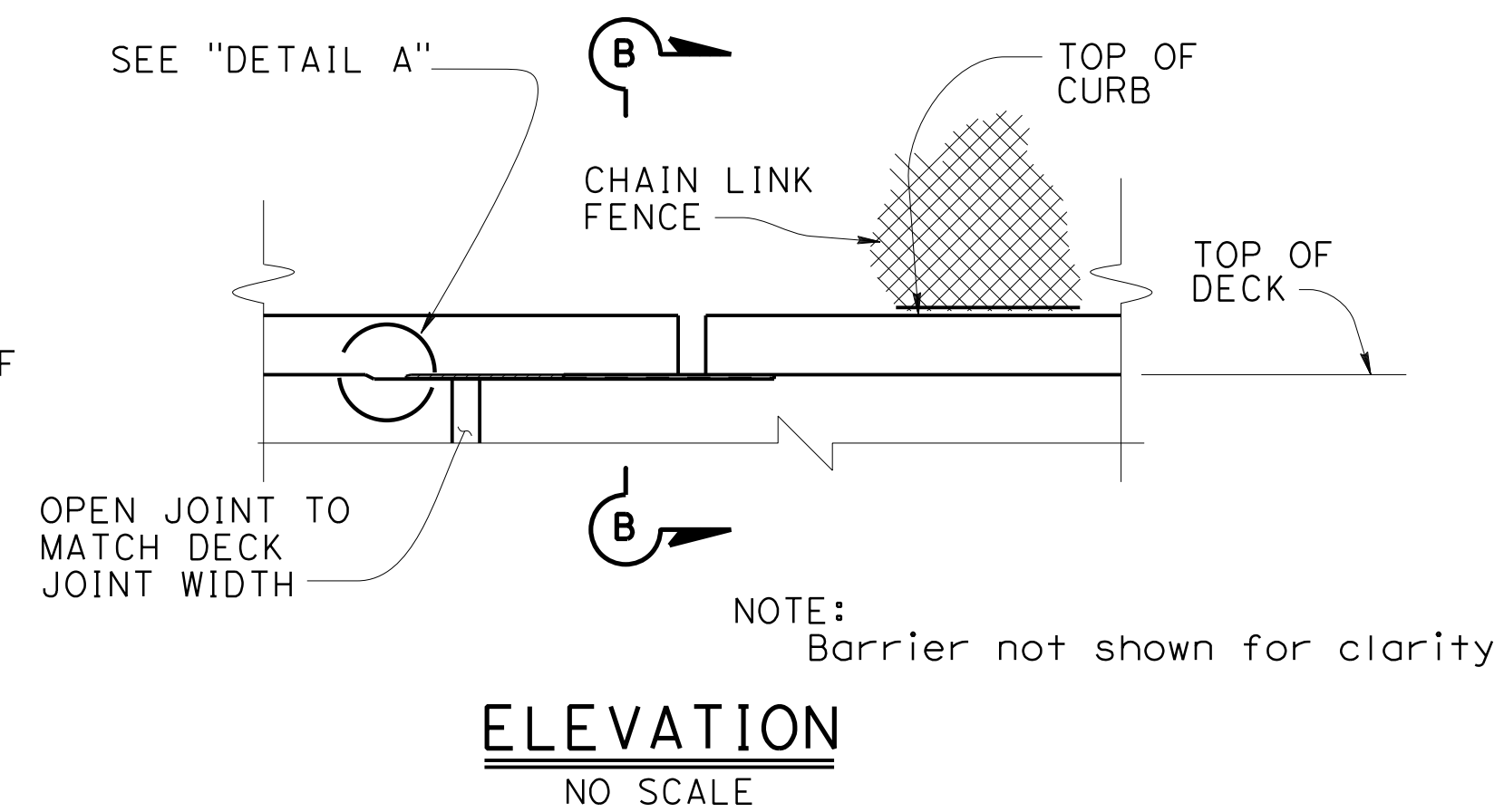
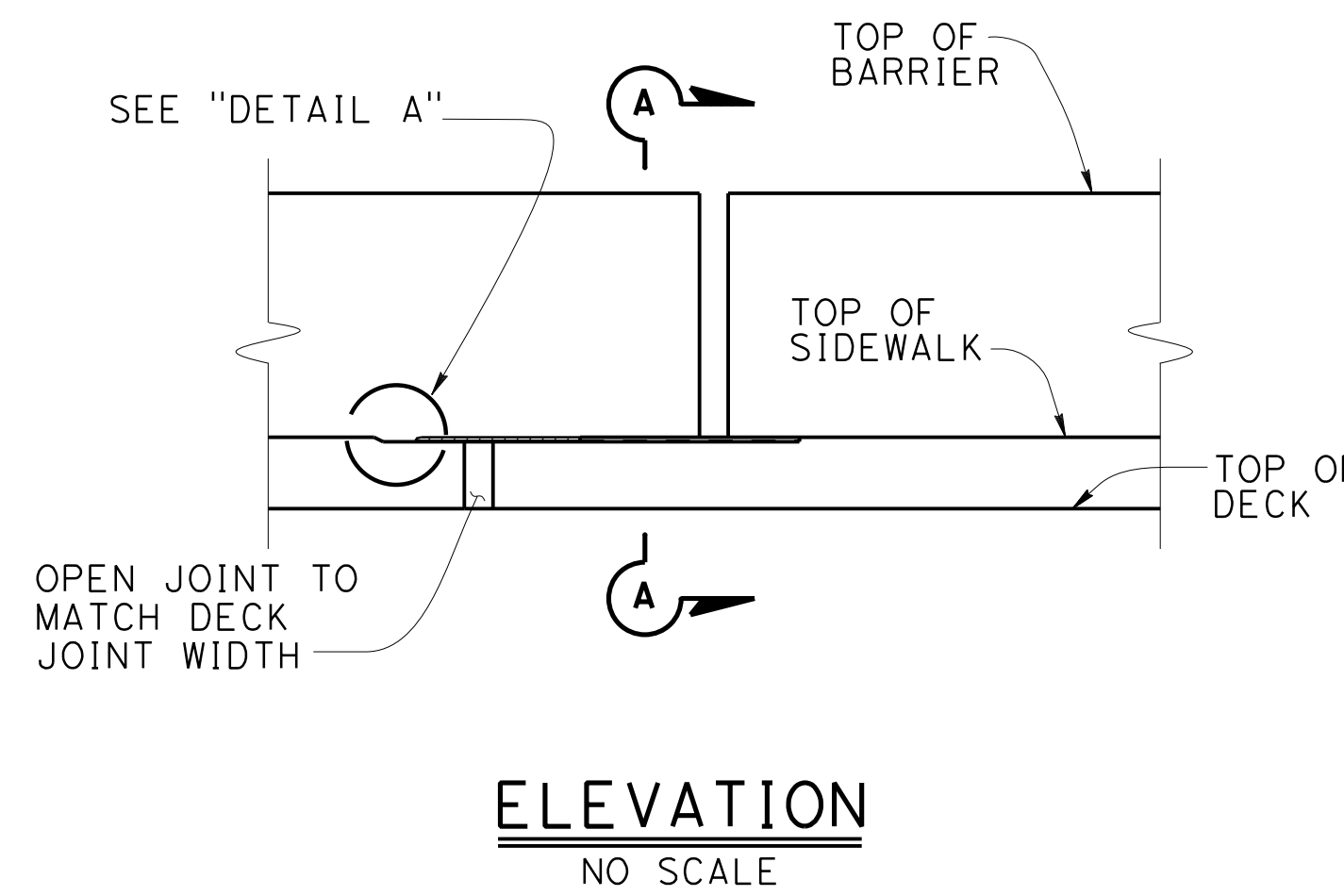
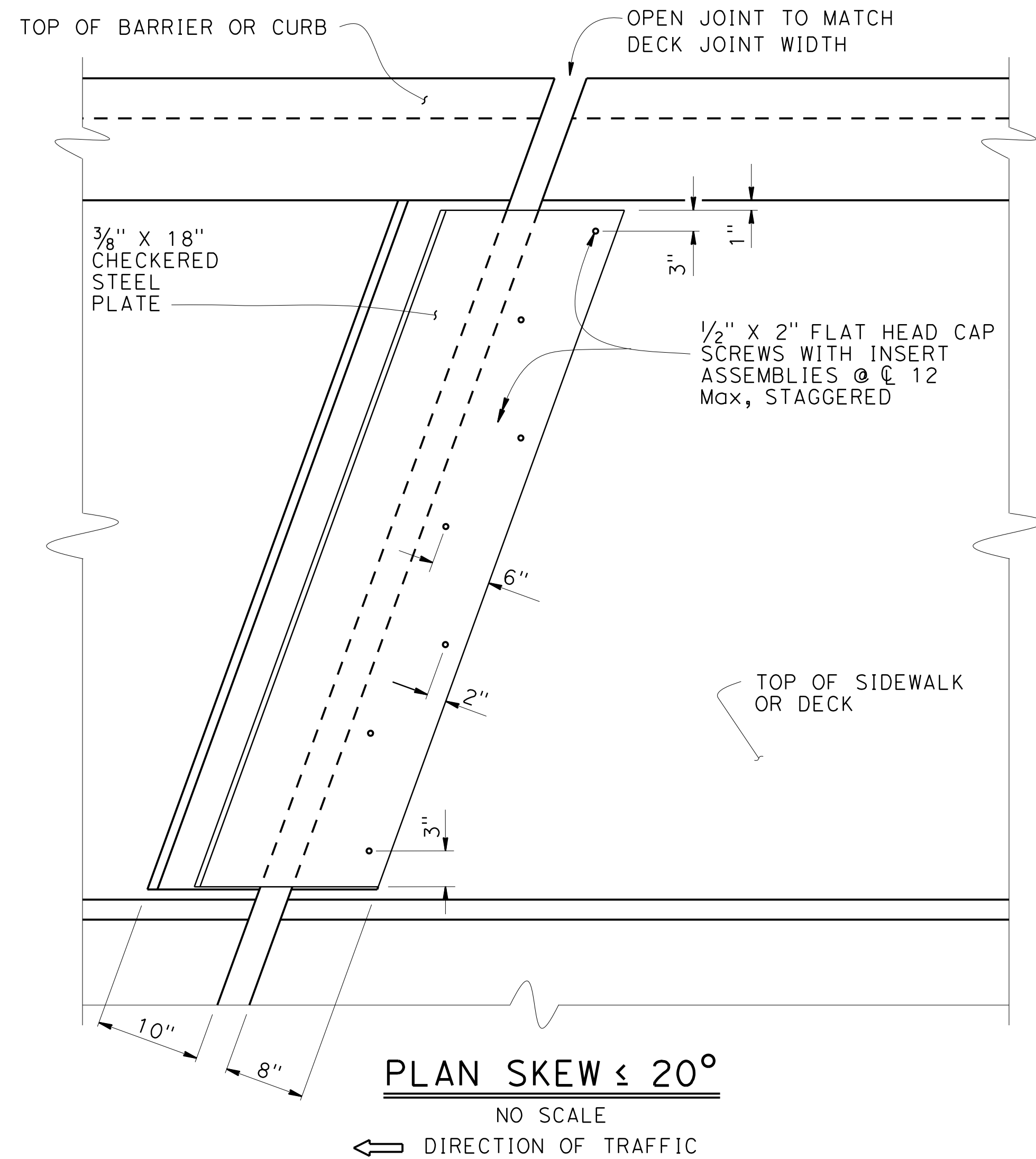
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**JOINT SEAL (MAX MR = 3.5")**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**





- NOTES:
- Utility openings and expansion joints not shown for clarity.
  - Recess concrete 1/2" for plates.
  - Plates to be galvanized.
  - Architectural treatment not shown.



LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 MAKE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REJECTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL CONFORMANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
 Brett W. Kornek  
 NO. C75417  
 EXP. 12/31/17  
 CIVIL  
 STATE OF CALIFORNIA

Brett W. Kornek  
 PROJECT ENGINEER  
 DATE 6-22-18

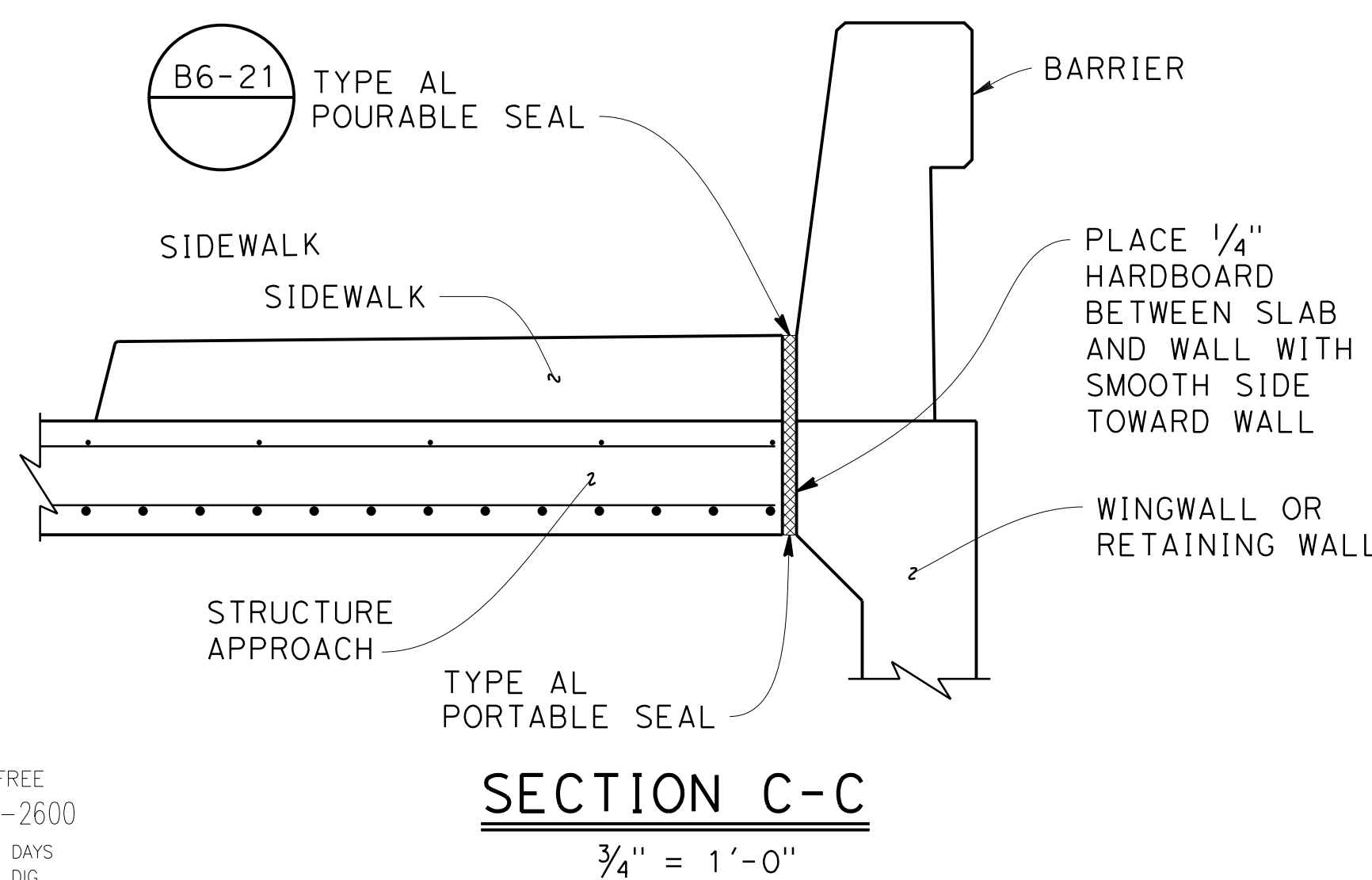
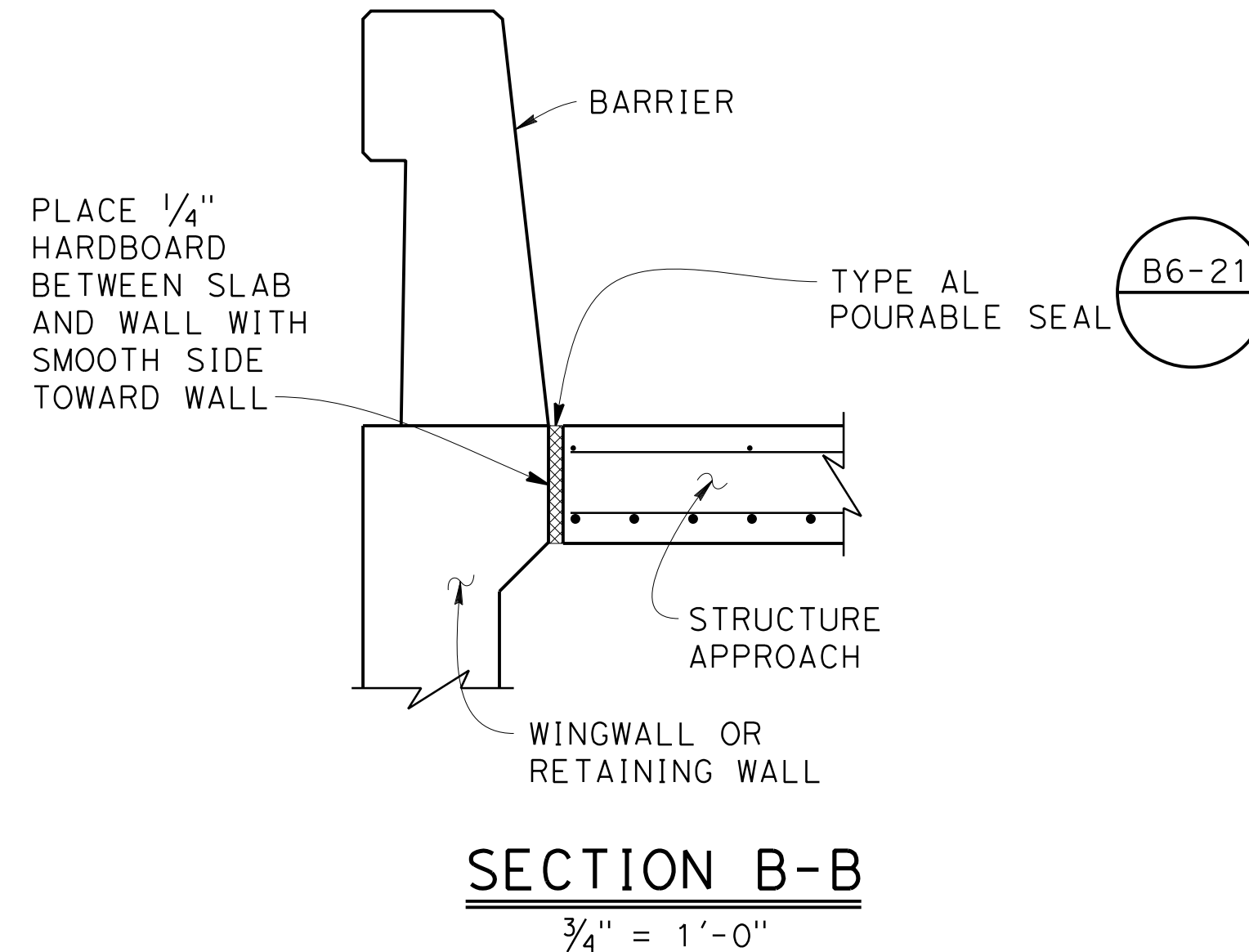
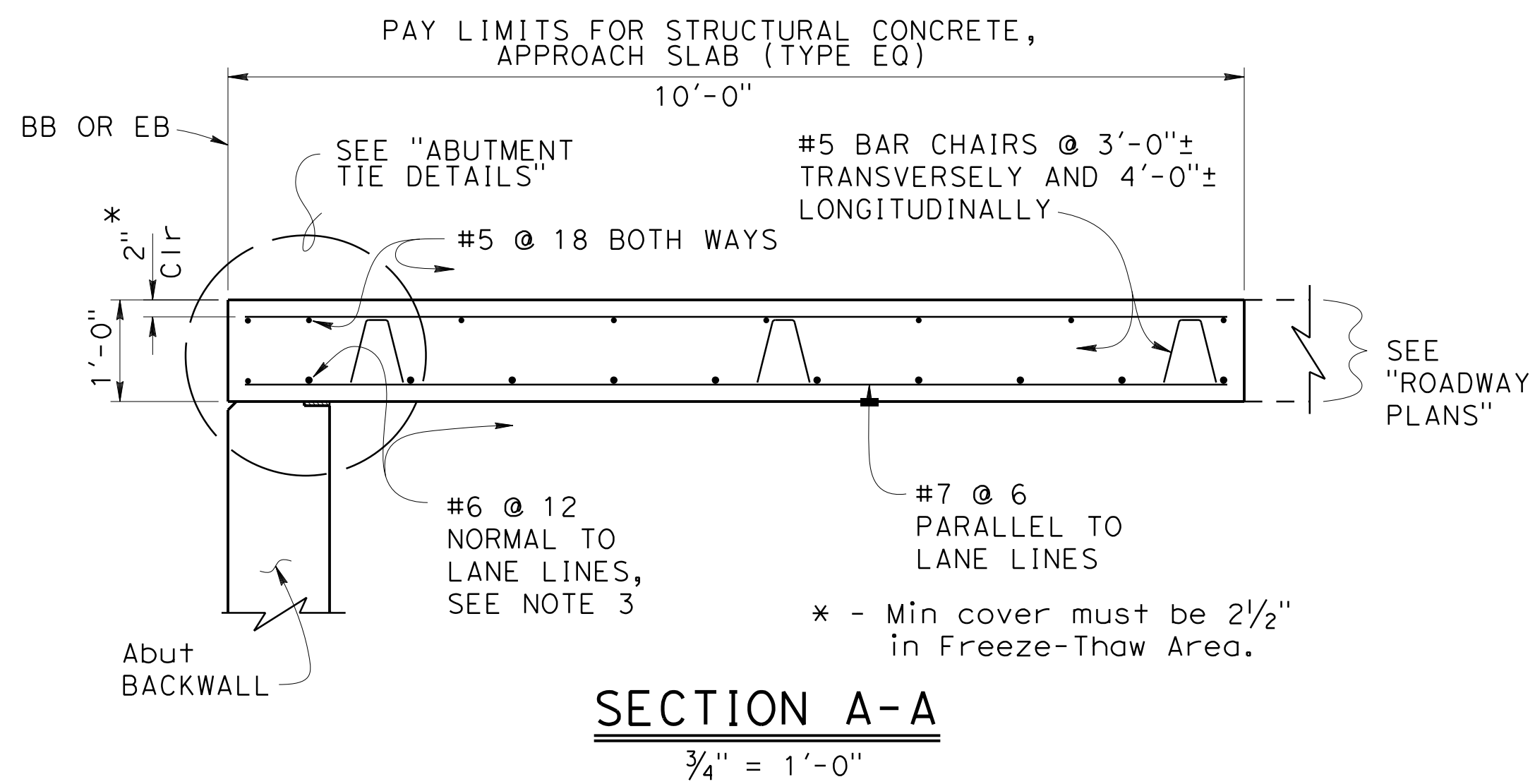
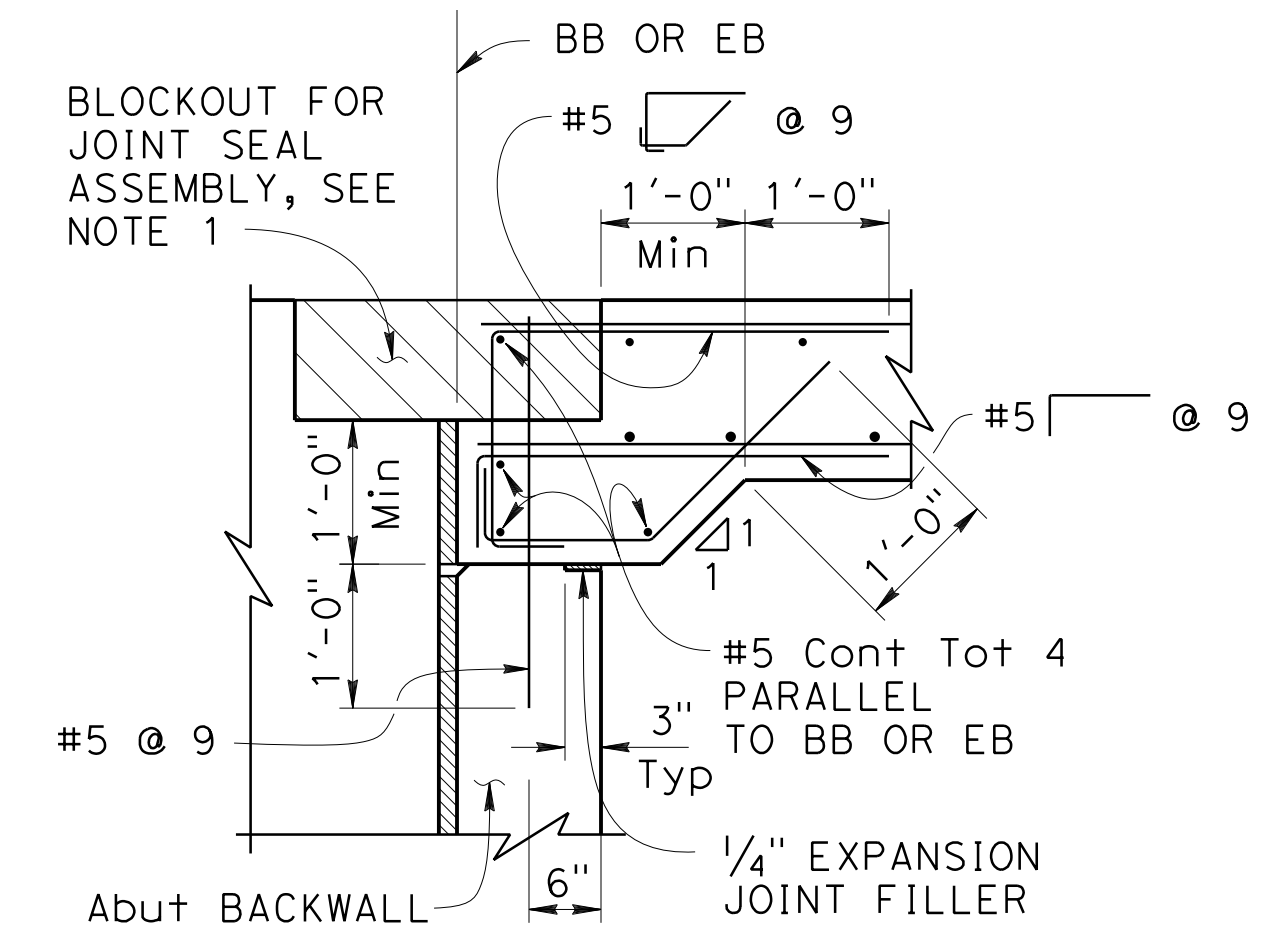
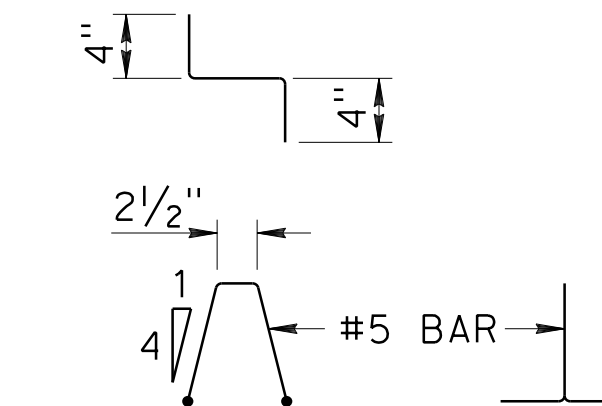
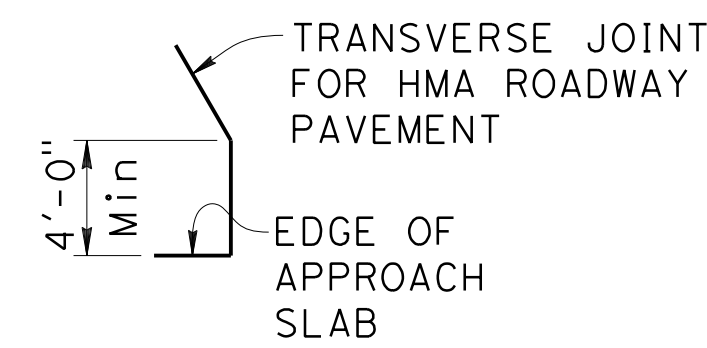
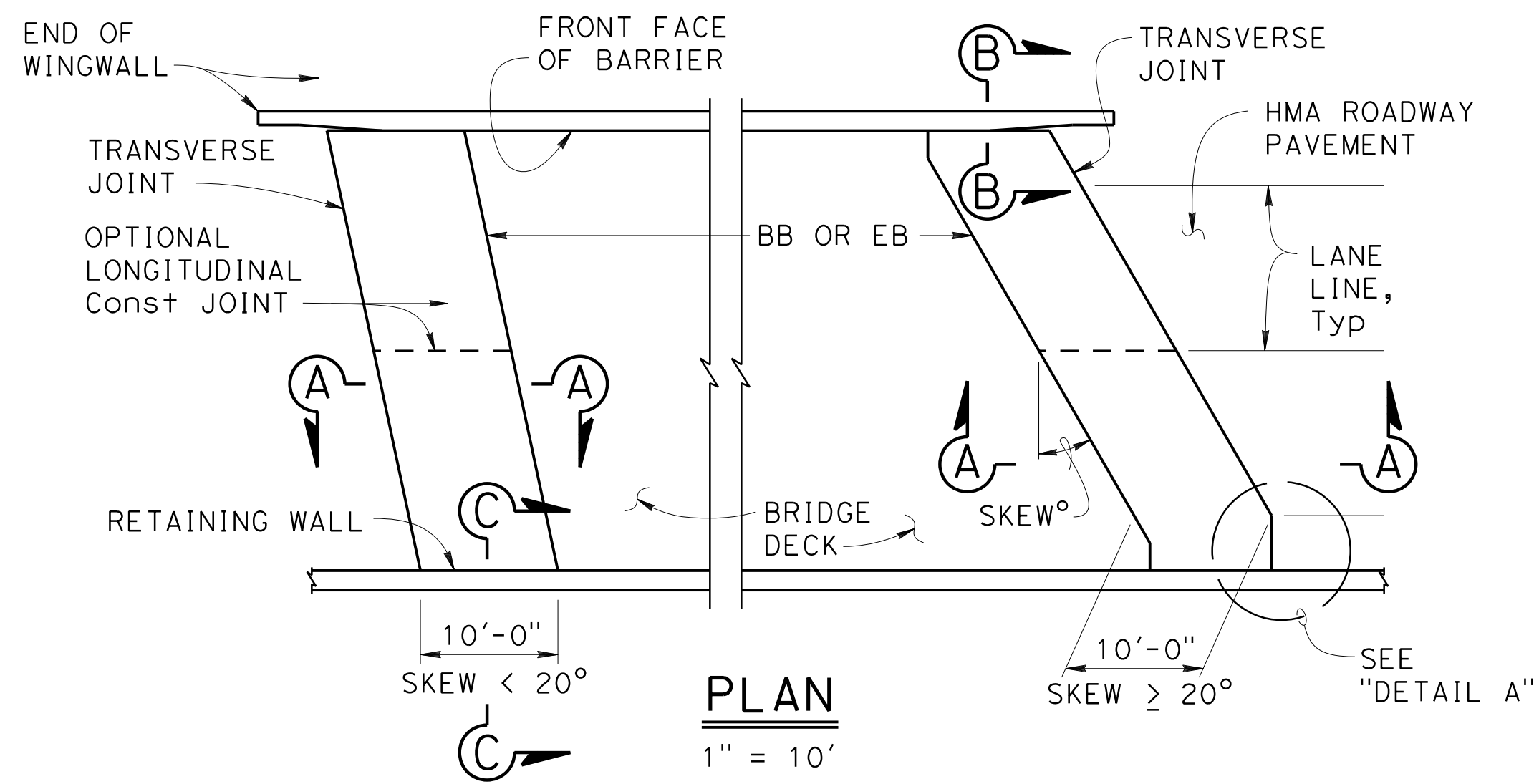
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**JOINT ARMOR FOR  
PEDESTRIAN WALKWAYS  
POEMA PLACE BRIDGE  
OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 41 OF 56

**DIGALERT**  
 DIAL TOLL FREE  
 1-800-227-2600  
 AT LEAST TWO DAYS  
 BEFORE YOU DIG

**QUINCY ENGINEERING, INC**  
 11017 Cobblestone Drive, Suite 100  
 Rancho Cordova, CA 95670



**DESIGN NOTES**

- DESIGN:** AASHTO LRFD Bridge Design Specifications, 2012 Edition with Caltrans Amendments, preface dated January 2014
- LIMIT STATES:** Service I, Strength I & II, Extreme II and Fatigue I ( $\gamma_{FAT} = 1.0$ )
- DEAD LOAD:** Includes 35 psf for future wearing surface
- LIVE LOAD:** HL93 and permit design load  
Equivalent strip width method:  $W_1 = 12$  ft  
Slab Span:  $L_1 = 7.83$  ft
- REINFORCED CONCRETE:**  
 $f_y = 60$  ksi  
 $f'_c = 3.6$  ksi  
 $n = 8$

**NOTES:**

- For joint protection details, breakout dimensions for joint seal assembly, and other details not shown, see other plans sheets. For  $MR < 2"$ , adjust reinforcement to clear sawcut for sealed joint. For  $MR > 2"$ , haunch reinforcement placed for joint seal assembly breakout must be normal to BB or EB and spaced to avoid joint seal assembly anchorage.
- End the plate or edge angle at beginning of barrier transition, end of wingwall, or end of structure approach as applicable.
- At the Contractor's option, approach slab transverse reinforcement may be placed parallel to BB or EB. Spacing of transverse reinforcement is measured along  $\bar{C}$  roadway.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MAKE CORRECTIONS NOTED  
PRECISE CALCULATIONS  
REJECTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

BY: [Signature] DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Kornek  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

PROJECT ENGINEER DATE 6-22-18

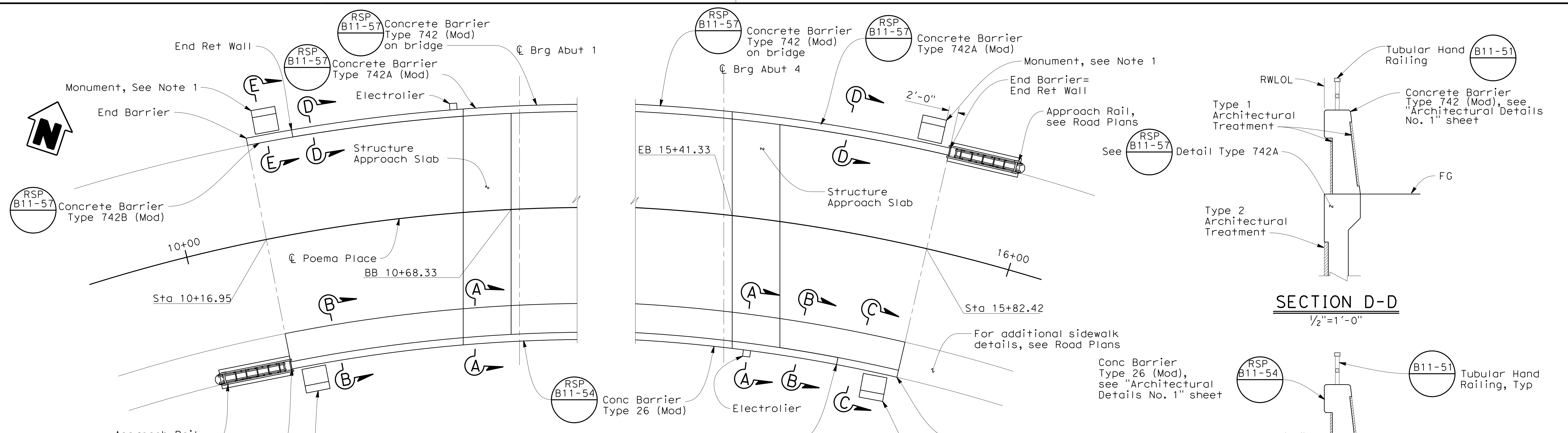
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**STRUCTURE APPROACH TYPE EQ (10)**

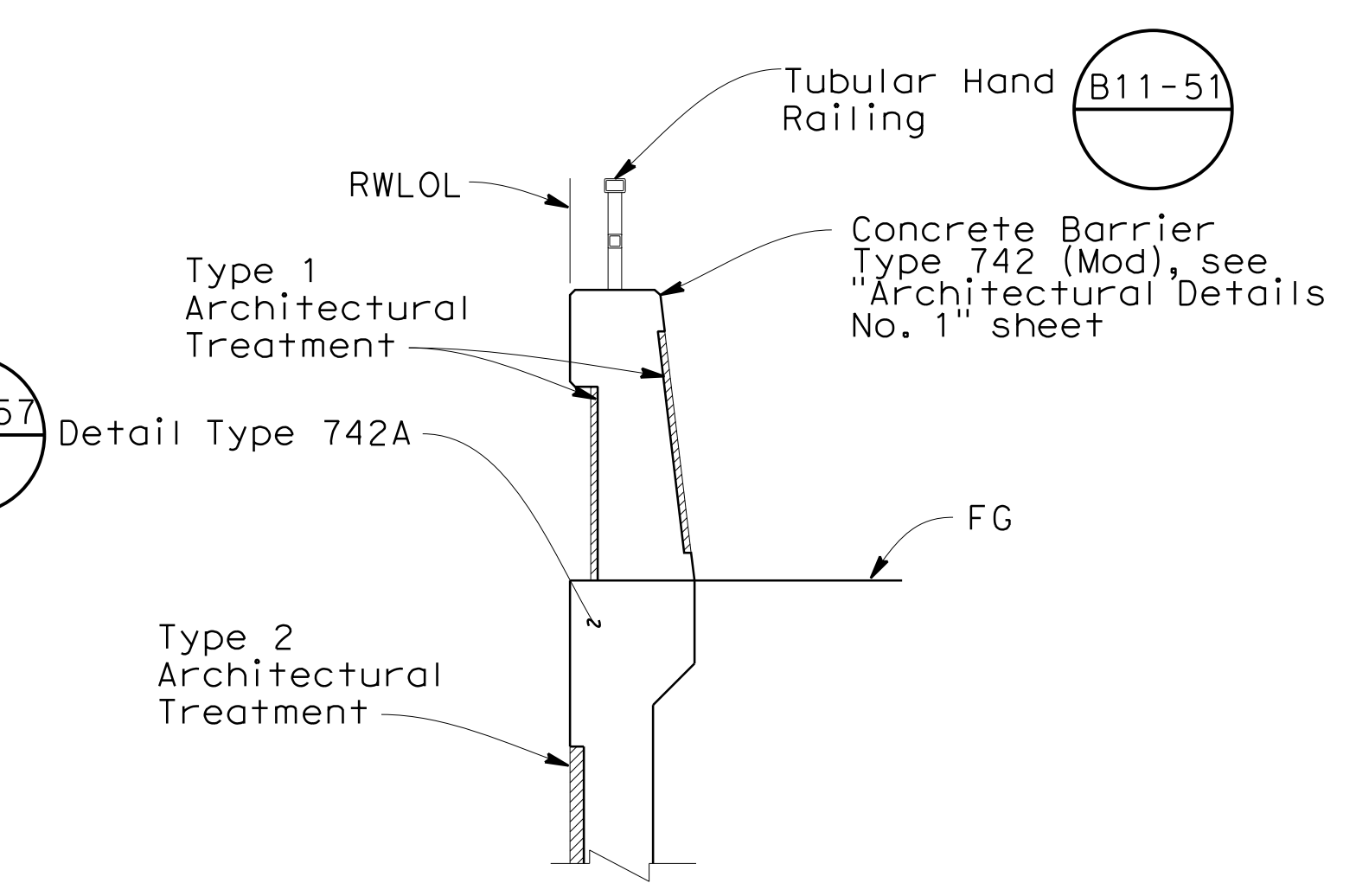
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

**DIGALERT**  
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

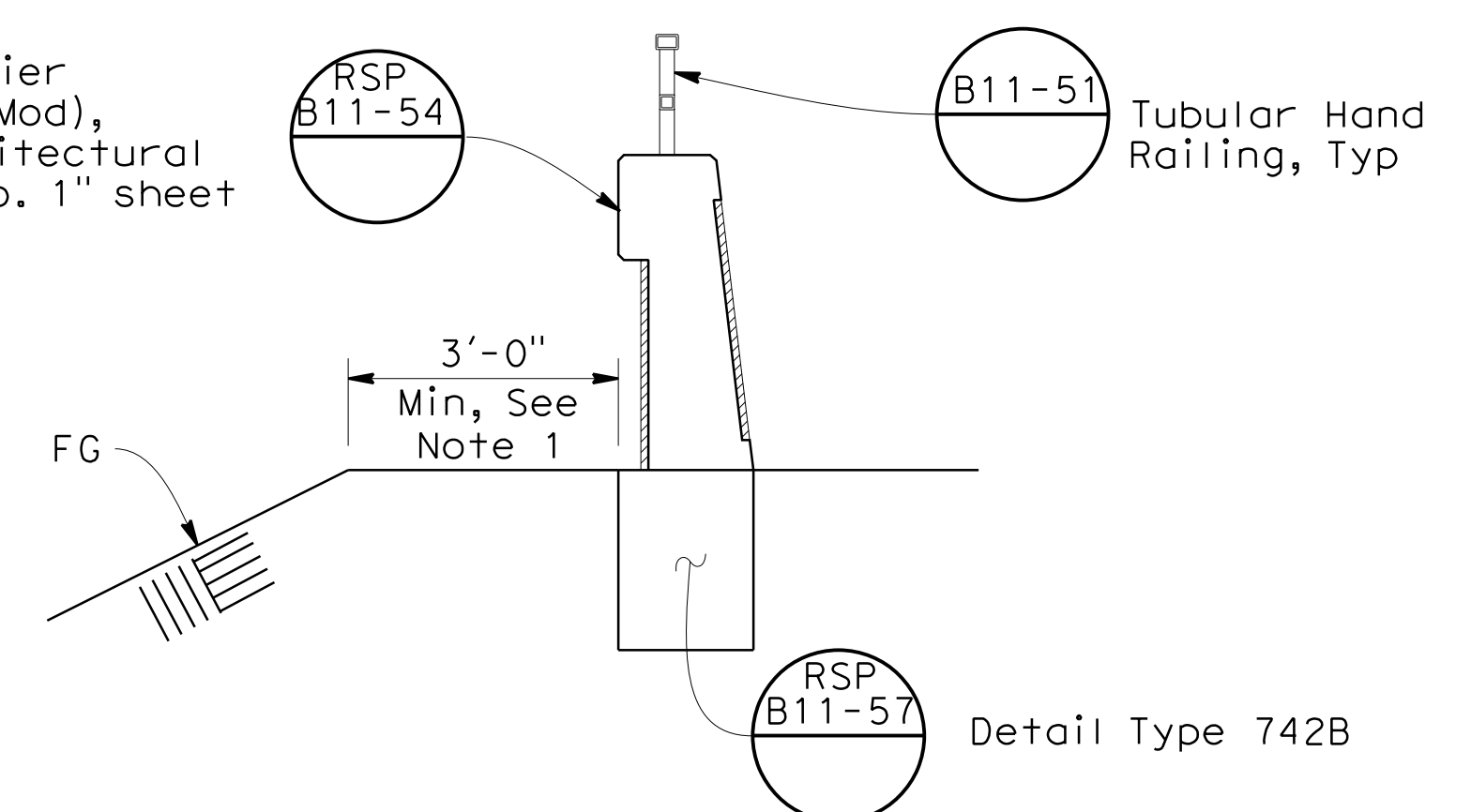
QUINCY ENGINEERING, INC  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670



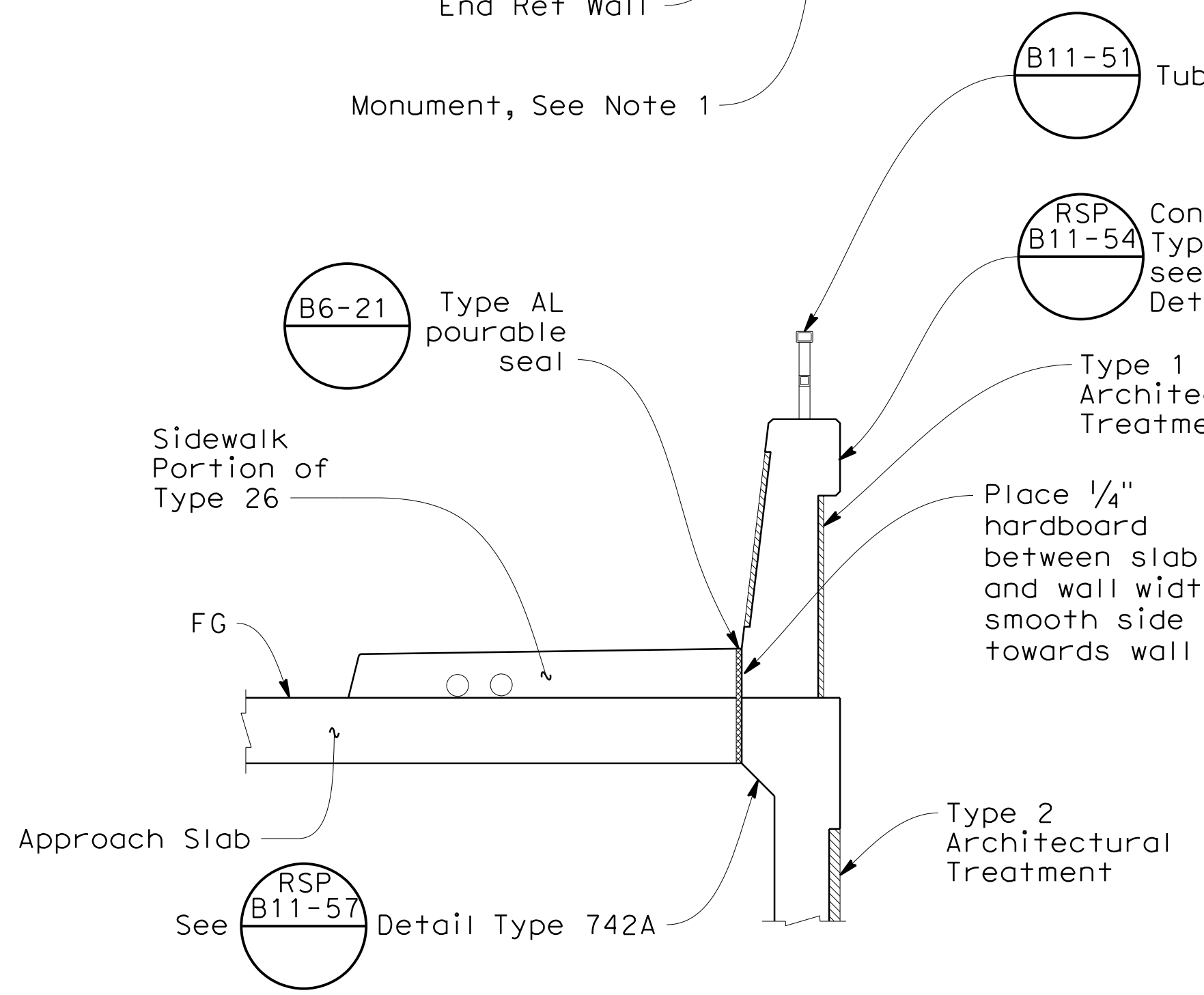
**PLAN**  
1"=10'



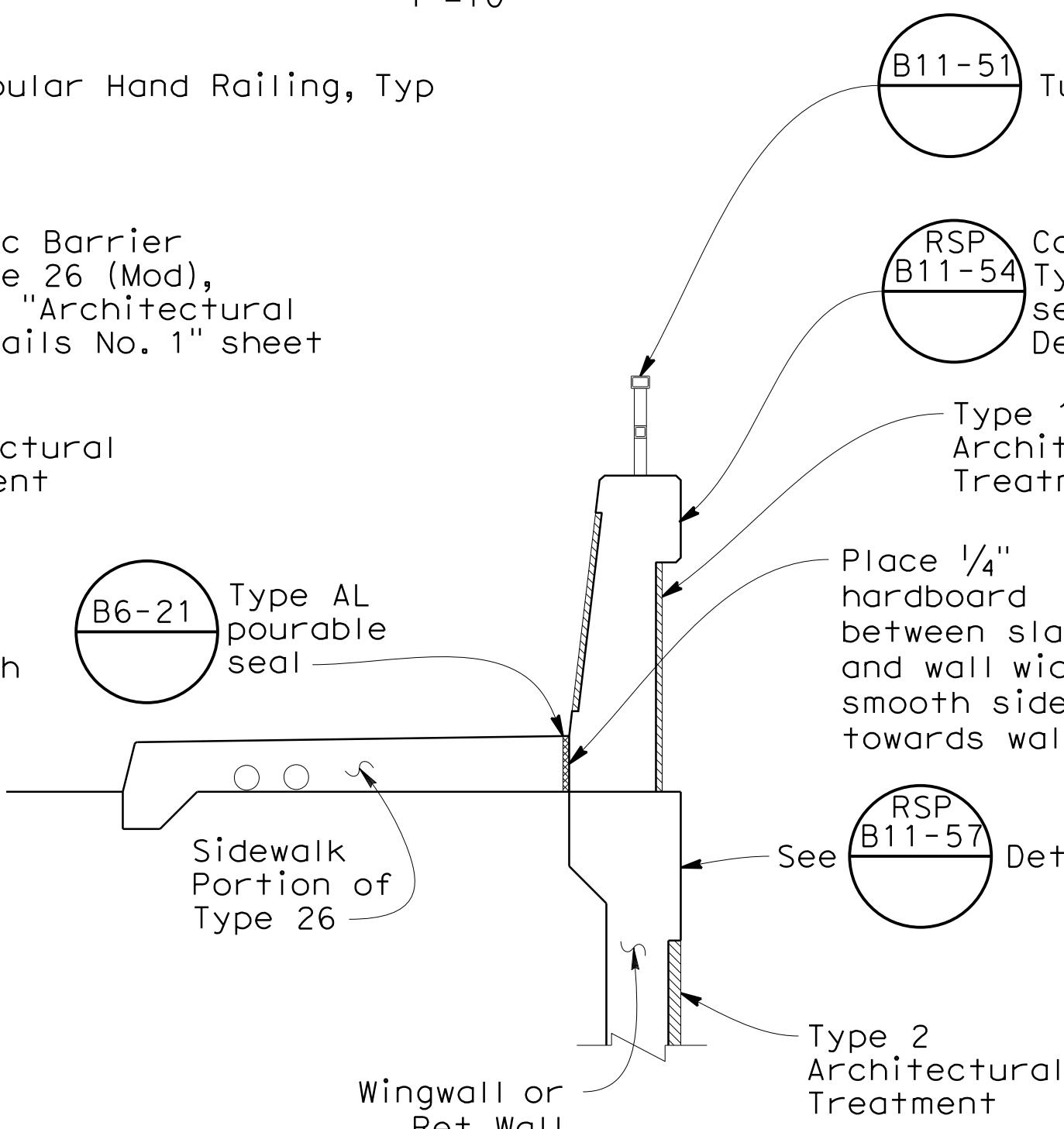
**SECTION D-D**  
1/2"=1'-0"



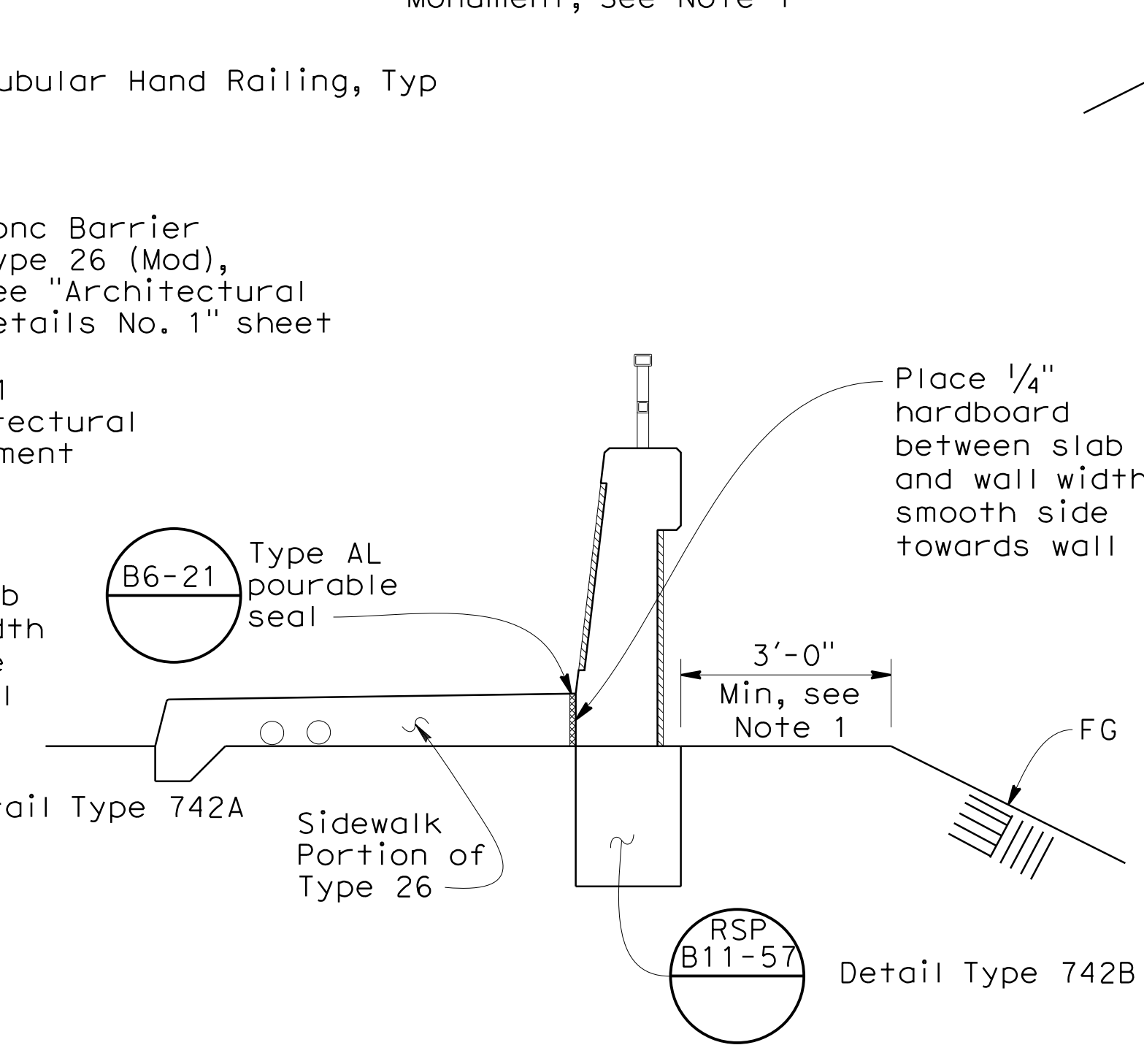
**SECTION E-E**  
1/2"=1'-0"



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



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



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

- Notes:
- For monument details, see "Architectural Details No. 3" sheet.

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
MAKE CORRECTIONS NOTED  
RECALCULATIONS  
REQUESTED

REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL COMPLIANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.

DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Karnes  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

DATE: 6-22-16

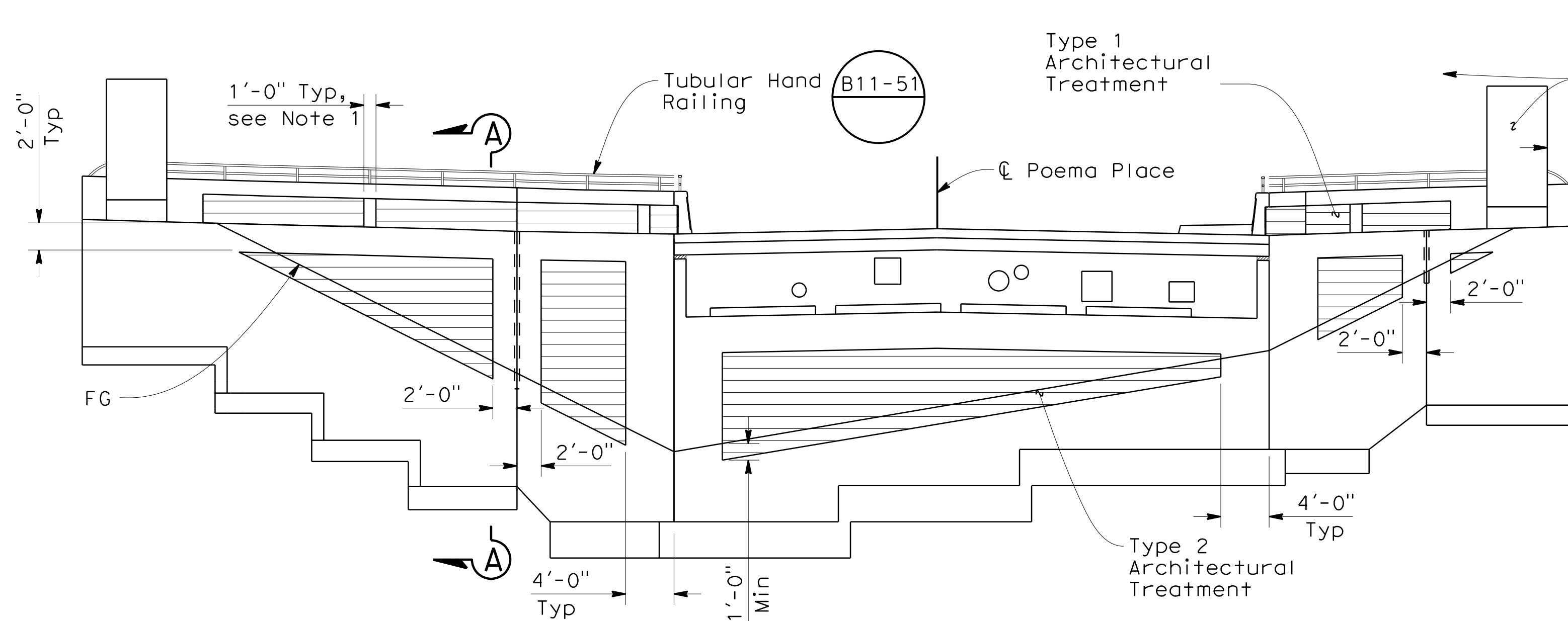
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**CONCRETE BARRIER LAYOUT**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 43 OF 56

**DIGALERT**  
DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

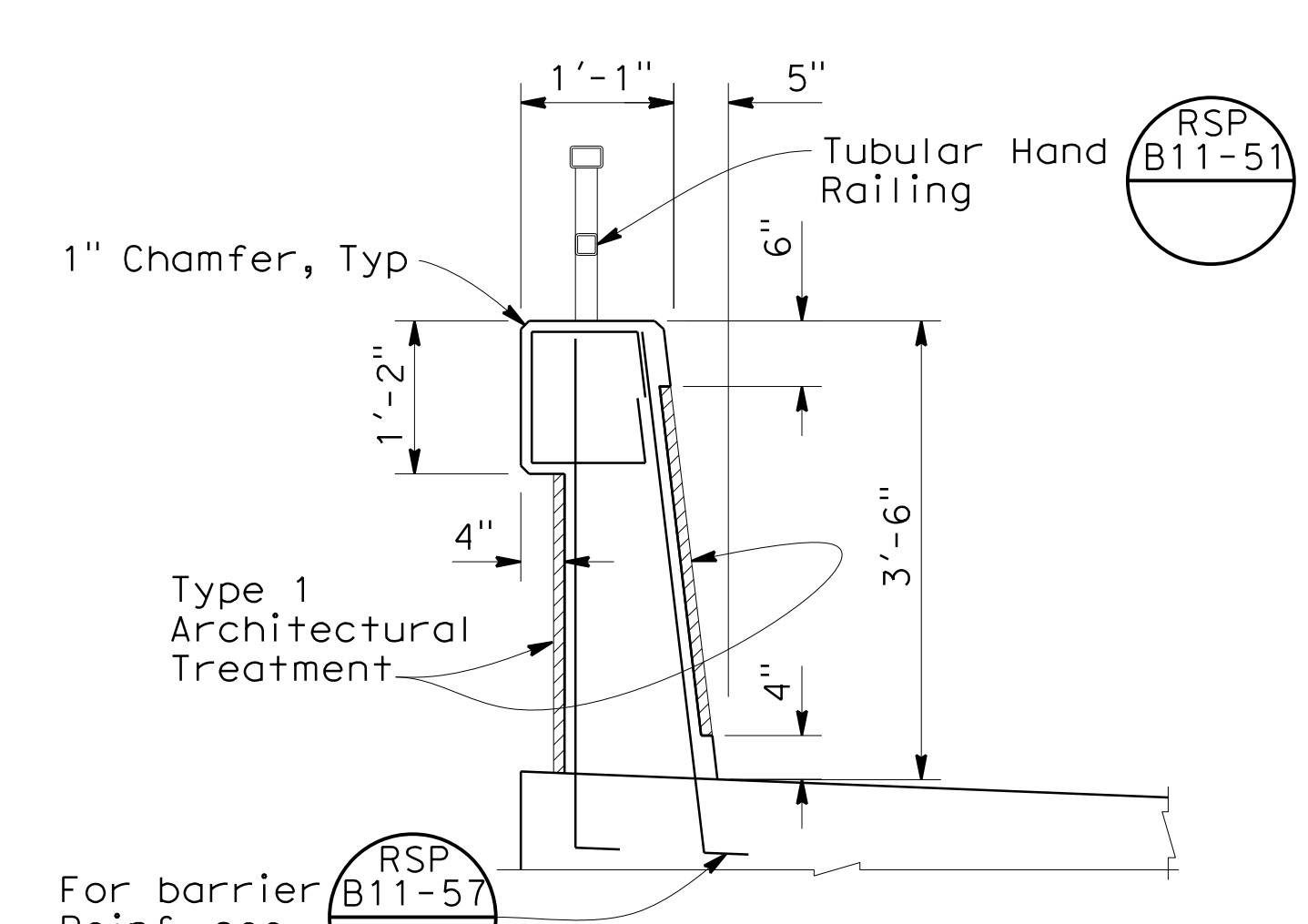


**DEVELOPED ELEVATION - ABUTMENT 4**

1/8" = 1'-0"

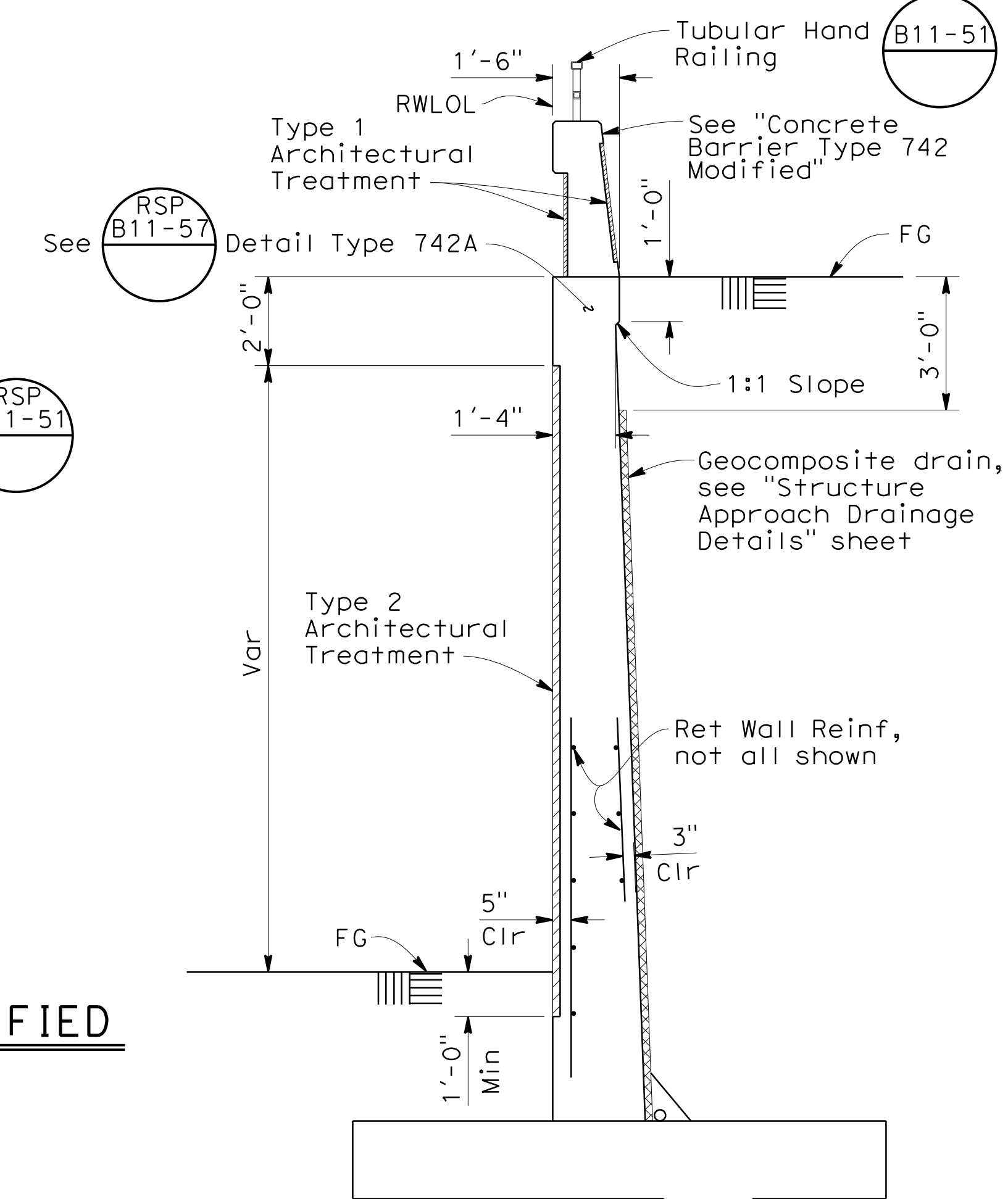
Note:

1. Plan concrete segment shall align with Tubular Hand Rail posts and shall be spaced at 18'-0"±. Provide plain concrete segments centered on barrier extension joints.



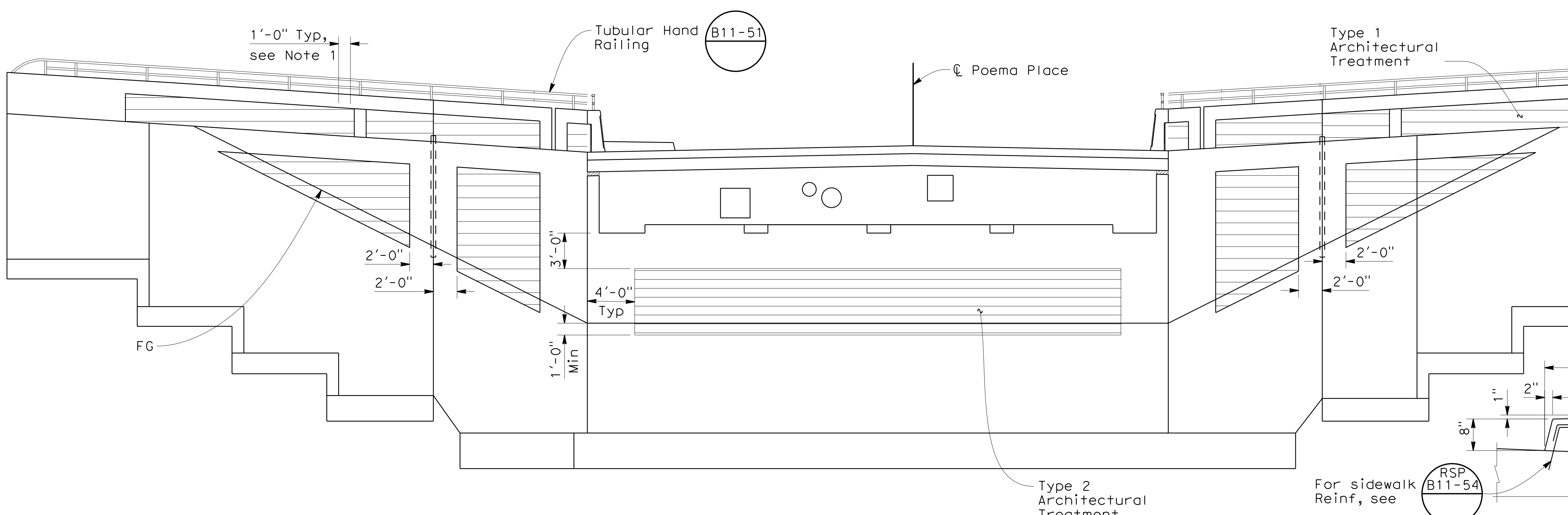
**CONCRETE BARRIER TYPE 742 MODIFIED**

3/4" = 1'-0"



**SECTION A-A**

3/8" = 1'-0"



**DEVELOPED ELEVATION - ABUTMENT 1**

3/16" = 1'-0"

For sidewalk Reinf, see RSP B11-54

**CONCRETE BARRIER TYPE 26 MODIFIED**

3/4" = 1'-0"

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
NO REVISIONS NOTED  
REVISED CALCULATIONS  
CHECKED

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DATE 8/8/16

QUINCY ENGINEERING, INC  
11017 Cobblestone Drive, Suite 100  
Rancho Cordova, CA 95670

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER  
Brett W. Karnes  
NO. C75417  
EXP. 12/31/17  
CIVIL  
STATE OF CALIFORNIA

DATE 6-22-16

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ARCHITECTURAL DETAILS NO. 1**

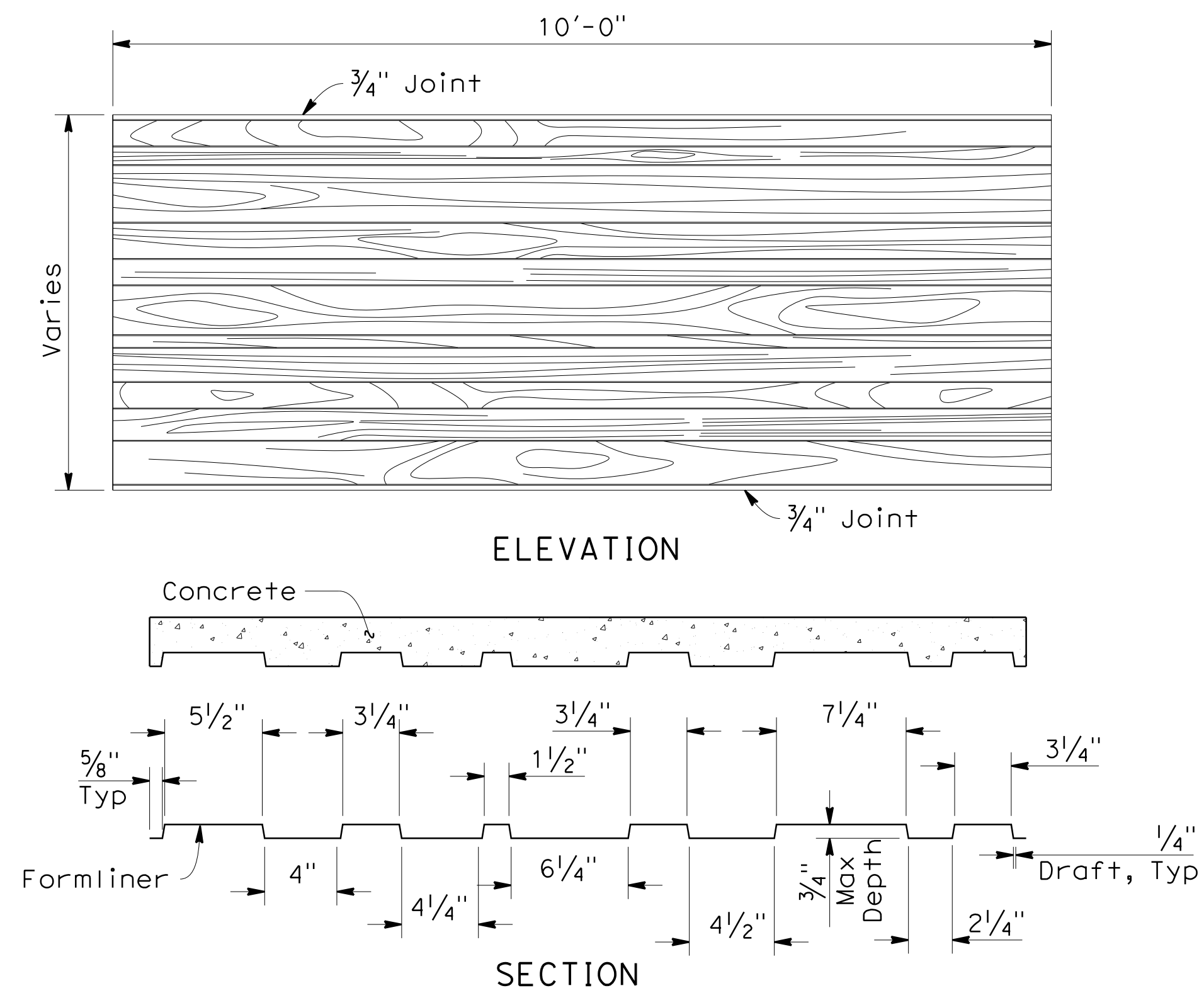
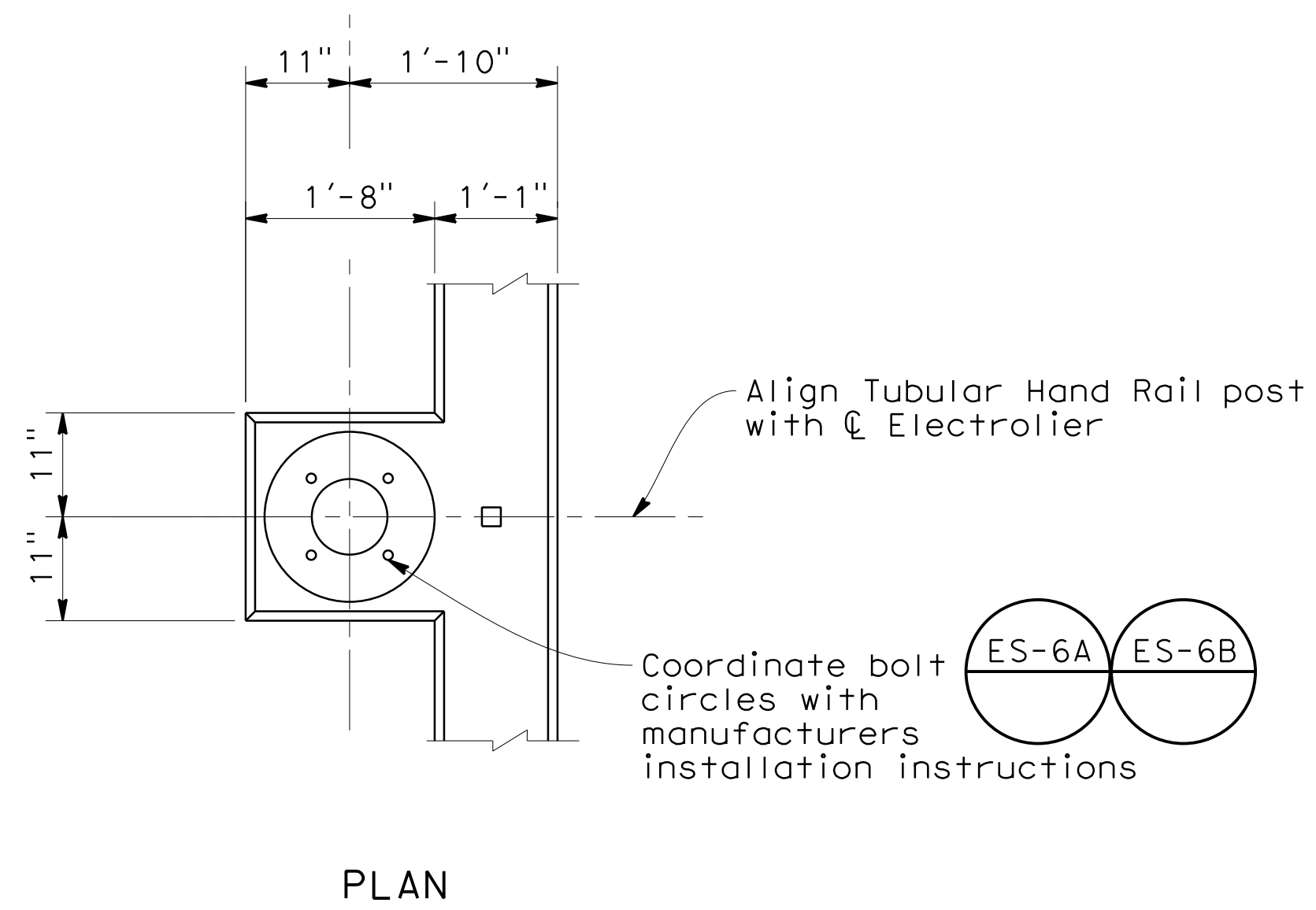
**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 44 OF 56

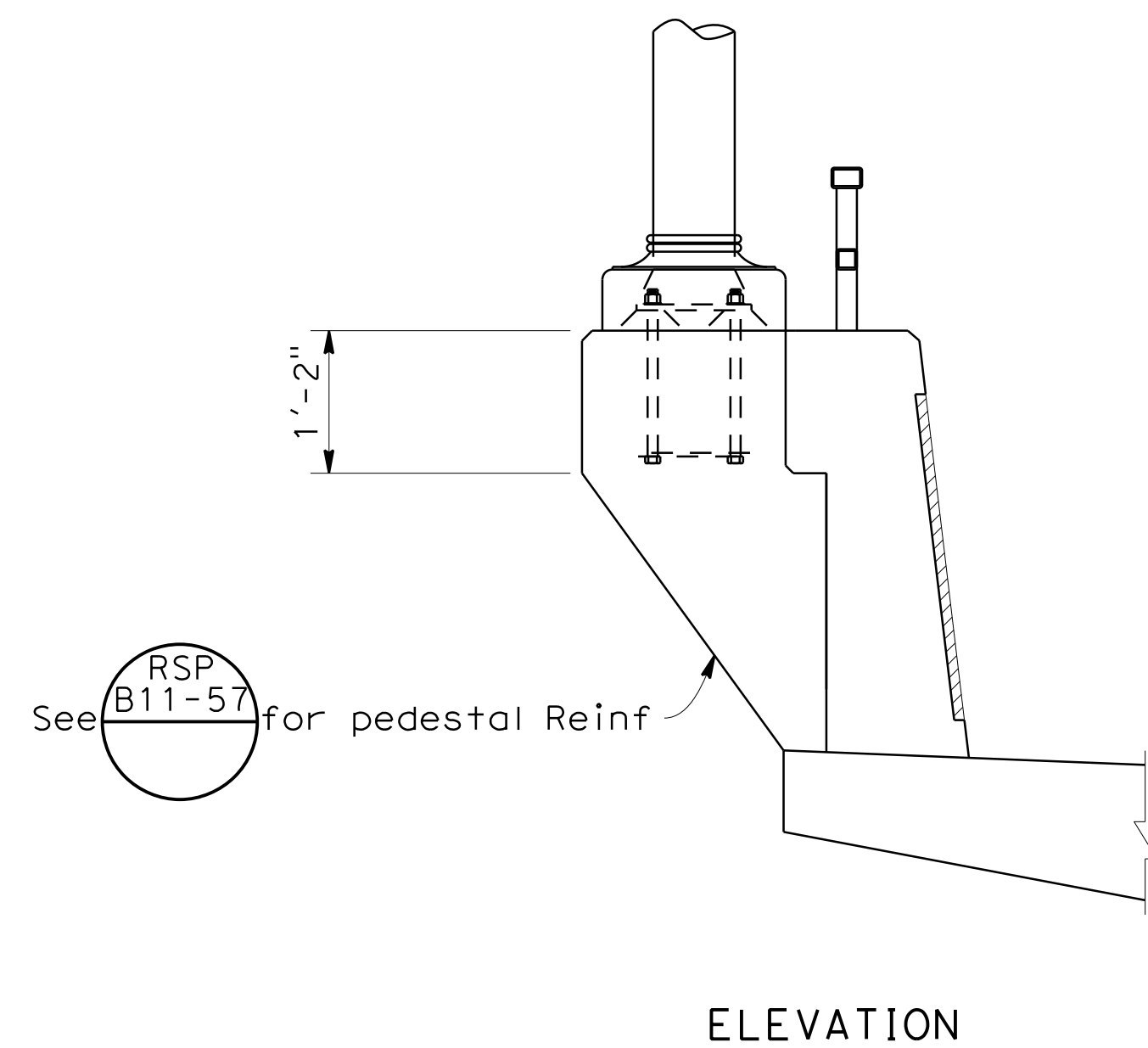
**DIGALERT**

DIAL TOLL FREE  
1-800-227-2600

AT LEAST TWO DAYS BEFORE YOU DIG

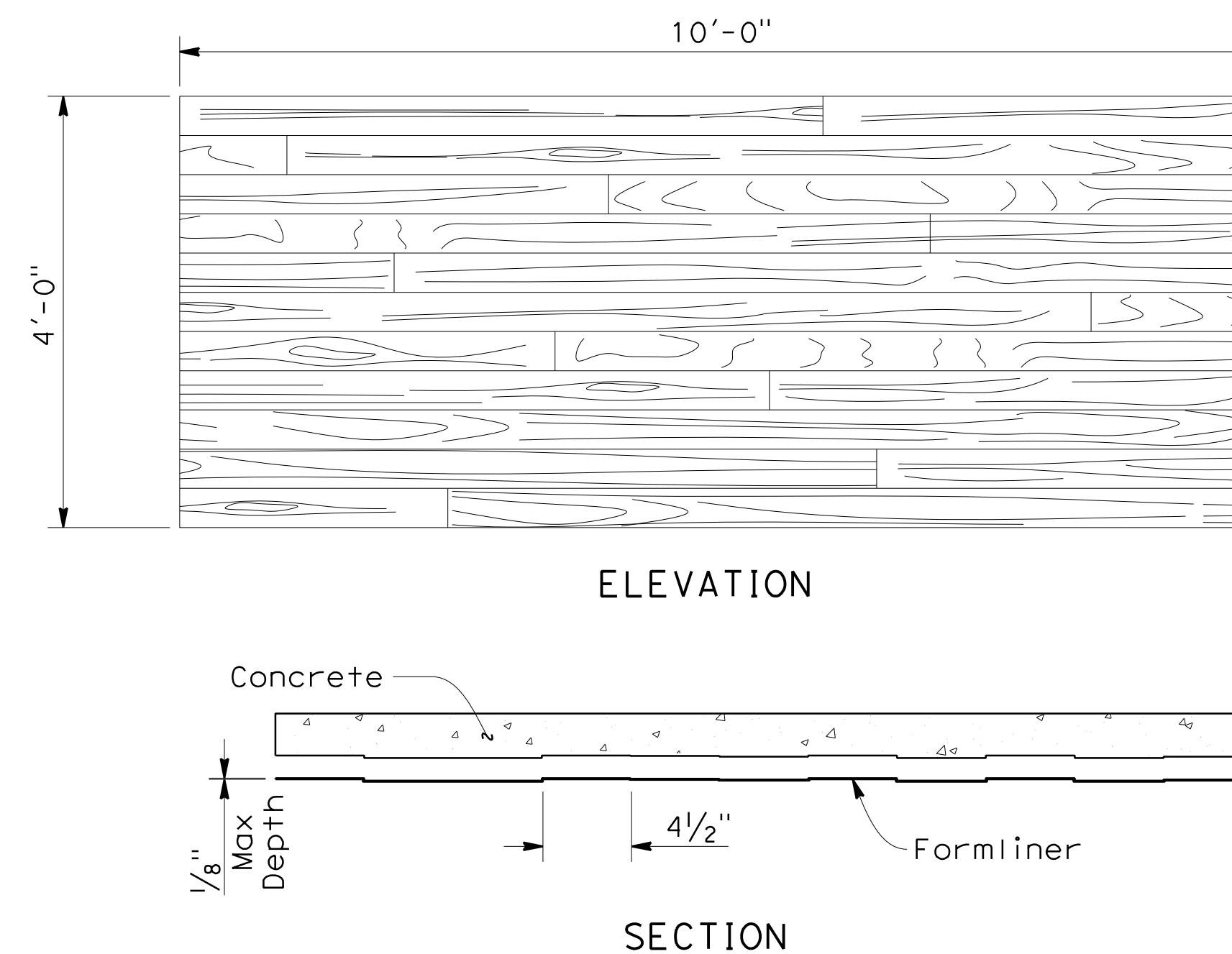


**TYPE 1 ARCHITECTURAL TREATMENT  
RANDOM WOOD FORMLINER #16920 BY FITZGERALD FORMLINERS**  
NO SCALE



Note: Detail shown at Type 742 (Mod) barrier, similar at Type 26 (Mod)

**ELECTROLIER PEDESTAL**  
 $3/4" = 1' - 0"$



**TYPE 2 ARCHITECTURAL TREATMENT  
ROUGH SAWN PLANK FORMLINER #16020 BY FITZGERALD FORMLINERS**  
NO SCALE

LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS

ACCEPTED  
 CHANGE CORRECTIONS NOTED  
 REVISE CALCULATIONS  
 REJECTED

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DATE: 8/8/16

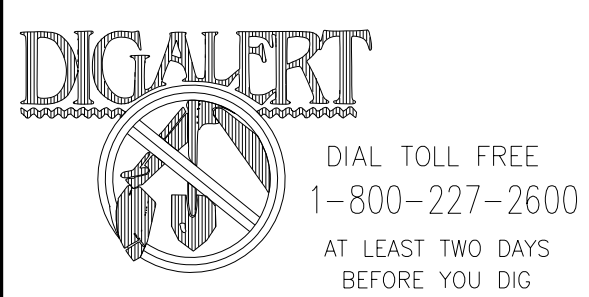
NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



Brett W. Kornek  
6-22-16  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ARCHITECTURAL DETAILS NO. 2**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

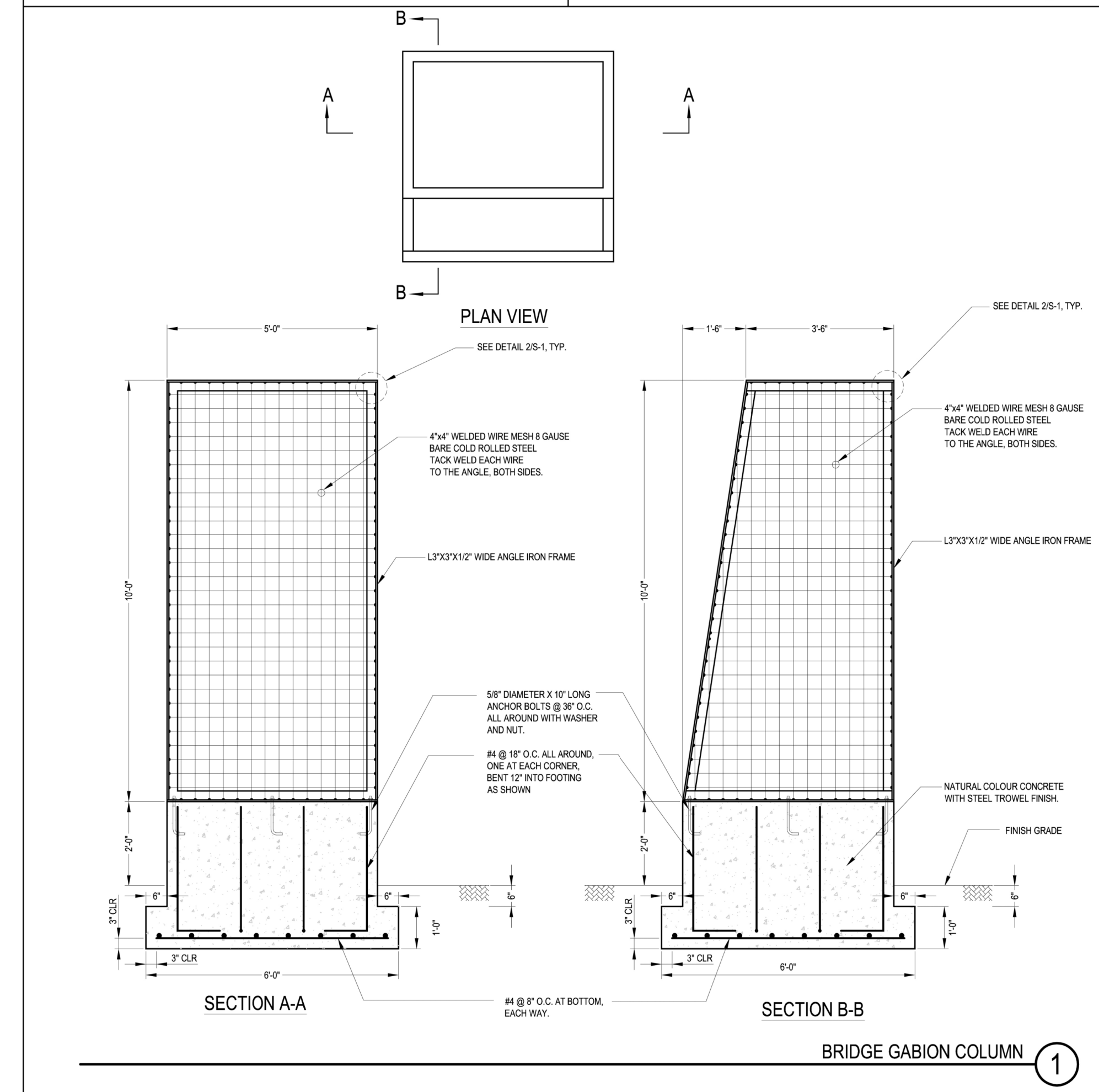
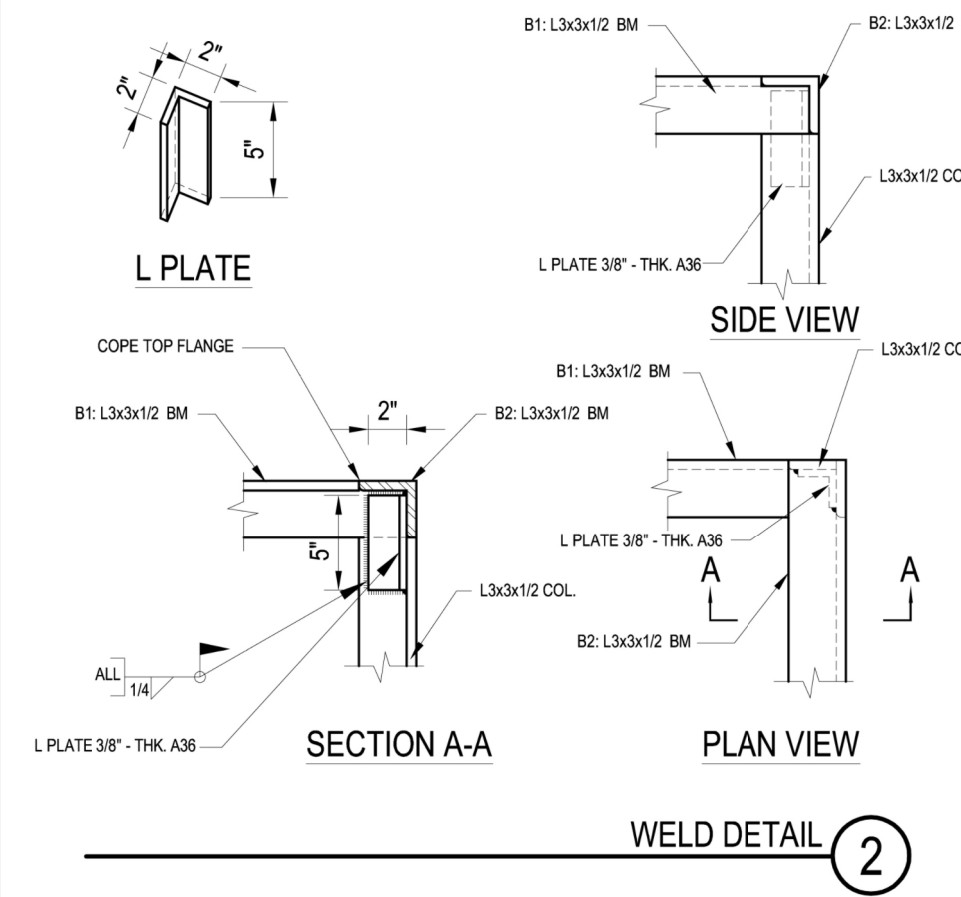


QUINCY ENGINEERING, INC  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670



Core Structure, Inc.  
23172 Plaza Pointe Dr.  
Suite #145  
Laguna Hills, CA 92653  
Phone: 949-954-7244  
info@corestructure.com

PROJECT NAME:  
**BRIDGE GABION COLUMN**



ARCHITECT:  
N/A

DEVELOPER:  
N/A

ADDRESS:  
N/A

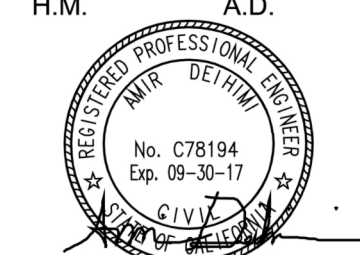
REVISIONS

NO.	DATE	DESCRIPTION

SHEET NAME:  
BRIDGE GABION COLUMN

PROJECT NUMBER:  
50135

DESIGNED BY: H.M.  
CHECKED BY: A.D.



PLOT DATE:  
11/26/2015

SHEET NUMBER:  
**S-1**

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS	
<input checked="" type="checkbox"/>	ACCEPTED
<input type="checkbox"/>	REMARKS CORRECTIONS NOTED
<input type="checkbox"/>	REVISIONS CALCULATIONS
<input type="checkbox"/>	REJECTED
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLATION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATIONS.	
BY: _____	DATE: 8/8/16

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**ARCHITECTURAL DETAILS NO. 3**

**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

PROJECT ENGINEER	DATE	RD 53138	BR. 4200	PB642453	SHEET 46 OF 56
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**QUINCY ENGINEERING, INC**  
11017 Cobblecreek Drive, Suite 100  
Rancho Cordova, CA 95670



**GENERAL NOTES:**

- ALL ELECTRICAL WORK SHALL CONFORM TO THE COUNTY OF LOS ANGELES STANDARD PLANS AND SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS DATED 2010, SUBSEQUENT REVISED STANDARD PLANS, AND THE SPECIAL PROVISIONS.
- THESE STREETLIGHT PLANS EXPIRE TWO YEARS AFTER THE LATEST DATE OF APPROVAL.
- THE LOCATION OF A STREETLIGHT MAY ONLY BE ADJUSTED IN THE FIELD UP TO TEN (10) FEET, ONLY TO AVOID AN OBSTRUCTION SUCH AS A CATCH BASIN, DRIVEWAY, ETC. ANY DEVIATION EXCEEDING TEN (10) FEET MUST HAVE THE APPROVAL OF THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS, STREET LIGHTING SECTION. IF SUCH APPROVAL IS NOT OBTAINED, THE STREETLIGHTS PROPOSED BY THIS PLAN WILL NOT BE ACCEPTED BY COUNTY LIGHTING MAINTENANCE DISTRICT.
- REVISED STREET LIGHTING PLANS SHALL BE SUBMITTED FOR ANY CHANGES IN THE MAP, SUCH AS STREET ALIGNMENT, LOT OR PARCEL SIZES, BOUNDARIES, ETC.
- THE STREETLIGHT POLE ON BRIDGE SHALL BE TWENTY (20) FEET HAPCO POLE OR AGENCY APPROVED EQUAL.
- LUMINAIRE SHALL BE LIGHT-EMITTING DIODE (LED).
- FIVE (5) FOOT CLEARANCE TO BE MAINTAINED FROM THE FIRE HYDRANT.
- FOUR (4) FOOT CLEARANCE TO BE MAINTAINED FROM TOP OF SLOPE AT COMMERCIAL DRIVEWAY, AND TWO (2) FOOT CLEARANCE FROM RESIDENTIAL DRIVEWAY AND CURB RAMPS.
- ALL WORK SHALL BE IN ACCORDANCE TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SECTION 700, UNLESS OTHERWISE NOTED ON THE PLAN.
- ALL WORK IN THE PUBLIC RIGHT-OF-WAY SHALL BE PER THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS' STANDARDS, CODES, AND PERMIT REQUIREMENTS, AND TO THE SATISFACTION OF PUBLIC WORKS.
- PULL BOXES SHALL BE PLACED ADJACENT TO THE PROPOSED STREETLIGHTS WITH MINIMUM FIVE (5) FEET CLEARANCE FROM THE SIDE OF THE FOUNDATION FOR EACH STREETLIGHT STANDARD TO FACILITATE MAINTENANCE OF THE INDIVIDUAL STREETLIGHT.
- PULL BOXES SHALL BE No. 5 (10"x17"x24") WITH CONCRETE COVER INSCRIBED "STREET LIGHTING HIGH VOLTAGE", UNLESS OTHERWISE NOTED ON THE PLAN.
- STREETLIGHTS SHALL BE ERECTED SO THAT THE BASE DOOR IS FACING THE STREET.
- LS-3 STREETLIGHT FOUNDATION SHALL BE IN ACCORDANCE WITH DETAIL STANDARD AS SHOWN ON THE PLAN.
- FOUNDATION CAPS SHALL BE THE SAME COLOR, FINISH, AND MATERIAL AS THE ADJACENT SIDEWALK, AND BE A MINIMUM OF FOUR (4) INCHES THICK. THE FOUR (4) INCHES THICK PCC CAP SHALL BE CONSTRUCTED TO THE BACK OF THE ROADWAY CURB.
- PROPOSED LS-3 STREETLIGHT FOUNDATIONS, PEDESTALS, PULL BOXES AND OTHER ASSOCIATED LS-3 STREETLIGHT SYSTEM APPURTENANCES SHALL BE INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY.
- CONTRACTOR SHALL LOCATE AND PROTECT SUBSTRUCTURE(S) AND SHALL PROVIDE A MINIMUM TWELVE (12) INCH HORIZONTAL CLEARANCE BETWEEN FOUNDATION AND SUBSTRUCTURES. IN THE EVENT THAT A TWELVE (12) INCH CLEARANCE CANNOT BE ACHIEVED, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR RELOCATION OF SUBSTRUCTURES AT NO COST TO THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS.
- STREETLIGHTS SHALL BE CONSTRUCTED PER THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS APPROVED PLAN. STREETLIGHTS NOT CONSTRUCTED ACCORDING TO THE APPROVED PLAN SHALL BE REMOVED AND RELOCATED AT NO COST TO THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS.
- THE DEVELOPER AND/OR APPLICANT SHALL COORDINATE WITH SCE FOR THE LOCATION OF THE SERVICE PEDESTAL PRIOR TO THE APPROVAL OF THE STREETLIGHT PLAN.

- CONTRACTOR SHALL REPAIR AT HIS COST THE DAMAGE CAUSED TO ANY EXISTING UNDERGROUND UTILITY DURING THE CONSTRUCTION OF STREETLIGHTS.
- ALL CONDUITS FROM PULL BOX TO STREETLIGHT SHALL BE ONE AND A HALF (1 1/2) INCHES UL APPROVED PVC SCHEDULE 80, UNLESS OTHERWISE SPECIFIED.
- ALL CONDUIT FROM PULL BOX TO PULL BOX SHALL BE THREE (3) INCHES UL APPROVED PVC SCHEDULE 80, UNLESS OTHERWISE SPECIFIED.
- ALL CONDUITS FROM SERVICE PEDESTAL TO PULL BOX SHALL BE THREE (3) INCHES UL APPROVED PVC SCHEDULE 80, UNLESS OTHERWISE SPECIFIED.
- ALL CONDUITS SHALL BE LAID TO A DEPTH OF NOT LESS THAN THIRTY (30) INCHES BELOW THE GUTTER FLOW LINE, UNLESS OTHERWISE SPECIFIED. FOR DETAILS, SEE ATTACHMENT 1, EXHIBIT L-4.
- ALL SPLICES BELOW GRADE SHALL BE WATERTIGHT, TAPED AND SCOTCHKOTED.
- IT WILL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR APPLICANT TO FURNISH AND CONSTRUCT ALL THE STREETLIGHT IMPROVEMENTS INCLUDING INSTALLATION OF UNDERGROUND CONDUIT SYSTEM, PULL BOXES, PULL ROPES, STUB-OUTS, CONDUCTORS, FOUNDATIONS, POLES, MAST ARMS, SERVICE PEDESTALS AND CABINETS, STREETLIGHTS, AND ALL OTHER NECESSARY APPURTENANCES IN ACCORDANCE TO COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS' STANDARDS.
- SCE OR ITS CONTRACTOR WILL INSTALL NEW TRANSFORMER, RISER, AT THE SCE SERVICE POINT, AND PROVIDE SERVICE CONNECTION. ALL COSTS TO BE PAID BY THE DEVELOPER AND/OR APPLICANT.
- ALL CONDUIT WORK BETWEEN SCE SERVICE POINT AND THE PROPOSED SERVICE PEDESTAL SHALL CONFIRM TO SCE STANDARDS, PUBLISHED IN SCE'S UNDERGROUND STRUCTURES STANDARD MANUAL (UGS), AVAILABLE AT WWW.SCE.COM AND THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, SECTION 86, UNLESS OTHERWISE NOTED ON THE PLANS.
- SERVICE PEDESTAL SHALL BE INSTALLED WITH CABINET ACCESS DOOR FACING THE STREET.
- ALL STREETLIGHTS SHOWN ON THIS PLAN SHALL BE ENERGIZED PRIOR TO ACCEPTANCE OF THE LIGHTING SYSTEM TO A COUNTY LIGHTING MAINTENANCE DISTRICT. THE DEVELOPER AND/OR APPLICANT SHALL ENSURE THAT ALL REQUIRED ELECTRICAL INSPECTIONS ARE COORDINATED WITH SCE AND THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS' INSPECTOR PRIOR TO COVERING OR ENERGIZING THE LIGHTING SYSTEM.
- ALL STREETLIGHT IMPROVEMENTS SHALL BE COMPLETED IN ACCORDANCE TO COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS' APPROVED STREETLIGHT PLANS PRIOR TO THE ACCEPTANCE OF THE STREET LIGHTING SYSTEM TO A COUNTY LIGHTING MAINTENANCE DISTRICT.
- PRIOR TO ACCEPTANCE OF THE WORK, THE DEVELOPER AND/OR APPLICANT SHALL SUBMIT ONE COMPLETE SET OF "AS-BUILT" PLANS AND ANY PERTINENT DATA AS REQUIRED BY THE ENGINEER SHOWING IN DETAIL ALL CONSTRUCTION CHANGES.
- ALL CONDUITS TO BE INSTALLED FOR THE STRUCTURE MUST BE STATE TYPE 1 CONDUIT.
- PROPOSED LED STREET LIGHTS SHALL HAVE 7 PIN SOCKETS AND DIMMABLE CAPABILITY READY.

**LEGEND:**

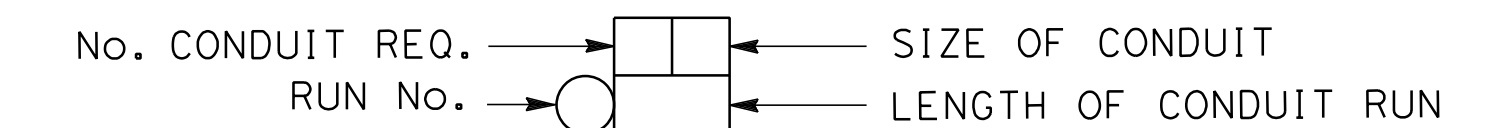
- C1
- FURNISH AND INSTALL PHILIPS HADCO SWAN LEDGINE (MODEL NO. C13386-H2NW32A3NA), 45 3/4" SINGLE ARM (MODEL NO. CA13386-P4HNPM), AND 20' HAPCO POLE (MODEL NO. B33942). SEE MOUNTING DETAIL ON STRUCTURAL PLANS.
- STREET LIGHT CONDUIT. SIZE PER PLAN.
- SOUTHERN CALIFORNIA EDISON SERVICE POINT
- FURNISH AND INSTALL SERVICE PEDESTAL.
- FURNISH AND INSTALL No. 5 PULL BOX, UNLESS OTHERWISE SPECIFIED.

**ABBREVIATION(S):**

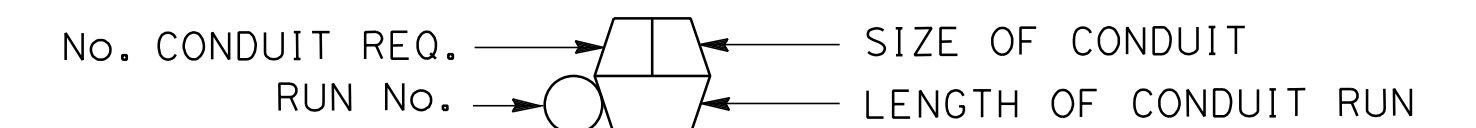
SCE SOUTHERN CALIFORNIA EDISON

**LEGEND OF CONDUIT SYMBOLS:**

MAIN LINE CONDUIT



STREET LIGHT CONDUIT

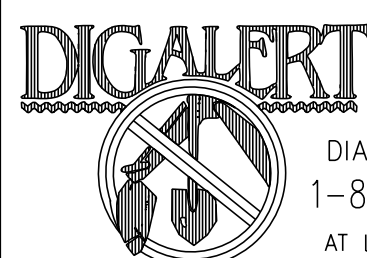


RUN NUMBER CALL-OUTS AS FOLLOWS:

- ① - ⑱ MAINLINE CONDUIT
- ④① - ④⑧ STREET LIGHT CONDUIT

**SERVICE PLANNER CONTACT:**

SANDRA BROOKS  
SOUTHERN CALIFORNIA EDISON  
10180 TELEGRAPH RD  
VENTURA, CA 93004  
T: 805-651-7123  
EMAIL: SANDRA.BROOKS@SCE.COM

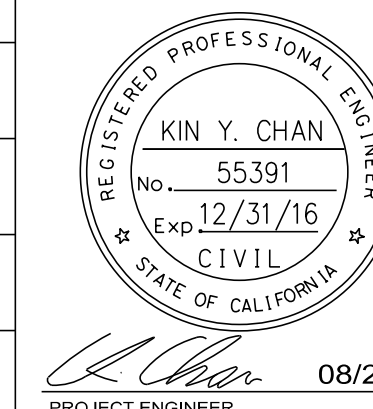


DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

**Y & C TRANSPORTATION CONSULTANTS, INC.**  
3250 RAMOS CIRCLE  
SACRAMENTO, CA 95827  
(916) 366-8000 FAX: (916) 366-8008

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS  
APPROVAL FOR INSTALLATION  
BY: *Jeffrey Chow*  
R.C.E. No. C67117 DATE August 23, 2016

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			
<b>STREET LIGHTING PLAN No. 1</b>			
<b>POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK</b>			
RD 53138	BR. 4200	PB642453	SHEET 47 OF 56

**NOTES:**

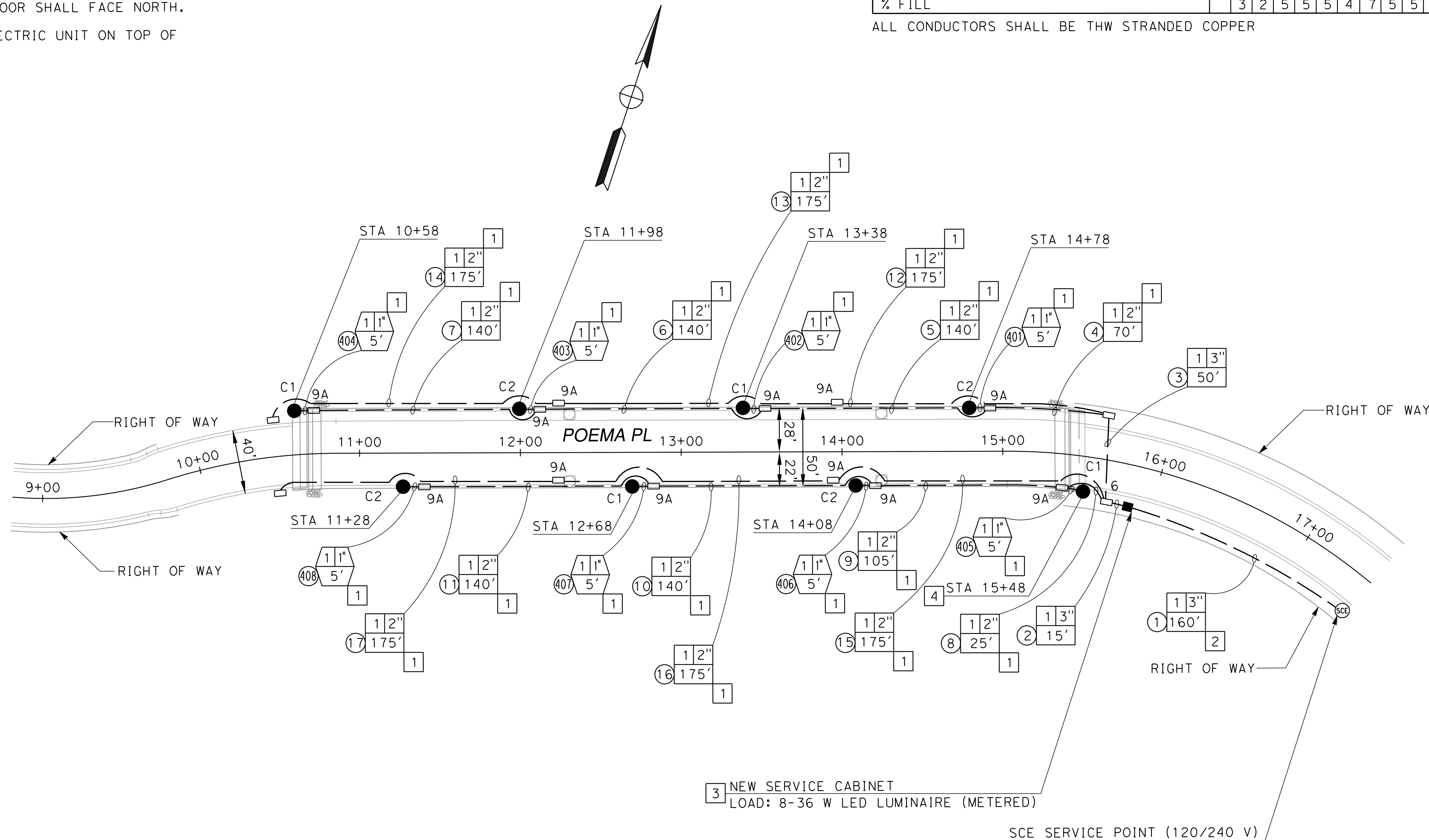
SEE SHEET SL-1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.

**CONSTRUCTION NOTES: (FOR THIS SHEET ONLY)**

- 1 FURNISH AND INSTALL TYPE 1 CONDUIT INSIDE THE BARRIER.
- 2 CONTACT SCE FOR SERVICE CONNECTION.
- 3 FURNISH AND INSTALL A NEW SERVICE CABINET. SEE CIRCUIT DIAGRAM ON SHEET SL-3. FOR WIRING DIAGRAM AND SERVICE PEDESTAL DETAILS SEE STANDARD PLAN 403-1, SHEET 6 OF 6. FRONT DOOR SHALL FACE NORTH.
- 4 FURNISH AND INSTALL PHOTOELECTRIC UNIT ON TOP OF POLE.

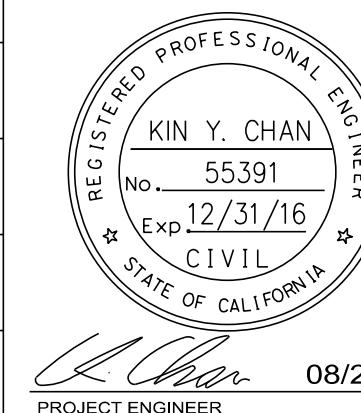
CONDUCTOR SCHEDULE	No. OF CONDUCTORS																											
	CONDUIT RUN NUMBER																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
No. 14 PHOTOELECTRIC UNIT																												
No. 10 CONDUCTORS																												
LIGHTING (240 V) - CIRCUIT 1 (C1)	2	2	2	2	2	2	2	2	2											2	2	2	2	2	2	2	2	
LIGHTING (240 V) - CIRCUIT 2 (C2)	2	2	2	2	2	2	2	2	2																			
CONDUCTOR (GROUND)	1	1	1	1	1	1	1	1	1	1										1	1	1	1	1	1	1	1	
TOTAL No. 10	5	5	5	5	5	3	5	5	5	3										3	3	3	3	6	3	3	3	
PULL TAPE	1																			1	1	1	1	1	1	1	1	
CONDUIT SIZE (INCHES)	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	
% FILL	3	2	5	5	5	4	7	5	5	4							14	14	14	14	21	14	14	14	14	14		

ALL CONDUCTORS SHALL BE THW STRANDED COPPER



INSTALLATION OF LS-3 STREET LIGHTS

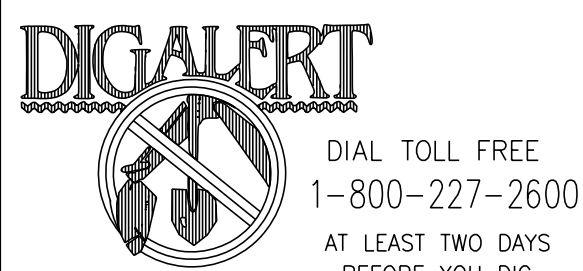
NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**STREET LIGHTING PLAN NO. 2**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 48 OF 56



PLAN  
SCALE: 1" = 40'

**Y & C TRANSPORTATION CONSULTANTS, INC.**  
3250 RAMOS CIRCLE  
SACRAMENTO, CA 95827  
(916) 366-8000 FAX: (916) 366-8008

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS  
APPROVAL FOR INSTALLATION  
BY: Jeffrey Chow  
R.C.E. No. C67117  
DATE: August 23, 2016



**LEGEND:**

- ⑩ STREET LIGHT POLE. CONDUIT RUN 10 FT (APPROX.) FROM UPSTREAM PULL BOX.
  - 43' PULL BOX. CONDUIT RUN 43 FT (APPROX.) FROM UPSTREAM PULL BOX. SPPWC 405-0, NUMBER 5 UNLESS OTHERWISE NOTED.
  - #6 45' PULL BOX. CONDUIT RUN 45 FT (APPROX.) FROM UPSTREAM PULL BOX. SPPWC 405-0, NUMBER 6.
  - 122' STREET LIGHT POLE AND PULL BOX. CONDUIT RUN 5 FT (APPROX.) FROM PULL BOX TO POLE. CONDUIT RUN 122' (APPROX.) TO PULL BOX FROM UPSTREAM PULL BOX.
- VD~3% APPROXIMATE VOLTAGE DROP IN PERCENT.
- CIRCUIT No.

LOCATION: PEDESTAL AT SOUTHEAST CORNER OF POEMA PLACE BRIDGE  
 PHASE VOLTAGE: 120/240  
 PHASE: 1  
 WIRE: 3  
 MAINS: 100  
 MCB: 100  
 FEED: BOTTOM  
 SCCR: 42kA

CKT NO.	CB		LOAD DESIGNATION DESCRIPTION	MISC	LOAD VA	PHASES	
	TRIP	POLE				L1	L2
1	100	2	MAIN CB				
2	15	1	CONTROLS				
3	30	2	LIGHTING #C1	4	160	80	80
4	30	2	LIGHTING #C2	4	160	80	80
CONNECTED kVA: 0.32K CONNECTED Amps: 1.32					TOTAL:	0.16K	0.16K

PANEL SCHEDULE

SEE EUSERC STANDARD ESR-3 FOR METERING DETAILS

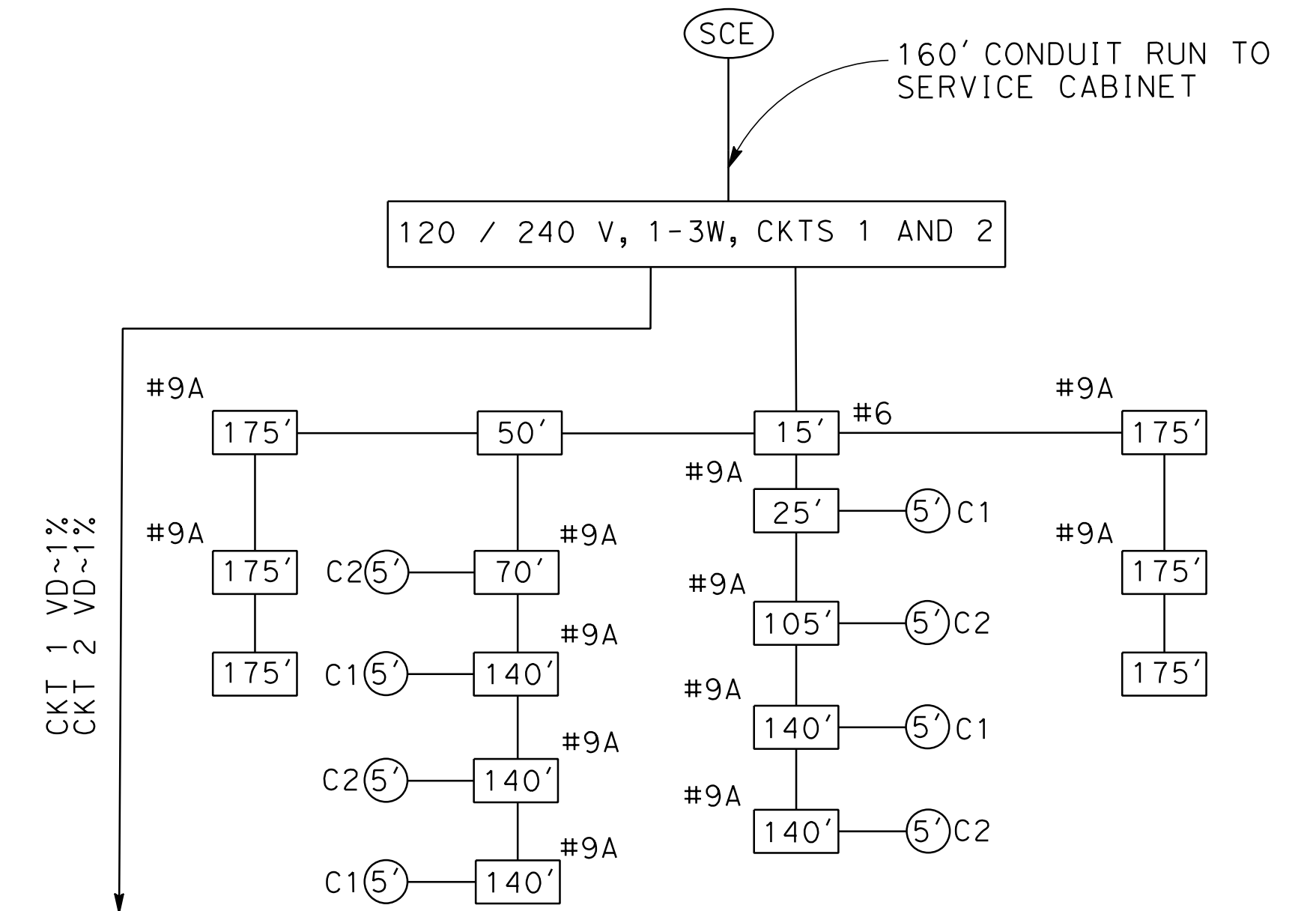
C1 LIGHTING LOAD @ 240V PF=0.9	0.66	A
C2 LIGHTING LOAD @ 240V PF=0.9	0.66	A
TOTAL LOAD:	1.32	Amps
25% CONTINUOUS LOAD TOTAL	0.33	Amps
	1.65	Amps

LOAD SUMMARY

QTY	DESCRIPTION
1	100A, 120/240V-1P-3W SERVICE PEDESTAL, METERED, NEMA 3R, 100A MAIN SERVICE BREAKER WITH 42KAIC SCCR. PEDESTAL SHALL BE UL LISTED AND MEET EUSERC REQUIREMENTS. DISTRIBUTION SECTION PER PANEL SCHEDULE; PROVIDE PHOTOCELL, LIGHTING CONTACTORS RATED 30A, PADLOCK HASP PROVISION. MYER'S CATALOG MEUG16 OR AGENCY APPROVED EQUAL.
NOTE	PULL BOX No. 5, 25"x15" OUTSIDE DIMENSIONS, PROVIDE COVER WITH "STREET LIGHTING" INDENTIFICATION. PROVIDE WITH 5/8"-8" GROUNDING ELECTRODE. STANDARD PLANS FOR PUBLIC CONSTRUCTION 405-1 PCC TYPE.
NOTE	PULL BOX No. 6, 34"x25" OUTSIDE DIMENSIONS, PROVIDE COVER WITH "STREET LIGHTING" INDENTIFICATION. PROVIDE WITH 5/8"-8" GROUNDING ELECTRODE. STANDARD PLANS FOR PUBLIC CONSTRUCTION 405-1 PCC TYPE.
NOTE	PULL BOX No. 9A, 1'-9 3/4"x9 3/4" OUTSIDE DIMENSIONS, PROVIDE COVER WITH "STREET LIGHTING" INDENTIFICATION. CALTRANS 2010 STANDARD PLAN ES-9C.

NOTE: TYPE AND QUANTITY PER CIRCUIT DIAGRAM

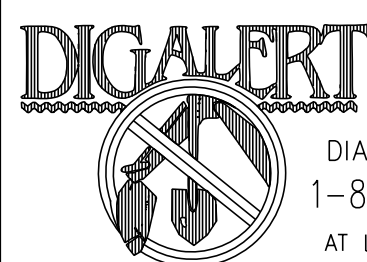
BILL OF MATERIALS



CIRCUIT DIAGRAM

SEE STANDARD PLAN 403-1, SHEET 6 OF 6 FOR WIRING DIAGRAM AND SERVICE CABINET DETAILS

NO SCALE

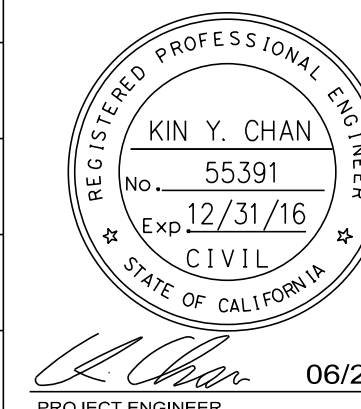


DIAL TOLL FREE  
1-800-227-2600  
AT LEAST TWO DAYS  
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA  
 USERNAME => \$USER DATE PLOTTED => \$DATE TIME PLOTTED => \$TIME

**Y & C TRANSPORTATION CONSULTANTS, INC.**  
 3250 RAMOS CIRCLE  
 SACRAMENTO, CA 95827  
 (916) 366-8000 FAX: (916) 366-8008

REVIEWED:	NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
BY: _____ DATE 8/10/2016					
RECOMMENDED:					
BY: _____ DATE 8/10/2016					
RECOMMENDED:					
GAIL FARBER, DIRECTOR OF PUBLIC WORKS					
BY: _____ DATE _____					
ASSISTANT DEPUTY DIRECTOR					

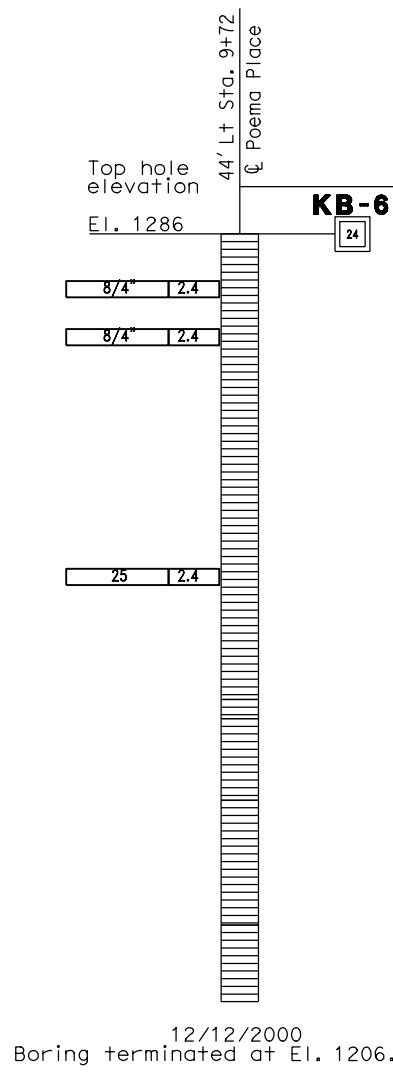
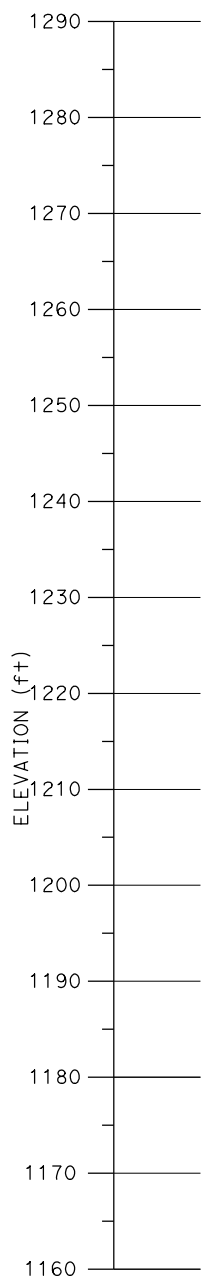


COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**STREET LIGHTING PLAN No. 3**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 49 OF 56

NOTES:  
 (1) THIS LOTB SHEET WAS PREPARED IN ACCORDANCE WITH CALTRANS  
 SOIL AND ROCK LOGGING, CLASSIFICATION AND PRESENTATION MANUAL (2010).



**KB-6**

BEDROCK (Kcs)

SEDIMENTARY ROCK (SANDSTONE); yellowish brown; dry; fine to medium grained; moderate to slightly weathered, slightly to moderately fractured. massive, some interbedded clay and clayey siltstone, laminae and thinly bedded clay and clayey siltstone layers. Reddish yellow. Yellowish brown. Fine to coarse grained. Fine grained. Medium to coarse grained.

Moderately cemented. Moderately to well cemented.

SEDIMENTARY ROCK (SANDSTONE); yellowish brown; moist; medium to coarse grained; moderately to slightly weathered. Increase in cementation.

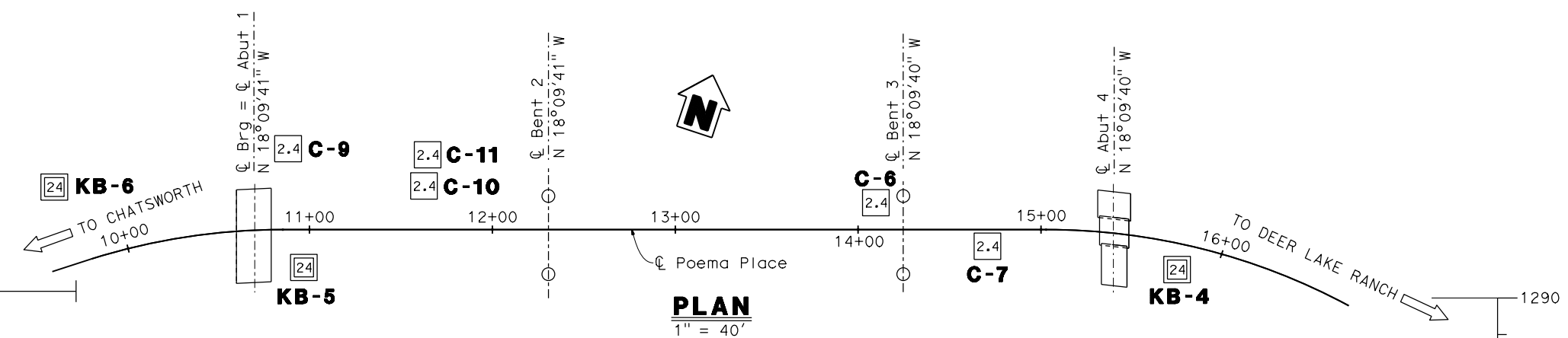
SEDIMENTARY ROCK (SILTSTONE). Unoxidized sandstone; light gray; fresh; well cemented; fine to medium grained hard.

SEDIMENTARY ROCK (SANDSTONE); yellowish brown; moist; medium to coarse grained; moderately to slightly weathered.

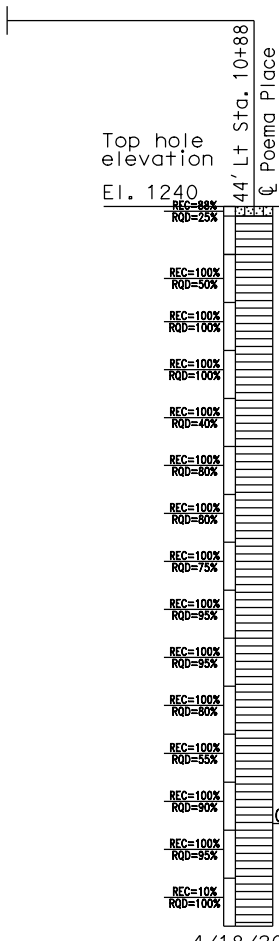
Groundwater not encountered.

12/12/2000  
 Boring terminated at El. 1206.0 ft.

**PROFILE**  
 HOR. 1" = 25'  
 VER. 1" = 10'



**PLAN**  
 1" = 40'



**C-9**

Silty SAND (SM); dark brown; fine to medium grained sand; medium dense; some roots.

BEDROCK (Kcs)

SEDIMENTARY ROCK (SANDSTONE); brown to light yellowish brown; fine to medium grained; moderately weathered; very weak to weak; some roots; some clay laminae. Intensely to slight fractured. Brown. Thickly bedded to massive. Moderately weathered; moderately hard to hard. Light brownish-gray.

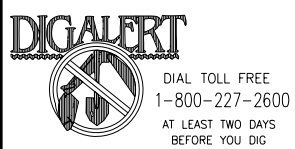
Slightly weathered.

GWS ▼ El. 1175.7 ft. Seepage  
 4/18/2002

Groundwater not measured.

4/18/2002  
 Boring terminated at El. 1165.0 ft.

STATIONING ALONG  $\phi$  POEMA PLACE

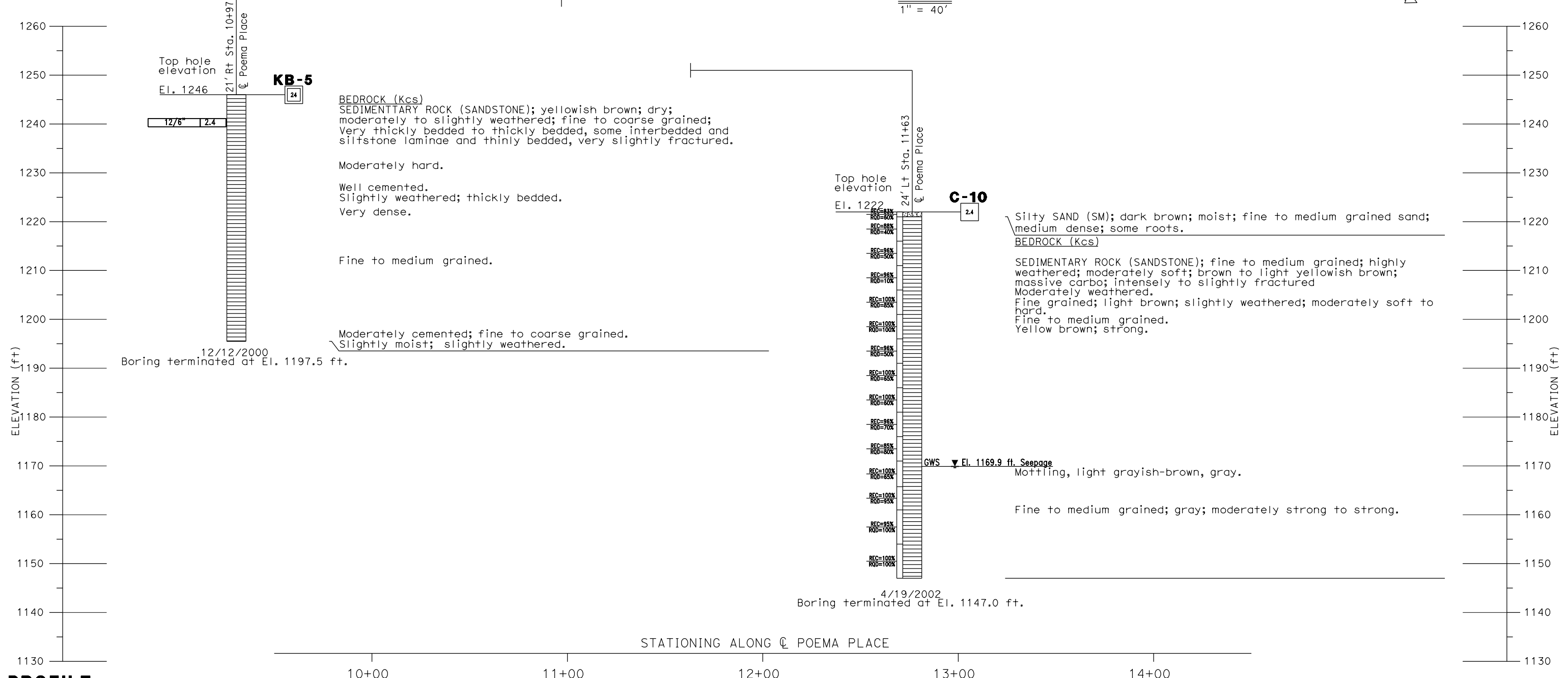
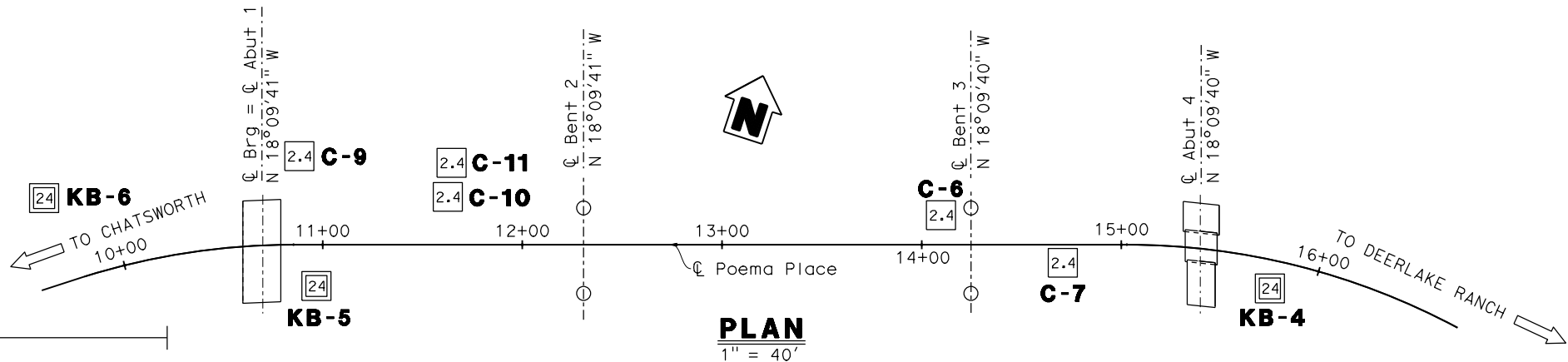


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 TORRANCE, CA 90501

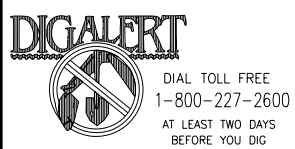


COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS				
LOG OF TEST BORINGS No. 1				
POEMA PLACE BRIDGE				
OVER DEVILS CANYON CREEK				
RD 53138	BR. 4200	PB642453	SHEET 50 OF 56	

NOTES:  
 (1) THIS LOTB SHEET WAS PREPARED IN ACCORDANCE WITH CALTRANS  
 SOIL AND ROCK LOGGING, CLASSIFICATION AND PRESENTATION MANUAL (2010).



**PROFILE**  
 HOR. 1" = 25'  
 VER. 1" = 10'



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 TORRANCE, CA 90501



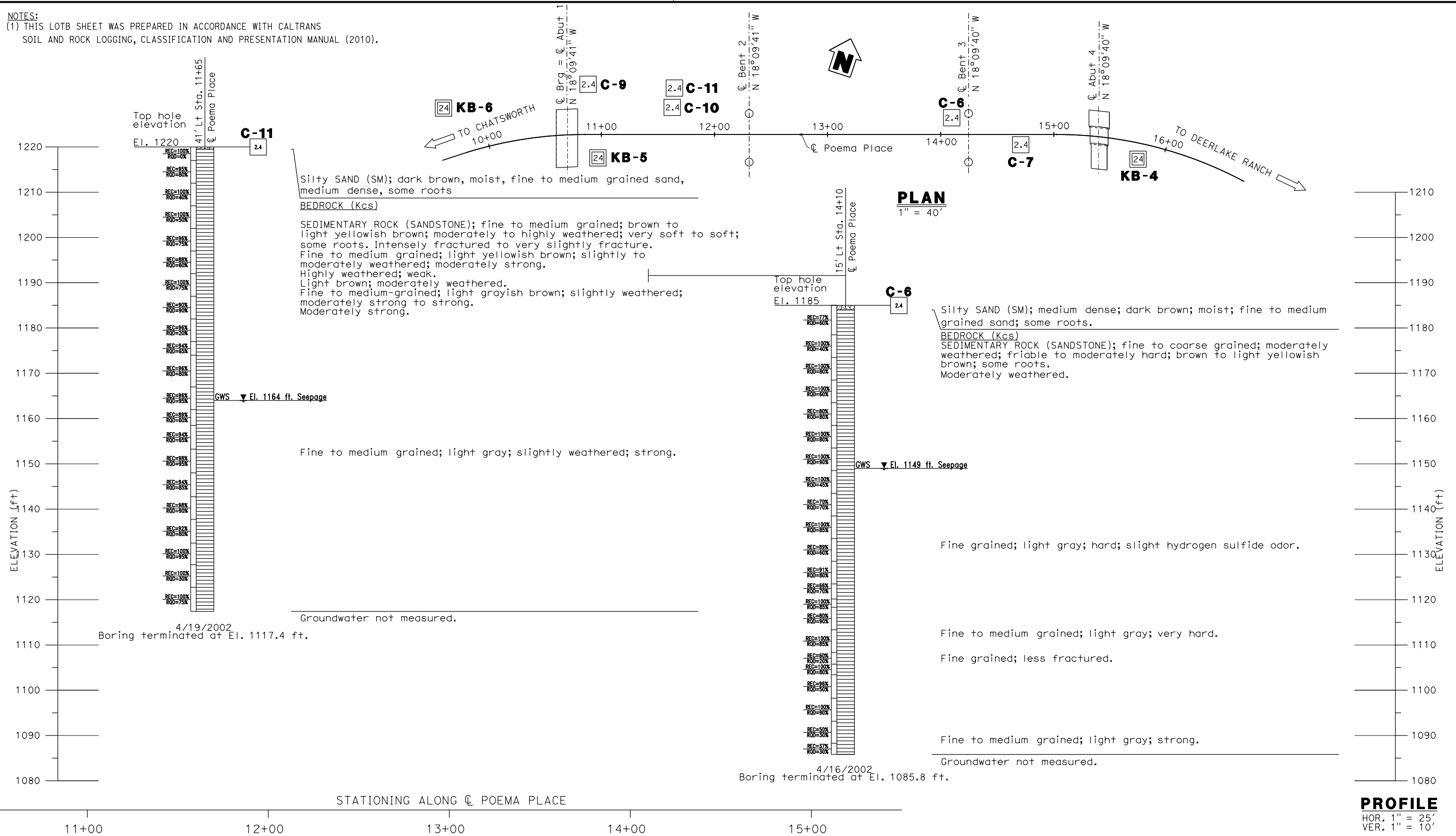
NO.					REVISIONS					REVISED BY					APPROVED BY					DATE				

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

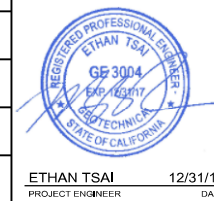
**LOG OF TEST BORINGS No. 2**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

RD 53138 BR. 4200 PB642453 SHEET 51 OF 56

NOTES:  
 (1) THIS LOTB SHEET WAS PREPARED IN ACCORDANCE WITH CALTRANS  
 SOIL AND ROCK LOGGING, CLASSIFICATION AND PRESENTATION MANUAL (2010).

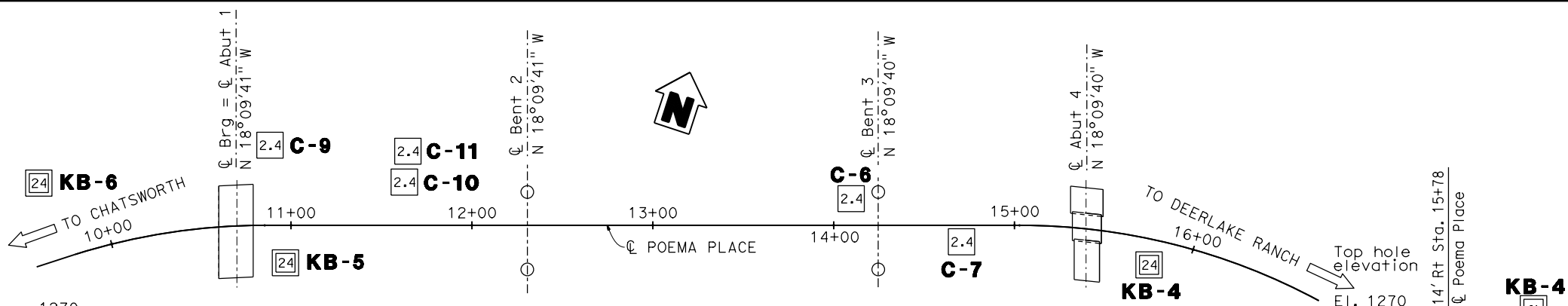


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 TORRANCE, CA 90501



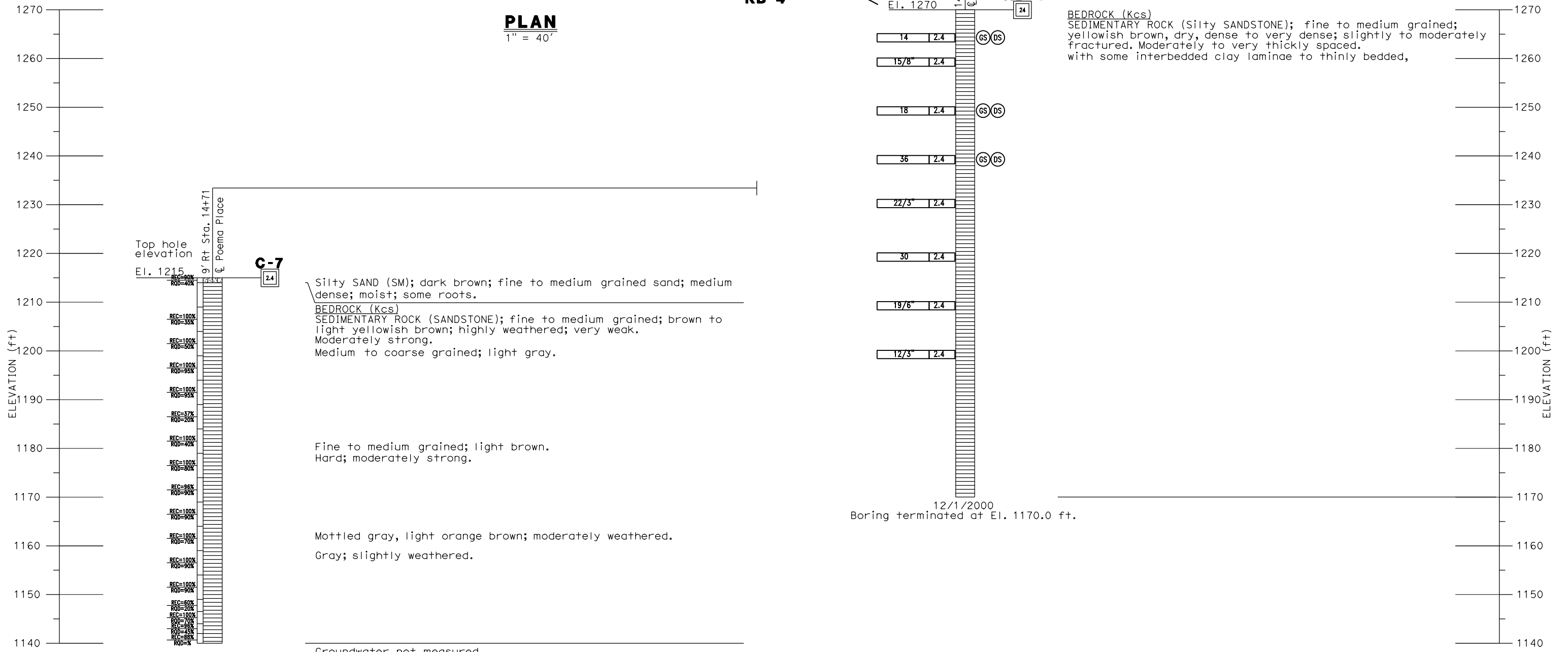
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS				
<b>LOG OF TEST BORINGS No. 3</b>				
<b>POEMA PLACE BRIDGE</b>				
<b>OVER DEVILS CANYON CREEK</b>				
RD 53138	BR. 4200	PB642453	SHEET 52 OF 56	

NOTES:  
 (1) THIS LOTB SHEET WAS PREPARED IN ACCORDANCE WITH CALTRANS  
 SOIL AND ROCK LOGGING, CLASSIFICATION AND PRESENTATION MANUAL (2010).



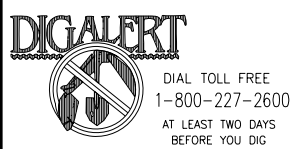
**PLAN**  
 1" = 40'

BEDROCK (Kcs)  
 SEDIMENTARY ROCK (Silty SANDSTONE); fine to medium grained; yellowish brown, dry, dense to very dense; slightly to moderately fractured. Moderately to very thickly spaced, with some interbedded clay laminae to thinly bedded,



**PROFILE**  
 HOR. 1" = 25'  
 VER. 1" = 10'

STATIONING ALONG  $\bar{C}$  POEMA PLACE  
 13+00 14+00 15+00 16+00



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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS				
<b>LOG OF TEST BORINGS No. 4</b>				
<b>POEMA PLACE BRIDGE</b>				
<b>OVER DEVILS CANYON CREEK</b>				
RD 53138	BR. 4200	PB642453	SHEET 53 OF 56	

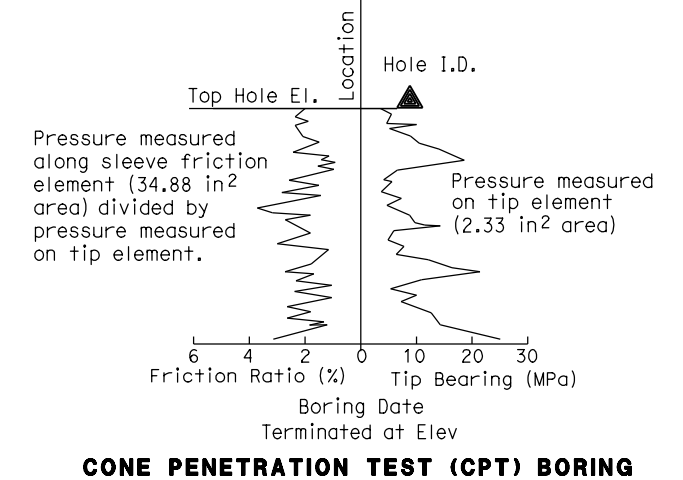
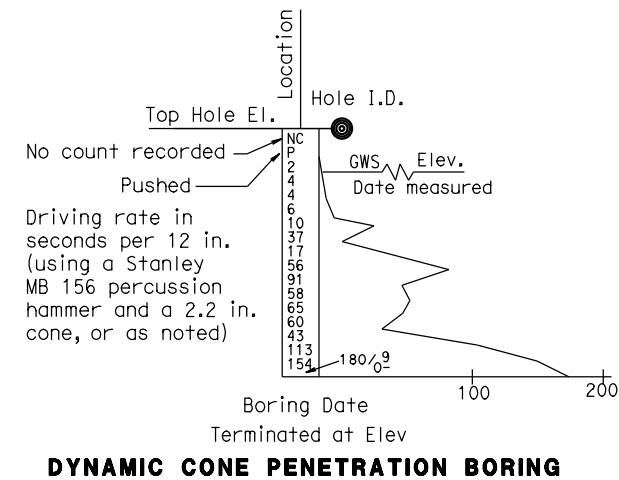
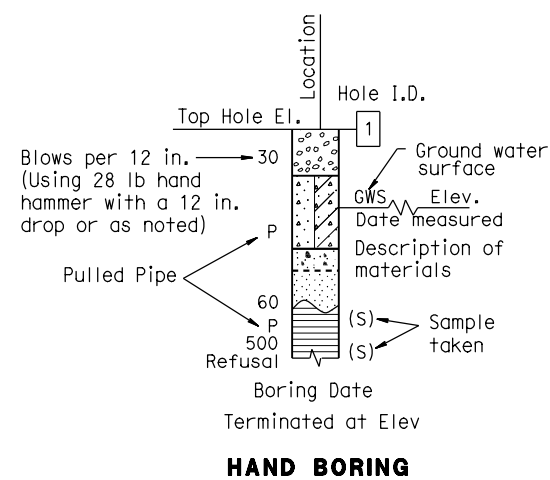
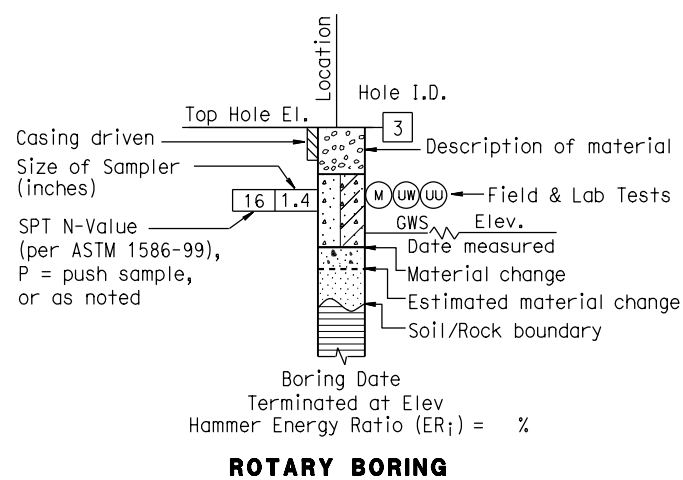
NO.	REVISIONS	REVISED BY	APPROVED BY	DATE

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

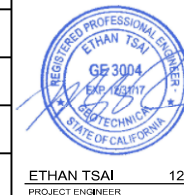
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled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

**Note: Size in inches.**

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



GROUP DELTA CONSULTANTS, INC.  
370 AMAPOLA AVE., SUITE 212  
TORRANCE, CA 90501



ETHAN TSAI 12/31/15  
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**LOG OF TEST BORINGS No. 5**  
**POEMA PLACE BRIDGE**  
**OVER DEVILS CANYON CREEK**

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

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

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

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

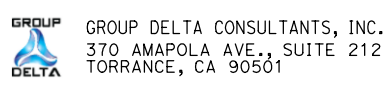
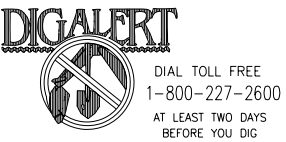
PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

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

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS			
<b>LOG OF TEST BORINGS No. 6</b>			
<b>POEMA PLACE BRIDGE</b>			
<b>OVER DEVILS CANYON CREEK</b>			
RD 53138	BR. 4200	PB642453	SHEET 55 OF 56



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

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

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

RQD\* Indicates soundness criteria not met.

**BEDDING SPACING**

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

**LEGEND OF ROCK MATERIALS**

	IGNEOUS ROCK
	SEDIMENTARY ROCK
	METAMORPHIC ROCK

**ROCK HARDNESS**

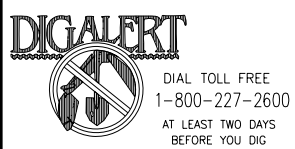
Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick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

**WEATHERING DESCRIPTORS FOR INTACT ROCK**

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

**FRACTURE DENSITY**

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



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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

**LOG OF TEST BORINGS No. 7**

**POEMA PLACE BRIDGE OVER DEVILS CANYON CREEK**

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