PLOTTED: 6/13/2018 10:16 AM

Public Services and Procurement Canada

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MACDONALD CREEK BRIDGE

ALASKA HWY Km 628.0, B.C.

2018 REHABILITATION OF TRUSS BRIDGES

PROJECT No. R.017173.323

DRAWING LIST		
DRAWING NO.	DRAWING TITLE	REV.
S-100	COVER PAGE	B
S-101	GENERAL NOTES	B
S-102	GENERAL ARRANGEMENT	B
S-103	EXISTING BRIDGE PHOTOS	B
S-104	EXISTING BEARING AND END POST AT PIER 2 & PIER 3	B
S-105	BEARING LAYOUT AND DETAILS	A
S-106	NEW STOOL AND PEDESTAL LAYOUT	B
S-107	NEW STOOL AND PEDESTAL DETAILS AND SECTIONS	A
S-108	END FLOOR BEAM STRENGTHENING DETAILS	A

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. J. WALDIE
40983
JUN 7 2018

PARSONS

Sheet/Feuille: S-100

FILE: Q:\BB\3529_Alaska Highway Crack Inspection\Design\Scope A - Crack Repair\DWGs\S-100.dwg

PLOTTED: 6/13/2018 10:16 AM

GENERAL NOTES:

1. DESIGN SPECIFICATION:

1.1. CANADIAN HIGHWAY BRIDGE DESIGN CODE (CHBDC) CAN / CSA-S6-14 UNLESS NOTED OTHERWISE.

2. DESIGN LIFE:

2.1. THE DESIGN LIFE OF NEW COMPONENTS IS 30 YEARS.

3. CLIMATIC INFORMATION:

3.1. DESIGN TEMPERATURE:

– MAXIMUM DAILY MEAN =	23°C
– MINIMUM DAILY MEAN =	-41°C
– MAXIMUM EFFECTIVE TEMPERATURE =	48°C
– MINIMUM EFFECTIVE TEMPERATURE =	-56°C

3.2. WIND LOADS:

– THE REFERENCE WIND PRESSURE:

– 1 IN 50 YEARS:	314 Pa
– 1 IN 10 YEARS:	231 Pa

3.3. SEISMIC DATA:

– PGA = 0.036 g FOR A 475 YEAR SEISMIC EVENT

4. MATERIALS:

4.1. NEW STRUCTURAL STEEL:

- ALL NEW STRUCTURAL STEEL SHALL BE GRADE 350W IN ACCORDANCE WITH CAN/CSA G40.20/G40.21.
- CUTTING OF NEW STRUCTURAL STEEL BY SHEARING IS NOT PERMITTED. NEW STRUCTURAL STEEL SHALL BE GAS CUT OR BY OTHER APPROVED MEANS. CUT STEEL SURFACES SHALL BE GROUND SMOOTH.
- ALL NEW STRUCTURAL STEEL CORNERS SHALL BE CHAMFERED TO 2.0 mm BY GRINDING.
- FOR MEMBERS DESIGNATED AS "FIT-TO-BEAR" THEIR COMPLETED JOINT SHALL HAVE AT LEAST 75% OF THE ENTIRE CONTACT AREA IN FULL BEARING – DEFINED AS NOT MORE THAN 0.5 mm SEPARATION, AND THE SEPARATION OF THE REMAINDER SHALL NOT EXCEED 1.0 mm.
- FAYING SURFACES OF NEW STRUCTURAL STEEL SHALL HAVE THE SURFACE PREPARED TO MEET CLASS B PRIMER REQUIREMENTS AND A CLASS B PRIMER APPLIED ONLY.

4.2. EXISTING STRUCTURAL STEEL:

- EXISTING STRUCTURAL STEEL SHALL BE CUT BY MECHANICAL MEANS ONLY. INTRODUCTION OF HEAT INTO THE EXISTING STEEL SHALL BE MINIMIZED.
- FAYING SURFACES OF EXISTING STRUCTURAL STEEL SHALL HAVE THE EXISTING COATING REMOVED, THE SURFACE PREPARED TO MEET CLASS B PRIMER REQUIREMENTS AND A CLASS B PRIMER APPLIED.
- IF, DURING THE COURSE OF THE WORK MORE THAN 5% OF ANY STRUCTURAL STEEL IS REMOVED, WORK IS TO STOP AND THE ENGINEER IS TO BE IMMEDIATELY NOTIFIED.

4.3. COATING:

- NEW STRUCTURAL STEEL ITEMS FABRICATED IN THE SHOP SHALL HAVE A 3-COAT PAINT SYSTEM APPLIED. THE PRIMER AND MIDCOAT SHALL BE APPLIED IN THE SHOP. THE TOP COAT SHALL BE APPLIED IN THE FIELD FOLLOWING INSTALLATION OF ALL COMPONENTS.
- EXISTING STRUCTURAL STEEL WHICH HAS ITS EXISTING COATING REMOVED DURING THE COURSE OF THE WORK SHALL HAVE A 2-COAT PAINT SYSTEM (PRIMER AND TOP COAT) APPLIED TO IT. THE PRIMER COAT SHALL BE APPLIED AS SOON AS REASONABLY POSSIBLE FOLLOWING REMOVAL OF THE EXISTING PAINT. ANY CORROSION WHICH FORMS PRIOR TO THE APPLICATION OF THE PRIMER COAT SHALL BE REMOVED BEFORE THE PRIMER COAT IS APPLIED. THE TOP COAT SHALL BE APPLIED FOLLOWING INSTALLATION OF ALL COMPONENTS AND APPLIED AT THE SAME TIME AS THE APPLICATION OF THE NEW EXISTING STEEL TOP COATING.
- PRIOR TO THE APPLICATION OF THE TOP COAT TO THE NEW AND EXISTING STEEL, TOUCH UP PAINT SHALL BE APPLIED TO DAMAGED AREAS OF THE COATING.
- THE BEARING SUPPLIER SHALL APPLY A COATING SYSTEM TO THE EXPOSED SURFACES OF THE BEARING ASSEMBLIES AFTER FABRICATION. THE COATING SYSTEM SHALL CONSIST OF A 3-COAT SYSTEM OF THE SAME OR APPROVED EQUIVALENT PAINT PRODUCTS USED FOR THE NEW STRUCTURAL STEEL.
- THE COATING SYSTEM SHALL CONSIST OF THE FOLLOWING PRODUCTS OR APPROVE EQUIVALENTS:
  - PRIMER: SHERWIN WILLIAMS ZINC CLAD III HS
  - MIDCOAT: SHERWIN WILLIAMS MACROPOXY 646 FAST CURE EPOXY
  - TOPCOAT: SHERWIN WILLIAMS ACROLON 218 HS POLYURETHANE
- EACH COATING SHALL HAVE A DIFFERENT CURED COLOR FOR IDENTIFICATION PURPOSES IN THE FIELD.
- TOPCOAT SHALL MATCH THE COLOR OF THE EXISTING COATING SYSTEM AS CLOSELY AS POSSIBLE.
- COATING SHALL BE IN ACCORDANCE WITH CONTRACT DOCUMENTS, SECTION 216 OF THE BC MoTI CONSTRUCTION SPECIFICATION AND THE MANUFACTURES WRITTEN INSTRUCTIONS AND PROCEDURES, THE MOST STRINGENT REQUIREMENT GOVERNS.
- THE PRIMER COAT SHALL MEET CLASS B REQUIREMENTS WITH A MEAN SLIP COEFFICIENT NOT LESS THAN 0.52.

4.4 BOLTS:

- HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325M TYPE 1, AND BE GALVANIZED IN ACCORDANCE WITH ASTM F-2329.
- NUTS FOR BOLTS SHALL CONFORM TO ASTM A563M. WASHERS FOR BOLTS SHALL CONFORM TO ASTM F436M. NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F-2329.
- THE NOMINAL DIAMETER OF NEW BOLT HOLES SHALL NOT BE GREATER THAN 2 mm LARGER THAN THE NOMINAL BOLT DIAMETER.
- BOLTS SHALL BE INSTALLED BY THE TURN OF THE NUT METHOD IN ACCORDANCE WITH S6-14.
- BOLTED CONNECTIONS SHALL BE DETAILED WITH THREADS EXCLUDED FROM THE SHEAR PLANE.
- BOLTED CONNECTIONS SHALL BE SLIP CRITICAL.
- SHIM PLATES WHERE USED IN BOLTED CONNECTIONS SHALL NOT CONSIST OF MORE THAN ONE PLATE.

4.5 WELDS:

- WELDING AND INSPECTION OF WELDS SHALL BE COMPLETED IN ACCORDANCE WITH CSA W59 UNLESS NOTED OTHERWISE. WELDING ELECTRODES SHALL COMPLY WITH S6-14 CLAUSE 10.18.3.1.
- WELDING SHALL BE DONE IN THE SHOP UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.
- WELDING FABRICATION SHALL BE COMPLETED BY A COMPANY CERTIFIED TO CSA W47.1 DIVISION 1 OR 2.
- WELD REPAIR PROCEDURES SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL PRIOR TO UNDERTAKING ANY WELD REPAIRS.
- WELDS SHALL BE INSPECTED AS FOLLOWS:
  - 100% VISUAL INSPECTION OF ALL WELDS.
  - 100% MAGNETIC PARTICLE TESTING FOR FILLET WELDS.
  - 100% ULTRASONIC TESTING FOR COMPLETE AND PARTIAL JOINT PENETRATION WELDS.
- VISUAL WELDING INSPECTORS SHALL COMPLY WITH THE REQUIREMENTS OF CSA W178.2 LEVEL 3. NON-DESTRUCTIVE TESTING PERSONNEL (OTHER THAN VISUAL) SHALL COMPLY WITH CAN/CGSB-48.9712 LEVEL 2 MINIMUM.

4.6 BEARINGS:

- BEARINGS SHALL BE MULTI-ROTATIONAL DISC BEARINGS. THEY SHALL MEET THE LOADING, DISPLACEMENTS AND ROTATIONS SPECIFIED ON DWG S-105.

4.7 GROUT:

- GROUT SHALL BE NON-SHRINK AND SHALL BE HANDLED, STORED, MIXED, PLACED AND CURED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- GROUT SHALL BE SIKA SIKAGROUT-212 SR OR APPROVED EQUIVALENT. THE GROUT PRODUCT SELECTED SHALL BE AN ACCEPTED PRODUCT LISTED ON THE BC MoTI RECOGNIZED PRODUCT LIST, LATEST EDITION.
- WHEN GROUT IS TO BE APPLIED IN TEMPERATURES BELOW 5 DEGREES CELSIUS, THE CONTRACTOR SHALL IMPLEMENT COLD WEATHERING CONCRETING PROCEDURES IN ACCORDANCE WITH CAN/CSA A23.1. PRIOR TO COMMENCING THE GROUTING OPERATION, THE CONTRACTOR SHALL PROVIDE THE DEPARTMENTAL REPRESENTATIVE WITH WRITTEN COLD WEATHER CONCRETING PROCEDURES.
- EXISTING CONCRETE WHICH IS TO HAVE GROUT PLACED AGAINST IT SHALL BE CLEANED TO REMOVE DUST, OIL, GREASE AND OTHER DEBRIS AND ROUGHENED BY MECHANICAL MEANS TO A SURFACE AMPLITUDE OF AT LEAST 5 mm.

4.8 ANCHOR ROD:

- ALL ANCHOR RODS SHALL BE SHALL CONFORM TO THE REQUIREMENTS OF ASTM F-1554 GRADE 36 AND BE GALVANIZED IN ACCORDANCE WITH F-2329.
- NUTS FOR ANCHOR RODS SHALL CONFORM TO ASTM A563M. WASHERS FOR ANCHOR RODS SHALL CONFORM TO ASTM F436M. NUTS AND WASHERS FOR ANCHOR RODS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F-2329.

4.9 EXISTING CONCRETE:

- EXISTING CONCRETE IS CONSIDERED TO HAVE A COMPRESSIVE STRENGTH OF 15 MPa.

5. CONSTRUCTION:

5.1. CONSTRUCTION:

- IN ORDER OF PRECEDENCE ALL CONSTRUCTION AND FABRICATION SHALL BE IN ACCORDANCE WITH CONTRACT DOCUMENTS, CAN/CSA-S6-14, AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATION 3RD EDITION, 2010 AND BC MoTI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION VOLUME 1 AND 2.
- BRIDGE SHALL REMAIN IN ALIGNMENT AND PROPERLY SUPPORTED DURING THE CURRENCY OF THE WORK. ALL TEMPORARY WORKS PROCEDURES SHALL BE SUBMITTED TO THE DEPARTMENT REPRESENTATIVE FOR REVIEW PRIOR TO THEIR IMPLEMENTATION.

5.2. TOLERANCES:

- TOLERANCES SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.

5.3. DIMENSIONS:

- ALL DIMENSIONS ARE IN MILLIMETER (mm) UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL VERIFY THE EXISTING DIMENSIONS SHOWN IN THE DRAWINGS PRIOR TO COMMENCING ANY OF THE WORK AND COMMUNICATE TO THE ENGINEER, AS INDICATED IN THE CONTRACT DOCUMENTS.

5.4. BOLT HOLES:

- BOLT HOLES IN NEW STEEL MEMBERS WHICH ARE REQUIRED TO MATCH EXISTING BOLT HOLES IN THE EXISTING STRUCTURE STEEL SHALL BE MATCH DRILLED.

5.5. CONCRETE REPAIRS:

- THE CONTRACTOR SHALL COMPLETE CONCRETE REPAIRS TO THE EXISTING SUBSTRUCTURE, AS DETAILED IN THE CONTRACT DOCUMENTS, PRIOR TO UNDERTAKING THE BEARING REPLACEMENT SCOPE OF WORK. THE CONTRACTOR SHALL NOT BEGIN THE BEARING REPLACEMENT SCOPE OF WORK UNTIL THE CONCRETE AND/OR GROUT HAS REACHED 75% OF ITS 28-DAY COMPRESSIVE STRENGTH.

5.6. JACKING:

- THE MASS OF THE STRUCTURE IS ESTIMATED TO BE 214 METRIC TONS. THE CONTRACTOR SHALL VERIFY THE WEIGHT FOR THE JACKING OF THE SUPERSTRUCTURE AND REPORT THE DIFFERENCE, IF ANY, TO THE DEPARTMENTAL REPRESENTATIVE AND ENGINEER.
- JACKING OF THE BRIDGE MUST BE IN THE SPECIFIED LOCATION ONLY AS SHOWN IN THE CONTRACT DRAWING. ONLY ONE END OF THE BRIDGE SHALL BE JACKED AT A TIME. THE BRIDGE SHALL NOT BE JACKED UP MORE THAN 6 mm.
- TEMPORARY SUPPORT STOOLS MAY BE REQUIRED TO RELEASE THE JACKS AND SUPPORT THE BRIDGE DURING CONSTRUCTION TO KEEP IT IN SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF THE JACKING AND TEMPORARY SUPPORT SYSTEMS TO ALLOW ONE FULL LANE OF TRAFFIC CONTINUOUSLY DURING THE CURRENCY OF THE WORK, SHORT TEMPORARY CLOSURES MAY BE PERMITTED FOR LOAD SENSITIVE OPERATIONS.
- WHILE THE STRUCTURE IS SUPPORTED ON JACKS OR TEMPORARY SUPPORTS, ONLY ONE FULL LANE OF TRAFFIC IS PERMITTED ON THE STRUCTURE.
- THE JACKING SYSTEM DESIGN SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA AND SUBMITTED TO THE DEPARTMENT REPRESENTATIVE FOR REVIEW, A MINIMUM OF FIFTEEN (15) DAYS PRIOR TO COMMENCING THE WORK.
- THE DESIGN JACKING LOAD AT EACH JACK IS 1400 kN. WHEN THE ACTUAL JACKING LOAD IS MORE THAN 20% OF THE DESIGN JACKING LOAD, THE JACKING OPERATION SHALL BE STOPPED AND THE ENGINEER BE NOTIFIED IMMEDIATELY.

5.7. EXISTING ITEMS:

- THE EXISTING STRUCTURE, EXCEPT FOR ITEMS IDENTIFIED TO BE REMOVED / REPLACED / MODIFIED, SHALL NOT BE DAMAGED DURING CONSTRUCTION. ANY COMPONENTS THAT HAVE BEEN DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE DEPARTMENTAL REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

5.8. SURVEY:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCING A DETAILED SURVEY OF EACH BEARING LOCATION TO CONFIRM FINAL DIMENSIONS AND ELEVATIONS OF SUBSTRUCTURE AND SUPERSTRUCTURE TO FACILITATE THE PRODUCTION OF SHOP DRAWINGS. THE SURVEY, TOGETHER WITH A DETAILED LIST OF ALL AMENDMENTS REQUIRED TO THE DETAILS SHOWN IN THESE DRAWINGS, SHALL BE SUBMITTED TO THE DEPARTMENT REPRESENTATIVE WITHIN TEN (10) DAYS AFTER PRECONSTRUCTION MEETING.

6. TRAFFIC CONTROL:

- THE CONTRACTOR SHALL PREPARE A TRAFFIC MANAGEMENT PLAN FOR ALL STAGES OF THE WORK AND SUBMIT THIS TRAFFIC MANAGEMENT PLAN FOR REVIEW AND APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE AT LEAST FOURTEEN (14) DAYS PRIOR TO BEGINNING THE WORK.
- THE CONTRACTOR MAY REDUCE THE STRUCTURE TRAVEL LANE TO ONE TRAVEL LANE WITH ALTERNATIVE TRAVEL DIRECTIONS, USING THE APPROPRIATE TRAFFIC CONTROL AS DETAILED IN THE TRAFFIC MANAGEMENT PLAN.
- FOR THE PURPOSE OF JACKING THE SUPERSTRUCTURE ONLY, TEMPORARY CLOSURES OF THE STRUCTURE TO TRAFFIC FOR A MAXIMUM OF TWO (2) HOURS ARE PERMITTED BETWEEN THE HOURS OF 19:00 HRS AND 05:50 HRS. THE DEPARTMENTAL REPRESENTATIVE IS TO BE NOTIFIED AT LEAST FIFTEEN (15) WORKING DAYS IN ADVANCE OF ANY ROADWAY CLOSURES FOR APPROVAL.
- THE CONTRACTOR MUST PROVIDE NOTIFICATION TO THE DEPARTMENTAL REPRESENTATIVE FIVE (5) WORKING DAYS IN ADVANCE OF CLOSURE OF THE STRUCTURE TO TRAFFIC FOR DURATIONS OVER TWENTY (20) MINUTES FOR APPROVAL.
- CONTRACTOR MUST PROVIDE NOTIFICATION TO THE DEPARTMENTAL REPRESENTATIVE AT LEAST TWO (2) WORKING DAYS IN ADVANCE OF ANY CLOSURES UNDER TWENTY (20) MINUTES

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PARSONS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
G. J. WALDIE
40983
JUN 27 2018

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
A. MOROZ
46625
JUN 27 2018

Revision/ Révision	Description/Description	Date/Date
F		
E		
D		
C	ISSUED FOR TENDER	27/06/2018
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A	ISSUED FOR REVIEW	28/03/2018

Client/Client

Project title/Titre du projet
ALASKA HIGHWAY
2018 Rehabilitation of Truss Bridges

Consultant Signature Only

Designed by/Concept par
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Drawn by/Dessine par
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PWGSC Project Manager/Administrateur de Projets TPSGC
A. TAHERI

Regional Manager, Architectural and Engineering Services/Gestionnaire régionale, Services d'architecture et de génie, TPSGC
P. PAUL

Drawing title/Titre du dessin
MacDonald Creek Bridge
Km 628.0

GENERAL NOTES

Project No./No. du projet	Sheet/Feuille	Revision no./ La révision no.
R.017173.323	S-101 OF –	B

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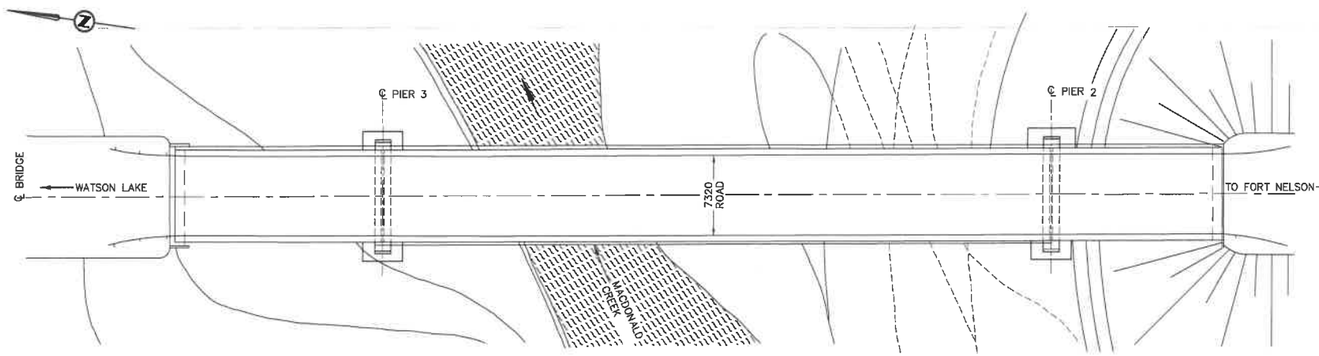

PLAN
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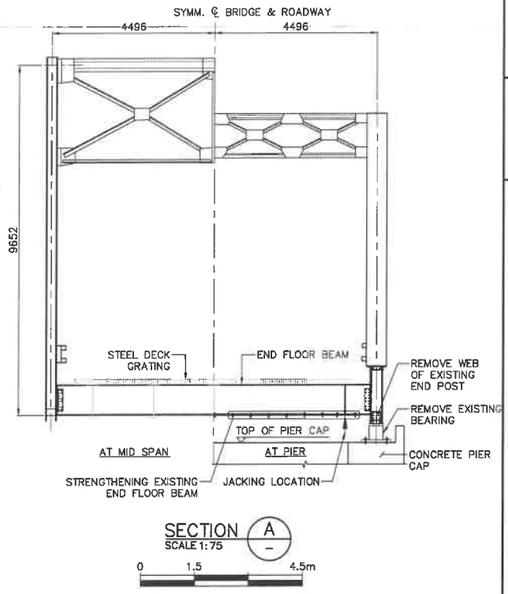

SECTION A–A
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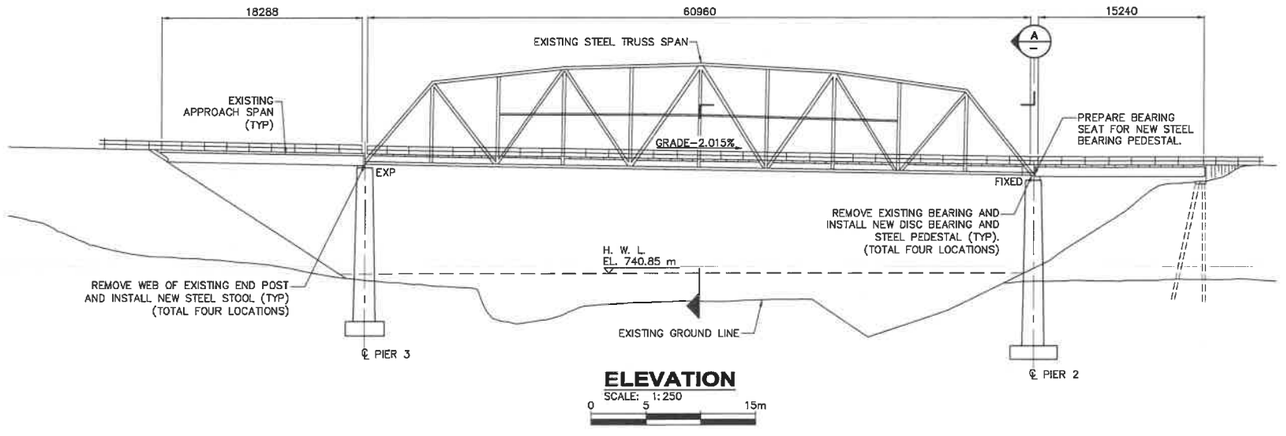

ELEVATION
SCALE: 1:250
0 5 15m

GUIDELINE CONSTRUCTION SEQUENCE

1. SURVEY & FIELD MEASURE EXISTING BEARING & END POST DIMENSION AND ELEVATION.
2. STRENGTHENING END FLOOR BEAM.
3. JACK THE BRIDGE UP TO 6 mm & LOCK UP THE TEMPORARY SUPPORT.
4. REMOVE THE EXISTING BEARINGS.
5. CUT & REMOVE WEB OF EXISTING END POST.
6. PREPARE SURFACE FOR NEW BEARING.
7. INSTALL NEW STEEL PEDESTAL.
8. INSTALL NEW STEEL STOOL.
9. INSTALL NEW BEARING.
10. RELEASE TEMPORARY SUPPORT & LOWER THE BRIDGE TO BE SUPPORTED ON NEW BEARING

NOTE:
1. ALL UNITS ARE IN MILLIMETERS, UNO.
2. FOR GENERAL NOTES SEE DRAWING S–101.

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GENERAL ARRANGEMENT

Project No./No. du projet	Sheet/Feuille	Revision no./ Le Révision no.
R.017173.323	S-102 OF –	B

DMSXXXXXX

ELEVATION - EAST FACE

DECK - SOUTH END

PIER 3 - SOUTH FACE

TYPICAL VERTICAL END POST

TYPICAL FIXED BEARING

TYPICAL ROCKER BEARING

TOP OF PIER 3

NOTE:

1. THE PHOTOGRAPHS SHOWN HERE ARE FROM 2013 AND 2015 SITE INSPECTIONS. THEY ARE PROVIDED TO GIVE THE CONTRACTOR A GENERAL OVERVIEW OF THE STRUCTURE, IT IS NOT WARRANTED THAT THE CURRENT CONDITION OF THE EXISTING BRIDGE STRUCTURE MATCHES WHAT IS SHOWN IN THESE PHOTOGRAPHS.

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EXISTING BRIDGE PHOTOS

Project No./No. du projet	Sheet/Feuille	Revision no./ Le Révision no.
R.017173.323	S-103 OF –	B

PIER SECTION

SCALE: 1:25

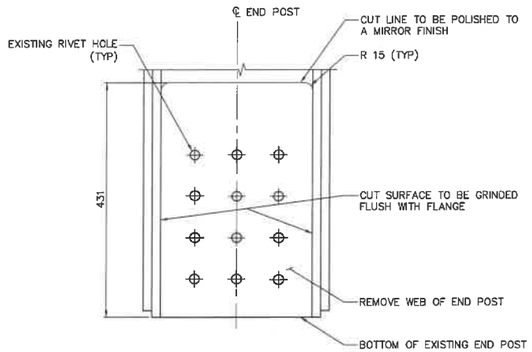
(PIER 2 SHOWN, PIER 3 SIMILAR)

APPROACH SPAN BEARING AND STRINGERS NOT SHOWN FOR CLARITY

0 0.5 1.5m

NOTES:

1. ALL UNITS ARE IN MILLIMETERS, UND.
2. INFORMATION SHOWN IS BASED ON AVAILABLE SHOP DRAWINGS, AS-BUILT AND PREVIOUS REHABILITATION DRAWINGS. ALL EXISTING DIMENSIONS ARE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO UNDERTAKING ANY OF THE WORK.
3. REMOVE EXISTING GROUT PAD, EXISTING ANCHOR ROD AND EXISTING CONCRETE TO A DEPTH OF 40 mm BELOW THE SURFACE OF THE EXISTING CONCRETE.



WEB – REMOVAL DETAIL 2

SCALE 1:5

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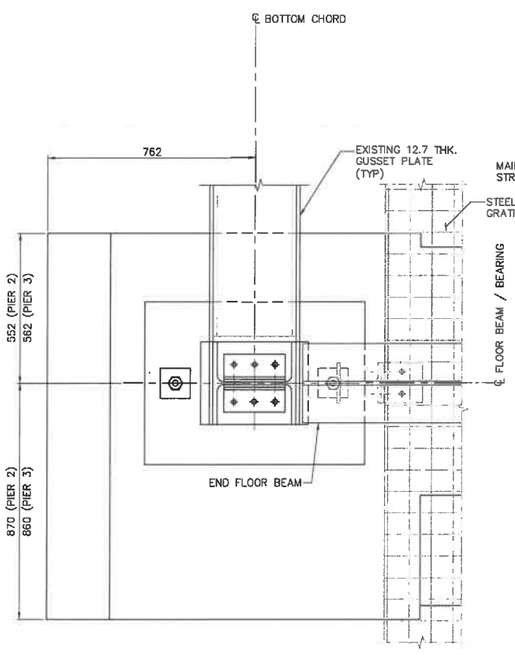

SECTION A

SCALE 1:10

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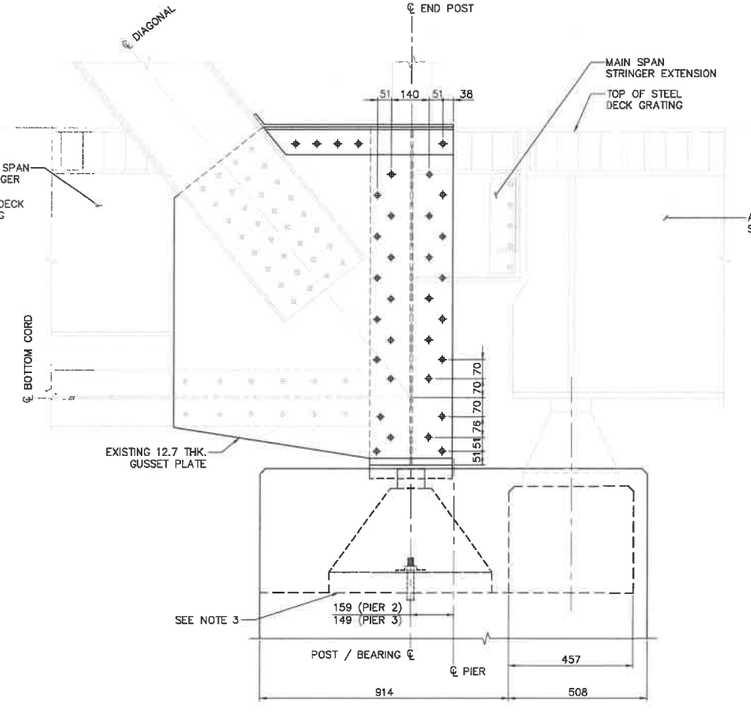

SECTION C

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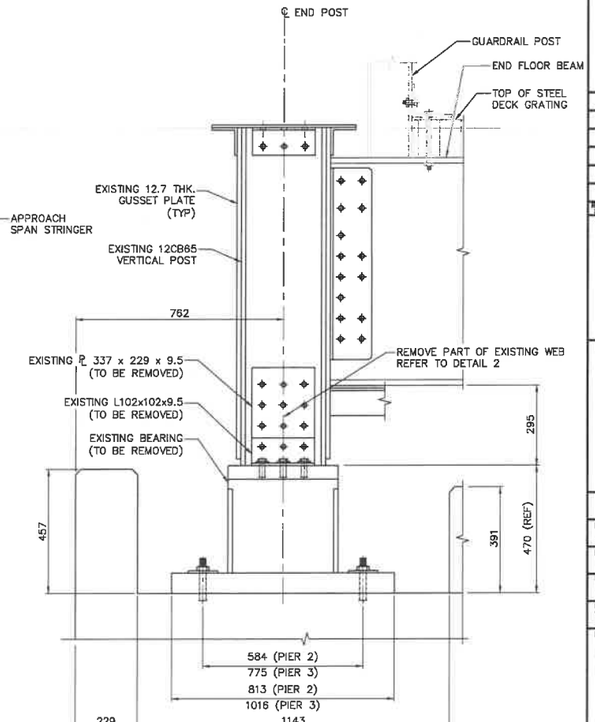

DETAIL 1

SCALE 1:10

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EXISTING BEARING AND END POST AT PIER 2 & PIER 3

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R.017173.323	S-104 OF –	B

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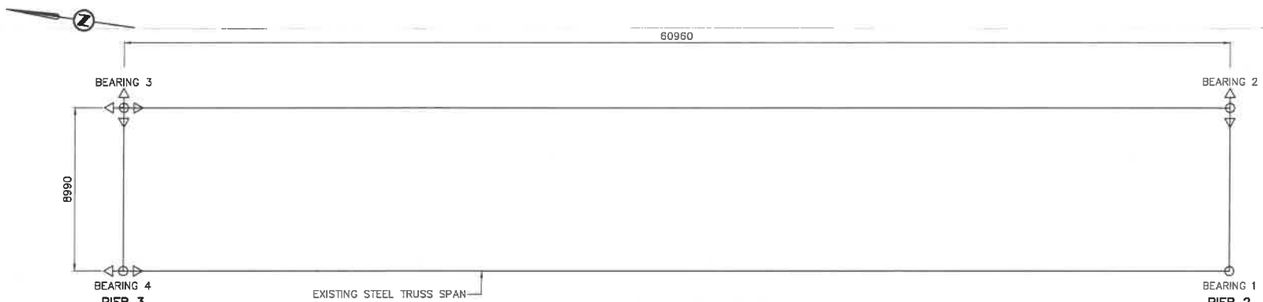


BEARING LAYOUT PLAN

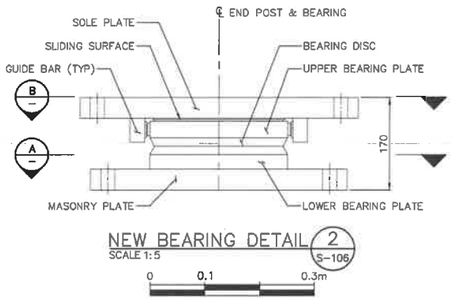
SCALE: 1:150

0 0.30 0.90m

BEARING LOAD AND MOVEMENT TABLE

BEARING	TYPE	LIMIT STATE	VERTICAL PERMANENT (kN)	VERTICAL PERMANENT+TRANSITORY (kN)	HORIZONTAL LONGITUDINAL (kN)	HORIZONTAL – TRANSVERSE (kN)	ROTATION* – TRANSVERSE (RAD)	ROTATION* – LONGITUDINAL (mm)	DISPLACEMENT – TRANSVERSE (mm)	DISPLACEMENT – LONGITUDINAL (mm)
1	FIXED	SERVICEABILITY	520	1245	34	34	0.0018	0.00067	0	0
		ULTIMATE	702	1805	386	289	–	–	–	–
2	UNI–DIRECTIONAL	SERVICEABILITY	520	1245	34	34	0.0018	0.00067	6	0
		ULTIMATE	702	1805	386	53	–	–	–	–
3	MULTI–DIRECTIONAL	SERVICEABILITY	520	1245	34	34	0.0018	0.00067	6	52
		ULTIMATE	702	1805	53	53	–	–	–	–
4	UNI–DIRECTIONAL	SERVICEABILITY	520	1245	34	34	0.0018	0.00067	0	52
		ULTIMATE	702	1805	53	289	–	0	–	–

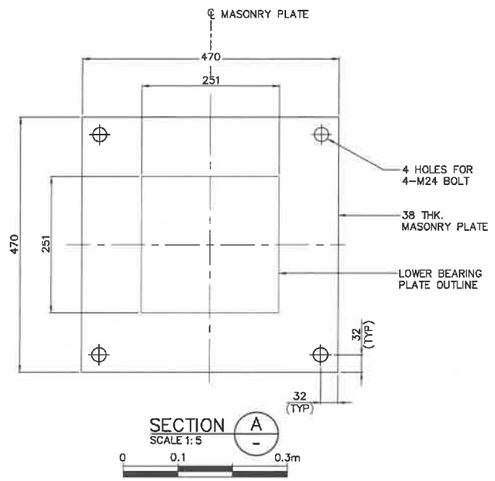
* BEARING ROTATION DOES NOT INCLUDE CONSTRUCTION TOLERANCE



NEW BEARING DETAIL 2 / S–106

SCALE 1:5

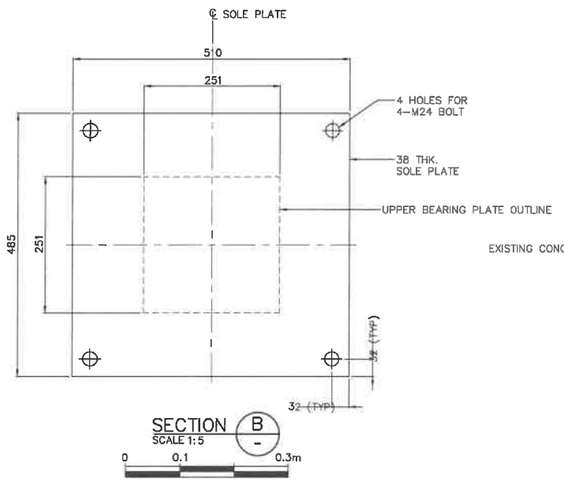
0 0.1 0.3m



SECTION A / –

SCALE 1:5

0 0.1 0.3m



SECTION B / –

SCALE 1:5

0 0.1 0.3m

BEARING NOTES:

1. BEARINGS SHALL BE MULTI–ROTATION DISC BEARINGS. THEY SHALL BE DESIGNED, FABRICATED, TESTED AND INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONTRACT DRAWINGS BY THE BEARING SUPPLIER.
2. BEARINGS SHALL BE DESIGNED TO MEET THE LOADS, MOVEMENTS AND ROTATIONS SPECIFIED IN THE BEARING LOAD AND MOVEMENT TABLE.
3. THE BEARING FRICTION COEFFICIENT SHALL NOT BE GREATER THAN 0.08.
4. BEARING SHOP DRAWINGS SHALL BE DEVELOPED AND SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. THE SHOP DRAWING SHALL INCLUDE CONNECTIONS TO THE SOLE PLATE AND MASONRY PLATE.
5. CONTRACTOR SHALL SUBMIT THEIR BEARING INSTALLATION PLAN FOR REVIEW AND APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO COMMENCING THE WORK.
6. NOTWITHSTANDING CLAUSE 11.6.1.1 OF CAN/CSA S6–14, BEARINGS SHALL BE DESIGNED AT THE ULTIMATE LIMIT STATES FOR ALL ROTATIONS AS SPECIFIED IN THE BEARING LOAD AND MOVEMENT TABLE PLUS AN ALLOWANCE FOR FABRICATION AND CONSTRUCTION TOLERANCE OF 0.005 RADS, PLUS AN ADDITIONAL ALLOWANCE FOR UNCERTAINTIES OF 0.005 RADS.
7. EXPANSION BEARINGS SHALL PROVIDE AN EXCESS TRAVEL CAPACITY IN EACH DIRECTION OF AN ADDITIONAL 25 mm BEYOND VALUES PROVIDED IN THE BEARING LOAD AND MOVEMENT TABLE.
8. STEEL FOR BEARING COMPONENTS SHALL BE IN ACCORDANCE WITH CAN/CSA G40.20/G40.21 GRADE 350W.
9. SHIM PLATES USED FOR SHIM STACKS SHALL BE GALVANIZED IN CONFORMANCE WITH ASTM A123/A123M. A BARRIER COATING SHALL BE APPLIED TO THE SHIM STACK SUCH THAT THE GALVANIZED SURFACE IS NOT DIRECT CONTACT WITH BLACK STEEL OR NEWLY PLACED GROUT.
10. STEEL BEARING PLATES IN CONTACT WITH EACH OTHER SHALL HAVE A SURFACE FINISH OF 50 MICRONS.
11. FOR EXPANSION BEARINGS, THE SETTING DIMENSION "X" AS SHOWN IN THE SETTING SCHEMATIC DETAIL SHALL BE ADJUSTED IN ACCORDANCE WITH THE TABLE BELOW BASED ON THE ACTUAL TEMPERATURE OF THE STEEL SUPERSTRUCTURE. THE SETTING TEMPERATURE IS 15 ℃.

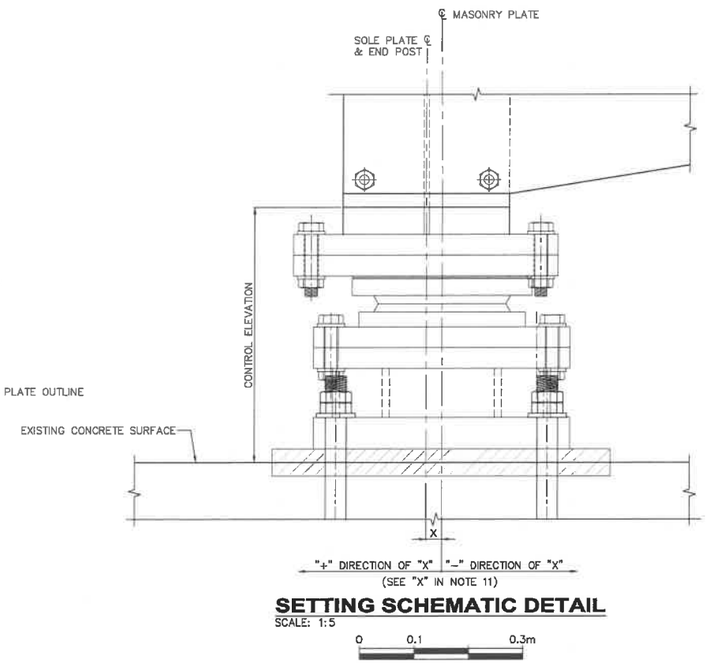
TEMPERATURE (℃)	0	5	10	15	20	25	30
X (mm)	–11	–7	–4	0	4	7	11

THE POSITIVE "X" DIRECTION SHALL BE AWAY FROM MIDSPAN

12. ANCHOR RODS SHALL BE GROUTED INTO POSITION PRIOR TO PLACING THE NEW PEDESTAL GROUT PAD.
13. THE PEDESTAL AND BEARING SHALL BE TEMPORARILY SUPPORTED ON GALVANIZED SETTING SHIMS WITHIN THE GROUT BLOCKOUT. SHIMS TO BE ADJUSTED TO ALIGN THE BEARING TO TARGET POSITION IN PLAN AND ELEVATION. ANCHOR RODS TO BE TIGHTENED TO SNUG TIGHT CONDITION TO CLAMP THE NEW STOOL BASE PLATE SECURELY TO THE SETTING SHIMS PRIOR TO GROUTING.

LEGEND:

- FIXED BEARING
- UNI–DIRECTIONAL BEARING
- MULTI–DIRECTIONAL BEARING



SETTING SCHEMATIC DETAIL

SCALE: 1:5

0 0.1 0.3m

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PARSONS

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA G. J. WALDIE # 40983 JUN 27 2018

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. MOROZ # 46625 JUN 27 2018

F		
E		
D		
C		
B	ISSUED FOR TENDER	27/06/2018
A	ISSUED FOR FINAL REVIEW	12/06/2018
Revision/ Révision	Description/Description	Date/Date

Client/Client

Project title/Titre du projet
ALASKA HIGHWAY
2018 Rehabilitation of Truss Bridges

Consultant Signature Only

Designed by/Concept par
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Drawn by/Dessins par
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PWGSC Project Manager/Administrateur de Projets TPSGC
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P. PAUL

Drawing title/Titre du dessin
MacDonald Creek Bridge
Km 628.0

BEARING LAYOUT AND DETAILS

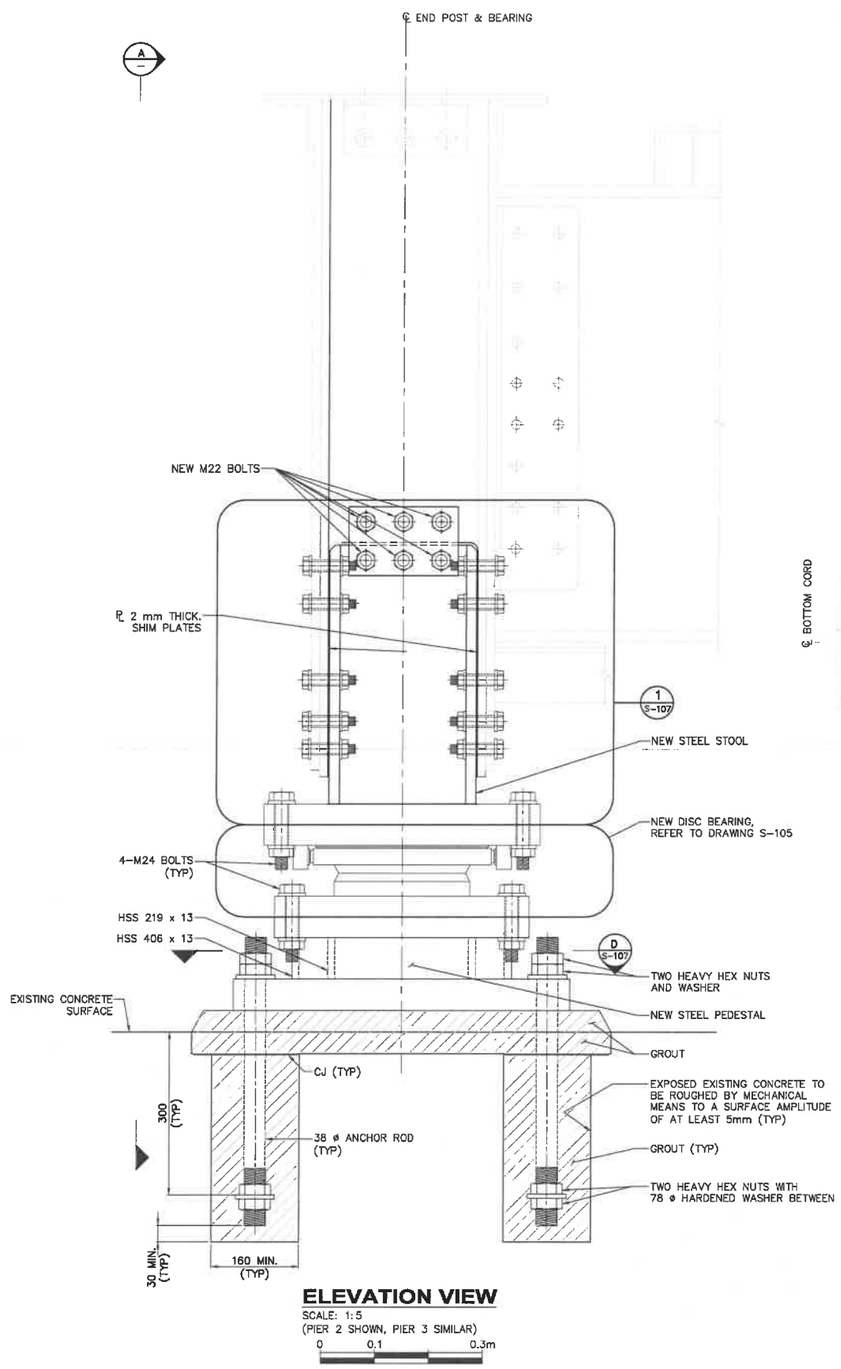
Project No./No. du projet	Sheet/Feuille	Revision no./ La révision no.
R.017173.323	S-105 OF –	A

DMSXXXXXX

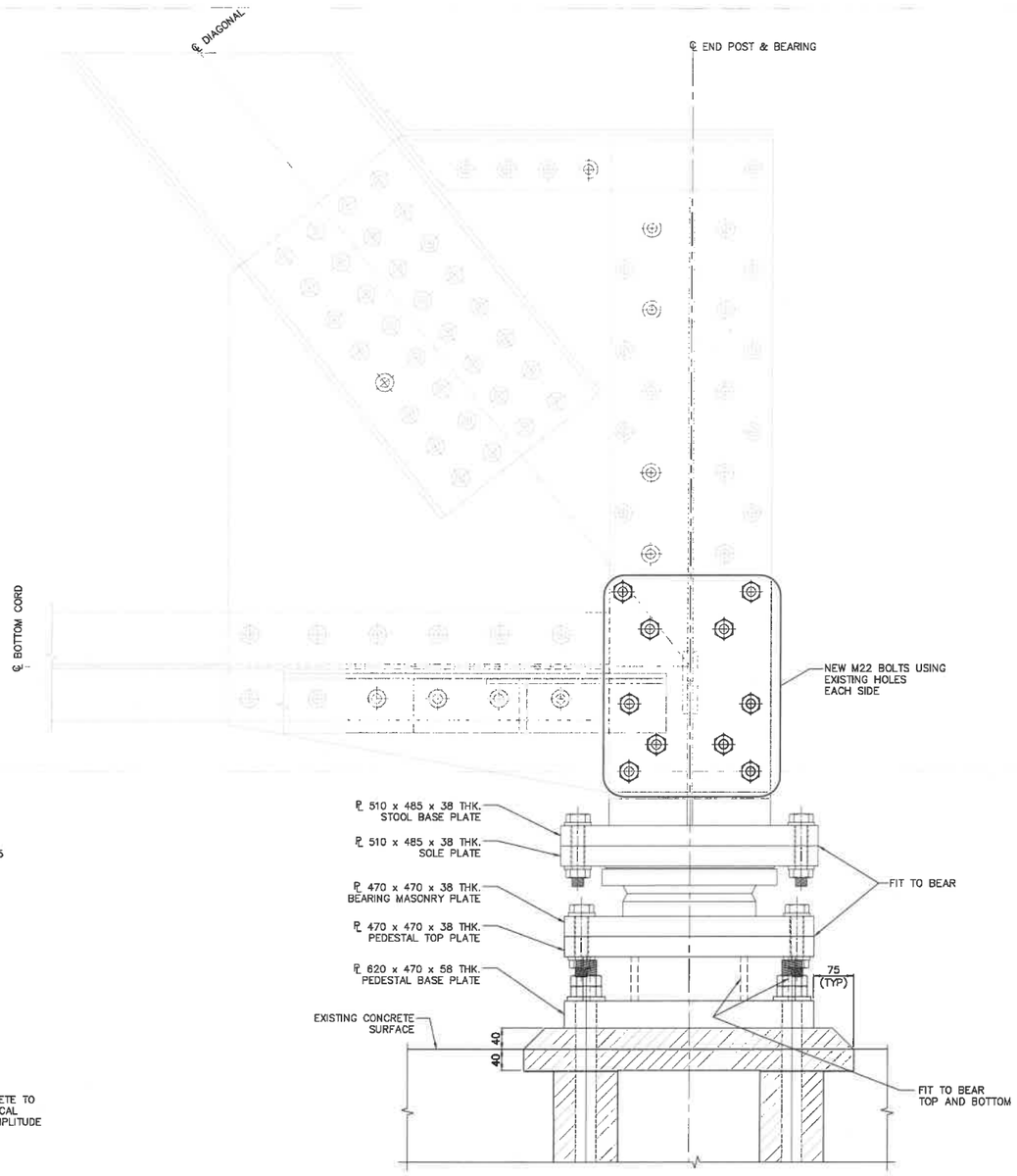
FILE: Q:\DB\3529_Alaska Highway Crack Inspection\Design\Scope A – Crack Repair\DWGs\S–105.dwg

PWGSC – A1 – 841X594

PLOTTED: 6/13/2018 10:16 AM



ELEVATION VIEW
SCALE: 1:5
(PIER 2 SHOWN, PIER 3 SIMILAR)
0 0.1 0.3m



SECTION A
SCALE 1:5
0 0.1 0.3m

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A	ISSUED FOR REVIEW	28/03/2018
Revision/ Révision	Description/Description	Date/Date

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ALASKA HIGHWAY
2018 Rehabilitation of Truss Bridges

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NEW STOOL AND PEDESTAL LAYOUT

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.017173.323	S-106 OF –	B

DM5XXXXXX

FILE: Q:\BB\3529_Alaska Highway Crack Inspection\Design\Scope A – Crack Repair\DWGs\S-106.dwg

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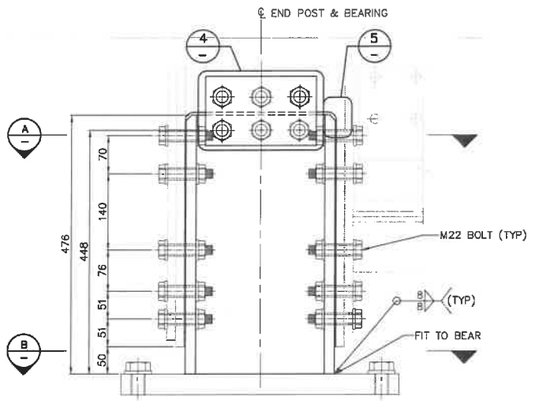
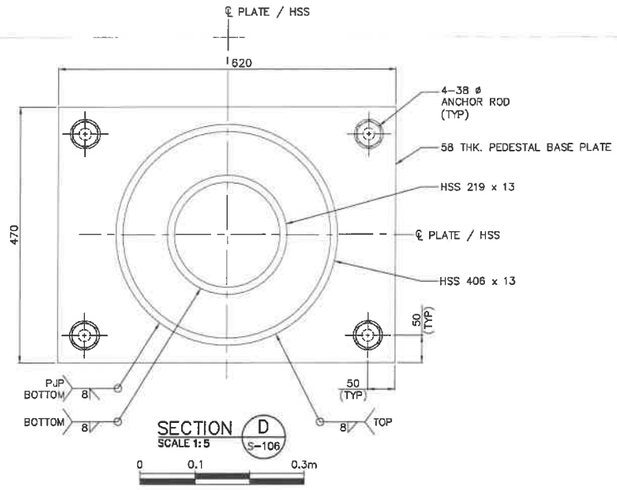


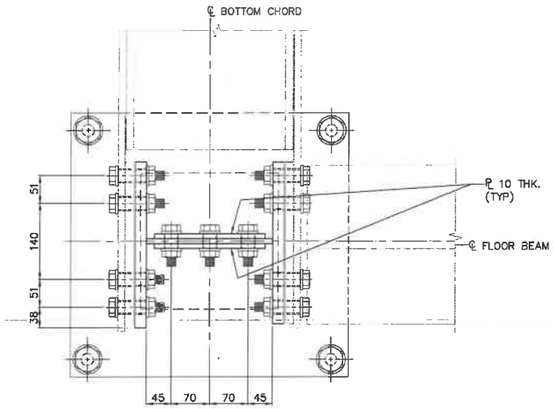
NEW STOOL DETAIL 1
SCALE 1:5 S-106

0 0.1 0.3m



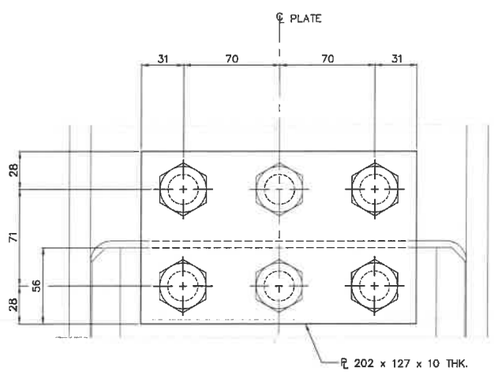
SECTION D
SCALE 1:5 S-106

0 0.1 0.3m



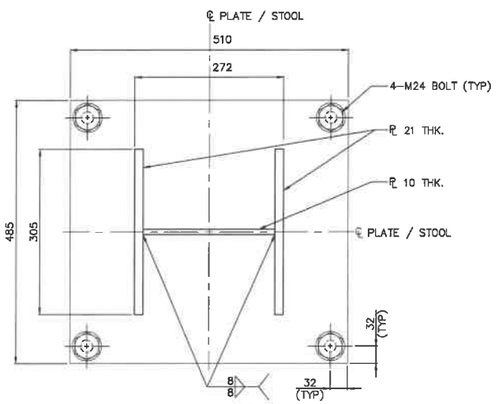
SECTION A
SCALE 1:5

0 0.1 0.3m



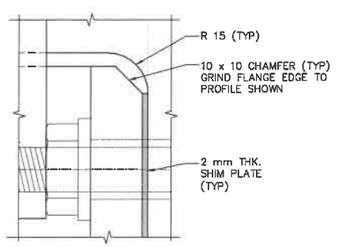
DETAIL 4
SCALE 1:2

0 0.04 0.12m



SECTION B
SCALE 1:5

0 0.1 0.3m



DETAIL 5
SCALE 1:1

0 0.02 0.06m

NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETER.

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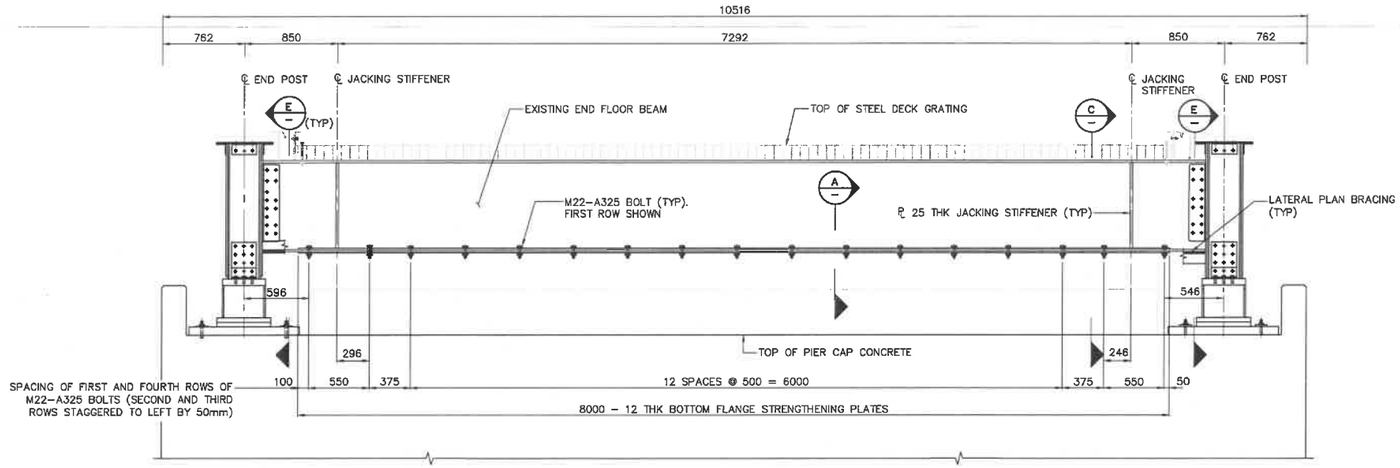
Drawing title/Titre du dessin
MacDonald Creek Bridge
Km 628.0

NEW STOOL AND PEDESTAL DETAILS AND SECTIONS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.017173.323	S-107 OF –	A

NOTES:

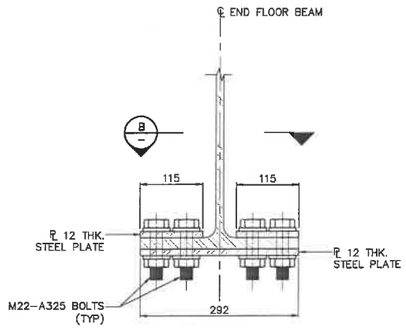
1. ALL UNITS ARE IN MILLIMETERS, UNO.
2. FOR GENERAL NOTES, SEE DRAWING S-101.



END FLOOR BEAM ELEVATION VIEW

SCALE: 1:25

0 0.5 1.5m



SECTION A

SCALE 1:5

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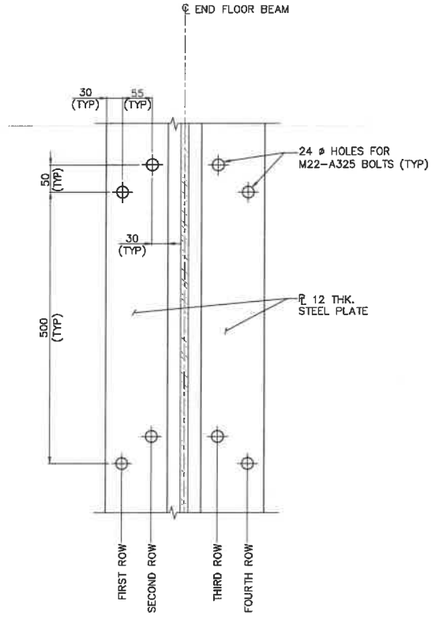
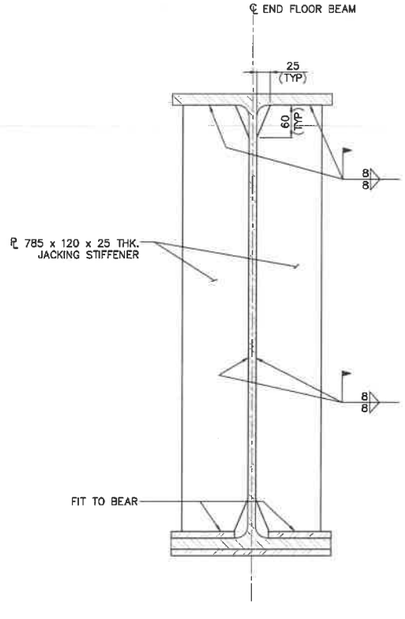


SECTION B

SCALE 1:5

0 0.1 0.3m



SECTION C

SCALE 1:5

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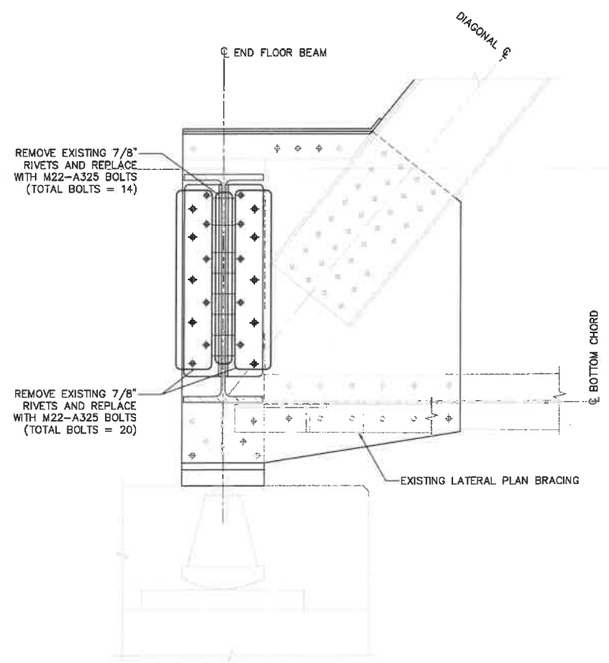

SECTION E

SCALE 1:10

0 0.2 0.6m

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JUN 27 2018

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Client/client

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2018 Rehabilitation of Truss Bridges

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Km 628.0

END FLOOR BEAM STRENGTHENING DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La révision no.
R.017173.323	S-108 OF –	A