Extension Request for Impact Assessment

Webequie Supply Road Project

Webequie First Nation

Submitted to:
Impact Assessment Agency of Canada

October 21, 2022

SNC-Lavalin Project: 661910

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List of Acronyms and Abbreviations

Term	Definition
ARD	Acid Rock Drainage
ANSIS	Areas of Natural and Scientific Interest
ALS	ALS Environmental Laboratories
AAQC	Ontario Ambient Air Quality Criteria
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CAAQS	Canadian Ambient Air Quality Standards
COSSARO	Committee on the Status of Species at Risk in Ontario
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CBLUP	Community Based Land Use Plan
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CDEM	Canadian Digital Elevation Model
DEM	Digital Elevation Model
DFO	Fisheries and Oceans Canada
ELC	Ecological Land Classification
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EDU	Ministry of Education
GBA+	Gender Based Analysis Plus
GHG	Greenhouse Gas
GIS	Geographic Information System
HIA	Health Impact Assessment
FNLC	Far North Land Cover
IA	Impact Assessment
IAA	Impact Assessment Act
IAAC	Impact Assessment Agency of Canada
ISC	Indigenous Services Canada
IK	Indigenous Knowledge
IKLRU	Indigenous Knowledge and Land and Resource Use
IS	Impact Statement
ISC	Indigenous Services Canada
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
LIO	Land Information Ontario
LRU	Land and Resource Use

List of Acronyms and Abbreviations (Cont'd)

Term	Definition
LSA	Local Study Area
LDPE	Low-Density Polyethylene
LiDAR	Light Detection and Ranging
IAO	Ministry of Indigenous Affairs
MECP	Ministry of the Environment Conservation and Parks
MEDJCT	Ministry of Economic Development, Job Creation and Trade
MHSTCI	Ministry of Heritage, Sport, Tourism and Culture Industries
MINES	Ministry of Mines
ML	Metal Leaching
MLO	Model Lighting Ordinance
MMAH	Ministry of Municipal Affairs and Housing
MND	Ministry of Northern Development
MNO	Métis Nation of Ontario
MNRF	Ministry of Natural Resources and Forestry
MOE	Ministry of Environment
MTO	Ministry of Transportation
NAAQS	Nunavut Ambient Air Quality Standards
NAPS	National Air Pollution Surveillance
NHIC	Natural Heritage Information Center
NoA	Notice of Assessment
NoC	Notice of Completion
NOx	Nitrogen Oxide
NSA	Noise Sensitive Areas
O3	Ozone
OFAT	Ontario Flow Assessment Tool
OPP	Ontario Provincial Police
PAH	Polycyclic Aromatic Hydrocarbons
PHC	Petroleum Hydrocarbons
PWQMN	Provincial Water Quality Monitoring Network
RoW	Right-of-Way
RSA	Regional Study Area
RSQAQ	Réseau de surveillance de la qualité de l'air du Québec
SAR	Species at Risk
SNC-Lavalin	SNC-Lavalin Inc.
SOLGEN	Ministry of the Solicitor General
SWH	Significant Wildlife Habitat
TC	Transport Canada
TDS	Total Dissolved Solids
TISG	Tailored Impact Statement Guidelines
TOR	Terms of Reference
TP	Technical Proposal

List of Acronyms and Abbreviations (Cont'd)

Term	Definition
TPM	Total particulate matter
TSS	Total Suspended Solids
TKN	Total Kjeldahl Nitrogen
TSP	Total Suspended Particulate – particulate matter of aerodynamic diameter less than or equal to 30 microns
VR	Virtual Reality
VC	Valued Component
WSC	Water Survey of Canada
WFN	Webequie First Nation
WSR	Webequie Supply Road

List of Units

Term	Definition
%	Percent
d	Day
dB	decibel
dBA	A-weighted decibels
h	Hour
km	Kilometre
km^2	Square kilometre
km/h	Kilometre per hour
L	Litre
L1	Layer 1
L10	Layer 10
L50	Layer 50
L90	Layer 90
L99	Layer 99
Lmin	Minimum root mean square Level
Lmax	Maximum root mean square level
Leg	Equivalent Continuous Sound Level
ug	Micrograms
m	Metre
M3	Cubic Meter
ppb	Parts per billion
oC	Celsius
mbgs	Meter below ground surface

1 Introduction

This Extension Request has been prepared by SNC-Lavalin Inc. (SNC-Lavalin) on behalf of Webequie First Nation (WFN) for the Impact Assessment (IA) of the Webequie Supply Road Project (WSR, the Project) that is subject to the requirements under the federal *Impact Assessment Act* (IAA).

The Project is also subject to the Ontario *Environmental Assessment Act*, and a provincial Individual Environmental Assessment is currently in progress in accordance with the approved Environmental Assessment (EA) Terms of Reference (ToR).

For the Project, the two levels of government have indicated a willingness to follow a coordinated assessment process to the extent possible, and for the proponent to produce one body of documentation, referred to as the Environmental Assessment Report/Impact Statement (EAR/IS). The EAR/IS will address the requirements of both the provincial ToR and the federal Tailored Impact Statement Guidelines (TISG) for the Project. For the purposes of this report, collectively the Project is subject to both a provincial environmental assessment and federal impact assessment (EA/IA). Webequie First Nation is the proponent of the EA/IA.

The Project's Notice of Commencement of an Impact Assessment was posted on February 24, 2020. In accordance with subsection 19(1) of the IAA, the proponent of a designated project must provide the Impact Assessment Agency of Canada (the Agency) with the information or studies that are set out in the notice of the commencement of the IA of the designated project within three years after the day on which a copy of that notice is posted on the Internet site. The three-year legislated time limit to provide the Agency with required information as described in the TISG for the Project will expire on February 24, 2023. In accordance with subsection 19(2) of the IAA, the Agency may extend the time limit by any period that is necessary for the proponent to provide the Agency with the information or studies. The required information and studies to be provided would include the Impact Statement (IS) and any additional required information and studies that may be identified as a result of:

- The Agency's verification review of the IS;
- The public comment period on the IS Summary;
- The technical review of the IS by the Agency and federal authorities; and
- Associated consultation and engagement by the Agency with Indigenous communities.

In order for an extension to be considered and granted, a proponent needs to demonstrate that they have made progress on the development of the IS and that they have a work plan to complete it.

Section 2 of this report presents the reasons why the proponent is seeking an extension of the time limit for the Project's IS. **Section 3** summarizes the changes that may affect the EA/IA process identified by the proponent. **Section 4** provides the proponent's work plan for the EA/IA. **Section 5** demonstrates the advances made to date to meet the requirements of the Project's TISG.

Based on the information presented in this report, the proponent is requesting an extension to **January 6, 2027** for the Impact Statement Phase of the Project, which includes a contingency allowance for unexpected delays.

2 Reasons for Extension Request

This section presents the proponent's reasons, directly related to the federal IA process, for seeking this Extension Request.

2.1 Implications of COVID-19 Pandemic on Project Activities

The COVID-19 global pandemic that began in March 2020 introduced significant challenges to the execution of the EA/IA for the Project. In summary, the following components and activities were directly affected and resulted in schedule delays:

- **Collection of baseline field data for biophysical aspects of the environment.** The Project Team field crews that were normally stationed out of the community of Webequie were not permitted in the community due to COVID-19 and health and safety concerns expressed by WFN and the isolation of that community to protect its members. To adapt to these circumstances the Project Team were stationed out of the Town of Pickle Lake, which involved an increase in helicopter flight time to arrive at the project area and therefore the amount of daily time available to complete their field work. As a result, substantial amount of time was needed to collect the necessary field data to meet the requirements of TISG for the Project. Additionally, health and safety planning and procedures were required to be developed to implement the field work, including internal approvals for travel by SNC-Lavalin staff, who completed the baseline field program. Finally, supply chain problems and issues were encountered related to obtaining materials, equipment and supplies required to execute the field programs.
- **Need for consultation and engagement activities to be developed and offered virtually.** As Indigenous communities, stakeholders and the public entered isolation and/or gathering restrictions during COVID-19, the ability to offer traditional in-person meetings were not possible. To address the COVID-19 restrictions, substantial Project Team efforts and time was needed for the planning and development of virtual options to allow for Indigenous communities and others to provide feedback to the Project Team on elements of the Project or EA/IA process. As such, these additional efforts related to the development of opportunities for engagement during COVID-19 adversely affected the project schedule. For example, this included offering virtual engagement and consultation options to Indigenous communities such as virtual focus groups sessions, virtual Community Information Sessions/Open Houses, and Virtual Topic-Specific Livestream Events and Radio Call-in Shows.

2.2 Delay in Receiving Provincial EA Terms of Reference Approval

The proponent submitted the EA ToR for the Project to the Ministry of the Environment, Conservation and Parks (MECP) on August 14, 2020, with a 60-day review period for submission of comments from Indigenous communities/organizations, stakeholders and the public. Typically, under the provincial EA process, and as outlined the MECP Code of Practice and the prescribed timeline under Ont. Regulation 616/98, a proponent can expect a timeframe of approximately 12 weeks for a decision from the Minister from the submission date of the ToR to the MECP.

During the COVID-19 pandemic, the MECP recognized the challenges that Indigenous communities faced and elected to offer a 60-day review period, as opposed to the standard 30-days, and also granted extensions beyond the 60-day review for communities to submit their comments on the ToR based on

limited capacity of Indigenous communities to respond and participate in the process. As a result, the final deadline for submission of comments was February 26, 2021. Based on the need for Ontario and the proponent to provide responses to comments in August and for Ontario to provide a final 2 weeks to provide any additional comments, the Minister's decision on the ToR was made on October 8, 2021.

The delay in receiving an approved ToR and formal commencement of the provincial EA process resulted in significant misalignment with the federal commencement of the IA that occurred on February 24, 2020. This misalignment of the commencement of the federal and provincial assessments resulted in the deferral of Round #1 of the EA/IA consultation program for the Project, primary socio-economic baseline data (e.g., surveys, key informant interviews, focus groups) with Indigenous communities as well as the Indigenous Knowledge and Land and Resource Use (IKLRU) program. The deferral of the socio-economic baseline data collection and IKLRU program was based on guidance from MECP that a proponent should not pursue primary baseline data collection in the absence of having an approved ToR. As such, a significant portion of the IS phase (approximately 19 months) was not utilized for collection of socio-economic baseline data and IKLRU information, as well as other valued components (e.g., cultural heritage resources). It was the Project Team's opinion that initiating the subject data collection programs and/or conducting Round #1 of the EA/IA consultation without an approved ToR would introduce unacceptable risk as the final provincial EA requirements for such studies and consultation were subject to possible change. Furthermore, the COVID-19 pandemic resulted in federal, provincial, and local restrictions on in-person gatherings, travel, and also impacted the capacity of Indigenous communities and groups to respond to requests for engagement and participation. This presented an additional barrier to initiating socio-economic baseline data collection programs and IKLRU information gathering activities (such as surveys, interviews, focus groups, and community meetings) as initially planned within the Project schedule.

While MECP guidance around deferring baseline data collection in the absence of an approved ToR generally applies to all primary baseline data collection, including biophysical, the Project Team ultimately decided to advance with primary baseline data collection for the natural environment in advance of ToR approval. This involved conducting field surveys in 2019, 2020, and 2021 to collect data for the various biophysical valued components (Geology, Terrain and Soils, Surface Water, Groundwater, Atmospheric Environment, Fish and Fish Habitat, Vegetation and Wetlands, Terrestrial Habitat and Wildlife, and Species at Risk). The Project Team determined that minimal in-person engagement was required to conduct baseline data collection for these biophysical valued components (in comparison to socio-economic valued components) and commencing this data collection program in 2019 allowed for some movement in the Project's overall baseline data collection program and schedule. It should be noted that the 2020 field season for bio-physical baseline data collection was also affected by COVID-19 public health restrictions, which severely restricted the options available for the base of operations to complete the field work. As a result, the closest available location to base the program was Pickle Lake, as Webequie First Nation requested that no field staff enter the community. The logistical challenges of travelling further to the project area reduced the team's ability to conduct fulsome data collection.

3 Changes that May Affect the Impact Assessment

This section discusses the changes to the environment at the Project location, and the changes to the Project itself, that have occurred since the commencement of the EA/IA process and may affect the timeline for the completion of the EAR/IS.

3.1 Changes to the Environment

Some weather-related limitations were experienced during the natural environmental field program for baseline data collection, as follows:

- Adverse weather during 2020 vegetation surveys, resulting in a reduced number of sampled vegetation units;
- Adverse weather and limited access conditions during 2020 surface water sediment sampling, resulting in a reduced number of sediment sampling locations; and
- Unnavigable weather conditions. high-water levels, and access issues preventing a second year of spring spawning surveys using egg mats.

These weather-related limitations were minor in nature and did not significantly influence the outcomes of the biophysical baseline data collection program. Beyond these minor and sporadic weather considerations, there are no changes to the environment that have occurred since the commencement of the IA that have influenced the timeline for completion of the IS phase.

3.2 Changes to the Project

Two alternative routes for the WSR were presented in the Project's approved ToR and federal Detailed Project Description (DPD). These two alternatives included the Community Preferred Route (referred to as Alternative 1) and the Optimal Geotechnical Route (referred to as Alternative 2), which were selected based on different priorities as documented in the preliminary evaluation of alternatives in the ToR and DPD.

Route Alternative 1 prioritized the following:

- Intersecting fewer known traplines;
- Routing is further east and away from significant hunting areas (e.g., waterfowl, moose, etc.) well used by community members;
- Running east of areas used most intensively for traditional activities south of the community;
- Minimizing intersection of significant moose mating areas located south of the community and north of the proposed east-west section of corridor;
- Minimizing effects to known built heritage resources/cultural heritage landscapes (i.e., cabins, hunting blinds, sacred site);
- Minimizing impacts to Webequie First Nation Reserve lands;

- Minimizing the number of waterbody crossings required;
- Minimizing potential effects to fish and fish habitat, as it has fewer waterbody crossings and shortest route length where structures are required to cross waterbodies; and
- Having the lowest estimated capital cost for construction.

Route Alternative 2 prioritized the following:

- Minimizing route length;
- Presence of surficial material (mineral vs organic soils);
- Avoiding bogs and fens, including ice-rich peat bogs and fens;
- Avoiding topographic relief and slopes;
- Availability of bedrock borrow (i.e., lack of borrow in some locations);
- Avoiding extensive wetland and thermokarst-affected terrain;
- Avoidance of wide river crossings; and
- Proximity to potential aggregate sources.

As the assessment of alternative methods of carrying out the Project has progressed the Project Team identified a third alternative route (referred to as Route Alternative 3) that blended the priorities of route Alternative 1 and Alternative 2 and have carried this alternative forward in the analysis of alternatives. Route Alternative 3 (refer to Section 5.5.2 and Figure 5.8) is currently being assessed relative to the other two route alternatives, which includes future planned engagement and consultation with the public, stakeholders and Indigenous communities to receive feedback.

4 Work Plan

Table 4-1 summarizes the Project's work plan accounting for work completed, work currently underway, and work not yet started, as of September 23, 2022.

Section 4.1 presents the details of how the extended time will be utilized to provide all the required information and studies for the EAR/IS.

Table 4-1: Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Consultation and Engagement Activities			
Indigenous Communities	• Round 1 – Virtual Community Information Sessions/Open Houses with Indigenous communities and/or offer virtual or in-person meetings with Chief & Council. Offered and held with all 22 identified Indigenous communities for the EA/IA. • Development and posting of Summaries of Technical Study Plans and plain language Fact Sheets of Study Plans to project website. • Preparation and circulation of Monthly Newsletters. • Topic-Specific Livestream Events • Radio Call-in Shows. • Meetings with Webequie community members about key elements of the provincial EA ToR • Distribution of final ToR for review • Public Information Centre	• Finalization of Consultation Progress Report for Round 1 that contains: - A consultation log and summary that tracks consultation activities with each community, including information shared by Webequie Project Team with a community, and any community input and WFN's responses. - A discussion how any input and information provided by the Indigenous communities have informed the development of the EA/IA. • Distribution of Consultation Progress Report for Round 1 to MECP and Indigenous communities. • Ongoing bi-weekly correspondence to Chiefs of all Indigenous communities to notify them of livestreams, engagement options/opportunities, etc. • Preparation and planning of engagement and consultation activities for Round 2.	• Round 2 - Indigenous Community Meetings and/or Chief & Council Meetings. • Round 3 - Indigenous Community Meetings and/or Chief & Council Meetings. • Prepare Consultation Progress Report for Rounds 2 and 3, at identified as project milestones, with distribution to MECP and Indigenous communities. • Preparation and circulation of Monthly Newsletters for Rounds 2 and 3. • Topic-Specific Livestream Events. • Radio Call-in Shows. • Prepare and distribute Notice of Release of Draft Environmental Assessment Report/Impact Statement (EAR/IS) for Review.
Webequie Off-Reserve Members	• Round 1 - Webequie Off-Reserve Meetings (Thunder Bay).		• Round 2 – Webequie Off-Reserve Meeting #2 (Thunder Bay). • Round 3 – Webequie Off-Reserve Meeting #3 (Thunder Bay).
Public and Stakeholders	• Round 1 - Public Information Centre #1 (PIC #1) (Open House format) (Thunder Bay).		• Round 2 – PIC #2 (Thunder Bay). • Round 3 – PIC #3 (Thunder Bay).
Government Agencies	• Round 1 – Government agencies will be offered opportunity to attend Public Information Centre #1 and provide any comments.	• Distribution of Consultation Progress Report for Round 1 to MECP as per conditions of the ToR Notice of Approval.	• Offer opportunity to attend PIC #2 and PIC #3 and provide any comments.

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
			• Prepare and distribute Consultation Progress Report for Round 2 and Round 3 to MECP.
Evaluation of Alternative Methods			
Route Alternatives	• Preliminary identification and assessment of alternative means of carrying out the project have been completed at a conceptual level for alternatives routes. This includes identifying preliminary criteria and indicators, and their evaluation weighting, for analysis of alternatives.	• Completion of preliminary evaluation of alternatives with documentation of results and recommend preferred route for the WSR. • Prepare related documentation and communication materials to support Round 2 of consultation that is intended to receive feedback from the public, stakeholders and Indigenous communities on evaluation of alternatives and recommended preferred route and supportive infrastructure.	• Incorporation of feedback from Round 2 of consultation regarding evaluation of route alternatives • Finalize selection of preferred route and document methodology, feedback received and results in EAR/IS.
Supporting Infrastructure Alternatives	• Preliminary identification and assessment of alternative means of carrying out the project have been completed at a conceptual level for supportive infrastructure (aggregate/rock source areas, construction camps, access roads).	• Completion of preliminary evaluation of alternatives with documentation of results and recommend supportive infrastructure for the Project.	• Incorporation of feedback from Round 2 of consultation regarding evaluation of alternatives • Finalize selection of preferred supportive infrastructure and document methodology, feedback received and results in EAR/IS.
Biophysical Environment			
Air Quality and Climate	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Air Quality and Climate Study Plan. • Review of secondary source information to characterize baseline air quality conditions.	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Air Quality and Climate Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Biophysical Environment (Cont'd)			
	Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).		
Noise and Vibration	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Noise and Acoustic Study Plan. • Review of secondary source information. • Reporting of noise baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Noise/Vibration Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Geology, Terrain and Soils	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Review of secondary source information. • Development of Geology, Terrain and Soils Study Plan. • Field investigations. • Reporting of baseline conditions within the WSR Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Geology, Terrain and Soils Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Biophysical Environment (Cont'd)			
Surface Water	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Surface and Groundwater Study Plan. • Review of secondary source information. • Surface water surveys: - Hydrology/hydraulic. - Water quality sampling and analysis. • Sediment quality sampling and analysis. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Surface Water Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Groundwater	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Surface and Groundwater Study Plan. • Review of secondary source information. • Field surveys: - Groundwater levels, flow and quality at established monitoring well locations. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Groundwater Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Biophysical Environment (Cont'd)			
Fish and Fish Habitat	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Fish and Fish Habitat Study Plan. • Review of secondary source information. • Field surveys: - Fish habitat characterization. - Fish community sampling. - Spawning surveys for Walleye and Lake Sturgeon. - Benthic invertebrate sampling. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Fish and Fish Habitat Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Vegetation	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Vegetation Study Plan. • Review of secondary source information. • Baseline field surveys for peatlands/wetlands and forest undertaken in 2019 to 2021 to capture seasonal and annual variations in vegetation. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Vegetation Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Biophysical Environment (Cont'd)			
Wildlife	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Wildlife Study Plan. • Review of secondary source information. • Field studies: - Spring 2019 and Spring 2022 aerial waterbird surveys. - Breeding Bird surveys 2020, 2021, 2022. - Acoustic Bat surveys 2020 and 2021. • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• Wildlife and Wildlife Habitat Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Species at Risk (SAR)	• Establishment of spatial assessment boundaries (project footprint, local study area, regional study area). • Development of Species at Risk Study Plan. • Review of secondary source information. • Field surveys: - 2020 SAR surveys. - 2021 Supplemental SAR Field Surveys (Wolverine and Caribou). - 2022 Supplemental SAR Field Surveys (Wolverine and Caribou). • Reporting of baseline conditions within the WSR Draft Natural Environment Existing Conditions Report (SNC-Lavalin, 2022).	• Support for evaluation of alternatives. • Revise and finalize baseline conditions and reporting based on federal and provincial review of the Draft Natural Environment Existing Conditions Report, where applicable.	• 2023 Supplemental SAR Field Survey 2023 (Caribou). • Species at Risk Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Socio-economic Environment			
Socio-economic Environment	• Development of Socio-economic Environment Study Plan. • Review of secondary source information. • Collection of primary data from Webequie First Nation (Survey, Focus Groups and Key Informant Interviews). • Invitation letter sent to all Indigenous communities with request for interest in participating in socio-economic primary data collection program, including several rounds of follow-up with communities by email and, phone calls (January, February, April and July 2022). • Draft Socio-economic Existing Conditions Report is 50% complete.	• Primary data collection with other Indigenous communities (Survey, Key Informant Interviews, Focus Groups, which include at this time Marten Falls First Nation and Weenusk First Nation). • Finalizing profiles of Indigenous communities. - Population/Demographics. - Education/Employment. - Household Composition. - Infrastructure and Social Services. • Contine preparation of the Draft Socio-Economic Environmental Baseline Study Report, including validation of information with Indigenous communities.	• Submission of Draft Socio-economic Existing Conditions Report for Agency and MECP review. • Submission of Final Socio-economic Existing Conditions Report for Agency and MECP. • Socio and Economic Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Indigenous Peoples and Exercise of Aboriginal and Treaty Rights			
Indigenous Knowledge and Land and Resource Use (IKLRU)	• Invitation letter sent to all Indigenous communities with request for interest in participating in socio-economic primary data collection program, including several rounds of follow-up with communities by email and phone calls (January, February, April and August 2022). • IKLRU received from Webequie First Nation, with partial validation completed.	• Continue follow-up and working with willing Indigenous communities to receive IKLRU: Marten Falls, Weenusk, Constance Lake, Kingfisher and Long Lake. • Finalize validation of IKLU with Webequie First Nation. • Continue to follow-up with other communities on their interest to participate in the IKLRU program.	• Receive and validate IKLRU from willing Indigenous communities • Integrate IKLRU into assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Community Health, Social and Economic Conditions	• Refer to Socio-Economic.	• Refer to Socio-Economic.	• Refer to Socio-Economic.
Cultural Heritage and Activities	• Refer to Cultural Environment.	• Refer to Cultural Environment.	• Refer to Cultural Environment.

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Exercise of Treaty and Aboriginal Rights	• No work completed to date.	• Discussion with willing communities as part of IKLRU program on potential impacts to rights.	• Assessment of impacts on Exercise of Aboriginal and Treaty rights (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Human Health and Country Foods			
Health Impact Assessment (HIA) Human Health and Risk Assessment (HHRA) Country Foods Assessment	• Development of Human Health Study Plan. • Review of secondary source information. • Collection and analysis of tissue samples for plants, wildlife and fish to support country foods assessment. • Partial primary data collection with Webequie (i.e., human health and country food surveys, key informant interviews and focus groups).	• Collection of remaining primary data on health from Webequie. • Establish HIA Steering Committee and held scoping workshop. • Completion of baseline description for health including community health profiles, with focus on Webequie. • Problem Formulation to support Human Health Risk Assessment.	• Human Impact Assessment including supportive Human Health Risk Assessment and Country Foods Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).
Visual Environment			
Visual Environment	• Development of Visual Environment Study Plan. • Visual quality baseline characterization has been established based on input from other disciplines (e.g., vegetation, terrain, etc.). • Identification of viewsheds from sensitive receptors, with some gaps to address. • Existing night light levels determined and documented in WSR Draft Natural.	• Seeking additional information for identification of potential receptors – location of tourism camps, outfitters and known routes (land and water) used to access fishing, hunting and/or plant harvesting areas.	• Visual Environment Assessment (effects assessment, mitigation and monitoring and reporting - EAR/IS).

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
	Environment Existing Conditions Report (SNC-Lavalin, 2022).		
Cultural Environment			
Archaeological Sites and Resources	• Draft Stage 1 Archaeological Assessment Report.	• Engagement with Indigenous communities to verify/confirm areas with archaeological potential identified to date.	• Finalize Stage 1 Archaeological Assessment Report for inclusion in EAR/IS (data collection, effects assessment, mitigation and reporting).
Built Heritage Resources and Cultural Heritage Landscapes	• Draft Cultural Heritage Report Desktop Data Collection Results.	• Engagement with Webequie First Nation and other Indigenous communities to verify/confirm 36 potential Cultural Heritage Landscapes (i.e., areas of cultural heritage value or interest). • Finalize Cultural Heritage Report - Desktop Data Collection Results.	• Cultural Heritage Existing Conditions and Impact Assessment Report for inclusion into EAR/IS (data collection, effects assessment, mitigation and reporting).
Preliminary Engineering Design			
Engineering Design	• Establishment of 2 km-wide preliminary corridor and 35 m-wide Right-of-Way (RoW). • Design criteria has been finalized. • Conceptual design for all routes alternatives, with general grading/drainage and structural engineering work advanced on the predicted preferred route at risk and subject to confirmation based on future evaluation of alternatives and feedback from engagement and consultation.	• Input to Project Team evaluation of alternatives is currently underway with respect to issues of constructability, design and cost (refer to evaluation of alternative methods). • Conceptual design of supportive infrastructure (aggregate/rock sources, access roads, construction camps, laydown/storage yards). • Conceptual construction execution/staging strategy. • Preliminary capital and operational and maintenance cost estimates.	• Finalization of preliminary engineering design and costing. • Constructability Review.
Geotechnical and Geochemistry	• All geotechnical and geochemistry investigations to support preliminary engineering design and assessment of aggregate/rock sources needed to construct the road.	• Results of the geochemistry investigations of aggregate/rock will be summarized and presented as part of the planned engagement activities.	• Results of the geochemistry investigations for aggregate/rock will be documented in the EAR/IS.

Table 4-1 (Cont'd): Work Plan Summary

Discipline	Work Completed	Work Currently Underway	Work Not Yet Started
Environmental Assessment/Impact Assessment			
Provincial Environmental Assessment (EA) Terms of Reference (ToR) Phase	• Preparation and submission of Draft ToR. • Preparation and submission of Proposed ToR. • ToR approval. • Notice of Commencement of EA.	• Not applicable.	• Not applicable.
Federal Impact Assessment (IA) Planning Phase	• Preparation and submission of Initial Project Description. • Response to Summary of Issues to Agency. • Preparation and submission of Detailed Project Description. • Notice of Commencement of Impact Assessment and issuance TISG and plans to proponent.	• Not applicable.	• Not applicable.
Impact Statement (IS) Phase – Environmental Assessment Report / Impact Statement	• Prepare Discipline Study Plans for review by Agency and MECP in accordance with TISG. • Refer to above summary of progress to date.	• Preparing select sections of Pre-Draft EAR/IS (e.g., Introduction, regulatory framework, assessment methodology, project description.	• Prepare and submit the Pre-Draft EAR/IS to the Agency and the MECP for review (voluntary step by proponent). • Respond to Agency and MECP comments on Pre-Draft EAR/IS and finalize Draft EAR/IS for formal release/submission. • Submit/Release Draft EAR/IS for review by federal and provincial agencies, stakeholders, Indigenous communities and the public. • Prepare and submit Final EAR/IS and Summary of Impact Statement to the Agency and MECP. • Respond to comments on Final EAR/IS from federal and provincial agencies, stakeholders, Indigenous communities and the public.

4.1 How the Extended Time Will Be Utilized

This section provides the details of how the extended time will be utilized to provide all the required information and studies for the EAR/IS.

4.1.1 Consultation and Engagement Activities

This section provides a summary of the planned consultation and engagement for the Project within the requested extended time. It is anticipated that Rounds 2 and 3 of consultation and engagement activities will be fully completed during the extended time.

4.1.1.1 Indigenous Communities

4.1.1.1.1 Indigenous Communities and Groups Identified for Consultation and Engagement

As per direction provided to the proponent in a letter from the Ministry of the Environment, Conservation and Parks dated December 19, 2018, there are twenty-two (22) Indigenous communities and groups that are to be consulted as part of the provincial EA process. This also includes those Indigenous communities and groups as identified in the Agency's Indigenous Engagement and Partnership Plan for the Project, whose exercise of Aboriginal and Treaty rights may be adversely affected by the Project and/or may have interests in the project. Collectively, the provincial and federal Crown's list of indigenous communities and groups are shown in **Table 4-2**, organized by Tribal Council or Affiliation. These Indigenous communities and groups are the current focus of the Project's consultation and engagement activities and will continue to be engaged throughout Consultation Rounds 2 and 3.

Table 4-2: Indigenous Communities to be Engaged/Consulted

Tribal Council or Affiliation	Indigenous Community or Group
Matawa Tribal Council	Aroland First Nation Constance Lake First Nation Eabametoong First Nation[1] Ginoogaming First Nation[1] Long Lake #58 First Nation[1] Marten Falls First Nation Neskantanga First Nation Nibinamik First Nation Webequie First Nation
Mushkegowuk Council	Attawapiskat First Nation Fort Albany First Nation Kashechewan First Nation
Shibogama Council	Kasabonika Lake First Nation Kingfisher Lake First Nation Wapekeka First Nation Wawakapewin First Nation Wunnumin Lake First Nation
Windigo First Nations Council	North Caribou Lake First Nation[1]

Table 4-2 (Cont'd): Indigenous Communities to be Engaged/Consulted

Tribal Council or Affiliation	Indigenous Community or Group
Independent First Nations	Kitchenuhmaykoosib Inninuwug (KI) Mishkeegogamang First Nation[1] Weenusk (Peawanuck) First Nation
Métis Nation of Ontario	Métis Nation of Ontario – Region 2[1]

Notes:

[1] Indigenous communities that may have potential interest in the Project, based on current understanding of Ontario (MECP) of the communities whose Aboriginal rights may be potentially affected by and/or that may have interests in the Project

4.1.1.1.2 Planned Consultation and Engagement Activities

Various consultation and engagement activities are planned for potentially affected or interested Indigenous communities during Consultation Rounds 2 and 3, as summarized in **Table 4-3**.

The consultation and engagement activities in Rounds 2 and 3 will focus on the following topics:

Round 2

- Summary of input received from Consultation Round 1.
    - Key topics covered: Overview of EA/IA process; engagement and consultation to date; Study Plans for Valued Components, including cumulative effects assessment; approach for evaluation of alternatives, including proposed criteria and indicators; Indigenous Knowledge and Land and Resource Use program.
- Identification and evaluation of alternatives.
- Preliminary recommended preferred route and supportive infrastructure (aggregate/rock source areas, construction camps, access roads), including rationale for selection.
- Preliminary engineering design elements of WSR (bridges/culverts).
- Next steps and schedule.

Round 3

- Summary of input received from Consultation Round 2.
- Summary of preliminary effects assessment of Project, including offering targeted opportunities to consult with Indigenous communities and groups on the cumulative effects assessment as required under the provincial EA ToR Notice of Approval.
- Proposed impact management, mitigation and follow-up monitoring program.
- Next steps in EA/IA process.

The tentative timeframe for Consultation Rounds 2 and 3 is presented in the project schedule in **Appendix A**.

Table 4-3: Consultation and Engagement with Indigenous Communities - Rounds 2 and 3

Method of Consultation / Engagement	Description
Notification Letters	Notification letters will be prepared and sent by mail and email to all of the identified Indigenous communities and Tribal Councils (as listed in **Table 4-2**) to inform them of the following EA/IA milestones in Consultation Rounds 2 and 3: • Evaluation of alternatives and identification of preferred alternatives (i.e., route and supportive infrastructure); • Submission of Draft EAR/IS; and • Submission of Final EAR/IS. In addition, notification letters will be prepared and sent by mail and email to all of the identified Indigenous communities and Tribal Councils (as listed in Table 4 2) to advise them of the topics to be covered in Round 2 and Round 3, including offering targeted opportunities to engage and discuss with Indigenous communities and groups on the cumulative effects assessment as required under the provincial ToR Notice of Approval.
Formal Notices and Newspaper Advertising	Formal notices will be used at various points throughout Consultation Rounds 2 and 3 to inform all identified Indigenous communities of submission of the Draft and Final EAR/IS and to invite attendance at community meetings and Public Information Centres (PICs). Notices to be published include: • Notice of Community meetings & PICs; • Notice of Draft EAR/IS for review; and • Notice of Submission of Final EAR/IS for review. The formal notices, with exception of the community open houses/meetings, will be published in the Wawatay News, Thunder Bay Chronicle Journal, Timmins Daily Press, and Sioux Lookout Bulletin and posted on the Project Website to reach Indigenous communities across northern Ontario.
Community Visits / Focus Group Sessions	Community visits are planned throughout Consultation Rounds 2 and 3, including 2-3 visits with the eight most potentially affected communities, as identified by Webequie First Nation (dependent upon expression of interest by the communities), and potential visits with the other 14 communities upon request. Specific activities to be conducted during community visits include: • Outline the current status and scope of the EA/IA, including schedule and upcoming milestones; • Obtain input and feedback from community members on the evaluation methodology and criteria used for examining alternatives (routes, supportive infrastructure, etc.,) and recommended preliminary recommended design (i.e., preferred alternative, which will be factored into the ultimate evaluation for the alternatives assessment (Round 2); • Summary of proposed environmental effects, mitigation, protection and compensation measures associated with the Project, including cumulative effects assessment (Round 3); • Obtain general input from community members about the information they wish to share and/or issues of concern; and

Table 4-3 (Cont'd): Consultation and Engagement with Indigenous Communities - Rounds 2 and 3

Method of Consultation / Engagement	Description
	• In order to undertake a GBA+ approach, the aim will be to achieve diverse viewpoints from sub-groups within the communities including women, men, youth, and Elders. The Draft EAR/IS will be available at the Administration office of each Indigenous community for community members to review during the public review periods. The Project Team will incorporate feedback and comments received on the Draft into the Final EAR/IS, which will also be made available at the Administration office for viewing.
Meetings with Off-Reserve Community Members	Two (2) meetings with off-reserve community members of the 22 potentially affected communities will take place during Consultation Round 2 and during Round 3, dependent upon expression of interest by the communities. These meetings will be held in the City of Thunder Bay, as this is the most central location closest to the Project area and where most off-reserve community members are known to reside. The purpose of the meetings is generally as described above for community visits, focusing on obtaining input and feedback on the evaluation of alternatives and the effects assessment. In order to undertake a GBA+ approach, the aim will be to achieve diverse viewpoints from sub-groups within the communities including women, men, youth, and Elders. Off-reserve community members will also have an opportunity to review the Draft EAR/IS during the public review period at the participating municipal offices and public libraries, as well as on the Project website. Off-reserve community members may provide comments and feedback on the Draft EAR/IS, and Final EAR/IS, trough the same channels as on-reserve community members.
Engagement with Métis Nation of Ontario	Information meetings will be held with the Métis Nation of Ontario (MNO), in Thunder Bay, upon request. MNO will receive a copy of the Draft and Final EAR/IIS for feedback and comments during public review periods.
Virtual Community Information Sessions/Open Houses	Virtual Community Information Sessions will be held via Zoom with each of the 22 Indigenous communities at the start of each week for both Consultation Rounds 2 and 3. Similar to Round 1, the Project Team will also offer the option of an in-person community meeting (open house format) to those communities who are interested following appropriate COVID-19 protocols, where applicable. A letter and poster advertising each community's session will be circulated to the Chief via email, mail and fax at least two weeks in advance. Each session will be hosted by the Project Team via Zoom and live streamed via Facebook Live and YouTube, and will include an introduction, a video presentation providing an overview of various topics related to the current status of the Project (such as input received from the previous Consultation Round, the alternatives assessment/preferred alternative, preliminary design elements, outcomes of the preliminary effects assessment, mitigation and monitoring, and next steps), and a Q&A period. Recordings will be posted to the Project Website following each session to ensure community members who are unable to attend can watch and provide comments.

Table 4-3 (Cont'd): Consultation and Engagement with Indigenous Communities – Rounds 2 and 3

Method of Consultation / Engagement	Description
Livestream and Radio Call-In Shows	Radio information sessions will be broadcast over Wawatay Radio, throughout the Wawatay broadcast region, periodically throughout Consultation Rounds 2 and 3. The sessions will constitute an open dialogue format with the Project Team to allow community members to ask questions about the Project and to obtain their feedback and input. Livestream sessions will be hosted by the Project Team via Facebook Live and YouTube in the same format as the radio information sessions.
Engagement with Tribal Councils and Nishnawbe Aski Nation	Tribal Councils and Nishnawbe Aski Nation will be provided information and opportunities to comment throughout Consultation Rounds 2 and 3 of the EA/IA, including on the Draft and Final EAR/IS, and meetings will be held upon request.
Communication Materials	Various communication materials will be developed for use at meetings/events during Consultation Rounds 2 and 3. These include presentation slide decks, project fact sheets, handouts, display boards, etc. Plain language communication materials free of technical jargon have been produced to ensure that information is clear and easy to understand. Some materials are also translated into the native language of the communities.
Audio and Visual Products	For those Indigenous communities who have the capability, in-person community meetings/open houses and presentations will be livestreamed through local community media to allow for a wider audience to participate in the meetings and have the opportunity to ask questions and provide feedback. Recordings of community presentations will be saved and posted on the Project Website for public viewing.
Project Website	A Project Website is available for the public to review project related information at www.supplyroad.ca. Materials are continually posted on the website such as those related to: • Approved Provincial EA Terms of Reference; • Notice of Commencement of EA; • Technical and plain language summaries of Study Plans for each valued component; • Information on development and identification of alternative methods for implementing the Project and criteria for evaluating alternatives; • Evaluation of alternatives and identification of preferred alternative; • Virtual Community-Specific Information Sessions held in Rounds 1,2 and 3; • Submission of Draft EAR/IS; • Submission of Final EAR/IS Project Newsletters; • Recorded videos of in-person community presentations, where applicable; and • Other materials that are developed over the course of the EAR/IS preparation period. Community members can continue provide comments and feedback on the website throughout Consultation Rounds 2 and 3. The Project Team will ensure that feedback and comments

Table 4-3 (Cont'd): Consultation and Engagement with Indigenous Communities - Rounds 2 and 3

Method of Consultation / Engagement	Description
	received are incorporated into the Draft and Final EAR/IS and are documented in the Record of Consultation.
Project Newsletters	Project Newsletters will be developed on a monthly basis, providing project updates and milestones during Consultation Rounds 2 and 3. These will be posted on the Project Website and will be in plain language that will clearly explain project information for community members to understand. Quarterly Newsletters are also produced specifically for WFN.

4.1.1.1.3 Government Agencies and Municipalities

4.1.1.1.4 Government Agencies Identified for Consultation and Engagement

Based on the components and potential effects ofthe Project, various provincial and federal ministries and agencies were selected to participate in the EA/IA as members of the Government Review Team (GRT), as listed in **Table 4-4**.

Table 4-4: GRT for Consultation and Engagement

Government Affiliation	Ministry / Agency	Acronym
Provincial (Ontario Government)	Ministry of Northern Development	MND
	Ministry of Mines	MINES
	Ministry of the Environment, Conservation and Parks	MECP
	Ministry of Natural Resources and Forestry	MNRF
	Ministry of Transportation	MTO
	Ministry of Indigenous Affairs	IAO
	Ministry of Education	EDU
	Ministry of the Solicitor General	SOLGEN
	Ministry of Economy Development, Job Creation and Trade	MEDJCT
	Ministry of Municipal Affairs and Housing	MMAH
	Ontario Ministry of Tourism, Culture and Sport	MTCS
	Ontario Provincial Police	OPP
Federal (Government of Canada)	Impact Assessment Agency of Canada	IAAC
	Environment and Climate Change Canada	ECCC
	Fisheries and Oceans Canada	DFO
	Crown-Indigenous Relations and Northern Affairs Canada	CIRNAC
	Indigenous Services Canada	ISC
	Transport Canada	TC

In addition to the broader GRT, an EA Coordination Team has been established to coordinate the requirements of the provincial and federal EA processes as efficiently as possible. The EA Coordination Team is comprised of the following provincial and federal agencies:

- MINES;
- MECP;
- MNRF;
- MTO; and

- IAAC.

Municipalities that are involved in the consultation program were identified based on their proximity to the proposed corridor for the Project. The names and locations of these municipalities are listed in **Table 4-5**.

Table 4-5: Municipalities Involved in Consultation and Engagement

Community	Location
Municipality of Greenstone	The Town of Greenstone is located approximately 205 km northeast of Thunder Bay. It is an amalgamation of several townships including Beardmore, Geraldton, and Longlac and their surrounding areas along Highway 11 in Northern Ontario.
Township of Pickle Lake	The Town of Pickle Lake is located approximately 530 km north of Thunder Bay at the northern terminus of Highway 556 in northern Ontario.
Municipality of Sioux Lookout	The Town of Sioux Lookout is located approximately 350 km northwest of Thunder Bay at the northern terminus of Highway 72.
City of Thunder Bay	The City of Thunder Bay is located along the Trans-Canada Highway on the northern shores of Lake Superior.
City of Timmins	The City of Timmins is located approximately 700 km north of Toronto along the Mattagami River in northeastern Ontario.

4.1.1.1.5 Planned Consultation and Engagement Activities

Table 4-6 provides an overview of consultation and engagement activities that are planned to occur with government agencies and municipalities during Consultation Rounds 2 and 3.

Table 4-6: Consultation and Engagement with Government Agencies and Municipalities – Rounds 2 and 3

Method of Consultation / Engagement	Description
Notification Letters	Notification letters will be prepared and sent by mail and email to the GRT and municipalities at the following EA/IA milestones in Consultation Rounds 2 and 3: • Evaluation of alternatives, methodology and criteria used for examining options (routes, supportive infrastructure, etc.,) and recommended preliminary recommended design (i.e., preferred alternative) that is intended to seek (input and feedback into the final evaluation of all alternatives and selection of preferred alternatives (Round 2) ; • Proposed environmental effects, mitigation, protection and compensation measures associated with the Project, including cumulative effects assessment (Round 3); • Submission of Draft EAR/IS – seeking review and comments; and • Submission of Final EAR/IS.
Public Information Centres	During Consultation Rounds 2 and 3, a total of two (2) Public Information Centres (open house format) will be planned in the City of Thunder Bay to allow for government agencies and municipalities to attend. They will serve as a forum to provide feedback and comments on the results of the studies that have been conducted, as well as the evaluation of alternatives and selection of the preferred alternative and effects assessment of the Project.

Table 4-6 (Cont'd): Consultation and Engagement with Government Agencies and Municipalities – Rounds 2 and 3

Method of Consultation / Engagement	Description
Communication Materials	Various communication materials will be developed for use at meetings, including presentation slide decks, project fact sheets, handouts, display boards, etc. Communication materials will be in plain language and free of technical jargon to ensure that information is clear and easy to understand.
Project Website	A Project website is available for government agencies, municipalities, and others to review related information, at www.supplyroad.ca. Materials that will be posted on the website during Consultation Rounds 2 and 3 include those related to: • Information on the further development and identification of alternative methods for implementing the Project and criteria for evaluating alternatives; • Information on the evaluation of alternatives and identification of preferred alternative; • Notice of Open House sessions; • Notice of Draft and Final EAR/IS for review; • Draft and Final EAR/IS; • Recorded videos of community presentations; and • Other materials that are developed over time.
EAR/IS Document Review	The GRT and municipalities will have an opportunity to review the Draft and final EAR/IS and provide comments.

4.1.1.2 Public and Stakeholders

4.1.1.2.1 Public and Stakeholders Identified for Consultation and Engagement

The following members of the public and stakeholders are included in the consultation and engagement program:

- Members of the public;
- Crown land tenure and claim holders within the mineralized zone in the McFaulds Lake area;
- Environmental interest groups;
- Community based organizations;
- Registered Trappers; and
- Recreational and eco-tourism businesses.

4.1.1.2.2 Planned Consultation and Engagement Activities

Public and stakeholder consultation and engagement will include the methods outlined in **Table 4-7** and will entail some overlap with Indigenous community consultation as well as consultation with government agencies and municipalities.

Table 4-7: Public and Stakeholder Consultation and Engagement - Rounds 2 and 3

Method of Consultation / Engagement	Description
Notification Letters	Notification letters will be prepared and sent by mail and email to the public and stakeholders identified and included in the Stakeholder Contact List at the following EA/IA milestones in Consultation Rounds 2 and 3: • Evaluation of alternatives and identification of preferred alternative; • Submission of Draft EAR/IS; and • Submission of Final EAR/IS.
Public Notices and Newspaper Advertising	Public Notices will be used at various points throughout Consultation Rounds 2 and 3 to inform the public and stakeholders of EA/IA study submission and to invite attendance at community meetings/open houses. Notices to be published include: • Notice of Open House sessions; • Notice of Draft EAR/IS for review; and • Notice of Submission of Final EAR/IS for review. The notices will be published in the Wawatay News, Thunder Bay Chronicle Journal, Timmins Daily Press, and Sioux Lookout Bulletin and on the Project Website.
Public Information Centres	During Consultation Rounds 2 and 3, a total of two (2) PICs (open house format) will be planned in the City of Thunder Bay for members of the public and stakeholders to attend. They will serve as a forum to provide feedback and comments on the results of the studies that have been conducted, the evaluation of alternatives and selection of the preferred alternative, and effects assessment of the Project.
Communication Materials	Various communication materials will be developed for use at meetings, including presentation slide decks, project fact sheets, handouts, display boards, etc. Communication materials will be in plain language and free of technical jargon to ensure that information is clear and easy to understand.
Project Website	A Project website is available for members of the public, stakeholders, and others to review related information, at www.supplyroad.ca. Materials that will be posted on the website during Consultation Rounds 2 and 3 include those related to: • Information on the further development and identification of alternative methods for implementing the Project and criteria for evaluating alternatives; • Information on the evaluation of alternatives and identification of preferred alternative (Project Development Area/Footprint), including supportive infrastructure; • Notice of Open House sessions; • Notice of Draft and Final EAR/IS for review; • Draft and Final EAR/IS; • Recorded videos of community presentations; and Other materials that are developed over time.
EAR/IS Document Review	Interested public and stakeholders will have an opportunity to review the Draft and Final EAR/IS during the public review periods at the participating municipal offices and public libraries.

4.1.2 Data Collection Surveys and Analysis

4.1.2.1 Baseline Data Collection Surveys with Indigenous Communities and Groups

At the expiry of the current IS phase on February 24, 2023, primary data collection activities with Indigenous communities and groups to support the socio-economic and human health assessments will be partially complete; however, further efforts within the requested extension timeframe are needed to finalize data collection, including analysis, validation and reporting. It should be noted that the COVID-19 pandemic resulted in federal, provincial, and local restrictions on in-person gatherings, travel, and has impacted the capacity of Indigenous communities and groups to respond to requests for engagement and participation. Therefore, presenting a barrier to completing consultation and baseline data gathering activities (such as surveys, interviews and focus groups) as initially planned within the Project schedule (refer to **Section 2**).

Proposed data collection analysis and reporting to be completed during the requested Project extension are summarized in **Table 4-8**.

Table 4-8: Planned Socio-Economic and Human Health Baseline Data Collection, Analysis and Reporting Activities with Indigenous Communities and Groups

Method	Socio-Economic Baseline - To Be Completed	Human Health Baseline - To Be Completed
Baseline Study (General)	• Update data regarding Social and Economic VCs for Indigenous communities and groups based on 2021 Census data, as available. • Finalize review and integration of all applicable secondary source information, including submitting RFIs to third parties if required. • Analysis of all primary and secondary data. Where sources provide disaggregated data based on population subgroups (i.e., male and female statistics, age, etc.), this data will be used in the baseline to characterize the sub-groups and to support the GBA+ framework. • Completion of draft and final Socio-Economic Existing Conditions Report, including opportunity for Agency and MECP to review.	• Complete development of baseline community health profile based on primary and secondary source data. • Where sources provide disaggregated data based on subgroups (i.e., male and female statistics, age, etc.), this data will be used in the baseline to characterize the sub-groups and to support the GBA+ framework. • Finalize review and integration of all applicable secondary source information, including submitting RFIs to third parties if required.
Surveys	• Complete analysis of socio-economic surveys administered/received from other communities (beyond WFN) and complete analysis of findings. • In order to undertake a GBA+ approach, the aim will be to achieve diversity of viewpoints from different sub-groups within the communities including women, men, youth, and Elders.	• Complete analysis of both of Human Health Survey and Country Foods Survey administered online via SurveyMonkey and at in-person community events. • In order to undertake a GBA+ approach, the aim will be to achieve a diversity of viewpoints from different sub-groups within the communities including women, men, youth, and Elders.
Key Informant Interviews	• Complete remaining identified key informant interviews, either virtually or during a community visit, with Indigenous communities including transcription, analysis and validation. • Key informants will be asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. Key informants could include	• Complete remaining health-specific key informant interviews with Webequie First Nation either virtually or during a community visit. • Continue to integrate and analyze responses to health questions to develop community health profile, including integration with the socio-economic

Table4-8 (Cont'd): Planned Socio-Economic and Human Health Baseline Data Collection, Analysis and Reporting Activities with Indigenous Communities and Groups

Method	• Socio-Economic Baseline - To Be Completed	• Human Health Baseline - To Be Completed
	Chiefs, Councillors, band administration staff, and social service providers.	baseline program to maximize effort and avoid duplication. • Key informants will be asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. Key informants could include Chiefs, Councillors, band administration staff, and social service providers.
Focus Groups	• Complete remaining focus groups with Elders, youth, land users/knowledge keepers, and other groups as identified, with Indigenous communities, either virtually or during a community visit, based on interest and availability to participate.	• Continue to pose health questions at ongoing Socio-Economic focus groups to maximize effort and avoid duplication.

4.1.2.2 Baseline Data Collection with the Public and Stakeholders

Secondary information has been collected for municipalities and townships as part of the baseline data collection. Updates on the review and integration of secondary data have included government websites (such as 2021 Census Profile data), municipal websites, local and provincial police and emergency service websites, municipal economic development plans and other open-source data to identify community demographics, infrastructure, economic development, social services, safety, and housing.

4.1.2.3 Collection of Indigenous Knowledge and Indigenous Land and Resource Use

The following principles are proposed as a starting point for discussions with communities on data collection, sharing and confidentiality, and permission of use of Indigenous knowledge, which are based on a holistic set of principles.[1]

Respect – Indigenous knowledge and western knowledge should be viewed as equally valid ways of knowing. They do not always align and require validation from the other. Indigenous knowledge holders should be treated as experts of their communities and with equal respect to the western knowledge advisors. The credentials of the knowledge holders should be validated by their communities, not an external third party.

Relationship Based – Building relationships includes seeking to understand a community's unique history and traditions, respecting traditional activities (e.g., availability around seasonal practices), and enabling Indigenous knowledge to inform how the parties work together throughout the life of the project.

Iterative, Interconnected and Broad Application – Indigenous knowledge provided by communities should be part of an ongoing dialogue with community members, with the aim to understand and apply Indigenous knowledge across all phases and disciplines of the project.

Acknowledgement of Context – The community should be actively involved in ensuring the context and the meaning of Indigenous knowledge provided is understood and maintained. A challenge is ensuring

[1] Based on reference: British Columbia Environmental Assessment Office. 2020. Guide to Indigenous Knowledge in Environmental Assessments. Accessed at https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/guide_to_indigenous_knowledge_in_eas_v1_-_april_2020.pdf.

meanings are maintained through translation of oral teachings, which may contain spiritual and other cultural elements that may be unfamiliar to the Project team.

Transparency – It is important for the EA/IA process to demonstrate, as transparently as possible, the consideration of Indigenous knowledge, while balancing any concerns for confidentiality and ownership of Indigenous knowledge by the community.

Permission of Use – Indigenous knowledge belongs to knowledge holders and their communities. Governance and consultation protocols, community policies and procedures should be well understood when requesting use of Indigenous knowledge. Gaining permission is an ongoing process, and permission can be revoked.

Two overarching approaches to the collection of comments from Indigenous communities and Indigenous knowledge include:

- Participation in consultation and engagement activities hosted by the Project Team, where community members will have the opportunity to provide Indigenous knowledge input throughout the EA/IA process; and
- Participation in the Indigenous Knowledge and Land and Resource Use (IKLRU) Program, which aims to undertake Indigenous knowledge studies, led by the Indigenous community to collect Indigenous knowledge and participate in the integration of information into the EA/IA process.

Data collection may be from secondary/previously gathered information or may be collected in a new study.

The IKLRU Program specifically aims to engage and collaborate with Indigenous communities on the collection and integration of IKLRU into the EA/IA. The key objective of the IKLRU is to provide opportunities to Indigenous communities to meaningfully participate in the EA/IA process by engaging in the baseline characterization and assessment of potential impacts of the Project, including impacts on Aboriginal and Treaty Rights.

To date the following Indigenous communities have expressed an interest to participate in the IKLRU Program for the Project: Marten Falls First Nation, Weenusk First Nation, Long Lake #58 First Nation, Kingfisher Lake First Nation and Constance Lake First Nation. Currently, the Project Team is in the process of arranging and documenting meetings with each community to discuss the next steps which include, but not limited to: execution of data sharing agreements; capacity funding; defining IKLRU study spatial boundaries and temporal boundaries; offer of guidance materials to serve as a ‘toolbox’ for communities to support IKLRU data collection and sharing; timeline/schedule to receive IKLRU information/report; integration of IKLRU information into the EA/IA; and validation of information with communities to ensure it has been interpreted and captured appropriately in the EA/IA.

The primary tasks in the IKLRU program anticipated to be completed during extended time for the Project with participating communities include: follow-up to receive IKLRU information/report; review and integration of IKLRU information into the EA/IA; and validation of information with communities.

Opportunities to work closely with Indigenous communities on an ongoing basis to validate and integrate IKLRU information are outlined in the **Table 4-9**.

Table 4-9: Integration of Indigenous Knowledge Validation Steps in the EA/IA Process

Activity	General Description	Validation Step
1. Community initiates participation	Indigenous community representing knowledge holders agrees to participate in the IKLRU Program, and to identify knowledge holders that may wish to participate in providing information.	In keeping with its governance protocols and decision-making process, Indigenous community agrees to collect Indigenous knowledge information, in its prescribed format.
2. Identify knowledge holders	Community identifies knowledge holders to participate in Indigenous knowledge information gathering.	The community identifies willing participants, regarded as knowledge keepers in traditional way of life of the community.
3. Gather Indigenous knowledge and document the information	Indigenous Knowledge is gathered by the community from knowledge holders and captured in confidential draft documentation.	Consent (preferably a form) is administered by the community to acknowledge the privileged nature of the information being shared.
4. Knowledge holders review of Indigenous knowledge information gathered	Indigenous knowledge that has been documented, is circulated to knowledge holders that participated in the information gathering, and reviewed in a group format, i.e., workshop, or individually, to verify the accuracy of the information.	Indigenous knowledge holders are invited by the community to review and comment on draft Indigenous knowledge information that has been documented.
5. Confirmation of Indigenous knowledge information for sharing	The community confirms Indigenous knowledge information for sharing, following any revisions and additional information received from knowledge holders.	In keeping with community governance protocols, the community confirms Indigenous knowledge information to be shared.
6. Community shares Indigenous knowledge with Project Team/Proponent	Indigenous knowledge information is shared with the Project team for integration into the EA/IA process, including the description of existing baseline conditions, pathways of effects and effects assessment.	Community shares Indigenous knowledge with Project team, under data sharing and confidentiality agreement.
7. Indigenous knowledge integration	In collaboration between the community and the Project team, Indigenous knowledge information is integrated into EA/IA documentation, and draft results circulated to the community for review.	Draft results of Indigenous knowledge integration circulated to the community for review and input.
8. Confirmation of Indigenous knowledge for submission	The community grants permission for the use of Indigenous knowledge in documentation.	The community confirms with the Project team the integrated Indigenous knowledge may be used in the EA/IA.

4.1.3 Field Surveys to Collect Biophysical Baseline Data

Table 4-10 summarizes the field surveys to be completed during the extended time for the Project. Only caribou field surveys are planned in the Winter of 2023 (February to March).

Table 4-10: Baseline Data Field Surveys to be Completed During the Extended Time

Discipline	Field Survey	Description	Planned Dates
Species at Risk	Supplemental Species at Risk Field Survey	Caribou winter aerial surveys	Winter 2023
		Caribou calf recruitment surveys	Winter 2023

4.1.4 Coordination with Other Parties

4.1.4.1 Ontario

As part the engagement and consultation program with Indigenous communities to date, and during the proposed extension of the IS Phase, it is expected that comments and/or issues received by the Project Team including those raised by Indigenous communities that are outside the scope of what Webequie First Nation is responsible for responding to as proponent for the EA may require referral and coordination with Ontario. Where referrals to Ontario occur, the Project Team will follow-up with the Ontario on the outcomes of Crown consultation with an Indigenous community and will be integrate into the EA/IA where applicable. This coordination with Ontario is expected to be primarily with the MECP EA Branch and Ministry of Mines who are leading consultation efforts in support of satisfying Ontario's consultation obligations on the Project as well as on the Marten Falls Community Access Road and Northern Road Link projects. Coordination is also expected to occur with the Ministry of Mines, which has implemented the Participant Funding Initiative to provide support for eligible Indigenous communities to participate in the WSR EA process including engagement activities for the purpose of consultation on the Project.

Coordination with Ontario is also expected to occur with the Government Review Team (GRT) as part of the provincial EA process. Technical comments and/or issues identified by the GRT, including outcomes that may influence the EA/IA (e.g., baseline, evaluation of alternatives, effect assessment, etc.) will be integrated and documented (i.e., Record of Consultation). The MECP EA Branch is generally responsible for coordination of the provincial GRT and the Project Team will work closely with the MECP at key milestones in the coordinated provincial and federal assessment process for the Project. In the requested time extension period, this is expected to focus on the GRT review of the Draft and Final EAR/IS.

4.1.5 Submission of Pre-Draft, Draft and Final Environmental Assessment Report / Impact Statement

In the extended time period for the IS Phase it is the intent of the proponent to prepare and circulate a pre-Draft EAR/IS to the Agency and MECP for a 60-day review period. The purpose of this voluntary step by the proponent, which is not a requirement of the MECP or Agency, is to allow for the early identification and resolution of potential EA/IA process related issues and preliminary determination of conformance with the requirements of the TISG and ToR. Following receipt of comments from the Agency and MECP the proponent will make revisions to the document, and then formally release the Draft EAR/IS under the provincial EA process with invitation to the public, GRT, Indigenous communities/groups and stakeholders to provide comments within a 60-day review period. Concurrently, at this time, the proponent will also submit the Draft EAR/IS to the Agency to begin the 75-day federal

review process that incudes identifying major deficiencies/issues with respect to meeting the requirements of the TISG for the Project.

Based on the receipt of comments/input from the public, federal and provincial authorities, Indigenous communities/groups and stakeholders, the proponent will address outstanding comments/issues and then prepare and submit the Final EAR/IS to the Agency and MECP.

The preparation and release/submission of the Pre-Draft, Draft EAR/IS and Final EAR/IS will all be completed during the extended time period, as indicated in the project schedule contained in **Appendix A,** and as summarized in **Section 4.1.6**

The following subsections briefly describe the proponent-led consultation and engagement associated with the Draft and Final EAR/IS.

4.1.5.1 Proponent-led Consultation and Engagement

4.1.5.1.1 Indigenous Communities and Groups

Consultation and engagement with Indigenous communities and groups on the preliminary results of the effects assessment for the Project to be documented in the Draft EAR/IS will occur in Round 3 of the proponent-led consultation program (refer to **Section 4.1.1.1**). This will include the preliminary effects assessment for each valued component including mitigation/enhancement measures, residual effects, cumulative effects, and proposed follow-up monitoring programs.

A GBA+ lens will be applied to identification of effects due to the Project using a pathways approach based on what is known about the Project, existing socio-economic conditions disaggregated by gender and age, engagement and consultation activities, as well as literature that identifies GBA+ effects based on similar types of projects, and the potential for disproportionately adverse effects on women, Elders, and/or youth. The identification of possible positive impacts on women, Elders, and youth will also be important.

Mitigation in the context of GBA+ asks the questions: how can we avoid or limit potential adverse impacts, and reduce the potential risks posed by the Project for vulnerable subgroups? At the same time, how can we enhance the potential benefits for vulnerable subgroups? Mitigation options will be proposed and explored in consultation with GBA+ socioeconomic study participants and through consultation and engagement activities.

Importantly, effects may impact communities, Indigenous groups and stakeholders in different ways, including through a GBA+ lens, and vulnerable subgroups may respond differently to the effects. Therefore, determining and characterizing effects will be based largely on the level of concern expressed through engagement with the Indigenous groups and community members, including women, youth, and Elders.

Consultation Round 3 includes offering targeted opportunities to consult with Indigenous communities and groups on the cumulative effects assessment as required under the provincial ToR Notice of Approval. Focus will be on potential effects to Indigenous peoples and impacts on the exercise of Aboriginal and Treaty rights as described in Section 19 of the TISG. **Table 4-3**, as previously cited, summarizes the consultation and engagement activities that are planned to occur with Indigenous communities and groups during Consultation Round 3.

During Round 3, the proponent will engage with all Indigenous groups identified in the Agency's Indigenous Engagement and Partnership Plan (IEPP) in order to identify and understand the potential impacts of their Projects on Indigenous peoples, including consideration of Indigenous knowledge received that informed the impact assessment and/or that identified measures to avoid or minimize potential impacts on the exercise of rights of Indigenous peoples from the Project.

It is also possible that during Round 3 of engagement that potential positive outcomes may also be identified, including measures that could improve the underlying baseline conditions that support the exercise of rights. Note it is the proponent's overall approach that engagement in all rounds of consultation involve ongoing information sharing and collaboration between Webequie First Nation and other Indigenous communities potentially affected by the Project. This collaboration is intended to help to validate the assessment findings.

The results of any engagement during Consultation Rounds 1, 2 and 3 will be summarized and documented (i.e., Record of Consultation) in the Draft EAR/IS and the proponent will make efforts, where possible, to reflect the perspectives of the Indigenous communities and groups involved. Results of the engagement will also include outcome of any meetings and supplemental engagement sessions held with Indigenous communities that may focus on topic-specific issues or concerns.

As noted in **Section 4.1.5** Indigenous communities and groups under the provincial EA process will be invited to submit comments on the Draft EAR/IS during the 60-day review period, after completion of Consultation Round 3. Comments received during the review period will be used by the proponent to further inform the impact assessment and will be integrated and documented in the Final EAR/IS, including proponent responses to the comments received from Indigenous communities and groups. During and/or after the review period, meetings or further engagement may be conducted with select Indigenous communities to resolve issues or to further discuss comments received on the Draft EAR/IS.

Based on the comments/input from Indigenous communities, and others the proponent will prepare and submit the Final EAR/IS to the Agency and MECP. During Agency and MECP led engagement and consultation on the Final EAR/IS the proponent will work collaboratively with the authorities to respond to comments or participate in meetings with Indigenous communities or others to discuss technical matters.

4.1.5.1.2 Government Agencies

Consultation and engagement with provincial agencies, municipalities and federal authorities on the preliminary results of the effects assessment for the Project will occur in Round 3 of the proponent-led -consultation program (refer to **Section 4.1.1.1.1**). **Table 4-6**, as previously cited, summarizes the consultation and engagement activities that are planned to occur with government agencies during Consultation Round 3, including opportunity to attend a Public Information Centre, also offered to the public and stakeholders, that will present information on the preliminary results of the effects assessment for the Project to be documented in the Draft EAR/IS.

Provincial agencies (i.e., GRT) and municipalities will be invited by the proponent to submit comments on the Draft EAR/IS during the requested 60-day review period, after completion of Round 3. Comments received during the review period will be used by the proponent to further inform the impact assessment and will be integrated and documented in the Final EAR/IS, including proponent responses to the comments received from the GRT and municipalities. During and/or after the review period, meetings or further engagement may be conducted with select agencies or municipalities to resolve issues or to further discuss comments received or the results of the effects assessment. As noted above based on the comments/input received from GRT, Indigenous communities, the public and stakeholders the proponent will then prepare and submit the Final EAR/IS to the MECP.

As noted in **Section 4.1.5**, the Draft EAR/IS will be submitted to the Agency for the 75-day federal review process. Deficiencies identified from the review by federal authorities will be reviewed by the proponent and responses prepared. The timeframe to address identified deficiencies are described further in **Section 4.1.5.4**. Once deficiencies are addressed the proponent will submit the Final EAR/IS and Summary of Impact Statement to the Agency for administrative review and determination of compliance with the TISG.

4.1.5.1.3 Public and Stakeholders

Consultation and engagement with the public and stakeholders on the preliminary results of the effects assessment for the Project will occur in Round 3 of the proponent-led consultation program. **Table 4-7** summarizes the consultation and engagement activities that are planned to occur with the public and stakeholder during Consultation Round 3, including opportunity to attend a PIC in Thunder Bay that will present information on the preliminary results of the effects assessment for the Project to be documented in the Draft EAR/IS.

Similar to government agencies and Indigenous communities, the public and stakeholders will be invited to submit comments on the Draft EAR/IS during the requested 60 -day review period, after completion of Round 3. Comments received during the review period will be used by the proponent to further inform the impact assessment and will be integrated and documented in the Final EAR/IS, including proponent responses to the comments received from the public and stakeholders.

4.1.5.2 Document Review by Agency, Other Federal Authorities and Provincial Authorities

During the extended time period for the IS Phase the following documents will be subject to concurrent review by the Agency, other federal authorities and provincial authorities.

- *Draft Socio-Economic Existing Conditions Report*. The proponent has made a commitment to offer this document to the Agency and MECP for review and will request that comments be provided within 60 days. The proponent will prepare responses to comments received from the review and will revise and finalize the Socio-Economic Existing Conditions Report (approximately 120 days after receipt of comments) and distribute to the Agency and MECP (refer to project schedule in Appendix A for timeframe).
- *Draft EAR/IS and Final EAR/IS and Summary of Impact Statement*. The time period allotted for review of the Draft and Final EAR/IS and supportive documentation (i.e., Record of Consultation) are specified in the project schedule contained in **Appendix A**. For the Draft EAR/IS this allows for the mandated 75-day federal review process and also in parallel the proponent-led 60-day review period offered to provincial authorities, stakeholders, the public and Indigenous communities. As specified by the Agency, for the Final EAR/IS the schedule allows for 30-day Agency administrative review and determination of compliance with TISG; 45-days for Agency posting and invitation to public and Indigenous communities to review and provide comments on the Summary of Impact Statement; 30-days for Agency to consider comments and determine if the Final EAR/IS meets requirements of the TISG; and 30-days for Agency to verify if deficiencies have been adequately addressed by the proponent.

4.1.5.3 Agency-led Consultation and Engagement

During the extended time period for the IS Phase, the proponent will support the Agency-led consultation and engagement with the public and Indigenous communities and groups.

As outlined in the Agency's IEPP and Public Participation Plan for the Project, the proponent expects to participate in meetings with the Agency, federal authorities, the public, stakeholders and Indigenous communities to discuss technical matters. In addition, the proponent in preparing the Draft EAR/IS will validate IKLRU information with Indigenous communities who provide it, prior to formally submitting the Draft EAR/IS.

As outlined in the Agency's Public Participation Plan, the proponent will engage with the public and stakeholders to gather information identify potential effects and appropriate mitigation measures and address concerns throughout the impact assessment process. Also, the proponent will support meetings

organized by Agency, where necessary, to present information about the Project, including on baseline conditions, potential effects, assessment of effects, and proposed mitigation and follow-up measures.

The above proponent support to Agency-led consultation and engagement is reflected in the project schedule and is envisioned to occur within the extended time period for the IS Phase and Impact Assessment Phase.

4.1.5.4 Addressing Deficiencies in the Impact Statement

The proponent has allotted time in their project schedule to address major deficiencies or issues of concerns in the Impact Statement Phase as identified by the Agency and other federal authorities, provincial authorities, the public, indigenous communities and others. In the extended IS Phase this will involve review and receipt of comments from the Agency's and MECP on the Pre-Draft EAR/IS (outside of formal review process) that allows the proponent approximately 60-days to address deficiencies and finalize the Draft EAR/IS. Following submission of the Draft EAR/IS to the Agency for the 75-day federal review process and parallel 60-day proponent-led review period, the proponent has allowed 380 days to address comments and identified deficiencies, and revise and submit the Final EAR/IS. In addition, the proponent has also included approximately 220 days to revise the Final EAR/IS based on the Agency's administrative review to determine if the EAR/IS meets requirements of the TISG, which includes consideration of comments received from the public and Indigenous communities during the 45-day Agency led review period of the Summary of the Impact Statement.

4.1.5.5 Contingency Allowance for Unexpected Delays

As reflected in the project schedule to complete the Impact Statement Phase, as contained in **Appendix A** and summarized in **Section 4.1.6**, the proponent has integrated a contingency allowance for unexpected delays for select activities and tasks that are considered to pose a risk or uncertainty to the schedule. The extent of potential delay for any given activity/task is difficult to predict with certainty and could include, but not limited to, the following items, which in some cases could occur in parallel:

- Additional time needed for participation and receipt of Indigenous Knowledge (IK) and land and resource information from communities, including completing validation process with regards to providing informed consent for the use of approved information into EA/IA documentation;
- Additional time needed for assessment of impacts to the exercise of Aboriginal and Treaty rights that is intended to be a collaborative process with Indigenous communities and is linked to communities sharing IK and land and resource use information;
- Potential for additional time to integrate and consider specific outstanding issues resulting from Ontario's consultation with Indigenous communities;
- Additional time needed to arrange, conduct and document proponent-led Consultation Rounds 2 and 3 with Indigenous communities then expected, including offering targeted opportunities for each Indigenous community on the cumulative effects assessment as required under the provincial ToR Notice of Approval, and resolving issues/concerns (e.g., evaluation of alternatives, effects assessment, etc.);
- Additional time needed to address major deficiencies (e.g., baseline data, technical effects assessment for valued components, GBA+ analysis, etc.) identified from the Agency and federal authorities review of Socio-Economic Baseline Report, Pre-Draft, Draft and Final EAR/IS. This is also relevant to the provincial EA process and GRT review of the EAR/IS, as part of the coordinated federal/provincial assessment for the Project; and
- Additional time needed to address issues/concerns raised by Indigenous communities, the public and/or stakeholders, including potential further proponent-led engagement with Indigenous

communities to resolve significant areas of concern such as specific valued component effects (e.g., Caribou), cumulative effects assessment or impacts on the exercise of Aboriginal and Treaty Rights.

4.1.6 Project Schedule

The detailed schedule for the Project is contained in **Appendix A**. The following is a summary of key milestones/deliverables assumed in the project schedule within the extended time period for the Impact Statement Phase.

- Submit draft Socio-Economic Existing Conditions Report for Agency, federal authorities and MECP review – April 16, 2023.
- Revise and finalize Socio-Economic Existing Conditions Report based on deficiencies identified from the Agency, federal authorities and MECP review – October 11, 2023.
- Submit Pre-Draft EAR/IS for Agency, federal authorities and MECP review –January 23, 2024.
- Revise and finalize Pre-Draft EAR/IS based on deficiencies identified from the Agency, federal authorities and MECP review – May 23, 2024.
- Submit/circulate Draft EAR/IS for Agency, federal authorities, MECP and provincial GRT, stakeholders, the public and Indigenous communities for review – January 17, 2025.
- Submit Final EAR/IS for Agency and federal authorities review – November 21, 2025.
- Revise Final EAR/IS, if necessary, based on additional comments from Agency – April 9, 2026.
- Agency Posts to Registry Public Notice to Invitation to the public and Indigenous communities/groups to provide comments on the Summary of the Impact Statement – April 17, 2026.
- Proponent to address deficiencies identified by the Agency, if necessary, including engaging with the public and Indigenous communities/groups – December 7, 2026.
- Agency accepts the EAR/IS and Issues Notice of Determination (completion of IS Phase) with Agency-led Impact Assessment Phase initiated – January 6, 2027.

5 Progress Report

This section describes the advances made by the Project Team to meet the requirements of the TISG for the Project, including:

- Engagement activities conducted to date with Indigenous communities and groups, government agencies, and the public and stakeholders;
- A summary of the baseline data collected to date;
- Determination of the final project components; and
- Additional relevant information.

5.1 Consultation and Engagement with Indigenous Communities and Groups

This section describes engagement activities conducted to date with Indigenous communities and groups, and the outcomes of these activities.

5.1.1 Summary of Consultation and Engagement Activities to Date

5.1.1.1 Chief and Council Meetings

A total of four (4) Chief and Council Meetings were held during Consultation Round 1, including three (3) with Webequie First Nation's Chief Wabasse and Council and one (1) with Weenusk First Nation's Chief Hunter and Council. Details of the meetings are provided in **Table 5-1**.

Table 5-1: Consultation Round 1 Chief and Council Meetings

#	Community	Date/Time	Meeting Summary
1	Webequie First Nation	March 30, 2022 12:00 PM	A meeting was held with Chief Wabasse and Council to provide a project update to new members and discuss upcoming EA/IA activities.
2	Webequie First Nation	June 20, 2022 2:00 PM	A meeting was held with Chief Wabasse and Council to provide an update on the socio-economic and human health studies and to coordinate a community visit to collect primary information to support both studies.
3	Weenusk First Nation	July 19, 2022 10:00 AM	A meeting was held with Chief Hunter and Council to provide information on topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach. IK, consideration of alternatives and consultation approach and next steps.
4	Webequie First Nation	August 26, 2022 11:00 AM	A meeting was held with Chief Wabasse and Council to provide an update on the IKLRU program and to discuss next steps.

5.1.1.2 Community Virtual Information Sessions - Round #1

Twenty-two (22) community Virtual Information Sessions were held during Consultation Round 1 – one with each of the potentially affected or interested Indigenous communities at the start of each week. **Table 5-2** shows the schedule of sessions. An invitation letter and poster were sent to the Chief of each

community at least two weeks in advance of the event and each session was hosted by the Project Team via Zoom and live-streamed via Facebook Live. Sessions included an introduction to the current status of the Project, a pre-recorded video presentation summarizing topics for engagement and EA/IA activities to date, and a Q&A period, during which time responses were provided to questions raised by the community during the EA ToR phase. At the session, attendees were also encouraged to pose new questions to the Project Team. After each session, the video of the recorded virtual information session was posted to the Project Website, ensuring community members who were unable to attend could still watch the session pertaining to their community an submit questions and feedback. Comments received from each community and responses provided by the Project Team are detailed in **Section 5.2**.

Table 5-2: Schedule for Consultation Round 1 Community Virtual Information Sessions

#	Indigenous Community/ Group	Session Date	Invitation Letter
1	Webequie First Nation	Monday, April 4, 2022	Tuesday, March 29, 2022
2	Weenusk (Peawanuck) First Nation	Monday, April 11, 2022	Tuesday, March 29, 2022
3	Kaschechewan First Nation	Tuesday, April 19, 2022	Monday, April 4, 2022
4	Attawapiskat First Nation	Monday, April 25, 2022	Monday, April 11, 2022
5	Fort Albany First Nation	Monday, May 2, 2022	Tuesday, April 19, 2022
6	Marten Falls First Nation	Monday, May 9, 2022	Monday, April 25, 2022
7	Neskantaga First Nation	Monday, May 16, 2022	Monday, May 2, 2022
8	Kasabonika Lake First Nation	Tuesday, May 24, 2022	Monday, May 9, 2022
9	Eabametoong First Nation	Monday, May 30, 2022	Monday, May 16, 2022
10	Nibinamik First Nation	Monday, June 6, 2022	Tuesday, May 24, 2022
11	Aroland First Nation	Monday, June 13, 2022	Tuesday, May 31, 2022
12	Constance Lake First Nation	Monday, June 20, 2022	Tuesday, June 7, 2022
13	Ginoogaming First Nation	Monday, June 27, 2022	Monday, June 13, 2022
14	Kitchenuhmaykoosib Inninuwug First Nation	Monday, July 4, 2022	Thursday, June 23, 2022
15	Kingfisher Lake First Nation	Monday, July 11, 2022	Monday, June 27, 2022
16	Long Lake #58 First Nation	Monday, July 18, 2022	Monday, July 4, 2022
17	Mishkeegogamang First Nation	Monday, July 25, 2022	Monday, July 11, 2022
18	North Caribou Lake First Nation	Tuesday, August 2, 2022	Monday, July 18, 2022
19	Wapekeka First Nation	Monday, August 8, 2022	Monday, July 25, 2022
20	Wawakapewin First Nation	Monday, August 15, 2022	Tuesday, August 2, 2022
21	Wunnumin Lake First Nation	Monday, August 22, 2022	Monday, August 8, 2022
22	Métis Nation of Ontario – Region 2	Monday, August 29, 2022	Monday, August 15, 2022

5.1.1.3 Project Notifications and Updates

5.1.1.3.1 Notices / Invitations (i.e., Notice of Commencement of EA)

Notices regarding key Project milestones and invitation letters for data gathering activities were sent to Indigenous communities via email, mail (Canada Post), and fax (where applicable), as further described in **Table 5-3**.

Table 5-3: Notices / Invitations Circulated to Indigenous Communities During Consultation Round 1

#	Notice	Date(s)	Description
1	Notice of Commencement of EA	October 29, 2021 – Email November 3, 2021 – Mail	The NoC of EA was circulated to all Indigenous communities/groups and stakeholders on the Project contact list. The notice informed recipients that the ToR had been approved- with amendments- by MECP.
2	IKLRU Program Invitation Letter	December 13, 2021 – Email December 13, 2021 – Mail December 13, 2021 – Fax	The IKLRU invitation letter was sent to all 22 Indigenous communities to share information regarding the program and solicit participation.
3	Socio-Economic Primary Data Collection Invitation Letter	December 21, 2021 – Email December 20, 2021 – Mail December 20, 2021 – Fax	The Socio-Economic invitation letter was sent to all 22 Indigenous communities to introduce the socio-economic primary data collection program, including its purpose, methods, and criteria, and to solicit participation.
4	Engagement Options Letter #1 (with information on virtual community information sessions, including past sessions)	July 12, 2022 – Email July 12, 2022 – Fax	A letter was distributed to all 22 Indigenous communities to summarize all available engagement options and provide an overview of the status of virtual community information sessions, including where to access past sessions
5	Engagement Options Letter #2 (with information on the Socio-Economic primary data collection program)	July 26, 2022 – Email July 26, 2022 – Fax	A letter was distributed to all 22 Indigenous communities as a refresher on all available engagement options, also providing an overview of the Socio-Economic primary data collection program and reminding communities of opportunities for participation.
6	Engagement Options Letter #3 (with information on Consultation Round 2 topics)	August 12, 2022 – Email August 12, 2022 – Fax	A letter was distributed to all 22 Indigenous communities as another refresher on all available engagement options, also providing information on the conclusion of Consultation Round 1 and topics to be covered in the upcoming Consultation Round 2.
7	Notice of Public Information Centre #1	August 17, 2022 – Newspaper August 18, 2022 – Email August 23, 2022 – Email	A Notice of PIC #1 was published in local newspapers, posted on the project website, and sent to all Indigenous communities/groups on the Project contact list. The notice informed recipients of the Project purpose, planning process, and PIC details including date, time, location, and contact information.

5.1.1.3.2 Newsletters

Monthly newsletters providing up-to-date information on various aspects of the Project (such as field studies, study plans, the IKLRU program, socio-economic primary data collection, and consultation events) were sent to all 22 potentially affected Indigenous communities via email, mail (50 copies through Canada Post), and fax, as further described in **Table 5-4**. They are also posted on the Project website, ensuring they are accessible to all community members. As previously noted, WFN receives a community specific Newsletter on a quarterly basis that provides information and update on the Project.

Table 5-4: Monthly Newsletters Circulated During Consultation Round 1

Issue	Month	Description of Newsletter Contents
5	November 2021	• Description of ToR approval and "what happens now that the ToR has been approved?" • Summary of (and link to) the Notice of Commencement of EA. • Overview of baseline studies and identification of alternatives to be completed. • General description of the engagement and consultation approach.
6	January 2022	• Reminder of ToR approval and what this means for the Project/ the difference between the federal IA and provincial EA. • Overview of the role of study plans. • List of field studies completed in the past year. • What to expect in 2022.
7	February 2022	• Reminder of the difference between federal IA and provincial EA. • Overview of the coordinated assessment process. • Description of what will be studied (valued components/indicators). • Summary of the IKLRU program, including its purpose, phases, and its role in the EA/IA.
8	March 2022	• Reminder of what the coordinated provincial-federal assessment process entails. • Overview of IKLRU, including the purpose of the IKLRU program, its importance in the EA/IA, and information being gathered. • Summary of the socio-economic primary data collection program.
9	April 2022	• Description of the current stage of the Project. • Overview of upcoming virtual community information sessions. • Summary of the socio-economic program, including "what are socio-economics?", what the primary data collection program entails, and methods that will be used to gather this information.
10	May 2022	• Quick refresher on the current phase of the EA/IA. • Description of virtual community information sessions. • Summary of valued components, indicators, and fact sheets- which explain how these will be studied. • Overview of additional upcoming engagement opportunities.
11	June 2022	• Update on virtual community information sessions, including communities whose sessions have already occurred and those whose sessions are upcoming, how to watch recordings and submit comments, and a description of what each session involves. • Overview of ongoing field studies.
12	July 2022	• Overview of additional upcoming engagement opportunities. • General description of the objective of field studies for the Project. • Definition of key terms associated with cultural heritage assessment, including built heritage resources, cultural heritage landscapes, and cultural heritage resources. • Summary of the objectives of fish and fish habitat assessments. • Overview of ongoing virtual community information sessions.

Table 5-4 (Cont'd): Monthly Newsletters Circulated During Consultation Round 1

Issue	Month	Description of Newsletter Contents
13	August 2022	• Overview of the outcomes/ wrap-up of the virtual community information sessions. • Introduction to activities and topics for Consultation Round 2. • Promotion of the upcoming WSR Open House on August 25th.
14	September 2022	• Overview of July 26 & 27 community visit and upcoming fall visit. • Introduction to Country Foods and Human Health surveys. • Refresher on Socio-Economic Primary Data Collection and IKLRU Programs. • Summary of August 25 WSR Open House.

5.1.1.4 Project Website

A dedicated website, www.supplyroad.ca/, was created at the beginning of the Project (during the ToR phase) to provide Indigenous communities and groups, the public and stakeholders with information on the Project, post notifications of upcoming activities and engagement events, and provide access to important documentation for review. Public notices/invitations, community information session presentations, and other relevant documents and communication materials (such as fact sheets and study plan summaries) are posted on the website to provide Indigenous community members, the public and stakeholders easy access to project information.

Throughout Consultation Round 1, recorded topic-specific live-streaming information sessions and community virtual information sessions have also been continuously uploaded to the website, ensuring community members who are unable to attend sessions can access project information and provide their feedback to the Project Team. Finally, a unique webpage was created for each of the 22 potentially affected communities, which can be accessed by entering "supplyroad.ca/[communityname]" into the web browser. Each community-specific webpage contains the following:

- Videos with information on a range of topics related to the Project;
- A live-stream recording of the community virtual information session;
- A Virtual Reality (VR) open house walkthrough, replicating a traditional open house setting with boards presenting information on various aspects of the Project; and
- A comment box, allowing community members to ask questions or provide feedback to the Project Team with ease.

The website also provides interested individuals contact information. It is updated regularly to ensure all relevant documentation to date is readily available and to provide information and notices in a practical manner. Key documents are provided in Ojibway, Cree, Oji-Cree, French, and English.

5.1.1.5 Virtual Topic-Specific Information Sessions and Radio Call-In Shows

Throughout Consultation Round 1, the Project Team hosted virtual topic-specific information sessions and radio call-in shows relevant to the Project, as listed in **Table 5-5**. Each began with a live radio show at 2:30 PM EST on Wawatay Radio and was followed by a livestream topic-specific event on Facebook Live and YouTube at 4:30 PM EST. In the two weekdays leading up to each information session/radio call-in show, the Project Team ran a 30 second ad on Wawatay Radio three times each day to advertise the event.

Table 5-5: Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
October 8, 2021	WSR EA/ ToR Approval	• Description of Project background and setting (regional and local). • Summary of WFN's approach to engagement. • Description of how the ToR was prepared and how the EA phase will proceed.
October 12, 2021	Socio-Economic and Human Health Study Plans	• Project update, explaining that the ToR had been approved. • Discussion of Socio-Economic and Human Health study plans- including their purpose and details of the activities associated with each.
October 14, 2021	WSR EA/ ToR Approval	• Description of Project background and setting (regional and local). • Summary of WFN's approach to engagement. • Description of how the ToR was prepared and how the EA phase will proceed.
October 26, 2021	Acoustic Environment, Visual Environment, Climate Change/Air Quality and Cumulative Effects	• Project update, explaining that the ToR had been approved. • Discussion of Acoustic Environment, Visual Environment, Climate Change/Air Quality, and Cumulative Effects study plans- including their purpose and details of the activities associated with each.
November 9, 2021	Soils, Vegetation, Groundwater, Surface Water, and Aquatic Habitat Study Plans	• Project update, explaining that the ToR had been approved. • Discussion of Soils, Vegetation, Groundwater, Surface Water, and Aquatic Habitat study plans- including their purpose and details of the activities associated with each.
November 23, 2021	Caribou, Wolverine, Wildlife and Wildlife Habitat, Species at Risk, and Breeding Birds Study Plans	• Project update, explaining that the ToR had been approved. • Discussion of Caribou, Wolverine, Wildlife and Wildlife Habitat, Species at Risk, and Breeding Birds study plans- including their purpose and details of the activities/ field studies associated with each.
January 12, 2022	Looking Back and Ahead: WSR Activities in 2021 and 2022	• Current status from provincial regulatory perspective. • Updates on activities related to engineering, noise, geotechnical, hydrogeology, socio-economic and biological studies. • Completed and upcoming community engagement.
January 26, 2022	What We Have Heard: Key Themes of Project Questions and Concerns	• Opportunities for providing project feedback. • Indigenous communities and organizations who have provided input. • Discussion of key themes of input provided.
February 9, 2022	The Provincial EA and Federal IA Processes	• Coordination of the two processes and a general comparison. • Purpose of components of technical study plans. • Explanation of valued components/indicators and discussion of assessment boundaries. • Role and purpose of baseline studies.

Table 5-5 (Cont'd): Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
February 23, 2022	Indigenous Knowledge Part 1 – What is IK?	• General description of what IK entails. • Discussion of the importance of IK in the EA/IA process and the blend of IK with western science • Summary of the WSR IK Program.
March 9, 2022	Indigenous Knowledge Part 2 – Weaving IK into EAs and IAs	• Review of "What is IK?'. • Specific examples of IK contribution from various disciplines. • Presentation of a graphic showing the combination of IK and western science data collection methods.
March 23, 2022	Indigenous Knowledge Part 3 – IK from a Community Member's Perspective	• Consisted of 3 videos, as follows: - The first provided a community Elder's explanation of Webequie's Three-Tier Model based on traditional use of the land. - The second was a more detailed explanation of the Three-Tier Model including its relationship with government and industry. • The third featured a community elder sharing stores on how Indigenous people moved within their homeland.
April 6, 2022	Socio-Economics	• Socio-economics were defined. • Discussion of socio-economic study plan, preliminary valued components, the local and regional study areas, baseline data collection, secondary information collection, GBA+ analysis, effects assessment, and mitigation of negative effects.
April 20, 2022	Human Health	• Description of Health Impact Assessments (HIAs). • Discussion of HIA objectives, the WFN proxy approach, the basis of an HIA, social determinants of health, First Nations health and wellness, and criteria and indicators.
May 4, 2022	Air, Noise and Vibration	• Divided into two parts, as follows: - (1) Noise and vibration, including a discussion of spatial boundaries, temporal boundaries, noise/vibration guidelines, measurement of background noise levels and results, noise monitoring locations, and mitigation methods; and - (2) Air Quality, including a discussion of information collection, valued components, and mitigation methods.
May 18, 2022	Wildlife and Species at Risk	• Objectives of the wildlife and SAR field studies. • Description of field studies and criteria and indicators. • Exploration of potential mitigation methods.

Table 5-5 (Cont'd): Virtual Topic-Specific Information Sessions and Radio Call-In Shows During Consultation Round 1

Date	Topic	Discussion Points
June 1, 2022	Groundwater and Surface Water	• Objectives of the groundwater and surface water field studies. • Discussion of study areas, field surveys, and potential mitigation methods.
June 15, 2022	Fish and Fish Habitat	• Objectives of the fish and fish habitat field studies. • Description of the various field surveys to be conducted and criteria and indicators. • Explanation of potential mitigation methods.
June 29, 2022	Cultural Heritage	• Key definitions associated with cultural heritage assessments. • Description of the purpose of the assessment, regulatory requirements, and steps involved in identifying built heritage resources and cultural heritage landscapes. • Overview of preliminary impact assessment methodology.

5.1.1.6 Key Informant Interviews and Focus Group Sessions

During Consultation Round 1, interviews were conducted with individuals possessing special knowledge or information to contribute to the WSR socio-economic baseline study. This special knowledge includes but not limited to community infrastructure capacity and service availability/ needs, history with developers, economic development aims, Indigenous owned businesses, housing supply and demand, and crime rates. Key informants included Chief and Council, band administration staff, social services providers, Elders, and other community members, who were asked questions that also speak to the issues and needs of vulnerable sub-groups such as women, youth, and Elders. They were interviewed either by telephone, videoconference, or during in-person consultation and engagement activities. Interviews were recorded electronically to assist in the preparation of transcripts and findings were organized thematically.

Additionally, focus groups are proposed to be undertaken with distinct sub-groups in the community, including youth, women, Elders, and land users/ knowledge keepers. To date focus groups have been held with women and youth (initial session) as noted in **Table 5-6**. Future focus groups sessions are currently being arranged for August 2022. Focus groups allow for a richer and more in-depth understanding of experiences and issues to emerge based on differences within the communities. Focus groups will be comprised of 3-6-participants each and lasted approximately 2-3 hours. Participants are recruited through the Webequie Project Team and/or other community contacts. The sessions are carried out either virtually via teleconference or in person, depending on provincial and community COVID-19 restrictions in place as well as participant preferences and comfort levels. Sessions held to date have been recorded using audio/video recording and a notetaker was also present.

All interviews and focus groups completed during Consultation Round 1 are expected to be with Webequie First Nation community members. Copies of transcripts and/or findings will be provided to key informants and/or focus group participants for validation and feedback and all information collection adhered to the principles of OCAP® (ownership, control, access, and possession principles) (The First Nations Information Governance Centre 2021). All 22 potentially affected communities were invited to participated in the socio-economic primary data collection program, and interviews and focus groups with other communities will be carried out during Consultation Rounds 2 and 3 based on expression of interest and availability to participate.

Table 5-6 lists all key informant interviews conducted during Consultation Round 1, including the name and role of each key informant, the date of each interview, and key discussion topics. The table also provides an overview of each focus group completed during Consultation Round 1, including the sub-group, number of participants, date, format, and key discussion topics. Interview and focus group findings and further information will be incorporated into in the WSR Socio-Economic Existing Conditions Report.

Table 5-6: Key Informant Interviews and Focus Groups

Name	Role	Interview Date	Key Discussion Topics
Glen Wabasse	Economic Development Officer	1-Oct-21	• Economic development • Local businesses • Procurement
Gordon Wabasse	Lands and Resources Director	1-Mar-22	• Land and resources use objectives • Current land and resource-related projects and/or studies
Cornelius Wabasse	Chief	1-Mar-22	• General social and economic issues and objectives/aspirations • Experiences with other development projects • Major community revenue sources
Leslie Spence	Community Coordinator/ Off-Reserve Liaison	1-Mar-22	• General social and economic issues and objectives/aspirations • Opportunities and services that may be needed with the WSR – particularly for youth
Ananias Spence	Esteemed Elder	1-Mar-22	• General social and economic issues and objectives/aspirations • Opportunities and services that may be needed with the WSR
Jeffrey Jacobs	Health Director	2-Mar-22	• General social and economic issues and objectives/aspirations • Access to services for health, well-being, and safety in the community, as well as barriers • Future plans for service upgrades
Levi Sofea	Former Health Director	13-May-22	• General social and economic issues and objectives/aspirations • Access to services for health, well-being, and safety in the community, as well as barriers • Future plans for service upgrades
Harry Wabasse	Former Councillor	13-May-22	• General social and economic issues and objectives/aspirations • Experiences with other development projects • Major community revenue sources

Table 5-6 (Cont'd): Key Informant Interviews and Focus Groups

Name	Role	Interview Date	Key Discussion Topics
Roy Spence	Former Councillor	13-May-22	• General social and economic issues and objectives/aspirations • Experiences with other development projects • Major community revenue sources
Mary Gardiner	School Principal	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve and off-reserve school attendance rates • Barriers to achieving higher levels of education • Traditional education offerings
Travis Spence	Employment Coordinator	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve employment opportunities, including for youth • Access to training and skills development
Marvin Wabasse	Housing Coordinator	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve housing affordability • Housing supply and demand, including overcrowding • Housing quality • Plans for additional housing
Jonny Suganaqueb	Housing Coordinator	13-May-22	• General social and economic issues and objectives/aspirations • On-reserve housing affordability • Housing supply and demand, including overcrowding • Housing quality • Plans for additional housing
Elsie MacDonald	Former Chief and Councillor for WFN	21-July-22	• General social and economic issues and objectives/aspirations • Child and family services • Education and training • Public work and infrastructure • Community well-being, health and safety

Table 5-7: Focus Groups

Sub-Group	# of Participants	Date	Format	Key Discussion Topics
Women	8	13-May-22	In Person	• Access to Land, Resources, Infrastructure and Services • Safety • Employment and Training
Youth (Initial)	2	13-May-22	In Person	• Enrolment and Education • Employment and Training • Access to Land, Resources, Infrastructure and Services • Safety

5.1.1.7 On-Reserve Community Meetings

Four in-person on-reserve community meetings were held during Consultation Round 1, three with WFN and one with Weenusk First Nation (refer to **Table 5-8**). The purpose of each community meeting was to share information on the WSR EA/IA process, study plans for valued components, assessment approach, IK, consideration of alternatives and consultation approach and next steps. The presentation materials were translated to Ojibway and Cree in real-time by local translators, and all COVID-19 protocols were adhered to. Each meeting ended with a Q&A period and an overview of other upcoming consultation and engagement opportunities.

Table 5-8: Consultation Round 1 On-Reserve Community Meetings

#	Community	Date/Time	Location	Topics Covered
1	Webequie First Nation	October 13, 2021 1:00 PM	WFN Band Hall	• EA process • Study Plans for: o Socio-Economic/ o Human Health
2	Webequie First Nation	October 27, 2021 12:00 PM	WFN Band Hall	• EA Process • Study Plans for: o Acoustic/Visual Environment o Climate Change/Air Quality o Cumulative Effects
3	Webequie First Nation	November 10, 2021 2:00 PM	WFN Band Hall	• EA Process • Study Plans for: o Geology, Terrain & Soils o Vegetation, o Groundwater & Surface Water o Aquatic Habitat
4	Weenusk First Nation	July 19, 2022 7:00 PM	Community Centre	• Topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach. IK, consideration of alternatives and consultation approach and next steps.

5.1.1.8 Webequie Off-Reserve Community Meetings

A meeting was held for Webequie First Nation off-reserve members at the Italian Cultural Centre in Thunder Bay on May 31, 2022, to provide information on topics in Consultation Round 1 – EA/IA updates, study plans for valued components, assessment approach. IK, consideration of alternatives and consultation approach and next steps.

5.1.1.9 Communication Materials

To augment activities, meetings, and events that occurred during Consultation Round 1, communication materials were developed. These included presentation slide decks, study plan and general summary fact

sheets for each discipline, handouts, display boards, and other materials. All materials were written in plain language free of technical jargon have been produced to ensure that information is clear and easy to understand. Many are available on the Project Website to ensure community members and all interested parities can download them following consultation and engagement activities. Materials are also translated in Ojibway, OjiCree and Cree. More specifically, the following materials can be accessed on the Project website:

- **Fact Sheets** – a brief overview of the assessment purpose, study area, timeline, existing conditions, and data requirements for each valued component;
- **Study Plan Summaries** – a more in-depth summary of the objectives, assessment areas/ considerations, study methods, potential mitigations, study area boundaries, and criteria and indicators for each valued component;
- **Study-specific web-pages** – summarize ongoing field studies and the socio-economic and IKLRU programs, including data collection topics, methods, rationale, and ways to get involved;
- **Round #1 Virtual Community Information Session Presentation** – provides an overview of the EA/IA process, Project description, engagement and consultation to date, study plans, assessment approach, baseline studies for select valued components, IKLRU program, evaluation of alternatives, and next steps;
- **Discipline-Specific Tutorial Videos** – provide tutorials on various disciplines, or VECs, that are being studied as part of the EA/IA process; and,
- **Virtual Community Information Session Videos** – videos of recorded virtual information sessions, allowing community members to watch their community-specific session on-demand and provide comments or feedback.

5.1.2 Summary of Key Issues Raised to Date

Table 5-9 summarizes the key issues/concerns raised during Consultation Round 1, which commenced following the ToR approval (October 8, 2021) and the proponent's Notice of Commencement of the provincial EA (November 3, 2021) and has comprised all EA/IA engagement activities with Indigenous communities and groups as of September 23, 2022. To date, the proponent has only received formal comments from Neskantaga First Nation and Attawapiskat First Nation.

Table 5-9: Summary of Key Issues/Concern Raised by Indigenous Communities and Groups

Theme of Comment / Concern	Indigenous Community / Group	General Comment / Concern	Project Team Response
Aggregate Resources	Neskantaga First Nation	• What volume of rock will be extracted from quarries, and are plans in place to remediate these quarries after extraction? • Does the natural environment study area include aggregate source areas?	• The preliminary estimate of aggregate/rock material needed to construct the WSR is 2,849,500 cubic metres. • The natural environment study areas include potential suitable aggregate sources identified at this time. • A reclamation and restoration plan is proposed to be developed for aggregate pit or quarry areas following their closure. At this preliminary stage this may involve backfilling, regrading/contouring of areas and reforestation to restore vegetation communities representative of the area.
Greenhouse Gas Emissions	Neskantaga First Nation	• Will cumulative GHG emissions be assessed, including reasonably foreseeable future activities?	• The cumulative effects resulting from the past, present and reasonably foreseeable projects, as listed in the federal Tailored Impact Statement Guidelines for the WSR, will be considered by the Project Team within the larger cumulative effects spatial boundaries and temporal boundaries, to the extent possible. At this time in the assessment process, it is unclear if GHG estimates for future projects or activities will be considered as this will be contingent on the type, reliability, completeness and limitations to the available data and information sources regarding projects or activities and their predicted impact on the VC. For some activities or projects that have recently been implemented, or that are in the planning/approval phase, comprehensive data may be available and will be examined, to the extent possible. However, for projects or activities that are at conceptual level currently, or historic, limited data and information may be available.
Compensatory Mitigation	Neskantaga First Nation	• Will the EAR/IS identify unavoidable impacts for which compensatory mitigation will be used?	• Where, significant residual effects for a valued component remain after mitigation, restitution for any damage caused by those effects will be identified in the EAR/IS and may include replacement, restoration, compensation or other means.
Cumulative Effects	Attawapiskat First Nation Neskantaga First Nation	• Can you explain how the cumulative effects approach will consider the impacts of planned mining activity and be incorporated into the EA/IA? • Will cumulatively impacts of all reasonably foreseeable future activities be described in quantitative terms?	• After identifying and characterizing the net effects for each of the Valued Components (VCs) they will be compiled and carried forward by the Project Team for integration in the cumulative effects assessment with input from consultation activities with Indigenous communities, the public and stakeholders. In general, the selected VCs for the cumulative effects are those most likely to be affected by the Project in combination with other projects and activities. The cumulative effects resulting from the past, present and reasonably foreseeable projects, as listed in the federal Tailored Impact Statement Guidelines for the WSR, will be considered by the Project Team within the larger cumulative effects spatial boundaries and temporal boundaries, to the extent possible. Therefore, reasonably foreseeable projects and activities will be included in the cumulative effects assessment, such as Eagle's Nest Mine and the Northern Road Link and Marten Falls Community Access Road that link the provincial road network to the Ring of Fire area. • A summary of the technical Study Plan for the cumulative effects assessment has been prepared and is available on the project website https://www.supplyroad.ca/. As part of Consultation Rounds 2 and 3 with Indigenous communities the Project Team will be offering targeted consultation opportunities with Indigenous communities and groups on the cumulative effects assessment as required under the provincial ToR Notice of Approval for the Project.
Employment and Training	Neskantaga First Nation	• What commitments have been made to provide employment and training to Indigenous community members?	• Webequie First Nation, as the proponent of the Project, is committed to maximizing Indigenous participation in all development phases of the Project (i.e., planning, construction, operations), with the goal to provide employment, training and business opportunities to its community members and others. At this early stage of the assessment process, specific proportions of positions for community members, including long-term, full-time, pensioned, and/or leadership positions are not known. As the socio-economic assessment is advanced, information on employment, training and business opportunities will be documented in the EAR/IS.
Enhanced Collaboration	Attawapiskat First Nation Neskantaga First Nation	• EAs/IAs should be co-developed, co-implemented and co-enforced by First Nations in the region. • Future meetings should be scheduled collaboratively with Indigenous communities.	• It is our expectation First Nations will engage with the WSR Team as the EA/IA process continues for the Project. The regulatory process will help ensure that Indigenous communities' views, perspectives, knowledge, and rights and interests are understood so that we can respond accordingly.
Fish and Fish Habitat	Neskantaga First Nation	• Will the EAR/IS analyze consequences to fish from alterations in groundwater pathways? • How will impacts to fish populations be studied, and will studies account for population variability?	• The EAR/IS will assess changes to groundwater and surface water interactions from the Project, including potential linkage to harm fish and/or fish habitat. • Fish and fish habitat studies to characterize existing conditions are on-going. In general, the objectives of aquatic assessment are to: identify potential fish habitat and species, including species at risk, at waterbody crossings potentially affected by the Project through fish community and spawning surveys; characterize benthic invertebrate species composition, richness and abundance at waterbody crossings; and provide a general characterization of fish and other aquatic species as defined in the Fisheries Act on the basis of resident and migratory species, food webs and trophic levels, structural and functional

Theme of Comment / Concern	Indigenous Community / Group	General Comment / Concern	Project Team Response
			linkages, life history and population dynamics. Surveys are intended to collect data over a 2-year period to address seasonal and annual variability of data on fisheries.

Table 5-9 (Cont'd): Summary of Key Issues/Concern Raised by Indigenous Communities and Groups

Theme of Comment / Concern	Indigenous Community / Group	General Comment / Concern	Project Team Response
Habitat Availability	Neskantaga First Nation	• What factors are used to measure habitat availability?	• The factors used to measure changes to habitat availability vary to some extent for VCs. As an example, for vegetation (uplands and wetlands) a quantitative measure (hectares) of removals would be used as well as quality (High, Moderate, Low) of vegetation associations available to wildlife species and their various life history stages.
Indigenous Knowledge Program	Neskantaga First Nation	• How will community knowledge be validated through the IK Program, and will communities be involved directly in decision-making?	• The purpose of the IKLRU validation is to provide an opportunity for a community and/or individuals to review IKLRU information they provided, to add or revise draft results, and to provide informed consent for the use of approved information in EA/IA documentation, as needed. A validation approach might involve a community validation workshop as a step in the data collection process to provide an opportunity for individuals that participated in a study to review IKLRU information derived from pre-existing and/or project-specific IKLRU studies to verify quality, representativeness and accuracy of the information presented, and to add or revise information presented. The community validation workshop could be conducted by the community's own research/consulting team and/or through a collaborative effort with the proponent's Project Team. Dependent on the community's wishes, the validation workshop can cover pre-existing or project-specific IKLRU information. Community participants that are involved in providing information for a study may be invited to review individual map biographies and/or interview transcripts. Participants would have the opportunity to add new data, and modify any points, or boundaries on their individual maps which they do not agree with. This process will ensure that the data on the maps will be accurate and validated by participants. Finally, decision-making authority of the community leadership.
Legal Representation	Attawapiskat First Nation Neskantaga First Nation	• Indigenous communities have requested that their legal representatives/advisors attend consultation sessions and be copied on all correspondence.	• We will ensure moving forward that all identified councillors, advisors and staff are copied on future correspondence. • While we appreciate the decision to not directly participate in the WSR virtual information session, the intent and purpose of these First Nation-specific information sessions is to obtain community input, insights, and information. • We encourage Indigenous communities to participate in consultation sessions to fully benefit from the opportunity to provide direct feedback and share any concerns or issues that community members may have about the Project.
Natural Environment Impacts (General)	Neskantaga First Nation	• Identification of unavoidable adverse impacts is critical because it forms the basis of required compensatory mitigation. Will unavoidable adverse impacts of the project be specifically identified in the EAR/IS sections, with a summary of these impacts in the EAR/IS?	• Predicted residual or net effects after the application of mitigation measures will be documented and summarized in the EAR/IS, including characterizing the net effects. The characterization of net effects will provide the foundation for determining the significance of incremental and cumulative effects from the Project for each valued component. The objective of the method will be to identify and predict net adverse and positive effects that have sufficient magnitude, duration, and geographic extent to cause fundamental changes to the self-sustainability or ecological function of a valued component and, therefore, result in significant combined effects.
Public Commentary	Neskantaga First Nation	• Public comments by the Premier have created an impression that the Ontario government intends to approve the Project regardless of the outcomes of the EA/IA	• It is not the role of the proponent to respond to comments from the Premier of Ontario as interpreted by Neskantaga First Nation.
Regional Assessment	Attawapiskat First Nation	• A Regional Assessment should be conducted for the entire Breathing Lands region before any further development, mining, or infrastructure related projects are pursued.	• The Regional Assessment is the responsibility of IAAC and falls within their federal jurisdiction. • The TISG for the Project and the federal IAA require that relevant information generated through the RA for the Ring of Fire Area be used to inform the Project effects assessment. • The WSR EA/IA timelines are not impacted by the federal RA process. Any questions related to the RA process should be directed to the Agency.
Request for Extension	Neskantaga First Nation	• What will this extension mean for provincial EA work? • How long will this extension be? • What was the rationale for seeking the extension?	• For the Project the two levels of government have indicated a willingness to follow a coordinated EA/IA process to the extent possible. Therefore, the proponent will align the provincial EA process with the federal Impact Statement Phase, where possible, including adjusting its project schedule and consultation program. The WSR Team and Impact Assessment Agency Canada (IAAC) are currently in process of requesting an extension to the Impact Statement Phase for the Project and no date has been set for an extension at this time. A decision regarding this matter will occur once the proponent submits a written request for an extension and IAAC evaluates the request based on the proponent's progress in the EA/IA process (e.g., baseline studies, engagement and consultation. etc.). It is the proponent's intent to submit a formal request for an extension to the Impact Statement Phase on September 24, 2022.

Table 5-9 (Cont'd): Summary of Key Issues/Concern Raised by Indigenous Communities and Groups

Theme of Comment / Concern	Indigenous Community / Group	General Comment / Concern	Project Team Response
		•	•
Traffic Studies	Neskantaga First Nation	• Will the traffic assessment be quantitative or qualitative?	• Based on the functional road type categorization for the proposed WSR (i.e., Rural Collector Undivided), intended purpose of the road, and population in the community of Webequie, an average annual daily traffic (AADT) volume of less than 500 vehicles has been assumed for the Project and used as design criteria for the road. It is expected that traffic during the operations phase will comprise light to medium personal and commercial vehicles, and heavier trucks carrying industrial (mining) supplies and equipment. The road will not be used to transport mine products. Further discussion on road traffic will be presented in the EAR/IS.
Violence Against Indigenous Women and Girls	Neskantaga First Nation	• How will the EA/IA assess the potential for increased violence against Indigenous women and girls?	• The approach to assess potential increase of violence against Indigenous women and girls will involve, but not be limited to, key informant interviews and focus groups to gather experience of Indigenous women/girls in communities on the issue and to review social studies that have examined the relationship and potential impacts of new road projects and Indigenous communities. Through consultation activities the Project Team will also engage with women and community members to help determine appropriate mitigation measures to reduce/minimize violence against Indigenous women and girls.
Wildfire	Neskantaga First Nation	• Wildfire in the area appears to be an increasing threat. What are the potential impacts on and/or risks of wildfire for the road?	• Accidents and malfunctions as related to the construction and operations phases of the Project will be examined in later stages of EA/IA process, including their potential to increase the risk of fires. As part of the EA/IA it is expected that an Environmental Management Plan, with mitigation and best management practices and procedures, will be developed to address potential risks of fires from project activities; and also emergency and contingency measures to address naturally occurring wildfires affecting the road.

5.2 Consultation and Engagement with Government Agencies and Municipalities

This section describes engagement activities conducted to date with government agencies and municipalities, and the outcomes of these activities.

5.2.1 Summary of Consultation and Engagement Activities to Date

5.2.1.1 Project Notifications and Updates

5.2.1.1.1 Notices/ Invitations

Notices regarding key project milestones were sent to government agencies and municipalities via email and mail (Canada Post), as further described in **Table 5-10.**

Table 5-10: Notices Circulated to Government Agencies and Municipalities During Consultation Round 1

#	Notice	Date(s)	Description
1	**Notice of Commencement of EA**	October 29, 2021 – Email November 3, 2021 – Mail	The NoC of EA was circulated to the GRT and all municipalities in the Study Area. The notice informed recipients that the ToR had been approved-with amendments - by MECP.
2	**Notice of Public Information Centre #1**	August 17, 2022 – Newspaper August 18, 2022 – Email August 23, 2022 – Email	A Notice of PIC #1 was published in local newspapers, posted on the project website, and sent to all government agencies and municipalities on the Project contact list. The notice informed recipients of the Project purpose, planning process, and PIC details including date, time, location, and contact information.

5.2.1.1.2 Newsletters

Monthly newsletters providing up-to-date information on various aspects of the Project (such as field studies, study plans, the IKLRU program, socio-economic primary data collection, and consultation events) were posted on the Project website throughout Consultation Round 1, ensuring they were accessible to government agencies and municipalities as applicable. A full list of all monthly newsletters, including a description of each newsletter's contents, is provided in **Section 5.1.1.3.2, Table 5-4**.

5.2.1.2 Public Information Centre #1

Members of the public, off-reserve WFN and other First Nation community members, government agencies, municipalities and stakeholders will have the opportunity to attend three (3) Public Information Centre (PIC) sessions (open house format) for the Project that will be held in the City of Thunder Bay (one during each of the three rounds of consultation), focusing generally on:

1. PIC #1: Study Plans for discipline studies, criteria and indicators for evaluation and selection of a preferred route and project effects assessment, approach for evaluation of alternatives, baseline studies, and Indigenous Knowledge/ Land and Resource Use (IKLU) program;
2. PIC #2: Identification and evaluation of alternatives, preferred route and aggregate/rock source areas, and preliminary engineering design elements; and
3. PIC #3: Presentation of the preferred alternative, summary of preliminary effects assessment, including cumulative effects, and proposed impact management, mitigation and follow-up monitoring program.

While the Municipality of Greenstone, Township of Pickle Lake, City of Timmins and Municipality of Sioux Lookout will be included within the consultation program due to their location and interested stakeholders, PICs will not be held at these locations. Instead, any PICs will be held in the City of Thunder Bay, as this is the most central location to the WFN, and, therefore, the likely all-season road corridor. The Webequie Project Team will consider requests for additional PIC sessions in other locations.

The PIC sessions will include display materials containing information on the project background, the EA/IA study process, known existing project area environmental conditions, the results of studies that have been conducted; the development and evaluation of alternatives, including the rationale for evaluation criteria; the project schedule; and the results of the consultation program. The Webequie Project Team will be available to receive and respond to questions and have an open dialogue regarding the EA/IA process. Comment sheets will be supplied to all attendees during the session, and written comments may be prepared and left at the open house venue or sent to the Project Team within a specified period following the event.

As of September 23, 2022, one PIC session (PIC #1) was held during Consultation Round 1 on August 25, 2022 and a summary of this session is described in Section 5.3.1.2. The Notice of PIC #1 was circulated by letter and email to government agencies, municipalities, Indigenous communities and stakeholders and was published in local newspapers (e.g., the Thunder Bay Chronicle).

5.2.1.3 Project Website

Government agencies and municipalities can access the Project website, www.supplyroad.ca, at any time for information on the Project. The website contains various resources and materials that may be of interest to government agencies and municipalities, including Project notices (such as the NoA and NoC), documentation for review (such as the Draft/Final ToR and Record of Consultation), study plans, fact sheets, and video presentations. The website is updated regularly to ensure all relevant documentation to date is readily available and to provide information and notices in a practical manner.

5.2.2 Summary of Key Issues Raised to Date

As of September 23, 2022, no issues have been raised by government agencies or municipalities.

5.3 Consultation and Engagement with the Public and Stakeholders

This section describes engagement activities conducted to date with the public and stakeholders, and municipalities and the outcomes of these activities.

5.3.1 Summary of Consultation and Engagement Activities to Date

5.3.1.1 Project Notifications and Updates

5.3.1.1.1 Notices/ Invitations

Proponent-led notices regarding key Project milestones were published in local newspapers and on the Project website to inform members of the public. Notices were also sent to government agencies and stakeholders on the Project contact list via email and mail (Canada Post), as further described in **Table 5-11.**

Table 5-11: Notices Circulated to the Public and Stakeholders During Consultation Round 1

#	Notice	Date(s)	Description
1	**Notice of Commencement of EA**	October 29, 2021 – Email November 3, 2021 – Mail November 3, 2021 – Local Newspapers November 19, 2021 – Wawatay News	The NoC of EA was published in the Thunder Bay Chronicle, Timmins Daily Press and Sioux Lookout, and Wawatay News and posted to the Project website, ensuring accessibility to members of the public. It was also circulated to all stakeholders on the Project stakeholder list. The notice informed recipients that the ToR had been approved-with amendments- by MECP.
2	**Notice of Public Information Centre (PIC) #1**	August 17, 2022 – Newspaper August 18, 2022 – Email August 23, 2022 – Email	A Notice of PIC #1 was published in local newspapers, posted on the project website, and sent to all stakeholders on the Project contact list. The notice informed recipients of the Project purpose, planning process, and PIC details including date, time, location, and contact information.

5.3.1.1.2 Newsletters

Monthly newsletters providing up-to-date information on various aspects of the Project (such as field studies, study plans, the IKLRU program, socio-economic primary data collection, and consultation events) were posted on the Project website throughout Consultation Round 1, ensuring they were accessible to the public and Project stakeholders as applicable. A full list of all monthly newsletters, including a description of each newsletter's contents, is provided in **Section 5.1.1.3.2, Table 5-4**.

5.3.1.2 Public Information Centre #1

As noted in **Section 5.2.1.2**, members of the public, off-reserve WFN and other First Nation community members, government agencies, municipalities and stakeholders will have the opportunity to attend three (3) Public Information Centre (PIC) sessions (open house format) for the Project that will be held in the City of Thunder Bay (one during each of the three rounds of consultation).

During Consultation Round 1, the Project Team hosted PIC #1 at the Valhalla Hotel and Conference Centre in Thunder Bay on August 25, 2022. This was an Open House for all interested community members, the public and stakeholders. It consisted of two sessions: one between 2:00 – 5:00 PM and the second from 6:00 – 9:00 PM, followed by an informal drop-in centre with display information about the Project. Topics covered during PIC #1 included Project updates since the ToR approval, the EA/IA process, studies being conducted for valued components, ongoing and future engagement and consultation opportunities, IKLRU, and the evaluation of alternatives. A total of 24 individuals attended the sessions. The main concern that we heard was the need for the incorporation of Indigenous ways of communication in the process and the critical need for infrastructure in the communities.

Upon arriving at the PIC, attendees were greeted by the Project Team and encouraged to sign-in at the registration table. Communication materials provided at the open house included: 50 copies of the EA and Preliminary Engineering Fact Sheet in Ojibway and English; 50 copies of the ToR Fact Sheet in Ojibway and English; 50 copies of the Community Newsletter in English; 50 copies of Frequently Asked Questions in English; and 50 Community Meeting Feedback Forms. Project Team members encouraged attendees to complete the Feedback Forms and provide any comments and questions at the conclusion of the event to the Project Team.

5.3.1.3 Project Website

The Project Website, www.supplyroad.ca/, provides interested members of the public and stakeholders with on-demand and up-to-date Project information. This includes project notices (such as the Notice of Impact Assessment Decision that IA is required for the Project, d Notice of Commencement of provincial EA), notifications of upcoming activities and engagement events that are open to the public, reports and documents (such as Detailed Project Description, ToR, etc.), and communication materials (such as fact sheets and study plan summaries). Video recordings from topic-specific live streaming sessions are also posted to the website, ensuring members of the public and stakeholders who are unable to attend live can watch later and provide comments and feedback.

The website also provides interested individuals contact information. It is updated regularly to ensure all relevant documentation to date is readily available and to provide information and notices in a practical manner. Key documents are provided in Ojibway, Cree, Oji-Cree, French, and English.

5.3.2 Summary of Key Issues Raised to Date

As of September 23, 2022, no issues have been raised by the public or stakeholders.

5.4 Summary of Baseline Data Collection to Date

This section summarizes baseline data collection to date. Baseline studies have been conducted from 2019 through 2022 to support the characterization of existing conditions for the biophysical, socio-economic, visual, and cultural environment. Baseline collection efforts have included review of secondary information and primary data collection (e.g., biophysical field surveys and investigations, socio-economic and health surveys, key informant interviews, focus groups, IK collection, among others).

5.4.1 Biophysical Environment

This section provides a summary of baseline data collection to date for the biophysical environment. The results of baseline data collection for the biophysical environment, including field surveys and modelling, are provided in the Draft Natural Environment Existing Conditions Report for the Project (SNC-Lavalin,

June 2022), which is currently under review by the MECP, the provincial GRT, the Agency and other federal authorities.

5.4.1.1 Geology Terrain and Soils

5.4.1.1.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Geology, Terrain and Soils:

- Geological Survey of Canada physiographic regions map (Bostock, 2014);
- Bedrock and Quaternary Geology data, Ontario Geological Survey (Ontario Geological Survey, 2021);
- Geology of the Canadian Shield in Ontario: An Update (Percival and Easton, 2007);
- Tectonic Styles in Canada: The Lithoprobe Perspective (Percival et al., 2012);
- Digital Northern Ontario Engineering Geology Terrain Study (NOEGTS, 2005);
- Eagle's Nest Project Federal/Provincial Environmental Impact Statement/Environmental Assessment Report (Knight Piésold Consulting, 2013);
- Surficial geology, bedrock geology, topographic mapping, and available existing geological and hydrogeological reports (Ontario Geological Survey, 2011; MNRF, 2016);
- The Kapuskasing Uplift: a geological and geophysical synthesis (Percival and West, 1994)
- The Canadian System of Soil Classification (SCWG, 1998);
- The Ecosystems of Ontario, Part 1, Ecozones and Ecoregions (Crins et al., 2009);
- Precambrian geology of the Hudson Bay and James Bay lowlands region interpreted from aeromagnetic data - east sheet (Stott, 2008);
- Ring of Fire Baseline Environmental Monitoring Program: Preliminary Report, Ministry of Environment, Conservation, and Parks, 2019;
- Permafrost, The National Atlas of Canada, 5th Edition, Department of Energy, Mines and Resources Canada, 1995;
- Landscapes and Landforms of the Hudson Bay Lowlands, Lynda Dredge and Larry Dyke, Landscapes and Landforms of Eastern Canada, Springer, 2020;
- Ontario Geological Survey, 1997. Quaternary geology, seamless coverage of the province of Ontario: Ontario Geological Survey, Data Set 14;
- Barnett, P.J. et al. 2013. Surficial Geology of the Lansdowne House Area Northeast, Northern Ontario. 1:100,000. P3697;
- Barnett, P.J. et al. 2013. Surficial Geology of the Lansdowne House Area Northwest, Northern Ontario. 1:100,000. P3696;
- Metsaranta, R.T. and Houlé, M.G. 2017. Precambrian geology of the McFaulds Lake area, “Ring of Fire” region, Ontario— central sheet; Ontario Geological Survey, Preliminary Map P .3805; Geological Survey of Canada, Open File 8201, scale 1:100 000. doi:10.4095/299711. Map P3805 on www.geologyontario.ca;

- Dyer, R.D. and Burke, H.E. 2012. Preliminary results from the McFaulds Lake ("Ring of Fire") area lake sediment geochemistry pilot study, northern Ontario; Ontario Geological Survey, Open File Report 6269, 26p. OFR6269 on www.geologyontario.ca;
- Standard Practice for Aggregate Resource Evaluation, MTO, 2002;
- Provincial Pavement Engineering Investigation Guidelines, v.1.1, MTO, 2013;
- Ontario Hydro Network – Waterbodies. Land Information Ontario (LIO) Warehouse;
- Ontario Wetlands: Ontario Ministry of Natural Resources; and
- Provincial Land Cover (2000) Database: Ontario Ministry of Natural Resources. Information from previous terrain studies conducted in the broader project area, particularly for the terrain units, obtained from the following reports:
  - McFaulds Lake Project – Webequie to Esker Camp road route location: Report on mineral and organic terrain mapping in a 10 km radius around esker camp. 2010. J.D. Mollard and Associates Limited (JDMA), (2010) September 23, 2010. Report No. 1675.
  - McFaulds Lake Project – McFaulds Lake Peat Sampling Field Trip Report. JDMA (2010) September 17, 2010.

5.4.1.1.2 Field Surveys

The following field surveys were conducted:

- Light Detection and Ranging (LiDAR) data collection (2019);
- Soil and Terrain Investigations (JDMA, 2019 and 2020);
- Peat Thickness and Aggregate Source Investigations (JDMA, 2020); and
- Geotechnical Investigations, including geochemistry analysis (SNC-Lavalin, 2019 and 2020).

The surveys related to geology, terrain and soils were conducted in 2019, with supplemental investigations performed in summer 2020 with the intent to provide 2-years of data within the preliminary proposed corridor for the WSR and supportive infrastructure areas (aggregate sources).

The 2019 surveys, within the approximately 2 km wide preliminary proposed corridor for the supply road, focussed on collecting terrain and soils data needed to characterize existing conditions (e.g., soil and terrain, peat depths, etc.); identifying and evaluating alternatives (e.g., routes for supply road and siting of aggregate sources, etc.); and supporting the preliminary engineering design for the supply road. The 2020 field survey provided supplemental and complementary soil/geotechnical data to inform the road design, and to further delineate and characterize potential aggregate sources. Geochemical analysis of soil and rock to provide an indication of the potential for metal leaching (ML) and acid rock drainage (ARD) at potential quarries, rock cuts and talus site locations where materials may be generated for use and/or stockpiled. The geotechnical investigations performed in 2019 and 2020 involved excavation of test pits, drilling of boreholes, hand-held peat probes and also the installation of groundwater monitoring wells to support the groundwater program (**Section 5.4.1.3.2**).

On behalf of SNC-Lavalin, J.D. Mollard and Associates Limited conducted terrain and soils investigation in 2019 within the preliminary proposed corridor to facilitate the identification of potential aggregate sources, characterization of stream crossings and mapping of several route alternatives, including identification of an optimal geotechnical route (referred to as Alternative 2) based on terrain and engineering considerations.

The terrain analysis was conducted using aerial and satellite imagery and digital elevation data. The primary source of desktop information for terrain mapping was high-resolution orthoimagery (20 cm resolution) and Light Detection and Ranging (LiDAR) elevation data at 1 metre resolution. Satellite imagery available through ESRI World Imagery Basemap and Google Earth offered supplemental high-resolution imager. Air photo interpretation was also conducted at selected locations using 1954 black & white photographs at 1:60,000 scale which, when viewed stereoscopically, provide 3-D perspectives to evaluate terrain and topographic conditions. These multiple sources of imagery assisted with terrain unit classification, particularly with resolving the wetlands and permafrost-affected terrain.

5.4.1.2 Surface Water

5.4.1.2.1 Review of Secondary Source Information

The following background information sources were reviewed to characterize existing surface water conditions for the Project:

- Regional hydrology data obtained from the Ontario Flow Assessment Tool (MNRF, 2019a);
- Google Earth Satellite Imagery;
- Field notes from SNC-Lavalin site geotechnical and biological investigations reconnaissance.
- Environment Canada, Water Survey of Canada Monitoring Stations;
- Ring of Fire Baseline Environmental Monitoring Program (Preliminary Report; MECP October 2019);
- Permits to Take Water Data Catalogue, published by MECP in August 8, 2018 and updated quarterly, https://www.ontario.ca/environment-and-energy/map-permits-take-water;
- Webequie Supply Road: Terrain Analysis, Potential Aggregate Sources & Identification of Route Alternatives, JD Mollard and Associates, March 29, 2019;
- Eagles Nest Project – A Federal/Provincial Environmental Impact Statement/Environmental Assessment Report, Noront Resources Ltd., Knight Piesold Consulting, December 2013;
- Water Level and Flow – Environment and Natural Resources – Government of Canada - https://wateroffice.ec.gc.ca/ ;and
- Electronic data obtained from the MNRF through Land Information Ontario (MNR 2002, 2013a; MNRF 2015a), including tertiary watersheds, Ontario Hydro Network waterbody and watercourse (1:20K) data sets, and Ontario Integrated Hydrology Data; ArcGIS World Imagery (satellite and aerial imagery), published by Environmental Systems Research Institute.

Existing surface water yield and surface water quality conditions were determined by review and analysis of information extracted from the Ontario Flow Assessment Tool (OFAT) III and atlases, as well data available from the Water Survey of Canada (WSC) and Provincial Water Quality Monitoring Network (PWQMN).

5.4.1.2.2 Field Surveys

Surface water field studies were carried over the course of three years from 2019 to 2021 to establish existing surface water quantity and quality and sediment quality conditions in the LSA for the Project. The sampling site locations for surface water and sediments are presented in **Figure 5-1**.

SIZE 11x17

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Winisk River
Lastcedar Lake
Winisk River Provincial Park
Upper Ekwan
Eastwood Island
Webequie Settlement
Garrioch Lake
Plant Lake
Ekwan River
Clancy Lake
WB-1
Webequie Airport
Bender Lake
Stockman Lake
McMurdo Lake
Greig Lake
WC-2
WC-3
Odobas Lake
WC-3
Billinger Lake
Leaver Lake
Winisk Lake
Morrison Bay
WC-4
Muketeiq River
Prime Lake
Deugo Lake
Farrow Lake
WC-10
WC-13
WC-16
WC-9
WC-11
WC-16
WC-21
WC-24
Newstead Lake
WC-6
WC-8
WC-15
WC-17
WC-20
WC-24
WC-26
WC-7
WC-15
WC-25
WC-26
Ekwan River
McFaulds Lake
Malloy Lake

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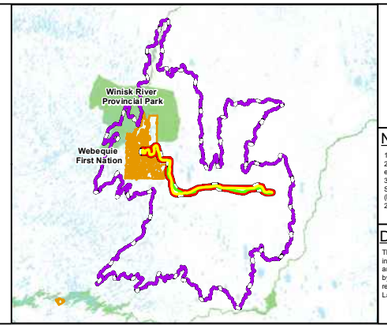
Legend

Route Label

- Alternative 1
- Alternative 2
- Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
- Regional Study Area (RSA Includes Quaternary Watersheds that Traverse the Route Alternatives)
- Sediment Sample
- Water Sample
- First Nation Reserve
- Waterbody
- Watercourse
- Provincial Park



WSR WEBEQUIE SUPPLY ROAD

NOTES

1. Coordinate System: NAD 1983 UTM Zone 16N.
2. Cadastral boundaries are for informational purposes only and should not be considered suitable for legal, engineering, or surveying purposes.
3. Topographic/landcover features obtained from CanVec v12.0 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information; and, Land Information Ontario (LIO) Warehouse Open Data (https://geohub.lio.gov.on.ca/), Ontario Ministry of Natural Resources and Forestry (OMNRF) Download Date : 2021-02-04

DISCLAIMER

0 10 20 Km

Webequie Supply Road (WSR)

Sampling Locations

Figure Number:		REV:
5.1		PA

Client:	Project Number:	Date:
Webequie First Nation	661910	2022-10-21

DSC	DRN	CHK	APP
	AD	CB	CB

SIZE 11 X 17 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Document Path: \\tor01\PROJECTS\E&W\Projects\661910 - Webequie First Nation Supply Rd\40_Execution\45_GIS_Dwgs\MXD\Extension_Report\661910_WSR_BIO_ER_HYD_SamplingLocations_0001_0001.mxd

Surface Water Quantity Data Collection

In the summer of 2019, SNC-Lavalin staff performed a field reconnaissance exercise with the goal of visiting each of the 26 watercourse crossings along the proposed corridor of the WSR. Field staff gathered information required to establish streamflow characteristics at the crossings, including:

- Waterbody Type;
- Flow;
- Mean wetted depth;
- Mean wetted width;
- Mean bankfull width;
- Substrate;
- Beaver dam presence;
- Riparian vegetation;
- Floodplain characteristics; and
- Ground photography.

The above data sets collected were combined with available background information and mapping resources to determine the inputs necessary for the Manning's equation. Seven of the 26 watercourse crossings were not accessible during field reconnaissance and therefore for these crossings, Manning's equation inputs were generated by via background information, mapping, aerial photography and visual characterization from the helicopter by field reconnaissance staff.

Surface Water Sampling

Surface water samples at waterbodies were collected from each of the four sub-watersheds that traverse the proposed corridor for the WSR. Surface water sampling was completed in 2019, 2020, and 2021. Water samples were collected at all watercourse crossings, where access was possible at the time of the field visits. Sampling occurred in the summer (August 12-20) of 2019 (19 sites), Fall (October 14-25) of 2020 (20 samples with 2 duplicates, 18 sites), and spring (May 16-19) of 2021 (19 samples with 2 duplicates, 18 sites). Where possible, sampling was completed at the same location for all sampling events to capture seasonal and annual variability in each location. Due to changing water levels and access restrictions, not every watercourse was sampled each year.

Samples were analyzed for the following parameters:

- In-Situ/Field - pH, Temperature;
- General Chemistry - Electrical Conductivity, Hardness, pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Turbidity;
- Inorganics and Nutrients - Total Alkalinity, Ammonia Nitrogen, Unionized Ammonia, Bicarbonate, Bromide, Carbonate, Chloride, Fluoride, Hydroxide, Nitrate, Nitrite, Total Kjeldahl Nitrogen (TKN), Ortho-phosphate, Phosphorus, TDS (calculated), Sulphate, Anion Sum, Cation Sum, Cation Balance;
- Metals - Total Metals (full ICP-MS scan); and
- Aggregate Organics - Chemical Oxygen Demand (COD).

Sediment Sampling

Sediment samples were acquired during the benthic invertebrate surveys from October 14 – 25, 2020. Due to poor weather and access conditions, samples were only collected at five sampling locations as shown in **Figure 5-1**. No in-situ measurements were taken for the sediment samples. Sediment samples were analyzed for the following parameters:

- General Chemistry - Fraction of Organic Carbon, Moisture, Total Organic Carbon, Total Kjedahl Nitrogen; and
- Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium (total), Chromium (V), Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorous, Potassium, Selenium, Silver, Sodium, Strontium, Sulphur, Thallium, Titanium, Tin, Uranium, Vanadium, Zinc, Zirconium, Lithium.

5.4.1.2.3 Hydrological Analysis

A hydrological analysis was performed to establish peak discharge rates and high-water levels at each watercourse crossing of the proposed corridor for the WSR.

5.4.1.3 Groundwater Resources

5.4.1.3.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Groundwater Resources:

- Topography, surficial geology, quaternary geology and bedrock geology (OGS Maps) where the LSA and RSA are located;
- An Assessment of the Groundwater Resources of Northern Ontario, Hydrogeology of Ontario Series-Report 2, Ministry of the Environment (S.N. Singer and C.K Cheng, 2002);
- Eagles Nest Mine Project – Draft Federal/Provincial Environmental Impact Statement/Environmental Assessment Report, Noront Resources Ltd., Knight Piesold Consulting. December 2013;
- MECP Water Well Record database and online map (https://www.ontario.ca/environment-and-energy/map-well-records);
- MECP Permit to Take Water database and online map (https://www.ontario.ca/environment-and-energy/map-permits-take-water);
- Ontario Geological Survey Map P.3607. Precambrian Geology, Geology of the Winisk Lake Area, Northwestern Ontario;
- Provincial Groundwater Monitoring Network database and online map (https://www.ontario.ca/environment-and-energy/map-provincial-groundwater-monitoring-network); and
- Ring of Fire Baseline Environmental Monitoring Program: Preliminary Report. Ministry of Environment, Conservation, and Parks. 2019.

5.4.1.3.2 Field Surveys

Hydrogeological field investigations were conducted in 2020 and 2021 to within the LSA for the Project. The field investigations consisted of drilling, well/piezometer installation, well development, hydraulic

conductivity testing and seasonal groundwater data collection. The first round of groundwater monitoring and sampling were completed in July 2020. The second and third events of groundwater monitoring and sampling were carried out in October 2020 and May 2021, respectively. In-situ hydraulic conductivity testes were conducted in October 2020.

Drilling and Well/Piezometer Installation

A total of 12 monitoring wells and three piezometers were installed in July 2020, in conjunction with the geotechnical investigation program (**Section 5.4.1.1.2**). A summary of the field work programs is as follows:

- During the first half of the drilling program, 10 boreholes were drilled in the potential aggregate and borrow sources areas. Five monitoring wells (WQA-1 to WQA-5) were installed upon completion of drilling. Depths of wells ranged from 4.4 metres to 7.5 metres below ground surface (mbgs);
- During the second half of the program, the drilling and well installation campaign was moved to the proposed Webequie Supply Road corridor. A total of eight monitoring wells (WQR-1, WQR-2A/B, WQR-3, WQR-4, WQA-5 and WQR-6A/B) were installed at six locations. Clustered wells (WQR-2A/B and WQR-6A/B) were installed at two locations to investigate vertical hydraulic gradients, as well as groundwater conditions and aquifer properties for different types of soils and formations at different depths. The depths of wells ranged from 4.3 mbgs to 10.4 mbgs;
- The monitoring wells were constructed with 1-inch or 2-inch diameter polyvinyl chloride (PVC) pipes/risers with 5-foot or 10-foot prepacked screens based on site conditions and drilling methods. Typically, 2-inch wells were installed in the overburden, while 1-inch wells were installed in the bedrock, with a couple of variations; and
- In addition, three Solinst drive point stainless steel piezometers were installed to monitor shallow groundwater levels in the peatland areas. They were located besides (within 5 m of) monitoring wells WQA-2, WQR-4 and WQR-5, respectively, with depths ranging from 0.9 mbgs to 6.0 mbgs.

The locations of the monitoring wells installed in the LSA are shown on **Figure 5-2**.

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Winisk River
Lastcedar Lake
Winisk River Provincial Park
Eastwood Island
Webequie Settlement
Webequie Airport
Bender Lake
Garrioch Lake
Plant Lake
Stockman Lake
McMurdo Lake
Ekwan River
Clancy Lake
Greig Lake
Mukeregi River
Billinger Lake
Leaver Lake
Deugo Lake
Prime Lake
Odobas Lake
Winisk Lake
Morrison Bay
Farrow Lake
Newstead Lake
Malloy Lake
McFaulds Lake

BH19-01
WQR-1
WQA-01
BH20-01
BH19-02
WQA-02
BH20-02
WQA-03
WQA-04
BH20-03
WQA-06
WQA-05
WQA-07
WQR-2A
WQR-2B
BH19-03
BH19-04
BH19-05
WQR-4
BH19-06
WQR-3
WQR-5
BH19-07
BH19-08
WQR-6B
WQR-6A
BH19-10
BH19-P1

Legend

Route Label

- Alternative 1
- Alternative 2
- Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
- Regional Study Area (RSA Not Applicable)
- Borehole
- Monitoring Well
- Webequie First Nation Reserve
- Winisk River Provincial Park
- Waterbody
- Watercourse

WSR WEBEQUIE SUPPLY ROAD

NOTES

1. Coordinate System: NAD 1983 UTM Zone 16N.
2. Cadastral boundaries are for informational purposes only and should not be considered suitable for legal, engineering, or surveying purposes.
3. Topographic/landcover features obtained from CanVec v12.0 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information; and, Land Information Ontario (LIO) Warehouse Open Data (https://geohub.lio.gov.on.ca/), Ontario Ministry of Natural Resources and Forestry (OMNRF) Download Date : 2021-02-04

DISCLAIMER

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Webequie Supply Road (WSR)

Groundwater Study Areas

Figure Number:	5.2	REV:	PA
Client: Webequie First Nation	Project Number: 661910	Date: 2022-10-21	

DSC	DRN	CHK	APP
	AD	WL	WL

SIZE 11 X 17 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Document Path: \\tor01\PROJECTS\E&W\Projects\661910 - Webequie First Nation Supply Rd\40_Execution\45_GIS_Dwgs\MXD\Extension_Report\661910_WSR_BIO_ER_PHY_GroundwaterStudyArea_0001_0001.mxd

Well-Elevation Data

Ground elevations near the newly installed wells were obtained from the light detection and ranging (LiDAR) data set available in the LSA for the Project. Where well locations were outside the LiDAR coverage, the ground elevations were estimated through publicly available elevation data sets - Canadian Digital Elevation Model (CDEM, 1945 – 2011). The newest data sets (after 2011) of CDEM that are currently available from the federal and provincial government websites do not cover the project region. The CDEM documentation shows that the data sets for the region were collected between 1991 and 2000. The accuracy for the CDEM elevation data is 0 to 5 metres. Well Development.

The newly installed monitoring wells were equipped with dedicated low-density polyethylene (LDPE) tubing and inertial foot valves. All the wells were developed at least 24 hours after the completion of the well installation, by manually moving the inertial foot valve from approximately the top of the screen to the bottom of the screen, occasionally agitating the bottom of the well to stir up and remove any built-up sediment. The wells were purged at least three times the borehole volume of water including standing water in the well, plus the water within the sand pack surrounding the well screen or purged until dry. Purged water was disposed on the site away from the wells. Groundwater Level Monitoring.

Groundwater levels in the newly installed monitoring wells and piezometers were measured using a water level meter at least 24 hours after the installation in July 2020. The water level meter was rented from a qualified equipment supplier - Maxim Environmental and Safety Inc. (Maxim) of Mississauga, Ontario. Groundwater levels were measured again in October 2020 and May 2021 to capture seasonal fluctuations.

Groundwater Sampling and Analysis

Groundwater samples were collected from 12 newly installed monitoring wells in July and October 2020, and May 2021. The conventional tubing and foot valve method was used during the July 2020 sampling event, while low-flow sampling techniques were used in October 2020 and May 2021 to minimize the potential for entrained sediment bias.

Collected groundwater samples/containers were placed in coolers with ice and delivered to ALS Environmental Laboratories (ALS) in Thunder Bay, Ontario using a courier under a chain-of-custody. ALS is accredited by Canadian Association for Laboratory Accreditation Inc. and Standards Council of Canada. The parameters analysed in the laboratory included the following:

- General chemistry and inorganics:
  - alkalinity
  - hardness
  - pH
  - conductivity
  - turbidity
  - total suspended solids
  - total dissolved solids
  - cations (H+, Mg2+, Na+, Ca2+, K+, NH4+)
  - anions (Cl-, SO42-, F-, NO3-, HCO3-, CO32-, PO43-)
  - dissolved organic carbon
  - ammonia
- Nutrients:
  - total organic carbon (TOC)
  - total kjeldahl nitrogen (TKN)
  - total phosphorus (TP)

- Metals:
  - total and dissolved metals (full metal scan)
  - hexavalent chromium
  - total mercury
  - methyl mercury
- Organic compounds:
  - benzene, toluene, ethylbenzene, and xylene (BTEX)
  - petroleum hydrocarbons (PHCs) fractions F1 to F4
  - polycyclic aromatic hydrocarbons (PAHs)
- Radionuclides:
  - radium 226

In-Situ Hydraulic Conductivity Testing

In-situ hydraulic conductivity (K) tests were conducted in the newly installed wells in October 2020. Bail-down or slug test methods were used depending on how fast the groundwater recovery was encountered at individual well locations. Both the water level meter and level loggers were used to record the water level changes during the tests. Following the collection of the in-situ hydraulic conductivity testing data, the hydraulic conductivity analysis was completed using the commercial software AQTESOLV Pro 4.0.

Due to fast groundwater recovery encountered in monitoring well WQR-4, which was installed in the bedrock, the water level readings or data points obtained from either manual measurements or loggers were not sufficient to complete the hydraulic conductivity (K) analysis. As such, the K analysis could not be completed for WQR-4. The bedrock at this location was described as moderately to highly fractured granodiorite in the borehole log.

5.4.1.4 Air Quality

5.4.1.4.1 Review of Secondary Source Information

Air quality data is not available in the area where the Project is located with the exception of limited data collected from a station operated by the Ministry of the Environment, Conservation and Parks are part of the Ring of Fire Baseline Monitoring Program (2013-2017). To characterize and describe existing air quality conditions a combination of air quality monitoring stations across Canada were used that are located in remote areas similar to the Project. The following monitoring stations were considered for the purposes of characterizing existing air quality conditions:

- Lac-Édouard, QC;
- Radisson, QC;
- Ring of Fire, ON;
- Réserve Faunique;
- Ashuapmushuan-Pémonca, QC;
- Senneterre, QC;
- Experimental Farm Simcoe, ON;

- Petawawa, ON;
- Fort Chipewyan, AB;
- Inuvik, NWT; and
- Fort Smith, NWT.

Selection of ambient air quality monitoring stations based on these criteria are assumed to provide a conservative estimate of background concentrations of the following selected contaminants:

- Total particulate matter (TPM), PM10, PM2.5, and diesel particulate matter (qualitative only);
- Gaseous common air contaminants: Carbon monoxide (CO), Nitrous oxide (NOx), Sulphur dioxide (SO2);
- Ground level ozone (O_3);
- Volatile Organic Compounds (VOCs): 1-3 butadiene, benzene;
- Carbonyls: formaldehyde, acrolein, acetaldehyde;
- Polyaromatic Hydrocarbons (PAHs): benzo(a)pyrene; and
- Continuous and intermittent monitoring data is gathered from the National Air Pollution Surveillance Program (NAPS) for three recent years (e.g., 2019-2017, where available) and were reviewed. Total particulate matter (TPM) data was obtained from the Quebec monitoring network (Réseau de surveillance de la qualité de l'air du Québec [RSQAQ]).

The monitoring station concentrations used to characterize baseline conditions were compared to the Canadian Ambient Air Quality Standards (CAAQS) and Ontario Ambient Air Quality Criteria (AAQC) in accordance with the applicable averaging time periods and the statistical form associated with each numerical standard. In the cases where CAAQS exist for 2025, these were used and are identified as shown in **Table 5-12**. At the request of the Mushkegowuk Council, a comparison is also made to the Nunavut Air Quality standards (NAAQS) in the cases where these are more stringent than the corresponding CAAQS and/or AAQC. **Table 5-12** presents the ambient air quality criteria and standards considered.

Table 5-12: Ambient Air Quality Criteria and Standards

Pollutant	Averaging Period	Ontario Ambient Air Quality Criteria (AAQC)	Canadian Ambient Air Quality Standards (CAAQS)	Nunavut Ambient Air Quality Standards (NAAQS)
Sulphur dioxide (SO_2)	10-minute	67 ppb	-	-
	1-hour	40 ppb	65 ppb [5] (for 2025)	172 ppb
	24-Hour	-	-	57 ppb
	Annual	4 ppb	4 ppb [6] (for 2025)	11 ppb [9]
Nitrogen dioxide (NO_2)	1-Hour	200 ppb	42 ppb [7] (for 2025)	213 ppb
	24-Hour	100 ppb	-	106 ppb
	Annual	-	12 ppb (for 2025)	32 ppb [9]

Table 5-12 (Cont'd): Ambient Air Quality Criteria and Standards

Pollutant	Averaging Period	Ontario Ambient Air Quality Criteria (AAQC)	Canadian Ambient Air Quality Standards (CAAQS)	Nunavut Ambient Air Quality Standards (NAAQS)
Nitrous oxide (NO)	24-Hour	9000 µg/m³	-	-
Ozone (O_3)	1-Hour	80 ppb	-	-
	8-hour	-	60 ppb (8) (for 2025)	65 ppb
Carbon monoxide (CO)	1-Hour	30 ppm	-	-
	8-Hour	13 ppm	-	-
Particulate matter ($PM_{2.5}$) fine fraction	24-Hour	27 µg/m³ (1)	27 µg/m³ (1)	30 µg/m³
	Annual	8.8 µg/m³ (2)	8.8 µg/m³ (2)	-
Particulate matter (PM_{10}) inhalable fraction	24-Hour	50 µg/m³	-	-
Suspended particulate matter (TPM)	24-Hour	120 µg/m³	-	120 µg/m³
	Annual	60 µg/m³ (3)	-	60 µg/m³ (10)
Benzo(a)pyrene [as a surrogate of total Polycyclic Aromatic Hydrocarbons (PAHs)]	24-Hour	0.05 ng/m³	-	-
	Annual	0.01 ng/m³ (4)	-	-
Benzene	24-Hour	2.3 µg/m³	-	-
	Annual	0.45 µg/m³	-	-
Formaldehyde	24-Hour	65 µg/m³	-	-
Butadiene, 1,3-	24-Hour	10 µg/m³	-	-
	Annual	2 µg/m³	-	-
Acetaldehyde	½-Hour	500 µg/m³	-	-
	24-Hour	500 µg/m³	-	-
Acrolein	1-Hour	4.5 µg/m³	-	-
	24-Hour	0.4 µg/m³	-	-
Diesel PM	-	-	-	-

Notes
1 The 3-year average of the annual 98th percentile of the daily 24-hr average concentrations.
2 The 3-year average of the annual average concentrations.
3 As the geometric mean of daily measurements over a year.
4 B[a]P is used as a surrogate for the total carcinogenicity of PAHs This AAQC does not apply to naphthalene (CASRN 91-20-3) nor for any other PAH for which an AAQC may be derived separately.
5 The 3-year average of the annual 99th percentile of the SO_2 daily maximum 1-hour average concentrations.
6 The average over a single calendar year of all 1-hour average concentrations.
7 The 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations.
8 The 3-year average of the annual 4th highest of the daily maximum 8-hour average ozone concentrations.
9 Annual arithmetic mean - The sum of all the numbers of a data set divided by the count of all the numbers.
10 Annual geometric mean - The average of the logarithmic values of a data set converted back to a base 10 number.

5.4.1.4.2 Field Surveys

No field surveys were completed for air quality.

5.4.1.5 Climate

5.4.1.5.1 Review of Secondary Source Information

The characterization of existing local and regional climatic conditions in the project area were obtained from the review of historical records of relevant meteorological information including precipitation, temperature, wind and evapotranspiration from three stations operated by Environment and Climate Change Canada (ECCC):

- Pickle Lake A (6016527);
- Pickle Lake (Aut) (6016525); and
- Lansdown House (Aut) (6014353).

The Pickle Lake station and the Lansdown House station are located respectively 260 km and 95 km south-west from the project area. The Canadian Climate Normals (1981-2010) for Pickle Lake are used to describe annual temperature and precipitation monthly variations as well as evaporation. Climate norms are currently not available for Lansdown House. Extreme rainfall events are described based on Short Duration Rainfall Intensity-Duration-Frequency (IDF) data analysis provided by ECCC for both stations. Finally, annual and monthly wind roses were produced for both stations based on hourly observations at both stations for the 1995-2020 period.

5.4.1.5.2 Field Surveys

No field surveys were completed for climate.

5.4.1.6 Noise

5.4.1.6.1 Field Measurements of Background Noise Levels

Existing background ambient sound levels at representative Noise Sensitive Areas (NSAs) within the Webequie First Nation community and along the proposed WSR corridor were determined through ambient noise level measurements.

Measurements were conducted for the period between October 29 and November 1, 2021. Monitoring was conducted at three locations:

- M1, within the community of Webequie, at the western terminus of the proposed WSR corridor;
- M2, at a distance of 10.57 kilometres along the proposed route (away from the community of Webequie); and
- M3, at a distance of 4.41 kilometres along the proposed route (away from the community of Webequie), which has been used as representative of conditions along the route.

Monitoring locations are shown in **Figure 5-3** and **Table 5-13**.

Table 5-13: Background Noise Monitoring Locations

Monitor Location	Receptor Description	UTM Co-ordinates (Zone 17)	
		Northing	Easting
M1	Western Terminus (Community)	5869527	475454
M2	10.57 km from Western Terminus (Remote)	5862350	483213
M3	4.41 km from Western Terminus (Roadway)	5866489	476072

Figure 5-3: Noise Monitoring Station Locations

The monitoring location at the western terminus of the WSR corridor includes noise from community activities (industrial and commercial noise, traffic noise, and airport noise). The second and third monitoring locations are sufficiently removed from these sources and capture ambient background sound levels in the rural/remote area, dominated by the sounds of nature and removed from human-made noises. Monitor M3 received occasional human-made noises due to its proximity to the waste facility to the west. Monitor M2 did not have any human interference throughout the entirety of the measurement period.

The measurements at each location were conducted for a minimum period of 48 hrs, in accordance with MECP Publication NPC-233 measurement procedure requirements. The ambient noise measurements were conducted in accordance with the requirements of the following guidelines:

- MECP Publication NPC-102 – *Instrumentation*;

- MECP Publication NPC-103 – *Procedures*;
- MECP Publication NPC-104 – *Sound Level Adjustments*;
- MECP Publication NPC-233 – *Information To Be Submitted For Approval Of Stationary Sources Of Sound*;
- Health Canada "Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise"; and
- ISO 1996-2:2007, Acoustics — Description, measurement, and assessment of environmental noise – Part 2: Determination of environmental noise levels.

Measurements were conducted with a Larson-Davis NMS044 Outdoor Noise Monitoring System, which incorporates LD831 Sound Level Meters equipped with portable power supplies and environmental protection kits.

The monitors were located in open areas with limited vegetation, as close to the ground as practical (in keeping with MECP and Ontario Ministry of Transportation requirements) and were equipped with an appropriate wind screens. The monitors were field calibrated pre- and post-measurement to ensure the accuracy of the results.

Noise measurements were conducted during Fall 2021. Given the rural environment, differences in ambient sound levels between the spring, summer and winter periods are not anticipated. The fall measurements occurred after leaves were down and with insect activity being minimal; thus, the measurements are during naturally quiet periods, and representative of "predictable worst-case conditions" for assessing impacts from the Project.

The parameters that were captured include the following:

- L_{eq} (1-min) values, in dBA, dBC, and dBZ;
- L_{max} and L_{min} values;
- L_1, L_{10}, L_{50}, L_{90}, and L_{99} values;
- Histograms; and
- Simultaneous audio recordings.

A portable meteorological station was used during measurements to characterize local weather conditions, including:

- Wind speeds and direction;
- Temperature;
- Relative humidity; and
- Rainfall.

The raw measurement data was subject to an exclusion analysis, which flagged remove extraneous data from the data set including:

- Periods with adverse, extreme weather conditions (e.g., wind speeds greater than 14 km/h; humidity greater than 90%; temperatures lower than -10°C or greater than 50ºC, periods of fog and precipitation);
- Periods with extraneous noise sources (e.g., music, car horns, dogs barking, atypical insect and natural noises, etc.); and

- Periods with noise from airport/airstrip activity (aircraft take-offs and landings; audible noise from Airport ground activity).

The above weather conditions are representative of “worst-case” conditions favourable to sound propagation, as is required by Health Canada’s noise guidelines, and will result in a conservative (low) estimate of existing background ambient sound levels.

The refined measurement data was then be processed to determine typical sound levels. The following levels will be determined:

- A characterization of the noise sources that contribute significantly to the baseline background ambient sound environment, by type (e.g., traffic, aircraft, trains, industrial);
- A characterization of the background ambient sound environment, using descriptors such as “continuous, intermittent, regular impulsive, highly impulsive, high-energy impulsive, and continuous tonal and intermittent tonal”, per ISO 1996-2 and Health Canada guidance;
- Existing L_{min} and L_{max} sound levels;
- An hourly distribution of baseline sound levels during the day and night (L_{eq} (1hr) values);
- L_{eq} Day, L_D, L_{eq} Night, and L_N sound levels; and
- Overall L_{DN} values).

The results of field measurements of background noise levels are discussed in the Draft Natural Environment Existing Conditions Report for the Project (SNC-Lavalin, June 2022).

5.4.1.7 Light Levels

It is anticipated that the WSR will not be illuminated along its entire length, however lighting may be required at certain locations for safety and security such as the east and west terminus points of the road and at supportive infrastructure sites, such as construction camps, aggregate/rock sites and operation and maintenance facility. To characterize the existing night sky environment and assess potential effects of illumination from the Project, where applicable, the Project Team reviewed background data sources that include the Model Lighting Ordinance (MLO) prepared jointly by the Illumination Engineers Society and International Dark Sky Association. In addition, existing light conditions were characterized using satellite observations of the global distribution of artificial light, and assumptions based on the remote nature of the project area and nearby community of Webequie as a source of night light. No field surveys were completed for light levels.

The results of the existing conditions characterization for Light Levels are included in the Draft Natural Environment Existing Conditions Report for the Project (SNC-Lavalin, June 2022).

5.4.1.8 Greenhouse Gases

Excluding the community within Webequie First Nation reserve lands, the project area consists of lakes, woodlands, and wetlands where anthropogenetic emissions of green house gases (GHGs) are basically non-existent today. As a small northern settlement, GHG emissions in the community of Webequie can generally be attributed to the energy usage from buildings (residential and commercial), local transportation, air travel, and solid waste disposal. Other direct or indirect emissions related to industrial or manufacturing activities are not relevant to the project area. Therefore, a high-level assessment of current GHG emissions in the community of Webequie was carried out and the results are included in the Draft Natural Environment Existing Conditions Report for the Project (SNC-Lavalin, June 2022).

No field surveys were completed for GHG emissions.

5.4.1.9 Fish and Fish Habitat

5.4.1.9.1 Review of Secondary Source Information

A desktop review of available historical aquatic data was conducted prior to development of the assessment methodologies. This included a review of:

- Noront Resources Ltd. Eagle's Nest Project Environmental Impact Assessment and relevant Fish and Fish Habitat and Aquatic environment studies;
- MECP Ring of Fire Baseline Data (MECP 2019a);
- Federal (DFO, SARA, COSEWIC) and Provincial Databases and species lists (MECP, MNFR);
- Existing satellite imagery and aerial photography for the PF, LSA, and RSA (Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community), 2020;
- Project LiDAR imagery and elevation data gathered by J.D. Mollard and Associates; 20 cm resolution (2016);
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) reports and databases;
- The Species at Risk in Ontario (SARO) List;
- Indigenous Knowledge and community consultation; and
- Relevant scientific literature.

Available existing information was used to characterize the context of fish and fish habitat and characterize the baseline aquatic environment within the study areas of the Project. However, overall there was limited applicable aquatic historical baseline data available within the study area for the Project.

5.4.1.9.2 Field Surveys

Survey Site Selection

A waterbody crossing list was developed for the proposed preliminary corridor for the WSR using GIS, Light Detection and Ranging (LIDAR), and digital elevation model (DEM). A total of 27 waterbodies were identified and included as part of the field program as shown in **Figure 5-4**. Of these 27 waterbodies, all except Bender Lake are proposed waterbody crossings of the preliminary proposed corridor for the WSR. Bender Lake was added as a survey site in 2020, as the area is of concern to Webequie First Nation and is located near the preliminary proposed corridor and is located within the LSA for the Project. Lakes and waterbodies that are within the LSA/RSA that were not crossed by either of the proposed corridors were not sampled as it is expected that the majority of the project impacts and effects will be limited to the waterbodies directly crossed by the WSR.

Fish Habitat Characterization

Fish Habitat surveys were completed by a team of two qualified fisheries biologists from SNC-Lavalin Inc., plus a Webequie First Nation community member, from August 12-19, 2019, August 12-22, 2020, and September 22-30, 2020. The fish habitat assessment was completed concurrently with the fish community sampling.

Aquatic field surveys were completed at waterbody crossings that met one or more of the following criteria:

- Waterbodies displayed the ability to support fish at the time of the field survey (did not assess dry water crossings);
- Waterbodies were likely to contain a criterion species, defined as a species of importance to indigenous peoples for recreation, commercial and/or food source purposes and are also identified in the TISG; and/or
- Waterbodies where no specific aquatic habitat field data of sufficient detail were available from the review of background information sources.

Waterbody crossings that did not meet any of these criteria were not sampled. Waterbody crossing sites that did meet the above criteria, but could not be sampled, were photographed from the air.

Figure 5-4 and **Figure 5-5** show the location of fish habitat assessment and fish community sampling sites and were assigned a unique site identification.

SIZE 11x17

460,000 470,000 480,000 490,000 500,000 510,000 520,000 530,000 540,000 550,000 560,000 570,000

5,880,000 5,870,000 5,860,000 5,850,000 5,840,000

N

Winisk River
Lastcedar Lake
Winisk River Provincial Park
Eastwood Island
Winisk Lake Crossing
Garrioch Lake
Webequie Settlement
WB-1
Plant Lake
Webequie Airport
Bender Lake
WC-2
WC-3
Winiskesis Channel
Stockman Lake
Odobas Lake
McMurdo Lake
Upper Ekwan
Ekwan River
Clancy Lake
Greig Lake
Billinger Lake
Leaver Lake
Winisk Lake
Morrison Bay
WC-4
WC-4B
Prime Lake
Deugo Lake
Mukeetei River
Lower Attawapiskat
Farrow Lake
Upper Winisk
WC-5
WC-6
WC-7
WC-8
WC-9
WC-10
WC-11
WC-12
WC-13
WC-14
WC-15
WC-16
WC-17
WC-18
WC-19
WC-20
WC-21
WC-22
WC-23
WC-24
WC-25
WC-26
Newstead Lake
Ekwan River
McFaulds Lake
Middle Winisk
Malloy Lake

460,000 470,000 480,000 490,000 500,000 510,000 520,000 530,000 540,000 550,000 560,000 570,000

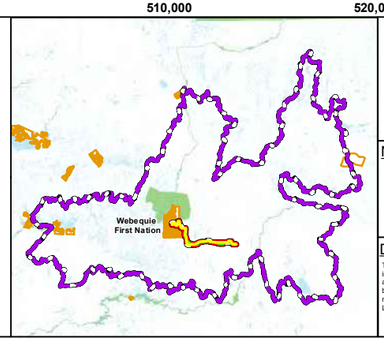
Legend

Route Label

- Alternative 1
- Alternative 2
- Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
- Regional Study Area (RSA Includes Tertiary Watersheds Intersecting Alternative 1 and Alternative 2)
- Fish Habitat Survey Locations

Watershed

- Middle Winisk
- Lower Attawapiskat
- Upper Ekwan
- Upper Winisk
- First Nation Reserve
- Waterbody
- Provincial Park



WSR WEBEQUIE SUPPLY ROAD

NOTES

1. Coordinate System: NAD 1983 UTM Zone 16N.
2. Cadastral boundaries are for informational purposes only and should not be considered suitable for legal, engineering, or surveying purposes.
3. Topographic/landcover features obtained from CanVec v12.0 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information; and, Land Information Ontario (LIO) Warehouse Open Data (https://geohub.lio.gov.on.ca/), Ontario Ministry of Natural Resources and Forestry (OMNRF) Download Date : 2021-02-04

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Webequie Supply Road (WSR)

Fish Habitat Survey Locations

Figure Number:		REV:
5.4		PA
Client:	**Project Number:**	**Date:**
Webequie First Nation	661910	2022-10-21

DSC	DRN	CHK	APP
	AD	HY	HY

SIZE 11 X 17 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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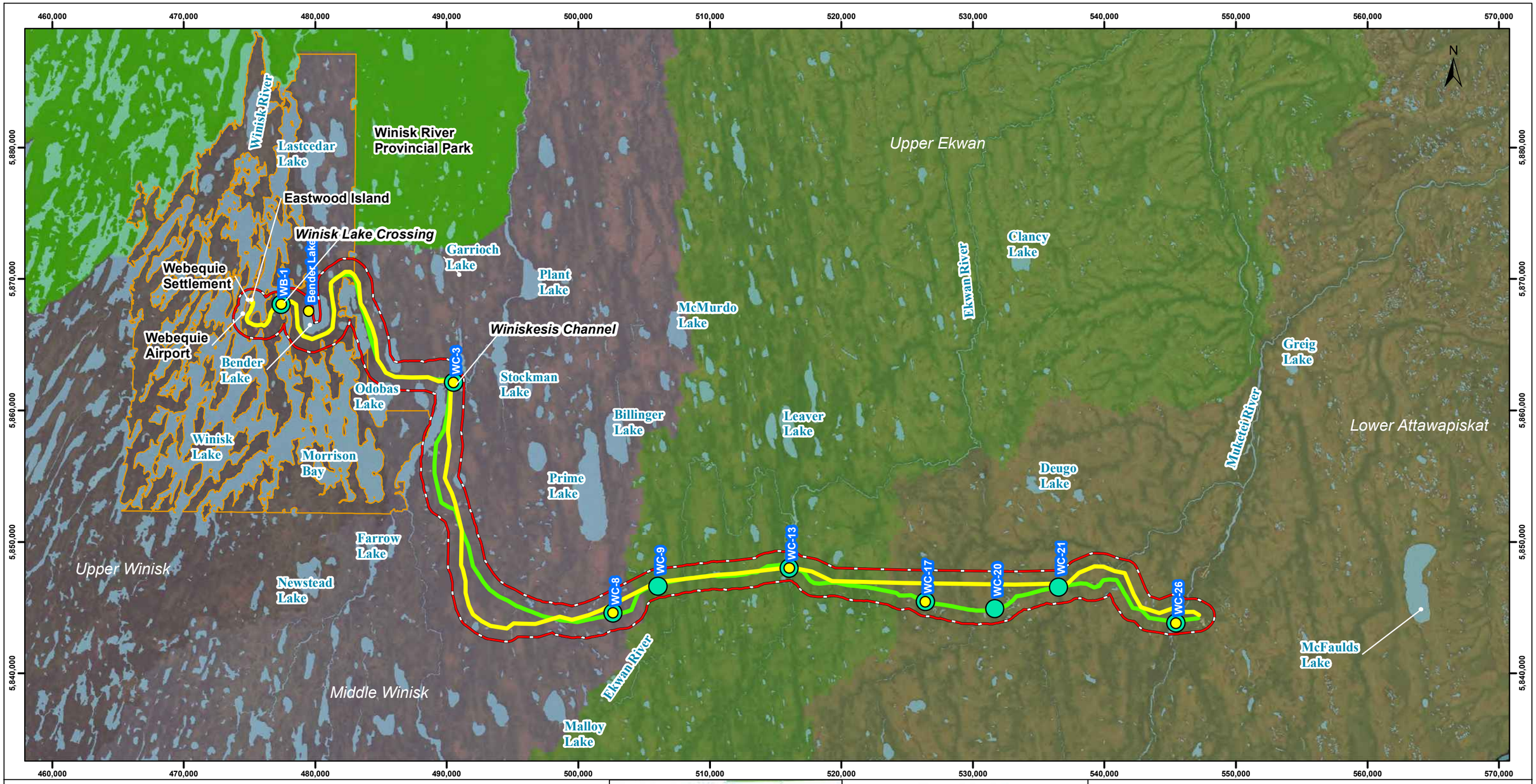

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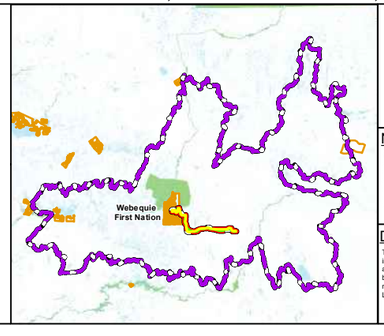
Route Label

- Alternative 1
- Alternative 2
- Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
- Regional Study Area (RSA Includes Tertiary Watersheds Intersecting Alternative 1 and Alternative 2)
- 2020 Fish Community Survey Locations
- 2019 Fish Community Survey Locations

Watershed

- Middle Winisk
- Lower Attawapiskat
- Upper Ekwan
- Upper Winisk
- First Nation Reserve
- Waterbody
- Provincial Park



WSR WEBEQUIE SUPPLY ROAD

NOTES

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3. Topographic/landcover features obtained from CanVec v12.0 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information; and, Land Information Ontario (LIO) Warehouse Open Data (https://geohub.lio.gov.on.ca/), Ontario Ministry of Natural Resources and Forestry (OMNRF) Download Date : 2021-02-04

DISCLAIMER

0 10 20 Km

Webequie Supply Road (WSR)

Fish Community Survey Locations

Figure Number:		REV:
5.5		PA
Client:	**Project Number:**	**Date:**
Webequie First Nation	661910	2022-10-21

DSC	DRN	CHK	APP
	AD	HY	HY

SIZE 11 X 17 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Fish Community Sampling

Fish community sampling at waterbody crossing sites were completed from August 12-19, 2019, August 12-22, 2020, and September 22-30, 2020. The fish community assessment was completed concurrently with the fish habitat assessment survey. Fish community sampling locations are identified in **Figure 5-5**.

Field survey methods followed standard practices for fish and fish habitat surveys, including those methods contained in the Ontario Stream Assessment Protocol (Stanfield, 2017). Additional methods based on the TISG (IAAC, 2020) were incorporated.

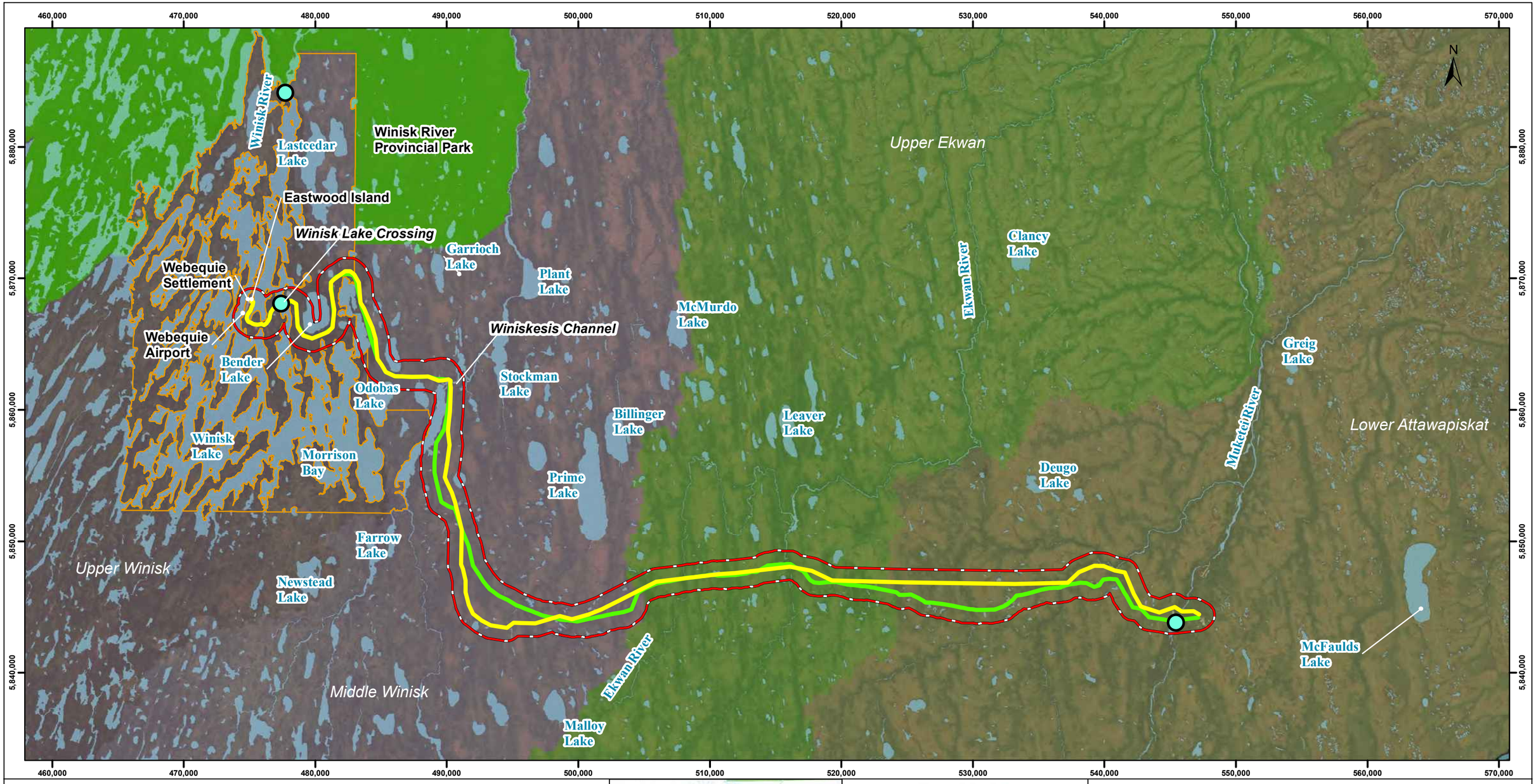
Fish community sampling was conducted to determine fish presence, relative abundance and assemblages per sampling effort at nine of the twenty-six waterbody crossings due to high-water levels, which prevented safe access to additional sites. Following capture, fish were identified to the species level (if possible). Age class (e.g., young-of-year, juvenile, adult), total length and weight, and mortality statistics were also collected, including photographic documentation. Fish were released into the same waterbody as they were captured. All fish sampling was completed in compliance with the Licence to Collect Fish for Scientific Purposes issued by MNRF under the *Fish and Wildlife Conservation Act.*

Spring Spawning Survey

Spring spawning surveys were conducted from June 5 to 24, 2020 to determine the presence of Walleye and Lake Sturgeon and the extent of spawning habitat within the LSA of the preliminary proposed corridor for the WSR. Spring spawning survey locations were chosen using the following information sources:

- Known spawning habitat in waterbodies within the LSA from Indigenous Knowledge and engagement and consultation with local Indigenous hunters, trappers and fisherman received from Webequie First Nation, with focus on Winisk Lake, Winisk River, Muketei River and the Ekwan River Tributary;
- Any known or recorded data or studies on spawning available from the Ministry of Natural Resources and/or federal Fisheries and Oceans Canada;
- Review of GIS, LiDAR and aerial photography to identify potential survey sites that may exhibit potentially suitable conditions for spawning of targeted species (e.g., rocky areas in white water downstream of impassable falls and large, fast flowing riffles and shallow, rocky shoals in lakes);
- An aerial reconnaissance narrowed down and ground truth locations that were suitable for deployment of egg mats; and
- Accessibility and safety.

Before the spawning surveys were conducted, an aerial reconnaissance (helicopter) was conducted of the survey locations that were chosen from the review of information sources to determine accessibility by field crews and to confirm if they were suitable spawning habitat. Prior to conducting spawning surveys, water temperatures were monitored with the assistance of Webequie community members to effectively capture the optimal range of appropriate temperatures for spawning of the targeted species (e.g., 11.5°C to 16°C is preferred for Lake Sturgeon spawning). Water temperatures were documented at the time of the spawning surveys. An additional spawning location (Site WC-1), located outside the LSA and RSA was selected because the area was known to the community of Webequie as a historic location for Lake sturgeon. Field spawning locations sampled are identified in **Figure 5-6**.



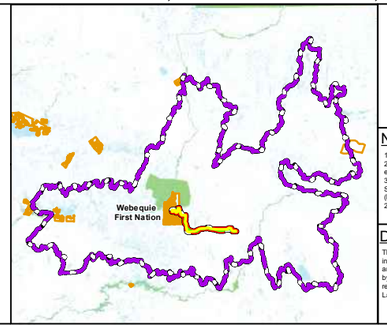
Legend

Route Label

- Alternative 1
- Alternative 2
- Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
- Regional Study Area (RSA Includes Tertiary Watersheds Intersecting Alternative 1 and Alternative 2)
- 2020 Spawning Survey Site Locations

Watershed

- Middle Winisk
- Lower Attawapiskat
- Upper Ekwan
- Upper Winisk
- First Nation Reserve
- Waterbody
- Provincial Park



WSR
WEBEQUIE SUPPLY ROAD

NOTES

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3. Topographic/landcover features obtained from CanVec v12.0 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information; and, Land Information Ontario (LIO) Warehouse Open Data (https://geohub.lio.gov.on.ca/), Ontario Ministry of Natural Resources and Forestry (OMNRF) Download Date : 2021-02-04

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Webequie Supply Road (WSR)

Fish Spawning Survey Locations

Figure Number:	5.6	REV:	PA
Client: Webequie First Nation	Project Number: 661910	Date: 2022-10-21	

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SIZE 11x17

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Benthic Invertebrate Surveys

Before benthic invertebrate sampling was conducted, an aerial reconnaissance (helicopter) was conducted to determine accessibility by field crews upstream and downstream of the proposed watercourse crossings. Sampling was conducted upstream and downstream of one watercourse crossing within each sub-watershed (four sampling sites total). Sample sites were selected to target representative waterbody types and habitat and to provide a baseline of diversity and abundance. In general, all benthic invertebrate sampling was conducted in accordance with the Ontario Benthic Biomonitoring Network Manual (Jones et al., 2007).

Benthic invertebrate surveys were conducted at four crossings along the preliminary proposed corridor for the WSR in 2020, specifically at Sites WB-1, WC-3, WC-16, and WC-26.

All samples were field reduced through a 500-micron sieve to remove unnecessary silt and sand. Where Ekman grab sampling was conducted, a total of three samples were collected to ensure sufficient organisms for identification. These three grab samples were pooled together to make one composite sample and a portion of that sample formed a replicate. Replicates were placed into labeled sample bottles with 95% ethanol for preservation. Only one or two replicates were completed upstream and downstream of each proposed waterbody crossing, regardless of the sampling method used.

Aquatic habitat variables documented at each sampling site included:

- Water quality parameters such as water temperature, dissolved oxygen, conductivity, turbidity, pH, and total dissolved solids;
- Sampling distance or area covered;
- Dominant and second dominant substrate within each replicate;
- Organic matter-areal coverage;
- Riparian vegetative community; and
- Aquatic macrophytes and algae.

The results of the existing conditions characterization for fish and fish habitat are included in the Draft Natural Environment Existing Conditions Report for the Project (SNC-Lavalin, June 2022).

5.4.1.10 Vegetation and Wetlands

5.4.1.10.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Vegetation and Wetlands:

- Aerial photography (Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community), 2020;
- Project LiDAR imagery and elevation data gathered by J.D. Mollard and Associates; 20 cm resolution (2016);
- Selected Provincial GIS Datasets - wetland, watercourse, waterbody, Far North Land Classification, Provincial Satellite Derived Disturbance Mapping, Land Information Ontario (Ontario Open Data various creation dates), Provincial Parks, Conservation Reserves, Areas of Natural and Scientific Interest (ANSIs), and Provincially Significant Wetlands, downloaded 2020;

- Natural Heritage Reference Manual (2010);
- Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010);
- Ontario Species at Risk, May 2000, Committee on the Status of Species at Risk in Ontario (COSSARO);
- Natural Heritage Resources of Ontario Rare Vascular Plants, Fourth Edition,2009;
- Natural Heritage Information Center (NHIC) Biodiversity Explorer databases;
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) reports;
- Species at Risk in Ontario (SARO) List;
- The Ecosystems of Ontario, Part 1, Ecozones and Ecoregions, Crins *et al.*, Ministry of Natural Resources, 2009;
- The Ecosystems of Ontario, Part 2, Ecodistricts, Wester *et al.*, Ministry of Natural Resources, 2018;
- Guiding Principles of Wetland Ecological Functions Assessment: An Overview of Approaches, Hanson et al., 2008;
- Ecosites of Ontario, Boreal, Operational Draft, Banton *et al.*, 2009;
- Field Guide to the Wetland Ecosystem Classification for Northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Sci. Technol. Field Guide. Harris et al., 1996;
- Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Lee. *et al.*, 1998;
- Field manual for Describing Soils in Ontario. 4th Edition. Ontario Centre for Soil Resource Evaluation. Ontario Centre for Soil Resource Evaluation, 1993;
- Terrestrial and Wetland Ecosites of Northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Sci. & Technol. Field Guide, Racey *et al.*, 1996;
- Ecosystem Classification for northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Sci. & Technol. Field Guide, Sims, *et al.*, 1997;
- A Field Guide to Forest Ecosystems of Northeastern Ontario. 2nd Edition. Ontario Ministry of Natural Resources, Northeast Sci. & Technol, Taylor *et al.*, 2000;
- A Guide to Translate Northwestern Ontario Ecosites into “Ecosites of Ontario”, Science and Information Resources Division, NWSI Tech. Note TN-48, 2012;
- The Canadian Wetland Classification System, Second Edition, National Wetlands Working Group, 1997;
- Forest Research Partnership ELC Papers and Fact Sheets (e.g., Draft v2.0 - Boreal Treed Vegetation Types 2015);
- Ontario Wetland Evaluation System, Northern Manual, 1st Edition, Version 1.2, 2013;
- Sampling Design Tool for ArcGIS Instruction Manual,.Buja, K., and C. Menaz. 2013. NOAA/NOS/NCCOS/CCMA Biogeography Branch;
- Spatially Balanced Sampling through the Pivotal Method. Biometrics Grafström, A., N. L. P. Lundström, and L. Schelin. 2012. 68:514-520;

- Impact Assessment Agency of Canada. 2020. Webequie Supply Road Project: Tailored Impact Assessment Guidelines;
- Spatially balanced sampling designs for environmental surveys. Environmental Monitoring and Assessment Kermorvant, C., F. D'Amico, N. Bru, N. Caill-Milly, and B. Robertson. 2019. 191:524;
- Landscape Scripting Language Ontario Ministry of Natural Resources, Centre for Northern Forest Ecosystem Research Kushneriuk, R. S., and R. S. Rempel. 2011. LSL, Thunder Bay, Ontario;
- Ontario Ministry of Natural Resources and Forestry [MNRF]. 2014. Far North Land Cover Data Specifications Version 1.4. <https://data.ontario.ca/dataset/8afe0aa1-6d6f-402f-8f7a-04f90d733432/resource/8c90d397-93e2-442c-8745-a93e5087eb65/download/far_north_land_cover_-_data_specification.pdf >. Accessed;
- R_Documentation. 2021. grts function - RDocumentation. <https://www.rdocumentation.org/packages/spsurvey/versions/4.1.4/topics/grts >. Accessed;
- Stevens, D. L., and A. R. Olsen. 2004. Spatially Balanced Sampling of Natural Resources. Journal of the American Statistical Association 99:262-278;
- All Season Community Road Study – Final report, (Webequie First Nation/Nibinamik First Nation/Neskantaga First Nation/Eabametoong First Nation, June 2016);
- McFaulds Lake Project - Air photo Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates, February 2010);
- McFaulds Lake Project - Report on Mineral and Organic Terrain Mapping in a 10 km Radius Around Esker Camp (J.D. Mollard and Associates, September 2010);
- McFaulds Lake Project - High Level Terrain Mapping McFaulds Lake Winter Road Route (J.D. Mollard and Associates, February 2011);
- Eagle's Nest Project - Federal/Provincial Environmental Impact Statement/Environmental Assessment Report - Draft Copy (Noront, December, 2013); and
- TPA1B Webequie Community Supply Road Project Description – Draft (Webequie First Nation, January 2018).

5.4.1.10.2 Vegetation and Wetland Community Mapping

To complete mapping of existing vegetation and wetland types in the LSA and RSA source data was obtained from the Land Information Ontario (LIO) wetland, watercourse/waterbody data sets, the Far North Land Cover (FNLC), and Provincial Disturbance mapping. Digital satellite imagery was sourced from the ArcGIS base maps. It was determined that the LIO wetland and watercourse/waterbody data provided the most accurate starting point for wetland feature refinement, since it generally agreed with the Far North Land Cover data, while providing more detailed delineation of both the wetlands and waterbody features. Areas of "no data/unknown" in the LIO wetland and watercourse/waterbody data were populated with the values from the Land Cover dataset, where applicable.

Further delineation and typing of the vegetative units/polygons within the LSA and RSA were conducted by refining published Far North Land Cover and LIO wetland data, using aerial photo interpretation (published satellite imagery and LiDAR imagery acquired in 2019), in combination with available terrain mapping (J.D. Mollard and Associates (JDMA), March 2019), topography, and surficial geology data.

The terrain mapping and LiDAR imagery used for the vegetation and wetland mapping originated from the terrain analysis study conducted by J.D. Mollard and Associates in 2019 (Terrain Analysis, Potential Aggregate Sources & Identification of Route Alternatives, Draft). The corridor study covered the majority of the LSA but did not cover the RSA. The mapping of vegetation involved the interpretation of remotely sensed imagery (air photos and satellite images) and digital elevation data, supplemented with surficial geology, hydrology, and land cover data, to characterize the landforms, surficial materials, topography, hydrology, etc. Geospatial data sources available for the vegetation and wetlands component were compiled in a geographic information system (GIS) and terrain units were manually digitized over base layers of imagery (air photos and satellite) and elevation data (elevation, shaded relief, and slope rasters). Terrain units were mapped and classified according to a legend developed for this area based on a compilation of previous reports and existing mapping (JDMA, 2010). Terrain units that were mapped during the terrain mapping process include:

- Till and glacial lake clay;
- Silty till;
- Ice-contact glaciofluvial deposits (kames and eskers);
- Alluvial floodplain;
- Domed bog;
- Northern plateau bog;
- Net bogs;
- Treed bog;
- Thermokarst bog (collapse scar bog);
- String fen;
- Ladder fen);
- Channel fen;
- Watertrack fen; and
- Horizontal fen.

Modelling of vegetation was rejected in favour of visual delineation and typing by experienced biologists either conducting the field programs, or with extensive experience typing vegetation in the region.

5.4.1.10.3 Field Surveys

Vegetation and wetlands field Surveys were conducted in spring, summer and fall of 2019, and 2020, as well as summer survey of 2021.

The site selection process to support the field surveys in 2019 was done manually by Project Team vegetation specialists to verify delineations and typing of selected units. Following the receipt of the TISG from IAAC February 2020, this approach was revised for the 2020 field season to a utilize a Stratified Random Sampling selection process. Details on site selection for 2019, 2020 and 2021 field surveys are provided in the Draft Natural Environment Existing Conditions Report for the Project (SNC-Lavalin, June 2022).

- 101 sites were sampled within the LSA, representing 30 different ecosites. Randomized stratified sampling was applied to selection of sample sites and abundance and distribution modelling was completed.
- Surveys included species composition (percent cover) of canopy and sub-canopy trees, understory shrubs and tree regeneration, as well as dwarf shrubs, herbaceous vegetation, and moss/lichen cover.
- Soil investigation at each sampling point to establish whether soils were organic, or mineral, as well as the texture of any mineral soils and other metrics (pH).

5.4.1.10.4 Ecosystem Classification

Based on the field data, each site was assigned an ecosite classification based on the Boreal manual. As surveyors inventory each polygon, a complete list of all vascular plants observed were collected. These sampled units/polygons were then compared to the current mapped vegetation classifications to calculate the level of certainty/error between known and projected classifications.

Upland ecosystem surveys were conducted at accessible representative sites of deciduous, mixed, conifer, exposed bedrock, and meadow composition. Each sample location survey was conducted in alignment with the ELC data requirements using Ontario Parks datasheets for Vegetation Plot Layers, and Groundcover/Substrate Plot Information.

Wetland vegetation surveys were conducted at accessible representative sites of open/treed bog, open/treed fen, tree and thicket swamp, and marshes. Each sample location survey was conducted in alignment with the ELC data requirements using Ontario Parks datasheets for Vegetation Plot Layers, and Groundcover/Substrate Plot Information. In more open wetlands, 1 m quadrat sampling was conducted to accurately establish dominance and cover and inform the determination of the function and conservation status of the wetland types at a local, regional, and provincial level.

Riparian vegetation surveys were conducted at accessible representative sites using the appropriate methods and data collection parameters listed above, depending on the interface type encountered (upland/wetland). Particular attention will be given to the aquatic/terrestrial interface to determine the hydrologic form, and subforms, in accordance with The Canadian Wetland Classification System (National Wetland Working Group, 1998).

5.4.1.10.5 Surveys for Plant Species of Conservation Concern

Where feasible, transect or cruising surveys were conducted in conjunction with vegetation community plot surveys, at all sample locations, in order to develop a comprehensive list of species present in each unit. Any species encountered during these or any other activities were also identified and recorded in field notes for a location and added to the list of project area species.

Plant species of conservation concern, including listed species of risk under the Ontario *Endangered Species Act* and federal *Species at Risk Act* were searched for during all field survey activities, along with the collection of data used to support and assessment of rare/listed species potential. A list of plants with the potential to be present in the study area were generated based on previous studies, as well as a review of updated databases (NHIC, COSSARO, COSEWIC) and legislation (Ontario *Endangered Species Act*, federal *Species at Risk Act*). Plants listed on NHIC under designations S1-S3 were also included in the list. Descriptions and photos of these species, as well descriptions of potential community characteristics, were provided to field staff to facilitate the likelihood of opportunistic sightings during normal field activities. Targeted selection of sample locations were also applied to vegetation communities with the potential for species of concern. If located, photos and GPS coordinates were

recorded, along with a description of the surrounding site environmental characteristics. All species at risk data collected during field surveys were provided to MECP's Species at Risk Branch and MNRF's Natural Heritage Information Centre (NHIC).

5.4.1.10.6 Wetland Function Assessment

A wetland function assessment was completed as part of the characterization of existing conditions for Vegetation and Wetlands. To conduct the wetland functions assessment, a preliminary review of reference material, such as current wetland delineation and typing data, soil data, topography, watersheds, waterbody interactions (e.g., shorelines, inlets, outlets), upland interactions/land uses, and aerial photographs, were conducted. This review was used to derive the initial wetland mapping within the LSA, and RSA. Vegetative field surveys were used to iteratively refine/confirm delineation and typing.

A combination of Level 1, 2 and 3 assessments were used, including the Minnesota Routine Assessment Method (MnRAM) Evaluating Wetland Function, (Version 3.4, 2000), in combination with the field data collection requirements of the Wisconsin Wetland Rapid Assessment Methodology (Version 2.0, WDNR, 2014), and the Canadian Wetland Classification System (CWCS) to ensure that assessment level 3 form, vegetation and habitat data, were collected during the vegetation field surveys. The CWCS type designations were applied for the purposes of the final Wetland Functions Assessment. Non-vegetative parameters/data were acquired from the respective project programs/disciplines (e.g., hydrologic, water quality, hydrogeologic and wildlife). The following preliminary list of wetland values were identified for the Wetlands Function Assessment.

- Vegetative Diversity/Integrity;
- Biological Productivity;
- Maintenance of Characteristic Hydrologic Regime;
- Flood/Stormwater/Attenuation;
- Groundwater Interactions;
- Maintenance of Characteristic Wildlife Habitat Structure;
- Maintenance of Characteristic Fish Habitat;
- Maintenance of Characteristic Amphibian Habitat;
- Aesthetics/Recreation/Education; and
- Commercial Uses.

5.4.1.10.7 Biodiversity

A characterization of baseline biodiversity was completed for Vegetation and Wetlands. The biodiversity indicators selected for characterizing the baseline vegetation biodiversity, within the study areas, were based on a review of existing published data, and field data collected during the 2019, 2020 and 2021 field programs. Baseline biodiversity were characterized at three levels:

- Species level biodiversity;
- Community level biodiversity; and
- Landscape Level Biodiversity and Fragmentation.

5.4.1.10.8 Invasive Species

Invasive species were recorded during all vegetation and wetland filed surveys within the LSA and RSA. The Ontario list of tracked invasive species and the NHIC species list, which tracks introduced species were used to determine the status of each species observed. All locations of invasive species were recorded during all field survey activities.

5.4.1.11 Terrestrial Habitat and Wildlife

5.4.1.11.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to support the description of baseline conditions for Terrestrial Habitat and Wildlife:

- Aerial photography;
- Natural Heritage Reference Manual (MNR 2010a);
- Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (MNR 2010b);
- Significant Wildlife Habitat Technical Guide (MNR 2000);
- Significant Wildlife Habitat Ecoregion Criteria Schedules (MNRF 2015a, 2017a);
- Natural Heritage Information Centre (MNRF 2021);
- Provincial Park Management Plans and Life Science Reports (various dates);
- eBird databases (eBird 2021);
- Ontario Mammal Atlas (Dobbyn 1994);
- Ontario Breeding Bird Atlas (OBBA; Bird Studies Canada, Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources 2006);
- Herps of Ontario (iNaturalist 2021);
- The Ecosystems of Ontario, Part 1, Ecozones and Ecoregion (Crins et al. 2009);
- ArcGIS World Topographic Map (Environmental Systems Research Institute 2016);
- All-Season Community Road Study – Final report (Webequie First Nation/Nibinamik First Nation/Neskantaga First Nation/Eabametoong First Nation 2016);
- McFaulds Lake Project – Air photo Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010);
- 2009 Baseline Bird and Habitat Survey - McFaulds Lake and the Muketei River (Ring of Fire) Area (AECOM 2010);
- McFaulds Lake Project – Air photo Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010a);
- McFaulds Lake Project - Report on Mineral and Organic Terrain Mapping in a 10 km Radius Around Esker Camp (J.D. Mollard and Associates 2010b);

- McFaulds Lake Project - High Level Terrain Mapping McFaulds Lake Winter Road Route (J.D. Mollard and Associates 2011);
- Eagle's Nest Project - Federal/Provincial Environmental Impact Statement/Environmental Assessment Report - Draft Copy (Noront 2013);
- TPA1B Webequie Community Supply Road Project Description – Draft (Webequie First Nation 2018);
- Ontario Ministry of Energy, Northern Development and Mines (MENDM) publications;
- Communications: Ontario Ministry of the Environment, Conservation and Parks (MECP);
- Communications/Publications: Ontario Ministry of Natural Resources and Forestry (MNRF); and
- Other relevant species/subject-specific publications from various sources.

5.4.1.11.2 Wildlife Habitat Surveys and Classification

The Significant Wildlife Habitat Technical Guide (MNR 2000) defines SWH as “ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System”. The Project occurs within Ecoregion 2W; however, no SWH criteria guide exists for this ecoregion.

Based on the proximity of the Project within the Province to Ecoregions 3E, and 3W to the south, the supporting documents for these Ecoregions (MNRF 2015a, 2017a) were used to select which SWH were prioritized during baseline condition studies.

5.4.1.11.3 Survey Site Selection

The site selection process to support the field surveys in 2019 and 2020 for terrestrial habitat and wildlife was done manually by the Project Team. Following the receipt of the TISG from IAAC in 2020, this approach was revised for the 2021 field season to a utilize a modelled stratified random sampling selection process.

5.4.1.11.4 Geomatics and Habitat Typing

The vegetation classification program (refer to **Section 5.4.1.10.3**) supported the terrestrial wildlife program habitat classification process. For that program, original source data were obtained from the most recent Land Information Ontario (LIO) Wetland, Watercourse/Waterbody dataset and the Far North Land Cover files. Digital satellite imagery was sourced from ArcGIS base maps. It was determined that the LIO wetland and waterbody data provided the most accurate starting point for wetland feature refinement since it generally agreed with the Far North Land Cover data while providing more detailed delineation of both the wetlands and waterbody features. Areas of no data/unknown in the LIO wetland and waterbody datasets were filled in with the values from the Far North Land Cover dataset, where applicable.

The supply road Alternatives Routes 1 and 2 within the preliminary proposed corridor were buffered to 1 km for the LSA, and 5 km for the RSA, and then superimposed over the resulting mapping. Within the RSA, a desktop aerial interpretation survey of the forests, wetlands, lakes, and rivers was conducted to refine and re-delineate all feature class polygons. An initial vegetation type definition was applied based on published sources and available satellite imagery. The definition of the polygons within the data set were further refined to coarse ecosites, such as Shrub Bog, Conifer Forest, and Treed Fen. These combined and revised data were used as the new baseline for the selection of sample points for the 2019 field season and additional refinement.

The second round of refinement of the baseline data resulting from step one was done within the LSA at a smaller scale using additional LiDAR imagery and elevation data gathered by J.D. Mollard and Associates (2016). These data, as well as the results of the 2019 summer field surveys, were used to provide additional accuracy in defining ecosites and their boundaries within the LSA. Data from the field survey were treated as the most accurate and were used to refine the classification of the polygons in which they were located; these classifications were then extrapolated to other polygons with similar visual characteristics, but not to the same degree of specificity. For example, a point may suggest an area as a specific conifer forest type, but visually similar areas separated from the polygon in which the point is located would be labelled only to Conifer Forest, since information such as soil type, a key determinant of ecosite classification, is unavailable at this time. These data were updated as additional field surveys were completed and more data collected.

Habitat type was characterized at each distinct survey station visited during baseline studies. To support characterization at these locations, each site was documented with a total of 13 photos, including four different perspectives photographed at each cardinal direction (north, east, south, west):

- One photograph at shoulder height with arm and camera extended parallel to ground;
- One photograph with arm at 45 degrees (from body position) pointing down;
- One photograph with arm extended at 135 degrees (from body position) pointing up; and
- One photograph with arm extended vertically.

Photos were interpreted by qualified individuals according to MNRF Ecosites of Ontario: Boreal Range ELC system, and/or the Canadian Wetland Classification System. To the extent possible, all candidate survey sites were attributed to a 100-m buffer around the site centroid. Areal coverage and percentage of each land cover class were assigned to sites. These values were then used as inputs to evaluations of representative habitat.

5.4.1.11.5 Field Surveys

A summary of field surveys conducted for Terrestrial Habitat and Wildlife is provided in **Table 5-14**.

Table 5-14: A Summary of Terrestrial Wildlife Field Surveys Conducted

Survey Type	Dates Conducted	Extent of Survey Effort	Notes
Winter Aerial Survey	February 22 – 28, 2018 February 9 – 13, 2019 February 24 – March 1, 2021	• 59 transects (2,666 linear km) • 39 transects (1,776 linear km) • 47 transects (1,260 linear km)	• 2018 survey was conducted across larger survey area to increase representation within Oziski Caribou Range. • No survey was conducted in 2020, as MECP indicated that additional Caribou survey effort should include collaring. • 2021 winter aerial survey was initiated, in part, as a search exercise in support of Caribou capture for the collaring study.
Bat Hibernacula Screening	May 27-28, 2019	• Reconnaissance flights within Bat LSA	• Included search for habitat features that might provide hibernaculum habitat, such as rock outcrops, cliffs, rocky shorelines.
Bat Acoustics Recording	June 13 – July 5, 2019 June 7 – October 15, 2020	• 4 survey stations • 9 survey stations	• In 2019, this survey focussed on limited deciduous/mixed forest features that were most likely to have cavity trees. • Survey expanded across LSA in 2020 to cover greater extent of the study area.
Breeding Bird Point Counts	June 5 – June 30, 2019 June 5 – July 1, 2020	• 113 survey stations at 15 point count clusters • 263 survey stations at 24 point count clusters	• In 2019, survey focused on sampling all habitat types within LSA. • In 2020, survey was expanded to increased total sample size across LSA and RSA, including prospective aggregate extraction areas.
Bird Acoustic Recording	May 11 – November 23, 2020 May 11 – November 6, 2021	• 70 total survey stations • 82 total survey stations	• In 2020, survey focused on sampling all habitat types within LSA. • In 2021, number of sampling stations was expanded to improve total study area and habitat coverage. • 87 total ARU stations sampled between 2020 and 2021.
Aerial Waterbird Survey	May 27-28, 2019 May 10, 2020 May 13, 2020 May 17, 2020 June 6, 2020 September 1, 2020 October 4, 2020	• All waterbodies within general LSA	• In 2020, survey focused on sampling all wetland habitat within LSA. • In. 2020, number of sampling replications was expanded to improve overall breadth of sampling.

5.4.1.12 Species at Risk

5.4.1.12.1 Review of Secondary Source Information

The following sources were used to gather background information with regards to SAR and their habitat within the LSA and RSA:

- Aerial photography;
- Natural Heritage Reference Manual (MNR 2010a);
- Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (MNR 2010b);
- Significant Wildlife Habitat Technical Guide (MNR 2000);
- Significant Wildlife Habitat Ecoregion Criteria Schedules (MNRF 2015a, 2017a);
- Natural Heritage Information Centre (MNRF 2021);
- Provincial Park Management Plans and Life Science Reports (various dates);
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) species status reports (various dates);
- eBird databases (eBird 2021);
- General habitat description for the Forest-dwelling Woodland Caribou (Ontario 2020a);
- Species at Risk in Ontario (SARO) List (Ontario 2020b);
- Ontario's Woodland Caribou Conservation Plan (MNR 2009);
- Ontario Mammal Atlas (Dobbyn 1994);
- Ontario Breeding Bird Atlas (OBBA; Bird Studies Canada, Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources 2006);
- All-Season Community Road Study – Final report (Webequie First Nation/Nibinamik First Nation/Neskantaga First Nation/Eabametoong First Nation 2016);
- McFaulds Lake Project - Airphoto Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010);
- 2009 Baseline Bird and Habitat Survey - McFaulds Lake and the Muketei River (Ring of Fire) Area (AECOM 2010)
- McFaulds Lake Project - Airphoto Mapping for Route Location and Terrain Assessment Scoping/Prefeasibility-Level Study Alternative Road Route Locations (J.D. Mollard and Associates 2010a);
- McFaulds Lake Project - Report on Mineral and Organic Terrain Mapping in a 10 km Radius Around Esker Camp (J.D. Mollard and Associates 2010b);
- McFaulds Lake Project - High Level Terrain Mapping McFaulds Lake Winter Road Route (J.D. Mollard and Associates 2011);

- Eagle's Nest Project - Federal/Provincial Environmental Impact Statement/Environmental Assessment Report - Draft Copy (Noront 2013);
- TPA1B Webequie Community Supply Road Project Description – Draft (Webequie First Nation 2018);
- Ontario Ministry of Energy, Northern Development and Mines (MENDM) publications;
- Communications: Ontario Ministry of the Environment, Conservation and Parks (MECP);
- Communications/Publications: Ontario Ministry of Natural Resources and Forestry (MNRF); and
- Other relevant species/subject-specific publications from various sources.

5.4.1.12.2 Field Surveys

Field studies for SAR included a variety of survey types designed to capture evidence of presence and habitat use of particular species. A summary of the details for field surveys conducted for the purpose of SAR baseline data collection for the Project are described in **Table 5-15**.

Table 5-15: A Summary of Species at Risk Field Surveys Conducted

Survey Type	Dates Conducted	Extent of Survey Effort	Notes
Winter Aerial Survey	• February 22 – 28, 2018 • February 9 – 13, 2019 • February 24 – March 1, 2021	• 59 transects (2,666 linear km) • 39 transects (1,776 linear km) • 47 transects (1,260 linear km)	• 2018 survey was conducted across larger survey area to increase representation within Oziski Caribou Range. • No survey was conducted in 2020, as MECP indicated that additional Caribou survey effort should include collaring. • 2021 winter aerial survey was initiated, in part, as a search exercise in support of Caribou capture for the collaring study.
Caribou Nursery Habitat Survey	• June 12-17, 2020 • July 2-9, 2020	• 74 candidate sites	• Survey requested by MNRF in 2020. • Conduced on ground, where accessible and from air when inaccessible.
Caribou Collaring Study (capture)	• February 25, 2021 – March 6, 2021	• 29 female Caribou	• Initial sample size of 30 Caribou was identified for capture; however, one collar was not fit for deployment.
Wolverine Occupancy Study	• 25 survey stations	• February 9 – May 12, 2021	• On-going into 2022.
Bat Hibernacula Screening	• May 27-28, 2019	• Reconnaissance flights within Bat LSA	• Included search for habitat features that might provide hibernaculum habitat, such as rock outcrops, cliffs, rocky shorelines.
Bat Acoustics Recording	• June 13 – July 5, 2019 • June 7 – October 15, 2020	• 4 survey stations • 9 survey stations	• In 2019, this survey focussed on limited deciduous/mixed forest features that were most likely to have cavity trees. • Survey expanded across LSA in 2020 to cover greater extent of the study area.

Table 5-15 (Cont'd): A Summary of Species at Risk Field Surveys Conducted

Survey Type	Dates Conducted	Extent of Survey Effort	Notes
Breeding Bird Point Counts	• June 5 – June 30, 2019 • June 5 – July 1, 2020	• 113 survey stations • 258 survey stations	• In 2019, survey focused on sampling all habitat types within LSA. • In 2020, survey was expanded to increased total sample size across LSA and RSA, including prospective aggregate extraction areas.
Bird Acoustic Recording	• May 11 – November 23, 2020 • May 11 – November 6, 2021	• 70 survey stations • 82 survey stations	• In 2020, survey focused on sampling all habitat types within LSA. • In 2021, number of sampling stations was expanded to improve total study area and habitat coverage.

5.4.2 Socio-economic Environment

5.4.2.1 Review of Secondary Source Information

Various publicly available sources such as land use plans, websites and reports have been reviewed to characterize the socio-economic environment and the results will be documented in the Draft Socio-Economic Environment Existing Conditions Report that is currently in preparation. A detailed list of references will be included in the report. The following secondary sources of information were reviewed to inform socio-economic baseline conditions:

- Matawa First Nations Website, 2020;
- Mushkegowuk Council Website, 2020;
- Shibogama First Nations Council Website, 2020;
- Windigo First Nations Council. Community Map. Accessed July 2020;
- Independent First Nations Alliance Website 2020;
- Metis Nation of Ontario Website. Statement of Prime Purpose, 2020;
- Indigenous Relations and Northern Affairs Canada Statistics on First Nations, 2020;
- Statistics Canada Census Profiles, 2017;
- Community Well-Being index map available at Indigenous Services Canada, 2019;
- Kashechewan Health Website. Kashechewan Health Services. 2020;
- Northeast Health Line Website, 2020;
- Thunder Bay District Health Unit Website. About Us – Programs & Services. Accessed May 2020;
- Information on services from Town of Sioux Lookout Website. 2020;
- Information on services from Sioux Lookout First Nations Health Authority Website, 2020;
- Information on services from Geraldton District Hospital Website, 2020;
- Information on services from Township of Pickle Lake Website, 2020;
- Ontario Mining Association Website. 2020. Facts & Figures, May 2020;
- Independent Electricity System Operator Website, May 2020;
- Wataynikaneyap Power Website- Benefits, Accessed June 2020;

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5.4.2.2 Surveys and Baseline Studies

The results of baseline data collection and analysis will be presented in the Draft Socio-Economic Environment Existing Conditions Report. The completed and planned studies and surveys are as follows.

Profiles of Indigenous Communities:

- Population/Demographics;
- Education/Employment;
- Household Composition; and
- Infrastructure and Social Services.

5.4.2.2.1 Key Informant Interviews and Focus Group Sessions

As part of primary data collection, key informant interviews have been conducted with individuals who have special knowledge or information regarding socio-economic topics such as social/health services, infrastructure, economic development and housing. To date, 12 interviews have been conducted with Webequie informants (Chief & Council, Health Director, School Principal, Department Directors etc.) in winter/spring 2022. Some of them were conducted virtually and while others were conducted in-person during the May 2022 community visit. More interviews with other Webequie informants (including Child &

Family Services and Police & Emergency Services representatives) and in other communities will be planned based on interest and availability to participate. Key informant interviews with other communities, focusing on those within the LSA for the Project, will also be conducted where there is interest and availability to participate.

Two focus group sessions were conducted in Webequie in May 2022. One focus group focused on women while the other focused on youth. Upcoming focus groups in Webequie First Nation will focus on Elders, land users/knowledge keepers, off-reserve community member and other groups as necessary in Webequie. Focus groups will be organized in other communities based on interest and availability.

5.4.2.2.2 Surveys

As part of the socio-economic program an invitation was sent to all Indigenous communities in December 2021 requesting their interest to participate in primary data collection, which includes a socio-economic survey. To date the socio-economic survey has been administered online via SurveyMonkey and in person at community drop-in sessions with survey administrators present. The survey links were also made available on social media. The survey questions focused on demographics (i.e., age, gender, income, education, employment, housing, health, safety). At present, approximately 250 surveys have been completed by Webequie community members during summer/fall 2021. Survey for other communities will be conducted based on interest and availability.

5.4.2.2.3 Land and Resource Use (Non-Indigenous)

The review of community land use plans, provincial and federal policies and plans has been done to look at the compatibility of land uses. Spatial data on existing land uses, proposed land uses, consultation and engagement will also inform land and resource use baseline.

5.4.2.2.4 Indigenous Knowledge and Land and Resource Use

One of the key objectives of the ongoing Indigenous Knowledge and Land and Resource Use (IKLRU) Program is to engage identified Indigenous communities to gather information and characterize baseline conditions. Literature review and desktop research will be followed by community led studies to collect IKLU information. All the information and results will be captured in the baseline section of the EAR/IS.

5.4.3 Human Health and Country Foods

5.4.3.1.1 Baseline Study

A baseline community health profile is being developed to understand the current overall health status of affected communities, with primary focus on Webequie First Nation. It will provide a benchmark for assessing potential health effects arising from the Project. Health information is being collected using the study methods outlined in the following Sections 5.4.3.1.2 to 5.4.3.1.4.

5.4.3.1.2 Surveys

Two surveys have been developed: a Human Health Survey and a Country Foods Survey. Approximately ten (10) surveys were completed in person during the May 2022 community visit, with survey administrators present – more surveys will be completed via SurveyMonkey and at future in-person community sessions in Webequie.

5.4.3.1.3 Focus Groups

Health questions have been integrated into the ongoing socio-economic focus groups (including the women and youth focus groups that occurred in Webequie during the May 2022 community visit) – health questions will also be posed at upcoming focus groups tentatively scheduled for August 2022.

5.4.3.1.4 Key Informant Interviews

Health questions have also been integrated into the ongoing key informant interviews (including interviews with the Health Director and Councillors) during the May 2022 community visit. Future health-specific interviews will be arranged and conducted in August 2022.

5.4.4 Visual Environment

5.4.4.1 Review of Secondary Source Information

The following secondary sources of information were reviewed to help characterize the visual environment:

- Indigenous Knowledge information obtained through consultation with Indigenous communities will be reviewed, and dated information will be updated as required;
- LiDAR-derived Digital Terrain Model (DTM) for 2 km wide road corridor, 2017;
- Physiographic/landscape data, including ecozones, ecodistricts (Land Information Ontario, LIO);
- ELC mapping, where available;
- Ontario Provincial Digital Elevation Model (DEM, 30 m resolution) - North, 2013 (obtained from Land Information Ontario, LIO);
- High-resolution (15 cm) aerial imagery, obtained Oct 6-10, 2017; and
- Ontario provincial land cover data, 2000 (Land Information Ontario, LIO).

5.4.4.2 Visual Quality Baseline Characterization - Preliminary Visibility Analysis

A preliminary visibility analysis has been completed and the following preliminary viewpoints were identified by the Project Team in consultation with Webequie First Nation:

- Winisk Lake Crossing (east of the Webequie settlement, a multi-span bridge);
- Winiskisis Channel (single span bridge);
- Muketei River (single span bridge); and
- A viewpoint from a high elevation landscape point in proximity to the proposed road corridor.

5.4.4.3 Initial Community Consultation for Preliminary Viewpoint Identification

Through consultation and engagement activities the Project Team is looking to confirm the preliminary identified viewpoints and to identify potential locations from which to assess the visibility of all temporary and permanent, project-related infrastructure. Such locations could include:

- Vistas / locations of relatively high altitude (i.e., heights of land);
- Commonly navigated and recreationally used waterbodies and watercourses;

- Important views to and from culturally significant locations, including, for example:
  - Regularly navigated waterways;
  - Sacred hills;
  - Other spiritually significant locations;
  - Gravesites;
  - Camps / hunting blinds;
  - Harvesting areas (plants and animals); and
  - Recreation use and/or Outfitter/Tourism areas.

These consultation and engagement activities (i.e., community meetings, etc.) are ongoing.

5.4.5 Cultural Environment

5.4.5.1 Cultural Heritage Desktop Data Collection Report

A Draft Cultural Heritage Desktop Data Collection Report was completed in March 2022 for the Project (Archaeological Services Inc, 2022).

All work has been undertaken per applicable regulatory requirements, including the following:

- Impact Assessment Act (2019) & Environmental Assessment Act (1990);
- Ontario Heritage Act (1990);
- Planning Act (1990);
- Standards and Guidelines for Conservation of Provincial Heritage Properties (2010); and
- Ontario Heritage Tool Kit (2006).

Polices related to cultural heritage resources were reviewed from the following sources: WFN On-Reserve Land Use Plan (2019); and Draft WFN Community Based Land Use Plan, v. 42 (2019).

To identify previously identified, known, or potential Built Heritage Resources (BHRs) and Cultural Heritage Landscapes (CHLs) within the study area, the following methods were used:

- Review of Existing Heritage Inventories (including provincial, federal, and UNESCO resources/ registers);
- Review of Previous Heritage Reporting (including MECP's Winisk River Provincial Park Management Strategy (2021));
- Stakeholder Data Collection (including contacting MHSTCI, Ontario Heritage Trust, and Ontario Parks for information gathering purposes); and
- Indigenous Knowledge (IK) and Community Land Use Plans (WFN IK was available at the time of the report and other IK gathering with other communities is currently underway by the Project Team and will be integrated, where applicable).

From the desktop analysis a number of potential CHLs have been identified in the study area. CHLs are defined as a geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association. Cultural heritage landscapes may be properties that have been determined to have cultural heritage value or interest under the Ontario

Heritage Act or have been included on federal and/or international registers, and/or protected through official plan, zoning bylaw, or other land use planning mechanisms" (Government of Ontario 2020:42).

The results presented in the desktop report are preliminary and include potential CHLs within the LSA. Additional BHRs or CHLs may be identified as part of further consultation and validation with Webequie First Nation and other First Nations with an interest in the Project. Once the preferred alternative is selected, the baseline report will be updated with a description of existing conditions and a summary of known and potential BHRs and CHLs in the study area. A preliminary impact assessment will also be conducted to assess the preferred route including supportive infrastructure (e.g., access roads, construction camps, laydown sites, and aggregate extraction areas), once selected.

5.4.5.2 Stage 1 Archaeological Assessment

A Draft Stage 1 Archaeological Assessment Report has been completed for the Project (Archaeological Services Inc. April 2022).

The Stage 1 Archaeological Assessment has been prepared to meet the requirements of TISG and in accordance with Ontario Ministry of Tourism, Culture and Sport (MTCS) *Standards & Guidelines for Consultant Archaeologists* 2011. The Stage 1 Archaeological Assessment involved a review of background information sources and Indigenous Knowledge from WFN to provide information on the study area's archaeological and land use history in order to evaluate the property's archaeological potential. The report includes information related to:

- Development context (i.e., treaties and traditional territories);
- Historical context (i.e., Indigenous land use and settlement, pre-contact settlement, map/aerial review); and
- Archaeological context (i.e., current land use, geography, and previously registered archaeological sites and assessments).

The historical and archaeological contexts have been analyzed to help determine the archaeological potential of the study area (i.e., LSA). Results of the analysis of the study area and background research are presented in the report and will be used to support the evaluation of alternatives and effects assessment of the Project on potential archaeological resources in the study area. The report also includes recommendations for further assessment (i.e., Stage 2 Archeological Assessment) for areas with high archaeological prior to any proposed construction activities and that this assessment be conducted in accordance with the Ministry of Tourism, Culture and Sport 2011 *Standards and Guidelines for Consultant Archaeologists*.

The findings and recommendations in the draft report are subject to further engagement and consultation with Indigenous communities, including validation with WFN, and approval from MTCS.

5.5 Determination of Final Project Components

The Project Team has made major advances in the alternatives assessment that is being used to determine the final project components (i.e., Project Footprint/Project Development Area) that will be carried through the impact assessment as the Preferred Alternative. To date, the Project Team has defined the purpose of the Project, need for the Project, "alternatives to" the Undertaking/Project, which have been previously documented and described in the federal Detailed Project Description and provincial EA ToR. Currently, the Project Team are in the process of completing the preliminary assessment of "alternative methods" of carrying out the Project including:

- Identifying the potential environmental, health, social and economic effects of alternative means of carrying out the designated project that are technically and economically feasible;
- Elements of each alternative means and the associated adverse and positive environmental, health, social or economic effects or impacts on rights of Indigenous peoples, as identified by the Indigenous group(s);
- Identification of the preferred alternative means of carrying out the project based on the consideration of environmental, health, social and economic effects, and of technical and economic feasibility and through the use of best available technologies;
- Defining the methodology and criteria used to determine the preferred alternative means and the unacceptability of excluded alternative means, including consideration of trade-offs associated with the preferred and alternative means; and
- Establishing criteria to examine the environmental, health, social and economic effects of each remaining alternative means to identify a preferred alternative.

5.5.1 Summary of Assessment of Alternatives to the Undertaking

To date, the Assessment of Alternatives to the Undertaking has been completed and presented in the provincial EA ToR and federal Detailed Project Description, and is not repeated in this report, however a high-level summary is provided.

The range of "alternatives to" the Undertaking (i.e., functionally different ways of approaching the opportunities identified by WFN to improve the community's economic and social well-being) was limited by the primary objectives of the Project ("Need for the Project"), as determined by WFN:

- Establish an all-season corridor that will facilitate the movement of materials, supplies and people between the Webequie Airport and the mineral exploration and proposed mine development activities in the McFaulds Lake area of Northwestern Ontario (specifically, the camps, the drilling/exploration projects and, in the future, mining facilities);
- Provide enhanced employment and other economic development opportunities to Webequie community members, while also allowing them to continue to reside in or around their community's traditional territory, engage in traditional uses of that land, and preserve their language and culture; and
- Provide experience/training opportunities for youth to help encourage pursuit of additional skills through post-secondary education.

For transportation projects, alternatives to the Undertaking generally include new or improved roads, new or improved rail service, air service or public transit service, alternative transportation methods for goods movement (e.g., airships and hoverbarges in this case), managing travel demand to influence how and

when trips are made, modified/reduced need for travel by encouraging the use of alternatives to trip making (e.g., telecommuting, videoconferencing, providing more medical services locally, providing more electronic access to training opportunities) and the null or “Do nothing” alternative.

The assessment of Alternatives to the undertaking for the Project included the following five options:

1. Do nothing;
2. Upgrade the existing trail system to seasonal winter road;
3. Alternative modes of transportation (hoverbarge, airship, rail);
4. Manage travel demand; or
5. New all-season road.

Having considered the balance of advantages and disadvantages of each alternative that was evaluated, the preferred alternative for the undertaking is the construction of a new all-season road between Webequie and the McFaulds Lake area. Details of the rationale for the selection of the preferred alternative for the undertaking will be included in the EAR/IS.

In summary, developing a new all-season road between Webequie and the McFaulds Lake area is deemed to be the most reasonable alternative for the following reasons:

- It best addresses the project purpose and objectives, as stated by WFN, including providing new and enhanced opportunities to improve Webequie’s economic and social well-being; and
- Given current and projected available resources (people and financing), it is the likeliest alternative to be within Webequie’s technical and economic abilities to implement. Funding sources will be further explored in subsequent stages of project development.

The selected planning alternative is also consistent with provincial government plans and policies for growth and development in the region, including the Ring of Fire area.

In keeping with the focused approach to the provincial EA and the TISG, the preferred planning alternative (developing a new all-season road) will be carried forward to the evaluation of alternative methods of carrying out the Undertaking. The Null (“Do Nothing”) Alternative was also be carried forward as a baseline condition to allow for comparison of impacts.

5.5.2 Identification and Evaluation of Alternative Methods of Carrying Out the Project

With the all-season supply road identified as the preferred alternative for the undertaking, the Project Team has initiated the assessment of alternative methods of carrying out the Project. This assessment has included analysis of historical road and transportation studies, followed by a series of comparative analyses using screening factors and criteria at an increasing resolution, moving from corridor to specific route (including supporting infrastructure such as temporary construction camps, aggregate sources and access roads).

To date, the initial assessment of alternative methods has been completed, as documented in the EA ToR and federal Detailed Project Description, and will be represented in the EAR/IS. In summary, this included an evaluation of alternative conceptual corridors (Alternative Concepts 1, 2A, 2B, and 2C) as shown in **Figure 5-7**, that were screened to identify a corridor upon which to focus investigations and alternatives during the EA/IA. The process for screening the alternative corridors included an assessment of the advantages and disadvantages of the alternatives against a set of factors that were identified based on both discussions with WFN community members as to project area features and sensitivities that may be affected by the Project and what constituted valued components from the outcome of several

community meetings in 2017 and 2018, and criteria inherent in the broader definition of the environment, as required under the EA Act and in accordance with MECP's Codes of Practice. The outcome of this evaluation was the selection of a preliminary preferred development corridor (Alternative 2C – Webequie community preferred) of approximately 2 km in width to carry forward for more detailed identification and analysis of routing alternatives for the WSR, including supportive infrastructure. In addition, the Project Team completed an analysis of routing sub-alternatives that were based on soil and terrain conditions within the preliminary proposed corridor. From this analysis, the route alternatives carried forward for further evaluation and consultation in the EA/IA include: the Webequie First Nation community's preferred route (referred to as Alternative #1) for the supply road (35 m right-of-way width) along the centreline of the approximately 2 km wide preliminary corridor; and the optimal soil and terrain route (referred to as Alternative #2) within the same corridor.

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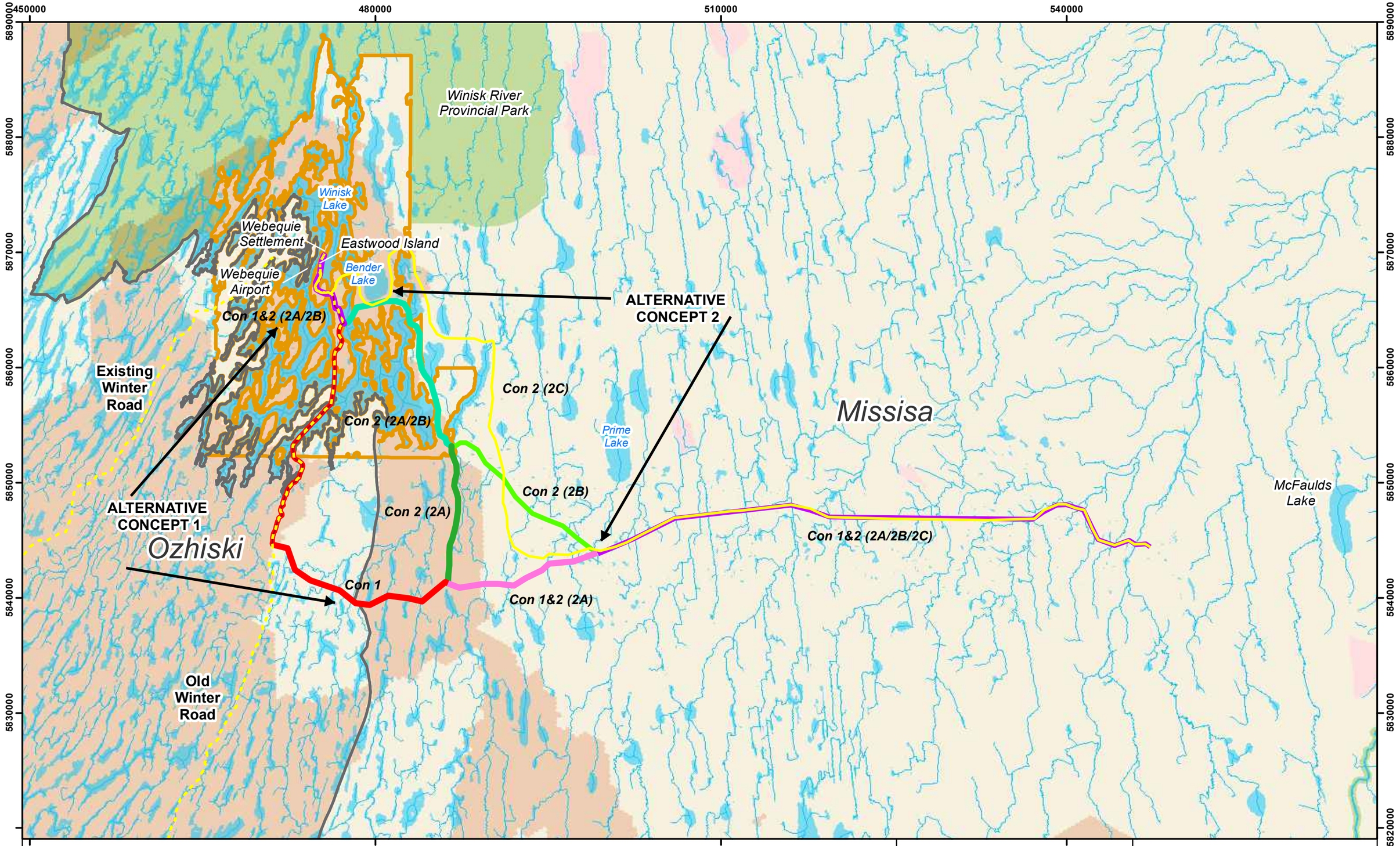

Legend

Road Alignment Alternatives
- Alternative Concept 1 and 2 (2A/2B)
- Alternative Concept 2 (2A/2B)
- Alternative Concept 2 - Corridor Alternative (2A)
- Alternative Concept 2- Alternative 2C
- Alternative Concept 1
- Alternative Concept 1 and 2 (2A)
- Alternative Concept 2- Corridor Alternative 2B

Boreal Caribou Habitat
- Category 1 - High Use Area (Nursery Use Area)
- Category 1 - High Use Area (Winter Use Area)
- Category 2 - Seasonal Range
- Category 3 - Remaining Areas within the Range
- Winisk River Provincial Park
- Webequie First Nation Reserve
- Winter Roads (Existing and Abandoned)
- Caribou Range Boundary

WSR WEBEQUIE SUPPLY ROAD

0 5 10 Km

N

NAD 83
UTM Zone 16N

Webequie Supply Road

Corridor Alternative Concepts for the Webequie Supply Road

Date: 2020-03-11	File Number: 649920	Sub Code: 0000
Figure Number: 5.7		Rev. 0

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At time of preparing this request for extended time to the IS Phase, the Project Team is continuing its preliminary evaluation of route alternatives as well as supportive infrastructure. One of the primary objectives of the request to extend the time limit is to allow for completion of the Project Team's evaluation of alternative methods, including engagement and consultation with Indigenous communities/groups, government agencies, the public and stakeholders to present the evaluation and provide an opportunity for input to the selection of the preferred alternative methods of carrying out the Project.

The following subsections provide a summary of the progress with the identification and evaluation of alternatives.

5.5.2.1 Evaluation of Alternative Routes

A preliminary multi-criteria analysis (MCA) is currently in progress to allow for an overall comparison of the advantages and disadvantages of the route alternatives under consideration in the EA/IA. As noted above, this includes consideration of Route Alternative 1 and Route Alternative 2 within a 2 km wide corridor. In addition, as the assessment of alternative methods of carrying out the Project progressed the Project Team identified a third alternative route (referred to as Route Alternative 3) that blended the priorities of route Alternative 1 and Alternative 2. **Figure 5-8** shows the three route alternatives under consideration including general spatial assessment boundaries (i.e., LSA, and RSA).

To complete the MCA, the Project Team is considering using a SNC-Lavalin software tool called "Pangea" that is designed for the assessment of route or site alternatives for complex projects with multiple criteria, different perspectives, trade-off, and mix of quantitative and qualitative data.

To allow for comparison of alternative routes the corridor has been segmented into assessment groups where directly comparable alternative routes exist and to facilitate engagement and decision making.

As part of the EA/IA process, criteria and indicators for each valued component have been identified (i.e., EA ToR Phase and Detailed Project Description), and the Project Team is currently engaging with Indigenous communities, the public and stakeholders to refine the criteria and indicators in Consultation Round 1 and will also in Round 2. A subset of the criteria and indicators to date have been selected by the Project Team for the evaluation of alternatives and are organized under the following perspectives/themes:

- Natural (Biophysical) Environment;
- Indigenous Peoples' Land Use and Interests;
- Socio-Economic Environment;
- Cultural Heritage and Archaeology; and
- Technical Considerations.

Table 5-16 provide a draft list of the evaluation criteria and indicators that are proposed to be used for the analysis of route alternatives and to facilitate the selection of a preferred route.

SIZE 11x17

460,000 470,000 480,000 490,000 500,000 510,000 520,000 530,000 540,000 550,000 560,000 570,000

5,880,000 5,870,000 5,860,000 5,850,000 5,840,000

N

Winisk River
Lastcedar Lake
Winisk River Provincial Park
Eastwood Island
Webequie Settlement
Webequie Airport
Bender Lake
Garrioch Lake
Plant Lake
Stockman Lake
McMurdo Lake
Ekwan River
Clancy Lake
Greig Lake
Odobas Lake
Billinger Lake
Leaver Lake
Mukeregi River
Winisk Lake
Morrison Bay
Prime Lake
Deugo Lake
Farrow Lake
Newstead Lake
Ekwan River
McFaulds Lake
Malloy Lake

460,000 470,000 480,000 490,000 500,000 510,000 520,000 530,000 540,000 550,000 560,000 570,000

Legend

Route Label

- Alternative 1
- Alternative 2
- Alternative 3
- Local Study Area (LSA 1km from Centreline of Route Alternative 1, Alternative 2, and Alternative 3)
- Regional Study Area (RSA 5km from either side of LSA Boundary)
- Webequie First Nation Reserve
- Waterbody
- Watercourse
- Winisk River Provincial Park

WSR WEBEQUIE SUPPLY ROAD

NOTES

1. Coordinate System: NAD 1983 UTM Zone 16N.
2. Cadastral boundaries are for informational purposes only and should not be considered suitable for legal, engineering, or surveying purposes.
3. Topographic/landcover features obtained from CanVec v12.0 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information; and, Land Information Ontario (LIO) Warehouse Open Data (https://geohub.lio.gov.on.ca/), Ontario Ministry of Natural Resources and Forestry (OMNRF) Download Date : 2021-02-04

DISCLAIMER

0 10 20 Km

Webequie Supply Road (WSR)

Alternative Routes and General Study Areas

Figure Number:	REV:
5.8	PA

Client:	Project Number:	Date:
Webequie First Nation	661910	2022-10-19

DSC	DRN	CHK	APP
	AD	CW	CW

SIZE 11 X 17 Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Table 5-16: List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment		
Vegetation	Upland Ecosystem	Area (ha) of upland ecosystems removed/loss or degraded.
		Edge Habitat - quantitative accounting of the number of edges crossed.
		Edge Habitat - quantitative accounting of the length (km) of edges removed within the ROW.
		Low: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha).
		Medium: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha).
		High: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha).
		Low Habitat Usage - Numeric values of L/M/H for each vegetation class.
		Medium Habitat Usage - Numeric values of L/M/H for each vegetation class.
		High Habitat Usage - Numeric values of L/M/H for each vegetation class.
		Low - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Moderate -Fire Potential - Numeric values of L/M/H for each vegetation class.
		High - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Extreme - Fire Potential - Numeric values of L/M/H for each vegetation class.
	Riparian Ecosystem	Area (ha) of riparian ecosystems removed/loss or degraded
		Structural/Vegetative Complexity (Biodiversity) - calculation of Loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		Habitat Usage - Numeric values of L/M/H for each vegetation class
		Fire Potential - Numeric values of L/M/H for each vegetation class.
	Wetland Ecosystem	Area (ha) of upland ecosystems removed/loss or degraded.
		Edge Habitat - quantitative accounting of the number of edges crossed.
		Edge Habitat - quantitative accounting of the length (km) of edges removed within the ROW.
		Low: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		Medium: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		High: Structural/Vegetative Complexity (Biodiversity) - calculation of loss/displacement (ha). Numeric values of L/M/H for each vegetation class.
		Low Habitat Usage - Numeric values of L/M/H for each vegetation class.
		Medium Habitat Usage - Numeric values of L/M/H for each vegetation class.
		High Habitat Usage - Numeric values of L/M/H for each vegetation class.

Table 5-16 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
		Low: Wetland Function - Numeric values of L/M/H for each wetland vegetation class.
		Medium: Wetland Function (combination of Vegetative Complexity/Habitat usage/Hydrology/Groundwater) - Numeric values of L/M/H for each wetland vegetation class.
		High: Wetland Function (combination of Vegetative Complexity/Habitat usage/Hydrology/Groundwater) - Numeric values of L/M/H for each wetland vegetation class.
		Low - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Moderate -Fire Potential - Numeric values of L/M/H for each vegetation class.
		High - Fire Potential - Numeric values of L/M/H for each vegetation class.
		Extreme - Fire Potential - Numeric values of L/M/H for each vegetation class.
	Designated Areas (ANSI, ESA, PSW, Rare Communities, etc.)	Area (ha) of Designated Areas removed/loss or degraded.
	Plants of significance or importance; and designated Species at Risk plant populations (including species with special conservation status, rarity, or cultural significance)	Area (ha) of plants with significance or importance; and/or designated that would be removed/loss or degraded.
		Area (ha) or number of sites identified as culturally significant or of value by Indigenous peoples.
		Area or number of sites with relative abundance/overlap of rare plant species.
Fish and Fish Habitat (including Species at Risk - SAR)	Fish and Fish Habitat (SAR Fish – Lake Sturgeon)	Number of waterbodies crossed.
		Area (ha) of waterbodies crossed.
		Habitat quantity (ha).
		Habitat quality crossed (% Rare).
	Fish and Fish Habitat (Non-SAR Fish)	Number of waterbodies crossed.
		Total Area (ha) of waterbodies crossed.
		Low: Total Habitat quantity (ha) and habitat quantity by habitat quality.
		Medium: Total Habitat quantity (ha) and habitat quantity by habitat quality.
		High: Total Habitat quantity (ha) and habitat quantity by habitat quality.
		Low: Habitat quality crossed %.
		Medium: Habitat quality crossed %.
		High: Habitat quality crossed %.

Table 5-16 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
Wildlife	Caribou (Boreal population and Eastern Migratory population), Species at Risk	Additional disturbances being added at Range Level (ha - footprint + 500 m buffer).
		Length (km) of new linear disturbances at Range Level.
		Length (km) of route adjacent to existing disturbance at Range Level.
		Category 1: High Use Area at the Sub-range Level - Number of nursery areas intersected.
		Category 1: High Use Area at the Sub-range Level - Area (ha) of nursery area removed/disturbed (i.e., intersected).
		Category 1: High Use Area at the Sub-range Level - Number of nursery areas within 2 km; within 10 km (Indirect Impact).
		Category 1: High Use Area at the Sub-range Level -Area (ha) of nursery areas disturbed (Indirect).
		Category 1: High Use Area at the Sub-range Level - Number of winter use areas intersected.
		Category 1: High Use Area at the Sub-range Level - Area (ha) of winter use areas potentially affected (i.e., intersected).
		Category 1: High Use Area at the Sub-range Level - Number of winter use areas within 2 km; within 10 km (Indirect Impact).
		Category 1: High Use Area at the Sub-range Level -Area (ha) of winter use areas disturbed (Indirect).
		Category 1: High Use Area at the Sub-range Level - Number of travel corridor areas intersected.
		Category 1: High Use Area at the Sub-range Level - Area (ha) of travel corridor areas potentially affected (i.e., intersected).
		Category 1: High Use Area at the Sub-range Level - Number of travel corridor areas within 2 km; within 10 km (Indirect Impact).
		Category 1: High Use Area at the Sub-range Level -Area (ha) of travel corridor areas disturbed (indirect).
		Category 2: Area (ha) of seasonal range displaced/removed.
		Category 2: Area (ha) of seasonal range potentially affected within 2 km; within 10 km (Indirect Impact).
		Category 3: Area (ha) of remaining areas in the Range potentially affected.
	Wolverine, Species at Risk	Number of den habitat features (den + 2 km buffer) within 2 km of alternative.
		Area (ha) of habitat removed.
		Number of recorded occurrences within 2 km and 10 km of route alternative.
	Bats (including SAR Bats)	Area (ha) of candidate maternity habitat (forested) removed.
		Area (ha) of high quality candidate habitat displaced/removed.
		Number of SAR bat observations within 2 km and 5 km of alternative.
		Number of bat hibernacula habitat within 2 km and 5 km.

Table 5-16 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
	Forest Birds (including SAR birds)	Area (ha) of candidate nesting habitat (Based on veg data codes) removed.
		Quality of habitat crossed (High, Medium, Low).
		Number of SAR observations within 2 km and 5 km.
	Raptors (including SAR birds)	Area (ha) of candidate nesting habitat removed.
		Number of raptor species recorded within 2 km and 5 km.
		Number of raptor nests recorded 2 km and 5 km.
		Area (ha) of Raptor Nesting SWH.
		Number of Osprey and Bald Eagle nests within 2 km and 5 km.
		Area (ha) of Osprey and Bald Eagle Nesting SWH within 2 km and 5 km.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Shorebirds	Area (ha) of breeding shorebird habitat crossed (Yellowlegs).
		Quality of habitat crossed (Area for each of High, Medium, Low).
		Area of Shorebird Stopover SWH displaced/removed (Direct).
		Area of Shorebird Stopover SWH within 2 km and 5 km (Indirect).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Waterfowl	Number of stopover and staging SWH displaced/removed (Direct effects).
		Area (ha) of stopover and staging SWH displaced/removed (Direct effects).
		Number of stopover and staging SWH within 2 km and 5 km (Indirect effects).
		Area (ha) of stopover and staging SWH within 2 km and 5 km (Indirect effects).
		Area of Waterfowl Nesting SWH displaced/removed (Direct effects).
		Area of Waterfowl Nesting SWH within 2 km and 5 km (Indirect).
		Quality of breeding habitat crossed (certain species) (Area (ha) of High, Medium, Low quality habitat for modelled species).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Bog/Fen Birds and Other Wetland Birds (including SAR-birds)	Area (ha) of bog/fen habitat crossed.
		Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Number of Sharp-tailed Grouse Leks within 2 km and 5 km.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Furbearers - Excluding SAR (Wolverine)	Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Number of dens within 2 km and 5 km.
		Number of Wolf Rendezvous Sites within 2 km and 5 km.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).

Table 5-16 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Natural (Biological and Physical) Environment (Cont'd)		
	Moose	Area (ha) of winter area quality bands (High, Medium, Low) to be displaced/removed (Direct impacts).
		Area (ha) of winter area quality bands (High, Medium, Low) within 2 km and 10 km (Indirect impacts).
		Area (ha) of aquatic habitat within 2 km and 10 km (Indirect impacts).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Amphibians (Frogs)	Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Reptiles	Number of Snake Hibernacula within 2 km and 5 km.
		Number of Turtle Hibernacula within 2 km and 5 km.
	Pollinating Insects	Distribution of selected culturally important plants that are reliant on pollinator insects.
		Distribution of selected key food plants associated with selected pollinator insects.
		Quality of habitat crossed (Area of High, Medium, Low habitat for modelled species).
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low).
	Designated Significant Wildlife Habitat	Area (ha) of significant wildlife habitat crossed or fragmented.
		Quality of residual habitat (configuration/connectivity) (High, Medium, Low)
Surface Water	Surface Water	Number of lakes and ponds crossed.
		Area (ha) of lakes and ponds crossed.
		Number of streams and rivers crossed.
		Area (ha) of upstream watersheds.
		Area (ha) of downstream watersheds.
		Length (km) of alignment through wetland land type.
		Number of, or Aggregate risk level of, downstream sensitive surface water quality receptors.
		Area (ha) of potential contaminant spill risk.
Groundwater	Groundwater	Number of drinking water wells displaced or potentially affected (e.g., within 300 m of route alternative).
		Number of springs displaced or potential affected (e.g., within 300 m of route alternative).
		Area (ha) of recharge areas crossed.
		Area (ha) of discharge areas crossed.

Table 5-16 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Indigenous Peoples Land Use and Interests		
	Indigenous Current and Historical Use of Lands and Resources for Traditional Purposes	Location/number/area (ha) of fish spawning areas affected.
		Location/number/area (ha) of fish harvesting areas affected.
		Location/number/area (ha) of seasonal hunting areas affected.
		Location/number/area (ha) of wildlife (e.g., moose, waterfowl) mating, breeding or nursery areas affected.
		Area (ha) used for harvesting of plants for human consumption affected.
		Number of traplines affected.
		Location/number of access routes affected to harvested species, including navigable waterways.
	Cultural Continuity (ability to practice and transmit cultural traditions including historical disruptions where Indigenous peoples have a desire to reinvigorate a cultural tradition)	Loss of or change to quantity (number or ha) of culturally and spiritually important sites (e.g., ceremonial sites, sacred areas, teaching sites).
Socio-Economic Environment		
Land and Resource Use (non-Indigenous)	Mineral and Aggregate Resources	Area (ha) of significant aggregate deposits affected.
		Area (ha)/number of mines within the study area affected.
		Number of mining claims within the study area affected.
		Area (ha)/number of pits/quarries within the study area affected.
	Recreational Activities (camps, trails, outfitters, movement of small watercraft)	Number/type of activities or users affected.
	Provincial Parks, Areas of Natural and Scientific Interest (ANSIs) or Conservation Reserves	Number and area (ha) of Provincial Parks, Areas of Natural and Scientific Interest (ANSIs) or Conservation Reserves affected.
Visual Aesthetics	Visual Character and Sensitivity	Number of culturally important viewpoints within 1 km that have line of sight of toward the road corridor.
		Area (ha) of visual aesthetics areas of concern crossed by the road.

Table 5-16 (Cont'd): List of Evaluation Criteria and Indicators for Evaluation of Alternatives Routes

Factor	Criteria (VC)	Indicator
Cultural Heritage and Archaeology		
Archaeology	Archaeological Sites and Resources	Number of registered archaeological sites displaced or requiring protection.
		Area (ha) with archaeological potential affected.
		Number/area/type of known burial sites within 300 m.
		Number/area/type of known burial sites displaced.
Cultural Heritage	Built Heritage Resources and Cultural Heritage Landscapes	Number and type of known Indigenous or non-Indigenous built heritage features/sites that may be affected.
		Number and type of Indigenous or non-Indigenous cultural heritage landscapes that may be affected.
		Number of designated Provincial heritage properties affected.
Technical Considerations		
	Constructability and Design	Area (ha) of hazard/unstable land crossed.
		Areas (ha) or percentages of terrain conditions considered good, fair, poor and very poor.
		Area or length of route that represents an engineering design and constructability challenge based on poor and very poor terrain conditions.
		Length (m) of open water crossings required for consideration of structures (bridges, culverts).
		Length of alluvial floodplains crossed with floating vegetation mats or groundwater near surface that may need enhanced engineering design.
	Cost	Length (km); size (ha).
		Construction capital cost ($).
		Operation and maintenance cost ($).
	Location of Supportive Infrastructure (aggregate/rock extraction areas, construction camps, laydown/storage yards, access roads)	Proximity/distance (km) to preferred aggregate/rock extraction sites.
		Capability to support viable temporary construction camps (High, Medium, Low).
		Length (km) of temporary and permanent access roads required to construct and maintain the road.

At the present, spatial indicator data (e.g., hectares of upland vegetation loss) are being extracted by the Project Team for each corridor using GIS and integrated in the Pangea software tool.

Future steps in the evaluation process include:

- Assigning preliminary weighting system to the alternative perspectives/themes and associated criteria and indicators that assigns relative level of importance that individual criteria indicators have to each other, and to the overall decision outcome; and
- Completing the preliminary evaluation and comparative assessment (advantages and disadvantages of each alternative) to identify the preferred route with consideration of the potential to mitigate identified adverse impacts of each alternative.

Note that the overall evaluation process is subject to further engagement sessions during Consultation Round 2 to request feedback from Indigenous communities, government agencies, the public and stakeholders, prior to selecting a preferred route. Feedback received will be integrated into the Pangea software tool and based on its design will provide a transparent, robust and repeatable process to the evaluation of alternative routes for the Project.

5.5.2.2 Alternative Aggregate Sources

The Project Team began its investigations into alternate aggregate sources (i.e., rock and gravel) by examining potential areas at a coarse screening level to eliminate alternatives with fatal flaws prior to completing the detailed analysis and selection of the preferred aggregate source(s). Extensive examination of aggregate sources, with respect to the volume and quality of material, in and around the Webequie and McFaulds Lake area have previously been completed and are documented in the Draft Natural Environment Existing Conditions Report (SLI, June 2022).

Aggregate source alternatives for the WSR were identified through review of existing surficial geology mapping completed by the Ontario Geological Survey and supplementary terrain analysis using digital imagery and LiDAR identified adjacent to and within the preferred supply road corridor (JDMA 2019). Limited occurrences of ice-contact glaciofluvial landforms and bedrock outcrops were targeted as potential aggregate sources. Among the aggregate source alternatives were ice-contact glaciofluvial landforms created by meltwater processes during deglaciation that were typically composed of sorted granular material. The characteristics of these granular deposits (overburden thickness, stratigraphy, gradation, etc.) were evaluated from shallow test holes dug with either a mini-excavator or manually with a shovel.

Bedrock outcrops identified and mapped as potential quarry sites were visited in the field to describe the lithology and structural elements (fractures, bedding, foliation, etc.) visible at surface to make an initial assessment of bedrock suitability for aggregate production.

The aggregate sources alternatives identified included six (6) ice-contact glaciofluvial landforms and five (5) bedrock locations, summarized in **Table 5-17**, and shown in **Figure 5-9**.

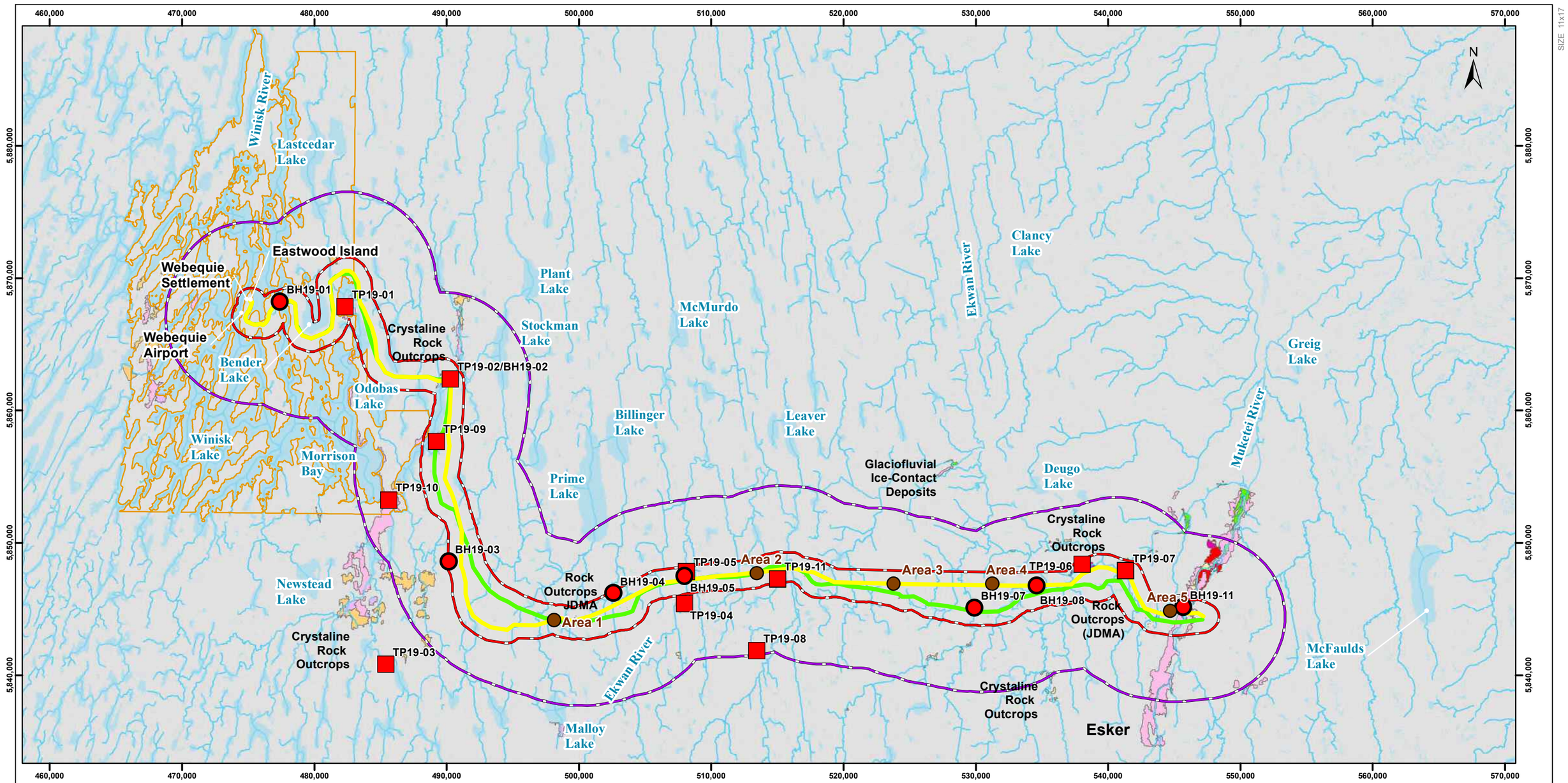
Table 5-17: Locations of Aggregate Source Alternatives

ID	Easting	Northing	Mapped Unit	Observed Material
TP19-01	482271	5867792	Glaciofluvial Deposits	Sand and Gravel
TP19-02	490185	5862355	Glaciofluvial Deposits	Sand and Bedrock
TP19-03*	485425	5840765	Glaciofluvial	N/A
TP19-04	507989	5845403	Bedrock	Till
TP19-05	508128	5847803	Bedrock	Till and Bedrock
TP19-06	537987	5848399	Glaciofluvial Deposits + bedrock	Silt
TP19-07*	541253	5847878	Bedrock	N/A
TP19-08	513429	5841840	Bedrock	Bedrock
TP19-09	489236	5857600	Glaciofluvial Deposits	Sand
TP19-10	485640	5853170	Glaciofluvial Deposits	Sand and Gravel
TP19-11	514998	5847294	Bedrock	Gravel

Notes

* Field investigations confirmed that sites did not contain material implied from Ontario Geological Survey information

The preliminary estimate of aggregate/rock material needed to construct the Project is 2,849,500 cubic metres (m^3). Aggregate/rock volumes to support the ongoing operation and maintenance of the WSR are currently be assessed and will be included on the overall evaluation of alternate aggregate source area(s).



Legend

Route Label

- Alternative 1
- Alternative 2
- Local Study Area (LSA 1km from Centreline of Route Alternative 1 and Alternative 2)
- Regional Study Area (RSA 5km from either side of LSA Boundary)
- Webequie First Nation Reserve
- Waterbody
- Watercourse
- 2019 Peat Probes
- 2019 Borehole
- 2019 Test Pit
- Rock (JDMA)
- Metamorphic and Igneous Rocks
- Metamorphic and Igneous Rocks
- Glacial Deposits and Bedrock
- Glaciofluvial Ice-contact Deposits
- Glacial Deposits and Bedrock
- Fluvial Deposits (recent)
- Fluvial Deposits (abandoned)
- Marine Beach and Near-shore Deposits

WSR WEBEQUIE SUPPLY ROAD

NOTES

1. Coordinate System: NAD 1983 UTM Zone 16N.
2. Cadastral boundaries are for informational purposes only and should not be considered suitable for legal, engineering, or surveying purposes.
3. Topographic/landcover features obtained from CanVec v12.0 dataset, Natural Resources Canada Earth and Sciences Sector Centre for Topographic Information; and, Land Information Ontario (LIO) Warehouse Open Data (https://geohub.lio.gov.on.ca/), Ontario Ministry of Natural Resources and Forestry (OMNRF) Download Date : 2021-02-04

DISCLAIMER

0 10 20 Km

Webequie Supply Road (WSR)

Eskers - Potential Aggregate/Rock Sources

Figure Number:		REV:
	5.9	PA

Client:	Project Number:	Date:
Webequie First Nation	661910	2022-10-21

DSC	DRN	CHK	APP
	AD	CB	CB

SIZE 11 X 17 Service Layer Credits:

Document Path: \\tor01\PROJECTS\E&W\Projects\661910 - Webequie First Nation Supply Rd\40_Execution\45_GIS_Dwgs\MXD\Extension_Report\661910_WSR_BIO_ER_GEO_EskersPotentialSandGravelSources_0001_0001.mxd

SIZE 11x17

5.5.2.2.1 Screening of Aggregate Source Alternatives

A high-level screening of aggregate source alternatives has been completed to screen out alternatives and focus the subsequent selection of the preferred aggregate source to the most favorable locations. The process for screening the alternatives included an assessment of the advantages and disadvantages of the alternatives against a set of technical factors that included type of material available, quantity of material available, distance from the preferred road corridor and accessibility, as well as a set of factors that were identified based on discussions with community members regarding project area features and sensitivities that may be affected by the Project and identified valued components. In many cases, one or more of the screening factors were of sufficient concern to eliminate the alternative from further consideration. For example, if the aggregate source alternative was not reasonably accessible for development of access roads (e.g., due to waterbody crossings, terrain, etc.,) did not have suitable material of sufficient quantity and/or was located too far from the preferred corridor, that alternative was screened out from further consideration.

Aggregate Source Alternative TP19-01

TP19-01 was chosen at the existing/abandoned gravel pit located east of Webequie. The deposit occurs as a discreet landform that is part of the discontinuous esker running north-south along the side of Manson Bay. There is an access road that is currently overgrown with vegetation, which could provide ready access to the proposed all-season road (located about 600 m to the west) where it wraps around the south end of Bender Lake.

Aggregate Source Alternative TP19-02

TP19-02 is located north of the stream crossing between Webequie and Stockman Lake. Aggregate sources mapped by the Ontario Geological Society include both ice-contact glaciofluvial deposits and bedrock at this location, which are within 100 m from the proposed all-season road and offer short haul distances. Bedrock exposures (490178 5862361) were observed from the air and were accessed from the stream channel. Crystalline igneous outcrop composed of granitic to pegmatitic composition, massive and unfractured. Ice-contact glaciofluvial deposits of sand surround the bedrock outcrop. The combined volume of borrow and bedrock aggregate expected to be feasible to mine at this location is estimated as 500,000 m^3 to 1,000,000 m^3.

Aggregate Source Alternative TP19-03

From the initial review the Ontario Geological Survey TP19-03 was identified as a possible location of exposed bedrock. In addition, white moss at the surface in several locations within this site further suggested that bedrock may be at the surface or at shallow depth at this site prior to the July 2020 fieldwork. However, based on the field exploration work completed, no bedrock was found at the surface in the areas of white moss examined on the ground, and no exposed bedrock was found during the flight approach to the site. Therefore, TP 19-03 after further field examination was screened out from further consideration.

Aggregate Source Alternative TP19-04

TP19-04 targeted bedrock mapped by the Ontario Geological Survey. Despite being mapped as a bedrock feature, no bedrock was encountered along a transect across the feature. In several places where tree cover thinned, the ground was covered with white moss that gives the appearance of bedrock in the imagery and in the air from the helicopter.

Aggregate Source Alternative TP19-05

TP19-05 is located on an area mapped as bedrock by the Ontario Geological Survey. The feature occurs as a small hill or upland along the eastern side of a small stream and is entirely covered with trees. Access to the site is from the banks of the small stream. Along the western side of the feature, leading down toward the stream, there is an accumulation of large boulders up to several metres in diameter. From the imagery and from the helicopter, these boulders appear as bedrock, but they are not when observed *in-situ* and are not embedded in a fine-grained matrix. Based on their large size and angular shape, these boulders were likely transported very short distances from their source and suggest *in-situ* bedrock in close proximity. Adjacent to the boulders, the area is covered by clay till.

Aggregate Source Alternative TP19-06

TP19-06 is located on an area mapped as a unit of glacial deposits and bedrock by the Ontario Geological Survey. Along the eroding banks of the adjacent stream channel to the south, mineral soils are observed from the air. Access to the site was from the bog to the north.

Aggregate Source Alternative TP19-07

TP9-07 targeted an area mapped as bedrock by the Ontario Geological Survey. The area was visited only from the air and not on the ground. Visual inspection from the helicopter did not identify bedrock outcrops; rather, most of the area is covered with thin tree cover and white moss that mimics bedrock in the imagery. Although no outcrops of bedrock were observed, it is possible that there is bedrock along the margins of the nearby streams where tree cover may obscure exposure. Along the banks of the nearby stream to the north, eroding mineral soil was exposed but no bedrock was observed.

Aggregate Source Alternative TP19-08

TP19-08 is located south of the preferred corridor and near an area of bedrock exposure described previously as bedrock. The site was visited from the air only. Visual inspections from the helicopter reveal a relatively large hill covered with trees that include stands of aspen that are often associated with glacial sediments or areas of bedrock. Much of the area appears to have white moss on the surface that obscure the identification of surficial materials; however, exposures of bedrock were observed in the general area, including areas to the west and east. The large fen to the west also exhibits large boulders in the centre and along the margins.

Aggregate Source Alternative TP19-09

TP19-09 was selected to test an area mapped as an ice-contact glaciofluvial deposit by the Ontario Geological Survey. Access to the site was from the east shore of lake to the west. This alternative is approximately 1 km from the preferred corridor, which limits the haul distance for construction. The sand and gravel reserve expected to be feasible to mine at this site is estimated as 150,000 m^3 to 500,000 m^3.

Aggregate Source Alternative TP19-10

TP19-10 targeted a large ice-contact glaciofluvial landform mapped by the Ontario Geological Survey that is located southeast of Winisk Lake and on the west side of the preferred corridor. The feature is among the largest glaciofluvial landforms mapped in the area and offers one of the largest potential sources of granular material, but it is approximately 4 km from the proposed corridor and would require a considerable watercourse crossing to access the location. From the air, the landform appears heavily covered with trees, including aspen trees that are quite distinct and indicate thin organics over mineral soils and sediment. The volume of sand and gravel expected to be feasible to mine at this site, based on regional elevation data, is in the order of 4,000,000 m^3 to 8,000,000 m^3, assuming that the entire ridge consists of sand and gravel with some accounting for varying percentages of spoil.

Aggregate Source Alternative TP19-11

TP19-11 is located near the eastern terminus of the preferred corridor near a prominent hill. Access to the site is from the fen adjacent to a small lake. The hill appears to be composed of granular material deposited by ice-contact glaciofluvial and surrounded by organic soils. Although small in scale, extending roughly 75 m long by 40 m wide and 3 m high, the granular material observed in this landform appears to be the coarsest material encountered in the investigation. Based on the approximate dimensions of the landform and the observed material, this feature offers a potential volume of roughly 10,000 m^3, with limited haul distance to the proposed corridor.

5.5.2.2.2 Summary of Screening of Aggregate Source Alternatives

Based on the information presented in **Section 5.5.2.2.1**, aggregate source alternatives TP19-02, TP19-09 and TP19-10 will be carried forward for further comparative assessment to determine the preferred alternative(s). The Project Team will use the extension to complete the final assessment of aggregate source alternatives, including integrating feedback from consultation with Indigenous communities, government agencies, the public and stakeholders prior to finalization of the preferred alternative and, completing the impact assessment on the preferred aggregate source area(s).

5.5.2.3 Construction Camp Alternatives

Construction Execution Strategy

A preliminary draft Construction Execution Strategy has been developed for the WSR in an attempt to define a list of critical components both physical and management-based to be considered in the planning, construction and operation of the Project. Regardless of the alternative route selected, it has been determined that construction of the WSR will need to be initiated from the community of Webequie being the only source of both existing human-supports and transportation connection (i.e., airport and winter road connection to provincial highway network). With significant impedance to flow of personnel and construction resources due to topography, soil conditions (i.e., peatlands), high water levels and required water crossings, the approach to establishing the road will, for the most part, be linear in nature, and as such the road is proposed to be developed working west to east, eventually ending at the east side of the Muketei River crossing in the McFaulds Lake area.

As part of construction execution strategy for the Project, accommodation for the construction work force will be provided through the use of temporary construction camps (average workforce accommodation – 60). Construction camps are anticipated to be approximately 8 hectares and each construction camp may typically include the following key elements:

- Accommodations (bunkhouse) for workers;
- Kitchen and dining hall;
- First aid station;
- Communications system;
- Wastewater treatment holding tank and/or treatment system;
- Groundwater water supply well;
- Solid waste (hazardous and non-hazardous) handling and storage facility, including a designated waste recycling area;
- Electricity supply from diesel generators; and

- Above ground fuel storage tanks and refueling area.

Some of the above elements are now available as “skid-able” units with all connections for utilities included as “quick-connect” established on the surface of the ground.

Construction camps are anticipated to be established in close proximity to the proposed selected preferred route and may be located within the aggregate sources areas to minimize environmental impacts. Options under consideration to accommodate the required construction camps are as follows:

1. A main construction base camp in the community of Webequie. The full work force would be accommodated in temporary quarters there and deployed along the corridor on a daily basis;
2. The work forces may be accommodated at each end of the 107 km construction corridor (Webequie and Noront base camp area);
3. Work camps (estimate approximately 3) may be established at appropriate intervals/feasible locations along the construction corridor; and
4. A combination of accommodation above options.

In addition, it is likely that other supportive site facilities (i.e., laydown areas for materials and equipment storage/maintenance) will be established at appropriate/feasible locations along the construction corridor or located within the construction camps to maximize use of space and minimize impacts.

The Webequie Project Team will use the extension to complete the final assessment of construction camp alternatives, including alternative locations for a permanent operation and maintenance yard, which may involve re-purposing a construction camp or use of aggregate source area for this facility. Once the preliminary analysis of construction camp(s) alternatives has been completed, the Project Team will seek input from Indigenous communities, government agencies, the public and stakeholders during Consultation Round 2, and will then finalize the preferred alternative and complete the impact assessment.

6 References

SNC-Lavalin, 2020. Webequie Supply Road Environmental Assessment Terms of Reference, Webequie First Nation

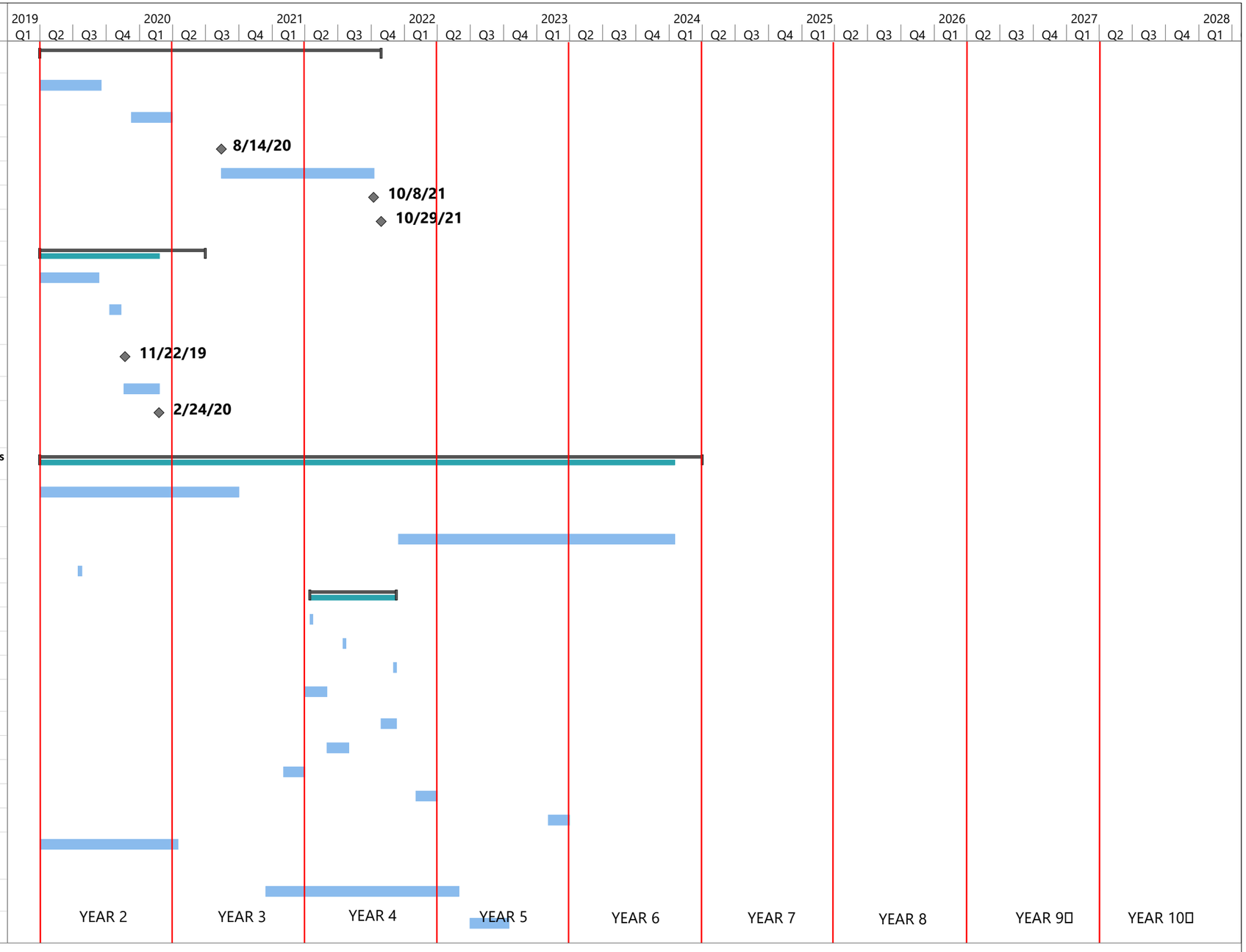
SNC-Lavalin, 2019. Webequie Supply Road Detailed Project Description, Webequie First Nation

SNC-Lavalin, 2022. Webequie Supply Road Draft Natural Environment Existing Conditions Report, Webequie First Nation

Appendix A

Project Schedule

ID	Task Name	Start	Finish	Days
1	**Provincial Environmental Assessment (EA) - Terms of Reference (ToR) Phase**	**4/1/19**	**10/29/21**	**942 days**
2	Prepare and Release Draft of Provincial Terms of Reference (ToR) for Review	4/1/19	9/16/19	168 days
3	Revise Draft ToR and Preparation of Final ToR and Record of Consultation to MECP for Approval	12/9/19	3/30/20	112 days
4	Submit Final ToR to MECP (135 day review period)	8/14/20	8/14/20	0 days
5	Review of ToR by MECP	8/14/20	10/8/21	420 days
6	Approval of ToR by MECP	10/8/21	10/8/21	0 days
7	Formal Notice of Commencement of Environmental Assessment	10/29/21	10/29/21	0 days
8	**Federal Impact Assessment (IA) – Phase 1: Planning**	**4/1/19**	**6/30/20**	**456 days**
9	Preparation and Submission Initial Project Description to Agency	4/1/19	9/10/19	162 days
10	Preparation and Submission of Detailed Project Description and Response to Summary of Issues to Agency	10/10/19	11/10/19	31 days
11	Agency Posts Notice of Determination that IA is Required	11/22/19	11/22/19	0 days
12	Agency Conducts Consultation	11/19/19	2/24/20	97 days
13	Agency Issues Notice of Commencement of IA and Tailored Impact Statement Guidelines (TISG), Plans to Webequie (and Posts TISG and Plans)	2/24/20	2/24/20	0 days
14	**Environmental Data Collection/Field Surveys and Reports**	**4/1/19**	**3/31/24**	**1826 days**
15	Environmental (Biophysical) Baseline Data Collection and Field Surveys (Groundwater, Vegetation, Wildlife, Fish, Surface Water, Species at Risk)	4/1/19	9/30/20	548 days
16	Collect Project Specific IK & IRLU Data/Studies including Validation Period for Effects Assessment	12/15/21	1/15/24	761 days
17	Supplemental Vegetation Field Survey	7/15/19	7/25/19	10 days
18	Supplemental Bird Field Surveys	4/15/21	12/9/21	238 days
19	Supplemental Bird Field Survey 1	4/15/21	4/22/21	7 days
20	Supplemental Bird Field Survey 2	7/15/21	7/22/21	7 days
21	Supplemental Bird Field Survey 3	12/1/21	12/9/21	8 days
22	Supplemental Groundwater and Surface Water Field Survey	4/1/21	5/31/21	60 days
23	Acoustic/Noise Data Collection and Field Survey	10/28/21	12/9/21	42 days
24	Visual Environment Data Collection and Field Survey	6/1/21	7/30/21	59 days
25	Supplemental Species at Risk Field Survey 2021	2/1/21	3/31/21	58 days
26	Supplemental Species at Risk Field Survey 2022	2/1/22	3/31/22	58 days
27	Supplemental Species at Risk Field Survey 2023	2/1/23	3/31/23	58 days
28	Preparation and Submission of Interim Natural Environment (Biophysical) Baseline Study Report to Webequie	4/1/19	4/15/20	380 days
29	Preparation of Draft Natural Environment (Biophysical) Baseline Study Report	12/14/20	5/30/22	532 days
30	Circulate Draft Natural Environment Baseline Report to Agency and the MECP for Review	6/30/22	10/15/22	107 days



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Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
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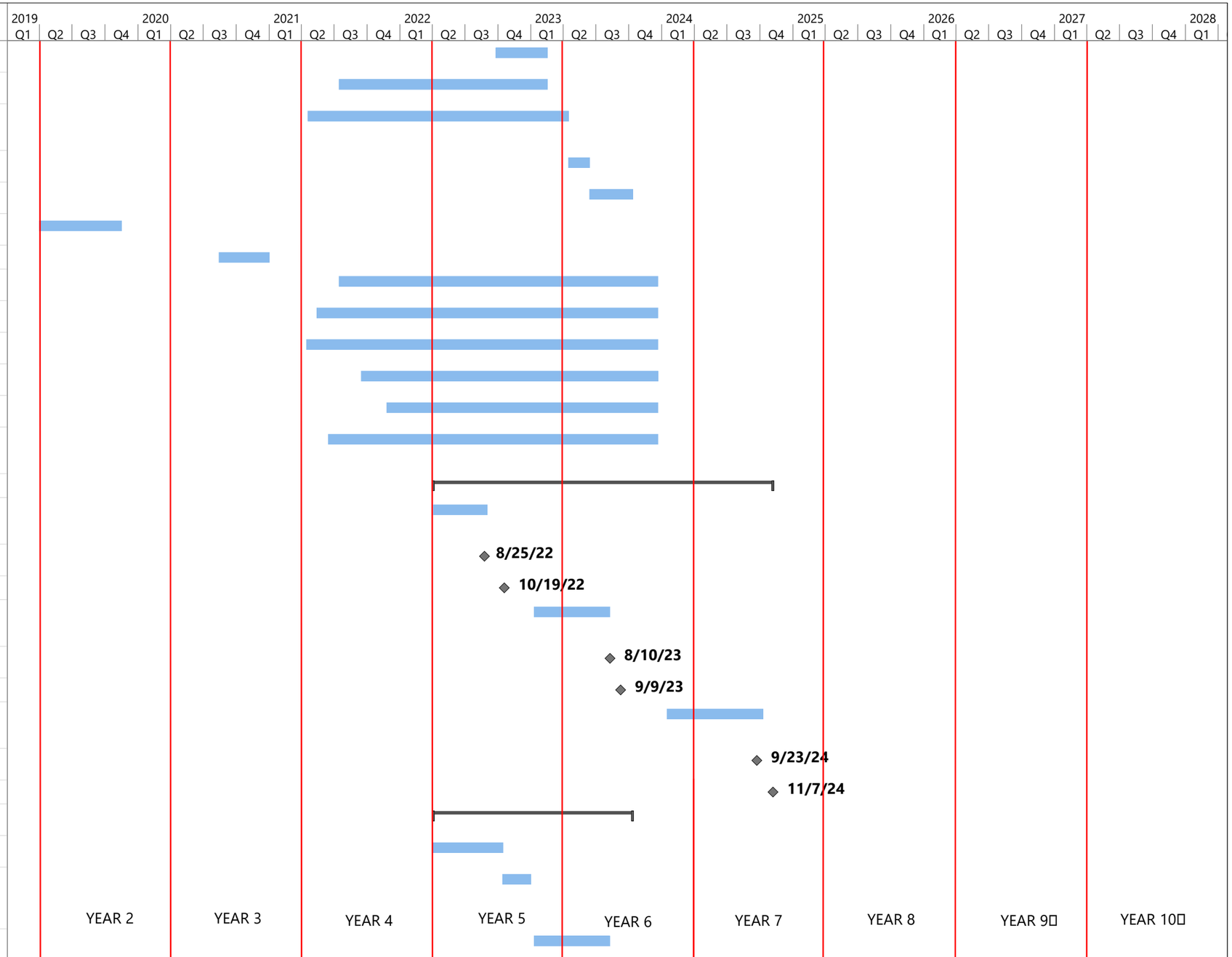
ID	Task Name	Start	Finish	Days
31	Revise and Finalize Natural Environment Baseline Report	9/25/22	2/15/23	143 days
32	Socio-economic Primary Data Collection (Survey, Key Informant Interviews, Focus Groups)	7/15/21	2/15/23	580 days
33	Prepare Draft Socio-Economic Environmental Baseline Study Report, including Validation of Information with Indigenous Communities	4/19/21	4/15/23	726 days
34	Circulate Draft Socio-Economic Environment Baseline Report to Agency and MECP for Review	4/16/23	6/13/23	58 days
35	Revise and Finalize Socio-Economic Environment Baseline Report	6/14/23	10/11/23	119 days
36	Completion of Interim Geotechnical & Terrain/Soils Report	4/1/19	11/15/19	228 days
37	Completion of Final Geotechnical & Terrain/Soils Report	8/14/20	12/31/20	139 days
38	Stage 1 Archaeological Assessment (data collection, assessment and report)	7/15/21	12/20/23	888 days
39	Cultural Heritage Resources Assessment (data collection, assessment and report)	5/14/21	12/20/23	950 days
40	Air Quality and Climate Change Assessment (data collection, assessment and report)	4/15/21	12/20/23	979 days
41	Noise/Vibration Assessment (data collection, assessment and report)	9/15/21	12/20/23	826 days
42	Visual Environment Assessment (data collection, assessment and report)	11/25/21	12/20/23	755 days
43	Health Impact Assessment, Human Health Risk Assessment and Country Foods Assessment (data collection, assessment and report)	6/15/21	12/20/23	918 days
44	**EA/IA Engagement and Consultation**	**4/4/22**	**11/7/24**	**948 days**
45	Round 1 - Indigenous Community Meetings and/or Chief & Council Meetings and Virtual Information Sessions with All 22 Communities/Groups	4/4/22	8/31/22	149 days
46	Round 1 - Public and FN Off-Reserve Open House #1 (Thunder Bay)	8/25/22	8/25/22	0 days
47	Distribution of Progress Report on Consultation	10/19/22	10/19/22	0 days
48	Round 2 - Indigenous Community Meetings and/or Chief & Council Meetings and Virtual Information Sessions with All 22 Communities/Groups	1/10/23	8/8/23	211 days
49	Round 2 - Public and FN Off-Reserve Open House #2 (Thunder Bay)	8/10/23	8/10/23	0 days
50	Distribution of Progress Report on Consultation	9/9/23	9/9/23	0 days
51	Round 3 - Indigenous Community Meetings and/or Chief & Council Meetings and Virtual Information Sessions with All 22 Communities/Groups	1/16/24	10/8/24	266 days
52	Round 3 - Public and FN Off-Reserve Open House #3 (Thunder Bay)	9/23/24	9/23/24	0 days
53	Distribution of Progress Report on Consultation	11/7/24	11/7/24	0 days
54	**Alternatives Development and Evaluation (Presented during Rounds 1 and 2 of Engagement & Consultation)**	**4/4/22**	**10/11/23**	**555 days**
55	Consult on Alternatives Developed, including Criteria and Indicators for Evaluation	4/4/22	10/14/22	193 days
56	Conduct Internal Project Team Evaluation for Routing Alternatives and Supportive Infrastructure and Identify Preliminary Preferred Route and Preferred Supportive Infrastructure	10/14/22	12/31/22	78 days
57	Consult on Comparative Evaluation for Routing Alternatives and Supportive Infrastructure	1/10/23	8/8/23	211 days



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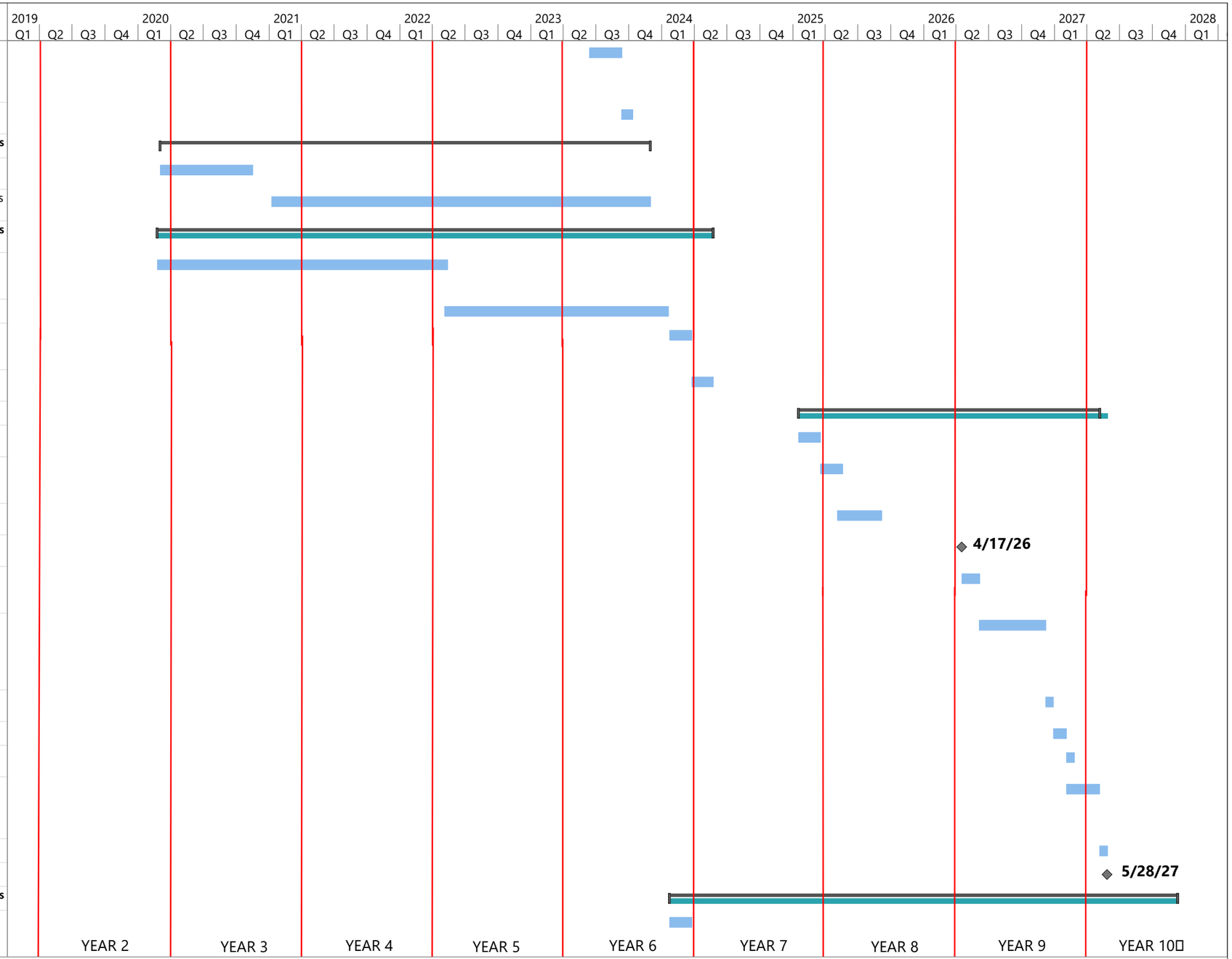
58	Complete Engineering Design Optimization/Refinement of Preferred Route and Supportive Infrastructure based Feedback from Consultation	6/13/23	9/11/23	90 days
59	Prepare Revised Corridor/Supporting Infrastructure Plans and Narrative	9/11/23	10/11/23	30 days
60	**Preliminary Engineering Design**	**3/3/20**	**11/30/23**	**1367 days**
61	Preparation and Completion of Design Criteria (Interim)	3/3/20	11/15/20	257 days
62	Completion of Final Preliminary Engienering Design Report and Drawings	1/8/21	11/30/23	1056 days
63	**Pre-Draft Environmental Assessment Report (EAR) / Impact Statement (IS)**	**2/24/20**	**5/23/24**	**1550 days**
64	Prepare 13 Work Plans for Review by Agency and MECP, including Technical Meetings for Valued Components where Applicable	2/24/20	5/13/22	809 days
65	Prepare and Complete Pre-Draft EAR/IS	5/5/22	1/19/24	624 days
66	Circulate Pre-Draft EAR/IS (prior to Formal Release) to MECP and Agency for Review and Receipt of Comments	1/23/24	3/24/24	61 days
67	Revise and Finalize Draft EAR/IS for Formal Release/Distribution	3/25/24	5/23/24	59 days
68	**Provincial EA Process (EAR/IS)**	**1/17/25**	**5/7/27**	**840 days**
69	Release and Distribute Draft EAR/IS with Notice of Opportunity to Review	1/17/25	3/18/25	60 days
70	Respond to Comments from GRT, Public, Stakeholders and Indigenous Communities on Draft EAR/IS	3/19/25	5/19/25	61 days
71	Resolve any Complex or Major Issues and Finalize EAR/IS with On-going Consultation	5/5/25	9/5/25	123 days
72	Submit Final EAR/IS with Notice of Submission to the MECP	4/17/26	4/17/26	0 days
73	GRT, Public, Stakeholders and Indigenous Communities Review and Submit Comments on Final EAR/IS (7 weeks)	4/17/26	6/5/26	49 days
74	MECP Prepares Ministry Review (5-weeks) and Proponent Provides Responses to Comments from GRT, Public, Stakeholder and Indigenous Communities, Including Potential Engagement to Resolve Issues/Deficiencies	6/5/26	12/7/26	185 days
75	MECP Issues Notice of Completion of Ministry Review and Distributes	12/7/26	12/28/26	21 days
76	Public Inspection of Ministry Review (5 weeks)	12/29/26	2/2/27	35 days
77	Respond to Comments from Public Inspection of Ministry Review (3 weeks)	2/3/27	2/24/27	21 days
78	MECP Reviews Responses, Evaluates EA, and Prepares Recommendation and Condition for Minister's Consideration. Minister Reviews and Renders a Decision (10 weeks)	2/3/27	5/6/27	70 days
79	Cabinet Concurrence of Minister's Decision (3 weeks)	5/7/27	5/28/27	21 days
80	MECP Issuance of Public Notification of EA Decision	5/28/27	5/28/27	0 days
81	**Federal IA Process (EAR/IS)**	**1/23/24**	**12/10/27**	**1417 days**
82	Circulate Pre-Draft EAR/IS (prior to formal release) to MECP and Agency for Review and Receipt of Comments	1/23/24	3/24/24	61 days



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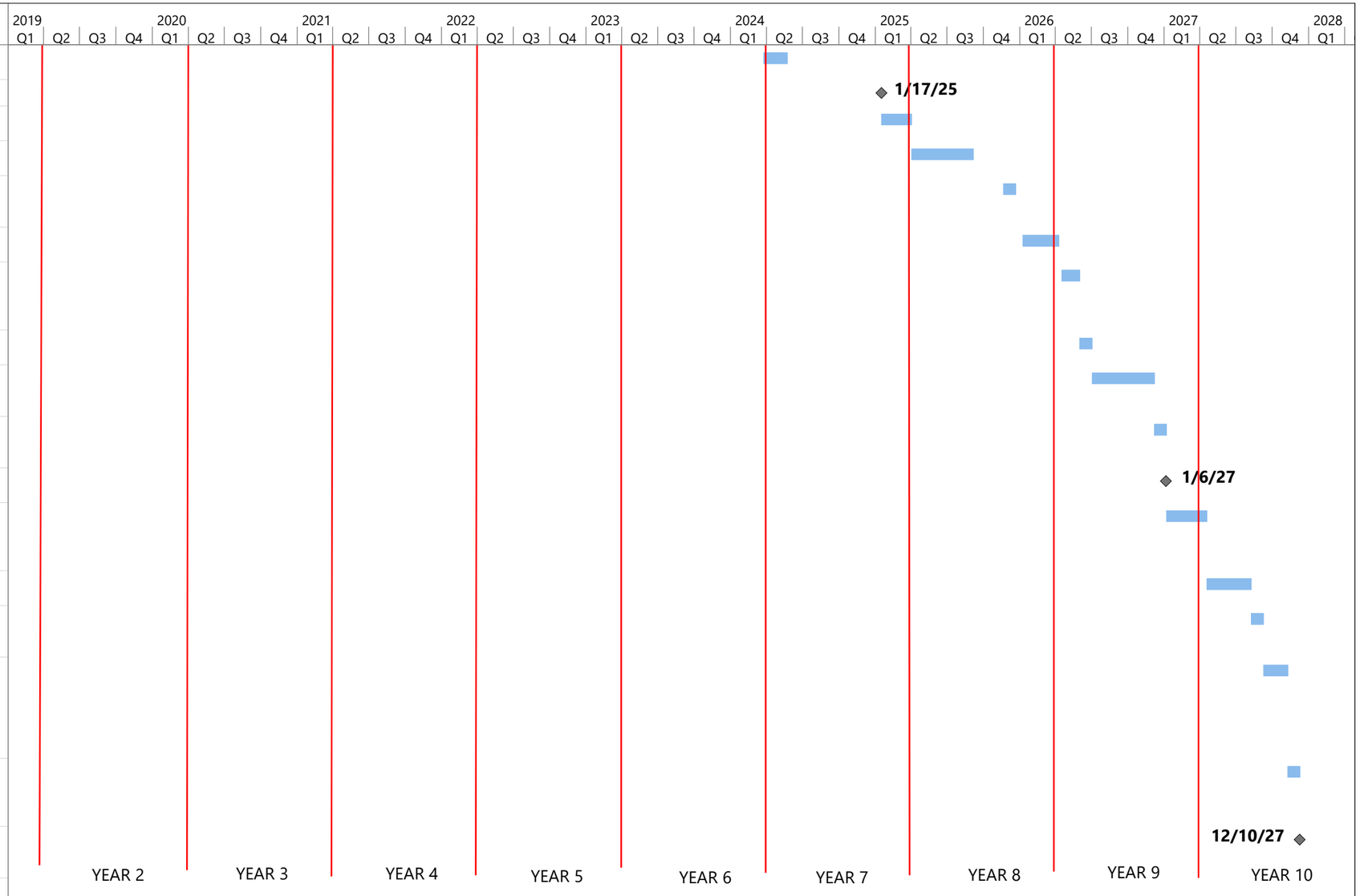
83	Finalize Draft EAR/IS for Formal Release/Distribution	3/25/24	5/23/24	59 days
84	Submit Draft EAR/IS to Agency	1/17/25	1/17/25	0 days
85	Agency Leads Federal Review of Draft EAR/IS and Identifies Major Deficiences/Issues	1/17/25	4/2/25	75 days
86	Respond to Agency Comments and Revise Draft EAR/IS	4/3/25	9/5/25	155 days
87	Submit Final EAR/IS and Summary of Impact Statement to Agency for Administrative Review and Determination of Compliance with TISG	11/21/25	12/21/25	30 days
88	Revise Final EAR/IS, if necessary, Based on Additional Comments from Agency	1/9/26	4/9/26	90 days
89	Agency Posts to Registry Public Notice to Invite the Public, Indigenous Groups and GRT to Provide Comments on the Summary of the Impact Statement	4/17/26	6/1/26	45 days
90	Agency Considers Comments and Determines if Final EAR/IS Meets Requirements in TISG	6/2/26	7/2/26	30 days
91	Proponent to Address Deficiencies Identified by Agency, if necessary, including Engaging with Indigenous Communities	7/3/26	12/7/26	157 days
92	Agency to Verify if Adequately Addressed and Consults with GRT, including Coordinating with MECP	12/7/26	1/6/27	30 days
93	Agency Accepts the EAR/IS and Issues Notice of Determination (Public & Indigenous groups)	1/6/27	1/6/27	0 days
94	Agency Draws Final Conclusions, and Selects Residual Effects, Mitigation Measures and Follow-up Programs for Inclusion in Draft IA Report and Potential Conditions (100 days)	1/7/27	4/18/27	101 days
95	Agency Prepares Draft Impact Assessment Report (IAR) and Potential Conditions (110 days)	4/19/27	8/8/27	111 days
96	Agency Posts to Registry Public Notice to Invite the Public, Indigenous Groups and GRT to Provide Comments on the Draft IAR (30 days)	8/9/27	9/8/27	30 days
97	Agency Considers Comments, Examines Environmental Effects, Assesses Impacts on the Rights of Indigenous Groups, Finalizes the IAR, Drafts Consultation Report and Potential Conditions. Agency may Follow-up with WFN, public, Indigenous Groups, GRT (60 days)	9/9/27	11/8/27	60 days
98	Agency Submits the Final IAR, Consultation Report and Recommended Potential Conditions to the Minister of Environment and Climate Change for Decision (30 days).	11/9/27	12/9/27	30 days
99	Agency Posts a News Release - Impact Assessment Decision, as well as the Final IAR and the Decision Statement	12/10/27	12/10/27	0 days



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