



**Department of Transportation and Works  
Highway Design and Construction Division**

**REGISTRATION PURSUANT TO SECTION 49  
OF THE ENVIRONMENTAL PROTECTION ACT, 2002,  
FOR THE  
REPLACEMENT OF CATARACTS BROOK BRIDGE AT  
CATARACTS PROVINCIAL PARK, ROUTE 91**

**NAME OF UNDERTAKING:**

Replacement of Cataracts Brook Bridge, Route 91, TCH, Newfoundland and Labrador.

**PROPONENT:**

- (I) Name of Corporate Body:  
Department of Transportation and Works  
Government of Newfoundland & Labrador
  
- (II) Address:  
6<sup>th</sup> Floor, Confederation Building (West Block)  
St. John's, NF A1B 4J6
  
- (III) Chief Executive Officer:  
**Ms. Lori Ann Companion**  
**Deputy Minister**  
709-729-3676
  
- (IV) Principal Contact for the Purpose of Environmental Assessment:  
**Mr. Patrick Shea**  
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Highway Design and Construction Division  
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**THE UNDERTAKING:**

- (I) Name of the Undertaking:  
  
Replacement of Cataracts Brook Bridge, Route 91, TCH, Newfoundland and Labrador.
  
- (II) Purpose / Rationale / Need for the Undertaking

The purpose of this project is to replace the Ellis Memorial Bridge which is an 89 year old bridge structure. The proposed route is to provide safer passage over Cataracts Brook, a

tributary of North Harbor River which is a Scheduled Salmon River. The current bridge is one lane wide. For safety reasons, a new bridge is proposed upstream which will bypass the older bridge. Approximately 600 meters of new road will be constructed to the bridge which will result in the clearing of approximately 1.2 hectares.

The benefits of bridge replacement and highway realignment are:

- improved public safety allowing safer travel across Cataracts Brook;
- improved design and safety standards;
- improved goods and services transportation;
- highway construction job opportunities (seasonal employment for 20 people);
- improved transportation within a Provincial Park.

#### **DESCRIPTION OF THE UNDERTAKING:**

The construction of a two lane bridge on Route 91 will include a section of road realignment to remove traffic from the Ellis Memorial Bridge. The road would be constructed to a two lane gravel surface highway consistent with the existing section of Route 91.

The ALTERNATIVES that have been considered are:

1. Leave the original bridge. REJECTED. The current bridge is not safe. It is the only arch bridge and is the oldest bridge in Newfoundland. It is only a one-lane bridge.
2. Build the new bridge downstream. REJECTED. While the downstream option is still within park boundaries, there is greater potential for negative impacts to fish habitat. This will also increase watershed input into the gorge.
3. Build the bridge and roadway upstream and outside of Cataracts Park boundary. REJECTED. In order to do this the road realignment would be 3.5 kilometers as opposed to the proposed 600 meters. This would result in increased impact to natural environment such as forest, fen and an identified wetland.

#### **(I) Geographic Location**

The location of the bridge is a distance of 6.9 km west of Colinet on Route 91. The coordinates are N47°14'33" W53°37'47". A photo of a similar structure design can be found in Appendix A.

The preferred routing of the approach road begins 3.2 km from the intersection of Route 91 and Route 92 near the community of Colinet. It will extend west towards Placentia and will be approximately 600m long with a 20m Right Of Way. The road will be 8m wide. See the attached topographic map in Appendix B.

(II) Physical Features.

The new crossing will be a multi-plate culvert on footings located approximately 160m upstream from the Ellis Memorial Bridge. The access road will be 600m long and constructed to a Rural Local Undivided RLU 60 Modified Standard for 60 km/hr design standard. This is a similar standard to the section of Route 91 east and west of the project area. An 8 m wide top will be provided and the surface will be gravel. The right-of-way width of an RLU 60 is 20 m. Normally the clearing width is 20 m; however, this will be reduced wherever possible especially around the watercourse. The route will follow the existing transmission line easement through the park.

The road will cross Cataracts Brook approximately 140m North of the waterfall, a popular tourism attraction. Cataracts Brook is a tributary of the North Harbour River (a Scheduled Salmon River) and is salmon bearing below the waterfalls. It should be noted anadromous populations cannot access the upstream habitats due to the migration barrier created by the waterfalls. No other watercourses will be crossed.

This project will occur within the boundary of a designated Provincial Park – Cataracts. Thirty five of the known mosses and liverworts in Newfoundland have been identified in this park. More specifically, there is a presence of Boreal Felt Lichen (*Erioderma pedicillatum*) within the park boundaries (ENVC, 2001). The Boreal Felt Lichen is listed as a vulnerable species under the Newfoundland and Labrador *Endangered Species Act (SNL2001 CHAPTER E-10.1)*. A coarse assessment was undertaken by DTW along the right-of-way (ROW) of the proposed realignment in the field in 2015. This survey indicates there are no specimens present within the proposed construction area (see attached Google maps in Appendices B and C). This project will be completed adjacent to an existing power corridor and right-of-way (ROW) as well as two previously disturbed sites.

(III) Construction

Road construction will be performed by contract forces that will be hired pursuant to the *Public Tender Act (RSNL1990 CHAPTER P-45)*. The project will be carried out over the 2016 construction season and will involve:

- (a) field surveys;
- (b) right-of-way clearing;
- (c) grubbing;
- (d) subgrade construction;
- (e) stream crossing structure; and
- (f) clean-up and rehabilitation

The potential sources of pollution during construction would include: potential siltation of the tributary that drains towards North Harbour River; grubbing operations; stream crossing works; drainage installation and subgrade construction. In addition, the potential exists for hydrocarbon spillage from the operation of heavy equipment. Contractors will be advised of the environmental requirements for stream crossings and for hydrocarbon storage and spill reporting, clean up procedures, and the necessity of strict compliance pursuant to the *Environmental Protection Act (SNL2002, CHAPTER E-14.2)* and the *Water Resources Act (SNL2002, CHAPTER W-4.01)*. Under the *Air Pollution Control Regulations, 2004 (O.C. 2004-232)*; the ambient air quality, including dust and carbon emissions will be maintained by the contractor at standard levels that the minister deems to be acceptable for the protection of the environment, including human life, wildlife and vegetation.

Clearing and grubbing of the access road will take place before nesting season of 2016 to prevent incidental take as outlined in the *Migratory Birds Convention Act 1994*. Grubbing activities within the buffer strip of the watercourse will be prohibited until such time as the crossing structure is installed. Water quality will be monitored closely and mitigation measures will be required prior to grubbing activities. Grubbing material will be stockpiled for stabilization and regeneration of disturbed areas.

The bridge will be designed to withstand a minimum of 1:100 year flood events. Special attention will be given to sedimentation prevention, hydrocarbon and other product spill prevention, and erosion and scour protection at inlet and outlet control areas.

The Department of Transportation and Works will consult with the Water Resources Division of the Department of Environment and Conservation to ensure that the best available data is utilized to design the crossing structure. The Water Resources Division's Environmental Guidelines for work around watercourses will be implemented during the design, construction and operation phases of this project.

These guidelines include:

<b>Chapter</b>	<b>Title</b>
3	Watercourse Crossings
4	Bridges
5	Culverts
6	Fording
7	Diversions, New Channels, and Major Alterations
9	Pipe Crossings
13	General Construction Practices

An 'Assessment of Fish Habitat' along upstream and downstream areas adjacent to the stream crossing will be carried out in compliance with DFO Self-Assessment and Review requirements. The structure will be designed and constructed at a location which will have minimal impact on fish and fish habitat in accordance with DFO guidelines.

The potential for adverse environmental impacts during construction will be minimized as all construction activities will be undertaken in accordance with the environmental requirements of Division 8 of the Department of Transportation and Works Specification Book for road/highway projects. An Environmental Protection Plan (EPP) and Contractor Environmental Mitigation Plan (CEMP) will be required for the project and, where necessary, additional environmental protection requirements will be incorporated into the contract documents.

(IV) Operation

The road is a permanent operation. Periodic summer maintenance will be necessary and will include such activities as shouldering, ditch cleaning and repairs to guide rails and road signs. Winter maintenance will consist of snow clearing and the application of sand for ice control. Traffic volume on Route 91 during the summer is approximately 400 vehicles per day and during the winter it is less than 100 vehicles per day.

(V) National Occupation Classification (NOC2006) Codes

Jobs	Code	Positions	Timeline	Appr.	JP
(a) Civil Engineers	2131	1	02/16-11/16		
(b) Structural Engineers	2131	1	02/16-11/16		
(c) Project Management Technicians	1253	1	04/16-11/16		
(d) Environmental Planner	2153	1	02/16-11/16		
(e) Environmental Scientist	2121	1	02/16-11/16		
(f) Road Surveyors	2154	4	03/16-11/16		
(g) Heavy Equipment Operators	7521	4	04/16-10/16		
(h) Drillers and Blasters	7372	2	05/16-10/16	1	1
(i) Carpenters	7204	3	06/16-08/16		
(j) Heavy Equipment Mechanics	7301	2	04/16-10/16	1	1
(k) Labourers	7611	6	04/16-11/16		
(l) Truck Drivers	7503	4	06/16-11/16		

Note: Appr. = Apprentices JP = Journeypersons

All positions will be full time during the duration of the project. The project is expected to take one year to complete with clearing operations taking place between March 2016 and April 2016, the construction of the bridge taking place between June 2016 and October 2016, with the paving operations taking place between September 2016 and October 2016.

It is unknown how many apprentices and journeypersons will be hired as that will be the contractor's responsibility. These numbers can be gleaned once the project is near completion. Specialized training will include a Certified Registered Safety Personnel (CRSP) course for contractor's management.

The anticipated source of the workforce will be those first available locally. Final details will be made available once they are known. The workforce and related recruitment will be undertaken by the contractors bidding on the aspects of the project

(VI) Project-related Documents

- Environmental Protection Plan prepared for the Construction of Cataracts Bridge by Department of Transportation and Works, 2015.
- Contractor Environmental Management Plan prepared for the Construction of Cataracts Bridge.
- Stage 1 Historic Resources Overview Assessment for the Construction of Cataracts Bridge (if requested).
- Boreal Felt Lichen Population Assessment for the Construction of Cataracts Bridge (if requested).
- DFO's Guidelines for Protection of Freshwater Fish Habitat in Newfoundland and Labrador (1998).
- DFO Fact Sheets for environmental protection measures.
- Fish passage guidelines.

**APPROVAL OF THE UNDERTAKING**

Upon submission of project description, DFO will issue a **Letter C** (formerly called **Letter of Advice**) to outline recommendations and requirements for fish health and habitat protection.

DTW will ensure an **Environmental Protection Plan (EPP)** will be prepared for the project and it will form part of the tender documents. The EPP will be a field usable document which will outline the environmental protection measures to be implemented during construction phases. The EPP will clearly outline the location of any environmentally sensitive areas which are known and specify any restrictions which will include but not be limited to water resources; wildlife; fish and fish habitat; historic resources and plant species of concern (e.g., Boreal Felt Lichen). Rehabilitation measures for areas such as borrow sites and quarries will be clearly outlined. Special attention will be given to erosion control and bank stability mitigations. An approved **Contractor Environmental Mitigation Plan (CEMP)** will be required from the contractor prior to the commencement of construction. The purpose of a CEMP is to ensure the contractor understands potential environmental impacts and that appropriate mitigations are put in place. This document outlines site specific protection measures to be implemented

during operations.

The need for a **Stage 1 Historic Resources Overview Assessment** will be determined for the proposed route. The Department of Transportation and Works will work closely with the Cultural Heritage Division of the Department of Tourism, Culture and Recreation to ensure that Historic Resources requirements are met.

The need for a **Boreal Felt Lichen Population Assessment** will be determined for the proposed route. The Boreal population of the Boreal Felt Lichen is listed as Special Concern under the federal *Species at Risk Act* (SARA). The Province of Newfoundland and Labrador listed the Boreal Felt Lichen as Vulnerable under its *Endangered Species Act* in July 2002. DTW will work closely with the Boreal Felt Lichen Working Group of the Wildlife Division, Department of Environment and Conservation to ensure that protection requirements are met.

**Climate change impacts** and adaptation will be considered at design phase of project. As noted, stream crossing structures are designed to withstand 1:100 year flood events.

For construction period, a no idling policy will be in place at all stages of construction to reduce greenhouse gas emissions. All equipment will be maintained in good working order, especially as it relates to emissions efficiency.

The following is a list of the permits, licences, approvals which may be necessary for this project:

Type of Permit	Agency
1. Stream crossing approvals	Dept. of Fisheries & Oceans
2. Wood cutting permits	Dept. of Natural Resources
3. Fuel storage & handling	Government Service Centre
4. Solid waste disposal	Government Service Centre
5. Water supply/sewage disposal for construction camps	Government Service Centre
6. Borrow/quarry site approvals	Dept. of Natural Resources
7. Stream Crossing Approvals	Dept. of Environment and Conservation




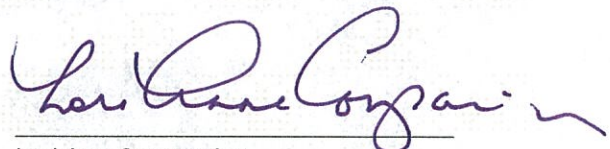
**SCHEDULE**

The Department of Transportation and Works would like to complete the requirements of the Environmental Assessment Act and seek approval for the project within 60 days of your receipt of this application. A tender call could take place in the summer of 2016 with brush clearing starting shortly after.

**FUNDING**

The project will be funded by the Government of Newfoundland and Labrador. The total estimated cost of the project is approximately \$600,000.

May 21, 2016  
Date 

  
Lori Ann Companion  
Deputy Minister

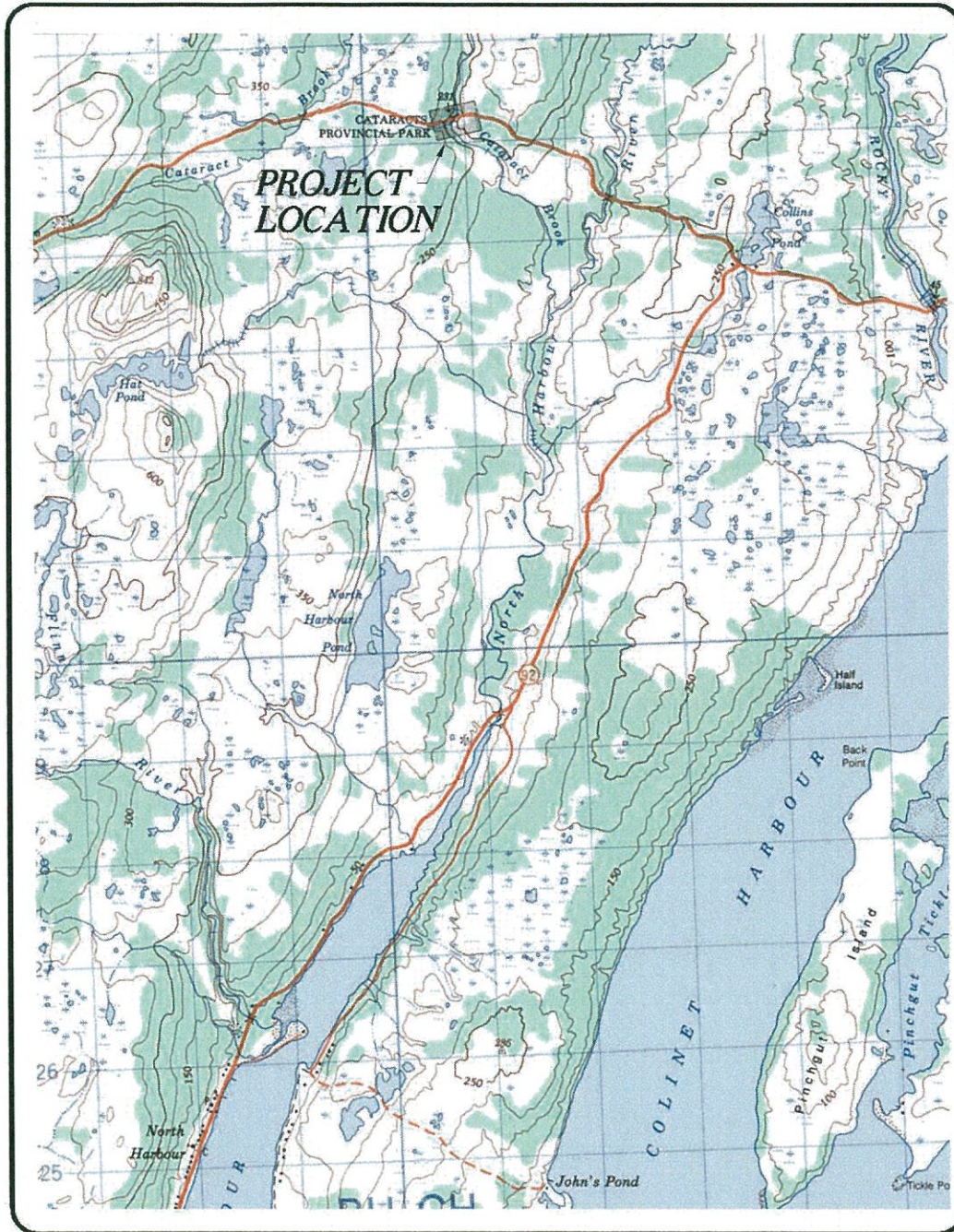
**Appendix A**

**Photo of Typical Bridge Design Structure**



**Appendix B**

**Topographic Map of Cataracts Bridge**



  
**TRANSPORTATION AND WORKS**  
 HIGHWAY DESIGN DIVISION

**CATARACTS BRIDGE**

DRAWN BY: B.B.

DATE: April 21, 2016

NOT TO SCALE

## Appendix C

Detailed map showing project location in relation to Boreal Felt Lichen population.

