



NORTH FACE OF FLOORBEAM 9
AT GIRDER 2

(OTHER STEEL BEAM CRACK REPAIR AREAS SIMILAR)



NORTH FACE OF FLOORBEAM 11
AT GIRDER 1

(OTHER STEEL BEAM CRACK REPAIR AREAS SIMILAR)

STEEL BEAM CRACK REPAIR LOCATION TABLE		
NO.	GIRDER NO.	FLOORBEAM NO.
1	GIRDER 1	FLOORBEAM 1
2	GIRDER 1	FLOORBEAM 4
3	GIRDER 1	FLOORBEAM 11 (X2)
4	GIRDER 2	FLOORBEAM 1
5	GIRDER 2	FLOORBEAM 9
6	GIRDER 2	FLOORBEAM 11

NOTES

WORK DEFINED IN THIS DRAWING SHALL BE PERFORMED IN ACCORDANCE WITH - AND PAID FOR UNDER - 'STEEL BEAM CRACK REPAIRS' AS REFERENCED IN THE PROJECT SPECIAL PROVISIONS.

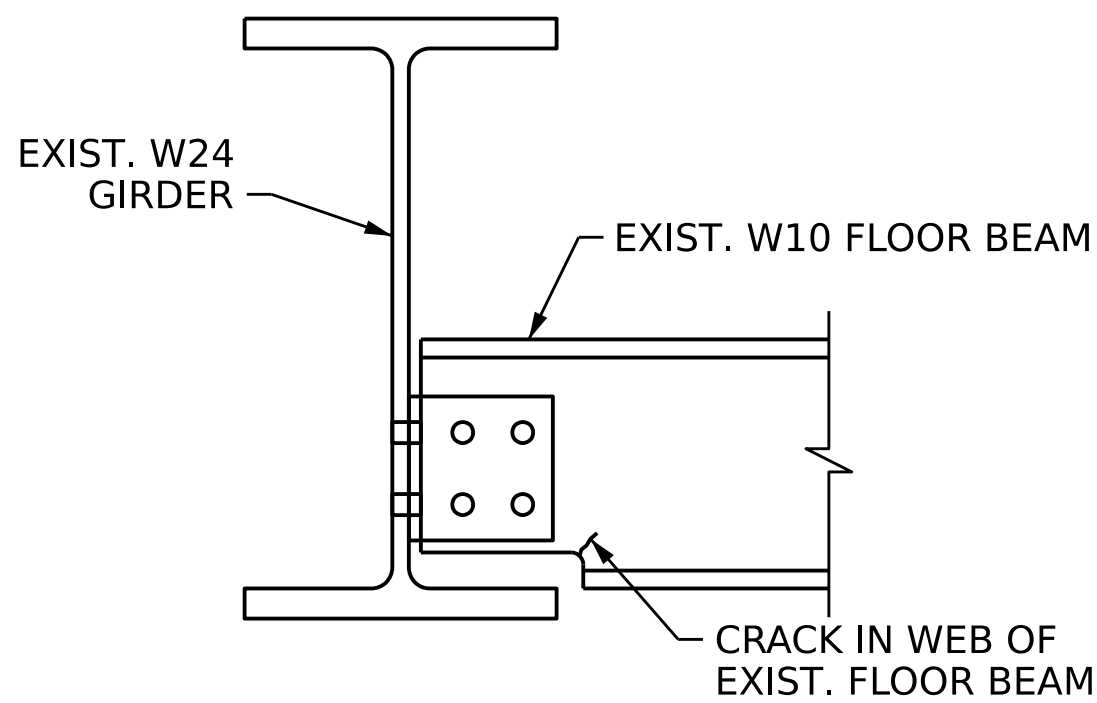
IMAGES ARE TAKEN FROM SPECIAL INSPECTION REPORT DATED 11/02/2023. PRIOR TO BEGINNING ANY REPAIR WORK, FIELD VERIFY EXISTING CONDITIONS. IF EXISTING CONDITIONS VARY SIGNIFICANTLY FROM IMAGES SHOWN, NOTIFY THE ENGINEER IN WRITING PRIOR TO ORDERING MATERIALS OR BEGINNING REPAIR WORK.

IMAGES SHOW TWO EXAMPLES OF CRACKS NEEDING REPAIR. SEE "STEEL BEAM CRACK REPAIR LOCATION TABLE" FOR ALL CRACK REPAIR LOCATIONS.

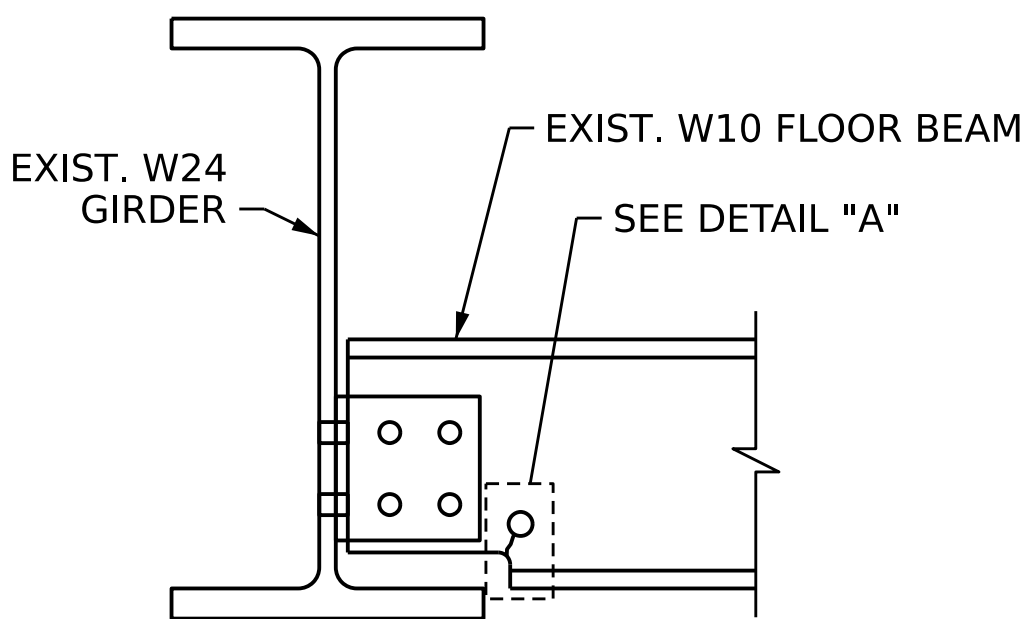
SURFACE PREPARATION FOR WELDING AND/OR PAINTING: REMOVE RUST, PAINT, AND OTHER CONTAMINANTS DOWN TO BARE STEEL TO SSPC-SP3 STANDARDS. VACUUM-ASSISTED HAND POWER TOOLS SHALL BE USED FOR CAPTURE AND CONTAINMENT OF CONTAMINANTS. SAND BLASTING SHALL NOT BE PERMITTED OVER WATER.

CRACK REPAIR PROCEDURE NOTES:

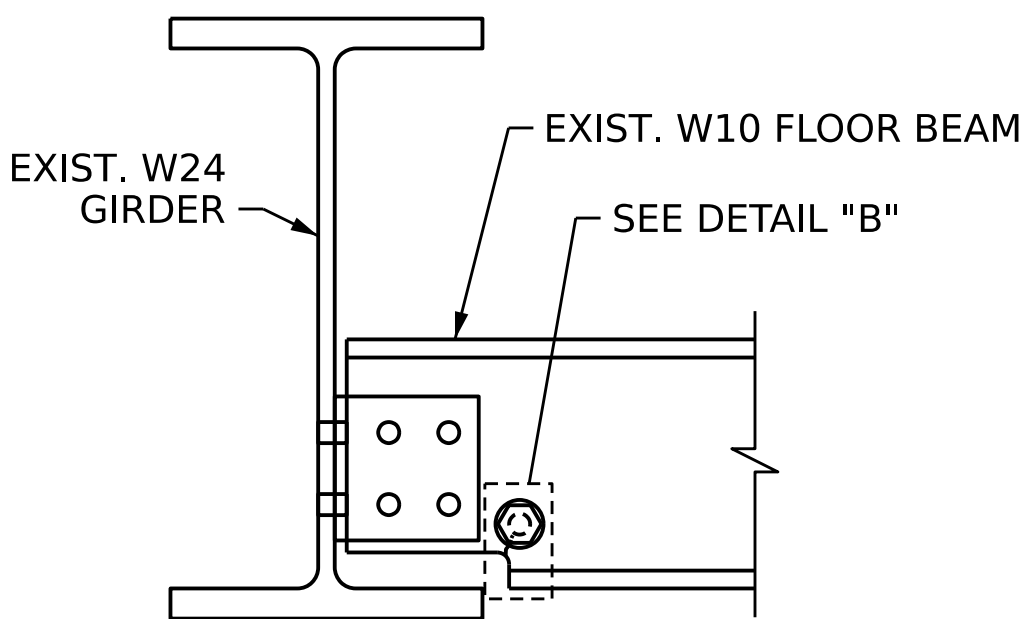
1. LOCATE THE CRACK TIP USING MAGNETIC PARTICLE TESTING (MT) OR DYE-PENETRANT TESTING (PT). INSPECT BOTH SIDES OF THE PLATE TO ENSURE THE TIP IS NOT MISSED.
2. POSITION MAGNETIC BASED DRILL AS SHOWN RELATIVE TO THE AS-LOCATED CRACK TIP.
3. DRILL HOLE WITH ANNULAR CUTTER.
4. CHECK DRILLED PLATE AND REMOVED CORE FOR EVIDENCE OF CRACK TIP.
5. FOLLOWING REMOVAL OF THE CORE, REINSPECT THE EDGE OF THE DRILLED HOLE USING MT OR PT TO ENSURE THE CRACK TIP DOES NOT REMAIN.
6. SAND THE EDGES OF THE DRILLED HOLE USING AN 80 TO 100 GRIT FLAP WHEEL WITH AN ANGLE GRINDER ON THE EXTERIOR EDGES AND AN 80 TO 100 GRIT FLAP WHEEL WITH DIE GRINDER ON THE INTERIOR EDGES.
7. CLEAN AND PREPARE THE REPAIR AREA FOR FINISHING.
8. INSTALL 1-INCH DIA. BOLT WITH WASHER ON EACH WEB FACE.
9. PAINT THE EXPOSED STEEL AND CONNECTION COMPONENTS IN THE REPAIR AREA IN ACCORDANCE WITH SECTION 442-12 OF THE STANDARD SPECIFICATIONS, USING PAINT SYSTEM 4 FROM NCDOT'S STRUCTURAL STEEL SHOP COATINGS PROGRAM DOCUMENT, WITH TOPCOAT COLOR MATCHED TO THE EXISTING TOPCOAT COLOR.



EXISTING CONDITION

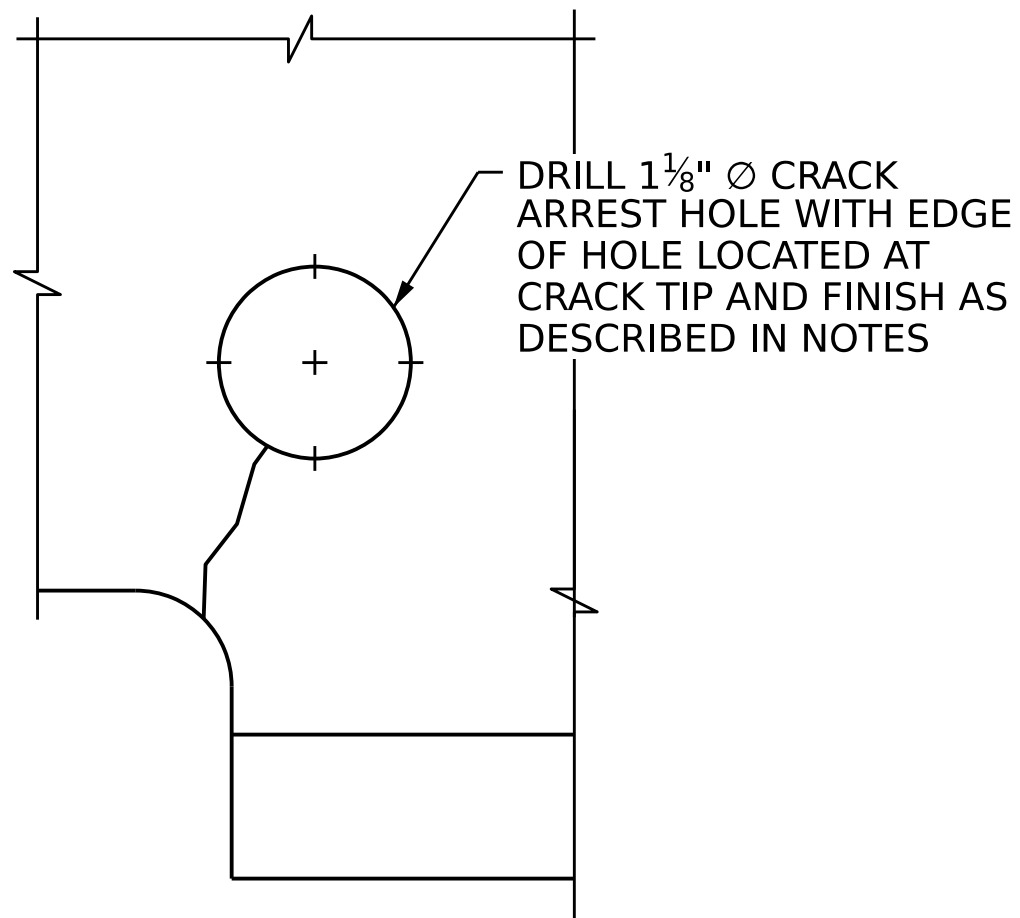


HOLE PREPARATION CONDITION

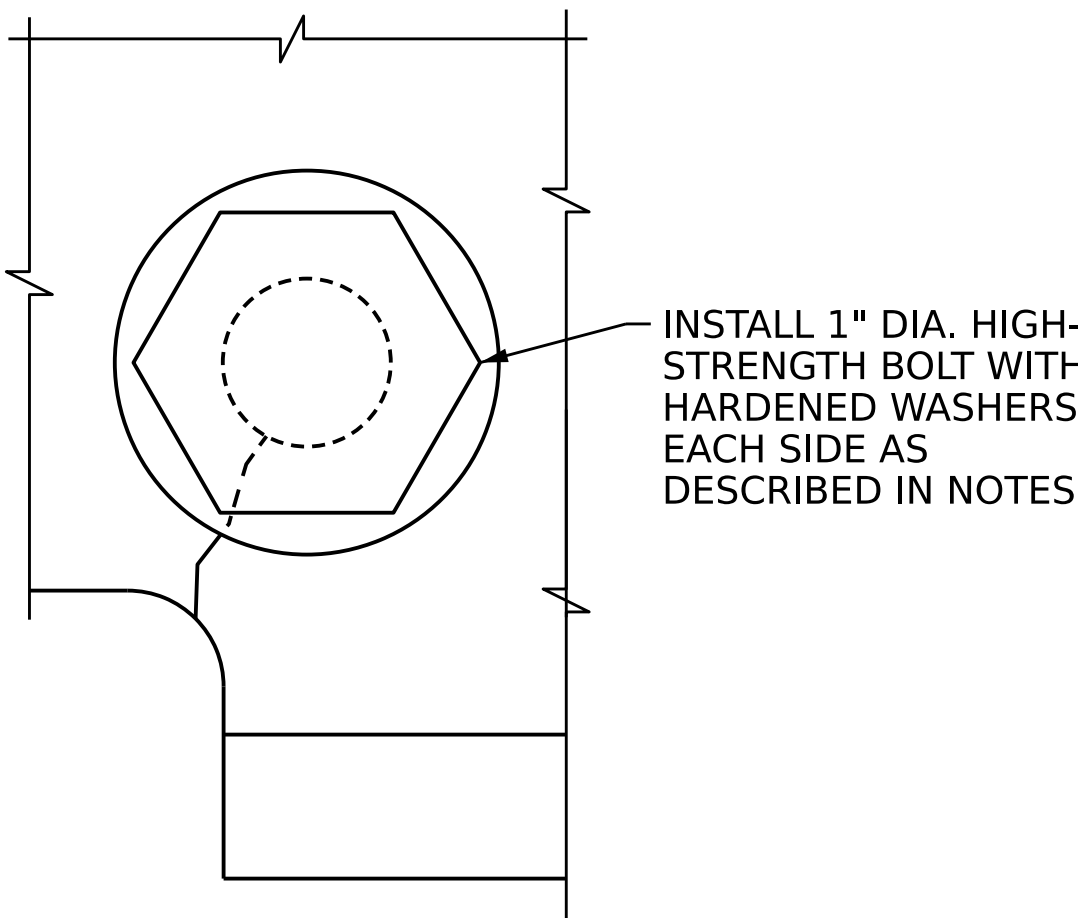


FINAL CONDITION

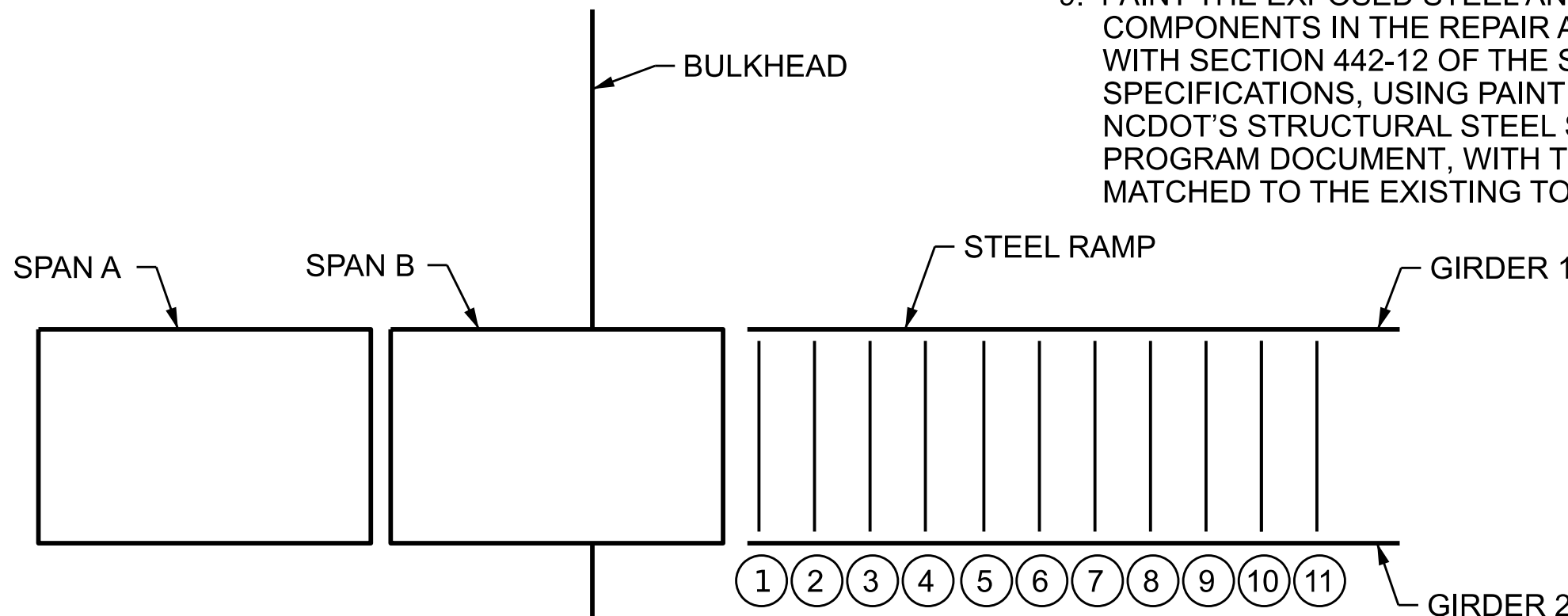
FLOOR BEAM WEB CRACK REPAIR DETAILS



DETAIL "A"



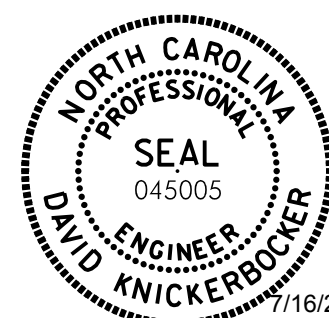
DETAIL "B"



PLAN LAYOUT

FLOOR BEAM NUMBER (TYP.)

PROJECT NO. **15BPR.164**
BEAUFORT COUNTY
TERMINAL: **AURORA**



DAVID KNICKERBOCKER

DES BY: B. BINOWSKI DATE : 11/2025 DWG BY: B. PETERSON DATE : 11/2025
DES CHK: D. KNICKERBOCKER DATE : 11/2025 CHK BY: D. KNICKERBOCKER DATE : 11/2025

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**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STEEL BEAM CRACK REPAIR DETAILS

REVISIONS						SHEET NO. S1-04
NO.	BY:	DATE:	NO.	BY:	DATE:	
1	--	--	3	--	--	TOTAL SHEETS
2	--	--	4	--	--	34