

TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS

DAVISS COUNTY

GLOVER CARY BRIDGE (030B00118N)

KY 2262 OVER OHIO RIVER

REPAIR PLANS

ESTIMATE OF BRIDGE QUANTITIES

BID ITEM CODE	02569	24084EC	08510	08134	24094EC	08526	08504	08549	08550	03294	24879EC	08106	08104	23814EC	21529ND	03203	24992ED	24113EC	08151	24112EC	08160	23386EC	22146EN	23744EC	25015EC	23378EC	21650NN	24083EC
BID ITEM	DEMORILIZATION	STRINGER REPAIR	REIN EPOXY BIT FOREIGN OVERLAY	CONCRETE OVERLAY - LATEX	PARTIAL DEPTH PATCHING	CONC CLASS FULL DEPTH PATCH	EPOXY SAND SLURRY	BLAST CLEANING	HYDRODEMOLITION	EXPANSION JOINT REPLACEMENT 1-1/2 IN	STEEL REPAIR (1)(2)(3)	CONCRETE CLASS M1	CONCRETE CLASS AA	REMOVE EXISTING DECK	FINGER DAM REPAIR	REPLACE EXPAN JOINT 1 IN (4)	STEEL GRID DECK (5)	SALVAGE AND RE-INSTALL CONDUIT	STEEL REINFORCEMENT - EPOXY COATED	STEEL REINFORCEMENT STAINLESS STEEL	STRUCTURAL STEEL *	JOINT SEAL REPLACEMENT	CONCRETE PATCHING REPAIR	EPOXY INJECT CRACK REPAIR	FRP WRAP	CONCRETE SEALING	BOLT/RIVET REPLACEMENT	BEARING LUBRICATION
UNIT	LS	EA	SQYD	CUYD	CUYD	SQYD	SQYD	SQYD	SQYD	LF	EA	CUYD	CUYD	LS	LS	LF	SF	LF	LB	LB	LS	LF	SF	LF	SF	SF	EA	EA
GENERAL	1																											
REPAIR 1: STRINGER REPAIR		16																										
REPAIR 2: FINGER EXPANSION JOINT REPAIR																1												
REPAIR 3: CONCRETE-FILLED STEEL GRID DECK REPLACEMENT													103	1		220	32430	2760			19296	1						
REPAIR 4: LATEX CONCRETE DECK OVERLAY			2838	1.9	36	5	1121	862	2838									1000										
REPAIR 5: JOINT SEAL REPLACEMENT																						440						
REPAIR 6: EXPANSION JOINT REPLACEMENT										22																		
REPAIR 7: MISCELLANEOUS STEEL REPAIRS											8																	
REPAIR 8: REINFORCED CONCRETE SUBSTRUCTURE REPAIR												2										754	150	277	12714			
REPAIR 9: CURB/SIDEWALK REPAIR																											12	
REPAIR 10: MISSING RIVET/BOLT REPLACEMENT																												66
REPAIR 11: CLEAN AND GREASE BEARINGS																												
BRIDGE TOTALS	1	16	2838	1.9	36	5	1121	862	2838	22	8	2	103	1	1	220	32430	2760	1000	19296	1	440	364	150	277	12714	12	66

* ESTIMATED WEIGHT OF STRUCTURAL STEEL = 79,115 LB.

- SUPPLEMENTAL DESCRIPTIONS:
 (1) SLIDING PIN PLATE REPLACEMENT (QTY. = 1)
 (2) WELDED SLIDING PLATE REPAIR (QTY. = 1)
 (3) WINDLOCK ANGLE REPLACEMENT (QTY. = 6)
 (4) PRECOMPRESS FOAM
 (5) CONCRETE FILLED

MAINTENANCE OF TRAFFIC QUANTITIES

BID ITEM CODE	02014	02562	02650	02671
BID ITEM	BARRIER TYPE III	TEMPORARY SIGNS	MAINTAIN AND CONTROL TRAFFIC	PORTABLE CHANGEABLE MESSAGE SIGN
UNIT	EA	SQ FT	LS	EA
GENERAL	4	119	1	12
REPAIR 1: STRINGER REPAIR				
REPAIR 2: FINGER EXPANSION JOINT REPAIR				
REPAIR 3: CONCRETE-FILLED STEEL GRID DECK REPLACEMENT				
REPAIR 4: LATEX CONCRETE DECK OVERLAY				
REPAIR 5: JOINT SEAL REPLACEMENT				
REPAIR 6: EXPANSION JOINT REPLACEMENT				
REPAIR 7: MISCELLANEOUS STEEL REPAIRS				
REPAIR 8: REINFORCED CONCRETE SUBSTRUCTURE REPAIR				
REPAIR 9: CURB/SIDEWALK REPAIR				
REPAIR 10: MISSING RIVET/BOLT REPLACEMENT				
REPAIR 11: CLEAN AND GREASE BEARINGS				
BRIDGE TOTALS	4	119	1	12

DAVID EDWARD RUST
P.E. 28354

Digitally signed by David E. Rust
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Date: 2023.08.18 16:12:53 -0400

David E. Rust

INDEX OF SHEETS

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S14	Repair 4 - Latex Concrete Deck Overlay
S15	Repairs 5 and 6 - Compression and Strip Seals
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SPECIAL NOTES

- Special Note for Steel Repairs
- Special Note for Painting Structural Steel Repairs
- Special Note for Stainless Steel Reinforcement
- Special Note for Bridge Deck Removal
- Special Note for Bridge Restoration with Concrete Overlays
- Special Note for Use of Hydrodemolition Method
- Special Note for Joint Seal Replacement
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- Special Note for Epoxy Injection Crack Repair
- Special Note for Fiber Reinforced Polymer Wraps
- Special Note for Bearing Lubrication
- Special Note for Traffic Control
- Special Note for Contract Completion and Liquidated Damages

SPECIAL PROVISIONS

STANDARD DRAWINGS

- BCX-009-04 Bridge Restoration with Concrete Overlays
- BUE-003 Expansion Joint Replacement 1" - 3"
- BUE-005 Expansion Joint Replacement General Notes
- BUE-006 Expansion Joint Replacement 4" & 5"

SPECIFICATIONS

- 2019 Standard Specifications for Road and Bridge Construction, with current supplemental specifications.
- 2002 AASHTO Standard Specifications for Highway Bridges.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE



DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	D.E. RUST

TITLE SHEET

CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO.	2-10020.00
SHEET NO.	S01

COUNTY OF	DAVISS
DRAWING NUMBER	28812

GENERAL NOTES

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 CURRENT EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, WITH INTERIMS. ALL REFERENCES TO THE ASTM STANDARDS ARE TO THE CURRENT EDITION OF THE ASTM STANDARD SPECIFICATIONS, WITH INTERIMS.

MATERIALS DESIGN SPECIFICATIONS:

FOR CLASS AA CONCRETE: F'C = 4,000 PSI (MAX AGGREGATIVE SIZE=3/4")
 FOR CLASS M CONCRETE: F'C = 4,000 PSI
 FOR EPOXY COATED STEEL REINFORCEMENT: FY = 60,000 PSI
 FOR STAINLESS STEEL REINFORCEMENT: FY = 60,000 PSI

ASTM SPECIFICATIONS, CURRENT EDITION, AS DESIGNATED BELOW SHALL GOWERN THE FOLLOWING MATERIALS FURNISHED.

MATERIAL	ASTM, CURRENT ED.
STRUCTURAL STEEL FOR ROLLED SHAPES AND PLATES	A709 GRADE 36 MIN.
ALTERNATE SPECIFICATION FOR W-SHAPES	A992 GRADE 50
ALTERNATE SPECIFICATIONS FOR ANGLES, PLATES, AND CHANNELS	A572 GRADE 50
BOLTS (UP TO 1/2" Ø)	F3125 GRADE A325

ALL STRUCTURAL STEEL MATERIAL USED IN REPAIR 1 - STRINGER REPAIRS SHALL MEET THE LONGITUDINAL CHARNY V-NOTCH TOUGHNESS TEST APPLICABLE TO ZONE 2 IN ACCORDANCE WITH THE FOLLOWING, UNLESS OTHERWISE NOTED:
 25 FT.LBS. AT 40°F

DIMENSIONS: DIMENSIONS SHOWN ON THESE PLANS ARE TAKEN FROM THE ORIGINAL CONSTRUCTION CONTRACT PLANS AND DO NOT NECESSARILY REFLECT REVISIONS MADE DURING CONSTRUCTION OR REPAIRS PREVIOUSLY INSTALLED. THE CONTRACTOR SHALL VERIFY ELEVATIONS AND DIMENSIONS, INCLUDING THICKNESS OF PARTS AND FASTENER SIZE/SPACING, WITH FIELD MEASUREMENTS PRIOR TO ORDERING MATERIALS OR FABRICATING STEELWORK. ALL PLAN DIMENSIONS ARE FOR A NORMAL TEMPERATURE OF 60°F. LAYOUT DIMENSIONS ARE HORIZONTAL DIMENSIONS.

BRIDGE PLANS; A COPY OF AVAILABLE EXISTING BRIDGE PLANS WILL BE MADE AVAILABLE TO THE SUCCESSFUL BIDDER UPON WRITTEN REQUEST.

ON SITE INSPECTION; EACH CONTRACTOR SUBMITTING A BID FOR THIS WORK SHALL MAKE A THOROUGH INSPECTION OF THE BRIDGE AND THE WORK SITE PRIOR TO SUBMITTING A BID 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 FROM SITE CONDITIONS WILL NOT BE HONORED BY THE DEPARTMENT OF HIGHWAYS.

VERIFYING FIELD CONDITIONS; PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE THE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK. IN ADDITION, THE OVERRUN AND UNDERRUN FORMULAS MAY BE APPLIED TO APPROPRIATE REPAIRS PROVIDED THAT THE REQUIREMENTS OF ARTICLE 104.02.02 OF THE STANDARD SPECIFICATIONS ARE SATISFIED WITH ADDITION OF THE RIVET / BOLT REPLACEMENT AS A COVERED BID ITEM.

MAINTENANCE OF TRAFFIC; THE BRIDGE SHALL BE CLOSED TO TRAFFIC FOR THE DURATION OF WORK.

WORKING OVER THE OHIO RIVER; A MINIMUM LEVEL OF 3'-0" BELOW LOW STEEL SHALL BE MAINTAINED. THE CONTRACTOR SHALL CONTACT THE US COAST GUARD AND HAVE THEIR WORK PLAN APPROVED BEFORE ANY WORK ON THE BRIDGE COMMENCES.

IF ANY WORK IS CONDUCTED FROM A BARGE OR OTHER VESSEL ON THE OHIO RIVER, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL REGULATORY, STATUTORY, AND INSURANCE REQUIREMENTS THAT ARE APPLICABLE. AGENCIES INVOLVED INCLUDE BUT ARE NOT LIMITED TO THE US ARMY CORPS OF ENGINEERS AND THE US COAST GUARD. THE DEPARTMENT ASSUMES NO OBLIGATIONS OR LIABILITIES FOR WORK STOPPAGES DUE TO ENFORCEMENT ACTIONS BY GOVERNMENT REGULATORY AGENCIES OR TO RELATED DELAYS THAT THE DEPARTMENT DEEMS NECESSARY.

AT LEAST 30 DAYS IN ADVANCE OF BEGINNING CONSTRUCTION, THE SUCCESSFUL CONTRACTOR SHALL SUBMIT TO THE DEPARTMENT (FOR SUBMITTAL TO THE COAST GUARD) A WORK PLAN FOR PERFORMING WORK OVER THE OHIO RIVER. THIS WORK PLAN SHALL INCLUDE BUT IS NOT LIMITED TO METHODS FOR CONTAINING DEBRIS, DEBRIS REMOVAL FROM STREAM, AND MAINTENANCE OF EXISTING NAVIGATIONAL TRAFFIC DURING CONSTRUCTION.

THE CONTRACTOR MUST ADVISE THE COAST GUARD OF THE CONTRACTOR'S PROPOSED SCHEDULE OF WORK AT LEAST 10 DAYS PRIOR TO THE COMMENCEMENT OF ANY FIELD OPERATIONS. THE NOTIFICATION SHALL BE ADDRESSED TO:

WESTERN RIVERS BRIDGE BRANCH
 EIGHTH COAST GUARD DISTRICT
 1222 SPRUCE STREET, SUITE 2, 102D
 ST. LOUIS, MISSOURI 63103
 PHONE: 314-269-2378

TEMPORARY WORKS; PROVIDE FLOORING FOR WORKERS IN SITUATIONS WHERE THERE IS DANGER FROM A FALL AND FOR PROTECTION TO RIVER TRAFFIC BELOW. IF TEMPORARY FLOORING IS NECESSARY, THE FLOORING IS TO BE DESIGNED USING THE SUM OF DEAD LOAD AND LIVE VERTICAL LOADS. INCLUDE 50 PSF ON HORIZONTAL SURFACES AND THE WEIGHT OF ANY MATERIAL OR EQUIPMENT THAT IS PLACED OR ALLOWED TO FALL DURING CONSTRUCTION OR DEMOLITION IN THE LIVE LOAD COMPUTATION. SUBMIT THE FLOORING DESIGN ALONG WITH THE FALSEWORK DESIGN TO THE ENGINEER FOR APPROVAL. CONSIDER ALL PHASES OF FURNISHING AND REMOVING THE FLOORING AS INCIDENTAL TO THE CONTRACT. THIS ITEM MAY BE CONSIDERED IN ADDITION TO ANY REQUIREMENT SET FORTH IN SUBSECTION 107.01.01 OF THE SPECIFICATIONS.

REINFORCEMENT; DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER OF BARS. CLEAR DISTANCE TO FACE OF CONCRETE IS 2" UNLESS OTHERWISE NOTED.

BARS DESIGNATED BY SUFFIX (s) SHALL BE STAINLESS STEEL IN ACCORDANCE WITH THE SPECIAL NOTE FOR STAINLESS STEEL REINFORCEMENT.

EXISTING STEEL REINFORCEMENT; THE COST OF CUTTING, BENDING, AND CLEANING EXISTING STEEL REINFORCEMENT SHALL BE INCIDENTAL TO THE REPAIR ITEM BEING COMPLETED.

BEVELED EDGES; BEVEL ALL EXPOSED EDGES 3/4", UNLESS OTHERWISE NOTED.

MILL TEST REPORTS; NOTARIZED MILL TEST REPORTS SHALL BE FURNISHED IN TRIPPLICATE TO THE DEPARTMENT SHOWING THAT ALL STRUCTURAL STEEL CONFORMS TO THE REQUIREMENTS OF THE SPECIFICATIONS.

WELDING SPECIFICATIONS; ALL WELDING AND WELDING MATERIALS EXCEPT FOR REINFORCEMENT, SHALL CONFORM TO JOINT SPECIFICATION ANSI/AASHTO/AWS D1.1: 2020 BRIDGE WELDING CODE*. MODIFICATION AND ADDITIONS AS STATED ON THE PLANS SHALL SUPERSEDE THE JOINT SPECIFICATIONS.

PROHIBITED FIELD WELDING; EXCEPT WHERE SHOWN IN THE PLANS, 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 BRIDGE MAINTENANCE, AND THEN ONLY IN THE MANNER AND AT THE LOCATIONS DESIGNATED IN THE AUTHORIZATION.

WELD REINFORCEMENT; THE WELDING AND WELD MATERIAL SHALL CONFORM TO THE RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL*, AMERICAN WELDING SOCIETY SPECIFICATIONS, CURRENT EDITION. NO DIRECT PAYMENT SHALL BE MADE FOR WELDING OR WELD MATERIAL, BUT THE COST OF THESE ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE REPAIR BEING COMPLETED.

WELDING PROCEDURES; QUALIFICATION TEST OF ALL WELDING PROCEDURES, WHEN REQUIRED BY AWS, SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO THE FINAL APPROVAL OF THE SHOP DRAWINGS AND THE START OF THE FABRICATION.

WELD SIZES; UNLESS SPECIFIED OTHERWISE, USE THE FOLLOWING FILLET WELD SIZES:

BASE METAL THICKNESS OF THICKER PART JOINED (IN.)	MINIMUM SIZE OF FILLET WELD (IN.)
TO 1/4" INCLUSIVE	1/4"
OVER 1/4" TO 1/2"	3/8"
OVER 1/2" TO 3/4"	1/2"
OVER 3/4"	5/8"

THE WELD SIZE NEED NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

REMOVAL OF EXISTING RIVETS AND BOLTS; THE CONTRACTOR WILL BE PERMITTED TO REMOVE RIVETS IN ANY MANNER THAT DOES NOT DAMAGE ADJACENT STRUCTURAL STEEL. THIS MAY INCLUDE MECHANICAL REMOVAL OR OTHER METHODS APPROVED BY THE ENGINEER. USE OF CUTTING TORCHES WILL NOT BE PERMITTED.

HIGH STRENGTH BOLT CONNECTIONS; UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL BOLTED CONNECTIONS SHALL BE ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS, A563DH NUTS, AND F436 FLAT WASHERS. OPEN HOLES SHALL BE 1/6" INCH GREATER THAN THE BOLT DIAMETER, UNLESS OTHERWISE NOTED. BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANE IN ALL BOLTED CONNECTIONS, UNLESS OTHERWISE NOTED. FROM AVAILABLE ORIGINAL DESIGN DRAWING INFORMATION, THE EXISTING RIVET SIZES BELOW ARE ANTICIPATED AND SHALL BE REPLACED WHERE NOTED WITH HIGH STRENGTH BOLTS OF EQUAL SIZE. CONTRACTOR TO VERIFY PRIOR TO ORDERING MATERIALS. 1" DIA. IN MAIN TRUSS MEMBERS, 3/4" DIA. IN FLOOR SYSTEM, LATERAL AND SWAY BRACING, LACING AND STAY PLATES, DECK TRUSS APPROACH GIRDERS, ETC.

ANY CONNECTION OR MIS-DRILLED HOLES IN STEEL MEMBERS THAT ARE NOT SPECIFIED TO RECEIVE ANY OTHER CONNECTED PART SHALL BE FILLED WITH A HIGH STRENGTH BOLT THAT IS TENSIONED PER THE SPECIFICATIONS.

TYPE I MECHANICALLY GALVANIZED BOLTS SHALL BE USED AS DESCRIBED IN AASHTO M 164. ALL HIGH STRENGTH BOLTED CONNECTIONS ARE TO BE INSTALLED USING DIRECT TENSION INDICATORS (DTI'S) IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND ASTM F959. ALL DTI'S SHALL BE MECHANICALLY ZINC COATED. INSTALLATION DETAILS OF THE DTI'S SHALL BE SHOWN ON THE SHOP PLANS.

SHOP DRAWINGS; SUBMIT SHOP DRAWINGS DIRECTLY TO THE CONSULTANT. WHEN ANY CHANGES IN THE DESIGN PLANS ARE PROPOSED BY THE FABRICATOR OR SUPPLIER, SUBMIT THOSE CHANGES TO THE CONSULTANT.

SUBMIT FINAL APPROVED SHOP DRAWINGS TO THE ENGINEER.

- SHOP DRAWINGS WILL BE REQUIRED FOR THE FOLLOWING REPAIRS:
 REPAIR 1 - STRINGER REPAIRS
 REPAIR 2 - FINGER EXPANSION JOINT REPAIR
 REPAIR 3 - CONCRETE FILLED STEEL GRID DECK REPLACEMENT
 REPAIR 7 - MISCELLANEOUS STEEL REPAIRS

STUDS; STUDS SHALL BE WELDED IN ACCORDANCE WITH AWS SPECIFICATIONS. STUD LENGTHS SHALL NOT BE LESS THAN 3.5 INCHES. PROVIDE MINIMUM COVER OF 1.5" FROM THE TOP OF THE DECK TO THE TOP OF THE SHEAR CONNECTOR UNLESS OTHERWISE SHOWN.

CLEANING AND PAINTING; REFER TO THE SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS.

PAINTING DAMAGED AREAS; ALL AREAS OF NEW OR EXISTING STRUCTURAL STEEL ON WHICH THE PAINT HAS BEEN DAMAGED BY THE CONTRACTOR SHALL BE CLEANED AND SPOT PAINTED TO THE SATISFACTION OF THE ENGINEER AND IN ACCORDANCE WITH THE SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS. THE COST OF THIS TOUCH-UP PAINTING IS TO BE INCIDENTAL TO THE CONTRACT.

DISPOSAL OF MATERIALS; ALL MATERIALS AND DEBRIS REMOVED FROM OR BENEATH THE BRIDGE OR APPROACHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE RIGHT-OF-WAY.

UTILITIES; UTILITIES MAY BE ON THE BRIDGE OR IN THE EXISTING PLINTH AND ARE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, DEACTIVATE AND COORDINATE ACTIVITIES WITH THE UTILITY OWNER. SEE GENERAL NOTE FOR SALVAGE AND REINSTALL CONDUIT.

STABILITY OF THE STRUCTURE; THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE FROM THE TIME OF MOBILIZATION UNTIL AFTER THE BRIDGE HAS BEEN REOPENED TO NORMAL TRAFFIC FOLLOWING COMPLETION OF ALL WORK REQUIRED IN THE CONTRACT.

DAMAGE OUTSIDE CONSTRUCTION LIMITS; ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF THE CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE, SHOULD SUCH DAMAGE RESULT FROM THE CONTRACTOR'S ACTIONS.

DAMAGE TO THE STRUCTURE; THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY AND EXPENSE FOR REPAIR OF ANY AND ALL DAMAGES TO THE STRUCTURE, SHOULD SUCH DAMAGE RESULT FROM THE CONTRACTOR'S ACTIONS, AFTER COMPLETION OF ALL OPERATIONS; THE STRUCTURE AND SITE SHALL BE LEFT IN A CONDITION THAT IS IN ACCORDANCE WITH SECTION 105.12 OF THE SPECIFICATIONS.

CONSTRUCTION LOAD; THE CONTRACTOR SHALL ABIDE BY THE BRIDGE POSTING LIMITS. STORAGE OF MATERIAL ON THE BRIDGE IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

STEEL CURB FASCIA STRINGER; AS NOTED IN THE PLANS, REPLACE ALL STEEL CURB FASCIA STRINGERS AND ANGLES (UPSTREAM AND DOWNSTREAM SIDE) ON THE DECK REPLACEMENT SPANS 28 & 29 ONLY. ALL STRINGER LENGTHS, BOLT HOLE PATTERNS, AND BOLT DIAMETERS SHALL BE MEASURED IN THE FIELD BY THE CONTRACTOR. ALL STRINGER SPLICE PLATES SHALL BE REPLACED IN-KIND. ALL MATERIALS AND LABOR SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR STRUCTURAL STEEL. HANDRAIL AND POSTS SHALL REMAIN ATTACHED TO THE BRIDGE DURING THE DECK REHABILITATION.

SALVAGE AND REINSTALL CONDUIT; SALVAGE THE EXISTING CONDUIT, CONNECTION, AND HANGER SYSTEM FOR THE BRIDGE LIGHTING UNDER THE SIDEWALK OVERHANG. THE CONDUIT MAY LAY AND REST ON EXISTING KNEE BRACES AND FLOOR BEAMS DURING RECONSTRUCTION OF THE DECK; SOME TEMPORARY SUPPORT MAY BE REQUIRED). TAKE CARE NOT TO DAMAGE THE CONDUIT OR HANGERS DURING CONSTRUCTION, ANY DAMAGE DUE TO THE CONTRACTOR MUST BE REPLACED AT NO COST TO THE DEPARTMENT. PROVIDE AND INSTALL INSERTS TO ACCEPT EXISTING HANGERS AND HARDWARE IN THE PROPOSED SLAB AT THE EXISTING HANGER LOCATIONS. THE CONTRACTOR IS TO ALLOW FOR NEW ALL-THREAD RODS, NUTS, AND WASHERS TO REPLACE EXISTING HARDWARE THAT CANNOT BE REUSED AT EACH LOCATION WITH THIS BID ITEM. REINSTALL CONDUIT AND HANGERS ONCE CONSTRUCTION OF THE DECK SLAB, CURB, AND SIDEWALK IS COMPLETE. INCLUDE ALL WORK FOR THIS ITEM IN THE BID FOR SALVAGE AND REINSTALL CONDUIT PER LINEAR FEET.



COMMONWEALTH OF KENTUCKY
 DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY	
DATE:	AUGUST 2023
DESIGNED BY:	J.P. MURRIN
DETAILED BY:	J.A. ROSE



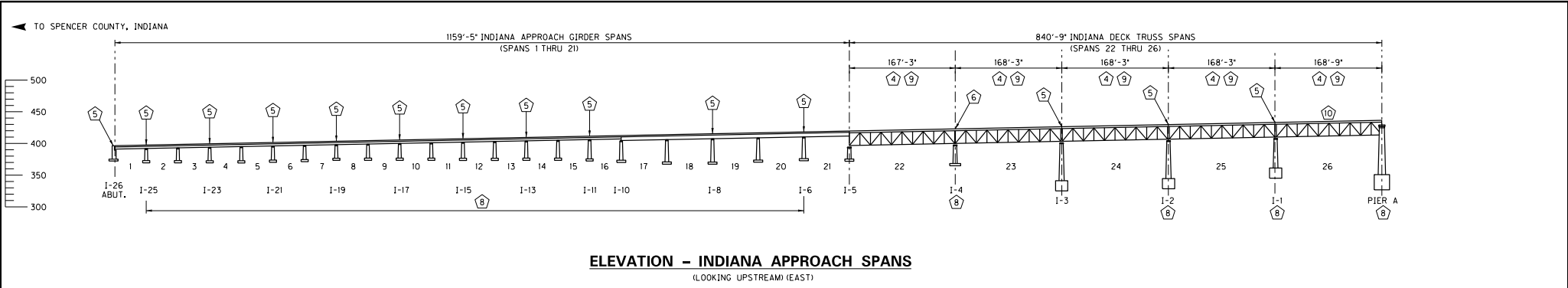
CHECKED BY	D.E. RUST
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GENERAL NOTES
 OHIO RIVER at OWENSBORO

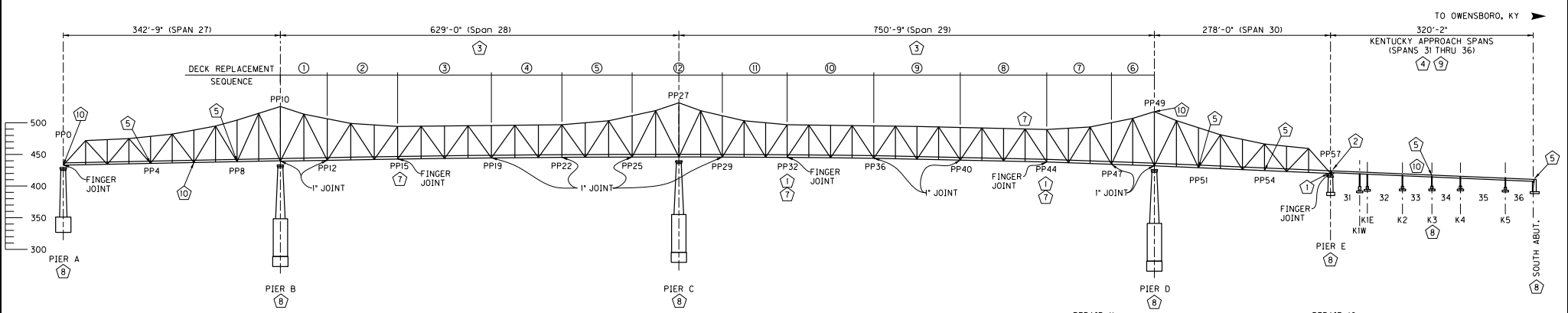
ROUTE
 KY 2262

ITEM NO.
 2-10020.00
 SHEET NO.
 S02

COUNTY OF
 DAVIESS
 DRAWINGS NUMBER
 28812



ELEVATION - INDIANA APPROACH SPANS
(LOOKING UPSTREAM (EAST))



ELEVATION - THROUGH TRUSS AND KY APPROACH SPANS
(LOOKING UPSTREAM (EAST))

REPAIR LEGEND

- ① STRINGER REPAIR
- ② FINGER EXPANSION JOINT REPAIR
- ③ CONCRETE-FILLED STEEL GRID DECK REPLACEMENT
- ④ LATEX CONCRETE DECK OVERLAY
- ⑤ JOINT SEAL REPLACEMENT
- ⑥ EXPANSION JOINT REPLACEMENT
- ⑦ MISCELLANEOUS STEEL REPAIR
- ⑧ REINFORCED CONCRETE SUBSTRUCTURE REPAIR
- ⑨ CURB/SIDEWALK REPAIR
- ⑩ MISSING RIVET / BOLT REPLACEMENT - SEE TABLE FOR LOCATION & QUANTITIES
- ⑪ CLEAN AND GREASE BEARINGS - SEE TABLE FOR LOCATION & QUANTITIES

DECK REPLACEMENT SEQUENCE NOTES:

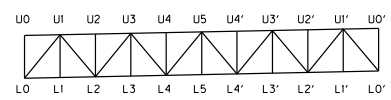
1. FOR EACH TRUSS SPAN (SPANS 28 & 29), REMOVE AND COMPLETELY REPLACE EACH NUMBERED SECTION IN THE SEQUENCE SHOWN PRIOR TO CONTINUING WITH THE NEXT SECTION IN THE SEQUENCE. COMPLETE ALL WORK IN A GIVEN SPAN PRIOR TO BEGINNING WORK IN THE REMAINING SPAN.
2. THE DECK REPLACEMENT SEQUENCE NOTED ABOVE MAY NOT BE MODIFIED UNLESS THE CONTRACTOR SUBMITS FOR THE WRITTEN APPROVAL OF THE ENGINEER, DRAWINGS, PLANS, DETAILS, AND CALCULATIONS PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF KENTUCKY SHOWING THAT TRUSS MEMBER STRESSES, UPLIFT FORCES AT PIERS A AND E, AND ANY OTHER CONSTRUCTION CONCERNS OCCURRING AS A RESULT OF THE MODIFIED REPLACEMENT SEQUENCE HAVE BEEN ADDRESSED.
3. THE CONTRACTOR SHALL USE CARE IN REMOVING THE EXISTING DECK ADJACENT TO THE EXISTING FINGER DAMS. ANY DAMAGE CAUSED BY THE DECK REMOVAL IS TO BE REPLACED AT THE CONTRACTORS EXPENSE. THE EXISTING HARDWARE FOR THESE LOCATIONS IS TO BE REUSED. TEMPORARY SUPPORT MAY BE REQUIRED.
4. NEW CONCRETE FILLED STEEL DECK REPLACEMENT MUST BE PLACED AFTER STRINGER REPAIRS HAVE BEEN COMPLETED.

REPAIR II

BEARING LUBRICATION	
PIER	NUMBER OF BEARINGS
I-25	4
I-23	4
I-21	4
I-19	4
I-17	4
I-15	4
I-13	4
I-11	4
I-9	2
I-8	4
I-6	4
I-4	2
I-3	2
I-2	2
I-1	2
A	4
E	2
K-1	2
K-2	2
K-3	2
K-4	2
K-5	2
TOTAL	66

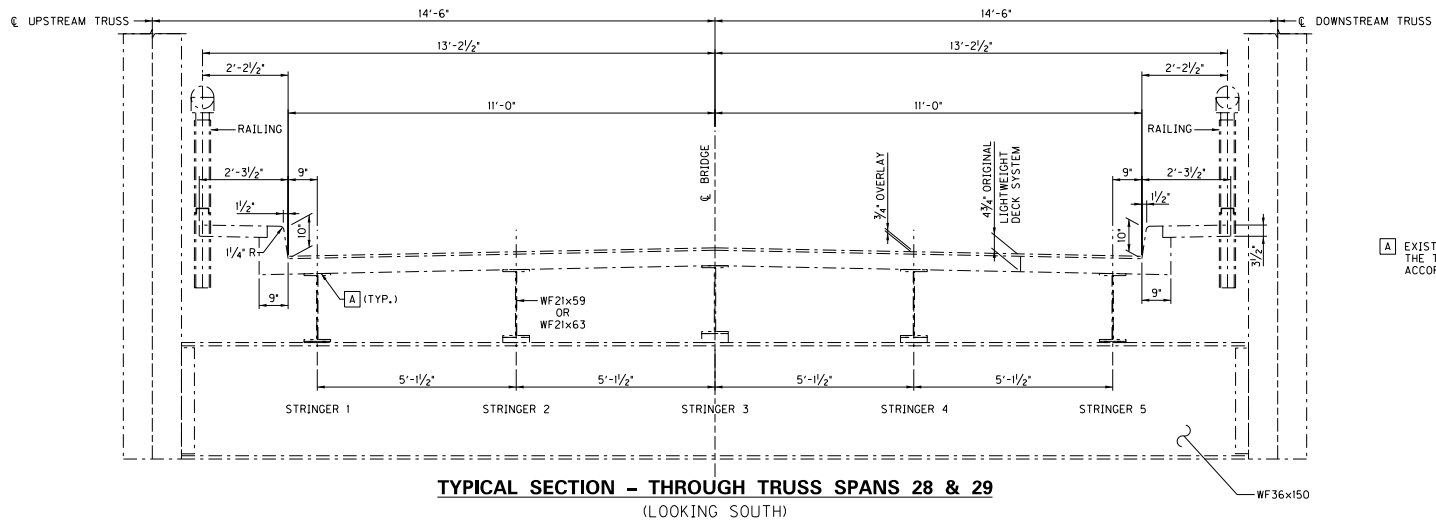
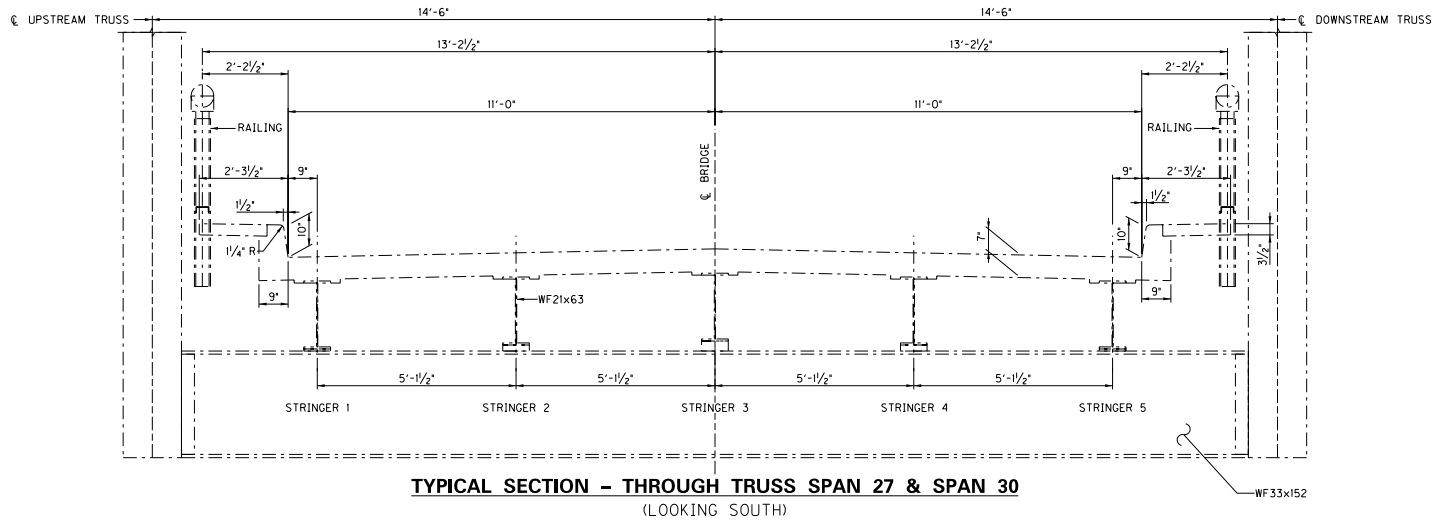
REPAIR IO

MISSING RIVET/BOLT REPLACEMENT			
SPAN	LOCATION	US/DS	NUMBER OF BOLTS
26	U3'-4\", U3-U4, U1'-FB1	DS	8
27	L0-U1	US	1
27	L5	US	1
29	U49	DS	1
33	GIRDER 2 AT FB 1	US	1



TYPICAL DECK TRUSS
(SPANS 22-26)

<p>COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS</p>	<p>PREPARED BY Palmer ENGINEERING</p>	<p>DATE: AUGUST 2023 CHECKED BY: D.E. RUST</p> <p>DESIGNED BY: J.P. MURRIN D.E. RUST</p> <p>DETAILED BY: M.B. HAGGARD D.E. RUST</p>	<p>BRIDGE ELEVATION - REPAIR LOCATIONS</p> <p>CROSSING OHIO RIVER at OWENSBORO</p>	<p>ROUTE KY 2262</p>	<p>ITEM NO. 2-10020.00</p> <p>SHEET NO. S03</p>	<p>COUNTY OF DAVIESS</p> <p>DRAWING NUMBER 28812</p>
	<p>REVISION</p>	<p>DATE</p>				
			<p>8/18/2023 2:31:15 PM</p>			



A EXISTING LIGHTWEIGHT DECK IS WELDED TO THE TOP FLANGE OF THE STRINGERS ACCORDING TO THE ORIGINAL PLANS.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

8/18/2023 2:31:17 PM

PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	D.E. RUST

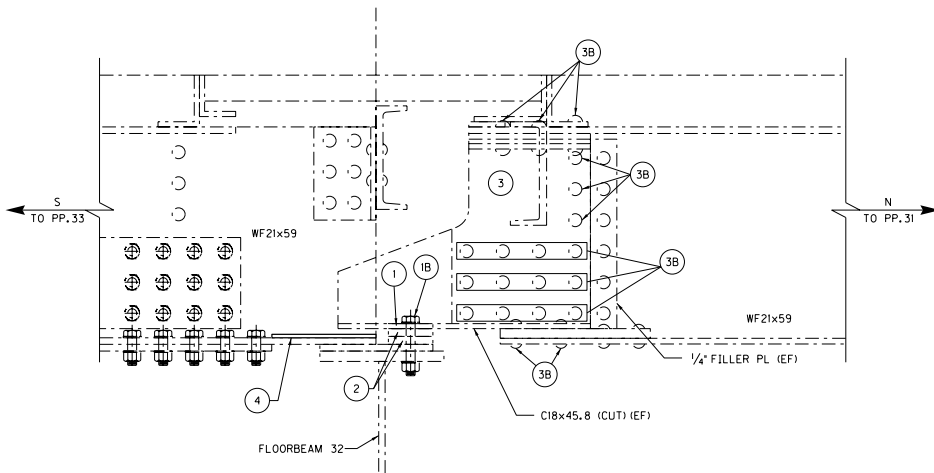
EXISTING TYPICAL SECTIONS

CROSSING
OHIO RIVER at OWENSBORO

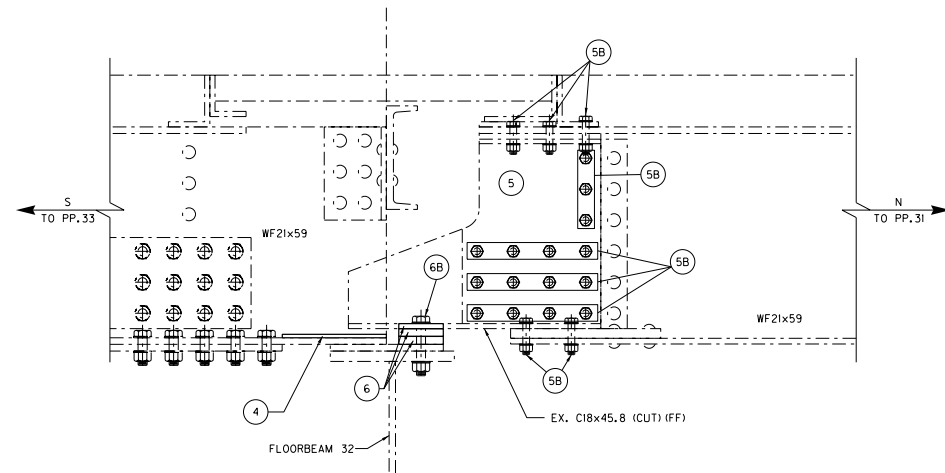
ROUTE
KY 2262

ITEM NO.	2-10020.00
SHEET NO.	S04

COUNTY OF	DAVIESS
DRAWING NUMBER	28812



STRINGER 1 EXISTING STRINGER END REPAIR PREPARATION - PP32-PP33

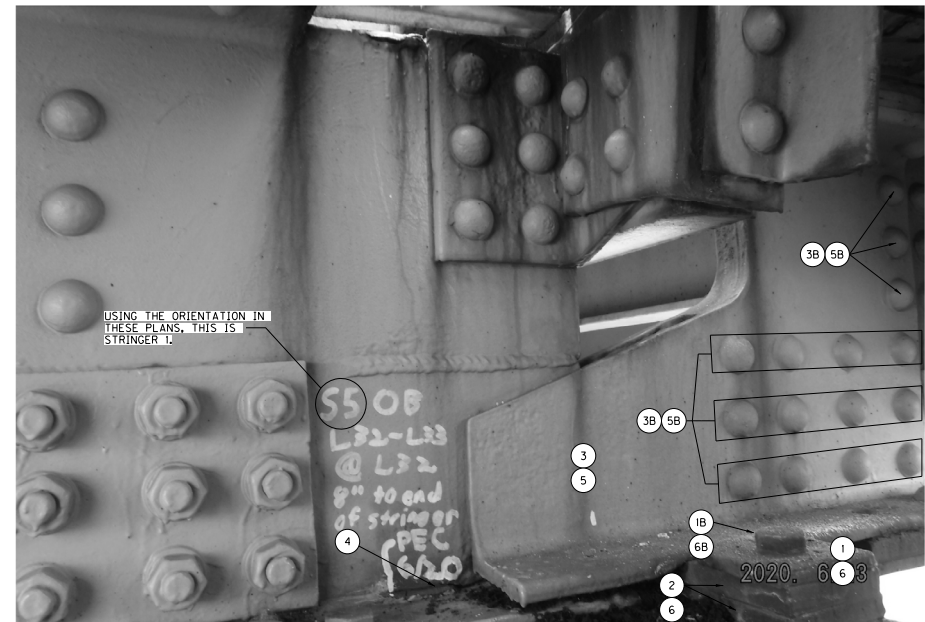


STRINGER 1 REPAIR - WELDED CRACK REPAIR PP32-PP33

STRINGER 1 (AT PP32) - WELDED CRACK REPAIR

- 1 REMOVE ANCHOR PLATE BY REMOVING THE STRINGER ANCHOR BOLT THROUGH THE TOP FLANGE OF FLOORBEAM 32.
 - 1B REMOVE STRINGER ANCHOR BOLT (FF ONLY).
 - 2 REMOVE OTHER BEARING PLATES (FF ONLY). NOTE: ENOUGH CLEARANCE IS NEEDED TO REMOVE THE EXISTING CUT CHANNEL (BOOT).
 - 3 REMOVE CUT CHANNEL (BOOT) (FF ONLY) BY REMOVING RIVETS.
 - 3B REMOVE RIVETS CONNECTING THE CUT CHANNEL (BOOT) TO STRINGER 1. APPROX. 20 TOTAL, (15)WEB, (2 FF)BOTTOM FLANGE, (3 FF)TOP FLANGE.
 - 4 PERFORM "WELDED CRACK REPAIR PROCEDURE" AS OUTLINED ON SHEET 2 OF THIS REPAIR, TO THE DEFECT AREA.
 - 5 RE-INSTALL EXISTING CUT CHANNEL (BOOT).
 - 5B REPLACE RIVETS WITH EQUIVALENT DIAMETER HIGH STRENGTH BOLTS, TENSIONED PER THE STANDARD SPECIFICATIONS.
 - 6 RE-INSTALL OR REPLACE BEARING PLATES.
 - 6B RE-INSTALL NEW ANCHOR BOLTS.
- SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".
SEE "SPECIAL NOTE FOR STEEL REPAIRS".

- NOTES:
- 1. DECK WILL NEED TO BE REMOVED BEFORE REPAIRS TO STRINGER 1 BEGIN.
 - 2. CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY MEMBERS TO REMAIN. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
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ENGINEERING

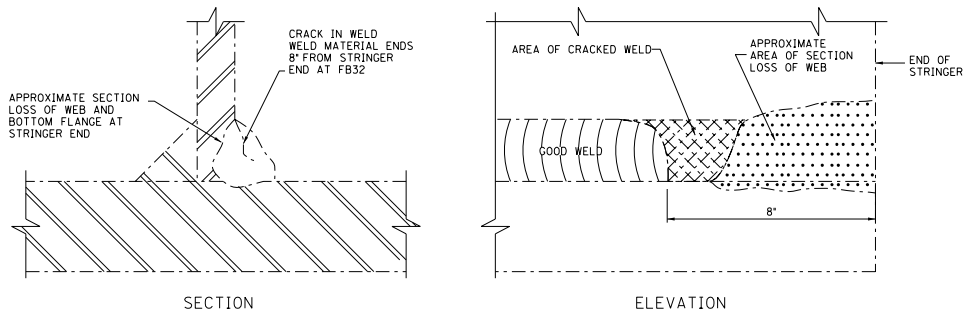
DATE:	AUGUST 2023	CHECKED BY:	D.E. RUST
DESIGNED BY:	J.P. MURRIN		
DETAILED BY:	J.A. ROSE		J.P. MURRIN

REPAIR 1A - PP32 STRINGER 1 REPAIR - SHEET 1
CROSSING
OHIO RIVER at OWENSBORO

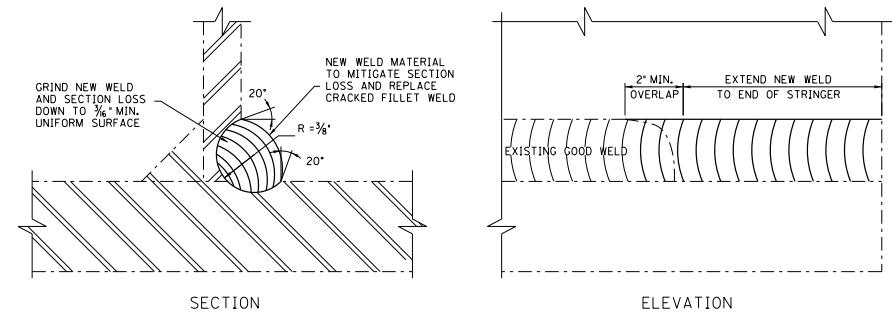
ROUTE
KY 2262

ITEM NO.
2-10020.00
SHEET NO.
S05

COUNTY OF
DAVIESS
DRAWING NUMBER
28812



STRINGER 1 DEFECT (PP32)



STRINGER 1 WELD REPAIR (PP32)

WELDED CRACK REPAIR PROCEDURE

1. CLEAN SURFACE OF STEEL AND GRIND SMOOTH WITH ROTARY BURR.
 2. PREHEAT THE WEB AND BOTTOM FLANGE TO 350°.
 3. GOUGE OUT A GROOVE (USING AIR CARBON ARC GOUGING) HAVING A MINIMUM GROOVE ANGLE OF 20° AND A MINIMUM ROOT RADIUS OF 3/8\".
 4. GRIND SURFACE OF GROOVE SMOOTH WITH ROTARY BURR.
 5. CHECK THAT THE SIDES OF THE GROOVE ARE FREE FROM DEFECTS BY MAGNETIC PARTICLE TESTING.
 6. WELD GROOVE WITH E7018 ELECTRODES. CHECK EACH PASS VISUALLY FOR FREEDOM FROM CRACKS OR OTHER DEFECTS. OBTAIN NEW FILLET WELD THICKNESS TO MINIMUM OF 3/8\".
 7. INCREASE TEMPERATURE IN THE REGION OF REPAIR WELDS TO 400°F AND MAINTAIN THIS TEMPERATURE FOR A MINIMUM OF 2 HOURS.
 8. REMOVE ALL EQUIPMENT AND INSPECT WELDS BY MAGNETIC PARTICLE TESTING OR DYE PENETRANT METHOD ONCE COOLED.
 9. CARRY OUT FINAL INSPECTION BY COMPLETE ULTRASONIC OR RADIOGRAPHY TESTING.
- SEE *SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS*.
SEE *SPECIAL NOTE FOR STEEL REPAIRS*.



2020. 6. 23



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:	D.E. RUST
DESIGNED BY:	J.P. MURRIN		
DETAILED BY:	J.A. ROSE		J.P. MURRIN

REPAIR 1A - PP32 STRINGER 1 REPAIR - SHEET 2
CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO.
2-10020.00
SHEET NO.
S06

COUNTY OF
DAVISS
DRAWING NUMBER
28812

**PREPARATION – DISASSEMBLY OF EXPANSION JOINT
AND STRINGER ENDS AT PP44 (SEE SHEET 2 OF THIS REPAIR)**

- 1 REMOVE CONCRETE LIGHTWEIGHT DECK TO ALLOW ADEQUATE ACCESS TO STRINGER ENDS BELOW.
- 2 DISPLACE JOINT SUPPORT CHANNELS BY REMOVING RIVETS ON CONNECTION ANGLES 3A AND 3C.
- 2B REMOVE RIVETS ATTACHING FINGER JOINT CHANNELS TO CONNECTION ANGLES 3A AND 3C. 8 RIVETS EACH FACE OF STRINGER.
- 2C REMOVE RIVETS THROUGH TOP FLANGE OF THE STRINGERS THAT IMPEDE CHANNEL SLIDING. 5 RIVETS EACH FACE OF STRINGER.
- 2D REMOVE FILL PLATES BETWEEN BOOT (CUT CHANNEL) TOP FLANGE AND JOINT CHANNELS, 1 EACH FACE OF STRINGER.
- 3 REMOVE CONNECTION ANGLES 3A AND 3C BY REMOVING RIVETS THROUGH THE STRINGER WEBS. 2 ANGLES EACH FACE OF STRINGER.
- 3B REMOVE RIVETS ATTACHING ANGLES 3A AND 3C TO THE STRINGER WEBS, 6 RIVETS TOTAL.
STEPS 1 THROUGH 3B SHOULD BE DONE TO ALL 5 STRINGER ENDS. THE FINGER PLATES SHOULD BE DISCONNECTED AND FREE TO SLIDE TO THE NORTH AND SOUTH ON TOP OF THE STRINGERS.
- 4 SLIDE SOUTH FINGER PLATE, WITH SUPPORT CHANNELS, ALONG EXISTING STRINGERS TO THE SOUTH IN ORDER TO ACHIEVE ENOUGH CLEARANCE TO REMOVE THE MIDDLE CHANNEL.
- 5 SLIDE NORTH FINGER PLATE, WITH SUPPORT CHANNELS, ALONG EXISTING STRINGERS TO THE NORTH IN ORDER TO ACHIEVE ENOUGH CLEARANCE TO REMOVE THE MIDDLE CHANNEL.
- 6 REMOVE MIDDLE CHANNEL BY REMOVING RIVETS ON CONNECTION ANGLE 6B.
- 6B REMOVE RIVETS ATTACHING ANGLE 6B TO THE CHANNEL WEB (8 TOTAL). COMPLETE AT ALL 5 STRINGER ENDS AND THEN PULL OUT MIDDLE CHANNEL.
- 6C REMOVE RIVETS ATTACHING ANGLE 6B TO THE STRINGER WEBS (6 TOTAL) AND REMOVE ANGLE 6B.
- 7 SLIDE NORTH FINGER JOINT TO THE SOUTH SIDE OF THE FLOORBEAM TO ALLOW ENOUGH CLEARANCE FOR THE STRINGER END REPLACEMENTS TO THE NORTH AND BOOT REPLACEMENTS TO THE SOUTH.
- 8 REMOVE DETERIORATED BOOTS (CUT CHANNELS) BY REMOVING RIVETS THROUGH WEB AND BOTTOM FLANGE OF STRINGER.
- 8B REMOVE RIVETS THROUGH WEB AND BOTTOM FLANGE, (16 RIVETS TOTAL).
- 9 REMOVE CRACKED STRINGER SECTION BY REMOVING BOLTS THROUGH FLOORBEAM AND CUT OUT DAMAGED SECTION OF STRINGER.
- 9B REMOVE BOLTS HOLDING STRINGER TO FLOORBEAM. BEARING ASSEMBLY AND RIVETS MAY NEED TO BE REMOVED FOR CLEANING AND EASIER PLACEMENT OF NEW STRINGER.
- 9C MECHANICALLY CUT OR USE A PLASMA TORCH TO REMOVE THE STRINGER, TO THE EXTENT SHOWN ON SHEET 4 OF THIS REPAIR. GRIND EDGE SMOOTH TO THE SATISFACTION OF THE ENGINEER. USE OF OXY-ACETYLENE TORCHES WILL NOT BE PERMITTED.

**REPAIR – STRINGER ENDS AND EXPANSION JOINT RE-ASSEMBLY
(SEE SHEETS 3 AND 4 OF THIS REPAIR)**

- A REPLACE CUT OUT SECTION OF STRINGER WITH NEW ROLLED SHAPE (W21x59).
- A1 BOLT NEW SHAPE TO FLOORBEAM 44 WITH NEW HIGH STRENGTH BOLTS AND TIGHTEN PER THE STANDARD SPECIFICATIONS.
- A2 INSTALL NEW SPLICE PLATES TO CONNECT THE NEW SHAPE TO THE EXISTING WF21x59. SEE SHEET 4 OF THIS REPAIR FOR SPLICE PLATE DIMENSIONS AND DETAILS.
- B INSTALL NEW MC18x45, 8 BOOTS (CUT CHANNELS) WITH NEW HIGH STRENGTH BOLTS (1 BOOT EF OF STRINGER). SEE SHEET 4 OF THIS REPAIR FOR NEW BOOT (CUT CHANNELS) DIMENSIONS AND DETAILS.
- B1 INSTALL NEW HIGH STRENGTH BOLTS THROUGH THE WEB AND BOTTOM FLANGE AND TIGHTEN PER THE STANDARD SPECIFICATIONS (16 BOLTS TOTAL).
- C SLIDE NORTH FINGER PLATE WITH SUPPORT CHANNELS BACK TO THE NORTH SIDE OF FLOORBEAM 44. ALLOW FOR ENOUGH CLEARANCE TO RE-INSTALL THE MIDDLE CHANNEL.
- D RE-INSTALL THE MIDDLE CHANNEL AND ANGLE 6B.
- D1 INSTALL NEW HIGH STRENGTH BOLTS CONNECTING ANGLE 6B TO THE NEW STRINGER WEB AND TIGHTEN PER THE STANDARD SPECIFICATIONS. (6 BOLTS TOTAL).
- D2 INSTALL NEW HIGH STRENGTH BOLTS CONNECTING THE MIDDLE CHANNEL WEB TO ANGLE 6B AND TIGHTEN PER THE STANDARD SPECIFICATIONS (8 BOLTS TOTAL).
- E SLIDE NORTH FINGER PLATE WITH SUPPORT CHANNELS BACK INTO POSITION TO FASTEN OVER NEW STRINGER ON THE NORTH SIDE OF FLOORBEAM 44.
- F INSTALL NEW HIGH STRENGTH BOLTS TO ATTACH THE JOINT TO THE TOP FLANGE OF THE STRINGER AND TIGHTEN PER THE STANDARD SPECIFICATIONS (2 BOLTS EF OF STRINGER).
- G RE-INSTALL ANGLE 3A.
- G1 INSTALL NEW HIGH STRENGTH BOLTS THROUGH THE STRINGER AND CHANNEL WEBS AND TIGHTEN PER THE STANDARD SPECIFICATIONS (11 BOLTS TOTAL).
- H SLIDE SOUTH FINGER PLATE WITH SUPPORT CHANNELS BACK INTO POSITION TO FASTEN OVER NEW BOOT (CUT CHANNEL) ON THE SOUTH SIDE OF FLOORBEAM 44.
- H1 INSTALL NEW HIGH STRENGTH BOLTS TO ATTACH THE JOINT TO THE TOP FLANGE OF THE NEW BOOT (CUT CHANNEL) AND TIGHTEN TO THE STANDARD SPECIFICATIONS (3 BOLTS EF OF STRINGER).
- I RE-INSTALL ANGLE 3C.
- I1 INSTALL NEW HIGH STRENGTH BOLTS THROUGH THE STRINGER AND CHANNEL WEBS AND TIGHTEN PER THE STANDARD SPECIFICATIONS (11 BOLTS TOTAL).
- J SEE SHEET S13 FOR LIGHTWEIGHT DECK REPLACEMENT TO BE COMPLETED AFTER REPAIRS TO THE SUPERSTRUCTURE ARE FINAL.

NOTES:

- 1. SOME STEPS SHOWN IN MULTIPLE VIEWS FOR CLARITY.
- 2. THE TOTAL NUMBER OF RIVETS OR BOLTS SHOWN IS THE TOTAL AT EACH INDIVIDUAL INTERIOR STRINGER LOCATION. EXTERIOR STRINGERS VARY.
- 3. TEMPORARY SHORING IS REQUIRED ON BOTH SIDES OF FB44 IN ORDER TO COMPLETE REPAIRS.
- 4. CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY MEMBERS TO REMAIN. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 5. 10 TOTAL STRINGER REPAIRS AT THIS LOCATION (PP4).

SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".

SEE "SPECIAL NOTE FOR STEEL REPAIRS".



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE



DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	J.A. ROSE	J.P. MURRIN

REPAIR 1B - STRINGER REPAIRS PP44 - SHEET 1

CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO. 2-10020.00
SHEET NO. S07

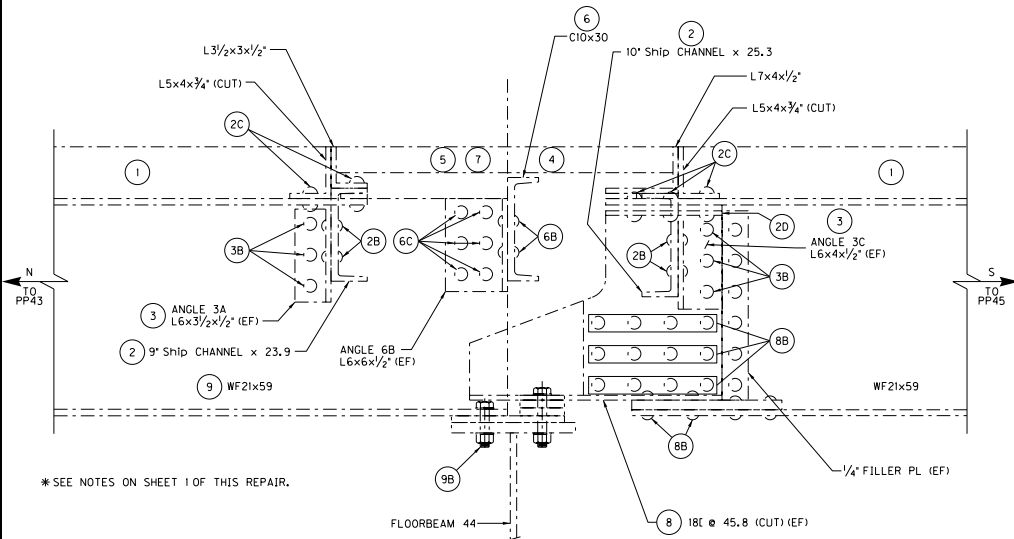
COUNTY OF DAVISS
DRAWING NUMBER 28812



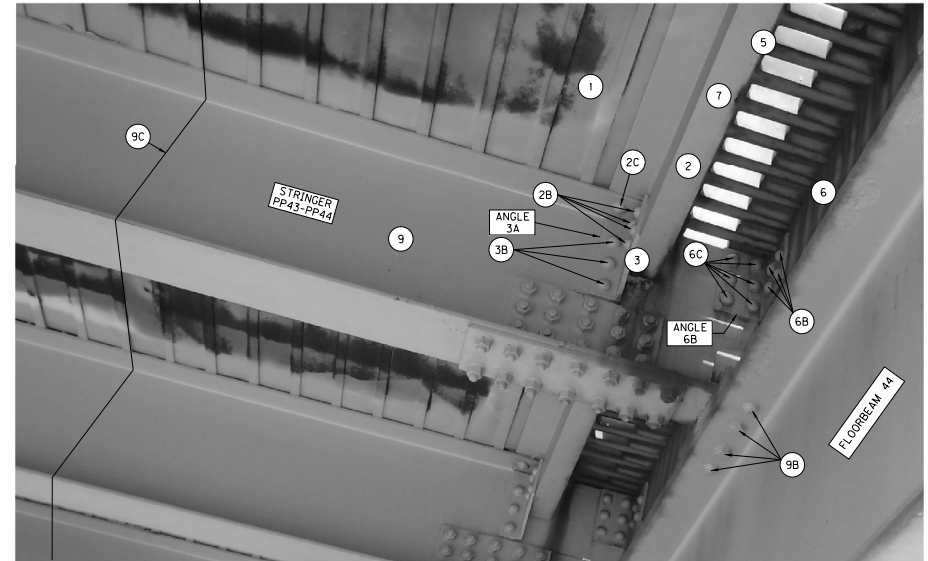
VIEW LOOKING EAST FROM THE SOUTH FACE OF FLOORBEAM 44



VIEW LOOKING WEST FROM THE CENTERLINE OF PP44

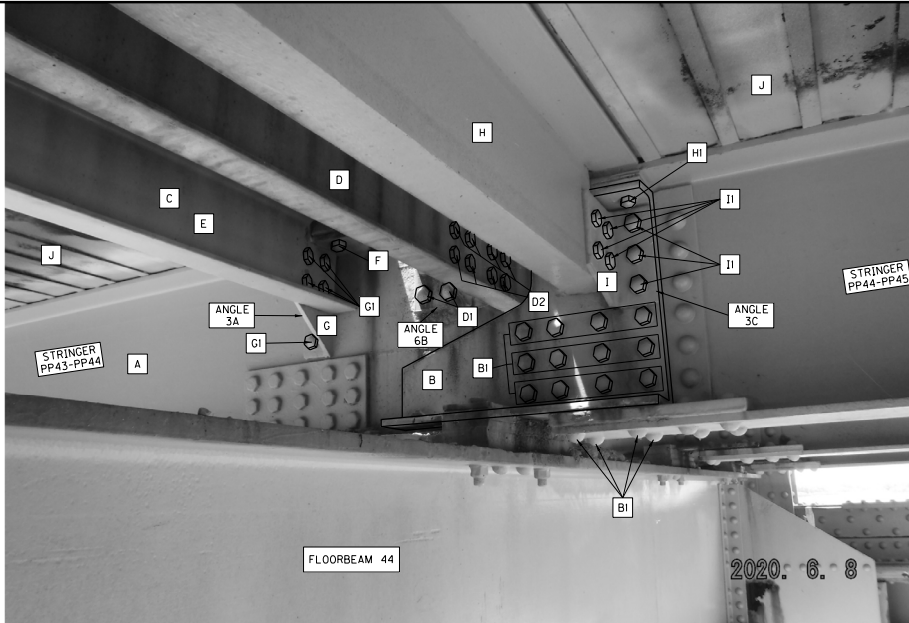


EXISTING STRINGER ENDS & EXPANSION JOINT AT PP44



VIEW LOOKING EAST FROM THE NORTH FACE OF FLOORBEAM 44

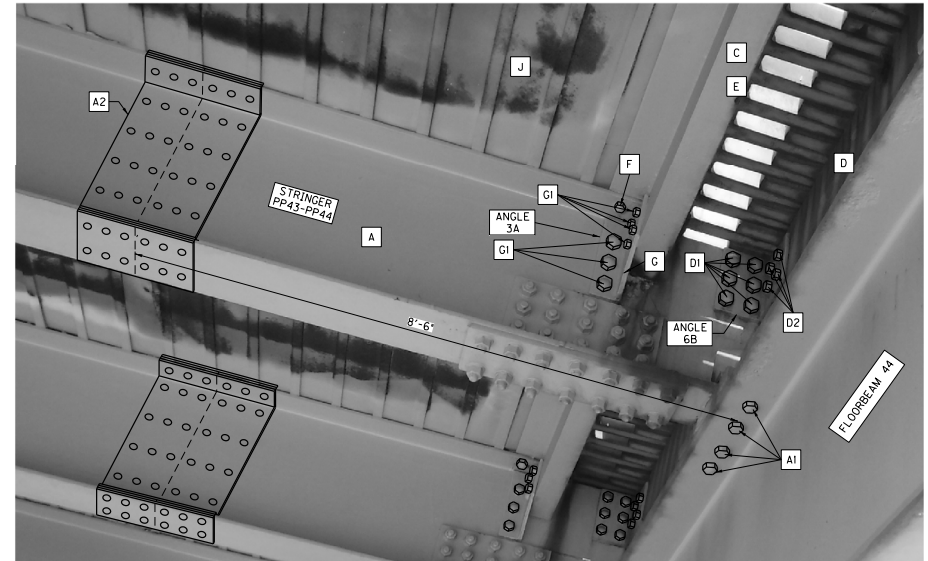
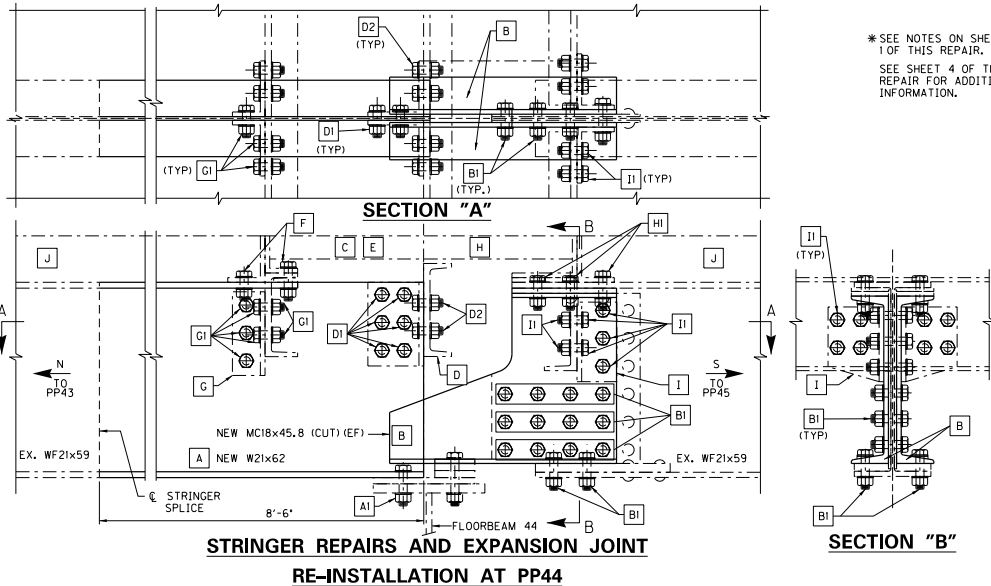
	REVISION	DATE		DATE:	AUGUST 2023	CHECKED BY:	D.E. RUST	REPAIR 1B - STRINGER REPAIRS PP44 - SHEET 2	ROUTE	KY 2262	ITEM NO.:	2-10020.00	COUNTY OF	DAVIESS	
				DESIGNED BY:	J.P. MURRIN	DETAILED BY:	J.A. ROSE		J.P. MURRIN	CROSSING	OHIO RIVER at OWENSBORO	SHEET NO.:	S08	DRAWING NUMBER	28812



VIEW LOOKING EAST FROM THE SOUTH FACE OF FLOORBEAM 44



VIEW LOOKING WEST FROM THE CENTERLINE OF PP44



VIEW LOOKING EAST FROM THE NORTH FACE OF FLOORBEAM 44



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:	D.E. RUST
DESIGNED BY:	J.P. MURRIN	DETAILED BY:	J.P. MURRIN

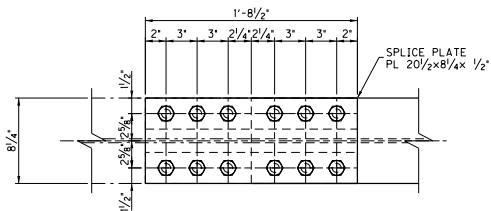
REPAIR 1B - STRINGER REPAIRS PP44 - SHEET 3

CROSSING
OHIO RIVER at OWENSBORO

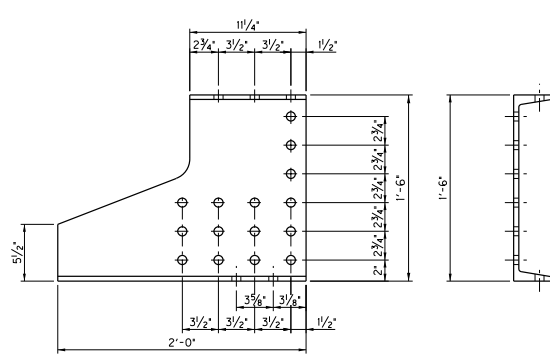
ROUTE
KY 2262

ITEM NO.
2-10020.00
SHEET NO.
S09

COUNTY OF
DAVIES
DRAWING NUMBER
28812



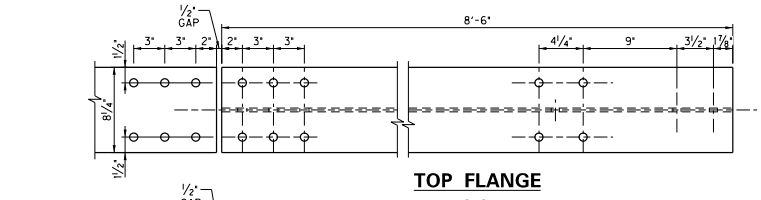
TOP AND BOTTOM FLANGE



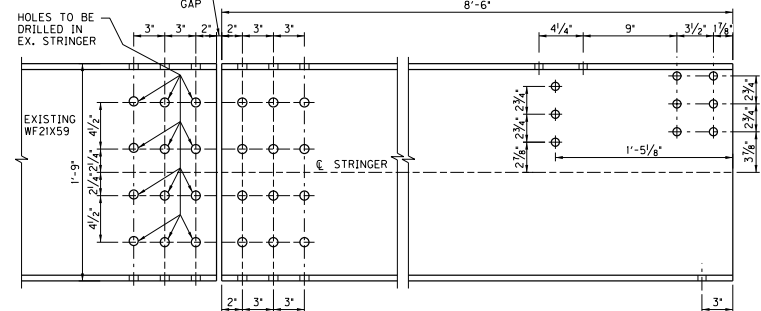
B NEW BOOT (CUT CHANNEL MC18x45.8)

5 TOTAL BOOTS NEEDED EACH ORIENTATION. ALL DIMENSIONS AND HOLE LOCATIONS TO DUPLICATE EXISTING RIVET LOCATIONS SHALL BE FIELD VERIFIED

NOTE: FRONT FACE IS SHOWN LOOKING EAST, BACK FACE IS MIRRORED.

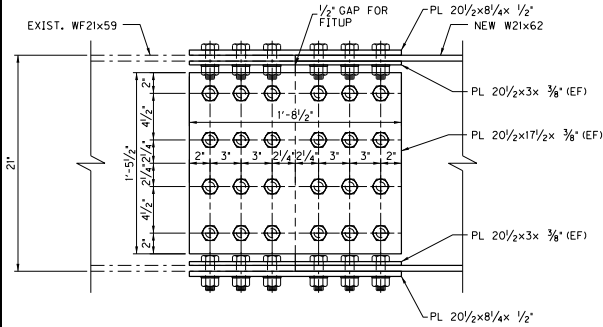


TOP FLANGE

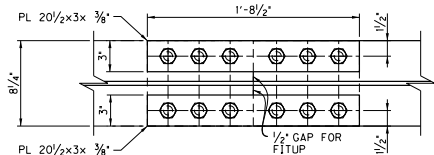


A NEW STRINGER W21x62 - ELEVATION

LOCATION OF HOLES THROUGH THE NEW STEEL THAT ARE TO DUPLICATE EXISTING RIVET LOCATIONS SHALL BE FIELD VERIFIED BEFORE DRILLING.



WEB SPLICE PLATE ELEVATION

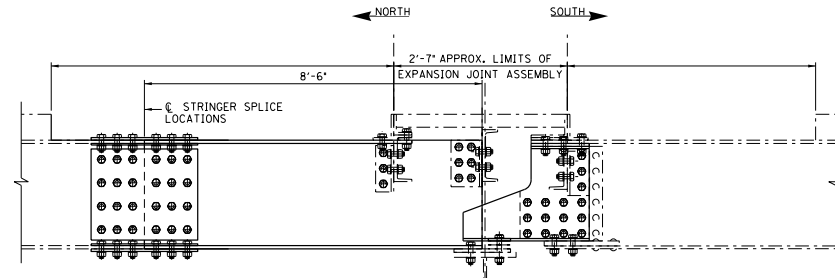


INTERIOR FLANGE SPLICE PLATE

A2 STRINGER REPAIR SPLICE PLATES DETAILS

ALL HOLES IN OLD AND NEW STRUCTURAL STEEL SHALL BE DRILLED ACCORDING TO STANDARD SPECIFICATIONS.

* SEE NOTES ON SHEET 1 OF THIS REPAIR.



REPAIR LIMITS

	REVISION	DATE	PREPARED BY	DATE	AUGUST 2023	CHECKED BY	J.P. MURRIN	D.E. RUST	REPAIR 1B - STRINGER REPAIRS PP44 - SHEET 4 CROSSING OHIO RIVER at OWENSBORO	ROUTE	ITEM NO.	COUNTY OF
				DESIGNED BY	J.P. MURRIN					KY 2262 2-10020.00 SHEET NO. S10	DAVIESS	
				DETAILED BY	J.A. ROSE	J.P. MURRIN				DRAWING NUMBER	28812	

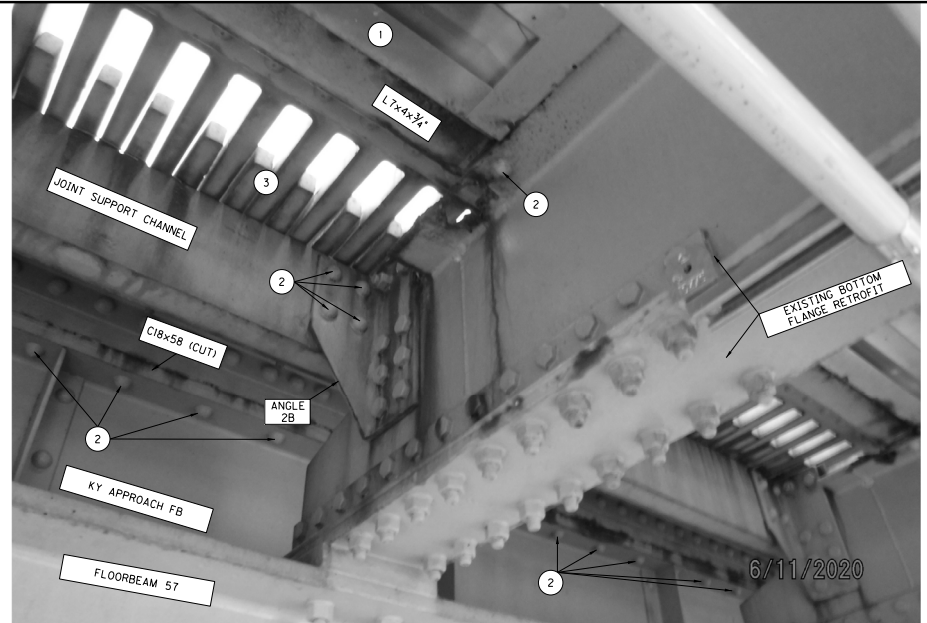
EXPANSION JOINT TEMPORARY REMOVAL AND STRINGER PREPARATION

- ① REMOVE CONCRETE TO THE EXTENT OF THE BLOCKOUTS SHOWN ON THIS SHEET. EDGES OF CONCRETE SHALL BE NEAT AND SQUARE. STEEL EXTENDING INTO BLOCKOUT SHALL REMAIN AND BE CLEANED FREE OF DEBRIS AND RUST.
- ② DISPLACE JOINT SUPPORT CHANNELS AND CONNECTION ANGLES BY REMOVING RIVETS ON CONNECTION ANGLE 2B (4 RIVETS EF STRINGER), THE EXISTING L7x4x3/4" (1 RIVET EF STRINGER), AND C18x58(CUT) (RIVETS SPACED ~9" ENTIRE LENGTH OF THE KY APPROACH FLOORBEAM).
- ③ REMOVE EXISTING EXPANSION JOINT ASSEMBLY.
- ③B REMOVE 1/2x3/8" PLATES WITH 2" HOOK, FROM THE C18x58(CUT) AND L7x4x3/4". GRIND LEGS OF ANGLES SMOOTH.

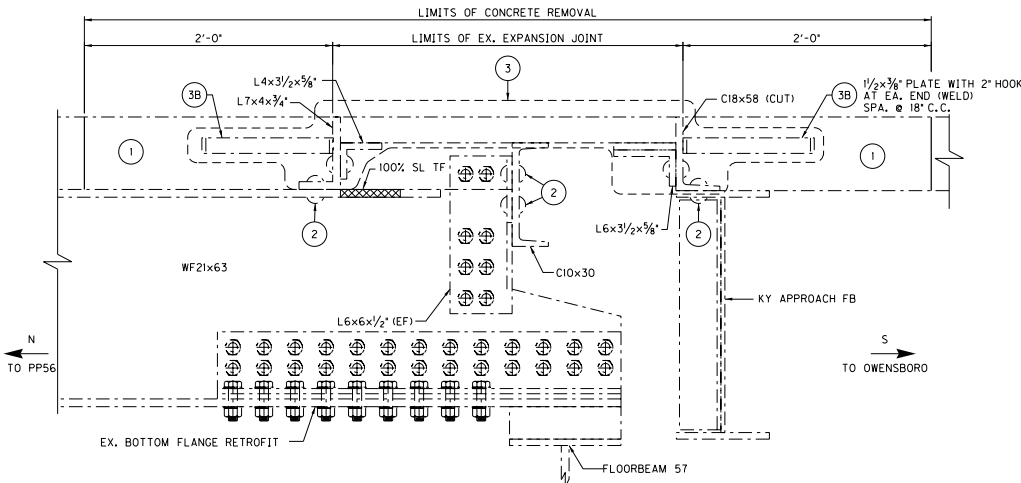
NOTE:

- 1. THE TOTAL NUMBER OF RIVETS OR BOLTS SHOWN IS THE TOTAL AT EACH INDIVIDUAL INTERIOR STRINGER LOCATION.
- 2. CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE EXISTING JOINTS, DECK REINFORCEMENT, OR ANY STEEL MEMBERS TO REMAIN IN PLACE. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 3. CLEAN RUST AT STRINGER ENDS WITHIN THE LIMITS OF THE REPAIR.
- 4. 5 TOTAL STRINGER REPAIRS AT THIS LOCATION (PP57).

SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".
SEE "SPECIAL NOTE FOR STEEL REPAIRS".



LOOKING SOUTHWEST FROM THE NORTH FACE OF FLOORBEAM 57



EXISTING SECTION FOR EXPANSION JOINT AND STRINGER ENDS AT PP57 - PIER E



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:	D.E. RUST
DESIGNED BY:	J.P. MURRIN		
DETAILED BY:	J.A. ROSE		J.P. MURRIN

**REPAIR 2 STRINGERS AND EXPANSION JOINT
AT PP57 - PIER E - SHEET 1**

CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

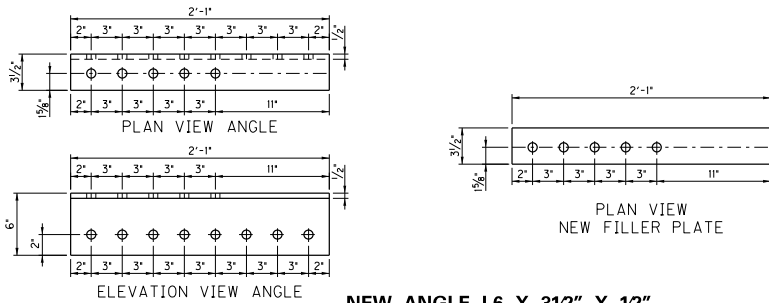
ITEM NO.
2-10020.00
SHEET NO.
S11

COUNTY OF
DAVIESS
DRAWING NUMBER
28812

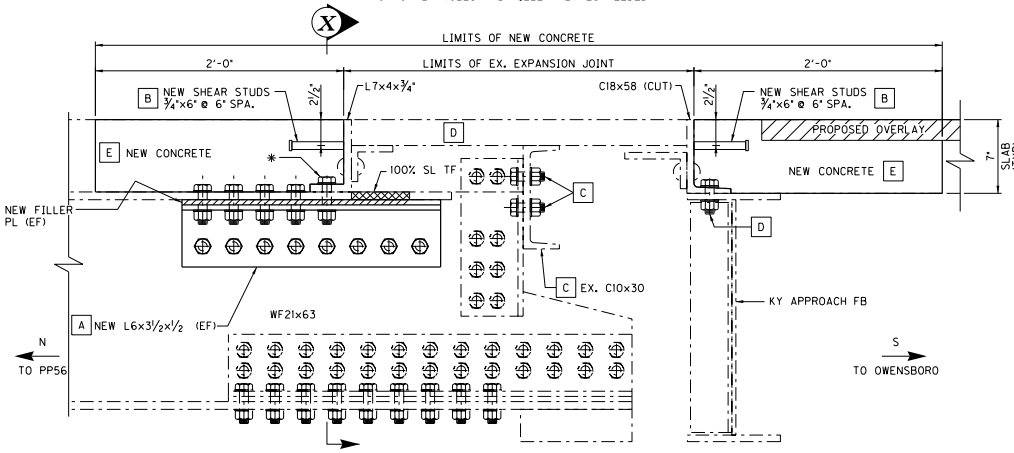
STRINGER RETROFIT AND EXPANSION JOINT RE-INSTALLATION

- A** AFTER THE END OF THE STRINGER HAS BEEN CLEANED AND IS FREE OF LAITANCE, INSTALL NEW L6x3/2x1/2" WITH 1/2" FILLER PLATE. REPLACE PREVIOUS RIVETS WITH EQUIVALENT DIAMETER HIGH STRENGTH BOLTS TENSIONED PER THE STANDARD SPECIFICATIONS.
- * DO NOT INSTALL THESE BOLTS UNTIL AFTER THE FINGER JOINT HAS BEEN POSITIONED BACK INTO PLACE.**
- B** WELD NEW 3/4"x6" SHEAR CONNECTOR STUDS TO EXISTING C18x58 (CUT) AND EXISTING L7x4x3/4". WELDING SHALL BE COMPLETED IN ACCORDANCE WITH AWS SPECIFICATIONS. SHEAR STUDS SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR FINGER DAM REPAIR.
- C** RE-ATTACH JOINT SUPPORT CHANNEL (EX. C10x30) TO ANGLE 2B WITH NEW HIGH STRENGTH BOLTS AND TIGHTEN PER STANDARD SPECIFICATIONS. (4 BOLTS EF OF STRINGER)
- D** RE-INSTALL EXPANSION JOINT ASSEMBLY, INSTALL NEW HIGH STRENGTH BOLTS AND TIGHTEN PER STANDARD SPECIFICATIONS.
- E** POUR NEW CLASS "M" CONCRETE TO THE EXTENT SHOWN AND MATCH EXISTING GRADE.
- E1** FURNISH FOR REPLACEMENT, AS DIRECTED BY THE ENGINEER, 520 LINEAR FEET OF #4 STAINLESS STEEL REINFORCING BARS IN 26' LENGTHS FOR THIS FINGER JOINT LOCATION. PLACE THESE BARS IN AREAS DEEMED BY THE ENGINEER TO REQUIRE ADDITIONAL REINFORCEMENT. FIELD CUTTING AND BENDING IS PERMITTED. DO NOT PLACE ANY ADDITIONAL STEEL ABOVE THE HEIGHT OR THE TOP ROW OF STUDS.

* SEE NOTES ON SHEET 1 OF THIS REPAIR



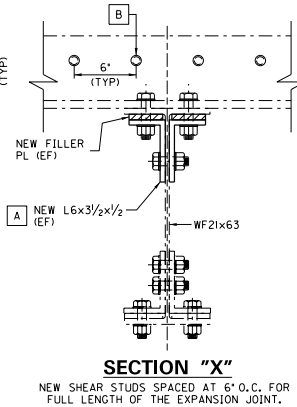
NEW ANGLE L6 X 3/2" X 12"
RETROFITS AND FILLER PLATE
 TO TOTAL ANGLES AND FILLER PLATES NEEDED



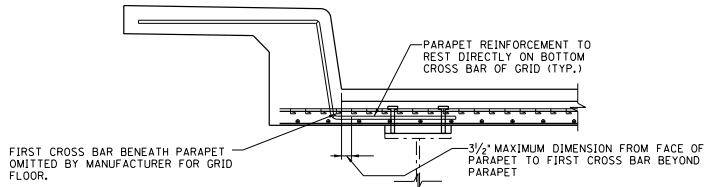
STRINGER RETROFIT AND EXPANSION JOINT
RE-INSTALLATION AT PP57 (PIER E)



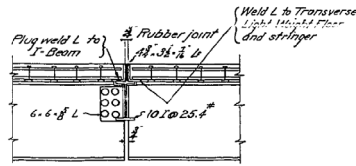
LOOKING SOUTHWEST FROM THE NORTH FACE OF FLOORBEAM 57



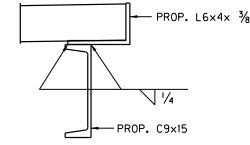
SECTION "X"
 NEW SHEAR STUDS SPACED AT 6' O.C. FOR FULL LENGTH OF THE EXPANSION JOINT.



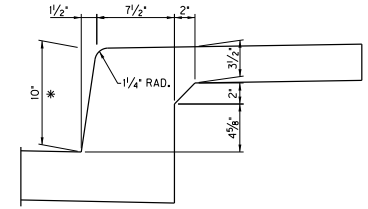
TYPICAL CONCRETE CURB / SIDEWALK DETAIL



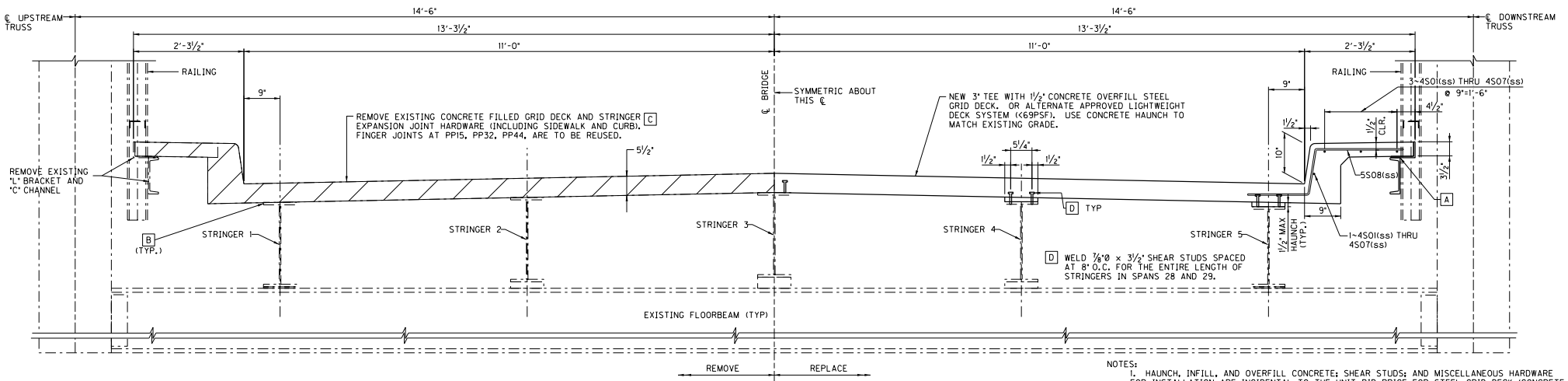
STRINGER EXPANSION JOINT
(Light Weight Floor)



WELD DETAIL



CURB DETAIL
* ADJUST AS NEEDED TO MATCH EXISTING GRADE



NOTES:
1. HAUNCH, INFILL, AND OVERFILL CONCRETE; SHEAR STUDS; AND MISCELLANEOUS HARDWARE FOR INSTALLATION ARE INCIDENTAL TO THE UNIT BID PRICE FOR STEEL GRID DECK (CONCRETE FILLED).

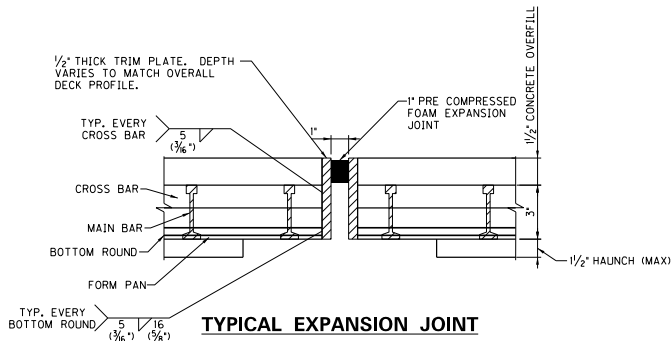
2. REUSE EXISTING DRAINS. CONTRACTOR IS TO FORM AROUND EXISTING DECK DRAINS AND REPLICATE EXISTING DRAWDOWN TO THE DRAIN IN THE PROPOSED SLAB. THIS WORK IS INCIDENTAL TO THE UNIT BID PRICE FOR STEEL GRID DECK (CONCRETE FILLED).

A PROPOSED C9x15 CURB FASCIA STRINGER AND L6x4x 3/8 ANGLE ON UPSTREAM AND DOWNSTREAM CURB AND SIDEWALK.

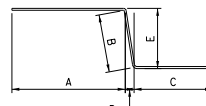
B EXISTING LIGHTWEIGHT DECK IS WELDED TO THE TOP FLANGE OF THE STRINGERS ACCORDING TO THE ORIGINAL PLANS. COMPLETELY REMOVE EXISTING WELDS AS PART OF GRID DECK REMOVAL.

C EXISTING STRINGER EXPANSION JOINT DETAILS TAKEN DIRECTLY FROM THE ORIGINAL PLANS

CONCRETE FILLED STEEL GRID DECK REPLACEMENT
MAIN TRUSS SPANS 28 & 29
(LOOKING SOUTH)



TYPICAL EXPANSION JOINT



TYPE 21

2'-6" MINIMUM SPLICE LENGTH FOR NO. 4 BARS

BILL OF REINFORCEMENT - CURB / SIDEWALK

MARK	TYPE	NUMBER	SIZE	LENGTH	LOCATION	A	B	C	D	E	
450I(ss)	STR	16	4	38'-11/2"	BAY 1						
4502(ss)	STR	48	4	56'-8"	BAYS 2, 4, & 5						
4503(ss)	STR	24	4	50'-0 7/8"	BAY 3						
4504(ss)	STR	24	4	48'-2 1/2"	BAY 6						
4505(ss)	STR	32	4	52'-4"	BAYS 7, & 11						
4506(ss)	STR	72	4	46'-3 1/2"	BAYS 8, 9, & 10						
4507(ss)	STR	16	4	35'-3"	BAY 12						
550B(ss)		21	2764	5	4'-1"	TOP OF SLAB/SIDEWALK	1'-10"	0'-11 3/4"	1'-3"	0'-2"	0'-11 3/8"



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE



DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	J.A. ROSE	J.P. MURRIN

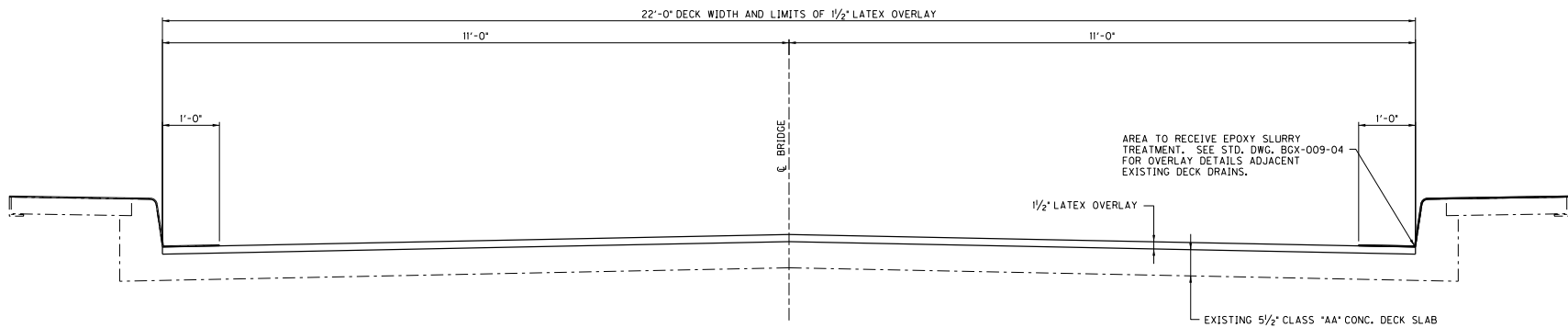
REPAIR 3 - CONCRETE FILLED STEEL GRID DECK REPLACEMENT

CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO.
2-10020.00
SHEET NO.
S13

COUNTY OF
DAVIESS
DRAWING NUMBER
28812



LATEX CONCRETE OVERLAY CONSTRUCTION
INDIANA APPROACH SPANS 22-26 AND KY APPROACH SPANS 31-36
(SHOWING OVERLAY LIMITS)
(SUPERSTRUCTURE NOT SHOWN FOR CLARITY)

OVERLAY NOTES

1. LIMITS OF OVERLAY REPLACEMENT ARE FROM SPAN 22-26 OF THE INDIANA APPROACH AND FROM PIER E TO END OF BRIDGE AT KENTUCKY ABUTMENT (SPANS 31-36).
2. SEE "SPECIAL NOTE FOR BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS" AND "SPECIAL NOTE FOR USE OF THE HYDRODEMOLITION METHOD" FOR ADDITIONAL INFORMATION.
3. SEE SHEET S15 FOR DETAILS OF OVERLAY PLACEMENT AT PIER I-4.
4. THE CONTRACTOR SHALL PROTECT EXISTING EXPANSION JOINTS DURING OVERLAY PLACEMENT.
5. LONGITUDINAL CONSTRUCTION JOINTS SHALL COMPLY WITH SECTION 606.03.08 OF THE SPECIFICATIONS.

NOTE: EPOXY SLURRY APPLICATION WILL NOT BEGIN UNTIL CURB / SIDEWALK PATCHING REPAIRS (SEE REPAIR 9, SHEET S25) HAVE BEEN COMPLETED.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	J.A. ROSE	J.P. MURRIN

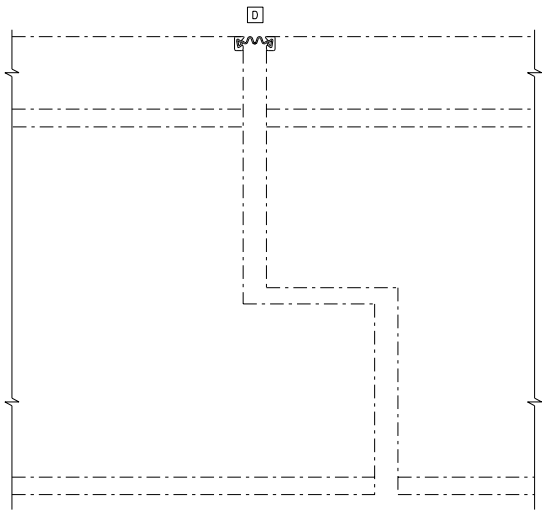
REPAIR 4 - LATEX CONCRETE DECK OVERLAY

CROSSING
OHIO RIVER at OWENSBORO

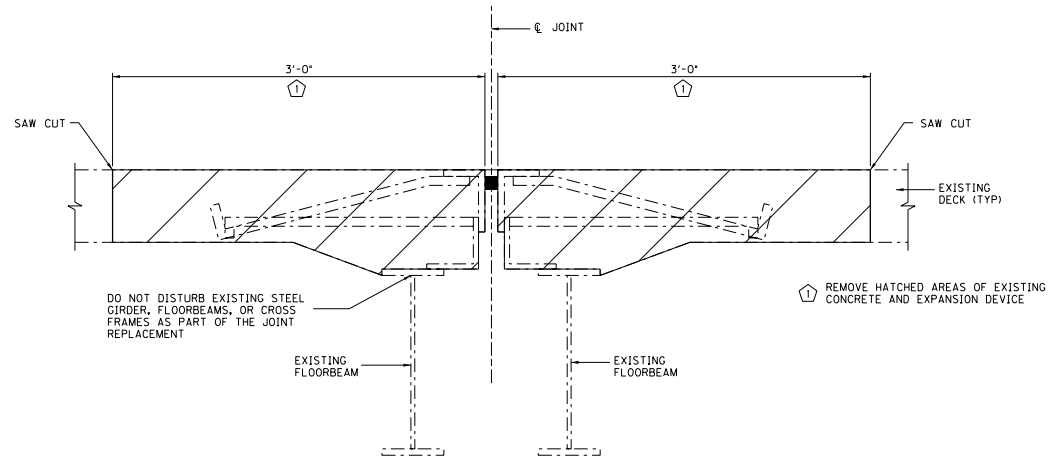
ROUTE
KY 2262

ITEM NO.	2-10020.00
SHEET NO.	S14

COUNTY OF	DAVIESS
DRAWING NUMBER	28812



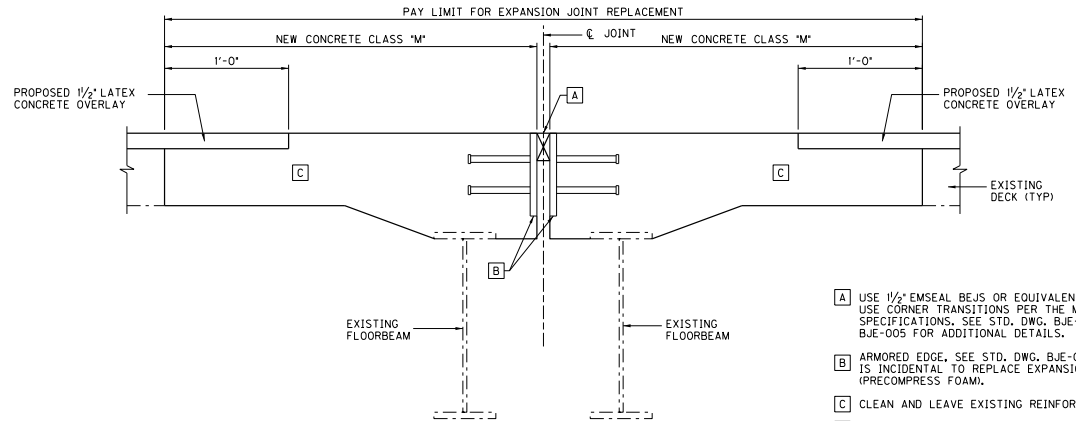
PROPOSED STRIP SEAL REPLACEMENT AT PIER K3



EXISTING SECTION AT COMPRESSION JOINT PIER I-4

**A SEAL REPLACEMENT LOCATIONS
(SEAL ONLY)**

- I-26 ABUTMENT
- PIER I-25
- PIER I-23
- PIER I-21
- PIER I-19
- PIER I-17
- PIER I-15
- PIER I-13
- PIER I-11
- PIER I-8
- PIER I-6
- PIER I-3
- PIER I-2
- PIER I-1
- PANEL POINT 4
- PANEL POINT 8
- PANEL POINT 51
- PANEL POINT 54
- PIER K3
- SOUTH ABUTMENT



PROPOSED SECTION AT COMPRESSION JOINT PIER I-4

- A** USE 1/2" EMSEAL BEJS OR EQUIVALENT SYSTEM. USE CORNER TRANSITIONS PER THE MANUFACTURER'S SPECIFICATIONS. SEE STD. DWG. BJE-003 AND BJE-005 FOR ADDITIONAL DETAILS.
- B** ARMORED EDGE. SEE STD. DWG. BJE-001, c.e. ARMORED EDGE IS INCIDENTAL TO REPLACE EXPANSION JOINT 1 IN (PRECOMPRESS FOAM).
- C** CLEAN AND LEAVE EXISTING REINFORCEMENT IN PLACE.
- D** USE WABO STRIP SEAL WITH SE-400 SEAL OR EQUIVALENT SYSTEM. USE CORNER TRANSITIONS PER MANUFACTURER'S SPECIFICATIONS. SEE STD. DWG. BJE-005 AND BJE-006 FOR ADDITIONAL DETAILS.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:	D.E. RUST
DESIGNED BY:	J.P. MURRIN		
DETAILED BY:	J.A. ROSE		J.P. MURRIN

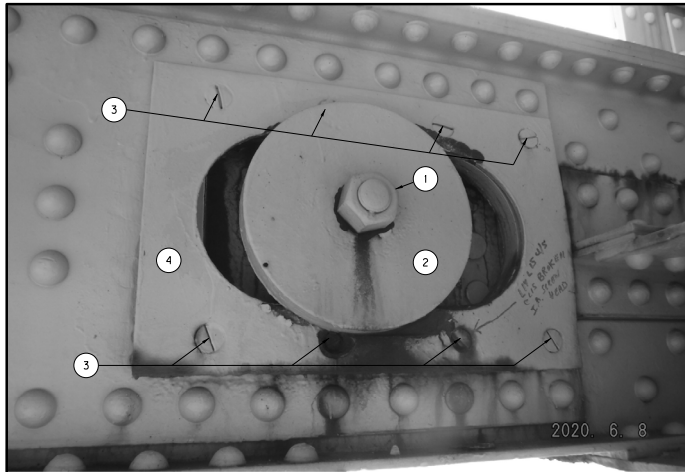
REPAIRS 5 & 6 - JOINT SEAL AND EXPANSION JOINT REPLACEMENTS

CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO.
2-10020.00
SHEET NO.
S15

COUNTY OF
DAVIESS
DRAWING NUMBER
28812



**REPAIR 7A - PIN SLIDING PLATE - DISASSEMBLY
L14-L15 (UPSTREAM, INBOARD)**

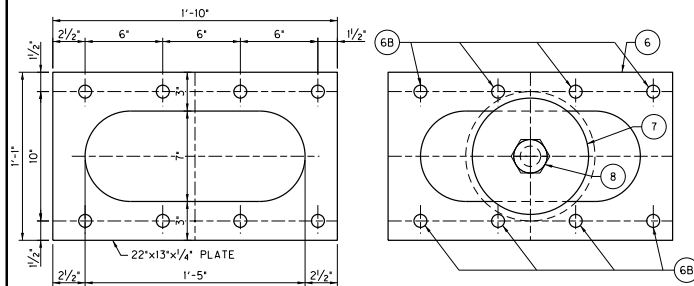
NOTE: CONTRACTOR SHOULD TAKE EXTREME CARE WHEN REMOVING THE INBOARD NUT AND WASHER SO THE PIN DOES NOT "WALK OUT" THE OUTBOARD SIDE.

- 1 REMOVE NUT FROM END OF PIN ASSEMBLY.
- 2 REMOVE WASHER FROM THE PIN.
- 3 REMOVE COUNTERSUNK RIVETS.
- 4 REMOVE DETERIORATED PLATE.
- 5 CLEAN RUST FROM AREA OF DETERIORATED PLATE.

**REPAIR 7A - PIN SLIDING PLATE REPAIR
L14-L15 (UPSTREAM, INBOARD)
1 STEEL REPAIR LOCATION**

- 6 INSTALL NEW 1/4" PLATE.
- 6B INSTALL NEW HIGH STRENGTH COUNTERSUNK BOLTS OF MATCHING DIAMETER.
- 7 RE-INSTALL EXISTING WASHER.
- 8 RE-INSTALL EXISTING NUT.

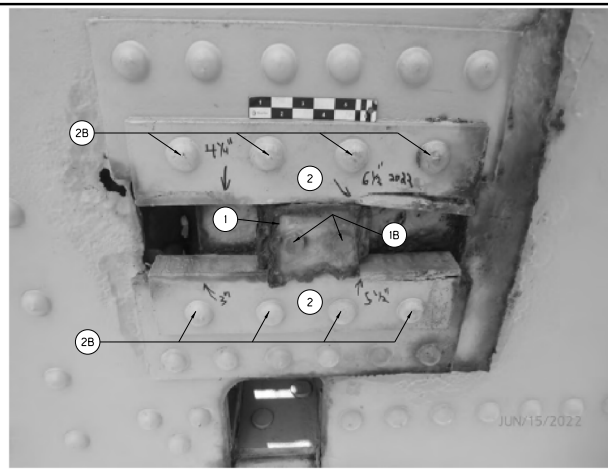
* AFTER REPAIRS HAVE BEEN COMPLETED, SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".



NEW PIN SLIDING PLATE

RE-INSTALLATION

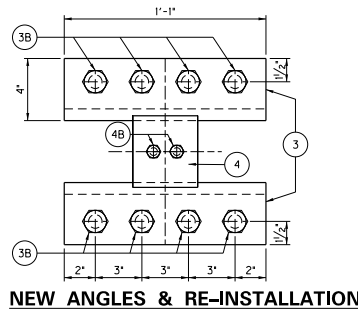
ALL DIMENSIONS AND HOLE LOCATIONS TO DUPLICATE EXIST. SLIDING PLATE SHALL BE FIELD VERIFIED



**REPAIR 7B - UNDERSIDE OF WINDLOCK ANGLE REPAIRS
L15, L32, AND L44 (UPSTREAM AND DOWNSTREAM)
6 STEEL REPAIR LOCATIONS**

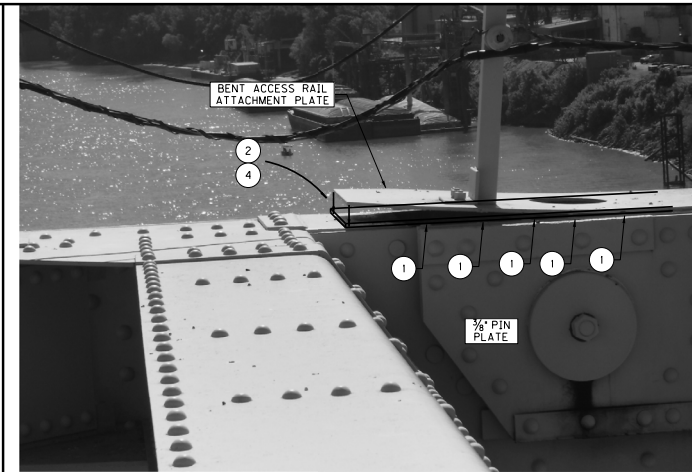
- 1 REMOVE WINDLOCK CAP PLATE BY REMOVING (2) BOLTS.
- 1B REMOVE BOLTS FROM CAP.
- 2 REMOVE DETERIORATED / CRACKED ANGLES BY REMOVING RIVETS. ONE ANGLE TO BE REMOVED AT A TIME.
- 2B REMOVE RIVETS HOLDING EXISTING DETERIORATED ANGLES ON BEARING PLATES.
- 3 INSTALL NEW L4x2x3/4" ANGLES WITH NEW HIGH STRENGTH BOLTS.
- 3B INSTALL NEW HIGH STRENGTH BOLTS OF EQUIVALENT DIAMETER. TIGHTEN BOLTS ACCORDING TO THE STANDARD SPECIFICATIONS.
- 4 INSTALL NEW CAP PLATE WITH NEW HIGH STRENGTH BOLTS.
- 4B INSTALL NEW HIGH STRENGTH BOLTS OF EQUIVALENT DIAMETER. TIGHTEN BOLTS ACCORDING TO THE STANDARD SPECIFICATIONS.

* AFTER REPAIRS HAVE BEEN COMPLETED, SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".



NEW ANGLES & RE-INSTALLATION

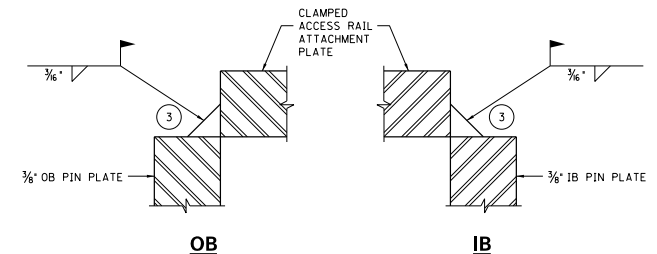
ALL DIMENSIONS AND HOLE LOCATIONS TO DUPLICATE EXIST. PLATES & ANGLES SHALL BE FIELD VERIFIED

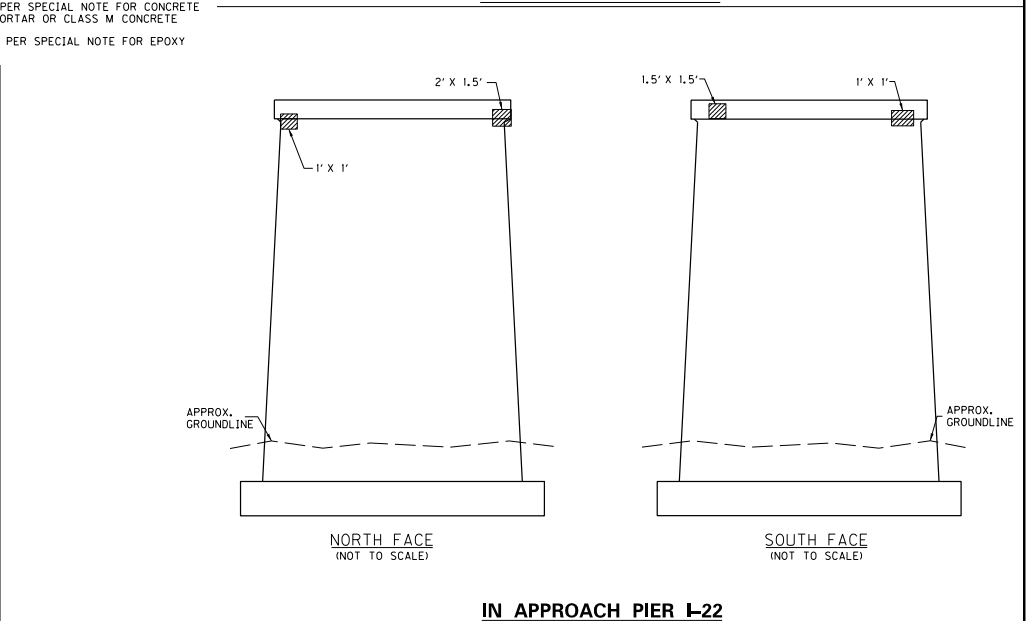
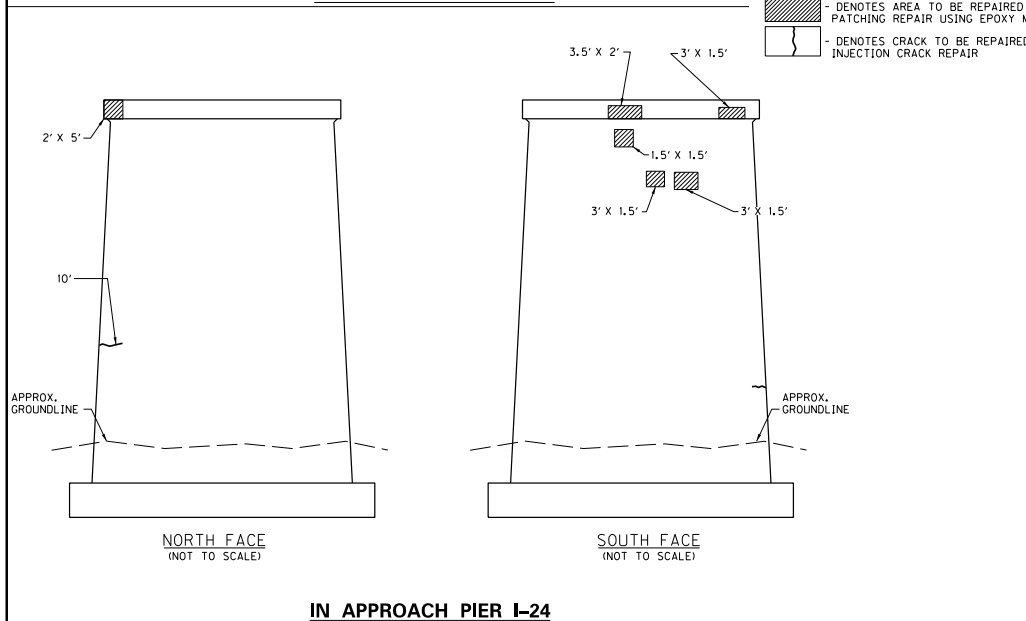
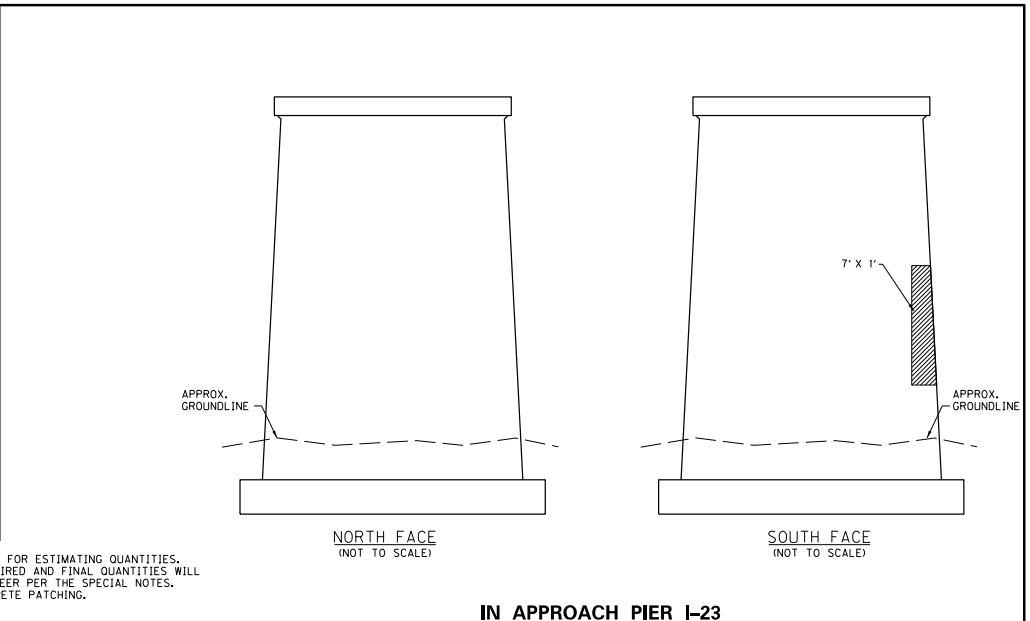
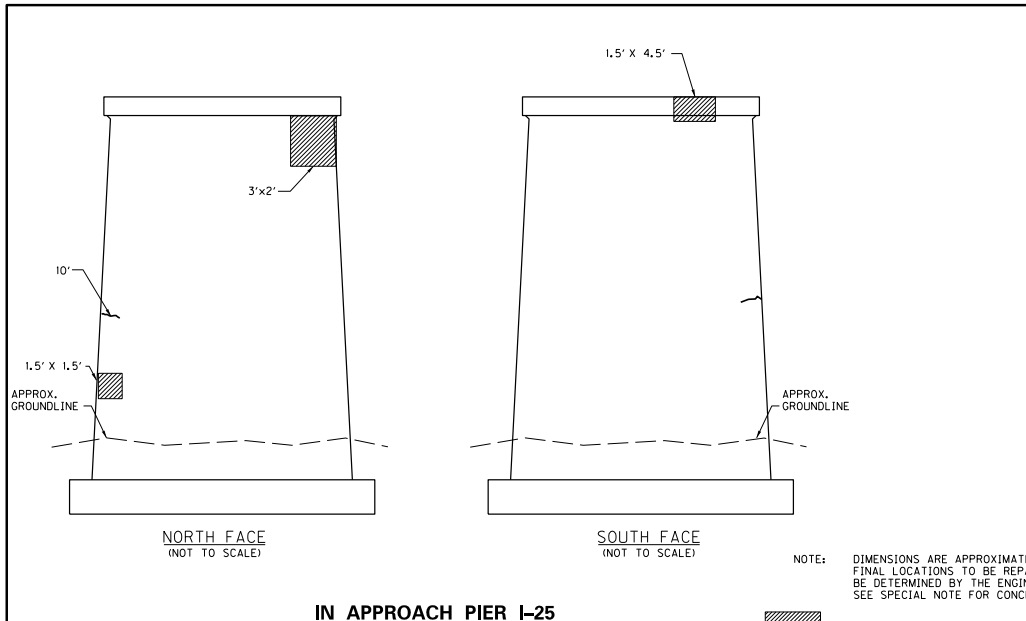


**REPAIR 7C - ACCESS RAIL ATTACHMENT PLATE WELDED REPAIR
U43 UPSTREAM TRUSS
1 STEEL REPAIR LOCATION**

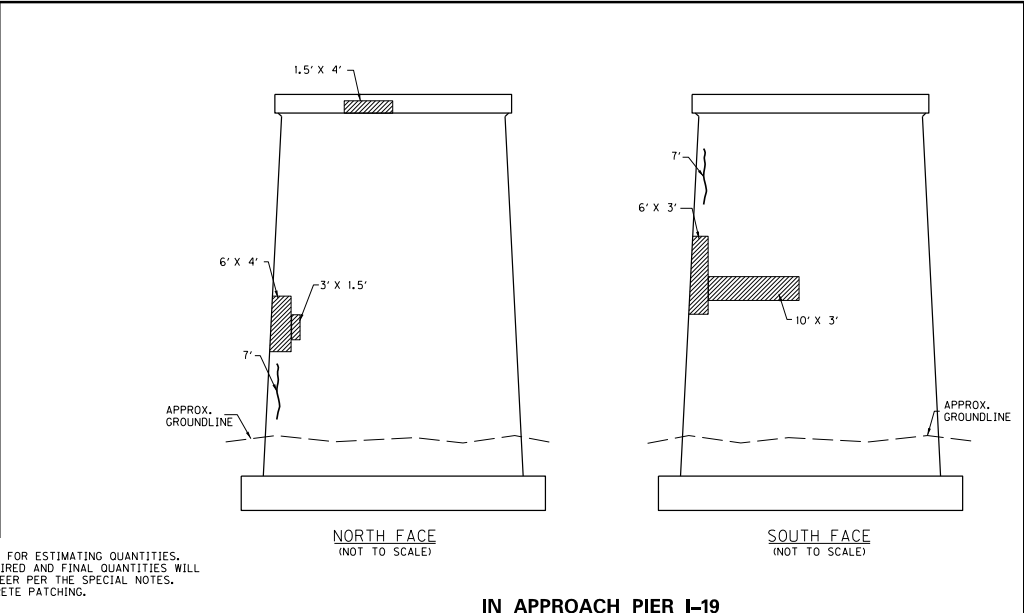
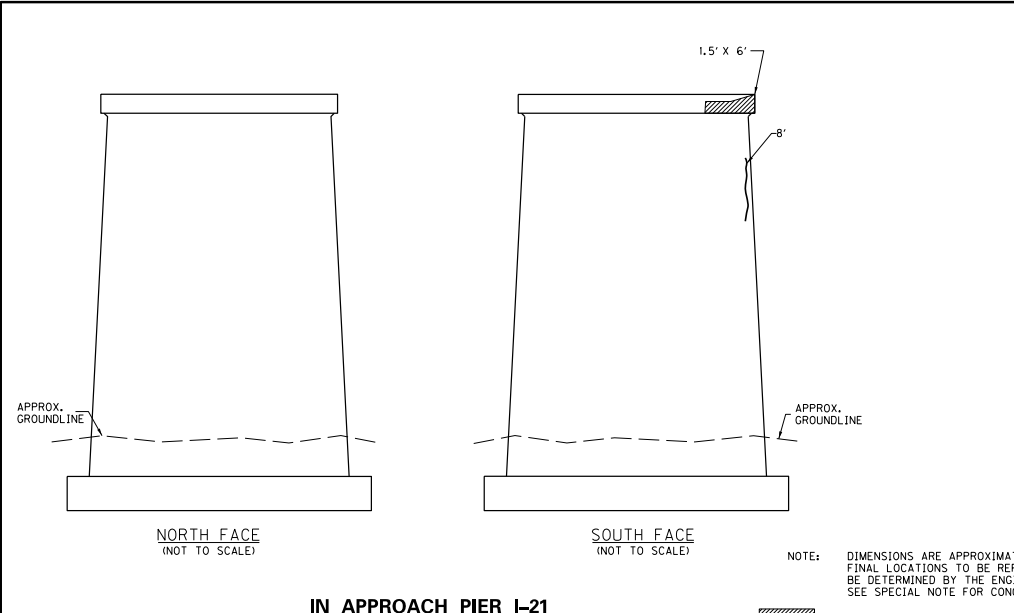
- 1 CLEAN SURFACE OF STEEL AND GRIND DOWN ORIGINAL TACK WELDS WITH ROTARY BURR. (5 LOCATIONS EACH SIDE OF PLATE) OBTAIN UNIFORM SURFACE ON BOTH THE BENT ACCESS RAIL ATTACHMENT PLATE AND THE 3/8" PIN PLATE.
- 2 CLAMP THE BENT ACCESS RAIL ATTACHMENT PLATE TO THE UPPER CHORD, INTO THE PLATE'S ORIGINAL INTENDED POSITION.
- 3 FILLET WELD ALONG THE INTERFACE WITH E7018 ELECTRODES. CHECK EACH PASS VISUALLY FOR FREEDOM FROM CRACKS OR OTHER DEFECTS. OBTAIN 3/16" THICKNESS.
- 4 LEAVE CLAMPS IN PLACE FOR 2 HOURS BEFORE REMOVING.

* AFTER REPAIRS HAVE BEEN COMPLETED, SEE "SPECIAL NOTE FOR PAINTING STRUCTURAL STEEL REPAIRS".



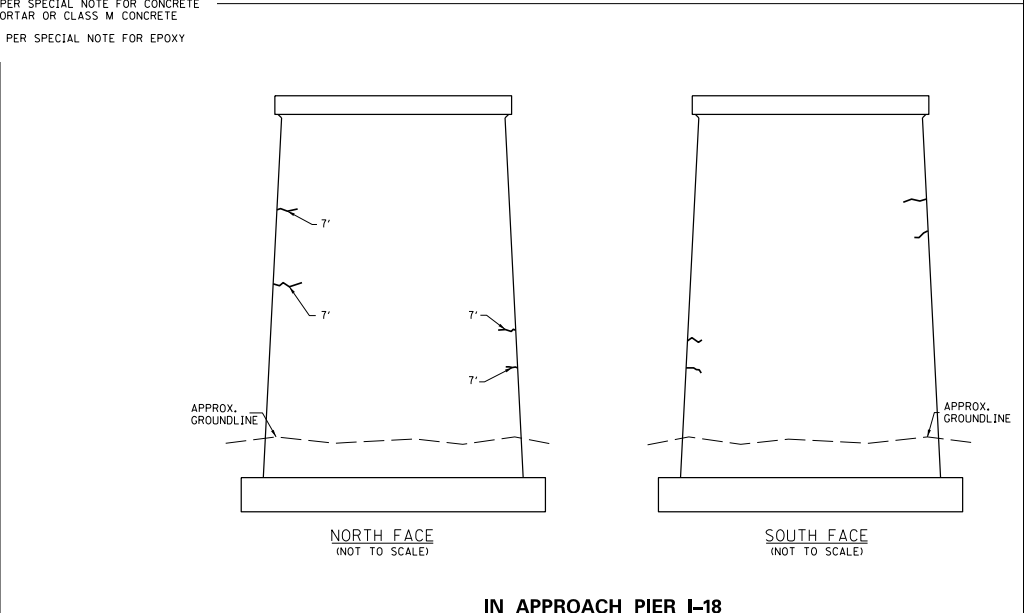
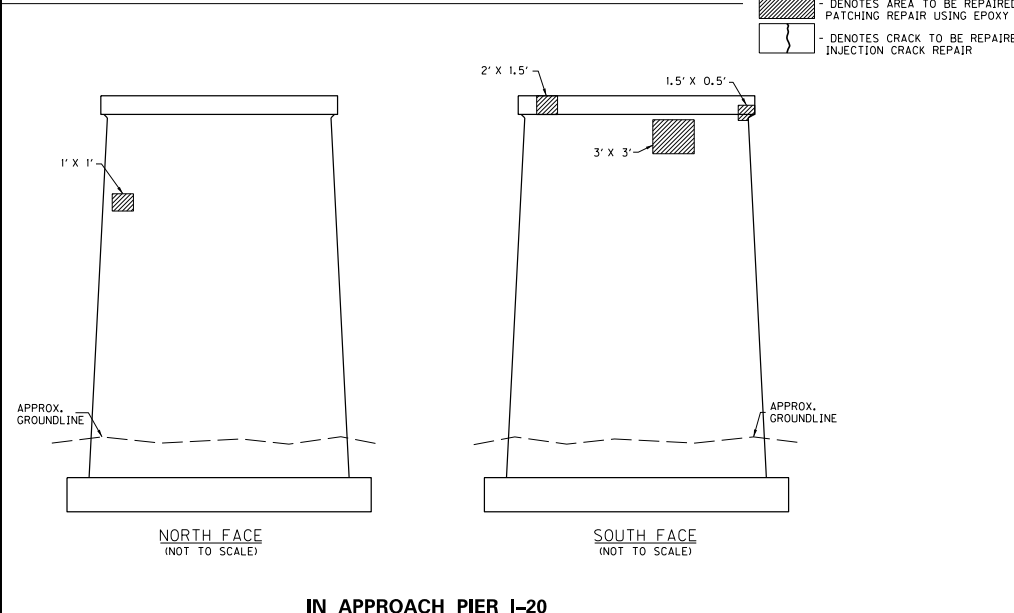


	REVISION	DATE	PREPARED BY	DATE:	AUGUST 2023	CHECKED BY	D.E. RUST	REPAIR 8 REINFORCED CONCRETE SUBSTRUCTURE REPAIR SHEET 1 <small>CROSSING</small> OHIO RIVER at OWENSBORO	ROUTE	KY 2262	ITEM NO.	2-10020.00	COUNTY OF	DAVIESS
				DESIGNED BY:	J.P. MURRIN				SHEET NO.	S17	DRAWING NUMBER	28812		
				DETAILED BY:	M.B. HAGGARD		J.P. MURRIN							



NOTE: DIMENSIONS ARE APPROXIMATE FOR ESTIMATING QUANTITIES. FINAL LOCATIONS TO BE REPAIRED AND FINAL QUANTITIES WILL BE DETERMINED BY THE ENGINEER PER THE SPECIAL NOTES. SEE SPECIAL NOTE FOR CONCRETE PATCHING.

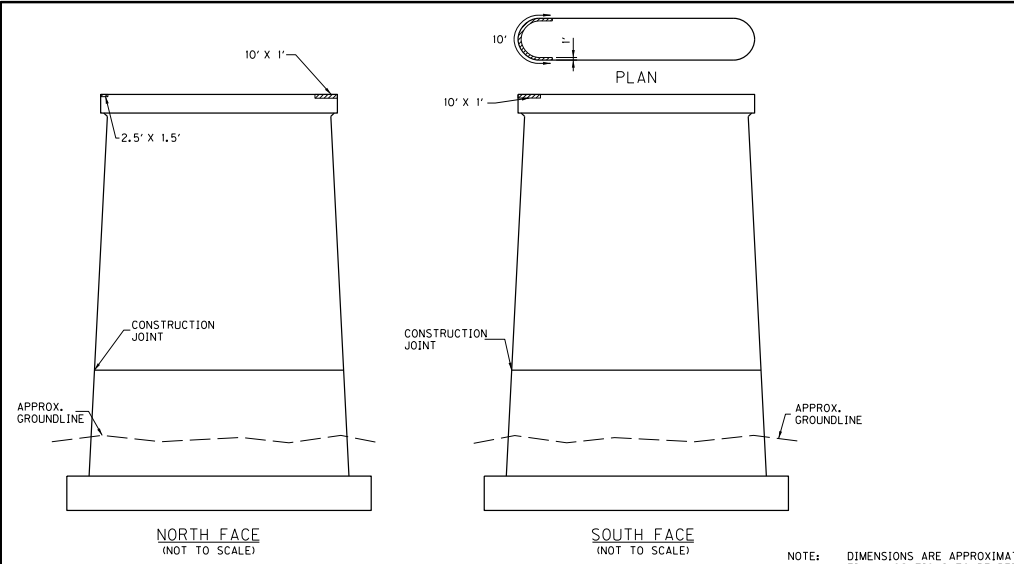
- DENOTES AREA TO BE REPAIRED PER SPECIAL NOTE FOR CONCRETE PATCHING REPAIR USING EPOXY MORTAR OR CLASS M CONCRETE
- DENOTES CRACK TO BE REPAIRED PER SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR



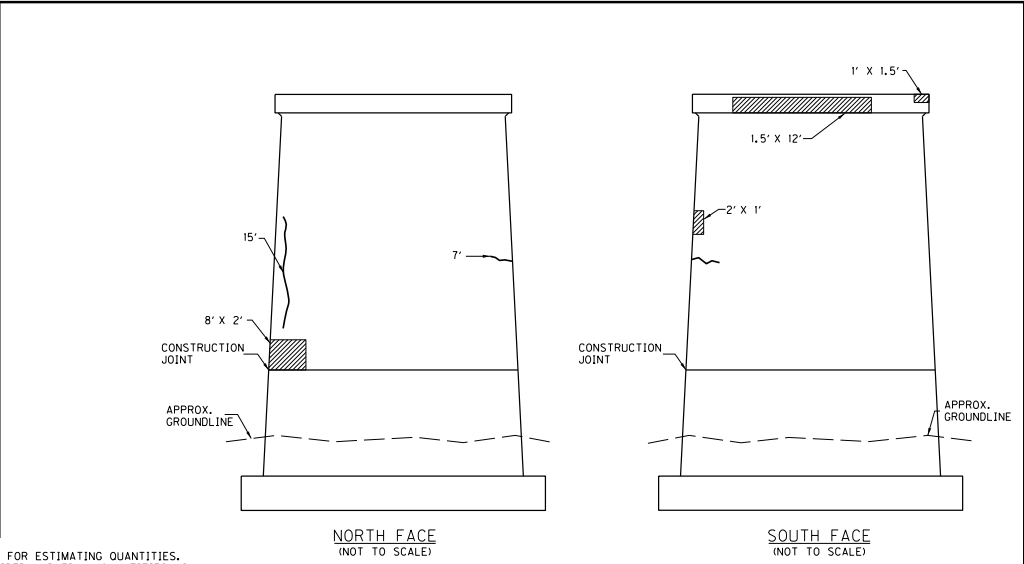
REVISION	DATE

DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

ROUTE	ITEM NO.	COUNTY OF
KY 2262	2-10020.00	DAVIESS
	SHEET NO. S18	DRAWING NUMBER 28812



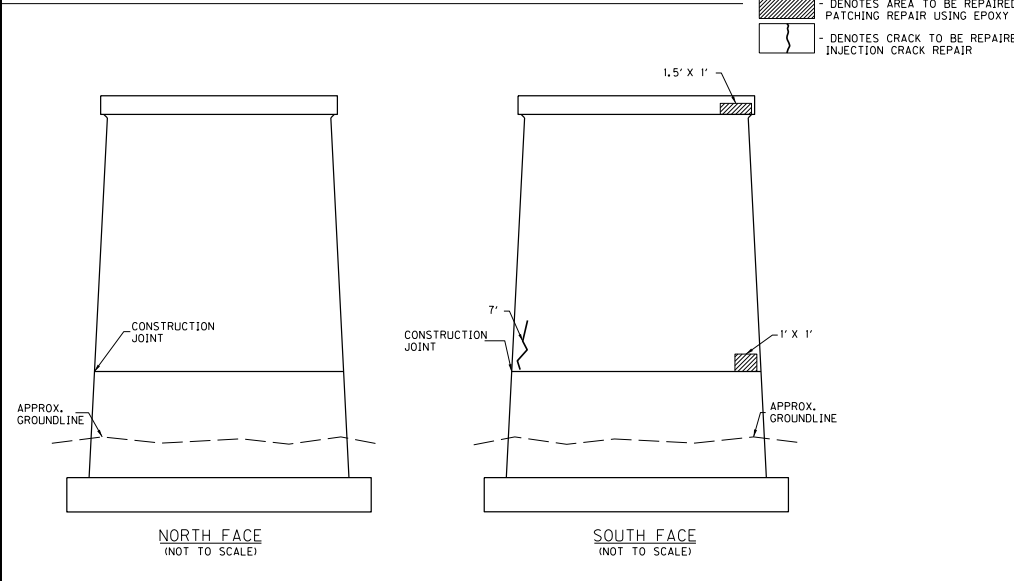
IN APPROACH PIER I-17



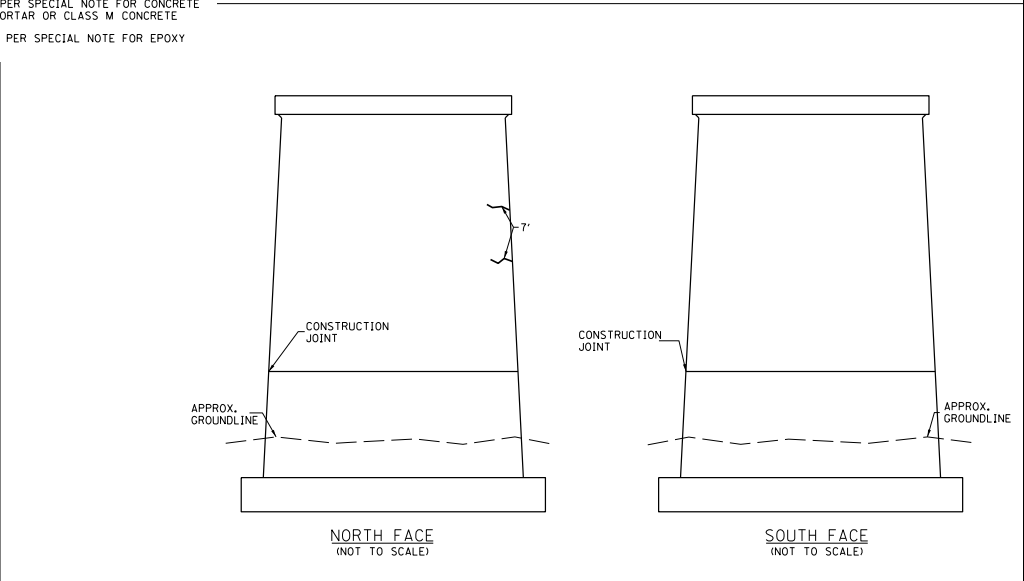
IN APPROACH PIER I-15

NOTE: DIMENSIONS ARE APPROXIMATE FOR ESTIMATING QUANTITIES. FINAL LOCATIONS TO BE REPAIRED AND FINAL QUANTITIES WILL BE DETERMINED BY THE ENGINEER PER THE SPECIAL NOTES. SEE SPECIAL NOTE FOR CONCRETE PATCHING.

- DENOTES AREA TO BE REPAIRED PER SPECIAL NOTE FOR CONCRETE PATCHING REPAIR USING EPOXY MORTAR OR CLASS M CONCRETE
- DENOTES CRACK TO BE REPAIRED PER SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR



IN APPROACH PIER I-16

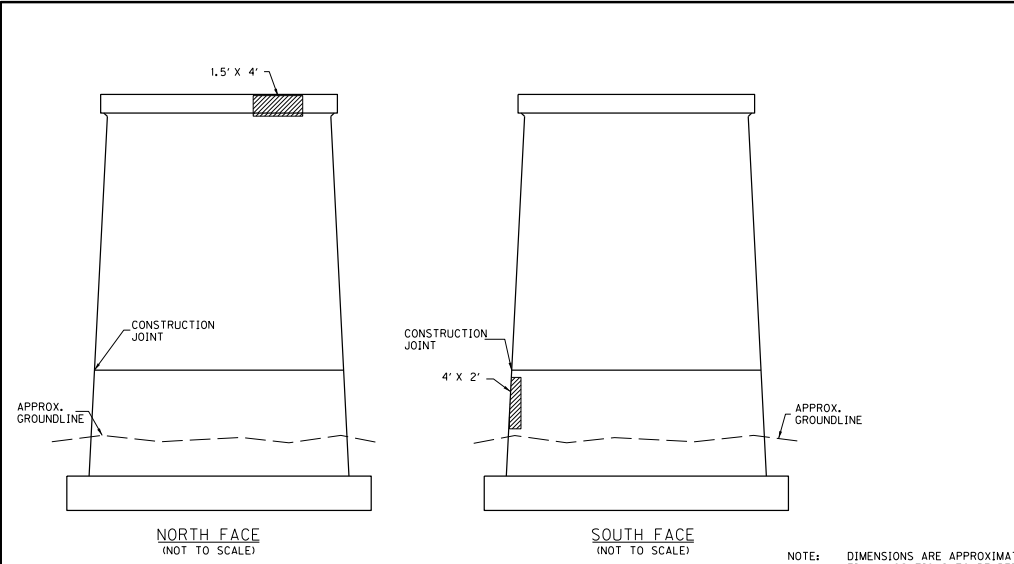


IN APPROACH PIER I-14

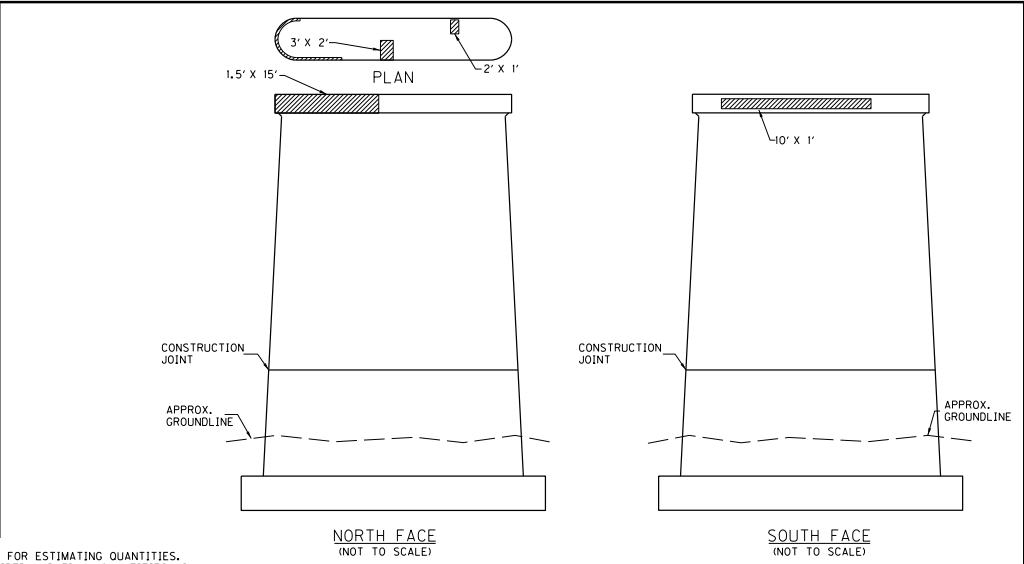
REVISION	DATE

DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

ROUTE	ITEM NO.	COUNTY OF
KY 2262	2-10020.00	DAVIESS
	SHEET NO. S19	DRAWING NUMBER 28812



IN APPROACH PIER I-13

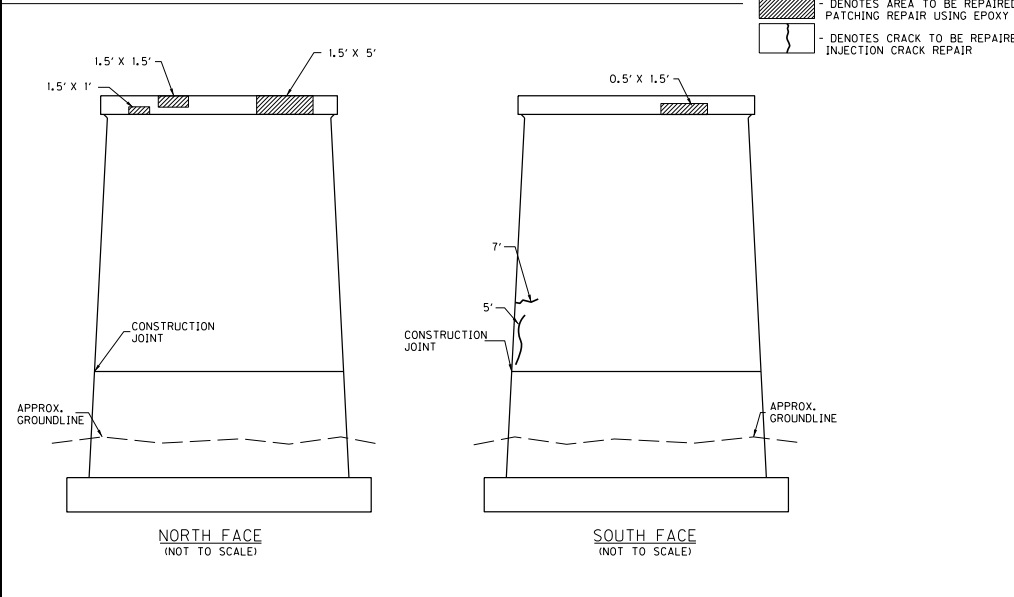


IN APPROACH PIER I-11

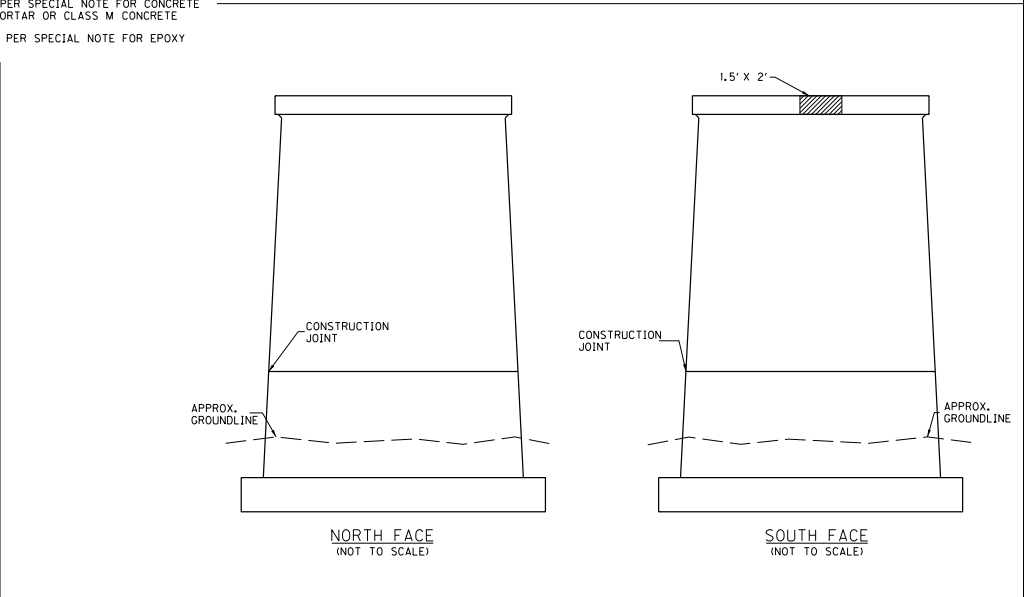
NOTE: DIMENSIONS ARE APPROXIMATE FOR ESTIMATING QUANTITIES. FINAL LOCATIONS TO BE REPAIRED AND FINAL QUANTITIES WILL BE DETERMINED BY THE ENGINEER PER THE SPECIAL NOTES. SEE SPECIAL NOTE FOR CONCRETE PATCHING.

- DENOTES AREA TO BE REPAIRED PER SPECIAL NOTE FOR CONCRETE PATCHING REPAIR USING EPOXY MORTAR OR CLASS M CONCRETE

- DENOTES CRACK TO BE REPAIRED PER SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR



IN APPROACH PIER I-12

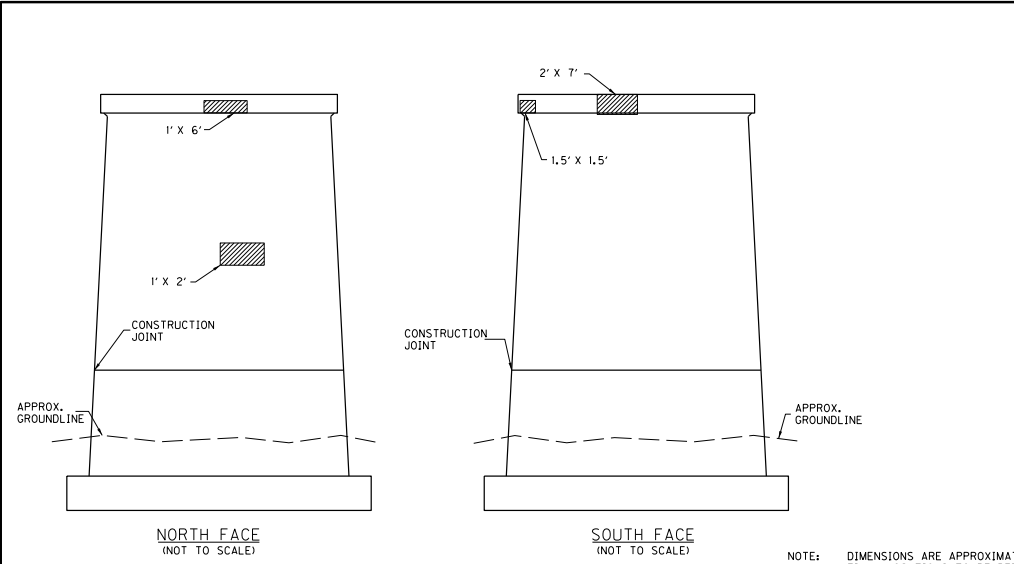


IN APPROACH PIER I-10

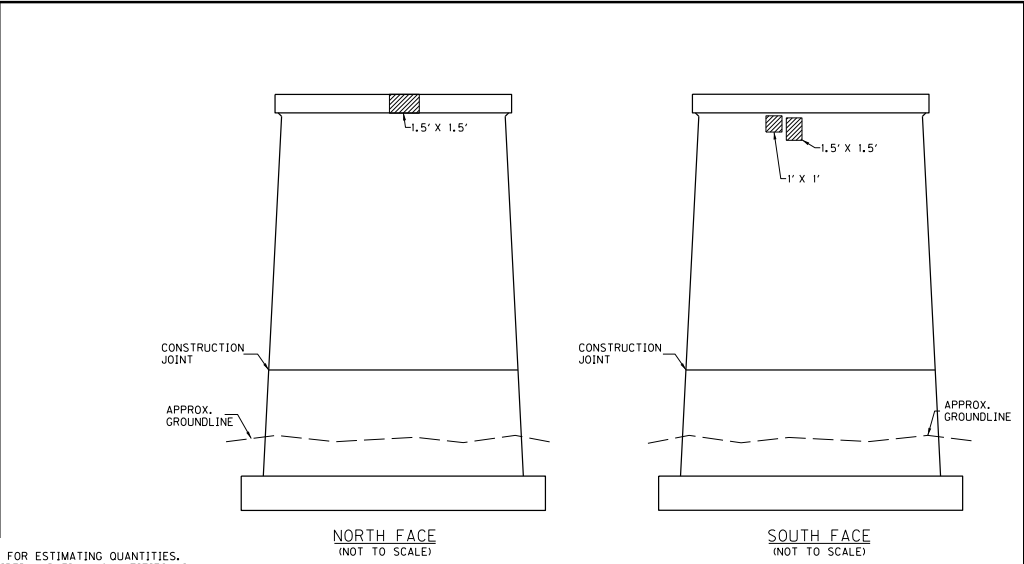
REVISION	DATE

DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

ROUTE	ITEM NO.	COUNTY OF
KY 2262	2-10020.00	DAVIESS
	SHEET NO. S20	DRAWING NUMBER 28812



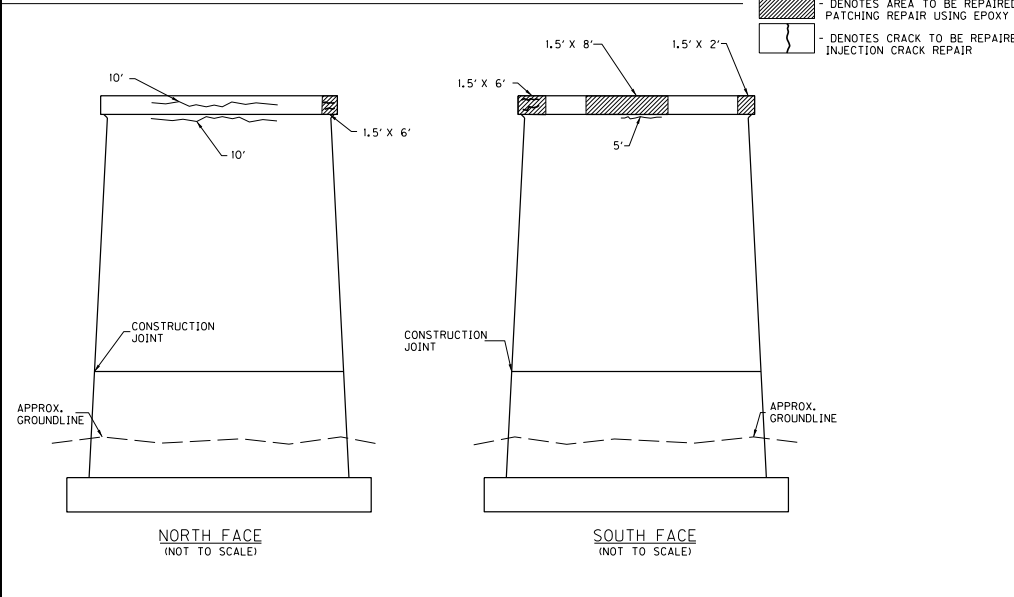
IN APPROACH PIER I-9



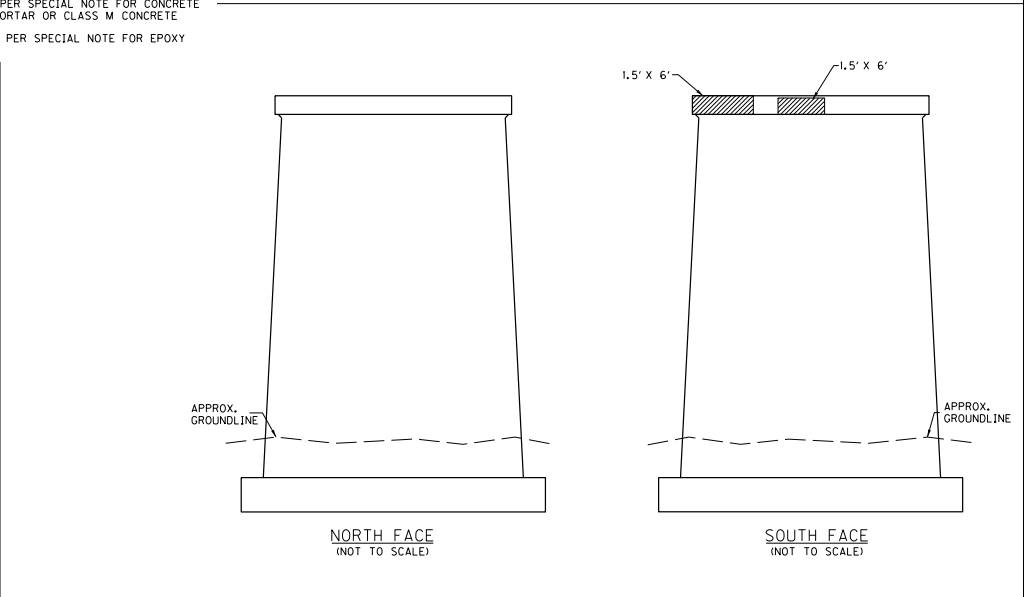
IN APPROACH PIER I-7

NOTE: DIMENSIONS ARE APPROXIMATE FOR ESTIMATING QUANTITIES. FINAL LOCATIONS TO BE REPAIRED AND FINAL QUANTITIES WILL BE DETERMINED BY THE ENGINEER PER THE SPECIAL NOTES. SEE SPECIAL NOTE FOR CONCRETE PATCHING.

- DENOTES AREA TO BE REPAIRED PER SPECIAL NOTE FOR CONCRETE PATCHING REPAIR USING EPOXY MORTAR OR CLASS M CONCRETE
- DENOTES CRACK TO BE REPAIRED PER SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR



IN APPROACH PIER I-8

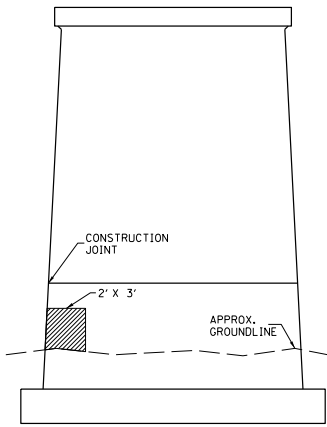


IN APPROACH PIER I-6

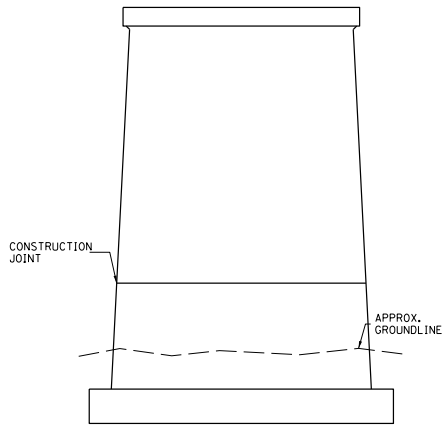
REVISION	DATE

DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

ITEM NO.	COUNTY OF
2-10020.00	DAVIESS
SHEET NO. S21	DRAWING NUMBER 28812



NORTH FACE
(NOT TO SCALE)

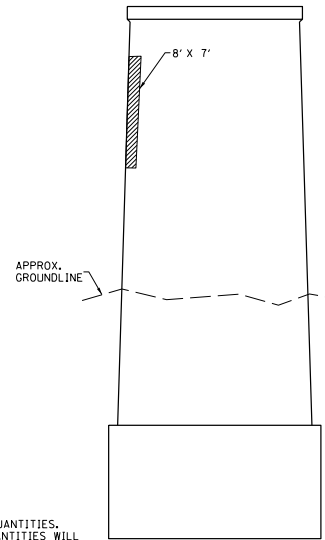


SOUTH FACE
(NOT TO SCALE)

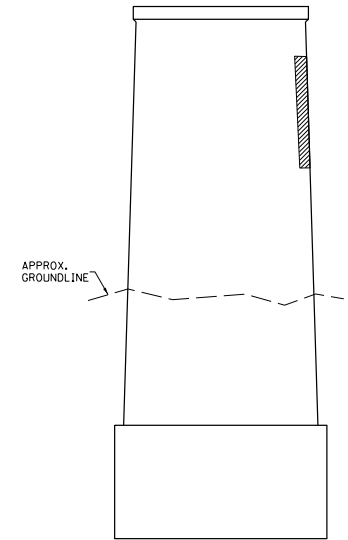
IN APPROACH PIER I-4

NOTE: DIMENSIONS ARE APPROXIMATE FOR ESTIMATING QUANTITIES. FINAL LOCATIONS TO BE REPAIRED AND FINAL QUANTITIES WILL BE DETERMINED BY THE ENGINEER PER THE SPECIAL NOTES. SEE SPECIAL NOTE FOR CONCRETE PATCHING.

- DENOTES AREA TO BE REPAIRED PER SPECIAL NOTE FOR CONCRETE PATCHING REPAIR USING EPOXY MORTAR OR CLASS M CONCRETE
- DENOTES CRACK TO BE REPAIRED PER SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR

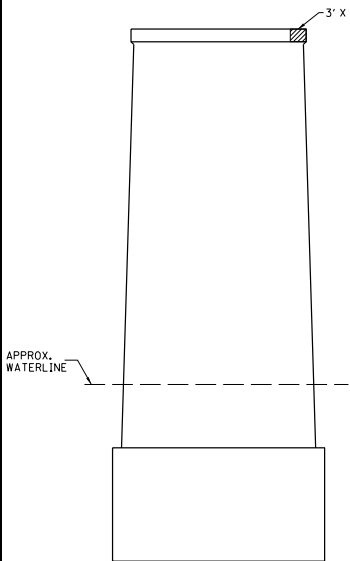


NORTH FACE
(NOT TO SCALE)

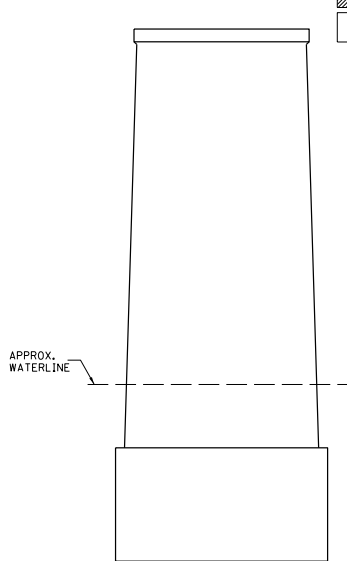


SOUTH FACE
(NOT TO SCALE)

IN APPROACH PIER I-1

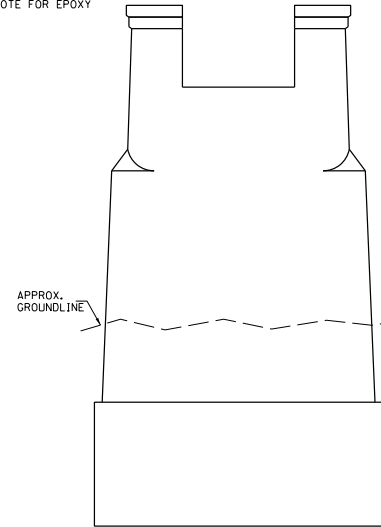


NORTH FACE
(NOT TO SCALE)

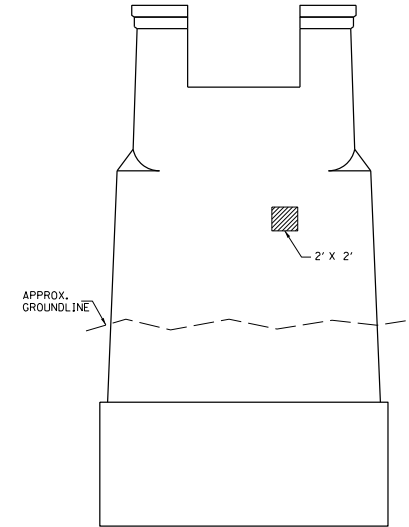


SOUTH FACE
(NOT TO SCALE)

IN APPROACH PIER I-2



NORTH FACE
(NOT TO SCALE)



SOUTH FACE
(NOT TO SCALE)

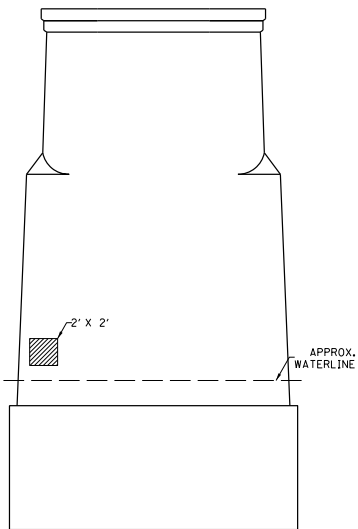
MAIN SPAN PIER A



REVISION	DATE

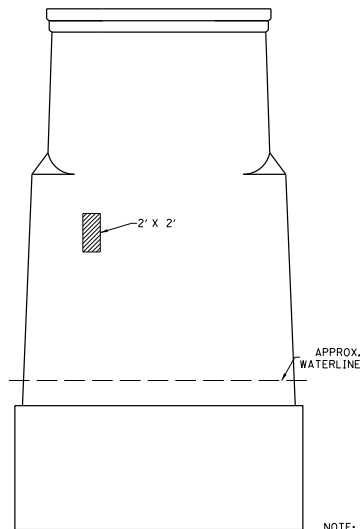
DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

ITEM NO.	2-10020.00
SHEET NO.	S22



NORTH FACE
(NOT TO SCALE)

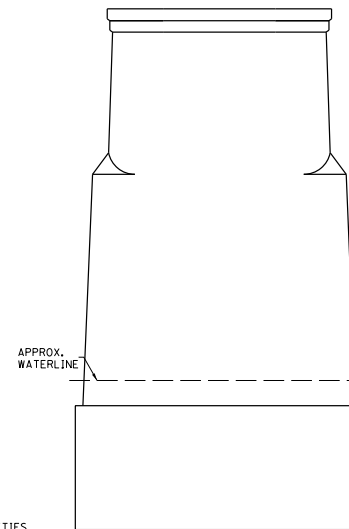
MAIN SPAN PIER B



SOUTH FACE
(NOT TO SCALE)

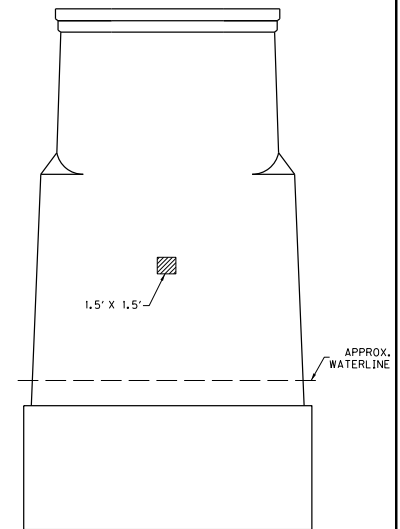
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- DENOTES CRACK TO BE REPAIRED PER SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR

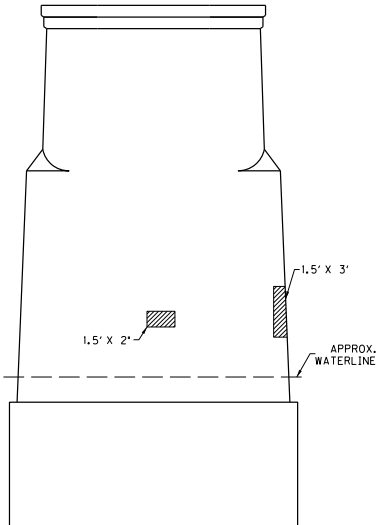


NORTH FACE
(NOT TO SCALE)

MAIN SPAN PIER D

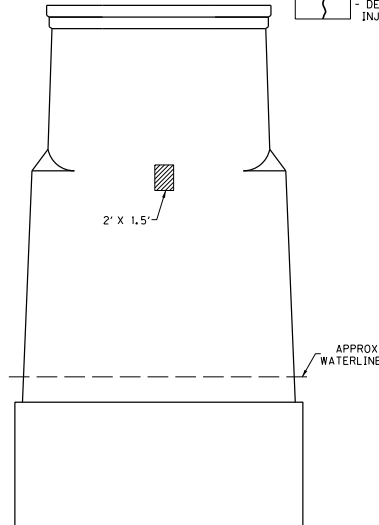


SOUTH FACE
(NOT TO SCALE)

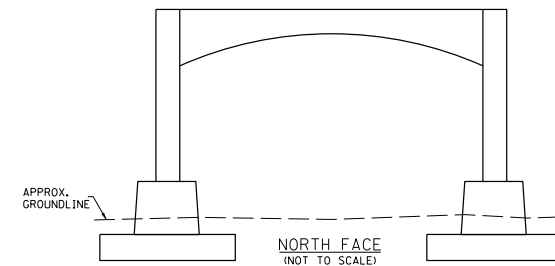


NORTH FACE
(NOT TO SCALE)

MAIN SPAN PIER C

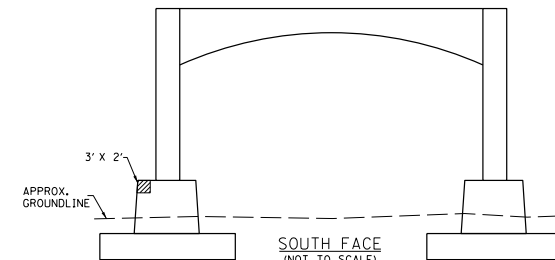


SOUTH FACE
(NOT TO SCALE)



NORTH FACE
(NOT TO SCALE)

KY APPROACH PIER K-3



SOUTH FACE
(NOT TO SCALE)



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:
DESIGNED BY:	J.P. MURRIN	D.E. RUST
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN

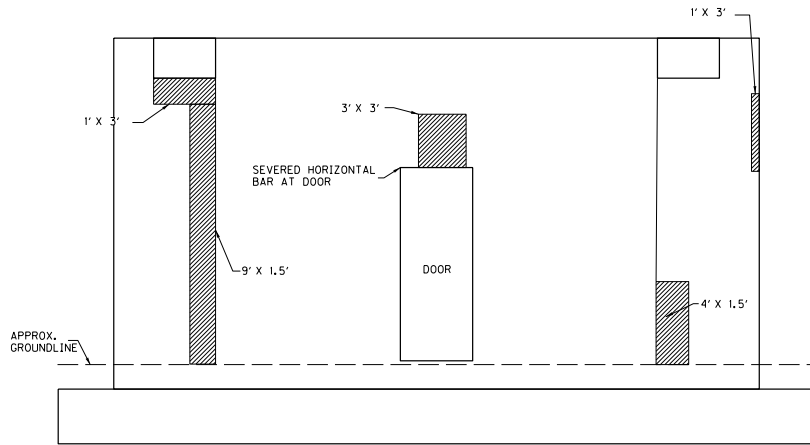
REPAIR 8 REINFORCED CONCRETE
SUBSTRUCTURE REPAIR SHEET 7

CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO.	2-10020.00
SHEET NO.	S23

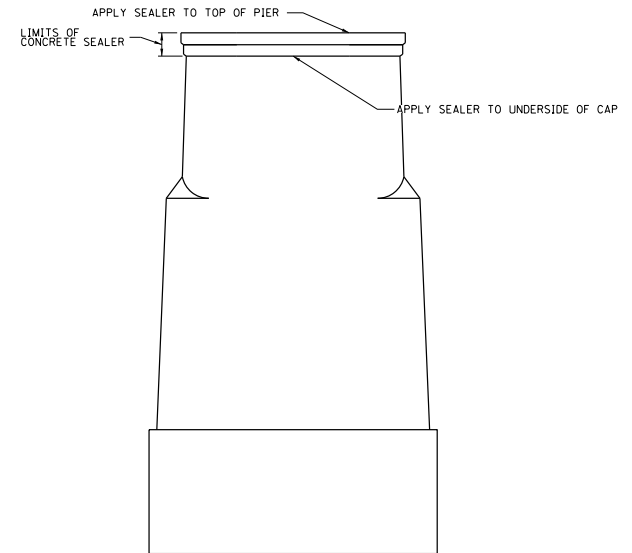
COUNTY OF
DAVIESS
DRAWING NUMBER
28812



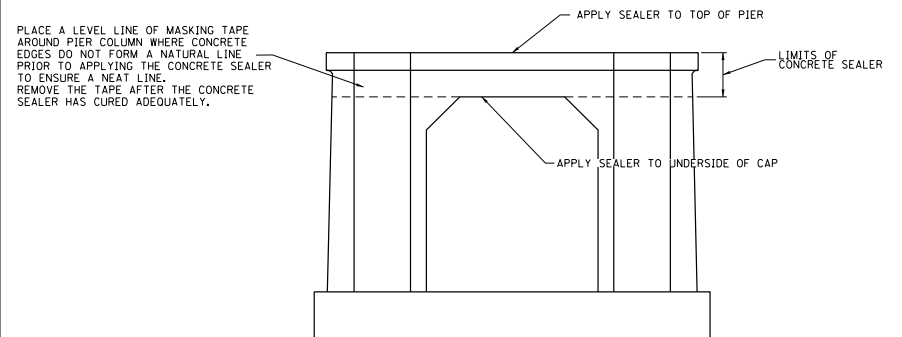
NORTH FACE
(NOT TO SCALE)
SOUTH ABUTMENT

NOTE: DIMENSIONS ARE APPROXIMATE FOR ESTIMATING QUANTITIES. FINAL LOCATIONS TO BE REPAIRED AND FINAL QUANTITIES WILL BE DETERMINED BY THE ENGINEER PER THE SPECIAL NOTES. SEE SPECIAL NOTE FOR CONCRETE PATCHING.

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- DENOTES CRACK TO BE REPAIRED PER SPECIAL NOTE FOR EPOXY INJECTION CRACK REPAIR



PIER A-D CONCRETE SEALING DETAIL
(NOT TO SCALE)



PIER E CONCRETE SEALING DETAIL
(NOT TO SCALE)

LIMITS OF CONCRETE SEALER

APPLY SEALER TO EVERY EXPOSED CONCRETE SURFACE OF THE KENTUCKY ABUTMENT TO THE GROUND LINE ONCE REPAIR NO. 8 IS COMPLETE .

FOR PIERS A-E APPLY CONCRETE SEALER FROM BEAM SEAT TO BOTTOM OF CAP AS DEPICTED.

APPLY CONCRETE SEALER TO ALL FACES OF NEWLY PATCHED CONCRETE.

FOR CONCRETE SEALING INFORMATION SEE SPECIAL NOTE FOR CONCRETE SEALING.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE

PREPARED BY
Palmer
ENGINEERING

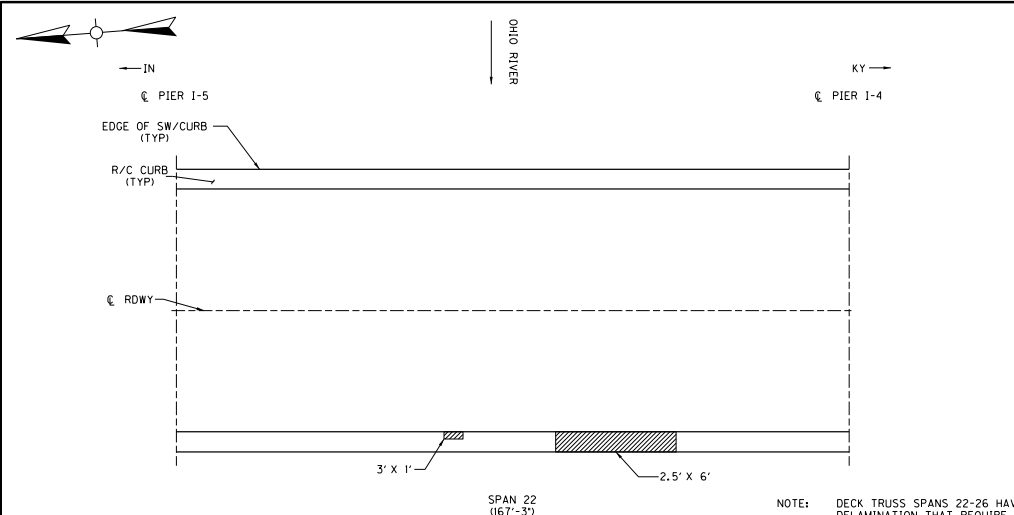
DATE:	AUGUST 2023	CHECKED BY:	
DESIGNED BY:	J.P. MURRIN	D.E. RUST	
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN	

**REPAIR 8 REINFORCED CONCRETE
SUBSTRUCTURE REPAIR SHEET 8**

CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO. 2-10020.00	COUNTY OF DAVIESS
SHEET NO. S24	DRAWING NUMBER 28812



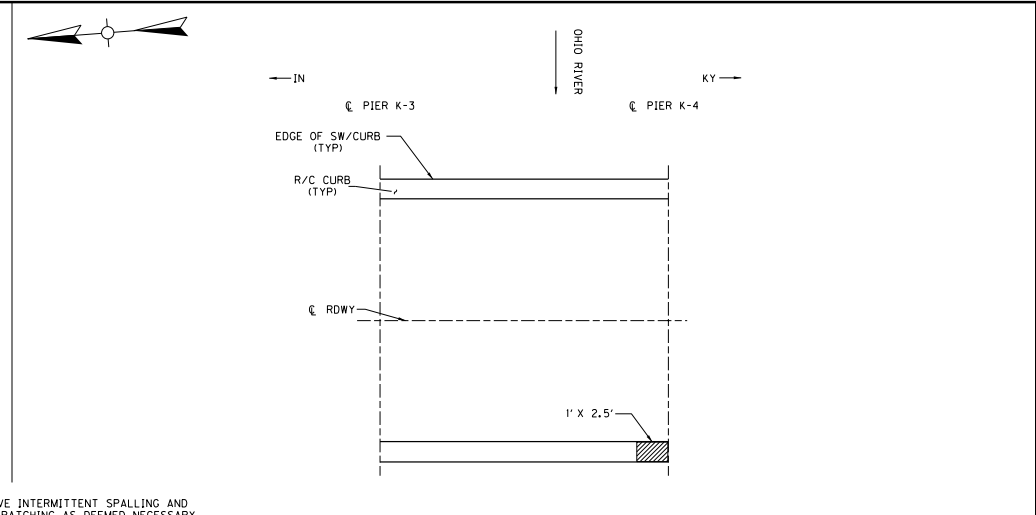
REPAIR 9 - CURB / SIDEWALK REPAIR (SPAN 22)

NOTE: DECK TRUSS SPANS 22-26 HAVE INTERMITTENT SPALLING AND DELAMINATION THAT REQUIRE PATCHING AS DEEMED NECESSARY BY THE ENGINEER.

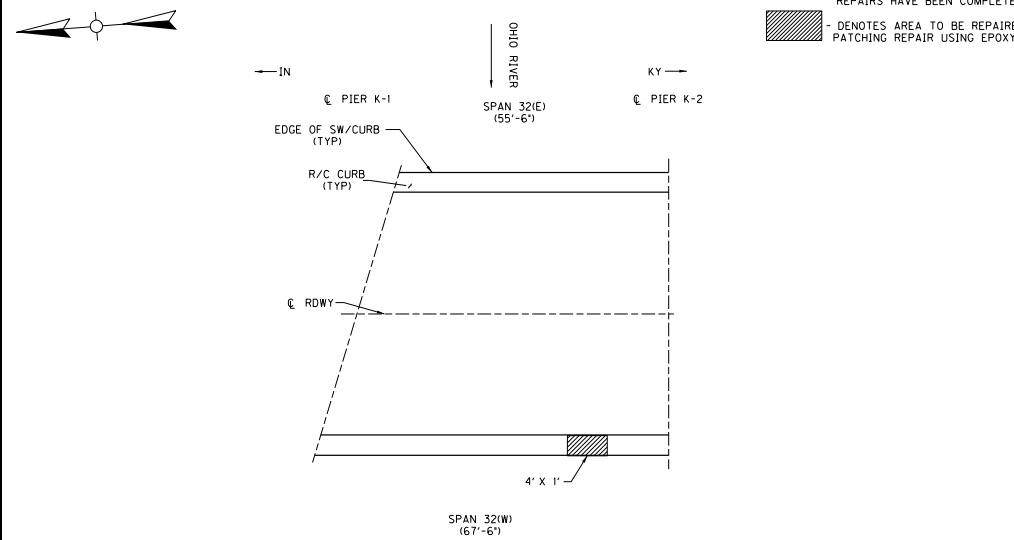
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NOTE: EPOXY SLURRY APPLICATION WILL NOT BEGIN UNTIL CURB PATCHING REPAIRS HAVE BEEN COMPLETED.

DENOTES AREA TO BE REPAIRED PER SPECIAL NOTE FOR CONCRETE PATCHING REPAIR USING EPOXY MORTAR OR CLASS M CONCRETE



REPAIR 9 - CURB / SIDEWALK REPAIR (SPAN 34)



REPAIR 9 - CURB / SIDEWALK REPAIR (SPAN 32)



REVISION	DATE



DATE:	AUGUST 2023	CHECKED BY:	
DESIGNED BY:	J.P. MURRIN	D.E. RUST	
DETAILED BY:	M.B. HAGGARD	J.P. MURRIN	

ROUTE: **REPAIR 9 - CURB / SIDEWALK REPAIR**
 CROSSING: **OHIO RIVER at OWENSBORO**

ROUTE:	KY 2262	ITEM NO.:	2-10020.00	COUNTY OF:	DAVIESS
		SHEET NO.:	S25	DRAWING NUMBER:	28812

4'X4'
ROAD CLOSED
1500 FT

4'X4'
ROAD CLOSED
1000 FT

4'X4'
ROAD CLOSED
500 FT

DETOUR AHEAD

DETOUR →

DETOUR →

DETOUR ←

PORTABLE CHANGEABLE MESSAGE SIGNS
INSTALL AND OPERATE PORTABLE CHANGEABLE MESSAGE SIGN(S) TO NOTIFY TRAVELERS OF UPCOMING BRIDGE CLOSURE.

PCMS #1 AND #2 SHALL BE IN PLACE AT LEAST TWO (2) WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL THE START OF CONSTRUCTION.

MESSAGE DISPLAY	
PHASE 1	PHASE 2
BRIDGE TO BE CLOSED	* BEGIN THROUGH **END

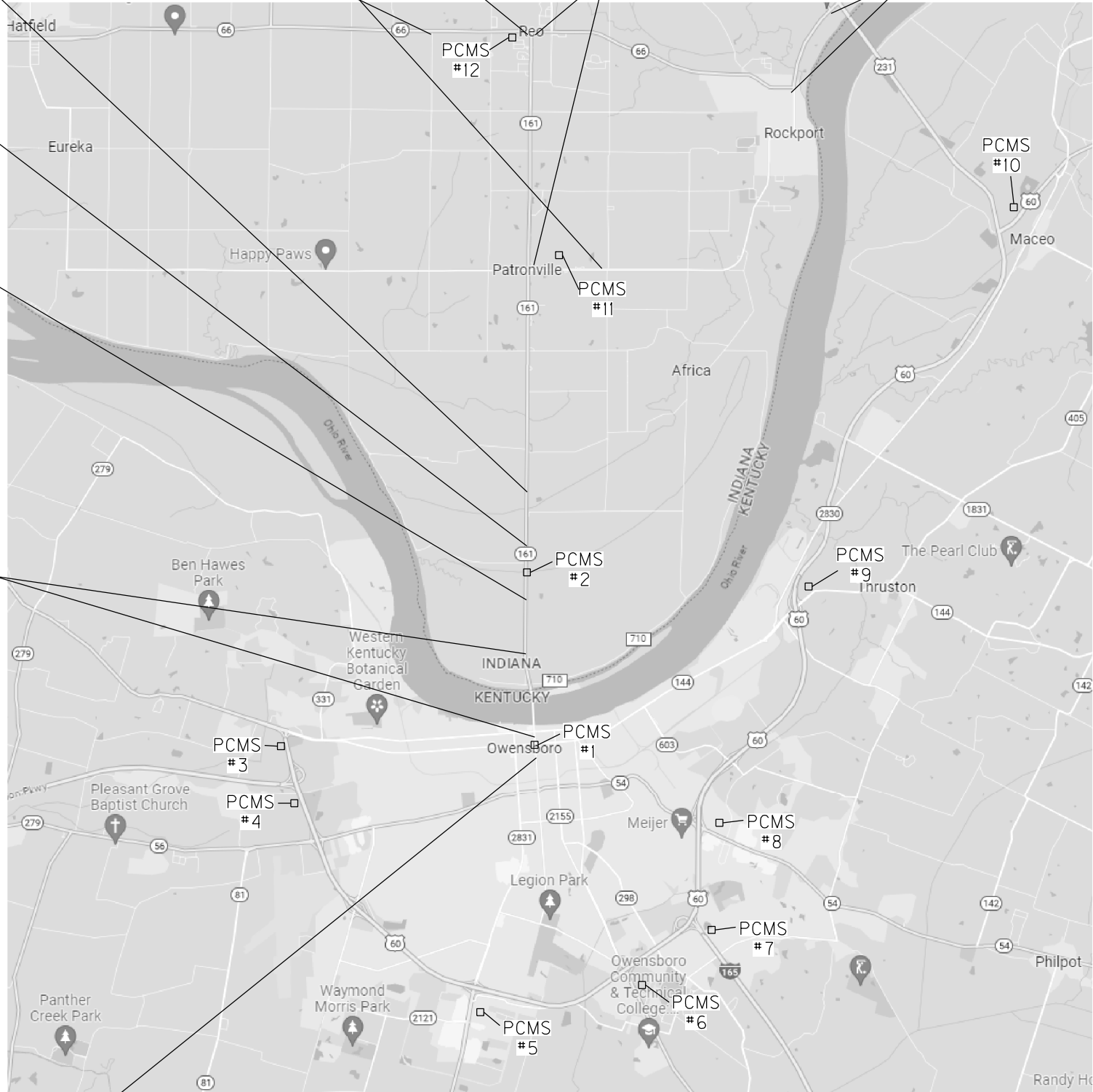
*CONTRACTOR SHALL USE SELECTED START DATE
**CONTRACTOR SHALL USE PLANNED COMPLETION DATE

PCMS #1 THROUGH #12 SHALL BE IN PLACE AT THE START OF CONSTRUCTION AND SHALL REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION.

(2) TYPE III BARRICADES WITH
ROAD CLOSED
(R11-2)

MESSAGE DISPLAY	
PHASE 1	PHASE 2
DOWNTOWN BRIDGE CLOSED	DETOUR VIA US 231

SEE SPECIAL NOTE FOR TRAFFIC CONTROL



4'X4'
ROAD CLOSED
500 FT

ENVIRONMENTALLY CLEARED AREA COORDINATES

Lat	Long
37.77400549	-87.10877736
37.77454053	-87.10881237
37.77480805	-87.10876568
37.7802461	-87.10919172
37.78114091	-87.10935514
37.78187891	-87.10946603
37.78657966	-87.11084309
37.78660272	-87.11072053
37.78190269	-87.10938397
37.78115086	-87.10925557
37.78024219	-87.10908631
37.77479493	-87.10867196
37.77401082	-87.10860777
37.77400549	-87.10877736

NOTE: THE AREA BENEATH THE BRIDGE IS NOT INCLUDED IN THE ENVIRONMENTALLY CLEARED AREA AND SHALL NOT BE DISTURBED



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



REVISION	DATE



PREPARED BY
Palmer
ENGINEERING

DATE:	AUGUST 2023	CHECKED BY:	
DESIGNED BY:			
DETAILED BY:	J.A. ROSE	D.E. RUST	

ENVIRONMENTALLY CLEARED AREA
CROSSING
OHIO RIVER at OWENSBORO

ROUTE
KY 2262

ITEM NO.
2-10020.00
SHEET NO.
E01

COUNTY OF
DAVIESS
DRAWING NUMBER
28812