

2019

LIST OF DRAWINGS

STRUCTURAL

- S1 GENERAL ARRANGEMENT - EXISTING STRUCTURE
- S2 GENERAL ARRANGEMENT - REHABILITATED STRUCTURE
- S3 CONSTRUCTION STAGING
- S4 STRUCTURAL STEEL - NOTES
- S5 STRUCTURAL STEEL - DECK PLAN VIEW, STRINGER AND FLOOR BEAM REPAIRS
- S6 STRUCTURAL STEEL - WEST GIRDER REPAIRS
- S7 STRUCTURAL STEEL - EAST GIRDER REPAIRS
- S8 STRUCTURAL STEEL - PIVOT GIRDER REPAIRS
- S9 STRUCTURAL STEEL - SIDEWALK AND GUIDE RAIL REPAIR DETAILS
- S10 STRUCTURAL STEEL - COUNTERWEIGHT DETAILS
- S11 DECK - ENLARGED PLAN VIEW & DETAILS
- S12 DECK - CURB DETAILS
- S13 SUBSTRUCTURE REPAIR DETAILS - NORTH ABUTMENT
- S14 SUBSTRUCTURE REPAIR DETAILS - SOUTH ABUTMENT
- S15 BRIDGE ALIGNMENT CORRECTION
- S16 UTILITY TRENCH DETAILS

MECHANICAL

- M0 MECHANICAL SCOPE OF WORK AND GENERAL NOTES
- M1 MECHANICAL SITE PLAN
- M2 PLAN & ELEVATION
- M3 SECTION I-I, SECTION J-J
- M4 SECTION A-A, SECTION B-B, SECTION C-C, SECTION D-D
- M5 SECTION F-F, SECTION G-G
- M6 HYDRAULIC SCHEMATIC AND COMMISSIONING NOTES
- M7 BALANCE WHEEL ASSEMBLY
- M8 BALANCE WHEEL DETAILS 1
- M9 BALANCE WHEEL DETAILS 2
- M10 LIVE LOAD AND END SUPPORT WHEEL ASSEMBLY
- M11 LIVE LOAD AND END SUPPORT WHEEL DETAILS 1
- M12 LIVE LOAD AND END SUPPORT WHEEL DETAILS 2
- M13 LIVE LOAD AND END SUPPORT RAMP DETAILS
- M14 BALANCE RAIL BEARING PLATES ASSEMBLY AND DETAILS
- M15 BRIDGE LOCKING PIN ASSEMBLY
- M16 BRIDGE LOCKING PIN DETAILS 1
- M17 BRIDGE LOCKING PIN DETAILS 2
- M18 BRIDGE PIVOT PIN ASSEMBLY AND DETAILS
- M19 LIVE LOAD AND END SUPPORT WHEEL DETAILS 3
- M20 LIVE LOAD AND END SUPPORT WHEEL DETAILS 4
- M21 ROTATION CYLINDER MOUNTING BRACKETS
- M22 ROD CLEVIS BRACKET MOUNTING PLATE

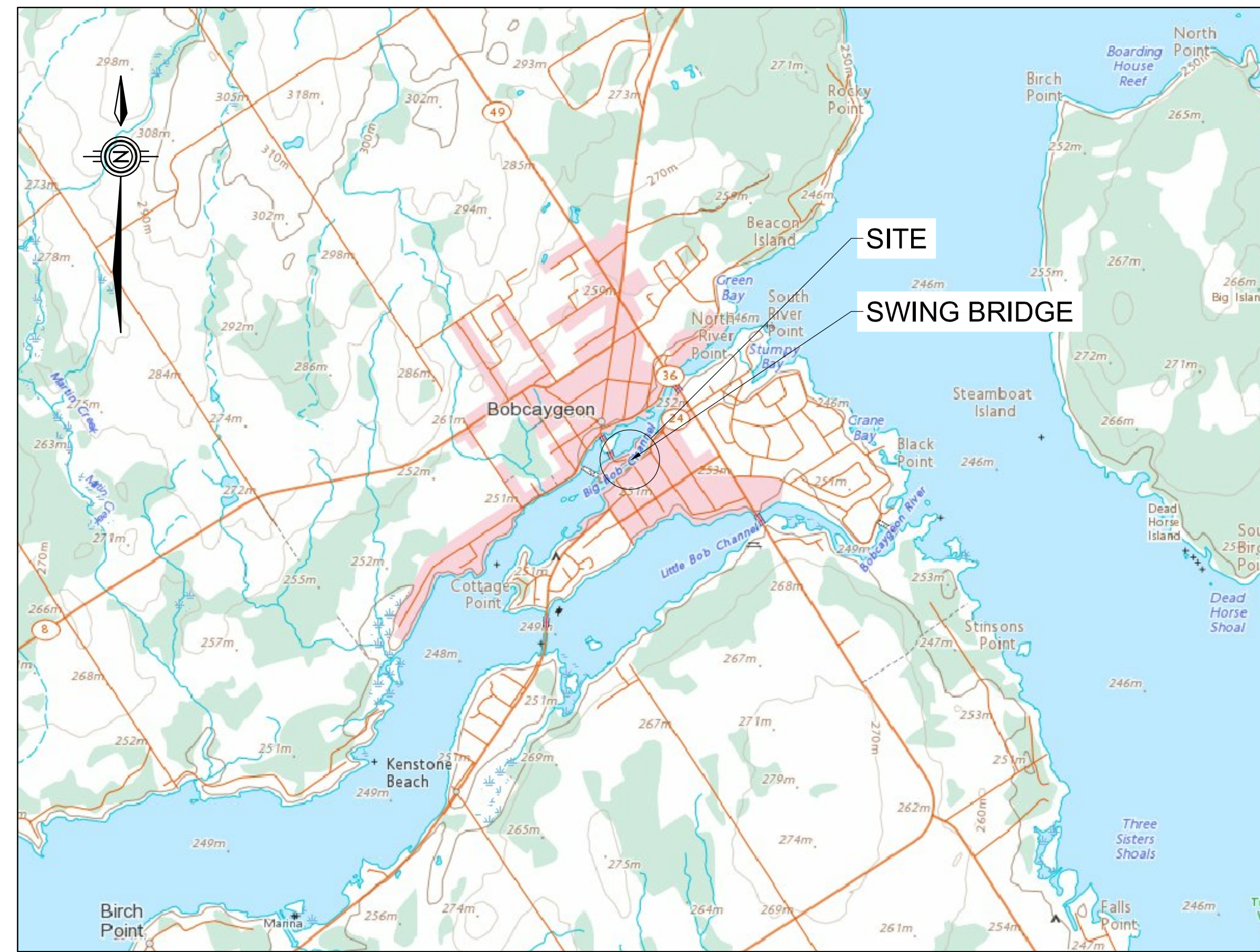
ELECTRICAL

- E0.1 DRAWING LIST
- E0.2 SCOPE OF WORK, GENERAL NOTES AND SYMBOLS
- E1.1 SINGLE LINE DIAGRAM
- E1.2 GENERAL ARRANGEMENT - LOCK AND BRIDGE AREA
- E1.3 LOCK HOUSE ELECTRICAL EQUIPMENT LAYOUT
- E1.4 BRIDGE EQUIPMENT LAYOUT
- E1.5 (NOT USED)
- E1.6 600V SERVICE AND DISTRIBUTION - ELEVATION
- E1.7 PANEL SCHEDULE - LOCK DISTRIBUTION
- E1.8 PANEL SCHEDULE - LOCK GATE GATE CONTROLS
- E1.9 PANEL SCHEDULE - BRIDGE DISTRIBUTION
- E1.10 CABLE SCHEDULE
- E1.11 (NOT USED)
- E1.12 (NOT USED)
- E1.13 LOCK DISTRIBUTION GROUNDING DETAILS
- E1.14 BRIDGE GROUNDING DETAILS
- E2.1 BRIDGE CONTROL PANEL - POWER DISTRIBUTION
- E2.2 BRIDGE CONTROL PANEL - OPEN AND CLOSE
- E2.3 BRIDGE CONTROL PANEL - BRIDGE POSITION INDICATION
- E2.4 (NOT USED)
- E2.5 BRIDGE CONTROL PANEL - LOCKING PIN
- E2.6 BRIDGE CONTROL PANEL - TRAFFIC GATES
- E2.7 BRIDGE CONTROL PANEL - TRAFFIC LIGHTS
- E2.8 PROPORTIONAL DRIVER SCHEMATIC - SWING OPEN
- E2.9 PROPORTIONAL DRIVER SCHEMATIC - SWING CLOSED
- E2.10 HPU STATUS INDICATOR SCHEMATIC - BRIDGE
- E2.11 HPU CONTROL SCHEMATIC - BRIDGE
- E2.12 BRIDGE TRAFFIC GATE SCHEMATIC - NORTH EAST
- E2.13 BRIDGE TRAFFIC GATE SCHEMATIC - SOUTH WEST
- E2.14 BRIDGE NAVIGATION LIGHTS
- E2.15 BRIDGE CONTROL PANEL LAYOUT AND BOM
- E2.16 BRIDGE OPERATOR CONTROL CONSOLE ELEVATION
- E2.17 BRIDGE OPERATOR CONTROL CONSOLE LAYOUT
- E3.1 LOCK GATE CONTROL PANEL WIRING - POWER DISTRIBUTION
- E3.2-1 LOCK GATE CONTROL PANEL WIRING - PUMP CONTROL
- E3.2-2 LOCK GATE CONTROL PANEL WIRING - PUMP CONTROL CONTINUED
- E3.3 LOCK GATE CONTROL PANEL WIRING - UPPER LOCK NAVIGATION SIGNALS
- E3.4 LOCK GATE CONTROL PANEL WIRING - UPPER LOCK GATES AND VALVE CONTROL
- E3.5 LOCK GATE CONTROL PANEL WIRING - LOWER LOCK GATES AND VALVE CONTROL
- E3.6 LOCK GATE CONTROL PANEL WIRING - LOWER LOCK NAVIGATION SIGNALS
- E3.7 HPU PUMP #1 SCHEMATIC
- E3.8 HPU PUMP #2 SCHEMATIC
- E3.9 LOCK GATE HPU INDICATOR SCHEMATIC
- E3.10 HPU TERMINATION WIRING DIAGRAM
- E3.11 SAFETY CIRCUITS
- E3.12 LOCK GATE CONTROL PANEL LAYOUT AND BOM - EXTERIOR
- E3.13-1 LOCK GATE CONTROL PANEL LAYOUT AND BOM - INTERIOR
- E3.13-2 LOCK GATE CONTROL PANEL LAYOUT AND BOM - INTERIOR (SIDES)

BOBCAYGEON, ONTARIO



Canada



KEY PLAN

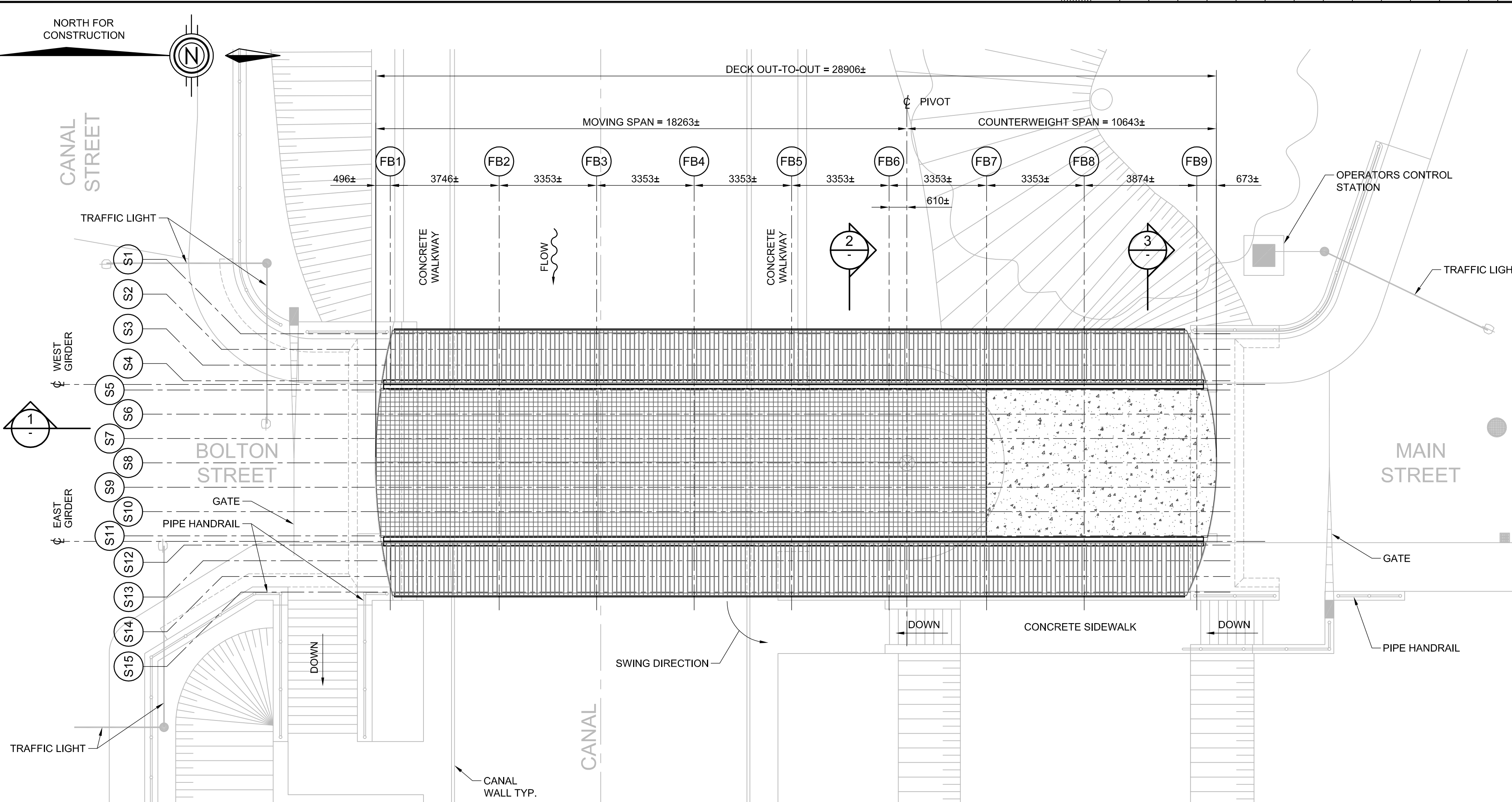
TRENT-SEVERN WATERWAY
BOBCAYGEON SWING BRIDGE (#35)
REHABILITATION

PROJECT #: 1356-30030321

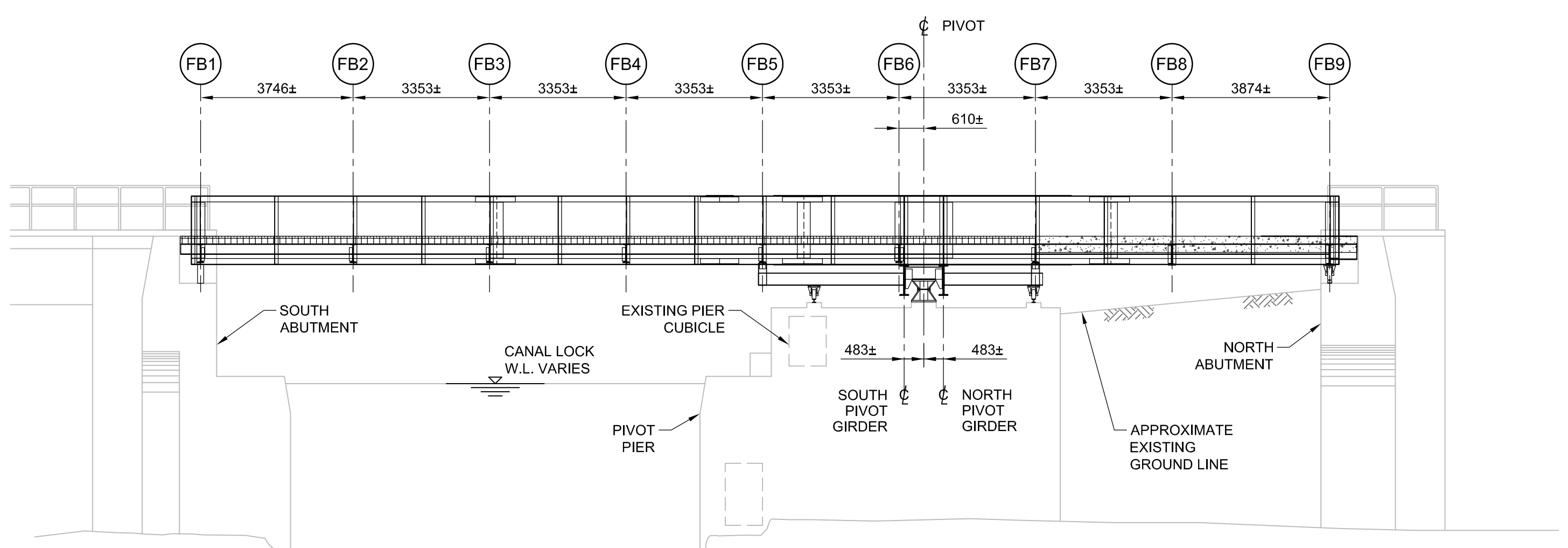
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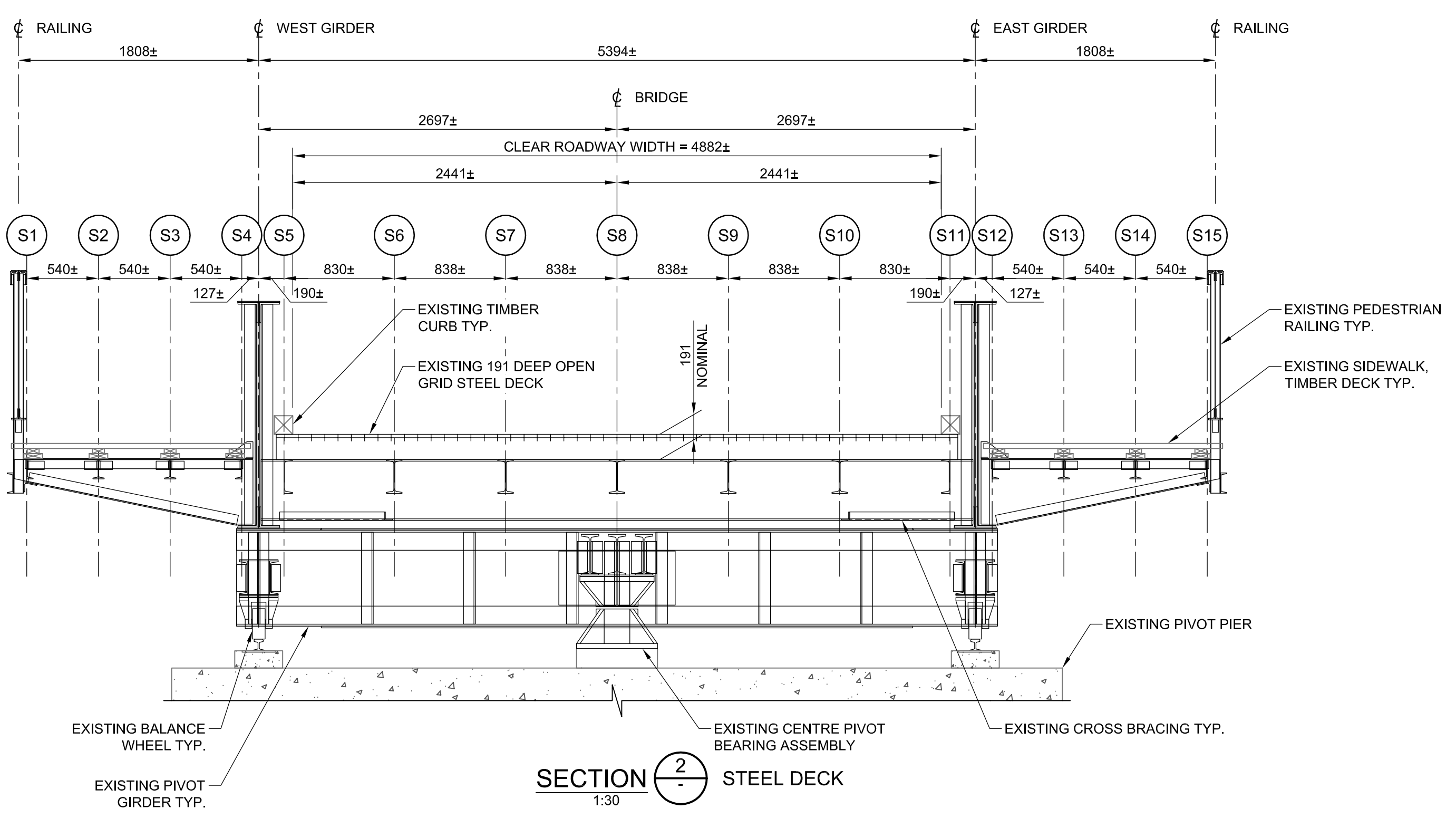
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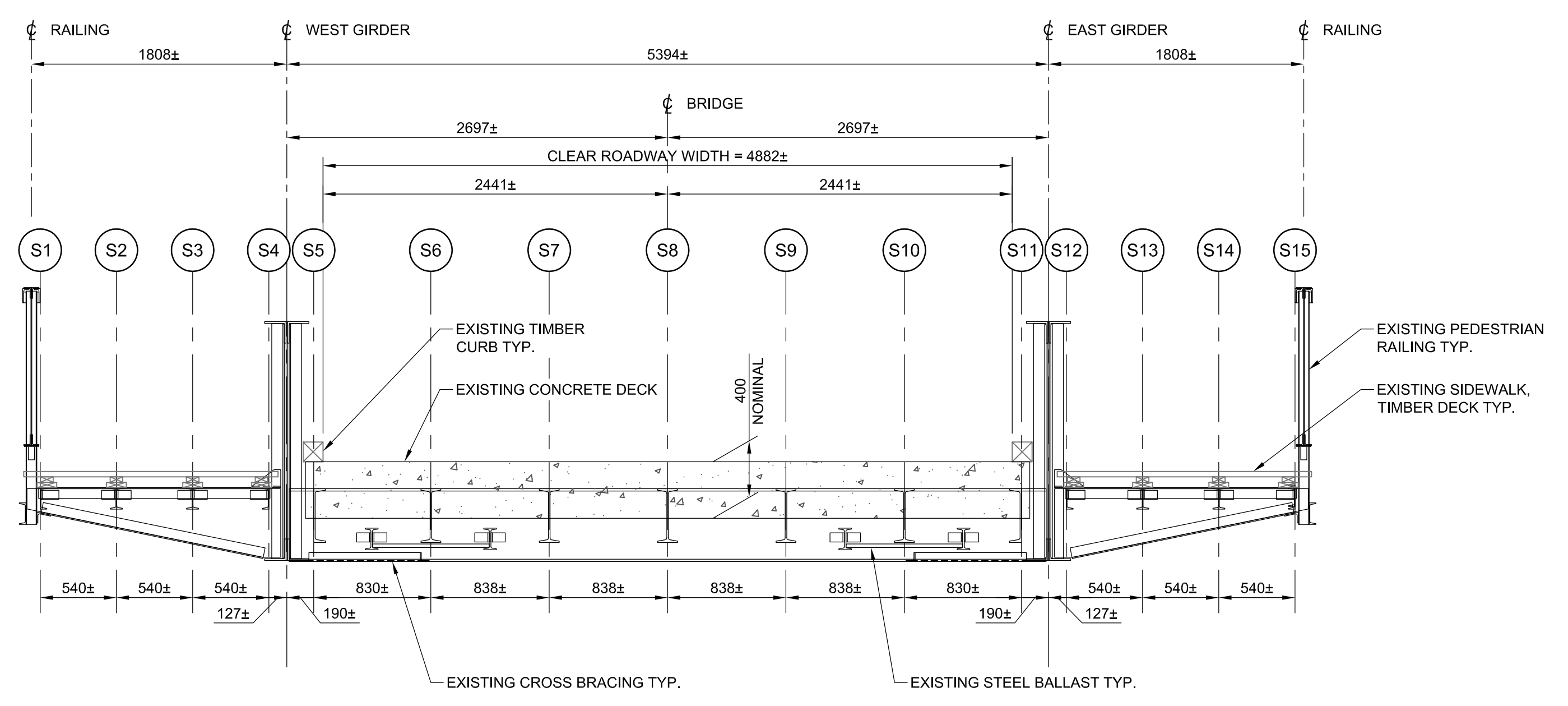
EXISTING PLAN
1:100



SECTION 1
1:100



SECTION 2
1:30 STEEL DECK



SECTION 3
1:30 CONCRETE DECK

GENERAL SCOPE OF STRUCTURAL WORK

1. ALL WORK AFFECTING NAVIGATION TO BE COMPLETED DURING NON-NAVIGATION SEASON.
2. INSTALL TEMPORARY TRAFFIC CONTROL MEASURES. ESTABLISH DETOUR ROUTE AND INSTALL ADVANCED NOTIFICATION SIGNS PRIOR TO CLOSING SWING BRIDGE.
3. INSTALL AND MONITOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
4. IMPLEMENT ACCESS TO WORK AREA.
5. INSTALL WORK/COATING ENVIRONMENT ENCLOSURES.
6. DESIGN, INSTALL AND MAINTAIN TEMPORARY PEDESTRIAN BRIDGE AND ACCESSIBILITY RAMPS. MAINTAIN EXISTING PATHWAY ADJACENT TO LOCKHOUSE.
7. CLOSE BRIDGE. SWING BRIDGE TO OPEN POSITION AND PROVIDE NECESSARY SUPPORTS AND LOCKING TO ALLOW FOR THE BRIDGE DECK TO BE DISASSEMBLED AND BRIDGE MEMBERS TO BE REPLACED.
8. REMOVE EXISTING OPEN GRID STEEL DECK AND TIMBER CURBS.
9. REMOVE EXISTING TIMBER SIDEWALK DECK.
10. CARRY OUT STEEL REPAIRS TO MAIN AND PIVOT GIRDERS.
11. REPLACE SIDEWALK STRINGERS AND ANGLE FLANGES OF SIDEWALK FLOORBEAMS.
12. INSTALL NEW BALANCE WHEEL STRINGERS AND SUPPORTING STRUCTURE.
13. REPLACE CENTRE-PIVOT BEARING
14. REHABILITATE EXISTING STEEL PEDESTRIAN RAILING.
15. ABRASIVE BLAST CLEAN AND COAT ENTIRE STEEL SUPERSTRUCTURE.
16. INSTALL NEW TIMBER ROADWAY DECK, PLYWOOD, WATERPROOFING MEMBRANE, WEARING BOARDS AND TIMBER CURBS.
17. INSTALL NEW DECK DRAINS AND SPLASH GUARDS.
18. INSTALL NEW TIMBER SIDEWALK DECK.
19. CARRY OUT LOCALIZED CONCRETE REPAIRS AT PIVOT PIER AND ABUTMENTS.
20. REPLACE ARMOURING ANGLE AT SOUTH BALLAST WALL.
21. REPLACE HAZARD MARKERS AT MAIN GIRDER ENDS.
22. REPLACE DETERIORATED STEEL BEAM GUIDE RAIL AT NORTH APPROACH.
23. INSTALL NEW HYDRAULIC AND ELECTRICAL TRENCHES.
24. REHABILITATE EXISTING PIER CUBICLE / VAULT.
25. REPLACE OR REHABILITATE EXISTING MECHANICAL AND ELECTRICAL COMPONENTS.
26. INSTALL NEW STEEL COUNTERWEIGHTS.
27. CENTER AND BALANCE BRIDGE ON CENTRE-PIVOT BEARING.
28. REALIGN THE BRIDGE.
29. COMMISSION BRIDGE FOR SWING OPERATION.
30. REMOVE TEMPORARY PEDESTRIAN BRIDGE AND ACCESSIBILITY RAMPS.
31. COMPLETE SITE CLEAN UP AND RESTORATION.

NOTE:
 • THE ABOVE IS NOT INTENDED TO BE AN EXHAUSTIVE LIST OF ALL ITEMS REQUIRED TO COMPLETE THIS REHABILITATION, NOR IS IT INTENDED TO BE A SEQUENCE OF WORK.
 • SEE SEPARATE DRAWINGS FOR SCOPE OF WORK TO MECHANICAL AND ELECTRICAL COMPONENTS.

GENERAL NOTES

1. DO NOT SCALE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ORIGINAL DESIGN WAS DONE IN 1921 USING IMPERIAL UNITS. THESE PLANS REPRESENT CONVERTED METRIC UNITS. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO PRODUCING SHOP DRAWINGS FOR FABRICATION.
3. WHERE STANDARDS AND PROCEDURES ARE NOT SPECIFIED OR INFERRED, FOLLOW CHBDC AND OPSS STANDARDS.
4. THE CONTRACTOR SHALL EXAMINE THE SITE AND SATISFY HIMSELF OF THE ACTUAL CONDITIONS AND REQUIREMENTS OF THE WORK.
5. CONTRACTOR TO SUBMIT SITE-SPECIFIC HEALTH AND SAFETY PLAN AS PER SPECIFICATION REQUIREMENTS.

LIST OF ABBREVIATIONS

ABT	ABOUT	OPP.	OPPOSITE
C/C	CENTER TO CENTER	PL	PLATE
C.L	CENTERLINE	PT	PRESSURE TREATED
ES	EACH SIDE	SIM.	SIMILAR
EQ. SPCD	EQUALLY SPACED	S.S.	STAINLESS STEEL
FB	FLOOR BEAM	TC	TENSION CONTROL (BOLT)
G	GALVANIZED	THK.	THICK
MAX.	MAXIMUM	TYP.	TYPICAL
MIN.	MINIMUM	U.N.O.	UNLESS NOTED OTHERWISE
NA	NOT APPLICABLE		

CONSTRUCTION NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DETAILS, LOCATIONS AND ELEVATIONS OF EXISTING STRUCTURE AND UTILITIES THAT ARE RELEVANT TO THE WORK SHOWN ON THE DRAWINGS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES TO BE REPORTED TO THE DEPARTMENTAL REPRESENTATIVE AND THE PROPOSED ADJUSTMENT OF THE WORK REQUIRED TO MATCH THE EXISTING STRUCTURE AND UTILITIES TO BE SUBMITTED FOR APPROVAL.
2. ALL REPAIRS SHALL BE FIELD MEASURED BY CONTRACTOR PRIOR TO PRODUCING SHOP DRAWINGS FOR FABRICATION.
3. COORDINATE ALL WORK WITH MECHANICAL, ELECTRICAL AND HYDRAULIC DRAWINGS AND SPECIFICATIONS.
4. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL UTILITY REMOVAL AND RELOCATION WORK REQUIRED FOR THE COMPLETION OF THIS PROJECT.
5. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON THE JOB SITE AND FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF ALL TEMPORARY BRACING, LOADS AND SUPPORTS.
6. FOR EACH REPAIR OR REPLACEMENT DETAIL SHOWN, DETAILS MAY DEPICT ONE LOCATION ONLY AND ARE INCLUDED TO INDICATE DESIGN INTENT AT SIMILAR LOCATIONS. THE DIMENSIONS CAN VARY FROM ONE LOCATION TO ANOTHER SINCE CONNECTIONS OF THE SAME GENERAL GEOMETRY ARE NEVER IDENTICAL.
7. PROVIDE PROTECTION TO FEATURES TO REMAIN TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.
8. ACCESS, WORK AND STORAGE AREAS SHALL BE LIMITED TO THOSE AREAS DELINEATED ON THE DRAWINGS UNLESS APPROVED BY DEPARTMENTAL REPRESENTATIVE.
9. MINIMIZE DUST AND NOISE. MAINTAIN WORK SITE IN A NEAT AND ORDERLY MANNER TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE.
10. REINSTATE AND MAKE GOOD ALL DISRUPTED AREAS TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE AFTER COMPLETION OF THE WORK.

DESIGN LOADING

CODE: CSA S6-14 CHBDC
 POSTED LOAD OF 15 TONNES TO BE RETAINED.

CLASS OF CONCRETE

ALL: 35MPa CLASS C1, UNLESS NOTED OTHERWISE

CLEAR COVER TO REINFORCING STEEL

ALL LOCATIONS: 70 ± 20mm UNLESS NOTED OTHERWISE

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE GRADE 400W GALVANIZED BARS.
2. TENSION LAP SPLICE SHALL BE CLASS B.
3. MINIMUM BEND DIAMETER AND HOOK DIMENSIONS FOR REINFORCING STEEL (400W) AS PER RSIC REINFORCING STEEL MANUAL OF STANDARD PRACTICE TABLE 5.

WOOD

1. ALL SIZES SPECIFIED FOR WOOD COMPONENTS ARE DRESSED SIZES.
2. ALL TIMBER SHALL BE COASTAL DOUGLAS FIR NO. 1 OR BETTER AND GRADED IN ACCORDANCE WITH CSA O141 AND NLGA STANDARD FOR CANADIAN LUMBER.
3. ALL TIMBER SHALL BE INCISED AND SUBSEQUENTLY PRESERVATIVE TREATED WITH CHROMATED COPPER ARSENATE (CCA) IN ACCORDANCE WITH AWPA STANDARD P5, TYPE C. REFER TO SPECIFICATIONS.
4. PLYWOOD FOR TIMBER DECK SHALL BE DOUGLAS FIR (DPP) CONFORMING TO CSA O121 GRADE A GOOD ONE SIDE (G1S) AND PRESSURE TREATED IN ACCORDANCE WITH CSA O80.

STRUCTURAL STEEL

1. SEE DRAWING S4 FOR STRUCTURAL STEEL NOTES.



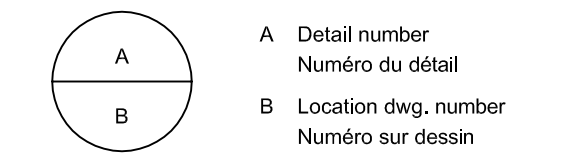
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No.	Description	Des. By	Date

Revision / Révision

Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the Departmental Representative of all discrepancies.



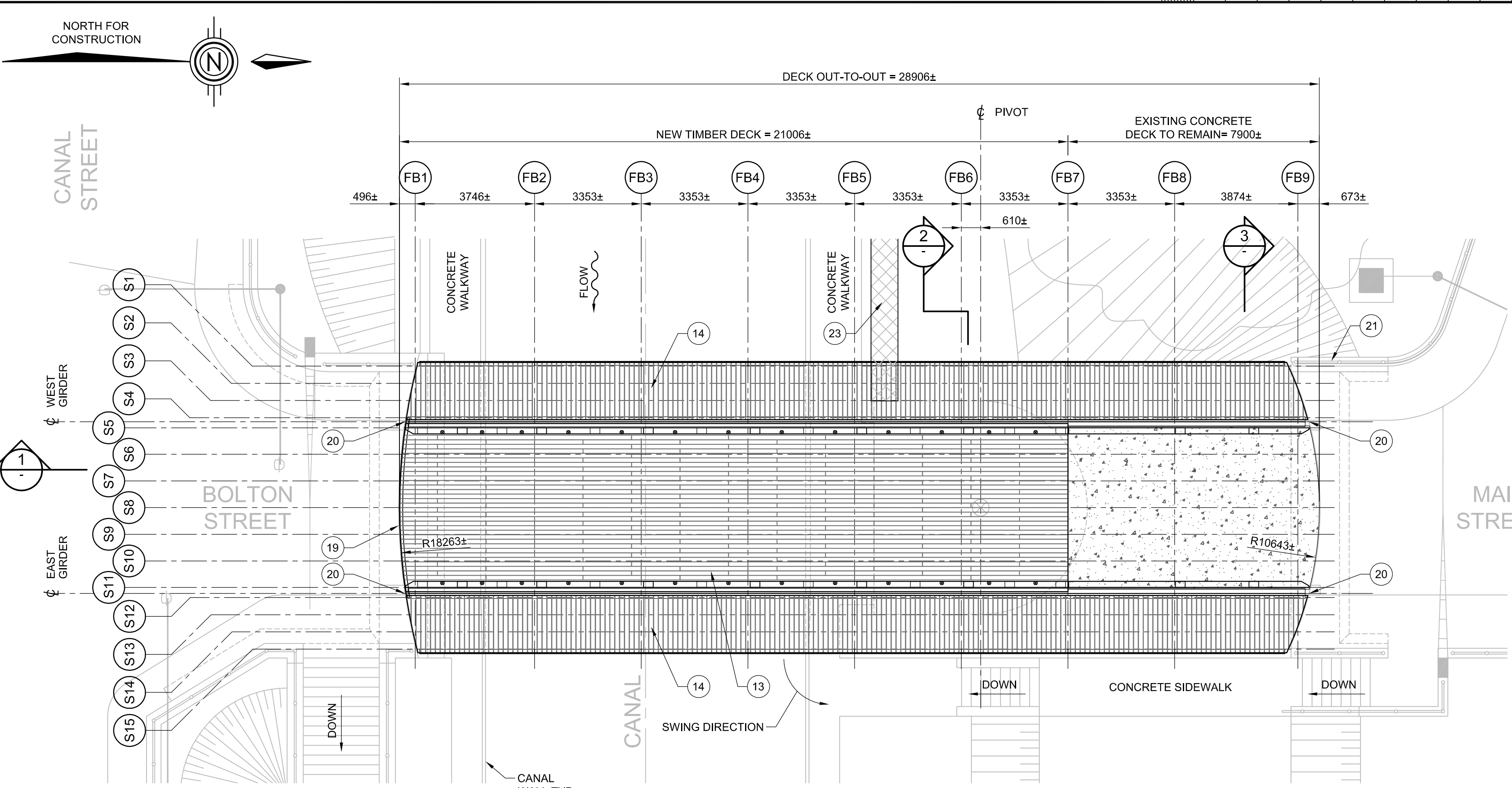
Project title / Titre du projet
TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CITY PROV.

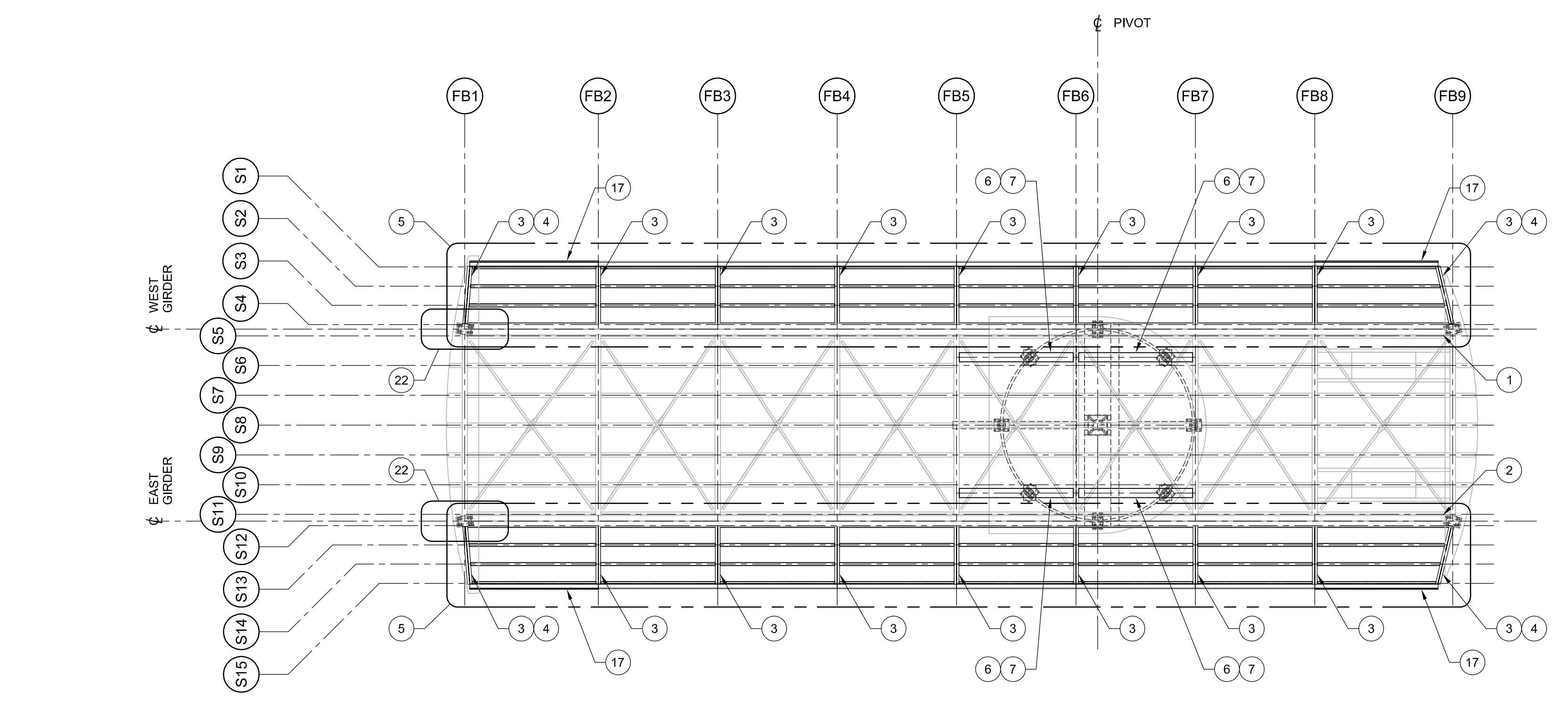
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GENERAL ARRANGEMENT EXISTING STRUCTURE

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du dessin S1
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X

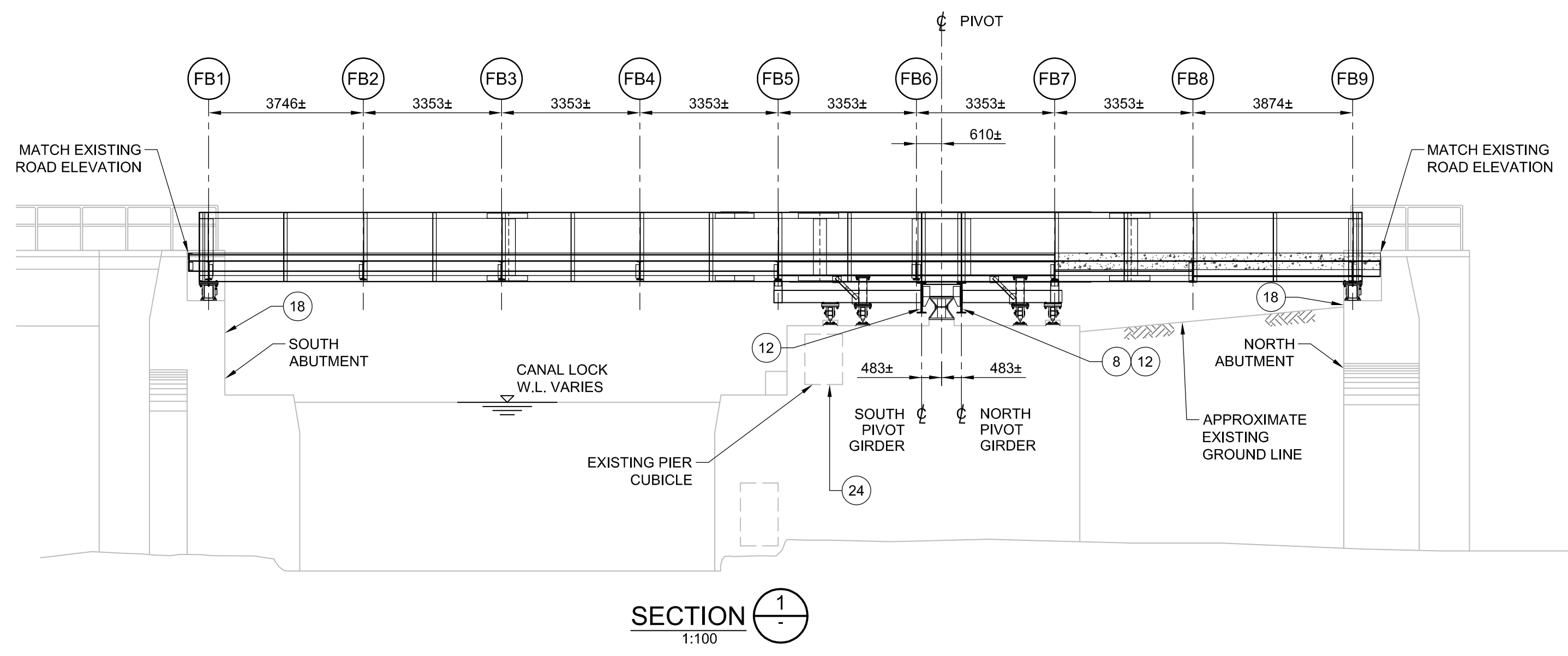
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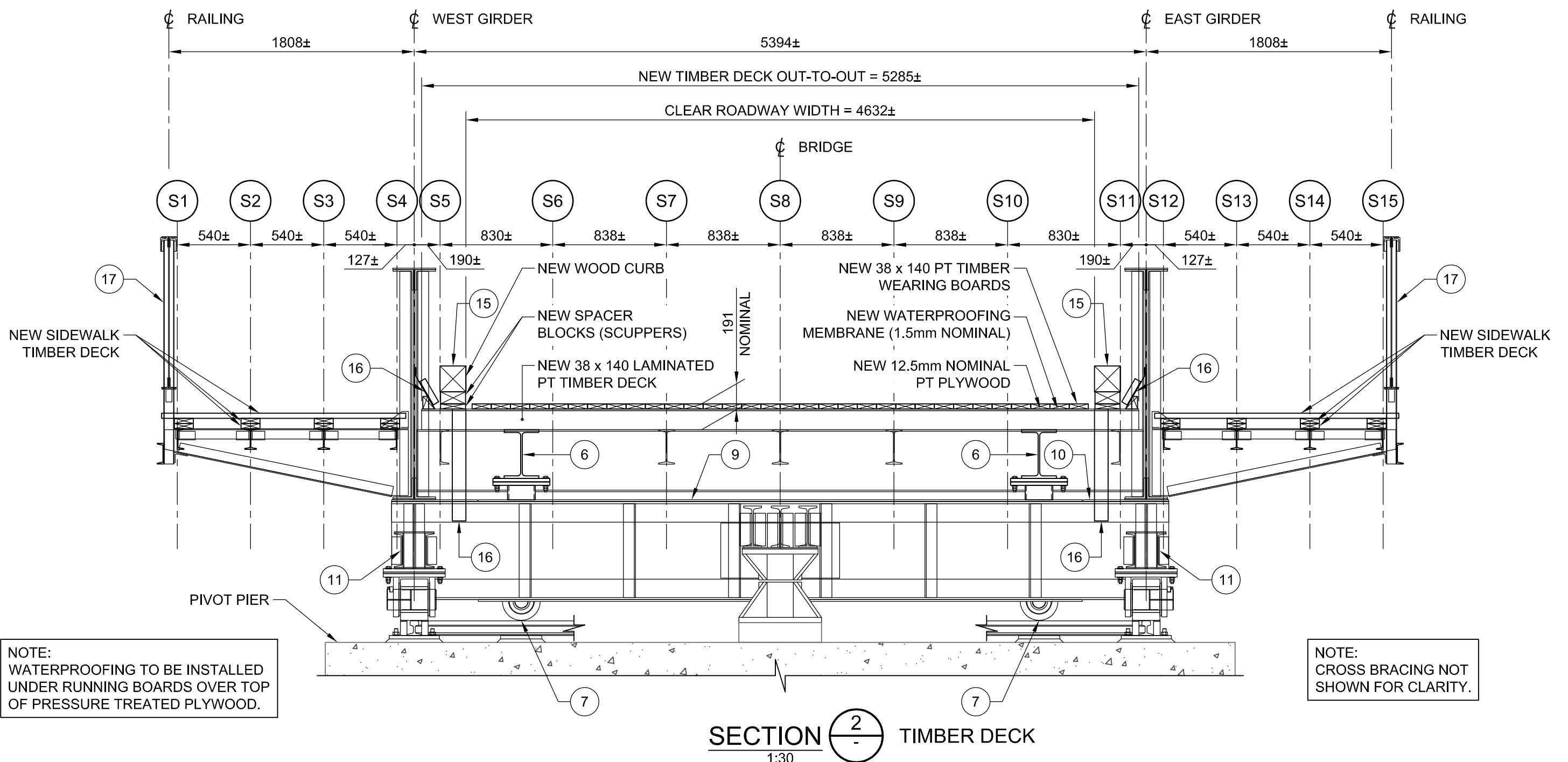
REHABILITATED DECK PLAN
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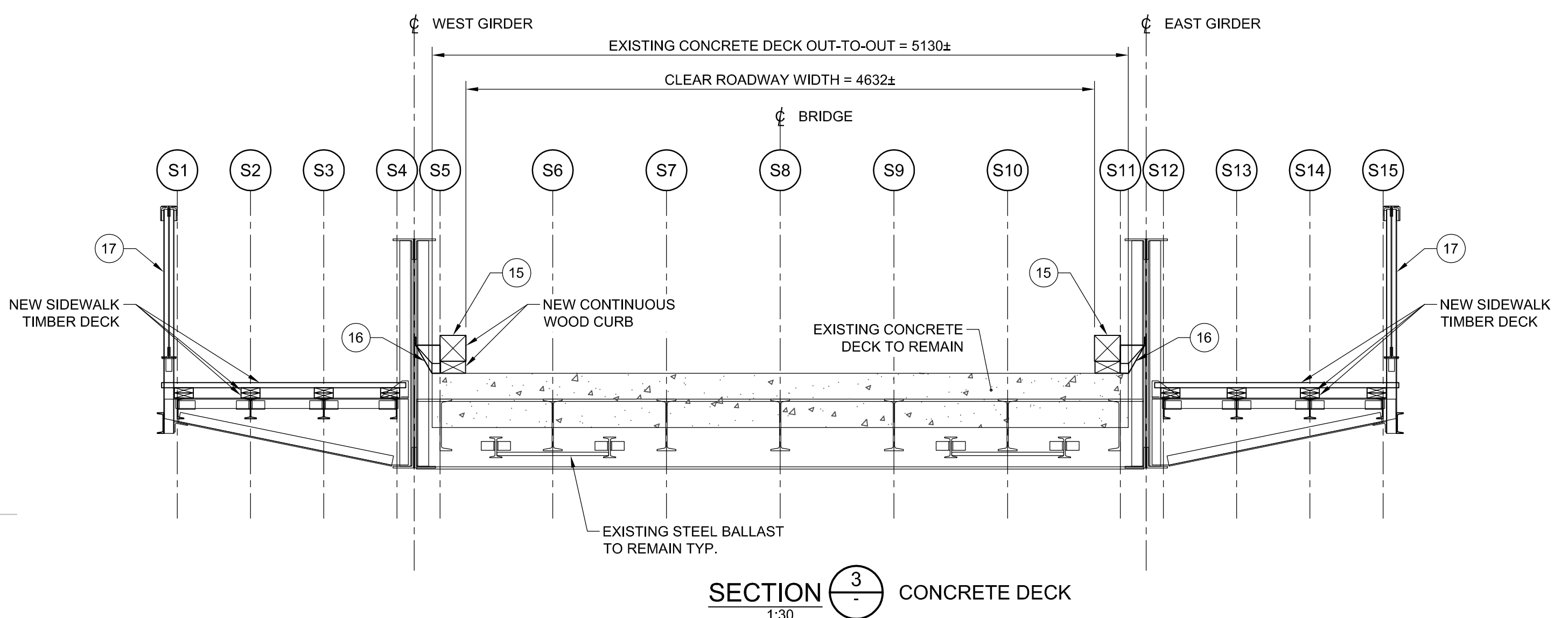
REHABILITATED STEEL PLAN
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SECTION 1
1:100



SECTION 2
1:30
TIMBER DECK



SECTION 3
1:30
CONCRETE DECK

REPAIR LEGEND NO.	STRUCTURAL COMPONENT	LOCATION	STRUCTURAL ELEMENT REPAIR	DRAWING No.
1	MAIN GIRDERS	WEST	END AND FLOOR BEAM STIFFENER REPLACEMENT INTERMEDIATE VERTICAL STIFFENER REPLACEMENT ADDITIONAL RIVET REPLACEMENT	S6
		EAST	INNER BOTTOM FLANGE ANGLE REPLACEMENT WEB REINFORCEMENT AT FLOOR BEAM CONNECTION END AND FLOOR BEAM STIFFENER REPLACEMENT INTERMEDIATE VERTICAL STIFFENER REPLACEMENT ADDITIONAL RIVET REPLACEMENT	S7
3	FLOOR BEAMS	WEST & EAST SIDEWALK	TOP FLANGE ANGLE REPLACEMENT FROM FB1 TO FB9 BOTTOM FLANGE ANGLE REPLACEMENT AT FB1 AND FB9	S5
4	STRINGERS	WEST & EAST SIDEWALK	STRINGER REPLACEMENT AT S1 TO S4 AND S12 TO S15 BETWEEN FB1 TO FB 9	
6	BALANCE WHEEL STRINGERS	CENTER	STRINGER REPLACEMENT TO SUPPORT FOUR ADDITIONAL BALANCE WHEELS	S8
7	BALANCE WHEEL SUPPORT	CENTER	NEW STEEL STRUCTURE TO SUPPORT FOUR ADDITIONAL BALANCE WHEELS	
8	PIVOT GIRDERS	NORTH	BOTTOM FLANGE ANGLE REPLACEMENT	S8
9		NORTH & SOUTH	TOP REINFORCEMENT PLATE REPLACEMENT TOP CONNECTION PLATE REPLACEMENT AT EAST END OF GIRDER	
11			BUILT-UP BEAM REPLACEMENT TO SUPPORT NEW LIVE LOAD / BALANCE WHEEL BELOW MAIN GIRDERS	
12	DECK	CENTER	END BEARING STIFFENER REPLACEMENT ADDITIONAL RIVET REPLACEMENT	S11 & S12
13			OPEN GRID STEEL DECK REPLACEMENT WITH LAMINATED TIMBER DECK, PLYWOOD, WATERPROOFING AND WEARING BOARDS NEW NOSING ANGLE AT SOUTH END OF TIMBER DECK	
14	CURBS	WEST & EAST	SIDEWALK TIMBER DECK (TRANSVERSE AND RUNNING BOARDS) REPLACEMENT	S9
15	DECK DRAINAGE	CENTER	TIMBER CURB REPLACEMENT NEW DECK DRAINS AND SPLASH GUARDS	
17	PEDESTRIAN BARRIERS	WEST & EAST	POST, LATTICE AND FASCIA BEAM REPAIRS	S13 & S14
18	ABUTMENTS	NORTH & SOUTH	ABUTMENT WALL, BALLAST WALL AND BEARING SEAT REPAIRS	
19	ARMOURING ANGLE	SOUTH ABUTMENT	ARMOURING ANGLE REPLACEMENT AT BALLAST WALL	S14
20	MAIN GIRDER	NORTH & SOUTH	REPLACE DAMAGED HAZARD MARKERS	S15
21	APPROACH BARRIERS	NORTH WEST	REPLACE DETERIORATED STEEL BEAM GUIDERAIL	S9
22	COUNTERWEIGHTS	NORTH & SOUTH	REMOVE EXISTING STEEL COUNTERWEIGHT BASKETS & INSTALL NEW COUNTERWEIGHT STEEL BLOCKS AND SUPPORTS	S10
23	CONCRETE TRENCHES	ALONG CANAL	NEW HYDRAULIC AND ELECTRICAL TRENCHES	S16
24	PIER CUBICLE	PIER	REHABILITATE CUBICLE	S16
-	COATINGS	SUPERSTRUCTURE	ABRASIVE BLAST CLEAN AND APPLY 3-COAT PAINT SYSTEM	NA

THE ABOVE TABLE IS NOT AN EXHAUSTIVE LIST OF ALL ITEMS REQUIRED TO COMPLETE THIS REHABILITATION. IT IS INTENDED TO LIST THE GENERAL REPAIR TYPE AND LOCATION. SEE NOTES.

- NOTES:**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S5 TO S16 TO DETERMINE QUANTITY AND LOCATION OF EACH REPAIR TYPE.
 - SEE MECHANICAL DRAWINGS FOR REPLACEMENT OF END SUPPORTS, CENTRE-PIVOT BEARING, RAILS AND LIVE LOAD/BALANCE WHEELS.



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No.	Description	Rev. By	Date
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A	B
A Detail number Numéro du détail	B Location (dwg, number) Numéro sur dessin

Project title / Titre du projet
TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CITY PROV.
Drawing title / Titre du dessin
GENERAL ARRANGEMENT REHABILITATED STRUCTURE

Drawn by / Dessiné par
R. PETRUNGARO

Designed by / Conçu par
R. MOREAU

Approved by / Approuvé par
F. WASIEWICZ

2019/09/27

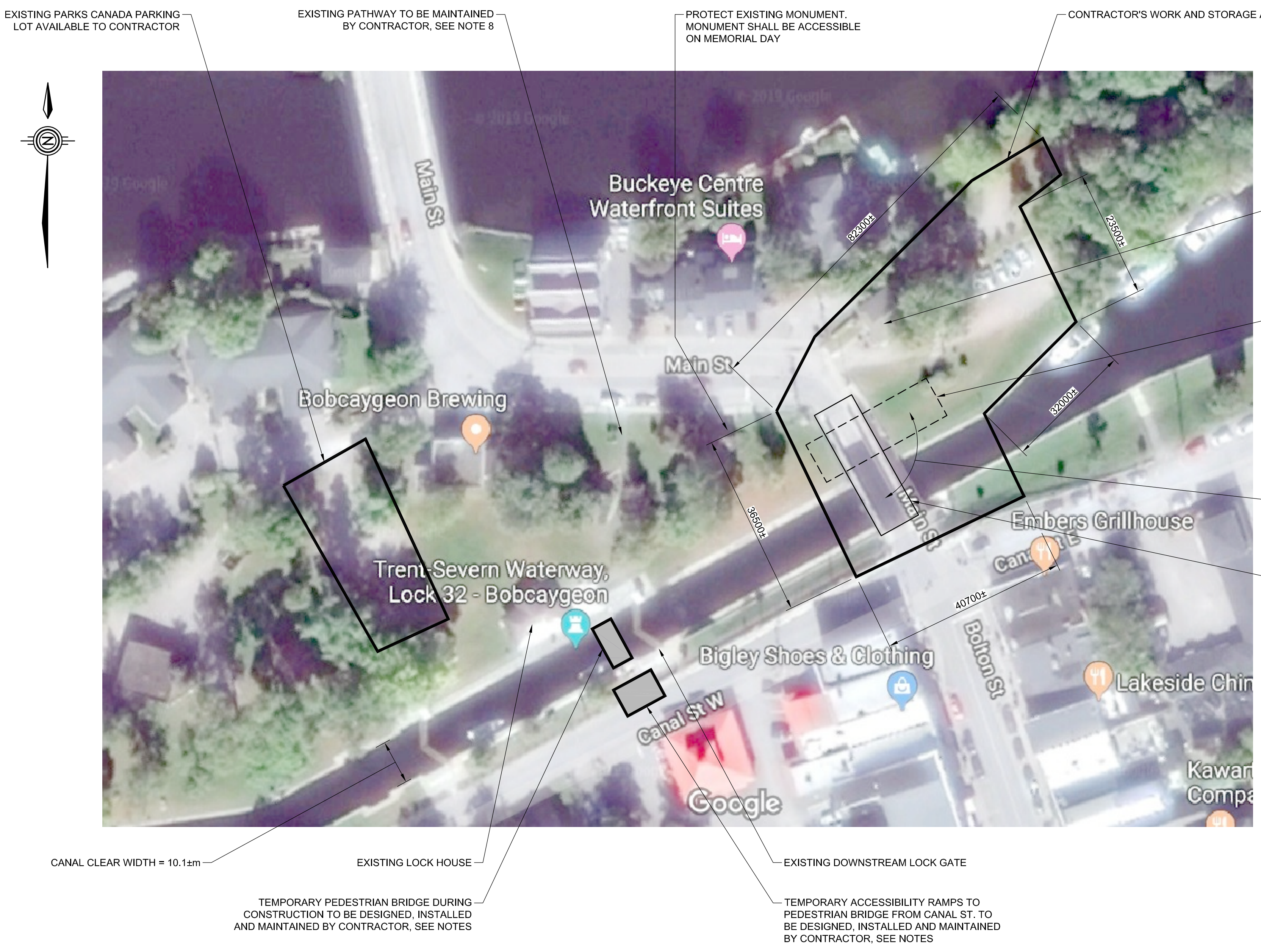
Project manager / Administrateur de projet
W. LITTLE

Drawing Number / Numéro du Dessin
S2

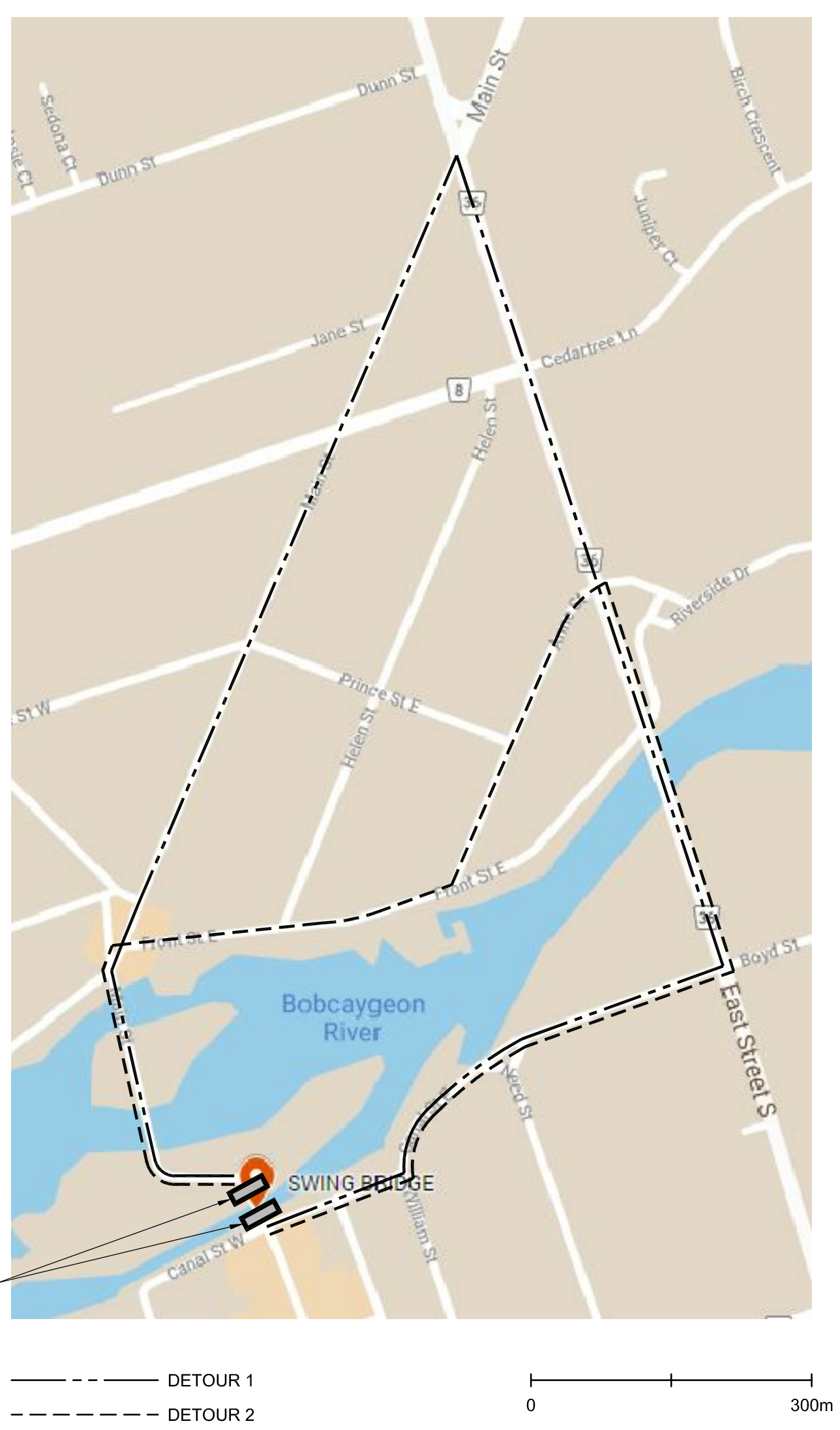
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DATE PLOTTED: 11/7/2019 2:36:37 PM BY: CARP069785



CONSTRUCTION STAGING PLAN VIEW



SUGGESTED TRAFFIC DETOUR ROUTE

ACCESS AND STAGING NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1 TO S3.
2. ALL WORK AFFECTING NAVIGATION SHALL BE COMPLETED DURING NON-NAVIGATION SEASON.
3. CONTRACTOR SHALL IMPLEMENT ENVIRONMENTAL PROTECTION MEASURES AS PER SPECIFICATIONS.
4. THE LOCATIONS DELINEATED ON THIS DRAWING FOR PARKING AND WORK/STORAGE SHALL BE THE ONLY LOCATION USED BY THE CONTRACTOR UNLESS OTHERWISE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
5. INSTALL AND MAINTAIN ALL FENCING, BARRICADES, SIGNS ETC. TO RESTRICT ACCESS BY PUBLIC TO THE WORK AREA.
6. CONTRACTOR SHALL LOCATE ALL UTILITIES BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION FROM DAMAGE DURING CONSTRUCTION.
7. PROTECT EXISTING ROADWAY, TREES, BOLLARDS, TRAFFIC LIGHTS, BENCHES, CANAL WALKWAY AND MONUMENT FEATURES.
8. PATHWAY ADJACENT TO LOCK HOUSE LEADING FROM THE CANAL TO MAIN STREET SHALL BE MAINTAINED AND CLEAR AND CLEAN OF DEBRIS AT ALL TIMES. DAMAGE SHALL BE REPAIRED AND RESTORED IMMEDIATELY.
9. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITIONS.

THE SWING BRIDGE IS CURRENTLY LOAD POSTED AT 15T AND THE CONTRACTOR SHALL NOT TRANSPORT ANY MATERIALS OR EQUIPMENT OVER THE BRIDGE IN EXCESS OF THIS RATING.

TEMPORARY PEDESTRIAN BRIDGE NOTES

1. CONTRACTOR SHALL DESIGN, SUPPLY, INSTALL AND MAINTAIN A TEMPORARY PEDESTRIAN BRIDGE AND ACCESSIBILITY RAMPS AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS.
2. THE PEDESTRIAN BRIDGE IS TO BE CONSTRUCTED AFTER NAVIGATION SEASON ENDS AND PRIOR TO THE SWING BRIDGE BEING SET IN THE OPEN POSITION TO CARRY OUT THE REHABILITATION WORK.
3. SEE SPECIFICATIONS FOR MINIMUM BRIDGE GEOMETRY AND DESIGN LOADS.
4. DRAWINGS SHALL BE SIGNED AND SEALED BY TWO PROFESSIONAL ENGINEERS LICENCED TO PRACTICE IN THE PROVINCE OF ONTARIO, PROVIDE ALLOWABLE LOADS ON DRAWINGS. DO NOT COMMENCE CONSTRUCTION OF BRIDGE UNTIL APPROVAL HAS BEEN GIVEN.
5. PEDESTRIAN ACCESS ROUTES SHALL BE FREE OF SNOW AND ICE MONDAY THROUGH FRIDAY OF EACH WEEK.
6. PEDESTRIAN BRIDGE AND RAMPS SHALL BE REMOVED 1 WEEK PRIOR TO THE BEGINNING OF THE NAVIGATIONAL SEASON.
7. RESTORE SITE INCLUDING LOCK WALLS TO ORIGINAL OR BETTER CONDITIONS.

TRAFFIC MANAGEMENT NOTES

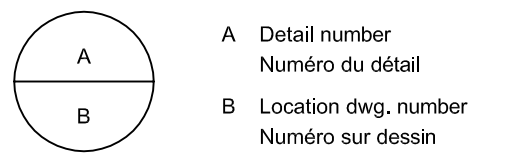
1. TRAFFIC DETOUR ROUTE SHOWN IS SUGGESTED. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN INCLUDING DETOUR ROUTES & TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL BOOK 7.
2. ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
3. ADVANCE WARNING SIGNS SHALL BE PLACED A MINIMUM OF 4 WEEKS BEFORE SCHEDULED BRIDGE CLOSURE DATE.



NOT FOR CONSTRUCTION

No.	Description	Des. By	Date
0	ISSUED FOR TENDER	RSP	2019/11/07

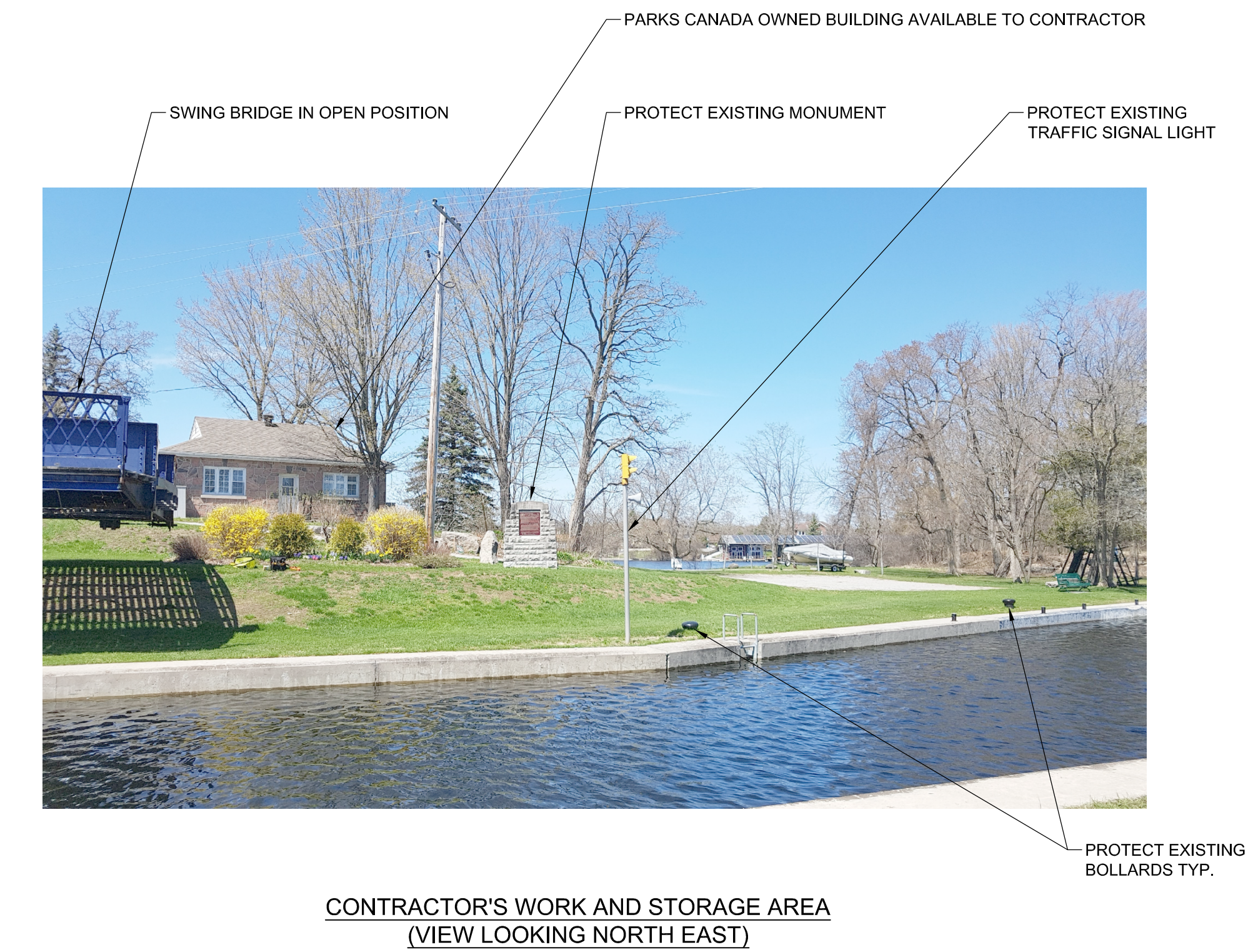
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LOCK HOUSE AND DOWNSTREAM GATE (VIEW LOOKING WEST)



SWING BRIDGE IN OPEN POSITION (VIEW LOOKING NORTH)



CONTRACTOR'S WORK AND STORAGE AREA (VIEW LOOKING NORTH EAST)

TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CONSTRUCTION STAGING

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du dessin S3
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X

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 MODIFIED: 11/7/2019 2:37:05 PM BY: CARP069785
 DATE PLOTTED: 11/7/2019 2:37:07 PM BY: CARP069785

STRUCTURAL STEEL

- STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH CSA S6-14 CHBDC.
- ALL STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA-G40.21-13, NEW ROLLED SECTIONS (ANGLES, BEAMS, CHANNELS) SHALL BE GRADE 350W, NEW PLATES SHALL BE GRADE 350WT CATEGORY 2, NEW HSS MEMBERS SHALL BE 350W CLASS C, PIVOT BEAM AND ALL ITS ATTACHMENTS ARE FRACTURE CRITICAL MEMBERS.
- NEW STEEL PLATES WHICH ARE SOFT CONVERSIONS FROM IMPERIAL PLATE SIZES ARE: 9.5mm (3/8"); 12.7mm (1/2"); 15.9mm (5/8") AND 19mm (3/4").
- TENSION CONTROL BOLTS WITH HEADS RESEMBLING RIVETS (DOVE HEADS) SHALL CONFORM TO ASTM F3125 GRADE F1852 TYPE 1 FOR ALL VISIBLE CONNECTIONS AS SHOWN IN DETAIL BELOW. BOLT HEADS SHALL BE LOCATED ON THE OUTSIDE OR VISIBLE SIDE TO THE PUBLIC U.N.O. OTHERWISE, BOLTS SHALL CONFORM TO REGULAR HEAVY HEX BOLTS GRADE A325 WITH TWO HARDENED WASHERS, ONE UNDER EACH END OF THE BOLT. BOLTS THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANES FOR ALL BOLT GRADES.
- BOLT HOLES SHALL BE A MAXIMUM OF 2mm (1/16") LARGER THAN THE DIAMETER OF THE BOLT. REAM EXISTING HOLES FOLLOWING APPROVAL BY DEPARTMENTAL REPRESENTATIVE.
- REMOVAL OF RIVETS SHALL BE PERFORMED IN A MANNER SUCH THAT EXISTING MATERIAL TO REMAIN IS NOT DAMAGED. REMOVAL METHODS SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL FOR ALL ITEMS.
- DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ARE BASED ON THE ORIGINAL DESIGN PLANS. THE CONTRACTOR SHALL VERIFY THEM IN THE FIELD BEFORE COMMENCEMENT OF STRUCTURAL STEEL SHOP DRAWINGS, PROMPTLY INFORM THE DEPARTMENTAL REPRESENTATIVE OF ANY DISCREPANCIES.
- DIMENSIONS BETWEEN EXISTING HOLES ARE NOT SHOWN SINCE THEY ARE VARIABLE AND APPROXIMATE. HOLES IN NEW STRUCTURAL STEEL COMPONENTS THAT ARE TO MATCH LOCATIONS WHERE EXISTING RIVETS OR BOLTS ARE TO BE REMOVED SHALL BE FIELD DRILLED. THE CONTRACTOR HAS THE OPTION TO CREATE AN ACCURATELY FIELD MEASURED TEMPLATE TO SHOP DRILL THESE HOLES.
- WHERE HOLE LOCATIONS ARE SHOWN TO SUIT EXISTING BOLT HOLES, PLATE DIMENSIONS SHALL BE ADJUSTED TO PROVIDE BOLT END/EDGE DISTANCE IN ACCORDANCE WITH CSA S6-14.
- NO FIELD WELDING IS PERMITTED UNLESS NOTED OTHERWISE.
- WELDING SHALL BE MADE WITH E480XX ELECTRODES IN ACCORDANCE WITH CSA W59 AND SHALL BE PERFORMED BY A WELDER QUALIFIED UNDER CSA W47.1. SURFACES TO BE WELDED SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER.
- THE SHOP FABRICATOR SHALL BE CERTIFIED TO THE REQUIREMENTS OF CSA STANDARD W47.1 (DIVISION 1 OR 2.1).
- UNLESS OTHERWISE NOTED, THE MINIMUM FILLET WELD SIZE SHALL BE AS FOLLOWS:

MATERIAL THICKNESS OF THICKER PART JOINED (mm)	MINIMUM SIZE OF FILLET WELDS (mm)
TO 12 INCLUSIVE	5
OVER 12 TO 20	6
OVER 20 TO 40	8
OVER 40 TO 60	10
OVER 60 TO 120	12

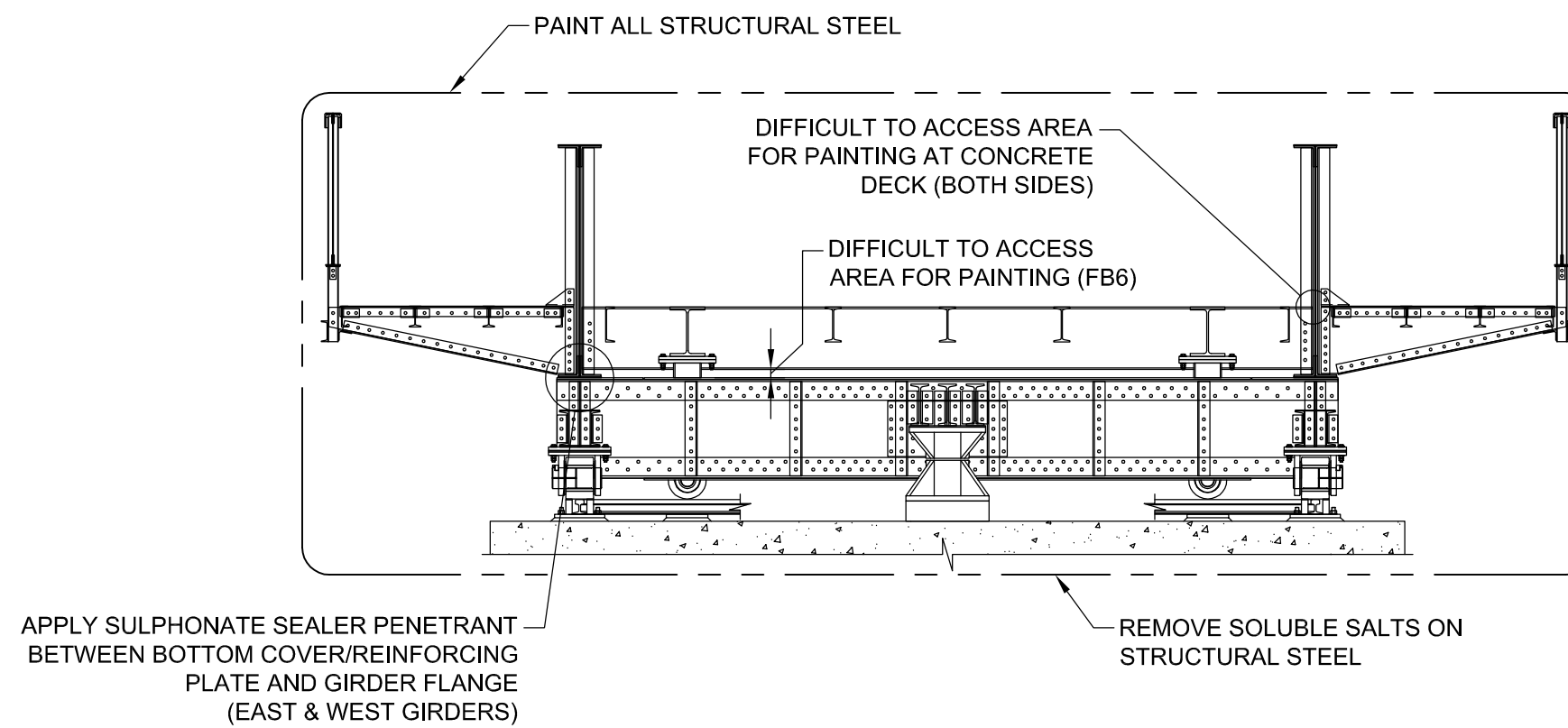
- THE CONTRACTOR SHALL ENSURE THE STABILITY AND STRUCTURAL RESISTANCE OF ALL NEW AND EXISTING STRUCTURAL COMPONENTS DURING STEEL STRENGTHENING AND REPLACEMENT AT ALL STAGES OF CONSTRUCTION AND UNTIL THE STRUCTURAL STEEL IS IN ITS FINAL LOCATION WITH ALL PERMANENT BRACING, CONNECTIONS AND SUPPORTS IN PLACE.

ADDITIONAL GENERAL CONSTRUCTION AND PROCEDURE NOTES

- ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATION TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS FOLLOWING WRITTEN APPROVAL FROM DEPARTMENTAL REPRESENTATIVE.
- IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN ON THE STRUCTURE, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE DEPARTMENTAL REPRESENTATIVE AT THE EXPENSE OF THE CONTRACTOR.
- BOLT LAYOUT AND SPACING NOT INDICATED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH BRIDGE DESIGN CODE CSA S6-14 AND SHALL BE DETAILED ON SUBMITTED SHOP DRAWINGS.
- ALL CUTTING OF STEEL IN THE FIELD SHALL BE BY MECHANICAL CUTTING WHEEL UNLESS OTHERWISE DIRECTED. THE CUT SURFACES SHALL BE GROUND SMOOTH.
- THE CONTRACTOR SHALL SUBMIT TO THE DEPARTMENTAL REPRESENTATIVE A DETAILED WRITTEN PLAN OF OPERATIONS TO COINCIDE WITH THE PROJECT SCHEDULE AND EACH SUBSEQUENT SCHEDULE UPDATE AS DEFINED WITH THE CONTRACT SPECIFICATIONS.
- DURING REMOVAL AND CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT BE PERMITTED TO DROP MATERIAL OR DEBRIS INTO THE CANAL. NOR SHALL ANY WATER WHICH IS USED FOR WASHING PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSES IT TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL OR OTHER IMPURITIES BE DEPOSITED INTO THE CANAL.
- THE CONTRACTOR SHALL SUBMIT TO THE DEPARTMENTAL REPRESENTATIVE FINAL DESIGN DRAWINGS OF ALL TEMPORARY ACCESS, CONSTRUCTION PLATFORMS AND TEMPORARY WORKS. THESE DRAWINGS SHALL BE FULLY DIMENSIONED AND SHALL SHOW ALL ATTACHMENTS TO THE EXISTING BRIDGE MEMBERS. TEMPORARY WORKS AND DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A LICENSED PROFESSIONAL ENGINEER IN ONTARIO. ATTACHMENTS TO THE EXISTING STRUCTURE THAT IN THE OPINION OF DEPARTMENTAL REPRESENTATIVE COULD BE DAMAGING TO ANY COMPONENT OF THE BRIDGE STRUCTURE SHALL NOT BE USED.
- THE CONTRACTOR SHALL SUBMIT TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL OF THE PLAN AND SCHEDULE FOR ERECTING ALL NEW STRUCTURAL STEEL ON THE BRIDGE SUPERSTRUCTURE. THIS PLAN MUST BE SUBMITTED AT LEAST 14 DAYS PRIOR TO THE COMMENCEMENT OF ANY REMOVAL WORK.
- UNLESS OTHERWISE DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE, ALL EXISTING OPEN BOLT OR RIVET HOLES REMAINING AFTER THE REMOVAL OF EXISTING MATERIAL THAT ARE NOT TO BE USED FOR A NEW CONNECTION AND ALL BOLT HOLES LEFT FROM TEMPORARY WORKS SHALL BE FILLED WITH THE APPROPRIATE SIZE FULLY TENSIONED HIGH STRENGTH BOLT.
- CONTRACTOR TO SUBMIT SITE-SPECIFIC HEALTH AND SAFETY PLAN PER SPECIFICATION REQUIREMENTS.

COATING NOTES

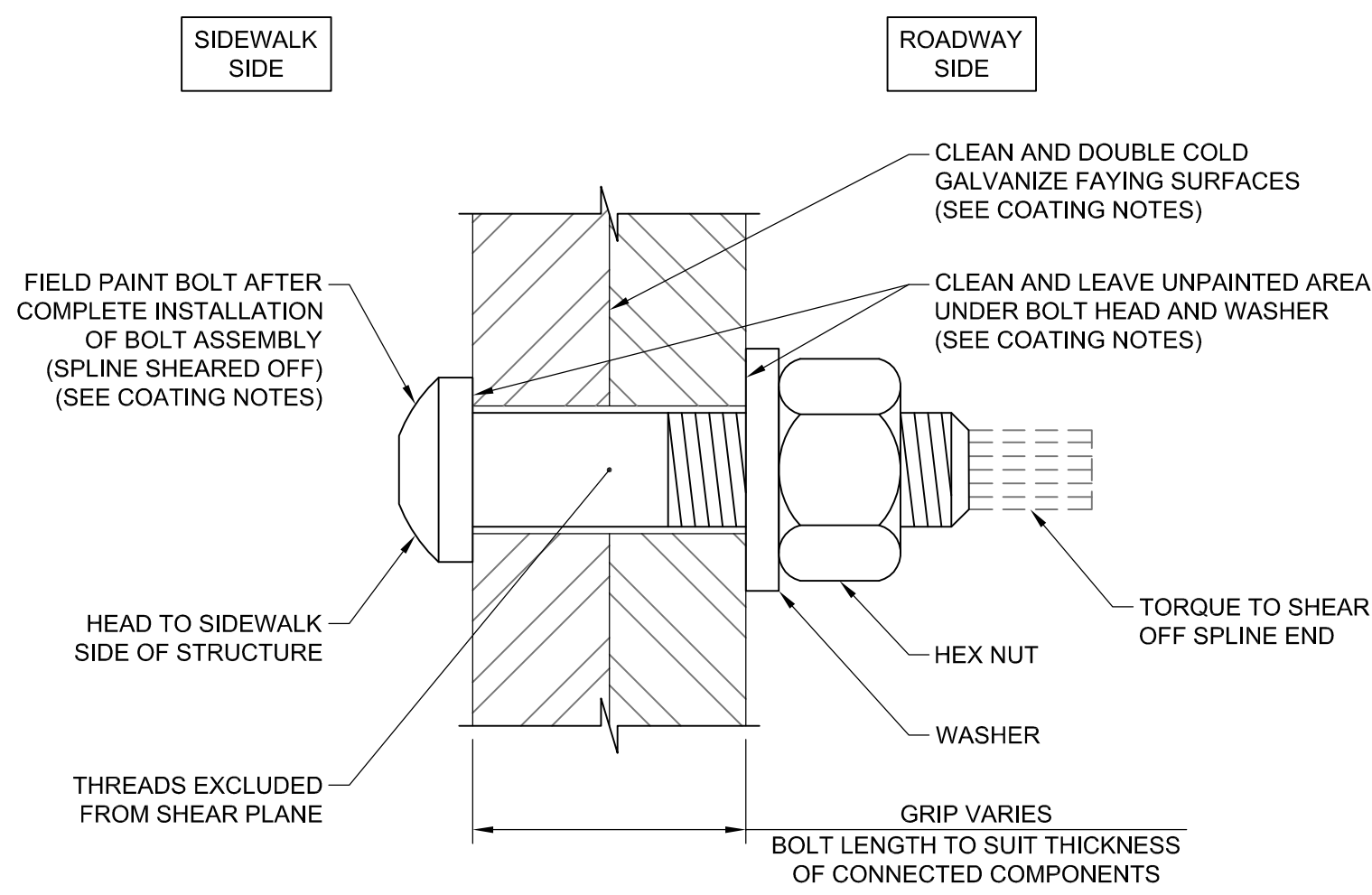
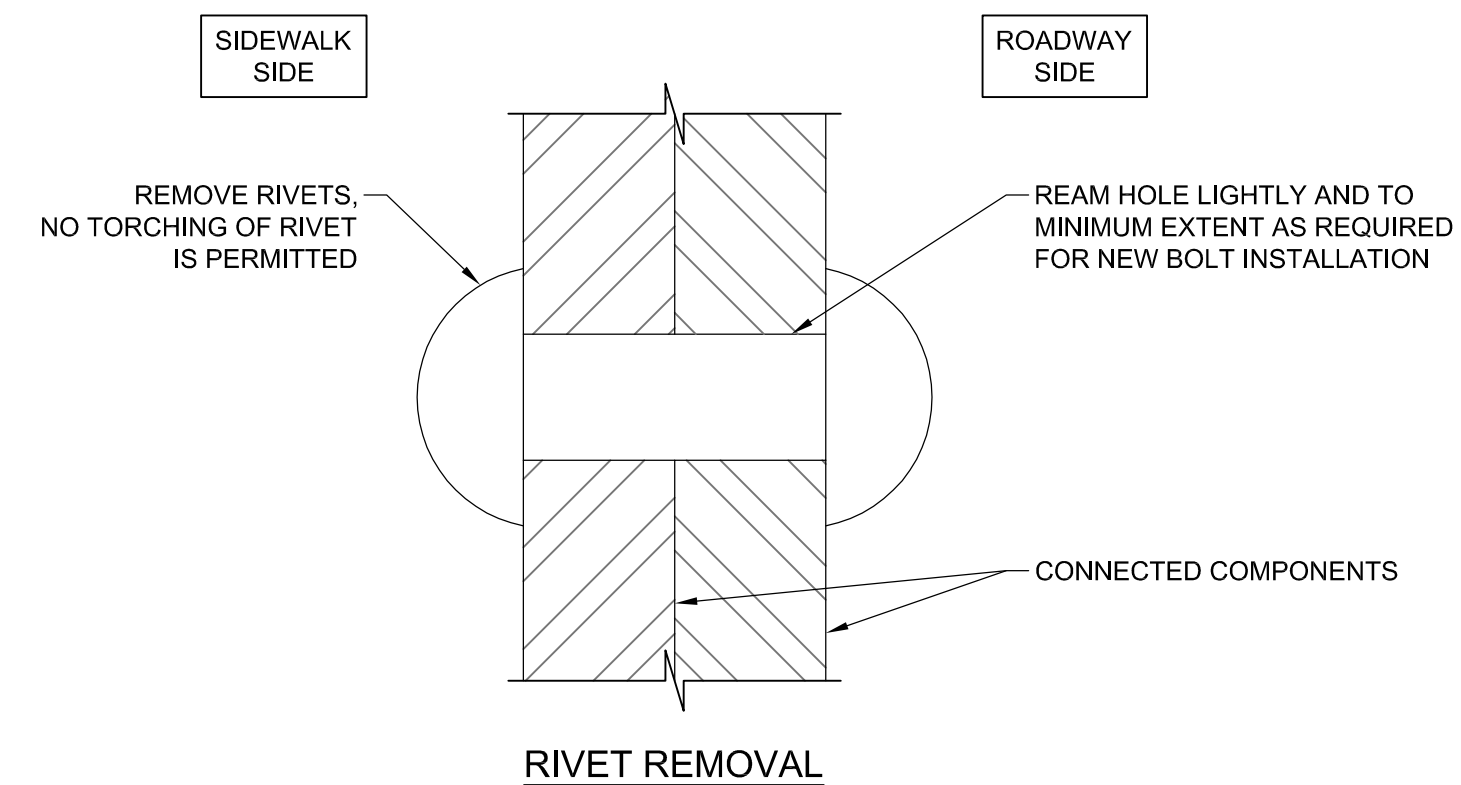
- CONTRACTOR SHALL REVIEW THE CONTRACT PROVISIONS AND DEVELOP A WRITTEN AND ALL ENCOMPASSING PROCEDURE FOR ALL COATING OPERATIONS INCLUDING ANY AND ALL ISSUES OF MODIFICATIONS TO THE DESIGN.
- QUALITY CONTROL OF COATING IS THE FULL RESPONSIBILITY OF THE CONTRACTOR INCLUDING SUBMISSION OF ALL QUALITY CONTROL DOCUMENTATION. SEE PAINT SPECIFICATIONS.
- DESIGN, SUPPLY, MAINTAIN AND INSTALL A NEGATIVE PRESSURE ENVIRONMENTAL PROTECTION ENCLOSURE SYSTEM OVER THE BRIDGE SUPERSTRUCTURE FOR SURFACE PREPARATION AND COATING OF STRUCTURAL STEEL.
- ALL STEEL TO BE PAINTED WITH AN ZINC-RICH, EPOXY AND POLYURETHANE COATING SYSTEM UNLESS NOTED OTHERWISE.
- ALL NEW STRUCTURAL STEEL COMPONENTS DESIGNATED FOR GALVANIZING SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH CAN/CSA - G164.
- IMPLEMENT ALL NECESSARY PROVISIONS RELATED TO PROTECTION OF WORKERS AND ENVIRONMENT FROM EXPOSURE TO LEAD CONTENT IN EXISTING COATING.
- COAT ALL HOLES IN NEW AND EXISTING STEEL PRIOR TO INSTALLATION OF BOLT ASSEMBLY.
- ALL NEW BOLTS SHALL BE INSTALLED PRIOR TO COATING OF THE SUPERSTRUCTURE. COAT ALL BOLTS IN THE FIELD AFTER CONNECTION HAS BEEN FULLY ASSEMBLED WITH BOLT CORRECTLY INSTALLED (SPLINES SHEARED OFF FOR TENSION CONTROL BOLTS). RECOAT AND REPAIR AREAS WHERE BOLTS ARE INSTALLED AFTER COATING.



COATING OF STEEL WORK

ADDITIONAL NOTES

- FAYING SURFACES OF ALL NEW STEEL WORK MEMBERS AND PLATES SHALL BE CLEANED TO REMOVE ALL DELETERIOUS MATERIALS OTHER THAN TIGHTLY ADHERED MILL SCALE AND BE COLD GALVANIZED WITH TWO COATS PRIOR TO INSTALLATION (AEROSOL APPLICATION PERMITTED).
- FAYING SURFACES OF EXISTING STEELWORK SHALL BE AS A MINIMUM COMMERCIAL BLAST CLEANED IN ACCORDANCE WITH SSPC-SP 6 AND COLD GALVANIZED WITH TWO COATS BY BRUSH OR SPRAY (AEROSOL APPLICATION PERMITTED). IN ADDITION, EXISTING AND NEW SURFACES UNDER BOLT HEADS AND WASHERS SHALL BE CLEANED AND LEFT UNPAINTED PRIOR TO INSTALLATION OF THE BOLT ASSEMBLY.
- ABRASIVE BLAST CLEAN ALL STRUCTURAL STEEL TO SSPC-SP10 NEAR-WHITE METAL BLAST CLEANING.
- CARRY OUT SOLUBLE SALT REMOVAL TREATMENT FOR ALL STEEL WORK.
- APPLY SULPHONATE PENETRANT/SEALER TO VOIDS AND CREVICES WITHIN THE GIRDER BOTTOM FLANGE COVER PLATE.
- REBLAST ALL FLASH RUST.
- PRIME STEELWORK AND APPLY MID- AND TOP-COAT.

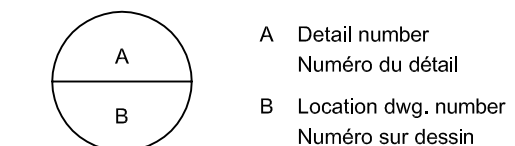


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Revision / Révision

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Project title / Titre du projet

**TRENT-SEVERN WATERWAY
BOBCAYGEON SWING
BRIDGE REHABILITATION**

CITY PROV.

Drawing title / Titre du dessin

**STRUCTURAL STEEL
NOTES**

Drawn by / Dessiné par

R. PETRUNGARO R. MOREAU

Approved by / Approuvé par

F. WASIEWICZ 2019/09/27

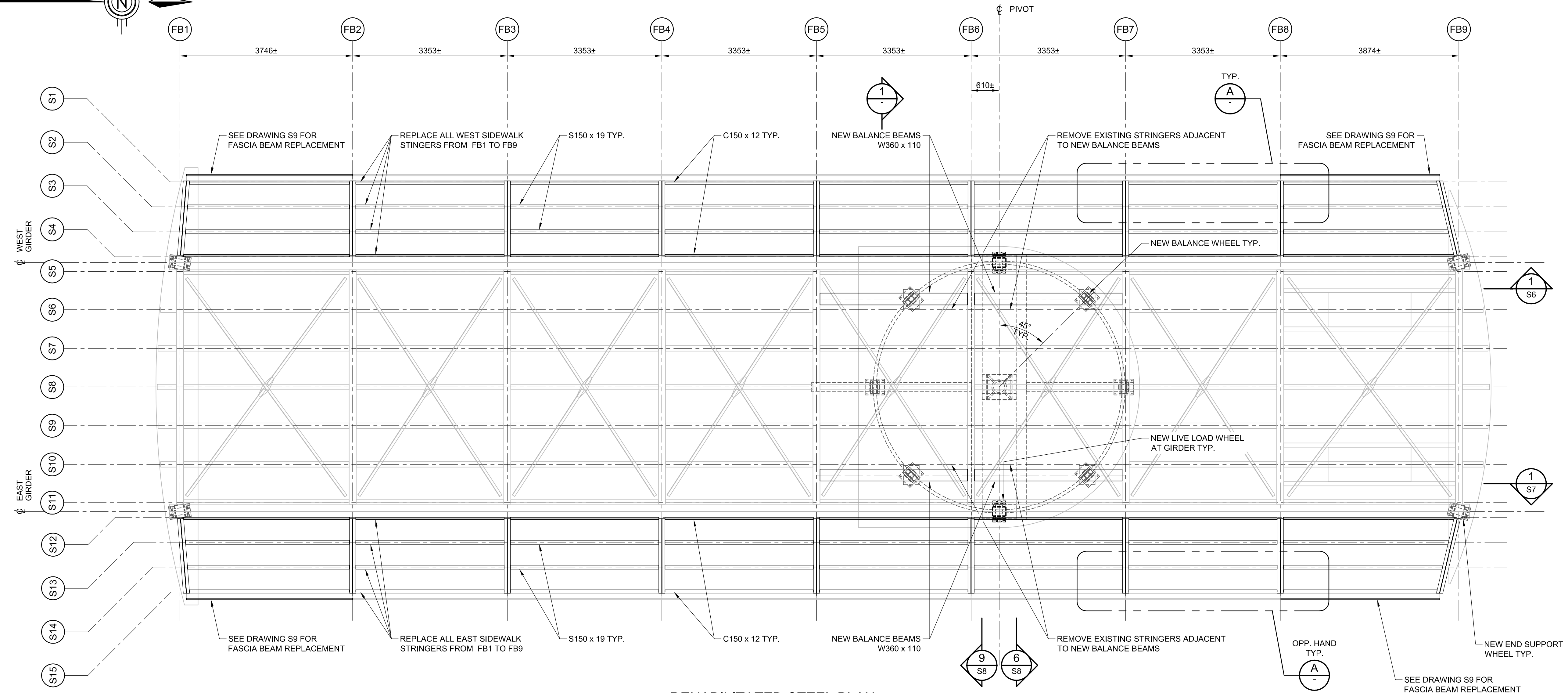
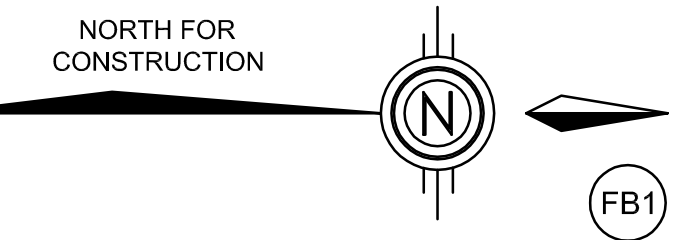
Project manager / Administrateur de projet

W. LITTLE

Drawing Number /
Numéro du Dessin

1356-30030321

S4
Sheet /
Feuille X of X



REHABILITATED STEEL PLAN
1:50

- LEGEND**
- DENOTES ANGLE TO BE REMOVED AND REPLACED.
 - DENOTES EXISTING RIVET LOCATION.
 - DENOTES EXISTING RIVET OR BOLT TO BE REMOVED AND REPLACED WITH NEW 3/4" TC BOLT.
 - DENOTES NEW 3/4" TC BOLT LOCATION.
- NOTES**
- SEE DRAWING S4 FOR GENERAL STRUCTURAL STEEL NOTES.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1, S2 AND S6 TO S12.
 - SEE MECHANICAL DRAWINGS FOR REPLACEMENT OF END SUPPORTS, CENTRE-PIVOT BEARING, RAILS AND LIVE LOAD/BALANCE WHEELS.

LOCATION	DESCRIPTION OF WORK
WEST & EAST SIDEWALK FB1 TO FB9	REPLACE ALL SIDEWALK STRINGERS
WEST & EAST SIDEWALK FB1 TO FB9	REPLACE ALL SIDEWALK TOP FLANGE ANGLES
WEST & EAST SIDEWALK FB1 AND FB9	REPLACE SIDEWALK BOTTOM FLANGE ANGLES
STRINGERS S6 AND S10 BETWEEN FB5 AND FB7	REMOVE CENTER STRINGERS
ADJACENT TO S6 AND S10 BETWEEN FB5 AND FB7	INSTALL NEW CENTER STRINGERS, BALANCE WHEEL SUPPORTS & LATERAL BRACING

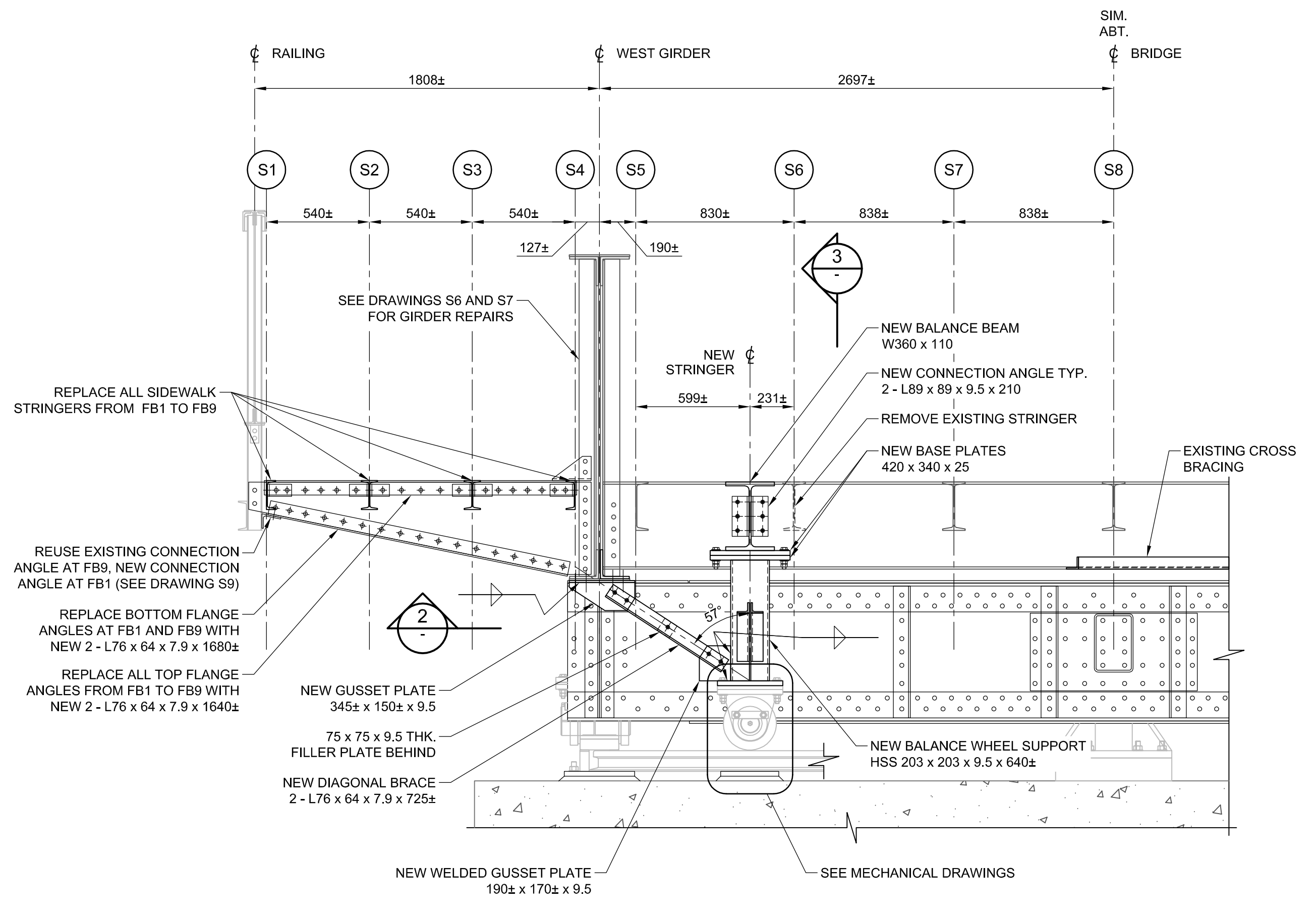


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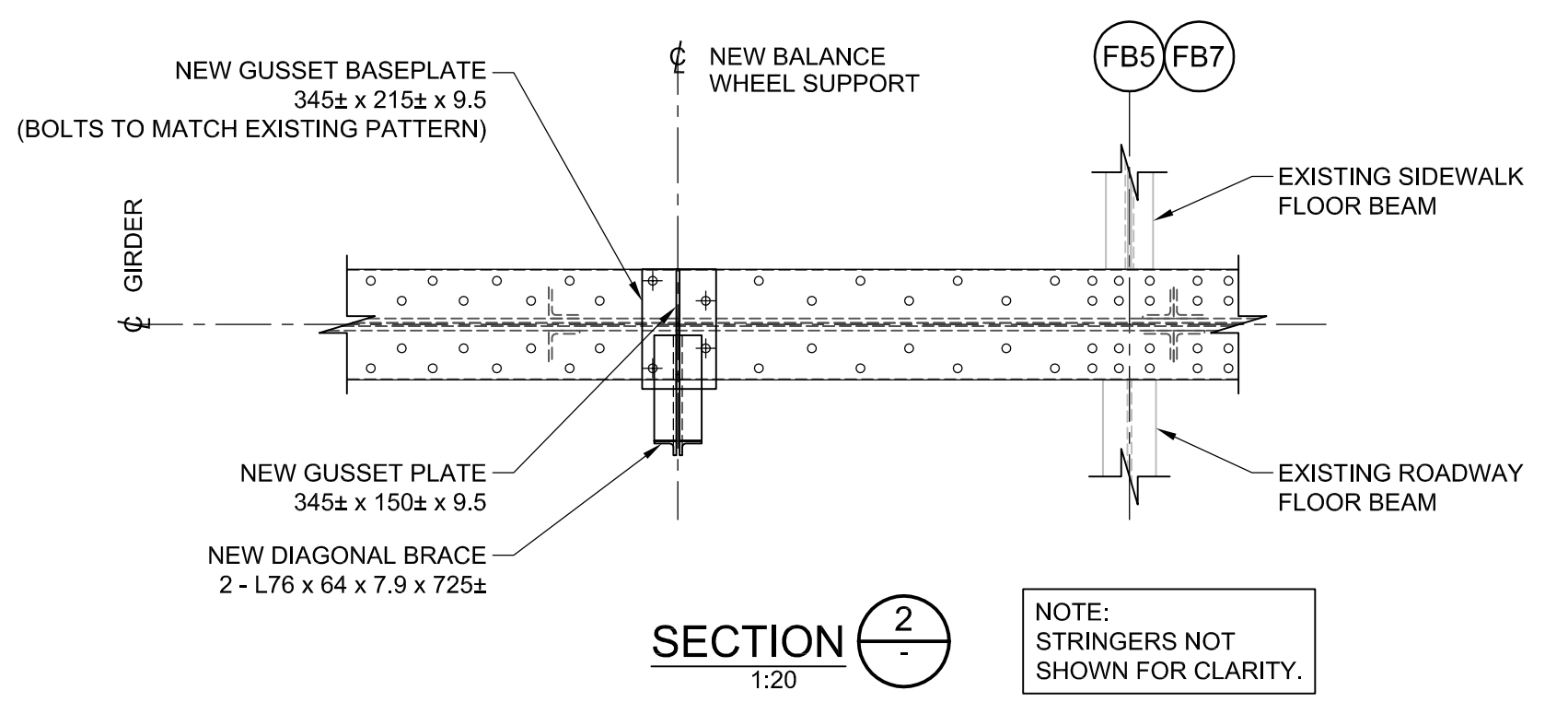
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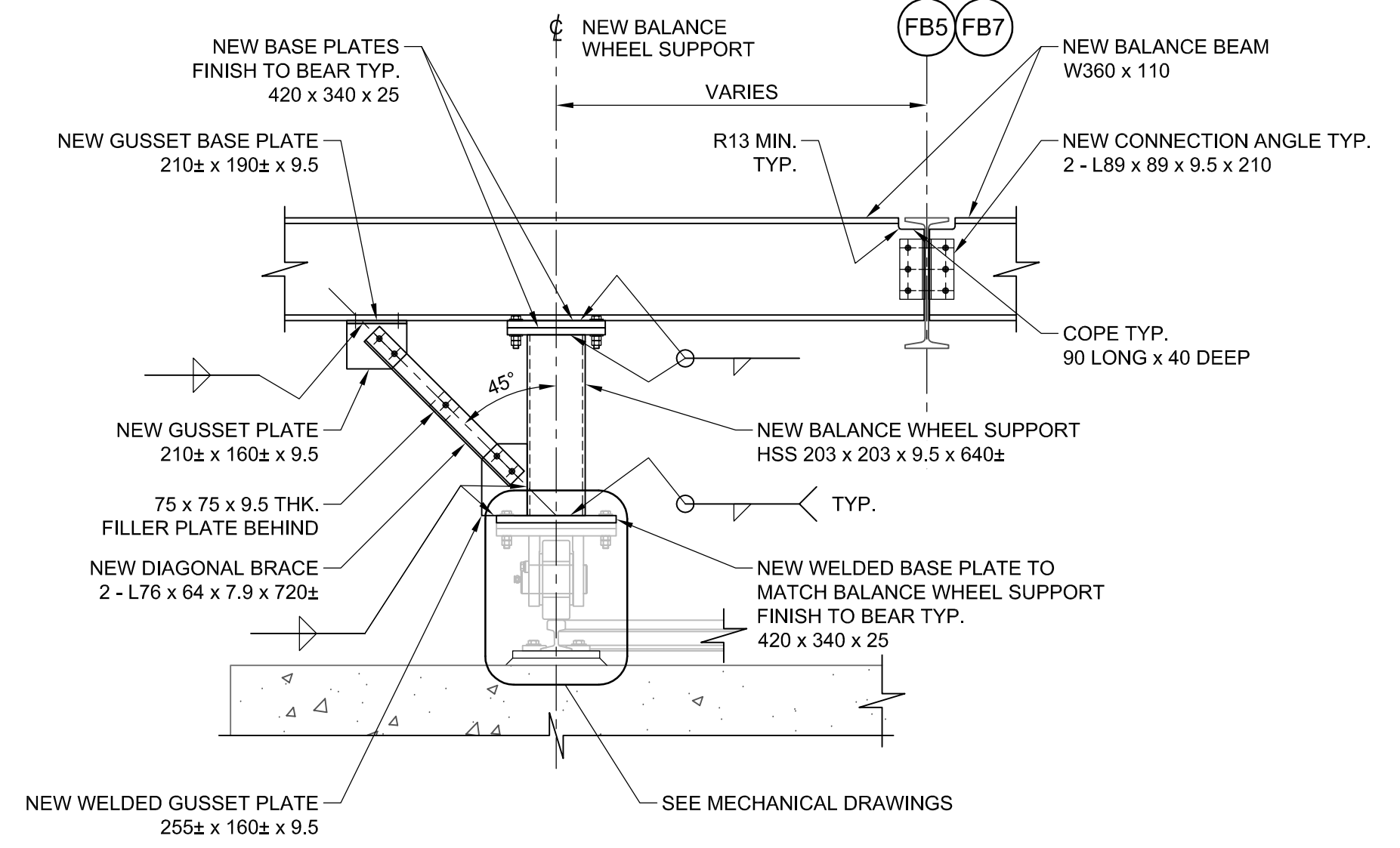
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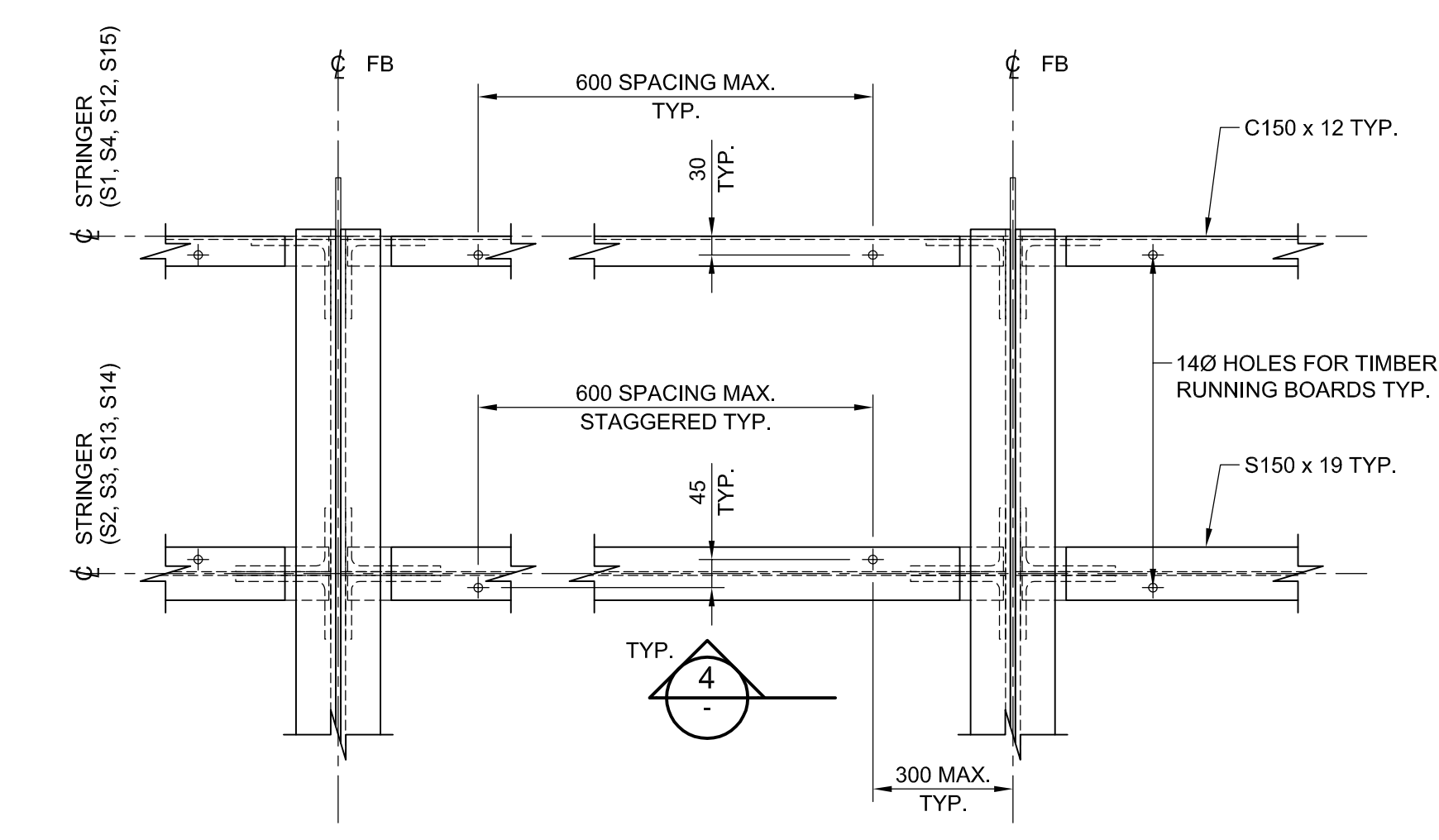
SECTION 1
1:20 WEST SIDE SHOWN EAST SIDE SIMILAR



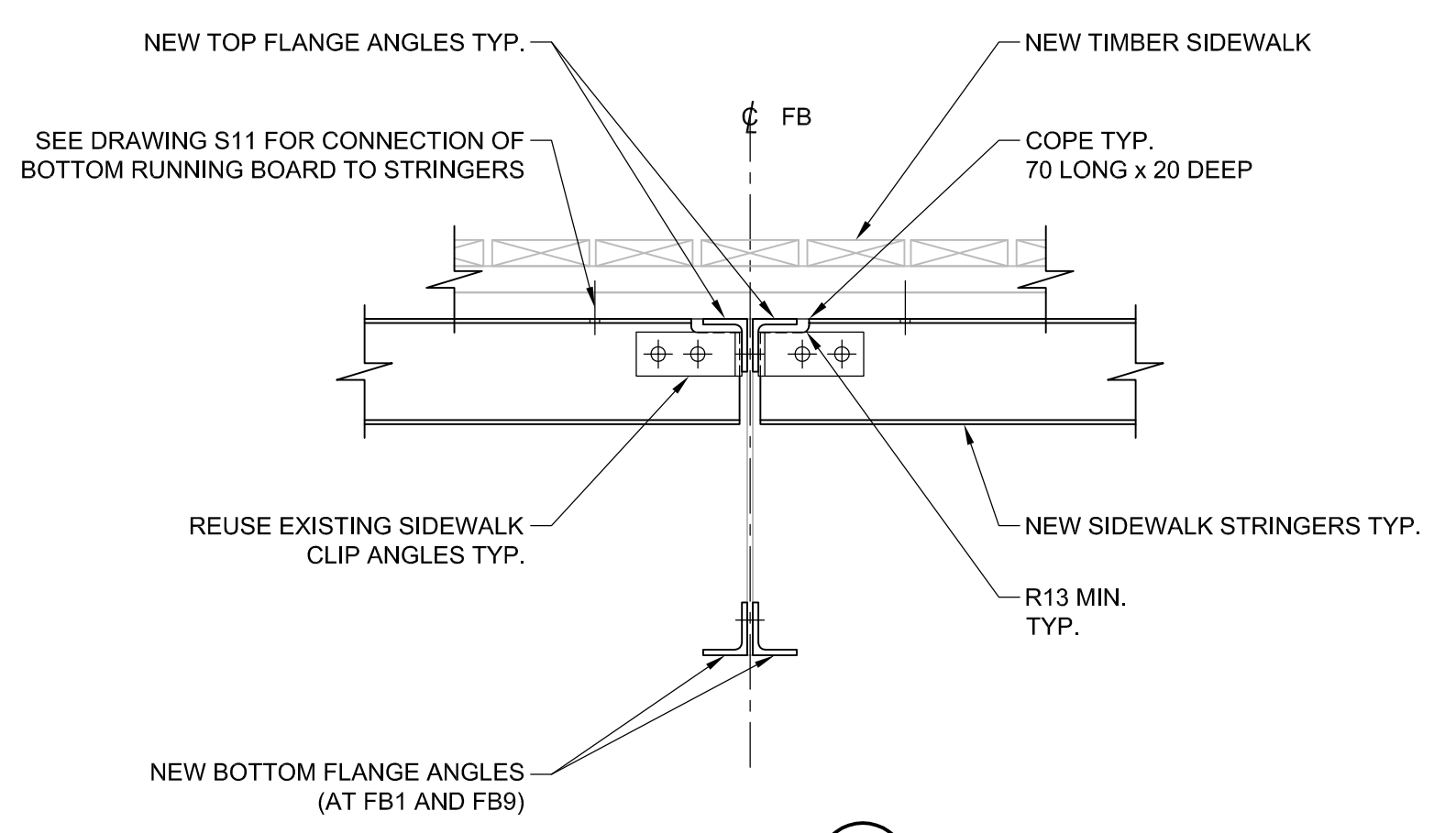
SECTION 2
1:20



SECTION 3
1:20



DETAIL A
1:10



SECTION 4
1:10

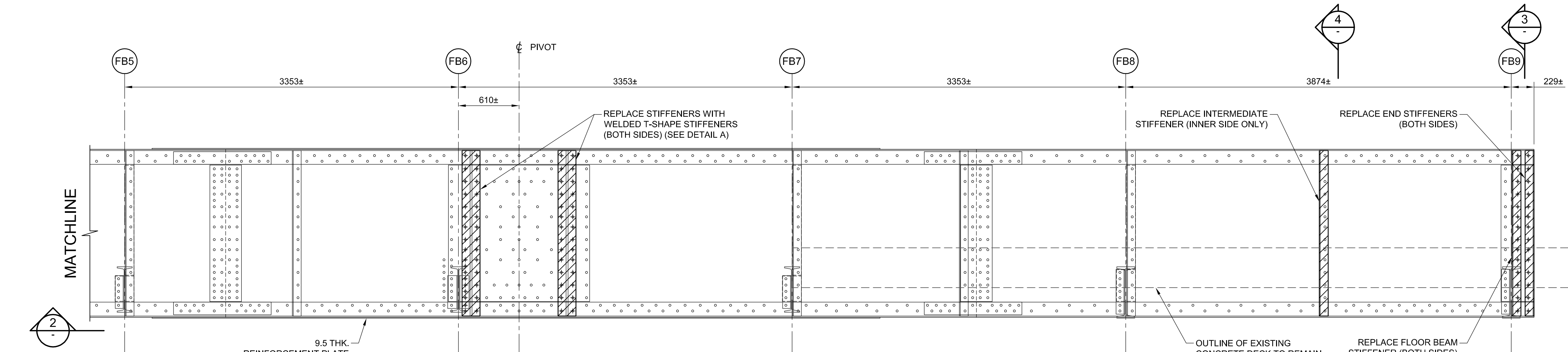
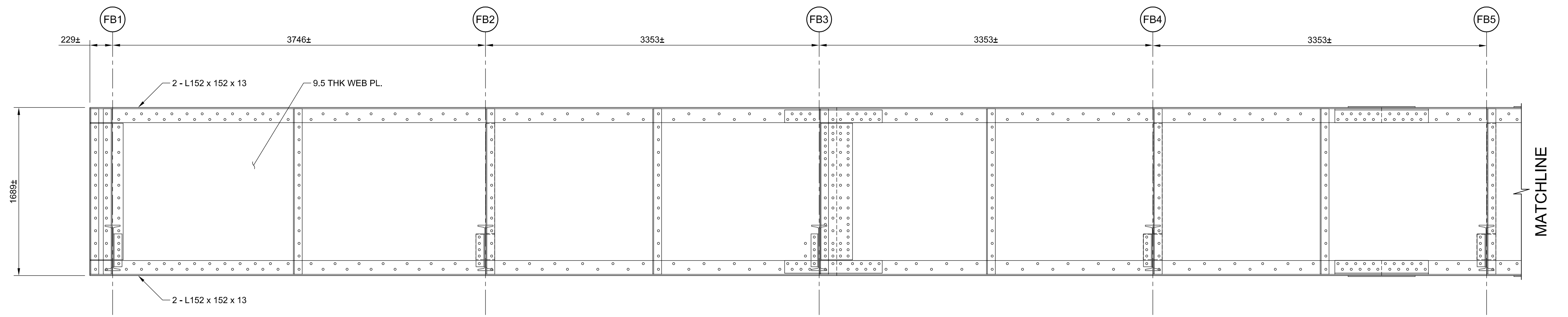
Project title / Titre du projet
TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CITY PROV.

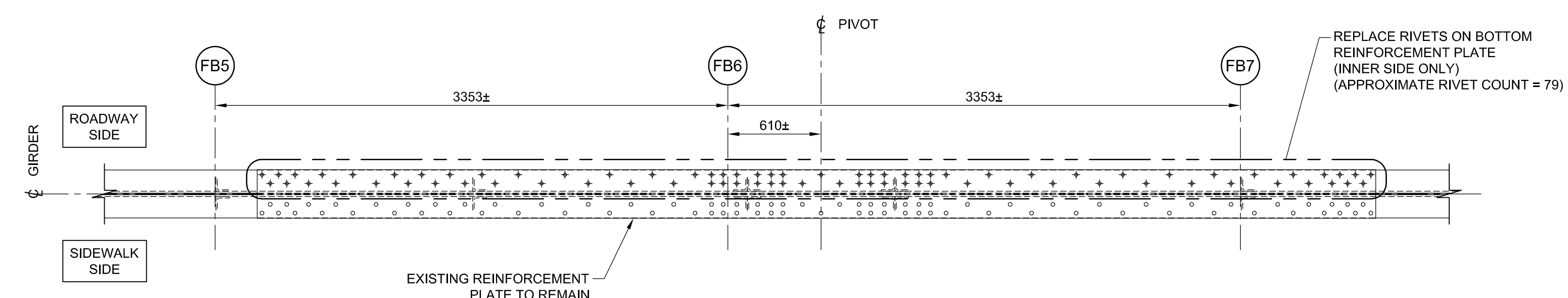
Drawing title / Titre du dessin
STRUCTURAL STEEL DECK PLAN VIEW STRINGER AND FLOOR BEAM REPAIRS

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du Dessin S5
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X

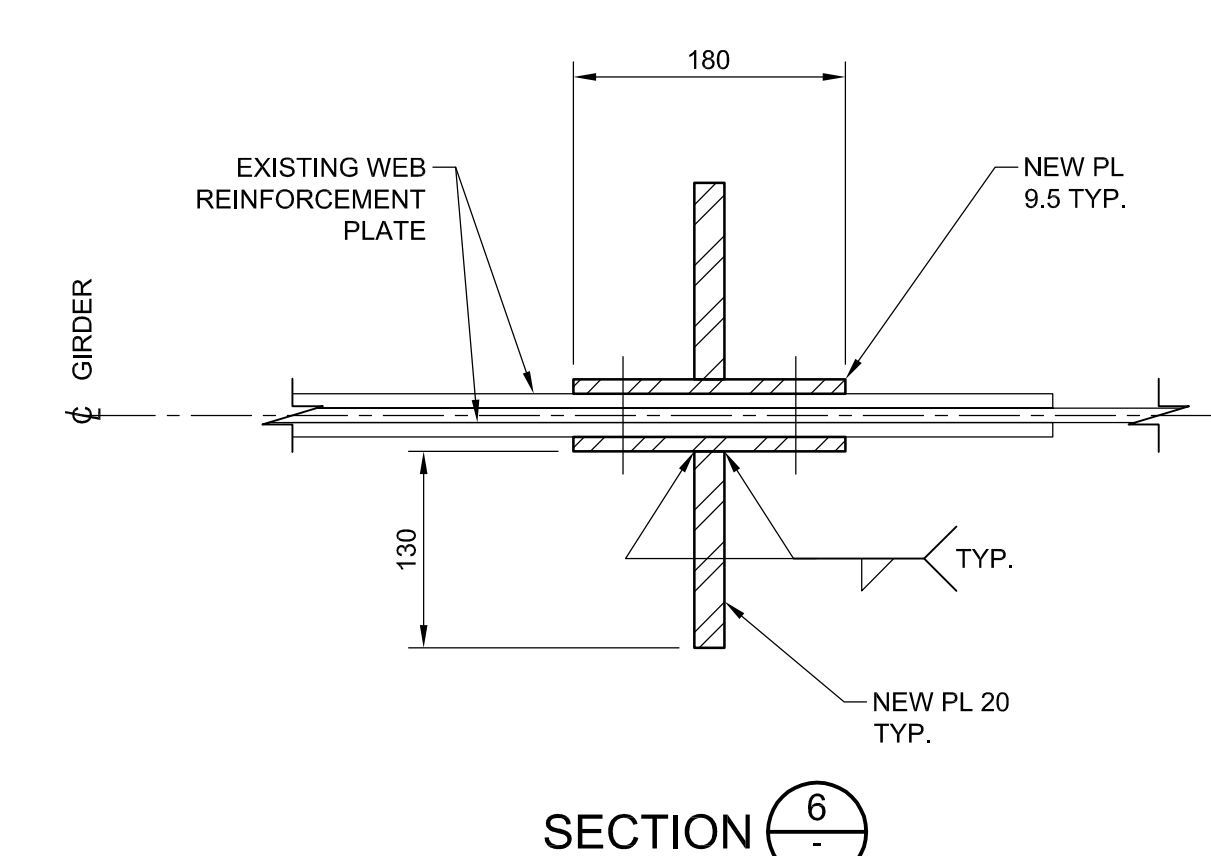
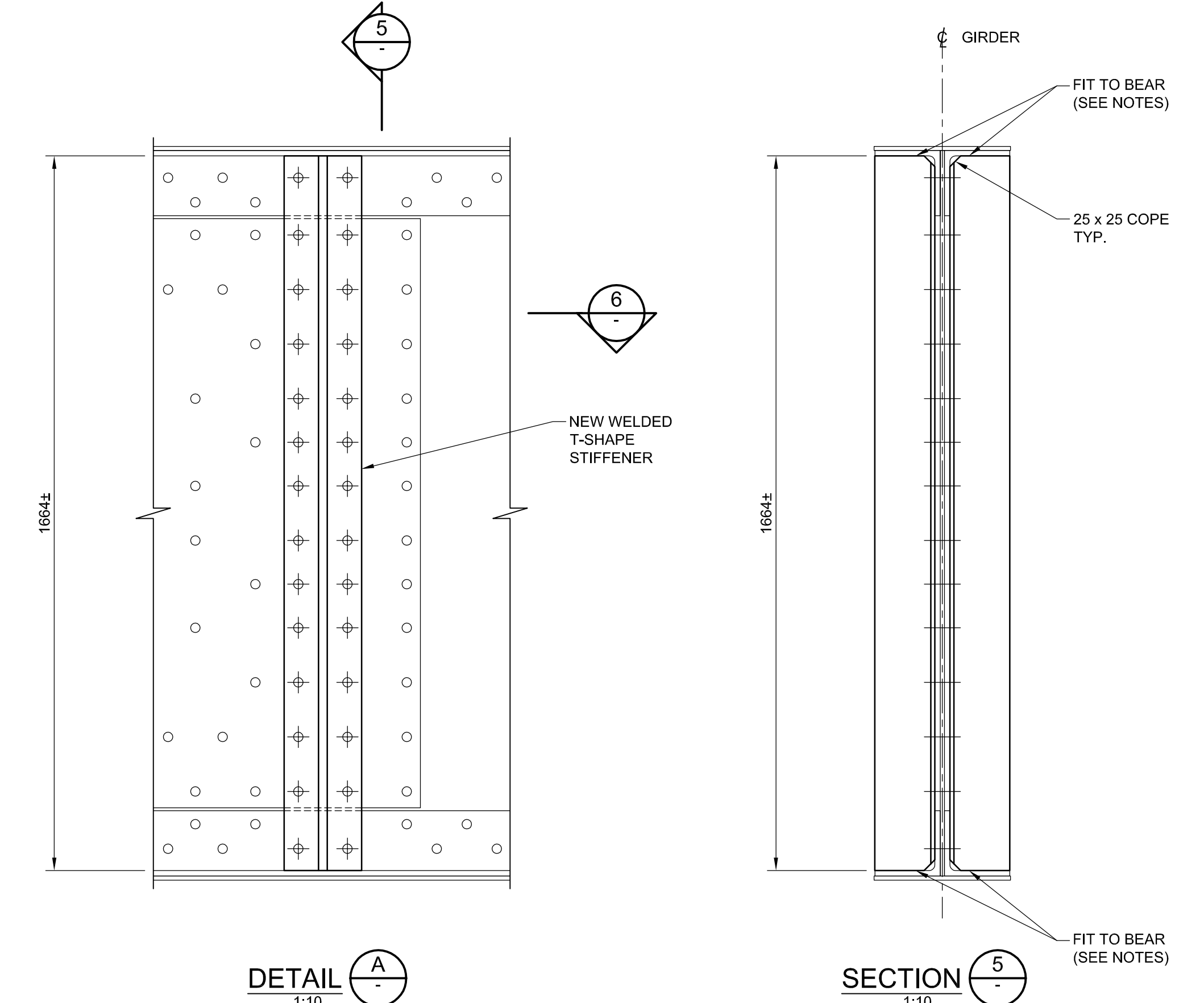
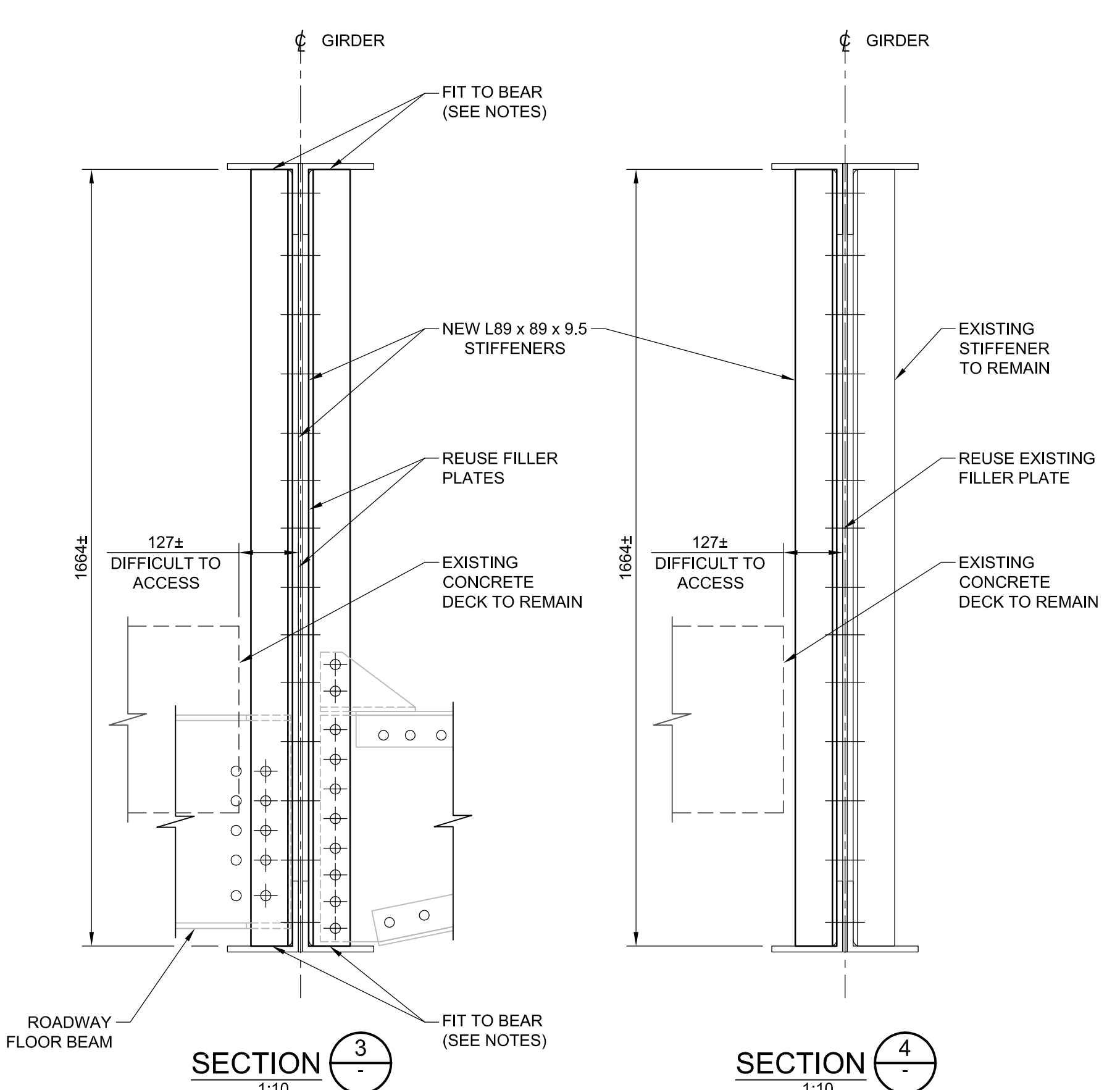
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 MODIFIED: 11/7/2019 2:38:34 PM BY: CARP069785
 DATE PLOTTED: 11/7/2019 2:38:35 PM BY: CARP069785



NOTE: TIMBER DECK ASSUMED TO BE NOT PRESENT DURING GIRDER REPAIRS.
SECTION - WEST GIRDER REPAIRS 1/85
 (INNER VIEW SHOWN) 1:25



SECTION 2 BOTTOM VIEW
 1:25



SECTION 6
 1:5

LEGEND

- [Hatched Box] DENOTES ANGLE TO BE REMOVED AND REPLACED.
- [Circle with dot] DENOTES EXISTING RIVET LOCATION.
- [Circle with cross] DENOTES EXISTING RIVET OR BOLT TO BE REMOVED AND REPLACED WITH NEW 3/4" TC BOLT.
- [Circle with plus] DENOTES NEW 3/4" TC BOLT LOCATION.

NOTES

- SEE DRAWING S4 FOR GENERAL STRUCTURAL STEEL NOTES.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1 AND S2.
- FLANGE AREAS IN CONTACT WITH FIT TO BEAR SHALL BE MINIMALLY GROUND SMOOTH AS REQUIRED TO ACHIEVE A MINIMUM BEARING CONTACT AREA OF 75%.

NOTE:

- ALL NEW STIFFENER ANGLES SHALL BE L89 x 89 x 9.5
- ALL NEW STIFFENERS SHALL FIT TO BEAR ON TOP AND BOTTOM FLANGE ANGLES U.N.O.
- REUSE ALL FILLER PLATES FOR STIFFENER ANGLES U.N.O.



300-811 QUEENSWAY DRIVE
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A	Detail number Numéro du détail
B	Location (sheet, number) Numéro sur dessin

Project title / Titre du projet
**TRENT-SEVERN WATERWAY
 BOBCAYGEON SWING
 BRIDGE REHABILITATION**

CITY PROV.
 Drawing title / Titre du dessin

**STRUCTURAL STEEL
 WEST GIRDER REPAIRS**

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du dessin S6
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X

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LEGEND

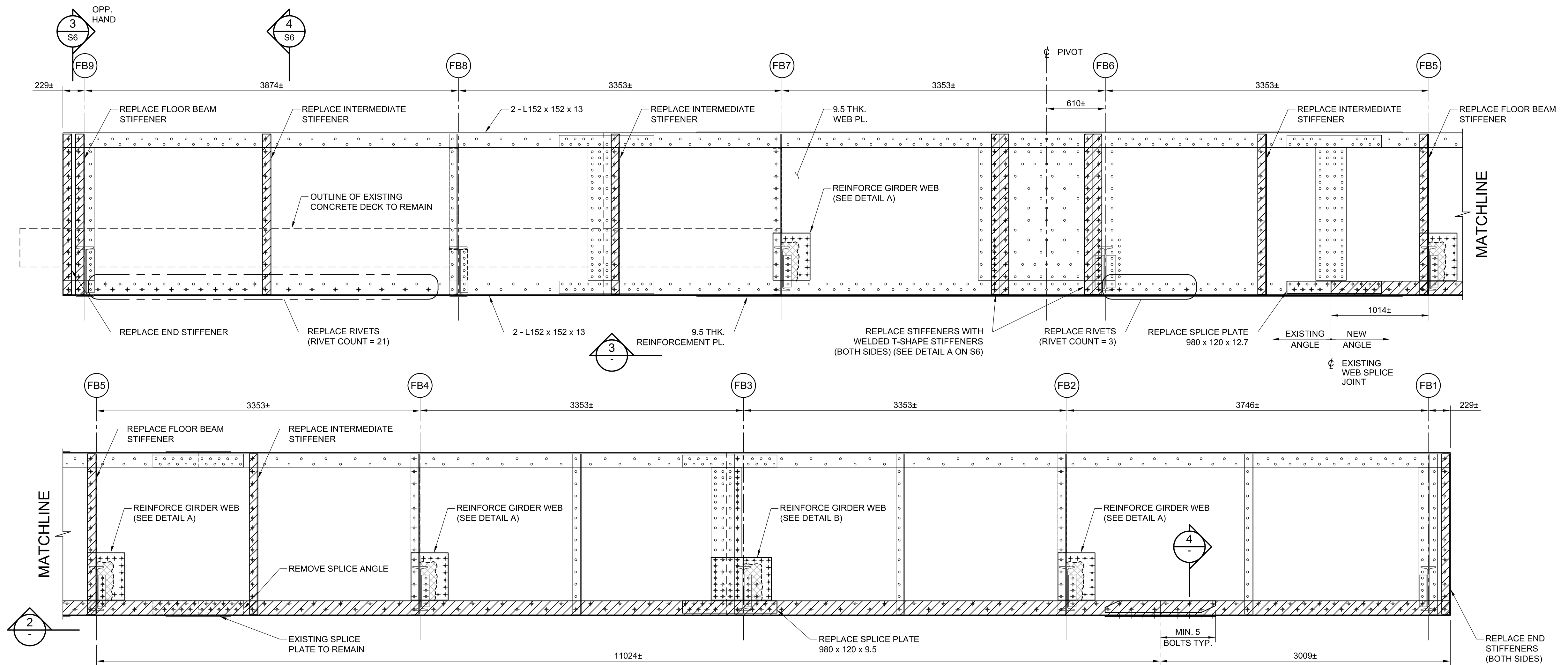
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- DENOTES EXISTING RIVET OR BOLT TO BE REMOVED AND REPLACED WITH NEW 3/4" TC BOLT.
- DENOTES NEW 3/4" TC BOLT LOCATION.

NOTES

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- FLANGE AREAS IN CONTACT WITH FIT TO BEAR SHALL BE MINIMALLY GROUND SMOOTH AS REQUIRED TO ACHIEVE MINIMUM BEARING CONTACT AREA OF 75%.

NOTE:

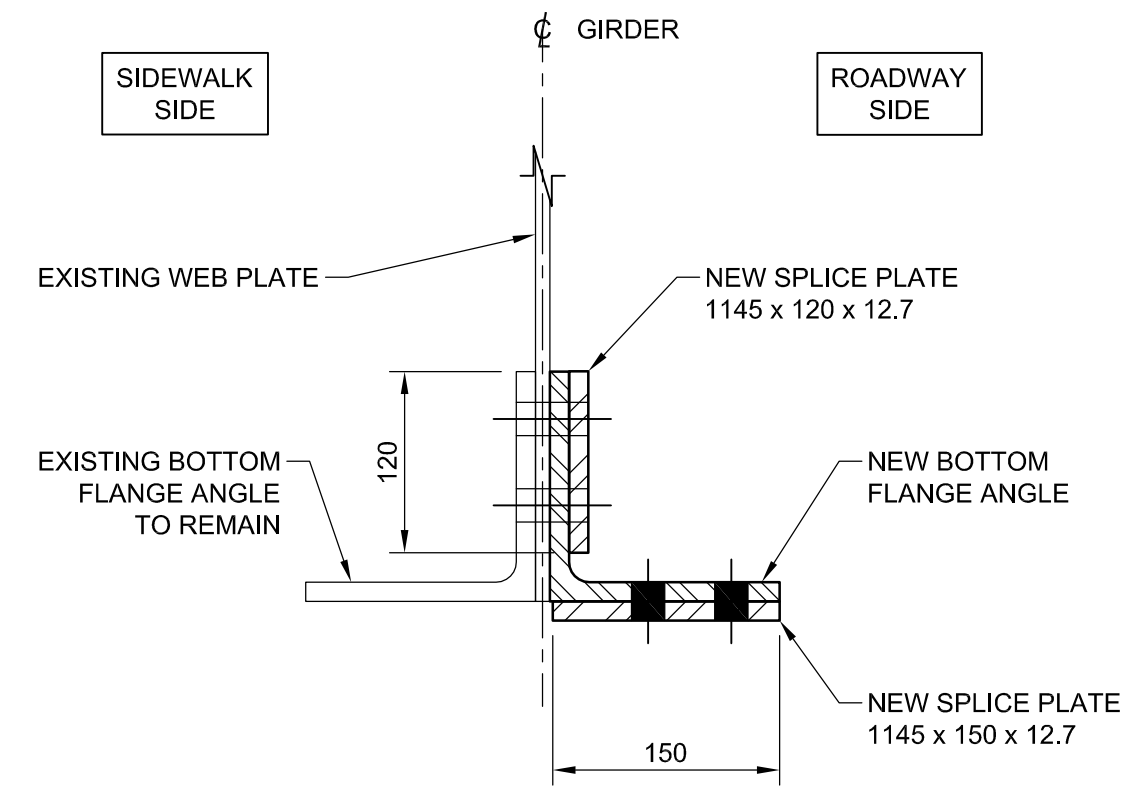
- ALL NEW STIFFENER ANGLES SHALL BE L89 x 89 x 9.5
- ALL NEW STIFFENERS SHALL FIT TO BEAR ON TOP AND BOTTOM FLANGE ANGLES U.N.O.
- REUSE ALL FILLER PLATES FOR STIFFENER ANGLES U.N.O.



SECTION - EAST GIRDER REPAIRS 1:25

NOTE: TIMBER DECK ASSUMED TO BE NOT PRESENT DURING GIRDER REPAIRS.

NOTE: ALL REPAIRS TO BE CARRIED OUT ON INNER SIDE OF GIRDER U.N.O.



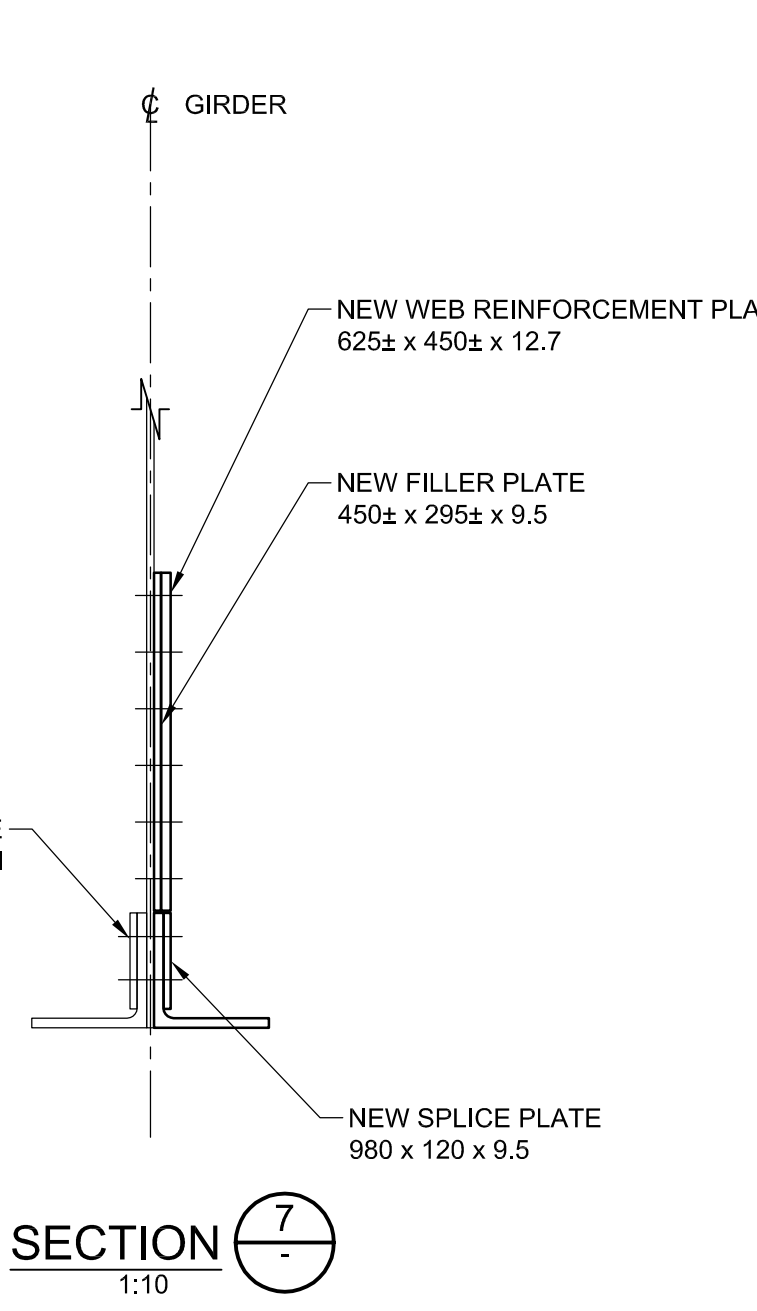
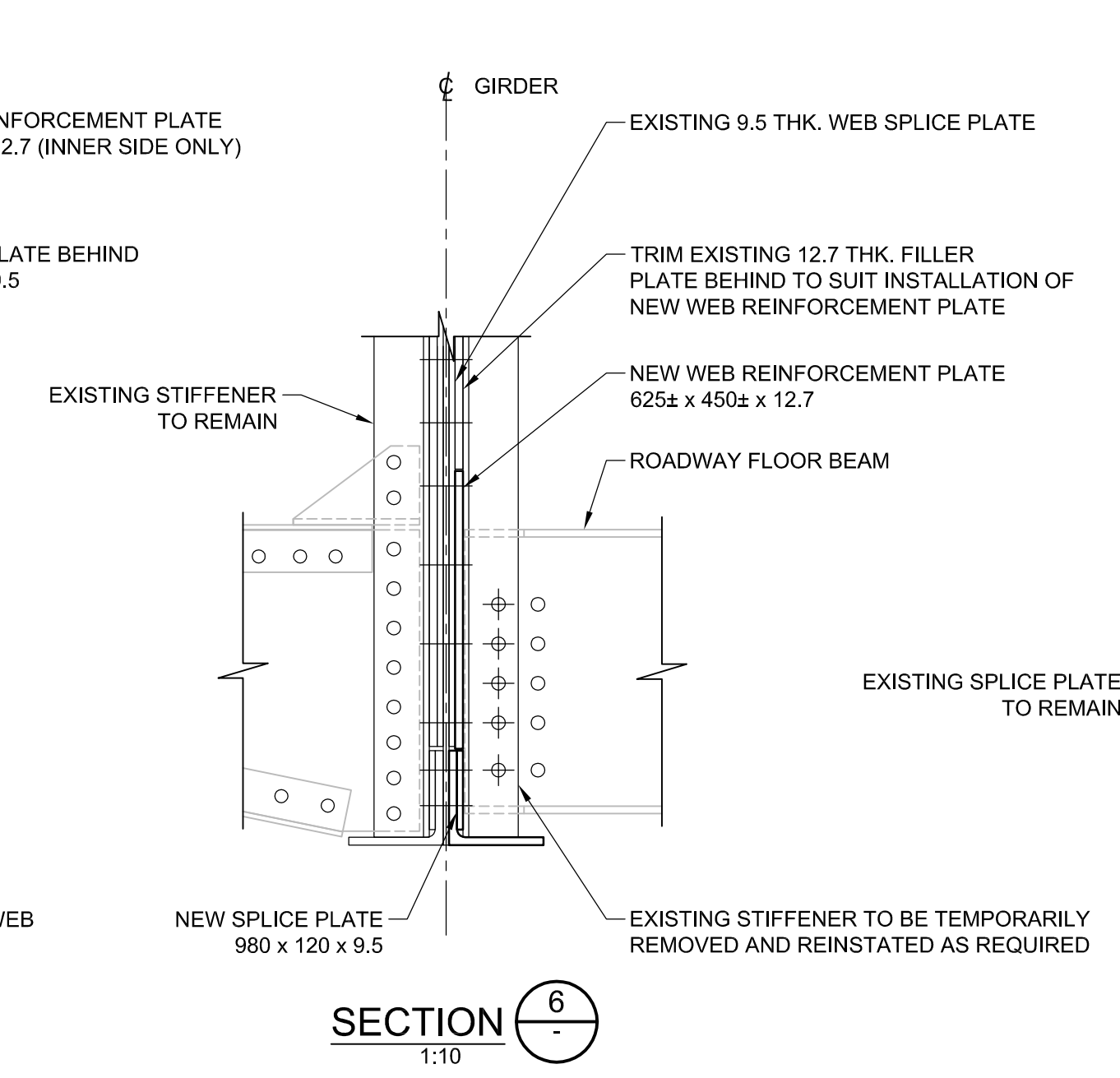
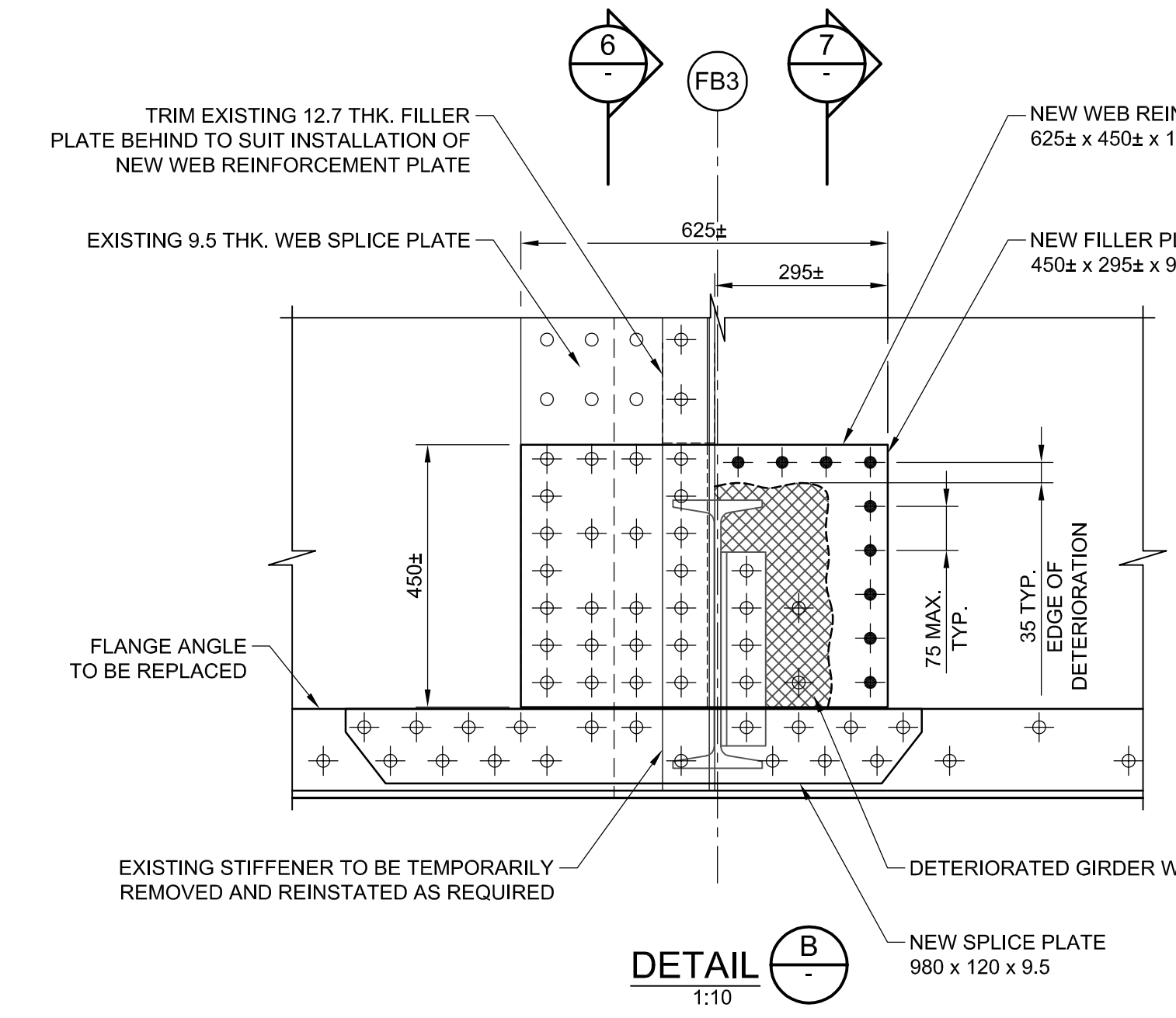
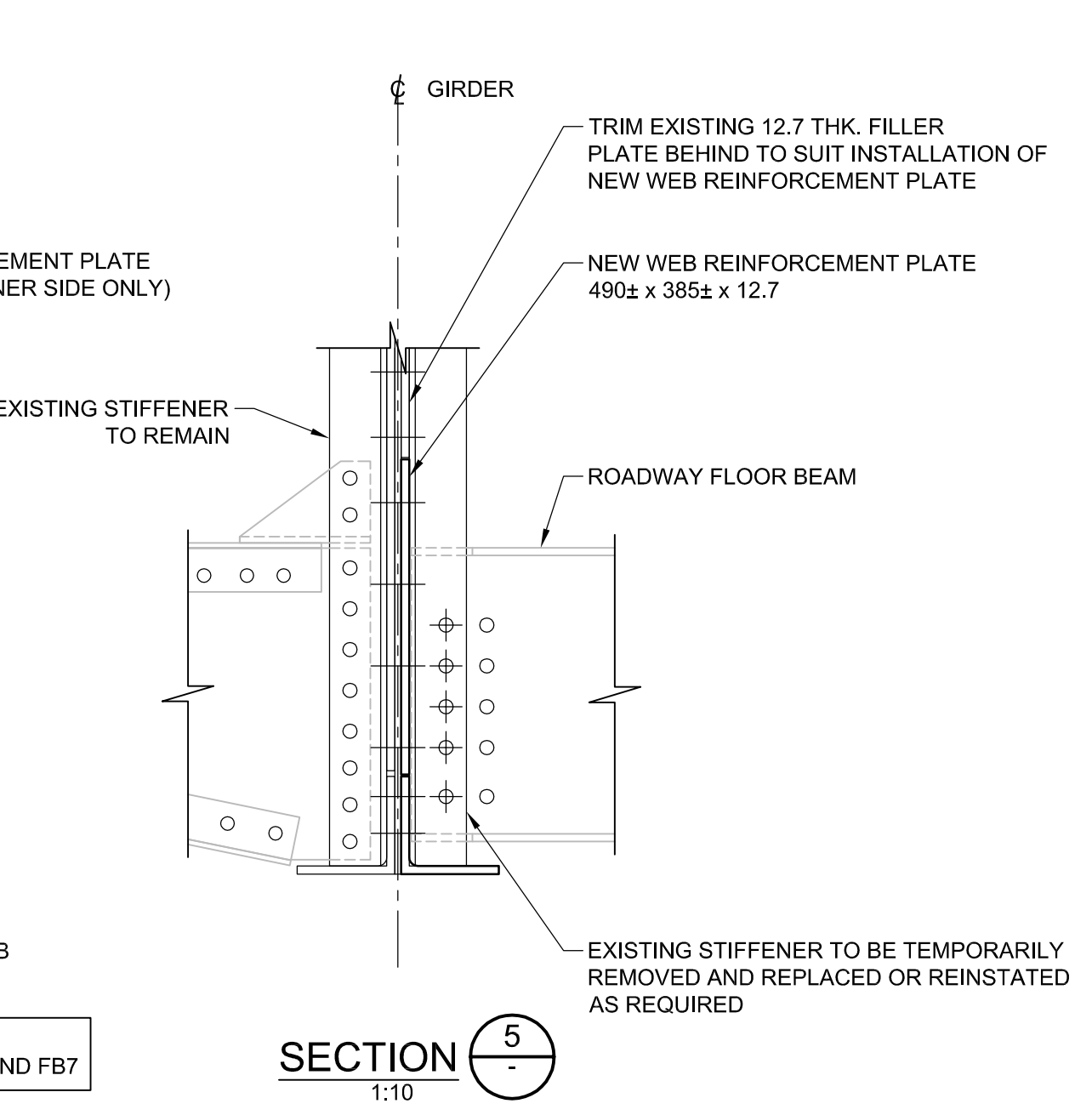
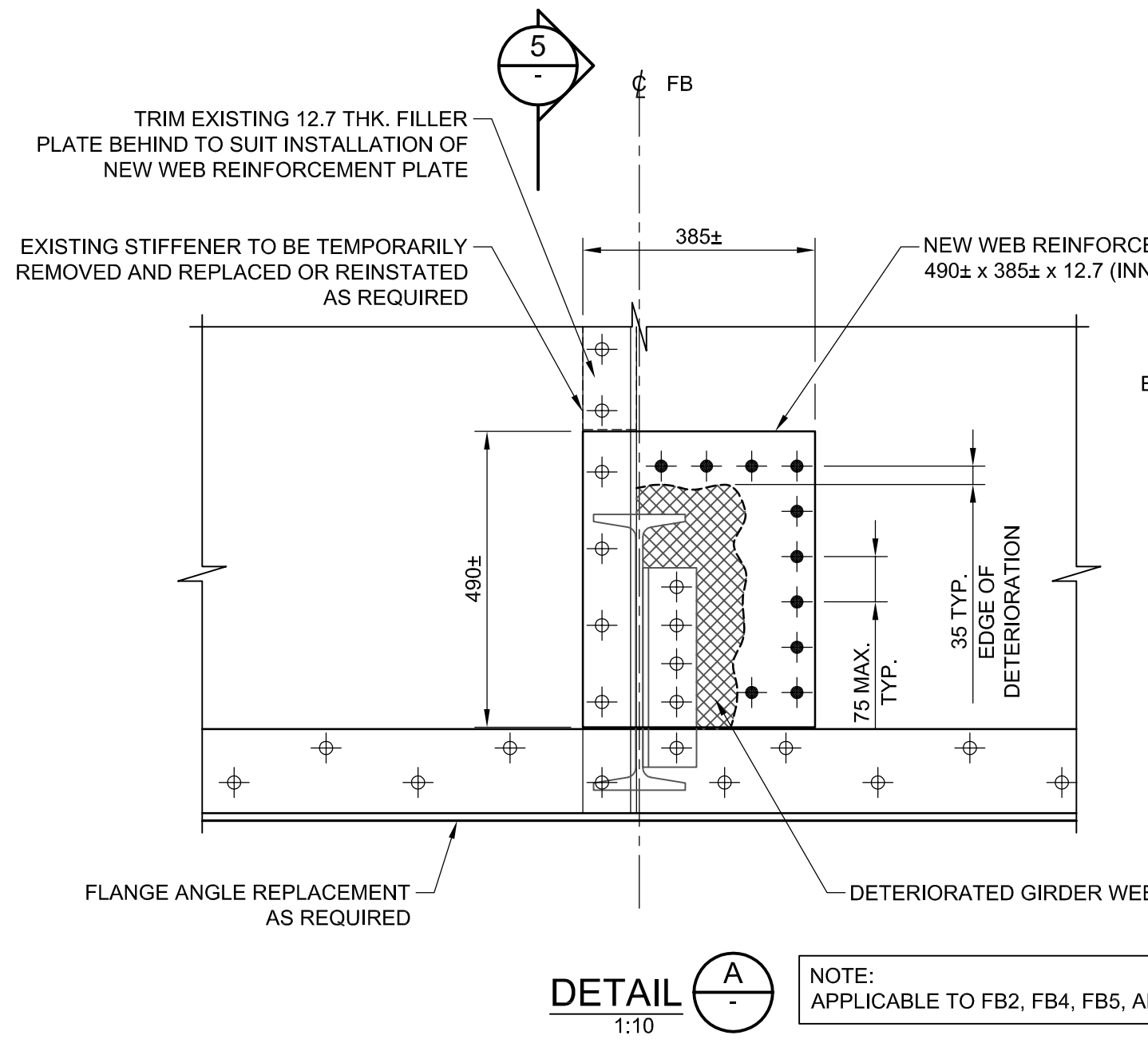
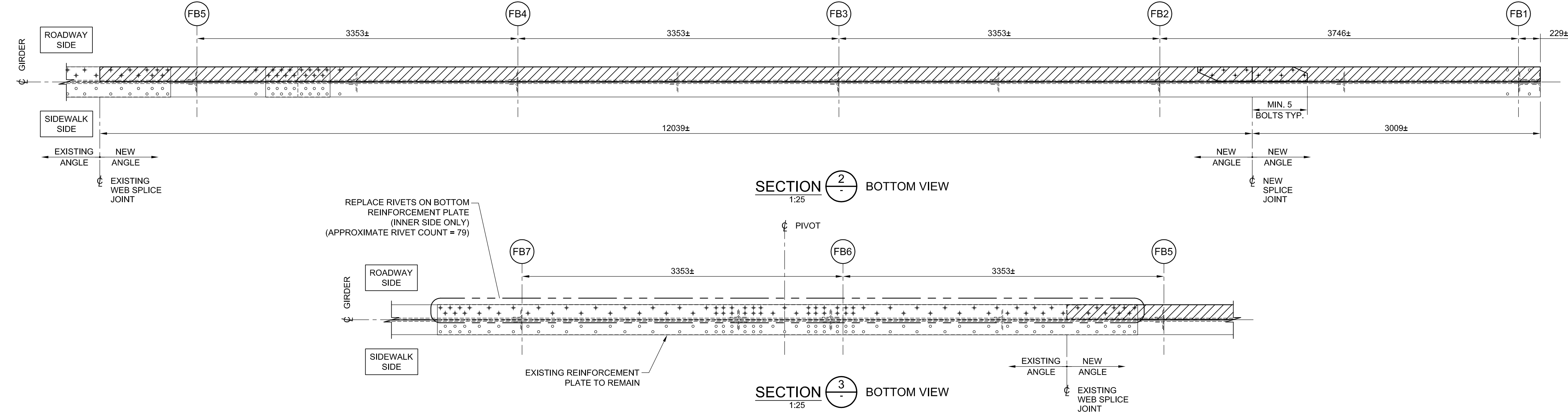
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A	Detail number / Numéro du détail	
B	Location (sheet, number) / Localisation (feuille, numéro)	

EXAMPLE OF GIRDER WEB DETERIORATION AT FLOOR BEAM CONNECTION (FB5 AT EAST GIRDER SHOWN)



NOTE: APPLICABLE TO FB2, FB4, FB5, AND FB7

C:\projects\101\Projects\101\101-06165-11 Bobcaygeon Swing Bridge Rehab\3.0 Technical (by Discipline)\3.7 Dwg-Fig\SHEETS\101-06165-11_S7.dwg
 MODIFIED: 11/17/2019 2:40:17 PM BY: CARP069785
 DATE PLOTTED: 11/17/2019 2:40:18 PM BY: CARP069785

Project title / Titre du projet

TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CITY PROV.

Drawing title / Titre du dessin

STRUCTURAL STEEL EAST GIRDER REPAIRS

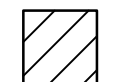



Drawn by / Dessiné par: R. PETRUNGARO
 Designed by / Conçu par: R. MOREAU

Approved by / Approuvé par: F. WASIEWICZ
 Drawing Date / Date du dessin: 2019/09/27

Project manager / Administrateur du projet: W. LITTLE
 Drawing Number / Numéro du Dessin: **S7**

Project Number / Numéro du projet: 1356-30030321
 Sheet / Feuille: X of X

LEGEND

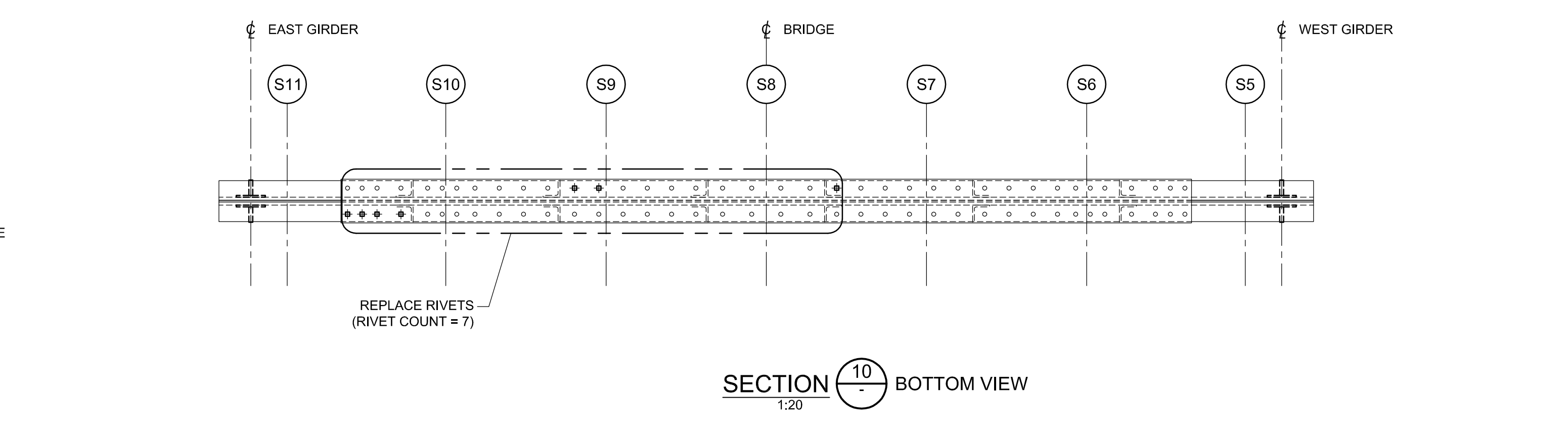
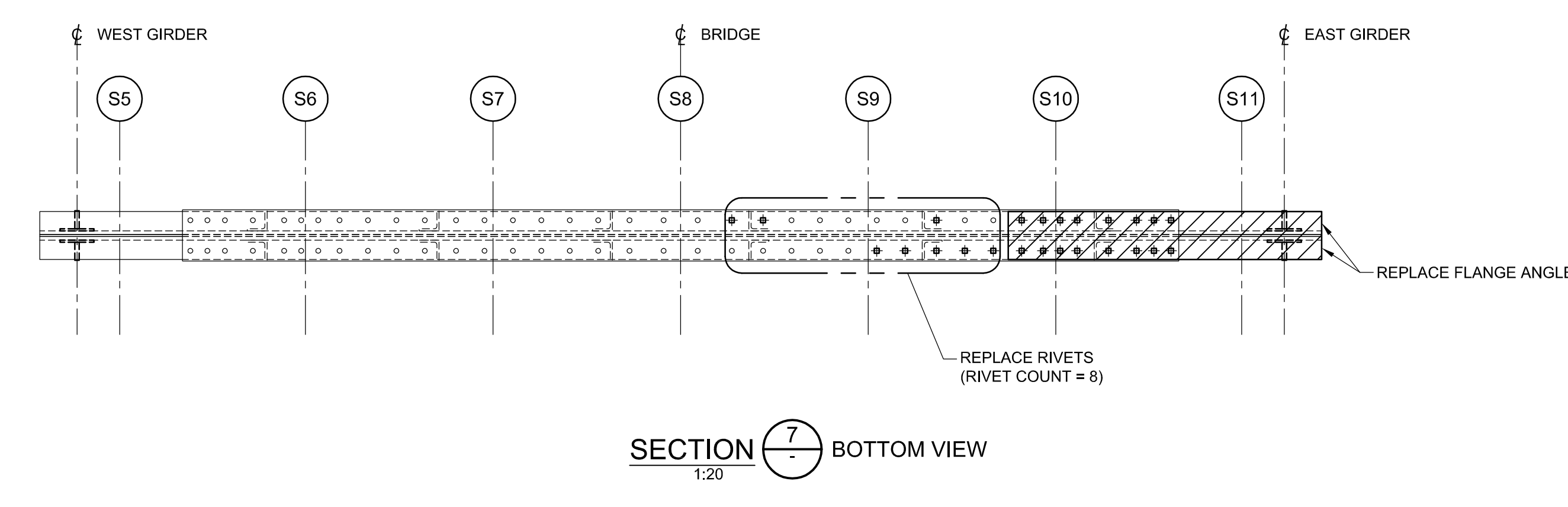
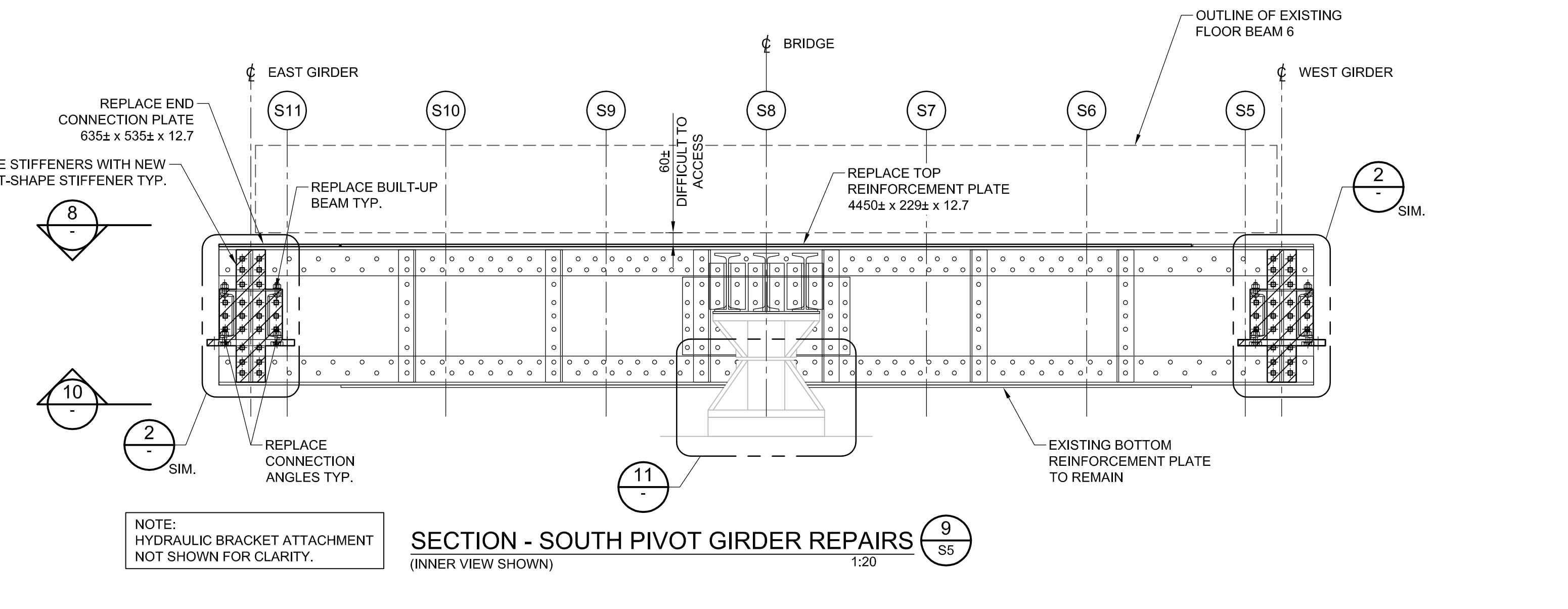
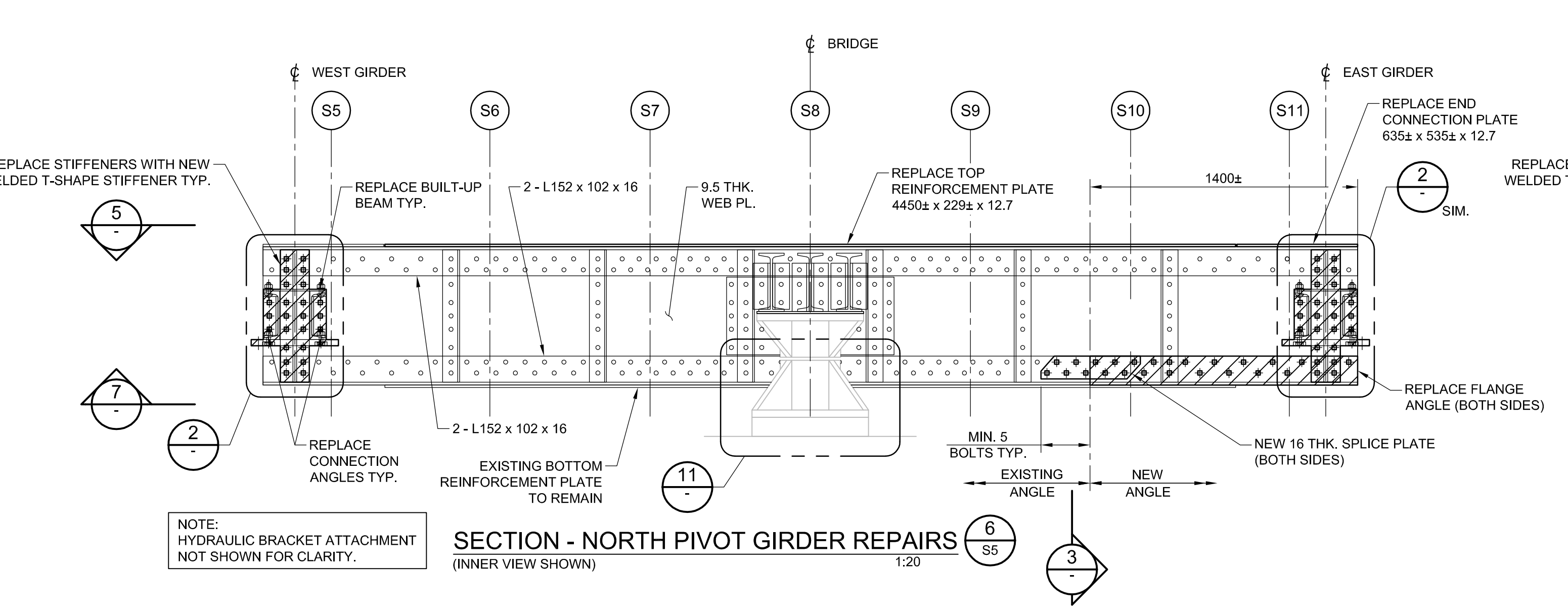
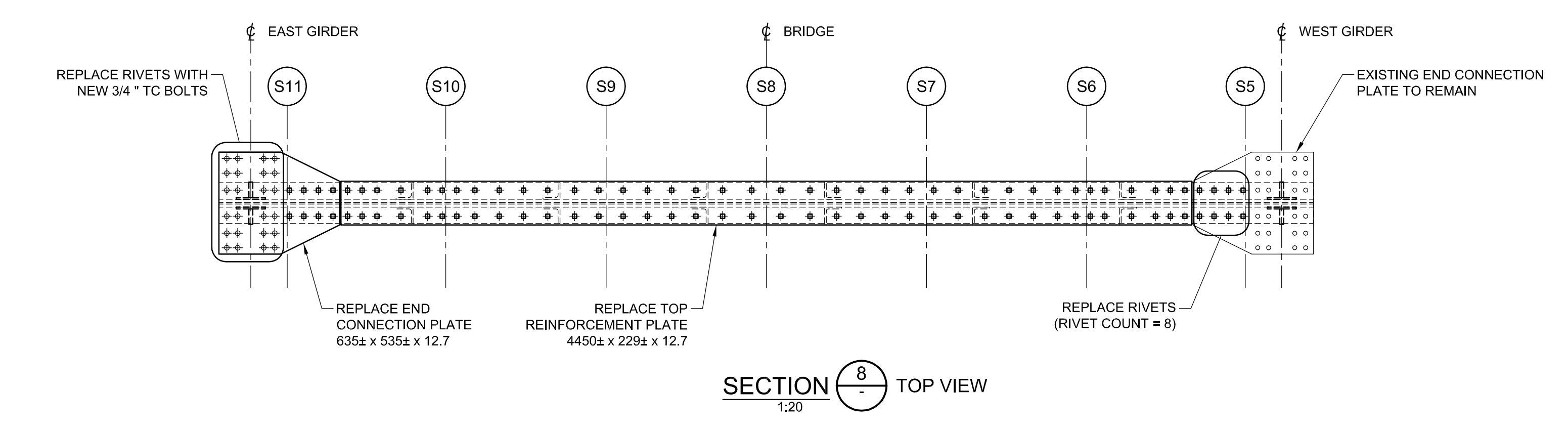
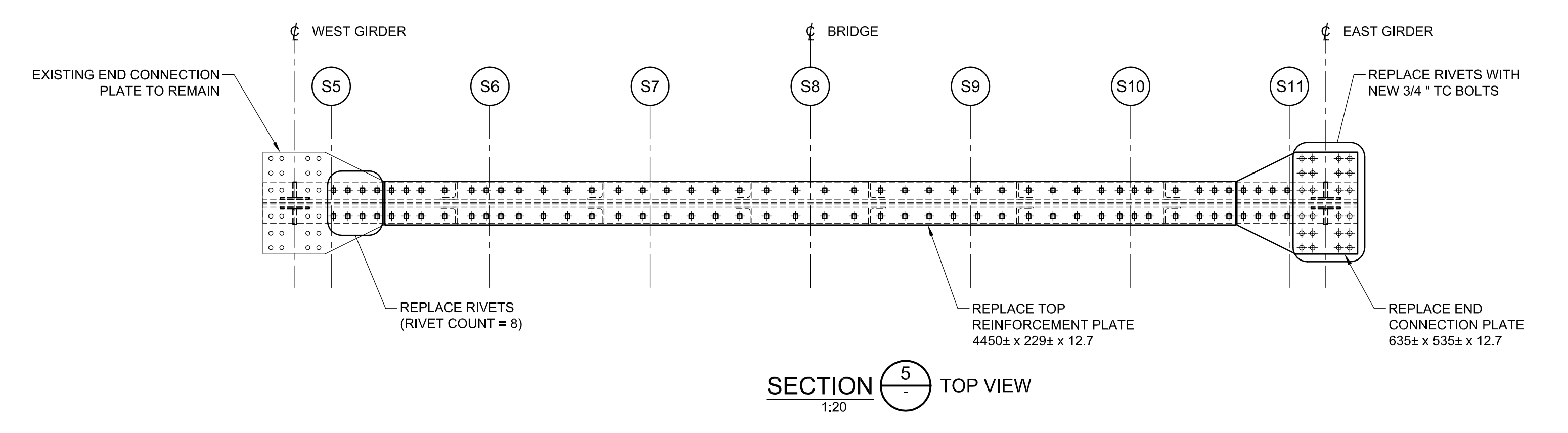
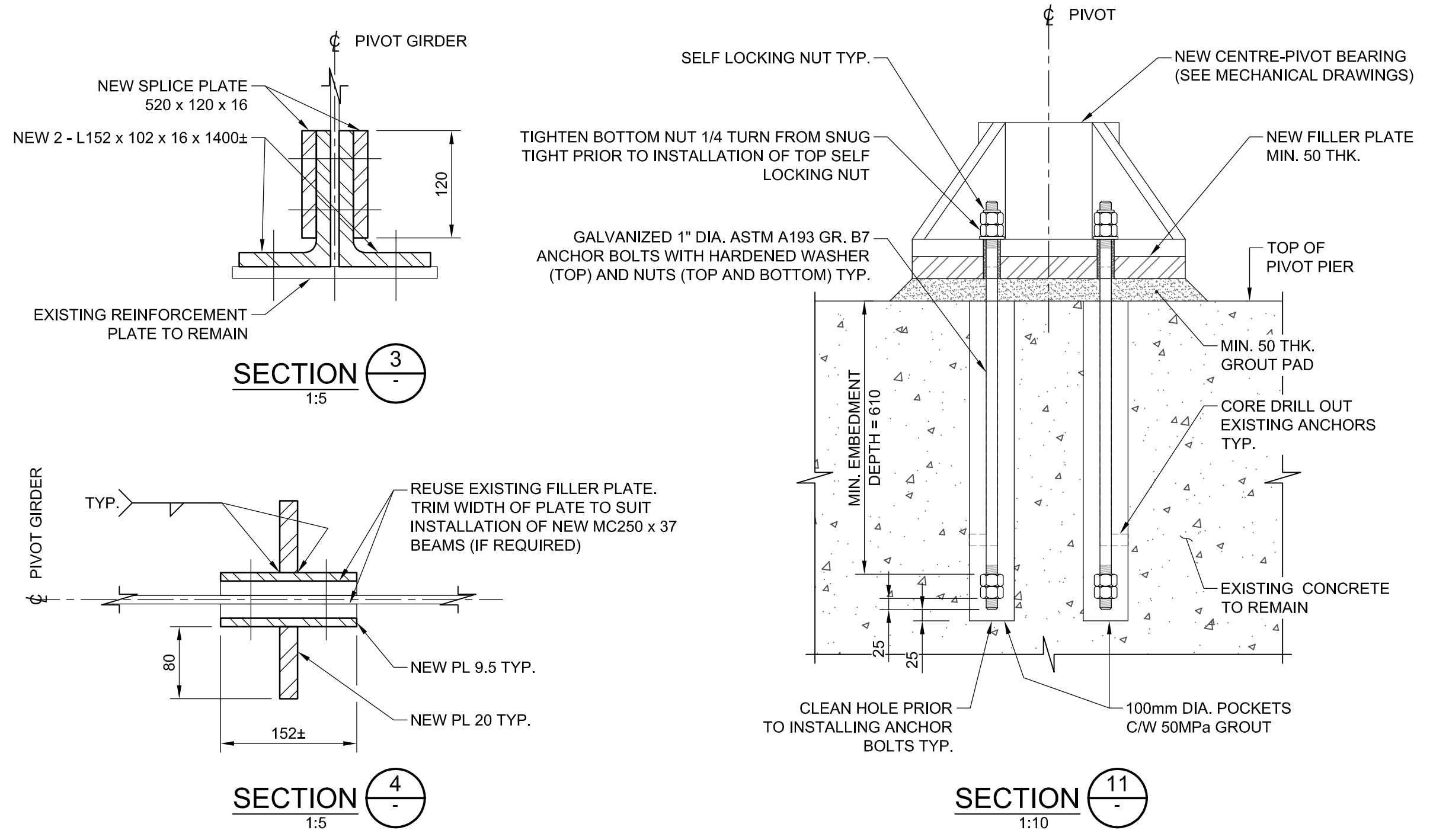
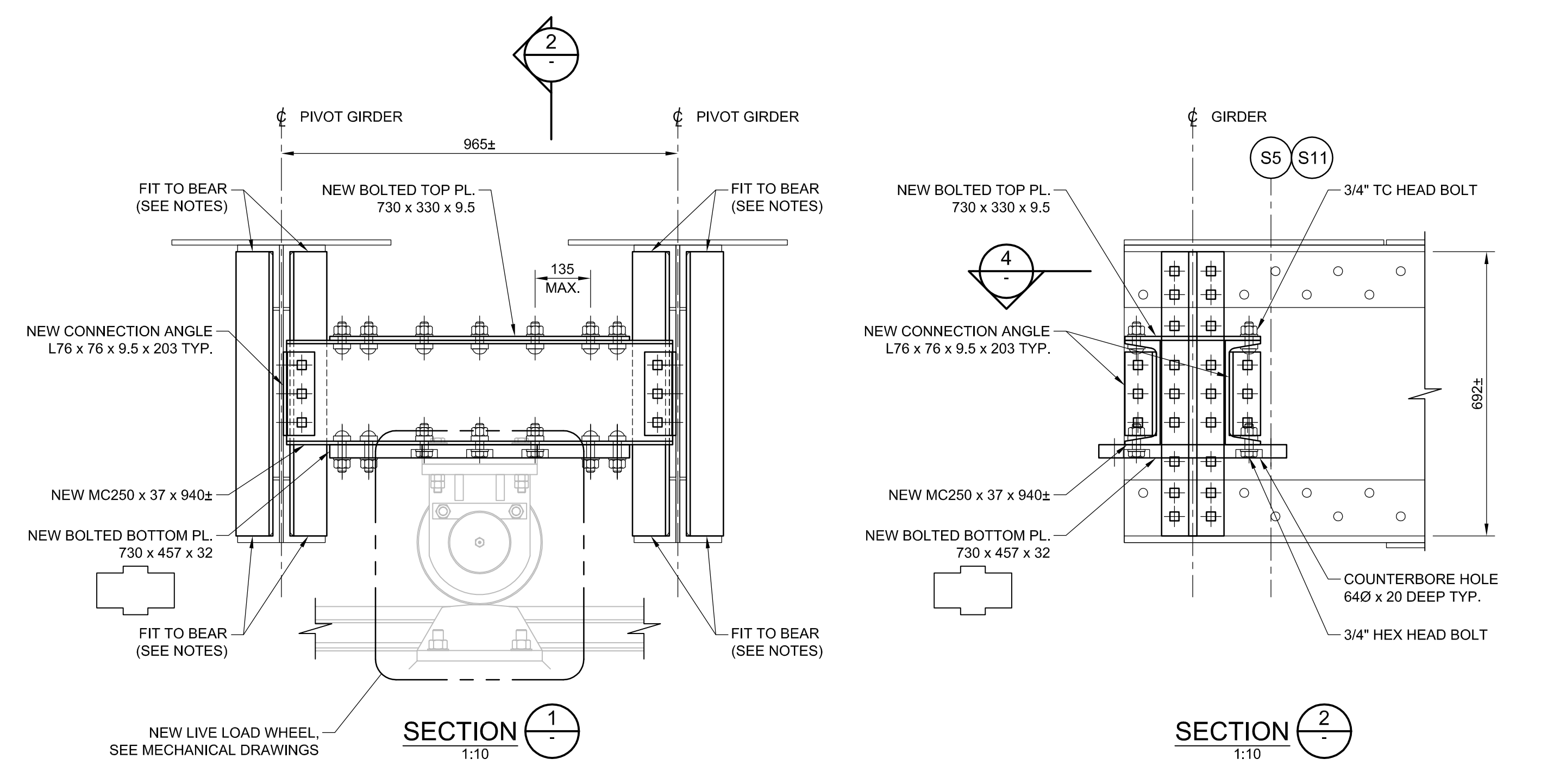
-  DENOTES ANGLE TO BE REMOVED AND REPLACED.
-  DENOTES EXISTING RIVET LOCATION.
-  DENOTES EXISTING RIVET OR BOLT TO BE REMOVED AND REPLACED WITH NEW 3/4" TC BOLT.
-  DENOTES EXISTING RIVET OR BOLT TO BE REMOVED AND REPLACED WITH NEW 7/8" TC BOLT.

NOTES

1. SEE DRAWING S4 FOR GENERAL STRUCTURAL STEEL NOTES.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1, S2, S4, S5 AND S15.
3. SEE MECHANICAL DRAWINGS FOR DETAILS ON REPLACEMENT OF CENTRE-PIVOT BEARING, RAILS AND LIVE LOAD/BALANCE WHEELS.
4. FLANGE AREAS IN CONTACT WITH FIT TO BEAR SHALL BE MINIMALLY GROUND SMOOTH AS REQUIRED TO ACHIEVE A MINIMUM BEARING CONTACT AREA OF 75%.

CENTRE-PIVOT BEARING NOTES

1. CONTRACTOR TO SURVEY LOCATION OF EXISTING PIVOT BEARING AS PER S15 PRIOR TO CARRYING OUT ANY REHABILITATION WORK (TAKING BRIDGE OUT OF SERVICE).
2. COORDINATE THE WORK OF RELOCATING THE BRIDGE FROM ITS SHIFTED POSITION WITH WORK ON THE PIVOT BEARING AND ALL OTHER AFFECTED MECHANICAL AND STRUCTURAL COMPONENTS.
3. GROUT ANCHORAGES FOR PIVOT BEARING ONLY WHEN BRIDGE IS IN ITS PROPER CONFIRMED AND FINAL RE-ALIGNED AND BALANCED POSITION.



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No.	Description	Des. By	Date
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A	A
Detail number	Numero du detail
Location (dep., number)	Numero sur dessin

Project title / Titre du projet
**TRENT-SEVERN WATERWAY
BOBCAYGEON SWING
BRIDGE REHABILITATION**

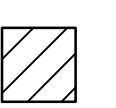
CITY PROV.
Drawing title / Titre du dessin


**STRUCTURAL STEEL
PIVOT GIRDER REPAIRS**


Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numero du Dessin S8
Project Number / Numero du projet 1356-30030321	Sheet Feuille X of X du X

C:\cortt\id01\projects\job2016\151-06165-11 Bobcaygeon Swing Bridge Rehab\3.0 technical (by discipline)\3.7 Draw\Fig\SHEETS\151-06165-11_S8.dwg
 MODIFIED: 11/7/2019 2:40:52 PM BY: CARP069785
 DATE PLOTTED: 11/7/2019 2:40:53 PM BY: CARP069785

LEGEND

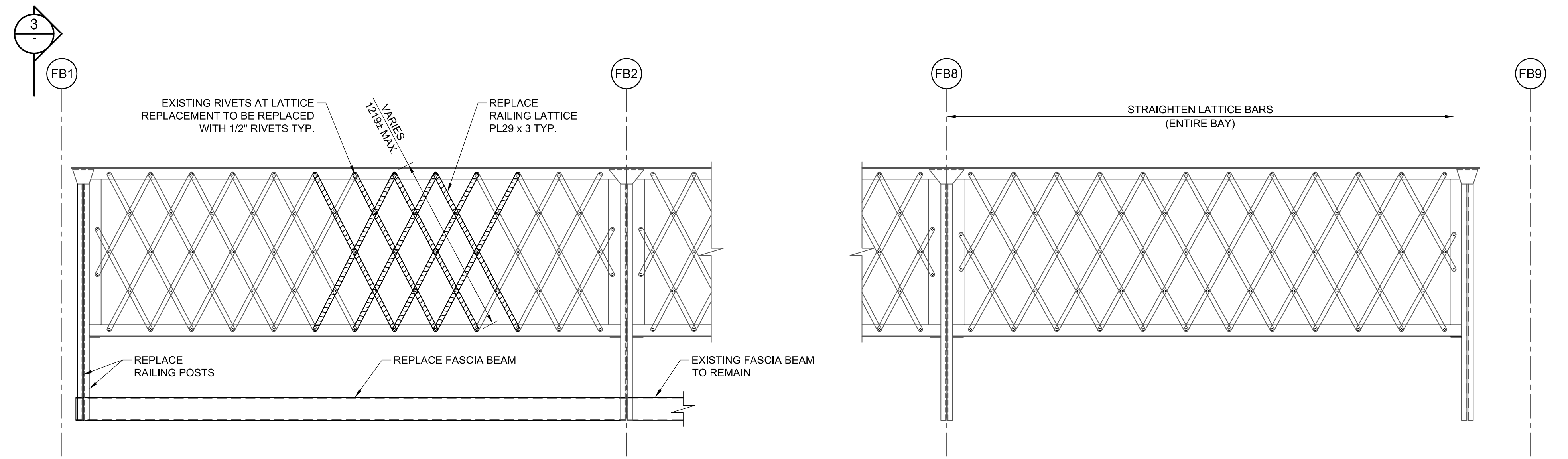
 DENOTES RAILING LATTICE TO BE REMOVED AND REPLACED.

 DENOTES EXISTING RIVET LOCATION.

 DENOTES EXISTING RIVET OR BOLT TO BE REMOVED AND REPLACED WITH NEW 1/2" RIVET, UNLESS NOTED OTHERWISE.

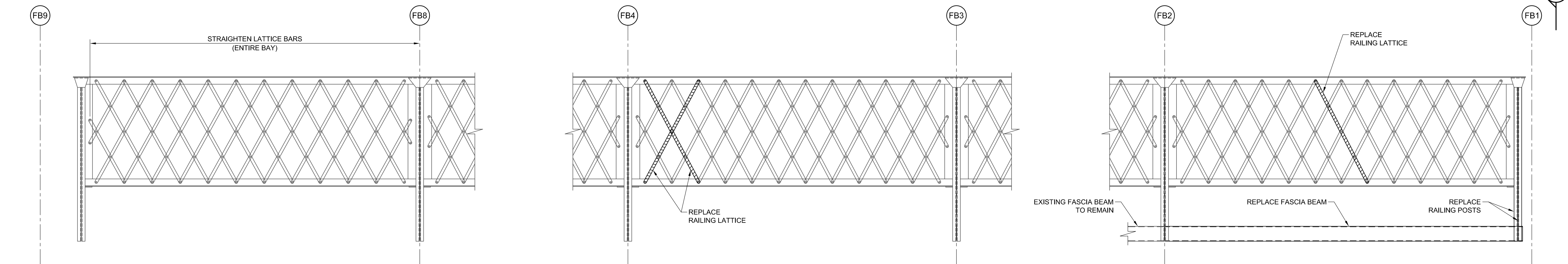
NOTES

- SEE DRAWING S4 FOR GENERAL STRUCTURAL STEEL NOTES.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1 AND S2.
- RAILING LATTICE TO BE STRAIGHTEN SHALL BE DONE BY MECHANICAL MEANS WITHOUT APPLICATION OF HEAT.
- RIVETS FOR LATTICE PLATES SHALL BE TO ASTM A502-03(R2015) GRADE 1. RIVET HOLES SHALL BE DRILLED TO 1mm TO 2mm GREATER THAN THE SHANK DIAMETER.
- RIVETS SHALL BE TIGHT AND IN UNIFORM CONTACT WITH THE PLATE SURFACES. THE SURFACES OF THE PLATES TO BE RIVETED SHALL NOT BE SCARED FROM THE PROCESS OF DRIVING THE RIVETS. RIVETS SHALL BE OF UNIFORM QUALITY AND FREE FROM CRACKS, GAPS, SHARP EDGES AND OTHER DEFECTS.



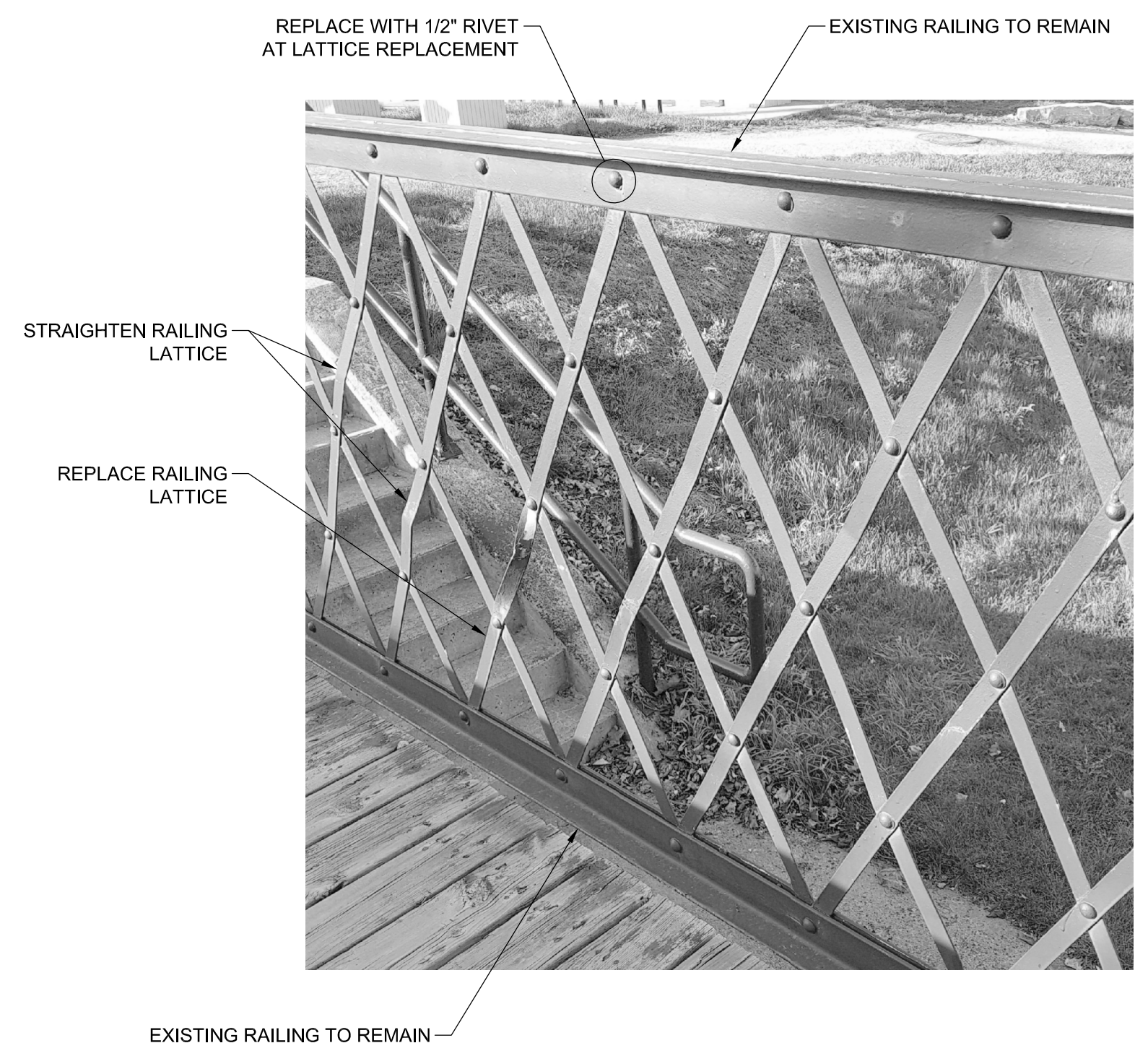
SECTION 1
(INNER VIEW SHOWN) 1:20 WEST ELEVATION

NOTE:
FLOOR BEAMS, STRINGERS, AND SIDEWALK
NOT SHOWN FOR CLARITY.

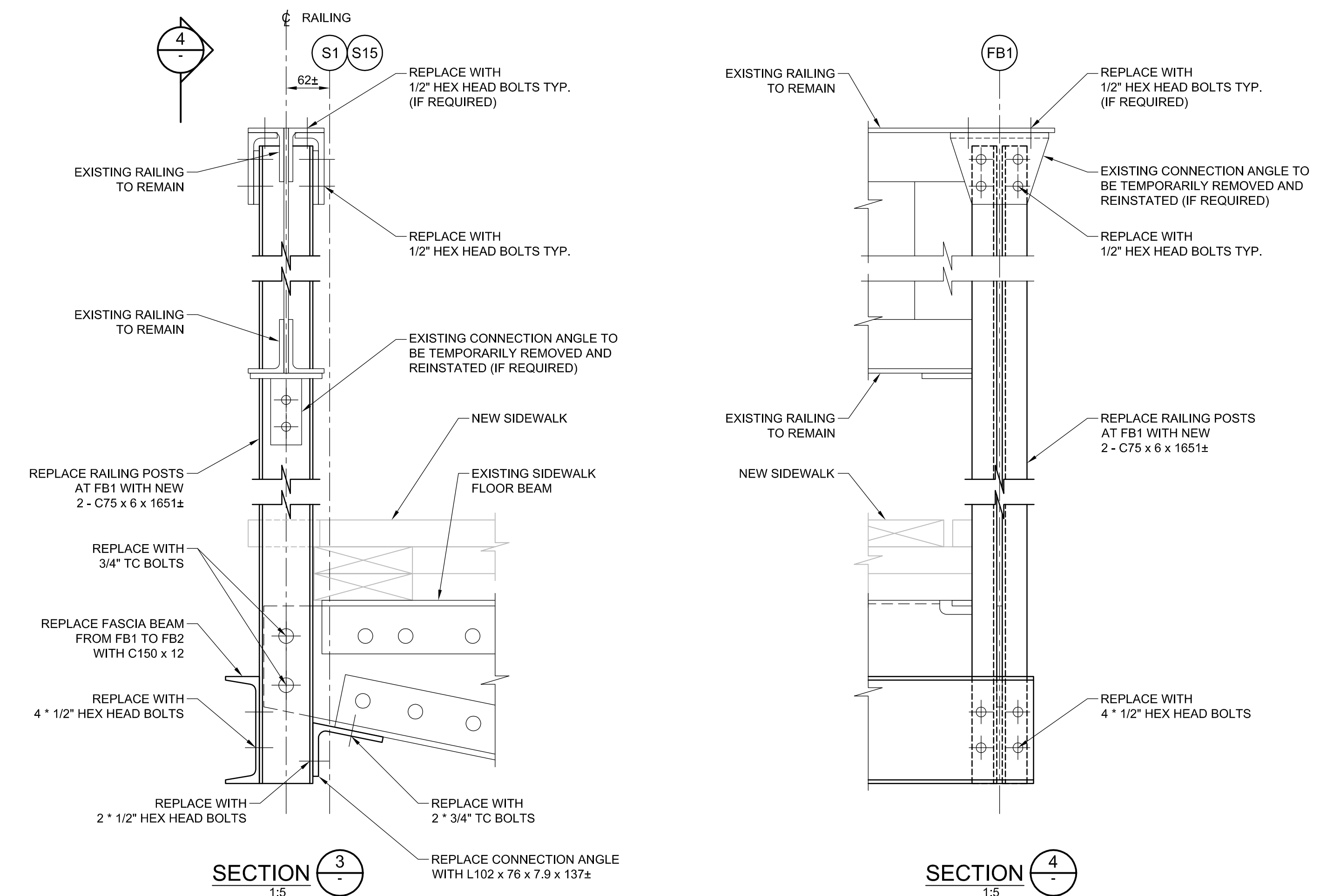


SECTION 2
(INNER VIEW SHOWN) 1:20 EAST ELEVATION

NOTE:
FLOOR BEAMS, STRINGERS, AND SIDEWALK
NOT SHOWN FOR CLARITY.



EXAMPLE OF LATTICE TO BE REPLACED / REPAIRED
(FB9 - FB8 AT EAST GIRDER SHOWN)



SECTION 3
1:5

SECTION 4
1:5



GUIDE RAIL REPLACEMENT
(NORTH ABUTMENT)

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No.	Description	Des. By	Date
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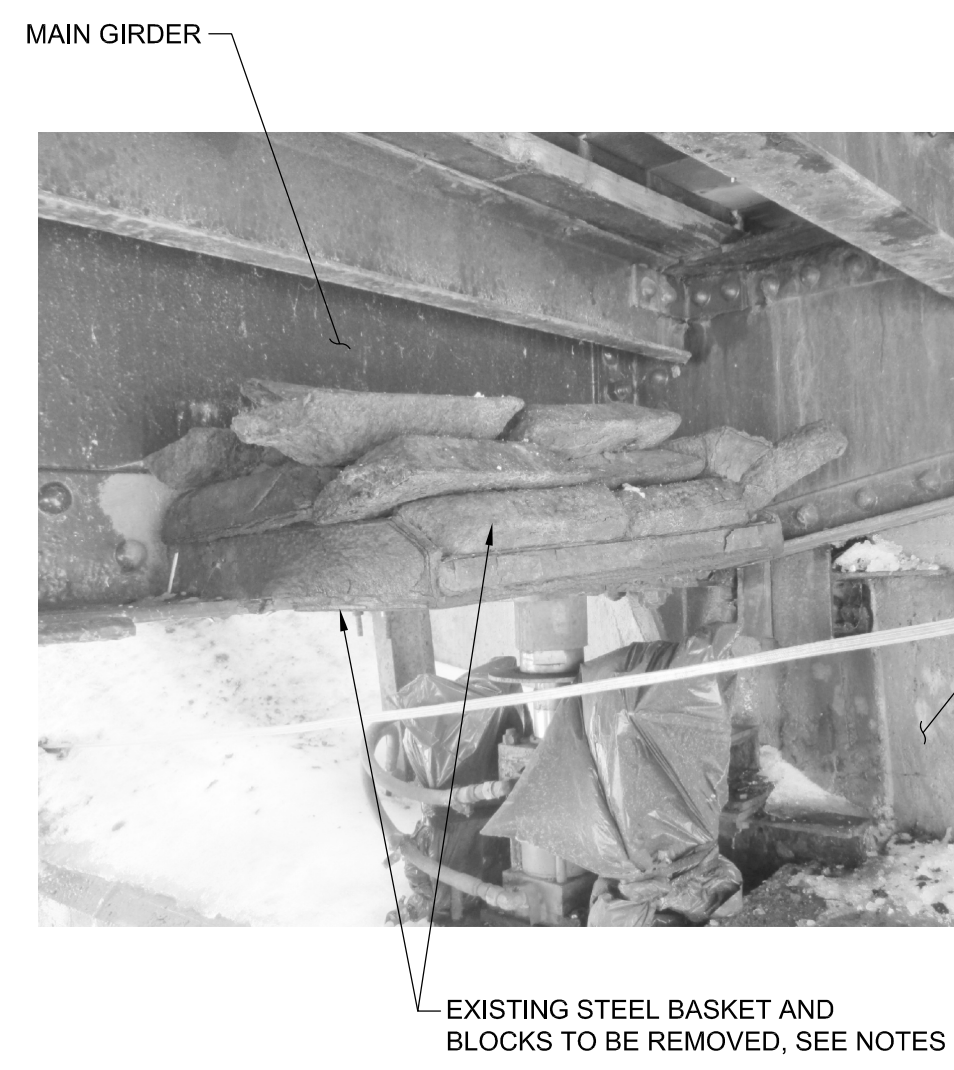
A	A Detail number Numéro du détail
B	B Location (sheet, number) Numéro sur dessin

Project title / Titre du projet
**TRENT-SEVERN WATERWAY
BOBCAYGEON SWING
BRIDGE REHABILITATION**

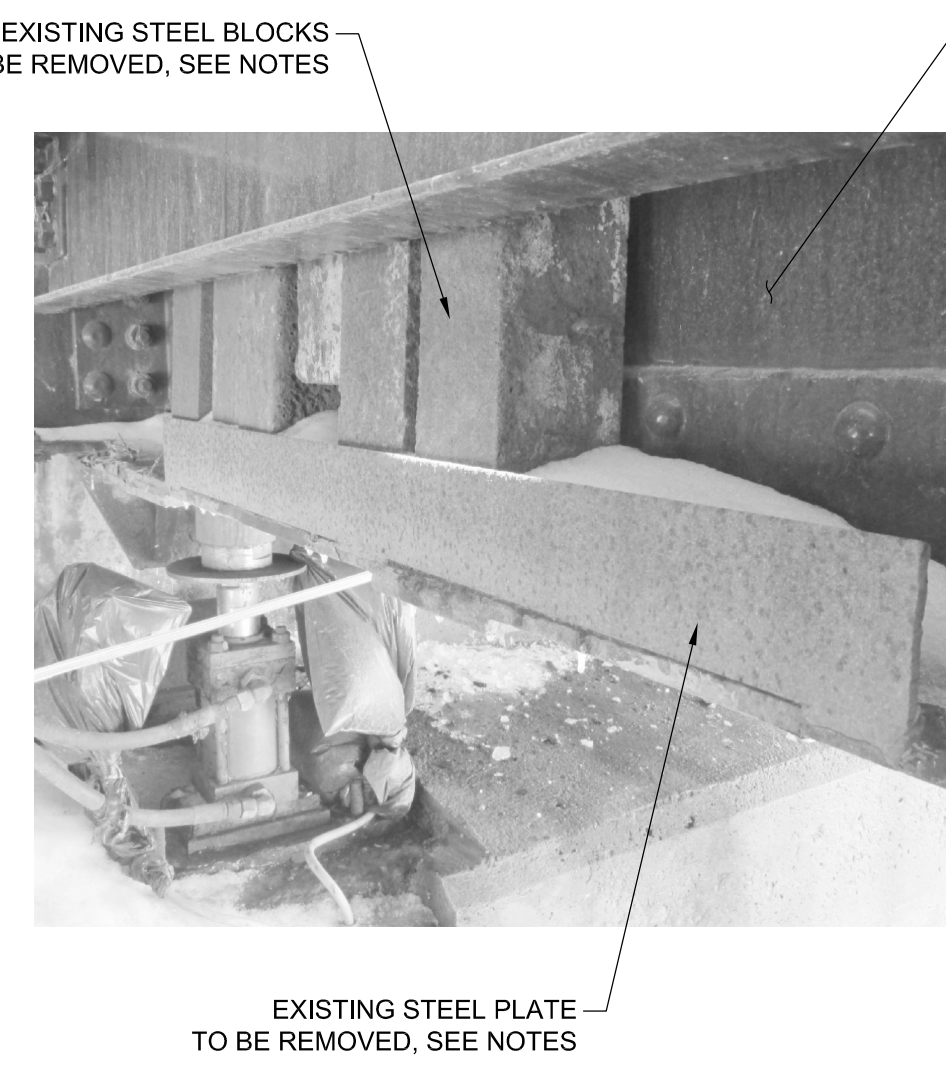
CITY PROV.

Drawing title / Titre du dessin
**STRUCTURAL STEEL
SIDEWALK AND GUIDERAIL
REPAIR DETAILS**

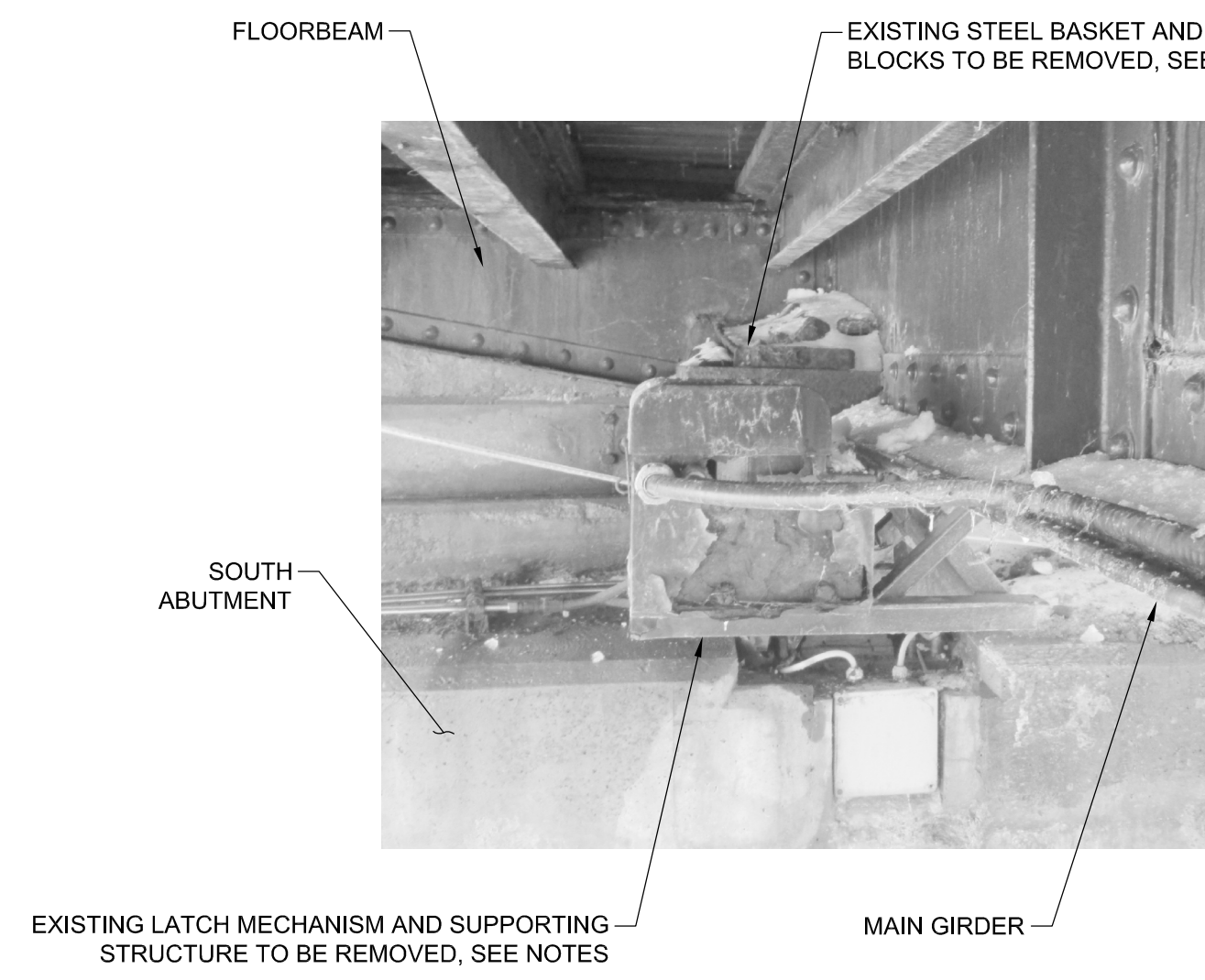
Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du Dessin S9
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X du de X



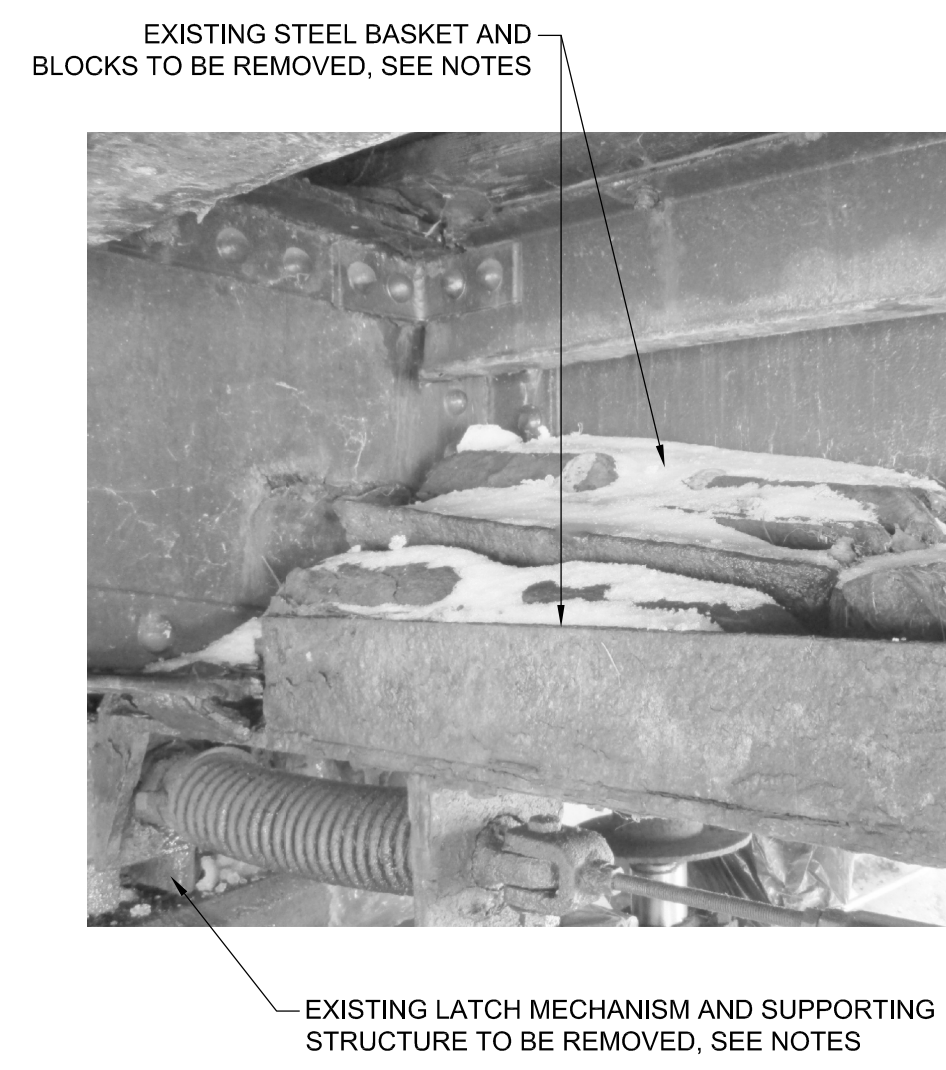
EXISTING COUNTERWEIGHTS AT WEST GIRDER (OUTER SIDE)



EXISTING COUNTERWEIGHTS AT WEST GIRDER (INNER SIDE)



EXISTING COUNTERWEIGHTS AND LATCHING MECHANISM AT EAST GIRDER (OUTER SIDE)



EXISTING COUNTERWEIGHTS AT EAST GIRDER (OUTER SIDE)

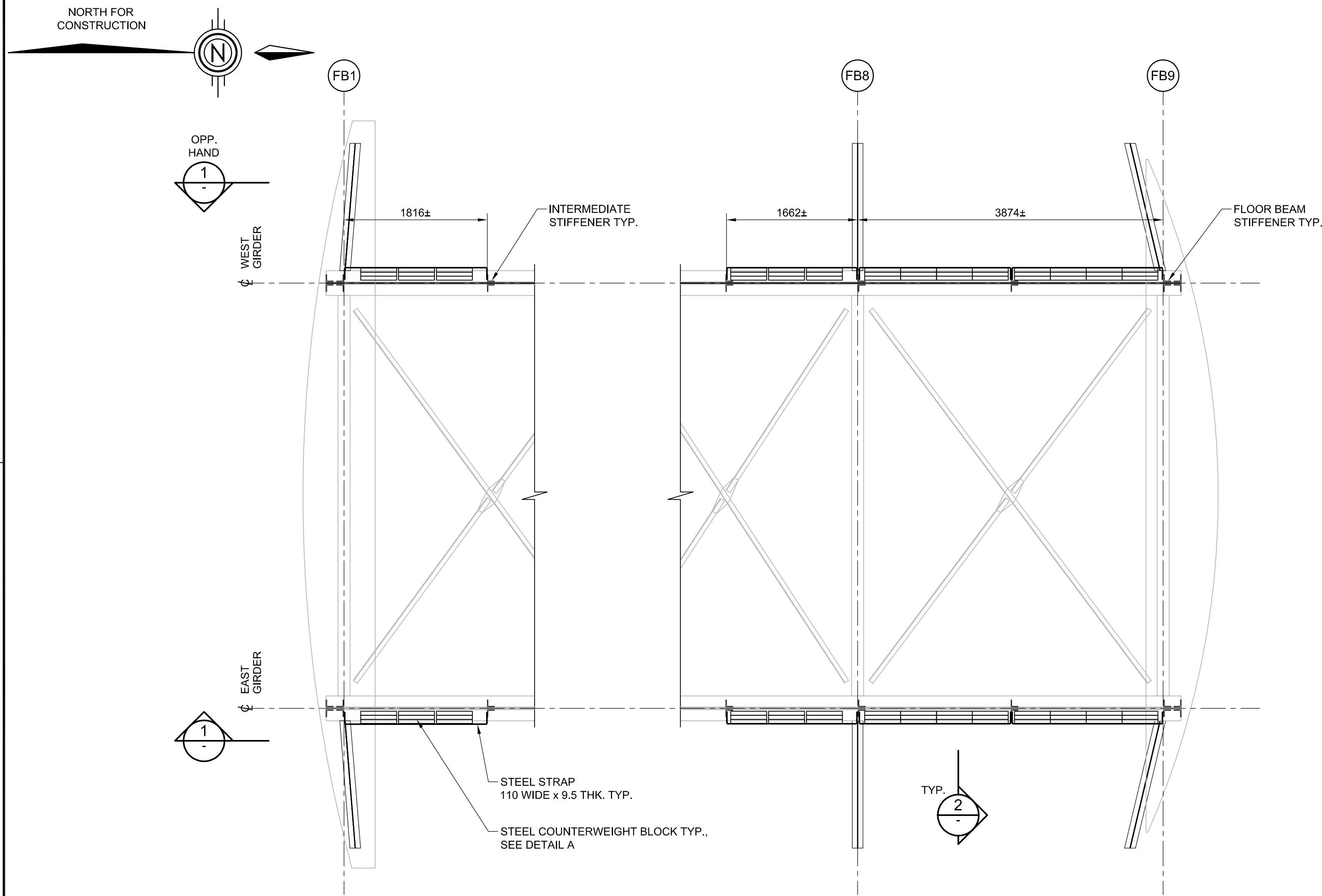
NOTES:

- SEE DRAWING S4 FOR GENERAL STRUCTURAL STEEL NOTES.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1, S2, S5 AND S15.
- SEE MECHANICAL DRAWINGS FOR DETAILS ON LATCH MECHANISM REPLACEMENT.
- SEE SPECIFICATIONS FOR COMMISSION AND DECOMMISSIONING PROCESS.
- AS PART OF THE DECOMMISSIONING PROCESS, THE NUMBER, WEIGHT AND LOCATION OF EACH COUNTERWEIGHT BLOCK AND STEEL BASKET SHALL BE RECORDED AND REPORTED TO THE DEPARTMENTAL REPRESENTATIVE.
- ALL EXISTING WELDS CONNECTING THE STEEL COUNTERWEIGHT BASKETS AND LATCH MECHANISM TO THE MAIN GIRDERS AND FLOOR BEAMS SHALL BE GROUND FLUSH.
- CONTRACTOR IS RESPONSIBLE FOR BALANCING THE STRUCTURE AS NOTED IN THE SPECIFICATIONS AND AS SHOWN.
- THE REQUIRED STEEL COUNTERWEIGHT BLOCKS ARE THE MAXIMUM EXPECTED FOR BALANCING THE STRUCTURE ACCOUNTING FOR THE VARYING MOISTURE CONTENT OF THE TIMBER DECK COMPONENTS. THE LOCATION AND QUANTITY OF STEEL BLOCKS INSTALLED ON THE BRIDGE SHALL BE DETERMINED BY THE CONTRACTOR DURING THE COMMISSIONING PROCESS.
- STEEL COUNTERWEIGHT BLOCKS LEFT OVER AFTER BALANCING THE STRUCTURE SHALL BE TURNED OVER TO THE DEPARTMENTAL REPRESENTATIVE.

STEEL COUNTERWEIGHT BLOCK:

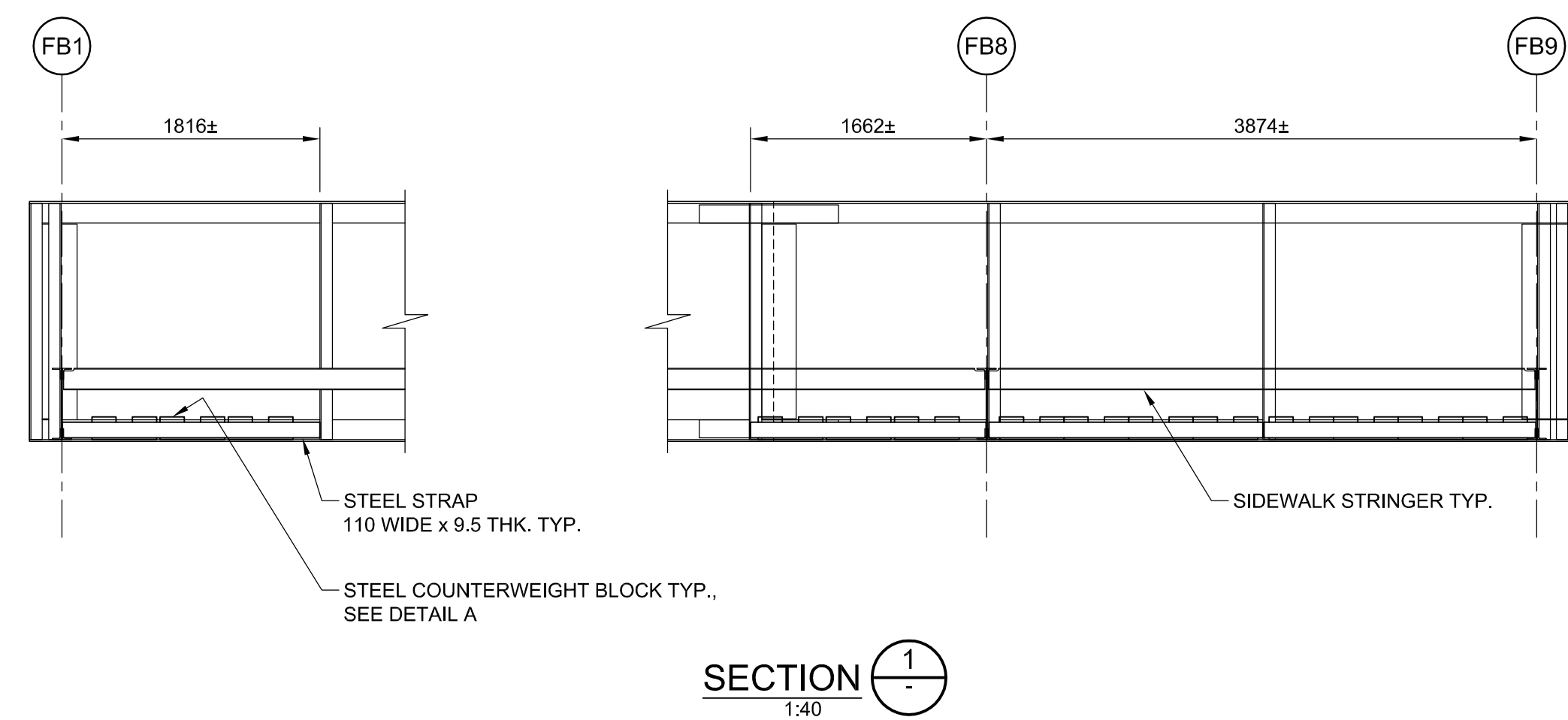
MATERIAL: STEEL TO CAN/CSA G40.20/G40.21 GRADE 300W, ASTM A588 OR APPROVED EQUIVALENT
 FINISH: GRIND SMOOTH ALL PLATE EDGES TO 3mm MIN. RADIUS
 PAINT IN ACCORDANCE WITH SPECIFICATIONS
 WEIGHT: 26kg / BLOCK
 QUANTITY: 70 BLOCKS

COUNTERWEIGHT REMOVALS AT SOUTH ABUTMENT

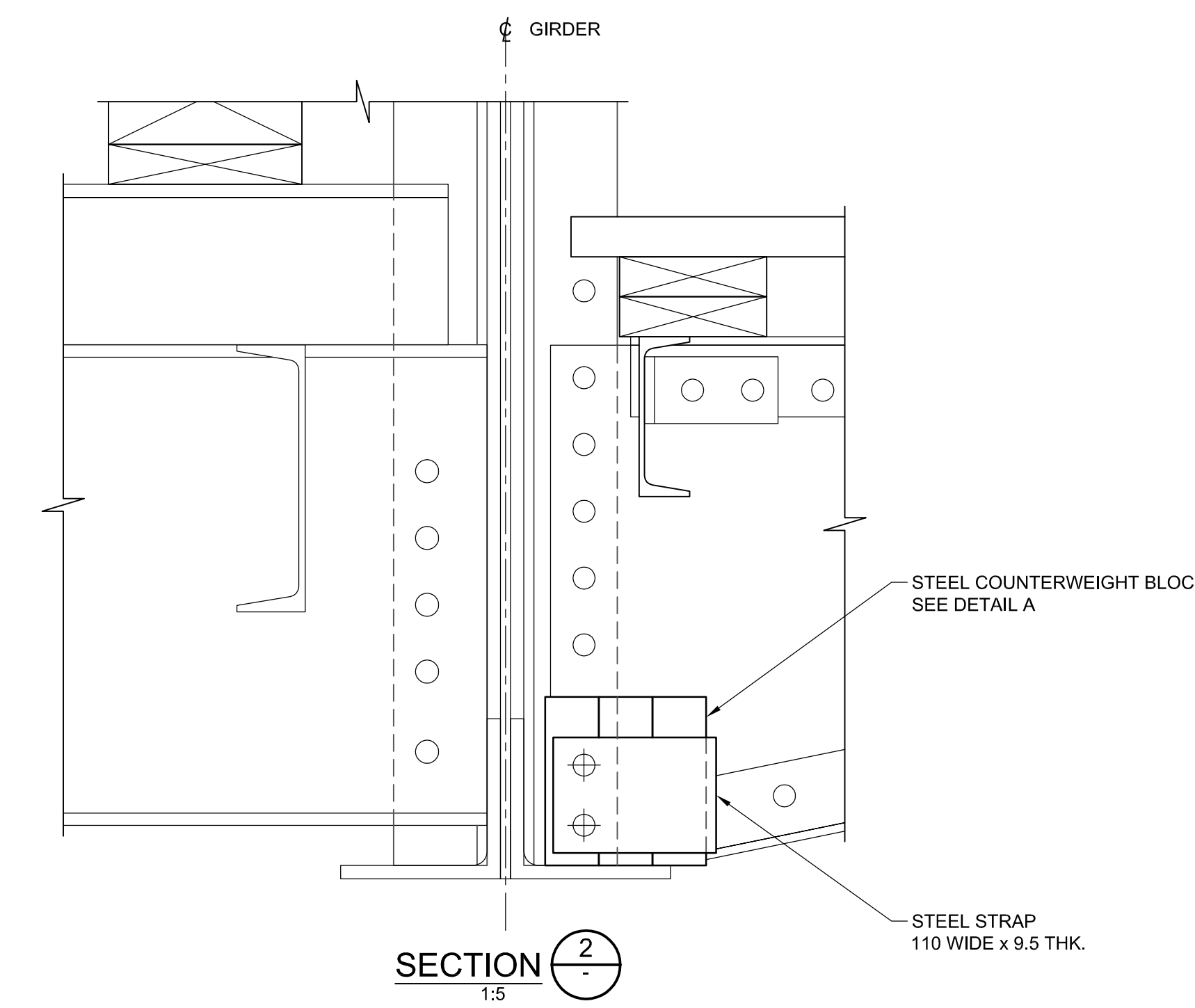


REHABILITATED COUNTERWEIGHT PLAN
1:40

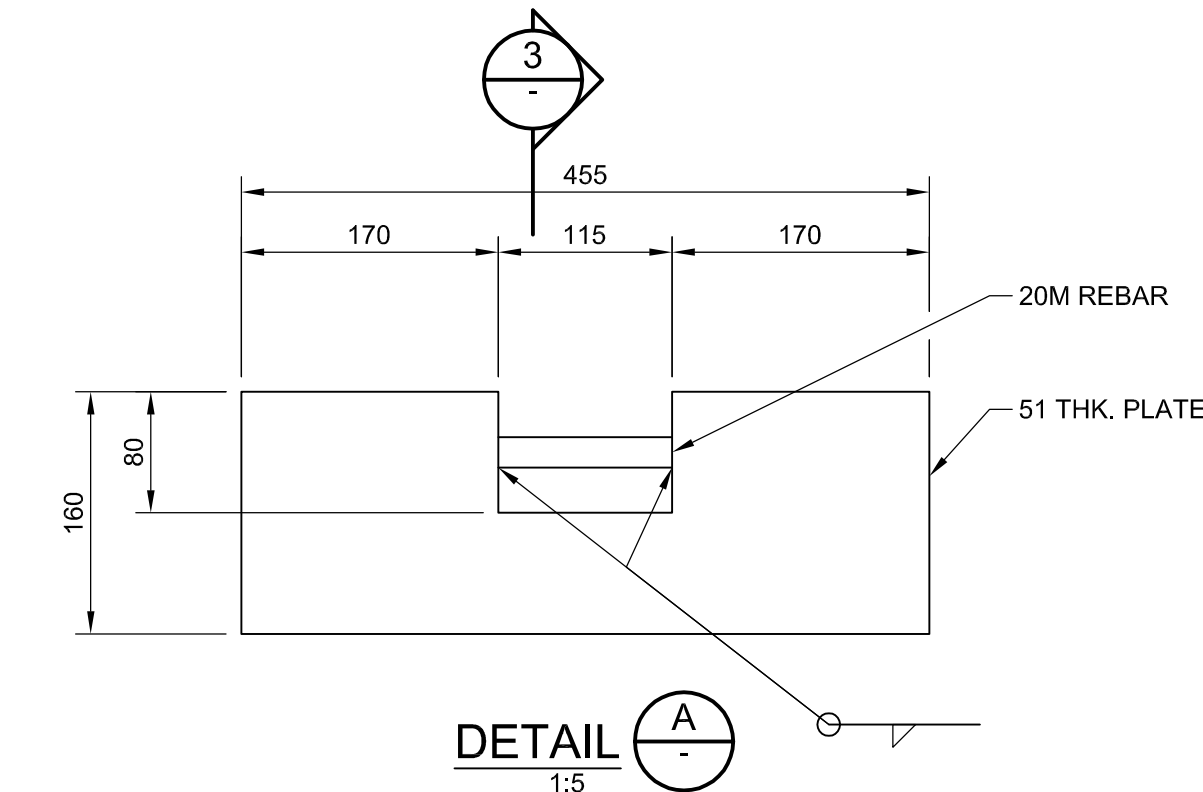
NOTE:
STRINGERS NOT SHOWN FOR CLARITY.



SECTION 1
1:40



SECTION 2
1:5

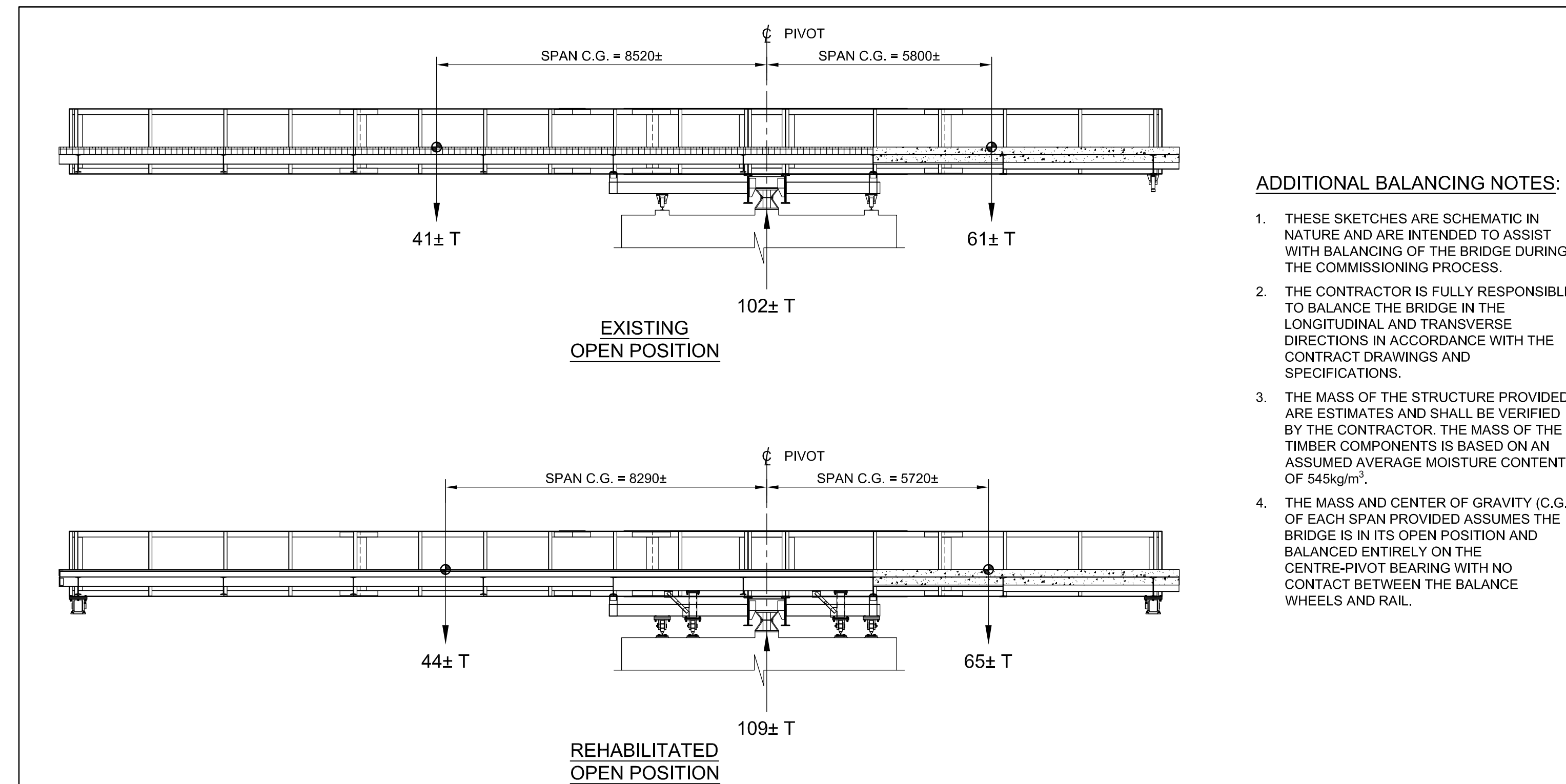


DETAIL A
1:5

SECTION 3
1:5

TYPICAL STEEL COUNTERWEIGHT BLOCK
QUANTITY REQUIRED = 70

BALANCE OF STRUCTURE IN OPEN POSITION



ADDITIONAL BALANCING NOTES:

- THESE SKETCHES ARE SCHEMATIC IN NATURE AND ARE INTENDED TO ASSIST WITH BALANCING OF THE BRIDGE DURING THE COMMISSIONING PROCESS.
- THE CONTRACTOR IS FULLY RESPONSIBLE TO BALANCE THE BRIDGE IN THE LONGITUDINAL AND TRANSVERSE DIRECTIONS IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.
- THE MASS OF THE STRUCTURE PROVIDED ARE ESTIMATES AND SHALL BE VERIFIED BY THE CONTRACTOR. THE MASS OF THE TIMBER COMPONENTS IS BASED ON AN ASSUMED AVERAGE MOISTURE CONTENT OF 545kg/m³.
- THE MASS AND CENTER OF GRAVITY (C.G.) OF EACH SPAN PROVIDED ASSUMES THE BRIDGE IS IN ITS OPEN POSITION AND BALANCED ENTIRELY ON THE CENTRE-PIVOT BEARING WITH NO CONTACT BETWEEN THE BALANCE WHEELS AND RAIL.

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No.	Description	Des. By	Date
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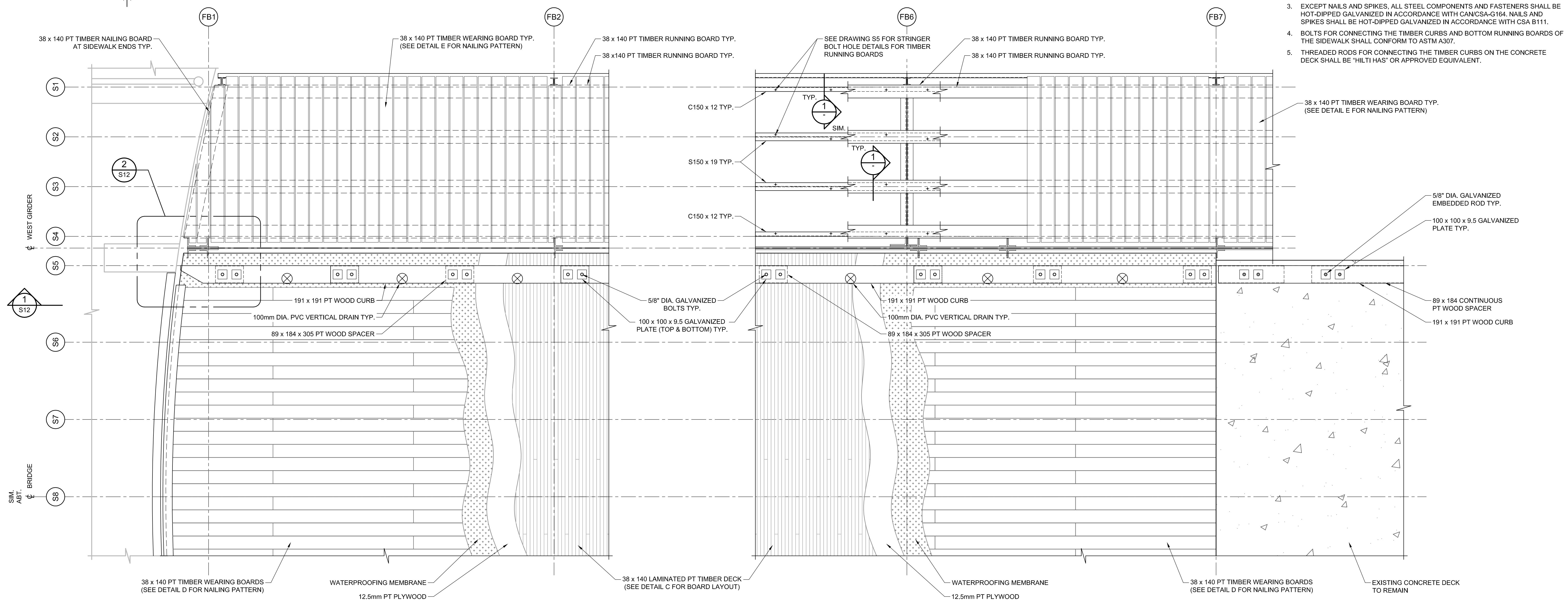
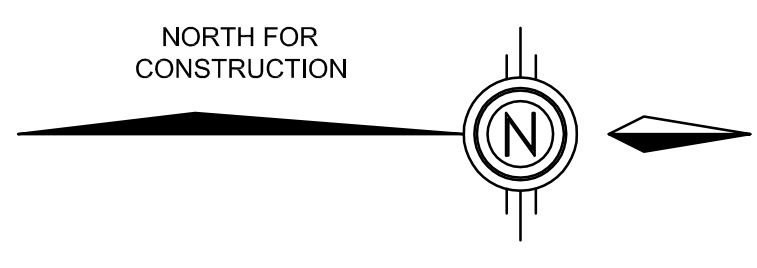
**TRENT-SEVERN WATERWAY
BOBCAYGEON SWING
BRIDGE REHABILITATION**

CITY PROV.

Drawing title / Titre du dessin

**STRUCTURAL STEEL
COUNTERWEIGHT DETAILS**

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur du projet W. LITTLE	Drawing Number / Numéro du dessin S10
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X



- NOTES:**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1, S2, S5 AND S12.
 - TO THE EXTENT POSSIBLE, ALL WOOD SHALL BE CUT, DRILLED AND COMPLETELY FABRICATED PRIOR TO PRESSURE TREATMENT WITH PRESERVATIVES. ALL CUTS, BORE HOLES, SURFACING OR DAMAGED SURFACES DONE IN THE FIELD SHALL BE IMMEDIATELY TREATED WITH WOOD PRESERVATIVE.
 - EXCEPT NAILS AND SPIKES, ALL STEEL COMPONENTS AND FASTENERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH CAN/CSA-G164. NAILS AND SPIKES SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH CSA B111.
 - BOLTS FOR CONNECTING THE TIMBER CURBS AND BOTTOM RUNNING BOARDS OF THE SIDEWALK SHALL CONFORM TO ASTM A307.
 - THREADED RODS FOR CONNECTING THE TIMBER CURBS ON THE CONCRETE DECK SHALL BE "HILTI HAS" OR APPROVED EQUIVALENT.



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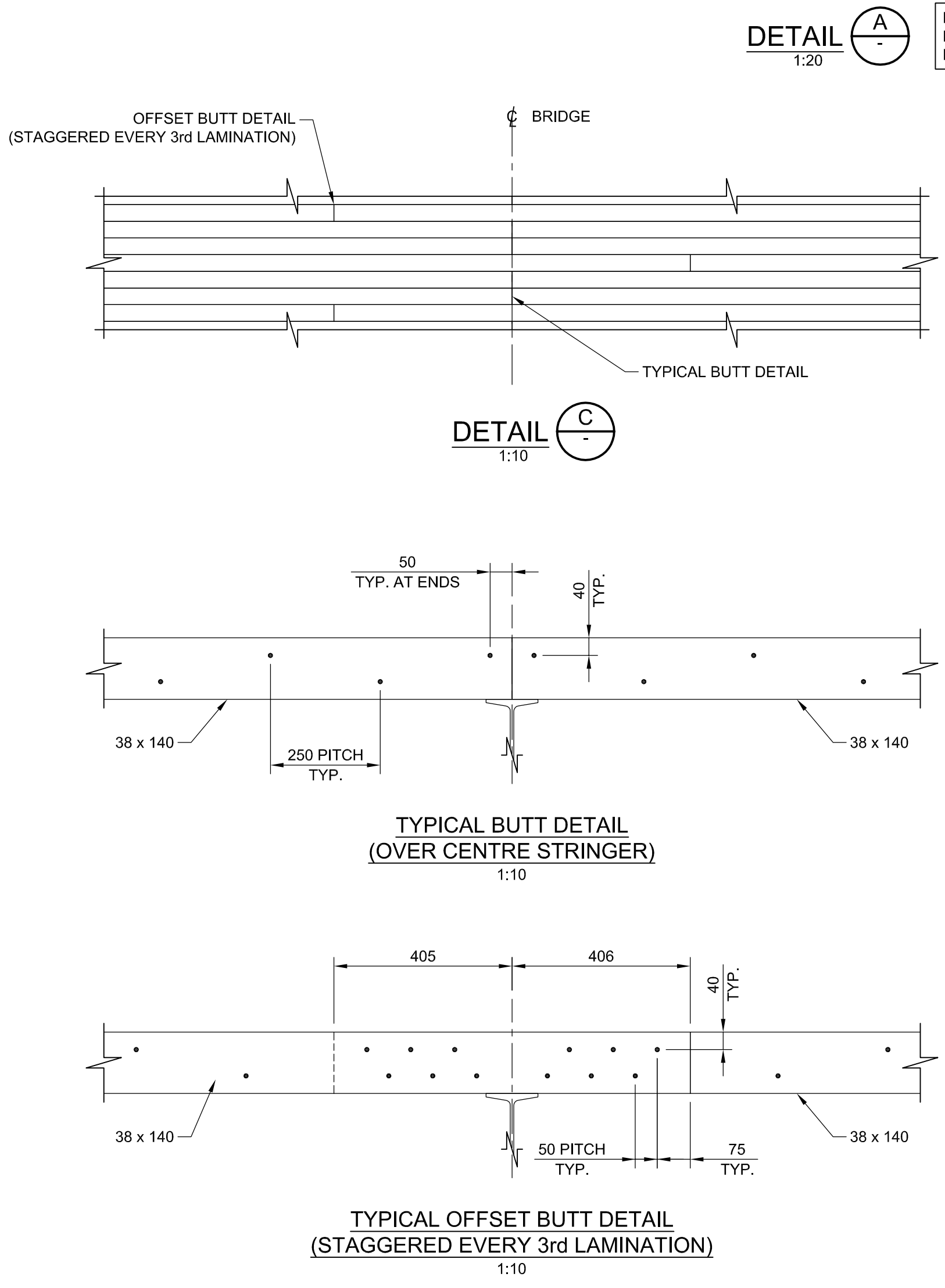
A	B
A Detail number Numéro du détail	B Location (tag, number) Numéro sur dessin

**TRENT-SEVERN WATERWAY
BOBCAYGEON SWING
BRIDGE REHABILITATION**

CITY PROV.

**DECK
ENLARGED PLAN VIEW
& DETAILS**

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du dessin S11
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille x of x



NOTE:
FLASHING PLATES AT CURB
NOT SHOWN FOR CLARITY.

NOTE:
FLASHING PLATES AT CURB
NOT SHOWN FOR CLARITY.

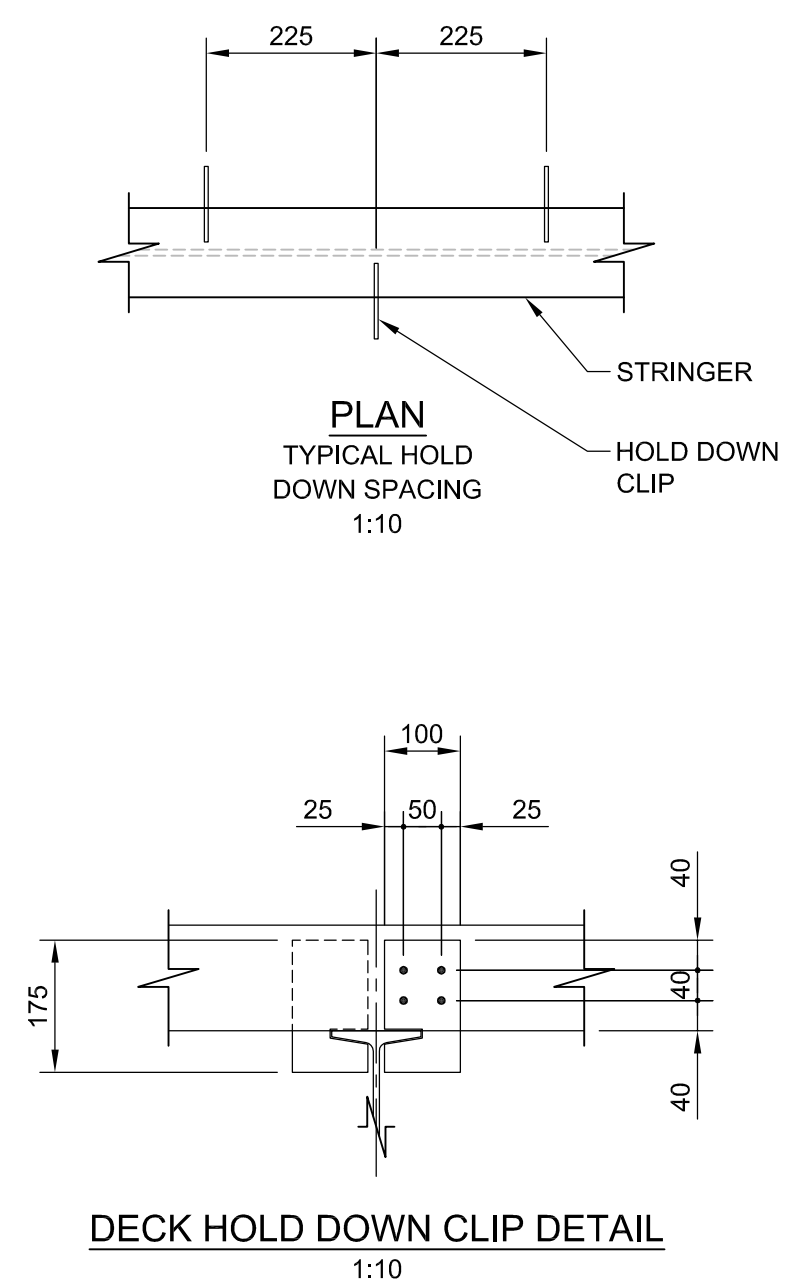
PRESSURE TREATED LAMINATED DECK:
EACH LAMINATION SHALL BE CONNECTED WITH COMMON NAILS IN ACCORDANCE WITH CSA STANDARD B111-1974 THAT HAVE BEEN HOT DIP GALVANIZED IN ACCORDANCE WITH CSA STANDARD G-164. THE NAILS SHALL FASTEN EACH LAMINATION AND BE SUFFICIENT IN LENGTH TO PASS THROUGH TWO LAMINATIONS AND HALFWAY THROUGH THE THIRD. AT LEAST ONE NAIL SHALL BE PLACED WITHIN 100mm TO 125mm FROM THE END OF EACH BOARD.

ALL BOARDS SHALL SPAN OVER AT LEAST THREE STRINGER SUPPORTS. ALTERNATIVELY THE CONTRACTOR MAY ELECT TO INSTALL THE LAMINATED TIMBER BOARDS FULL BRIDGE WIDTH WITHOUT BUTT JOINTS.

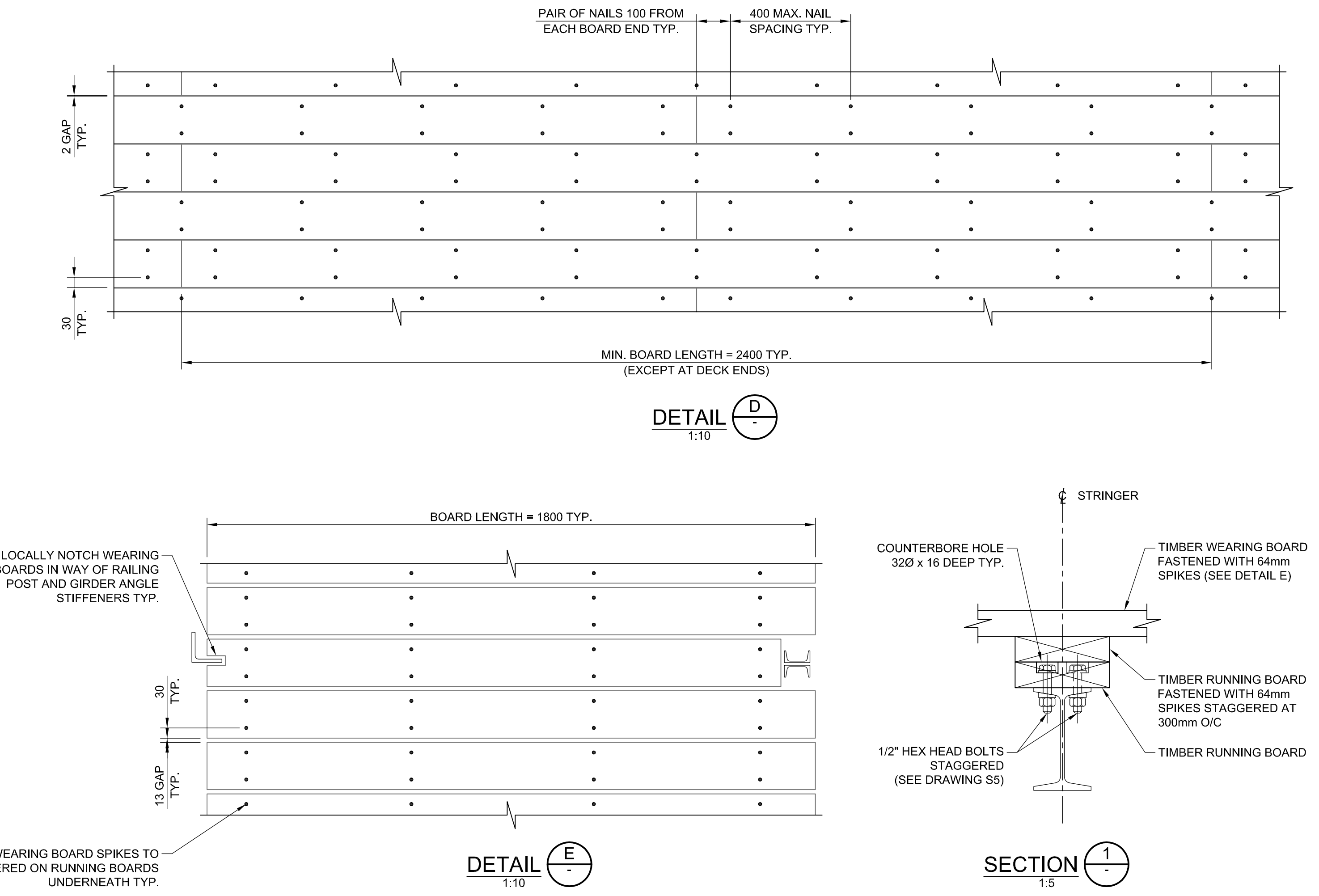
PRESSURE TREATED PLYWOOD:
PLYWOOD SHALL BE FASTENED TO LAMINATED DECK WITH 50mm GALVANIZED SPIRAL ARDOX NAILS AT 300mm O/C AND AT ENDS.

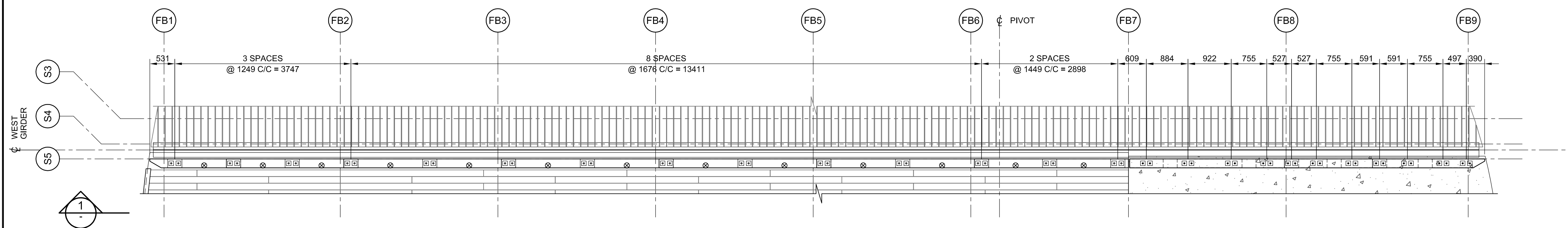
PRESSURE TREATED WEARING BOARDS:
BOARDS SHALL BE FASTENED TO LAMINATED DECK WITH 125mm SPIKES IN PAIRS AT 400mm O/C AND AT ENDS (SEE DETAIL D).

**LAMINATED DECK
NAILING PROCEDURE**

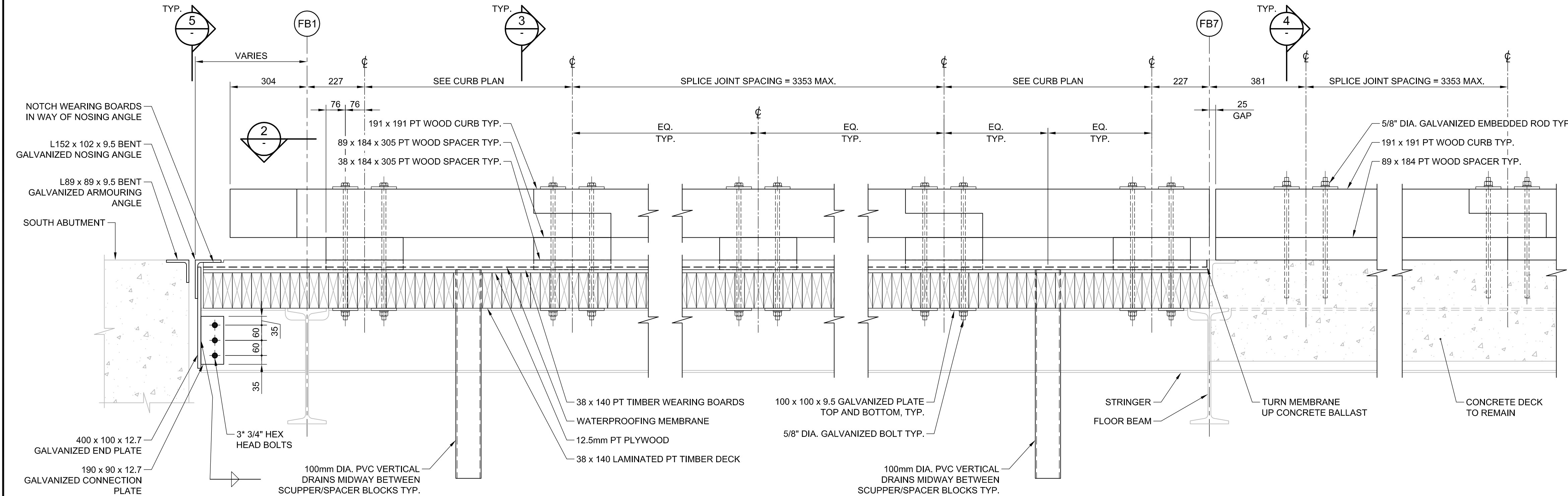


NOTE:
NAILING HOLD DOWN CLIP TO BE 2mm MIN. THICK GALVANIZED STEEL PLATE AT 225mm C/C STAGGERED ON ALTERNATE SIDES OF BEAM FLANGES. GAP AROUND FLANGE SHALL CONFORM TO THE FLANGE WITH A TOLERANCE OF 2mm AND WHEN INSTALLED SHALL BE PULLED UPWARD SO THAT THEY ARE TIGHT TO THE BOTTOM OF THE FLANGE. NAIL HOLES TO ACCOMMODATE NAIL SIZE TO REDUCE SCRATCHING OF GALVANIZING ON NAIL AND PLATE.





CURB PLAN
WEST SIDE SHOWN
EAST SIDE SIMILAR
1:50



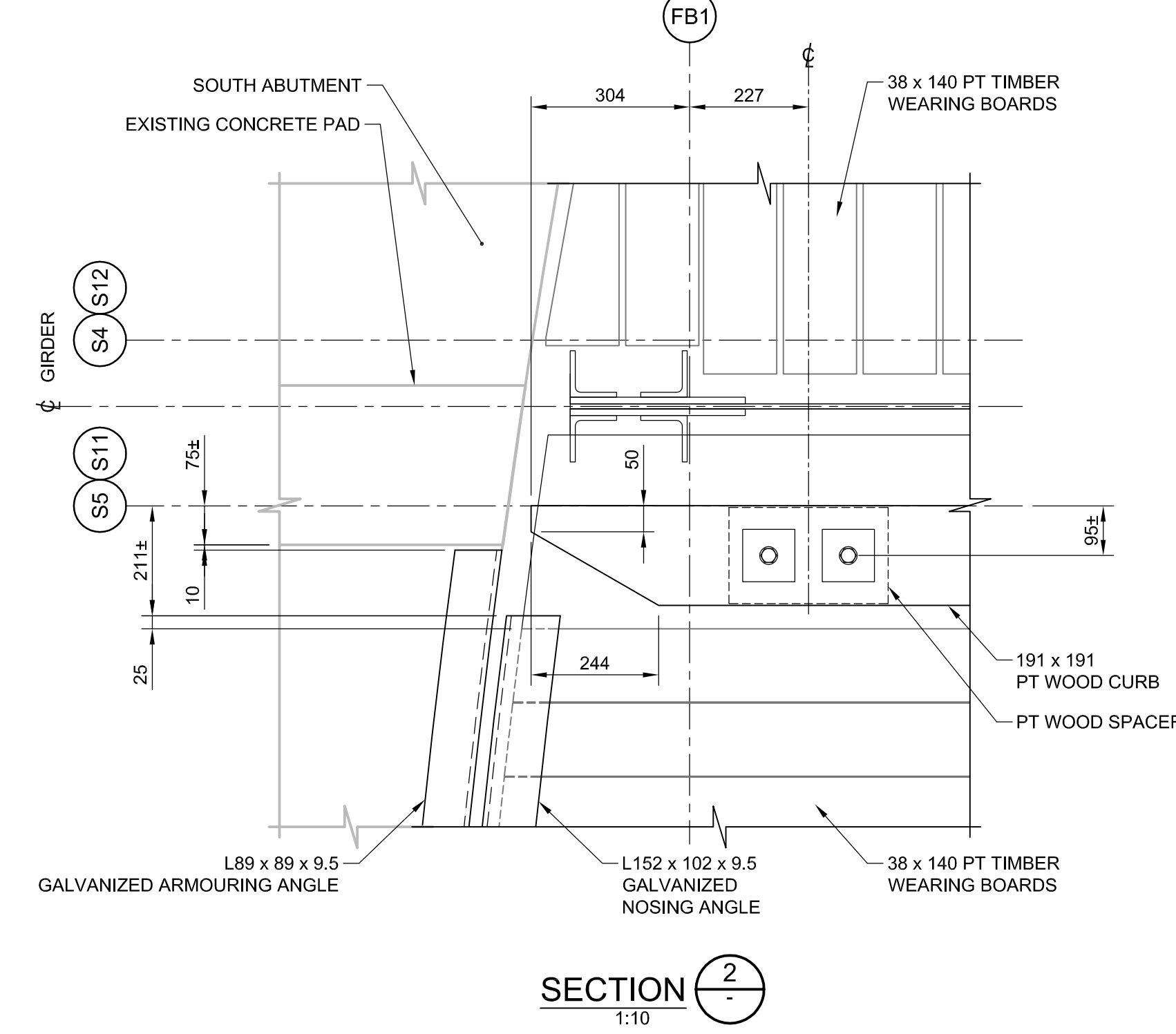
CURB AND DECK JOINT AT SOUTH ABUTMENT
1:10

SECTION 1
1:10

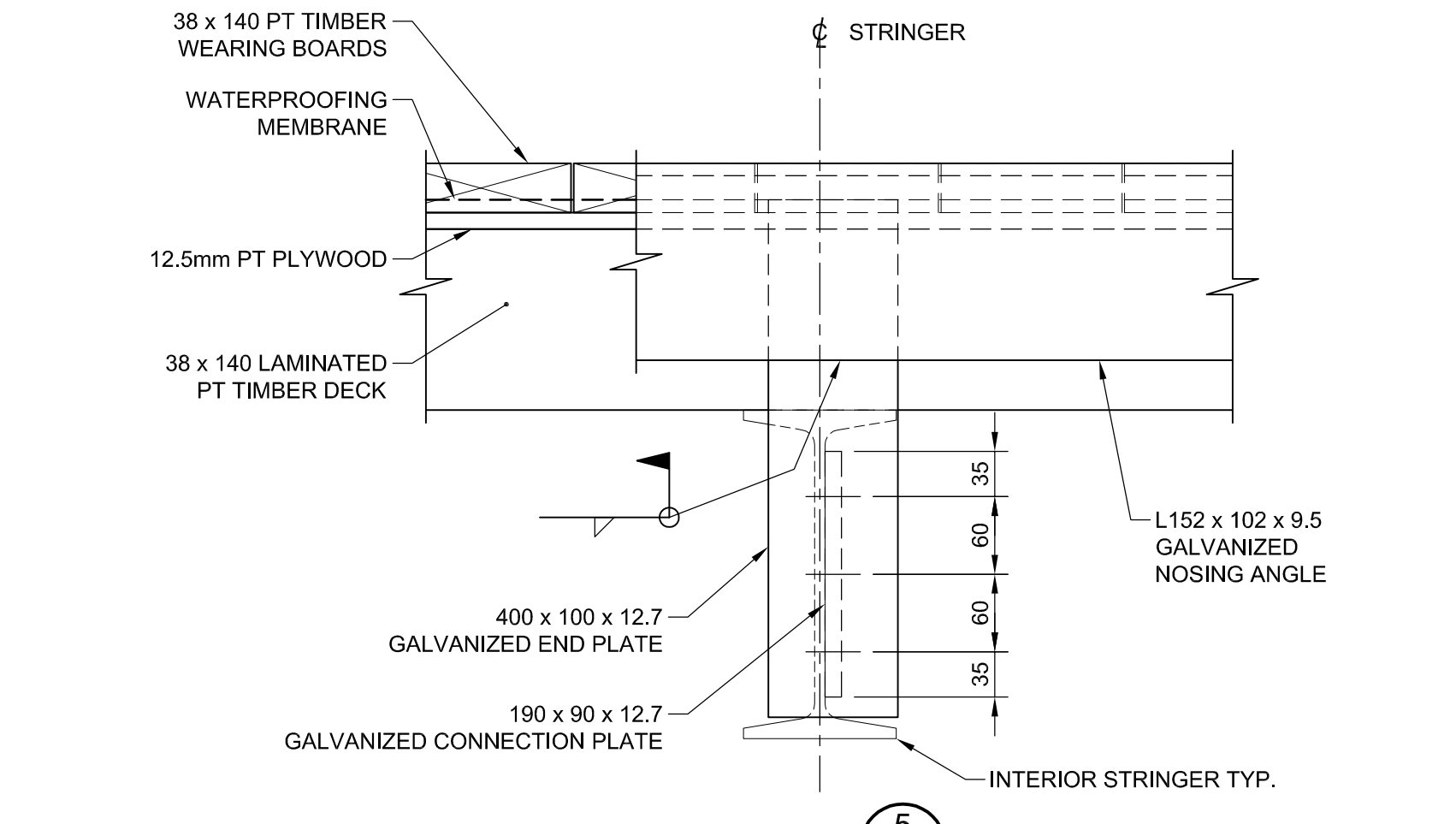
NOTE: GIRDER AND FLASHING PLATES NOT SHOWN FOR CLARITY.

CURB AND DECK JOINT AT CONCRETE DECK
1:10

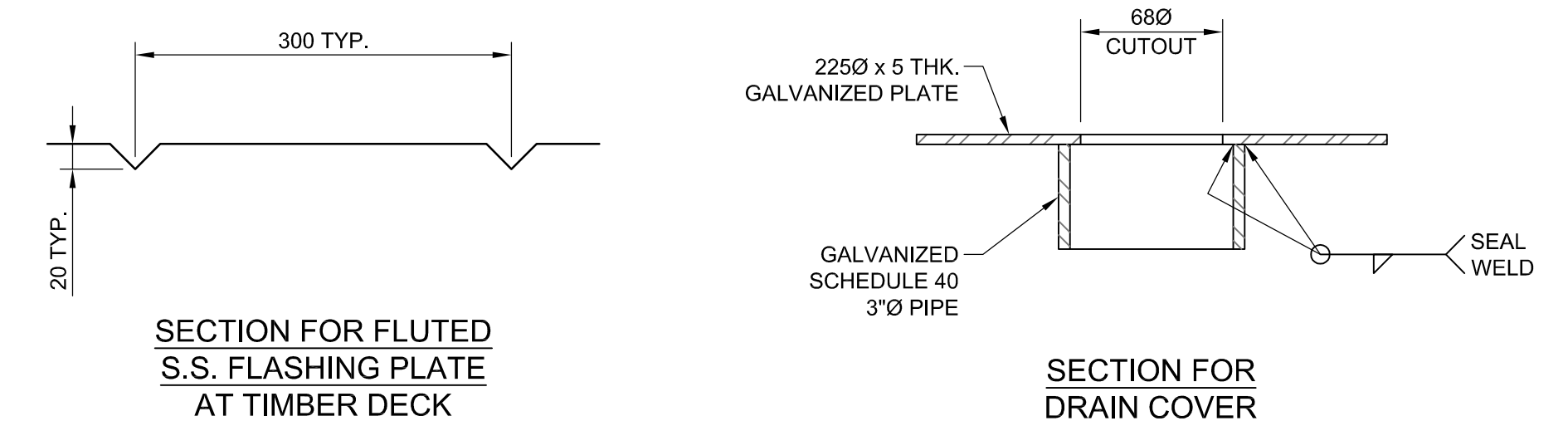
SECTION 2
1:10



SECTION 2
1:10

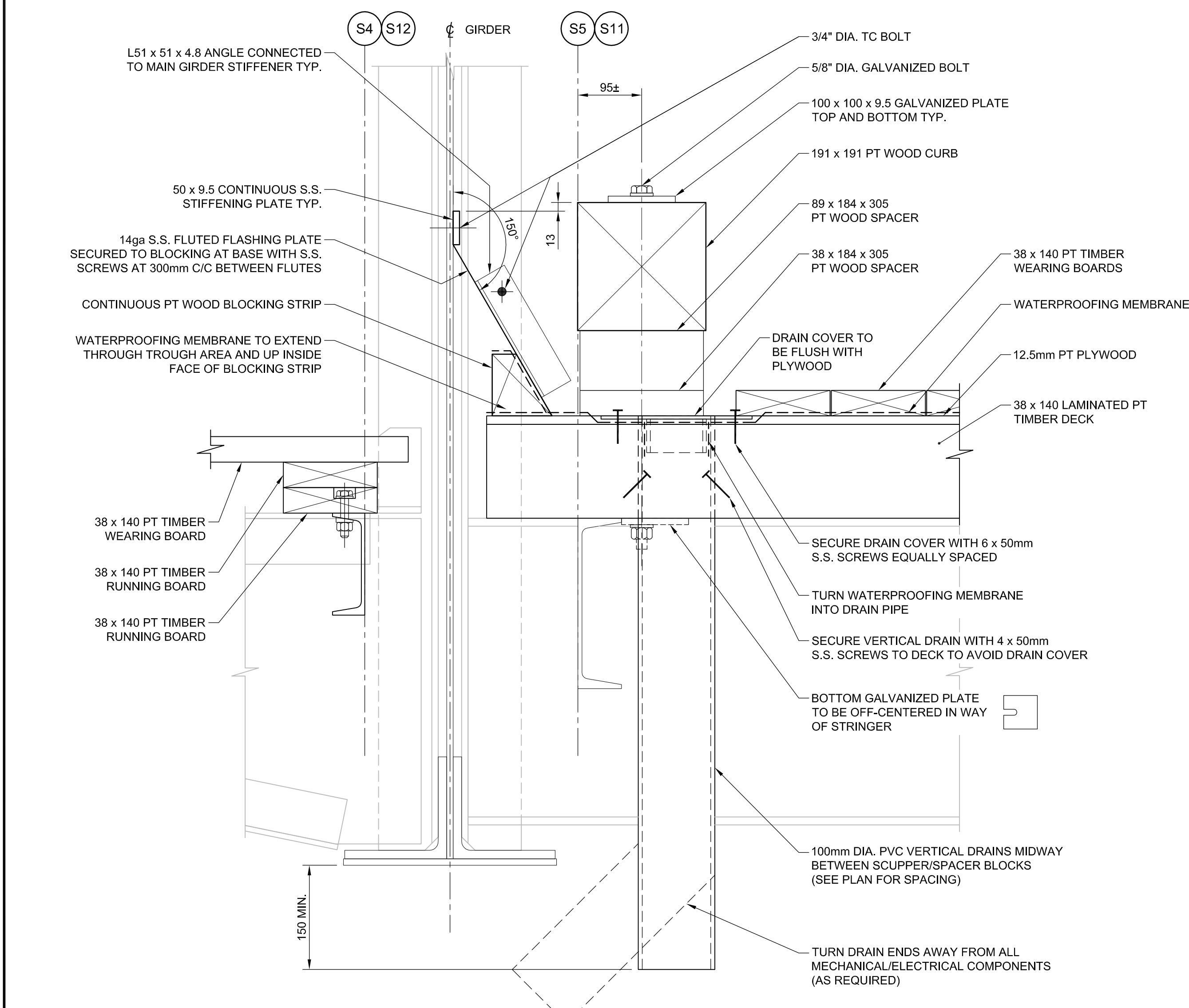


SECTION 5
1:5

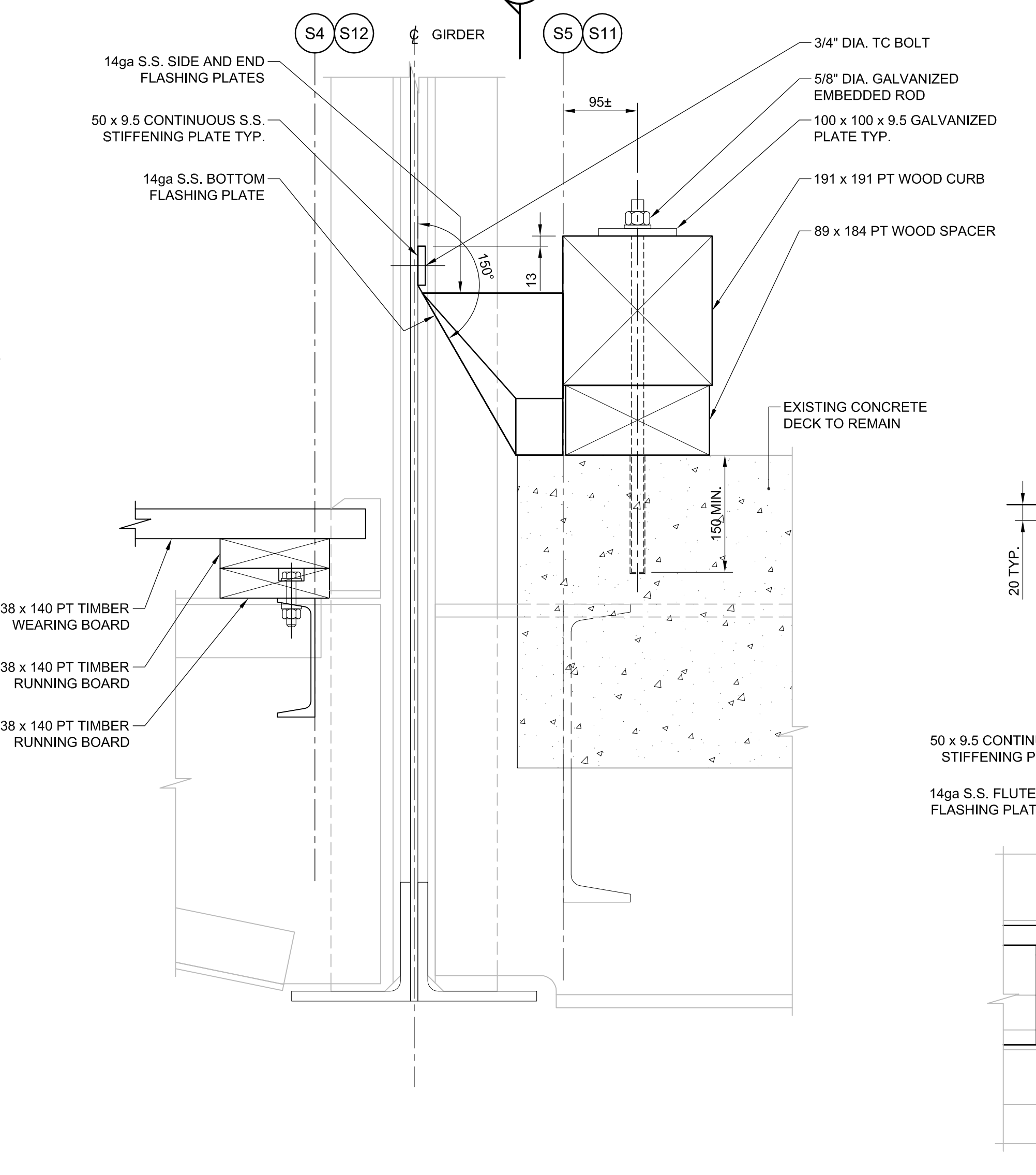


SECTION FOR FLUTED S.S. FLASHING PLATE AT TIMBER DECK
1:10

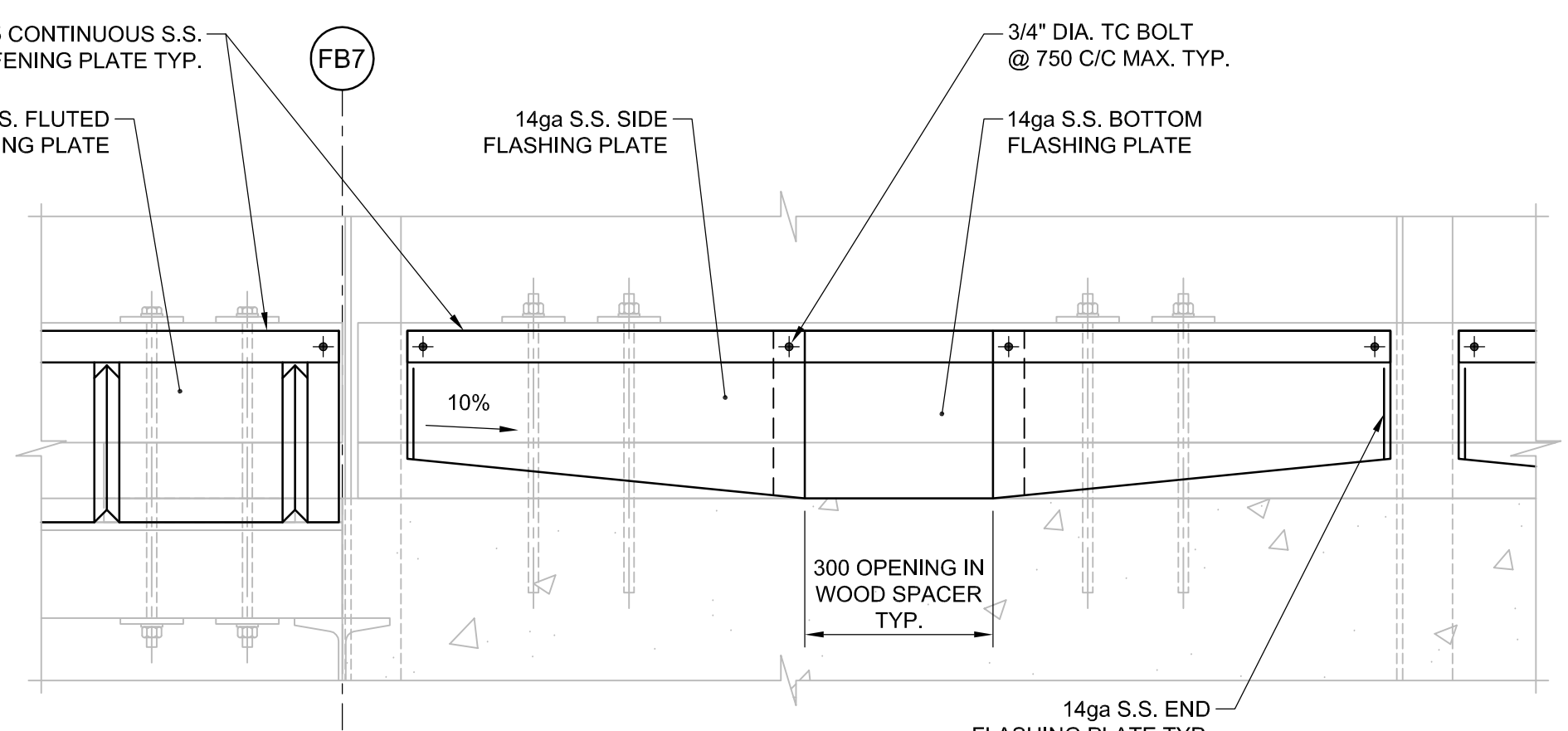
SECTION FOR DRAIN COVER
1:10



SECTION 3
1:5



SECTION 4
1:5



SECTION 7
1:10

- NOTES:**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1, S2, S11 AND S15.
 - ALL ANCHORS INTO EXISTING CONCRETE DECK SHALL BE SET IN EPOXY EQUIVALENT TO "HILTI HIT-HY 200-A".
 - DECK DRAIN DOWNSPOUTS ARE TO BE DIRECTED AWAY FROM ALL MECHANICAL AND ELECTRICAL COMPONENTS.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE NOSING AND ARMOURING ANGLE ASSEMBLY SHOWING FIELD MEASUREMENTS AND DETAILS.
 - CONTRACTOR TO SUBMIT DETAILS OF S.S. FLASHING PLATE CONFIGURATION AND ATTACHMENT FOR REVIEW AND APPROVAL.



300-2811 QUEENSWAY DRIVE
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CANADA K2B 9K2
TELEPHONE 613-525-3000 FAX 613-525-4299
WWW.WSPGROUP.COM

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Revision / Révision	Detail number / Numéro du détail
A	Detail number / Numéro du détail
B	Location (dwg. number) / Numéro sur dessin

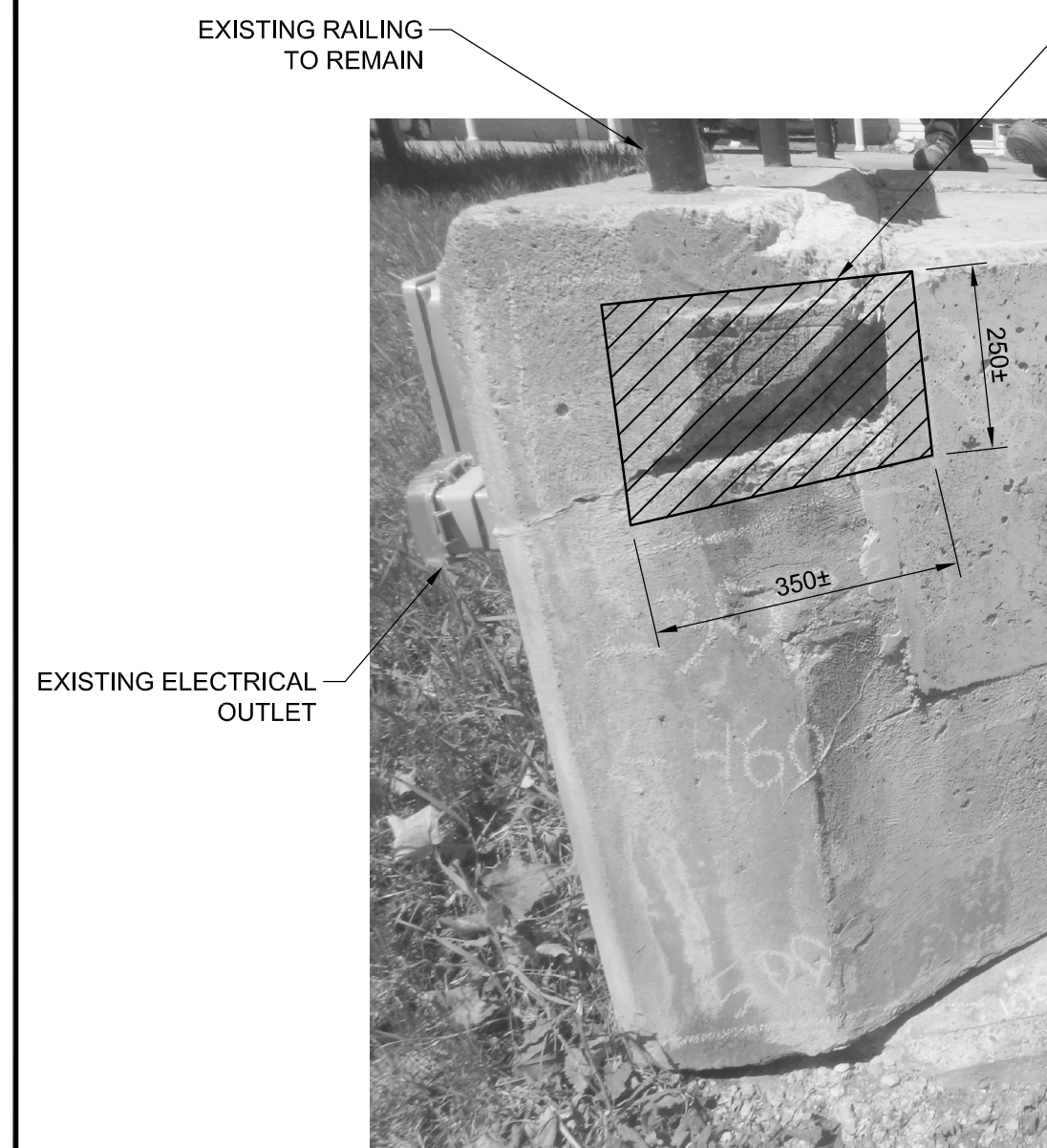
Project title / Titre du projet
TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CITY PROV.

Drawing title / Titre du dessin
DECK CURB DETAILS

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du dessin S12
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X

CAD FILE LOCATION AND NAME: \\cortec\id01\Projects\Job2016\151-06165-11_Bobcaygeon Swing Bridge Rehab\3.0 Technical (by Discipline)\3.7 Dwg - Fig SHEETS\151-06165-11_S12.dwg
MODIFIED: 11/7/2019 2:44:32 PM BY: CARP069785
DATE PLOTTED: 11/7/2019 2:44:33 PM BY: CARP069785



- NOTES:**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1 AND S2.
 - PRIOR TO FABRICATION OF THE REINFORCING STEEL BARS, THE CONTRACTOR SHALL COMPLETE FIELD MEASUREMENTS TO VALIDATE EXISTING STRUCTURE DIMENSIONS AND DETAILING DIMENSIONS PROVIDED FOR THE REINFORCING STEEL.
 - REINFORCING BARS MARKED WITH PREFIX 'G' SHALL BE GALVANIZED BARS.
 - ALL REINFORCEMENT TO BE INSPECTED BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PLACING CONCRETE.
 - ALL DOWELS AND ANCHORS INTO EXISTING CONCRETE SHALL BE SET IN EPOXY EQUIVALENT TO HILTI HIT-HY 200-A.
 - SAW CUT EDGES OF REMOVAL AREAS IN NEAT STRAIGHT LINES.
 - ALL EXPOSED CONCRETE EDGES TO HAVE 20mm x 20mm CHAMFER.
 - ALL NEW AND EXISTING CONCRETE ABUTMENT SURFACES TO BE TREATED WITH TWO COATS OF PENETRATING SEALER.
 - REFER TO MECHANICAL DRAWINGS FOR DETAILS OF RAMPS, AND END LOCKING DEVICE. CONTRACTOR IS RESPONSIBLE TO COORDINATE WORK WITH MECHANICAL ITEMS.

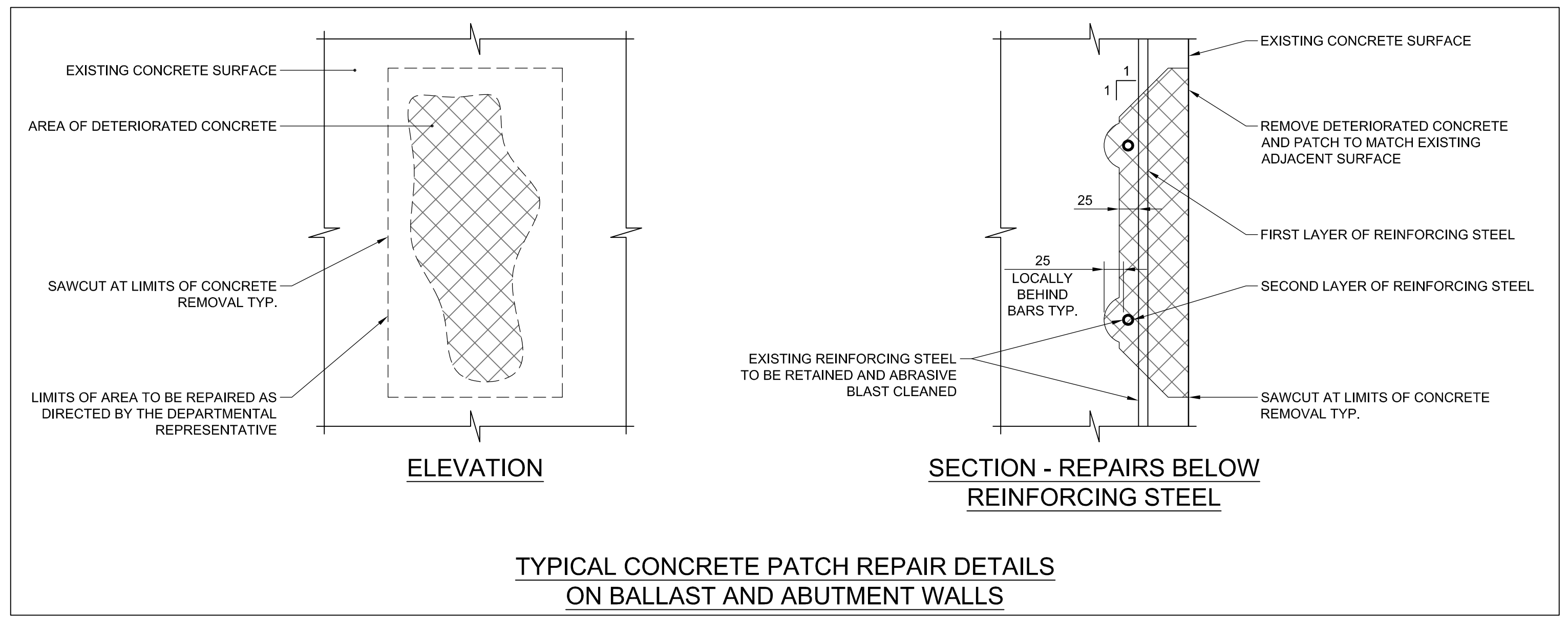
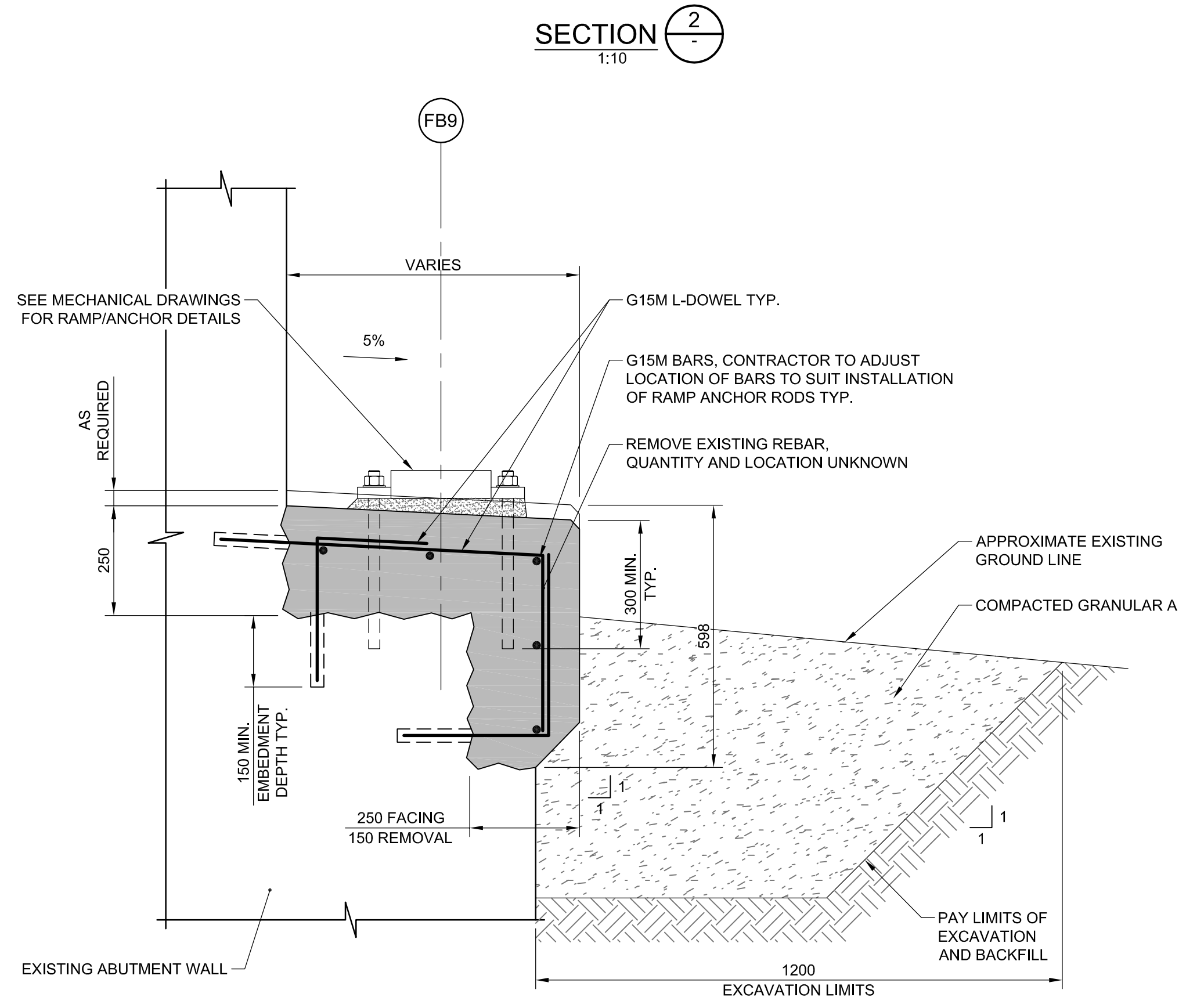
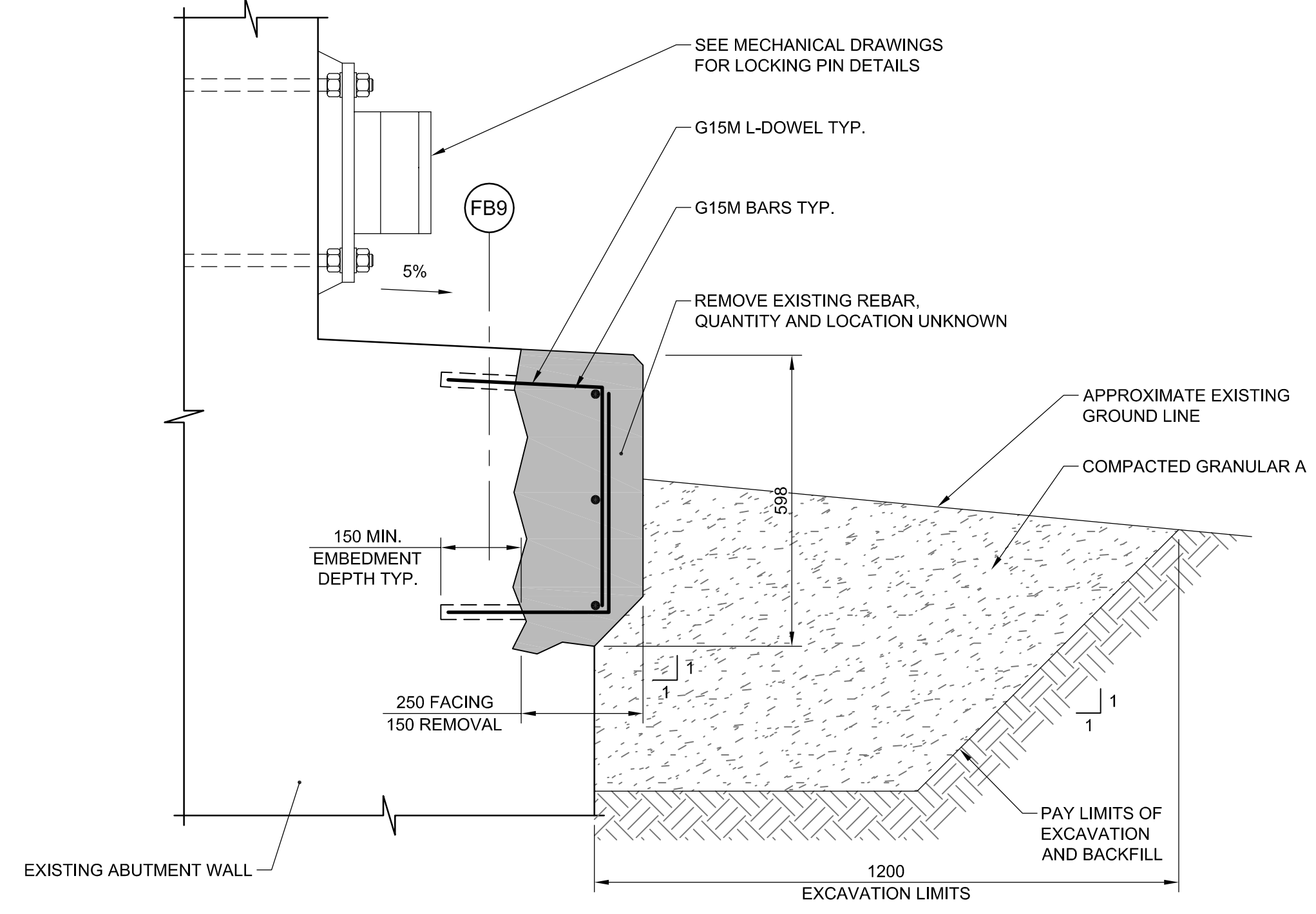
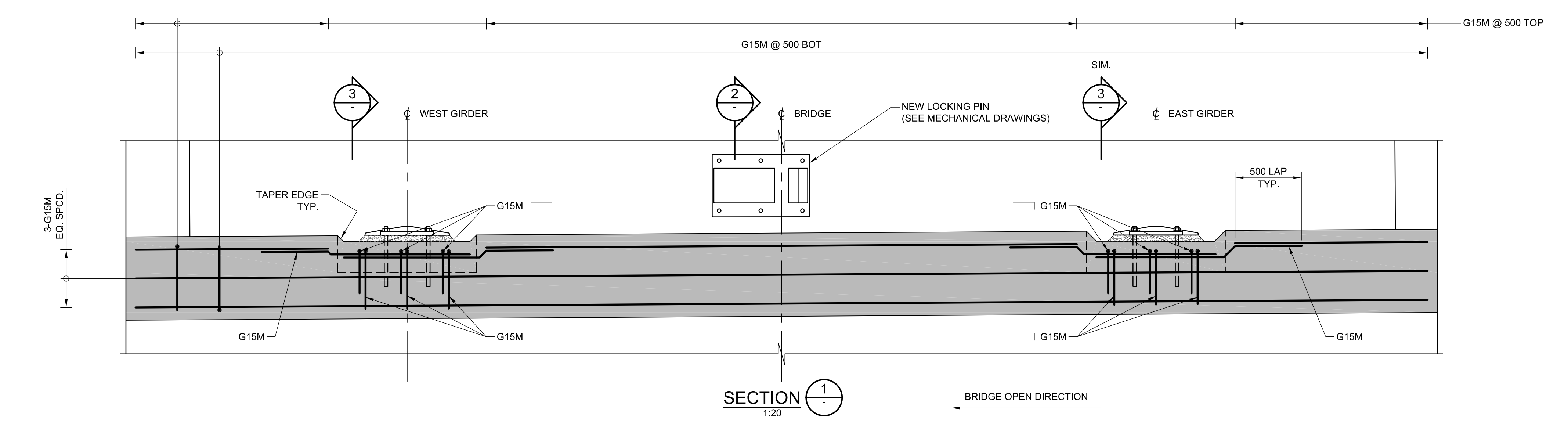
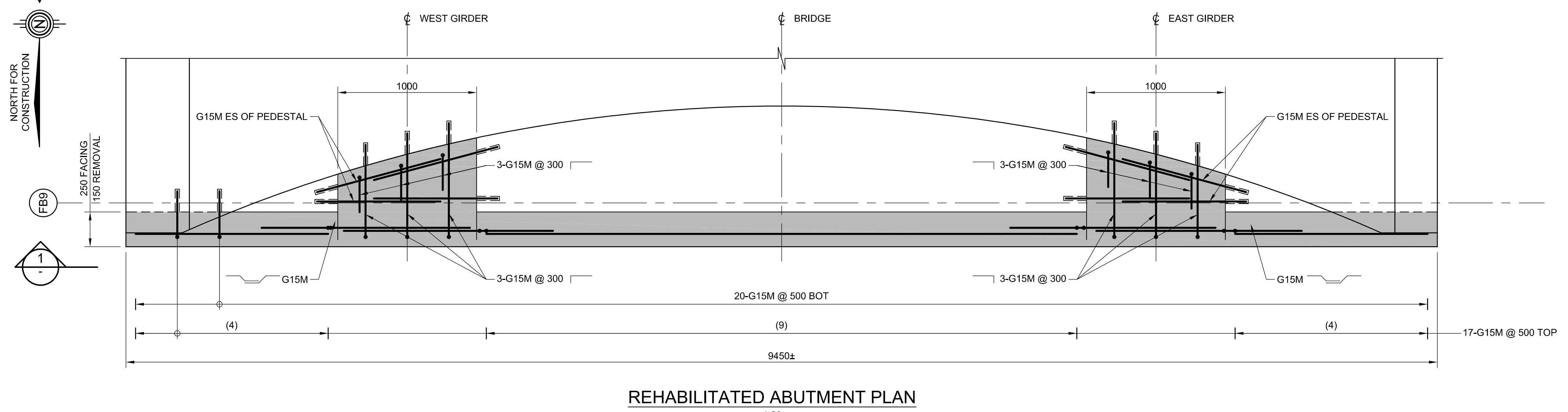
- REFACING BALLAST AND ABUTMENT WALL NOTES:**
- REMOVE CONCRETE TO LIMITS AS INDICATED.
 - INSTALL NEW DOWELS AND REINFORCING AS INDICATED.
 - CAST NEW CONCRETE FACING.

- ISOLATED REPAIR NOTES:**
- SAWCUT AT LIMITS OF REMOVAL SHALL BE 25mm DEEP OR TO THE FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS U.N.O. OR AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
 - REMOVE DELAMINATED, LOOSE OR DETERIORATED CONCRETE AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
 - WHERE THE BOND BETWEEN CONCRETE AND REINFORCING STEEL IS BROKEN, OR WHERE MORE THAN HALF OF THE PERIMETER OF THE BAR IS EXPOSED, THE CONCRETE SURROUNDING THE BARS SHALL BE LOCALLY REMOVED TO A DEPTH OF 25mm BEHIND THE BAR.
 - ABRASIVE BLAST CLEAN CONCRETE AND REINFORCING STEEL BARS.
 - RE-TIE EXPOSED REINFORCING STEEL BARS AT ALL INTERSECTIONS.

NORTH ABUTMENT ISOLATED REPAIR AT WEST SIDE

NORTH ABUTMENT REPAIRS

NORTH ABUTMENT ISOLATED REPAIR AT EAST SIDE



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Revision / Révision	
A	Detail number / Numéro du détail
B	Location (tag, number) / Numéro sur dessin

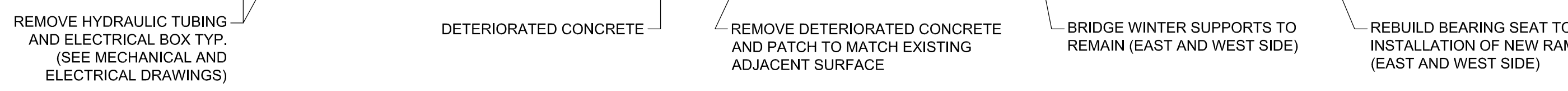
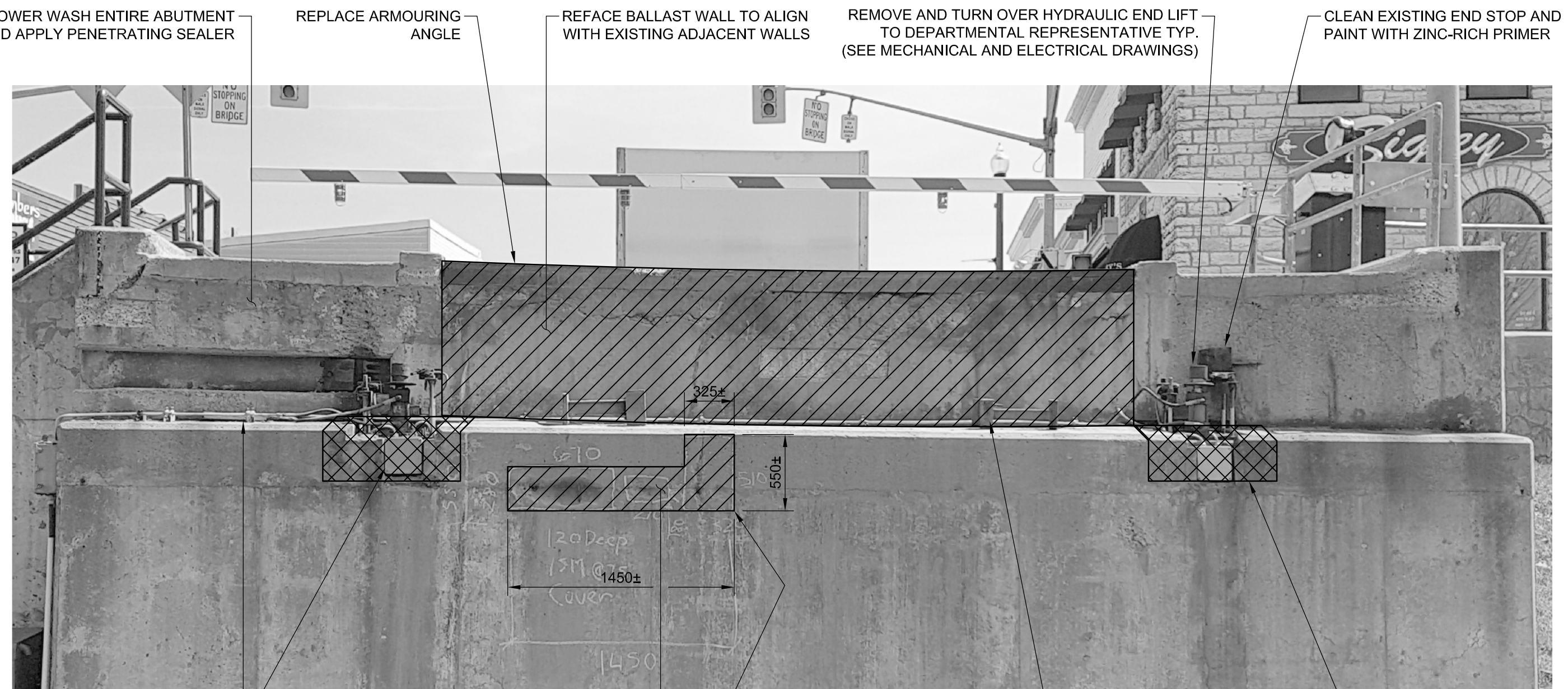
Project title / Titre du projet
TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CITY PROV.

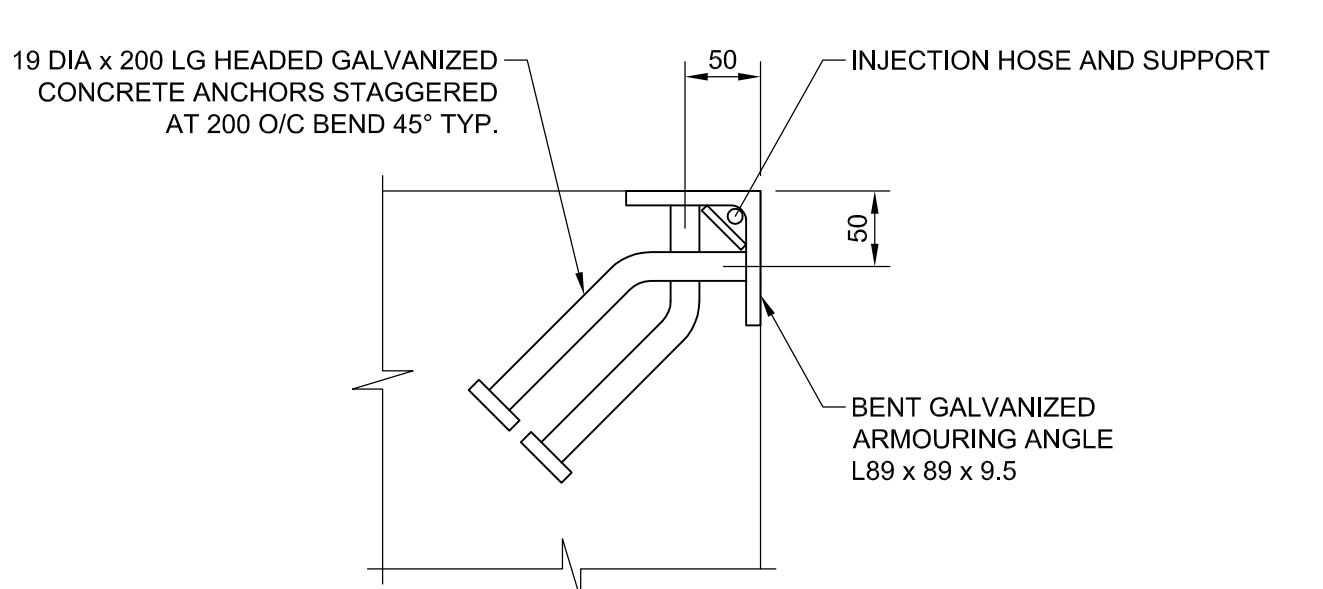
Drawing title / Titre du dessin
SUBSTRUCTURE REPAIR DETAILS NORTH ABUTMENT

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur du projet W. LITTLE	Drawing Number / Numéro du dessin S13
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X

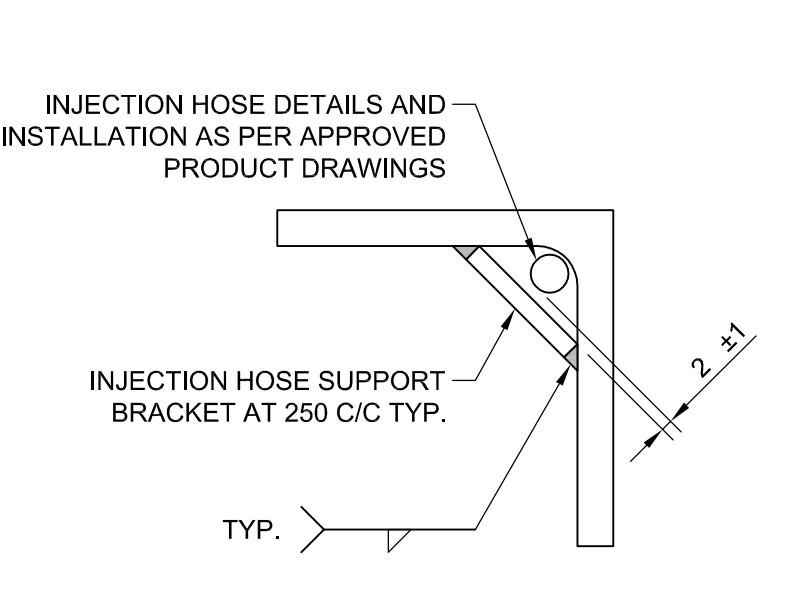
CAD FILE LOCATION AND NAME: \\cortt\id01\projects\job2019\151-06165-11 Bobcaygeon Swing Bridge Rehab\3.0 Technical (by Discipline)\3.7 Dwg-Fig\SHEETS\151-06165-11_S13.dwg
 MODIFIED: 11/7/2019 3:13:13 PM BY: CARP069785
 DATE PLOTTED: 11/7/2019 3:13:16 PM BY: CARP069785



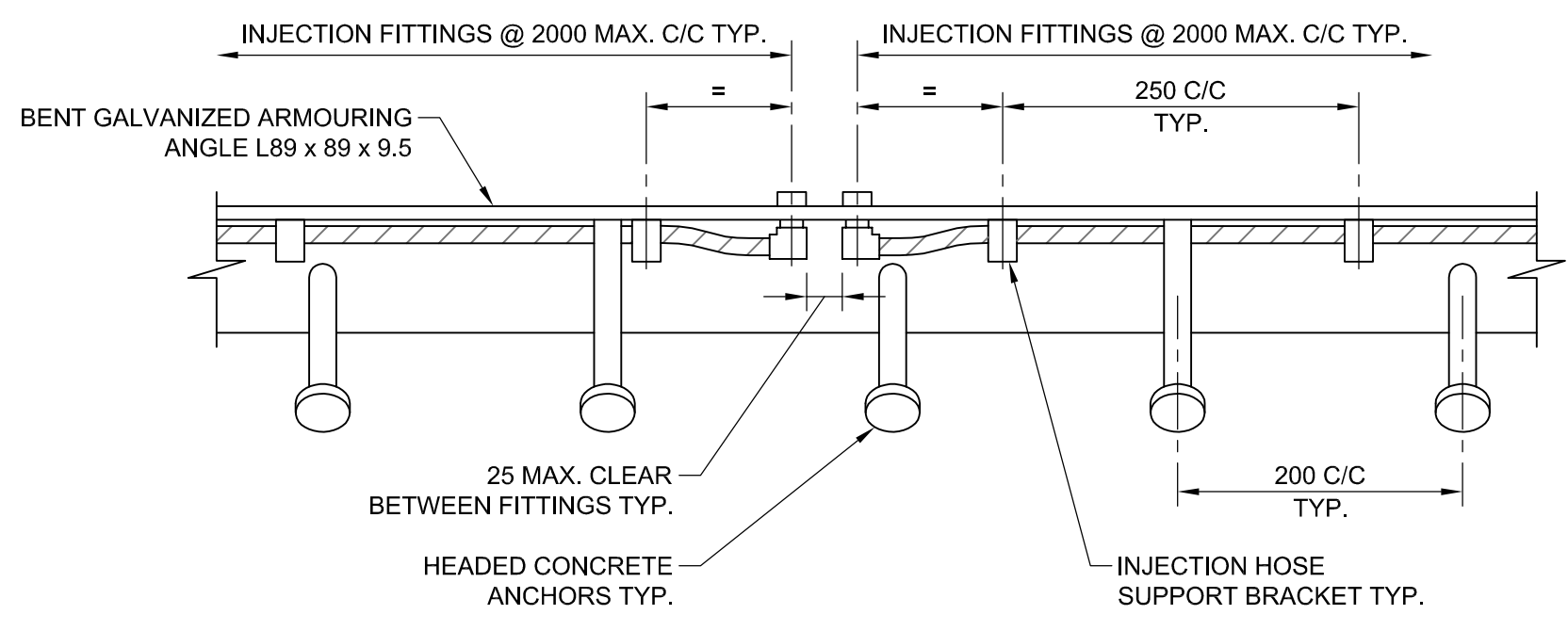
SOUTH ABUTMENT REPAIRS



DETAIL A
1:5



INJECTION HOSE SUPPORT BRACKET DETAIL



DETAILS OF HEADED CONCRETE ANCHORS AND INJECTION HOSE FOR ARMOURING ANGLE

NOTES:

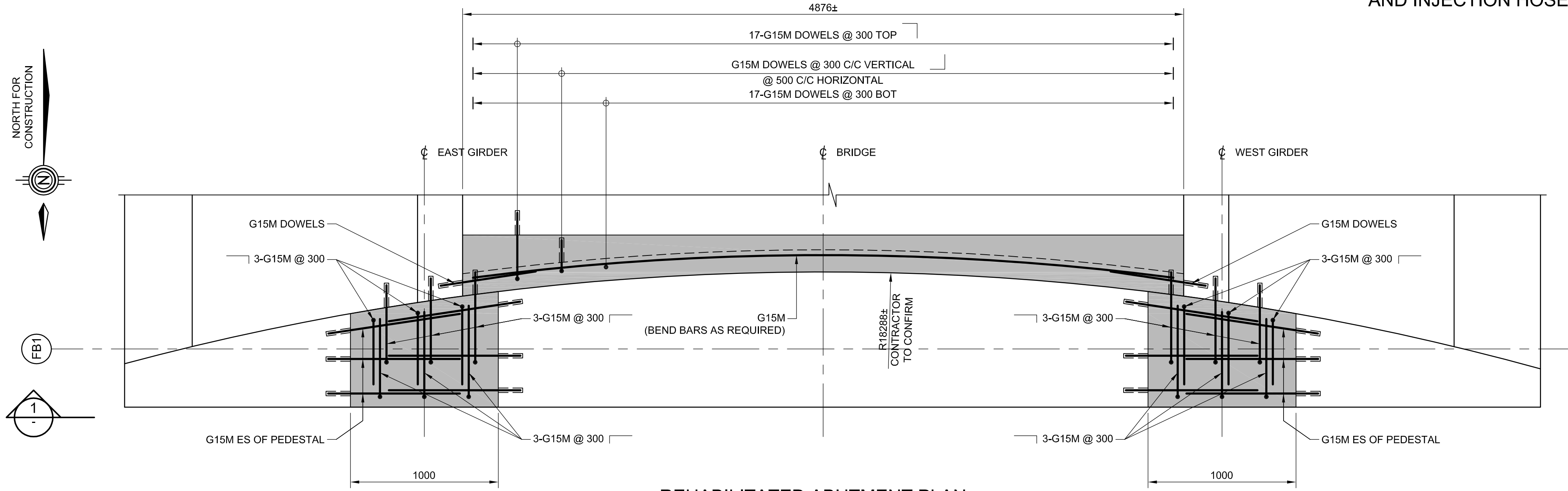
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1, S2 AND S13.
- PRIOR TO FABRICATION OF THE REINFORCING STEEL BARS, THE CONTRACTOR SHALL COMPLETE FIELD MEASUREMENTS TO VALIDATE EXISTING STRUCTURE DIMENSIONS AND DETAILING DIMENSIONS PROVIDED FOR THE REINFORCING STEEL.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE ARMOURING ANGLE ASSEMBLY SHOWING ALL MEASUREMENTS AND DETAILS.
- REINFORCING BARS MARKED WITH PREFIX 'G' SHALL BE GALVANIZED BARS.
- ALL REINFORCEMENT TO BE INSPECTED BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO PLACING CONCRETE.
- ALL DOWELS AND ANCHORS INTO EXISTING CONCRETE SHALL BE SET IN EPOXY EQUIVALENT TO 'HILTI HIT-HY 200-A'.
- SAW CUT EDGES OF REMOVAL AREAS IN NEAT STRAIGHT LINES.
- ALL EXPOSED CONCRETE EDGES TO HAVE 20mm x 20mm CHAMFER.
- ALL NEW AND EXISTING CONCRETE TO SURFACES OF ABUTMENTS TO BE TREATED WITH TWO COATS OF PENETRATING SEALER.
- REFER TO MECHANICAL DRAWINGS FOR DETAILS OF RAMPS AND END STOP. CONTRACTOR IS RESPONSIBLE TO COORDINATE WORK WITH MECHANICAL ITEMS.

REFACING BALLAST AND ABUTMENT WALL NOTES:

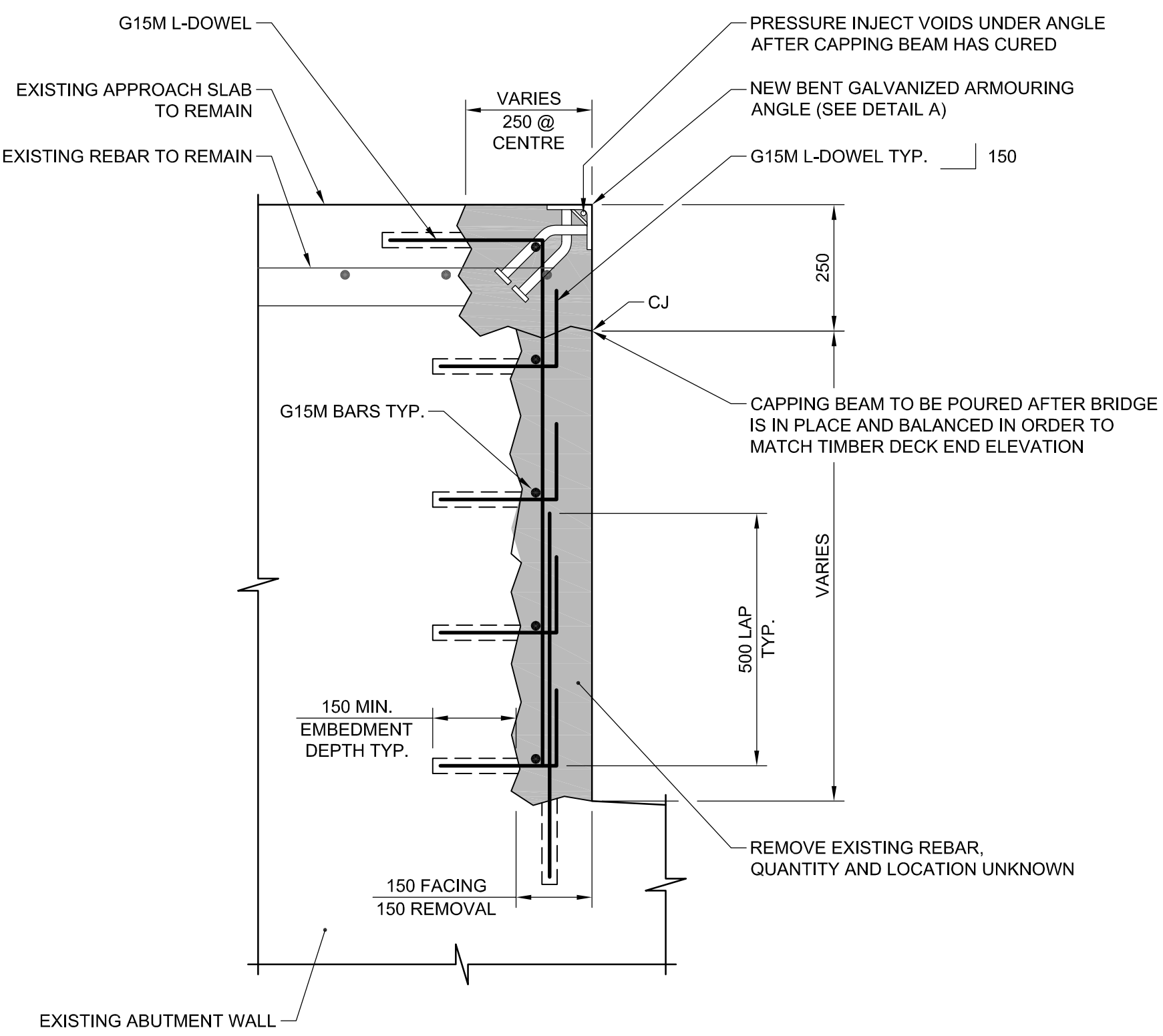
- REMOVE CONCRETE TO LIMITS AS INDICATED.
- INSTALL NEW DOWELS AND REINFORCING AS INDICATED.
- CAST NEW CONCRETE FACING.
- CAST TOP CAP BEAM WITH NEW ARMOURING ANGLE ON SOUTH ABUTMENT ONLY AFTER BRIDGE CONSTRUCTION IS COMPLETE, BALANCED, OPERATIONAL AND APPROVAL BEEN GIVEN BY DEPARTMENTAL REPRESENTATIVE. ELEVATIONS OF CAPPING BEAM AND BRIDGE ENDS TO MATCH TO PROVIDE SMOOTH TRANSITION ON RUNNING SURFACE.

ISOLATED REPAIR NOTES:

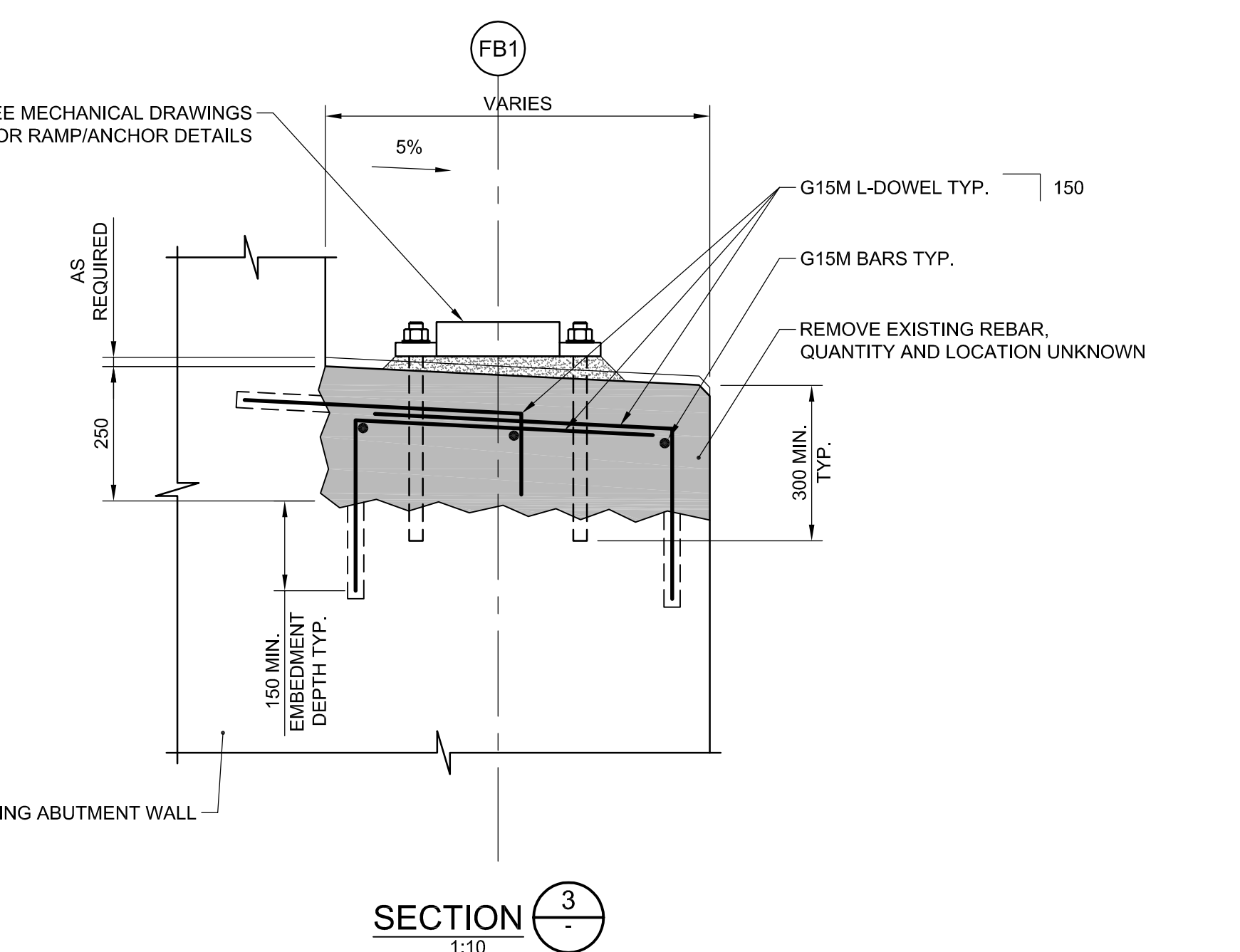
- SAWCUT AT LIMITS OF REMOVAL SHALL BE 25mm DEEP OR TO THE FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS U.N.O. OR AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
- REMOVE DELAMINATED, LOOSE OR DETERIORATED CONCRETE AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE.
- WHERE THE BOND BETWEEN CONCRETE AND REINFORCING STEEL IS BROKEN, OR WHERE MORE THAN HALF OF THE PERIMETER OF THE BAR IS EXPOSED, THE CONCRETE SURROUNDING THE BARS SHALL BE LOCALLY REMOVED TO A DEPTH OF 25mm BEHIND THE BAR.
- ABRASIVE BLAST CLEAN CONCRETE AND REINFORCING STEEL BARS.
- RE-TIE EXPOSED REINFORCING STEEL BARS AT ALL INTERSECTIONS.



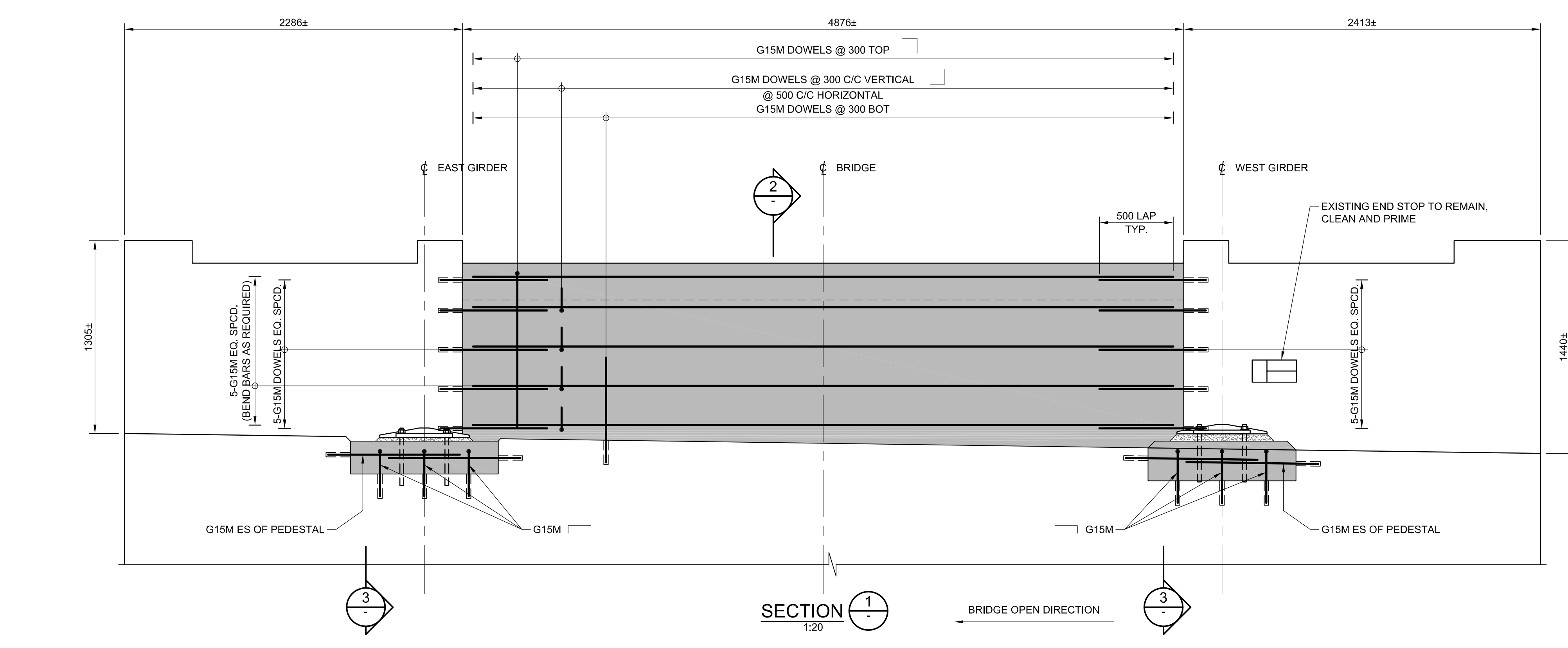
REHABILITATED ABUTMENT PLAN
1:20



SECTION 2
1:10



SECTION 3
1:10



SECTION 1
1:20



300-811 QUEENSWAY DRIVE
 OTTAWA (ONTARIO)
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A	Detail number Numéro du détail
B	Location (tag, number) Numéro sur dessin

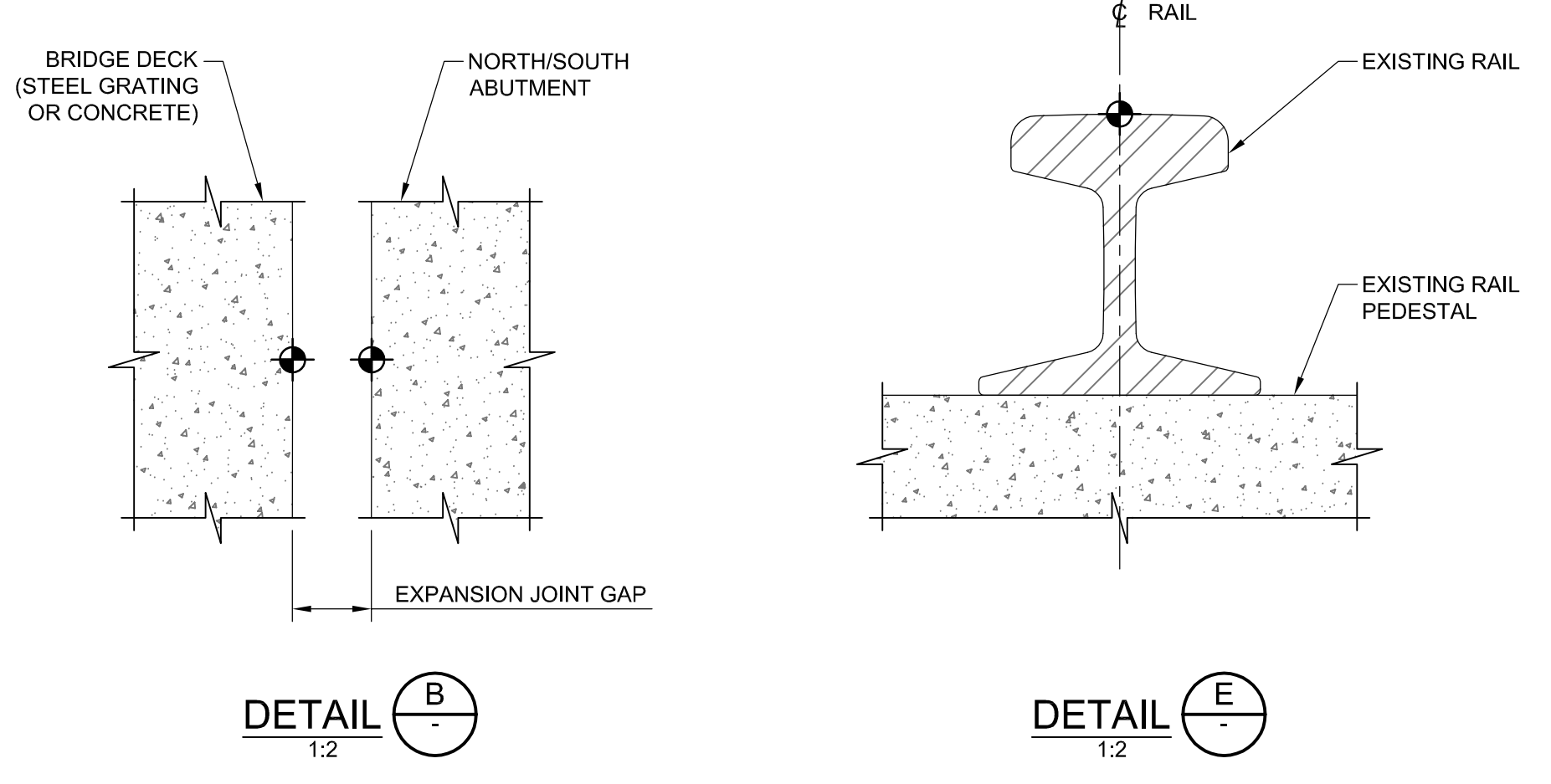
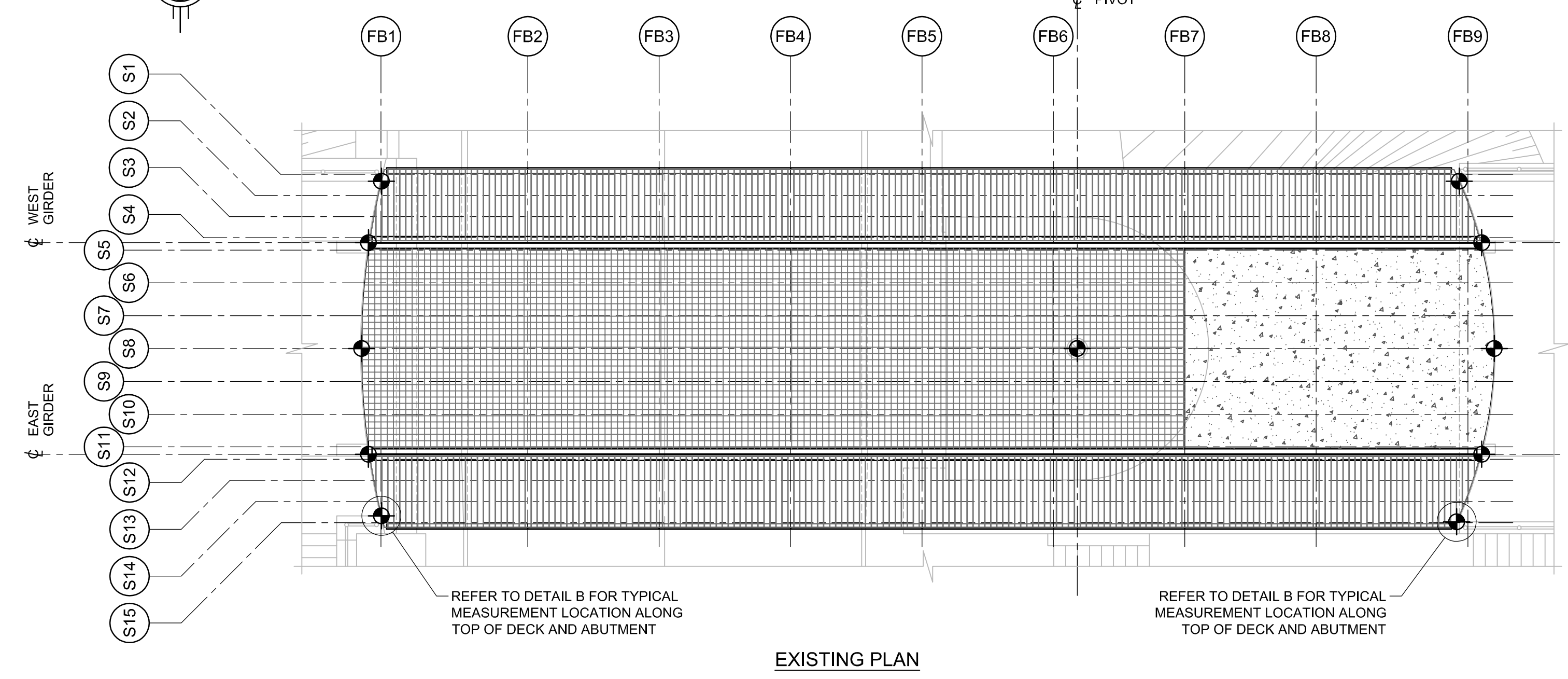
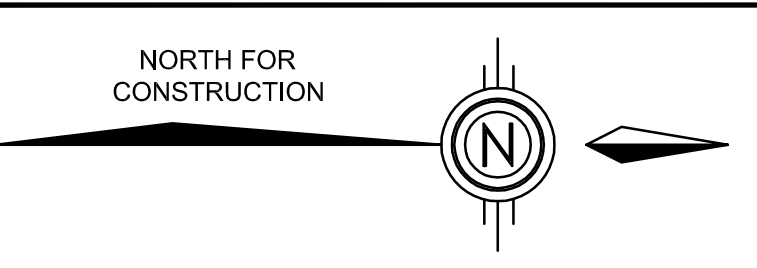
Project title / Titre du projet
**TRENT-SEVERN WATERWAY
 BOBCAYGEON SWING
 BRIDGE REHABILITATION**

CITY PROV.
 Drawing title / Titre du dessin

**SUBSTRUCTURE
 REPAIR DETAILS
 SOUTH ABUTMENT**

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du Dessin S14
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X

CAD FILE LOCATION AND NAME: \\cortt\id01\Projects\Job2019\151-06165-11 Bobcaygeon Swing Bridge Rehab\3.0 Technical (by Discipline)\3.7 Dwg-Fig SHEETS\151-06165-11_S14.dwg
 MODIFIED: 11/7/2019 2:45:10 PM BY: CARP069785
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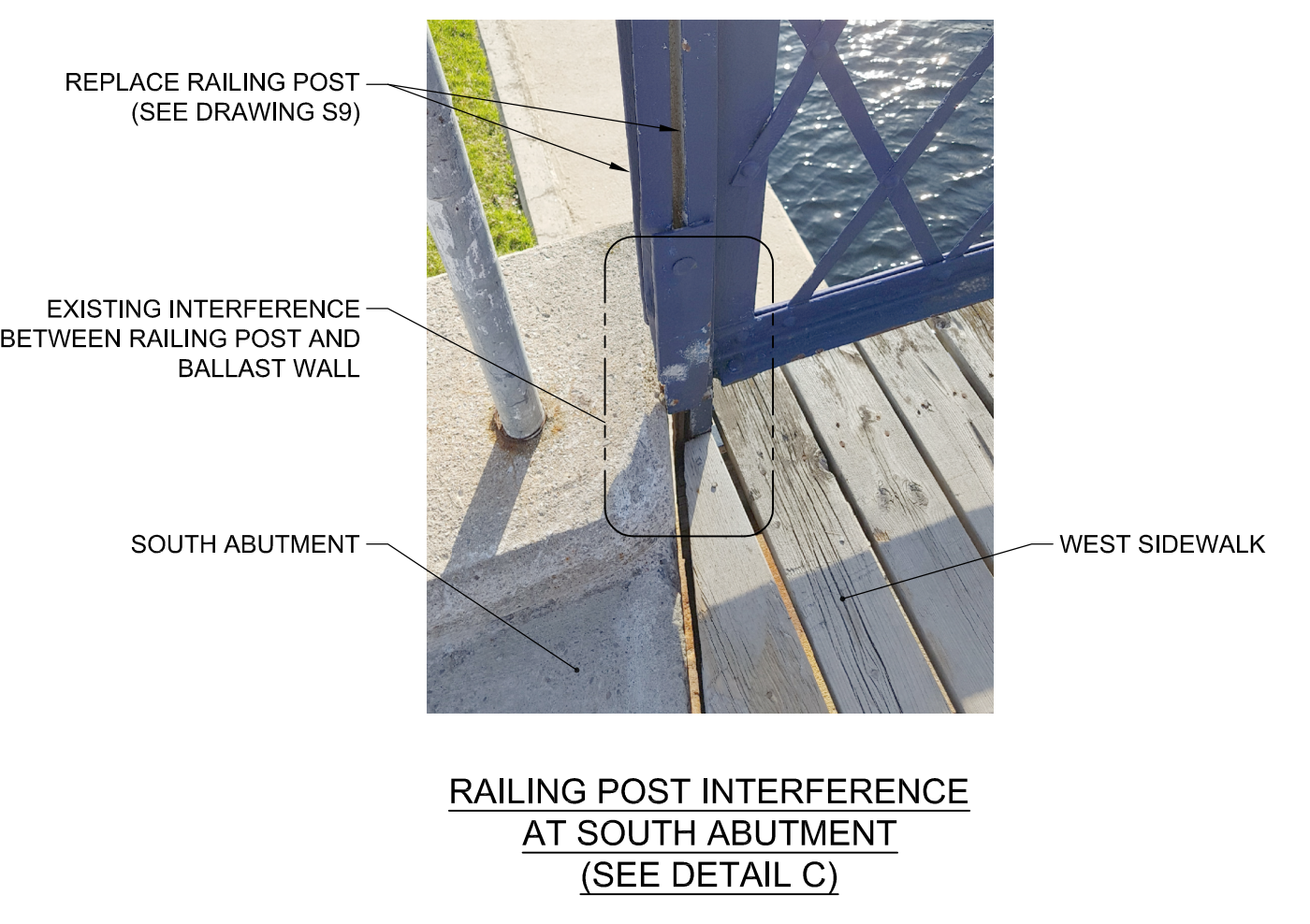
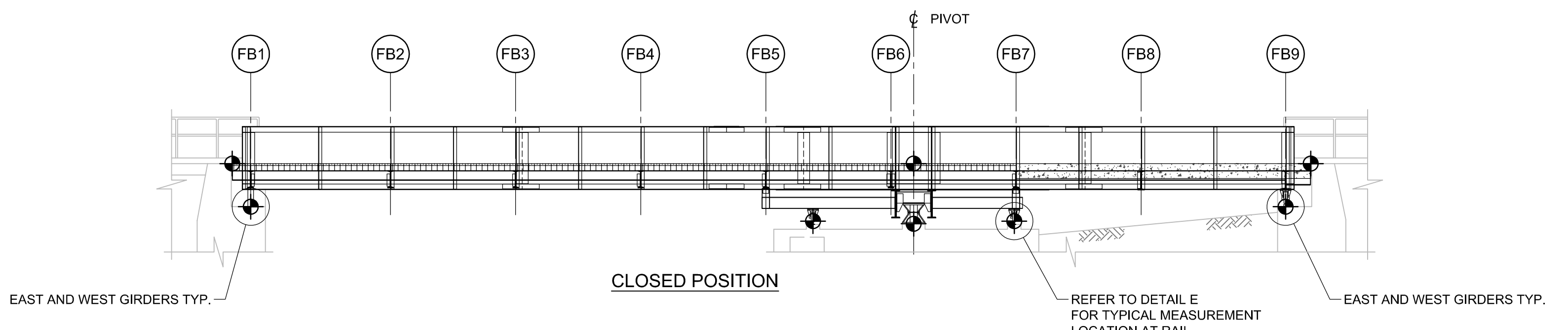


- LEGEND**
- ◆ DENOTES MIN. REQUIRED SURVEY LOCATION AND ELEVATION.
- NOTES**
- PRIOR TO REHABILITATION, CONTRACTOR SHALL SURVEY EXISTING BRIDGE STRUCTURE IN THE CLOSED AND OPEN POSITIONS. SEE DETAIL A FOR MINIMUM REQUIRED LOCATIONS. ADDITIONAL REQUIRED ELEVATIONS AND DIMENSIONS ARE PROVIDED IN THE DECOMMISSIONING-COMMISSIONING SPECIFICATION.
 - AFTER REHABILITATION, BRIDGE END ELEVATIONS SHALL MATCH EXISTING APPROACHES IN CLOSED POSITION WITH ABUTMENT WHEELS ON RAMP. LIVE LOAD WHEELS IN LIGHT CONTACT WITH THEIR RAMP. BALANCE WHEELS CLEAR OF RAILS AND LOCKING PIN ENGAGED (SEE MECHANICAL DRAWINGS).
 - AFTER REHABILITATION, BRIDGE SHALL BE BALANCED IN THE OPEN POSITION IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS AS PER DRAWING S10 AND THE SPECIFICATIONS.
 - AFTER REHABILITATION, BRIDGE SHALL SWING CLEAR OF ABUTMENTS WITHOUT INTERFERENCE OF ANY BRIDGE COMPONENT WITH THE ABUTMENT WALLS.
 - AFTER REHABILITATION, BRIDGE SHALL HAVE EXPANSION JOINT GAPS, J, AS PER DETAIL D.
 - COORDINATE THE WORK OF RELOCATING THE BRIDGE FROM ITS SHIFTED POSITION WITH WORK ON THE CENTRE-PIVOT BEARING, RAIL, LIVE LOAD WHEEL RAMP, END RAMP AND ALL OTHER AFFECTED MECHANICAL AND STRUCTURAL COMPONENTS. FIX/GROUT ALL ANCHORAGES FOR THE CENTRE-PIVOT BEARING, RAIL, RAMP AND MECHANICAL COMPONENTS ONLY WHEN THE BRIDGE IS IN ITS PROPER CONFIRMED AND FINAL RE-ALIGNED POSITION.
 - CONTRACTOR TO SUBMIT PROPOSED PLAN AND SHOP DRAWINGS FOR RELOCATING BRIDGE FROM ITS SHIFTED POSITION TO ITS NEW RE-ALIGNED POSITION PRIOR TO TAKING BRIDGE OUT OF SERVICE.

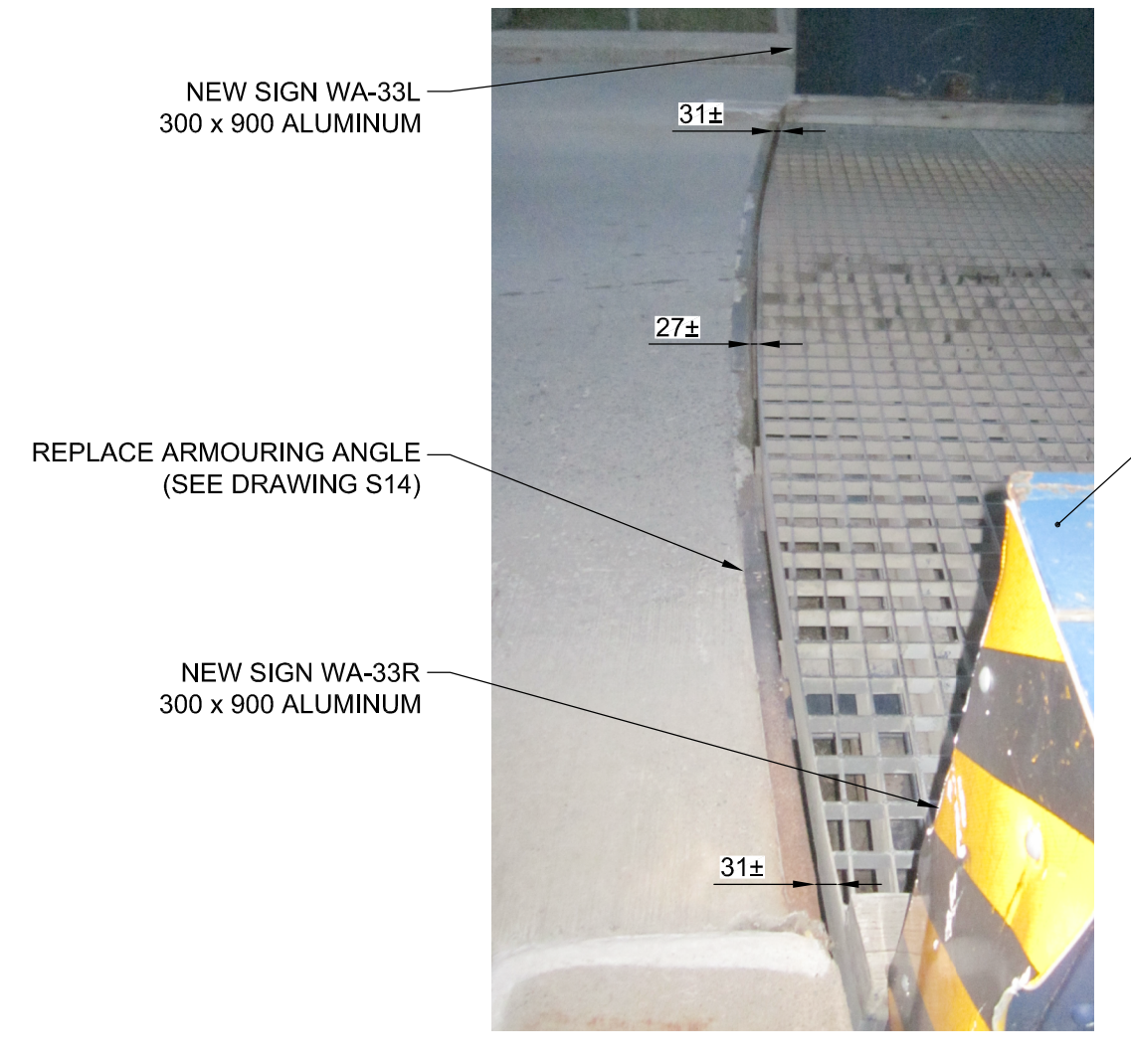
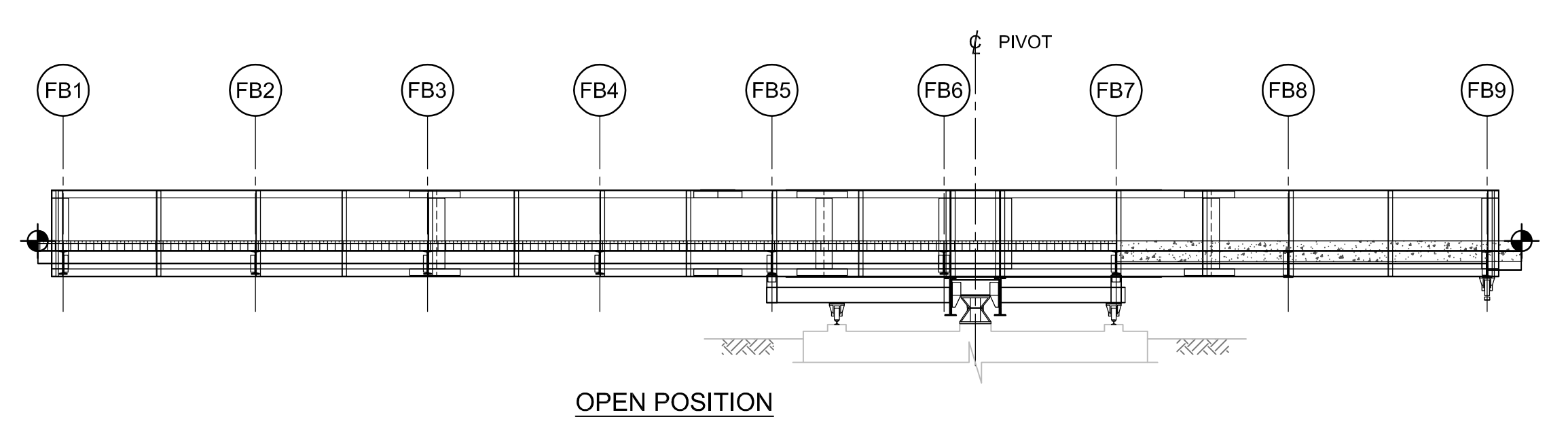


- MINIMUM SURVEY DATA PRIOR TO BRIDGE DECOMMISSIONING**
- RETAIN A LICENSED ONTARIO LAND SURVEYOR TO CARRY OUT ALL SURVEYS. PROVIDE BENCH MARKS AND PERMANENT REFERENCE POINTS FOR ALL SURVEYS.
 - CONTRACTOR TO SUBMIT PROPOSED MEASUREMENT PLAN FOR APPROVAL PRIOR TO CARRYING OUT THE SURVEY.
 - PRIOR TO CARRYING OUT ANY REHABILITATION WORK, SURVEY THE FOLLOWING LOCATIONS WITHIN A 2mm ACCURACY (SEE DETAIL A):
 - CENTRE-PIVOT BEARING AT ROADWAY LEVEL AND TOP OF PIVOT PIER
 - NORTH AND SOUTH ABUTMENT ENDS AT ROADWAY LEVEL AT MIN. 5 LOCATIONS
 - BRIDGE DECK ENDS (NORTH AND SOUTH) AT ROADWAY LEVEL AT MIN. 5 LOCATIONS IN CLOSED POSITION
 - BRIDGE DECK ENDS (NORTH AND SOUTH) AT ROADWAY LEVEL AT MIN. 5 LOCATIONS IN OPEN POSITION (ENDS FREE TO DEFLECT)
 - EAST AND WEST GIRDER BEARING SEATS AT NORTH AND SOUTH ABUTMENTS
 - TOP OF RAIL AT MIN. 8 LOCATIONS
 - FOLLOWING THE SURVEY, SUBMIT MEASUREMENTS TO DEPARTMENTAL REPRESENTATIVE PRIOR TO CARRYING OUT ANY REHABILITATION WORK.

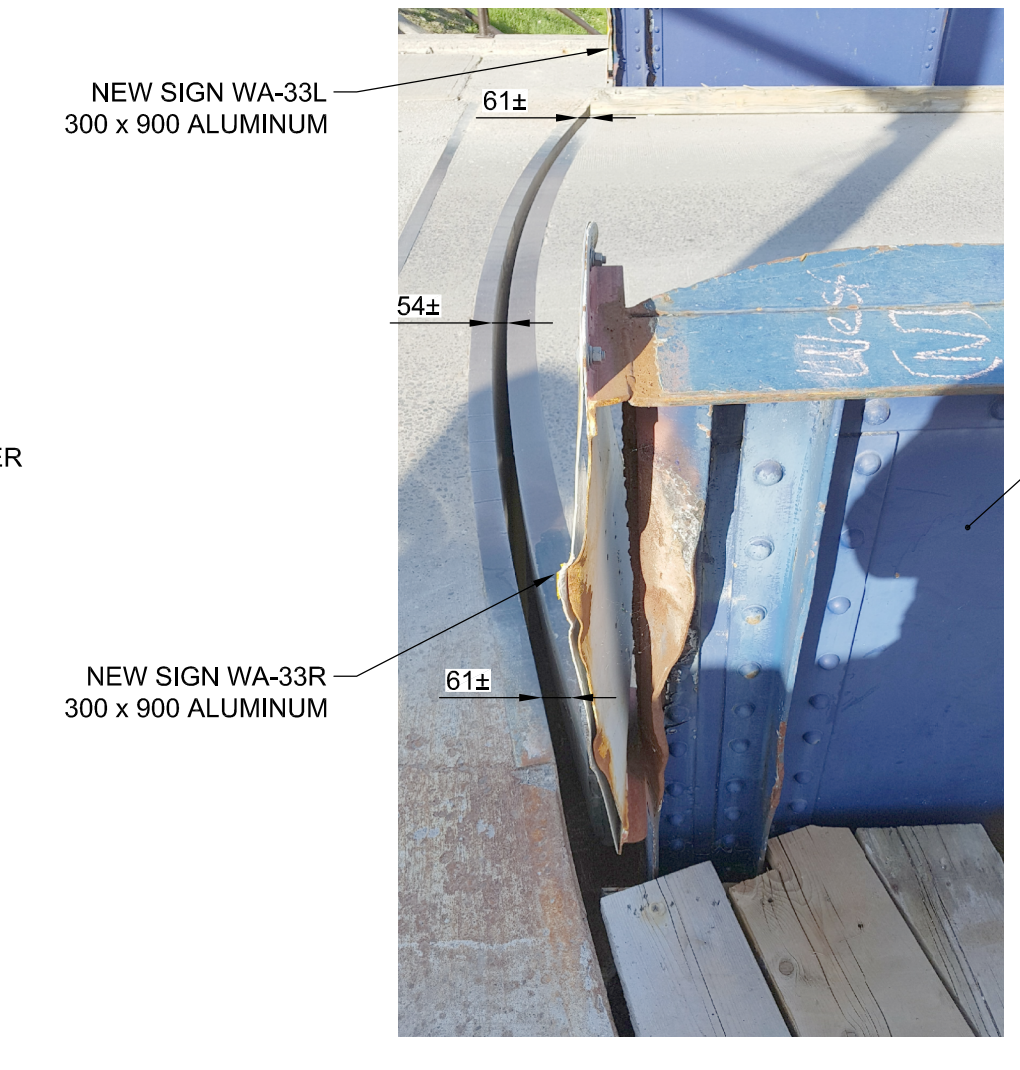
- EXPANSION JOINT NOTES**
- THE EXPANSION JOINT GAPS SHOWN IN DETAIL C WERE MEASURED AT AN AMBIENT TEMPERATURE OF 15°C.
 - THE EXPANSION JOINT GAP, J, AFTER REHABILITATION SHALL BE EQUAL BETWEEN THE NORTH AND SOUTH ABUTMENTS AT THE INSTALLATION TEMPERATURE WITHIN ±5mm.



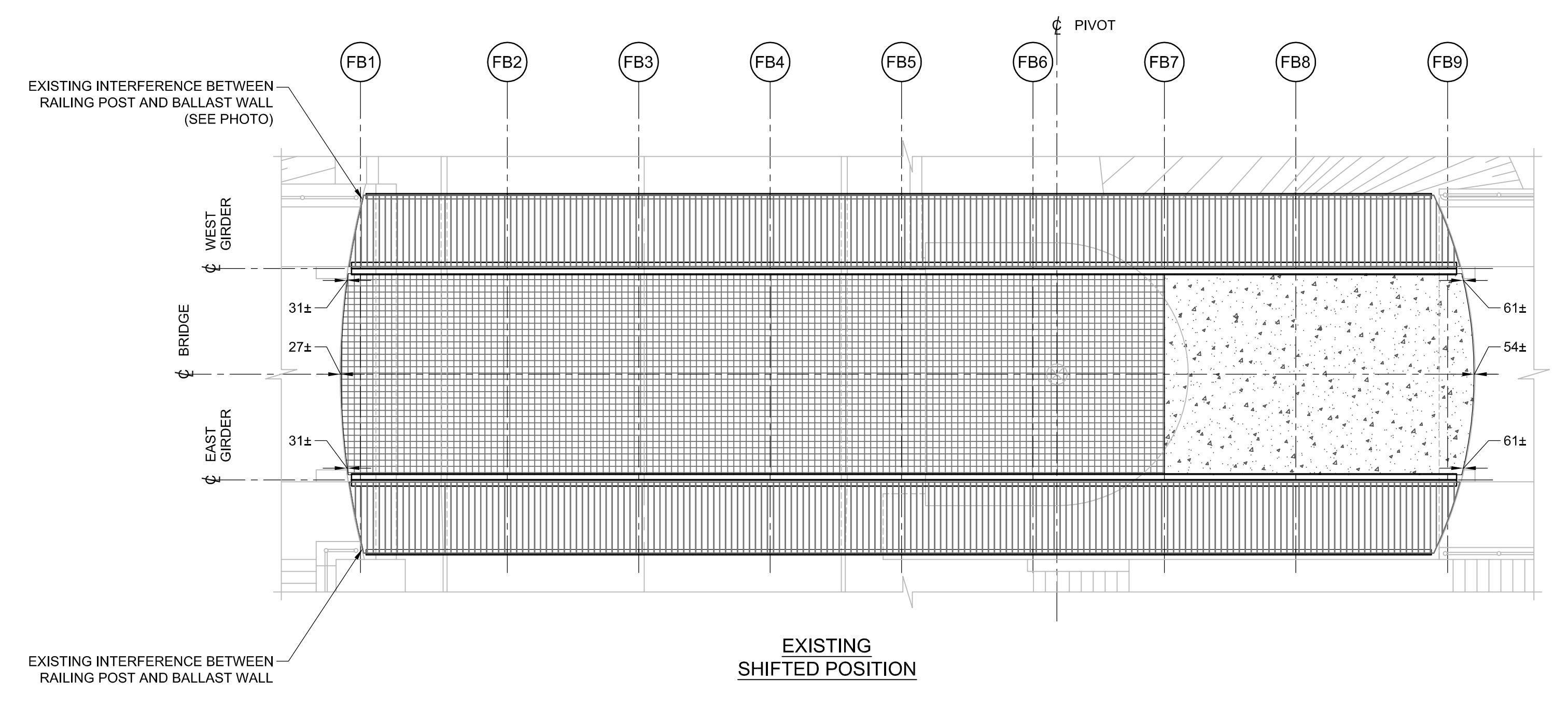
RAILING POST INTERFERENCE AT SOUTH ABUTMENT (SEE DETAIL C)



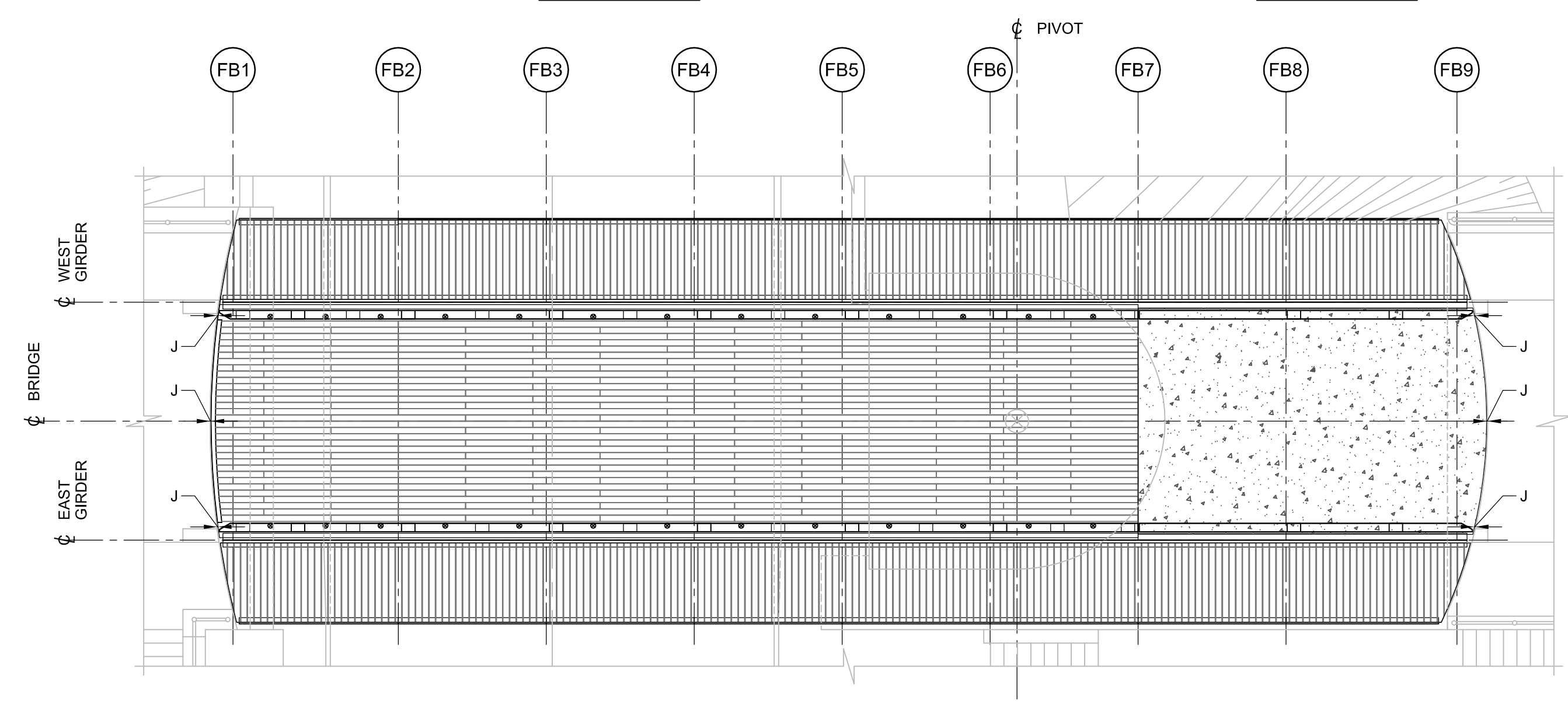
SOUTH ABUTMENT EXPANSION JOINT (SEE DETAIL C)



NORTH ABUTMENT EXPANSION JOINT (SEE DETAIL C)



EXISTING SHIFTED POSITION (SEE DETAIL C)

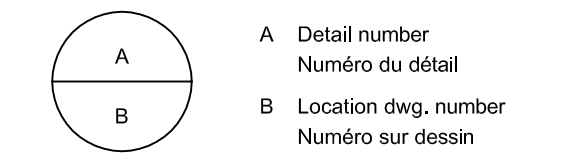


REHABILITATED RE-ALIGNED POSITION (SEE EXPANSION JOINT NOTES)

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Revision / Révision			

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Project title / Titre du projet
TRENT-SEVERN WATERWAY BOBCAYGEON SWING BRIDGE REHABILITATION

CITY PROV.

Drawing title / Titre du dessin
BRIDGE ALIGNMENT CORRECTION

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27

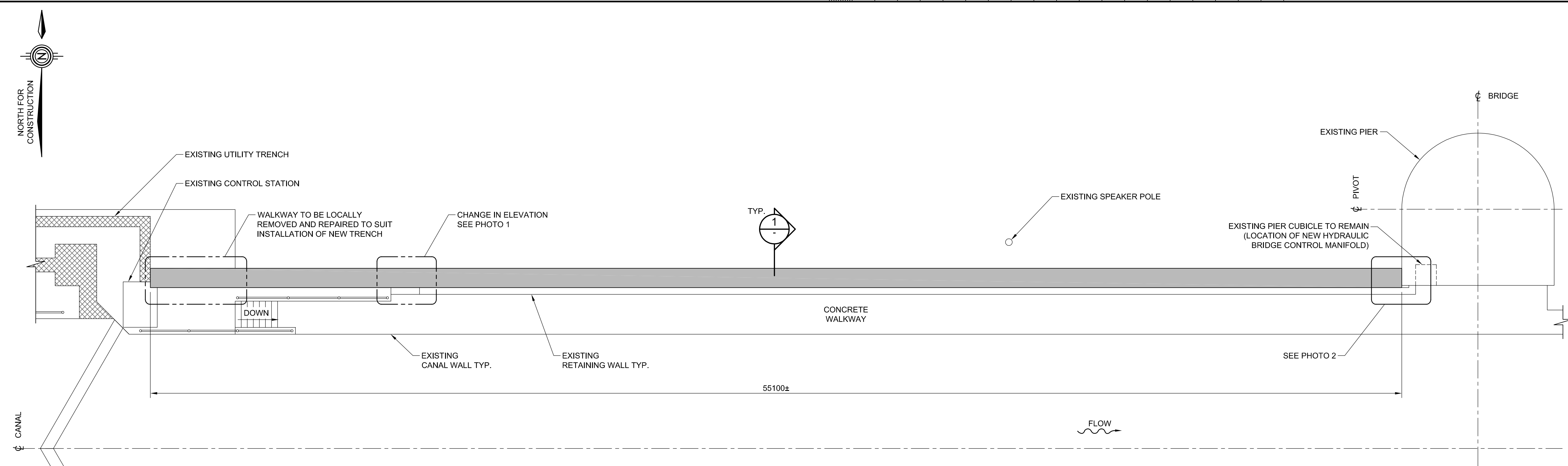
Project manager / Administrateur de projet
W. LITTLE

Drawing Number / Numéro du Dessin
S15

Project Number / Numéro du projet
1356-30030321

Sheet / Feuille
X of X

CAD FILE LOCATION AND NAME: \\cortell\id01\Projects\Job2019\151-06165-11_Bobcaygeon Swing Bridge Rehab\3.0 Technical (by discipline)\3.7 Dwg-Fig\SHEETS\151-06165-11_S15.dwg
 MODIFIED: 11/7/2019 3:14:02 PM BY: CARP069785
 DATE PLOTTED: 11/7/2019 3:14:03 PM BY: CARP069785

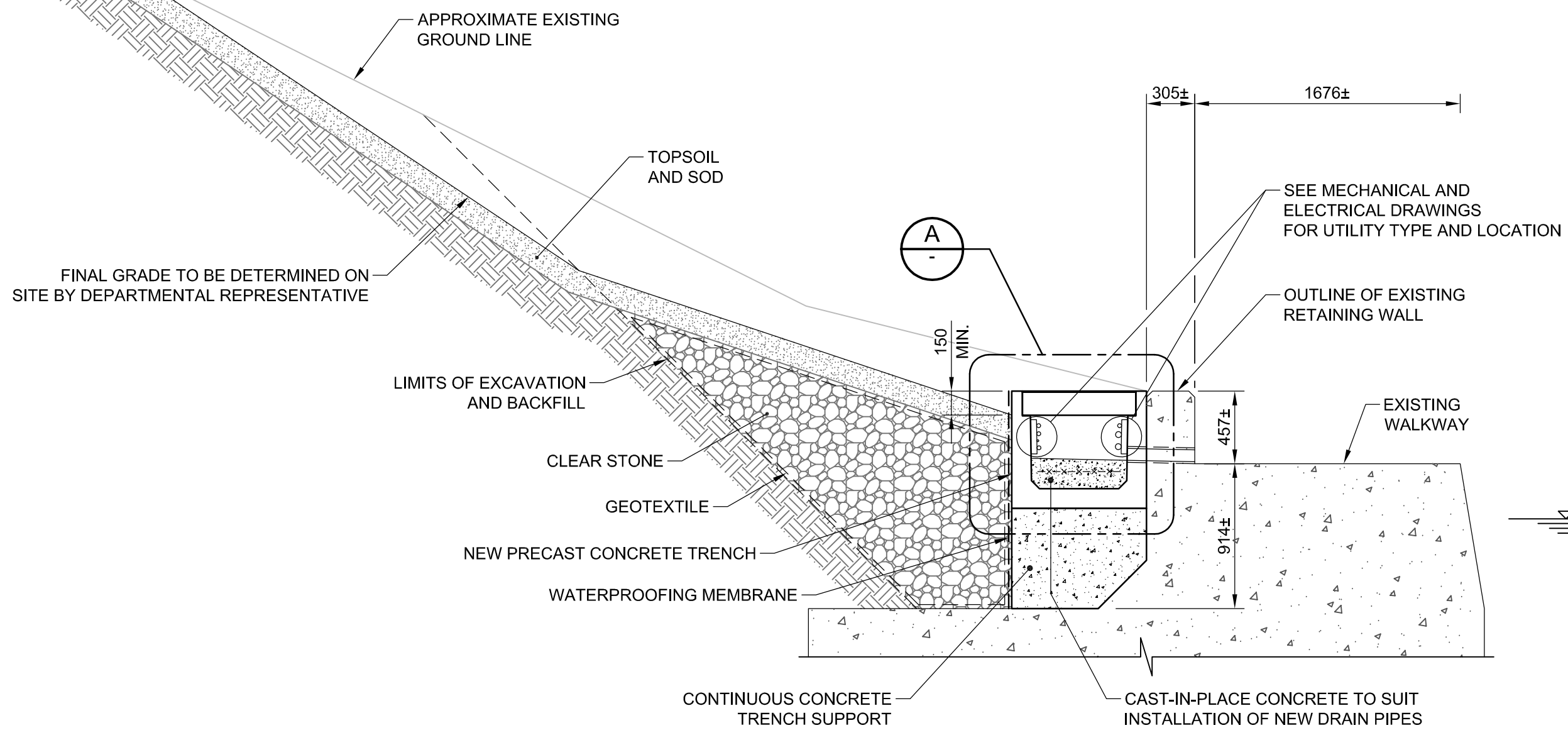


PLAN VIEW
1:100

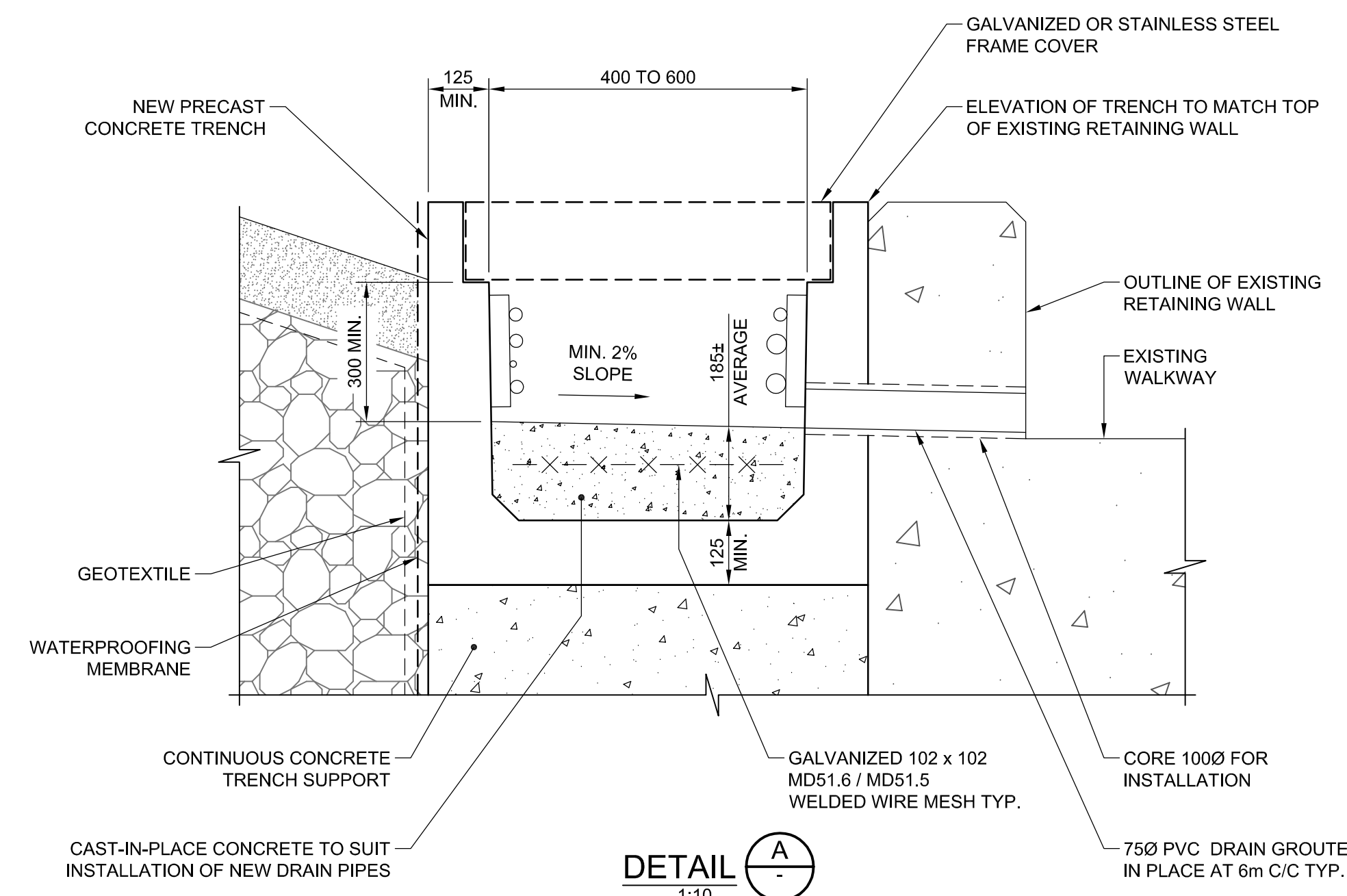
- NOTES:**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS S1 TO S3.
 - SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL TRENCH DETAILS.
 - CARRY OUT SURVEY OF THE INSTALLATION AREA. ALL DIMENSIONS, ELEVATIONS, GRADES AND EXISTING CONDITIONS TO BE CONFIRMED BEFORE COMMENCEMENT OF WORK.
 - SUBMIT SHOP DRAWINGS FOR THE COMPLETE INSTALLATION OF THE TRENCHES. SEE SPECIFICATIONS.
 - CARRY OUT UTILITY SURVEY OF THE AREA AND SUBMIT TO DEPARTMENTAL REPRESENTATIVE FOR RECORDS.
 - DESIGN THE UTILITY TRENCH ALONG WITH GRADING TO SUIT THE EXISTING CONDITIONS AND PROFILE.
 - PRECAST SECTION SHOWN ON PLANS CAN BE CAST IN FIELD AND COMBINATION OF PRECAST AND CAST-IN-PLACE CONCRETE IS ALLOWED.
 - SPECIAL SECTION AND DETAILING ARE REQUIRED TO ACCOMMODATE CHANGES IN VERTICAL AND HORIZONTAL ORIENTATION.
 - VERIFY ALL EXISTING CONDITIONS BEFORE CORING THE STRUCTURES FOR UTILITY INSTALLATION.
 - SEAL JOINTS BETWEEN TRENCH SECTIONS WITH SEALANT PRIOR TO APPLICATION OF THE WATERPROOFING MEMBRANE. MEMBRANE SHALL BE CONTINUOUS ALONG TRENCH WALL.
 - TRENCH COVERS TO BE HOT-DIPPED GALVANIZED WITH NON-SLIP SURFACE. COVERS TO BE ATTACHED AND SECURED TO TRENCH TO PROVIDE VANDAL PROOF AND REMAIN OPENABLE WHEN REQUIRED. COVERS TO BE FREE OF ANY TRIPPING HAZARD PROTRUSIONS.
 - ALL REINFORCING STEEL AND WELDED WIRE MESH TO BE HOT-DIPPED GALVANIZED.
 - ALL UNSTRUT BRACKETS AND ACCESSORIES TO BE STAINLESS STEEL.
 - THE POCKETS FOR LIFTING LUGS IN PRECAST SECTION TO BE GROUTED PRIOR TO WATERPROOFING AND BACKFILLING.
 - SOD AND TOP SOIL INSTALLATION TO BE WATERED AND MAINTAINED UNTIL THIRD CUTTING.

- ADDITIONAL CONCRETE TRENCH BOX NOTES:**
- MINIMUM DIMENSIONS FOR TRENCH BOX SHOWN ON DRAWINGS.
 - MINIMUM CONCRETE STRENGTH SHALL BE 35MPa.
 - TRENCH COVER AND BOX SHALL SUPPORT A MINIMUM UNIFORM PEDESTRIAN LOAD OF 10kPa.

- HYDRAULIC VAULT DOOR NOTES:**
- VERIFY ALL DIMENSIONS OF EXISTING DOOR AND FRAMING.
 - DESIGN, SUPPLY AND INSTALL A NEW STAINLESS STEEL VAULT DOOR COMPLETE WITH DOOR FRAMING AND LOCKING LATCH. DOOR FRAMING TO SIT FLUSH AGAINST EXISTING PIER WALLS TO PREVENT WATER AND DEBRIS FROM ENTERING THE VAULT.
 - ENSURE DOOR AND FRAMING IS SEALED FROM ON TOP TO PREVENT WATER AND DEBRIS FROM ENTERING VAULT.
 - SUBMIT SHOP DRAWINGS FOR THE COMPLETE INSTALLATION OF THE DOOR AND FRAMING.



SECTION 1
1:30



DETAIL A
1:10

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A	A Detail number Numéro du détail
B	B Location sheet, number Numéro sur dessin

**TRENT-SEVERN WATERWAY
BOBCAYGEON SWING
BRIDGE REHABILITATION**

CITY PROV.

**UTILITY TRENCH
DETAILS**

Drawn by / Dessiné par R. PETRUNGARO	Designed by / Conçu par R. MOREAU
Approved by / Approuvé par F. WASIEWICZ	Drawing Date / Date du dessin 2019/09/27
Project manager / Administrateur de projet W. LITTLE	Drawing Number / Numéro du dessin S16
Project Number / Numéro du projet 1356-30030321	Sheet / Feuille X of X



PHOTO 1
(LOOKING NORTH WEST)



PHOTO 2
(LOOKING NORTH EAST)

CAD FILE LOCATION AND NAME: \\cortell\id01\projects\job2018\151-06165-11 Bobcaygeon Swing Bridge Rehab\3.0 Technical (by Discipline)\3.7 Dwg-Fig\SHEETS\151-06165-11_S16.dwg
 MODIFIED: 11/7/2019 3:14:29 PM BY: CARP069785
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