STATE	SHEET ID
VA	A1

PROJECT NOTES:

1. UNLESS OTHERWISE NOTED, ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2020 VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS WITH 2022 SUPPLEMENT.

2. ALL ELEMENTS ARE NUMBERED FROM SOUTH TO NORTH OR WEST TO EAST AS APPROPRIATE.

STEEL CLEANING AND REPAIR NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO DRILLING. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL NOTIFY THE OWNER ABOUT ANY a) DISCREPANCIES AND INTERFERENCES OR b) UNIDENTIFIED CORROSION AND SECTION LOSS EXTENDING INTO ADJACENT ELEMENTS FOR WHICH NO REPAIR IS PROPOSED HEREIN.

2. USE HAND TOOLS AND POWER TOOLS TO CLEAN ALL CORRODED AREAS ACCORDING TO SSPC-SP-2 AND -11 AFTER INITIAL ABRASIVE BLAST CLEANING. GRIND KNIFE EDGES UNTIL A 1/8" MINIMUM THICKNESS IS ATTAINED.

3. STEEL REPAIRS ARE TO BE PERFORMED AFTER INSTALLATION OF ACCESS FOR THE CLEANING AND PAINTING WORK AND AFTER INITIAL ABRASIVE BLAST CLEANING AND PRIME COATING OF THE BRIDGE WITHIN EACH REPAIR AREA. USE THE SAME ACCESS PLATFORMS FOR THE STEEL REPAIRS WITH ADDITIONAL STRENGTHENING OR AUGMENTATION AS NECESSARY TO COMPLETE THE WORK. TOUCH-UP PRIME COAT PAINTING AND APPLICATION OF SUBSEQUENT COATINGS SHALL BE INCLUDED AS PART OF THE OVERALL CLEANING AND PAINTING WORK DESCRIBED.

4. CONTACT SURFACES BETWEEN EXISTING AND NEW STEEL SHALL MEET THE FOLLOWING CLEANING AND PAINTING CRITERIA AND BE IN ACCORDANCE WITH SLIP COEFFICIENT AND CREEP RESISTANCE TESTING CERTIFICATES FROM THE PAINT MANUFACTURER:
   - ALL EXISTING STEEL SHALL BE CLEANED VIA ABRASIVE BLASTING AND PAINTED WITH INORGANIC ZINC PRIMER OR SHALL BE CLEANED VIA ABRASIVE BLASTING AND PAINTED WITH THE 2-COAT INORGANIC PAINT SYSTEM (MAXIMUM 8 MILS DFT PER CERTIFICATE OF SLIP COEFFICIENT AND CREEP RESISTANCE TESTING) OR SMALL LOCALIZED SPOTS OF UNPAINTED STEEL SHALL BE CLEANED TO SSPC-SP 11 AND PAINTED WITH INORGANIC ZINC PRIMER.
   - ALL NEW / REPAIR STEEL PIECES SHALL BE ABRASIVE BLAST CLEANED TO SSPC-SP 10 AND PAINTED WITH INORGANIC ZINC PRIMER.

5. IN AREAS WHERE BOLTED CONNECTIONS ARE USED, USE STEEL-FILLED EPOXY PUTTY TO FILL IN SECTION LOSS AND PITTING PRIOR TO INSTALLING THE NEW STEEL PLATES. APPLY THE METAL REINFORCED EPOXY FILLER AND ENSURE THAT IT REMAINS WORKABLE IMMEDIATELY PRIOR TO PLACING THE NEW STEEL PLATE. APPLY A SUFFICIENT QUANTITY OF THE FILLER SO THAT EXCESS MATERIAL WILL BE SQUEEZED OUT DURING THE INSTALLATION OF THE BOLTS. PROPERLY DRESS EXCESS MATERIAL IN A WORKMANLIKE MANNER PRIOR TO HARDENING. STEEL-FILLED EPOXY PUTTY SHALL BE FASTEEL STEEL-FILLED EPOXY PUTTY BY POLYMERIC SYSTEMS INC., PLASTIC STEEL PUTTY BY ITW DEVCON OR APPROVED EQUAL.

6. STRUCTURAL STEEL REPAIR ELEMENTS SHALL CONFORM TO THE FOLLOWING DESIGNATION UNLESS OTHERWISE NOTED: AASHTO M270, GRADE 50 (ASTM A709, GRADE 50).

7. REMOVE AND REPLACE ALL EXISTING FASTENERS MEETING SECTION LOSS CRITERIA SPECIFIED IN SECTION 499 USING FASTENERS OF THE SAME SIZE AS THOSE REMOVED. SEE THE FOLLOWING NOTE FOR FASTENER SPECIFICATION REQUIREMENTS.

8. UNLESS OTHERWISE NOTED, USE GALVANIZED HIGH STRENGTH BOLTS AND ASSOCIATED HARDWARE IN ACCORDANCE WITH VDOT SPECIFICATION SECTION 226.02H WITH THREADS EXCLUDED THAT MEET OR EXCEED ANY OF THE FOLLOWING SPECIFICATIONS:
   - ASTM F3125 GRADE A325 WITH DIRECT TENSION INDICATORS (ASTM F959), OR
   - ASTM F3125 GRADE F1852 OR GRADE F2280

8. ALL FASTENERS NOTED IN REPAIR DETAILS ARE $\frac{7}{8}$" DIAMETER HIGH STRENGTH BOLTS AND INSTALLED IN $\frac{15}{16}$" DIA. HOLES UNLESS OTHERWISE NOTED. DRILLED HOLES SHALL BE DEBURRED WITH EDGES ROUNDED. SEE THE PREVIOUS NOTE FOR FASTENER SPECIFICATION REQUIREMENTS.

9. FOR NEW STIFFENERS, A "MILL TO BEAR" CALLOUT IS DEFINED AS ALLOWING A GAP OF UP TO 0.026" BETWEEN THE STIFFENER AND THE FLANGE.

10. FOR NEW STIFFENERS, A "TIGHT FIT" CALLOUT IS DEFINED AS ALLOWING A GAP OF UP TO 2 mm ($\frac{1}{16}$") BETWEEN THE STIFFENER AND THE FLANGE.

11. PERFORM ALL GRINDING OF CORRODED EDGES IN ACCORDANCE WITH VDOT SPECIFICATION 426.03 [SURFACE PREPARATION] (A). PREPARE ALL NEW STEEL ELEMENTS IN ACCORDANCE WITH VDOT SPECIFICATION 407.04. PERFORM ALL REQUIRED CUTTING OF EXISTING STRUCTURE IN ACCORDANCE WITH VDOT SPECIFICATIONS EXCEPT FLAME AND TORCH CUTTING ARE PROHIBITED.

12. PERFORM ALL REQUIRED WELDING IN ACCORDANCE WITH VDOT SPECIFICATION 407.04.

13. STEEL PLATE MATERIAL IS SPECIFIED IN REPAIR DETAILS. IT IS PERMISSIBLE TO SUBSTITUTE REPAIR ELEMENTS FABRICATED FROM EQUIVALENT BAR SECTIONS PROVIDED THAT MINIMUM AND MAXIMUM FASTENER EDGE DISTANCE REQUIREMENTS, AS SPECIFIED, ARE SATISFIED.

14. ALL STEEL AND ALUMINUM REPAIR DETAILS PROVIDED IN THESE PLANS ARE IDENTIFIED ACCORDING TO THE DETAIL / ITEM NAME DEFINED IN THE INDEX OF SHEETS TABLE ON THIS SHEET. ALL DETAILS WILL BE MEASURED IN UNITS OF EACH AND WILL BE PAID AT THE CONTRACT UNIT COST PER EACH. THE COST SHALL INCLUDE ALL WORK ITEMS REQUIRED TO COMPLETE THE WORK DEPICTED ON THE RESPECTIVE DETAIL DRAWING SHEET(S) INCLUDING, BUT NOT LIMITED TO, ALL MATERIAL, LABOR, AND EQUIPMENT, AS WELL AS SHOP DRAWINGS, SURFACE PREPARATION, WELDING, CERTIFIED WELDERS AND WELDING INSPECTORS, NON-DESTRUCTIVE TESTING BY CERTIFIED TECHNICIANS, WELDING INSPECTION, OTHER TYPES OF NON-DESTRUCTIVE TESTING WHERE REQUIRED, DISPOSAL OF REMOVED MATERIAL, ENVIRONMENTAL AND WORKER HEALTH AND SAFETY PROTECTION, TESTING, AND COATING STEEL OR ALUMINUM MEMBERS.

PAINTING NOTES:

1. THE COLOR OF THE FINISH COAT FOR ALL PAINT ITEMS SHALL BE CARBOLINE ARMORLAST II FINISH COAT COLOR G186 (LIGHT BLUE) OR A DISTRICT APPROVED EQUAL. SEE SPECIFICATIONS FOR MATERIAL SUBMITTAL REQUIREMENTS.

2. THIS WORK SHALL CONSIST OF THE CLEANING AND PAINTING OF ALL EXISTING STRUCTURAL STEEL. THE BOUNDARIES OF THIS CONTRACT ARE AS DESCRIBED IN THE SPECIFICATIONS.

3. THE 2 COAT INORGANIC PAINT SYSTEM IS DESCRIBED IN THE SPECIFICATIONS AND INCLUDES SSPC-SP 10 SURFACE PREPARATION, A FULL COAT OF INORGANIC ZINC PRIMER, A STRIPE COAT OF INORGANIC ZINC PRIMER, A FULL COAT OF INORGANIC FINISH PAINT, AND AS-NEEDED CAULKING INSTALLATION. THE STRIPE COAT SHALL BE APPLIED TO ALL EDGES, RIVET HEADS, BOLT HEADS AND THREADS, NUTS, BUILT-UP SURFACES, PITTED AREAS, CREVICES, AND OTHER APPURTENANT ITEMS AS IDENTIFIED IN THE SPECIFICATIONS. CAULKING SHALL BE INSTALLED IN ANY AND ALL GAPS OR CREVICES BETWEEN SOUND STEEL OF 3/16" OR LARGER.

4. THE DISTRICT OR DESIGNATED REPRESENTATIVE WILL INSPECT ALL PHASES OF THE WORK TO ENSURE THAT IT IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ACCESS, INCLUDING ALL EQUIPMENT NECESSARY, FOR THE DISTRICT AND THE DISTRICT'S REPRESENTATIVES. THE PRESENT OF THE DISTRICT INSPECTIONS SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROVIDE ADEQUATE INSPECTIONS OF HIS OWN TO ASSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS.

5. ALL STEEL USED FOR REPAIRS SHALL BE CLEANED AND PAINTED WITH THE PRIMER ONLY OF THE "2 COAT INORGANIC PAINT SYSTEM" BEFORE THE STEEL IS USED FOR REPAIR. THE COST OF CLEANING AND PAINTING SHALL BE INCLUDED IN THE STEEL REPAIR ITEM.

6. AFTER STEEL REPAIRS ARE INSTALLED, THE PAINT WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "2 COAT INORGANIC PAINT SYSTEM" INCLUDING STRIPE COAT, SEALER, AND CAULKING AS REQUIRED. PAYMENT FOR EACH REPAIR TYPE SHALL INCLUDE THE COST OF CLEANING AND PAINTING THE STEEL REPAIR AND AFFECTED SURROUNDING AREA.

INDEX OF SHEETS

STRUCTURE	DETAIL GROUP (# SHEETS)	DETAIL / ITEM NAME	SHEET ID
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NORTH CHANNEL BRIDGE - SB		NORTH CHANNEL BRIDGE - SB	C2
FISHERMAN'S INLET BRIDGE - NB		FISHERMAN'S INLET BRIDGE - NB	C3
FISHERMAN'S INLET BRIDGE - SB		FISHERMAN'S INLET BRIDGE - SB	C4
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		NCB-NB STRINGER REPAIR TYPE 1	D1
		NCB-NB TRUSS STRINGER REPAIR TYPE 1	D2
		NCB-NB TRUSS FLOORBEAM REPAIR TYPE 1	D3
	FLOORBEAM STIFFENER REPAIRS (6)	NCB-NB FLOORBEAM REPAIR TYPE 4	E1
		NCB-NB FLOORBEAM REPAIR TYPE 5	E2 - E3
		NCB-NB FLOORBEAM REPAIR TYPE 6	E4 - E5
		NCB-NB TRUSS FLOORBEAM REPAIR TYPE 2	E6
	TRUSS MEMBER REPAIRS (3)	NCB-NB TRUSS REPAIR TYPE 1	F1 - F2
		NCB-NB TRUSS REPAIR TYPE 2	F3
	BRACING REPAIRS (6)	NCB-NB BRACING REPAIR TYPE 1	G1 - G3
		NCB-NB BRACING REPAIR TYPE 2	G4 - G6
		NCB-NB BRACING REPAIR TYPE 3	G1 - G3
	MISCELLANEOUS REPAIRS (1)	NCB-NB FLOORBEAM REPAIR TYPE 1	H1
		NCB-NB FLOORBEAM REPAIR TYPE 3	H2
	TRUSS SPAN MISCELLANEOUS REPAIRS (7)	NCB-NB TRUSS STRINGER REPAIR TYPE 3	I1
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NORTH CHANNEL BRIDGE - SB & FISHERMAN'S INLET BRIDGE - NB	MISCELLANEOUS REPAIRS (1)	NCB-SB REPAIR TYPE 1	J1
FISHERMAN'S INLET BRIDGE - SB	GIRDER PLATING REPAIRS (1)	FIB-SB GIRDER REPAIR TYPE 1	K1
	GIRDER STIFFENER REPAIRS (1)	FIB-SB GIRDER REPAIR TYPE 2	L1
	MISCELLANEOUS REPAIRS (4)	FIB-SB BRACING REPAIR TYPE 1	M1 - M2
		FIB-SB BRACING REPAIR TYPE 2	M3
		FIB-SB BRACKET REPAIR TYPE 1	M4
SIMPLE SPAN PORTAL APPROACHES	GIRDER PLATING REPAIRS (1)	SIMPLE SPAN BEAM REPAIR TYPE 1	N1
	UTILITY REPAIRS (2)	SIMPLE SPAN UTILITY REPAIR TYPE 1	O1
		SIMPLE SPAN UTILITY REPAIR TYPE 2	O2

LEGEND

- EXISTING FASTENER LOCATIONS TO BE PICKED UP
- PROPOSED FASTENER LOCATIONS
- OTHER EXISTING FASTENER LOCATIONS
- SECTION CUT SURFACE
- SECTION LOSS OR OTHER DAMAGE
- MATERIAL TO BE REMOVED

COMMONWEALTH OF VIRGINIA
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EXPIRES: 9/30/2026

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COLUMBIA, MD
STRUCTURAL ENGINEER

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1/5/2026

No.	Description	Date
	Revision	

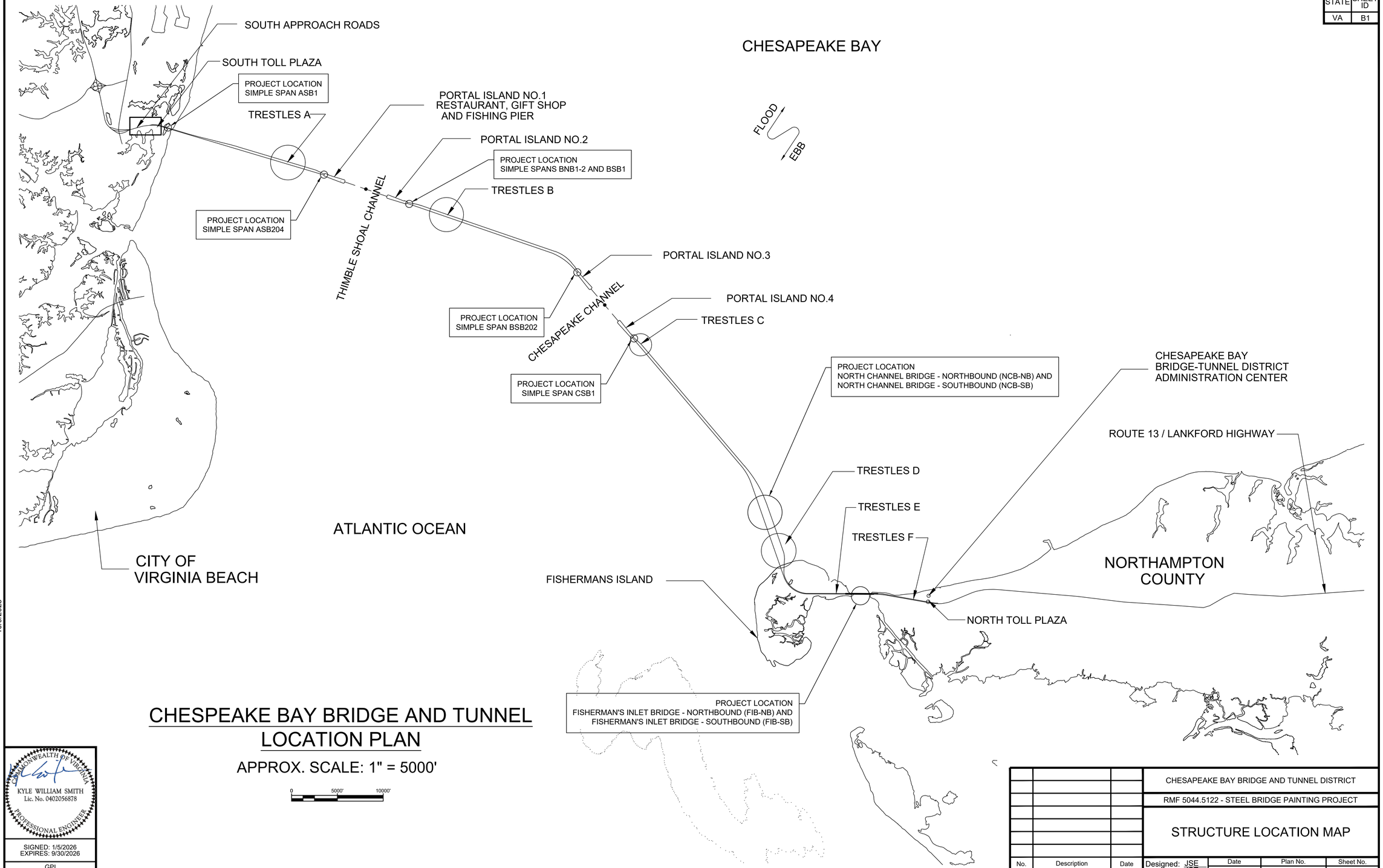
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

PROJECT NOTES

Designed: JSE	Date	Plan No.	Sheet No.
Drawn: BSB Checked: AHC	12/18/2025		1 OF 45

STATE	SHEET ID
VA	B1



pBR-SM01_CBBT.dwg
10/9/2025

CHESAPEAKE BAY BRIDGE AND TUNNEL LOCATION PLAN

APPROX. SCALE: 1" = 5000'

0 5000' 10000'

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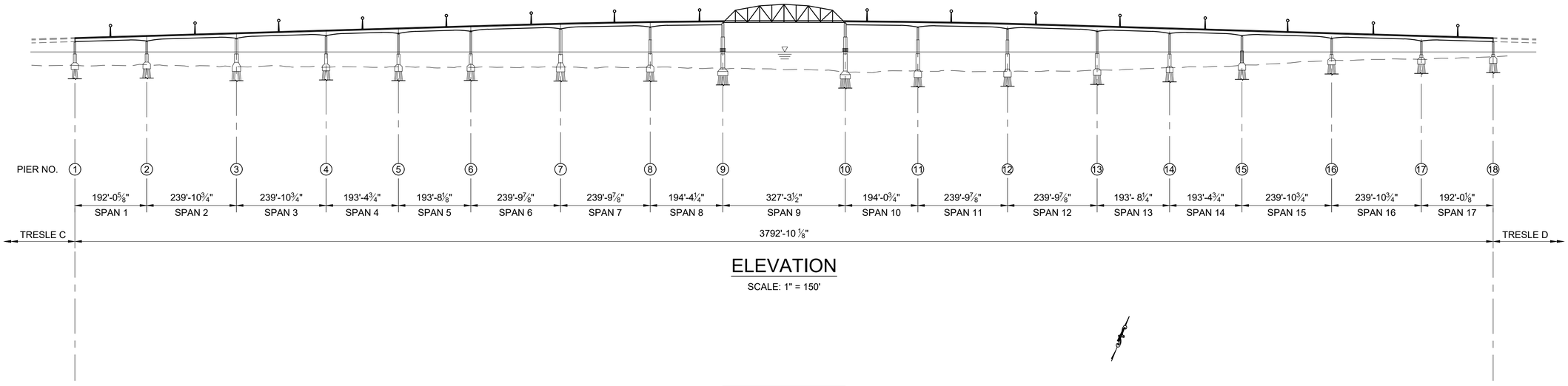
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

STRUCTURE LOCATION MAP

Designed: JSE Drawn: JSE Checked: AHC	Date	Plan No.	Sheet No.
	12/18/2025		2 OF 45

STATE	SHEET ID
VA	C1

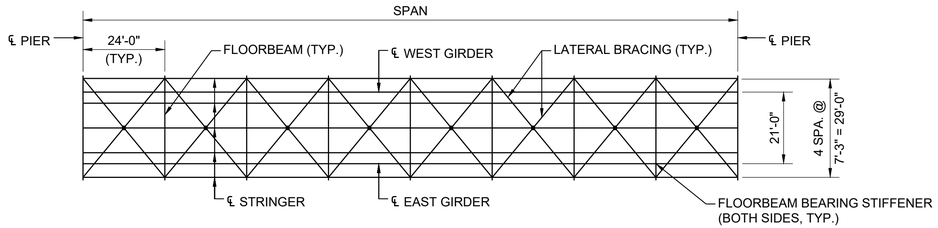


ELEVATION

SCALE: 1" = 150'

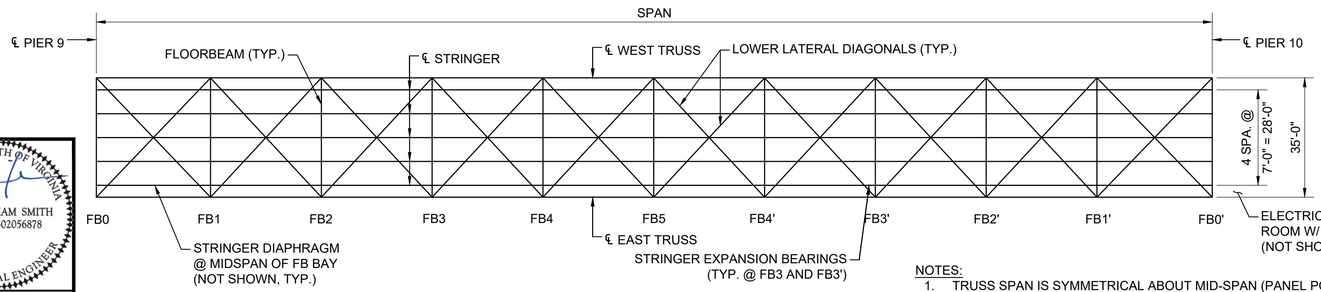
PLAN

SCALE: 1" = 150'



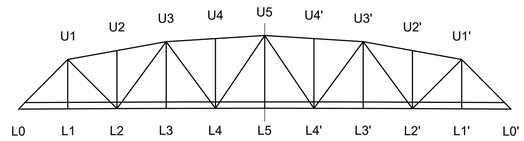
PART FRAMING PLAN - TWO-GIRDER SPANS

NOT TO SCALE



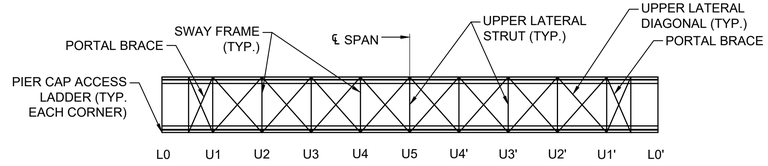
FRAMING PLAN TRUSS SPAN

NOT TO SCALE



TRUSS ELEVATION

NOT TO SCALE



TRUSS PLAN

NOT TO SCALE

NOTES:

1. TRUSS SPAN IS SYMMETRICAL ABOUT MID-SPAN (PANEL POINT 5). UNLESS OTHERWISE NOTED, REFERENCES IN REPAIR DETAILS TO PANEL POINTS 0 THROUGH 4 ALSO APPLY TO PANEL POINTS 4' THROUGH 0.
2. SPANS 1 - 8 AND 10 - 17 ARE TWO-GIRDER.

COMMONWEALTH OF VIRGINIA
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	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB GENERAL PLAN AND ELEVATION

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	12/18/2025		3 OF 45

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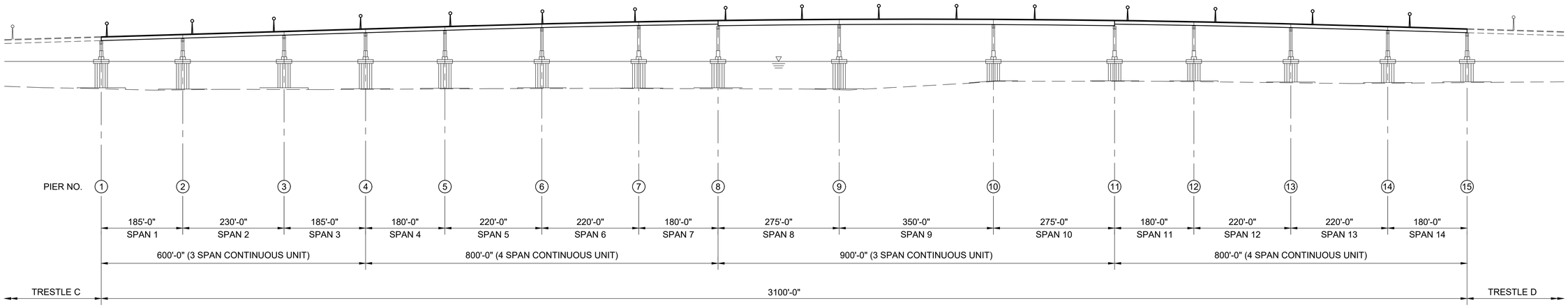
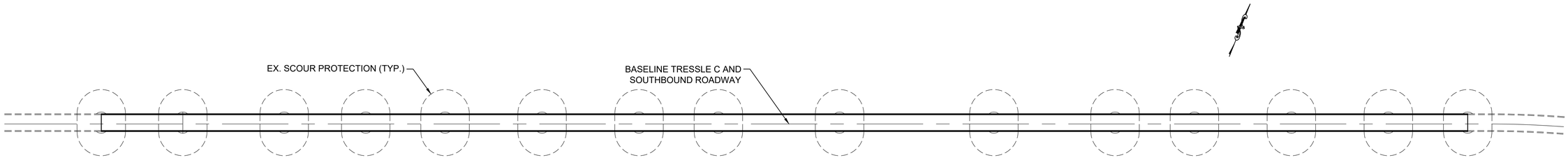
10/9/2025

STATE	SHEET ID
VA	C2



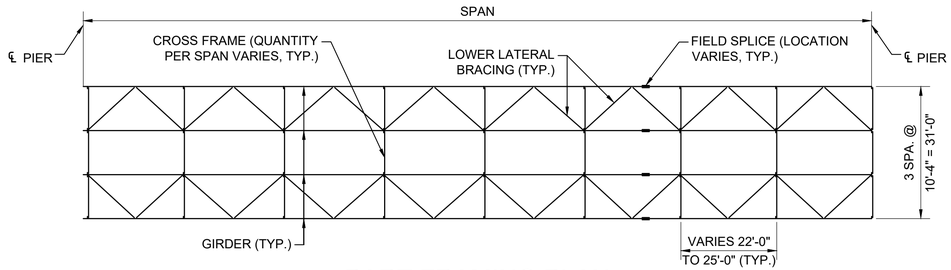
ELEVATION

SCALE: 1" = 120'



PLAN

SCALE: 1" = 120'



PART FRAMING PLAN

NOT TO SCALE

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	Revision	

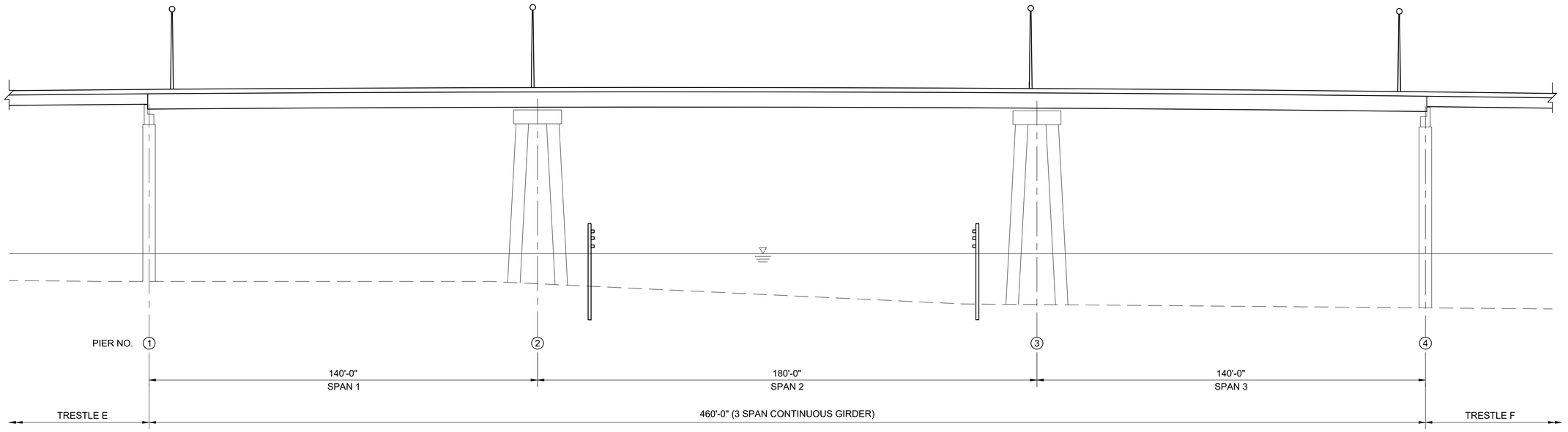
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE SB GENERAL PLAN AND ELEVATION

Designed: JSE	Date	Plan No.	Sheet No.
Drawn: BSB	12/18/2025		4 OF 45
Checked: AHC			

STATE	SHEET ID
VA	C3



ELEVATION

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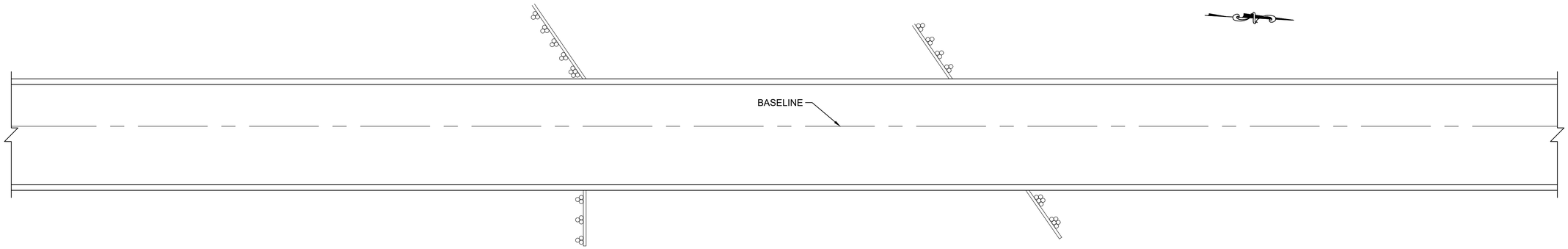

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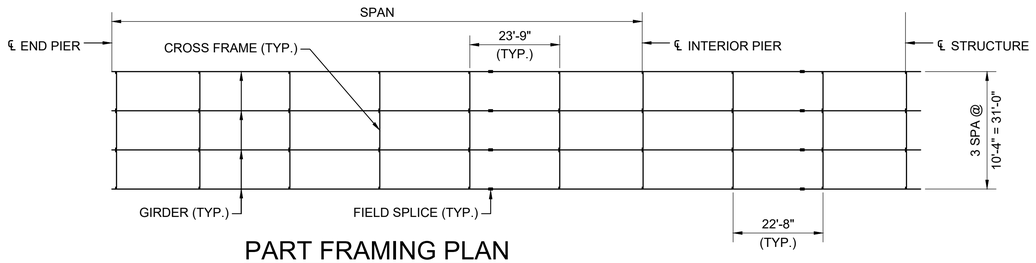

PART FRAMING PLAN

SCALE: 1" = 20'

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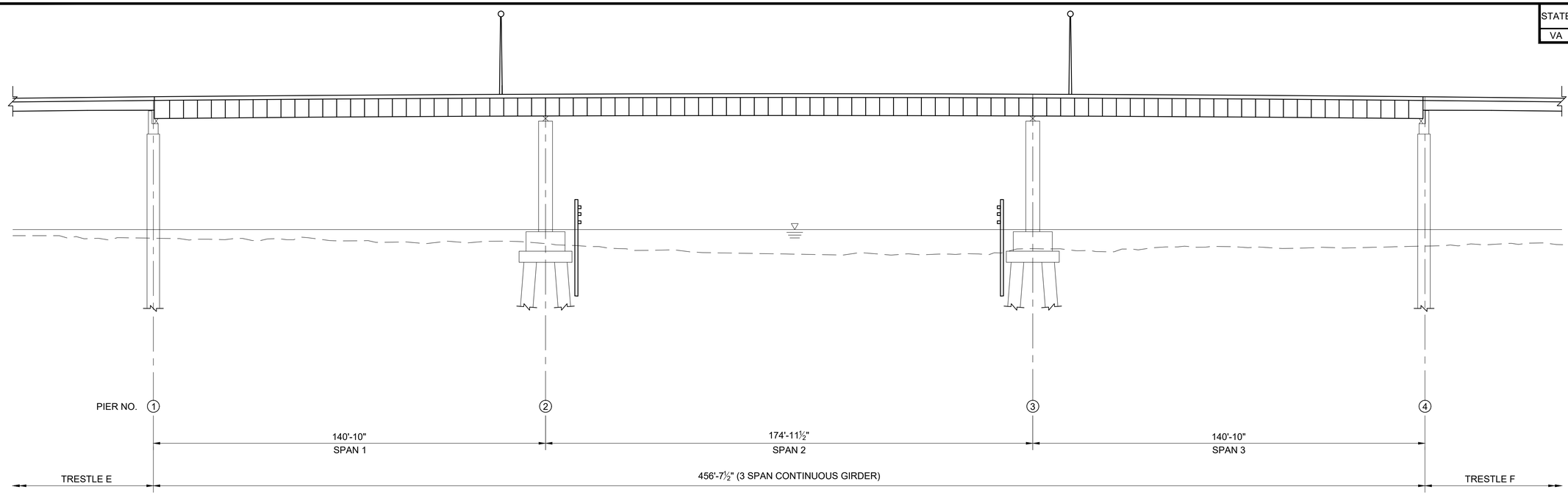
CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

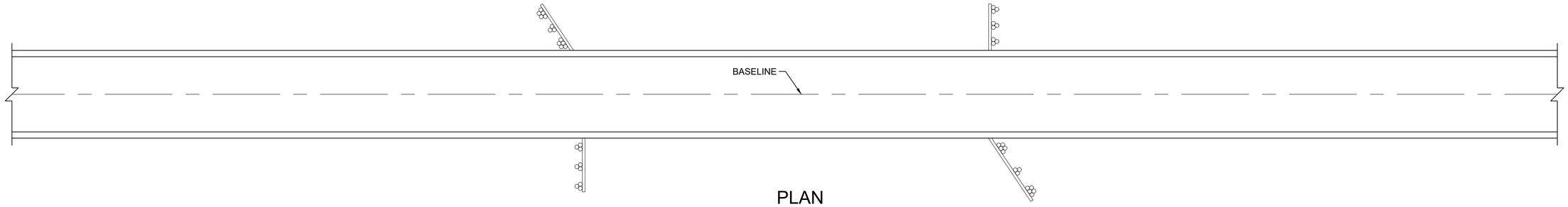
FISHERMANS INLET BRIDGE NORTHBOUND GENERAL PLAN AND ELEVATION

Designed: JSE Drawn: BSB Checked: AHC	Date	Plan No.	Sheet No.
	12/18/2025		5 OF 45

STATE	SHEET ID
VA	C4



ELEVATION
SCALE: 1" = 20'



PLAN
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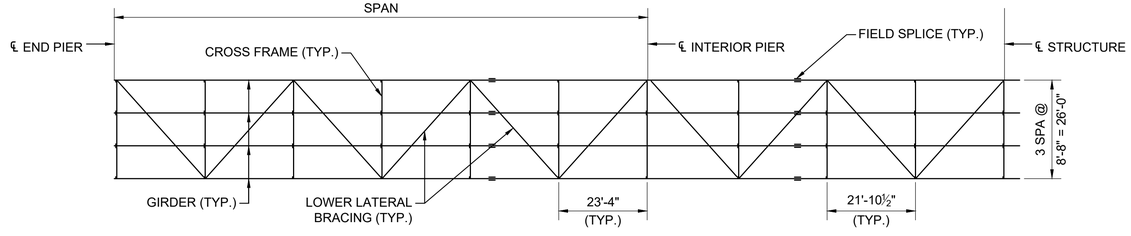

PART FRAMING PLAN
SCALE: 1" = 20'

COMMONWEALTH OF VIRGINIA
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EXPIRES: 9/30/2026

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No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

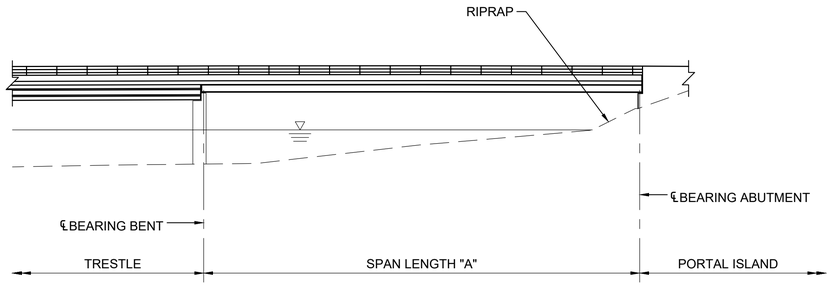
RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

FISHERMANS INLET BRIDGE SOUTHBOUND GENERAL PLAN AND ELEVATION

Designed: JSE Drawn: BSB Checked: AHC	Date	Plan No.	Sheet No.
	12/18/2025		6 OF 45

pBR-GP03_CBBT.dwg
1/5/2026

STATE	SHEET ID
VA	C5



TYPICAL ELEVATION (PORTAL APPROACH SPANS)

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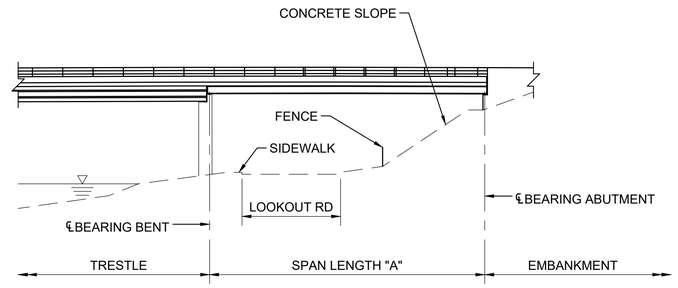
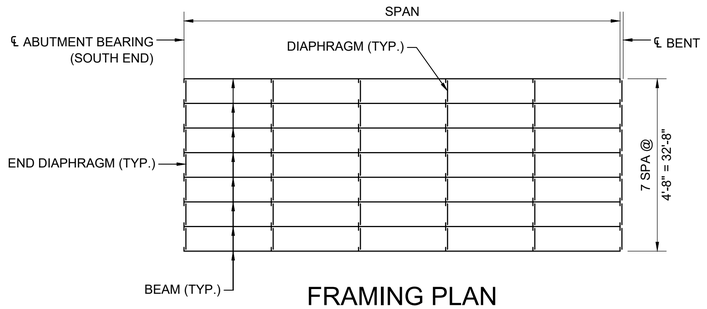


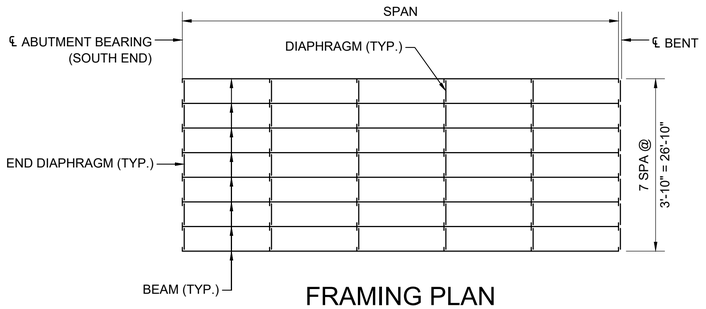
ELEVATION (ASB1 ONLY)

SCALE: 1" = 20'



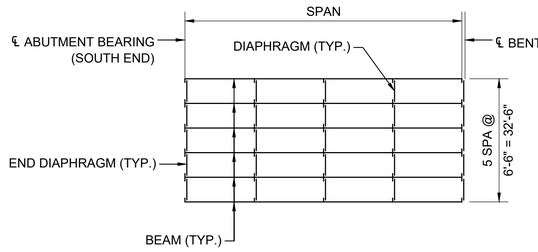
FRAMING PLAN SPANS BSB1 AND CSB1

SCALE: 1" = 20'



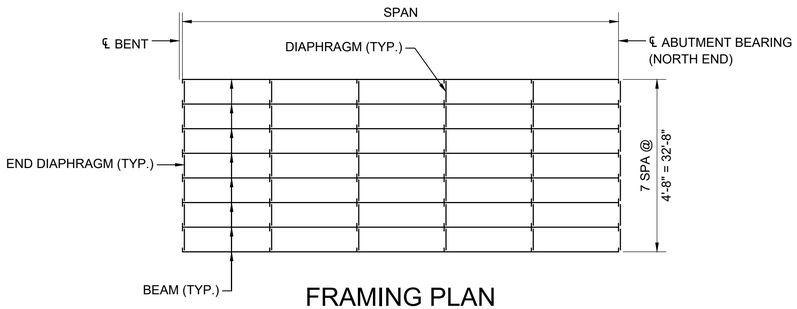
FRAMING PLAN SPAN BNB1-2

SCALE: 1" = 20'



FRAMING PLAN SPAN ASB1

SCALE: 1" = 20'



FRAMING PLAN SPANS ASB204 AND BSB202

SCALE: 1" = 20'

SPAN	SPAN LENGTH "A"
ASB1	73'-1"
ASB204	115'-1 1/4"
BNB1-2	107'-1 1/2"
BSB1	107'-10 11/16"
BSB202	114'-0 1/8"
CSB1	112'-11"

COMMONWEALTH OF VIRGINIA
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No.	Description	Date
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

SIMPLE SPAN BRIDGES (ASB1 AND PORTAL APPROACHES) GENERAL PLAN AND ELEVATION

Designed: JSE Drawn: BSB Checked: AHC	Date	Plan No.	Sheet No.
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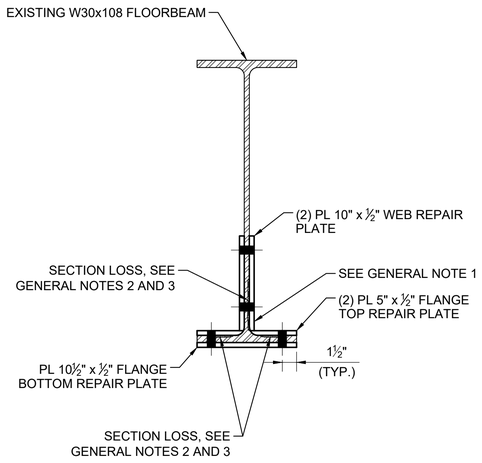
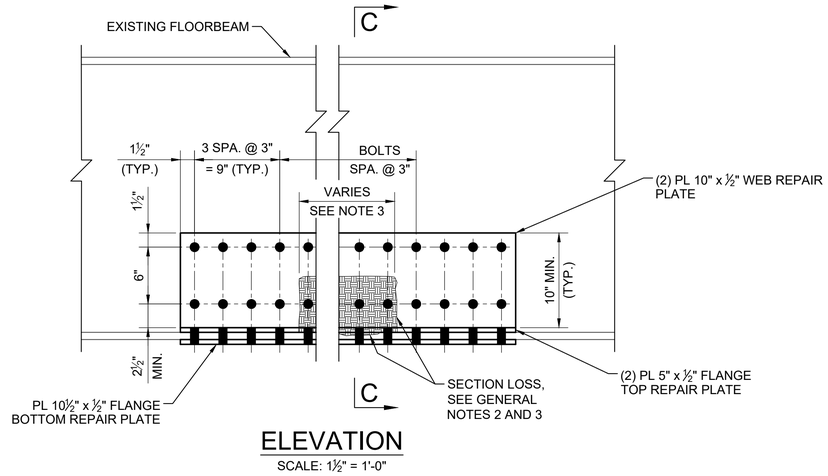


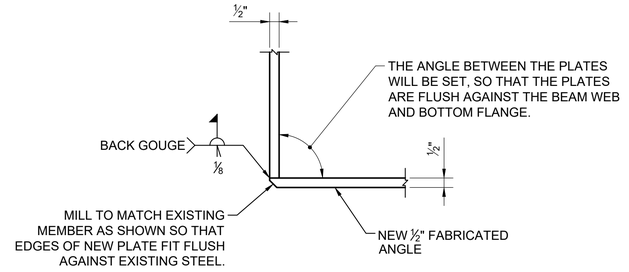
SECTION C-C

SCALE: 1½" = 1'-0"



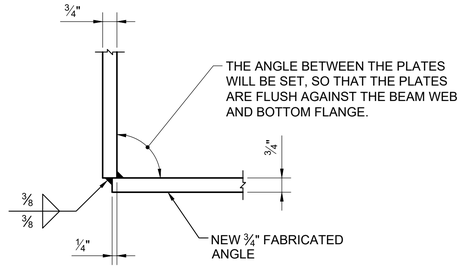
ELEVATION

SCALE: 1½" = 1'-0"



DETAIL 'A'

SCALE: 3" = 1'-0"



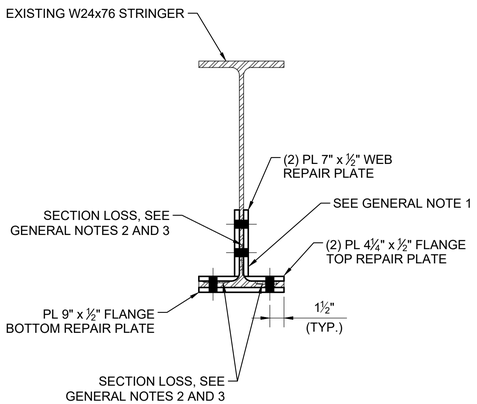
DETAIL 'B'

SCALE: 3" = 1'-0"

NCB-NB FLOORBEAM REPAIR TYPE 2

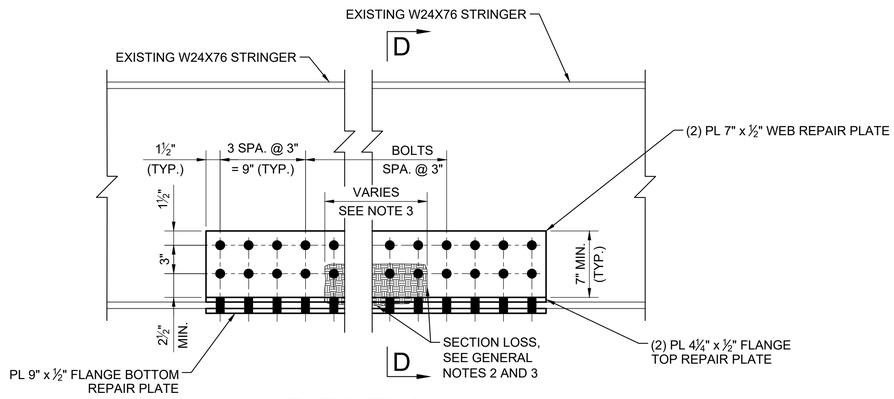
DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN NCB-NB SPANS 1-8 AND 10-17 FOR FLOORBEAMS WITH BOTTOM FLANGE CORROSION TOTAL SECTION LOSS EXCEEDING 10% OF THE ORIGINAL CROSS-SECTIONAL AREA OF THE FLANGE (APPROX. 0.76" THICK x 10.5" W) AS APPROVED BY THE DISTRICT.
2. IF FLANGE SECTION LOSS EXCEEDS 50% OF THE ORIGINAL FLANGE SECTION OR IF WEB SECTION LOSS EXCEEDS ¼" DEEP AND EXTENDS FURTHER THAN 6" FROM THE BOTTOM FLANGE, CONTACT THE DISTRICT FOR DIRECTION.
3. TOTAL LENGTH OF REPAIR FOR THIS DETAIL IS EXPECTED TO VARY FROM APPROX. 4' TO APPROX. 12', WITH A TYPICAL AVERAGE OF 8'.



SECTION D-D

SCALE: 1½" = 1'-0"



ELEVATION

SCALE: 1½" = 1'-0"

NCB-NB STRINGER REPAIR TYPE 1

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN NCB-NB SPANS 1-8 AND 10-17 FOR STRINGERS WITH BOTTOM FLANGE CORROSION TOTAL SECTION LOSS EXCEEDING 10% OF THE ORIGINAL CROSS-SECTIONAL AREA OF THE FLANGE (APPROX. 0.68" THICK x 9.0" W) AS APPROVED BY THE DISTRICT.
2. IF FLANGE SECTION LOSS EXCEEDS 50% OF THE ORIGINAL FLANGE SECTION OR IF WEB SECTION LOSS EXCEEDS ¼" DEEP AND EXTENDS FURTHER THAN 4" FROM THE BOTTOM FLANGE, CONTACT THE DISTRICT FOR DIRECTION.
3. TOTAL LENGTH OF REPAIR FOR THIS DETAIL IS EXPECTED TO VARY FROM APPROX. 4' TO APPROX. 12', WITH A TYPICAL AVERAGE OF 8'.

GENERAL NOTES

1. DETAILS ARE SHOWN AND ANNOTATED ASSUMING REPAIR PLATES ARE ASSEMBLED ACCORDING TO DETAIL 'A'. THE CONTRACTOR MAY SUBSTITUTE ASSEMBLY IN ACCORDANCE WITH DETAIL 'B' AT NO ADDITIONAL COST TO THE DISTRICT.
2. GRIND ALL CORROSION TO SMOOTH BARE METAL.
3. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.
4. ADJUST PLATING PER BEAM END ALTERNATE DETAIL ON NEXT SHEET IF SECTION LOSS OCCURS AT END OF STRINGER OR FLOORBEAM. MAINTAIN FASTENER AND PLATE DETAILS BETWEEN SECTION LOSS AND CENTER OF STRINGER OR FLOOREBEAM SPAN PER STRUCTURE-SPECIFIC DETAILS.

pBR-DE03_CBBT NCB NB Web & Stringer Plating Details.dwg
1/5/2026

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB STRINGER AND FLOORBEAM PLATING REPAIRS

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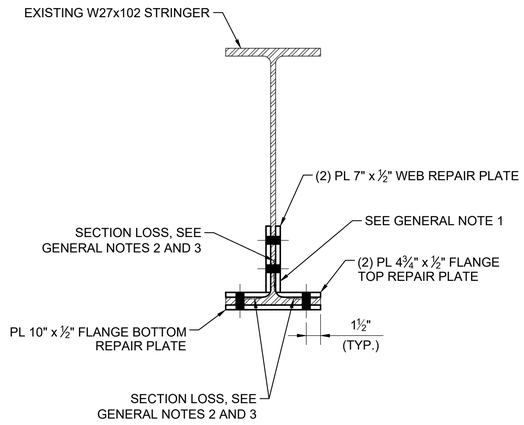
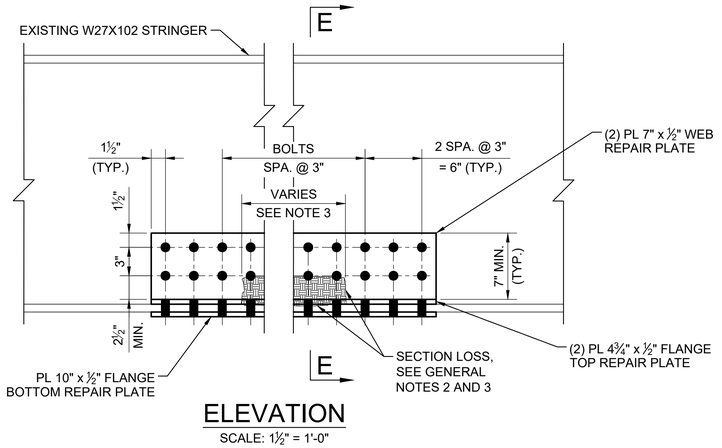


SECTION E-E

SCALE: 1½" = 1'-0"



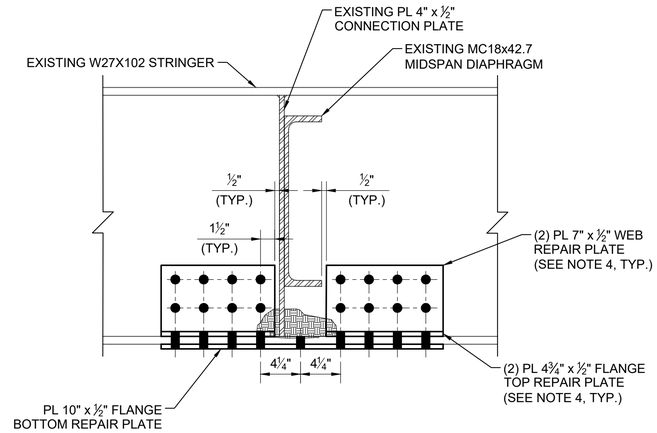
ELEVATION

SCALE: 1½" = 1'-0"

NCB-NB TRUSS STRINGER REPAIR TYPE 1

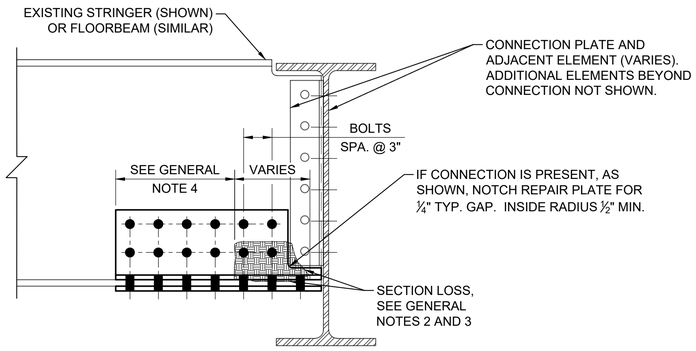
DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) STRINGERS WITH BOTTOM FLANGE CORROSION TOTAL SECTION LOSS EXCEEDING 10% OF THE ORIGINAL CROSS-SECTIONAL AREA OF THE FLANGE (APPROX. 0.83" THICK x 10.0" W) AS APPROVED BY THE DISTRICT.
2. IF FLANGE SECTION LOSS EXCEEDS 50% OF THE ORIGINAL FLANGE SECTION OR IF WEB SECTION LOSS EXCEEDS ¼" DEEP AND EXTENDS FURTHER THAN 3" FROM THE BOTTOM FLANGE, CONTACT THE DISTRICT FOR DIRECTION.
3. TOTAL REPAIR LENGTH FOR THIS DETAIL IS EXPECTED TO AVERAGE APPROXIMATELY 3'.
4. IF SECTION LOSS OCCURS AT OR NEAR A MIDSPAN DIAPHRAGM CONNECTION PLATE, ADJUST PLATING AS SHOWN IN DETAIL F. MAINTAIN MINIMUM OF (6) FASTENERS THRU FLANGE AND (6) FASTENERS THRU WEB ON EACH SIDE OF EXISTING SECTION LOSS.



DETAIL F

SCALE: 1½" = 1'-0"



ELEVATION

SCALE: 1½" = 1'-0"

BEAM END ALTERNATE DETAIL

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB STRINGER AND FLOORBEAM PLATING REPAIRS

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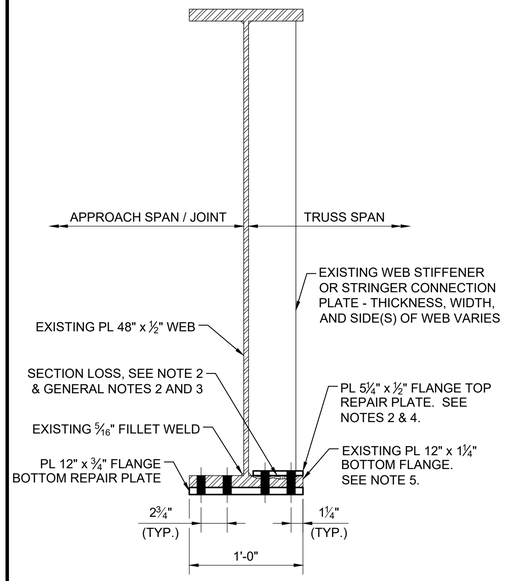
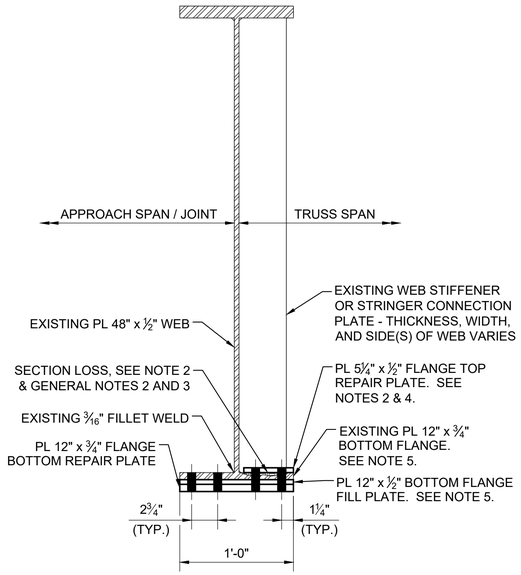


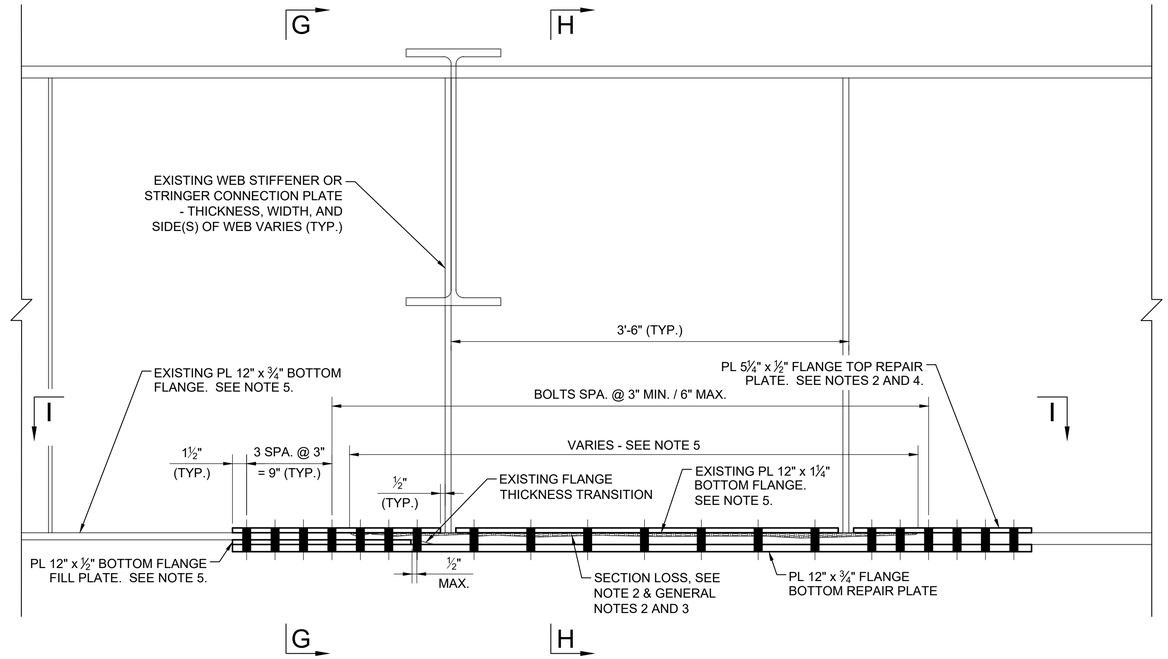
SECTION H-H

SCALE: 1½" = 1'-0"



SECTION G-G

SCALE: 1½" = 1'-0"



FLOORBEAM 0/0' ELEVATION (LOOKING FROM TRUSS SPAN)

SCALE: 1½" = 1'-0"

NCB-NB TRUSS FLOORBEAM TYPE 1

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) FLOORBEAMS 0 AND 0' FOR LOCATIONS WITH BOTTOM FLANGE TOP SURFACE CORROSION SECTION LOSS EXCEEDING 10% OF THE ORIGINAL CROSS-SECTIONAL AREA OF THE FLANGE AS APPROVED BY THE DISTRICT. IF SECTION LOSS EXCEEDS 50% OF THE ORIGINAL FLANGE CROSS-SECTIONAL AREA CONTACT THE DISTRICT FOR DIRECTION.

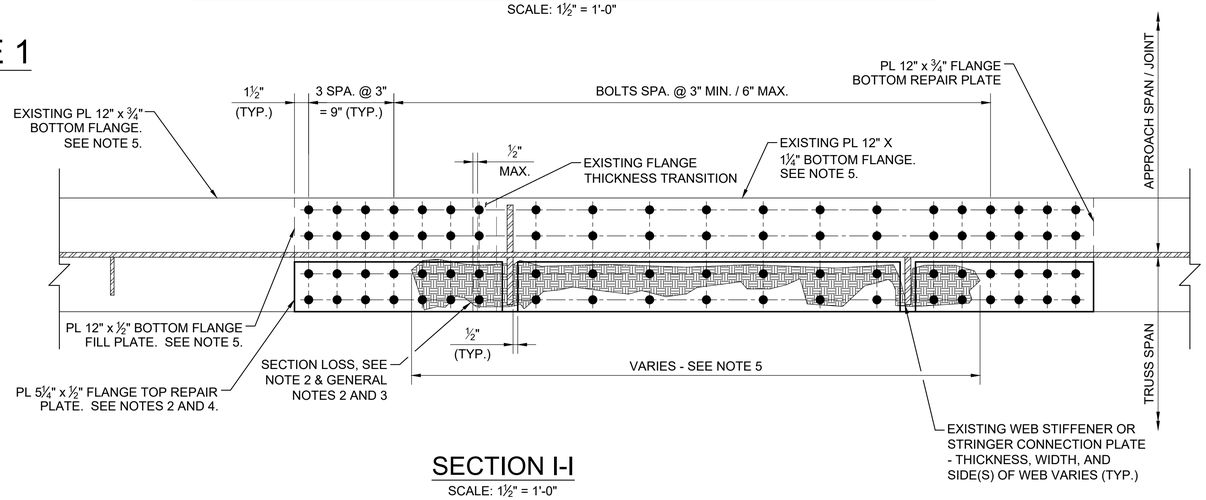
2. ALL CORROSION SECTION LOSS OF ¼" OR DEEPER IS EXPECTED TO BE ON THE TRUSS-SPAN-SIDE TOP SURFACE OF THE BOTTOM FLANGE. IF CORROSION SECTION LOSS OF ¼" OR DEEPER x 3" WIDE FOR GREATER THAN 2" LONG IS EXHIBITED ON THE APPROACH-SPAN/JOINT-SIDE OF THE BOTTOM FLANGE, PLACE AN ADDITIONAL FLANGE TOP REPAIR PLATE, SIZE AS NOTED IN DETAIL, ON THAT SIDE OF THE FLANGE.

3. IF WEB SECTION LOSS EXCEEDS ⅛" DEEP FOR AN AREA LARGER THAN 4" DIAMETER, CONTACT THE DISTRICT FOR DIRECTION.

4. CUT FLANGE TOP REPAIR PLATE FULL-WIDTH AT STIFFENERS AND CONNECTION PLATES TO LEAVE ½" GAP TO STIFFENER OR CONNECTION PLATE. ADJUST BOLT SPACING ALONG LENGTH OF FLOORBEAM AS NEEDED TO SATISFY THE FOLLOWING REQUIREMENTS:
   - 4.1. MIN. CENTER SPACING: 2⅝"
   - 4.2. MAX. CENTER SPACING: 6"
   - 4.3. MIN. END DISTANCE: 1⅛"
   - 4.4. MAX. END DISTANCE: 4"
   - 4.5. MAINTAIN MINIMUM OF (16) FASTENERS ON EACH SIDE OF EXISTING SECTION LOSS

5. EXISTING BOTTOM FLANGE THICKNESS IS ¾" FOR 10'± AT EACH END AND 1¼" ELSEWHERE. BOTTOM FLANGE FILL PLATE IS ONLY NEEDED IF REPAIR SPANS AN EXISTING BOTTOM FLANGE THICKNESS TRANSITION. OMIT OTHERWISE.

6. TOTAL LENGTH OF REPAIR FOR THIS DETAIL IS EXPECTED TO AVERAGE APPROXIMATELY 7'.



SECTION I-I

SCALE: 1½" = 1'-0"

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1/5/2026

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB STRINGER AND FLOORBEAM PLATING REPAIRS

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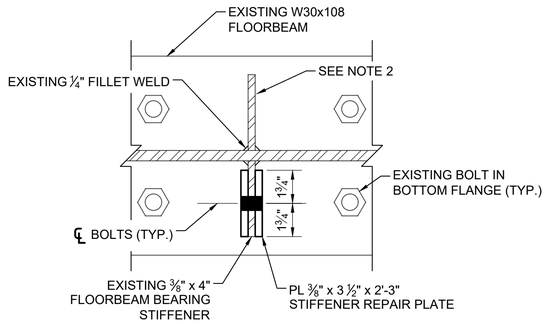
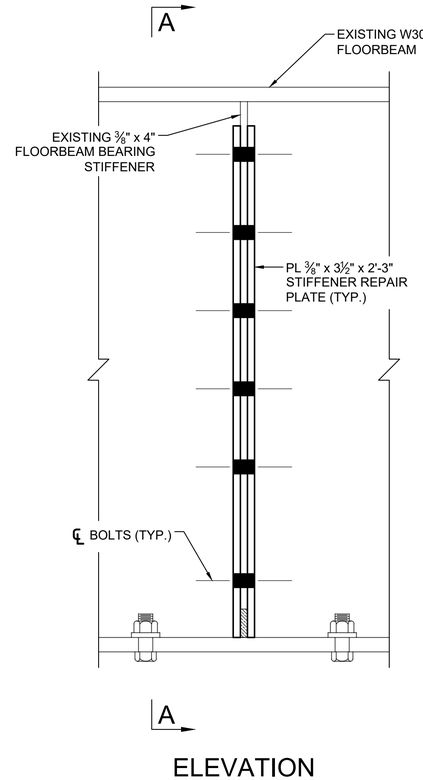


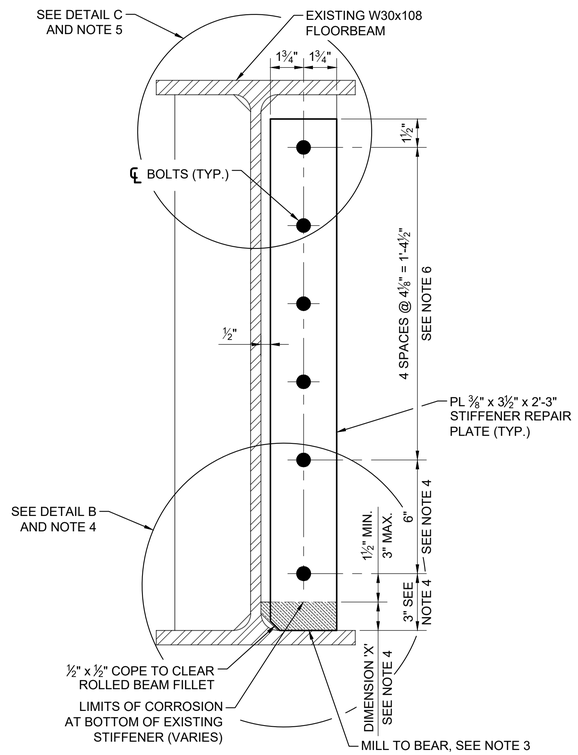
PLAN VIEW

SCALE: 3" = 1'-0"



ELEVATION

SCALE: 3" = 1'-0"



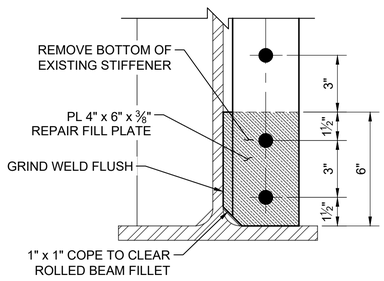
SECTION A-A

SCALE: 3" = 1'-0"

NCB-NB FLOORBEAM REPAIR TYPE 4

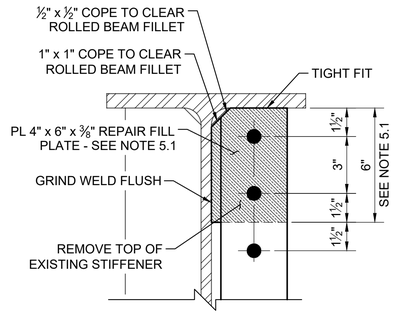
DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN NCB-NB SPANS 1-8 AND 10-17 FOR FLOORBEAM BEARING STIFFENERS (ABOVE THE GIRDERS) EXHIBITING CORROSION AT OR NEAR THE TOP OR BOTTOM END WITH LESS THAN 1/4" REMAINING OVER 3" OR MORE OF THE STIFFENER WIDTH AS APPROVED BY THE DISTRICT.
2. BACK TO BACK REPAIR CONDITIONS (EITHER SIDE OF FLOORBEAM) WILL EXIST.
3. RESTORE MILL TO BEAR CONTACT, LOST DUE TO CORROSION OF EXISTING BEARING STIFFENER, IN PROPOSED STIFFENER REPAIR PLATES.
4. DIMENSION 'X' IS THE HEIGHT OF CORROSION AT THE BOTTOM END OF THE BEARING STIFFENER.
   - 4.1. WHEN DIMENSION 'X' IS 1½" OR LESS, PERFORM THE REPAIR AS SHOWN IN SECTION A-A.
   - 4.2. WHEN DIMENSION 'X' > 1½" AND < 6", ADJUST THE REPAIR AS SHOWN IN DETAIL B.
5. IF ONE OR MORE CORROSION HOLES ARE PRESENT NEAR THE TOP EDGE OF THE BEARING STIFFENER, EXTEND STIFFENER REPAIR PLATES TO ACHIEVE TIGHT FIT CONDITION WITH TOP FLANGE AND ADJUST THE REPAIR AS SHOWN IN DETAIL C.
   - 5.1. ADJUST HEIGHT OF REPAIR FILL PLATE AND EXISTING STIFFENER REMOVAL ± 1" IF NEEDED TO ACCOMMODATE EXISTING FASTENERS. SEE NOTE 6.
6. ADJUST PROPOSED FASTENER SPACING ALONG HEIGHT OF STIFFENER IF NECESSARY TO ACCOMMODATE EXISTING FASTENER LOCATIONS. ENSURE THAT THE FOLLOWING REQUIREMENTS ARE SATISFIED:
   - 6.1. MIN. CENTER SPACING: 2⅝"
   - 6.2. MAX. CENTER SPACING: 6"
   - 6.3. MIN. END DISTANCE: 1⅛"
   - 6.4. MAX. END DISTANCE: 3"
7. MATCH DRILL OPPOSING SPLICE PLATES IN THE SHOP.
8. PL 1/2" x 3 1/2" x 2'-3" IS AN ACCEPTABLE SUBSTITUTE FOR STIFFENER REPAIR PLATE.



DETAIL B

SCALE: 3" = 1'-0"



DETAIL C

SCALE: 3" = 1'-0"

SEQUENCE NOTES

A. CLEAN AND GRIND CORRODED AREAS PER PROJECT NOTES AS REQUIRED. AS PART OF CLEANING AND PREPARING THE TOP OF THE BOTTOM FLANGE, BOTTOM FLANGE SECTION LOSS UP TO 1/8" DEEP IS ACCEPTABLE. IF BOTTOM FLANGE SECTION LOSS EXCEEDS 1/8" DEEP, NOTIFY THE DISTRICT PRIOR TO PROCEEDING WITH THE REPAIR. DETERMINE IF SECTION A-A OR DETAIL B IS APPLICABLE (SEE NOTE 4).

B. VISUALLY INSPECT TOP AND BOTTOM OF FLOORBEAM WEB AT BEARING STIFFENER FOR CRACKS. IF CRACKS ARE APPARENT, PERFORM DYE PENETRANT TESTING AND NOTIFY THE DISTRICT OF FINDINGS. IF NDT INDICATES CRACKS, PERFORM NCB-NB FLOORBEAM REPAIR TYPE 5.

C. ACHIEVE MILL TO BEAR CONDITION (BOTTOM) AND/OR TIGHT FIT CONDITION (TOP) FOR THE REPAIR PLATES AND TEMPORARILY CLAMP THEM IN PLACE. ENSURE ALIGNMENT OF THE CLAMPED POSITION WILL PROVIDE EDGE DISTANCE (1 1/2") FOR THE NEW HOLES. INSERT FILL PLATE IF REQUIRED.

D. REMOVE THE TEMPORARILY CLAMPED REPAIR AND FILL PLATES. APPLY STEEL-FILLED EPOXY PUTTY TO ALL MATING SURFACES AND TO FILL ALL GAPS, SMOOTHED TO MATCH EXISTING SURFACE. BOLT THE REPAIR AND FILL PLATES TO BOTH SIDES OF THE FLOORBEAM STIFFENER.

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB FLOORBEAM STIFFENER REPAIRS

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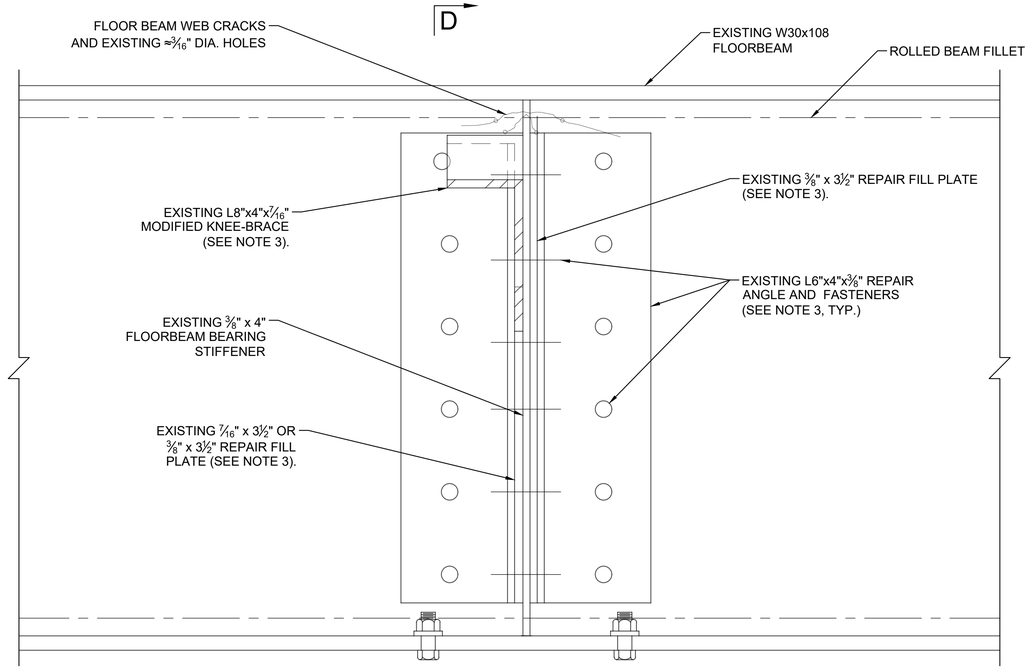
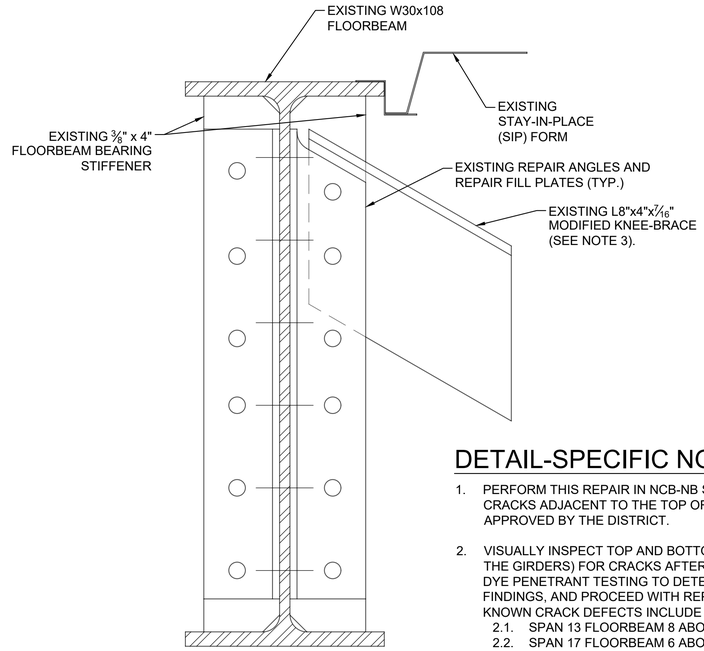


ELEVATION

SCALE: 3" = 1'-0"

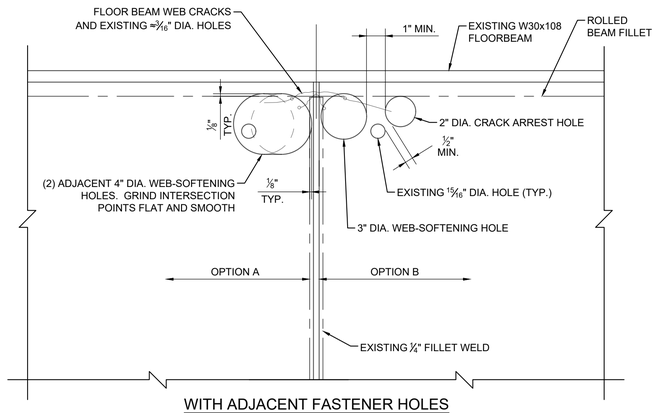


SECTION D-D

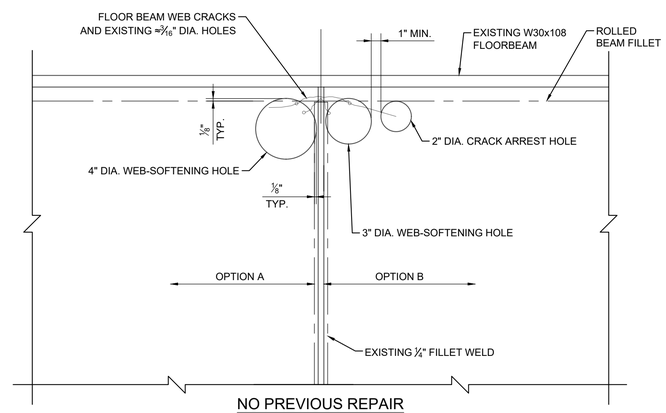
SCALE: 3" = 1'-0"

NCB-NB FLOORBEAM REPAIR TYPE 5

EXISTING CONDITION



WITH ADJACENT FASTENER HOLES



NO PREVIOUS REPAIR

SOFTENING AND/OR CRACK ARREST HOLES

SCALE: 3" = 1'-0"

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN NCB-NB SPANS 1-8 AND 10-17 FOR FLOORBEAM WEBS EXHIBITING CRACKS ADJACENT TO THE TOP OF THE BEARING STIFFENER (ABOVE THE GIRDERS) AS APPROVED BY THE DISTRICT.

2. VISUALLY INSPECT TOP AND BOTTOM OF FLOORBEAM WEB AT BEARING STIFFENER (ABOVE THE GIRDERS) FOR CRACKS AFTER PAINT REMOVAL. IF CRACKS ARE APPARENT, PERFORM DYE PENETRANT TESTING TO DETERMINE THE EXTENT OF CRACKING, NOTIFY THE DISTRICT OF FINDINGS, AND PROCEED WITH REPAIR ONCE APPROVED BY THE DISTRICT. LOCATIONS WITH KNOWN CRACK DEFECTS INCLUDE BUT ARE NOT LIMITED TO
   - 2.1. SPAN 13 FLOORBEAM 8 ABOVE EAST GIRDER
   - 2.2. SPAN 17 FLOORBEAM 6 ABOVE EAST GIRDER

3. EXISTING CONDITIONS:
   - 3.1. DIMENSIONS AND LAYOUT OF EXISTING CRACK AND PREVIOUS REPAIR HOLES/ELEMENTS ARE ESTIMATED. ADJUST REPAIR AS NEEDED TO SUIT CONDITIONS. MAINTAIN MIN. 1½" FASTENER EDGE DISTANCE AND 3" MIN. / 5½" MAX. FASTENER SPACING FOR ALL FASTENERS.
   - 3.2. SOME STIFFENER LOCATIONS CONTAIN EXISTING PARTIALLY-REMOVED KNEE-BRACE ANGLE (AS SHOWN THIS SHEET), WHICH IS TO BE REMOVED IF PRESENT FOR LOCATIONS SUBJECT TO THIS REPAIR DETAIL (AS SHOWN NEXT SHEET).
   - 3.3. SOME STIFFENER LOCATIONS CONTAIN EXISTING REPAIR ELEMENTS (AS SHOWN THIS SHEET), WHICH ARE TO BE REMOVED AND REPLACED WITH PROPOSED REPAIR ELEMENTS FOR LOCATIONS SUBJECT TO THIS REPAIR DETAIL (AS SHOWN NEXT SHEET). IF NO PREVIOUS REPAIR ELEMENTS ARE PRESENT AT A GIVEN LOCATION , DRILL CRACK ARREST AND/OR WEB SOFTENING HOLES BUT OMIT PROPOSED REPAIR ELEMENTS.

4. TWO ACCEPTABLE OPTIONS ARE PROVIDED FOR WEB SOFTENING AND CRACK ARREST HOLES, AS SHOWN. DRILL HOLES USING A MAG DRILL AND ANNULAR CUTTER BITS. NOTE THAT THE ADJACENT SIP FORM AND CONCRETE DECK SOFFIT MAY REQUIRE LOW PROFILE BITS.
   - 4.1. OPTION A: (1) OR (2) 4" DIA. WEB SOFTENING HOLES.
     - 4.1.1. HOLE(S) SHALL FULLY CAPTURE CRACK TIP(S).
     - 4.1.2. HOLE(S) SHALL EITHER FULLY OVERLAP EXISTING FASTENER HOLE (IF PRESENT) OR MAINTAIN ½" MIN. CLEAR DISTANCE TO IT.
     - 4.1.3. GRIND INTERSECTION POINTS FLAT AND SMOOTH.
     - 4.1.4. IF POSSIBLE WHILE ALSO SATISFYING PRECEDING REQUIREMENTS, HOLE(S) SHOULD OVERLAP FLOOR BEAM FILLET BY ⅛".
     - 4.1.5. IF POSSIBLE WHILE ALSO SATISFYING PRECEDING REQUIREMENTS, HOLE ADJACENT TO STIFFENER SHOULD OVERLAP STIFFENER-WEB WELD BY ⅛".
   - 4.2. OPTION B: (1) 3" DIA. WEB SOFTENING HOLE AND (1) 2" DIA. CRACK ARREST HOLE.
     - 4.2.1. CRACK ARREST HOLE SHALL FULLY CAPTURE CRACK TIP(S).
     - 4.2.2. HOLES SHALL MAINTAIN ½" MIN. CLEAR DISTANCE TO EXISTING FASTENER HOLE (IF PRESENT) AND 1" MIN. CLEAR DISTANCE BETWEEN EACH OTHER.
     - 4.2.3. IF POSSIBLE WHILE ALSO SATISFYING PRECEDING REQUIREMENTS, WEB SOFTENING HOLE SHOULD OVERLAP BOTH FLOOR BEAM FILLET AND STIFFENER-WEB WELD BY ⅛".

5. ½" THICK REPAIR ELEMENTS, WITH OTHER DIMENSIONS AS NOTED IN THE DETAIL, ARE ACCEPTABLE ALTERNATES TO ⅜" THICK ELEMENTS SPECIFIED.

COMMONWEALTH OF VIRGINIA
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SIGNED: 1/5/2026
EXPIRES: 9/30/2026

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COLUMBIA, MD
STRUCTURAL ENGINEER

No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
FLOORBEAM STIFFENER REPAIRS

Designed: JSE	Date	Plan No.	Sheet No.
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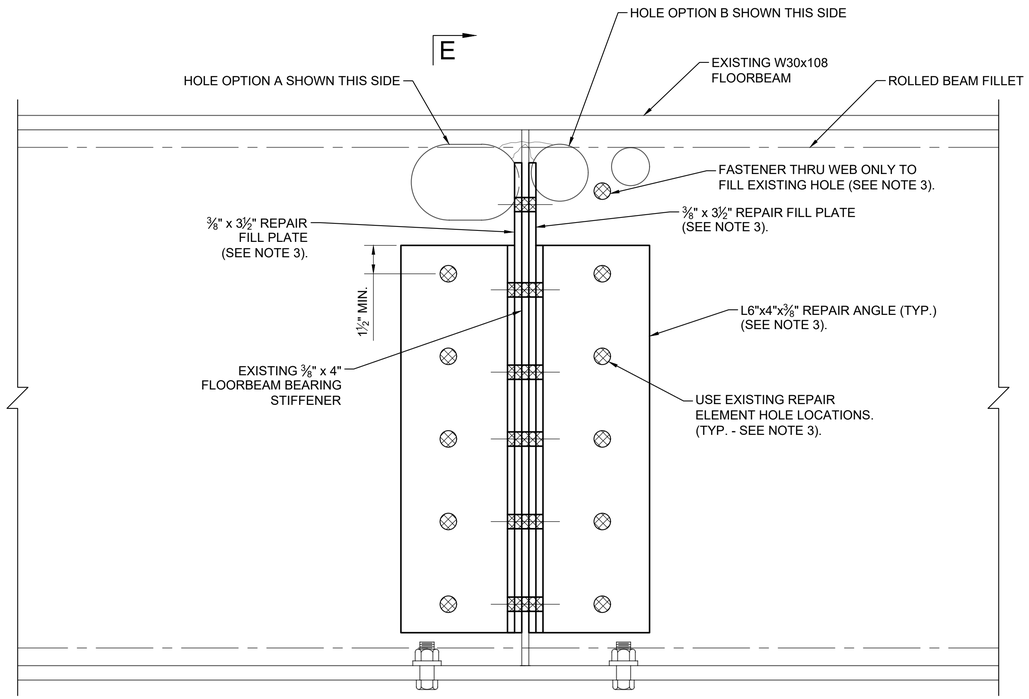
Checked: AHC			

pBR-DE05_CBBT NCB-NB FB Stiffener Details.dwg
10/8/2025

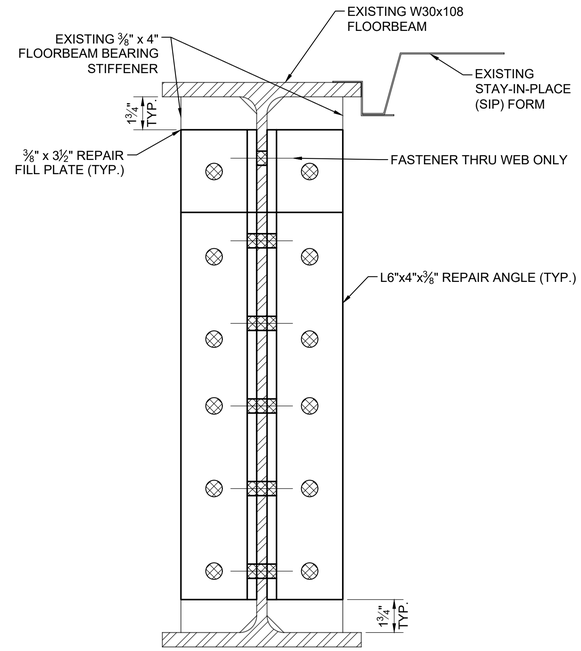
STATE	SHEET ID
VA	E3



E

ELEVATION

SCALE: 3" = 1'-0"



SECTION E-E

SCALE: 3" = 1'-0"

NCB-NB FLOORBEAM REPAIR TYPE 5

REPAIRED CONDITION

SEQUENCE NOTES

A. IF EXISTING REPAIR ELEMENTS ARE PRESENT, REMOVE BOLTS AND EXISTING REPAIR ELEMENTS. CLEAN AND GRIND CORRODED AREAS AS REQUIRED. PERFORM DYE PENETRANT TESTING TO IDENTIFY LOCATION OF CRACK TIP(S).

B. LAY OUT WEB SOFTENING AND/OR CRACK ARREST HOLES. ENSURE THAT CONDITIONS SPECIFIED IN DETAIL-SPECIFIC NOTES WILL BE MET PRIOR TO DRILLING HOLES. DRILL HOLE(S).

C. OMIT THIS STEP IF NO EXISTING REPAIR ELEMENTS ARE PRESENT:

IF EXISTING REPAIR ELEMENTS ARE PRESENT, USE AS A TEMPLATE TO DRILL THROUGH PROPOSED REPAIR ELEMENTS. APPLY STEEL-FILLED EPOXY PUTTY TO ALL MATING SURFACES AND TO FILL ALL GAPS, SMOOTHED TO MATCH EXISTING SURFACE. DO NOT FILL WEB SOFTENING OR CRACK ARREST HOLES WITH EPOXY. BOLT THE REPAIR AND FILL PLATES AND ANGLES TO BOTH SIDES OF THE FLOORBEAM STIFFENER. PLACE BOLT(S) THROUGH THE FLOOR BEAM WEB AT UPPER FASTENER HOLE(S).

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

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NORTH CHANNEL BRIDGE NB
FLOORBEAM STIFFENER REPAIRS

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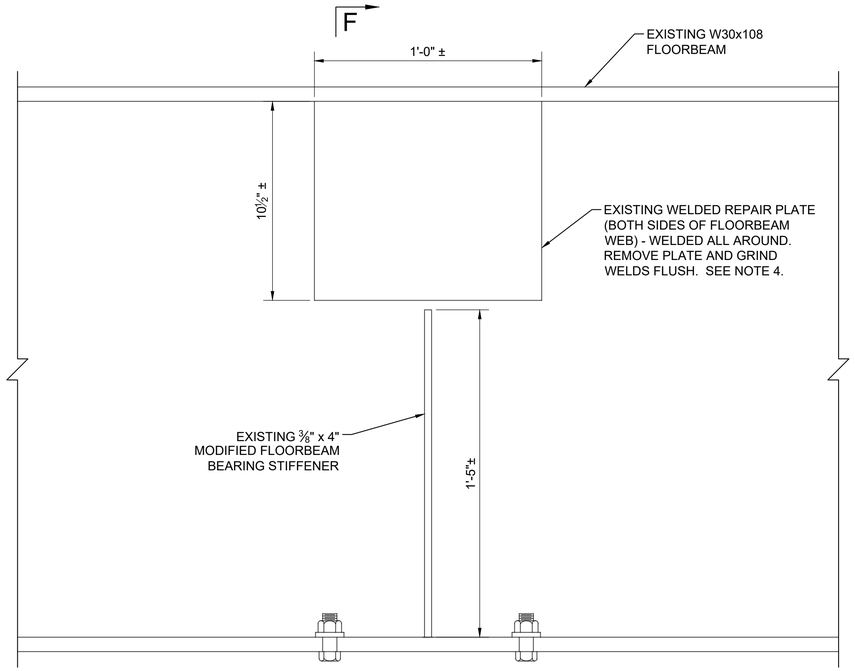
1/5/2026

STATE	SHEET ID
VA	E4



ELEVATION

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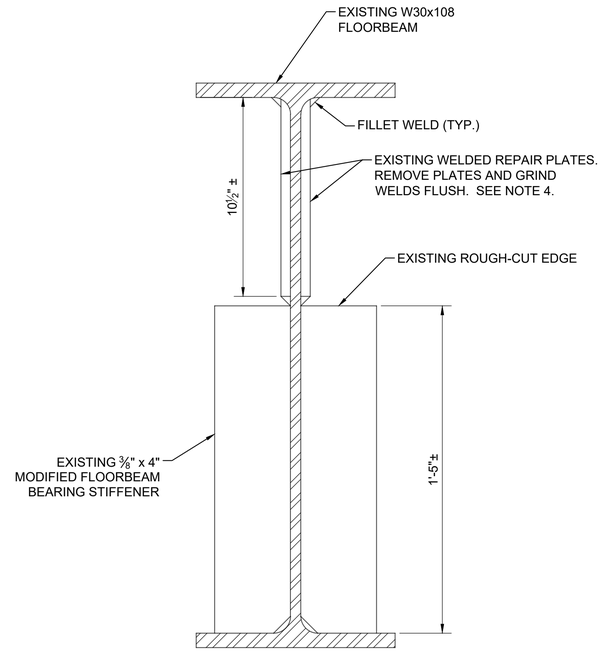
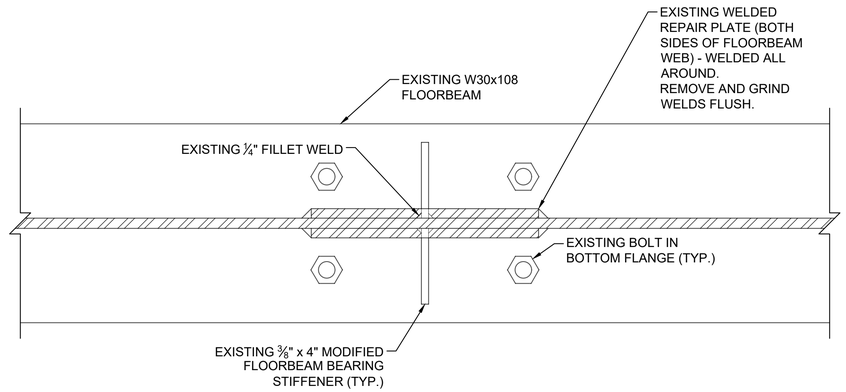


SECTION F-F

SCALE: 3" = 1'-0"

NCB-NB FLOORBEAM REPAIR TYPE 6

EXISTING CONDITION



PLAN VIEW

SCALE: 3" = 1'-0"

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR AT THE NCB-NB SPAN 14 FLOORBEAM 2 BEARING STIFFENERS ABOVE THE EAST GIRDER.
2. EXISTING CONDITION OF WEB WITHIN FOOTPRINT OF EXISTING WELDED REPAIR PLATE IS UNKNOWN. THE (12) FASTENERS SHOWN WITHIN FOOTPRINT ARE TO BE FIELD-LOCATED AND DRILLED, AND LOCATIONS ARE ASSUMED. AFTER EXISTING WELDED REPAIR PLATE IS REMOVED, INSPECT AND CONTACT THE DISTRICT WITH INFORMATION ON EXISTING WEB CONDITION. THE DISTRICT WILL PROVIDE GUIDANCE ON FINAL FASTENER LAYOUT AND/OR CRACK ARREST HOLES REQUIRED PRIOR TO PROCEEDING.
3. MATCH DRILL OPPOSING STIFFENER SPLICE PLATES AND WEB REPAIR PLATES IN THE SHOP.
4. USE CAUTION TO AVOID DAMAGE TO FLOORBEAM WEB OR TOP FLANGE WHEN REMOVING EXISTING WELDED REPAIR PLATE. FLAME CUTTING IS PROHIBITED AS A METHOD FOR REMOVAL FOR THIS DETAIL. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
FLOORBEAM STIFFENER REPAIRS

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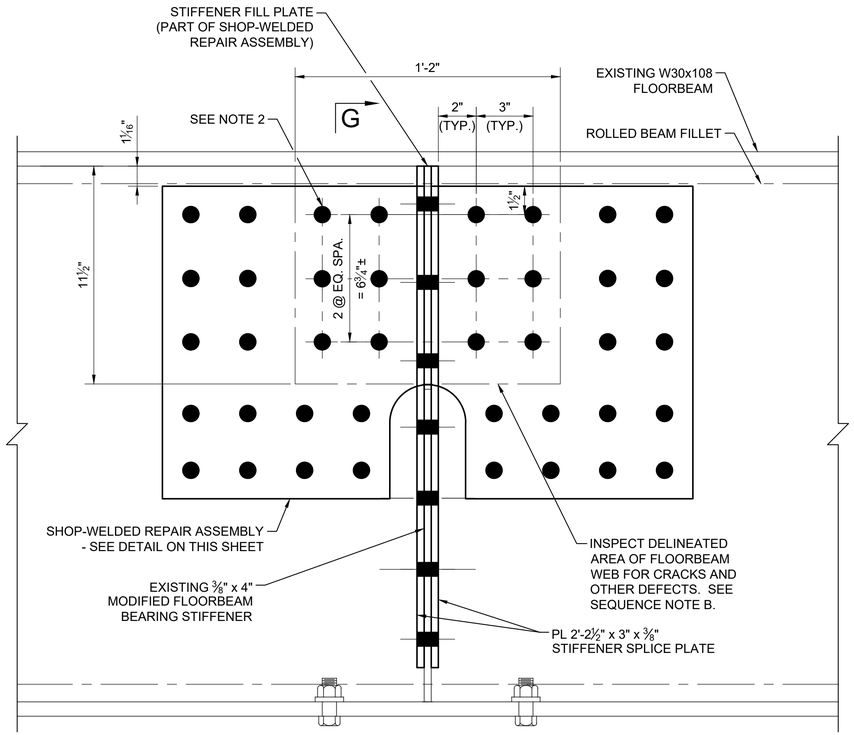
1/5/2026



ELEVATION

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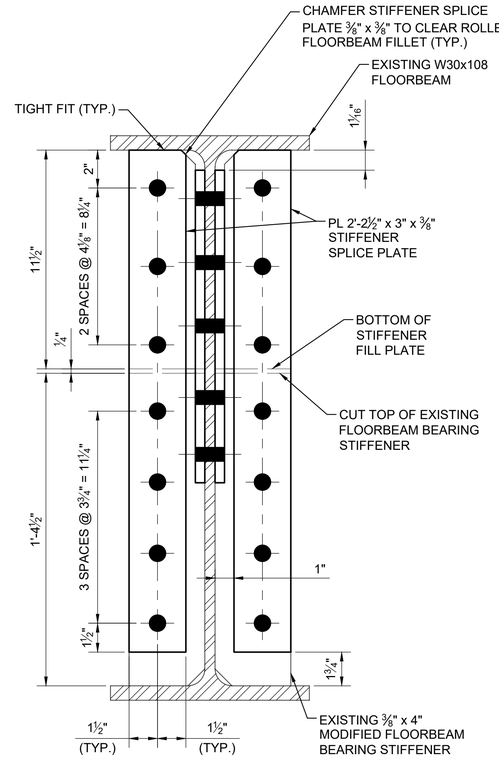
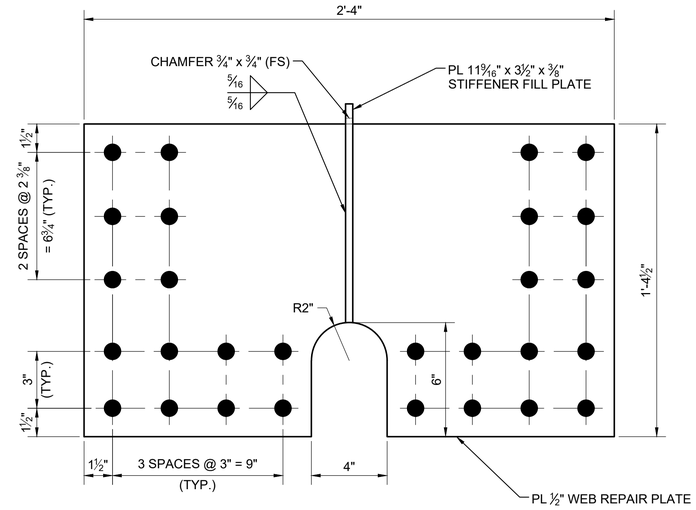


SECTION G-G

SCALE: 3" = 1'-0"

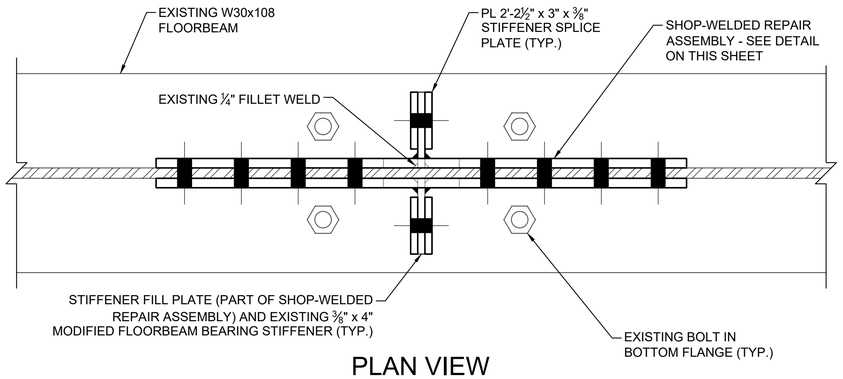


SHOP-WELDED REPAIR ASSEMBLY

SCALE: 3" = 1'-0"

NCB-NB FLOORBEAM REPAIR TYPE 6

REPAIRED CONDITION



PLAN VIEW

SCALE: 3" = 1'-0"

SEQUENCE NOTES

A. REMOVE EXISTING REPAIR PLATE ON EACH SIDE OF THE WEB AND GRIND WELDS FLUSH AND ALL CORRODED AREAS. CUT EXISTING FLOORBEAM STIFFENERS TO HEIGHT INDICATED.

B. VISUALLY INSPECT FLOORBEAM WEB FOR CRACKS. IF APPARENT, PERFORM DYE PENETRANT INSPECTION. PROVIDE WEB CONDITION INFORMATION TO THE DISTRICT FOR EVALUATION, FINAL FASTENER LAYOUT, AND DETAILS FOR ANY CRACK ARREST HOLES REQUIRED.

C. ACHIEVE TIGHT FIT CONDITION FOR THE SHOP-WELDED REPAIR ASSEMBLY ON ONE SIDE OF WEB, ENSURING ALIGNMENT OF THE STIFFENER FILL PLATE WITH THE EXISTING STIFFENER, AND CLAMP ASSEMBLY IN PLACE. TRANSFER REQUIRED FASTENER HOLES TO THE WEB. LOCATE REPAIR ASSEMBLY ON OPPOSITE SIDE OF WEB AND CLAMP IN PLACE.

D. ACHIEVE TIGHT FIT CONDITION FOR STIFFENER SPLICE PLATES, CLAMP IN PLACE, AND TRANSFER REQUIRED FASTENER HOLES THROUGH THE STIFFENER FILL PLATE AND EXISTING STIFFENER.

E. LOCATE AND FIELD-DRILL REMAINING FASTENER HOLES THROUGH THE WEB REPAIR PLATE AND WEB, ADJUSTING AS NECESSARY PER DETAIL-SPECIFIC NOTE 2.

F. REMOVE THE TEMPORARILY CLAMPED PLATES. APPLY STEEL-FILLED EPOXY PUTTY TO ALL MATING SURFACES AND TO FILL ALL GAPS, SMOOTHED TO MATCH EXISTING SURFACE. BOLT THE REPAIR PLATES TO BOTH SIDES OF THE FLOORBEAM STIFFENER.

COMMONWEALTH OF VIRGINIA
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COLUMBIA, MD
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VA	E5

No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
FLOORBEAM STIFFENER REPAIRS

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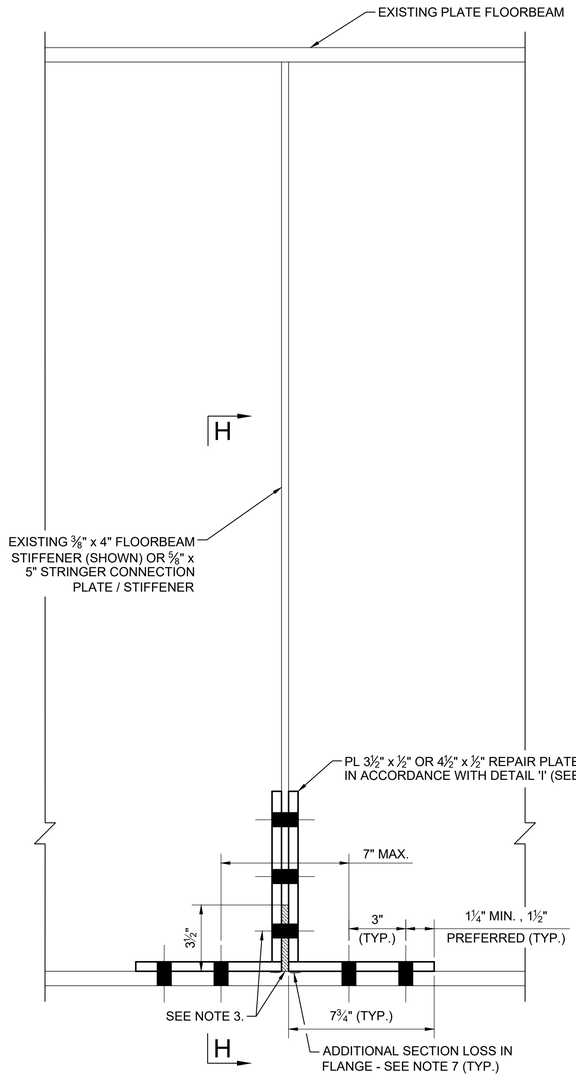
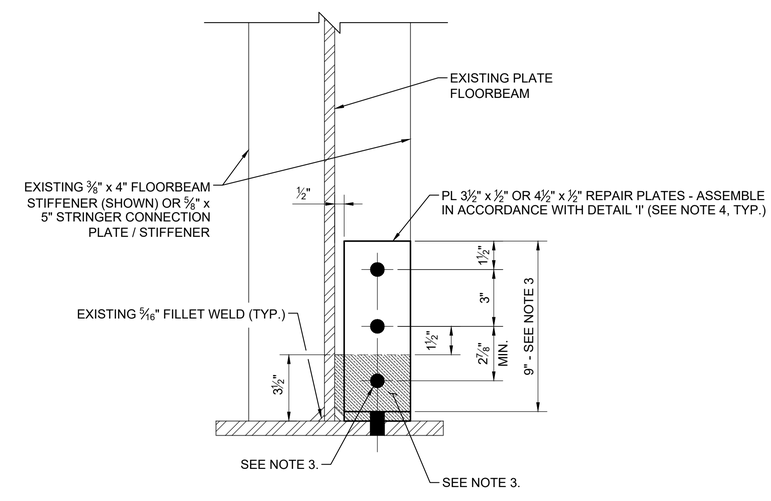
1/5/2026

STATE	SHEET ID
VA	E6



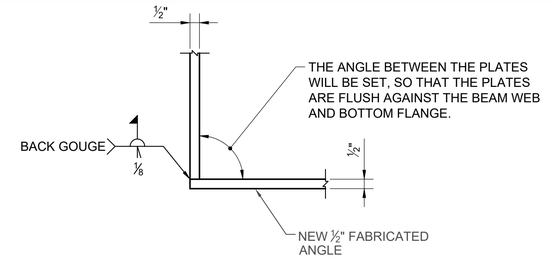
ELEVATION

SCALE: 3" = 1'-0"



SECTION H-H

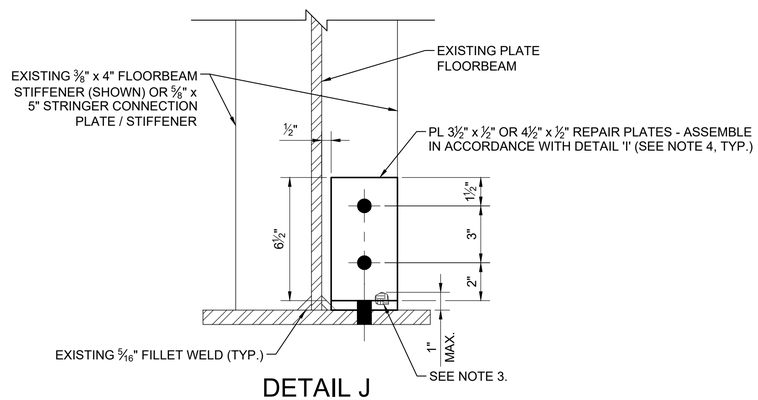
SCALE: 3" = 1'-0"



DETAIL 'I'

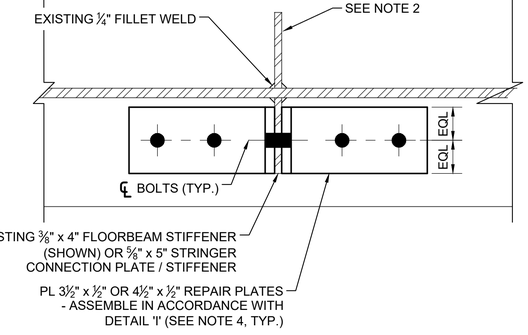
SCALE: 3" = 1'-0"

NCB-NB TRUSS FLOORBEAM REPAIR TYPE 2



DETAIL J

SCALE: 3" = 1'-0"



PLAN VIEW

SCALE: 3" = 1'-0"

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) FLOORBEAM STIFFENERS AND STRINGER CONNECTION PLATES EXHIBITING CORROSION AT BOTTOM END WITH LESS THAN 1/4" REMAINING THICKNESS OVER 3" OR MORE OF THE STIFFENER WIDTH AS APPROVED BY THE DISTRICT.
2. BACK TO BACK REPAIR CONDITIONS (EITHER SIDE OF FLOORBEAM) WILL EXIST.
3. CORROSION ANTICIPATED AT THE BOTTOM END OF THE BEARING STIFFENER IS UP TO APPROXIMATELY 3½" HIGH x UP TO FULL WIDTH x UP TO FULL THICKNESS (CORROSION HOLE).
   - 3.1. IF CORROSION IS LESS THAN 1" WIDE OR 1" HIGH, GRIND CORROSION SMOOTH, FILL GAP WITH EPOXY PUTTY, AND ADJUST REPAIR AS SHOWN IN DETAIL J.
   - 3.2. IF CORROSION IS > 1½" AND < 3½" HIGH, CUT-OUT BOTTOM OF STIFFENER 3½" ABOVE BOTTOM FLANGE ACROSS FULL WIDTH AND PLACE ⅜" x 4" OR ⅝" x 5" FILL PLATE (TO MATCH EXISTING STIFFENER) AS SHOWN IN SECTION H-H.
   - 3.3. IF CORROSION EXCEEDS 3½" HIGH, CONTACT THE DISTRICT FOR DIRECTION.
4. USE 3½" WIDE REPAIR PLATES WHEN REPAIRING 4" WIDE STIFFENERS. USE 4½" WIDE REPAIR PLATES WHEN REPAIRING 5" WIDE STRINGER CONNECTION PLATES.
5. MATCH DRILL OPPOSING REPAIR PLATE ASSEMBLIES IN THE SHOP.
6. IT IS ACCEPTABLE TO SUBSTITUTE ROLLED ANGLE SECTIONS WITH EQUIVALENT FLANGE LENGTH AND THICKNESS IN PLACE OF THE WELDED REPAIR PLATE ASSEMBLIES DEPICTED AT NO ADDITIONAL COST TO THE DISTRICT.
7. GRIND ALL CORROSION TO SMOOTH BARE METAL.
8. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
FLOORBEAM STIFFENER REPAIRS

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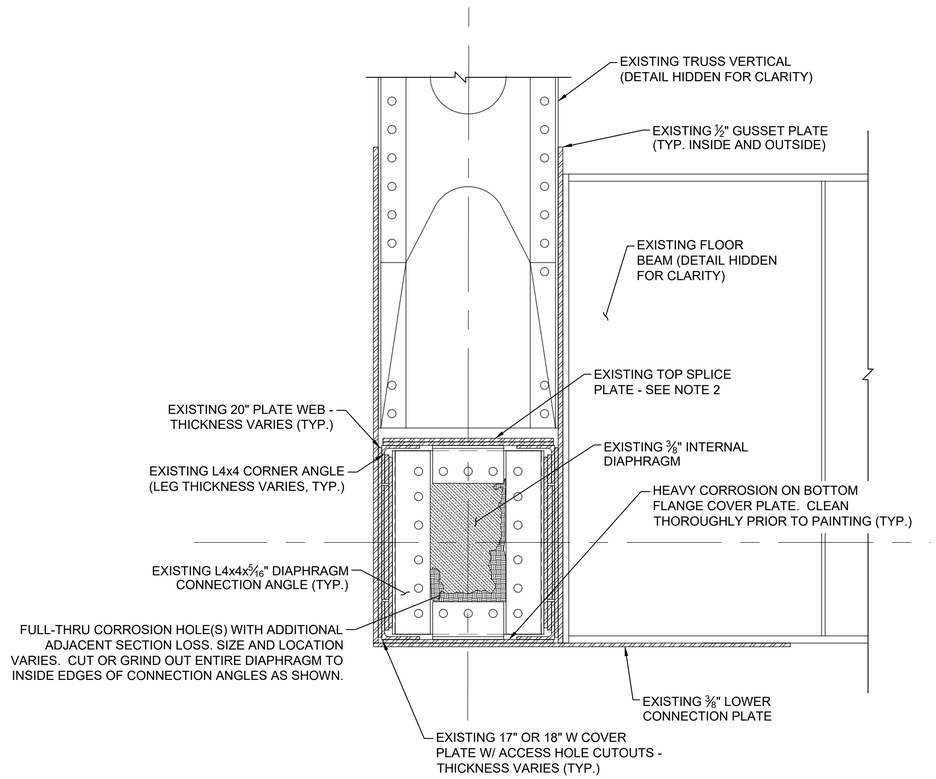
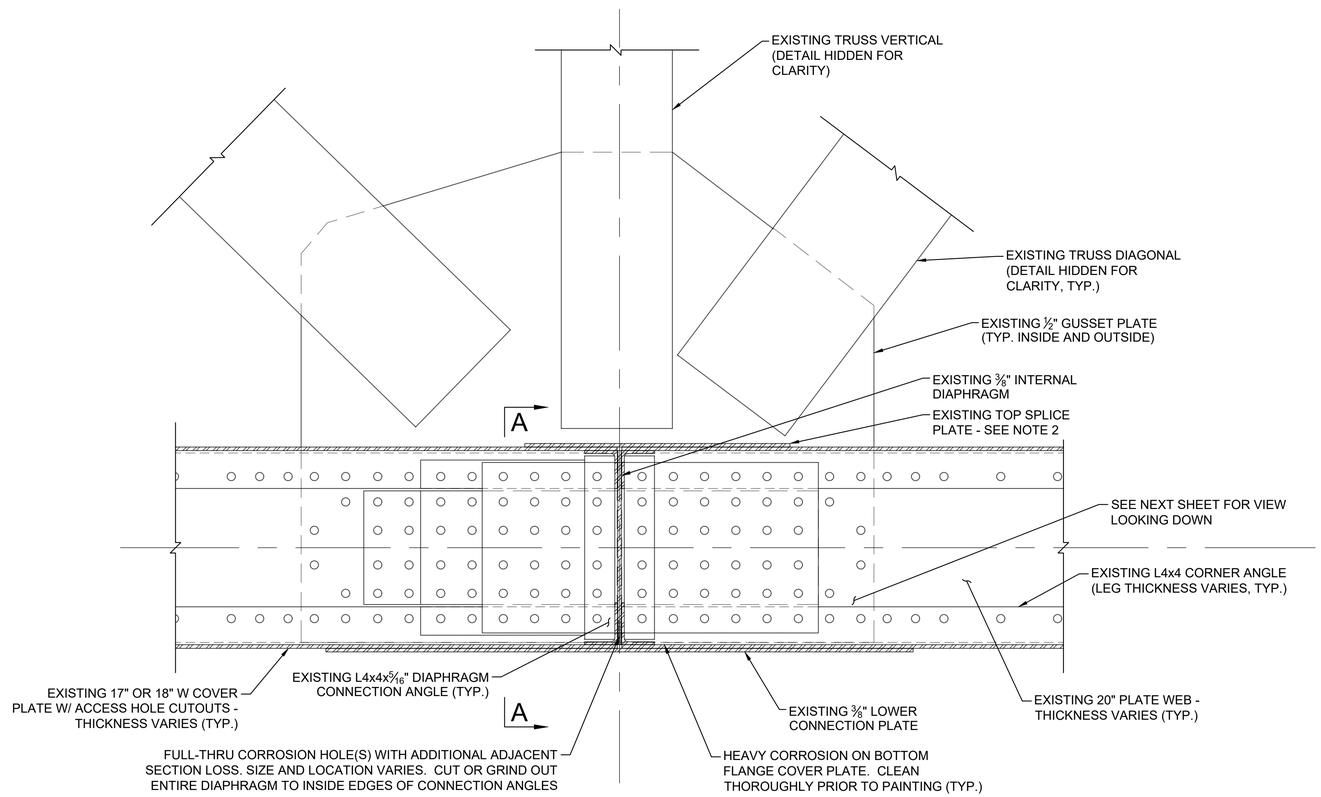
1/5/2026

STATE	SHEET ID
VA	F1



SECTION A-A

SCALE: 1½" = 1'-0"



INSIDE VIEW LOOKING OUT

SCALE: 1½" = 1'-0"

NCB-NB TRUSS REPAIR TYPE 1

DETAIL-SPECIFIC NOTES:

1. PERFORM THIS REPAIR TO NCB-NB SPAN 9 (TRUSS SPAN) TRUSS LOWER CHORD MEMBERS AT PANEL POINTS FOR INTERNAL DIAPHRAGMS WITH CORROSION HOLES AS APPROVED BY THE DISTRICT.
2. TOP SPLICE PLATE (THICKNESS VARIES), 7/16" BOTTOM SPLICE PLATE (NOT SHOWN), AND INDICATED ASSOCIATED FASTENERS ON THE BOTTOM COVER PLATE ARE PRESENT AT PANEL POINTS L2 & L4 ONLY.
3. USE CAUTION TO AVOID DAMAGE TO TRUSS MEMBER WEBS, COVER PLATES, CORNER ANGLES, GUSSET PLATES, AND ALL OTHER ADJACENT STRUCTURE. FLAME CUTTING IS PROHIBITED AS A METHOD FOR REMOVAL FOR THE CORRODED AREAS DEPICTED IN THIS DETAIL. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.
4. GRIND ALL CORROSION TO SMOOTH BARE METAL.

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
TRUSS MEMBER REPAIRS

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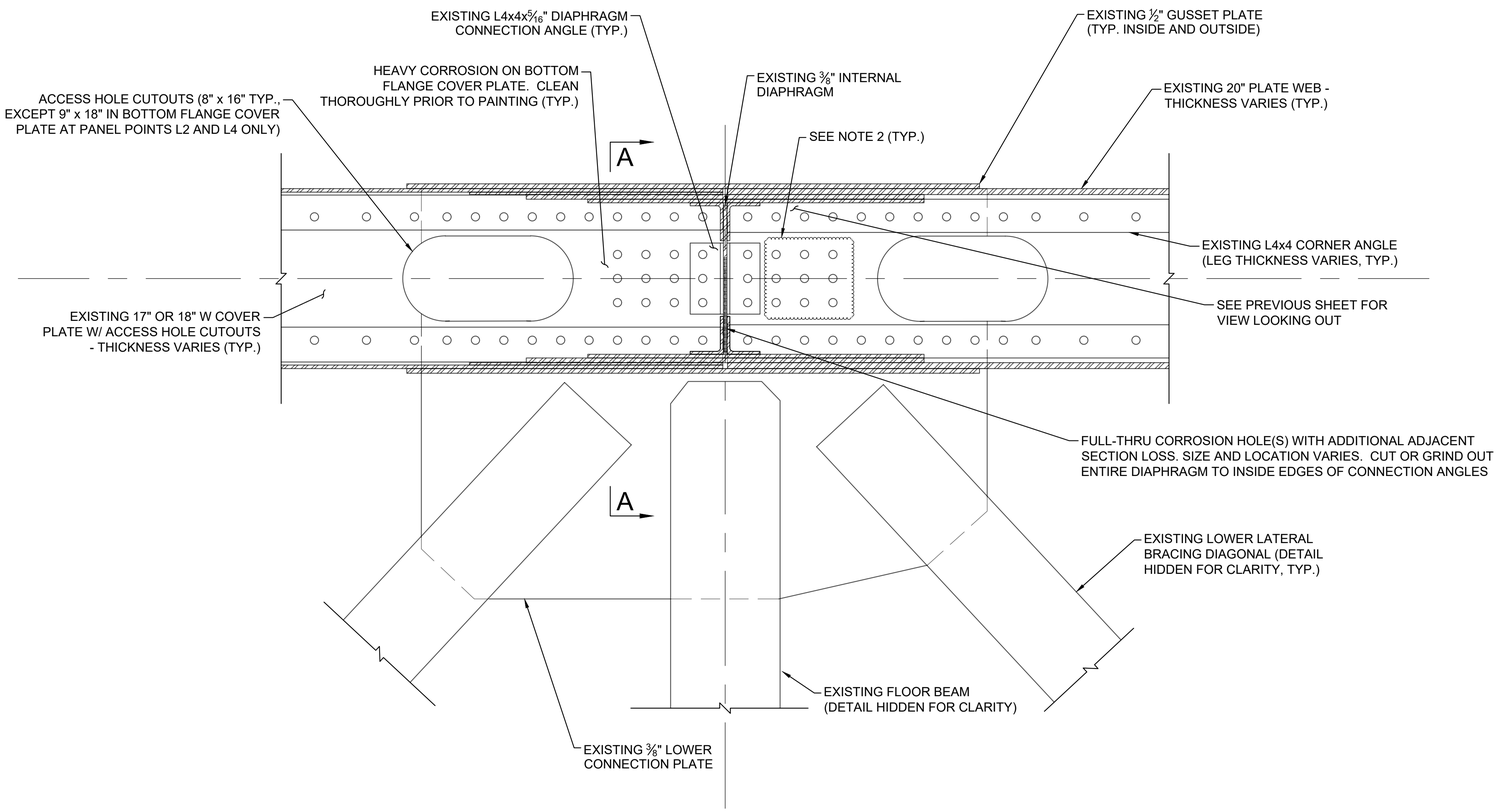
	12/18/2025		17 OF 45

pBR-DE07_CBBT Truss Member Details.dwg
1/5/2026

STATE	SHEET ID
VA	F2



INSIDE VIEW LOOKING DOWN

SCALE: 1½" = 1'-0"

NCB-NB TRUSS REPAIR TYPE 1

pBR-DE07_CBBT Truss Member Details.dwg
1/5/2026

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

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NORTH CHANNEL BRIDGE NB
TRUSS MEMBER REPAIRS

Designed: JSE Drawn: BSB Checked: AHC	Date	Plan No.	Sheet No.
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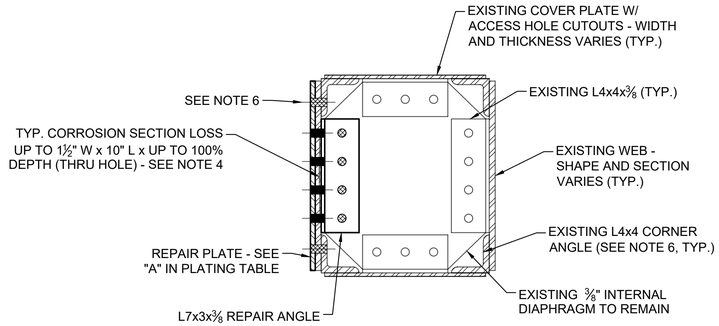
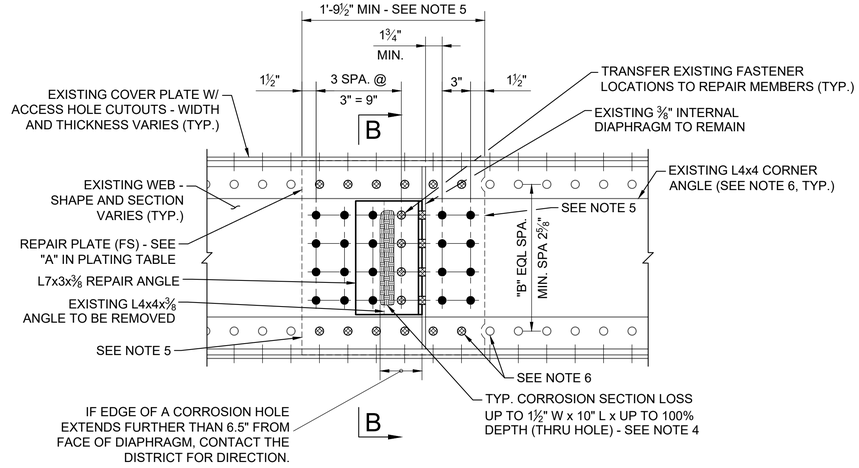
STATE	SHEET ID
VA	F3



SECTION B-B

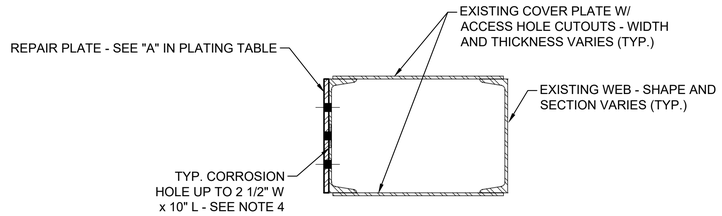
SCALE: 1½" = 1'-0"



INSIDE VIEW LOOKING OUT

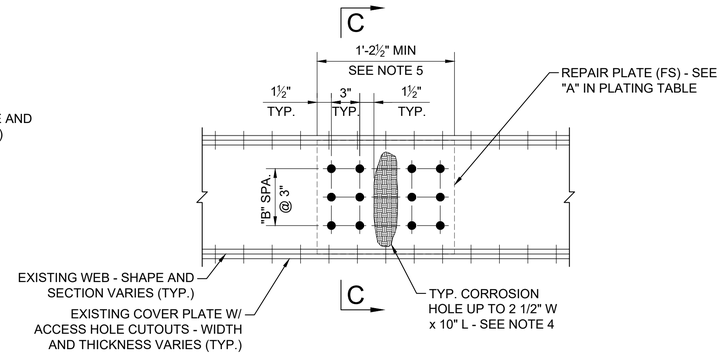
SCALE: 1½" = 1'-0"

CASE 1



SECTION C-C

SCALE: 1½" = 1'-0"



INSIDE VIEW LOOKING OUT

SCALE: 1½" = 1'-0"

CASE 2

NCB-NB TRUSS REPAIR TYPE 2

DETAIL-SPECIFIC NOTES:

1. PERFORM THIS REPAIR TO NCB-NB SPAN 9 (TRUSS SPAN) TRUSS MEMBERS FOR CORROSION HOLES TO ANY ELEMENT (WEB OR COVER PLATE) OR FOR TOTAL CORROSION SECTION LOSS OF EITHER WEB EXCEEDING 20% AT A GIVEN CROSS SECTION AS APPROVED BY THE DISTRICT. TWO DIFFERENT DEFECT/REPAIR LOCATION CASES ARE NOTED:
   - CASE 1: CORROSION OCCURRING AT AN INTERNAL DIAPHRAGM
   - CASE 2: CORROSION OCCURRING ELSEWHERE

   NOTE THAT ONE OR BOTH "COVER PLATES" CONTAIN 8" x 16" ACCESS HOLES SPACED AT APPROX. 3'-6". WEB PLATE OF U1-L1, U3-L3, AND U5-L5 CONTAIN 6" x 12" HOLES SPACED AT APPROX. 3'-6".
2. DEFECT AND CORRESPONDING REPAIRS ARE SHOWN ON ONE SIDE ONLY FOR EACH CASE SUB-DETAIL. REPEAT AS NEEDED IF QUALIFYING CORROSION OCCURS ON MULTIPLE FACES AT A GIVEN SECTION. REPAIR ONE SIDE AT A TIME AT ANY GIVEN SECTION.
3. GRIND CORROSION SMOOTH AND FILL WITH METAL-FILLED EPOXY. IF CORROSION HOLE EXCEEDS 2¼" DIA., INSTALL FILL PLATE (THICKNESS TO MATCH EXISTING PLATE) TO FILL VOID, WITH AT LEAST ONE (1) FASTENER INSTALLED THRU FILL PLATE.
4. IF CORROSION HOLES OCCUR IN COVER PLATES, CUT REPAIR PLATING TO MATCH ACCESS HOLES. ADJUST OR OMIT FASTENER LOCATIONS THAT DO NOT MAINTAIN 1⅛" EDGE DISTANCE FROM ACCESS HOLES, SUBJECT TO THE FASTENER SPACING AND END DISTANCE RESTRICTIONS PROVIDED IN THE TABLE.
5. FOR REPAIRS TO LO-U1 WEB PLATES ONLY, ADD AN ADDITIONAL ROW OF FASTENERS AT EACH LONGITUDINAL END OF THE REPAIR PLATING AND EXTEND REPAIR PLATE LENGTH ACCORDINGLY.
6. L4x4 CORNER ANGLE IS ONLY PRESENT FOR TRUSS MEMBERS WITH PLATE WEBS (AS OPPOSED TO C-CHANNEL WEBS). LEG THICKNESS VARIES. IF PRESENT, MATCH EXISTING FASTENER LOCATIONS ON REPAIR PLATE. IF NOT PRESENT, ADD ROW OF FASTENERS (ADJACENT TO COVER PLATE, AS SHOWN) SUBJECT TO THE FASTENER SPACING AND END DISTANCE RESTRICTIONS PROVIDED IN THE PLATING TABLE ON THIS SHEET. NOTCH OUTER REPAIR PLATE AROUND EXISTING FASTENERS IF 1½" EDGE DISTANCE CAN'T BE MAINTAINED.
7. GRIND ALL CORROSION TO SMOOTH BARE METAL.
8. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.

PLATING TABLE

MEMBER	"A" - REPAIR PLATE WIDTH & THICKNESS		"B" - FASTENER SPACES PER COLUMN		MAX. FASTENER SPACING		MAX. FASTENER EDGE DISTANCE	
	WEB	COVER PLATE	WEB	COVER PLATE	WEB	COVER PLATE	WEB	COVER PLATE
LO-U1	20" x ⅝"	17" x ½"	5	4	6½"	5½"	5"	3"
U1-L2	15" x ⅝"	18" x ½"	4	5	6"		4"	
L2-U3 & L4-U5	15" x ½"	18" x ½	3	4	5½"	5¼"	3"	2½"
U3-L4, U2-L2 & U4-L4	12" x ½"	18" x ½"	2	4	5"		2"	
U1-L1	-	12 5/16" x ½" (I-SECTION FLANGES)	-	3	5¼"		-	
U3-L3 & U5-L5	-	14 5/16" x ½" (I-SECTION FLANGES)	-	3	5"		-	

COMMONWEALTH OF VIRGINIA
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	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
TRUSS MEMBER REPAIRS

Designed: JSE
Drawn: BSB
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pBR-DE07_CBBT Truss Member Details.dwg
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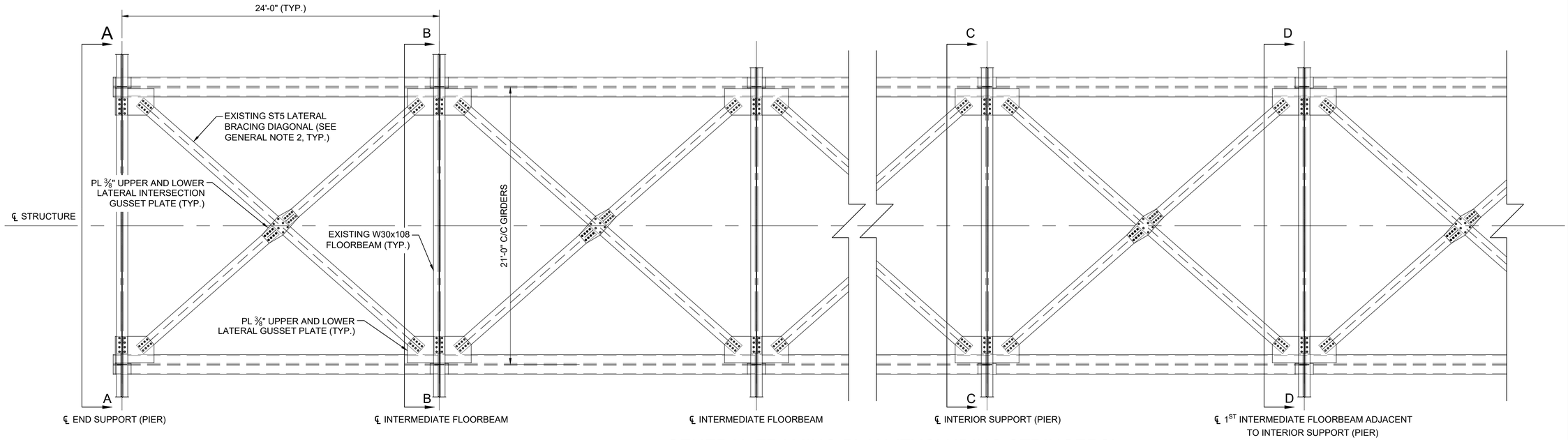
VA	G1



GENERAL FRAMING PLAN (EXCLUDING STRINGERS)

SCALE: ¼" = 1'-0"

NCB-NB BRACING REPAIR TYPE 1
NCB-NB BRACING REPAIR TYPE 3

GENERAL NOTES

1. SOME DETAIL OMITTED FOR CLARITY.
2. EXISTING TEE SECTION USED FOR UPPER AND LOWER LATERAL BRACING DIAGONAL MEMBERS MAY VARY. WHEN AFFECTED REPAIRS ARE REQUIRED PER CRITERIA GIVEN IN DETAIL-SPECIFIC NOTES, FIELD VERIFY SECTION AND REPLACE IN KIND.

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
BRACING REPAIRS

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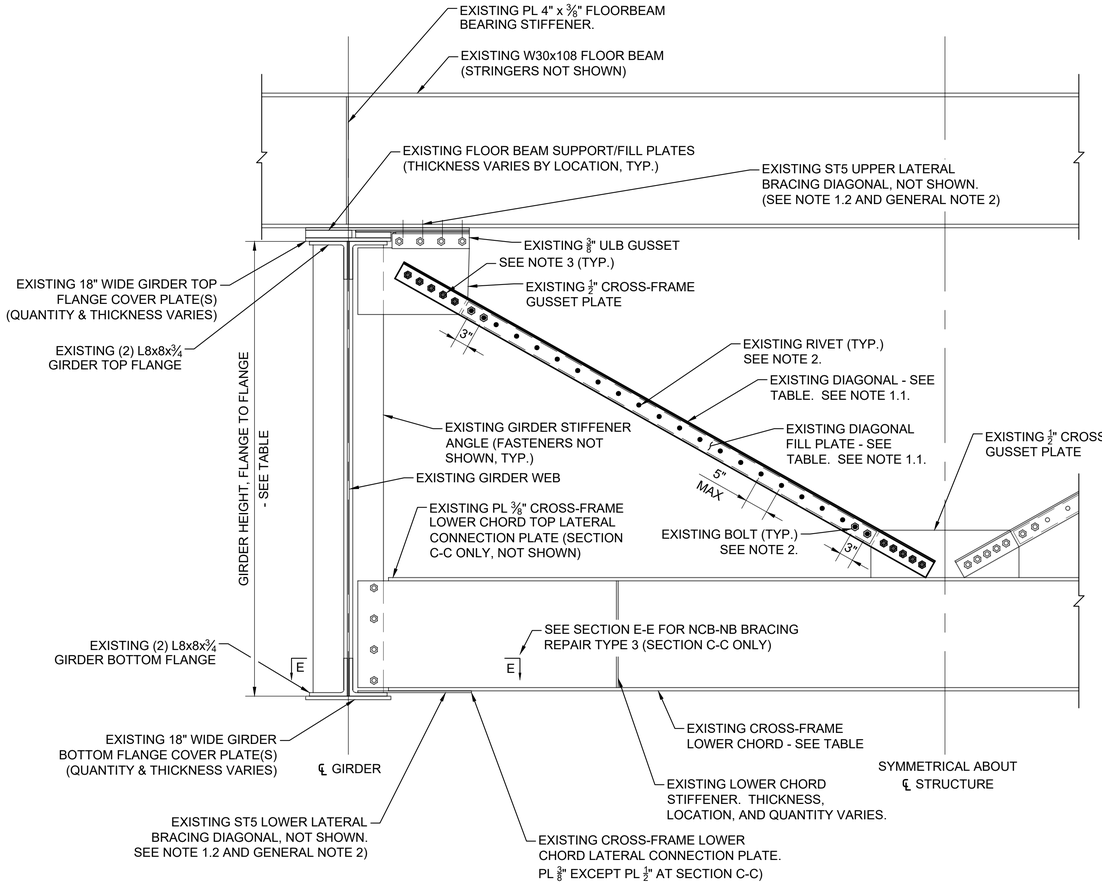
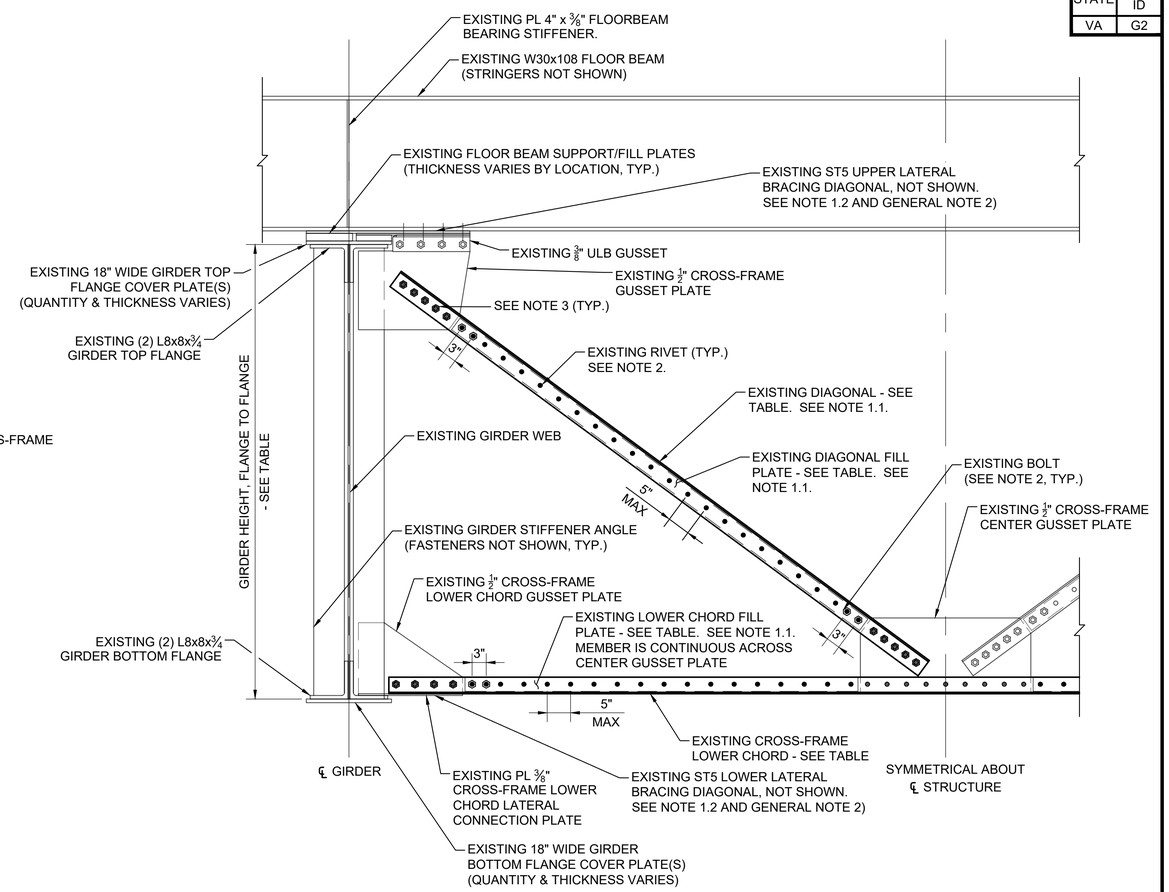


SECTION A-A (SHOWN)
SECTION C-C & SECTION D-D (SIMILAR EXCEPT AS NOTED)

SCALE: ¾" = 1'-0"



SECTION B-B

SCALE: ¾" = 1'-0"

NCB-NB BRACING REPAIR TYPE 1
NCB-NB BRACING REPAIR TYPE 3

DETAIL-SPECIFIC NOTES (NCB-NB BRACING REPAIR TYPE 1)

1. NCB NB BRACING REPAIR TYPE 1 IS APPLICABLE FOR NCB-NB SPANS 1-8 AND 10-17 FOR UPPER AND LOWER LATERAL BRACING MEMBERS AND CROSS FRAME MEMBERS, AS DEPICTED IN THE NOTED VIEWS, WITH FULL-THRU CORROSION HOLES AT ANY LOCATION ALONG LENGTH OF MEMBER AS APPROVED BY THE DISTRICT.
   - 1.1. FOR BUILT-UP TEE SECTION CROSS-FRAME MEMBERS (BACK-TO-BACK ANGLES WITH FILLER PLATE) WITH A CORROSION HOLE, REPLACE ENTIRE MEMBER IN-KIND.
   - 1.2. FOR ROLLED TEE SECTION UPPER AND LOWER LATERAL BRACING MEMBERS WITH A CORROSION HOLE, REPLACE ENTIRE MEMBER IN-KIND.
   - 1.3. FOR A CORROSION HOLE LOCATED ON A WIDE-FLANGE SECTION CROSS-FRAME MEMBER, CONTACT THE DISTRICT FOR DIRECTION.
   - 1.4. FOR SECTION LOSS NOT MEETING THIS CRITERIA, GRIND CORROSION SMOOTH.
2. WHEN FABRICATING REPLACEMENT BUILT-UP TEE SECTION MEMBERS, STITCH MEMBERS TOGETHER WITH BOLTS AT SPACING NOT TO EXCEED 5" SPACING. SPACE FIRST PAIR OF STITCH BOLTS ADJACENT TO GUSSET PLATES AT 3". FOR INTERIOR SUPPORT LOCATIONS, STAGGER FASTENERS TO MATCH EXISTING.
3. WHEN REPLACING MEMBERS, MATCH EXISTING FASTENER LOCATIONS AT GUSSETS, ETC.

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CROSS-FRAME MEMBER TABLE

SECTION VIEW	DESCRIPTION	GIRDER HEIGHT	DIAGONAL			LOWER CHORD		
			MEMBER	VERTICAL LEG	FILL PLATE	MEMBER	VERTICAL LEG	FILL PLATE
A-A	END SUPPORT	8'-0½"	(2) L4x3x$\frac{5}{16}$	4"	3" x ½"	W24x76	-	-
B-B	INTERMEDIATE FLOORBEAM	8'-0½"	(2) L4x3x$\frac{5}{16}$	4"	3" x ½"	(2) L4x3½x$\frac{5}{16}$	3½"	3" x ½"
C-C	INTERIOR SUPPORT	12'-6½"	(2) L5x3½x⅜	5"	5" x ½"	WEB: PL 52" x ⅜" FLANGES: PL 12" x ¾"	-	-
D-D	1ST INTERMEDIATE FLOORBEAM ADJACENT TO INTERIOR SUPPORT	9'-2" ±	(2) L4x3x$\frac{5}{16}$	4"	3" x ½"	W14x61	-	-

No.	Description	Date
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB BRACING REPAIRS

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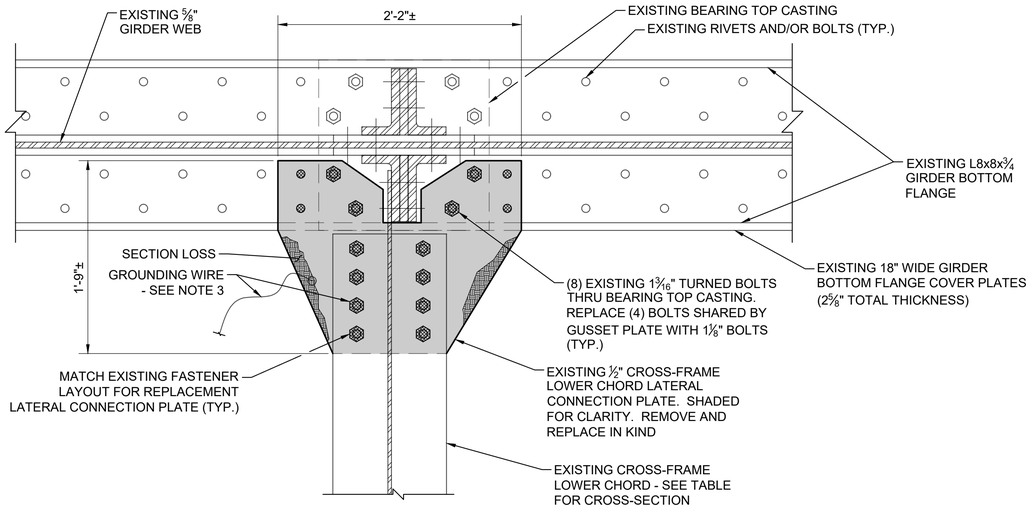

SECTION E-E

SCALE: 1½" = 1'-0"

NCB-NB BRACING REPAIR TYPE 3

DETAIL-SPECIFIC NOTES (NCB-NB BRACING REPAIR TYPE 3)

1. NCB NB BRACING REPAIR TYPE 3 IS APPLICABLE FOR NCB-NB SPANS 1-8 AND 10-17 FOR CROSS-FRAME LOWER CHORD LATERAL CONNECTION PLATES LOCATED AT INTERIOR PIERS WITH SECTION LOSS EXCEEDING ¼" DEEP FOR AN AREA GREATER THAN 1" WIDE x 2" LONG AS APPROVED BY THE DISTRICT. IF DAMAGE IS BELOW LIMITS, GRIND SMOOTH PER PROJECT NOTES.
2. USE EXISTING LATERAL CONNECTION PLATE AS TEMPLATE FOR SHAPE AND SIZE OF REPLACEMENT LATERAL CONNECTION PLATE.
3. SOME LATERAL CONNECTION PLATES CONTAIN GROUNDING WIRES ATTACHED APPROXIMATELY AS SHOWN. IF LATERAL CONNECTION PLATE IS REPLACED, RE-ATTACH EXISTING GROUND WIRE TO LOWER CHORD BOTTOM FLANGE HARDWARE AND REPAIR PAINT SYSTEM.
4. WHEN REPLACING MEMBERS, MATCH EXISTING FASTENER LOCATIONS AT LATERAL CONNECTION PLATES, ETC.

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RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB BRACING REPAIRS

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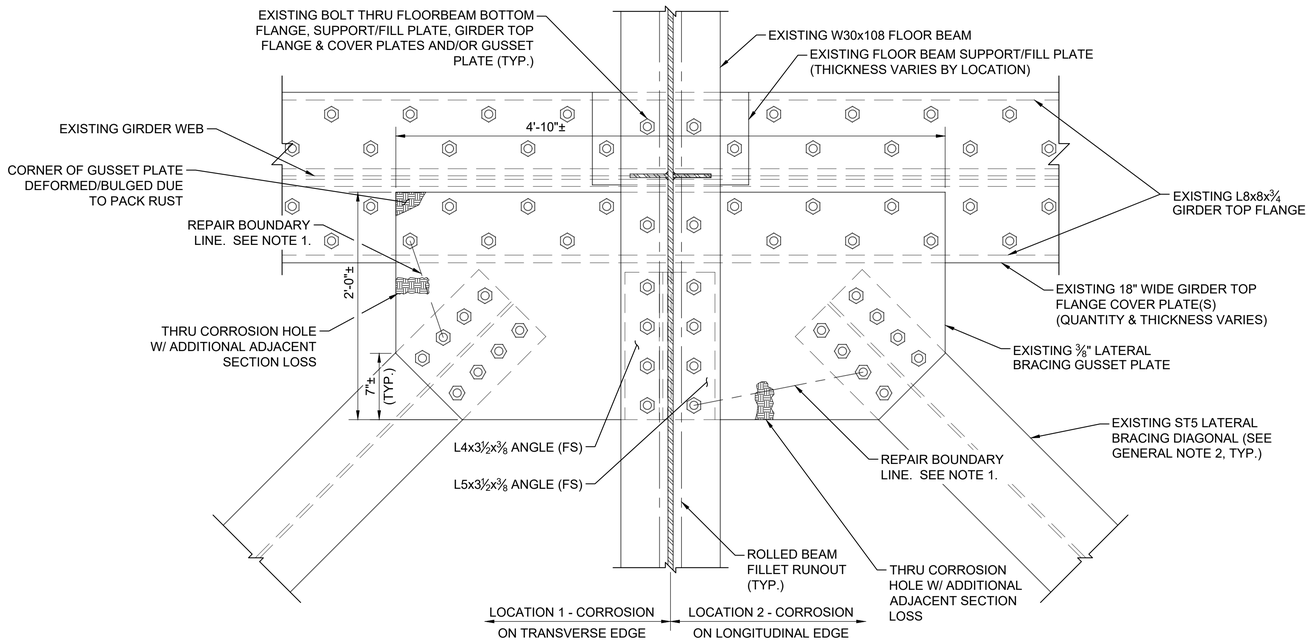

PLAN VIEW

SCALE: 1½" = 1'-0"

NCB-NB BRACING REPAIR TYPE 2

EXISTING CONDITION AND REPAIR CRITERIA

DETAIL-SPECIFIC NOTES

1. THIS REPAIR IS APPLICABLE FOR NCB-NB SPANS 1-8 AND 10-17 FOR UPPER AND LOWER LATERAL BRACING GUSSET PLATES AT GIRDERS. PERFORM PRESCRIBED REPAIR IF FULL-THRU CORROSION HOLE AT GUSSET PLATE EDGE EXTENDS BEYOND INDICATED BOUNDARY LINE AS APPROVED BY THE DISTRICT. IF DAMAGE DOES NOT EXTEND BEYOND INDICATED BOUNDARY LINE, GRIND SMOOTH PER PROJECT NOTES.

2. THIS DETAIL IS APPLICABLE FOR EITHER OF THE TWO REPRESENTATIVE CORROSION DAMAGE LOCATIONS SHOWN (RESPECTIVELY ALONG THE TRANSVERSE OR LONGITUDINAL EDGES), AT ANY LATERAL BRACING GUSSET PLATE. DETAIL IS SHOWN AT INTERMEDIATE FLOORBEAM UPPER LATERAL BRACING LOCATION. ADJUST AS NEEDED FOR OTHER GUSSET LOCATIONS AND FOR LOWER LATERAL BRACING. IF A SINGLE GUSSET PLATE CONTAINS QUALIFYING CORROSION DAMAGE ON MULTIPLE EDGES REQUIRING REPAIR, REPAIR EACH EDGE'S CORROSION ONE AT A TIME.

3. QUANTITY AND THICKNESS OF EXISTING TOP FLANGE COVER PLATES, AND CORRESPONDING THICKNESSES OF EXISTING FILL PLATES, VARIES BY LOCATION. ADJUST THICKNESS OF INDICATED REPAIR FILL PLATES ACCORDINGLY. IT IS PERMISSIBLE TO REPLACE WITH MULTIPLE PLATES, MINIMUM THICKNESS OF ANY INDIVIDUAL PLATE TO BE ⅜".

4. PLACE ADDITIONAL FASTENERS THROUGH REPAIR PLATES. FASTENER SPACING MUST SATISFY THE FOLLOWING REQUIREMENTS:
   - 4.1. MIN. CENTER SPACING: 2⅝"
   - 4.2. MAX. CENTER SPACING ALONG EDGE: 5½"
   - 4.3. MIN. END DISTANCE: 1⅛"
   - 4.4. MAX. END DISTANCE: 3"

5. CUT OFF AND REMOVE DEFORMED/BULGED PORTION OF EXISTING GUSSET. DO NOT EXTEND REMOVAL BEYOND EDGE OF REPAIR PLATE. CONTACT THE DISTRICT FOR DIRECTION IF THE DEFORMATION INTERFERES WITH REPAIR PLATE INSTALLATION AND EXTENDS PAST THESE LIMITS. USE CAUTION TO AVOID DAMAGE TO GIRDER TOP FLANGE AND TOP FLANGE COVER PLATES AND ALL OTHER STRUCTURE. FLAME CUTTING IS PROHIBITED AS A METHOD FOR REMOVAL FOR THIS DETAIL. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.

6. GRIND ALL CORROSION TO SMOOTH BARE METAL.

7. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB BRACING REPAIRS

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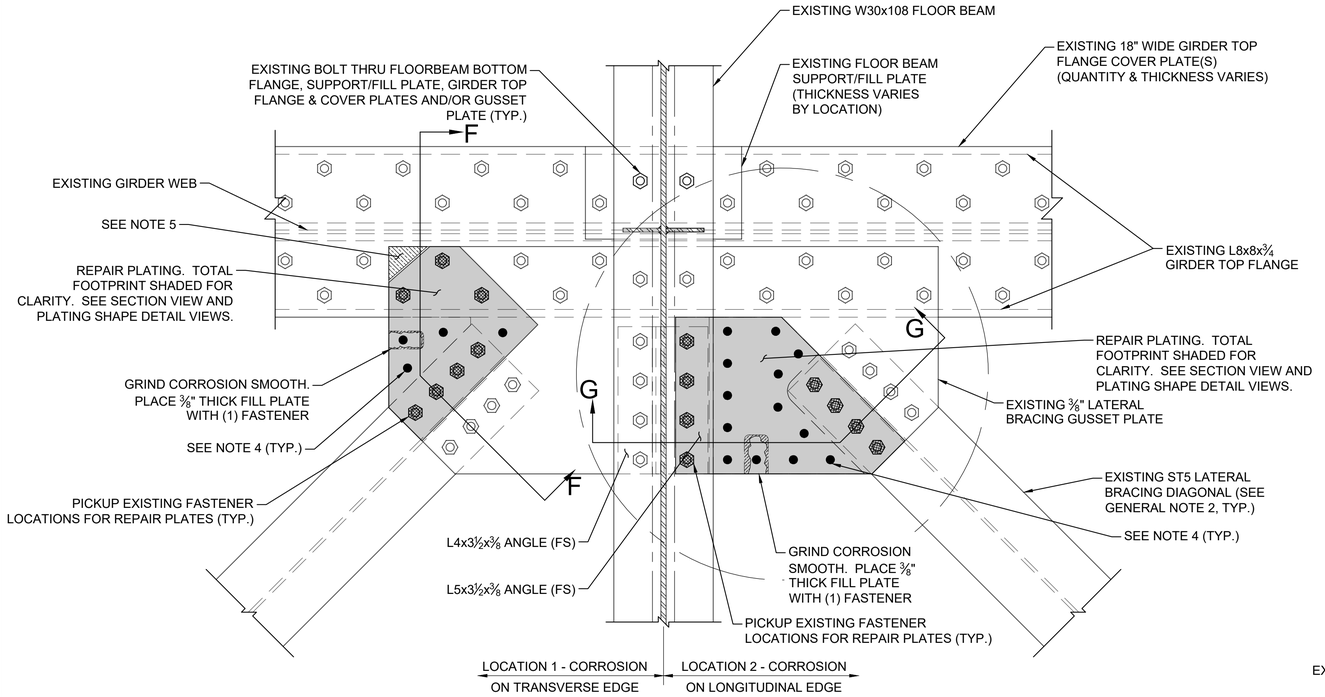
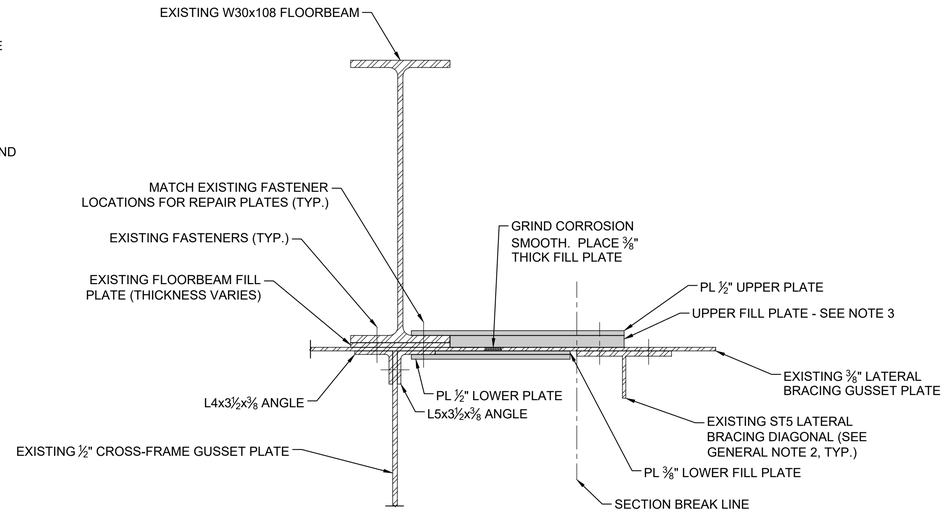
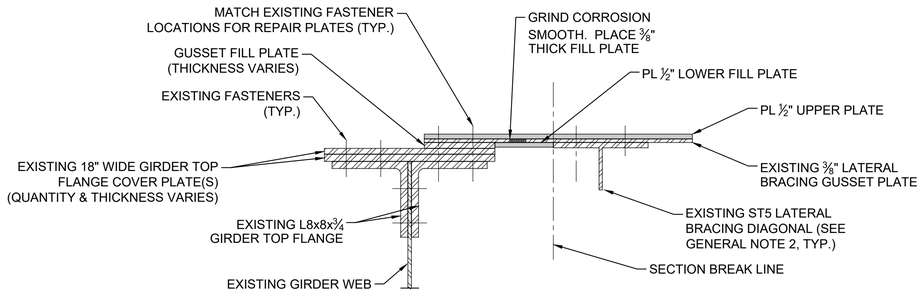


PLAN VIEW
SCALE: 1½" = 1'-0"



SECTION G-G
SCALE: 1½" = 1'-0"

NCB-NB BRACING REPAIR TYPE 2
REPAIRED CONDITION



SECTION F-F
SCALE: 1½" = 1'-0"

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB BRACING REPAIRS

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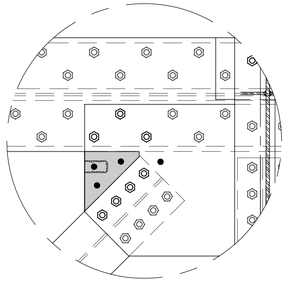
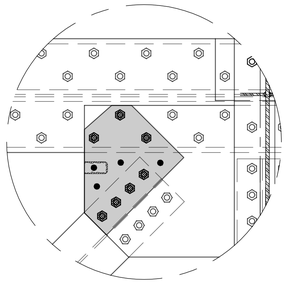


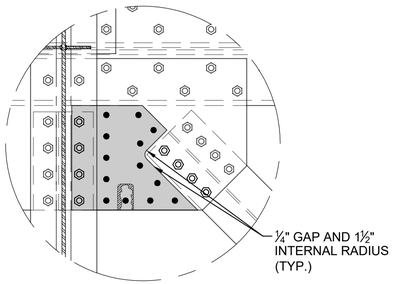
LOWER FILL PLATE - ½" THICK



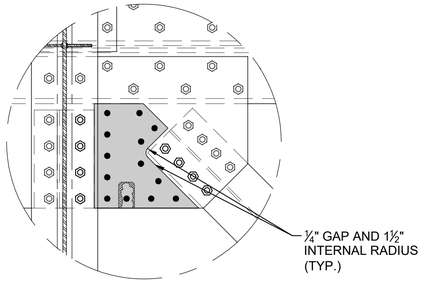
UPPER PLATE - ½" THICK

LOCATION 1 PLATING SHAPE DETAIL VIEWS

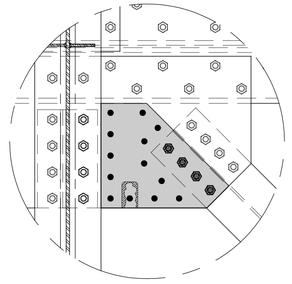
SCALE: 1" = 1'-0"



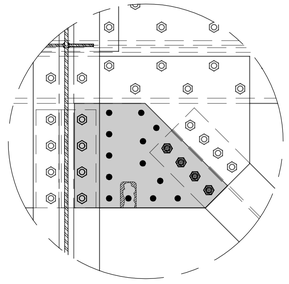
LOWER PLATE - ½" THICK



LOWER FILL PLATE - ⅜" THICK



UPPER FILL PLATE - SEE NOTE 3



UPPER PLATE - ½" THICK

LOCATION 2 PLATING SHAPE DETAIL VIEWS

SCALE: 1" = 1'-0"

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NCB-NB BRACING REPAIR TYPE 2

REPAIRED CONDITION

No.	Description	Date
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
BRACING REPAIRS

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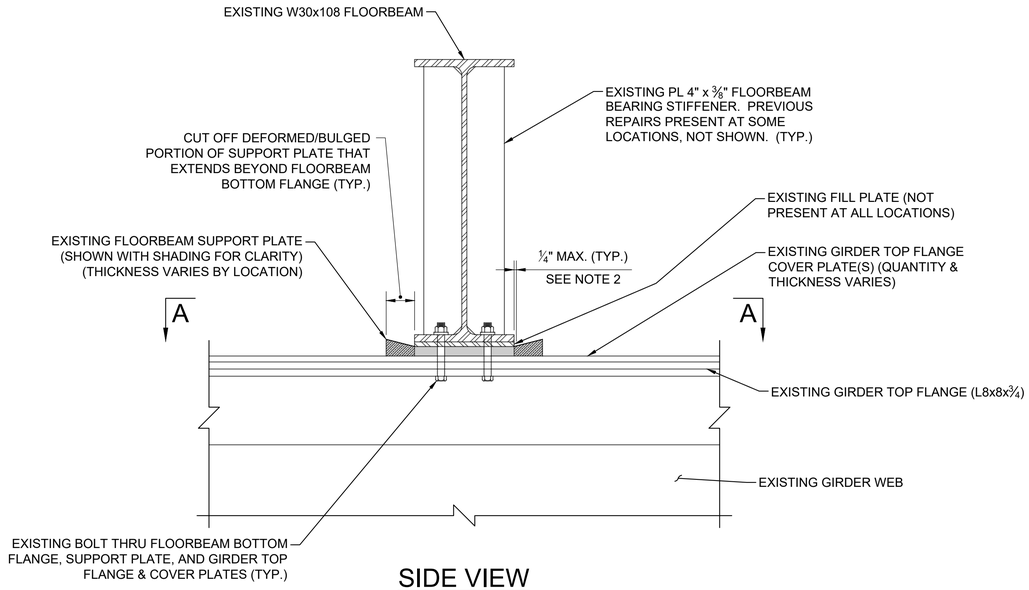
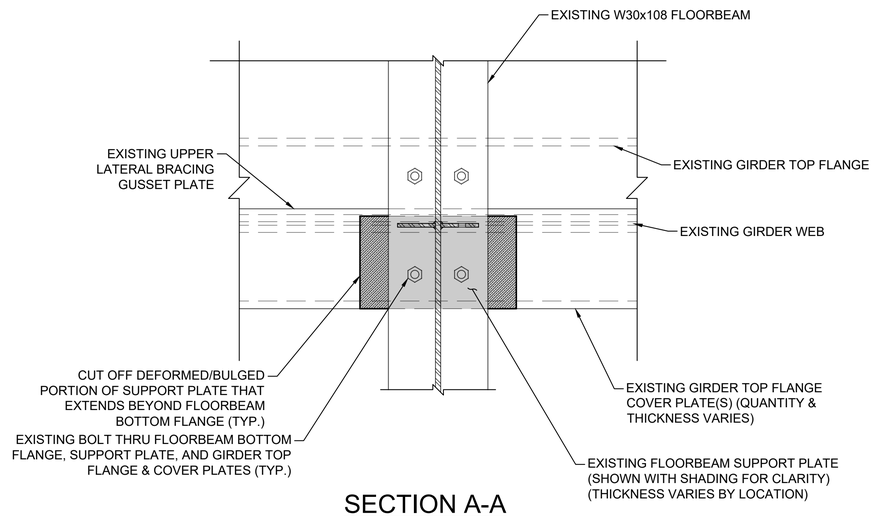


SIDE VIEW

SCALE: 1½" = 1'-0"



SECTION A-A

SCALE: 1½" = 1'-0"

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN NCB-NB SPANS 1-8 AND 10-17 FOR FLOORBEAM SUPPORT PLATES DEFORMED AND/OR BULGED (BEYOND THE EDGE OF THE FLOORBEAM BOTTOM FLANGE) AT LEAST ½" THICKER THAN ORIGINAL THICKNESS AS APPROVED BY THE DISTRICT.
2. CUT OFF OR OTHERWISE REMOVE DEFORMED AND/OR BULGED PORTION OF FLOORBEAM SUPPORT PLATE TO WITHIN ¼" OF BOTTOM FLANGE EDGE FACE.
3. USE CAUTION TO AVOID DAMAGE TO GIRDER TOP FLANGE AND TOP FLANGE COVER PLATES, FLOORBEAM, UPPER LATERAL BRACING GUSSET PLATES, AND ALL OTHER STRUCTURE. FLAME CUTTING IS PROHIBITED AS A METHOD FOR REMOVAL FOR THIS DETAIL. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.

NCB-NB FLOORBEAM REPAIR TYPE 1

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
MISCELLANEOUS REPAIRS

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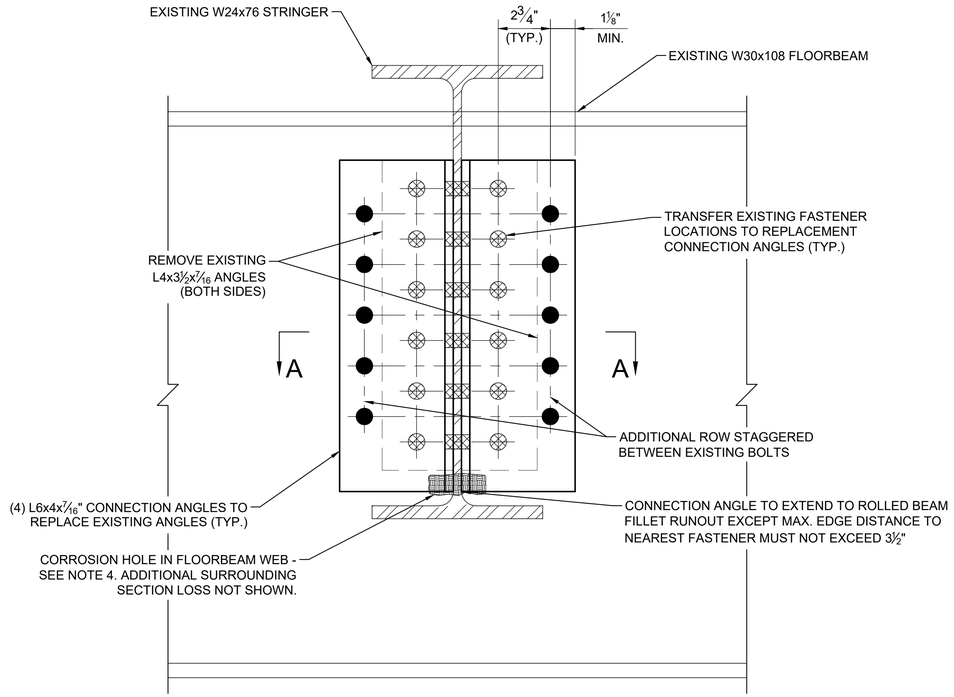
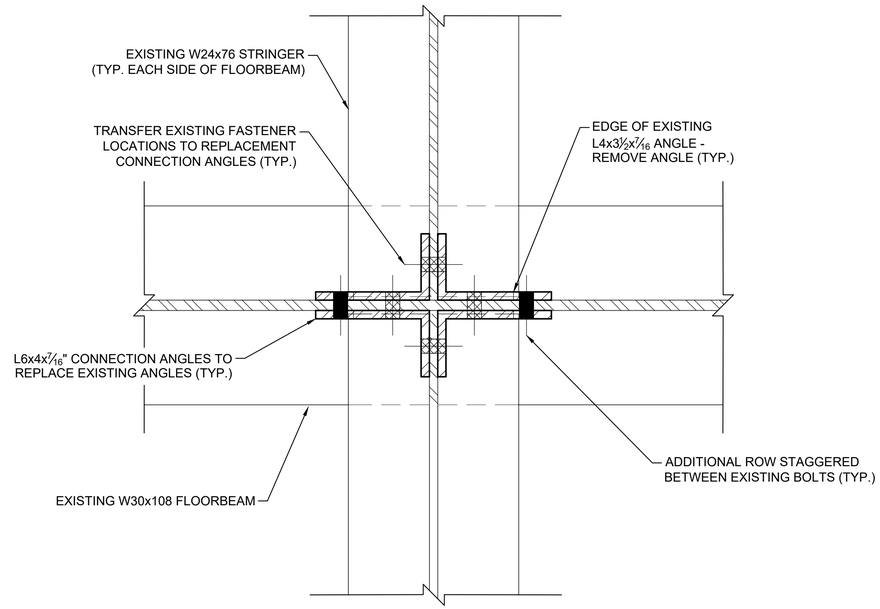


ELEVATION

SCALE: 3" = 1'-0"



SECTION A-A

SCALE: 3" = 1'-0"

NCB-NB FB REPAIR TYPE 3

SUGGESTED SEQUENCE NOTES

1. PERFORM EACH INSTANCE OF THIS REPAIR TYPE ONE AT A TIME.
2. INSTALL TEMPORARY SUPPORT SYSTEM FOR STRINGERS ON BOTH SIDES OF FLOORBEAM TO BE REPAIRED.
3. REMOVE CONNECTION ANGLES.
4. CLEAN AND GRIND CORRODED AREAS AS REQUIRED.
5. CLAMP REPAIR CONNECTION ANGLES IN PLACE WITH EACH STRINGER AND TRANSFER EXISTING HOLES IN FLOORBEAM AND STRINGER WEBS TO EACH ANGLE.
6. FIELD DRILL ADDITIONAL STAGGERED FASTENERS THRU FLOORBEAM WEB AND CONNECTION ANGLE.
7. REMOVE CLAMPS AND APPLY EPOXY FILLER TO CLEANED AND PAINTED CORROSION ZONE IN FLOOR BEAMS WEB AS NEEDED. ENSURE FINISH IS SMOOTH AND FLUSH.
8. INSTALL CONNECTION ANGLES AND BOLTS. REMOVE TEMPORARY SUPPORT SYSTEM FOR STRINGERS.

DETAIL-SPECIFIC NOTES:

1. PERFORM THIS REPAIR IN NCB-NB SPANS 1-8 AND 10-17 FOR FLOORBEAM - STRINGER CONNECTIONS WITH ONE OR MORE CORROSION HOLES IN THE FLOORBEAM WEB AND/OR REMAINING WEB THICKNESS LESS THAN ⅛" FOR A 1" DIA. AREA AS APPROVED BY THE DISTRICT.
2. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.
3. GRIND ALL CORROSION TO SMOOTH BARE METAL.
4. APPROXIMATE TYPICAL CORROSION HOLE SIZE IS UP TO 3" W x 1" H. ASSUME MAXIMUM CORROSION HOLE SIZE TO BE 4" H x 1½" W AFTER BLASTING. CONTACT THE DISTRICT FOR DIRECTION IF CORROSION HOLE EXTENDS MORE THAN 5½" FROM STRINGER WEB.

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE NB
MISCELLANEOUS REPAIRS

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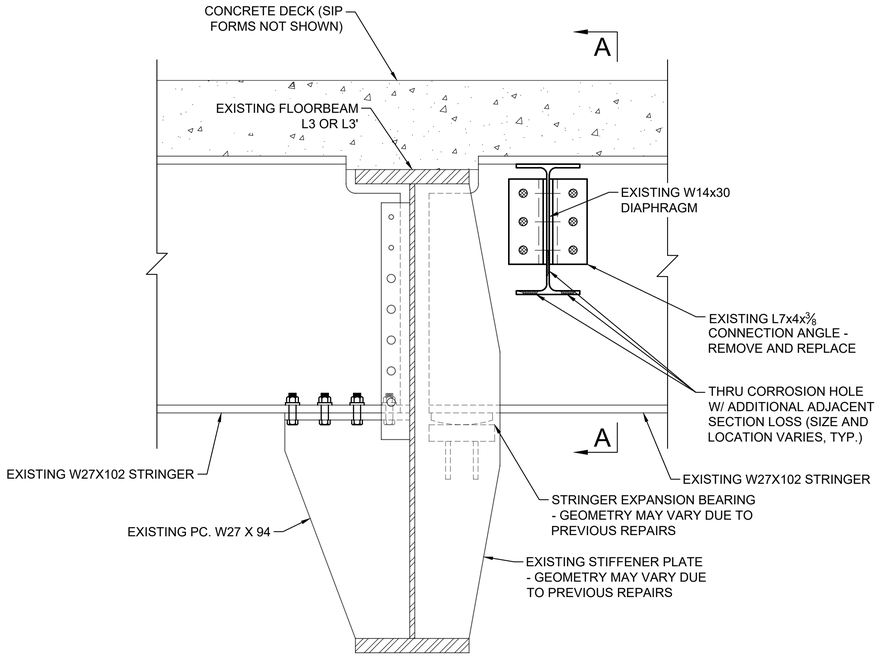
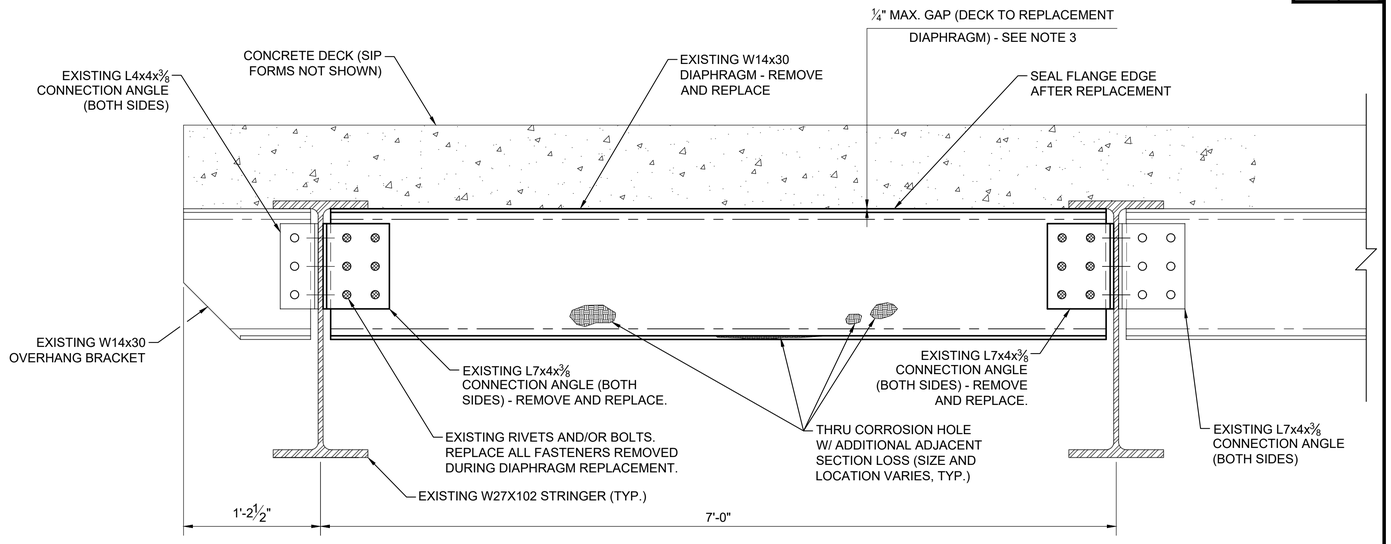
STATE	SHEET ID
VA	I1



SIDE VIEW

SCALE: 1½" = 1'-0"



SECTION A-A

SCALE: 1½" = 1'-0"

NCB-NB TRUSS STRINGER REPAIR TYPE 3

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) STRINGER BAY END DIAPHRAGMS ADJACENT TO FLOOR BEAMS 3 AND 3' EXHIBITING FULL-THRU CORROSION HOLES AS APPROVED BY THE DISTRICT. REPAIR CONSISTS OF FULL REMOVAL AND REPLACEMENT OF DIAPHRAGM AND (4) L7x4x⅜ CONNECTION ANGLES [(2) AT EACH END]. PERFORM EACH DIAPHRAGM REPLACEMENT ONE AT A TIME. SUPPORT OVERHANG BRACKET AND/OR DIAPHRAGM(S) IN THE ADJACENT BAY(S) WHILE PERFORMING REPLACEMENT.
2. EXISTING DECK IS POURED AGAINST EXISTING DIAPHRAGM TOP FLANGE BUT IS NOT COMPOSITE WITH FLANGE. USE CAUTION TO ENSURE THAT DECK AND SOFFIT ARE NOT DAMAGED IN ANY WAY WHEN REMOVING EXISTING DIAPHRAGM. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT. CAREFULLY REMOVE INTERFERING PORTIONS OF SIP FORMS AS NECESSARY TO REMOVE DIAPHRAGM. IF SIP FORM AND/OR ASSOCIATED BRACKET(S) ARE CUT, ENSURE FINAL CUT EDGE IS STRAIGHT.
3. SEAL EDGES OF DIAPHRAGM TOP FLANGE TO DECK SOFFIT USING CAULK FOR PAINT SYSTEM DESCRIBED IN SECTION 411.

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COMMONWEALTH OF VIRGINIA
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PROFESSIONAL ENGINEER

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EXPIRES: 9/30/2026

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No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
MISCELLANEOUS REPAIRS

Designed: JSE Drawn: JSE Checked: AHC	Date	Plan No.	Sheet No.
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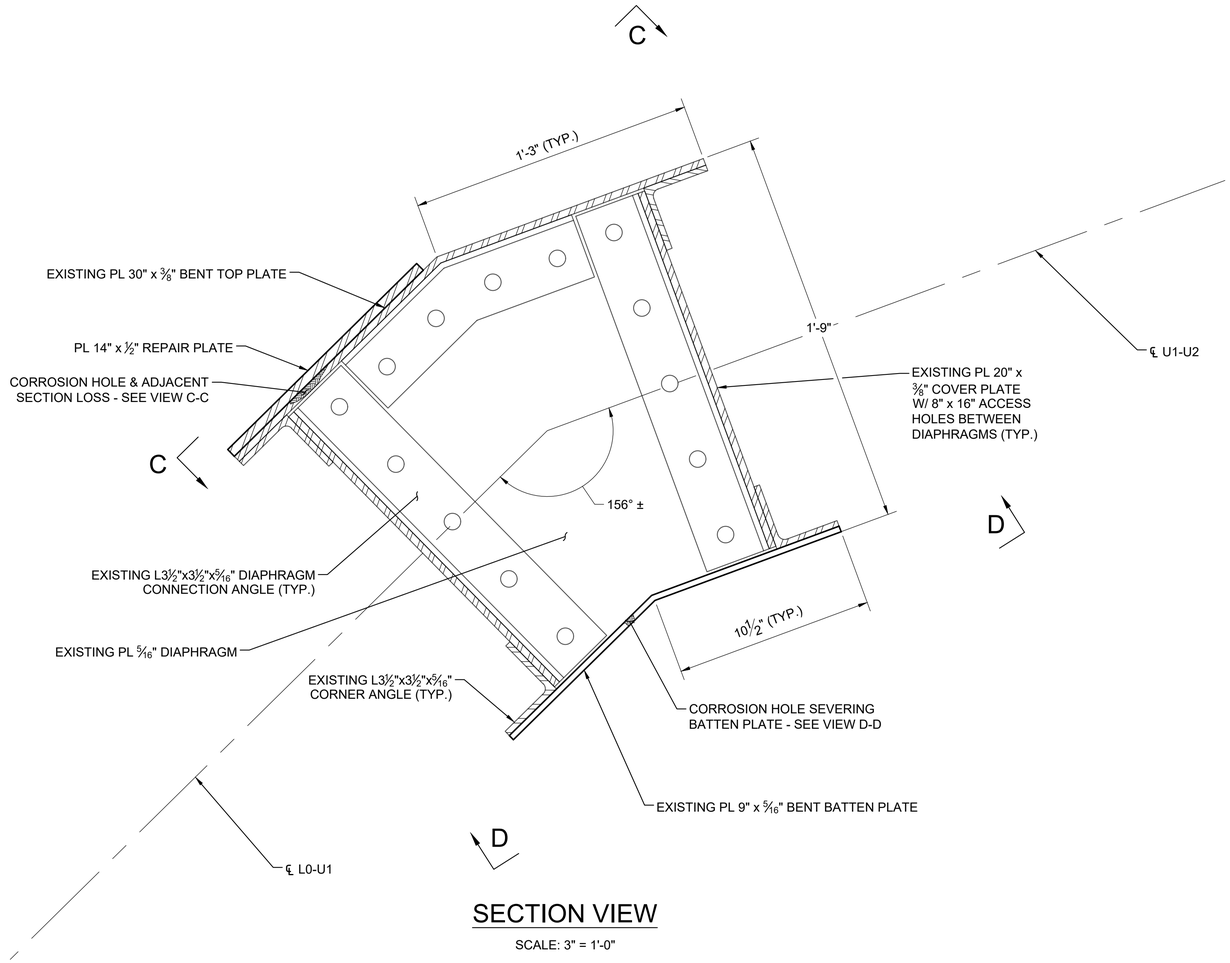
STATE	SHEET ID
VA	I2



SECTION VIEW

SCALE: 3" = 1'-0"

NCB-NB TRUSS PORTAL REPAIR TYPE 1
NCB-NB TRUSS PORTAL REPAIR TYPE 2

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	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
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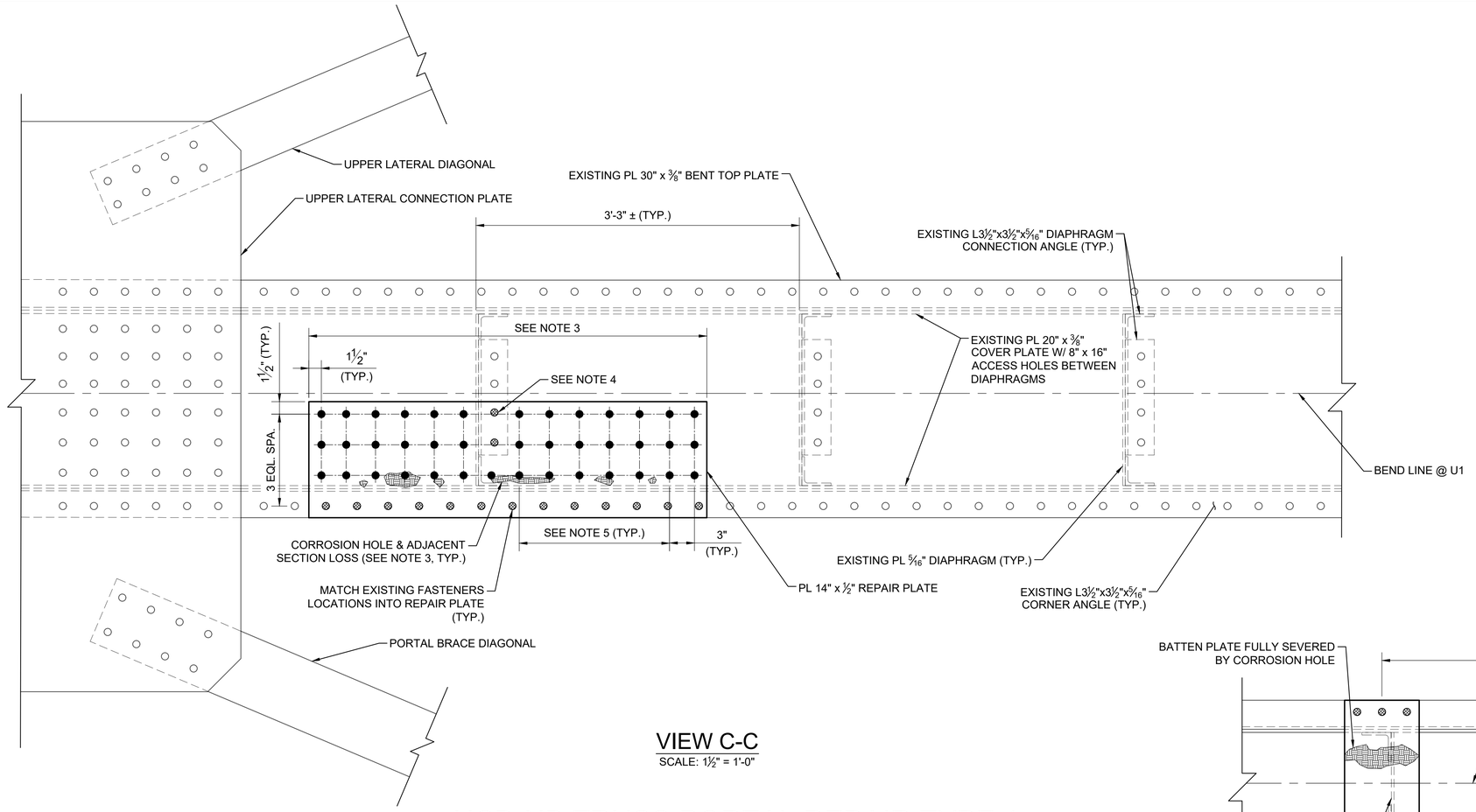
STATE	SHEET ID
VA	I3

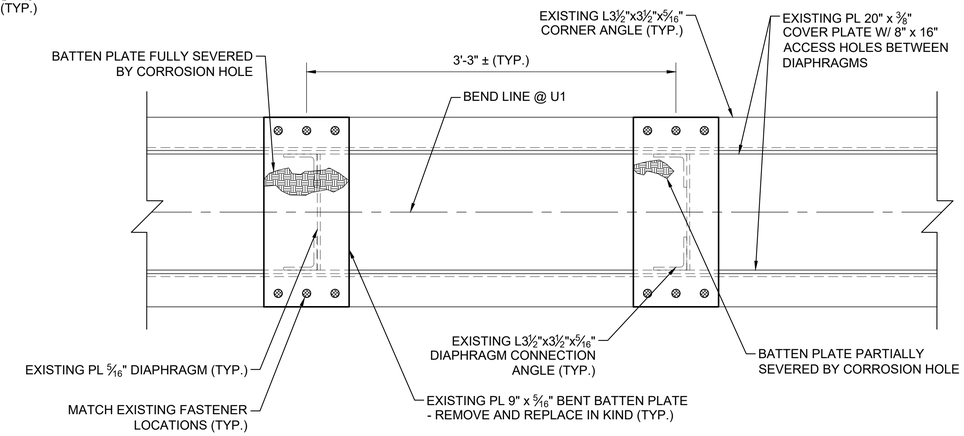


VIEW C-C
SCALE: 1½" = 1'-0"

NCB-NB TRUSS PORTAL REPAIR TYPE 1

DETAIL-SPECIFIC NOTES (NCB-NB TRUSS PORTAL REPAIR TYPE 1)

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) PORTAL BRACING TOP STRUT (PANEL POINT U1) FOR TOP PLATE FULL-THRU CORROSION HOLES AS APPROVED BY THE DISTRICT.
2. TOP PLATE IS SYMMETRIC ABOUT BEND LINE. ADJACENT REPAIRS ON OPPOSITE SIDES OF THE BEND LINE MAY OCCUR. TREAT SUCH ADJACENT REPAIRS INDEPENDENTLY.
3. SIZE, LOCATION, AND SEVERITY OF CORROSION VARIES. TYPICAL MAXIMUM LENGTH OF CONTIGUOUS DAMAGE IS APPROXIMATELY 3'-0" (TOTAL REPAIR LENGTH APPROX. 4'-0")
4. INCREASE WIDTH OF REPAIR PLATE AS NECESSARY TO ENSURE MINIMUM EDGE DISTANCE OF 1⅛" FOR DIAPHRAGM CONNECTION ANGLE FASTENERS.
5. SPACE FASTENERS ALONG AXIS OF BEND LINE AT 3" MIN. / 5½" MAX. MAXIMUM SPACING BETWEEN FASTENERS MAY NOT EXCEED 5½".
6. GRIND ALL CORROSION TO SMOOTH BARE METAL.
7. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.



VIEW D-D
SCALE: 1½" = 1'-0"

NCB-NB TRUSS PORTAL REPAIR TYPE 2

DETAIL-SPECIFIC NOTES (NCB-NB TRUSS PORTAL REPAIR TYPE 2)

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) PORTAL BRACING TOP STRUT (PANEL POINT U1) FOR BOTTOM BATTEN PLATES MISSING OR PARTIALLY OR FULLY SEVERED DUE TO CORROSION HOLES AS APPROVED BY THE DISTRICT.
2. IT IS PERMISSIBLE TO SUBSTITUTE ⅜" OR ½" THICK PLATE WHEN REPLACING EXISTING 5⁄16" THICK BATTEN PLATES.

COMMONWEALTH OF VIRGINIA
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No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
MISCELLANEOUS REPAIRS

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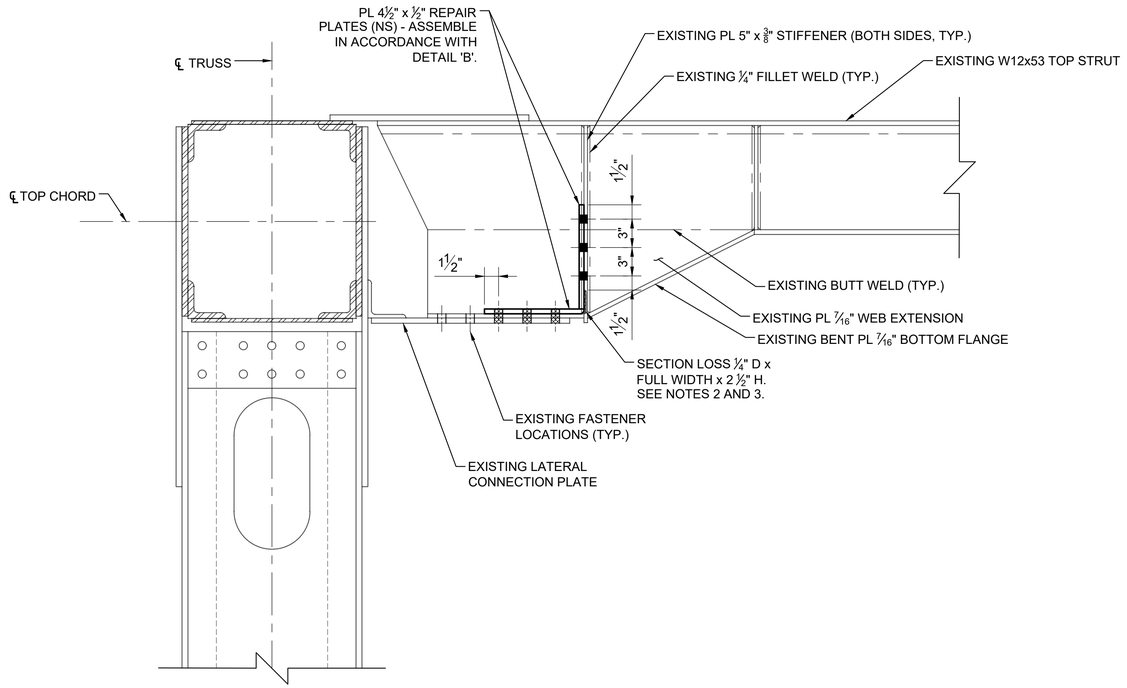
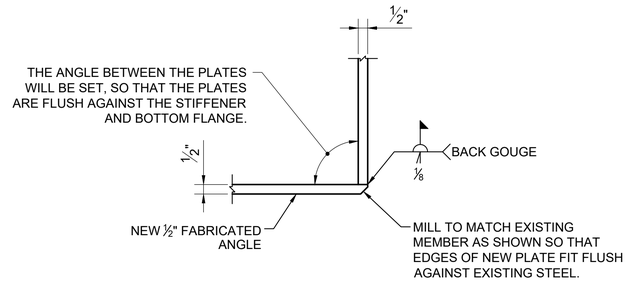
STATE	SHEET ID
VA	I4



ELEVATION

SCALE: 1½" = 1'-0"



DETAIL 'B'

SCALE: 3" = 1'-0"

NCB-NB TRUSS LATERAL REPAIR TYPE 1

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DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) TOP LATERAL STRUT DEPTH-TRANSITION STIFFENERS EXHIBITING CORROSION WITH LESS THAN ¼" REMAINING OVER 3" OR MORE OF THE STIFFENER WIDTH AS APPROVED BY THE DISTRICT. PERFORM ON EACH SIDE OF THE STRUT AS NEEDED.
2. GRIND ALL CORROSION TO SMOOTH BARE METAL.
3. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.

No.	Description	Date
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
MISCELLANEOUS REPAIRS

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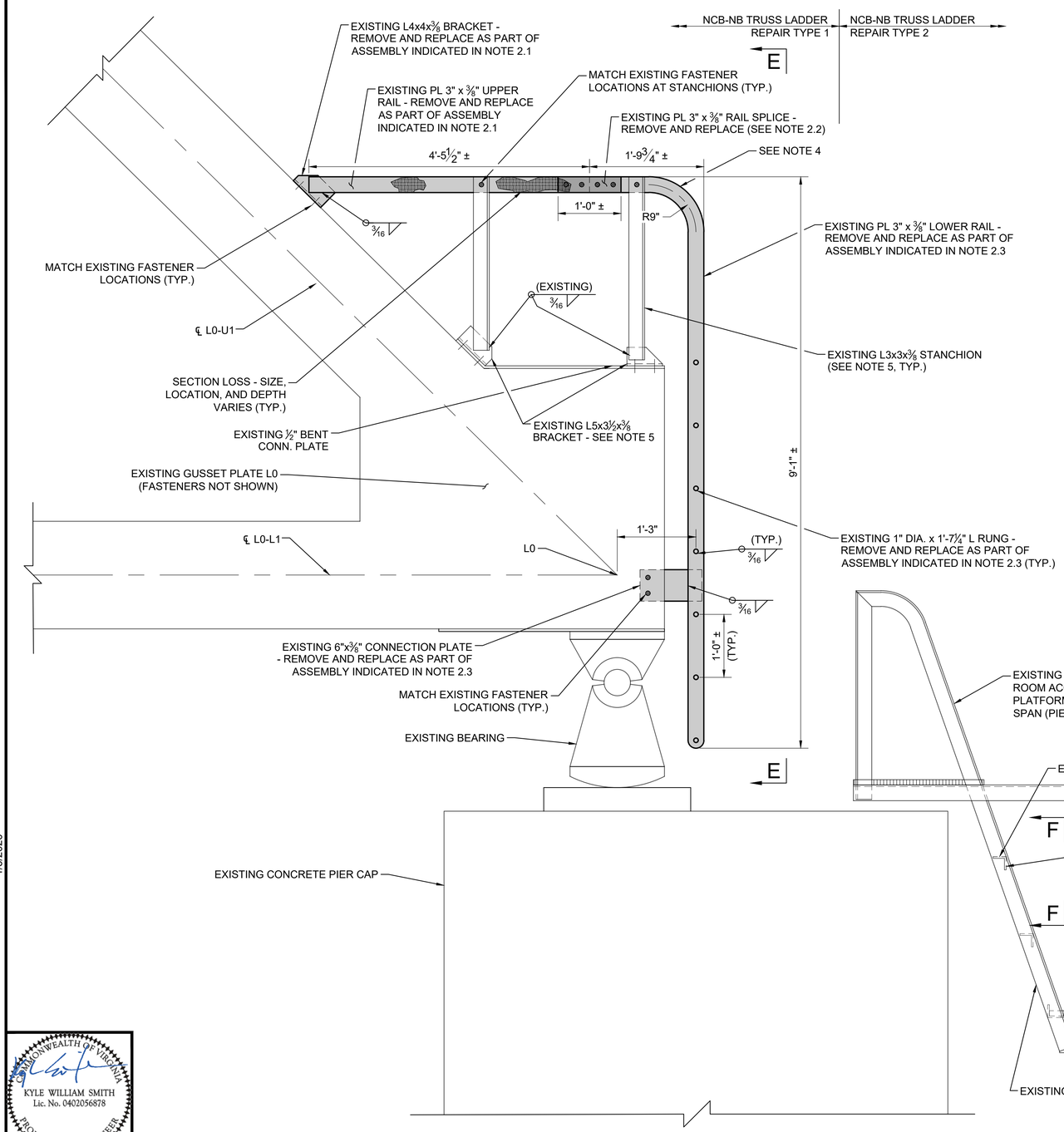
STATE	SHEET ID
VA	I5



ELEVATION

SCALE: 1" = 1'-0"

NCB-NB TRUSS LADDER REPAIR TYPE 1
NCB-NB TRUSS LADDER REPAIR TYPE 2

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
MISCELLANEOUS REPAIRS

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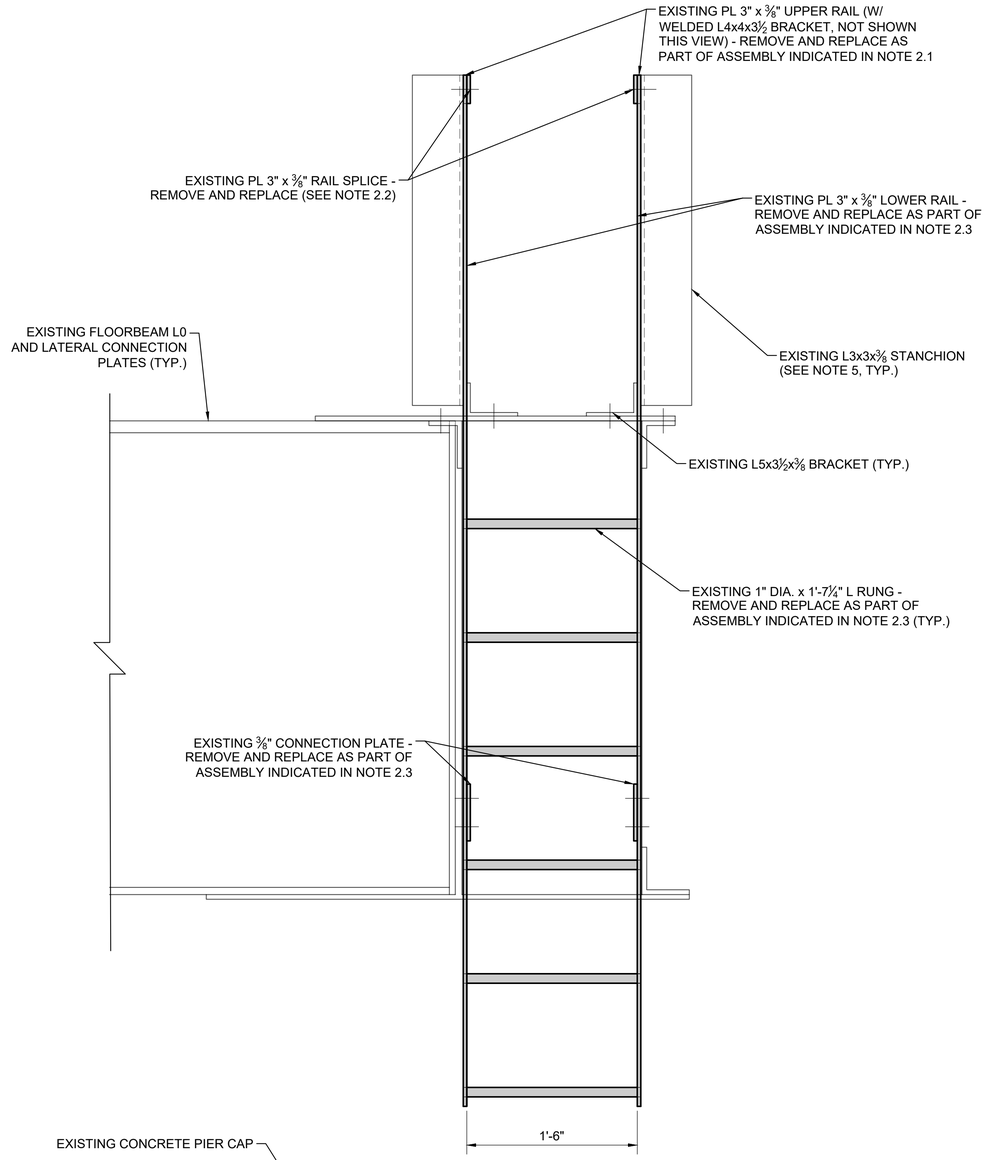
VA	I6



VIEW E-E

SCALE: 1½" = 1'-0"

DETAIL-SPECIFIC NOTES (NCB-NB TRUSS LADDER REPAIR TYPE 1)

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) PIER CAP ACCESS LADDERS (LOCATED AT PIERS 9 AND 10, BOTH SIDES OF TRUSS) AS APPROVED BY THE DISTRICT.

2. REPLACE EXISTING ACCESS LADDER STRUCTURE. MATCH EXISTING GEOMETRY, WELDING DETAILS, AND ASSEMBLY AS SHOWN, EXCEPT AS NOTED BELOW. THE EXISTING LADDER COMPONENTS TO BE REPLACED ARE SHOWN SHADED AND CONSIST OF THE FOLLOWING PIECES AND/OR WELDED ASSEMBLIES:
   - 2.1. (2) WELDED UPPER RAIL SECTIONS, EACH COMPOSED OF:
     - 2.1.1. (1) 3"x⅜" UPPER RAIL
     - 2.1.2. (1) L4x4x¾ BRACKET (SEE ELEVATION VIEW ON PREVIOUS SHEET)
   - 2.2. (2) 3"x⅜" RAIL SPLICES
   - 2.3. (1) WELDED LOWER RAIL SECTION, COMPOSED OF:
     - 2.3.1. (2) 3"x⅜" LOWER RAILS
     - 2.3.2. (7) 1" DIA. RUNGS
     - 2.3.3. (2) 6"x⅜" CONNECTION PLATES

3. FIELD-VERIFY ALL DIMENSIONS AND ADJUST AS NECESSARY PRIOR TO FABRICATING REPLACEMENT ELEMENTS.

4. ONE (1) OR MORE OF THE FOUR (4) TOTAL LADDER LOCATIONS MAY HAVE ALTERNATE BEND GEOMETRY DUE TO A PREVIOUS RETROFIT. FABRICATE REPLACEMENT TO MATCH GEOMETRY DEPICTED ABOVE.

5. CONTACT THE DISTRICT FOR DIRECTION IF SECTION LOSS EXCEEDING 3/16" DEEP x FULL WIDTH OF EITHER FLANGE OF AN L3x3x5/16 STANCHION ELEMENT OR 3/16" DEEP x FULL LENGTH OF AN L5x3½x⅜ BRACKET IS OBSERVED.

NCB-NB TRUSS LADDER REPAIR TYPE 1

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
MISCELLANEOUS REPAIRS

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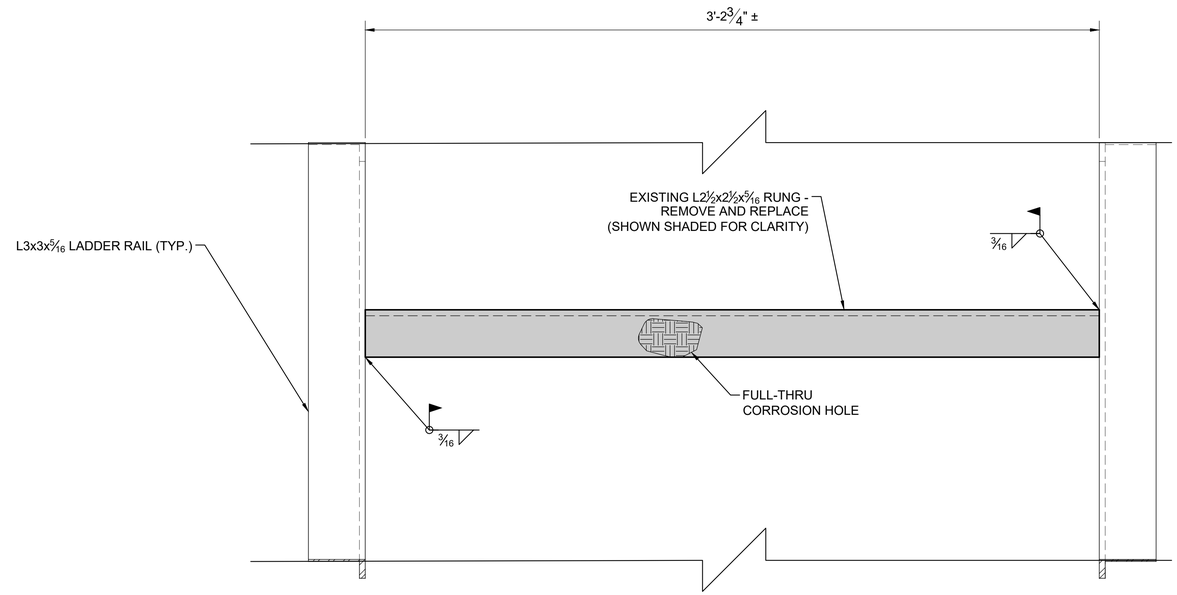
STATE	SHEET ID
VA	I7



VIEW F-F

SCALE: 3" = 1'-0"

DETAIL-SPECIFIC NOTES (NCB-NB TRUSS LADDER REPAIR TYPE 2)

1. PERFORM THIS REPAIR FOR NCB-NB ELECTRICAL EQUIPMENT ROOM ACCESS LADDER (LOCATED AT PIER 10, EAST SIDE OF TRUSS ONLY).

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NCB-NB TRUSS LADDER REPAIR TYPE 2

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	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
MISCELLANEOUS REPAIRS

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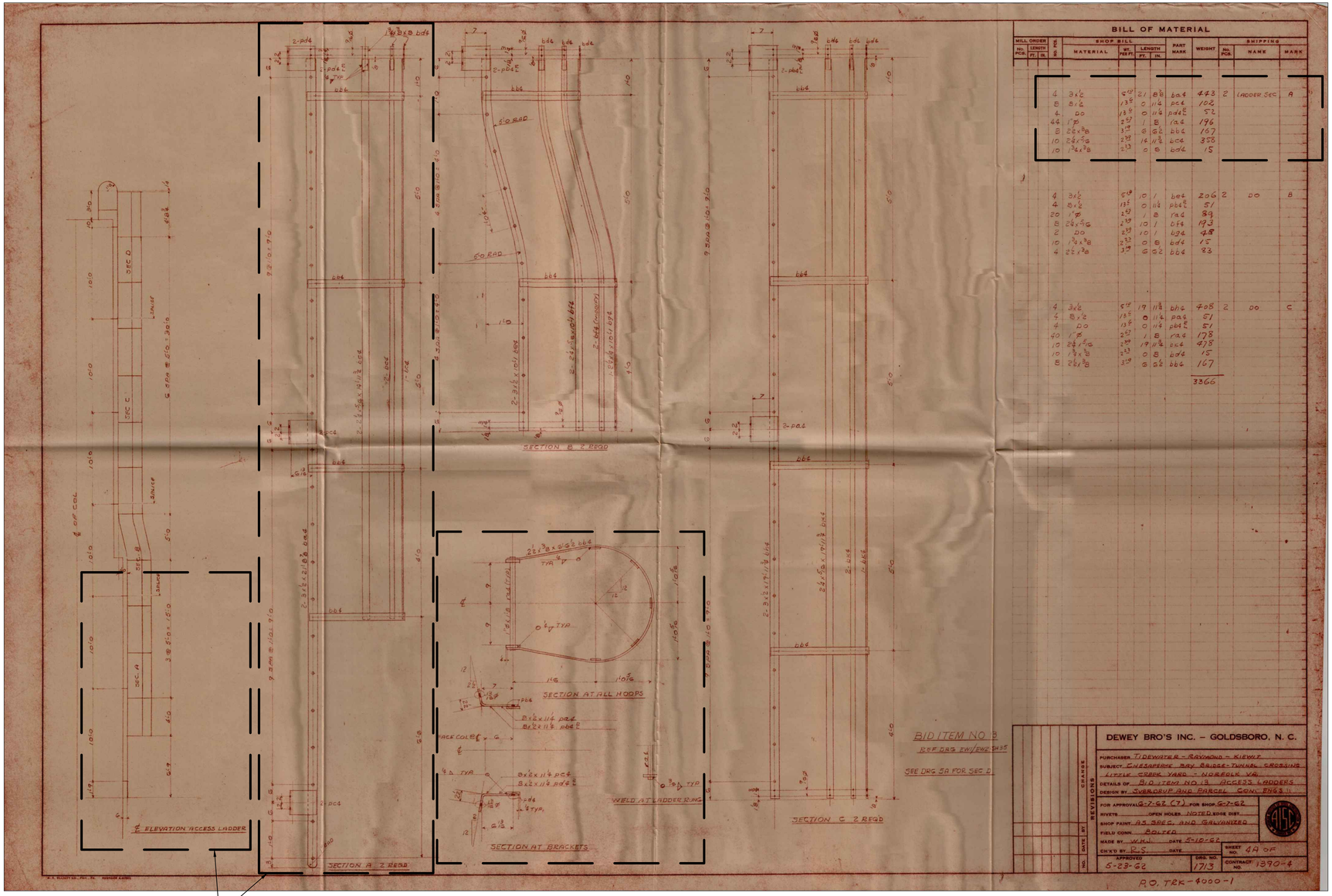
STATE	SHEET ID
VA	I8



REPLACE SECTION "A". SEE NOTE 2.

DETAIL-SPECIFIC NOTES (NCB-NB TRUSS LADDER REPAIR TYPE 3)

1. PERFORM THIS REPAIR FOR NCB-NB SPAN 9 (TRUSS SPAN) PIER FENDER ACCESS LADDERS (LOCATED AT PIERS 9 AND 10, EAST PIER COLUMN ONLY) AS APPROVED BY THE DISTRICT.
2. AS-BUILT DRAWING DETAILS ARE PROVIDED ON THIS SHEET TO REFLECT THE EXISTING ACCESS LADDER STRUCTURE. REPLACE EXISTING ACCESS LADDER SECTION "A" IN KIND. MATCH EXISTING GEOMETRY, WELDING DETAILS, AND ASSEMBLY AS SHOWN, EXCEPT AS NOTED BELOW. AS-BUILT DRAWING DETAILS ARE NOT TO SCALE.
3. FIELD-VERIFY ALL DIMENSIONS AND ADJUST AS NECESSARY PRIOR TO FABRICATING REPLACEMENT ELEMENTS.
4. HOT-DIP GALVANIZE REPLACEMENT LADDER SECTION COMPONENTS.
5. REPLACEMENT LADDER SECTIONS SHALL BE OSHA-COMPLIANT.
6. SUBMIT WORKING DRAWINGS IN ACCORDANCE WITH VDOT SPECIFICATION 105.10(C) AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER HOLDING A VALID CURRENT LICENSE TO PRACTICE ENGINEERING IN THE COMMONWEALTH OF VIRGINIA.

COMMONWEALTH OF VIRGINIA
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NCB-NB TRUSS LADDER REPAIR TYPE 3

No.	Description	Date
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE
NB TRUSS -
MISCELLANEOUS REPAIRS

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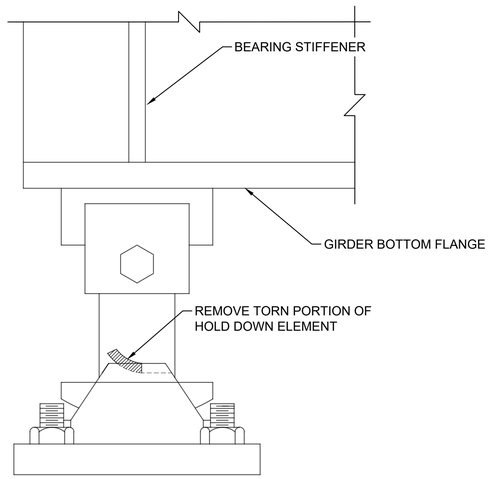
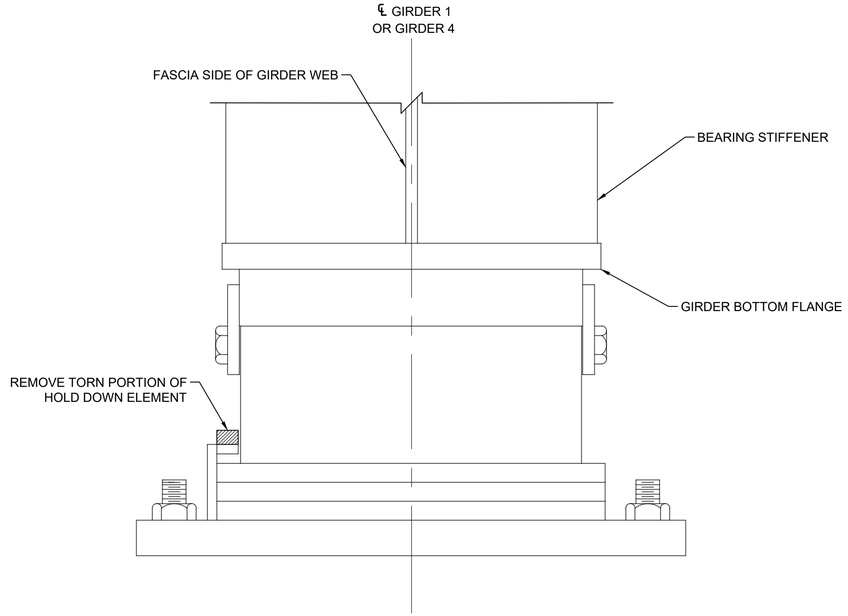
STATE	SHEET ID
VA	J1



EXPANSION BEARING SIDE VIEW

SCALE: 3" = 1'-0"



EXPANSION BEARING ELEVATION

SCALE: 3" = 1'-0"

NCB-SB REPAIR TYPE 1

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR NCB-SB AND FIB-NB EXPANSION BEARINGS WITH A TORN AND BENT HOLD DOWN ELEMENT AS APPROVED BY THE DISTRICT. NOTE THAT HOLD DOWN ELEMENT IS ONLY PRESENT ON FASCIA GIRDER BEARINGS. KNOWN LOCATIONS WITH THIS DEFECT INCLUDE BUT ARE NOT LIMITED TO:
   1.1. NCB-SB SPAN 7 GIRDER 1 @ PIER 8
   1.2. NCB-SB SPAN 7 GIRDER 4 @ PIER 8
2. CUT OFF OR OTHERWISE REMOVE TORN AND BENT PORTION OF HOLD DOWN ELEMENT TO EXTENT OF TEAR AND SQUARE OFF TO INTACT PORTION OF HOLD DOWN ELEMENT AS SHOWN ON SIDE VIEW ON THIS SHEET.
3. USE CAUTION TO AVOID DAMAGE TO ALL OTHER ELEMENTS OF BEARING AND GIRDER. FLAME CUTTING IS PROHIBITED AS A METHOD FOR REMOVAL FOR THIS DETAIL. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.

pBR-DE10_CBBT SB Details.dwg
1/5/2026

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No.	Description	Date
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

NORTH CHANNEL BRIDGE SB
& FISHERMAN'S INLET BRIDGE NB
MISCELLANEOUS REPAIRS

Designed: JSE Drawn: BSB Checked: AHC	Date	Plan No.	Sheet No.
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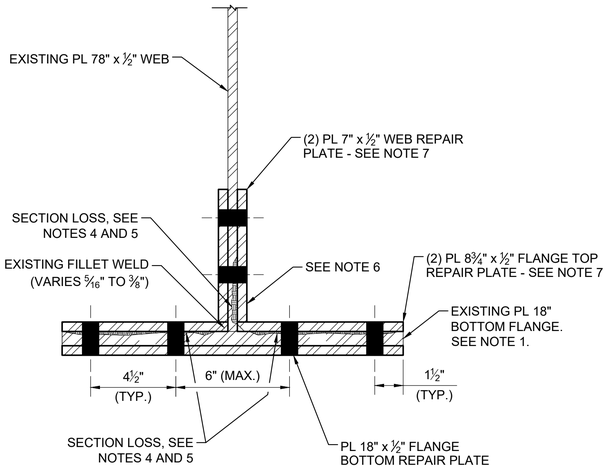
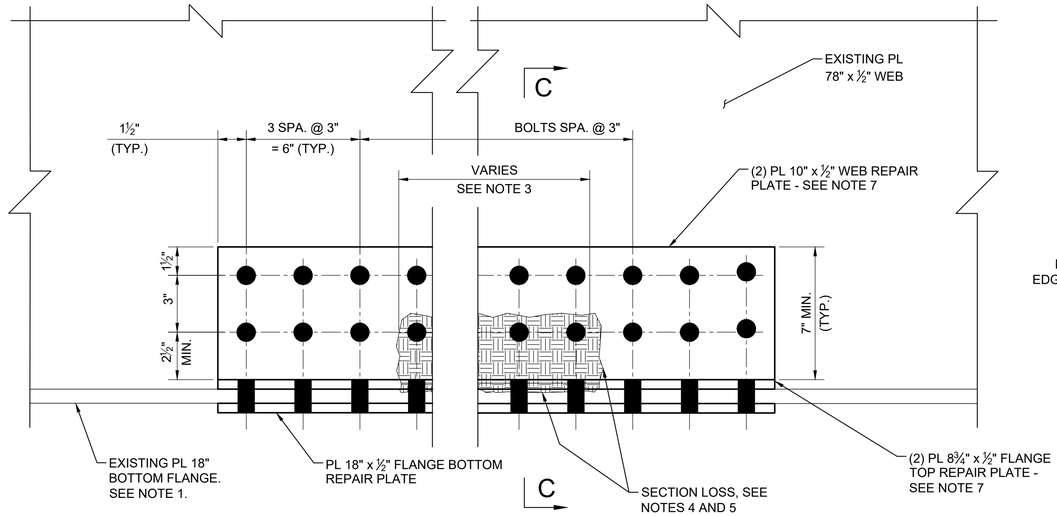
STATE	SHEET ID
VA	K1



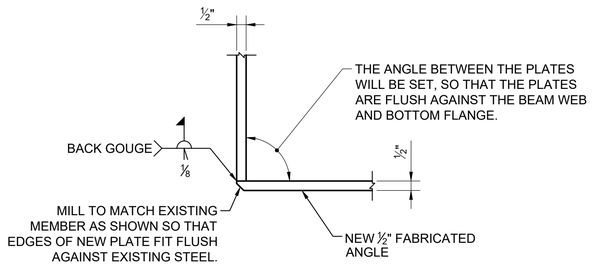
SECTION C-C

SCALE: 3" = 1'-0"



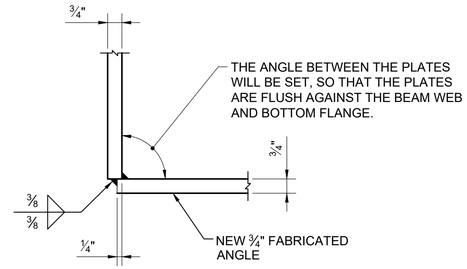
ELEVATION

SCALE: 3" = 1'-0"



DETAIL 'A'

SCALE: 3" = 1'-0"



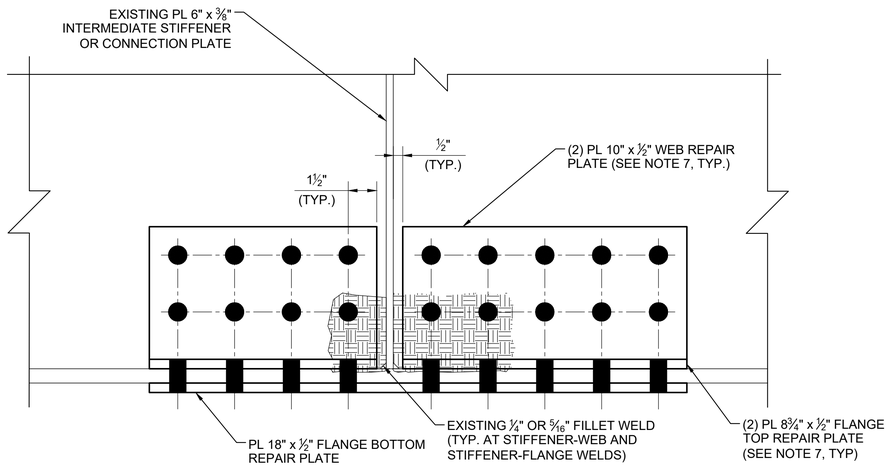
DETAIL 'B'

SCALE: 3" = 1'-0"

FIB-SB GIRDER REPAIR TYPE 1

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN FIB-SB SPANS FOR GIRDERS WITH BOTTOM FLANGE CORROSION TOTAL SECTION LOSS EXCEEDING 10% OF THE ORIGINAL CROSS-SECTIONAL AREA OF THE FLANGE (18" W x THICKNESS VARYING FROM ¾" TO 2¼") AS APPROVED BY THE DISTRICT. PLACE BOTTOM FLANGE FILL PLATE (18" W x THICKNESS AS REQUIRED) IF REPAIR SPANS AN EXISTING BOTTOM FLANGE THICKNESS TRANSITION.
2. CONTACT THE DISTRICT FOR DIRECTION IF EITHER OF THE FOLLOWING OCCUR AT ANY CROSS-SECTION:
   - 2.1. TOTAL FLANGE SECTION LOSS EXCEEDS 9 IN^2 (EQUIVALENT TO ½" DEEP SECTION LOSS ACROSS FULL WIDTH OF FLANGE)
   - 2.2. WEB SECTION LOSS EXCEEDS ¼" DEEP AND EXTENDS FURTHER THAN 4" HIGH FROM THE BOTTOM FLANGE
3. TOTAL LENGTH OF REPAIR FOR THIS DETAIL IS EXPECTED TO AVERAGE APPROXIMATELY 5'.
4. GRIND ALL CORROSION TO SMOOTH BARE METAL.
5. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.
6. DETAILS ARE SHOWN AND ANNOTATED ASSUMING REPAIR PLATES ARE ASSEMBLED ACCORDING TO DETAIL 'A'. THE CONTRACTOR MAY SUBSTITUTE ASSEMBLY IN ACCORDANCE WITH DETAIL 'B' AT NO ADDITIONAL COST TO THE DISTRICT.
7. IF SECTION LOSS OCCURS AT OR NEAR A STIFFENER OR CONNECTION PLATE, ADJUST PLATING AS SHOWN IN DETAIL D. MAINTAIN A MINIMUM OF (12) FASTENERS THRU FLANGE AND (6) FASTENERS THRU WEB ON EACH SIDE OF EXISTING SECTION LOSS.



DETAIL D

SCALE: 3" = 1'-0"

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

FISHERMAN'S INLET BRIDGE SB GIRDER PLATING REPAIRS

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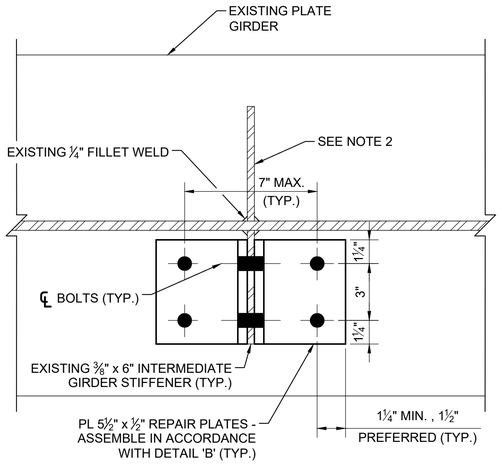
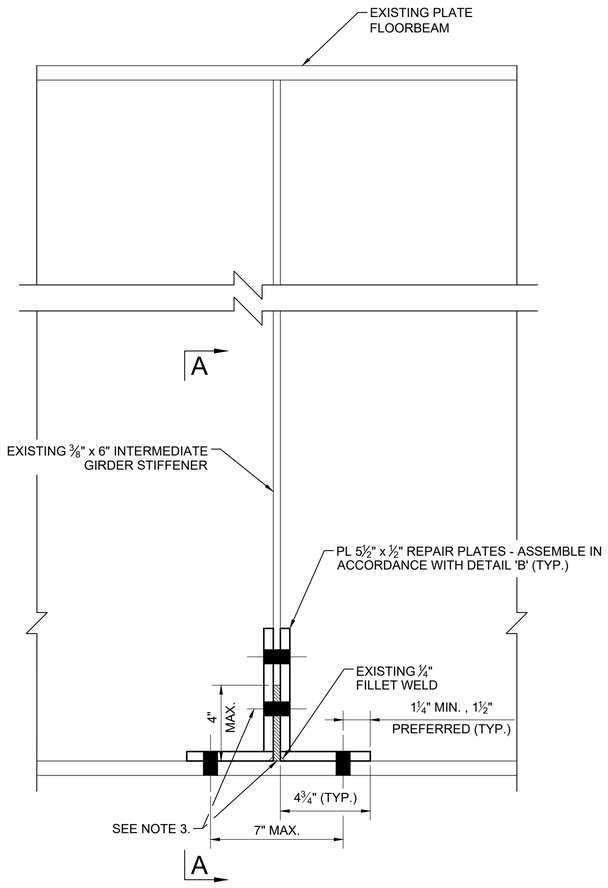
pBR-DE12_CBBT FIB-SB & Simple Span Flange and Web Plating Details.dwg
1/5/2026

STATE	SHEET ID
VA	L1



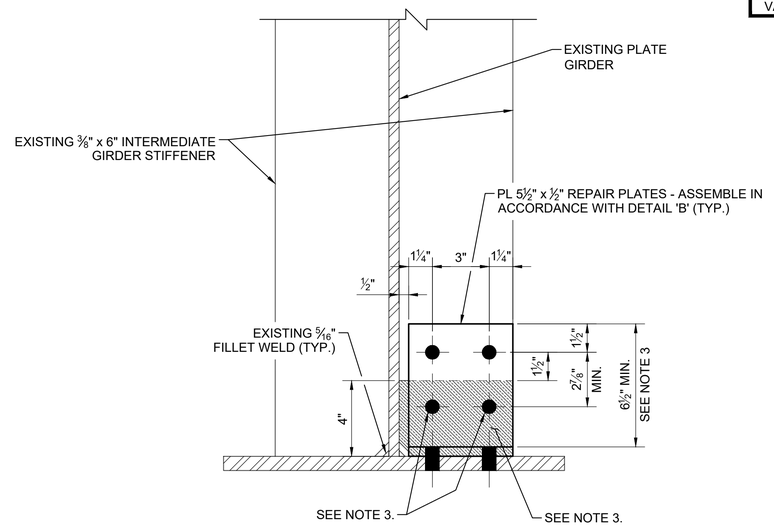
PLAN VIEW

SCALE: 3" = 1'-0"



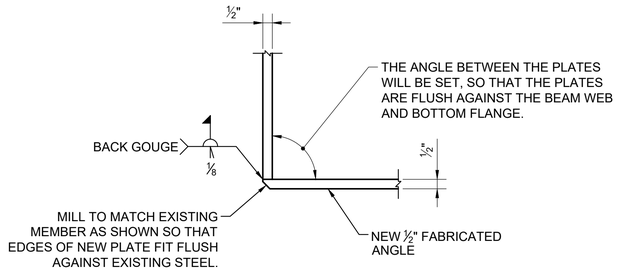
ELEVATION

SCALE: 3" = 1'-0"



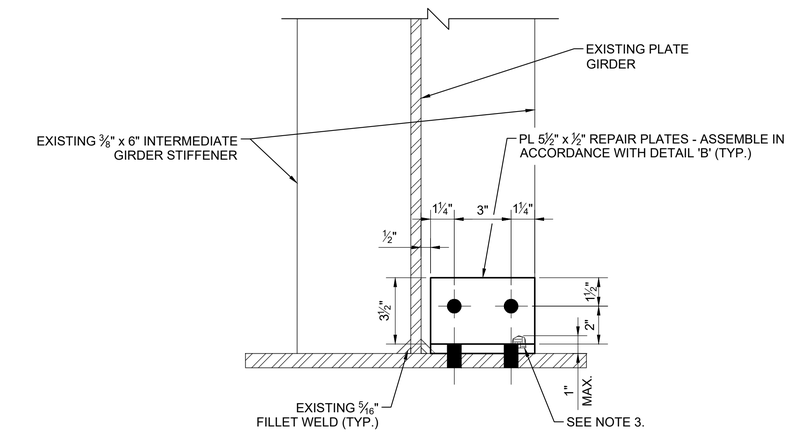
SECTION A-A

SCALE: 3" = 1'-0"



DETAIL 'B'

SCALE: 3" = 1'-0"



DETAIL C

SCALE: 3" = 1'-0"

FIB-SB GIRDER REPAIR TYPE 2

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN FIB-SB SPANS FOR INTERMEDIATE GIRDER STIFFENERS EXHIBITING CORROSION AT BOTTOM END WITH LESS THAN 1/4" REMAINING OVER 3" OR MORE OF THE STIFFENER WIDTH AS APPROVED BY THE DISTRICT.
2. BACK TO BACK REPAIR CONDITIONS (EITHER SIDE OF GIRDER) MAY EXIST.
3. CORROSION ANTICIPATED AT THE BOTTOM END OF THE BEARING STIFFENER IS UP TO 4" HIGH x UP TO FULL WIDTH x UP TO 3⁄16" TOTAL DEPTH.
   - 3.1. IF CORROSION IS LESS THAN 1" WIDE OR 1" HIGH, GRIND CORROSION SMOOTH, FILL GAP WITH EPOXY PUTTY, AND ADJUST REPAIR AS SHOWN IN DETAIL C.
   - 3.2. IF CORROSION IS > 1½" AND < 4" HIGH, CUT-OUT BOTTOM OF STIFFENER 4" ABOVE BOTTOM FLANGE ACROSS FULL WIDTH, GRIND WELDS ON BOTTOM FLANGE AND AFFECTED PORTION OF WEB FLUSH, AND PLACE ⅜" x 6" FILL PLATE AS SHOWN IN SECTION A-A.
   - 3.3. IF CORROSION EXCEEDS 4" HIGH, CONTACT THE DISTRICT FOR DIRECTION.
4. MATCH DRILL OPPOSING REPAIR PLATE ASSEMBLIES IN THE SHOP.
5. IT IS ACCEPTABLE TO SUBSTITUTE ROLLED ANGLE SECTIONS WITH EQUIVALENT FLANGE LENGTH AND THICKNESS IN PLACE OF THE WELDED REPAIR PLATE ASSEMBLIES DEPICTED AT NO ADDITIONAL COST TO THE DISTRICT.
6. GRIND ALL CORROSION TO SMOOTH BARE METAL.
7. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.

COMMONWEALTH OF VIRGINIA
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Lic. No. 0402056878
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No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

FISHERMAN'S INLET BRIDGE SB
FLOORBEAM STIFFENER REPAIRS

Designed: JSE Drawn: BSB Checked: AHC	Date	Plan No.	Sheet No.
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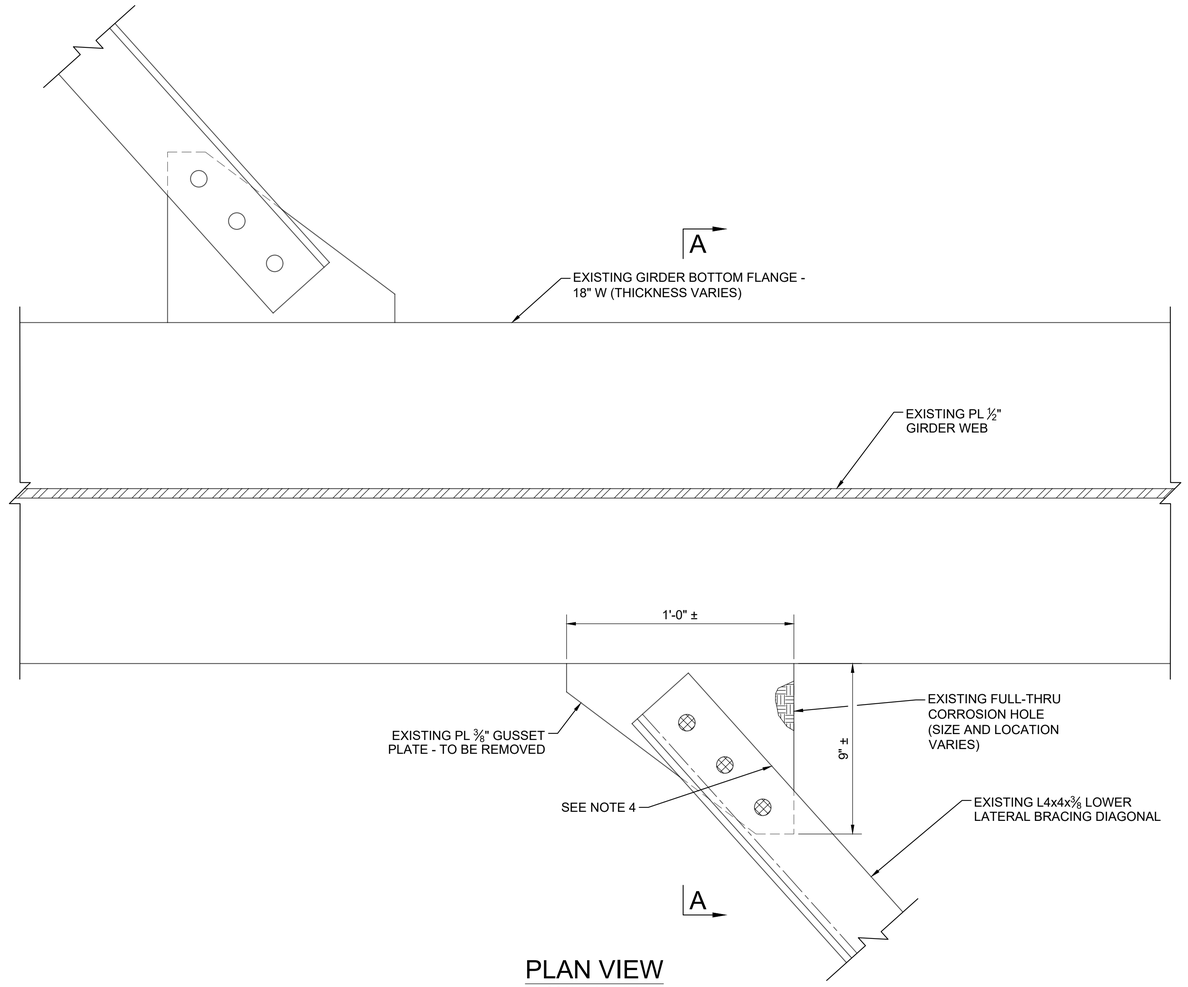
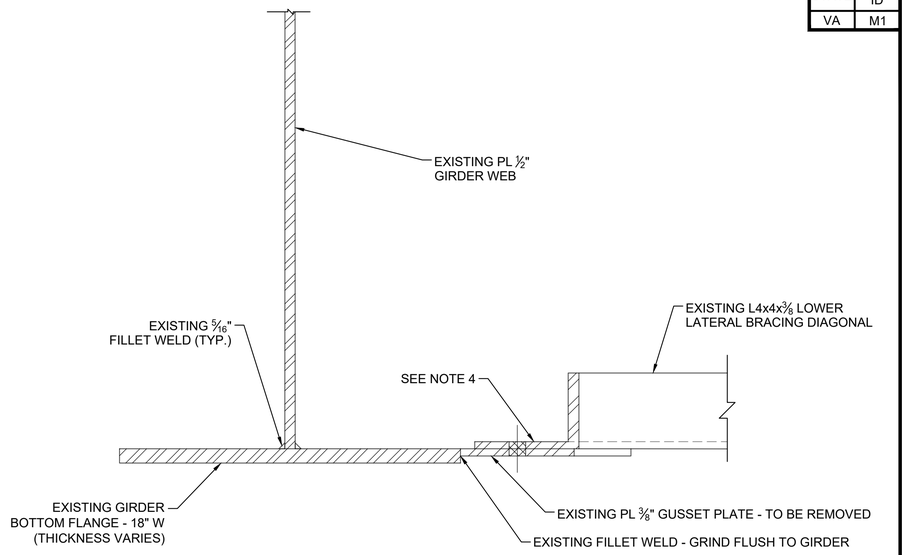
pBR-DE09_CBBT FIB-SB Girder Stiffener Details.dwg
1/5/2026

STATE	SHEET ID
VA	M1



PLAN VIEW

SCALE: 3" = 1'-0"



SECTION A-A

SCALE: 3" = 1'-0"

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR FIB-SB LOWER LATERAL BRACING GUSSET PLATES AT INTERIOR GIRDERS WITH FULL-THRU EDGE CORROSION HOLES EXTENDING FURTHER THAN 1" FROM THE GUSSET EDGE AS APPROVED BY THE DISTRICT. FOR CORROSION HOLES EXTENDING LESS THAN 1" FROM THE GUSSET EDGE, GRIND CORRODED EDGES SMOOTH PRIOR TO PAINTING.
2. SUPPORT ANY LATERAL BRACING MEMBERS DISCONNECTED WHILE PERFORMING REPAIR PER THIS DETAIL.
3. PROPOSED REPAIR ELEMENTS ARE SHOWN SHADED FOR CLARITY.
4. CONTACT THE DISTRICT FOR DIRECTION IF THE LOWER LATERAL BRACING DIAGONAL HORIZONTAL FLANGE EXHIBITS SECTION LOSS GREATER THAN 20% AT ANY CROSS-SECTION.

FIB-SB BRACING REPAIR TYPE 1

EXISTING CONDITION

COMMONWEALTH OF VIRGINIA
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No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

FISHERMAN'S INLET BRIDGE SB
MISCELLANEOUS REPAIRS

Designed: JSE Drawn: JSE Checked: AHC	Date	Plan No.	Sheet No.
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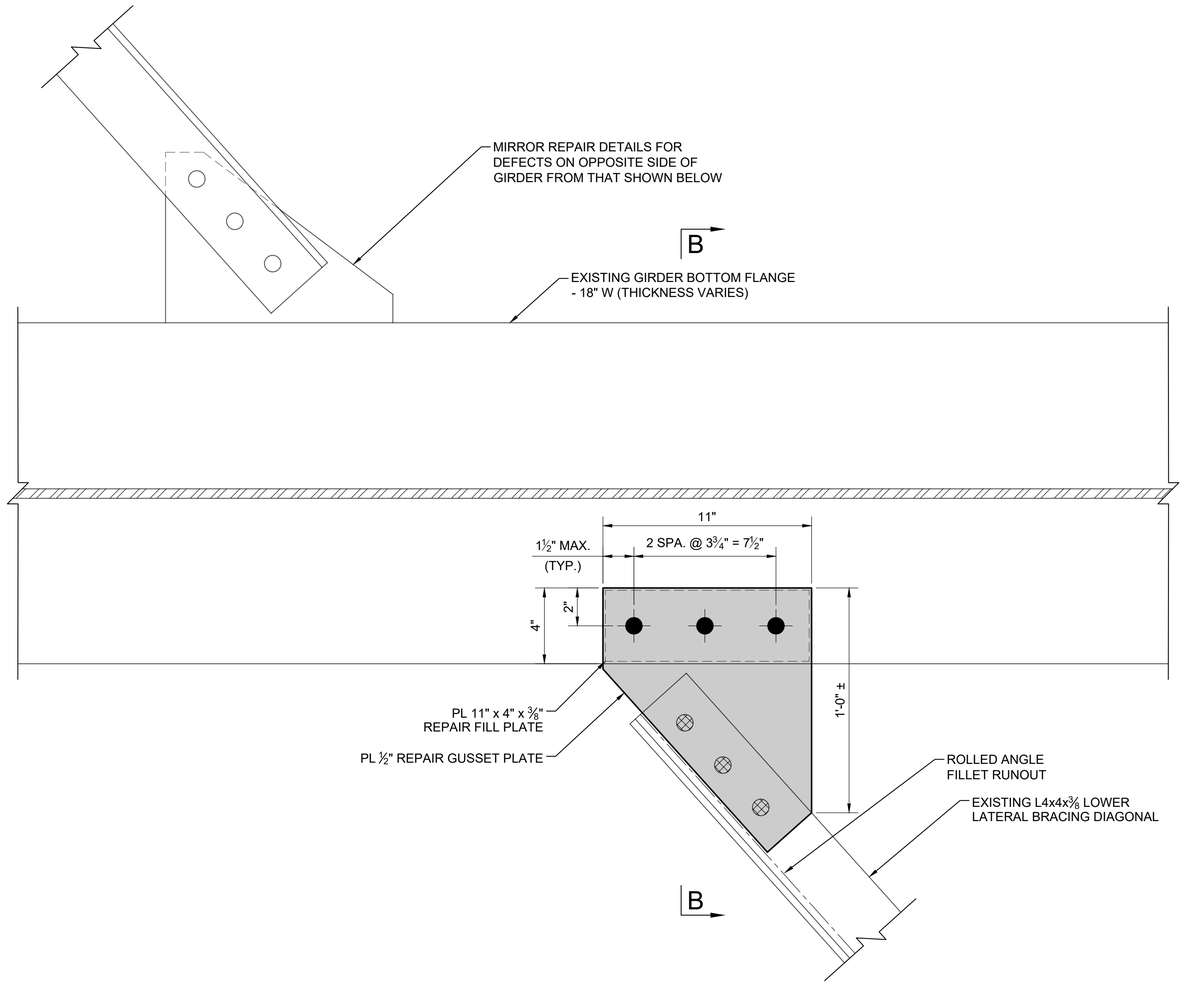
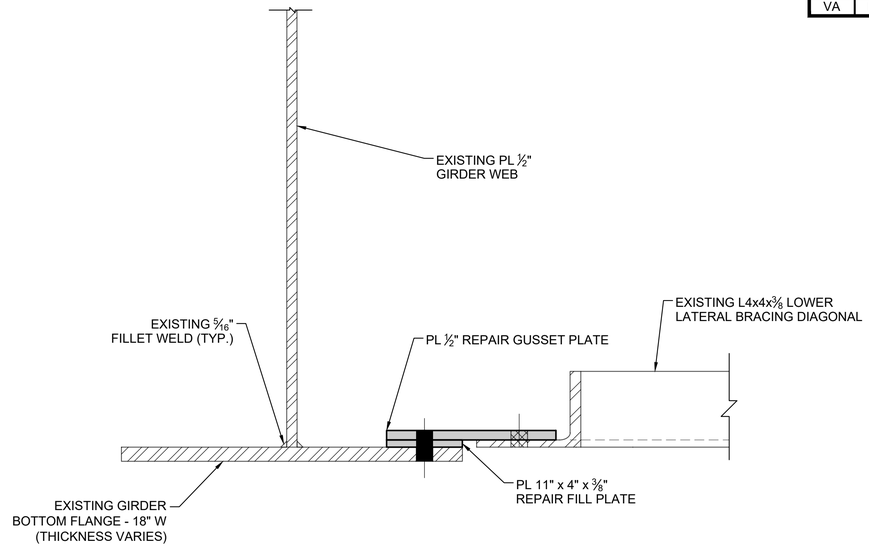
STATE	SHEET ID
VA	M2



PLAN VIEW

SCALE: 3" = 1'-0"



SECTION B-B

SCALE: 3" = 1'-0"

FIB-SB BRACING REPAIR TYPE 1

REPAIRED CONDITION

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

FISHERMAN'S INLET BRIDGE SB
MISCELLANEOUS REPAIRS

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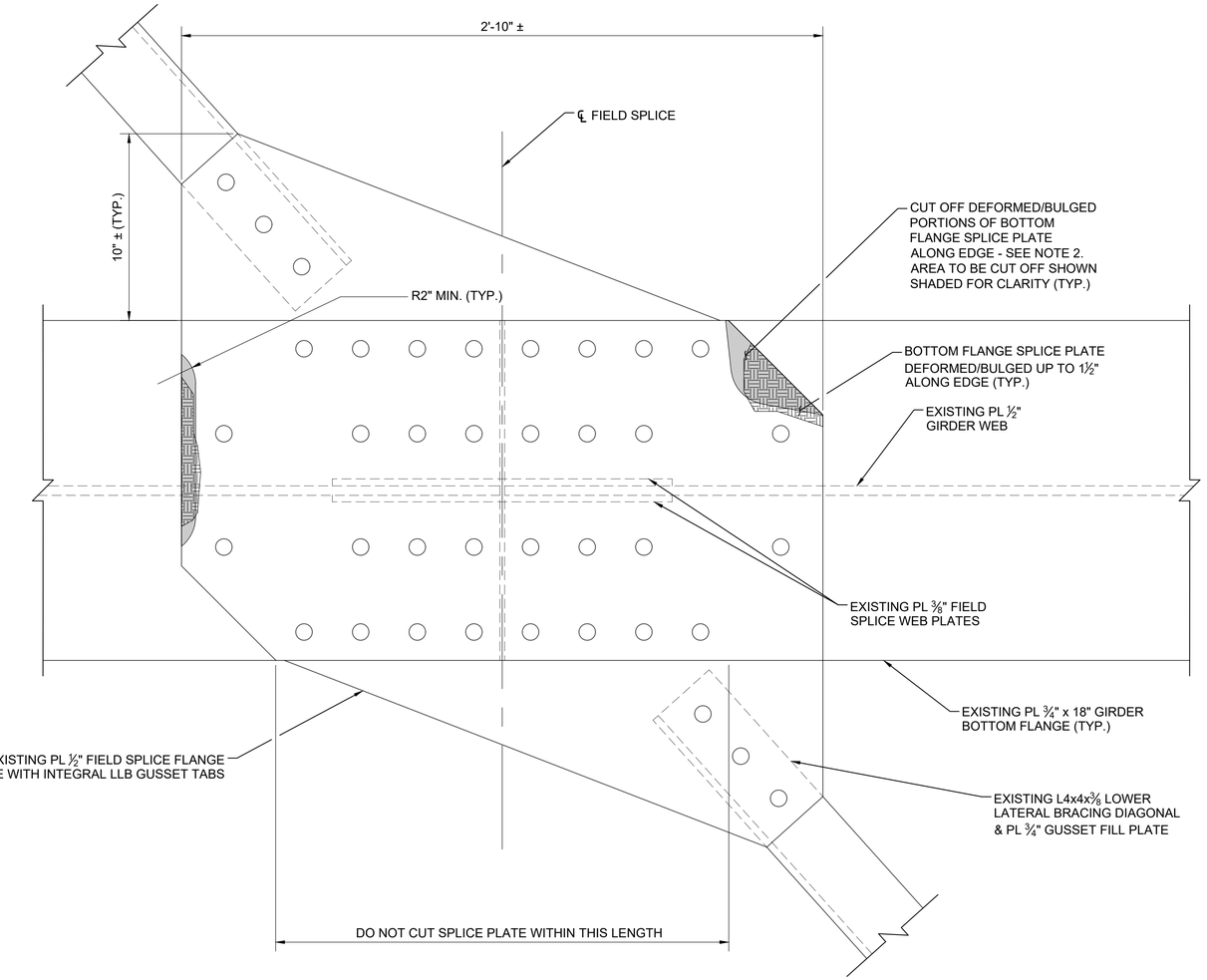
STATE	SHEET ID
VA	M3



VIEW LOOKING UP

SCALE: 3" = 1'-0"

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR FIB-SB SPAN 2 FIELD SPLICE BOTTOM FLANGE PLATES WITH INTEGRAL LOWER LATERAL BRACING GUSSET TABS DEFORMED AND/OR BULGED AROUND THEIR PERIPHERY AT LEAST ½" THICKER THAN ORIGINAL THICKNESS OF ½" AS APPROVED BY THE DISTRICT.
2. CUT OFF OR OTHERWISE REMOVE DEFORMED AND/OR BULGED PORTION OF BOTTOM FLANGE SPLICE PLATE LONGITUDINAL ENDS (EDGES TRANSVERSE TO THE GIRDER) TO EXTENT OF DEFORMATION EXCEPT DO NOT CUT CLOSER THAN 1½" FROM CENTER OF ANY FASTENER. APPLY MINIMUM 2" RADIUS TO ALL CUT OUT INSIDE CORNERS.
3. USE CAUTION TO AVOID DAMAGE TO GIRDER BOTTOM FLANGE, LOWER LATERAL BRACING MEMBERS, AND ALL OTHER STRUCTURE. FLAME CUTTING IS PROHIBITED AS A METHOD FOR REMOVAL FOR THIS DETAIL. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.
4. SHAPE AND DIMENSIONS OF EXISTING BOTTOM FLANGE SPLICE PLATE WITH INTEGRAL GUSSET TABS ARE APPROXIMATE.

FIB-SB BRACING REPAIR TYPE 2

COMMONWEALTH OF VIRGINIA
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	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

FISHERMAN'S INLET BRIDGE SB MISCELLANEOUS REPAIRS

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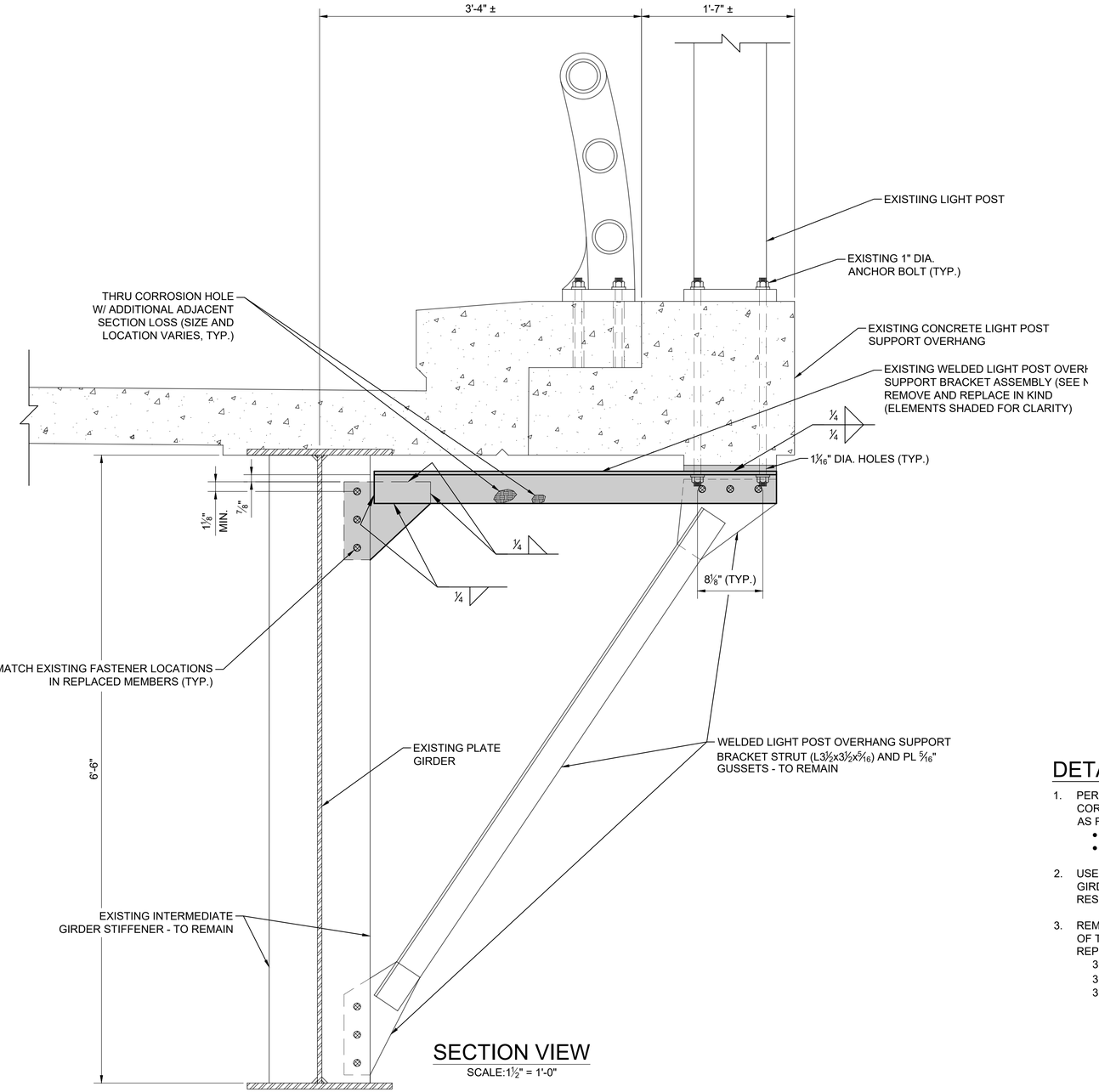
1/5/2026

STATE	SHEET ID
VA	M4



SECTION VIEW
SCALE:1½" = 1'-0"

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR FOR FIB-SB EXISTING LIGHT POST OVERHANG SUPPORT BRACKETS WITH FULL-THRU CORROSION HOLES AS APPROVED BY THE DISTRICT. THE LIGHT POST OVERHANG SUPPORT BRACKETS ARE LOCATED AS FOLLOWS:
   - SPAN 1 EAST FASCIA ADJACENT TO PIER 2
   - SPAN 3 WEST FASCIA ADJACENT TO PIER 3
2. USE CAUTION TO ENSURE THAT CONCRETE LIGHT POST SUPPORT OVERHANG, SUPPORT BRACKETS TO REMAIN, GIRDER, AND ALL OTHER COMPONENTS ARE IS NOT DAMAGED IN ANY WAY. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.
3. REMOVE AND REPLACE EXISTING WELDED LIGHT POST OVERHANG SUPPORT BRACKET ASSEMBLY, WHICH CONSISTS OF THE FOLLOWING, IN KIND. FIELD-VERIFY ALL DIMENSIONS AND ADJUST AS NECESSARY PRIOR TO FABRICATING REPLACEMENT ELEMENTS.
   - 3.1. (1) SUPPORT BRACKET TOP CHORD (ST4x11.5)
   - 3.2. (1) PL 5/16" GUSSET
   - 3.3. (1) PL 11½" x 11½" x ¾" ADAPTER PLATE

COMMONWEALTH OF VIRGINIA
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FIB-SB BRACKET REPAIR TYPE 1

No.	Description	Date
	Revision	

CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

FISHERMAN'S INLET BRIDGE SB
MISCELLANEOUS REPAIRS

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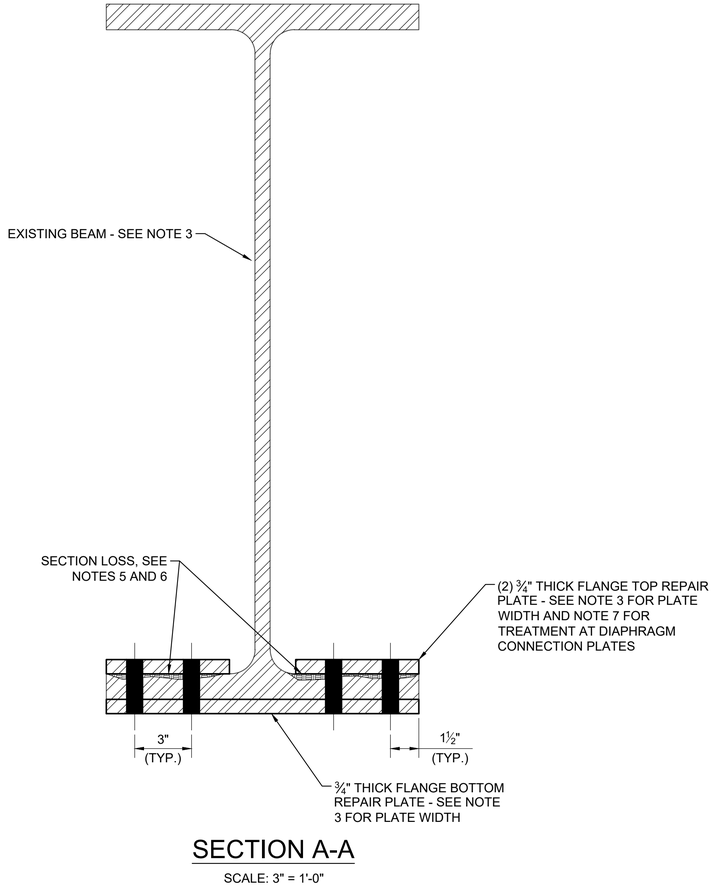
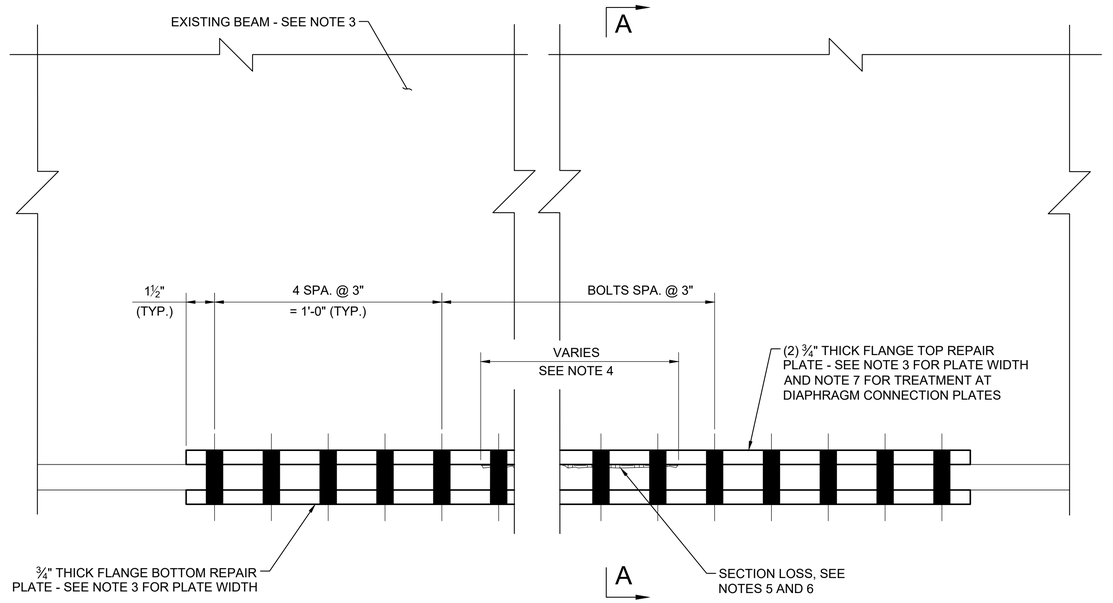
STATE	SHEET ID
VA	N1



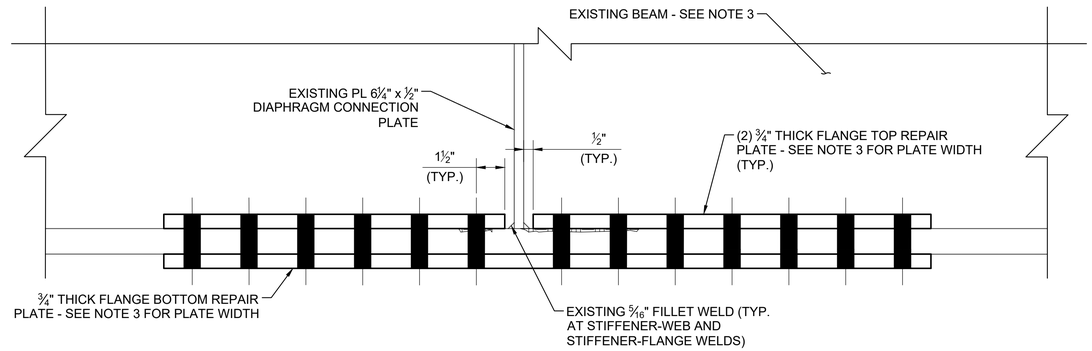
SECTION A-A

SCALE: 3" = 1'-0"



ELEVATION

SCALE: 3" = 1'-0"



DETAIL B

SCALE: 3" = 1'-0"

SIMPLE SPAN BEAM REPAIR TYPE 1

DETAIL-SPECIFIC NOTES

1. PERFORM THIS REPAIR IN PORTAL ISLAND APPROACH SPANS (ASB204, BSB1, BSB202, CSB1, BNB1-2) FOR BEAMS WITH BOTTOM FLANGE CORROSION TOTAL SECTION LOSS EXCEEDING 10% OF THE ORIGINAL CROSS-SECTIONAL AREA OF THE FLANGE (APPROX. 1.32" THICK x 15½" WIDE) AS APPROVED BY THE DISTRICT. IF SECTION LOSS EXCEEDS 50% OF THE ORIGINAL FLANGE CROSS-SECTIONAL AREA CONTACT THE DISTRICT FOR DIRECTION.
2. IF WEB SECTION LOSS EXCEEDS ⅛" DEEP FOR AN AREA LARGER THAN 4" DIAMETER, CONTACT THE DISTRICT FOR DIRECTION.
3. EXISTING STRUCTURE AND PROPOSED REPAIR PLATING DETAILS:
   - 3.1. SPAN BNB1-2:
     - 3.1.1. CONSISTS OF EXISTING W30x211 BEAMS
     - 3.1.2. PLACE PL 15" x ¾" FLANGE BOTTOM REPAIR PLATE.
     - 3.1.3. PLACE (2) PL 6" x ¾" FLANGE TOP REPAIR PLATES.
   - 3.2. SPANS ASB204, BSB1, BSB202, CSB1:
     - 3.2.1. CONSIST OF EXISTING W36x245 BEAMS.
     - 3.2.2. PLACE 16½" x ¾" FLANGE BOTTOM REPAIR PLATE.
     - 3.2.3. PLACE (2) PL 6½" x ¾" FLANGE TOP REPAIR PLATES.
4. TOTAL LENGTH OF REPAIR FOR THIS DETAIL IS EXPECTED TO AVERAGE APPROXIMATELY 12'.
5. GRIND ALL CORROSION TO SMOOTH BARE METAL.
6. FILL ALL GAPS WITH STEEL-FILLED EPOXY PUTTY.
7. IF SECTION LOSS OCCURS AT OR NEAR A STIFFENER OR CONNECTION PLATE, ADJUST PLATING AS SHOWN IN DETAIL B. MAINTAIN MINIMUM OF (20) FASTENERS ON EACH SIDE OF EXISTING SECTION LOSS.

COMMONWEALTH OF VIRGINIA
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

SIMPLE SPAN (PORTAL APPROACH) BEAM PLATING REPAIRS

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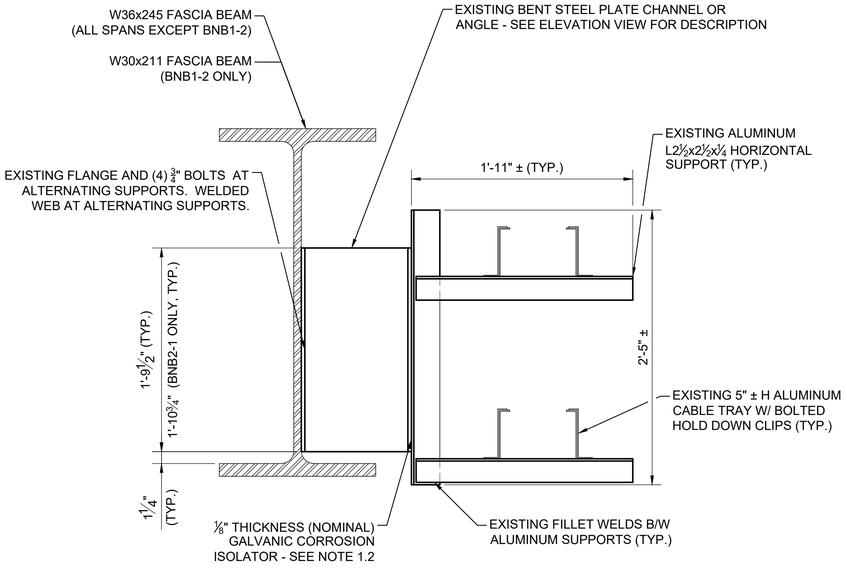
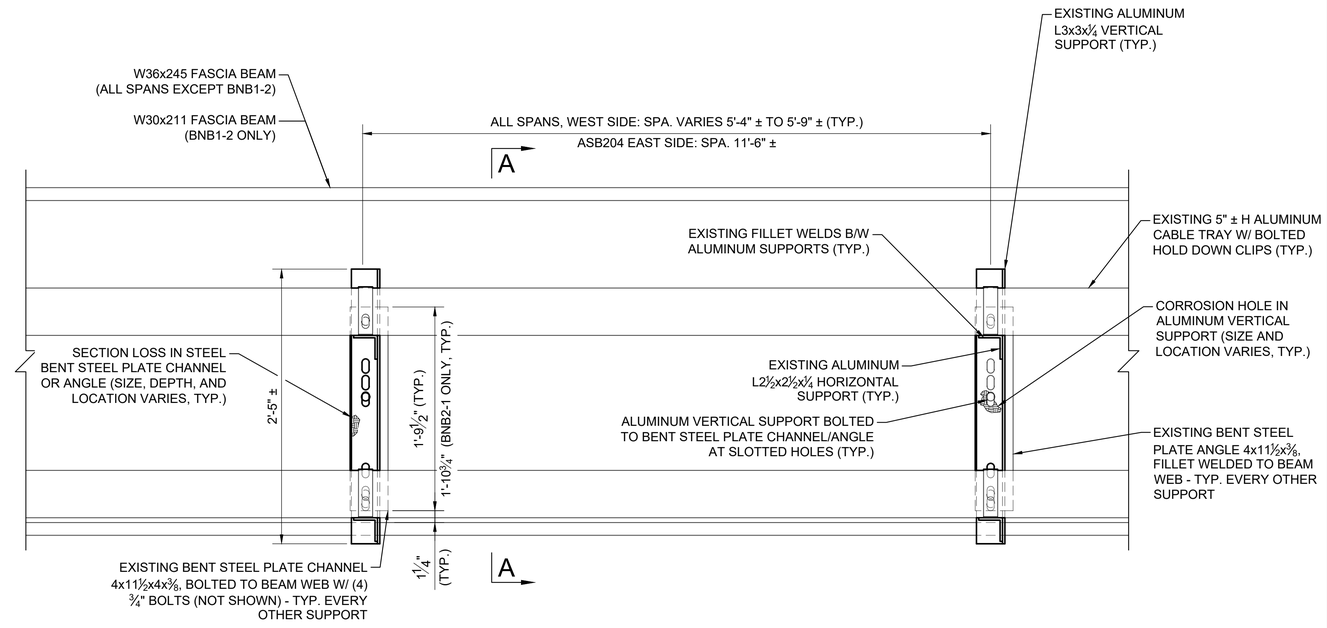
STATE	SHEET ID
VA	O1



SECTION A-A

SCALE: 1½" = 1'-0"



ELEVATION

SCALE: 1½" = 1'-0"

SIMPLE SPAN UTILITY REPAIR TYPES 1 & 1A

DETAIL-SPECIFIC NOTES (SIMPLE SPAN UTILITY REPAIR TYPES 1 & 1A)

1. PERFORM SIMPLE SPAN UTILITY REPAIR TYPE 1 ON PORTAL ISLAND APPROACH SPANS (ASB204, BSB1, BSB202, CSB1, BNB1-2) FOR ALUMINUM UTILITY SUPPORT BRACKET ASSEMBLIES EXHIBITING AT LEAST ONE FULL-THROUGH CORROSION HOLE 1" DIA. OR LARGER. REPAIR CONSISTS OF:
   - 1.1. IN-KIND REPLACEMENT OF WELDED ALUMINUM BRACKET ASSEMBLY, EACH OF WHICH CONSISTS OF:
     - 1.1.1. (1) L3x3x¼ VERTICAL SUPPORT, AND
     - 1.1.2. (2) L2½x2½x¼ HORIZONTAL SUPPORTS
     - 1.1.3. USE ALUMINUM GRADE 5086 OR ALTERNATE APPROVED BY THE DISTRICT.
     - 1.1.4. WELD SIZE AND LOCATIONS TO MATCH EXISTING. WELD IN ACCORDANCE WITH PROJECT NOTES.
   - 1.2. PLACEMENT OF AN ⅛" NOMINAL THICKNESS GALVANIC CORROSION ISOLATOR BETWEEN ALUMINUM AND STEEL MATING SURFACES. THE DISTRICT WILL VISUALLY VERIFY GALVANIC ISOLATOR INSTALLATION.
   - 1.3. INSTALLATION WITH STAINLESS STEEL GRADE 316 BOLTS. USE INSULATING BOLT SLEEVES AND WASHERS TO GALVANICALLY ISOLATE THE FASTENERS USED FOR ATTACHMENT OF ALUMINUM SUPPORTS TO BRIDGE-MOUNTED STEEL SUPPORTS. THE DISTRICT WILL VERIFY ELECTRICAL ISOLATION OF INSTALLED FASTENERS.
   - 1.4. CLEAN AND PAINT ALL AFFECTED CARBON STEEL WITH THE ZINC - 2 COAT PAINT SYSTEM.

   FOR ALUMINUM SUPPORT BRACKET ASSEMBLIES TO REMAIN, GRIND ALL REMAINING CORROSION SMOOTH.

2. ADDITIONALLY, PERFORM SIMPLE SPAN UTILITY REPAIR TYPE 1A ON PORTAL ISLAND APPROACH SPANS (ASB204, BSB1, BSB202, CSB1, BNB1-2) FOR BENT STEEL PLATE UTILITY SUPPORT ANGLES OR CHANNELS (BRACKETS) EXHIBITING AT LEAST ONE FULL-THROUGH CORROSION HOLE 1" DIA. OR LARGER. REPAIR CONSISTS OF:
   - 2.1. REPLACEMENT USING A BENT STEEL ⅜" PLATE CHANNEL WITH 4" W FLANGES AND AN 11½" W WEB (TO MATCH EXISTING CHANNEL LOCATED AT ALTERNATING LOCATIONS).
   - 2.2. ATTACHMENT USING (4) ¾" BOLTS.
     - 2.2.1. AT EXISTING BOLTED CHANNEL LOCATIONS, MATCH EXISTING HOLES IN REPLACEMENT BRACKET.
     - 2.2.2. AT EXISTING WELDED ANGLE LOCATIONS, GRIND WELD FLUSH TO BEAM WEB.

   FOR BENT STEEL PLATE BRACKETS TO REMAIN, GRIND ALL REMAINING CORROSION SMOOTH.

3. USE CAUTION TO ENSURE THAT EXISTING BEAM IS NOT DAMAGED IN ANY WAY WHEN REMOVING EXISTING UTILITY SUPPORTS. IF DAMAGE OCCURS, CONTRACTOR IS RESPONSIBLE FOR REPAIRING IT TO THE SATISFACTION OF THE DISTRICT AT NO COST TO THE DISTRICT.

4. ALL UTILITY SUPPORT SECTION SIZES AND DIMENSIONS ARE APPROXIMATE. FIELD VERIFY PRIOR TO FABRICATING ELEMENTS.

COMMONWEALTH OF VIRGINIA
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PROFESSIONAL ENGINEER

SIGNED: 1/5/2026
EXPIRES: 9/30/2026

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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

SIMPLE SPAN (PORTAL APPROACH) UTILITY SUPPORT REPAIRS

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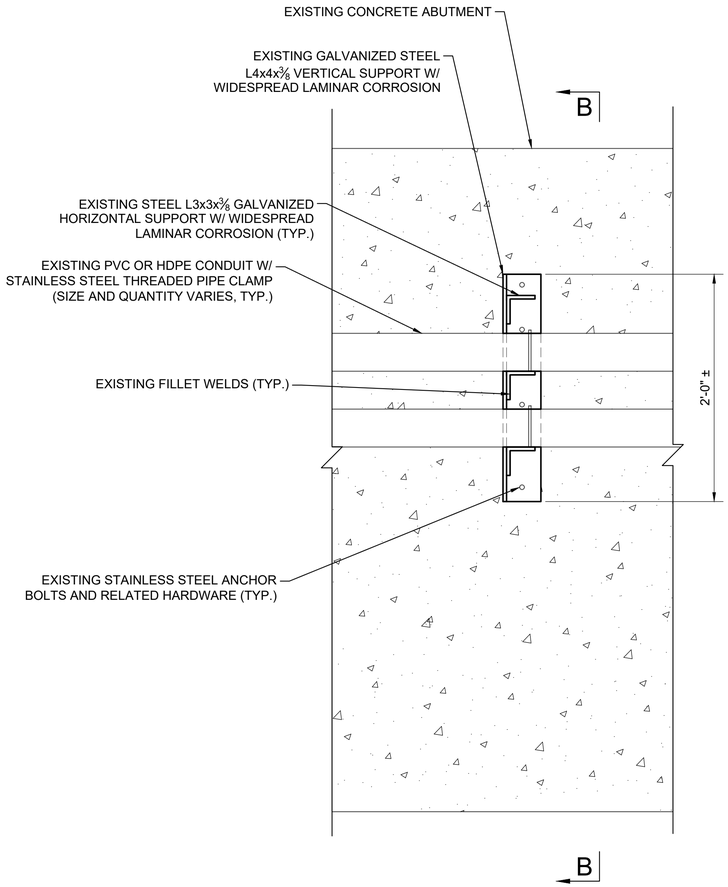
1/5/2026

STATE	SHEET ID
VA	O2



ELEVATION

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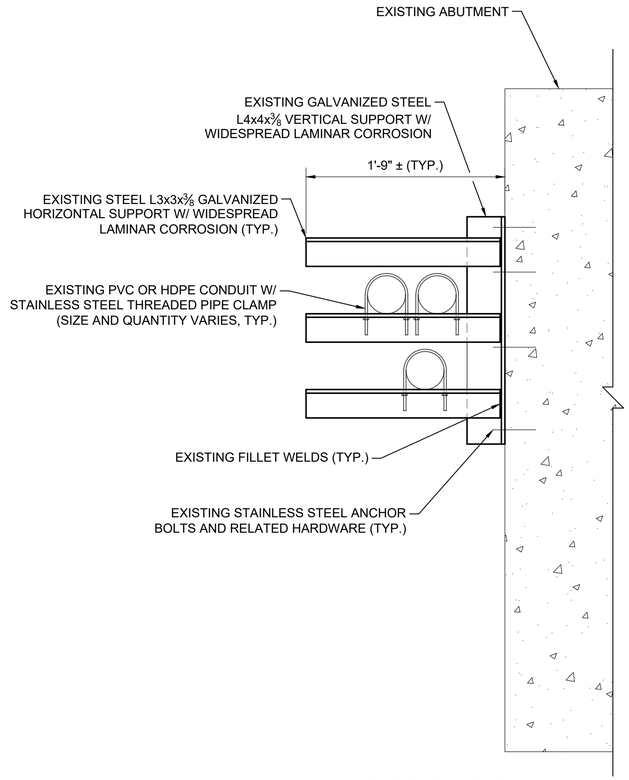

SECTION B-B

SCALE: 1½" = 1'-0"

SIMPLE SPAN UTILITY REPAIR TYPE 2

DETAIL-SPECIFIC NOTES (SIMPLE SPAN UTILITY REPAIR TYPE 2)

1. PERFORM SIMPLE SPAN UTILITY REPAIR TYPE 2 ON PORTAL ISLAND APPROACH SPAN (ASB204, BSB1, BSB202, CSB1, BNB1-2) ABUTMENTS FOR GALVANIZED STEEL UTILITY SUPPORT BRACKET ASSEMBLIES WITH TOTAL SECTION LOSS DUE TO CORROSION EXCEEDING 25% OF THE ORIGINAL CROSS-SECTIONAL AREA AT ANY CROSS-SECTION AS APPROVED BY THE DISTRICT. REPAIR CONSISTS OF:
   - 1.1. REPLACEMENT OF WELDED GALVANIZED BRACKET ASSEMBLY, EACH OF WHICH CONSISTS OF:
     - 1.1.1. (1) L4x4x3/8 VERTICAL SUPPORT, AND
     - 1.1.2. (3) L3x3x3/8 HORIZONTAL SUPPORTS
     - 1.1.3. DIMENSIONS OF REPLACEMENT ASSEMBLY TO MATCH THOSE OF EXISTING COMPONENTS.
     - 1.1.4. USE STAINLESS STEEL GRADE 316 IN PLACE OF GALVANIZED STEEL FOR ALL ELEMENTS
     - 1.1.4. WELD SIZE AND LOCATIONS TO MATCH EXISTING. WELD IN ACCORDANCE WITH PROJECT NOTES.
   - 1.2. RE-USE EXISTING STAINLESS STEEL ANCHOR BOLTS. REPLACE RELATED HARDWARE (USE STAINLESS STEEL GRADE 316). IF EXISTING ANCHORS BOLTS ARE NOT STAINLESS STEEL AT ANY LOCATION, CONTACT THE DISTRICT FOR DIRECTION.
   - 1.3. REPLACE PIPE CLAMPS (USE STAINLESS STEEL GRADE 316).

   FOR WELDED GALVANIZED BRACKET ASSEMBLIES TO REMAIN, GRIND ALL REMAINING CORROSION SMOOTH.
2. ALL UTILITY SUPPORT SECTION SIZES AND DIMENSIONS ARE APPROXIMATE. FIELD VERIFY PRIOR TO FABRICATING ELEMENTS.

COMMONWEALTH OF VIRGINIA
KYLE WILLIAM SMITH
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PROFESSIONAL ENGINEER

SIGNED: 1/5/2026
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CHESAPEAKE BAY BRIDGE AND TUNNEL DISTRICT

RMF 5044.5122 - STEEL BRIDGE PAINTING PROJECT

SIMPLE SPAN (PORTAL APPROACH) UTILITY SUPPORT REPAIRS

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