APPENDIX P2.K

Technical Meetings with Government Stakeholders

- P2.K.1 – Technical Meeting Minutes: October 20, October 29, November 23, December 8, December 10 and December 15, 2020
- P2.K.2 – Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session Meeting Minutes – November 17, 2023
- P2.K.3 – Comment and Response Tables from MECP and IAAC Review of Study Plans and Draft Baseline Studies

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WSR WEBEQUIE SUPPLY ROAD

WEBEQUIE FIRST NATION

APPENDIX P2.K.1

Technical Meeting Minutes: October 20, October 29, November 23, December 8, December 10 and December 15, 2020

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WEBEQUIE SUPPLY ROAD

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Minutes of Meeting

Project Name: Webequie Supply Road		Project #:	661910
Socio-economic Work Plan Technical Meeting		Meeting Date:	October 20, 2020
Prepared by: Cameron Bates		Meeting Time:	9:30 AM – 12:30PM
Distribution: All Attendees		Location:	Microsoft Teams Meeting

Attendees:

Organization	Representatives
Webequie First Nation (WFN)	Gordon Wabasse
Indigenous & Community Engagement (ICE)	Michael Fox
SNC-Lavalin (SNCL)	Craig Wallace, Marian Tibor-McMahon, Ian Upjohn, Cameron Bates
Ministry of Environment, Climate and Parks (MECP)	Peter Brown, Sasha McLeod, Shannon Gauthier,
Ministry of Energy Northern Development and Mines (ENDM)	Ariane Heisey, Jason Frechette
Impact Assessment Agency of Canada (IAAC)	Alexandra Oakes, Danton Sück, Ely Weisbrot, Dietrich Maahs
Health Canada (HC)	Dae Lee, Aurelia Thevenot, Umme Akhtar, Tihut Asfaw, Joanne de Montigney, Joel Kauschansky
Indigenous Services Canada (ISC)	Debra Nkusi, Jan Triska, Julieta Werner
Employment and Social Development Canada (ESDC)	Eric Lalonde, Alexandra Dugas, Philippe Brunet
Natural Resources Canada (NRCAN)	Walker Smith, Victoria Sandre, Arlene Drake, Jon Graham, Tyler Sommers
Transport Canada (TC)	Linda, Beaulieu, Maria Brydon, Tania Havelka
Women and Gender Equity (WAGE)	Kathy Adams, Allison Puskas

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FedNor (FN)	Katherine Turner

Minutes

Item #	Description
1	**Welcome, Introduction & Gordon Wabasse's Opening Remarks** After a brief meeting introduction from the project team and round-table introductions, G. Wabasse (WFN), provided opening remarks describing the Webequie First Nation's view of this project as proponents.
2	**Indigenous Groups Identified for Socio-Economic Engagement** Discussion of Indigenous communities identified to receive the deepest level of engagement. C. Wallace (SNC-Lavalin) provided any overview the communities identified: • Eight (8) identified by Webequie; • Fourteen (14) identified by IAAC; and • Sixteen (16) identified by MECP. Michael Fox (ICE) requested that both IAAC and MECP provide brief comments explaining the difference between their lists and/or how the communities were chosen. Webequie's neighbours have asked why there are differences and they do not have an answer to give them. A.Oakes (IAAC) noted that the proponent is expected, at a minimum, to engage with all the Indigenous groups listed in the Indigenous Engagement and Partnership Plan (IEPP). If the Project Team has a formal record that an Indigenous group is not interested in being engaged on a specific valued component or to participate in a proponent-led activity, it would be considered fair to differentiate engagement approach among communities that have expressed interest and those who have expressed a lack of interest. The Information about an Indigenous group's lack of interest must be captured in the record of engagement. D. Sück (IAAC) added some context regarding the formation of the list. The preliminary list was based on the Indigenous group's proximity to the project, publicly-available information regarding traditional territories and land use, and information available on the Aboriginal and Treaty Rights Information System (ATRIS). During the planning phase, communities were invited to provide further information regarding the exercise of their Aboriginal and treaty rights and the project's potential impacts on their rights. Groups who may experience adverse impacts to their rights, based on the information available to IAAC, are included on the Crown's list. [Post-meeting note: Step 1 identified in the Agency "Interim Guidance: Assessing Potential Impacts on the Rights of Indigenous Peoples" takes a recognition of rights approach to identify and understand the rights of an Indigenous community. Consistent with a respectful and recognition-based

dialogue about the rights of Indigenous peoples, information provided by the rights-holding Indigenous community about their rights and how the community exercises its rights should be accepted by the impact assessment practitioner as the basis for dialogue.]

M. Fox (ICE) noted Aroland First Nation's assertion about rights in the project area. M. Fox requested if IAAC can share evidence of Aroland's assertions. D. Suck (IAAC) indicated he would confirm if the assertion can be shared, but noted that evidence would need to be collected by the proponent to demonstrate that the group's rights would not be impacted based on the information provided by the group.

ACTION ITEM: The project team will follow up with D. Sück (IAAC) regarding IAAC potentially sharing the contents of Aroland First Nation's assertions.

M.Fox (ICE) stated that certain communities have not engaged and that it is difficult to identify assertions. The project team needs to understand the nature of the assertion in order to properly engage and demonstrate best efforts.

D. Suck (IAAC) indicated that it is IAAC's policy to encourage communities work with proponents to clarify the nature of their rights and how the project may impact those rights. The proponent should demonstrate how it has provided meaningful opportunities to each Indigenous group to provide this information and keep an engagement record to this end.

P. Brown (MECP) provided an overview of MECP community identification process – based on other projects and stakeholders in the area; assertions of rights, harvesting areas and trap line information; available information regarding communities; and potential land-use and watershed impacts, including caribou ranges, etc.

A. Heisey (ENDM) added that the core communities that were identified by Webequie are not dissimilar from the communities ENDM thought would be potentially impacted and that the difference is that some communities were included because their traditional land use area overlaps with the caribou range.

3	**Consultation and Engagement for Socio-economic Activities** Discussion of schedule and sequence of consultation and engagement for socio-economic activities, as well as baseline data collection methods

M. Tibor-McMahon (SNCL) described the current plan to collect socio-economic baseline data collection – community social survey, focus groups with diverse subgroups, key informant interviews, and secondary information.

M. Fox (ICE) asked questions of clarification to IAAC and MECP's on expectations regarding socio-economic baseline data collection related to response rate based

on total population of each community; level of effort; and expectations with COVID-19 restrictions.

A. Oakes (IAAC) noted that regarding the baseline methodology, IAAC expects the proponent to first examine all the secondary sources available and identify gaps where secondary sources are unavailable. Where secondary sources are unable to provide the required information, primary sources should be used, as is indicated in Section 10 of the TISG. IAAC requires a level of detail in the baseline studies to understand pre-project conditions and to derive predictions of positive and adverse impacts. IAAC expects that impacts will differentiate among communities. The impacts on Webequie First Nation are not necessarily indicative of the impacts other communities will experience, and the project team should identify a social and economic sphere of influence for the project and consider differential impacts on surrounding communities. The proponent must engage with all Indigenous groups listed in the IEPP and the public (including those identified in the Public Participation Plan) to meet the requirements of the TISG.

P. Brown (MECP) stated that it makes sense to focus on communities based on relevant impacts, as long as all communities have some opportunity to contribute. Participation and response requirements will depend on what the data is being used for – i.e. if modeling is being conducted, many responses will be required.

J. Triska (ISC) noted that the expectation is that the proponent will exert sufficient effort.

L. Beaulieu (TC) asked the project team if federal agencies can participate in drafting questions for the community surveys. M. Tibor-McMahon (SNCL) confirmed that agencies can participate in developing questions for the community survey.

ACTION ITEM: The project team will share the community survey with Transport Canada for additional questions regarding navigation.

K. Adams (WAGE) requested affirmation that the data collected would be disaggregated to represent diverse perspectives. M. Tibor-McMahon (SNCL) confirmed that the data will be disaggregated to represent diverse perspectives and that the community survey and focus groups are structured for the data to be disaggregated.

G. Wabasse (WFN) reiterated the importance of geographical proximity to the project of Webequie and other communities. He noted that it can be difficult for Webequie community members to understand the project. The farther away you get from the project, the less interested people will be, and therefore even less

interested in sharing information. He stressed that the closer communities are the ones the project team should engage first and empower.

T. Asfaw (HC) inquired if there has been considerations regarding privacy and confidentiality of baseline data (e.g. is there a need to include personal information in the questionnaire?). M. Tibor-McMahon noted that the project team will not be asking people for personal information. In terms of Indigenous Knowledge (IK), there is a confidentiality agreement and/or non-disclosure agreement in place to ensure information is protected.

4	**Consultation/Indigenous Knowledge** Discussion of integration of IK into work plans and baseline

C. Wallace (SNCL) stated that IK is important for environmental management, resource use, effects assessment and mitigation strategies. It is very sensitive information, and communities have different protocols for sharing this information. There is funding available for communities to provide information when they are prepared to participate.

M Fox (ICE) added that the project team is planning some collaborative discussions with the province and that the federal government has stated they are coming out with technical guidelines for IK. He asked IAAC when these documents would be released. A. Oakes (IAAC) noted that the Agency did not have any updates on timelines.

M.Fox (ICE) indicated that the project team would therefore defer to the interim IK guidelines and that the project team would review the federal guidelines through the lens of the Memorandum of Understanding between Ontario and Webequie.

A. Oakes (IAAC) responded that IAAC has articulated their expectations around IK in the TISG. The proponent should be engaging with Chief and Council to ensure that IK being collected is reflective of each community and shared according to their protocols.

C. Wallace (SNCL) acknowledged these expectations and stated M. Fox would be leading the effort to ensure information is protected, confidential, and applied correctly according to each community.

M. Fox (ICE) noted that in the interim guidelines, the Chief and Council may elect to have conversations with the Crown. He asked whether the relevant knowledge generated from these discussions would be shared with the project team. A. Oakes (IAAC) noted that if that situation arose we would have to discuss it at that time.

D. Sück (IAAC) indicated that the decision to share knowledge provided to the Agency by an Indigenous group will be a community-by-community consideration and the proponent will be informed. It is IAAC's preference that Indigenous groups

work with the proponent and that information is collected and held by the proponents.

ACTION ITEM: The project team will follow up with IAAC to clarify protocol for information sharing should communities choose to engage with the Crown.

G. Wabasse (WFN) noted that IK varies, and it should be limited to each specific project. IK is technical and spiritual and is an important aspect of mutually respectful nation building.

5	**Organization of Criteria and Indicators** Discussion of overlap, duplication, missing elements using specific examples. Discussion of level of detail required for criteria/indicators.

C. Wallace (SNCL) provided an overview of the development of criteria and indicators and opened the floor for discussion regarding any potentially missing criteria and indicators.

M. Tibor-McMahon (SNCL) added the indicators in the ToR were reconciled with those in the TISG, so the current list is not exhaustive.

P. Brown (MECP) provided suggestions for how to clearly lay out criteria and indicators to be able to ultimately assess impacts on Aboriginal and Treaty Rights, and Community Well-Being or “The Good Life”. Indicators should be as mutually exclusive as possible to help identify the specific sources or pathways of effects. A preferred way to organize criteria and indicators would be to define elements of land use that may be impacted: hunting, fishing, etc., and for each look at impacts on the availability of the resources (through biophysical assessments, etc.), access to the resource, and the experience of the land user. Community Well Being typically considers education, labour force activity, income and housing, but “The Good Life” could incorporate other elements important to communities.

A. Oakes (IAAC) stated that IAAC has provided comments on the criteria and indicators. IAAC was concerned that the study plan lacked a detailed roadmap on how criteria and indicators would be measured and assessed. The Agency’s position is that the indicators should be provided in sufficient detail so that the Agency and federal authorities understand how the baseline socio-economic condition will be expressed, and how effects will be measured.

C. Wallace (SNCL) noted that the project team will be further developing and refining the criteria and indicators as part the engagement and consultation program for the project. C. Wallace (SNCL) noted that the list of criteria and indicators should be considered preliminary based on the consultation completed to date.

G. Wabasse (WFN) noted the importance of "The Good Life". He described the challenges Webequie community members face involving prescription drug addiction, housing shortages and access to education. These are indicators community members are concerned with.

T. Asfaw (HC) asked the project team whether indicators will be included to assess the potential for increased telecommunication services described in the Detailed Project Description.

C. Wallace (SNCL) responded that the road corridor is wide enough to accommodate future communications (e.g., broadband fibre optic line) and low voltage power distribution lines, if and when connection is established to the provincial highway and electricity grid system. However, given the current uncertainty as to how and when power and communications infrastructure will be extended into the project area, these components have not been included in the scope of the project.

[Post-meeting addition: IAAC requires consideration of existing and potential changes to telecommunications infrastructure be included in the Impact Statement, as is required in Section 10 and Section 22 of the TISG]

K. Adams (WAGE) asked whether indicators with regard to gender and other identity factors will be assessed.

M. Tibor-McMahon (SNCL) confirmed that the project team will be looking at criteria and indicators from a gendered lens. She suggested a follow-up call with IAAC and MECP to discuss and refine socio-economic indicators.

[Post-meeting addition: IAAC suggests the proponent review IAAC's "Analyzing Health, Social and Economic Effects under the Impact Assessment Act" guidance document]

ACTION ITEM: The project team will organize a call with MECP and IAAC to discuss and refine socio-economic criteria and indicators.

6	**Pathways Approach** Examples for wildlife and biophysical – wildlife, water.

M. Tibor-McMahon (SNCL) stated that to define their pathway approach, the project team will be working with subject matter experts and confirm through engagement with communities who may be impacted.

P. Brown (MECP) stated that the reader should be able to follow the pathways in the criteria table.

A. Oakes (IAAC) agreed with Peter, adding this should be considered when project team is collecting information and that it should be reflected in the study plans. IAAC also highlights that both positive and negative effects must be considered

[Post-meeting note: IAAC recommends that the proponent consider how engagement is taking place in a manner that is reflective of interconnectedness and pathways of effects. This includes what questions are being asked by the project team during engagement, and if the individuals responsible for engagement activities have the appropriate scope of expertise and are prepared to speak to the relationship between/among changes in biophysical, social, economic and health conditions; effects to Indigenous peoples; and the exercise of Aboriginal and Treaty rights.]

C. Wallace (SNCL) suggested that the project team circle back with Peter and Alexandra so they can sign off on the project team's approach.

Action Item: The project team will connect with MECP and IAAC on the project team's pathways approach.

7	**Project Contribution to Sustainability** Discussion as to expectations on project's contribution to sustainability from a socio-economic perspective

I. Upjohn (SNCL) discussed the four basic principles of sustainability. He asked for clarification on principle number two, specifically regarding the seven-generation principle. Some communities look ahead seven generations, while others incorporate a retrospective element.

A. Oakes (IAAC) responded saying IAAC's comments were to emphasize that sustainability considerations should be incorporated into engagement throughout the impact statement phase. Interim guidance suggests looking for examples and seeking out advice from Indigenous groups, the public and stakeholders on how to integrate sustainability considerations e.g., what VCs are most important to a group? What does sustainability mean to them?

I. Upjohn (SNCL) asked for guidance on adhering to the third sustainability principle without knowing the temporal scope of the study.

A. Oakes (IAAC) responded saying she would have to take a closer look at the guidance.

[Post-meeting note: IAAC suggests the proponent refer to: The Agency's Interim Guidance on Considering the Extent to which a Project Contributes to Sustainability and, The Agency's Interim Framework on the Implementation of the Sustainability Guidance.]

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J. Triska (ISC) expressed interest in the discussion on the sustainability principles.

G. Wabasse (WFN) said in the Three-Tier Approach, the objective of the land-use plan is to make an inventory of resources to support the community.

8 Next Steps

1. The project team to follow-up with Danton Suck (IAAC) regarding IAAC sharing the contents of Aroland First Nation's assertions.
2. The project team will share the community survey with Transport Canada.
3. The project team will follow up with IAAC to clarify protocol for information sharing should communities choose to engage with the Crown.
4. The project team will organize a call with MECP and IAAC to discuss and refine socio-economic criteria and indicators.
5. The project team will circle back with Peter and Alexandra so they can sign off on the project team's pathways approach.

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Project Name: Webequie Supply Road

Project #: 661910

Vegetation, Species at Risk, Wildlife and Migratory Bird Technical Meeting

Meeting Date: October 29, 2020

Prepared by: Alison Forde

Meeting Time: 1:00 PM – 3:30PM

Distribution: All Attendees & M. Fox (Regional Consultation Lead, Webequie First Nation)

Location: Microsoft Teams Meeting

Attendees:

SNC-Lavalin – Craig Wallace, James Harris, Angela Brooks, Jonathan Pleizier, Holly Dodds, Alison Forde,

IAAC – Alexandra Oakes, Laura Decoste

ECCC –Russ Weeber, Wendy Dunford, Harry Venita, David Hope, Rich Russell, Paul Watton, Denise Fell

MECP – Nikki Boucher, Brianne Brothers, Shannon Gauthier, Kevin Green, Sasha McLeod

MNRF – Melissa Mauro, Bill Greaves, Tim Haxton

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Item #	Description	Action by	Date :
1	**Modelling of Vegetation Types** ECCC encouraged the use of modelling whenever possible. Modelling will allow for more reliable estimates. The modelling process should be explained at a level of detail that provides the reviewers a clear understanding of the project team's approach. ECCC recommends that the stratification process used to select vegetation survey sites should be fully described in the Vegetation Work/Study Plan. Sufficient detail is required to allow reviewers to understand the stratified	Craig Wallace, James Harris (Project Team), Alex Oakes (IAAC), Russ Weeber (ECCC)	

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	random sample site selection process, and clearly indicate that extrapolation has resulted in minimal lumping of vegetation types has occurred (e.g. bogs, marshes, swamps and fens = wetlands), as this can affect other data sets, such as bird community assessments. In this case, it could cause distortion in the resulting bird data. ECCC recommended that the fine-scale classification of vegetation types be used, or at least considered for use, in the random stratified approach to bird survey design (and perhaps other wildlife, SAR designs). **ACTION**: IAAC and the Project Team (SNC-Lavalin) will coordinate a follow-up discussion once the recently revised Vegetation Work Plan has been reviewed by ECCC. [Post-meeting note: ECCC confirmed that the revised vegetation study plan has addressed ECCC comments regarding sampling design. Any discussion specific to migratory bird study design can be brought to the migratory bird technical working group led by ECCC.]		
2	**Species at Risk (SAR)**		
2.1	**Wolverine Study Requirements** The revised SAR Work Plan (August 14, 2020) will be updated and resubmitted to MECP and IAAC that will include the proposed Wolverine Study that is proposed to begin in winter 2020/21 for a period of 2 years. The goals of the Wolverine Study are to determine species occurrence; distribution; and identification of lactating females, indicating presence of denning sites. The Study will include 25 run pole stations along the alignment and within the Regional Study Area that will include bait, hair snares, and two trail cameras. The proposed methods were developed in consultation with Dr. Justina Ray of the Wildlife Conservation Society of Canada. MECP agreed that the proposed methodology and approach is reasonable and similar to the programs of	Jon Pleizier (Project Team)	

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Item #	Description	Action by	Date :
	other projects being undertaken, and addresses indicators discussed earlier in the year. It was acknowledged by all that identifying denning sites is very challenging and requires intense survey effort that is not reasonable in the timeframe for the EA to be completed. It is realistic to conclude that they best way to identify den sites is by capturing data on lactating females. MECP will provide comments on the number of sample sites in the study area and whether those are sufficient based on review of the revised SAR Work Plan. The 2-year study timeframe (winter 2020/21 and 2021/2022) is considered reasonable effort for the EA process, even if the Project Team is unable to include all the data and will provide for efficiencies down the road should authorization under the ESA be required for the project. **ACTION:** The Project Team will submit updated revised SAR Work Plan to the MECP and IACC. SNC-Lavalin will provide MECP and IACC with suggested meeting dates to discuss the Wolverine methodology further if required after review of the revised work plan.		
2.2	**Wolverine Survey Permitting Requirements** ECCC confirms that no SARA permits are necessary to undertake the Wolverine Study on federal lands. MECP will confirm by mid-next week whether permitting is required for collection of hair follicles. MECP expects that bait stations will result in a change of behaviour of wolverine in the surrounding area. The field activities will include the collection/possession of a part of a Species at Risk, therefore a B Permit under Section 17(2) of the *Endangered Species Act*, 2007 will be required. MNRF will internally review and respond back to the Project Team on permit application requirements (WACC & WSCA) for wolverine.	Jon Pleizier (Project Team), Kevin Green (MECP) & Melissa Mauro (MNRF)	Within the week of November 2 – 7, 2020

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Item #	Description	Action by	Date :
2.3	**Caribou Collaring Survey** The Caribou Collaring Survey includes provisions for 20 females to be tracked for a period of 3 years. Female caribou within 10 km of the proposed preliminary corridor for the road will be targeted. However, if fewer than 20 have been collared within the sampling area, the search will expand outwards. Areas where caribou were previously observed during past winter tracking surveys will be targeted. Preferably, SNC-Lavalin would like to collaborate with MECP and MNRF and share data and information regarding the program as it moves forward. MECP recommends using fixed-wing flights to locate caribou immediately prior to deploying the capture crew to avoid "aimless wandering" and relying on possibly outdated information to locate caribou. The 10 km survey area is preferred, but all agree that it is reasonable to plan on expanding the search area out if too few females are captured. Expanding the program to cover 7 to 10 years is recommended to help streamline the potential authorization requirements under the ESA of the project as a whole, as it will incorporate both the EA and any permit post-construction requirements for compliance and effects monitoring. Collars should be pre-programmed to acquire 8 location fixes per day. The Work Plan should be clarified regarding determining mortality events and cause of death (this requires a site visit), which is a key component to understand how and why the caribou died. The Work Plan should also consider whether the collars will be retrieved once they drop off or when there is a mortality, as they store more data than is transmitted in daily fixes and can be refurbished and redeployed. Retrieving collars also removes the potential for batteries to become hazardous waste. Regarding information sharing, MECP may be able to assist with analysis of data (e.g., determination of caribou calving habitat). MNRF has a data-sharing agreement in development that addresses the sharing of information to help with collaring efforts. There is an interest in moving forward with that	Jon Pleizier, (Project Team), Kevin Green/ Sasha McLeod (MECP)	Within the week of November 2 – 7, 2020

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	and having the data shared with the Natural Heritage Information Centre (NHIC). MECP will send their comments from the most recent revision of the SAR Work Plan (August 2020) within the next week or so to be incorporated into the next revised version of the document to be prepared by the Project Team. MECP provided comments on the most recent revision of the SAR Work Plan on November 16, 2002.		
2.4	**Caribou Permitting Requirements** Several permits will be required for caribou collaring, including SARA, ESA-B, and WACC/WSCA. SNC-Lavalin would like to know the anticipated approval timelines for each process. MECP recommends the earlier the ESA-B application submitted, the better. The approved WACC protocol needs to be submitted along with the application as well. All authorizations require signoff by the Minister which can result in longer times to achieve the permits. ECCC advises the service standard for SARA e-permits is 90 days. ECCC indicated that a SARA permit would only be required if collaring is conducted on federal lands. SNC-Lavalin would like to use a previously approved WACC protocol to reduce iterations and help move the process forward. MNRF will look into timelines for WACC and whether an approved protocol can be shared. A new WACC protocol normally takes a couple of months.	Holly Dodds (Project Team), Melissa Mauro (MNRF)	
2.5	**Caribou Survey Area Bias** Previously conducted aerial surveys for caribou were carried out within a rectangle-shaped area surrounding the alignment, with transects largely extending north of	Jon Pleizier (Project Team), Melissa Mauro (MNRF)	

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Item #	Description	Action by	Date :
	the alignment due to the shape of the survey area. MNRF comment suggested this has introduced bias. MNRF will communicate with the Science and Research branch to clarify comment.		
2.6	**Noise/Sensory Disturbance Study** Effects of noise and vibration on species at risk will be assessed within the boundaries of 1.5 km from the Webequie First Nation airport lands, and 600 m from the centreline of the proposed supply road. Noise and vibrations will be measured from the construction and operations of the roadway, as well as airport activities. It is expected that beyond 600 m noise and vibrations effects from the project will return to ambient levels. The assessment will include modelling that considers adjacent vegetation, terrain and noise sensitive receptors to predict sound levels as a result of the project. MNRF and MECP would like to see the full details of the methodology for the noise and vibration study that would feed into the assessment of effects to SAR (e.g. Caribou, Wolverine, etc.) and wildlife. SNC-Lavalin will provide the Acoustic Work Plan to the MNRF.	Craig Wallace (Project Team)	
2.7	**Bat Acoustic Surveys** Acoustic monitoring for bats covered 4 sites in 2019 and 10 in 2020. Comments on the Work Plan from the MECP suggested a sample size of 50 detectors as adequate for bat study. The Project Team noted this is a challenging number to deploy due to the terrain. MECP would like to see all potential maternity roost habitat be considered. For this, a figure is needed to illustrate all treed forested habitat in the entire area, and rationale as to how these habitats were delineated. Bat indicators that should be assessed include presence, potential maternity habitat, abundance (difficult in this	Holly Dodds (Project Team)	

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	landscape), and an activity index for SAR bats, which requires more sample size. ECCC echoed comments from the MECP. The TISG does speak to abundance and species at risk. There should be justification and rationale surrounding the evidence to substantiate the claim that sample sizes are sufficient to meet the stated claims. For example, there was a confusing statement in the revised SAR Work Plan that sample locations were being screened through desktop exercises looking for forests greater than 80 years of age, but it is later stated that for Little Brown Myotis and Northern Myotis that stand age might not be appropriate. **ACTION:** SNC-Lavalin will develop follow-up questions based on this discussion and provide clarification on these sections in the revised SAR Work Plan to be submitted to the MECP and IAAC.		
2.8	**Lake Sturgeon** Spawning surveys were conducted in 2020 using egg mats. Due to a variety of challenges including high water and unnavigable weather conditions, egg mats were only deployed in 3 locations. Results from analysis at University of Guelph are pending. SNC-Lavalin would like to access data collected on Lake Sturgeon in the area by MNRF and DFO to identify confirmed habitat. Consultation with local communities on Indigenous knowledge regarding Lake Sturgeon spawning sites has taken place with Webequie First Nation and will be expanded to include other communities. MNRF recommends more than just egg mat surveys, as that type of survey is inefficient for identifying Lake Sturgeon spawning since the mats do not always capture the eggs. Larval drift can also occur up to 190 km from spawning sites. As such, MNRF emphasized that protecting spawning areas may not be sufficient given that connectivity is required between spawning and nursery areas. Additionally, locating spawning	Angela Brooks (Project Team)	

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	congregations visually may be difficult given variation in river conditions; eggs mats, larval drift and eDNA were mentioned in the meeting as potential assessment techniques. The Project Team is proposing to take a precautionary approach of assuming that species habitat is present in the absence of data. **ACTION:** SNC-Lavalin will follow-up directly MNRF (Melissa Mauro/Bill Greaves) and with IAAC (Alex Oaks) who will make a request to DFO to provide any unpublished studies on Lake Sturgeon within the project study area.		
3	**Wildlife** Concerted survey efforts for species such as otter, beaver, and muskrat have not been conducted due to the high level of effort and high cost. Instead, incidental observations have been collected during the course of other surveys, such as Winter Tracking and Waterfowl surveys. Trapping data may also be useful to assess these species and we are still ascertaining the best approach to gathering this information. “Filter approach” was a generalized term in the Wildlife Work Plan and did not refer to a specific methodology. These non-SAR wildlife in the TISG use habitats such as wetlands and other aquatic features that are captured in other surveys and described from a vegetation community perspective. They can be assessed in the context of habitat features or vegetation community features, rather than exclusive assessments dedicated to these species to avoid redundancies. Where the Project Team refers to a filter approach, they mean reduction of redundancies with focus on the habitat level or the aspects of their habitat that are allowable to quantify and discuss from an assessment perspective. **ACTION:** The Federal Review Team is preparing comments on the Wildlife Study Plan. IAAC will provide the comment package to the Project Team by next week.	Jon Pleizier (Project Team), Alexandra Oakes (IAAC), Melissa Mauro (MNRF)	

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Minutes of Meeting

Item #	Description	Action by	Date :
	The project team should review the wildlife comment package before discussing this further. If there are any outstanding questions once it has been reviewed by the project team, IAAC would be would available to discuss those at that time. IAAC has not yet shared comments on the Wildlife Work Plan (September 2020), but they should be provided to the Project Team by next week. ECCC does not have a mandate for wildlife at large, however the Work Plan should provide justification and rationale to demonstrate that the current methods are sufficient to meet the TISG. MNRF will take this description of filter approach back to the commenter and will be in communication if there is any need for any further discussion on the matter.		
4	**Migratory Birds** The Project Team SNC-Lavalin would like to discuss with ECCC the preferred approach to modelling that would meet the requirements of the TISG for birds and bird communities. Surveys conducted to date include roughly 250 ground stations and 75 ARU sampling stations. Challenges with ground surveys include the ability to move between locations and the amount of time available in the morning following a long helicopter commute. ECCC recommended developing very precisely stated goals, design options that align with those carefully phrased goals, a detailed summary of existing data, and detailed information on how the data were collected (i.e. designs and protocols). The resulting material will be valuable inputs to evaluating design options and documenting the rationale for the options selected. The bird community should be described in terms of frequency of occurrence, distribution, abundance, and habitat, spatial and temporal considerations, and variation in quantitative measures. These are required to make reliable extrapolations. The TISG mentions a survey	Jon Pleizier (Project Team), Alexandra Oakes (IAAC) & Russ Weeber (ECCC)	

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	design that could be used as a basis for the Project Team to develop and evaluate alternative designs. Suggestions on how to phrase the goals can be provided in a follow-up meeting. Having a biostatistician on staff would help with communication of modelling and design and find efficiencies in remote work. **ACTION:** ECCC will coordinate further discussions on migratory bird study design and modelling. The Project Team will prepare clearly stated objectives and data in advance of future meetings.		

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Meeting Minutes

Project:	Webequie Supply Road	**Project #:**	661910
Called by:	Craig Wallace	**Meeting Date:**	November 23, 2020
Location:	Microsoft Teams Meeting	**Meeting Time:**	1:00 pm to 3:30 pm
		Duration:	2.5 Hour

Attendees:
Michael Fox, ICE
Craig Wallace, SNC-Lavalin (SLI)
Don Parkinson, SLI
Marian Tibor-McMahon, SLI
Patricia Videla, SLI
David Tarnocai, SLI
Cameron Bates, SLI
Ian Upjohn, SLI
Faiza Waheed, Intrinsik
Glenn Ferguson, Intrinsik
Alexandra Oakes, IACC
Sasha McLeod, MECP
Shannon Gauthier, MECP
Ganesharam Balagopal, MECP
Ariane Heisey, ENDM
Aurelia Thevenot, HC
Alexandra Iliescu, HC
Tihut Asfaw, HC
Kelsey Lucyk, HC
Catherine Adams, SWC
Alison Puskas, SWC
Dae Young Lee, HC
Debra Nkusi, HC
Julieta Werner, CIRNAC
Umme Aktar, HC
Ian Lindsay, IAAC
Jason Frechette, ENDM
Danton Suck, IAAC
Joanne De Montigny, HC
Jan Triska, AANDC
Marlo Johnson, MTO

cc:

Subject: **Webequie Supply Road Technical Meeting – Human Health Study Plan**

Agenda Item #	Description
1	**Best Practices in HIA Methods (IACC Comment 4, 2020-08-28) (30 min)** • IAAC clarification on methods for assessment of biophysical and social determinants of health. • Project Team's proposed methodology, collection of baseline health data (Webequie versus others), and effects assessment, particularly for high level social determinants of health.

Craig Wallace (CW) (SLI) provided an overview of human health baseline data collection.

Alexandra Oakes (AO) (IAAC) asked, given the new team (i.e., Intrinsik) helping with health impact assessment (HIA) was not present during the formulation of the study plan, if the current study plan is still representative of what will be implemented as part of the IA. Craig Wallace noted there would likely be a

revised study plan prepared and submitted to IACC in order to better reflect the proposed scope of work for the HIA.

Alexandra Oakes (IAAC) stated, in conversation with federal experts, there was a concern about the distinction between HIA and the human health risk assessment (HHRA). Also, in terms of the approach of working with Webequie First Nation (WFN) compared to other communities, IAAC does not think the Webequie Project Team (WPT) should be making unilateral decisions about whether there will be impacts on those groups. As per Section 6 of the TISG, the proponent is expected to conduct initial engagement with all Indigenous Communities (ICs) listed in the Indigenous Engagement and Partnership Plan. Faiza Waheed (Intrinsik) noted that HIA is a different process from HHRA. HIA looks at health from a more holistic point of view using the social determinants of health as a lens especially. The primary steps in HIA are: Screening, Scoping, Assessment, Recommendations, and Development of the HIA Report.

Tihut Asfaw (TA) (HC) said the approach seems to be reasonable. She asked how the standalone HIA will be integrated into the overall IA. FW (Intrinsik) replied the air quality, noise, water quality, country foods, socio-economic and other assessments will feed into the HIA and the HIA would be a discrete study within the Environmental Assessment Report/Impact Statement.

Tihut Asfaw (HC) asked whether the HIA be done in parallel with other assessments. Faiza Waheed (Intrinsik) noted it will be done in parallel as much as possible. Since data for the HIA is needed from other assessments, there will likely be a need to wait for data to become available so that it can be integrated at the later stages of the IA. Fulsome health recommendations can only be made once the information has been generated from other assessments. As such, although the HIA will try to do as much work as possible in parallel with the other studies, there will be delay in the HIA completion as it depends on results from other studies being made available.

Joanna de Montigny (HC) asked what plan there is to conduct a pathway analysis and determine how the determinants of health (DH) are linking up with each other and project activities. Faiza Waheed (Intrinsik) replied saying each of the DH will be scoped individually and for each of the DH there will be a series of assessment steps. The first step is to make the linkage between the DH and health itself. The next step is to examine and understand the baseline conditions, using information gained from the human health survey as well as from other studies, including air quality, noise, water quality, social, economic, traffic, etc. After that, project related potential impacts, for instance due to air quality, are examined. Following this, the effects on health are characterized, including consideration of any additional health-focused mitigation measures.

Joanna de Montigny (HC) raised the issue of road construction and how that would impact the communities using the social and cultural determinants of health. She asked how that interconnection would be examined. Faiza Waheed (Intrinsik) stated that, given the requirements of the TISG, the approach to assessing the determinants of the health will be a tiered approach. The first tier (Level 1) is behavioural and biological factors (Level 1 determinants of health). The second tier (Level 2) is social, cultural and economic factors (Level 2 determinants of health). The third tier (Level 3) is structural and equity factors. Within these tiers there will be interconnections. When connections are found, or when potential affected parties (e.g., rights holders or others) identify a connection, the WPT will follow-up and make sure the links are identified in the HIA.

Joanna de Montigny (HC) noted it is important to estimate change but also how project components affect socio-economic conditions that would, in turn, influence behaviour. Faiza Waheed (Intrinsik) stated that, where possible, primary information will be gathered from the socio-economic and health surveys, key informant interviews, community meetings and GBA+. In addition, to examine and assess changes and linkages, the peer-reviewed and grey scientific literatures, as well as various relevant studies from reputable sources will be relied upon.

Joanna de Montigny (HC) said a key reference source is *Key Health Inequalities in Canada: A National Portrait*. It shows how behavioural and biological factors are linked to structural and higher-level determinants of health outcome. It often deals with stress response. Faiza Waheed (Intrinsik) responded

stating stressors such as this vary from community to community. Survey results will contain community identification of major sources of stress and issues they face. Background literature will be relied upon for data that cannot be collected from the primary sources.

Aurelia Thevenot (HC) asked about the timeframe as to when engagement will happen for the HIA. Craig Wallace (SLI) responded saying SLI is aiming to implement the health survey for WFN in January, which will include conducting a HIA scoping workshop. The socio-economic survey, proposed to run-in parallel, will also allow the Project Team to understand the social issues of concern. Following that, a draft HIA Scoping Report will be prepared which outlines the health determinants to be included in the HIA. The pertinent results of the engagement and consultation program would also be a part of that report. Another component of engagement with rights holders in the HIA study plan is the HIA Steering Committee. The Steering Committee would include representatives from WFN and healthcare representatives at the WFN Nursing Station. The committee may also be broadened to include representatives from other potentially affected communities, as identified in the TISG.

Faiza Waheed (Intrinsik) noted that in any HIA an important aspect is stakeholder and rights holder input. Apart from the health surveys that will be led by SLI, Intrinsik will also be setting up an HIA Steering Committee at the beginning of the process. The committee will meet at least twice during the project:

- **Scoping Step Meeting**: This meeting with the HIA Steering Committee will be utilized to finalize a list of determinants of health to be assessed in the HIA. The TISG provides an initial list of health determinants to be considered, and this list will be finalized based on input from the Steering Committee, as well as responses received from the human health survey. The Steering Committee will also be encouraged to identify resources to inform the HIA. Determinants of health that are selected will be included in the HIA scoping report.
- **Recommendations Step Meeting**: This meeting with the HIA Steering Committee will be utilized to develop recommendations that go hand in hand with the results. The Steering Committee will help the WPT refine these recommendations to ensure the views of the community are represented.

Catherine Adams (CFC/SWC) stated it is important to have diversity in the steering committee from a GBA+ perspective. Faiza Waheed (Intrinsik) replied saying one of the main hallmarks of an HIA is examining disproportionate impacts to vulnerable and minority groups. She expressed a desire to work with a GBA+ representative to ensure incorporation into the HIA.

Aurelia Thevenot (HC) asked how the WPT sees the regional assessment (RA) feeding in to the HIA. Michael Fox (ICE) responded saying the scope of the RA is ill-defined right now and no Terms of Reference is available from IACC. It is the intent of the WPT to setup a call with Alexandra Oakes and others at IACC to discuss the RA to clearly define the scope boundaries of the RA in the context to the study area for the WSR, as well as to seek guidance regarding how issues and concerns raised during the RA process are integrated into the WSR IA, where applicable. Alexandra Oakes (IAAC) mentioned that the RA has been broadly discussed in past federal/provincial EA coordination meetings with the WPT and at one meeting with the IACC representatives that are leading the RA.

Craig Wallace (SLI) noted it is unclear whether the RA will be able to inform the Webequie IA/EA. as the timelines may not align. The WPT has three years to complete the IS phase and almost one year has elapsed in that process. Jan Triska (AANDC), a member of the Ring of Fire working group, stated that the RA is in its early stages. The RA is not intended to duplicate anything that goes on for the WSR project related impact assessment. The RA is intended to try to grapple with some questions and address issues that individual project assessment cannot do. They are two different endeavours and that should allay some concerns regarding overlap. The timeframe for the RA to be completed is uncertain. Aurelia Thevenot (HC) added that during the engagement process, WFN will have an opportunity to learn more about the RA process and provide comments on the assessment.

2	**Proxy Approach to HIA (IACC Comment 5, 2020-08-28) (30 min)** • Proxy approach that Webequie will experience greatest effects due their proximity to, and land and resource uses in the project area. • Approach to how HIA will consider positive and negative effects to other communities with shared territory in proximity to the Project.

Craig Wallace (SLI) presented the second agenda item: using WFN as a proxy/surrogate for potential effects on other indigenous communities. The WPT feels that WFN represents the greatest potential positive/negative net health effects as result of Project. If a unique effect is identified by other communities it would be incumbent on the WPT to carry that forward in the HIA. Faiza Waheed (Intrinsik) noted this approach is consistent with the requirements in the TISG that, where and when potentially affected communities are engaged and unique health issues are identified, they will be assessed in the HIA accordingly. Faiza Waheed (Intrinsik) noted that the WPT will be focussing on WFN when collecting human health baseline information and identifying the main health issues that should be considered in the HIA.

Aurelia Thevenot (HC) asked if the WPT is planning to distribute the draft HIA Scoping Report to federal agencies so they are better prepared for the impact assessment. Craig Wallace (SLI) affirmed that draft Scoping Report will be distributed and discussed with the WFN. He does not see an issue with providing this report to provincial and federal agencies for their information.

Aurelia Thevenot (HC) replied saying if the WPT is planning to circulate the draft Scoping Report, OCAP principles will protected if there is sensitive data. Health Canada (HC) is more interested in methodologies to be used.

Alexandra Oakes (IAAC) mentioned the requirement to engage with Indigenous and public groups based on the TISG and supportive plans and noted she does not believe that is demonstrated in the current human health study/work plan. Intrinsik's described approach is more detailed than that presented in the study plan. Therefore, without seeing the sequence of events, it is hard for IAAC to say the proposed approach meets the TISG requirements and would like to see Intrinsik's HIA work plan.

Danton Sück (IAAC) mentioned that the sharing of the scoping report with Indigenous groups that identified items beyond the scope of the health survey, could be a way for the WPT to validate and clearly understand concerns/issues. Danton asked if, in the event that an Indigenous group has identified a project related health effect or impact, would that be cause for consideration of adding a member from that group to the HIA Steering Committee. Faiza Waheed (Intrinsik) noted the HIA is more about the process rather than the report. A key objective of a HIA is to ensure the communities affected by the project understand the health concerns and that these concerns are taken seriously and addressed as part of the process. If a non-WFN community raise an issue not included in the scope of the HIA, the WPT will communicate with the community about inclusion of their concerns in the HIA.

Danton Sück (IAAC) noted IAAC is keen to see that the proxy approach can demonstrate the data collection will be considered representative of communities that have shared land and resource use with WFN. It was recommended that the WPT ensure the proxy approach is very clearly articulated. Alexandra Oakes (IAAC) noted the WPT should also ensure that the communities IAAC has identified for engagement and consultation are provided with the opportunity to inform on the human health assessment; and that the WPT clearly describe and explain potential impacts and document how concerns are proposed to be addressed, where applicable. Faiza Waheed (Intrinsik) acknowledged those concerns. Intrinsik will ensure there are enough specific and open-ended survey questions so the WPT can identify the core issues affecting other communities.

Michael Fox (ICE) noted that the primary feedback the WPT is seeking is from the communities themselves. The WPT will do their best to facilitate informed participation and have had mixed results to date. Some communities are intentionally not engaging for political reasons and may not fully engage in the IA/EA

process. Michael Fox asked federal regulators if they have any knowledge to share on unique health impacts related to a gravel all-season road like the WSR. Danton Sück (IAAC) said it is important to remember that the impact assessment process is a planning mechanism. From the proponent's viewpoint, the objective should be to fully understand effects of the proposed project. The Agency reiterated its guidance that the WPT ensure the proxy approach can be demonstrated as representative of potential effects to other communities and to ensure the proponent is providing adequate opportunities for communities to fully understand potential effects of the Project.

3	**Country Foods Assessment (IACC Comment 6, 2020-08-28) (30 min)** • Scope and methodology for Country Foods assessment ○ Food types/species ○ COPCs to be analyzed ○ Transport pathways ○ Applicability of the TISG cited First Nations Food, Nutrition and Environment Study

Craig Wallace (SLI) provided an overview of the country foods assessment. David Tarnocai (SLI) added that the WPT has identified some plant/animal species of importance to the community. To date the Project Team has collected plant tissue and muscle meat and fish samples for analysis. The locations selected were based on community consultation and Indigenous Knowledge from land users and harvesters. The samples will be analyzed for a suite of metals. For plant tissues, the sampling was completed in October 2020, so berries were not available and therefore will be collected in the summer of 2021.

Alexandra Oakes (IAAC) stated that there was not a clear justification as to why the focus would solely be on WFN when it came to country foods.

Debra Nkusi (HC) asked if the consumption survey was a part of the house-to-house survey. David Tarnocai (SLI) replied saying the consumption survey was preliminary and informal in nature. It was completed during the biological survey work by the Project Team. Formal survey questions regarding country foods will be included in the socio-economic and health surveys and will highlight gaps in the existing information to date, if applicable. Craig Wallace (SLI) stated that the WPT met with many community members to get a list of species frequently consumed. Diving deeper into those consumption rates will come from completing the surveys in the community. The Country Foods assessment will consider land uses and resources shared with other communities.

Debra Nkusi (HC) asked if the WPT would share the data for the consumption survey. Craig Wallace (SLI) affirmed the WPT will distribute the country food survey for HC to provide any guidance, when available.

Dae Young Lee (HC) stated that it is not clear why the sampling and analysis of country food tissues is limited to metals. He would like to see how country foods are collected, what contaminants are concerns, and what exposure pathways have been screened. He asked if it would it be possible to compile that information and share it with the federal and provincial review teams; perhaps a problem formulation format. David Tarnocai (SLI) noted that the WPT is not limiting its exposure analysis to country foods. Different teams have completed sampling for soil, surface water, etc. The WPT is looking at multiple pathways.

Dae Young Lee (HC) ask if it would be possible to put those considerations of exposure pathways in writing for the HC team to provide further guidance. David Tarnocai (SLI) affirmed that once the WPT completes the problem formulation stage, a brief report can be shared with HC.

Debra Nkusi (HC) asked if, in addition to country foods, the WPT will have a list of medical plants to be collected. David Tarnocai (SLI) confirmed that the Webequie community's list of plants of importance includes medicinal species.

Aurelia Thevenot (HC) said providing survey questions will be important to ensure they are capturing food security issues and food sharing that occurs within communities. Within the problem formulation, HC would be interested in the link between contaminants and other socio-economic and cultural aspects. David Tarnocai (SLI) acknowledge that, saying the problem formulation will have the appropriate linkages.

Craig Wallace (SLI) noted the WPT is prepared to share their problem formulation and the health and country foods surveys with HC, likely in early January 2021.

4	**Reasonable Extent of Mitigation Measures (IACC Comment 18, 2020-08-28) (15 min)** • Request to reduce emissions as low as reasonably achievable and beyond those required to achieve the applicable environmental quality criteria and/or risk thresholds.	

Ian Upjohn (SLI) described a section of the TISG related to mitigation and residual effects and asked the agency to clarify or provide more specificity regarding the use of the phrase “reasonably achievable”, as this may affect IA/EA mitigation commitments and (possibly) future compliance requirements and contractual obligations. Alexandra Oakes (IAAC) noted that it means “as low as reasonably achievable” in terms of mitigation measures. In the health effects context for instance, the effects may fall within or below a water quality standard, but it doesn’t necessarily mean there is no negative adverse health effect.

Dae Young Lee (HC) added the term “reasonably achievable” is primarily related to air contaminants as defined in the Canadian Ambient Air Quality Standards (CAAQS). This is not a compliance issue; this is for recommendations. Ensuring the project emissions reach the 20% below CAAQS thresholds does not mean the community member are safe from potential air contaminant effects. The WPT should consider technologies, mitigations that can be applied to reduce those emissions as much as reasonably possible.

5	**Social Determinants of Health Thresholds and Indicators (IACC Comment 7,6,12,19, 22, 23 - 2020-08-28) (30 min)** • Clarification on TISG Section 16.2 to describe and quantifying specific “thresholds”; documenting if different thresholds were considered for vulnerable populations, including by sex and age; and providing the rationale and justification if specific thresholds were not used. • Approach and adequacy of social determinants of health in Table 3 of Work Plan.	

Craig Wallace (SLI) asked for more specificity on the quantification of specific thresholds. This goes back to the receptors and where, interfacing with GBA+, different thresholds on vulnerable subgroups are set. He requested some clarity on what they are driving at in this section of the TISG. Alexandra Oakes (IAAC) replied that in Section 6.2 of the TISG, using the word “threshold” is probably not the most appropriate when talking about social determinants of health. IAAC explained it is for the WPT to consider things closer to inequities or barriers of access instead of thresholds. Part of the requirements is disaggregated data where possible to show how different subgroups experience inequities.

Kelsey Lucyk (HC) concurred with Alexandra’s comments that ‘Thresholds’ is not the most appropriate word. It would be appropriate to use qualitative evidence and does not necessarily have to be a numerical quantifiable outcome.

Michael Fox (ICE) asked the experts on social determinants of health: how does public policy fit into that? There are strong views from Chief and Council and community members on the root cause of the current

economic and social conditions that Webequie is facing. Michael noted that a historical point of view should be included when discussing social determinants of health.

Faiza Waheed (Intrinsik) thanked Michael for pointing that out and noted that past and present government public and social policy are considered contributors to the determinants of health for any given community. As Level 3 determinants of health, structural and equity factors impact health and may in turn impact other determinant levels. If this is a health issue that potentially affected parties believe should be discussed from an HIA perspective, it will be included in the assessment.

Joanna de Montigny (HC) then spoke about understanding the root cause and structural determinant of health. Fundamentally, it is about factors that could influence socio-economic conditions. When HC considers the pathway analysis, they are looking at the project as a starting point, it's activities and components, and how it may affect a communities' socio-economic conditions.

Kelsey Lucyk (HC) stated that HC recognizes social determinants of health are created by these systems that shape people's environment. HC is glad it will be included in the HIA. HC would like to see how different levels of determinants are connected and ultimately linked to the health outcome as well as some description of why the determinants are selected, including supportive rationale.

Aurelia Thevenot (HC) stated that one concept the WPT may want to consider is what the ideal baseline status would be in the community without the structural constraints that have been created over time. Faiza Waheed (Intrinsik) noted this is a question for the community and something that the WPT are trying to ask in the health survey. The word "ideal" represents different things to different people. If, in the survey answers, common issues come up that are recognized as a hurdle and what the ideal should be without these hurdles, the WPT will describe these issues and concerns in the HIA. It would be presumptive of the HIA team to try to put forth the picture of what the ideal condition would be had there not been structural issues like colonization. Aurelia Thevenot (HC) affirmed that this perspective is something that should come from the community and not from the consultant.

Kelsey Lucyk (HC) provided comments on the adequacy of social determinants of health in Table 3 of Human Health work/study plan. It was noted that the table list mainly medical services and that the expectation would be to see not the just the service itself, but the access to that service. Craig Wallace (SLI) confirmed that the tables with social determinants of health (SDOH) will be revised and realigned based on Intrinsik's' input and involvement. The SDOH will be broken down into the tiered approach as noted by Intrinsik under Item 1 of the meeting minutes.

6	**Future Project Scenarios to Be Assessed (IACC Comment 18, 2020-08-28) (15 min)** • Clarification on effects assessment on two future scenarios - risk estimates for the Project plus the baseline scenario; and the Project scenario alone.

Craig Wallace (SLI) sought clarification on the requirement to examine two future scenarios - risk estimates for the Project plus the baseline scenario; and the Project scenario alone. David Tarnocai (SLI) noted that the quantitative analysis in the HHRA will look at two different scenarios, the baseline conditions and calculate risks based on that, and then with input from other biophysical disciplines will provide exposure point concentration based on operations and those would be used to model risk for the project scenario.

Aurelia Thevenot (HC) asked why only operations were mentioned. David Tarnocai (SLI) affirmed that construction would also be examined.

ACTION ITEMS:

- The WPT will resubmit a revised Human Health Study Plan to IACC to better reflect the approach and methodology developed and described by Intrinsik for the HIA, and in particular for the consideration and assessment of the social determinants of health.

- The WPT will share the draft HIA Scoping Report with relevant/interested government agencies/ministries once it is prepared.
- The WPT will distribute the human health survey, including survey questions related to country foods assessment, for Health Canada feedback.
- The WPT will produce a problem formulation statement for Health Canada guidance that will describe in part, how country foods are collected, contaminants of concerns identified, and what exposure pathways have been screened.

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Minutes of Meeting

Project Name: Webequie Supply Road		**Project #:**	661910
Aquatic Study Plan - Technical Meeting		**Meeting Date:**	December 8, 2020
Prepared by: Ashley McGrath		**Meeting Time:**	10:00 am – 11:00 am
Distribution: All Attendees & M. Fox (Regional Consultation Lead, Webequie First Nation)		**Location:**	Microsoft Teams Meeting
Attendees:			
SNC-Lavalin – Craig Wallace, Angela Brooks, Holly Dodds, Ashley McGrath		**Page**	1 of 6
IAAC – Alexandra Oakes			
DFO – Shona Derlukewich, Jacob Ziegler			

Minutes

Item #	Description	Action by	Date :
1	**Criteria Species for Assessment** Craig Wallace (SLI) noted that in the TISG 12 aquatic species are listed to capture those that may be consumed or have indigenous cultural importance. Four fish were initially identified in Study Plan as criteria species: Brook Trout, Walleye, Northern Pike, and Lake Sturgeon. To date the Webequie Project Team (WPT) have mostly engaged with Webequie First Nation (WFN) community members to receive their input on those most important species from a cultural, subsistence, and economic resource perspective. From this engagement it is proposed to include the four criteria species initially identified in the Study Plan, and also now White Sucker that is often consumed by community members. It is expected the list of criteria species may evolve during the IA/EA process, but at present the list of species is considered representative of the variety of aquatic habitats that would be reflective of the broader list of 12 species in the TISG. IAAC recommends to initially include all 12 fish species on the list of species that may be consumed or have	Craig Wallace, Angela Brooks, Holly Dodds (Project Team), Alexandra Oakes (IAAC), Shona Derlukewich (DFO)	

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	Indigenous cultural importance and finalize the list based on engagement to give Indigenous groups an opportunity to provide input about all the species. The project team must demonstrate how community, public and Indigenous knowledge was incorporated into the selection of indicator species. If the project team intends to remove species from the list that should be validated through engagement activities. For example, if it is determined through engagement that certain fish are not consumed or do not have cultural importance, it would be appropriate to remove them from the list. However, in this case, rationale or justification would be required. DFO suggests that "cultural importance" needs to be defined by Indigenous groups. It is the WPT's intent to gather more information about important species to include in the assessment through engagement and consultation; Indigenous Knowledge; socio-economic and health surveys; and key informant interviews and workshops with resource users. Based on the limited existing aquatic data in the study area it was acknowledged that it is important to gather Indigenous Knowledge to fully characterize existing conditions and those species of importance to communities. From the list of 12 species in the TISG, Brook Trout, Chain Pickerel, Lake Chub, and Lake Sturgeon have not been encountered during field surveys completed to date by the WPT. However, there is evidence from the community that Lake Sturgeon is present in the study area. All other fish in the list have been encountered, including Burbot and Longnose Sucker eggs that were identified during the spring 2020 spawning surveys.		
2	**Requirements to Describe and Assess Lakes/Ponds** Craig Wallace (SLI) noted that the proposed road corridor avoids direct impacts to many of the lakes/ponds, with exception of the required crossing of Winisk Lake. Significant vegetation buffers have been established as a guiding principle for the identified 2 road alternative alignments within the broader corridor for the WSR. A YSI	Craig Wallace, Holly Dodds (Project Team), Alexandra Oakes (IAAC), Shona	

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	has been used to collect water chemistry parameters to conduct depth profiles and to try and distinguish between the different thermal stratification layers and lake zones (i.e., littoral, limnetic and benthic) of Winisk Lake. The locations where aquatic macrophytes were growing in the area were identified to distinguish between the littoral and limnetic zones. To date, there have been difficulties in identifying the different distinct layers/zones in the lake. This may be due to sampling in the fall 2020 when there may have been churning that would have affected the lake stratification. Sampling along with bathymetry measurements have been undertaken to characterize the depths and zones of the lake. A secchi disk was also used to help characterize the depth profile and light transmission which is required for photosynthesis and primary producers. DFO agreed that based on the information provided the project team's proposed approach is appropriate to meet the requirements in Section 8.8 of the TISG related to the description of habitat. DFO recommended that water quality and sediment data collected from other investigations and disciplines (e.g., surface water Section 8.6 of TISG) be directly incorporated in the fish habitat assessment report to make the review easier as opposed to referring to this data in another document.	Derlukewich (DFO)	
3	**Underwater Soundscape and Vibration** Craig Wallace (SLI) noted its not clear as to why underwater soundscape and vibration baseline characterization is required based on the remote nature in which the project is located. There are no anthropogenic influences in the study area with the exception of small boats with outboard motors. It was noted that its not the Project Team's intent to assess underwater soundscape and vibration in terms of acoustic field measurements. However, some characterization may be able to be provided based on the review of background literature and further discussion with the project team acoustic specialist for noise and vibration. In general, it is expected that there will be limited	Craig Wallace (Project Team), Alexandra Oakes (IAAC), Shona Derlukewich & Jacob Ziegler (DFO)	

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Minutes of Meeting

Item #	Description	Action by	Date :
	information on existing underwater noise and vibration within the study area for the project. Craig Wallace (SLI) noted that construction activities such as pile driving for new structures at waterbody crossings could cause vibrations that could cause short term vibrational effects. At this stage, no blasting is anticipated to occur near waterbodies but it may be required to quarry rock from potential aggregate source areas. The Project Team is aware of DFO guidelines for use of explosives and how potential impacts to fish and/or fish habitat can be mitigated at basting sites. DFO agreed that blasting may not be an issue at waterbody crossings. If it is, there are two thresholds mentioned in the guidelines which would need to be adhered to avoid harm to fish/fish habitat. IAAC confirmed that the project team's proposal, as described by Craig, to use reference data to characterize the current underwater soundscape and vibration descriptions for the aquatic environment would be appropriate. DFO agreed this approach was appropriate.		
4	**Lake Sturgeon Studies** Ange Brooks (SLI) reached out to the MNRF to inquire about Lake Sturgeon studies in the study area for the project that have been published. Webequie has participated in some Lake Sturgeon spawning surveys with DFO but the Project Team have not been able to get the information from Webequie. Alexandra Oakes (IAAC) received the request from the Project Team on the availability of previous DFO studies and the MNRF document provided by SLI, which was shared with Shona Derlukewich (DFO). Shona followed up with the DFO SAR group and confirmed that Lake Sturgeon spawning surveys have been completed in the study area. DFO suggested that the Project Team make a request directly to Webequie First Nation for this information.	Craig Wallace (Project Team), Alexandra Oakes (IAAC), Shona Derlukewich (DFO)	

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Minutes of Meeting

Item #	Description	Action by	Date :
	It was noted by Craig Wallace (SLI) that WFN has data sharing agreements with MECP and the MNRF, but it is usually easier to get the information directly from the MECP or MNRF rather than Webequie who have internet bandwidth and GIS data management limitations. The Project Team will move forward with the data they have for now and will explore options to supplement. Alexandra Oakes (IAAC) will provide a formal response to the SLI email request for access to related past DFO studies. [*Post-meeting note: On December 10, 2020, Alexandra sent a follow up email to the Project Team regarding the question on Lake Sturgeon studies.]* Any future DFO inquiries, or clarifications/questions regarding the TISG requirements can be sent to Alex who will assess and reach out to Jacob Ziegler (DFO) directly.		

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Meeting Minutes

Project:	Webequie Supply Road	**Project #:**	661910
Called by:	Craig Wallace	**Meeting Date:**	December 10, 2020
Location:	Microsoft Teams Meeting	**Meeting Time:**	9:00 am to 11:00 am
		Duration:	2 Hour
Invitees:	Craig Wallace, SLI Jonathan Copper, SLI Wilson Liu, SLI Hafeez Baba, SLI Cameron Bates, SLI Shannon Gauthier, MECP Sasha McLeod, MECP Jacinth Gilliam-Price, MECP Shannon Heggie, MECP		Alexandra Oakes, IACC Laura Decoste, IAAC Jennifer Cole, NRCAN Walker Smith, NRCAN David Laverdiere, ECCC Denise Fell, ECCC Dae Young Lee, HC
cc:	Ian Upjohn, SLI	**Page:**	1 of 6

Subject: **Webequie Supply Road (WSR) Technical Meeting – Surface Water and Groundwater; and Geology, Terrain and Soil Study Plans**

Agenda Item #	Description
1	**Surface Water Sampling Locations and Timing (MECP 2020-07-217, Comment 1** • Surface Water Sampling Events and Flow Variations

Craig Wallace (SLI) asked for clarification on an MECP comment related to 'best efforts' for surface water quality sampling, also targeting different flow regimes, 25th, 50th and 75th percentile flows. In 2019 and 2020, the Webequie Project Team (WPT) conducted surface water sampling at 19 of the 26 proposed watercourse crossings for the Webequie Supply Road (WSR). Other locations are difficult to access and can be challenging to safely land a helicopter. The Webequie Project Team (WPT) has done comprehensive surface water quality sampling in those 19 areas, including metals, nutrients, and VOCs. The WPT have also attempted to address inter-seasonal and annual variability that is identified in the TISG. There was one round of comprehensive sampling in summer 2019 and a second round of sampling in summer and fall of 2020. The WPT feels they have achieved a best effort with two years of data, although it may not fully capture seasonal variations (i.e., spring). Craig noted the WPT has committed to doing further ex-situ surface water quality sampling in spring 2021. Automated sampling at crossing locations is not considered feasible due to remote site conditions and logistical challenges.

Jonathan Cooper (SLI) described how the WPT is looking at flow and capturing flow. They have some sporadic measurements with the Swoffer. From an engineering perspective, the team has taken data from OFAT and prorated it to determine design flows at the crossings. The WPT has not done a lot of work on the

low flows, but linear infrastructure such as a road is not likely to affect low flow conditions at the proposed waterbody crossings.

Craig Wallace (SLI) asked for confirmation that the data sets collected are sufficient. Jacinth Gilliam-Price (MECP) understands the difficultly accessing sites, hence the 'best efforts' language. She stated the WPT should use OFAT to judge the optimal freshet time to collect spring samples. 25th, 50th, and 75th percentile flows are offered as a target. MECP expects a best effort to target the spring higher flows. Regarding the 19 crossings, MECP recommends a representative sampling approach to target the different categories of systems in the different watersheds. Craig Wallace (SLI) confirmed the WPT does use OFAT and has completed representative sampling by subwatershed, including also discussions with Webequie community members to determine the timing of the spring freshet to complete select field work (e.g., fish spawning).

Jacinth Gilliam-Price (MECP) asked if the WPT is doing cross-sections. Craig Wallace (SLI) confirmed that cross-sections have been completed at select watercourse crossings to capture flow at that time. Jacinth Gilliam-Price (MECP) stated this could be challenging come spring.

Craig Wallace (SLI) stated the WPT is still in process of engaging and consulting with WFN and other communities to determine and collect relevant data for the project. He opened the floor for further comments from federal agencies regarding surface water quality and flow monitoring. There were no further comments.

2	**Groundwater Low-Flow Sampling (MECP 2020-07-021, Comment 3, Regional Hydrogeologist** • Recommended low-flow sampling.	

Wilson Liu (SLI) described the monitoring wells and their distribution in the study area for the WSR. The WPT installed four (4) wells in July 2020 around the aggregate and quarry areas. There are eight (8) wells along the proposed corridor for the WSR. For the wells along the road corridor, the WPT has two nested wells to get some vertical gradient. There are twelve wells in total. For sampling, the WPT developed the wells and then sampled them, at least 24 hours after the wells were developed. In the first round (July 2020), no low flow sampling was done. In the second round, in October 2020, the WPT did low flow sampling for all wells.

Craig Wallace (SLI) showed a map to demonstrate spatial well distribution. He stated the wells are representative along the proposed road corridor and some wells are near potential aggregate areas. For seasonal and annual variations, the study plan identified that additional be considered in the spring 2021 to provide a full year data set with inter-seasonal variations (i.e., spring, summer and fall). Wilson Liu (SLI) said the first round in done in July 2020 represents low flow conditions. The October round represents the second highest seasonal variation.

Craig Wallace (SLI) asked MECP to confirm their agreement with the approach and to confirm the data set and time period is acceptable.

Shannon Heggie (MECP) stated she is satisfied and asked for clarification on the WPT's plans for spring 2021. Wilson Liu (SLI) described the elevated TSS and metal concentrations that have been observed thus far and described a plan to use a low flow approach in the spring.

Shannon Heggie (MECP) asked if the WPT found high TSS in piezometer samples or if it changed based on location. Wilson Liu (SLI) noted it changed based on location, depended on the surrounding soil.

Shannon Heggie (MECP) stated MECP is glad to hear the WPT is contemplating doing low flow sampling in spring 2021 at the subject wells. Wilson Liu (SLI) added the WPT also did hydraulic conductivity tests for all wells, overburden and bedrock. They used water loggers as well and are currently in the process of analyzing the data.

3	**Overburden and Bedrock Monitoring Wells at Muketei River (MECP 2020-07-21, Comment 1, Regional Hydrogeologist** • Baseline Information - Recommendation for overburden and bedrock monitoring wells in esker glacio-fluvial ice-contact deposits and glacial deposits near the Muketei River.

Wilson Liu (SLI) described the wells installed along the Muketei River, and at the esker. One is on a tributary. Another well, 'BH 19-10' is on the esker, at a depth of 9.6m. It does not contact bedrock. Since this esker is closer to the mine site, there is some existing historical baseline data from Noront's Eagles Nest Mine EA. Noront have two wells installed on the eskers, somewhat north of the proposed WSR alignment - 'Number 7' and 'Number 4'. One well is entirely in overburden, just sand and gravel; the typical material observed in the esker.

Craig Wallace (SLI) noted that comments from MECP was to consider installing wells in the esker/glacial deposit area to get information on vertical hydraulic gradient in the Muketei River area. The WPT described what they have done to date to the capture this data. Craig also pointed out that background information in that area is much more robust than other areas along the proposed corridor due to the proximity to the Noront exploration camp.

Shannon Heggie (MECP) asked for clarification on how borehole '19-11' was presented on the map and if the WPT has maps showing the location of the two monitoring wells that Noront installed. Wilson Liu (SLI) reviewed the maps of wells and boreholes. He also described the Noront boreholes being referenced.

Shannon Heggie (MECP) asked if the Noront data includes seasonal variations. Wilson Liu (SLI) stated the Noront reports describes a seasonal variation of 0.5 to 1 metre.

Shannon Heggie (MECP) asked what restrictions there are for the data from the Noront wells. Craig Wallace (SLI) replied saying Noront is willing to share their data which is about 5-years old, but it's unknown whether supplemental data has been collected from these wells by Noront.

Shannon Heggie (MECP) noted the Noront wells would be useful in the baseline program. It may not be appropriate to use 5-year-old data, but if the WPT could include them in future monitoring that would be useful. The well 'Number 7' is near the airstrip, which could reflect potential issues with contaminants. Recently, that airstrip has not been active. There was a recent forest fire near the site but that would not appreciably effect water quality data.

Craig Wallace (SLI) agreed to follow-up with Noront about more current data from the subject wells, and whether Noront is planning to reactivate their monitoring program.

Shannon Heggie (MECP) asked if the Muketei River area esker is a preferred candidate for aggregate sourcing. Craig Wallace (SLI) replied saying even though that esker is a significant deposit, it is not an ideal aggregate source. Hafeez Baba (SLI) added the WPT did identify it as a potential aggregate site. The comparatively small quantities required for road construction mean it may not need to be used. Craig Wallace (SLI) confirmed this esker will not be a primary source but may be utilized as a supplemental site to meet aggregate needs or overall construction staging.

4	**Seasonal and Inter-Annual Groundwater Water Quality Variations** (**IACC 2020-05-14, Comments GW/SW-07 and GW/SW 09** • Confirmation of the number and timing of the sampling events to meet TISG requirements.

David Laverdiere (ECCC) acknowledged it is challenging to get groundwater samples. ECCC is looking for best effort to meet the two-year recommendation on seasonal and inter-annual sampling to characterize existing conditions. Where, the water quality data sets and frequency of sampling is different to that suggested in the TISG, ECCC will consider this in the context of the access challenges being mindful there is a desire for consistency between a number of projects in the area. Craig Wallace (SLI) noted the WPT has had some open dialogue with the Marten Falls Community Access Road team and they are trying to align their requirements to ensure they are on the same page.

David Laverdiere (ECCC) stated that ECCC review will also take into consideration the project attributes components (gravel road), which is not a mine nor an industrial development. However, the project is looked in a pristine environment and that must not be overlooked.

Hafeez Baba (SLI) added the WPT did geotechnical work in 2019 and 2020. Various boreholes were done in both years. The WPT has groundwater level observations for those two years as well.

Alexandra Oakes (IAAC) stated it sounds like the WPT is on the right track. She asked if the issues discussed are represented in the current revised Study Plan (August). Craig Wallace (SLI) confirmed further details are in the current Study Plan. Alexandra Oakes (IAAC) stated she will follow up with David and ECCC for a review of the revised Study Plan.

5	**Spatial Configuration of Geotechnical and Soil/Terrain Data (MECP 2020-08-11, SAR Branch Comment 1** • Confirmation of extent and number of geotechnical boreholes/test and depth probes completed to date.

Craig Wallace (SLI) provided overview of the soil and terrain investigation and LiDAR work undertaken in the area.

Hafeez Baba (SLI) described the geotechnical program implemented to date. Boreholes and test pits using excavation and drilling equipment was used in addition to GPR, and review of desktop studies to collect data and characterize existing conditions. It was noted the study area is in a discontinuous permafrost region. There is normalize freezing index of 3000 degrees, and a 3-metre design frost depth. Details of the geotechnical program are generally presented in the Study Plan and the results will be provided in the EAR/IS and supportive preliminary engineering design documentation for the project.

No comments from government agencies/ministries.

6	**Geochemical Methodology and Sampling of Construction Material (aggregate/rock sources) (IAAC 2020-07-21 Comments GC-04, GC-09 and GC-10; MECP (S. Heggie, Hydrogeologist - Northern Region, Comment 4)** • Revised Study/Work Plan (Sept. 29) – Confirmation of approach and test methods to be used to evaluate acid rock drainage (ARD) and metal leaching (ML); and methods/approach to classify risk associated with both ARD and ML.

Hafeez Baba (SLI) noted the WPT collected ten (10) samples representing soil and bedrock for ARD analysis. The samples are representative of vertical and lateral profiles for the proposed road corridor and capture potential source areas for construction materials (aggregate, bedrock). Results from the samples indicate the sulfur content is low, and the ratios were in expected typical ranges for region. The results overall indicate that ARD is not a concern.

Shannon Heggie (MECP) asked regarding the ten samples, if the WPT has a map of their locations, and if the samples were taken from proposed aggregate sources.

Hafeez Baba (SLI) confirmed the samples include potential aggregate areas, representing both soil and bedrock. The sample notation 'WQA' on the figure presented at the meeting indicate it is from a potential aggregate area. The 'WQR' notation means it is from the proposed road corridor. Wilson Liu (SLI) provided an overview of the sampling locations. The sampling locations have not been formally presented in a figure/ map as of yet. Hafeez Baba (SLI) noted the landscape does not have a significant relief. In terms of geology, there is no significant variation in bedrock type and/or quality of esker aggregate materials.

Shannon Heggie (MECP) asked if there are any interpreted bedrock geology map layers the WPT could use to show the location of your bedrock samples. She added having four samples does not seem like a lot, but she appreciates most of this area is wetland (bogs/fens). Hafeez Baba (SLI) noted the WPT has reviewed borehole logs and the esker thickness (east terminus area of road) is shallow, typically 3 to 4 metres in depth. The WPT did not focus on this area as it is far away from proposed road corridor and is not considered suitable for a quarry.

Shannon Heggie (MECP) asked what the approach is for conducting further bedrock related investigations. Craig Wallace (SLI) noted that the quantity of quarried rock needed for the project is not significant being used primarily as scour protection at waterbody crossing structure locations, such as Winisk Lake and Muketei River. The WPT believes the existing data is adequate, as the initial high-level estimate of quarried bedrock required is relatively small in comparison to the aggregate needed for the road base, but exact quantities of rock are not known at this time.

Shannon Heggie (MECP) noted the original plans for the roads, such as those identified by Noront, required overburden and quarries at the future mine site, and acknowledged the Noront did not likely considered the extent to which aggregate could be sourced along the current proposed WSR corridor. Knowing the quantities and volumes is helpful, and suggested that details be elaborated further in the EA/IS.

Hafeez Baba (SLI) added, for the north-south portion of the road, there will be some minor excavation. For the east-west portion, there may be some filling, but no significant fill embankments are required. The quantities needed are small. It is estimated the potential source areas offer four to five times the amount of material that is needed for the WSR. Craig Wallace (SLI) added that all these source areas will be subject to an alternative evaluation, including consultation with communities, that will consider technical, constructability and environmental criteria and indicators to select the preferred source area(s) for use.

Shannon Heggie (MECP) stated the BC Technical Circular from 2013 has been referenced for ARD methodology and asked if these documents will be used as a reference for assessment of rock material at chosen quarries. Hafeez Baba (SLI) confirmed the document will be used.

Jennifer Cole (NRCAN) noticed some confusion in the wording in terms of methodology on page 14 and 15 of the Study Plan. She asked for clarification on the difference between those methodology sections. Hafeez Baba (SLI) stated the WPT would have to check that with their geochemist and provide clarification.

Shannon Heggie (MECP) stated, with the original documents, the BC Technical Circular had been recommended. She also noted a 2009 reference methodology. At this point, she is okay with the BC Technical Circular guideline given the project is a linear road development.

Jennifer Cole (NRCAN) agreed the BC is sufficient for this project. She asked if any sampling is planned. Hafeez Baba (SLI) noted as the project moves forward to the detail design stage and post EA/IA, quantities and areas will be further defined.

Jennifer Cole (NRCAN) noted that a significant quantity of material appears to be needed for the crossing of Winisk lake. When material is use in proximity to such a receptor, more risk evaluation needs to be done. She asked if leachate testing was done on the 10 samples. Wilson Liu (SLI) confirmed the project team completed ARD and metal leaching tests.

Jennifer Cole (NRCAN) stated, on page 16 of the study plan, evaluation of ARD is sufficient. She asked the WPT to describe how they will evaluate metal leaching? Craig Wallace (SLI) stated the WPT has looked at

the potential for metal leaching. He added the WPT will make a commitment to look at leachate tests, including shake flask extraction, and will provide further details in a revised Study Plan.

ACTION ITEMS:

- ECCC to will review the updated Study Plan and provided any further comments on seasonal water quality variations and the 2-Year data collection requirement.
- The WPT will provide to NRCAN and MECP a map of the locations of the aggregate sources, where samples were collected, and bedrock locations.
- The WPT will update the metal leaching evaluation section in Study Plan and resubmit to IAAC and the MECP.
- Hafeez Baba (SLI) will clarify with and SLI geochemist the inconsistencies in the wording describing the methodologies on page 14 and 15 of the Study Plan.
- Craig Wallace (SLI) agreed to follow up with Noront to enquire about any further data from the existing wells along the Muketei River and esker area, and whether Noront is planning to reactivate any monitoring of these wells.

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Meeting Minutes

Project:	Webequie Supply Road	**Project #:**	661910
Called by:	Craig Wallace	**Meeting Date:**	December 15, 2020
Location:	Microsoft Teams Meeting	**Meeting Time:**	10:00 am to 11:00 am
		Duration:	1 Hour
Attendees:	Ian Upjohn, SLI Jenny Vieira, SLI Cameron Bates, SLI Alexandra Oakes, IAAC Shannon Gauthier, MECP Sasha McLeod, MECP Guowang Qiu, MECP		Denise Fell, ECCC Wesley Plant, ECCC Hossein Naghdianei, ECCC Chiara Calabrese, IAAC Dae Young Lee, HC Aurelia Thevenot, HC Umme Akhtar, HC
cc:	Craig Wallace, SLI Michael Fox, ICE	**Page:**	1 of 3
Subject:	**Webequie Supply Road (WSR) Technical Meeting – Air Quality**		

Discussion Summary

Discussion items included:

1. Proposed air quality data sources and how representative they are; and
2. Usable data from the MECP Ring of Fire (RoF) baseline investigations

Jenny Vieira (SLI) reviewed the representative air quality monitoring stations (and available data sets) identified on a preliminary basis for use in the Air Quality assessment and the rationale for selecting them. There are five in Ontario, but none are in Northern Ontario. There are some northern stations in Quebec. The baseline analysis would include evaluation of sources in Webequie, including the airport.

Ian Upjohn (SLI) asked for suggestions and comments on the proposed data sources.

Hossein Naghdianei (ECCC) asked if there is any monitoring data from Webequie airport and stated he would be interested to see the closest data to the site. If there are any monitoring stations 50 or 100 kilometres away, he would be interested to see those data as well. Ian Upjohn (SLI) advised that, to the Project Team's knowledge, the RoF monitoring station southeast of the proposed Noront's Eagle's Nest Mine project (52°42'45.33"N / 86°13'40.92"W), established by MECP in 2015, is the closest monitoring station. Select data from this station for the period 2015 – 2018 was provided to the Webequie Project Team (WPT) by MECP. The question is, is this everything that was monitored in that period. For instance, the data contains $PM_{2.5}$ but not PM_{10}, even though the station was set up with PM_{10} size selective inlets. The data provided by MECP showed that the results were well below Ontario air quality criteria for the metals and $PM_{2.5}$ monitored at the RoF station.

Sasha McLeod (MECP) asked who provided the RoF air quality data. She offered to circle back with them regarding additional data.

Guowang Qiu (MECP) said MECP likely only monitored $PM_{2.5}$ and metals for this station. Regarding the baseline, he said it seems like the WPT Work Plan has a lot of contaminants listed for the assessment, but $PM_{2.5}$ is the only parameter useable from the RoF monitoring station, as the WPT does not appear to be including metals in their modelling. The RoF data do not contain readings of SO_x and NO_x.

Ian Upjohn (SLI) stated other representative stations monitor those contaminants, and those data will be used. This strategy has been used on other Environmental Assessments.

Dae Young Lee (HC) mentioned there are also no PAHs in the RoF data. He asked if the data (not including the MECP data) could be shared with review team. Ian Upjohn (SLI) affirmed. Jenny Vieira (SLI) added, regarding PAHs, that the WPT will find stations that represent a worst case, but these will likely be in urban areas and are unlikely to represent concentrations in the Webequie area.

Alexandra Oakes (IAAC) requested that the WPT provide the air quality data for the reference sites they intend to use, along with descriptions of how they will be used to characterize Webequie conditions.

Hossein Naghdianei (ECCC) asked how the data will be manipulated to represent Webequie conditions. Jenny Vieira (SLI) replied, saying the WPT will generally use the highest concentration among the representative stations in order to avoid underestimating the Webequie current conditions.

Ian Upjohn (SLI) affirmed that the WPT will share the details of their data collection exercise when the material is available.

Jenny Vieira (SLI) said the WPT has not arrived at the stage of pulling out the data, but the WPT has a Google Earth file showing the locations of data, which can be shared at this time.

Guowang Qiu (MECP) brought up some concerns from a human health risk assessment perspective. An MECP toxicologist specialist will get involved in the file and would like to see the most representative baseline air quality data. This has led to MECP's recommendation that an on-site ambient air monitoring program be conducted to collect air quality data for the study area if the monitoring data from the selected existing stations are not deemed representative of the project area. Ian Upjohn (SLI) reiterated the Project Team's concern over the benefits of a new monitoring station in the project area relative to the cost of establishing the infrastructure and the limited impacts on air quality expected from the Project. He inquired as to whether the MECP RoF monitoring station is still operational. Guowang Qiu (MECP) indicated that the station is not operational and suggested contacting the team leader for the MECP investigations. MECP will provide SLI with the contact. Sasha McLeod (MECP) will bring MECP's human toxicologist in for further comment, as required.

There are several assumptions in the analysis with the use of reference/proxy sites. The question is whether the EA will be speaking to the assumptions being made and the level of confidence based on the types of data and methods used. Ian Upjohn (SLI) said, generally, the Environmental Assessment Report/Impact Statement would speak to that. At the federal level, that needs to be done anyway in accordance with the Tailored Impact Statement Guidelines. The WPT will do that to the best of their ability.

Dae Young Lee (HC) said using the worst-case scenario for the baseline may lead to the possibility of underestimation of the project contribution to the incremental effects of certain contaminants. When the WPT shares this information, some rationale would be appreciated as to how these stations are representative of the area.

Jenny Vieira (SLI) said that when the WPT selects these stations, effort will be made to choose those in environments similar to that of Webequie so they would be representative. She would not expect concentrations in similar areas to be high. This approach is appropriate if the stations are indeed representative. Regarding PAHs, without any information from a remote station, the WPT has no choice but to look at a non-remote rural or urban station. The WPT does not want to overestimate baseline conditions.

IAAC, HC and ECCC require further information from the project team to demonstrate how the selected proxy sites and reference data are appropriate representatives for the assessment representative of the project and will meet the requirements of the TISG to determine if the proposed approach is acceptable. It was generally agreed that, pending a review of the proposed representative air quality stations by government reviewers, the reference/proxy approach for the air quality assessment could be acceptable. Guowang Qiu (MECP) mentioned the WPT should consider the possible influences of transboundary air pollution on air quality for existing air monitoring stations as well. Jenny Vieira (SLI) affirmed.

Action Items

- The WPT will provide a summary of the air quality monitoring stations they expect to select, and the information collected from them so far. This will include a map of station locations, what data the stations collect, rationale for the sites they intend to use and how they are representative of the project area. [*Post-meeting note: This information was transmitted to IAAC and MECP on December 22, 2020. On January 11, 2021 Alexandra Oakes (IAAC) followed up with the project team with a request from Health Canada for further information on the December 22, 2020 attachments.*]
- Guowang Qiu (MECP) will provide the MECP EMRB contact information of a party knowledgeable of the status of the RoF air quality monitoring station. Sasha McLeod (MECP) and Shannon Gauthier (MECP) will be copied on these communications. [*Post-meeting note: MECP (Shannon Gauthier) provided the MECP EMRB contact information for Chris Charron on December 16, 2020.*]
- SLI's liaison with MECP's EMRB staff will include inquiring as to whether the RoF air quality monitoring data can be shared with the federal government. [*Post-meeting note: SLI contacted the MECP EMRB (Chris Charron) with information requests, including this query on data sharing, on December 21, 2020.*]
- Sasha McLeod (MECP) will obtain further input from MECP's human toxicologist, as required.
- Previous to this meeting, Health Canada had a comment about particulate matter that has not been resolved. IAAC and HC will follow up on this issue with the WPT.

APPENDIX P2.K.2

Consultation Round 2 – Evaluation of Alternatives, Ontario GRT and Federal Authorities Session Meeting Minutes – November 17, 2023

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WSR
WEBEQUIE
SUPPLY ROAD

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MEETING NOTES

Webequie Supply Road

Consultation Round 2 - Evaluation of Alternatives, Ontario GRT and Federal Authorities Session

SUBJECT	DATE AND TIME	MINUTES BY
Consultation Round 2 - Evaluation of Alternatives, GRT and IAAC Session	17 November 2023 at 10:30 AM	DP

MEETING PLACE	PRESENT	REPRESENTING
Virtual **MEETING NO** 01	HC/SC: Umme Akhtar, Dae Young Lee, Pierre Pelletier FEGC/ WAGE: Eun Seon Bae, Megan Kirby, Brent Lundy MECP: Ganesharam Balagopal, Lilly Floerke, Kevin Green, Sasha McLeod, Dorothy Moszynski, Derek Papineau, Natalie Watts MTO: Alain Beaulieu, Claudette Miscione, Glenn Mitchell, Ataur Rahman, Jasmine Safar, Mike Satten Transport Canada: Linda Beaulieu MNRF: Nancy Berglund, Catherine Dashnay ISC: Nicole Cerpnjak, Aaron Dorland, Doris Odjick, Jan Trisk IAAC/ AEIC: Sita Chinnadurai, Loraine Cox, Chiara Calabrese, Maryse Sciberas, Ely Weisbrot NRC: Christina Clarke, Natalie Robinson ECCC: Robert Clavering, Wendy Dunford, Denise Fell, David Hope, Andrew Labaj, Hossein Naghdianei, Hamsha Pathmanathan, Danielle Radu, Trisha Ralph-Coffey, Rich Russell, Job Stevens, Bethany Thurber, Cory Toth, Russ Weeber Mines: Jason Frechette, Russ Weeber ICE: Heather Swan ESDC: Jason Maurice	Craig Wallace (Project Manager), Ryan Stinson (Senior Environmental Planner), Alicia Dauginis (GIS Specialist), Iris Fawcett (Engineering Lead), Geoffrey Sherman (Wildlife Biologist), Dinithi Panagoda (Environmental Planner)

NEXT MEETING	NA		
DISTRIBUTION	All participants		
DATE ISSUED	12 December 2023	**FILE REF**	WSR240-WEB-PR-SUM-0062 (661910)

NOTE TO RECIPIENTS:
These meeting notes record AtkinsRealis's understanding of the meeting and intended actions arising therefrom. Your agreement that the notes form a true record of the discussion will be assumed unless adverse comments are received in writing within five days of receipt.

MEETING NOTES

MND: Marla Michel
DFO: Carsten Slama
MTCS: Josh Wilson
FEDNOR: Brent Lundy

Purpose of meeting

The purpose of the meeting was for the Project Team to present information about the preliminary evaluation of alternatives and give federal authorities and Ontario Government Review Team (GRT) the opportunity to provide initial feedback on the methodology and preliminary evaluation of alternatives for the Webequie Supply Road (WSR) Project. This session was offered as part of the Consultation Round 2 program (Parts 1 and 2) for the Project with Indigenous communities, stakeholders, and the public, focussing on the evaluation of alternatives considered in the Environmental Assessment/Impact Assessment (EA/IA) for the Project.

A copy of the presentation delivered by the Project Team is attached to the meeting notes.

1. Health and Safety Moment for the project– Iris Fawcett

The meeting started off with an update on a health and safety moment of the project, helicopter incident on October 21, 2023.

2. Project overview was provided – Craig Wallace

A brief summary of the Project, including location, purpose, project components (road and supportive infrastructure – construction camps, aggregate source areas, etc.) and timelines for the EA/IA was provided to participants.

3. Alternatives assessment process – Ryan Stinson

Details of the two types of alternatives considered for alternatives was provided.

- Part 1 focused on “alternatives to” the Project and assessment of alternative routes (alternative methods) for the WSR within the identified 2 km wide corridor.
- Part 2 focused on the evaluation of alternatives for supportive infrastructure, such as aggregate/rock source areas, construction camps, access roads; and road design elements of the proposed WSR.
- The Project Team used a computer software tool (“Pangea”) that is designed to compare alternatives with multiple criteria, different perspectives and mix of qualitative and quantitative data. The Pangea tool was used to analyse data, assign scores for criteria and indicators by converting vectors to rasters and then summing rasters applying equal weighting.
- An overview of the spatial analysis for alternative routes using various indicators and scorings were explained. Low scores indicated less impacts to the biological and physical environments, indigenous land use, technical consideration, and socio-economic aspects, and vice versa.
- Three alternative routes were assessed within a 2 km wide corridor with a multi-factor analysis, and the scores assigned via the tool were presented.
- The preliminary recommended preferred route from the Project Team’s multi-factor analysis is ‘Alternative Route 3’, which has taken into account the results of consultation carried out to date.
- The alternatives considered for supportive infrastructure such as aggregate/rock source areas (pits and quarries), access roads and construction camps with storage/laydown areas for equipment and materials were also presented. In oder for a safe, efficient and effective construction stage, the construction camps (2 in north-south

section and another 2 in west-east section) will be brought into and out of service as the construction moves from West to East. The proposed location for Camp 1A is still being finalized by the Proejct Team in order to minimize impacts and may be shifted west and soulh.

- The recommended alternatives for the supportive infrastructure were also presented with the multi-factor scoring analysis.

4. Question and answer session

A question-and-answer session was held at the end of the meeting to allow for initial feedback from federal authorities and GRT. The Project Team noted that any questions after the meeting are welcome.

- In the weighing and selection amongst the three road route alternatives, given the very nuanced, multi-factor analysis, did the team run into any particular 'showstoppers", such as very ecologically vulnerable areas or any very challenging spots for physical construction, or an Indigenous burial ground and/or sacred site? The three route alternatives, with equal weighting, do seem to generate similar scores but were there notable differences in some criteria.
  - Whenever the team identified areas that had hot red heat areas (high sensitivity) which had high scores this was reviewed at the factor and then indicator level more closely. Where identified as a red flag, like an absolute no-go zone, these were avoided in the alternatives' selection. So, in general showstoppers were not represented in the team's scores because they were identified early in process and part of general avoidance and mitigation strategy.
- Does the team anticipate that everything will be equally weighted, or will the final weightings change depending on feedback from Webequie or from others through consultation?
  - As of today the Project Team has for the most part completed Consultation Round 2 with all indigenous communties, with the exception of Long Lake #58 First Nation that is sceduled for late November. To date, the Project Team has not heard any feedback regarding weighting preferences for factors, criteria or indicators, and is moving forward under an equal weighting scenario. The Project Team have experimented with the weighting system on a limited basis and based on the spatial similarities of the route alternatives within the project area (landscape) there are no significant differences in the outcomes under the individual factors and/or overall conclusions.
- Could the team explain the Pangea tool, whether it has been used in other EAs, whether its new or proprietary to AtkinsRéalis, or whether it is an industry standard?
  - The Pangea tool is proprietary to AtkinsRéalis and has been used primarily by AtkinsRéalis in the UK for routing analysis associated with several linear infastrucure projects (rail, roads). It is the Project Team's understanding that other firms such as WSP have similar types of tools that essentially function to do the same thing as Pangea. Although the spatial analysis can be done manually, the Pangea tool automates that process and allows one to rerun the analysis following any manipulation of weighting and scoring and as such is an effective tool that can save time.
- Did the Project Team use all of the same criteria and indicators when assessing all of the alternatives, including the alternatives for supporting infrastructure?
  - Yes, all the same criteria and indicators were used for both the evaluation of routing alternatives and supportive infrastructure and will be further presented in the Environmental Assessment Report/Impact Statement (EAR/IS).
- Webequie and Marten Falls First Nations were mentioned as contributors of IK. Are there other Indigenous communities that indicated IK / uses in the area?
  - The team has been reaching out to the 22 communities on sharing IK and Land and Resource Use (IKLRU) information since December 2021. Currently, the Project Team has IKLRU from Webequie and Weenusk First Nations. IKLRU from Marten Falls First Nation is expected in December and Fort Albany First Nation has expresed interest in sharing IKLRU information. The Project Team anticipate that during the circulation of the

pre-draft EAR/IS for Indigenous review, some further communities may offfer IKLRU information. At this stage, all IKLRU data received has been integrated into the evaluation of alternatives.

- To what extent are construction risks looked into? Is it considered in alternative analysis such as safety factors?
  - The analysis has factored in constructability but its more a focus on design challenges and constructability of developing the road. The team has not looked into the detailed health and safety risks, but for example construction camps include helicopter pads and communication systems to airlift worker and respond to emgegency events. The aspects of risk wil be explored further with the ultmate construction contractor in the context of their Health and Safety Plan and execution of the construction work.
- When assessing alternatives on aggregate resources whether it was only technical considerations taken or if impacts to availability of upland habitat, wildlife and such were also considered?
  - For aggregate resources analysis, firstly the team identified the locations of sources. The Project Team followed the same process for consideration of factors and indicators when analyzing the best alternative site for supportive infrastructure, so the biological environment, physical environment, indigenous land use, technical consideration and socio-economic aspects were all assessed with the Pangea tool to compare alternative site locations.

5. Meeting conclusion – Ryan Stinson

Due to time restrictions, the meeting was concluded, and each representation was thanked. The Project Team reminded the participants of the opportunity to provide any further questions or clarifications to Craig Wallace

APPENDIX P2.K.3

Comment and Response Tables from MECP and IAAC Review of Study Plans and Draft Baseline Studies

AtkinsRéalis

WSR
WEBEQUIE
SUPPLY ROAD

WEBEQUIE FIRST NATION

Comments from the Impact Assessment Agency of Canada (the Agency) on Webequie Supply Road Draft Acoustic Environment Study Plan – June 5, 2020

#	Study Plan Section	Tailored Impact Statement Guidelines Section[1]	Context	Required Action for Proponent
General Comment	**General Comment**	**Sections 5, 6, 7, 13, 19.2 and 25**	In addition to the required actions detailed below, other required actions to be addressed in the update to this study plan are detailed in a separate table titled "2020-05-14 – IAAC to WSR - General Comments on WSR Draft Study Plans". The Agency has provided these other required actions to highlight common sections of the TISG where requirements were not met in the draft study plans submitted to the Agency. These additional actions must be addressed in the updated study plans.	
General Comment	**Section 1** **"**More specifically, the assessment will address the requirements in Sections 8.1, 14.1, 20, 21, 22 and 26 of the TISG. Information from the assessment report(s), as well as information provided via memos, will be used by other disciplines to address, in part, Sections 9 and 16.1 (human heath); Section 15.3 and 20 (wildlife); and Sections 12.4, 17.2, and 19.1 (effects to Indigenous peoples)…"	**Sections 9, 12.2, 12.4, 14.1, 15.2, 15.3, 15.4, 16.1, 17.2, 19.1 and 20**	The study plan acknowledges that the TISG includes requirements related to the acoustic environment beyond those found in Section 8.1 and 14.1. Changes to the acoustic environment could have effects on environmental, social, health and economic valued components, as well as effects to Indigenous peoples current use of lands and resources for traditional purposes and conditions related to the impacts on rights of Indigenous peoples. Whether in the acoustic environment study plan or in other topic specific study plans, there must be a demonstration of the approach to meet all TISG requirements, including those related to effects on community well-being from changes to soundscapes, and impacts of noise on the experience of a practice or the exercise of rights.	
General Comment	**General Comment**	**Section 25**	The study plan must reflect an approach to meet the sustainability principles in Section 25 of the TISG. The Impact Statement must characterize the Project's contribution to sustainability. The Impact Statement should describe the context of the particular project, including the issues of importance to participants, the diversity of views expressed and the selection of valued components.	Provide detail on the approach to meeting the requirements of Section 25 of the TISG regarding the description of the Project's contribution to sustainability.
AC-01	**Section 2.1.2 Identification of Noise Sensitive Areas** "SLR will work with the Webequie First Nation and the socio-economic discipline staff for the Project to identify noise sensitive areas ("NSAs"), which are points of reception where noise impacts will be predicted. In order to meet the TISG requirements, the NSAs considered will include the following: • Permanent residences, including homes within the Webequie community; • Seasonal residences, such as trapper cabins or hunting and fishing campsites, which are used by members of the Webequie First Nation;	**Section 5** **"**The Agency expects the proponent to engage with, at a minimum, the members of the public listed in the *Public Partnership Plan."* "The proponent must engage with the public and provide timely notification of proposed engagement activities to seek community knowledge and views on: baseline conditions; valued components and indicators, taking into consideration the requirements under Section 25 of [the TISG]; effects assessment and the assessment of the Project's contribution to sustainability; mitigation and follow-up measures; and conclusions."	In Section 2.1.2, Webequie First Nation (WFN) appears to be the only Indigenous community that will be engaged to identify noise sensitive areas (NSA). It remains unclear whether other Indigenous groups and stakeholders, as required in Sections 5, 6 and 14.1 of the TISG, that may have views on how project-associated activities may impact receptors would be engaged. It is unclear how the selected NSAs would be representative of other noise sensitive receptors, including receptors identified by Indigenous group and the public.The NSAs should also consider non-human receptor locations that may be important to humans (for instance country food flora and fauna). Additionally, the selected NSAs do not specify whether they capture locations with representative	Provide detail to demonstrate how Indigenous groups and the public have been or will be engaged as is required in Sections 5, 6 and 14.1 of the TISG. Provide detail to demonstrate how Indigenous groups, beyond Webequie First Nation, and the public that may have views would be engaged in the selection of receptors and receptor locations. Provide detail to demonstrate how noise sensitive receptors, as defined in Section 8.1 of the TISG, will be documented, evaluated and mapped with details to demonstrate that they represent worst-case locations for noise exposure from project activities. Provide a clear description of how Indigenous groups will have opportunities to provide Indigenous

[1] Refer to complete sections of TISG for more context

#	Study Plan Section	Tailored Impact Statement Guidelines Section[1]	Context	Required Action for Proponent
	• Spiritual or sacred spaces which members of the Webequie First Nation may identify as requiring quiet or being sensitive to disruptions from noise; and, • The mine exploration camp at the McFaulds Lake area operated by Noront Resources."	**Section 6** "…The Agency requires the proponent to engage with, at a minimum, the communities listed in the Indigenous Engagement and Partnership Plan…." "…the proponent must provide Indigenous groups with an opportunity to: provide Indigenous knowledge during baseline data collection; comment on the list of valued components and indicators; inform the effects assessment and review its conclusions; and inform the development of mitigation measures and follow-up programs **Section 8.1** "Provide the approximate number, distance and identity factors of likely human receptors, including any foreseeable future receptors, that may be impacted by changes in air, water, country food quality (e.g., dust deposition on vegetation), and noise levels. At minimum, provide a map showing approximate locations of permanent residences, temporary land uses (e.g., cabins and traditional sites) and known locations of sensitive human receptors (e.g., schools, hospitals, community centres, retirement complexes or assisted care homes)." **Section 14.1** "Describe consultation with regulators, stakeholders, community groups, landowners and Indigenous groups about potential effects to the atmospheric, acoustic, and visual environment;"	noise sensitive receptors defined in the TISG Section 8.1, such as schools, hospitals, community centres, retirement complexes or assisted care homes. Although these have been referenced in the concordance table, they should also be reflected in the study plan. The locations of all noise sensitive receptors should be mapped along with the project components (as per TISG Section 3.1) and overlain with the predicted noise contours in order to better evaluate the potential for adverse effects related to noise. The locations of the selected NSAs should be justified that they represent reasonable worst-case locations for noise exposure from project activities.	knowledge, including the validation of how information they provided was applied, managed and stored to safeguard confidentiality. Provide detail on how engagement with Indigenous groups and the public will inform the effects assessment, as well as the selection of mitigation measures and follow-up program measures.
AC-02	**2.1. Baseline Information Collection** "A one-week site visit to the Webequie First Nation community, including field work to measure existing ambient background	**Section 8.1.** "Provide current ambient noise levels at key receptor points to traditional land users and sensitive human receptors,	The study plan refers to ambient background noise level measurements, but does not refer to the collection of community feedback on existing noise perception. The TISG recommends that the proponent consider a baseline ambient noise	Provide details to demonstrate how the questions provided in Section 8.1 of the TISG were (or will be) considered when conducting baseline ambient noise surveys with community members.

#	Study Plan Section	Tailored Impact Statement Guidelines Section[1]	Context	Required Action for Proponent
	noise levels, will be completed in the fall of Year 3 of the Project." **2.1.3. Establish Background Ambient Sound Levels** "Existing background ambient sound levels at representative NSAs within the Webequie First Nation community and along the proposed WSR route will be determined through ambient noise level measurements."	including the results of a baseline ambient noise survey and permissible sound levels for each receptor. ….When collecting baseline ambient noise survey data at human receptor locations, consider the following recommended questions: Does the community or land users value certain non-anthropogenic (i.e., natural) sounds? Is there an expectation of quiet at any specific locations or times? What are typical sleep hours (10pm to 7am being the default assumption)? What is the baseline prevalence of noise annoyance toward existing noise sources (e.g., road traffic, aircraft, and other industrial sounds)?"	survey, and provides examples of recommended questions for gathering community feedback as part of a baseline noise study. Additionally, the study plan does not specify whether the noise disturbances at particular locations will last longer than one year and if the linked change in community annoyance, calculated as percent highly annoyed (%HA), will be evaluated as per Health Canada's guidance (2017). The change in %HA is a reliable and widely acceptable indicator of noise-induced human health effects for receptors exposed to long-term project noise (i.e., more than one year). For periods less than 1 year, refer to Table 6.2 of Health Canada's guidance (2017)[2].	Provide detail on how annoyance with project-related noise will be evaluated, as per Health Canada's guidance (2017).
AC-03	**Section 2.1.3. Establish Background Ambient Sound Levels** "The ambient noise measurements will be conducted in accordance with the requirements of the following guidelines… …Measurements will be conducted with the Larson-Davis NMS044 Outdoor Noise Monitoring System, which incorporates LD831 Sound Level Meters equipped with portable power supplies and environmental protection kits (refer to Figure 2.1). These are Type 1 sound level meters, capable of recording Leq levels and various Lmax, Lmin, and Ln values… …The parameters that will be captured and presented in accordance with TISG requirements will include the following… This will provide the distribution of baseline noise levels at night. The raw measurement data will be subject to an exclusion analysis, which will flag and remove from the data set:	**Section 7** "If surrogate data from reference sites are used rather than site – specific surveys, the proponent should demonstrate that the data are representative of the project site conditions" **Section 9** "Guidance for developing the appropriate baseline information relevant to human health is identified in Appendix 1. The proponent should refer to Health Canada guidance documents such that best practices are followed in the collection of baseline information to assess real and perceived project-related impacts to human health due to changes in air quality, noise, drinking and recreational water quality, country foods and/or multiple pathways of exposure to contaminants. The proponent should provide a detailed rationale/explanation for any deviation from recommended baseline characterization approaches and methods, including from Health Canada's guidance,	The study plan describes a series of methodological approaches. Health Canada's guidance (2017) on the collection and processing of baseline sound-level data to minimize uncertainty in the validity of measured baseline is not identified among the technical guidance documents consulted for the baseline measurement or data processing in the study plan. It is unclear whether data processing will consider any adjustments, as per Health Canada guidance (2017). Due to the expected heightened sensitivity to noise in remote communities, baseline levels measured in quiet rural areas should be adjusted by adding 10 dB. This 10 dB adjustment also applies to the predicted project noise levels for all phases of the project (i.e. construction, operation and decommissioning) in determining the percent highly annoyed (%HA) indicator. The study plan does not provide detail on how data from the Eagle's Nest Mine EA is representative of project baseline conditions. Health Canada provides the following technical guidance for noise monitoring (baseline,	Provide detail to demonstrate how the proposed baseline study methods/approaches (i.e. noise measurement guidelines, noise monitoring system, acoustic parameters, and data processing approach) align with Section 6.2.1 of Health Canada's guidance (2017), as per Section 9 of the TISG. Provide detail to demonstrate that all applicable sound level adjustments (e.g. a +10 dB adjustment for "quiet rural areas" as per Health Canada's guidance (2017) and ISO (1996-2016)[3]) will be applied in the assessment. Identify the appropriate sound level adjustments that apply to the assessment and provide detail on why they were selected as the appropriate adjustments for the assessment. Provide details to demonstrate that the data from the noise surveys conducted at the Eagles Nest Mine are representative of the project site conditions for the Webequie Supply Road (WSR) and will be relevant in spatial and temporal coverage to the project. Provide detail to demonstrate that noise monitoring is conducted during conditions that are representative of

[2] Health Canada. 2017. Evaluating Human Health Impacts in Environmental Assessments: Noise. Available at: https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html.

[3] International Organization for Standardization (ISO). 2016. ISO 1996-1:2016 Acoustics – Description, measurement and assessment of environmental noise – Part 1: Basic quantities and assessment procedures. Available: https://www.iso.org/standard/59765.html

#	Study Plan Section	Tailored Impact Statement Guidelines Section[1]	Context	Required Action for Proponent
	Ø Periods with adverse, extreme weather conditions (e.g., wind speeds greater than 15 km/h; humidity greater than 90%; periods of fog and precipitation); Ø Periods with extraneous noise sources (lawn mowers, music, car horns, dogs barking, etc.); and Ø Periods with noise from airport/airstrip activity (aircraft take-offs and landings; audible noise from Airport ground activity). The refined measurement data will then be processed to determine typical sound levels. The following levels will be determined… …Measurement results will be supplemented using ambient background measurement data from the noise surveys conducted by Noront for the Eagle's Nest Mine EA. Although somewhat dated, this appears to be the most recent data for parts of the project area."	or when determining such characterization is not warranted."	construction and operational noise levels): - Atmospheric conditions should be representative of the monitoring locations and monitoring time period(s). - Atmospheric conditions can be based on measurements from the nearest weather station or the use of a portable meteorological (MET) station at the monitoring location. - Given the northern location of the proposed project, consideration of temperature effect is especially important as sound level meters may not function to their specifications under extremely low temperatures (below -10˚C, unless provision is made to keep the equipment warm). - Noise should not be measured during precipitation events and when wind speeds exceed 14 km/hr. - For the measurement of A-weighted sound levels, the sound level meter should be located in an open area with limited vegetation and situated as close to the ground as possible with an appropriate windscreen, because all of these factors influence sound and can lead to inaccuracies in the measurements (other considerations may apply for dBC levels). - Pre- and post-monitoring calibration is essential to ensure proper functioning of equipment. - All sounds of nature should be removed from the baseline noise measurements (i.e., using the audio function in the sound level meter).	maximum noise propagation at the receptor locations as per Health Canada's technical guidance (2017).
AC-04	**Section 2.1.3. Establish Background Ambient Sound Levels** "Existing background ambient sound levels at representative NSAs within the Webequie First Nation community and along the proposed WSR route will be determined through ambient noise level measurements. For this project, a minimum of two receptor locations will be selected (refer to Figure 2.1): - One, within the community, at the western terminus of the proposed WSR route; and -One, at a distance of a few kilometres along the proposed route (away from the community), which will be used as representative of conditions along the route.	**Section 8.1.** "Provide current ambient noise levels at key receptor points to traditional land users and sensitive human receptors (…). Information on typical sound sources (both natural and anthropogenic), geographic extent and temporal variations will be included."	It is assumed that the two monitoring locations defined in Section 2.1.3 of the study plan represent residential receptor and traditional land use receptor locations. It is unclear how the study plan will account for temporal variation. Section 2.1.2 of the study plan provides a list of Noise Sensitive Areas (NSAs) that will be considered, however Section 2.1.3 of the study plan suggests that there are only two locations where baseline data will be collected. It is unclear if only two key receptors have been identified or if more key receptors will be studied as they are identified.	Provide detail to demonstrate how the proposed monitoring locations are representative of baseline conditions at all sensitive receptor locations as required in Section 8.1 of the TISG. Provide detail regarding the timing of monitoring and how temporal variability will be considered (e.g., seasonal variation in levels and types of community activity) as per Section 8.1 of the TISG. Provide details to demonstrate that current ambient noise levels at all key receptor points will be included in the Impact Statement.

#	Study Plan Section	Tailored Impact Statement Guidelines Section[1]	Context	Required Action for Proponent
	The measurements at each location will be conducted for a minimum period of 48 hrs. Additional measurements at other locations could be conducted, as time permits. Site conditions and access constraints will dictate the extent of deployment of the monitors, particularly in the bush areas outside the community."			
AC-05	**2.2.1 Operational Noise** <u>Noise Input to Wildlife Discipline</u> "Many areas of the Project will not be located near NSAs, but WSR noise in these areas may still affect wildlife. SLR will provide a chart to wildlife discipline staff of typical noise levels versus distance from the roadway. This can be used by wildlife discipline staff in their work to determine areas and species that may be adversely affected by noise." **2.2.2 Construction Noise and Vibration** <u>Noise Input to Wildlife Discipline</u> "In addition to the above, a chart of typical noise levels for various construction activities at various distances from the roadway will be provided to wildlife discipline staff. This can be used by wildlife discipline staff in their work to determine areas and species that may be adversely affected by noise."	**Section 20** "Demonstrate that avoidance and minimization measures will be applied for boreal caribou and its critical habitat: mitigate noise, light, smell, and vibration…"	It is unclear if the noise level inputs provided to the Wildlife Discipline staff will be used to develop effective avoidance and mitigation measures in addition to determining the areas and species adversely affected by noise, especially in regards to caribou, as per the TISG requirements in Section 20. This should be included in the mitigation section of work plans related to those areas and species.	Provide details to demonstrate how noise level inputs will be used to develop avoidance and mitigation measures for areas and species determined to be adversely affected by noise, in particular for caribou.
AC-06	**Section 2.2.1** "WSR traffic near the identified NSA's will be modelled as a "moving point source" type of sound. "Future Build" sound levels (i.e., with the WSR in operation) will be predicted at the NSAs. The following levels will be determined: Overall sound levels during the daytime (7 a.m. to 11 p.m.) and night-time (11 p.m. to 7 a.m.) periods; and Overall "day-night" sound levels over the entire day (Ldn values).	**Section 14.1.** "…describe changes in ambient vibration and other sound levels resulting from the Project at potential receptor locations, including changes to the perception of non-anthropogenic sounds; • quantify sound levels at appropriate distances from any Project facility and/or activities and describe for each contributing source the timing (e.g., hours of night-time activities), number and duration of noise events and their sound	To properly assess the project-associated impacts on sleep disturbance, the nature, duration and distribution of noise events throughout the night (baseline and during construction and operation) should be described based on the time when these events are likely to occur, as per Health Canada's guidance (2017). To ensure that the study outputs can be used to adequately meet the TISG requirements for assessment of noise impacts on biophysical health (TISG, Section 14.1) and soundscape (Section 17.2), the proponent may refer to the guidance referenced in the TISG,	Provide detail to demonstrate that the results of the studies will be adequate for assessing potential health impacts associated with project noise, such as sleep disturbance, hearing loss, interference with speech comprehension, community annoyance (measured in %HA), as per TISG Section 14.1, community well-being, as per TISG Section 17.2, and Section 5 of Health Canada's guidance (2017).

#	Study Plan Section	Tailored Impact Statement Guidelines Section[1]	Context	Required Action for Proponent
	These will be compared to the "No-build" background ambient sound levels previously determined, as well as against the corresponding applicable and/or relevant noise guidelines and presented graphically using noise contours, as shown in the example in Figure 2.2." "SLR will provide tables and figures of existing and future sound levels at NSAs to human health and socio-economic impact discipline staff for use in their assessment. Overall cumulative noise levels (Ambient + WRS road + WYP Airport) noise levels will also be provided." **2.2.2. Construction Noise and Vibration** "Construction noise is temporary in nature, and largely unavoidable. For this project, construction activities will most often be located at distances far from noise sensitive areas. Construction activities of most concern will most likely include blasting of rock; aggregate extraction, including crushing/screening; hauling and stockpiling operations; placement and grading of gravel; and construction of waterbody crossings…"	characteristics, including frequency spectrum; • provide the hourly distribution of baseline noise events at night in comparison to predicted individual noise events at night at each receptor location; • describe the locations and characteristics of the most sensitive receptors including species at risk and differential effects for sensitive receptors; • identify and justify the approach to determine the extent to which sound effects resulting from the Project are adverse …". **17.2. Land and resource use and recreation** "• Describe effects to community well-being due to changes to viewscapes and soundscapes resulting from the Project."	including Health Canada's guidance (2017).	
AC-07	**Section 2.2.2 Construction Noise and Vibration** "Preliminary construction plans will be reviewed to identify locations where significant amounts of construction activity will be located for extended periods of time. Such areas include the waterbody crossings, aggregate extraction areas, stockpiling areas and access roads to these areas. Where such areas are located near an NSA, the anticipated sound levels from the activity will be predicted."	**Section 14.1** "Describe changes in ambient vibration and other sound levels resulting from the Project at potential receptor locations, including changes to the perception of non-anthropogenic sounds." **Section 13.1** "The Impact Statement must describe in detail the project's potential adverse and positive effects in relation to each phase of the Project (construction, operation, maintenance, suspension, decommissioning, and abandonment)."	Section 14.1 of the TISG requires a description of changes in ambient vibration and other sound levels resulting from the project at potential receptor locations. Section 2.2.2 of the study plan states that sounds levels at NSAs will only be predicted for areas with "significant amounts of construction over extended periods of time". Effects related to construction must be included in the Impact Statement, as per Section 13.1 of the TISG.	Provide detail to demonstrate how the change in ambient vibration and other sound levels from the Project at potential receptor locations, including changes to the perception of non-anthropogenic sounds, during each phase of the Project (construction, operation, maintenance, suspension, decommissioning, and abandonment) has been taken into account.

#	Study Plan Section	Tailored Impact Statement Guidelines Section[1]	Context	Required Action for Proponent
	Concordance table "We believe that an assessment of current baseline underwater "soundscape" and vibration levels are not required. There are no significant sources of underwater noise or vibration associated with the Operations phase of the Project (i.e., the roadway in use). Underwater noise and vibration may occur during the Construction phase, from some activities at water crossings. These activities are temporary in nature. The potential effects on aquatic life will be controlled/ minimized through the development and use of a Construction Code of Practice (refer to Page 9 of the Acoustics Environment Work Plan), which will require adherence to relevant standards, such as the Department of Fisheries and Oceans G*uidelines For The Use Of Explosives In Canadian Fisheries Waters*."	**Section 8.1** "For the aquatic environment, provide current underwater soundscape and vibration descriptions of the study area and at the project site from various sources based on acoustic measurements. Provide information on vibration and sound sources, geographic extent and spatial and temporal variations within the water column." **Section 13.1** "The Impact Statement must describe in detail the project's potential adverse and positive effects in relation to each phase of the Project (construction, operation, maintenance, suspension, decommissioning, and abandonment)."	It is unclear what activities the concordance table is referring to that are "temporary in nature". The following is noted in the study plan: "adherence to relevant standards, such as the Department of Fisheries and Oceans *Guidelines For The Use Of Explosives In Canadian Fisheries Waters*". Detail is needed to understand what construction activities will fall under this guideline and how the proponent will avoid or minimize harm to aquatic life. It is not clear how the requirement in Section 8.1 to provide a description of the current underwater soundscape and vibrations will be met. The Impact Statement must consider all phases of the Project (including construction) as required in Section 13.1 of the TISG.	Provide a description of what activities may cause vibration and sound sources and when they may occur, including activities that are temporary. Provide details regarding activities that will fall under the *Guidelines For The Use Of Explosives In Canadian Fisheries Waters*[4]. Provide details to demonstrate how the underwater soundscape and vibration levels will be described, as per the requirement in Section 8.1.
AC-08	**Concordance Table** "In order to meet the TISG requirements, the NSAs, considered will include the following… … As part of the Environmental Protection Plan framework to be developed during the Impact Statement phase, a Construction Code of Practice will be developed, which should be followed by the contractor to reduce the potential for construction noise and vibration impacts. The Code of Practice will outline: Applicable noise emission limits for equipment; Applicable noise and vibration guidelines for blasting, including impacts on fisheries; Considerations for operating times; Considerations for equipment selection and maintenance; and Complaints procedures."	**Section 14.1** "Consider the expectation of peace and quiet at receptors (e.g., in a quiet rural area or during Indigenous land use) and the applicable community-based policies concerning noise (e.g., complaints resolution processes)."	It is unclear if the requirement in Section 14.1 of the TISG, in relation to expectation of peace and quiet at receptors and applicable community-based policies concerning noise, has been considered in the study plan.	Provide detail to demonstrate how the expectation of peace and quiet at receptors and community-based policies concerning noise will be considered in the development of the "code of practice" described in the study plan.

[4] http://publications.gc.ca/pub?id=9.557379&sl=0

Comment Response Tables for IAAC Technical Review

Comment #	Study Plan Section	Tailored Impact Statement Guidelines Section	Context	Required Action for Proponent	Response
General Comment	**General Comment**	**Sections 5, 6, 7, 13, 19.2 and 25**	In addition to the required actions detailed below, other required actions to be addressed in the update to this study plan are detailed in a separate table titled "2020-05-14 – IAAC to WSR - General Comments on WSR Draft Study Plans". The Agency has provided these other required actions to highlight common sections of the TISG where requirements were not met in the draft study plans submitted to the Agency. These additional actions must be addressed in the updated study plans.		Has been addressed throughout the revised document where applicable.
General Comment	**General Comment**	**Section 25**	The study plan must reflect an approach to meet the sustainability principles in Section 25 of the TISG. The Impact Statement must characterize the Project's contribution to sustainability. The Impact Statement should describe the context of the particular project, including the issues of importance to participants, the diversity of views expressed and the selection of valued components.	Provide detail on the approach to meeting the requirements of Section 25 of the TISG regarding the description of the Project's contribution to sustainability.	The approach to sustainability will form part of the Net Effects and Cumulative Effects analysis in the EAR/IS Report. All relevant discipline specific inputs will be brought forward to form part of that analysis. A description of the project contribution to sustainability has be included in Section 6.
MG-01	**Section 1. Introduction** "For the purpose of this workplan, the avian Project Study Area (PSA) consists of lands within 1 km of the proposed preferred corridor and the avian Local Study Area (LSA) consists of lands within 2.5 km of the proposed preferred corridor" **Section 2.3. Effects Assessment and Mitigation** "The main components of the bird and bird habitat assessment are as follows:… Establish Project boundaries and study areas (i.e., Project footprint and local study areas) during the construction and operation phases;" **Concordance Table** "The proponent will establish spatial boundaries for PSA, LSA and RSA to use across the project in all disciplines"	**Section 7.4.1** "Provide a rationale for boundaries of the project study area, local study area, and regional study area for each valued component and indicate how the above objectives were met in establishing the boundaries. For valued components establish three study area spatial boundaries to assess impacts to each valued component: 1) Project Study Area: defined as the project footprint for each alternative route; 2) Local Study Area: defined for each valued component – see below; 3) Regional Study Area: defined for each valued component – see below…." **Section 8.9** "Design suggestions for Project Study Area and Local Study Area scales: Use a standardized design approach during survey planning. The resulting design details will serve as the basis to develop alternative designs, evaluate options for particular design details, and to identify potential efficiencies. The approaches and tools suggested elsewhere in this document (e.g., land cover analysis, data simulations) should be considered during the planning phase." **Section 13.1** "The spatial scoping of the assessment will vary depending on the valued component and should be consistent with the spatial boundaries that were established for baseline data collection."	The study plan requires justification for the extent of the PSA and LSA for each identified valued component (VC). The Regional Study Area (RSA) for each VC should also be described within the study plan, as well as the planned surveys in the RSA. Project boundaries are specified throughout the document but in Section 2.3 of the study plan it is suggested that project boundaries will be determined during construction. Project boundaries and study areas should be established prior to construction and operation and can be modified as the project design changes. See Sections 7.1 and 13.1 of the TISG.	Provide justification for the extent of the PSA and LSA for each VC. Provide the RSA for each VC, with justification, within the study plan, as well as the planned surveys in the RSA, to meet the requirements of section 7.4.1 of the TISG Clarify why the approach to boundaries referenced in Section 2.3 differs from elsewhere in the study plan.	The extent of the PF, LSA, and PSA was determined through analysis of habitat availability (e.g., % of each VC in RSA vs LSA). If a less than 3% variation is observed between habitat types, the extent of expansion of the from the LSA to RSA will be considered an adequate extent for the study purposes. General standardized spatial boundaries for the PF, LSA and RSA have been developed for use across all project disciplines. When required by data review and/or field findings these boundaries for Specific VC's may be altered to adequately capture the extent of the specific VC habitat/area of influence to provide comprehensive effects analysis. Description of process has been added to Section 1.
MG-02	**Section 2.1** "Previously conducted environmental studies, including Indigenous	**Section 6** "…the proponent must provide Indigenous groups with an opportunity to: provide Indigenous knowledge during baseline data collection…"	The study plan must provide further detail on how Indigenous groups have been, and will continue to be, engaged in the development of the Impact Statement. Detail is required on how Indigenous knowledge has been, and will continue to be,	Provide a clear description in the study plans of how Indigenous groups will have opportunities to provide Indigenous knowledge, including the validation of how information they provided was applied. The study plan should include a	Engagement and consultation with Indigenous groups, including collection and management of Indigenous Knowledge is described in Section 5, with program specific Indigenous contributions added throughout where relevant. Details specific to the Migratory/Breeding bird field program

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	Knowledge information obtained through consultation with Indigenous communities, will be reviewed and dated information updated as required;"	**Section 7.1** "In describing the biophysical environment, the Impact Statement must take an ecosystem approach that considers how the Project may effect the structure and functioning of biotic and abiotic components with the ecosystem using scientific, community and Indigenous knowledge regarding ecosystem health and integrity, as applicable."	included in the planned studies.	description of the proposed methods for data collection, management of confidentiality, and information storage. This should also include a methodology for tracking information that has been approved by the group, to demonstrate that the guidance outlined in Section 6.2 of the TISG has been incorporated into the study plans. Describe what engagement with Indigenous groups has been done in the development of the study plans, and/or any planned engagement with Indigenous groups on the study plan, particularly in relation to those Indigenous groups that would need or wish to provide Indigenous knowledge.	and effects analysis has been provided in section 3.3 of the Work Plan and in relevant section when required.
MG-03	**Section 2.1 Methodology** "The primary purpose of the avian field program will be to describe biodiversity of bird species and their habitats that are found or are likely to be found in the project area, including identification of Bird Conservation Regions and Bird Conservation Region strategies. Data collected through field studies will be sufficient to fulfill the following basic requirements and objectives outlined in the TISG issued by IAAC:...."	**Section 8.9** "**…**At minimum, the combined information from existing data and field surveys will be detailed enough to describe the distribution and abundance of all bird species in relation to the defined study areas (i.e., Project Study Area (PSA)/footprint (extends 500m from the boundary of the road corridor (ROW)), Local Study Area (LSA)(extends 1km from the boundary of the PSA) and Regional Study Area (RSA) (extends 5km from the boundary of the LSA))… …Collect bird data to adequately represent the following temporal sources of variation: among years; within and among seasons (e.g., spring migration, breeding, fall migration, overwintering); and within the 24 hour daily cycle… Collect explanatory (i.e., covariate) data necessary for modeling in such a way as to adequately represent the following spatial and temporal sources of variation: spatial variation in: land cover composition; soil type, geomorphology; hydrological processes and climatic conditions; temporal, especially annual, variation in local weather inter- and intra-annual climatic variability…"	It is unclear whether there will be sufficient data to describe the distribution and abundance of all bird species found within the PSA, LSA and RSA, and to detect any differences in abundance or distribution between the three study areas. It is unclear whether the collected data will represent temporal sources of variation. Collecting two years of data at some sites will show a measure of variation, but it is unclear whether the collected data would adequately represent the variation that exists within the three study areas.	Include documentation that shows the plan has sufficient sample size and data collected in a standardized manner to describe the distribution and abundance of all bird species found within the PSA, LSA and RSA, and to detect any differences in abundance or distribution between the three study areas. Demonstrate that the collected data will be adequate to represent temporal sources of variation, and to represent the variation that exists within the three study areas.	Sampling is on-going in 2020. Sample locations have been selected to ensue adequate representation of the PSA, LSA and RSA with the goal of determining the any potential variation between the study areas as well as the variation between discrete habitats found therein. Given the need for focused sampling of the lands proximal the selected conceptual routes, within the preliminary corridor a focused approach was used in 2019 to ensure the capture of data along the selected conceptual routes, and known rare habitat types, to support the effects assessment. For example, an increased sampling effort was applied to upland habitat since only 6. 284% of the LSA is considered upland forest type, of which 0.334% id deciduous, 0.51 % mixed, and 5.44% conifer. The site selection process was done by reviewing existing aerial/lidar and satellite imagery, the results from on-going vegetation/habitat classification, along with other background information, and FN/public consultation. These sources were then used to establish locations for survey sites based on the professional opinion of EA biologists to ensure a stratified sampling of all habitat types with adequate distribution across the LSA and RSA, while guaranteeing a suitable number of sample locations within known rare habitat types and areas potentially directly impacted by Project activities, prior to execution of the field program. Additional sampling across the RSA has been proposed in 2020 to augment data collection with in the RSA. Species area curves will also be used to make a final determination of whether sampling has been effective in capturing all potential species present. Description of site selection process has been added in **Section 2.1.2**. Bird specific surveys have been designed to capture spring migration, breeding, and fall migration periods. ARU deployment will serve to capture the 24hr cycle since the remote nature of the sites and helicopter access/landing issues make evening and nighttime surveys unsafe for field staff. Bird species data will also be captured during all other biological field programs. Overwintering data will be collected during winter mammal surveys.
MG-04	**Section 2.1 Methodology** › Collect data in a manner that enables reliable	**Section 8.9** "**…**Collect data in a manner that enables reliable extrapolations in space (i.e., at minimum to PSA, LSA and RSA) and in	The study plan does not list all covariates collected or those that will be collected, and how the bird data will be modelled to meet the criteria given in Section 8.9 of the TISG. It is unclear whether the	Include a list of all covariates collected, or those that will be collected, and how the bird data will be modelled to meet the requirements in Section 8.9 of the TISG. Include a detailed plan	Species distribution models (SDMs), will be developed to provide quantitative descriptions of species' distributions within the Project study areas based on associations between observational data and environmental predictors.

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	extrapolations in space (i.e., at minimum to PSA, LSA and RSA) and in time (i.e., across years); › Identify any and all federal and provincial Species at Risk and/or Critical Habitat in the defined study areas for the Project; sites that are likely to be sensitive locations and habitat for birds or environmentally significant areas;"	time (i.e., across years)… …Identify any and all federal and provincial Species at Risk and/or Critical Habitat in the defined study areas for the Project; sites that are likely to be sensitive locations and habitat for birds or environmentally significant areas… …Identify areas of concentration of migratory birds, including sites used for migration, staging, breeding, feeding and resting…"	data would be collected in a manner that would require or even allow extrapolation across space and time. The study plan also does not demonstrate whether the survey methodology will be sufficient to detect species-at-risk (SAR) bird species that will occur in low numbers and may be difficult to detect. While the study plan outlines using autonomous recording units (ARUs) and waterfowl surveys to identify sites outside the breeding season, it is unclear whether it can detect areas of concentration within the RSA as well as the PSA.	for extrapolating the data in space and time. Demonstrate that the proposed methods are sufficient to detect SAR bird species that will occur in low numbers and may be difficult to detect.	These will be further refined with point count, acoustic, and aerial survey data from the 2019, and 2020 field programs to develop Species Abundance Models (SAMs), which will be used to quantify indices of abundance or density rather than occurrence. The combination of these models will be used to identify key habitat factors for species of interest. The model data will be used to develop predictive maps on species distribution and abundance. These maps will be used to predict population responses to the development of the project and inform future monitoring requirements. A general description of the modelling process is described in **Section 2.1.4**. Specific details of the planned modelling approach can be found in **Sections 2.1.5 through 10**.
MG-05	**Section 2.1 Methodology** "It is Webequie's intent to collect field data over multiple years (2019 and 2020) to understand natural variability in populations."	**Section 8.9** "Collect bird data to adequately represent the following temporal sources of variation: o among years; o within and among seasons (e.g., spring migration, breeding, fall migration, overwintering); and o within the 24-hour daily cycle."	A detailed justification is needed to explain how collecting breeding bird data at a subset of point count locations in two years is sufficient to represent the variation among years. The described plan appears to represent the variation between two years for breeding bird point counts, but not among years and not inter-annual variation outside the breeding season.	Provide further detail to demonstrate how the survey is expected to be sufficient to estimate baseline estimates of abundance and distributions of breeding birds. Include surveys that allow for estimates of annual variability of other phases of the annual cycle, including migration and overwintering, and to other groups, including waterfowl and shorebirds.	The current field program attempts to capture 2-year temporal data to estimate abundance and distribution of breeding birds. There may be an opportunity for further data collection as part of IA/EA process or during the detail design phase for the project prior to construction. **Text has been added in Section 2 to address.**
MG-06	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "The majority of birds that nest within habitats that overlap the Project footprint can be adequately sampled using this survey type."	**Section 8.9** "whenever estimating densities for species, consider observer-induced detection error for comparisons among counts (e.g., between, before and after surveys, or between effected and un-effected sites) to be valid. When accounting for detection error the method used should account for variable detection between landcover types, observers, weather, time of year, species, as well as random variation between visits. Simulation methods can help determine if a specific method is appropriate for a given survey design and analysis. Care should be taken to avoid affecting the reliability of abundance estimates"	The study plan should document which species are expected to be adequately sampled, and which species will not be, with clear rationale and evidence.	Provide detail to demonstrate that the majority of birds can be adequately sampled using the survey type provided in Section 2.1.1.1 of the study plan. Include a list of species that are expected to be adequately sampled, those species that will not, and with references to the scientific literature, how detection is expected to vary among those species.	Observer-induced detection error for comparisons among counts will form part of the density estimates conducted and will be documented in the Natural Heritage Existing Conditions Report. This report will also list those species deemed to be adequately sampled, and those not along with the rationale (e.g., detectability. availability, and perceptibility) for those conclusions. **Text has been added in Section 2.1.5.2 to address.**
MG-07	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "Point counts will be grouped in arrays of 8 to 11 points that span the length of the proposed linear corridor. Arrays will be positioned within 1 km of the centreline of the proposed preferred corridor at locations that can be accessed reasonably by helicopters and where surveyors can move between as many points as possible during the morning survey period. The surveys will be completed during the bird	**Section 8.9** "Collect data in a manner that enables reliable extrapolations in space (i.e., at minimum to Project, local and regional study areas) and in time (i.e., across years)… Provide estimates of the abundance and distribution, and information on the life history of migratory and non-migratory birds (including, but not limited to, waterfowl, raptors, shorebirds, marine birds, marsh birds and other land birds) in the study area…. …generate measures of abundance and distribution using spatially balanced, randomly selected sample locations. Sampling should include edges and transitions between habitat types …"	The study plan should include survey protocol planning to show that the point count sampling design is sufficient to estimate sampling requirements. The study plan should also justify the specified timing and address species that will likely be missed by using this timing, and justify using arrays of point counts or how the distribution of point count arrays is sufficient to generate estimates of abundance and distributions across the PSA, LSA, and RSA.	Provide details of modelling and simulations to evaluate design options, and select a sampling design that allows for the generation of measures of abundance and distribution. Spatially balance samples throughout the PSA, LSA, and RSA. Adequate sample sizes should be determined prior to initiating sampling. Provide a detailed description of arrays, including the spatial arrangement and distances between point count sites, and how the locations of sites and arrays will be determined. A detailed rationale is requested for clustering sampling sites. Justify the specified timing and address species that will expected to be missed by using this timing.	In 2019 season a stratified study was undertaken, but given the remote nature of the study area, and significant access issues, it was found that sites generated randomly were susceptible to being inaccessible by helicopter, or too unstable for staff to safely access and carry out the sampling program. The result was a randomization site selection process was adopted based on access availability and staff safety considerations. We are of the opinion that there is minimal value to pursue a formalized model for sample site selection at this time. That said, we have designed the program to provide sampling of all major habitat types identified through the vegetation program with repeat sampling of sites accessed in 2019, to provide as much temporal distribution as possible within the project schedule for the IA/EA. Addressed in **Section 2.1.2 and 2.1.5.** Additional detail regarding point count arrays is provided in **Section 2.1.5**.

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	breeding period, between June 1 and July 10. Surveys will be conducted from one half hour before sunrise until five hours after sunrise."	**Section 7.2** "Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options."			2020 sampling is planned between June 1 and July 10 to capture the core breeding period for migratory birds. It is understood that some species (i.e. owls, raptors, corvids, crossbills) initiate nesting earlier; however, these species will nonetheless be captured under these surveys. Timing will be between 1 hour prior to sunrise to 5 hours post to capture the most active period. This approach is standard for breeding bird surveys and is referenced by most standardized point count methodologies, including the OBBA. Addressed in **Section 2.1.5.** 55 ARU's will also be deployed to capture periods outside these seasonal and time windows. The Natural Heritage Baseline Report will list those species deemed to be adequately sampled, and those not along with the rational (e.g., Survey timing, detectability. availability, and perceptibility) for those conclusions. Addressed in **Section 2.1.5 and 2.1.6.**
MG-08	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "This design will achieve high detection probability as multiple point counts will be conducted per site and repeated within and across years (temporally comparable)"	**Section 8.9** "…generate measures of abundance and distribution using spatially balanced, randomly selected sample locations. Sampling should include edges and transitions between habitat types and should not be focused exclusively within homogeneous patches of a given habitat type: • use simulation modelling prior to sampling to ensure coverage is broad enough to estimate and account for detection error as well as provide unbiased estimates of abundance and distributions; and • sampling within temporal boundaries should be spatially and temporally balanced so that all spatial areas receive comparable temporal coverage."	Documentation, analysis and simulation modelling is required to support the assertion that the point count design will achieve high detection probability across the PSA, LSA, and RSA for all bird species.	Provide documentation to validate assertions that the point count design will achieve high detection probability across the PSA, LSA, and RSA for all bird species. Provide details of a thorough and quantitative assessment of the expected detection probabilities to document this assertion.	A summary of bird diversity sampled in Year 1 is provided in **Section 2.1.5** of the Work Plan. When compared to other studies conducted in proximity to the study areas, a similar level of breeding bird diversity and SAR detection was achieved. A bird species list has been added in **Appendix A** that indicates all species detected during the records review and those detected during 2019 field surveys.
MG-09	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "Data collected during point count surveys will be summarized to calculate the overall avian biodiversity present within the study area, diversity at each count station, the number of BCR priority species observed for Ontario Bird Conservation Region 8 (Environment Canada, 2014) and North American Bird Conservation Region 8 (PIF, 2008), frequency of occurrence and abundance for each species across the Project Study	**Section 8.9** "Identify the biodiversity metrics, biotic and abiotic indicators that are used to characterize the baseline avifauna biodiversity and discuss the rationale for their selection:…"	The study plan should specify the biodiversity metrics, biotic and abiotic indicators that will be used. The summary tables described require additional information and details to be sufficient to assess bird communities throughout the PSA, LSA, and RSA. This section of the study plan only references Ontario Bird Conservation Region 8. Conservation Region 7 documents should be consulted, in addition to those for Bird Conservation Region 8, to ensure list of species is appropriate for the region, as the majority of the proposed route traverses habitat types more typical of the lowlands rather than the shield.	Provide details of biodiversity metrics to be used beyond summary statistics. Provide details of how abundances for species in the PSA and LSA will be estimated, and justification for the chosen method and how this method is sufficient to assess baseline conditions. Specify biotic and abiotic indicators and provide further detail to demonstrate that requirements of Section 8.9 of the TISG (i.e. distribution, abundance, patterns of occurrence, density, associated habitat) will be included. Include resources consulted in relation to Bird Conservation Region 7 as well as Conservation Region 8.	Abundance and Distribution models will be developed as described in **Section 2.1.4.** The list of resources consulted has been updated to include BCR 7 and BCR 8.

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	Area and Local Study Area scales, abundance for each species within each habitat type, and the locations of observed species of Special Concern or SAR."				
MG-10	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "Time when first observed will fall into one of three categories: 0-3 minutes, 4-5 minutes, and 5-10 minutes." "Point counts in 2020 will be conducted using the same 10-minute survey methodology as described for the 2019 surveys, as that survey followed a very similar protocol as that prescribed by IAAC."	**Section 8.9** "Each site should be sampled by human observers using a standardized 10-minute point count. To enable observer: recorder comparisons, observers should also record the survey visit using a high quality portable recording device (i.e., with 360- degree recording in WAV format, selectable sampling rate, and adjustable microphone gain), mounted on a tripod. Observers should be skilled in bird identification by sight and sound, and should use 1- minute intervals within the 10-minute point count duration such that each individual bird is entered in the first minute interval in which it was detected. Estimated distances from observers to each bird should be recorded as: 0-50m,…"	The proposed protocol in the study plan does not adhere to the per-minute observation documentation protocol, as outlined in Section 8.9 of the TISG. By using the time categories described in the study plan and not those indicated in the TISG, some types of analyses will not be possible. Data already collected with this method can still be used in a limited way, and future surveys should use the method outlined in the TISG to support modelling methods to estimate species detectability. Detailed information is needed regarding the other requirements of Section 8.9 of the TISG (i.e. recordings using appropriate methods and equipment, confirmation of adequate bird identification skills, and stipulation of bands during the point counts.)	Describe how the per-minute protocol will be used, as required in Section 8.9 of the TISG. Provide further details to demonstrate that all aspects of Section 8.9 of the TISG requirements for 10-minute survey methodology, including recording equipment, confirmation of adequate bird identification skills, and stipulation of both time increments and distance bands during the point counts, will be met.	Sampling protocols in Section 2.,1.5 have been updated to reflect the data collection requirements provided in the TISG. The Breeding Bird Workplan indicates that each sample location will be surveyed by a qualified biologists skilled in bird identification by sight and sound. They will use a standardized 10-minute point count recording each species encountered at 1- minute intervals with distance estimates recorded between 0-50m. Observers will also employ high quality portable acoustic recording devices (i.e., with 360- degree recording in WAV format, selectable sampling rate, and adjustable microphone gain), mounted on a tripod**.** **Addressed Section 2.1.5.**
MG-11	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "In 2020, it is proposed that the 113 point counts that were surveyed in 2019 (PSA and LSA) be repeated in 2020, in order to gain 2 years of data at these locations."	**Section 8.9** "Design suggestions for Project Study Area and Local Study Area scales: Use a standardized design approach during survey planning. The resulting design details will serve as the basis to develop alternative designs, evaluate options for particular design details, and to identify potential efficiencies. The approaches and tools suggested elsewhere in this document (e.g., land cover analysis, data simulations) should be considered during the planning phase. The following should be considered as inputs to design planning and evaluation;…"	It is unclear how it was determined that the described sample size (113 point count locations) comprises a representative sample of the habitats of the PSA, LSA, or RSA, or how point count locations were assigned based on a standardized design approach. Without simulation modelling that demonstrates that the distribution of 2019 samples were actually representative, and were selected in a way to minimize bias, it is not possible to evaluate whether the proposed point counts will produce reliable data for modelling of abundance and distribution of breeding bird species within the PSA, LSA, or RSA. It should be demonstrated in the study plan whether biases in the samples are identified, and that the proposed additional 2020 point counts are placed in a standardized approach that fills these gaps. The 2019 points would still require documentation of assessment as a representative sample for estimation of inter-annual variation in breeding bird abundances across the PSA, LSA, and RSA. As the study plan is written, the 2019 samples can only be used to infer differences in abundances between years within the sample, because a non-representative, biased sample is not appropriate for reliable extrapolation. Section 8.9 of the TISG requires documentation in the study plan to demonstrate that the sample size is sufficient to describe the PSA, LSA, or RSA.	Ensure that the point count plan meets the requirements of Section 8.9 of the TISG. Provide documentation to demonstrate that the proposed methodology is sufficient to assess baseline conditions accurately. Use simulation modelling to assess sufficiency of sample size and identify biases within the sample set prior to initiating surveys.	Detail has been provided in **Section 2.1.5** to address point count stratification and representative sampling of habitats. A chi-square test was conducted to test whether habitats were over or under sampled. A description of the result of this test is provided. Given the need for focused sampling of the lands proximal the selected conceptual routes, within the preliminary corridor a focused approach was used in 2019 to ensure the capture of data along the selected conceptual routes, and known rare habitat types, to support the effects assessment. For example, an increased sampling effort was applied to upland habitat since only 6. 284% of the LSA is considered upland forest type, of which 0.334% id deciduous, 0.51 % mixed, and 5.44% conifer. A similar assessment will be conducted for point counts sampled in 2020, once the exact number of samples in each habitat type is confirmed. Sampling is on-going in 2020. We are of the opinion that there is very little be gained by continuing to pursue a formalized model for sample site selection. Sample locations have been selected to ensue adequate representation of the PSA, LSA and RSA with the goal of determining the any potential variation between the study areas as well as the variation between discrete habitats found therein. The site selection process was done by reviewing existing aerial/lidar and satellite imagery, the results from on-going vegetation/ habitat classification, along with other background information, and FN/public consultation. These sources were then used to establish locations for survey sites based on the professional opinion of EA biologists to ensure a stratified sampling of all habitat types with adequate distribution across the LSA and RSA, while guaranteeing a suitable number of sample locations within known rare habitat types and areas potentially directly impacted by Project activities, prior to execution of

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					the field program. Additional sampling across the RSA has been proposed in 2020 to augment data collection with in the RSA. Description of site selection process has been added in **Sections 2.1.2 and 2.1.5.** That said we have designed the program to provide sampling of all major habitat types identified through the vegetation program with repeat sampling of sites accessed in 2019, to provide as much temporal distribution as possible within the EA Field schedule.
MG-12	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "This level of total effort (210 – 230 point count stations) within the PSA and LSA is similar to that outlined in the TISG for spatial boundaries for data collection and the effects assessment."	**Section 8.9** "Design suggestions for Project Study Area and Local Study Area scales: Use a standardized design approach during survey planning. The resulting design details will serve as the basis to develop alternative designs, evaluate options for particular design details, and to identify potential efficiencies. The approaches and tools suggested elsewhere in this document (e.g., land cover analysis, data simulations) should be considered during the planning phase. The following should be considered as inputs to design planning and evaluation;…"	The study plan should incorporate the design principles and approach given in Section 8.9 of the TISG and should document in detail how the planned point count survey effort is "similar to that outlined in the TISG for spatial boundaries for data collection and the effects assessment". The effort described is less than the point count effort in the example survey design provided in Section 8.9 of the TISG. It is unclear how it has been determined the plan is sufficient to meet the TISG or the proponent's own study goals. There should be a direct consideration of the plan proposed in the TISG, development of design options, and then use of the quantitative methods described in the TISG to evaluate options and to show that the selected option is sufficient to meet the objectives.	Demonstrate that the survey effort in the study plan is justified in order to extrapolate abundance and distribution efforts across the study areas. Include documentation of methods used to assess survey sufficiency and quantify and address biases within the sample set. Provide details regarding the sampling options considered (i.e. sampling designs and sampling intensities), how the options were evaluated, the results of that evaluation, and the rationale for selecting a given option.	Landcover analysis played a major part in the determination of the Breeding Bird Workplan Study areas and sample location distribution design. A formal model for determining sample locations and distribution was rejected following the 2019 survey program due to accessibility and safety issues (See MG-08 and MG-11). Documentation of methods used to assess survey sufficiency and address biases within the sample set will be provided in the Natural Heritage Existing Conditions Report. **Addressed Section 2.1.2 and 2.1.3**
MG-13	**Concordance table** "The level of total effort (210 – 230 point count stations) within the PSA and LSA is similar to that outlined in the TISG for spatial boundaries for data collection and the effects assessment."	**Section 8.9** "Sample size must be planned to support evaluation of the project study area within the context of the local study area and regional study area. Appropriate design of surveys will need to consider multiple survey locations in order to represent the habitat heterogeneity of the regional study area, and to yield multiple survey locations per land cover or habitat class, without requiring aggregation of habitat classes post-hoc."	How the intended sample locations were selected, and where they are (e.g. spatial relationship and habitat class) are important considerations. In the absence of detailed and quantitative design planning, post-sampling aggregation of sites is often used to provide multiple samples per habitat class. Doing so often leads to errors of interpretation, in part because survey results tend to be collapsed into highly variable groups.	Provide details on the areal coverage and patch characteristics of the habitat classes, and the numbers of samples intended for each habitat class under the selected sampling design, to evaluate the sufficiency of sampling by land cover or habitat class.	The Bird surveys conducted in 2019 and planned for 2020 were developed to ensure a consideration of multiple survey locations to capture the habitat heterogeneity of the both the local regional study area. Multiple survey locations have been positioned in each land cover/habitat class, and minimal aggregation of habitat classes post-hoc is expected. **Addressed Section 2.1.4** It should be noted that the TISG requires that study criteria include eskers, peatlands, and wetlands. As such, data will need to be aggregated to address bird life using these sweeping habitat classifications.
MG-14	**Section 2.1.1.1 Breeding Bird Point Count Surveys** "Additional survey points will be located in PSA where helicopter-accessible is permissible and to address gaps from the 2019 survey. All survey points in the PSA and LSA will be surveyed once in 2020 and will be representative of habitat types to ensure that estimates comparing within and across the PSA, LSA and RSA are unbiased and as	**Section 8.9** "Collect data in a manner that enables reliable extrapolations in space (i.e., at minimum to Project, local and regional study areas) and in time (i.e., across years):… **O** design surveys so that they represent the spatial and temporal targets of modeling and extrapolations, and to produce scientifically defensible predictions of impacts and estimates of mitigation effectiveness. Survey designs should be sensitive enough to detect and quantify the impacts at the spatial and temporal scales identified above (i.e., project study area, local study area, and regional study area), any departures from predictions,	Detailed descriptions of a survey design, and approach used to select the design, are required as given in Section 8.9 of the TISG. The study plan should show how gaps from the 2019 survey were identified, and how locations of additional survey points were decided - convenience or haphazard sampling does not allow for reasonable inference beyond the sample locations. Without this understanding, it is difficult to assess if the data collected allows for reliable extrapolations in space and time. The study plan should demonstrate that survey points are a representative sample of habitat types within the PSA and LSA. The study plan also should	Provide details of a gap analysis on the 2019 data, and how that gap analysis informed the determination of required samples for 2020. Provide details to demonstrate that proper survey design was followed, and haphazard or convenience sampling was avoided, in order to be able to assess baseline conditions for the project. Provide documentation of sample size determination and details of their sampling framework. Provide details regarding the specifics of estimates that will be used. Include survey design plans for the RSA as well as specific details of how current design plans will	The site selection process for both 2019, and 2020 was done by reviewing existing aerial/lidar and satellite imagery, the results from on-going vegetation/habitat classification, along with other background information, and FN/public consultation (has and will). These sources were then used to establish locations for survey sites based on the professional opinion of EA biologists to ensure a stratified sampling of all habitat types with adequate distribution across the LSA and RSA, while guaranteeing a suitable number of sample locations within known rare habitat types and areas potentially directly impacted by Project activities, prior to execution of the field program.

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	precise as possible."	and the effectiveness of mitigations. Justify the selection of modeling techniques based on current and recent scientific literature; O survey protocol planning should include modeling and simulations to estimate sampling requirements, and analysis to evaluate resulting design options:…"	describe any sampling within the RSA, to show they can produce unbiased estimates within the RSA. The study plan should show that the necessary analyses have been done to determine if the point count samples will generate unbiased and precise estimates. It is not clear what estimates the study plan is referring to in Section 2.1.1.1. This process and the explanation of the process should be appropriate to enable a determination that the planned sampling is in fact representative of the habitat types and should include detailed information to assess and quantify bias and precision.	allow assessment of baseline conditions in either the PSA or LSA. Demonstrate that the process and the explanation of the process are appropriate to enable a determination that the planned sampling is in fact representative of the habitat types. Include detailed information to assess and quantify bias and precision.	The 2019 studies were focused on the alignment alternatives and associated habitat types. Significant gaps have been identified related to both extent, habitat type coverage, and temporal coverage with regards to the RSA, alternative routes, and associated infrastructure (i.e aggregate areas). The strategy to address these known shortfalls, is to resample 2019 sites to provide as much temporal definition as possible within the restrictions of the EA schedule. We will also be conducted an assessment of the sampling levels in each habitat type as well as the special distribution/ representation within both the LSA and RSA. Additional data collection is required to address temporal variation, hence resampling of 2019 point counts and spring waterfowl surveys will be conducted and fall waterfowl surveys and four-season ARU have also been added. Additionally, ground and acoustic surveys targeting crepuscular birds have been added for 2020. **See Section 2**.
MG-15	**Sections 2.1.1.1 Breeding Bird Point Count Surveys and 3. Schedule** "The following field studies are currently in planned for 2020: › Breeding Bird Point Count Surveys (May and June);"	**Section 8.9** "…Collect data in a manner that enables reliable extrapolations in space (i.e., at minimum to Project, local and regional study areas) and in time (i.e., across years)…"	Timing of point count surveys is not consistent within the study plan. Inconsistencies should be addressed to enable an assessment of the timing of point count surveys. A discrepancy is noted between Sections 2.1.1.1 and 3 in timing of breeding bird surveys: Section 2.1.1.1 describes point count surveys as occurring between June 1 and July 10, while Section 3 describes them as occurring in May and June.	Provide detail to demonstrate that point count survey timing reflects the requirements outlined in Section 8.9 of the TISG and are consistent throughout study plan. Resolve any inconsistencies in the study plan.	Section 2.1.5 has been edited for consistency and to reflect requirement of Section 8.9 of the TISG. 2020 sampling is planned between June 1 and July 10 to capture the core breeding period for migratory birds. It is understood that some species (i.e. owls, raptors, corvids, crossbills) initiate nesting earlier; however, these species will nonetheless be captured under these surveys. Timing will be between 1 hour prior to sunrise to 5 hours post to capture the most active period. This approach is standard for breeding bird surveys and is referenced by most standardized point count methodologies, including the OBBA.
MG-16	**Section 2.1.2.1 2020 Acoustic Surveys** "Acoustic recording units (ARUs) will be deployed to survey bird presence in 2020. Deployment of ARUs will be used to inform estimates of site use by birds across a broad range of dates (including seasons) and times of day. ARUs will be placed at least 500m apart and will proportionately sample all habitat types present, as done with the point count surveys" "ARUs will be deployed at 50 locations across representative habitats."	**Section 8.9** "Collect data in a manner that enables reliable extrapolations in space (i.e., at minimum to Project, local and regional study areas) and in time (i.e., across years):…" "…ARU Transects: Deployment of ARUs should be used to inform estimates of site use by birds across a broad range of dates (including seasons) and times of day. Since ARUs capture bird movements across dates and times, sampling on ARU Transects should be conducted on a subset of sites within transects. This subset should include the route centreline site, with the remaining sites at 500-metre spacing out to the transect endpoint…"	As with Section 2.1.1.1 (point counts), the study plan should provide details needed to assess if the deployment of ARUs allows for extrapolation in space and time. The study plan should show how it was estimated that the ARUs will proportionally sample all habitat types present in the PSA, LSA, and RSA. Use of design planning would serve as the basis for planning ARU deployments and describing how the deployment plan addresses the needs identified in the TISG. The reference to "estimates" of site use is also unclear.	Provide documentation of sample size determination and details of the sampling framework, and identify the locations of ARU deployments. Clarify if the reference to "estimates" is to biodiversity indices, abundance estimates, distribution estimates or another type of estimate.	Locations of proposed ARU deployments are provided in **Appendix C**. Detail regarding ARU deployment stratification and representative sampling of habitats is provided in Table 2. Similar to what has been done for point count survey locations, a chi-square test will be conducted as part of the Natural Heritage Report to test whether habitats were over or under sampled.
MG-17	**Section 2.1.2.1 2020 Acoustic Surveys** "In mid-June, batteries and sound cards will be replaced at	**Section 8.9** "Collect data in a manner that enables reliable extrapolations in space (i.e., at minimum to Project, local and regional study areas) and in	It is unclear how the additional ARU locations will be selected, and how the data from these additional locations will be analyzed with the first set of ARU locations.	Provide details to demonstrate how the analysis will account for differences in detection between the two sample locations for the ARUs. Describe the analytical methods used to	Initial ARU deployment locations will generally be placed in locations not surveyed to improve coverage in various habitat types and capture cryptic, and nocturnal species that were not captured during point count surveys. During

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	each detector and all 50 detectors will be moved to secondary supplemental locations and will actively record for the rest of the avian breeding season (late July), until the batteries or sound card capacity is exhausted."	time (i.e., across years)… …Analysis of ARU and point count data should account for differences in the survey methods (e.g., ability to detect, visit/sample timing and frequency). Offsets may be used to help account for variation in detection ability. Consider expert guidance on the proper use of offsets in modeling. Detection rates are unlikely to remain constant between visits so, if occupancy modeling is used it should be well justified."	Section 8.9 of the TISG requires that analysis of ARU data account for differences in the survey methods, including visit/sample timing.	combine ARU data from locations collected in differing portions of the breeding season.	the 2020 survey program starting June 2nd. ARU units will be deployed during the execution of the surveys to allow for a correlation/comparison of results between the two data collection methods, as well as an analysis of an aggregation of the two data sets. The analytical methods used will be finalized during the development of the Natural Heritage Baseline Report and described therein. Addressed in **Sections 2.1.4 and 2.1.6**
MG-18	**Section 2.1.2.1 2020 Acoustic Surveys** "Aerial photograph interpretation, aerial flight across the PSA, and point count surveys conducted in 2019 did not identify suitable marshes within PSA that would provide suitable breeding habitat for wetland/marsh- obligate species such as… Suitable wetlands for these species may occur within the LSA and these will be investigated in field studies planned for 2020. A group of ARUs in addition to the 50 described above will be deployed within wetlands with the greatest potential for these species to occur. These ARUs will be moved periodically, to capture as many specialty habitat features as possible, however each site will be acoustically monitored for at least 24 hours in good weather conditions."	**Section 8.9** "Collect data in a manner that enables reliable extrapolations in space (i.e., at minimum to Project, local and regional study areas) and in time (i.e., across years)… "Design suggestions for Project Study Area and Local Study Area scales: Use a standardized design approach during survey planning. The resulting design details will serve as the basis to develop alternative designs, evaluate options for particular design details, and to identify potential efficiencies. The approaches and tools suggested elsewhere in this document (e.g., land cover analysis, data simulations) should be considered during the planning phase. The following should be considered as inputs to design planning and evaluation…"	The study plan should describe the wetland bird ARU survey plan in sufficient detail to determine if the samples will allow for extrapolation in space and time across the PSA, LSA and RSA. The study plan should include documentation of assessment of sufficiency of sample size and sample location. The study plan should refer to wetland types precisely; marsh habitat is uncommon in this region but several other wetland types exist, some of which may provide suitable habitat for the species listed.	Provide detail to demonstrate how sufficiency is determined in sample size and location and how the design compares to the design described in Section 8.9 of the TISG for assessing baseline conditions in the LSA and PSA. Provide documentation of how the aerial flight and point count data from 2019 demonstrate the lack of presence of the species listed in the text. Ensure that wetland types are referenced precisely.	In 2019, the LSA was searched exhaustively via aerial photography and helicopter survey to position point counts within habitats that would provide suitable habitat for marsh-obligate species that are likely to occur within the RSA based on their Ontario range. Presence of such species is dependant on the presence of suitable habitat, which fulfills their specific nesting needs. A such, these species are typically rarely encountered away from suitable habitat. Such species are described in Section 2.1.6. All candidate marsh habitat identified via aerial photography and aerial survey was, upon landing, determined to be peatland with varying degrees of grass cover. As a result, no suitable habitat for marsh-obligates was found within the LSA. Addressed **Section 2.1.6**
MG-19	**Section 2.1.2.1 2020 Acoustic Surveys** "ARUs will also be used during the point count surveys and will be mounted on a tripod. "	**Section 8.9** "…observers should also record the survey visit using a high quality portable recording device…"	Per-minute data sets, generated from paired human observer point counts and their accompanying acoustic interpretation, will facilitate development of offsets to support modelling from data collected at ARU-only locations.	Provide a detailed explanation of how data will be compared between the paired human observer point counts and simultaneous acoustic recording.	Observers will be utilizing ARU to record all human observer surveys. During the development to the Natural Heritage Baseline Report methodologies to compare the two datasets will be refined and used to correlate both the human observational data and the data from the ARU deployment sites. See **Section 2.1.6**.
MG-20	**Section 2.1.2.1 2020 Acoustic Surveys** "A total of 50 Song Meter SM4 Mini ARUs will be deployed … … sound cards of all 50	**Section 8.9** "Deployment of ARUs should be used to inform estimates of site use by birds across a broad range of dates (including seasons) and times of day…"	Proposed application of ARU technology should be specific about brand and model of ARU, as each has operational attributes that may have implications on duration and scheduling of acoustic recordings. ECCC recommends that the Song Meter SM4 model instead of the Song Meter Mini is considered, as it will allow for longer	Provide details about the functionality of the ARUs to be used for the recordings. Confirm that the Bird Conservation Region 7 documents have been consulted, in addition to those for Bird Conservation Region 8, to ensure list of species is appropriate for the region.	Bird Conservation Region 7 documents have been referenced. A total of 50 Song Meter SM4 Mini (Wildlife Acoustics Inc.) ARUs will be deployed for the purpose of data collection for the Project. ARUs will be deployed at 50 locations across representative habitats in April 2020 and will record until the

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	detectors will be replaced … … will be programmed to record every 2nd day … … a group of ARUs in addition to the 50 described above will be deployed within wetlands ... ... each site will be acoustically monitored for at least 24 hours ... "		deployments and more flexible schedule programming, both of which are important aspects for use in this project. SM4 has far greater battery capacity and 2 slots for memory cards, therefore also having greater file storage capacity (and redundancy in case 1st memory card has a write failure). The list of wetland-associated species likely to occur in the region should be based on Bird Conservation Regions 7 and 8 documents, as the majority of the proposed route traverses habitat types more typical of the lowlands rather than the shield. An explanation is required that justifies a minimum sampling effort, in terms of ARU deployment duration, and the explanation should detail how a sufficient level of detection for marsh/wetland- obligate species will be achieved. Consult the literature for recommendations about length of ARU deployment sufficient to sample for secretive wetland species, as the proposed effort of 'at least 24 hrs' may be insufficient; a minimum of 5-7 day deployment cycles may be recommended.	Provide details on the proposed effort for ARU deployment to be used to sample secretive wetland species.	batteries die or sound card is filled. Batteries and sound cards of all 58 detectors will be replaced in early June of 2020 and detectors will remain at the same locations until mid-June. In mid-June, batteries and sound cards will be replaced at each detector and all 58 detectors will be moved to secondary supplemental locations and will actively record for the rest of the avian breeding season (late July), until the batteries or sound card capacity is exhausted.. All ARUs will be returned to their original position in late July and left at this location to record during the fall migration period (August 1 through September 30, 2020) and during the winter (December 1, 2020 through to March 31, 2021) (i.e., collectively, Fall/Winter Recordings). Batteries will be replaced in late fall, in preparation for the winter recording period. Addressed **Sections 2.1.1 and 2.1.6.**
MG-21	**Section 2.1.2.2. Acoustic File and Data Analysis** "Data analysis methods will be clearly described and transparent (e.g., annotated scripts), extract the maximum information from the data, and be appropriate for the data and protocols."	**Section 8.9** "Data analysis methods should be clearly described and transparent (e.g., annotated scripts), extract the maximum information from the data, and be appropriate for the data and protocols"	Details are needed regarding planned analytical methods. Methods can be changed later, with justification and documentation of changes in results, but it is important to document analysis methods early. Determining the best analytical methods now also allows for simulation modelling of sampling effort using these analysis methods, which makes any conclusions drawn more useful to survey designs.	Provide details of expected data analysis methods as required in Section 8.9 of the TISG. Provide clarity regarding whether the text refers to analysis of ARU files only or for analysis of other data types, including point counts.	See **Section 2.1.4**
MG-22	**Section 2.1.3 Crepuscular Bird Surveys (Common Nighthawk)** "In 2020, crepuscular surveys will be conducted at predetermined locations along accessible roads within Webequie First Nation and adjacent to suitable habitat for the target species. Surveys for this crepuscular species will follow survey methodology used by the Ontario Whip-poor-will Study as no standardized protocol yet exists for Common Nighthawk in Ontario."	**Section 8.9** "Surveys need to be detailed enough within the local study area and regional study area to put the project study area into context of these wider areas…"	It is unclear how locations for nighthawk surveys will be selected. A targeted habitat sampling framework should be developed and a check for new national standard protocol for nightjar monitoring program (coordinated by Birds Canada). The optimal time-of-day to conduct point count surveys for the nighthawks in northern Ontario is from 30 minutes before sunset, to 2 hours after sunset. This time period can also be used for programming ARU deployments. Since the open habitat of the lowlands allows for CONI sounds to be heard from up to 1 km away, it is suggested that CONI survey locations be spaced accordingly (e.g.,. 2 km apart). Survey design based on EWPW detectability with lunar cycle does not need to be applied to planning survey dates for CONI; therefore the range of suitable dates for conducting surveys targeting CONI can be expanded to give more logistical flexibility.	Provide detail to demonstrate how the road-based survey and the selected locations for nighthawks meet the requirements in Section 8.9 of the TISG.	The Work Plan has been updated to include methodology used by the Canadian Nightjar Survey (2019). See **Section 2.1.7**. For safety reasons, nighttime crepuscular surveys will only be conducted in road accessible areas which are extremely limited (Webequie community/Noront Camp) within the study area. Sites selected will be located in the most appropriate habitat available within these very limited areas. The ARU arrays deployed for general survey activities are set to record 30 minutes after sunset until approximately midnight (Phase 2). A subsample of ARUs will be positioned in open habitat that is likely suitable Common Nighthawk habitat, including dry peatland and burns. Within the ARU arrays deployed, the individual ARU's units may not be set 2km apart. Addressed **Section 2.1.7.**

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MG-23	**Section 2.1.3.1 2020 Point Count Surveys (crepuscular surveys)** "No surveys for Common Nighthawk were conducted within the PSA in 2019"	**Section 8.9** "Collect bird data to adequately represent the following temporal sources of variation: o among years; O within and among seasons (e.g., spring migration, breeding, fall migration, overwintering); and O within the 24 hour daily cycle."	The information provided in Section 2.1.3.1 of the study plan suggests only one year of crepuscular survey data (2020). Section 7 and Section 8.9 of the TISG requires baseline data be collected for a minimum of two years for all biophysical valued components.	Provide clarification on how the requirement for two years of baseline crepuscular data will be met, as required in Section 7 and Section 8.9 of the TISG.	The decision to conduct further crepuscular data we be made following the result of the 2020 survey. At this stage, whether or not presence is determined it will be assumed that appropriate measures will need to be included in the IS/EA documentation to address these species. Addressed **Section 2.1.7.**
MG-24	**Section 2.1.3 Crepuscular Bird Surveys (Common Nighthawk)** **2.1.3.2. Acoustic Surveys** "In addition to the 50 ARUs that will survey daytime and evening bird presence across 100 locations within the PSA and LSA, additional ARUs for crepuscular birds will be deployed across open habitats outside of the accessible zone within the Webequie First Nation. Suitable habitat features for CONI nesting and open areas not afforded coverage by the year-round ARU monitoring sites will be surveyed for at least 24 hours in good weather conditions. Appropriate recording duration for targeting crepuscular birds will be determined in cooperation with the IAAC."	**Section 8.9** "Design suggestions for Project Study Area and Local Study Area scales: Use a standardized design approach during survey planning. The resulting design details will serve as the basis to develop alternative designs, evaluate options for particular design details, and to identify potential efficiencies. The approaches and tools suggested elsewhere in this document (e.g., land cover analysis, data simulations) should be considered during the planning phase. The following should be considered as inputs to design planning and evaluation…"	The study plan should provide details of where ARUs will be placed, how sites were selected, when they will be deployed, and the planned recording schedule.	Provide details of ARU survey design for crepuscular birds, such as where ARUs will be placed, how sites were selected, when they will be deployed, and the planned recording schedule. Include methods to survey other nocturnal birds such as owls.	Addressed **Section 2.1.7.**
MG-25	**Section 2.1.4.1 2020 Waterfowl Migration Survey** "Spring surveys will be conducted between mid-April and mid-May, while fall surveys will be conducted between early October and early-November."	**Section 8.9** "Identify areas of concentration of migratory birds, including sites used for migration, staging, breeding, feeding and resting. The following must be considered when identifying areas of concentration of migratory birds:…"	The planned number of flights per year may not be sufficient to document the importance of wetlands for migratory birds since migratory counts can have large variance from day to day. Consider consulting with Webequie community members to determine when ice- out happens. Ice-out may not happen until late May on some of the larger lakes in this region.	Provide details of how the requirements of Section 8.9 of the TISG are reflected regarding migration, staging, breeding, feeding and resting sites. Include details on how species will be reliably identified during flights. Describe how identification and estimation errors will be accounted for. If abundance estimates are used, describe how length of stay information will be integrated, obtained or identify a solution if unknown for the area. Identify whether the sites and surveys are capturing staging birds, birds in short stopovers, or both. Provide details to justify using the time period of mid-April to mid-May and October to early November.	Significant coordination with FN hunters and community members was conducted prior to the 2020 Waterfowl surveys to determine the timing windows outlined in the Work Plan and to ensure appropriate ice out conditions and the status of the migration. Flights took place over three (3) days, spaced two (2) days apart to account for daily variations. These were accompanied by a community member. The field crew will include two biologists experienced in the identification of waterfowl: one primary observer and one secondary observer/recorder/navigator. Surveys have and will continue to follow national and provincial standards for presence/not detected (USFWS and CWS 1987; RIC 1999a; Ducks Unlimited Canada 2003), although abundance data were also recorded. A helicopter (Bell 2016 Long Ranger) was used as they provide better visibility, lower flight speed, greater maneuverability, and ability to vary flight heights as needed, than fixed-wing aircraft. The helicopter was flown at a relatively slow speed (approximately 50 km/h) and altitude (30 to 50 m above water). See **Section 2.1.8.**

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MG-26	**Section 2.1.5. Raptor Nesting Data** "Formal surveys for raptor nests have not been completed to date; however, raptor nests will be noted when encountered during the extensive use of helicopters within the PSA and LSA during all of the 2020 surveys which will contribute to a census of Bald Eagle and Osprey nests across the PSA. Nests of other raptorial species (i.e. hawks, owls, ravens) will be noted as encountered."	**Section 8.9** "Provide estimates of the abundance and distribution, and information on the life history of migratory and non-migratory birds (including, but not limited to, waterfowl, raptors, shorebirds, marine birds, marsh birds and other land birds) in the study area. Estimates may be based on existing information, or additional surveys, as appropriate, to provide current data sufficient for reliable estimates. In doing so…" (See sub-bullets from this point for details on sufficient data for each VC)	Raptors are identified as a VC. Incidental observations are unlikely to be sufficient to estimate the abundance and distribution of raptor species, particularly those with nest structures that are not easily detected in the course of helicopter operations. There currently is no specified plan for shorebirds or bog/fen birds and other wetland birds, and the outlined data collection methods for raptors does not meet the standard of a survey outlined in Section 8.9 of the TISG.	Provide study designs for raptors, shoreline birds, and wetland birds, as required in Section 8.9 of the TISG. Provide protocols to extrapolate sampling results throughout the PSA, LSA, and RSA and include location details. Provide detail to demonstrate the survey design will meet the requirements of Sections 7 and 8.9 of the TISG.	Additional detail regarding shorebird surveys is provided in **Section 2.1.9**. Additional detail regarding raptor nests data collection is provided in Section **2.1.10**. Please detail what species are considered "bog/fen" birds for the purpose of this Work Plan. Please see Section 2.1.5.1 for a description of a wetland species guild that has been commonly encountered across open wetlands across the project areas.
MG-27	**Section 2.1.6. Geomatics and Habitat Typing** "To the extent possible, all candidate survey sites will be attributed to a 100m buffer around site centroid, areal coverage and percentage of each land cover class be assigned to sites, and these values will be used as inputs to evaluations of representative habitat."	**Section 8.9** "…all candidate survey sites should be attributed to a 100m buffer around site centroid, areal coverage and percentage of each land cover class be assigned to sites, and these values used as inputs to evaluations of representivity and options for design modifications."	A detailed description of what is planned for the survey is required, including whether candidate sites will be attributed a 100-metre buffer as required in Section 8.9 of the TISG.	Provide details to demonstrate that the requirement in Section 8.9 of the TISG of having a 100-metre buffer around all candidate survey sites will be met.	Each sample location will be surveyed by a qualified biologist skilled in visual and aural identification of Ontario bird species. They will use a standardized 10-minute point count recording each species encountered at 1- minute intervals with distance estimates recorded between 0-50m. Notes related to land cover within 100m of each sample centroid, will also be taken in order to confirm the land cover class assigned to the vegetation unit during the vegetation program. The vegetation classifications will be adjusted if necessary and the resulting vegetation mapping will be used to provide areal coverage and percentage of each habitat classification for each site for use as inputs to the representative habitat modelling process. Addressed **Section 2.1.3 and 2.1.5**
MG-28	**Section 2.1.6 Geomatics and Habitat Typing Concordance Table** "The proponent's approach will be to comply with the requirements in the TISG to the extent possible."	**Section 8.9** "Geomatics and habitat typing should be considered as inputs to design planning an evaluation: use the Ontario Ministry of Natural Resources and Forestry's Far North Land cover (version 1.4 or later, as available) and augmentation with fire history, digital elevation models, surficial geology and other data sources…"	Section 2.1.6 of the study plan does not demonstrate consideration of the data sources listed in Section 8.9 of the TISG. The Agency notes that the statement "The proponent's approach will be to comply with the requirements in the TISG to the extent possible." is found throughout the concordance table. The Agency would like to re-iterate that the study plan is expected to meet all requirements found in the TISG.	Demonstrate how the data sources listed in Section 8.9 of the TISG (Geomatics and habitat typing) were considered in the study plan.	Vegetation/habitat typing procedures and protocols are detailed in the Vegetation Workplan. A brief description of the vegetation classification process can be found in **Section 2.1.3.**
MG-29	**Section 2.2 Criteria and Indicators** "In order to evaluate the effects of the proposed supply road each criteria will have one or more indicators that will identify how the potential environmental effects or change will be measured. The indicators for each criteria will be used to aid in the effects assessment include but are not limited to: impact to habitat (i.e. area (ha) and quality) and impact to individuals (directs and indirect effects,	**Section 15.2** "The Impact Statement must: •describe direct, incidental and cumulative predicted positive and/or adverse effects to migratory birds and non-migratory birds, including population level effects that could be caused by all project activities, including but not limited to…" (See Section 15.2 for full list of requirements) **Section 13.1** "The assessment of the effects of each of the project components and physical activities, in all phases, must be based upon a comparison	The study plan should include a description of how predicted effects will be determined, as required in Section 15.2 of the TISG. The study plan should demonstrate the ability to infer project effects (with accurate estimates and accompanying statistical error) from baseline distributions and abundances of bird species throughout the PSA, LSA, and RSA. The study plan should show a standardized approach that would allow a useful estimate of baseline conditions, and a description of how baseline data will be used to estimate and predict impacts into the future.	Provide detail on the criteria and indicators that will be used in the effects assessment. Describe how criteria and indicators reflect the requirements described in Section 15.2 of the TISG.	The details of effects assessment criteria, indicators, and methodologies are detailed in Section 3 of the revised workplan. Addressed **Section 3.**

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	disturbance, predation, etc.). Indicators will be further refined during the EA/IA process. The preliminary chosen indicators are based on those recommended for non-Caribou SAR criteria in a guidance memo from the MECP (Nikki Boucher, July 2019). Further details on SAR birds are presented in the draft Species at Risk Study plan for the WSR."	of baseline environmental, health, social and economic conditions and the predicted future conditions with the Project and the predicted future conditions without the Project. Predictions must be made on clearly stated assumptions and the Impact Statement must clearly describe how it has tested each assumption…." (see complete section of TISG for full context)			
MG-30	**Section 2.3 Effects Assessment and Mitigation** "The effects assessment and evaluation will be completed on the proposed preliminary corridor, alternative routing alignments and supporting infrastructure elements (e.g., access roads, aggregate source sites) to accommodate the all-season road."	**Section 13.1** **"**The assessment of the effects of each of the project components and physical activities, in all phases, must be based upon a comparison of baseline environmental, health, social and economic conditions…"	It is unclear from the study plan that any supporting infrastructure elements will be studied. It is also unclear how the effects of the supporting infrastructure will be compared to the baseline conditions, as there is no indication that data around supporting infrastructure will be collected during the baseline studies.	Provide detail that demonstrates that supporting infrastructure and other project components will be studied during both the baseline and effects assessment.	Work Plan has been modified to address proposed action. **See Sections 1, 2.1.2, and 2.1.5.**
MG-31	**Section 2.3 Effects Assessment and Mitigation** "The assessment of the potential effects of the Project on birds and bird habitat will include the characterization of baseline conditions in the project study area using both publicly available information on a regional scale and data obtained in the field or via desktop review on a local scale or site- specific basis..." "Will be included in the effects assessment of the Environmental Assessment/Impact Statement"."	**Section 6** "…the proponent must provide Indigenous groups with an opportunity to: …inform the effects assessment and review its conclusions; inform the development of mitigation measures and follow-up programs;…" **Section 5** "The proponent must engage with the public and provide timely notification of proposed engagement activities to seek community knowledge and views on:… effects assessment and the assessment of the Project's contribution to sustainability; mitigation and follow-up measures;…" **Section 13** "The Impact Statement must describe in detail the project's potential adverse and positive effects in relation to each phase of the Project (construction, operation, maintenance, suspension, decommissioning, and abandonment)…" "…effects may impact communities, Indigenous groups and stakeholders in different ways, and therefore they may respond differently to them. Determining and characterizing effects should be based largely on the level of concern expressed	The study plan provides general information about the effects assessment, without discussion on methodologies or studies that will take place. The description in Section 2.3 of the study plan does not provide a level of detail to determine if it is sufficient to meet the TISG requirements.	Provide detail on the methodology and planned studies for the effects assessment, including additional details to the bullet points in Section 2.3 of the study plan, to demonstrate how the requirements of Section 15.2 of the TISG will be met. Provide detail on how engagement with Indigenous groups and the public will inform the effects assessment, as well as the selection of mitigation measures and follow-up program measures.	General details on the public consultation program developed to inform the Bird studies and subsequent effects assessment criteria, indicators, and methodologies is found in Section 3 and 5 of the revised work plan. Furthermore, detailed information on the Public consultation process can be found in the Public Consultation Workplan. **Addressed Sections 3 and 5**

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		through engagement with the impacted Indigenous groups and community members. The proponent is required to gather and consider Indigenous knowledge from potentially impacted Indigenous communities to inform the Project's effects assessment and to describe how Indigenous knowledge was considered in their Impact Statement." **Section 15.2** "The Impact Statement must: • describe direct, incidental and cumulative predicted positive and/or adverse effects to migratory birds and non-migratory birds, including population level effects that could be caused by all project activities, including but not limited to…" (See all requirements listed in Section 15.2 and Section 13 of the TISG)			
MG-32	**Section 2.4. Monitoring** "Webequie First Nation will prepare a monitoring framework, which will be developed during the EA/IA process. The framework for monitoring would be identified for each project phase (construction and operation and maintenance). Two primary types of monitoring will be developed, as follows:…"	**Section 26.2** "The Impact Statement must describe the environmental, health, social and economic monitoring to be established, as part of the follow-up program. Specifically, the Impact Statement must present an outline of the preliminary environmental, health, social and economic monitoring program, including, but not limited to the:…" (see complete section of TISG for full context)	A greater level of detail in Section 2.4 of the study plan is required to evaluate whether the requirements of Section 26.2 of the TISG will be met.	Provide details for both compliance monitoring and effects monitoring. If the monitoring program is described in more detail elsewhere in the study plan, refer to bird relevant sections to demonstrate the approach that is proposed.	At this stage in the IE/EA effects and compliance monitoring are extremely preliminary. Until further details are known (preferred alignment, preliminary design, impacts to VC's) generic monitoring/best practises from previous experience will form the basis of the compliance monitoring approach. **Section Removed -** Will Not be Included at this Stage
MG-33	**Section 4. Reporting** "The overall baseline report is tentatively scheduled to be completed by December 2020."	**Section 7.1** "The information describing the existing baseline conditions may be provided as a stand-alone chapter in the Impact Statement or integrated into clearly defined sections for relevant valued components, including effects assessment of each valued component and valued component interactions, identification of mitigation measures, residual effects analysis and cumulative effects assessment."	If ARUs are collecting data until March 2021, this data will not be included in the baseline report if the baseline report is to be completed by December 2020.	Provide details to demonstrate that reporting will meet the requirements outlined in Sections 7 and Section 8.9 of the TISG. Identify any components of the study plan that will not be included in the baseline report that is proposed in December 2020, for inclusion in the Impact Statement.	The Natural Heritage Existing Conditions Report is tentatively due in December of 2020, but the EAR/IS is scheduled for the spring of 2021. Data from the ARU's will inform the effects assessment and an addendum to the Natural Heritage Existing Conditions Report will be produced if deemed necessary. Addressed **Section 2.1.10**
MG-34	**Concordance table** "The proponent's approach is to provide baseline information, and this will be included in the effects assessment of the Environmental Assessment/Impact Statement. Indigenous Knowledge information obtained through	**Section 8.9** "Describe the use of (magnitude, timing) migratory and non-migratory birds as a source of country foods (traditional foods) or where use has Indigenous cultural importance (e.g., Canada Goose, Snow goose, Swans, Gyrfalcon, Loon, Peregrine Falcon, and duck species)."	It is unclear what is meant by the statement "The proponent's approach is to provide baseline information, and this will be included in the effects assessment of the Environmental Assessment/Impact Statement." Section 8.9 of the TISG requires the collection of the relevant data as part of the baseline studies. The statement provided in the concordance table suggests that this information will be collected in the effects assessment.	Clarify the following statement used in the concordance table: "The proponent's approach is to provide baseline information, and this will be included in the effects assessment of the Environmental Assessment/Impact Statement."	All Indigenous input on the social/cultural, and sustenance importance of bird species will form part of the Natural Heritage Existing Conditions Report. An outline of the Indigenous and public consultation process to seek input is provided in Section 5. Indigenous contributions to specific field programs are provided in their respective sections. Addressed **Sections 5 and 2.**

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	consultation with Indigenous communities will be used to determine the use of migratory and non-migratory birds as a source of country foods or where use has Indigenous cultural importance."				
MG-35	**Concordance Table** "The proponent's approach will be to conduct field data collection that will comply with the requirements in the TISG to the extent possible."	**Section 7.1** "The Impact Statement must establish appropriate study area boundaries to describe the baseline conditions. The study area boundaries need to encompass the spatial boundaries of the Project, including any associated project components or activities, and the anticipated boundaries of the Project effects, including all potentially impacted local communities, municipalities and Indigenous groups." **Section 8.9** "project components other than the route itself should be sampled. Such components that are linear (e.g., access or service roads) should be surveyed using transects as above. Non-linear components (e.g., aggregate pits) should be surveyed using a grid of sites spaced 250 metres apart and be sufficient to cover the Project component, plus a maximum 3-kilometre buffer. As with transect lengths, modification of buffer width to a minimum of 500 metres may be justifiable if land cover analysis demonstrates no further change in land cover classification with increasing buffer width…"	It is unclear from the description of baseline surveys if locations of project activities and components (i.e. access roads, aggregate pits) other than the route itself will be sampled, as per the TISG requirements in Sections 7.1 and 8.9. The Agency notes that the statement "The proponent's approach will be to comply with the requirements in the TISG to the extent possible." is found throughout the concordance table. The Agency would like to re-iterate that the study plan is expected to meet all requirements found in the TISG.	Provide further detail to demonstrate that associated project activities and components, including ancillary infrastructure, have been considered.	All area ancillary infrastructure will be sampled as part of the baseline data collection program. Addressed **Section 2.1.2**
MG-36	**Concordance table** " ... and information will be supplemented with data from published sources, personal and professional knowledge."	**Section 7.2** "The Impact Statement must provide detailed descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental, health, social and economic condition that is described, in order to corroborate the validity and accuracy of the baseline information collected…." **Section 8.9** "Collect explanatory (i.e., covariate) data necessary for modeling in such a way as to adequately represent the following spatial and temporal sources of variation: -Spatial variation in: Land cover composition Soil type, geomorphology Hydrological processes, and Climatic conditions; and…."	In comparison to well surveyed parts of the province, there is little existing data for the area of the Project, and the relevance of the existing data will vary according to when it was collected (e.g. number of years ago, seasonally) and how it was collected (e.g. rigour of the design, sampling intensity, and sampling protocols). An assessment of the publications and data sources that were used would be helpful. In addition, the area of consideration occurs in a transition between ecological zones (ecoregions and Bird Conservation Regions), which has implications for the ecological patterns and processes in this area. "Personal and professional knowledge" and expertise may be a valuable resource, augmenting existing and new data, but the relevance of that expertise will depend in part on whether experience was gained in the specific area under consideration here, and whether the expertise does in fact reliably address each of the information types. Although non-quantitative information is often valuable for informing conclusions, much of the	Provide details on the specific publications and data sources that will be used, along with resources that would enable an assessment of the protocols, designs and data management applicable for each data source as required in Section 7.2 of the TISG. Provide details about the experience, specific to geographic area of the Project and the requirements of Section 8.9 of the TISG, of individuals that will be used as resources.	A general list of information sources is provided in Section 2.1.1 of the Workplan, relevant information derived from these sources will be reference in the Natural Environment Existing Conditions Report. The specific protocols and analysis methodologies proposed are described in the field programs outlined in Section 2. The individuals involved in the development and execution of the program have significant experience in developing and executing complex field programs in extremely remote areas in northern Ontario.

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			data referred to in this part of the TISG is intended to be quantitative, which can more often be readily incorporated into statistical analysis.		
MG-37	**Concordance table** "Increasing the number and duration of surveys will increase the likelihood of detecting rare species."	**Section 8.9** "Rare species require more survey effort to detect than common species, and species rarity should be accounted for in survey design by increasing the number and duration of surveys."	Section 8.9 of the TISG requires that species rarity be accounted for in survey design.	Provide detail to demonstrate which rare species are expected to occur, and the planned adjustment to surveys and protocols to ensure sufficient detections as required in Section 8.9 of the TISG.	Specifics of potential SAR species and the survey protocols related to the detection of presence absence are described in the Species at Risk Workplan.
MG-38	**Concordance table** "The proponent will comply to the extent possible with the requirements in the TISG regarding data sets."	**Section 8.9** "Submit complete data sets from all survey sites. These should be in the form of complete and quality assured relational databases, with precisely georeferenced site information, precise observation/visit information and with observations and measurements in un-summarized form. Databases and GIS files should be accompanied by detailed metadata that meets ISO 19115 standards."	Detailed information is required to enable an interpretation of what is meant by "to the extent possible" and how the requirements of Section 8.9 of the TISG will be met. The Agency notes that the statement "The proponent's approach will be to comply with the requirements in the TISG to the extent possible." is found throughout the concordance table. The Agency would like to re-iterate that the study plan is expected to meet all requirements found in the TISG.	Provide details regarding planned data management practices, data formats and structure, metadata standards, and the precision of georeferencing and observation/visit information.	Complete data sets from any survey sites, including GIS files will be provided. Databases and GIS files will be accompanied by detailed metadata that meets ISO 19115 standard 29. Addressed **Section 2.1.3**
MG-39	**Concordance table** "Data collected during point count surveys will be summarized to calculate the overall avian biodiversity present within the study area, diversity at each count station, the number of BCR priority species observed for Ontario Bird Conservation Region 8 (Environment Canada, 2014) and North American Bird Conservation Region 8 (PIF, 2008), frequency of occurrence and abundance for each species across the Project Study Area and Local Study Area scales, abundance for each species within each habitat type, and the locations of observed species of Special Concern or SAR."	**Section 8.9** "Provide raw survey data and analysis results for 1) all birds, 2) each valued component, and 3) Bird Conservation Region Priority Species showing the species ranked according to: Frequency of occurrence; Abundance; Abundance in each habitat type, Map showing areas of highest concentrations of species."	In addition to the data summaries and analysis results, data must be provided in its most basic, detailed and un-summarized form (e.g. a detection of a single individual of a single species, at a specific date and point in time, and at a specific location).	Clarify how raw survey data and analysis results will be provided as part of the Impact Statement and any other relevant reports.	The baseline Avian presence/absence and habitat data collected in the spring, summer and fall of 2019 and 2020 and will be incorporated in a Natural Environment Existing Conditions Report that will include RAW data and the result of the modelling process in appropriate appendices. Addressed **Section 2.1.10**
MG-40	**Concordance table** "The proponent's approach will be to conduct field data collection that will comply with the requirements in the TISG to the extent possible. Primary information will be collected through field studies to the extent possible.	**Section 8.9** "Design suggestions for Project Study Area and Local Study Area scales: Use a standardized design approach during survey planning. The resulting design details will serve as the basis to develop alternative designs, evaluate options for particular design details, and to identify potential efficiencies. The approaches and tools suggested elsewhere in this document (e.g.,	The transect design provided in Section 8.9 of the TISG was intended as a basis to develop alternative designs. The absence of such design approaches can lead to increased bias and subjectivity in the conclusions. The expectation is that modifications of the offered transect design would be developed to create alternative design options, with each alternative quantitatively evaluated relative to the design principles given in the TISG, and a detailed rationale provided for	The transect design provided in Section 8.9 of the TISG was intended as a basis to develop alternative designs. The absence of such design approaches can lead to increased bias and subjectivity in the conclusions. The expectation is that modifications of the offered transect design would be developed to create alternative design options, with each alternative quantitatively evaluated relative to the design principles given in the TISG, and a detailed rationale provided for choosing the selected design	The current program survey design has been developed with full consideration of spatial dispersion and are outlined in Section 2.1.2. Areas considered to have a greater potential for SAR occurrence have received increased attention as outlined in the Species at Risk Workplan. The Agency has indicated that they have conducted similar programs to the one suggested in the area of the current project. It is respectfully requested that the

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	Due to access issues, terrain and overall accessibility it is unlikely that transects can be spaced every 2km. While well- intentioned, this recommendation is considered difficult to implement as study site selection is often based on helicopter access points and the ability of a survey crew to navigate the remote landscape (bogs/fens) that present health and safety challenges."	land cover analysis, data simulations) should be considered during the planning phase."	choosing the selected design option. This selected design option would then be used as the basis for the planned sampling. Direct and recent field experience by the reviewers indicates that it is feasible to deploy acoustic recorders at locations that have been pre-selected according to a random, spatially dispersed design. With helicopter drop-offs and overland travel, crews have deployed acoustic recorders on and across eskers, in peatlands, and at forest sites in remote parts of northern Ontario, including in the ecoregions of interest here. With some additional constraints (e.g. daylight and safety) this is also possible to do for bird point counts.	option. This selected design option would then be used as the basis for the planned sampling. Direct and recent field experience by the reviewers indicates that it is feasible to deploy acoustic recorders at locations that have been pre-selected according to a random, spatially dispersed design. With helicopter drop-offs and overland travel, crews have deployed acoustic recorders on and across eskers, in peatlands, and at forest sites in remote parts of northern Ontario, including in the ecoregions of interest here. With some additional constraints (e.g. daylight and safety) this is also possible to do for bird point counts.	Agency provide reports or detailed description of these projects to assist the proponent (i.e., area of study, duration of the project, number of survey teams, study plan/sample siting models, number and location of human/ARU sample locations, correlation of modelled vs actual sample sites, data collection methodologies/protocols, data analysis models and conclusions). This information would be very useful in determining the formation and execution of the suggested sampling plan moving forward.
MG-41	**Concordance table** "All ARUs will be returned to their original position in late July and left at this location to record during the fall migration period and during the winter. "	**Section 8.9** "1. Within each sampling year, ARUs should be deployed at sites as long as possible, with a minimum period of May 1 through July 10 (Breeding Recordings). Use deployments that maximize full use of battery and sound card capacity; 2. A subset of at least 50% of the ARU sites should have ARUs deployed to align with periods during which sites are used by birds in fall migration (August 1 through September 30) and during the winter (December 1 though March 31) (i.e., collectively, Fall/Winter Recordings). These fall and winter sites may be a subset of either entire ARU transects or sites along transects but land cover analysis should be used to ensure the subset is an unbiased sample of the population of ARU sites."	To make this evaluation, detailed information is needed to identify the locations of ARU deployments and a detailed treatment of the location schedule.	Provide detail that will enable an evaluation of alignment with the requirements in Section 8.9 of the TISG, including numbers of ARUs, specific dates of their deployment and re- deployment to new locations, and explanations of the rationale for the selected schedules.	**Addressed Section 2.1.6**
MG-42	**Concordance table** "Photographs will be taken that will comply with the requirements in the TSIG."	**Section 8.9** "Each site visited at any time between the dates of June 10 and August 30 should be photographically documented with 13 photos. .... Photos should be interpreted by qualified individuals as precisely as possible according to one or each of the classification schemes"	Section 8.9 of the TISG requires that photos are interpreted by qualified individuals as precisely as possible according to one or each of the classification schemes.	Provide details regarding the planned interpretation of the resulting photograph series, ensuring that photos are interpreted by qualified individuals as required in Section 8.9 of the TISG.	**Section 2.1.3 -** Habitat type will also be characterized at each distinct survey station visited during baseline bird studies. In order to support characterization at these locations, each site will be photographically documented with 13 photos, one at each cardinal direction (N, E, S, W): 1 photo at shoulder height with arm and camera extended parallel to ground, 1 photo with arm at 45-degrees (from body position) pointing down, and 1 photo with arm extended at 135-degrees (from body position) pointing up, and one photo with arm extended vertically. Photos will be interpreted by qualified individuals to one or each of the classification schemes: Ontario Ministry of Natural Resources and Forestry's (MNRF) Ecosites of Ontario: Boreal Range ELC system Boreal Ecosites, and/or The Canadian Wetland Classification System.
MG-43	**Concordance table** "Data analysis methods will be clearly described and transparent (e.g., annotated scripts), extract the maximum information from the data, and be appropriate for the data and protocols."	**Section 8.9** "…Analysis of ARU and point count data should account for differences in the survey methods (e.g., ability to detect, visit/sample timing and frequency). Offsets may be used to help account for variation in detection ability. Consider expert guidance on the proper use of offsets in modeling. Detection	To make this evaluation, detailed information is needed that describes the plans to address the requirements in Section 8.9 of the TISG, including plans to address variation in detection and plans for occupancy or other modeling.	Provide details that demonstrate how analysis of ARU and point count data will account for differences in survey methods and discuss any plans for modelling, as per the requirements in Section 8.9 of the TISG.	**Addressed in Section 2.1.4**

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		rates are unlikely to remain constant between visits so, if occupancy modeling is used it should be well justified."			
MG-44	**Concordance table** "Primary information will be collected through field studies to the extent possible and information will be supplemented with data from published sources, personal and professional knowledge. Secondary information will be collected through desktop research from published sources, government websites and other sources as described in Section 2.1 of the Workplan."	**Section 8.9** "Provide detailed descriptions of bird habitat that includes at a minimum…." "Surveys need to be detailed enough within the local study area and regional study area to put the project study area into context of these wider areas: mixed wood forest land cover and other upland vegetation types may be particularly important for many forest associated birds, supporting birds during migration, breeding and through the winter…."	Detailed information is needed to evaluate whether requirements in Section 8.9 of the TISG will be met.	Provide details on the complexities relative to the proximity of the project area to ecological boundaries. Indicate in the plans and descriptions how that complexity in land cover and other ecological features has been taken into account.	**Addressed in Sections 2.1.2, and 2.1.3**
MG-45	**Concordance table** "Can the Agency provide clarification as to the expectation and purpose of this data collection/modelling specific to the Project and where feasible provide an example of what is expected for the modeling?"	**Section 8.9** [May also be applicable or partly applicable to other sections of the TISG that refer to modeling and/or simulations, e.g. 7.1, 7.2, 7.4.1, 8.1, 8.2, 8.5, 8.11, 13.1, and 21]	Clarifications on the intended uses of modeling and simulations are offered below: The TISG Section 8.9 describes and recommends tools and approaches for Design Planning, including developing and selecting a survey design from design options The intention of this section of the TISG for the Design Planning phase is to identify a series of principles that should be used to guide and evaluate survey design options; offer detailed design elements as inputs and as a starting point for developing alternative design options; and recommend modeling, using existing and/or simulated data to evaluate those design options against a series of criteria that would include the design principles. An important element is that the proponent is uniquely able to include information and data specific to the project (e.g. detailed plans of road construction and routing, detailed imagery and existing proponent-collected data). Integrating this proponent-held information enables the proponent to develop design options (or scenarios) that incorporate detailed local information along with the TISG-derived design principles and tools. This approach should lead to a detailed platform for evaluating the sufficiency of the selected design, and for communicating the rationale for choosing that design, along with clarifications, suggestions and recommendations. Simulation modeling is the process of generating and analyzing hypothetical data, often in the context or with the purpose of comparing with actual data. Evaluation of survey design options can benefit from a simulation modeling approach through comparison of the representiveness of a potential sampling design relative to more intensive design options. This is a broad and diverse field, but a search in the ecological literature (e.g. with keywords power analysis) should produce relevant examples of approaches and methods. Section 8.9 of the TISG describes and recommends tools and approaches for data analysis, including conducting analysis using the data, both pre-existing and those data collected during the bird (or other) surveys. The intention of Section 8.9 of the TISG for data analysis is to guide data acquisition to ensure that the necessary quantitative data would be available to ensure appropriate analysis and reliable interpretations and ensure these covariates were included in the analysis of the collected bird (and perhaps other) survey data. The purposes of these covariate data are to enable the evaluation of their influence on the bird (or other) survey results, and to quantify that influence and account for it in the extrapolation and results-interpretation stages. Doing so reduces the chance that interpretations about the birds are made in error through a misunderstanding of the patterns and statistical results. For example, if the esker sites A, B and C were		The reviewer does indicate that one of the main drivers for this request is to allow for simulation modelling of design alternatives. A number of studies on the proposed and all-season road and other studies have been conducted to date in the region (refer to provincial Terms of Reference (ToR) and Detailed Project Description (DPD). At this stage in the process a preliminary preferred corridor has been chosen and two alternative road alignments (community preferred route and optimal geotechnical route) have been identified for further examination and analysis in the EA/IA as documented in the ToR and DPD, which involved consultation with Webequie a community land use base planning exercise and input from numerous ecological and socio-economic disciplines. The current study is a focused effort to gather information relative to these alternatives in order to provide the necessary data for the evaluation of alternatives and quantitative and qualitative effects and cumulative effects of the project, including the development of mitigative measures to minimize impacts to the extent possible. As outlined in **Section 2.1.2**, given the need for focused sampling of the lands through which the selected conceptual routes, within the preliminary proposed corridor, it was decided that developing a stratified sample site selection model was not required at this stage of the study. Instead a more focused approach was used to ensure the capture of data along the selected conceptual routes, and known rare habitat types, to support the Modelling of Abundance and Distribution that will be conducted as outlined in Section 2.1.4, and that supports the effects assessment during the EA/IA process. The site selection process was done by reviewing existing aerial/lidar and satellite imagery, the results from on-going vegetation/habitat classification, along with other background information, and Indigenous/public consultation. These sources will be used to establish locations for survey locations based on the professional opinion of biologists to ensure a

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			surveyed on days with no wind and the peatland sites D, E and F on days with light wind and occasional rain (which may affect both detection and bird vocal behaviour), the lower bird species richness of sites D,E and F might be entirely (and mistakenly) attributed to habitat differences. Modeling that included wind and rain covariates would be more likely to differentiate these effects and lead to better extrapolations and interpretations of the data. Resources and examples are available through scientific journals and statistical texts. Examples of potential key words for searches include: hierarchical modeling, generalized linear (mixed) models, boosted regression trees, Bayesian modeling.		stratified sampling of all habitat types with adequate distribution across the LSA and RSA, while guaranteeing a suitable number of sample locations within know rare habitat types and areas potentially directly impacted by Project activities, prior to execution of the field program. This selection process was used to inform the conducted prior to all migratory and breeding birds field studies that were conducted in 2019, and those planned for 2020 for migratory birds. Sample locations have been selected to ensure adequate representation of the PSA, LSA , RSA and ancillary laydown, aggregate sources and access roads with the goal of determining the any potential variation between the study areas as well as the variation between discrete habitats found therein. Species area curves will be used to make a final determination of whether sampling has been effective in capturing the potential species present within each site. Within each study area, and habitat type, multiple sampling points will be established, and sampling will continue until no new species have been observed and a flattened species area curve is observed. **Section 2.1.4** provides description of the proposed Abundance and Distribution models, along with the covariates, from published and field sources anticipated.
MG-46	**Concordance table** "The proponent's approach will be to conduct field data collection that will comply with the requirements in the TISG to the extent possible. Primary information will be collected through field studies to the extent possible. Due to access issues, terrain and overall accessibility it is unlikely that transects can be spaced every 2km. While well- intentioned, this recommendation is considered difficult to implement as study site selection is often based on helicopter access points and the ability of a survey crew to navigate the remote landscape (bogs/fens) that present health and safety challenges. "	**Section 8.9** "Design suggestions for Project Study Area and Local Study Area scales... Transect lengths less than 5 kilometres may be suitable but should be justified with respect to an analysis of land cover that demonstrates no further change in land cover composition with increasing distance from the intersection of route and transect mid- point."	Section 8.9 of the TISG requires that detailed information on the approach to land cover analysis, including design planning and evaluation, be provided. To assist with providing the information needed to make this evaluation, an illustration is offered relating to land cover analysis to help define transect lengths. This is an illustration of the land cover analysis referred to in Section 8.9 of the TISG, for the Esker VC. (1) Identify the eskers and similar geological features (e.g. moraines) potentially affected by the project. For those features, identify the land cover types that occur within the geologically defined esker (or moraine) polygon. (2) Identify the major land cover types by calculating, across all the individual eskers (and moraines) potentially affected by the project, the types of land cover that make up 80% or more of the surface area of these features. (3) For each esker (or moraine), determine the individual percentages of each of the major land covertypes within the PSA on each esker (and moraine). (4) In increments (e.g. 100 metres), extend a buffer from the edge of the PSA to 15 kilometres from the edge of the PSA, and calculate the percentage of each of the major land cover types within each increment. (5) For each major land cover type, calculate the rate of change between successive buffer increments in land cover composition (i.e. the difference in percentages between a given buffer increment and the increment one step closer to the PSA boundary). For the first buffer increment, calculate the percent difference between the PSA and that buffer increment. (6) For each major land cover type, determine the maximum calculated rate of change across all buffer increments (i.e. 100 metres to 15 kilometres out from PSA boundary). (7) The LSA boundary for each esker or moraine would then be defined as the buffer width that is the maximum of: a. 500 metres from the PSA boundary, or b. the buffer increment where (i) all major land cover types have a rate of change in land cover composition of less than or equal to 5% of the maximum rate of change found in (5), and (ii) the increment is beyond (i.e. further away from the PSA) where the maximum rate of change found in (5). (8) This approach is intended to lead to LSA boundaries for eskers and similar geological features that include the esker-related land cover types, the rapid land cover change that occurs along the edges of		Land Cover analysis is covered in detail in the Vegetation Workplan, and briefly outlined **in Section 2.1.3**. The identification of geologic features such as Eskers will be determined through the Geotechnical/Physical studies conducted (refer to Geology, Terrain and Soils Work Plan) and information derived was incorporated into the vegetation typing outlined in the Vegetation Work Plan. The study area contains few eskers, but the vegetation work plan generally followed a similar comparison of relative cover percentages and rate of change between successive buffers to determine the extents of the LSA and RSA.

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			these features, and a portion of the broader landscape matrix. An ecologically defined LSA should therefore serve as a useful reference for comparing patterns and survey results with the PSA and the RSA.This approach could be used to define LSA boundaries for the Wetland VC and any other habitat VCs.		
MG-47	**Concordance table** "It is not clear how a meaningful comparison of intra-annual climatic variability can be conducted in the time-frame available for the IA ."	**Section 8.9** "Temporal, especially annual, variation in local weather inter- and intra- annual climatic variability."	Within-year (i.e. intra-annual or seasonal) variation in climatic conditions has the potential to affect bird survey results, particularly if the timing of survey visits is extended across or beyond several weeks. For example, if acoustic recorders were deployed in two phases (i.e. placed and then moved to new locations) and the average temperature and precipitation over the first deployment period was quite different from the second deployment period, then some of the differences between the sites surveyed in the two phases could be due to the differences in those climatic conditions. A typical way to handle this is to ensure the necessary weather data are available (or collected), implementing a sampling strategy that anticipates these types of potential effects (e.g. extended recorder deployments at a randomly selected subset of sites) and analytically evaluating the potential influence of such intra-annual affects.		Climate data will be tracked using data from appropriate weather organizations, on-site recordings of weather data when possible, and/or communications with residents if necessary.

Comment Response Tables for MECP Technical Review

Comment #	Page/Section # in Work Plan	Comments and Rationale	Proposed Action/Solution	Response
Dave Barker, District Resources Management Supervisor/Philip Wilson, Resource Management Biologist, MNRF				
1.	**2.1.2.1**	ARU Phase 2 recordings might better capture Common Nighthawk and American Woodcock, if present, commencing 1 hour prior to sunset.	Recommendation to better capture crepuscular and nocturnal calling species across the 50 ARU deployments.	The Canadian Nightjar Survey begins 30 minutes before sunset and IAAC ARU scheduling recommended 30 minutes prior to sunset, which was assumed to include allowance for detection of crepuscular species including Common Nighthawk. Please provide sources for beginning 60 minutes prior to sunset.
2.	**2.1.4**	Were waterfowl productivity surveys discussed with Webequie? There is interest and concern from the community about impacts to waterfowl production from development project. Waterfowl production is considered significant wildlife habitat, and thus should be planned at some course during the pre-development process.	It is highly recommended to consult with the community, as local waterfowl abundance and habitats are important to Webequie.	The importance of waterfowl productivity surveys will be requested from the community during community engagement. Some later waterfowl surveys are likely to account for locally breeding pairs, but will not record young. Waterfowl hunting occurs primarily during migration, thus survey work focussed primarily on waterfowl movement through the LSA and RSA.
3.	2.1.5	The raptor nesting survey section must be teased out in greater detail on survey method, seasonal timing, as well as nest identification techniques, associated nest speciation, and data variables collected. Stick nesting species are significant wildlife habitat, and require appropriate identification and a FWCA permit for the removal of any nest, if required for the alignment of the road corridor.	Please elaborate in greater detail.	Additional detail regarding raptor nests data collection is provided in **Section 2.1.10**.
4.	**2.3**	"Effects assessment and evaluation will be completed on the proposed preliminary corridor, alternative routing alignments…"	There are no alternative routings depicted on the maps in this workplan. Please revise.	Work Plan has been modified to address proposed action.
5.	**2.4**	Missing Fish and Wildlife Conservation Act, 1997 to the list of potential authorizations.	Please revise.	This section has been removed.
Sasha McLeod and Agni Papageorgiou, Special Project Officers, Environmental Assessment Branch, MECP				
1.	**All work plans**	The work plans indicate that the IS will comply with the requirements of the TISG. The work plans must also indicate the IS/EA will comply with approved ToR requirements.	Please indicate that the IS/EA will comply with the ToR as well.	Work Plan has been modified to address proposed action. **Please see Section 1.0**
2.	**All work plans**	Provincial 'environmental assessment' terminology should be used along with the federal 'impact statement' terminology.	Please call the report the "impact statement/environmental assessment, IS/EA" rather than 'impact statement.'	Work Plan has been modified where applicable to address proposed action.
3.	**All work plans**	The work plans should refer to the ToR methodology for the effects assessment and alternatives assessment methodologies, so that the methodology is consistently applied for the environmental components.	Please ensure the ToR has a complete and detailed description of the effects and alternatives assessment methodologies. In the work plans, refer to the applicable ToR section rather than describing the methodology in some work plans but not others.	Work Plan has been modified to address proposed action. **Please see Section 3.3.**
4.	**All work plans**	Some work plans describe the local and regional study areas while other do not. It is preferred that each work plan include a description and map of the local and regional study areas for the specific environmental component as it is a relevant component of the work plans.	Please include a description and map of the local and regional study areas in each work plan.	Work Plan has been modified to address proposed action. **Please refer to Figure 1**.
5.	**All work plans**	The work plans say the effects assessment will be completed on the preliminary corridor, alternative routing alignments and supporting infrastructure elements (e.g. access roads, aggregate sites). It is not clear how the alternative methods for the supporting infrastructure elements will be part of this assessment.	Please clarify how the assessment of the environmental component will be done for all alternative methods, including road alignments and supporting infrastructure, and how this contributes to the overall alternatives assessment in the EA.	Work Plan has been modified to address proposed action. **Please see Section 3.3.**
6.	**Multiple pages**	Pages 3-5 and 11 refer to Species at Risk birds. MECP understood from SNC-Lavalin that all SAR-related work plan would be contained in the Draft SAR Work Plan. It is noted that page 11 says more detail on SAR birds are presented in the draft SAR Work Plan.	Please confirm that the SAR Work Plan contains the necessary details about all of the work planned for all SAR. If the Breeding Bird Work Plan contains information about SAR birds that is not included in the SAR Work Plan, additional time will be required for MECP SARB to review.	Confirmed.
7.	**Maps 2a, 2b and 3**	These maps show survey locations along the preferred route. It is not clear how impacts to birds will be assessed for all alternative methods, including the route alignment and supporting infrastructure, as these maps only show one road alignment.	Please clarify how the assessment will consider all of the alternative methods for the project.	Work Plan has been modified to address proposed action. **Please see Sections 1.1 and 2.1.2.**
13.	**Page 1, s. 1**	It is stated that one of the purposes of the workplan is to "fulfil the	Further to this point, given that a Final ToR has not been	Work Plan has been modified to address proposed action. **Please see Section 1.0.**

Comment #	Page/Section # in Work Plan	Comments and Rationale	Proposed Action/Solution	Response
		commitment as stated in the provincial Term of Reference for the MECP to review and provide advice."	submitted, please include a statement clarifying that Ontario's review of the workplan is preliminary and secondary to any further review and decisions related to a Final ToR.	
14.	**Page 11, s. 2.2**	Criteria and indicators are stated in this section, but it is not clear how those indicators will be measured, and what data sources will be used to inform the analysis.	Please revise to include indication of how each indicator will be measured, along with data sources. A table format is preferred, building on the preliminary criteria and indicators table that was included in Appendix B to the draft ToR.	**Please see Section 3.2.**
15.	**Page 12, s. 2.3**	While it is noted that input will be considered from interested persons during the ongoing consultation process, no additional information or specific consultation opportunities are described.	Please revise the workplan to specify consultation activities that will be used to seek input on the scope of the workplan and related assessment. Further, it would be helpful to include a summary of how input received to date has been incorporated, and how the workplan addresses concerns raised in consultation to date.	Work Plan has been modified to address Public Participation as well as Indigenous Engagement. **Please see Sections 5.1 and 5.2.**
16.	**n/a**	The draft ToR noted that Indigenous Knowledge would be a data source for the breeding bird assessment. However, the workplan does not include further details about how Indigenous Knowledge will be used as a data source to inform the assessment, nor does it provide any further information on how Indigenous Knowledge will be collected and incorporated into the assessment.	Please revise the workplan to include additional information about how Indigenous Knowledge, where provided, will be used as a data source, and to provide a proposed methodology for how the proponent intends to seek this information, from whom, and how it will be incorporated.	Work Plan has been modified to address proposed action. **Please see Section 5.2.**

Comment Response Tables for MECP/IAAC Technical Reviews

Comment #	Study Plan Section	Tailored Impact Statement Guidelines Section	Context	Required Action for Proponent	Response
	Section 2.1	Section 8.10	**Methodologies** For many of the TISG requirements in the concordance table the response states "This is committed to as an objective in Section 2.2 of the Wildlife and Wildlife Habitat Work Plan", "Will be described in the Impact Statement/Environmental Assessment (IS/EA) Report" or "This is committed to as an objective in Section 2.1 of the Wildlife and Wildlife Habitat Work Plan". In Section 2.1 of the study plan there is a statement that the project team will "endeavor to collect data … to achieve the following requirements…." followed by the list of the TISG requirements from Section 8.10. The Impact Statement must address all requirements outlined in the TISG and the study plan should demonstrate a clear approach to meet those requirements	**Required Action #1:** Update the study plan to explain the proposed approach and methods used to integrate the requirements of Section 8.10 of the TISG into the study plan.	Section 2.1 has been revised.
	Section 2.1	Section 8.10	In Section 8.10, the TISG requires that the proponent "identify wildlife species, other than avian species, of ecological, economic or human importance (particularly to Indigenous peoples), within the study area (including moose, rabbit, beavers, otters, muskrat, and frogs), that are likely to be directly or indirectly effected and describe each species: • biodiversity, distribution and location; • abundance, and population status; • life cycle; • seasonal ranges, migration and movements; • habitat requirements; and • sensitive periods (e.g., seasonal, diurnal and nocturnal). For the species identified above, describe and quantify the habitat type, including its: function; location; suitability; structure; diversity; relative use, natural inter-annual and seasonal variability, and; abundance as it existed before project construction;"	**Required Action #2:** Provide detail in the study plan on survey design to demonstrate that the requirements of Section 8.10 will be met for each species.	Details on survey design and data collection for each non-avian and non-SAR wildlife VEC is summarized in Table 1.
MG-02		Section 8.10.	**Indigenous Engagement** Beyond the requirements on Indigenous engagement found in Sections 6 and 7 of the TISG, Section 8.10 requires the proponent to "describe the historic and current use of terrestrial wildlife as a source of country foods (traditional foods) or where use has Indigenous cultural importance (e.g., black bear, caribou, deer, moose, beaver, arctic fox, fisher, wolverine, rabbits, marten, muskrat, and otter);" and to "describe the use and harvesting of fur-bearing species and whether its harvesting has Indigenous cultural importance;"	**Required Action #3:** Provide detail to describe where existing information on elements that have Indigenous cultural importance are being sourced and how Indigenous groups will be engaged to meet the requirements in Section 8.10 of the TISG.	Please refer to Section 3 in the resubmitted workplan.
MG-03	Section 2.2	Section 8.10.	**Background Information** Section 2.2 of the study plan provides a list of background information sources but it does not provide any detail or context on what information will be sourced from those listed, and how they relate to the proposed study plan.	**Required Action #4:** Provide detail on what baseline information will be sourced from surveys and what will be sourced from secondary information sources (such as those listed in Section 2.2 of the study plan) so that it is clear where information is being sourced and how it will be integrated into the study plan to meet the requirements in Section 8.10.	Details on survey design and data collection for each non-avian and non-SAR wildlife VEC is summarized in Table 1.
MG-04	Section 2.2	Section 8.10	**Indigenous Knowledge** Section 2.2 includes "Indigenous Knowledge information obtained through consultation with Indigenous communities" as a source of baseline information. Detail is required on how Indigenous knowledge has been, and will continue to be, included in the planned studies.	**Required Action #5:** Describe what engagement with Indigenous groups has been done in the development of the study plans, and/or any planned engagement with Indigenous groups on the study plan, particularly in relation to those Indigenous groups that would need or wish to provide Indigenous knowledge during baseline studies.	Please refer to Section 3 in the resubmitted workplan.
MG-05	Section 2.3	Section 8.10	**Survey Design** Section 2.3 of the study plan on "Field Surveys" provides overviews of field surveys for caribou / wolverine, bats and birds. Section 2.3.1 2018 Winter Aerial Surveys and 2.3.2 2019 Winter Aerial Surveys in the study plan provide information about the previous field work done primarily for caribou/wolverine. It states that there is a secondary objective of inventorying other wildlife and information is provided about the number/species of other wildlife that were seen. These appear to be incidental	**Required Action #6:** Provide detail on the proposed surveys, including survey design, to demonstrate how TISG requirements for wildlife species, beyond caribou and wolverine, will be met.	Evidence of Non-SAR terrestrial wildlife was with equal intent as SAR species during winter aerial surveys in 2018 and 2019. As such, these observations are not considered incidental observations. See Table1 for a summaries of field suveys and other data collections methods for each wildlife species implicated.

Comment #	Study Plan Section	Tailored Impact Statement Guidelines Section	Context	Required Action for Proponent	Response
			observations, rather than surveys designed specifically for each species. Section 8.10 of the TISG states "identify wildlife species, other than avian species, of ecological, economic or human importance (particularly to Indigenous peoples), within the study area (including moose, rabbit, beavers, otters, muskrat, and frogs) that are likely to be directly or indirectly effected and describe each species:..." It is unclear in Section 2.3 of the study plan that surveys have been designed to adequately capture the required data for these other wildlife species.		**MNRF will be consulted with regards to preferred alternative study methods for non-SAR terrestrial wildlife VECs**
General Comments	General Comments	General Comments	In addition to the required actions detailed above, other required actions to be addressed in the update to this study plan are detailed in a separate table titled "2020-05-14 – IAAC to WSR - General Comments on WSR Draft Study Plans". The Agency has provided these other required actions to highlight common sections of the TISG where requirements were not met in the draft study plans submitted to the Agency. These additional actions must be addressed in the updated study plans. The Impact Statement must meet the requirements of Section 25 of the TISG regarding the project's contribution to sustainability, and the study plans must reflect an approach to meeting these requirements.	**Required Action #7**: Provide detail in the study plan to demonstrate that the plan addresses the required actions outlined in the table "2020-05-14 – IAAC to WSR - General Comments on WSR Draft Study Plans" and that the plan describes the approaches to meeting the TISG requirements, including Section 25 of the TISG, that will be implemented.	The changes reflected in this comment has been edited accordingly.

Comment #	Page/Section # in Work Plan	Comments and Rationale	Proposed Action/Solution	Response
Sasha McLeod and Agni Papageorgiou, Special Project Officers, Environmental Assessment Branch, MECP				
1.	**Page 2, s.1.1**	Study areas (PF, LSA and RSA) are defined in this section, and are based on distance from the ROW. It is noted that the RSA will be further refined and may be criterion specific (e.g., caribou). Caribou, as SAR, are not a proposed criterion in this workplan and should be removed as the example. Study area are expected to include the area where potential effects are anticipated. No rationale is presented for the proposed study area distances, so it is unclear how the proponent determined these boundaries.	Provide a rationale for the proposed study areas. It would be more appropriate to develop criteria specific study areas at this time, rather than later in the study period. If waiting, please include clear timelines and proposed actions the proponent will take to consult on those study area boundaries, prior to undertaking assessment work.	The extent of the PF, LSA, and PSA was determined through analysis of habitat availability (e.g., % of each VC in RSA vs LSA). If a less than 3% variation is observed between habitat types, the extent of expansion of the from the LSA to RSA will be considered an adequate extent for the study purposes. General standardized spatial boundaries for the PF, LSA and RSA have been developed for use across all project disciplines. When required by data review and/or field findings these boundaries for Specific VC's may be altered to adequately capture the extent of the specific VC habitat/area of influence to provide comprehensive effects analysis. Description of process has been added to Section 1.
2.	**Page 2, s. 1.1**	The local study area is 1 km from the road right of way boundary. The two alternative ROWs are within a 2 km corridor. For clarity, does this mean the LSA is the same as the 2 km ROW corridor?	Please clarify in response to this comment. No suggested change to the work plan.	The LSA extends 1km in all directions from the centrelines of all alternative ROWs.
3.	**Page 2, section 1.1**	It is stated that the draft ToR is dated April 2020. The draft ToR is dated September 2019.	Please revise.	The changes reflected in this comment has been edited accordingly.
4.	**Page 2, section 1.1**	The proposed study areas are based on the alternative routing and do not include supporting infrastructure. It is stated that at "this stage of the IA/EA process the supportive infrastructure components have yet to be determined". It is unclear when those components, or appropriate study areas for the alternatives assessment would be defined. At this stage, it is expected that they would be reflected in the study areas.	Please revise study areas to include supporting infrastructure, and the area where potential effects may be anticipated from those alternatives.	At this time, locations of supporting infrastructure have not been confirmed and, as such, cannot yet be mapped. The locations of supporting infrastructure, as well as methodologies as to how these areas were appropriately studied, will be presented either in future baseline reports or in the EA/EIS.
5.	**Page 3, s. 2.1**	There appears to be a typo in the word "angulates" at the bottom of section 2.1 – should this be ungulates?	Revise as appropriate.	The changes reflected in this comment has been edited accordingly.
6.	**Page 3, s. 2.2**	It is noted that background information used to characterize existing conditions will include "Indigenous Knowledge information obtained through consultation with Indigenous communities;" While it is agreed that some communities will have already compiled Indigenous Knowledge that may be helpful background information, Indigenous Knowledge should also be incorporated as a primary data source. While it is noted that the plan includes details for how Webequie community members have participated in surveys, no further information about how knowledge from other Webequie members, or from other communities will be incorporated.	Please revise the workplan to include additional information about how Indigenous Knowledge, where provided, will be used as a data source, and to provide a proposed methodology for how the proponent intends to seek this information, from whom, and how it will be incorporated.	Please refer to Section 3 in the resubmitted workplan.
7.	**Page 4+, s.2.3**	This section details field survey methodologies. It is noted that the methodologies primarily focus on SAR (caribou and bats). While it is explained in the workplan that the secondary objective of the workplan was to collect data on other non-SAR wildlife species, this section largely focuses on repeated methodology to collect information on SAR. This content is redundant with the SAR workplan and should be removed. MECP notes that its SAR Branch has not reviewed this plan.	Please remove detailed caribou methodologies and the rationale for their use to assess caribou. Apply any relevant edits to the remaining text from the MECP SAR Branch comments on the SAR workplan.	The changes reflected in this comment has been edited accordingly.
8.	**Page 14, s. 2.4.1**	Criteria species are proposed to be Moose, American Marten and Bats. It is noted that this is based on advice from MECP and ECCC – that advice should be summarized in the document for review. It is noted that the rationale for selecting those species will be further described during the EA, including consultation. This rationale should be presented in the workplan so that it can be reviewed and revised, as appropriate. Further it is expected that the proponent would have received some input from Indigenous communities and interested persons about species of	Please revise to include a detailed rationale for the criteria species, including why and which species they are intended to represent, and how consultation informed the selection of those species.	Please refer to Table 5 in Section 2.5.

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		importance during consultation completed to date. This information should be incorporated into the workplan.		
9.	**Page 14, s. 2.4.1**	It is stated that "to date the following preliminary terrestrial wildlife criteria have been selected within the IA/EA for assessing the effects of the Project and exclude those wildlife species identified in the migratory bird and SAR work plans." It is not clear what "exclude" migratory bird and SAR species means. Does it mean moose, American marten and bats are proposed to be criteria species in addition to all of the species listed in the SAR and migratory bird work plans?	Please clarify in response to this comment. Suggest making wording more clear in the work plan.	The changes reflected in this comment has been edited accordingly. Please see section 2.4.1 of the revised workplan.
10.	**Page 14, s. 2.4.1**	It is noted that "For example, moose and American marten can be used to directly predict effects on Indigenous current use of lands and resources for traditional purposes and are representative of many other species identified as culturally or traditionally important by Indigenous communities." Impacts to species would be an indirect effect on land use.	Please revise and include additional details about how the results of the wildlife assessment will be incorporated into the land use assessment.	The human impact assessment will integrate data and other information that will be provided via the various studies into the Country Foods Assessment. The incorporation of the findings of the Country Foods Assessment will be used in the human impact assessment to provide details regarding measured metal concentrations in local harvested and routinely consumed foods. The integration of the findings of the Country Foods Assessment into the HIA will inform impacts associated with changes in the social determinants of health, including traditional food security and connectiveness to the land.
11.	**Page 14-15, s. 2.4.1**	Criteria and indicators are summarized at a high level in this section. It is stated that each indicator will be assessed quantitatively where sufficient data and information exist to support a numerical assessment, and/or qualitatively where applicable. It is not clear how those indicators will be measured, and what data sources will be used to inform the analysis.	Please revise to include indication of how each indicator will be measured, along with data sources. A table format is preferred, building on the preliminary criteria and indicators table that was included in Appendix B to the draft ToR. The workplan should be clear about which indicators will be assessed quantitatively vs. qualitatively for each criteria so that reviewers can comment on whether this approach is appropriate.	The changes reflected in this comment has been edited accordingly. Please see Section 2.5 of the revised workplan
12.	**Page 16, s.2.4.2**	The proposed methodology for the effects assessment is presented and is largely identical to that presented in the draft ToR. Comments provided be MECP relating to how the assessment of alternatives, and commitments made by the proponent to revise the assessment methodology are not reflected in this section. It is noted that the assessment of alternative designs will include a comparative evaluation of advantages and disadvantages but it is not clear when this assessment will occur and if an effects assessment will be completed for those components. For example, it appears that the proponent will do a comparative evaluation using a separate set of criteria/indicators for the alternatives assessment than for the effects assessment – but what are those criteria, and will it be a quantitative, qualitative or mixed comparison. It is not clear if the bulleted list of components for the effects assessment on page 16 is just for the preferred alternatives? Does the alternatives assessment fit in here or will that be kept separate?	Please revise the assessment methodology to reflect previous discussions and commitments made through the review of the draft ToR, and submit for review. Please ensure that the EA contains a very clear description of the methodology(ies) for how alternatives are assessed/selected and how effects (of the preferred alternatives?) are described. Please also make clear how these two methodologies may differ. This applies to all the environmental components. The ministry will require a clear explanation of the effects and alternatives assessment methodologies in the EA, and will be looking for how key principles such as clarity, consistency and transparency, among others, are met in the documentation.	Please see section 2.6.
13.	**Page 16, s. 2.4.2**	While it is noted that input will be considered from interested persons during the ongoing consultation process, no additional information or specific consultation opportunities are described.	Please revise the workplan to specify consultation activities that will be used to seek input on the scope of the workplan and related assessment.	Please refer to Section 3.1 in the resubmitted workplan.
14.	**Page 18, s. 3**	The acoustic sampling bullet does not indicate which species this is for.	Please add the species relevant to the acoustic sampling bullet.	The changes reflected in this comment has been edited accordingly.
15.	**Throughout**	The draft work plan includes different EA terminology including "criteria," "indicators" and "valued components." Recognizing that there are differences in terminology between the provincial EA and federal IA, the work plan should ensure terminology is not confusing to the reader.	Ensure clarity in using terminologies to help readers have a productive review of EA documents. One consistent set of terminology should be used. The proponent could potentially include a key indicating which provincial terms match up to which federal terms if that may be helpful.	The changes reflected in this comment have been edited accordingly
Science and Research Branch, MNRF				

Comment #	Page/Section # in Work Plan	Comments and Rationale	Proposed Action/Solution	Response
1.		Note: Comments submitted on SAR Work Plan should be reviewed where overlap in plans exists.		Noted.
2.	**Section 2.3, Page 4**	The Draft Work Plan states "Data collected during each survey contributed to the assessment of multiple SWH types, as well as the presence/absence of wildlife species". It is unclear whether the sampling design is robust enough to provide a measure of absence. As presented these data provide a measure of "presence / non-detection".	Restate the objectives of the field surveys (recommended) or, if there is a commitment to measuring absence, conduct more robust field surveys and analysis to estimate the probability of absence (e.g., using occupancy).	Section 2.3 has been edited and the word "absence" has been removed from the statement.
3.	**Section 2.4.1, Page 14**	The Draft Work Plan states that a "filter approach" will be used but does not define what is being filtered or how that filter improves the assessment. It also states, "Where a species is well represented by an ecosystem evaluated in the vegetation and wetlands assessment (e.g., wetlands are representative of beaver habitat), that species will not be selected as a wildlife criterion for the Project." However, it is unclear in the Work Plan how it will be determined what species are well represented and what are not. For example, are all wetlands good beaver habitat? If yes, what evidence supports that claim? If no, then what wetlands are good beaver habitat and how are they measured in the assessment? Understanding how these types of decisions will be made will be important when supporting the conclusions of the assessment.	Rewrite this section to (1) clarify what filter is being applied and how it will be applied to the terrestrial assessment, and (2) how it will be determined what species are well represented by other valued components?	Wildlife and other biodiversity elements are also captured by the assessment of upland, wetland, and riparian ecosystems (refer Vegetation Work Plan). To complement the assessment of vegetation and wetland ecosystems, the application of a scoped approach is proposed to limit the redundancy of assessing the effects to multiple natural heritage receptors that occupy similar habitats. This scoped approach allows for the assessment of effects on biodiversity that sometimes are distinct from effects on ecosystems and for which targeted mitigation actions at the species level may be required (e.g., listed SAR). The vegetation and wildlife and wildlife habitat assessments complement and interact with one another, with each assessment providing context for the other. Combined, a scoped assessment will nonetheless provide a holistic assessment of the potential effects of the Project on wildlife. It is not feasible to assess all potentially affected wildlife species in the IA/EA and a such effort will be made to minimize ecological and assessment redundancy. Where a species is well represented by an ecosystem evaluated in the vegetation and wetlands assessment (e.g., wetlands are representative of Frog, Beaver, River Otter, and Muskrat habitat), that species will not be selected as a wildlife criterion for the Project. Also, species that are sensitive to disturbance will be selected over those that are resilient to disturbance to allow for a precautionary assessment of Project effects, wherein the effects on the resilient species will necessarily be less than the effects on the sensitive species.
4.	**Section 2.4.2, Page 15**	It is unclear how the magnitude criterion be quantitatively evaluated (paragraph 2, sentence 6) given it will be characterized using a scale "placed in the ecological context"? As written, the plan commits to estimating an empirical relationship between the magnitude and the data. This would require a multivariate modeling framework.	Clarify how magnitude will be determined (i.e., was the intent for quantitative predictions to be considered as part of the magnitude criterion?).	Please refer to the description of the Net Effects Assessment in Section 2.5.2 of the revised workplan.
5.	**Sections 3, 4**	The schedule does not allow enough time design and implement surveys that include seasonal and daily variation related to ungulates or furbearers.	Revisit the schedule and reporting deadlines.	The EA schedule is imposing the two-year temporal limitation on field data collection. The current schedule requires that the EA documentation be completed in draft by the spring of 2021.There may be an opportunity for further data collection as part of the construction and post construct monitoring requirements.
6.	**Section 2.1, Page 2**	"The review of background information and baseline field investigations for the WSR will endeavour to…achieve the following requirements and objectives…with respect to terrestrial wildlife and their habitat: › Identify wildlife species, other than avian species, of ecological, economic, social or cultural importance (particularly to Indigenous peoples as a source of food), within the project area (including moose, rabbit, beavers, otters, muskrat, and frogs), that are likely to be directly or indirectly effected and describe each species:" Are wolves and bears of importance to Indigenous peoples in the WSR?	Explicitly state that wolves and bears will be included in these wildlife studies.	To date, Gray Wolf and Black Bear have not been identified as required Indicators for this EA/EIS. Nonetheless, these large predators exert population pressures on Caribou and Moose, which have been selected as Indicators. As such, effects of the project on these predators will be assessed as they pertain to predation of large ungulates. Please see Section 2.1 and Table 1 of the revised workplan.
7.	**2.3, Page 4-13**	I am not confident that furbearer tracks of most species can be accurately identified by aerial surveys, especially for smaller or similar species. For example, there is great overlap between fisher, marten, mink, and weasel. There will be many false positives and false negatives in the dataset.	Do not rely on track data for smaller and similar species. Perhaps wolverine, wolf, lynx, and otter are the only species that can be reliably surveyed.	Thank you for your comment. The proponent agrees that track data for smaller mammal species cannot be reliably recorded during aerial surveys. References to such species has been modified to reflect this.
8.	**Section 2.3.1.1, Page 5; Section 2.3.2, Page 7**	Aerial surveys are commonly used for caribou, moose, and wolverines as identified in the Draft Work Plan, and may be valuable for describing winter biodiversity and distribution of furbearers as outlined in Section 2.1. There is limited evidence supporting the use of aerial surveys to describe [relative] abundance, population status, life cycle, season range, migration, movement, or habitat requirements of canids, felids, smaller mustelids, or lagomorphs.	Describe how information will be obtained related to the biodiversity, distribution and location; [relative] abundance and population status; life cycle; season ranges, migration and movements; habitat requirements; and sensitive periods for each wildlife indicator (i.e., valued component).	Data collected during aerial surveys has been presented to indicate the confirmation that these species have been recorded within the project study areas. While aerial surveys may not be the preferred method of survey for smaller canids, felids, smaller mustelids, or lagomorphs, aerial surveys provide a means of sampling the presence of these species across the three Project study areas. Please refer to Table 5 for details regarding data collection details for furbearers.

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9.	**Section 2.4 , Page 14-16**	Even if one could identify all of furbearer species correctly from aerial surveys, it is not at all clear how these data can effectively be used as a baseline. Furbearer populations fluctuate widely, many in a 10-year cycle. No abundance is estimated. Perhaps distribution can be used, but distribution also changes with the hare cycle (i.e., via density-dependent responses).	The main risk of the project to furbearers is almost certainly to be risk of increased furbearer harvest due to the presence of the road. This is not discussed in the document. Furbearer harvest in the area pre- and post-project should be monitored. The gold standard would be to do this in a BACI design (before-after control-impact). If aerial surveys are to be conducted, only rely on the larger species such as wolverine, lynx, otter, and wolf.	Thank you for this comment. The proponent acknowledges that larger species are best surveyed via aerial surveys and that this survey type poorly samples smaller furbearers with respect to determining relative abundance and microhabitat use. Trapping conducted in the region is exclusively done by FN trappers, who are not required to report their harvest. It is unclear at this time whether a BACI design using furbearer harvest is possible.
10.	**Table 1, Page 7**	There appear to be many errors in Table 1. The reported number of animals observed in the text is inconsistent with the corresponding numbers reported in the table (e.g. text indicates 33 moose were observed, table says 36). The number of animals observed per km transect is also either reported in error or calculated inconsistently among species. For example, 2 marten observed along 1833 km of transect does not equal 0.045 occurrences/ km. Ditto for the column reporting the % of transects on which wildlife of various species were observed. These numbers seem all over the place and are inconsistent with the number of reported observations vs the number of transects flown. The table columns are not clear. For example "Animals observed". Is this actual animals? Tracks? Clarify. Likewise, how was occurrences per km calculated? Where is the 2018 table?	Please check and correct the numbers reported in table.	Data presented regarding aerial survey results have been revised for clarity and accuracy and are presented in Table 2 of the revised workplan.
11.	**Page 2/Section 1.1**	The Regional Study Area (RSA) "assesses the potential, largely indirect and cumulative effects of the Project in the broader, regional context" but "is defined at this time as extending approximately 5 km from the LSA boundary"; i.e., 6 km on either side of the right-of-way (ROW) boundary. This is insufficient to assess regional cumulative effects on caribou.	The RSA for caribou should be expanded to the combination of the Ozhiski and Missisa Ranges.	The Wildlife Workplan has been revised to remove reference of SAR. SAR, including Caribou, are addressed under separate cover in the SAR Workplan.
12.	**Section 2.3, Page 4-13**	It is unclear whether the methods outlined for the field surveys are sufficient to meet the objectives outlined in the "Methodology" section. This section outlines a number of objectives that will be unmet using the current methodology. Specifically, as it relates to large ungulates, the methods outlined will not allow for any assessment of season ranges, migrations or movements, or habitat requirements. This section states that "at a minimum, the combined information from existing data and field surveys will be detailed enough to describe the distribution and abundance of all large ungulates [sic] and furbearers in relation to the defined study areas (i.e., Project Footprint, Local Study Area and Regional Study Area Data will be collected in a manner that enables reliable extrapolations in space (i.e., at minimum to PF, LSA and RSA) and in time (i.e., across years) to identify large angulates and furbearers and/or their habitat in the defined study areas for the Project." This minimum objective might be met, but it is unclear how ungulate distribution and abundance would be extrapolated across years.	Improve methodology to allow for all objectives to be met or remove those objectives as it relates to large ungulates.	**MNRF and MECP will be consulted with regards to preferred alternative methods for non-SAR terrestrial wildlife VECs**
13.	**Section 2.3.1.1, Page 5**	It would be useful to provide a map of the 59 transects surveyed in winter 2018 if it differs from Figure 3.	Provide a map of the 59 transects surveyed in winter 2018 or refer to Figure 3 if the same transects were surveyed in both years.	Please see Figure 3 of the revised workplan.
14.	**Section 2.3.1.2, Page 6**	It would be useful to provide a map of wolf and moose observations from the 2018 survey (similar to Figure 4 for the 2019 survey) for comparison between survey years.	Provide a map of wolf and moose observations from the 2018 survey.	Please see Figures 4, 5, and 6 of the revised workplan.
15.	**Section 2.4.2, Page 16**	The plan outlines 3 indicators to be used to assess effects: habitat availability, habitat distribution, survival and reproduction. It is unclear from the survey methods described that any of these indicators can be effectively monitored. More specifically, aerial surveys might provide some information on habitat, but will be unable to provide any information on survival and reproduction. Further, considering these are the main proposed indicators, aerial surveys are not the preferred method for identifying habitat availability or distribution.	Propose a different methodology that is designed specifically to provide information on the outlined indicators.	**MNRF and MECP will be consulted with regards to preferred alternative methods for non-SAR terrestrial wildlife VECs.**

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16.	**Section 2.1, Page 2**	Data from the stationary acoustic recorders won't be able to provide the abundance measures mentioned in the last paragraph of this section as there is no way of separating individual bats with this method. However, the method can provide presence/absence data, and relative importance of different habitats for bats in different seasons using the proposed bat activity index.	To provide actual counts of bats in the different habitats encountered along the route, mobile acoustic recordings could be collected on the existing road network (page 9). Note: mobile acoustic recordings could also be obtained on the supply road after construction. The mobile transects should follow the North American Bat Monitoring Program protocol (Loeb et al., 2015).	It is unclear how mobile acoustic transects would be completed during the baseline data collection phase in the absence of roadways across the LSA. Access to Webequie FN was not permitted during the COVID-19 pandemic. Additional discussion with MECP on this subject is requested.
17.	**2.3.3.2, Page 8**	Bat roosts in a forested environment (i.e. not those in anthropogenic structures) are extremely hard to find without trapping, attaching transmitters and then following released bats. In addition, bats will shift roost locations frequently. At this time, one must just assume bats will be roosting in certain forest types based on stand composition and tree size/age classes as done here. There is a lot we don't know yet about tree roosting bats in Ontario but the MNRF protocol for bat surveys in treed habitats (2017) is the best we have at the moment.	Helpful note.	Thank you for your comment. No response needed.
18.	**Section 2.3, Page 4 Section 2.3.3.1, Page 8**	Hibernacula are certainly critical habitat features in the bat life cycle that must be protected. They also represent the easiest way to obtain actual counts of those species that overwinter in Ontario.	The reviewer has found the Abandoned Mine Information System (AMIS) to be a very complete, detailed database for old mine sites in Ontario. If this has not indicated any potential sites within the WSR corridor, and reconnaissance flights/geological reports have not produced any evidence of natural cave features then it is safe to assume that there are no hibernacula present.	Thank you for your comment. No response needed.
19.	**Section 2.3.3.2, Page 8**	Agree with the limited usefulness of ground surveys for maternity roosts in forested habitats (see my comments above). The use of FRI data to search for old stands of deciduous or mixed forest is a reasonable alternative. While more data on roost tree selection by bats is still needed for Ontario, Ryan Holt (grad student of MNRF Research Scientist Jeff Bowman) has found a lot of use of large Aspen by roosting Little Brown Bat at the Chalk River property.	None proposed.	Thank you for your comment. No response needed.
20.	**Section 2.3.4.1 Page 9**	Only four stationary recorder locations, with three being in potential maternity roost habitat, may not be enough to identify important foraging areas which are often associated with water features rather than forest for many of our bat species. If continued monitoring is planned following road construction to determine impact then several "control" locations should be established away from the proposed corridor.	Collect baseline acoustic data from at least several locations away from the road corridor. This will allow a "Before-After/Control-Impact type analysis of the bat activity data to determine the extent of any impact by the road on bat populations. Such a BACI design is being proposed by MNRF to monitor the impact of aggregate extraction activities on wetlands. Recording in a greater variety of habitats will also capture foraging behaviour.	Additional recorders were deployed in 2020. Expansion of the study to this extent will need to be clarified. Further discussion of this topic will be required due to the extent of this request and the capital cost required to implement a study of this magnitude.
21.	**Section 2.3.4.1, Page 9**	The Wildlife Acoustics SM4Bat is a great recorder and the deployment details described here look fine.	None needed	Thank you for your comment. No response needed.
22.	**Section 2.3.4.1, Page 9 &10**	The use of two different methods for identifying bat species as done here is the recommended proceedure for the NABat program (Reichert et al., 2018).	There are differences in the performance of different brands of equipment. For example, SRB reviewer has found that the auto ID program Sonobat (ver 4.4.5) is much better at separating out the different Myotis species than is Kaleidoscope Pro based on our recordings at known maternity roosts.	Thank you for your comment. No response needed.
23.	**Table 2, Page 11**	As offered in the SAR Work Plan comments, a more specific feature for Hoary Bat calls is the very random/irregular pattern in the call sequence. Fmin can be down as low as 14 kHz. An additional feature for Big Brown Bat is that the calls never go flat in an open "uncluttered" environment unlike the Silver-haired Bat. The Long-eared Bat (Myotis evotis) is a western species of BC and Alberta. It shouldn't be in this table at all.	Refer to related comments in SAR draft Work Plan: Modify Table 2.	Please refer to Table 3 in the resubmitted workplan, which has been modified accordingly.
24.	**Section 2.3.4.2,**	"of each of the 19 survey stations" implies there were 19 rather than only 4	Change wording to "of each of the survey stations set up in	The changes reflected in this comment has been edited accordingly.

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	Page 12	acoustic recorder locations.	2019"	
25.	**Section 2.3.4.2, Page 12**	It is surprising that no Red bats were recorded given this species northern distribution in Ontario. The reviewer's acoustic recordings from the Pickle Lake and Ear Falls area, while being somewhat south of Webequie, turned up quite a number of Red bat occurrences. Sonobat is an example of equipment that is better at separating out Red Bat passes from Myotis passes than other types of equipment.	None proposed.	No response needed.
26.	**Section 2.3.4.2, Page 12**	The statement "Overall, bat activity at all four detection stations was relatively low" needs additional clarity. It's not clear what this means - relative to what? This statement needs to be put in relation to other studies/areas. For example, the reviewer offers the following for context: The study result of 431 bat passes over 85 recording nights works out to approx. 5.1 bat passes per night which is indeed low! My average for stationary recorders set out along the Pickle Lake and Ear Falls routes were 44.4 and 37.9 bat passes per night (data from 2016 and 2017). The numbers get higher for southern Ontario locations e.g. Stoney Lake route averaged 62.4 bat passes per night, while a route along Lake Erie had 154.2 passes per night. So the numbers in this study are indeed low for Ontario, reflecting the far north location most likely.	Clarification required with respect to 'relative' measurements/assessments.	The changes reflected in this comment has been edited accordingly.
27.	**Section 2.4.1, Pages 14 & 15**	With Bats being selected as one of the wildlife indicator groups as part of the IA/EA it becomes even more important to get good measures of abundance, distribution and habitat use by the various species. Having only four stationary acoustic monitors for bats will not achieve this as noted above!	Expand the acoustic monitoring stations, more in line with the study proposed for the bird survey where 50 units are being deployed. There must be some thought put into the location placement to allow for statistical rigor and for the use of a Before-After/Control-Impact type analysis to measure the effects of the WSR (see earlier comments).	Expansion of the study to this extent will need to be clarified. Further discussion of this topic will be required due to the extent of this request and the capital cost required to implement a study of this magnitude.
28.	**Section 2.4.2, Page 15**	The importance of having good baseline data in order to measure the magnitude of change on wildlife indicators is rightly stressed here. However, the current design for bat monitoring pre-road construction will not provide this baseline.	Number and placement of bat acoustic monitors needs to be revised. Consideration should be given to using mobile acoustic transects to better assess actual bat numbers and their distribution across the landscape (see earlier comments).	It is unclear how mobile acoustic transects would be completed during the baseline data collection phase in the absence of roadways across the LSA. Access to Webequie FN was not permitted during the COVID-19 pandemic. Additional discussion with MECP on this subject is required.
29.	**Section 3.0, Page 18**	In order to assess the timing and habitat/corridors used for swarming and migration, bat acoustic surveys need to be extended beyond the maternity period.	Have stationary acoustic monitoring and/or mobile acoustic transects for bats extend from mid-August to the end of September as well as during the maternity period.	Further discussion of this topic will be required due to the extent of this request and the capital cost required to implement a study of this magnitude. **A commitment will be made to assess the timing and habitat corridors used for swarming and migration will be made for 2021.**
30.	**Section 2.1, Page 2; Section 2.4.1, Page 14**	The Draft Work Plan identifies moose, American marten, and bats as preliminary wildlife criteria (Section 2.4.1), and implies inclusion of woodland caribou, wolverine, little brown myotis, barn swallow, common nighthawk, and olive- sided flycatcher (Draft ToR, Table 8-1). A rationale for these species is not provided.	Provide a rationale for these species in the Terms of Reference and Draft Work Plan and explain how data will be collected to address the specific objectives outlined in Draft ToR, Section 6.2.	SAR species included as criteria are described in the SAR Workplan. Please see Table 5 for rational of inclusion of Moose, American Marten, and bats.
31.	**Section 2.1, Page 2**	The Draft Work Plan states "The review of background information and baseline field investigations for the WSR will endeavour to collect data in the project area of sufficient quantity and quality and using standardized methodologies to achieve the following requirements and objectives outlined in the TISG issued by IAAC with respect to terrestrial wildlife and their habitat." Endeavouring to collect data is insufficient. The combined information should meet the specific objectives outlined in Draft ToR, Section 6.2, page 81.	Describe how the scope of work will ensure that information can be used to describe the existing natural environment, facilitate the assessment of potential environmental effects, provide the basis for mitigation measures, evaluate alternatives to minimize environmental effects, and establish monitoring benchmarks (Draft ToR, Section 6.2, page 81).	Section 2.1 has been revised. Please refer to Table 1, which outlines how data will be collected to inform the assessment of potential environmental effects.
32.	**Section 2.3, Pages 4-13**	Draft ToR, Section 6.2.1, identifies that reptiles and amphibians will be identified during other surveys; however this is not described in the Draft Work Plan.	Describe how proposed field surveys will capture data on reptiles and amphibians in such a way that the data can be used to describe the existing natural environment, facilitate the assessment of potential environmental effects, provide the basis for mitigation measures, evaluate alternatives to minimize environmental effects,	Please refer to Section 2.3.5.

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			and establish monitoring benchmarks (Draft ToR, Section 6.2, page 81).	
33.	**Section 2.3, Page 5**	The Draft Work Plan states "Targeted surveys for large ungulates, furbearers, and bats reflect the secretive nature of these species and the increased survey effort (in number and duration) required to gather sufficient occurrence, distribution, abundance, and habitat availability data in relation to the study areas and inform a robust effects assessment." It is unclear how the surveys meet the specific objectives outlined in Draft ToR, Section 6.2, page 81	Explain how these surveys were designed to describe the existing natural environment, facilitate the assessment of potential environmental effects, provide the basis for mitigation measures, evaluate alternatives to minimize environmental effects, and establish monitoring benchmarks (Draft ToR, Section 6.2, page 81). Suggest removing the term "sufficient" from this sentence and elsewhere. From a formal perspective an action is only sufficient insofar that it meets the defined, a priori objectives.	The term "sufficient" has been removed where applicable.
34.	**Section 2.4.2, Page 15**	The Environmental Assessment Act requires evaluation of both advantages and disadvantages of the project, i.e. positive and negative effects. The draft Work Plan focuses on lingering detrimental effects; however apparent positive effects can alter communities with unforeseen consequences for other species. For example, improving conditions for beaver could have negative impacts on moose or caribou as mediated through predator mobility and abundance (e.g., Latham et al. 2013 Ecography).	Broaden the assessment of effects to include both positive and adverse effects for indicator species (i.e., valued components).	The description of the effects assessment has been modified to include both positive and adverse effects for indicator species.
35.	**Section 2.4.2, Page 15**	When finalizing the provincial Terms of Reference, consider aligning the assessment criteria described in the Draft Work Plan with the federal criteria prescribed in TISG, Section 13.1.	Consider aligning the provincial Terms of Reference with the federal assessment criteria.	Ian?
Nipigon District, MNRF				
1.	**2.3.1.1 pg 5**	Incorrect district identified in the first paragraph. Dave Barker is not a biologist, rather a Resource Management Supervisor.	Please change to Nipigon District, not Kenora. Please change official titles.	The changes reflected in this comment has been edited accordingly.
2.	**2.3.1.2 pg 6**	Missing summary table of wildlife observations for 2018.	Can a summary table be prepared that contains the 2018 and 2019 data in separate columns?	Please refer to Table 2
3.	**2.3.2.1 pg 7**	Incorrect district identified in the first paragraph. Dave Barker is not a biologist, rather a Resource Management Supervisor.	Please change to Nipigon District, not Kenora. Please change official titles.	The changes reflected in this comment has been edited accordingly.
4.	**2.3.2.1 pg 7**	Ungulate surveys were completed between years with unequal weight across the entire search area. It should be noted the forested portion, west of the community of Webequie burned in 1977. The Boreal Landscape Guide describes that caribou habitat and mid-aged moose habitats are online and available after ≥ 36 years, depending on biophysical variables, including stand age and composition, and rock outcrops. The burn west of Webequie described as being "poor" quality habitat, is a 43-year-old burn that is back online to meet various criteria for both caribou and moose habitats. Hardwood regeneration post-burn would be described as early successional winter moose habitat, later transitioning to a mixed-wood forest. The burn occurred on bedrock dominated boreal shield, which eventually regenerated with jack pine and black spruce dominant stands, where lichen growth is associated with poor productivity soils. During initial consultations between MNRF and SNC Lavalin, there was a lack of ungulate data to the west of Webequie; however, the lack of collar or aerial survey data does not preclude that ungulates are not found along boreal shield habitats.	Analysis of results should be incorporated into baseline surveys to include information collected for any wildlife distributions previously identified through MNRF values collections such as targeted 2018 Ozhiski Aerial Surveys – Caribou, Wolverine, Moose and Wolves, and any updated collaring projects that transpired in 2018 and 2019. Need to provide rational on the use of the RSF models produced by the Far North Caribou Working Group and how that compares to actual ungulate data and overlap with the RSF model (i.e. make a new map with all available data and the RSF model).	Thank you for your recommendation. Additional analysis requested shall be conducted as part of the EA/EIS.
5.	**General**	There is no significant mention of amphibian or reptile monitoring in the work plan.	Identifying species and mitigations for peak migration between wetlands that will be intersected by the ROW should be addressed in the document.	Reptile and amphibian (anuran) presence within the PSA is limited to a select few species that are known to be widespread in the region. Mitigations for peak migration between wetlands that will be intersected by the ROW will be addressed in the EA/EIS.
6.	**Figures**	It would be helpful to include the planned locations for deployment of the 50 ARUs.	Map update.	Please see Figure 11 of the revised workplan.

Comments from the Impact Assessment Agency of Canada (the Agency) on the Webequie Supply Road Project's February 4, 2021 Updated Human Health Study Plan						
#	**Study Plan Section**	**Tailored Impact Statement Guidelines (TISG) Section**	**Context**	**Required Action**	**Agency comments on February 4, 2021 – Updated Human Health Plan**	**Project Team Response**
1	**General Comments Regarding Health Canada Guidance Documents**	**Section 16.2** "…It is requested that the proponent complete the checklists provided in the Health Canada guidance documents so as to assist Health Canada and other participants verify that the main components of the assessment are completed and to identify the locations of this information. Completing the checklists is especially useful when the analyses on a topic are found in multiple sections of the Impact Statement documentation…"	It is unclear if the Health Canada guidance documents recommended in the TISG were or will be used to support the verification of the main components of the assessment.	Provide detail to demonstrate how the Health Canada guidance documents will be considered in the preparation of the Impact Statement.	This item has been addressed.	
			Refer to the following Health Canada guidance documents on evaluating Human Health Impacts in Environmental Assessments: Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: AIR QUALITY. Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: DRINKING AND RECREATIONAL WATER QUALITY. Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessments: NOISE. Health Canada. 2018. Guidance for Evaluating Human Health Impacts in Environmental Assessments: COUNTRY FOODS. Health Canada. 2019. Guidance for Evaluating Human Health Impacts in Environmental Assessment: HUMAN HEALTH RISK ASSESSMENT.			
2	**General Comment Regarding Relevant Health Outcomes**	**Section 9** "…The proponent must: • use a social determinants of health approach to identify and describe the causal chain on relevant health outcomes, including how gender will impacts outcomes, across diverse subgroups…"	The study plan does not describe the causal chain of relevant health outcomes from the social determinants of health.	Provide further information on how the social determinants of health might influence potential community health outcomes. Include the rationale for the selection and inclusion of the indicators.	This item has been addressed.	
3	**Section 2.1** "Based on these factors, the communities identified by Webequie will be offered the deepest or intensive consultation/engagement." Section 3.2 Indigenous Engagement and Consultation	**Section 6** "…The Agency requires the proponent to engage with, at a minimum, the communities listed in the Indigenous Engagement and Partnership Plan. The proponent is expected to work with Indigenous groups to understand what kinds of approaches to engagement would create safe spaces for meaningful dialogue to enable full and free participation of all community members, including different sub-populations (e.g., Elders, women and youth), in the engagement process…"	The study plan must reflect how opportunities for Indigenous groups to provide input and how input received from all Indigenous groups and the sub-populations listed in the Indigenous Engagement and Partnership Plan (IEPP) will be incorporated into the Impact Statement. The study plan does not provide further detail on what is meant by the "deepest" and "intensive" consultation/engagement activities Webequie First Nation will offer communities. Indigenous groups identified for the deepest and intensive consultation and engagement in in Table 1 of the study plan do not include Aroland First Nation and Fort Albany First Nation, which are two of the Indigenous groups identified in the IEPP. The study plan should note that the list of Indigenous groups identified by the Agency may change as more is	Update the list of Indigenous groups identified for the deepest and most intensive consultation and engagement in the study plan to reflect the Indigenous groups listed in the IEPP, including Fort Albany First Nation and Aroland First Nation. Explain the differences between consultation/ engagement for groups and sub-populations identified by Webequie First Nation for the deepest and most intensive consultation/engagement and those who were not. Provide details to demonstrate that all Indigenous groups identified by the Agency and listed in the IEPP will be engaged with and provided opportunities to: • provide Indigenous knowledge during baseline data collection; • comment on the list of valued components and indicators; • inform the effects assessment and review its conclusions; and	This item has not been addressed. Provide a fulsome response to comment 3.	The WSR provincial EA Terms of Reference (ToR, Section 10.4.1, Table 10-6 p.172) states that there will be 3 visits for each of the 8 communities most potentially affected, as identified by the Webequie First Nation (WFN), and 2 visits for the remaining 14 communities. We understand the list of communities in the IEPP and from the MECP reflect the Crown's understanding of communities whose established or asserted Aboriginal and/or treaty rights may be adversely affected by the Project and/or may have interests in the Project, and that this list is subject to change. Our current engagement and consultation program as stated above, and in the ToR, reflect WFN's identified list of communities that were assessed based on the following criteria: › Geographically closer to the project area than others; › Known to have traditionally used some of the potentially affected lands in the past, or currently; › Downstream of the Project and may experience impacts as a result of effects to waterways; › Considered to have closer familial/clan connections to the members of the Webequie First Nation; and/or

Comments from the Impact Assessment Agency of Canada (the Agency) on the Webequie Supply Road Project's February 4, 2021 Updated Human Health Study Plan						
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			understood about the adverse effects of the Project; additional information is received from Indigenous groups; or if the Project or its components change during the impact assessment process.	• inform the development of mitigation measures and follow-up programs.		› Have been involved in all-season road planning in the Region, either directly with the Webequie First Nation, or in consideration of all-season road planning that the Webequie First Nation has been involved with in recent years. Based on these factors, the Indigenous communities to be offered the deepest or intensive engagement/consultation are currently those identified by WFN. That said, note that all communities listed in the IEEP will be engaged and consulted during the EA/IS phase, and that WFN is open to engage those communities, should they wish to engage more frequently. Indigenous Knowledge and other information received from community members for the Project will assist with several key elements of the EA/IA process, including: › Assessing existing Indigenous Knowledge information in relation to the road project and to understand additional work that may be required; › Incorporating Indigenous Knowledge currently available to establish a baseline to monitor change going forward; Evaluating alternatives and assessing potential impacts of the Project (e.g., criteria and indicators of relevance to Indigenous communities for all environmental components); and › Developing environmental mitigation, protection and compensation measures, and › Monitoring commitments and accommodation measures, where necessary. (WSR Terms of Reference Section 10.4.1.1 p.175). Communities have had the opportunity to comment on the valued components, criteria, and indicators through the Terms of Reference phase from September 2019 to February 2021.. They will have further opportunities to provide feedback on the valued components and criteria at the first community meeting and for the assessment of alternatives (Section 10.4.1, Table 10-6 p.172) Other specific activities topics to be presented during community visits and where feedback will be received include: proposed environmental mitigation, protection and compensation measures associated with the preferred alternative (Section 10.4.1, Table 10-6 p.172)
4	**Section 2.2.1** "Specifically, the following guidance documents and tools will be referred to, in addition to those referenced in sections 7.2, 9 and 16 and Appendix 1 of the TISG. Health Canada	**Section 9** "…This [baseline] information must include the current state of physical, mental and social well-being and incorporate a social determinants of health approach to move beyond biophysical health considerations…"	The study plan does not appear to follow best practices in HIA methods for the assessment of both biophysical and social determinants of health. The study plan mostly focuses on the toxicological risk assessment [or Human Health Risk Assessment	Provide information on the distinction between the components of the health impact assessment from those related to the human health risk assessment. Provide detail to clarify the methodological approaches for applying	These items have been addressed.	

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	› Health Canada's Risk Assessment Guidance Parts I through VII. Health Canada. 2017. › Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk Assessment. 2019. › Evaluating Human Health Impacts in Environmental Assessments: Air Quality. Health Canada. 2017. › Evaluating Human Health Impacts in Environmental Assessments: Country Foods. Health Canada. 2017. › Evaluating Human Health Impacts in Environmental Assessments: Noise. Health Canada. 2017. › Evaluating Human Health Impacts in Environmental Assessments: Water Quality. Health Canada. 2017." **Section 2.2.3** **Table 2:** Health Areas for Community Health Profile **Section 2.2.4** "As part of the HIA, it is assumed that a Human Health Risk Assessment is required and will be comprised of the following components: Problem Formulation, Exposure Assessment, Toxicity Assessment, Risk Characterization and Uncertainty Analysis." "The HIA will also assess the social, economic, environmental effects as it relates to human health. Any change in the socio-economic domain can lead to effects to human health. The HIA will include an assessment of these effects, both positive and negative, particularly the effects on the health and social determinants of well-being and human health."	**Section 16** "…Within the context of the predicted changes to the biophysical environment, social and economic conditions resulting from the Project, the proponent must assess the adverse and positive effects of the Project on human health, particularly regarding the effects of the higher-level health determinants on well-being... Best practices in health impact assessment methods, which may include, for example, the following references: • Minimum Elements and Practice Standards for Health Impact Assessment. Bhatia R, Farhang L, Heller J, Lee M, Orenstein M, Richardson M and Wernham; • Health Impact Assessment of Transportation and Land Use Planning Activities Guide Book and Toolkit, Metro Vancouver; • National Collaborating Centre for Healthy Public Policy's website on health impact assessment; and • Health Equity Impact Assessment toolkits, to assist with consideration of social determinants and gender-based factors."	(HHRA)] and noise assessment, but only refers sporadically to applying a social determinants of health lens to the overall health assessment. Although the social determinants of health are proposed to establish the community health profile, the study plan does not provide sufficient details on baseline data collection or the health impact assessment approaches as prescribed in Section 16 of the TISG. Additionally, the study plan does not provide details of how the baseline data on social determinants of health indicators will be collected.	the social determinants of health lens to the health impact assessment. Provide further information on the guidance planned for use in the development of the proposed health impact assessment methods, including those related to assessing project effects on social determinants of health.		
5	**Section 2.2.2** "The HIA will specifically focus on the potential health impacts to WFN. Although there are other Indigenous communities in proximity to the WFN as identified in the LSA, the Project Team believes that since the WSR is within the territory of WFN, the community of Webequie will experience the bulk of the impacts due to the Project and can be considered to be representative of the greatest magnitude and extent of potential health effects from the Project. However, it is acknowledged and recognized that extrapolating the health impacts predicted for Webequie members on other communities may result in other communities experiencing an equivalent degree of impact, which may not be the case. Therefore, the HIA will consider how other communities in the LSA may experience to	**Section 9** "Baseline information is required on existing human health conditions to understand where health inequalities currently exist in all potentially impacted local communities, including municipalities, and Indigenous groups…" **Section 16** "…A health impact assessment may be able to assess the positive and negative consequences (i.e., differential) of effects on the environment and human health of those Indigenous groups whose territories are lost or removed along the road alignment…"	The study plan does not describe how baseline information from communities other than Webequie First Nation will be collected or represented. If the approach is that baseline data collection from members of the Webequie First Nation could be representative of the other potentially affected communities further detail is required. The study plan does not describe how an HIA will consider the positive and negative consequences of effects of other communities.	Provide detail to describe how baseline information from Indigenous groups, other than Webequie First Nation, and the public will be collected or represented. Provide further information on how the results of the human health effects assessment and its recommendations will be considered for communities, other than Webequie First Nation.	This item has been addressed.	

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	a lesser extent either direct or indirect effects of the Project on their human health and well-being."					
6	**Section 2.2.2** "The spatial and temporal boundaries will be defined based on the interactions of the health and socioeconomic impacts, including the consideration of the extent to which the project potentially affects community well-being, culture, food supply, water quality, air quality, etc. during each phase of the Project. These will be determined though a pathways of effects analysis to determine the extent of the impacts and the communities potentially affected. **Section 2.2.3** "Table 2 below outlines the health areas that will be considered. **Table 2: Health Areas for Community Health Profile** "Health Area: Public Safety Factors: -Indigenous women's safety -Community safety" **Section 2.3** "The table includes a preliminary list of sources that will be used in collecting baseline information for that particular criterion. Note that the sources listed in the table are not an exhaustive list of sources; this will be provided in the EAR/IS once baseline information collection is complete".	**Section 9** "…The scope and content of the human health baseline will reflect the specific project context, taking into account input of public and Indigenous groups, and should include indicators that are meaningful for the effects analysis… To understand the community and Indigenous context and baseline health profile, the proponent must: • complete a community health profile that describes the overall health of the community across standard health indicators including any specific community identified health concerns (real or perceived) that may be impacted by the Project;…" **Section 16** "…it is important to include interactions within and across the higher-level health determinations (i.e., Level 2, pertaining to material circumstances/ resources and psychosocial factors, and Level 3, pertaining to structural factors and equity factors) in order to identify the pathways of health effects that are most likely to be affected by project-related changes to the determinant(s) of health…" **Section 16.2** "…the Impact Statement must: • consider adverse and positive effects on health (i.e., overall well-being) based on the social and economic valued components, and their respective indicators, as outlined in Sections 17 and 18… • describe effects on the safety of women and girls from project activities including worker accommodation, and as a result of new roads in remote areas;…"	The study plan does not clarify if the pathways of effects analysis was used to define study areas and spatial and temporal boundaries. Additionally, it is not clear whether and how this approach was or will be used to define the health areas and factors proposed in Table 2 or the criteria and indicators in Table 3. Further information should be provided on the following criteria in Table 3: [Criterion] Population **demographics**: [Indicator] changes in social and cultural composition (…) [Criterion] Illegal or potentially disruptive activities: [Indicator] changes in rates/nature of crime **(including indicators of public safety, e.g., effects of temporary workers)** It is recommended to consider the following additional criteria in Table 3: [Criterion] Physical well-being (health-related behavior): [Indicator] Changes in substance abuse [Criterion] Community well-being: [Indicator] changes in participation in traditional activities (…).	Provide further information on how project activities or effects, including mitigation measures, may affect the proposed health factors (i.e. worker accommodation on the safety of women and girls.) Provide further information on how the baseline data collection for community health profiles will be used to assess the health effects from project-related changes to the proposed criteria and indicators.	This item has been addressed.	
7	**Section 2.2.2** "The spatial and temporal boundaries will be defined based on the interactions of the health and socioeconomic impacts, (…) These will be determined through a pathways of effects analysis to determine the extent of the impacts and the communities potentially affected." **Contents of Table 2: Health Areas for Community Health Profile**.	**Section 9** "…A determinants of health approach recognizes that health is more than the absence of disease, but is rather a state of overall well-being that is impacted by many factors (or determinants), including the social and physical environment and Indigenous views of health. This approach places emphasis on the causes of physical	The study plan does not distinguish between physical health outcomes (i.e., chronic disease rates, birth rates, death rates/suicides) and physical well-being determinants (i.e., substance use; diet; physical activity). The following adjustments are recommended: i) At the level of social conditions:	Provide further information on the differences between physical health outcomes and physical well-being determinants in Table 2 of the study plan. Provide further clarification on the proposed health area categories to align with the levels 1, 2 and 3 health	This item has been addressed.	

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		diseases and mental illnesses (i.e., Level-1 health determinants: health-related behavioural and biological factors; and Level-2 health determinants: service access and social, cultural and economic factors), and as important, on the causes of these causes (i.e., Level-3 health determinants: structural and equity factors)…"	Social well-being, as an umbrella category (level-2): - Community well-being/cohesion: life changes; community detachments; social isolation/remoteness; nature/number/frequency of communal activities; cultural/spiritual practices—participation levels by community members - Public safety: as listed, plus sense of physical and emotional safety; - Working conditions - Living conditions (e.g., overcrowding in housing, poverty) - Spiritual well-being: As listed Health care services (level-2): - as listed, plus harm reduction programs ii) At the level of the individual: Mental well-being (level-1): stress; inter-generational trauma; grief over suicides; concerns for future generations; self-esteem; anxiety; depression Physical well-being (level-1): substance use; diet; physical activity	determinants, as required in Section 9 of the TISG.		
8	**Section 2.2.3, Table 2** Health Areas for Community Health Profile "Health Care Services: - Existing capacity of facilities - Current programs - Projected demand based on population" **Section 2.3, Table 3** Social Determinants of Health "- Health Care - Facilities - Changes in demand/types of facilities required"	**Section 9** "…To understand the community and Indigenous context and baseline health profile, the proponent must:… • describe and characterize the existing health services and programs and any service delivery arrangements, including health care provider capacity; • describe how the Project may impact access to health services…"	It is unclear how existing service delivery arrangements or access to health services have been considered in the study plan, as per the requirement in Section 9 of the TISG.	Update the tables in Section 2.2.3 and Section 2.3 to provide detail to demonstrate how existing health service delivery arrangements, and the current access to health services (i.e. distance to travel, wait times for services) will be included in the impact assessment.	This item has been addressed.	
9	**Section 2.2.3, Table 2** Health Areas for Community Health Profile	**Section 9** "…To understand the community and Indigenous context and baseline health profile, the proponent must:… • use a social determinants of health approach to identify and describe the causal chain on relevant health outcomes, including how gender will impacts outcomes, across diverse subgroups…"	The study plan does not include many of the suggested examples of Social Determinants of Health, provided in Section 9 of the TISG, to determine health indicators.	Explain how and why certain social determinants of health from Section 9 of the TISG have or have not been included in the study plan. Provide a description of how the finalized list of indicators will be determined.	This item has been addressed.	

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10	**Section 2.2.3** "Additionally, to better understand the potential effects of the project on the quality of traditional foods, tissue samples will be collected from select wild game, waterfowl, fish and plants (i.e. roots, leaves, berries) and analyzed for metals and inorganics." **Section 2.2.4** The Country Foods Assessment will identify all food that is trapped, fished, hunted, harvested or grown for consumption, medicinal purposes or has cultural value. This information will be collected via health and socio-economic surveys that will be circulated amongst members of the WFN. Secondly, in conjunction with the Project Team and WFN community members, tissue samples from traditional food items will be analysed for contaminants of potential concern to determine baseline levels. "The Country Foods Assessment will use community consumption rates of locally sourced country foods, in conjunction with measured tissue concentrations of key contaminants of potential concern (COPC) (metals and metalloids and including mercury) to estimate potential exposures."	**Section 9** "…To understand the community and Indigenous context and baseline health profile, the proponent must:… • provide baseline contaminant concentrations in drinking water and in the tissues of country foods (traditional foods) consumed by Indigenous groups and local communities. For game animals, the proponent is expected to work with local Indigenous groups to gather tissues samples, as appropriate; • describe the consumption of country foods (traditional foods) outside of the commercial food chain, including food that is trapped, fished, hunted, harvested or grown for consumption, medicinal purposes or has cultural value. Specify which species are used, quantities, frequency, harvesting locations, and how the data were collected (e.g., site-specific consumption surveys);…" **Section 16.1** "…the Impact Statement must:… • describe and quantify the health risk from exposure to COPCs (e.g., arsenic, chromium, mercury) via consumption of country foods and differential risk for vulnerable subgroups;…"	The study plan does describe the metals and inorganics that will be analyzed, or which metals and inorganics are being considered as COPCs associated with project activities such as construction and use after construction, and transport pathways of the COPCs into country food. For instance, dust, diesel particulate matter (DPM) and polycyclic aromatic hydrocarbons (PAHs) from construction activities and road traffic could deposit onto soil/vegetation on which country foods grow/occur, or which other country foods (game/higher trophic level species) may consume. Additionally, in the event that COPCs are found to be elevated, the study plan does not explain the next steps for addressing these contaminants. The study plan also does not justify why Webequie First Nation will be the sole Indigenous community engaged to gather the baseline country food data as profiles of the local Indigenous groups are required. Additionally, it is not clear why other COPCs, such as organic contaminants (e.g., combustion by-product, blasting by-product, petroleum product, etc.) that may affect country food quality by atmospheric deposition and/or chemical spills at construction camps and along the construction corridor, have been excluded from the scope of tissue sampling. The study plan does not describe if consumption surveys will be used to determine food consumption data, such as amount and frequency of consumption.	Consider using the FNFNES methodologies and questionnaires to determine dietary intakes of community members. It is unclear whether the country foods assessment will assess country foods consumed by Indigenous groups other than Webequie First Nation. If the Country Foods Assessment is limited to Webequie First Nation, the study plan does not justify the assumption that country foods consumption is applicable only to Webequie First Nation. Provide detail in the study plan to demonstrate how the Country Food Assessment will include the amount and frequency of food consumption, as required in Section 9 of the TISG. Explain why other communities such as those with members who rely on country foods within the vicinity of the Project are not considered in the development of the baseline country food data. Specifically, provide justification for the exclusion of input from other potentially impacted Indigenous groups and stakeholders in the development of the baseline country food data. determine food consumption data, such as amount and frequency of consumption. Consider using the FNFNES methodologies and questionnaires to determine dietary intakes of community members. It is unclear whether the country foods assessment will assess country foods consumed by Indigenous groups other than Webequie First Nation. If the Country Foods Assessment is limited to Webequie First Nation, the study plan does not justify the assumption that country foods consumption is applicable only to Webequie First Nation.	These items have been addressed.	

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			When preparing the Impact Statement, provide further information on tissue sampling for all potential country food types/species (e.g., plants, fish, birds and wildlife that are identified from the Indigenous Engagement, Indigenous Knowledge Program, or a dietary/ consumption survey) Additionally, provide further information on COPCs from project-associated activities, and transport pathways of the COPCs into country foods (e.g., atmospheric deposition). When conducting a Country Foods Assessment for the Impact Statement, provide all potential country food types/species (e.g., plants, fish, birds and wildlife) that are identified through the health and socio-economic surveys, the COPCs from project-associated emissions, and the transport pathways of the COPCs into country foods (e.g., atmospheric deposition). In the event that a country food assessment is deemed unnecessary for any country food types/species and for any COPCs, or should certain transport pathways of the COPCs into country foods be deemed inoperable, provide a detailed rationale/explanation for such exclusions.			
11	**Section 2.2.3** "Baseline information and data will be gathered from sources such as: public documents (i.e. First Nations Food, Nutrition & Environmental Study)"	**Appendix 1** "The proponent should follow guidance prepared under IAA, or where not available, to follow guidance developed under the *Canadian Environmental Assessment Act, 2012*… **Human Health**… *First Nations Food, Nutrition and Environment Study (FNFNES)* including community specific results. Available at http://www.fnfnes.ca/ …"	The study plan does not describe if the proponent will be using the First Nations Food, Nutrition & Environmental Study (FNFNES) to identify community health information to inform the baseline health data. The FNFNES does not describe community health data, but instead it provides baseline data on dietary intake, food security and environmental contaminant exposure of First Nations adults living on reserves. Refer to the FNFNES. Available here: http://www.fnfnes.ca/	Explain how the FNFNES will be used to inform the community health profile.	This item has been addressed.	
12	**Section 2.2.4** "The status of food security or insecurity in the community will be described considering both commercial and traditional foods." **Section 2.3, Table 3** Country Foods Indicators and Source: "- Contamination/quality of country foods (metals and metalloids, including mercury) - Quantitative assessment of changes in quality of country foods with respect to potential contaminants between the Project - Phases (i.e., construction and operations) - Quantity/availability of country foods" "Baseline and estimated concentrations of key contaminants in country foods will be used in the risk assessment to calculate exposures and risk. Acceptable levels of risk will be those accepted by Health Canada"	**Section 9** "…Examples of social determinants of health that may be relevant to the Project are provided for consideration: … • food security, access to country foods (traditional foods);…"	The study plan does not describe how the status of food security will be obtained, or how food security and consumption rates may be indicators for potential changes to health in Table 3.	Describe how the status of food security or insecurity in the community will be obtained. If a food security questionnaire is used, provide samples of the questions if available. Provide further information on food security and consumption rates to support the baseline country food data.	In the study plan, it is not clear whether food security/insecurity survey will be undertaken, or whether the health and socio-economic surveys will attempt to cover areas of food security. Describe how the status of food security or insecurity in the community will be obtained. If a food security questionnaire is used, provide samples of the questions if available. In the study plan, it is not clear whether a consumption survey will be undertaken, or whether the health and socio-economic surveys will attempt to cover areas of a consumption survey. Please clarify how information on consumption will be obtained. In the study plan, the primary assumptions of the country food	A country foods consumption survey will be undertaken. This consumption survey also includes questions that seek input on how the Project may affect food security associated with traditional foods. The FNFES survey was used as a guidance tool in the development of the WSR Country Food Survey. Based on the responses to the specific survey questions, an assessment will be completed to determine whether community members have sufficient access to traditional foods and what the primary barriers to consumption are. Country foods consumption will be evaluated via quantities, rates and patterns obtained from the survey results. The primary assumption regarding the country foods survey is: › The WFN country foods survey results will be assumed to be representative of consumption habits and frequency of all WFN members. A copy of the Country Foods Consumption and Use Survey was provided to the Agency.

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					assessment is not explicitly described. The proponent is recommended to explicitly describe the primary assumption of consumption of country foods. The proponent is recommended to review the list of commonly consumed foods and data on consumption frequency from the First Nations Food, Nutrition and Environment Study (FNFNES) to inform the baseline country food studies. The FNFNES may contain useful methodologies/ questionnaires for dietary intake (i.e. food frequency). If further information is needed, consumption surveys should also be used to identify consumption quantities	
13	**Section 2.2.4** "A benchmark of safe ingestion rates will be calculated, and the results presented in a colloquial manner (i.e. number of meals per week, month or season)."	**Section 9** "To understand the community and Indigenous context and baseline health profile, the proponent must:… • provide baseline contaminant concentrations in drinking water and in the tissues of country foods (traditional foods) consumed by Indigenous groups and local communities…" **Section 20** **"**The proponent must engage with Indigenous groups when developing mitigation measures."	The study plan should describe an approach to determining mitigation measures, such as consumption advisories, in the event that high levels of contamination are to be found in foods. Detail must be provided on how Indigenous groups will be engaged in the development of mitigation measures.	Provide detail to demonstrate how mitigation measures will be determined for a scenario in which high levels of contamination are found in foods in the community as a result of the project. Provide detail to demonstrate how Indigenous groups will be engaged in the development of mitigation measures.	In the study plan, it is not clear if there would be mitigation measures in place in the event contaminant levels that exceed recommended guidelines are found in the country food species. In the Impact Statement the proponent should describe mitigation measures in the event that high levels of contaminants are found in species that are consumed as country foods. For example, consumption advisories could be used to mitigate this issue.	Indigenous groups will be engaged in the development of Project mitigation measures, including where the effects assessment predicts contaminant levels to exceed recommended guidelines found in country food species. As outlined in the ToR (Section 10.4.1, Table 10-6, p.172), meetings will be held with Indigenous communities to outline proposed mitigation measures and seek feedback and comments from community members to be incorporated into the EA/IA. The Impact Statement will describe mitigate measures if it is predicted that high levels of contaminants are going to be found in species consumed as country foods. This could include consumption advisories.
14	**Section 2.2.4** *"Cumulative Effects* The HHRA will predict the potential risks to human health from the existing baseline, plus each of the Project phases."	**Section 22** "The proponent must identify and assess the Project's cumulative effects using the approach described in the Agency's guidance documents related to cumulative environmental, health, social and economic effects… The Impact Statement must: - identify and provide a rationale for the valued components that will constitute the focus of the cumulative effects assessment. The selected valued components are those most likely to be affected by the Project in combination with other projects and activities;…"	More information is required to determine if the study plan will consider other ongoing project activities (including but not limited to the Marten Fall Community Access Road Project), for the description and discussion of the cumulative human health effects of the Project.	Provide further information, including a description and discussion on cumulative human health effects from the Project. Provide further information on how the Impact Statement will consider other ongoing activities in its determination of cumulative human health effects from the Project.	This is not addressed. The proponent has indicated that they will be sharing a cumulative effects study plan with the Agency and MECP for review. The Agency expects the required actions to be covered in the cumulative effects study plan.	A cumulative effects study plan will be provided to the Agency and MECP for review. This includes a description and discussion regarding how cumulative effects from the Project will be assessed.
15	**Section 2.2.4** "Receptors of concern in the study areas will be identified, with a focus on sensitive/vulnerable receptors (i.e., residential	**Section 8.7** "The Impact Statement must: …	It is unclear how sensitive receptors for the human health risk assessment will be selected and if all potential	Provide further information on how sensitive human receptors were and will	It is unclear whether waterfowl (or other birds) will be included in the country food study. Section 2.7.1	The country foods study does include migratory birds (Section 6.1 of the country foods questionnaire). Waterfowl are currently not included as an option in the country food

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	areas, schools, etc.). Additionally, areas of concern with known importance and value (i.e., harvesting vegetation for consumption/medicinal or cultural uses) will be considered. All receptors will be considered in the problem formulation and, at a minimum, the most sensitive receptors (e.g., people that are expected to receive the greatest exposures and/or known sensitive subgroups of the population) will be retained for quantitative assessment."	- describe the use of local vegetation for medicinal or cultural purposes or as a source of country foods (traditional foods)…" **Section 8.8** "The Impact Statement must: … - describe the use of fish and/or aquatic species…" **Section 8.9** "The Impact Statement must: … The Impact Statement must: - describe the use of (magnitude, timing) migratory and non-migratory birds as a source of country foods (traditional foods) or where use has Indigenous cultural importance …" **Section 8.10** "The Impact Statement must: … - describe the use and harvesting of fur-bearing species and whether its harvesting has Indigenous cultural importance;…" **Section 9** "…To understand the community and Indigenous context and baseline health profile, the proponent must:… - At minimum, provide a map showing approximate locations of permanent residences, temporary land uses (e.g., cabins and traditional sites) and known locations of sensitive human receptors (e.g., schools, hospitals, community centres, retirement complexes or assisted care homes);…"	sensitive receptor locations will be considered. No rationale appears to be provided for the exclusion of areas used for harvesting other country food types with dietary/medicinal/cultural importance (e.g., fish, birds and wildlife).	be selected, including how community input will be considered. Provide a list of all potential country food types (e.g., plants, fish, birds and wildlife) and associated harvesting/fishing/hunting grounds that have been identified through Indigenous engagement and/or a dietary/consumption survey to identify areas of concern with known importance and value in the Problem Formulation stage. Explain why areas used for harvesting other country food types with dietary/medicinal/ cultural importance are excluded.	(pg. 12) indicates that tissue samples will be collected from waterfowl, however this category of country food is not listed in Appendix A (pg. 17).Please add Waterfowl (and other birds, if relevant), to the categories of country foods in Appendix A. Section 2.8.2 (pg. 19) limits "areas of concern with known importance and value" to vegetation harvesting sites. The proponent should consider harvesting areas for all types of country food considered in the study area (i.e. areas of hunting, fishing, trapping, harvesting, etc.) rather than considering only vegetation harvesting areas as currently stated in the Section 2.8.2.	survey, but they will be added following the review of the survey by the Agency. Note that there is also an "Other" option provided in that section of the survey. Harvesting areas for all types of country food will be considered in the study area, not just vegetation.
16	**Section 2.2.4** "Additionally, the HHRA will use Health Canada's Air Quality Benefits Assessment Tool (AQBAT) to estimate mortality and morbidity effects; AQBAT is a computer simulation tool designed to estimate the human health and welfare benefits or damages associated with changes in ambient air quality. The most current version of AQBAT available from Health Canada will be used in the HHRA. The results of the AQBAT analysis with contribution from the Project will be compared to the results for background to estimate the estimated impact of the project phases on the morbidity and mortality endpoints."	**Section 16.1** "With respect to biophysical determinants of health, the Impact Statement must:… - describe and quantify the project-related activities, and provide an inventory of contaminants of potential concern and their sources, potential exposure pathways, adverse human health effects and the potential human receptors of these effects; - describe nuisances and environmental, social and economic changes that could potentially be sources of adverse human health effects and the potential human receptors of these effects;…"…	It is unclear why the AQBAT will be used, given the relatively small footprint of the site and receptor-based approach within the local assessment area. The results from AQBAT are generated at relatively large geographic scales, such as national, provincial, regional or census division level. By applying the AQBAT to a small-scale study, a higher level of uncertainty is introduced and interpreting the results in the context of a human health risk assessment becomes challenging. It is unclear how use of the AQBAT to assess potential human health impacts from air quality	Explain how the human health risk assessment will consider the high level of uncertainty related to the use of AQBAT for the project. Provide detail to demonstrate how the potential health risks of a relatively small number of human receptors in the project study areas, including sensitive receptors such as traditional land users, will be assessed as per requirements in Section 16.1 of the TISG.	This comment has not been addressed. Provide a fulsome response to comment 16.	Baseline conditions will be assessed using existing Ring of Fire air quality monitoring data, supplemented with CAC data from other National Air Pollution Surveillance (NAPS) stations situated in environments similar to WFN. Project condition CAC exposure risk will be assessed in the HHRA using maximum concentration point estimates derived from hourly, daily and annual CAC concentrations obtained from dispersion modelling using AIRMOD. The results of the AIRMOD based risk analysis will be compared to the results for baseline conditions to estimate the impact of the project phases on carcinogenic CAC exposure risk and non-carcinogenic hazard. AQBAT will not be used in the assessment.

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			changes due to the project will meet the TISG requirements.			
17	**Section 2.2.4** "With respect to noise levels, the Acoustics team will provide the HIA team with ambient noise levels at key receptor points within the community of Webequie**.** This data will be collected by the Acoustics Team over a period of one-week in the fall of Year 3 of the Project during a one week site visit." **Section 2.1.3** "Existing background ambient sound levels at representative NSAs within the Webequie First Nation community and along the proposed WSR route will be determined through ambient noise level measurements. For this project, a minimum of two receptor locations will be selected (refer to Figure 3): › One, within the community, at the western terminus of the proposed WSR route; and › One, at a distance of a few kilometres along the proposed route (away from the community), which will be used as representative of conditions along the corridor. The measurements at each location will be conducted for a minimum period of 48 hrs." "The weather conditions during the measurements will be representative of worst-case "noise exposure situation under consideration. As a result, measurements will be conducted during the spring to fall period, excluding winter months."	**Section 8.1** "The Impact Statement must: - provide current ambient noise levels at key receptor points to traditional land users and sensitive human receptors, including the results of a baseline ambient noise survey and permissible sound levels for each receptor. Information on typical sound sources (both natural and anthropogenic), geographic extent and temporal variations will be included…." **Section 9** "…The information provided must:… - describe how community and Indigenous knowledge from relevant populations was used in establishing health baseline conditions, including input from diverse subgroups;…"	The human health study plan appears to have inconsistencies with the acoustic environmental study plan, particularly the ambient baseline noise measurement locations. Specifically, the acoustic environment study plan proposes to collect baseline noise data from at least two different locations (i.e. within the Webequie First Nation community and along the proposed route), whereas the human health study plan includes only the Webequie First Nation locations. Additionally, it is not clear why noise baseline data will only be collected for a one-week period in the fall. The acoustic environment study plan provides only a broad outline where the data collection will occur for a minimum period of 48 hours during the spring to fall period. The study plan does not describe how Indigenous knowledge may have been used to select this time period for the noise assessment.	Provide clarification on the location(s) of the ambient baseline noise data measurements and provide detailed rationale about how the proposed location(s) are representative of the sensitive receptors. Provide rationale for how the proposed duration and season selected for the noise data measurements will consider the temporal variations of the local acoustic environment and will be representative of the worst-case situations at the sensitive receptor locations. Describe how Indigenous knowledge was used to identify the proposed time period of fall in Year 3 of the Project for the proposed Noise Assessment.	Provide rationale for how the proposed duration and season selected for the noise data measurements will consider the temporal variations of the local acoustic environment and will be representative of the worst-case scenarios at the sensitive receptor locations.	<u>Locations for Ambient Baseline Data Collection</u> Two locations were chosen, one along the proposed route and one at the Webequie First Nation community to address the TISG Section 8.1 requirement to "provide current ambient noise levels at key receptor points to traditional land users and sensitive human receptors". The location along the route is intended to represent "key receptor points to traditional land users", being locations on the land where traditional activities may take place; the location in the community is intended to represent "sensitive human receptors". <u>Duration and Season for Measurements</u> In terms of predicting a "worst-case scenario" at the sensitive receptor locations, the impact of noise from the project should be assessed against the lowest background ambient sound levels, during a time period when people will be most exposed to the noise. Representative worst-case noise impacts will take place during the spring, summer and fall periods. During these times, doors and windows will be open, people will be out in their yards and patios, and out on the land. During the winter months, people will mainly be indoors, with windows and doors closed. During the spring, summer and fall periods, the best period to measure ambient noise levels is either during the spring or fall, when noise from insects and foliage is minimized. These periods will produce the quietest background ambient sound levels.
18	**Section 2.2.4** "Where applicable, a Hazard Quotient (HQ) will be estimated for receptor exposure to non-carcinogenic COPCs as the sum of the individual HQs for the operable exposure pathways. › ≤ 0.2 = negligible human health risks; and, › > 0.2 = potential for unacceptable risks – may require mitigation or more detailed assessment. Note, 0.2 is dependent on the soil allocation factor for a particular chemical/ chemical group. As such, the threshold of 0.2 may vary as applicable. Health Canada's negligible risk level of 0.2 (or 20% of the TRV) allows for 80% of the acceptable exposure level (the TRV) to come from other sources; this approach is based on the potential for exposures to a chemical in air, soil, water, food and consumer products (i.e., 20% of the acceptable exposure is allocated to each of these 5 media/sources). A HQ value that is greater than 0.2 indicates the potential the estimated exposures to exceed the acceptable rate and	**Section 16.1** "With respect to biophysical determinants of health, the Impact Statement must: … - describe and quantify the health risk from exposure to COPCs (e.g., arsenic, chromium, mercury) via consumption of country foods and differential risk for vulnerable subgroups;… - provide a detailed rationale/explanation if a determination is made that an assessment of any COPCs (e.g., arsenic, chromium, mercury) or exposure pathways should be excluded and/or screened out of the assessment and if the proponent decides to deviate from the suggested assessment approaches and methods or determines that such assessment is not warranted;…" **Section 21**	The study plan does not commit to provide the risk estimates for the Project plus the baseline scenario, and the Project scenario alone in a manner that would demonstrate the requirements of Sections 16.1 and 21 of the TISG would be met. Additionally, the study plan does not appear to consider the characterization of potential health impacts from exposure to COPCs that may exist below the criteria levels, nor does it indicate that mitigation measures to reduce effects to as low as reasonably achievable will be sought per Section 21 of the TISG.	Clarify that the Impact Statement will provide further information on the risk estimates for the Project plus baseline scenario, as well as the Project alone scenario, for all COPCs investigated. Confirm that the Impact Statement will, in order to reduce the burden of pollution on the population, provide further information on the use of all available technologies to reduce emissions as low as reasonably achievable and beyond those required to achieve the applicable environmental quality criteria and/or risk thresholds.	This comment has not been addressed. Provide a fulsome response to comment 18.	The TISG (Page 14, first bullet) allows for chemical screening to remove COPCs from the assessment. This approach is consistent with Health Canada risk assessment guidance. The reviewer prefers that potential health impacts also be characterized for COPCs that occur below criteria levels (in other words, it is requested that risk should be characterized for COPCs that would otherwise screen out of the exposure and toxicity assessment). COPC screening will be completed in the human health risk assessment, although human health risk will be quantified for all COPCs evaluated in each exposure media, even if the risk associated with certain COPCs is qualitatively determined to be acceptable (i.e., if a COPC does not exceed a screening criterion, that COPC will still be carried forward for further quantitative assessment within the limitations of available toxicity data). Both Baseline and Project risk scenarios will be evaluated in the human health risk assessment, per the requirements of TISG Section 16.1, and residual risks will also be quantified after consideration of mitigation measures, per

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	thus, may indicate potentially unacceptable risks. Under such circumstances, further evaluation that includes assessment of background exposures to determine if the total HQ value exceeds unity (1) should be considered. On the other hand, a HQ value that is less than 0.2 indicates negligible health risks based on the assumptions used in the HHRA"	"…Proponents must describe the extent to which residual effects are adverse. Where relevant, or where best practice or evidence-based thresholds exist, effects should be described using criteria to quantify adverse effects… Where the potential for human health effects exist due to exposure to a particular contaminant at any level (e.g., non-threshold air pollutants, including particulate matter and nitrogen dioxide, and water pollutants, such as but not limited to arsenic and lead) mitigation measures should aim to reduce the residual effects to as low as reasonably achievable…"				Section 21 of the TISG. The magnitude of the adverse effects will be provided quantitatively (based on a HQ or ILCR) and qualitatively, where possible. The human health risk assessment will propose technically and economically feasible health risk mitigation measures. Where the potential for human health effects exists due to COPC exposure, the goal of the proposed risk mitigation measure would be to reduce the residual effects to as low as reasonably achievable.
19	**Section 2.2.4** "All receptors will be considered in the problem formulation and, at a minimum, the most sensitive receptors (e.g., people that are expected to receive the greatest exposures and/or known sensitive subgroups of the population) will be retained for quantitative assessment. The following receptor age groups as specified by Health Canada will be considered in the HHRA: infants (0 to 6 months of age); toddlers (7 months to 4 years of age); children (5 to 11 years of age); teens (12 to 19 years of age); and, adults (20+ years of age)."	**Section 9** "…To understand the community and Indigenous context and baseline health profile, the proponent must: … - provide the approximate number, distance and identity factors of likely human receptors, including any foreseeable future receptors, that may be impacted by changes in air, water, country food quality (e.g., dust deposition on vegetation), and noise levels…" **Section 16.2** "With respect to Social Determinants of Health, the Impact Statement must:… - apply GBA+ across relevant determinants of health… Describe where biological factors (age and sex) can intersect with socioeconomic position and other health determinants to compound their vulnerability; - describe and quantify specific thresholds and document if different thresholds were considered for vulnerable populations, including by sex and age; provide rationale and justification if specific thresholds not used…"	The study plan does not explain how thresholds will be quantified and considered for vulnerable populations. It also does not describe how biological factors (age and sex) may intersect with socioeconomic position and other health determinants to compound their vulnerability. To support providing this information, consider the following questions: - What kind of work do women and men and diverse groups of people take on? - Who takes most of the responsibility for unpaid care work? - Is there a gender wage gap? - What are the main barriers to women's and men's access to and control over resources? - What is the average level of income for women as compared to men? - Do women and men use public transportation in the same ways? Do women face specific discrimination (e.g. harassment) in public spaces? - Do women and men have the same access to health services? - What are the social norms underlying these gendered division of resources?	Clarify how thresholds will be quantified and considered for vulnerable populations (note that the receptors identified are broken down by age, but not sex, and does not include gender based vulnerabilities, e.g. pregnant women). Provide further information on how gender will be considered along with age, and how these biological factors can intersect with socioeconomics and other health determinations to compound their vulnerability.	This item has been addressed.	
20	**Section 2.2.4** "The Country Foods Assessment will identify all food that is trapped, fished, hunted, harvested or grown for consumption, medicinal purposes or has cultural value. This information will be collected via health and socio-economic surveys that will be circulated amongst members of the WFN." **Section 3.2**	**Section 9** "…To understand the community and Indigenous context and baseline health profile, the proponent must:… - describe the consumption of country foods (traditional foods) outside of the commercial food chain, including food that is trapped, fished, hunted, harvested or grown for consumption, medicinal purposes or has cultural value. Specify which species are	Further detail is needed on a process to ensure that culturally appropriate and technologically accessible research tools and survey instruments are administered. The use of online survey may not be feasible, given limited access to the Internet among many northern remote and rural communities.	Provide details to demonstrate that the approach to baseline data collection will ensure that there are equal opportunities for all sub-populations and Indigenous groups to participate in the survey and other primary data collection methodologies.	This item has been addressed.	

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	"A variety of activities and materials will be used to provide information and receive input from Indigenous communities during the EA process. These are outlined and detailed in the provincial ToR which include the mechanisms, activities and events that are planned for various stages throughout the EA process and used at milestone points to ensure optimal engagement with Indigenous communities. In summary this includes the following: - Use of surveys (e.g., "Survey Monkey") or focused community-based meetings to obtain information (e.g., socio-economic, human health, etc.) and identify concerns from Indigenous people."	used, quantities, frequency, harvesting locations, and how the data were collected (e.g., site-specific consumption surveys);…" **Section 6.1** "…In all cases, cultural and ethical protocols for the collection, analysis and reporting of information must be respected…" **Section 7.2** "…The Impact Statement must provide detailed descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental, health, social and economic condition that is described, in order to corroborate the validity and accuracy of the baseline information collected…"	In addition, the selection of the survey methodology should take into account the differential access to electronic devices in remote northern communities and prevalence/comfort of use among sub-populations (e.g., elders). Indigenous groups should be provided opportunities to identify preferred methods of participating in the survey; these preferences should be used to inform the project team's approach. Consideration should be given to using the surveys in combination with key informant interviews, to gain a better understanding of issues and possible mitigation measures.	Provide detail to demonstrate how Indigenous groups and the public views will inform the methodology.		
21	**Section 2.2.5** "The project team will offer other avenues to engage with Indigenous communities that are appropriate and feasible for them during the COVID-19 pandemic."	**Section 6.2** "The Impact Statement must provide an analysis of the input received from all Indigenous groups and sub-populations (e.g., Indigenous women and youth) that may be differentially impacted by the Project, with respect to the Project… The analysis and responses are to include:… - a detailed and comprehensive consultation work plan describing all future planned engagement activities and timelines, including specific engagement activities tailored to youth, women and Elders, and if none are planned, rationale for not undertaking future engagement activities; … - if engagement with certain Indigenous groups is not possible, rationale must be provided, including, as applicable, an outline of efforts made;..."	The study plan does not describe alternative avenues to accommodate Indigenous participation during the ongoing COVID-19 pandemic.	Describe alternative avenues that may be made available, where appropriate and feasible, during the COVID-19 pandemic. Provide some context as to when the alternatives may be applied.	This item has been addressed.	
22	**Section 2.3, Table 3** Social Determinants of Health	**Section 16** "…Within the context of the predicted changes to the biophysical environment, social and economic conditions resulting from the Project, the proponent must assess the adverse and positive effects of the Project on human health, particularly regarding the effects of the higher-level health determinants on well-being… Interconnections between human health and other valued components and interactions between effects must be described, particularly where proponents suggest a potential impact occurring indirectly as the result of the proposed Project…"	In study plan, in the Social Determinants of Health subsection of Table 3, the criterion, indicators and source do not demonstrate a sufficient correlation for the evaluation of the impact to human health.	Provide further explanation of how the social determinants of health indicators can evaluate the impact of the Project to human health.	This item has been addressed.	

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23	**Section 2.3, Table 3** Social Determinants of Health "- Illegal or Potentially Disruptive Activities - Changes in rates/nature of crime - Changes in substance abuse"	**Section 16.2** "With respect to Social Determinants of Health, the Impact Statement must:… - describe effects on the safety of women and girls from project activities including worker accommodation, and as a result of new roads in remote areas;…"	The study plan does not describe potential effects to the safety of women and girls from project activities.	Provide detail to demonstrate how the effects to the safety of women and girls from project activities, including worker accommodation and as a result of new roads in remote areas, will be included in the Impact Statement.	Indigenous women's safety and community safety have been included in the updated plan as areas/factors to be considered. However, specific criteria and indicators for safety of women and girls has not been provided. Section 9 of the TISG requires that any relevant indicators are described in the Impact Statement, including how they are reflective of community input. With this in mind, the project team should include indicators of gender-based violence. Should the indicators be deemed unnecessary, the study plan should provide a detailed rationale/explanation for such exclusions.	The criteria and indicators for women's safety have been developed and are being addressed through the socio-economic study. Communities will have the opportunity to review these when they review the data/information collection tools for the socio-economic study. Their input will be used to refine and adjust the criteria and indicators as necessary, which will be documented in the EAR/IS. Indicators of gender-based violence have been included in the Human Health Study Plan.
24	**Section 2.4.1** "The assessment of alternatives will include environmental, socio-economic, cultural, health and technical factors using criteria and indicators for the comparative analysis. This will also include specific consideration of community based Indigenous land and resource uses (e.g., fishing, hunting) and cultural (e.g., built; sacred or spiritual sites) criteria of value to Indigenous communities within the broader factors."	**Section 4.4** "…The Impact Statement must identify the elements of each alternative means and the associated adverse and positive environmental, health, social or economic effects or impacts on the exercise of rights of Indigenous peoples, as identified by the Indigenous group(s). The application of Gender Based Analysis Plus (GBA+) that considers the potential for disproportionate effects for diverse subgroups, including groups identified by age, socio-economic status or disability is required… The Impact Statement must then identify:… - the preferred alternative means of carrying out the Project including a rationale for its selection and the unacceptability of the excluded alternative means, that includes consideration of the above analysis…"	The study plan appears to be missing the GBA+ considerations in the analysis of alternatives.	Include information on how GBA+ is considered in the analysis and determination of the assessment of alternatives.	This item has been addressed.	
25	**Section 2.4.2.2** "It is understood that impact management measures are not always fully effective, therefore, WFN will identify a compliance monitoring and effects monitoring program as part of the EA for implementation during the project phases." **Section 2.4.2.6** **"**This would include construction and operational monitoring that would identify actual effects, assess the effectiveness of the measures to minimize or eliminate adverse effects, and evaluate the need for any additional action to ensure that socio-economic commitments and	**Section 20** "…The Impact Statement must:… - identify opportunities to involve Indigenous groups in monitoring activities during the construction and operations phases to mitigate effects on traditional activities;…" **Section 26.2** "The Impact Statement must describe the environmental, health, social and economic monitoring to be established, as part of the follow-up program…"	The study plan does not describe how the proponent or its community members will develop the capacity to undertake compliance and effects monitoring activities for the implementation of the Project. The study plan also does not describe how the proponent will establish or implement health monitoring as a part of the follow-up program, including information on the operational capacity to perform monitoring to identify effects, assess effectiveness of measures, or evaluate the need for	Update study plan to include details on the approach to developing a health monitoring program to assess effectiveness of measures and evaluate need for further actions to ensure commitments and obligations are fulfilled and effective. Describe how opportunities will be identified for Indigenous groups to be involved in monitoring activities, as required in Section 20 of the TISG.	Provide a fulsome response to comment 25. The Agency reiterates the requirements in Section 20 of the TISG, to identify opportunities for Indigenous groups in monitoring activities during the construction and operation phases of the project, as well as the requirements in Section 26.2 of the TISG regarding follow-up program monitoring. This	Details on the health monitoring plan/program to assess predicated effects and effectiveness of mitigation measures will be described in the EAR/IS based on the results of the HIA and its recommendations. The plan may include measures such as follow-up evaluations, and monitoring of certain environmental components or health indicators, such as project related discharges and emissions for atmospheric environment and/or groundwater or surface water resources. As part of the EA/IA process, an environmental compliance and effects monitoring program will be identified. Opportunities for indigenous peoples to participate in monitoring activities during the construction phase are

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	obligations are fulfilled and mitigation measures are effective."		further action to ensure commitments and obligations are fulfilled and effective.		information will be required in the Impact Statement.	anticipated to be numerous. For example, as part of a compliance management program, it is expected that Indigenous Monitors will be retained as integrated members of the Environmental Inspection team during construction. It is envisioned that Indigenous Monitors will work with Environmental Inspectors to monitor compliance with approved mitigation measures, particularly in relation to traditional resource use, as well as cultural and heritage considerations. Indigenous Monitors may also participate and build capacity in other environmental inspection duties and bring an Indigenous lens to environmental inspection activities. Further specific examples include monitoring of surface water at waterbody crossings, groundwater and vegetation monitoring in the peatlands, and monitoring of applicable protection measures for wildlife, harvesting or hunting areas, and culturally and spiritually important sites (e.g., ceremonial).
26	**Section 2.4.2.4** "For example, the magnitude (intensity) of the effect may be expressed in absolute (e.g., number of businesses affected, or area (hectares) of archaeological sites associated with Indigenous communities affected) or percentage values above (or below) baseline conditions (e.g. changes to crime rates). Additionally, the definition of effect levels may vary from one valued component or criterion to another, recognizing that the units and range of measurement are distinct for each."	**Section 21** "The Impact Statement must: - characterize the residual effects using criteria most appropriate for the effect; - characterize residual effects for human health using human health-related criteria most appropriate for the carcinogenic and non-carcinogenic health effects of non-threshold contaminants;… - provide the rationale for the choice of criteria used to determine the extent to which the predicted effects are adverse. The information provided must be clear and sufficient to enable the Agency, review panel, technical and regulatory agencies, Indigenous groups, and the public to review the proponent's analysis of effects;…"	The study plan does not describe how the proposed judgement criteria (e.g., percentage deviation from the baseline condition) are developed and will be applied, or whether they are adequate to protect human health.	Describe how the magnitude criteria for residual effects will be developed and used to meet the requirements of Section 21 of the TISG. Clarify how the proposed criteria definitions are relevant to the protection of the biophysical aspects of human health.	This comment has not been addressed. Provide a fulsome response to comment 26.	Section 2.4.2.4 of the study plan is intended to provide an example of how the magnitude (intensity) of an effect may be expressed for valued components. The magnitude criteria for the health human assessment may be expressed as a quantitative (e.g., %) deviation from baseline conditions to characterize residual effects. However, we note that the use of the magnitude criteria "must" only be applied to those valued components in sub-sections 14.3, 15.2 and 15.4 as stated in Section 13 of the TISG and is stated as "where applicable consideration should be given to" in Section 22. As stated in Appendix A of the study plan, for each determinant of health that is selected and taken through to the assessment step following the scoping process, a detailed assessment will be conducted including: "Characterizing the potential health impacts, including criteria such as magnitude and likelihood of impact, type of impact, the geographic and temporal extent of impact, vulnerable populations likely to be disproportionately affected, and overall potential health outcome. Information for this step will be taken mainly from the Impact Statement, and supplemented Indigenous Knowledge, results of the rightsholder/stakeholder engagement and HIA practitioner judgement." Where magnitude is used to characterize residual effects it may be expressed for measurable parameters as negligible, low, moderate or high with definitions provided for each. For example, potential changes in community well being may have effect pathways such as project-related employment and income; and project-related change in population that could be characterized using the magnitude criteria (e.g. project employment estimates - local and non-local workers). Or changes in physical health conditions (e.g., air, water, sound) by using measurable parameters such as concentrations (µg/m3 in air, µg/L in water) or levels (dBA, % highly annoyed for sound). The detailed approach for

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						characterizing residual health effects will be described in the EAR/IS.
27	**Section 2.4.2.5** "In general, the assessment of significance of net effects will be applied to each valued component for which net effects are predicted, and net adverse effects or positive effects will be classified as significant or not significant (i.e., binary response)."	**Section 21** "… Proponents must describe the extent to which residual effects are adverse. Where relevant, or where best practice or evidence-based thresholds exist, effects should be described using criteria to quantify adverse effects. This includes criteria such as whether the effects are high or low in magnitude, the geographical extent, timing, frequency, duration and reversibility of the effects, taking into account any important contextual factors. Where the potential for human health effects exist due to exposure to a particular contaminant at any level (e.g., non-threshold air pollutants, including particulate matter and nitrogen dioxide, and water pollutants, such as but not limited to arsenic and lead) mitigation measures should aim to reduce the residual effects to as low as reasonably achievable…"	The *Impact Assessment Act*, requires evaluation of extent of significance of residual effects as described in Section 21 of the TISG.	Provide detail to demonstrate how the extent to which the residual effects are adverse will be considered in the preparation of the Impact Statement, as required in Section 21 of the TISG.	This item has been addressed.	
28	**Section 2.4.3 Gender Based Analysis Plus (GBA+)** **Section 2.2.3** "The Project Team will seek to gather information through engagement with community subgroups (e.g., women, youth, elders) in accordance with the GBA+ framework. The Project Team will work with the Indigenous communities to identify appropriate community members of those subgroups to engage with and gather physical, mental and social well-being information from their perspective." **Section 2.2.4** "Valued components have been identified in the federal TISG and by the Project Team and are, in part, based on what Indigenous communities and groups, the public and stakeholders identify as valuable to them in the EA process to date." **Section 2.3** "Indigenous communities and the public will be consulted and will have the opportunity to provide input and feedback to help define the criteria and indicators." **Section 2.4.2.4** "Lastly, effects may impact communities, Indigenous groups and stakeholders in different ways, including through a gender-based lens and they may respond differently to them. Therefore, determining and characterizing effects will be based largely on the level of concern expressed	**Section 5.2** "…The impact statement must include, at a minimum:… - a description of efforts to engage diverse populations, including groups identified by gender, age or other community relevant factors (e.g., recreational hunters) to support the collection of information needed to complete the GBA+;..." **Section 7.3** "The list of valued components must be informed, validated and finalized through engagement with the public, Indigenous groups, lifecycle regulators, jurisdictions, federal authorities, and other interested parties..." **Section 9** "…The information provided must:… - conduct intersectional gender analysis to examine differences in the status of diverse subgroups (e.g., women, youth, and elders) and their differential access to resources, opportunities and services; describe any relevant indicators, and how they are reflective of community input; - the baseline information must be sufficiently disaggregated and analyzed to support the analysis of disproportionate effects as per the GBA+ and consideration of disproportionate effects to surrounding communities (e.g., health disparities), including Indigenous communities…"	More information is required to demonstrate how GBA+ will be applied to public and Indigenous engagement activities and how diverse subgroups may experience project effects differentially. The study plan does not: - demonstrate how the proponent will make efforts to engage diverse populations and gather information sufficient to complete the Gender Based Analysis Plus. For example, information on how e-learning opportunities may be associated with positive health opportunities; - describe how an intersectional gender analysis has been conducted to examine differences in the status of diverse subgroups and differences in access to resources, opportunities and services; - describe stakeholder mapping used to identify the opportunities and barriers that might affect participation of different subgroups that may be marginalized; and - explain whether the list of indicators were developed based on the input from diverse subgroups.	Provide details to demonstrate where and how the public will be integrated into the assessment and contribute to decisions regarding the Project, as per the requirements in Section 5 of the TISG, including to: - comment on the list of valued components and indicators; - defining spatial boundaries for the project - inform the effects assessment and review its conclusions; and - inform the development of mitigation measures and follow-up programs Provide detail on the timeline for public engagement relative to the project workplan, including engagement relative to the schedule for baseline work, and in consideration of the project team's timeline for the development of the Impact Statement. Update sections 3.1 and 3.2 of the study plan to include a description of how and when diverse populations will be engaged to collect information necessary to support GBA+. Provide details on the approach to assess differential effects that may affect diverse subgroups.	The following elements of the comment have not been addressed: Update sections 3.1 and 3.2 of the study plan to include a description of how and when diverse populations will be engaged to collect information necessary to support GBA+. Describe how GBA+ has been applied to the consideration of engagement activities. Identify specific methods targeted to specific subgroups. Provide further information on stakeholder mapping to clarify opportunities and barriers that may affect participation of subgroups. Provide specific approaches and any examples of resources used for the engagement of diverse subgroups to ensure that these subgroups have the opportunity to obtain the necessary information regarding the issues that could potentially affect them. Provide clarification of where diverse subgroups (i.e. women,	How diverse populations will be engaged to collect information has been added to the study plan. The timeframes for this are still fluid and vary for the different types of studies being undertaken, including the health study, given that this depends heavily on community timeframes and openness to engagement. Methods applied to the GBA+ approach include surveys and disaggregation of those surveys by gender and age; focus groups with female and male youth, Elders, land users, and adult women; and interviews with service providers who can speak to the needs and accessibility of services for more vulnerable sub-groups. Examples of opportunities and barriers that may affect participation of subgroups include: • availability of childcare • translation of Project materials • work or school obligations • hunting, fishing, trapping, or gathering activities Engagement activities will include supporting arrangements for childcare, if needed. Project materials, including information sheets and communication materials, will be translated to Ojibway, Cree, or Oji-Cree, and translators will be used to help translate surveys and focus group proceedings, as required. Meetings and focus groups will take place when it is most convenient for the majority of participants, which could be in the evening due to work and school obligations. Meetings with the community and information collection using surveys, focus groups, and interview tools will not be undertaken during hunting seasons, or when individuals are unavailable to participate due to hunting, fishing, trapping, or gathering activities.

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	through engagement with the Indigenous groups and community members." **Section 2.4.3** **"**The potential effects identified will be confirmed and consulted on with Indigenous communities to ensure that the perspective of those subgroups are captured and examined appropriately." **Section 3.1 Public Participation** **Section 3.2 Indigenous Engagement and Consultation**	**Section 21** "…Where appropriate, information regarding residual effects should be disaggregated by sex, gender, age and other community relevant identity factors to identify disproportionate residual effects for diverse subgroups as per the GBA+…"		Describe how GBA+ has been applied to the consideration of engagement activities. Identify specific methods targeted to specific subgroups. Provide further information on stakeholder mapping to clarify opportunities and barriers that may affect participation of subgroups. Provide specific approaches and any examples of resources used for the engagement of diverse subgroups to ensure that these subgroups have the opportunity to obtain the necessary information regarding the issues that could potentially affect them. Provide clarification of where diverse subgroups (i.e. women, youth and Elders) may have provided and did provide input on the preliminary list of indicators, and whether these groups have opportunities to provide further input and feedback on these indicators. To support diverse subgroups, include indicators related to gender-based violence.	youth and Elders) may have provided and did provide input on the preliminary list of indicators, and whether these groups have opportunities to provide further input and feedback on these indicators. To support diverse subgroups, include indicators related to gender-based violence.	Schedules will be designed to work around these key periods. Diverse subgroups would have had some opportunities to provide input on some of the preliminary list of indicators through the ToR review period. Further opportunities will be sought through the HIA scoping workshop, which will include representation from diverse subgroups. Please see Response #23 regarding inclusion of indicators related to gender-based violence.
29	**Section 3.1 Public Participation**	**Section 5**	Although the study plan provides information on engagement methods and activities, it is unclear how public perspectives and input, including community knowledge, will be integrated into or contribute to decisions including: - scoping, development and collection of baseline information; - design of studies conducted as part of the impact statement phase; - plans for construction (including location of project components), operation, and maintenance; - and follow-up and monitoring. More information is required on timelines for engagement with the public for their perspectives and input, including engagement to support the baseline work and the development of the Impact Statement. It is unclear how two open house sessions in Thunder Bay will be accessible for interested members of the public outside of Thunder Bay.	Provide details to demonstrate how engagement methods and activities will be accessible and will support the contribution and integration of public perspectives and input, including community knowledge, to decisions regarding the Project, as per the requirements in Section 5 of the TISG. Provide details on the timeline for public engagement relative to the project workplan, including engagement relative to the schedule for baseline work, and in consideration of the project team's timeline for the development of the Impact Statement.	This comment has not been addressed. Section 3.1 of the study plan mentions open houses in Thunder Bay. It is unclear how two open house sessions in Thunder Bay will be accessible for interested members of the public outside of Thunder Bay. In Section 3.1 the concept of virtual open houses is referenced but little detail is provided on the context, including when the virtual open houses are planned for and who the intended audience is. Provide details to demonstrate how engagement methods and activities, including the proposed virtual open houses, will be accessible and will support the contribution and integration of public perspectives and input, including community knowledge, to decisions regarding the Project,	The proposed consultation plan for the EA/IA is described in the EA Terms of Reference and Detailed Project Description and notes that Open House type format meetings will be held with government agencies, the public and stakeholders; and off-reserve Indigenous community members in the City of Thunder Bay. No comments from the Agency were received during the planning phase regarding this approach. Consideration will be given to holding additional open house sessions in other communities. The Agency have been provided with the project schedule for engagement and consultation activities, which we note is subject to change based on COVID-19 restrictions and the pending decision on the provincial Terms of Reference. The first open house for the EA/IS phase is expected to be a virtual session in mid-summer 2021, and move to face-to-face meetings in the fall. The virtual open houses will include information on the Project, the EA/IA study process, known existing environmental conditions, the results of studies that have been conducted to date; the development and evaluation of alternatives, including the rationale for use of criteria and indicators; the project schedule; and the results of the consultation program to date. The Webequie Project Team will be available to receive and respond to questions and

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					as per the requirements in Section 5 of the TISG. Provide details on the timeline for public engagement relative to the project workplan, including engagement relative to the schedule for baseline work, and in consideration of the project team's timeline for the development of the Impact Statement.	have an open dialogue regarding the EA/IA process. Written comments may be prepared and sent to the Project Team within a specified period following the event. A full engagement list is available for viewing on the Project Website: www.supplyroad.ca. The timelines for these sessions are generally reflected in the project schedule provided to the Agency in February 2021, for which no comments have been received to date. Note: these scheduled sessions are subject to change as noted above. The current milestone information content and schedule are: 1. Project and EA/IA process overview; baseline data collection; spatial and temporal boundaries for assessment; criteria and indicators; and identification and preliminary evaluation of alternatives. The content noted would be presented at 2 sessions (i.e., Rounds 1 and 2) as specified in the current schedule – May to July 2021 and September to December 2021. 2. Presentation of the selected preferred alternatives/the Project, including potential effects, mitigation, net effects and their significance and follow-up monitoring would be presented from June to August 2022.
30	**Section 3.2** "A variety of activities and materials will be used to provide information and receive input from Indigenous communities during the EA process. These are outlined and detailed in the provincial ToR which include the mechanisms, activities and events that are planned for various stages throughout the EA process and used at milestone points to ensure optimal engagement with Indigenous communities. In summary this includes the following: - Communication materials for use at meetings such as slide decks, project fact sheets, handouts, etc., including where requested translation to native language… - Audio and visual products for those Indigenous communities who have the capability, community meetings and presentations will be live-streamed through local community media to allow for a wider audience to participate in the meetings"	**Section 6** "…Upon request from Indigenous groups, the proponent is required to provide simultaneous translation for engagement sessions and plain language documents translated in Indigenous languages, to enable meaningful engagement with Indigenous groups… The proponent is expected to work with Indigenous groups to understand what kinds of approaches to engagement would create safe spaces for meaningful dialogue to enable full and free participation of all community members, including different sub-populations (e.g., Elders, women and youth), in the engagement process. The proponent must give consideration to culturally appropriate, gender sensitive, and trauma-informed and healing-centred engagement methods and approaches."	The study plan does not identify that simultaneous translation will be available for Indigenous engagement sessions, upon request. The study plan does not identify the approach for considering culturally appropriate, gender sensitive, and trauma-informed and healing-centred engagement methods and approaches.	Update study plan to include information on when simultaneous translation will be included in engagement activities, including the identification of communities that may need translators to accommodate subgroups, such as elders. Clarify the approach to considering culturally appropriate, gender sensitive, trauma informed and healing centered engagement methods and approaches, as required in Section 6 of the TISG.	This item has been addressed.	
31	**Section 4.2 of Appendix A (pg. 5 to 6)**	**Section 16** "...it is important to include interactions within and across the higher-level health determinations (i.e., Level 2, pertaining to material circumstances/ resources and psychosocial factors, and Level 3, pertaining to structural factors and equity factors) in	The proposed plan does not fully align with the TISG requirements (Section 16.2) on the health determinant approach. Health Canada recognizes proximal determinants of health as those factors that directly underlie health outcomes (i.e., health-related	Include the following revisions in Section 4.2 of Appendix A (pg. 5 to 6): a) Move the following factors from Level 1 to Level 2 Determinants of Health: - "*Physical environment*", since this pertains to environmental conditions, and to housing access/affordability (economic conditions), and housing quality (social conditions) - "*Employment*" and "*income*", along with poverty, since this pertains to Level 2 economic conditions		Acknowledged. The required actions identified by the Agency have been incorporated into the updated HIA work plan.

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		order to identify the pathways of health effects that are most likely to be affected by project-related changes to the determinant(s) of health..." **Section 16.2** "...the Impact Statement must:… - consider adverse and positive effects on health (i.e., overall well-being) based on the social and economic valued components, and their respective indicators, as outlined in Sections 17 and 18... - describe effects on the safety of women and girls from project activities including worker accommodation, and as a result of new roads in remote areas;..."	behavioural and biological factors). For this reason, proximal determinants (i.e., Level 1 Determinants) cover only those factors at the individual level. This aligns with the pathways approach to effects analysis. The Level 1, 2, and 3 Determinants of Health presented in the TISG represent "proximal", "intermediary" and "distal or structural" Determinants of Health, respectively. Note that pathways of health effects start with Level 3 (distal/structural) factors, which include project activities and components (e.g., policies on the recruitment of migratory temporary workers to be housed at construction camps, policies shaping camp life, work place culture). The Level 2 (intermediary) factors would affect the Level 1 (proximal) behavioural and biological factors (e.g., drug and alcohol abuse; increases in stressful experiences, with biological consequences) underlying physical well-being, which may include physical harm. The following revisions are requested to align with Section 16.2 of the TISG, which supports the determination of evidence-based, cause-and-effect relationships for a well-grounded pathways of effect analysis. The TISG identified Level 1 determinants as behavioural and biological factors, which is based on the description of the established social determinants of health framework found in the Introduction Chapter of PHAC's report 1.	- "*Education*", since this pertains to Level 2 social conditions b) In "*Biological factors*" of the "*Level 1 Determinants of Health*", replace "*mental health*" with a new term "*mental well-being*" as the latter is more encompassing and may be viewed as a proxy indicator for biological factors (biological stress response) by reflecting the extent of stress being experienced, and as an early indicator of physical health; while "mental health" is more representative of a health outcome rather than a health determinant. c) In "*Biological factors*" of the "*Level 1 Determinants of Health*", replace "*stress*" with "*prevalence of depression and anxiety*". Note that sources of 'stress' are Level 2 health determinants [i.e. stressful life circumstances], which may increase the 'risk of anxiety and depression', which in turn may increase the risk of chronic diseases. d) Replace "*physical well-being*" with a new term "*health-related behaviour*" as the former term is not a health determinant, but a health outcome. Include sub-factors as below: - "*Health-related behaviour:* *o Level of physical activity* *o Substance use, including alcohol, smoking, and drugs* *o Consumption of country food*" e) Move the following Level 1 factors to Level 2. - "*Food insecurity, including quality and availability of country foods*" as the Level 2 factor that may affect the ability to consume healthy country foods and other food sources at Level 1 (health-related behaviour), along pathways of health effects. - "*Childhood development*" where parents' life circumstances, such as their access to food of varying quality and sources of stress, shape the lives of young children, which in turn determines the type of food they consume and the extent of stressful experiences they face [regarding Level 1 behavioural and biological factors], affecting their development with long-term health consequences. f) While "*socioeconomic status*" is a useful index of inequity for GBA+, it is not a Level 1 Determinant of Health. It can be applied to disaggregate data by its constituent indicators: income, education, employment status/occupation. g) In Level-3 Determinants of Health, include "*worker accommodation*" as a critical structural project-related component (in terms of the corporate policy on the requirement to establish construction camps). Additionally, include "*safety of women and girls*" at Level 2 as migratory camp workers may travel to nearby communities.	
32	**Table 3 (pg.13)**	(same as above)	(same as above)	Include the following revisions in Table 3 (pg. 13): Replace "*Mental Health*" with "*Mental Well-Being*"2. The latter is a broader term related to emotions/feelings, while the former in this context indicates health outcomes, including mental disorders (e.g., depressive and anxiety disorders). Note that feelings of anxiety and depression may be at the beginning stages of becoming a serious disorder, and would serve as early indicators of increased risk of mental and physical health problems.		Acknowledged. The required actions identified by the Agency have been incorporated into Table 3 of the Human Health Study Plan.

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				i) Include the following factors under "*Social Well-Being*": - *"Accessibility of drugs and alcohol*" in relation to camp workers' influences and increased disposable income of Indigenous workers. - changes in the "*Rate of sexual assaults on/sexual exploitation of women and girls*" following the arrival of mobile camp workers as indicators of public safety. j) Keep "Physical Well-Being" with its three indicators, recognizing them as ***health outcome*** indicators. k) Add another Health Area: "*Health-related Behaviour*", and move in this category the following factors currently under "*Social Well-Being*": - *"substance use"* (which may be related to consequential coping mechanism at the social level); - *"diet"; and* - *"physical activity."* l) Place "*harm reduction programs*", which is a public health strategy, under "*Health Care Services*". This category may be renamed "Health and social services" to encompass community-based programs and services as well.		
33	**Section 2.2.3 Collection of Baseline Information** "A community health profile will be developed…….baseline information and data will be gathered ….. from …(i.e. First Nations Food Nutrition and Environment Study – FNFNES)"	**Section 9** "…In preparing the report on baseline community health profile, the proponent must identify the environmental and social area of influence of the Project. To understand the community and Indigenous context and baseline health profile, the proponent must: - complete a community health profile that describes the overall health of the community across standard health indicators including any specific community identified health concerns (real or perceived) that may be impacted by the Project;…"	The study plan assumes that the proponent will have the ability to acquire information on country food consumption from each community. This may be difficult, as the proponent will have to make requests directly to Chief/Chief & Council for each community.	The proponent is urged to be mindful of the requirement to request information on community food consumption from the Chief/Chief & Council on behalf of the community.		
34	Women and Gender Equity Canada assembled the following resources to be shared with the project team: Activity profile, Resource mapping, Wheel of discrimination, Stakeholder analysis, Organizations or group profiles, Harvard Analytical Framework, Gender Needs Assessment (Moser tool) Available at: https://www.agrilinks.org/library/moser-gender-analysis-framework Demystifying GBA+ Job Aid. Women and Gender Equity. Available at: https://cfc-swc.gc.ca/gba-acs/course-cours-2017/assets/modules/Demystifying_GBA_job_aid_EN.pdf Department of Natural Resources, "By the Numbers: Gender Diversity in Canada's Natural Resource Industries and Science, Technology, Engineering and Math (STEM)," Submitted Brief. https://www.ourcommons.ca/Content/Committee/421/FEWO/Brief/BR8745320/br-external/NRC-e.pdf Gender Analysis Matrix. Available at: https://www.agrilinks.org/library/gender-analysis-matrix Gender, diversity and inclusion statistics. Statistics Canada. Available at: https://www.statcan.gc.ca/eng/topics-start/gender_diversity_and_inclusion					