



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
16 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0016

Janet T. Mills  
GOVERNOR

Bruce A. Van Note  
COMMISSIONER

February 22, 2021  
Subject: International Bridge  
Rehabilitation  
State WIN: 021736.00  
Location: **Madawaska &  
Edmundston, Canada  
Amendment No. 8**

Dear Sir/Ms.:

Please make the following changes to the Bid Documents:

In the Bid Book:

**ADD** the attached "MADAWASKA – EDMUNDSTON BRIDGE ENVIRONMENTAL MANAGEMENT PLAN", 55 pages, dated January 2021.

In the Plan Set:

On SHEET NUMBER 2 OF 160, ESTIMATED QUANTITIES, **CHANGE ITEM NO.** "502.239 – Structural Concrete Piers (1,270 CY)" to read "**502.239 – Structural Concrete Piers (1,452 CY)**".  
Make this change in pen and ink.

The following questions have been received:

**Question:** This question refers to sheet 119 of 160 that shows the rail details and notes. Note # 7, line # 4 states that "parts except hardware shall be blast cleaned prior to galvanizing in accordance with SSPC-SP6". Does this mean that all material has to be fabricated before blasting, and then be blasted in the as fabricated condition for galvanizing or will blasting before fabrication be an acceptable alternative to cover the before galvanizing note?

**Response:** Blasting of rail and components can be waived if the galvanizer provides a plan to the fabrication engineer for acceptance showing the pickling process meets the requirements of SSPC-SP8 surface preparation. Otherwise the components must be blasted immediately prior to galvanizing.

**Question:** Also, do the 1.5" x .063 wall tubing pickets have to be blasted as MASSDOT waives the picket blasting operation as the tubes deflect during this operation and cannot be processed correctly. The picket tubes will still be galvanized as usual using the galvanizers normal coating process.

**Response:** Blasting of rail and components can be waived if the galvanizer provides a plan to the fabrication engineer for acceptance showing the pickling process meets the requirements of SSPC-SP8 surface preparation. Otherwise the components must be blasted immediately prior to galvanizing.

**Question:** What is the required length for the shear connectors?

**Response:** Shear connectors shall be installed in accordance with Standard Detail 505(01). The length of shear connectors may vary throughout the bridge and shall project a minimum of 2" above the bottom of slab.

**Question:** This question is regarding the preformed pads for the s3-tl4 bridge railing system. Under item 507.02 the preformed pads must meet the specifications of section 713.03 of the standard specifications. This spec. Calls for a hardness of 85 to 95 shore a durometer & a compressive loading of no less than 10,000 psi. Our rubber suppliers are telling us that this specification is usually used for 'bridge bearing pads' used underneath prestressed concrete beams & in parking garages and in much greater thicknesses than 1/8" and that this specification is not appropriate for the intended use under the s3-tl4 railing posts.

New England bridge products has fabricated all of the s3-tl4 test panels that MassDOT has used for crash testing at Texas A&M transportation institute with the most recent one being in the summer of 2020. The preformed pad used under these s3-tl4 railing posts conformed to MassDOT spec. M9.16.2 which calls for a 80 shore a durometer +/- 10 durometer average and an ultimate breakdown limit of no less than 7,000 psi. We therefore respectfully request that MDOT allow the use of preformed pads meeting the requirements of MassDOT spec. M9.16.2

**Response:** The elastomeric pads shall have a 80 shore a durometer +/- 5 durometer average and an ultimate breakdown limit of no less than 10,000 psi.

**Question:** During the contractor input meetings there were discussions regarding the schedule and how imperative it was that the project was allowed to start early in the spring to allow for the installation of temporary trestles to be installed. When this was discussed MDOT had proposed a late fall early winter bid date. With the continued delays to the bid date and no change to the date for opening the bridge to traffic we are concerned that the contractor is being squeezed and that construction time for year 1 (2021) will be reduced due to a late start. Please provide an anticipated award date as well as expectations for expedited reviews of submittals and RFI for this project.

**Response:** The date of award will follow the Department's standard practice for contract procurement. The Department will strive to meet or exceed contract required review times for submittals and RFI's. Please note that the completion date for the project has already been moved from the fall of 2024 to the June of 2025. The new bridge open-to-traffic milestone date, as specified in Special Provision Section 107, Time (Supplemental Liquidated Damages), is hereby changed to December 23, 2023.

**Question:** There was a question and response in Addendum 3 regarding negotiations for removal of the canopy at the existing LPOE building, removal of this canopy and guidance for access to this area for demolition of the existing bridge is necessary for preparation of our bid. Please provide any know limits to our access at the existing US abutment and dates we will be allowed this access.

**Response:** Special Provision 104 Reserved Limits states that Parcel 4 will not become available to the Contractor until November 20<sup>th</sup>, 2023. The known limits to Parcel 4 are shown on Right of Way Map sheet 158. The Contractor is not allowed access to this parcel until rights are secured and this includes access to the canopy structure located within MaineDOT's State Highway Easement.

**Question:** Our understanding is there are additional permits required for this project that as of Monday 2/22/21 have not been set to the bidders. If these permits are not delivered to the bidders prior to the letting, how will the permits be delivered to the contractor?

**Response:**

Response: Approvals pending are:

- Canadian Navigable Waters Act (CNWA) Approval
- International Bridges and Tunnels Act (IBTA) Approval

The anticipated conditions of these approvals have been addressed in the contract documents. Once received, the Department will forward the approvals electronically to the Contractor.

**Question:** Our understanding is there are additional permits required for this project that as of Monday 2/22/21 have not been set to the bidders. If these permits are not delivered to the bidders prior to the letting, how will changes to the project requirements due to these permits be handled?

**Response:** Approvals pending are:

- Canadian Navigable Waters Act (CNWA) Approval
- International Bridges and Tunnels Act (IBTA) Approval

The anticipated conditions of these approvals have been addressed in the contract documents. The Department will follow its standard practice for any change in project requirements.

**Question:** Can the estimated quantity for item 502.239 be confirmed? Our takeoff indicates approximately 1454 CY of concrete is required for this item. The estimated quantity is only 1270 CY.

**Response:** See above pen and ink changes to the Plan Set.

Consider these changes and information prior to submitting your bid on **February 24, 2021**.

Sincerely,



George M. A. Macdougall P.E.  
Contracts & Specifications Engineer



February 18, 2021

Mr. Vincent Balland, M.Sc.F., P.Eng  
New Brunswick Department of Transportation and Infrastructure  
Kings Place  
P.O. Box 6000  
Fredericton, NB E3B 5H1

Mr. Balland:

**RE: EIA Registration 4561-3-1517 Madawaska-Edmundston International Bridge Replacement Project – EMP Approval**

The revised Environmental Management Plan (EMP), dated January 2021, is hereby approved for the construction and operation phases of the project allowing the undertaking to proceed for these phases provided that Condition 4 of the *Certificate of Determination* (CoD) is met and approval is received under all other applicable acts and regulations.

It should also be noted that Condition 8 of the CoD requires the submission of a Decommissioning Plan for review and approval. Upon review of this plan, there may be changes that will need to be incorporated into the EMP for the project decommissioning phase. Prior to commencing any activity associated with decommissioning the existing bridge, Condition 8 must be met, and approval must be received by the Director of the EIA Branch of DELG for the decommissioning portion of the EMP.

Please ensure that all developers, contractors, and operators associated with the project are provided with copies of the approved version of the EMP and comply with its contents.

Should you have any questions, please feel free to contact Rachelle Voisine, Project Coordinator, DELG, either by telephone at (506) 453-3198 or by email at [rachelle.voisine@gnb.ca](mailto:rachelle.voisine@gnb.ca).



Mr. Balland  
February 18, 2021  
Page 2 of 2

Sincerely,

A handwritten signature in blue ink, appearing to read "Crystale Harty", with a long horizontal flourish extending to the right.

Crystale Harty, B.Sc.  
Director (Acting), Environmental Impact Assessment Branch  
Department of Environment and Local Government

C: Melissa Cummings, DTI  
Rachelle Voisine, Project Coordinator, DELG  
Justin Chase, Follow-up and Compliance Coordinator, DELG  
Technical Review Committee



**Madawaska–Edmundston  
International Bridge Replacement  
Project**

Environmental Management Plan

Prepared for:

New Brunswick Department of  
Transportation and Infrastructure

Prepared by:

Stantec Consulting Ltd.

January 2021

Project No. 121415893

## MADAWASKA – EDMUNDSTON BRIDGE ENVIRONMENTAL MANAGEMENT PLAN

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## Abbreviations

CN Rail	Canadian National Railway
EIA	Environmental Impact Assessment
EMM	Environmental Management Manual
EMP	Environmental Management Plan
FAA	Fisheries Act Authorization
GHG	Greenhouse Gas
HASB	Heritage and Archaeological Services Branch of the New Brunswick Department of Tourism, Heritage and Culture
LPOE	Land Port of Entry
Maine DOT	Maine Department of Transportation
NBDELG	New Brunswick Department of Environment and Local Government
NBDNRED	New Brunswick Department of Natural Resources and Energy Development
NBDTHC	New Brunswick Department of Tourism, Heritage, and Culture
NBDTI	New Brunswick Department of Transportation and Infrastructure
US	United States
WAWA	Watercourse and Wetland Alteration



## 1.0 INTRODUCTION

This document is the Environmental Management Plan (EMP) for the Madawaska–Edmundston International Bridge Replacement Project (the Project). The Project consists of the construction and operation of a new international bridge over the Saint John River between the City of Edmundston, New Brunswick, Canada and the Town of Madawaska, Maine, United States, and the demolition of the existing international bridge.

The Project is a joint venture between the Maine Department of Transportation (Maine DOT) and the New Brunswick Department of Transportation and Infrastructure (NBDTI). This EMP is limited to project elements which fall within the Canadian side of the border and are within Canadian jurisdiction.

### 1.1 BACKGROUND

In collaboration with Maine DOT, NBDTI is planning to replace the 287 m long bridge that currently exists between the Canada Border Services Agency (CBSA) facility in Edmundston, New Brunswick and the US Land Port of Entry (LPOE) in Madawaska, Maine. As part of the Project, a new bridge structure will be constructed upstream of the existing international bridge and will span approximately 560 m between the existing CBSA facility and a new US LPOE to be constructed approximately 350 m upstream of the existing US LPOE (Drawing P1a, Appendix A). Following the construction of the new bridge, the existing bridge structure will be decommissioned and removed. The construction of the proposed US LPOE will take place entirely within the State of Maine and is outside the scope of this EMP. Modifications to the roadways around the existing CBSA building, and minor modifications to the existing CBSA building are included as part of the Project.

The Project Area for the EMP is defined as the area of physical disturbance associated with the construction and operation and maintenance phases of the Project, as well as decommissioning of the existing bridge (Figure 1, Appendix A). The Project Area comprises a physical footprint of the Project and includes portions of the CBSA properties and adjacent private properties, east and west of the proposed new bridge location, a portion of land owned by CN, and a portion of the Saint John River (from 250 metres (m) upstream of the new bridge to 250 m downstream of the existing bridge to the east, and up to the international border to the south). Temporary works required for construction, including workspace, access roads, and trestles, are illustrated on Figure 2, Appendix A. The footprint and configuration of these features are conceptual only. The general arrangement of the modifications to the roadways around the existing CBSA building are shown on Drawing GA2A, Appendix A.

### 1.2 SCOPE OF THIS EMP

This EMP outlines Project-specific environmental protection measures that are beyond the typical measures included in NBDTI's Environmental Management Manual (EMM). These additional measures were determined during the New Brunswick Provincial Environment Impact Assessment technical review process.



## MADAWASKA – EDMUNDSTON BRIDGE ENVIRONMENTAL MANAGEMENT PLAN

NBDTI 's EMM outlines mitigation measures, best management practices, and methods that NBDTI uses to plan, design, construct, operate, maintain and rehabilitate highway facilities including roadways and structures (e.g., bridges) in a manner consistent with federal and provincial environmental regulations (NBDOT 2010). In the event that there is a conflict between the EMM and project-specific documents including this EMP and regulatory approval requirements, the project-specific documents shall take precedence.

The Contractor will also be required to adhere to the following documents:

- *Standard Specifications* (Maine DOT, 2014), available at: <https://www1.maine.gov/mdot/contractors/publications/standardspec/docs/2014/StandardSpecification-full.pdf>
- *Best Management Practices for Erosion and Sedimentation Control* (Maine DOT, 2008), available at: <https://www1.maine.gov/mdot/env/documents/bmp/BMP2008full.pdf>

This EMP must be followed during the following phases:

- **Construction** – including but not limited to:
  - clearing
  - site preparation
  - temporary laydown areas or access roads
  - approaches and Canadian Port of Entry Modification
  - bridge construction including substructure (piers) and superstructure (deck)
  - demolition and removal of existing bridge
- **Operation and Maintenance** – including but not limited to:
  - operation of infrastructure (including snow and ice removal)
  - preservation and maintenance of structures.

The EMP also includes mitigation measures and contingency and Emergency Response Plans (see Section 4.0) to be followed in the case of an accident, malfunction, unplanned event, or other emergency, including but not limited to:

- hazardous material spill
- Project-caused fire
- vehicle collision
- erosion and sediment control failure

Issues related to health and safety will be addressed in separate health and safety documents.

### 1.3 ENVIRONMENTAL COORDINATION RESPONSIBILITIES

The following sections outline the roles and responsibilities of the Project's personnel with respect to environmental management. All personnel involved with the Project have a responsibility to maintain environmental compliance by following the EMP, EMM, and regulatory requirements and to report non-compliances.



### 1.3.1 Environmental Management Team

The EMP will be implemented by the MaineDOT Senior Resident Engineer, Maine DOT Assistant Resident, MaineDOT on-site construction inspection staff, MaineDOT on-site Environmental Specialist and the Contractor staff. Technicians are responsible for inspecting all aspects of the work and will report to the Resident Engineer, who is responsible for ensuring compliance with all environmental requirements. If required, Design and Construction personnel from MaineDOT and NBDTI will be consulted regarding concerns with any environmental issues or approvals that arise during construction. Further responsibilities of the Senior Resident Engineer, Assistant Resident, MaineDOT construction inspection staff, MaineDOT Environmental Specialist and the Contractor are outlined below:

#### **Maine DOT Senior Resident Engineer and Maine DOT Assistant Resident :**

- Confirm that appropriate permits and approvals are obtained prior to initiating construction and demolition activities.
- Consult with the MaineDOT Environmental Specialist, who will advise the Contractor on the implementation of commitments regarding environmental protection.
- Make sure that key members of the Project Team are provided with updated copies of the EMP, as required.
- Confirm that environmental commitments associated with Project documents and permit and approval conditions are met during construction and demolition.
- Review methodologies with the contractors to facilitate proper understanding and implementation of protection measures.
- Implement and document corrective actions in the case of an incident such as a spill and investigate the cause of the incident.
- Coordinate with the MaineDOT Environmental Specialist, who will liaise with regulatory agencies and other affected parties.
- Issue stop work-order for environmental non-conformances.

#### **MaineDOT Environmental Specialist:**

- Advise the Contractor on the implementation of commitments regarding environmental protection.
- Advise the Contractor on the proper course of action to address unexpected environmental conditions and events.
- Organize on-site meetings as required to address site-specific issues relative to the environment.

#### **MaineDOT Construction Inspection Staff:**

- During all construction and demolition phases of the Project, confirm the environmental mitigation measures described in the EMP are implemented.



### Contractor Staff:

- Communicate with the Resident Engineer, Assistant Resident, Environmental Specialist and/or MaineDOT Construction Inspection Staff to facilitate compliance with commitments and permit/approval conditions.
- Notify the Resident Engineer, Assistant Resident, Environmental Specialist and/or MaineDOT Construction Inspection Staff of any concerns or issues with EMP or implementation or commitments.
- Confirm that environmental training and orientation have been provided to all Contractor personnel.
- Notify the Resident Engineer, Assistant Resident, Environmental Specialist and/or MaineDOT Construction Inspection Staff of activities, progress, and challenges related to the implementation of commitments regarding environmental protection.
- Keep a copy of the EMP on the Project site at all times during construction.

### 1.3.2 Compliance Monitoring and Environmental Inspection

Compliance monitoring and environmental inspection will be carried out by MaineDOT 's Environmental Specialist, MaineDOT's Construction Inspection Staff, and Contractor staff. NBDTI's Construction Branch Staff and NBDTI's District Staff will carry out inspections on an as-needed basis. In addition, an Indigenous Environmental Monitor and an Indigenous Archaeological Monitor will also carry out inspections.

### 1.3.3 Environmental Training

The Contractor will be required to receive Project-specific Environmental Training to ensure that the Contractor or their designated representative is aware of the environmental requirements and commitments associated with the Project. The training will include a review of:

- Project-specific environmental mitigation measures outlined in this EMP, including linking mitigation to location
- the Conditions of Approval from the EIA (Appendix C of this EMP)
- the Conditions of Approval in other applicable permits obtained for this project in Canada (WAWA, FAA, NWPA, IBTA, etc.)
- NBDTI's EMM
- Maine DOT's Best Management Practices for Erosion and Sedimentation Control
- The Conditions of Approval from applicable permits obtained in the US for this project

As per the NBDTI Standard Specification Item 948.2, the contractor is responsible for designating an on-site representative who has completed Environmental Training. This person will be responsible for providing the same training and appropriate material to all the Contractor's field staff who will be working on the Project. Failure of the Contractor to train his/her staff on environmental awareness and protection will not absolve them of responsibility for environmental protection.



## 1.4 REGULATORY APPROVALS, PERMITS AND AUTHORIZATIONS

An Environmental Impact Assessment has been conducted for the Project (Stantec 2019) and a list of conditions of approval have been provided to NBDTI by the Department of Environment and Local Government (NBDELG, Appendix C). These conditions of approval outline requirements that must be met before and/or during all phases of the Project.

Section 2.0 of NBDTI's EMM provides a summary of environmental legislation, guidelines, policies, and procedures associated with a typical highway project. As part of the approval process:

- NBDTI will obtain the following permits in Canada:
  - A Watercourse and Wetland (WAWA) permit under the *New Brunswick Clean Water Act*,
  - A Fisheries Act Authorization required under the *Fisheries Act*,
  - An Approval under the *Canadian Navigable Waters Act*,
  - An Approval under the *International Bridges and Tunnels Act*, and
- NBDTI is also working with CN on an agreement that will include some environmental management conditions. These conditions shall also be followed.
- The contractor is responsible for obtaining any other applicable permits required to complete the project but not forming part of the Contract Documents.

The requirements of these approvals, permits, and authorizations must be complied with during all phases of the Project.

## 2.0 ENVIRONMENTALLY SIGNIFICANT FEATURES

Environmentally significant features identified during field studies conducted in Canada within the Project Area are illustrated on Figure 1, Appendix A and coordinates are provided in Appendix B. Environmentally significant features present within the Project Area include:

- The Saint John River
- Field delineated wetlands, approximately 5 m wide in the riparian area along the northern shoreline of the Saint John River
- Archaeological sites located on PIDs 35180710, 35133206, and 35135003, and a high potential archaeological area on PID 35265909.
- Vascular plant species of concern
- Migratory birds (breeding season between April 15<sup>th</sup> and August 31<sup>st</sup>).



## 3.0 PROJECT SPECIFIC ENVIRONMENTAL MITIGATION

NBDTI, as well as its Contractors must adhere to the NBDTI EMM, which contains the required mitigation for all phases of a transportation infrastructure project, and must adhere to the environmental protection measures described in the sections of the EMP presented below. Sections 3.1 to 3.9, inclusive, describe the Project-specific mitigation measures beyond the typical measures outlined in the EMM. Mitigation measures have been organized by the applicable environmental features as follows:

- Section 3.1: General Mitigation Measures
- Section 3.2: Aquatic Environment
- Section 3.3: Wetlands and Vegetation
- Section 3.4: Wildlife and Wildlife Habitat
- Section 3.5: Birds and Bird Habitat
- Section 3.6: Atmospheric
- Section 3.7: Archaeological and Heritage Resources
- Section 3.8: Groundwater
- Section 3.9: Land Use and Economy

Where applicable, relevant sections of the EMM have also been highlighted in the sections below for reference. However, all sections of the EMM must be adhered to, even if they are not highlighted below. In the event that there is a conflict between the EMM and the project specific documents, the project specific documents shall take precedence.

### 3.1 GENERAL MITIGATION MEASURES FOR ALL PHASES OF THE PROJECT

The following mitigation measures must be followed during all phases of the Project:

- Activities will be conducted in compliance with current acts, regulations, and policies, and will adhere to conditions of any licenses, permits, authorizations, or approvals issued for the Project.
- Any licenses, permits, authorizations, or approvals for the Project will be kept on site at all times. Field staff must be familiar with the requirements outlined in these documents.
- Any changes to the licenses, permits, authorizations, or approvals for the Project must be requested through and approved by NBDTI. NBDTI will apply for permit revisions if requested changes are acceptable to them.
- **Any locations of additional temporary workspace or ancillary elements in Canada (laydown areas, new borrow pits, new disposal sites, construction site office areas etc. needed for this project) outside of the Project Area shown on Figure 1, Appendix A must be approved by NBDTI and NBDELG prior to development.**
- All environmental emergencies must be reported to the NBDELG Grand Falls Regional Office (506-473-7744) during regular business hours.



## MADAWASKA – EDMUNDSTON BRIDGE ENVIRONMENTAL MANAGEMENT PLAN

- All spills or leaks, such as those from machinery or storage tanks, should be promptly contained and cleaned up (sorbents and booms should be available for quick containment and recovery) and immediately reported to the 24-hour environmental emergencies reporting system (Maritime Provinces 1-800-565-1633).
- NBDTI and its contractor must adhere to the following guidelines:
  - *Watercourse and Wetland Alteration Technical Guidelines* (NBDELG 2012)  
Available at: <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Water-Eau/WatercourseWetlandAlterationTechnicalGuidelines.pdf>
  - *Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters* (DFO 1998) Available at: <https://www.racerocks.ca/wp-content/uploads/2015/09/DND-explosive-guidelines.pdf>
  - *Sand and Gravel Pit Guideline* (NBDELG 2014)  
Available at: <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/SandAndGravelPitGuideline.pdf>
  - *Rock Quarry Siting Standards* (NBDELG 2012)  
Available at: <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/RockQuarrySitingStandards.pdf>
  - *Operational Policy for the Extraction of Consolidated Rock with the use of Explosives* (NBDELG 2014)  
Available at: <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/ExtractionOfRock.pdf>
  - *Asphalt Plant Siting Standard* (NBDELG 2012)  
Available at: <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/AsphaltPlantSitingStandard.pdf>

### 3.2 AQUATIC ENVIRONMENT

For the purpose of this EMP, the Aquatic Environment includes surface water quality, fish, fish habitat, and navigability. The regulatory framework for the protection of the Aquatic Environment includes the provincial *Clean Water Act*, as well as the federal *Fisheries Act* and *Canadian Navigable Waters Act*.

Table 3.1 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI's EMM, and Project-specific mitigation measures for the protection of groundwater resources during construction, operation, and in the event of an accident, malfunction, or unplanned event.

**It is the Contractor's duty to notify DFO if they have caused, or are about to cause, the death of fish by means other than fishing and/ or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to:**

<http://www.dfo-mpo.gc.ca/pnw-ppe/CONTACT-eng.html>.



**Table 3.1 Summary of Mitigation Measures for the Aquatic Environment**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
<p>Construction including:</p> <ul style="list-style-type: none"> <li>• clearing</li> <li>• site preparation</li> <li>• temporary laydown areas or access roads</li> <li>• approaches and Canadian Port of Entry Modification</li> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in riparian vegetation</li> <li>• Reduction in overhead cover</li> <li>• Increase in erosion</li> <li>• Increase in turbidity and TSS in surface waters</li> <li>• Increase in composition of fine sediments in substrate</li> <li>• Increase in embeddedness</li> <li>• Sublethal effects to fish</li> <li>• Behavioural changes to fish</li> <li>• Mortality of fish</li> <li>• Reduction in fish populations</li> </ul> <p>Altered/restricted navigation in the Saint John River.</p>	<ul style="list-style-type: none"> <li>• 5.3 Clearing</li> <li>• 5.5 Detouring</li> <li>• 5.6 Dust Control</li> <li>• 5.7 Erosion and Sediment Management</li> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.11 Grubbing</li> <li>• 5.15 Structures</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.20 Waste Management</li> <li>• 5.21 Winter Highway Maintenance</li> <li>• 5.22 Work Progression</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> <li>• 5.25 Sulphide Bearing Rock &amp; Acid Rock Drainage Management</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary trestles will be removed each winter (according to the dates in the contract documents) before the freshet occurs to avoid flooding due to potential ice jams.</li> <li>• Machinery and materials will not be stored in flood-prone zones when it is reasonable to expect high water levels. The contractor shall monitor the water level in the river (note: Environment Canada operates a gauge in Edmundston, and measurements are available at: <a href="https://wateroffice.ec.gc.ca/report/real_time_e.html?stn=01AD004">https://wateroffice.ec.gc.ca/report/real_time_e.html?stn=01AD004</a>)</li> <li>• Refueling and maintenance activities will be undertaken on level terrain, at a suitable distance from environmentally sensitive areas including watercourses, and on a prepared impermeable surface with a collection system</li> <li>• Fuelling activities within the work area will occur using mobile fuelling equipment (fuel trucks). Fuelling activities will require fuel spill kits and a watertight spill basin with a capacity of at least 150% of the equipment being refuelled. The spill basin will be inspected to confirm it is in good condition and will be positioned beneath the equipment prior to the commencement of fuelling activities. Fuelling activities will cease immediately if fuel leakage occurs.</li> <li>• All spills or leaks, such as those from machinery or storage tanks, should be promptly contained and cleaned up (sorbents and booms should be available for quick containment and recovery) and reported to the 24-hour environmental emergencies reporting system (Maritime Provinces 1-800-565-1633).</li> <li>• instream work will be subject to the conditions listed in the WAWA and FAA permits.</li> <li>• All material stockpiled or placed near watercourses must be stabilized and/or include protection measures to avoid that sediment-laden runoff may enter a watercourse.</li> <li>• If rock with the potential to produce acidic drainage is encountered, the Environmental Unit of NBDTI Design Branch must be notified, and NBDTI will inform the EIA branch of NBDELG.</li> <li>• Fish habitat offsetting will be carried out by NBDTI in consultation with DFO.</li> </ul>



**Table 3.1 Summary of Mitigation Measures for the Aquatic Environment**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
<p>Operation and maintenance including:</p> <ul style="list-style-type: none"> <li>• operation of infrastructure (including snow and ice removal), preservation, and</li> <li>• maintenance of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in salinity or conductivity of surface water</li> <li>• Reduction in fish populations</li> <li>• Introduction of deleterious substances</li> <li>• Sublethal effects to fish</li> <li>• Mortality of fish</li> <li>• Change in navigation</li> </ul>	<ul style="list-style-type: none"> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.15 Structures</li> <li>• 5.16 Summer Highway Maintenance</li> <li>• 5.21 Winter Highway Maintenance</li> </ul>	<p>No additional mitigation recommended.</p>
<p>Accidents, malfunctions, and unplanned events including:</p> <ul style="list-style-type: none"> <li>• Hazardous Material Spill</li> <li>• Erosion and Sediment Control Failure</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in turbidity and TSS in surface waters</li> <li>• Physical changes to fish habitat</li> <li>• Change in riparian vegetation</li> <li>• Introduction of deleterious substances</li> <li>• Sublethal effects to fish</li> <li>• Mortality of fish</li> <li>• Reduction in fish populations</li> </ul>	<ul style="list-style-type: none"> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.12 Spill Management</li> <li>• 5.13 Storage and Handling of Petroleum Products</li> <li>• 5.14 Storage and Handling of other Hazardous Materials</li> <li>• 5.15 Structures</li> <li>• 5.19 Vehicle and Equipment Management</li> </ul>	<ul style="list-style-type: none"> <li>• All environmental emergencies must be reported to the NBDELG Grand Falls Regional Office (506-473-7744) during regular business hours.</li> <li>• All spills or leaks, such as those from machinery or storage tanks, should be promptly contained and cleaned up (sorbents and booms should be available for quick containment and recovery) and immediately reported to the 24-hour environmental emergencies reporting system (Maritime Provinces 1-800-565-1633).</li> <li>• Water quality monitoring for turbidity, and possibly other parameters (as determined by regulators) will be undertaken in the event that visible plumes are observed, or if an erosion or sediment control failure occurs, to assess the extent and magnitude of the effects. Turbidity levels shall not exceed 8 NTUs above background levels when background levels are between 8 and 80 NTUs or exceed 10% of control background levels when background is &gt; 80 NTUs. Background levels shall be measured in the closest undisturbed area adjacent to the work. Background and in-plume turbidity samples shall be measured in as close a timeframe to each other as technically possible. If turbidity is found to exceed the above-listed limits, DFO will be contacted to assess if serious harm has resulted and additional offsetting is warranted.</li> </ul>



### 3.3 WETLANDS AND VEGETATION

Table 3.2 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI’s EMM, and Project-specific mitigation measures for the protection of wetlands and vegetation during construction, operation, and in the event of an accident, malfunction, or unplanned event.

**Table 3.2 Summary of Mitigation Measures for Wetlands and Vegetation**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI’s EMM	Project-Specific Mitigation not Included in DTI EMM
<p>Construction including:</p> <ul style="list-style-type: none"> <li>• clearing</li> <li>• site preparation</li> <li>• temporary laydown areas or access roads</li> <li>• approaches and Canadian Port of Entry Modification</li> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in vegetation or wetland habitat</li> <li>• Increase in erosion</li> <li>• Dust emissions damaging vegetation communities</li> </ul>	<ul style="list-style-type: none"> <li>• 5.3 Clearing</li> <li>• 5.5 Detouring</li> <li>• 5.6 Dust Control</li> <li>• 5.7 Erosion and Sediment Management</li> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.11 Grubbing</li> <li>• 5.15 Structures</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.20 Waste Management</li> <li>• 5.21 Winter Highway Maintenance</li> <li>• 5.22 Work Progression</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> <li>• 5.25 Sulphide Bearing Rock &amp; Acid Rock Drainage Management</li> </ul>	<ul style="list-style-type: none"> <li>• Over delineated wetland areas, temporary access roads shall be constructed on geogrid or geotextile and using clean rock material, shall be removed following construction, and the pre-construction grade shall be restored.</li> <li>• Any ruts created by equipment within 30 m of watercourse shall be immediately graded smooth and blanketed with hay/straw mulch.</li> <li>• To prevent the spread of invasive plants, no washing of tools or machinery shall occur within 30 m or a watercourse of wetland.</li> <li>• Equipment shall not be stationed, and materials shall not be stored in a wetland at any time.</li> <li>• All exposed erodible material within 30 m of a watercourse or wetland shall be stabilized with hay mulch at the end of each workday.</li> </ul>



**Table 3.2 Summary of Mitigation Measures for Wetlands and Vegetation**

<b>Project Component</b>	<b>Potential Interactions</b>	<b>Sections Outlining Applicable Standard Mitigation in NBDTI's EMM</b>	<b>Project-Specific Mitigation not Included in DTI EMM</b>
Operation and maintenance including: <ul style="list-style-type: none"> <li>• operation of infrastructure (including snow and ice removal), preservation, and</li> <li>• maintenance of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction of deleterious substances damaging to vegetation or wetland habitat.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.15 Structures</li> <li>• 5.16 Summer Highway Maintenance</li> <li>• 5.21 Winter Highway Maintenance</li> </ul>	No additional mitigation recommended.
Accidents, malfunctions, and unplanned events including: <ul style="list-style-type: none"> <li>• Hazardous Material Spill</li> <li>• Failure of Erosion Control Structures</li> </ul>	<ul style="list-style-type: none"> <li>• Change or loss of vegetation and wetland habitat</li> </ul>	<ul style="list-style-type: none"> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.12 Spill Management</li> <li>• 5.13 Storage and Handling of Petroleum Products</li> <li>• 5.15 Structures</li> <li>• 5.19 Vehicle and Equipment Management</li> </ul>	No additional mitigation recommended.

### 3.4 WILDLIFE AND WILDLIFE HABITAT

Table 3.3 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI's EMM, and Project-specific mitigation measures for the protection of wildlife and wildlife habitat during construction, operation, and in the event of an accident, malfunction, or unplanned event.

The Wildlife and Wildlife Habitat section does not include birds, which are discussed in detail in Section 3.5.

**Table 3.3 Summary of Mitigation Measures for Wildlife and Wildlife Habitat**

<b>Project Component</b>	<b>Potential Interactions</b>	<b>Sections Outlining Applicable Standard Mitigation in NBDTI's EMM</b>	<b>Project-Specific Mitigation not Included in DTI EMM</b>
Construction including: <ul style="list-style-type: none"> <li>• clearing</li> <li>• site preparation</li> <li>• temporary laydown areas or access roads</li> </ul>	<ul style="list-style-type: none"> <li>• Vegetation clearing will alter/destroy wildlife habitat within the Project Area</li> </ul>	<ul style="list-style-type: none"> <li>• 5.3 Clearing</li> <li>• 5.7 Erosion and Sediment Management</li> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.15 Structures</li> <li>• 5.22 Work Progression</li> </ul>	No additional mitigation recommended.



**Table 3.3 Summary of Mitigation Measures for Wildlife and Wildlife Habitat**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
<ul style="list-style-type: none"> <li>• approaches and Canadian Port of Entry Modification</li> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Noise from construction activities may disrupt wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• 5.23 Working Near Environmentally Sensitive Areas.</li> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.15 Structures</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.20 Waste Management</li> </ul>	<p>No additional mitigation recommended.</p>
<p>Operation and maintenance including:</p> <ul style="list-style-type: none"> <li>• operation of infrastructure (including snow and ice removal), preservation, and</li> <li>• maintenance of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Noise from maintenance activities may disrupt wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• 5.15 Structures</li> <li>• 5.16 Summary Highway Maintenance</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.21 Winter Highway Maintenance</li> </ul>	<p>No additional mitigation recommended.</p>
<p>Accidents, malfunctions, and unplanned events including:</p> <ul style="list-style-type: none"> <li>• Fire</li> <li>• Hazardous Material Spill</li> <li>• Failure of Erosion Control Structures</li> </ul>	<ul style="list-style-type: none"> <li>• Increased potential for destruction of habitat and wildlife death from fire.</li> <li>• Increased potential for contaminants to be released into habitat through the accidental release of fuels and lubricants from construction/maintenance equipment or vehicle collisions.</li> <li>• Potential for sediment loading in habitats from ground disturbance.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.3 Clearing</li> <li>• 5.7 Erosion and Sediment Management</li> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.12 Spill Management</li> <li>• 5.13 Storage and Handling of Petroleum Products</li> <li>• 5.14 Storage and Handling of Other Hazard Materials</li> <li>• 5.18 Topsoil</li> <li>• 5.19 Vehicle and Equipment Management.</li> <li>• 5.22 Work Progression</li> <li>• 5.23 Working Near Environmentally Sensitive Areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow the wildlife-specific spill response plan provided in Appendix D.</li> </ul>



### 3.5 BIRDS AND BIRD HABITAT

Table 3.4 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI’s EMM, and Project-specific mitigation measures for the protection of birds and bird habitat during construction, operation, and in the event of an accident, malfunction, or unplanned event.

The breeding bird season in the Project Area is currently considered to span from April 15 to August 31.

**Table 3.4 Summary of Mitigation Measures for Breeding Birds**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI’s EMM	Project-Specific Mitigation not Included in DTI EMM
Construction including: <ul style="list-style-type: none"> <li>• clearing</li> <li>• site preparation</li> <li>• temporary laydown areas or access roads</li> <li>• approaches and Canadian Port of Entry Modification</li> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Construction activities may alter or destroy migratory birds and/or bird habitat.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.3 Clearing</li> <li>• 5.7 Erosion and Sediment Management</li> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.15 Structures</li> <li>• 5.22 Work Progression</li> <li>• 5.23 Working Near Environmentally Sensitive Areas.</li> </ul>	<ul style="list-style-type: none"> <li>• An Avian Management Plan is included as Appendix E and is to be followed during all phases of the Project.</li> <li>• Project related activity will be limited outside of the Project Area;</li> <li>• The amount of clearing and disturbance will be limited to that which is necessary;</li> <li>• Clearing vegetation within the bird-breeding season (April 15 to August 31) will be avoided to the extent feasible</li> <li>• If vegetation clearing must take place within the bird-breeding season (April 15 to August 31), a non-intrusive nesting survey of the Project Area will be conducted by a qualified birder;</li> <li>• If an active bird nest is encountered, all disturbance work should temporarily stop and a buffer should be placed around the nest. Please consult with ECCC’s Canadian Wildlife Service or ERD’s Species At Risk Section (506-453-5873) to determine the appropriate size of the buffer. The nest should not be disturbed until the chicks have fledged. Note that bird nests should never be marked using flagging tape or other similar material as this increases the risk of nest predation.;</li> <li>• If grubbed or cleared areas are left inactive for periods greater than two weeks during the breeding bird season, the area will be surveyed for ground nests prior to recommencement of activity, using non-intrusive monitoring methods;</li> <li>• Any exposed spoil and aggregate piles that could present nesting opportunities to migratory birds will be covered when inactive during the breeding season.</li> </ul>
	<ul style="list-style-type: none"> <li>• Noise from construction activities may</li> </ul>	<ul style="list-style-type: none"> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> </ul>	<ul style="list-style-type: none"> <li>• No additional mitigation measures recommended</li> </ul>



**Table 3.4 Summary of Mitigation Measures for Breeding Birds**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
	<p>disrupt bird species or deter migratory birds from using the area.</p> <ul style="list-style-type: none"> <li>• Attraction to cleared/stockpile areas may result in an increase in bird injuries and/or deaths or destruction of nests.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.15 Structures</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.3 Clearing</li> <li>• 5.15 Structures</li> <li>• 5.18 Topsoil</li> <li>• 5.20 Waste Management</li> <li>• 5.22 Work Progression</li> <li>• 5.23 Working Near Environmentally Sensitive Areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Any exposed spoil and aggregate piles that could present nesting opportunities to migratory birds will be covered when inactive during the breeding season.</li> </ul>
<p>Operation and maintenance including:</p> <ul style="list-style-type: none"> <li>• operation of infrastructure (including snow and ice removal), preservation, and</li> <li>• maintenance of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Noise from maintenance activities may disrupt bird species within the Project Area or deter migratory birds from using the area.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.15 Structures</li> <li>• 5.16 Summary Highway Maintenance</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.21 Winter Highway Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• If an active bird nest is encountered, all disturbance work should temporarily stop and a buffer should be placed around the nest. Please consult with ECC's Canadian Wildlife Service or ERD's Species At Risk Section (506-453-5873) to determine the appropriate size of the buffer. The nest should not be disturbed until the chicks have fledged. Note that bird nests should never be marked using flagging tape or other similar material as this increases the risk of nest predation.</li> </ul>
<p>Accidents, malfunctions, and unplanned events including:</p> <ul style="list-style-type: none"> <li>• Fire</li> <li>• Hazardous Material Spill</li> <li>• Failure of Erosion Control Structures</li> </ul>	<ul style="list-style-type: none"> <li>• Increased potential for destruction of habitat and wildlife death from fire.</li> <li>• Increased potential for contaminants to be released into habitat through the accidental release of fuels and lubricants from construction/maintenance equipment or vehicle collisions.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.3 Clearing</li> <li>• 5.7 Erosion and Sediment Management</li> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.12 Spill Management</li> <li>• 5.13 Storage and Handling of Petroleum Products</li> <li>• 5.14 Storage and Handling of Other Hazard Materials</li> <li>• 5.18 Topsoil</li> <li>• 5.19 Vehicle and Equipment Management.</li> <li>• 5.22 Work Progression</li> </ul>	<ul style="list-style-type: none"> <li>• The Wildlife-Specific Spill Response Plan in Appendix D must be followed.</li> </ul>



**Table 3.4 Summary of Mitigation Measures for Breeding Birds**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI’s EMM	Project-Specific Mitigation not Included in DTI EMM
	<ul style="list-style-type: none"> <li>• Potential for sediment loading in habitats from ground disturbance.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.23 Working Near Environmentally Sensitive Areas.</li> </ul>	

### 3.6 ATMOSPHERIC ENVIRONMENT

Table 3.5 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI’s EMM, and Project-specific mitigation measures reduce effects to the atmospheric environment during construction, operation, and in the event of an accident, malfunction, or unplanned event.

**Table 3.5 Summary of Mitigation Measures for the Atmospheric Environment**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI’s EMM	Project-Specific Mitigation not Included in DTI EMM
Construction including: <ul style="list-style-type: none"> <li>• clearing</li> <li>• site preparation</li> <li>• temporary laydown areas or access roads</li> <li>• approaches and Canadian Port of Entry Modification</li> </ul>	<ul style="list-style-type: none"> <li>• Increased ambient air contaminant concentrations including dust</li> </ul>	<ul style="list-style-type: none"> <li>• 5.5 Detouring</li> <li>• 5.6 Dust Control</li> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.15.3 Removal of structures</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.20 Waste Management</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Special provisions will be added in the contract specifications to restrict dust generation during the operation of the farmer’s market on Rue Court on Saturday mornings in the summer.</li> </ul>
<ul style="list-style-type: none"> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• GHG emissions, contributing to global climate change</li> </ul>	<ul style="list-style-type: none"> <li>• 5.19 Vehicle and Equipment Management (in particular 5.19.2 regarding idling)</li> </ul>	<ul style="list-style-type: none"> <li>• Optimize equipment use and efficiency (in particular use the right size of equipment for the work)</li> <li>• Keep equipment well-maintained.</li> <li>• Switch off all equipment and unnecessary lighting when not required</li> <li>• Minimize the use of gas-powered and diesel-powered generators, and use the right size of generators</li> </ul>



**MADAWASKA – EDMUNDSTON BRIDGE ENVIRONMENTAL MANAGEMENT PLAN**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
	<ul style="list-style-type: none"> <li>• New, potentially disruptive sound sources that decrease sound quality</li> </ul>	<ul style="list-style-type: none"> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Special provisions will be added in the contract specifications to restrict noise generation during the operation of the farmer's market on Rue Court on Saturday mornings in the summer.</li> </ul>
<p>Operation and maintenance including:</p> <ul style="list-style-type: none"> <li>• operation of infrastructure (including snow and ice removal), preservation, and</li> <li>• maintenance of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Increased ambient air contaminant concentrations</li> <li>• GHG emissions, contributing to global climate change</li> <li>• Increase in traffic noise compared to when weight restrictions were in place</li> </ul>	<ul style="list-style-type: none"> <li>• 5.16 Summer Highway Maintenance</li> <li>• 5.21 Winter Highway Maintenance</li> </ul>	<p>No additional mitigation recommended.</p>
<p>Accidents, malfunctions, and unplanned events including:</p> <ul style="list-style-type: none"> <li>• Hazardous Material Spill</li> <li>• Project-caused Fire</li> </ul>	<ul style="list-style-type: none"> <li>• Increased ambient air contaminant concentrations</li> </ul>	<ul style="list-style-type: none"> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.12 Spill Management</li> <li>• 5.13 Storage and Handling of Petroleum Products</li> <li>• 5.19 Vehicle and Equipment Management</li> </ul>	<p>No additional mitigation recommended.</p>



### **3.7 ARCHAEOLOGICAL AND HERITAGE RESOURCES**

Table 3.6 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI's EMM, and Project-specific mitigation measures for the protection of groundwater resources during construction, operation, and in the event of an accident, malfunction, or unplanned event.

Archaeological features have been identified in the vicinity of the Project Area on three properties, one spanning PID# 35180710 and 35133206, and one located on 35135003 (Figure 1; Appendix A). The coordinates of the two sites are provided in Appendix B. The Heritage and Archaeological Services Branch (HASB) has indicated that a Site Alteration Permit is not required for ground disturbance beyond 20 m of these sites, as it is anticipated that no construction activities will take place in proximity to the archaeological sites. Contractor staff must be made aware of the presence and location of these features and ground disturbance is not to encroach on these areas.

An additional archaeologically sensitive area was identified on PID# 35265909. Excavation or other earth disturbance within this region is prohibited, however; vegetation clearing may occur provided the natural ground sediment is not disturbed. Any access roads or staging, constructed by the Contractor within this region, shall, at a minimum, consist of a 1-foot (0.3 m) thick layer of clean granular material underlain by a layer of geotextile and bi-axial geogrid placed over the existing ground prior to traversing the area with construction equipment.



**Table 3.6 Summary of Mitigation Measures for Archaeological and Heritage Resources**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
<p>Construction including:</p> <ul style="list-style-type: none"> <li>• clearing</li> <li>• site preparation</li> <li>• temporary laydown areas or access roads</li> <li>• approaches and Canadian Port of Entry Modification</li> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Ground disturbance during site preparation, clearing, grubbing, excavation and blasting, and structure assembly.</li> <li>• Ground disturbance during site preparation, clearing, grubbing, detouring, culverts, and ditching, excavation and blasting, and approach construction.</li> <li>• Ground disturbance or in-filling for the construction of staging areas.</li> <li>• Ground disturbance during site preparation, excavation, and structure disassembly.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor staff to be made aware of the presence of archaeological features identified on PIDs #35180710, 35133206, and 35135003 (see Figure 1, Appendix A, and coordinates in Appendix B). Ground disturbance to be avoided within 20 m of these sites.</li> <li>• Contractor staff to be made aware of the presence of the archaeological feature identified on PID# 35265909 ("terrace area", see Figure 1, Appendix A, and coordinates in Appendix B)</li> <li>• Excavation or other earth disturbance within this terrace area is prohibited, however; vegetation clearing may occur provided the natural ground sediment is not disturbed. Any access roads or staging, constructed by the Contractor within this region, shall, at a minimum, consist of a 1-foot (0.3 m) thick layer of clean granular material underlain by a layer of geotextile and bi-axial geogrid.</li> <li>• If it is suspected that objects or features of archaeological significance are found during construction, as per the <i>New Brunswick Heritage and Conservation Act</i>, all activities within 30 metres of the suspected find shall cease and the Manager of the Research and Assessment Section, Archaeology and Heritage Branch, New Brunswick Department of Tourism, Heritage and Culture shall be contacted at (506) 453-2738 for further direction. Additionally, the key contacts listed in Table 5.1 under Indigenous Representatives will need to be notified.</li> </ul>



## MADAWASKA – EDMUNDSTON BRIDGE ENVIRONMENTAL MANAGEMENT PLAN

<p>Accidents, malfunctions, and unplanned events including:</p> <ul style="list-style-type: none"> <li>• Hazardous Material Spill</li> <li>• Erosion and Sediment Control Failure</li> </ul>	<ul style="list-style-type: none"> <li>• Contamination of heritage resources where present and the wider contextual information.</li> <li>• Loss of heritage resources and/or the wider contextual information.</li> </ul>	<ul style="list-style-type: none"> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> </ul>	<ul style="list-style-type: none"> <li>• If it is suspected that objects or features of archaeological significance are found during construction, as per the <i>New Brunswick Heritage and Conservation Act</i>, all activities within 30 metres of the suspected find shall cease and the Manager of the Research and Assessment Section, Archaeology and Heritage Branch, New Brunswick Department of Tourism, Heritage and Culture shall be contacted at (506) 453-2738 for further direction. Additionally, the key contacts listed in Table 5.1 under Indigenous Representatives will need to be notified.</li> </ul>
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### 3.8 GROUNDWATER

Table 3.7 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI's EMM, and Project-specific mitigation measures for the protection of groundwater resources during construction, operation, and in the event of an accident, malfunction, or unplanned event.

**Table 3.7 Summary of Mitigation Measures for Groundwater Resources**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
<p>Construction including:</p> <ul style="list-style-type: none"> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Drawdown of groundwater</li> </ul>	<ul style="list-style-type: none"> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.20 Waste Management</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Establish a pre-construction water quality baseline of wells located within 500 m of any planned blasting activities in the case that blasting is needed</li> </ul>
	<ul style="list-style-type: none"> <li>• Increased turbidity in groundwater wells due to vibrations from pile driving activities</li> </ul>	<ul style="list-style-type: none"> <li>• 5.8 Excavation, Blasting and Aggregate Production</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.20 Waste Management</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> </ul>	<p>No additional mitigation recommended.</p>



<p>Operation and maintenance including:</p> <ul style="list-style-type: none"> <li>• operation of infrastructure (including snow and ice removal), preservation, and</li> <li>• maintenance of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• No interaction anticipated</li> </ul>	<ul style="list-style-type: none"> <li>• 5.16 Summer Highway Maintenance</li> <li>• 5.21 Winter Highway Maintenance</li> </ul>	<p>No additional mitigation recommended.</p>
<p>Accidents, malfunctions, and unplanned events including:</p> <ul style="list-style-type: none"> <li>• Hazardous Material Spill</li> <li>• Vehicle Collision</li> </ul>	<ul style="list-style-type: none"> <li>• Contamination of groundwater and private wells</li> </ul>	<ul style="list-style-type: none"> <li>• 5.12 Spill Management</li> <li>• 5.13 Storage and Handling of Petroleum Products</li> <li>• 5.19 Vehicle and Equipment Management</li> </ul>	<ul style="list-style-type: none"> <li>• In the unlikely event that a hazardous material spill occurs, measures must be taken to isolate the affected area as soon as possible. An assessment of the affected area must be conducted, and remediation must be completed as required.</li> </ul>

### 3.9 LAND USE AND ECONOMY

Table 3.8 presents a summary of Project components, potential interactions, standard mitigation measures in NBDTI’s EMM, and Project-specific mitigation measures to address potential interactions with land use and economy during construction, operation, and in the event of an accident, malfunction, or unplanned event.

**Table 3.8 Summary of Mitigation Measures for Land Use and Economy**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI’s EMM	Project-Specific Mitigation not Included in DTI EMM
<p>Construction including:</p> <ul style="list-style-type: none"> <li>• clearing</li> <li>• site preparation</li> <li>• temporary laydown areas or access roads</li> <li>• approaches and Canadian Port of Entry Modification</li> <li>• bridge construction including substructure (piers) and superstructure (deck)</li> <li>• demolition and removal of existing bridge</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic delays</li> <li>• Altered/restricted access to land, affecting land use and activities</li> </ul>	<ul style="list-style-type: none"> <li>• 5.5 Detouring</li> <li>• 5.7 Erosion and Sediment Management</li> <li>• 5.17 Temporary Ancillary Facility Management</li> <li>• 5.20 Waste Management</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> <li>• 5.24 Working Near Pipelines and Other Underground Services</li> </ul>	<ul style="list-style-type: none"> <li>• The flow of traffic will be maintained to the extent possible around and within the Project area during construction and operation and maintenance in accordance with the NBDTI Work Area Traffic Control Manual (WATCM).</li> </ul>



**Table 3.8 Summary of Mitigation Measures for Land Use and Economy**

Project Component	Potential Interactions	Sections Outlining Applicable Standard Mitigation in NBDTI's EMM	Project-Specific Mitigation not Included in DTI EMM
Operation and maintenance including: <ul style="list-style-type: none"> <li>• operation of infrastructure (including snow and ice removal), preservation, and</li> <li>• maintenance of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in traffic in the area</li> </ul>	<ul style="list-style-type: none"> <li>• 5.16 Summer Highway Maintenance</li> <li>• 5.21 Winter Highway Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• The flow of traffic will be maintained to the extent possible around and within the Project area during operation and maintenance in accordance with the NBDTI Work Area Traffic Control Manual (WATCM).</li> </ul>
Accidents, malfunctions, and unplanned events including: <ul style="list-style-type: none"> <li>• Hazardous Material Spill</li> <li>• Project-caused Fire</li> <li>• Vehicle Collision</li> </ul>	<ul style="list-style-type: none"> <li>• Contamination of land, affecting land use and activities</li> <li>• Contamination of water affecting water-based activities</li> <li>• Fire damage to property and land</li> <li>• Property damage, the release of a hazardous material, or injury to people</li> </ul>	<ul style="list-style-type: none"> <li>• 5.10 Fire Prevention and Contingency</li> <li>• 5.12 Spill Management</li> <li>• 5.13 Storage and Handling of Petroleum Products</li> <li>• 5.14 Storage and Handling of Other Hazardous Materials</li> <li>• 5.19 Vehicle and Equipment Management</li> <li>• 5.20 Waste Management</li> <li>• 5.23 Working Near Environmentally Sensitive Areas</li> </ul>	No additional mitigation recommended.



## 4.0 CONTINGENCY AND EMERGENCY RESPONSE PLANS

The overall objective of Contingency and Emergency Response Plans is to allow for a safe, quick, and effective response to unexpected and emergency situations. The Contingency and Emergency Response Plans cannot prevent adverse effects, but the plans provide a method of managing potential environmental effects and should be followed in the event of an accident, malfunction, or unplanned event.

Contingency and ERPs will be primarily followed by the Contractor(s) during construction and by NBDTI during operation and maintenance of the Project. Specific plans are available in the NBDTI EMM (Section 5.0) and include:

- **Fuel and Chemical Spills Response** – for spills during the construction and operation phases (Section 5.12)
- **Fish Rescue** – for instream work in watercourses with the potential to have fish such as stream diversions, culvert installations as well as blasting in or near watercourses (Sections 5.4.2, 5.8.2, and 5.23.8)
- A **Wildlife-Specific Spill Response Plan** is provided in Appendix D and must be followed if a spill occurs that may affect avian or wildlife species at risk, or sensitive habitats.
- **Wildlife Encounters** – for nuisance wildlife (e.g. bears, moose, beaver, and coyotes) (Sections 5.2 and 5.23.11)
- **Fire** – for potential forest fires (Section 5.10)
- **Historical Resources** – for the potential discovery of archaeological resources (Section 5.32.2)
- **Sulphide Bearing Rock** – for the discovery of potentially sulphide bearing rock (Section 5.25)

In addition, the Contractor must submit a Spill Prevention Control and Countermeasure Plan and Temporary Soil Erosion and Water Pollution Control Plan for approval by Maine DOT. These Plans must also be followed.



## 5.0 EMERGENCY CONTACT INFORMATION

Key organizations and/or individuals that may be contacted during emergency situations or regarding regulatory issues are listed in Table 5.1.

**Table 5.1 Key Contacts**

Agency	Description	Contact Information
Emergency Services	In the event of an accident or emergency	911
New Brunswick Department of Environment and Local Government (NBDELG) Regional Office in Grand Falls (Region 6)	To be contacted during business hours in case of; <b>-accidental release (spill) of hazardous materials, regardless of quantity;</b> <b>- failure of erosion and sediment control structures;</b> and/or <b>- encounters of potentially contaminated soil.</b>	Telephone: (506) 473-7744 Fax: (506) 475-2510 Email: <a href="mailto:elg.egl-region6@gnb.ca">elg.egl-region6@gnb.ca</a> (Open Mon.-Fri. 8:15 am to 4:30 pm) P.O. Box 5001, Grand Falls, NB, E3Z1G1 General email: <a href="mailto:elg/egl-info@gnb.ca">elg/egl-info@gnb.ca</a>
National Environmental Emergencies Center	To be contacted after hours in case of: <b>- accidental release (spill) of hazardous materials, regardless of quantity;</b> and/or <b>- sediment occurring after hours.</b>	Toll free telephone: 1-800-565-1633
Indigenous representatives	To be contacted in case of: <b>- accidental release of hazardous materials;</b> <b>- failure of erosion and sediment control structures;</b> <b>- encounters of potentially contaminated soil,</b> and/or <b>- unplanned encounter of suspected archaeological resources of any kind.</b>	Russ Letica Wolastoqiyik Nation @ Matawaskiye Consultation Coordinator (506) 735-0032 <a href="mailto:russletica@madawaskamaliseet.com">russletica@madawaskamaliseet.com</a>  Wolastoqey Nations in New Brunswick (Gordon Grey, Shyla O'Donnell or Gillian Paul), 506-459-6341, <a href="mailto:Gordon.Grey@wolastoqey.ca">Gordon.Grey@wolastoqey.ca</a>
Fisheries and Oceans Canada	<b>It is the Contractor's duty to notify DFO if they have caused, or are about to cause, the death of fish by means other than fishing and/ or the harmful alteration, disruption or destruction of fish habitat.</b>	<a href="http://www.dfo-mpo.gc.ca/pnw-ppe/CONTACT-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/CONTACT-eng.html</a> .
NBDNRED – Regional Office (Edmundston)	To be contacted in case of: <b>- wildlife encounter;</b> <b>- migratory nesting birds;</b> <b>- heron or raptor presence;</b> and/or <b>- fire.</b>	Telephone: (506) 735-2040 Fax: (506) 735-2042 Email: <a href="mailto:dnr_mrnweb@gnb.ca">dnr_mrnweb@gnb.ca</a>



**MADAWASKA – EDMUNDSTON BRIDGE ENVIRONMENTAL MANAGEMENT PLAN**

**Table 5.1 Key Contacts**

<b>Agency</b>	<b>Description</b>	<b>Contact Information</b>
Canadian Wildlife Service	To be contacted in case of: <b>- migratory nesting birds</b>	Telephone: (506) 364-5044 Fax: (506) 364-5062 E-mail: <a href="mailto:sarapermitting.atl@ec.gc.ca">sarapermitting.atl@ec.gc.ca</a>
NBDTI –Environmental Branch	To be contacted in the event of: <b>- species at Risk presence:</b> <b>- nesting bird sighting;</b> and/or <b>- questions about breeding bird issues.</b>	Greg Quinn, Terrestrial Ecologist Telephone: (506) 238-4730 E-mail: Greg.Quinn@gnb.ca
	For questions related to; <b>- fish or fish habitat,</b> <b>- surface water quality,</b> <b>- permitting, or DFO requirements</b>	Danielle Amos, Environmental Coordinator Telephone: (506) 476-5802 E-mail: Danielle.Amos@gnb.ca
	To be contacted in the case of: <b>- encounter of potentially contaminated soil.</b>	Monique Pelletier Engineer Telephone: (506) 453-5783 Email: Monique.Pelletier@gnb.ca
NB Archaeological Services	To be contacted in case of: <b>- unplanned encounter of suspected archaeological resources of any kind.</b>	Anne Hamilton Telephone: (506) 238-0438 Email : <a href="mailto:Anne.Hamilton@gnb.ca">Anne.Hamilton@gnb.ca</a>
NB Museum	To be contacted in case of: <b>unplanned encounter of fossils or items of geological significance or interest</b>	Randall Miller Telephone: (506) 643-2300 Toll free: 1-888-268-9595 Email: <a href="mailto:nbmuseum@nbm-mnb.ca">nbmuseum@nbm-mnb.ca</a>
Canadian Border Services Agency – Edmundston office	To be contacted for: <b>- security clearance issues</b>	Benoit Clavette Telephone : (506)739-1839
CN railway	Contact CN’s environmental officer. for <b>any environmental issues.</b> For <b>any other emergencies</b> the CN police should be contacted	Steve Andrews, Environmental Officer: Telephone: 902 428 5261 Cell: 902 222 3407 CN Police: Telephone: 1-800-465-9239
NBDTI – Edmundston District Office	For any other inquiries	Francois Morin District Engineer Telephone: (506) 735-2050 E-mail: Francois.Morin@gnb.ca



## 6.0 FOLLOW-UP MONITORING

A wetland follow-up monitoring program, including monitoring of wetland function, will be conducted one, three, and five years after the completion of construction. The details of this monitoring program will be determined by NBDTI in consultation with NBDELG.

## 7.0 REFERENCES

New Brunswick Department of Environment and Local Government (NBDELG), 2014. Sand & Gravel Pit Guideline. Prepared by Approvals Branch of the Environmental Management Division. Available online at: <http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/SandAndGravelPitGuideline.pdf>

New Brunswick Department of Environment and Local Government (NBDELG), 2012. Rock Quarry Siting Standards. Prepared by Approvals Branch of the Environmental Management Division. Available online at: <http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/RockQuarrySitingStandards.pdf>

New Brunswick Department of Environment and Local Government (NBDELG), 2011. Operational Policy for The Extraction Of Consolidated Rock With The Use Of Explosives. Prepared by Approvals Branch of the Environmental Management Division. Available online at: <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/ExtractionOfRock.pdf>

New Brunswick Department of Environment and Local Government (NBDELG), 2012. Asphalt Plant Siting Standards. Prepared by Approvals Branch of the Environmental Management Division. Available online at: <https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Air-Lair/AsphaltPlantSitingStandard.pdf>

New Brunswick Department of Transportation (NBDOT). 2010. Environmental Management Manual, Fourth edition, January 2010. Available at: <https://www2.gnb.ca/content/dam/gnb/Departments/trans/pdf/en/RoadsHighways/EnvironmentalManagementManual.pdf>

Stantec Consulting Ltd (Stantec). 2019. Environmental Impact Assessment Registration for the Replacement of the Madawaska-Edmundston International Bridge (E320) Available by contacting NBDTI.

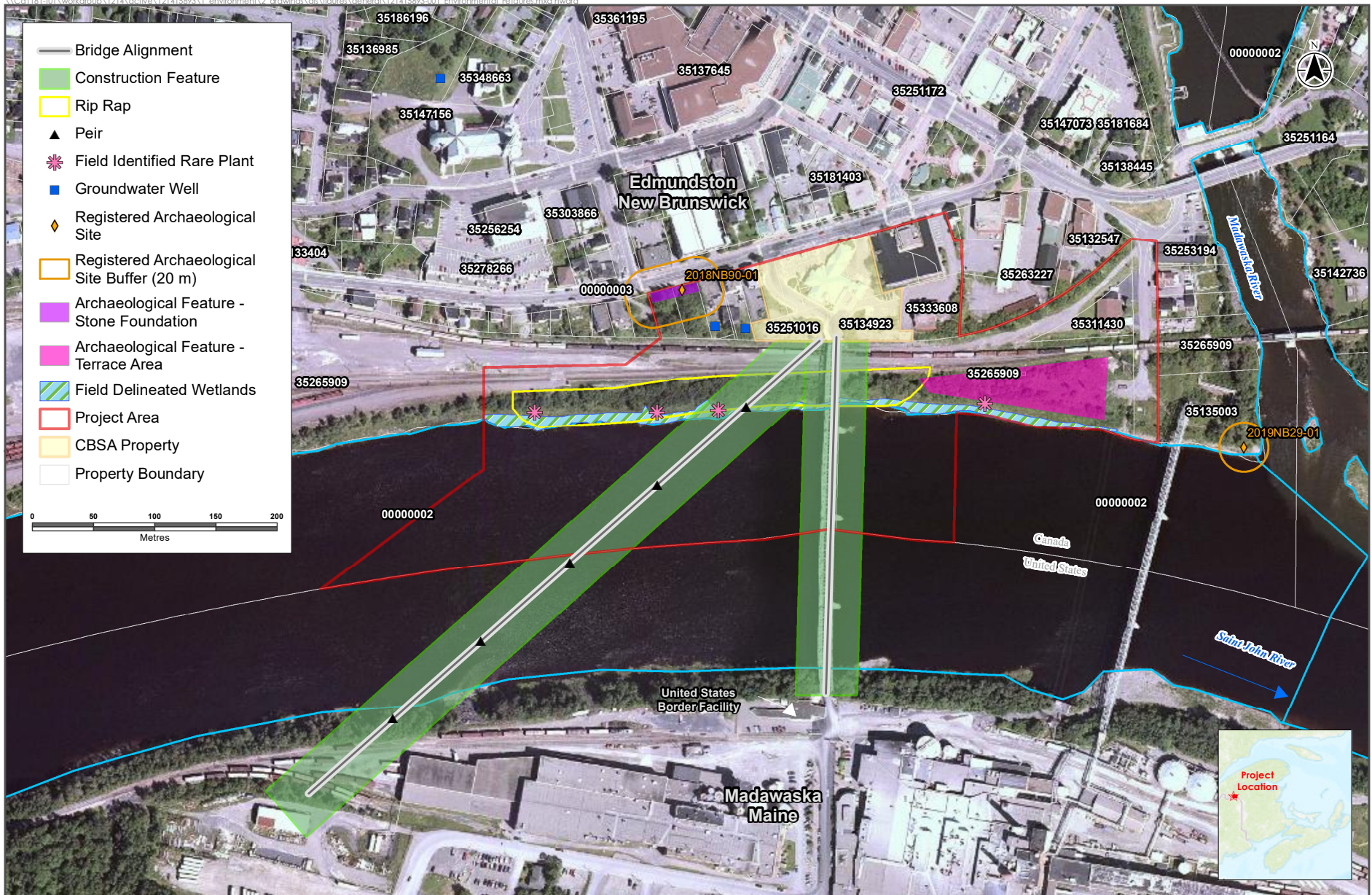
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# **APPENDIX A**

## **Project Figures**





Sources: Government of New Brunswick  
 Service Layer Credits: Service New Brunswick/Service Nouveau Brunswick

Environmentally Significant Features

# Construction Footprint

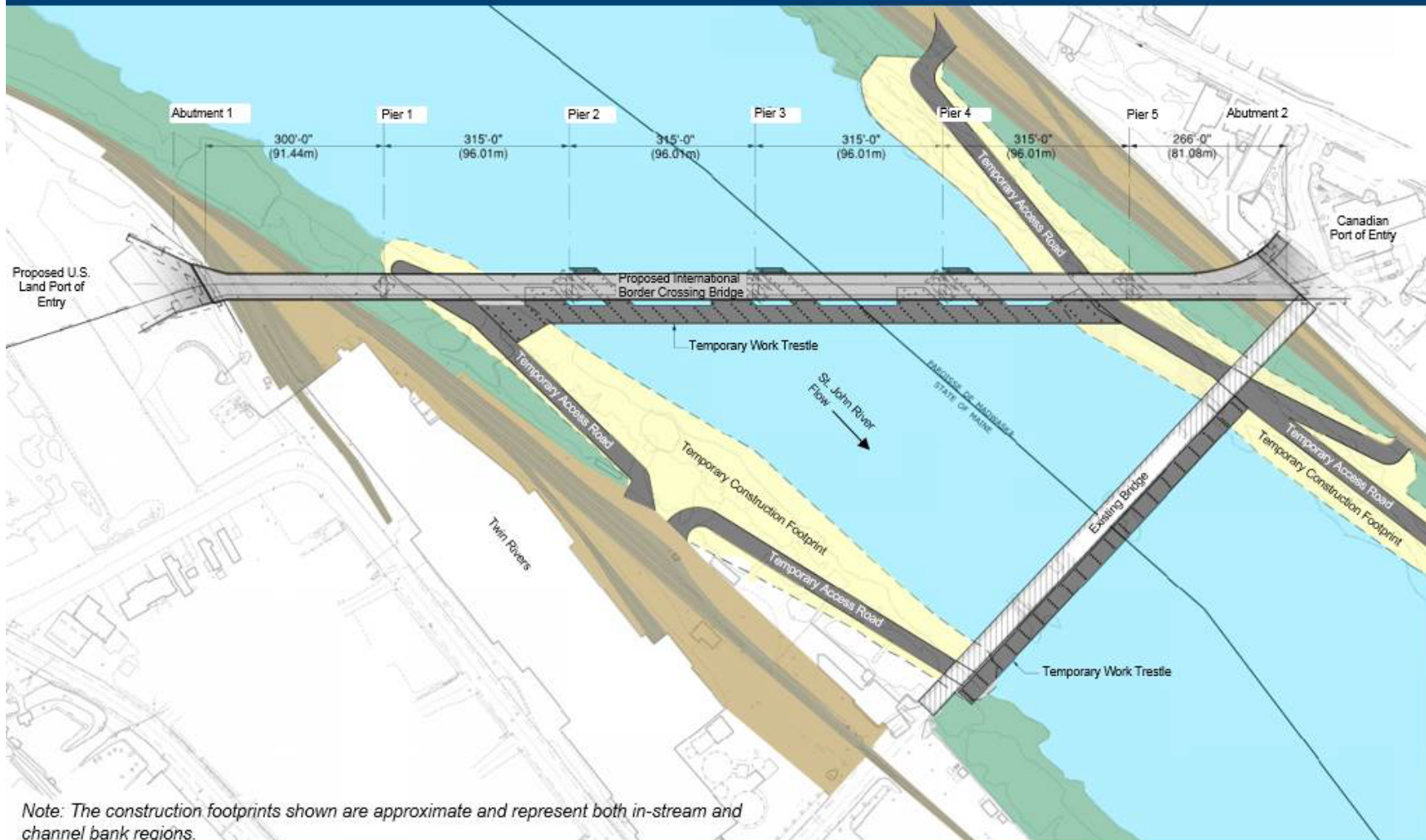


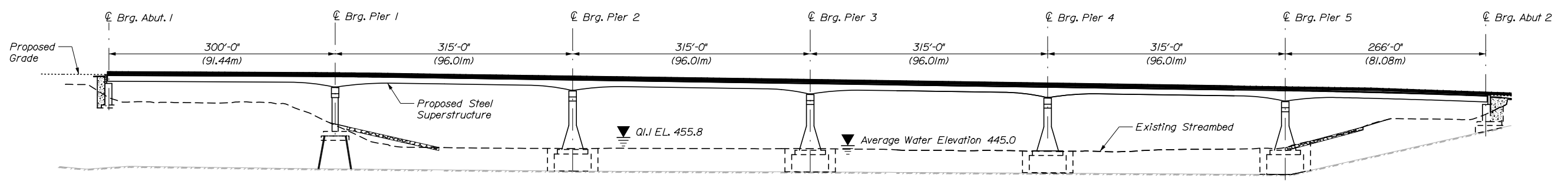
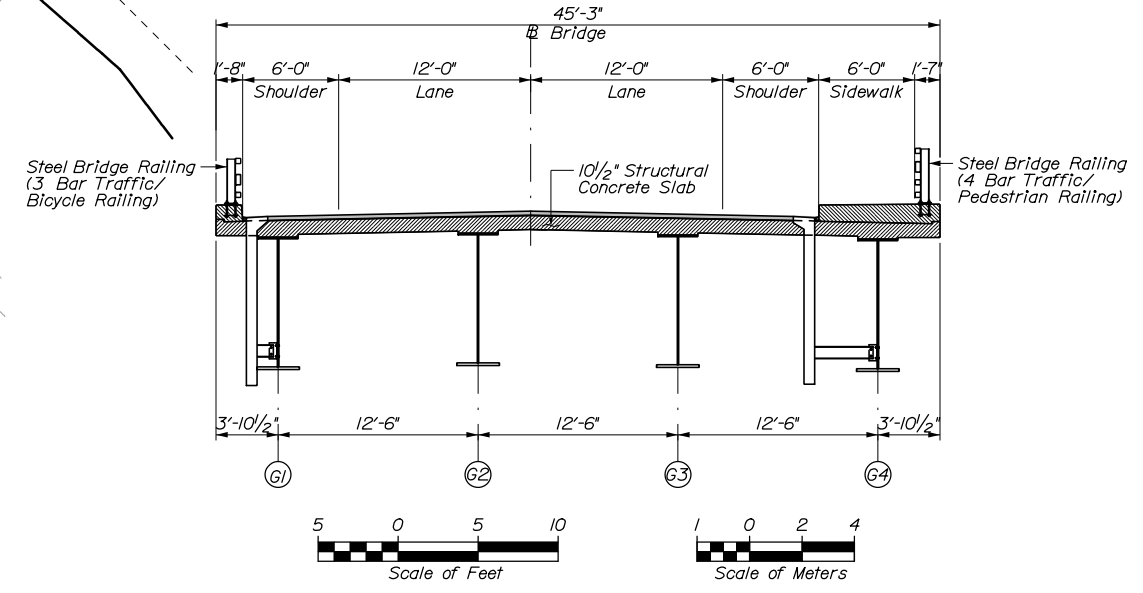
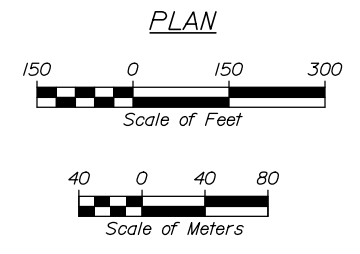
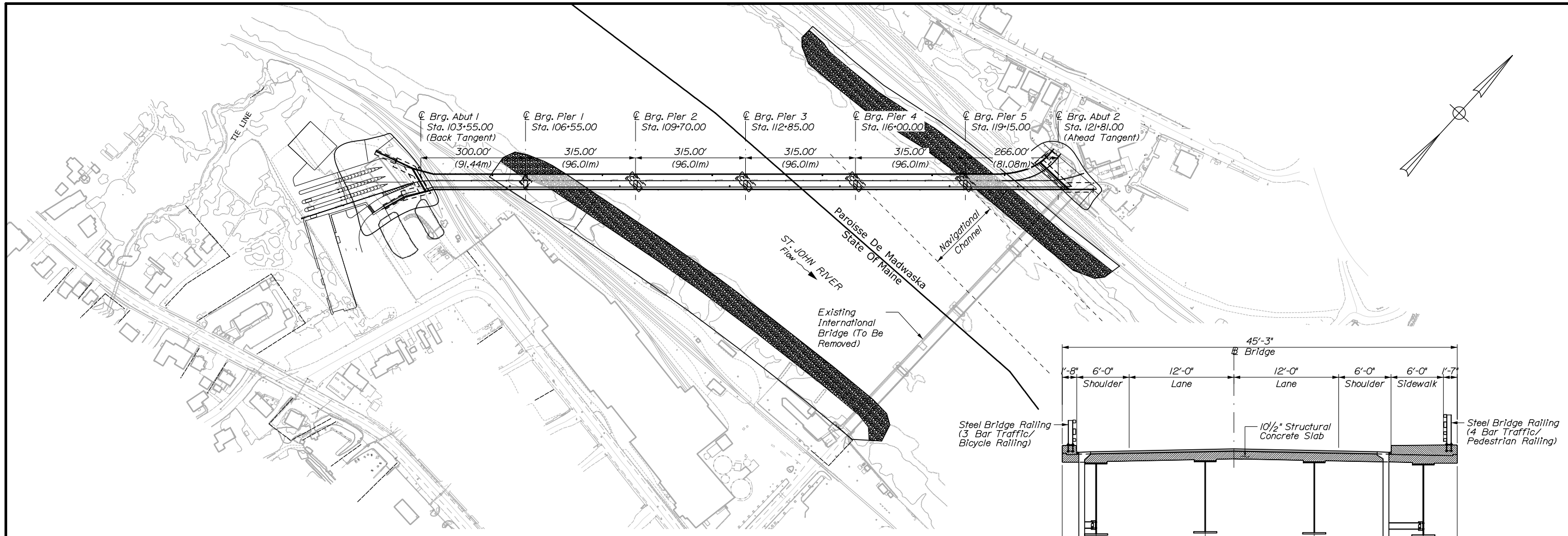
Figure 2. Conceptual Construction Footprint

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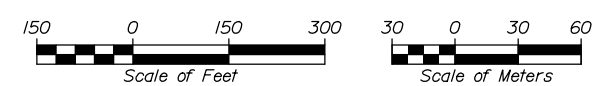
Username:

Division:

Filename: Plan and Elevation for Word.dgn



**ELEVATION**  
(Elevation View is shown perpendicular to the structure and approximately 45° to the channel)



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2399  
WIN  
021736.00  
BRIDGE PLANS

PROJ. MANAGER	A. LATHI	BY	P. Bishop	DATE	12/18
DESIGN-DETAILED	J. Burris	CHECKED-REVIEWED	J. Ward	SIGNATURE	
DESIGNS-DETAILED		DESIGNS-DETAILED		P.E. NUMBER	
REVISIONS 1		REVISIONS 1		DATE	
REVISIONS 2		REVISIONS 2			
REVISIONS 3		REVISIONS 3			
REVISIONS 4		REVISIONS 4			
FIELD CHANGES					

INTERNATIONAL BRIDGE	
SAINT JOHN RIVER	
MADAWASKA, ME	
EDMUNDSTON, NB	

**GENERAL ARRANGEMENT**

SHEET NUMBER

Pla  
OF 25



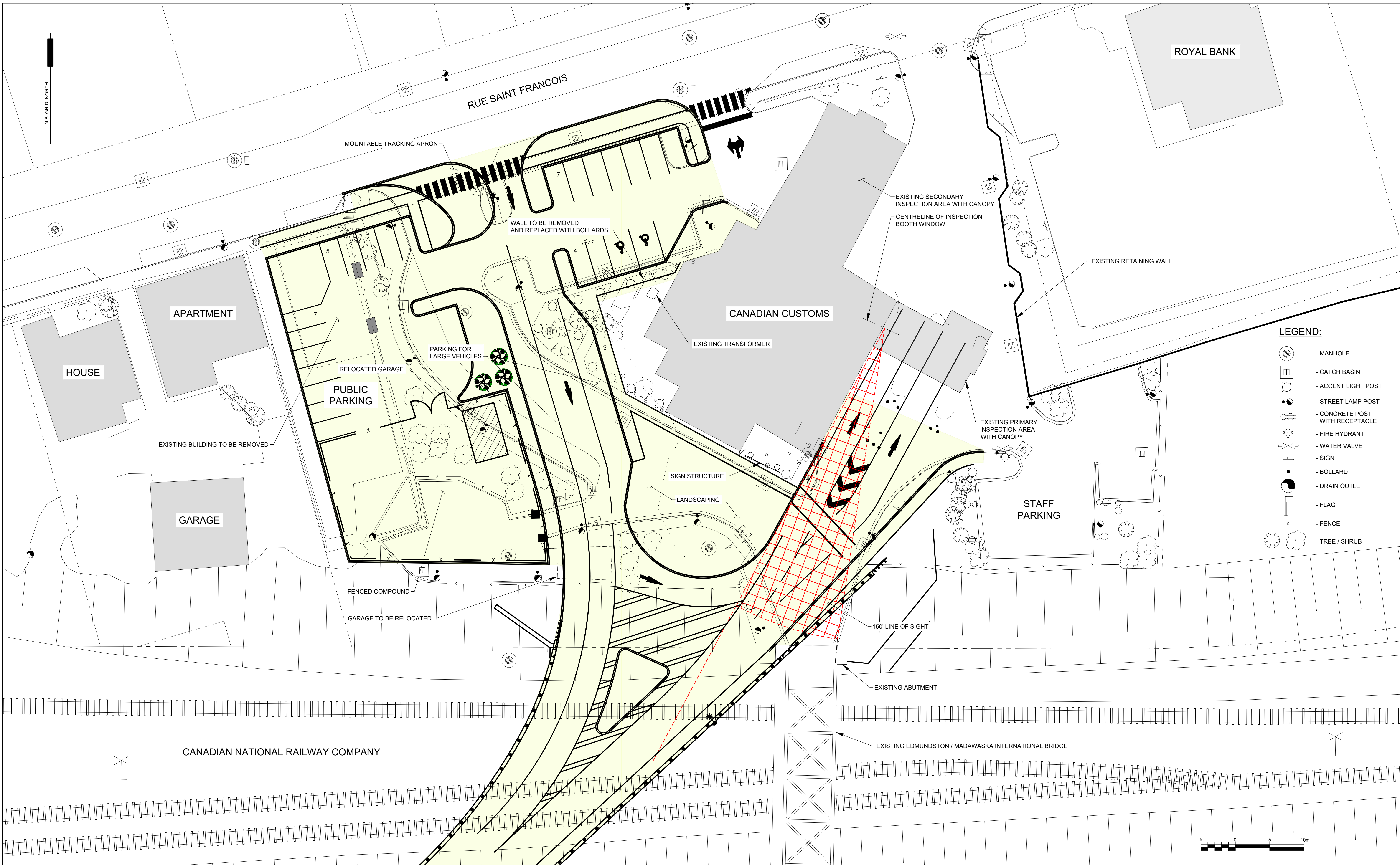
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\*USER\*

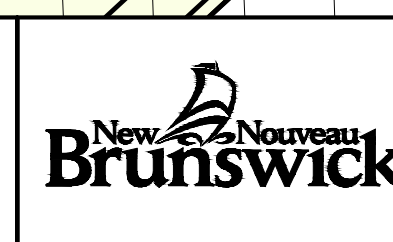


- LEGEND:**
- MANHOLE
  - CATCH BASIN
  - ACCENT LIGHT POST
  - STREET LAMP POST
  - CONCRETE POST WITH RECEPTACLE
  - FIRE HYDRANT
  - WATER VALVE
  - SIGN
  - BOLLARD
  - DRAIN OUTLET
  - FLAG
  - FENCE
  - TREE / SHRUB



NO.	REVISIONS	DATE

DRAWING STATUS  
INFORMATION TO STRUCTURES  
**PRELIMINARY**  
NOT FOR CONSTRUCTION



DEPARTMENT OF  
TRANSPORTATION AND  
INFRASTRUCTURE  
Design Branch

EDMUNDSTON BORDER CROSSING  
TOWN OF EDMUNDSTON  
MADAWASKA COUNTY

**GENERAL ARRANGEMENT  
CONCEPT 2A**

Bridge No.	File No.	Date	AUGUST 2019
Bridge Design Code		Live Load	
Contract No.	DWG	<b>GA2A</b>	

## **APPENDIX B**

### **Coordinates for Environmentally Significant Features**



**Table B.1 Coordinates of Environmentally Significant Features**

Feature	Longitude	Latitude	Property Identification Number (PID No.)	Property owner
<b>Rare Plants</b>				
<i>Juncus brachycephalus</i>	-68.33050	47.36088	35265909	CN
<i>Tanacetum bipinnatum</i>	-68.32695	47.36100	35265909	CN
<i>Eleocharis quinqueflora</i>	-68.32983	47.36091	35265909	CN
<i>Agalinis purpurea</i>	-68.33182	47.36086	35265909	CN
<b>Archaeological Features</b>				
2018 NB90-01 - Historical foundations - North-west corner	-68.33061	47.36174	35180710	Private
2018 NB90-01 - Historical foundations - North-east corner	-68.33011	47.36184	35133206	Private
2018 NB90-01 - Historical foundations - South-west corner	-68.33058	47.36167	35180710	Private
2018 NB90-01 - Historical foundations - South-east corner	-68.33007	47.36176	35133206	Private
2019 NB29-01 - Historical midden	-68.32414	47.36072	35135003	Twin Rivers
Terrace area - North-west corner	-68.32769	47.36118	35265909	CN
Terrace area - North-east corner	-68.32564	47.36137	35265909	CN
Terrace area - South-west corner	-68.32757	47.36107	35265909	CN
Terrace area - South-east corner	-68.32566	47.36090	35265909	CN

# **APPENDIX C**

## **List of Conditions from NBDELG**



**CERTIFICATE OF DETERMINATION  
CERTIFICAT DE DÉCISION**

**NEW BRUNSWICK ENVIRONMENTAL IMPACT ASSESSMENT REGULATION  
RÈGLEMENT SUR LES ÉTUDES D'IMPACT SUR L'ENVIRONNEMENT DU NOUVEAU-BRUNSWICK**

**File Number/Numéro du dossier: 4561-3-1517**

This Certificate of Determination to **PROCEED** is hereby issued to the following proponent:  
*Ce Certificat de décision pour **PROCÉDER** est accordé au promoteur suivant:*

**New Brunswick Department of Transportation and Infrastructure**

Description of undertaking/*Description de l'ouvrage:*

Madawaska-Edmundston International Bridge Replacement

Location of undertaking and PID/*Emplacement de l'ouvrage et NID:*

City of Edmundston, Madawaska County, New Brunswick at the Canada/USA international border to Madawaska, Maine, USA. The project PIDs are located south of Rue St-François and include a portion of PID 35265909, PID 35311430, a portion of Ferry Avenue, within the Saint John River (PID 00000002), and PIDs located between PID 35133222 and PIDs 35133032, 35181676, and 35263227.

Address of proponent/*Adresse postale du promoteur:*

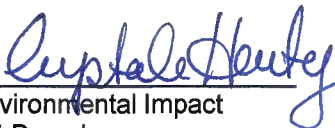
440 King Street, Kings Place, 2nd Floor, Fredericton, New Brunswick E3B 5H1

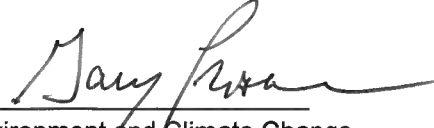
Conditions of approval/*Conditions d'agrément:*

**AS PER THE ATTACHED DOCUMENT  
"A"/DOCUMENT 'A' CI-JOINT**

Date of issue/*Date d'émission:*

December 16, 2020

Recommended by:  
*Recommandé par:*   
*(acting)* Director, Environmental Impact Assessment Branch  
*Directeur, Direction des études d'impact sur l'environnement*

Determination by:  
*Décision par:*   
Minister of Environment and Climate Change  
*Ministre de l'Environnement et du Changement climatique*

Environment and Local Government  
Environnement et Gouvernement locaux

## DOCUMENT "A"

### MINISTER'S DETERMINATION CONDITIONS OF APPROVAL

Pursuant to Regulation 87-83 under the *Clean Environment Act*

December 16, 2020

File Number: 4561-3-1517

1. In accordance with section 6(6) of the Regulation, it has been determined that the undertaking may proceed following approval under all other applicable acts and regulations.
2. Commencement of this undertaking must occur within three years of the date of this Determination. Should commencement not be possible within this time period, the undertaking must be registered under the *Environmental Impact Assessment Regulation (87-83) – Clean Environment Act* again, unless otherwise stated by the New Brunswick Minister of Environment and Climate Change.
3. The proponent shall adhere to all obligations, commitments, monitoring, and mitigation measures presented in the Environmental Impact Assessment (EIA) registration document dated February 2019 as well as all those identified in subsequent correspondence during the registration review. Additionally, the proponent shall submit a summary table detailing the status of each Condition listed in this Determination to the Environmental Impact Assessment (EIA) Branch (the Director), Department of Environment and Local Government (DELG) every six months from the date of this Determination until such a time as all the Conditions have been met or until it is deemed by the Director to be no longer required.
4. Prior to commencing any project related activities, the proponent must submit to the Director of the EIA Branch, DELG, written confirmation that an agreement has been reached with the current landowners for the use of the lands (e.g. a land use or lease agreement, and/or land transfer agreement).
5. The proponent must fulfill all project related commitments made to First Nations and must continue to engage and support the consultation process with First Nations, as appropriate, in an effort to understand the potential impacts on Aboriginal and treaty rights and avoid or mitigate these impacts where possible. The status of each commitment made to First Nations must be reported to the Director of the EIA Branch, DELG, as a part of the six-month summary updates (Condition 3, above).
6. If it is suspected that archaeological resources are discovered during any project related activity, as per the *New Brunswick Heritage Conservation Act*, all activity shall be stopped near the find and the Archaeology and Heritage Branch, New Brunswick Department of Tourism, Heritage and Culture (THC), must be contacted immediately at (506) 453-2738 for further direction.
7. If any material excavated from the wetted portion of the river bed during project activities is planned to be disposed of in the Province of New Brunswick, a description of the final disposal plan and location must be submitted to the Director, EIA Branch, DELG, for review and must be approved prior to disposal. Sampling results must be submitted with the description.

8. A Decommissioning Plan for the existing bridge must be prepared and submitted to the Director of the EIA Branch, DELG, for review and approval prior to commencing any activities associated with decommissioning.
9. The proponent shall prepare and submit an Environmental Management Plan (EMP) for all project phases to the Director of the EIA Branch, DELG, for review and approval prior to commencing any activity associated with that phase. The EMP must include but is not limited to, project specific mitigation, contingency plans, and emergency response plans.
10. A Wetland Monitoring Plan must be submitted within six months following the completion of project construction to the Director of the EIA Branch, DELG for review and approval. At a minimum, the Wetland Monitoring Plan must include monitoring of wetland function at years one, three, and five post-construction. Additional mitigation may be required for any further impacts to delineated wetlands based on the results of the Wetland Monitoring Plan. Once approved, the Wetland Monitoring Plan should be added into the approved EMP for this project
11. The proponent shall ensure that any proposed project modifications or future expansions are submitted to the Director, EIA Branch, DELG, for review and approval prior to implementing the changes.
12. In the event of the sale, lease, or any other conveyance or change of control of the property, or any portion thereof, the proponent must provide written acknowledgement from the lessee, controller, or purchaser confirming that they will comply with the Conditions of this Determination to the Director, EIA Branch, DELG.
13. The proponent shall ensure that all developers, contractors and operators associated with the project comply with the above requirements.

EA

# **APPENDIX D**

## **Wildlife-Specific Spill Response Plan**



**NB Department of Transportation and Infrastructure**

**Wildlife-Specific Spill Response Plan for Madawaska-Edmundston International Bridge**

***Introduction***

This report provides a response plan to oil spills that have the potential to affect wildlife. In addition, Contractors will comply with Section 5.12 of the NBDTI EMM (2010) for spill management and spill response.

For any spill that has the potential to affect/harm wildlife or is greater than 20L, the Atlantic Wildlife Institute (AWI) will be notified immediately (in addition to those outlined in the EMM), to conduct an on-site assessment of the situation to determine the risk and hazards to wildlife that could result from the spill.

***Regulatory Framework***

In all circumstances where a polluter is identified, the burden of cleanup and response lies with the polluter. Section 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:

*“(1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.*

*“(2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds.”*

The federal Species at Risk Act (SARA) and the New Brunswick Species at Risk Act (NBSARA) protect wildlife species from becoming extinct or extirpated and provide means for recovery for species at risk (SAR). For species listed on Schedule 1 of SARA or Schedule A of NBSARA, it is illegal to kill, harm, harass, or capture individuals. For species where critical habitat is identified under those acts, that habitat is also protected. There are many bird species protected under these acts that could potentially occur with the project area.

**It is the responsibility of the contractor to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations. It is also the contractor's duty to notify DFO if they have caused, or are about to cause, serious harm to fish** that are part of or support a commercial, recreational or Aboriginal fishery. Such notifications may be directed to <http://www.dfo-mpo.gc.ca/pnw-ppe/violation-infraction/index-eng.html>

However, responsibility for government overview of a response to an oil spill depends on the source of the spill. The identified lead agency has responsibility to monitor an oil spill response and to take control if an appropriate response is not undertaken by a polluter or their agent. Lead agency responsibilities lie with:

- Environment Canada - For spills and incidents on federal lands and from federal vessels - Potentially for land-based incidents in waters frequented by fish - May take lead if environment is not being protected by other leads, Cabinet Directive 1973

- Canadian Coast Guard - For spills from ships - All spills of unknown sources in marine environment
- Provincial Department of Environment - For spills from land-based sources
- Transport Canada - To investigate ship source and mystery spills in the marine environment

The Canadian Wildlife Service (CWS) has the responsibility for licensing activities which involve the handling or disturbance of birds, and of providing advice and often direction to other agencies, responders and the polluter during oil spill incidents. Federal and provincial permits are required from CWS and the New Brunswick Department of Energy and Resource Development (ERD) to handle, provide care, housing and emergency treatment for wildlife. Where Species at Risk are involved, additional permits are required.

### *Wildlife Emergency Response*

Only one agency, the Atlantic Wildlife Institute (AWI) currently holds the required permits to respond to wildlife emergencies in New Brunswick and provide care and rescue for wildlife, including Species at Risk. AWI has many years of experience in wildlife rescue and emergency response and has ongoing agreements with major players in the oil and gas sector and with other industrial proponents. They have applied a wide range of emergency response and mitigation techniques in response to spills and ongoing wildlife hazards and are familiar with Federal guidance for birds and oil (CWS 2012).

NBDTI and AWI have entered in an agreement in early 2019, according to which AWI will retain their wildlife emergency response services on an as-needed basis and rates for various aspects of those services have been agreed on. AWI operates under the ICS (Incident Command System) for emergency response. ICS is a standard emergency response format recognized throughout North America for all emergencies, including with the New Brunswick Emergency Measures Organization. This system allows fast transition into an event by pre-established agreements, documentation and operational accountabilities.

Based on their experience AWI will determine the appropriate response to whatever emergency should arise. Their services will include, as appropriate:

- Mitigation measures to deter migratory birds from coming into contact with the oil,
- Mitigation measures to be undertaken if migratory birds and/or sensitive habitat become contaminated with the oil,
- The type and extent of monitoring that would be conducted in relation to various spill events, and
- Wildlife rescue and rehabilitation.

**In the event of any oil spill, the Contractor will comply with Section 5.12 of the EMM and conduct the listed mitigations and notifications.** If the oil spill has the potential to harm wildlife and/or is greater than 20L, the Contractor will contact the Resident Engineer immediately. The contractor will also contact AWI as soon as possible and no later than 24 hours from the event, and will provide AWI with information on the type, extent, location, material, mobility, and containment status of the spill. AWI (or a qualified surrogate) will come to the site to conduct an assessment of the risks and hazards of the spill to wildlife, and proceed with appropriate mitigation measures immediately if any are required. AWI will follow up with an outline of a monitoring and rehabilitation plan that may include deterrents, wildlife rescue,

collection, and rehabilitation that will be agreed on between AWI, NBDTI, and the appropriate regulatory agencies. Once the emergency has been resolved, AWI will provide a report outlining the steps taken, the outcome, and any longer-term measures that might be required on an ongoing basis.

## ***Emergency Contacts***

### **AWI:**

- **Pam Novak** (Director, Animal Care):  
Tel: 506.364.1902, Cell: 506.870.0208,  
[pam.novak@xplornet.com](mailto:pam.novak@xplornet.com)
- **Barry Rothefuss** (Executive Director):  
Tel: 506.364.1902, Cell: 506.878.7906

**Once AWI is involved, they will make notifications to the regulators in accordance with their permitting requirements, and will additionally contact the people listed below:**

### **NBDTI:**

- **Melissa Cummings** (Manager, Environmental Branch):  
Cell: 506.478.4108,  
[melissa.cummings@GNB.ca](mailto:melissa.cummings@GNB.ca)
- **Greg Quinn** (Ecologist, Environmental Branch):  
Cell: 506.238.4730,  
[greg.quinn@GNB.ca](mailto:greg.quinn@GNB.ca)

### **First Nations:**

- **Chief Patricia Bernard** (Chief of Madawaska First Nation):  
[\(506\) 739-9765](tel:5067399765)  
[patriciabernard@madawaskamaliseet.com](mailto:patriciabernard@madawaskamaliseet.com)
- **Russ Letica** (Consultation Coordinator, Madawaska First Nation):  
[\(506\) 735-0032](tel:5067350032)  
[russletica@madawaskamaliseet.com](mailto:russletica@madawaskamaliseet.com)
- **Gordon Grey** (EIA Coordinator):  
[506-459-6341](tel:5064596341),  
[Gordon.Grey@wolastoqey.ca](mailto:Gordon.Grey@wolastoqey.ca)

# **APPENDIX E**

## **Avian Management Plan**



**NB Department of Transportation and Infrastructure**

**Avian Management Plan for**

**Madawaska-Edmundston International Bridge**

This migratory bird management plan was developed for the Madawaska-Edmundston International Bridge Replacement Project to assist in compliance with the *Migratory Birds Convention Act* during the construction and operation of the Project, including the demolition of the existing bridge. It is the responsibility of the proponent of a proposed development to produce and adhere to their own bird nest survey methodology to demonstrate due diligence in not contravening any relevant legislation.

***Regulatory Context***

Migratory birds, their eggs, nests, and young are protected under the federal *Migratory Birds Convention Act* (MBCA). Migratory birds protected by the MBCA generally include:

- all seabirds (except cormorants and pelicans),
- all waterfowl,
- all shorebirds, and
- most land birds (birds with principally terrestrial life cycles).

The list of species protected by the MBCA can be found at:

<https://www.ec.gc.ca/nature/default.asp?lang=En&n=496E2702-1>.

Additional bird species not listed above may be protected under the New Brunswick *Fish and Wildlife Act*.

Under Section 6 of the *Migratory Birds Regulations* (MBR) under the MBCA, it is forbidden to disturb, destroy, or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities.

The federal *Species at Risk Act* (SARA) and the *New Brunswick Species at Risk Act* (NBSARA) protect wildlife species from becoming extinct or extirpated and provide means for recovery for species at risk (SAR). For species listed on Schedule 1 of SARA or Schedule A of NBSARA, it is illegal to kill, harm, harass, or capture individuals. For species that have associated critical habitat identified under those acts, that habitat is also protected. There are bird species protected under these acts that could potentially occur within the project area.

## *Potential Effects*

Under the current project schedule, clearing of vegetation is expected to occur prior to the breeding season of 2021. By the breeding season of 2021 (April 15<sup>th</sup> - August 31<sup>st</sup>), the project area is expected to be fully cleared and active, at which time the potential for effects on birds will be greatly reduced<sup>1</sup>. The lack of tree and shrub cover will reduce the habitat suitability for most bird species and the busy urban setting further reduce the likelihood of effects on breeding birds.

## *Nesting Birds*

The greatest anticipated risk to birds resulting from project activities is associated with ground and vegetation disturbance during construction that might harm birds and/or their nests within the PDA. Harm to migratory birds could happen as early in the year as March, although the general nesting period for migratory birds in the PDA is mid April to Late August for zone C4, according to the Canadian Wildlife Service (CWS)<sup>2</sup>. By the commencement of the breeding season of 2021, it is anticipated that most work areas will be cleared and that there will be much less suitable nesting habitat for most species. Some species such as killdeer may still nest in the open disturbed habitat, but any nesting activity should be easily detected by an experienced birder.

## *Species at Risk*

There are no anticipated direct interactions with bird species at risk during construction. There is very little potential for common nighthawk to nest on rooftops near the PDA, but the risk of interactions with this species is considered low due to the location of the project area in a busy urban area and a construction site that will be continuously active.

## *Exposed Materials*

Stockpiles and exposed gravel and earth in borrow pits can present nesting opportunities to certain bird species such as swallows and king fishers if left unattended and under certain conditions. Resuming work on these areas after periods of inactivity can lead to harm to nesting migratory birds.

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<sup>1</sup> Following clearing, the Project area is expected to meet the definition of a “simple habitat” where nest searches are deemed appropriate by ECCC. For further information, the proponent should be directed to Specific considerations: Related to determining the presence of nests at <http://www.ec.gc.ca/paomitmb/default.asp?lang=En&n=8D91 OCAC-1# 03 1 1>

<sup>2</sup> <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>

## *Accidents*

Accidental spills of hazardous or harmful materials can harm migratory birds. A Wildlife-specific Spill Response Plan which covers migratory birds is included in Appendix D.

## *EIA Mitigation Measures*

The EIA and the accompanying EMP include several mitigation measures specific to birds. The EMP refers to a number of measures from the NBDTI EMM (2010). The required mitigation measures include:

- Project related activity will be limited outside of the Project Area;
- The amount of clearing and disturbance will be limited to that which is necessary;
- Clearing vegetation within the bird-breeding season will be avoided to the extent feasible (April 15 to August 31)
- **In the event that an active bird nest is encountered, all disturbance work must temporarily stop and a buffer must be placed around the nest;**
- **An appropriate vegetated buffer will be established around any nests encountered to protect them from disturbance and work in that area will be avoided until after the birds have fledged or vacated;**
- **If grubbed or cleared areas are left inactive for more than one week during the breeding bird season, the area will be surveyed for ground nests prior to recommencement of activity, using non-intrusive monitoring methods;**
- An appropriate buffer will be established around any nests found, until fledging has occurred;
- Any alluvial materials stockpiled or alluvial pit walls will not be left idle with slopes greater than 70 degrees during the breeding bird season, to avoid effects on birds that nest in gravel and sandy banks.

These mitigation measures are considered to be sufficient due diligence in mitigating harmful effects on birds as a result of the project. If implemented, no significant effect is anticipated on birds and bird habitat within or near the project area. Vegetation clearing and shoreline access road construction is anticipated to occur in the winter of 2021, prior to the breeding bird season. While the absence of vegetation on the site makes it unsuitable nesting habitat for the majority of migratory bird species., there are some species which use open unvegetated areas as nesting habitat, which could be harmed as a result of construction or other activities on the site, either directly through nest destruction, or indirectly through noise and other forms of disturbance. The purpose of this document is to provide detailed guidance on procedures to be used to implement the mitigation above, with focus on mitigation related to disturbance of potential nesting habitat within the breeding season. **The mitigation items in bold font** which require greater detail than is provided in the EMP, and cannot be addressed easily in particular specifications, are addressed here.

## *Field Survey Practices*

There are currently no provincial or federal standards for conducting bird nest surveys, and intrusive nest surveys in complex habitats are not recommended by CWS. The absence of woody vegetation in the PDA has reduced the clutter and structural diversity of the habitat in the planned disturbance areas, so observations of potential for nesting birds can be made from the existing roadside without disturbing any nesting birds. The following describes bird nest survey methodology that will be implemented on the - Madawaska-Edmundston International Bridge Project. The methods were developed using avoidance guidance from CWS (Environment Canada 2014a), and bird nest survey methodologies produced for similar development projects. This survey methodology is intended to reduce the likelihood of any non-compliance with the New Brunswick Wildlife Act, MBCA, SARA, and NBSARA in all stages of the project:

Nesting surveys should be conducted by qualified birders in a non-intrusive way. After initial non-intrusive observations are made from the edge of the site and no potential nesting activity is observed, the observer can conduct a walk-over as a final confirmation prior to giving the all clear to commence work.

## *Seasonal Timing of Surveys*

Bird nest surveys should be conducted according to the following methodology if vegetation clearing or is to occur between the dates of April 15<sup>th</sup> and August 31<sup>st</sup>. April 15<sup>th</sup> is designated by CWS as the beginning of the general nesting period for migratory birds for open and forested habitat types in this area (Zone C4) (while in some areas of bird zone C4, breeding start April 8<sup>th</sup>). While some species are known to commence nesting earlier than April 27<sup>th</sup> in New Brunswick, the absence of woody vegetation from the PDA greatly reduces the suitability of the habitat for most earlier nesting species.

Any potential nesting habitat that has been left idle (without work or vehicle traffic occurring for more than a week) within the breeding season requires a nesting survey. Once an all-clear is given for an area, the area must become active within a week of the survey or a new survey will be required.

## *Daily Timing of Surveys*

The intent of ground-based nest surveys is to identify the location of nests and nesting birds. Although there is generally an increase in bird activity (e.g., territorial singing and foraging) during early morning hours, nest surveys can be conducted throughout the day provided that light conditions permit the location of nests. Data gathered during the morning is useful for determining species composition and diversity; however, the primary goal of the survey is to passively locate nests. Surveys should not be conducted during inclement weather such as heavy rain, snow, fog, high wind or cold temperature, as bird detectability may be limited during these conditions. Surveys should generally not be conducted when ambient temperature is  $\leq 5^{\circ}\text{C}$  or  $\geq 30^{\circ}\text{C}$ .

## *Survey Crew*

Surveys should be conducted by or under the direction of a qualified birder who has demonstrated bird survey experience. Field crew and coordinators conducting the nest surveys should have a background in birding, bird identification, or bird biology, and should be trained in the appropriate survey methods or

have experience with conducting such surveys. At least one onsite qualified birder should be present during surveys. Project personnel involved in clearing should also be familiar with the bird nest survey methodology. Strong and clear communication will be necessary between the bird survey and clearing crews to ensure that construction crews are kept apprised of what areas are free to work in and for what period.

### *Survey Effort*

Finding nests can be difficult as most birds purposefully construct their nests in hidden locations to avoid detectability and depredation. Consequently, surveys should be conducted methodically and thoroughly to maximize efficacy of locating nests. Survey rate should not typically exceed 1 ha/hr during the Critical Nesting Period in high quality nesting habitat. However, the lower potential of the current conditions within the PDA may allow for more rapid progress. Surveys should be conducted both within the clearing limits and up to 30 m beyond the limits. The primary surveys will be conducted from roadsides and along the shoreline of the river by listening and looking for birds using both the naked eye and binoculars as appropriate of the habitat to be disturbed. Walking along the railway is not permitted except under permission and supervision of CN Rail staff. Please notify local CN Rail staff prior to entering their property and ensure that appropriate PPE is worn by all staff on site. Any birds detected should be observed for long enough to determine their breeding status, if possible. Evidence of breeding activity may include behaviors such as adults carrying fecal sacs away from the nest, adults bringing food to the nest, young begging for food, adults giving alarm calls or exhibiting agitated behavior. Generally, survey personnel should walk transects through the area to be cleared, passively searching for nests and nesting activity.

If no suspected nesting activity is detected from roadside and chances of disturbing an active nest by entering the habitat are low, surveyors will follow up by traversing the area to be disturbed walking parallel to one another along parallel transects within visual distance. In addition to visually searching for nest structures, surveyors should also employ additional survey techniques to increase the likelihood of finding nests, such as observing bird song or behaviour as cues to locate nests.

When a nest is found the following information should be recorded:

- The nest location using a handheld GPS.
- The species of nesting bird.
- The nest and general habitat characteristics and position; and dominant vegetation cover, nest contents if possible (e.g., presence of eggs, young, or empty, or under construction), and adult behaviour (e.g., nest building, incubating or brooding).
- The nest status (e.g., active or inactive).

If an adult bird flushes from an area that is suspected of being potential nesting habitat, the surveyor should briefly search the immediate area for a nest. Care and attention should be used during the nest search as to not cause any significant stress or duress to nesting birds, which may lead to nest abandonment. Surveyors should minimize time spent in the nest area, particularly during periods of inclement weather when eggs or nestlings may be exposed to the elements. If a nest is not located, the surveyor should back away from the encounter area and observe the detection site for any further bird

activity through binoculars from a concealed location that does not cause unnecessary disturbance to the possible nesting pair. If adult birds exhibit excessive agitated behavior, surveyors should leave the area immediately. If the adult does not return or if a nest is not located, the flushing location should be recorded as a GPS waypoint so that it may be revisited during the next survey round to try and confirm the potential nest location. Similarly, any apparently active nest that is not attended by adult birds will be marked and revisited to confirm activity on the next survey round. The surveyor should not touch a nest or intentionally cause birds to flush from the nest. Bird survey crews will communicate daily information regarding the number of active nests identified, their locations, and predicted nest completion date to the construction manager and clearing crew.

### *Determining Nest Status (Active/Inactive)*

Each nest observed will be given a designation of active or inactive. Nests that are determined not to be in current use due to derelict condition or other biological indicators (e.g., lack of adult birds nearby, spider webs across nest cavity entrances, moss growing on the nest cup, etc.), will be given the designation of inactive. If the contents of the nest are easily observed from a distance, the presence of eggs or new nesting material can be used as indicators of current activity. Other means to determine nesting activity include observations of adult birds exhibiting nesting or territorial behavior in the vicinity of the nest. Nests that appear in good condition and are suspected of being active, but for which bird presence or breeding activity was not confirmed, should be given a tentative active designation. It is only after two observation periods of approximately 1 hour on two separate day visits that a potentially active nest can be designated as inactive. Surveyors should avoid approaching a nest if nesting activity is observed or if a nest has the potential to be active. Instead, surveyors should observe the nest from a concealed distant location, viewing the nest through binoculars or a spotting scope.

### *Nest Buffers*

A no-disturbance nest buffer will be established around all confirmed active nests and suspected nest areas with significant evidence of breeding. A qualified birder familiar with the habits and life histories of encountered bird species will be able to make a professional judgment on the likelihood of a nest being present when one is not directly found. Some nests in dense vegetation are generally extremely difficult to locate. However, by using nesting indicators, suspected nest areas can be marked and appropriately buffered, without disturbing the birds. Important indicators of nesting activity include:

1. Birds carrying food – for most songbirds, this activity indicates a nest or young are nearby.
2. Birds carrying nesting material – indicates a nest is likely nearby.
3. Distraction displays – generally only performed within a few metres of an active nest site. This behaviour is prevalent among many ground nesting species when danger is near their nest.
4. Persistent alarm calls and agitated behaviour. This is species-specific, but typically indicates a nest or young is nearby.

If the birder observes at least one of the nesting indicators above, then the suspected nest area should be buffered. In most cases, an experienced observer will likely be able to narrow down the nest location to

within a few meters. The size and shape of the buffer will depend on various factors, including: site topography, proximity of the nest to naturally open areas, type and amount of surrounding vegetation cover, nesting period, a particular species' sensitivity to disturbance, rareness of the species in the local/regional area, and the type and extent of clearing activities that will be occurring next to the buffer.

If an active nest is found the contractor or birder will consult with ECCC Canadian Wildlife Service or the NB Department of Natural Resources and Energy Development's Species at Risk Section at 506-453-5873 (for nesting SAR) to determine the size of the buffer based on the above factors. For most bird nests, a minimum of a 30 m radius buffer should be established around active nests. For species or individuals that have established nests in proximity to high levels of human activity, a smaller buffer may be warranted. The buffer zone will be marked with flagging tape but the nest location itself will not be flagged. No construction or clearing activities within the established buffer areas should occur until after the qualified birder has determined that nesting and fledging are complete, or if the status of the nest has been changed from active to inactive.