

**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

July 13, 2005

File: MV2004X0020

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

Fax: (867) 669-2028

Dear Mr. Gamble:

ISSUANCE OF A TYPE "A" LAND USE PERMIT

Attached is Land Use Permit No. MV2004X0020 granted by the Mackenzie Valley Land and Water Board (MVLWB) in accordance with the *Mackenzie Valley Resource Management Act*. A copy of this Permit has been filed in the Public Registry at the office of the MVLWB. The MVLWB approved Land Use Permit MV2004X0020 for a period of five (5) years commencing July 13, 2005 and expiring July 12, 2010. The MVLWB understands that the Concession Agreement is in the process of being finalized and signed. Once the Concession Agreement is signed, please provide the MVLWB with a copy for the Public Registry.

Please be advised that this letter, with attached procedures, all inspection reports, and correspondence related thereto, are part of the Public Registry, and are intended to keep all interested parties informed of the manner in which the Permit requirements are being met. All Public Registry material will be considered if an amendment to the Permit is requested.

The full cooperation of the Deh Cho Bridge Corporation is anticipated and appreciated.

Yours sincerely,

A handwritten signature in black ink, appearing to read "T. Burlingame".

Todd Burlingame
Chair

Attachments

Copy to: Ed Hornby, South Mackenzie District, DIAND
Angela Plautz, Regulatory Officer, MVLWB
Distribution List of Reviewers

LAND USE PERMIT



Permit Class	Permit No	Amendment No
A	MV2004X0020	

Subject to the Mackenzie Valley Land Use Regulations and the terms and conditions in this Permit, authority is hereby granted to:

Deh Cho Bridge Corporation

Permittee

To proceed with the land use operation described in application of:

Signature Andrew Gamble	Date June 17, 2004
Type of Land use Operation Miscellaneous	
Location Km 23 of Hwy #3, near Fort Providence	

This permit may be assigned, extended, discontinued, suspended or cancelled pursuant to the Mackenzie Valley Land Use Regulations.

Dated Yellowknife this 13 day of July, 2005
at _____

Signature Chair

Signature Witness

A handwritten signature in black ink, appearing to read "T. Bulgame", written over a horizontal line.

Commencement Date
July 13, 2005

Expiry Date
July 12, 2010

NOTE

IT IS A CONDITION OF THIS PERMIT THAT THE PERMITTEE COMPLY WITH ANY OTHER APPLICABLE ACT, REGULATION, ORDINANCE BY-LAW OR ORDER. DEFAULT HEREOF MAY RESULT IN SUSPENSION OR CANCELLATION OF THIS PERMIT.

**CONDITIONS ANNEXED TO AND FORMING PART
OF LAND USE PERMIT NUMBER MV2004X0020**

Part A: Scope of Permit

1. This permit entitles Deh Cho Bridge Corporation to conduct the following activities:
 - a) Abutment construction in the construction corridor situated between Km 23.12 and Km 25.84 of Highway #3;
 - b) Establishment and operation of a camp at Km 23.27 of Highway #3;
 - c) Set-up of two temporary concrete plants at Km 23.27 and Km 30.2 of Highway #3;
 - d) Use of temporary storage and parking areas at Km 25.7 of Highway #3;
 - e) Reclamation of the north and south causeways and ferry landings, and the south ferry haul-out; and
 - f) Quarrying of granular materials at:
 - o Km 188.5 of Highway #1 (limestone quarry);
 - o Km 188.5 of Highway #1 (existing gravel pit);
 - o Km 23.27 of Highway #3 (south borrow area);
 - o Km 26.24 of Highway #3 (north borrow area);
 - o Km 87 of Highway #3 (existing gravel pit for concrete aggregate);
 - o Km 156 of Highway #3 (existing grey limestone quarry); and
 - o Km 232 of Highway #3 (granite rock quarry).
2. The Permit is issued subject to the conditions contained herein with respect to the use of land for the activities and area identified in Part A, Item 1 of this permit.
3. Compliance with the terms and conditions of this permit does not absolve the Permittee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

Part B: Definitions

"Act" means the *Mackenzie Valley Resource Management Act*;

"Board" means the Mackenzie Valley Land and Water Board established under Part 4 of the *Mackenzie Valley Resource Management Act*;

"Inspector" means an Inspector designated by the Minister under the *Mackenzie Valley Resource Management Act*;

"Permeability" means the capacity to transmit water through a medium;

"Sewage" means all toilet wastes and grey water;

"Sewage Disposal Facilities" means sump(s) and/or sewage collection tank(s) designed to hold sewage; and

"Sump" means a man-made pit, trench hollow or cavity in the earth's surface used for the purpose of depositing waste material therein.

Part C: Conditions Applying to All Activities (the headings correspond to Subsection 26 of the Mackenzie Valley Land Use Regulations)

26(1)(a) LOCATION AND AREA

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|----|---|------------------------------------|
| 1. | The Permittee shall not conduct this land use operation on any lands not designated in the accepted application. | PLANS |
| 2. | The Permittee shall locate all camps on gravel, sand or other durable land. | CAMP
LOCATION |
| 3. | The Permittee shall not conduct a quarry operation within one hundred (100) metres of the ordinary high water mark of any water body, unless otherwise authorized in writing from an Inspector. | LOCATION OF
QUARRY
OPERATION |

26(1)(b) TIME

- | | | |
|----|---|--------------------------------|
| 4. | The Permittee's Field Supervisor shall contact an Inspector at (867) 874-6995 and the Board at (867) 669-0506 at least forty-eight (48) hours prior to the commencement of this land use operation. | CONTACT
INSPECTOR/
BOARD |
| 5. | The Permittee shall advise an Inspector at least ten (10) days prior to the completion of the land use operation of (a) the plan for removal or storage of equipment and materials, and (b) when final clean-up and restoration of the land used will be completed. | REPORTS
BEFORE
REMOVAL |
| 6. | The Permittee shall provide in writing to the Board and Inspector, at least forty-eight (48) hours prior to commencement of this land use operation, the following information:
(a) person, or persons, in charge of the field operation to whom notices, orders, and reports may be served;
(b) alternates; and
(c) all methods for contacting the above person(s). | IDENTIFY
AGENT |
| 7. | The Permittee shall notify an Inspector at least ten (10) days prior to backfilling any sump. | BACKFILLING
NOTIFICATION |
| 8. | The Board and/or Inspector reserve the right to impose closure of any area to the Permittee in periods when dangers to natural resources are severe. | CLOSURE |

26(1)(c) TYPE AND SIZE OF EQUIPMENT

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|-----|---|-------------------------------|
| 9. | The Permittee shall not use any equipment except of the type, size, and number that is listed in the accepted application. | ONLY
APPROVED
EQUIPMENT |
| 10. | The Permittee shall, in camps of more than five (5) personnel, maintain the following fire fighting equipment in the base camp and in active readiness: | FIRE FIGHTING
EQUIPMENT |

- (a) four (4) back-pack bags or cans complete with hand pumps; and
- (b) at least two (2) of each of the following: pulaskis, axes, and shovels.

26(1)(d) METHODS AND TECHNIQUES

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| 11. | The Permittee shall leave a buffer strip of undisturbed vegetation at least thirty (30) metres in width between cleared areas and public roads or navigable waterways. | TREE SCREEN |
| 12. | The Permittee shall not store material other than that required for immediate use on the ice surface of water bodies. | STORAGE ON ICE |

26(1)(e) TYPE, LOCATION, CAPACITY AND OPERATION OF ALL FACILITIES

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|-----|---|-------------------------|
| 13. | The Permittee shall not locate any sump within one hundred (100) metres of the ordinary high water mark of any water body, unless otherwise authorized in writing by an Inspector. | SUMPS FROM WATER |
| 14. | The Permittee shall maintain freeboard of at least one (1.0) metre in all sumps. | FREEBOARD OF SUMPS |
| 15. | The Permittee shall: <ul style="list-style-type: none"> (a) place and mound all material previously excavated over the sump area to ensure ponding does not occur; and (b) overlap the material a minimum of two (2) metres beyond the edges of the existing sump wall. | BACKFILL SUMP - OVERLAP |
| 16. | The Permittee shall ensure that the land use area is kept clean at all times. | CLEAN WORK AREA |

26(1)(f) CONTROL OR PREVENTION OF PONDING OF WATER, FLOODING, EROSION, SLIDES AND SUBSIDENCE OF LAND

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|-----|---|-----------------------------|
| 17. | The Permittee shall slope the sides of excavations and embankments except in solid rock to a horizontal/vertical ratio of two (2) horizontal to one (1) vertical. | EXCAVATIONS AND EMBANKMENTS |
| 18. | The Permittee shall install erosion control structures as the land use operation progresses. | PROGRESSIVE EROSION CONTROL |
| 19. | The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface. | PREVENTION OF RUTTING |
| 20. | The Permittee shall slope the sides of waste material piles to a horizontal/vertical ratio of two (2) horizontal to one (1) vertical unless otherwise authorized in writing by and Inspector. | WASTE MATERIAL PILES |

26(1)(g) USE, STORAGE, HANDLING AND ULTIMATE DISPOSAL OF ANY CHEMICAL OR TOXIC MATERIAL

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|-----|--|---|
| 21. | The Permittee shall not use chemicals in connection with the land use operation that were not identified in the accepted application. | APPROVAL OF
CHEMICALS |
| 22. | The Permittee shall dispose of all combustible waste petroleum products by incineration or removal. | WASTE
PETROLEUM
DISPOSAL |
| 23. | The Permittee shall dispose of all toxic or persistent substances in a manner as approved in writing by the Board. | WASTE
CHEMICAL
DISPOSAL |
| 24. | The Permittee shall report all spills immediately to the 24 hour Spill Report Line (867) 920-8130, which is in accordance with instructions contained in "Spill Report" form N.W.T. 1752/0593. | REPORT
CHEMICAL AND
PETROLEUM
SPILLS |

26(1)(h) WILDLIFE AND FISHERIES HABITAT

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|-----|--|---------------------------|
| 25. | The Permittee shall not harass wildlife during this land use operation. | NO WILDLIFE
HARASSMENT |
| 26. | The Permittee shall use food handling and garbage disposal procedures that do not attract bears. | BEAR/MAN
CONFLICT |
| 27. | If migratory birds or their nesting areas, or any species at risk are encountered during the course of operations, the Permittee is to minimize all activity so as to not disturb these animals. | MINIMIZE
ACTIVITY |

26(1)(i) STORAGE, HANDLING AND DISPOSAL OF REFUSE OR SEWAGE

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| 28. | The Permittee shall dispose of all sewage and grey water from the Km 23.27 (Highway #3) camp as follows:

1. Store the sewage and grey water in acceptable holding tanks;
and
2. Using a vacuum truck(s) remove the sewage and grey water to an approved waste disposal site. | SEWAGE
DISPOSAL |
| 29. | The Permittee shall dispose of all sewage and grey water from the quarries at Km 188.5 (Highway #1), Km 26.24, Km 87, Km 156 and Km 232 (Highway #3) and from the temporary concrete plant at Km 30.2 (Highway #3) into sumps or portable "pump-out" toilet cells as proposed in the accepted application. | SEWAGE IN
SUMP OR
PORTABLE
"PUMP-OUT"
CELL |
| 30. | The Permittee shall remove all non-combustible garbage and debris, including plastics from the land use area to an approved waste disposal facility. | REMOVE
GARBAGE |
| 31. | The Permittee shall remove all combustible garbage and debris from the camp at Km 23.27 (Highway #3) to an approved waste disposal facility. | REMOVE
GARBAGE |

32. The Permittee may incinerate all combustible garbage and debris, except plastics at the quarries located at Km 188.5 (Highway #1), Km 26.24, Km 87, Km 156 and Km 232 (Highway #3), and at the temporary concrete plant at Km 30.2 (Highway #3). INCINERATION
33. The Permittee shall use a forced-air fuel-fired incinerator to burn all combustible garbage, except plastics, at the km 188.5 (Highway #1), Km 26.24, Km 87, Km 156 and Km 232 (Highway #3) quarries and at the temporary concrete plant at Km 30.2 (Highway #3). INCINERATORS.
34. The Permittee shall keep all garbage and debris in a covered metal container on site until disposed of. GARBAGE CONTAINER
35. The Permittee shall remove all scrap metal, discarded machinery, parts, barrels and kegs, buildings and building material to an approved waste disposal facility. REMOVE WASTE MATERIAL
36. The Permittee shall not bury any of the above materials in borrow pits or any other place on Crown Lands. REMOVE WASTE MATERIAL

26(1)(j) PROTECTION OF HISTORICAL, ARCHAEOLOGICAL AND BURIAL SITES

37. The Permittee shall not operate any vehicle within thirty (30) metres of a known or suspected archaeological site. OPERATE VEHICLE
38. The Permittee shall not knowingly remove, disturb, or displace any archaeological specimen or site. DISTURBANCE OF SITE
39. The Permittee shall immediately cease any activity which disturbs an archaeological, historical, and/or burial site and contact the Mackenzie Valley Land and Water Board at (867) 669-0506 should an archaeological site or specimen be encountered or disturbed by any land use activity. CONTACTS
40. The Permittee shall ensure that all persons working under authority of the permit are aware of these conditions concerning archaeological land use activity. NOTIFICATION TO EMPLOYEES

26(1)(k) OBJECTS AND PLACES OF RECREATIONAL, SCENIC AND ECOLOGICAL VALUE

26(1)(l) SECURITY DEPOSIT

41. All costs to remediate the area under this permit are the responsibility of the Permittee. RESPONSIBILITY FOR REMEDIATION COSTS

26(1)(m) FUEL STORAGE

42. The Permittee shall not store fuel in the camp area unless otherwise approved in writing by an Inspector. NO FUEL IN CAMP

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|-----|---|-------------------------|
| 43. | The Permittee shall re-fuel at a location designated by the Inspector that is not less than one hundred (100) metres from any water body. | REFUELLING |
| 44. | The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies. | FUEL
CONTAINMENT |
| 45. | The Permittee shall construct an impermeable dyke around each stationary fuel container or group of stationary fuel containers where any one container has a capacity exceeding 4 000 litres. | DYKE FUEL
CONTAINERS |
| 46. | The volume of the dyked area shall be ten per cent (10%) greater than the capacity of the largest fuel container placed therein. | CAPACITY |
| 47. | The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times. | IMPERMEABLE
DYKES |
| 48. | A competent steel double-walled tank will be deemed to satisfy requirements of an impermeable dyke. | DOUBLE
WALLED TANKS |
| 49. | The Permittee shall submit to the Board, prior to commencement of operations, a spill contingency plan for chemical and petroleum spills. | CONTINGENCY
PLAN |
| 50. | The Permittee shall ensure that adequate contingency plans and spill kits are in place, prior to commencement of operations, to respond to any potential spills. | SPILL
RESPONSE |

26(1)(n) METHODS AND TECHNIQUES FOR DEBRIS AND BRUSH DISPOSAL

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| 51. | The Permittee shall totally dispose of all unsalvageable debris and brush by burning or mulching. | BURN OR
MULCH BRUSH |
| 52. | The Permittee shall progressively complete disposal of all debris and brush. | PROGRESSIVE
DISPOSAL |
| 53. | The Permittee shall salvage all portions of trees cleared that are larger than thirteen (13) centimetres in diameter and pile all salvaged wood at locations authorized in writing by an Inspector. | SALVAGE
TIMBER |

26(1)(o) RESTORATION OF THE LANDS

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|-----|--|----------------------------|
| 54. | The Permittee shall commence and foster re-vegetation on the land used, as directed by an Inspector, within one (1) year of the completion of the land use operation. The Permittee shall re-vegetate areas adjacent to the bridge and road, or as directed by the Inspector, with non palatable species, using native seed mixes. | RE-ESTABLISH
VEGETATION |
| 55. | The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this Permit. | CLEAN-UP |

56. The Permittee shall strip the overburden from quarry sites prior to excavating the granular material. The overburden is to be stockpiled or windrowed outside of the work area in a manner that will facilitate future spreading of the material back over the site after it has been depleted. DISPOSAL OF OVERBURDEN
57. The Permittee shall spread the overburden over the depleted portion of the disturbed area prior to the expiry date of this Permit. PLACE OVERBURDEN
58. Compacted off-road soils shall 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. RE-VEGETATION

26(1)(p) DISPLAY OF PERMITS AND PERMIT NUMBERS

59. The Permittee shall display a copy of this Permit in each campsite established to carry out this land use operation. DISPLAY PERMIT

26(1)(q) MATTERS NOT INCONSISTENT WITH THE REGULATIONS

60. The Permittee shall ensure that all persons working under the authority of the Land Use Permit are aware of and will adhere to the conditions as stated in the Land Use Permit. NOTIFICATION TO ALL EMPLOYEES/ CONTRACTORS
61. The Permittee shall submit to the Board an update of the contingency plan, for chemical and petroleum spills, if there are any changes in the operation during the life of the permit. CONTINGENCY PLAN
62. The Permittee shall conduct a joint inspection, accompanied by an Inspector, of all quarry sites prior to any clearing or operations taking place. INSPECT QUARRY SITES
63. The Permittee shall submit to the Inspector, a detailed site development plan, with appropriate sketches, for each quarry pit prior to the required joint inspection and the commencement of any work. QUARRY SITE DEVELOPMENT PLAN
64. The Permittee shall use water, or a chemical suppressant approved by the Inspector, to suppress roadway dust during the construction phase. DUST CONTROL MEASURES

**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

July 13, 2005

File: MV2003L8-0007

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

FAX: (867) 669-2028

Dear Mr. Gamble:

ISSUANCE OF A TYPE "B" WATER LICENSE

Attached is Water License No. MV2003L8-0007 granted by the Mackenzie Valley Land and Water Board (MVLWB) in accordance with the *Northwest Territories Waters Act*. A copy of this License has been filed in the Public Registry at the office of the MVLWB. The MVLWB approved Water License MV2003L8-0007 for a period of five (5) years commencing July 13, 2005 and expiring July 12, 2010. The MVLWB understands that the Concession Agreement is in the process of being finalized and signed. Once the Concession Agreement is signed, please provide the MVLWB with a copy for the Public Registry.

Attached are general procedures for the administration of licenses in the Northwest Territories. The MVLWB requests that you review these and address any questions to the Boards office.

Please be advised that this letter, with attached procedures, all inspection reports, and correspondence related thereto, are part of the Public Registry, and are intended to keep all interested parties informed of the manner in which the License requirements are being met. All Public Registry material will be considered if an amendment to the Permit is requested.

The full cooperation of the Deh Cho Bridge Corporation is anticipated and appreciated.

Yours sincerely,

A handwritten signature in black ink, appearing to read "T. Burlingame".
Todd Burlingame
Chair

Attachments

Copy to: Ed Hornby, District Manager, South Mackenzie District, DIAND, Yellowknife
Kathleen Racher, Water Resources Division, DIAND
Angela Plautz, Regulatory Officer, MVLWB



**MACKENZIE VALLEY LAND AND WATER BOARD
WATER LICENCE**

Pursuant to the *Mackenzie Valley Resource Management Act* and Regulations, the Mackenzie Valley Land and Water Board, hereinafter referred to as the Board, hereby grants to:

Deh Cho Bridge Corporation
(Licensee)

of 14 Mitchell Drive, Yellowknife, NT X1A 2H5
(Mailing Address)

Hereinafter called the Licensee, the right to alter, divert or otherwise use water subject to the restrictions and conditions contained in the *Northwest Territories Waters Act* and Regulations made thereunder and subject to and in accordance with the conditions specified in this Licence.

Licence Number: MV2003L8-0007

Licence Type: **B**

Water Management Area: Northwest Territories 01

Location: 61°15'45"N, 117°31'30"W

Purpose:	To use water and dispose of waste and associated uses
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Description:	Bridge Construction
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Quantity of water not to be exceeded: 300 m³

Effective Date of Licence: July 13, 2005

Expiry Date of Licence: July 12, 2010

This Licence issued and recorded at Yellowknife includes and is subject to the annexed conditions.

MACKENZIE VALLEY LAND AND WATER BOARD

Witness

Chair

**CONDITIONS ANNEXED TO AND FORMING PART
OF WATER LICENCE MV2003L8-0007**

PART A: SCOPE AND DEFINITIONS

1. Scope

This Licence entitles the Deh Cho Bridge Corporation 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 Deh Cho Bridge Corporation located at 61°15'45"N and 117°31'30"W, Fort Providence, Northwest Territories.

This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the *Northwest Territories Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform with such Regulations.

Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence MV2003L8-0007:

"Act" means the *Northwest Territories Waters Act*;

"Analyst" means an Analyst designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

"Abutment Rock Placement" means the placement of rock associated with the construction of the abutments;

"Bridge Design" means the detailed engineered designs for all bridge components stamped by a design Engineer;

"Bridge Structure/Abutment" means the engineered structure identified as proposed in Attachments #5 and #6, entitled Plan and Profile, of the Developer's Assessment Report;

"Board" means the Mackenzie Valley Land and Water Board established under Part 4 of the *Mackenzie Valley Resource Management Act*;

"Developer's Assessment Report" means the impact prediction report and the revised version of the report submitted by the Deh Cho Bridge Corporation on April 7, 2004, and May 25, 2004, respectively, to the Mackenzie Valley Environmental Impact Review Board (MVEIRB) during the Environmental Assessment;

"Discharge" means the release of any water or waste to the receiving environment;

"Drainage Control and Collection System" means the drainage ditches, and any collection structures used for the diversion, collection, and disposal of runoff from the bridge structure, as proposed in Figure 1 entitled "Yellowknife HWY #3, km 23, Deh Cho Bridge on Mackenzie River, Surface Drainage, General Arrangement – North Approach" and Figure 2 entitled "Yellowknife HWY #3, km 23, Deh Cho Bridge on Mackenzie River, Surface Drainage, Details";

"Dredging Activities" means excavating and moving river - bottom sediments and glacial till below the high watermark and from the bottom of the Mackenzie River in the area of the footprints of the bridge abutments and piers;

"Engineered Structures" means any constructed facility which was designed and approved by a Professional Engineer registered with the Association of Professional Engineers, Geologists, and Geophysicists of the Northwest Territories;

"Environmental Assessment (EA)" means, for the purpose of this Licence, the totality of the Mackenzie Valley Environmental Impact Review Board (MVEIRB) Public Registry as established under the authority of Part 5 of the *Mackenzie Valley Resource Management Act* for the Licence application, this includes everything that was submitted by the Deh Cho Bridge Corporation to the MVEIRB, the scope of which is consistent with the Water Licence application;

"Geotechnical Engineer" means a professional engineer registered with the Association of Professional Engineers, Geologists, and Geophysicists of the Northwest Territories and whose principal field of specialization is the design and construction of earthworks in a permafrost environment.

"Inspector" means an Inspector designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

"Licensee" means the holder of this Licence;

"Minister" means the Minister of Indian Affairs and Northern Development;

"Modification" means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

"Pump-out Sewage" means all toilet wastes and/or grey water collected by means of a vacuum truck for disposal at an approved facility;

"Regulations" means Regulations proclaimed pursuant to Section 33 of the *Northwest Territories Waters Act*;

"Sewage" means all toilet wastes and grey water;

"Water Licence Application" means the type B Water Licence Application as submitted to the Mackenzie Valley Land and Water Board, dated July 3, 2003, and all additional supporting documents;

"Waste" means waste as defined by Section 2 of the *Northwest Territories Waters Act*;

"Waters" mean any Waters as defined by Section 2 of the *Northwest Territories Waters Act*;

"Water Use" means a use of Water as defined by Section 2 of the *Northwest Territories Waters Act* and shall include freshwater from all sources and mine water, and

"Water Use Fee" means a fee for the use of Water as defined by Section 33 of the *Northwest Territories Waters Act*.

PART B: GENERAL CONDITIONS

1. The Water Use Fee shall be paid annually in advance.
2. The Licensee shall file an Annual Report with the Board not later than **"March 31"** the year following the calendar year reported which shall contain the following information:
 - a) the monthly and annual quantities in cubic metres of water obtained from all sources;
 - b) the monthly and annual quantities in cubic metres of each and all waste discharged;
 - c) the monthly and annual quantities in cubic metres of pump-out sewage;
 - d) a summary report which includes all data and information generated under the "Surveillance Network Program" in an electronic and printed format acceptable to the Board;
 - e) a summary of construction activities conducted;
 - f) any revisions to the approved Contingency Plan;
 - g) a list and description including volumes of all unauthorized discharges, spills and summaries of follow-up action taken;
 - h) an outline of any spill training exercises carried out; and
 - i) any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.
3. The Licensee shall comply with the "Surveillance Network Program" annexed to this

4. The "Surveillance Network Program" and compliance dates specified in the Licence may be modified at the discretion of the Board.
5. The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain water for dust suppression from the Mackenzie River.
2. The daily quantity of water used for all purposes shall not exceed 300 cubic metres.
3. The Licensee shall construct and maintain all water intakes in accordance with the Department of Fisheries and Oceans' (DFO) requirements to prevent the impingement and entrainment of fish. Designs should follow DFO's *Freshwater Intake End-of-Pipe Fish Screen Guidelines*.

PART D: CONDITIONS APPLYING TO THE UNDERTAKING

1. The Licensee shall provide written notification to an Inspector a minimum of forty-eight (48) hours prior to the commencement of construction.
2. The Licensee shall submit to the Board, within thirty (30) days of the issuance of this Licence, a Bridge Construction Plan including a schedule of activities and details for construction and bridge development.
3. Prior to the start of construction of any Bridge Structures, the Licensee shall submit to the Board for approval, design drawings stamped by a Geotechnical Engineer.
4. The Licensee shall ensure that bridge construction materially conforms to plans submitted with the Water Licence application.
5. The Licensee shall ensure that the existing river channel is maintained at normal width and depth to the greatest extent possible, both during and after construction.
6. The Licensee shall ensure that all waste and water containment and runoff control structures are designed and constructed to prevent escape of wastes to the surface or ground water systems.
7. The Licensee shall ensure that any unauthorized wastes associated with this undertaking do not enter any water body.
8. The Licensee shall ensure that any fuels, chemicals, or wastes associated with this undertaking do not enter any waters. The Licensee shall re-fuel at a location designated by the Inspector not less than one hundred (100) metres from any water body.
9. The Licensee shall ensure that all equipment entering the water will be clean and inspected for leaks prior to entering the water.

by the Inspector not less than one hundred (100) metres from any water body.

9. The Licensee shall ensure that all equipment entering the water will be clean and inspected for leaks prior to entering the water.
10. The Licensee shall not deposit or permit the deposit of any vegetation, soils, or other materials cleared from the site into any water body.
11. Any excess excavated material shall be stored at a location that is a minimum of thirty (30) meters from the normal high water mark of any water body.
12. All fill material used for construction must be free of contaminants. In the event that ammonia residue is detected in the representative samples of blasted rock to be placed in the Mackenzie River, the Licensee shall, thirty (30) days prior to placing blasted rock in the River, submit to the Board for approval an Ammonia Blasting Residues Management and Monitoring Plan that shall include, but not necessarily be limited to, the test results for ammonia. The Licensee shall implement the Plan as and when directed by the Board.
13. The Licensee shall construct all piers, abutments and approaches in such a fashion as to protect against localized scour from ice and water flows.
14. The Licensee shall use, whenever possible, techniques and equipment that minimize the creation, amount and duration of suspended solids during any work within the Mackenzie River.
15. The Licensee shall, thirty (30) days prior to pumping water from the pier cofferdams, submit to the Board for approval a Water Disposal and Monitoring Plan. The Plan shall include alternative disposal methods in the event extracted water would exceed Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life for pH, or would cause exceedances in Total Suspended Solids (TSS) concentrations immediately downstream of the pier.
16. All sites affected by construction or removal activities shall be stabilized and landscaped as necessary, and erosion control measures implemented to minimize sediment deposition into the Mackenzie River.
17. The Licensee shall install sediment and erosion control measures at the construction site as required to prevent silt migration. All such measures shall be subject to the approval by an Inspector.
18. The Licensee shall clean the bridge deck in the spring to remove accumulated sand and other debris. Chemical de-icers or cleaning agents shall not be used for cleaning.

PART E: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may carry out modifications to the planned undertakings:

- a) without written approval from the Board, provided that such modifications are consistent with the terms of this Licence and the Licensee has notified the Board in writing of such modifications at least five (5) days prior to beginning the modifications and an Inspector has not rejected the proposed modifications; or
- b) with the written approval of the Board and under such conditions decided by the Board.

PART F: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The Licensee shall have a Contingency Plan in accordance with the NWT Water Board's "Guidelines for Contingency Planning, January 1987" which must meet with approval of the Board.
2. If not approved by the Board, the Contingency Plan referred to in Part F, Item 1 shall be revised and resubmitted within three (3) months of receiving notification of the Board's decision.
3. The Licensee shall review the Contingency Plan annually and modify the Plan as necessary to reflect changes in operation and technology. Any proposed modifications shall be submitted to the Board for approval.
4. If during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a) advise an Inspector immediately via the 24 Hour NWT Spill Report Line (867) 920-8130; and
 - b) submit to an Inspector, a detailed report on each occurrence not later than thirty (30) days after initially reporting the event.

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**MACKENZIE VALLEY LAND AND WATER BOARD
SURVEILLANCE NETWORK PROGRAM**

LICENSEE: Deh Cho Bridge Corporation
LICENCE NUMBER: MV2003L8-0007
EFFECTIVE DATE OF LICENCE: May 4, 2005
EFFECTIVE DATE OF SURVEILLANCE
NETWORK PROGRAM (SNP): May 4, 2005

1. Surveillance Network Program Description & Sampling Requirements

For the purposes of this water Licence, the sampling parameters have been grouped into the following categories:

Hydrocarbons = Extractable Hydrocarbons (ExtHC), and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX); and

Total Metals = Total elemental analysis by ICP-Metal Scan of: Silver (Ag), Arsenic (As), Aluminum (Al), Barium (Ba), Cadmium (Cd), Cobalt (Co), Copper (Cu), Chromium (Cr), Iron (Fe), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Lead (Pb), Selenium (Se), Strontium (Sr) and Zinc (Zn).

Notes:

- If any sampling requirement falls within two (2) required sampling categories, it need only be sampled once.
- In all cases where lab samples are collected, the field parameters should be duplicated (i.e. analysed in the field plus the lab).
- Ambient conditions should be recorded at the time of sample collection or taking field measurements.
- Where metals are analyzed, hardness must be analyzed as well.

Surveillance Network Program (SNP) Station 7-1 (a to d)

Description:	Closest pier to north shore of Mackenzie River. Four (4) locations to be sampled: 10 metres (7-1 a), 100 metres (7-1 b), 500 metres (7-1 c) and 1000 metres (7-1 d) downstream of pier.
Location:	Coordinates TBD

Sampling Frequency and Parameters:	<p>Hourly sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during instream construction.</p> <p>Daily sampling of TSS for laboratory analysis during instream construction.</p> <p>Weekly sampling of Total Metals and Ammonia during instream construction.</p>
Modifications:	<p>If there are detectable increases at 100 metres (7-1b), then sample at the 500 metres station (7-1c) three times daily.</p> <p>If there are detectable increases at 500 m (7-1c), then the 1000 metres station (7-1d) will be sampled daily.</p> <p>These modifications require the approval of the Inspector.</p>

Surveillance Network Program (SNP) Station 7-2 (a to d)

Description:	Second closest pier to north shore of Mackenzie River. Four (4) locations to be sampled: 10 metres (7-2 a), 100 metres (7-2 b), 500 metres (7-2 c) and 1000 metres (7-2 d) downstream of pier.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	<p>Hourly sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during instream construction.</p> <p>Daily sampling of TSS for laboratory analysis during instream construction.</p> <p>Weekly sampling of Total Metals and Ammonia during instream construction.</p>
Modifications:	<p>If there are detectable increases at 100 metres (7-2 b), then sample at the 500 metres station (7-2 c) three times daily.</p> <p>If there are detectable increases at 500 m (7-2 c), then the 1000 metres station (7-2 d) will be sampled daily.</p> <p>These modifications require the approval of the Inspector.</p>

Surveillance Network Program (SNP) Station 7-3 (a to d)

Description:	Third closest pier to north shore of Mackenzie River. Four (4) locations to be sampled: 10 metres (7-3 a), 100 metres (7-3 b), and 500 metres (7-3 c) downstream of pier.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	<p>Hourly sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during instream construction.</p> <p>Daily sampling of TSS for laboratory analysis during instream construction.</p> <p>Weekly sampling of Total Metals and Ammonia during instream construction.</p>
Modifications:	<p>If there are detectable increases at 10 metres (7-3 a), then sample at the 100 metres station (7-3 b) three times daily.</p> <p>If there are detectable increases at 100 m (7-3 b), then the 500 metres station (7-3 c) will be sampled daily.</p> <p>These modifications require the approval of the Inspector.</p>

Surveillance Network Program (SNP) Station 7-4 (a to d)

Description:	Third closest pier to south shore of Mackenzie River. Four (4) locations to be sampled: 10 metres (7-4 a), 100 metres (7-4 b), and 500 metres (7-4 c) downstream of pier.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	<p>Hourly sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during instream construction.</p> <p>Daily sampling of TSS for laboratory analysis during instream construction.</p> <p>Weekly sampling of Total Metals and Ammonia during instream construction.</p>
Modifications:	If there are detectable increases at 10 metres (7-4 a), then sample at the 100 metres station (7-4 b) three times daily.

	<p>If there are detectable increases at 100 m (7-4b), then the 500 metres station (7-4c) will be sampled daily.</p> <p>These modifications require the approval of the Inspector.</p>
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Surveillance Network Program (SNP) Station 7-5 (a to d)

Description:	<p>Second closest pier to south shore of Mackenzie River. Four (4) locations to be sampled: 10 metres (7-5 a), 100 metres (7-5 b), 500 metres (7-5 c) and 1000 metres (7-5 d) downstream of pier.</p>
Location:	Coordinates TBD
Sampling Frequency and Parameters:	<p>Hourly sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during instream construction.</p> <p>Daily sampling of TSS for laboratory analysis during instream construction.</p> <p>Weekly sampling of Total Metals and Ammonia during instream construction.</p>
Modifications:	<p>If there are detectable increases at 100 metres (7-5b), then sample at the 500 metres station (7-5c) three times daily.</p> <p>If there are detectable increases at 500 m (7-5 c), then the 1000 metres station (7-5 d) will be sampled daily.</p> <p>These modifications require the approval of the Inspector.</p>

Surveillance Network Program (SNP) Station 7-6 (a to d)

Description:	<p>Closest pier to south shore of Mackenzie River. Four (4) locations to be sampled: 10 metres (7-6 a), 100 metres (7-6 b), 500 metres (7-6 c) and 1000 metres (7-6 d) downstream of pier.</p>
Location:	Coordinates TBD
Sampling Frequency and Parameters:	<p>Hourly sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during instream construction.</p> <p>Daily sampling of TSS for laboratory analysis during</p>

	<p>instream construction.</p> <p>Weekly sampling of Total Metals and Ammonia during instream construction.</p>
Modifications:	<p>If there are detectable increases at 100 metres (7-6 b), then sample at the 500 metres station (7-6 c) three (3) times daily.</p> <p>If there are detectable increases at 500 m (7-6 c), then the 1000 metres station (7-6 d) will be sampled daily.</p> <p>These modifications require the approval of the Inspector.</p>

Surveillance Network Program (SNP) Station 7-7

Description:	Closest pier to north shore of Mackenzie River. One (1) location to be sampled: approximately 500 metres upstream of pier.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	<p>At least three (3) samples a minimum of one (1) week apart prior to beginning construction of the first pier or nearshore construction. The following parameters are to be sampled: Turbidity, Temperature, pH, Conductivity, Dissolved oxygen, Total Metals, Ammonia, and TSS.</p> <p>Weekly sampling of Turbidity, Temperature, pH, Conductivity, Dissolved Oxygen, Total Metals, Ammonia and TSS during instream construction.</p>

Surveillance Network Program (SNP) Station 7-8

Description:	Second closest pier to north shore of Mackenzie River. One (1) location to be sampled: approximately 500 metres upstream of pier.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	<p>At least three (3) samples a minimum of one (1) week apart prior to beginning construction of the first pier or nearshore construction. The following parameters are to be sampled: Turbidity, Temperature, pH, Conductivity, Dissolved oxygen, Total Metals, Ammonia, and TSS.</p>

	Weekly sampling of Turbidity, Temperature, pH, Conductivity, Dissolved Oxygen, Total Metals, Ammonia and TSS during instream construction.
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Surveillance Network Program (SNP) Station 7-9

Description:	Second closest pier to south shore of Mackenzie River. One (1) location to be sampled: 500 metres upstream of pier.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	At least three (3) samples a minimum of one (1) week apart prior to beginning construction of the first pier or nearshore construction. The following parameters are to be sampled: Turbidity, Temperature, pH, Conductivity, Dissolved oxygen, Total Metals, Ammonia, and TSS. Weekly sampling of Turbidity, Temperature, pH, Conductivity, Dissolved Oxygen, Total Metals, Ammonia and TSS during instream construction.

Surveillance Network Program (SNP) Station 7-10

Description:	Closest pier to south shore of Mackenzie River. One (1) location to be sampled: 500 metres upstream of pier.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	At least three (3) samples a minimum of one (1) week apart prior to beginning construction of the first pier or nearshore construction. The following parameters are to be sampled: Turbidity, Temperature, pH, Conductivity, Dissolved oxygen, Total Metals, Ammonia, and TSS. Weekly sampling of Turbidity, Temperature, pH, Conductivity, Dissolved Oxygen, Total Metals, Ammonia and TSS during instream construction.

Surveillance Network Program (SNP) Station 7-11 (a and b)

Description:	Backwater habitat and riffle-run complex reference areas upstream of north approach. A minimum of two (2) locations to be sampled: backwater habitat (7-11 a); and riffle-run complex (7-11 b) upstream of north approach.
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Location:	Coordinates TBD
Sampling Frequency and Parameters:	Daily sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during any nearshore or instream construction. Weekly sampling of Total Metals and TSS for laboratory analysis during nearshore or instream construction.

Surveillance Network Program (SNP) Station 7-12 (a and b)

Description:	Backwater habitat and riffle-run complex reference areas upstream of south approach. A minimum of two (2) locations to be sampled: backwater habitat (7-12 a); and riffle-run complex (7-12 b) upstream of south approach.
Location:	Coordinates TBD
Sampling Frequency and Parameters:	Daily sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during any nearshore or instream construction. Weekly sampling of Total Metals and TSS for laboratory analysis during nearshore or instream construction.

Surveillance Network Program (SNP) Station 7-13 (a to b)

Description:	Backwater habitat and riffle-run complex areas downstream areas of north approach. A minimum of two (2) locations to be sampled: one (1) backwater habitat (7-13 a) and one riffle-run complexes (7-13 b).
Location:	Coordinates TBD
Sampling Frequency and Parameters:	Daily sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during any nearshore or instream construction. Weekly sampling of Total Metals and TSS for laboratory analysis during nearshore or instream construction.

Surveillance Network Program (SNP) Station 7-14 (a to b)

Description:	Backwater habitat and riffle-run complex areas downstream areas of south approach. A minimum of two (2) locations to be sampled: one (1) backwater habitat (7-14 a) and one riffle-run complexes (7-14 b).
Location:	Coordinates TBD
Sampling Frequency and Parameters:	Daily sampling of field parameters: Turbidity, Temperature, pH, Conductivity, and Dissolved Oxygen during any nearshore or instream construction. Weekly sampling of Total Metals and TSS for laboratory analysis during nearshore or instream construction.

Surveillance Network Program (SNP) Station 7-15

Description:	Fort Providence Water Intake
Location:	Coordinates TBD
Sampling Frequency and Parameters:	Prior to any nearshore or instream construction, the following parameters are to be sampled: Turbidity, Temperature, pH, Conductivity, Total Metals, Ammonia, and TSS. Weekly sampling of Turbidity, Temperature, pH, Conductivity, Total Metals, Ammonia and TSS during any nearshore or instream construction.

Surveillance Network Program (SNP) Station 7-16 (a to d)

Description:	Discharge from bridge runoff containment drainages. Four (4) locations to be sampled: west drainage at north approach (7-12 a); east drainage at north approach (7-12 b); west drainage at south approach (7-12 c); and east drainage at south approach (7-12 d).
Location:	Coordinates TBD
Sampling Frequency and Parameters:	During periods of runoff, daily sampling of Hydrocarbons, if

Parameters:	visible sheen is present.
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More frequent sample collection may be required at the request of an Inspector.

2. Quality Assurance/Quality Control

1. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standards Methods for the Examination of Water and Wastewater", or by such other methods approved by an Analyst.
2. All analyses shall be performed in a laboratory approved by an Analyst.
3. A quality assurance/quality control plan which includes both field and laboratory requirements shall be submitted to an Analyst for approval not less than sixty (60) days in advance of any sampling conducted.
4. The plan referred to in Part 2, Item 3, (above) shall be implemented as approved by an Analyst.

3. Reports

1. The Licensee shall within thirty (30) days following the month being reported, submit to the Board all data and information required by the "Surveillance Network Program" including the results of the approved quality assurance plan.
2. The Licensee shall, unless otherwise requested by an Inspector, include all of the data and information required by the "Surveillance Network Program" including the results of the approved quality assurance/quality control program in the Licensee's Annual Report, which Report shall be submitted to the Board on or before March 31st of the year following the calendar year being reported.

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2. More frequent sample collection may be required at the request of an Inspector.

2. Quality Assurance/Quality Control

1. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standards Methods for the Examination of Water and Wastewater", or by such other methods approved by an Analyst.
2. All analyses shall be performed in a laboratory approved by an Analyst.
3. A quality assurance/quality control plan which includes both field and laboratory requirements shall be submitted to an Analyst for approval not less than sixty (60) days in advance of any sampling conducted.
4. The plan referred to in Part 2, Item 3, (above) shall be implemented as approved by an Analyst.

3. Reports

1. The Licensee shall within thirty (30) days following the month being reported, submit to the Board all data and information required by the "Surveillance Network Program" including the results of the approved quality assurance plan.
2. The Licensee shall, unless otherwise requested by an Inspector, include all of the data and information required by the "Surveillance Network Program" including the results of the approved quality assurance/quality control program in the Licensee's Annual Report, which Report shall be submitted to the Board on or before March 31st of the year following the calendar year being reported.

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