



March 5, 2004

TO: Distribution

Dear Sir: Madam:

RE: Final Terms of Reference for Environmental Assessment of Deh Cho Bridge Corporation Mackenzie River Bridge

Please find attached the final terms of reference for the conduct of the Environmental Assessment of the Mackenzie River Bridge approved by the Mackenzie Valley Environmental Impact Review Board (MVEIRB) on March 4th, 2004. The EAO responsible for this matter is Ms. Kimberly Cliffe-Phillips. If you have any questions about the EA process, please direct them to her.

During the course of its review of the comments submitted on the draft terms of reference for the EA, the Review Board also considered the 16th of February, 2004 letter from Ms. Julie Dahl of DFO which addressed that Department's reasons for referring the bridge project to EA. The Review Board is aware that the public concern, which apparently prompted the DFO referral, was based on concerns raised about the bridge by NWT & Nunavut Chamber of Mines and that the Chamber's concerns have been resolved.

The Review Board is also in receipt of correspondence dated January 27th, 2004 from Mr. Andrew Gamble, the Project Manager of the Deh Cho Bridge Corporation in which Mr. Gamble indicates his preference that the bridge project not go back to preliminary screening and where he suggests that the Review Board should proceed with the EA.

The Review Board is not of the view that the DFO letter constitutes a withdrawal of the EA referral and indeed it is an open legal question as to whether such a withdrawal can take place. It is mandatory for the Review Board to conduct an EA once a referral takes place. Given the position taken by the developer and the issues raised by the parties during their review of the draft EA terms of reference, the Review Board will continue with the Mackenzie River Bridge EA. If any legal doubt exists about the validity of this course of action, the MVEIRB asks the parties to advise me accordingly. If notice of such concerns is received, the Review Board will consider exercising its discretion under ss.126(3) of the MVRMA to ensure that the authority for the conduct of the EA is clear.

Yours truly,

A handwritten signature in black ink, appearing to read "Vern Christensen".

Vern Christensen
Executive Director

Attachment

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Terms of Reference and Work Plan
for the
Environmental Assessment
of the
Deh Cho Bridge Corporation
Mackenzie River Bridge

Issued: March 5, 2004

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1 INTRODUCTION

1.1 Purpose of this Document

This document outlines the process of the Environmental Assessment for the proposed construction of the Deh Cho Bridge Corporation's Mackenzie River Bridge near Fort Providence in the Northwest Territories. Section 2 defines the scope of development that is being assessed. Section 3 defines the scope of the assessment, i.e. the issues that will be addressed in this assessment. Section 4 provides the developer with terms of reference for the Developer's Assessment Report (DAR). Finally, Section 5 defines the responsibilities of those involved in the assessment and provides an overview of the process and a schedule.

1.2 Referral to Environmental Assessment

The Deh Cho Bridge Corporation applied for a Water License (MV2003L8-0007) to the Mackenzie Valley Land and Water Board (MVLWB) on July 3, 2003. The Department of Fisheries and Oceans (DFO) carried out a Preliminary Screening of the proposed development according to Section 124 of the *Mackenzie Valley Resource Management Act* (MVRMA). DFO consulted nineteen organizations during the Preliminary Screening Process.

On January 6, 2004 DFO referred the proposed development to Environmental Assessment, according to Section 125 of the MVRMA, citing potential for public concern. DFO's Preliminary Screening Report concluded that the developer's proposed habitat compensation plan was in compliance with the DFO No Net Loss Policy. However, DFO noted that while the Preliminary Screening was in progress, the developer altered the project such that additional permits will be required for activities such as quarrying. As a result of comments received during the Preliminary Screening, DFO further determined that the project might be a cause of public concern. The MVEIRB notified the developer on January 27, 2004 that the Environmental Assessment had been started.

1.3 Legal Context

This Environmental Assessment is subject to the requirements of Part 5 of the MVRMA. It is also subject to the MVEIRB's Rules of Procedure. These documents can be accessed on the MVEIRB's web site (www.mveirb.nt.ca). Please contact the MVEIRB for further information.

2 Scope of Development

The proposed development includes the following components:

- Construction of a 1,045 metre bridge, consisting of nine continuous spans made of steel girders and concrete deck composite.
- Construction and installation of eight piers in the Mackenzie River consisting of cast in place concrete flat footings, concrete pedestals and structural steel shafts.
- Construction of two concrete abutments supported on steel piles.
- Construction of two 12 metre wide road approaches; using clean blasted rock in the river bottom to elevate the approach base to one metre above the Mean Navigational Water Level, followed by backfill and an additional one metre thick layer of rip rap.
- Paving of the roadway approaches.
- Excavation, removal and disposal of structural material and backfill from existing ferry landing sites. Restoration of river bottom at these areas.
- Construction of road access detours for public and commercial vehicles to ferry landings, during bridge construction.
- Reclamation of the temporary ferry landings
- Granular and blast rock locations and their geochemical characterization
- Development and abandonment of quarries, as necessary
- Location, construction and operations of the toll collection facilities
- Additional infrastructure in support or connection to the bridge development such as, but not limited to the proposed toll station, roadside pullout, parking areas for attendants and highway users, proposed highway realignments.
- Location, description and timetable of areas required for camp, storage, working area, concrete area and concrete plant.

3 Scope of Assessment

The scope of this assessment is the determination of which issues and items will be examined in the environmental assessment described by these terms of reference. The Review Board notes that the DFO referred the development to Environmental Assessment because of potential public concern, regarding effects of bridge tolls on the

cost of mining and exploration in the NWT. The public record of the Preliminary Screening provides some material for the Review Board's EA consideration, in accordance with section 117 of the *Mackenzie Valley Resource Management Act* (MVRMA), however the Board retains the right to raise other issues in the course of the assessment if it deems appropriate.

The MVEIRB requires more information on social, economic, cultural and environmental impacts. This is reflected in the items requested in Section 4 of this document.

4 Terms of Reference

4.1 General Terms

The Deh Cho Bridge Corporation is to provide the Review Board with a Developer's Assessment Report that provides the information requested in section 4.2. The Deh Cho Bridge Corporation is required to:

- Identify the development activity;
- Identify all changes this activity produces in the environment;
- Identify all potential impacts of these changes (with supporting rationale and evidence if possible);
- Propose mitigation measures and provide evidence and/or rationale showing the effectiveness of the mitigation measures; and
- Predict the residual impacts that cannot be mitigated.

When describing impacts, the Deh Cho Bridge Corporation is expected to characterize the impact in terms of:

- Direction (beneficial/adverse);
- Magnitude;
- Geographical extent (spatial boundaries);
- Duration;
- Frequency;
- Probability;
- Reversibility; and,

-
- Significance¹.

For each impact prediction or proposed mitigation, all uncertainties (e.g. due to poor baseline data or low predictive validity) should be stated explicitly.

4.2 Specific Items

A Summary

- A-1 *Non Technical Summary*: Please provide a plain language, non-technical summary of the Developer's Assessment Report (DAR) to enable the public to follow the proceedings.
- A-2 *Executive Summary*: Please provide an executive summary of the DAR, containing the most relevant points for decision-makers.
- A-3 *Conformity Table*: The DAR is requested to include a table cross referencing the items in these Terms of Reference with relevant sections of the DAR.

If requested by the Review Board, the developer will have the summaries translated to the appropriate Aboriginal language(s).

B Developer

- B-1 *Company Corporate History*: Summarize the company's corporate history in Canada and the Northwest Territories. Also include the corporate histories of any partners.
- B-2 *Proposed Development Ownership*: List all owners of the proposed developments and the portion each will own. Also include details of financial securities for government liabilities in the event of bankruptcy or other unforeseen failure to complete the project.
- B-3 *Organizational Structure*: Identify corporate and individual responsibilities for the proposed development and associated operations.
- B-4 *Operational Structure*: Describe the relationship between the parent company, its' contractors, and subcontractors. Also detail how the company will ensure the contractors and subcontractors utilized will be responsible for, and honour commitments made by the parent company.
- B-5 *Environmental Performance Record*: Provide a record of environmental performance of the company and its contractors in conducting this type of development.

¹ Although the Review Board will make a final determination of significance, the developer should submit its views on significance for each impact.

C Development Description

The Board requires a complete development description.

Note: In this section the developer is only asked to provide details on the development itself, not on impacts from the development.

- C-1** *Timing:* Provide the proposed schedule for the project, and identify any time constraints.
- C-2** *Access Route:* Describe the access route for all building materials required for the proposed development. Also, describe the detour access route proposed for ferry traffic and bridge traffic during the various phases of construction, including any highway realignment activities.
- C-3** *Construction Methods:* Describe the methods used to build the bridge, abutments and detour access roads.
- C-4** *Operations:* Describe the operations in terms of timing, traffic volumes on the river and on the Highway. Also, describe the operations in terms of employees, contractors, schedules and worker accommodations.
- C-5** *Maintenance Requirements:* Describe the projected maintenance requirements for the bridge, both short and long term. Include the physical nature of predicted maintenance activities as well as their frequency and potential environmental impacts. *(For example: will icing on the bridge result in the requirement for chemical control measures?)*
- C-6** *Waste Management:* Give a description of the proposed waste management plans and sites.
- C-7** *Accidents and Malfunctions:* List any possible accidents or malfunctions that may occur and describe the procedures to be followed in such instances (include the probability, potential magnitude and potential environmental impacts of any such accidents or malfunctions). *Do proposed contingency plans include an alternative system of transport in the event that the bridge is closed to traffic for a long period of time due to structural damage?*
- C-8** *Abandonment and Restoration:* Describe the plans for abandonment and restoration, including the construction site, detour access roads, ferry landings and the river bottom. Include plans for long term monitoring, maintenance and remediation.
- C-9** *Airphotos and Drawings:* Include a plan view drawing, to scale, of the proposed development superimposed on an airphoto or satellite image of the site. Also include an elevation view drawing, to scale, of the proposed development.
- C-10** *Other:* Describe any other relevant proposed activities or development components.
- C-11** *Modifications:* Provide details of any changes or modifications to the development description as presented in the Preliminary Screening phase that may occur throughout the EA phase. This information should be provided on an ongoing basis.

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- D Effects of the Physical Environment:** This section pertains to potential changes to the development, e.g. timing or alternative methods, caused by the environment.
- D-1 Description of Effects:* List and describe all effects that the environment may have on your development (e.g. effects of ice movements in the Mackenzie River)
- D-2 Changes to Development:* List and describe any changes or modifications to your proposed development that may be caused by the environment (e.g. late river ice break-up, flooding).
- E Alternatives:** Provide an explanation of alternatives to the various parts of the development where appropriate alternatives are possible. This discussion shall include, but is not limited to, development timing and a description of potential environmental impacts that were considered when evaluating and selecting alternatives (e.g. why were certain types of equipment selected, why will the bridge spans be hauled by barge to the site etc.). Include consideration of environmental impacts from the current ferry system, and construction and operation of winter ice road crossing.
- F Regulatory Regime:** Provide a table summarizing relevant licenses, permits or other authorizations required for the proposed development. Also include a summary of land ownership and the present state of each license or authorization required.
- G Public Consultation:**
- G-1 Records:* Provide minutes and a summary of consultation undertaken with the public, Aboriginal organizations, land owners, federal, territorial and municipal governments, industry, directly/indirectly affected communities of the North Slave Region and others. Include dates and participants. This should include clear evidence of, and details from, consultation directly with members of potentially affected communities (in addition to community-based corporations). It is particularly important to include details from consultation with community members from Fort Providence.
- G-2 Issues:* Identify the issues raised, how they were resolved and what issues remain unresolved.
- H Assessment Boundaries:**
- H-1 Spatial:* Provide a rationale for setting the spatial boundaries for the impacts described below.
- H-2 Temporal:* Provide a rationale for setting the temporal boundaries for the impacts described below.
- I Human Environment:**
- Socio-Cultural and Economic Matters**
- I-1 Direct Economic Impacts:* Describe potential direct economic impacts on the community of Fort Providence in particular, and on the other communities affected by all weather access across the Mackenzie River (e.g. employment,

tolls, cost of local supplies and services).

- I-2 *Indirect Economic Impacts:* Describe potential indirect economic impacts and their significance on the Northwest Territories (e.g. cost of living).
- I-3 *Direct Socio-Cultural Impacts:* Describe potential direct impacts on the social and cultural environment of NWT communities affected by all weather access across the Mackenzie River (e.g. changes in traffic volume and results on other community attributes, effects on river users and river traffic).
- I-4 *Indirect Socio-Cultural Impacts:* Describe potential indirect impacts on the social and cultural environment of NWT communities affected by all weather access across the Mackenzie River. Describe other indirect socio-cultural impacts (including impacts to current employees working on the Mackenzie River Ferry).

Cultural and Heritage Resources

- I-5 *Local Cultural and Heritage Resources:* Identify archeological and other heritage resources as well as sites or areas of cultural significance in or near the project area.
- I-6 *Direct Cultural Impacts:* Describe potential direct impacts on sites or areas identified in I-5.
- I-7 *Indirect Cultural Impacts:* Describe potential indirect impacts on any of the sites or areas identified in I-5 (e.g., through increased access by different user groups).
- I-8 *Cumulative Effects:* Describe the impacts on any of the sites or areas identified in I-5 that this development may have in conjunction with previous, present, and reasonably foreseeable future developments in this area.

Land and Resource Use

- I-9 *Traditional Land Use:* Discuss the potential impacts of the proposed development on traditional land use and occupation.
- I-10 *Existing land use:* Discuss the potential impacts of the proposed project on existing land use and occupation.
- I-11 *Recreational Activities:* Discuss the potential impacts of the proposed development on recreational activities.

Visual and Aesthetic Resources

- I-12 Discuss the potential impacts of the proposed permanent structure on the visual and aesthetic resources of the area.

J Physical and Biological Environment:

- J-1 *Air Quality and Climate:* Discuss the potential impacts of the proposed development on the local and regional air quality and climate.
- J-2 *Terrain and Soils:* Discuss the potential impacts of the proposed development

on the local terrain and soils.

- J-3 Vegetation and Plant Communities:* Discuss the potential impacts of the proposed development on the local vegetation and plant communities.
- J-4 Water Quality and Quantity:* Discuss the potential impacts of the proposed development on the Mackenzie River's water quality and quantity in the immediate project area, downstream and upstream (e.g. substrate disturbance, increased suspended sediments, substrate type, water flow, water depth, channel width, ice flow, ice jamming, damming effects, and any other impacts related to spring ice breakup).
- J-5 Aquatic Resources and Habitat:* Discuss the potential impacts of the proposed project on the aquatic resources and habitat in the immediate project area and downstream (discuss the current habitat characteristics and range of species present, any potential impacts to fish and invertebrates, as well as any proposed monitoring plans).
- J-6 Wildlife and Wildlife Habitat:* Discuss the potential impacts of the proposed project on the wildlife and wildlife habitat in the project area. Specifically, examine the effects of the proposed development on wildlife movement along the riverbank as well as up and down the river itself (e.g. *what is the likelihood for collisions of migratory birds with the bridge structure under conditions of low visibility?*).
- J-7 SARA:* Pursuant to section 79 of the Species at Risk Act, conduct an assessment of the potential effects of the project on species at risk. This assessment should include: identification of species at risk that may be affected by the project, identification of measures to avoid, minimize, and mitigate potential effects on these species or their habitat, and a proposed approach to monitoring of these effects.
- J-8 Noise:* Discuss the potential impacts of the proposed project on the noise levels within the project area and surrounds.

K Cumulative Impacts:

- K-1* Predict the cumulative impacts that might result from the proposed development impacts in combination with other past, present or reasonably foreseeable future developments and activities.

5 Assessment Process

5.1 Responsibilities

The roles and responsibilities of the Review Board and its staff, government bodies, the developer and other parties in the EA are explained in this section. Further information regarding the structure of the EA process is available in the Review Board's Environmental Impact Assessment Guidelines (draft December 2003) and the Rules of Procedure. Both documents are available from the Review Board.

All submissions received from all sources will be considered during the Review Board's decision-making processes on the environmental assessment. Usually these submissions will be public documents and will be posted on the Public Registry. However, the Review Board can and will accept documents on a confidential basis if required. Submissions should be in a format that is easily available to all stakeholders and should follow any templates provided by the Review Board.

Review Board

The Review Board, assisted by its staff, is required to undertake the following in relation to this EA:

- conduct the EA in accordance with ss.126(1) of the *MVRMA*;
- take into account any previous screening or assessment report made in relation to the development, in accordance with s.127 of the *MVRMA*;
- determine the scope of the development, in accordance with ss.117(1) of the *MVRMA*;
- consider environmental assessment factors, in accordance with ss.117(2) of the *MVRMA*;
- make a determination regarding the environmental impacts and public concern of the development, in accordance with ss.128(1) of the *MVRMA*;
- identify areas and extent of impacts within or outside the Mackenzie Valley in which the development is likely to have a significant adverse impact or be a cause of significant public concern, in accordance with ss.128(4) of the *MVRMA*;
- report to the designated regulatory agency (the MVLWB) in accordance with ss.128(2) of the *MVRMA*; and
- report to the Federal Minister in accordance with ss.128(2) of the *MVRMA*.

The Review Board's Environmental Assessment Officer (EAO) is the primary point of contact between the Review Board and the developer, government bodies (federal, territorial and municipal), non-government organizations (NGOs), First Nations, expert

advisors (expert consultants contracted directly by the Review Board), the public and other interested parties. This does not limit or preclude the developer's contact with other parties during the EA process.

This Environmental Assessment will be coordinated and facilitated by Kimberley Cliffe-Phillips.

Government Bodies

Government bodies may be involved in the EA process as:

- a Regulatory Authority as defined in the *MVRMA*;
- a Responsible Minister as defined in the *MVRMA*;
- a Federal Minister as defined in the *MVRMA*; or,
- advisers to the Review Board.

Government bodies are expected to participate and adhere to the timelines as set out in the Terms of Reference.

Developer

The developer is expected to respond in a suitable and timely manner to directions and requests issued by the Review Board. The developer may present additional information at any time to the Review Board beyond what was requested during the EA process. The Review Board encourages the developer to continue consulting all potentially affected communities and organizations during the EA process.

Other Parties

First Nations, NGOs, the public and other interested parties may request and be granted party standing by the Review Board, as per the MVEIRB Rules of Procedure. Parties may provide the Review Board with information relevant to the EA of their own volition, or they may be asked by the Review Board to provide any relevant information they may have. Parties are expected to participate and respond to directions and requests issued by the Review Board in a suitable and timely manner.

In addition to the expertise available from within government, the Review Board may also choose to hire expert advisors to provide technical expertise on specific aspects of the EA.

5.2 Milestones

Table 1 summarizes the milestones and responsibilities in the EA process.

Table 1 - Milestones and Responsibility Assignments for Phases in the EA Process

Milestone	Developer	Government Bodies	Other Parties	Review Board and Staff
EA start-up				✓
Prepare draft Terms of Reference and Work Plan				✓
Review and comment on draft ToR and WP	✓	✓	✓	
Revise and approve final ToR and WP				✓
Submit DAR	✓			
Conformity Check and Deficiency Statement (if required)				✓
Deficiency Statement Response	✓			
Information Requests		✓	✓	✓
Information Request Responses	✓	✓	✓	
Technical Analysis		✓	✓	✓
Public Hearing	✓	✓	✓	✓
Review Board Report of EA and Reasons for Decision				✓
Response from the Minister of Indian Affairs and Northern Development (if required)		✓		
Consultation - throughout / as required	✓	✓	✓	✓

5.3 Deliverables

The following section lists and explains the various deliverables or milestones during the EA process. They are listed in the order they will be produced.

Public Registry, public notification, government notification, developer notification, expert advisor identification, identification of EA roles

The Review Board has initiated the notification measures required by the *MVRMA*. The Review Board has opened the Public Registry on the EA. The Public Registry will be updated regularly. The Review Board will identify expert advisors if and as required.

Approved Terms of Reference and Work Plan

This Draft Terms of Reference and Work Plan for completing the EA was developed and approved by the Review Board. A final Terms of Reference and Work Plan will be developed incorporating comments on the draft document received from parties.

This document contains the scope of the development, the scope of the assessment, directions to the developer, a description of the EA process and an EA schedule.

Developer's Assessment Report

The Deh Cho Bridge Corporation will use this document to guide the response to these terms of reference and in the preparation of the DAR. Although the format of the DAR is largely left at the discretion of the developer, the developer should consider the use of appendices for providing some information, the use of a glossary for technical or uncommon terms and the clarity and accuracy of the information presented in the DAR. Diagrams, charts and maps are useful for clarifying information presented in the text.

Conformity Check, Review Board Deficiency Statement and Developers' Response

The Review Board will review the Developer's Assessment Report to ensure that the developer has provided the information required. If needed, the Review Board will issue a deficiency statement identifying those areas in which the developer has not provided information to address an item listed in the scope of the assessment. The developer will be asked to submit information to the Review Board to fill the information gaps identified by the deficiency statement.

Information Requests and Responses to Information Requests

Information Requests (IRs) are very specific and focused requests for clarification or additional information. They may be required for the Review Board to complete its analysis and reach a conclusion about the information provided by the developer. The first round of IRs issued will be developed by the Review Board. The second round will

be open to all EA participants.

IRs can be issued by any party in the EA and can be directed to any other party. However, all IRs must be submitted to the Review Board for approval and they must also be submitted in the form required by the Review Board. If approved, the Review Board will then issue the IR under its authority to the intended IR recipient. The IRs and the responses will be included in the Public Registry and be used as evidence for the consideration of the Review Board.

Technical Reports from EA parties

The Review Board staff will undertake the analysis of the EA with the assistance of federal and territorial governments, First Nations, the public, and other interested parties. A thorough analysis of the development is essential to assist the Review Board to make the best EA decision. This is a critical stage in the EA process where the key issues and impacts are identified and evaluated. The developer can formally provide and present its views on the information brought to the Review Board's attention including any proposed amendments, additions or refinements to the development or the environmental assessment documents. The technical reports from EA parties are to clearly state the reviewer's conclusions, recommendations and supporting rationales.

Review Board's Report of Environmental Assessment (EA Decision)

The Review Board will provide the Minister of Indian and Northern Affairs Canada (INAC) with its Report of Environmental Assessment as per Section 128(2) of the MVRMA. The Minister of INAC will distribute the report to every responsible minister as per 128(2)(a) of the MVRMA. The developer and the other EA parties will also receive copies of the Review Board's Report of EA.

5.4 Schedule

Table 2 provides estimated time lines for the completion of each milestone in the EA process. Days refer to working days. The Review Board may amend the schedule at its discretion. The short scenario assumes that all tasks will be completed in the shorter time given under 'duration', while the long scenario assumes all tasks will require the maximum time. It is expected that the actual completion date of the EA will fall somewhere in between.

Table 2 - EA Schedule

MILESTONE	Duration
Start-up of the EA	Done
Draft Terms of Reference and Work Plan	15 days
Comments on draft ToR and WP	15 days
Final Terms of Reference and Work Plan	6-10 days
Developer's Assessment Report*	10-20 days
Review Board Conformity Check and Deficiency Statement (if required)	4-7 days
Developer's response to the Deficiency Statement *	5-10 days
Review Board IRs to developer	20 days
Open IRs to developer	20 days
Developer's response to IRs*	20 days
Technical analysis reports	12 days
Public Hearing and/or Site Visit	1 day
Closure of Public Registry	1 day
Review Board EA decision	10-15 days
Review Board's Report of EA to the Minister of INAC	5 days
Federal Minister's response to the Review Board's Report of EA (if required)	-
Consultation – throughout / as required	-

* Note: duration may vary, depending on quality and completeness of submission