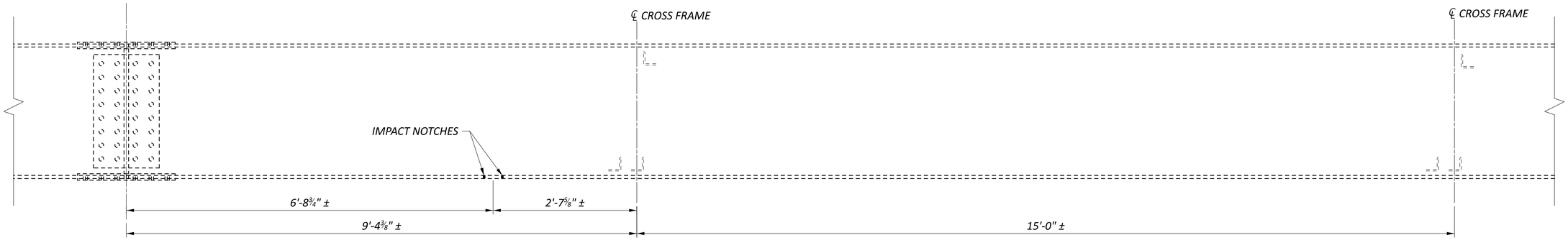
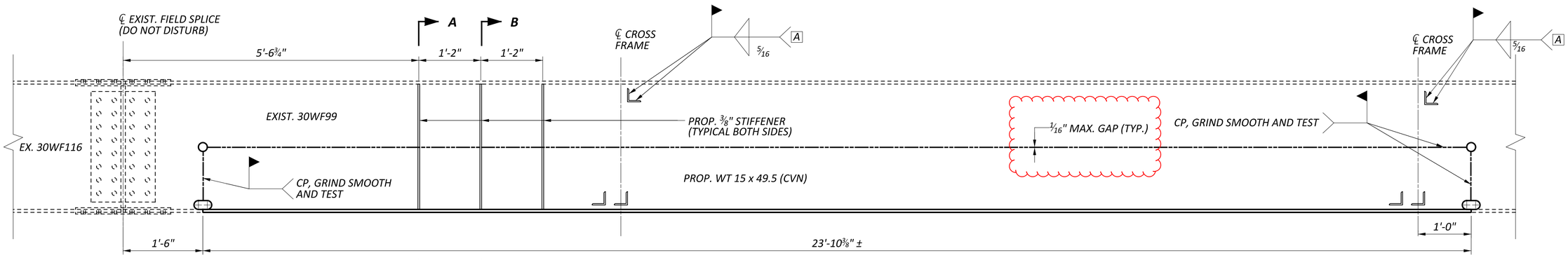
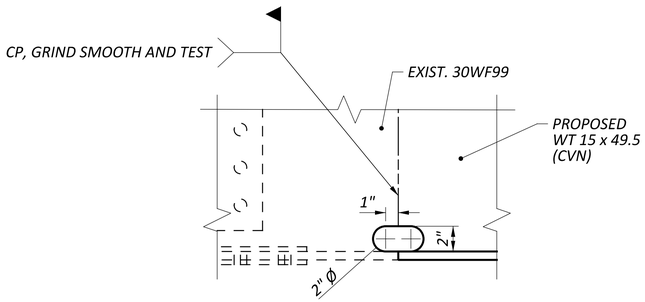


EXISTING BEAM 1 ELEVATION VIEW
(LOOKING WEST)

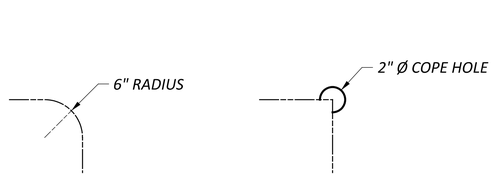


PROPOSED BEAM 1 ELEVATION VIEW
(LOOKING WEST)

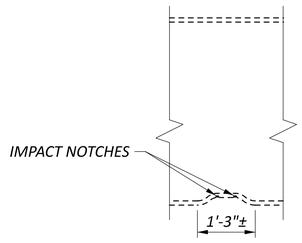
A - TYPICAL ALL ANGLES



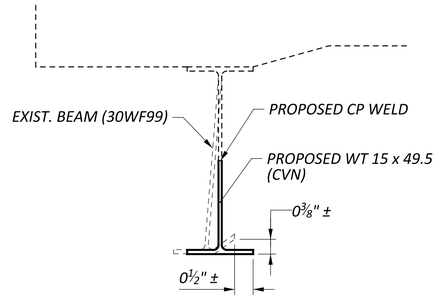
BOTTOM COPE HOLE DETAIL
DETAIL IS SYMMETRIC ABOUT COMP. PEN. WELD
ALL DIMENSIONS TYPICAL
(REAR BEAM 1 SHOWN, FORWARD SIMILAR)



ALTERNATE CORNER DETAILS



BEAM 1 PROFILE VIEW



SECTION B-B
BEAM 1 POINT OF IMPACT
(STIFFENERS NOT SHOWN FOR CLARITY)

PROPOSED WORK (BEAM 1)

1. SURVEY DAMAGE AND SUBMIT STRAIGHTENING WORK PLANS AS PER SS 849.13.
2. REMOVE SECONDARY MEMBERS AS NECESSARY AND AS SHOWN ON THE PLANS. CAREFULLY GRIND EXISTING WELDS FLUSH. DO NOT DAMAGE WEB OR FLANGE.
3. PERFORM ALL HEAT STRAIGHTENING ACTIVITIES.
4. INSTALL TEMPORARY SUPPORT AND PROVIDE TEMPORARY BRACING AS NEEDED. THE TEMPORARY SUPPORT SHALL REMAIN UNTIL ALL WELDING AND ACTIVITIES HAVE BEEN COMPLETED.
5. MARK REMOVAL AREA, DRILL CORNER HOLES, AND SAW OR FLAME CUT TO REMOVE DAMAGED BEAM USING A MECHANICAL GUIDE.
6. PREPARE EXISTING BEAM FOR COMPLETE PENETRATION WELDS BY EDGE BEVELING AND CREATING UNDERSIZED WEB COPES.
7. CUT NEW PLATES, AND BEVEL EDGES FOR COMPLETE PENETRATION AND FILLET WELDS.
8. CHECK FIT OF NEW PLATES, NO GAP EXCEEDING 1/16. TACK WELD PLATES INTO PLACE.
9. PERFORM FILLET WELDING ACCORDING TO C&MS 513.21 AND NDT TESTING ACCORDING TO C&MS 513.25B.
10. PERFORM COMPLETE PENETRATION WELDING ACCORDING TO C&MS 513.21 BY ATTACHING RUN OFF TABS, PERFORM WELDS, REMOVING TABS AND GRINDING ALL WELD SURFACES SMOOTH ACCORDING TO ANSI B46.1 OF 250 MIL. COMPLETE NDT TESTING ACCORDING TO C&MS 513.25A.
11. INSTALL STIFFENER PLATES.
12. REPAIR/REPLACE SECONDARY MEMBERS AS SHOWN ON THE PLANS. MAKE CONNECTIONS TO MATCH EXISTING.
13. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEET THE MINIMUM TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
14. THE CONTRACTOR SHALL SEQUENCE WORK AS NEEDED FOLLOWING THE MAINTENANCE OF TRAFFIC PHASE CONSTRUCTIONS SHOWN ON THE PLANS.
15. THE CONTRACTOR SHALL NOT PERFORM FIELD PAINTING UNTIL ALL WELDING AND HEAT STRAIGHTENING ACTIVITIES HAVE BEEN COMPLETED.

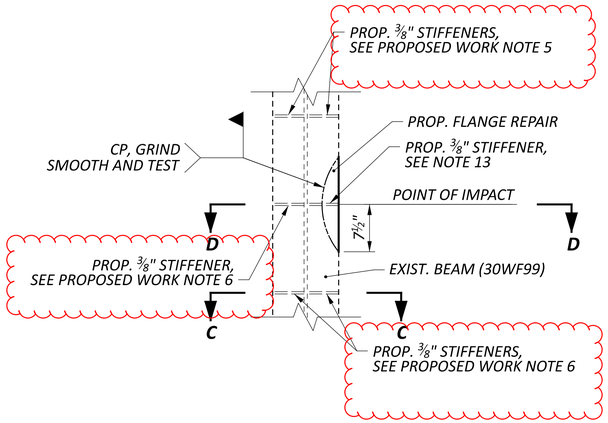
NOTES

1. GRIND THE INSIDE FACE OF ALL COPE HOLES PROVIDE A SURFACE FINISH TO ANSI B46.1 OF 250 MIL.
2. FOR SECTION A-A AND STIFFENER PLATE DETAILS SEE SHEET 9 | 10.
3. FOR DETAILS NOT SHOWN, SEE SCD GSD-1-19.

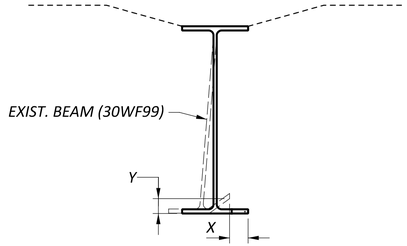
BEAM 1 REPAIR DETAILS
BRIDGE NO. BEL-7-18.170
S.R. 7 SOUTHBOUND OVER S.R. 7/I.R. 470 RAMPS A & B

SFN	0700479
DESIGN AGENCY	
DESIGNER	MJH
CHECKER	MVC
REVIEWER	RPT 11-21-24
PROJECT ID	120772
SUBSET	6
TOTAL	10
SHEET	P.15
TOTAL	19

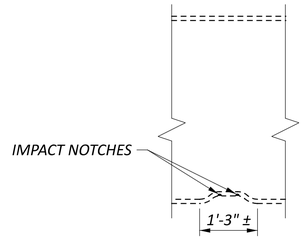
BEL-7-18.24



BEAMS 2, 3, 4, AND 6 BOTTOM VIEW
(FACING UPSTATION)



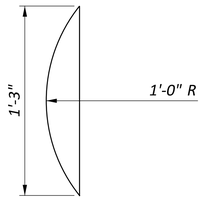
MAXIMUM DEFORMATION
BEAMS 2, 3, AND 4 AT POINT OF IMPACT
(STIFFENERS NOT SHOWN FOR CLARITY)



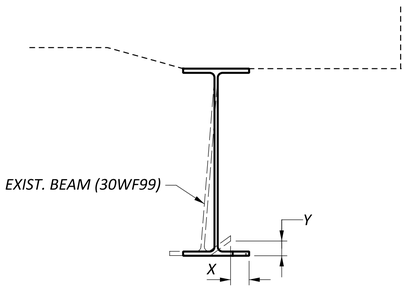
BEAMS 2, 3, 4, AND 6 PROFILE VIEW

BEAM #	DIM X	DIM Y
2	3/8" ±	1 1/8" ±
3	0" ±	1" ±
4	1/8" ±	7/8" ±
6	3/8" ±	1" ±

DEFORMATION DIMENSION TABLE



FLANGE REPAIR DETAIL (BEAMS 2, 3, 4, AND 6)
11/16" THICK, ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN



MAXIMUM DEFORMATION
BEAM 6 AT POINT OF IMPACT
(STIFFENERS NOT SHOWN FOR CLARITY)

NOTES

1. *GRIND THE INSIDE FACE OF ALL COPE HOLES. PROVIDE A SURFACE FINISH TO ANSI B46.1 OF 250 mil.*
2. *FOR SECTION C-C, SECTION D-D AND STIFFENER PLATE DETAILS SEE SHEET 9 | 10 .*
3. *FOR DETAILS NOT SHOWN, SEE SCD GSD-1-19.*

PROPOSED WORK (BEAMS 2, 3, 4, AND 6)

1. *SURVEY DAMAGE AND SUBMIT STRAIGHTENING WORK PLANS AS PER SS 849.13.*
2. *REMOVE SECONDARY MEMBERS AS NECESSARY AND AS SHOWN ON THE PLANS. CAREFULLY GRIND EXISTING WELDS FLUSH. DO NOT DAMAGE WEB OR FLANGE.*
3. *PERFORM ALL HEAT STRAIGHTENING ACTIVITIES.*
4. *INSTALL TEMPORARY SUPPORT AND PROVIDE TEMPORARY BRACING AS NEEDED. THE TEMPORARY SUPPORT SHALL REMAIN UNTIL ALL WELDING ACTIVITIES HAVE BEEN COMPLETED.*
5. *REPAIR GOUGES.*
6. *INSTALL STIFFENER PLATES ADJACENT TO PROPOSED CUTOUT REPAIR LIMITS.*
7. *MARK REMOVAL AREA, AND SAW OR FLAME CUT TO REMOVE DAMAGED PORTION OF FLANGE USING A MECHANICAL GUIDE.*
8. *PREPARE EXISTING FLANGE FOR COMPLETE PENETRATION WELDS BY EDGE BEVELING.*
9. *CUT NEW PLATES, AND BEVEL EDGES FOR COMPLETE PENETRATION AND FILLET WELDS.*
10. *CHECK FIT OF NEW PLATES, NO GAP EXCEEDING 1/16. TACK WELD PLATES INTO PLACE.*
11. *PERFORM FILLET WELDING ACCORDING TO C&MS 513.21 AND NDT TESTING ACCORDING TO C&MS 513.25B.*
12. *PERFORM COMPLETE PENETRATION WELDING ACCORDING TO C&MS 513.21 BY ATTACHING RUN OFF TABS, PERFORM WELDS, REMOVING TABS AND GRINDING ALL WELD SURFACES SMOOTH ACCORDING TO ANSI B46.1 OF 250 MIL. COMPLETE NDT TESTING ACCORDING TO C&MS 513.25A.*
13. *INSTALL STIFFENER PLATES OVER REPAIR.*
14. *REPAIR/REPLACE SECONDARY MEMBERS AS SHOWN ON THE PLANS. MAKE CONNECTIONS TO MATCH EXISTING.*
15. *WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEET THE MINIMUM TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.*
16. *THE CONTRACTOR SHALL SEQUENCE WORK AS NEEDED FOLLOWING THE MAINTENANCE OF TRAFFIC PHASE CONSTRUCTIONS SHOWN ON THE PLANS.*
17. *THE CONTRACTOR SHALL NOT PERFORM FIELD PAINTING UNTIL ALL WELDING AND HEAT STRAIGHTENING ACTIVITIES HAVE BEEN COMPLETED.*

BEL-7-18.24

BEAM REPAIR DETAILS
BRIDGE NO. BEL-7-18.170
S.R. 7 SOUTHBOUND OVER S.R. 7/I.R. 470 RAMPS A & B

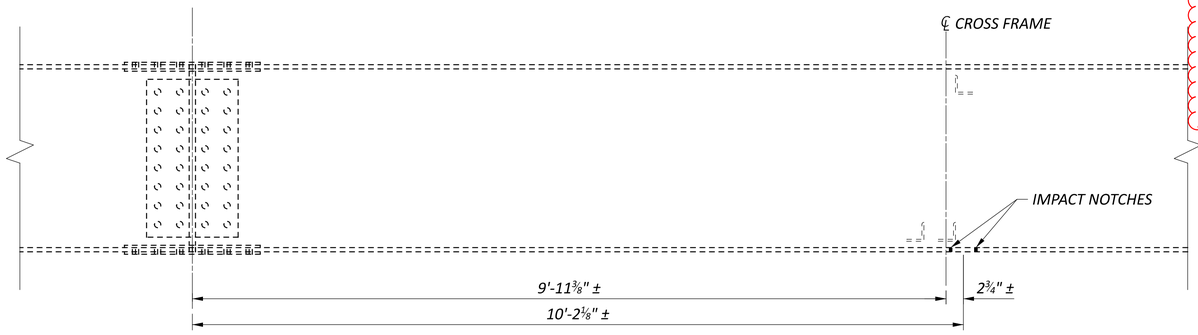
SFN 0700479
DESIGN AGENCY

DESIGNER	CHECKER
MJH	MVC

REVIEWER RPT 11-21-24
PROJECT ID 120772

SUBSET	TOTAL
7	10

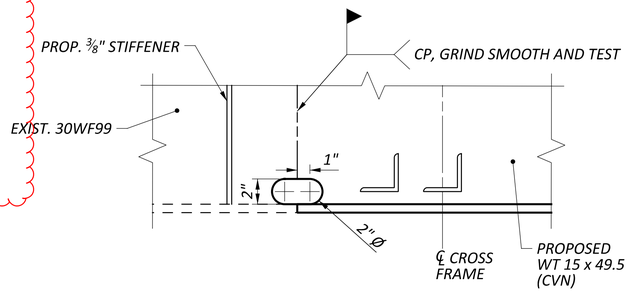
SHEET	TOTAL
P.16	19



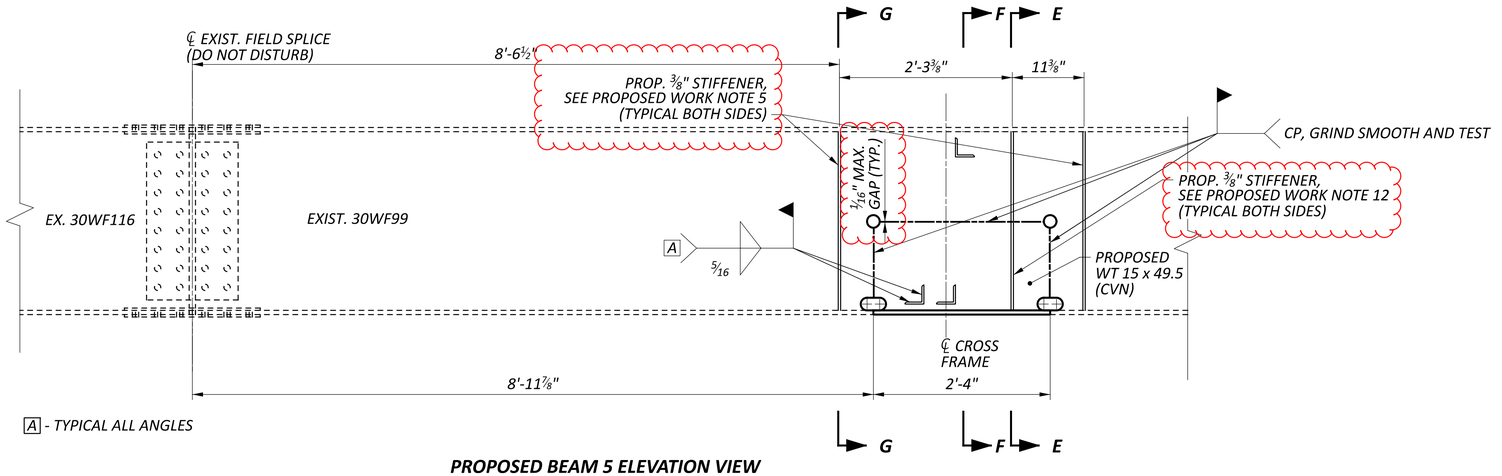
EXISTING BEAM 5 ELEVATION VIEW
(LOOKING WEST)

NOTES

1. GRIND THE INSIDE FACE OF ALL COPE HOLES. PROVIDE A SURFACE FINISH TO ANSI B46.1 OF 250 MIL.
2. FOR SECTION E-E, SECTION G-G AND STIFFENER PLATE DETAILS SEE SHEET 9 | 10.
3. FOR DETAILS NOT SHOWN, SEE SCD GSD-1-19.



BOTTOM COPE HOLE DETAIL
DETAIL IS SYMETRIC ABOUT COMP. PEN. WELD
ALL DIMENSIONS TYPICAL
(REAR BEAM 5 SHOWN, FORWARD SIMILAR)

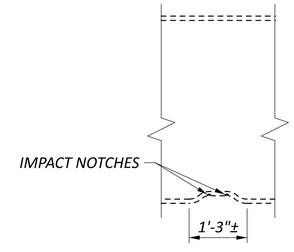


PROPOSED BEAM 5 ELEVATION VIEW
(LOOKING WEST)

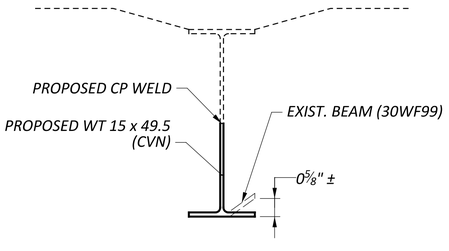
PROPOSED WORK (BEAM 5)

1. SURVEY DAMAGE AND SUBMIT STRAIGHTENING WORK PLANS AS PER SS 849.13.
2. REMOVE SECONDARY MEMBERS AS NECESSARY AND AS SHOWN ON THE PLANS. CAREFULLY GRIND EXISTING WELDS FLUSH. DO NOT DAMAGE WEB OR FLANGE.
3. PERFORM ALL HEAT STRAIGHTENING ACTIVITIES.
4. INSTALL TEMPORARY SUPPORT AND PROVIDE TEMPORARY BRACING AS NEEDED. THE TEMPORARY SUPPORT SHALL REMAIN UNTIL ALL WELDING ACTIVITIES HAVE BEEN COMPLETED.
5. INSTALL STIFFENER PLATES ADJACENT TO PROPOSED CUTOUT REPAIR LIMITS.
6. MARK REMOVAL AREA, DRILL CORNER HOLES, AND SAW OR FLAME CUT TO REMOVE DAMAGED BEAM USING A MECHANICAL GUIDE.
7. PREPARE EXISTING BEAM FOR COMPLETE PENETRATION WELDS BY EDGE BEVELING AND CREATING UNDERSIZED WEB COPES.
8. CUT NEW PLATES, AND BEVEL EDGES FOR COMPLETE PENETRATION AND FILLET WELDS.
9. CHECK FIT OF NEW PLATES, NO GAP EXCEEDING 1/16. TACK WELD PLATES INTO PLACE.
10. PERFORM FILLET WELDING ACCORDING TO C&MS 513.21 AND NDT TESTING ACCORDING TO C&MS 513.25B.
11. PERFORM COMPLETE PENETRATION WELDING ACCORDING TO C&MS 513.21 BY ATTACHING RUN OFF TABS, PERFORM WELDS, REMOVING TABS AND GRINDING ALL WELD SURFACES SMOOTH ACCORDING TO ANSI B46.1 OF 250 MIL. COMPLETE NDT TESTING ACCORDING TO C&MS 513.25A.
12. INSTALL STIFFENER PLATES OVER REPAIR.
13. REPAIR/REPLACE SECONDARY MEMBERS AS SHOWN ON THE PLANS. MAKE CONNECTIONS TO MATCH EXISTING.
14. WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEET THE MINIMUM TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
15. THE CONTRACTOR SHALL SEQUENCE WORK AS NEEDED FOLLOWING THE MAINTENANCE OF TRAFFIC PHASE CONSTRUCTIONS SHOWN ON THE PLANS.
16. THE CONTRACTOR SHALL NOT PERFORM FIELD PAINTING UNTIL ALL WELDING AND HEAT STRAIGHTENING ACTIVITIES HAVE BEEN COMPLETED.

ALTERNATE CORNER DETAILS



BEAM 5 PROFILE VIEW



SECTION F-F
BEAM 5 POINT OF IMPACT
(CROSSFRAMES NOT SHOWN FOR CLARITY)

BEL-7-18.24

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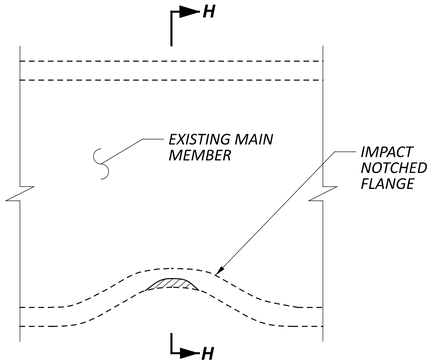
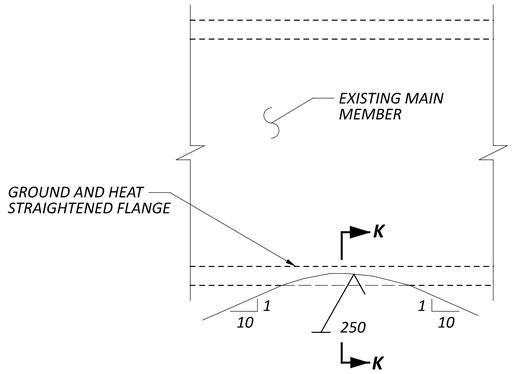
BEAM 5 REPAIR DETAILS
BRIDGE NO. BEL-7-18.170
S.R. 7 SOUTHBOUND OVER S.R. 7/I.R. 470 RAMPS A & B

SFN	0700479
DESIGN AGENCY	
DESIGNER	MJH
CHECKER	MVC
REVIEWER	RPT 11-21-24
PROJECT ID	120772
SUBSET	8
TOTAL	10
SHEET	P.17
TOTAL	19



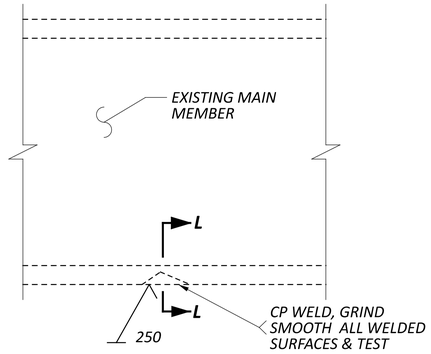
COLLISION REPAIR FC2-1

SEE NOTE 1



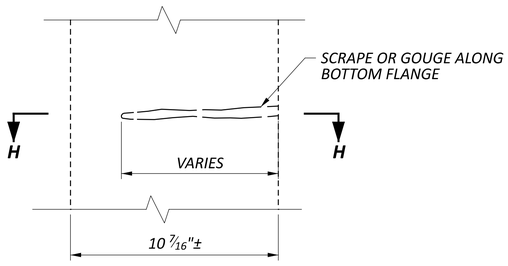
COLLISION REPAIR FC2-2

IF AREA (t_n, b_n) AFTER GRINDING ≤ 98% OF AREA (t_f, b_f) NOTE #3 APPLIES



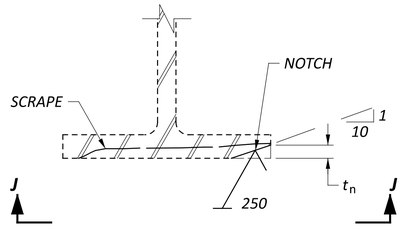
COLLISION REPAIR FC2-3

IF AREA (t_n, b_n) AFTER GRINDING ≥ 98% OF AREA (t_f, b_f) NOTE 4 & 5 APPLIES



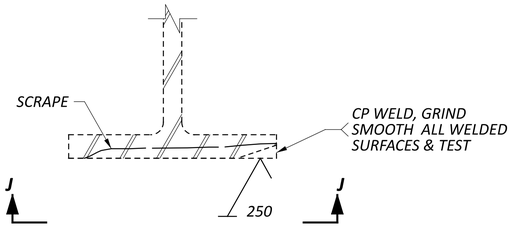
VIEW J-J

REPAIR SCRAPES, NOTCHES, AND GOUGES BY GRINDING OR WELDING IN ACCORDANCE WITH ITEM 849. ESTIMATED QUANTITIES FOR COMPLETE PENETRATION WELDS AND GRINDING HAVE BEN PROVIDED IN THE GENERAL SUMMARY.



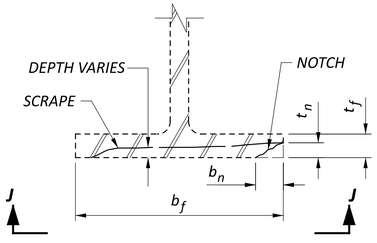
SECTION K-K

SEE NOTE 3



SECTION L-L

SEE NOTE 4 & 5

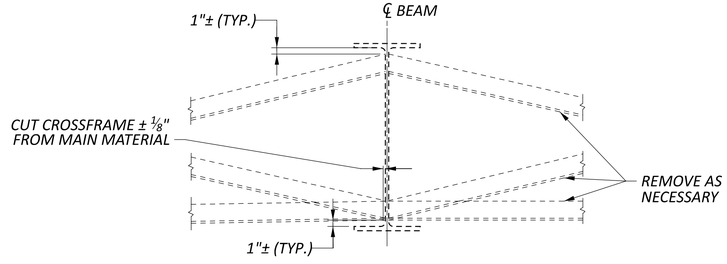


SECTION H-H

SEE NOTE 1 THROUGH 4
(FLANGE NOT SHOWN WITH BEND FOR CLARITY)

NOTES

1. DETERMINE IF IMPACT NOTCH IS CRACKED USING MAGNETIC PARTICLE INSPECTION PER C&MS 513.25B.
2. IF CRACK DOES NOT EXTEND THROUGH THE FLANGE, DETERMINE DEPTH OF CRACK BY GRINDING.
3. IF NOTCH OR PARTIAL DEPTH CRACK CAN BE REMOVED BY GRINDING ACCORDING TO SUPPLEMENTAL SPECIFICATION 849.14 REPAIRING DAMAGED MEMBERS (QCP #7). PERFORM GRINDING ACCORDING TO SUPPLEMENTAL SPECIFICATION 849 AND AS ILLUSTRATED IN DETAIL FC2-2.
4. IF NOTCH OR PARTIAL DEPTH CRACK MUST BE REPAIRED BY WELDING ACCORDING TO SUPPLEMENTAL SPECIFICATION 849.14 REPAIRING DAMAGED MEMBERS (QCP #7), AS ILLUSTRATED IN DETAIL FC2-3. PERFORM COMPLETE PENETRATION WELDING ACCORDING TO C&MS 513.21 BY ATTACHING RUN OFF TABS AND GRIND ALL WELDED SURFACES SMOOTH ACCORDING TO ANSI B46.1 OF 250 mil.
5. PERFORM NDT TESTING ACCORDING TO C&MS 513.25A.
6. REMOVE SECONDARY MEMBERS AS NECESSARY AND AS SHOWN ON THE PLANS. CAREFULLY GRIND EXISTING WELDS FLUSH. DO NOT DAMAGE WEB OR FLANGE. PROVIDE SHIELDING AS NECESSARY.



SECONDARY MEMBER DETAIL

SEE NOTE #6

BEL-7-18.24

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BEAM REPAIR DETAILS
BRIDGE NO. BEL-7-18.170
S.R. 7 SOUTHBOUND OVER S.R. 7/I.R. 470 RAMPS A & B

SFN	0700479
DESIGN AGENCY	
DESIGNER	MJH
CHECKER	MVC
REVIEWER	RPT 11-21-24
PROJECT ID	120772
SUBSET	10
TOTAL	10
SHEET	P.19
TOTAL	19