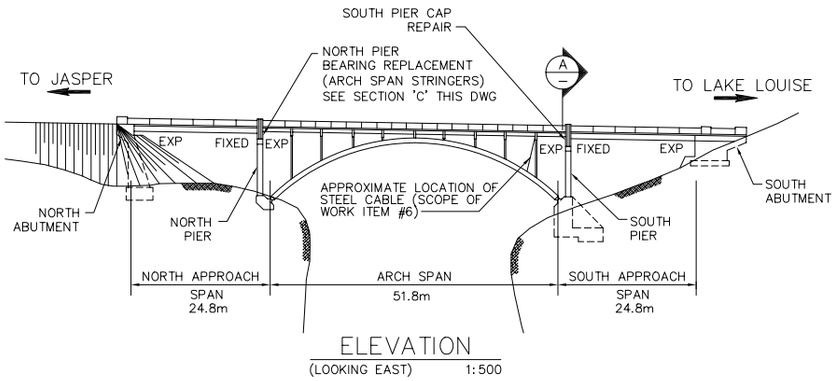
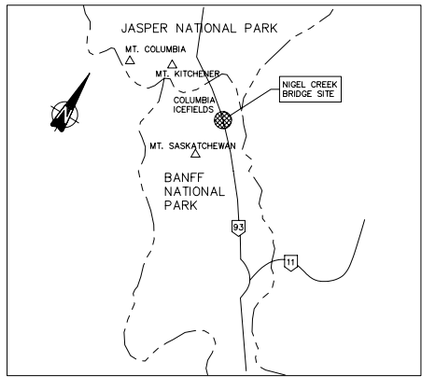


ELEVATION
(LOOKING EAST) 1:500



SITE PLAN
1:500 000

GENERAL NOTES

1. THE SCOPE OF WORK WILL INCLUDE THE FOLLOWING;

   .1 INSTALL FIVE NEW ELASTOMERIC BEARINGS AT THE NORTH PIER
   .2 CONCRETE REPAIRS AT THE SOUTH PIER CAP
   .3 LOOSEN ANCHOR BOLT NUTS AT EXPANSION BEARING LOCATIONS.
   .4 CONCRETE DECK TESTING
   .5 PAINT TESTING
   .6 TENSION FORCE MEASUREMENT IN STEEL CABLE.

   DESIGN AND PROVIDE ALL TRAFFIC CONTROL MEASURES.

2. TRAFFIC ACCOMMODATION SHALL COMPLY WITH THE LATEST VERSION OF ALBERTA TRANSPORTATION'S "TRAFFIC ACCOMMODATION IN WORK ZONES" MANUAL. TRAFFIC ACCOMMODATION PLAN AND IMPLEMENTATION IS SUBJECT TO REVIEW AND ACCEPTANCE BY THE ENGINEER AND PARKS CANADA.

3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

NORTH PIER BEARING REPLACEMENT

MATERIALS

4. BEARINGS SHALL BE 60 DUROMETER NEOPRENE, PLAIN, ELASTOMERIC BEARINGS CONFORMING TO THE REQUIREMENTS OF CSA STANDARD S6-00, SECTION 11.

5. ALL STEEL SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD G40.21, GRADE 300W.

6. ALL STEEL SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH CSA STANDARD G164 TO A MINIMUM NET RETENTION OF 600 GM/M2.

7. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD W59.

8. ANCHORS SHALL BE STAINLESS STEEL HILTI HSL HEAVY DUTY SLEEVE ANCHORS.

9. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR BEARINGS AND RESTRAINT ASSEMBLY FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION.

10. THE CONTRACTOR SHALL PROVIDE ONE 125 x 3 x 275 mm NEOPRENE PAD PER BEARING (5 IN TOTAL) FOR THE RESTRAINT ASSEMBLY / VERTICAL PIER FACE CONTACT SURFACE.

RECOMMENDED INSTALLATION PROCEDURE

11. THE CONTRACTOR SHALL RESTRICT TRAFFIC TO A SINGLE LANE (ALTERNATING ONE-WAY TRAFFIC) FOR INSTALLATION OF THE BEARINGS UNDER THE CLOSED LANE.

12. BEARING REPLACEMENT SHALL COMMENCE AT AN EXTERIOR BEARING LOCATION AND ADVANCE IN SEQUENCE THROUGH THE REMAINING FOUR.

13. REMOVE ALL REMNANTS OF THE ORIGINAL BEARING ASSEMBLY. WIRE BRUSH ALL RUST AND PAINT FROM THE UNDERSIDE OF THE SOLE PLATE AND ALL LOOSE MATERIALS FROM THE TOP OF THE EXISTING GROUT PAD.

14. RAISE THE SUPERSTRUCTURE AN INCREMENTAL AMOUNT (3 TO 5 mm) AT EACH BEARING LOCATION BEFORE PLACING THE NEW BEARING PAD AND RESTRAINT ASSEMBLY. FOR THE TWO EXTERIOR LOCATIONS, JACK ON THE DIAPHRAGM (STEEL CHANNEL) FROM ONE SIDE OF THE BEARING. AT THE THREE INTERIOR LOCATIONS, JACK ON THE DIAPHRAGMS FROM BOTH SIDES OF BEARING.

15. CENTRE THE BEARING PAD UNDER THE SOLE PLATE AND LOWER THE SUPERSTRUCTURE ONTO THE NEW BEARING. USING THE RESTRAINT ASSEMBLY AS A TEMPLATE, DRILL HOLES INTO THE CONCRETE AND INSTALL HILTI ANCHORS. USE STEEL SHIMS AS REQUIRED.

16. REPEAT STEPS 11 TO 13 AT EACH BEARING LOCATION.

SOUTH PIER CAP REPAIR

17. THE LIMITS AND DEPTH OF CONCRETE REMOVAL SHALL BE AS SHOWN ON THIS DRAWING AND CONFIRMED IN THE FIELD BY THE ENGINEER. ALL EDGES OF THE REPAIR AREAS SHALL BE SAW-CUT TO A DEPTH OF 20 mm.

18. ALL DEMOLISHED MATERIALS SHALL BE CAPTURED AND DISPOSED OFF-SITE.

19. CONCRETE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD A23.1-00 AND THE STANDARDS REFERENCED THEREIN. PREPARED SURFACES SHALL BE ROUGHENED AND SATURATED SURFACE DRY WHEN PATCHING MATERIAL IS PLACED. PATCHED AREAS SHALL RECEIVE A SMOOTH FORM FINISH.

20. PROVIDE 25 mm CLEAR BEHIND EXPOSED REBAR.

21. CONCRETE PATCHING MATERIAL SHALL BE CONVENTIONAL CEMENTITIOUS CONCRETE OR AN APPROVED PRE-PACKAGED CEMENT BASED, RESTORATION PRODUCT.

CONVENTIONAL CONCRETE MIX DESIGN SHALL CONFORM TO THE FOLLOWING;

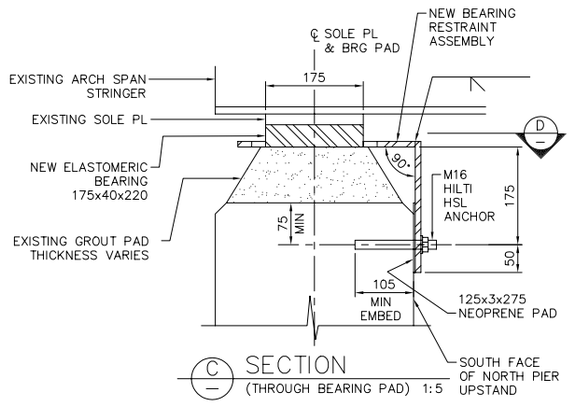
* TYPE 10 CEMENT
* MAXIMUM 20 MM COARSE AGGREGATE
* EXPOSURE CLASS F-2
* MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 30 MPA
* ENTRAINED AIR CONTENT 4 TO 7%

PRE-PACKAGED RESTORATION AND GROUTING PRODUCTS SHALL BE BY SIKA CANADA OR AS APPROVED BY THE ENGINEER.

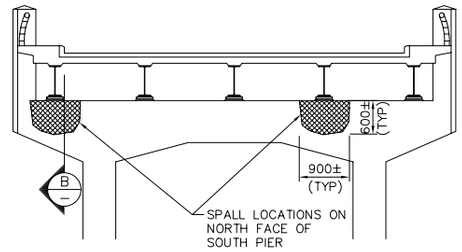
EXPANSION CONSTRAINT

22. THE WORK WILL INVOLVE THE LOOSENING OF THE ANCHOR BOLT NUT AT ALL EXPANSION BEARING LOCATIONS. THESE LOCATIONS ARE IDENTIFIED AS 'EXP' ON THE ELEVATION VIEW ON THIS DRAWING. (5 EXPANSION BEARINGS PER PIER/ABUTMENT, EACH EXPANSION BEARING WITH 2 ANCHOR BOLTS AND NUTS.)

23. AT PRESENT, THE ANCHOR BOLT NUTS AT MANY OF THE EXPANSION BEARINGS HAVE BEEN SNUGGED TIGHT TO THE GIRDER / STRINGER BOTTOM FLANGE CAUSING BENDING IN THE ANCHOR BOLT AND INDUCING STRESS INTO THE CONCRETE ABUTMENT / PIER. THE NUTS AT ALL EXPANSION LOCATIONS SHALL BE LOOSENED TO PROVIDE A NOMINAL 2 mm GAP BETWEEN THE NUT AND THE FLANGE.



C SECTION
(THROUGH BEARING PAD) 1:5



A SECTION
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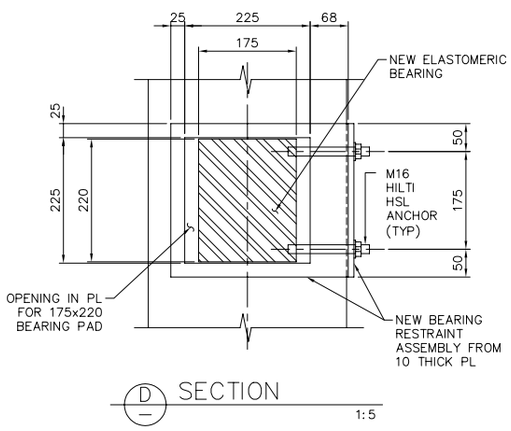

D SECTION
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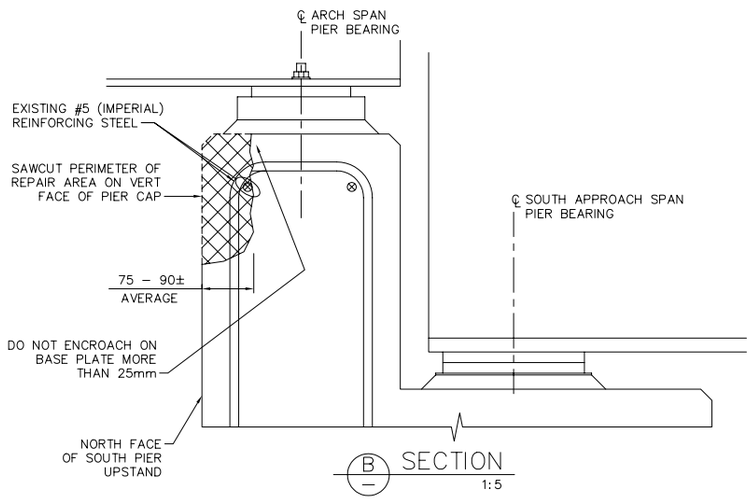

B SECTION
1:5

NORTH PIER BEARING REPLACEMENT

SOUTH PIER CAP REPAIR

No.	Date	Description	Drawn by Dessine par	Approved Approuvé

Revision / Revision

A/B Detail number / Sheet number — A Numero de detail / B Numero de la feuille

Linear dimensions in millimetres — Dimensions lineaires en millimetres

Consultant's Name / Nom de l'expert-conseil: DILLON CONSULTING

Eng. Stamp / Sceau de l'ingenieur

Public Works and Government Services Canada — Travaux publics et Services gouvernementaux Canada
Architecture and Engineering — Architecture et genie
Canada

Client/client: Canadian Heritage — Patrimoine Canadien
Parks Canada — Parcs Canada
Western Region — Region de l'Ouest

Project title/Titre du projet

NIGEL CREEK BRIDGE
2004 REPAIRS

BANFF NATIONAL PARK

Drawing title/Titre du dessin

NIGEL CREEK BRIDGE
MISCELLANEOUS REPAIRS

Surveyed by/Arpenté par	Drawn by/Dessiné par	Date
--	DRZ	2004.03.02
Designed by/Concept par	**Reviewed by/Revisé par**	**Scale/Echelle**
DCM	MCR	AS NOTED

Client Acceptance/Acceptation du client — Approved by/Approuvé par

PARK RESPONSIBLE OFFICER/AGENT RESPONSABLE Date — A & E SERVICES/GÉNIE ET ARCHITECTURE Date

Project No./Nº du projet	Asset No./Nº du-bien	Sheet No./ Nºde la feuille
412948	ASSET NO.	S1

Drawing Reference No./Nº de reference du dessin: B2004R5

PLOT DATE: 2004.03.30 08:01 PLOT SCALE: 1:1 PS BY: KJHAT

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