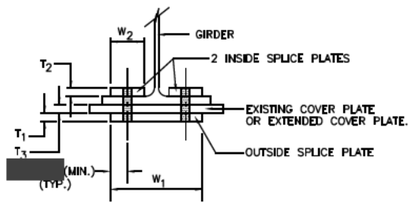
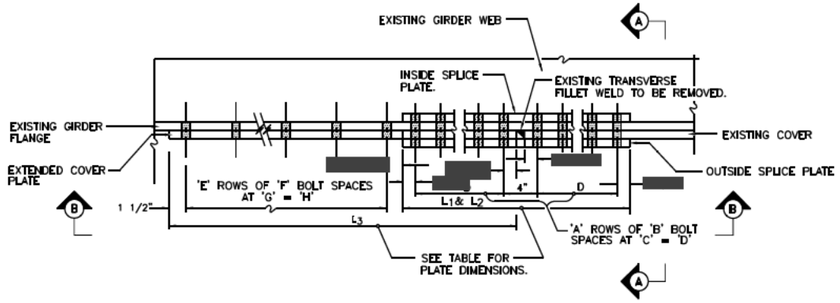
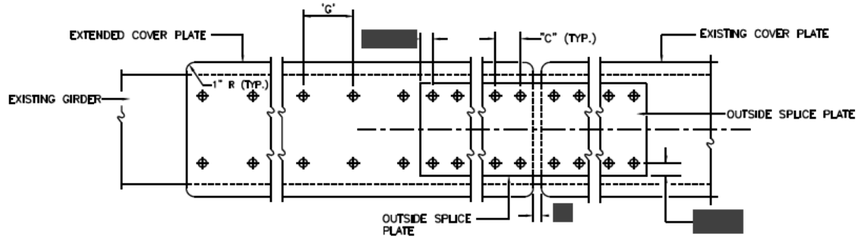


SECTION A – A



ELEVATION



SECTION B – B

COVER PLATE EXTENSION DETAILS [redacted]

PLATE DIMENSIONS					BOLT PATTERN								TOTAL # OF BOLTS REQUIRED PER LOCATION
LOCATION		OUTSIDE SPLICE PLATE (1 REQUIRED PER LOCATION)	INSIDE SPLICE PLATES (2 REQUIRED PER LOCATION)	COVER PLATE EXTENSION (1 REQUIRED PER LOCATION)	SPLICE PLATE				COVER PLATE				
GIRDER	LOCATIONS REQUIRED	$L_1 \times W_1 \times T_1$	$L_2 \times W_2 \times T_2$	$L_3 \times W_3 \times T_3$	A	B	C (IN.)	D (IN.)	E	F	G (IN.)	H (IN.)	

PROCEDURE FOR BOLTED COVER PLATE EXTENSIONS:

1. FABRICATE THE NEW SPLICE PLATES AND COVER PLATE EXTENSION.
2. DRILL THE BOLT HOLES IN THE EXISTING GIRDER IN ACCORDANCE WITH ARTICLE 613 OF THE N.Y.S.S.C.M. THIS GENERALLY WILL MEAN SUB DRILLING AND REAMING ALL HOLES OR DRILLING TO A TEMPLATE.
3. REMOVE ALL DIRT, PAINT, RUST, GREASE, OIL AND OTHER FOREIGN MATERIAL WITHIN [redacted] OF THE CONTACT AREA OF THE EXISTING GIRDER NEW COVER PLATE AND SPLICE PLATES BY BLASTING IN ACCORDANCE WITH THE SPECIFICATIONS.
4. TEST THE TRANSVERSE FILLET WELD AND ALL LONGITUDINAL FILLET WELDS JOINING THE EXISTING COVER PLATE TO THE GIRDER WITHIN [redacted] OF THE END OF THE EXISTING COVER PLATE BY PERFORMING MAGNETIC PARTICLE INSPECTION.
5. REMOVE THE ENTIRE TRANSVERSE FILLET WELD BY GRINDING. GRINDING SHALL NOT REMOVE MORE THAN [redacted] OF THE BASE METAL IN THE FLANGE OR COVER PLATE.
6. IF ANY INDICATION IS FOUND IN THE BASE METAL OF THE FLANGE, COVER PLATE OR LONGITUDINAL WELDS, OR IF THE INDICATION CANNOT BE REMOVED BY GRINDING TO THE LIMITS ABOVE, IMMEDIATELY CONTACT THE DIRECTOR OF STRUCTURES DESIGN TO DETERMINE THE NEED FOR REPAIRS*.
7. PRIME ALL EXPOSED METAL SURFACES IN ACCORDANCE WITH THE SPECIFICATIONS.
8. INSTALL THE COVER PLATE EXTENSIONS AND SPLICE PLATES.
9. FINISH PAINTING THE ASSEMBLY IN ACCORDANCE WITH THE SPECIFICATIONS.

* – THESE REPAIRS ARE CONSIDERED EXTRA WORK AND SHALL BE PAID FOR PER GENERAL NOTE 14.

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NEW YORK STATE STEEL CONSTRUCTION MANUAL (NYSSCM), WITH CURRENT ADDENDA, EXCEPT AS MODIFIED HEREIN.
2. ALL NEW STEEL SHALL CONFORM TO ASTM [redacted] SPECIFICATIONS. COPIES OF CERTIFIED MILL TEST REPORTS SHALL BE PROVIDED.
3. ALL BOLTS SHALL BE [redacted] WITH HARDENED WASHERS UNDER THE HEAD AND THE NUT. ALL HOLES SHALL BE [redacted] DIAMETER AND CONFORM TO ARTICLE 613 OF THE N.Y.S.S.C.M.
4. ALL MAGNETIC PARTICLE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 18 OF THE NYSSCM USING THE YOKE TECHNIQUE, EXCEPT THAT TESTS MUST BE PERFORMED IN BOTH AC & DC OUTPUT MODES.
5. IF REQUIRED ALL ULTRASONIC TESTING SHALL BE PERFORMED BY A NEW YORK STATE CERTIFIED ULTRASONIC TECHNICIAN IN ACCORDANCE WITH SECTION 17 OF THE NYSSCM, AND PAID FOR PER NOTE 14.
6. IF REQUIRED ALL DYE PENETRANT TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 19 OF THE NYSSCM, AND PAID FOR PER NOTE 14.
7. ALL NONDESTRUCTIVE TEST REPORTS SHALL BE SUBMITTED TO THE AUTHORITY FOR REVIEW.
8. THE CONTRACTOR SHALL GRIND THE EXISTING TRANSVERSE FILLET WELD AS REQUIRED, TO LIMIT THE TOE DIMENSION TO [redacted] THE FINISHED GRINDING SHALL BE SMOOTH AND AS DESCRIBED IN ARTICLE 723 OF THE N.Y.S.S.C.M.
9. ALL FINISHED GRINDING SHALL BE PARALLEL TO THE DIRECTION OF PRINCIPAL STRESS UNLESS THE SURFACE ROUGHNESS IS LESS THAN [redacted]
10. THE BOLTS IN THE NEW COVER PLATE AND SPLICE PLATES SHALL NOT BE TIGHTENED DURING APPLICATION OF LIVE LOAD STRESS.
11. THE COST OF FIELD DRILLING BOLT HOLES SHALL BE INCLUDED IN ITEM 564.70990225.
12. ALL PAINTING AND ENVIRONMENTAL PROTECTION COSTS TO BE INCLUDED IN THE APPROPRIATE PAINTING OR ENVIRONMENTAL PROTECTION ITEM.
13. ALL OTHER COSTS FOR THE BOLTED CONNECTIONS, INCLUDING TESTING, GRINDING NEW STEEL WITH BOLT HOLES, NUTS AND WASHERS, ETC., SHALL BE INCLUDED IN ITEM 564.70990425.
14. IF ANY INDICATIONS ARE FOUND, ANY REQUIRED REPAIRS SHALL BE CONSIDERED EXTRA WORK AND SHALL BE PAID FOR BY FORCE ACCOUNT OR AN AGREED PRICE.

NOTES TO THE DESIGNER

(NOT TO BE SHOWN ON THE FINAL PLANS)

1. THE EXTENSION OF THE COVER PLATE SHOULD BE PERFORMED ONLY IF REQUIRED FOR STRENGTH.
2. THIS DETAIL IMPROVES THE FATIGUE CATEGORY FOR THE REMAINING LIFE TO CATEGORY "B".
3. THE REMAINING FATIGUE LIFE, BASED ON THE CATEGORY "B" DETAIL, SHOULD BE CONSISTENT WITH PROJECT REQUIREMENTS.
4. THE SPLICE BETWEEN THE EXISTING COVER PLATE AND THE BOLTED COVER PLATE SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:
   A. ASSUMING THE MODIFICATION WILL BE DONE IN PLACE AND THE EXISTING DEAD LOAD STRESS WILL REMAIN IN THE BEAM, DETERMINE THE MAXIMUM ACTUAL LIVE LOAD STRESS IN THE SPLICE PLATE THAT WOULD OCCUR AT THE END OF THE COVER PLATE.

      IF THE BEAMS WILL NOT BE MODIFIED IN PLACE, THE DESIGNER SHALL DETERMINE THE MAXIMUM ACTUAL STRESS THAT THE SPLICE PLATE WILL EXPERIENCE ASSUMING COMPOSIT ACTION WITH THE BEAM AFTER INSTALLATION OF THE SPLICE PLATES.

   B. THE DESIGN FORCE SHALL BE THE MAXIMUM OF THE FOLLOWING:
      1. STRESS FOUND IN STEP 'A' MULTIPLIED BY THE COVER PLATE AREA.
      2. 75% THE ALLOWABLE FORCE IN THE COVER PLATE.
      3. THE AVERAGE OF THE FORCE FOUND IN STEP 1 AND 100% THE ALLOWABLE FORCE IN THE COVER PLATE.
   C. THE NEW SPLICE PLATE SHALL BE CAPABLE OF RESISTING THE FORCE FOUND IN STEPS 'B' IN TENSION, AND SHALL HAVE ITS NEUTRAL AXIS LOCATED AS CLOSE AS POSSIBLE TO THE NEUTRAL AXIS OF THE EXISTING COVER PLATE.
   D. THE NUMBER OF BOLTS PROVIDED ON EACH HALF OF THE SPLICE SHALL BE CAPABLE OF RESISTING THE FORCE FOUND IN STEP 'B' BASED ON DOUBLE SHEAR, CLASS 'A' FAYING SURFACES, WITH [redacted] BOLTS. IF THE INSIDE SPLICES ARE NOT USED, THE NUMBER OF BOLTS PROVIDED SHALL BE DETERMINED BASED ON SINGLE SHEAR.
5. THE BOLTS USED TO ATTACH THE COVER PLATE EXTENSION TO THE GIRDER SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:
   A. ASSUMING THE MODIFICATION WILL BE DONE IN PLACE, AND THE EXISTING DEAD LOAD STRESS WILL REMAIN IN THE BEAM, DETERMINE THE MAXIMUM ACTUAL HORIZONTAL SHEAR FROM LIVE LOAD ALONG THE LENGTH OF THE COVER PLATE.

      IF THE BEAMS WILL NOT BE MODIFIED IN PLACE, THE DESIGNER SHALL DETERMINE THE MAXIMUM ACTUAL HORIZONTAL SHEAR THAT THE COVER PLATE WILL EXPERIENCE, AT EACH POINT ALONG IT'S ENTIRE LENGTH, ASSUMING COMPOSITE ACTION WITH THE BEAM AFTER INSTALLATION OF THE COVER PLATES.

   B. THE DESIGN FORCE SHALL BE THE HORIZONTAL SHEAR FOUND IN STEP "A".
   C. THE BOLT SPACING ALONG THE LENGTH OF THE COVER PLATE SHALL BE DETERMINED BY DIVIDING THE FORCE FOUND IN STEP 'B' BY THE PRODUCT OF THE ALLOWABLE SHEAR IN THE BOLT AND BY THE NUMBER OF BOLTS PER SECTION. (BASED ON SINGLE SHEAR CLASS 'A' FAYING SURFACE WITH [redacted] BOLTS.)
   D. THE MAXIMUM STRESS IN THE COVER PLATE AND THE EXISTING GIRDER, ASSUMING COMPOSITE ACTION WITH THE GIRDER AFTER INSTALLATION OF THE COVER PLATE, SHALL BE LESS THAN THE ALLOWABLE STRESS FOR EACH STEEL.
6. THE COVER PLATE EXTENSION WILL GENERALLY HAVE THE SAME DIMENSION AS THE EXISTING COVER PLATE.
7. THE SPLICE PLATE AND COVER PLATE DIMENSIONS SHOULD BE BASED ON A 1 INCH GAP BETWEEN THE EXISTING COVER PLATE AND THE NEW PLATE.
8. THE NOTES AND DETAILS ON THE PLANS SHOULD BE CONSISTENT WITH THE ASSUMPTIONS MADE ABOVE.
9. THE MINIMUM PLATE THICKNESS SHALL BE [redacted]
10. IF THE SPLICE PLATE OR COVER PLATE EXTENSION ARE IN COMPRESSION, THE BOLT SPACING MUST ALSO MEET THE STITCHING AND SEALING REQUIREMENTS OF SUBSECTION 10.24.6. OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES – 17th EDITION.

[redacted]

PE STAMP & SIGNATURE ARE REQUIRED ON THIS SHEET.

DATE	DESCRIPTION	BY	SYM.

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT
TITLE OF PROJECT LINE 1
TITLE OF PROJECT LINE 2

LOCATION OF PROJECT
LOCATION OF PROJECT LINE 1
LOCATION OF PROJECT LINE 2

TITLE OF DRAWING
PARTIAL LENGTH COVER PLATE EXTENSION DETAILS

CONTRACT NUMBER: TA
DATE: 3/10
DRAWING NUMBER: *

DESIGNED BY: TA
DRAFTED BY: TA
CHECKED BY: TA
IN CHARGE OF: TA