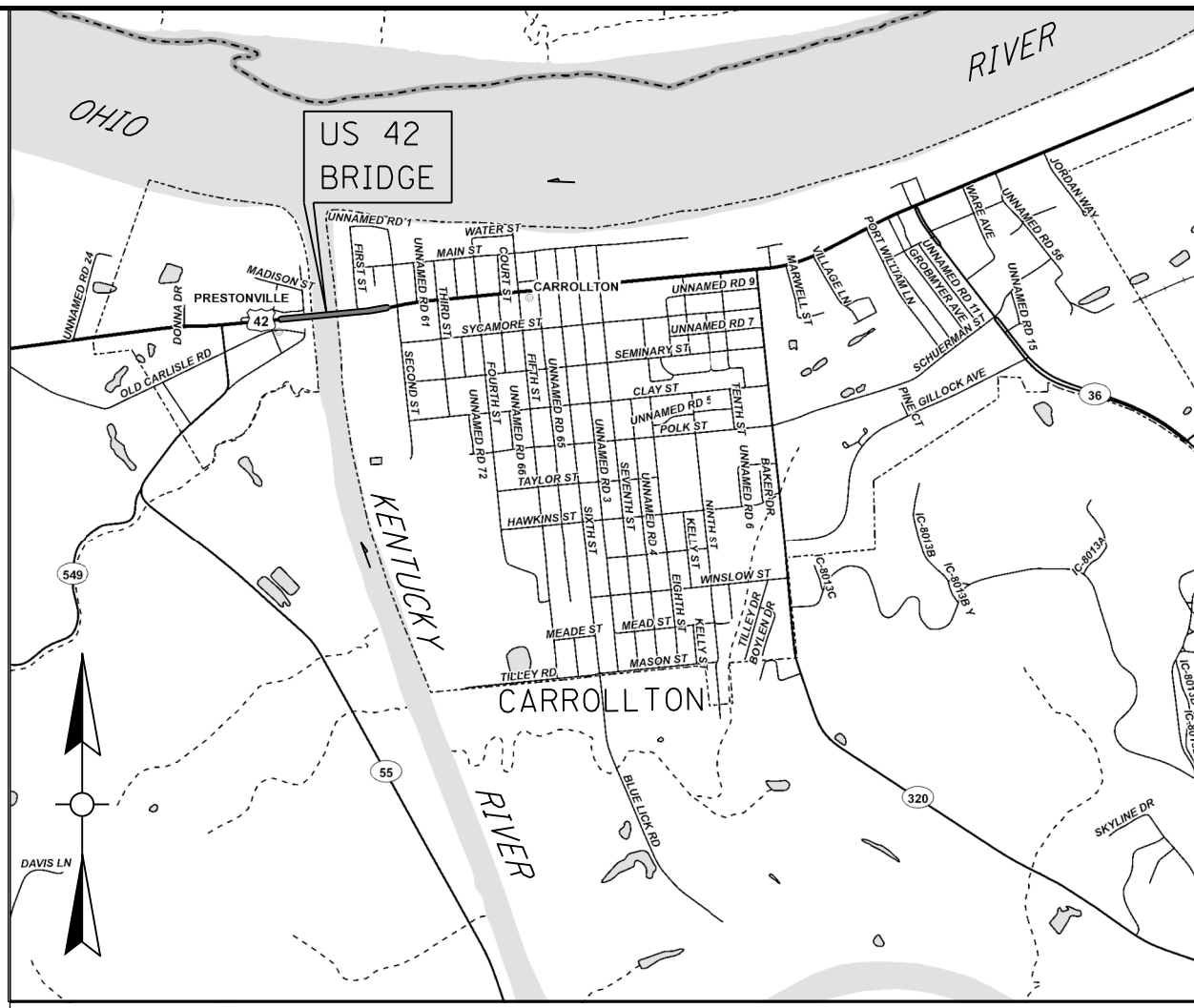
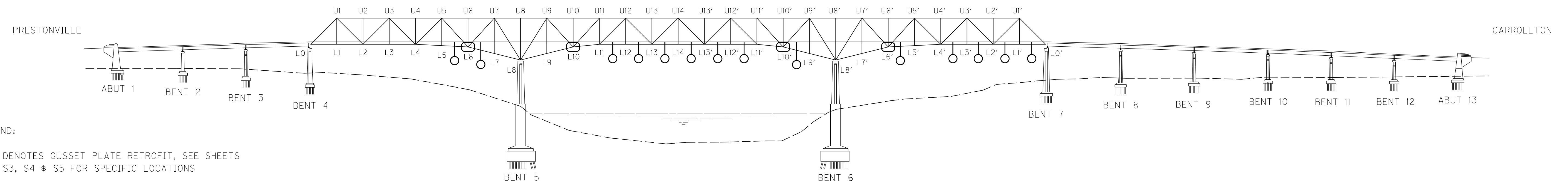


TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS CARROLL COUNTY US 42 OVER KENTUCKY RIVER BRIDGE 021B00043N SUPERSTRUCTURE STEEL REHABILITATION



LAYOUT MAP
NOT TO SCALE

INDEX OF SHEETS	
S1	TITLE, INDEX, & BRIDGE ELEVATION
S2	GENERAL NOTES
S3	RETROFIT GUSSET PLATES L6-L6' (OUTBOARD)
S4	RETROFIT GUSSET PLATES L6-L6' (INBOARD)
S5	RETROFIT GUSSET PLATES L10-L10'
S6	RETROFIT EXTERIOR STRINGERS
SPECIAL NOTES	
SPECIAL NOTE FOR SURFACE PREPARATION & PAINT APPLICATION	
SPECIAL NOTE FOR PAINT	
SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS	
SPECIAL PROVISIONS	
SPECIFICATIONS	
2012 STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.	
7TH EDITION AASHTO LRFD DESIGN SPECIFICATIONS 2014 WITH INTERIMS	



GENERAL ELEVATION

ESTIMATE OF QUANTITIES						
BID ITEM CODE	02568	02569	02650	24091EC	24092EC	24421EC
BID ITEM	MOBILIZATION	DEMOBILIZATION	MAINTAIN AND CONTROL TRAFFIC	GUSSET PLATE REPAIR A PLATES L6 / L6'	GUSSET PLATE REPAIR B PLATES L10 / L10'	STRINGER RETROFIT
UNIT	LS	LS	LS	EACH	EACH	EACH
BRIDGE TOTAL	1	1	1	2	4	22

REVISION	DATE
DATE: SEPTEMBER 15, 2016	CHECKED BY: M. LAWLER
DESIGNED BY: A. FARMER	M. LAWLER
DETAILED BY: A. FARMER	M. LAWLER
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
COUNTY CARROLL	
ROUTE US 42	CROSSING KENTUCKY RIVER
TITLE, INDEX, & BRIDGE ELEVATION	
ITEM NUMBER	PREPARED BY: SHEET NO. S1 DRAWING NO.

FILE NAME: V:\1785\ACTIVE\178565012\STRUCTURAL\301.320 - US 42 OVER KY RIVER\REHAB PLANS\DRAWING S1-TITLE.DGN
 USER: aifarmar
 DATE PLOTTED: September 14, 2016
 E-SHEET NAME: MicroStation v8.11.7.443

GENERAL NOTES

GENERAL

THESE PLANS ARE TO BE USED FOR RETROFITTING GUSSET PLATES AND STRINGERS AS DESIGNATED.

SPECIFICATIONS

REFERENCES TO THE SPECIFICATIONS ARE TO THE CURRENT EDITION OF THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION INCLUDING ANY CURRENT SUPPLEMENTAL SPECIFICATIONS. ALL REFERENCES TO THE AASHTO SPECIFICATIONS ARE TO THE 5TH EDITION AASHTO LRFD DESIGN WITH INTERIMS THROUGH 2010.

DESIGN LOAD AND METHOD

ALL STRUCTURAL STEEL MODIFICATIONS ARE DESIGNED BY THE LOAD AND RESISTANCE FACTOR METHOD AS SPECIFIED IN THE CURRENT AASHTO SPECIFICATIONS.

MATERIALS DESIGN SPECIFICATIONS

FOR STRUCTURAL STEEL (NEW)
Fy = 50000 PSI FOR GRADE 50

FOR STRUCTURAL STEEL (EXISTING)
Fy = 33000 PSI FOR ASTM A7 AND A373
Fy = 36000 PSI FOR ASTM A36

MATERIALS

ASTM OR AASHTO SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW SHALL GOVERN THE MATERIALS FURNISHED.

	A.S.T.M.	AASHTO
STRUCTURAL STEEL	A709, GR 50	M270 GR 50

HIGH STRENGTH BOLTS, NUTS AND WASHERS	A325	M164
---------------------------------------	------	------

ALL NEW TRUSS STEEL SHALL BE ASTM A709, GRADE 50 (FCM). GUSSET, SHIM AND FILL PLATES SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST APPLICABLE TO ZONE 2 MINIMUM SERVICE TEMPERATURE FROM 1° TO 30° F. IN ACCORDANCE WITH THE FOLLOWING: M270 GR 50 OF 25 FT-LBS AT 40°F.

CLEANING AND PAINTING

ALL NEW STRUCTURAL STEEL SHALL BE BLAST CLEANED IN THE SHOP TO A NEAR WHITE CONDITION AND SHOP PAINTED WITH ONE COAT OF INORGANIC ZINC RICH PRIMER IN ACCORDANCE WITH SECTION 607 OF THE STANDARD SPECIFICATIONS. EXISTING STEEL AREAS OF THE BRIDGE TO BE IN CONTACT WITH NEW STEEL, INCLUDING AREAS UNDER BOLT HEADS, SHALL BE CLEANED OF ALL DIRT, RUST AND FOREIGN MATTER USING HAND CLEANING METHODS BEFORE INSTALLING THE NEW STEEL. UNLESS NOTED OTHERWISE ON THE PLANS, ALL NEW AND EXISTING STEEL WITHIN 12 INCHES OF THE WORK LIMITS OF EACH RETROFIT LOCATION SHALL BE CLEANED AS NECESSARY USING HAND METHODS AND PAINTED AS DIRECTED BY THE ENGINEER. HAND METHODS FOR FIELD CLEANING SHALL CONSIST OF SCRAPING AND WIRE BRUSHING. NO BLAST CLEANING WILL BE ALLOWED ON THE BRIDGE.

THE PAINT FOR ALL PAINTING WORK SHALL CONFORM TO SECTION 821 OF THE STANDARD SPECIFICATIONS. THE COLOR OF THE FIELD COATING SHALL MATCH THE PRESENT COLOR OF THE EXISTING BRIDGE STEEL AS NEAR AS POSSIBLE, AND SHALL BE APPROVED BY THE ENGINEER BEFORE ANY APPLICATION. CLEANING AND PAINTING SHALL BE INCIDENTAL TO THE WORK AND SHALL BE IN ACCORDANCE WITH THE SPECIAL NOTES.

TOUCH-UP PAINTING

ALL AREAS OF NEW OR EXISTING STRUCTURAL STEEL ON WHICH THE PAINT HAS BEEN DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION OR AFTER FINAL PAINTING SHALL BE WIRE BRUSH CLEANED AND SPOT PAINTED AS DIRECTED BY THE ENGINEER. THE COST OF THIS TOUCH UP PAINTING IS INCIDENTAL TO THE WORK.

HIGH STRENGTH BOLT CONNECTIONS

ALL NEW BOLTS SHALL BE $\frac{1}{8}$ " DIAMETER HIGH STRENGTH BOLTS. BOLT HOLES SHALL BE $\frac{1}{16}$ " IN DIAMETER LARGER THAN THE BOLT DIAMETER, WITH THE EXCEPTION OF THE OVERSIZE HOLES IN THE SHIM AND FILL PLATES AT GUSSET PLATE RETROFIT LOCATIONS. ALL BOLTED CONNECTIONS ARE DESIGNED AS FRICTION TYPE CONNECTIONS. TIGHTENING SHALL BE IN ACCORDANCE WITH SECTION 607.08 OF THE STANDARD SPECIFICATIONS.

DIMENSIONS

ANY DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON THE ORIGINAL CONSTRUCTION CONTRACT PLANS, SHOP DRAWINGS, AND FIELD MEASUREMENTS. THE CONTRACTOR SHALL VERIFY DIMENSIONS, INCLUDING GEOMETRY AND THICKNESS OF COMPONENTS, WITH FIELD MEASUREMENTS PRIOR TO ORDERING MATERIALS OR FABRICATING STEEL. ALL PLAN DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60° F. LAYOUT DIMENSIONS ARE HORIZONTAL MEASUREMENTS.

PROHIBITED FIELD WELDING

NO WELDING OF ANY NATURE SHALL BE PERFORMED ON THE LOAD CARRYING MEMBERS OF THE BRIDGE WITHOUT THE WRITTEN CONSENT OF THE DIRECTOR, DIVISION OF MAINTENANCE, OR AN AUTHORIZED REPRESENTATIVE, AND THEN ONLY IN THE MANNER AND AT THE LOCATIONS DESIGNATED IN THE AUTHORIZATION.

DAMAGE TO STRUCTURE

THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY AND EXPENSE FOR ANY AND ALL DAMAGE TO THE STRUCTURE, INCLUDING TRUSS MEMBERS, DURING THE REPAIR AND RETROFIT WORK; EVEN TO THE REMOVAL AND REPLACEMENT OF TRUSS MEMBERS AND FALLEN SPANS, SHOULD THE DAMAGE RESULT FROM THE CONTRACTOR'S ACTIONS.

MAINTAINING TRAFFIC

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE PLANS AND SPECIAL NOTES FOR MAINTENANCE OF TRAFFIC.

PLANS OF EXISTING STRUCTURE

AS AN AID TO THE CONTRACTOR, THE PLANS AND SHOP DRAWINGS OF THE EXISTING STRUCTURE ARE AVAILABLE FROM THE DIVISION OF MAINTENANCE UPON REQUEST. THE COMPLETENESS OF THESE DRAWINGS IS NOT GUARANTEED AND NO RESPONSIBILITY IS ASSUMED BY KYTC FOR THEIR ACCURACY. THE EXISTING DRAWING NUMBER FOR THIS STRUCTURE IS 7952.

ON-SITE INSPECTION

THE CONTRACTOR SHALL MAKE A THOROUGH INSPECTION OF THE BRIDGE AND THE WORK SITE PRIOR TO SUBMITTING THE FEE AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS SO THAT WORK CAN BE EXPEDITIOUSLY PERFORMED AFTER A CONTRACT IS AWARDED. A SUITABLE METHOD OF PERFORMING THE WORK DESCRIBED HEREIN SHOULD BE INVESTIGATED. SUBMISSION OF A BID WILL BE CONSIDERED EVIDENCE OF THIS INSPECTION HAVING BEEN MADE. ANY CLAIMS RESULTING FROM SITE CONDITIONS WILL NOT BE HONORED BY KYTC.

REMOVAL OF EXISTING RIVETS

AT THE GUSSET PLATE RETROFIT LOCATIONS, RIVETS MUST BE REMOVED AND REPLACED WITH BOLTS ONE AT A TIME. THE CONTRACTOR WILL BE PERMITTED TO REMOVE RIVETS IN ANY MANNER WHICH DOES NOT DAMAGE THE ADJACENT STRUCTURAL STEEL. THIS MAY INCLUDE MECHANICAL REMOVAL OR OTHER METHODS APPROVED BY THE ENGINEER. USE OF CUTTING TORCHES WILL NOT BE PERMITTED.

BOLT HOLES AND OVERSIZE HOLES

THE BOLT HOLE AND OVERSIZE HOLE LOCATIONS SHOWN ON THE PLANS ARE BASED ON THE MEMBER AND RIVET CONFIGURATIONS AS DEPICTED IN THE SHOP DRAWINGS OF THE BRIDGE AND VIA FIELD MEASUREMENTS, UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL VERIFY THE ACCURACY AT THESE LOCATIONS BY FIELD MEASUREMENTS.

FABRICATION

WITH THE EXCEPTION OF ONE LANE CLOSURE TO VERIFY DIMENSIONS, NO LANE CLOSURES WILL BE PERMITTED UNTIL THE CONTRACTOR HAS ACQUIRED AND FABRICATED ALL STRUCTURAL STEEL. THE SHOP DETAIL DRAWINGS SHALL INDICATE CLEARLY SUB-PUNCHED HOLES WHICH ARE TO BE REAMED AND/OR ASSEMBLED TO A TEMPLATE IN THE SHOP. HOLES WHICH ARE TO BE REAMED IN THE FIELD SHALL BE INDICATED ON THE SHOP DRAWINGS.

PRE-FABRICATION CONFERENCE

PRIOR TO THE START OF FABRICATION, THE CONTRACTOR AND THE ENGINEER SHALL HAVE A CONFERENCE TO INSURE THAT AN AGREEMENT HAS BEEN REACHED REGARDING THE FABRICATION AND CONSTRUCTION PROCEDURES AND THE INSPECTION THEREOF. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CALL THIS CONFERENCE AT A TIME AND PLACE MUTUALLY CONVENIENT TO ALL PARTIES CONCERNED.

CONSTRUCTION PROCEDURE


THE CONTRACTOR SHALL FOLLOW THE GENERAL SEQUENCE OF CONSTRUCTION AS DESCRIBED IN THE PLANS. ALTERNATIVE METHODS SHALL NOT BE ALLOWED WITHOUT THE WRITTEN CONSENT OF THE DESIGNER, OR AN AUTHORIZED REPRESENTATIVE.

FILE NAME: V:\1785\ACTIVE\178565012\STRUCTURAL\301.320 - US 42 OVER KY RIVER\REHAB PLANS\DRAWING S2-GENERAL NOTES.DGN

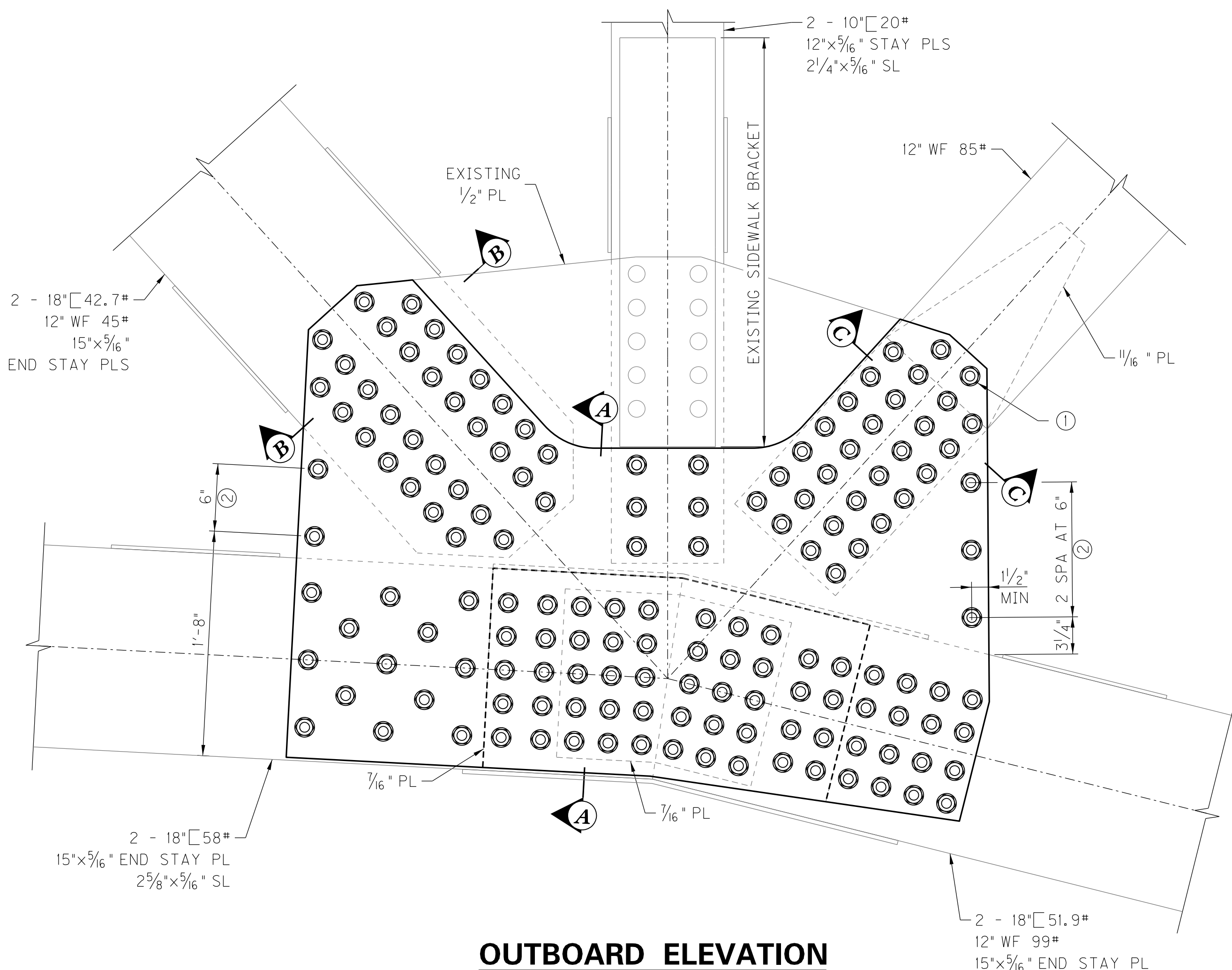
USER: q1formbr
DATE PLOTTED: September 14, 2016

E-SHEET NAME:

MicroStation v8.11.7.443

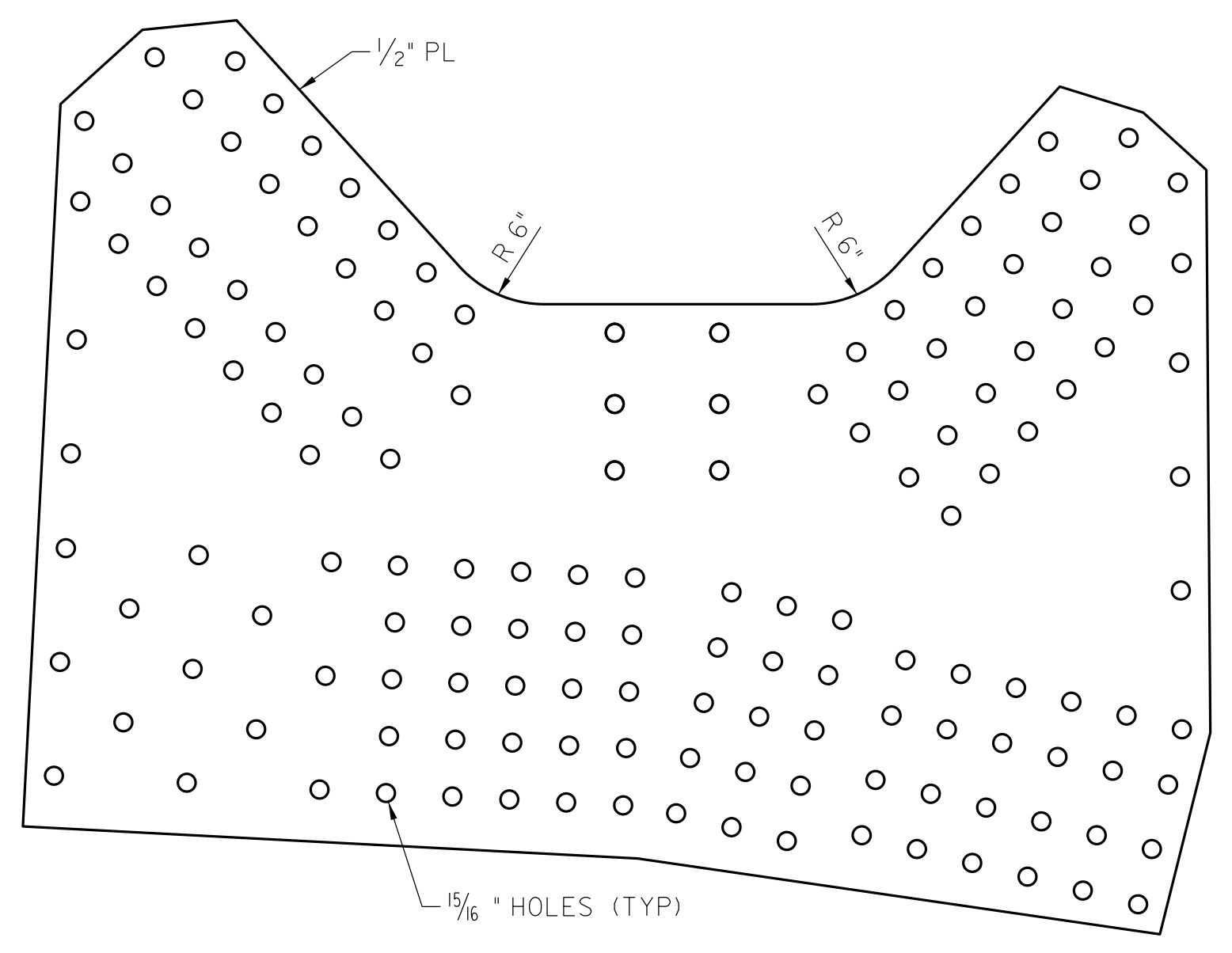
REVISION		DATE
DATE: SEPTEMBER 15, 2016	CHECKED BY	
DESIGNED BY: T. PERKINS	M. LAWLER	
DETAILED BY: A. FARMER	M. LAWLER	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CARROLL		
ROUTE US 42	CROSSING KENTUCKY RIVER	
GENERAL NOTES		
ITEM NUMBER	PREPARED BY 	SHEET NO. S2
		DRAWING NO.

FILE NAME: V:\1785\ACTIVE\178565012\STRUCTURAL\301.320 - US 42 OVER KY RIVER\REHAB PLANS\DRAWING\S3-S4-GUSSET PLATE L6.DGN
 USER: ofarmer
 DATE PLOTTED: September 14, 2016
 E-SHEET NAME:
 MicroStation v8.11.7.443

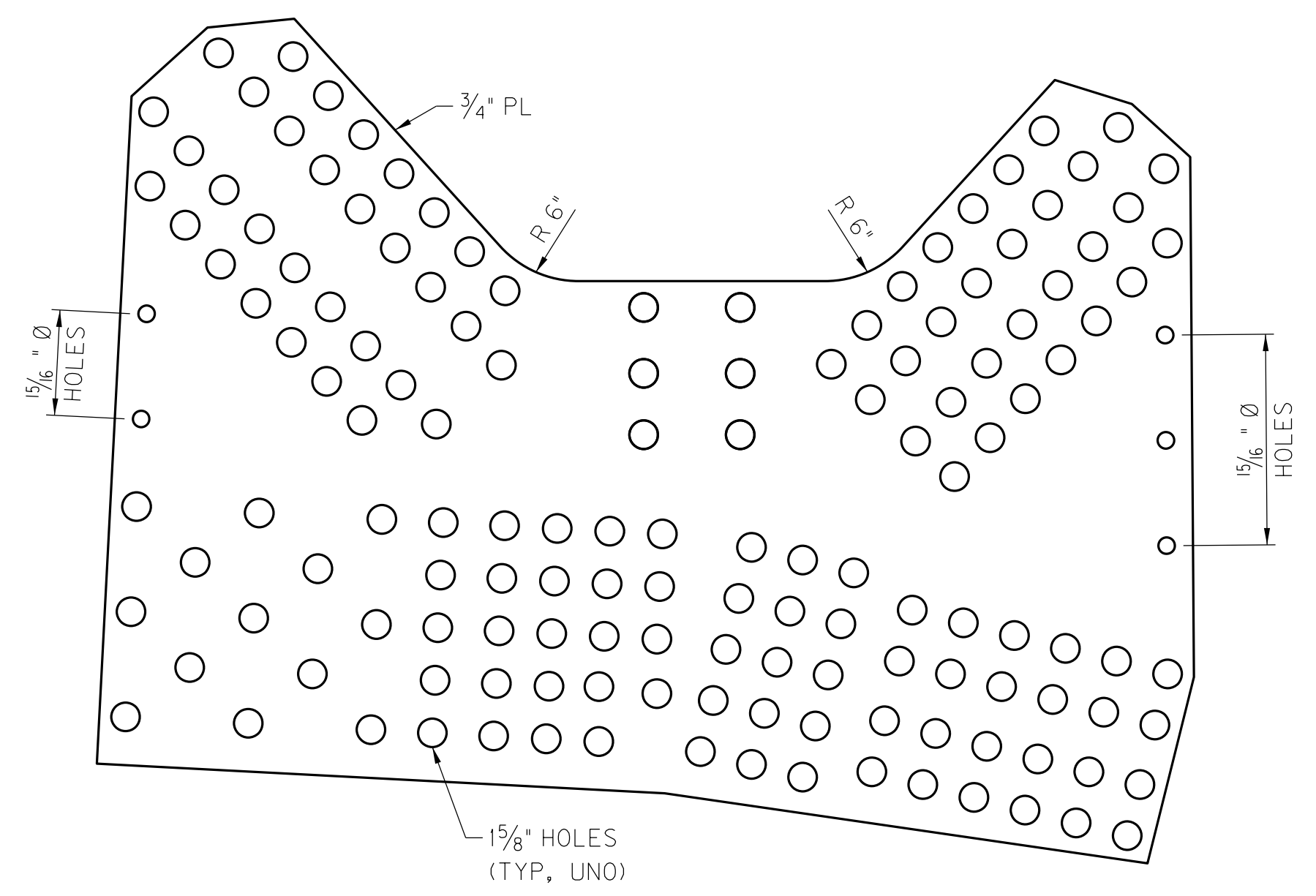


OUTBOARD ELEVATION
 L6 - UPSTREAM TRUSS ONLY
 L6' - UPSTREAM TRUSS ONLY

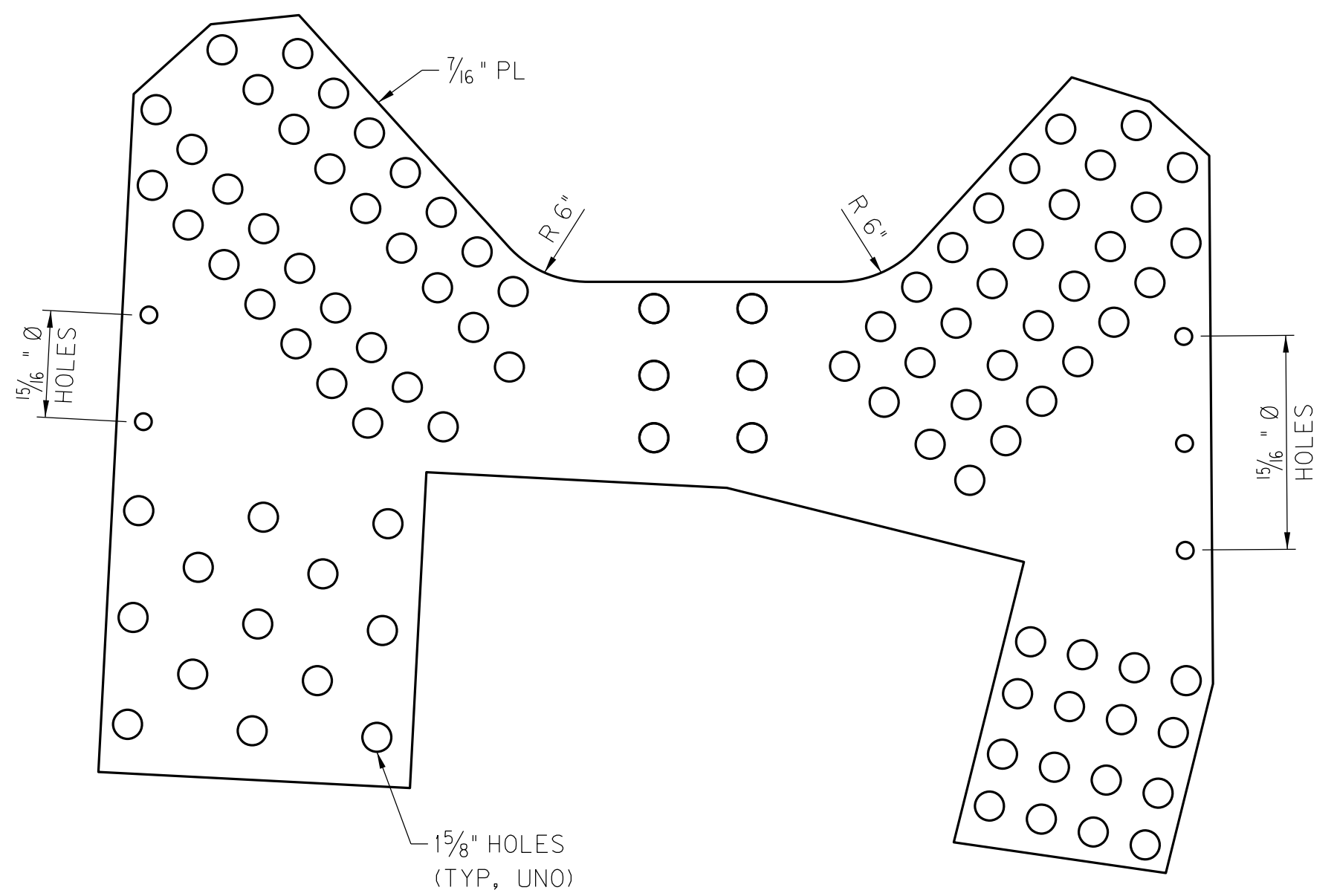
- NOTATIONS:
- ① REMOVE RIVETS & REPLACE WITH 7/8" Ø HS BOLTS, TYPICAL, UNO
 - ② INSTALL ADDITIONAL 7/8" Ø HS BOLTS ALONG EDGE OF GUSSET PLATE



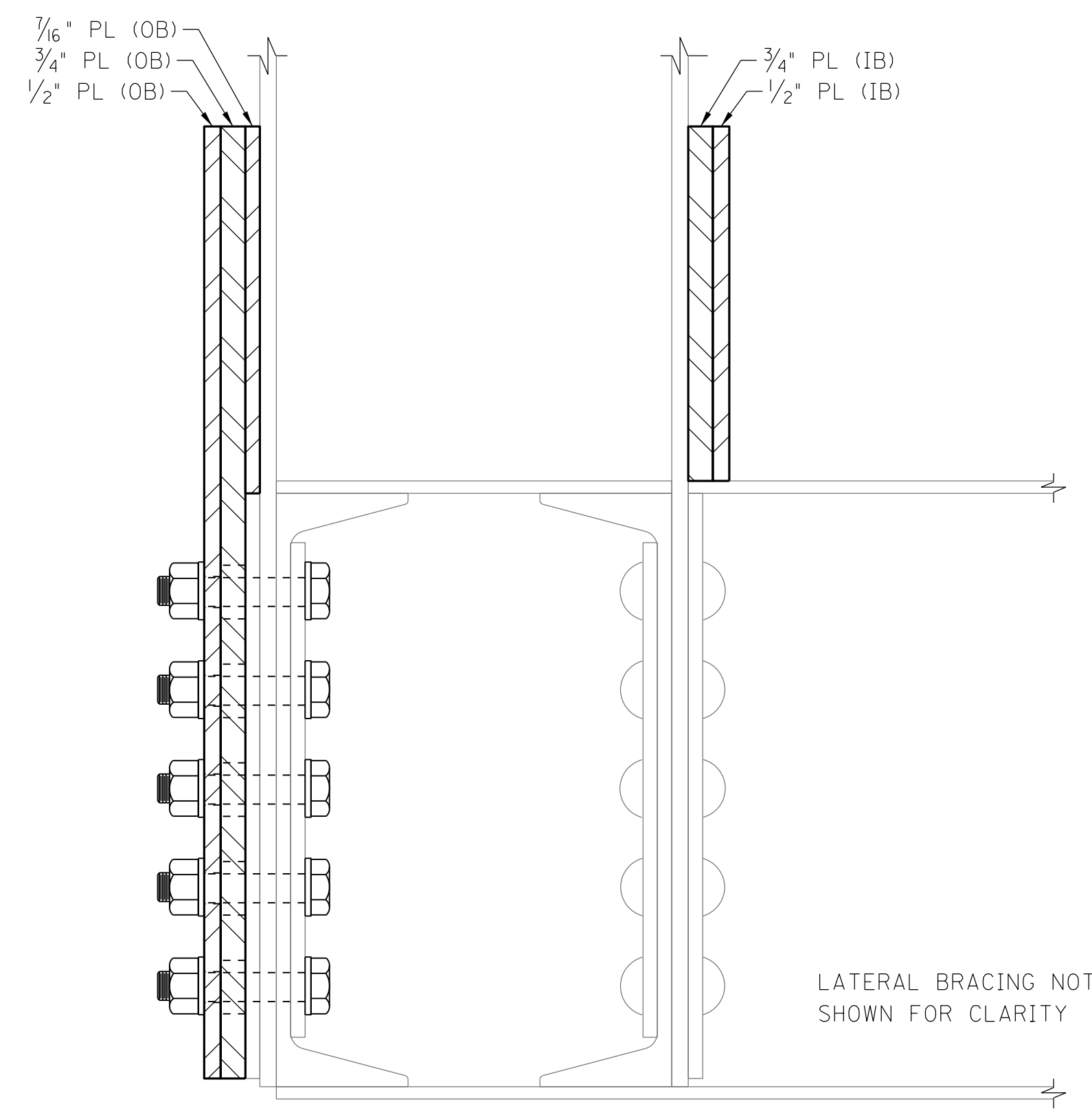
GUSSET PLATE



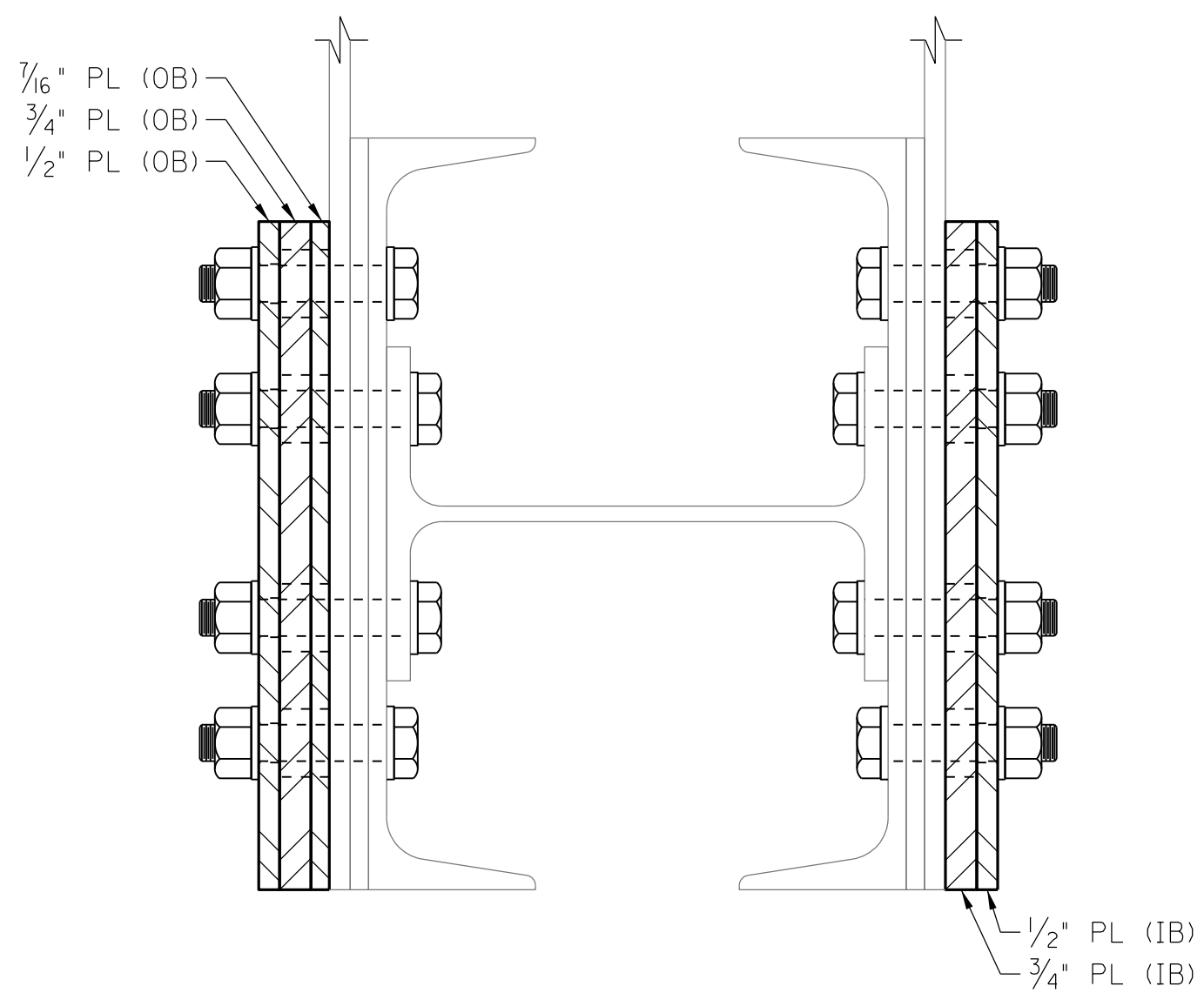
SHIM PLATE



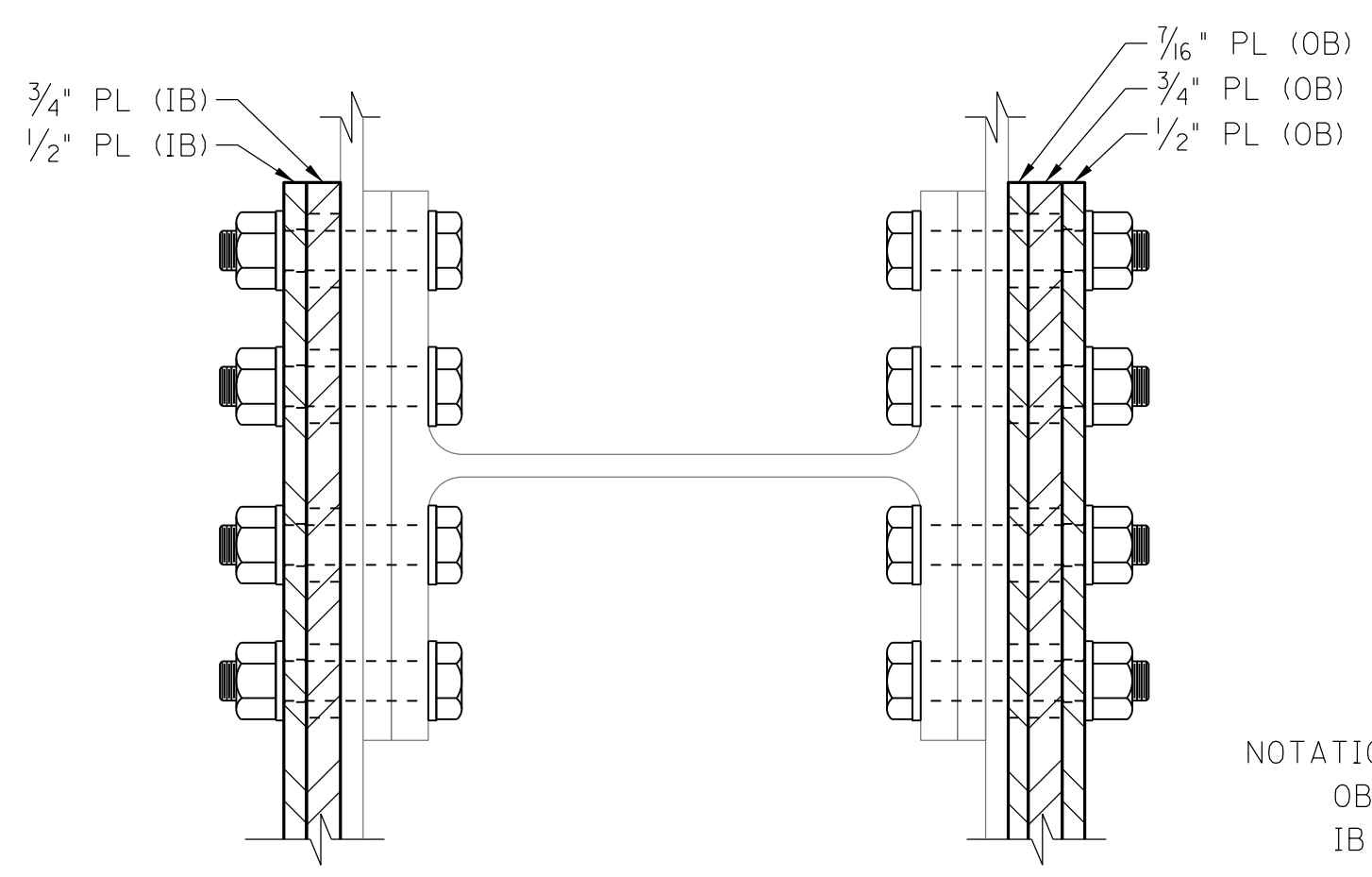
FILL PLATE



SECTION A-A



SECTION B-B



SECTION C-C

LATERAL BRACING NOT SHOWN FOR CLARITY

- NOTATIONS:
 OB - DENOTES OUTBOARD
 IB - DENOTES INBOARD

(OUTBOARD)
 ITEM NUMBER

REVISION	DATE
DATE: SEPTEMBER 15, 2016	CHECKED BY: C. GREENWELL
DESIGNED BY: T. PERKINS	A. FARMER
DETAILED BY: C. HUTCHINSON	

Commonwealth of Kentucky
 DEPARTMENT OF HIGHWAYS

COUNTY
CARROLL

ROUTE **US 42** CROSSING **KENTUCKY RIVER**

RETROFIT GUSSET PLATES L6-L6'

PREPARED BY
Stantec

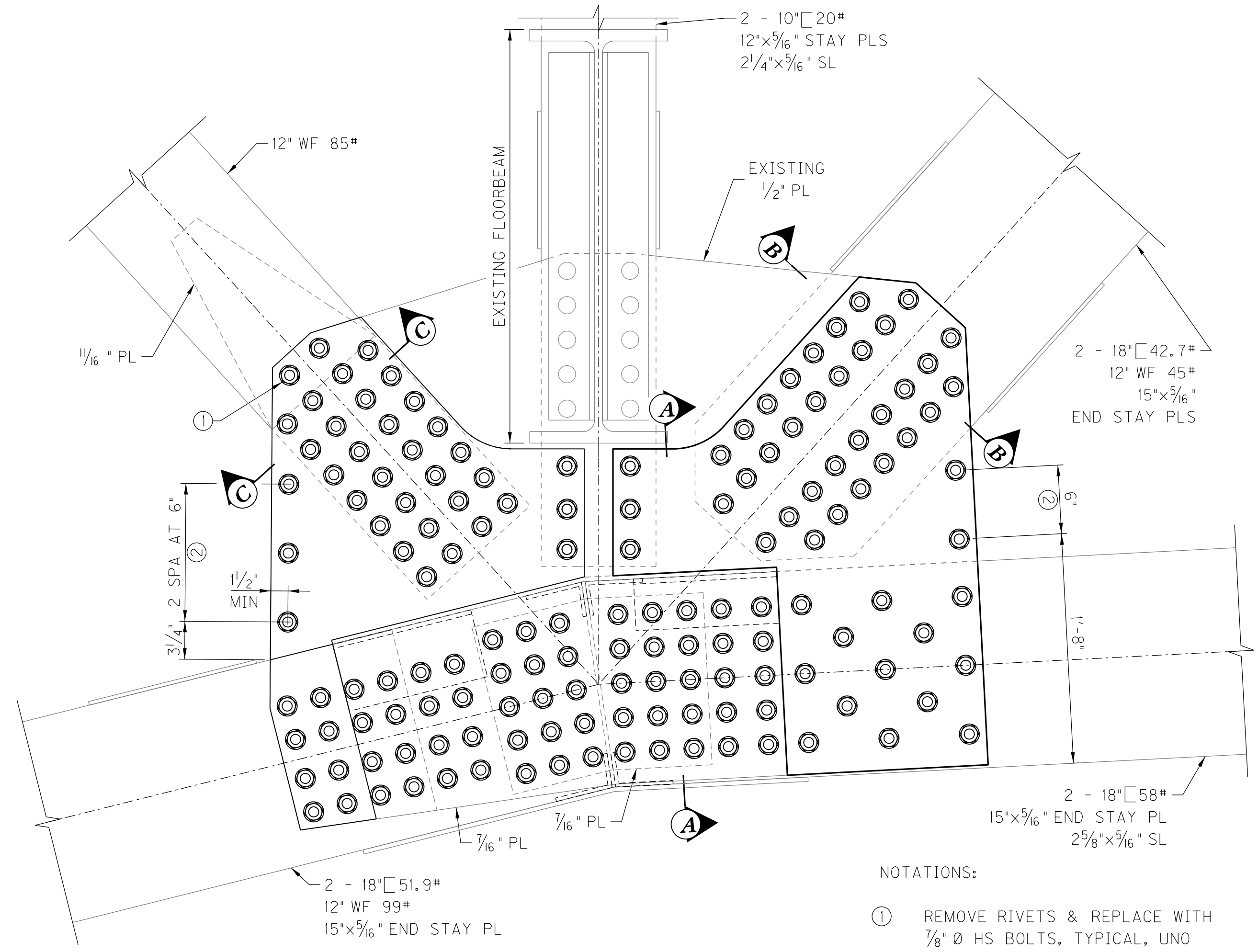
SHEET NO.
S3
 DRAWING NO.

FILE NAME: V:\1785\ACTIVE\178565012\STRUCTURAL\301.320 - US 42 OVER KY RIVER\REHAB PLANS\DRAWING\S3-S4_GUSSET PLATE L6.DGN

USER: qjformer
DATE PLOTTED: September 14, 2016

E-SHEET NAME:

MicroStation v8.11.7.443

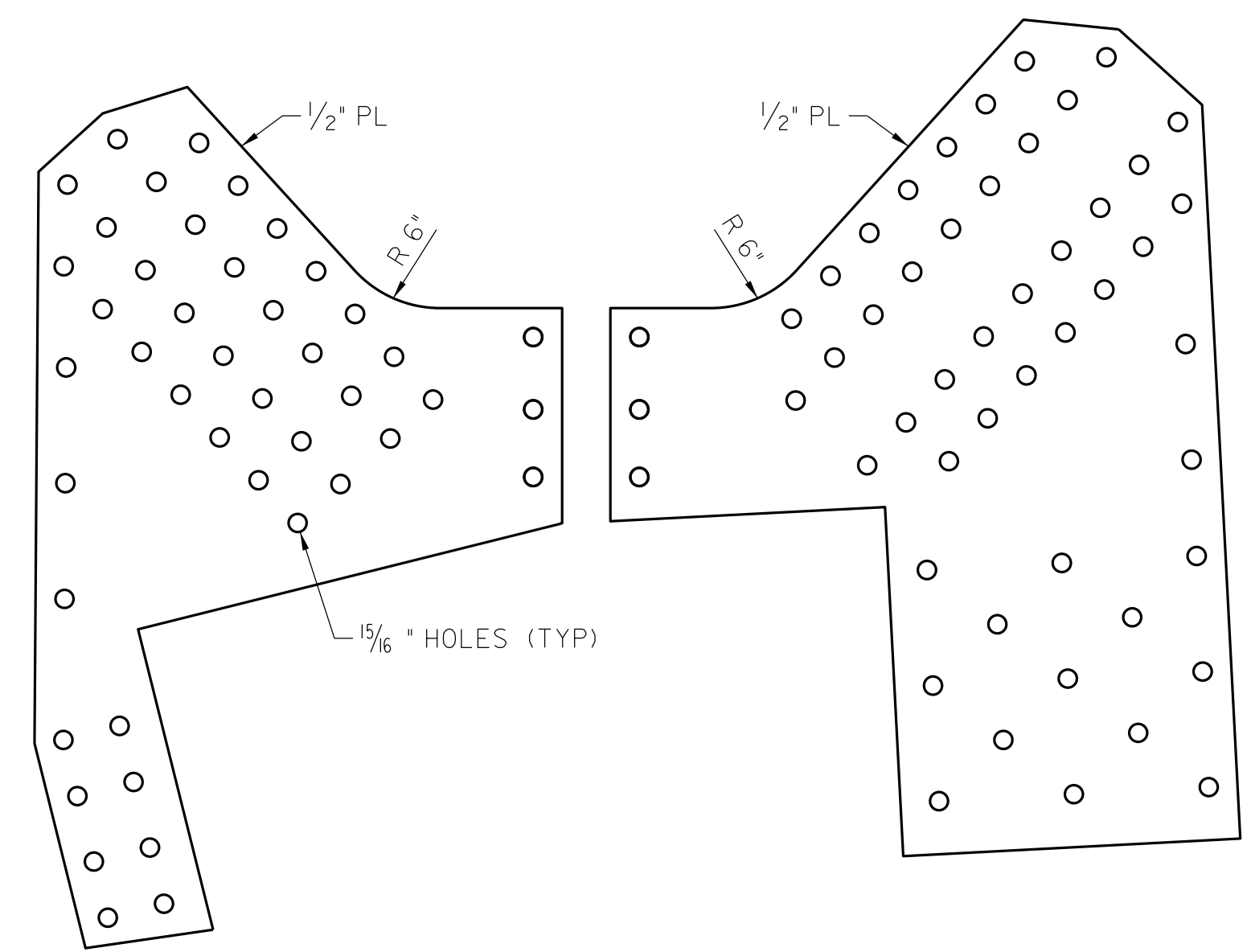


INBOARD ELEVATION

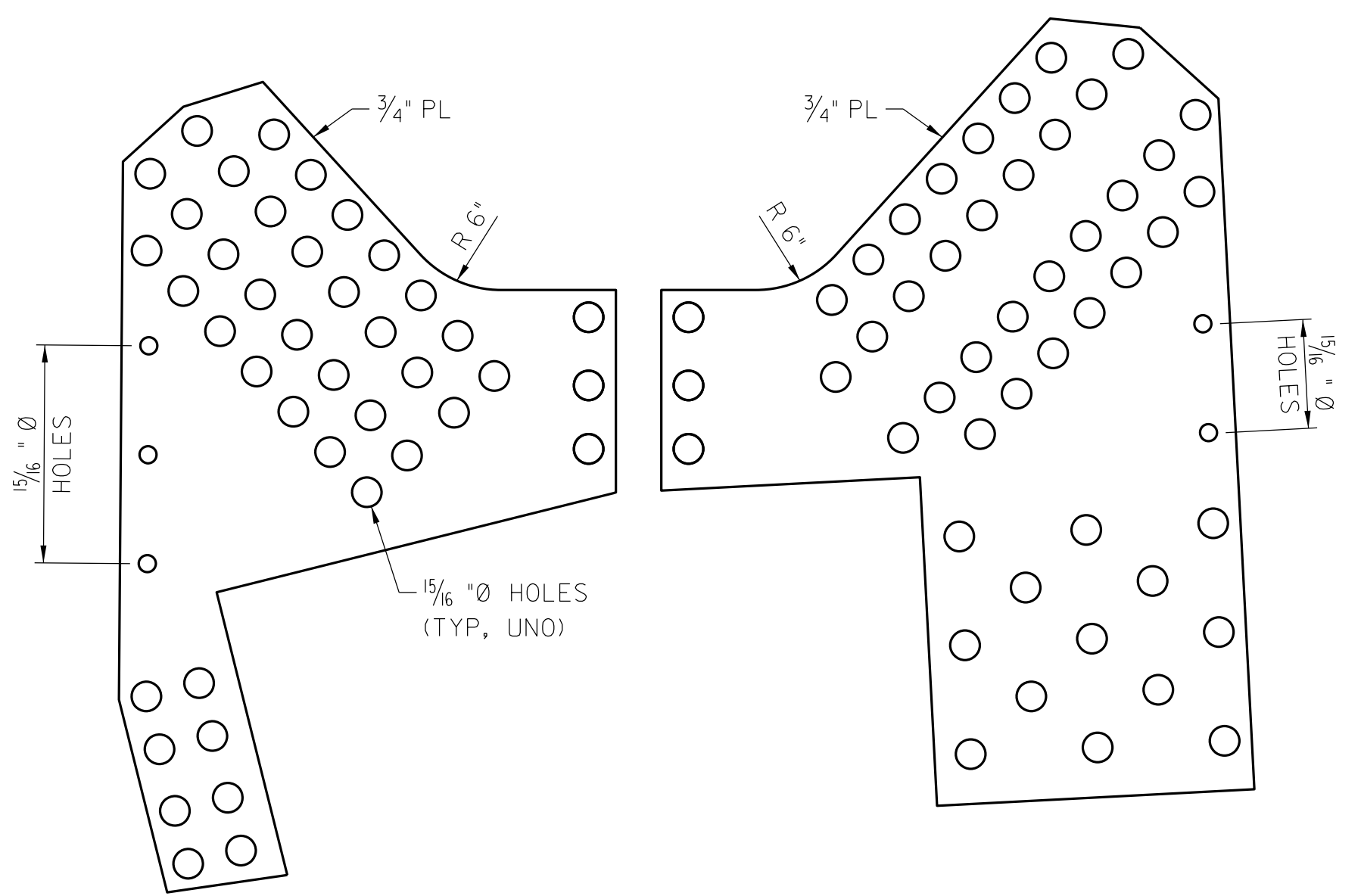
L6 - UPSTREAM TRUSS ONLY
L6' - UPSTREAM TRUSS ONLY

NOTATIONS:

- ① REMOVE RIVETS & REPLACE WITH 7/8" Ø HS BOLTS, TYPICAL, UNO
- ② INSTALL ADDITIONAL 7/8" Ø HS BOLTS ALONG EDGE OF GUSSET PLATE



GUSSET PLATES



SHIM PLATES

NOTE:
FOR SECTION A-A, B-B AND C-C, SEE SHEET S3.

REVISION	DATE

DATE: SEPTEMBER 15, 2016
DESIGNED BY: T. PERKINS
CHECKED BY: C. GREENWELL
DETAILED BY: C. HUTCHINSON
A. FARMER

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY
CARROLL

ROUTE US 42 CROSSING KENTUCKY RIVER

RETROFIT GUSSET PLATES L6-L6'

(INBOARD)

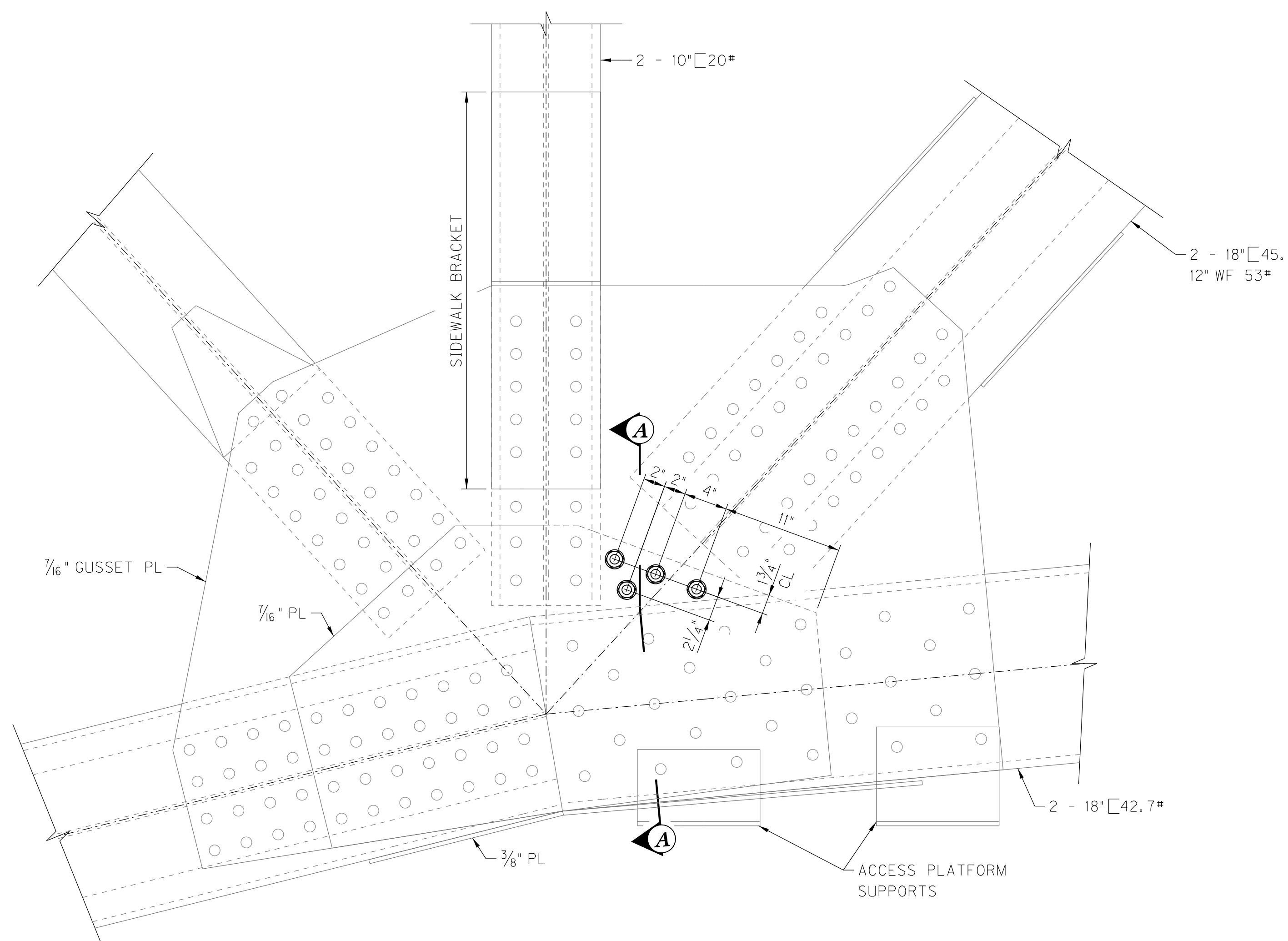
ITEM NUMBER

PREPARED BY

Stantec

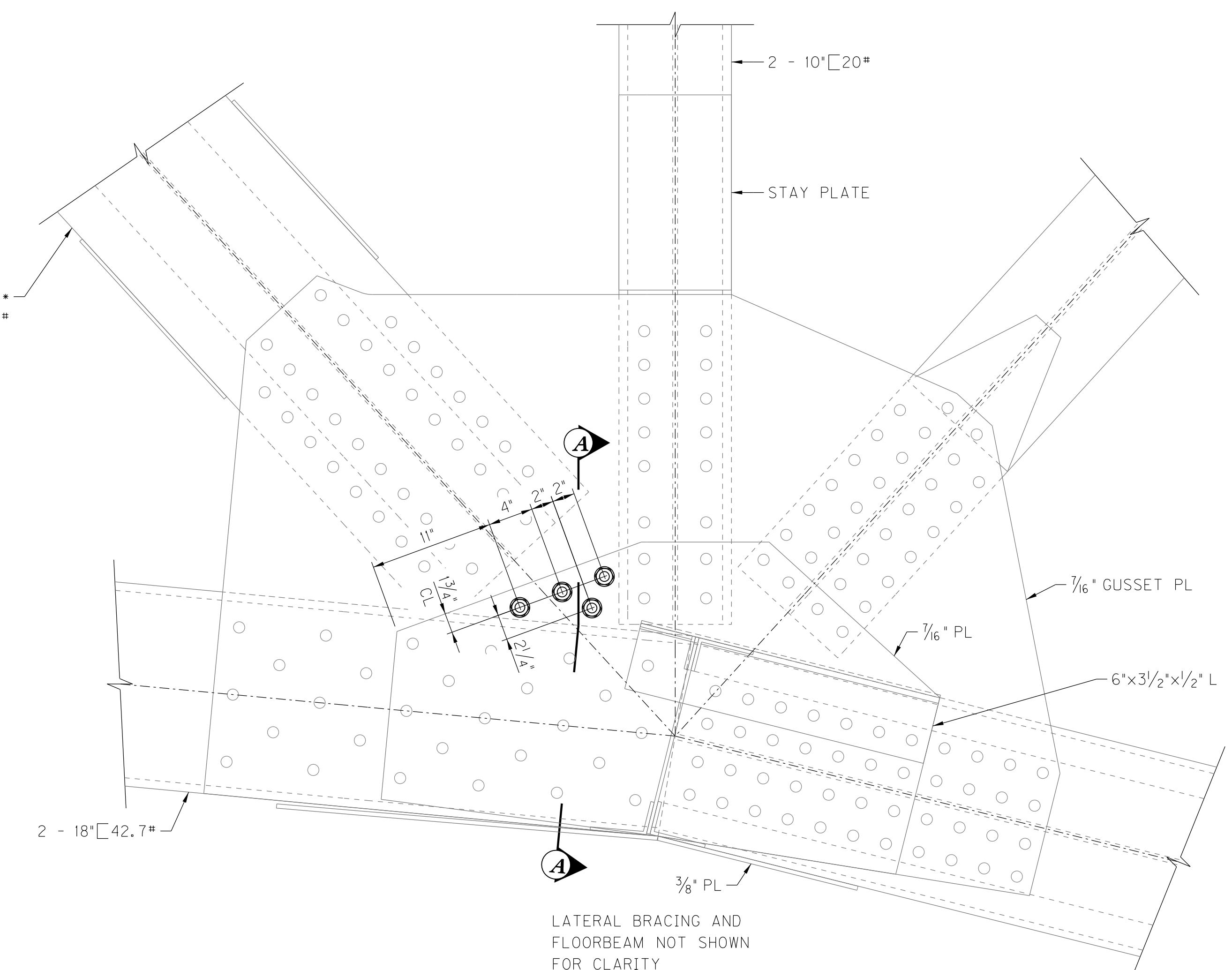
SHEET NO. S4
DRAWING NO.

FILE NAME: V:\1785\ACTIVE\178565012\STRUCTURAL\301.320 - US 42 OVER KY RIVER\REHAB PLANS\DRAWING SS-GUSSET PLATE L10.DGN
 USER: qjformer
 DATE PLOTTED: September 14, 2016
 E-SHEET NAME:
 MicroStation v8.11.7.443



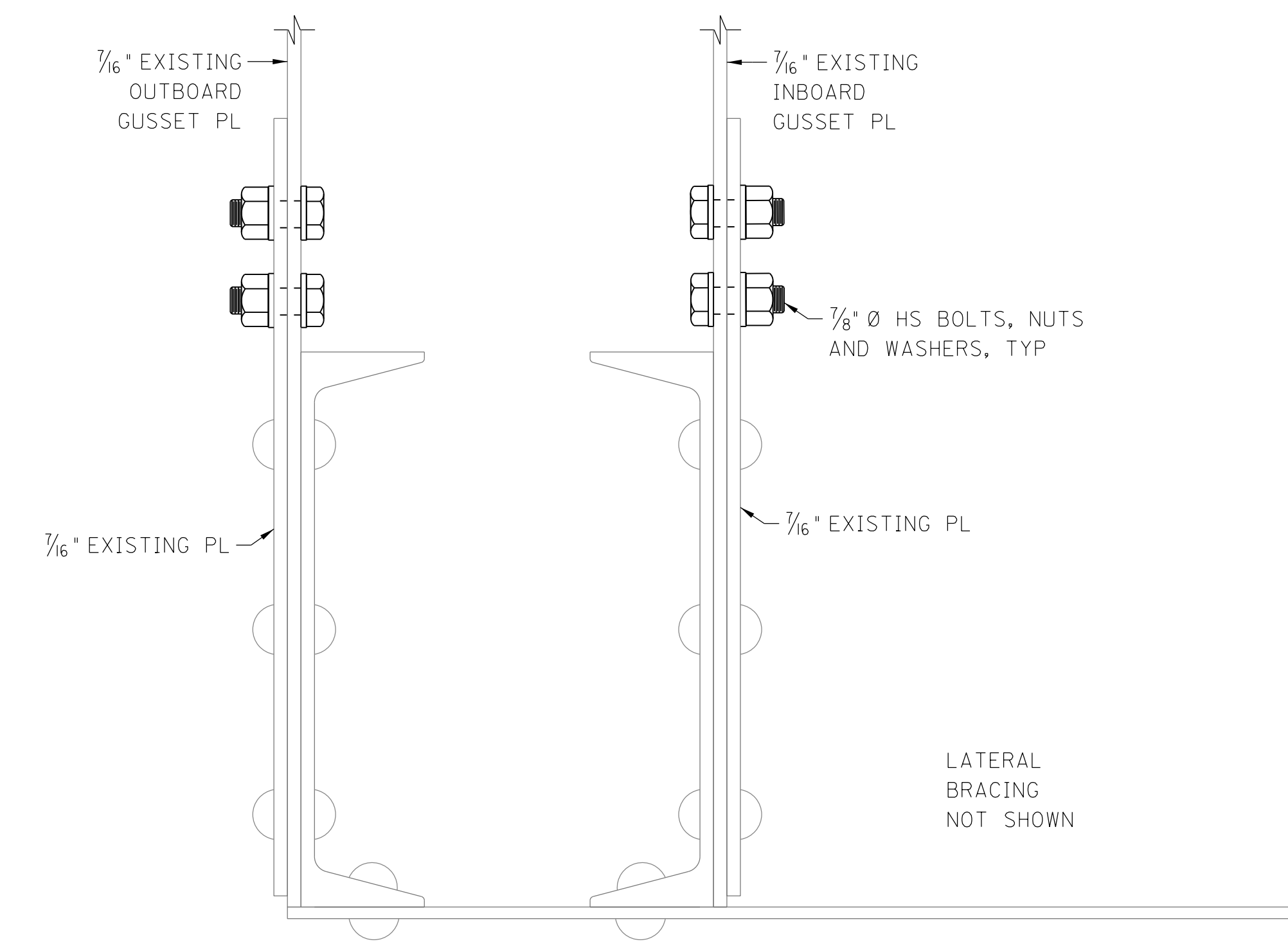
OUTBOARD ELEVATION

L10 - UPSTREAM TRUSS OUTBOARD SIDE
 L10' - UPSTREAM TRUSS OUTBOARD SIDE



INBOARD ELEVATION

L10 - UPSTREAM TRUSS INBOARD SIDE
 L10' - UPSTREAM TRUSS INBOARD SIDE

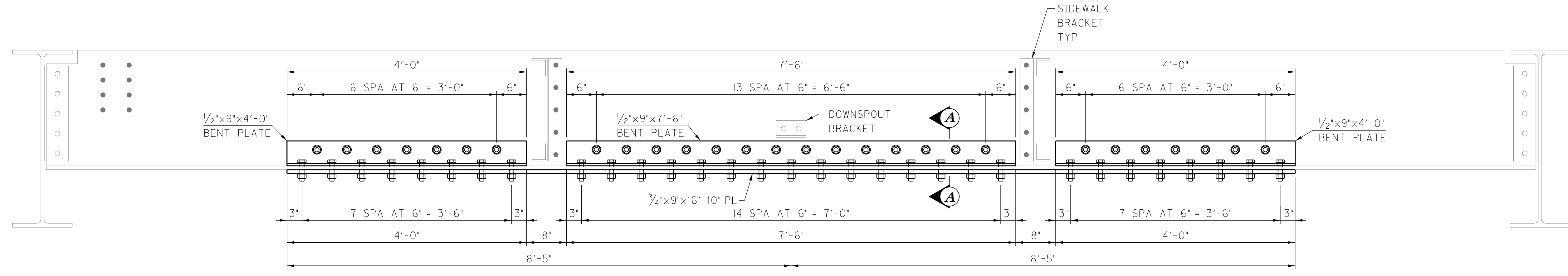


SECTION A-A

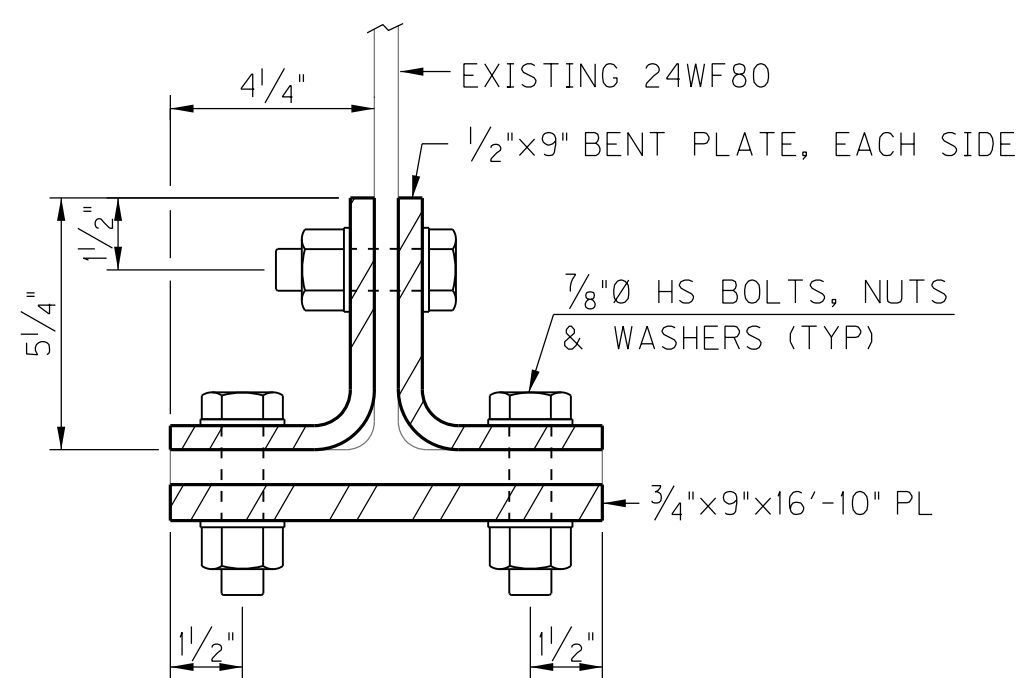
ITEM NUMBER	
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REVISION		DATE
DATE: SEPTEMBER 15, 2016	CHECKED BY	
DESIGNED BY: T. PERKINS	M. LAWLER	
DETAILED BY: C. HUTCHINSON	M. LAWLER	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CARROLL		
ROUTE US 42	CROSSING KENTUCKY RIVER	
RETROFIT GUSSET PLATE L10-L10'		
PREPARED BY		SHEET NO.
		SS
		DRAWING NO.

FILE NAME: V:\1785\ACTIVE\17856502\STRUCTURAL\301.320 - US 42 OVER KY RIVER\REHAB PLANS\DRAWING\56-STRINGERS.DGN
 USER: aifarmer
 DATE PLOTTED: September 14, 2016
 E-SHEET NAME:
 MicroStation v8.11.7.443



EXTERIOR STRINGER - 24WF80



SECTION A-A

**EXTERIOR STRINGER
RETROFIT LOCATIONS**

FLOORBEAM SPAN	STRINGER LOCATIONS *
L5 - L6	DS ONLY
L6 - L7	DS ONLY
L11 - L12	DS AND US
L12 - L13	DS AND US
L13 - L14	DS AND US
L14 - L13'	DS AND US
L13' - L12'	DS AND US
L12' - L11'	DS AND US
L10' - L9'	US ONLY
L6' - L5'	DS AND US
L4' - L3'	DS ONLY
L3' - L2'	US ONLY
L2' - L1'	US ONLY
L1' - L0'	DS AND US

*DS - DENOTES DOWNSTREAM SIDE
US - DENOTES UPSTREAM SIDE

REVISION		DATE
DATE: SEPTEMBER 15, 2016	CHECKED BY	
DESIGNED BY: C. GREENWELL	T. PERKINS	
DETAILED BY: J. HUMBERT	A. FARMER	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS		
COUNTY CARROLL		
ROUTE US 42	CROSSING KENTUCKY RIVER	
RETROFIT EXTERIOR STRINGERS		
ITEM NUMBER	PREPARED BY Stantec	SHEET NO. S6 DRAWING NO.