ONTARIO MINISTRY OF TRANSPORTATION

REPLACEMENT OF THE ONR OVERHEAD BRIDGE, HIGHWAY 11 AT EARLTON

DETAIL DESIGN AND CLASS ENVIRONMENTAL ASSESSMENT STUDY

TRANSPORTATION ENVIRONMENTAL STUDY REPORT

GWP 5101-17-00

JANUARY 10, 2023

FINAL

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Ontario

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Transportation Environmental Study Report

GWP 5101-17-00

Prepared for the Ontario Ministry of Transportation
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PUBLIC RECORD

This Transportation Environmental Study Report (TESR) is available for a 30-day comment period starting **January 16, 2023** through to **February 15, 2023** at the following location:

Town of Armstrong - Temporary Municipal Office
115 10th Street
Earlton ON P0J 1E0

The Transportation Environmental Study Report is also available electronically on the Township of Armstrong website at: (Home | Township of Armstrong (armstrongtownship.com).

A copy of this Transportation Environmental Study Report can also be provided upon request through:

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Consultant Project Manager
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EXECUTIVE SUMMARY

This Transportation Environmental Study Report (TESR) documents the Detail Design and Class Environmental Assessment (EA) Study undertaken by the Ontario Ministry of Transportation (MTO) for the replacement of the existing Highway 11 overhead bridge (Site No. 47X-0037/B0) spanning the Ontario Northland Railway (ONR) and Rivard Road within the Township of Armstrong, District of Timiskaming, Ontario.

In particular, the proposed works include:

- Replacement of Highway 11 bridge (constructed in 1961) over Rivard Road and the ONR track on the existing Highway 11 alignment;
- Construction of 1.6 km of Highway 11;
- Repair of one poor performing pavement area;
- Construction of a temporary at-grade highway detour east of the existing highway to divert Highway 11 traffic during the removal of the existing bridge and construction of the new bridge;
- Realignment of Gravel Road at the intersection of Highway 11 to provide a straighter approach to the highway with improved sight lines;
- Temporary full road closure of Rivard Road between Hilliardton Road and 10th Street during the construction (access to residential properties permitted);
- Drainage work including ditch cleanouts and culvert replacements, repairs and cleanouts;
- Temporary illumination for detour;
- Replacement of one traffic counting station;
- Utility relocations; and
- Guide rail and curb replacement.

The study has followed the approved environmental planning process for Group 'B' projects under the *Class Environmental Assessment for Provincial Transportation Facilities* (2000) with the opportunity for public input throughout.

A Preliminary Design study was completed in October 2014. The study included public and agency consultation, development and evaluation of alternatives and selection of a preferred design.

During the Preliminary Design study, a number of alternatives were developed and these were grouped under the following approaches:

- Do nothing (included as baseline option);
- Rehabilitation of the existing bridge (repair structure);
- Removal of existing bridge and replacement with controlled level crossing over the ONR tracks;
- Permanent realigned highway with controlled level crossing over the ONR tracks;

- Staged replacement of existing bridge; and
- Replacement of existing bridge with temporary detour of the highway and controlled level.

Following the Preliminary Design study, the preferred recommended alternative was to replace the bridge on the existing highway alignment and provide a temporary detour of Highway 11 to the east of the existing highway to divert traffic during construction. It also included a realignment of Gravel Road and a temporary at grade intersection at Rivard Road with the Highway 11 detour. Details are contained in **Section 5**.

A Detail Design study was undertaken in April 2021. The Detail Design study involved advancing the recommended plan from the Preliminary Design. This included the design of the new Highway 11 bridge, realignment of Gravel Road at the intersection with Highway 11 and 10th Street to improve sightlines and temporary detour of Highway 11 to the east of existing Highway 11. The Detail Design also included drainage improvements (culvert cleanouts, replacement/rehabilitation and ditching) and highway surface replacement. Details are contained in **Section 5.**

The detail design plan includes the following:

- Replacement of the ONR overhead bridge with a new structure consisting of an eight-span post-tensioned solid slab concrete deck bridge with integral abutments and an overall length of 140 m.
- Construction of a detour to the east of the bridge for the duration of construction. It is anticipated that the detour will be in place for three years in order to complete the work.
- Closure of Rivard Road between 10th Street and Hilliardton Road will be in place approximately 3 years during the operation of the Highway 11 detour. The Highway 11 Detour includes an at-grade crossing with the ONR tracks and crosses Rivard Road. Due to the low traffic volumes and easily available alternate routes the staging approach includes a full road closure of Rivard Road for the duration of the detour operation. The Rivard Road intersection with the Highway 11 detour was reviewed during detail design and it was determined that the intersection was not necessary for local traffic movement during construction as current traffic movements could be provided on the Highway 11 detour and the local road network. Details are contained in **Section 6**.

Consultation during Detail Design included letter mailouts to provincial and federal agencies, municipalities, Indigenous Communities, emergency services, political representatives, interest groups, property owners affected by the project and other stakeholders.

A Notice of Study Commencement was published in the New Liskeard Temiskaming Speaker newspaper on April 9, 2021 advising the public of the project. The Notice was also posted on the Township of Armstrong website.

Meetings were held with the Township of Armstrong council, Tri-town Sno Travellers snowmobile club and the several utility providers whose infrastructure is present within the project area.

Site investigations for terrestrial, fisheries and aquatic environment did not identify any significant habitats, species at risk or sensitive features within the project limits, however mitigation measures will be included in the construction contract to minimize environmental impacts of the work.

During the Preliminary Design, both a Stage 1 and 2 Archaeological Assessment (AA) were completed and determined there is no archaeological potential within the project limits. It was also identified during the Preliminary Design that there were no built heritage or landscape features identified within the project limits. No other structures or buildings are impacted by this ONR bridge replacement.

The existing Highway 11 structure over the ONR is not considered to have heritage value. While the age of the bridge (1961) triggers the need to review the bridge against the Ontario Heritage Bridge Guidelines, the configuration of the bridge and, the materials utilized do not support a heritage bridge designation per the Ontario Heritage Bridge Guidelines (2008).

The soil characterization analysis was conducted to assess the chemical quality of the anticipated excess soils that will be generated from excavations during project construction and to identify soils that could be re-used on-site or are required to be moved off site to the appropriate management/disposal facility. Locations of soil excavation (excess soil sources) included the bridge embankments, construction of the highway detour and the asphalt improvement area. The summary of findings and requirements for soil management are provided in Section 3.1.6.3 (Soil Characterization Analysis) of this report.

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

GLOSSARY

AA	Archaeological Assessment
ANS	Advanced Notification Signing
APEC	Area of Potential Environmental Concern
APU	Assessment of Past Uses
AWS	Advanced Warning Signs
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CEAA	Canadian Environmental Assessment Act
CGL	Recreational Green Lands
CSP	Corrugated Steel Pipe
EA	Environmental Assessment
EASR	Environmental Activity and Sector Registry
EC	Electrical Conductivity
EPS	Expanded Polystyrene
ESA	Environmental Site Assessment
FWCA	Fish and Wildlife Conservation Act
IC	Indigenous Communities
MBCA	Migratory Birds Convention Act
MECP	Ministry of the Environment, Conservation and Parks
MTCS	Ministry of Tourism, Culture and Sport
MLTSD	Ministry of Labour, Training and Skills Development
MNRF	Ministry of Natural Resources and Forestry
MOL	Ministry of Labour
MTO	Ministry of Transportation
NHIC	Natural Heritage Information Centre
OFSC	Ontario Federation of Snowmobile Clubs
ONR	Ontario Northland Railway
OPP	Ontario Provincial Police
OPSS	Ontario Provincial Standard Specification
OSIM	Ontario Structure Inspection Manual
PAH	Polycyclic Aromatic Hydrocarbon
PCA	Potentially Contaminating Activity
PDR	Preliminary Design Report
PHC	Petroleum Hydrocarbon
PTTW	Permit To Take Water
PSS	Preliminary Site Screening
PWMN	Provincial Groundwater Monitoring Network
PWQMN	Provincial Stream Water Quality Monitoring Network
QP	Qualified Person for ESAs according to MECP (O.Reg. 153/04)
ROW	Right-of-Way
SAR	Species at Risk
SAR	Sodium Adsorption Ratio

TESR	Transportation Environmental Study Report
TOP	Trans Ontario Provincial
TOR	Terms of Reference
ZOI	Zone of Influence

1 PROJECT OVERVIEW

1.1 INTRODUCTION

The Ontario Ministry of Transportation (MTO) has retained WSP Canada Inc. to undertake the Detail Design and Class Environmental Assessment (Class EA) Study for the replacement of the existing Highway 11 overhead structure spanning the Ontario Northland Railway (ONR) and Rivard Road within the Township of Armstrong, District of Timiskaming, Ontario (Site No. 47X-0037/B0).

This Detail Design study has followed the approved environmental planning process for Group "B" projects under the Ministry of Transportation *Class Environmental Assessment for Provincial Transportation Facilities (2000).* The MTO Class EA is an approved process under the Ontario Environmental Assessment Act for the planning and design of provincial highway projects.

The purpose of the Transportation Environmental Study Report (TESR) is to document the environmentally significant aspects of the Detail Design study and Environmental Assessment process for this project.

The TESR builds on the Preliminary Design Report (PDR) prepared for the "*Highway 11 ONR Overhead Bridge (Site # 47-37) at Earlton*" (URS Canada Inc., October 2014), which included a preliminary design of a preferred alternative (the Recommended Plan) for the replacement of the Highway 11 structure.

The Detail Design study developed the preferred alternative from the Preliminary Design study to establish the detailed engineering, environmental and property requirements along with the identification of mitigation measures to reduce or negate environmental effects. All requirements of EA study were completed and the TESR is the last step in completing that process. The TESR will be made available for a 30-day comment period.

The TESR includes the following information:

- Description of the project and its purpose;
- Overview of the Preliminary Design study including the range of alternatives considered; and the evaluation and rationale for the selection of the Recommended Plan as documented in the PDR;
- Overview of the Detail Design study undertaken including the details related to the bridge replacement, traffic management (Hwy 11 detour and Rivard Road closure), Gravel Road/10th Street intersection improvement and Highway 11 pavement improvements;
- Overview of the Class Environmental Assessment study including identification of existing natural, cultural and socio-economic environmental factors; anticipated environmental effects and proposed mitigation; and

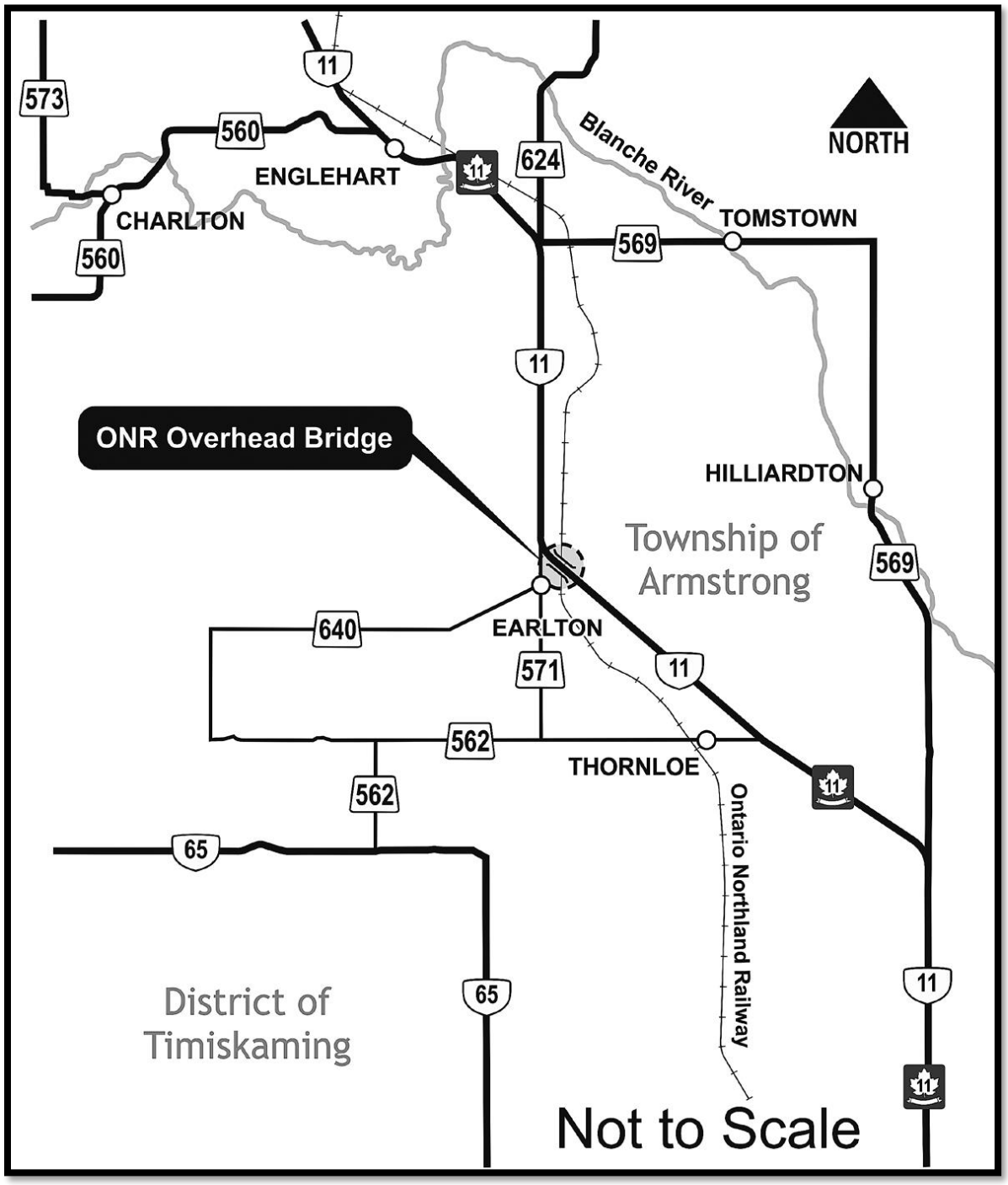
- Summary of stakeholder consultation undertaken, and key public and agency concerns and commitments.

1.2 PROJECT LOCATION AND STUDY AREA

The project is located within the Township of Armstrong, District of Timiskaming at the community of Earlton (**Figure 1-1)**. The project study area is identified as Highway 11, 1.6 km south of Highway 571 northerly 1.7 km to 0.1 km north of Highway 571.

Highway 11 at this location is an undivided two lane highway and carries traffic over the ONR and Rivard Road. Highway 11 in this area is classified as “Rural Arterial Undivided” with a design speed of 110km/h (RAU 110) and a posted speed limit of 90 km/h. The subject section of Highway 11 generally has a north/south orientation.

Figure 1-1: Study Area



1.3 DESCRIPTION OF EXISTING STRUCTURE

The existing Highway 11 structure which was originally constructed in 1961 is a 135 m long nine-span pre-stressed concrete girder bridge with end spans of 14.75 m each and seven intermediate spans of 15.12 m each. It carries two lanes of Highway 11 traffic over the ONR tracks and Rivard Road.

The bridge was rehabilitated in 1982 under Contract 82-217. The scope of rehabilitation included concrete deck repairs, new waterproofing and paving, replacement of expansion joints, new concrete barrier walls, new approach slabs, and shotcrete repairs to the substructure. After rehabilitation, the overall width of the deck was reduced to 10.5 m. The structure was also rehabilitated in 1986 (Contract 86-215) which included modifications to the west side of the expansion joints at piers C and D. The bridge was again rehabilitated in 2017 under contract 2017-5114. The scope of rehabilitation included replacement of top 40 mm of pavement, replacement of expansion joint seals, repair of expansion joint end dams and replacement of the missing armouring angles. Based on Ontario Structure Inspection Manual (OSIM) reports dated 2017 and 2019, it is WSP's understanding that a large section of the north abutment footing was also rehabilitated circa 2017.

The site has a long history of slope stability and settlement issues due to a thick layer of underlying soft soils. The south approach embankment experienced failures in 1930 and 1959. Also, the rehabilitation drawings by Morrison Hershfield Burgess & Huggins Limited, dated March 1982, indicated settlement of the north approach embankment of about 350 mm immediately behind the abutment. The OSIM inspection report, dated November 2013 reported undermining of the north abutment and wingwalls and forward rotation of the north abutment.

A visual inspection was carried out by WSP on November 19th, 2020 to review the existing conditions of the bridge site. The structural inspection report was submitted under a separate cover and its findings are summarized in this section. The inspection confirmed the following deficiencies:

- Deck soffit was exhibiting surface rust stains, wet areas, efflorescence (salt stain), narrow stained cracks, wide cracks and exposed corroded rebars. Some areas of the deck soffit were covered under temporary wood falsework.
- Diaphragms were exhibiting wet areas, severe spalls (concrete breaks) and delamination (fracture of concrete layers), and exposed corroded rebars.
- Girders were exhibiting corroded rebar chairs, wet areas, efflorescence deposits, surface rust stains, medium spalls and pop outs (small surficial concrete breaks).
- Barrier walls were exhibiting light to severe spalls, wide horizontal cracks, narrow stained vertical cracks, rust stains and exposed corroded rebars.
- Abutments were exhibiting severe spalls, exposed corroded rebars, surface stains and wet areas. A broken section with exposed rebars was spotted at the

north abutment right above where the 2017 abutment repair was performed. The previous inward rotation of the north abutment was also spotted.

- Columns were exhibiting medium to wide cracks even at the previously repaired areas. Surface rust stains, exposed corroded steel wire mesh from previous repairs and severe spalls and delamination were also observed.
- The bottom portion of some of the columns were rehabilitated by using a thicker circular or hexagon section. The columns with circular thicker bottom sections were also encased with a steel column sleeve. Both circular and hexagon rehabilitated sections were exhibiting wide cracks, efflorescence, scaling, severe spalls and exposed corroded rebars. The steel columns sleeves had broken welds and rust stains.
- Pier caps were exhibiting narrow to medium to wide stained and unstained cracks, severe spalls and delamination, and exposed corroded rebars.

1.4 PROJECT JUSTIFICATION

The existing bridge is over 60 years old and in need of replacement. Many of the bridge components (piers, abutments, expansion joints) are in poor condition, as described above in Section 1.3 and repairs to the structure are not considered cost effective or capable of addressing the long-term structural and foundation deficiencies. Based on this, the recommendation is to replace the existing Highway 11 ONR bridge with a new bridge for a 75-year lifespan.

1.5 GENERAL DESCRIPTION OF THE DETAIL DESIGN

The Ministry of Transportation (MTO) proposes to replace the existing nine-span ONR bridge at Earlton on the existing alignment of Highway 11. The recommended structure is an eight-span post-tensioned solid slab concrete deck bridge with integral abutments and an overall length of 140 m between centre line of abutments.

As part of the recommended plan, a detour will be constructed to maintain Highway 11 traffic while the structure is built offline from traffic. A section of Rivard Road will be closed between 10th Street and Hilliardton Road and a warning system and gates will be provided for an at-grade crossing of the ONR rail line. The Gravel Road/10th Street intersection will be re-aligned to provide an improved traffic operation. Following completion of construction of the new structure, traffic will be returned to existing Highway 11 and the detour removed. The Detail Design recommended plan is shown in **Figure 6-1**. A description of all works is presented in **Section 6.**

2 THE ENVIRONMENTAL ASSESSMENT PROCESS

2.1 CANADIAN ENVIRONMENTAL ASSESSMENT ACT

In July 2012, the Government of Canada released new regulations required to implement the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). The CEAA 2012 establishes a federal environmental assessment process focused on major projects that have a greater potential to have significant adverse effects on areas within federal jurisdiction.

The types of activities to which the new Act applies ("designated projects") are identified in the regulations. The Act requires the proponent of a designated project to submit a description of the project to the Canadian Environmental Assessment Agency (the Agency).

The proposed improvements to the Highway 11 bridge over the ONR in Earlton are not listed as a "designated project" and therefore, CEAA approval is not required.

2.2 ONTARIO ENVIRONMENTAL ASSESSMENT ACT

The MTO *Class Environmental Assessment for Provincial Transportation Facilities* (MTO Class EA) was approved under the *Ontario Environmental Assessment Act* in the fall of 1999 and amended in 2000. This planning document defines groups of projects and activities, and the environmental assessment processes that MTO has committed to follow for these projects. Provided that this process is followed and its requirements are met for a project, projects and activities included under the MTO Class EA do not require formal review and approval under the EA Act.

The MTO Class EA process is principle based. The following principles underlie the Class EA process for all transportation projects:

- Transportation engineering;
- Environmental protection;
- External consultation;
- Evaluation that is intended to achieve the best overall balance;
- Documentation;
- Part II Order; and
- Environmental clearance to proceed.

This project is following the Class EA process for Group 'B' projects. Group 'B' projects are considered major improvements to existing provincial transportation facilities and generally include:

- Improvements to existing highways and freeways providing a significant increase in capacity or cause a significant widening of the footprint beyond the roadbed of an existing highway/freeway such as: detours that are constructed to carry traffic outside the existing roadbed over land and water, or that direct traffic to other roads;
- New interchanges or modifications to existing interchanges;
- Major realignments;
- New or modified water crossings or watercourse alterations; and
- New highway service facilities.

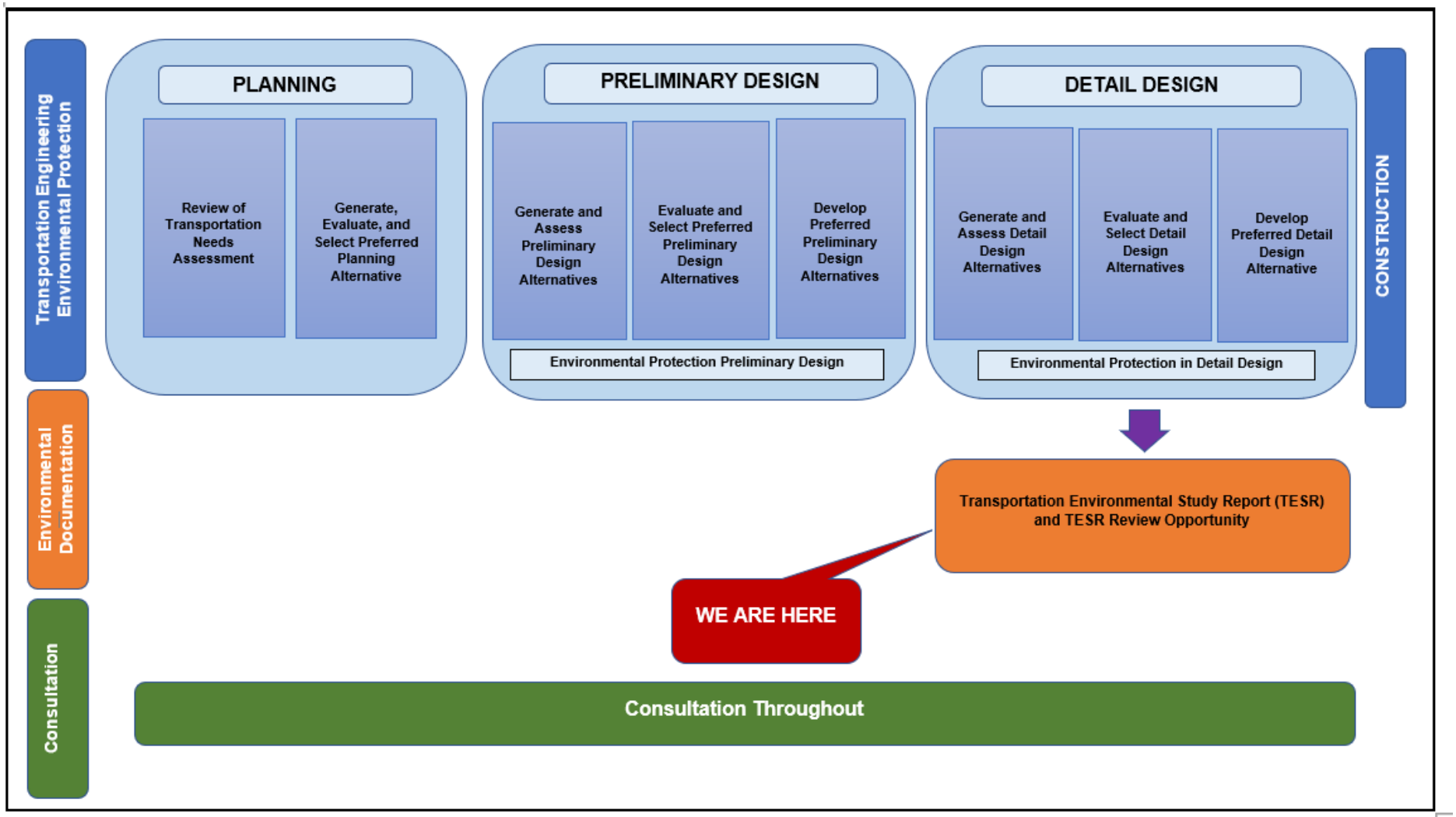
The Class EA process for Group 'B' projects is shown in **Figure 2-1**. This study addresses the Detail Design stage and includes submission of a Transportation Environmental Study Report (TESR). This TESR will be filed for a 30-day period of public and external agency review.

All comments and concerns should be sent directly to the Ontario Ministry of Transportation (MTO).

In addition, a request may be made to the Ministry of Environment, Conservation and Parks for an order requiring a higher level of study (i.e. requiring an individual/comprehensive EA approval before being able to proceed), or the conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name for the ministry.

Requests should specify what kind of order is being requested (request for additional conditions or a request for an individual/comprehensive environmental assessment), how an order may prevent, mitigate or remedy those potential adverse impacts, and any information in support of the statements in the request. This will ensure that the ministry is able to efficiently begin reviewing the request.

Figure 2-1: MTO Class EA Process



2.3 PURPOSE OF THE TRANSPORTATION ENVIRONMENTAL STUDY REPORT

This Transportation Environmental Study Report (TESR) documents the environmentally significant aspects of the planning and design of the Recommended Plan. The TESR includes a description of the project and its purpose; the existing natural, socio-economic and cultural environmental factors; the analysis and evaluation of alternatives that were considered; the anticipated environmental effects and proposed mitigation measures; and the consultation completed throughout the study.

Additional information about the Class Environmental Assessment process for a Group 'B' project is contained in the MTO Class EA (2000): www.mto.gov.on.ca/documents/english/engineering/Class_EA_2000.pdf

This TESR is being made available to the public, other interested parties and external agencies for a 30-day comment period as required under the MTO Class EA. A notice of TESR Review was posted on the Township of Armstrong website (Home | Township of Armstrong (armstrongtownship.com) (January 13, 2023), published in The Temiskaming Speaker (January 13, 2023) and letters mailed to notify government agencies, Indigenous Communities, local municipalities, utilities, impacted property owners, local stakeholder groups, and members of the public on the project mailing list.

The TESR is being made available for review from **January 16, 2023** to **February 15, 2023.** A hard copy will be available at the Town of Armstrong – Temporary Municipal Office Monday to Friday during the business hours (8 a.m. - 4p.m.). The TESR will also be available **electronically** on the Township of Armstrong website at (Home | Township of Armstrong (armstrongtownship.com).

Town of Armstrong - Temporary Municipal Office
115 10th Street
Earlton ON P0J 1E0

A copy can also be provided upon request by contacting one of the Project Team members listed below.

Rob Kleine, P. Eng.
Consultant Project Manager
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, Ontario L3T 0A1
Tel: 905-882-7225
Fax: 905-882-0055
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Michele Bailey, P. Eng.
MTO Senior Project Engineer
Ministry of Transportation
447 McKeown Avenue, Suite 301
North Bay, Ontario P1B 9S9
Tel: 705-497-5260
E-mail: Michele.Bailey@ontario.ca

Any concerns raised by members of the public, interested groups or technical and external agencies during this comment period should be discussed with MTO or their consultants identified above.

If concerns are raised during this comment period that cannot be resolved through discussions with MTO, a request may be made to the Minister of the Environment, Conservation and Parks for an order requiring a higher level of study (i.e. an individual/comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name for the ministry.

Requests should specify what kind of order is being requested (request for additional conditions or a request for an individual/comprehensive environmental assessment), how an order may prevent, mitigate or remedy those potential adverse impacts, and any information in support of the statements in the request. This will ensure that the Ministry of the Environment, Conservation and Parks (MECP) is able to efficiently begin reviewing the request.

The request should be sent in writing or by email to both of the MECP Minister and the Director of the EA Branch:

Minister of the Environment, Conservation and Parks
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON M4V 1P5
EABDirector@ontario.ca

A copy of that request should also be sent to the Michele Bailey, MTO Senior Project Engineer by mail or e-mail.

Michele Bailey, P. Eng.
MTO Senior Project Engineer
Ministry of Transportation
447 McKeown Avenue, Suite 301
North Bay, Ontario P1B 9S9
Tel: 705-497-5260
E-mail: Michele.Bailey@ontario.ca

3 EXISTING CONDITIONS

The following sub-sections provide an overview of the existing features within the study area, including the Natural Environment, Socio-Economic Environment, Cultural Environment, and Transportation Features. Information presented in this chapter was developed based on secondary source information, correspondence with regulatory agencies and field investigations.

3.1 NATURAL AND PHYSICAL ENVIRONMENT

3.1.1 TERRESTRIAL ECOSYSTEM

Information on Terrestrial Habitat was collected through background research from available sources (data sources), consultation with relevant agencies (MNRF, etc) and field investigations.

Field investigations for terrestrial habitat was conducted on May 21, 2021 along Highway 11 for approximately 1.4 km, from 180 m south of the Highway 11/10th Street intersection to the Highway 11/Highway 571 intersection. Investigations were also completed along 10th Street / Gravel Road for approximately 140 m, from 50 m west of Highway 11 to 160 m east of Highway 11. Additionally, investigation was continued along Rivard Road for approximately 450 m, from 200 m north of the bridge to 225 m south of the bridge.

A Terrestrial Existing Conditions and Impact Assessment Report was prepared and has been filed with the MTO. The following description of existing conditions is based on the background information and field investigations.

VEGETATION

Vegetation observed during the field investigations consists of anthropogenic croplands east of Highway 11, cultural meadow west of Highway 11, and a small ditch of ephemeral habitat between Rivard Road and the ONR tracks. Non-native plants were common within these communities and no rare plant species were found. Vegetation communities are described below and shown in **Figure 3-1**.

Cultural Vegetation: Dry-Moist Old Field Meadow Type (CUM1-1)

This vegetation community occurred in the ROW of Highway 11, Rivard Road, 10th Street and Gravel Road, and as a large area beyond the ROW between Highway 11 and Highway 571. It was dominated by Smooth Brome (*Bromus inermis*) and contained occasional Common Dandelion (*Taraxacum officinale*), Tufted Vetch (*Vicia cracca*), Kentucky Bluegrass (*Poa pratensis*), sow-thistle (*Sonchus* sp.), Alfalfa (*Medicago sativa*), bedstaw (*Galium* sp.) and Greater Celandine (*Chelidonium majus*). The vegetation within the highway ROW was heavily disturbed. Vegetation in the large area was only approximately 15 cm in height, which may indicate regular mowing, and there

was vegetation trampling that suggested the area may be traversed by vehicles. This vegetation community contained occasional inclusions of Narrow-leaved Cattail (*Typha angustifolia*) that formed in patches of sustained open water in road/rail track ditches and in the swale west of the ONR track at the Highway 11 bridge.

Cultural Vegetation: Hedgerows (HR)

This vegetation community occurred west of the Highway 11/Highway 571 intersection bordering the marsh at the outlet of the north box culvert (Culvert ID: H11-18548). It consisted of White Spruce (*Picea glauca*), some of which were dead, and rare occurrences of Red-osier Dogwood (*Cornus sericea*) and Choke Cherry (*Prunus virginiana*). This vegetation community also bordered the west, Highway 11 ROW south of 10th Street, where it was dominated by Norway Spruce (*Picea abies*).

Cultural Vegetation: Mineral Cultural Thicket Ecosite (CUT1)

This vegetation community occurred as a mix of shrubs and young trees forming an understorey layer. In the northwest quadrant of the Highway 11 intersection with Rivard Road and the ONR track, it consisted of Red-osier Dogwood, Choke Cherry, White Spruce and willow (*Salix* sp.); and in the southeast quadrant of this intersection it was represented by Balsam Poplar (*Populus balsamifera*) with a ground cover of Smooth Brome, Kentucky Bluegrass and Field Horsetail (*Equisetum arvense*).

Cultural Agriculture: Open agriculture (OAG)

This vegetation community occurred throughout most of the study area beyond the MTO ROW. Conditions at the time of survey identified both recently cultivated and non-cultivated land

Cultural Agriculture: Agricultural Buildings (IAGM1)

This vegetation community occurred north of the north project limits and included a residential building, barns and a small farm pond.

Cultural Constructed: Recreational Green Lands (CGL_4), Business Sector (CVC_1), Light Industry (CVC_2), Single Family Residential (CVR_3), Education (CVS_1)

These vegetation communities included the residential portions of the Village of Earlton and occasional other properties occurring in the study area.

WILDLIFE

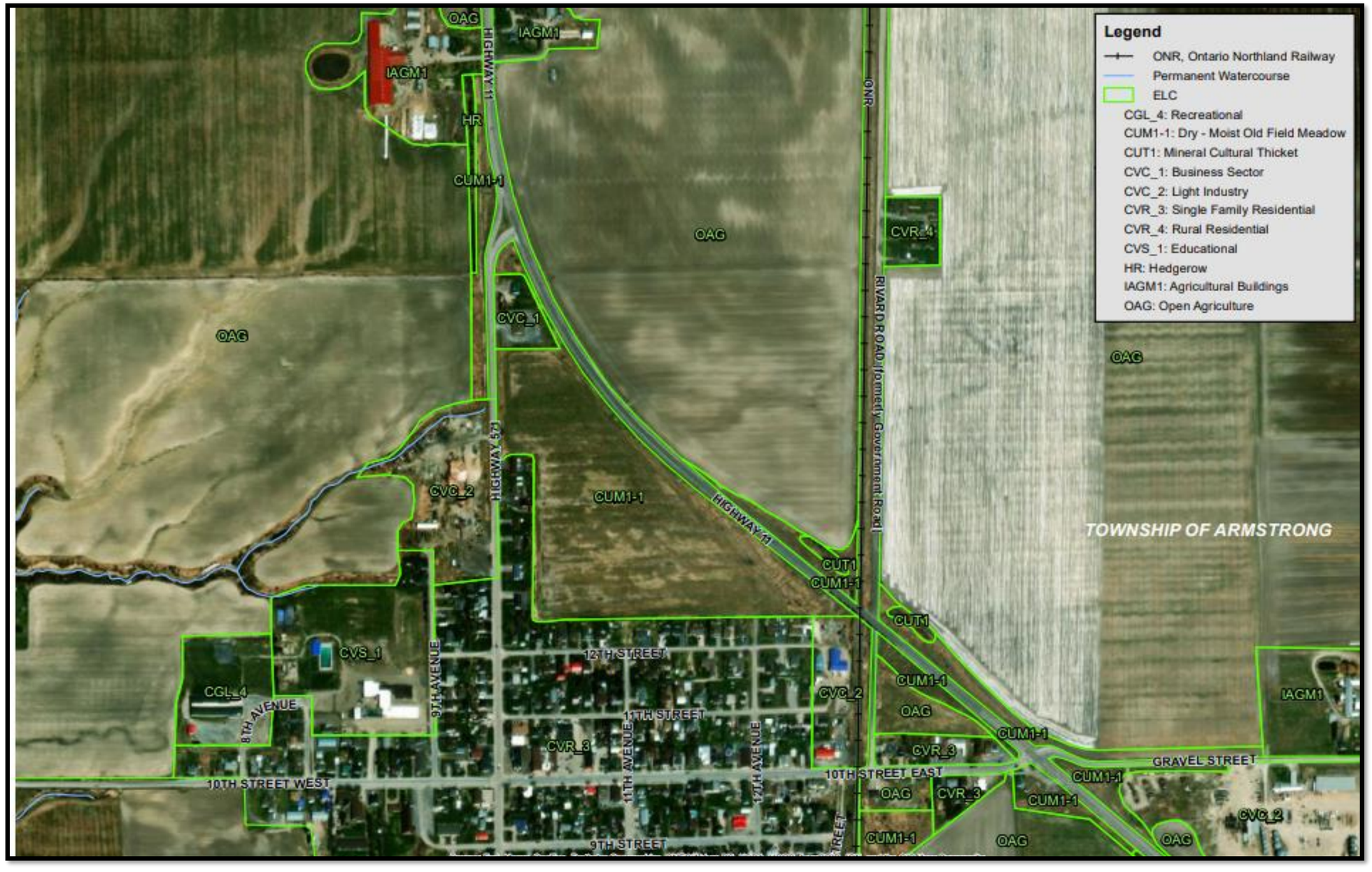
The study area provides habitat for wildlife species that tolerate high to moderate levels of human disturbance. The levels of disturbance and the scarcity of open water severely limited potential wildlife diversity at this site. Species found during the field investigations are ones common to Ontario and consistent with available habitat in the study area. No species at risk or provincially rare wildlife species were observed, nor was their habitat observed. Species recorded are discussed below.

Birds

Nine species of birds were found during the field investigations including American Crow (*Corvus brachyrhynchos*), Common Grackle (*Quiscalus quiscula*), Common Yellowthroat (*Geothlypis trichas*), European Starling (*Sturnella vulgaris*), House Sparrow (*Passer domesticus*), Red-winged Blackbird (*Agelaius phoeniceus*), Savannah Sparrow (*Passerculus sandwichensis*), Song Sparrow (*Melospiza melodia*) and Tree Swallow (*Tachycineta bicolor*). The only nest evidence found were the remains of a stick nest on a ledge of the Highway 11/ONR OH bridge, north side next to the ONR track. Though the European Starling was seen on this ledge, as a cavity nester it would not have built the nest. If the bridge contains a cavity, the European Starling may have been nesting in it; however, as a non-native species the bird and its nest do not have legislative protection. The nest remains may belong to Common Raven (*Corvus corax*), a species that receives protection under the provincial Fish and Wildlife Conservation Act, 1997; but the broken, deteriorated condition of the nest indicates a lack of recent use.

The American Crow likely nests in the forests east of the study area but the remaining eight species may breed within the study area. There is potential nesting habitat for Common Grackle in the Hedgerows **(**HR) along Highway 11 south of 10th Street; for Common Yellowthroat or Song Sparrow in the Mineral Cultural Thicket (CUT1); for European Starling, House Sparrow in cavities on the bridge or buildings; for Tree Swallow in dead tree cavities or building eaves; for Red-winged Blackbird in cattails in the ditches; and for Savannah Sparrow in the large Dry - Moist Old Field Meadow (CUM1-1) west of Highway 11. Box culverts in the study area did not contain bird nests and the one at the north project limits (north box culvert) was too low to provide bird nesting opportunities. The box culvert at the Highway 11/10th Street intersection (south box culvert) provides sufficient height to evade predators but may not be used for bird nesting due to risks associated with a closed outlet (i.e., potential entrapment).

Figure 3-1: Vegetation Communities



Herptiles

A hole in the east Highway 11 embankment () was found at the north project limit near an un-corrugated, steel culvert). The exterior of the hole resembled a turtle nest but the excavated portion was shallow, only 15 cm across, and the interior soil was compact. A second, shallower hole was found closer to the culvert. Across the highway on the west embankment of Highway 571 there were several larger holes belonging to Woodchuck (*Marmota monax*). This side was more suitable for turtle nesting due to the increased solar exposure, larger marsh area, and more direct access to a river system; however, no turtle nests were found here. Given the scarcity of nearby open water for foraging, it is likely the hole is a partially excavated Woodchuck den. Snakes may use hedgerows, meadows, riparian marshes or ditches to travel into the study area but they were not seen.

Mammals

One mammal was found, Woodchuck, near three Woodchuck dens at the north project limits. There is limited habitat for mammals and for mammal travel through the study area to higher quality habitat.

Insects

Four butterflies were observed in the meadows including Black Swallowtail (*Papilio polyxenes*), Cabbage White (*Pieris rapae*), Canada Tiger Swallowtail (*Papilio canadensis*) and Mourning Cloak (*Nymphalis antiopa*).

WILDLIFE-VEHICLE CONFLICTS

Transportation corridors and large areas of settled land isolate the study area from forest habitat to the east and riparian habitat to the west and there are no hedgerows or watercourses providing safe passage across them to the higher quality habitat. As such, the incidence of wildlife crossing Highway 11, Highway 571 or Rivard Road is expected to be low.

Furthermore, no evidence of wildlife-vehicle conflict was found. The open landscape with no sightline barriers reduces the potential for wildlife-vehicle conflicts as wildlife (medium to large sized mammals) can be seen from a distance during daylight, but to a lesser extent during night time, if they are approaching the highway. Vehicle collision data provided by the MTO for 2012- 2016 did not identify any collisions caused by wildlife. Based on the low potential for wildlife presence and absence of evidence, the risk of wildlife-vehicle conflict in the area of the bridge replacement works and along the detour route is expected to be low.

SIGNIFICANT WILDLIFE HABITAT

As an area dominated by agricultural cropland and residential development with scarce tree cover and open water, there is low potential for significant wildlife habitat. Habitat in the study area does not fulfill criteria for Seasonal Concentration Areas of Animals, Rare

Vegetation Communities or Specialized Habitat for Wildlife, Habitat for Species of Conservation Concern or Animal Movement Corridors for the ecoregion in which study area lies, which is EcoRegion 3E (MNRF 2015).

DESIGNATED NATURAL AREAS

The NHIC identified one designated natural area, a Colonial Waterbird Nesting Area. However, this area was located outside of the study area and the project will not interact with it. There is no habitat to support colonial waterbird nesting within, or near, the study area.

3.1.2 FISH AND FISH HABITAT

Fish and Fish Habitat Existing Conditions and Impact Assessment Report was prepared and this section provides a summary of the findings. Information on Fish and Fish Habitat in this area was collected through background research from available sources (data sources), consultation with relevant agencies (MNRF, etc) and field investigations. This section provides a summary of the findings from the Fish and Fish Habitat Existing Conditions and Impact Assessment Report.

Field investigations and fish community surveys were conducted on May 21, 2021 along Highway 11 for approximately 1.4 km, from 180 m south of the Highway 11/10th Street intersection to the Highway 11/Highway 571 Intersection. Additionally, investigations were completed along 10th Street / Gravel Road for approximately 210 m, from 50 m west of Highway 11 to 160 m east of Highway 11.

Two culvert crossings at Highway 11 and the ditch feature exist between Rivard Road and the ONR tracks were identified and assessed for fish habitat. The existing aquatic environment features within the Study Area are illustrated in **Figure 3-2.**

CROSSING 1 (CULVERT ID: H11-18543 AND H11-18548) – HIGHWAY 11 / HIGHWAY 571

The crossing at the Highway 11 and Highway 571 intersection consists of two culverts: one box culvert 0.91 m by 0.91 m, and 44.87 m in length; the other a Corrugated Steel Pipe (CSP) 1.0 m in diameter and 30.24 m long. These culverts convey intermittent roadside drainage from east to west across the highway corridor.

The aquatic habitat consisted of 100% flats, with a mean wetted depth of 0.05 m, a mean wetted width of 1.2 m, a mean bankfull depth of 0.3 m and a mean bankfull width of 2.5 m. Substrate consists of sand (50%), muck (46%) and silt (4%). The instream cover consists of instream and overhanging cattails and grasses. There were no areas of refuge habitat (pools) that would support seasonal use by fish within the study reaches.

Figure 3-2: Aquatic Environment Features

Fish and Fish Habitat Potential

The drainage feature is choked with instream vegetation and displayed very low flows at the time of the field investigations (spring). Since the feature was dry during the spring period, it is likely that it remains dry most of the year, only flowing during and following a rain event and snow melt. WSP ecologists conducted fish community surveys using dip netting and did not observe or capture any fish.

The lack of flow during the spring period, the lack of refuge habitat within the reaches assessed, and the dense instream vegetation choking the channel all contribute to WSP's determination that this drainage feature does not support fish use directly at the highway crossing. However, it will support fish indirectly through the conveyance of nutrients and organic materials to a Tributary of St. Jean Baptiste Creek located 350 m downstream of the highway crossing.

CROSSING 2 (CULVERT ID: H11-17265) – HIGHWAY 11 / 10TH STREET EAST

The drainage feature crossed at the Highway 11 and 10th Street intersection consists of a box culvert 1.47 m wide by 0.95 m tall and 23 m in length. The culvert conveys intermittent roadside drainage from the east side of Highway 11 to the west side.

The aquatic habitat consisted of 100% flats, with a mean wetted depth of 0.04 m, a mean wetted width of 0.5 m, a mean bankfull depth of 0.2 m and a mean bankfull width of 1.3 m. Substrate consists of gravel (35%), sand (30%), muck (30%) and detritus (5%). Instream cover consists of instream and overhanging cattails and grasses. There were no areas of refuge habitat (pools) that would support seasonal use by fish within the study reaches.

Fish and Fish Habitat Potential

The drainage feature is choked with instream vegetation and displayed very low flows at the time of the field investigations (spring) suggesting an ephemeral nature. WSP ecologists conducted fish community surveys using dip netting and did not observe or capture any fish.

The lack of flow during the spring period, the lack of refuge habitat within the reaches assessed, and the dense instream vegetation choking the channel all contribute to WSP's determination that this drainage feature does not support fish use directly at the highway crossing. Additionally, there is a significant distance (over 1 km) between the crossing at Highway 11 and the Tributary of Wabi Creek, therefore it is unlikely to provide indirect contributions to a downstream receiving watercourse.

DITCH BETWEEN RIVARD ROAD AND ONR

The ephemeral drainage feature between Rivard Road and the ONR tracks below the existing Highway 11 ONR overhead bridge displayed stagnant water at the time of field investigations. The aquatic habitat consisted of 100% flats, with a mean wetted depth of 0.3 m, a mean wetted width of 5.2 m, a mean bankfull depth of 0.4 m and a mean bankfull width of 5.5 m. Substrate consists of muck (40%), sand (30%) and silt (30%). The instream cover was moderate consisting of instream and overhanging cattails and grasses.

Fish and Fish Habitat Potential

The drainage feature has dense instream vegetation and although it had standing water at the time of the spring field surveys, there was no flow connecting the feature to another watercourse; the pooled water was stagnant. WSP ecologists conducted fish community surveys using dip netting and did not observe or capture any fish. The lack of a downstream connection to a watercourse potentially supporting fish, the lack of fish captured in the stagnant water, and the dense instream vegetation choking the channel all contribute to WSP's determination that this drainage feature does not support fish use directly at the highway crossing.

A summary of existing fish and fish habitat conditions for culverts within the study limits is included in **Table 3-1.**

3.1.3 SPECIES AT RISK (SAR)

No terrestrial SAR or SAR habitat was found during the field investigations. Potential SAR identified through the background review were screened and the likelihood of occurrence in the study area and of being harmed was assessed. The findings are presented in **Table 3-2**. These SAR include Bald Eagle, Bank Swallow, Barn Swallow, Black Tern, Bobolink, Canada Warbler, Chimney Swift, Common Nighthawk, Eastern Meadowlark, Eastern Whip-poor-will, Eastern Wood-Pewee, Olive-sided Flycatcher, Peregrine Falcon, Rusty Blackbird, Wood Thrush and Yellow Rail. Buff-breasted Sandpiper was not included because it is not a SAR under the ESA. Based on this assessment, no SAR impacts from the proposed works are expected in the study area. This is either due to a lack of habitat, poor habitat or habitat limited to foraging.

No fish or aquatic SAR were recorded within the study area during the background review and field investigations. There are also no watercourses within the study limits that support fish directly, therefore there is no potential for aquatic SAR to inhabit the drainage features or be impacted by the proposed works.

Table 3-1: Existing Fish and Fish Habitat Conditions Summary Table

Station	Flow	Thermal Regime	Fish Habitat*	Fish Species Present	Vegetation**	Constraints and Opportunities	Specialized, Limiting, or Rare Fish Habitat Features	Species at Risk	Permissible In-water Works Timing Window
Crossing 1 drainage	Intermittent	Coldwater	Indirect	None	Riparian: Grasses In-water: Cattails	Protection of groundwater seeps	Groundwater seepage outlets to a watercourse identified by MNRF as coldwater (St. Jean Baptiste Creek) ~ 350 m downstream of the highway crossing.	None	June 16 to August 31
Crossing 2 drainage	Intermittent	N/A	No fish Habitat	None	Riparian: Grasses In-water: Cattails	Protection of groundwater seeps	Groundwater seepage	None	N/A
Drainage feature between Rivard Rd and ONR rail line	Ephemeral	N/A	No fish Habitat	None	Riparian: Grasses In-water: Cattails	None	None	None	N/A

* Fish habitat is defined in subsection 2(1) of the Fisheries Act to include all waters frequented by fish and any other areas upon which fish depend directly or indirectly to carry out their life processes. The types of areas that can directly or indirectly support life processes include, but are not limited to: spawning grounds and nursery, rearing, food supply and migration areas

** In-stream vegetation refers to emergent, submergent and floating aquatic vegetation.

Table 3-2: Species at Risk Screening

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
Birds								
Bald Eagle (*Haliaeetus leucocephalus*)	**SC**	N/A	OBBA 2021	Prefers deciduous and mixed-deciduous forest; and habitat close to water bodies such as lakes and rivers. They roost in super canopy trees such as Pine (MNRF Guelph - Waterloo List, 2014)	None: no habitat	General	No observations	None: species is not present due to the absence of habitat.
Bank Swallow (*Riparia riparia*)	**THR**	Species and General Habitat Protection	OBBA 2021	It nests in a wide variety of naturally and anthropogenically created vertical banks, which often erode and change over time including	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				aggregate pits and the shores of large lakes and rivers (MNRF Guelph - Waterloo List, 2014)				
Barn Swallow (*Hirundo rustica*)	**THR**	Species and General Habitat Protection	OBBA 2021, MNR 2012 in FRi2013	Prefers farmland; lake/river shorelines; wooded clearings; urban populated areas; rocky cliffs; and wetlands. They nest inside or outside	Low potential: May nest under the bridge but no observations either by Fri (2013) or WSP (2021). Poor nesting conditions in the 10th St culvert (Culvert ID: H11-17265) as well as poor foraging opportunities.	General	No observations	Minimal: Due to poor foraging and nest site opportunities. Unlikely to be present.

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
Black Tern (*Chlidonias niger*)	**SC**	N/A	OBBA 2021	Generally prefer freshwater marshes and wetlands; nest either on floating material in a marsh or on the ground very close to water (MNRF Guelph - Waterloo List, 2014)	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.
Bobolink (*Dolichonyx oryzivorus*)	**THR**	Species and General Habitat Protection	NHIC 2021, OBBA 2021, MNR 2012 in FRi2013	Generally prefers open grasslands and hay fields. In migration and in winter uses freshwater marshes and grasslands (MNRF Guelph - Waterloo List, 2014)	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat
Canada Warbler (*Cardellina canadensis*)	**SC**	N/A	OBBA 2021	Generally prefers wet coniferous, deciduous and mixed forest types, with a dense shrub	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				layer. Nests on the ground, on logs or hummocks, and uses dense shrub layer to conceal the nest (MNRF Guelph - Waterloo List, 2014)				
Chimney Swift (*Chaetura pelagica*)	**THR**	Species and General Habitat Protection	OBBA 2021, NHIC 2021	Historically found in deciduous and coniferous, usually wet forest types, all with a well-developed, dense shrub layer; now most are found in urban areas in large uncapped chimneys (MNRF Guelph - Waterloo List, 2014)	Some potential: May nest in chimneys in the study area and forage over the site.	General	No observations	None: Buildings will not be removed and if the species is present, impacts on foraging would be negligible.
Common Nighthawk (*Chordeiles minor*)	**SC**	N/A	OBBA 2021	Generally prefer open, vegetation-free habitats,	Some potential: May nest on flat	General	No observations	None: Buildings will not be removed and if the species is

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and river banks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nest on flat rooftops) (MNRF Guelph - Waterloo List, 2014)	roofs in the study area and forage over the site.			present, impacts on foraging would be negligible.
Eastern Meadowlark (*Sturnella magna*)	**THR**	Species and General Habitat Protection	OBBA 2021, MNR 2012 in FRi2013	Generally prefers grassy pastures, meadows and hay fields. Nests are	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				always on the ground and usually hidden in or under grass clumps (MNRF Guelph - Waterloo List, 2014)				
Eastern Whip-poorwill (*Caprimulgus vociferus*)	**THR**	Species and General Habitat Protection	OBBA 2021, MNR 2012 in FRi2013	Generally prefer semi-open deciduous forests or patchy forests with clearings; areas with little ground cover are also preferred; In winter they occupy primarily mixed woods near open areas (MNRF Guelph - Waterloo List, 2014)	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.
Eastern Wood-pewee (*Contopus virens*)	**SC**	N/A	OBBA 2021	Associated with deciduous and mixed forests. Within mature and	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				intermediate age stands it prefers areas with little understory vegetation as well as forest clearings and edges (MNRF Guelph - Waterloo List, 2014)				
Olive-sided Flycatcher (*Contopus cooperi*)	**SC**	N/A	OBBA 2021	Generally prefers natural forest edges and openings adjacent to rivers or wetlands. Commonly nest in conifers such as White and Black Spruce, Jack Pine and Balsam Fir. (MNRF Guelph - Wellington List, 2015)	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.
Peregrine Falcon (*Falco peregrinus*)	**SC**	N/A	OBBA 2021	Rock cliffs, crags, especially situated	None: no habitat.	General	No observations	None: species is not present due to

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				near water; tall buildings in urban centres; threatened by chemical contamination; reintroduction efforts have been attempted in numerous locations throughout Ontario (2). Peregrine Falcons usually nest on tall, steep cliff ledges adjacent to large waterbodies, but some birds adapt to urban environments and raise their young on ledges of tall buildings, even in densely populated				the absence of habitat.

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				downtown areas (MNRF website).				
Rusty Blackbird (*Euphagus carolinus*)	**SC**	N/A	OBBA 2021	Nests in the boreal forest and favours the shores of wetlands such as slow-moving streams, peat bogs, marshes, swamps, beaver ponds, and pasture edges. (SARA Species Profile Online 2015)	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.
Wood Thrush (*Hylocichla mustelina*)	**SC**	N/A	OBBA 2021	Nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers. Prefers large forest mosaics, but may also nest in small	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.

Species At Risk Designations								
ENDANGERED								
THREATENED								
SPECIAL CONCERN								
EXTIRPATED								
Species	**ESA Status and Regional Occurrence**	**ESA Protection**	**Source of Record (Date)**	**Key Habitats Used by Species in Ontario**	**Reasonable Likelihood of Presence in Study Area**	**Surveys Undertaken**	**Results of Field Surveys**	**Likelihood and Magnitude of Impacts to Species or Habitat**
				forest fragments (MNRF Guelph - Waterloo List, 2014)				
Yellow Rail (*Coturnicops noveboracensis*)	**SC**	N/A	NHIC/MTO 2021	Yellow Rails are secretive birds and live deep in the reeds, sedges, and marshes of shallow wetlands, where they nest on the ground. The marshy areas used by Yellow Rails have an overlying dry mat of dead vegetation that is used to make roofs for nests (MECP Species Profile Online 2019)	None: no habitat.	General	No observations	None: species is not present due to the absence of habitat.

3.1.4 DRAINAGE AND HYDROGEOLOGY

DRAINAGE ASSESSMENT

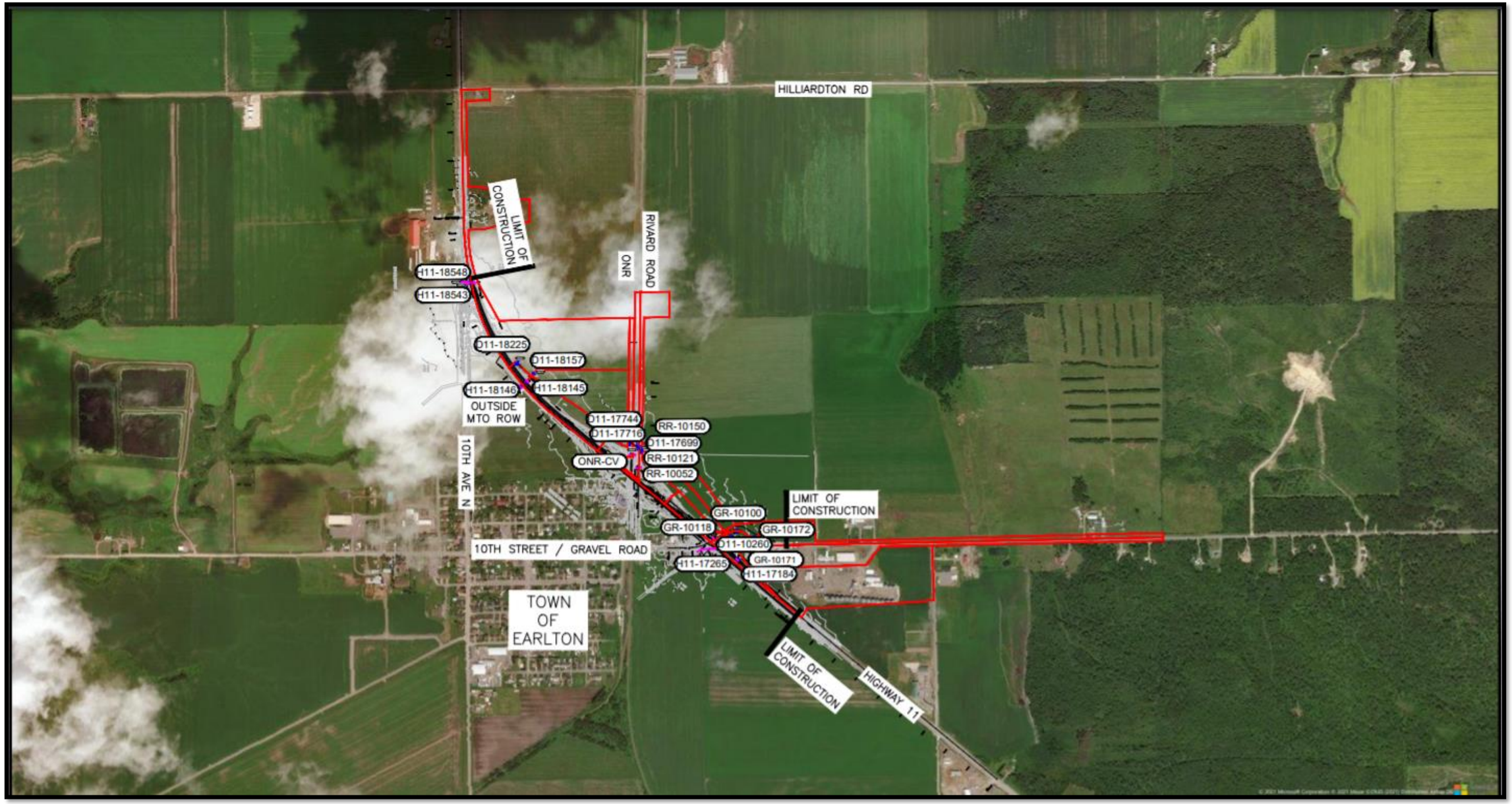
A Drainage Assessment Report was prepared and this section provides a summary of the findings in that report. The existing drainage scheme of Highway 11 and Rivard Road within the study limits consists primarily of sheet flow from the highway discharging to roadside ditches and through entrance culverts, side road culverts and crossing culverts. There are independent tile drain systems crossing Highway 11 and Rivard Road within the study limits.

Eleven (11) culverts were identified and assessed, and all were determined to be in fair to poor condition. One culvert is recommended for repair and end section replacement. Three culverts are recommended for replacement, three culverts are recommended to have vegetation cleared at their inlet/outlet, and two culverts are recommended for both cleanout and clearing of vegetation. No action is recommended for the ONR culvert and tile drain outlet. All culverts meet the MTO Design criteria during hydraulic calculations.

Figure 3-3 shows the approximate location of the culverts along Highway 11.

Soil and water samples were collected for one season for all culverts that were identified to be impacted by the proposed design (as per MTO Gravity Pipe Design Guidelines, April 2014).

Figure 3-3: Culverts in the Study Limits



HYDROGEOLOGICAL ASSESSMENT

A Hydrogeological Assessment was conducted as part of this study. The section below provides a summary of the findings from the Hydrogeological Assessment Report including an inventory of water supplies and a description of ground water conditions within the study area.

This information was collected for the purposes of determining if any water well supplies would be impacted during construction and to identify if any pumping of water will also be required during construction.

The closest active Permit-to-Take-Water (PTTW) to the site is located in the Town of Earlton as shown on **Figure 3-4**. This PTTW (4656-988L9) includes three (3) sources in the Town of Earlton for groundwater used as a municipal water supply. The permit is owned by the Corporation of the Township of Armstrong and has a total permitted taking of 1,376,000L/day for all three (3) sources.

There are no water taking Environmental Activity and Sector Registry's (EASR) in the vicinity of the study area.

There are twenty-five (25) MECP water well records within 500m of the site. The wells have been installed since 1953 up to 2020, with the following uses reported:

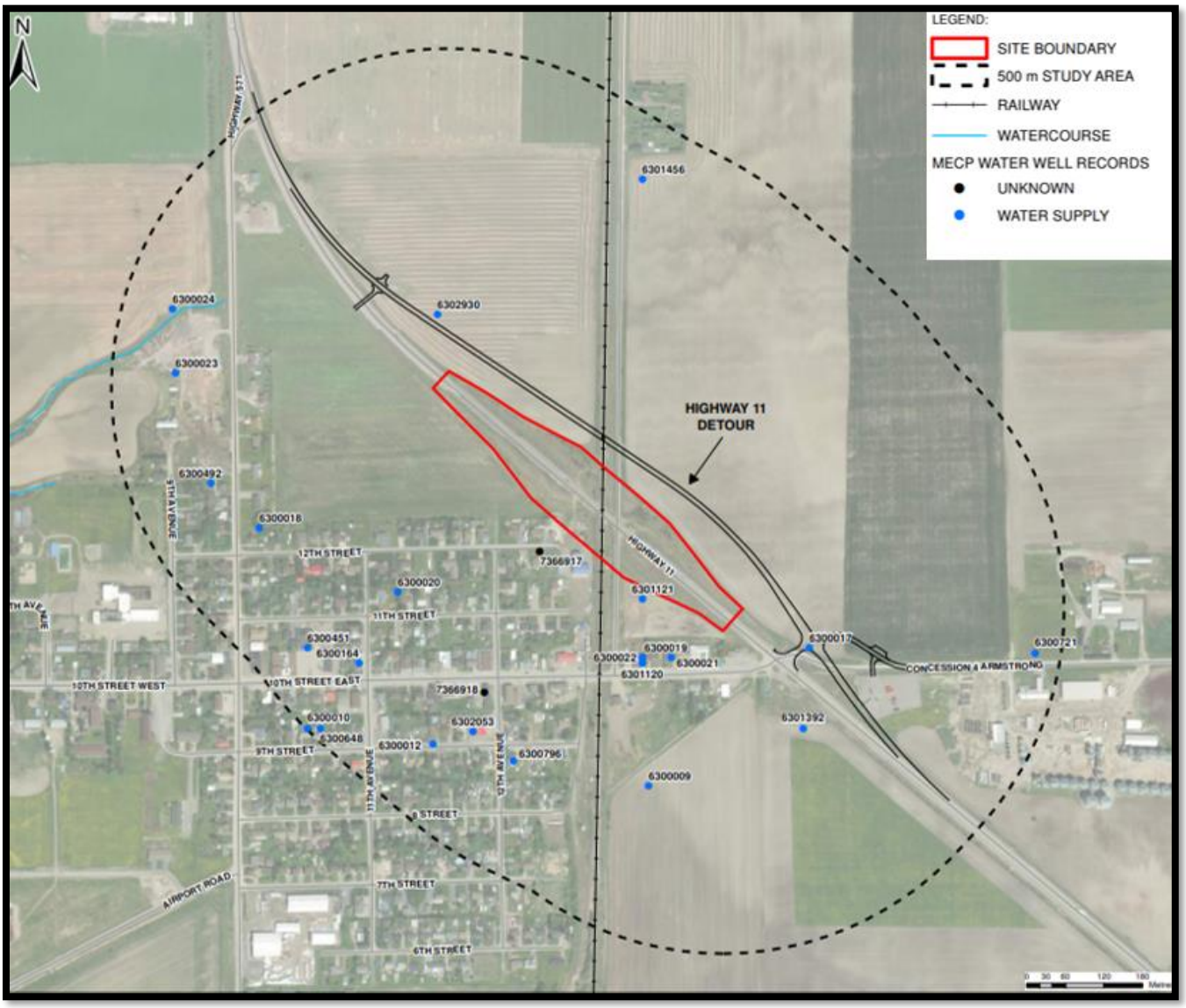
- Three (3) Commercial Water Supply
- One (1) Domestic and Commercial Water Supply
- One (1) Domestic and Livestock Water Supply
- One (1) Domestic and Livestock Water Supply
- Ten (10) Domestic Water Supply
- Two (2) Industrial Water Supply
- One (1) Livestock
- One (1) Municipal and Public
- Two (2) Municipal
- One (1) Not Used
- Two (2) unknown records.

Well depths were reported to range from 26.8 m below ground surface (mBGS) to 178.3 mBGS, for the twenty-three wells with reported well depths, all defined as bedrock wells. Static water levels were reported to range from 1.2 mBGS, to 16.8 mBGS for twenty-two wells with reported static water levels. Water well locations are shown in **Figure 3-4**.

There are no Provincial Groundwater Monitoring Network (PWMN) wells and Provincial Stream Water Quality Monitoring Network (PWQMN) stations within the study area.

The study area is not located within a Source Water Protection Area as per the MECP (2021). Therefore, there are no wellhead protection areas, intake protection areas, significant groundwater recharge areas or highly vulnerable aquifer areas.

Figure 3-4: MECP Water Well Records



3.1.5 DESIGNATED SUBSTANCES SURVEY

The term “designated substance” refers to those substances defined as Designated Substances under the Ontario Occupational Health and Safety Act including asbestos (friable and non-friable), lead, mercury, silica, benzene, acrylonitrile, arsenic, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride. All of these substances are governed by a consolidated regulation, Designated Substances - Ontario Regulation

490/09 (O. Reg. 490/09) that prescribes the minimum health and safety requirements for assuring safe worker-substance interaction as well as the duties and responsibilities of owners, employers, supervisors and workers in workplaces containing these substances.

Designated Substances and Hazardous Materials Assessment Report was prepared and this section provides a summary of the findings.

The study area was inspected for the presence of designated substances and hazardous materials.

The bulk sample collected and analyzed for **arsenic** was determined not to contain arsenic.

All bulk samples collected and analyzed for **asbestos** were determined not to contain asbestos. If during the course of work, renovation, alteration or demolition to any part of the subject area, reveals materials which are suspected to contain asbestos, all work must stop until that material is inspected/tested by a qualified person in accordance with O. Reg 278/05.

Building materials suspected to contain **lead** were not observed within the subject area. If during the course of work, renovation, alteration or demolition to any part of the subject area, reveals materials which are suspected to contain lead, the materials are found, the material should be handled in accordance with the Ministry of Labour, Training and Skills Development (MLTSD) Guideline – Lead on Construction Projects, which will ensure compliance with O. Regs. 490/09 and 833/90. The type of work must be classified prior to any disturbance of these materials, and the corresponding precautions/safety measures must be followed. In addition, the disposal of any lead-containing materials must also comply with the requirements of O. Reg. 347/90.

Crystalline Silica should be assumed to be present in materials such as concrete, asphalt, cement, mortar, etc. Every precaution and procedure should be taken during demolition or renovation activities to control the time-weighted exposure of a worker to airborne silica and exposure should not exceed 0.05 milligrams Cristobalite per cubic meters of air, or 0.1 milligrams Quartz or Tripoli per cubic meters of air. Coring, sawing, or breaking up the materials containing silica should be completed only with appropriate dust suppression methods, proper respiratory protection and general worker safety precautions as outlined in the MOL Guidance document and in the Occupational Health and Safety Act. Designated Substances must be handled in accordance with their appropriate guidelines and regulations.

3.1.6 ASSESSMENT OF POTENTIAL CONTAMINATION

WSP completed a Preliminary Site Screening (PSS) for each of nine (9) properties impacted by the project. The result of that assessment identified three (3) properties to have potential for site contamination and a Phase 1 ESA (Environmental Site Assessment) was carried out for each. **Table 3-3** presents a brief summary of the results of the Phase 1 assessment. The information listed identified Potential Concern

Areas (PCA) associated with each of the 3 properties and recommended further assessment as Areas of Potential Environmental Concern (APEC).

Table 3-3: Potential Contaminated Sites

SITE #	Reason For Potential Concern	Results of Phase I ESA
1	East adjacent farming and trucking operations	- 8 PCA's identified - 4 APEC's to be assessed
2	East adjacent farming and trucking operations	- 8 PCA's identified - 4 APEC's to be assessed
3	Given the close proximity of the railway line along the eastern border of the property	- 6 PCA's identified - 5 APEC's to be assessed

3.1.6.1 *ASSESSMENT OF PAST USES*

An Assessment of Past Uses (APU) was conducted as part of this study to support the management of excess soil generated during the proposed works. An APU is a preliminary qualitative assessment of the likelihood that soil within a Project Area may have been impacted by one or more contaminants, based on a review of current activities and historical information for the Project Area and a review of relevant and readily available environmental information for the surrounding properties located within a 250 m radius of the Project Area boundaries.

POTENTIALLY CONTAMINATING ACTIVITY

A summary of the PCAs identified in the APU Study Area are provided in **Table 3-4**.

Table 3-4: Potentially Contaminating Activities

Location	Description	Information Source	Rationale for PCA to an APEC
Project Area and Detour Area – Highway 11, Highway 571 and nearby and intersecting roadways	Other – De-Icing chemical application during winter months	Site Reconnaissance	De-icing chemicals are potentially applied to Highway 11, Highway 571 and nearby adjacent and intersecting roadways. As such, this PCA does result in an APEC.

Location	Description	Information Source	Rationale for PCA to an APEC
Project Area – Highway 11, Highway 571 and nearby intersecting roadways	Importation of Fill of Unknown Quality	Aerial Photographs, Site Reconnaissance	There is potential for the importation of fill of unknown quality during the construction of Highway 11, Highway 571, Concession 4 Armstrong and the railway corridor within the Project Area. As such, this PCA does result in an APEC.
Project Area and APU Study Area – Railway corridor and agricultural fields	Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	Aerial Photographs, Site Reconnaissance	There is potential for pesticides and herbicides to be sprayed on the railway corridor and agricultural fields within the Project Area. As such, this PCA does result in an APEC.
APU Study Area	Commercial Automotive Shop	Site Reconnaissance	There is potential for fuelling and spills on the property, however based on the distance from the Project Area, this PCA does not result in an APEC.
Project Area and APU Study Area – Railway Corridor	Rail Yards, Tracks and Spurs	Rail Yards, Tracks and Spurs	There is potential for contamination from the rail tracks and for spills along the railway corridor. As such, this PCA does result in an APEC.

Location	Description	Information Source	Rationale for PCA to an APEC
APU Study Area	Gasoline and Associated Products Storage in Fixed Tanks	Site Reconnaissance, TSSA response	There is potential for fuel leaks from the underground storage tanks (USTS) located on the gas station property. Given the close proximity to the Project Area, this PCA does result in an APEC.
APU Study Area – Farming operation	Gasoline and Associated Products Storage in Fixed Tanks	Aerial Photographs, Site Reconnaissance	There is potential for fuel tanks on this property and fuel spills from associated farm equipment and shipping trucks. However, given the distance from the Project Area, this PCA does not result in an APEC.

3.1.6.2 *AREAS OF POTENTIAL ENVIRONMENTAL CONCERN*

A summary of the APECs identified in the Project Area are provided in **Table 3-5**.

Table 3-5: Area of Potential Environmental Concern

APEC Number	Location of APEC	Description	Contaminant of Concern	Media Affected (Soil, Groundwater, Sediment)
APEC - A	Entire length of Highway 11	Other – De-Icing chemical application during winter months	EC and SAR (soil) Chloride (groundwater)	Soil, groundwater
APEC -1	Entire length of Highway 11	Importation of Fill of Unknown Quality	Metals Inorganics PHCs and BTEX PAHs	Soil
APEC -2	Central portion of Project Area and Detour Area (area of agricultural usage and along railway corridor)	Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	Metals OC Pesticides	Soil
APEC -3	Central portion of Project Area and Detour Area in vicinity of railway line	Rail Yards, Tracks and spurs	Metals PAHs PHCs and BTEX	Soil
APEC -4	Southern portion of Project Area in vicinity of gas station	Gasoline and Associated Products Storage in Fixed Tanks	Metals PAHs PHCs and VOCs	Soil and groundwater

Based on the information obtained and reviewed as part of this APU, seven (7) PCAs were identified within the APU Study Area. After a review of the PCAs, WSP's Qualified Person has concluded the application of de-icing chemicals during winter months to the roadways, importation of fill of unknown quality, the presence of the railway line and the potential pesticide use within the Project Area and the gasoline service station located adjacent to the Project Area have contributed to five (5) APECs within the Project Area.

A qualified soils specialist has determined that the majority of the Project Area is within a settlement. As such, the excess soil reuse planning requirements (Sampling and Analysis Plan, Soil Characterization Report, Excess Soil Destination Assessment Report and Soil Tracking) are required for the project.

3.1.6.3 *SOIL CHARACTERIZATION ANALYSIS*

A Soil Characterization Report (SCR-WSP 2022) was prepared as part of this design study and this section provides a summary of the investigation findings. The purpose of this investigation was to assess the chemical quality of the anticipated excess soils that will be generated from excavations during project construction and to identify soils that could be re-used on-site or are required to be moved off site to the appropriate management/disposal facility. This investigation was completed in accordance with the regulatory framework that is intended to: clarify where excess soil may be used, enhance and clarify the responsibility and accountability of the generators of excess soil, improve the transparency and public accountability of excess soil management and reduce the overall management of excess soils under different land use development.

Locations of soil excavation (excess soil sources) included the bridge embankments, construction of the highway detour and the asphalt improvement area.

A total of seventy (70) bulk samples were collected and analyzed for metals, salt related parameters such as electrical conductivity (EC) and sodium adsorption ratio (SAR), petroleum hydrocarbon (PHCs), benzene, toluene, ethylbenzene, and xylenes (BTEX), polycyclic aromatic hydrocarbon (PAHs) and/or OC Pesticides.

The summary of the findings and requirements for soil management were included in the SCR and are presented below. Reference is made to MECP regulatory standards Tables 1, 2.1 and 3.1 which identify chemical concentrations for which the soil can be re-used or managed under certain circumstances.

i. For all of the abovenamed parameters, several locations had concentrations that were above Table 3.1. As such, the excavation/removal of these impacted soils with these concentrations will require off-site disposal/management at an MECP licenced receiving/disposal facility.

ii. Soils with concentrations that meet Table 1 and Table 2 can be re-used within the project area and at various facilities/sites, subject to approval from the selected receiving sites.

iii. Re-use of soil containing EC/SAR only, that exceed the requisite Table concentrations may be re-used it if meets the following conditions.

- Where it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance used for the safety of vehicular or pedestrian traffic under conditions of snow or ice.
- At an industrial or commercial property use and to which non-potable standards would be applicable.
- At least 1.5 metres below the surface of the soil.

The excess soil may not be finally placed at any of the following locations:

- within 30 metres of a waterbody.
- Within 100 metres of a potable water well or area with an intended property use that may require a potable water well.
- A location that will be used for growing crops or pasturing livestock unless the excess soil is placed 1.5 metres or greater below the soil surface.
    - The Project Leader or Operator of the Project Area must inform the reuse site owner or operator that the excess soil is from a location that may be expected to contain EC and SAR. The Project Leader or operator of the Project Area must deliver a copy of this report to the reuse site owner or operator and communicate any potential risks to surface water and ground water to the reuse site owner or operator.
    - The above placement restrictions, taken from the Ontario Soil Rules, apply to soil with EC and/or SAR impacts only; and do not apply to soil impacted with other parameters in addition to EC and/or SAR.

3.2 CULTURAL AND HERITAGE ENVIRONMENT

During the Preliminary Design, both Heritage and Archaeological investigations were undertaken to provide an appropriate recognition of these factors in the selection of the Preferred Alternative.

HERITAGE AND CULTURAL RESOURCES

This bridge allows Highway 11 traffic to travel over the ONR tracks at this location.

The Temiskaming & Northern Ontario Railway was incorporated as a Crown Corporation in 1902 to develop a rail system in Northeastern Ontario. By 1906, the railway was operational to Englehart and by 1909 constructed to Cochrane. In April 1946, the current name of Ontario Northland Railway was created by an act of the Ontario Legislature.

The existing Highway 11 structure over the ONR is not considered to have heritage value. While the age of the bridge (1961) triggers the need to review the bridge against the Ontario Heritage Bridge Guidelines, the configuration of the bridge and the materials utilized do not support a heritage bridge designation per the Ontario Heritage Bridge Guidelines (2008).

As part of this Class EA Study, the assessment concluded that there are no built heritage or landscape features in the study area. No other structures or buildings are impacted by this ONR bridge replacement.

ARCHAEOLOGICAL RESOURCES

Background research indicated that the location for the proposed bridge replacement at Earlton contained low archaeological potential due to the lack of modern water sources, historic transportation corridors and its situation in the flat 'Clay Belt' of Northern Ontario.

During the Preliminary Design, a Stage 1-2 Archaeological Assessment (AA) was completed by URS Canada in July 2012 to confirm whether or not features of archaeological potential were present within 150m of the study area. Stage 1 Assessment included background research into the archaeological, land use history and geographic attributes of the subject properties in order to determine their archaeological potential. The Stage 2 investigation included a physical survey in order to document any archaeological resources on the properties. The assessment was carried out in accordance with the Ministry of Tourism, Culture, and Sport (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists*. Stage 1 assessment determined that no sites with archaeological potential have been registered within the study area, however, a review of the general physiography of the study area and historic land uses suggested that the area exhibits a potential for Euro-Canadian and pre-contact Aboriginal archaeological resources, requiring a Stage 2 survey. The Stage 2 survey consisted of digging test pits to subsoil or bedrock. No cultural artifacts were discovered during test pitting, and therefore the project area has been cleared of having any archaeological concern. As a result, this location was deemed to have low archaeological potential.

3.3 SOCIO-ECONOMIC ENVIRONMENT

3.3.1 TOWN OF EARLTON / TOWNSHIP OF ARMSTRONG

The Town of Earlton is located within the Township of Armstrong, District of Timiskaming. It has a population of approximately 1,200. Earlton began as a small lumbering community when a group of pioneers from York County in southern Ontario, arrived around 1900 to cut timber for sawmills. When the Temiskaming & Northern Ontario Railroad (T&NO) was constructed through this area in 1906 on its way up to Cochrane, the settlement grew. The flat, clay terrain of the "Clay Belt" was easily cleared and proved to be very fertile, enabling settlers to cultivate the land. By 1910, Earlton consisted of a small number of buildings including a post office, general store, hardware store and a few homes.

Armstrong Township was incorporated in 1921 and is now known as the "Dairy Centre of Northern Ontario". This section of Highway 11 was built between 1923 and 1927 and, as such, Earlton has long acted as a key marketing and supply point along the Highway 11 corridor as it sits at the approximate half way point between Cochrane and North

Bay. The existing Ontario Northern Railway Bridge was built in 1961 in order to allow Highway 11 traffic to overpass the tracks at this location.

Land use in the area consists of active agricultural field cropping to the east with grain storage and drying facilities located on the south side of Gravel Road. To the west, the urban development of Earlton abuts the Highway 11 right-of-way. Scattered rural residential lots and farmstead homes are also present in the immediate vicinity.

3.3.2 ENTRANCES

Access to the lands adjacent to Highway 11 is currently available from local roadways (Gravel Road/10th Street and Highway 571) and will continue during and after construction.

A detour of Highway 11 will maintain traffic movement along Highway 11 and accommodate community connectivity during construction at both the 10th Street/Gravel Road and Highway 571 intersections.

There are three (3) entrances along Highway 11 within the study area. These entrances are gravel surfaced and located close to the north end of the study area north of the Highway 571 intersection. No impacts are anticipated as part of the Recommended Plan, and all three accesses will remain open during and after construction.

There are two field entrances located on opposite sides of Highway 11 approximately 500 m north of the ONR track. These entrances were historically used as a snowmobile trail crossing of Highway 11. This trail has now been relocated to run under Highway 11 and as such the west entrance is being removed. The east entrance also provides field access so it will be maintained.

3.3.3 FARMING OPERATIONS

There are active farm properties adjacent to the bridge site. It is recommended that the farm equipment operators to access local fields or travel into Earlton, along Rivard Road where there is a lower speed limit. The farm properties to the east of Highway 11, where the Highway 11 detour will be constructed, contain a network of tile drains which are interpreted to drain from east to west to the Highway ditch line. The project team consulted with the owners of the farm properties affected by the project to identify the nature and location of the tile drains, but the information was not available.

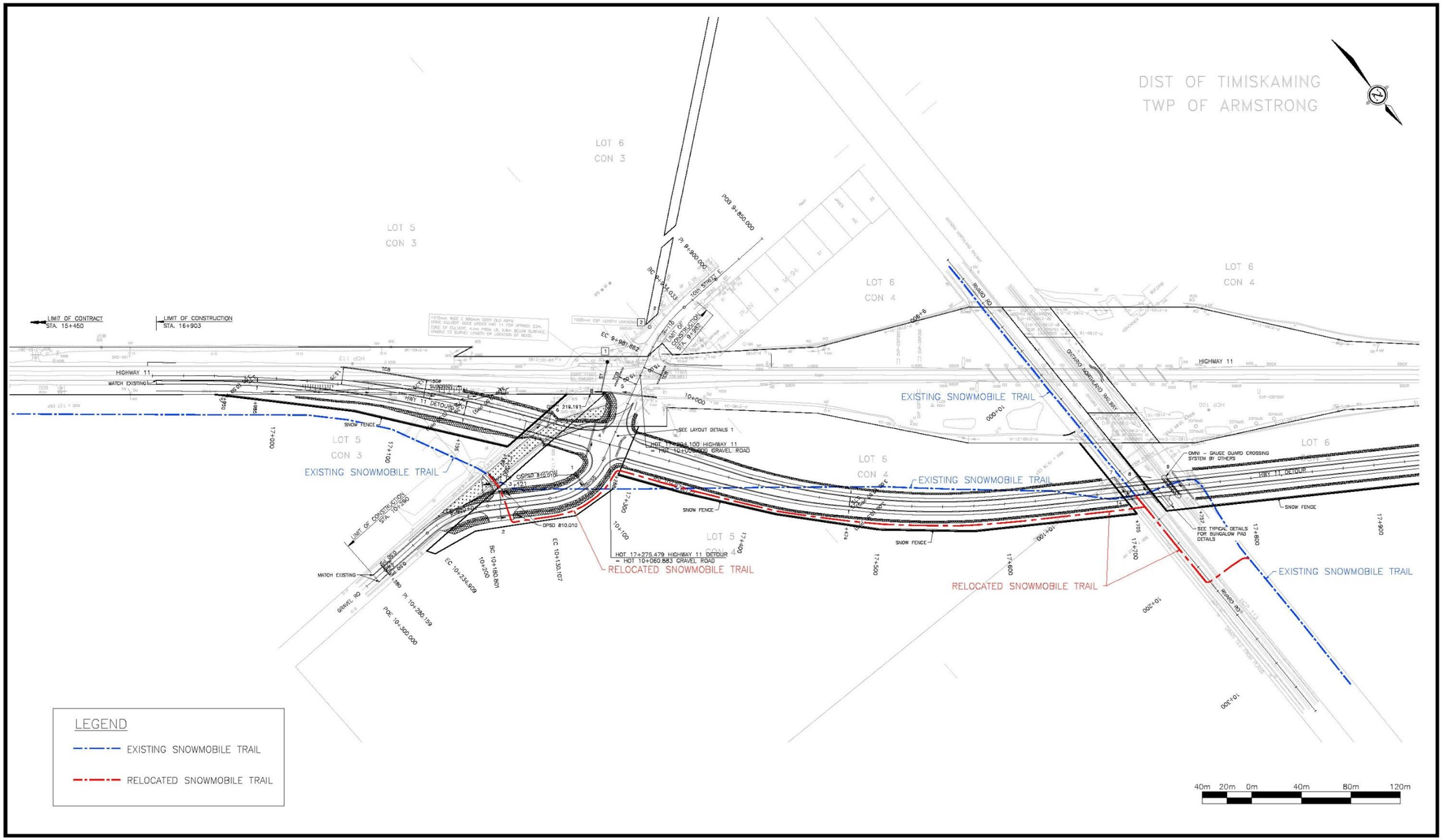
3.3.4 SNOWMOBILE TRAILS

Snowmobiling is a popular recreational activity in northern Ontario and the TransOntario Trail (TOP) “A” and TOP Feeder “A1080” allows snowmobile access to Earlton from surrounding areas. The Feeder trail crosses under Highway 11 and the ONR bridge at Rivard Road.

WSP consulted with the local snowmobile club, Tri-town Sno Travellers, to discuss the project and specifically the requirement to modify alignment of the trail during

construction to permit continued use. The trail will be realigned along the Highway 11 detour from Gravel Road to Rivard Road. The crossing of Rivard Road will be shifted and the existing snowmobile crossing under Highway 11 bridge will be maintained as construction will not occur during the winter period. The snowmobile trail plan is shown in **Figure 3-5**.

Figure 3-5: Snowmobile Trail Detour Plan



3.3.5 EARLTON FARM SHOW

The Earlton Farm Show is an annual event that is held at the Earlton Recreation Centre in the Town of Earlton, usually in the later winter/early spring period. It is sponsored by the Ontario Federation of Agriculture and attracts people with different agricultural interests from within and outside of the local area. It is usually a two-day event held over a weekend.

The Farm Show was last held in 2019 but has not been held since due to concerns over the COVID-19 pandemic.

If the Farm Show occurs during the construction period access to the venue will be available through the existing road network and following signage that will be installed related to detour and access.

3.4 TRANSPORTATION NETWORK

3.4.1 EXISTING ROAD NETWORK

HIGHWAY 11

Highway 11 is a two-lane King's Highway with a posted speed limit of 90 km/h, under the jurisdiction of the Ministry of Transportation (MTO) and part of the Trans-Canada Highway system. This section of Highway 11 is functionally classified as a Rural Arterial Undivided highway with a design speed of 110 km/h (RAU110). Within the limits of the existing bridge itself, however, some geometric parameters do not meet a design speed of 110 km/h.

There are two at-grade intersections on Highway 11 within the study area including 10th Street/Gravel Road at the south end of the study area and Highway 571, a secondary highway at the north end of the study area. Both of these intersections permit access to the community of Earlton to the west of Highway 11.

Furthermore, Highway 11 crosses Rivard Road and the ONR track via the grade-separation which is the subject of this study.

10TH STREET/ GRAVEL ROAD

10th Street/Gravel Road is an east-west two-lane road that crosses Highway 11, south of the ONR overhead structure. The intersection is stop-controlled on the minor approaches only.

West of Highway 11, the roadway is designated as 10th Street, has a posted speed limit of 50 km/h and is paved with curb and gutter and numerous residential and commercial entrances. 10th Street provides access to and from Highway 11 for the community of Earlton.

East of Highway 11, the roadway is designated as Gravel Road and has a paved rural two-lane cross-section with a posted 60 km/h speed limit. Gravel Road provides access to and from Highway 11 and Earlton for the surrounding agricultural community.

RIVARD ROAD

Rivard Road runs parallel to the ONR tracks through the study area. This road is a hard surfaced municipal road that provides access to agricultural lands. The speed limit on this road is not posted but it is assumed that the speed limit is 80 km/h as an unposted rural road. This local roadway allows large unlicenced agricultural equipment to safely and efficiently move between farms and fields on both sides of Highway 11. As well, Rivard Road provides a local roadway for farm supply (fertilizer, seed and fuel), farm services (milk transport, maintenance and equipment delivery) and crop delivery to storage and market.

HIGHWAY 571

Highway 571 is an existing north-south secondary highway with a posted speed limit of 50 km/h that connects Highway 562 at its south terminus to Highway 11 at its north terminus in Earlton. The existing Highway 571 intersection is a ‘T’ intersection with a 90-degree intersecting angle and a channelized southbound right turn and is stop-controlled on the minor approach.

EXISTING STRUCTURE

The existing ONR Overhead bridge carries Highway 11 over the ONR tracks and Rivard Road. It is a nine span pre-stressed concrete girder bridge with end spans of 14.75 m each and seven intermediate spans of 15.12 m each. There are expansion joints at each pier and abutment. The overall width of the bridge is 10.82 m. The bridge was built in 1961 and rehabilitated in 1982. The scope of rehabilitation included concrete deck repairs, new waterproofing and paving, replacement of expansion joints, new concrete barrier walls, new approach slabs, and shotcrete repairs to the substructure.

4 CONSULTATION/ENGAGEMENT

Consultation and engagement is an integral component of the study, as it provided opportunities for two-way communication between the Project Team and interested stakeholders. Consultation activities provide a forum to identify potentially significant environmental issues early in the decision-making process and ensure that they are given appropriate consideration.

A stakeholder consultation program was undertaken throughout the study process to assist in the planning, impact assessment and developing solutions for this project. Throughout the duration of the study, those consulted included:

- External government agencies (including provincial ministries and agencies, federal departments);
- Regional and local municipalities;
- Local members of the provincial parliament;
- Local emergency service providers;
- School boards;
- Utilities;
- Indigenous Communities; and
- Members of the public (including adjacent property owners, interest groups, and the general public).

The purpose of this section is to outline the consultation activities undertaken, and identify the key issues raised and how they were resolved.

Copies of study notification materials are included in **Appendix A** and copies of correspondences are provided in **Appendix B**.

4.1 PRELIMINARY DESIGN

During the Preliminary Design study, a Study Commencement notice was published in The Temiskaming Speaker (February 29, 2012) to inform local residents about the initiation of the study. A project commencement letter was mailed out to municipalities, federal and provincial agencies, and Indigenous Communities and stakeholders. A poster was created and displayed in the community to enhance public understanding of the project. The poster announced commencement of the Study and was provided to the Municipal Office/Library and the Canada Post Office to display in March 2012. The poster was provided in both official languages.

4.2 DETAIL DESIGN

During the Detail Design, a contact list was developed and built upon the contact list established for the Preliminary Design study. The contact list included provincial and federal agencies, municipalities, political representatives, interest groups, and other stakeholders and relevant bodies that may hold interest in the study. As the study progressed, the contact list was updated to include those who wished to be added to the contact list and others that requested to be removed from the list.

On April 8, 2021 notification letters announcing the Study Commencement were distributed by direct mail and email to contacts on the mailing list. A Notice of Study Commencement was published in the New Liskeard Temiskaming Speaker newspaper on April 9, 2021. The Notice was also posted on the Township of Armstrong website. A copy of the notice and notification letters are included in **Appendix A**.

4.3 EXTERNAL AGENCY CONSULTATION

Federal and Provincial agencies, local municipalities, utilities service providers and stakeholder interest groups were notified at the beginning of the study via letter and email on April 8, 2021 informing them of the study and soliciting their comments. Individuals and groups that expressed an interest in the project were kept informed and notified of Study Completion. The following agencies, municipalities, businesses and stakeholders were consulted with during the Study:

Federal & Provincial Government Agencies

- Ministry of Environment, Conservation and Parks (MECP)
- Ministry of Tourism, Culture and Sport (MTCS)
- Ministry of Natural Resources and Forestry (MNRF)
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Municipal Affairs and Housing
- Ministry of the Solicitor

Local Municipalities

- Township of Armstrong
- District of Temiskaming Social Services Administration Board

Locally Elected Representative

- MPP - Timiskaming Cochrane

School Boards

- District School Board Ontario North East
- Northeastern Catholic District School Board

- Conseil scolaire public du Grand Nord de l'Ontario
- Conseil scolaire de district du Nord-Est de l'Ontario
- Agente des services du transport scolaire

Emergency Service Providers

- District of Temiskaming Social Services Administration Board
- Ontario Provincial Police
- Earlton /Armstrong Township Fire Department

Utilities

- NorthernTel Networks
- Ontera
- Enbridge Gas (Enbridge)
- Bell Canada - North Bay
- Hydro One Networks Inc.

Interest Group and Stakeholders

- Ontario Federation of Agriculture for Cochrane, Temiskaming, East Nipissing Parry Sound and Muskoka
- Tri-town Sno Travellers
- Temiskaming Abitibi Trail Association
- Ontario Federation of Snowmobile Clubs
- North East Tri-Board Student Transportation
- Ontario Northland
- Greyhound Canada Transportation Group
- Earlton-Timiskaming Regional Airport
- Koch Farms / Agri-Sales Inc.
- Gowganda Lake Lodge
- Ontario Trucking Association
- Motel Earlton

Relevant correspondence is included in **Appendix B**.

A summary of external agency participation is provided in **Table 4-1**. The comments in **Table 4-1** are grouped by agency. Relevant correspondence is included in **Appendix B**.

The Project Team met with various stakeholders several times to provide information and updates as well as to seek input and respond to questions and comments. A summary of the Agency and stakeholder meetings is provided in **Table 4-2**. Refer to

Appendix B for copies of the meeting minutes with all stakeholders consulted throughout the study.

Table 4-1: External Agency Consultation

Agency/Participant	Comments Received	Action Taken / Response
Hydro One Network Inc.	► Confirmed receipt of the Notice of Study Commencement	► Comments Noted.
MHBC Planning, Urban Design & Landscape Architecture on Behalf of TC Energy	► Request to be removed from the mailing list.	► Removed from contact list. No further action required.
Timiskaming Emergency Medical Services	► Concerns about excessive delays due to traffic congestion on detour routes. ► Request to be informed if there will be a plan to construct a temporary level crossing detour adjacent to the highway.	► The Project Team noted the design and construction will include a Highway 11 detour adjacent to existing Highway 11 to provide a continuous north/south highway route. As a result, Highway 11 through traffic will not have to detour to any side roads and the project should not cause excessive delays along Highway 11. The major difference along Highway 11 during the detour operation will be a signalized at grade crossing of the ONR tracks instead of an overhead bridge crossing of the tracks. Highway traffic flow may be impacted by trains on the tracks.
Timiskaming Emergency Medical Services	► Reviewed the proposed project and find no concerns from the EMS perspective	► Comment noted.

Agency/Participant	Comments Received	Action Taken / Response
OPP – Temiskaming Detachment	► Reviewed the proposed detour and no concerns from a police perspective.	► Comment noted.
Transport Canada	► Provided self-assessment instructions and requested to be removed from contact list if no further review is required.	► Removed from contact list. The project will not require approval and/or authorization under any Acts administered by Transport Canada.
Earlton/Armstrong Township Fire Department	► Noted email is the preferred method of correspondence during the study.	► Will be notified of future updates. ► The design and construction will include a Highway 11 detour adjacent to existing Highway 11 to provide a continuous north/south highway route. As a result, Highway 11 through traffic will not have to detour to any side roads and the project should not cause excessive delays along Highway 11. The major difference along Highway 11 during the detour operation will be a signalized at grade crossing at the ONR tracks instead of an overhead bridge crossing of the tracks. Highway traffic flow may be impacted by trains on the tracks.
Ministry of Tourism, Culture and Sport (MTCS)	► MTCS Commented regarding identifying cultural heritage resources, potential study area,	► As part of this Class EA Study for the replacement of ONR Overhead bridge, the assessment concluded

Agency/Participant	Comments Received	Action Taken / Response
	built heritage and cultural heritage landscape, culverts, archaeological resources, and EA documentation.	that there are no built heritage or cultural landscape features in the study area. No other structures or buildings are impacted by the bridge replacement. ► As part of this Class EA Study for the replacement of ONR Overhead bridge, a Stage 1 and Stage 2 archaeological assessment was completed, and no archaeological resources were identified during field investigation. The assessment concluded that the project area is cleared of archaeological potential. ► Following completion of the Class EA, a Transportation Environmental Study Report (TESR) will be prepared.
Ministry of Natural Resources and Forestry Kirkland Lake District	► Noted MNRF has no concern with the replacement of the existing ONR Bridge on Highway 11, Earlton.	► Removed from the contact list. No further action required.
Agente des services du transport scolaire	► Noted there should be no issues planning routes around the road closure regardless of where the kids live or where they attend school.	► Comments noted. No further action required.

Table 4-2: Key External Agency and Stakeholder Meetings

Key External Agency / Stakeholders	Meeting Date	Meeting Purpose
Township of Armstrong	February 3, 2022	► WSP presented the current design plan including the temporary Rivard Road closure. ○ The Township confirmed that they are in agreement with the closure. ► It was agreed that WSP/MTO would do a presentation to council. ○ Virtual meeting is being scheduled for March 9, 2022. ► Post meeting the Township noted the following by email. ○ "The municipality wants to ensure the source water and wellhead are protected, heavy traffic/equipment during the detour or construction will not cause any damages to municipal infrastructure such as roads or municipal drainage systems, will not cause drainage issues, and the construction will not negatively impact the residents with dust, heavy traffic and excessive noise, etc." ○ "I do not believe there are any serious concerns, as everyone understands the construction is necessary and your planning seems to have considered the items we mentioned."
Tri-town Sno Travellers Meeting	February 9, 0222	► The project Team provided an overview of project scope and discussed the plan is to relocate the snowmobile crossing of the tracks further north, and move it back to the existing location once the detour is removed.

Key External Agency / Stakeholders	Meeting Date	Meeting Purpose
		○ WSP contacted the ONR and are awaiting direction regarding the crossing location. ► Outside of the track area, the general approach is to route the trail along the detour (within the Temporary Limited Interest property agreement for the detour where possible). It was noted that the trail groomer is 10 feet wide and a minimum of 12 feet clearance is required (from the snow fence or any other obstructions). ○ The preliminary route plan presented at the meeting. ► The trail along Rivard Road in to town will continue to operate. ○ WSP contacted MTO Structural and they confirmed that there will not be any construction activities during the winter months that would impact the snowmobile trail. ○ The contractor will be advised of the requirement to maintain a clear space (4.0m wide x 5.0m high) along Rivard Road through the bridge area for the snowmobile trail.
Township of Armstrong/ Council Meeting	March 9, 2022	► WSP presented the project overview ► Question: Will the existing embankments be left in place? WSP Response: The majority of the existing embankment will remain as it is today. There will be a minor grade/profile lowering, and the embankments will be excavated at the ends of the bridge to remove the existing abutments, construct the new abutments, and place light weight expanded polystyrene (EPS) fill.

Key External Agency / Stakeholders	Meeting Date	Meeting Purpose
		► Question: Where will construction traffic access the construction site? WSP Response: The contractor will have access at the north and south limits of the detour, and additional access points are still under review from the detour and Rivard Road while it is closed. ► Question: What is happening to the Gravel Road intersection? WSP Response: Gravel Road will be permanently realigned on the east side of the highway to provide a straighter approach to the highway with improved sight lines. There will be no change to the 10th Street alignment on the west side of the highway (intersection layout drawing was presented).

4.4 PUBLIC CONSULTATION

The notice was also distributed to property owners within the vicinity of the study area through Canada Post bulk mail in April 2021. A total of three (3) comments were received following the study commencement. **Table 4-3** summarizes the comments received and how they were addressed by the Project Team.

Table 4-3: Key Comments from the Members of the Public

Comments Received	Comment Response
► Concerns regarding road safety, noise and Highway 11 Bridge over ONR location.	► The Detail Design builds on the Preliminary Design that was completed in 2014 including the location of the bridge. ► The preferred plan is to replace the bridge on existing alignment using existing embankment platform. ► Available traffic data indicated there were five (5) collisions and no collisions on the bridge. ► The new design includes realignment of Gravel Road at the intersection of Highway 11 to provide a longer straight approach to Highway 11. ► As the new bridge will be constructed on the existing alignment, we are not anticipating any increased noise levels with a possible decrease in noise due to reduction in number of expansion joints. Noise mitigation during construction will be developed.
► Requested to be added to contact list and kept informed of the future consultation. ► Requested for an update and the construction timeline.	► Added to contact list. ► Council meeting minutes sent to them via email.
► Requests to be added to contact list.	► Added to contact list.

4.5 INDIGENOUS COMMUNITY ENGAGEMENT

Indigenous Communities (IC) were contacted by the Project Team at key milestones throughout the study process. The following communities were notified of the study commencement on April 9, 2021 and notification of TESR Completion:

- Nishnawbe-Aski Nation
- Beaverhouse First Nation
- Matachewan First Nation
- Apitipi Anicinapek Nation (Wahgoshig First Nation)
- Taykwa Tagamou First Nation
- Métis Nation of Ontario

Letters were sent under MTO signature to all of the above-mentioned Indigenous Communities and groups to inform them of the completion of the study. No comments were received from the ICs during the study. A copy of the notice and notification letters are included in **Appendix A**.

5 EVALUATION OF ALTERNATIVES

A principle of the Environmental Assessment process is to identify and compare a reasonable range of alternatives to address the stated study problems or opportunities. Alternatives to the Undertaking are defined as *functionally* different ways of addressing the stated problems and opportunities.

5.1 PRELIMINARY DESIGN STUDY

In January 2012, the Ministry of Transportation (MTO) retained URS Canada Inc. to undertake the Class Environmental Assessment and Preliminary Design for the replacement of the Highway 11 overhead structure which crosses over the Ontario Northland Railway (ONR) and Rivard Road. A range of alternatives were examined during this study to address the need for the bridge replacement. Alternatives were generated and evaluated based on technical and environmental factors and in consultation with the public, interest groups, the municipality, and government agencies. Subsequently, a preliminary design of the preferred alternative (the Recommended Plan) was prepared for the purposes of identifying preliminary property needs, environmental effects and potential mitigation measures. This information was documented in the October 2014 *Preliminary Design Report (PDR)*.

The PDR reviewed eleven (11) alignments alternatives for the structure replacement based on considerations of capital cost, environment impact, constructability, geotechnical, safety and highway operations. The alternatives investigated are shown in **Table 5-1**.

Table 5-1: Summary of Alignment Alternatives

Family	Alternative	Notes
Do Nothing	Current bridge remains	No operations undertaken. Retained as Base Case.
Rehabilitation of Existing Bridge	Current structure is repaired and remains in operation	Current bridge is in poor condition. Repairs are not considered cost effective nor capable of addressing the long-term structural and foundation deficiencies and settlement precludes this option.
	Removal of the current structure; replace with a controlled level crossing over the ONR on existing Highway 11	Located on existing Highway 11 alignment. Controlled crossing of the current railway may present safety concerns.

Family	Alternative	Notes
No New Bridge (Removal of existing bridge leaving a level crossing over the ONR tracks)		Not consistent with the objectives of this study.
	Removal of the current structure; replace with a controlled level crossing over the ONR east of existing Highway 11	Located on the recommended temporary detour. Controlled crossing of the current railway may present safety concerns. Not consistent with the objectives of this study.
Staged Bridge Replacement (Replace existing bridge while maintaining one lane of traffic)	#7 Two stage replacement	Half of the structure is removed and replaced at a time. Traffic is reduced to one lane, with signalized traffic control.
Permanent Realignment of Highway 11 with a level crossing over the ONR tracks	#1 Adjacent to the east	Within 30 metres east of Highway 11. Minimal new curvature. Higher length of reconstruction.
	#2 Adjacent to the east	Within 30 metres east of Highway 11. Higher degree of new curvature. Minimum length of reconstruction.
	#2A Adjacent to the east	Within 30 metres east of Highway 11. Moderate degree of new curvature. Moderate length of reconstruction.
	#3 Adjacent to the west	Within 30 metres west of Highway 11. Minimal new curvature. Moderate length of reconstruction.
	#4 Adjacent to the west	Within 30 metres west of Highway 11. Higher degree of new curvature. Minimum length of reconstruction.

Family	Alternative	Notes
	#10 Separated to the east (100m)	Significant separation from existing Highway 11 right-of-way.
Bridge Replacement and Construction of a Temporary Detour	Use existing roadways	Highways 571, 562 and Government Road and Poly Ure are used to detour Highway 11 during construction.
	#5 At-grade to the east	Approximately 180 metres east of Highway 11, beyond the existing right-of-way. Desirable design speed.
	#6 At-grade to the west	Approximately 130 metres west of Highway 11, beyond the existing right-of-way. Reduced design speed.
	#8 Grade separated	adjacent to the east within 30 metres east of Highway 11.
	#9 Grade separated	adjacent to the west Within 30 metres west of Highway 11.
	#11 Grade separated	100m to the east Significant separation from existing Highway 11 right-of-way.

The recommended alignment alternative was identified as replacement of the bridge on the existing highway alignment with an at-grade temporary detour of Highway 11 to the east of the bridge to facilitate construction. Staged replacement was not recommended for this site due to safety concerns associated with staged construction of embankments and the possibility of settlement and stability issues associated with poor underlying soils at this site. **Figure 5-1** depicts the preliminary design recommended plan.

Two concepts for detour of Highway 11 utilizing the existing roads in the vicinity of the study area were developed. The recommended detour was an at-grade temporary detour of Highway 11 to the east of the bridge.

PDR STAGING APPROACH

Highway 11

The PDR recommended a temporary at-grade detour be provided to the east of Highway 11 during the anticipated two season construction period including a controlled level crossing at the ONR tracks.

Rivard Road

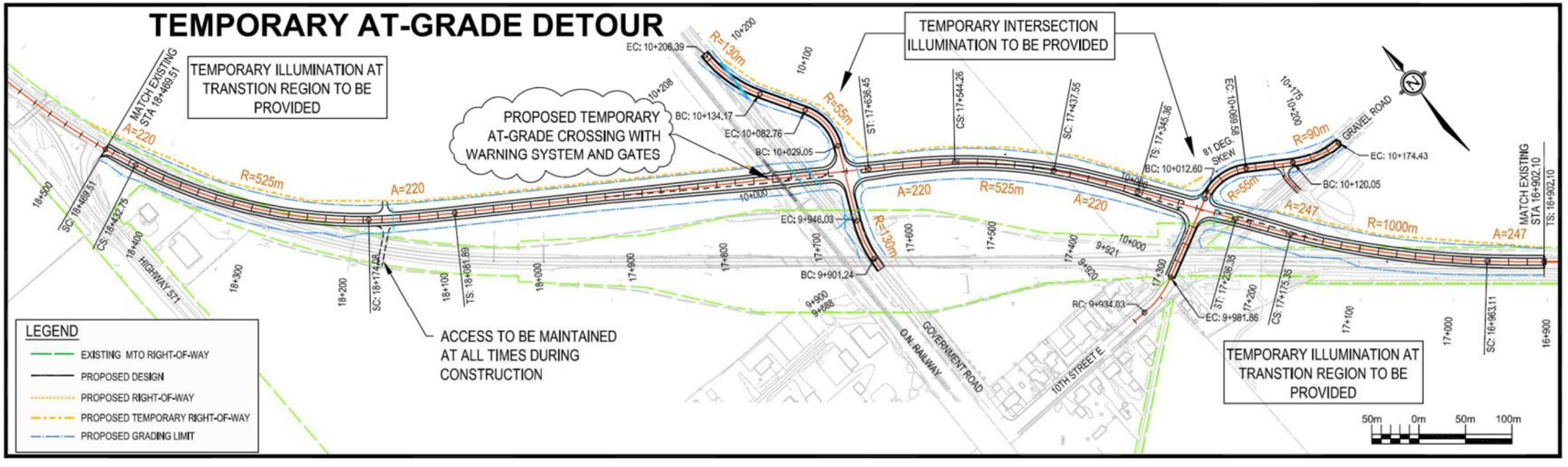
The PDR recommended a temporary at-grade detour be provided to the south of the existing road during the anticipated two season construction period including a stop-controlled intersection at the ONR tracks.

PDR RECOMMENDED PLAN

To summarize, the recommended plan coming out of the Preliminary Design Study was replacement of the ONR overhead bridge on Highway 11 including construction of a temporary detour for highway traffic to facilitate construction (Figure 5-1).

This was carried forward into Detail Design for further analysis.

Figure 5-1: Preliminary Design Plan - October 2014



5.2 DETAIL DESIGN STUDY

At the beginning of the Detail Design Study two (2) alternatives were identified by the Ministry as part of a pre-detail design review of the project. This involved the evaluation of a 90 m long and 140 m long integral bridge replacement to determine which option would be brought forward for detail design.

5.2.1 PRE-DETAIL DESIGN BRIDGE REPLACEMENT ALTERNATIVES

STRUCTURE TYPES AND SPAN ARRANGEMENTS

The following two alternatives were assessed in the pre-detail design at the beginning of the project.

ALTERNATIVE 1: 140 m Long Bridge- Eight Spans (16.0 m, 19.5 m, 20.0 m, 25.0 m, 11.5 m, 19.0 m, 17.0 m, 12.0 m from North to South)

Alternative 1 consists of an eight-span bridge with integral abutments and a post tensioned solid deck slab. In this alternative, the abutments and piers are supported on piles which are driven to bedrock. The concrete deck slab has a maximum depth of 0.7 m at the centreline of Highway 11 and a maximum depth of 0.95 at Piers 4 and 5. The overall width of the proposed deck cross section is 13.5 m. It is understood that a widening of about 1.5 m of the existing embankments is required to support the increased width of the replacement structure. Based on the proposed profile of Highway 11, the existing embankment grade will be lowered about 0.5m immediately behind abutments. This option has an overall length of 140 m between abutment centrelines which is close to the overall length of the existing structure (135m); It uses the same horizontal alignment, and the abutment orientation has been modified to be perpendicular to the highway alignment. Minimum modifications to the existing approach embankments are required for this option.

ALTERNATIVE 2: 90 m Long Bridge- six Spans (10.0 m, 15.0 m, 22.0 m, 13.0 m, 18.0 m, 12.0 m from North to South)

Alternative 2 consists of a six-span bridge with integral abutments and a post tensioned solid deck slab. In this alternative, the abutments and piers are supported on piles which are driven to bedrock. The concrete deck slab has a maximum depth of 0.7 m at the centreline of Highway 11. The overall width of the proposed deck cross section is 13.5 m while the overall length of this option is 90 m between abutment centrelines. Based on the proposed profile of Highway 11, the existing embankment grade will be lowered about 0.5 m immediately behind abutments and a widening of about 1.5 m of the existing embankments is required to support the increased width of the replacement structure. In addition, the bridge length will be less than the existing 135 m long bridge that will require extended approach embankments as high as about 7 m at the north approach and as high as about 4.5 m at the south approach.

OTHER CONSIDERATIONS

In the evaluation of the two bridge replacement alternatives, geotechnical considerations were a significant factor due to site conditions. A detailed assessment the disadvantages and risks are present in the following section. Construction costs are also presented as they relate to the geotechnical considerations. There were no differences related to impacts to the natural, social and cultural environments upon comparison of the two alternatives and therefore they are not discussed further.

Geotechnical

Due to the presence of the thick varved clay, the embankments at the ONR site have shown a history of settlement and stability issues which should be taken into consideration for the proposed two bridge replacement alternatives.

A summary of the advantages and disadvantages of the two alternatives can be found in **Table 5-2**. Based on the results of the stability and settlement analyses, it is concluded that the 90 m long bridge is not a viable option from a geotechnical point of view as it is associated with high risks of slope instability and settlement, requires additional ground treatment techniques such as construction of extended embankments with light weight fills of EPS (expanded polystyrene) and could impose additional time constraints during construction.

Table 5-2: Bridge Alternatives Geotechnical Comparison Table

Option	Advantages	Disadvantages and Risks
Alternative1: 140 m Bridge	► Minimal increase of embankment beyond existing limits due to widening the cross section of Highway 11 ► Existing embankments and stabilizing berms are currently stable. Minimal risk to ONR track ► Less post construction settlement due to the preloaded foundation soil under the existing embankments -No EPS required ► No waiting time required	► Additional pier foundation is required ► Difficulty installing the new piles due to the proximity of the new abutments and pier footings to the existing abutment and pier footing ► Long term effect due to potential on-going lateral spreading is unknown
Alternative2: 90 m Bridge	► Fewer span/pier foundation required	► Large new embankments on unconsolidated soil due to shortening the length of the bridge and widening the cross section of Highway 11

Option	Advantages	Disadvantages and Risks
		► Ground treatment techniques such as a combination of wick drains, staged construction, preloading, surcharging, geosynthetic reinforcement is required to mitigate risk of slope stability and settlement ► Greater amount of settlement/ lateral spreading to manage ► Limited space available between the forward slope and the railway tracks and Rivard road to construct the stabilizing berms. Geogrid reinforcement or EPS is required to construct the approach embankments within ROW ► Unless EPS fill is utilized, a waiting period of 15 to 30 months is required ► Large EPS fill quantity will be required if used ► A comprehensive foundation monitoring program is required ► Fill placement has the potential to cause settlement of the existing ONR track ► Fill placement could trigger another failure along a historic failure surface ► Potential difficulties for installing wick drains through very dense granular fills ► Risk of higher than anticipated long term settlement due to secondary consolidation as a result of potential preloading time constraints during construction

Aesthetic Considerations

The proposed bridge has a simple solid-cross-section which tapers at its sides. It has a light and uniform appearance. It is a slender bridge and the piers are tucked back from the fascia to support the slab at its third points. It has been developed to meet the fundamental principles of aesthetics of the MTO Aesthetic Guidelines for Bridges.

As part of the aesthetic assessment of this bridge, the shape and configuration of the piers at Highway 11 ONR overhead were evaluated by MTO using the integrative design method. This method is based on the principle of non-composition and allows the development of structures by shaping and carving a mass in lieu of fragmenting it. As part of this study six different pier shapes were considered including solid slim tapered piers, trapezoidal columns (wide edge out), trapezoidal columns (narrow edge out), tapered rectangular columns, circular columns, and home plate shaped columns.

Construction Cost

The overall construction cost is divided into three sections: 1) construction cost of the structure, 2) construction cost of the EPS (Expanded Polystyrene) required for the embankment stability, and 3) construction cost of the EPS behind integral abutments required for earth pressure reduction. Construction cost of the structure includes the costs associated with the removal of the existing bridge and construction of the new bridge.

According to the factors considered for the overall construction cost, Alternative 2 is associated with a lower construction cost for the structure. However, this alternative requires the construction of extended embankments with an EPS fill to mitigate the stability and settlement issues of the underlaying soft to stiff varved silty clay deposits. Therefore, the total construction cost for Alternative 2 is slightly (6%) lower than Alternative 1, and Alternative 1 is considered the preferred option to avoid the risk of stability and long-term settlement of the embankment.

5.2.2 CLOSURE OF RIVARD ROAD

During detail design, the crossing of Rivard Road beneath Highway 11 was examined to determine whether a temporary detour or temporary relocation of Rivard Road was required to support local traffic. Through a review of traffic volumes and use of Rivard Road for movement of farm machinery, and consultation with affected parties, it was identified that a temporary detour and/or realignment was not required at this location. It was noted that heavy farm equipment operators often travel on Highway 11 for a short distance to access the local agricultural fields and that this does not create a traffic issue.

5.2.3 REALIGNMENT OF GRAVEL ROAD

A significant portion of the Gravel Road realignment is off the existing road platform and will be constructed without significant impact to traffic. However, at the east and west tie-ins construction will impact traffic. Gravel Road will be permanently realigned on the

east side of the highway to provide a straighter approach to the highway with improved sight lines. There will be no change to the 10th Street alignment on the west side of the highway.

6 DETAIL DESIGN PLAN

6.1 BRIDGE REPLACEMENT

Based on the above evaluation in Section 5.2, Alternative 1 is the preferred replacement option for Highway 11 ONR overhead at Earlton. The recommended structure is an eight-span post-tensioned solid slab concrete deck bridge with integral abutments and an overall length of 140 m between centre line of abutments. Traffic on existing Highway 11 will be detoured to the east of the structure for the duration of construction. It is anticipated that the work will be completed over three construction seasons. The recommended Detail Design plan is shown in **Figure 6-1**. Key elements of the recommended structure are as follows:

BRIDGE TYPE

The bridge is an eight-span integral abutment type structure with post-tensioned solid deck slab. The span lengths are 16.0 m, 19.5 m, 20.0 m, 25.0 m, 11.5 m, 19.0 m, 17.0 m, 12.0 m form north to south.

BRIDGE DEPTH

The concrete deck slab depth is 0.7 m except at the longer span above the ONR rail track with a variable depth of 0.7 m at the centreline of the span and 0.95 m at Piers 4 and 5.

BRIDGE CROSS SECTION

The bridge has an overall width of 13.5 m and consists of:

- 0.5 m fascia and four-tube combination traffic/bicycle railing
- 2.5 m shoulder
- two 3.75 m traffic lanes
- 2.5 m shoulder
- 0.5 m fascia and four-tube combination traffic/bicycle railing.

APPROACH SLAB

Six-meter-long approach slabs with 90 mm asphalt and waterproofing are provided on both sides of the bridge ends.

SKEW ANGLE

The proposed structure will be constructed at a skew of 0°.

ABUTMENTS

Both north and south abutments are planned to be constructed integral with the superstructure and supported on piles driven to bedrock. To reduce the creep and shrinkage loads on the abutment piles, it is planned that the deck will be cast on

temporary supports on the lower portion of the abutment, tendons will be stressed and grouted, the relative position of the deck and abutments is adjusted, and finally the connection between the deck and abutment is constructed. In addition, to reduce the earth pressure loads applied on the abutment walls and their supporting piles, it is planned that EPS fill will be constructed behind the abutment between the wingwalls.

WINGWALLS

All wingwalls will be 6.0 m long conventional cast-in-place concrete walls and will be continuous with the superstructure.

PIERS

All piers are supported on piles driven to bedrock. Vibrations produced during pile driving may cause settlement of the existing ONR track.

Vibration and settlement monitoring of the existing ONR track will be carried out during pile driving for Piers #4 and #5 near the ONR track as per recommendations of the Foundation Investigation and Design Report by Thurber Engineering dated November 2021. The energy chosen for pile driving should be selected such that vibrations at the track do not exceed the recommended vibration limits set by the railway authority. The response actions will address corrective measures, if necessary, in the event of exceedances.

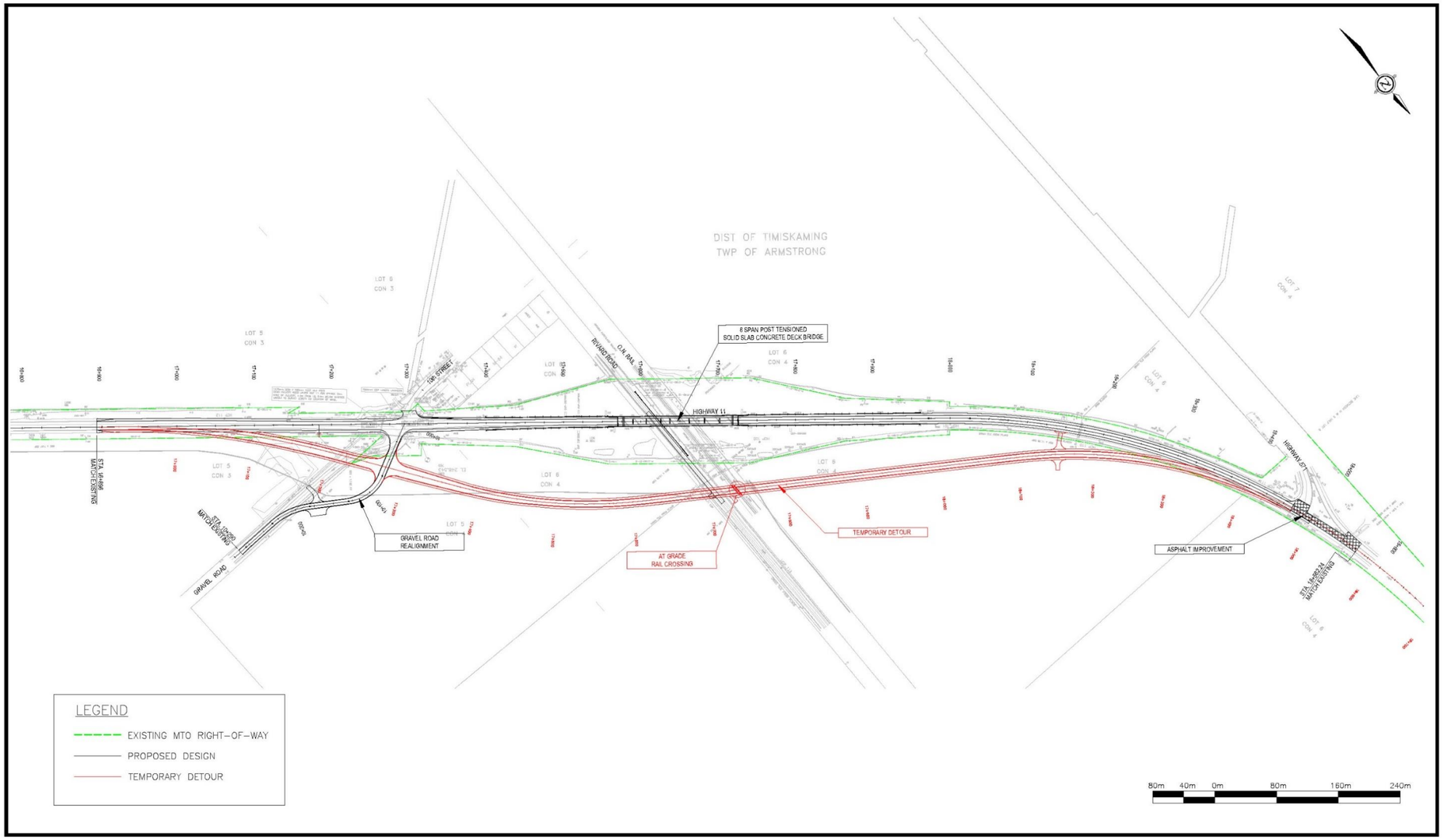
FALSEWORK

Falsework foundation shall be designed as per the requirements of the foundation investigation and design report by Thurber Engineering dated November 2021. The estimated settlement shall be limited to tolerable limits and shall be monitored continuously until the bridge deck is post tensioned. The falsework elevations shall be adjusted accordingly when required.

CONSIDERATIONS FOR REMOVAL OF THE EXISTING STRUCTURE

To minimize the construction loads applied on the embankments and reduce the possibility of settlement and stability issues during the removal of the existing structure, it is planned that the deck is sawcut in between the girders and removed one at a time for each span. It is also planned that the girders for the two end spans are removed by cranes which are placed on the approach embankments behind the abutments whereas the girders of the remaining spans are removed by cranes located below the bridge. In order to minimize the unbalanced loads applied on the piers, it is planned that a maximum of two girders are removed from each span before moving to the next span. It is expected that each row of girder can be removed in 1-3 days.

Figure 6-1: Detail Design Recommended Plan



6.2 HIGHWAY 11 IMPROVEMENTS

The replacement of the bridge also incorporates the reconstruction of 1.6 km of Highway 11 including the following improvements:

- Repair of one poor performing pavement area
- Realignment of Gravel Road at the intersection of Highway 11 to provide a straighter approach to the highway with improved sight lines
- Drainage work including ditch cleanouts and culvert replacements, repairs and cleanouts
- Replacement of one traffic counting station
- Guide rail and curb replacements
- New asphalt driving surface

The reconstruction of Highway 11 will be completed in two stages. The majority of the highway will be reconstructed while traffic is on the detour, but the remainder will be reconstructed after the bridge is complete and traffic is moved back to the existing highway.

Stage 1: Highway 11 Reconstruction During Detour Operation

Once the Highway 11 detour is complete Highway 11 traffic will be moved off the existing highway and onto the detour. Therefore, the only traffic that will have to be accommodated is 10th Street traffic crossing the existing highway platform.

Stage 2: Highway 11 Reconstruction No Detour

The pavement reconstruction approach is to remove all the existing asphalt, re-grade the exposed granulars or place a small amount of Granular A to bring the elevation to the bottom of asphalt, and place 160 mm of new hot mix. We expect that this reconstruction will be completed using daytime single lane closures with flagging, and no open excavation left overnight. Minor delays to the travelling public may occur during daytime single lane closures.

Once the bridge replacement is complete and traffic is moved back to Hwy 11 over the new bridge, some additional highway improvement work will be undertaken requiring a single lane closure with minimal impact to traffic.

See **Appendix C** for the General Arrangement drawing.

6.3 TRAFFIC MANAGEMENT AND HIGHWAY 11 DETOUR

TEMPORARY DETOUR OF HIGHWAY 11

For the safety of the traveling public and construction workers, and to facilitate the bridge replacement and Highway 11 improvements, a temporary detour will be constructed to reroute highway traffic around the existing bridge location.

The majority of the Highway 11 detour will be constructed offline without significant impact to traffic, however, lane closures per Stage 2 above will be required for construction of side road crossings and tie-ins to the existing highway.

Once construction of the detour is complete, Highway 11 will be closed at the ONR overhead bridge and highway traffic will be rerouted onto the detour around the bridge. This detour is expected to be in place for approximately three (3) years.

TEMPORARY CLOSURE OF RIVARD ROAD

Temporary closure of Rivard Road is required during the construction, operation and removal of the Highway 11 detour. Once construction has begun on the Highway 11 detour, Rivard Road will be closed between 10th Street and Hilliardton Road. Closure of Rivard Road is expected to last three years. The timing of construction is pending funding and approvals.

Traffic will be diverted around the Rivard Road closure. Alternate routes that can be used are Hilliardton Road, Highway 11, Highway 571, and 10th Street. The traffic being diverted is local traffic and it is generally being directed onto similar local roads. Access will be available to residential and farm properties on Rivard Road.

The travelling public will be notified of the road closure 2 weeks in advance of the closure and alternate routes will be signed with advanced notification signs (ANS) and advanced warning signs (AWS) to direct traffic.

A minimum of two weeks prior to closing Rivard Road, the contractor will be required to notify emergency services including police, fire and ambulance.

TRAFFIC IMPACTS

Temporary Detour of Highway 11

Travel times and distance impacts associated with the Highway 11 detour are considered negligible as the two-lane detour will allow Highway 11 traffic to continue moving in both directions unimpeded.

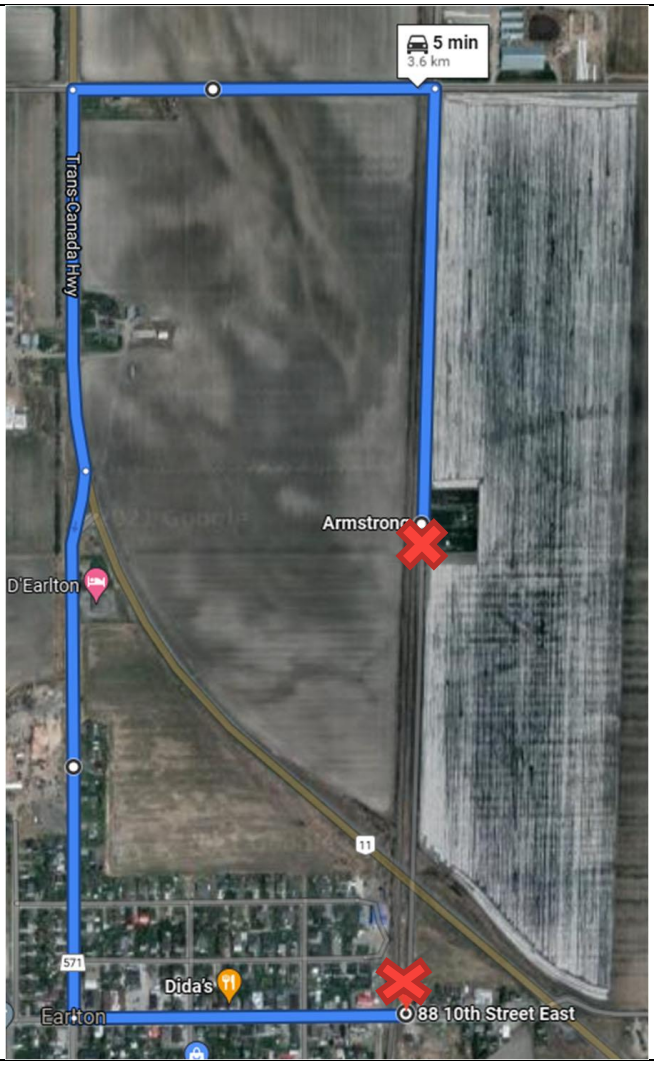
Temporary Closure of Rivard Road

Travel time and distance impacts associated with the Rivard Road closure and detour are noted below.

Currently, Rivard Road is open to traffic and allows direct access to 10th Street. During the Rivard Road closure, the longest out of way travel detour is from the properties on Rivard Road destined to the Rivard Road/10th Street Intersection as shown in **Figure 6-2**.

Figure 6-2: Rivard Road Closure and Detour

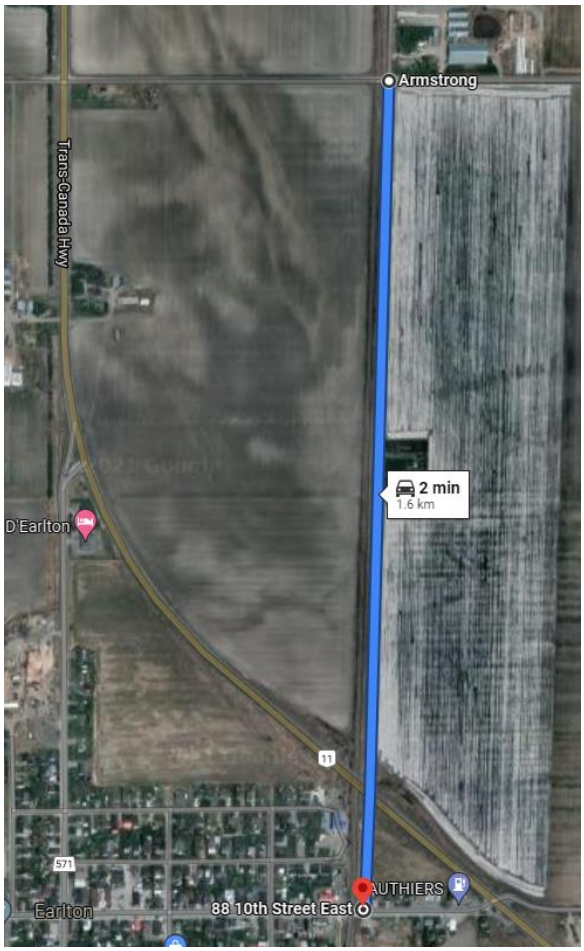
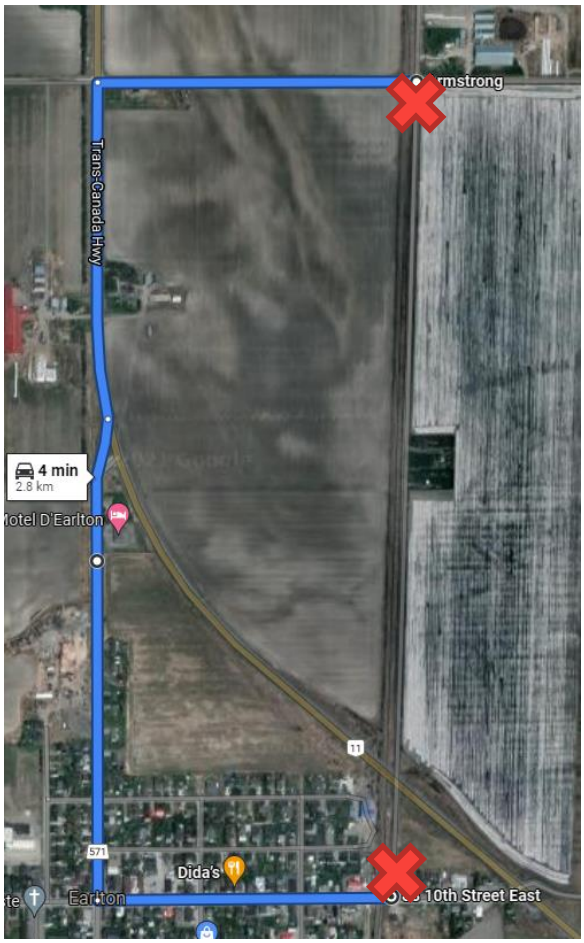
Rivard Road Closed



Travel: 3.6 km +/- 5 minute

For most drivers the detour signing would redirect them at Hilliardton Road or 10th Street before reaching the closure. The detour route is shown in **Figure 6-3**.

Figure 6-3: Detour - Traffic Impacts

Rivard Road Open	Rivard Road Closed
	
Travel: 1.6 km +/- 2 minutes	Travel: 2.8 km +/- 4 minute

Therefore, the longest out of way travel detour impact is an increase of 2.7 km (4 minutes), while most drivers will see a detour impact of an increase of 1.2 km (2 minutes). Other traffic impacts associated with the construction are relatively minor.

See **Appendix D** for the Detour Route signing plan.

6.4 ILLUMINATION

6.5 ROADSIDE SAFETY

A roadside safety review was undertaken and the following measures will be included in the project design and construction:

- The existing embankments, which are currently protected with steel beam guiderail, will be reinstated with steel beam guiderail protection.
- The new bridge pier on the west side of Rivard Road will be protected with steel beam guiderail.
- Utility poles and light standards will be relocated due to the proximity to the edge of travelled roadway on Highway 11, the Highway 11 detour, and Gravel Road realignment.

6.6 GRAVEL ROAD/10TH STREET INTERSECTION IMPROVEMENTS

At the time of construction of the Highway 11 detour, Gravel Road will be realigned to the north to provide an improved approach to Highway 11 by increasing curve radii and moving the back-to-back curves further from the highway. This realignment is permanent and will be left in place following removal of the Highway 11 detour.

6.7 OTHER WORKS

6.7.1 RELOCATE UTILITIES

There are no existing utilities on the existing bridge and no provision for utility is provided on the bridge replacement.

NorthernTel has both aerial and buried plant, Hydro One has aerial plant, Enbridge has underground gas main and Ontera has underground fibre optics within the project limits.

NorthernTel underground and aerial relocations will be undertaken to accommodate the Highway 11 detour, Gravel Road realignment, and bridge construction.

Hydro One aerial relocations will be undertaken to accommodate the Highway 11 detour and Gravel Road realignment and Enbridge has confirmed that no relocations are required.

Ontera underground plant runs adjacent to the ONR track and is currently under review to determine if relocation or protection will be required.

6.7.2 ELECTRICAL/ILLUMINATION

The scope of electrical work includes the following:

- Temporary illumination at detour transition points (north and south ends of detour).
- Temporary illumination at the Highway 11/Gravel Road/10th Street intersection.
- Temporary adjustment of illumination (1 light standard) at the Highway 11/Highway 571 intersection.

- Relocate/replace the existing light standard in the northeast quadrant at Highway 11/10th Street/Gravel Road intersection to accommodate the Highway 11 widening.

Highway 11 has illumination at the two intersections with light standards located on both sides of the highway within the clear zone. There is widening of Highway 11 at the light standard. The existing pole would be 3.8 m from the edge of travelled roadway after widening. This is less than the 4.5 m required so the light standard will be relocated.

One of the existing light standards is located 0.8 m from the edge of travelled roadway of the Highway 11 detour. This is less than the 4.5 m required so the light standard will be relocated to accommodate the detour.

There will be short duration full lane closures on Highway 11 and Gravel Road as the contractor needs to install overhead wires associated with the temporary illumination. The duration of closure will be restricted to fifteen (15) minutes per any 1-hour period or until the end of the traffic queue passes.

6.7.3 CULVERTS

The existing drainage scheme of Highway 11, Gravel Road, and Rivard Road consists primarily of sheet flow from the highway discharging to roadside ditches and through entrance culverts, side road culverts and crossing culverts.

The project will include culvert replacements, culvert cleanouts to address sediment, and vegetation clearing at culverts.

6.8 PROPERTY REQUIREMENTS

The project requires both permanent property acquisition (Gravel Road realignment) and temporary property needs (i.e. temporary limited interest) for the duration of the construction (Highway 11 detour).

7 ASSESSMENT OF IMPACTS AND MITIGATION MEASURES

This section focuses on the direct and indirect environmental impacts associated with the Study. It also describes the proposed mitigation measures that will be implemented to minimize the impacts. Mitigation includes planning decisions, design features, construction requirements and construction constraints.

The key to ensuring effective environmental protection during the project is the development and proactive implementation of an approach that:

- Identifies the environmental sensitivities;
- Identifies mitigation measures to minimize potential environmental impacts;
- Presents the environmental protection measures in a way that can be translated into contractual requirements and for which compliance can be verified; and
- Oversight by the Contract Administrator to ensure that the environmental protection measures are being implemented and are effective during construction.

Summary of identified concerns and proposed mitigation measures are outlined in **Table 7-3**.

7.1 NATURAL ENVIRONMENT

7.1.1 TERRESTRIAL ECOSYSTEM

This section focuses on the assessment of impacts and mitigation measures identified for terrestrial habitat and species within the project limits.

POTENTIAL IMPACTS

Through background research and field investigations, it was determined that the proposed works would result in the removal of small areas of vegetation identified as Dry-Moist Old Field Meadow Type(CUM1-1) including narrow strips on the Highway 11 east and west embankments, and patches at the Highway 11 bridge and at the Highway 571 and 10th Street /Gravel Road intersections of Highway 11. Other vegetation to be removed are small patches of marsh and a long, linear section of Open Agriculture (OAG) along the Highway 11 detour route.

The vegetation to be removed is anthropogenically-derived, adapted to disturbance and readily restored.

No impacts to species at risk are anticipated due to vegetation removal.

The nests and nesting activity of many birds are protected under the federal Migratory Birds Convention Act, 1994 (MBCA) or the provincial Fish and Wildlife Conservation

Act, 1997 (FWCA). Vegetation removal has the potential to harm bird nests or interfere with bird nesting activities if carried out during the breeding bird season. . In order to minimize potential impacts to breeding birds in the area, vegetation removal will be restricted to outside of the breeding bird season.

Removal of the bridge may disrupt the activities of birds nesting on the structure. No special measures are required for non-native species (e.g. European Starling) that are not protected by legislation. The potential for nesting by the Common Raven which is protected under the Fish and Wildlife Conservation Act, 1997 (FWCA) is considered low due to high exposure and absence of nesting evidence in 2012 (FRi 2013), requiring no special bird nesting exclusion measures. Mitigation measures are not recommended due to the low suitability for nesting; the absence of birds that nest in box culverts (Barn Swallow or Eastern Phoebe); and limited foraging opportunities for these species.

MITIGATION MEASURES

The potential impacts can be mitigated through the implementation of standard construction-related mitigation measures, so that impacts to terrestrial habitat in the construction area can be avoided or minimized.

General

- Impacts on the terrestrial environment shall be minimized.
- Vehicle maintenance and refueling shall be confined to designated areas a minimum of 30 m away from watercourses and wetlands, and all activities shall be controlled to prevent entry of petroleum products or other deleterious substances, such as debris, waste, rubble, or concrete material, into the natural environment, as per Ontario Provincial Standard Specification (OPSS) 182.
- Management of excess materials shall be carried out in accordance with Ontario Provincial Standard Specification (OPSS) 180.
- Regular environmental monitoring/inspection will be implemented throughout construction to ensure that environmental protection measures are implemented, maintained and repaired, and that remedial measures are initiated where warranted.

Vegetation

- Minimize removal and disturbance of vegetation.
- Restrict vegetation removal to outside the breeding bird season
- Re-stabilize and re-vegetate with Northern Ontario Seed Mix as soon as possible all exposed surfaces that were disturbed.

Wildlife

- The Contractor shall not destroy active nests of protected migratory birds. When these nests are encountered the ministry's contract administrator must be contacted.
- If an active bird nest is found, an avian specialist shall determine whether the nest belongs to a protected species and if this is the case, shall establish a suitable buffer around the nest within which work is halted until the young birds are fully fledged (OC_EN_03 – NE OC for Migratory Bird Protection - General).

Species at Risk

- If a SAR is encountered within or adjacent to the construction site,

Impacts to the terrestrial ecosystem are anticipated to be minor. SAR are not expected to be present and therefore there are no specific mitigation measures required in the contract for SAR. Standard measures of mitigating potential impacts to migratory birds, controlling sediment and spills, and maintaining a general awareness of wildlife are sufficient to minimize impacts resulting in low risk to the terrestrial ecosystem.

7.1.2 FISH AND FISH HABITAT

POTENTIAL IMPACTS

The only works that have the potential to impact fish and fish habitat include the cleanout of Culvert 1 (Culvert ID: H11-18543 and H11-18548) near the Highway 11 / Highway 571 intersection. The works are unlikely to have permanent impacts however, temporary impacts that could occur include the release of deleterious substances to the Tributary of St. Jean Baptiste Creek during the cleanout works, if mitigation measures are not properly implemented as described below. The works associated with the bridge replacement are also unlikely to have permanent impacts on fish and fish habitat, however temporary impacts associated with the release of sediment or other deleterious substances from the construction site to the drainage feature eventually outletting to the Tributary of St. Jean Baptiste Creek are possible if mitigation measures are not properly implemented as described below. The bridge replacement, culvert replacement and earth ditch cleanouts do not occur in fish habitat; therefore, no impacts are anticipated to occur in those locations due to construction activities.

ONR BRIDGE REPLACEMENT

As the drainage feature below the ONR Bridge overpass has no potential to support fish (either directly or indirectly) due to a lack of a connection to a downstream fishery, the bridge replacement works can be carried out with the standard construction related mitigation measures.

CROSSING 1 CULVERT CLEANOUT

MTO's Best Management Practice (BMP) can be applied to the cleanout works proposed for Culvert 1 as the "Culvert Maintenance" BMP can be used for:

- Removal of accumulated sediment and debris that prevents the efficient passage of water and fish through the structure.
- Repair of defects in concrete including scaling, disintegration, concrete erosion, delamination, spalling, cracking, struts and bracing to prevent culvert collapses.
- Repair of defects in corrugated steel pipes.

This BMP can only be used if all applicable listed operational constraints and protection measures can be followed including:

- Fish protection including in-water work timing windows shall be conducted according to OPSS.PROV 182.
- Dewatering activities and the use of pumps shall be according to OPSS.PROV 517 and OPSS.PROV 182.
- Use of equipment shall be according to OPSS.PROV 182.
- Removal of riparian vegetation shall be according to OPSS.PROV 182.
- The installation, monitoring, maintenance, and removal of temporary erosion and sediment control measures shall be according to OPSS.PROV 182 and OPSS.PROV 805.
- Vegetation protection and rehabilitation shall be according to OPSS.PROV 182 and OPSS.PROV 804.
- All excess material shall be managed according to OPSS.PROV 180

Since all of the listed criteria can be met by mitigation measures outlined below, the culvert cleanout works are considered to be in compliance with the Fisheries Act and the Fisheries Protocol. As such these works may proceed without further review.

MITIGATION MEASURES

The following mitigation measures are being recommended, in order to avoid and/or minimize potential impacts to fish and fish habitat during and following construction activities.

Construction Design

- Work will be undertaken in compliance with OPSS-182 General Specification for Environmental Protection for construction in Waterbodies and on Waterbody Banks.
- A permissible in-water timing window of June 16 to August 31 will be implemented at Culvert 1 to avoid death of fish in the downstream receiving coldwater habitat of St. Jean Baptiste Creek. As such, no in-water works will be permitted between Sept 1 to June 15 of any given year.
- All in-water works will be completed “in the dry”, while maintaining flow around the work site. Cofferdams or other suitable isolation techniques, as indicated in the Contract drawings, will be used to isolate the work areas, while any flow is conveyed downstream by means of a diversion pipe or pump.

- Sediment laden discharge water will be pumped into a vegetated area greater than 30 m from a watercourse or into a settling basin to prevent deleterious substances from re-entering the drainage features.
- Any temporarily stockpiled soil, debris or other excess materials, and any construction related materials, will be properly contained (e.g., within silt fencing) in areas at least 30 m from all drainage features in accordance with OPSS 180. All construction materials, excess materials and debris should be removed and appropriately disposed of following construction.
- All construction-related activities will be controlled to prevent entry of any petroleum products, debris or other potential contaminants / deleterious substances, in addition to sediment as outlined above, to the drainage features.
- The Contractor will be responsible for ensuring the erosion and sediment control measures are functioning effectively and being maintained. The Contract Administrative will ensure the mitigation measures are being implemented and work is in compliance as intended. Appropriate contingency and response plans will be in place and implemented if required.

Restoration of Disturbed Areas

- The construction access, work areas and associated requirements for removal of riparian vegetation will be minimized to the extent required for the construction activities, and these areas will be delineated in the field using properly installed protective erosion and sediment control measures such as silt fencing. All temporarily disturbed areas will be re-stabilized following construction using appropriate means (i.e., Northern Ontario seed mix and mulch).

Sediment and Erosion Control Measures

- The Contractor will follow the erosion and sediment control measures identified in the contract (OPSS 804 and OPSS 805) and prevent / control potential for erosion and sediment caused by their construction methods and operations so as to meet all legislative requirements, to prevent entry of sediments into the drainage features, and to prevent damage to features and property inside or outside of the right-of-way (ROW).
- In-water isolation techniques (i.e., cofferdams) will be installed as indicated in the Contract drawings prior to any dewatering and excavation in the drainage features. The isolation measure will create an impermeable barrier around the dewatered area to prevent sedimentation downstream.
- Disturbed areas with the potential for erosion and sedimentation will be appropriately stabilized as soon as practical.

Operation and Machinery

- Equipment will arrive on site in clean condition, operated on dry land and in a manner that minimizes disturbance to the bank and riparian vegetation areas.
- Equipment refueling and maintenance will take place at least 30 m away from a drainage feature and in a manner that prevents sediment and other deleterious substances from entering into the drainage features.

7.1.3 DEWATERING ASSESSMENT

Construction dewatering was assessed for the proposed new bridge. The abutment excavation will be “free draining”, the entire area will be excavated but it will not be a “pit” where water can accumulate, therefore there will be no dewatering of the abutment excavations.

Dewatering results and the respective zone of influences (ZOIs) are summarized below in **Table 7-1**. A ZOI represents the area where groundwater levels may be temporarily affected by dewatering activities as a result of groundwater withdrawal.

Table 7-1: Dewatering Calculations Summary

Source #	Source Name	Best Case Calculated Dewatering Rate (L/day)	Worst Case Calculated Dewatering Rate (L/day)	Worst Case Calculated Dewatering Rate with 2:1 Factor of Safety (L/day)	Calculated Worst Case Zone of Influence with 2:1 Factor of Safety (m)
1	Pier 1	no take	no take	no take	no take
2	Pier 2	14,496	25,714	51,427	19
3	Pier 3	7,474	10,924	21,849	7
4	Pier 4	8,682	13,690	27,380	21
5	Pier 5	9,040	18,213	36,425	27
6	Pier 6	10403	16,712	33,424	10
7	Pier 7	no take	no take	no take	no take
Site Total		50,096	85,252	170,505	-

STORM WATER

Rain and snow that accumulates in the excavation will need to be handled during construction. To predict the effects of storm water, a simple estimate was calculated based on the geometry of the planned excavation and a 25 mm and 50 mm precipitation event in 24 hours. It is estimated that a maximum of 7,700 L/day of water would require handling for a 25 mm precipitation event and 24,600 L/day would require handling for a 50 mm precipitation event the proposed construction based on all nine (9) dewatering sources. It is recommended that this capacity be included for the handling of large

precipitation events in order to keep the excavation area relatively dry and stable. The following **Table 7-2** provides a summary of individual storm water excavation volume estimates.

Table 7-2: Storm Water Volume Estimates

Source #	Source Name	Excavation Length (m)	Excavation Width (m)	Precipitation (mm/day)	Storm Water Volume (L/day)	Precipitation (mm/day)	Storm Water Volume (L/day)
1	Pier 7	14	2.0	25	700	50	1,400
2	Pier 6	14	2.0	25	700	50	1,400
3	Pier 5	14	2.0	25	700	50	1,400
4	Pier 4	14	2.0	25	700	50	1,400
5	Pier 3	14	2.0	25	700	50	1,400
6	Pier 2	14	2.0	25	700	50	1,400
7	Pier 1	14	2.0	25	700	50	1,400
Site Totals					4,900		9,800

Based on the calculated construction groundwater dewatering rates and storm water volumes are anticipated to be below the water taking Environmental Activity and Sector Registry (EASR) limits. As such a water taking EASR is not required. However, it is recommended that the environmental monitoring and mitigation plan be implemented during construction activities, including all dewatering operations, this plan is provided below under the monitoring, mitigation and discharge plan.

CONSTRUCTION IMPACTS

Temporary construction dewatering is anticipated to be required at the new bridge. Once the bridge is constructed, construction dewatering will no longer be required, and groundwater levels will return to preconstruction conditions.

It is understood that municipal well (7366917) is located approximately 110 m away from the bridge; however, given the anticipated low dewatering rates no impacts are anticipated from the dewatering.

During any phase of the construction activities, due care should be exercised to avoid fuel, lubricant and fluid spills, including concrete wash water and dewatering discharge water in contact with curing concrete. Spill and contamination prevention practices should be implemented to avoid potential environmental hazards and clean-ups. Where practical, activities such as refueling should not be undertaken in areas with high susceptibility to groundwater contamination, as well as within 30 m of surface watercourses.

Natural Environment Impacts

No natural environment impacts are anticipated as the dewatering is anticipated to be temporary and provided the recommended Monitoring and Mitigation Plan is adhered to.

Private Well User Impacts

No impact is anticipated for nearby private water well users, as the dewatering is anticipated to be minor and temporary. Construction related rock blasting will not be required for this project therefore there would be no concern related to affects on bedrock well water quality during the construction period.

Source Water Protection Impacts

No source water protection impacts are anticipated at the site as dewatering is anticipated to be temporary and provided the recommended Monitoring and Mitigation Plan is adhered to. WSP has reached out to the Township of Armstrong to obtain additional information on the municipal well. The Township of Armstrong provided the well records which shows that the well is bedrock well with a depth of 186.9m. There are 16.8m of clay above the bedrock. The WHPA is 30m from the well. Therefore, no project related impacts are anticipated given the depth of the well, the distance from the project and the minimal excavations anticipated for the proposal construction.

Contaminant Movement Impacts

No adverse contaminant movement is anticipated to be a result of this dewatering as the dewatering rates are anticipated to be temporary. However, the monitoring and mitigation plan outlined in Section 5 should be implemented during the construction period.

MONITORING, MITIGATION AND DISCHARGE PLAN

The following environmental monitoring, mitigation and discharge measures will need to be conducted during construction for both groundwater and stormwater:

- A dewatering discharge sample must be collected for each source prior to discharge to confirm compliance to the applicable water quality criteria described below and additional samples must be collected if a change in the discharge water (e.g. odour, colour, sheen) is observed; this must be included in the contract or CA assignment. Construction period dewatering discharge water, including groundwater seepage collected through passive drainage, will be managed and released as follows:
  a) It is expected that the construction dewatering discharge will be treated on-site to meet O. Reg. 153/04 (as amended) Table 2 criteria, including sufficient removal of suspended sediment, and the water will be either be released to ground surface excluding to land that is within an area that is part of a wellhead protection area and that is identified as “WHPA-A” in a source protection plan approved by the Minister under the Clean Water Act, 2006. O. Reg. 300/21, s. 10. to reinfiltrate in such a manner to avoid excessive erosion scouring;

i. As per O.Reg. 63/16 Section 8 (5) (4) If the recommended method of discharge is discharge to surface land not enclosed in a building or discharge to a storm sewer the following must be completed by a qualified person retained by the contractor:

1) a statement that, in the opinion of the person who prepared the discharge report, the discharge of the ground water and storm water will not cause an adverse effect to the environment;
2) an identification of any treatment and control measures required to minimize erosion, flooding, scouring and sedimentation from occurring as a result of the discharge; and
3) an identification of any treatment and control measures required to address the quality of the discharge to ensure that the discharge will not cause an adverse effect to the environment.

b) Should the water not meet the criteria, it will be contained and taken off-site to a MECP licensed facility for treatment and disposal.

- In co-operation with the site Contract Administrator, the clarity, presence of sheen, odour and/or precipitate, and turbidity will be recorded at least twice daily for the dewatering discharge at each source. Visual observations will be reported to the Contract Administrator on a monthly basis.
- With respect to any ground water or storm water, or both, that is discharged to land or a storm sewer, there shall be no visible petroleum hydrocarbon film or sheen present. 4 With respect to any ground water or storm water, or both, that is discharged to land or a storm sewer that is within 30 m of a water body, turbidity of the discharge shall not exceed eight Nephelometric Turbidity Units above the background levels of the nearest water body.
- A field verification site walk should be conducted along the proposed detour route prior to construction to confirm that no existing private water supply wells are present in conflict with proposed construction activities. Based on WSP's investigation two MECP WWRs (6302930 and 6300017) plotted along the detour alignment; however based on a review of site conditions from recent aerial imagery and google street view no existing private water wells are anticipated. These private water supply wells have likely been mis-plotted or decommissioned/abandoned. If any private water supply wells are located in the detour route the owners must be contacted and the private water supply wells must be decommissioned in advance of construction as per O. Reg. 903 as amended. New private water supply wells should be completed outside the construction limits.
- Any groundwater/surface water interference complaints or incidents will be promptly investigated. An alternative water supply will be provided to any water user in the area whose water supply has been adversely affected by construction activities (dewatering, chemical spills, sediment release, rock breaking and pile driving). Nearby residents will be provided with a responsible contact, to which any complaints may be reported, throughout the construction period.

- Erosion and Sediment Control (ESC) best practices will be applied during the construction, clean-up, and restoration, to prevent sediment-laden runoff from entering any surface water course and/or designated environmentally sensitive area. A comprehensive ESC Plan will be developed and presented for review and approval prior to the start of construction. Any erosion, flooding, scouring, sediment and total suspended solids control measures identified in the discharge report shall be used, operated and maintained in a manner that satisfies the recommendations of the manufacturer of the control measures or as directed in the discharge report if no such recommendations exist. All control measures referred to above and all materials collected or trapped by those measures shall be recovered and disposed of when the person is no longer engaging in the activity.
- Vehicle refueling and maintenance will not take place within 30 m of a watercourse, unless done in a specially designed area, and manner, to contain potential leaks or spills.
- Any spills or incidents will be promptly reported and immediately investigated as necessary to protect surrounding water users and natural receptors. An environmental spills response plan must be established prior to beginning work and shall be promptly implemented as required.
- Passive management of groundwater drainage will occur in accordance to O. Reg. 64/16, and water collected through passive drainage will comply to turbidity criteria as per Item # 6, before it is released to any natural surface water feature.

PROPOSED CONTINGENCY PLAN

If an adverse impact is observed through the monitoring program, a spill occurs, a complaint is received, or if the MECP determines that unacceptable interference is occurring, the following response would need to be initiated:

- All appropriate stakeholders will be notified as required, including the construction manager responsible for onsite activities, the MECP Spills Hotline (1-800-268-6060);
- Mitigation measures will be initiated to prevent further damage or inconvenience, in consultation with property owners and regulatory agencies as applicable;
- Water taking/construction may be stopped until the problem is fixed, as circumstances allow;
- If it is determined that the construction work is causing increased level of suspended sediment in treated dewatering discharge water, or site runoff, above the upset limit of 25 mg/L, and / or resulting in turbidity levels in downstream surface water which are noticeably higher than background turbidity conditions, the contractor should modify dewatering methodology to correct the problem as necessary. This may be accomplished by adding additional treatments (adding filter bags, sediment traps, Enviro-tanks, etc.) or modifying the discharge methodology (i.e. lower pumping rate, move filter bag location, etc.);

- If water quality of dewatering discharge water is observed to have an unusual appearance or odor, indicative of an adverse impact, dewatering discharge shall be stopped if circumstances allow, the water will be tested to determine the nature of the impact. Appropriate water treatment will be added as necessary, or water will be contained to haul to a suitable off-site and MECP-licensed facility where the water can be treated and discharged;
- During the work program, should any incidents occur resulting in damages to adjacent natural environments, private properties, structures, or infrastructure beyond the construction limits, the damages will be cleaned up / repaired / compensated to the satisfaction of the property owner and / or regulatory agencies as applicable; and
- If it is found that construction activities are causing an adverse impact to a private water well user, or if a complaint is received:
  a) The complaint will be inspected within 24 hours;
  b) Regulatory agencies will be notified (MECP); and
  c) A temporary water supply will be provided to the resident, until either the water supply or quality returns to pre-construction conditions, or it is determined that the issue is not related to construction

In the event that the adverse water quality or quantity conditions persist beyond three months, a permanent mitigation plan will be developed in co-operation with the property owner, with input from regulatory agencies as required.

Management of Excess Soils and Contaminated Soils

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7.2 CULTURAL AND HERITAGE ENVIRONMENT

HERITAGE

The existing Highway 11 structure over the ONR is not considered to have heritage values. The configuration of the bridge, the materials utilized and the age (1961) do not trigger the Ontario Heritage Bridge Guidelines (2008). No other structures or buildings are impacted by this ONR bridge replacement.

ARCHAEOLOGY

A Stage 1-2 Archaeological Assessment (AA) was completed by URS Canada in July 2012 to confirm whether or not features of archaeological potential were present within 150m of the study area. Stage 1 assessment determined that no sites with archaeological potential have been registered within the study area, however, a review of the general physiography of the study area and historic land uses suggested that the area exhibits a potential for Euro-Canadian and pre-contact Aboriginal archaeological resources, requiring a Stage 2 survey. The Stage 2 survey consisted of digging test pits to subsoil or bedrock. No cultural artifacts were discovered during test pitting, and therefore the project area has been cleared of having any archaeological concern. As a result, this location was deemed to have low archaeological potential.

- No additional archaeological assessment is required within the study area, and the areas which do not exhibit archaeological site potential may be considered clear of further archaeological concern.
- Should deeply buried archaeological remains be found during construction activities, work will cease immediately and the Heritage Operations Unit of the Ontario Ministry of Culture will be notified.
- In the event that human remains are encountered during construction, all work will stop and the proponent will contact both the Ontario Ministry of Tourism, Culture and Sport (MTCS) and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ontario Ministry of Government Services.

7.3 SOCIO-ECONOMIC ENVIRONMENT

7.3.1 FARM PROPERTY AND OPERATIONS

Construction of the Highway 11 detour will impact farm properties and operations over a three year (3) period. The footprint of the detour including to the edge of the ditchline will be removed from agricultural production during this time. The available farm land between the detour and existing Highway 11 may or may not be used by the farmer based on their assessment for access and no impacts to conditions to farm the land. In addition there are agricultural tile drains throughout the fields but their locations are not known. To address these impacts the MTO is in consultation with the farm property owners to determine mitigation for any impacts to tile drains and temporary impacts to agricultural land.

7.3.2 EMERGENCY SERVICES

Highway 11 will remain open during the construction of the Highway 11 detour and Rivard Road will be closed between 10th Street and Hilliardton Road. Once constructed, traffic will be moved to the Highway 11 detour so that the existing ONR overhead bridge can be replaced. No impacts to movement of traffic on Highway 11 are anticipated during these phases of the project and minimal impact is expected for local routes within the Town of Earlton. Once the bridge replacement is complete and traffic is moved back to Hwy 11 over the new bridge, some additional highway improvement work will be undertaken requiring a single lane closure with minimal impact to traffic.

Fire Service

Fire service in this area is provided by the Earlton / Armstrong Township Fire Department located at 14 12th Ave S, Earlton, ON.

The Highway 11 detour will provide continuous traffic flow along the Highway 11 corridor during the bridge replacement

The delays due to the closure of Rivard Road would be the same as described in Section 6.3, longest out of way travel is a 4 minute delay to response times.

Police Service

The impact related to police access is dependent on the location. We have identified two Ontario Provincial Police (OPP) detachments in the area:

- Englehart Detachment: 334145 ON-11, Englehart
- Temiskaming Detachment: 300 Armstrong St N, New Liskeard

The Englehart Detachment is located approximately 14 km (10 minutes) north of the closure and the Temiskaming Detachment is located approximately 27 km (21 minutes) south of the closure. The Highway 11 detour will provide continuous traffic flow along the Highway 11 corridor during the bridge replacement. Therefore, there would be minimal changes to travel time or access.

The delays due to the closure of Rivard Road would be the same as described in Section 6.3, longest out of way travel is a 4 minute delay to response times.

Medical Service

The impact related to hospital access is dependent on the location. We have identified two hospitals in the area:

- Englehart & District Hospital: 61 5th St, Englehart
- Temiskaming Hospital: 421 Shepherdson Rd, Temiskaming Shores

The Englehart Hospital is located approximately 15 km (11 minutes) north of the construction site and the Temiskaming Hospital is located approximately 32 km (23 minutes) south of the construction site . The Highway 11 detour will provide continuous traffic flow along the Highway 11 corridor during the bridge replacement. Therefore, there would be minimal changes to travel time or access.

The delays due to the closure of Rivard Road would be the same as described in Section 6.3, longest out of way travel is a 4 minute delay to response times.

7.4 SUMMARY OF IDENTIFIED CONCERNS, MITIGATION AND COMMITMENTS

Table 7-3: Summary of Identified Concerns and Mitigation

LEGEND	
MTO: Ministry of Transportation	MTCS: Ministry of Tourism, Culture and Sport
MNRF: Ministry of Natural Resources and Forestry	UTIL: Utilities
MECP: Ministry of the Environment, Conservation and Parks	ES: Emergency Service Providers

ID #	Potential Environmental Effects	Concerned Agencies/Stakeholders/Public	ID #	Mitigation/Protection/Monitoring
1.0	**Terrestrial Ecosystem**	MNRF MECP	**General**	
			1.1	• Vehicle maintenance and refueling shall be confined to designated areas a minimum of 30 m away from watercourses and wetlands, and all activities shall be controlled to prevent entry of petroleum products or other deleterious substances, such as debris, waste, rubble, or concrete material, into the natural environment, as per Ontario Provincial Standard Specification (OPSS) 182.
			1.2	• Management of excess materials shall be carried out in accordance with OPSS 180.
			1.3	• Regular environmental monitoring/inspection will be implemented throughout construction to ensure that environmental protection measures are implemented, maintained and repaired, and that remedial measures are initiated where warranted.
			Vegetation	
			1.4	• Minimize removal and disturbance of vegetation.
			1.5	• Re-stabilize and re-vegetate with Northern Ontario Seed Mix, mulch and erosion blanket (where noted in contract) as soon as possible all exposed surfaces that were disturbed.
			Wildlife	
			1.6	• In the event that large wildlife encountered during construction does not move from the construction zone, MNRF, Kirkland Lake District, shall be contacted.
			1.7	• The Contractor shall not destroy active nests of protected migratory birds. When these nests are encountered the ministry's contract administrator must be contacted.
			1.8	• If an active bird nest is found, an avian specialist shall determine whether the nest belongs to a protected species and if this is the case, shall establish a suitable buffer around the nest within which work is halted until the young birds are fully fledged (OC_EN_03 – NE OC for Migratory Bird Protection - General).
			Species at Risk	
			1.9	• If a SAR is encountered within or adjacent to the construction site ad may be harmed from construction activities, all work is to stop and the Contract Administrator is to be notified
2.0	**Fish and Fish Habitat**	MNRF DFO	**Construction Design**	
			2.1	• Work will be undertaken in compliance with OPSS-182 General Specification for Environmental Protection for construction in Waterbodies and on Waterbody Banks

ID #	Potential Environmental Effects	Concerned Agencies/Stakeholders/Public	ID #	Mitigation/Protection/Monitoring
			2.2	• A permissible in-water timing window of June 16 to August 31 will be implemented at Culvert 1 to avoid death of fish in the downstream receiving coldwater habitat of St. Jean Baptiste Creek. As such, no in-water works will be permitted between Sept 1 to June 15 of any given year
			2.3	• All in-water works will be completed “in the dry”, while maintaining flow around the work site. Cofferdams or other suitable isolation techniques, as indicated in the Contract drawings, will be used to isolate the work areas, while any flow is conveyed downstream by means of a diversion pipe or pump.
			2.4	• Sediment laden discharge water will be pumped into a vegetated area greater than 30 m from a watercourse or into a settling basin to prevent deleterious substances from re-entering the drainage features.
			2.5	• Any temporarily stockpiled soil, debris or other excess materials, and any construction related materials, will be properly contained (e.g., within silt fencing) in areas at least 30 m from all drainage features in accordance with OPSS 180. All construction materials, excess materials and debris should be removed and appropriately disposed of following construction.
			2.6	• All construction-related activities will be controlled to prevent entry of any petroleum products, debris or other potential contaminants / deleterious substances, in addition to sediment as outlined above, to the drainage features.
			2.7	• The Contract Administrator will be responsible for ensuring the erosion and sediment control measures are functioning effectively, being maintained and that all of the other general mitigation measures are being implemented as intended. Appropriate contingency and response plans will be in place and implemented if required.
			Restoration of Disturbed Areas	
			2.8	• The construction access, work areas and associated requirements for removal of riparian vegetation will be minimized to the extent required for the construction activities. All temporarily disturbed areas will be re-stabilized following construction using appropriate means (i.e., seed, mulch, erosion blanket).
			Sediment and Erosion Control Measures	
			2.9	• The Contractor will follow the erosion and sediment control measures identified in the contract (OPSS 804 and OPSS 805) and prevent / control potential for erosion and sediment caused by their construction methods and operations so as to meet all legislative requirements, to prevent entry of sediments into the drainage features, and to prevent damage to features and property inside or outside of the right-of-way (ROW).
			2.10	• In-water isolation techniques (i.e., cofferdams) will be installed as indicated in the Contract drawings prior to any dewatering and excavation in the drainage features. The isolation measure will create an impermeable barrier around the dewatered area to prevent sedimentation downstream.
			Operation and Machinery	
			2.11	• Equipment will arrive on site in clean condition, operated on dry land and in a manner that minimizes disturbance to the bank and riparian vegetation areas.
			2.12	• Equipment refueling and maintenance will take place at locations at least 30 m from a drainage feature and in a manner that prevents sediment and other deleterious substances from entering into the drainage features.
			Operational Constraints	
			2.13	• Fish protection including in-water work timing windows shall be conducted according to OPSS.PROV 182.
			2.14	• Dewatering activities and the use of pumps shall be according to OPSS.PROV 517 and OPSS.PROV 182.

ID #	Potential Environmental Effects	Concerned Agencies/Stakeholders/Public	ID #	Mitigation/Protection/Monitoring
			2.15	• Use of equipment shall be according to OPSS.PROV 182.
			2.16	• Removal of riparian vegetation shall be according to OPSS.PROV 182.
			2.17	• The installation, monitoring, maintenance, and removal of temporary erosion and sediment control measures shall be according to OPSS.PROV 182 and OPSS.PROV 805.
			2.18	• Vegetation protection and rehabilitation shall be according to OPSS.PROV 182 and OPSS.PROV 804.
			2.19	• All excess material shall be managed according to OPSS.PROV 180
3.0	**Archaeology**	MTCS	3.1	• Should deeply buried archaeological remains be found during construction activities, work will cease immediately and the Heritage Operations Unit of the Ontario Ministry of Culture will be notified.
			3.2	• In the event that human remains are encountered during construction, all work will stop and the proponent will contact both the Ontario Ministry of Culture and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ontario Ministry of Government Services.
4.0	**Emergency Access**	Township of Armstrong Residents OPP EMS Fire	4.1	Highway 11 detour for Highway Traffic • The Highway 11 detour will provide continuous traffic flow along the Highway 11 corridor during the bridge replacement. Local Road Closures • Notification will be provided 2 weeks in advance of closure of Rivard Road to impacted services and residents: Township of Armstrong, Earlton/Armstrong Township Fire Department, Ontario Provincial Police, Student Transportation Services (i.e. the school bus operators), and Emergency Medical Services (EMS) (i.e. ambulance services) • A signed detour route will be in place during the Rivard Road closure
5.0	**Groundwater, Drainage and Stormwater**	MECP / Township of Armstrong	5.1	• Work within or immediately adjacent to any body of water or regulated area, including construction dewatering, sediment and erosion controls, will occur in accordance to any applicable permits as administered by applicable regulatory agencies, including the Ontario Ministry of the Environment, Conservation and Parks.
			5.2	• A dewatering discharge sample will be collected for each source prior to discharge to confirm compliance to the applicable water quality criteria described below and additional samples must be collected if a change in the discharge water (e.g. odour, colour, sheen) is observed; this must be included in the contract or CA assignment. Construction period dewatering discharge water, including groundwater seepage collected through passive drainage, will be managed and released as follows: a) It is expected that the construction dewatering discharge will be treated on-site to meet O. Reg. 153/04 (as amended) Table 2 criteria, including sufficient removal of suspended sediment, and the water will be either be released to ground surface excluding to land that is within an area that is part of a wellhead protection area and

ID #	Potential Environmental Effects	Concerned Agencies/Stakeholders/Public	ID #	Mitigation/Protection/Monitoring
				that is identified as “WHPA-A” in a source protection plan approved by the Minister under the Clean Water Act, 2006. O. Reg. 300/21, s. 10. to reinfiltrate in such a manner to avoid excessive erosion and scouring; i. As per O.Reg. 63/16 Section 8 (5) (4) If the recommended method of discharge is discharge to surface land not enclosed in a building or discharge to a storm sewer the following must be completed by a qualified person retained by the contractor: (1) a statement that, in the opinion of the person who prepared the discharge report, the discharge of the ground water and storm water will not cause an adverse effect to the environment; (2) an identification of any treatment and control measures required to minimize erosion, flooding, scouring and sedimentation from occurring as a result of the discharge; and (3) an identification of any treatment and control measures required to address the quality of the discharge to ensure that the discharge will not cause an adverse effect to the environment. b) Should the water not meet the criteria, it will be contained and taken off-site to a MECP licensed facility for treatment and disposal.
			5.3	• In co-operation with the site Contract Administrator, the clarity, presence of sheen, odour and/or precipitate, and turbidity will be recorded at least twice daily for the dewatering discharge at each source. Visual observations will be reported to the Contract Administrator on a monthly basis. With respect to any ground water or storm water, or both, that is discharged to land or a storm sewer, there shall be no visible petroleum hydrocarbon film or sheen present.
			5.4	• With respect to any ground water or storm water, or both, that is discharged to land or a storm sewer that is within 30 m of a water body, turbidity of the discharge shall not exceed eight Nephelometric Turbidity Units (NTU’s) above the background levels of the nearest water body.
			5.5	• A field verification site walk should be conducted along the proposed detour route prior to construction to confirm that no existing private water supply wells are present in conflict with proposed construction activities. Based on WSP’s investigation two MECP WWRs (6302930 and 6300017) plotted along the detour alignment; however based on a review of site conditions from recent aerial imagery and google street view no existing private water well are anticipated. If any private water supply wells are located in the detour route the owners must be contacted and the private water supply wells must be decommissioned in advance of construction as per O. Reg. 903 as amended. New private water supply wells should be completed outside the construction limits.
			5.6	• Any groundwater/surface water interference complaints or incidents will be promptly investigated. An alternative water supply will be provided to any water user in the area whose water supply has been adversely affected by construction activities (dewatering, chemical spills, sediment release, rock breaking and pile driving). Nearby residents will be provided with a responsible contact, to which any complaints may be reported, throughout the construction period
			5.7	• Erosion and Sediment Control (ESC) best practices will be applied during the construction, clean-up, and restoration, to prevent sediment-laden runoff from entering any surface water course and/or designated environmentally sensitive area. A comprehensive ESC Plan will be developed and presented for review and approval prior to the start of construction. Any erosion, flooding, scouring, sediment and total suspended solids control measures identified in the discharge report shall be used, operated and maintained in a manner that satisfies the recommendations of the manufacturer of the control measures or as directed in the discharge plan if

ID #	Potential Environmental Effects	Concerned Agencies/Stakeholders/Public	ID #	Mitigation/Protection/Monitoring
				no such recommendations exist. All control measures referred to above and all materials collected or trapped by those measures shall be recovered and disposed of when the person is no longer engaging in the activity.
			5.8	• Vehicle refueling and maintenance will not take place within 30 m of a watercourse, unless done in a specially designed area, and manner, to contain potential leaks or spills.
			5.9	• Any spills or incidents will be promptly reported and immediately investigated as necessary to protect surrounding water users and natural receptors. An environmental spills response plan must be established prior to beginning work and shall be promptly implemented as required.
			5.10	• Passive management of groundwater drainage will occur in accordance to O. Reg. 64/16, and water collected through passive drainage will comply to turbidity criteria as per Item # 6, before it is released to any natural surface water feature.
			If an adverse impact is observed through the monitoring program, a spill occurs, a complaint is received, or if the MECP determines that unacceptable interference is occurring, the following response will be initiated:	
			5.11	• All appropriate stakeholders will be notified as required, including the construction manager responsible for onsite activities, the MECP Spills Hotline (1-800-268-6060);
			5.12	• Mitigation measures will be initiated to prevent further damage or inconvenience, in consultation with property owners and regulatory agencies as applicable;
			5.13	• Water taking/construction may be stopped until the problem is fixed, as circumstances allow;
			5.14	• If it is determined that the construction work is causing increased level of suspended sediment in treated dewatering discharge water, or site runoff, above the upset limit of 25 mg/L, and / or resulting in turbidity levels in downstream surface water which are noticeably higher than background turbidity conditions, the contractor should modify dewatering methodology to correct the problem as necessary. This may be accomplished by adding additional treatments (adding filter bags, sediment traps, Enviro-tanks, etc.) or modifying the discharge methodology (i.e. lower pumping rate, move filter bag location, etc.);
			5.15	• If water quality of dewatering discharge water is observed to have an unusual appearance or odor, indicative of an adverse impact, dewatering discharge shall be stopped if circumstances allow, the water will be tested to determine the nature of the impact. Appropriate water treatment will be added as necessary, or water will be contained to haul to a suitable off-site and MECP-licensed facility where the water can be treated and discharged;
			5.16	• During the work program, should any incidents occur resulting in damages to adjacent natural environments, private properties, structures, or infrastructure beyond the construction limits, the damages will be cleaned up / repaired / compensated to the satisfaction of the property owner and / or regulatory agencies as applicable; and
			5.17	• If it is found that construction activities are causing an adverse impact to a private water well user, or if a complaint is received: a. The complaint will be inspected within 24 hours; b. Regulatory agencies will be notified (MECP); and

ID #	Potential Environmental Effects	Concerned Agencies/Stakeholders/Public	ID #	Mitigation/Protection/Monitoring
				c. A temporary water supply will be provided to the resident, until either the water supply or quality returns to pre-construction conditions, or it is determined that the issue is not related to construction.
			5.18	• In the event that the adverse water quality or quantity conditions persist beyond three months, a permanent mitigation plan will be developed in co-operation with the property owner, with input from regulatory agencies as required.
			5.19	• The Township of Armstrong raised concern about impacts to protection of source water areas, wellheads and the municipal drainage system. Following a presentation by WSP, the Township was satisfied that these resources will be protected and no longer had any concern.
6.0	**Utilities**	MTO Utility Companies	6.1	• Utilities will be relocated for the detour, bridge demolition and construction in accordance with the contract drawings and specifications.
7.0	**Travelling Public**	MTO Township of Armstrong Residents	7.1	Highway 11 detour for Highway Traffic: • The Highway 11 detour will provide continuous traffic flow along the Highway 11 corridor during the bridge replacement
			7.2	Local Road Closures: • Notification will be provided 2 weeks in advance of closure of Rivard Road to impacted residents on Rivard Road • Travelling public will be notified of the closure of Rivard Road with advanced notification signing (ANS) and advanced warning signs (AWS). TC-64 signs will be posted a minimum of two weeks prior to closing the road. • A signed detour route will be in place for local traffic during the Rivard Road closure
8.0	**Snowmobile Trail Access**	Tri-town Sno Travellers OFSC MTO	8.1	• Snowmobile trail will be temporarily relocated through the realigned portion of Gravel Road, along the east side of the Highway 11 detour and east side of Rivard Road before joining the existing trail.
			8.2	• Travel beneath the Highway 11 structure will be provided during the winter period when construction is shut down
			8.3	• The contractor will be advised of the requirement to maintain a clear space (4.0m wide x 5.0m high) along Rivard Road through the bridge area for the snowmobile trail.
9.0	**Excess Soil Management**	MECP	9.1	• Excess soil generated from construction containing salt related parameters EC (electrical conductivity) and SAR (sodium absorption ratio) levels that make it eligible for re-use at the site may be re-used with permission from the selected receiving site.The same excess soils may not be finally placed at any of the following locations: ○ Within 30 metres of a waterbody. ○ Within 100 metres of a potable water well or area with an intended property use that may require a potable water well. • A location that will be used for growing crops or pasturing livestock unless the excess soil is placed 1.5 metres or greater below the soil surface. ○ The Project Leader or Operator of the Project Area must inform the reuse site owner or operator that the excess soil is from a location that may be expected to contain EC and SAR. The Project Leader or operator of the Project Area must deliver a copy of this report to the reuse site owner or operator and communicate any potential risks to surface water and ground water to the reuse site owner or operator. ○ The above placement restrictions, taken from the Ontario Soil Rules, apply to soil with EC and/or SAR impacts only; and do not apply to soil impacted with other parameters in addition to EC and/or SAR.

ID #	Potential Environmental Effects	Concerned Agencies/Stakeholders/Public	ID #	Mitigation/Protection/Monitoring
10.0	**Noise**	MTO / Township of Armstrong	10.1	• MTO's standard mitigation to control construction noise will be implemented during construction.
			10.2	• If complaints regarding construction noise arise during construction, they will be investigated according to the provisions of the MTO Noise Guide (October 2006).
			10.3	• The Contractor must be required to keep the idling of construction equipment to a minimum and to maintain equipment in good working order to reduce noise from construction activities.
			10.4	• General construction measures, setbacks from Noise Sensitive Areas (NSAs), timing constraints, or specific scheduling of construction activities where required and where practical, must be included in the Contract Documents.
11.0	**Road Safety**	MTO / General Public	11.1	• New bridge and highway profile will improve the stopping site distance on Highway 11.
			11.2	• Vehicle travel approaching the intersection on the sideroads are travelling at a lower speed and be able to see any wildlife (mammals) approaching the intersection due to the sightlines provided by the adjacent agricultural fields.
			11.3	• At the time of construction of the Highway 11 detour, Gravel Road will be realigned to the north to provide an improved approach to Highway 11 by increasing curve radii and moving the back-to-back curves further from the highway.

8 CONCLUSION

This TESR concludes that the project works described herein can be carried out without any significant impacts to the socio-economic, heritage, cultural and natural environments. The Highway 11 detour will provide continued travel through the Highway 11 corridor permitting the bridge construction to occur safely off-line. A realigned Gravel Road approaching Highway 11 provides an improved condition at the intersection.

The Environmental Assessment for the proposed design has been carried out in accordance with the Class EA for Provincial Transportation Facilities, and has included public notification, consultation with agencies, stakeholders and affected property owners. The filing of the TESR for public reviews fulfils the opportunity for the public to provide and comment and identify any concerns.

Once the EA process is complete, the TESR will be filed for a 30-day period for the public and external agency review. If no comments or concerns are received after the completion of 30-day comment period, the project will be carried forward for construction, pending funding and approvals.

APPENDIX

A NOTIFICATION MATERIALS

April 8, 2021

Agency Letter Template - English Version

«Title» «First_Name» «Last_Name»
«Job Title»
«Company»
«Branch»
«Address_1», «Address_2»
«City», «Province» «Postal_Code»

RE: Notice of Study Commencement
Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, Township of Armstrong (GWP 5101-17-00)
Detail Design and Class Environmental Assessment Study

Dear «INSERT NAME»,

The Ministry of Transportation Ontario (MTO) has retained WSP Canada Inc. to undertake the Detail Design and Class Environmental Assessment (Class EA) Study for the Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, within the Township of Armstrong. The location of the site is shown on the attached Notice of Study Commencement.

The project will follow the approved environmental planning process for Group 'B' projects under the *Class Environmental Assessment for Provincial Transportation Facilities*. The study will include engineering and environmental field investigations to inform the design. It is anticipated that it will be necessary to close Highway 11 at the bridge and provide a two-lane detour to the east of the existing bridge to accommodate highway traffic during construction.

The purpose of this letter is to inform you about the commencement of this project and provide an opportunity for your input. Please provide any comments you may have about this study by May 7, 2021. An agency comment form is enclosed to facilitate your response.

Should you require further information regarding this study, please feel free to contact one of the Project Team members listed in the enclosed notice at any time during the study.

Des renseignements sont disponibles en français en composant (289) 982-4620, auprès de Marc St-Louis (courriel: Marc.St-Louis@wsp.com).

Sincerely,
WSP

Rob Kleine, P. Eng.
Consultant Project Manager

cc: Michele Bailey, MTO, Senior Project Engineer
Jennifer Newman, MTO, Environmental Planner
Jeff Warren, WSP, Consultant Environmental Planner

Encl. Notice of Study Commencement and Comment Form

100 Commerce Valley Dr. West
Thornhill, Ontario ON, Canada L3T 0A1
T +1 905-882-1100

wsp.com

Avril 8, 2021

Agency Letter Template - French Version

«Title» «First_Name» «Last_Name»
«Job Title»
«Company»
«Branch»
«Address_1», «Address_2»
«City», «Province» «Postal_Code»

RE: Avis de lancement d'étude
Remplacement du passage supérieur du Chemin de Fer Ontario Northland (ONR) sur l'autoroute 11 à Earlton (GWP 5101-17-00)
Conception détaillée et évaluation environnementale de portée générale

Chère «INSERT NAME»,

Le ministère des Transports de l'Ontario (MTO) a retenu les services de WSP Canada Inc. pour réaliser la conception détaillée et l'évaluation environnementale de portée générale (ÉE de portée générale) pour le remplacement du passage supérieur du Chemin de Fer Ontario Northland (ONR) sur l'autoroute 11 à Earlton, dans le canton de Armstrong. L'emplacement du projet est montré dans l'avis de lancement d'étude ci-joint.

L'étude suit au processus approuvé de planification environnementale pour les projets du groupe B en vertu de l'ÉE de portée générale pour les routes provinciales. L'étude va inclure des enquêtes sur terrain de génie et environnementaux pour informer la conception. Il est prévu que la fermeture de l'autoroute 11 au site du pont sera nécessaire. Une déviation de deux voies sera fournie à l'est du pont actuel pour accommoder la circulation pendant la construction.

Le but de cette lettre est de vous informer du lancement de ce projet et d'offrir une opportunité pour votre contribution. Veuillez soumettre vos commentaires concernant ce projet d'ici le
Mai 7, 2021. Un formulaire de commentaire est ci-joint pour assister votre réponse.

Si vous avez besoin de plus d'information concernant cette étude, veuillez contacter un des membres de l'équipe de projet indiqués dans l'avis ci-joint pour la durée de l'étude.

Des renseignements sont disponibles en français en composant (289) 982-4620, auprès de Marc St-Louis (courriel: Marc.St-Louis@wsp.com).

Sincèrement,
WSP

Rob Kleine, P. Eng.
Gestionnaire de projet consultant

cc: Michele Bailey, MTO, Ingénieur de projet principal
Jennifer Newman, MTO, Planificateur environnemental
Jeff Warren, WSP, Planificateur environnemental consultant

Pièces jointes. Avis de lancement d'étude et formulaire de commentaire

100 Commerce Valley Dr. West
Thornhill, Ontario ON, Canada L3T 0A1
T +1 905-882-1100

wsp.com

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton
(GWP 5101-17-00)

Agency Comment Form - English version

COMMENT FORM

Type of Project	Detail Design
Environmental Assessment Type	Class EA Study for Provincial Transportation Facilities (Group "B" project)
Project Location	Highway 11 in the Township of Armstrong in the District of Timiskaming-Cochrane – See enclosed Key Map

Agency Name & Division or Branch	

COMMENTS:

1. Does your organization wish to participate in this project? ☐ YES ☐ NO

2. If yes to the above, please provide the contact name, telephone #, address and e-mail for future correspondence.

Contact Name:		
Telephone Number:	( )	
Address:	*Street*	
	City/Town/Province	*Postal Code*
E-mail:		

3. Preferred method of correspondence during the study? ☐ Email ☐ Regular Mail

4. Please provide any information, question, comments or concerns your agency may have at this time.

For further information regarding this project, please contact the undersigned at the address listed below.

PLEASE EMAIL, MAIL, OR FAX THIS FORM BACK BY MAY 7, 2021.

Mr. Jeff Warren
Consultant Environmental Planner
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
Tel: 289-982-4219
Fax: 905-882-0055
E-mail : Jeff.Warren@wsp.com

Remplacement du passage supérieur du Chemin de Fer Ontario Northland (ONR) sur l'autoroute 11 à Earlton (GWP 5101-17-00)

Agency Comment Form - French version

FORMULAIRE DE COMMENTAIRE

Type de projet	Conception détaillée
Type d'évaluation environnementale	Évaluation environnementale de portée générale (ÉE de portée générale) pour les routes provinciales pour les projets du groupe B
Emplacement du projet	Autoroute 11 dans le canton de Armstrong dans la circonscription de Timiskaming-Cochrane – voir plan d'ensemble ci-joint

Nom de l'agence & division ou branche	

COMMENTAIRES:

1. Est-ce que votre organisation souhaite participer å ce projet ? ☐ OUI ☐ NON

2. Si oui, veuillez fournir le nom du contact, # téléphone, adresse et courriel pour les correspondances futures.

Nom du contact:		
Numéro téléphone:	( )	
Adresse:	*Rue*	
	Ville/Province	*Code Postal*
Courriel:		

3. Méthode préférée de correspondance pendant l'étude ? ☐ Courriel ☐ Courrier régulier

4. Veuillez remplir vos questions, commentaires, informations ou soucis que votre agence tient.

Pour des informations supplémentaires, veuillez contacter le soussigné å l'adresse ci-dessous.

SVP ENVOYEZ CE FORMULAIRE PAR COURRIEL, COURRIER, OUR FAX D'ICI LE MAI 7, 2021.

Mr. Jeff Warren
Planificateur environnemental consultant
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
Tel: 289-982-4219
Fax: 905-882-0055
Courriel : Jeff.Warren@wsp.com

Notice of Study Commencement

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, (G.W.P 5101-17-00)

THE STUDY

The **Ministry of Transportation Ontario (MTO)** has retained **WSP Canada Inc.** to complete the Detail Design and Class Environmental Assessment (Class EA) Study for the Replacement of the Ontario Northland Railway (ONR) Overhead Bridge, Highway 11 at Earlton, within the Township of Armstrong. The study area is shown on the key plan.

THE PROCESS

During this Class EA study, alternatives for bridge replacement will be generated and evaluated, a preferred alternative will be selected, impacts assessed and mitigation measures developed.

This study will follow the approved planning process for Group 'B' projects under the Class Environmental Assessment for Provincial Transportation Facilities.

COMMENTS

Public consultation is an important part of the Class EA process. The public is encouraged to provide input at any point during the study.

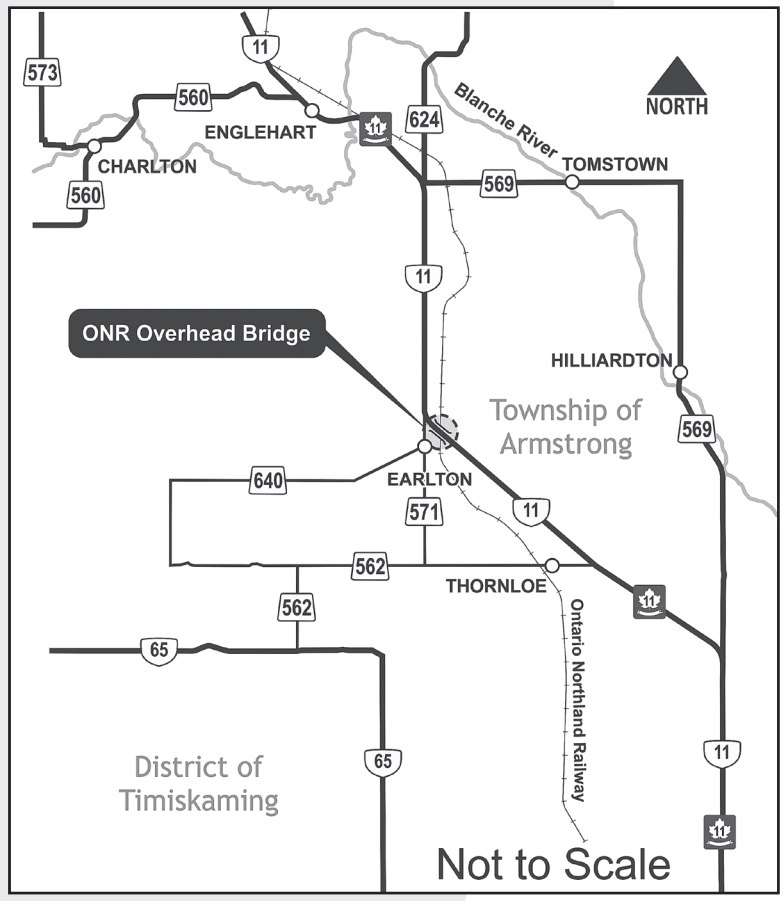
Des renseignements sont disponibles en français en composant 289 982-4620, auprès de Marc St-Louis (courriel : Marc.St-Louis@wsp.com).

If you wish to be added to our study contact list or submit comments, please contact one of the Project Team members listed below:

Mr. Rob Kleine, P. Eng.
Consultant Project Manager
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
tel: 905-882-7225 / fax: 905-882-0055
e-mail: Rob.Kleine@wsp.com

Ms. Michele Bailey, P. Eng.
MTO Project Manager
Ministry of Transportation
447 McKeown Avenue, Suite 301
North Bay, ON P1B 9S9
tel: 705-497-5260
e-mail: Michele.Bailey@ontario.ca

Comments and information will be collected to assist the Ministry of Transportation in meeting the requirements of the *Ontario Environmental Assessment Act.* Information will be collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act* and the *Access to Information Act.* With the exception of personal information, all comments will become part of the public record.



Avis de début d'étude

Remplacement du pont d'étagement ONR de l'autoroute 11 à Earlton, (G.W.P 5101-17-00)

L'ÉTUDE

Le **ministère des Transports de l'Ontario (MTO)** a retenu les services de **WSP Canada Inc.** pour entreprendre l'étude de conception détaillée et d'évaluation environnementale de portée générale pour le remplacement du pont d'étagement ONR (Ontario Northland Railway) de l'autoroute 11 à Earlton, dans le canton d'Armstrong. La zone de l'étude est présentée sur le plan repère.

LE PROCESSUS

Dans le cadre de cette évaluation environnementale de portée générale, des solutions de rechange au remplacement du pont seront soulevées et évaluées, une solution privilégiée sera choisie, les impacts seront évalués et des mesures d'atténuation seront élaborées.

Cette étude suivra le processus de planification approuvé pour les projets du groupe « B » dans le cadre de l'*Évaluation environnementale* de portée générale pour les routes provinciales.

COMMENTAIRES

La consultation publique constitue un élément important du processus d'évaluation environnementale de portée générale, c'est pourquoi les membres du public sont invités à fournir leurs commentaires durant l'étude.

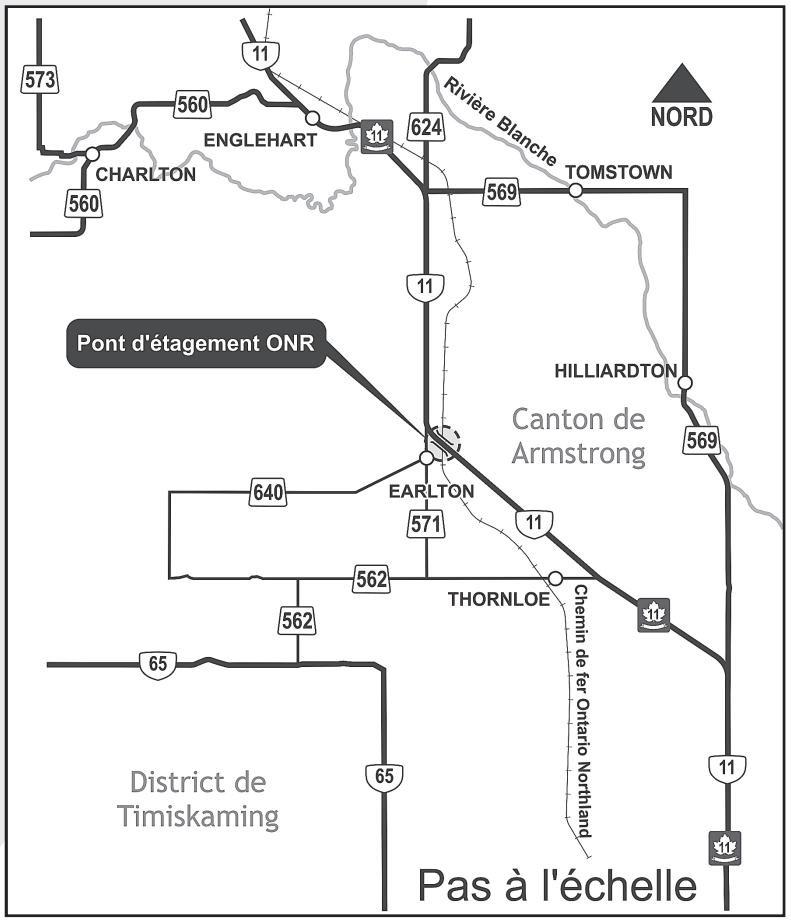
Des renseignements sont disponibles en français auprès de Marc St-Louis au 289 982-4620 (courriel : Marc.St-Louis@wsp.com).

Si vous voulez être ajouté à notre liste de distribution de l'étude ou envoyer vos commentaires, veuillez prendre contact avec l'un des membres de l'équipe du projet indiqués ci-dessous :

M. Rob Kleine, ing.
Chargé de projet de firme de conseils
WSP Canada Inc.
100, promenade Commerce Valley Ouest
Thornhill (Ontario) L3T 0A1
tél. : 905 882-7225 / téléc. : 905 882-0055
courriel : Rob.Kleine@wsp.com

Mme. Michele Bailey, ing.
Chargée de projet du ministère des Transports
Ministère des Transports
447, avenue McKeown, bureau 301
North Bay (Ontario) P1B 9S9
tél : 705 497-5260
courriel : Michele.Bailey@ontario.ca

Nous recueillons les commentaires relatifs à ce projet pour aider le ministère des Transports à respecter les exigences de la *Loi sur les évaluations environnementales.* L'information sera recueillie conformément à la *Loi sur l'accès à l'information et la protection de la vie privée* et à la *Loi sur l'accès à l'information.* Tous les commentaires, à l'exception des renseignements personnels, feront partie du dossier public.



Ontario

Ministry of Transportation
Environmental Delivery Northeast
Design and Engineering Branch
Transportation Infrastructure
Management Division

447 McKeown Avenue
North Bay, Ontario P1B 9S9
Telephone: 705-491-1277
Facsimile: 705-497-5208
Email: Jennifer.Newman2@ontario.ca

Ministère des Transports
Livraison environnementale - Nord-Est
Direction de la conception et de l'ingénierie
Division de la gestion de l'infrastructure de transport

447 avenue McKeown
North Bay, Ontario P1B 9S9
Téléphone: 705-491-1277
Télécopieur: 705-497-5208
Courriel: Jennifer.Newman2@ontario.ca

Ontario

Indigenous Community Letter Template

April 9, 2021

«Title» «First_Name» «Last_Name»
«Job Title»
«Company»
«Branch»
«Address_1», «Address_2»
«City», «Province» «Postal_Code»

RE: Notice of Study Commencement
Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, Township of Armstrong (GWP 5101-17-00)
Detail Design and Class Environmental Assessment Study

Dear «Title» «Last Name»:

The Ministry of Transportation Ontario (MTO) has retained WSP Canada Inc. to undertake the Detail Design and Class Environmental Assessment (Class EA) Study for the Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, within the Township of Armstrong. The location of the site is shown on the attached Notice of Study Commencement.

This project will follow the approved environmental planning process for Group 'B' projects under the *Class Environmental Assessment* for *Provincial Transportation facilities*. The study will include engineering and environmental field investigations to inform the project design.

It is anticipated that it will be necessary to close Highway 11 at the bridge and provide a two-lane detour to the east of the existing bridge to accommodate highway traffic during construction.

If you would like to provide comments, or if you require further information regarding this study, please feel free to contact me at 705-491-1277 or by e-mail at Jennifer.Newman2@ontario.ca. An Indigenous Community comment form is enclosed to facilitate your response.

Des renseignements sont disponibles en français en composant (289) 982-4620, auprès de Marc St-Louis (courriel: Marc.St-Louis@wsp.com).

Respectfully,

Jennifer Newman
Environmental Planner

cc: Michele Bailey, MTO, Senior Project Engineer
Rob Kleine, WSP, Consultant Project Manager
Jeff Warren, WSP, Consultant Environmental Planner

Encl. Notice of Study Commencement and Comment Form

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton
(GWP 5101-17-00)

COMMENT FORM

Indigenous Community Comment Form - English version

Type of Project	Detail Design
Environmental Assessment Type	Class EA Study for Provincial Transportation Facilities (Group "B" project)
Project Location	Highway 11 in the Township of Armstrong in the District of Timiskaming-Cochrane – See enclosed Key Map

Community Name	

COMMENTS:

1. Does your community wish to be kept informed regarding this project? ☐ YES ☐ NO

2. If yes to the above, please provide the contact name, telephone #, address and e-mail for future correspondence.

Contact Name:		
Telephone Number:	( )	
Address:	*Street*	
	City/Town/Province	*Postal Code*
E-mail:		

3. Preferred method of correspondence during the study? ☐ Email ☐ Regular Mail

4. Please provide any information, question, comments or concerns your community may have at this time.

For further information regarding this project, please contact the undersigned at the address listed below.

PLEASE EMAIL, MAIL, OR FAX THIS FORM BACK BY MAY 7, 2021.

Ms. Jennifer Newman
MTO Environmental Planner
Ministry of Transportation
447 McKeown Avenue
North Bay, Ontario P1B 9S9
Tel: 705-471-1277
E-mail : Jennifer.Newman2@ontario.ca

Remplacement du passage supérieur du Chemin de Fer Ontario Northland (ONR) sur l'autoroute 11 à Earlton (GWP 5101-17-00)

FORMULAIRE DE COMMENTAIRE

Indigenous Community Comment Form - French version

Type de projet	Conception détaillée
Type d'évaluation environnementale	Évaluation environnementale de portée générale (ÉE de portée générale) pour les routes provinciales pour les projets du groupe B
Emplacement du projet	Autoroute 11 dans le canton de Armstrong dans la circonscription de Timiskaming-Cochrane – voir plan d'ensemble ci-joint

Nom de la communauté	

COMMENTAIRES:

1. Votre communauté souhaite-elle se tenir informée de ce projet ? ☐ OUI ☐ NON

2. Si oui, veuillez fournir le nom du contact, # téléphone, adresse et courriel pour les correspondances futures.

Nom du contact:		
Numéro téléphone:	( )	
Adresse:	*Rue*	
	Ville/Province	*Code Postal*
Courriel:		

3. Méthode préférée de correspondance pendant l'étude ? ☐ Courriel ☐ Courrier régulier

4. Veuillez remplir vos questions, commentaires, informations ou soucis que votre agence tient.

Pour des informations supplémentaires, veuillez contacter le soussigné å l'adresse ci-dessous.

SVP ENVOYEZ CE FORMULAIRE PAR COURRIEL, COURRIER, OUR FAX D'ICI LE MAI 7, 2021.

Mme. Jennifer Newman
Planificateur environnementale MTO
Ministère des Transports de l'Ontario
447 McKeown Avenue
North Bay, Ontario P1B 9S9
Tél: 705-471-1277
Courriel : Jennifer.Newman2@ontario.ca

Notice of Study Commencement

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, (G.W.P 5101-17-00)

THE STUDY

The **Ministry of Transportation Ontario (MTO)** has retained **WSP Canada Inc.** to complete the Detail Design and Class Environmental Assessment (Class EA) Study for the Replacement of the Ontario Northland Railway (ONR) Overhead Bridge, Highway 11 at Earlton, within the Township of Armstrong. The study area is shown on the key plan.

THE PROCESS

During this Class EA study, alternatives for bridge replacement will be generated and evaluated, a preferred alternative will be selected, impacts assessed and mitigation measures developed.

This study will follow the approved planning process for Group 'B' projects under the Class Environmental Assessment for Provincial Transportation Facilities.

COMMENTS

Public consultation is an important part of the Class EA process. The public is encouraged to provide input at any point during the study.

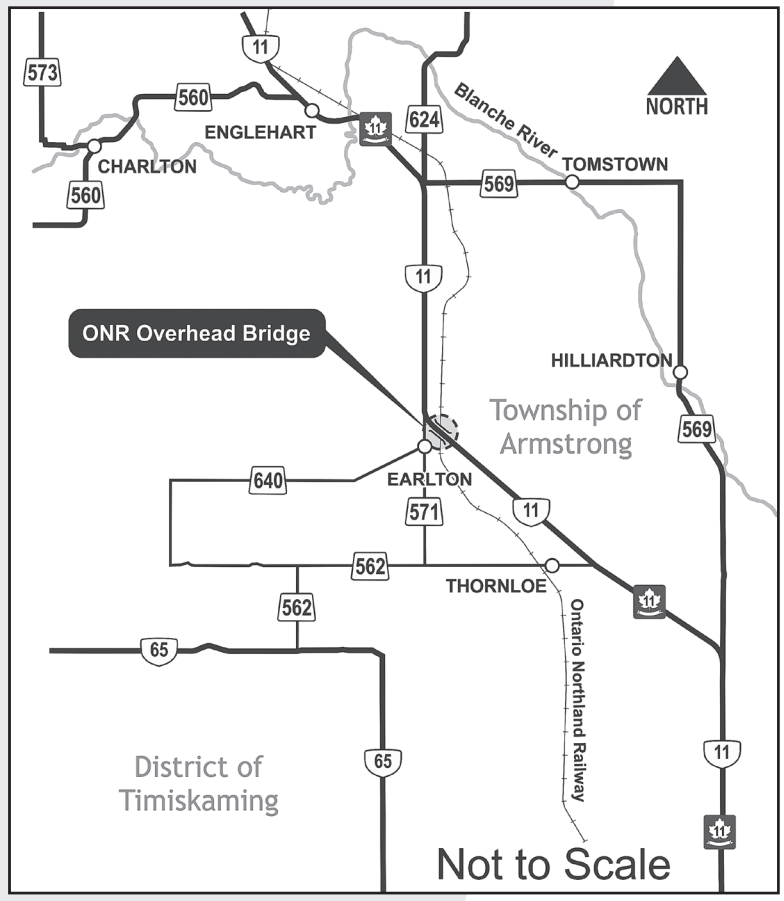
Des renseignements sont disponibles en français en composant 289 982-4620, auprès de Marc St-Louis (courriel : Marc.St-Louis@wsp.com).

If you wish to be added to our study contact list or submit comments, please contact one of the Project Team members listed below:

Mr. Rob Kleine, P. Eng.
Consultant Project Manager
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
tel: 905-882-7225 / fax: 905-882-0055
e-mail: Rob.Kleine@wsp.com

Ms. Michele Bailey, P. Eng.
MTO Project Manager
Ministry of Transportation
447 McKeown Avenue, Suite 301
North Bay, ON P1B 9S9
tel: 705-497-5260
e-mail: Michele.Bailey@ontario.ca

Comments and information will be collected to assist the Ministry of Transportation in meeting the requirements of the *Ontario Environmental Assessment Act.* Information will be collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act* and the *Access to Information Act.* With the exception of personal information, all comments will become part of the public record.



Avis de début d'étude

Remplacement du pont d'étagement ONR de l'autoroute 11 à Earlton, (G.W.P 5101-17-00)

L'ÉTUDE

Le **ministère des Transports de l'Ontario (MTO)** a retenu les services de **WSP Canada Inc.** pour entreprendre l'étude de conception détaillée et d'évaluation environnementale de portée générale pour le remplacement du pont d'étagement ONR (Ontario Northland Railway) de l'autoroute 11 à Earlton, dans le canton d'Armstrong. La zone de l'étude est présentée sur le plan repère.

LE PROCESSUS

Dans le cadre de cette évaluation environnementale de portée générale, des solutions de rechange au remplacement du pont seront soulevées et évaluées, une solution privilégiée sera choisie, les impacts seront évalués et des mesures d'atténuation seront élaborées.

Cette étude suivra le processus de planification approuvé pour les projets du groupe « B » dans le cadre de l'*Évaluation environnementale* de portée générale pour les routes provinciales.

COMMENTAIRES

La consultation publique constitue un élément important du processus d'évaluation environnementale de portée générale, c'est pourquoi les membres du public sont invités à fournir leurs commentaires durant l'étude.

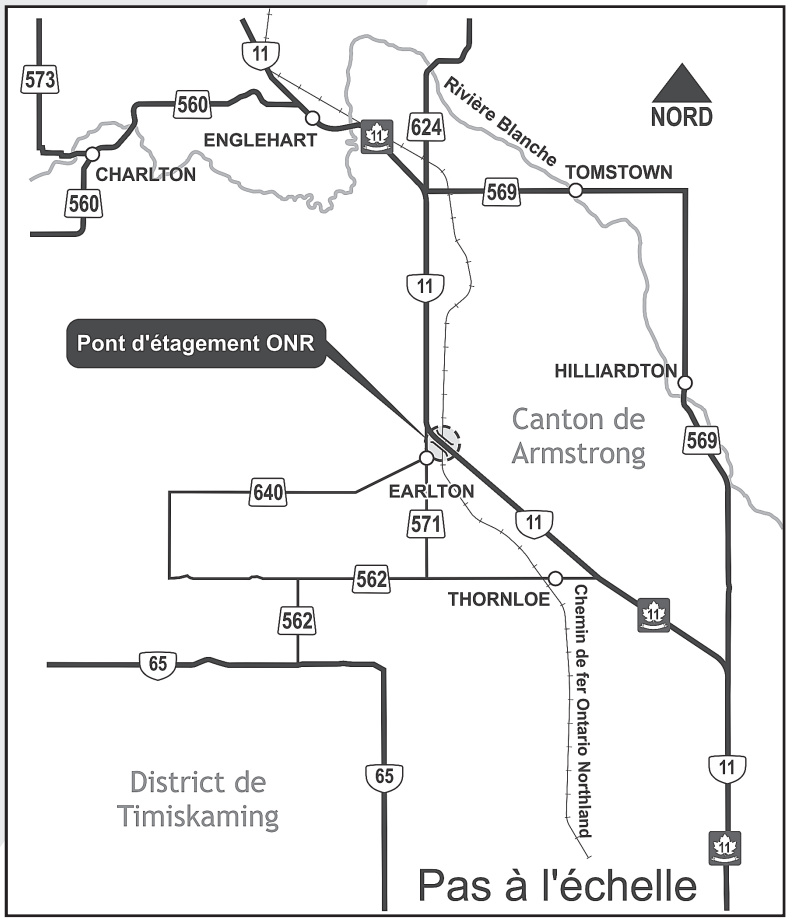
Des renseignements sont disponibles en français auprès de Marc St-Louis au 289 982-4620 (courriel : Marc.St-Louis@wsp.com).

Si vous voulez être ajouté à notre liste de distribution de l'étude ou envoyer vos commentaires, veuillez prendre contact avec l'un des membres de l'équipe du projet indiqués ci-dessous :

M. Rob Kleine, ing.
Chargé de projet de firme de conseils
WSP Canada Inc.
100, promenade Commerce Valley Ouest
Thornhill (Ontario) L3T 0A1
tél. : 905 882-7225 / téléc. : 905 882-0055
courriel : Rob.Kleine@wsp.com

Mme. Michele Bailey, ing.
Chargée de projet du ministère des Transports
Ministère des Transports
447, avenue McKeown, bureau 301
North Bay (Ontario) P1B 9S9
tél : 705 497-5260
courriel : Michele.Bailey@ontario.ca

Nous recueillons les commentaires relatifs à ce projet pour aider le ministère des Transports à respecter les exigences de la *Loi sur les évaluations environnementales.* L'information sera recueillie conformément à la *Loi sur l'accès à l'information et la protection de la vie privée* et à la *Loi sur l'accès à l'information.* Tous les commentaires, à l'exception des renseignements personnels, feront partie du dossier public.



Ontario

Ministry of Transportation
Environmental Delivery Northeast
Design and Engineering Branch
Transportation Infrastructure
Management Division

447 McKeown Avenue
North Bay, Ontario P1B 9S9
Telephone: 705-491-1277
Facsimile: 705-497-5208
Email: Jennifer.Newman2@ontario.ca

Ministère des Transports
Livraison environnementale - Nord-Est
Direction de la conception et de l'ingénierie
Division de la gestion de l'infrastructure de transport

447 avenue McKeown
North Bay, Ontario P1B 9S9
Téléphone: 705-491-1277
Télécopieur: 705-497-5208
Courriel: Jennifer.Newman2@ontario.ca

Ontario

April 1, 2021

MPP Letter Template

«Title» «First_Name» «Last_Name»
«Job Title»
«Company»
«Branch»
«Address_1», «Address_2»
«City», «Province» «Postal_Code»

RE: Notice of Study Commencement
Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, Township of Armstrong (GWP 5101-17-00)
Detail Design and Class Environmental Assessment Study

Dear «Title» «Last Name»:

The Ministry of Transportation Ontario (MTO) has retained WSP Canada Inc. to undertake the Detail Design and Class Environmental Assessment Study (Class EA) for the Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, within the Township of Armstrong. The location of the site is shown on the attached Notice of Study Commencement.

This project will follow the approved environmental planning process for Group 'B' projects under the *Class Environmental Assessment for provincial Transportation Facilities*. The study will include engineering and environmental field investigations to inform the design.

It is anticipated that it will be necessary to close Highway 11 at the bridge and provide a two-lane detour to the east of the existing bridge to accommodate highway traffic during construction.

Please be advised that the attached Ontario Government Notice (OGN) advertising the Study Commencement will be published in the Temiskaming Speaker newspaper on April 9, 2021. A copy of the OGN is included for your information. A notice letter will also be delivered to potentially affected residents and businesses within the study area to inform them directly of the study commencement.

If you have questions regarding this project, please contact Michele Bailey, MTO Senior Project Engineer, via email at Michele.Bailey@ontario.ca, or telephone at 705-497-5260, or myself via email at Jennifer.Newman2@ontario.ca or telephone at 705-491-1277.

Information will be collected in accordance with the *Freedom of information and Protection of Privacy Act and the Access to Information Act*. With the exception of personal information, all comments will become part of the public record.

Thank you,

Jennifer Newman
MTO Environmental Planner

Cc: Michele Bailey, MTO, Senior Project Engineer
Rob Kleine, WSP, Consultant Project Manager
Jeff Warren, WSP, Consultant Environmental Planner

Encl. Ontario Government Notice - Notice of Study Commencement

Notice of Study Commencement

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton, (G.W.P 5101-17-00)

THE STUDY

The **Ministry of Transportation Ontario (MTO)** has retained **WSP Canada Inc.** to complete the Detail Design and Class Environmental Assessment (Class EA) Study for the Replacement of the Ontario Northland Railway (ONR) Overhead Bridge, Highway 11 at Earlton, within the Township of Armstrong. The study area is shown on the key plan.

THE PROCESS

During this Class EA study, alternatives for bridge replacement will be generated and evaluated, a preferred alternative will be selected, impacts assessed and mitigation measures developed.

This study will follow the approved planning process for Group 'B' projects under the Class Environmental Assessment for Provincial Transportation Facilities.

COMMENTS

Public consultation is an important part of the Class EA process. The public is encouraged to provide input at any point during the study.

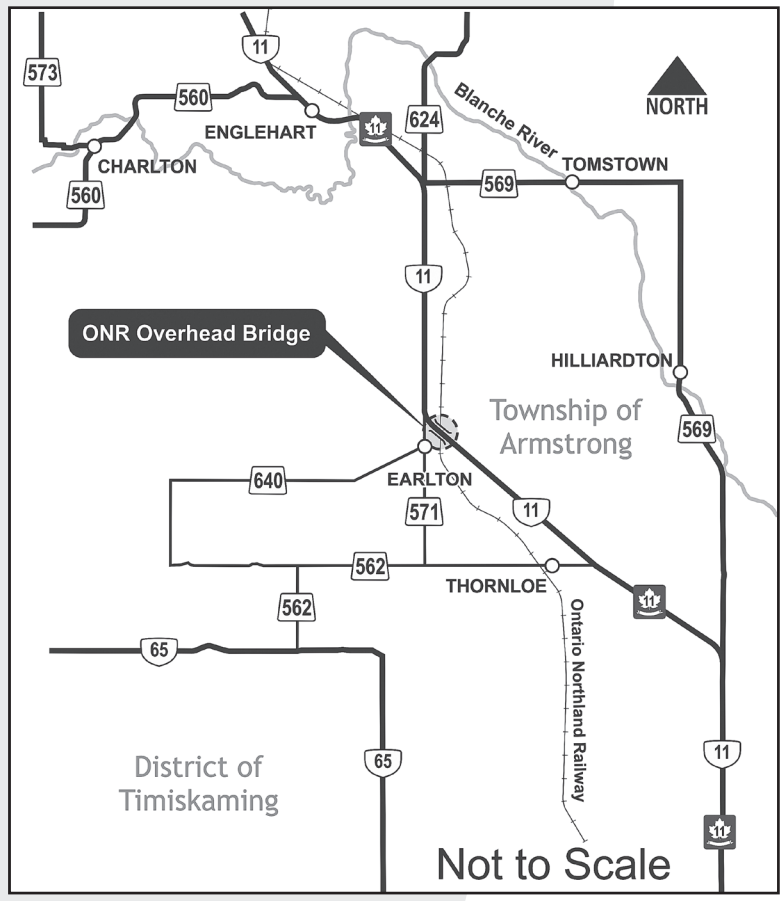
Des renseignements sont disponibles en français en composant 289 982-4620, auprès de Marc St-Louis (courriel : Marc.St-Louis@wsp.com).

If you wish to be added to our study contact list or submit comments, please contact one of the Project Team members listed below:

Mr. Rob Kleine, P. Eng.
Consultant Project Manager
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
tel: 905-882-7225 / fax: 905-882-0055
e-mail: Rob.Kleine@wsp.com

Ms. Michele Bailey, P. Eng.
MTO Project Manager
Ministry of Transportation
447 McKeown Avenue, Suite 301
North Bay, ON P1B 9S9
tel: 705-497-5260
e-mail: Michele.Bailey@ontario.ca

Comments and information will be collected to assist the Ministry of Transportation in meeting the requirements of the *Ontario Environmental Assessment Act.* Information will be collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act* and the *Access to Information Act.* With the exception of personal information, all comments will become part of the public record.



Avis de début d'étude

Remplacement du pont d'étagement ONR de l'autoroute 11 à Earlton, (G.W.P 5101-17-00)

L'ÉTUDE

Le **ministère des Transports de l'Ontario (MTO)** a retenu les services de **WSP Canada Inc.** pour entreprendre l'étude de conception détaillée et d'évaluation environnementale de portée générale pour le remplacement du pont d'étagement ONR (Ontario Northland Railway) de l'autoroute 11 à Earlton, dans le canton d'Armstrong. La zone de l'étude est présentée sur le plan repère.

LE PROCESSUS

Dans le cadre de cette évaluation environnementale de portée générale, des solutions de rechange au remplacement du pont seront soulevées et évaluées, une solution privilégiée sera choisie, les impacts seront évalués et des mesures d'atténuation seront élaborées.

Cette étude suivra le processus de planification approuvé pour les projets du groupe « B » dans le cadre de l'*Évaluation environnementale* de portée générale pour les routes provinciales.

COMMENTAIRES

La consultation publique constitue un élément important du processus d'évaluation environnementale de portée générale, c'est pourquoi les membres du public sont invités à fournir leurs commentaires durant l'étude.

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M. Rob Kleine, ing.
Chargé de projet de firme de conseils
WSP Canada Inc.
100, promenade Commerce Valley Ouest
Thornhill (Ontario) L3T 0A1
tél. : 905 882-7225 / téléc. : 905 882-0055
courriel : Rob.Kleine@wsp.com

Mme. Michele Bailey, ing.
Chargée de projet du ministère des Transports
Ministère des Transports
447, avenue McKeown, bureau 301
North Bay (Ontario) P1B 9S9
tél : 705 497-5260
courriel : Michele.Bailey@ontario.ca

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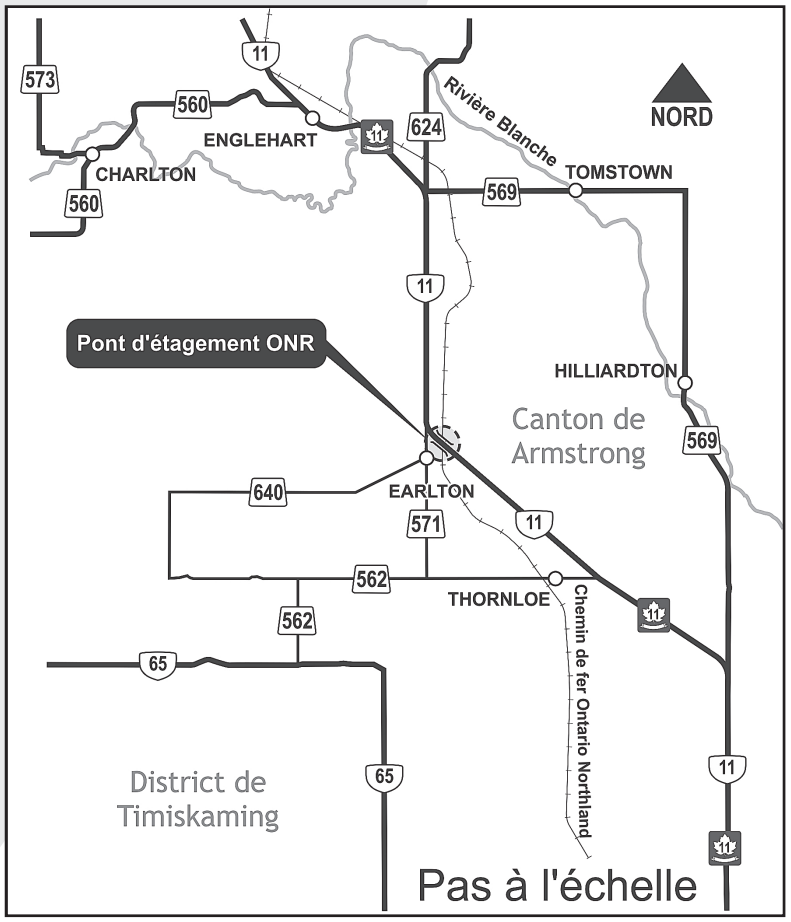


Ontario

Temagami appoints a weed inspector

By Jamie Mountain
Local Journalism Initiative Reporter

TEMAGAMI – Temagami council has appointed by-law officer Daryl Bell as the municipality's weed inspector.

The bylaw was approved at council's regular meeting March 25.

Temagami received a letter from the Ontario Ministry of Agriculture, Food and Rural Affairs that highlighted the provincial requirements to appoint a weed inspector under the Weed Control Act.

It was noted at the meeting that Monty Cummings was previously appointed as the municipal weed inspector until his retirement in 2019.

The appointment of an inspector was overlooked until Temagami received a notification advising that if there were changes in personnel, that it was required to give an update to OMAFRA.

Councillor John Harding questioned if appointing a weed inspector was normal for smaller municipalities.

Treasurer-administrator Craig Davidson responded that "it's a position that the Ontario Ministry of Agriculture, Food and Rural Affairs requires. It's not common if you're in a two-tier municipal system, typically it's the upper tier that has it. We're a single-tier municipality, so it's a requirement that we have one."

Mayor Dan O'Mara questioned if the appointment was also complaint driven.

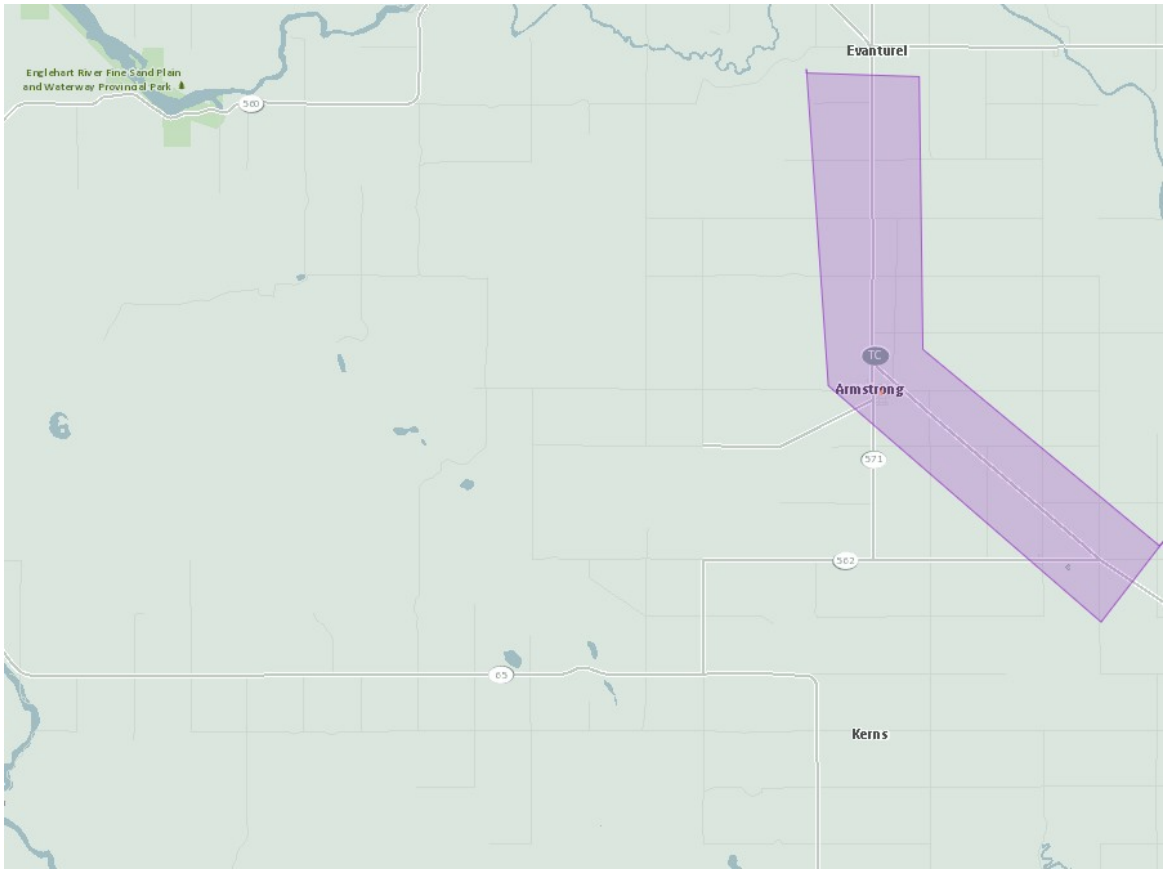
Davidson answered that it was.

"It's the same as our bylaws. If you're walking down the road and you see a noxious weed, then the weed inspector would spring into action, but typically it's complaint driven."

Your Targeting Report

Route Ranking Report

Reaching the right people with the right message is a key driver of campaign success. The map below shows your selected trade area and the routes that make up your coverage. The routes are colour coded according to the penetration of your selected demographic variable(s) to show how closely it matches your ideal prospect.



Bulk Mail-out Route
A copy of the OGN was enclosed.

Your Targeting Report

Route Ranking Report

Below you will find your Route Ranking Report, which provides you with a tabular view of the routes within your trade area ranked according to the value of the selected demographic variable(s). By looking at the "Cumulative Penetration" and the "Cumulative Points of Call" columns, you can easily determine which routes you need to target in order to meet your desired quota.

WSP

FSA	Delivery Mode (Route)	Depot	All Points Of Call	Cumulative Points of Call
P0J	LB0001	EARLTON PO	578	578
P0J	RR0002	THORNLOE PO	147	725
P0J	RR0001	THORNLOE PO	83	808
P0J	RR0003	THORNLOE PO	27	835

Your Targeting Report

Postal Station Summary

To avoid transportation charges, you may want to deposit your Neighbourhood Mail™ directly at each postal station responsible for your mailing. The table below provides you with a list of post offices where you need to induct your mailing, and how many pieces must be deposited at each location.

	HOUSES	APARTMENTS	FARMS	BUSINESSES	TOTAL POINTS OF CALL
THORNLOE POGD0001 THORNLOE ON P0J 1S0					
TOTAL	250	4	0	3	257
EARLTON PO32 10TH ST EARLTON ON P0J 1E0					
TOTAL	447	75	13	43	578
GRAND TOTAL	697	79	13	46	835

APPENDIX

B AGENCY CORRESPONDENCE

Emailed to federal and provincial agencies, municipalities, school boards, emergency services, utilities, and potentially interested stakeholders on the study mailing list. A copy of the OGN, agency letter and comment form were enclosed.

Bakhit, Behnaz

From: Bakhit, Behnaz
Sent: April 8, 2021 9:31 AM
Cc: Michele.Bailey@ontario.ca; Newman, Jennifer (MTO); Rob Kleine (Rob.Kleine@wsp.com); Warren, Jeff; Roland Collier (Roland.Collier@wsp.com)
Subject: Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement
Attachments: Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - OGN Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Comment Form - Bilingual.pdf

Dear Sir / Madam,

The Ministry of Transportation is undertaking a Detail Design and Class Environmental Assessment study for the replacement of the ONR Overhead Bridge on Highway 11 at Earlton, within the Township of Armstrong, Class Environmental Assessment for Provincial Transportation Facilities.

Please find attached a letter, an Ontario Government Notice of Study Commencement and comment form for your reference.

Regards,

Behnaz Bakhit, on behalf of Jeff Warren, Consultant Environmental Planner

Behnaz Bakhit, MES (Pl.)
Environmental Planner
Environmental Planning

T+ 1 289-835-2688

100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

A copy of the OGN and Project Information Form (PIF) were sent to the MECP contact.

Bakhit, Behnaz

From: Bakhit, Behnaz
Sent: April 8, 2021 12:32 PM
To: 'eanotification.nregion@ontario.ca'
Cc: 'Michele.Bailey@ontario.ca'; Newman, Jennifer (MTO); Rob Kleine (Rob.Kleine@wsp.com); Warren, Jeff; Roland Collier (Roland.Collier@wsp.com)
Subject: Ministry of Transportation Ontario (MTO), Class EA, Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement
Attachments: MTO- ONR Overhead Bridge at Highway 11 Earlton - Project Information Form.xlsx; MTO - ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement.pdf

Dear Sir / Madam,

Please find attached an Ontario Government Notice of Study Commencement and Project Information Form (PIF) for the Replacement of the Ontario Northland Railway (ONR) Overhead Bridge on Highway 11 at Earlton, within the Township of Armstrong, Class Environmental Assessment for Provincial Transportation Facilities.

Regards,

Behnaz Bakhit, on behalf of Jeff Warren, Consultant Environmental Planner

Behnaz Bakhit, MES (PI.)
Environmental Planner
Environmental Planning

T+ 1 289-835-2688

100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

Bakhit, Behnaz

From: Steven Beaton <beatons@dtssab.com>
Sent: April 22, 2022 9:31 AM
To: Collier, Roland; John McCarthy
Cc: Kleine, Rob; Michele Bailey (michele.bailey@ontario.ca); Warren, Jeff; Bakhit, Behnaz
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning.
I apologize for the delayed response.
I have reviewed the proposal and find no concerns from the EMS perspective.
Thank you.

Steven Beaton
EMS Chief(a)
District of Timiskaming Emergency Medical Services
District of Timiskaming Social Services Administration Board
705-679-4273
beatons@dtssab.com

From: Collier, Roland <Roland.Collier@wsp.com>
Sent: Thursday, April 21, 2022 6:46 PM
To: John McCarthy <mccarthyj@dtssab.com>
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Michele Bailey (michele.bailey@ontario.ca) <michele.bailey@ontario.ca>; Steven Beaton <beatons@dtssab.com>; Warren, Jeff <Jeff.Warren@wsp.com>; Bakhit, Behnaz <Behnaz.Bakhit@wsp.com>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Hi John,

Please provide a response.

Thanks,

Roland Collier, P. Eng.

Senior Project Manager
Transportation & Infrastructure | Highways

T+ 1 289-982-4573
M+ 1 647-297-3463

WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

From: Collier, Roland
Sent: March 21, 2022 9:12 AM
To: John McCarthy <mccarthyj@dtssab.com>
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Michele Bailey (michele.bailey@ontario.ca) <michele.bailey@ontario.ca>; Steven Beaton <beatons@dtssab.com>; Warren, Jeff <Jeff.Warren@wsp.com>; Bakhit, Behnaz <Behnaz.Bakhit@wsp.com>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Hi John,

Please confirm there are no concerns, or provide any comments that you may have.

Thanks,

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

T+ 1 289-982-4573
M+ 1 647-297-3463

WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

From: John McCarthy <mccarthyj@dtssab.com>
Sent: March 14, 2022 10:02 AM
To: Collier, Roland <Roland.Collier@wsp.com>
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Michele Bailey (michele.bailey@ontario.ca) <michele.bailey@ontario.ca>; Steven Beaton <beatons@dtssab.com>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Hello,

I will see this gets forwarded and handled on the EMS side of things. PLEASE BE ADVISED James Besley has retired.
Please update all records to represent myself as a contact as well as Deputy Chief Steve Beaton
beatons@dtssab.com
705-679-4273

Thanks

John McCarthy
EMS Paramedic Chief, AEMCA, RHB
District of Timiskaming Social Services Administration Board: EMS
P.O. Box 310, 29 Duncan Ave. North
Kirkland Lake, ON P2N 3H7
Cell phone (705) 648-4627
Office phone 705-567-9366 ext. 3232
TOLL FREE EMS OPERATIONS LINE 1-855-846-8911
Email: mccarthyj@dtssab.com
life is not about the breath you take.....it is about the moments in life that take your breath away
make every moment in life count !

From: Collier, Roland <Roland.Collier@wsp.com>
Sent: Wednesday, March 9, 2022 2:29 PM
To: John McCarthy <mccarthyj@dtssab.com>; James Besley <besleyj@dtssab.com>
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Michele Bailey (michele.bailey@ontario.ca) <michele.bailey@ontario.ca>
Subject: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

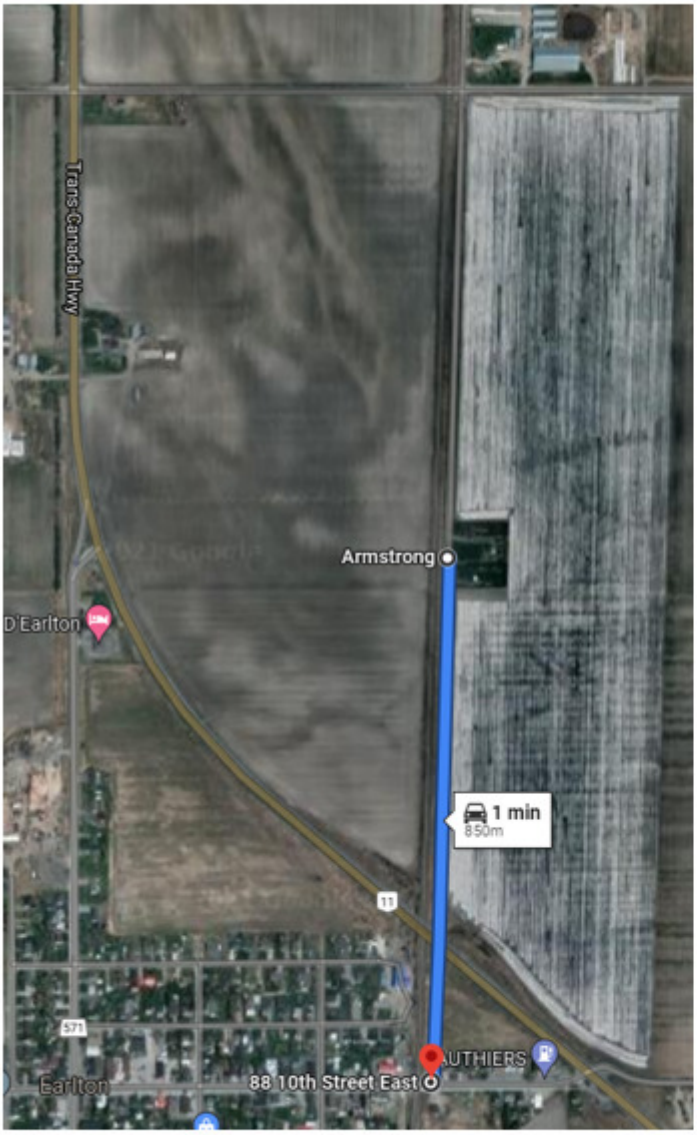
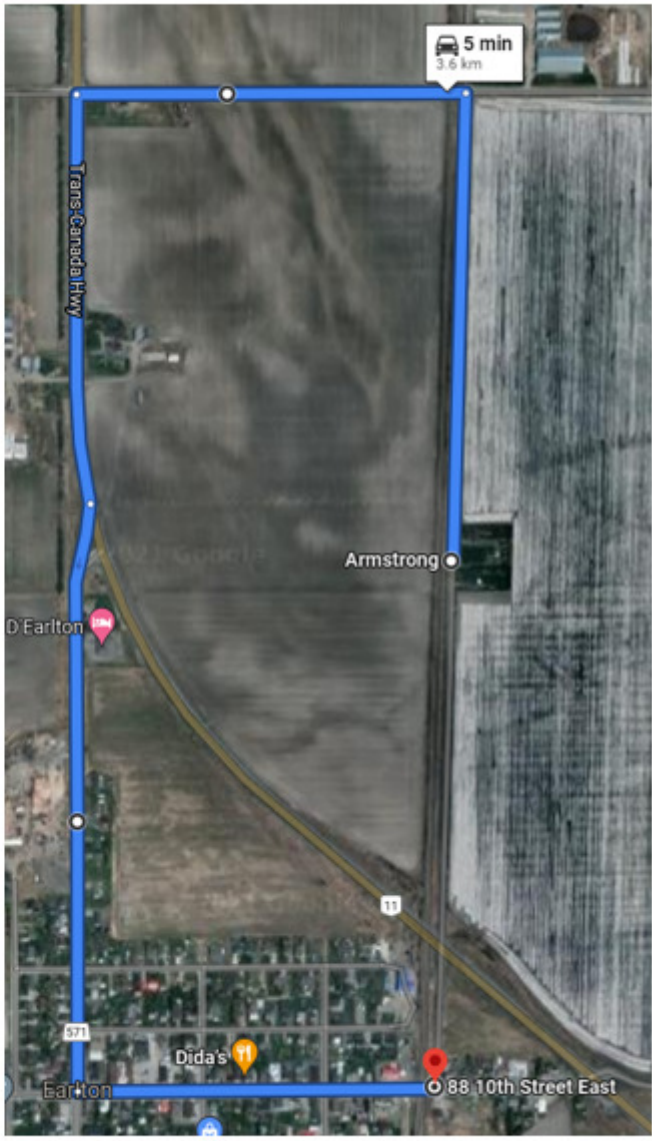
Hi John and James,

We are working on a project for the replacement of the bridge on Highway 11 near Earlton on behalf of the Ministry of Transportation.

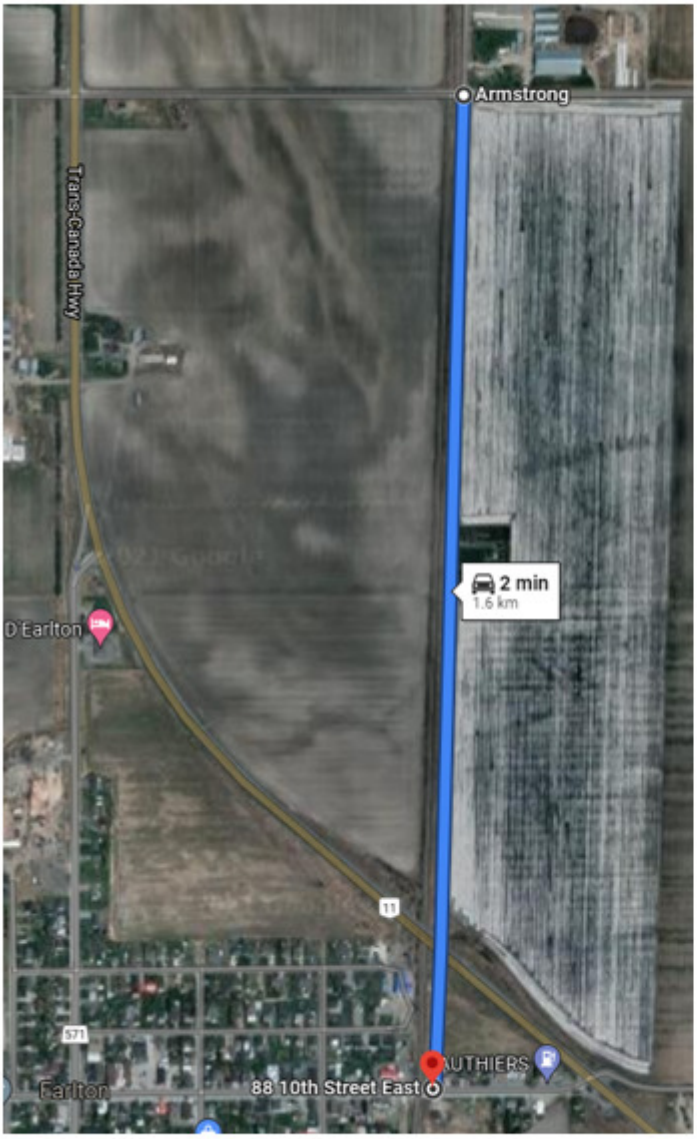
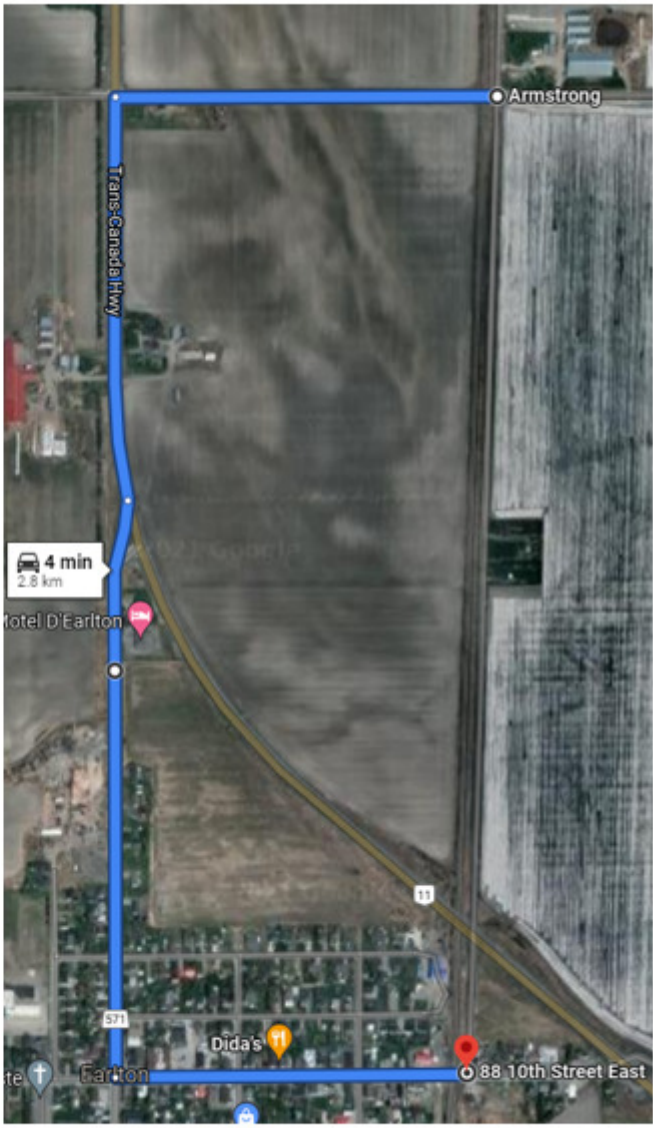
As shown in the figure below, a highway detour will be constructed to the east of the existing highway. Traffic will then be moved to the detour and the existing highway will be closed for the removal of the existing bridge and construction of the new bridge. This will also involve the realignment of Gravel Road, and the temporary closure of Rivard Road from north of the detour to south of the existing highway as indicated with two red lines below.

While highway traffic is on the detour there will be an at grade signalized crossing of the ONR track. It is anticipated the highway detour and Rivard Road closure will be in place for approximately three years starting in the summer of 2023. The Rivard Road closure will result in local traffic being re-routed via Hilliardton Road, Highway 571, and 10th Street.

The worst case impact for local traffic is an increase of 2.7 km or 4 minutes:

Rivard Road Open	Rivard Road Closed
	
Travel: 0.9 km +/- 1 minute	Travel: 3.6 km +/- 5 minute

For most local traffic the impact will be an increase of 1.2 km or 2 minutes:

Rivard Road Open	Rivard Road Closed
	
Travel: 1.6 km +/- 2 minutes	Travel: 2.8 km +/- 4 minute

At no point will the highway be closed. Therefore, we do not anticipate any significant impact to emergency services. In addition, the contractor will have to provide notification and signage a minimum of 2 weeks in advance of the closure.

Please confirm receipt of this notification, and confirmation that you do not have any concerns, or provide any comments that you may have.

Thanks,

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

T+ 1 289-982-4573
M+ 1 647-297-3463

WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

-LAEmHhHzdJzBlTWfa4Hgs7pbKI

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton
(GWP 5101-17-00)

COMMENT FORM

Type of Project	Detail Design
Environmental Assessment Type	Class EA Study for Provincial Transportation Facilities (Group "B" project)
Project Location	Highway 11 in the Township of Armstrong in the District of Timiskaming-Cochrane – See enclosed Key Map

Agency Name & Division or Branch	Earlton / Armstrong Twp Fire Dept.

COMMENTS:

1. Does your organization wish to participate in this project? ☐ YES ☐ NO

2. If yes to the above, please provide the contact name, telephone #, address and e-mail for future correspondence.

Contact Name:	André Robert	
Telephone Number:	(705) 650-1511	
Address:	*Street* 66, 9th Street	
	City/Town/Province Earlton, Ont	*Postal Code* P0J 1E0
E-mail:	fire@armstrong.ca	

3. Preferred method of correspondence during the study? ☑ Email ☐ Regular Mail

4. Please provide any information, question, comments or concerns your agency may have at this time.

For further information regarding this project, please contact the undersigned at the address listed below.

PLEASE EMAIL, MAIL, OR FAX THIS FORM BACK BY MAY 7, 2021.

Mr. Jeff Warren
Consultant Environmental Planner
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
Tel: 289-982-4219
Fax: 905-882-0055
E-mail : Jeff.Warren@wsp.com

Bakhit, Behnaz

Subject: RE: GWP 5101-17-00 Highway 11 Earlton - French Catholic School Board Bus Routes

---

From: Julie Rivard [mailto:julie.rivard@cscdgr.education]
Sent: Thursday, May 13, 2021 3:29 PM
To: Collier, Roland <Roland.Collier@wsp.com>
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Warren, Jeff <Jeff.Warren@wsp.com>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - French Catholic School Board Bus Routes

Hi Roland,

Thank you for this head's up; it will be very helpful in my 2023-2024 route planning.

There should be no issues planning routes around this road closure regardless of where the kids live or where they attend school.

Kind regards,

Julie Rivard
Agente des services du transport scolaire

De : Collier, Roland <Roland.Collier@wsp.com>
Envoyé : 13 mai 2021 15:12
À : Julie Rivard <julie.rivard@cscdgr.education>
Cc : Kleine, Rob <Rob.Kleine@wsp.com>; Warren, Jeff <Jeff.Warren@wsp.com>
Objet : GWP 5101-17-00 Highway 11 Earlton - French Catholic School Board Bus Routes

Hi Julie,

As discussed today, we are looking at a temporary closure of Rivard Road (formerly Government Road) as part of the bridge replacement on Highway 11. The closed section of Rivard Road would be in the area circled in red in the image below, and all accesses to adjacent properties would remain open.

The temporary closure is expected to start in the spring/summer of 2023, and the duration is expected to be one to two years. Please confirm, as you noted, that the school bus route in this area can be re-routed to accommodate the road closure. You also mentioned the possibility of this route not being required if the student on this route is in high school in 2023/2024, please confirm this information as well.

Thanks,

Roland Collier, P.Eng.
Senior Project Manager
Transportation | Highways

T+ 1 289-982-4573

100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

Bakhit, Behnaz

From: Collier, Roland
Sent: May 11, 2021 2:49 PM
To: Kleine, Rob; Warren, Jeff; Bakhit, Behnaz
Subject: GWP 5101-17-00 Highway 11 Earlton - North East Tri-Board School Bus Routes

FYI, I spoke with Debra Smith from North East Tri-Board Student Transportation and she confirmed that they do not have any bus routes on Rivard Road / Government Road.

Roland Collier, P.Eng.
Senior Project Manager
Transportation | Highways

T+ 1 289-982-4573

100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

Bakhit, Behnaz

From: NorthernFBCplanning@HydroOne.com
Sent: April 8, 2021 9:42 AM
To: Bakhit, Behnaz
Cc: Michele.Bailey@ontario.ca; Jennifer.Newman2@ontario.ca; Kleine, Rob; Warren, Jeff; Collier, Roland
Subject: RE: Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement
Attachments: Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - OGN Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Comment Form - Bilingual.pdf

Good morning,

Please consider this email receipt of the Notice of Study Commencement with regards to the ONR bridge on Hwy 11 in Armstrong Twp. I have forwarded the information on to the Supervising Technician should he wish to comment.

Thank you,
Marnie

Marnie Dawson
Lines Customer Support Clerk
Northern Region – SU3

Hydro One Networks Inc.
500 Barrydowne Road
Sudbury, ON P3A 3T3
Tel: 1-888-835-9444 x 2318
Fax: 705-566-8093
email: marnie.dawson@hydroone.com

From: Bakhit, Behnaz <Behnaz.Bakhit@wsp.com>
Sent: Thursday, April 8, 2021 9:31 AM
Cc: Michele.Bailey@ontario.ca; Newman, Jennifer (MTO) <Jennifer.Newman2@ontario.ca>; Kleine, Rob <Rob.Kleine@wsp.com>; Warren, Jeff <Jeff.Warren@wsp.com>; Collier, Roland <Roland.Collier@wsp.com>
Subject: Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement

Dear Sir / Madam,

The Ministry of Transportation is undertaking a Detail Design and Class Environmental Assessment study for the replacement of the ONR Overhead Bridge on Highway 11 at Earlton, within the Township of Armstrong, Class Environmental Assessment for Provincial Transportation Facilities.

Please find attached a letter, an Ontario Government Notice of Study Commencement and comment form for your reference.

Regards,

Behnaz Bakhit, on behalf of Jeff Warren, Consultant Environmental Planner

Behnaz Bakhit, MES (Pl.)
Environmental Planner
Environmental Planning

T+ 1 289-835-2688

100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

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Bakhit, Behnaz

From: Darlene Quilty <dquilty@mhbcplan.com>
Sent: April 8, 2021 10:47 AM
To: Bakhit, Behnaz
Subject: FW: Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement
Attachments: Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - OGN Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Comment Form - Bilingual.pdf

Good Morning Behnaz,

TC Energy does not have any pipelines within the Ontario Northland Railway (ONR) Overhead Bridge study area in Earlton.

Please direct these types of notices to me for review and comment.

Thank you,

DARLENE QUILTY | Planning Co-ordinator

I am currently working remotely and it is best to reach me via email or at 705-627-2302.

MHBC Planning, Urban Design & Landscape Architecture
On behalf of TransCanada PipeLines Limited

113 Collier St. | Barrie | ON | L4M 1H2 | C 705 627 2302 | dquilty@mhbcplan.com |

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From: Bakhit, Behnaz <Behnaz.Bakhit@wsp.com>
Sent: Thursday, April 8, 2021 7:31 AM
Cc: Michele.Bailey@ontario.ca; Newman, Jennifer (MTO) <Jennifer.Newman2@ontario.ca>; Kleine, Rob <Rob.Kleine@wsp.com>; Warren, Jeff <Jeff.Warren@wsp.com>; Collier, Roland <Roland.Collier@wsp.com>
Subject: [EXTERNAL] Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement

Dear Sir / Madam,

The Ministry of Transportation is undertaking a Detail Design and Class Environmental Assessment study for the replacement of the ONR Overhead Bridge on Highway 11 at Earlton, within the Township of Armstrong, Class Environmental Assessment for Provincial Transportation Facilities.

Please find attached a letter, an Ontario Government Notice of Study Commencement and comment form for your reference.

Regards,

Behnaz Bakhit, on behalf of Jeff Warren, Consultant Environmental Planner

Behnaz Bakhit, MES (PI.)
Environmental Planner
Environmental Planning

T+ 1 289-835-2688

100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

wsp.com

Bakhit, Behnaz

From: Harvey, Joseph (MHSTCI) <Joseph.Harvey@ontario.ca>
Sent: April 28, 2021 2:07 PM
To: Kleine, Rob
Cc: Barboza, Karla (MHSTCI); Bakhit, Behnaz; Bailey, Michele (MTO); Newman, Jennifer (MTO); Warren, Jeff
Subject: File 0013973: Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement
Attachments: 2021-04-28_BridgeHwy11-Earlton-MHSTCI-Ltr.pdf

Rob Kleine,

Please find attached MHSTCI's comments on the above referenced undertaking. Do not hesitate to contact me with any questions or concerns.

Regards,

Joseph Harvey | Heritage Planner (A)
Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit
Ministry of Heritage, Sport, Tourism and Culture Industries
401 Bay Street
17th Floor, Suite 1700
Toronto, ON M7A 0A7
613.242.3743
Joseph.Harvey@ontario.ca

Ministry of Heritage, Sport, Tourism and Culture Industries

Programs and Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Tel: 613-242-3743

Ministère des Industries du Patrimoine, du Sport, du Tourisme et de la Culture

Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto ON M7A 0A7
Tél: 613-242-3743

Ontario

April 28, 2021 Email Only

Rob Kleine, P. Eng.
Consultant Project Manager
WSP Canada Inc.
Rob.Kleine@wsp.com

MHSTCI File	**:**	**0013973**
Proponent	**:**	**Ministry of Transportation**
Subject	**:**	**Notice of Study Commencement**
Project	**:**	**Replacement of the ONR Overhead Bridge on Highway 11 at Earlton (GWP 5101-17-00)**
Location	**:**	**Township of Armstrong**

Dear Rob Kleine:

Thank you for providing the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) with the Notice of Study Commencement for the above-referenced project. MHSTCI's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage.

Under the Class Environmental Assessment for Provincial Transportation Facilities, proponents are required to:

- identify existing environmental conditions and sensitivities,
- identify potential environmental impacts; and
- describe proposed measures to mitigate potential negative impacts.

Please note that the *Standards and Guidelines for Conservation of Provincial Heritage Properties* (S&G), prepared pursuant to Section 25.2 of the *Ontario Heritage Act* (OHA), came into effect on July 1, 2010. They apply to property that is owned or controlled by the Crown in right of Ontario or by a prescribed public body. All Ontario government ministries and public bodies that are prescribed under Ontario Regulation 157/10 must comply with the S&Gs.

Project Summary
The Ministry of Transportation Ontario (MTO) has retained WSP Canada Inc. to complete the Detail Design and Class Environmental Assessment (Class EA) Study for the Replacement of the Ontario Northland Railway (ONR) Overhead Bridge, Highway 11 at Earlton, within the Township of Armstrong.

Identifying Cultural Heritage Resources
While some cultural heritage resources may have already been formally identified, others may be identified through assessment.

Potential Study Area
For the purposes of investigating the potential impacts of the project on cultural heritage resources, the study area is defined as all lands to be impacted/disturbed by proposed bridge rehabilitation construction within the existing and proposed highway right-of-way, plus any access roads, detours, staging and storage areas, and areas of other works and activities associated with the construction, operation and maintenance of the highway.

Built Heritage and Cultural Heritage Landscape
This EA project may impact built heritage resources and cultural heritage landscapes. Please confirm that the study area has been screened for potential for these resources and/or the subject of a cultural heritage resource assessment or cultural heritage evaluation.

To determine whether this project contains cultural heritage value, it should meet one of the following criteria, where the structure is:

- included on the Ontario Heritage Bridge List
- listed in MTO's *Heritage Bridges: Identification and Assessment Guide, Ontario 1945-1965*
- 40 years or older and not listed in the above Guide
- locally or regionally unusual

Should the structure meet any of the criteria, a cultural heritage evaluation report (CHER) and/or a heritage impact assessment (HIA), prepared by a qualified heritage consultant, will be necessary for this project. The report(s) should be sent to the Ministry of Heritage Sport Tourism and Culture Industries (Heritage Planning Unit).

The report(s) should also be forwarded to the planning staff at the local municipality for review and, if requested, to the municipal heritage committee or any local heritage organization that may have an interest in the project.

Culverts
If the proposed work involves a culvert, please note that the Ministry of Transportation (MTO) has developed the following reference materials, which should be consulted when dealing with culverts:

Heritage Assessment of Structural Culverts
Structural Culvert Heritage Screening Form
Heritage Screening Report for Structural Culverts

Archaeological Resources
This EA project may impact archaeological resources. Please confirm that the study area has been screened for archaeological potential and/or is subject of an archaeological assessment. The ministry's *Criteria for Evaluating Archaeological Potential* can assist you to determine if an archaeological assessment is needed

If it is determined that the project area exhibits archaeological potential, an archaeological assessment is necessary, and must be undertaken by an archaeologist licensed under the *Ontario Heritage Act*. This includes any temporary roads/ detours or work areas associated with the project.

The assessment reports must conform to our Ministry's *Standards and Guidelines for Consultant Archaeologists* (2011). The licensed archaeologist will forward all completed archaeological assessment reports to the Ministry of Tourism, Culture and Sport for review by an Archaeological Review Officer.

EA Documentation

Technical cultural heritage studies (e.g. archaeological assessment reports, cultural heritage evaluation reports, heritage impact assessment reports) and their recommendations are part of the EA and should be included in the EA documentation. Determinations that no cultural heritage resources are impacted, and no technical studies are warranted should also be documented, summarized and incorporated in the final EA report. In this regard we recommend including the completed screening checklists as part of the EA report.

Thank you for consulting MHSTCI on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, do not hesitate to contact me.

Sincerely,

Joseph Harvey
Heritage Planner
Heritage Planning Unit
Joseph.harvey@ontario.ca

Copied to: Behnaz Bakhit, Environmental Planner, WSP
Jeff Warren, Consultant Environmental Planner, WSP
Michele Bailey, Project Manager, MTO
Jennifer Newman, Environmental Planner, MTO,

Bakhit, Behnaz

Subject: RE: Hwy 11 ONR Replacement Bridge MNRF Comment Form

From: Gordon, Rick (MNRF) [mailto:rick.gordon@ontario.ca]
Sent: Wednesday, May 12, 2021 10:44 AM
To: Warren, Jeff <Jeff.Warren@wsp.com>
Subject: Hwy 11 ONR Replacement Bridge MNRF Comment Form

Good day Jeff

A comment letter is attached for your files. MNRF has no concerns with the replacement of the existing ONR Bridge on Hwy 11, adjacent to the town of Earlton at this time.

Good luck with your project!

Best regards,

Rick Gordon
A/District Planner
Ministry of Natural Resources
Kirkland Lake District
P.O. Box 910
145 Government Road West, 2nd Floor, Rm 201
Kirkland Lake, ON
P2N 2E8
☎: (705) 668-0408
: (705) 568-3200
: rick.gordon@ontario.ca

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton
(GWP 5101-17-00)

COMMENT FORM

Type of Project	Detail Design
Environmental Assessment Type	Class EA Study for Provincial Transportation Facilities (Group "B" project)
Project Location	Highway 11 in the Township of Armstrong in the District of Timiskaming-Cochrane – See enclosed Key Map

Agency Name & Division or Branch	Ministry of Natural Resources & Forestry

COMMENTS:

1. Does your organization wish to participate in this project? ☐ YES ☑ NO

2. If yes to the above, please provide the contact name, telephone #, address and e-mail for future correspondence.

Contact Name:		
Telephone Number:	( )	
Address:	*Street*	
	City/Town/Province	*Postal Code*
E-mail:		

3. Preferred method of correspondence during the study? ☐ Email ☐ Regular Mail

4. Please provide any information, question, comments or concerns your agency may have at this time.

We have no concerns with the replacement of this existing structure at this time.

For further information regarding this project, please contact the undersigned at the address listed below.

PLEASE EMAIL, MAIL, OR FAX THIS FORM BACK BY MAY 7, 2021.

Mr. Jeff Warren
Consultant Environmental Planner
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
Tel: 289-982-4219
Fax: 905-882-0055
E-mail : Jeff.Warren@wsp.com

Bakhit, Behnaz

Subject: RE: Hwy 11 Earlton - Agency Comment Form - Bilingual.pdf

---

From: James Besley [mailto:besleyj@dtssab.com]
Sent: Thursday, April 08, 2021 2:12 PM
To: Warren, Jeff <Jeff.Warren@wsp.com>
Cc: EMS Superintendents <EMSSuperintendents@dtssab.com>
Subject: Hwy 11 Earlton - Agency Comment Form - Bilingual.pdf

Good afternoon Jeff,

Thank you for bringing this project to our attention.

I have attached the Agency Comment Form with our contact info and comments.

We look forward to working with you on this project.

Regards,

James Besley, Paramedic Deputy Chief
Logistics and Training
Timiskaming Emergency Medical Services
705-642-6586 (m)
P.O. Box 310
29 Duncan Ave. N
Kirkland Lake, ON P2N 3H7

Our Vision: **Supporting individuals in need throughout our communities.**

Our Mission: **Delivering programs and services, through effective use of available resources, in the best interest of the individuals we support.**

Our Values: **We are committed to serving the individuals we support and treating each other through actions and values based on:**

- **Integrity**: Acting with honest and trustworthy intentions and while being accountable for our actions;
- **Respect**: Treating people with courtesy, fairness and being empathetic to life's circumstances.

Replacement of the ONR Overhead Bridge, Highway 11 at Earlton
(GWP 5101-17-00)

COMMENT FORM

Type of Project	Detail Design
Environmental Assessment Type	Class EA Study for Provincial Transportation Facilities (Group "B" project)
Project Location	Highway 11 in the Township of Armstrong in the District of Timiskaming-Cochrane – See enclosed Key Map

Agency Name & Division or Branch	District of Timiskaming Emergency Medical Services

COMMENTS:

1. Does your organization wish to participate in this project? **X** YES ☐ NO

2. If yes to the above, please provide the contact name, telephone #, address and e-mail for future correspondence.

Contact Name:	James Besley; Paramedic Deputy Chief	
Telephone Number:	705-642-6586	
Address:	*Street* **29 Duncan Ave. N**	
	City/Town/Province Kirkland Lake ON	*Postal Code P2N 3H7*
E-mail:	besleyj@dtssab.com	

3. Preferred method of correspondence during the study? ☐ Email ☐ Regular Mail

4. Please provide any information, question, comments or concerns your agency may have at this time.

As an EMS service that uses HWY 11 as a north / south response and patient movement corridor we would have concerns with excessive delays due to traffic congestion on detour routes.Is there a plan to construct a temporary level crossing detour adjacent to the highway?

For further information regarding this project, please contact the undersigned at the address listed below.

PLEASE EMAIL, MAIL, OR FAX THIS FORM BACK BY MAY 7, 2021.

Mr. Jeff Warren
Consultant Environmental Planner
WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
Tel: 289-982-4219
Fax: 905-882-0055
E-mail : Jeff.Warren@wsp.com

Bakhit, Behnaz

From: ONT Environment / Environnement ONT <EnviroOnt@tc.gc.ca>
Sent: April 9, 2021 4:45 PM
To: Bakhit, Behnaz
Cc: Michele.Bailey@ontario.ca; Jennifer.Newman2@ontario.ca
Subject: Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement
Attachments: Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - OGN Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Commencement Letter - Bilingual.pdf; Hwy 11 Earlton - Agency Comment Form - Bilingual.pdf

Greetings,

Thank you for your emaill. Please remove Transport Canada contact Monique Mousseau from your mailing list and send all future Class EA related correspondance to EnviroOnt@tc.gc.ca

Please note Transport Canada **does not** require receipt of all individual or Class EA related notifications. We are requesting project proponents self-assess if their project:

1. Will interact with a federal property and/or waterway by reviewing the Directory of Federal Real Property, available at at www.tbs-sct.gc.ca/dfrp-rbif/; **and**
2. Will require approval and/or authorization under any Acts administered by Transport Canada* available at http://www.tc.gc.ca/eng/acts-regulations/menu.htm.

Projects that will occur on federal property prior to exercising a power, performing a function or duty in relation to that project, will be subject to a determination of the likelihood of significant adverse environmental effects, per Section 82 of the *Impact Assessment Act, 2019*.

If the aforementioned does not apply, the Environmental Assessment program should not be included in any further correspondence and future notifications will not receive a response. If there is a role under the program, correspondence should be forwarded *electronically* to: EnviroOnt@tc.gc.ca with a **brief description of Transport Canada's expected role**.

*Below is a summary of the most common Acts that have applied to projects in an Environmental Assessment context:

- ***Canadian Navigable Waters Act (CNWA)*** – the Act applies primarily to works constructed or placed in, on, over, under, through, or across navigable waters set out under the Act. The Navigation Protection Program administers the CNWA through the review and authorization of works affecting navigable waters. Information about the Program, CNWA and approval process is available at: http://www.tc.gc.ca/eng/programs-621.html. Enquiries can be directed to NPPONT-PPNONT@tc.gc.ca or by calling (519) 383-1863.

- ***Railway Safety Act (RSA)*** – the Act provides the regulatory framework for railway safety, security, and some of the environmental impacts of railway operations in Canada. The Rail Safety Program develops and enforces regulations, rules, standards and procedures governing safe railway operations. Additional information about the Program is available at: https://www.tc.gc.ca/eng/railsafety/menu.htm. Enquiries can be directed to RailSafety@tc.gc.ca or by calling (613) 998-2985.

- ***Transportation of Dangerous Goods Act (TDGA)*** – the transportation of dangerous goods by air, marine, rail and road is regulated under the TDGA. Transport Canada, based on risks, develops safety standards and

regulations, provides oversight and gives expert advice on dangerous goods to promote public safety. Additional information about the transportation of dangerous goods is available at: https://www.tc.gc.ca/eng/tdg/safety-menu.htm. Enquiries can be directed to TDG-TMDOntario@tc.gc.ca or by calling (416) 973-1868.

- ***Aeronautics Act*** – Transport Canada has sole jurisdiction over aeronautics, which includes aerodromes and all related buildings or services used for aviation purposes. Aviation safety in Canada is regulated under this Act and the Canadian Aviation Regulations (CARs). Elevated Structures, such as wind turbines and communication towers, would be examples of projects that must be assessed for lighting and marking requirements in accordance with the CARs. Transport Canada also has an interest in projects that have the potential to cause interference between wildlife and aviation activities. One example would be waste facilities, which may attract birds into commercial and recreational flight paths. The *Land Use In The Vicinity of Aerodromes* publication recommends guidelines for and uses in the vicinity of aerodromes, available at: https://www.tc.gc.ca/eng/civilaviation/publications/tp1247-menu-1418.htm. Enquires can be directed to tc.aviationservicesont-servicesaviationont.tc@tc.gc.ca or by calling 1 (800) 305-2059 / (416) 952-0230.

Please advise if additional information is needed.

Thank you,

Environmental Assessment Program, Ontario Region
Transport Canada / Government of Canada / 4900 Yonge St., Toronto, ON M2N 6A5
EnviroOnt@tc.gc.ca / Facsimile : (416) 952-0514 / TTY: 1-888-675-6863

Programme d'évaluation environnementale, Région de l'Ontario
Transports Canada / Gouvernement du Canada / 4900, rue Yonge, Toronto, ON, M2N 6A5
EnviroOnt@tc.gc.ca / télécopieur: (416) 952-0514

From: Bakhit, Behnaz [mailto:Behnaz.Bakhit@wsp.com]
Sent: Thursday, April 08, 2021 9:31 AM
Cc: Michele.Bailey@ontario.ca; Newman, Jennifer (MTO) <Jennifer.Newman2@ontario.ca>; Kleine, Rob <Rob.Kleine@wsp.com>; Warren, Jeff <Jeff.Warren@wsp.com>; Collier, Roland <Roland.Collier@wsp.com>
Subject: Ministry of Transportation Ontario (MTO) - Replacement of the ONR Overhead Bridge on Highway 11 at Earlton - Notice of Study Commencement

Dear Sir / Madam,

The Ministry of Transportation is undertaking a Detail Design and Class Environmental Assessment study for the replacement of the ONR Overhead Bridge on Highway 11 at Earlton, within the Township of Armstrong, Class Environmental Assessment for Provincial Transportation Facilities.

Please find attached a letter, an Ontario Government Notice of Study Commencement and comment form for your reference.

Regards,

Behnaz Bakhit, on behalf of Jeff Warren, Consultant Environmental Planner

Behnaz Bakhit, MES (PI.)
Environmental Planner

Environmental Planning

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Thornhill, Ontario
L3T 0A1 Canada

wsp.com

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Bakhit, Behnaz

Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Snowmobile Crossing

From: Collier, Roland <Roland.Collier@wsp.com>
Sent: Wednesday, February 09, 2022 11:43 PM
To: Jill Cornick <Jill.Cornick@ontarionorthland.ca>
Cc: Michael Rennie <michael.rennie@ontarionorthland.ca>; Chad Martin <Chad.Martin@ontarionorthland.ca>; Kleine, Rob <Rob.Kleine@wsp.com>
Subject: GWP 5101-17-00 Highway 11 Earlton - Snowmobile Crossing

Hi Jill,

We have spoken with the Tri-Town Sno Travellers and the plan is to relocate the snowmobile crossing of the tracks further north. The attached plan shows the general approach, and they request that the crossing be moved back to the existing location once the detour is removed. This should be included in your design and completed by the ONR as it involves moving/placing timber mats on the tracks.

For now, please let us know how far along the tracks the crossing will have to be moved.

Thanks,

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

T+ 1 289-982-4573
M+ 1 647-297-3463

WSP Canada Inc.
100 Commerce Valley Drive West
Thornhill, Ontario
L3T 0A1 Canada

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Bakhit, Behnaz

Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Snowmobile Trails

From: Collier, Roland
Sent: February 17, 2022 3:52 PM
To: burris.harold@gmail.com; wramsay@ramsaylaw.ca; Pat.Devereaux@ontario.ca; michele.bailey@ontario.ca; Kleine, Rob <Rob.Kleine@wsp.com>
Cc: Warren, Jeff <Jeff.Warren@wsp.com>; Bakhit, Behnaz <Behnaz.Bakhit@wsp.com>; Jill Cornick <Jill.Cornick@ontarionorthland.ca>; Ashish Pokhrel (Ashish.Pokhrel@ontario.ca) <Ashish.Pokhrel@ontario.ca>; Yongming Xu (Yongming.Xu@ontario.ca) <Yongming.Xu@ontario.ca>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Snowmobile Trails

Hi Everyone,

Below is a summary of our discussion and an update:

- The plan is to relocate the snowmobile crossing of the tracks further north, and move it back to the existing location once the detour is removed.
    - WSP contacted the ONR and we are awaiting direction regarding the crossing location.
- Outside of the track area, the general approach is to route the trail along the detour (within the Temporary Limited Interest property agreement for the detour where possible). It was noted that the trail groomer is 10 feet wide and a minimum of 12 feet clearance is required (from the snow fence or any other obstructions).
    - Attached is a preliminary route plan.
- The trail along Rivard Road in to town will continue to operate.
    - WSP contacted MTO Structural and they confirmed that there will not be any construction activities during the winter months that would impact the snowmobile trail.
    - The contractor will be advised of the requirement to maintain a clear space (4.0m wide x 5.0m high) along Rivard Road through the bridge area for the snowmobile trail.

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

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-----Original Appointment-----
From: Collier, Roland <Roland.Collier@wsp.com>
Sent: February 4, 2022 10:03 AM
To: Collier, Roland; burris.harold@gmail.com; wramsay@ramsaylaw.ca; Pat.Devereaux@ontario.ca; michele.bailey@ontario.ca; Kleine, Rob

Subject: GWP 5101-17-00 Highway 11 Earlton - Snowmobile Trails
When: February 9, 2022 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where:

Microsoft Teams meeting

Join on your computer or mobile app
Click here to join the meeting

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Bakhit, Behnaz

Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

---

From: Fire <Fire@armstrong.ca>
Sent: March 9, 2022 4:19 PM
To: Collier, Roland <Roland.Collier@wsp.com>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Hi Roland,

Thank you for all the information provided for this big project. So far I have no questions or concerns regarding this E-mail.

Thanks

From: Collier, Roland <Roland.Collier@wsp.com>
Sent: March 9, 2022 2:32 PM
To: Fire <Fire@armstrong.ca>
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Michele Bailey (michele.bailey@ontario.ca) <michele.bailey@ontario.ca>
Subject: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

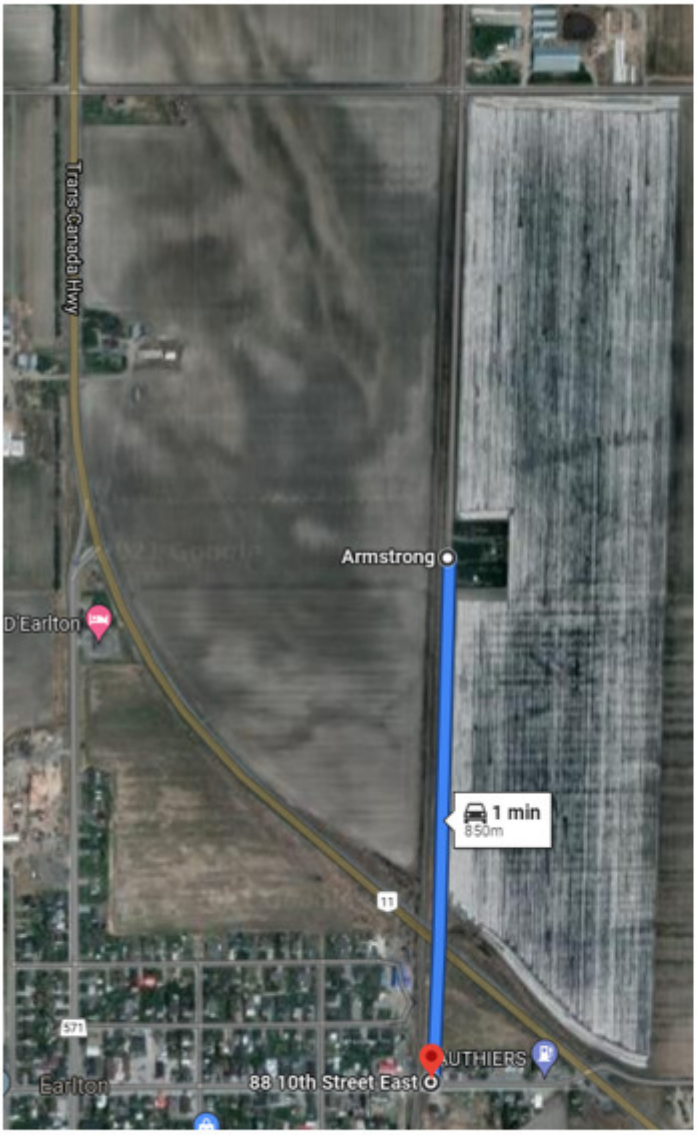
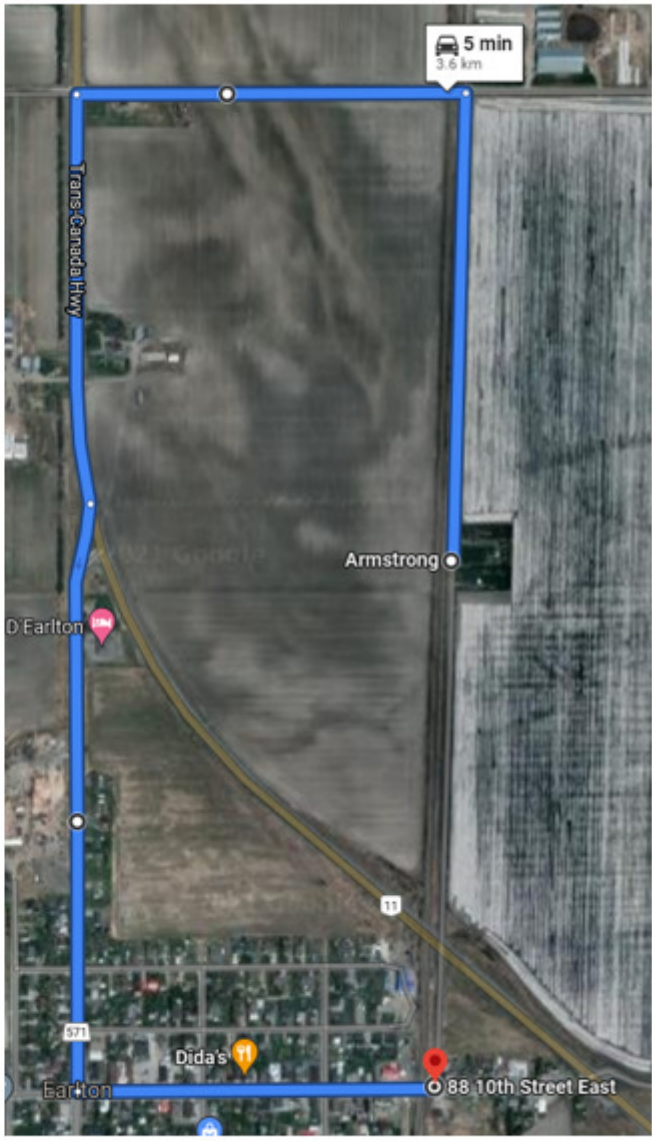
Hi Andre,

We are working on a project for the replacement of the bridge on Highway 11 near Earlton on behalf of the Ministry of Transportation.

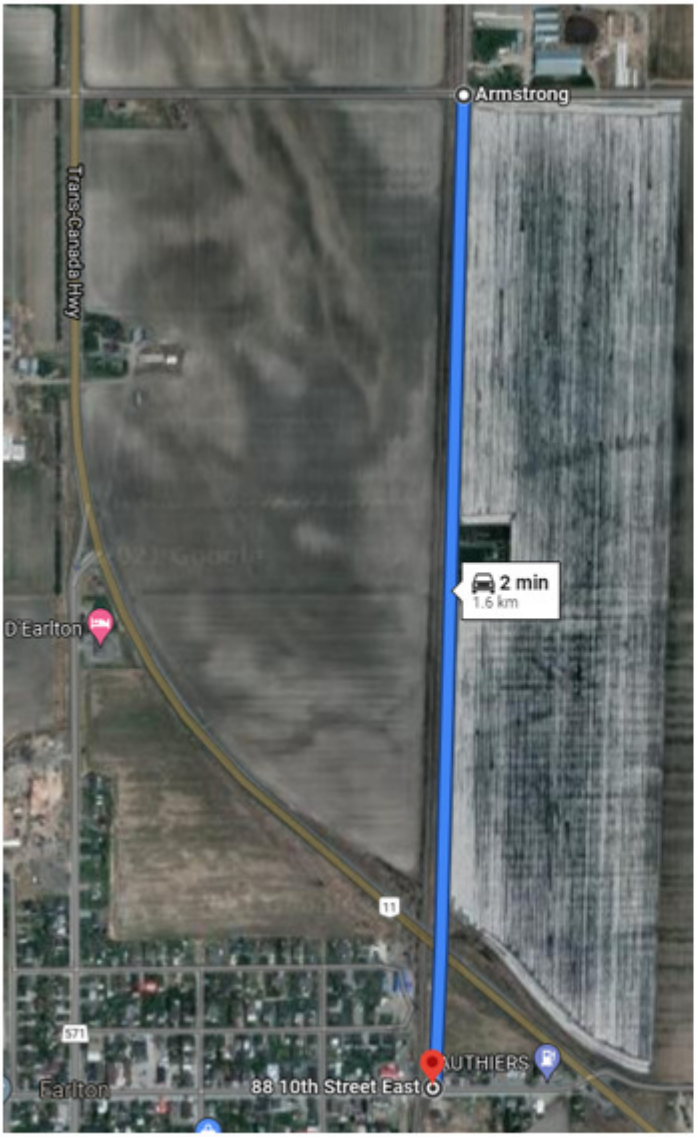
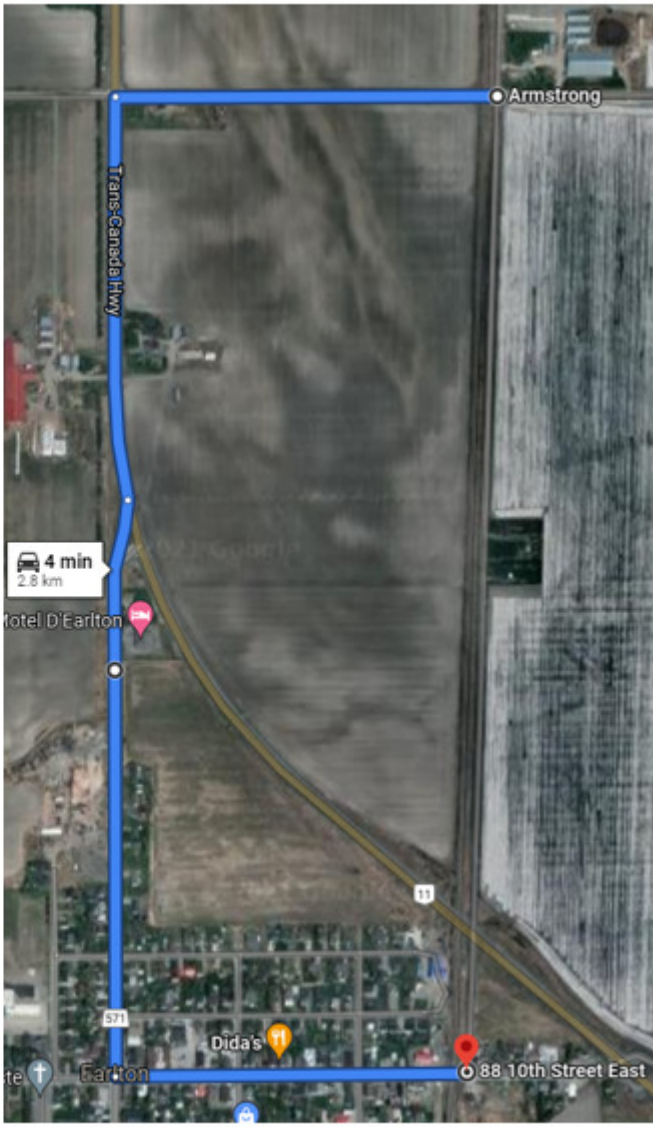
As shown in the figure below, a highway detour will be constructed to the east of the existing highway. Traffic will then be moved to the detour and the existing highway will be closed for the removal of the existing bridge and construction of the new bridge. This will also involve the realignment of Gravel Road, and the temporary closure of Rivard Road from north of the detour to south of the existing highway as indicated with two red lines below.

While highway traffic is on the detour there will be an at grade signalized crossing of the ONR track. It is anticipated the highway detour and Rivard Road closure will be in place for approximately three years starting in the summer of 2023. The Rivard Road closure will result in local traffic being re-routed via Hilliardton Road, Highway 571, and 10th Street.

The worst case impact for local traffic is an increase of 2.7 km or 4 minutes:

Rivard Road Open	Rivard Road Closed
	
Travel: 0.9 km +/- 1 minute	Travel: 3.6 km +/- 5 minute

For most local traffic the impact will be an increase of 1.2 km or 2 minutes:

Rivard Road Open	Rivard Road Closed
	
Travel: 1.6 km +/- 2 minutes	Travel: 2.8 km +/- 4 minute

At no point will the highway be closed. Therefore, we do not anticipate any significant impact to emergency services. In addition, the contractor will have to provide notification and signage a minimum of 2 weeks in advance of the closure.

Please confirm receipt of this notification, and confirmation that you do not have any concerns, or provide any comments that you may have.

Thanks,

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

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Bakhit, Behnaz

Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

From: Gelinas, Allan (OPP) <Allan.Gelinas@opp.ca>
Sent: March 21, 2022 8:50 AM
To: Collier, Roland <Roland.Collier@wsp.com>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Hi Roland,

Thanks for advising us of the upcoming detour in the Earlton area. I've reviewed the proposed detour below. We have no concerns from a police perspective, as indicated "at no point will the highway be closed and you do not anticipate any significant impact to emergency services." Please update us if you foresee this changing for any reason.
Allan

Allan Gelinas
A/S/Sgt Operations Manager
Temiskaming Detachment | North East Region
Mobile: (705) 471-1215
E-mail: allan.gelinas@opp.ca

From: Collier, Roland [mailto:Roland.Collier@wsp.com]
Sent: 18-Mar-22 4:40 PM
To: OPP Temiskaming (OPP) <OPP.Temiskaming@opp.ca>
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Bailey, Michele (MTO) <Michele.Bailey@ontario.ca>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Hi,

Please confirm that you do not have any concerns, or provide any comments that you may have.

Thanks,

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

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Thornhill, Ontario
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From: Collier, Roland
Sent: March 9, 2022 2:01 PM
To: opp.temiskaming@opp.ca
Cc: Kleine, Rob <Rob.Kleine@wsp.com>; Michele Bailey (michele.bailey@ontario.ca) <michele.bailey@ontario.ca>
Subject: GWP 5101-17-00 Highway 11 Earlton - Highway Work Notification

Hi,

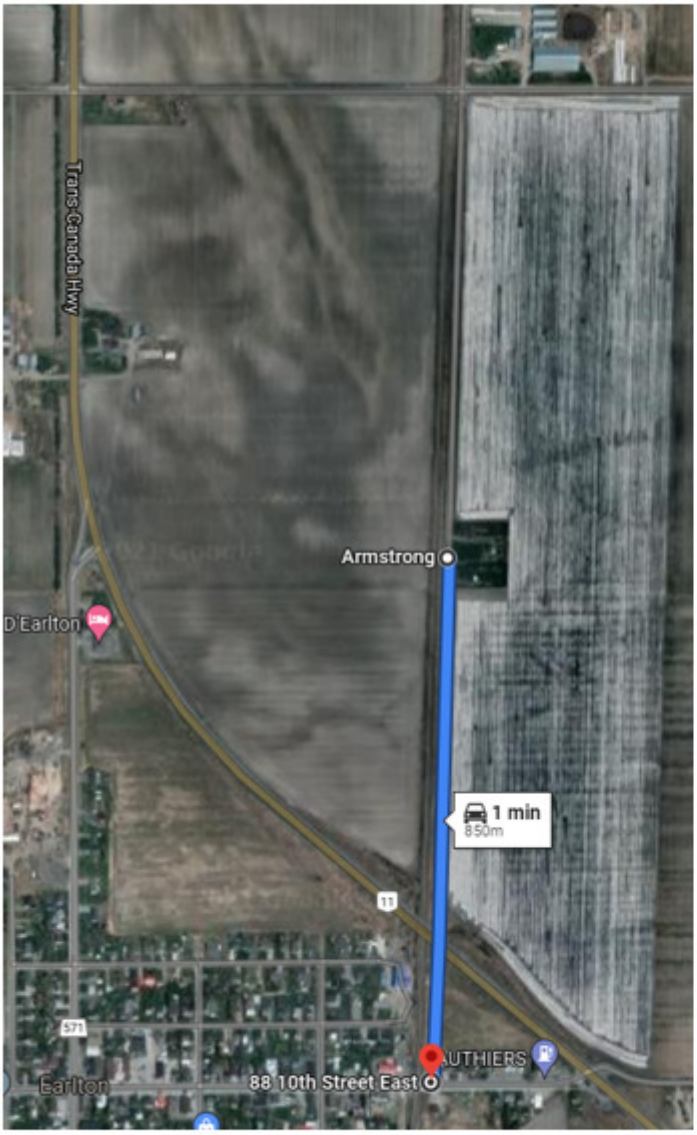
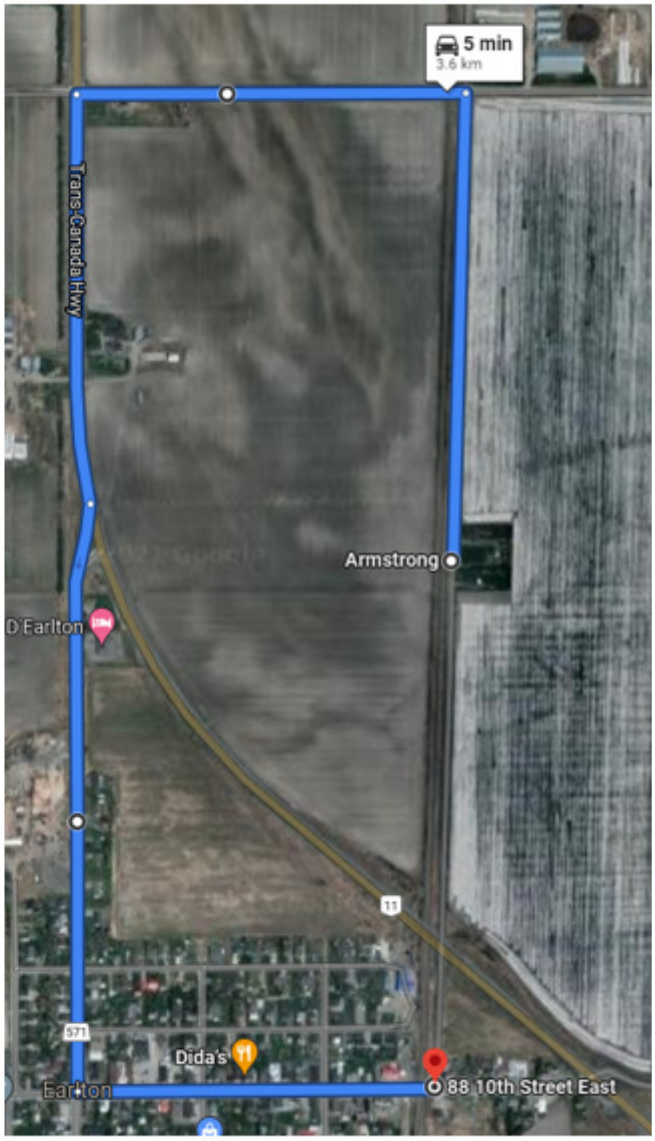
I spoke with someone on the phone and they requested an email notification.

We are working on a project for the replacement of the bridge on Highway 11 near Earlton on behalf of the Ministry of Transportation.

As shown in the figure below, a highway detour will be constructed to the east of the existing highway. Traffic will then be moved to the detour and the existing highway will be closed for the removal of the existing bridge and construction of the new bridge. This will also involve the realignment of Gravel Road, and the temporary closure of Rivard Road from north of the detour to south of the existing highway as indicated with two red lines below.

While highway traffic is on the detour there will be an at grade signalized crossing of the ONR track. It is anticipated the highway detour and Rivard Road closure will be in place for approximately three years starting in the summer of 2023. The Rivard Road closure will result in local traffic being re-routed via Hilliardton Road, Highway 571, and 10th Street.

The worst case impact for local traffic is an increase of 2.7 km or 4 minutes:

Rivard Road Open	Rivard Road Closed
	
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For most local traffic the impact will be an increase of 1.2 km or 2 minutes:

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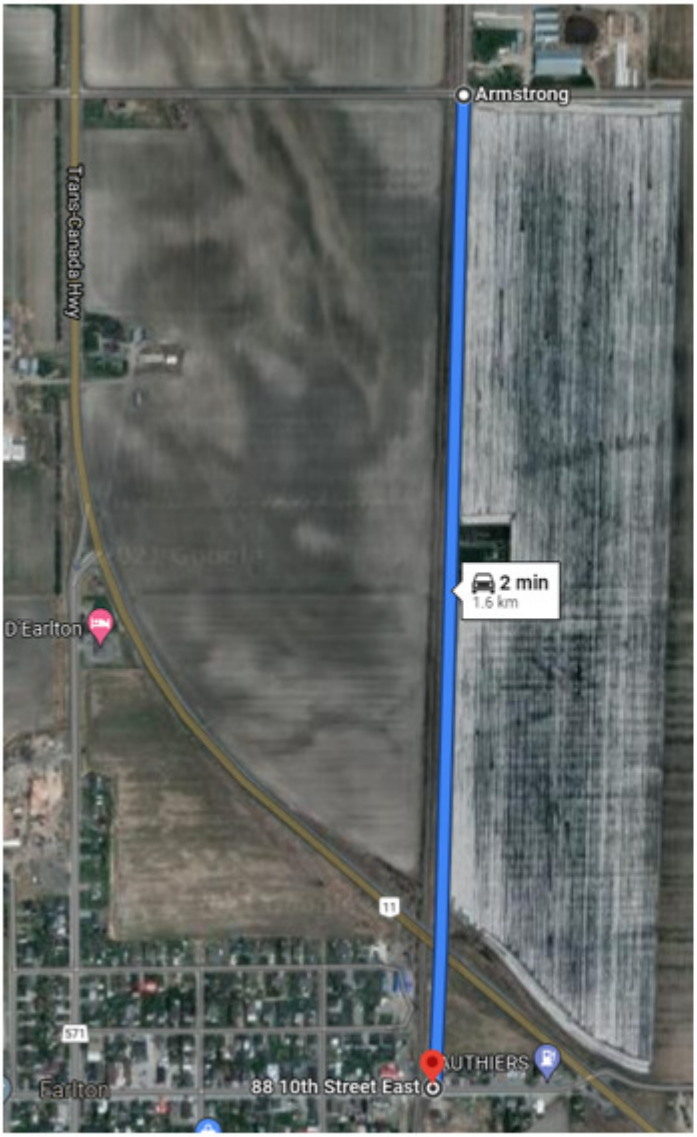	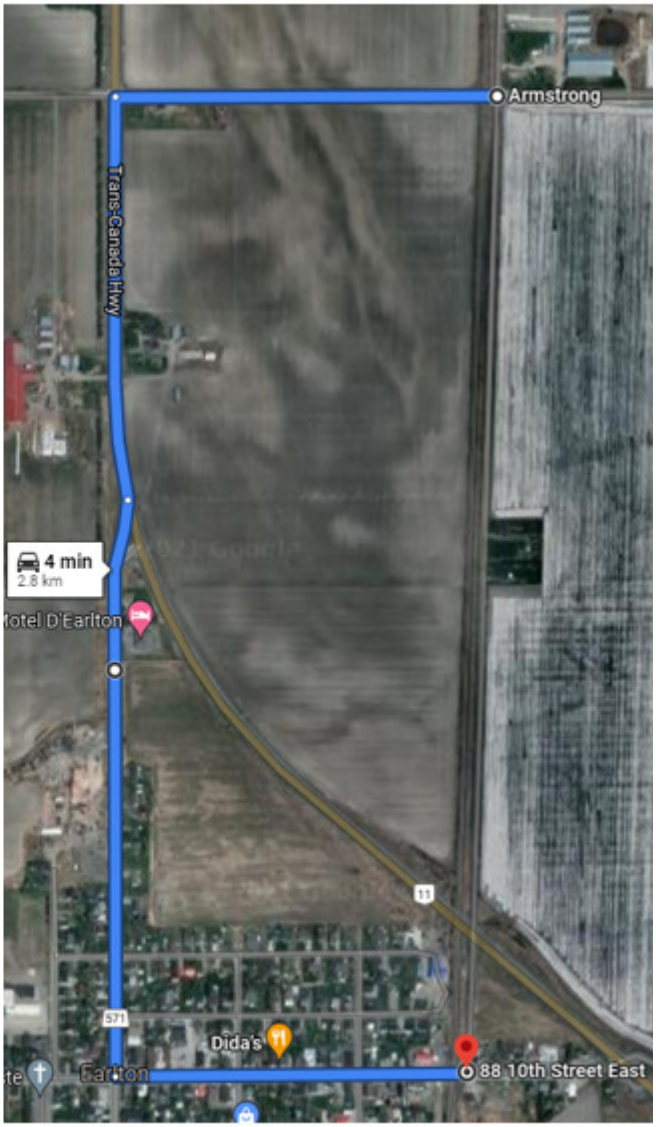
Travel: 1.6 km +/- 2 minutes	Travel: 2.8 km +/- 4 minute

At no point will the highway be closed. Therefore, we do not anticipate any significant impact to emergency services.

Please confirm receipt of this notification, and confirmation that you do not have any concerns, or provide any comments that you may have.

Thanks,

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

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Thornhill, Ontario
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-LAEmHhHzdJzBlTWfa4Hgs7pbKl

Bakhit, Behnaz

From: Collier, Roland
Sent: March 18, 2022 1:52 PM
To: Amy Vickery-Menard; Roads; Guy Laurin; Michele.Bailey@ontario.ca; Giuseppe.Delfino@ontario.ca; Jennifer.Newman2@ontario.ca; jaclyn.lytle@ontario.ca; Kleine, Rob; Warren, Jeff; Bakhit, Behnaz; Kristin Franks (Kristin.Franks@ontario.ca)
Cc: Roads
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Project Discussion with Township of Armstrong
Attachments: GWP 5101-17-00 Council Meeting Minutes 2022-03-09.pdf

Hi Everyone,

Attached are the meeting minutes (WSP/MTO portion of the meeting only) with the presentation.

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

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From: Amy Vickery-Menard <amyvickerymenard@armstrong.ca>
Sent: March 11, 2022 2:22 PM
To: Collier, Roland <Roland.Collier@wsp.com>; Roads <Roads@armstrong.ca>; Guy Laurin <guy.laurin@armstrong.ca>; Michele.Bailey@ontario.ca; Giuseppe.Delfino@ontario.ca; Jennifer.Newman2@ontario.ca; jaclyn.lytle@ontario.ca; Kleine, Rob <Rob.Kleine@wsp.com>; Warren, Jeff <Jeff.Warren@wsp.com>; Bakhit, Behnaz <Behnaz.Bakhit@wsp.com>
Cc: Roads <Roads@armstrong.ca>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Project Discussion with Township of Armstrong

Good afternoon,
Many thanks for the presentation at Council this past Wednesday evening on the Project. The information was well received. My apologies for the late start due to weather. If possible, could you provide a copy of the presentation for our records?
Thanks again and have a nice weekend,

Amy Vickery-Menard, CMO
CAO/Clerk-Treasurer
Township of Armstrong
Ph. 705.563.2375

Mobile 705.961.0306
Fax 705.563.2093
www.armstrongtownship.com

From: Collier, Roland
Sent: February-22-22 11:47 AM
To: Amy Vickery-Menard <amyvickerymenard@armstrong.ca>; Roads <Roads@armstrong.ca>; Guy Laurin <guy.laurin@armstrong.ca>; Michele.Bailey@ontario.ca; Giuseppe.Delfino@ontario.ca; Jennifer.Newman2@ontario.ca; jaclyn.lytle@ontario.ca; Kleine, Rob <Rob.Kleine@wsp.com>; Warren, Jeff <Jeff.Warren@wsp.com>; Bakhit, Behnaz <Behnaz.Bakhit@wsp.com>
Cc: Caleb Fotheringham <belac_81@hotmail.com>
Subject: RE: GWP 5101-17-00 Highway 11 Earlton - Project Discussion with Township of Armstrong

Hi Everyone,

Below is a summary of our discussion and an update:

- WSP presented the current design plan including the temporary Rivard Road closure.
  - The Township confirmed that they are in agreement with the closure.
- It was agreed that WSP/MTO would to a presentation to council.
  - Virtual meeting is being scheduled for March 9, 2022.
- Post meeting the Township noted the following by email.
  - "The municipality wants to ensure the source water and wellhead are protected, heavy traffic/equipment during the detour or construction will not cause any damages to municipal infrastructure such as roads or municipal drainage systems, will not cause drainage issues, and the construction will not negatively impact the residents with dust, heavy traffic and excessive noise, etc."
  - "I do not believe there are any serious concerns, as everyone understands the construction is necessary and your planning seems to have considered the items we mentioned."

Roland Collier, P. Eng.
Senior Project Manager
Transportation & Infrastructure | Highways

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-----Original Appointment-----
From: Collier, Roland <Roland.Collier@wsp.com>
Sent: January 21, 2022 9:53 AM
To: Collier, Roland; amyvickerymenard@armstrong.ca; Roads@armstrong.ca; guy.laurin@armstrong.ca; Michele.Bailey@ontario.ca; Giuseppe.Delfino@ontario.ca; Jennifer.Newman2@ontario.ca; jaclyn.lytle@ontario.ca; Kleine, Rob; Warren, Jeff
Cc: Caleb Fotheringham
Subject: GWP 5101-17-00 Highway 11 Earlton - Project Discussion with Township of Armstrong
When: February 3, 2022 1:30 PM-2:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where:

Microsoft Teams meeting

Join on your computer or mobile app
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-LAEmHhHzdJzBlTWfa4Hgs7pbKI

MEETING NOTES

JOB TITLE	GWP 5101-17-00: Highway 11 Replacement of the ONR O/H Bridge at Earlton		
PROJECT NUMBER	5019-E-0023	**DATE**	March 9, 2022
TIME	7:00 PM – 8:00 PM	**VENUE**	Microsoft Teams
SUBJECT	Council Presentation Meeting		

ATTENDEES			
Name	**Company**	**Discipline**	**Email**
Township of Armstrong & Public	ToA		amyvickerymenard@armstrong.ca
Giuseppe Delfino	MTO	Area Manager, Hwys	Giuseppe.Delfino@ontario.ca
Kristin Franks	MTO	Regional Services & Relationships	Kristin.Franks@ontario.ca
Michele Bailey	MTO	Project Manager	Michele.Bailey@ontario.ca
Jeff Warren	WSP	Environmental	Jeff.Warren@wsp.com
Rob Kleine	WSP	Project Manager	Rob.Kleine@wsp.com
Roland Collier	WSP	Deputy Project Manager	Roland.Collier@wsp.com

MATTERS ARISING		**ACTION**
1.0	**PROJECT OVERVIEW**	
1.1	WSP presented the attached project overview.	
1.2	Public Question: Will the existing embankments be left in place? WSP Response: The majority of the existing embankment will remain as it is today. There will be a minor grade/profile lowering, and the embankments will be excavated at the ends of the bridge to remove the existing abutments, construct the new abutments, and place light weight expanded polystyrene (EPS) fill.	
1.3	Public Question: Where will construction traffic access the construction site? WSP Response: The contractor will have access at the north and south limits of the detour, and additional access points are still under review from the detour and Rivard Road while it is closed.	
1.4	Public Question: What is happening to the Gravel Road intersection? WSP Response: Gravel Road will be permanently realigned on the east side of the highway to provide a straighter approach to the highway with improved sight lines. There will be no change to the 10th Street alignment on the west side of the highway (intersection layout drawing was presented).	

These minutes are considered to be accurate recording of all items discussed. Written notice of discrepancies, errors or omission must be given within seven (7) days, otherwise the minutes will be accepted as written.

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Canada L3T 0A1

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F: +1 905 882-0055
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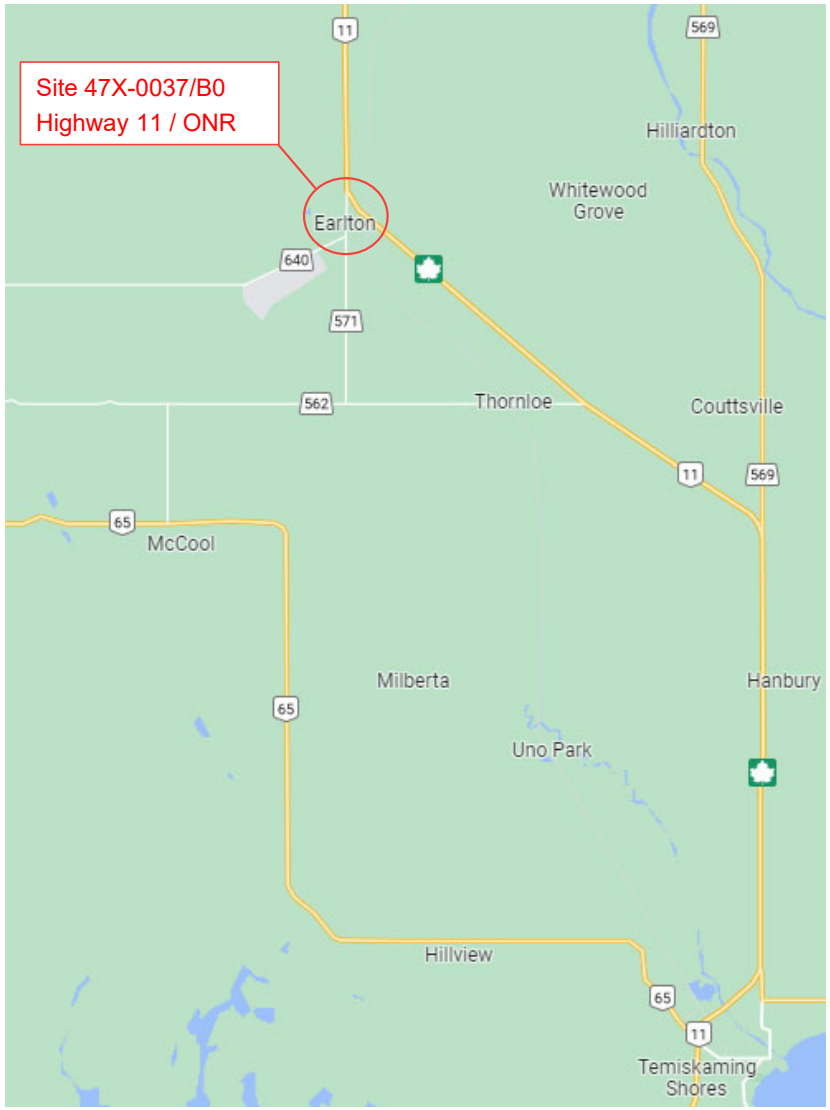
Highway 11 ONR Bridge Replacement

March 9, 2022

Project Location

The project is located on Highway 11 and extends from 0.4 km south of the Highway 11/Gravel Road/10th Street intersection Northerly 1.7 km to 0.1 km north of the Highway 11/Highway 571 intersection.



Project History / Background

2014	Preliminary Design Report complete
October 2020	MTO / WSP started the Detail Design project
April 2021	Commencement Notice for this project was issued

Scope of Work

The general scope of the contract includes the following key items:

- Replacement of the bridge (constructed in 1961) over Rivard Road and the ONR track on the existing Highway 11 alignment
- Reconstruction of 1.6 km of Highway 11 and repair of one area that is in poor condition
- Temporary at-grade detour east of the existing highway to divert traffic during the removal of the existing bridge and construction of the new bridge
- Temporary, long term, full closure of Rivard Road
- Realignment of Gravel Road at the intersection of Highway 11 to provide a straighter approach to the highway with improved sight lines
- Drainage work
- Illumination
- Replacement of one traffic counting station
- Guide rail and curb replacement

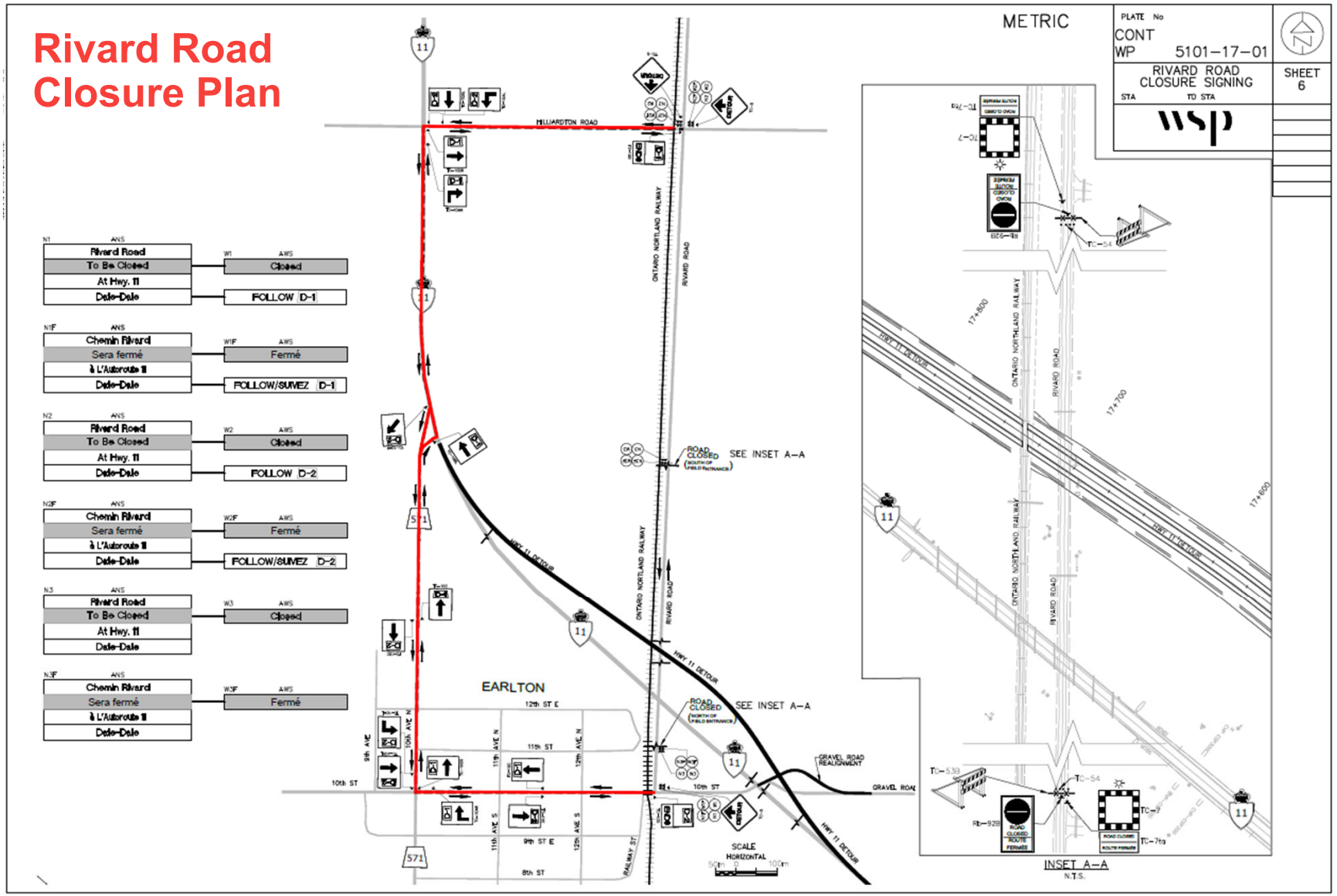
In addition to above works utility relocations will be required to facilitate the detour construction.

Overview Plan

Traffic Management

- To maintain Highway 11 traffic during the replacement of the bridge a detour will be constructed to the east of the existing highway.
  - The detour includes an at-grade crossing of the ONR track.
  - The majority of detour is separated from the existing road platform and will be constructed without significant impact to traffic.
  - The construction of the north and south tie-ins will impact traffic.
- Once construction has begun on the Highway 11 Detour, Rivard Road will be closed between 10th Street and Hilliardton Road.
  - The closure is expected to last three years, tentatively scheduled to start June 2023.
  - Traffic will be diverted along alternate routes using Hilliardton Road, Highway 11, Highway 571, and 10th Street.
  - The traffic being diverted is local traffic and is generally being directed onto similar local roads.

Rivard Road Closure Plan



Study Process

- This project is being conducted in accordance with the requirements of the Ministry of Transportation's (MTO) Class Environmental Assessment for Provincial Transportation Facilities (2000) as a Group 'B' undertaking.
- A Group 'B' project involves major improvements to existing facilities, which are to be documented in a Transportation Environmental Study Report (TESR) and made available for a 30-day public review period.
- A Notice of Study Completion will be published to advise the public and review agencies of the 30-day review period and provide direction on where to the review the TESR and how to provide comments.

Property

- The project requires both permanent property acquisition (Gravel Road Realignment) and temporary limited interest (Highway 11 Detour).
- Property acquisitions have been identified and the MTO is currently undertaking appraisals. Once they are complete negotiations with property owners will begin.

Highway 11 Project Benefits

- The Highway 11 bridge over Rivard Road / ONR is being replaced with the use of a full detour which will minimize traffic going through Earlton.
- The new design includes realignment of Gravel Road at the intersection of Highway 11 to provide a straighter approach to the highway with improved sight lines.
- In addition, the new bridge and highway profile will improve the site distance on Highway 11.

Project Schedule

Subject to funding and approvals the tentative schedule is as follows:

Fall 2022	TESR made available for a 30-day public review period
May 2023	Construction Start
June 2023	Rivard Road Closure & Detour Opened
June 2026	Bridge Complete, Rivard Road Reopened, and Detour Removed

Thank You

wsp.com

APPENDIX

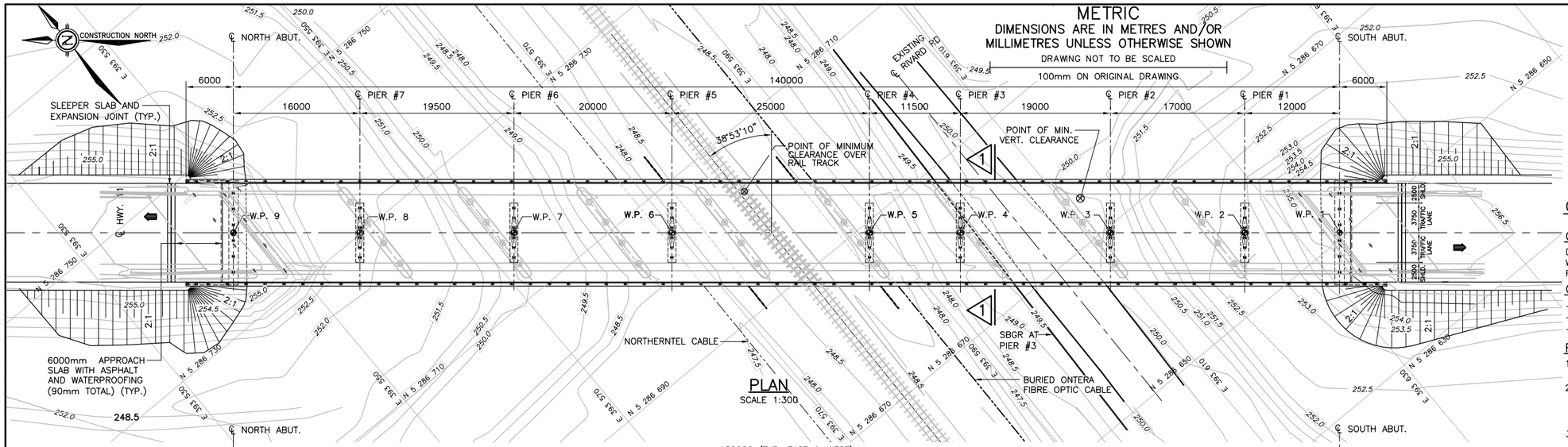
C GENERAL ARRANGEMENT DRAWING

METRIC

DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

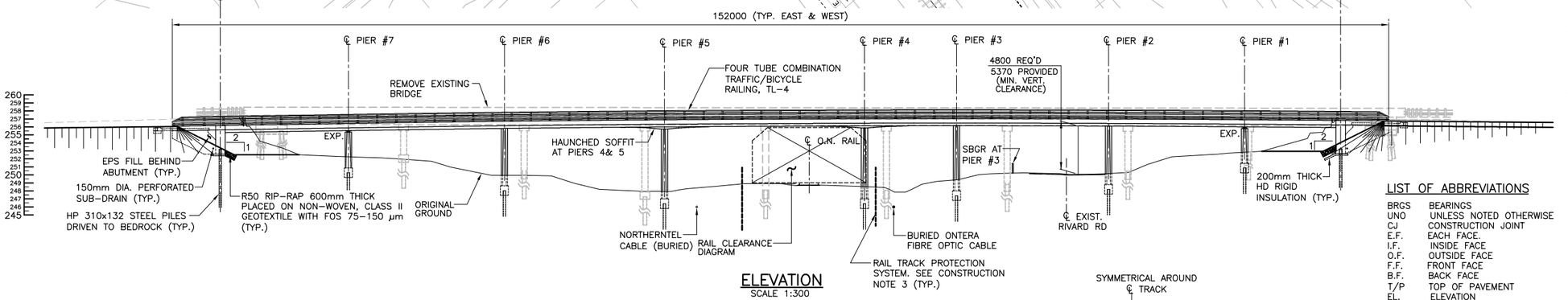
DRAWING NOT TO BE SCALED

100mm ON ORIGINAL DRAWING



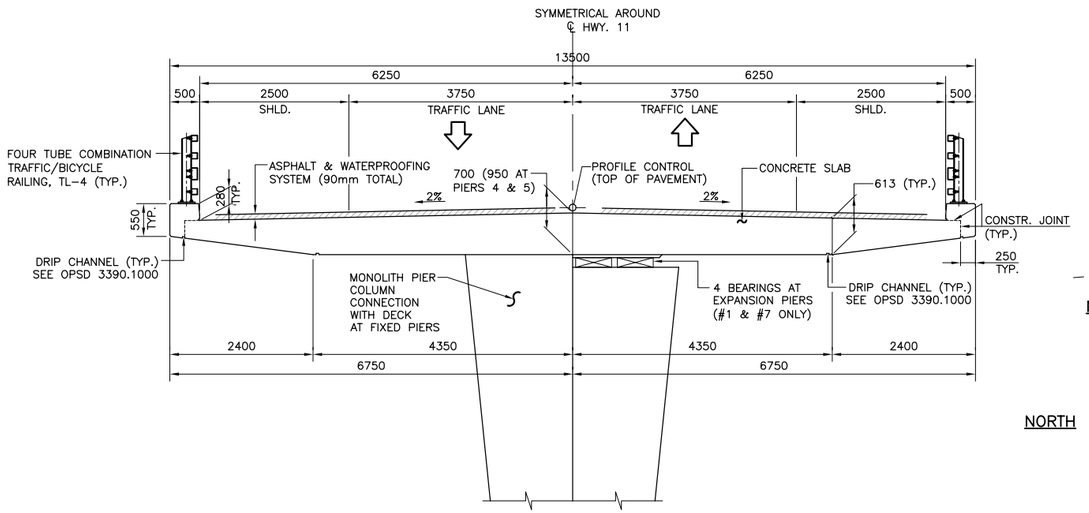
PLAN

SCALE 1:300



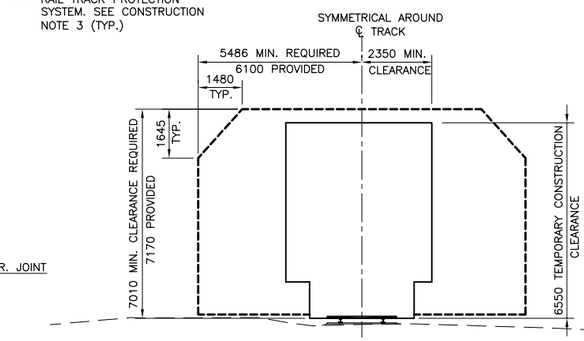
ELEVATION

SCALE 1:300



1 TYPICAL SECTION

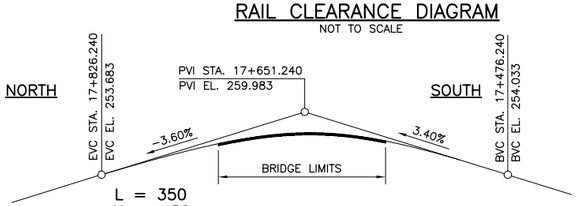
SCALE 1:50



NOTE: DIMENSIONS GIVEN PERPENDICULAR TO TRACK.

RAIL CLEARANCE DIAGRAM

NOT TO SCALE



PROFILE OF HIGHWAY 11

N.T.S.

GENERAL NOTES

CLASS OF CONCRETE

DECK	35 MPa
WORKING SLAB	20 MPa
REMAINDER	30 MPa

CLEAR COVER TO REINFORCING STEEL

- DECK TOP 70±20mm (UNO)
- DECK SOFFIT 50±10mm (UNO)
- REMAINDER 70±20mm

REINFORCING STEEL

1. REINFORCING STEEL SHALL BE GRADE 500W UNLESS OTHERWISE SPECIFIED.
2. STAINLESS REINFORCING STEEL SHALL BE TYPE 316 LN OR DUPLEX 2205 AND HAVE A MINIMUM YIELD STRENGTH OF 500 MPa, UNLESS OTHERWISE SPECIFIED. BARS MARKED WITH PREFIX 'S' DENOTE STAINLESS STEEL BARS.
3. UNLESS SHOWN OTHERWISE, TENSION LAP SPLICES FOR REINFORCING STEEL BARS SHALL BE CLASS B.
4. BAR HOOKS SHALL HAVE STANDARD HOOK DIMENSIONS USING MINIMUM BEND DIAMETERS, WHILE STIRRUPS AND TIES SHALL HAVE MINIMUM HOOK DIMENSIONS. ALL HOOKS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL STANDARD DRAWING SS12-1 UNLESS INDICATED OTHERWISE.

CONSTRUCTION NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND DETAILS OF THE WORK ON SITE PRIOR TO COMMENCEMENTS OF THE RELATED FIELD WORKS AND/OR SHOP FABRICATION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR, AND SHALL SUBMIT THE PROPOSED ADJUSTMENT OF THE WORK TO MATCH THE EXISTING STRUCTURE TO THE CONTRACT ADMINISTRATOR FOR APPROVAL.
2. PROVIDE 20mmx20mm CHAMFER AT ALL EXPOSED EDGES OF NEW CONCRETE.
3. PROTECTION SYSTEM FOR RAIL TRACK IS REQUIRED. LOCATION AND EXACT LIMIT SHALL BE DETERMINED BY THE CONTRACTOR. THE PROTECTION SYSTEM SHALL MEET REQUIREMENT FOR PERFORMANCE LEVEL 2.

LIST OF ABBREVIATIONS

BRGS	BEARINGS
UNO	UNLESS NOTED OTHERWISE
CJ	CONSTRUCTION JOINT
E.F.	EACH FACE.
I.F.	INSIDE FACE
O.F.	OUTSIDE FACE
F.F.	FRONT FACE
B.F.	BACK FACE
T/P	TOP OF PAVEMENT
EL.	ELEVATION
W.P.	WORKING POINT
U/S	UNDERSIDE

W.P. No.	LOCATION	STATION	ELEVATIONS	
			TOP OF PAVEMENT	U/S FTG. OR ABUT.
1	SOUTH ABUT.	17+577.864	256.455	252.663
2	PIER #1	17+589.864	256.605	250.260
3	PIER #2	17+606.864	256.768	247.590
4	PIER #3	17+625.864	256.881	246.800
5	PIER #4	17+637.364	256.915	245.800
6	PIER #5	17+662.364	256.897	245.800
7	PIER #6	17+682.364	256.793	247.430
8	PIER #7	17+701.864	256.614	249.680
9	NORTH ABUT.	17+717.864	256.410	252.598

LIST OF DRAWINGS

S1. GENERAL ARRANGEMENT
S2. BOREHOLE LOCATIONS AND SOIL STRATA I
S3. BOREHOLE LOCATIONS AND SOIL STRATA II
S4. BOREHOLE LOCATIONS AND SOIL STRATA III
S5. PILE LAYOUT AND FOOTING DETAILS
S6. ABUTMENT DETAILS
S7. WINGWALLS
S8. PIERS I
S9. PIERS II
S10. DECK DETAILS
S11. POST-TENSIONING I
S12. POST-TENSIONING II
S13. DECK REINFORCEMENT I
S14. DECK REINFORCEMENT II
S15. FOUR TUBE COMBINATION TRAFFIC/BICYCLE RAILING TL-4
S16. END CONNECTION FOR FOUR TUBE COMBINATION TRAFFIC/BICYCLE RAILING AND APPROACH RAIL TRANSITION
S17. 6000mm APPROACH SLAB
S18. EXPANSION JOINT (TYPE 'C') AND SLEEPER SLAB (MOVEMENT>10mm)
S19. SEQUENCE OF EXPANSION JOINT INSTALLATION
S20. STRIP SEAL EXPANSION JOINT-TYPE 'C' DETAILS
S21. STANDARD DETAILS

APPLICABLE STANDARD DRAWINGS

OPSD 0912.4510	GUIDE RAIL SYSTEM, STEEL BEAM, STRUCTURE CONNECTION 4-TUBE RAILING, INSTALLATION
OPSD 3329.100	DECK, REINFORCEMENT SUPPORTS FOR REINFORCEMENT STEEL FOR SLAB DEPTH 300mm OR LESS
OPSD 3329.101	DECK, REINFORCEMENT SUPPORTS FOR REINFORCEMENT STEEL FOR SLAB DEPTH GREATER THAN 300mm
OPSD 3370.100	DECK, WATERPROOFING HOT APPLIED ASPHALT MEMBRANE WITH PROTECTION BOARD
OPSD 3370.101	DECK, WATERPROOFING HOT APPLIED ASPHALT MEMBRANE AT ACTIVE CRACKS GREATER THAN 2mm WIDE AND CONSTRUCTION JOINTS
OPSD 3390.100	DECK, DRIP CHANNEL
MTOD 3941.210	FIGURES IN CONCRETE, SITE NUMBER AND DATE, LAYOUT

Ontario Ministry of Transportation

CONT XXXX-XXXX
WP 5101-17-01

HIGHWAY 11
ONR OVERHEAD
BRIDGE REPLACEMENT

GENERAL ARRANGEMENT

SHEET 150

REVISIONS	DATE	BY	DESCRIPTION

DESIGN	KKM	CHK	Y.X.	CODE	CHBDC-19	LOAD	CL-625-ONT	DATE MAR.2022
DRAWN	A.P.	CHK	KKM	SITE	47X-0037/BO		DWG	S1

FILE NAME: C:\USERS\PODLUSKIAN\ONEDRIVE - GOVERNMENT OF ONTARIO\DOCUMENTS\2\2019 PROJECTS\HWY11 ONR OVERHEAD BRIDGE REPLACEMENT\PTSSPRELCA 5.DWG
MODIFIED: 2022-10-11 10:45

APPENDIX

D

DETOUR ROUTE SIGNING PLAN

METRIC

PLATE No	
CONT WP	5101-17-01
RIVARD ROAD CLOSURE SIGNING	
STA	TO STA

SHEET 6

wsp

LEGEND

DETOUR ROUTE

ROAD CLOSED

NOTES

1. LOCATION OF ALL SIGNS SHALL BE IN ACCORDANCE WITH OTM BOOK 7.
2. ANS = ADVANCE NOTIFICATION SIGN
   AWS = ADVANCE WARNING SIGN
   REPLACE "DATE-DATE" WITH CORRECT START DATES.
3. TC-64 SIGNS TO BE INSTALLED A MINIMUM OF TWO WEEKS PRIOR TO CLOSING THE ROAD.

N1 ANS
Rivard Road
To Be Closed
At Hwy. 11
Date-Date

W1 AWS
Closed
FOLLOW D-1

N1F ANS
Chemin Rivard
Sera fermé
à L'Autoroute 11
Date-Date

W1F AWS
Fermé
FOLLOW/SUIVEZ D-1

N2 ANS
Rivard Road
To Be Closed
At Hwy. 11
Date-Date

W2 AWS
Closed
FOLLOW D-2

N2F ANS
Chemin Rivard
Sera fermé
à L'Autoroute 11
Date-Date

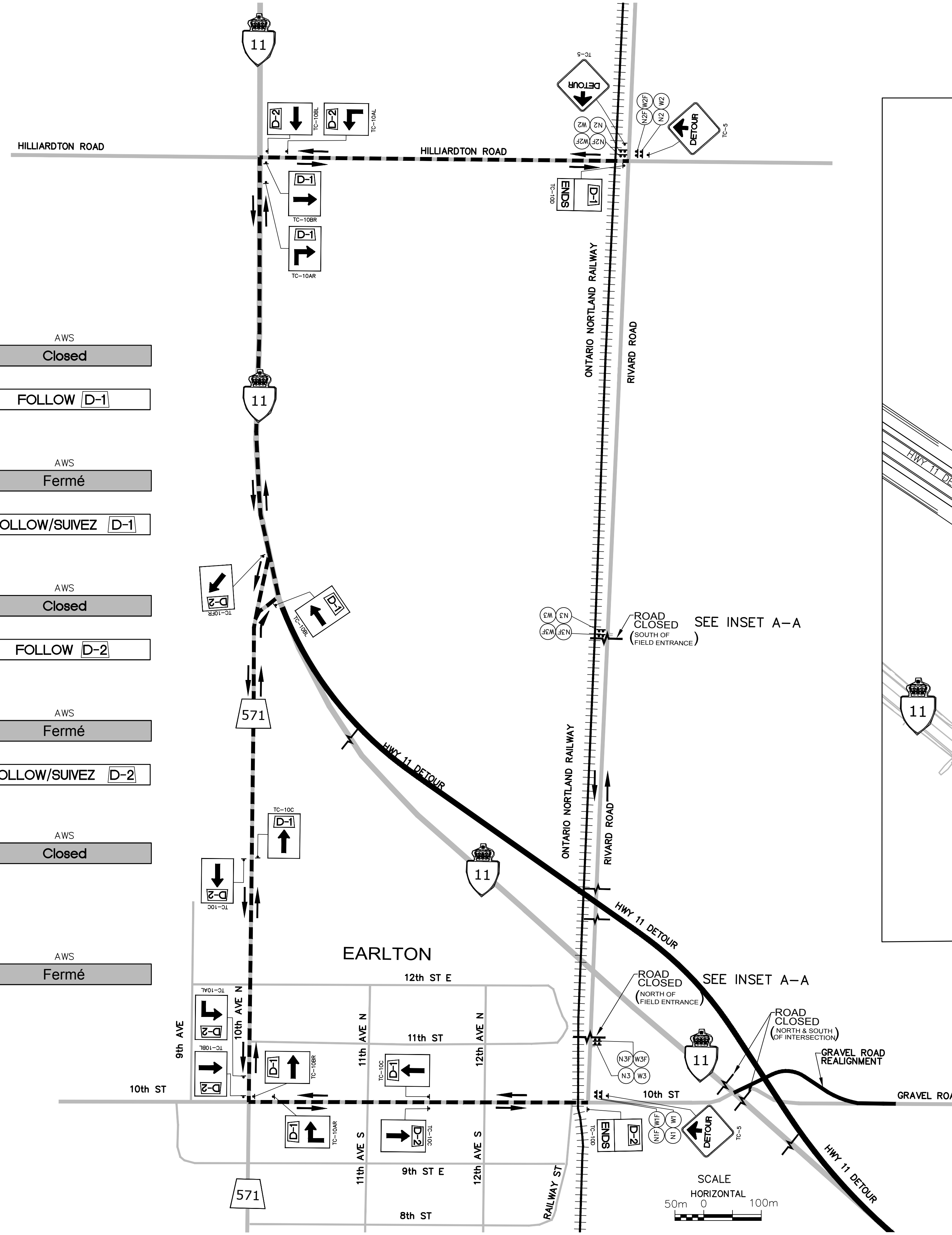
W2F AWS
Fermé
FOLLOW/SUIVEZ D-2

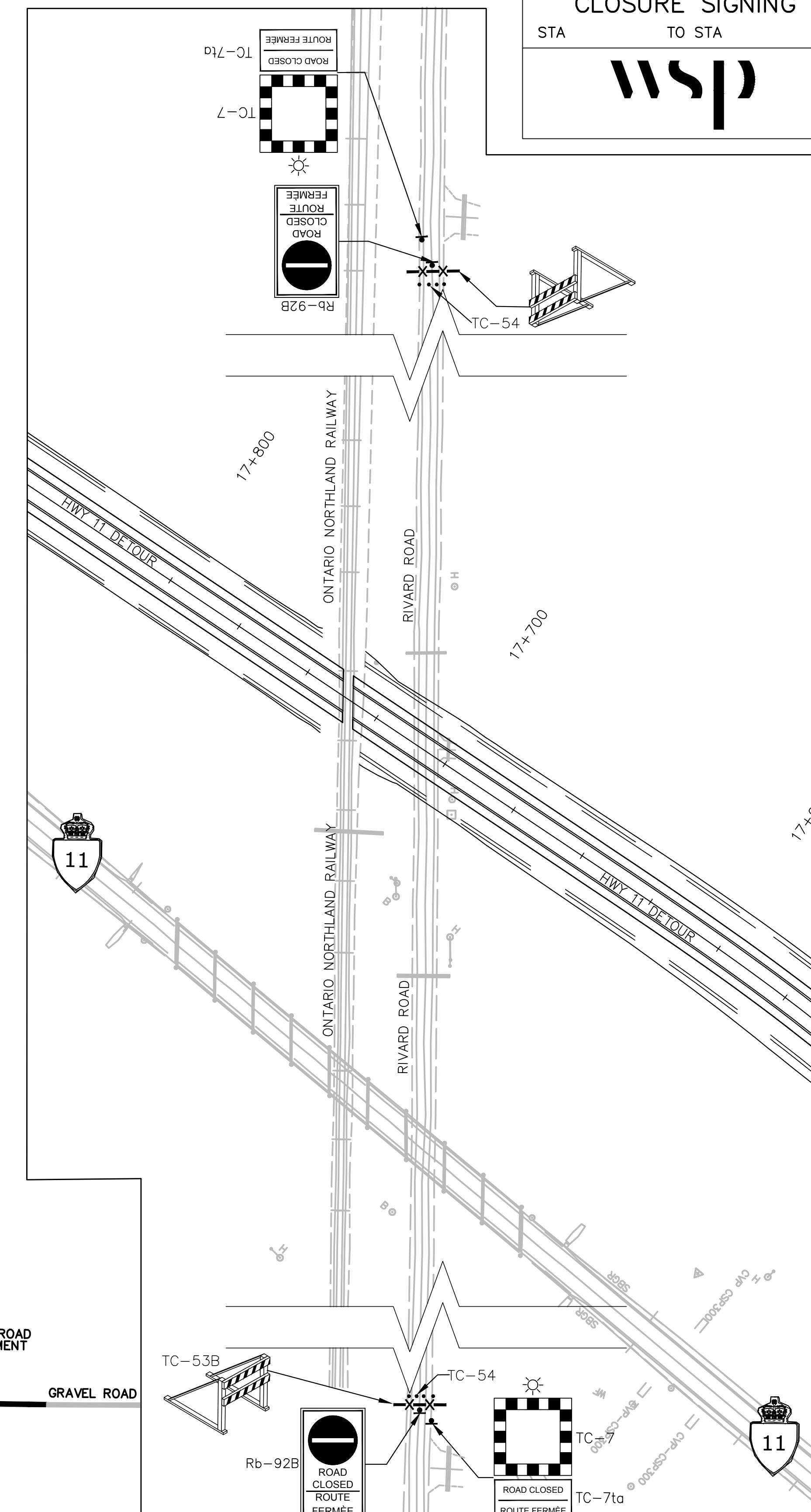
N3 ANS
Rivard Road
To Be Closed
At Hwy. 11
Date-Date

W3 AWS
Closed

N3F ANS
Chemin Rivard
Sera fermé
à L'Autoroute 11
Date-Date

W3F AWS
Fermé





INSET A-A
N.T.S.

DRAWING NAME: C:\pw_wrk\wsp-ca18\dms02273\GWP 5101-17-00 Rivard Rd Closure Signing Plates.dwg

MINISTRY OF TRANSPORTATION, ONTARIO PR-D-707 88-05