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## 7.5 Indigenous Peoples – Health and Socio-Economic Conditions

The Project could cause residual adverse effects on the health and socio-economic conditions of Indigenous Peoples, including the physical health of individuals and communities and community well-being, through changes to the availability, quality, and access to country foods; access to resources and sites of traditional and cultural importance; surface water and groundwater quality; the atmospheric environment; and the availability and access to community services and infrastructure.

The Agency is of the view that the Project is not likely to cause significant adverse effects on Indigenous Peoples' health and socio-economic conditions after taking into account the proposed key mitigation measures. The Agency's conclusions are based on an analysis of the Proponent's assessment, including the Proponent's proposed mitigation, monitoring, and follow-up measures, and the views expressed by federal authorities and Indigenous nations.

### 7.5.1 Effects on Indigenous Peoples' Health

#### 7.5.1.1 Proponent's Assessment of Effects

The Project may result in adverse effects to the health of Indigenous Peoples during all project phases through changes to the atmospheric environment, surface water and groundwater quality, the acoustic environment, and country foods.

##### Atmospheric Environment

During construction, operation, and decommissioning/closure, vehicle exhaust and fugitive dust emissions from project-related transportation and operation of heavy equipment could result in the release of atmospheric contaminants, such as total suspended particulates, PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>2</sub>, CO, and SO<sub>2</sub>, as discussed in Chapter 6.1 (Atmospheric Environment) of this EA Report. Direct inhalation of these contaminants or consumption of country foods affected directly or indirectly by deposition of these contaminants onto vegetation, soil, or in water could cause adverse effects to Indigenous Peoples' health. The Proponent predicted that Indigenous Peoples who regularly harvest and consume country foods harvested within the LAAs would be the most at risk of exposure to atmospheric contaminants; individuals who live and practice traditional, cultural, spiritual, and recreational activities within the RAA may also be adversely affected.

The Proponent predicted that, following the implementation of mitigation measures, concentrations of atmospheric contaminants would exceed acceptability benchmarks for the protection of human health established by Health Canada at two receptor locations. Exceedances of the CAAQS for NO<sub>2</sub> were predicted at three receptor locations. However, the Proponent predicted that guideline exceedances would occur only 1% of the time during construction and operation and would be single events separated by prolonged periods of acceptable air quality conditions. Therefore, the Proponent predicted that adverse effects to Indigenous Peoples' health would be negligible.

##### Water Quality

Project-related changes to surface water and groundwater quality are described in Chapter 6.2 (Groundwater) and Chapter 6.3 (Surface Water) of this EA Report, respectively. Changes to surface water and groundwater quality in the Gordon and MacLellan site LAAs could affect Indigenous Peoples' health if Indigenous Peoples source drinking water from surface waterbodies, groundwater, or other untreated sources in the LAAs. The Proponent indicated that engagement with Indigenous nations identified that Indigenous Peoples may occasionally ingest untreated water directly from waterbodies in the LAAs and RAA, but that drinking water was not generally directly obtained from waterbodies within the RAA. The exception to this is Marcel Colomb First Nation, who source their drinking water from the Hughes River; however, this water is treated prior to consumption and no project-related effects to water quality in the Hughes River were anticipated.

The Proponent predicted that concentrations of metals and other contaminants in waterbodies in the RAA would be less than federal and provincial drinking water guidelines during all project phases; therefore, even if Indigenous Peoples were to directly consume untreated water within the LAAs and RAA, the health risks would be negligible. The Proponent also predicted that potential effects to Indigenous Peoples' health as a result of exceedances of the MWQSOG limits for drinking water quality and CWQG-FAL limits for maximum total antimony, dissolved hexavalent chromium, total selenium, and total zinc concentrations in the unnamed tributary of the Keewatin River at the MacLellan site would be negligible due to the short-term duration of exceedances.

### Acoustic Environment

Heavy equipment operation, blasting, and increased traffic along Provincial Road 391 may cause project-related increases in noise and vibration levels during construction and operation, as discussed in Chapter 6.1 (Atmospheric Environment) of this EA Report. This may result in adverse effects to Indigenous Peoples' health through annoyance and sensory disturbance, particularly for Marcel Colomb First Nation members who reside on the Black Sturgeon Reserve, Indigenous Peoples living in the Town of Lynn Lake, or Indigenous Peoples practicing traditional, spiritual, cultural, or recreational activities in the LAAs and RAA.

The Proponent predicted that, following the implementation of mitigation measures, effects to Indigenous Peoples' health as a result of project-related changes to noise and vibration levels would be minor, as noise and vibration levels during all project phases would comply with Health Canada's *Guidance on Evaluating Human Health Impacts in Environmental Assessment: Noise*<sup>1</sup> and the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment Manual*<sup>2</sup>.

### Country Foods

Project activities during construction and operation could affect Indigenous Peoples' health through a measurable or perceived reduction in the quantity, quality, and access to country foods. Vegetation clearing, site preparation, and other construction activities could result in the loss of or changes to the abundance and distribution of vegetation, wildlife, and fish species within the LAAs used as country foods or loss or alteration of the ability of Indigenous Peoples to access country foods. Vegetation removal during construction and project-related changes to groundwater and surface water levels would also

<sup>1</sup> Health Canada. 2016. *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

<sup>2</sup> Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123.

result in the direct removal of plant species of importance as country foods and dewatering of wetlands where country foods may be located. These effects were anticipated to persist during all project phases until the Gordon and MacLellan sites are decommissioned and reclaimed.

The Project may increase the risk of mortality for wildlife and fish species used as country foods by Indigenous Peoples during all project phases, including through blasting, vehicle-wildlife collisions, and interactions with contact water and tailings, which could affect the number of individuals available for harvest. Project-related increases in noise and vibration levels due to heavy equipment operation, blasting, and increased traffic along Provincial Road 391 could result in avoidance behaviour by wildlife, particularly avoidance of areas within one kilometre of the PDAs, potentially altering the distribution of wildlife of importance for traditional harvesting and their abundance at harvesting sites.

Project-related activities at the Gordon and MacLellan sites could increase the concentrations of contaminants in air, soil, water, and sediments, which could lead to an increase in contaminant concentrations in traditional vegetation, wild meat, and fish tissue that may be consumed by Indigenous Peoples. The Proponent predicted that concentrations of most contaminants in wild meat, fish, and traditional vegetation would be below the thresholds established in Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Foods (2017)*<sup>3</sup>. While concentrations of manganese, methylmercury, and thallium in country foods were predicted to exceed the total ingestion benchmarks set by Health Canada for toddlers and adults, concentrations of these contaminants in country foods are elevated under baseline conditions. Therefore, the Proponent was of the view that exceedances of contaminant benchmarks should not be solely attributed to the Project. Health Canada acknowledged the Proponent's rationale but recommended using a precautionary approach by monitoring all identified COPCs in ambient air, surface water and soil, and proactively engaging local communities on mitigation measures given that any incremental increase would exacerbate the existing exceedance, and should not be used as the sole trigger for the implementation of mitigation measures. The Proponent predicted that project-related increases in contaminant levels in country foods may deter the harvest and consumption of country foods by Indigenous Peoples, through measurable or perceived changes in the value or quality of country foods.

**Commented [A1]:** The two statements in this sentence are not both attributed to the Proponent. Edits are proposed to clarify the latter statement which originated from Health Canada during the previous round of draft review.

The Proponent predicted that, following the implementation of mitigation measures, the harvest of country foods by Indigenous Peoples would be able to continue with some alteration of behavior, such as changes in patterns of access or travel routes. The Proponent also predicted that project effects would not cause population-level effects to plant, wildlife, and fish species of importance as country foods within the RAA; therefore, potential effects to Indigenous Peoples' health were predicted by the Proponent to be minor.

## Proponent Conclusions

The Proponent predicted that, following the implementation of mitigation measures, residual project effects to Indigenous Peoples' health would be adverse, moderate in magnitude, irregular, long-term in duration, irreversible, and would occur within the LAAs during all project phases.

The Proponent predicted that residual project effects to Indigenous Peoples' overall health would not be significant as long-term effects to the availability of resources of traditional importance or access to lands

<sup>3</sup> Health Canada. 2017. *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

relied upon for harvesting country foods were not predicted. Further, project-related contaminant concentrations in the environment were not predicted to exceed federal or provincial regulatory thresholds, except for contaminants whose concentrations are already elevated, or guideline exceedances would only occur for a limited period during post-closure. Project-related increases in noise and vibration levels were not predicted to affect Indigenous Peoples' health and well-being.

The Proponent's proposed mitigation, follow-up, and monitoring measures are described in Appendix D of this EA Report. The mitigation, monitoring, and follow-up measures the Agency views as key for preventing significant adverse effects to Indigenous Peoples' health are described in Section 7.5.3 of this Chapter.

### 7.5.1.2 Views Expressed

#### Indigenous Nations

The Manitoba Metis Federation, Mathias Colomb Cree Nation, and Sayisi Dene First Nation expressed concerns regarding potential effects to their Nations' health from project-related changes to air quality, surface water and groundwater quality, and the experience of land users on the landscape.

The Manitoba Metis Federation, Mathias Colomb Cree Nation, Marcel Colomb First Nation, Peter Ballantyne Cree Nation, and Sayisi Dene First Nation raised concerns regarding potential project effects on the availability and quality of country foods, particularly potential contamination of country foods and other resources of importance for traditional purposes. The Manitoba Metis Federation, Mathias Colomb Cree Nation, Marcel Colomb First Nation, Peter Ballantyne Cree Nation, Chemawawin Cree Nation, and Sayisi Dene First Nation also expressed concerns that the Project may affect the perceived safety of country foods in the LAAs and RAA, which may affect their traditional land use practices. Sayisi Dene First Nation noted specific concerns regarding potential effects to boreal caribou and effects of the Project on the ability of Indigenous nations to continue harvesting boreal caribou.

Chemawawin Cree Nation, Mathias Colomb Cree Nation, Peter Ballantyne Cree Nation, Mathias Colomb Cree Nation, Sayisi Dene First Nation, and Chemawawin Cree Nation expressed concerns regarding the Proponent's methodology for determining potential effects to Indigenous Peoples' health, including the lack of community-specific engagement in determining potential effects and in collecting baseline data to support the assessment.

A summary of the comments provided by Indigenous nations, along with Proponent and Agency responses, is provided in Appendix C of this EA Report.

#### Federal Authorities

As noted in Chapter 6.1 (Atmospheric Environment) of this EA Report, Health Canada noted concerns about the level of uncertainty regarding potential project effects to human health from increased noise levels and the need for mitigation measures to limit noise, monitoring to determine the adequacy of proposed noise management and monitoring measures, and a complaints protocol to address noise-related concerns. Health Canada also recommended that the Human Health Risk Assessment be amended and additional mitigation measures be implemented, should monitoring results vary considerably from modelled predictions.

Health Canada highlighted the need for ongoing communication between the Proponent and Indigenous nations regarding **current and future** traditional land and water use practices and potential associated health risks.

### 7.5.1.3 Agency Analysis and Conclusions for Indigenous Peoples' Health

The Agency is of the view that the Proponent adequately characterized potential project effects to Indigenous Peoples' health. The Agency recognizes that construction and operation activities may result in adverse effects to the health of Indigenous Peoples through changes to air quality, water quality, the acoustic environment, and the quantity and quality of country foods. The Agency acknowledges the importance of tangible and intangible, land-based connections for Indigenous Peoples to engage in traditional activities, which are necessary for the intergenerational transfer of culture, spirituality, and practices to safeguard the sustainability of their culture. The Agency also acknowledges that Indigenous nations may perceive risk to their physical health or safety caused by project-related environmental changes and that the measurable or perceived presence of contaminants in water and country foods may lead to changes in behaviours or practices required for carrying out traditional and cultural activities, such as hunting, fishing, trapping, and plant gathering.

The Agency is of the view that the mitigation, monitoring, and follow-up measures proposed by the Proponent to prevent or reduce project effects to air quality, water quality, the acoustic environment, vegetation and wetlands, and wildlife (Appendix D) and the key mitigation measures identified in Chapter 6.1 (Atmospheric Environment), Chapter 6.2 (Groundwater), Chapter 6.3 (Surface Water), Chapter 6.4 (Terrestrial Landscape), Chapter 7.1 (Fish and Fish Habitat), Chapter 7.2 (Migratory Birds), Chapter 7.3 (Species at Risk), and Chapter 7.4 (Indigenous Peoples – Current Use of Lands for Traditional Purposes, Physical and Cultural Heritage, and Site of Significance) of this EA Report would also mitigate potential project effects to Indigenous Peoples' health. The Agency highlights the importance of the participation of Indigenous nations in the development and implementation of follow-up and monitoring programs to monitor project effects to Indigenous Peoples' health and safety and to ensure that Indigenous knowledge and views regarding measurable or perceived effects to Indigenous Peoples' health are adequately considered.

The Agency agrees with Health Canada's recommendation regarding the need for mitigation and monitoring measures for noise, including a complaint response protocol. The Agency is satisfied that the key mitigation measures proposed in Chapter 6.1 (Atmospheric Environment), including development of a public complaints protocol, will address potential effects to Indigenous Peoples' health due to project-related increases in noise levels.

The Agency is of the view that the Project is not likely to cause significant adverse effects on Indigenous Peoples' health, taking into account the implementation of the mitigation, follow-up, and monitoring measures proposed by the Proponent (Appendix D) and the key mitigation measures proposed in Section 7.5.3 of this Chapter.

## 7.5.2 Effects on Indigenous Peoples' Socio-economic Conditions

### 7.5.2.1 Proponent's Assessment of Effects

The Project may result in adverse effects to the socio-economic conditions of Indigenous Peoples during all project phases through changes in the availability and quality of lands and resources used for harvesting (i.e. recreational, subsistence, and commercial), increased demands on community services and local infrastructure, and changes to community well-being and social cohesion<sup>4</sup>.

### Availability and Quality of Lands and Resources

Project activities may adversely affect the ability of Indigenous Peoples to practice commercial and subsistence harvesting, recreational activities, and cultural practices through a loss of land area to practice these activities, a reduction in the availability or quality of resources, access restrictions to areas where these activities occur, and increased competition for resources due to an influx of project personnel. The right of way cleared for the distribution line from the Town of Lynn Lake to the MacLellan site may also create a preferential access route for local and non-local hunters and other land users, which may increase competition for resources of importance to Indigenous Peoples.

Project activities may also affect the experience of Indigenous Peoples practicing traditional, cultural, and recreational activities within the LAAs and RAA due to the removal of portions of Registered Traplines, fugitive dust emissions, elevated noise and vibration levels, and changes to the visual aesthetics of harvesting areas and areas used for recreation located within the PDAs and LAAs. Increased noise and dust may also result in avoidance of traplines or cultural use areas by wildlife due to sensory disturbance, which may affect harvesting activities and harvesting success.

### Availability of Community Services and Infrastructure

The Project may result in an influx of outside personnel and contractors during construction and operation, which may strain community services and infrastructure and subsequently affect Indigenous Peoples' ability to access services. The capacity of existing service providers and local infrastructure to respond to and manage emergencies in Indigenous communities may also be reduced. Movement of trucks, equipment, supplies, and personnel within the LAAs and the need for air transport for project personnel located outside of the LAAs and RAA would also place additional demands on airports and local roads, increasing the rate of wear and affecting travel times and road safety for Indigenous Peoples who live and work in the LAAs. Potential personnel injuries, vehicle collisions, and other project-related incidents requiring police or emergency medical response could overwhelm the capacity of local emergency services.

The Proponent did not anticipate measurable effects to the availability of housing or accommodations in Indigenous communities or in the Town of Lynn Lake as transient project personnel and contractors would be housed in an on-site work camp. However, use of the work camp would negate any potential opportunities for indirect economic gain by Indigenous Peoples through property rentals to project personnel. The Proponent also did not anticipate additional constraints on waste disposal services or water treatment facilities in the Town of Lynn Lake or nearby communities as sewage treatment and potable water treatment would occur at on-site facilities.

### Community Well-Being and Social Cohesion

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<sup>4</sup> Social cohesion is defined as “the ongoing process of developing a community of shared values, shared challenges and equal opportunity within Canada, based on a sense of trust, hope, and reciprocity among all Canadians”.

Project-related changes to employment status and income in local communities may affect community well-being and social cohesion, resulting in both positive and adverse effects. The Proponent noted that the influx of project personnel and contractors, which are generally young to middle aged non-Indigenous males, could alter the demographic profile of the region and result in adverse effects to social cohesion, particularly in Indigenous communities, which are often subject to disproportionate degrees of inequity and may be less likely to realize benefits of project-related employment and income.

The Proponent predicted that Indigenous Peoples employed for the Project may experience changes in the amount of time they have available to participate in recreational, subsistence, and family-related activities, which could result in adverse effects to well-being and social cohesion. Increased income for Indigenous employees could also increase the amount of disposable income available, lower financial barriers to accessing purchased foods, and increase the reliance of Indigenous employees on purchased foods rather than traditionally harvested foods. Combined, these changes could both positively and adversely affect well-being and social cohesion. The Project may also result in benefits to Indigenous-owned businesses that may be contracted during project construction, operation, and decommissioning/closure, including increased revenues that may increase local spending and create jobs. However, this may also result in an increased demand for local labour, goods, and services, increasing operating costs for Indigenous business owners through wage inflation and employee turnover. The Project could also decrease the capacity of businesses through local labour shortages due to increased competition for labour. Any income benefits to individuals or businesses would cease following project operation and decommissioning/closure.

### Proponent Conclusions

The Proponent predicted that, following the implementation of mitigation measures, residual effects to Indigenous Peoples' socio-economic conditions would be both adverse and positive, moderate in magnitude, long-term in duration, continuous, reversible, and would occur within the LAAs.

The Proponent predicted that residual adverse effects of the Project to Indigenous Peoples' socio-economic conditions would not be significant as land and resource use activities within the RAA were predicted to be able to continue at or near baseline conditions during all project phases. Further, any residual effects to local services and infrastructure were predicted to be limited and economic effects were predicted to be positive.

The Proponent's proposed mitigation, follow-up, and monitoring measures are described in Appendix D of this EA Report. The mitigation, monitoring, and follow-up measures the Agency views as key for preventing significant adverse effects to Indigenous Peoples' socio-economic conditions are described in Section 7.5.3 of this Chapter.

### 7.5.2.2 Views Expressed

#### Indigenous Nations

Mathias Colomb Cree Nation expressed concerns that the Project may affect their socio-economic conditions, particularly for community members who rely on traditional resources for both subsistence and commercial harvesting, due to the depletion of wildlife and fish as a result of increased harvesting by non-Indigenous harvesters. Mathias Colomb Cree Nation requested that a community specific or community-led socio-economic effects assessment be undertaken to understand the current economic situation of

the Nation and potential project effects to their community. Mathias Colomb Cree Nation also expressed support for cultural sensitivity training programs for project personnel and contractors and highlighted the need for a community liaison for mentoring Indigenous community members employed for the Project.

The Manitoba Metis Federation expressed concerns regarding the ability of Métis citizens to equitably participate in the economic benefits and opportunities associated with the Project. They noted that the hiring of outside project personnel would reduce the economic opportunities available for the Town of Lynn Lake, including for Indigenous-owned businesses, as the number of local people, including Métis citizens, hired may be reduced and transient workers may not invest in the local economy. The Manitoba Metis Federation also highlighted that crime rates could increase due to the transient workforce.

Mathias Colomb Cree Nation, Marcel Colomb First Nation, Sayisi Dene First Nation, Chemawawin Cree Nation, Peter Ballantyne Cree Nation, and the Manitoba Metis Federation expressed interest in partnerships with the Proponent that would facilitate employment or business opportunities for community members and businesses, and requested that their members be prioritized for employment opportunities associated with the Project.

Sayisi Dene First Nation raised concerns regarding the lack of community-specific baseline socio-economic data presented by the Proponent and indicated that they were not allotted capacity funding to adequately review and provide input regarding potential effects of the Project to Indigenous socio-economic conditions. Sayisi Dene First Nation also expressed concerns regarding their ability to continue to connect with the lands, waters, and resources within the LAAs and RAA due to project activities in sensitive wildlife or culturally significant areas.

A summary of the comments provided by Indigenous nations, along with Proponent and Agency responses, is provided in Appendix C of this EA Report.

### 7.5.2.3 Agency Analysis and Conclusions for Indigenous Peoples' Socio-economic Conditions

The Agency is of the view that the Proponent adequately characterized potential project effects to Indigenous Peoples' socio-economic conditions. The Agency recognizes that project infrastructure and activities may result in the loss of land; restrict access to lands and resources relied upon by Indigenous nations for recreation, traditional, and cultural practices; diminish the availability and quality of resources of importance for commercial or subsistence harvesting; increase competition for resources; increase demands on community services and local infrastructure; and result in changes to community well-being and social cohesion.

The Agency recognizes that the Project is located in an area currently accessed by Indigenous Peoples for socio-economic purposes, including subsistence use, and that adverse effects of the Project on surface water and groundwater, vegetation and wetlands, wildlife, and fish may affect Indigenous Peoples' ability to practice subsistence and cultural activities in the PDAs and LAAs. The Agency highlights the importance of continued engagement with Indigenous nations throughout the life of the Project to provide an opportunity for Indigenous nations to raise concerns regarding adverse project effects to Indigenous socio-economic conditions and to work with the Proponent to address these concerns. The Agency notes the importance of providing equal opportunities for Indigenous Peoples and businesses to benefit from employment opportunities and contracts associated with the Project.



The Agency understands that the Proponent will provide an opportunity for Indigenous nations to participate in an Indigenous Environmental Advisory Committee, which will facilitate the participation of interested Indigenous nations in environmental aspects of ongoing project activities, including the development and implementation of follow-up and monitoring plans. The Agency recommends that the Proponent work with the Indigenous Environmental Advisory Committee to identify and address potential project effects to Indigenous socio-economic conditions.

The Agency is of the view that the Project is not likely to cause significant adverse effects on Indigenous Peoples' socio-economic conditions, taking into account the implementation of the mitigation, follow-up, and monitoring measures proposed by the Proponent (Appendix D) and the key mitigation measures described in Section 7.5.3 of this Chapter.

### 7.5.3 Key Mitigation Measures and Monitoring to Avoid Significant Effects and Follow-Up Program Requirements

The Agency considers the following mitigation measures, monitoring, and follow-up programs to be necessary to ensure that there are no significant adverse effects to Indigenous Peoples' health and socio-economic conditions. The following key mitigation measures are based on mitigation measures, monitoring, and follow-up programs proposed by the Proponent, expert advice from federal authorities, and comments received from Indigenous nations.

- The Proponent will engage with Indigenous nations throughout all project phases to identify and address potential project effects to Indigenous Peoples' health and socio-economic conditions, including measurable **and/or** perceived effects.
- For any project activity that may increase noise and vibration levels in the PDAs, LAAs, or RAA, including blasting activities, the Proponent will take into account thresholds and mitigation measures for noise identified in Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*.

Additional mitigation measures, monitoring, and follow-up programs applicable to project-related effects to Indigenous Peoples' health and socio-economic conditions can be found in the following chapters of this EA Report: Atmospheric Environment (Chapter 6.1), Groundwater (Chapter 6.2), Surface Water (Chapter 6.3), Terrestrial Landscape (Chapter 6.4), Fish and Fish Habitat (Chapter 7.1), Migratory Birds (Chapter 7.2), Species at Risk (Chapter 7.3), and Current Use of Lands for Traditional Purposes, Physical and Cultural Heritage, and Sites of Significance (Chapter 7.4).