Yellow Falls Hydroelectric Project
Minor Modification Report #3

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1.0 INTRODUCTION

1.1 BACKGROUND

The Yellow Falls Hydroelectric Project (the Project), owned by Yellow Falls Power Limited Partnership (YFPLP) is a 16 megawatt (MW) waterpower project at Yellow Falls on the Mattagami River, approximately 19 kilometers upstream (south) of Smooth Rock Falls, Ontario.

The Project was subject to Ontario Regulation 116/01 (the Electricity Projects Regulation) under the Ontario *Environmental Assessment Act*. O. Reg. 116/01 and the associated "Guide to Environmental Assessment Requirements for Electricity Projects" (EA Guide) which set out the requirements of the Environmental Screening Process (ESP) that was applicable to the Project at that time.

The ESP was completed by the Project's previous limited partner, Canadian Hydro Developers, during late 2005 to early 2009. An Environmental Review Report (EA) was made available for the 30 calendar day Notice of Completion (NOC) review and comment period from February 18, 2009 through to March 20, 2009. Requests for elevation of the Project to an Individual EA were received by the Ministry of the Environment [(MOE), now the Ministry of the Environment and Climate Change (MOECC)]. However, at the time, the Director of the Environmental Assessment and Approvals Branch reviewed the requests and issued a decision to deny the requests to elevate.

Boralex Inc. acquired the participation of TransAlta Corp. (previously Canadian Hydro Developers) in the Project in 2013. The Statement of Completion for the Project was filed in October 2013, marking the completion of the Environmental Screening process.

YFPLP is currently constructing the Project, and has identified potential modifications to the Project design compared to the information presented in the EA Report. Pomerleau is the contractor of the project.

1.1.1 Previously Assessed Project Changes

Minor Modification #1

The first Technical Review was completed to assess the following changes to the Project:

- Change from conventional multi-gate concrete dam to rubber dam configuration
- Move powerhouse from the west bank into the river channel to the north
- Installation of upstream, downstream and diversion channel cofferdams; use of diversion channel on the east bank of the river

- Removal of substrate material in the extended tailrace area approximately 250m downstream from dam
- Expanded area for staging, storage and laydown on west bank
- Access road changes to provide access to both intake and main floor area

As concluded in the Minor Modification Report documenting the Technical Review (dated October 20, 2014, and amended December 4, 2015), the modifications do not meet the definition of a "significant modification" under the Regulation, and are therefore described as "minor modifications" according to the EA Guide. Consistent with Section B.5.2 of the EA Guide, the potential environmental effects of the minor modifications that were assessed in the Technical Review and included application of the Screening Criteria Checklist from the EA Guide. The conclusion of the Technical Review was that the minor modifications can be implemented with no new negative environmental effects. Furthermore, the mitigation and management measures described within the EA remain applicable to the modifications.

Minor Modification #2

The second Technical Review was completed to assess the following changes to the Project:

- Reducing voltage for the Project's interconnection line from 115 kV to 44 kV, and resultant associated reduction in the width of the required right-of-way.
- Changes to equipment at the powerhouse switchyard and interconnection switchyard.

The Minor Modification Report documenting the Technical Review (dated March 28, 2016) concluded that the modifications do not meet the definition of a "significant modification" under the Regulation, and are therefore described as "minor modifications" according to the EA Guide. Consistent with Section B.5.2 of the EA Guide, the potential environmental effects of the minor modifications that were assessed in the Technical Review and included application of the Screening Criteria Checklist from the EA Guide. The conclusion of the Technical Review was that the minor modifications can be implemented with no new negative environmental effects. Furthermore, the mitigation and management measures described within the EA remain applicable to the modifications.

1.2 DESCRIPTION OF, AND RATIONALE FOR, THE PROJECT MODIFICATIONS

YFPLP is proposing to build a new temporary winter connector trail (i.e., the modification) on the East Side of the Mattagami River. This modification would link already permitted winter trails (WP-2015-024) around the headpond area to an existing road (**Appendix A - Figure 1**). This modification has been proposed as an alternative to the ice bridge used during winter 2015/16 due to difficulties and safety concerns experienced with a short winter season.

The approximate dimensions of the temporary winter connector trail are as follows:

- Length - 600 m
- Trail Width – 10 m
- Right of Way Width – 15 m

The Right of Way for the modification is shown in **Appendix A - Figure 2**.

This modification would be used for approximately two months during winter 2016/17 to facilitate headpond clearing and project construction. Trail development is planned for winter 2016/17 and both construction and use of the connector trail would occur only when the ground is frozen. The proposed location for the modification is located adjacent to the area assessed for the project's original environmental assessment (EA).

YFPLP has had initial discussions with the MNRF, which has indicated preliminary support for the modification. A letter response from the MOECC, dated August 26, 2016, indicates that YFPLP is required to satisfy the addendum provisions of O. Reg. 116/01, including preparation of a Minor Modification and/or Addendum report, as needed.

The purpose of this report is to determine if, as a result of this modification, there are additional requirements under the *Environmental Assessment Act* to complete prior to proceeding with detailed design and permitting activities. This report provides a technical review to determine whether the modification to the Project design results in new negative environmental effects.

This report assumes that the reader has access to the EA Report and in some cases makes reference to specific sections of that report.

1.3 MODIFICATION CLASSIFICATION

The modification described in the previous section falls below the threshold of a "significant modification" as defined in the Electricity Projects Regulation and therefore is classified as "minor" modifications. For minor modifications, proponents must consider the Addendum Provision in Section B.5.2 of the EA Guide. The purpose of the Addendum Provisions is to require proponents to consider the potential environmental significance of minor modifications to projects.

1.4 METHODOLOGY OF SCREENING ASSESSMENT FOR THE PROJECT MODIFICATIONS

As noted under the Addendum Provisions, the assessment of environmental effects for minor modifications should include application of the Screening Criteria provided in the EA Guide, and a technical review and/or consultation.

Where it is determined that there will be no additional negative environmental effects, the proponent is responsible for documenting that determination. In the event that additional negative environmental effects are identified during the screening process, the proponent shall

prepare an Addendum, which includes the preparation of a more comprehensive report and public notification.

The screening checklist and technical review conducted for the Project modification assesses the potential effects associated with the modification, and derives a conclusion as to whether there is any change in relation to those potential effect assessed within the EA. This information is used to determine whether the proposed modifications to the Project may have additional environmental effects beyond that identified in the Project's approved EA Report.

Furthermore, for completeness and for direct reference to the EA, the technical review also takes into consideration the detailed effects assessment and mitigation, management, and monitoring commitments set out in the EA Report.

The Screening Criteria Checklist from the EA Guide has been completed for the Project modification and is provided in **Appendix B**.

2.0 KEY RESULTS OF SCREENING PROCESS

The following sections highlight some of the key results of the screening.

2.1 TERRESTRIAL AND AQUATIC NATURAL FEATURES

A field investigation was completed to assess habitat features of the general location where the modification will be installed (**Appendix C**). This section provides an overview of the findings of the report.

Ecological Land Classification (ELC) surveys were completed using the Boreal Ecosite Factsheets with habitat features being linked directly to ecosite designations. The Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E were also used to assess significant wildlife habitat from a habitat perspective based on the resulting ELC designations.

No significant wetlands or significant Areas of Natural and Scientific Interest are present in or adjacent to the area of the modification.

Significant habitat for threatened and endangered species, where present, was noted in the report. No specific species observations were noted during the field work.

Based on potential significant wildlife habitat present in the area of the modification (according to the Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E), the following was observed during the field survey:

- Moose Late Winter Cover – There is the possibility that moose late winter cover habitat may occur to the south and west of the trail where 60% or greater canopy cover is present.
- Bat Maternity Colonies – It is unlikely that bat maternity colonies are present due to many trees being less than 25 cm diameter at breast height (DBH) within the mixed forest community. Of the few snags that were near to or larger than 25 cm DBH, most were older dead trees not preferred as habitat for maternity colonies.
- Turtle Wintering – There is no suitable habitat along the proposed corridor for the modification.
- Amphibian Breeding Habitat (Wetlands) – There is no suitable habitat along the proposed corridor for the modification.
- Habitat for Species of Conservation Concern – The report noted that habitat for the species noted was not present along the corridor for the modification. No stick nests were observed during the field survey.

No watercourse crossings were observed and noted in the field survey report.

The modification to the Project is not anticipated to alter the previous terrestrial and/or aquatic impacts assessed and mitigation measures developed in the EA.

All works performed shall comply with applicable laws and regulations (federal and provincial) as well as the commitments included in the EA Report in order to minimize the potential for any significant, adverse environmental effects.

2.2 SURFACE AND GROUND WATER

Clearing of the area for the modification will utilize a fellerbuncher, skidder, excavator and bulldozer to remove existing vegetation. Tree clearing will include felling, de-limbing, and transporting trees away from the site for processing. Timber stockpiling will take place away from water and drainage areas.

Clearing for the modification will occur in early winter 2016 during conditions when the ground is frozen. The modification will only be used for a temporary period during the winter of 2016/17 during frozen ground conditions.

The modification is not located in a riparian area and will not alter the surface water quality, quantities, or flow associated with the facility during construction and operation as described within the EA.

No new negative effects are anticipated as a result of the modification. Applicable protection and mitigation measures are discussed in EA Sections 6.2, 6.12 and 6.15 - no additional measures are required as a result of the modification.

2.3 RESOURCES

The modification is present in an area of forest resources. The additional area to be cleared for the modification is limited to approximately 600 metres in length and up to 15 metres wide. The addition of the modification does not significantly change the general size of the Project's footprint.

The Project Proponent has consulted with the timber rights holder regarding use of this area. The timber rights holder has not expressed any concerns.

No new negative effects are anticipated as a result of the modification.

Protection and mitigation measures are discussed in EA Sections 6.6 and 6.15 – no additional measures are required as a result of the modification.

3.0 CONSULTATION ACTIVITIES AND COMMITMENTS

YFPLP continues to undertake consultation and open dialogue with provincial and federal agencies, community stakeholders, and Aboriginal communities. The Artic Riders Snowmobile Club and Abitibi River Forest Management inc. were consulted and are not opposed to the modification. Taykwa Tagamou First Nation and Mattagami First Nation were also consulted and did not express concerns. YFPLP will also provide the Minor Modification Report to:

- Taykwa Tagamou First Nation
- Mattagami First Nation
- Flying Post First Nation
- Wahgoshig First Nation
- Metis Nation of Ontario
- Metis Nation of Ontario, Timmins Council
- Nothern Lights Metis Council
- Matachewan First Nation

YFPLP will confirm the applicability of and obtain any required environmental permits and approvals prior to construction of related Project components. The permits required are a Forest Resource License for the clearing and a Work Permit. Both permits are under the direction of the MNRF.

4.0 SUMMARY AND CONCLUSION

YFPLP has identified the need and benefit of implementing a modification to the Yellow Falls Hydroelectric Project from the manner it was described in the EA Report. As concluded in this Technical Review, the modification does not meet the definition of a "significant modification" under the Regulation, and are therefore described as "minor modifications" according to the EA Guide.

Consistent with Section B.5.2 of the EA Guide, the potential environmental effects of the minor modification that was assessed in this Technical Review and included application of the Screening Criteria Checklist from the EA Guide. The conclusion of this Technical Review is that the minor modification can be implemented with no new negative environmental effects. Furthermore, the mitigation and management measures described within the EA remain applicable to the modification.

Also, consistent with Section B.5.2 of the EA Guide, this Technical Review has been completed as a report to file.

STANTEC CONSULTING LTD.

Rob Nadolny, Senior Project Manager – Assessment, Permitting and Compliance

APPENDIX A: FIGURES

Figure 1 – Location of Modification within Project

Figure 2 – Location of Modification within Project

APPENDIX B:
SCREENING CRITERIA CHECKLIST

The screening criteria below are to be applied to every project being reviewed under the Ministry of the Environment and Climate Change's Environmental Screening Process as outlined in Ontario Regulation 116/01. This screening checklist was originally completed for the Yellow Falls Hydroelectric Project Environmental Assessment Report (February 2008).

The proposed change to project layout is not defined as a "significant modification" under Ontario Regulation 116/01 and is therefore a "minor" modification as described in on pages 51-52 of the Guide to Environmental Assessment Requirements for Electricity Projects (January 2011) ("EA Guide"). The Environmental Screening Process requires review of modifications using the screening criteria in Appendix C of the EA Guide to determine whether the proposed modification of the project may have new negative environmental effects.

For the purposes of assessing potential effects of the proposed minor modification, the checklist has been updated to account solely for the proposed modification (referred to below as "the project"). For completeness, key protection and mitigation measures as discussed within the EA are identified within the checklist as appropriate.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
1.Surface and Ground Water			
1.1 have negative effects on surface water quality, quantities, or flow?		✓	• Clearing will utilize a fellerbuncher, skidder, excavator and bulldozer to remove existing vegetation. Tree clearing includes felling, de-limbing, and transporting trees away from the site for processing. Timber stockpiling will take place away from water and drainage areas. • Vegetation clearing for the temporary winter connector trail (i.e., the modification) will occur in early winter 2016 during conditions when the ground is frozen. • The modification will only be used for a temporary period during the winter of 2016/17 during frozen ground conditions. • The modification is not located in a riparian area. • The modification does not alter the surface water quality, quantities, or flow associated with the facility during construction and operation as described within the EA. • No new negative effects are anticipated as a result of the modification. • Applicable protection and mitigation measures are discussed in EA Sections 6.2, 6.12 and 6.15 - no additional measures are required as a result of the modification.
1.2 have negative effects on ground water quality, quantity, or movement?		✓	• The modification involves surface vegetation clearing only, no subsurface work is required. • No new negative effects are anticipated as a result of the modification. • Applicable protection and mitigation measures are discussed in EA Sections 6.2, 6.12 and 6.15 – no additional measures are required as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
1.3 cause significant sedimentation, soil erosion, or shoreline or riverbank erosion on or off-site?		✓	• Vegetation clearing for the modification will occur in early winter 2016 during conditions when the ground is frozen. Clearing will utilize a fellerbuncher, skidder, excavator and bulldozer to remove existing vegetation. • The modification will only be used for a temporary period during the winter of 2016/17 during frozen ground conditions. • The modification is not located in a riparian area. • The modification will not be used during Project operation. • There are no anticipated increases in sedimentation, soil erosion, or shoreline or riverbank erosion on or off-site as a result of the proposed modification. • No new negative effects are anticipated as a result of the modification. • Applicable protection and mitigation measures are discussed in EA Sections 6.2 and 6.15 – no additional measures are required as a result of the modification.
1.4 cause potential negative effects on surface or ground water from accidental spills or releases to the environment?		✓	• There is potential for accidental spills or releases of fuels or lubricants from vehicles and equipment travelling on the temporary winter access trail. However, good site practices, as used over the remainder of the Project site, will minimize the potential for spills and the implications should one occur. • Machinery and vehicle fuelling will occur only in designated refuelling areas with appropriate protection and mitigation in place. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Applicable protection and mitigation measures are discussed in EA Sections 6.2, 6.12 and 6.15 – no additional measures are required as a result of the modification.
2. Land			
2.1 have negative effects on residential, commercial, or institutional land-uses within 500 metres of the site?		✓	• Lands for the modification will be required for only a temporary period of time (approx.. 2 months) during the winter of 2016/17. • There are no known residential, commercial or institutional land uses within 500 metres of the modification. • No new negative effects are anticipated as a result of the modification. • Applicable protection and mitigation measures are discussed in EA Sections 6.7 and 6.15 – no additional measures are required as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
2.2 be inconsistent with the Provincial Policy Statement ("PPS"), provincial land-use, or resource management plans?		✓	• The Project is consistent with existing land use policies in the Study Area, as well as the PPS. Therefore, as noted in the EA, the significance of Project effects on land use policies is rated as neutral (no effect is anticipated to occur following implementation of mitigation measures). • The Project Proponent has consulted with the timber rights holder regarding use of this area. The timber rights holder has not expressed any concerns. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.7 and 6.15 - no additional measures are required as a result of the modification.
2.3 be inconsistent with municipal land-use policies, plans, and zoning by-laws?		✓	• The Project is consistent with existing land use policies in the Study Area, as well as the PPS. Therefore, as noted in the EA, the significance of Project effects on land use policies is rated as neutral (no effect is anticipated to occur following implementation of mitigation measures). • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.7 and 6.15 - no additional measures are required as a result of the modification.
2.4 use hazard lands or unstable lands subject to erosion?		✓	• Topographical relief in the vicinity of the modification is low. Hazard lands or unstable lands will not be used. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.1 and 6.15 – no additional measures are required as a result of the modification.
2.5 have potential negative effects related to the remediation of contaminated land?		✓	• The modification is located in a natural setting with no known previous industrial or other potentially contaminating land use practices. • No new negative effects are anticipated as a result of the modification.
3. Air and Noise			
3.1 have negative effects on air quality due to emissions of nitrogen dioxide, sulphur dioxide, suspended particulates, or other pollutants?		✓	• Reciprocating engine equipment (e.g., excavators and haulage trucks) will be used during installation of the modification (the construction phase of the Project), as contemplated in the EA. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.3 and 6.15 – no additional measures are required as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
3.2 cause negative effects from the emission of greenhouse gases (carbon dioxide and methane)?		✓	• Emissions of carbon dioxide will be generated by equipment installing and using the modification. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.3 and 6.15 – no additional measures are required as a result of the modification.
3.3 cause negative effects from the emission of dust or odour?		✓	• Installation and use of the modification will be over winter 2016/17. Dust is not expected to be generated during this period. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.3 and 6.15 – no additional measures are required as a result of the modification.
3.4 cause negative effects from the emission of noise?		✓	• Noise will be generated during installation and use of the modification (construction of the Project) – these emissions will be short in duration and limited to lands surrounding the work areas. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.3 and 6.15 – no additional measures are required as a result of the modification.
4. Natural Environment			
4.1 cause negative effects on rare, threatened, or endangered species of flora or fauna or their habitat?		✓	• The implications for potential impacts to endangered and threatened species and their habitats have been assessed under the requirements of the *Endangered Species Act* in consultation with MNRF. MNRF has indicated that the project activities are not considered to result in a potential contravention of the *Endangered Species Act*. • Boralex has committed to complete a mitigation plan for caribou in relation to habitat removal. • No negative effects to aquatic species at risk are anticipated as a result of the modification. • No new negative effects are anticipated as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
4.2 cause negative effects on protected natural areas such as areas of natural and scientific interest ("ANSI"), environmentally sensitive areas ("ESA") or other significant natural areas?		✓	• No ANSIs, conservation reserves, forest reserves or other significant natural areas occur in the vicinity of the modification. • No new negative effects are anticipated as a result of the modification.
4.3 cause negative effects on wetlands?		✓	• No new negative effects are anticipated as a result of the modification. • Mitigation and protection measures for wetland are discussed in EA Sections 3.0 and 6.4.2.2 and summarized in Table 6.17. • There are no changes to the assessment of net effects, evaluation of significance of net effects or mitigation measures as assessed in the EA as a result of the project modifications.
4.4 have negative effects on wildlife habitat, populations, corridors, or movement?		✓	• The additional area to be cleared for the modification is limited to approximately 600 metres in length and up to 15 metres wide. • No new negative effects are anticipated as a result of the modification. • There are no changes to the assessment of net effects, evaluation of significance of net effects or mitigation measures as assessed in the EA as a result of the project modifications.
4.5 have negative effects on fish or their habitat, spawning, movement, or environmental conditions (e.g., water temperature, turbidity)?		✓	• The modification does not negatively affect fish and fish habitat. Clearing and use of the modification will be over winter 2016/17. No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.5 and 6.17 - no additional measures are required as a result of the modification. • There are no new negative effects anticipated to fish or their habitat, spawning, movement, or environmental conditions as a result of the proposed modifications.
4.6 have negative effects on migratory birds, including effects on their habitat or staging areas?		✓	• Potential effects and mitigation measures for migratory birds were included in the EA (Table 6.17). Clearing and use of the modification will be over winter 2016/17. • No new negative effects are anticipated as a result of the modification. • There are no changes to the assessment of net effects, evaluation of significance of net effects or mitigation measures as assessed in the EA as a result of the project modifications.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
4.7 have negative effects on locally important or valued ecosystems or vegetation?		✓	• The additional area to be cleared for the modification is limited to approximately 600 metres in length and up to 15 metres wide. It will not occur within locally important or valued ecosystems or vegetation. • The original EA assessed the effects of removal of vegetation and included mitigation measures (Section 6.4.1.2, Table 6.17). • No new negative effects are anticipated as a result of the modification. • There are no changes to the assessment of net effects, evaluation of significance of net effects or mitigation measures as assessed in the EA as a result of the project modifications.
5. Resources			
5.1 result in inefficient (below 40 percent) use of a non-renewable resource?		✓	• Aside from fuels and materials related to installation equipment, the modification will not use non-renewable resources. • No new negative effects are anticipated as a result of the modification.
5.2 have negative effects on the use of Canada Land Inventory Class 1-3 (i.e., prime agricultural lands), specialty crop, or locally significant agricultural lands?		✓	• The modification is not located on lands used for agricultural purposes. • No new negative effects are anticipated as a result of the modification.
5.3 have negative effects on existing agricultural production?		✓	• The modification is not located in an area of existing agricultural production. • No new negative effects are anticipated as a result of the modification.
5.4 have negative effects on the availability of mineral, aggregate, or petroleum resources?		✓	• The modification is not located in an area of existing or potential mineral, aggregate or petroleum resources. • No new negative effects are anticipated as a result of the modification.
5.5 have negative effects on the availability of forest resources?		✓	• The modification is located in an area of forest resources. • The additional area to be cleared for the modification is limited to approximately 600 metres in length and up to 15 metres wide. The addition of the modification does not significantly change the general size of the Project's footprint. • The Project Proponent has consulted with the timber rights holder regarding use of this area. The timber rights holder has not expressed any concerns. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.6 and 6.15 – no additional measures are required as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
5.6 have negative effects on game and fishery resources, including negative effects caused by creating access to previously inaccessible areas?		✓	• The modification is not anticipated to have a significant effect on commercial trapping or recreational hunting, fishing access, and wild food gathering. Therefore, effects of the modification on game, fish, and wild Food are rated as minimal. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.6 and 6.15 – no additional measures are required as a result of the modification.
6. Socio-Economic			
6.1 have negative effects on neighbourhood or community character?		✓	• The modification is located in a natural setting. • No new negative effects are anticipated as a result of the modification.
6.2 have negative effects on local businesses, institutions, or public facilities?		✓	• Existing businesses are not anticipated to be negatively affected by the modification. Local benefits are expected as a result of material and labour required during installation and use of the modification. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.8 and 6.15 – no additional measures are required as a result of the modification.
6.3 have negative effects on recreation, cottaging, or tourism?		✓	• The Project area provides recreation, cottaging and tourism opportunities. However, no activities in particular are known to occur in the area of the modification. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.8 and 6.15 – no additional measures are required as a result of the modification.
6.4 have negative effects related to increases in the demands on community services and infrastructure?		✓	• During installation and use, the modification will not require the use of community services or infrastructure such as electricity, potable water, or wastewater treatment. Although workers during the construction phase of the Project as a whole may require lodging, it is anticipated that these services can be provided by existing infrastructure (i.e. existing motels, rental units) and not additional municipal infrastructure will be required. An increased presence of workers may slightly increase demand for community services including fire, police and medical treatment during construction. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.8 and 6.15 (none required) – no additional measures are required as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
6.5 have negative effects on the economic base of a municipality or community?		✓	• Existing businesses are not anticipated to be negatively affected by the modification. Local benefits are expected as a result of material and labour required during construction and operation of the Project. Employment of local persons is expected to have a positive effect on the economic base of the community during the construction phase. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.8 and 6.15 – no additional measures are required as a result of the modification.
6.6 have negative effects on local employment and labour supply?		✓	• Temporary, minor local benefits are expected as a result of material and labour required during installation of the modification. Employment of local persons is expected to have a positive effect on the economic base of the community. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.8 and 6.15 – no additional measures are required as a result of the modification.
6.7 have negative effects related to traffic?		✓	• There will be negligible increases construction phase will require numerous truck trips to transport personnel, equipment and materials. There may also be instances during construction where overweight or oversize loads will require special traffic planning. The increase in traffic, including excess load traffic, results in the potential for short term, localized disturbance to traffic patterns, and wear and tear on roads. • Effects associated with increased traffic volume will primarily occur during the construction phase of the Project. These effects will be temporary and limited in geographical extent. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.8 and 6.15 – no additional measures are required as a result of the modification.
6.8 cause public concerns related to public health and safety?		✓	• The modification is not located in a highly populated or heavily used area, therefore potential health and safety concerns are greatly reduced. Potential public health and safety risks are generally related to construction traffic and unauthorized public access the facility. Safety precautions (e.g. warning signs, fencing, etc.) will be employed to limit such risks. The Project poses no foreseeable risks associated with sanitation. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.8 and 6.15 – no additional measures are required as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
7. Heritage and Culture			
7.1 have negative effects on heritage buildings, structures or sites, archaeological resources, or cultural heritage landscapes?		✓	• Vegetation clearing for the winter access trail will occur in early winter 2016. Clearing will utilize a fellerbuncher, skidder, excavator and bulldozer to remove existing vegetation. • The new winter access trail will only be used for a temporary period during the winter of 2016/17 during frozen ground conditions. • The modification involves surface vegetation clearing only, no subsurface work is required. • The modification will not be used during Project operation. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.9 and 6.15, and the Archaeological Assessment – no additional measures are required as a result of the modification.
7.2 have negative effects on scenic or aesthetically pleasing landscapes or views?		✓	• The additional area to be cleared for the temporary winter access trail is limited to approximately 600 metres in length and up to 15 metres wide. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.9 and 6.15, and the Archaeological Assessment – no additional measures are required as a result of the modification.
8. Aboriginal			
8.1 cause negative effects on First Nations or other Aboriginal communities?		✓	• Potentially interested First Nation communities were contacted during the EA. Through consultation activities with the Taykwa Tagamou Nation (“TTN”), an Impact Benefit Agreement (“IBA”) was developed and signed. • In addition, Mattagami First Nation, Matachewan First Nation, Flying Post First Nation, and Wahgoshig First Nation were also consulted during the EA. Mattagami First Nation, Flying Post First Nation, and Matachewan First Nation are all members of the Wabun Tribal Council. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.10 and 6.15, and as a result of subsequent consultations by the Project Owner with the communities, no additional measures are required as a result of the modification.

Appendix: MOECC Environmental Features Screening Checklist (Ontario Regulation 116/01)

Criterion: Will the project…	Yes	No	Additional / Supporting Information
9. Other			
9.1 result in the creation of waste materials requiring disposal?		✓	• Installation of the modification will not generate waste materials. • No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Sections 6.7 and 6.15 - no additional measures are required as a result of the modification.
9.2 cause any other negative environmental effects not covered by the criteria outlined above?		✓	• No new negative effects are anticipated as a result of the modification. • Protection and mitigation measures are discussed in EA Section 6 and 6.15 - no additional measures are required as a result of the modification.

APPENDIX C:
FIELD SURVEY REPORT

Natural Resources Impact Summary

Minor Addendum Report

Yellow Falls Generating Station – Proposed Access Road on east side of Mattagami River

Cochrane District

November 14, 2016

Introduction

This Minor Addendum Report was prepared by the Gauvreau GeoEnvironmental Group Inc. (G3) on behalf of Pomerleau Inc. (Pomerleau). Pomerleau is planning to build a new 600m winter access trail on the east side of the Mattagami River as part of the Yellow Falls Generating Station Project, which would link permitted and existing winter trails around the headpond area to an existing road. The access road or connector trail has been proposed as an alternative to the ice bridge that was used in winter 2015/2016. This new connector trail will be used to facilitate headpond clearing and project construction. Trail development is planned for winter 2016/17 and both construction and use of the connector trail would occur only when the ground is frozen.

A field investigation was completed on November 9, 2016 by G3 to assess habitat features of the general location where the trail will be constructed. Due to the seasonal timing of this study, many of the standardized survey protocols to be used for migratory birds, reptiles and bats was not possible. Ecological Land Classification (ELC) surveys were completed using the Boreal Ecosite Factsheets (MNRF 2012) with habitat features being linked directly to ecosite designations. The Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E (MNRF 2015) were also used to assess significant wildlife habitat from a habitat perspective based on the resulting ELC designations. There may be some species that cannot be absolutely ruled out where suitable habitat exists. Photos taken during the field investigation are shown in Figure 2 and Appendix 1.

G3 has undertaken Construction Environmental Monitoring (CEM) activities for the Yellow Falls GS construction project since July 2016. As part of the CEM program, a daily log is kept of wildlife sightings. Where appropriate reference to the daily wildlife log is made.

Study Area

The study area for the winter connector trail is located on crown land on the east side of the Mattagami River, approximately 22 km south of the Town of Smooth Rock Falls and approximately 1 km south or upstream of Loon Rapids in the District of Cochrane, Ontario (see Figure 1).

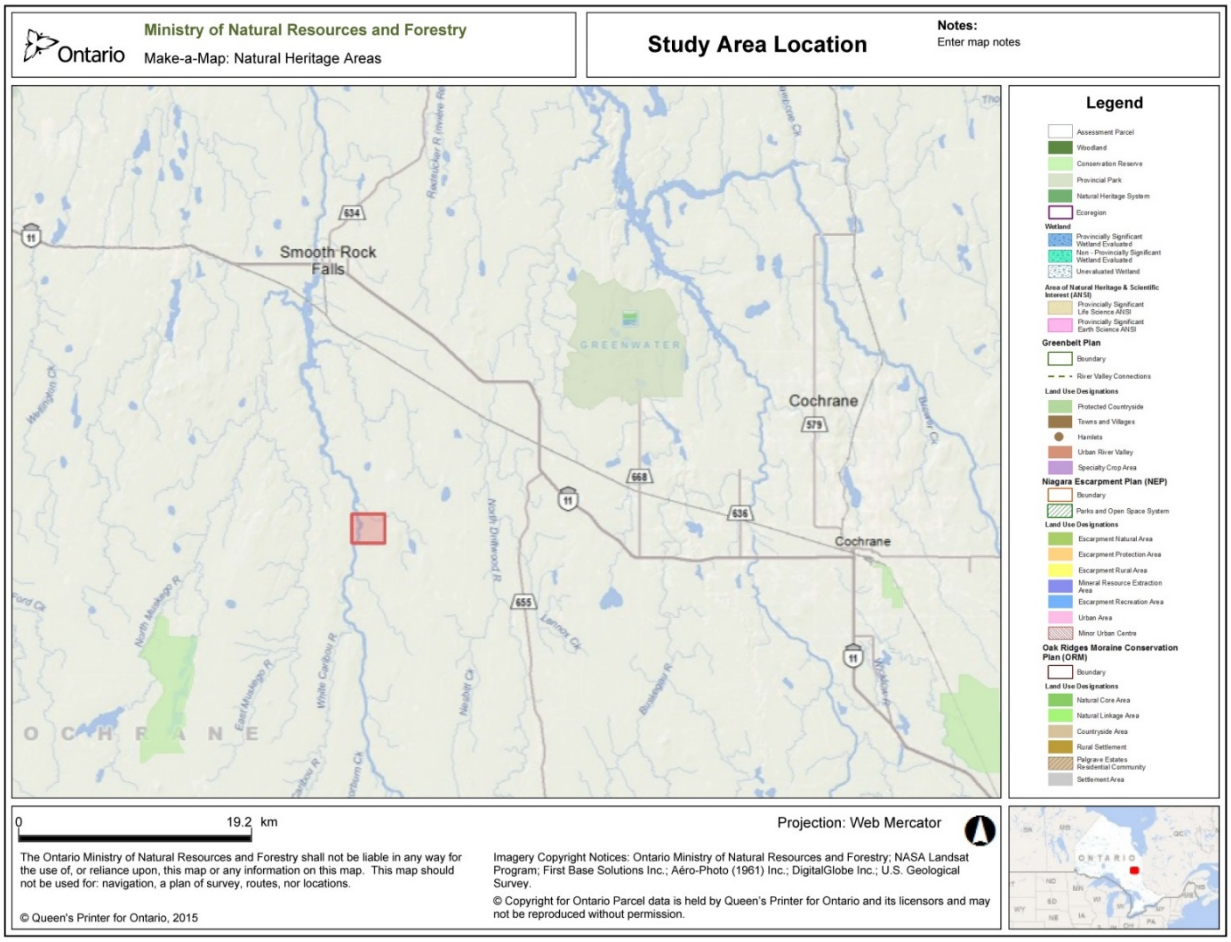

Figure 1: Location of proposed connector trail on the east side of the Mattagami River, Cochrane District.

Ecological Land Classification

A total of four different vegetation communities were present within the general location of the proposed winter trail construction (Figure 2). The boreal ecosites identified included B085Tt – Fresh, Clayey: Spruce-Conifer, B092Tt- Fresh, Clayey Mixedwood, B128Tl – Organic Intermediate Conifer Swamp and B223Tt – Mineral Intermediate Conifer Swamp.

B085T consisted mainly of white spruce and black spruce mixed with some balsam fir, trembling aspen and white birch. Some eastern cedar was also found within this forest community closer to the river. The groundcover contained conifer litter, broadleaf litter, woody debris and moss with little to no shrubs present. This ecosite was located at the along the east side of the shoreline and the southern portion of the study area.

B092Tt made up most of the study area and consisted of a mixture of trembling aspen, balsam poplar, white birch, black spruce, white spruce, balsam fir and red maple. Some groundcover

species identified included large leaf aster, bunchberry and dwarf raspberry. This community had pockets consisting of more birch and trembling aspen in locations.

B128Tl was present east of the proposed winter trail. Trees consisted mainly of stunted black spruce with tamarack, alder, Labrador tea, sweet coltsfoot, twinflower, barren ground strawberry, bunchberry and feather and sphagnum mosses.

B223Tt was located north and northeast of the proposed trail. This community has similar species as B128Tl but black spruce trees were not stunted.

Significant Wetlands

As per the MNRF Natural Heritage Information Centre and Land Information Ontario (LIO) data, no provincially significant wetlands exist within or nearby the study area.

Significant Areas of Natural and Scientific Interest (ANSIs)

The MNRF Natural Heritage Information Centre and Land Information Ontario (LIO) data did not identify any areas of Natural and Scientific Interest within or nearby the study area. The North Muskego River Mixed Forest Conservation Reserve is located southwest of the proposed trail; however, it is approximately 12 km away.

Significant Habitat for Threatened or Endangered Species

Terrestrial fieldwork was completed in 2006 by Stantec for the Yellow Falls Hydroelectric Project[1]. No Ontario threatened or endangered species were listed in their report as being present or having the potential to be in the area.

Potential threatened and endangered species at risk for the Cochrane area according to the MNRF website[2] include barn swallow, bobolink, wolverine and caribou (boreal population). There is also the potential for northern myotis. None of these species have been identified within the study area by the MNRF Natural Heritage Information Centre.

[1] Stantec, 2009. Yellow Falls Hydroelectric Project, Environmental Assessment. Appendix H: Island Falls Vegetation and Wildlife Assessment

[2] https://www.ontario.ca/environment-and-energy/species-risk-region?name=Cochrane

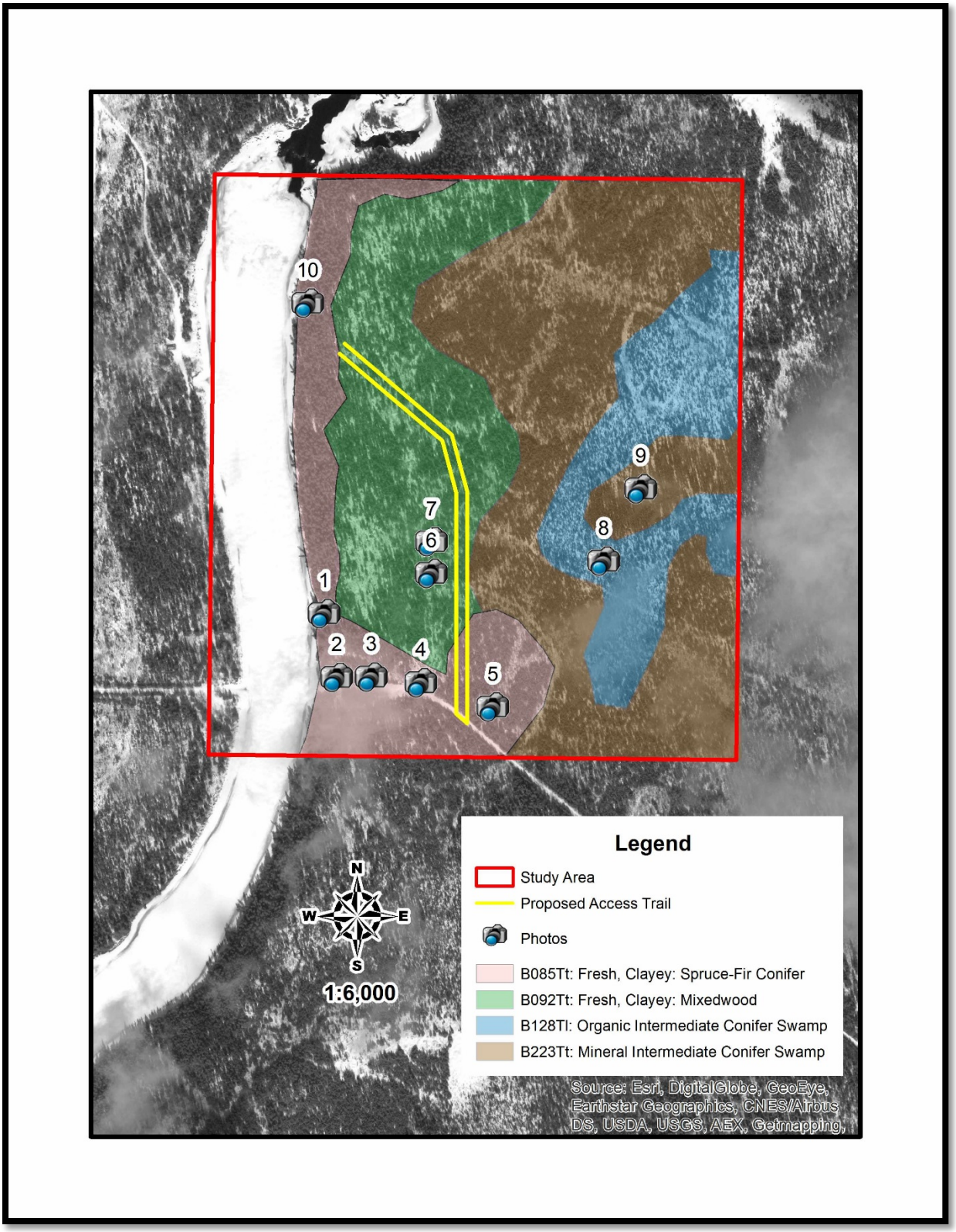

Figure 2: Ecological Land Classification Mapping.

Barn Swallow (*Hirundo rustica*)

Barn swallows are an aerial insectivore, known to build nests on barns, bridges and other buildings especially in open areas near water. Open habitats including grasslands, fields, right-of-ways, shorelines and wetlands are particularly important for foraging. They live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures. Swallows prefer structures with rough-surfaced ledges where they can build their nests. The cup-shaped mud nests are the critical habitat feature used for egg laying, incubation, feeding, resting and rearing of young. Barn swallows will use artificial nest cups and ledges; and are known to use the same nests in subsequent years. They are often found in colonies; breeding takes place from May through August. [3] [4] [5] Foraging habitat may exist along the river, however no suitable nesting habitat was available within the study area or nearby.

Bobolink (*Dolichonyx oryzivorus*)

Bobolinks are associated with open habitats, specifically grasslands, meadows and agricultural fields. They use fields with a mix of grasses and broad-leaved forbs like clover (*Trifolum* sp.); generally avoiding habitats with woody vegetation. A dense thatch layer is required for nests which are built out of sight close to the ground. Defended territories average 0.33 – 2 hectares, while much larger habitat patches are required to avoid predators and reduce brood parasitism by cowbirds. Literature suggests a minimum 5 hectares is required to support breeding, while sites 10 – 30 hectares are more likely to support successful nests. Areas that have little interior habitat, defined as 100 metres or more from an edge, are not likely to be suitable for breeding. Nesting occurs in mid-May and subsequent broods have usually fledged by early July. Nestlings in July are likely a result of a second brood or re-nesting. Bobolinks have usually left Ontario by the end of July on their migration south for the winter.[6] [7] [8] [9] [10] No suitable habitat was present within the study area or the general area for bobolink.

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[3] COSEWIC. 2011. COSEWIC assessment and status report on the Barn Swallow *Hirundo rustica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp. (www.sararegistry.gc.ca/status/status_e.cfm).

[4] http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_BRN_SWLLW_EN.html

[5] Ontario Ministry of Natural Resources. 2013. General Habitat Description for the Barn Swallow *Hirundo rustica*. http://www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@species/documents/document/mnr_sar_ghd_brn_swllw_en.pdf

[6] Martin, Stephen G. and Thomas A. Gavin. 1995. Bobolink (Dolichonyx oryzivorus), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/176

[7] McCracken, J.D., R.A. Reid, R.B. Renfrew, B. Frei, J.V. Jalava, A. Cowie, and A.R. Couturier. 2013. Recovery Strategy for the Bobolink (Dolichonyx oryzivorus) and Eastern Meadowlark (Sturnella magna) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. viii+ 88 pp.

[8] Ontario Ministry of Natural Resources. 2011. Draft Survey Methodology under the Endangered Species Act, 2007: D*olichonyx oryzivorus* (Bobolink). Ministry of Natural Resources Policy Division, Species at Risk Branch. 2pp.

Wolverine (*Gulo gulo*)

Wolverines inhabit a variety of treed and treeless vegetation associations, and have been known to be found at higher elevation areas. They thrive in areas that are ecologically intact where diverse prey and other carnivore species are present. Habitat components required for wolverine include suitable locations for maternal and natal dens sites and locations where kits can be left while the female forages. Dens are constructed either in talus boulders, along eskers, under deadfall, under logs in avalanche debris, or in snow tunnels at higher elevations and tundra.[11] According to the COSEWIC Assessment and Status Report (2014), they have historically been found in Cochrane, however their current range is in northwestern Ontario. During Stantec's field surveys in 2006, no wolverines were sighted or known to be in the area.

Caribou, Boreal Population (*Rangifer tarandus*)

The Caribou became listed on the Endangered Species Act in 2008. Caribou require undisturbed areas of old and mature conifer upland forests dominated by jack pine and/or black spruce.[12] According to COSSARO's Ontario Species at Risk Evaluation Report for Caribou, Boreal population (May 2015)[13], the southern tip of the Kesagami boreal caribou range overlaps the study area. Stantec's background information presented in their report stated that caribou may occur sporadically, however at a considerable distance north of the study area[1]. The MNRF's Intergrated Range Assessment for Woodland Caribou and their Habitat, Kesagami Range 2010, shows that caribou have been observed west and north of Smooth Rock Falls and have also been sighted approximately 40 km west of the study area.[14] No caribou have been sighted in the vicinity of the study area during the daily CEM activities undertaken by G3 between July to November 2016.

Nothern Myotis (*Myotis septentrionalis*)

According to the Significant Wildlife Habitat Technical Guide, Appendix G4, Table G4, Northern myotis roost in hollow trees or under loose bark. Males roost individually while females are found in maternity colonies of up to 60 adults. They overwinter in mines and caves similar to other species which hibernate in Ontario. Unlike little brown myotis, Northern myotis hunts primarily in forested areas, below the canopy. They are known to roost in boreal forests and

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[9] http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_BBLNK_EN.html

[10] Ontario Ministry of Natural Resources. 2013. General Habitat Description for the Bobolink (*Dolichonyx oryzivorus*) http://www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@species/documents/document/mnr_sar_ghd_bblnk_en.pdf

[11] COSEWIC, 2014. COSEWIC Assessment and Status Report on the Woverine (Gulo gulo) in Canada. http://www.registrelep-sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Wolverine_2014_e.pdf

[12] https://www.ontario.ca/page/caribou-boreal-population

[13] https://www.ontario.ca/page/ontario-species-risk-evaluation-report-caribou-boreal-population-rangifer-tarandus

[14] http://files.ontario.ca/environment-and-energy/species-at-risk/Kesagami-Range-EN.pdf

snags and can exist in Ontario as far north as Moosonee[15], however minimal snags were observed during the field survey. No Northern myotis have been sighted in the vicinity of the study area during the daily CEM activities undertaken by G3 between July to November 2016.

Significant Wildlife Habitat

According to the Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E (SWHC)[16], the following significant wildlife habitat has the potential to be present based on the ecosites identified during the Ecological Land Classification.

Moose Late Winter Cover

As per the SWHC, ecosite B085Tt (Fresh, Clayey: Spruce-Conifer) is considered a forest community that provides moose late winter cover. To be considered moose late winter cover this is characterized by dense conifer forest with greater than 60% canopy cover. Several moose tracks, trails and browse were observed north and east of the B085 forest community. There is the possibility that moose late winter cover habitat may occur to the south and the west of the trail where 60% or greater canopy cover is present. In order to confirm moose winter cover habitat, field surveys would need to be completed during the months of March and April.

Bat Maternity Colonies

The SWHC identifies that ecosite B092 Fresh, Clayey Mixedwood has the potential to provide bat maternity colonies for big brown and silver-haired bat. As per the SWHC, maternity colonies are located in mature deciduous and mixed forest with trees more than 80 years old. Trees have large diameter breast height (DBH) greater than 25cm diameter and can be healthy or declining trees with cavities and small hollows. Older forests with at least 21 snags per hectare are preferred for silver haired bats.

It is unlikely that bat maternity colonies are present due to many trees being less than 25cm DBH within this mixed forest community. It did not appear that trees would have been near 21 snags per hectare. Only a few snags with cavities were observed with DBH close to or greater than 25cm DBH; however most of these snags were older dead trees, which are not preferred habitat for maternity colonies as per the SWHC. It is likely that other wildlife species are using these snags for habitat.

Turtle Wintering

According to the SWHC, ecosite B128 (low treed Organic Intermediate Conifer Swamp) is considered to be a potential turtle wintering area for painted turtle and/or snapping turtle. It is unlikely that turtle wintering area exists however, as many of the pockets of waters within the swamp were shallow. The Ontario Reptile and Amphibian Atlas[17] does not list any turtles in the

[15] https://www.ontario.ca/page/northern-myotis
[16] Ontario Ministry of Natural Resources and Forestry, 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E.
[17] https://www.ontarionature.org/protect/species/herpetofaunal_atlas.php

general area or near Cochrane or Smooth Rock Falls. To confirm turtle wintering areas, basking surveys are typically completed in the spring. There is no suitable habitat along the proposed corridor.

Reptile Hibernacula

The SWHC identifies ecosite B128 (low treed Organic Intermediate Conifer Swamp) as having the potential for reptile hibernacula habitat. Hibernation takes place below frost lines in rock crevices, burrows and rock barren. Suitable conditions are also found in conifer or shrub swamps. The only areas of rock that may provide suitable habitat was near Loon Rapids, north of the proposed trail. According to the Ontario Reptile and Amphibian Atlas the only snake species noted within the area is eastern gartersnake. To confirm reptile hibernacula, surveys would need to completed in the spring. There is no suitable habitat along the proposed corridor.

Amphibian Breeding Habitat (Wetlands)

B128 and B223 (Organic and Mineral Intermediate Conifer Swamp) may contain suitable amphibian breeding habitat. Amphibian breeding habitat is significant when wetland and pools are greater than 500m^2 and are isolated from woodland ecosites. Some small pools were present within the study area, but were less than 500m^2. To confirm the presence of amphibian breeding habitat, amphibian call surveys would need to be completed during the spring (April to June). There is no suitable habitat along the proposed corridor.

Habitat of Species of Conservation Concern

From reviewing records from the Ontario Breeding Bird Atlas, Stantec's 2009 report and cross referencing available habitat in the area some species of special concern could be present within the study area. These include rusty blackbird, bald eagle, common nighthawk, Canada warbler, olive-sided flycatcher and lake sturgeon.

The rusty blackbird nests within the boreal forest in riparian vegetation near or above a body of water. They are typically present along the shores of wetlands such as peat bogs, marshes, swamps and slow-moving streams[18]. Suitable habitat was present within the conifer swamp wetland communities. There is no suitable habitat along the proposed corridor.

Bald eagles nest in a variety of forest types, but usually always nest near a major lake or river where they hunt[19]. Bald eagles were observed by Stantec during their field surveys in 2006, and one active nest was observed during their field surveys at the mouth of Muskego River, 4km south of Smooth Rock Falls. During G3's site visit, no stick nests were observed along the river near the study area.

[18] http://www.registrelep-sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=907
[19] https://www.ontario.ca/page/bald-eagle

The common nighthawk inhabits open areas with little or no groundcover. This could include forest clearings, rock barrens, peat bogs, logged or burned-over areas[20]. It is unlikely that common nighthawk uses the area for nesting, as limited open areas were available.

The Canada warbler typically breeds in wet forest types with a dense shrub layer. The dense understory helps to hide nests located on or near the ground[21]. Some sections of alder and dense shrubs were present within the organic and mineral conifer swamps. There is no suitable habitat along the proposed corridor.

The olive-sided flycatcher breeds in a coniferous forest adjacent to rivers or wetlands. It is often found along forest openings and edges and will use forests that have been logged or burned if there are tall trees and snags available for perching[22]. Potential habitat may be present in locations within the organic and conifer swamps. There is no suitable habitat along the proposed corridor.

Lake sturgeon spawn in fast moving shallow water, including rapids or below waterfalls as well as on open shoals of rivers with strong currents[23]. Lake sturgeon has been identified in this area of the Mattagami River according to the MNRF Natural Heritage Information Centre[24]. In 2006 and 2007 Stantec conducted extensive fisheries surveys at Loon Rapids. They did not find any lake sturgeon or lake sturgeon eggs at the base of Loon rapids, however sturgeon were captured 2 km upstream of Loon Rapids by Golder in 2007 and have been found upstream of Loon Rapids in other surveys according to Stantec[25].

Species that were observed by G3 during the field survey on November 9, 2016 included moose, black bear, gray wolf, pine grosbeak, American goldfinch, gray jay, black-capped chickadee, common raven and ruffed grouse.

Fish Habitat

Within the Mattagami River at Loon Rapids, white sucker, walleye and northern pike were captured in 2006 and 2007 during Stantec's field surveys. White suckers are known to spawn in the area[12]. Loon rapids is located approximately 400m north or downstream of the proposed trail.

[20] https://www.ontario.ca/page/common-nighthawk
[21] https://www.ontario.ca/page/canada-warbler
[22] https://www.ontario.ca/page/olive-sided-flycatcher
[23] https://www.ontario.ca/page/lake-sturgeon-species-risk
[24] Ministry of Natural Resources and Forestry, 2015. Make a Map: Natural Heritage Areas. http://www.giscoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US
[25] Stantec, 2009. Yellow Falls Hydroelectric Project. Aquatic Sampling Summary 2006-2008.

Conclusions and Mitigation Measures

The following summarizes mitigation measures that should be followed prior to and during construction of the winter trail.

- Any work near Mattagami River should be completed in the winter and should follow appropriate erosion and sediment control measures to avoid impacts to fish.
- Avoid wetland areas and retain any snags (dead or dying trees with the presence of cavities) if possible.

Respectfully submitted,

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Biologist, FRi Ecological Services

Sam Gauvreau, P.Eng.
Principal
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Appendix 1

Photo 1: B085Tt – Fresh, Clayey: Spruce-Conifer Forest Community, facing east from Mattagami River.

Photo 2: Facing west towards Mattagami River from existing trail.

Photo 3: Facing east from existing trail.

Photo 4: Facing north towards the B092: Fresh, Clayey Mixedwood community.

Photo 5: B128Tt: Fresh, Clayey: Spruce-Fir Forest Community.

Photo 6: Moose trail and tracks within the mixedwood forest community, facing north.

Photo 7: B092Tt: Fresh, Clayey: Mixedwood Forest Community.

Photo 8: B128Tl: Organic Intermediate Conifer Swamp.

Photo 9: B223Tt: Mineral Intermediate Conifer Swamp.

Photo 10: Spruce-Conifer Forest facing east from Mattagami River.