# Mackenzie Valley Land and Water Board

7th Floor - 4910 50th Avenue • P.O. Box 2130 YELLOWKNIFE, NT X1A 2P6 Phone (867) 669-0506 • FAX (867) 873-6610

August 30, 2005

File: MV2003L8-0007

Mr. Andrew Gamble
14 Mitchell Drive
YELLOWKNIFE, NT X1A 2H5

Fax: (867) 669-2028

Dear Mr. Gamble:

# Reasons for Decision <u>Bridge Construction, Km 23 of Hwy #3, near Fort Providence</u>

The Mackenzie Valley Land and Water Board (MVLWB) granted Water License MV2003L8-0007 on July 13, 2005. The MVLWB has finalized the Reasons for Decision, and they are attached for your review.

If you have any questions, please contact Peter Lennie-Misgeld at (867) 669-0506 or email mvlwbpermit@mvlwb.com.

Yours sincerely,

Fodd Burlingame

Chair

Copied to:

**Distribution List** 

Peter Lennie-Misgeld, Regulatory Officer, MVLWB

**Attachment** 

06-Sep-2005 12:12pm

Application MV2003L8-0007

<b>DISTRIBL</b>	JTION	LIST by	v Fax

#### Fort Providence Area

۲	IRST	NΔ	TIA	NS
_	шэг	INM		IV

Grand Chief Herb Norwegian	Dehcho First Nation	35	867-695-2038
Chief Berna Landry	Deh Gah Got'ie Dene Council	18	867-699-3210

#### COMMUNITIES

Maria Manata Larramana			
Mayor Maggie Levavasseur   Ha	amlet of Fort Providence	18 I	867-699-3210
The state of the s	ATTIOL OF TOTAL TOTAL TION	10 1	007-000-02,30

#### **ABORIGINAL ORGANIZATIONS**

Chris Paci	Dene Nation	40	920-2254
Heidi Wiebe	Deh Cho Land Use Planning Committee	41	867-699-3166
President Robert Tordiff	Northwest Territory Metis Nation	45	867-872-2772
President Albert Lafferty	Fort Providence Metis Council #57	Marker de de la deservación dela deservación de la deservación de la deservación de la deservación dela deservación de la deservación de la deservación de la deservación dela deservación de la deservación de la deservación dela dela dela dela dela dela dela dela	867-699-4319
Frank Kotchea	Nahendeh Land & Environmental Services	43	867-770-4573

#### **GOVERNMENT**

Ed Hornby	South Mackenzie District Office	57	669-2720
Kathleen Racher	DIAND – Water Resources	58	669-2716
Mineral Development Advisor	Mineral Development Division	59	669-2705
Tom Andrews	GNWT - Prince of Wales Heritage Museum	60	873-0205
Mark Davy	GNWT - MACA	62	920-6343
Duane Fleming	GNWT - Health	65	669-7517
Jason McNeil	GNWT - ENR	63	873-4021
Michael Brown	GNWT - DOT	64	920-2565
Mike Fournier	Environment Canada	66	873-8185
Ernest Watson	DFO	68	669-4940

#### **OTHERS**

TO THE PROPERTY OF THE PROPERT	THE PROPERTY OF THE PROPERTY O		
Vern Christensen	MVEIRB	50	766-7074
Alan Harris	Beaver Enterprises Ltd. Partnership	48	867-770-4573
Rob Dobson	IT Specialist	Diffelis di shesilaribaba	MVLWB

If there is an error in our contact, please notify our office.

#### **REASONS FOR DECISION**

Preliminary Screener:	MVLWB
Reference/File Number:	MV2003L8-0007
Applicant:	Deh Cho Bridge Corporation
Project:	Bridge Construction, Km 23 of Highway #3, near Fort Providence, NT

# DECISION from Mackenzie Valley Land and Water Board (MVLWB or the Board) Panel Meeting of "July 13, 2005"

#### **REASONS FOR DECISION**

Issued pursuant to Section 121 of the Mackenzie Valley Resource Management Act (MVRMA) and Section 26 of the Northwest Territories Waters Act (NWTWA)

#### BACKGROUND AND REGULATORY HISTORY

On May 28, 2003 the Deh Cho Bridge Corporation (DCBC or the Licensee) applied to the MVLWB or the Board for a Type "B" Water License MV2003L8-0007 (the License). The application was for the following:

- Construction of a 1,045 m long, two-lane bridge consisting of nine (9) continuous spans made of steel girders and concrete deck composite; and
- Construction and installation of eight (8) piers in the Mackenzie River consisting of cast-in-place concrete flat footings, concrete pedestals and structural steel shafts.

The project is located at 61°15'45"N and 117°31'30"W, Fort Providence, Northwest Territories.

MVLWB staff reviewed the application and declared it complete on July 3, 2003. The application was distributed to First Nations, Communities, Government Agencies and other organizations in order for the MVLWB to conduct a Preliminary Screening as required by Part 5 of the Mackenzie Valley Resource Management Act (MVRMA).

During the review process, the MVLWB determined that the DCBC would also need to apply for a Land Use Permit for activities such as abutment construction, quarrying, and operation of a camp, outside of the highway right-of-way. On December 15, 2003, the MVLWB sent a letter to the DCBC stating that the MVLWB would not proceed with processing the Water License application until the Land Use Permit application was submitted for review so that all aspects of the development could be screened as one undertaking.

On January 6, 2004, DFO directly referred the project to the Mackenzie Valley Environmental Review Board (MVEIRB) for an Environmental Assessment (EA) based on public concern. This was a result of concerns expressed by the Northwest Territories Chamber of Mines about the effects of bridge tolls on the costs of mining and exploration in the NWT.

Deh Cho Bridge Corporation, Deh Cho Bridge Project, MV2003L8-0007

Page 1 of 6

On April 7, 2004, the DCBC submitted Land Use Permit application MV2004X0020 with their Developer's Assessment Report in order for it to be screened under the EA with the Water License.

On March 15, 2005, the Minister agreed to adopt the recommendation of the MVEIRB that the proposed development will not likely have any significant adverse impact on the environment or be cause of significant public concern. According to the MVEIRB, potential impacts of the proposed development can be mitigated if the developer's commitments are implemented. These commitments are listed under Appendix A of the Report of Environmental Assessment.

On April 5, 2005, the draft Water License was distributed to First Nations, Communities, Government Agencies and other organizations for comment; comments were due on April 15, 2005.

#### **GENERAL**

The Board has decided to issue Water License MV2003L8-0007 subject to the conditions set out therein. This License has been issued under separate cover. The Board's Reasons for Decision are elaborated below under the headings contained in the License. The License contains terms and conditions the Board feels are necessary to protect the environment during construction and operation of the Deh Cho Bridge Project. The License also includes some of the commitments made by the DCBC and the applicable suggestions made by the MVEIRB in the EA Report approved by the Minister. (Appendix 1 lists the commitments that were made by the DCBC during the EA process. Commitments in bold-faced type were incorporated into the Water License.)

#### REQUIREMENTS OF SECTION 14 of the NWTWA

#### **Existing Licensees**

With respect to Paragraph 14(4)(a) of the NWTWA, the Board is satisfied that granting the License to the Licensee would not adversely affect, in a significant way, any existing Licensee, providing the conditions of the License are met. There are no Licensees with precedence.

#### **Existing Water Users**

Paragraph 14(4)(b) of the *NWTWA* prohibits the issuance of a License unless the Board is satisfied that appropriate compensation has been, or will be paid by the Licensee to members of the classes of water users and persons listed in that paragraph who have claimed compensation within the period specified in the Notice of the application.

The Board received no claims for compensation either during the prescribed period or afterwards. Provided that compliance with the License conditions is achieved, the Board does not believe that any users or persons listed in Paragraph 14(4)(b) of the NWTWA will be adversely affected by the use of waters or the deposit of waste proposed by the Licensee.

Deh Cho Bridge Corporation, Deh Cho Bridge Project, MV2003L8-0007

Page 2 of 6

#### Financial Responsibility of the Applicant

The Board must satisfy itself of the financial responsibility of the Applicant under paragraph 14(4)(d) of the NWTWA before it can issue the License. In this case, the Board is satisfied that DCBC is capable of meeting the obligations set out in the NWTWA and License.

There is no issue in the Board's view as to the capacity of the Licensee to meet any, or all, financial obligations that arise from the project, as the DCBC and the Government of the Northwest Territories (GNWT) have formed a private-public partnership to construct the bridge. (Refer to "Requirements of Subsection 17 of the NWTWA for more details.).

## REQUIREMENTS OF SUBSECTION 15(2) OF THE NWTWA

With respect to Subsection 15(2) of the *NWTWA*, the Board must minimize any adverse effects the operation may have on other Licensees, users, depositors, owners, occupiers, or other rights holders that have interests in the water management area in which the licensed operation is located. These parties are to have the opportunity to notify the Board regarding their concerns about the effects the development may have on them.

The EA process conducted by the MVEIRB and the regulatory process conducted by the MVLWB provided interested parties with the opportunity to review and comment on the application for the Deh Cho Bridge Project and express any concerns or comments they had to the Board. The concerns and comments provided to the MVLWB were reviewed carefully during the development of the License and were incorporated into the License terms and conditions where the Board had the jurisdiction to do so. The Board is satisfied that the Licensee's adherence to the terms and conditions of the License will protect parties who have an interest in the water management area in which the Licensee is operating.

### REQUIREMENTS OF SUBSECTION 17 OF THE NWTWA

The MVLWB has decided that the granting of the License does not require security to be posted with the Minister of Indian and Northern Affairs Canada (INAC), as the DCBC has formed a private-public partnership with the GNWT to construct the bridge. The MVLWB does not require security deposits from territorial or federal government.

The DCBC and the GNWT will be entering into a Concession Agreement that defines their roles and responsibilities during the course of the project and outlines mechanisms to deal with unexpected events. The MVLWB is satisfied that the Concession Agreement will provide an acceptable safeguard in the event the DCBC is unable to complete the construction of the bridge.



#### WATER LICENSE MV2003L8-0007 TERMS AND CONDITIONS

#### License Conditions

The conditions set forth in the License have been imposed in order to address the Board's statutory responsibilities and those concerns raised during this regulatory process. These reasons address the more significant of those concerns.

#### Scope of the License

The Board has reviewed the application and evidence in the Public Registry, the EA Report and the advice provided by interested parties. The Board has determined that the scope of the appurtenant undertaking will be:

"This License entitles the DCBC to use water and dispose of waste for miscellaneous undertakings, including the removal of approximately 5,000 square meters of fill associated with the south approach of the current winter ice road crossing, and associated uses by the DCBC located at 61°15'45"N and 117°31'30"W, Fort Providence, Northwest Territories".

#### Term of the License

The License has been issued for a term of five (5) years, as requested by the Licensee.

#### PART B: GENERAL CONDITIONS

The general conditions assist in the appropriate administration of the License, including keeping the Board informed of activities on site through a requirement for annual reporting.

#### PART D: CONDITIONS APPLYING TO THE UNDERTAKING

Generally these conditions require the Licensee to submit a number of reports to ensure that sufficient attention and resources have been devoted to the proper construction of the various works which make up the Project.

Part D, Item 8: As per Appendix A of the Report of Environmental Assessment, the DCBC made the commitment to re-fuel on a designated location not less than 100 metres from any water body.

Part D, Item 12: The requirement for an Ammonia Blasting Residues Management and Monitoring Plan was derived from the DCBC's commitment to test representative blast rock for ammonia residue prior to placement in the channel. Implementing this Plan will ensure that blasted rock with a significant amount of residue will not be placed in the Mackenzie River.

Part D, Itam 13: As per Appendix A of the Report of Environmental Assessment, the DCBC made the commitment to place rip rap at all piers, abutments and approaches to protect against localized scour due to ice and water flows. As a result of reviewers'

comments, this commitment was made less prescriptive to incorporate other measures, besides rip rap, to protect against scour.

Part D, Item 14: As per Appendix A of the Report of Environmental Assessment, the DCBC will use, whenever possible, techniques and equipment that minimize the creation, amount and duration of suspended solids during any work within the Mackenzie River.

Part D, Item 15: The requirement for a Water Disposal and Monitoring Plan was derived from the DCBC's commitment to monitor the water quality within each cofferdam prior to release into the receiving environment. This condition was also based on the MVEIRB's suggestion that water quality resulting from bridge construction not exceed the limits established under the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines.

Part D, Items 16 an 17: As per Appendix A of the Report of Environmental Assessment, the DCBC committed to using silt curtains and other appropriate field measures to minimize the migration of suspended solids in the Mackenzie River.

Part D, Item 18: The DCBC committed to avoid using chemical de-icers or cleaning agents for cleaning the bridge deck as per Appendix A of the Report of Environmental Assessment.

#### PART E: CONDITIONS APPLYING TO MODIFICATIONS

The conditions applying to modifications are included to allow for small-scale changes in the structures of the proposed undertakings. As per the definition of 'Modification' under Part A of the License, a modification does not include an expansion nor does it allow for an alteration of the purpose or function of the work conducted. It should, therefore, be noted that the Board is not in any way authorizing any amendments to the requirements of the License by virtue of the inclusion of this section. Any such requests for amendments must be undertaken pursuant to the terms of the NWTWA.

# PART F: CONDITIONS APPLYING TO CONTINGENCY PLANNING

The Board has imposed conditions requiring the Licensee to undertake ongoing contingency planning in order to make the Licensee and the Board more aware of the uncertainties that may arise during the operations. The Licensee is to provide plans that detail how effects resulting from unexpected situations will be mitigated. It should be noted that the Board requires the Licensee to review the Spill Contingency Plan on an annual basis and modify as necessary to reflect changes in operation, technology and staffing.

# SURVEILLANCE NETWORK PROGRAM

The requirements for monitoring water and waste associated with the Licensee's undertakings are described in the Surveillance Network Program (SNP) which is attached to the License. The SNP calls for extensive and ongoing sampling and analysis to be conducted at the stations identified below. The number of stations, the

Deh Cho Bridge Corporation, Deh Cho Bridge Project, MV2003L8-0007

Page 5 of 6

sampling frequency, and the list of variables reflect the information that was considered necessary to monitor the potential downstream effects on the receiving environment. The Board believes that the conditions specified in the SNP will ensure that adequate monitoring data are collected to characterize any potential impacts to the aquatic environment of the Mackenzie River as a result of bridge construction.

The SNP contains a total of sixteen (16) stations. Based on reviewers' comments, field parameters, including Turbidity, pH, Conductivity and Dissolved Oxygen, will be monitored at six stations on an hourly basis to ensure that downstream water quality is maintained according to CCME Water Quality Guidelines for the Protection of Aquatic Life during pier construction. A relationship between Turbidity and Total Suspended Solids (TSS) will be refined during construction with the daily laboratory analysis of TSS. Sub stations located further downstream (i.e. 500 metres and 1,000 metres downstream of the piers) will only be monitored if increases are detected at the substations located closer to the piers (i.e. 10 metres and 100 metres downstream of the piers).

Sampling of upstream stations prior to the commencement of construction will provide information on the background water quality of the Mackenzie River. As per the MVEIRB's suggestion to monitor contamination in the bridge runoff containment ditches, a sampling station has been established to monitor hydrocarbons.

#### CONCLUSION

Subject to the terms and conditions set out in the License, and for the reasons expressed herein, the MVLWB is of the opinion that the Deh Cho Bridge Project can be managed in a way which will protect the water resources of the Mackenzie River from unacceptable impacts.

For the Mackenzie Valley Land and Water Board:

SIGNATURE

Chair

Data

# **APPENDIX 1** DCBC's Commitments as per Appendix A of the Environmental Assessment Report

Note: Commitments that were incorporated into the Water License are in bold-faced print.

Component of Project Description	Commitment (As per Appendix A of the EA Report)
Scouring	Potential scouring will be controlled by placing on the riverbed around each pier 0.6 m layer of selected blast rock over an elliptic area with radiuses 33m and 28m.
Scouring	Rip rap will be placed at all piers, abutments and approaches to protect against localized scour due to ice and water flows.
Access during construction	Access for public and commercial vehicles to both ferry landings and clear route for the ferryboat will be maintained without interruption for the duration of the bridge construction.
Access during construction	Summer access to in-river works for constructing the piers and erecting the superstructure may employ floating barges or temporary bridges supported on the river bottom. Winter access could use the ice or temporary bridges. Any temporary fixed or floating bridges or barges would be removed before spring and fall ice traffic on the river. At no time would these temporary works be allowed to interfere with ferry operations or with marine traffic on the Mackenzie River.
Access during construction	The DCBC is committed to constructing a bridge to design specifications that do not limit the navigational needs of the existing river barge traffic. This includes a deck height to account for the 100 year flood levels.
Materials	Bulk granular material would be transported by truck from identified pits and quarries. Granular material required to cross the river would be moved in the winter, via the ice crossing, not the ferry.
Fuel	Fuel will be delivered on site by local contractor using specialized fuel truck. Re-fuelling will take place on a designated location not less than 100 m from any water body. Trucks will be refueled at the Big River gas station located at km 31, highway 3.
Maintenance	Routine maintenance activities include regular inspection of all superstructure and substructure components for signs of wear, damage and erosion, and repair, if required. Special attention will be paid to any signs of erosion near the pier-footings or abutments and to the cleaning of bearings and expansion joints.

Maintenance	The deck would be cleaned and broomed in the spring to remove accumulated sand and other debris. There are no plans to use chemical de-icers and cleaning agents, as these may accelerate bridge deterioration as well raising environmental concerns.
Maintenance	There will be three levels of inspections:  Routine daily inspections Annual "checklist" inspections and, Four to six year detailed inspections.
Worker Camp	There will be no fuel storage in the camp area. Solid organic wastes will be incinerated on site. Non-organic wastes estimated at 1,500 kg per month will be containerized and transported to Ft. Providence landfill for disposal.
Reclamation Areas	Timber will be salvaged for reuse on other ferry landings. The steel will be sent to a smelter in southern Canada. The concrete and the granular material will be placed below ground level and will be covered with 1 m native ground in Borrow Areas located in the vicinity of the bridge. The disposal areas will be graded and landscaped to match the surrounding ground.
	It is possible that the material is contaminated with hydrocarbons or other substances harmful to the fish habitat. In order to establish if any contaminants are present, the GNWT Department of Transportation has commissioned a study with Dillon Consulting Ltd. It is noted that it will be the department's liability should any contaminants be found.
Reclamation Areas	After closing of the camp all facilities and inventory will be removed from site. The remaining debris will be incinerated or disposed of in an environmentally friendly manner. The area will be thoroughly cleaned from any foreign objects and landscaped.
Reclamation Areas	DCBC's and DFO's agreement on a plan for no net loss of fish habitat requires the safe and clean removal of the backfill material associated with the existing winter crossing approaches, some 13 km upstream in Beaver Lake, and its complete restoration to productive fish habitat approx. 5000 square metres of shoreline.
Regulatory Regime	The DCBC Board has made a commitment to members that the final decision to proceed with the project will not be made without a final public review of the project agreements by the community.
Socio-economics: Community Benefits Plan	The DCBC is committed to having its Community Benefits Commitment Plan endorsed by the community in order for the project to proceed.

Socio-economics: Community Benefits Plan	The Community Benefits Commitment Plan (CBCP) commits to a workforce adjustment and training plan for impacted local ferry workers.
Socio-economics: Community Benefits Plan	The CBCP proposes using profits from the bridge ownership for long-term investment in 1) employment and training programs; 2) business development; 3) community social development; and 4) trust fund to continue these investments after the 35 year concession period ends.
Socio-economics: Community Benefits Plan	Agreement includes a guaranteed minimum \$225,000 for local businesses for bridge operations.
Socio-economics: Community Benefits Plan	CBCP commits to maximizing local training and employment, and local business opportunities, during bridge construction.
Socio-economics: Community Benefits Plan	CBCP includes sustainable economic development fund, through investment of project dividends.
Socio-economics: Forestry Harvesting	Local communities will be given first opportunity to salvage commercial forest.
Socio-economics: Construction Impacts	To reduce social impacts during construction, camp to be outside community. In addition, contracting policy and a monitoring program will be established to reduce negative impacts of non-residence workforce.
Socio-economics: Tolls	GNWT has committed that freight tolls will not exceed the proposed \$5-\$6 per tonne maximum.
Socio-economics: Talls	There will be no tolls on private vehicles.
Land and Resources Use	Construction activity, material transport and storage and camp location will all be primarily located either within the existing right-of-way or on the south shore, away from areas of local recreational use.
Land and Resources Use	Monitoring program and contracting policies will minimize effects of construction activity and noise (on subsistence and recreational fishing).
Air Quality	Developer commits to having proper procedures in place to limit and handle release of air contaminants during chemical spill events, including: proper storage and handling procedures, availability of appropriate and sufficient spill response equipment, and proper spill contingency planning and training.

Air Quality	Water or acceptable chemical suppressants will be applied to roadways to reduce dust during the construction phase. Haulage and grading will be kept to a minimum. The quarrying and crushing facility will be equipped with the proper dust suppression equipment. All construction related engines will have regular servicing to optimize fuel efficiency.
Water Quality	Monitoring will be put in place, particularly during the May-June spring spawning period. Feedback will be given to construction teams on water quality results.
Water Quality	Water quality monitoring will occur during major instream construction phases. The program will include feedback monitoring to allow adjustment of construction rates and scheduling. Water quality standards for turbidity and suspended solids will adhere to CCME guidelines.
Water Quality	Techniques and equipment used for installation of instream piers will give precedence to minimizing amount and duration of creation of suspended sediment. Only one cofferdam will be excavated at one time and this cofferdam must be excavated over a minimum period of eight hours.
Water Quality	Riverbed soil removed during installation of instream piers will be removed to a gravel pit, either in summer or winter.
Water Quality	Representative samples of blasted rock to be placed in the river will be tested to determine ammonia residue content prior to placement in the channel. If significant ammonia residue is detected a water quality monitoring program will be put in place.
Water Quality	Silt curtains and other appropriate field measures will be used to minimize migration of suspended solids in the river.
Water Quality	Water that has come in contact with fresh concrete footings and pedestals will be removed, tested, and treated as necessary to balance the pH.
Water Quality	Alternative disposal means will be identified and used in the event water quality of any extracted water is not acceptable for release, meaning any water that contravenes section 36 (3) of the Fisheries Act.
Water Quality	During construction, appropriate spill response equipment will be on site at all times.

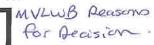
Water Quality	In case of a chemical spill during bridge operations, there will be appropriate storage location, methods and handling procedures, appropriate spill response equipment on site, adequate spill response training for personnel and an immediate spill response.				
Aquatic Resources	The May/June period will be avoided for modification of either the North or South approach to the Bridge, in order to reduce disturbance to Northern Pike and Arctic grayling reproductive patterns. Sediment monitoring will be utilized.				
Aquatic Resources	North Approach will be altered to increase habitat by 4300 cubic metres. The restored portion of the channel will be shaped and formed to a condition resembling the natural channel. The rip rap bank protection on the outer perimeter of the abatement should be designed and placed to maximize its value as fish feeding habitat.				
Aquatic Resources	South Approach will see the gain of 9500 cubic metres of backwater habitat immediately downstream of bridge. The morphometry of the restored area will be adjusted to resemble the conditions in the adjacent backwater.				
Aquatic Resources	Known or potential critical habitats within the zone of influence of construction will be identified by construction managers.				
Aquatic Resources	The developer will work with DFO to develop and implement a Pressure Waves Monitoring Program to monitor the pressure changes in the waters during the pile driving activities. If it is determined that the pressure changes may be harmful to fish, all reasonable mitigation measures will be taken to minimize the pressure changes and harm to fish.				
Excavation and disposal of material	The water quality in the river and the rate of discharge of excavated material will be monitored and controlled according to methodology described in the enclosed Golder Associates Report. At least three water quality monitoring posts will be established upstream and downstream from the excavation. The rate of discharge will be reduced and adjusted if results in higher than admissible suspended fraction. This will be based on CCME water quality guidelines.				
Dewatering cofferdams	The water quality of each cofferdam will be released into the river within 24 hours continuous pumping at a rate of 80 cu m per hour. The water quality monitoring program described in excavation and disposal of riverbed material will apply.				
Wildlife and Wildlife Habitat	A "Texas barrier" will be installed at both ends of the bridge approach, to prevent undesired movement of wildlife across the bridge, particularly bison.				

MV20003L8-0007, Deh Cho Bridge, Reasons For Decision, Appendix 1

Page 5 of 7

Wildlife and Wildlife Habitat	Pre-construction surveys will identify (and subsequently avoid construction activities near) raptor nests and bear dens.				
Wildlife and Wildlife Habitat	Prompt revegetation of habitat where possible; areas near the bridge and road will be re-vegetated with non palatable species, using native seed mixes.				
Wildlife and Wildlife Habitat	Wooded buffers will be maintained to lessen sensory disturbance between new clearings and remaining wildlife habitat.				
Wildlife and Wildlife Habitat	Bridge maintenance schedules will be restricted until after the bird breeding season (15 May – 15 July). Bridge visual inspections will also be an unobtrusive as possible. During years of intensive bridge maintenance, strategies to discourage bird nesting will be used, such as visual deterrents and surface gels. If active nests are encountered outside of typical breeding season, they will be avoided until nesting is complete.				
Wildlife and Wildlife Habitat	Markers, such as aviation spheres, will be used to mark suspension lines, guy wires and appropriate infrastructure.				
Wildlife and Wildlife Habitat	All wildlife collisions will be reported to responsible authorities.				
Wildlife and Wildlife Habitat	Any bridge lighting, including river navigation lighting, will be reduced to the lowest feasible, given safety parameters, and no red lighting is to be used. Wherever possible, lighting should be directed down to the roadway.				
Wildlife and Wildlife Habitat	All garbage will be disposed of in bear-proof containers. All workers will be educated with regards to garbage cleanup, speeding and documenting and reporting incidents/collisions.				
Wildlife and Wildlife Habitat	The proponent will engage an environmental consultant to identify all species listed as "sensitive" or "may be at risk" by both COSEWIC and the GNWT, and development of mitigation strategies if any species are found to be potentially impacted. If any vulnerable species are identified, a wildlife survey of all construction areas, with emphasis on pits and quarries, will be undertaken to see if there are any "at risk" animals there. All contractors and sub-contractors will be instructed regarding mitigation measures, including approvals required for disturbance of any nests.				
Noise	During the noise intensive construction period, the following mitigation measures will be used: activities limited to non-sensitive time periods (i.e., during peak waterfowl migration times; limiting the extent of heavy equipment operations; and ensuring all equipment is installed with appropriate noise reduction devices).				

Terrain and Soils	Soil erosion will be minimized by using grading to stop run-off erosion; progressive reclamation during operations to reduce slope erosion; seeding the road right-of-way with an erosion controlling plant cover following access road constructions; use of diversion berms where necessary; and discontinuation of topsoil stripping during periods of high winds.					
Terrain and Soils	Compacted off-road soils will be deep ripped and cultivated to prepare the surface for re-vegetation. Any ruts will be flattened with a blade prior to topsoil re-vegetation.					
Terrain and Soils	Soil stability at the river crossing to ensured by controlling surface runoff using berms, dams, or erosion control blankets, and reestablishing vegetation as soon as possible post-construction.					
Terrain and Soils	Along the right-of-way, grading will be avoided as much as possible, disturbed areas will be revegetated as soon as possible, and water breaks installed to interrupt flow paths along ditches on steep slopes.					
Vegetation and Plant Communities	Disturbances from clearing will be reduced by minimizing right-of-way widths, maximizing construction during winter months, and salvaging and replacing the surface soil to support successful re-vegetation.					
Vegetation and Plant Communities	Spoil materials from construction will be laid down in old abandoned pits, rather than vibrant vegetation areas.					
Vegetation and Plant Communities	Dust control measures will be in continuous operation during construction.					
Cumulative Effects	The proponent commits to an adaptive management approach with regard to potential impacts (short and long term) of the project on migratory birds and species at risk and their habitats. This involves awareness of the wildlife resources potentially at risk, monitoring for unforeseen adverse impacts, and development of appropriate mitigation measures in consultation with Environment Canada and other government departments in the event that adverse impacts occur.					
Accidents	Will have approved emergency spill action plan and mitigation (e.g., catchment basin at bridge run-off sites) in place.					





Mackenzie Valley Land and Water Board 7th Floor - 4910 50th Avenue P.O. Box 2130 YELLOWKNIFE NT X1A 2P6 Phone (867) 669-0506 FAX (867) 873-6610

		FILE NUMBER	: <u>M</u>	V2001C0048				
Date:	Tuesday, September 06, 2005							
То:	Mr. Andrew Gamble							
Organization:								
Fax Number:	(867) 669-2028							
Copied To:	Distribution List - Attached							
From:	Todd Burlingame, Chair, MVLWB							
Number of pages including cover			16					
Remarks:								
Reasons for Decision Bridge Construction, Km 23 of Hwy #3, near Providence		ar Fort	<ul><li>☐ Enclosures</li><li>☐ As requested</li><li>☑ For your information</li><li>☐ For your commet</li></ul>		mation			
RE I:00 S	ECEIVED pm EP 0 6 2005		□ <u>Deli</u>	For your appr vered by	oval <u>Date</u>			
UNAZIE	CHENZIE VALLEY		$\boxtimes$	Mail				
13	REVIEW BOARD	)		Courier				
	r			Hand Delivered				
			$\boxtimes$	Fax	Sept 6/05			

Note: The document accompanying this transmission contains confidential information intended for a specific individual and purpose. The information is private, and is legally protected by law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or the taking of any action in reference to the contents of this telecopied information is surjetly prohibited. If you have received this communication in error, please notify the above person immediately by telephone and return the original to by regular mail to address above.