

LIMIT OF SILANE BARRIER RAIL APPLICATION.

NOTES:

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST QUANTITIES ENTERED INTO AS-BUILT REPAIR QUANTITY TABLE.

QUANTITY FOR SILANE DECK TREATMENT INCLUDES SIDEWALK.

QUANTITY FOR SILANE DECK TREATMENT FOR APPROACH SLAB INCLUDES SIDEWALK AND CURB.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

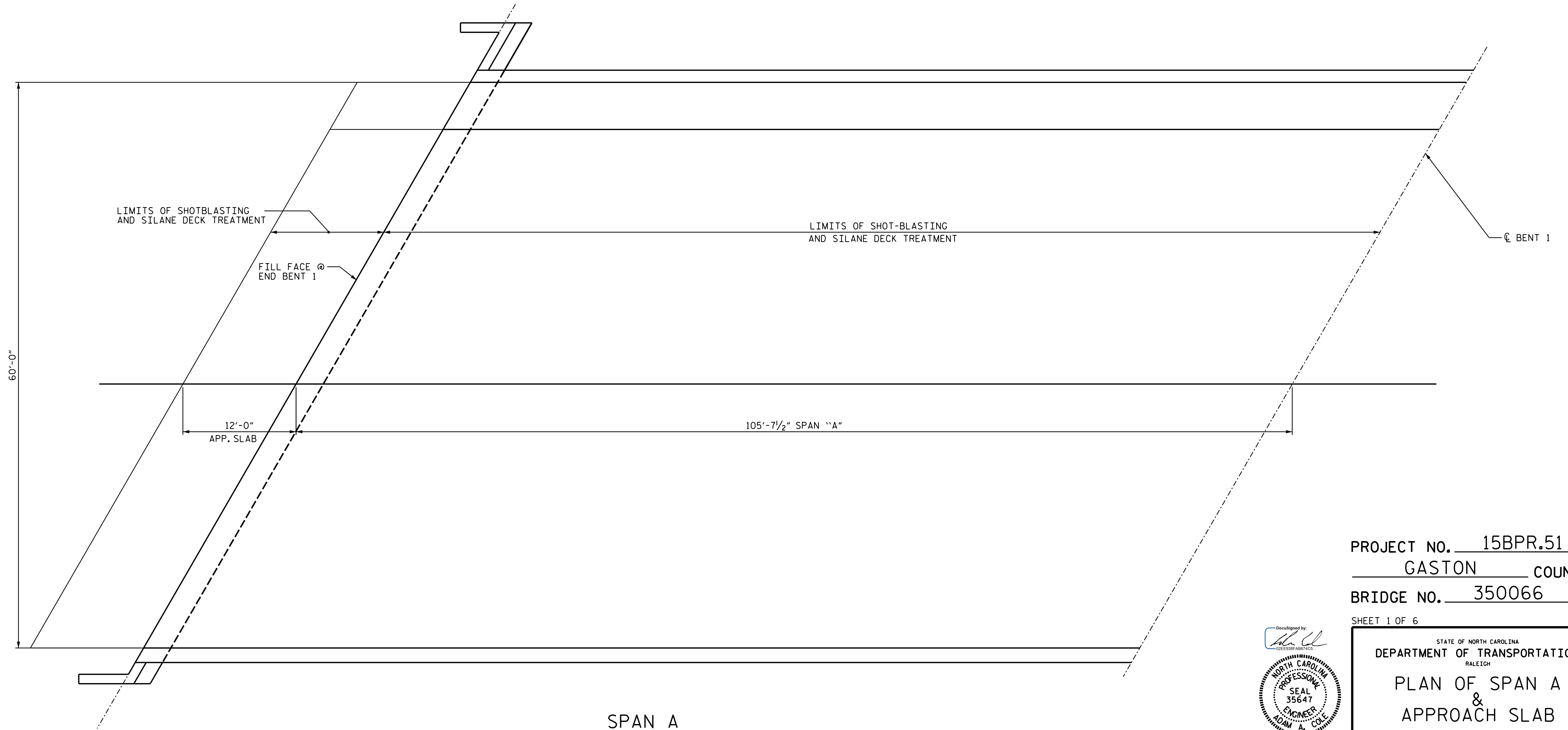
FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS.

APPROACH SLAB QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING APPROACH SLAB	84.7 SQ.YD.	
SILANE DECK TREATMENT	84.7 SQ.YD.	

BRIDGE DECK QUANTITIES

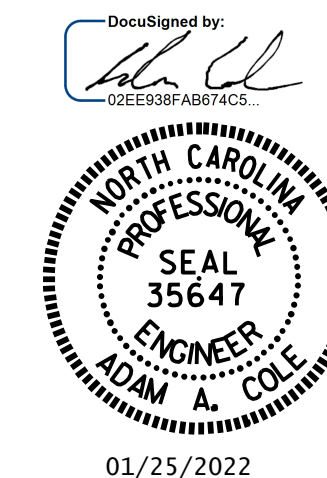
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	704.2 SQ.YD.	
SILANE DECK TREATMENT	704.2 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER	405.0 SQ.FT.	
SILANE BARRIER RAIL TREATMENT	405.0 SQ.FT.	



SPAN A

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350066

SHEET 1 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN A
 &
 APPROACH SLAB

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 10/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 12/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S4-05
1			3			TOTAL SHEETS
2			4			67

BRIDGE DECK QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	688.3 SQ.YD.	
SILANE DECK TREATMENT	688.3 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER	396.0 SQ.FT.	
SILANE BARRIER RAIL TREATMENT	396.0 SQ.FT.	

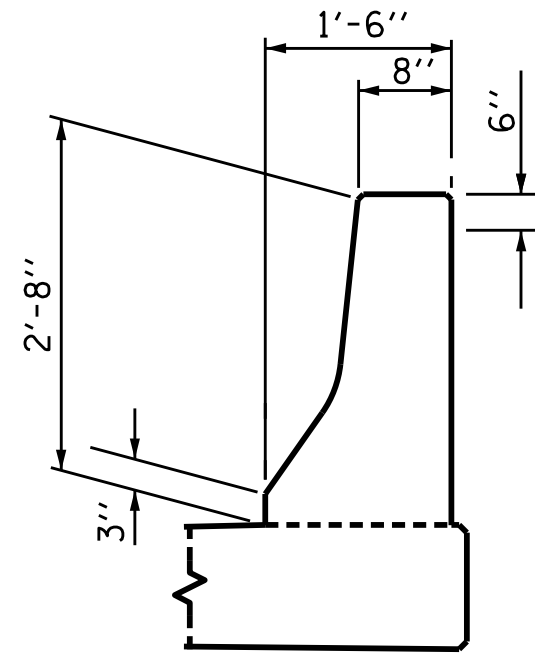
NOTES:

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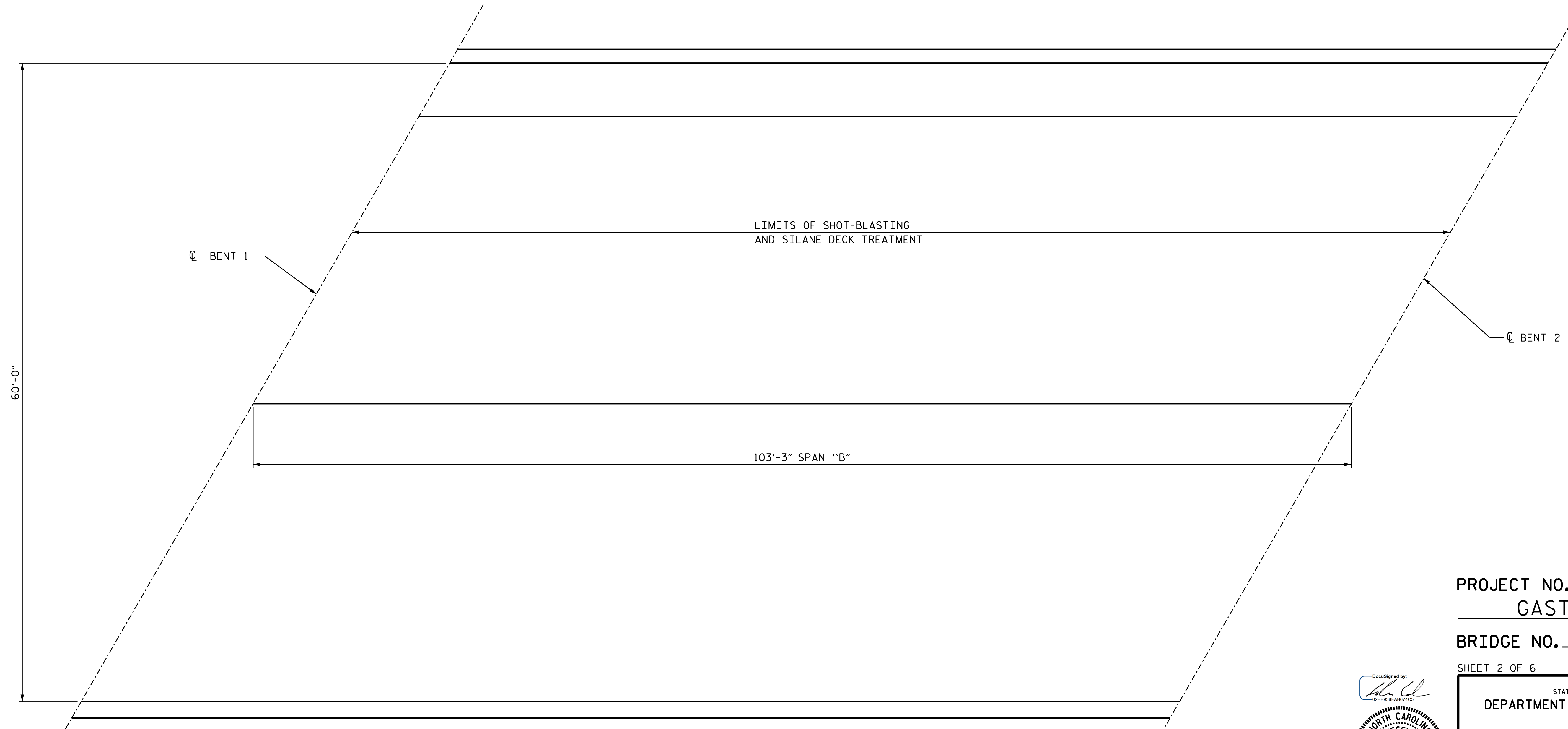
QUANTITY FOR SILANE DECK TREATMENT INCLUDES SIDEWALK.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS.



LIMIT OF SILANE BARRIER RAIL APPLICATION.

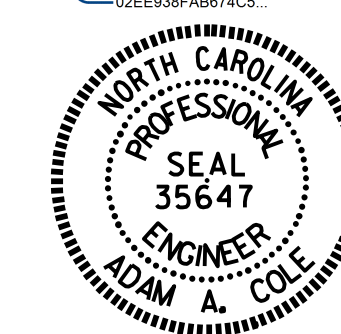


SPAN B

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350066

SHEET 2 OF 6

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01/25/2022

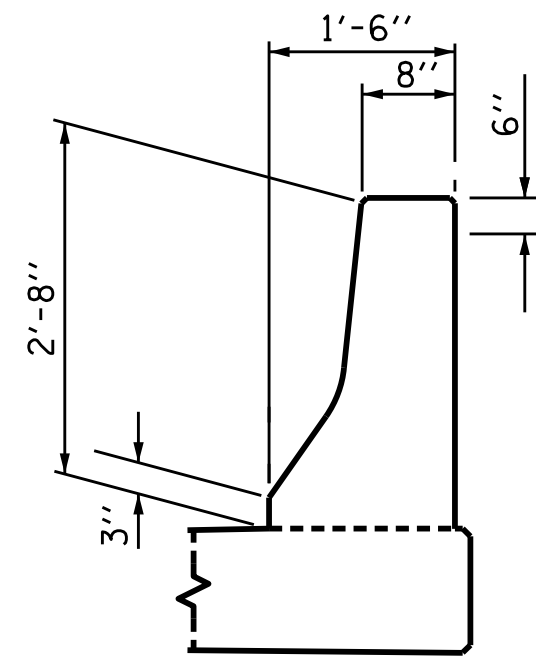
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN B

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 11/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 12/2021

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S4-06
2			4			TOTAL SHEETS 67



LIMIT OF SILANE BARRIER RAIL APPLICATION.

NOTES:

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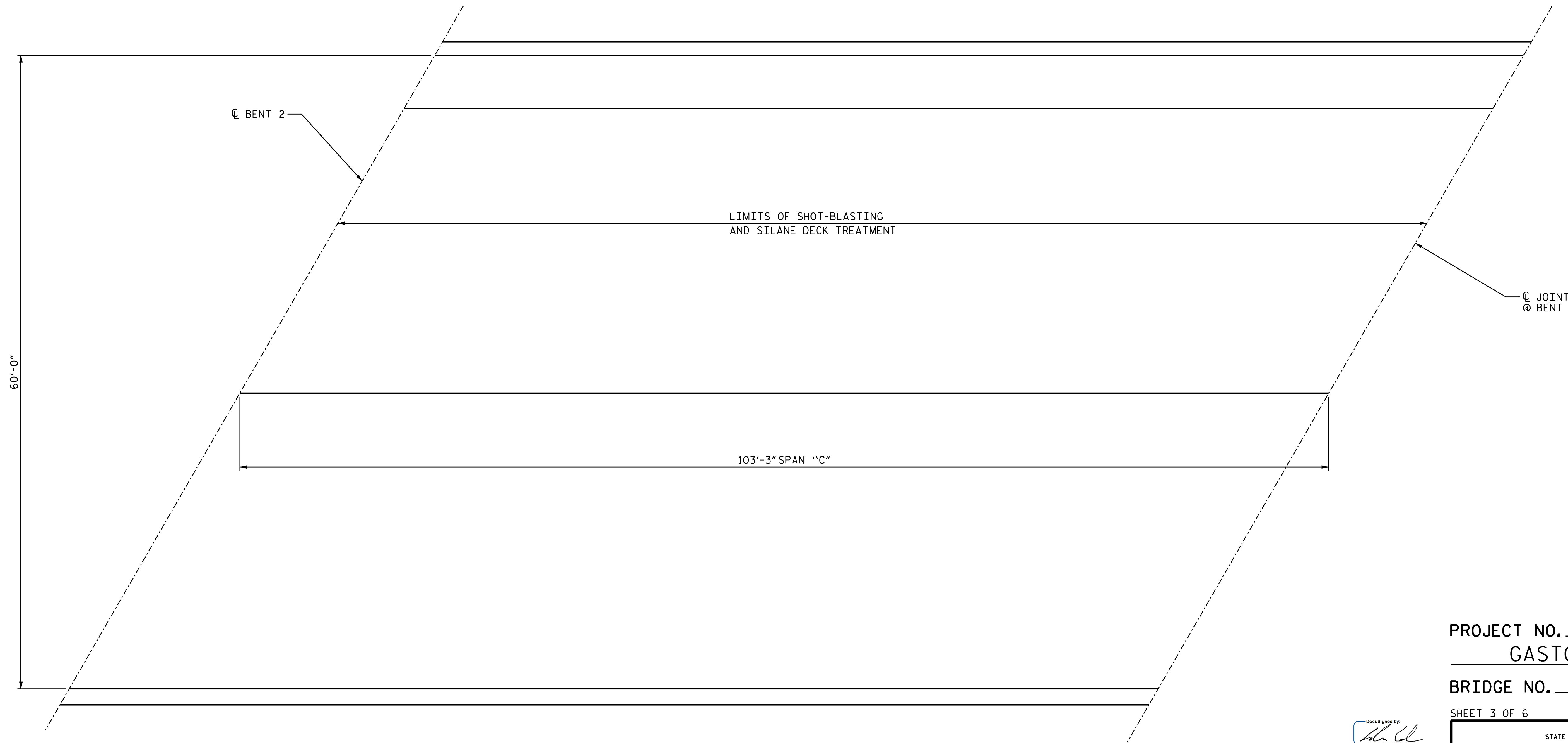
QUANTITY FOR SILANE DECK TREATMENT INCLUDES SIDEWALK.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS.

BRIDGE DECK QUANTITIES

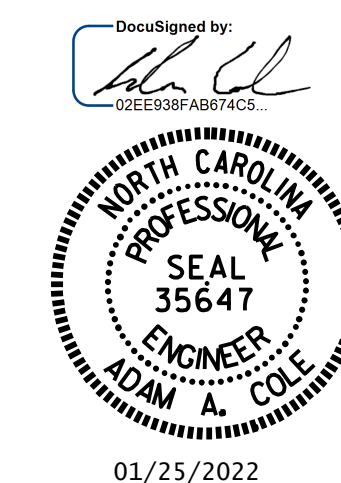
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	688.3 SQ.YD.	
SILANE DECK TREATMENT	688.3 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER	405.0 SQ.FT.	
SILANE BARRIER RAIL TREATMENT	405.0 SQ.FT.	



SPAN C

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350066

SHEET 3 OF 6



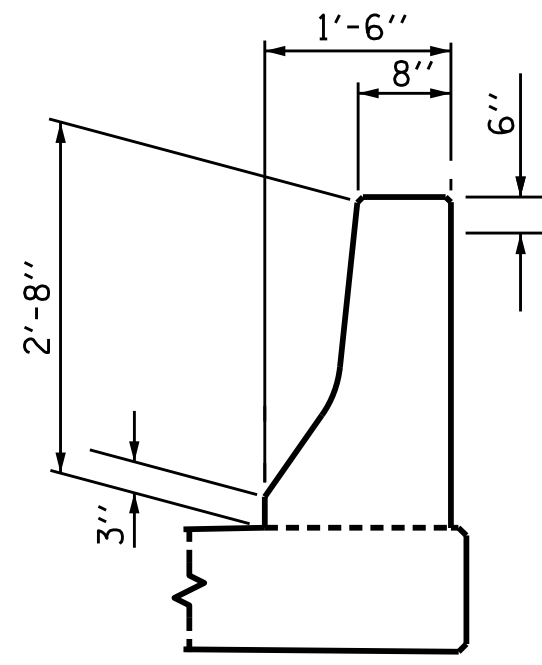
STATE OF NORTH CAROLINA
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 RALEIGH

PLAN OF SPAN C

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 10/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 12/2021

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1			3			S4-07
2			4			TOTAL SHEETS 67



LIMIT OF SILANE BARRIER RAIL APPLICATION.

NOTES:

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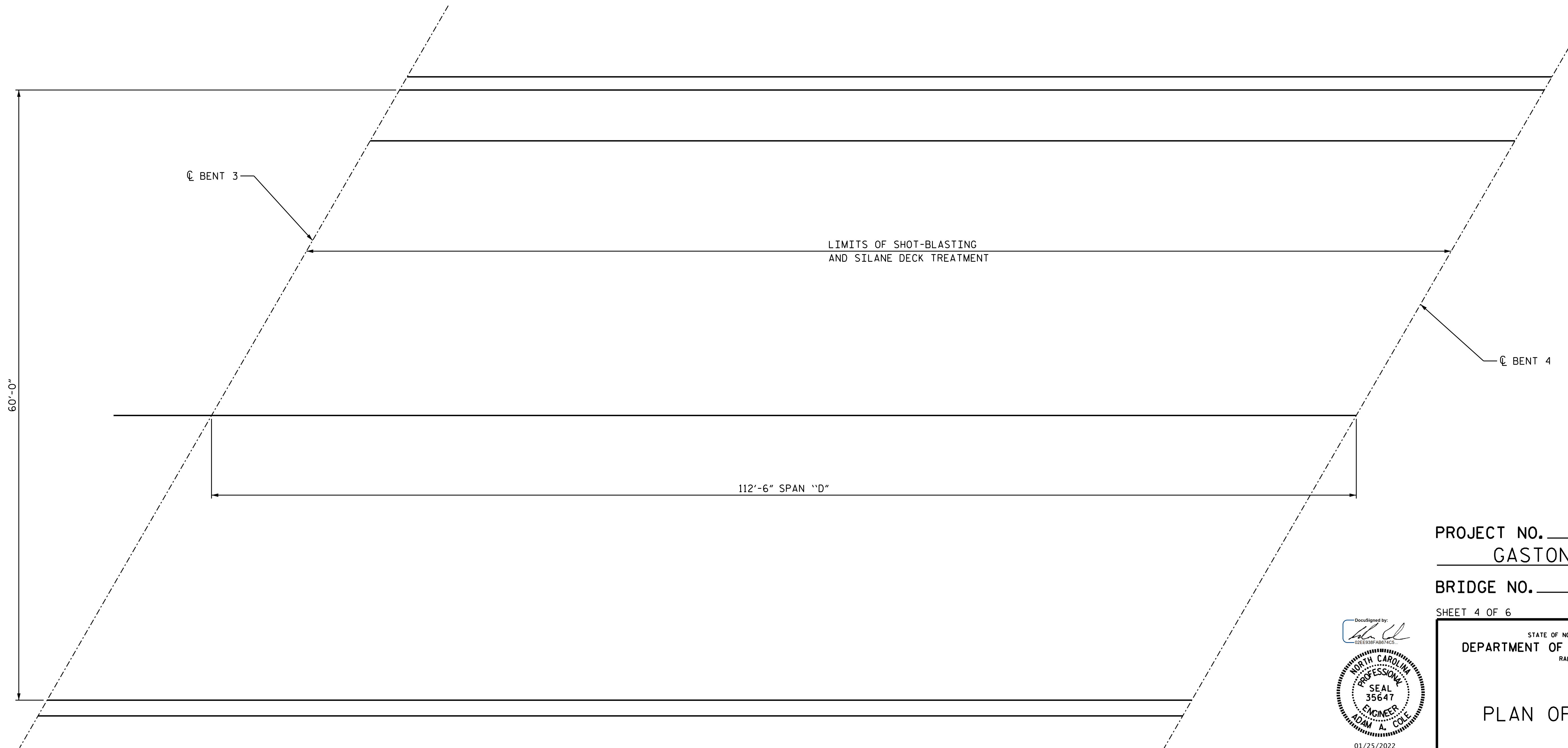
QUANTITY FOR SILANE DECK TREATMENT INCLUDES SIDEWALK.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS.

BRIDGE DECK QUANTITIES

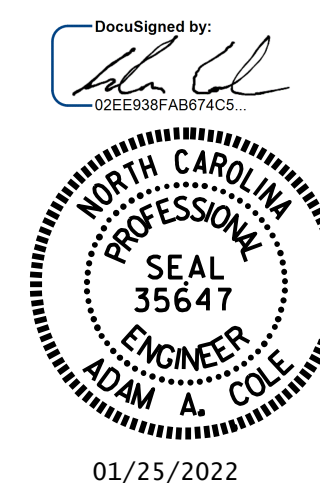
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	750.0 SQ.YD.	
SILANE DECK TREATMENT	750.0 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER	431.0 SQ.FT.	
SILANE BARRIER RAIL TREATMENT	431.0 SQ.FT.	



SPAN D

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350066

SHEET 4 OF 6



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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PLAN OF SPAN D

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REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
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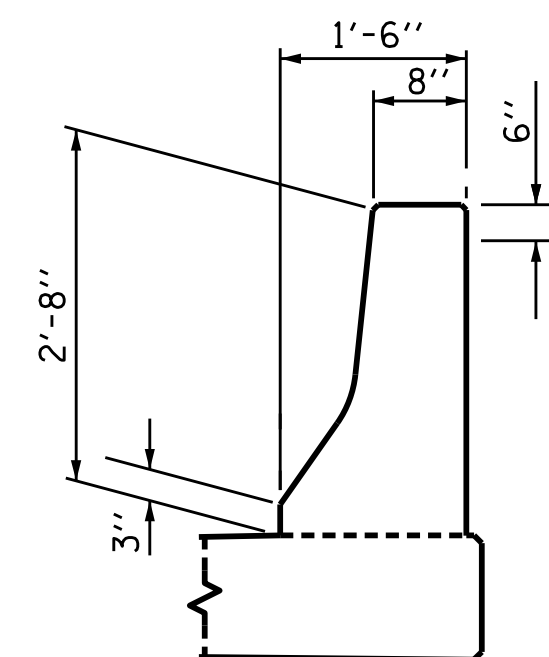
BRIDGE DECK QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	750.0 SQ.YD.	
SILANE DECK TREATMENT	750.0 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER	431.0 SQ.FT.	
SILANE BARRIER RAIL TREATMENT	431.0 SQ.FT.	

NOTES:

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QUANTITY FOR SILANE DECK TREATMENT INCLUDES SIDEWALK.
FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.
FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS.



LIMIT OF SILANE BARRIER RAIL APPLICATION.



SPAN E

PROJECT NO. 15BPR.51
GASTON COUNTY
BRIDGE NO. 350066

SHEET 5 OF 6



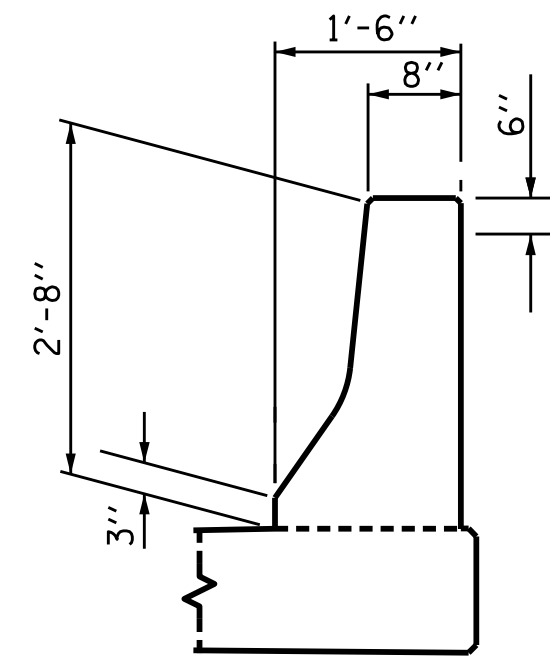
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN E

DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 11/2021
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1			3			S4-09
2			4			TOTAL SHEETS 67



LIMIT OF SILANE BARRIER RAIL APPLICATION.

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QUANTITY FOR SILANE DECK TREATMENT INCLUDES SIDEWALK.

QUANTITY FOR SILANE DECK IN APPROACH SLAB INCLUDES SIDEWALK AND CURB.

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

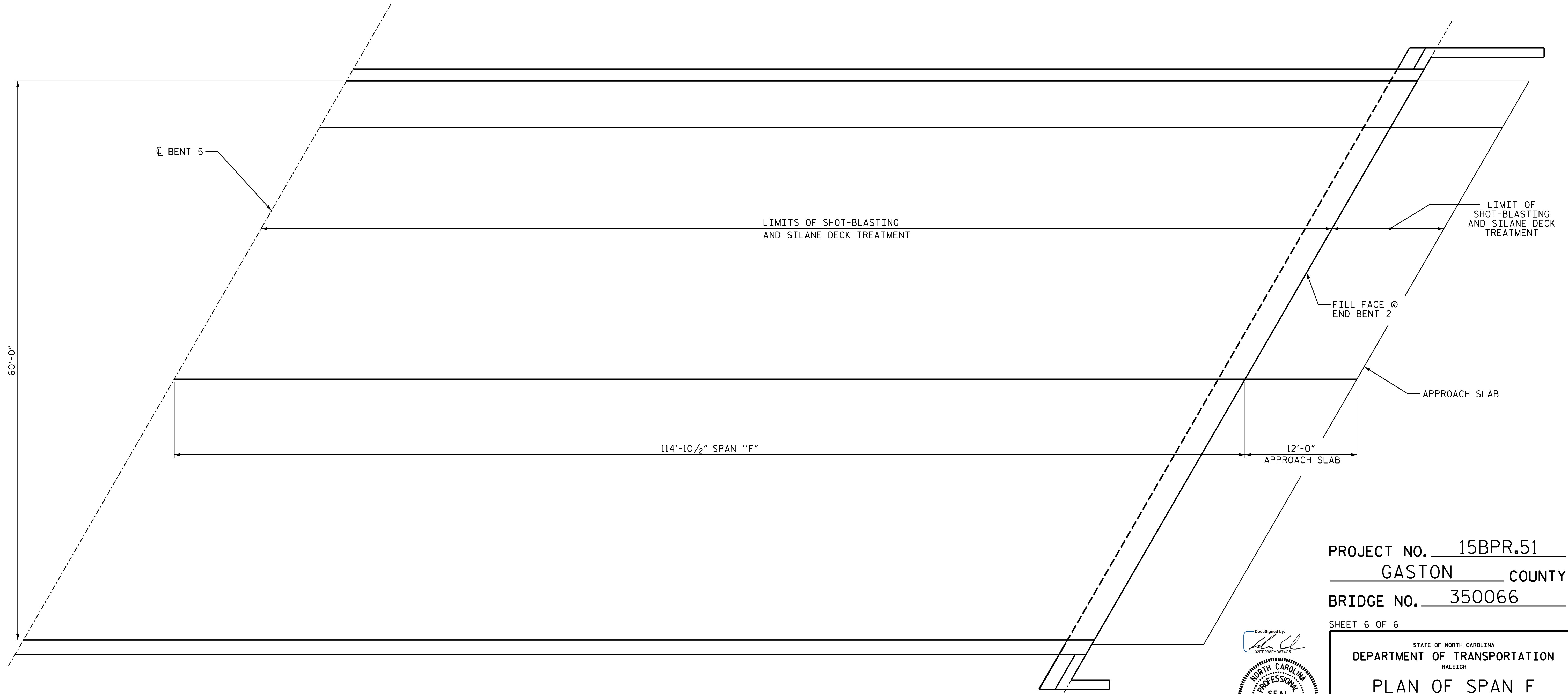
FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS.

APPROACH SLAB QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING APPROACH SLAB	81.0 SQ.YD.	
SILANE DECK TREATMENT	81.0 SQ.YD.	

BRIDGE DECK QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	766.0 SQ.YD.	
SILANE DECK TREATMENT	766.0 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER	441.0 SQ. FT.	
SILANE BARRIER RAIL TREATMENT	441.0 SQ. FT.	

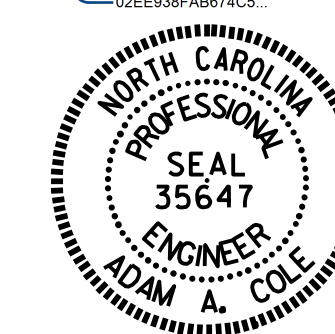


SPAN F

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350066

SHEET 6 OF 6

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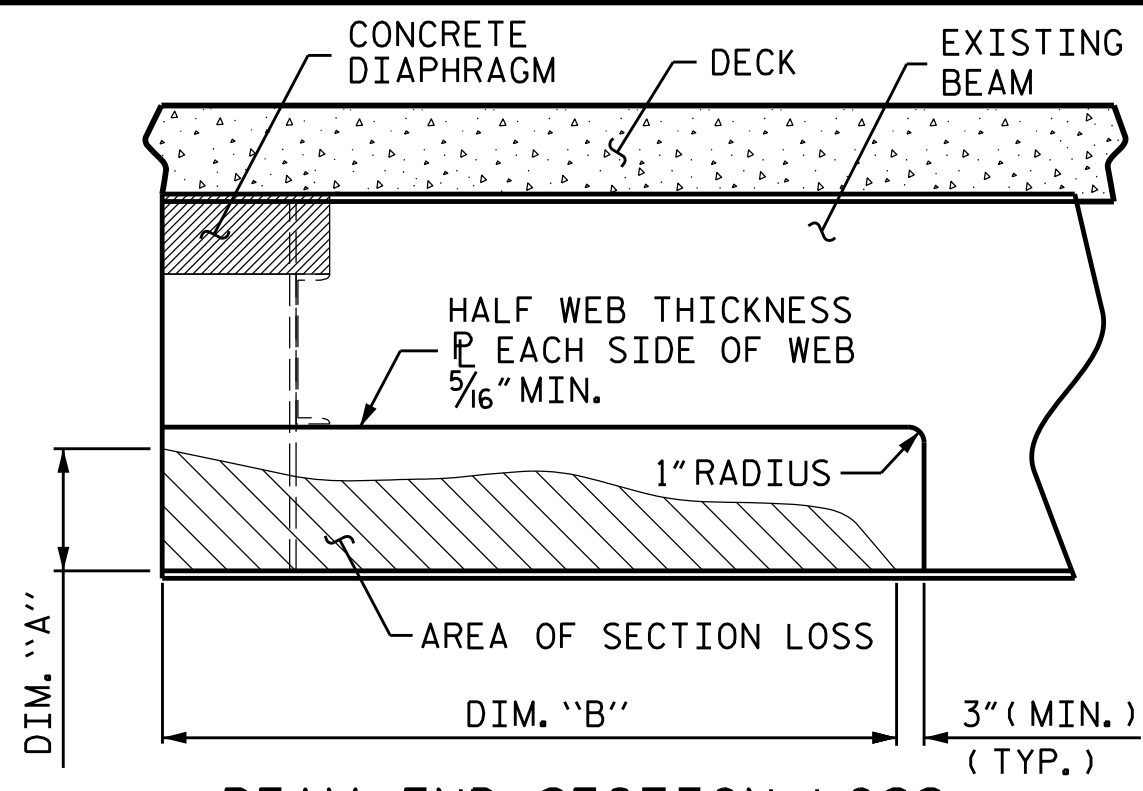
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN F
 &
 APPROACH SLAB

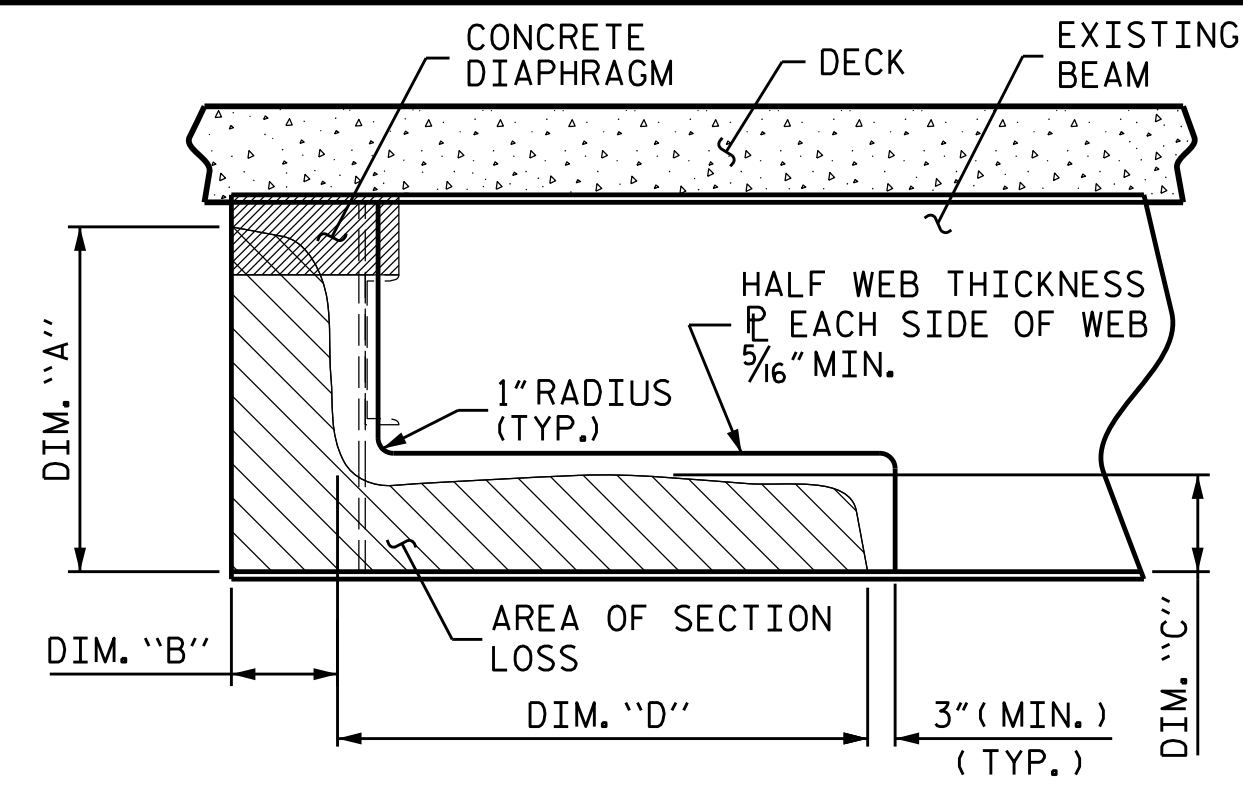
DRAWN BY : GHOLAMREZA KOUCHEKI DATE : 11/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 12/2021

DOCUMENT NOT CONSIDERED
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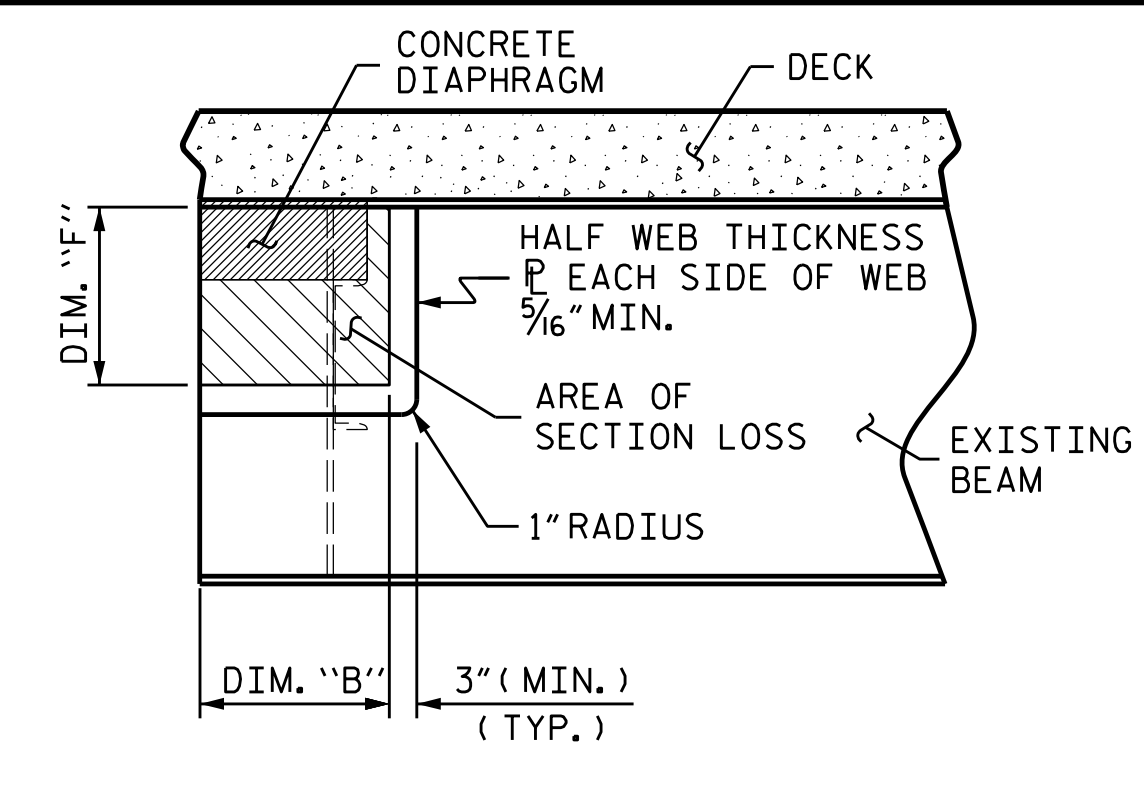
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S4-10
1			3			TOTAL SHEETS
2			4			67



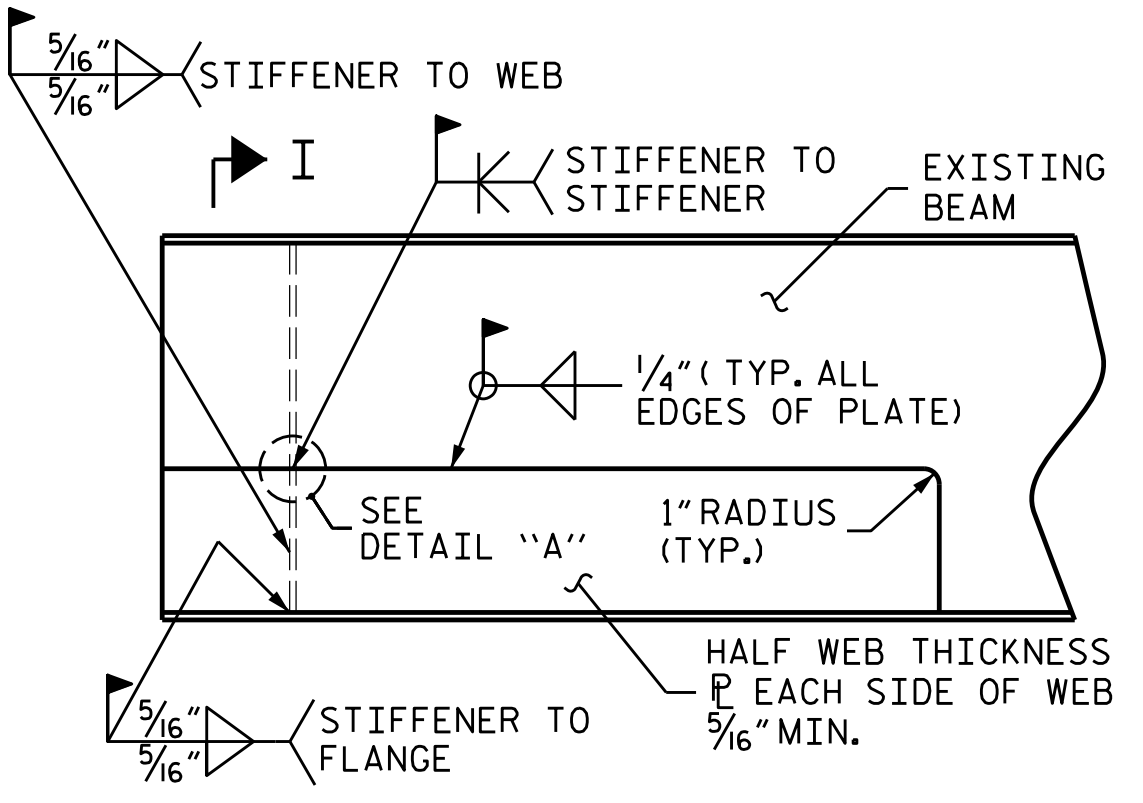
BEAM END SECTION LOSS AND PLATING REPAIR



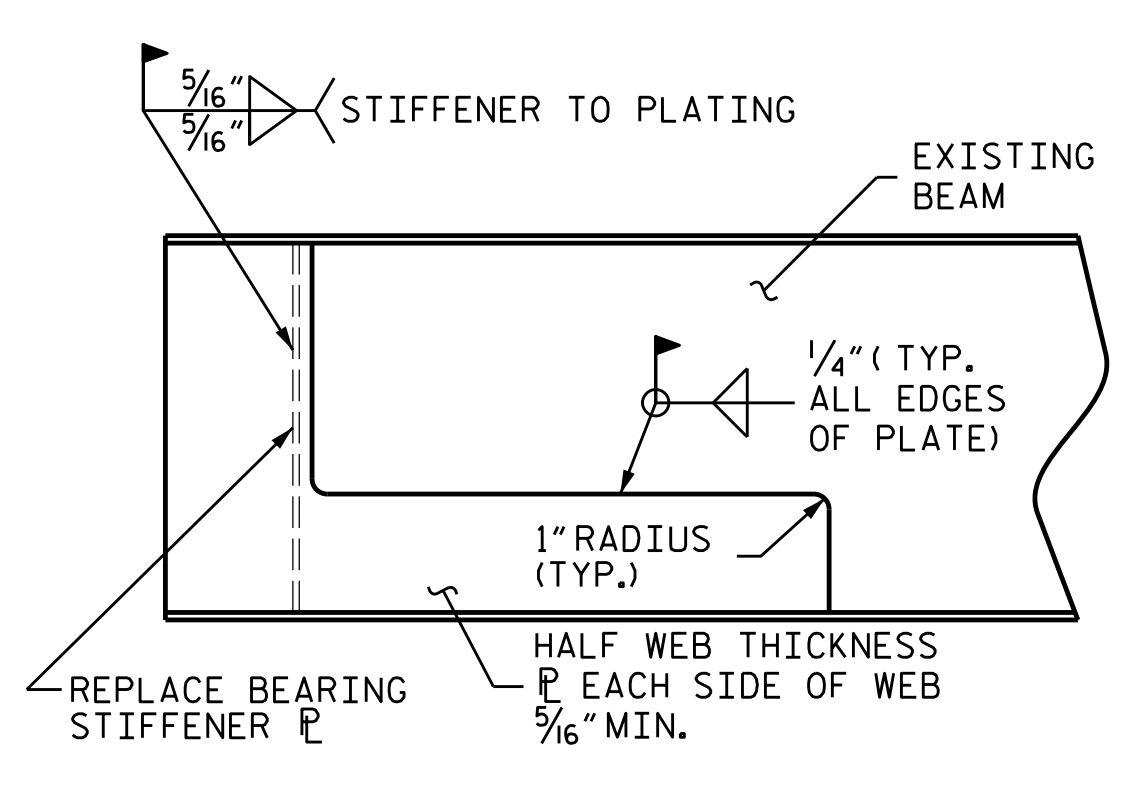
BEAM END SECTION LOSS AND PLATING REPAIR



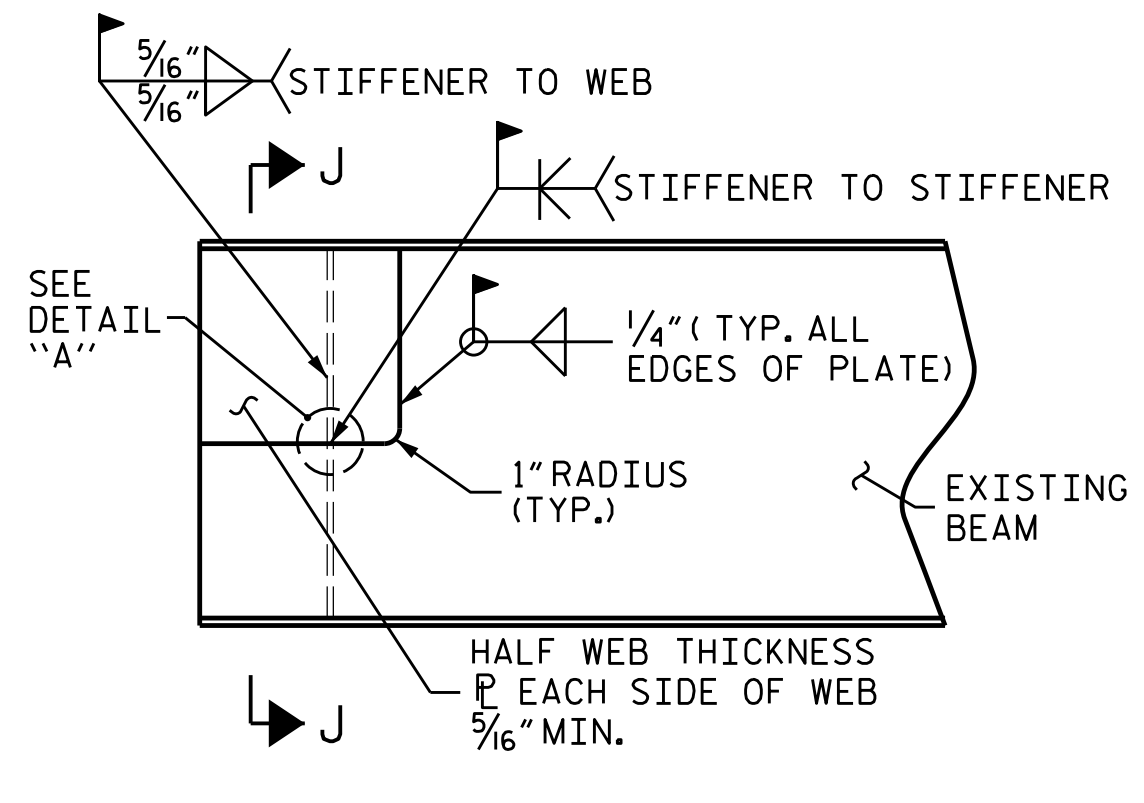
BEAM END SECTION LOSS AND PLATING REPAIR



BEAM END PLATING REPAIR

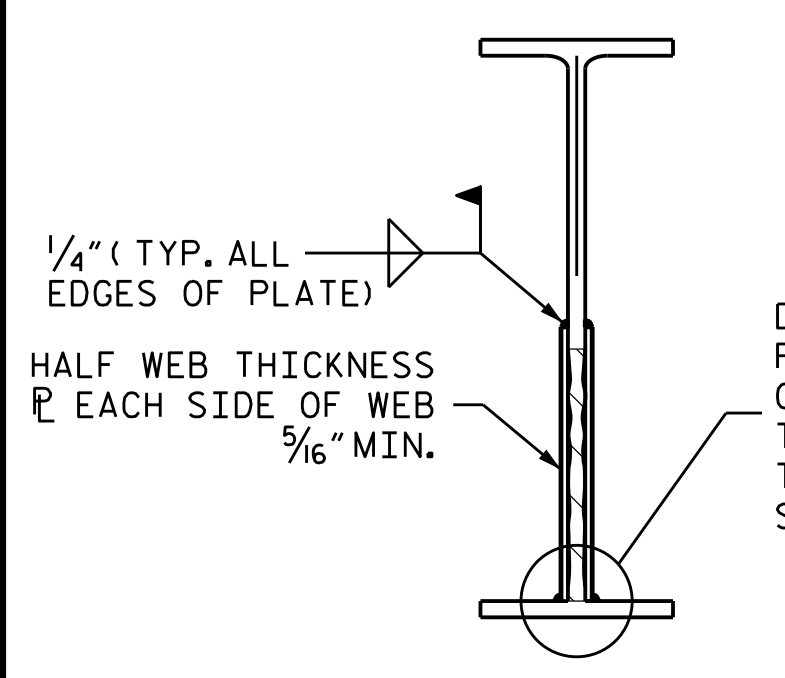


BEAM END PLATING REPAIR

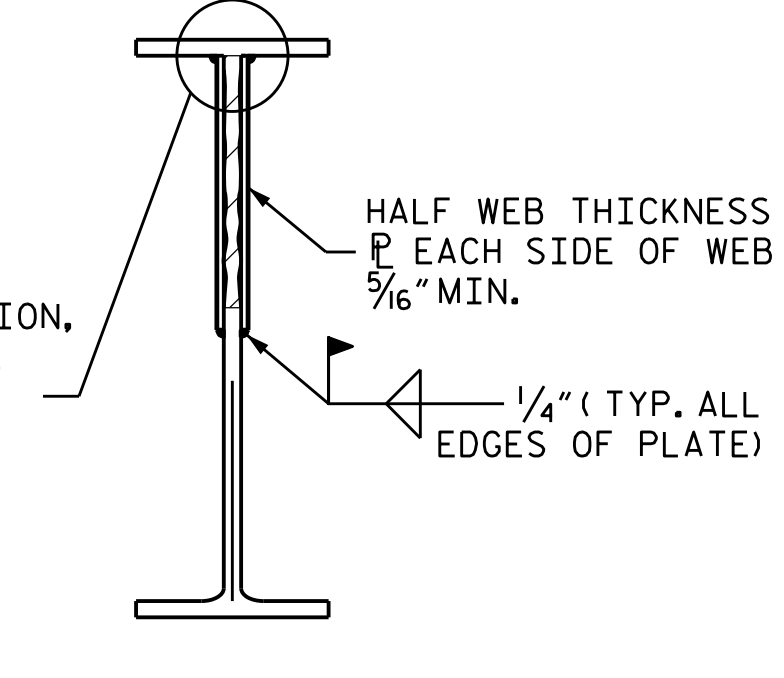


BEAM END PLATING REPAIR

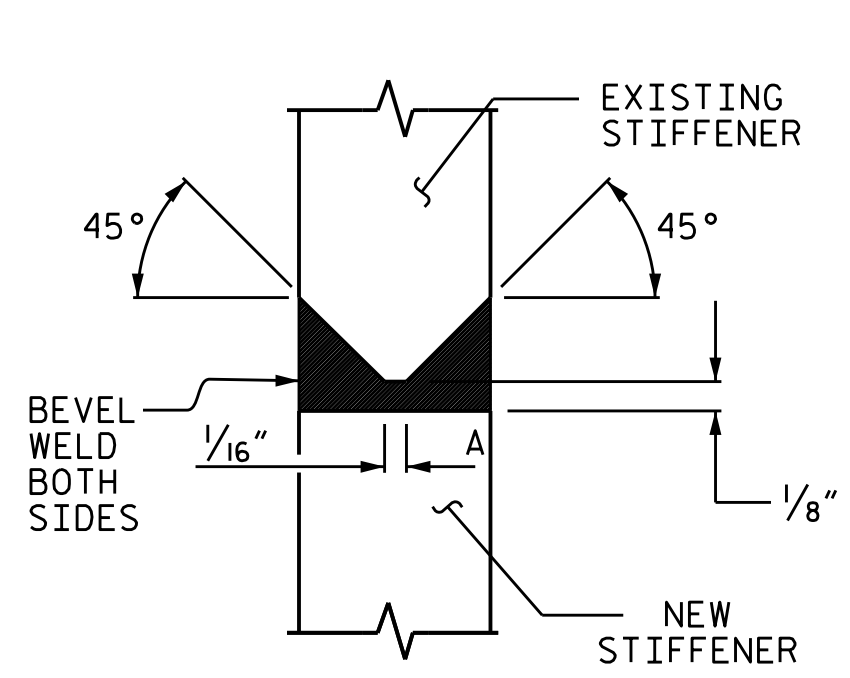
BEAM END PLATING REPAIR



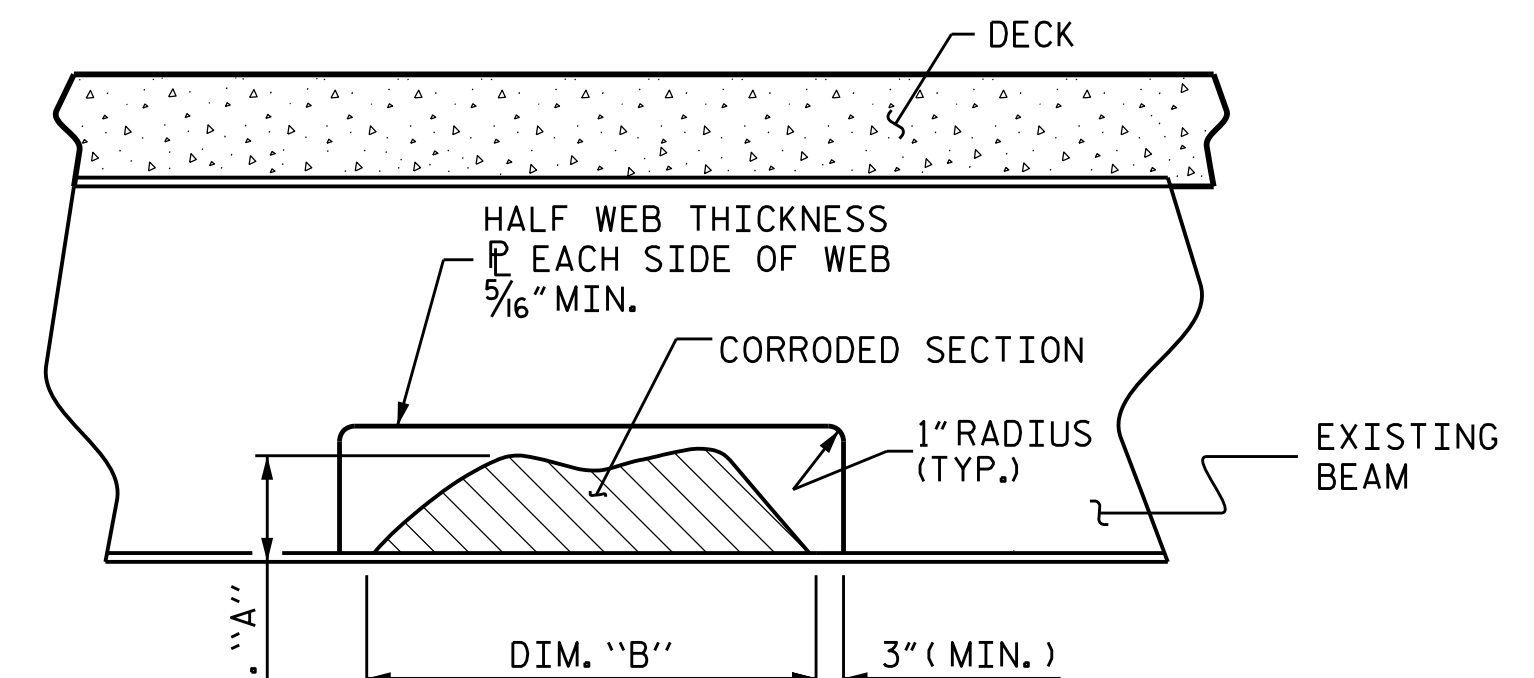
SECTION I-I



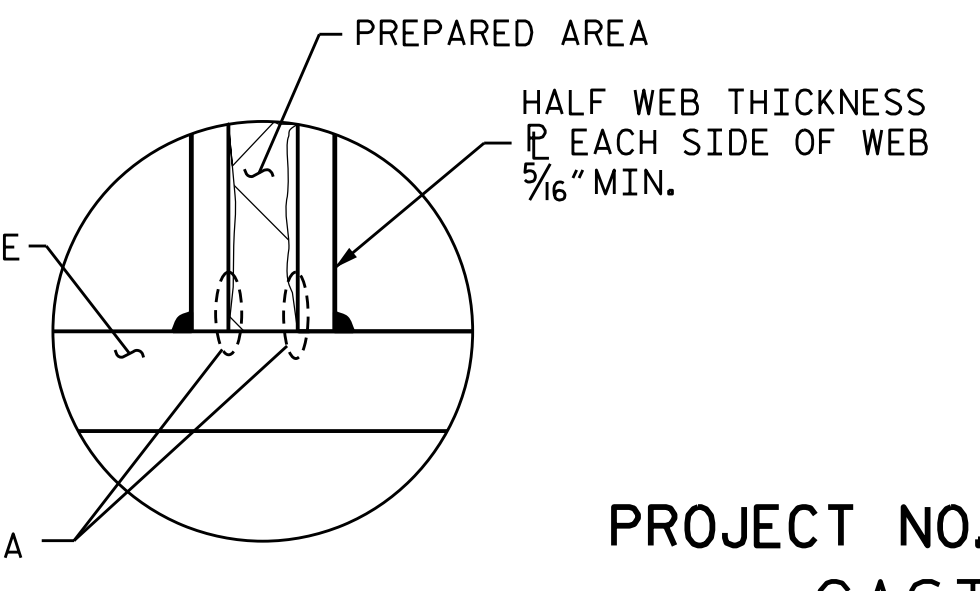
SECTION J-J



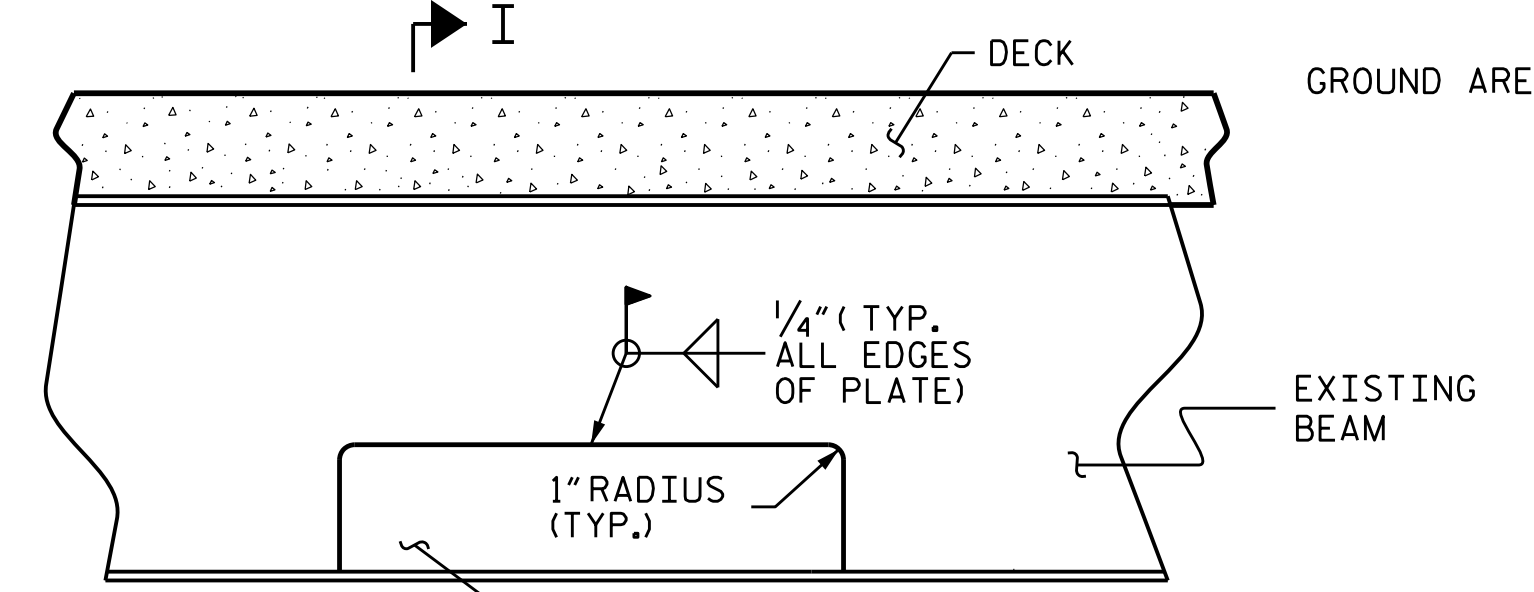
DETAIL 'A'



INTERMEDIATE SECTION LOSS BEAM PLATING REPAIR



DETAIL 'B'



INTERMEDIATE SECTION LOSS BEAM PLATING REPAIR

INTERMEDIATE BEAM PLATING REPAIR

BEAM PLATING REPAIR NOTES

ALL CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR INSTALLATION OF ANY COMPONENTS.

REPAIR PLATES SHALL BE NEW, AND SHALL BE THE SAME GRADE OF THE EXISTING STEEL MEMBER OR BETTER.

REPAIR SEQUENCE:

COORDINATE WITH MATERIALS AND TEST UNIT AT LEAST 4 DAYS PRIOR TO ANTICIPATED WORK.

REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

IF NECESSARY, REMOVE EXISTING STIFFENER TO INSTALL WELDED PLATE REPAIR. REPLACE WITH A NEW STIFFENER PLATE OF SIMILAR SIZE.

IF BEAM DETERIORATION EXTENDS INTO THE CONCRETE DIAPHRAGM THEN CHIP AWAY CONCRETE TO DETERMINE THE EXTENT OF THE DAMAGE.

IF PAINTING THE STEEL, CLEAN AND BLAST STEEL AS REQUIRED, PRIOR TO PERFORMING STEEL REPAIRS. OTHERWISE, MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

PRIME ENTIRE REPAIR AREA AND REPAIR PLATES WITH AN ORGANIC ZINC PRIMER PRIOR TO WELDING NEW PLATES. REMOVE PRIMER IN WELD AREA.

ONE PLATE SHALL BE PLACED, AS INDICATED ON EACH SIDE OF THE BEAM WEB.

EACH PLATE SHALL BE APPROXIMATELY ONE-HALF THE ORIGINAL THICKNESS OF THE BEAM WEB, 5/16" MINIMUM.

FULLY WELD ALONG TOP AND SIDES OF THE PLATES AS SHOWN.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.

ALL WELDS SHALL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

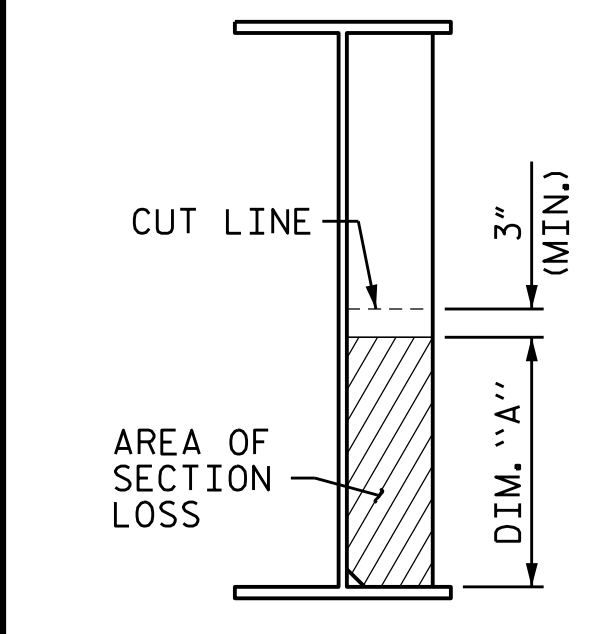
IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AFTER REPAIR, GRIND ALL WELDS FLUSH, AND THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM THE REPAIR PROCESS.

CLEANING AND PAINTING OF REPAIRED STRUCTURAL STEEL SHALL BE PERFORMED AS PART OF THE OVERALL CLEANING AND PAINTING CONTRACT.

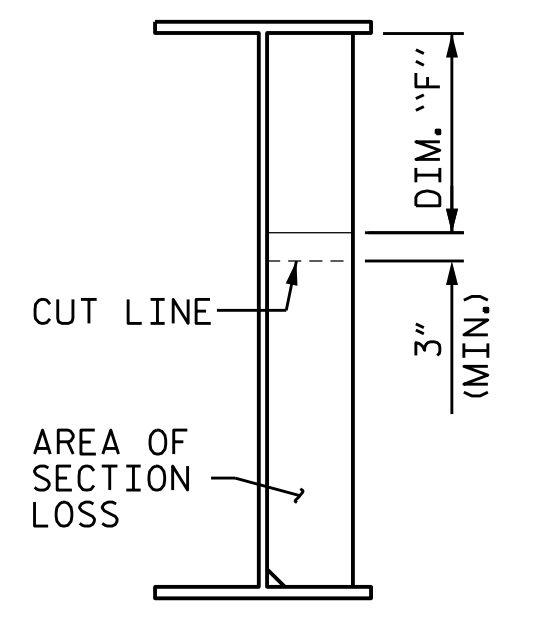
FOR CLEANING AND PAINTING, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISIONS.

AFTER BEAMS ARE REPAIRED AND PAINTED, ANY CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE RECAST. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "BEAM REPAIR". FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

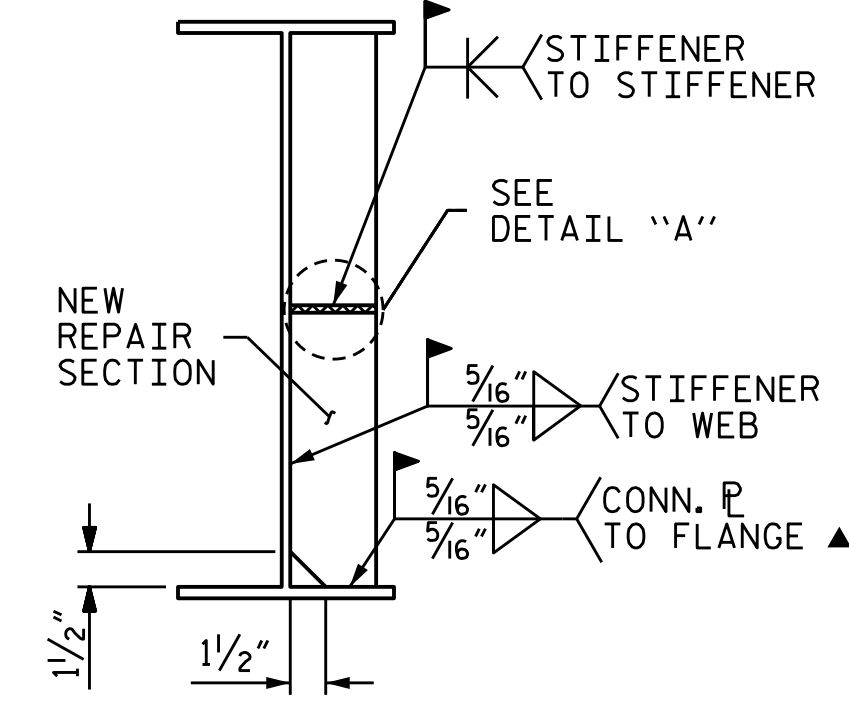
REMOVE ALL TRAFFIC CONTROL DEVICES.



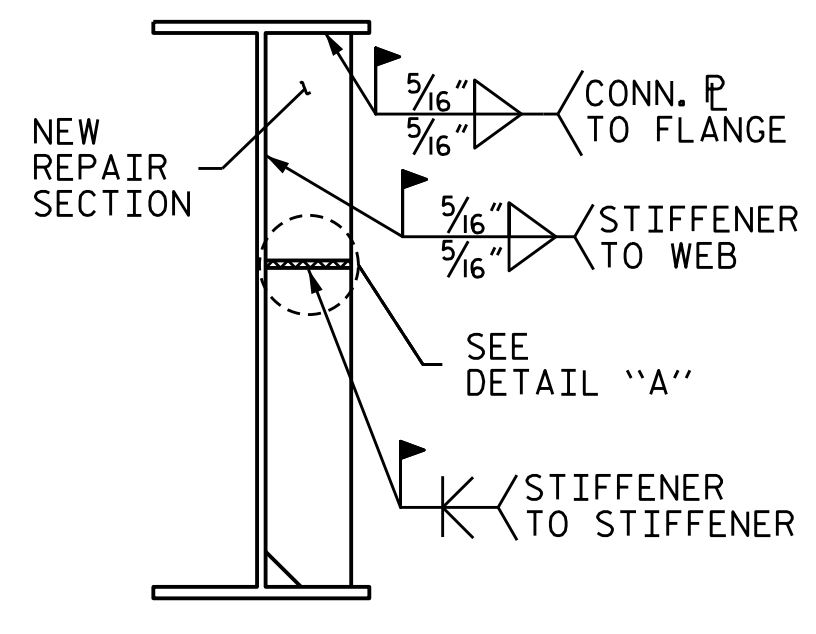
STIFFENER/CONN. PLATE SECTION LOSS



STIFFENER/CONN. PLATE SECTION REPAIR



STIFFENER/CONN. PLATE SECTION REPAIR



STIFFENER/CONN. PLATE SECTION REPAIR

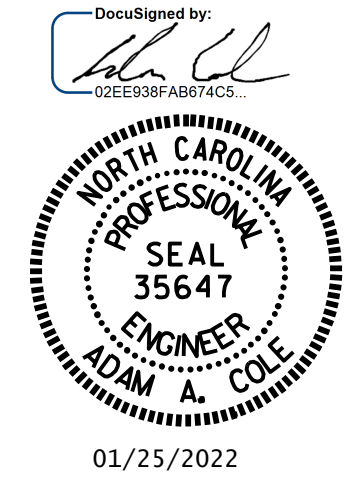
▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD

STIFFENER/CONNECTOR PLATE REPAIR

DRAWN BY : H.A. LOCKLEAR DATE : 12/2021
 CHECKED BY : A.A. COLE DATE : 12/2021

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PROJECT NO. 15BPR.51
 GASTON COUNTY
 BRIDGE NO. 350046, 350314
 350086
 SHEET 1 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BEAM PLATING REPAIR DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-60
1			3			TOTAL SHEETS
2			4			67

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NOTES:

▲ FOR EACH BEAM BEING REPAIRED, CONTRACTOR SHALL FIELD VERIFY DIMENSIONS. PLATE DIMENSIONS SHALL BE ADJUSTED TO FIT IN THE SPACE FROM BEAM END TO 1/2" FROM STIFFENER / CONNECTOR PLATE.

THE ENGINEER SHALL BE NOTIFIED IF DIMENSION "B" EXCEEDS 12". IF SO, AN ADDITIONAL COLUMN OF BOLTS SHALL BE ADDED.

THE PLATES FOR DIM "E" SHALL BE PLACED SNUG TO THE BOTTOM OF THE DIAPHRAGM.

DIMENSION "Y" SHALL BE A MINIMUM OF 3/4" AND A MAXIMUM OF 6".

EACH PLATE SHALL BE APPROXIMATELY ONE-HALF THE ORIGINAL THICKNESS OF THE BEAM WEB, 3/16" MINIMUM, AND SHALL BE APPROVED BY THE ENGINEER.

PLATES SHALL BE SHOP PRIMED PRIOR TO DELIVERY.

PLATES SHALL BE NEW, AND SHALL BE THE SAME GRADE OF THE EXISTING STEEL MEMBER OR BETTER.

ALL BOLTS SHALL MEET ASTM A325.

ALL NUTS SHALL MEET ASTM A194.

ALL FLAT WASHERS SHALL MEET ASTM F436.

IF STEEL IS WEATHER, ALL BOLTS, NUT, AND WASHERS SHALL BE AASHTO M163 TYPE 3.

THE EPOXY MASTIC USED FOR THIS WORK SHALL BE COMPATIBLE WITH THE PAINT SYSTEM USED FOR THE PAINTING OF EXISTING STEEL AND SHALL BE APPROVED BY THE NCDOT MATERIALS AND TEST UNIT. THE EPOXY MASTIC WILL BE ACCEPTED ON THE BASIS OF THE MANUFACTURER'S WRITTEN CERTIFICATION THAT THE BATCH PRODUCED MEETS THEIR PRODUCT SPECIFICATION.

REPAIR SEQUENCE:

REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

IF PAINTING THE STEEL, CLEAN AND BLAST STEEL AS REQUIRED, PRIOR TO PERFORMING STEEL REPAIRS. OTHERWISE, MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

PRIME ENTIRE REPAIR AREA AND REPAIR PLATES WITH AN ORGANIC ZINC PRIMER PRIOR TO ATTACHING NEW PLATES

ONE PLATE SHALL BE PLACED, ON EACH SIDE OF THE BEAM ENDS.

PRIOR TO PLACEMENT OF THE PLATES, APPLY WET EPOXY MASTIC AROUND THE TOP AND SIDE PERIMETERS ON THE PLATE FACE THAT IS TO BE IN CONTACT WITH THE BEAM. AMOUNT OF EPOXY MASTIC SHALL BE SUFFICIENT TO SEAL THE INTERFACE OF THE PLATE AND THE BEAM AFTER BOLTS ARE TIGHTENED. NO EPOXY MASTIC SHALL BE PLACED ALONG THE BOTTOM PERIMETER ON THE PLATE. WHILE THE MASTIC IS STILL WET, PLATES SHALL BE PUT IN PLACE AND BOLTS PROPERLY TIGHTENED.

TENSION ON THE BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS (DTIS) IN ACCORDANCE WITH ARTICLE 440-8 OF THE NCDOT STANDARD SPECIFICATIONS. DTIS SHALL BE MEET ASTM F959.

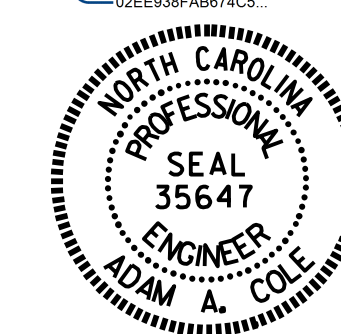
AFTER PLACEMENT OF THE PLATES AND TIGHTENING OF THE BOLTS, PLATES, BOLTS, AND SURROUNDING AREA SHALL BE PAINTED OR PAINT SHALL BE REPAIRED AS PER PROJECT REQUIREMENTS AND NCDOT STANDARD SPECIFICATIONS.

PAYMENT WILL BE MADE AT CONTRACT PRICE BID PER POUNDS STRUCTURAL STEEL USED FOR GIRDER REPAIR. SUCH PAYMENTS WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, MISCELLANEOUS STEEL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350046, 350314
350086

SHEET 2 OF 4

DocuSign
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01/25/2022

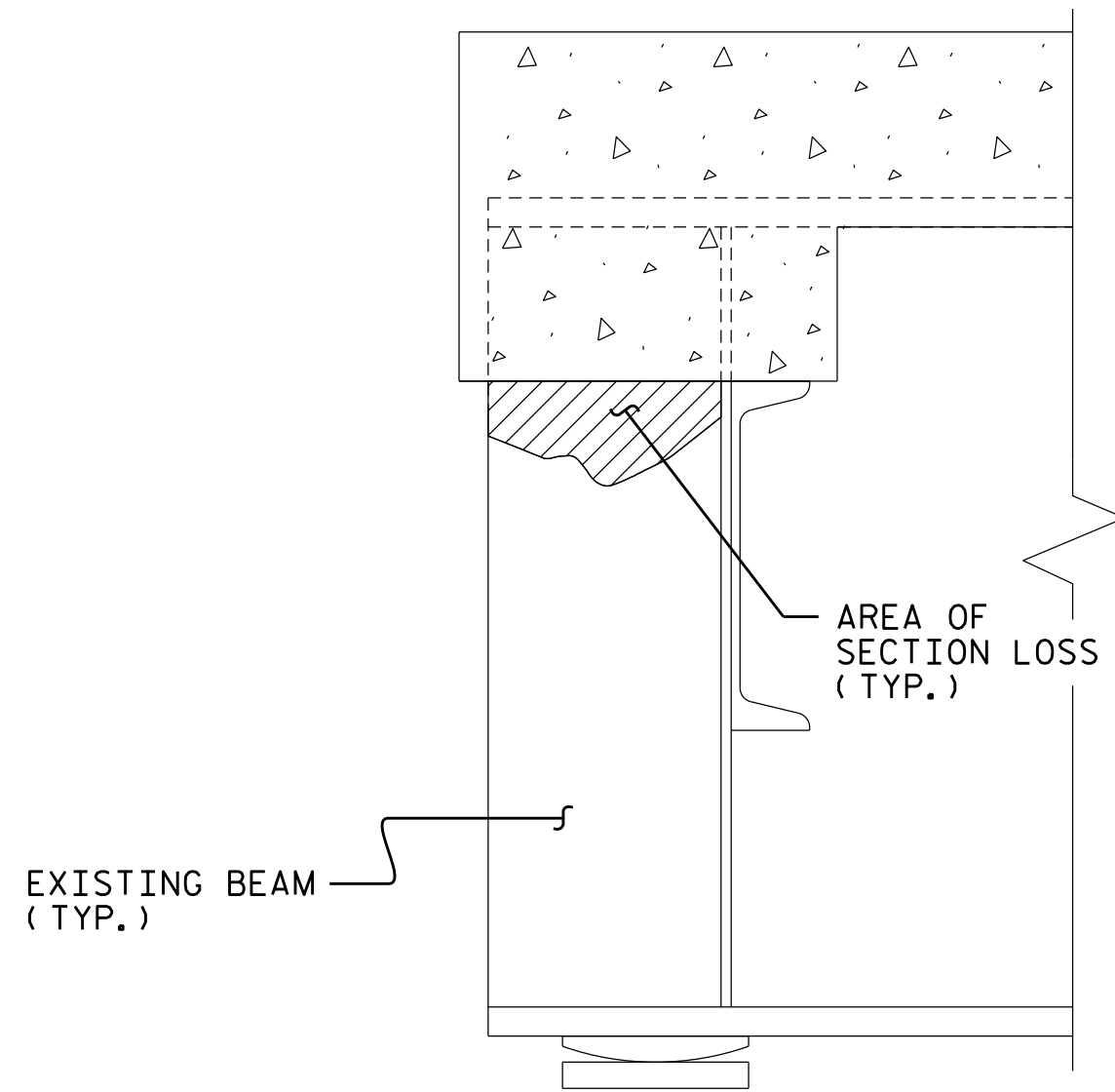
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BEAM PLATING
 REPAIR DETAILS**

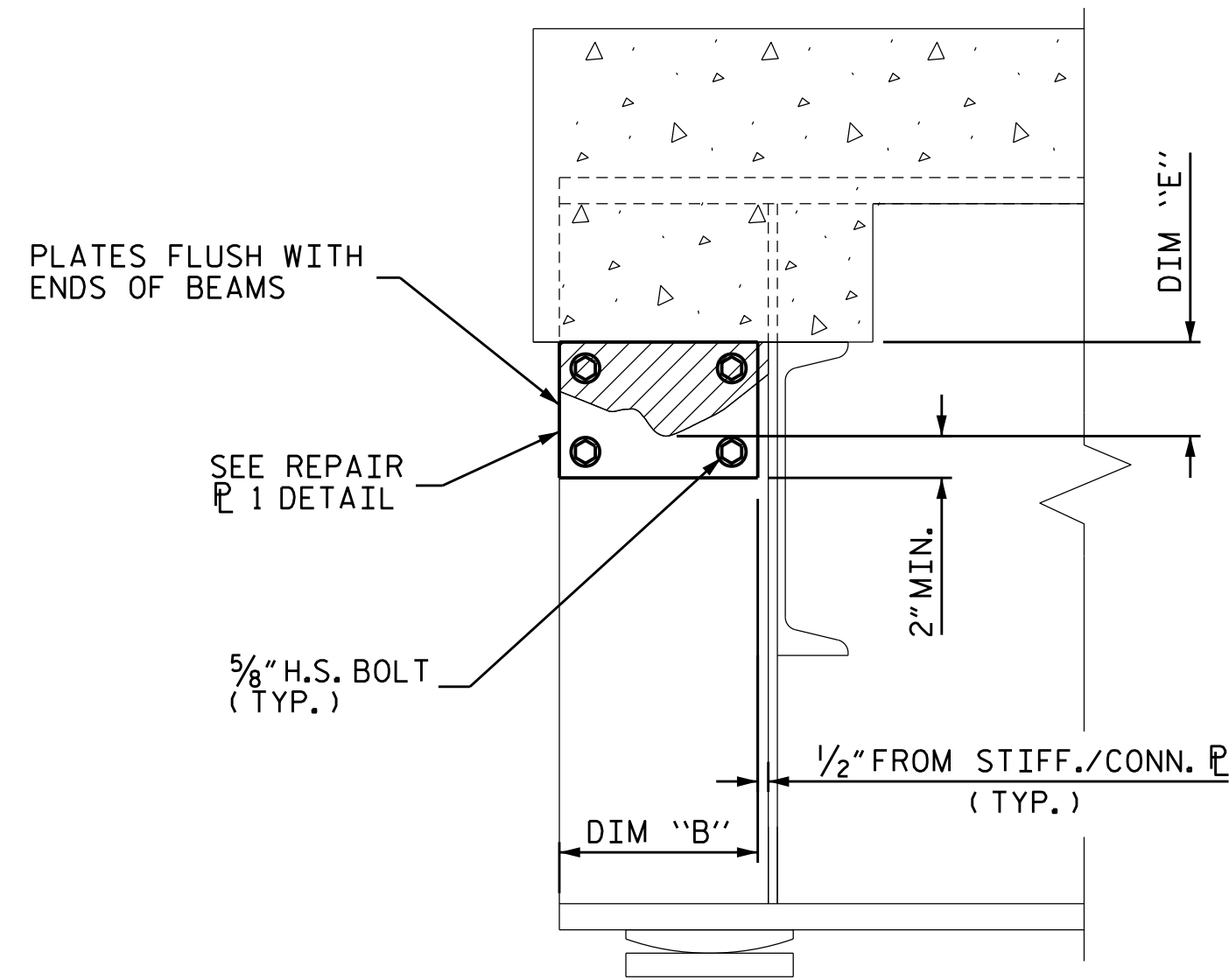
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-61
1			3			TOTALS
2			4			67

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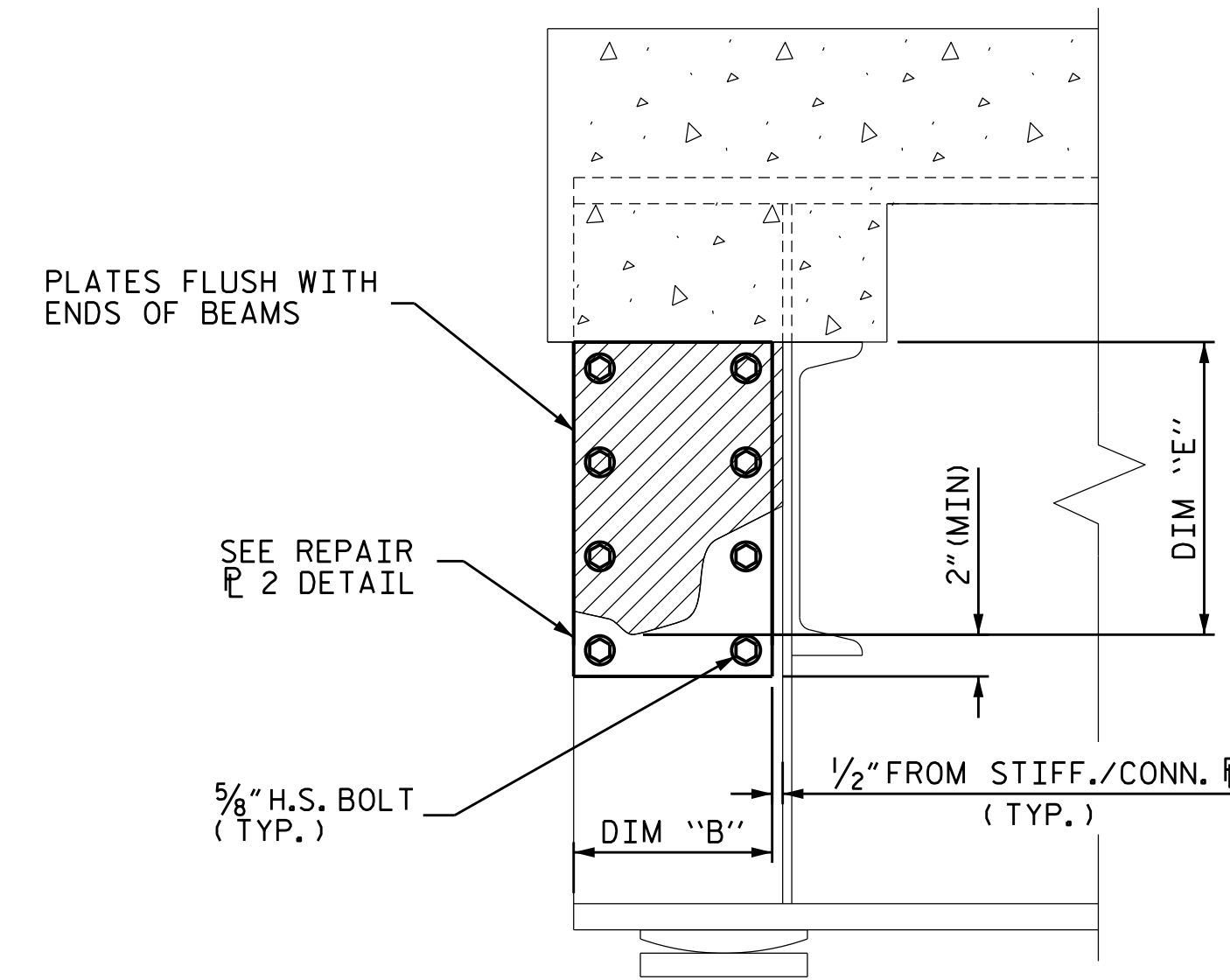
DRAWN BY : H.A. LOCKLEAR DATE : 12/2021
 CHECKED BY : A.A. COLE DATE : 12/2021



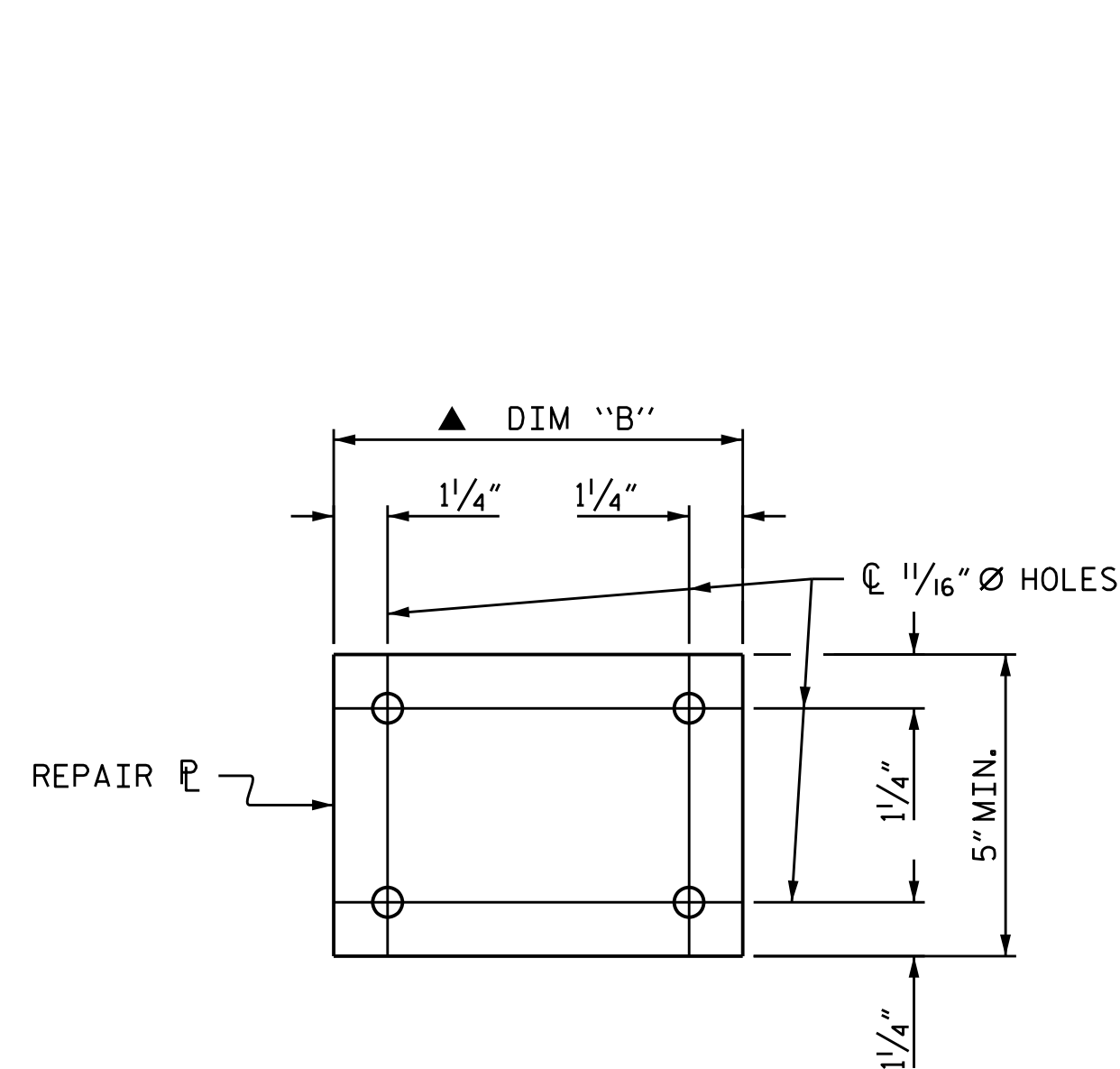
**BEAM END SECTION LOSS
 (EXISTING)**



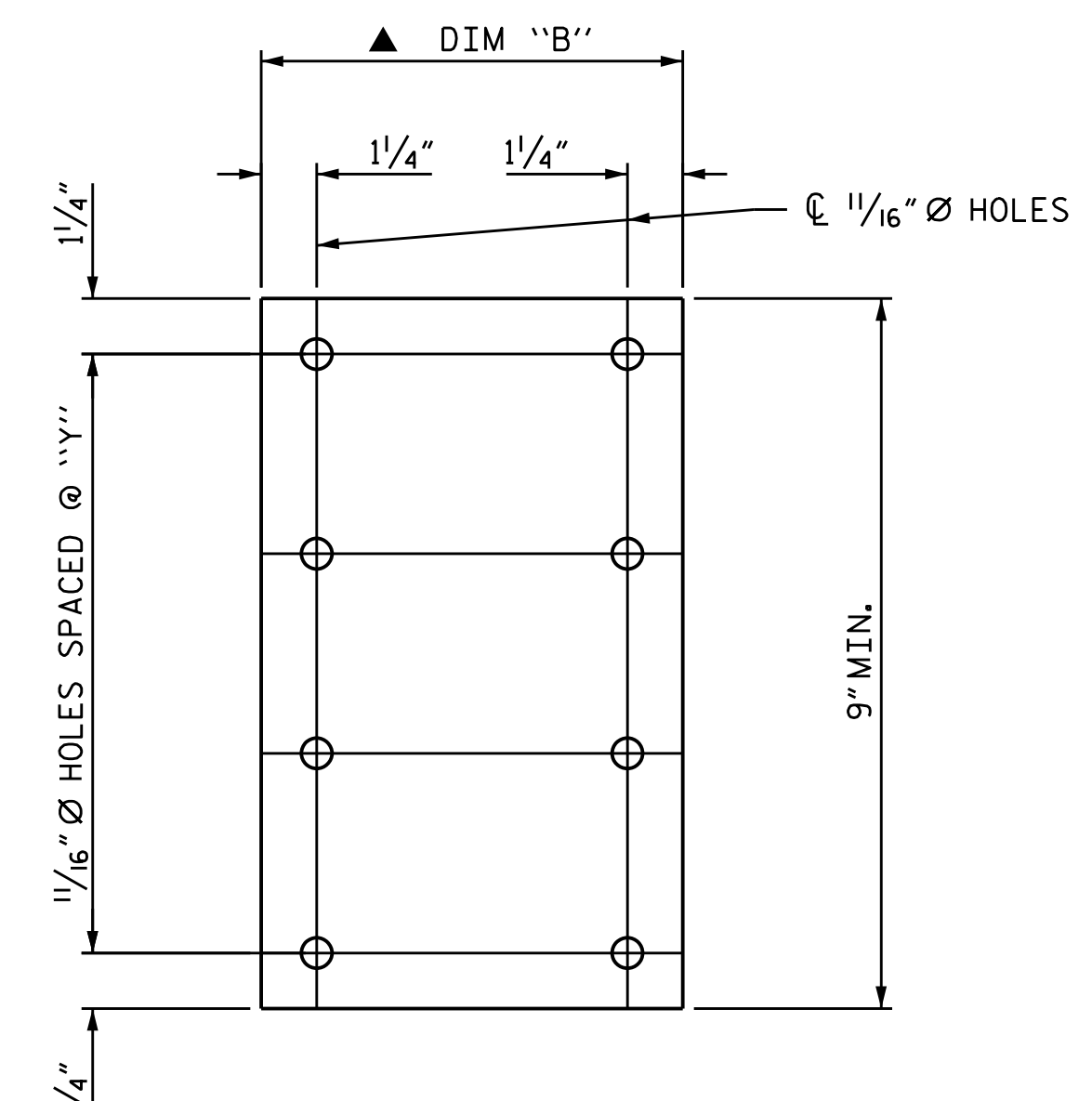
**BEAM END SECTION LOSS PLATING REPAIR
 (DIMENSION "E" 3" TO 6 1/2" USE REPAIR P 1)**



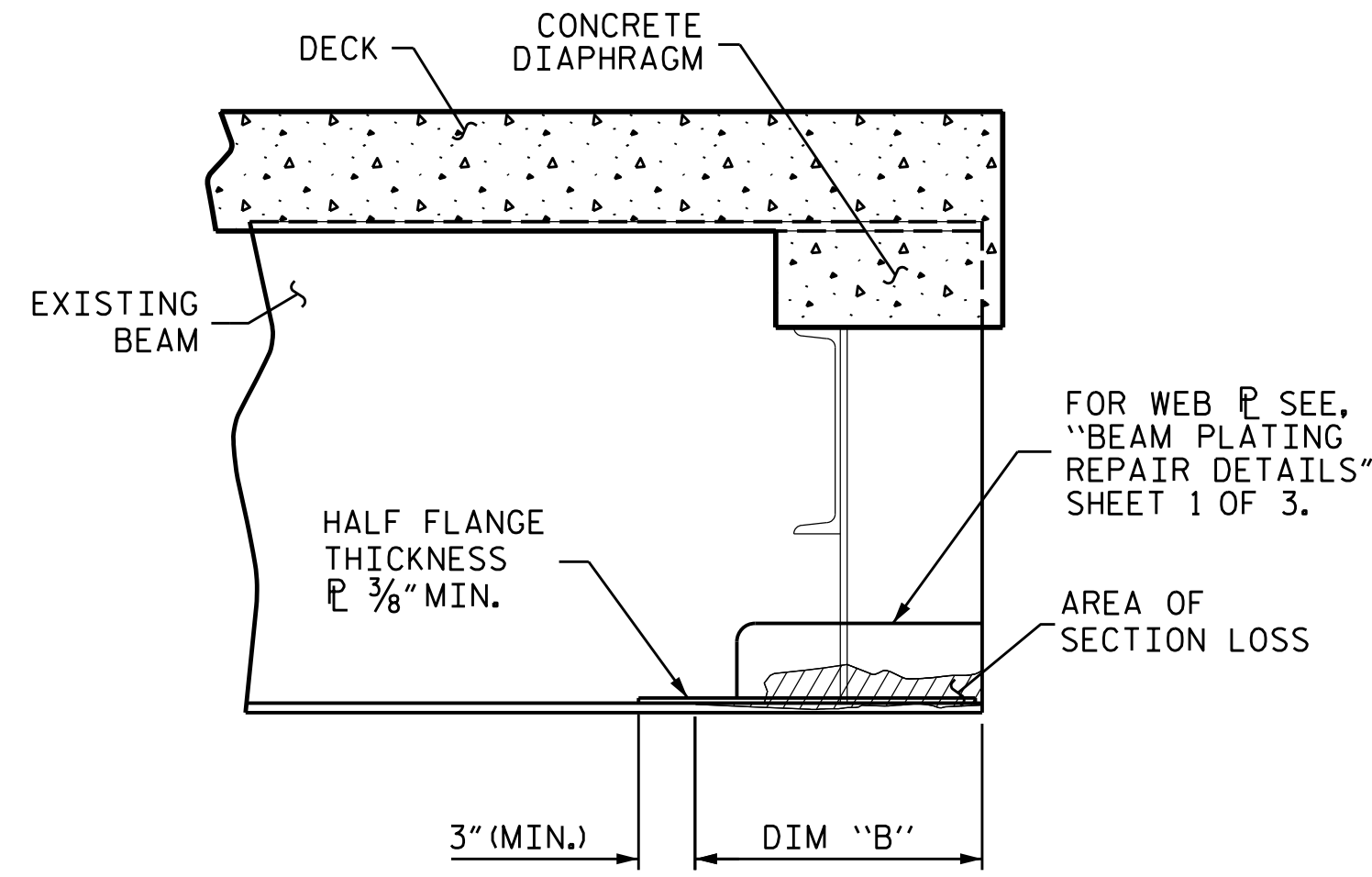
**BEAM END SECTION LOSS PLATING REPAIR
 (DIMENSION "E" GREATER THAN 6 1/2" USE REPAIR P 2)**



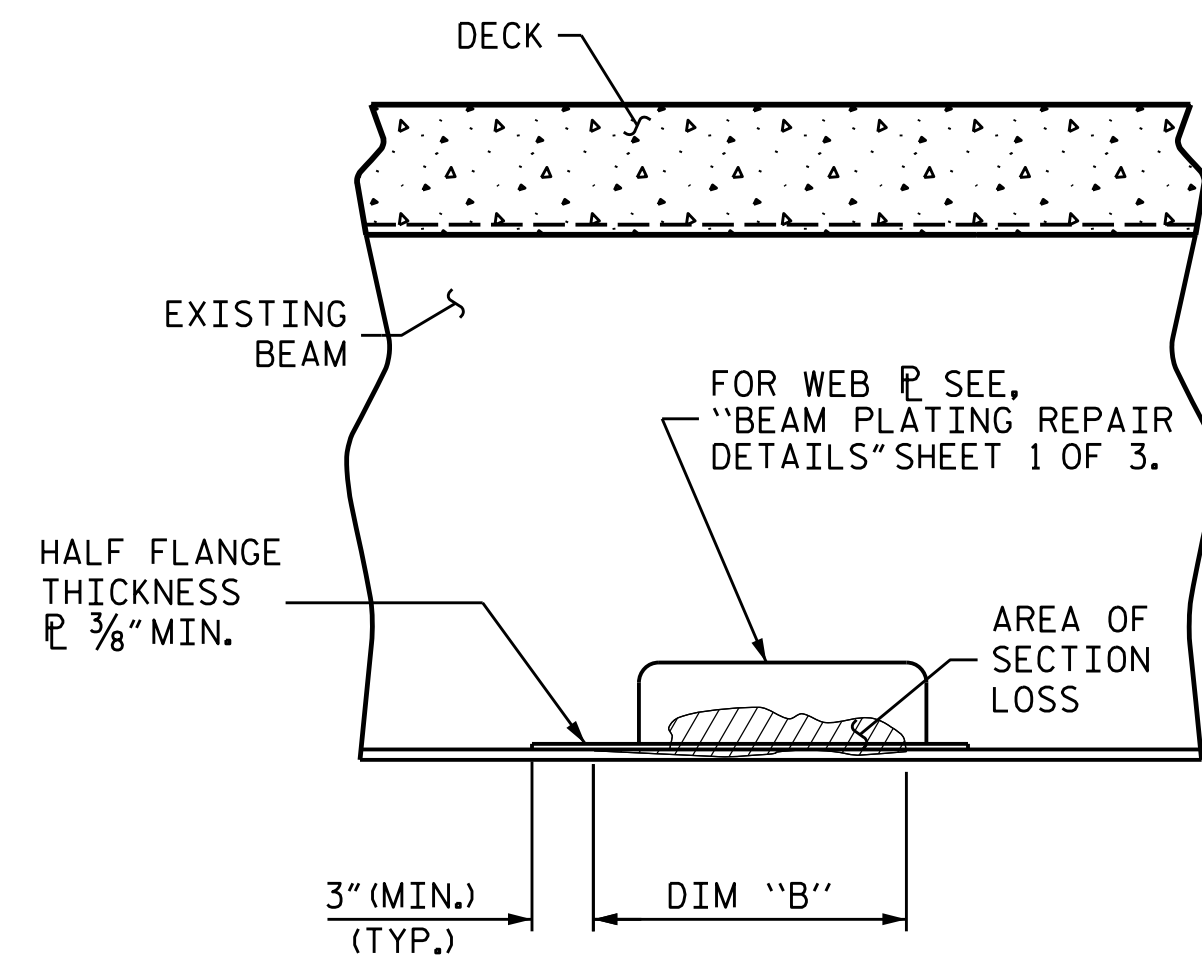
**REPAIR P 1 DETAIL
 (2-PLATES REQ'D PER REPAIR)**



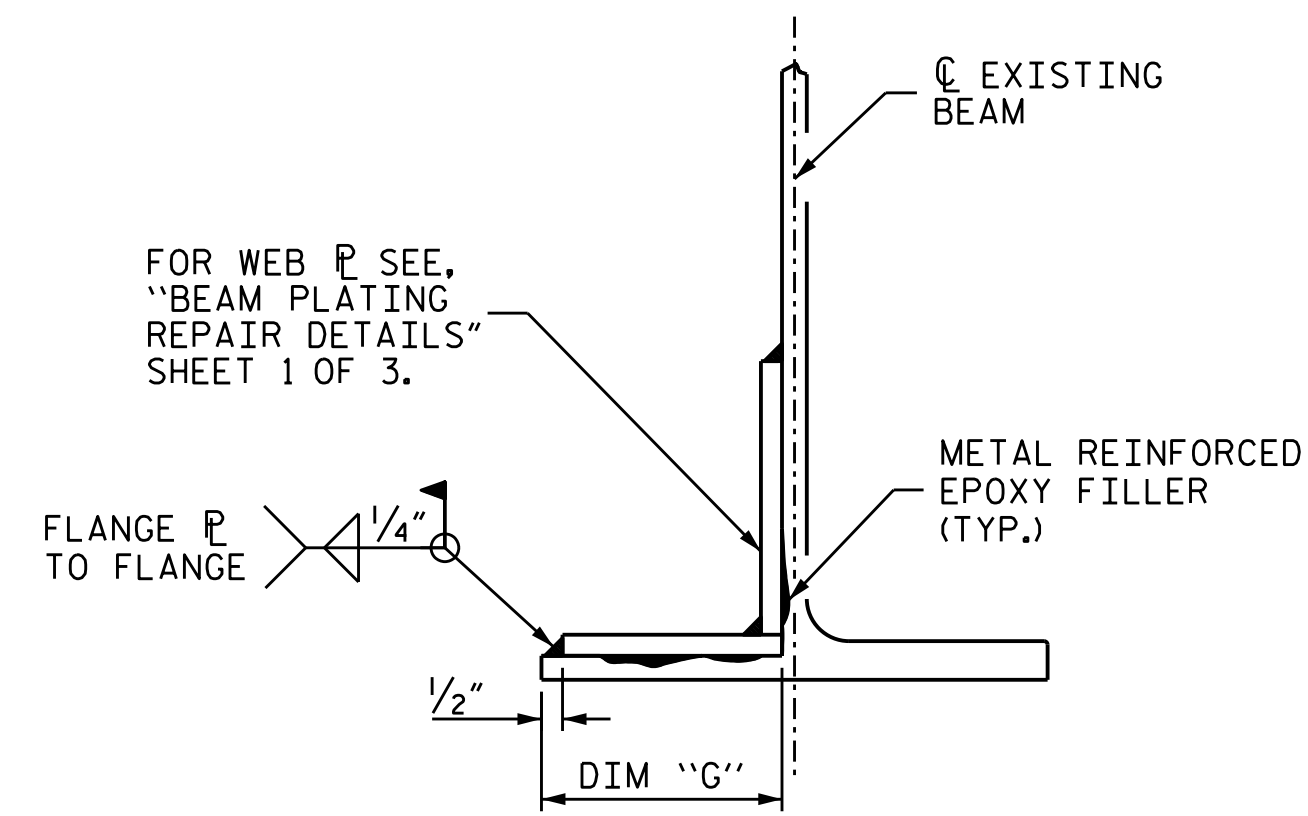
**REPAIR P 2 DETAIL
 (2-PLATES REQ'D PER REPAIR)**



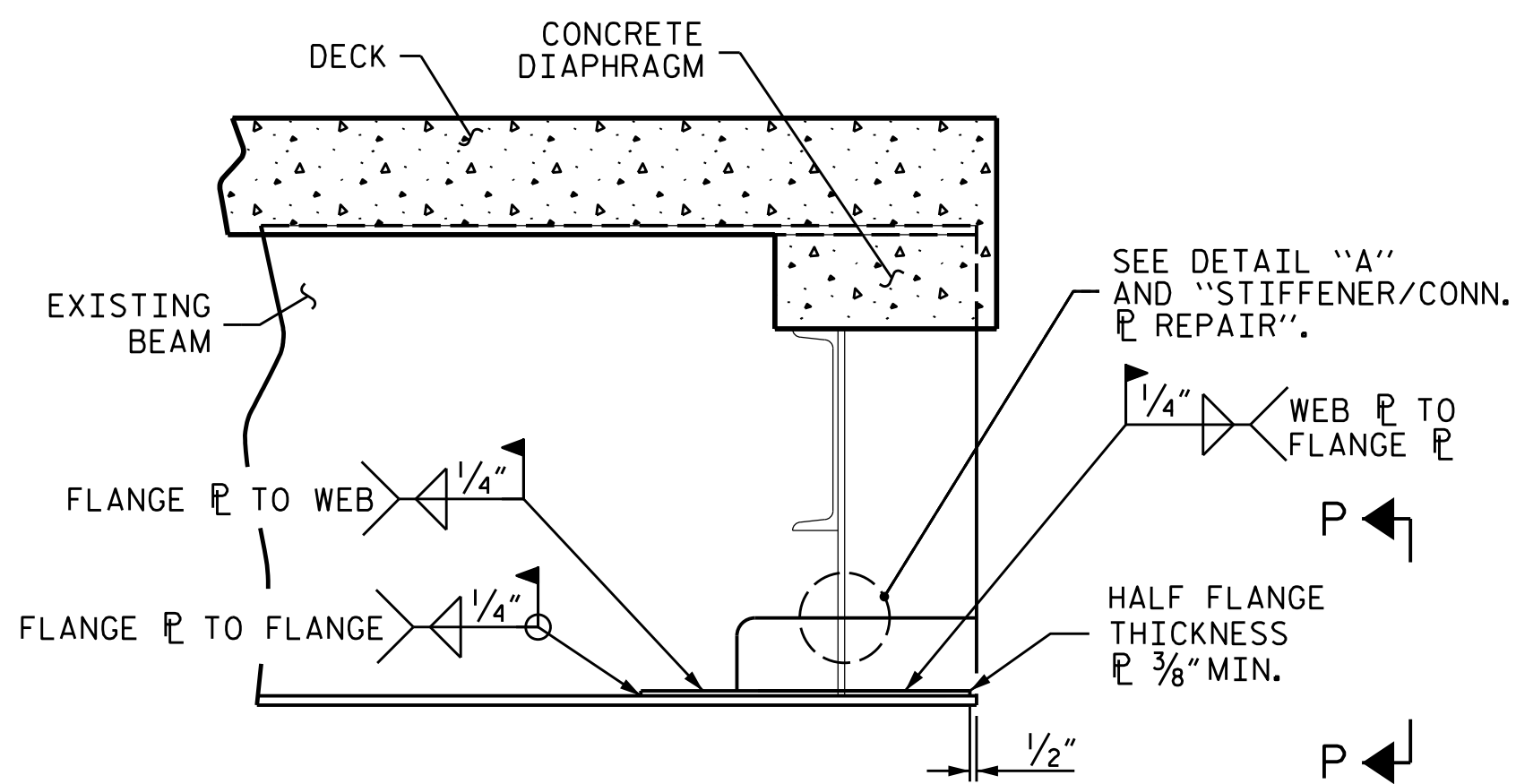
BEAM END SECTION LOSS AND PLATING REPAIR
(BOTTOM FLANGE REPAIR MAY NOT REQUIRE WEB P)



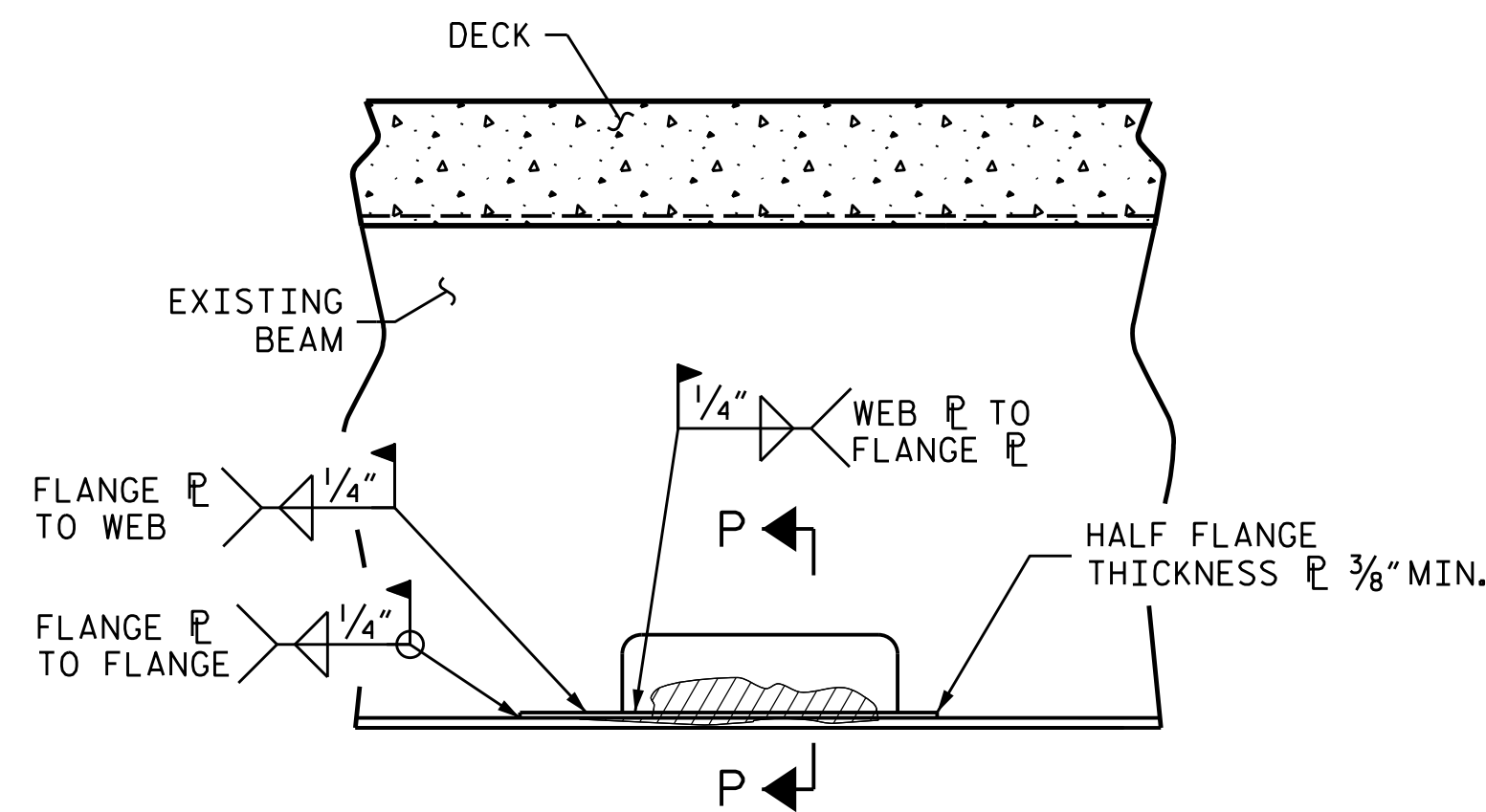
INTERMEDIATE SECTION LOSS AND BEAM PLATING REPAIR
(BOTTOM FLANGE REPAIR MAY NOT REQUIRE WEB P)



SECTION P-P
(REPAIR SHOWN LEFT SIDE OF BEAM. RIGHT SIDE SIMILAR.)



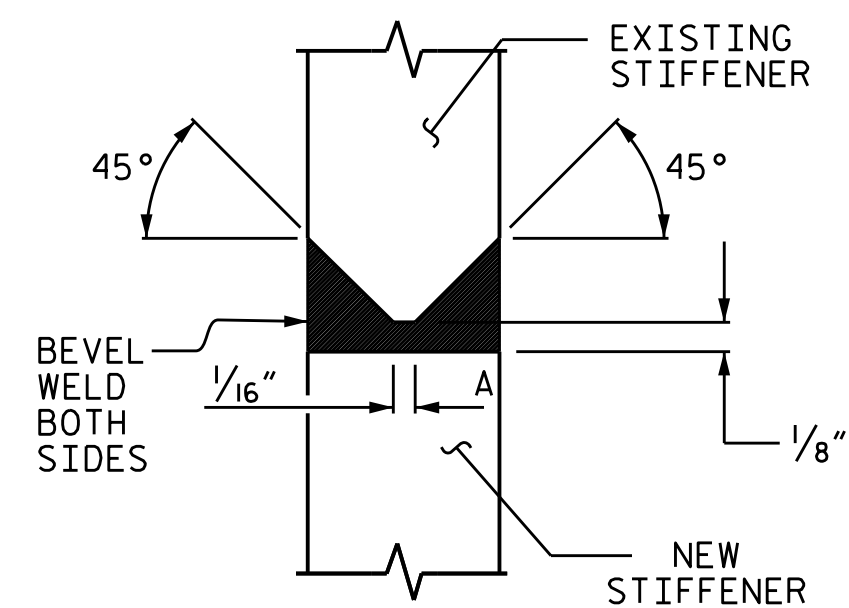
BEAM END PLATING REPAIR



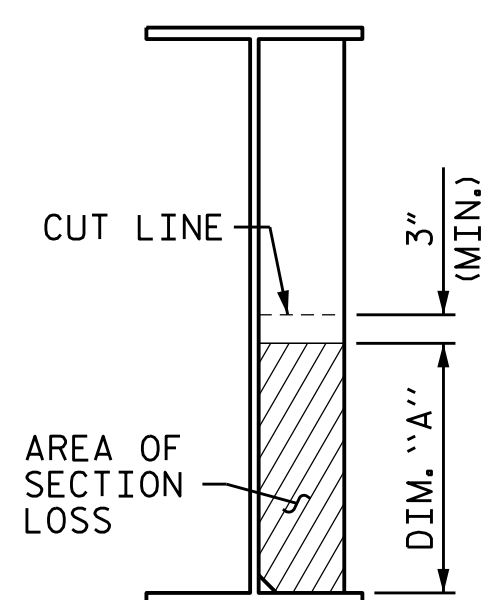
INTERMEDIATE BEAM PLATING REPAIR

BEAM END PLATING REPAIR

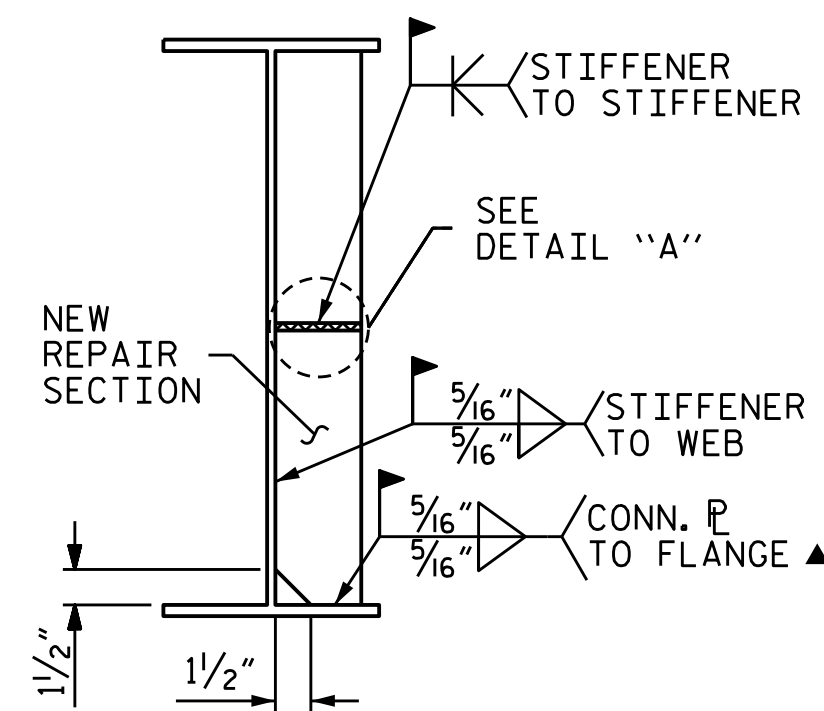
INTERMEDIATE BEAM PLATING REPAIR



DETAIL 'A'



STIFFENER/CONN. P SECTION LOSS



STIFFENER/CONN. P SECTION REPAIR
▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD

STIFFENER/CONNECTOR PLATE REPAIR

BEAM PLATING REPAIR NOTES

ALL CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR INSTALLATION OF ANY COMPONENTS.

REPAIR PLATES SHALL BE NEW, AND SHALL BE THE SAME GRADE OF THE EXISTING STEEL MEMBER OR BETTER.

REPAIR SEQUENCE:

COORDINATE WITH MATERIALS AND TEST UNIT AT LEAST 4 DAYS PRIOR TO ANTICIPATED WORK.

REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

IF NECESSARY, REMOVE EXISTING STIFFENER TO INSTALL WELDED PLATE REPAIR. REPLACE WITH A NEW STIFFENER PLATE OF SIMILAR SIZE.

IF BEAM DETERIORATION EXTENDS INTO THE CONCRETE DIAPHRAGM THEN CHIP AWAY CONCRETE TO DETERMINE THE EXTENT OF THE DAMAGE.

IF PAINTING THE STEEL, CLEAN AND BLAST STEEL AS REQUIRED, PRIOR TO PERFORMING STEEL REPAIRS. OTHERWISE, MECHANICALLY CLEAN RUST, SCALE, AND EXISTING PAINT TO AT LEAST 3" BEYOND REPAIR AREA.

PRIME ENTIRE REPAIR AREA AND REPAIR PLATES WITH AN ORGANIC ZINC PRIMER PRIOR TO WELDING NEW PLATES. REMOVE PRIMER IN WELD AREA.

UNLESS OTHERWISE NOTED EACH FLANGE PLATE SHALL BE APPROXIMATELY ONE-HALF THE ORIGINAL THICKNESS OF THE BEAM FLANGE.

FULLY WELD ALONG TOP AND SIDES OF THE PLATES AS SHOWN.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.

ALL WELDS SHALL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AFTER REPAIR, GRIND ALL WELDS FLUSH, AND THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM THE REPAIR PROCESS.

CLEANING AND PAINTING OF REPAIRED STRUCTURAL STEEL SHALL BE PERFORMED AS PART OF THE OVERALL CLEANING AND PAINTING CONTRACT.

FOR CLEANING AND PAINTING, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISIONS.

AFTER BEAMS ARE REPAIRED AND PAINTED, ANY CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE RECAST. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM 'BEAM REPAIR'. FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

REMOVE ALL TRAFFIC CONTROL DEVICES.

PROJECT NO. 15BPR.51
GASTON COUNTY
BRIDGE NO. 350046, 350314
350086

SHEET 3 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BEAM PLATING REPAIR DETAILS



DRAWN BY : H.A. LOCKLEAR DATE : 12/2021
CHECKED BY : A.A. COLE DATE : 12/2021

DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-62
1			3			TOTAL SHEETS
2			4			67

BEAM PLATING REPAIR NOTES

ALL CONDITIONS AND DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR INSTALLATION OF ANY COMPONENTS.

REPAIR PLATES SHALL BE NEW, AND SHALL BE THE SAME GRADE OF THE EXISTING STEEL MEMBER OR BETTER.

REPAIR SEQUENCE:

COORDINATE WITH MATERIALS AND TEST UNIT AT LEAST 4 DAYS PRIOR TO ANTICIPATED WORK.

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ONE PLATE SHALL BE PLACED, AS INDICATED ON EACH SIDE OF THE BEAM WEB.

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ALL WELDS SHALL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

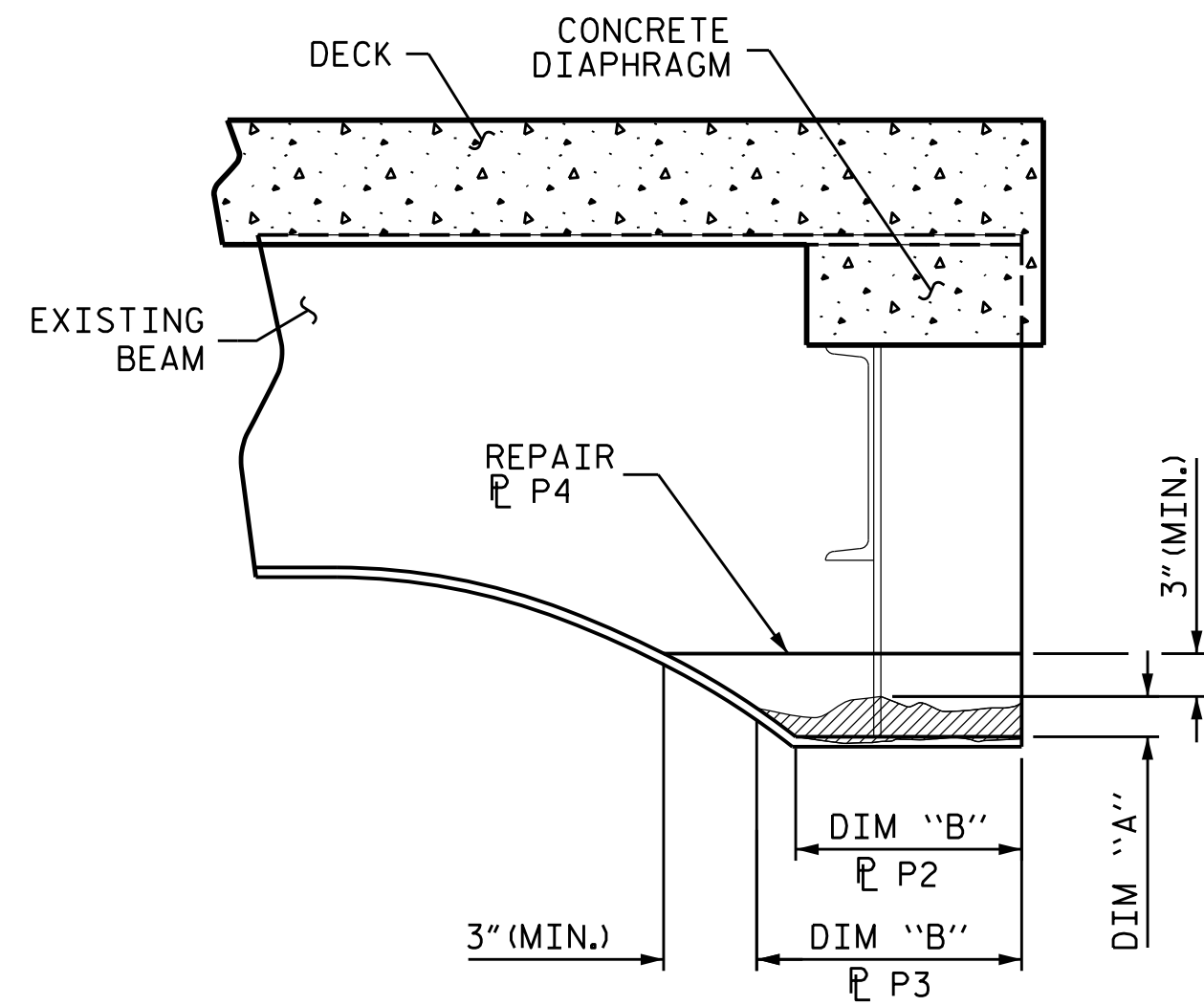
IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, AFTER REPAIR, GRIND ALL WELDS FLUSH, AND THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM THE REPAIR PROCESS.

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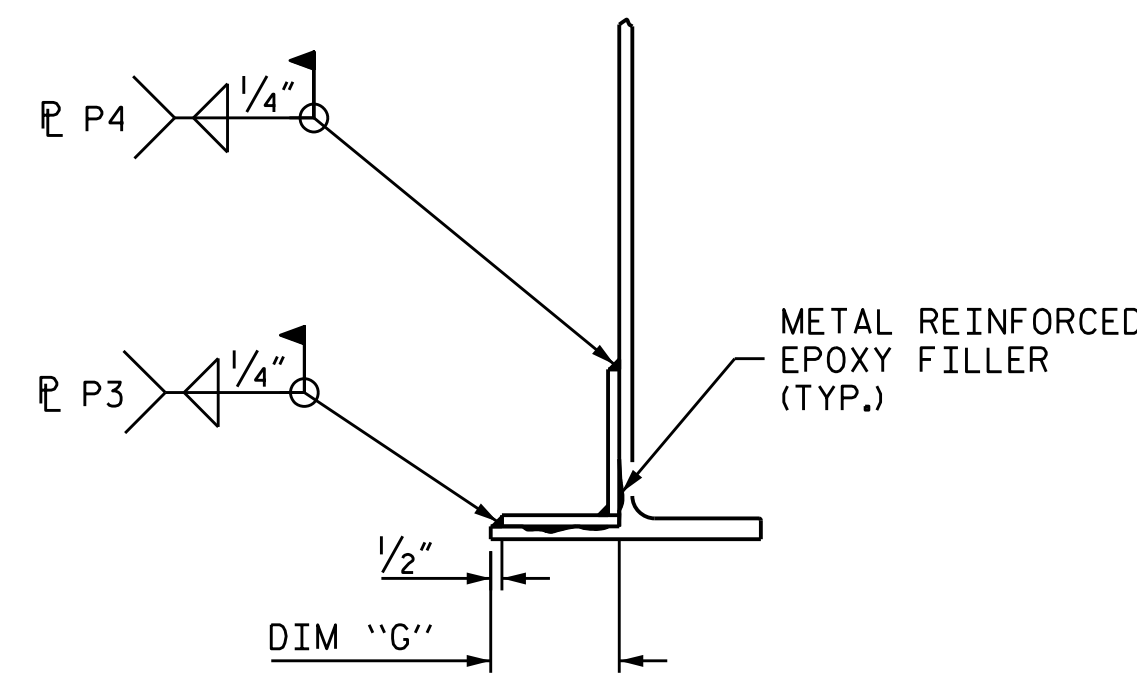
FOR CLEANING AND PAINTING, SEE PAINTING EXISTING STRUCTURE SPECIAL PROVISIONS.

AFTER BEAMS ARE REPAIRED AND PAINTED, ANY CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE RECAST. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "BEAM REPAIR". FOR BEAM REPAIR, SEE SPECIAL PROVISIONS.

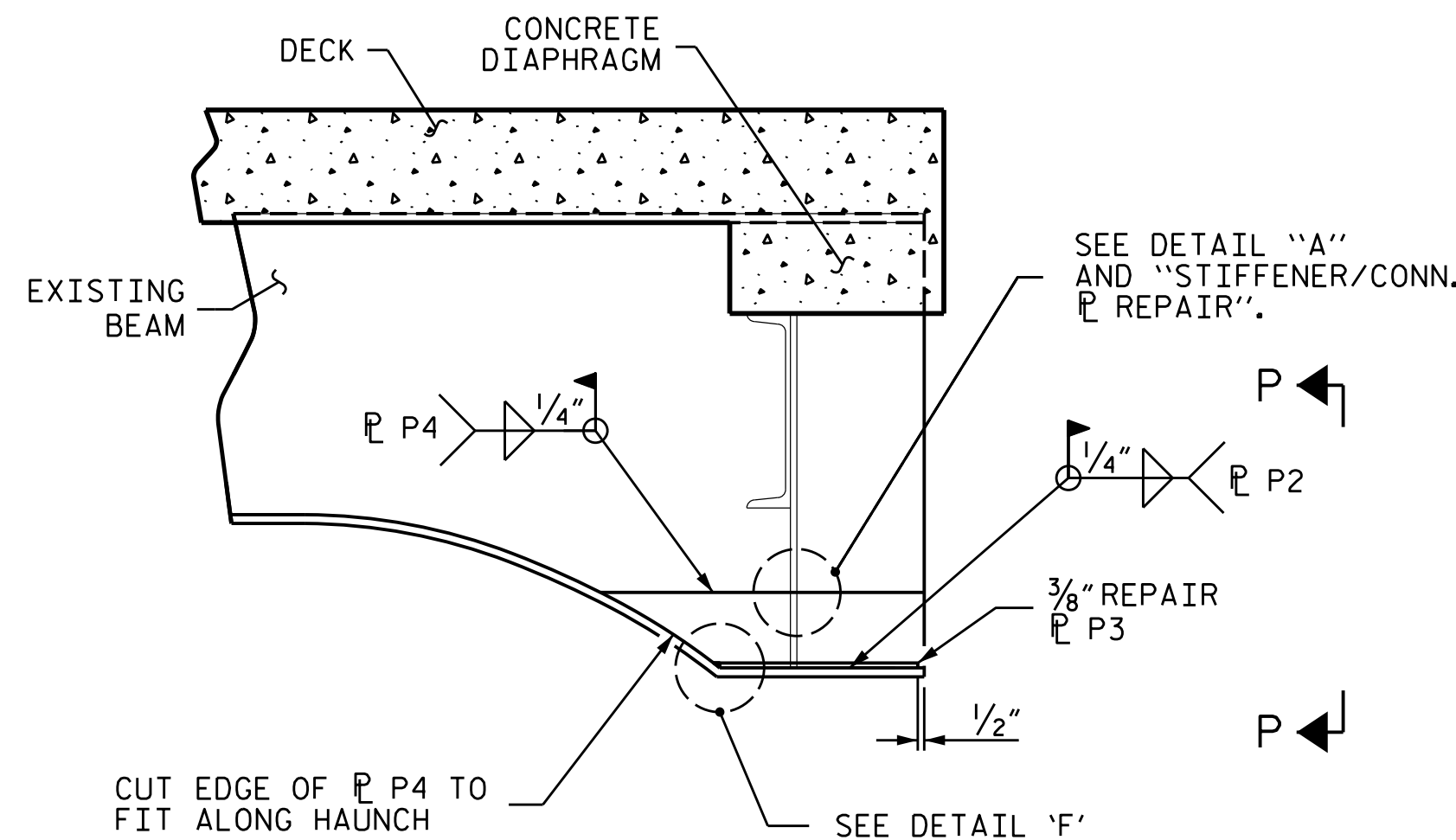
REMOVE ALL TRAFFIC CONTROL DEVICES.



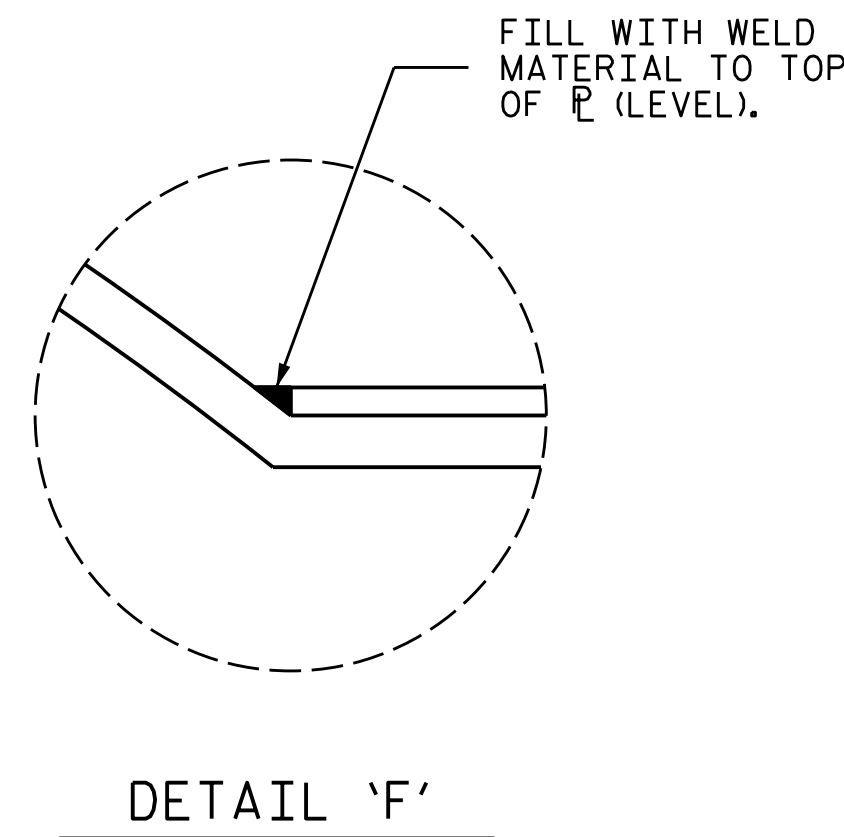
BEAM END SECTION LOSS AND PLATING REPAIR



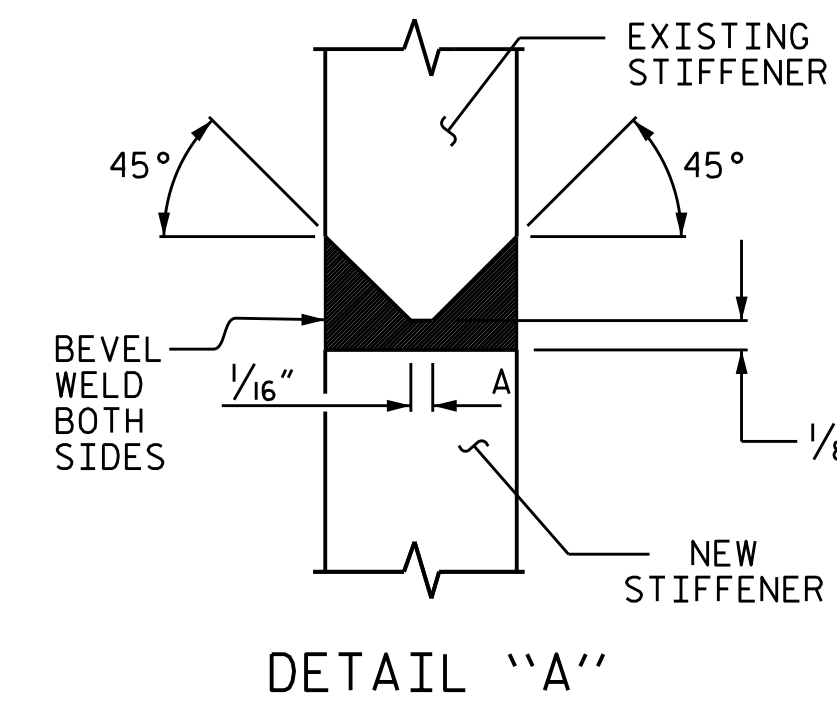
SECTION P-P



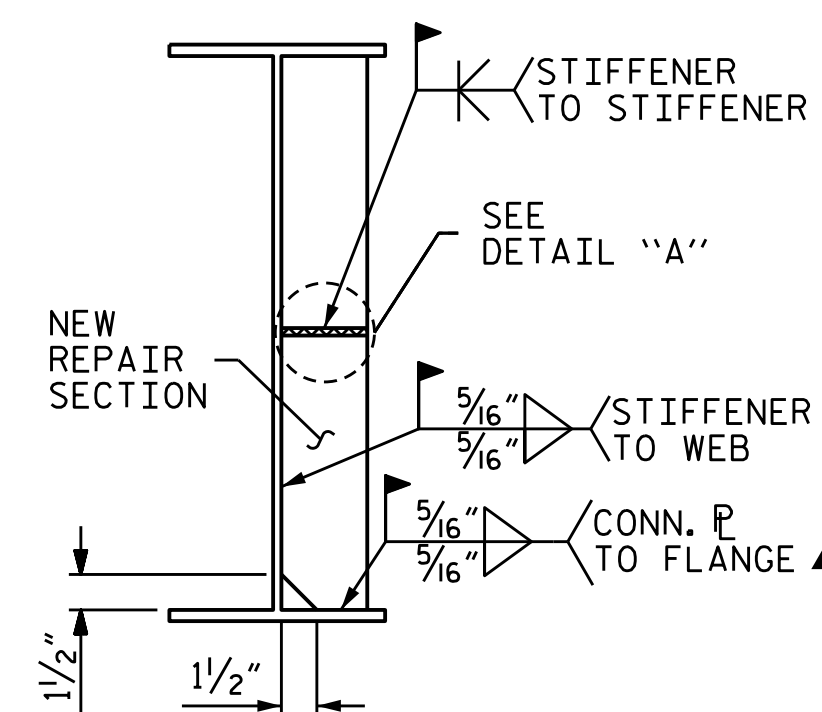
BEAM END PLATING REPAIR



DETAIL 'F'



DETAIL 'A'



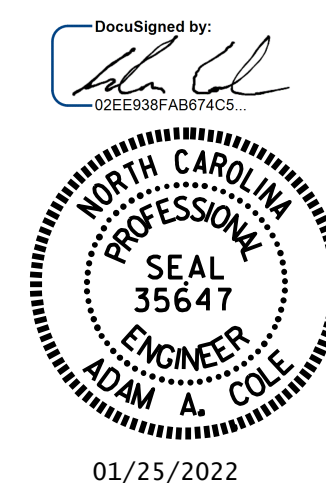
STIFFENER/CONN. P SECTION REPAIR
▲ FOR STIFFENERS, MILL TO BEAR AND DO NOT WELD

STIFFENER/CONNECTOR PLATE REPAIR

DRAWN BY : H.A. LOCKLEAR DATE : 12/2021
CHECKED BY : A.A. COLE DATE : 12/2021

1/25/2022
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PROJECT NO. 15BPR.51
GASTON COUNTY
BRIDGE NO. 350046, 350314
350086
SHEET 4 OF 4



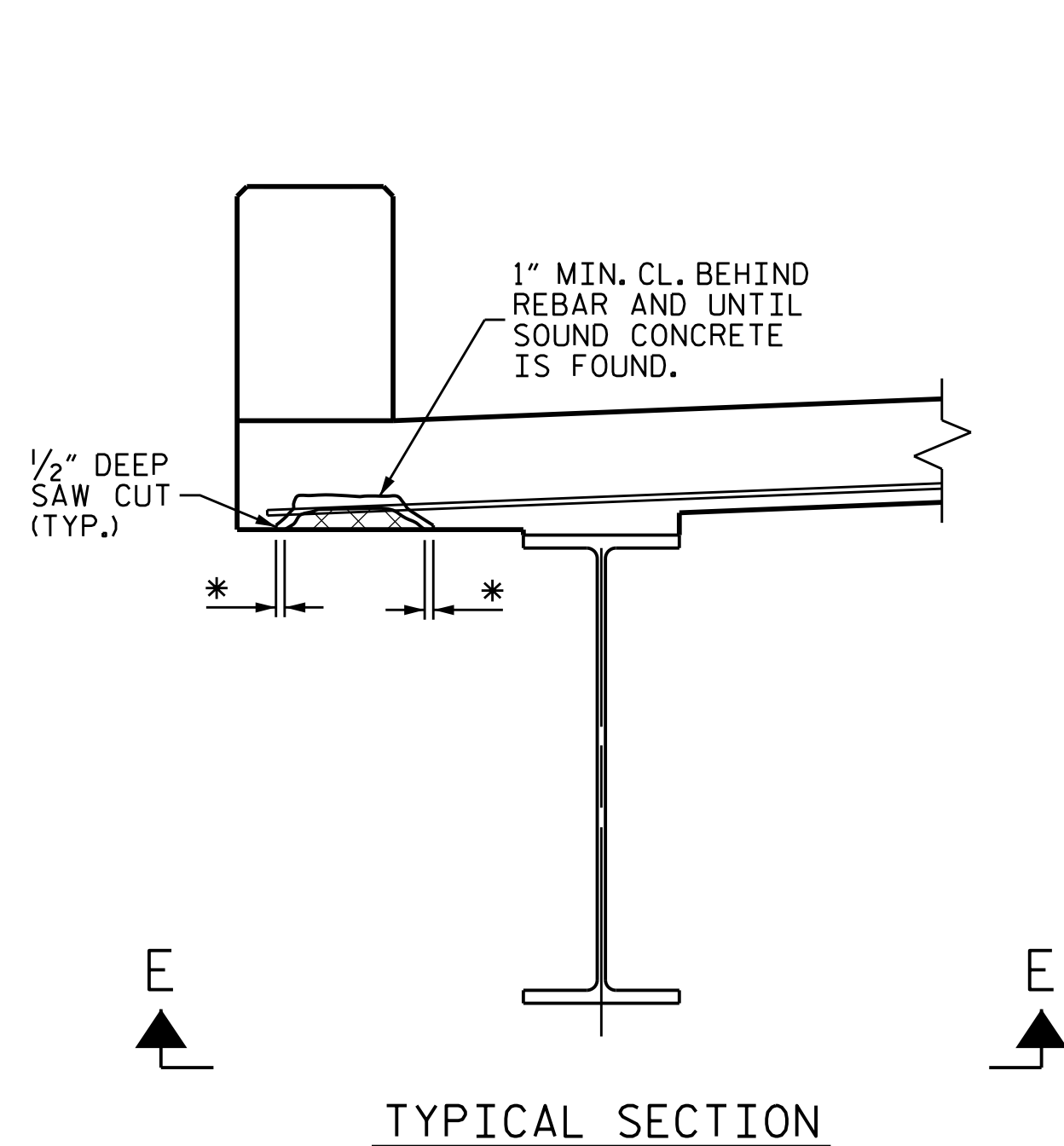
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BEAM PLATING REPAIR DETAILS

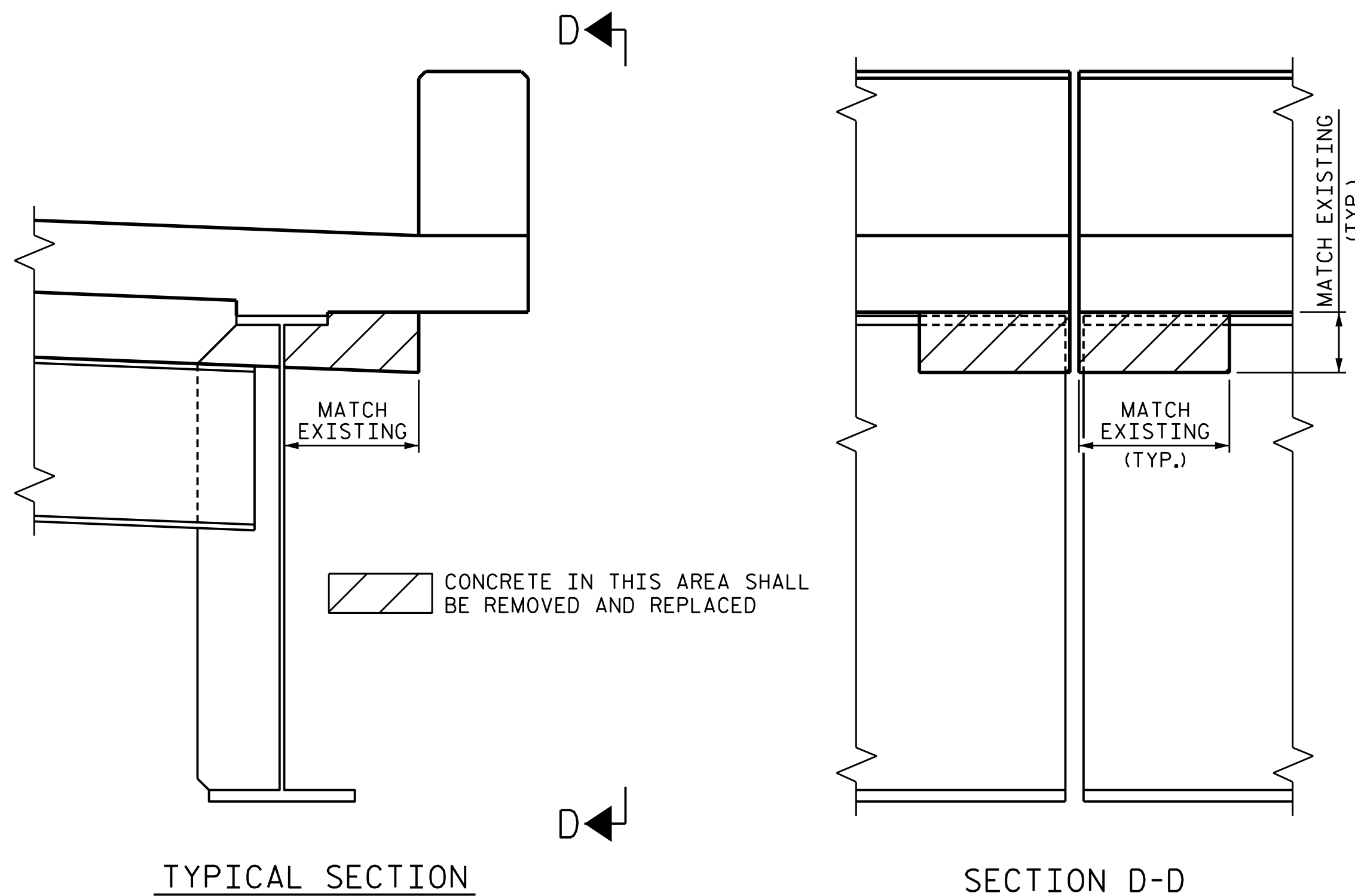
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2			4			67

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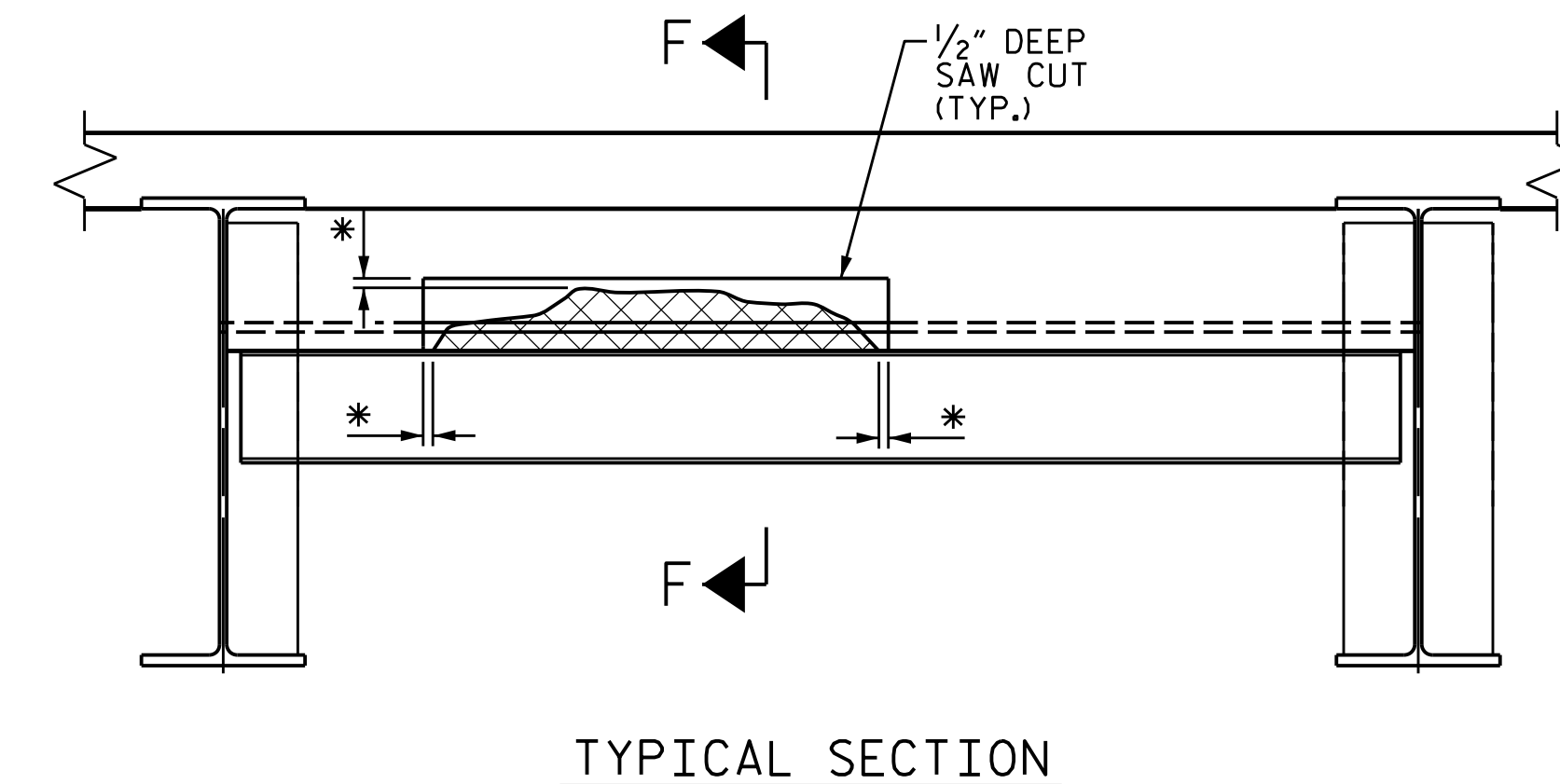
NOTE: OVERHANG DIAPHRAGMS TO BE REMOVED AND REPLACED, ARE SHOWN ON "PLAN OF SPAN" SHEETS. OVERHANG DIAPHRAGMS SHALL BE REMOVED PRIOR TO CLEANING AND PAINTING OF BEAMS AND REPLACED AFTER BEAM REPAIRS AND PAINTING ARE COMPLETE.



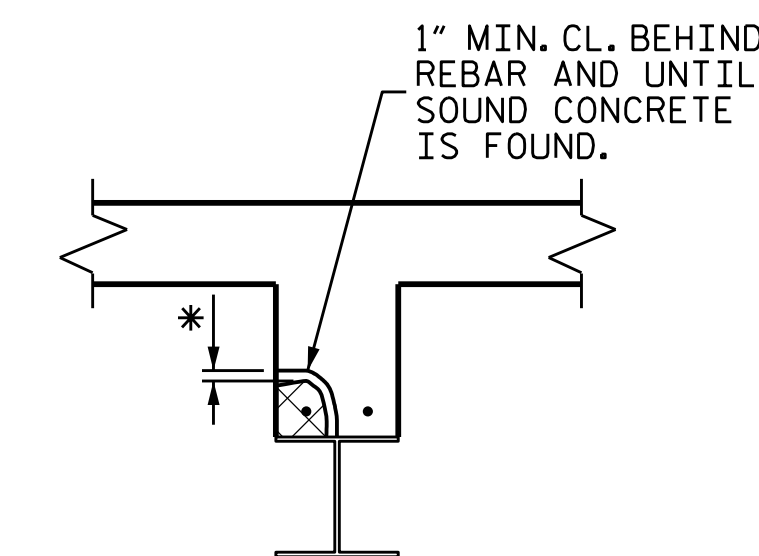
DAMAGED AREA * REMOVE CONCRETE UNTIL SOUND CONCRETE IS FOUND (2" MIN. CL.)



TYPICAL SECTION SECTION D-D
OVERHANG DIAPHRAGM REPLACEMENT DETAILS



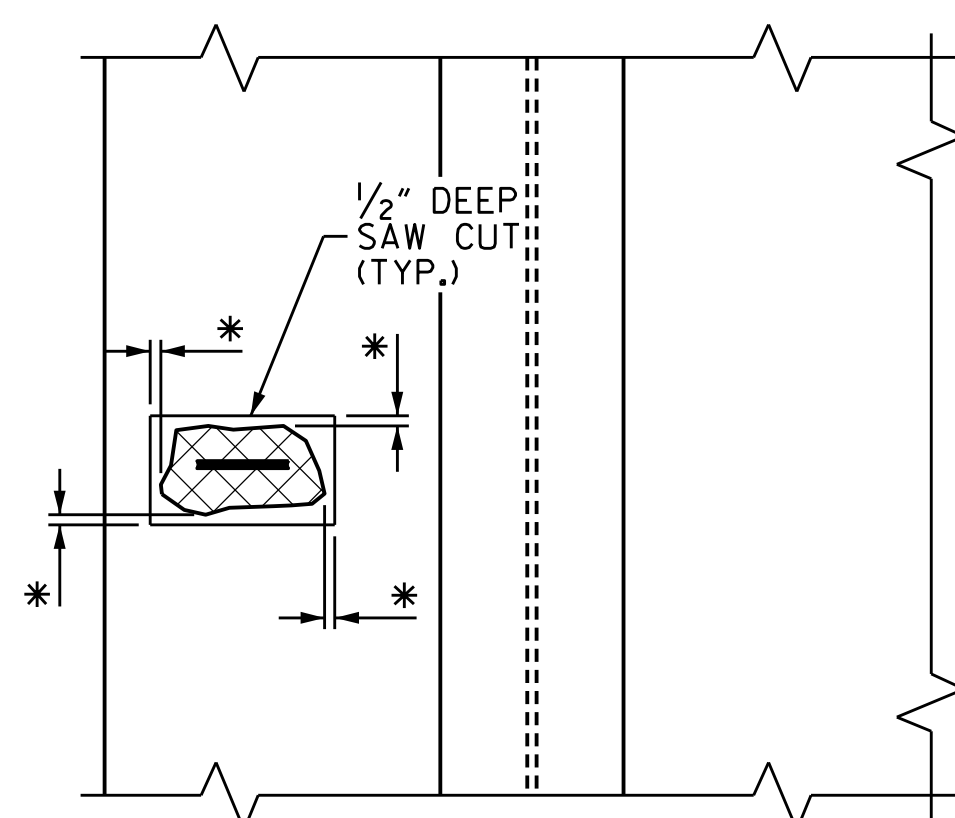
* REMOVE CONCRETE UNTIL SOUND CONCRETE IS FOUND (2" MIN. CL.)



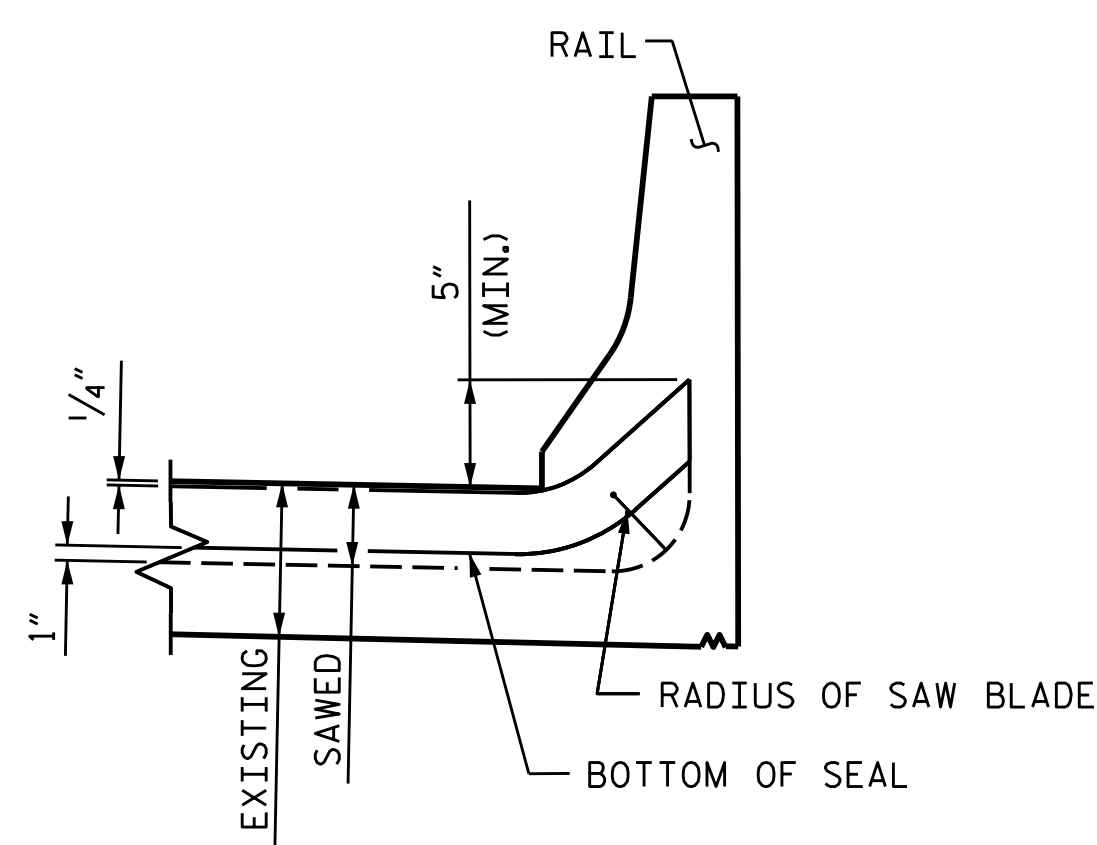
DAMAGED AREA

NOTE: EXISTING REBAR TO REMAIN IN PLACE. CLEAN AND REPAIR AS NECESSARY.

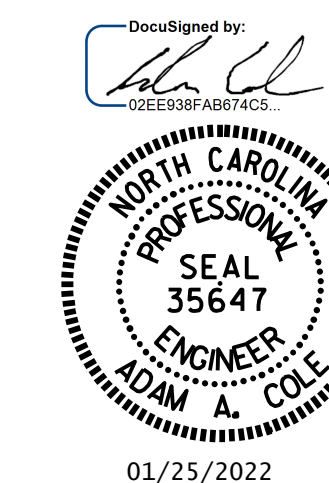
SECTION F-F
INTERIOR DIAPHRAGM REPAIR DETAILS



SECTION E-E
OVERHANG DETAILS



TYPICAL SECTION
BRIDGE RAIL DETAILS



PROJ. NO. 15BPR.51
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BRIDGE NO. 350046, 350314
350086

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
OVERHANG, DIAPHRAGM
AND BRIDGE RAIL
REPAIR DETAILS

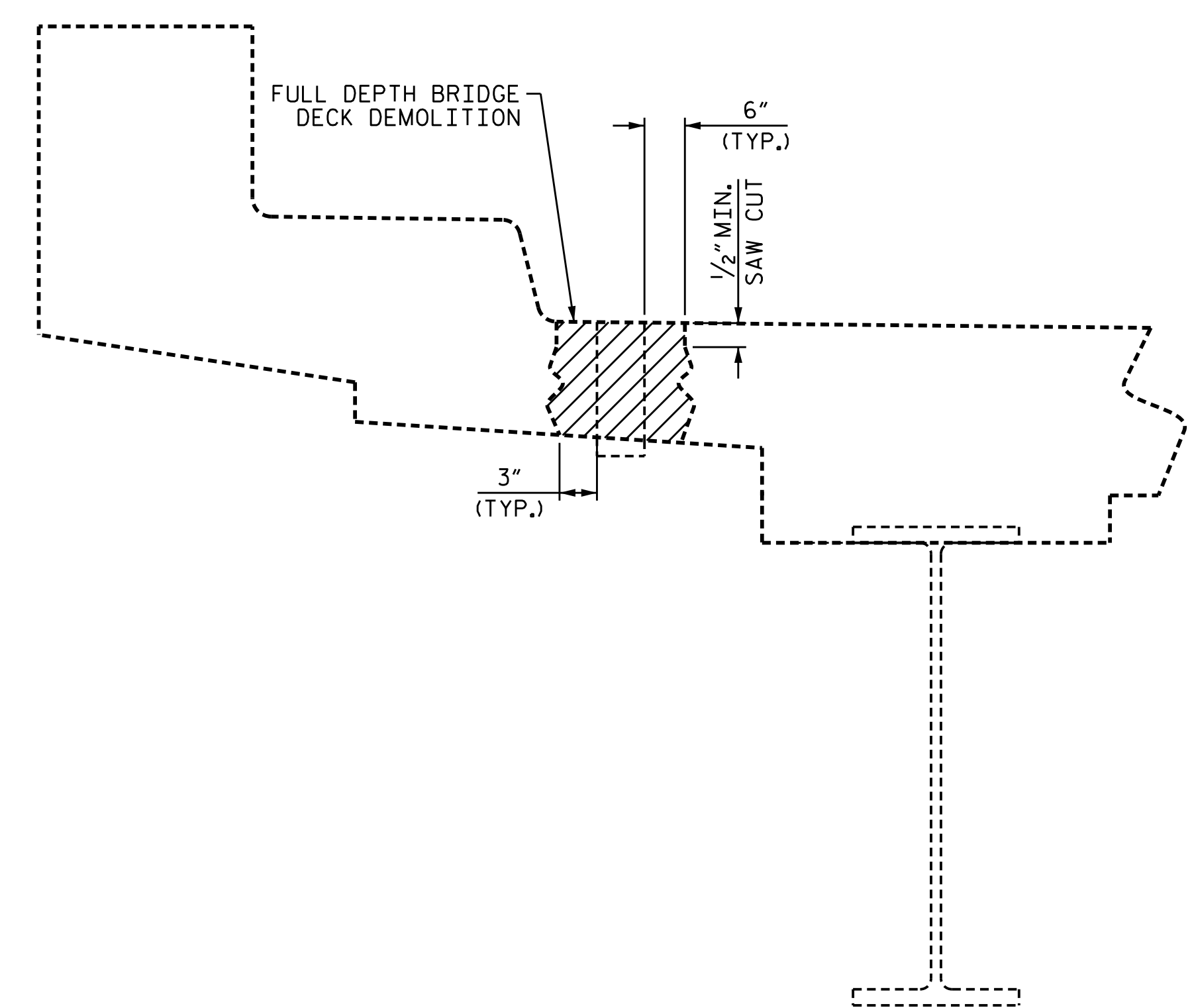
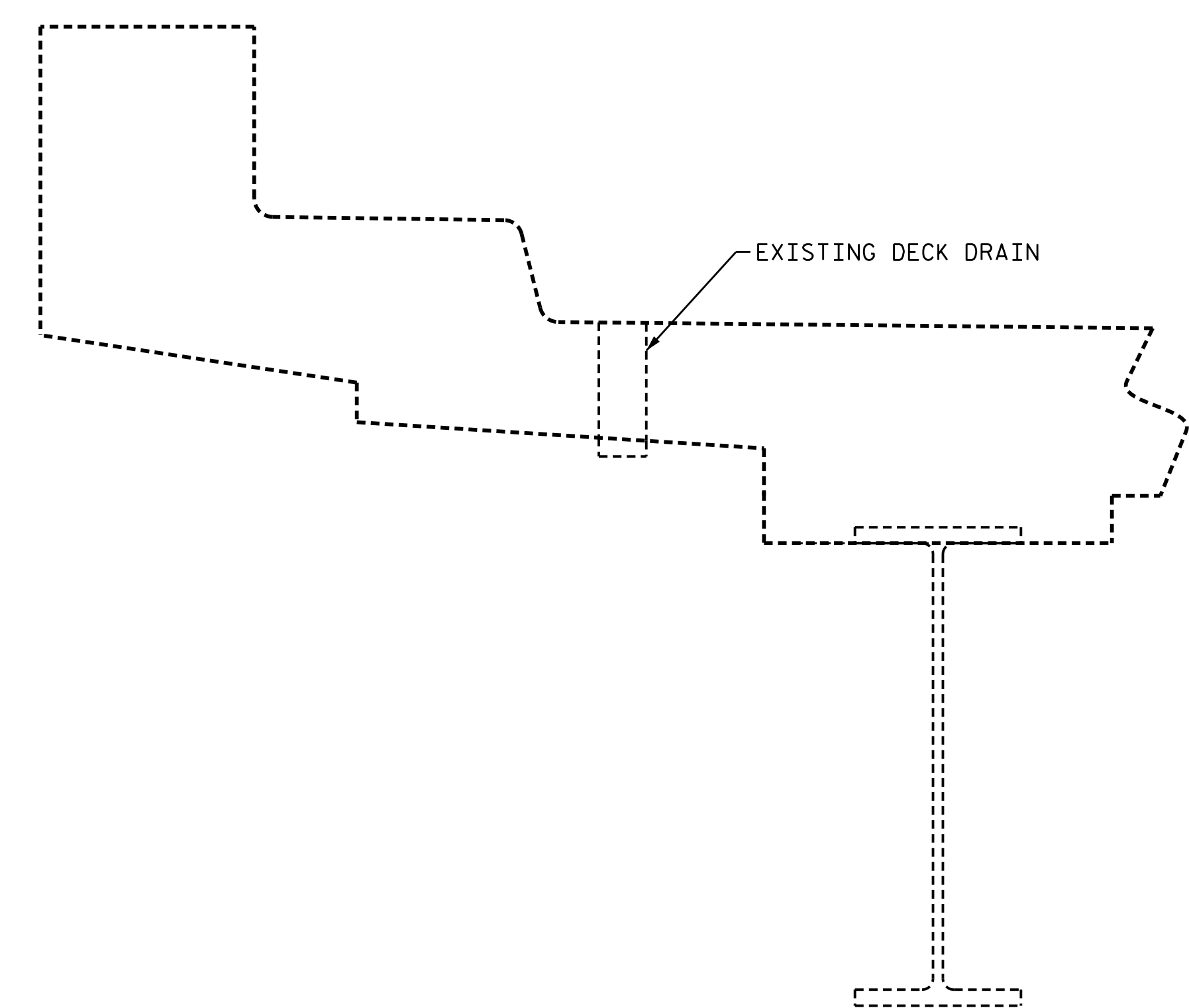
DRAWN BY : H.A. LOCKLEAR DATE : 12/2021
CHECKED BY : A.A. COLE DATE : 12/2021

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

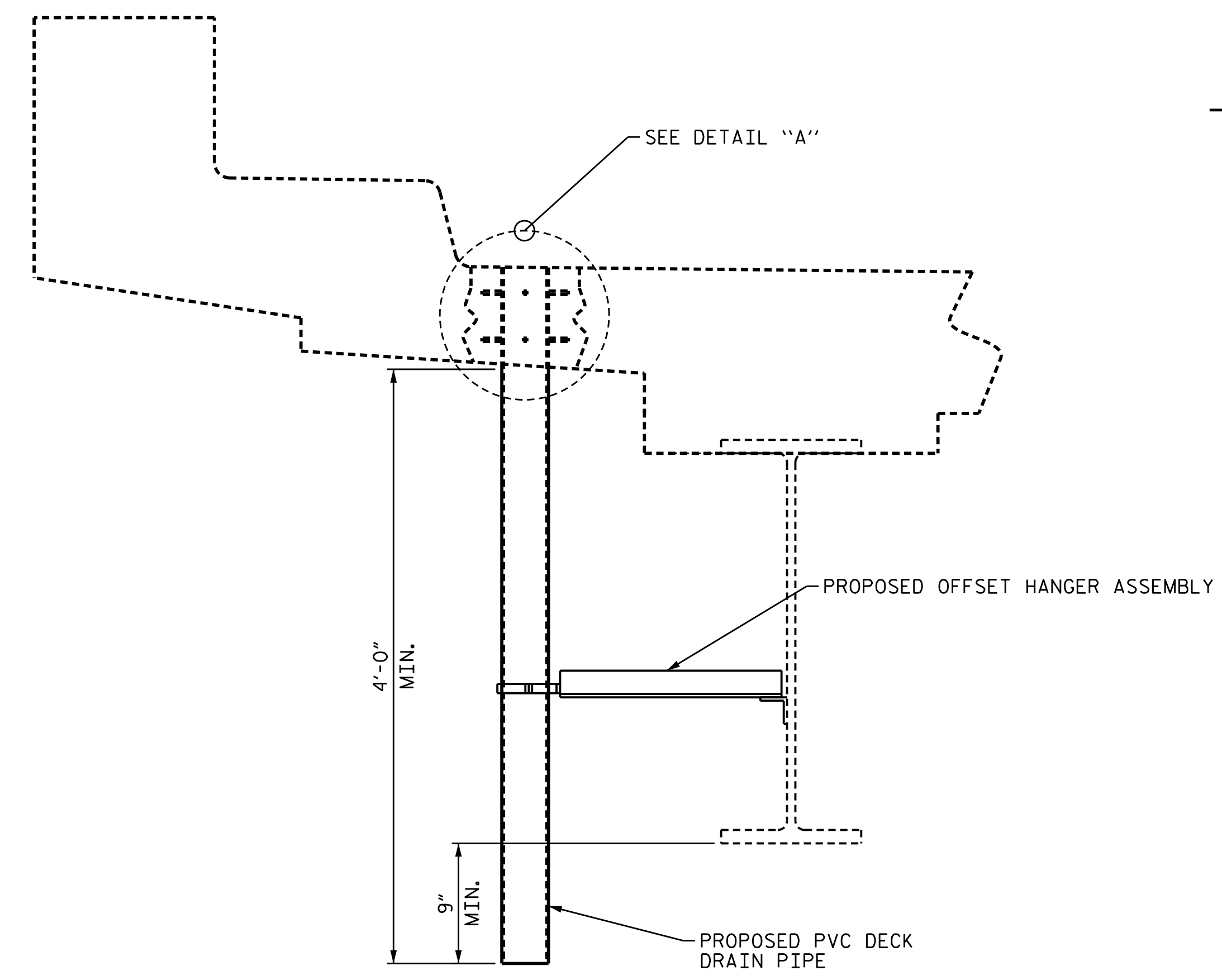
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-64
1			3			TOTAL SHEETS
2			4			67

NOTES

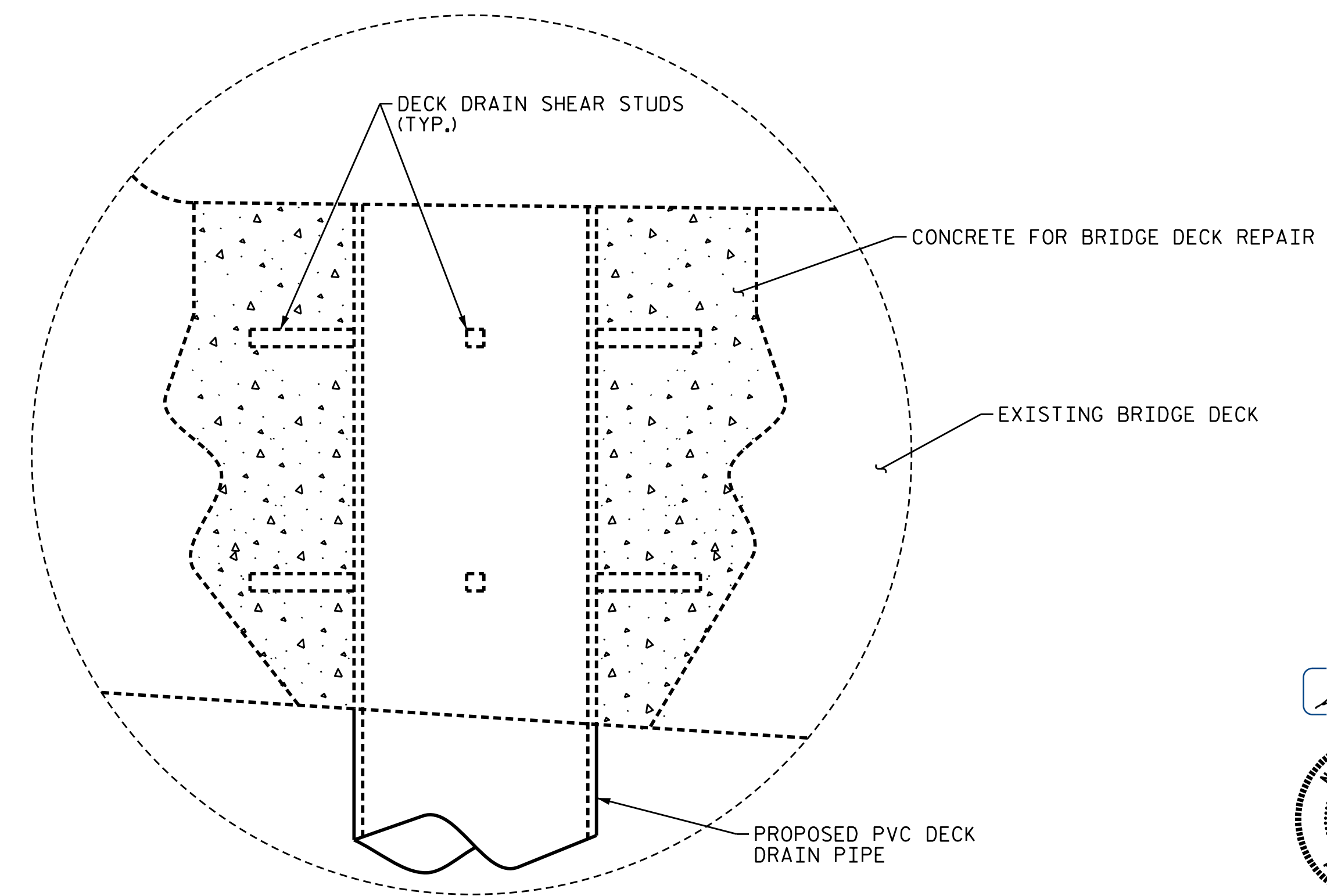
- SQUARE OFF 6-INCHES AROUND EXISTING DECK DRAINS AND SAW CUT 1/2" DEEP PRIOR TO FULL DEPTH DECK DEMOLITION REMOVAL OF EXISTING DECK DRAINS.
- THE PROPOSED DECK DRAIN PIPES ARE PVC MINIMUM SCHEDULE 40.
- PROPOSED OFFSET HANGER ASSEMBLY SHALL BE MIN. GRADE 36 AND USE 7/8" HIGH STRENGTH BOLTS.
- PROPOSED DECK DRAIN PIPE SHALL BE SIZED TO THE CLOSEST COMMONLY MANUFACTURED SIZE AS THE EXISTING DECK DRAIN PIPE.
- THE CONTRACTOR SHALL VERIFY THE ACTUAL NUMBER AND SIZE OF EXISTING DRAINS BEFORE ORDERING MATERIALS.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PROPOSED DECK DRAIN AND OFFSET HANGER ASSEMBLY.
- THE BRIDGE DECK AROUND THE DRAIN PIPE SHALL BE EPOXY COATED IF NO OVERLAY SYSTEM IS BEING APPLIED.
- CONTRACTOR SHALL USE CAUTION NOT TO DAMAGE EXISTING DECK REINFORCING STEEL.



EXISTING SECTION VIEW
(EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY)



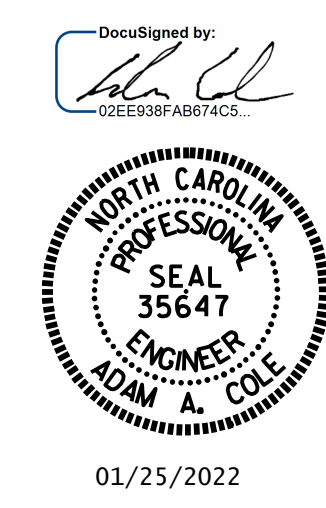
PROPOSED SECTION VIEW



DETAIL "A"

(EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY)

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350314



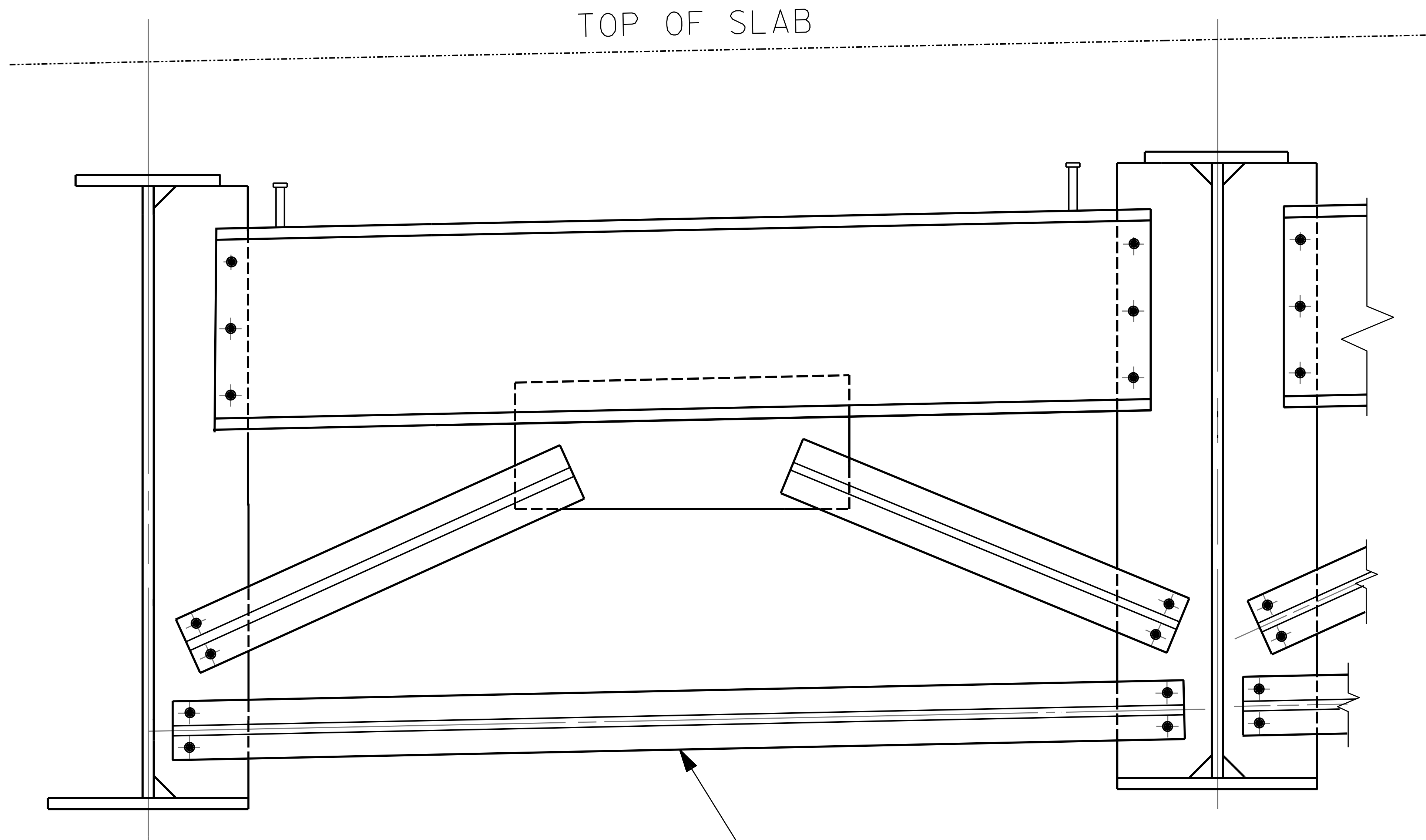
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DECK DRAIN REPAIR DETAILS

DRAWN BY : REZA KOUCHEKI DATE : 01/2022
 CHECKED BY : H.A. LOCKLEAR DATE : 01/2022

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-65
1			3			TOTAL SHEETS
2			4			67

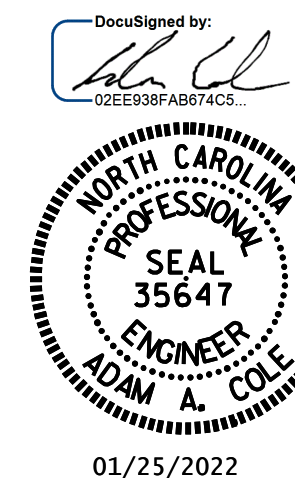


TOP OF SLAB

REPLACE WT4 x 9
 ALL FIELD CONNECTIONS TO BE
 7/8" DIA. HIGH STRENGTH BOLTS

TYPICAL BENT CROSSFRAME

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350046, 350314
350086

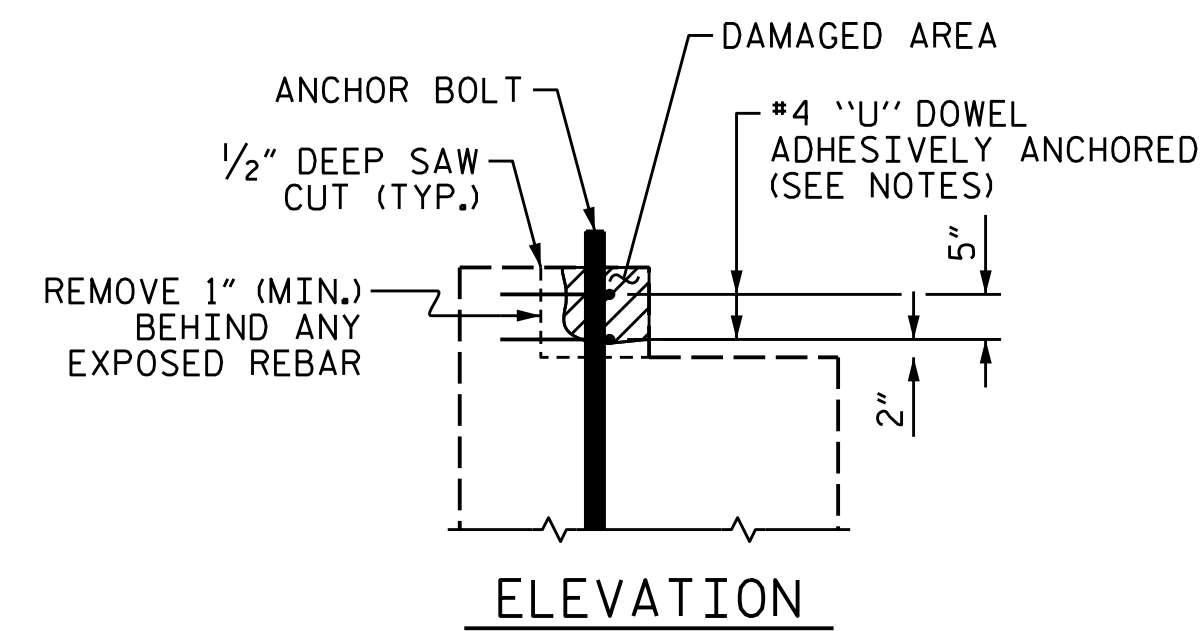


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 CROSS FRAME
 REPAIR DETAIL

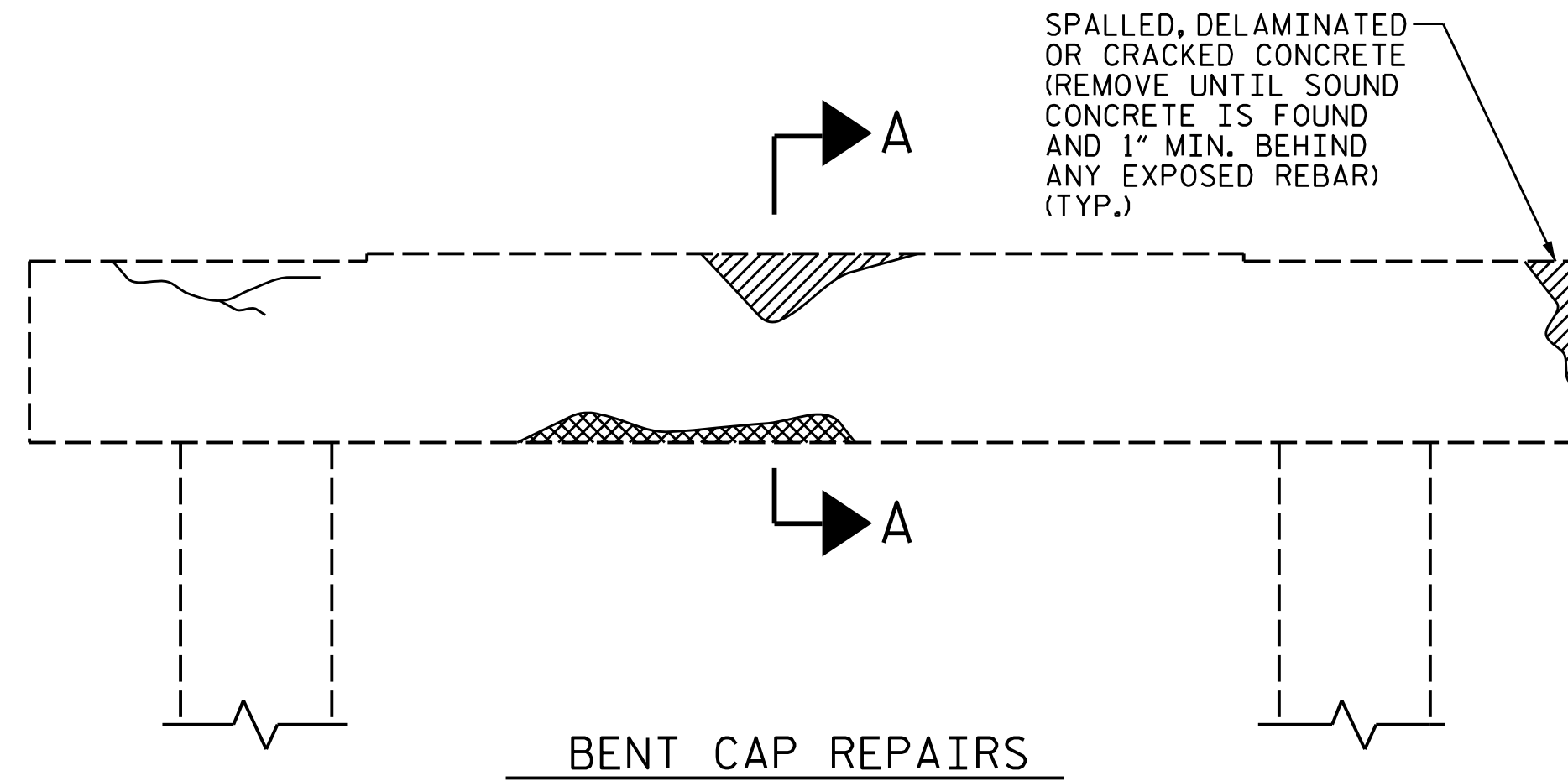
ASSEMBLED BY : GHOLAMREZA KOUCHEKI DATE : 11/2021
 CHECKED BY : H.A. LOCKLEAR DATE : 12/2021

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

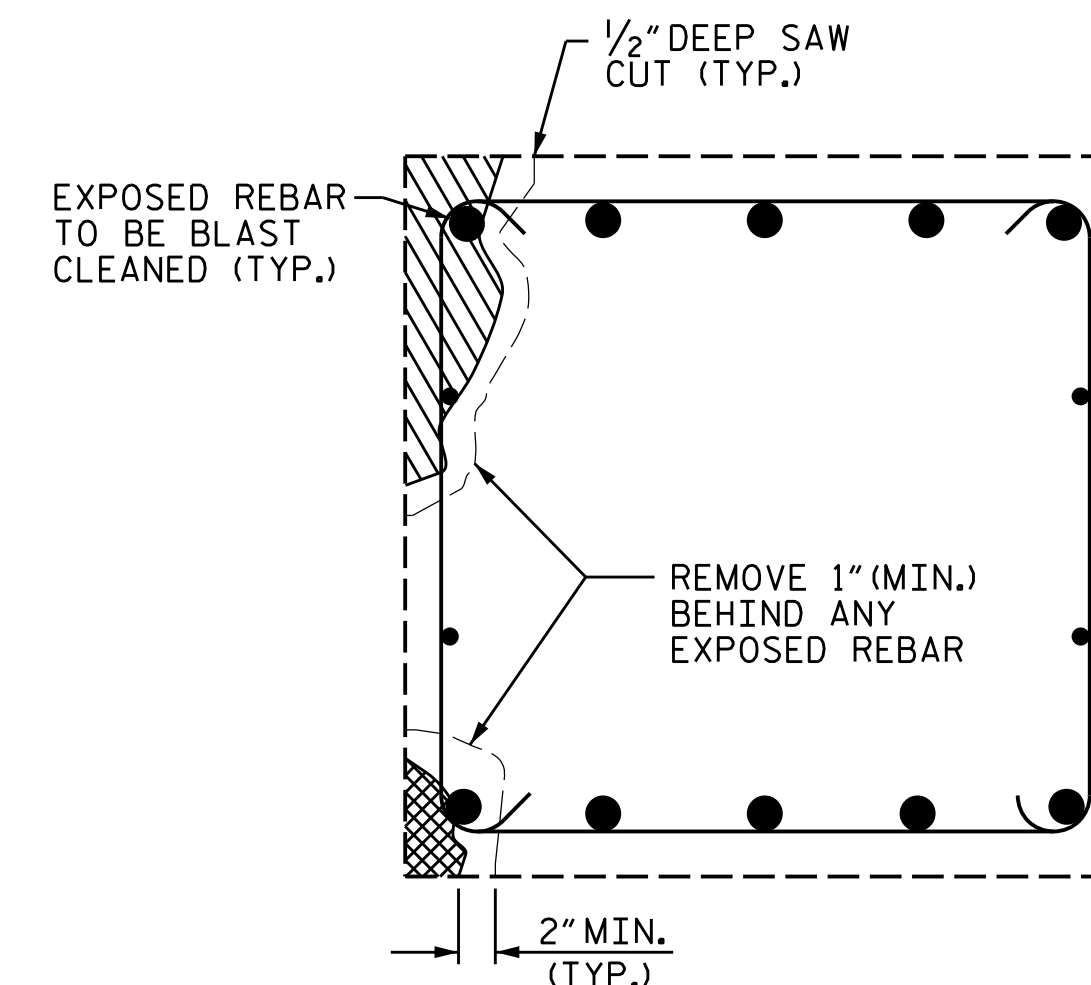
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			67
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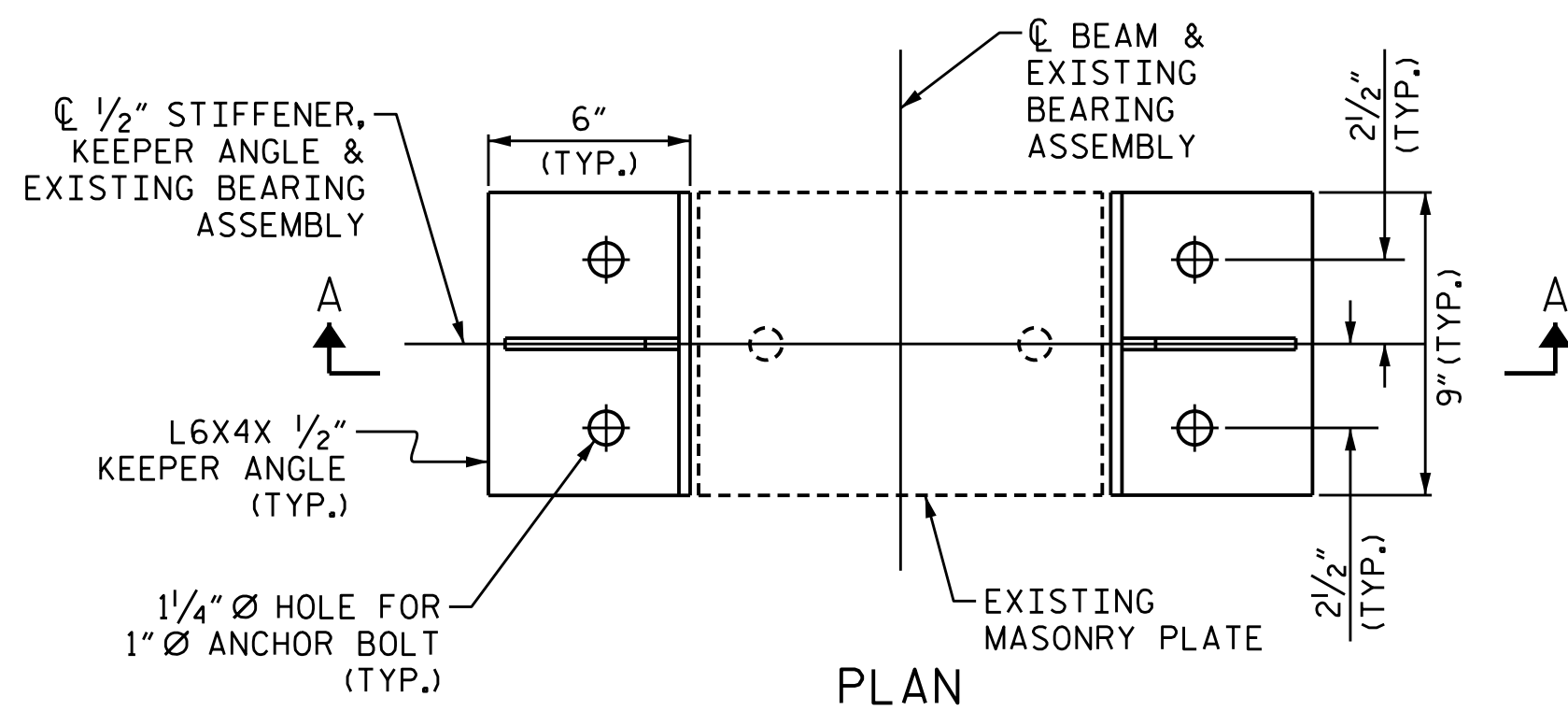
PEDESTAL WALL REPAIR



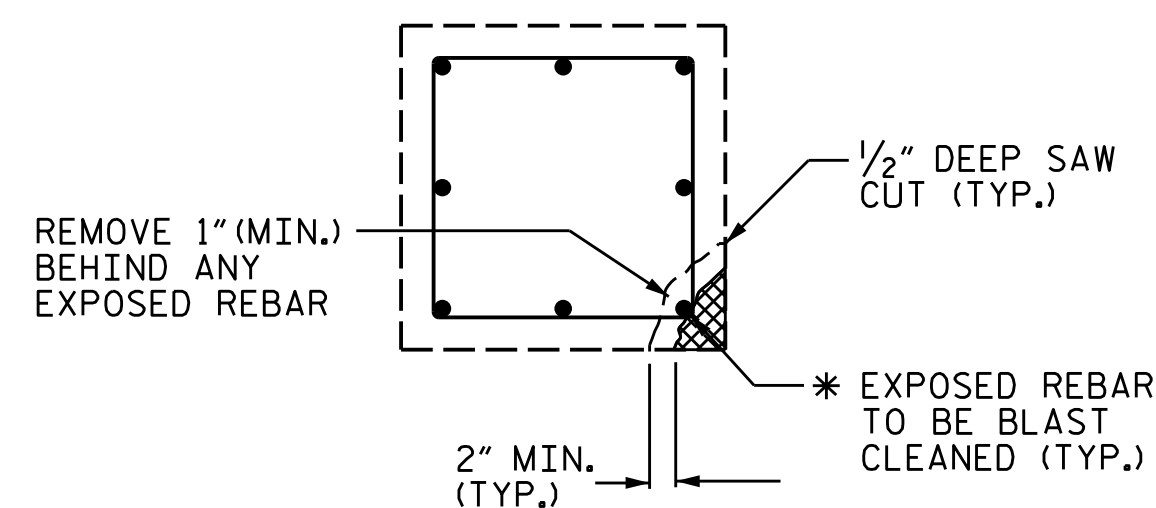
BENT CAP REPAIRS



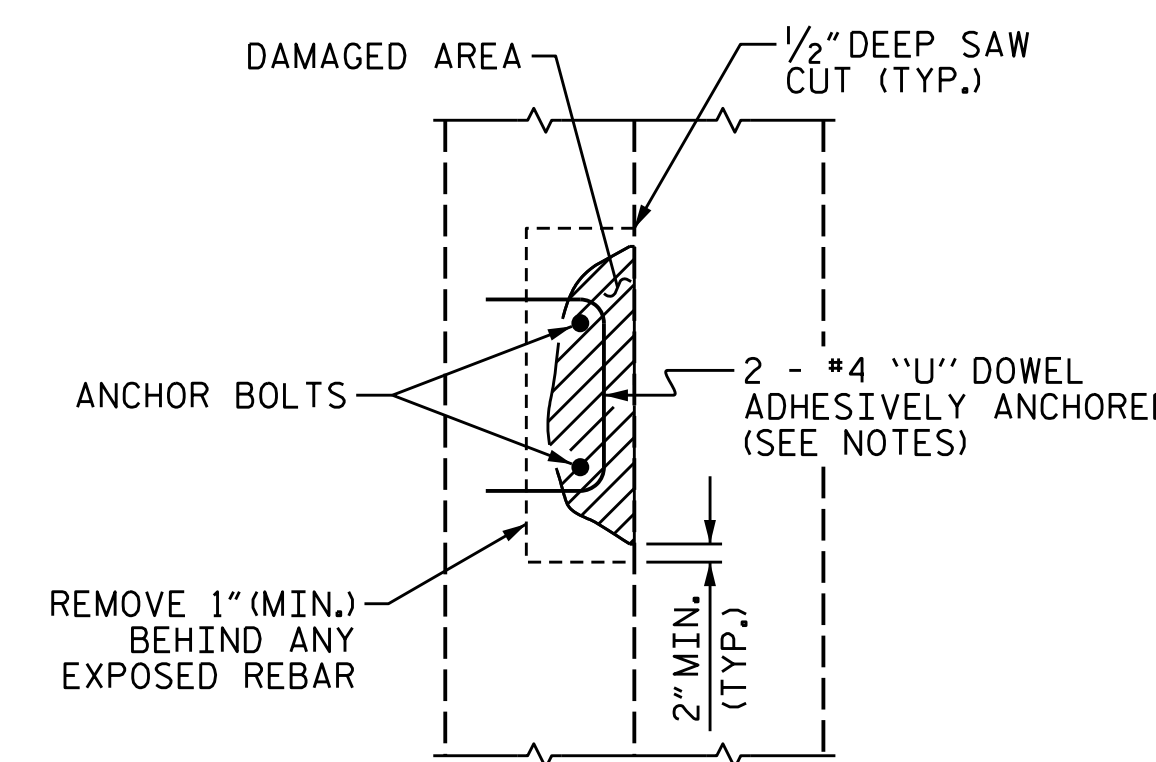
**SECTION A-A
CAP REPAIR**



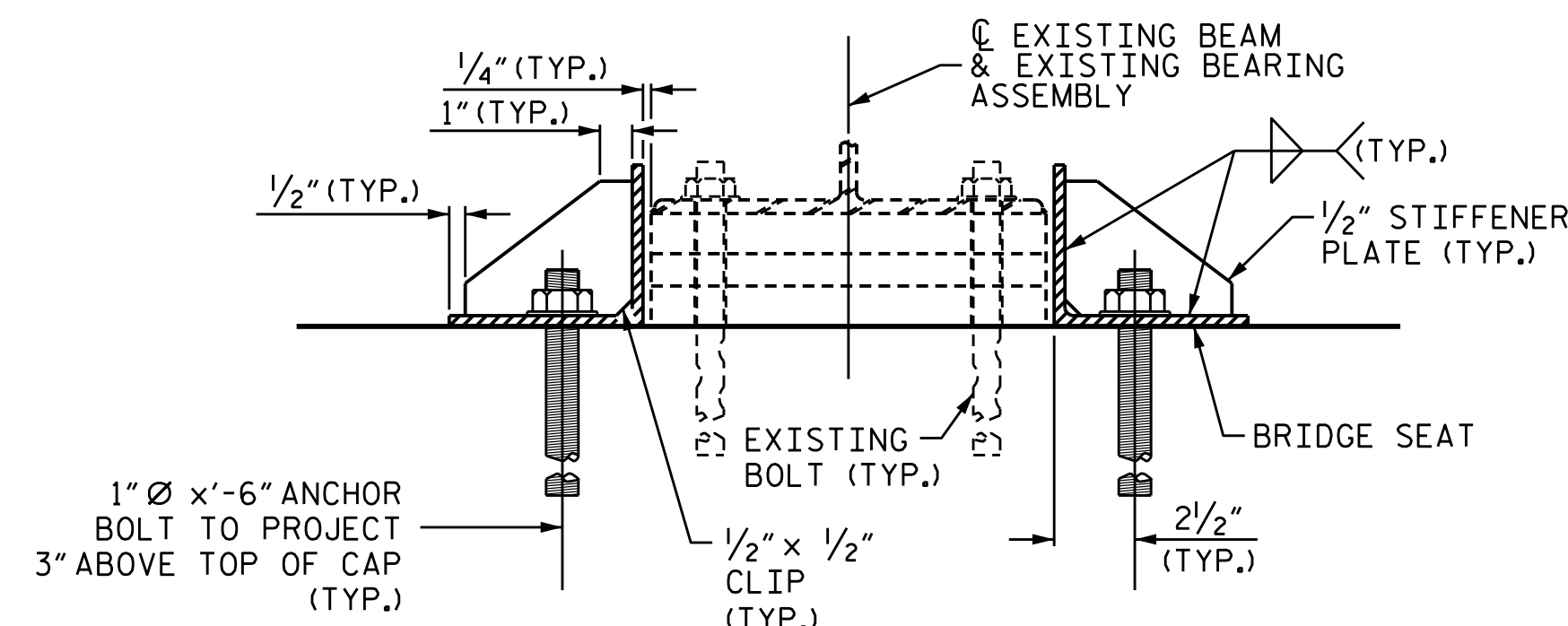
PLAN



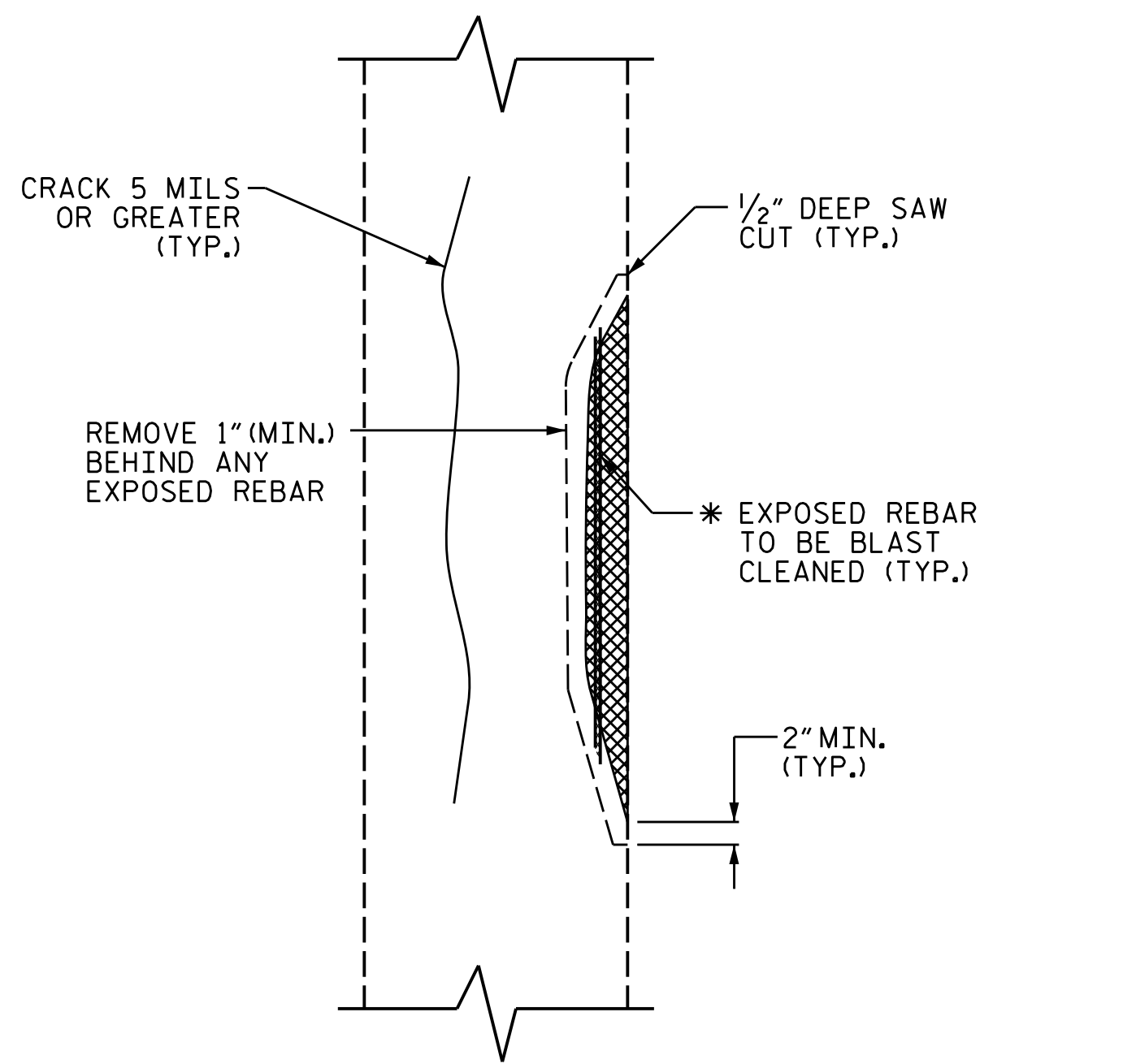
PLAN OF COLUMN



PLAN



SECTION A-A



**ELEVATION OF COLUMN
COLUMN REPAIR**

SPLICE LENGTH TABLE	
BAR SIZE	MIN. SPLICE LENGTH
#4	2'-4"
#5	2'-9"
#6	4'-0"
#7	5'-3"
#8	6'-9"
#9	8'-6"
#10	10'-11"
#11	13'-4"

REPAIR KEY

- CONCRETE REPAIR AREA (FORM AND POUR)
- SHOTCRETE REPAIR AREA
- EPOXY RESIN INJECTION (ERI)

NOTES

TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT.

NO MORE THAN ONE-THIRD OF THE CAP OR COLUMN CROSS SECTIONAL AREA SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAN 30% OF A CAP OR COLUMN CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1 1/2" BEHIND THE MAIN REINFORCING BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

THE #4 "U" DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING, OVERLAPPING THE REPAIR AREA BY A MINIMUM OF 3" ON ALL POSSIBLE SIDES.

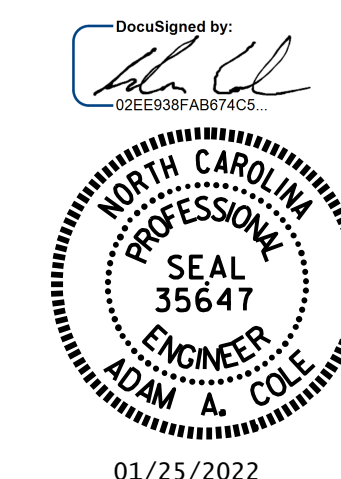
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION (ERI), SEE SPECIAL PROVISIONS.

PROJECT NO. 15BPR.51
GASTON COUNTY
 BRIDGE NO. 350046, 350314
350086



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 TYPICAL CAP
 AND COLUMN
 REPAIR DETAILS

ASSEMBLED BY : H.A. LOCKLEAR	DATE : 11/2021
CHECKED BY : A. SORSENGIN	DATE : 11/2021
DRAWN BY : NAP 8/18	
CHECKED BY :	

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-67
2			4			TOTAL SHEETS 67

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	--	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	--	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	--	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	----	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED $\frac{3}{4}$ " WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO $\frac{1}{2}$ " RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A $\frac{1}{4}$ " FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A $\frac{1}{4}$ " RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE $\frac{7}{8}$ " \emptyset SHEAR STUDS FOR THE $\frac{3}{4}$ " \emptyset STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - $\frac{7}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF $\frac{7}{8}$ " \emptyset STUDS ALONG THE BEAM AS SHOWN FOR $\frac{3}{4}$ " \emptyset STUDS BASED ON THE RATIO OF 3 - $\frac{7}{8}$ " \emptyset STUDS FOR 4 - $\frac{3}{4}$ " \emptyset STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST $\frac{5}{16}$ " IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY $\frac{1}{16}$ " INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN