

IRRIGATION NOTES:

- THE DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE. THE CONTRACTOR SHALL LOCATE ALL VALVES IN SHRUB AREAS.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY HIS WORK. HE SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS THROUGH WALLS, UNDER ROADWAYS AND PAVING, ETC.
- DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY'S AUTHORIZED REPRESENTATIVE IMMEDIATELY UPON DISCOVERY. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO INDICATE A COMPLETE SPRINKLER SYSTEM INSTALLED AND READY FOR USE WITHOUT FURTHER COST TO THE COUNTY.
- CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS REQUIRED FOR THIS PORTION OF THE WORK.
- INSTALLATION TO BE AS PER COUNTY CODES, NORMAL APPROVED STANDARDS OF PROCEDURE AND MANUFACTURERS' SPECIFICATIONS.
- ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE FURNISHING ALL LABOR, MATERIALS, TOOLS, MACHINERY, AND EQUIPMENT NECESSARY TO COMPLETE SPRINKLER SYSTEM AND ADJUSTMENT, INCLUDING TRENCHING, BACKFILLING, ETC.
- COORDINATE THE INSTALLATION OF ALL SPRINKLER MATERIALS, INCLUDING PIPE, WITH ANY EXISTING LANDSCAPING TO AVOID INTERFERING WITH THE TREES, SHRUBS, OR OTHER PLANTING.
- BACKFILL FOR TRENCHING SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO THE ADJACENT UNDISTURBED SOIL AND SHALL CONFORM TO THE ADJACENT GRADES WITHOUT DIPS, SUNKEN AREAS, HUMPS, OR OTHER IRREGULARITIES.
- TRENCHES SHALL BE FILLED AND COMPACTED BY WATERING AND REFILLING SO AS TO PROVIDE ORIGINAL CONTOUR AND COMPACTION.
- CONTRACTOR TO VERIFY POINTS OF CONNECTION ON SITE.
- CONTRACTOR SHALL INSTALL CHECK VALVES WHERE NECESSARY TO PREVENT ANY LOW HEAD DRAINAGE.
- THE FINAL LOCATION AND EXACT POSITIONING OF THE AUTOMATIC SPRINKLER CONTROLLERS SHALL BE APPROVED BY THE COUNTY'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION.
- 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER. THE IRRIGATION CONTRACTOR SHALL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER.
- CONTROL WIRES SHALL BE BLACK, 14 GA. DIRECT BURIAL TYPE OF IRRIGATION WIRE. COMMON WIRE SHALL BE WHITE WIRE OF THE SAME TYPE. INSTALL WIRE IN SAME TRENCH WITH MAIN LINE.
- ALL CONTROL VALVES SHALL BE PLACED IN PLANTING AREAS AS INDICATED, CLOSE TO CURBS OR WALKS.
- PROVIDE PVC SCHEDULE 40 CONDUIT FOR CONTROLLER WIRES WHEREVER CONNECTIONS BETWEEN ELECTRIC VALVES AND CONTROLLER PASS THROUGH OR UNDER MASONRY, PAVING, ETC.
- REFER TO SPECIFICATIONS FOR STANDARDS OF MATERIALS AND WORKMANSHIP.
- ALL MAIN LINE PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES. MAIN LINE SLEEVE SIZE SHALL BE A MINIMUM OF TWICE (2X) THE DIAMETER OF THE PIPE TO BE SLEEVED. CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING.
- ALL LATERAL LINE PIPING UNDER PAVING SHALL BE PVC SCHEDULE 40 PIPE AND SHALL BE INSTALLED PRIOR TO PAVING.
- PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT BY THE COUNTY'S AUTHORIZED REPRESENTATIVE TIME OF SAID REJECTION.

IRRIGATION NOTES:

- ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
- THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVER-SPRAY ONTO WALKS, ROADWAYS AND/OR BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITION AND TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM.
- PROVIDE PVC SCHEDULE 40 SLEEVES WHEREVER LATERAL OR MAIN LINES PASS THROUGH OR GO UNDER MASONRY, PAVING, ETC.
- ALL VALVES SHALL BE IN CONCRETE VALVE BOXES WITH CAST-IRON LIDS..
- ALL IRRIGATION HEADS ADJACENT TO WALKWAYS SHALL BE POP-UPS.
- ALL HEADS SHALL RECEIVE SWING JOINTS. DOUBLE FOR SHRUB HEADS. TRIPLE FOR TURF AND HEADS ADJACENT TO WALKS.
- THE SPRINKLER INSTALLATION ADJUSTMENTS SHALL BE DEEMED INCOMPLETE UNTIL ALL SPRINKLER HEADS, VALVES, AND ALL RELATED IRRIGATION EQUIPMENT HAVE BEEN CHECKED AND ADJUSTED TO BEST CONFORM TO THE CONDITIONS AND REQUIREMENTS THAT WILL PREVAIL AT THE FINISHED SITE.
- THE INSTALLATION AND OPERATION OF THE SYSTEM MUST BE COMPLETE AND FULLY OPERATIONAL PRIOR TO TURNING OVER TO COUNTY'S MAINTENANCE PERSONNEL.
- UPON COMPLETION OF THE WORK, REMOVE ALL EXCESS MATERIALS, EQUIPMENT AND WASTE.
- THE IRRIGATION CONTRACTOR SHALL GUARANTEE THE ENTIRE SPRINKLER SYSTEM AGAINST DEFECTIVE MATERIALS & WORKMANSHIP FOR A MAINTENANCE PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY COUNTY. SHOULD ANY REPAIRS BE NECESSARY DURING THE MAINTENANCE PERIOD DUE TO DEFECTIVE MATERIALS OR WORKMANSHIP, CONTRACTOR SHALL REPAIR AT HIS OWN EXPENSE.

PLANTING NOTES:

- CONTRACTOR IS TO REVIEW PLANS, VERIFY SITE CONDITIONS AND PLANT QUANTITIES PRIOR TO INSTALLATION. CONFLICTS BETWEEN THE SITE AND THESE PLANS OR WITHIN THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY'S AUTHORIZED REPRESENTATIVE PRIOR TO LANDSCAPE INSTALLATION. ANY DEVIATION(S) FROM THE PLANS OR SPECIFICATIONS IS TO HAVE WRITTEN APPROVAL PRIOR TO BEGINNING WORK.
- PLANTS MAY BE APPROVED OR REJECTED BY THE COUNTY'S AUTHORIZED REPRESENTATIVE AT THE PLACE OF GROWTH AND/OR ON THE PROJECT SITE AT ANY TIME DURING THE PROGRESS OF WORK.
- NOTIFY COUNTY'S AUTHORIZED REPRESENTATIVE IF SPECIFIED PLANT MATERIAL IS NOT AVAILABLE BEFORE SUBSTITUTIONS ARE MADE. ALL PLANT SUBSTITUTIONS TO BE APPROVED IN WRITING BY LANDSCAPE ARCHITECT.
- ALL TREES, SHRUBS, AND GROUND COVER SHALL BE EQUAL TO OR SURPASS 'AMERICAN STANDARD FOR NURSERY STOCK' (ANSI Z60.1-2004) SPECIFICATIONS FOR QUALITY. ALL MEASUREMENTS SUCH AS HEIGHT/CALIPER RELATIONSHIP, NUMBER OF CANES, BALL SIZES, QUALITY DESIGNATIONS, ETC., SHALL BE IN ACCORDANCE WITH THE LATEST EDITION.
- TOP DRESS ALL PLANTING AREAS WITH 3" THICKNESS OF NITROLIZED REDWOOD SHREDDED BARK AFTER FINE GRADING AND INSTALLATION OF GROUNDCOVER.
- THE LANDSCAPE ARCHITECT OR DESIGNER ASSUMES NO GUARANTEE OR RESPONSIBILITY FOR THE HEALTH OR VIABILITY OF THE SPECIFIED PLANT MATERIAL DUE TO UNKNOWN SOIL AND GEOLOGICAL CONDITIONS.
- CONTRACTOR SHALL CONTRACT WITH A COUNTY APPROVED SOILS LAB AND CONDUCT A AGRONOMIC SOILS TEST AT A MINIMUM OF TWO (2) LOCATIONS ON THE SITE. THE SOILS TEST SHALL BE INCLUDED WITHIN THE CONTRACTORS BID.
- CULTIVATE (ROTOTILL) PLANTING AREAS PER AGRONOMIC SOILS REPORT, WET SOIL THOROUGHLY AND ALLOW SOIL TO SETTLE. REPEAT UNTIL SOIL IS SABLE ENOUGH TO HOLD UNIFORM, SMOOTH CONSISTENCY ALLOWING FOR DRAINAGE AND AIR PENETRATION.
- FERTILIZER FOR ALL PLANTING AREAS SHALL BE RECOMMENDED IN THE AGRONOMIC SOILS TEST FINDINGS.
- IMPORTED TOPSOIL SHALL BE LOOSE, FRIABLE AND LOAMY CONTAINING ORDINARY AMOUNT OF NATURAL HUMUS, AND WITHOUT AN UNREASONABLE AMOUNT OF WEEDS, WEED SEEDS, ANIMAL LIFE OR NY PLANTS CONSIDERED NOXIOUS TO THE PROJECT. IT SHALL NOT HAVE A PH VALUE HIGHER THAN 7.0 OR LOWER THEN 6.0.


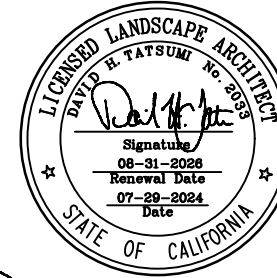
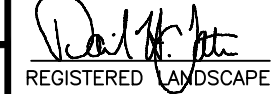
PLANTING NOTES:

- APPROVED ON-SITE TOPSOIL SHALL BE FERTILE, FRIABLE SOIL OF LOAMY CHARACTER HAVING A NORMAL AMOUNT OF NATURAL HUMUS. IT SHALL BE REASONABLY FREE FROM SUBSOIL, REFUSE, ROOTS, ROCKS, WEEDS, NOXIOUS SEEDS, BRUSH, NEMATODES, OR OTHER DELETERIOUS MATTER. IT SHALL BE FREE FROM TOXIC AMOUNTS OF EITHER ACID OR ALKALINE ELEMENTS AND SHALL BE CAPABLE OF SUSTAINING HEALTHY PLANT LIFE.
- PLANT QUANTITIES SPECIFIED TAKE PRECEDENCE OVER PLANT SYMBOLS SHOWN.
- PLANT BOXED TREES PRIOR TO INSTALLATION OF IRRIGATION LATERAL LINES. - COORDINATE PLACEMENT OF TREE AND SHRUBS WITH SPRINKLER LOCATIONS.
- ALL TREES AND SPECIMEN MATERIAL SHALL BE OF ADEQUATE TRUNK CALIPER TO STAND WITHOUT SUPPORT.
- WHEN TREES AND SPECIMENS HAVE BEEN PLANTED, A BERM SHOULD BE PREPARED WHICH IS NO LARGER THAN THE SIZE OF THE ROOT BALL.
- ALL TREES SHALL BE STAKED WITH TWO 2" DIA. LODGE POLE STAKE AND TIED IN 2 PLACES WITH RUBBER CINCH TIES. LARGER TREES TO BE STAKED OR GUY WIRED PER DETAIL.
- GROUNDCOVER IS TO BE PLANTED BENEATH ALL TREES AND SHRUBS IN PLANTER AREAS.
- ALL PAVING TO BE SWEEPED OF ALL SOIL AMENDMENTS AND PLANTING MIXES PRIOR TO ANY WATERING APPLICATIONS TO PREVENT ANY POSSIBLE STAINING
- CONTRACTOR SHALL KEEP ALL AREAS OF WORK CLEAN, NEAT AND ORDERLY AT ALL TIME. CLEAN ALL CONSTRUCTION AREAS AT THE END OF EACH WORK DAY AND DISPOSE OF ALL DEBRIS OFF SITE IN A LEGAL MANNER.
- THE CONTRACTOR SHALL MAINTAIN ALL PLANTED AREAS BY MEANS OF CONTINUOUS WATERING, PRUNING, RAISING ROOT BALLS WHICH SETTLE BELOW GRADE, FERTILIZING, APPLICATION OF SPRAYS WHICH ARE NECESSARY TO KEEP THE PLANTINGS FREE OF INSECTS AND DISEASES, WEEDING, ROLLING, MOWING, RE-SEEDING, EDGING AND OR OTHER OPERATIONS NECESSARY FOR PROPER CARE AND UPKEEP. THE CONTRACTOR SHALL MAINTAIN ALL PLANTINGS AS SPECIFIED ABOVE FOR A PERIOD OF NINETY (90) DAYS.

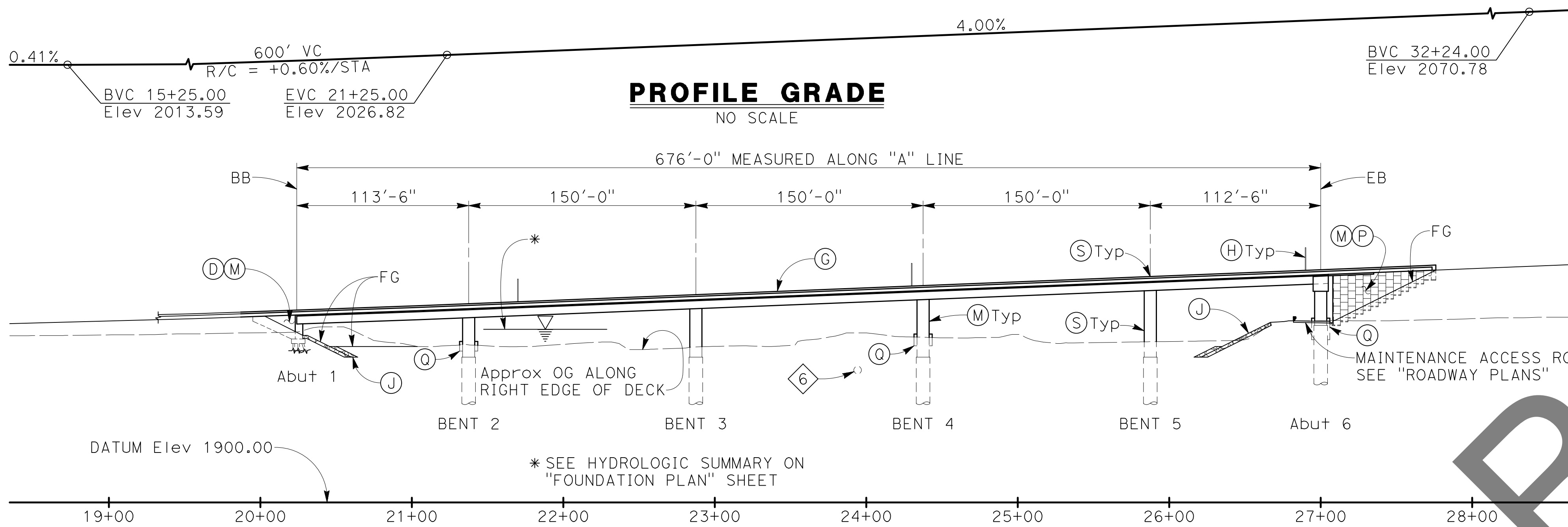
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REVISIONS		
APPR.		DATE
APPR.		DATE

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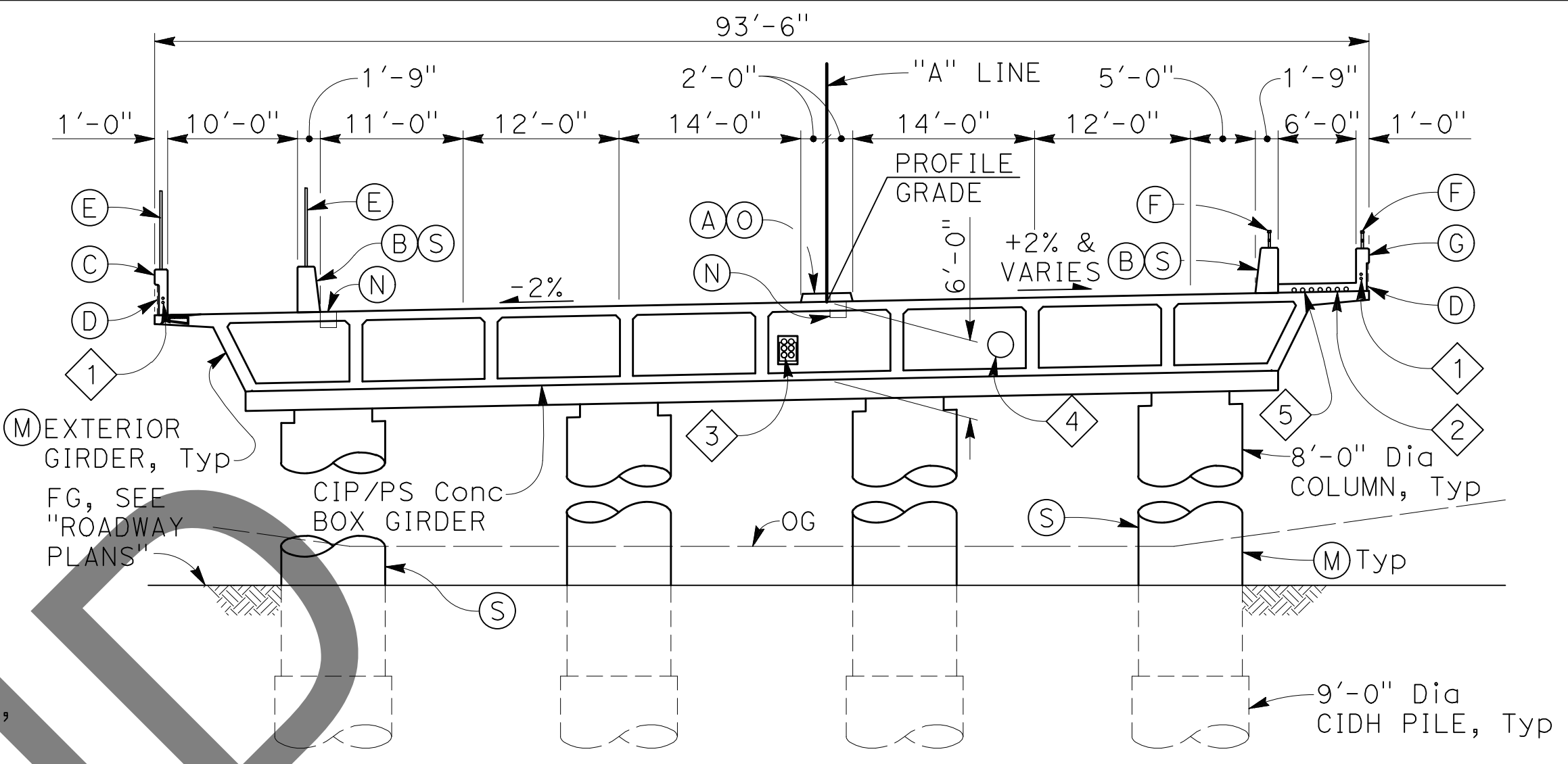
PLANS PREPARED BY:  TATSUMI AND PARTNERS, INC. LANDSCAPE ARCHITECTURE 49 DISCOVERY, SUITE 120 IRVINE, CA 92618 PH 949/453-9901 FAX 949/453-9902 www.tatsumilandscapers.com		REGISTERED LANDSCAPE ARCHITECT  7/29/2024	SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS DESIGNED BY: JO DRAWN BY: JO CHECKED BY: MA RECOMMENDED BY: Chris Nguyen, P.E. ENGINEERING MANAGER 8/15/24	GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH IRRIGATION AND PLANTING NOTES
FIELD CHANGES MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE		REGISTERED LANDSCAPE ARCHITECT  7/29/2024	APPROVED BY: Thomas Bustamonte, P.E. SUPERVISING ENGINEER 8/15/24 APPROVED BY: Mervat N. Elmirghani, P.E. DEPUTY DIRECTOR 8/15/24	J.L. REF. 11334 W.O. NO. H14646 DRAWING NO. L-06 SHT. NO. 45 TOT. SHTS. 102

100% SUBMISSION



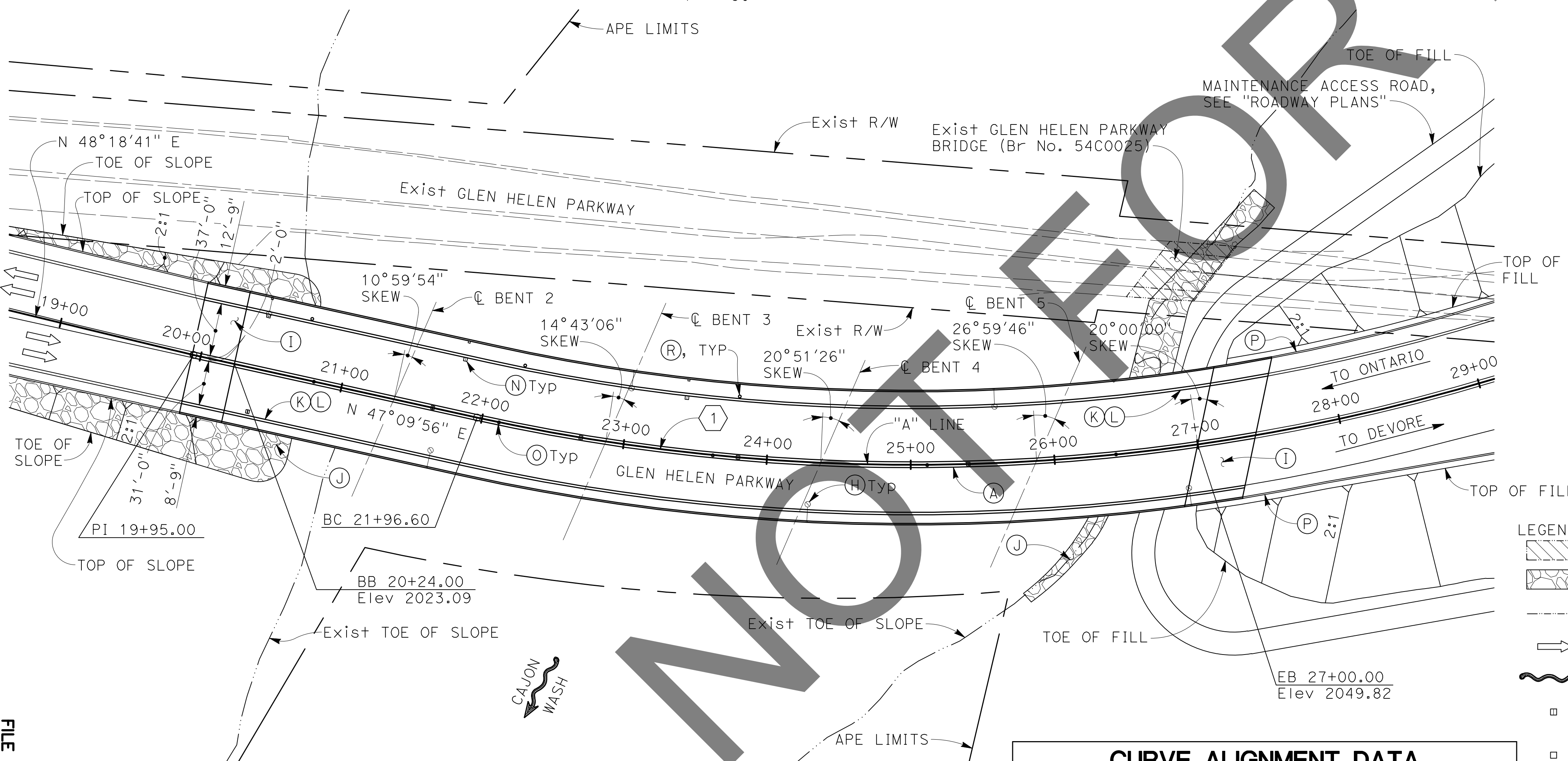
PROFILE GRADE
NO SCALE

DEVELOPED ELEVATION
1" = 50'



TYPICAL SECTION
1" = 10'

- NOTES:
- (A) Raised Median
 - (B) Concrete Barrier Type 842 (Mod 2)
 - (C) Concrete Barrier Type 842 (Mod 1)
 - (D) Architectural Treatment, see "MISCELLANEOUS DETAILS" sheet
 - (E) Chain Link Railing Type 7
 - (F) Tubular Hand Railing
 - (G) Concrete Barrier Type 732SW (Mod)
 - (H) Electrolier, see "ROADWAY PLANS"
 - (I) Structure Approach, see "STRUCTURE APPROACH" sheet
 - (J) Rock Slope Protection, see "ROCK SLOPE PROTECTION" sheet
 - (K) Paint "Bridge No. 54C0809" & Year Completed
 - (L) Paint "Glen Helen Parkway Bridge"
 - (M) Apply Anti-Graffiti Coating, see "GENERAL NOTES" sheet
 - (N) Deck Drain, see "DECK DRAIN DETAILS" sheets
 - (O) Manhole Access Opening in Median
 - (P) MSE Retaining Wall, see "MSE RETAINING WALL PLANS"
 - (Q) Isolation Casing, see "ISOLATION CASING DETAILS" sheet
 - (R) Manhole Access Opening in walkway
 - (S) Paint "BENT X", where "X" is the support number, on the exterior columns of each Bent, and the traffic face of the vehicular barriers above each Bent.
1. For General Notes and List of Caltrans Standard Plans, see "GENERAL NOTES" sheet.
 2. For Pile Data Table, see "FOUNDATION PLAN" sheet.
 3. For Index to Bridge Plans, see "GENERAL NOTES" sheet.



PLAN
1" = 50'

CURVE ALIGNMENT DATA

No.	R	Δ	TANGENT	LENGTH
1	1400.00'	51°11'09"	670.55'	1250.70'

- LEGEND:
- Indicates Bridge Removal
 - Indicates Rock Slope Protection
 - Indicates Existing Structure
 - Indicates Traffic Direction
 - Indicates Direction of Flow
 - Indicates Deck Drain Type D-1 (Mod)
 - Indicates Deck Drain Type D-2
- UTILITY LEGEND:
- 1 2-2" Dia conduits
 - 2 3-4" Dia conduits (TWTC)
 - 3 6-5" Dia conduits (SCE)
 - 4 24" Dia Future Utility Opening
 - 5 4-4" Dia conduits (Verizon)
 - 6 Petroleum Line (Kinder-Morgan), protect in place

100% SUBMISSION

REVISIONS	DATE	APPR.	DATE

FILE NO. 382400 050

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

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

BCA

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. THOMAS
No. 54676
Exp. 9/30/24
STRUCTURAL ENGINEER
STATE OF CALIFORNIA

7/29/24

THOMAS BUSTAMANTE, P.E.
SUPERVISING ENGINEER

FIELD CHANGES

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD DRAWN BY: SMH CHECKED BY: SEM RECOMMENDED BY: Chris Nguyen 8/15/24
DATE

APPROVED BY: Thomas Bustamonte 8/15/24
DATE

CHRIS NGUYEN, P.E.
ENGINEERING MANAGER

THOMAS BUSTAMANTE, P.E.
SUPERVISING ENGINEER

GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH

GENERAL PLAN

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-01	46	102

INDEX TO BRIDGE PLANS

Sheet No.	Title
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S-02	GENERAL NOTES
S-03	DECK CONTOURS
S-04	FOUNDATION PLAN
S-05	ISOLATION CASING DETAILS
S-06	ABUTMENT 1 LAYOUT
S-07	ABUTMENT 6 LAYOUT
S-08	ABUTMENT DETAILS No. 1
S-09	ABUTMENT DETAILS No. 2
S-10	ABUTMENT DETAILS No. 3
S-11	ABUTMENT DETAILS No. 4
S-12	BENT LAYOUT
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S-15	BENT DETAILS No. 3
S-16	TYPICAL SECTION
S-17	GIRDER LAYOUT No. 1
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S-19	GIRDER DETAILS No. 1
S-20	GIRDER DETAILS No. 2
S-21	GIRDER DETAILS No. 3
S-22	MISCELLANEOUS DETAILS
S-23	DECK DRAIN DETAILS No. 1
S-24	DECK DRAIN DETAILS No. 2
S-25	JOINT SEAL ASSEMBLY DETAILS No. 1
S-26	JOINT SEAL ASSEMBLY DETAILS No. 2
S-27	SIDEWALK EXPANSION JOINT ARMOR DETAILS
S-28	STRUCTURE APPROACH No. 1
S-29	STRUCTURE APPROACH No. 2
S-30	STRUCTURE APPROACH No. 3
S-31	STRUCTURE APPROACH DRAINAGE DETAILS
S-32	ROCK SLOPE PROTECTION No. 1
S-33	ROCK SLOPE PROTECTION No. 2
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S-35	LOG OF TEST BORINGS No. 2
S-36	LOG OF TEST BORINGS No. 3
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S-40	LOG OF TEST BORINGS No. 7

CALTRANS 2023 STANDARD PLANS

A3A	ABBREVIATIONS (SHEET 1 OF 3)
A3B	ABBREVIATIONS (SHEET 2 OF 3)
A3C	ABBREVIATIONS (SHEET 3 OF 3)
A10A	LEGEND - LINES AND SYMBOLS (SHEET 1 OF 5)
A10B	LEGEND - LINES AND SYMBOLS (SHEET 2 OF 5)
A10C	LEGEND - LINES AND SYMBOLS (SHEET 3 OF 5)
A10D	LEGEND - LINES AND SYMBOLS (SHEET 4 OF 5)
A10E	LEGEND - LINES AND SYMBOLS (SHEET 5 OF 5)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
A87A	CURBS AND DRIVEWAYS
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B7-1	BOX GIRDER DETAILS
B7-6	DECK DRAINS - TYPES D-1 AND D-2
B7-8	DECK DRAINAGE DETAILS
B7-10	UTILITY OPENING - BOX GIRDER
B7-11	UTILITY DETAILS
B8-5	CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS
B11-51	TUBULAR HAND RAILING
B11-52	CHAIN LINK RAILING TYPE 7
RSP B11-58	CONCRETE BARRIER - TYPE 732SW DETAILS No. 1
RSP B11-59	CONCRETE BARRIER - TYPE 732SW DETAILS No. 2
RSP B11-81	CONCRETE BARRIER TYPE 842 DETAILS No. 1
RSP B11-82	CONCRETE BARRIER TYPE 842 DETAILS No. 2
ES-9B	ELECTRICAL SYSTEMS (CONDUIT RISER AND EXPANSION FITTING, STRUCTURE INSTALLATIONS)

- B7-11 Indicates Standard Plan sheet No.
- U42 Indicates Detail No.
- A Indicates Section No.
- S5 Indicates sheet No. shown on
- 1 Indicates Detail No.
- S6 Indicates sheet No. shown on

GENERAL NOTES

LOAD & RESISTANCE FACTOR DESIGN

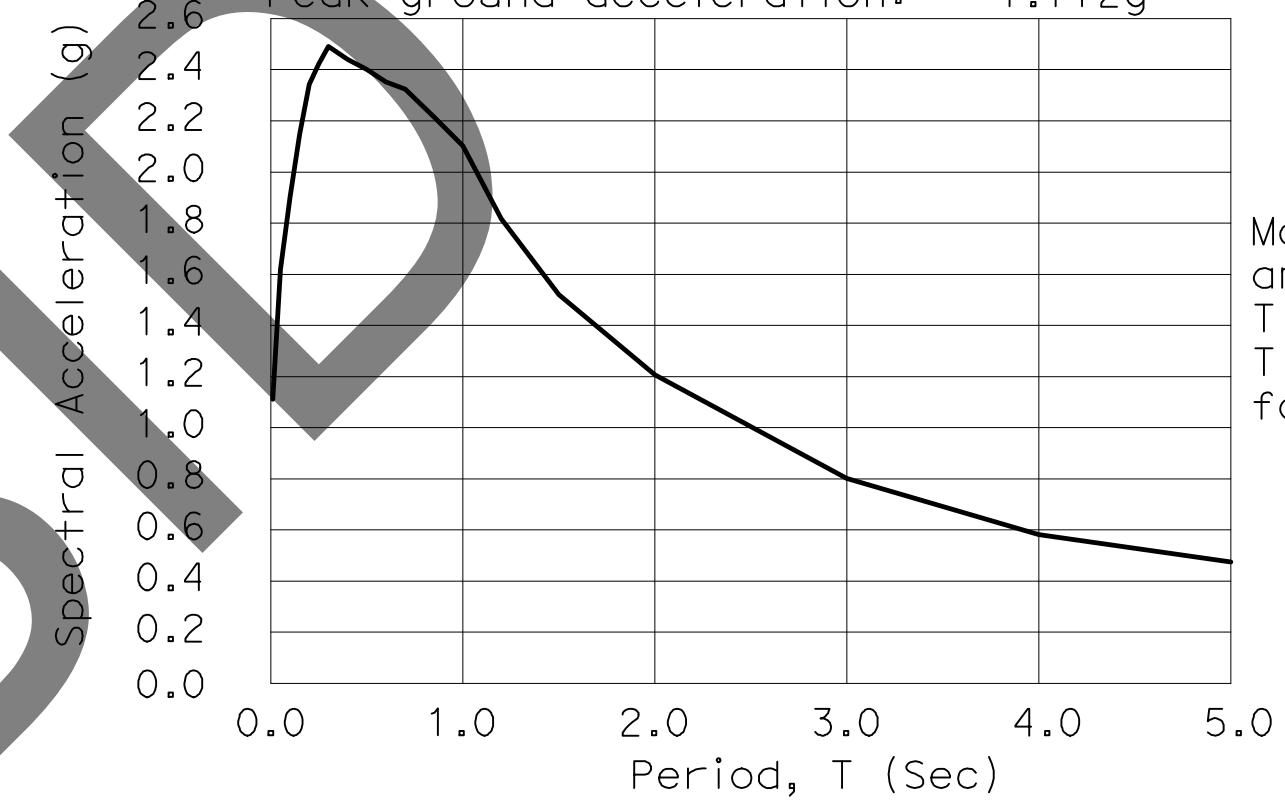
DESIGN: AASHTO LRFD Bridge Design Specifications, 8th Edition and Caltrans Amendments, preface dated Aug. 2019; except that bridge details (incl. barrier and railing) taken from Standard Plans 2022, and Standard Bridge Details XS sheets are designed using Bridge Design Specifications ('17 AASHTO with Revisions by Caltrans)

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) Version 1.7 dated April 2013

DEAD LOAD: Includes 35 psf for future wearing surface.
Includes 700 lb/ft for future utilities.

LIVE LOAD: HL93 with "Low-Boy" and permit (CA-P15) design load

SEISMIC LOAD: Soil profile: $V_{s(30)} = 1033$ ft/sec (315 m/sec)
Moment magnitude: 7.9 (Mmax)
Peak ground acceleration: 1.112g



ARS DESIGN CURVE

NO SCALE

Modification factors: Near-fault amplifications of 20% increase for $T \geq 1.0$ sec. no modification for $T \leq 0.5$ sec and linear interpolation for $0.5 \text{ sec} < T < 1.0 \text{ sec}$

REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c = 4.0$ ksi unless otherwise noted (SEE "CONCRETE STRENGTH" SHEET) & $n = 8$

PRESTRESSED CONCRETE: See "Prestressing Notes" on "GIRDER LAYOUT No. 1" sheet

EPOXY COATED REINFORCEMENT: All reinforcement in deck, barrier, and approach slabs shall be epoxy coated prefabricated reinforcement with purple coating.

ANTI-GRAFFITI COATING: Anti-graffiti coating must be applied to all exposed vertical concrete surfaces of barriers, MSE retaining walls, bridge abutments, abutment wingwalls, and bridge columns. Anti-graffiti coating must also be applied to the underside of the bridge overhangs and the exterior bridge girders.

For MSE over-excavation pay limits, see "MSE RETAINING WALL GENERAL NOTES" sheet.

NOT FOR BIDDING

MARK	REVISIONS	APPR.	DATE

MARK	REVISIONS	APPR.	DATE

FILE NO. 382400 050

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PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

BCA

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. THOMPSON
No. S4676
Exp. 9/30/24
STRUCTURAL ENGINEER
STATE OF CALIFORNIA

7/29/24

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:
GOD	SMH	SEM	Chris Nguyen, P.E. ENGINEERING MANAGER 8/15/24

APPROVED BY:	DATE
Thomas Bustamante, P.E. SUPERVISING ENGINEER	8/15/24
Mervat N. Khalil, P.E. DEPUTY DIRECTOR	8/15/24

100% SUBMISSION

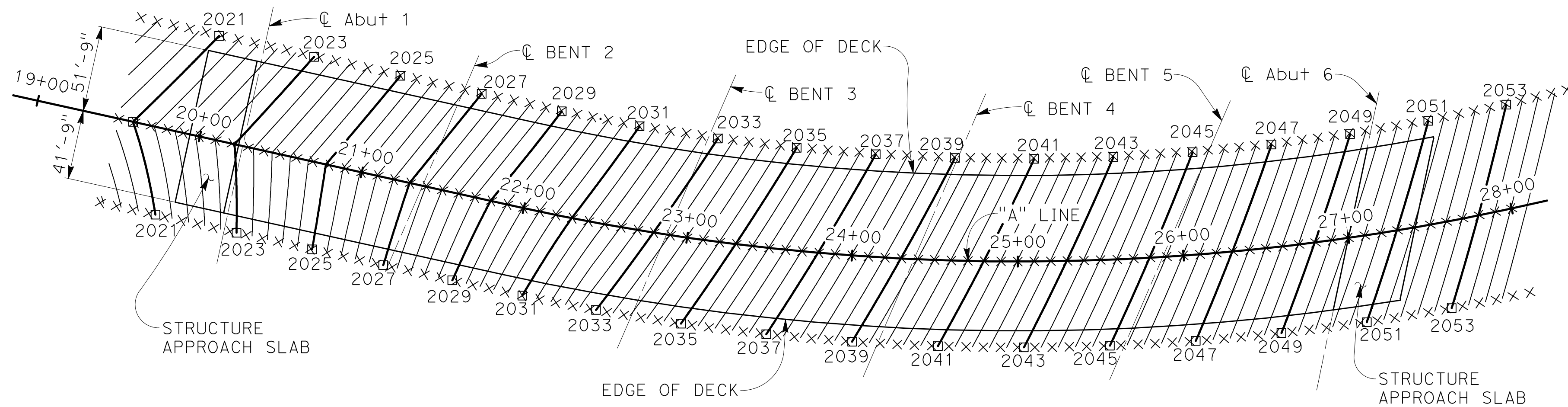
GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH

GENERAL NOTES

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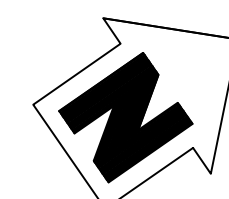
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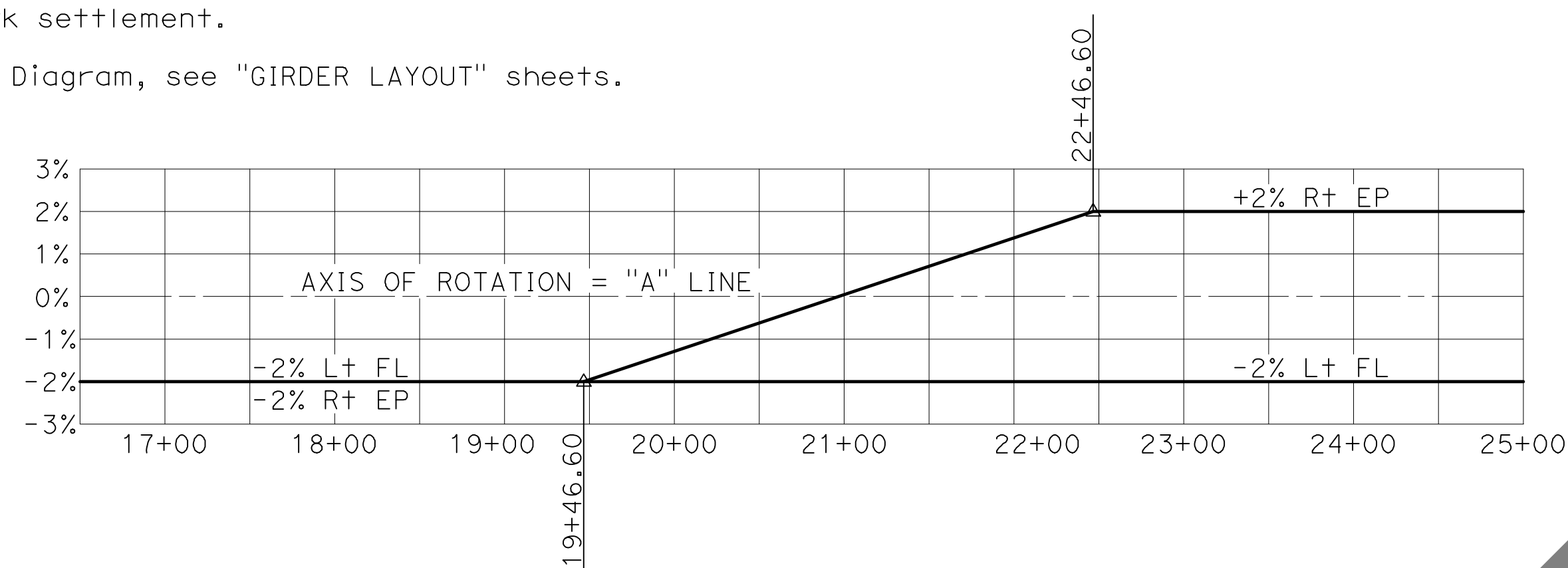


- NOTES:
1. Contours indicate top of concrete deck elevation.
 2. Contour interval = 0.4 feet.
 3. Contours do not include camber or falsework settlement.
 4. For Camber Diagram, see "GIRDER LAYOUT" sheets.

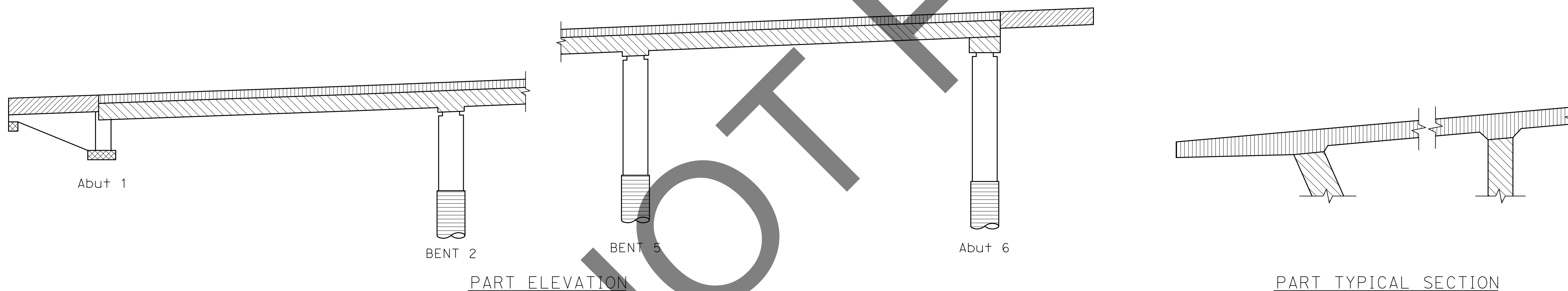
PLAN
1" = 50'



- LEGEND:
- x Indicates 10 foot intervals measured along "A" Line.
 - Indicates 2 foot intervals.



SUPERELEVATION DIAGRAM
NO SCALE



- CONCRETE STRENGTH AND TYPE LIMITS**
NO SCALE
- STRUCTURAL CONCRETE, BRIDGE (f'c = 4.0 ksi @ 28 days)
 - STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) (f'c = 6.0 ksi @ 28 days)
 - STRUCTURAL CONCRETE, BRIDGE FOOTING (f'c = 4.0 ksi @ 28 days)
 - CAST-IN-DRILLED-HOLE CONCRETE PILING (f'c = 4.0 ksi @ 28 days)
 - STRUCTURAL CONCRETE, APPROACH SLAB (f'c = 4.0 ksi @ 28 days)

MARK	REVISIONS	DATE

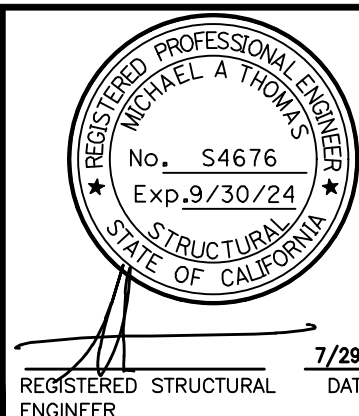
FILE NO. 382400 050

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

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665



MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		



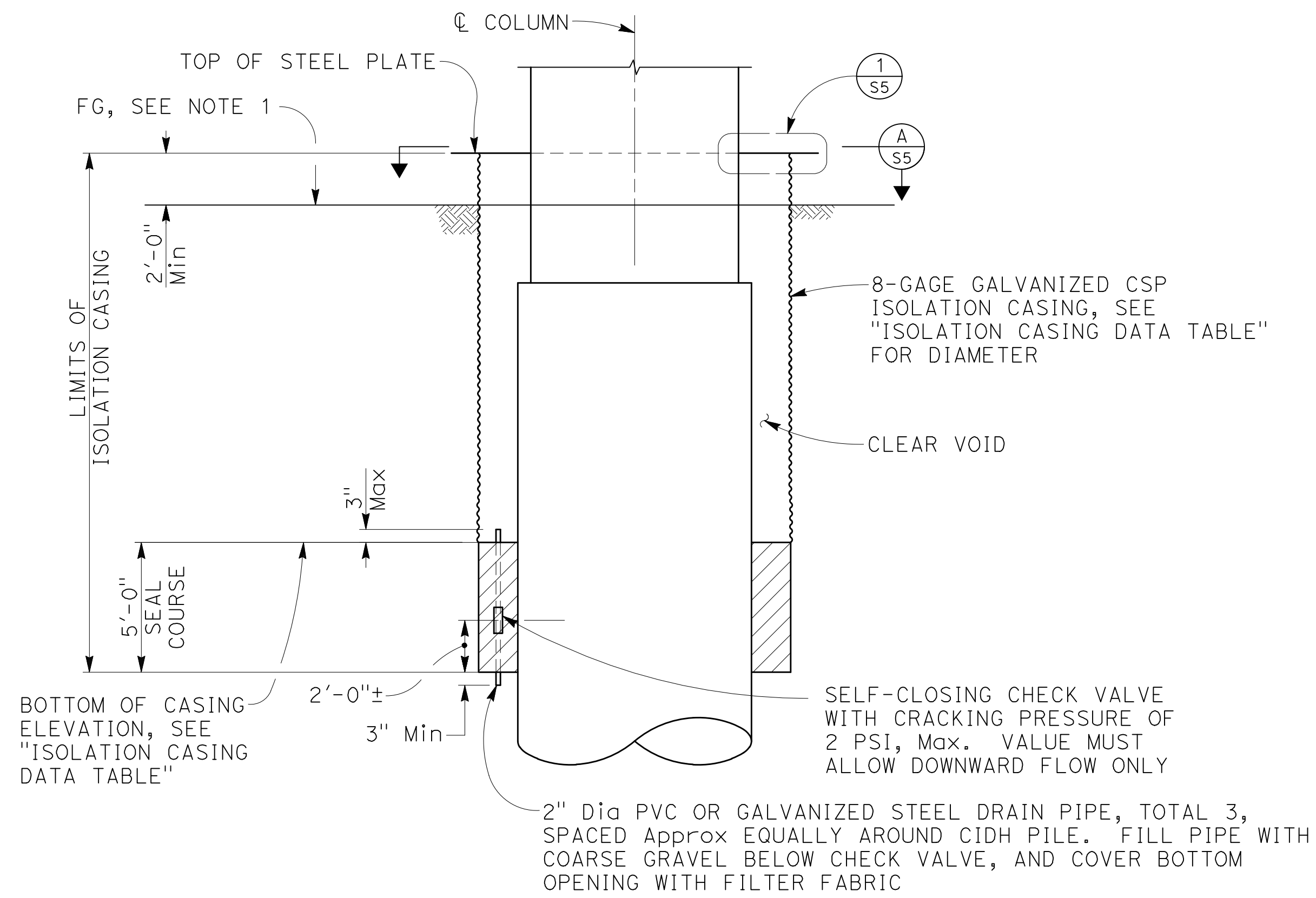
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24		APPROVED BY: MERVAL N. CARRILLO, P.E. DEPUTY DIRECTOR 8/15/24	

100% SUBMISSION				
GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH DECK CONTOURS				
J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-03	48	102

ISOLATION CASING DATA TABLE

BENT	CASING DIAMETER	BOTTOM OF CASING ELEVATION
2	12'-0"	2000.0
4	12'-0"	2003.5
Abut 6	12'-0"	2007.5

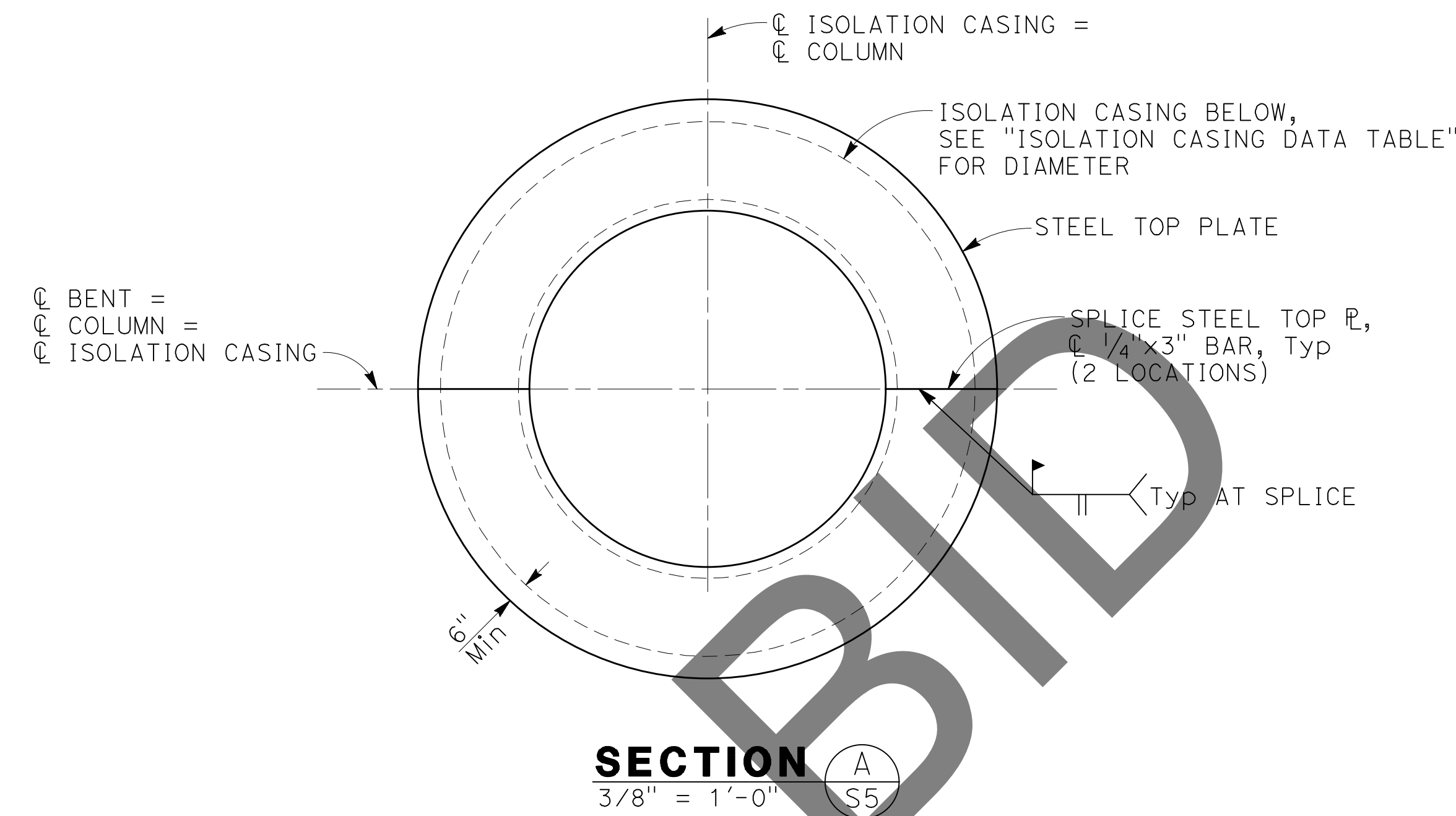
NOTE:
Isolation casings shall be installed on all columns at bents 2, 4, and abutment 6.



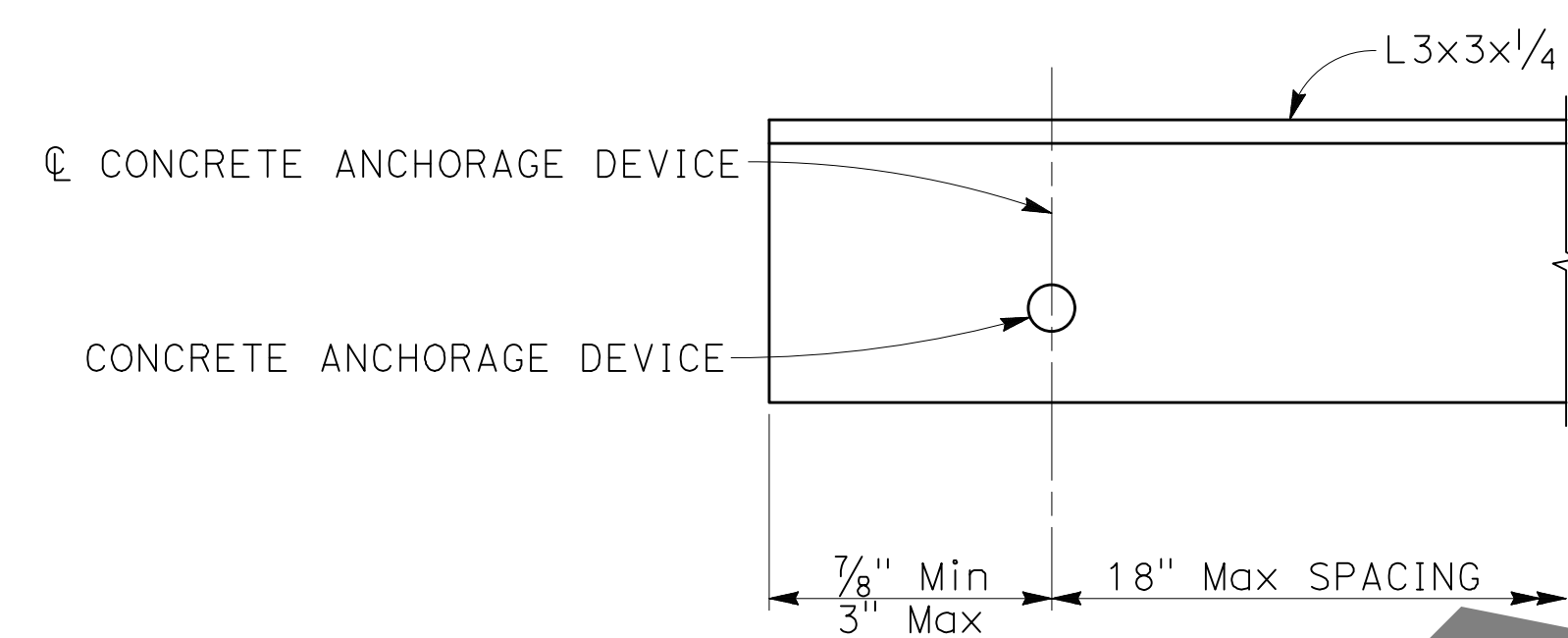
NOTE:
1. Abutment 6 shown. Bents 2 & 4 similar.

TYPICAL ISOLATION CASING ELEVATION

NO SCALE

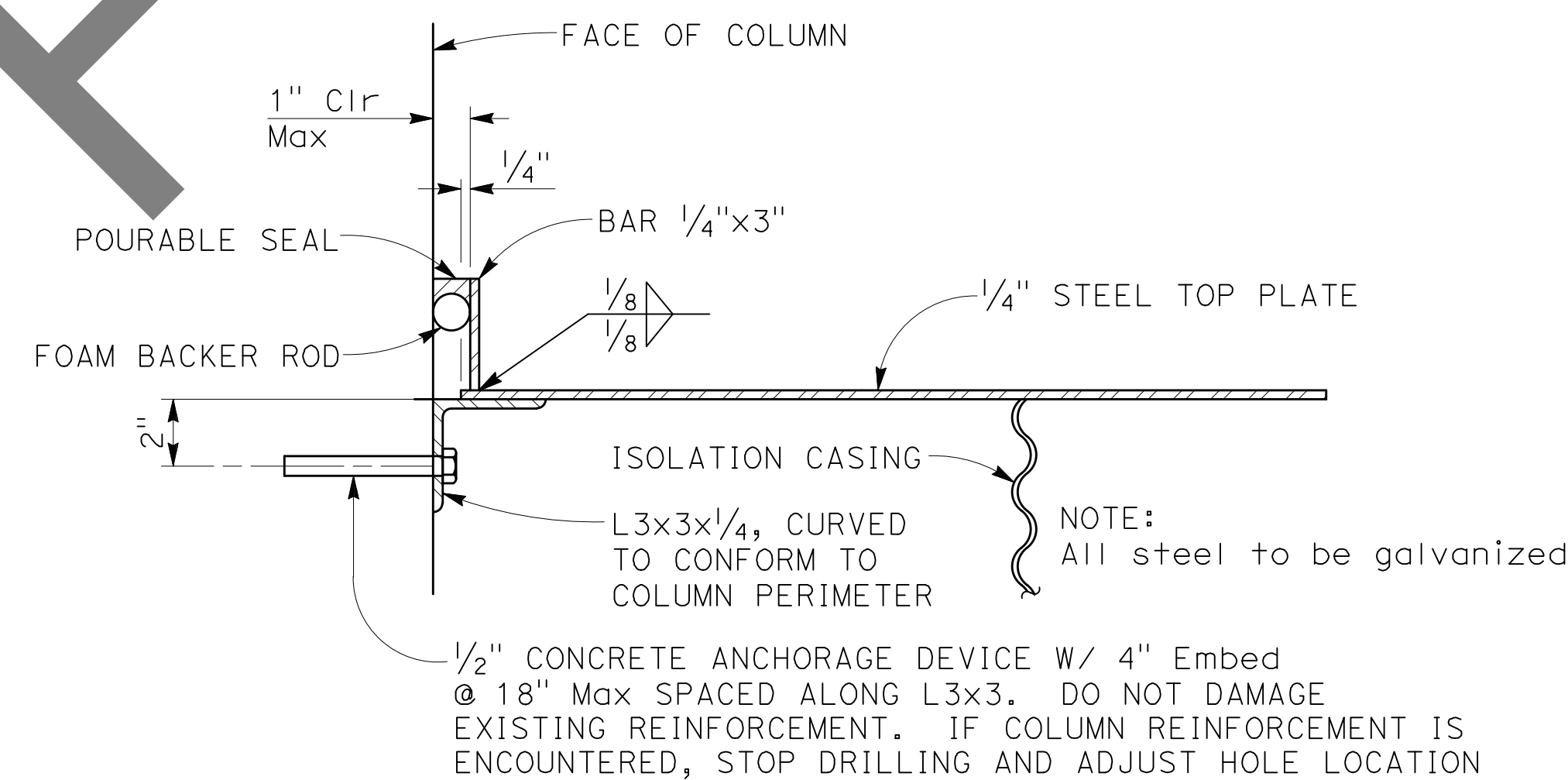


SECTION A-A
3/8" x 1'-0"



CONCRETE ANCHORAGE ELEVATION

NO SCALE



DETAIL 1
NO SCALE

MARK	REVISIONS	DATE

MARK	REVISIONS	DATE

FILE NO. 382400 050

NOTE:
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STRUCTURAL ENGINEERS
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Orange, California 92868
714-550-4665



MARK	CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES



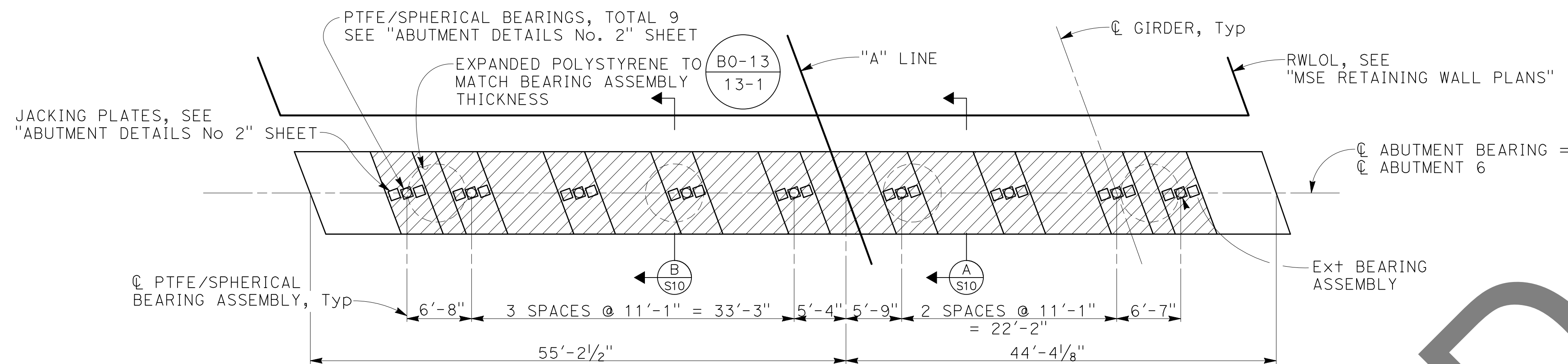
REGISTERED STRUCTURAL ENGINEER
7/29/24

SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: Thomas Bustamante, P.E. SUPERVISING ENGINEER 8/15/24			DATE: 8/15/24

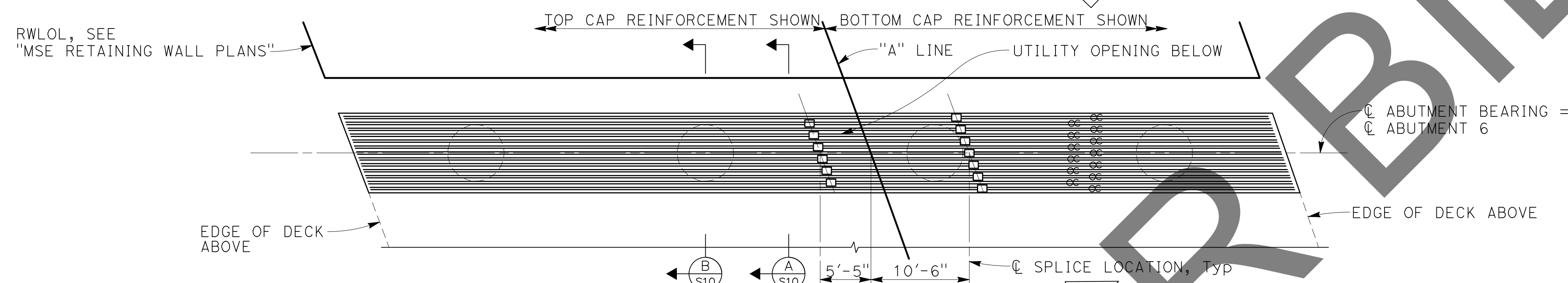
100% SUBMISSION

GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH
ISOLATION CASING DETAILS

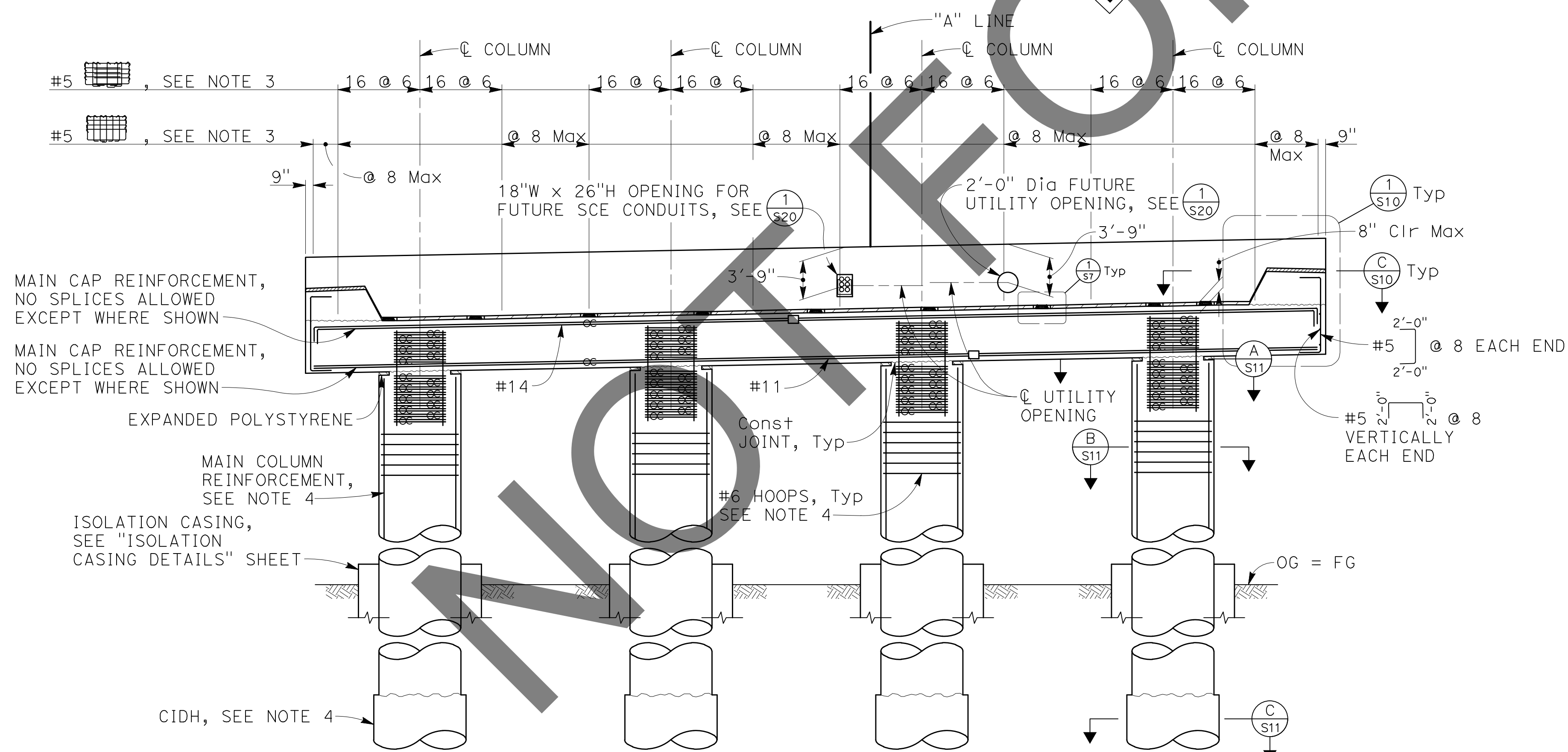
J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S05	50	102



ABUTMENT 6 PLAN
1/8" = 1'-0"



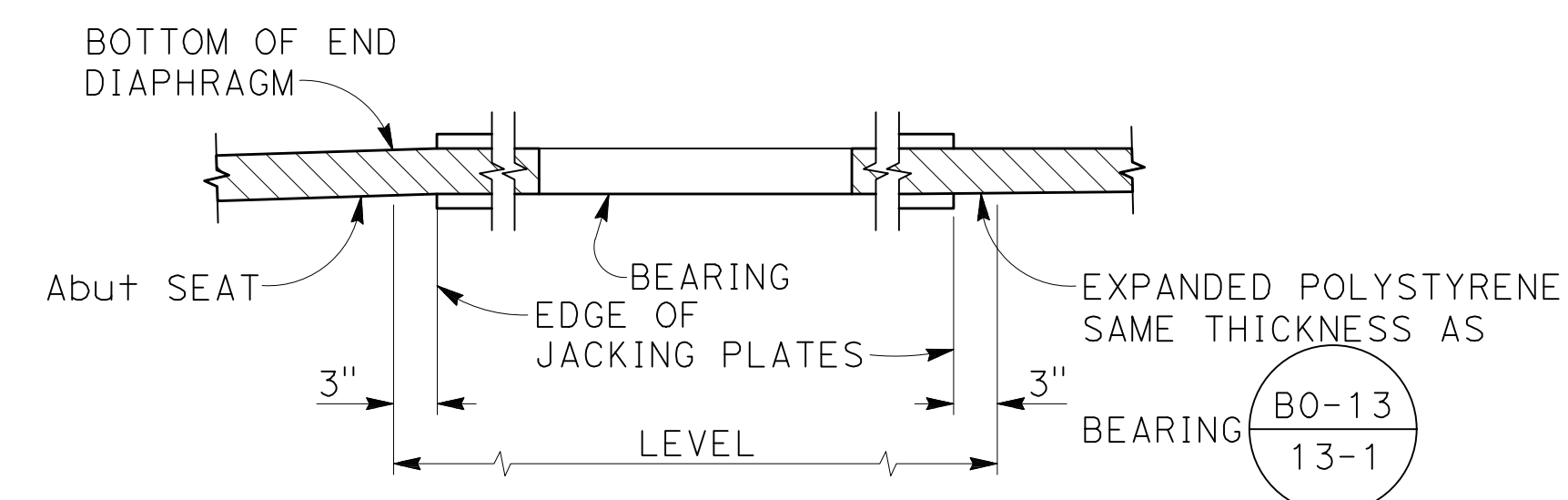
ABUTMENT 6 LAYOUT
1/8" = 1'-0"



ABUTMENT 6 ELEVATION
1/8" = 1'-0"

- NOTES:
1. Barriers and median not shown for clarity.
 2. Structure approach slab not shown for clarity.
 3. Abutment cap stirrups shall be placed parallel to ϕ girder and spaced along ϕ abutment bearing.
 4. For column and CIDH pile details, see "ABUTMENT DETAILS No. 4" sheet.

- LEGEND:
- Indicates bundled bars
 - Indicates service splice coupler



DETAIL 1
1" = 1'-0"

MARK	REVISIONS	DATE

FILE NO. 382400 050

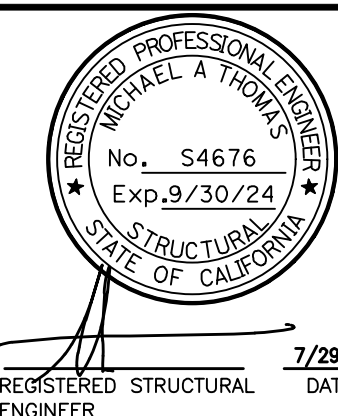
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665



MARK	CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

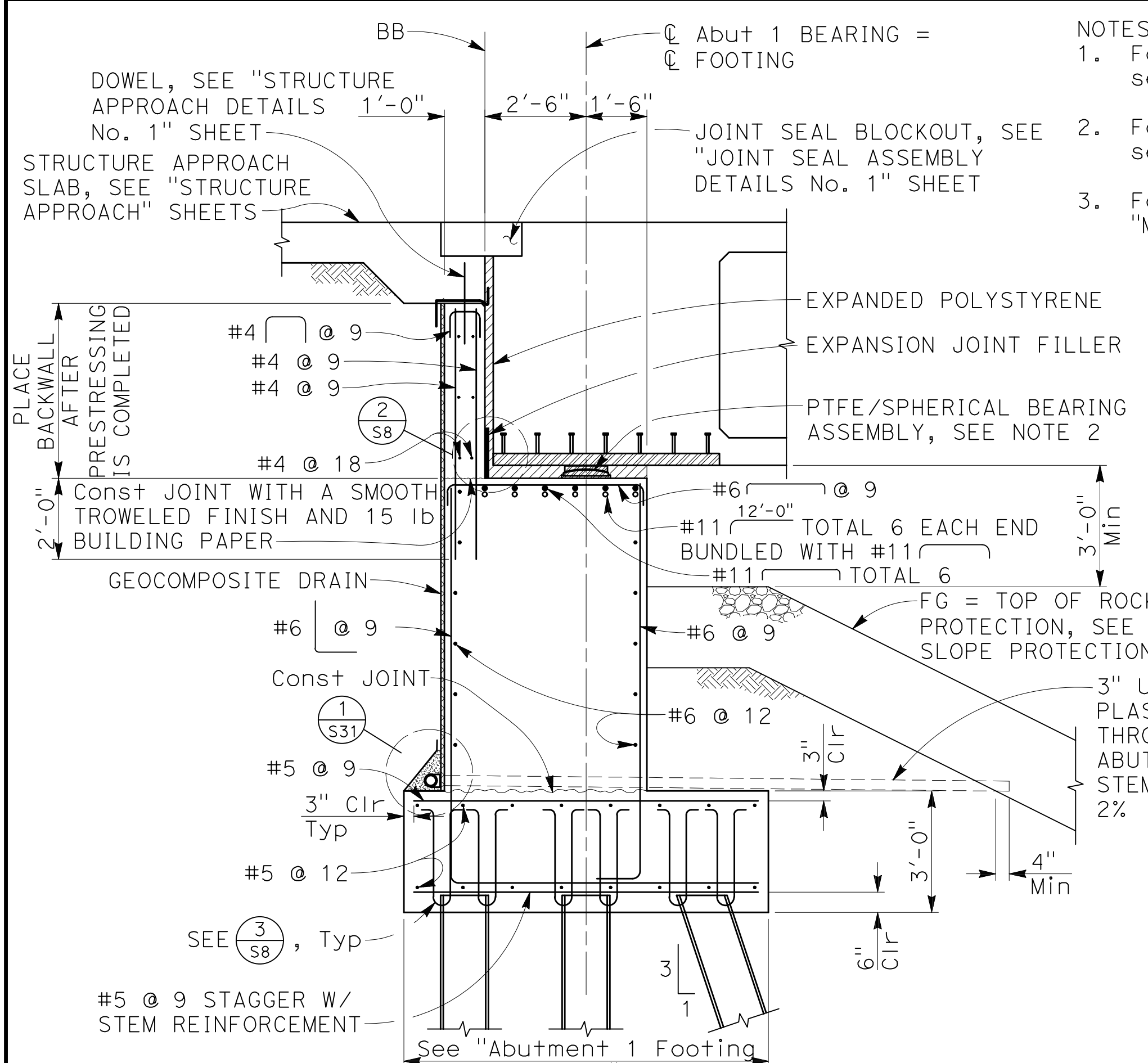


SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24		APPROVED BY: MERVAI N. CARRIALL, P.E. DEPUTY DIRECTOR 8/15/24	

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
ABUTMENT 6 LAYOUT

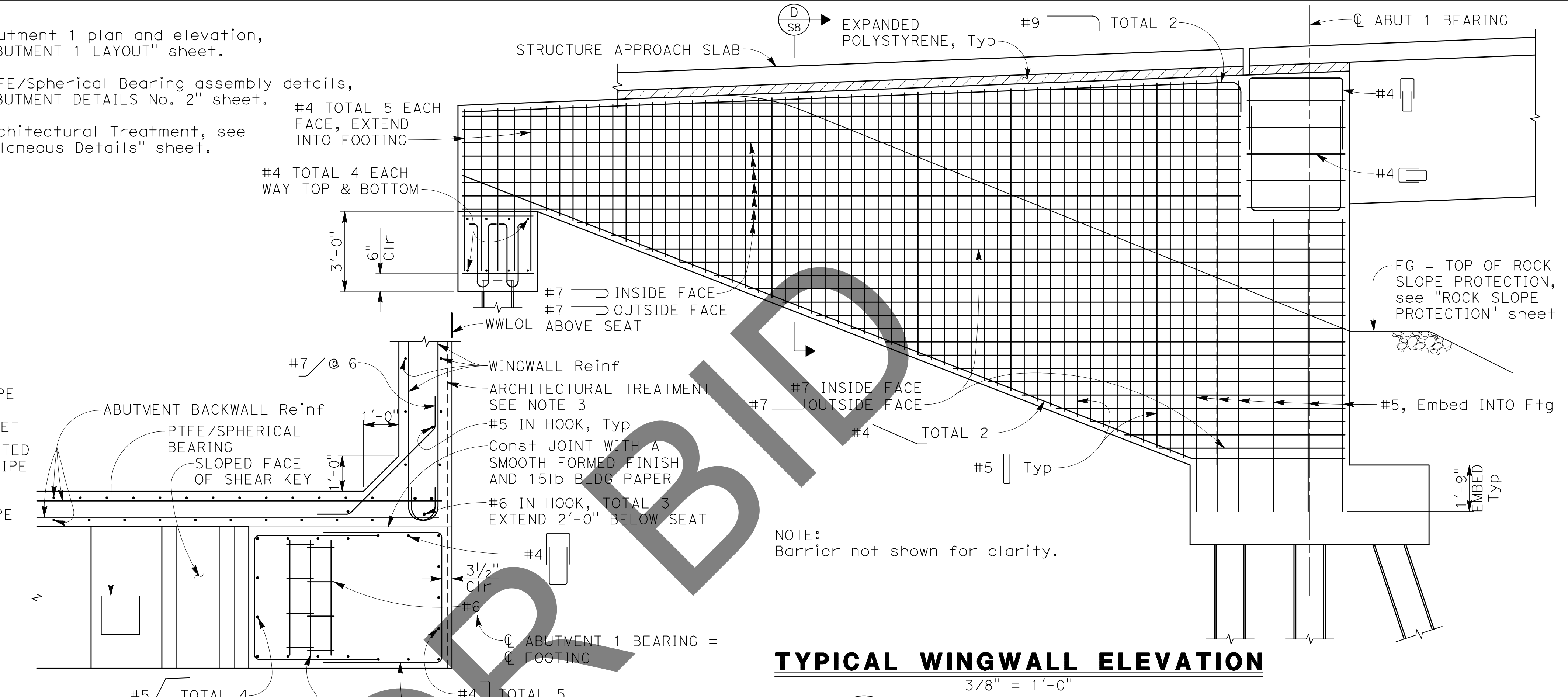
100% SUBMISSION

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-07	52	102

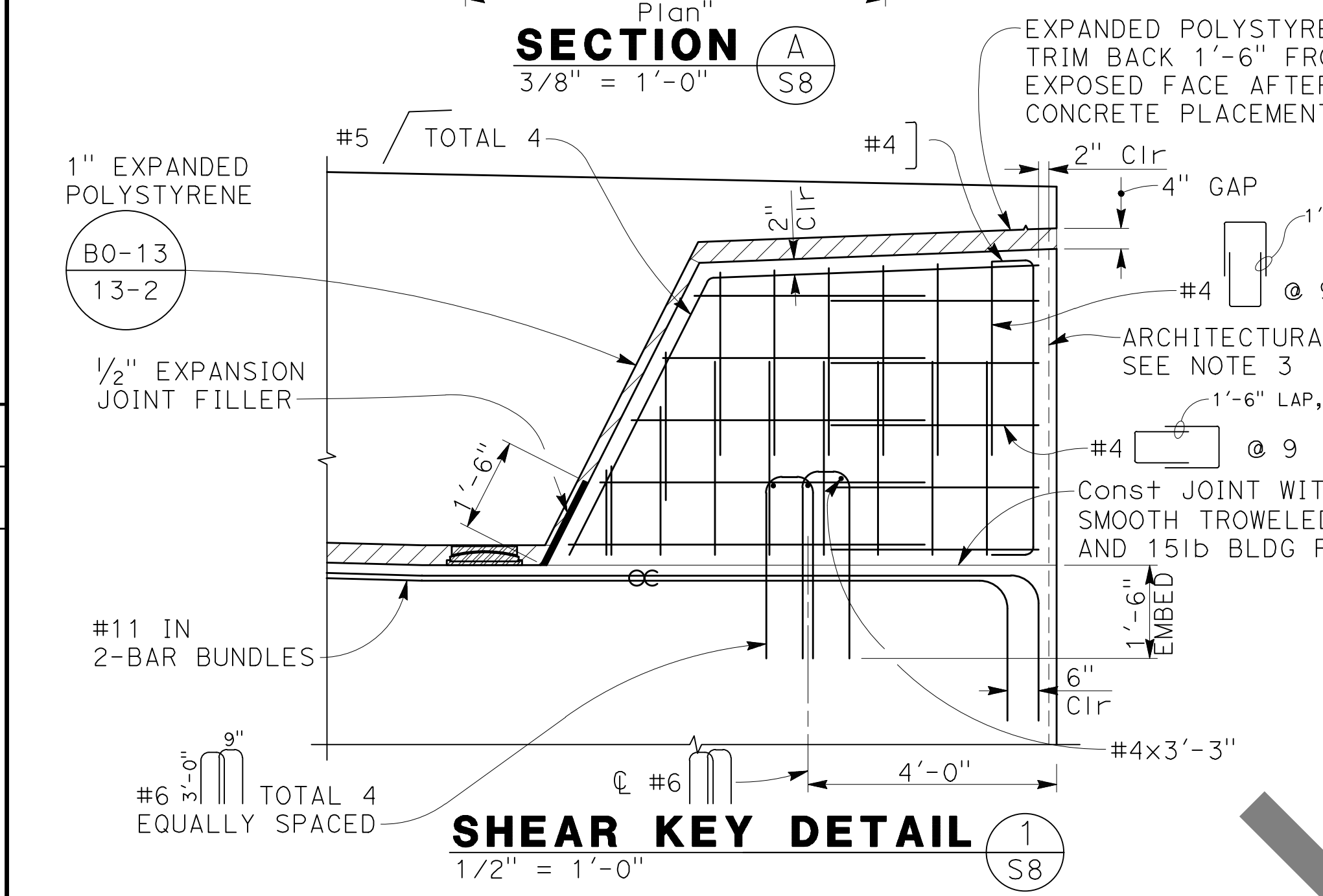


SECTION A
3/8" = 1'-0"

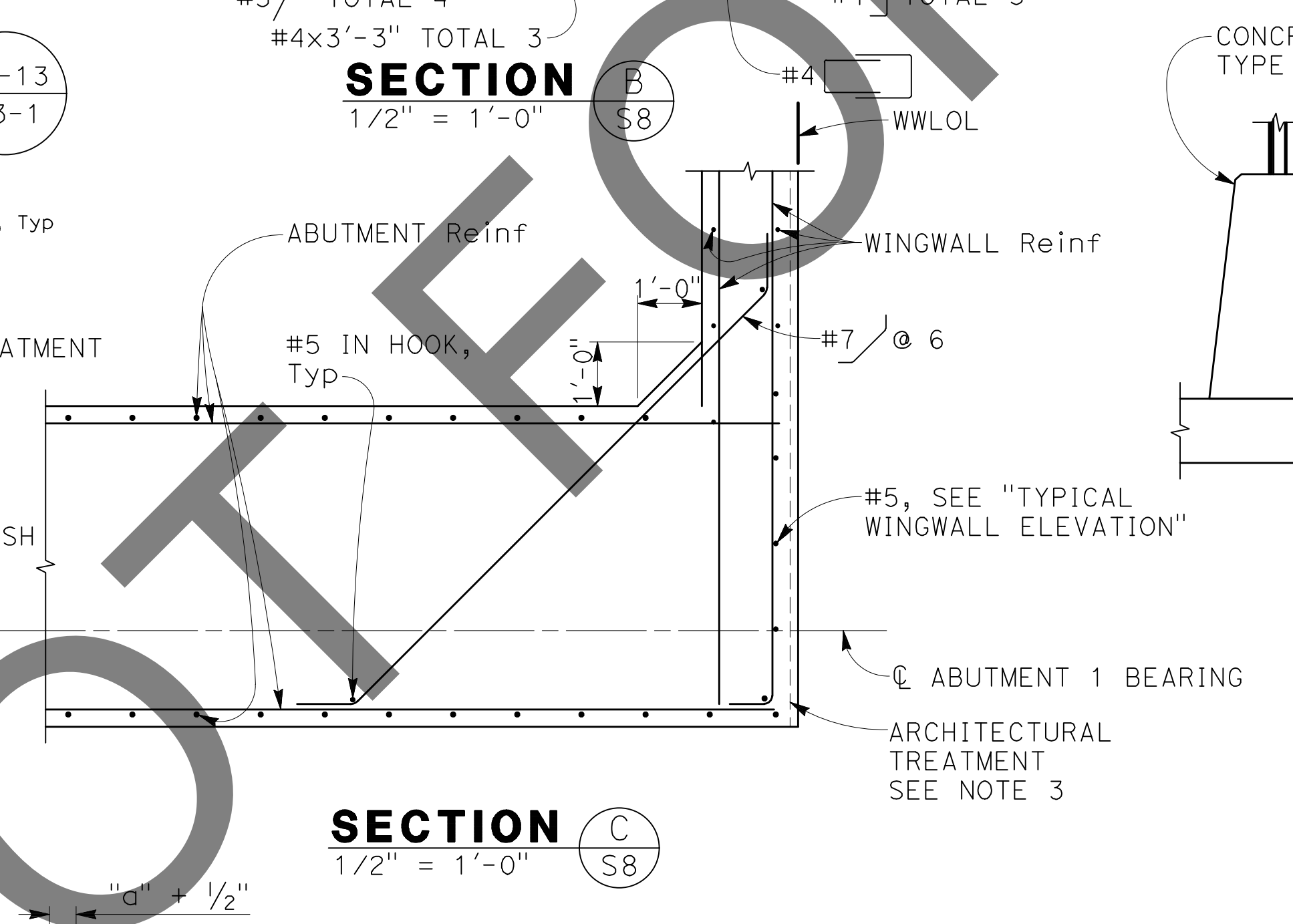
- NOTES:**
- For Abutment 1 plan and elevation, see "ABUTMENT 1 LAYOUT" sheet.
 - For PTFE/Spherical Bearing assembly details, see "ABUTMENT DETAILS No. 2" sheet.
 - For Architectural Treatment, see "Miscellaneous Details" sheet.



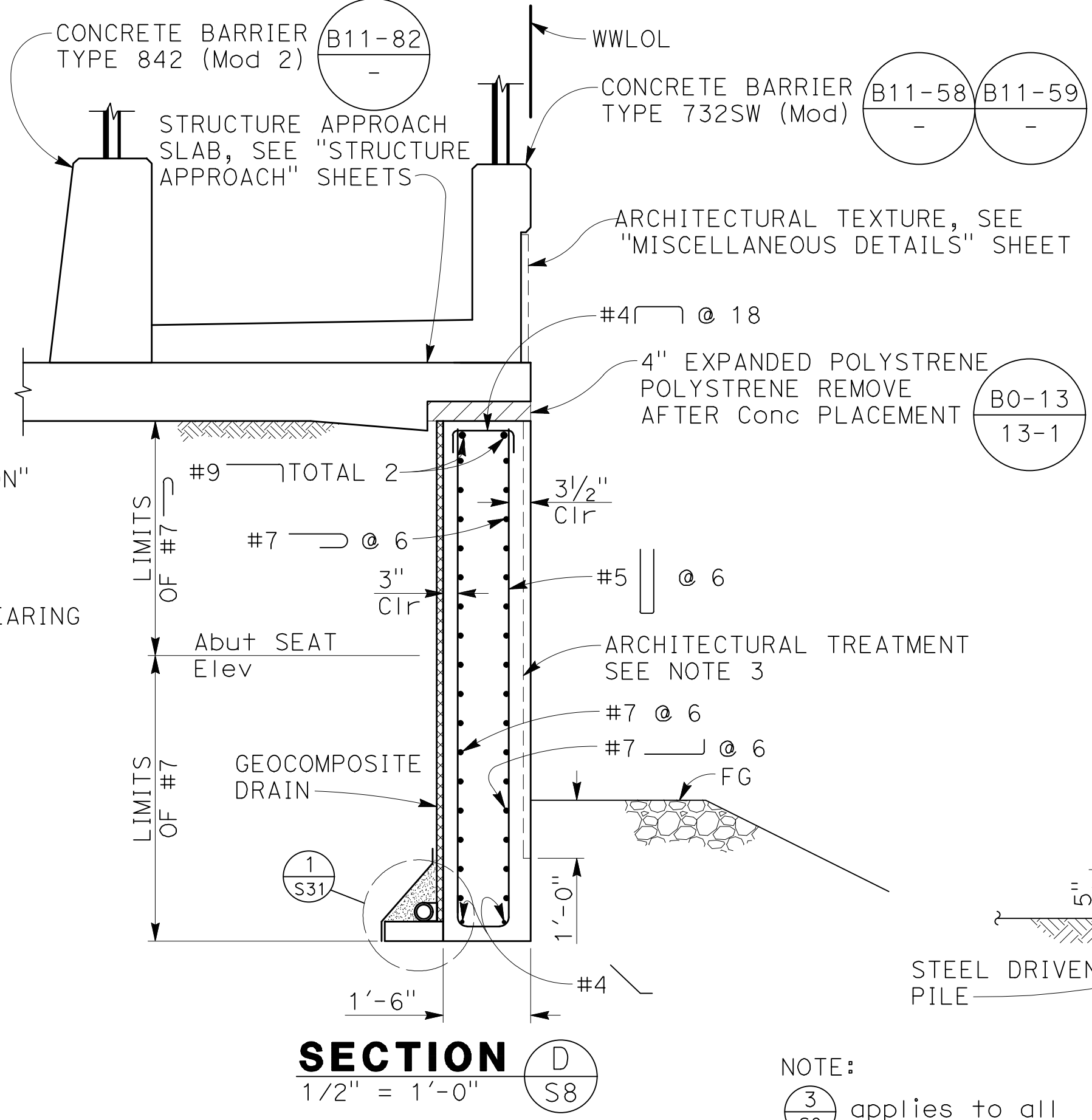
TYPICAL WINGWALL ELEVATION
3/8" = 1'-0"



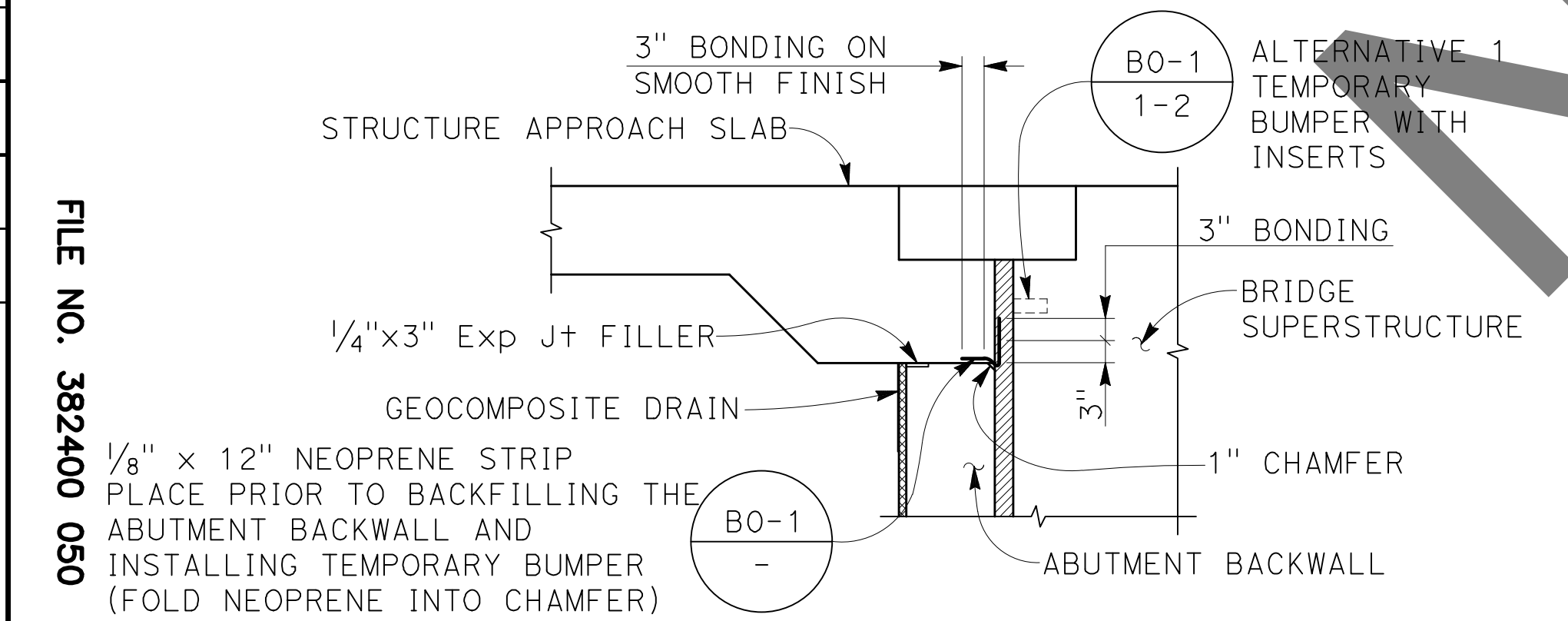
SECTION B
1/2" = 1'-0"



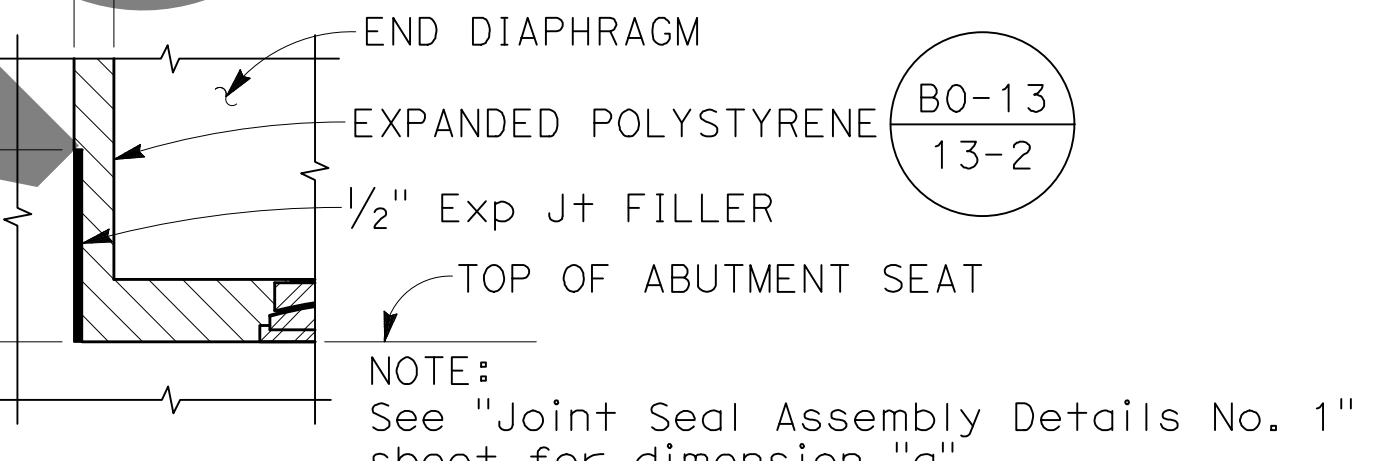
SECTION C
1/2" = 1'-0"



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



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



DETAIL 1
NO SCALE

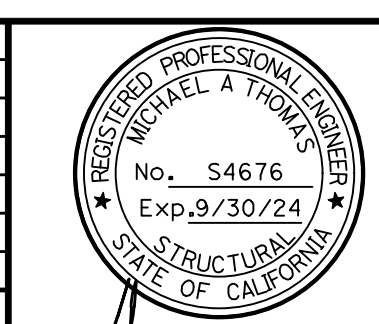


JOINT PROTECTION DETAIL
NO SCALE

FILE NO. 382400 050

MARK	REVISIONS	APPR.	DATE

PLANS PREPARED BY:
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STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24 DATE
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24 DATE		APPROVED BY: MERVA N. MORRIS, P.E. DEPUTY DIRECTOR 8/15/24 DATE	

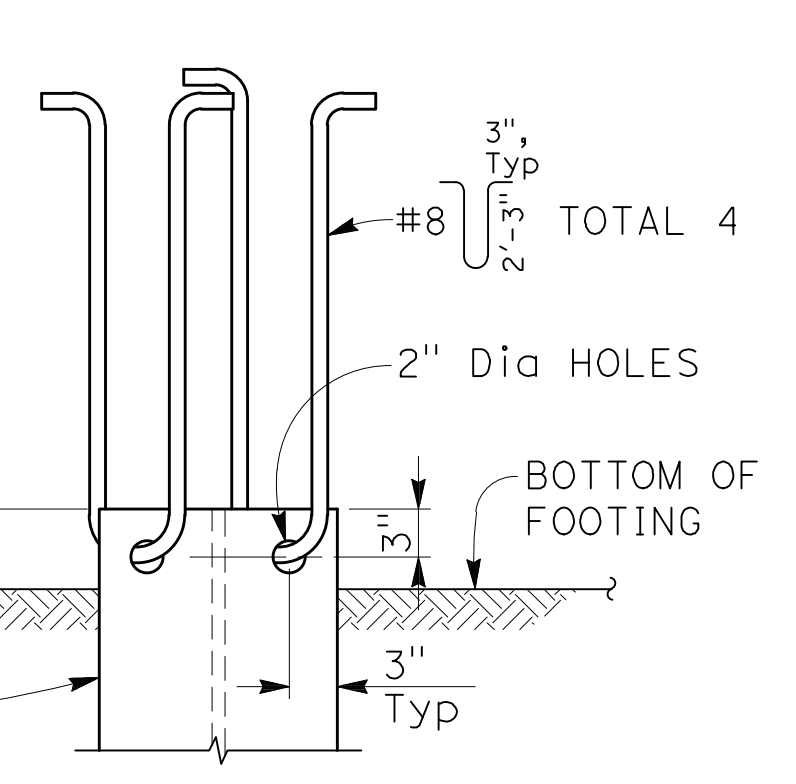
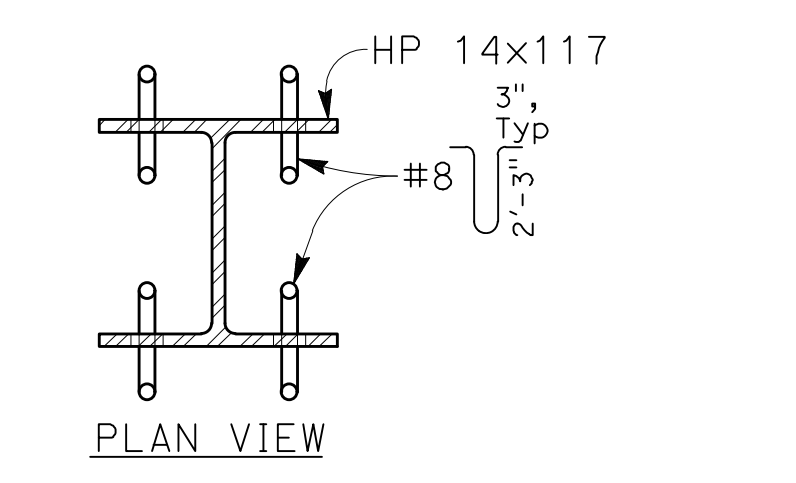
GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH ABUTMENT DETAILS No. 1				
J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-08	53	102

MARK	CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

REGISTERED STRUCTURAL ENGINEER
7/29/24
DATE

NOTE:
3/8 applies to all Abutment and wingwall piles
100% SUBMISSION



DETAIL 3
1" = 1'-0"

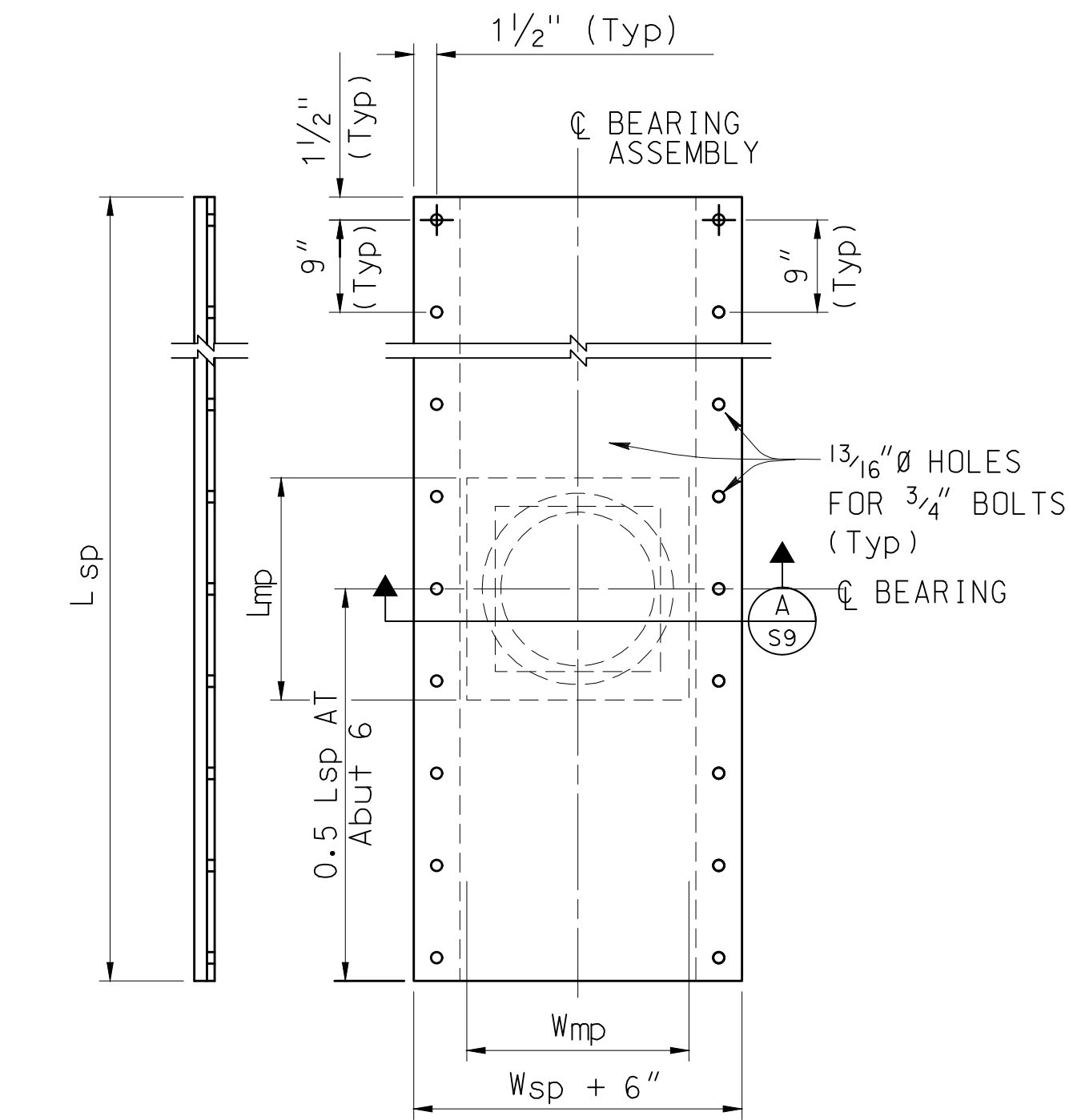
SLIDING BEARING TABLE

LOCATION	QUANTITY	MAXIMUM VERTICAL LOAD (kips)	MINIMUM DEAD LOAD (kips)	DESIGN ROTATION (Radians)	CONCAVE PLATE					CONVEX PLATE			MASONRY PLATE			SOLE PLATE			ASSEMBLY HEIGHT
					WIDTH / LENGTH	FLAT PTFE AREA(in ²)	DIAMETER			SPHERICAL RADIUS	DIAMETER	MAXIMUM THICKNESS	WIDTH SEE NOTE 12	LENGTH	THICKNESS	WIDTH SEE NOTE 12	LENGTH	THICKNESS	
					L _{cp}	APTFE	D _m	T ₁	T ₂	R	C _m	H _{act}	W _{mp}	L _{mp}	T _{mp}	W _{sp}	L _{sp}	T _{sp}	
ABUTMENT 1	9	273	168	0.0349	11.125	81.00	10.0	1.625	0.75	21.50	11.50	1.533	14.25	14.25	1.25	16.0	67.0	1.0	5.471
ABUTMENT 6, TYPICAL	8	366	243	0.0349	13.125	105.06	12.0	1.75	0.75	26.0	14.00	1.750	17.0	17.0	1.25	18.0	89.0	1.50	5.313
ABUTMENT 6 EXT *	1	481	321	0.0349	15.125	138.06	14.0	1.875	0.75	30.25	16.00	2.00	19.0	19.0	1.50	26.0	91.0	1.50	5.813

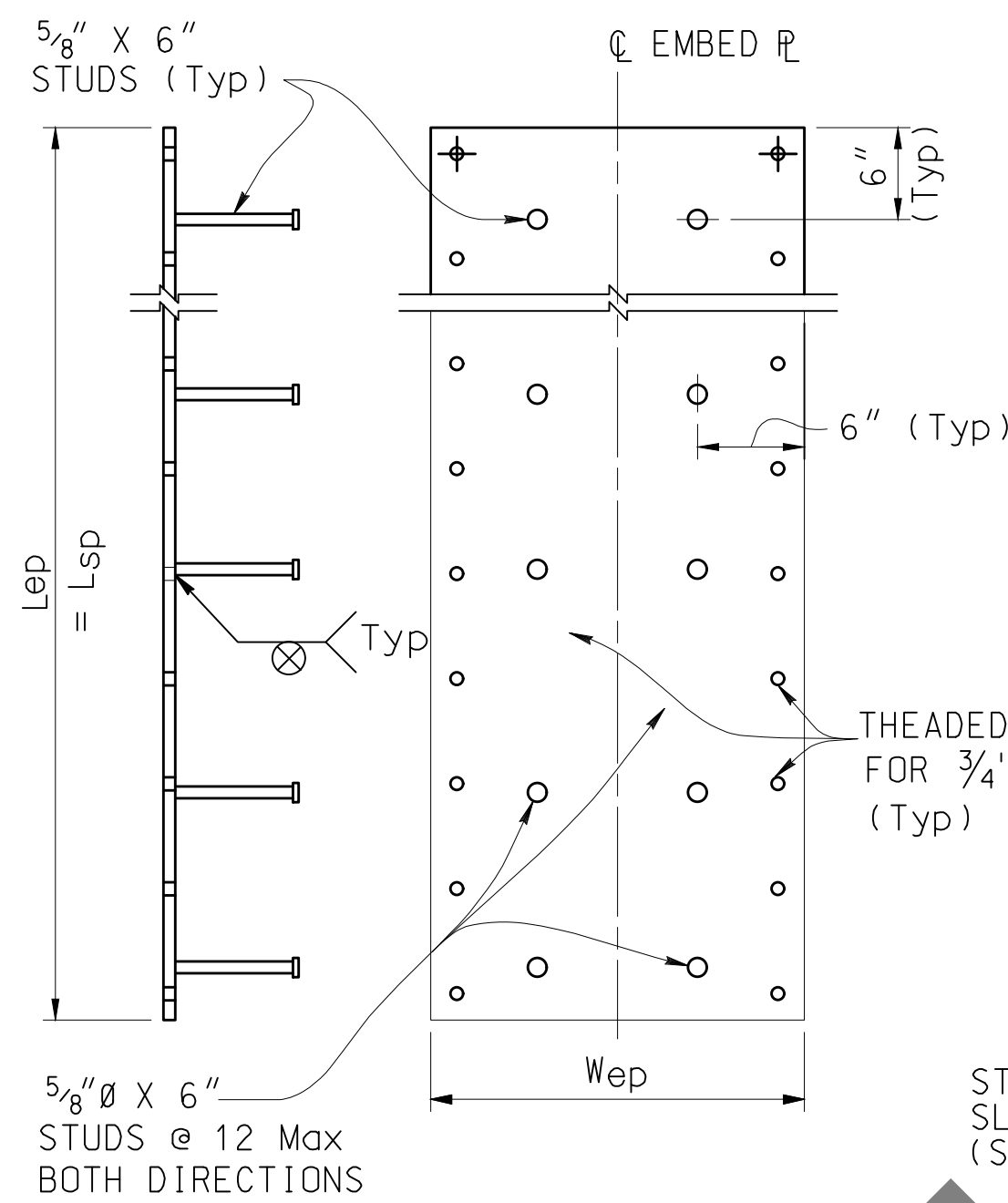
* EXTERIOR BEARING AT SOUTHEAST END OF ABUTMENT BENT CAP

NOTES:

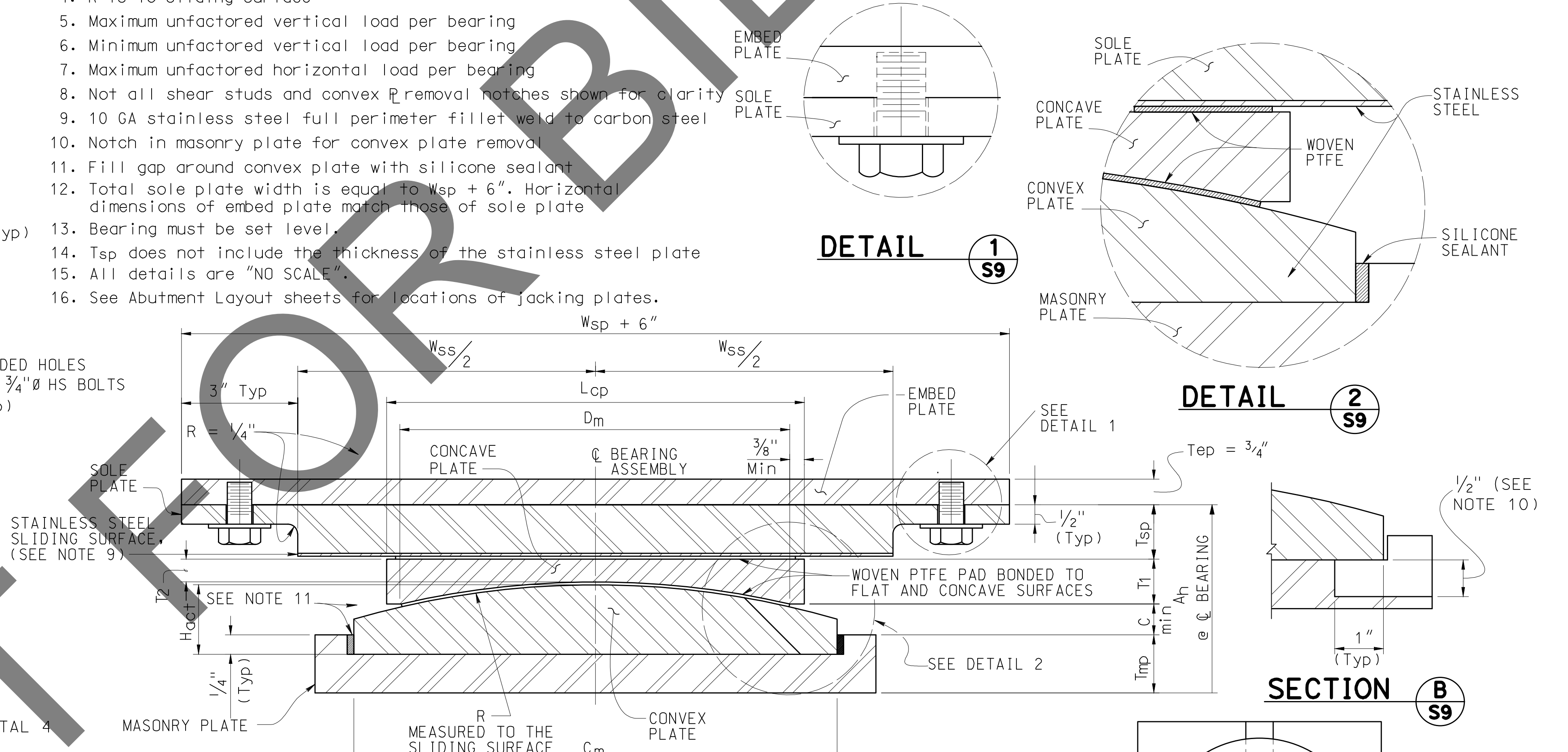
- All dimensions in inches
- H_{act} includes stainless steel
- A_h includes PTFE, substratum and stainless steel
- R is to sliding surface
- Maximum unfactored vertical load per bearing
- Minimum unfactored vertical load per bearing
- Maximum unfactored horizontal load per bearing
- Not all shear studs and convex removal notches shown for clarity
- 10 GA stainless steel full perimeter fillet weld to carbon steel
- Notch in masonry plate for convex plate removal
- Fill gap around convex plate with silicone sealant
- Total sole plate width is equal to W_{sp} + 6". Horizontal dimensions of embed plate match those of sole plate
- Bearing must be set level.
- T_{sp} does not include the thickness of the stainless steel plate
- All details are "NO SCALE".
- See Abutment Layout sheets for locations of jacking plates.



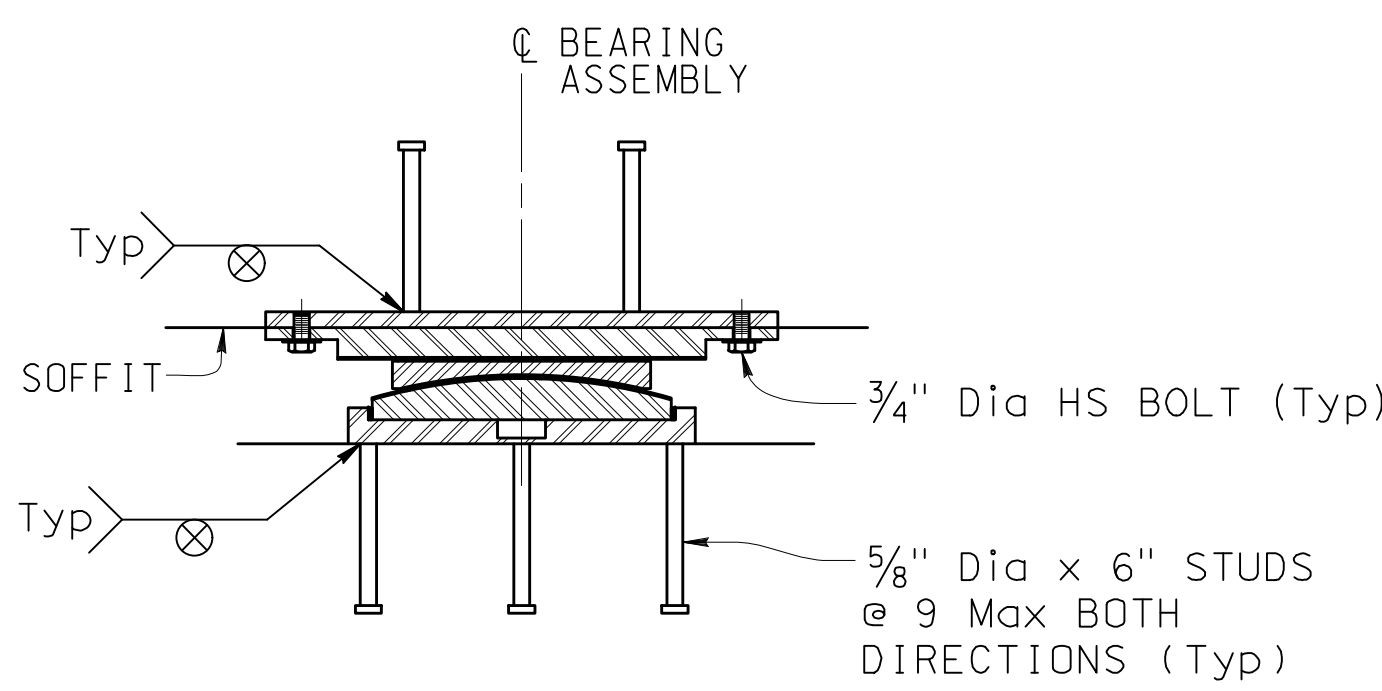
SIDE VIEW
PLAN
SOLE PLATE



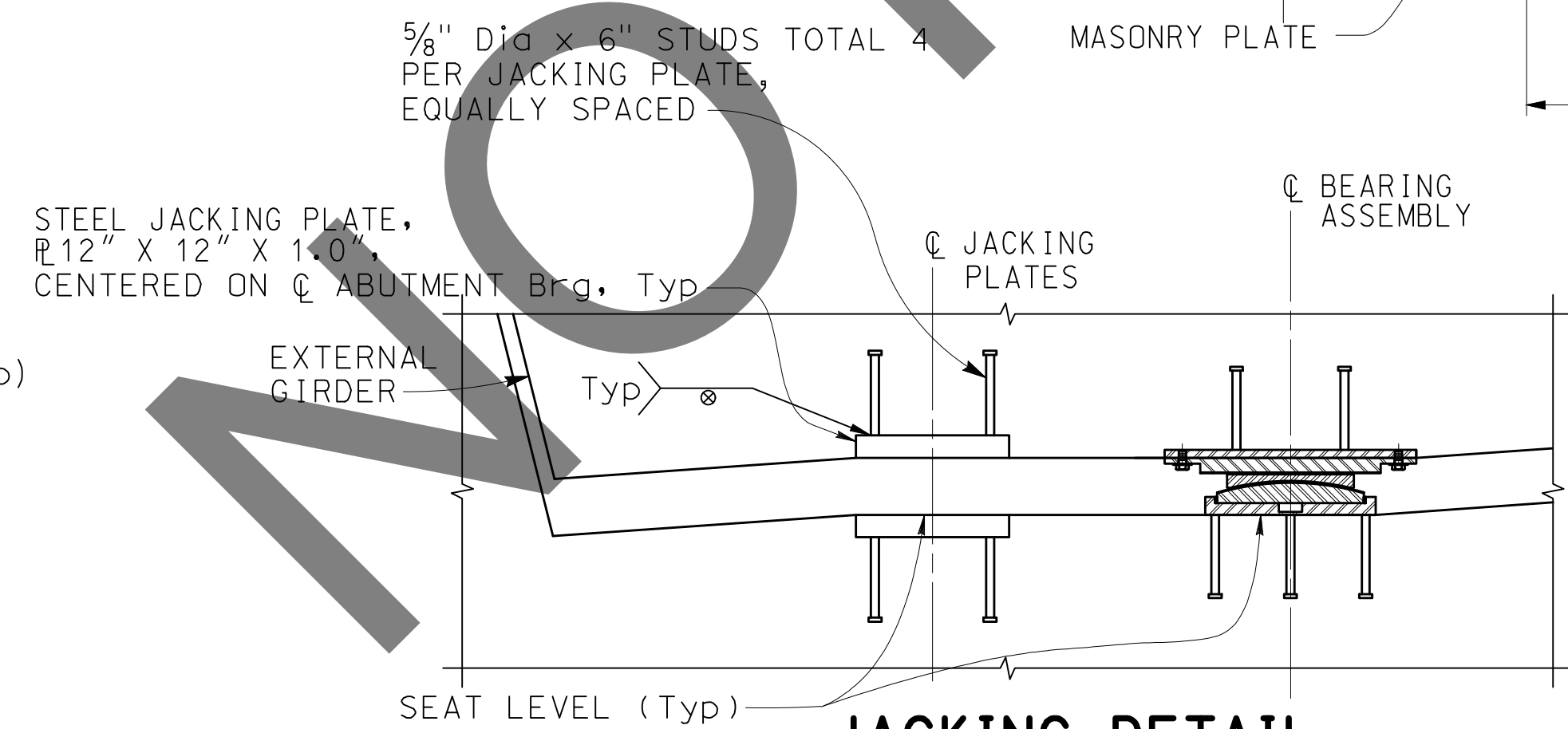
SIDE VIEW
PLAN
EMBED PLATE



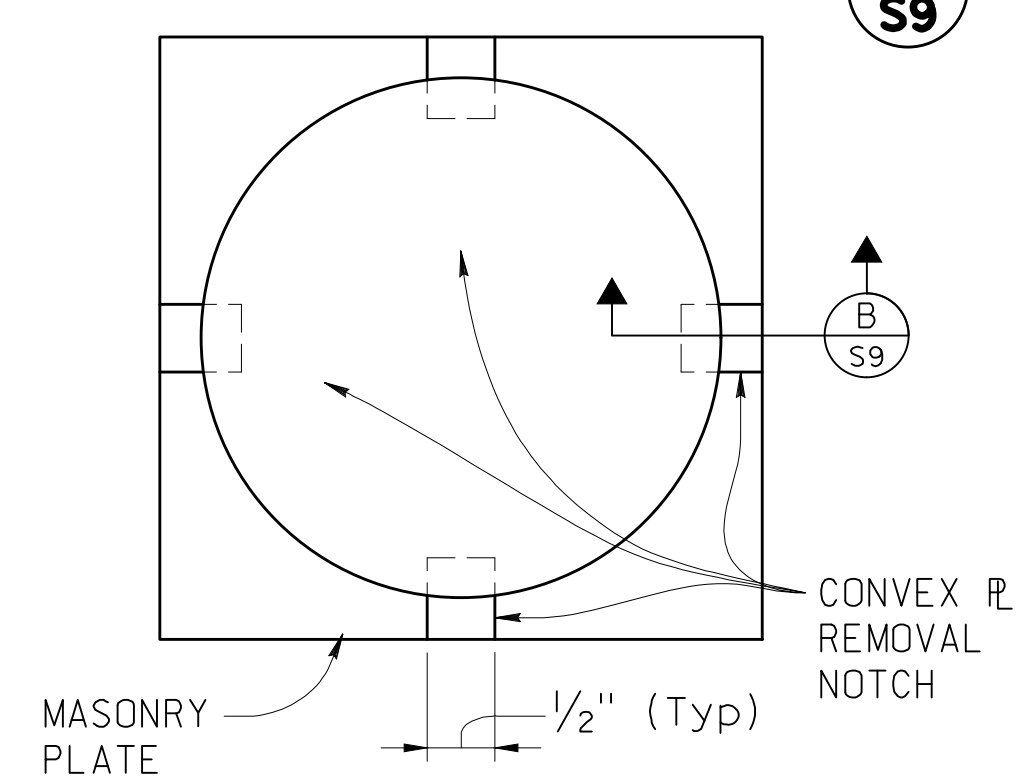
SECTION A-S9
(SEE NOTE 8)



ELEVATION
(SEE NOTE 8)



JACKING DETAIL
(SEE NOTE 8)



MASONRY PLATE PLAN
(SEE NOTE 8)
100% SUBMISSION

DETAIL 1-S9

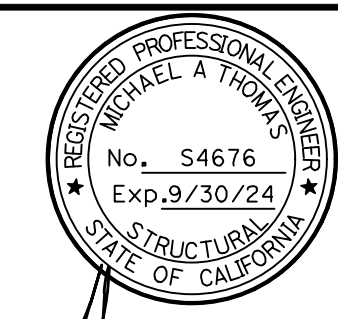
DETAIL 2-S9

SECTION B-S9

FILE NO. 382400 050

NOTE:
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PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: <i>Chris Nguyen</i> CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: <i>Thomas Bustamante</i> THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24			APPROVED BY: <i>Michael A. Thomas</i> MICHAEL A. THOMAS, P.E. DEPUTY DIRECTOR 8/15/24

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
ABUTMENT DETAILS No. 2

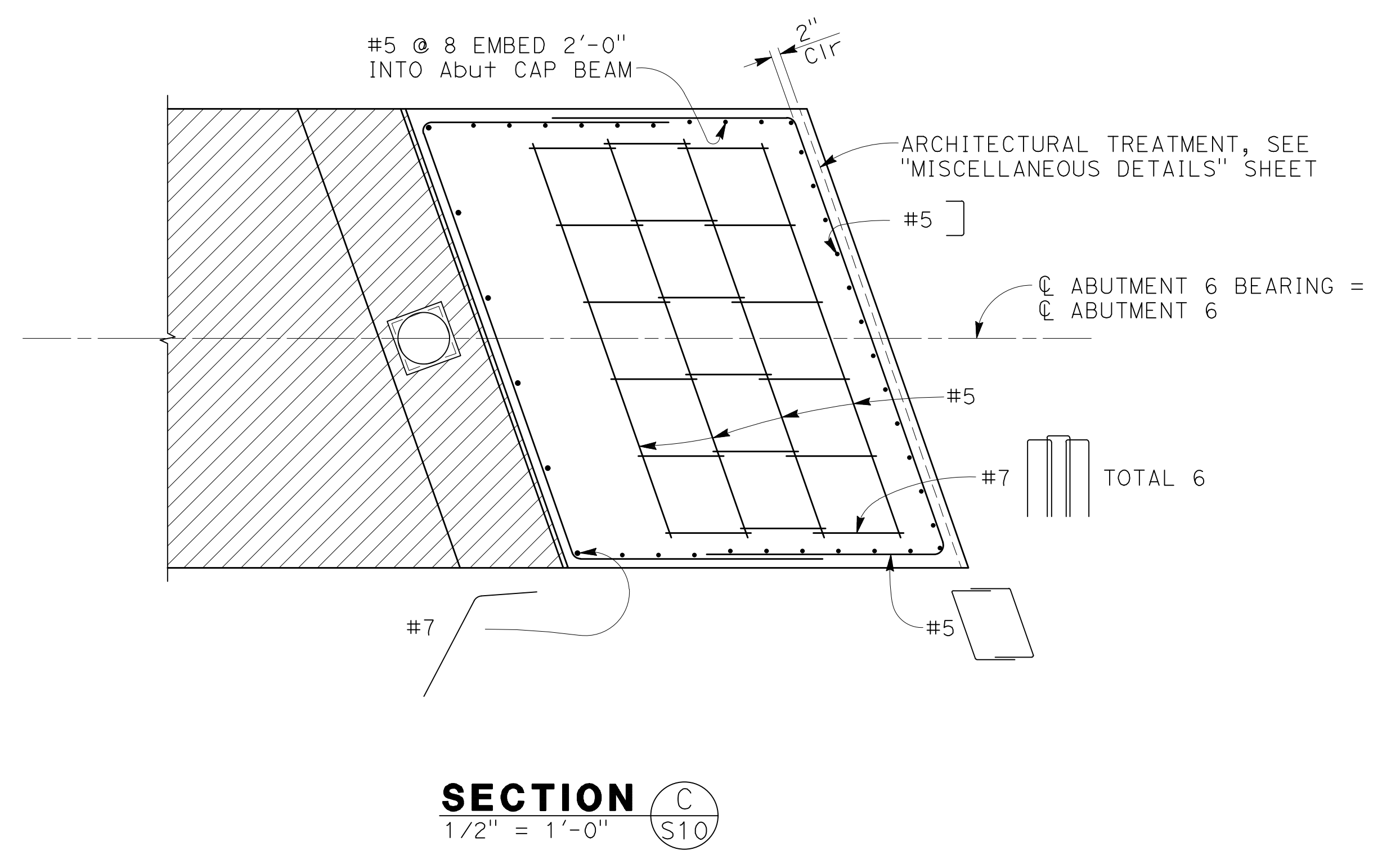
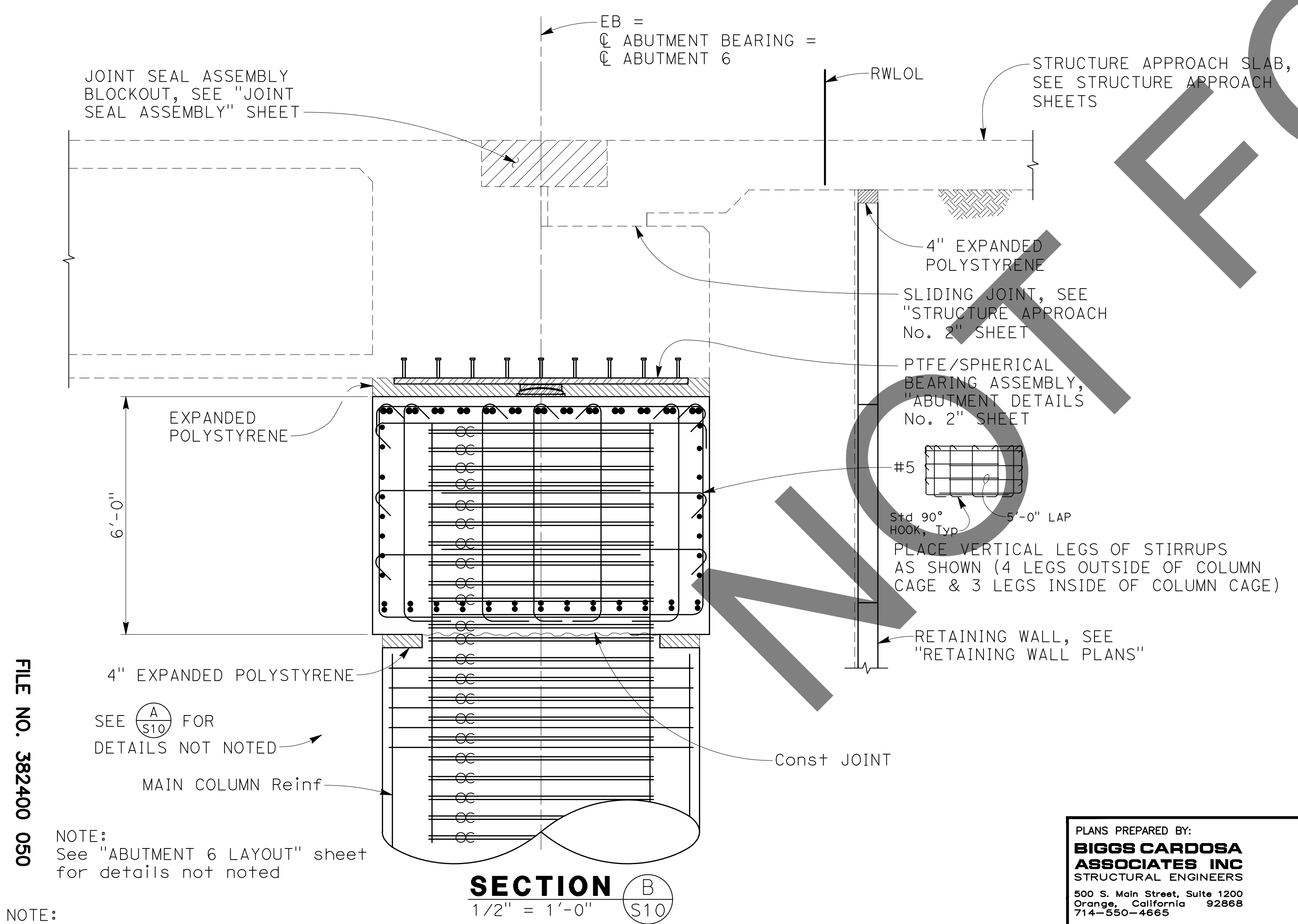
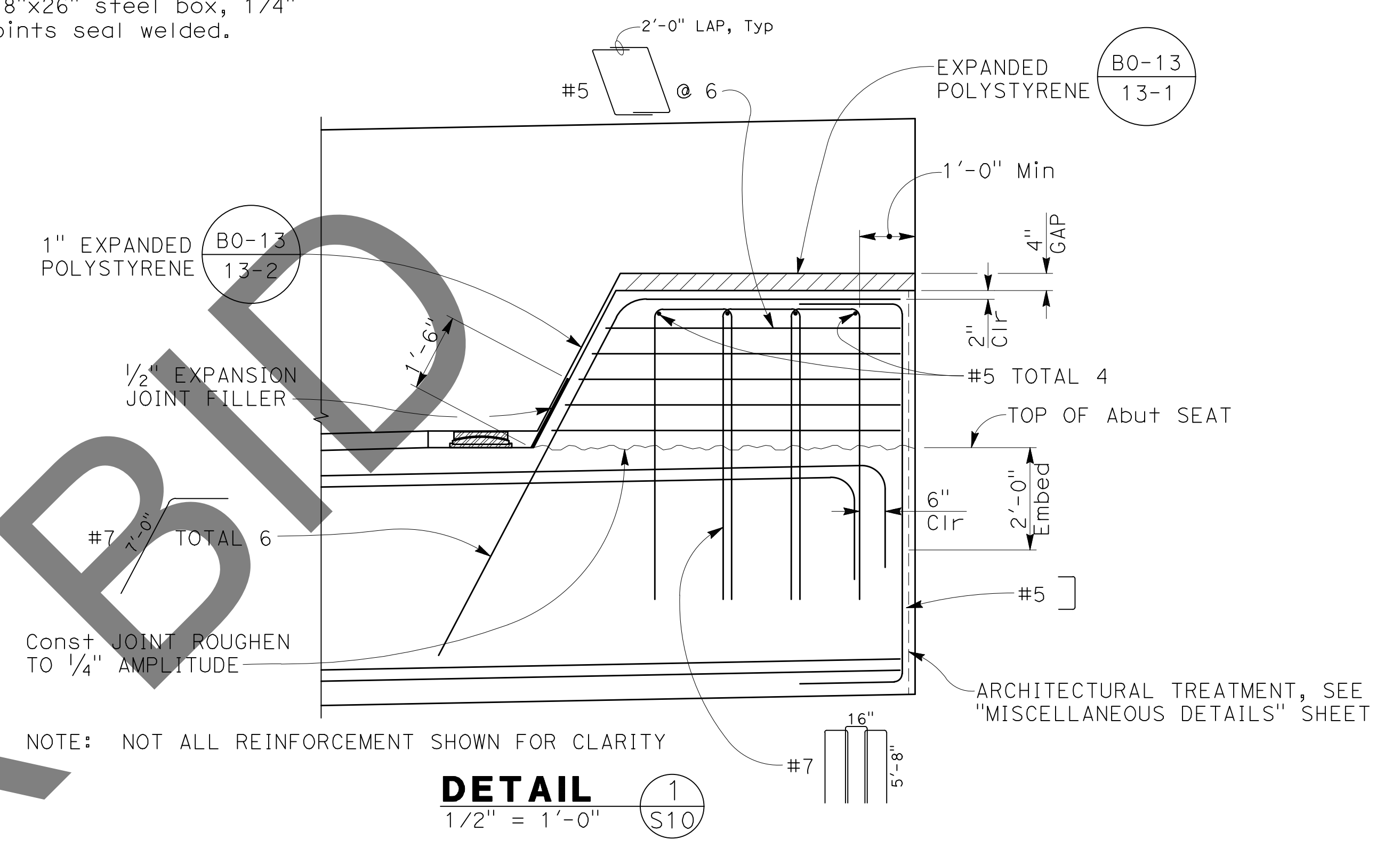
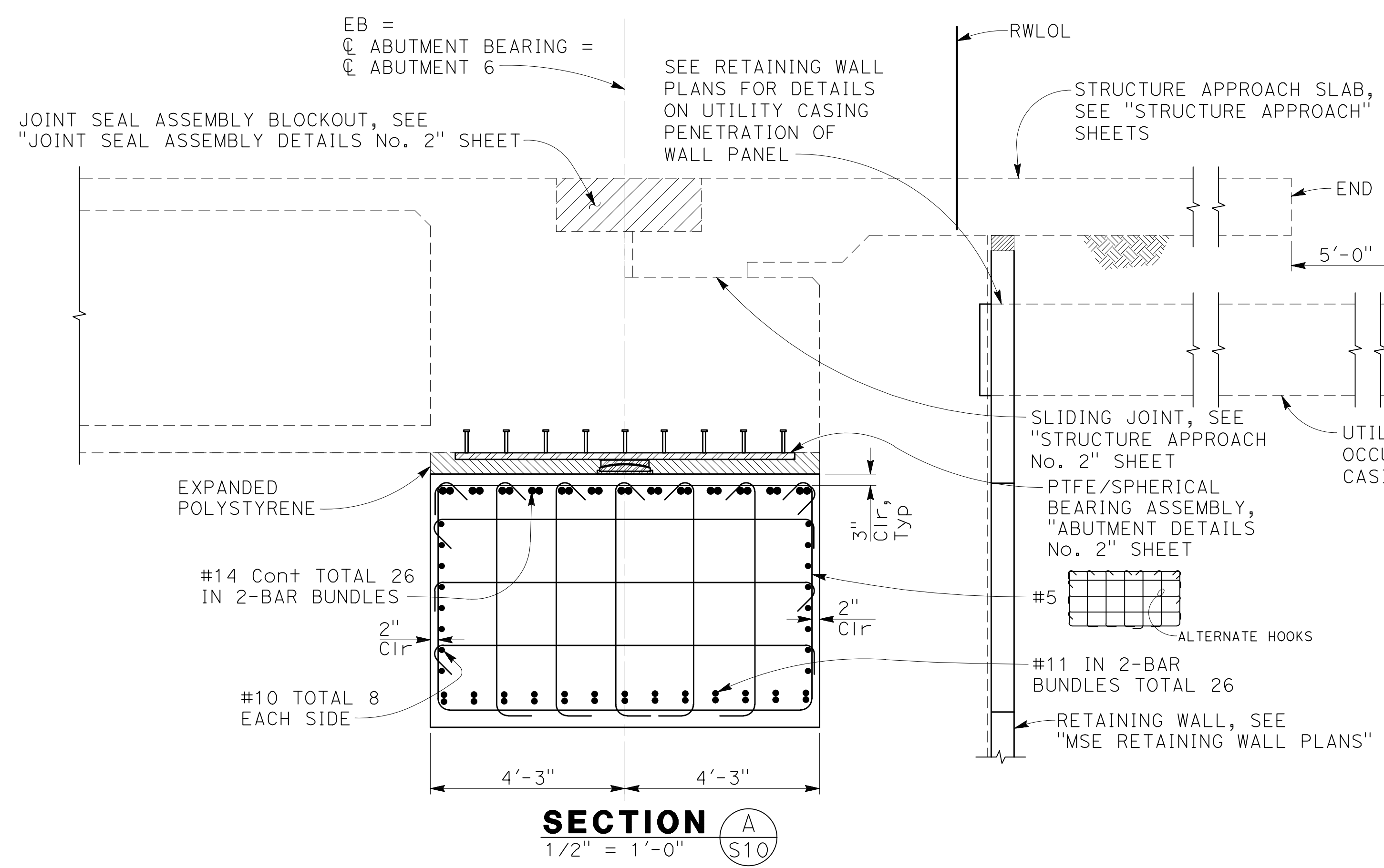
J.L. REF. 11334	W.O. NO. H14646	DRAWING NO. S-09	SHT. NO. 54	TOT. SHTS. 102
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FILE NO. 382400 050

13/000000/000000 5-15-2012 - MODIFIED 8/10/2024 11:28:44AM

UTILITY CASING NOTES:

1. Casing must align with respective openings in Abutment 6 end diaphragm.
2. Casing at round future utility opening must be 2'-0" Dia x 1/4" wall thickness steel pipe.
3. Casing at rectangular SCE future utility opening must be an 18"x26" steel box, 1/4" wall thickness, all joints seal welded.



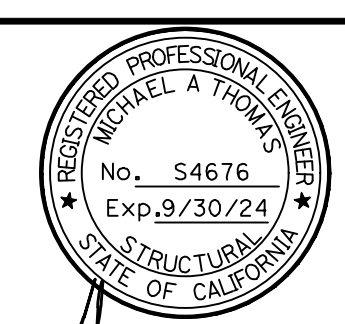
NOTE: See "ABUTMENT 6 LAYOUT" sheet for details not noted

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

PLANS PREPARED BY:
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STRUCTURAL ENGINEERS
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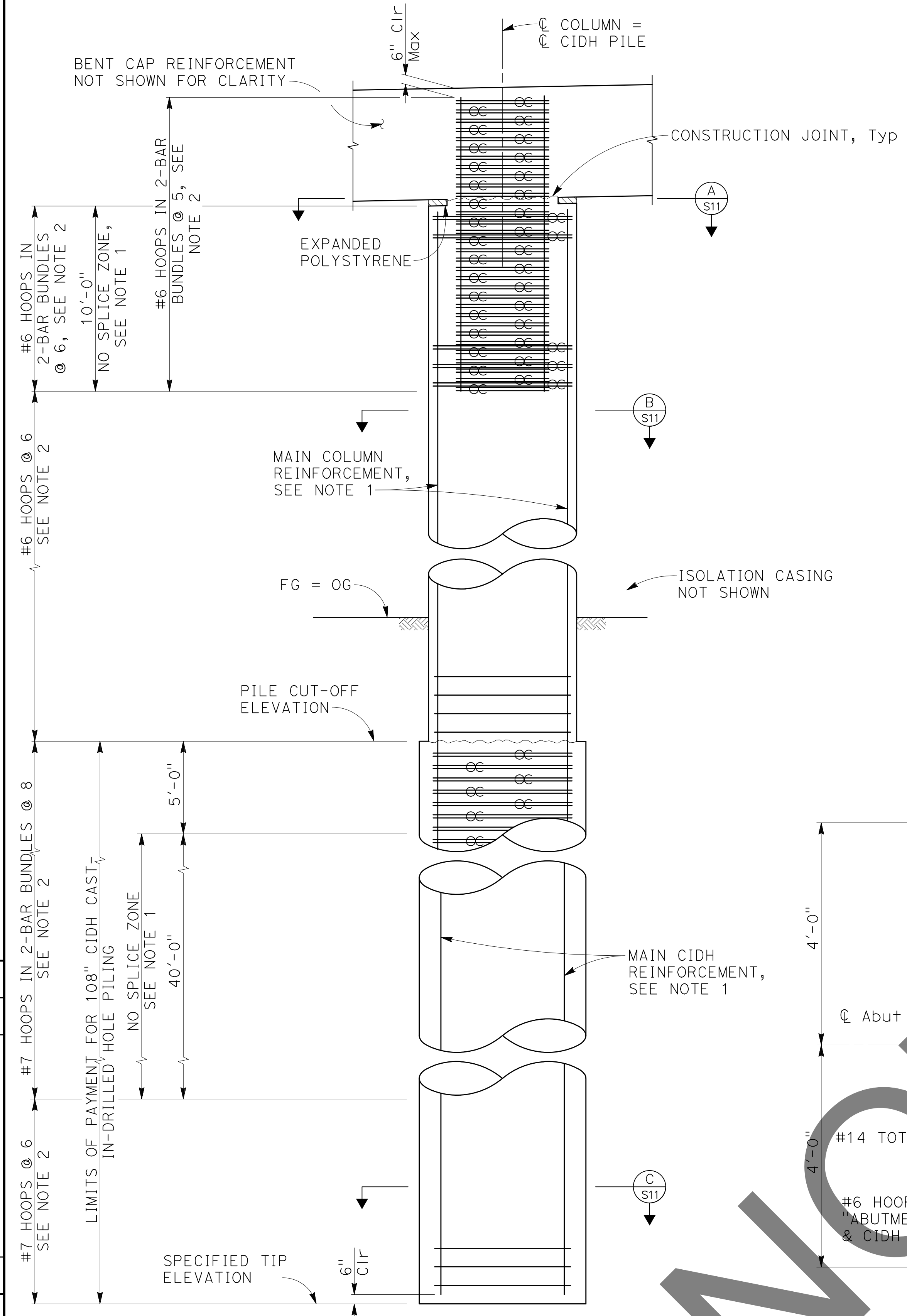
MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES

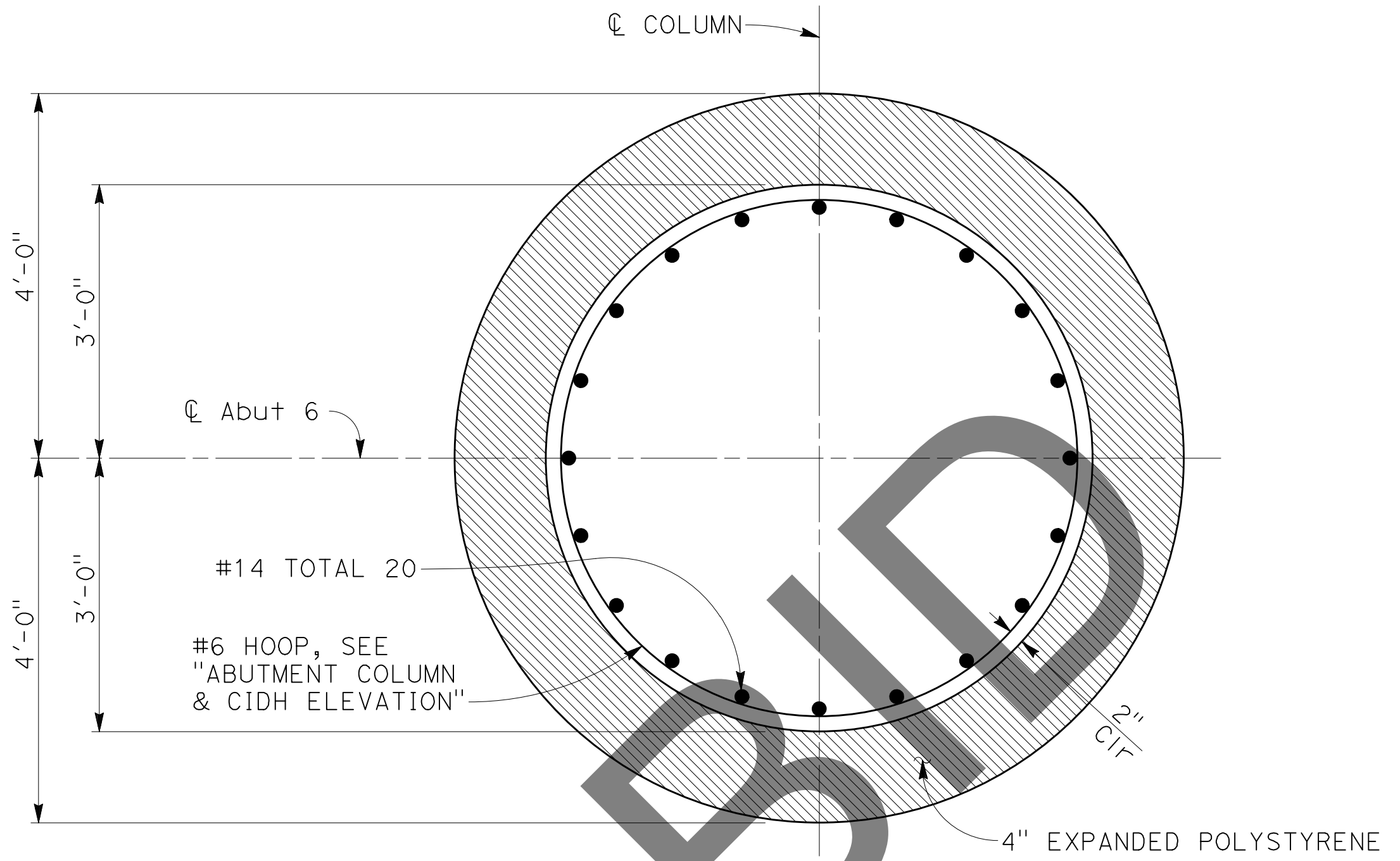


SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:
GOD	SMH	SEM	Chris Nguyen, P.E. 8/15/24
			APPROVED BY: 8/15/24
Thomas Gustamonte, P.E. 8/15/24			Mervat N. Campbell, P.E. 8/15/24
SUPERVISING ENGINEER			DEPUTY DIRECTOR

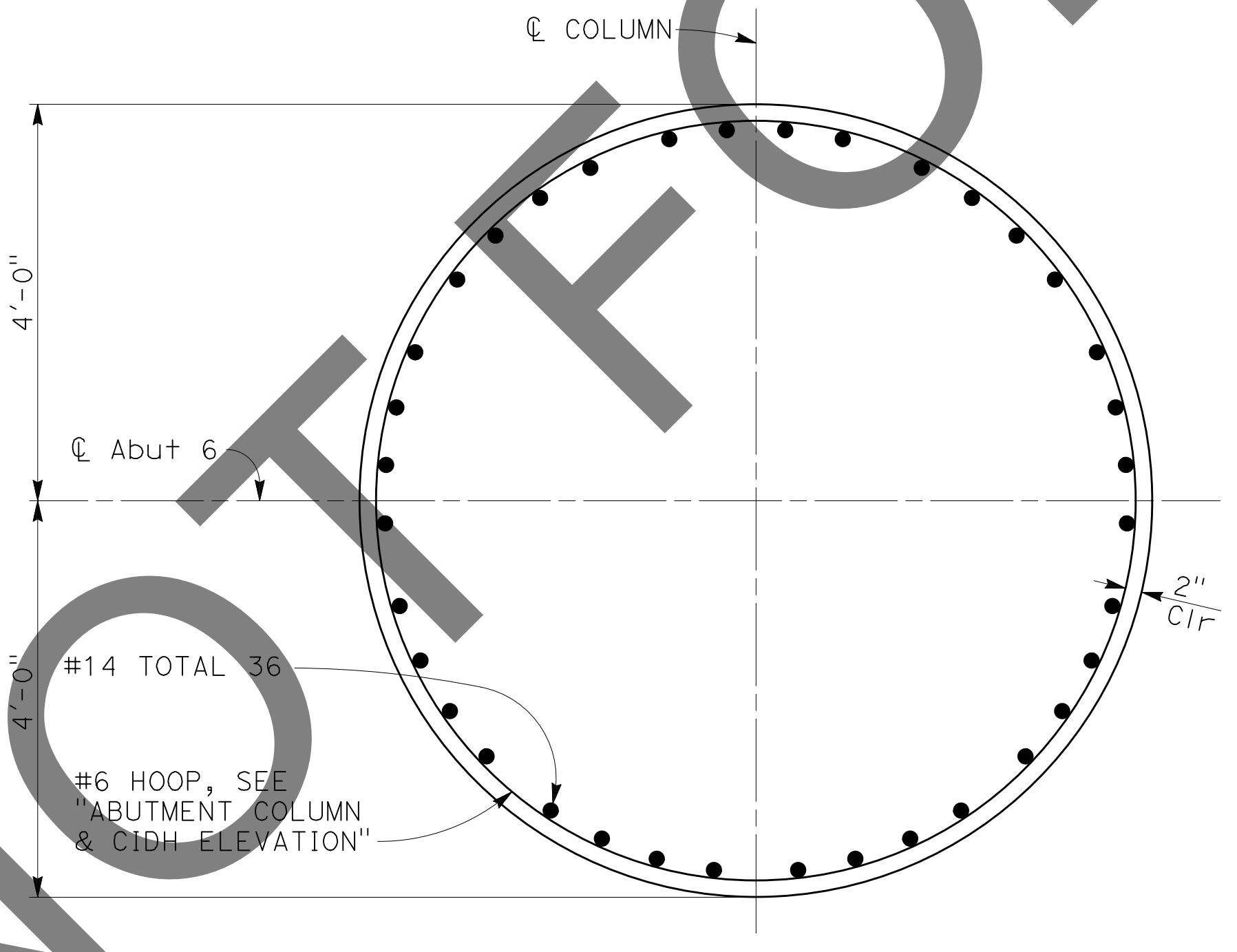
GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH				
ABUTMENT DETAILS No. 3				
J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-10	55	102



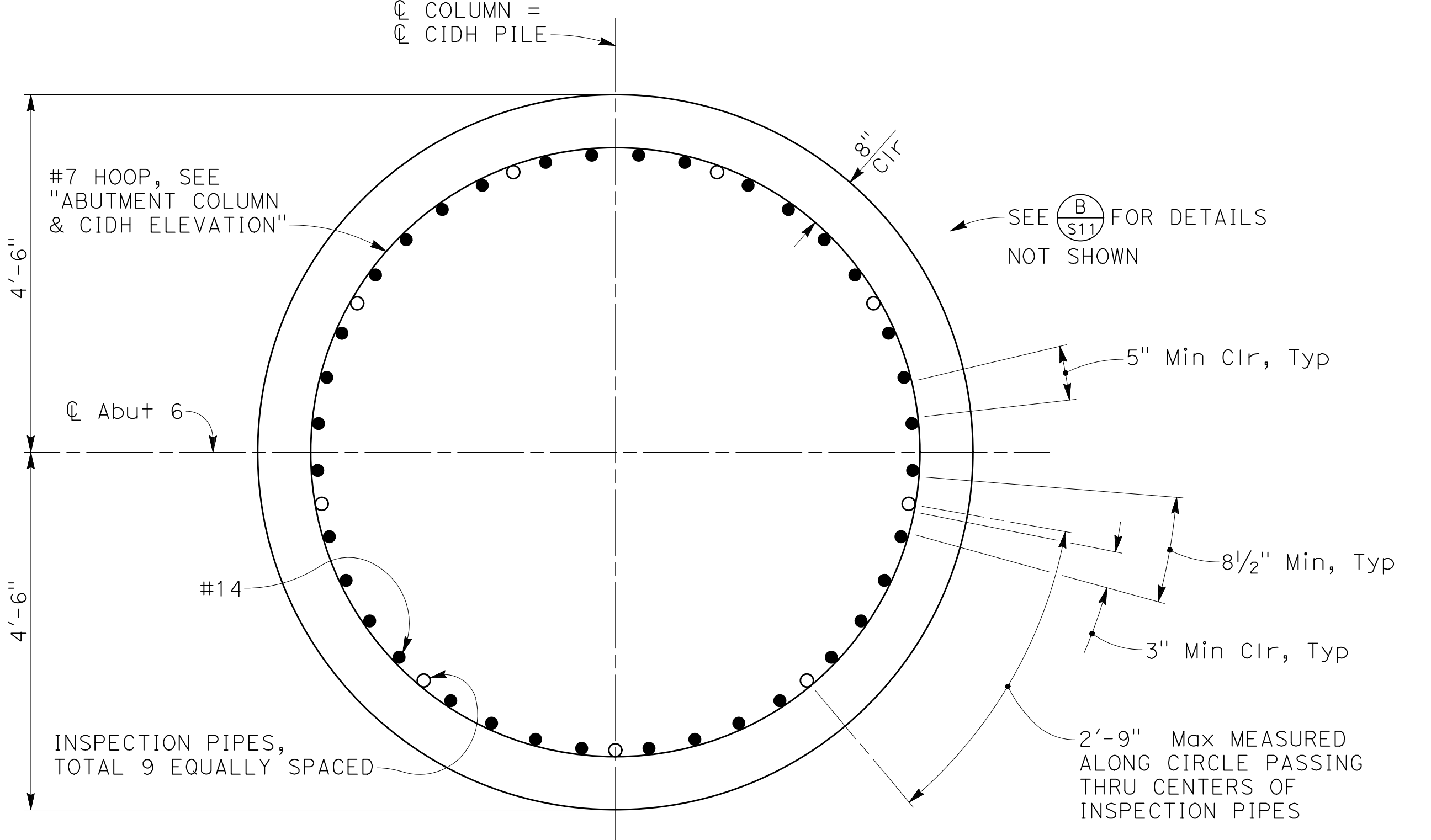
ABUTMENT 6 COLUMN & CIDH ELEVATION
1/4" = 1'-0"



SECTION A
3/4" = 1'-0" S11



SECTION B
3/4" = 1'-0" S11



SECTION C
3/4" = 1'-0" S11

- NOTES:
1. No splices allowed in main column reinforcement and main CIDH pile reinforcement within no splice zones indicated.
 2. Ultimate butt-splices must be used at column and CIDH pile hoops.
 3. Splices in main column and CIDH pile reinforcement outside no splice zones shall be ultimate splices, staggered 2' min.
 4. Concrete in column shall be placed after completion of acceptance testing for CIDH pile.

MARK	REVISIONS	APPR.	DATE

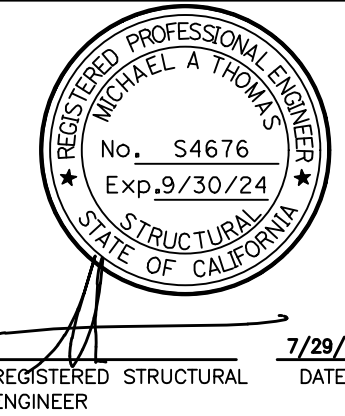
MARK	REVISIONS	APPR.	DATE

FILE NO. 382400 050

NOTE:
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BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

MARK	CHANGES	RESIDENT ENGINEER	DATE



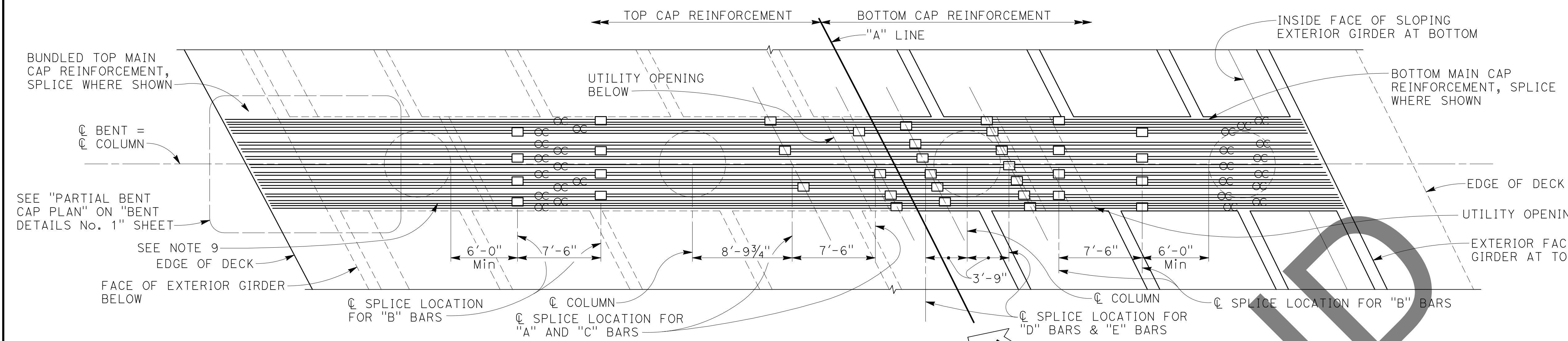
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: Thomas Bustamante, P.E. SUPERVISING ENGINEER 8/15/24			APPROVED BY: MERVAL N. CARRILLO, P.E. DEPUTY DIRECTOR 8/15/24

GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH				
ABUTMENT DETAILS No. 4				
J.L. REF. 11334	W.O. NO. H14646	DRAWING NO. S-11	SHT. NO. 56	TOT. SHTS. 102

100% SUBMISSION



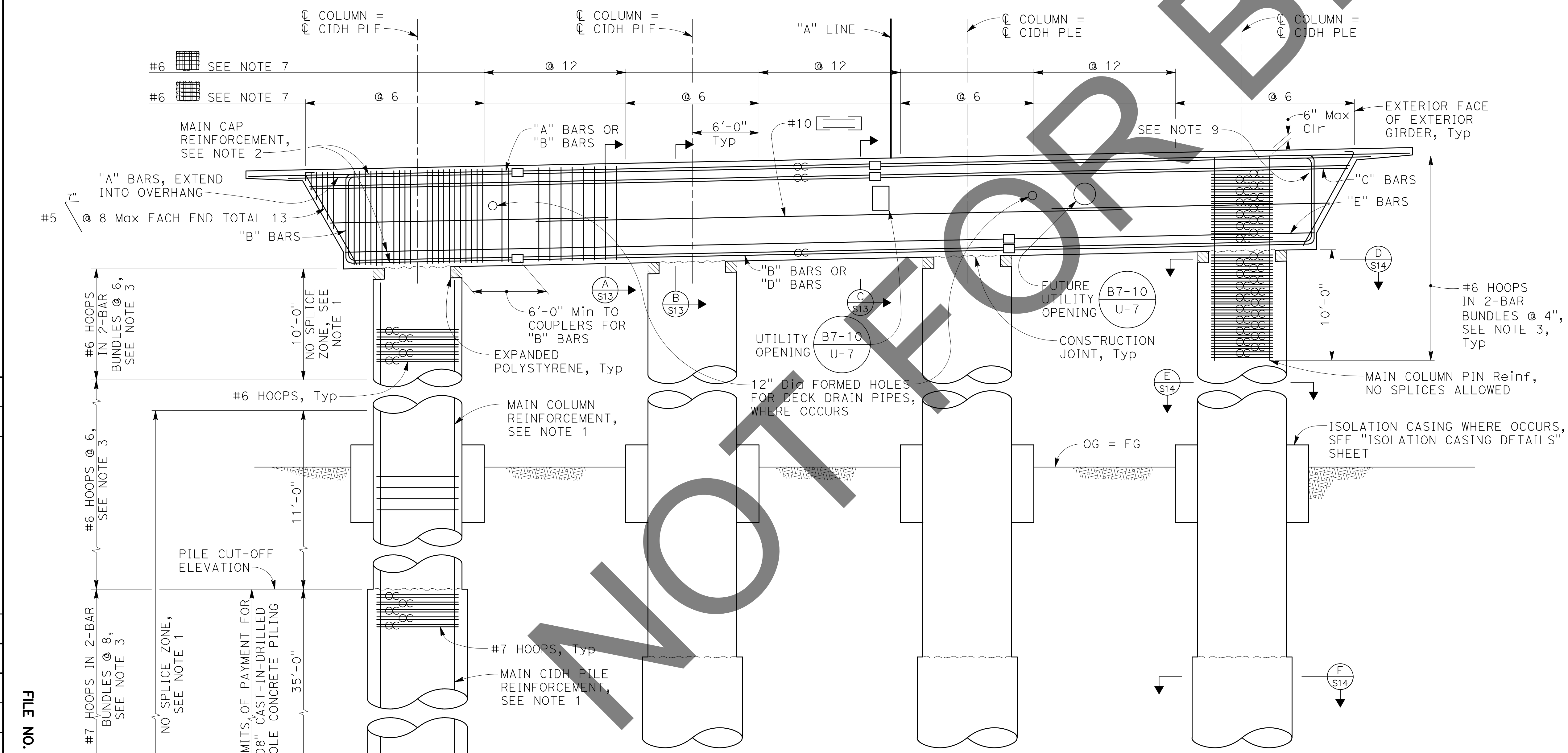
FIELD CHANGES



BENT LAYOUT
3/16" = 1'-0"

LEGEND:
 Indicates service splice coupler
 Indicates bundled bars

- NOTES:**
1. No splices allowed in main column reinforcement and main CIDH pile reinforcement within no splice zones indicated.
 2. No splices allowed in main cap reinforcement except where indicated.
 3. Column and CIDH pile hoops shall utilize ultimate butt splices only.
 4. Not all reinforcement shown for clarity.
 5. Sidewalks, median, and barriers not shown for clarity.
 6. Bent 5 shown, other bents similar.
 7. Bent stirrups shall be placed parallel to \bar{C} girder and spaced along \bar{C} Bent.
 8. Splices in main column and CIDH pile reinforcement outside no splice zones shall be ultimate splices, staggered 2' min.
 9. At conflict with vertical leg of "B" bars, "C" bars may terminate 2" clear of vertical leg. A maximum of half the "C" bars may be terminated.
 10. Concrete in column shall be placed after completion of acceptance testing for CIDH pile.
 11. Not all service splice couplers shown in elevation view.



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

100% SUBMISSION

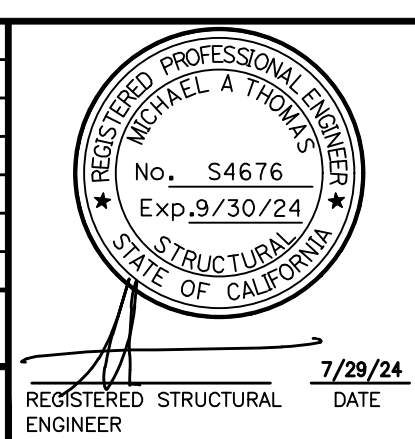
MARK	REVISIONS	DATE

FILE NO. 382400 050

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

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
 STRUCTURAL ENGINEERS
 500 S. Main Street, Suite 1200
 Orange, California 92668
 714-550-4665

BCA



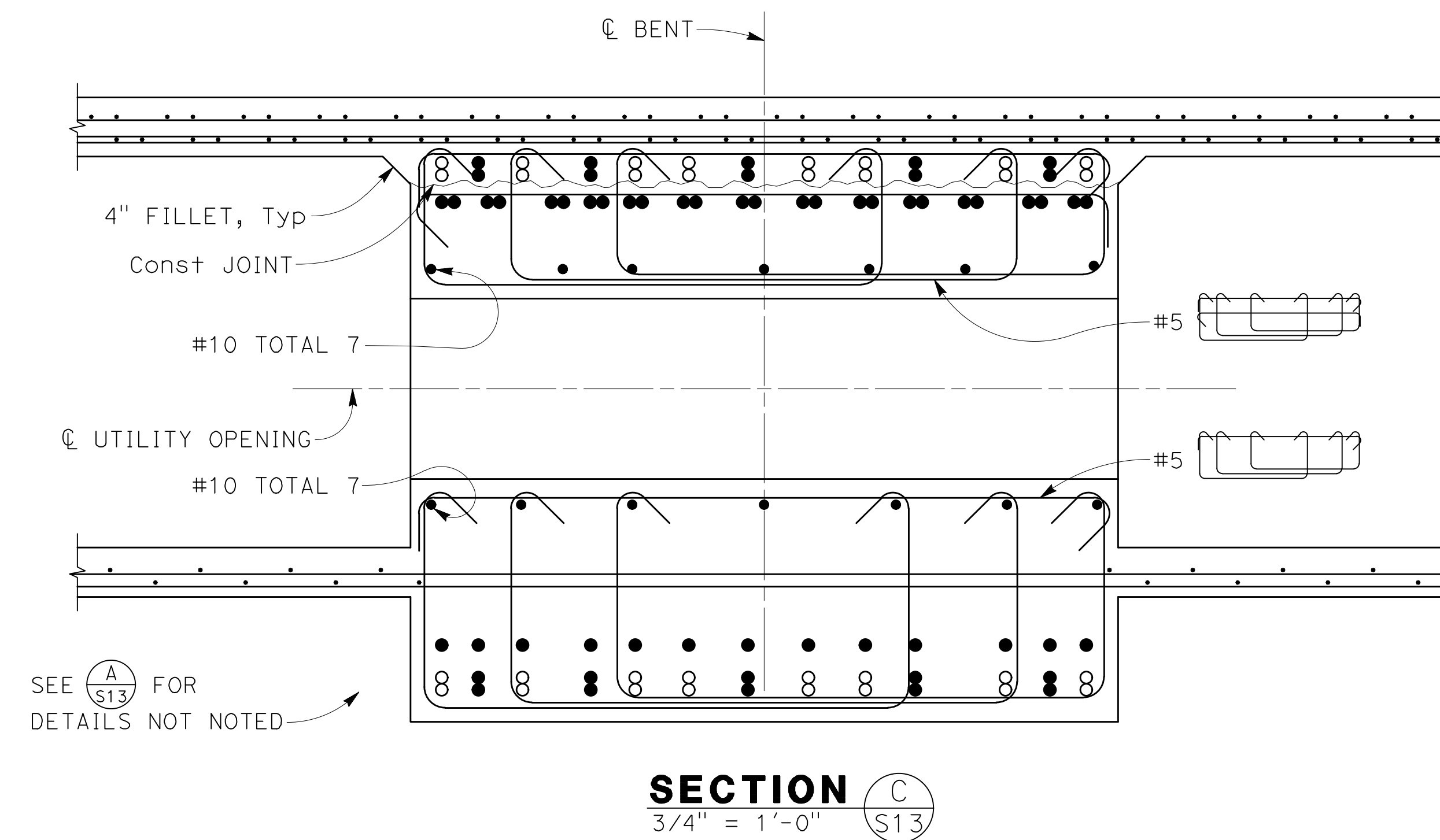
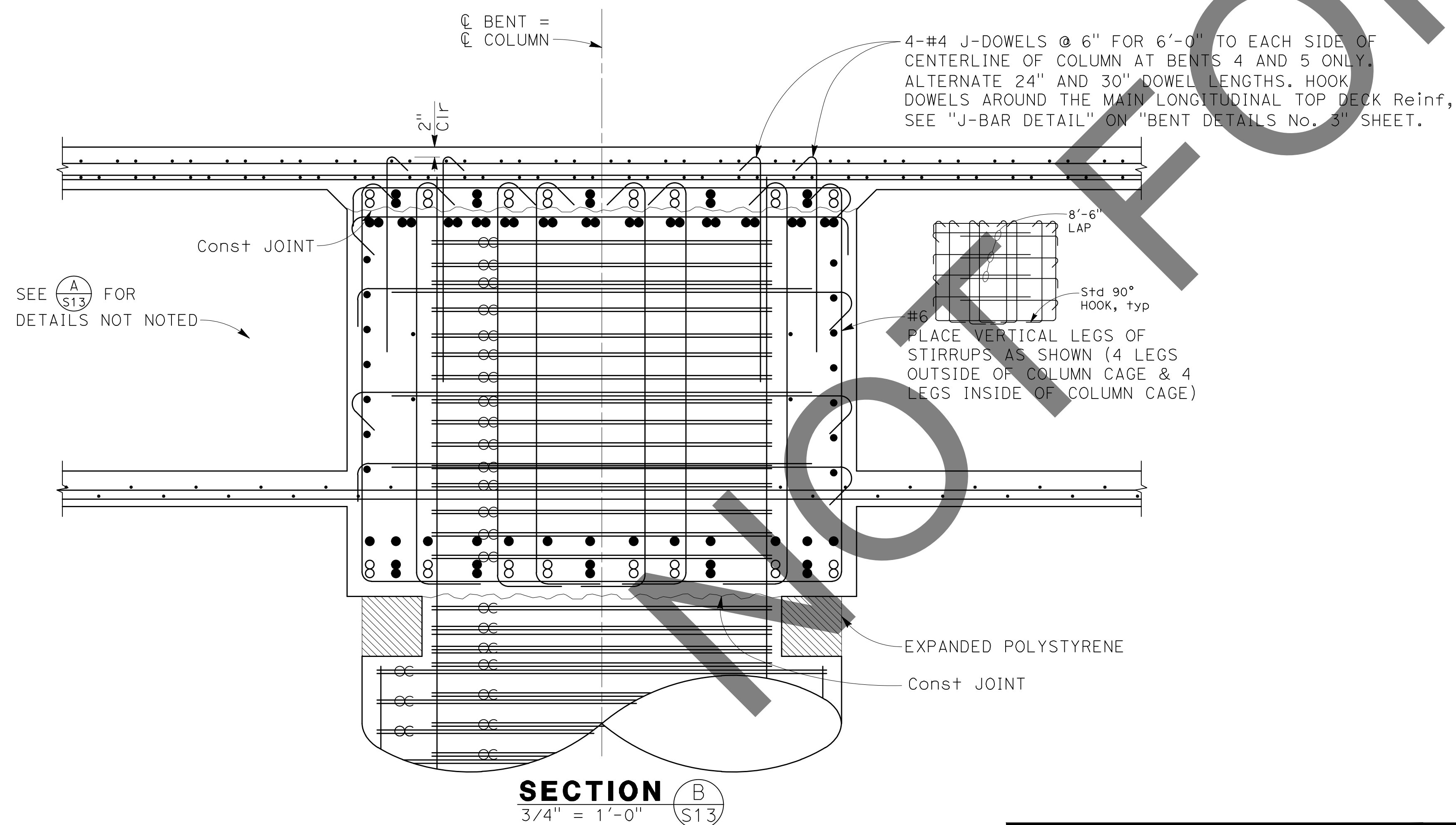
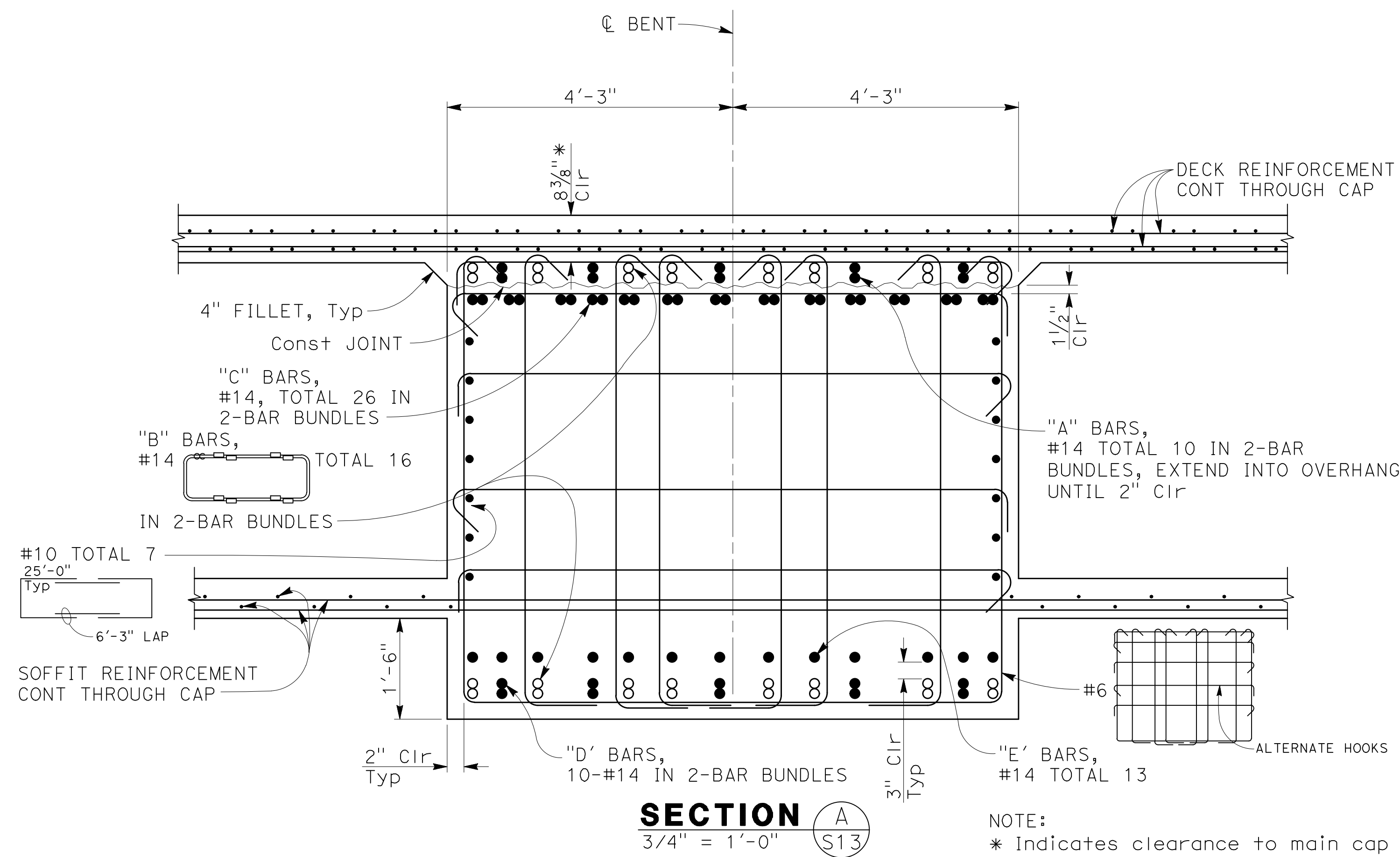
SAN BERNARDINO COUNTY
 DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: Chris Nguyen, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: Thomas Bustamante, P.E. SUPERVISING ENGINEER 8/15/24			APPROVED BY: Mervat N. Elmirghani, P.E. DEPUTY DIRECTOR 8/15/24

GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH
BENT LAYOUT

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-12	57	102

NOTE:
1. For horizontal layout of main cap bars see "BENT CAP REINFORCEMENT THROUGH COLUMN" on "BENT DETAILS No. 3" sheet.



MARK	REVISIONS	DATE

FILE NO. 382400 050

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PLANS PREPARED BY: BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS 500 S. Main Street, Suite 1200 Orange, California 92668 714-550-4665	REGISTERED PROFESSIONAL ENGINEER MICHAEL A. THOMAS No. S4676 Exp. 9/30/24 STRUCTURAL ENGINEER STATE OF CALIFORNIA	SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS		GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH BENT DETAILS No. 1	
		DESIGNED BY: GOD DRAWN BY: SMH CHECKED BY: SEM RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER DATE: 8/15/24	APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER DATE: 8/15/24	APPROVED BY: MERVAT N. CAMPBELL, P.E. DEPUTY DIRECTOR DATE: 8/15/24	J.L. REF. 11334 W.O. NO. H14646 DRAWING NO. S-13 SHT. NO. 58 TOT. SHT'S. 102

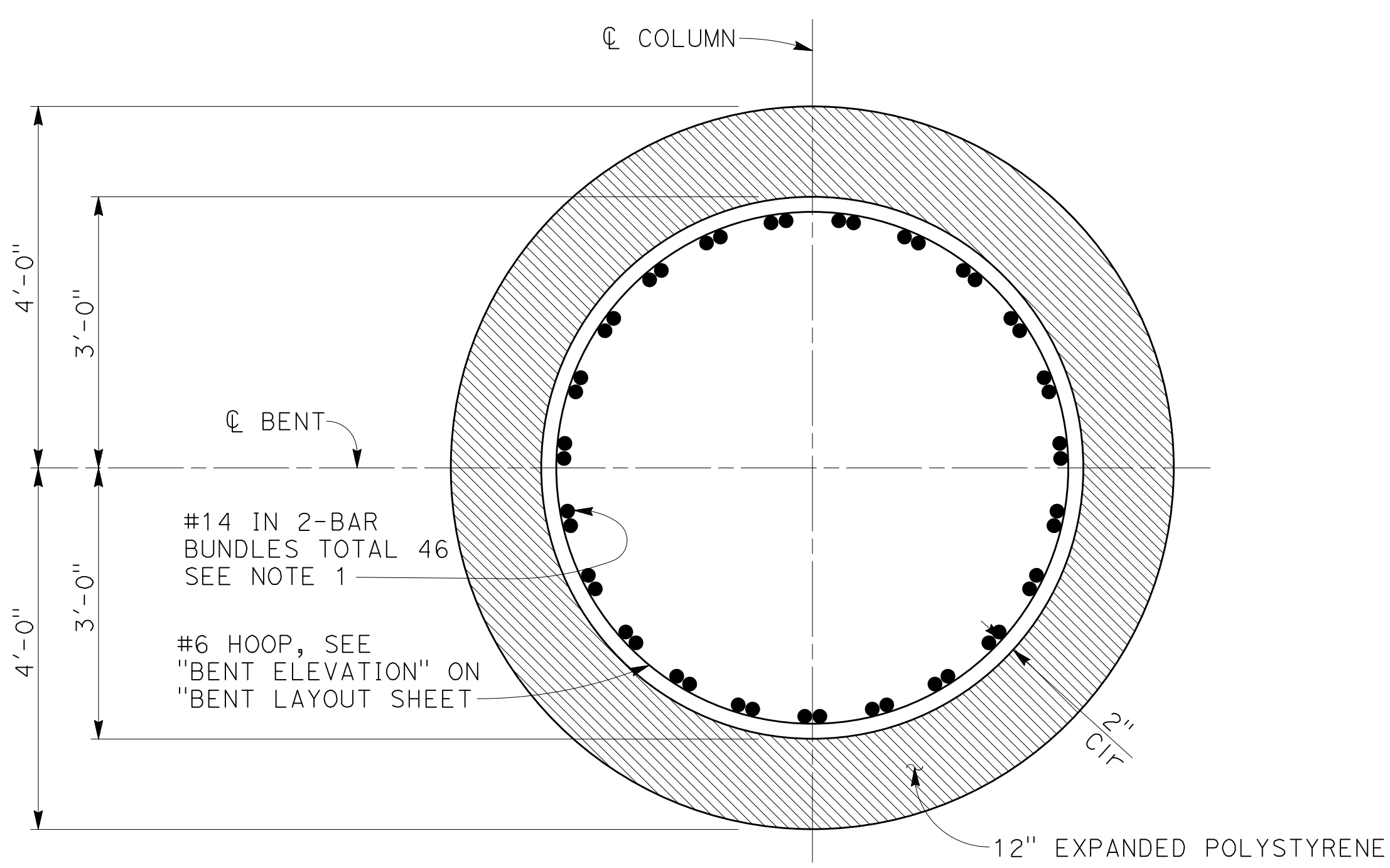


FIELD CHANGES

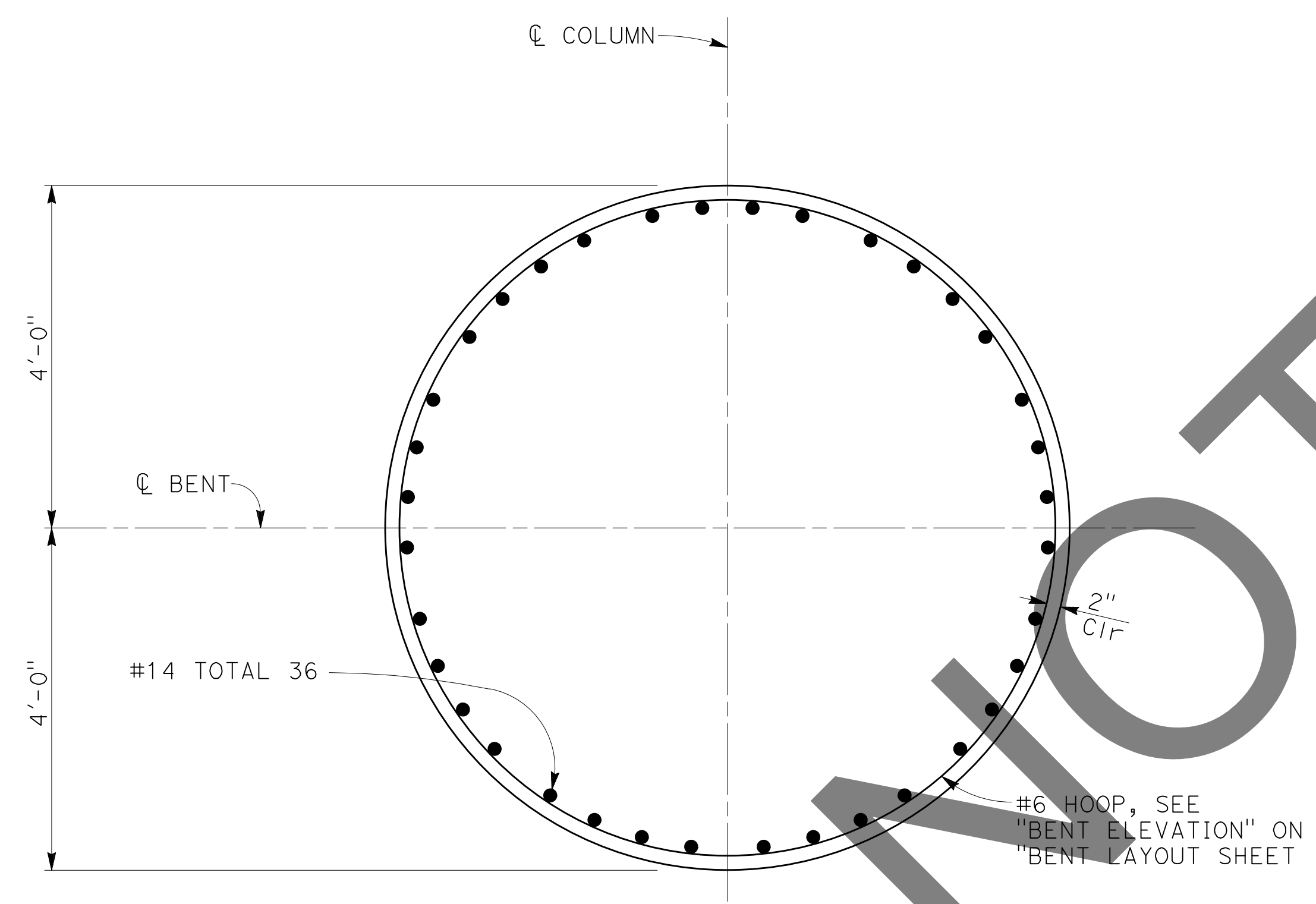
REGISTERED STRUCTURAL ENGINEER
7/29/24

100% SUBMISSION

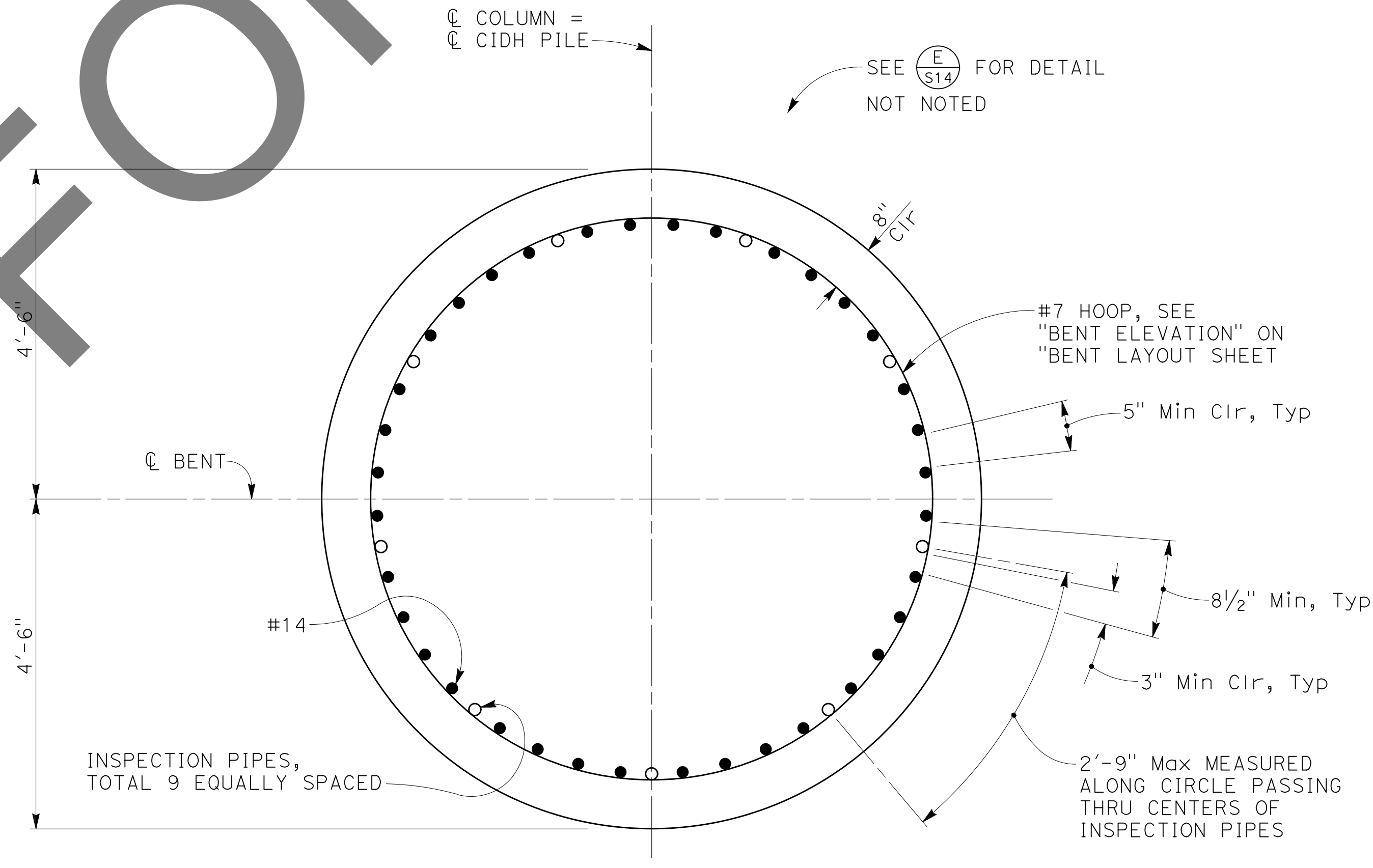
NOTE:
 1. Extend main pin bars into cap beams as close as possible to the top surface of the cap beam. At conflicts with pt ducts trim bars to 2" Clr of the duct.



SECTION D
 3/4" = 1'-0" S14



SECTION E
 3/4" = 1'-0" S14



SECTION F
 3/4" = 1'-0" S14

MARK	REVISIONS	DATE

FILE NO. 382400 050

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 STRUCTURAL ENGINEERS
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 Orange, California 92668
 714-550-4665

REGISTERED PROFESSIONAL ENGINEER
 MICHAEL A. THOMAS
 No. S4676
 Exp. 9/30/24
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

7/29/24
 REGISTERED STRUCTURAL ENGINEER

FIELD CHANGES

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

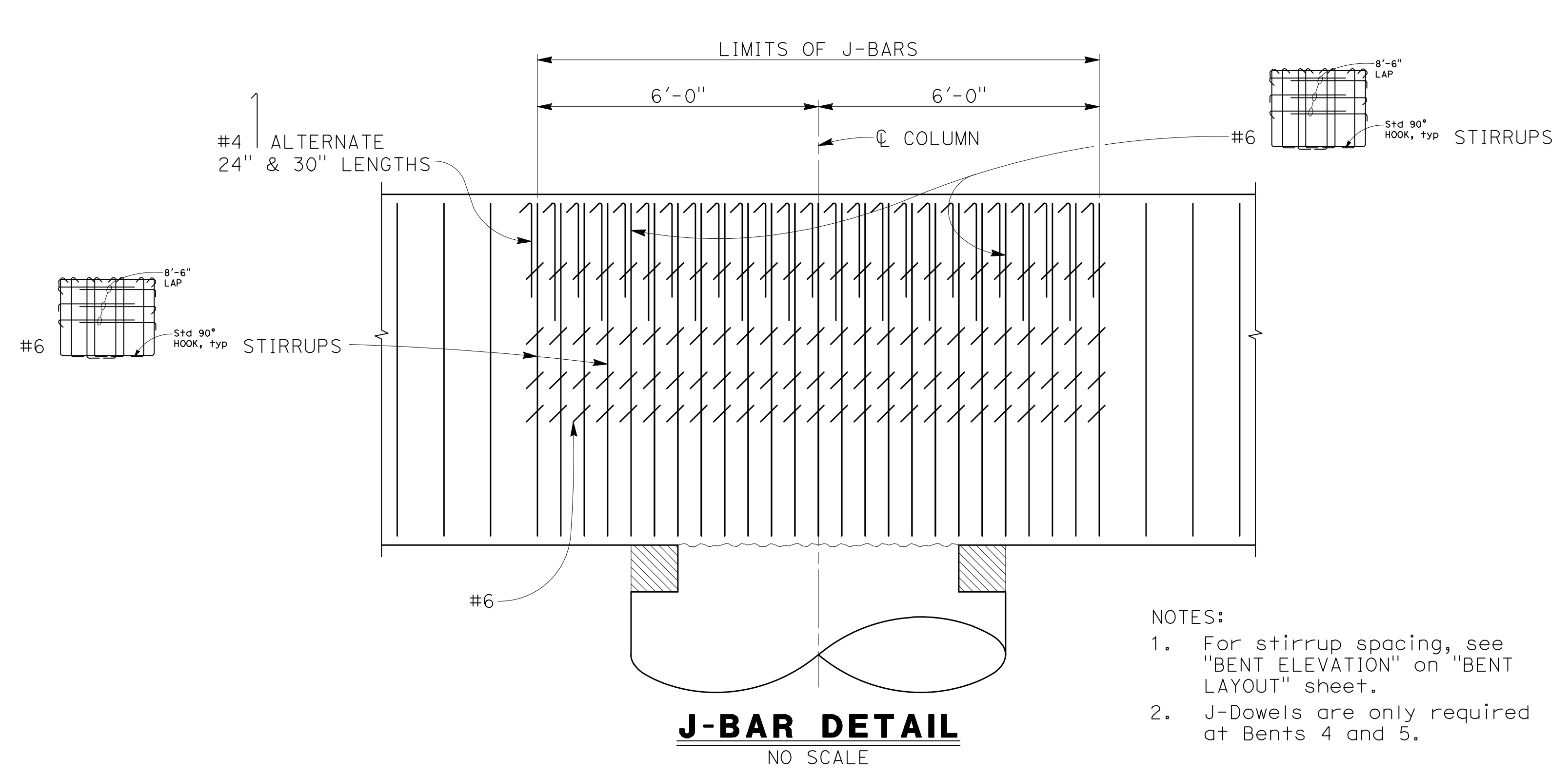
SAN BERNARDINO COUNTY
 DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN / P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24			APPROVED BY: MERVAI N. CAMPBELL, P.E. DEPUTY DIRECTOR 8/15/24

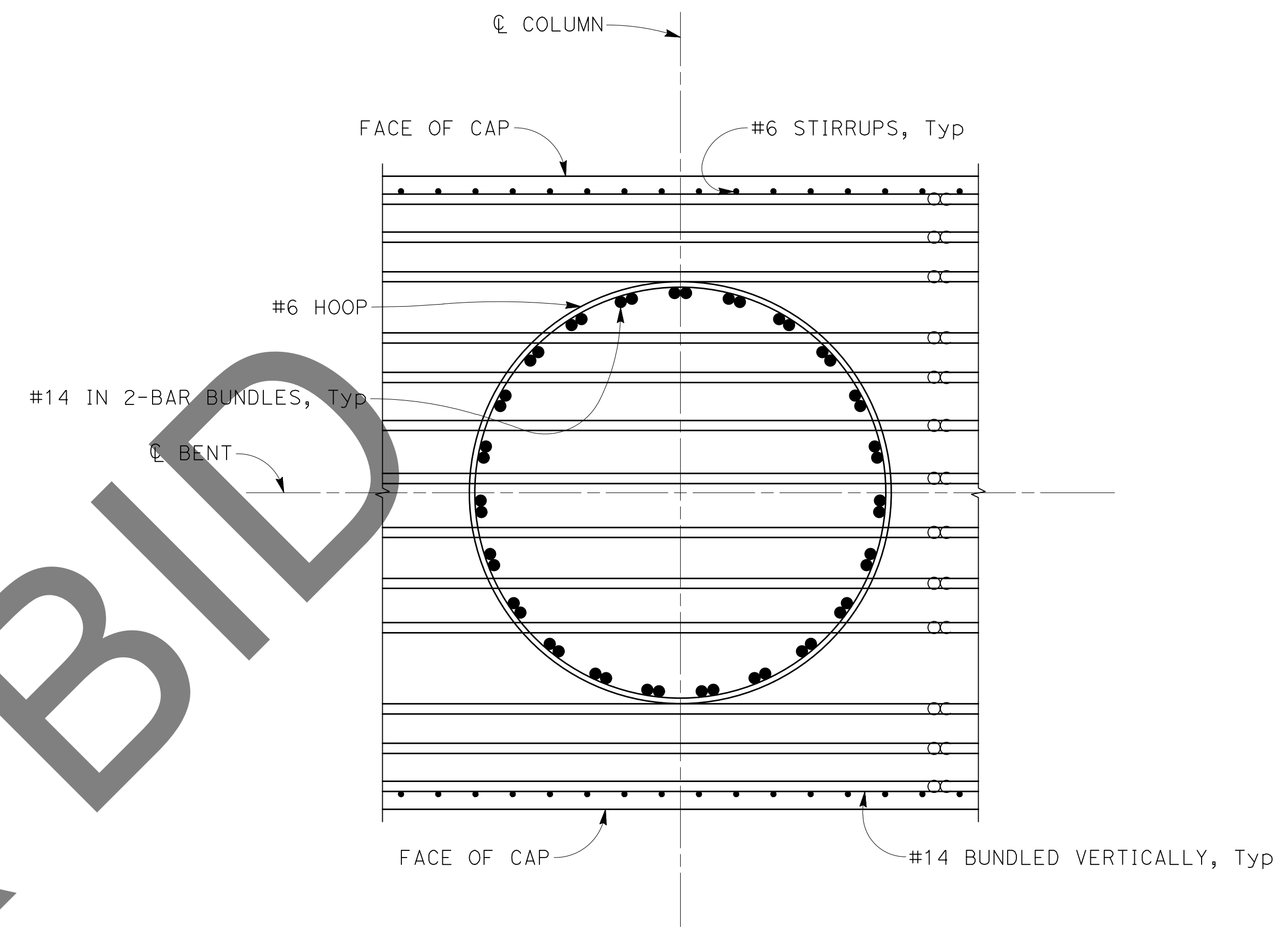
100% SUBMISSION

GLEN HELEN PARKWAY BRIDGE
 OVER CAJON WASH
 BENT DETAILS No. 2

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-14	59	102



- NOTES:
1. For stirrup spacing, see "BENT ELEVATION" on "BENT LAYOUT" sheet.
 2. J-Dowels are only required at Bents 4 and 5.



BENT CAP REINFORCEMENT THROUGH COLUMN
 $\frac{3}{4}'' = 1'-0''$

NOT FOR BID

MARK	REVISIONS	APPR.	DATE

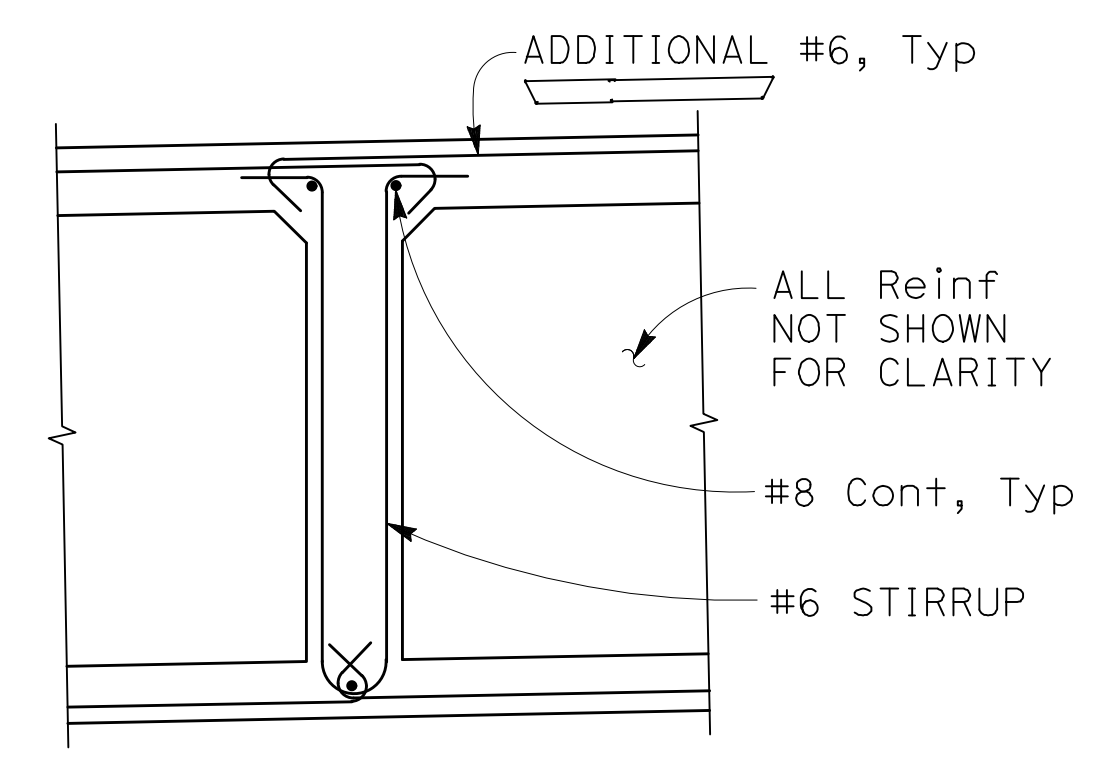
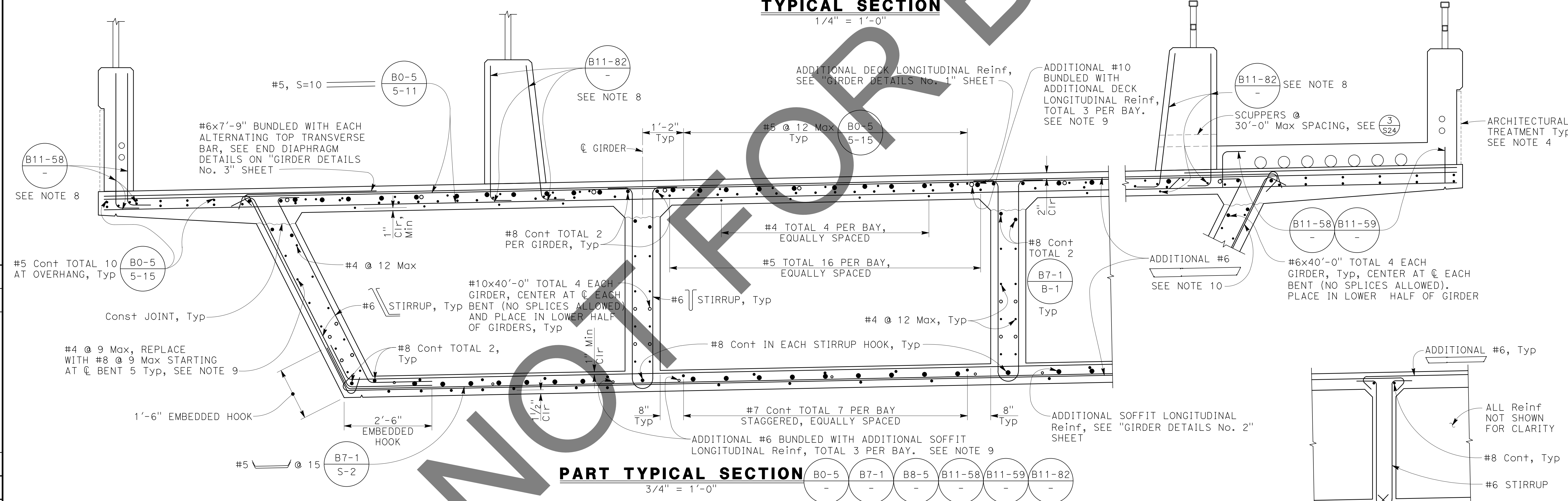
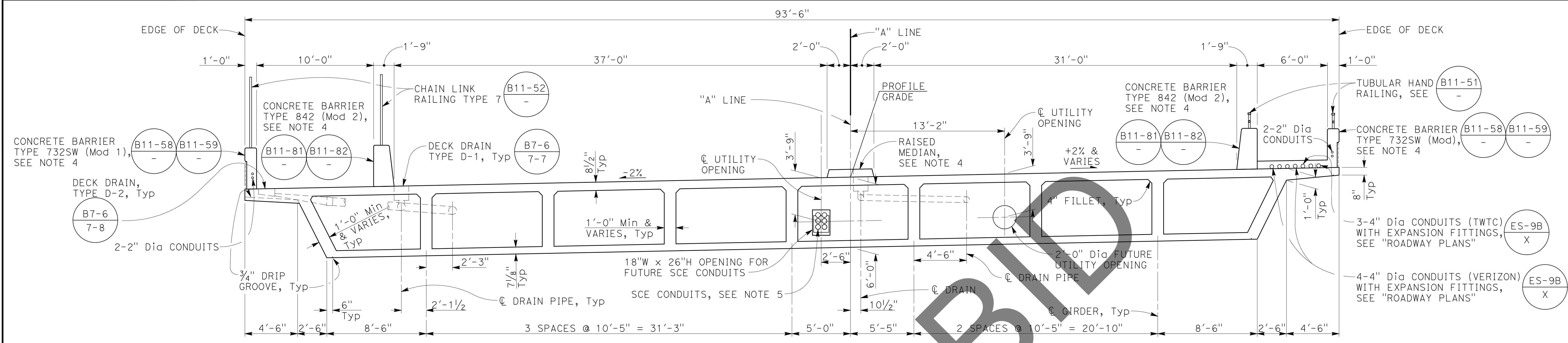
MARK	REVISIONS	APPR.	DATE

FILE NO. 382400 050

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

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PLANS PREPARED BY: BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS 500 S. Main Street, Suite 1200 Orange, California 92868 714-550-4665			SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS		GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH BENT DETAILS No. 3	
DESIGNED BY: <u>GOD</u> DRAWN BY: <u>SMH</u> CHECKED BY: <u>SEM</u> RECOMMENDED BY: <u>Chris Nguyen</u> 8/15/24 <small>CHRIS NGUYEN, P.E. ENGINEERING MANAGER</small>	APPROVED BY: <u>Thomas Bustamante</u> 8/15/24 <small>THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER</small>	APPROVED BY: <u>Mervat N. Campbell</u> 8/15/24 <small>MERVAT N. CAMPBELL, P.E. DEPUTY DIRECTOR</small>	J.L. REF. 11334 W.O. NO. H14646 DRAWING NO. S-15 SHT. NO. 60 TOT. SHTS. 102			
FIELD CHANGES MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE						



- NOTES:**
- All dimensions are measured normal/radial to "A" Line.
 - Transverse deck and soffit reinforcement must be placed normal to "A" Line and spaced along "A" Line.
 - Continuous longitudinal reinforcement must be Service Spliced, see "GIRDER DETAILS" sheets for no-splice zones.
 - For Concrete Barrier Type 732SW (Mod 1), Concrete Barrier Type 842 (Mod 2), Concrete Barrier Type 732SW (Mod). Architectural Details at Barriers, and Raised Median details, see "MISCELLANEOUS DETAILS" sheet.
 - Conduits & supports to be designed and installed by Southern California Edison, see "SCE PLANS".
 - For stirrup spacing, see "GIRDER LAYOUT" sheets.
 - All barrier and deck reinforcing shall be epoxy coated.
 - Barrier reinforcement hooks shall be placed in the same plane as the bottom transverse reinforcement.
 - Additional and replacement reinforcement shall start at \O bent 5 and extend to end of bridge. Lap splice replacement girder reinforcement with typical Reinf.
 - Place normal to "A" Line and space along "A" Line. All hooks shall be 135 degree hooks, stagger hooks. Intermediate hooks shall hook around continuous #8 stirrup bars with deck bars overlapping to provide continuous loop. See "ADDITIONAL #6 HOOK DETAIL". See "GIRDER LAYOUT No. 2" sheet for layout and spacing.

FILE NO. 382400 050

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PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

BCA

REGISTERED PROFESSIONAL ENGINEER
No. S4676
Exp. 9/30/24
STRUCTURAL
STATE OF CALIFORNIA

7/29/24

REGISTERED STRUCTURAL ENGINEER

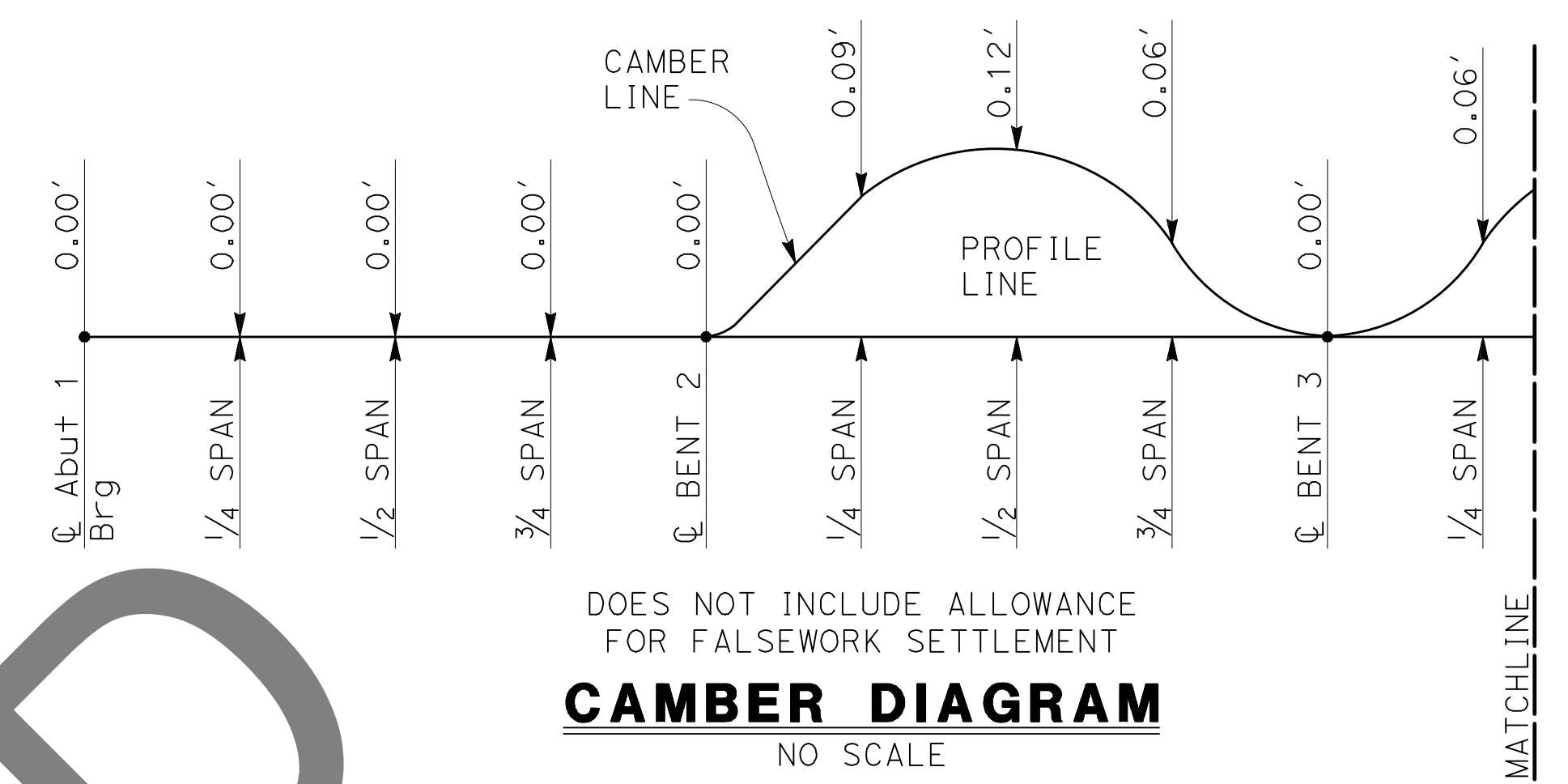
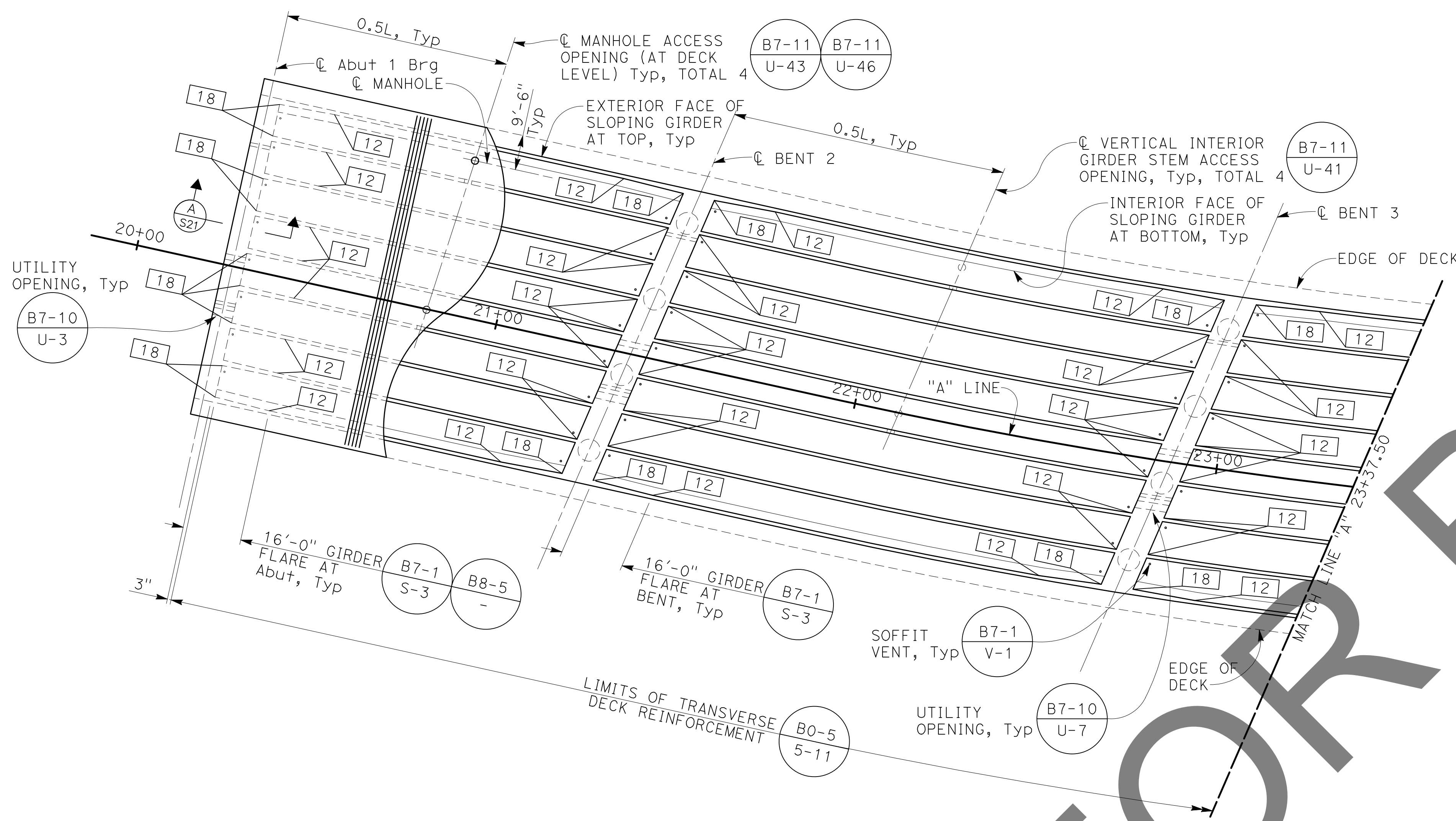
SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD
DRAWN BY: SMH
CHECKED BY: SEM
RECOMMENDED BY: THOMAS GUSTAMONTE, P.E. SUPERVISING ENGINEER
DATE: 8/15/24

APPROVED BY: MERVAL N. CHARRAL, P.E. DEPUTY DIRECTOR
DATE: 8/15/24

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
TYPICAL SECTION

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHTS.
11334	H14646	S-16	61	102



CAMBER DIAGRAM
NO SCALE

PRESTRESSING NOTES

270 ksi Low Relaxation Strand:

Pjack = 22200 kips
Anchor set = 3/8 in
No. of girders = 9

Distribution of prestress force (Pjack) between girders must not exceed the ratio of 10:9 (Larger girder force to smaller girder force).

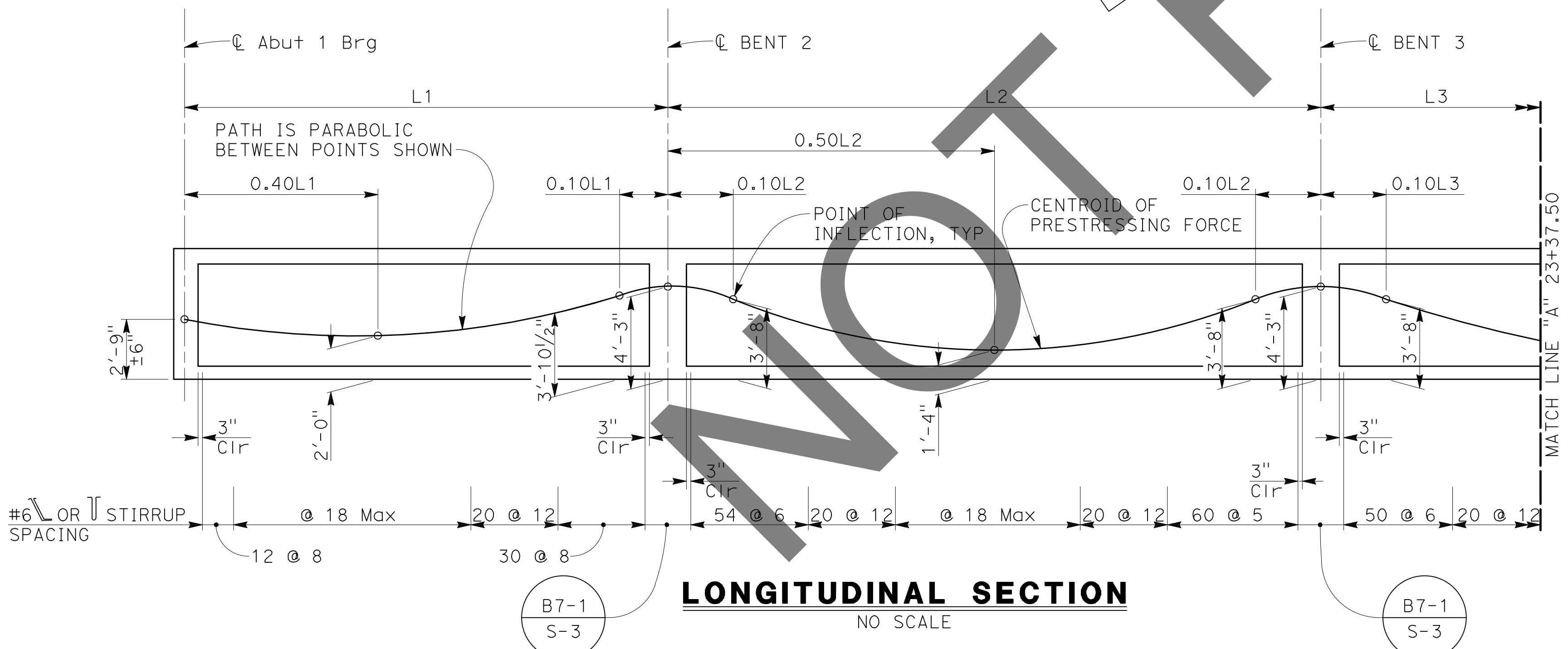
Concrete: $f'c = 6.0$ ksi @ 28 days
 $f'ci = 4.5$ ksi @ time of stressing

Contractor must submit elongation calculations based on initial stress at $\square = 0.817$ times jacking stress

Two-end stressing must be performed from Abutment 1 and Abutment 6.

Prestress force design is based on friction coefficient $\mu = 0.20$ and friction wobble coefficient $k = 0.0002/ft$.

GIRDER LAYOUT
1" = 20'



LONGITUDINAL SECTION
NO SCALE

NOTES:

- L1, L2 and L3 are measured along the ϕ of each girder.
- L is measured along the "A" Line.
- Drain pipes and drain pipe openings in end diaphragms not shown for clarity, see "DECK DRAIN DETAILS" sheet.

LEGEND:
 Indicates Girder Stem Width in Inches

MARK	REVISIONS	DATE

FILE NO. 382400 050

NOTE:
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PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

BCA

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. THOMPSON
No. S4676
Exp. 9/30/24
REGISTERED STRUCTURAL ENGINEER
DATE: 7/29/24

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

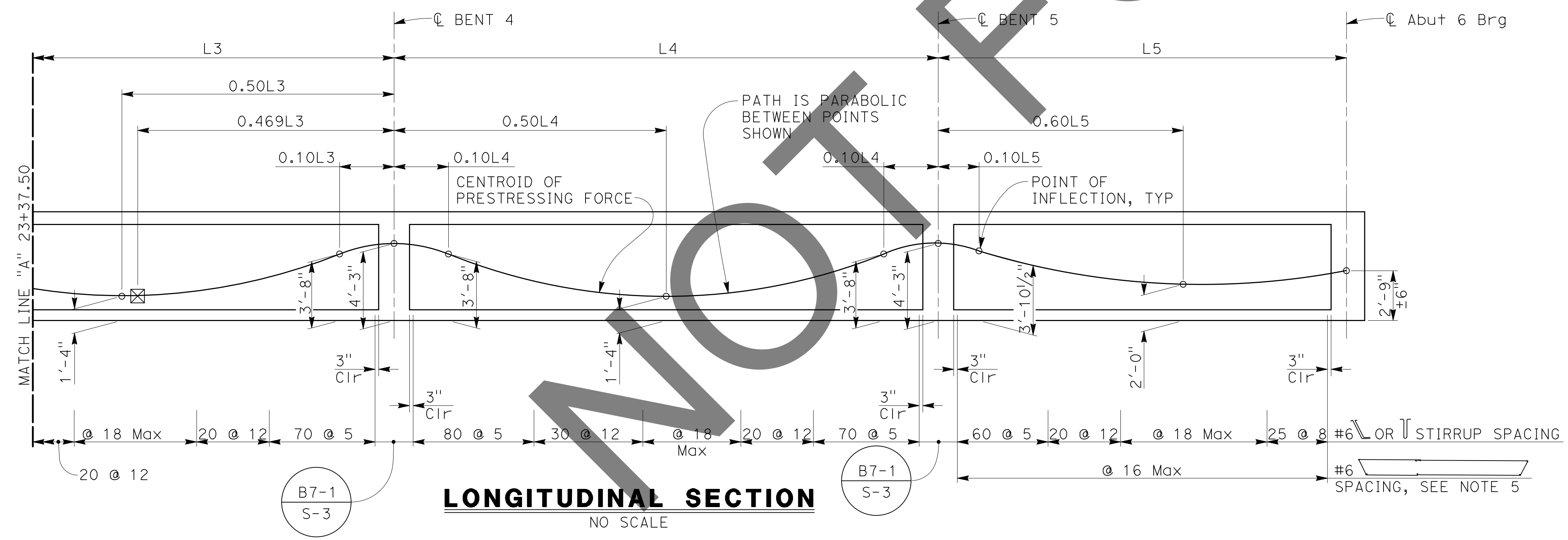
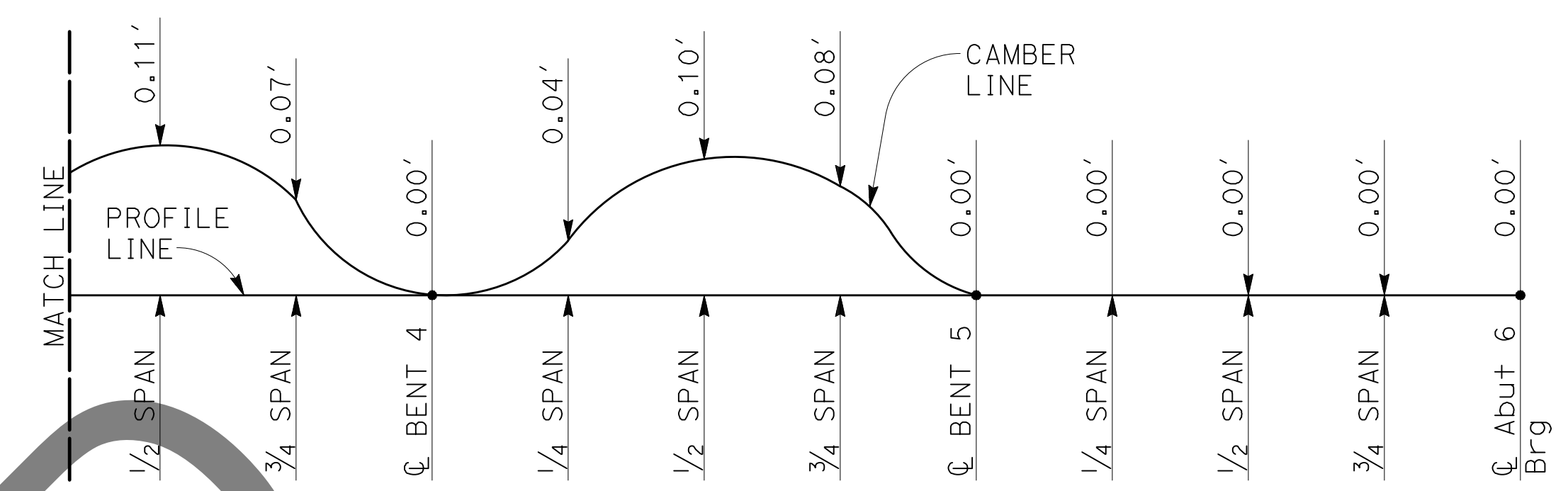
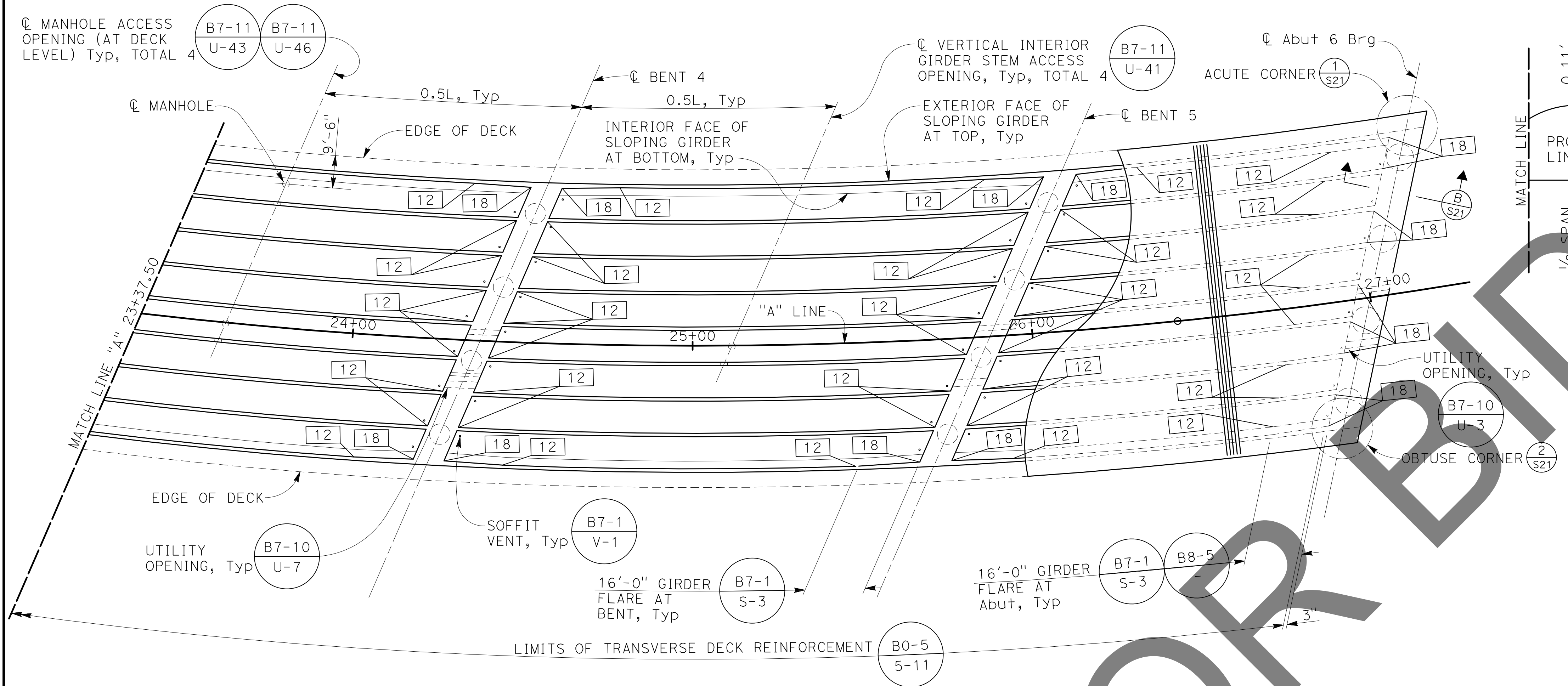
FIELD CHANGES

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER	DATE: 8/15/24
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER			DATE: 8/15/24	DATE: 8/15/24

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
GIRDER LAYOUT No. 1

J.L. REF. 11334	W.O. NO. H14646	DRAWING NO. S-17	SHT. NO. 62	TOT. SHTS. 102
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- NOTES:
- See "GIRDER LAYOUT No. 1" sheet for prestressing notes.
 - L3, L4 and L5 are measured along the ϕ of each girder.
 - L is measured along the "A" Line.
 - Drain pipes and drain pipe openings in end diaphragms not shown for clarity, see "DECK DRAIN DETAILS" sheet.
 - Deck and soffit bars shall terminate with 135 degree hooks around main top or bottom bent cap bars at ϕ Bent 5. At Abutment 6 deck bars shall hook around bar nearest to joint blockout, but soffit bars shall hook around bar closed to ϕ bearing.

LEGEND:

- Indicates Girder Stem Width in Inches
- Denotes Theoretical Point of No Movement

MARK	REVISIONS	APPR.	DATE

FILE NO. 382400 050

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PLANS PREPARED BY:
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STRUCTURAL ENGINEERS
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714-550-4665

BCA

REGISTERED PROFESSIONAL ENGINEER
No. S4676
Exp. 9/30/24
MICHAEL A. THOMPSON
STRUCTURAL ENGINEER
STATE OF CALIFORNIA

7/29/24

REGISTERED STRUCTURAL ENGINEER

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD DRAWN BY: SMH CHECKED BY: SEM RECOMMENDED BY: Chris Nguyen DATE: 8/15/24

APPROVED BY: Thomas Bustamante DATE: 8/15/24

THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER

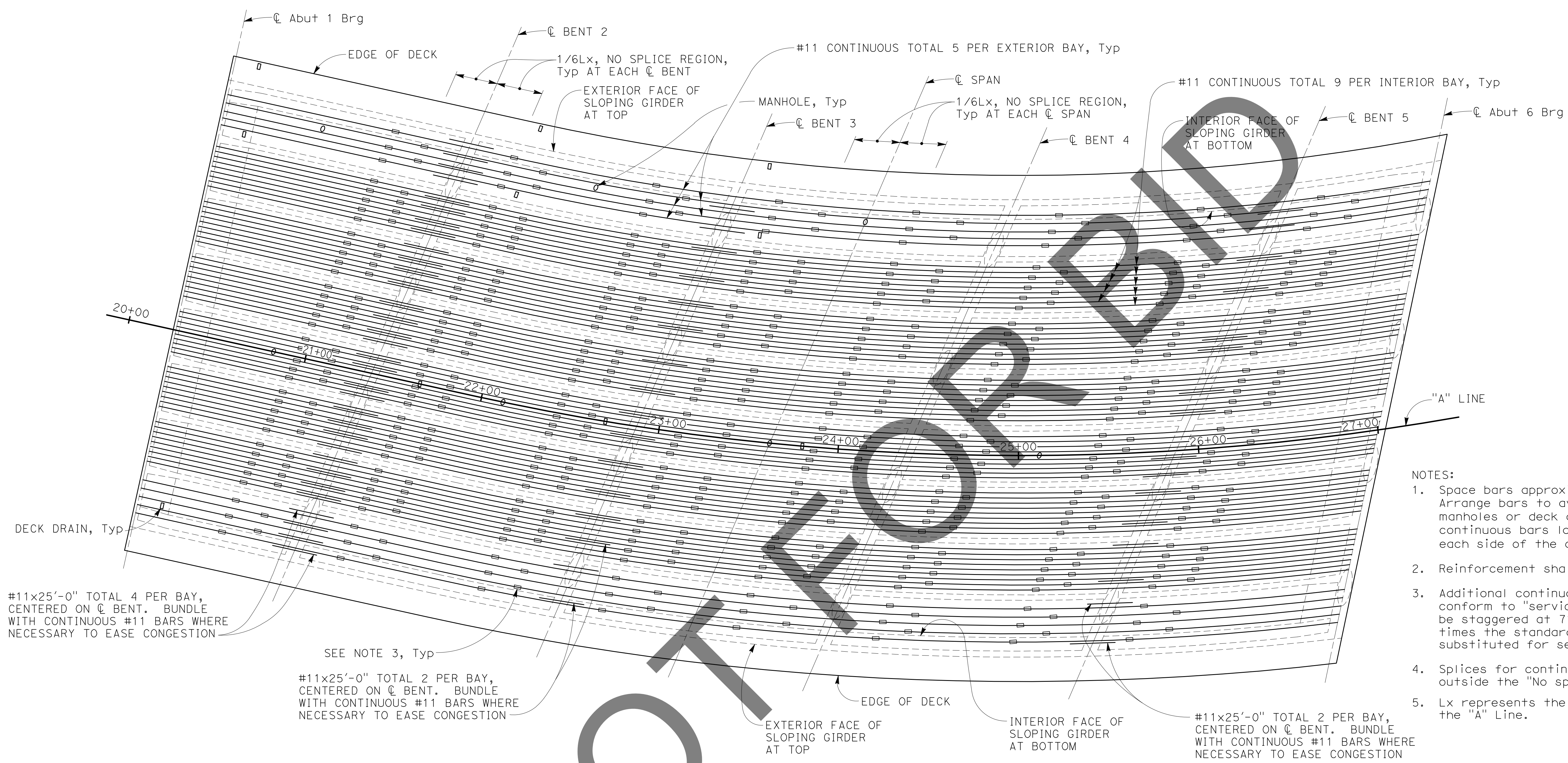
CHRIS NGUYEN, P.E. ENGINEERING MANAGER

MERVAT N. CAMRIFALL, P.E. DEPUTY DIRECTOR

100% SUBMISSION

GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH
GIRDER LAYOUT No. 2

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHTS.
11334	H14646	S-18	63	102



- NOTES:
1. Space bars approximately equally within each bay. Arrange bars to avoid column reinforcement. If manholes or deck drains are in conflict with continuous bars locations, space bars equally to each side of the conflict leaving 6" of clearance.
 2. Reinforcement shall be placed parallel to "A" Line.
 3. Additional continuous deck reinforcement must conform to "service splice" requirements, and must be staggered at 7'-6" min. Lap splices equal to two times the standard lap splice length may be substituted for service splices.
 4. Splices for continuous bars shall be located outside the "No splice regions" indicated.
 5. Lx represents the length of Span x, measured along the "A" Line.

LEGEND:
 Indicates Service Splice Coupler

ADDITIONAL DECK REINFORCEMENT

NO SCALE

MARK	REVISIONS	DATE

MARK	REVISIONS	DATE

FILE NO. 382400 050

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PLANS PREPARED BY:
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 714-550-4665

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MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES



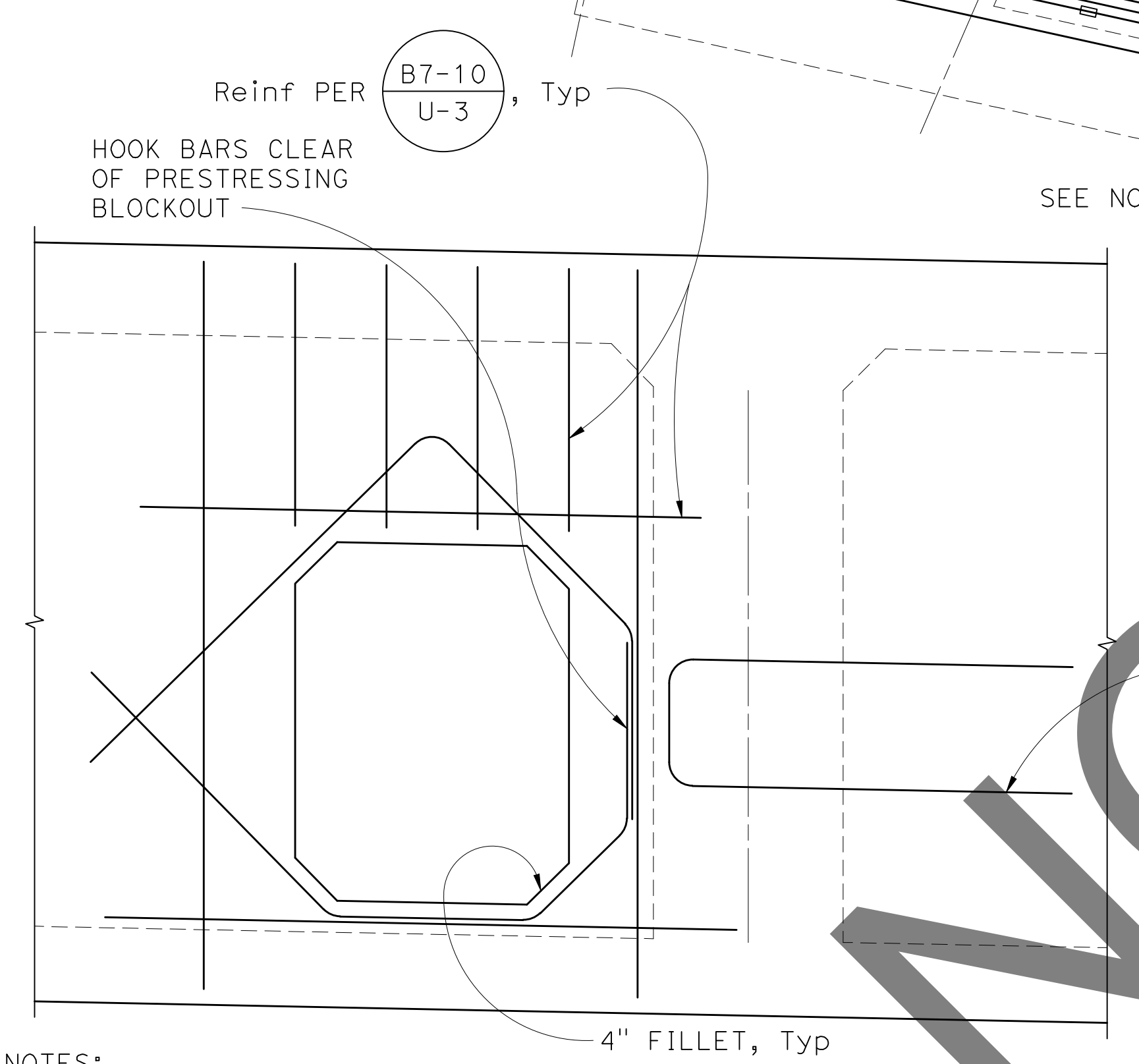
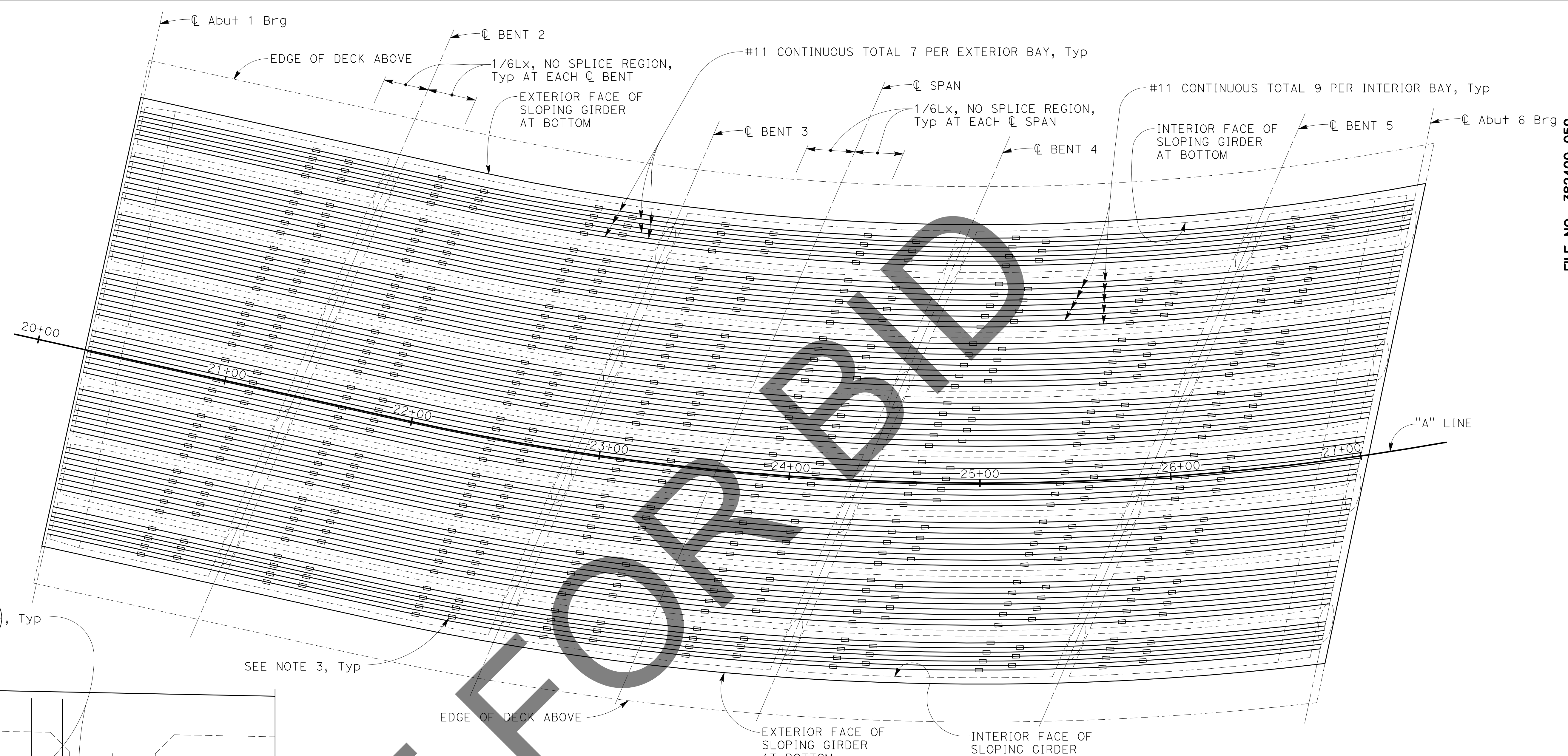
SAN BERNARDINO COUNTY
 DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: Chris Nguyen, P.E., ENGINEERING MANAGER 8/15/24
APPROVED BY: Thomas Bustamante, P.E., SUPERVISING ENGINEER 8/15/24			APPROVED BY: Mervat N. Khalil, P.E., DEPUTY DIRECTOR 8/15/24

GLEN HELEN PARKWAY BRIDGE
 OVER CAJON WASH
 GIRDER DETAILS No. 1

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-19	64	102

100% SUBMISSION



ADDITIONAL SOFFIT REINFORCEMENT
NO SCALE

LEGEND:
—○— Indicates Service Splice Coupler

- NOTES:
1. Space bars approximately equally within each bay. Arrange bars to avoid column reinforcement.
 2. Reinforcement shall be placed parallel to "A" Line.
 3. Additional continuous soffit reinforcement must conform to "service splice" requirements, and must be staggered at 7'-6" min. Lap splices equal to two times the standard lap splice length may be substituted for service splices.
 4. Splices for continuous bars shall be located outside the "No splice regions" indicated.
 5. Lx represents the length of Span x, measured along the "A" Line.

- NOTES:
1. Typical reinforcement not shown
 2. Rectangular opening at Abutment 1 shown. 2'-8" diameter round opening at Abutment 1 and openings at Abutment 6 similar.

END DIAGRAM ELEVATIONS AT UTILITY OPENINGS
1" = 1'-0"

1
S20

FILE NO. 382400 050

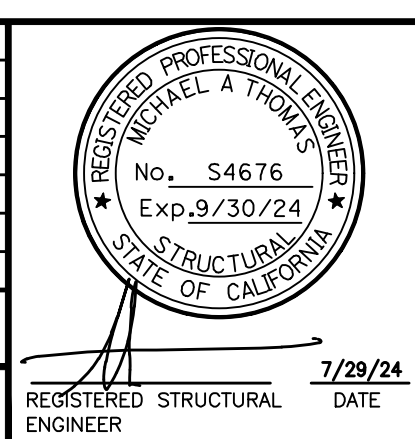
MARK	REVISIONS	APPR.	DATE
MARK	REVISIONS	APPR.	DATE
MARK	REVISIONS	APPR.	DATE

NOTE:
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PLANS PREPARED BY:
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500 S. Main Street, Suite 1200
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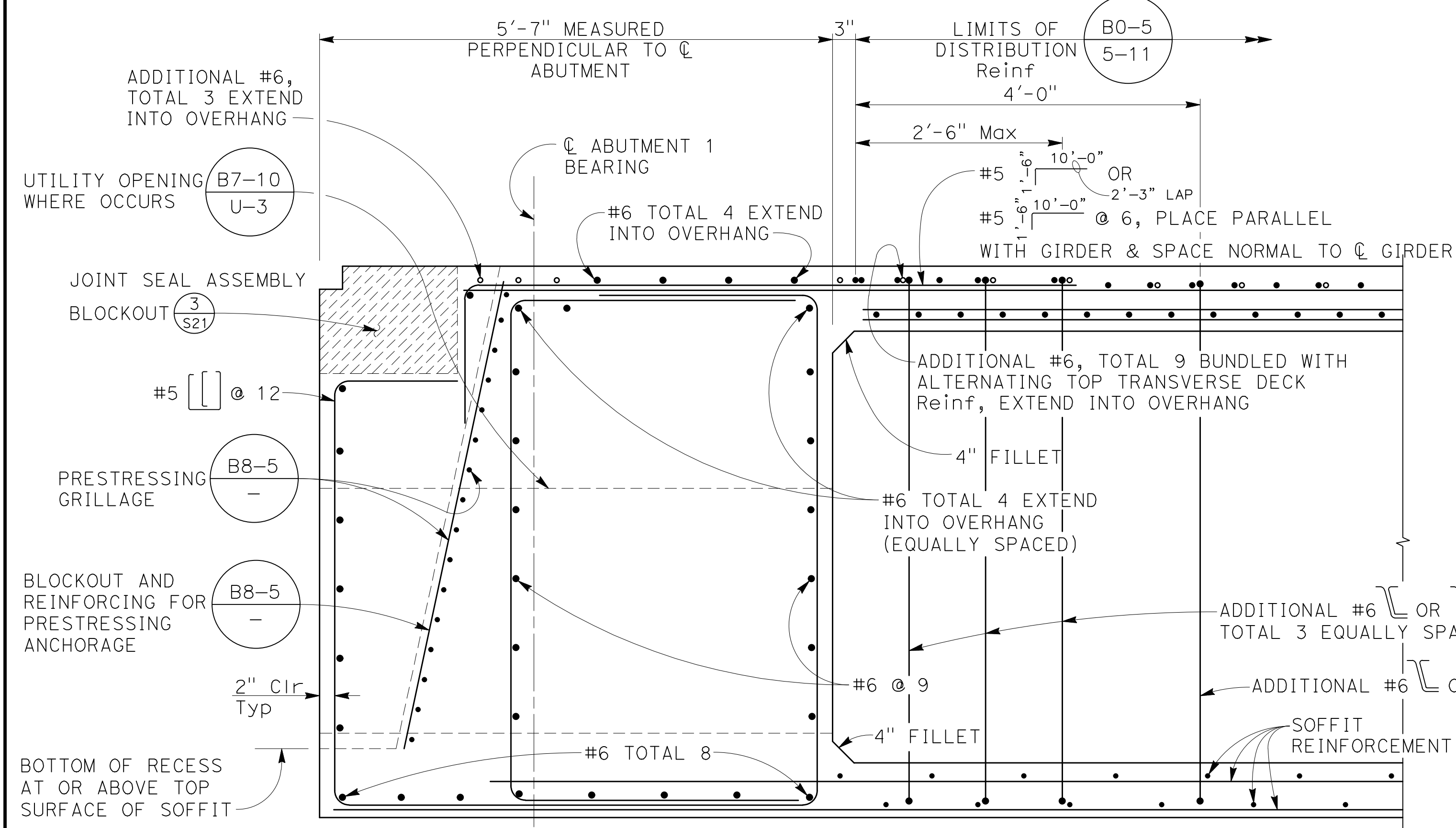
MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		



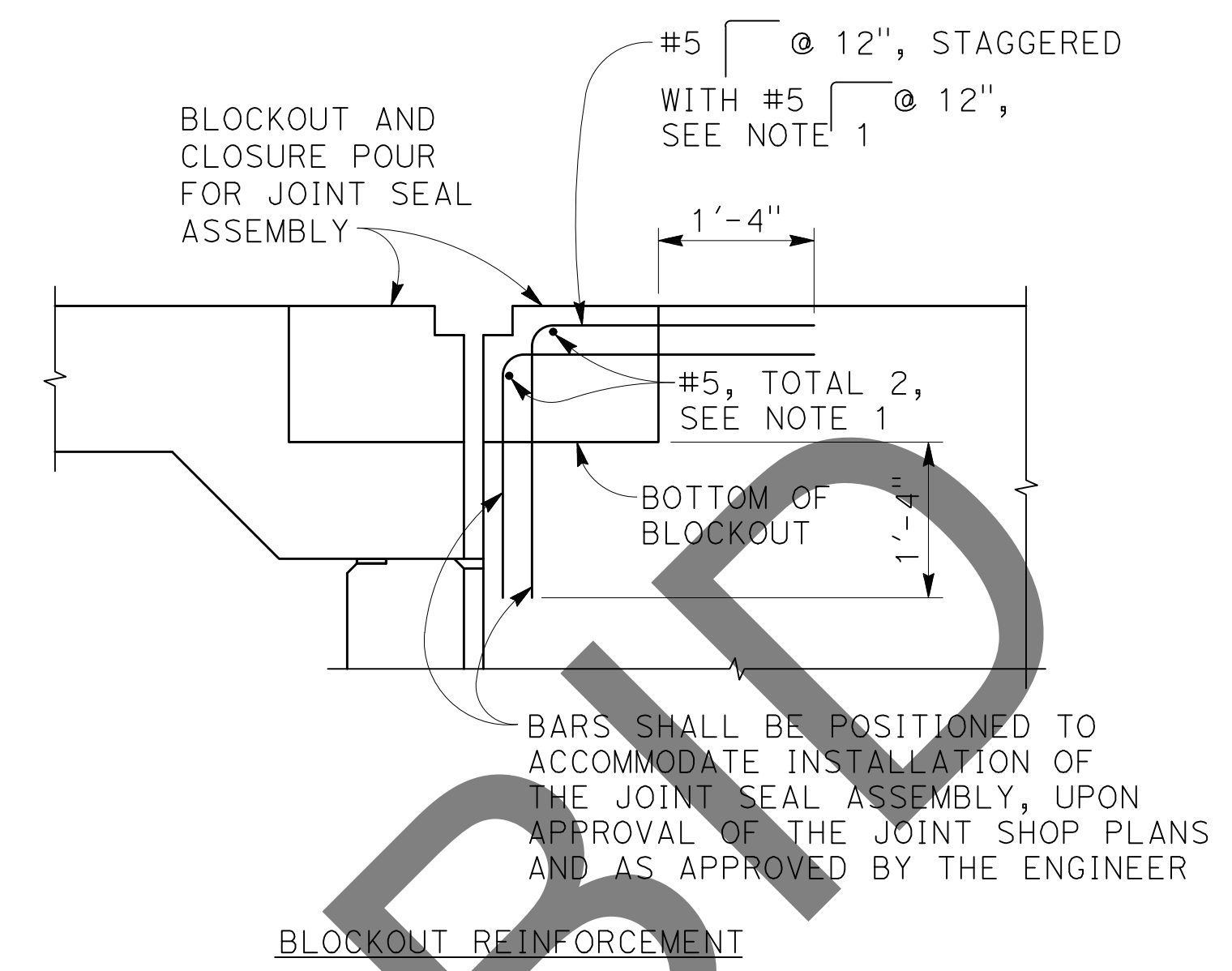
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: Thomas Gustamonte THOMAS GUSTAMONTE, P.E. SUPERVISING ENGINEER 8/15/24			8/15/24

GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH GIRDER DETAILS No. 2				
J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-20	65	102

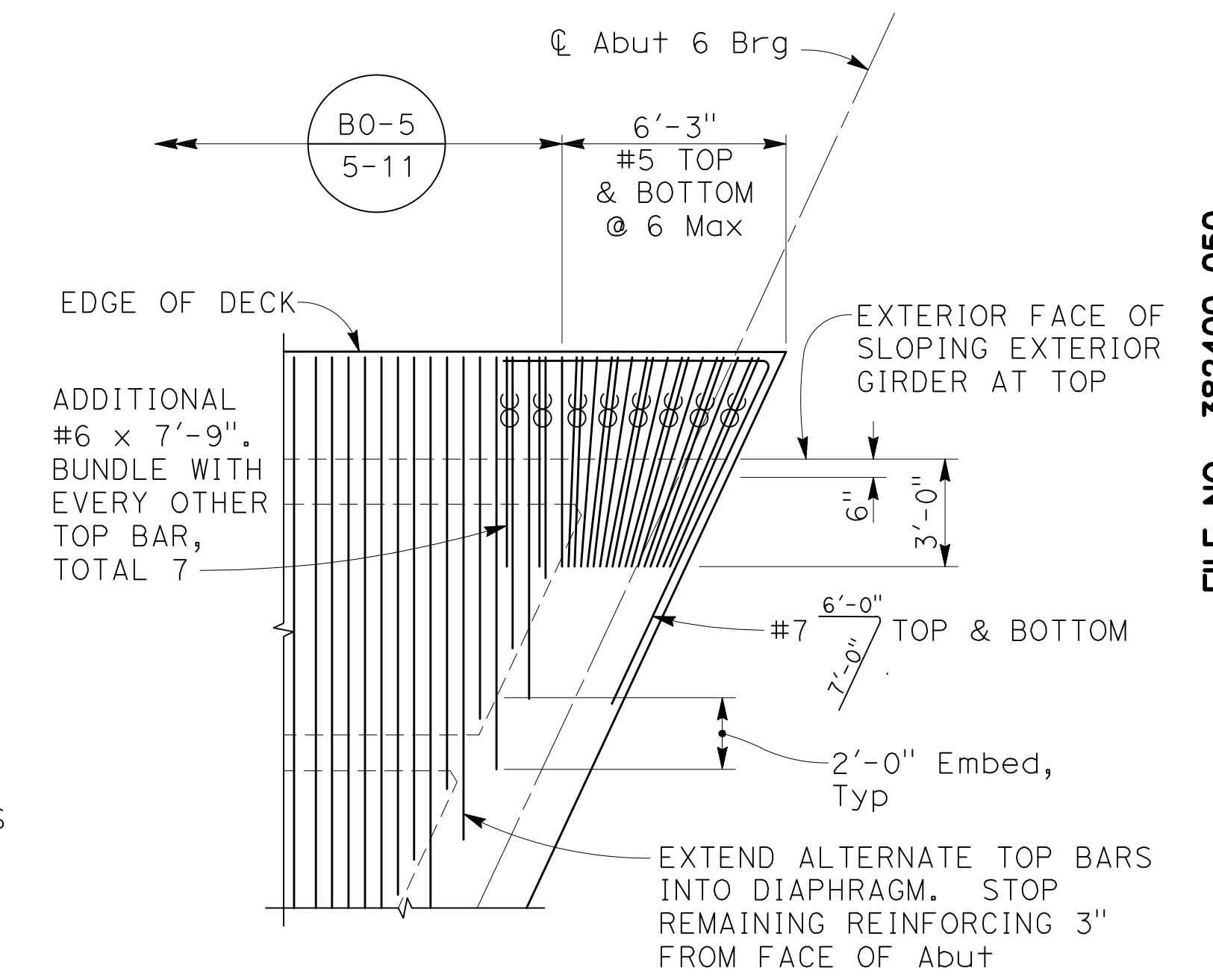
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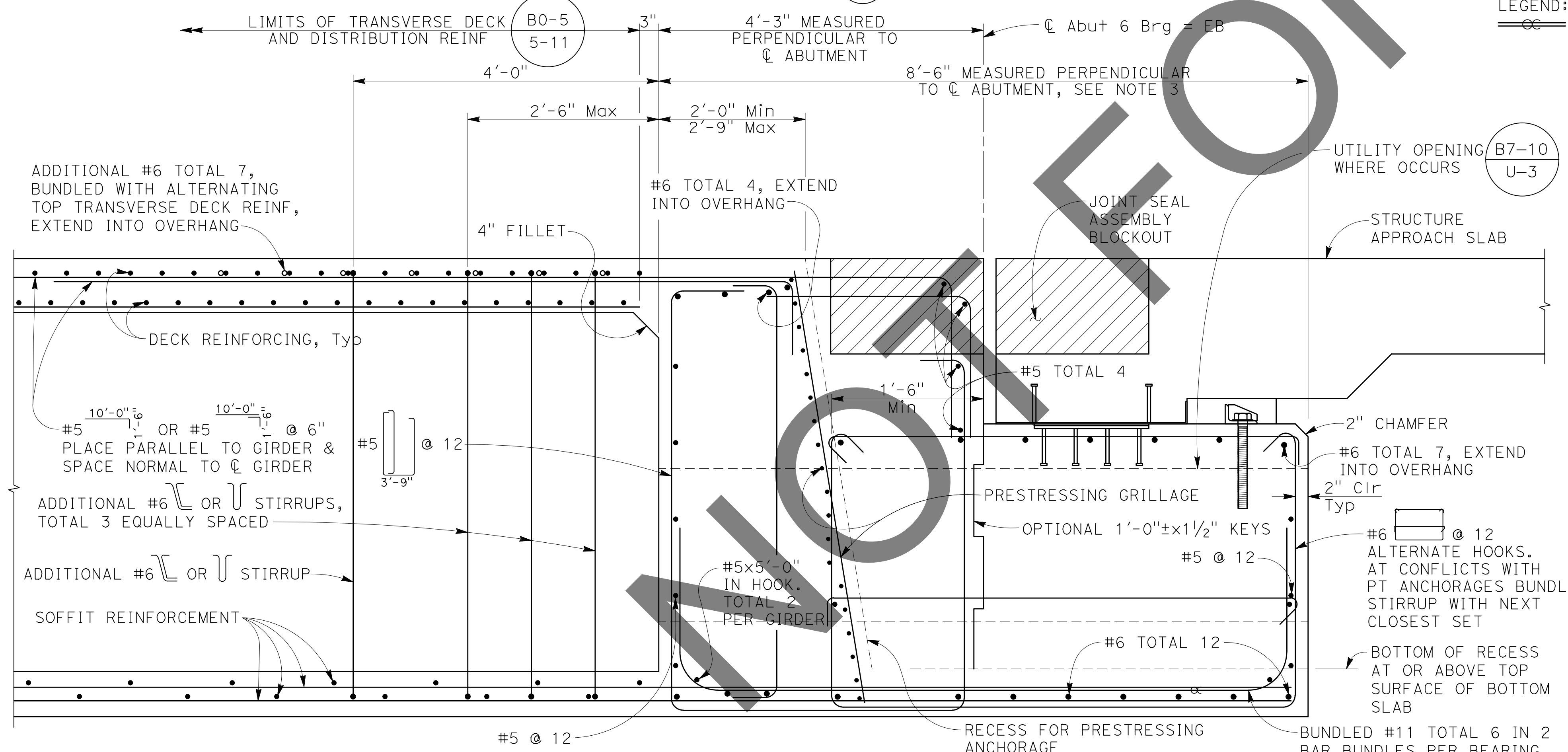
ABUTMENT 1 END DIAPHRAGM - SECTION A
1" = 1'-0"



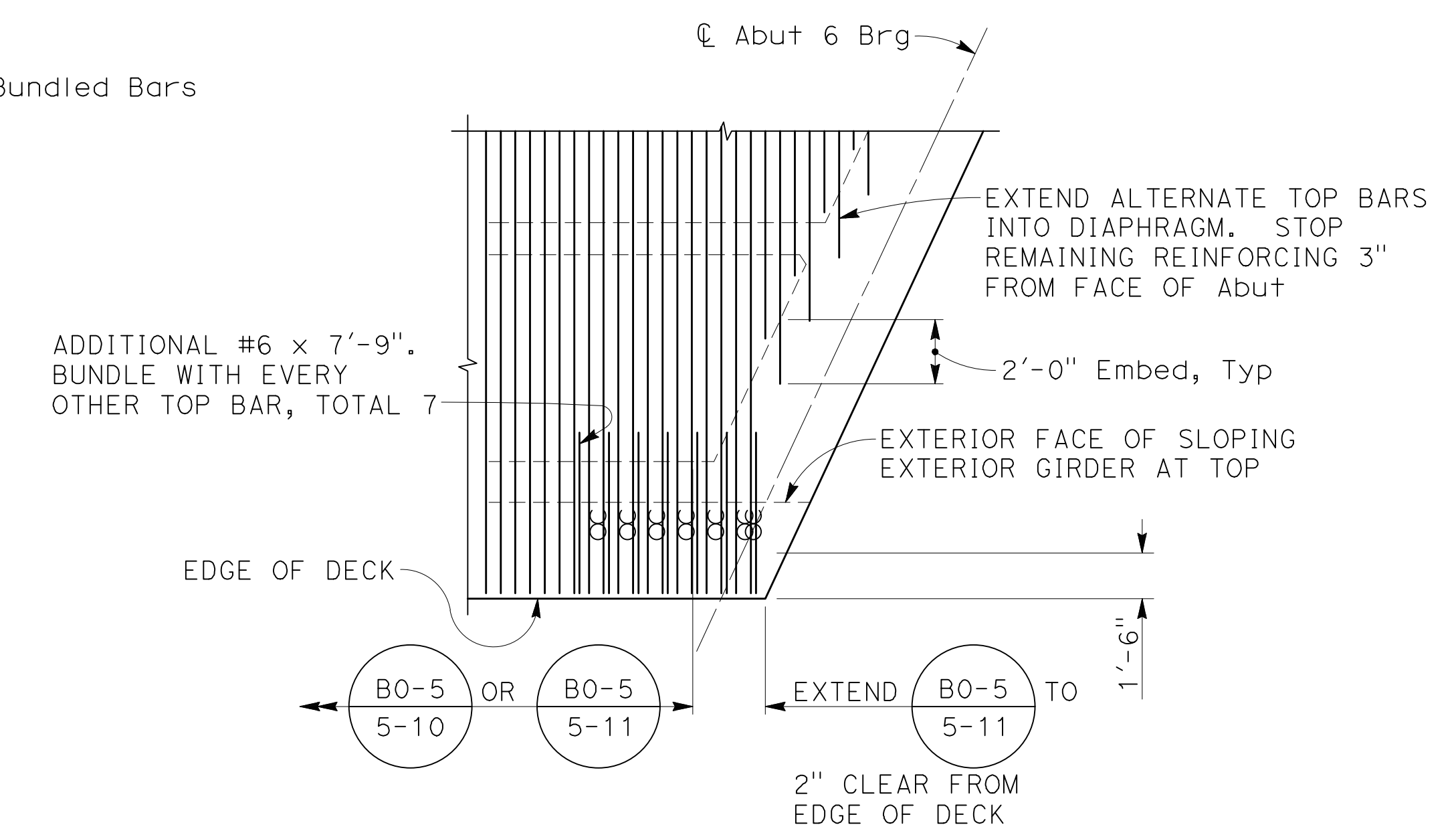
JOINT SEAL ASSEMBLY BLOCKOUT DETAIL (3)
3/4" = 1'-0"



ACUTE CORNER DETAIL (1)
NO SCALE



ABUTMENT 6 END DIAPHRAGM - SECTION B
1" = 1'-0"



OBTUSE CORNER DETAIL (2)
NO SCALE

- NOTE:
1. Noted bars must be positioned to accommodate installation of the joint seal assembly upon approval of the joint shop plans and as approved by the engineer.
 2. Noted bars shall be spaced evenly about ϕ girder and shall be placed within 10 inches on each side of ϕ girder.
 3. Falsework in span 5 shall remain in place until entire diaphragm is cast and cured.

100% SUBMISSION

REVISIONS	DATE	APPR.

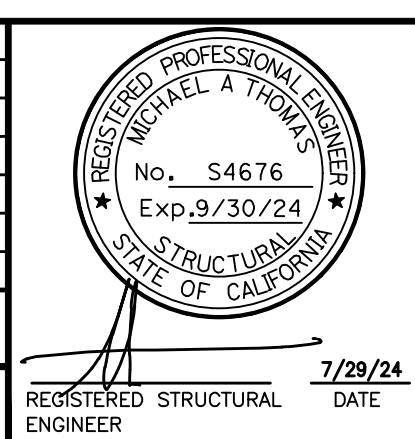
FILE NO. 382400 050

NOTE:
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PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665



MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		



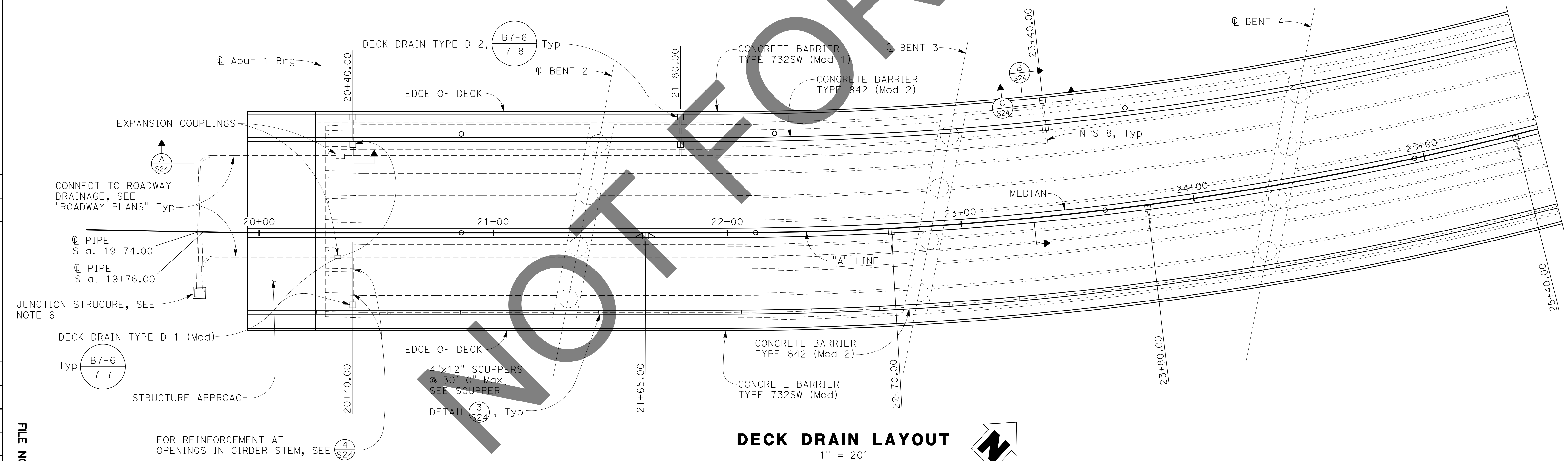
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: Chris Nguyen, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: Thomas Bustamante, P.E. SUPERVISING ENGINEER 8/15/24			DATE: 8/15/24

GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH GIRDER DETAILS No. 3				
J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-21	66	102

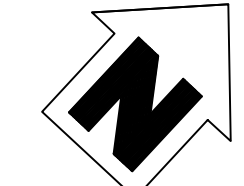
NOTES:

- Indicates Deck Drain Type D-1 (Mod).
 □ Indicates Deck Drain Type D-2
- All pipes for deck drain are NPS 8x0.135" galvanized welded steel pipe.
- Final deck drain & pipe locations may be adjusted in the field (by 12" max longitudinally) to avoid bridge reinforcement & PS ducts.
- See $\frac{B7-6}{-}$ for details not noted.
- See $\frac{2}{S24}$ for reinforcement around deck drain opening.
- See ROADWAY PLANS for information on junction structure, and deck drain pipe inverts at junction structure.
- Bars designated as continuous shall not be interrupted and must be relocated around drain opening.

PIPE SIZE	WALL THICKNESS	HANGER SPACING	HANGER ROD Dia	HANGER STRAP SIZE
NPS 8	5/32"	10'-0"	3/4"	1/4"x1 3/4"



DECK DRAIN LAYOUT
 1" = 20'



MARK	REVISIONS	DATE

FILE NO. 382400 050

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

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
 STRUCTURAL ENGINEERS
 500 S. Main Street, Suite 1200
 Orange, California 92668
 714-550-4665

BCA

REGISTERED PROFESSIONAL ENGINEER
 No. 54676
 Exp. 9/30/24
 STATE OF CALIFORNIA

7/29/24
 REGISTERED STRUCTURAL ENGINEER

SAN BERNARDINO COUNTY
 DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD
 DRAWN BY: SMH
 CHECKED BY: SEM
 RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER
 8/15/24

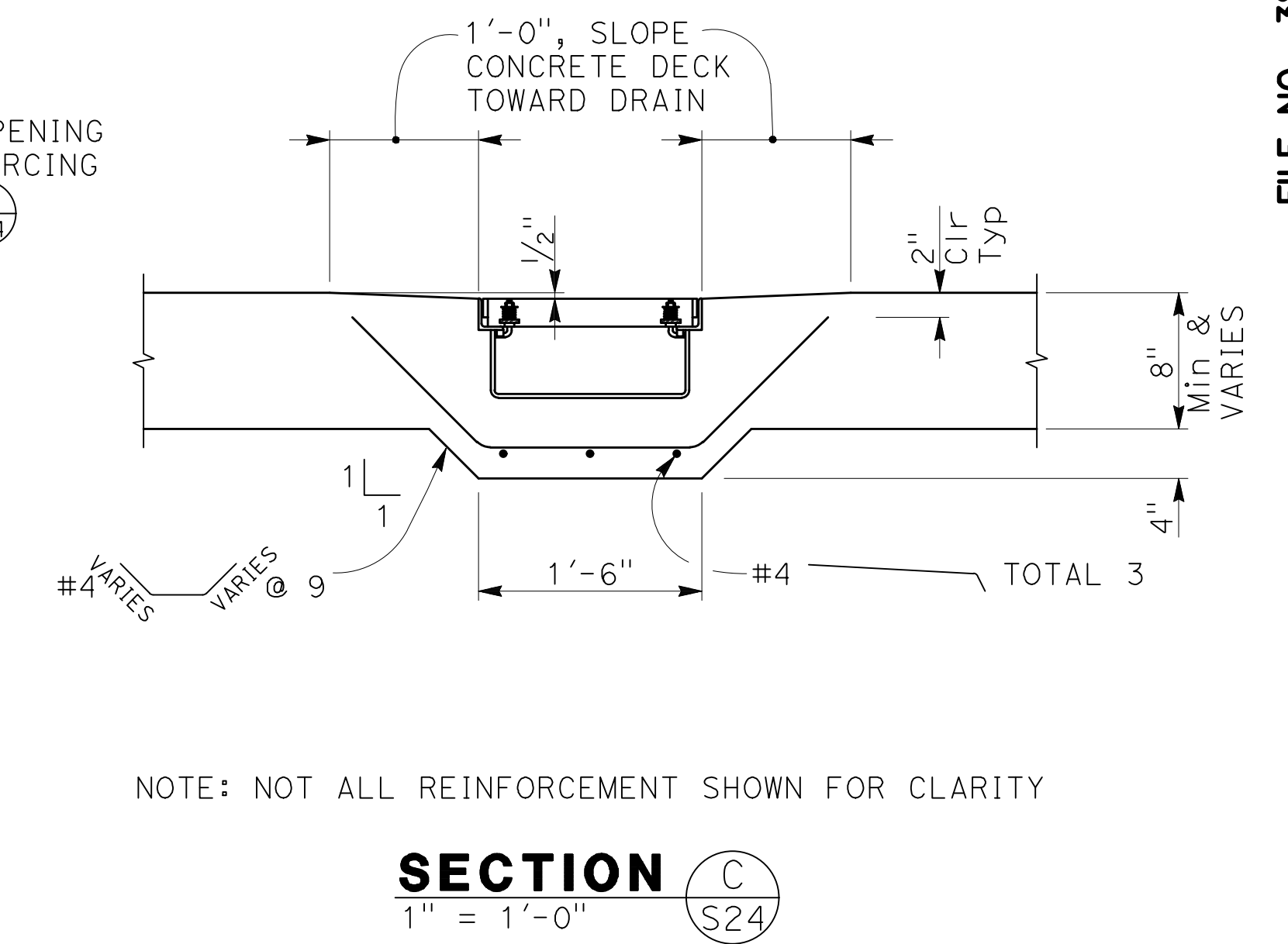
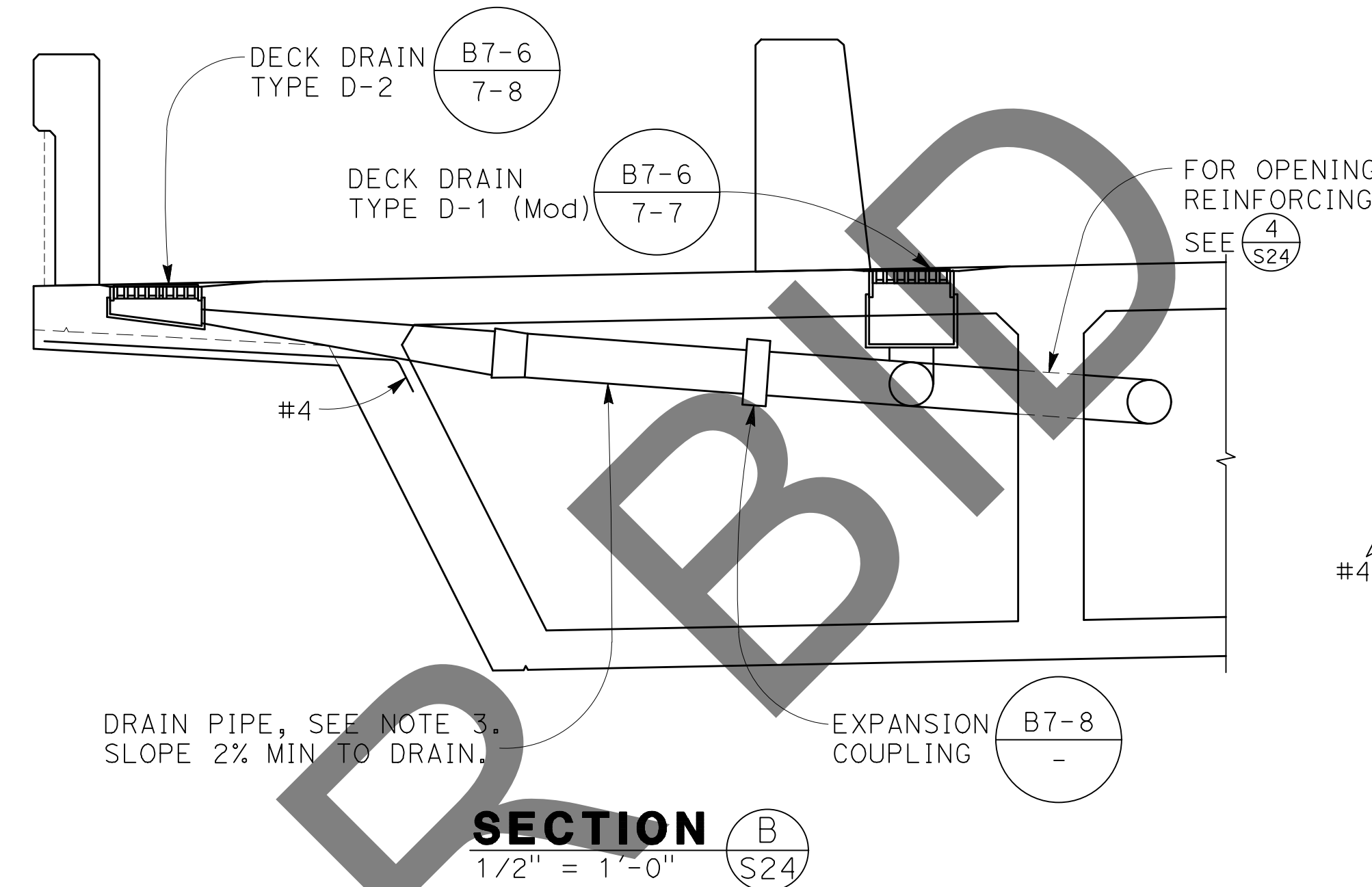
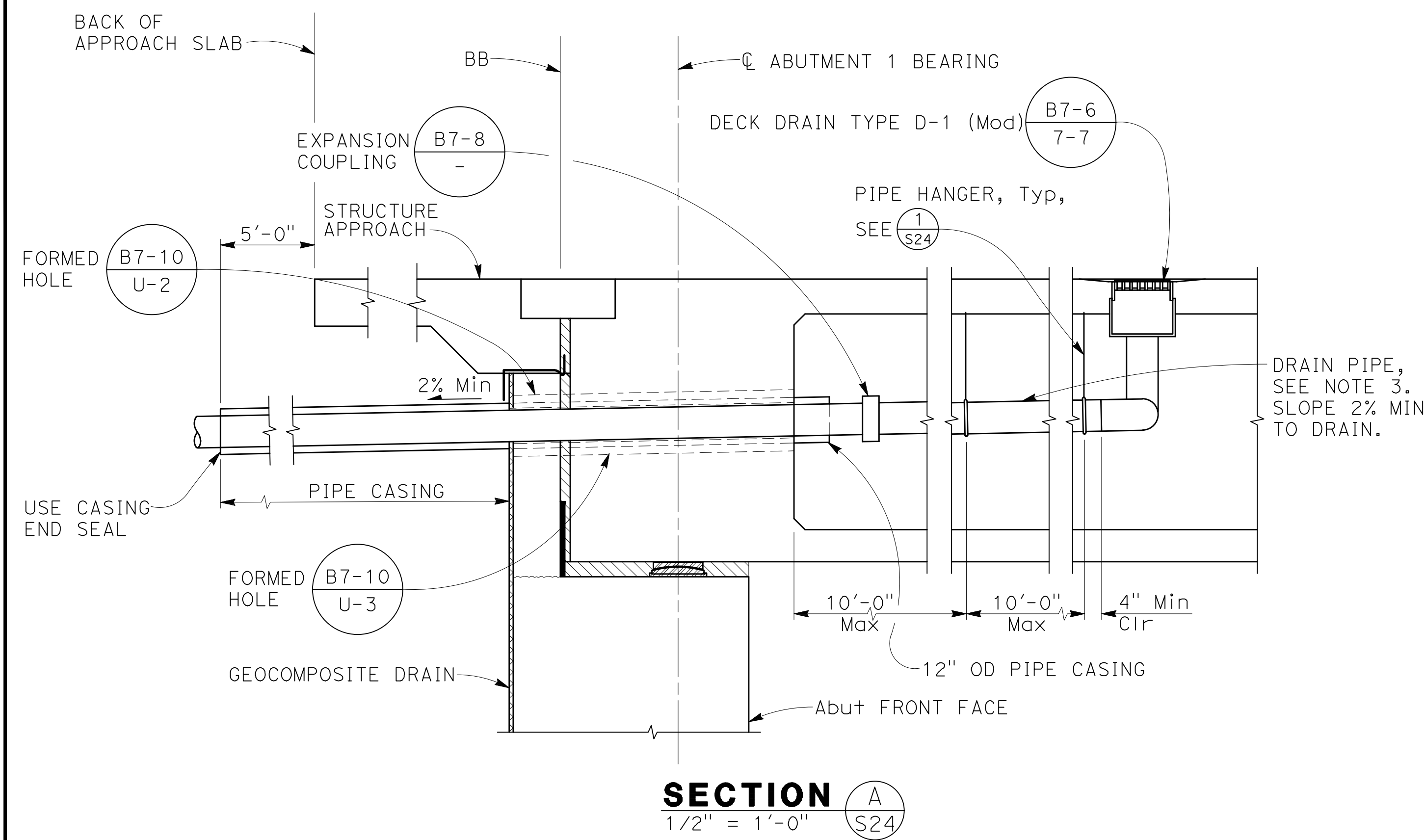
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER
 8/15/24
 MERVAI N. CHIRRIALL, P.E. DEPUTY DIRECTOR
 8/15/24

100% SUBMISSION

GLEN HELEN PARKWAY BRIDGE
 OVER CAJON WASH
 DECK DRAIN DETAILS No. 1

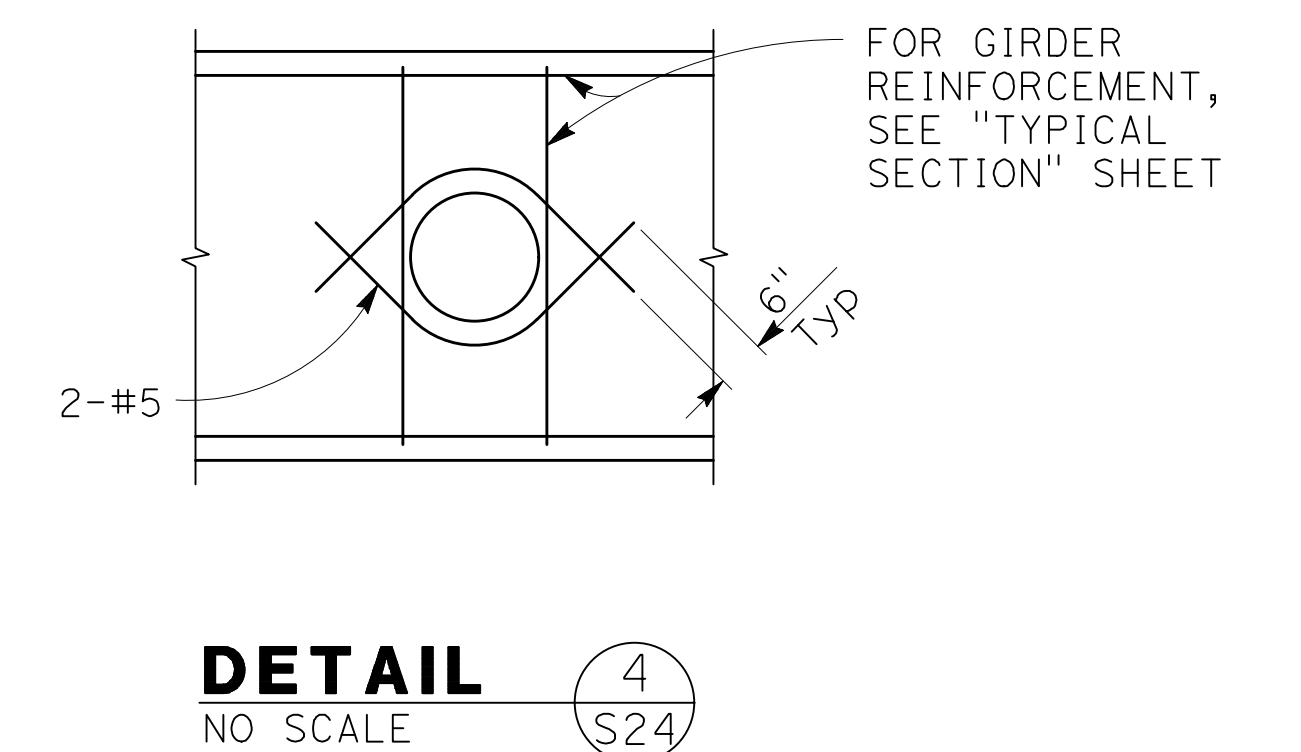
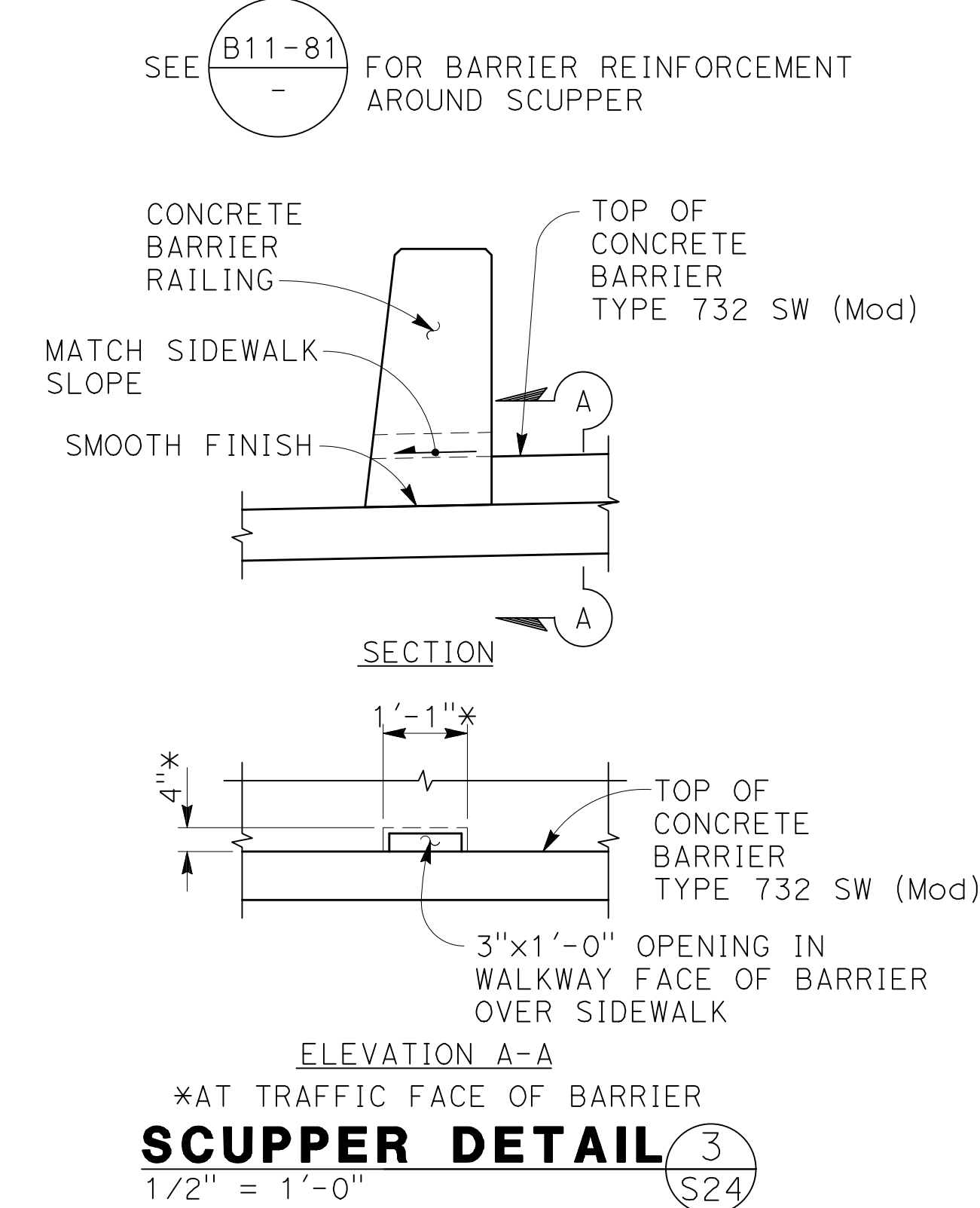
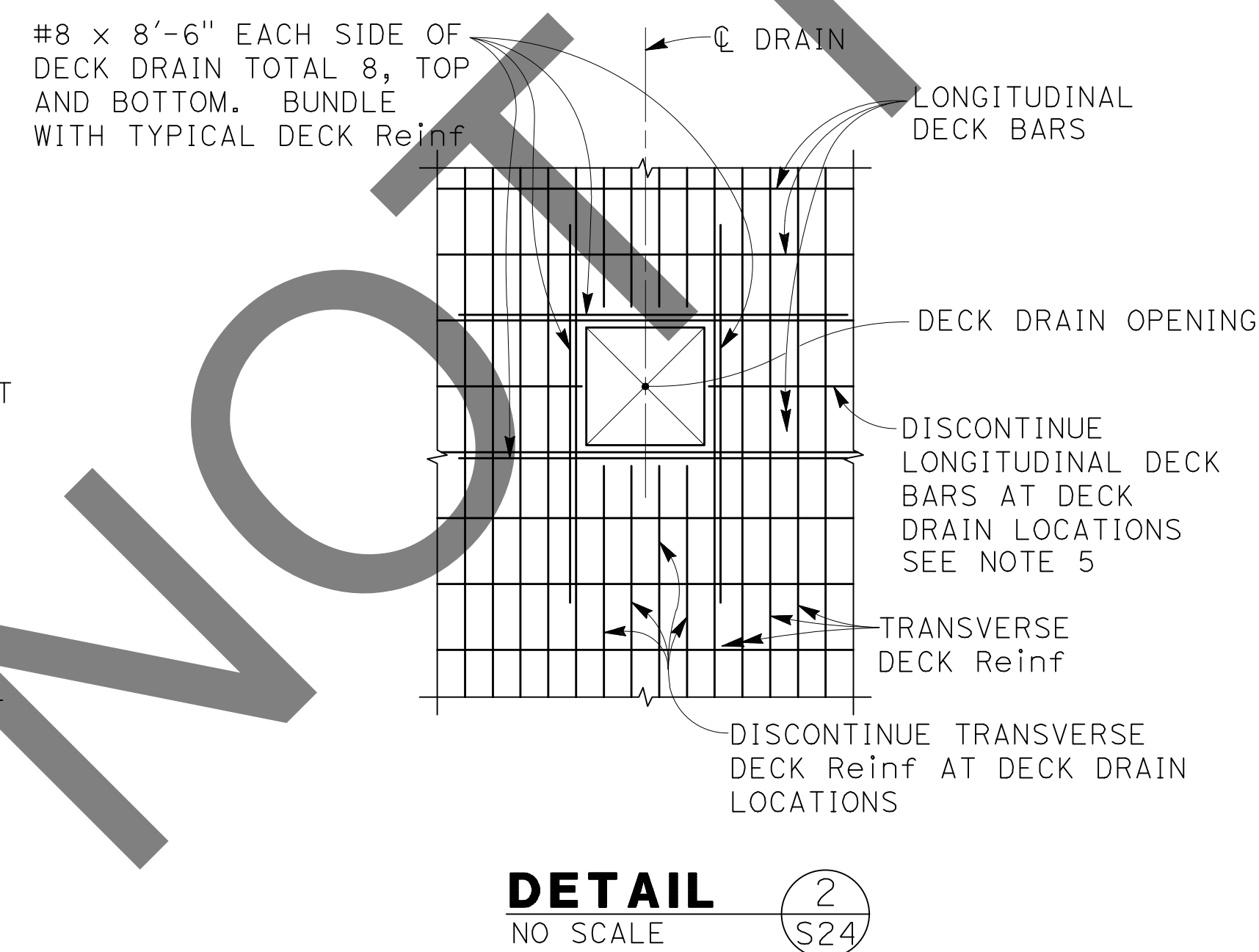
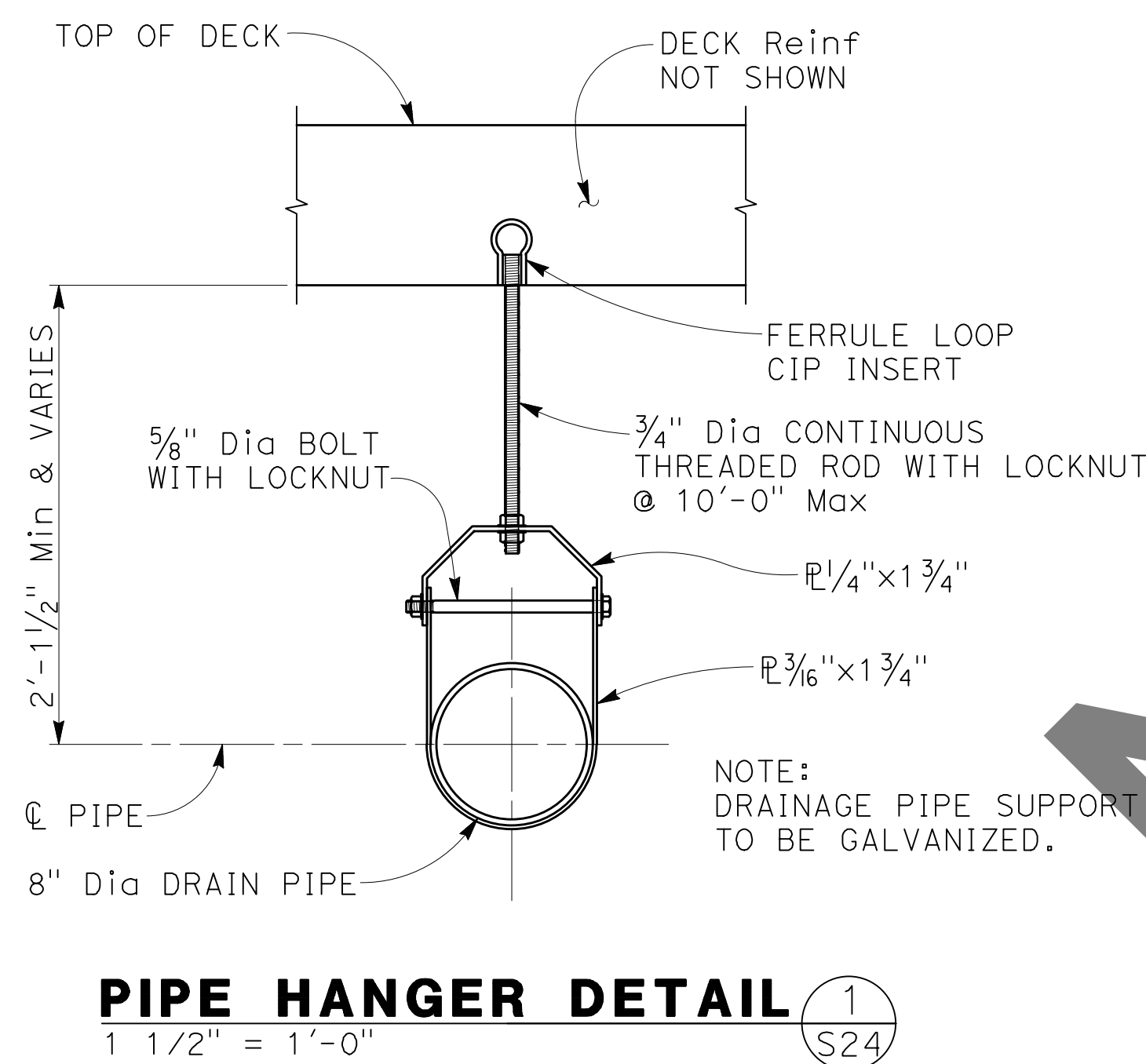
J.L. REF. 11334
 W.O. NO. H14646
 DRAWING NO. S-23
 SHT. NO. 68
 TOT. SHT'S. 102

NOTES:
For notes, see "DECK DRAIN DETAILS No. 1" sheet



NOTE: NOT ALL REINFORCEMENT SHOWN FOR CLARITY

FILE NO. 382400 050



FILE NO. 382400 050

NOTE:
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PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. THOMAS
No. 54676
Exp. 9/30/24
STRUCTURAL
STATE OF CALIFORNIA

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: <i>Chris Nguyen</i> CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: <i>Thomas Bustamante</i> THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24			DATE: 8/15/24

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
DECK DRAIN DETAILS No. 2

J.L. REF. 11334	W.O. NO. H14646	DRAWING NO. S-24	SHT. NO. 69	TOT. SHT'S. 102
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BCA

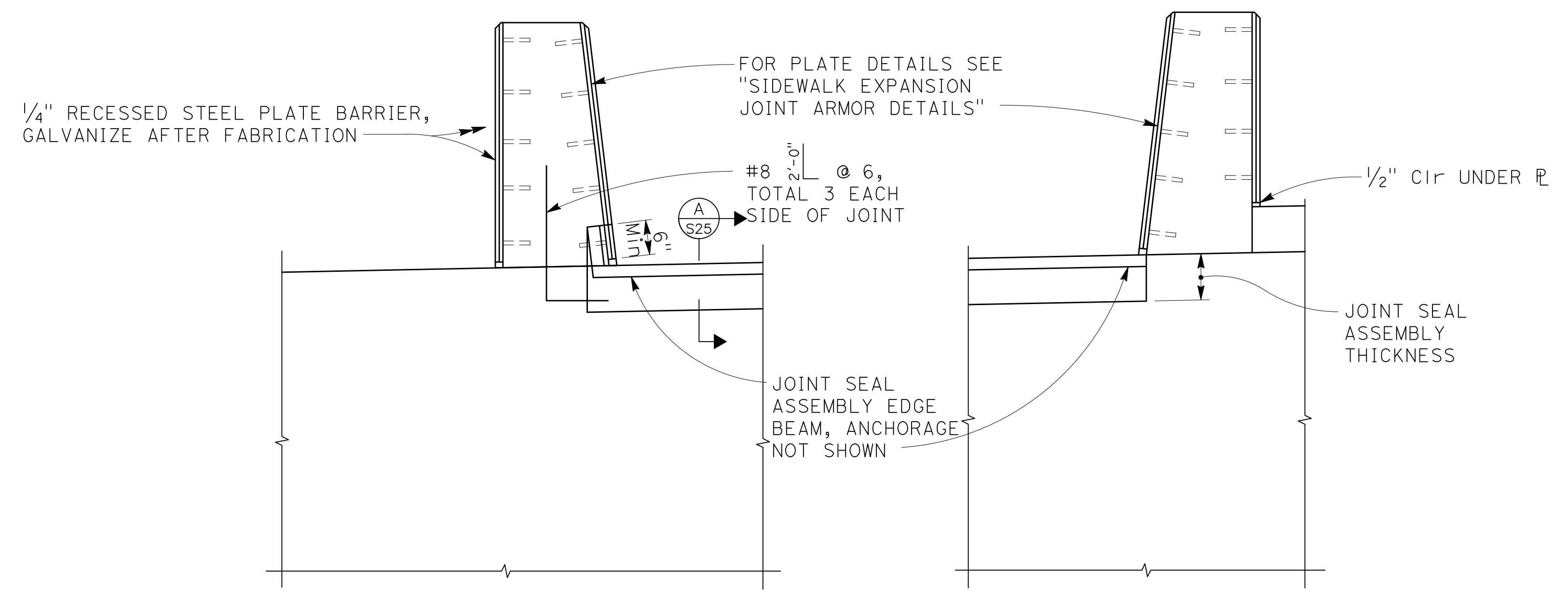
FIELD CHANGES

REGISTERED STRUCTURAL ENGINEER
7/29/24

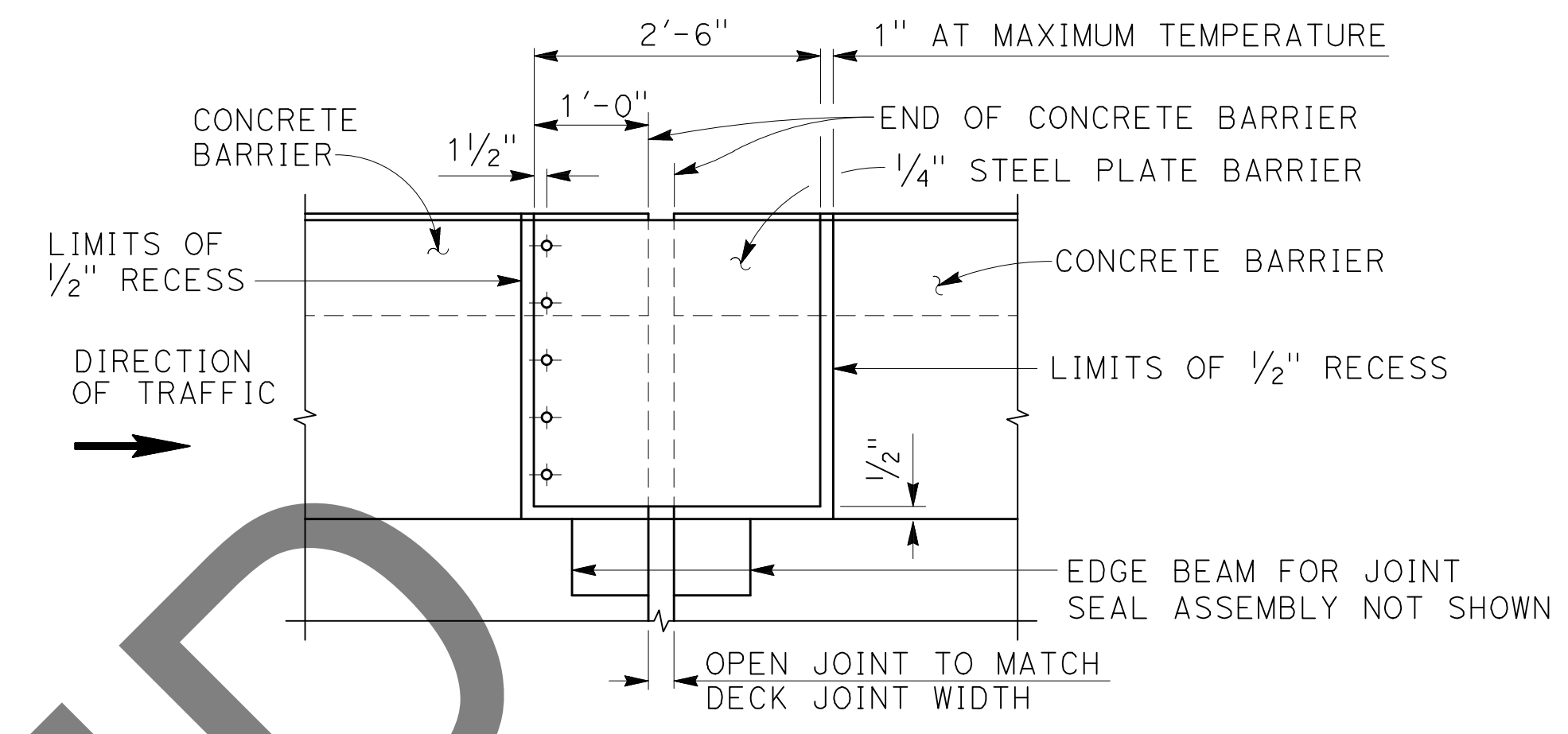
THOMAS BUSTAMANTE, P.E.
SUPERVISING ENGINEER
8/15/24

APPROVED BY: *Michael A. Thomas*
MICHAEL A. THOMAS, P.E.
DEPUTY DIRECTOR
8/15/24

100% SUBMISSION



SEAL INSTALLATION
3/4" = 1'-0"

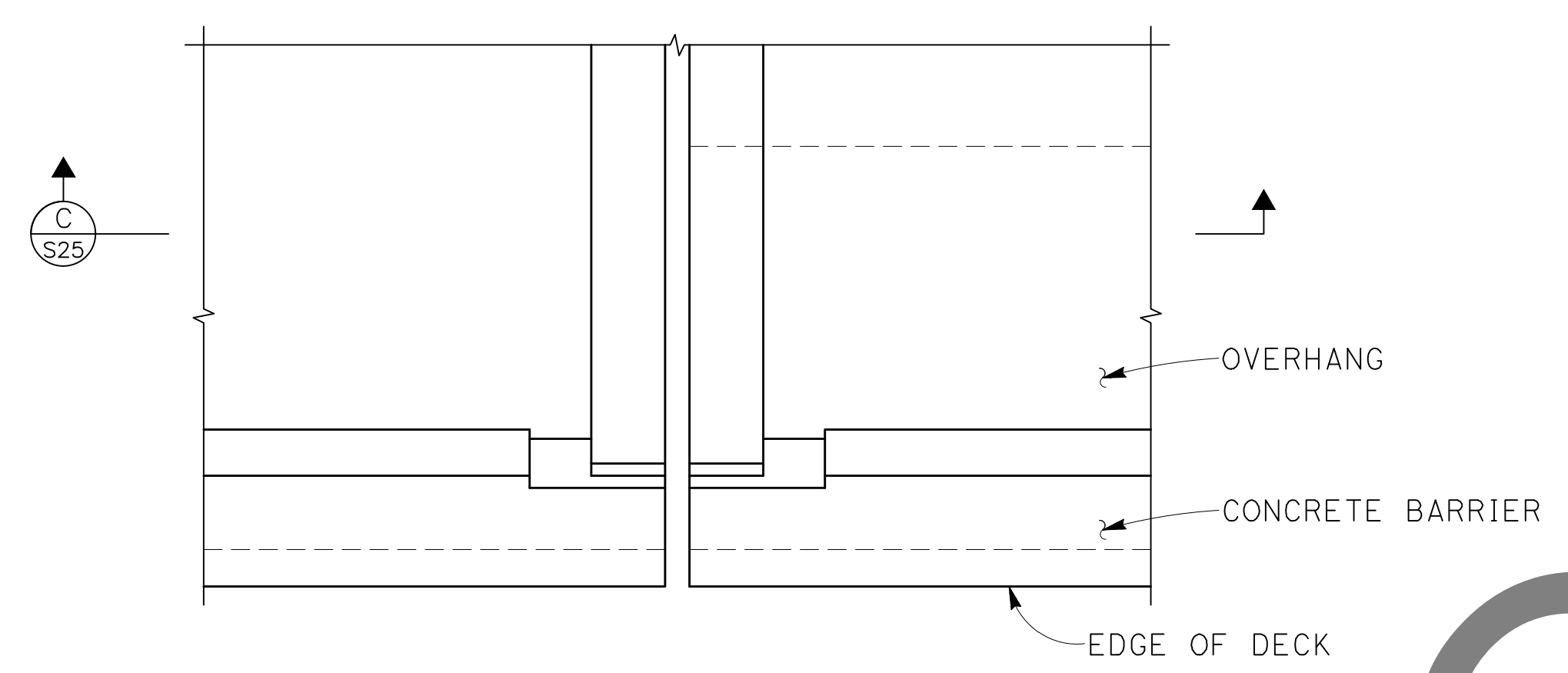


SECTION A
3/4" = 1'-0" S25

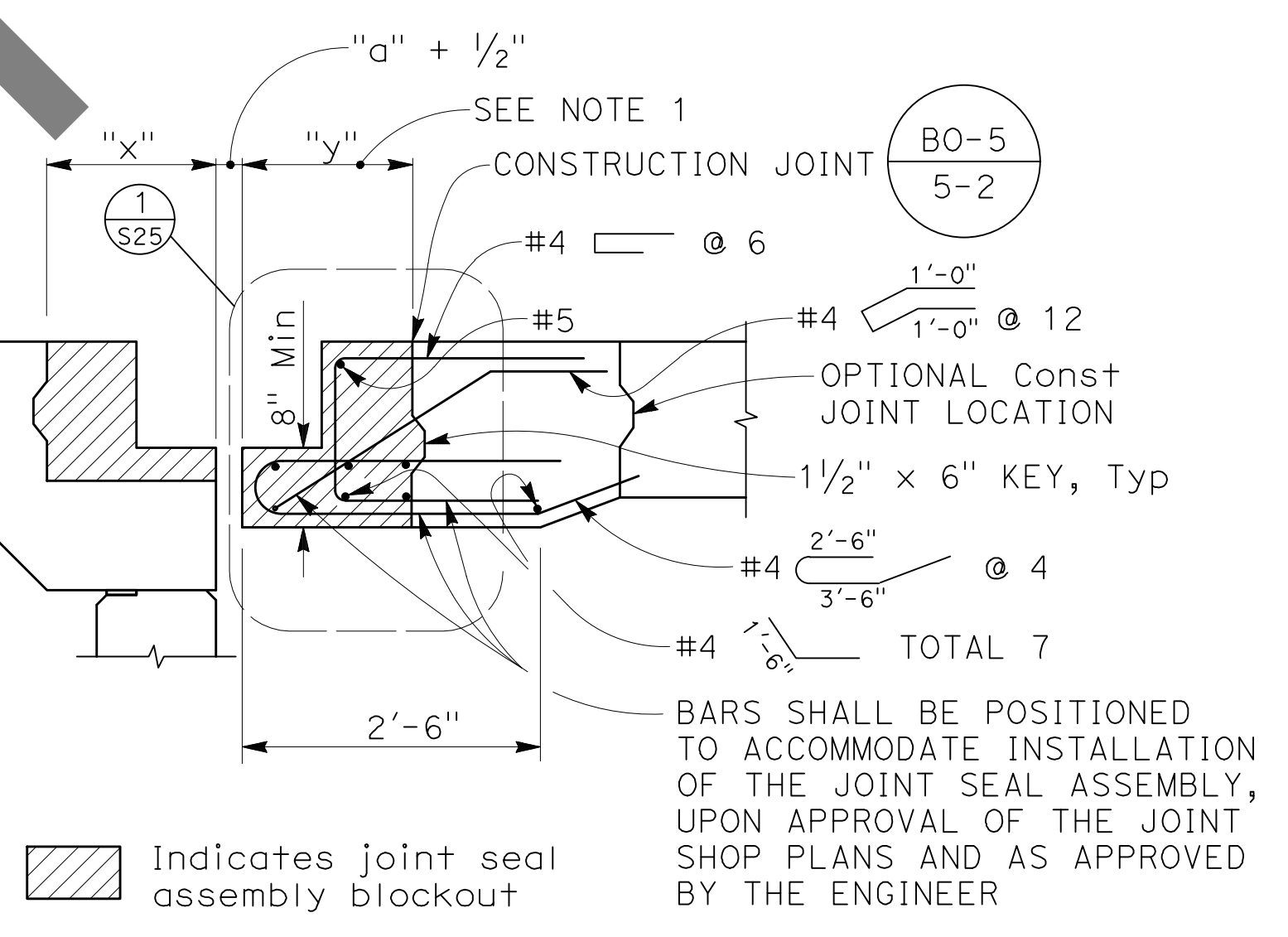
NOTE:
Abut 1 shown,
Abut 6 similar

LOCATION	MOVEMENT RATING (MR)	"d" DIMENSIONS			
		SKUEW	WINTER	SPRING & FALL	SUMMER
ABUTMENT 1	4.5"	0° 0' 0"	2 1/4"	1 3/4"	1 1/8"
ABUTMENT 6	6.5"	20° 0' 0"	3 3/8"	2 5/8"	1 3/4"

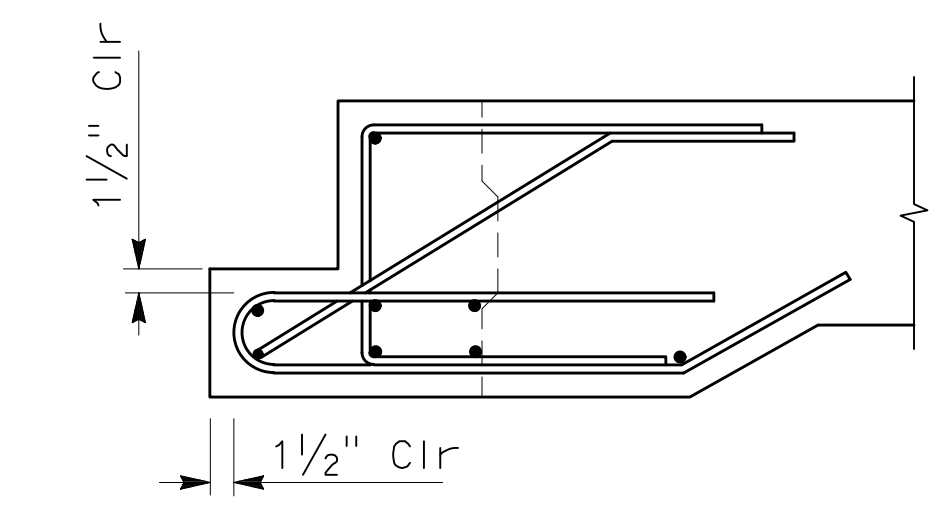
NOTES:
1. X is greater than or equal to y



ABUTMENT 1 PLAN - DECK JOINT
3/4" = 1'-0"



SECTION C
3/4" = 1'-0" S25



DETAIL 1
1" = 1'-0" S25

NOT FOR BID

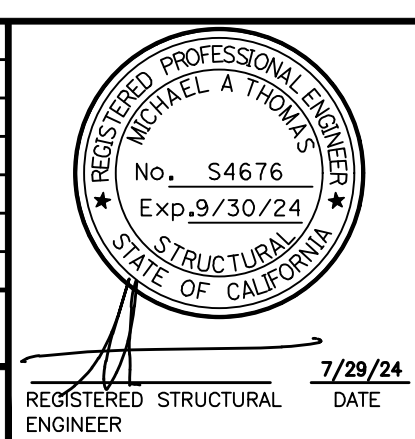
MARK	REVISIONS	DATE

FILE NO. 382400 050

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

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

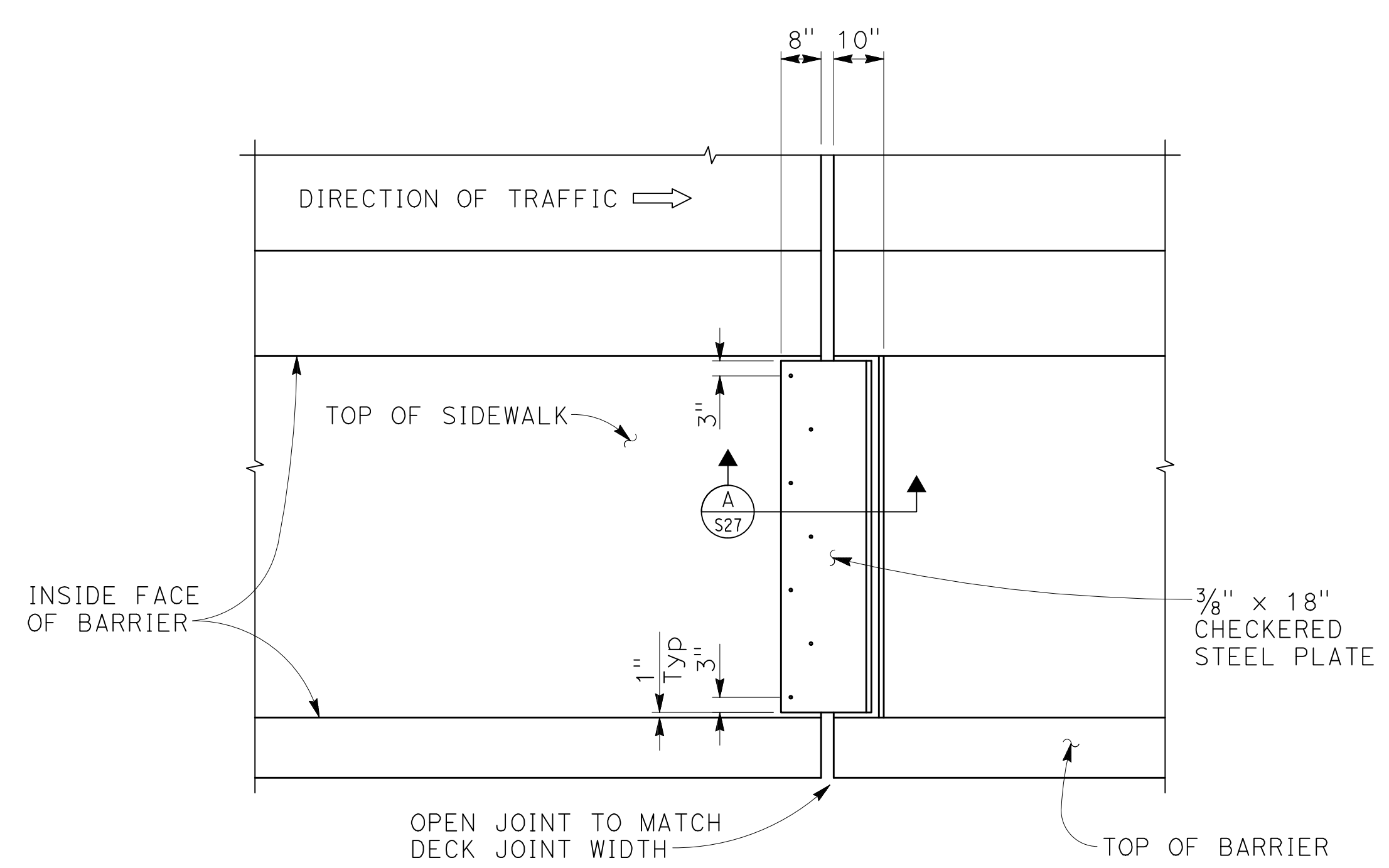
MARK	CHANGES	RESIDENT ENGINEER	DATE



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24		APPROVED BY: MERVAT N. CARRIBALL, P.E. DEPUTY DIRECTOR 8/15/24	

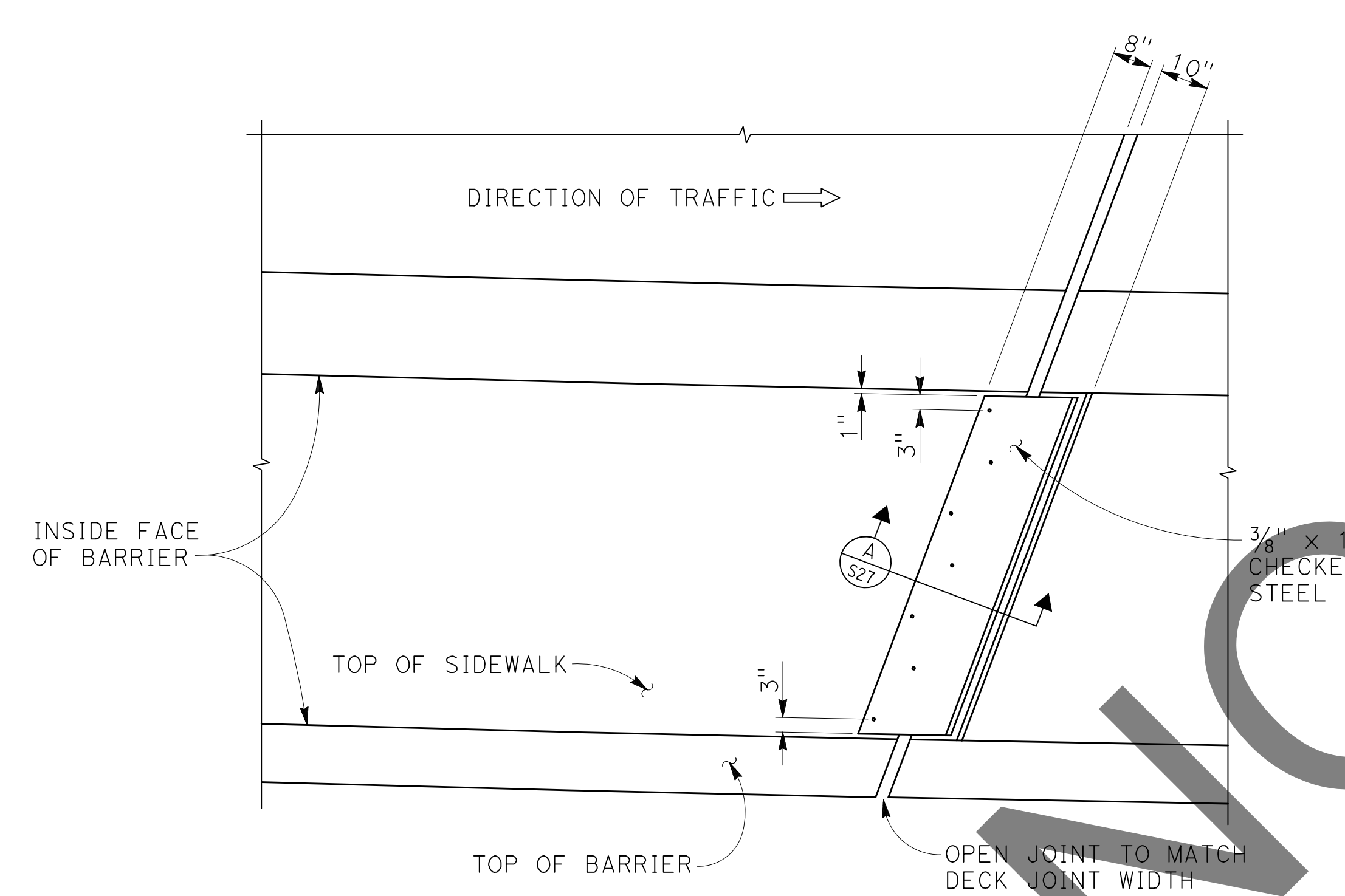
GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH				
JOINT SEAL ASSEMBLY DETAILS No. 1				
J.L. REF. 11334	W.O. NO. H14646	DRAWING NO. S-25	SHT. NO. 70	TOT. SHTS. 102

100% SUBMISSION



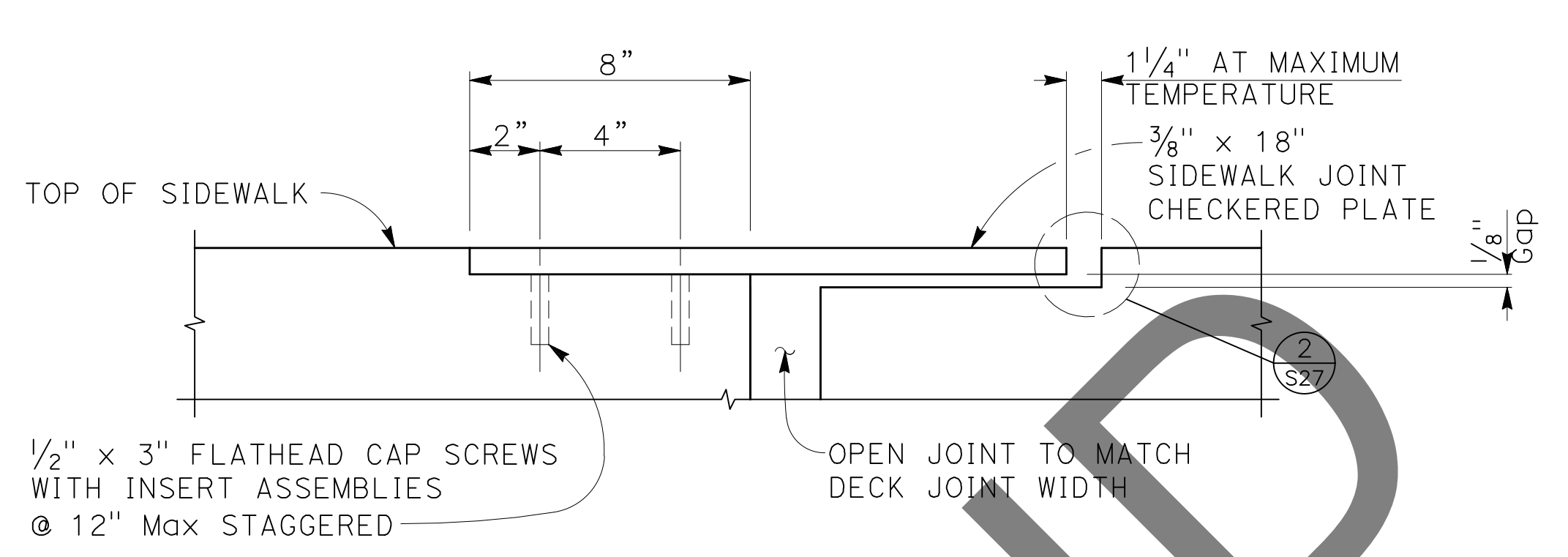
NOTE:
East sidewalk expansion joint armor shown, west similar

ABUTMENT 1 PLAN
1/2" = 1'-0"

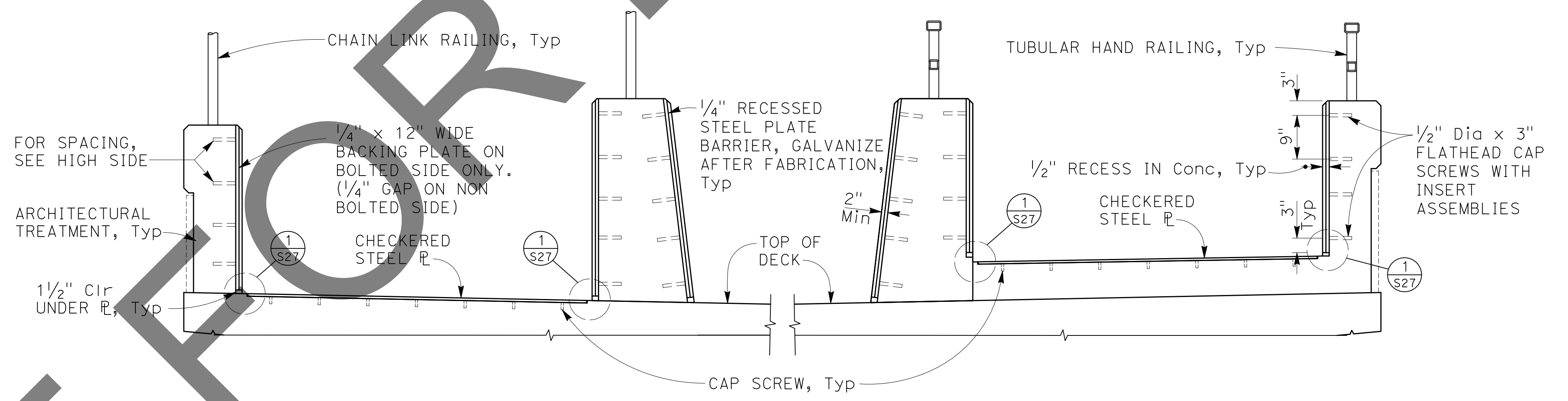


NOTE:
East sidewalk expansion joint armor shown, west similar

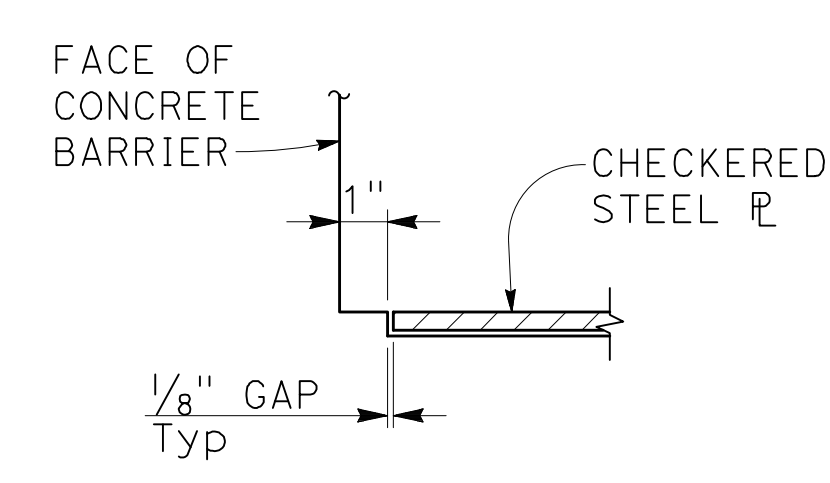
ABUTMENT 6 PLAN
1/2" = 1'-0"



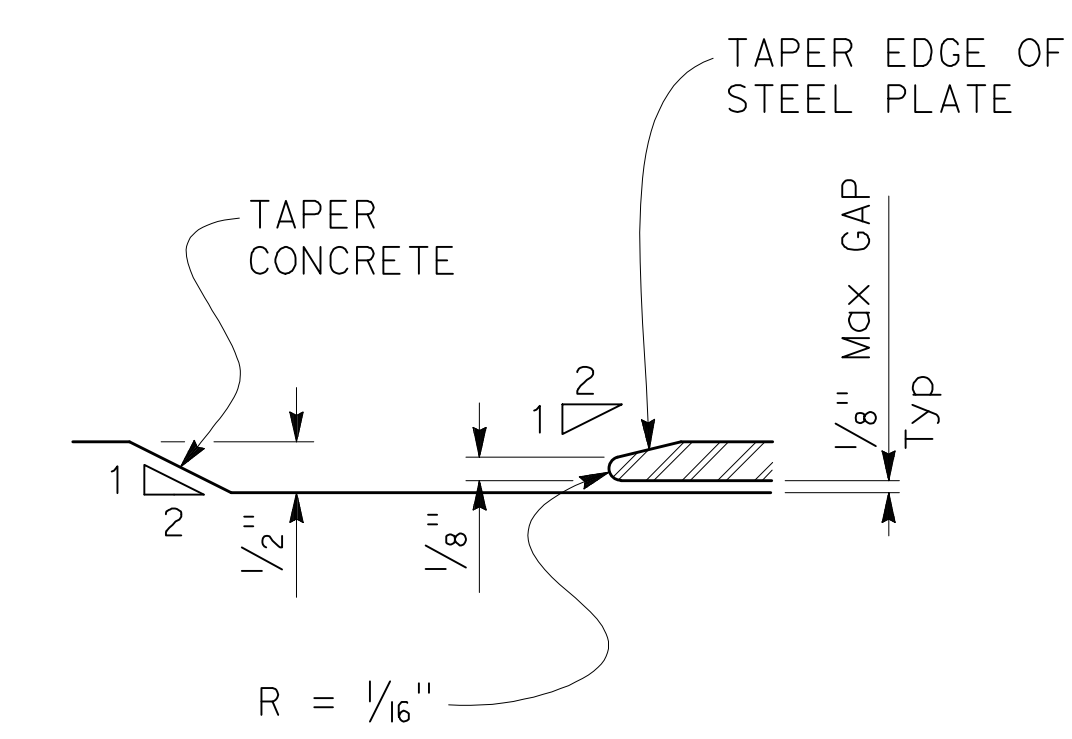
SECTION A
NO SCALE



PARTIAL TYPICAL SECTION
3/4" = 1'-0"



DETAIL 1
NO SCALE



DETAIL 2
NO SCALE

- NOTES:
- Utility openings and expansion joints not shown for clarity.
 - Plates to be galvanized.

MARK	REVISIONS	DATE

MARK	REVISIONS	DATE

FILE NO. 382400 050

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

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

BCA

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES

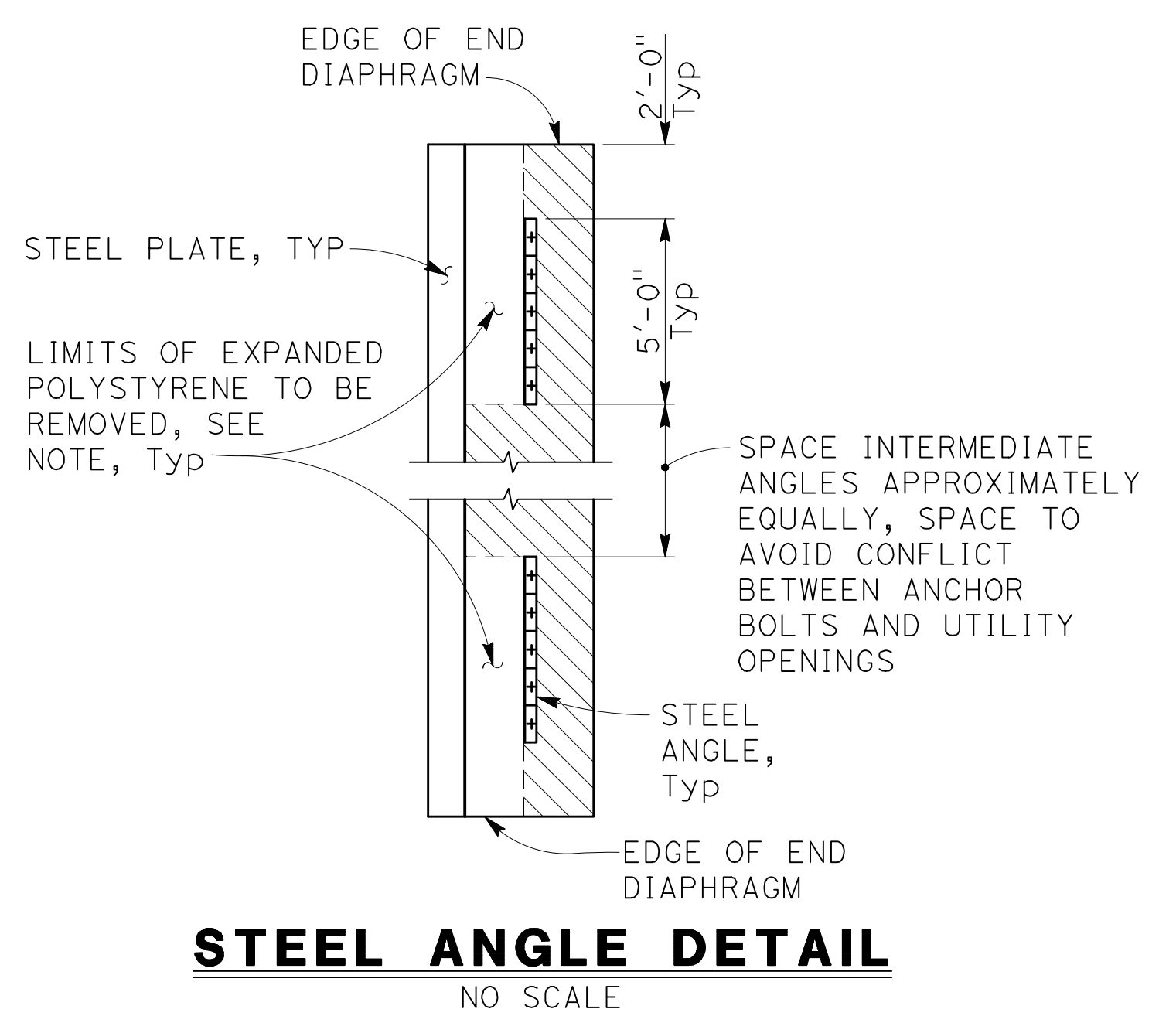
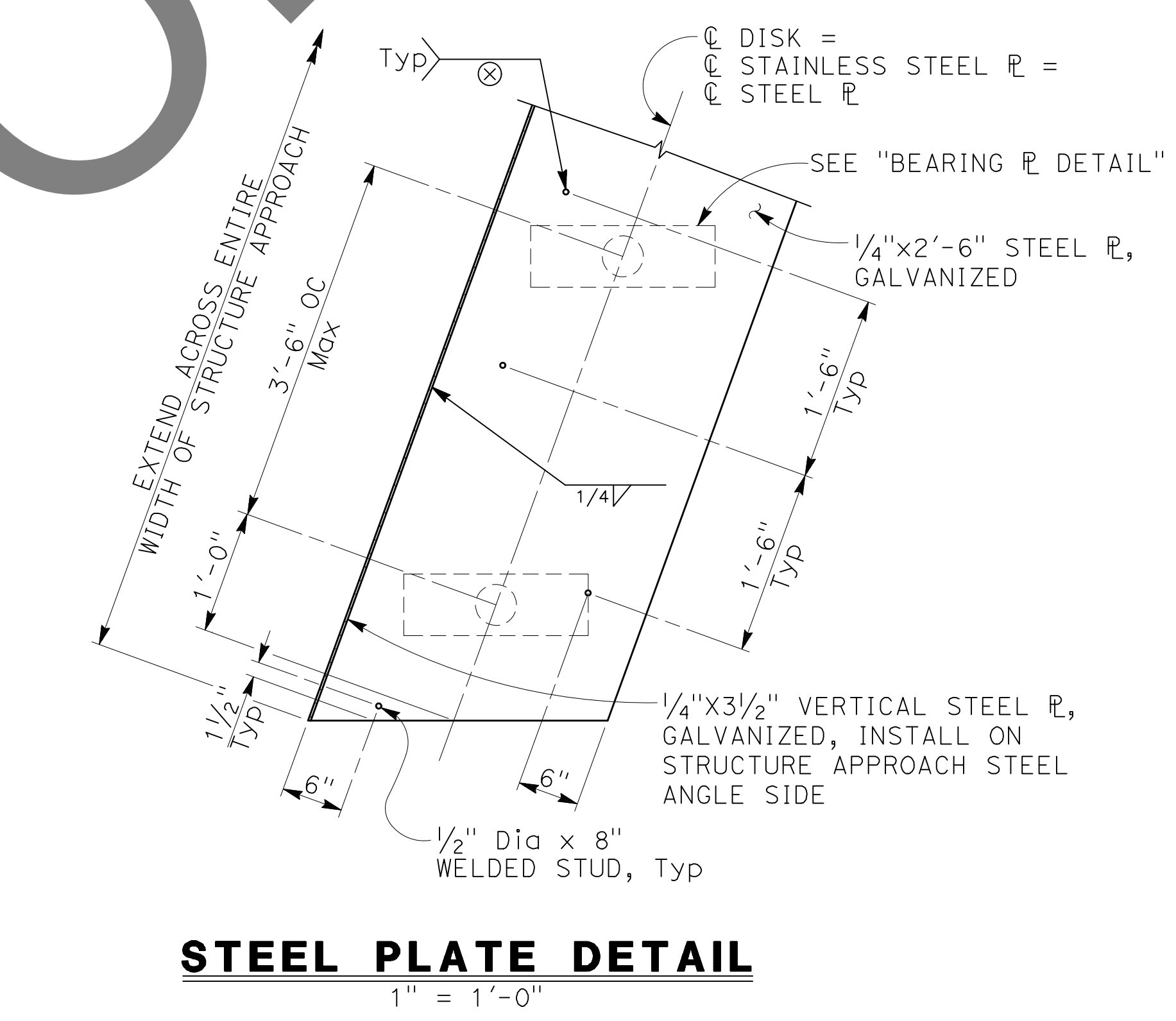
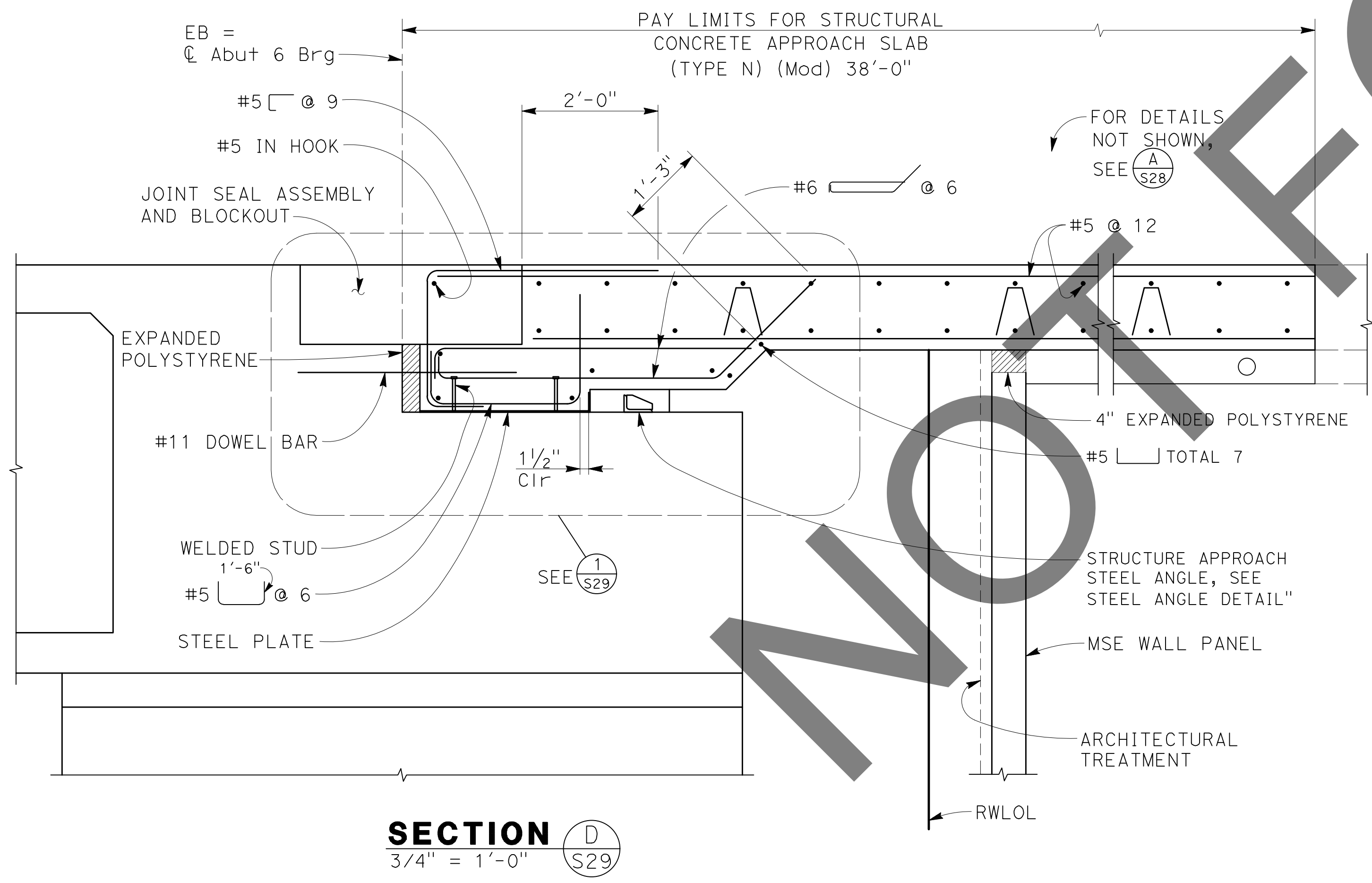
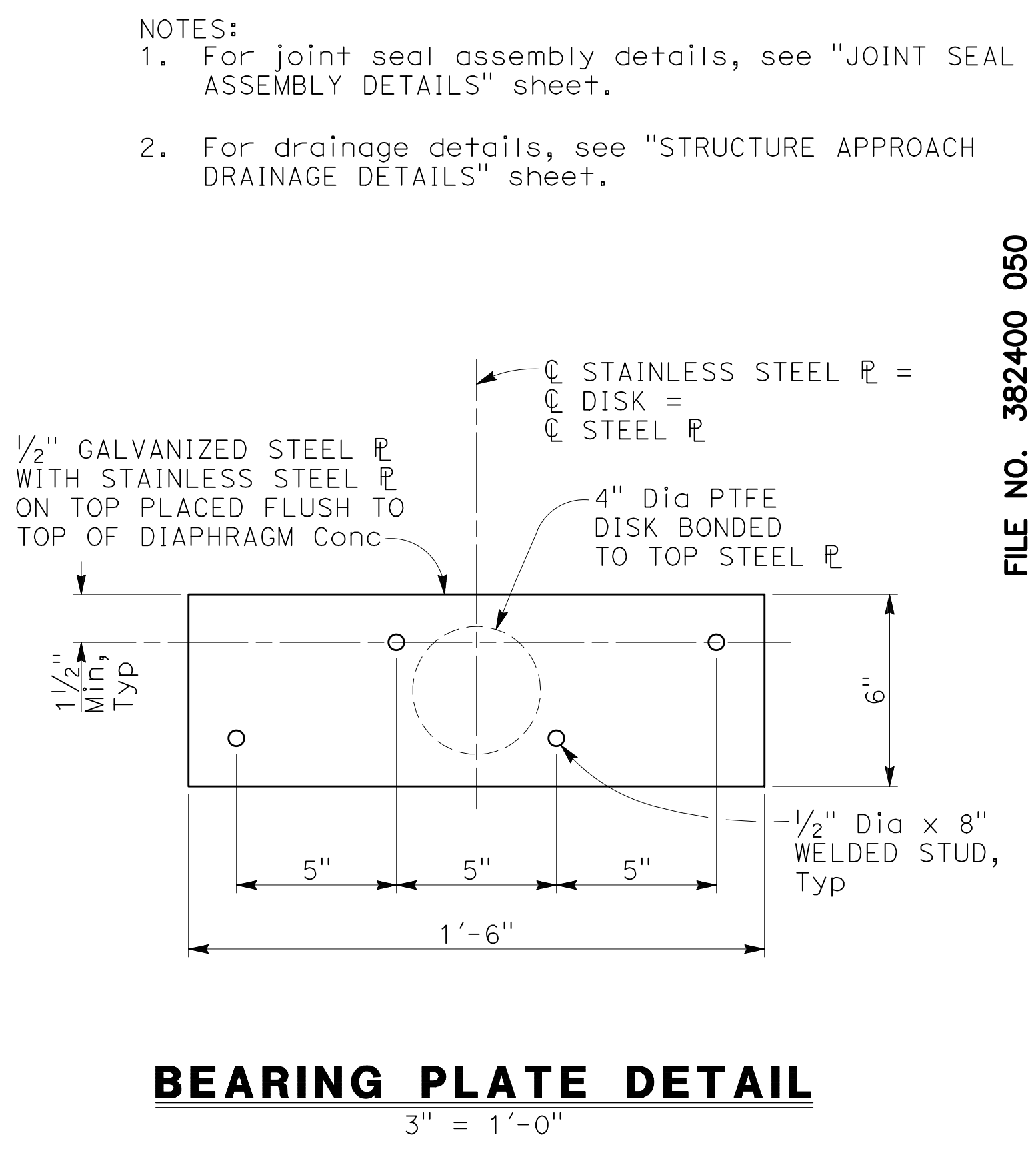
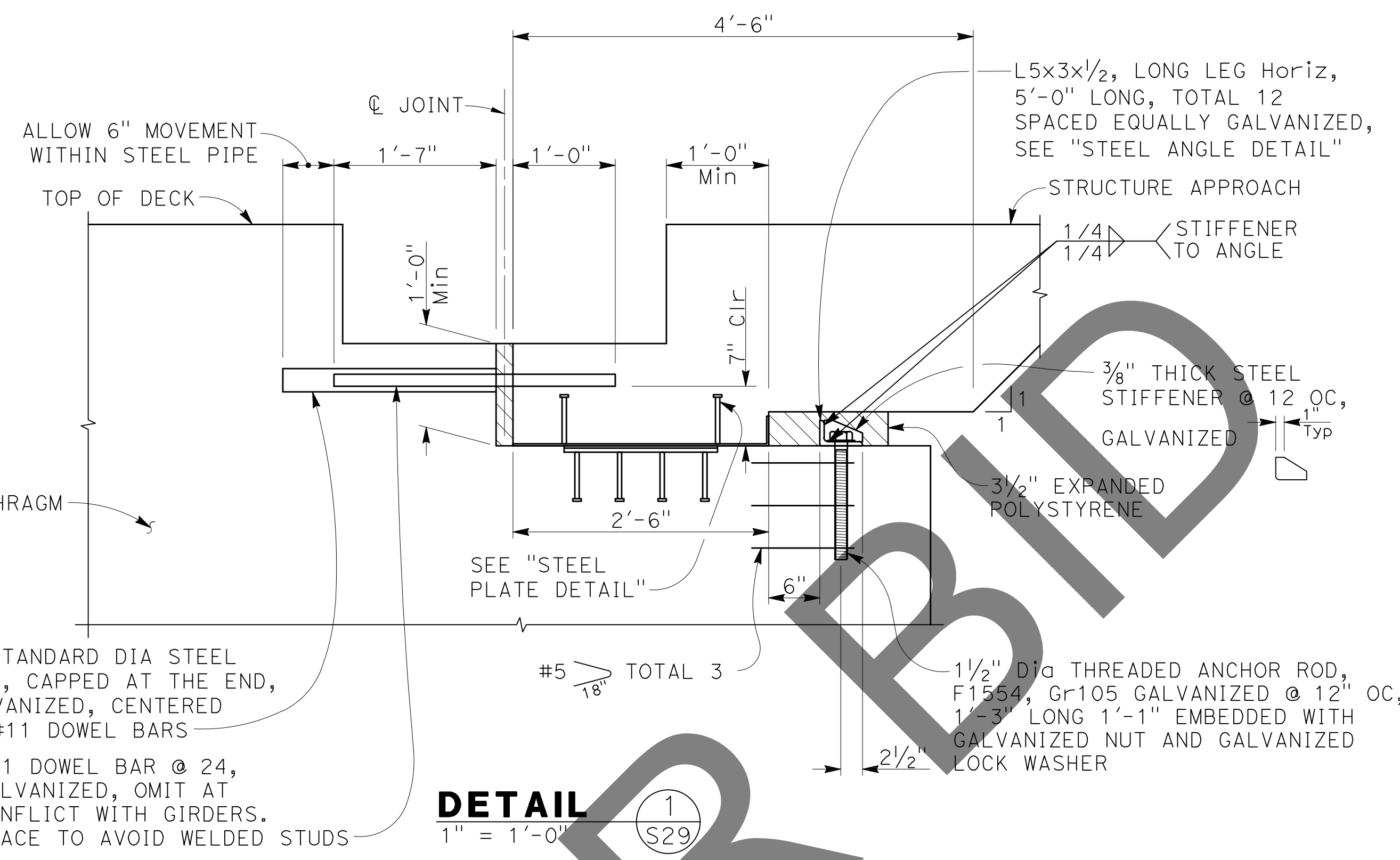
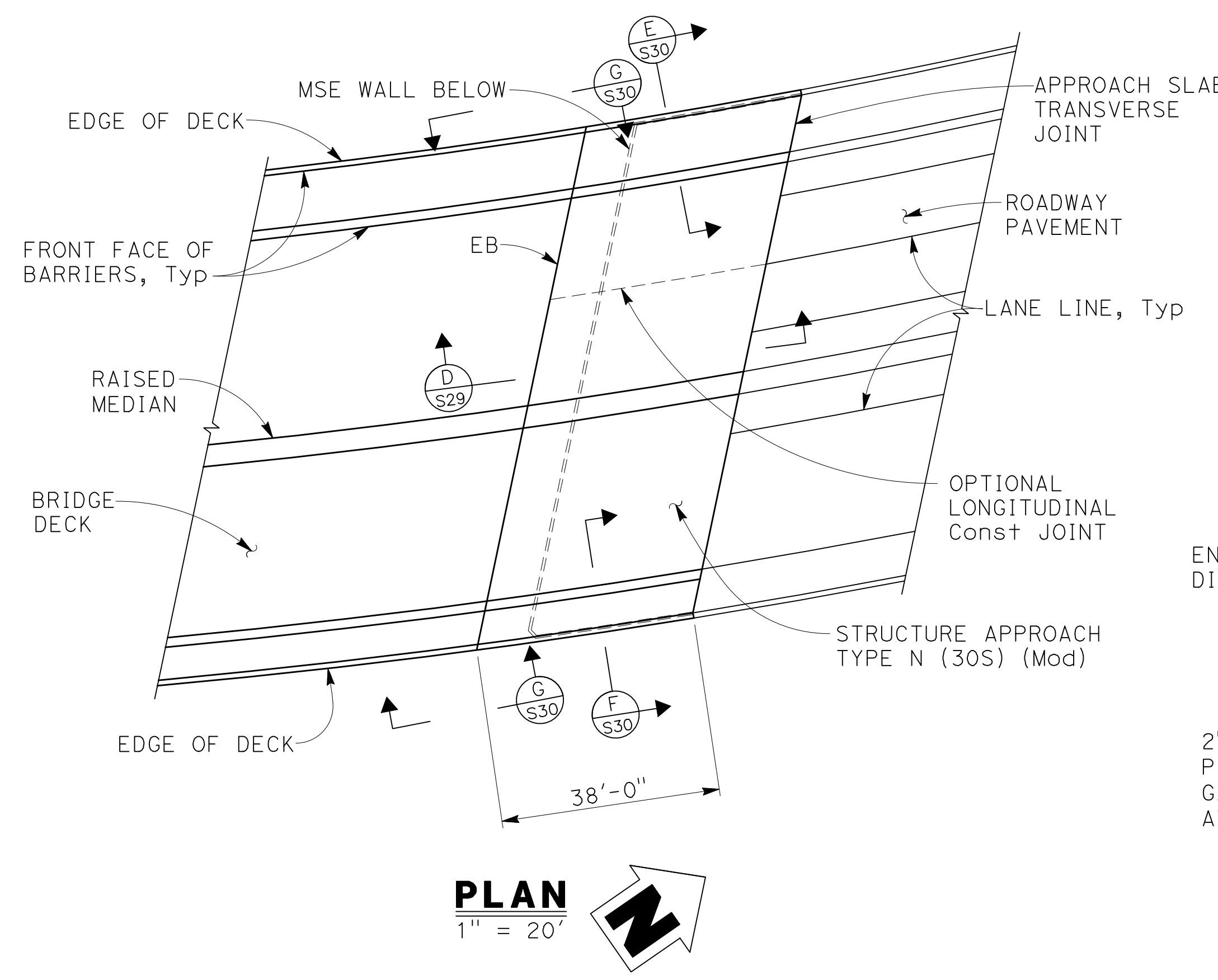
REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. THOMPSON
No. S4676
Exp. 9/30/24
REGISTERED STRUCTURAL ENGINEER
7/29/24

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:	DATE
GOD	SMH	SEM	CHRIS NGUYEN, P.E. ENGINEERING MANAGER	8/15/24
APPROVED BY:				DATE
Thomas Bustamonte				8/15/24
THOMAS BUSTAMONTE, P.E. SUPERVISING ENGINEER				8/15/24
MERVA L. CAMPBELL, P.E. DEPUTY DIRECTOR				

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
SIDEWALK EXPANSION JOINT ARMOR DETAILS

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHTS.
11334	H14646	S-27	72	102



NOTE:
REMOVE EXPANDED POLYSTYRENE BETWEEN STEEL ANGLE AND STRUCTURE APPROACH AFTER STRUCTURE APPROACH HAS CURED.

100% SUBMISSION

APPR.	DATE
REVISIONS	
MARK	
APPR.	DATE
REVISIONS	
MARK	

FILE NO. 382400 050

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

PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. THOMPSON
No. S4676
Exp. 9/30/24
REGISTERED STRUCTURAL ENGINEER

7/29/24

FIELD CHANGES

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD
DRAWN BY: SMH
CHECKED BY: SEM
RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER
DATE: 8/15/24

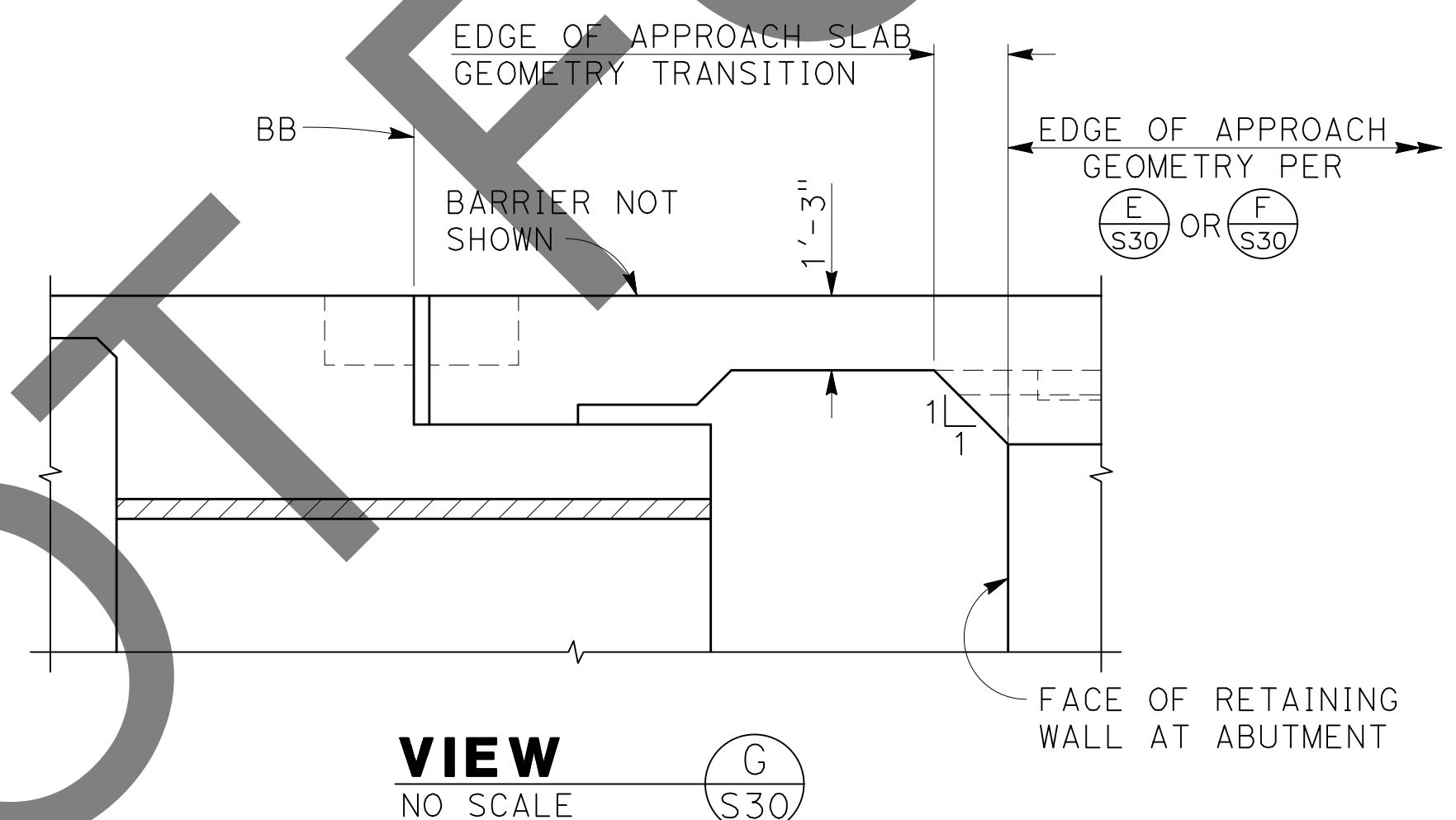
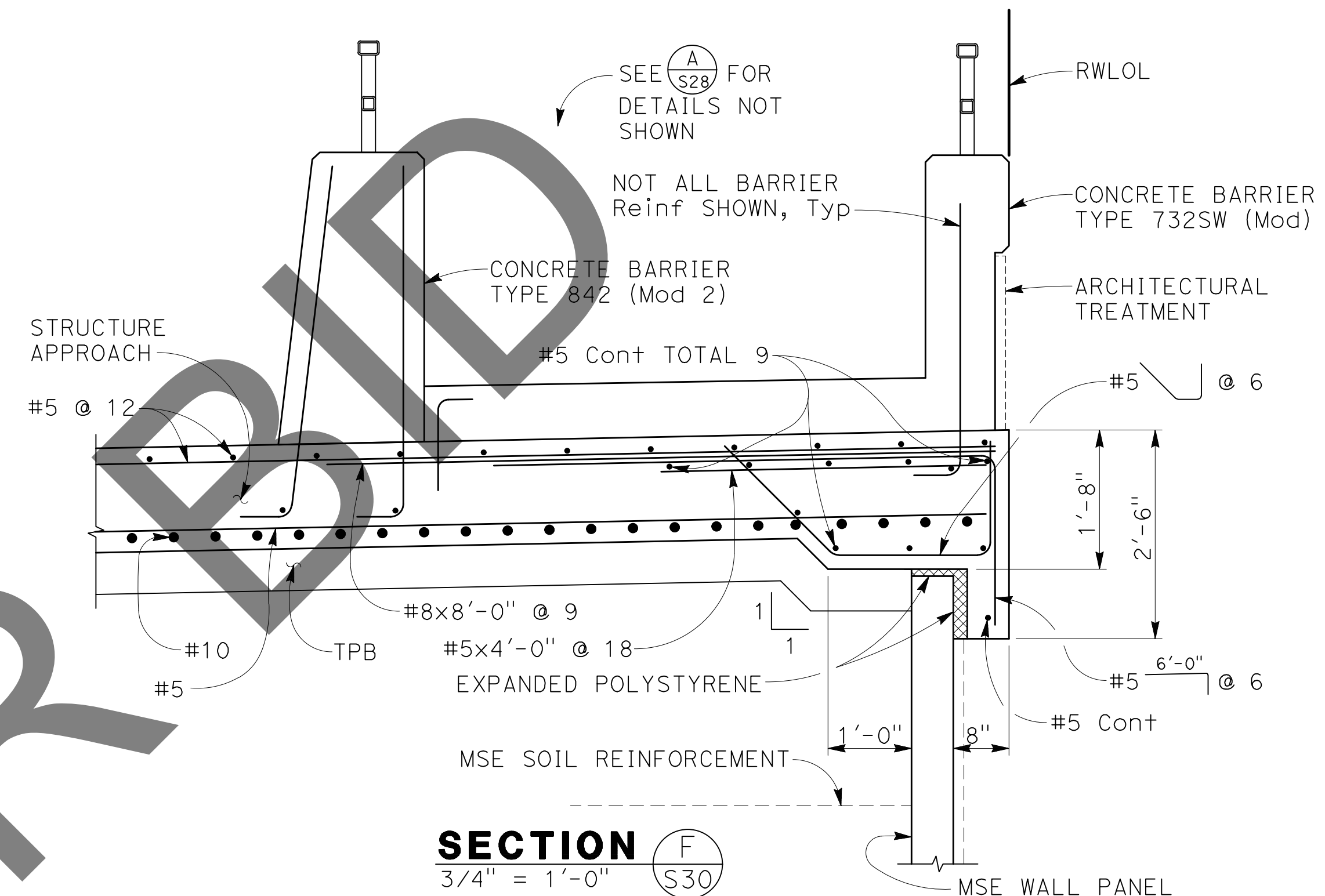
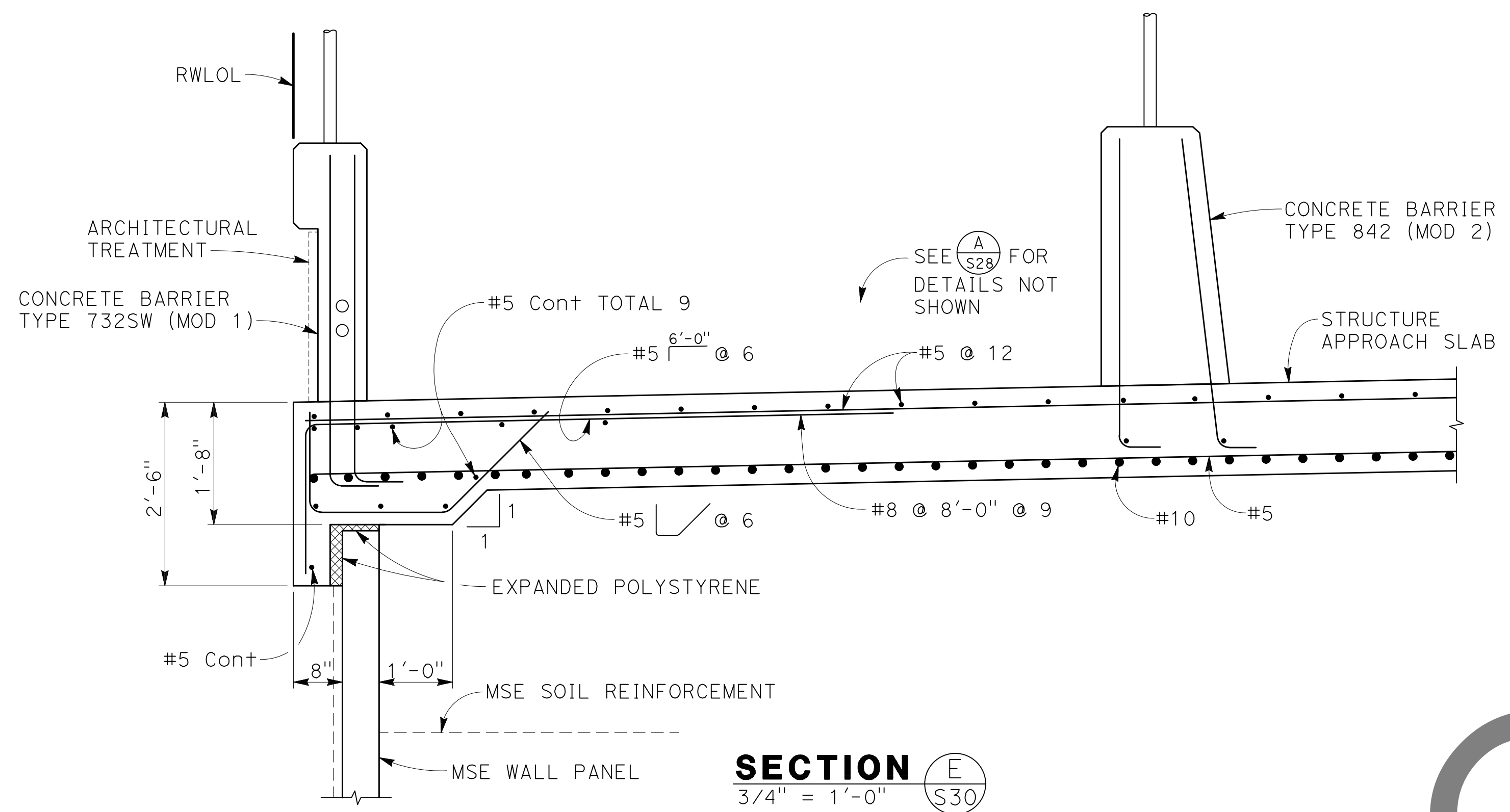
APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER
DATE: 8/15/24

APPROVED BY: MERVAI N. CARRIALL, P.E. DEPUTY DIRECTOR
DATE: 8/15/24

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
STRUCTURE APPROACH No. 2

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHTS.
11334	H14646	S-29	74	102

- NOTES:
1. For joint seal assembly details, see "JOINT SEAL ASSEMBLY DETAILS" sheet.
 2. For drainage details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet.



NOT FOR BIDDING

MARK	REVISIONS	DATE

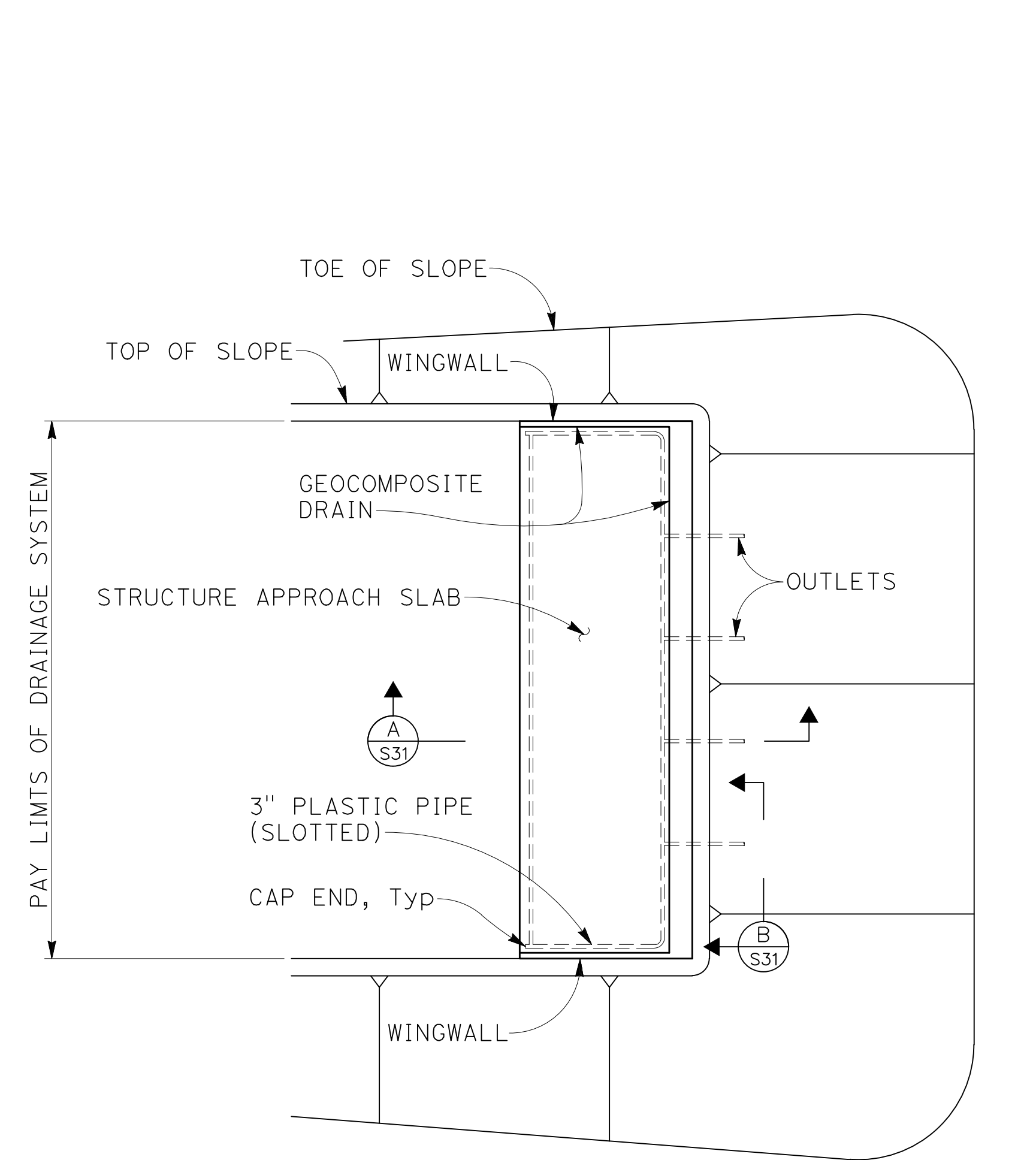
MARK	REVISIONS	DATE

FILE NO. 382400 050

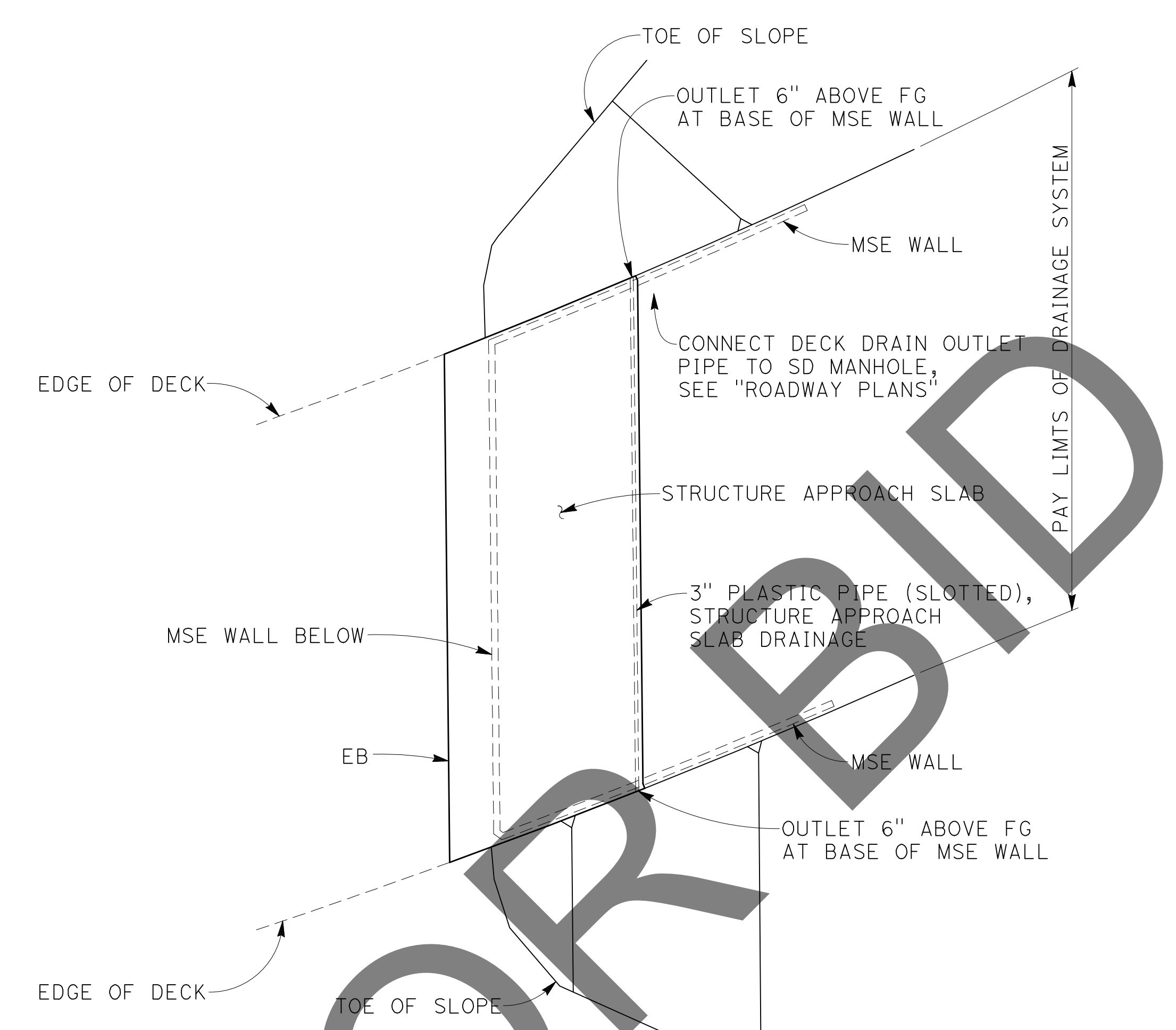
NOTE:
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100% SUBMISSION

PLANS PREPARED BY: BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS 500 S. Main Street, Suite 1200 Orange, California 92668 714-550-4665	<table border="1"> <tr> <th>MARK</th> <th>CHANGES</th> <th>RESIDENT ENGINEER</th> <th>DATE</th> </tr> <tr> <td> </td> <td>NO CHANGES</td> <td> </td> <td> </td> </tr> </table>	MARK	CHANGES	RESIDENT ENGINEER	DATE		NO CHANGES				SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS	GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH STRUCTURE APPROACH No. 3
		MARK	CHANGES	RESIDENT ENGINEER	DATE							
	NO CHANGES											
DESIGNED BY: GOD DRAWN BY: SMH CHECKED BY: SEM RECOMMENDED BY: CHRIS NGUYEN, P.E., ENGINEERING MANAGER DATE: 8/15/24	APPROVED BY: THOMAS BUSTAMANTE, P.E., SUPERVISING ENGINEER DATE: 8/15/24	APPROVED BY: MERVAL N. CARRILLO, P.E., DEPUTY DIRECTOR DATE: 8/15/24	J.L. REF. 11334 W.O. NO. H14646 DRAWING NO. S-30 SHT. NO. 75 TOT. SHT'S. 102									



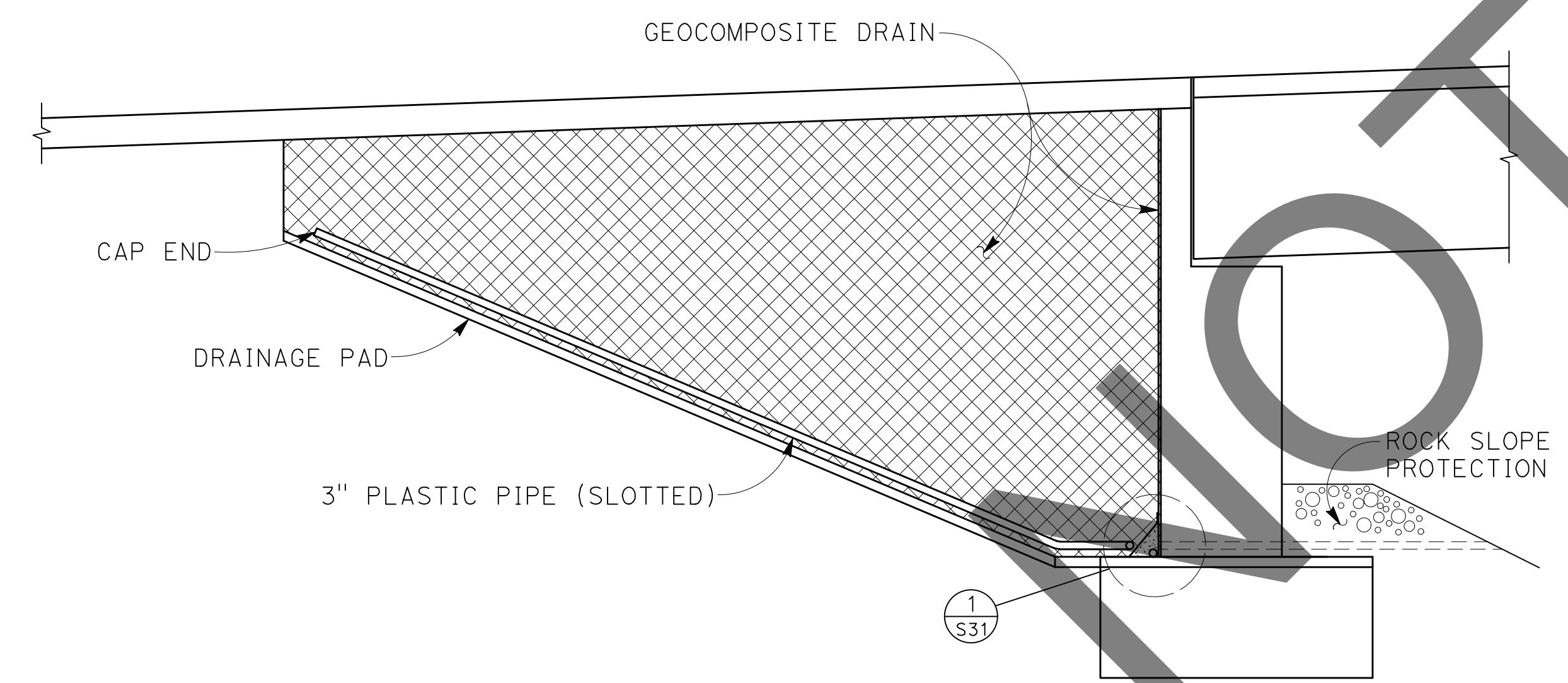
ABUTMENT 1 DRAINAGE PLAN
1" = 20'



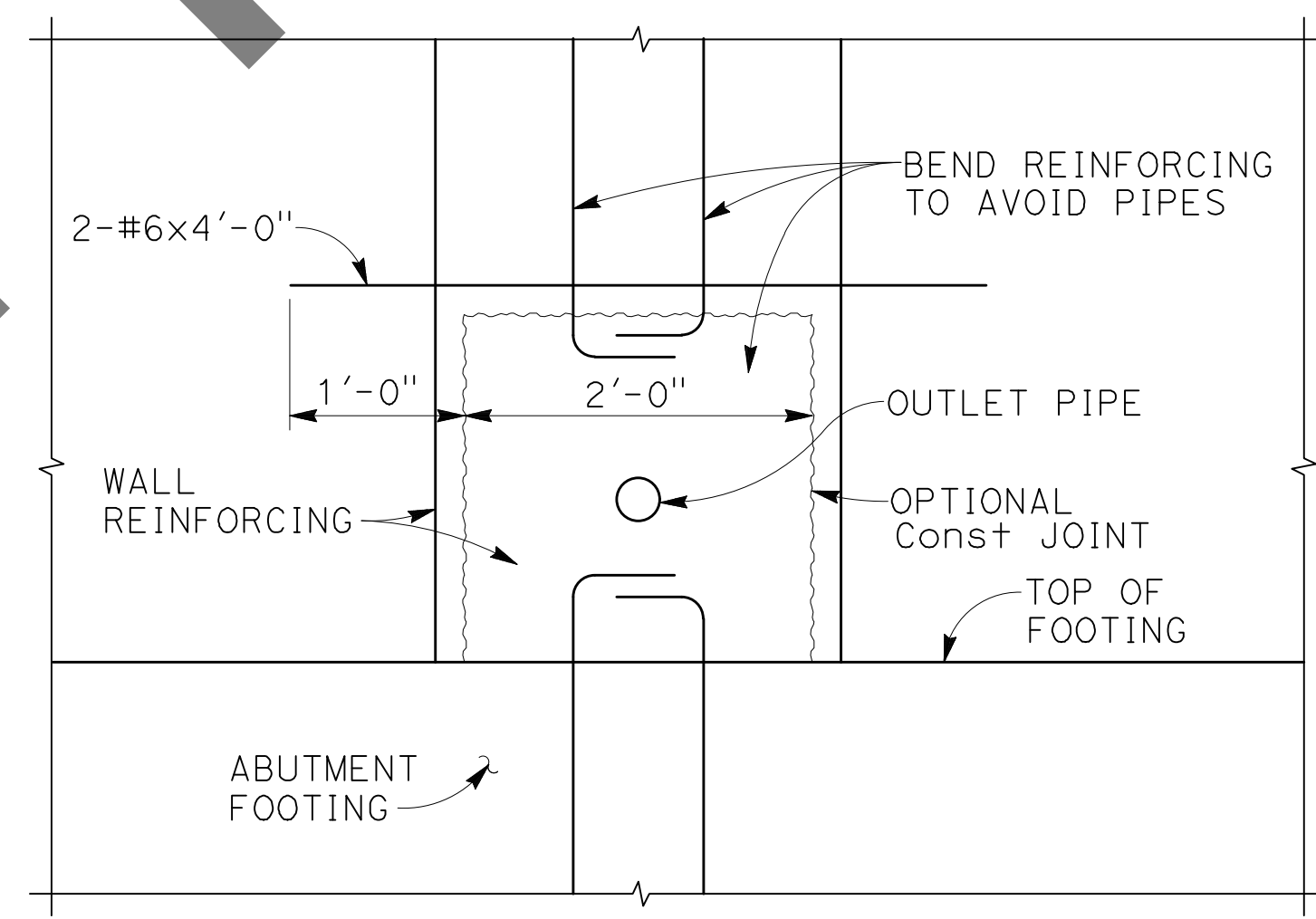
ABUTMENT 6 DRAINAGE PLAN
1" = 20'

NOTES:

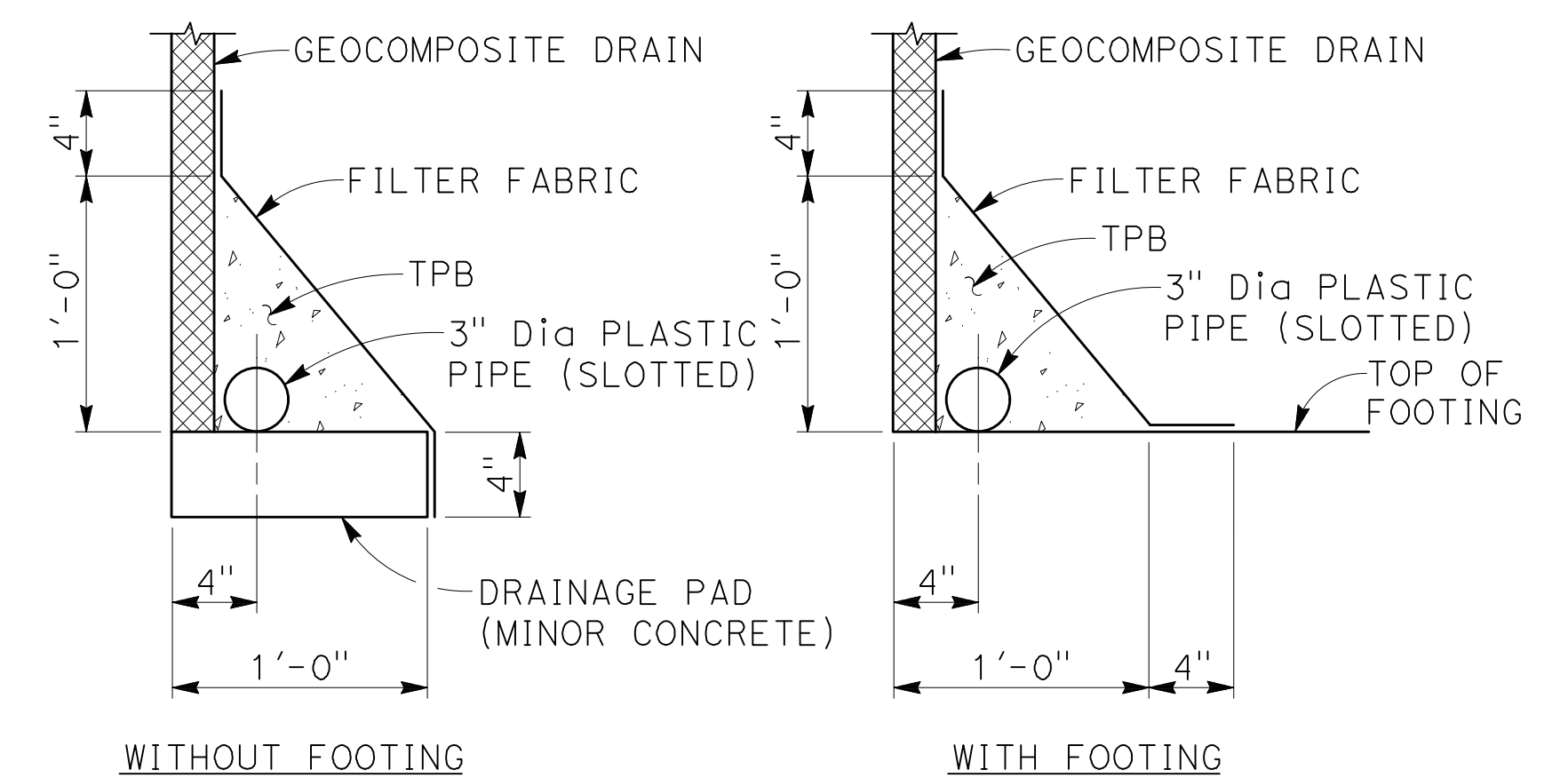
- 4" Dia drains at locations indicated on abutment elevations and at 25' Max center to center along wingwall. Exposed wall drains shall be located 3"± above finished grade.
- Geocomposite drain, cement treated permeable base and 3" Dia slotted pipe continuous behind abutments. Cap ends of pipe. Provide "Tee" connection at each 4" Dia drain outlet.
- Connect the low end of plastic pipe to the main outlet pipe as applicable.
- See "ABUTMENT 1 LAYOUT" sheet for drainage details.



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



SECTION B
1" = 1'-0"



DETAIL 1
NO SCALE

100% SUBMISSION

MARK	REVISIONS	DATE

FILE NO. 382400 050

NOTE:
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PLANS PREPARED BY:
BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
500 S. Main Street, Suite 1200
Orange, California 92668
714-550-4665

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

BCA FIELD CHANGES

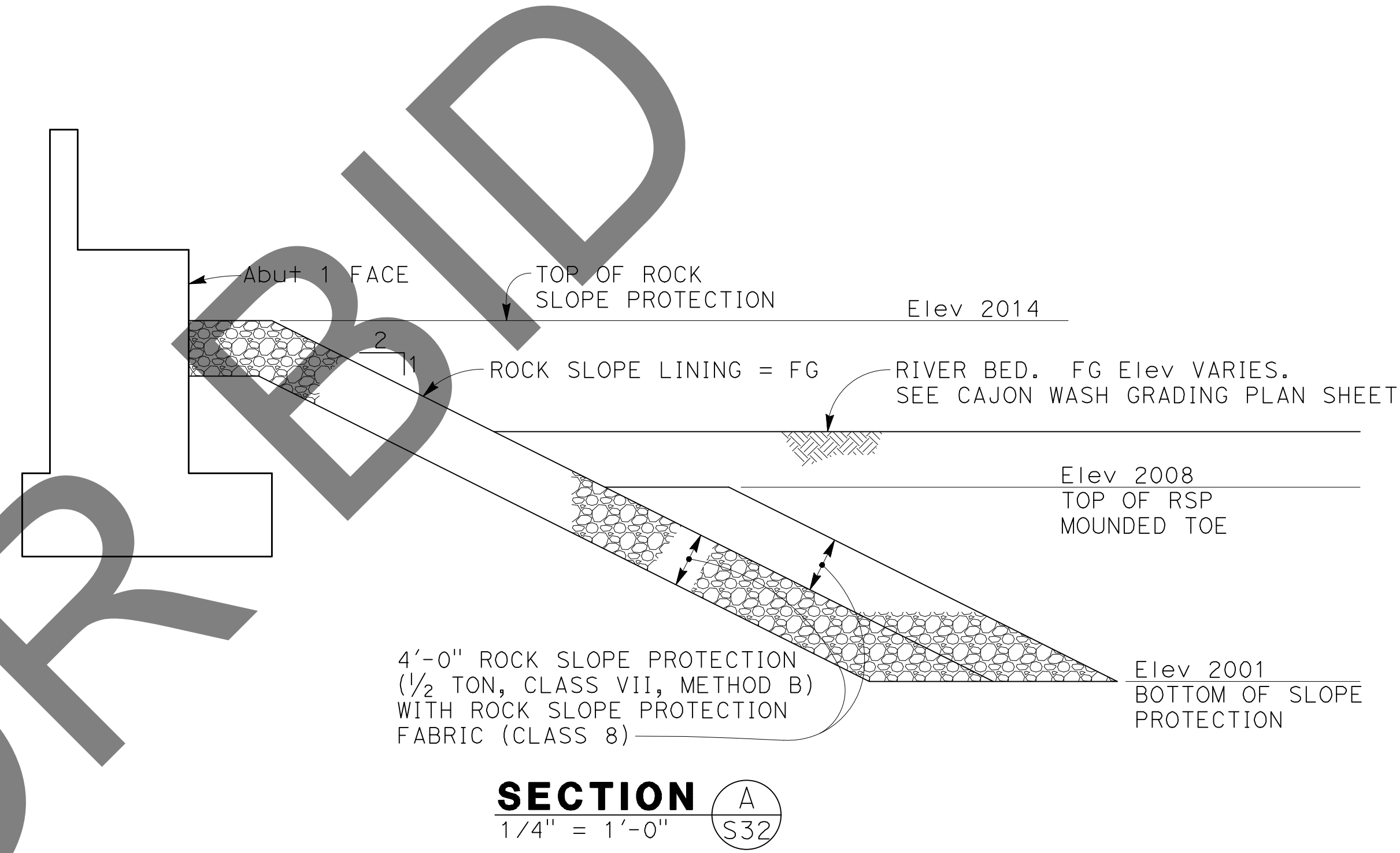
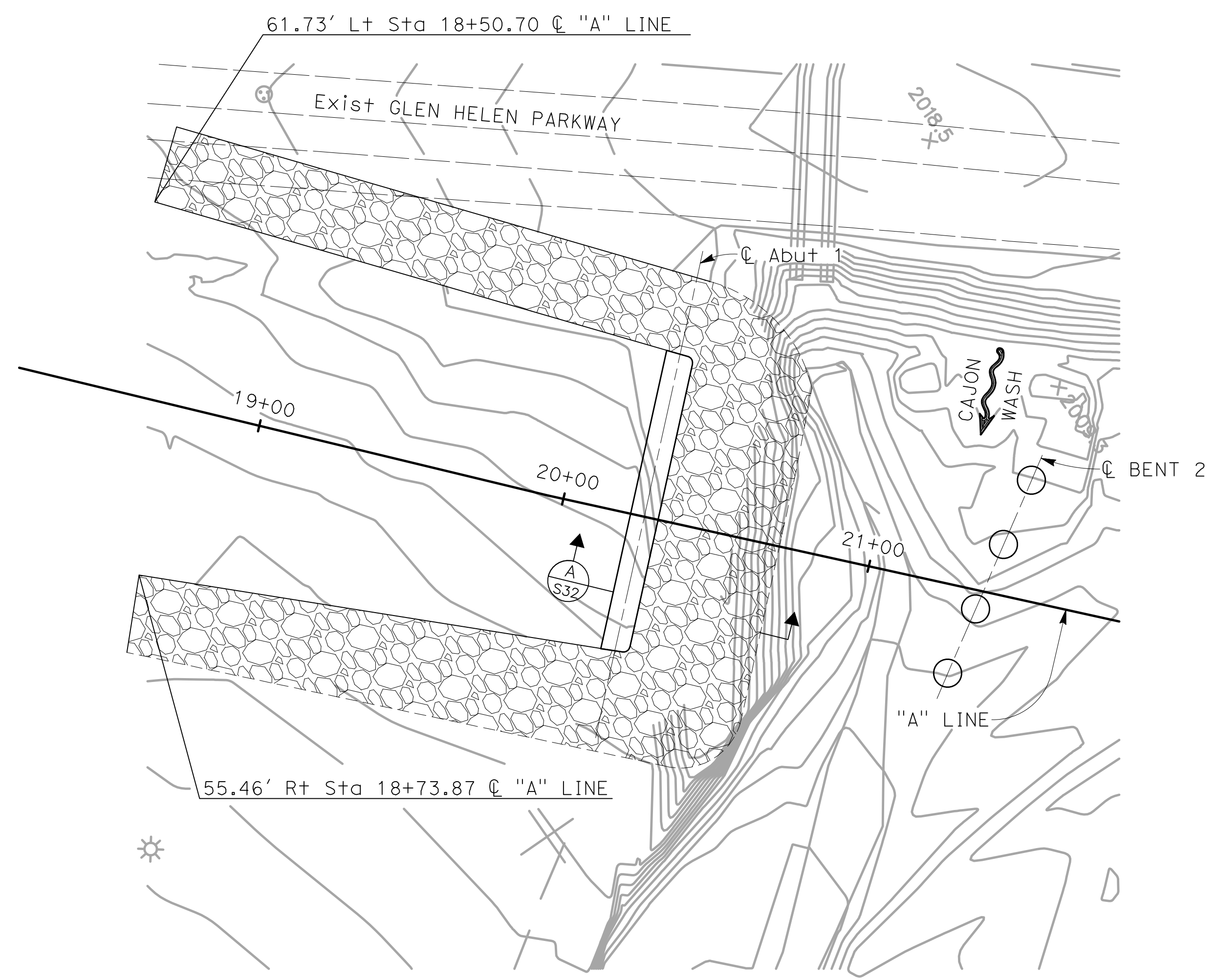
REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. THOMAS
No. S4676
Exp. 9/30/24
STRUCTURAL
STATE OF CALIFORNIA

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: GOD	DRAWN BY: SMH	CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24
APPROVED BY: Thomas Gustamonte THOMAS GUSTAMONTE, P.E. SUPERVISING ENGINEER 8/15/24			DATE: 8/15/24

GLEN HELEN PARKWAY BRIDGE
OVER CAJON WASH
STRUCTURE APPROACH DRAINAGE DETAILS

J.L. REF.	W.O. NO.	DRAWING NO.	SHT. NO.	TOT. SHT'S.
11334	H14646	S-31	76	102



SECTION A
1/4" = 1'-0" S32

ABUTMENT 1 ROCK SLOPE PROTECTION PLAN
1" = 30'

NOT FOR BIDD

MARK	REVISIONS	DATE

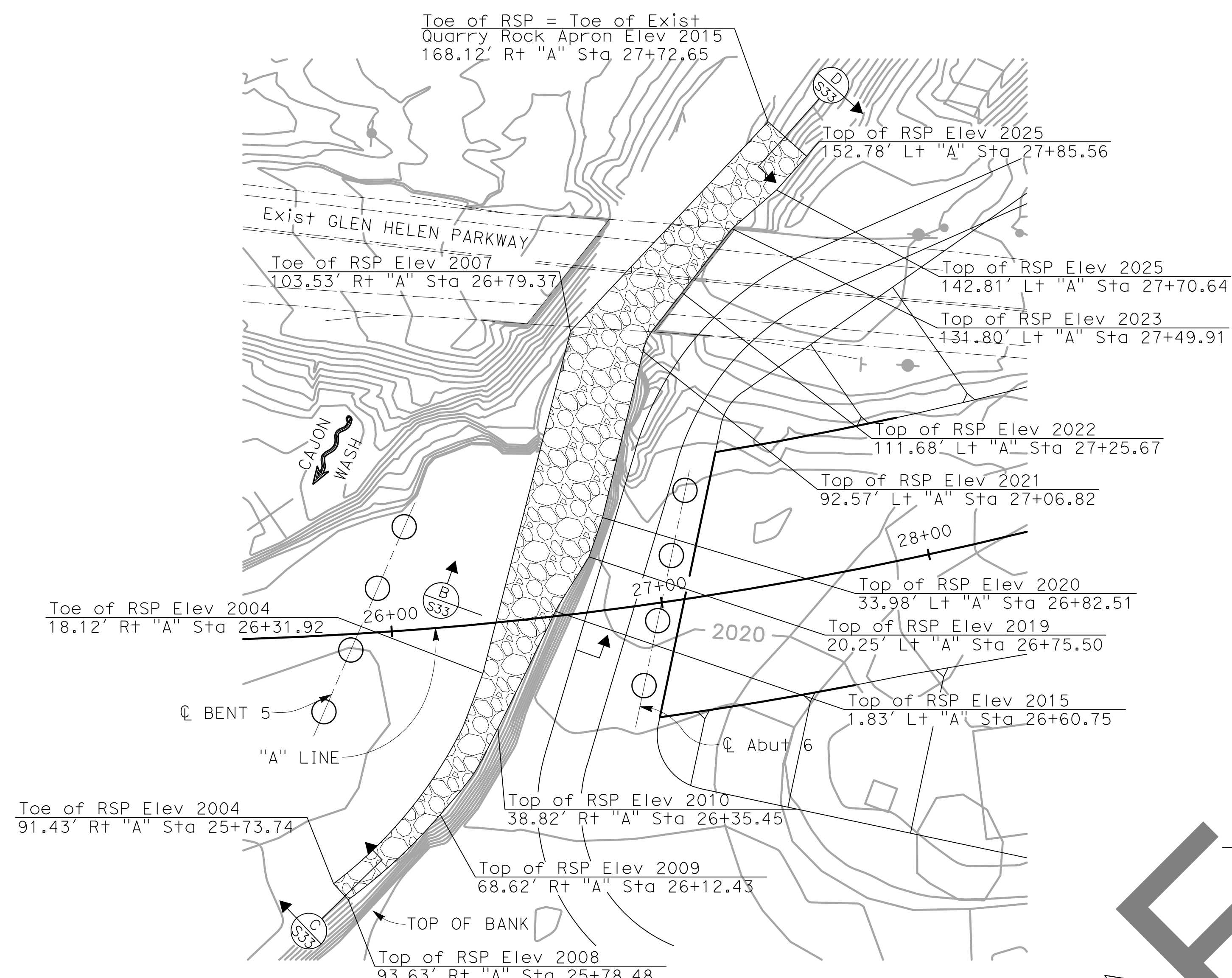
MARK	REVISIONS	DATE

FILE NO. 382400 050

NOTE:
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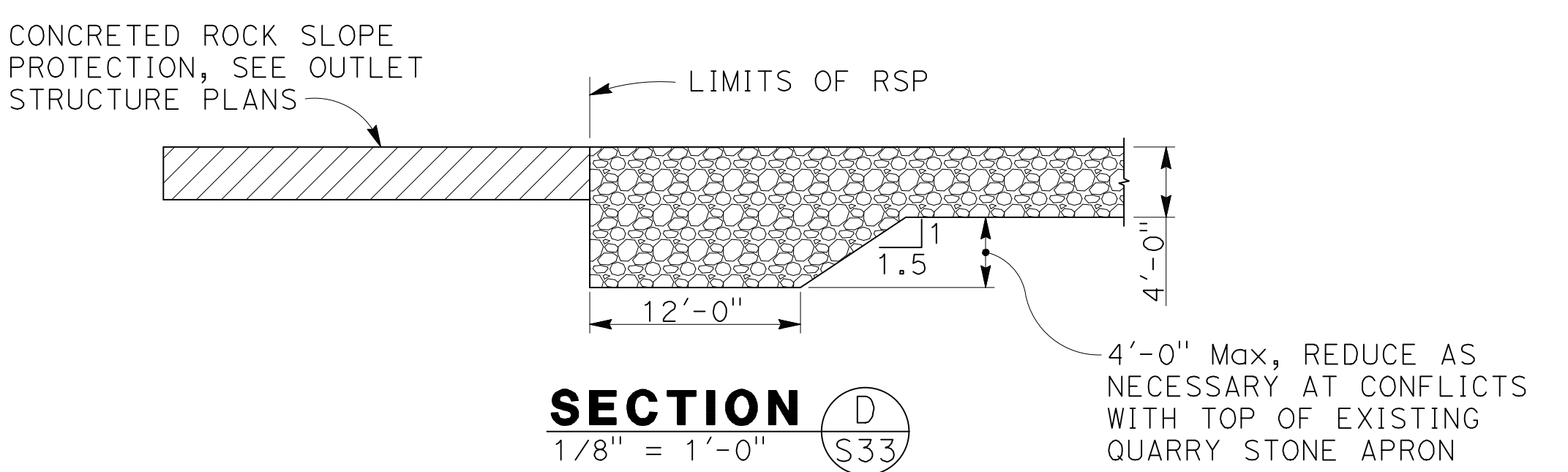
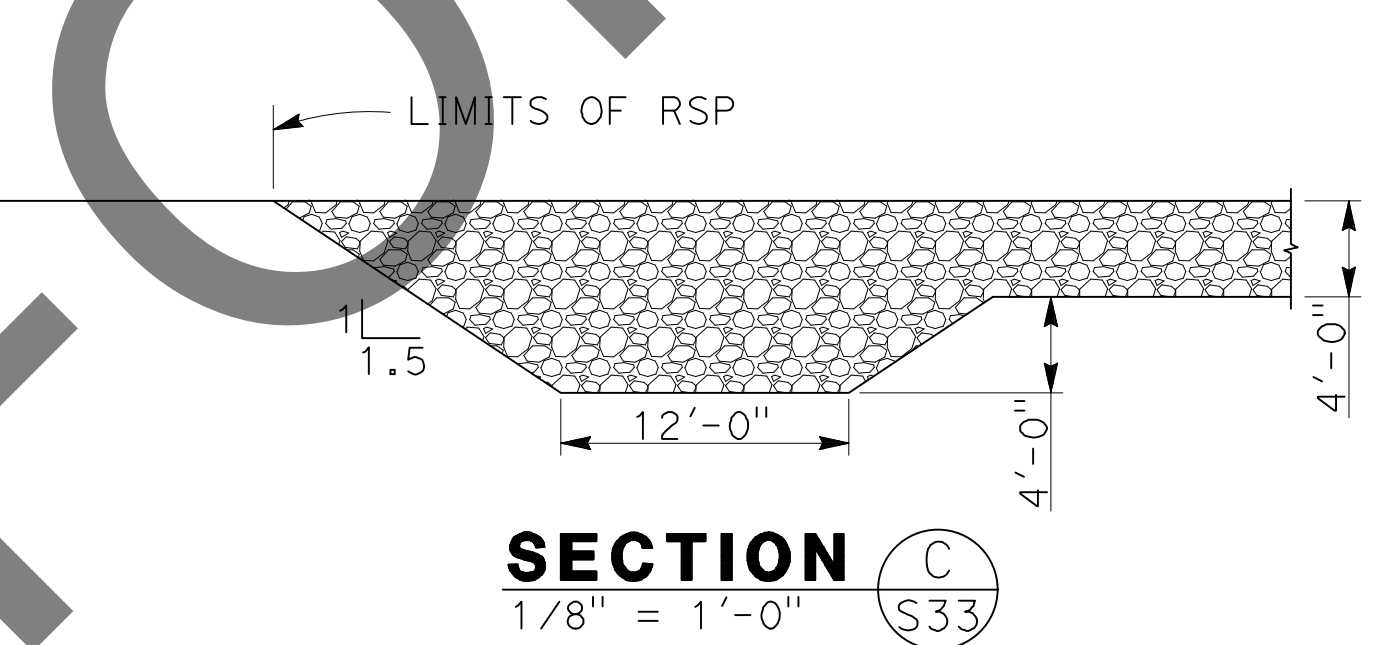
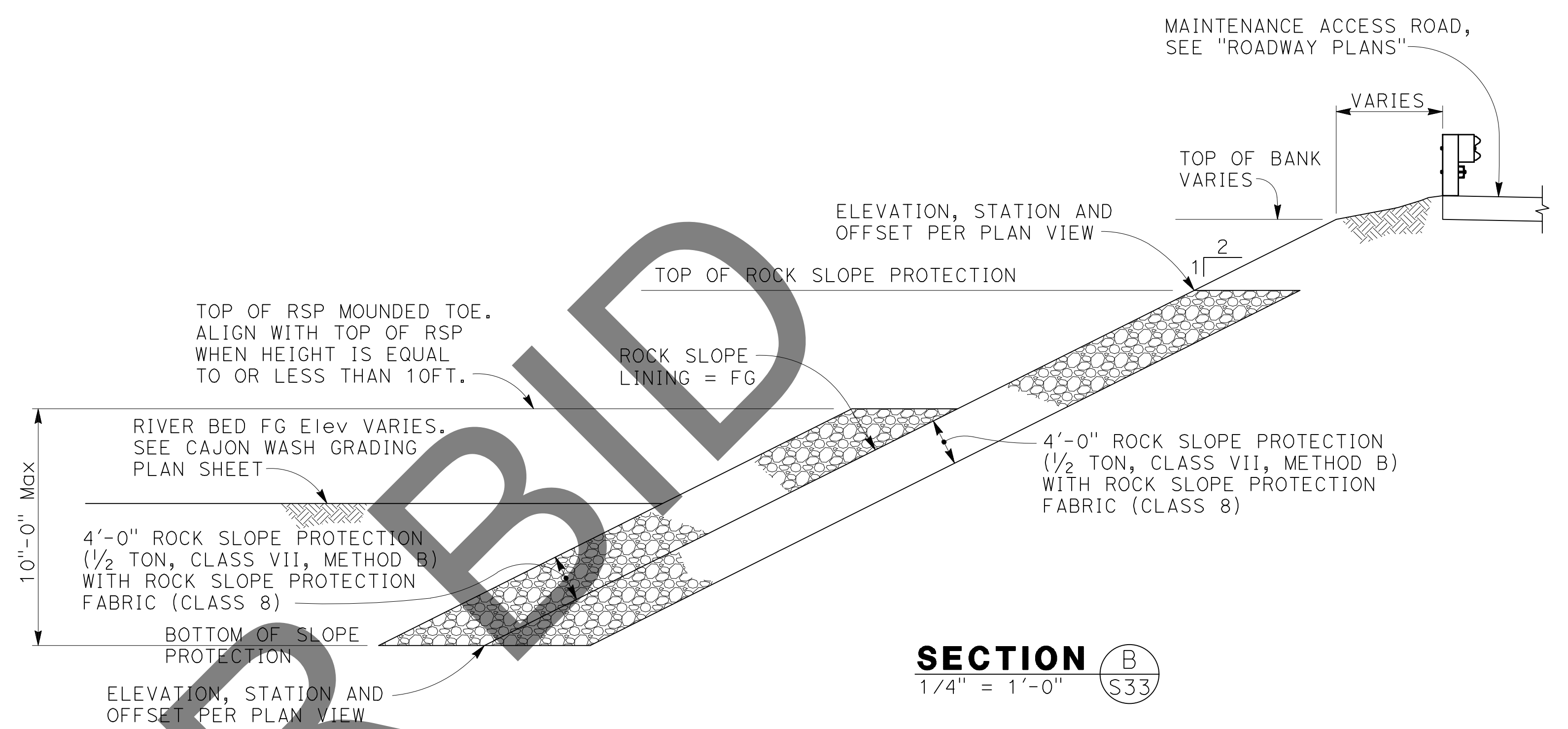
100% SUBMISSION

PLANS PREPARED BY: BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS 500 S. Main Street, Suite 1200 Orange, California 92668 714-550-4665			SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS		GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH ROCK SLOPE PROTECTION No. 1	
DESIGNED BY: GOD DRAWN BY: SMH CHECKED BY: SEM	RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER 8/15/24	APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER 8/15/24	APPROVED BY: MERVAL N. CAMPBELL, P.E. DEPUTY DIRECTOR 8/15/24	J.L. REF. 11334	W.O. NO. H14646	
FIELD CHANGES MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE		REGISTERED STRUCTURAL ENGINEER 7/29/24	THOMAS BUSTAMANTE, P.E. 8/15/24	MERVAL N. CAMPBELL, P.E. 8/15/24	SHT. NO. 77 TOT. SHTS. 102	



ABUTMENT 6 ROCK SLOPE PROTECTION PLAN

1" = 30'



NOT FOR BIDDING

MARK	REVISIONS	DATE

FILE NO. 382400 050

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

PLANS PREPARED BY: BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS 500 S. Main Street, Suite 1200 Orange, California 92668 714-550-4665	FIELD CHANGES MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE	REGISTERED PROFESSIONAL ENGINEER MICHAEL A. THOMPSON No. S4676 Exp. 9/30/24 REGISTERED STRUCTURAL ENGINEER STATE OF CALIFORNIA	SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS				GLEN HELEN PARKWAY BRIDGE OVER CAJON WASH ROCK SLOPE PROTECTION No. 2
			DESIGNED BY: GOD DRAWN BY: SMH CHECKED BY: SEM RECOMMENDED BY: CHRIS NGUYEN, P.E. ENGINEERING MANAGER APPROVED BY: THOMAS BUSTAMANTE, P.E. SUPERVISING ENGINEER	DATE: 8/15/24 DATE: 8/15/24	DATE: 8/15/24 DATE: 8/15/24	DATE: 8/15/24 DATE: 8/15/24	
J.L. REF. 11334 W.O. NO. H14646 DRAWING NO. S-33 SHT. NO. 78 TOT. SHT'S. 102			100% SUBMISSION				(2014233533) 2014233