Webb, Bruce (CON)

From: MacDuff, Jodine [jmacduff@hydro.mb.ca]
Sent: September-01-11 10:11 AM
To: Webb, Bruce (CON)
Cc: Kustra, Ryan; Nazar, Barry; Zbigniewicz, Halina
Subject: PdB Spillway Replacement Project
Attachments: 11-054-005.pdf

Hi Bruce,

As we discussed on the phone, Manitoba Hydro would like to take advantage of low flows currently occurring in the Winnipeg River by installing anchors and piers at 3 locations on the spillway shelf. The area that the work is proposed is currently dry. The proposed date to construct the remainder of the bridge is after July 1, 2012 once Project approvals have been received for the Pointe du Bois Spillway Replacement Project.

The Pointe du Bois Spillway Replacement Project EIS describes alternatives for transporting construction equipment and materials to the east side of the river. One involves establishing barge landing sites on both sides of the river and using a barge for the majority of equipment and material transportation. Another option describes the construction of a temporary access bridge across the bedrock shelf downstream of the existing spillway. This option has the benefit of eliminating the need for establishing new barge landing sites and associated fish habitat effects, as well as reducing mobilization time and safety risks. One drawback is that it could only be constructed if flow conditions are low enough and so we could not commit to this option in the EIS.

Excluding mobilization and set up time, a crew could install anchors across the spillway shelf in approximately one week. Another week would be required to assemble three piers on top of the anchors. Getting these three piers in now would facilitate construction of the access next year, even if flows were high.

Drawings are attached and below is a summary of the proposed work:

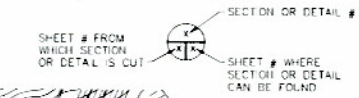
- The first step would be establishing safe access by way of the setting of stairs/handrails on the rock, the stairs will not be affixed to the rock.
- Once safe access is established, installation equipment and materials (air compressor, drill steel, anchor rods, grout, etc.) will be brought to the construction site.
- The air compressor will be located on the centre island at least 30m from the shoreline.
- All stationary equipment will be placed within containment that has 150% capacity of the fluids in the machine.
- Extra fuel for the equipment will not be stored on site and equipment will be fueled a minimum of 30 m from the shoreline.
- As indicated, drilling will be carried out at three locations in the dry.
- At each location four 50 mm diameter holes will be drilled 2 to 5 metres into the bedrock shelf, as determined by the geotechnical engineer on site.
- A dust suppression system consisting of an industrial vacuum and a filter system will be used concurrently with the drilling operation to collect dust and drill cuttings.
- The drill cuttings and debris collected will be disposed off site at an approved facility.
- The holes will be filled with epoxy and anchor rods will be inserted.
- Grout containing Type 10 Portland Cement will then be poured by hand into form work around each prepared hole (drawing 3).
- Piles at each of the three pier locations will then be installed over the anchors and post tensioned and then a steel frame will be affixed over the piles.

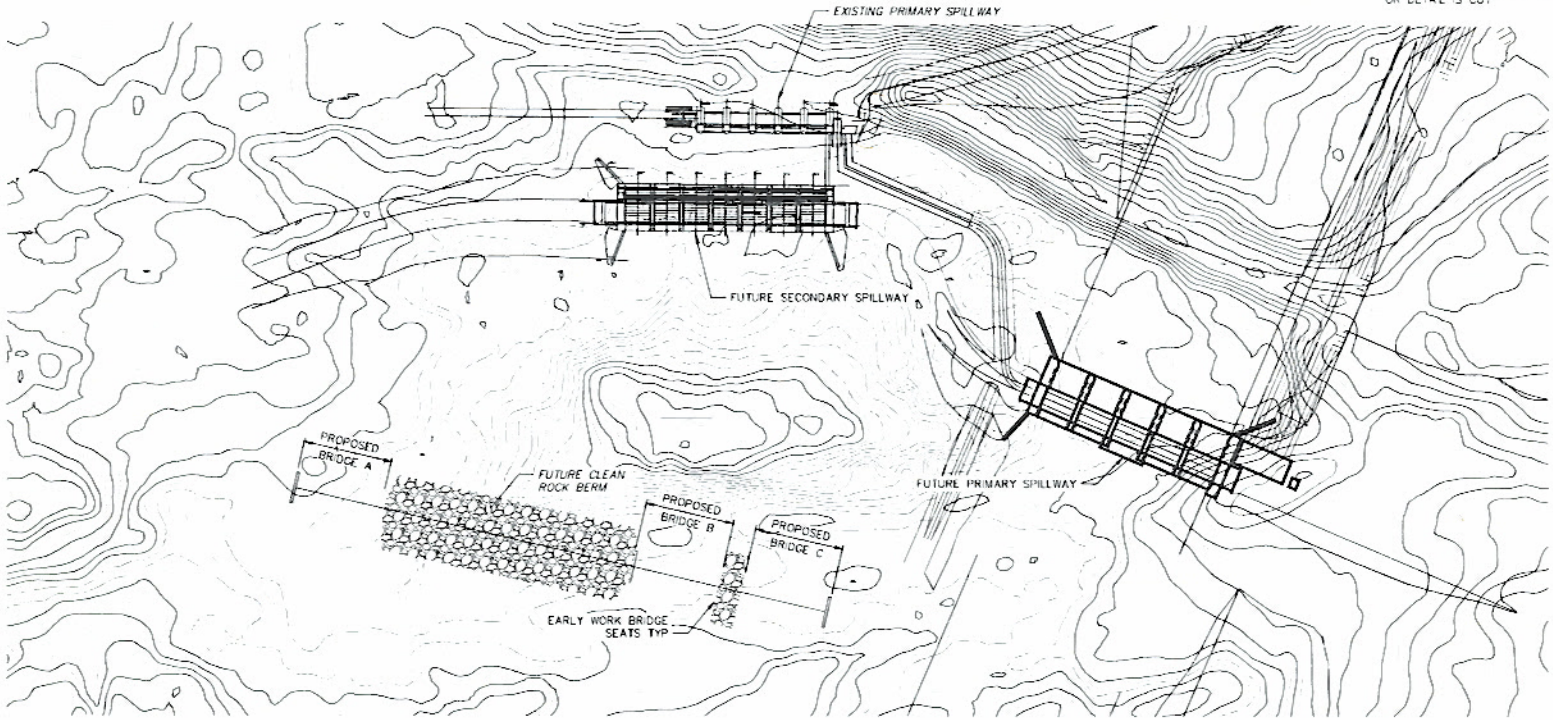
- Once all three locations have anchors/frames established site cleanup will include removal of all tools, equipment and materials, decommissioning any access stairs and checking for and removing any solid waste/debris.

If you have any questions or concerns with this work, do not hesitate to contact me. Please confirm if Manitoba Conservation, Environmental Assessment and Licensing Branch is comfortable with Manitoba Hydro proceeding with this work. An application for a work permit will then be made at the Manitoba Conservation Regional office in Lac du Bonnet.

Thank you,
Jodine

DETAIL INDICATOR





SITE PLAN
SCALE: 1:400

PRELIMINARY - NOT FOR CONSTRUCTION

GENERAL NOTES:
1. DESIGN LOADS:
   A. VOLVO A40
   B. LIVE = 20 PSF
   C. ROCK ANCHOR - DESIGN LOAD = 80 K / TEST LOAD = 96 K
2. MATERIALS:
   A. ROCK ANCHOR: 150 KSI
   B. W SHAPES: A992 FY = 50 KSI OR BETTER
   C. ANGLES: A36 FY = 36 KSI OR BETTER
   D. PLATES: A36 FY = 36 KSI OR BETTER
   E. BARS: A36 FY = 36 KSI OR BETTER
   F. PIPE: A53 GR B FY = 50 KSI OR BETTER
3. WELDING
   A. ALL WELDS SHALL BE WITH 70 KSI ELECTRODE PER AWS D1.1
4. BOLTS
   A. BOLTS SHALL BE A490 OR BETTER UNLESS NOTED OTHERWISE
   B. BOLTS SHALL BE USED IN ACCORDANCE WITH RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   C. BOLT HOLES SHALL BE NORMAL SIZE PER RCSC SPECIFICATIONS UNLESS NOTED OTHERWISE

PRINT IS ONE HALF INDICATED SCALE

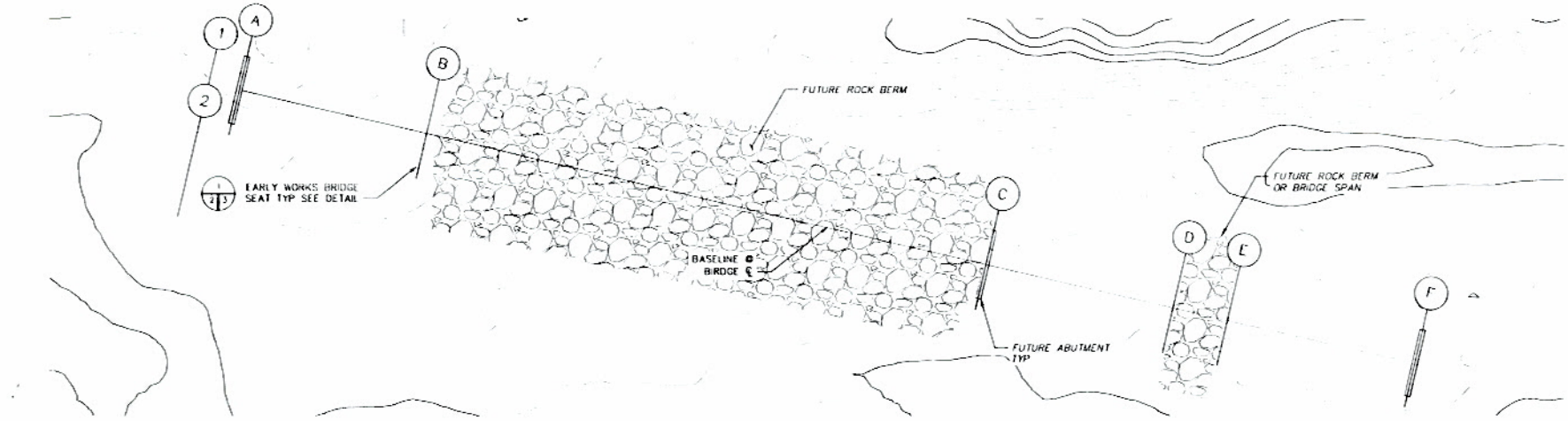
REV.	DATE	BY	DESCRIPTION	CHK'D

Kiewit
KIEWIT ENGINEERING CO.
KIEWIT PLAZA OMAHA, NE 68131

DESIGNED BY	T.J.S.
DRAWN BY	K.P.B.
CHECKED BY	
SCALE	AS NOTED
	IF SHEET IS LESS THAN 22"x34" IT IS A REDUCED PRINT SCALE REDUCED ACCORDINGLY
DATE	08-30-11

SAFETY BEGINS WITH ME

PROJECT TITLE	POINTE DU BOIS SPILLWAY
PROJECT LOCATION	POINTE DU BOIS, MANITOBA
PROJECT TASK	BRIDGE LAUNCH EARLY WORK
DRAWING SUBJECT	SITE PLAN
JOB NO.	11-054-003
DRAWING NO.	11-054-003-01
SHEET NO.	1 OF 3



PLAN
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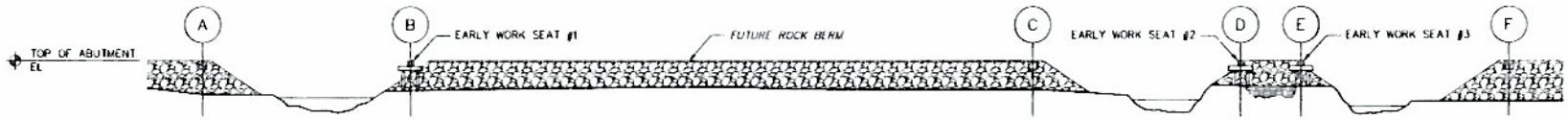

PROFILE @ BASELINE
SCALE: 1:300

PRELIMINARY - NOT FOR CONSTRUCTION

EARLY WORK GENERAL NOTES:
1. CONSTRUCT ONLY THE BRIDGE SEATS MARKED EARLY WORK. DESIGN AND APPROVALS OF ALL OTHER ASPECTS OF THE BRIDGE AND LAUNCH SYSTEM TO BE SUBMITTED SEPARATELY FOR CONSTRUCTION IN 2012.
2. BRIDGE LANDING SEATS TO BE CONSTRUCTED ON BEDROCK ABOVE CURRENT WATER LEVELS
3. BRIDGE SEAT AND ABUTMENT LOCATIONS TO BE CONFIRMED BASED ON DETAILED TOPOGRAPHIC SURVEY AND SUBSEQUENT SITE INSPECTION BY KECO
4. BRIDGE SEAT MEMBER SIZES AND CONNECTION DETAILS SUBJECT TO CONFIRMATION BASED ON REVIEW OF DETAILED TOPOGRAPHIC DATA

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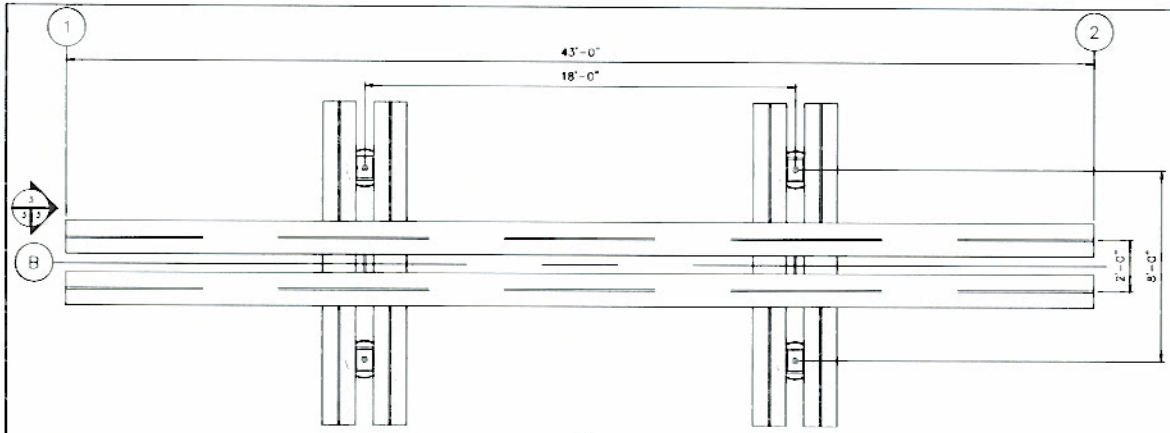
PROJECT LOCATION: POINTE DU BOIS, MANITOBA
JOB NO.: 11-054-003
PROJECT TASK: BRIDGE LAUNCH EARLY WORK
DRAWING NO.: 11-054-003-02
DRAWING SUBJECT: EARLY WORK PLAN & PROFILE
SHEET NO.: 2 OF 3



DETAIL
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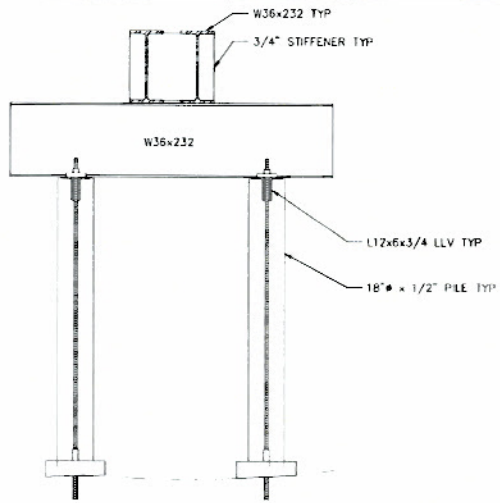

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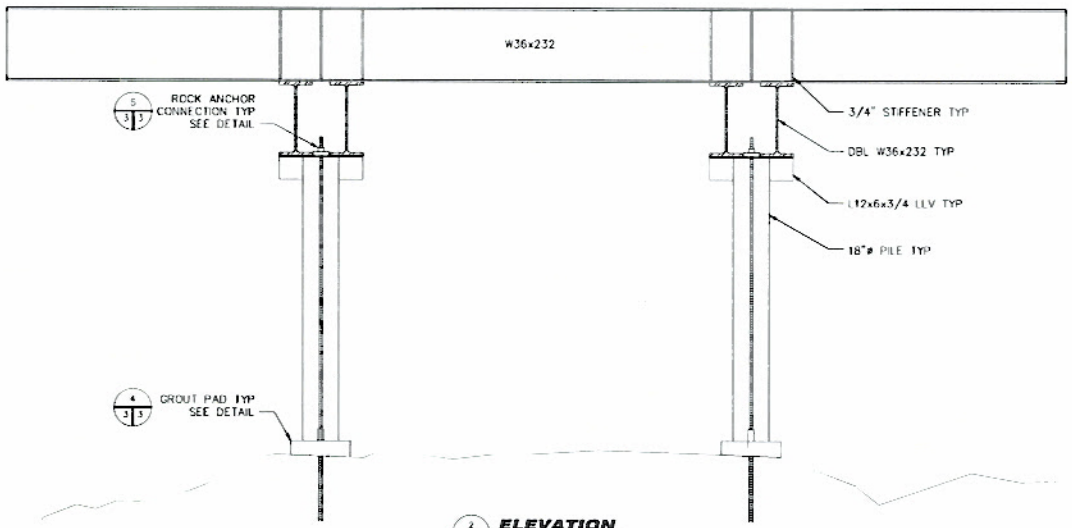

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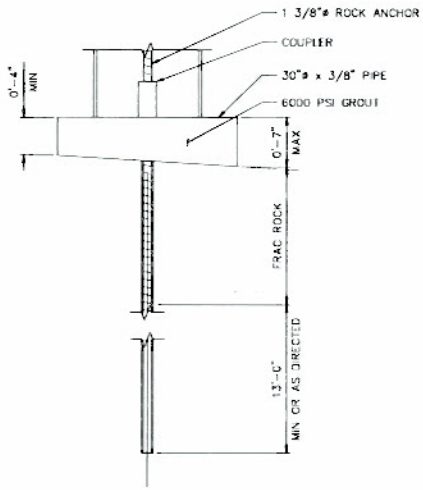

DETAIL
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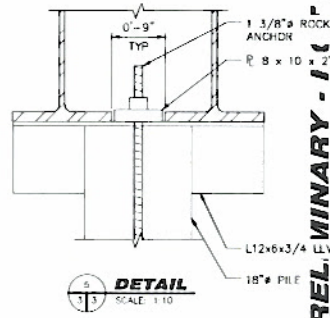

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PROJECT TITLE: POINTE DU BOIS SPILLWAY
PROJECT LOCATION: POINTE DU BOIS, MANITOBA
PROJECT TASK: BRIDGE LAUNCH EARLY WORK
DRAWING SUBJECT: DETAILS & ELEVATOINS

JOB NO. 11-054-003
DRAWING NO. 11-054-003-03
SHEET NO. 3 OF 3