Lake Winnipeg East System Improvement (LWESI) Transmission Project

Socio-economic and Land Use Technical Report

Manitoba Hydro and Golder Associates Ltd.

December 2012

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1 INTRODUCTION

Manitoba Hydro is proposing to construct the Lake Winnipeg East System Improvement (LWESI) Transmission Project (the Project) to ensure a reliable source of electricity to the Lake Winnipeg east area for existing and new load growth (Map 1). This technical report describes the socio-economic and land use baseline conditions and assesses the Project's effects on components of the socio-economic and land use environment. The LWESI Transmission Project includes a new 71.6 km long, 60 m wide right-of-way (ROW) for a 115 kV single circuit alternating current transmission line. The line will originate from the existing 115 kV switchyard at Pine Falls Generating Station Switchyard north of Powerview-Pine Falls, Manitoba, and will terminate at the new 115-66 kV transmission station near the community of Manigotagan, Manitoba.

1.1 Report Outline

This technical report is organized according to the following headings:

- Section 1: Introduction
- Section 2: Project Study Area
- Section 3: Methods
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- Section 5: Evaluation of Alternative Routes and Infrastructure
- Section 6: Effects and Mitigation
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Section 1 introduces and provides a general description of the Project Section 2 briefly describes the Project Study Area and surrounding region. Section 3 describes the methods used in a socio-economic impact assessment, including identification of valued environmental components (VECs) (see Section 3.2 for more information on VECs), collection of baseline data, and impact assessment. Section 4 summarizes the baseline conditions, in relation to socio-economic and land use aspects of the Project Study Area. Section 5 examines the three Alternate Routes and what factors were taken into consideration during the evaluation and selection of the preferred route. Section 6 provides an assessment of potential effects and mitigation on each VEC. Section 7 highlights the conclusions, and Sections 8 and 9 provide a glossary and reference list.

1.2 Project Overview

The Project is required to provide system upgrades in the region east of Lake Winnipeg. The Project will serve existing and new load growth, and provide firm transformation and adequate voltage support for the communities located in and around the region. It is expected that this new development will meet electrical requirements for the next twenty years.

The Project includes the construction of a new 115 kilovolt (kV) transmission line from Powerview-Pine Falls, Manitoba to Manigotagan [Pine Falls–Manigotagan 115 kV Transmission Line (PQ95)], approximately 75 kilometers (km) north of Powerview-Pine Falls in a 60 meter wide ROW. The Project will require the development of a new 115-66 kV transmission station [Manigotagan Corner Station] west of the intersection of Provincial Road (PR) 304 and the Rice River Road, near the community of Manigotagan. This station will serve as the terminal for the new 115 kV transmission line as well as the existing 66 kV sub-transmission lines in the Manigotagan area. The Project will also require upgrades at the Pine Falls Generating Station Switchyard.

This technical report supports the Environmental Assessment (EA) Report to meet the licensing requirements of *The (Manitoba) Environment Act* for a Class II Licence for this project.

2 PROJECT STUDY AREA

2.1 Project Study Area

The Project is located on the east side of Lake Winnipeg in a relatively unpopulated, forested landscape in the Precambrian shield region of Manitoba (Smith et al. 1998). Communities in this landscape are mostly small and have economies that largely rely on natural resource-related activities.

The Project Study Area is defined based on the predicted spatial extent of project-based effects from the Project, and is defined by an approximate 10 km buffer on each side of the corridor (Map 2). The proposed LWESI Transmission Line will begin north of the Town of Powerview-Pine Falls in the Rural Municipality (RM) of Alexander, and travel north to near Manigotagan. On the south end, in addition to beginning just northeast of the Town of Powerview-Pine Falls, the Project will pass near the communities of Sagkeeng First Nation, and the Hamlets of St. Georges and Silver Falls. St. Georges and Silver Falls are French-speaking, unincorporated hamlets, and as such, are included in the statistical profile of the RM of Alexander. The RM of Alexander only overlaps the very southern edge of the Project Study Area. Because the majority of the communities in the RM of Alexander, other than the two unincorporated Hamlets, are not in the Project Study Area, the RM of Alexander is not profiled in the population, education, and labour force statistics provided for the Project Study Area.

As the proposed transmission line continues north, it will pass several kilometers east of Black River First Nation and through the southeast corner of the community boundary of Manigotagan

before ending at the Manigotagan Corner Station east of Manigotagan. Just north of Manigotagan are the Hollow Water First Nation and the Northern Affairs communities of Seymourville and Aghaming. Approximately 40 km east of Manigotagan is the Northern Affairs Community of Bissett, which will be included in discussions, even though it is outside the physical Project Study Area The San Gold Mine in Bissett is a large employer in the area and infrastructure and services (i.e., emergency services) are provided to the area from Bisset which could potentially be impacted.

The following communities are included in the Project Study Area:

- Rural Municipalities
  - RM of Alexander
- Cities, Towns, Villages, and Hamlets
  - Town of Powerview-Pine Falls
  - Hamlet of St. Georges
  - Hamlet of Silver Falls
- Northern Affairs Communities
  - Manigotagan
  - Seymourville
  - Aghaming
  - Bissett
- First Nation Communities
  - Sagkeeng First Nation
  - Black River First Nation
  - Hollow Water First Nation

3 METHODS

Manitoba Hydro uses a Site Selection Environmental Assessment (SSEA) process to plan and assess new transmission infrastructure. The objectives of the route/site selection processes for the Project were to avoid/minimize adverse biophysical and socio-economic impacts, and to satisfy technical and cost requirements for the Project.

The SSEA process considered a broad range of environmental, socio-economic, and stakeholder involvement information (see the LWESI Public Engagement Technical Report) in identifying alternative routes and ultimately in the selection of the preferred route. Throughout this process, the specific objectives of the transmission line SSEA process were to:

- select a transmission line route in an environmentally, technically, and economically sound manner;
- identify VECs of the socio-economic environment through consultation with stakeholders and past experience with similar Projects;
- determine the potential impacts of the preferred route in relation to the VECs;
- find practical ways to reduce (i.e., mitigate) potential adverse effects and enhance benefits of the project;
- Determine the significance of the effects; and
- Outline monitoring and follow-up activities.

3.1 Data Collection and Analysis

Data collection was based on existing reports, information from Manitoba Hydro, information gathered during public engagement, results generated by other contributing disciplines (e.g., wildlife) and key person interviews.

Recent 2011 Census Data (Statistics Canada 2012a) was acquired to obtain population data, but 2011 labour force and education data has not yet been released. As such, 2006 labour force and education statistics are the most recent official statistics and are used as the reference year for comparison. Data was not available for the Hamlets of St. Georges and Silver Falls through Statistics Canada, as they are included in the RM of Alexander Statistics; however, basic socio-economic data was obtained through other sources. Only 2011 population data was available for the Northern Affairs Community of Aghaming, with no 2006 data available on labour force or education.

Manitoba Hydro provided Project-specific information on workforce requirements, and construction methods and activities. Other disciplines that completed assessments associated with this project (e.g., consultants working on public engagement, wildlife, and forestry technical reports) provided discipline specific information relating to the VECs that could experience indirect socio-economic and land use impacts. Key Person Interviews (KPIs) were conducted in October 2012 in the communities of Manigotagan, Seymourville, Black River First Nation, Hollow Water First Nation, the Papertown Motor Inn/Manitou Lodge, the Pine Falls Hospital, and the Powerview RCMP Detachment. KPIs were completed to gain local input on socio-economic components of the project that could be potentially affected including health, emergency services, accommodation, etc.

An Aboriginal Traditional Knowledge (ATK) study was undertaken to provide information on local knowledge and land use that were not included in the Project Study Area data record. Data on ATK was gathered during five workshops that were held in the communities of Hollow Water, Manigotagan, Black River, and Seymourville. Workshops were guided by a series of questions and discussion facilitated by discipline leads (e.g., the wildlife and ATK specialists). Information

was summarized in the ATK Technical Report, but relevant information was also integrated into the technical reports.

The following is a list of engagement activity information and other communication used in the socio-economic and land use technical report:

- Introductory Presentations
  - Manitoba Model Forest Board of Directors – June 20, 2012
  - RM of Alexander – June 26, 2012
  - MBMF Cooperative Committee for Moose Management – June 28, 2012
  - Seymourville Community Council – June 28, 2012
  - Manitoba Environmental Organizations (including Green Action Centre, Manitoba Eco-Network) – July 5, 2012
  - Eastern Region Integrated Resource Management Team – July 10, 2012
  - Powerview-Pine Falls Council – July 10, 2012
  - Hollow Water First Nation – July 11, 2012
  - Manitoba Wildlife Federation and Manitoba Trappers Association – July 11, 2012
  - Manitoba Wildlands – July 12, 2012

- Aboriginal Traditional Knowledge Workshops
  - Black River First Nation – August 15, 2012
  - Seymourville – August 22, 2012
  - Hollow Water First Nation – August 22 and September 17, 2012
  - Manigotagan – September 17, 2012

- Key Person Interviews
  - Papertown Motor Inn/Manitou Lodge, Powerview-Pine Falls – October 17, 2012
  - Pine Falls Hospital, Powerview-Pine Falls – October 17, 2012
  - Powerview RCMP, Powerview-Pine Falls – October 17, 2012
  - Seymourville – October 18, 2012
  - Hollow Water First Nation – October 4, 2012
  - Black River First Nation – October 5, 2012
  - Manigotagan – October 5, 2012

- Personal Communications
  - Vince Keenan – October, 2012
  - Vince Kuzdak – October 1, 2012
  - Scott Anderson – October 25, 2012
  - Robert Berger – October 26, 2012
  - Hotel San Antonio – November 27, 2012
  - Ron Rawluk – October 31 and November 21, 2012)
  - Diane Dube – November 29, 2012

3.2 Valued Environmental Component (VEC) Selection

The EA was focused on VECs, which are aspects of the natural and socio-economic environment that are particularly notable or valued because of their ecological, scientific, resource, socio-economic, cultural, health, aesthetic, or spiritual importance. To be considered as a VEC, a component must have the potential to be adversely affected by project development.

A workshop was held with discipline leads to select VECs for the Project which met one or more of the following criteria:

- identified regulatory requirements;
- information and comment received during the engagement of local communities;
- feedback through the Public Engagement Program; and
- biophysical and heritage assessment field surveys.

A preliminary list of VECs was proposed and revised throughout the EA process which balanced biophysical and socioeconomic components, and represented both potential positive and negative effects of the Project.

Valued environmental components were selected following the first round of public engagement. The VECs selected for LWESI Transmission Line Project that will be assessed in the Socio-economic Technical Report can be found in Table 3-1. The VECs were selected based on regulatory importance, what was learned through the initial stages of the public engagement process, expert judgment, and experiences regarding key issues/concerns with similar projects. The VECs selected for socio-economics and land use are summarized below:

- Population, Infrastructure, and Services:
  - The Project has the potential to temporarily increase the population in the Project Study Area, which in turn could affect local infrastructure and services (e.g., health and

emergency services, temporary accommodations) through increased demand or pressure. Effects on local infrastructure and services would have an indirect impact on the availability and quality of infrastructure and services for local residents.

  - Infrastructure facilities: Linear infrastructure such as existing ROWs associated with provincial highways and roads and other transmission lines which are crossed were considered in the identification of alternative routes. Furthermore, site specific facilities that could be impacted, such as aerodromes and communication towers, were factored into the assessment. The potential for interference with broadcast signals, navigation, or infrastructure operations warrant their inclusions in the assessment.

- **Employment and Economy:** The Project has the potential to create short-term employment opportunities, as well as possible direct and indirect economic opportunities for communities near the project.
- **Personal Well-being: T**he Project could alter local aesthetics (i.e., visual intrusion), have nuisance effects on nearby residents (e.g., noise, dust, vibration, electrical interference), or have perceived impacts on human health (e.g., electric and magnetic fields [EMFs]). Some of these concerns were identified through the public engagement process.
- **Land ownership and tenure:** A variety of effects can occur from a transmission line and station being located in different land ownership and tenure arrangements (e.g., private property, Crown Land), including affecting existing and prospective land use. Furthermore, the presence of transmission lines can also contribute to concerns about impact on property values.
- **Resource use:** Domestic and commercial based resource use activities can be affected by the presence of transmission lines. Impact on domestic and commercial resource harvesting can, for example, occur through a direct impact on the resource as a result of temporary noise and activity-related disturbances, as well as habitat loss. Effects can also occur through undesired access to resources adjacent to or along the ROWs, as well as potential inconvenience to resource users.
- **Recreation and Tourism:** This VEC considered impacts of the project on lodges/outfitters, cottage subdivisions, sport hunting, sport fishing, and other recreation areas and facilities (e.g., campgrounds and trails). To the extent possible, these areas were avoided in order to limit effects on recreation and tourism. Potential issues or concerns associated with the project include visual intrusion on the landscape that are of importance to tourist operators and visitors, and disturbance effects from increased access.

Table 3-1 provides a summary of the VECs of the Project.

Table 3-1 Summary of Socio-economic and Land Use Valued Environmental Components Selected for the Project

Proposed VECs	Rationale	Example Environmental Indicator
Socio-economics		
1. Population, Infrastructure, and services	Increased population during construction may affect local infrastructure and services through increased demand or pressure.	• Increased population • Interference/navigation issues with infrastructure facilities • Increased pressure on housing, temporary accommodation, transportation, health and emergency services, and other services
2. Employment and economy	The Project has the potential to create short-term jobs and other direct and indirect economic opportunities for communities in the Project Study Area.	• Jobs and revenue for local First Nation communities for land clearing and line maintenance • Potential short-term employment opportunities • Indirect economic benefits to communities
3. Personal well-being	The Project may alter aesthetics of the area, may have nuisance effects during construction, and may have perceived impacts on human health.	• Changes to the local landscape • Traffic delays • Noise and dust • Real or perceived changes to human health
Land/ Resource Use		
4. Land Ownership and Tenure	The Project crosses both private and Crown land, and has the potential to affect existing and prospective land use during and after construction.	• Changes to current or planned future land use
5. Resource Use	Traditional and commercial resource use activities could be affected directly or indirectly by the Project	• Hunting and trapping • Mining • Traditional resource use
6. Recreation and Tourism	The Project Study Area includes lodges, outfitters, cottage subdivisions, and recreation areas and facilities that could be affected by the Project.	• Presence of recreation and tourism areas, activities, and facilities near the Project.

VEC = valued environmental component

3.3 Identification and Evaluation of Alternative Routes

The route selection process for the Line PQ95 component is described in Chapter 6.0 of the main EA report. Evaluation of the alternative routes focused on a predetermined set of evaluation criteria. The evaluation criteria reflected the importance of known factors that are identified from various perspectives including socio-economic, biophysical, cost and technical aspects. These criteria, as well as valuable feedback obtained from the Public Engagement Program (PEP), became the basis from which the Final Preferred Route was identified.

The Manigotagan Corner Station site was selected on the basis of engineering and technical criteria. The Preferred Station Site was integrated into the PEP and received favorable feedback from local community representatives. The section below describes the inputs for Line PQ95 alternative routes and the Manigotagan Corner Station site from the socio-economic and land use perspective.

Potentially sensitive land use and socio-economic features were considered in route identification. Examples of potentially sensitive land use and socio-economic features considered in route identification include the following:

- existing settlements/communities
- First Nation Lands/Treaty Land Entitlements (TLEs)
- designated lands and valued recreation and resource use areas
- lodges/remote cottage areas/cabins
- proximity to residences
- Crown Land vs. private lands crossed
- communication facilities/navigation facilities
- licensed airstrips
- provincial highways/provincial road rights-of-way
- opportunity to parallel existing roads.

Manitoba Hydro considered three alternative routes when planning the LWESI transmission line. Three categories were used to complete a high-level comparison of the route from a socio-economic and land use perspective:

- proximity to residences
- use of Crown Land/private land
- crossing infrastructure:
  - crossing existing transmission lines
  - crossing existing roads (e.g., Provincial Highways/Provincial Roads)

3.4 Effects Assessment and Mitigation Measures

The environmental effects of the Project were identified and assessed. First, project interactions with components of the socio-economic environment were identified. Once an interaction was determined, each effect on aspects of the socio-economic and land use VECs was characterized and assessed and mitigation measures then applied. The assessment included consideration of both direct and indirect effects. Both positive and negative effects were also considered.

Identification of Mitigation Measures

Through the routing process, effects on components of the socio-economic and land use environment were considered with the optimal goal of avoidance (i.e., design mitigation). When

effects could not be avoided, mitigation measures were identified to minimize such effects. Mitigation measures were based on a Manitoba Hydro's policies and practices, as well as experience working on other projects.

Residual Effects and Significance Evaluation

For effects that could not be fully mitigated (i.e., residual effects), the significance of each effect was assessed. The following criteria were used to assess the residual effects from the Project: direction, magnitude, geographic extent, duration, reversibility, and frequency. Table 3-2 provides a definition for each of these criteria.

Table 3-2 Assessment Factors and Criteria Used to Evaluate Significance of Residual Effects

Assessment Factor	Definition	Criteria	Significance Evaluation
Direction	Indicates whether the effect on the environment is positive, negative, or neutral.	Positive	Beneficial or desirable change
		Negative	Adverse or undesirable change
		Neutral*	No detectable or measurable change
Magnitude**	A measure of the intensity of an effect, or the degree of change caused by the Project relative to baseline conditions or guideline values. There are only a few thresholds and guidelines for the socio-economic and land use environment and, therefore, magnitude is qualitatively assigned.	Negligible	No detectable or measurable effect
		Small	Effect does not exceed baseline values
		Moderate	Measurable effect that results in a short-term change
		Large	Effect sufficient to cause a change that exceeds baseline values
Geographic Extent	Refers to the area affected, and is categorized into three scales of Project footprint, local and regional	Project Footprint	Effects confined to the project footprint, including ROW
		Local	Direct and indirect effects that may extend beyond the project footprint, but not more than 5 km beyond the ROW or project components
		Regional	Direct and indirect effects that extend beyond local effects; may include cumulative changes from other projects;
Duration	The amount of time (usually in years) from the beginning of an effect to when the effect on a VEC is reversed, and is expressed relative to Project phases	Short-term	Effect that occurs during site preparation and/or construction phases of the project (i.e., one to five years)
		Medium-term	Effect that extends throughout the construction and operation phases of the project (i.e., up to 50 years)
		Long-term	Effect extends more than 50 years
Reversibility	After removal of the stressor, reversibility is the likelihood and time required for the Project to no longer influence the VEC or system. Reversibility only applies to some socio-economic VECs.	Reversible	Effect is reversible during the life of the project
		Permanent	Long term permanent effect
Frequency***	How often an effect will occur.	Infrequent	Effect may occur once during the life of the project
		Sporadic/ Periodic	Effect may occur without predictable pattern during the life of the project
		Regular/ Continuous	Effect may occur periodically or continuously during the life of the project

* Assessment factor criteria were not assigned for effects that were determined to be 'neutral' or 'no effect'

** Because potential effects are assessed by Project Phase, magnitude was assigned based on the anticipated magnitude of the effect for that phase of the Project.

*** Because potential effects are assessed by Project Phase, frequency was assigned based on the anticipated frequency of the effect for that phase of the Project.

4 EXISTING ENVIRONMENT

4.1 Overview

This section provides a summary of the existing socio-economic conditions in the Project Study Area. Aspects of the existing environment relating to each of the six VECs are discussed to facilitate the assessment of potential effects in Section 6.0.

4.2 Valued Environmental Components

As identified previously, the VECs selected for the socio-economic environment include:

- Population, Infrastructure, and Services
- Employment and Economy
- Personal Well-being
- Land Ownership and Tenure
- Resource Use
- Recreation and Tourism

The following sections present information on the existing environment in the Project Study Area.

4.3 Population, Infrastructure, and Services

Population

The population of communities included in the Project Study Area was 5,037 in 2011, a modest increase of 1.7% from the 2006 population (4,952) (Table 4-1). The communities with the largest increase in population were Black River First Nation (13.3%), Manigotagan (11.5%), and Bissett (8.3%). Two communities, Seymourville and Sagkeeng First Nation, experienced a decrease in population of 10.6% and 1.0%, respectively. The population increase of 1.7% in the Project Study Area is slower compared to the increase of 5.2% seen across the province of Manitoba during the same time period. The population of the Hamlets of St. Georges and Silver Falls is not available from census data; however, it is estimated that the Parish of St. Georges, which includes the Hamlets and surrounding area, has a population of approximately 600 (Diane Dube, pers. comm. 2012).Table 4-2 shows the population breakdown by age and gender. In general, the male and female compositions of the population are similar. Regarding age, a large percentage of the population is under the age of 20, which is reflected in the low median age in First Nation communities and Seymourville. The second, smaller bump in population is in the range of 35-50 years, which corresponds to the median age of around 40 years in Powerview-Pine Falls, Bissett, and Manigotagan.

In 2006, 30 individuals (1.4%) in Sagkeeng First Nation, 10 individuals (1.6%) in Hollow Water First Nation, and no individuals in Black River First Nation identified themselves as Métis (Table 4-1). In 2006, a total of 440 (8.9%) individuals in the Study Area identified themselves as Métis. Table 4-3 shows alternate 2012 First Nation population data from Aboriginal Affairs and Northern Development Canada. Population estimate are based on the total registered population on reserve in November 2012.

The population in the RM of Alexander and the southern Study Area rises in the summer months due to tourists and vacationers who own cabins and cottages in the area (R.M. of Alexander Website 2012) and come to stay for the summer. As such, the population of Powerview-Pine Falls, St. Georges, and Silver Falls tends to increase substantially seasonally (Diane Dube, pers. comm. 2012). Powerview-Pine Falls is an important community in the Project Study Area because it is the nearest centre to offer goods and services, recreation, and health care services that are not offered in the smaller communities in the Project Study Area.

Table 4-1 2011 Population Characteristics of Communities in the Project Study Area

Community included in the Project Study Area*	2011 Population	2006 Population	2006 to 2011 Population Change (%)**	2006 Métis Identity Population***	2011 Median Age of Population
Towns, Villages, and Cities					
Town of Powerview-Pine Falls	1,314	1,294	1.5	350	41.3
Subtotal	*1,314*	*1,294*	*1.5*	*350*	*n/a*
Northern Affairs Communities					
Manigotagan	213	191	11.5	40****	43.1
Seymourville	118	132	-10.6	10****	19.3
Aghaming	15	15	0.0	-	-
Bissett	130	120	8.3	0	40.5
Subtotal	*476*	*458*	*3.9*	*50*	*n/a*
First Nation Communities					
Sagkeeng (Fort Alexander) First Nation	2,099	2,121	-1.0	30	21.7
Black River (Little Black River) First Nation	521	460	13.3	0	17.3
Hollow Water (Hole Water) First Nation	627	619	1.3	10	19.2
Subtotal	*3,247*	*3,200*	*1.5*	*40*	*n/a*
TOTAL	**5,037**	**4,952**	**1.7**	**440**	**n/a**
Manitoba	1,208,268	1,148,401	5.2	-	38.4

Source: Statistics Canada 2012a; Statistics Canada 2006

RM = rural municipality; % = percent; - = not available'; n/a = not applicable.

Note: Subtotals were calculated separately based on the original data, and therefore may not add to match the numbers in the column above.

*St. Georges and Silver Falls are not included in the above table because no precise 2006 and 2011 data is available. They are discussed qualitatively in paragraphs above.

** Percent change in population is calculated by taking the difference between the 2006 and 2011 populations, dividing it by the 2006 population, and multiplying by 100 to get a percentage.

*** Métis single response (Statistics Canada 2006).

**** Northern Affairs community data from a 20% sample (Statistics Canada 2006).

Table 4-2 Population Pyramid by Age and Gender for the Project Study Area

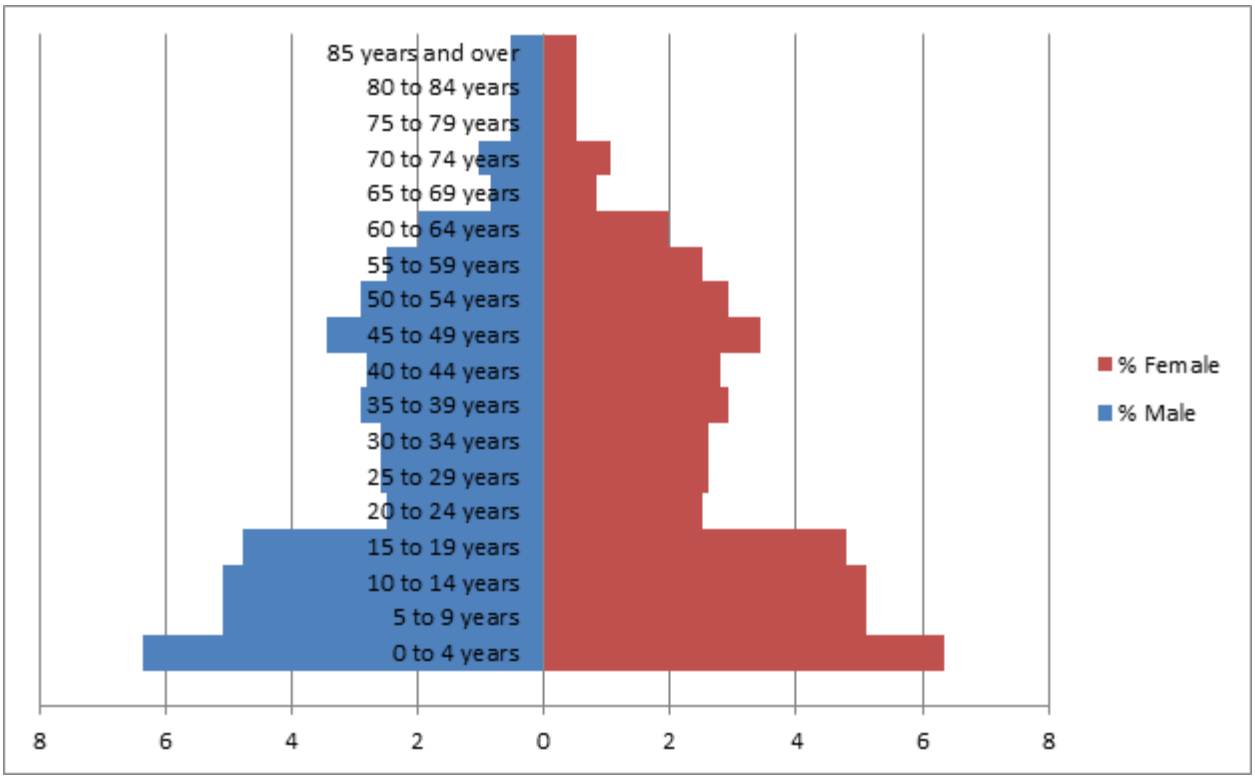

Table 4-3 November 2012 Population Characteristics of First Nation Communities in the Project Study Area

First Nation	November 2012 Total Registered Population on Reserve
Sagkeeng (Fort Alexander)	3,306
Black River (Little Black River)	875
Hollow Water (Hole Water)	1,132
TOTAL	**5,313**

Source: Aboriginal Affairs and Northern Development Canada 2012.

Transportation Infrastructure

Transportation infrastructure in the Project Study Area includes PR #304, which provides access to all the communities (Map 2). PR #304 enters the Project Study Area at the Town of Powerview-Pine Falls in the south. The Town of Powerview Pine Falls can also be reached by PR 11, which passes by Sagkeeng First Nation, St. Georges, and Silver Falls. On the north side of Powerview-Pine Falls, a local road leads east to the north part of Sagkeeng First Nation and southwest out of the Project Study Area. Travelling north on PR #304, a local road branches to the east out of the Project Study Area, heading northeast and southeast. Further north, a local road off PR #304 leads to Black River First Nation. Near the north end of the Project Study Area, several local roads branch off PR #304 to reach Seymourville, Aghaming, and Hollow

Water First Nation. PR #304 then turns east toward Bissett, with the Rice River Road branching northwest out of the Project Study Area just east of the proposed Manigotagan Corner Station. There are also a variety of winter roads, as well as forestry industry access roads throughout the Project Study Area.

Ground transportation consists largely of private vehicles. The presence of quarries a mine, road construction, and exploration activities in the northern Project Study Area suggest that there is also large industrial traffic using PR #304. Greyhound Bus Transport is available from Pine Falls to Manigotagan, Bissett, and Sagkeeng First Nation (Greyhound 2011). Seymourville, Aghaming, and Hollow Water, and Black River First Nations do not have bus access, although they are relatively near the route to Manigotagan and Bissett. There is no railway in the Project Study Area.

Traffic in the Project Study Area decreased slightly by 1.8% in 2011, compared to the average traffic volumes from 2005, 2007, and 2009 (Table 4-4). The largest decreases were on PR 11, and ranged from 10.5% (127 annual average daily traffic [AADT]) southeast of St. Georges, to 8.4% (397 AADT) in Powerview-Pine Falls, and 4.2% (120 AADT) northwest of Powerview Pine Falls. Decreases in the southern Project Study Area could be partly related to the closure of the Tembec Mill and halting of forestry activities in 2010. In contrast, traffic along PR #304 has generally seen an increase in traffic, with the exception of just north of Powerview-Pine Falls, where traffic decreased 5.1% (37 AADT). Traffic increases were greatest just west of Bissett (56.5% [230 AADT]) and between Manigotagan and Bissett (53.4% [87 AADT]). Traffic also increased south of Powerview-Pine Falls (20.4% [230 AADT]) and south of Manigotagan (17.5% [67 AADT]).

The nearest airport to the Project Study Area is in Winnipeg, 120 km southwest of the Town of Powerview-Pine Falls. There is an airfield in Silver Falls, southeast of Powerview-Pine Falls, and a water aerodrome at Bissett, east of the Project Study Area. Charter float and ski-plane services are offered in Bissett (Government of Manitoba 2011b).

Table 4-4 Annual Average Daily Traffic (AADT) in the Project Study Area

Highway or Road	Location	2005 AADT	2007 AADT	2009 AADT	2005-2009 Average AADT	2011 AADT	2011 AADT Change over 2005-2009 average AADT (%)
PR 11	Northwest of Powerview-Pine Falls	2,900	2,880	2,800	2,860	2,740	-4.2
	In Powerview-Pine Falls	5,080	4,640	4,520	4,747	4,350	-8.4
	Southeast of St. Georges	1,210	1,170	1,240	1,207	1,080	-10.5
PR #304	South of Powerview-Pine Falls	1,010	1,150	1,230	1,130	1,360	20.4
	North of Powerview-Pine Falls	520	840	820	727	690	-5.1
	South of Manigotagan	310	390	450	383	450	17.5
	Between Manigotagan and Bissett	110	170	210	163	250	53.4
	West of Bissett	110	140	190	147	230	56.5
	East of Bissett	110	50	70	77	80	3.9

Source: Manitoba Highway Traffic Information System (2012).

No. = number; AADT = annual average daily traffic; % = percent.

Housing

There are 1,871 private residences in the communities in the Project Study Area, excluding St. Georges and Silver Falls (Table 4-5). The average household size is around or below the provincial average (2.5) in Powerview-Pine Falls (2.4), Manigotagan (2.6), and Bissett (2.1). Household size is above the provincial average in Seymourville (3.8), Sagkeeng First Nation (3.9), Black River First Nation (4.3), and Hollow Water First Nation (4.2).

Table 4-5 2011 Housing in the Project Study Area

Community included in the Project Study Area*	Number of Private Residences	Average Household Size (Individuals/household)
RM of Alexander Communities		
Town of Powerview-Pine Falls	575	2.4
Subtotal	*575*	*n/a*
Northern Affairs Communities		
Manigotagan	284	2.6
Seymourville	39	3.8
Aghaming	6	-
Bissett	117	2.1
Subtotal	*446*	*n/a*
First Nation Communities		
Sagkeeng (Fort Alexander) First Nation	561	3.9
Black River (Little Black River) First Nation	126	4.3
Hollow Water (Hole Water) First Nation	163	4.2
Subtotal	*850*	*n/a*
TOTAL	**1,871**	**n/a**
Manitoba	**512,689**	**2.5**

Source: Statistics Canada 2012a.

RM = rural municipality; - = not available'; n/a = not applicable.

*St. Georges and Silver Falls are included in the RM of Alexander statistics and are therefore are not included above.

Temporary Accommodation

Some temporary accommodation in the Project Study Area is available in Powerview-Pine Falls, Manigotagan, and Bissett. Powerview-Pine Falls has the Papertown Motor Inn, the Manitou Lodge, and the Bluewater RV Park and Campground (Powerview-Pine Falls 2012) as temporary accommodation. Manigotagan has the North Star Motel, the Woodn' Bell Motel, and the English Brook and Manigotagan Campgrounds (Government of Manitoba 2011c; RV Review 2011). Bissett has the Hotel San Antonio, the Northern Wings Bed and Breakfast, and a campground (Government of Manitoba 2011b). The nearest large centre with more accommodation is Winnipeg, located approximately 120 km southwest of the Town of Powerview-Pine Falls.

Based on KPIs completed for the Project, availability of temporary accommodation in the Project Study Area is limited. The Papertown Motor Inn and Manitou Lodge in Powerview-Pine Falls have 49 and 11 rooms respectively, and have identified expansion options as being limited. The Woodn' Bell Motel and North Star Motel in Manigotagan have 11 and 4 rooms, respectively. The

Hotel San Antonio and Northern Wings Bed and Breakfast in Bissett have 10 and 6 rooms, respectively (BBCanada 2012; Hotel San Antonio Pers. Comm. 2012). In the northern Project Study Area, temporary accommodation facilities are generally at capacity as a result of other Projects in the Area.

Health and Emergency Services

The communities in the Project Study Area rely largely on the Town of Powerview-Pine Falls for emergency services (NEHA 2012; KPIs). The primary health care facility in the Project Study Area is the Pine Falls Health Complex, which includes the Pine Falls Hospital (23 beds), the Pine Falls Primary Health Centre (undergoing a renovation in 2012/2013), and the Sunnywood Manor Personal Care Home (20 beds). The hospital has approximately 40 nurses and 5 doctors. This hospital services all communities in the area, including Powerview-Pine Falls, Manigotagan, Seymourville, Aghaming, Sagkeeng First Nation, Black River First Nation, and Hollow Water First Nation (NEHA 2012). In addition, Manigotagan and Seymourville each have a health office with health works present on scheduled days (North Eastman 2012b,c). Sagkeeng First Nation has the Fort Alexander Health Centre and the Sagkeeng Wellness Centre (Sagkeeng First Nation 2010). Black River and Hollow Water First Nation each have a medical clinic (North Eastman 2012a,d). St. Georges has a health centre that offers services and information in French (Diane Dube, pers. comm. 2012). Ambulance services are provided to the communities in the Project Study Area out of Pine Falls and Bissett (NEHA 2012; Government of Manitoba 2011a-d). Key person interviews identified diabetes, mental health, recuperation post-surgery, kidney disease, and wound care as common ailments treated at the Powerview-Pine Falls Health Complex. Alcohol and drug related health care demands were also identified as a concern in the Project Study Area.

The Pine Falls Fire Department and the Powerview RCMP detachment serve as the main fire and police response service in the Project Study Area (Royal Canadian Mounted Police 2012; KPIs). In addition, Manigotagan has a community fire hall (Government of Manitoba 2011c), while Seymourville, Black River First Nation, and Hollow Water First Nation have volunteer fire departments (North Eastman 2012a,c,d). Bissett also has a community fire hall and a ½ ton truck with portable water supply (Government of Manitoba 2011b). Sagkeeng First Nation has a volunteer fire department with a fire hall and fire trucks, along with volunteer firefighters (Sagkeeng First Nation 2010). The Powerview RCMP detachment serves the Town of Powerview-Pine Falls, and is on-call for Manigotagan, Seymourville, Aghaming, Bissett, Sagkeeng First Nation, Black River First Nation, and Hollow Water First Nation. Bissett has a trailer for overnight RCMP accommodation (Government of Manitoba 2011b). Seymourville and Manigotagan each have a community constable (North Eastman 2012b,c). In addition there are two First Nation constables located in Hollow Water First Nation and one in Black River First Nation (North Eastman 2012a,d). Sagkeeng First Nation also has two First Nation constables (Government of Manitoba 2004-2005).

Water, Sewer, and Waste Services

Water in the Project Study Area is generally taken from a local source and piped to most dwellings in the communities (North Eastman 2012a-e; Government of Manitoba 2011 a-d). Sewage services vary between communities, but the majority of the communities have a lagoon system with piped collection, sometimes supplemented by a solid waste site or commercial pump out in some locations (North Eastman 2012a-e; Government of Manitoba 2011 a-d). There are two landfills that service Powerview-Pine Falls and Sagkeeng First Nation, one that services Black River First Nation, and one in Hollow Water First Nation that services Hollow Water, Seymourville, Manigotagan, and Aghaming. Bissett has a solid waste transfer station.

Education

Education facilities in the Project Study Area are located in Powerview-Pine Falls, Hollow Water First Nation, Sagkeeng First Nation, and Black River First Nation (Powerview-Pine Falls 2011a; North Eastman 2012d; Sagkeeng First Nation 2010; North Eastman 2012a). Day care services are provided in Powerview-Pine Falls, Sagkeeng First Nation, and Hollow Water First Nation (Powerview-Pine Falls 2011a; Sagkeeng First Nation 2010; North Eastman 2012d). The following education facilities are available in the Project Study Area:

- Powerview-Pine Falls: the Empower Adult Education Centre, the École Powerview School, the Winnipeg River Learning Centre, and the Christian Faith Academy (Powerview-Pine Falls 2011a; North Eastman 2012e)
- Sagkeeng First Nation: three First Nation schools, and post-secondary education (Sagkeeng First Nation 2010)
- Hollow Water First Nation: The Wanipigow School, which also serves Manigotagan, Seymourville, and Aghaming (Government of Manitoba 2011a, c, d)
- Black River First Nation: Little Black River School and an Adult Learning Centre (North Eastman 2012a)
- Bissett: San Antonio School (Government of Manitoba 2011b)
- St. Georges: École Communautaire de Saint Georges (Diane Dube, pers. comm. 2012)

Utilities

A variety of utilities are supplied in part or in whole to the Project Study Area (Government of Manitoba 2011a-d). Hydroelectricity is supplied to all communities in the Project Study Area by Manitoba Hydro. Telephone service is supplied to all communities by Manitoba Telecom Services Ltd. Cell coverage is provided by the Manitoba Telecom Services Ltd. in the Town of Powerview-Pine Falls, Sagkeeng First Nation, and Black River First Nation (North Eastman a, d). There are also both broadcast and antenna towers located throughout the study area. Cable, satellite, and internet services are available in Powerview-Pine Falls, but only satellite and dial-up internet are available in most of the other communities (North Eastman 2012a-e; Government of Manitoba 2011a-d).

4.4 Employment and Economy

Economy and Employment Challenges

Employment in the Project Study Area is largely dependent on natural resources (e.g., recreation) and resource-based industries (e.g., mining). Until 2010, Tembec Industries was a major employer in the Project Study Area, particularly in Powerview-Pine Falls. The closure of the Tembec mill (September 2, 2010) affected approximately 230 employees in the area (Tembec 2010). In Powerview-Pine Falls, key employers include the hospital, government district offices, Manitoba Telecom Services, and small businesses. Employment related to tourism and recreation activities (e.g., boating, sailing, swimming, hunting, snowmobiling, cross-country skiing, and hiking) are also found in Powerview-Pine Falls due to the high seasonal influx of tourists and summer residents in the area.

In the more northern communities, including the Northern Affairs Communities and First Nations, livelihoods often depend on fishing, hunting, and trapping to some extent (Government of Manitoba 2011a-d; KPIs). Construction of a road along the east side of Lake Winnipeg by the East Side Road Authority is also providing employment in the Project Study Area. In Manigotagan, there are also seasonal activities such as wild rice harvesting, as well as some tourism related activities. Commercial fishing is an important livelihood in the three First Nation communities. Commercial fishers in the area deliver catches to the Wanipigow Fish Station on Hollow Water First Nation. In addition, all three First Nations are involved in trapping and hunting. Employment in Sagkeeng First Nation is also primarily in the government services sector and there are some commercial businesses. There is also wild rice harvesting in Black River and Hollow Water First Nations.

Education

In 2006, half (49.4%) of the population in the Project Study Area had not obtained a diploma, degree, or certificate, just under a quarter (19.8%) had a minimum of a high school diploma or equivalent as their highest level achievement, and just over one quarter (29.9%) had some form of post-secondary education (Table 4-6).

Level of education varies across communities in the Project Study Area, with the most notable difference in the Town of Powerview-Pine Falls. In Powerview-Pine Falls and the Northern Affairs community of Bissett, 26.1% of the population has not obtained a degree, diploma, or certificate. In contrast, over 50% of the populations in other communities have not obtained a degree, diploma, or certificate. Thirty-three percent and 29.6% of the populations in Powerview-Pine Falls and the Northern Affairs community of Seymourville, respectively, have a minimum education level of high school certificate or equivalent, which is higher than the provincial average (26.7%), and higher than other communities in the Project Study Area (7.7 to 21.7%). A further 40.4% of the Powerview-Pine Falls population has some form of post-secondary education, slightly below the provincial average (43.9%), but higher than other communities in the Project Study Area (7.4 to 28.6%).

Labour Force Characteristics

The labour force participation rate in the Project Study Area is 56.5% and the unemployment rate is 14.8% (Table 4-6). Again, there is a noticeable difference between communities in the Project Study Area. The Town of Powerview-Pine Falls and Northern Affairs community of Bissett have labour force participation rates of 69.5% and 75%, respectively (just over the provincial average of 67.3%). Powerview-Pine Falls has an unemployment rate of 5.0%, slightly below the provincial average (5.5%). Bissett and Seymourville have unemployment rates have 0, however this could also be a result of the random rounding process used by Statistics Canada. Other communities in the Project Study Area have labour force participation rates ranging from 37.0% to 53.3% and unemployment rates ranging from 22.2% to 30.0%. The higher employment rates in Powerview-Pine Falls may be because of higher levels of education and increased job opportunities because it is a larger centre. Highest-level of education and labour force participation rate in a population is calculated using the population that is 15 years and over. As such, the education and labour force statistics in the Project Study Area communities could potentially be influenced by the youth of the populations in Seymourville and the three First Nations communities (median age is under 25, well below the provincial median age of 38.4) (Table 4-1). A greater number of teenagers who are included in the calculations, but have not yet finished high school or started working, would influence the education and labour force profile of the community.

Income Levels

Median household pre-tax and after-tax income varies across the Project Study Area. The Town of Powerview-Pine Falls has the highest household incomes (pre-tax $59,874, after-tax $50,663) (Table 4-6). Household income information was not available for the Northern Affairs communities. Pre-tax household incomes in the First Nation communities range between $20,416 and $29,056. Black River and Hollow Water First Nations did not have any change to household income pre-tax and after tax, but Sagkeeng First Nation has a small change from pre-tax to after tax household income.

Table 4-6 2006 Education and Employment Indicators in Communities in the Project Study Area

Community included in the Project Study Area	2006 Population	2006 Population with No Certificate, Diploma, or Degree (%)*	2006 Population with High School Certificate or Equivalent (%)*	2006 Population with Post-secondary Education Diploma or Certificate (%)*	2006 Labour Force Participation Rate (%)*	2006 Unemployment Rate (%)*	2005 Median Pre-tax Income of Private Households ($)	2005 Median After-tax Income of Private Households ($)
RM of Alexander Communities								
Town of Powerview-Pine Falls	1,294	26.1	33.0	40.4	69.5	5.0	59,874	50,663
Subtotal	*1,294*	*26.1*	*33.0*	*40.4*	*69.5*	*5.0*	*n/a*	*n/a*
Northern Affairs Communities								
Manigotagan	191	76.9	7.7	26.9	37.0	30.0	-	---
Seymourville	132	63.0	29.6	7.4	46.4	0.0	-	-
Aghaming	15	-	-	-	-	-	-	-
Bissett	120	26.1	21.7	21.7	75.0	0.0	-	-
Subtotal	*458*	*58.1*	*20.3*	*18.9*	*50.7*	*7.9*	*n/a*	*n/a*
First Nation Communities								
Sagkeeng First Nation (Fort Alexander)	2,121	57.1	13.9	28.6	50.9	22.2	27,136	26,837
Black River First Nation	460	64.8	9.3	22.2	47.2	24.0	20,416	20,416
Hollow Water First Nation	619	65.3	12.0	22.7	53.3	25.0	29,056	29,056
Subtotal	*3,200*	*59.7*	*12.9*	*26.6*	*50.9*	*23.0*	*n/a*	*n/a*
TOTAL	**4,952**	**49.4**	**19.8**	**29.9**	**56.5**	**14.8**	**n/a**	**n/a**
Manitoba	**1,148,401**	**29.5**	**26.7**	**43.9**	**67.3**	**5.5**	47,875	41,844

Sources: Statistics Canada 2007 Statistics Canada 2006.
RM = Rural Municipality; % = percent; - = not available.
Note: Subtotals were calculated separately based on the original data, and therefore may not add to match the numbers in the column above. Also, Statistics Canada uses a random rounding process that rounds numbers to an interval of 5, which can affect population totals and unemployment rates. (e.g., four unemployed individuals in a community would either be rounded down to 0 or up to 5).
* Highest level of education attained – Northern Affairs community data is from a 20% Sample

Employment Occupations

The most common occupations in the Project Study Area are sales and service jobs (26.9%), followed by trades, transport, equipment operator, and related occupations (18.2%) and occupations in social science, education, government service, and religion (14.3%) (Table 4-7). The Town of Powerview-Pine Falls has a higher percentage of occupations in processing, manufacturing, and utilities (10.6%) and in business, finance, and administration (19.1%) than other communities in the Project Study Area. Conversely, the Northern Affairs Communities and First Nations have a higher percentage of occupations in primary industry (18.4% and 14.0%, respectively) and in social science, education, government service, and religion (10.5% and 19.1%, respectively).

Business

Businesses in the area are concentrated in the larger centres, primarily in Powerview-Pine Falls (Powerview-Pine Falls 2011a). In addition to the businesses listed below, there are the schools, health and emergency services, accommodation, and recreation facilities that also employ local residents.

- Powerview-Pine Falls: pharmacies, eye care, Sears outlet, financial services, gas stations, Dancyt's Grocery store, the Golden Leisure Club, restaurants, Aviation Services, other transportation services, trucking and roofing services, autobody and supply shops, four churches, Laundromat, Blue Water Physiotherapy clinic, Esser Chiropractic Health Centre, Great Falls Food and Gas, Midway Foods grocery store, Powerview Dental Centre, insurance agency, development companies, two hotels, and an RV park/campground (Powerview-Pine Falls 2011b).
- Manigotagan: post office, development company, store, two campgrounds, automobile repair, Pelican harbor, and two hotels (Government of Manitoba 2012c).
- Sagkeeng First Nation: social and government service centres, First Nation administrative office, gaming commission, Sagkeeng VLTs, Sagkeeng cultural centre, sports facilities, arena, personal care, wellness and health centres (Sagkeeng First Nation 2010). Phoenix Housing, an RTM housing corporation from Sagkeeng First Nation is establishing in St. Georges (Diane Dube, pers. comm. 2012).
- Black River First Nation: window plant, truss plant, grader operations, health centre, general store/gas bar) Black River First Nation 2009).
- Hollow Water First Nation: Hollow Water Band Office, the Wanipigow Producer Co-op (fish packing), the Wy-Ky-Kan housing authority office, two chip stands, and a gas/diesel bar (Southeast Resource Development Council Corp. 2012).
- Bissett: hotel, bed and breakfast, campground, several drilling and contracting companies, Rice Lake Gold Corp, and Blue Water Aviation (Government of Manitoba 2012b).
- St. Georges: regional museum, local paper, Rapid Water Convenience Store, Caisse Group Financier, Onyx Financial Group, North Eastman Health, Community Development Office, RM office, Ray-Ann Trucking, greenhouse, Granite Trucking, Hometown Sausage (Diane Dube, pers. comm. 2012).

Table 4-7 2006 Occupation Classifications in Communities in the Project Study Area

Community included in the Project Study Area	Management Occupations (%)	Business, Finance, and Administration (%)	Natural and Applied Sciences (%)	Health Occupations (%)	Occupations in Social Science, Education, Government Service, Religion (%)	Occupations in Art, Culture, Recreation, Sport (%)	Sales, Service Occupations (%)	Trades, Transport, Equipment Operators, Related Occupations (%)	Occupations in Primary Industry (%)	Occupations in Processing, Manufacturing, and Utilities (%)
RM of Alexander Communities										
Town of Powerview-Pine Falls	4.3	19.1	2.1	7.1	9.2	0.0	25.5	19.1	1.4	10.6
Subtotal	*4.3*	*19.1*	*2.1*	*7.1*	*9.2*	*0.0*	*25.5*	*19.1*	*1.4*	*10.6*
Northern Affairs Communities*										
Manigotagan	0.0	0.0	20.0	0.0	40.0	0.0	20.0	20.0	30.0	0.0
Seymourville	15.4	15.4	0.0	0.0	0.0	0.0	30.8	0.0	15.4	0.0
Aghaming	-	-	-	-	-	-	-	-	-	-
Bissett	20.0	20.0	13.3	0.0	0.0	0.0	26.7	20.0	13.3	0.0
Subtotal	*13.2*	*13.2*	*10.5*	*0.0*	*10.5*	*0.0-*	*26.3*	*13.2*	*18.4*	*0.0*
First Nation Communities										
Sagkeeng First Nation (Fort Alexander)	4.9	5.7	3.3	5.7	16.4	1.6	31.1	17.2	12.3	1.6
Black River First Nation	9.5	0.0	0.0	0.0	28.6	0.0	28.6	23.8	14.3	0.0
Hollow Water First Nation	8.6	5.7	5.7	0.0	22.9	0.0	17.1	20.0	20.0	0.0
Subtotal	*6.2*	*5.1*	*3.4*	*3.9*	*19.1*	*1.1*	*28.1*	*18.5*	*14.0*	*1.1*
TOTAL	**6.2**	**11.5**	**3.6**	**4.8**	**14.3**	**0.6**	**26.9**	**18.2**	**9.5**	**4.8**
Manitoba	**8.5**	**17.3**	**4.9**	**6.7**	**8.8**	**2.3**	**24.6**	**15.0**	**6.5**	**5.3**

Sources: Statistics Canada 2007.

RM = Rural Municipality; % = percent; - = not available.

* Northern Affairs community data is from a 20% Sample

Note: Subtotals were calculated separately based on the original data, and therefore may not add to match the numbers in the column above.

4.5 Personal Well-being

Community Health

Premature mortality rates for the North Eastman Health Association and the province of Manitoba are often used as an indicator of overall health (University of Manitoba 2010). Premature mortality rates are calculated based on deaths occurring before the ages of 75, per 1000 residents. If incidences of illness, disease, and injury in a population are high, it is likely to raise the premature mortality rates for that overall population. The premature mortality rate in the North Eastman Regional Health Authority area is 3.5, compared to the provincial average of 3.1 (Statistics Canada 2012b). This number indicates that, on average, 0.4 more deaths occur per 1000 (i.e., 4 more deaths per 10,000) individuals in the North Eastman Regional Health Authority compared to the whole of Manitoba. This suggests that the population in the North Eastman Regional Health Authority may be slightly less healthy than the provincial population overall.

Aesthetics

Currently, development in the Project Study Area is mostly limited to within community boundaries. Project Study Area residents are accustomed to a relatively undisturbed woodland environment with little visual disturbance. Outside the communities the majority of the Project Study Area is woodland. Linear disturbances include PR #304 and an existing 66 kV transmission line that roughly follows PR #304. There are numerous other roads, including roads leading to local communities, forestry industry access roads, and other highways leading out of the Project Study Area. There are also multiple mine and quarry leases. Mining properties are primarily located on the northeast of the Project Study Area extending north and east toward Bissett. Quarry leases are scattered throughout the Project Study Area, but are generally in proximity to PR #304.

Community Organization

Communities in the Project Study Area include a town, two hamlets, four Northern Affairs Communities, and three First Nations. The Town of Powerview-Pine Falls is governed by an elected mayor and council. St. Georges and Silver Falls are governed by the RM of Alexander, which is governed by a council. Northern Affairs Communities are generally governed by an elected mayor and council under the Northern Affairs Act. If the community is very small, as is the case for Aghaming, it may have only a contact person who works with the provincial government. The First Nations in the study area are governed by a Chief and Council.

4.6 Land Ownership and Tenure

The majority of the forested land the Project Study Area is Crown land (Map 3). There are communities, including a town, two hamlets, three First Nations, and four Northern Affairs communities. Throughout the study area, there are a number of Crown Land encumbrances.

Examples of some of the encumbrances located in the vicinity of the route are Manitoba Highways and Manitoba Hydro rights-of-ways, trapping areas, forest management licence areas.

Municipal Land Use and Development Controls

The majority of land in the Project Study Area is Crown land. The remaining Project Study Area is occupied by communities, including incorporated municipalities, First Nations, and Northern Affairs communities. Development and zoning in the RM of Alexander and Powerview-Pine Falls is the responsibility of the Winnipeg River Planning District (Powerview-Pine Falls 2012). Black River, Hollow Water, and Sagkeeng First Nations are in the process of developing a land use plan for traditional areas (Wabanong Nakaygum Okimawin 2012), and Sagkeeng First Nation has undertaken a community plan development initiative (Sagkeeng First Nation 2012). Development in Northern Affairs communities is controlled by Manitoba Aboriginal and Northern Affairs, or by a delegated local committee or council.

Commercial and Residential Land Use

Commercial and residential land use in the Project Study Area is generally limited to within community boundaries. Communities in the southern Study Area include the Town of Powerview-Pine Falls, Sagkeeng First Nation, the Hamlet of St. Georges, and the Hamlet of Silver Falls. Black River First Nation is located in the west central portion of the Study Area. Within and just north of the Town of Powerview Pine Falls, commercial and residential land use includes a variety of businesses and private residences (Map 4). The northern Study Area includes Hollow Water First Nation and the Northern Affairs Community of Manigotagan, Seymourville, and Aghaming.

First Nations Lands

There are three First Nations in the Project Study Area: Sagkeeng (8,771.3 ha), Black River (809.3 ha), and Hollow Water (1,622.9 ha) (Aboriginal Affairs and Northern Development Canada 2012). Community Interest Zones are not present in the Project Study Area, and there are no existing Treaty Land Entitlement claims pending (Map 5). First Nations are governed under Aboriginal Affairs and Northern Development Canada.

Protected Areas

The status of various lands throughout the study area is subject to special designations intended to encourage sound conservation practice and/or limit land and resource use (Map 6) (Manitoba Conservation and Water Stewardship 2012a). The majority of the Project Study Area is Crown land. South of Manigotagan, there is the Observation Point WMA on the west side of PR #304, on the shores of Lake Winnipeg. Wildlife Management Areas are Crown Land areas with restrictions on land use and access which vary from between WMAs. East of PR #304, the Manigotagan River Provincial Park extends from southeast of Manigotagan along the

Manigotagan River. The Manigotagan River Provincial Park was established on December 1, 204 as a Natural Park, to minimize land use and provide recreation experiences (Manitoba Conservation and Water Stewardship 2008). In addition, there are two Areas of Special Interest, including: the O'Hanly Area of Special Interest, southeast of Black River First Nation and east of PR #304, and the O'Hanly River Area of Special Interest, located east of Black River First Nation and PR #304 (Government of Manitoba 2012). Areas of Special Interest are not formally protected.

4.7 Resource Use

Traditional Land and Resource Use

While traditional land and resource use occurs in the present-day Project Study Area, it has likely decreased in relative importance to livelihoods and sustenance compared to historical use. Activities such as trapping and wild rice harvesting still supplement diet and income. Other domestic resource use in the Project Study Area includes hunting, fishing, and plant gathering.

Aboriginal Traditional Knowledge interviews indicated that traditional land use occurs in the present-day Project Study Area (Map 7). Hunting and trapping are important traditional activities. Seymourville and Manigotagan elders identified marten, fisher, beaver, otter, lynx, fox, coyote, and rabbit as being important species for trapping. Rabbit is also a food source for some individuals in the community. Moose are an important traditional food source in the region (Hollow Water First Nation ATK interview), but the population is declining. Moose hunting is currently closed to rights-based hunters in certain moose protection zones, mostly in heavy moose concentration areas and along main road and rivers to allow populations to replenish (Manitoba Conservation and Watershed Stewardship 2012e, Robert Berger, pers. comm. 2012). Duck, goose, and partridge hunting also occurs in some communities. Plant gathering, particularly for medicinal purposes, also occurs in the Project Study Area. In particular, both Hollow Water and Manigotagan First Nation Elders identified the use of namepin (Anishinaabe name), or heartroot, and weekay, also known as ratroot or calamus. Other plants used by Manigotagan Elders include red willow/dogwood, burdock, wild ginger, bull rushes, balsam sap, mountain ash bark, juniper berries, blueberries, and kinnickinnick, as well as woody species for firewood. Plants mentioned by the Hollow Water Elders include blueberries and other berries, rice, spruce bark, and woody species for firewood.

Wild Rice Harvesting

Wild rice harvesting was formerly a common activity in the Project Study Area (Vince Kuzdak, pers. comm. 2012). Harvesting was originally for domestic purposes, but eventually became commercialized. Presently, wild rice harvesting is largely commercialized in the Project Study Area, but is highly dependent on market demand and weather conditions. There are still individuals in the Project Study Area who harvest wild rice traditionally, using a canoe and rice sticks. A Study by Tembec Forest Resource Management (2009) identified a variety of lakes, mostly east of the Project Study Area, that support small commercial operations. Leases can be

obtained to seed and harvest on other lakes. Wild rice harvest locations identified in the Project Study Area include a location southeast of the Town of Powerview-Pine Falls and a location southeast of the Northern Affairs Community of Manigotagan, in the Manigotagan River Provincial Park. During ATK interviews, Elders in Seymourville and Manigotagan identified wild rice harvesting as an activity of a few individuals in the area, but said that the harvests are strongly affected by fluctuating water levels. Elders in Black River First Nation commented on harvesting in the First Rapids to the mouth of the Black River, but said that flooding has drowned plants in many areas. Elders identified wild rice harvesting as an important part of tradition and culture, but also stated that in the present day it supplements, but is not a staple of, their diet. Wild rice seeding and harvesting requires a licence, governed by the *Wild Rice Act* of Manitoba. There are a number of Crown Land encumbrances in the study area that were identified as wild rice harvesting areas.

Commercial Trapping

The Project Study Area is located in the Eastern Registered Trapline District, and trapping in the area is organized by the Hollow Water (Hole River) and Lac du Bonnet Registered Traplines (RTLs) (Table 4-8; Map 8) (Manitoba Conservation and Water Stewardship 2012b). The majority of the Project is located within the Lac du Bonnet RTL area, including the Manigotagan (RTL 70-28), Black River (RTL 70-27), and Sagkeeng (RTL 70-26) RTLs. The Manigotagan Corner Station will be located in a Hollow Water (Hole River) RTL (RTL 80-16). Table 4-9 shows the average yearly harvest for several species on traplines crossed by the Project.

Marten is the most commonly trapped species, averaging 317.7 per year in the Manigotagan, Black River, and Sagkeeng RTLs, or 3,177 between the 2001/2002 and 20010/2011 fiscal years. Interestingly, in the 2000/2001 fiscal year, 1,494 marten were trapped, almost half of the marten trapped in the following 10 year period (Manitoba Conservation and Water Stewardship 2012c). The decrease in number of marten trapped after the 2000/2001 fiscal year could be a result of a variety of factors including a decrease in the marten population or a decrease in the number of trappers due to factors such as poor fur prices or increased trapping expenses (e.g., increased fuel and trapping equipment costs). During the Manigotagan ATK meeting in September, 2012, elders noted that trapping can no longer provide a reliable living due to fluctuating market prices based on weather and fashion.

Commercial Fishing

Commercial fishing is an important economic activity in the Project Study Area, particularly for the three First Nations and the Northern Affairs communities located on the shore of Lake Winnipeg. Commercial fishing in Manitoba is governed under regulations made under the Provincial Fisheries Act and the Fisheries Act of Canada.

Commercial fishers in the northern Project Study Area rely on the Wanipigow Fish Packing Station in Hollow Water First Nation to deliver their catches Commercial fishing occurs only on Lake Winnipeg in the Project Study Area.

Table 4-8 2012-2013 Lac du Bonnet and Hollow Water (Hole River) Registered Traplines Season Schedule

Animal	Trapping Season
Beaver	October 1 to May 31
Mink	November 1 to January 31
Muskrat	October 14 to May 31
River Otter	November 1 to March 31
Badger	November 1 to January 31
Black Bear	September 16 to November 14, April 1 to May 31
Fisher	November 1 to February 15
Fox (arctic)	Closed
Fox (red)	October 14 to February 28
Coyote	October 14 to March 31
Lynx and Bobcat	December 1 to February 28
Marten	November 1 to February 15
Raccoon	October 14 to April 30
Red Squirrel	November 1 to February 15
Wolf	October 14 to March 31
Weasel	November 1 to February 15
Wolverine	November 1 to February 15

Source: Manitoba Conservation and Water Stewardship 2012b.

Table 4-9 Average Trapline Catches/Year on Traplines crossed by the Project

Species	Manigotagan (#70-28), Black River (#70-27), and Sagkeeng (#70-26) Registered Trapline Average Annual Catch over 10 Fiscal Periods between 2001 and 2011[(a)]	Registered Trapline #80-16 Average Annual Catch over 5 Fiscal Periods between 2002 and 2010[(b)]
Black Bear	0.1	0
Beaver	215.0	8.6
Coyote	2.1	0
Ermine	20.2	0.4
Fisher	12.1	1.2
Fox, Cross	0.4	0
Fox, Red	7.0	0
Lynx	13.0	0.4
Marten	317.7	11.4
Mink	24.2	2.2
Muskrat	29.1	0.8
Otter	21.0	1.0
Raccoon	2.0	0
Squirrel	28.8	0
Fox, Silver	0	0
Weasel	3.2	0
Wolf	0.9	0
Wolverine	0.1	0
Bobcat	0.1	0

Source: Manitoba Conservation and Water Stewardship, 2012c, unpublished data.

[(a)] Years: 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2010/2011

[(b)] Years: 2002/2003, 2004/2005, 2007/2008, 2008/2009, 2009/2010

Mining and Mineral Resources

The northern portion of the Project Study Area overlaps the edge of a region with many mining claims and active exploration including drilling (Map 9). Additionally, there are numerous mining claims northwest and northeast of Manigotagan, held by Golden Pocket Resources, DLM Gold Ventures Inc, and Canada Bay Resources Ltd., and others. There are numerous other Quarry leases northeast and northwest of Manigotagan. There are several casual quarry permits within the Project Study Area that are in close proximity to the Project. Table 4-10 shows casual quarry permit and quarry lease locations and holders over the past two to four years. The Project crosses Mineral Licence Exploration Zones 10 and 11 and Quarry Withdrawals 5281, 5282, 5283, and 5284 (Government of Manitoba 2012).

Within the Project Study Area, the last reconnaissance geological survey work was completed several decades ago (Scott Anderson, pers. comm. 2012). No mineral occurrences were identified at that time, however the general geology and mineral potential is poorly understood since there has been no recent reconnaissance. Exploration activities in the northern Project Study Area and east to and around Bissett have been more extensive.

Table 4-10 Casual Quarry Permit and Quarry Lease Holders in the Project Study Area in 2009, 2010, 2011, and 2012

Official	Holder	Expiry Date	Location
CP-2012-1002216	COMMUNITY OF LOON STRAITS	11/30/2012	East of Manigotagan Corner Station
CP-2012-1001380	EAST SIDE ROAD AUTHORITY	11/30/2012	East of Manigotagan Corner Station
CP-2012-1001377	EAST SIDE ROAD AUTHORITY	11/30/2012	East of Manigotagan Corner Station
CP-2012-1001378	EAST SIDE ROAD AUTHORITY	11/30/2012	East of Manigotagan Corner Station
CP-2012-1001379	EAST SIDE ROAD AUTHORITY	11/30/2012	East of Manigotagan Corner Station
CP-2012-1000848	GLACIER NORTH LIMITED	11/30/2012	East of Manigotagan Corner Station
CP-2012-1000852	GLACIER NORTH LIMITED	11/30/2012	East of Manigotagan Corner Station
CP-2012-1000850	GLACIER NORTH LIMITED	11/30/2012	East of Manigotagan Corner Station
CP-2012-1000851	GLACIER NORTH LIMITED	11/30/2012	East of Manigotagan Corner Station
CP-2010-0068	GLACIER NORTH LIMITED	11/30/2010	East of Manigotagan Corner Station
CP-2010-0067	GLACIER NORTH LIMITED	11/30/2010	East of Manigotagan Corner Station
CP-2012-1001284	HAWKER'S HAULING LTD	11/30/2012	East of Manigotagan Corner Station
CP-2010-642	HAWKER'S HAULING LTD	12/31/2010	East of Manigotagan Corner Station
CP-2010-643	HAWKER'S HAULING LTD	12/31/2010	East of Manigotagan Corner Station
CP-2009-605	HAWKER'S HAULING LTD	11/30/2009	East of Manigotagan Corner Station
CP-2009-604	HAWKER'S HAULING LTD	11/30/2009	East of Manigotagan Corner Station
CP-2012-1001501	IVON SABER	11/30/2012	East of Manigotagan Corner Station
CP-2012-1000541	LAWRENCE HADIKEN	11/30/2012	East of Manigotagan Corner Station
CP-2011-798	LAWRENCE HADIKEN	11/30/2011	East of Manigotagan Corner Station
CP-2012-1000477	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2012	East of Manigotagan Corner Station
CP-2012-1000483	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2012	East of Manigotagan Corner Station
CP-2011-285	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2011	East of Manigotagan Corner Station
CP-2011-284	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2011	East of Manigotagan Corner Station
CP-2010-117	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2010	East of Manigotagan Corner Station

Table 4-10 Casual Quarry Permit and Quarry Lease Holders in the Project Study Area in 2009, 2010, 2011, and 2012 (continued)

Official	Holder	Expiry Date	Location
CP-2010-116	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2010	East of Manigotagan Corner Station
CP-2010-612	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2010	East of Manigotagan Corner Station
CP-2009-154	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2009	East of Manigotagan Corner Station
CP-2009-155	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2009	East of Manigotagan Corner Station
CP-2012-1000599	STRILKIWSKI CONTRACTING LTD.	11/30/2012	East of Manigotagan Corner Station
CP-2011-159	STRILKIWSKI CONTRACTING LTD.	11/30/2011	East of Manigotagan Corner Station
CP-2010-851	STRILKIWSKI CONTRACTING LTD.	12/31/2010	East of Manigotagan Corner Station
CP-2012-1000686	TEDLON SERVICES LTD	11/30/2012	East of Manigotagan Corner Station
CP-2010-0072	GLACIER NORTH LIMITED	11/30/2010	NE of Northern Existing Transmission Station
CP-2010-0071	GLACIER NORTH LIMITED	11/30/2010	NE of Northern Existing Transmission Station
CP-2012-1000475	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2012	NE of Northern Existing Transmission Station
CP-2010-113	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2010	NE of Northern Existing Transmission Station
CP-2009-152	MANITOBA INFRASTRUCTURE & TRANSPORTATION (STEINBACH)	11/30/2009	NE of Northern Existing Transmission Station
CP-2010-850	STRILKIWSKI CONTRACTING LTD.	12/31/2010	NE of Northern Existing Transmission Station
CP-2010-852	BLACK RIVER FIRST NATION	12/31/2010	NE of Sagkeeng First Nation
CP-2012-1000624	RAY-ANN TRANSPORT LTD	11/30/2012	NE of Sagkeeng First Nation
CP-2012-1000540	RAY-ANN TRANSPORT LTD	11/30/2012	NE of Sagkeeng First Nation
CP-2011-050	RAY-ANN TRANSPORT LTD	12/31/2011	NE of Sagkeeng First Nation
CP-2010-858	RAY-ANN TRANSPORT LTD	12/31/2010	NE of Sagkeeng First Nation
CP-2010-598	RAY-ANN TRANSPORT LTD	11/30/2010	NE of Sagkeeng First Nation
CP-2012-1000712	WAYNE'S BACKHOE SERVICE	11/30/2012	NE of Sagkeeng First Nation
CP-2011-816	WAYNE'S BACKHOE SERVICE	11/30/2011	NE of Sagkeeng First Nation
CP-2010-0077	GLACIER NORTH LIMITED	11/30/2010	Next to Northern Existing Transmission Station
CP-2010-262	GLACIER NORTH LIMITED	11/30/2010	Next to Northern Existing Transmission Station
CP-2010-260	GLACIER NORTH LIMITED	11/30/2010	Next to Northern Existing Transmission Station
CP-2010-0080	GLACIER NORTH LIMITED	11/30/2010	Next to Northern Existing Transmission Station
CP-2010-849	STRILKIWSKI CONTRACTING LTD.	12/31/2010	Next to Northern Existing Transmission Station
CP-2012-1001373	HAWKER'S HAULING LTD	11/30/2012	North of Duncan Creek
CP-2012-1001370	HAWKER'S HAULING LTD	11/30/2012	North of Existing Transmission Station near Black River
CP-2011-872	MANITOBA CONSERVATION (PARKS BRANCH - WINNIPEG)	12/31/2011	North of Existing Transmission Station near Black River
CP-2012-1000689	BLACK RIVER FIRST NATION	11/30/2012	South of Black River First Nation
CP-2012-1000690	BLACK RIVER FIRST NATION	11/30/2012	South of Black River First Nation
CP-2012-1000691	BLACK RIVER FIRST NATION	11/30/2012	South of Black River First Nation
CP-2012-1001283	HAWKER'S HAULING LTD	11/30/2012	South of O'Hanly River
CP-2012-1001374	HAWKER'S HAULING LTD	11/30/2012	South of O'Hanly River
CP-2010-448	HAWKER'S HAULING LTD	11/30/2010	South of O'Hanly River
CP-2009-504	HAWKER'S HAULING LTD	11/30/2009	South of O'Hanly River
CP-2012-1000847	GLACIER NORTH LIMITED	11/30/2012	South of Wanipigow River
CP-2010-0065	GLACIER NORTH LIMITED	11/30/2010	South of Wanipigow River

Table 4-10 Casual Quarry Permit and Quarry Lease Holders in the Project Study Area in 2009, 2010, 2011, and 2012 (continued)

Official	Holder	Expiry Date	Location
CP-2010-0066	GLACIER NORTH LIMITED	11/30/2010	South of Wanipigow River
CP-2012-1001367	HAWKER'S HAULING LTD	11/30/2012	South of Wanipigow River
CP-2012-1001071	DAN'S EXCAVATING LTD	11/30/2012	West of Hollow Water First Nation
CP-2011-820	DAN'S EXCAVATING LTD	11/30/2011	West of Hollow Water First Nation
CP-2012-1001485	GORD'S HAULING	11/30/2012	West of Hollow Water First Nation
CP-2010-599	IVON SABER	11/30/2010	West of Hollow Water First Nation
CP-2009-626	IVON SABER	11/30/2009	West of Hollow Water First Nation
CP-2009-625	IVON SABER	11/30/2009	West of Hollow Water First Nation
CP-2012-1001186	JOHN PRYMAK TRUCKING	11/30/2012	West of Hollow Water First Nation
CP-2011-246	JOHN PRYMAK TRUCKING	11/30/2011	West of Hollow Water First Nation
CP-2010-384	JOHN PRYMAK TRUCKING	11/30/2010	West of Hollow Water First Nation
CP-2012-1002156	LEO BOULANGER	11/30/2012	West of Hollow Water First Nation
CP-2011-661	PELICAN HARBOUR RESORTS LTD.	11/30/2011	West of Hollow Water First Nation
CP-2010-505	PELICAN HARBOUR RESORTS LTD.	11/30/2010	West of Hollow Water First Nation
CP-2009-616	PELICAN HARBOUR RESORTS LTD.	11/30/2009	West of Hollow Water First Nation
CP-2012-1001274	RAY-ANN TRANSPORT LTD	11/30/2012	West of Hollow Water First Nation
CP-2011-052	RAY-ANN TRANSPORT LTD	11/30/2011	West of Hollow Water First Nation
CP-2010-672	RAY-ANN TRANSPORT LTD	11/30/2010	West of Hollow Water First Nation
CP-2009-9004	RAY-ANN TRANSPORT LTD		West of Hollow Water First Nation
CP-2011-774	SEYMOURVILLE DEVELOPMENT CORPORATION	11/30/2011	West of Hollow Water First Nation
QL-2469	LARRY BARKER	6/15/2012	East of Hollow Water First Nation
QL-2685	RAY-ANN TRANSPORT LTD		East of Hollow Water First Nation
QL-580	AARTICULATE ENTERPRISES	6/19/2012	North East of the Town of Aghaming
QL-579	AARTICULATE ENTERPRISES	6/19/2012	North of the Town of Aghaming
QL-2736	GLACIER NORTH LIMITED		Part of the Casual Quarry Permit GLACIER NORTH LIMITED
QL-1752	GOLLSTAR ENTERPRISES LTD.	12/5/2007	Part of the Casual Quarry Permit HAWKER'S HAULING LTD
QL-2430	SUNTERRA HORTICULTURE (CANADA) INC.		South of Observation Point WMA
QL-2431	SUNTERRA HORTICULTURE (CANADA) INC.		South of Observation Point WMA
QL-1897	BIRDS HILL GRAVEL & STONE LTD.	5/19/2013	South of Pine Falls Generating Station Switchyard
QL-783	WAKSHINSKY BROS. LTD.	6/15/2012	South of Pine Falls Generating Station Switchyard
QL-784	WAKSHINSKY BROS. LTD.	6/15/2012	South of Pine Falls Generating Station Switchyard
QL-790	WAKSHINSKY BROS. LTD.	6/15/2012	South of Pine Falls Generating Station Switchyard
QL-1679	CHAR CRETE LTD.	6/20/2013	West of Hollow Water First Nation
QL-1678	CHAR CRETE LTD.	6/20/2013	West of Hollow Water First Nation
QL-1681	CHAR CRETE LTD.	6/20/2013	West of Hollow Water First Nation
QL-1682	CHAR CRETE LTD.	6/20/2013	West of Hollow Water First Nation
QL-1680	CHAR CRETE LTD.	6/20/2013	West of Hollow Water First Nation
QL-1691	CHAR CRETE LTD.	10/24/2012	West of Hollow Water First Nation
QL-1692	CHAR CRETE LTD.	10/24/2012	West of Hollow Water First Nation
QL-1693	CHAR CRETE LTD.	10/24/2012	West of Hollow Water First Nation
QL-1694	CHAR CRETE LTD.	10/24/2012	West of Hollow Water First Nation
QL-2251	GOSSAN RESOURCES LIMITED	11/15/2013	West of Hollow Water First Nation
QL-1275	GOSSAN RESOURCES LIMITED	8/15/2013	West of Hollow Water First Nation
QL-1276	GOSSAN RESOURCES LIMITED	8/15/2013	West of Hollow Water First Nation
QL-1785	GOSSAN RESOURCES LIMITED	6/24/2013	West of Hollow Water First Nation
QL-1896	GOSSAN RESOURCES LIMITED	5/16/2013	West of Hollow Water First Nation

Table 4-10 Casual Quarry Permit and Quarry Lease Holders in the Project Study Area in 2009, 2010, 2011, and 2012 (continued)

Official	Holder	Expiry Date	Location
QL-1895	GOSSAN RESOURCES LIMITED	4/20/2013	West of Hollow Water First Nation
QL-1308	GOSSAN RESOURCES LIMITED	4/2/2013	West of Hollow Water First Nation
QL-1759	GOSSAN RESOURCES LIMITED	1/9/2013	West of Hollow Water First Nation
QL-1642	GOSSAN RESOURCES LIMITED	6/26/2012	West of Hollow Water First Nation

Note: Quarry permits with an official number starting in CP are casual quarry permits while those starting with QL are quarry leases.

Forestry

Please see the Forestry Technical Report (Maskwa 2012).

4.8 Recreation and Tourism

Recreation

Most recreation services in the Project Study Area are located in the larger local centres. In addition, the Manigotagan River Provincial Park is located along the Manigotagan River east and south of the Project near Manigotagan. Community halls and baseball diamonds are present in most communities, often along with a rink, parks, and a gymnasium. Recreational facilities in the area include:

- Powerview-Pine Falls: golf club, swimming pool, boat launch, curling rink, tennis courts, community hall, arenas, bowling alley, track, baseball diamonds, soccer fields, and hiking and cross country ski trails (Powerview-Pine Falls 2011a; North Eastman 2012e)
- Manigotagan: heritage building, baseball field, community hall, rink, curling rink, and picnic shelter (Government of Manitoba 2011c)
- Seymourville: community hall, baseball diamond, playgrounds, volleyball court, basketball court, rink, and two parks (Government of Manitoba 2011d)
- Sagkeeng First Nation: rink, baseball facilities, community hall, pow-wow grounds, beach facilities, play grounds, and recreation complex (Sagkeeng First Nation 2010; Government of Manitoba 2004-2005)
- Hollow Water First Nation: community hall, recreation centre, rink, baseball diamonds, and gymnasium (North Eastman 2012d)
- Bissett: baseball diamond, curling ring and hall, handicraft building, and outdoor rink (Government of Manitoba 2011b)

There are three campgrounds in the Project Study Area, including English Brook and Manigotagan Campgrounds in Manigotagan, and Blue Water RV Park and Campground in Powerview-Pine Falls. Bluewater Campground and RV Park has 92 sites, with 60 more sites being developed, and 100 more sites planned for future development.

Outdoor Recreation

Outdoor recreation in the Project Study Area is a common activity, particularly in the summer months when there is an influx of tourists and summer residents. Outdoor recreation in the Project Study Area includes canoeing, hiking, camping, and snowmobiling (Map 10). Canoe routes are primarily on the Black River, Manigotagan River, and Wanipigow River (Tembec 2009). Canoeing is one of the main activities in Manigotagan Provincial Park. The nearest snowmobile club is Maskwa, based out of Powerview-Pine Falls. However, there are no club snowmobile routes north of PR #304. Informal snowmobile routes often follow rivers in the area and can be extensive and well connected. There are campgrounds located in Powerview-Pine Falls, Manigotagan, and Bissett. There are a several cabins along some of the canoe and informal snowmobiling routes. The Duck Lake Ski Trail is located in Powerview-Pine Falls (Brian Kotak, pers. comm. 2012). Other outdoor recreation activities also use Lake Winnipeg and the Manigotagan River Provincial Park.

Lodges and Outfitters

There is one lodge in the Project Study Area boundaries, and one nearby in Bissett. Blue Waters Inn is located west of PR #304 on the north shore of the Winnipeg River across from Powerview-Pine Falls and includes an inn and lodge (Blue Waters Inn 2011). Activities include boating, hiking, and guided fishing excursions. Fishing Lake Lodge in Bissett offers lodge and cabin accommodation for fishing excursions and hunting (Fishing Lake Lodge 2012).

The Project Study Area includes three assigned outfitting areas, with two of the outfitters actively operating (Brian Kotak, pers. comm. 2012; Vince Keenan pers. comm. 2012). Sandy River Outfitters is based out of Winnipeg and Pine Falls, and outfits for bear and deer in the southern half of the Project Study Area and up along Lake Winnipeg (Sandy River Outfitters 2012; Tembec 2009). Sandy River Outfitters often uses existing access trails developed by industry to access hunting areas. Hastings Bros. Outfitters operate out of Windsock Lodge, located approximately 20 km east of the Project Study Area (Hastings Bros. Outfitters 2012; Tembec 2009). Hastings Bros. Outfitters is a bear outfitter, and extensively uses forest industry roads north and east of the Project Study Area. Neither outfitter is known to have permanent hunting stands. Black River Outfitting also has an area along Lake Winnipeg, but is not known to actively outfit (Brian Kotak, pers. comm. 2012; Vince Keenan pers. comm. 2012; Tembec 2009).

Sport Hunting

The Project Study Area is primarily located in Game Hunting Area (GHA) 26, although the northern boundary of the Project Study Area overlaps the edge of GHA 17A and the south boundary of the Project Study Area overlaps the edge of GHA 34 (Tables 4-11 and 4-12) (Map 11) (Manitoba Conservation 2012d). Hunting in this area includes white-tailed deer, moose, black bear, gray wolf, coyote, wild turkey, and a variety of upland and migratory game birds.

Table 4-11 2012 Hunting Seasons in Hunting Zones 17A, 26, and 34

Animal/Hunting Method	2012 Hunting Season*		
	Game Hunting Area 17A	**Game Hunting Area 26**	**Game Hunting Area 34**
White-tailed Deer			
Archery (resident, non-resident, foreign resident)	August 27 to September 16, October 15 to November 11	August 27 to November 11	September 3 to November 11
Muzzeloader (resident, non-resident, foreign resident)	October 22 to November 11	October 1 to November 11	October 29 to November 11
Youth Muzzeloader (resident only)	October 15 to November 11	September 24 to November 11	October 22 to November 11
General (rifle) (resident, non-resident, foreign resident)	November 12 to December 2	November 12 to December 16	November 12 to November 25
Moose			
General (rifle) non-draw (resident only)	September 17 to October 14, December 3 to December 16	Closed	-
Black Bear			
Resident, non-resident, and foreign resident	April 23 to June 17, August 27 to October 7	April 23 to June 17, August 27 to October 7	April 23 to June 10, August 27 to October 7
Gray Wolf			
Resident, non-resident, and foreign resident	August 27 to March 31	August 27 to March 31	August 27 to March 31
Coyote			
Resident, non-resident, and foreign resident	August 27 to February 28	August 27 to February 28	August 27 to February 28
Wild Turkey			
Resident Youth	-	-	April 21 to May 20, October 6 to October 21
Resident	-	-	April 28 to May 20, October 6 to October 21

Source: Manitoba Conservation and Water Stewardship 2012d.

* The 2013 hunting seasons will generally start one day earlier than the 2012 seasons.

Table 4-12 2012 Game Bird Hunting Seasons in Game Bird Hunting Zones 3 and 4

Game Bird	Hunting Season	
	Game Bird Hunting Zone 3	Game Bird Hunting Zone 4
Upland Game Birds		
Grouse (resident, non-resident, foreign resident)	September 8 to December 18	September 8 to December 18
Gray (Hungarian) Partridge (resident, non-resident, foreign resident)	September 8 to December 18	September 8 to December 18
Migratory Game Birds		
Duck, Coot, Snipe (resident and non-resident)	September 8 to November 30	September 8 to November 30
Duck, Coot, Snipe (foreign resident)	September 24 to November 30	September 24 to November 30
Dark Geese (resident and non-resident)	September 8 to November 30	September 8 to November 30
Dark Geese (foreign resident)	September 24 to November 30	September 24 to November 30
White Geese (resident and non-resident)	September 8 to November 30	September 8 to November 30
White Geese (foreign resident)	September 17 to November 30	September 17 to November 30
Woodcock (resident, non-resident, foreign resident)	September 8 to November 30	September 8 to November 30
Conservation Snow Geese (resident, non-resident, foreign resident)	April 1 to May 31	April 1 to May 31
Sandhill Crane (resident, non-resident, foreign resident)	September 1 to November 30	September 1 to November 30

Source: Manitoba Conservation 2012b.

* The 2013 hunting seasons will generally start one day earlier than the 2012 seasons.

Table 4-13 shows hunting averages in GHA 26 over a ten year period ending in 2007. As of January 20, 2012, all licensed moose hunting in GHA 26 is closed. In addition, there are moose protection zones that are closed to rights-based hunters, primarily in heavy moose concentration areas and along main roads and rivers (Manitoba Conservation and Watershed Stewardship 2012e, Robert Berger, pers. comm. 2012). This is to allow populations to replenish following heavy decreases in the moose population leading up to 2006.

Table 4-13 Average Hunting/Year in Game Hunting Area 26

Animal	Hunters	Kills
Black Bear	175	98
Deer	845	387
Moose	443	54

Source: Manitoba Conservation and Water Stewardship 2012f.

Years: 1997/1998, 1998/1999, 1999/2000, 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007.

Cottage Developments

There are currently several existing cottage developments along the eastern shore of Lake Winnipeg and near the community of Manigotagan. There are cottage lots and permanent residences along the Manigotagan River west of PR #304, in the community of Manigotagan, as well as cottage subdivisions of Ayers Cove and Pelican Harbour, along the Lake Winnipeg shoreline (Brian Kotak, pers. comm. 2012). A 600 lot cottage subdivision south of Black River First Nation (Black River 2012) is currently in Phase I of development. The proposed cottage subdivision is a joint venture between Black River First Nation and Manitoba Conservation, and is intended to include a golf course, residences, and other potential economic development. Hollow Water and Sagkeeng First Nations are also considering cottage developments. The potential Hollow Water First Nation cottage development is located on the shores of Lake Winnipeg (Government of Manitoba 2012). This includes the proposed Pelican Harbour and Driftwood Beach cottage subdivisions. Sagkeeng First Nation is also considering a cottage development at the southwest edge of the Study Area. The St. Georges Community Development Corporation is currently involved in a 42 lot subdivision development (Diane Dube, pers. comm. 2012). Phase I is complete with sixteen lots completed, and three left for sale. The RM of Alexander is also planning the development of three subdivisions totalling 100 cottage lots in the southeast of the Project Study Area.

5 EVALUATION OF ALTERNATIVE ROUTES AND INFRASTRUCTURE

5.1 Description and Evaluation of Alternative and Proposed Routes

The route selection process for the Line PQ95 component is described in Chapter 3.0 of the main EA report. Evaluation of the alternative routes focused on a predetermined set of evaluation criteria. The evaluation criteria reflected the importance of known factors that are identified from various perspectives including socio-economic, biophysical, cost and technical aspects. These criteria, as well as valuable feedback obtained from the Public Engagement Program, became the basis from which the Final Preferred Route was identified.

The Manigotagan Corner Station site was selected on the basis of engineering and technical criteria. The Preferred Station Site was integrated into the Public Engagement Program and received favorable feedback from local community representatives.

The section below describes the inputs for Line PQ95 alternative routes and the Manigotagan Corner Station site from the socio-economic and land use perspective.

During initial routing, a variety of aspects of the socio-economic and land use environment were taken into consideration, including the following (Section 3.3):

- Locations of pre-existing linear disturbance in the Study Area, including PR #304 and the existing 66 kV transmission line;
- Locations of communities;
- Proximity to known cabins, lodges, or other residences;
- Proximity to communication towers and air strips; and
- Any known conflicting developments.

Three routes were originally considered for the Project (Map 12). All three alternative routes begin in the Town of Powerview-Pine Falls and travel north, generally following PR #304, to the proposed transmission station east of Manigotagan. All three alternative routes avoid the Observation Point WMA, Manigotagan River Provincial Park, and the three First Nations in the Project Study Area.

Alternate routes were evaluated based on three factors:

- **Proximity to residences:** The alternative routes all travel through isolated woodland and marsh with few or no nearby residences. On the south end, in the Town of Powerview-Pine

Falls, Alternate Routes A and B travel along the existing highway ROW through town, passing near approximately seven residences and a mall. The closest residence is approximately 25 m from the line. Four of the residences are within approximately 50 m of the line, and the last two are over 100 m from the line. In contrast, Alternate Route C travels east of Powerview-Pine Falls and avoids residences. On the north end, Alternative Route A travels within approximately 500 m of residences in Manigotagan, while Alternative Route B and C are located approximately 1 km east of Manigotagan.

- **Use of Crown Land/Private land/:** all three alternate routes travel primarily across Crown land, except on the south end of the Project. In Powerview Pine Falls, Alternate Routes A and B each use approximately three Crown land or Manitoba Hydro land entitlements, while Alternate Route C would use approximately five to ten.
- **Crossing infrastructure:**
  - Crossing existing transmission lines (i.e., 66 kV Sub Transmission Line): all three alternative routes cross the existing 66 kV Sub Transmission Line five times.
  - Crossing existing roads (e.g., PR #304): all three alternative routes immediately cross under PR #304, then cross Broadlands Road just north of Powerview-Pine Falls, and then continue north, crossing PR #304 four more times.

5.1.1 Alternative Routes

Alternate Route A begins by following PR #304 and the existing 66 kV transmission line as it travels north out of Powerview-Pine Falls, travelling near approximately five to ten residences. On the north edge of Powerview-Pine Falls, Alternate Route A heads east along a government road allowance and then heading north across agricultural land to cross Broadlands Road and then PR #304. Alternate Route A then continues north through Crown land, travelling within several kilometres of PR #304, crossing it again between the Black River and Powerview-Pine Falls. It crosses PR #304 again a few kilometres north of the Black River, and a few kilometres south of Manigotagan. Alternate Route A passes west of Manigotagan River Provincial Park and within approximately 500 m of Manigotagan residences before turning east to reach the Manigotagan Corner Station.

Alternate Route B also begins by following PR #304 and the existing 66 kV transmission line through Powerview-Pine Falls, travelling near approximately five to ten residences, before turning east along a government road allowance and then heading north across agricultural land to cross Broadlands Road and PR #304. Alternate Route B crosses Crown land, following Alternate Route A until the latter crosses PR #304 for the second time. At this location, between Black River and Powerview-Pine Falls, Alternate Route B continues to go northwest before turning north and crossing PR #304 at O'Hanly River. Alternate Route B passes approximately 150 west of a trapper's cabin on the north side of Black River. It then continues straight north through Crown land, including two more crossings of PR #304 near Sandy River and Duncan Creek. Alternate Route B passes west of Manigotagan River Provincial Park and approximately 1 km east of Manigotagan before turning east to reach the Manigotagan Corner Station.

Alternate Route C travels east along the Winnipeg River on Crown Land, avoiding residences, before diverting northeast across commercial, agricultural, and Manitoba Hydro land. After crossing Broadlands Road and PR #304, Alternate Route C continues north on Crown land, crossing PR #304 between Black River and Powerview Pine Falls, a few kilometres north of Black River, and again near Duncan Creek. Alternative Route C passes closer to the Observation Point WMA than Alternative Routes A or B. Alternative Route C travels west of Manigotagan River Provincial Park and approximately 1 km east of Manigotagan before turning east to reach the Manigotagan Corner Station.

5.1.2 Final Preferred Route

The Final Preferred Route is a combination of the three alternative routes. The Final Preferred Route will cross Pine Falls Generating Station Switchyard in a conduit under the highway. It then follows Route C traveling east along the Winnipeg River, across Crown Land adjacent to Bluewater Campground. It then heads north across Manitoba Hydro Property, Chevrefils Farm property, then crosses PR #304. The route then crosses Ray-Ann Transport property, then heads east across Crown Land. From there it follows Alternate Route B on the west side of PR #304, crossing the O'Hanly River then PR #304., Continuing north on Crown land, it follows route A on the east side of PR #304, following Alternate Routes A and C, avoiding the trapper's cabin. After crossing the Black River and PR #304 , the Final Preferred Route follows Alternative Route A along the west side of PR #304, east of Observation Point Wildlife management Area. It then crosses the highway and follows Alternate Route C, between PR #304 and Manigotagan River Provincial Park. It stays east of PR #304, travelling through the boundaries and the Town of Manigotagan to the Manigotagan Corner Station Site. The Manigotagan Corner Station is located on Crown land east of Manigotagan, south of PR #304. It is not located near any known residences or commercial developments. The Manigotagan Corner Station is located in the Hollow Water (Hole River) #80-16 RTL.

6 EFFECTS ASSESSMENT AND MITIGATION

6.1 Overview

Based on the site selection process outlined in Chapter 6.0 of the main EA Report, a Final Preferred Route was selected using several criteria, including Socioeconomic and land use factors (Map 1). The Final Preferred Route is a combination of the three Alternative Routes. The Manigotagan Corner Station site was selected based on engineering and technical criteria. The following effects assessment was completed on the Final Preferred Route and station.

6.2 EFFECTS ASSESSMENT

In the following six sections effects of the Project on topics relevant to each VEC are discussed. The effects assessment for Population, Infrastructure, and Services includes discussion regarding population changes from the Project, and how this may affect transportation infrastructure, housing and temporary accommodation, health and emergency services, water and sewer services, education, and utilities in the Project Study Area. For Employment and Economy, a general discussion and assessment was completed on job opportunities and other economic opportunities throughout the life of the Project. Topics covered in the Personal Well-being effects assessment included: aesthetics, electric and magnetic fields, noise, dust, and vibration, spraying and electrical interference. The Land Ownership and Tenure effects assessment includes an assessment on existing and future land use. The Resource Use effects assessment includes an assessment of traditional resource use, commercial trapping and fishing, forestry, wild rice harvesting, and mining. The final VEC, Recreation and Tourism, effects assessment examines recreation and outdoor recreation, lodges and outfitters, sport hunting, and cottage developments in the Project Study Area.

6.2.1 Population, Infrastructure, and Services

6.2.1.1 Population

Construction Phase– Transmission Line and Stations

The Project Study Area population increased by only 1.7% between 2006 and 2011. Increases were greatest in Black River First Nation, Manigotagan, and Bissett, while Seymourville and Sagkeeng First Nation experienced decreases in population. The Project will contribute to a temporary increase in the local population due to an influx of workers during project construction. This temporary increase in population has the potential to affect local infrastructure and services by changing the availability or quality of infrastructure and services for local residents on a temporary basis.

During construction, the Pine Falls – Manigotagan 115 kV Transmission Line (PQ95) will require a peak workforce of 115 individuals. If all of these individuals were hired from outside the

Project Study Area, this would be a population increase of 2.3%. However, local hiring will reduce this number. The Manigotagan Corner Station will require up to 40 individuals, which could be an increase of up to 0.8% of the Project Study Area population. The Pine Falls Generating Station Switchyard upgrades will require up to 12 individuals, which could be an increase of up to 0.2% of the Project Study Area population. The effects of increased population from construction activities are expected to be short-term and intermittent. Construction will last approximately 2 years, starting in the winter of 2013/2014. The transmission line will be winter construction, but the Manigotagan Corner Station will be year round construction.

The Project Study Area sees an annual increase in population during the summer months due to tourism and use of seasonal homes. Because Project construction will occur primarily in winter months (transmission line construction will be in winter, Manigotagan Corner Station will be year round), the Project is anticipated to contribute only modestly to regular summer population increases during construction. Because the population increase is expected to be short-term in duration, only minor effects are anticipated.

Table 6-1 Potential Effects to Population from Construction of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Increase in population	Construction	• The majority of construction for the transmission line will occur during the winter months, outside of the regular increase in population seen in summer months in the Study Area	Minor increase in study area population	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous

Operations and Maintenance Phase – Transmission Line and Stations

During operations, a limited workforce will be required. Manitoba Hydro staff will routinely patrol the transmission line (i.e., annual inspection), requiring two individuals plus a crew of four to conduct any repairs and maintenance, as required. The Manigotagan Corner Station will not require any staff, and the Pine Falls Generating Station Switchyard upgrades are not expected to result in an increased workforce. Effects on population during the operations and maintenance phase are anticipated to be neutral, i.e., no measureable change, and, therefore, no residual effects are expected.

6.2.1.2 Transportation Infrastructure

Construction Phase – Transmission Line and Stations

Project traffic will utilize PR #304 to transport equipment, materials and workers resulting in a minor increase in traffic volumes in the area. This increase could be up to 75 to 100 vehicles (e.g., an increase of 10.9-14.5% vehicles just north of Powerview-Pine Falls, or 16.7-22.2% just south of Manigotagan) per day during construction of the transmission line. The Manigotagan

Corner Station construction could require up to 6 vehicles (e.g., an increase of 0.9% just north of Powerview-Pine Falls, or 1.3% just south of Manigotagan). In addition to increased traffic volumes, construction at the southern end of the transmission line will result in the temporary closure of one lane of traffic over the Winnipeg River Bridge for a short period of time which will disrupt traffic flows in the Project Study Area. Manitoba Hydro has had discussions with Manitoba Infrastructure and Transportation (MIT) regarding the lane closure and to review the preferred route. Any road crossings will require reduced-speed constructions zones and create the potential for temporary lane closures that could also disrupt traffic for local residents; the effects will be short-term in duration. Manitoba Infrastructure and Transportation (MIT) and Manitoba Hydro are committed to working together to minimize potential traffic disruption caused by the lane closures.

Examples of mitigation measures to be implemented include:

- Manitoba Hydro will work with the appropriate agencies and government authorities (e.g., MIT) to minimize traffic-related effects and will comply with all relevant government regulations and by-laws;
- Manitoba Hydro will notify the appropriate agencies and infrastructure operators as to the schedule for equipment and material deliveries during the period of construction;
- All related movements will be subject to regulations governing load restrictions and transport of dangerous goods.

Table 6-2 Potential Effects to Transportation Infrastructure from Construction of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Increased traffic volumes on roadways	Construction	• Manitoba Hydro will work with appropriate government agencies and governing authorities • Manitoba Hydro will notify appropriate agencies and infrastructure operators of activities • All transportation will be subject to load restrictions and transport of dangerous goods regulations	Minor increase in traffic volumes	Direction: Negative Magnitude: Moderate Geographic Extent: Local Duration: short-term Reversibility: reversible Frequency: regular/continuous

Table 6-2 Potential Effects to Transportation Infrastructure from Construction of the Transmission Line and Stations (continued)

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Disruption to traffic flows caused by lane closures	Construction	• Manitoba Hydro will work with appropriate government agencies and governing authorities • Manitoba Hydro will notify appropriate agencies and infrastructure operators of activities • Appropriate traffic warning signs and other safety measures will be put in place as necessary	Minor disruption to traffic flows caused by lane closures	Direction: negative Magnitude: Moderate Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Effects on Project Study Area road and highway conditions.		• All transportation will be subject to load restrictions and transport of dangerous goods regulations	Minor adverse effect on road conditions	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic

Operations and Maintenance Phase – Transmission Lines and Stations

During operations and maintenance, only a small number of vehicles will be required for short periods of time (e.g., annual inspection will take approximately 1 week). No measurable effect is anticipated.

6.2.1.3 Existing Infrastructure and Facilities

Construction Phase – Transmission Line and Stations

Through the SSEA process, infrastructure and facilities such as communication towers, and licensed aerodromes and airstrips were avoided to limit potential effects. There is a potential for incompatible use when transmission lines are in close proximity to the infrastructure noted above. For example, there is the potential for electrical interference with broadcast signals from communication towers (electrical interference effects are covered under Personal, Family and Community Life) and navigation and safety concerns (associated with crossing roadways, aerodromes, and transmission lines). The following discussion identifies the proximity of the infrastructure to the proposed route and station and identifies whether the facilities are directly affected by the project.

The proposed transmission line route crosses or is in proximity to a number of existing infrastructure installations. The proposed route crosses PR #304 five times. The first crossing, starting from the south and travelling north, occurs at approximately 50 meters, where the line goes under the PR #304 bridge. It then crossed PR #304 again at 2.6 km, 30 km, 42 km, and 58 km. Manitoba Infrastructure and Transportation has undertaken a preliminary review of the proposed route and crossings, and has identified no concerns with the crossings or the

alignment of the proposed route. The proposed route/infrastructure does not interfere with the control zone for PR #304. Manitoba Hydro will continue to consult with MIT regarding the clearing and construction schedule for the transmission line, and all necessary permits will be acquired prior to starting construction.

In addition to the highway, the proposed route also crosses an existing Manitoba Hydro 66 KV sub-transmission line five times at 50 m, 2.6 km, 30 km, 42 km, and 58 km. With respect to aerodromes, the nearest airfield is in Silver Falls, approximately 9 km to the southeast, and the nearest aerodrome is located in Bissett (i.e., float plane base), approximately 38 km to the east.

In addition to aerodromes, there are also 20 antenna communication towers and 6 broadcast communication towers in the study area. The closest broadcast tower is located over 2.5 km away from the transmission line and the closest antenna tower is approximately 1 km away from project infrastructure.

Overall, no adverse effects are anticipated on infrastructure and facilities as a result of the transmission line and station. If issues arise with respect to impacts on infrastructure and facilities from the project, they are subject to application and adherence to established design protocols and procedures and will be mitigated to address any associated potential effects. For example, necessary clearances over transmission lines, roadways, waterways, and rail will meet or exceed the minimum values outlined in the CSA c22.3 No. 1-10 - “Overhead Systems” standard.

Examples of mitigation measures that will be implemented include:

- consultation with Agencies responsible for infrastructure crossed by the transmission line prior to clearing and construction activities.
- confirmation of any necessary permits and approvals or design measures for construction will be made during the detailed design stage of the project.
- implementation of applicable standards.

These agencies will also be notified with respect to clearing and construction schedules, including possible requirements for temporary access points off of PR #304 to minimize disruptions to operations.

Table 6-3 Potential Effects to Existing Infrastructure and Facilities from Construction of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Potential for Interference with navigation	Construction	• Implementation of appropriate standards (e.g., CSA) • Consultation with appropriate agencies responsible for infrastructure crossed by the Project • Confirm any necessary permits, approvals, and design measures	Minor effect on navigation	Direction – negative Magnitude – small Geographic Extent - local Duration – short-term Reversibility – reversible Frequency – regular/continuous

Operations and Maintenance Phase – Transmission Line and Stations

No measureable effects on existing infrastructure and facilities are expected during the operations phase of the project.

Agencies responsible for infrastructure crossed by the transmission line (e.g., MIT) will be notified with respect to operations and maintenance schedules for the transmission line to minimize disruption to operations; and the locations of infrastructure crossed by the line will be identified in a Project specific operations and maintenance Environmental Protection Plan.

6.2.1.4 Housing

No effect on housing during the construction and Operations and Maintenance phases are expected as a result of the project.

6.2.1.5 Temporary Accommodation

Construction Phase – Transmission Line and Stations

To the extent possible, existing accommodation in Powerview-Pine Falls will be used for the project. There are a total of 60 rooms available in the Papertown Motor Inn and Manitou Lodge in Powerview-Pine Falls. The Woodn' Bell Motel and North Star Motel in Manigotagan have 15 rooms combined. Accommodation in the northern Project Study Area has low capacity to support the Project because of demands from other existing Projects in the area. At peak construction (approximately 115 workers for the transmission line, 40 for the Manigotagan Corner Station, and 12 for the Pine Falls Generating Station Switchyard), there might be insufficient accommodation in the Project Study Area for the entire workforce. If this is the case, contractors will be encouraged to consider the use of a work camp or accommodation outside the Project Study Area during construction activities.

Overall, the Project will likely increase pressure on local temporary accommodation, which may limit availability, but will ultimately provide a modest benefit to local communities.

Table 6-4 Potential Effects to Temporary Accommodation from Construction of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Increased pressure on temporary accommodations during construction and, therefore, reducing availability	Construction	• Work camps or temporary accommodation outside the Project Study Area will be used as necessary • Local hiring will reduce the workforce requiring temporary accommodation	Minor decrease in availability of temporary accommodations	Direction: negative Magnitude: moderate Geographic extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous

Operations and Maintenance Phase – Transmission Line and Stations

During operations and maintenance, temporary accommodation will only be required for a small workforce, for up to 1 week at a time. No measurable effect on accommodation in the Project Study Area is anticipated.

6.2.1.6 Health and Emergency Services

Construction Phase – Transmission Line and Stations

Communities in the Project Study Area rely primarily on the Town of Powerview-Pine Falls for health and emergency services. Individual communities including Manigotagan, Seymourville, Sagkeeng First Nation, Hollow Water First Nation, and Black River First Nation also have health offices or centres which can provide basic and primary services. It is anticipated that the Project may increase demand on emergency services slightly during the construction period. The Powerview RCMP detachment key person interview did not identify any concerns regarding the influx of temporary workers required for the Project, although a study has indicated that the detachment would benefit from two more staff members, in addition to the 19 current constables. Only minor effects to police services are anticipated from the Project.

The Pine Falls Fire Department provides fire response services to all communities in the Project Study Area, but each community also has some form of local fire response, including community fire halls and volunteer fire departments. The Project is expected to result in minor effects to fire services.

A key person interview with the Pine Falls Hospital identifies concerns that the Project could place additional strain on the existing health care services in the Project Study Area. The hospital has experienced shortages of beds for short periods (12 hours) in the past. However, the busiest time of year for the hospital is the summer. Because Project construction for the largest contributor to the workforce (i.e., transmission line construction) will primarily occur in winter, it is expected that the Project will result in only a small magnitude increase in pressure on health services. All emergency services will be provided with a schedule of Project activities so they are aware of the Project workforce in the Project Study Area.

Table 6-5 Potential Effects to Health and Emergency Services from Construction of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Increased pressure on health (i.e., hospital and medical clinic) services in Powerview-Pine falls	Construction	• Winter construction for the transmission line will reduce pressure on health and emergency services during the busy summer months. • Provide emergency services with a schedule of Project activities.	Minor increase in pressure on health services	Direction: negative Magnitude: small Geographic Extent: Local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Increased pressure on emergency (i.e., fire, RCMP, EMS) services in Powerview-Pine falls	Construction	• Winter construction for the transmission line will reduce pressure on health and emergency services during the busy summer months • Provide emergency services with a schedule of Project activities.	Minor increase in pressure on emergency services	Direction: negative Magnitude: small Geographic Extent: Local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic

Operations and Maintenance Phase – Transmission Line and Stations

During the operations and maintenance phase, no effect to health and emergency services in the Project Study Area is anticipated.

6.2.2 Employment and Economy

6.2.2.1 Employment and Business Opportunities

Construction Phase - Transmission Line

Construction of the transmission line component of the Project will require personnel with varying skill levels. It is estimated that there will be a total of 54 person years employment associated with constructing the transmission line. Construction is expected to commence in late 2013 and be completed by early 2016. Construction of the transmission line is expected to primarily occur during the winter months. However, construction associated with the Winnipeg River crossing is expected to occur in the summer of 2014.

A small number of short-term and temporary employment opportunities are expected during transmission line clearing and ROW preparation. The workforce for clearing and ROW preparation is seasonal in nature and the activities will primarily occur in the winter months.

Clearing and construction of the transmission lines will be subject to a collective agreement (the Transmission Line Agreement) that will allow Manitoba Hydro to include hiring preferences in tender specifications. Through the contracting process, Manitoba Hydro expects the contractor

to actively promote the participation of Manitoba businesses and Aboriginal businesses for the Project. In addition, when the contractor in selecting persons (other than supervisory personnel) to be employed on the Project, preference will be given to Aboriginal and local residents who meet the contractor's requirements in training, experience and other qualifications for the work to be performed.

Regarding, business opportunities, First Nation and Aboriginal communities with construction expertise in the vicinity of Project could secure contracting opportunities made available under the terms of Manitoba Hydro's Northern Purchasing Policy, which includes measures to increase the participation of local businesses and workers. Possible contract or employment opportunities where the Northern Purchasing Policy could be applied include clearing and/or construction work on the project.

Indirect business effects could also be expected by communities in the vicinity of the Project through the purchase of meals, gasoline, and accommodations by the contractors, as well as incidental purchases of repairs and parts for construction vehicles and equipment.

The following discussion provides an estimate of employment effects based on Manitoba Hydro's current Project plans, which are subject to change based on schedule, weather conditions, and detailed transmission line design. Any changes in Project plans could result in corresponding changes in the timing and magnitude of employment effects.

Project activities

Clearing activities for the transmission line ROW would include surveying the ROW, constructing winter access trails where required, clearing, followed by cutting, piling, burning, and clean-up of the cleared materials. Construction of the transmission line would involve transporting materials along the ROW, surveying, installation of anchors and foundations, assembly and erection of the towers, stringing the conductors, and site clean-up.

Winter 2013-2014

Clearing the transmission line ROW is expected to commence in late 2013. An estimated peak workforce of approximately 48 positions including Manitoba Hydro supervisory staff will be needed during the first winter of construction. Labour needed during this stage of construction will primarily be non-designated trades such as labourers and equipment operators.

Summer 2014

During the summer of 2014, construction activities for the Winnipeg River crossing will occur. The estimated peak workforce is approximately 23 persons including Manitoba Hydro supervisory staff. A variety of trades would be required to undertake this work including equipment operators, welders, carpenters, and general labourers.

Winter 2014-2015

During the second winter, focus will be placed on line construction. Activities during this time include installation of anchors and foundations, assembly and erection of structures, and stringing conductors and ground wires. It is during the second winter when transmission line construction workforce for the entire project will peak at approximately 115 persons.

Winter 2015/2016

During the winter of 2015-2016 the workforce will carry out any remaining work required for the project if needed. The workforce will be small in comparison to the rest of the construction period and will peak at approximately 25 persons.

Examples of enhancement measures that will be implemented for the project will include:

- Implement Transmission Line Agreement to facilitate local employment and business opportunities.

Table 6-6 Potential Effects to Employment and Business Opportunities from Construction of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Potential employment opportunities	Construction	n/a	Increase in employment opportunities in the Project Study Area	Direction: positive Magnitude: moderate Geographic Extent: regional Duration: short-term Reversibility – n/a Frequency: infrequent
Job skills through employment may be applied to other employment opportunities	Construction	n/a	Transferability of skills to other employment opportunities	Direction: positive Magnitude: small Geographic Extent: regional Duration: long-term Reversibility – permanent Frequency: sporadic/periodic
Contractors and local businesses (i.e., restaurants, temporary accommodation, entertainment) could financially benefit	Construction	n/a	Minor increase in direct and indirect business (e.g., increased cash flow from rooms and meals) opportunities in the Project Study Area	Direction: positive Magnitude: small Geographic Extent: regional Duration: short-term Reversibility – n/a Frequency: regular/continuous

Operations & Maintenance Phase - Transmission Line

During operations, there is limited employment opportunities associated with the Project. The transmission lines will be patrolled on an annual basis by Manitoba Hydro staff over a week long period. Two Manitoba Hydro Patrolmen would conduct the line patrols and a four person Manitoba Hydro Line Crew would conduct repairs (e.g., replacing defective insulators) when and

where necessary. In addition to line patrols, throughout the life of the line vegetation control will also be conducted. Some of these opportunities could be made available to local contractors/communities. Aside from annual patrols/inspections, there may be periodic work required to replace or repair Project components (e.g., damaged caused by extreme weather events, vegetation control below the lines).

Table 6-7 Potential Effects to Employment and Business Opportunities from Operations and Maintenance of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Limited direct and indirect business opportunities	Operations and Maintenance	n/a	Minor increase in direct and indirect business opportunities	Direction: positive Magnitude: negligible to small Geographic Extent: local Duration: medium-term Reversibility – n/a Frequency: infrequent

Construction Phase - Stations

Manigotagan Corner Station

Construction of the new Manigotagan Corner Station is expected to occur over a three year period (early 2013 to late 2015). It is estimated that approximately 26 person years of employment will be needed to construct the station. Local employment opportunities will be less for the station than for the 115 kV transmission line due to the highly specialized nature of the work. There will likely be modest local employment opportunities associated with clearing and site preparation for the station. Station equipment installation tends to involve highly specialized labour and is unlikely to offer significant job opportunities. Employment will peak for this part of the project in mid-2015 when there is an overlap of activities with an estimated peak workforce of 40 persons required on-site.

Construction of the station will take place in three stages. Civil work will take start in early 2013 and be completed by early to mid-2015. This will include site clearing and preparation, installing foundations, and erecting any necessary buildings. The workforce is expected to peak during this stage of constructing the station at approximately 22 persons. Towards the completion of civil works, risers, buswork, and steel structures will be erected. This work is scheduled to take place mid-2015. The workforce will peak at 15 persons for this stage of construction. Following the erection of structures, further electrical work will proceed. This work is expected to take place between mid to late 2015. Workforce is expected to peak at approximately 12 persons during this stage of construction.

Pine Falls Generating Station Switchyard Upgrades

Upgrades at the Pine Falls Generating Station Switchyard will take place from mid-2013 to mid-2015. Civil works will take place for approximately one month starting in mid-2013. An estimated seven persons are required for this phase of the upgrades. Electrical construction, which is

currently planned to be carried out by Manitoba Hydro employees, will start in mid-2013 and be conducted over a five month period. The workforce for this phase of the project is small with an estimated peak workforce of four people. Construction will take place over approximately a one month period starting towards the end of March 2015. Peak workforce for this component of the project is 12 persons.

Modest indirect business effects could also be expected by communities in the vicinity of the station through the purchase of meals and gasoline, and potentially accommodations by the contractors, as well as incidental purchases of repairs and parts for construction vehicles and equipment during the construction phase.

Table 6-8 Potential Effects to Employment and Business Opportunities from Construction of the Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Potential employment opportunities	Construction	n/a	Minor increased employment opportunities in the Project Study Area	Direction: positive Magnitude: negligible to small Geographic Extent: local Duration: short-term Reversibility – n/a Frequency: infrequent
Job skills through employment may be applied to other employment opportunities;	Construction	n/a	Transferability of skills to other employment opportunity	Direction: positive Magnitude: negligible to small Geographic Extent: regional Duration: long-term Reversibility – permanent Frequency: sporadic/periodic
Contractors and local businesses (i.e., restaurants, temporary accommodation, entertainment) could financially benefit	Construction	n/a	Minor increase in direct and indirect business (e.g., increased cash flow from rooms and meals) opportunities in the Project Study Area	Direction: positive Magnitude: negligible to small Geographic Extent: regional Duration: short-term Reversibility – n/a Frequency: regular/continuous

Operations and Maintenance Phase - Stations

The Manigotagan Corner Station will be an un-occupied (i.e., un-manned) station. Periodic station inspections will occur on an annual basis; no employment or business opportunities will exist with this component of the project since staffing needs for maintenance are currently filled. The Pine Falls Generating Station Switchyard upgrades will also result in no employment or business opportunities; existing Manitoba Hydro staff will carry out any operations and maintenance work required.

6.2.3 Personal Well-being

6.2.3.1 Aesthetics

Construction – Transmission Line and Stations

Visual /aesthetic effects are addressed for both operations and maintenance phases.

Operations and Maintenance – Transmission Line and Stations

The addition of a transmission line and station to the landscape can affect an individual's perception of the visual quality of the surrounding area. Opinions on the visual effect of transmission lines and associated infrastructure are subjective and depend on an individual's values and perspectives.

Aesthetic impacts depend on:

- The physical relationship of an individual and the transmission line (i.e., distance and sight lines);
- The activity of the individual (e.g., living in the area, driving through, sightseeing);
- The contrast between transmission structures and the surrounding area (Public Service Commission of Wisconsin, 2012); and
- Perceived benefits of the transmission line.

Manitoba Hydro's SSEA process considers aesthetics in identification of alternative routes largely through avoidance of potential issues/land use conflicts to minimize visual intrusion on the landscape (i.e., design mitigation). Manitoba Hydro, for example, endeavors to route transmission lines to avoid/maximize distances from:

- Residences
- Existing settlements and communities; and
- Lodges, parks, cottage development, and other recreational sites/developments.

The following provides an overview of the preferred route regarding what was taken into consideration to minimize aesthetic effects of the proposed transmission line and station. Overall, the proposed route is close to PR #304 which crosses north-south through the Project Study Area and maximizes distances from lodges, parks and recreational sites/developments, and maximizes distances to residences and existing settlements and communities to the extent possible. This alignment minimizes further fragmentation of the viewshed and aesthetic effects are expected to be minor overall.

From Pine Falls Generating Station Switchyard, the proposed route for the transmission line follows existing infrastructure and avoids residences until it crosses the Winnipeg River. Moving east after the Winnipeg River Crossing, the route would be in close proximity to an RV park. The owner identified some concerns regarding the location of the proposed route which would be in view of a beach which is used by its patrons. Furthermore, concern was expressed about the potential for visual impairment on the future expansion of the RV Park as it requires clearing of trees and hence, no visual buffer would remain between future lots and the proposed transmission line. The proposed route was adjusted to avoid the access road to the beach and boat launch. Travelling north from Pine Creek, the route was also adjusted further east to allow for a buffer between the transmission line and future development of the site to minimize aesthetic impacts. The second property owner north of the RV Park had an interest in keeping his/her property south of Broadlands Road unencumbered for future residential development, as well as to have the transmission line located away from the waterfront to limit impacts on aesthetics. The route was adjusted by moving it further west on the property to accommodate their concerns. The third property owner had no aesthetic related concerns as a result of the line being located on his/her property.

Once the route traversed the three private properties, the remainder of the transmission line would be located on Crown Land. Travelling north and east of Black River First Nation, community members identified a youth trapper's cabin in the area. An adjustment was made to this part of the route in order to avoid the trapper's cabin to limit aesthetic impacts. In addition to the trapper's cabin, there is also a picnic site at the Black River crossing. It is located approximately 680 m from the transmission line on the west side of PR #304. It is anticipated that there will be minimal visual impairment of the area due to the distance to the transmission line. Travelling further north there are two other campgrounds in the vicinity of the route and station, as well as cottage development and housing at the community of Manigotagan. One campground is located southeast of the community of Manigotagan and is managed by the Manigotagan Community Council. It is located approximately one kilometer away from the transmission line on the opposite side of PR #304. Another campground is located northeast of the Manigotagan Corner Station (i.e., English River) is approximately 2 kilometers away from the site. There are no lodges in the vicinity of the line, and other designated protected areas were avoided as well. Despite the route crossing the community boundary of Manigotagan, cottage and housing development in the area is located over 1 km from the transmission line; the community has not identified any concerns.

Regarding outfitting and resident hunting, the wilderness experience for those participating in these activities could be impacted by the presence of the line and, therefore, the line could result in a minor impairment on aesthetics values. The presence of the line may affect the sense of solitude and distance from civilization of individuals in the area.

Regarding the Manigotagan crossing, an adjustment was made to move the route further east of the PR #304 Bridge to limit effects on the viewshed due to the bridge being a common location for visitors to travel and take photographs. The presence of the line could have a minor impairment on aesthetics for those who frequent the waterway, however.

Examples of mitigation measures to limit aesthetic impacts would include:

- Tower location (i.e., tower "spotting") has been identified as a potential mitigation measure to reduce adverse effects on sensitive land uses in proximity to the ROW. Manitoba Hydro Property Department staff will discuss tower placement preferences with the affected private landowners. Wherever feasible, tower placement will be selected to minimize impacts.

Table 6-9 Potential Effects to Aesthetics from Operations and Maintenance of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Impaired aesthetic values in local study area due to presence of the transmission line and station	Operations and Maintenance	• Minimize extent of clearing adjacent to private property where feasible owners (i.e., buffers) • Engage directly affected private landowners in tower spotting for structures placed on private property	Minor impairment of aesthetic values	Direction: negative Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous

6.2.3.2 Worker Interactions and Public Safety

The Project will result in the presence of temporary workers in the Project Study Area. The peak workforce is expected to be 115 for the transmission line, 40 for the Manigotagan Corner Station and 12 for the Pine Falls Generating Station Switchyard, some of whom may be from the communities within the Project Study Area. Workers will stay in temporary accommodation in local communities wherever possible, and will also use existing services and infrastructure in the communities. No effect on the public safety of local populations is anticipated as a result of the Project. However, should any concerns arise; Manitoba Hydro will address them on a case by case basis.

6.2.3.3 Electric and Magnetic Fields

Construction Phase – Transmission Line and Stations

No effect is anticipated during the construction phase of the project.

Operations and Maintenance Phase – Transmission Line and Stations

Manitoba Hydro's infrastructure (e.g., stations and transmission lines) produce EMF at a low frequency range of approximately 60 Hz. Electric and magnetic fields are found wherever electricity is generated, delivered, or used, including power transmission and distribution lines, wiring in homes, workplace equipment, electrical appliances, etc. Electric fields are the result of voltages applied to electrical conductors and equipment and are measured in kilovolts per meter (kv/m). Magnetic fields are due to the flow of electrical current and are measured in milligauss (mG). Electric and magnetic field levels measured near any source depend upon a number of factors but diminish rapidly with increasing distance from the source.

Electric and magnetic field levels associated with an alternating current transmission line depend upon the configuration of the line's conductors, the line's voltage, the amount of current the line is carrying, and distance from the conductors. Station equipment is configured in such a manner that fields drop off quickly with distance. At the fence surrounding a station, the EMF levels are typically within the range of background levels, except where the transmission lines cross. Canadian (e.g., Manitoba Clean Environment Commission (2001), and international studies including the World Health Organization (2007) have concluded that there is insufficient scientific evidence to show exposure to EMFs from power lines can cause adverse health effects such as cancer. Health Canada (2004) states that there is no conclusive evidence of any harm caused by exposures at levels normally found in Canadian living environments. Further, information on this topic can also be found in the Bipole III Environmental Impact Statement (2011).

While Manitoba Hydro is sensitive to public concerns regarding potential health effects from EMF, there is at present no scientific evidence to justify modification of existing practices respecting facilities for the generation, transmission, and distribution of electricity. However, Manitoba Hydro continues to undertake the following actions regarding the issue:

- monitoring of worldwide research programs on EMFs;
- participating in and support of on-going health and safety research on the local, national and international levels; and
- maintaining active communications and provision of technical information to interested parties, including the public and agencies responsible for public and occupational health and the environment.

Table 6-10 Potential Effects to Electric and Magnetic Fields from Operations and Maintenance of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Decreased individual well-being due to perceived health risk of EMF from station and line	Operations and Maintenance	• public education on health and EMF	Perceived risk to health from EMF	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous

6.2.3.4 Noise, Dust, and Vibration

Construction Phase - Transmission Line

During construction of the transmission line, there will be elevated noise levels in the immediate area. Construction activities can result in noise and disturbances (i.e., dust and vibration) to people in the vicinity of the construction activities. Transmission line ROW clearing, site

preparation, foundation installation, structure erection, works at marshalling yards, work camps (if required), and using implosives for splicing conductors are examples of activities that can lead to such effects (i.e., noise and disturbance effects). Other than the southernmost portion of the line, the majority of the Final Preferred Route is in areas that are not inhabited, which will limit the disturbance to humans. Noise and other disturbances generated during construction activities will be temporary and intermittent.

Examples of mitigation measures that will be implemented include:

- All equipment will be fitted with standard mufflers or silencers, and kept in good working order.
- Minimize construction activities during the spring and summer months during which time nearby seasonal residence will be present for the southern portion of the transmission line.
- Limit noise and vibration causing activities to daytime working hours in developed areas and comply with all applicable by-laws.
- Only water and approved dust suppression products will be used to control dust.

Examples of mitigation measures with respect to the use of implosives:

- Provide 48 hour advance notification before use of implosives to nearby residences and businesses;
- Comply with provincial legislation and guidelines for explosives use;
- Ensure that persons using explosives are licensed;
- Adhere to implosives schedule; and
- Restrict use of implosives to normal working hours.

Table 6-11 Potential Effects to Noise, Dust, and Vibration from Construction of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
A change in personal well-being due to nuisance effects (i.e., increased noise, dust, and vibration)	Construction	• Provide 48 hours advanced notice • Comply with legislations and guidelines, • Restrict use of implosives to working hours and regular schedule • Ensure persons using explosives are licensed	Decrease in personal well-being due to nuisance based effects.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic.

Operations and Maintenance Phase - Transmission Line

Transmission lines are designed to operate 24 hours per day, year round. Operation of a transmission line involves the production of corona discharges which can result in audible noise. The levels will vary with time, subject to operating mode and loading conditions of the line and, and to external factors such as weather. Audible noise levels will fall within the provincial guidelines in Manitoba. Additional audible noise would also be generated during operations and maintenance activities (e.g., repairs to the line, inspection of the line); however, such activities are temporary and short-term in duration (i.e., patrols of the line are conducted annually, typically by ground). Non-scheduled patrols or maintenance may be conducted by air or ground should unexpected repairs be required.

Table 6-12 Potential Effects to Noise, Dust, and Vibration from Operations and Maintenance of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
A change in personal well-being due to nuisance effects (i.e., increased noise) during operations	Operations and Maintenance	n/a	Decrease in personal well-being due to nuisance based effects.	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic.

Construction Phase - Stations

Similar to constructing the transmission line, there will be elevated noise levels during construction of the Manigotagan Corner Station and upgrades to the Pine Falls Generating Station Switchyard. Site preparation, installation of equipment and constructing buildings will all contribute to elevated noise levels and associated disturbance effects (i.e., dust, vibration). Noise generated during construction of the station will be temporary and intermittent, and will generally fall within provincial noise level guidelines. Furthermore, the location of the site is over approximately 3.5 km from the edge of the nearest community boundary (i.e. Manigotagan) and, therefore, should not directly affect communities.

Table 6-13 Potential Effects to Noise, Dust, and Vibration from Construction of the Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
A change in personal well-being due to nuisance effects (i.e., increased noise, dust and vibration) during construction	Construction	Limit noise and vibration causing activities to daytime working hours in developed areas and comply with all applicable by-laws. Only water and approved dust suppression products will be used to control dust	Minor decrease in personal well-being due to nuisance based effects.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: infrequent.

Operations and Maintenance Phase - Stations

During operations, noise generated from the stations will be largely generated from the operation of the transformer units. The transformers will meet Canadian Standards Association (CSA) Standards. During operations, the maximum overall sound level generated by the station is estimated to be approximately 50 db. Other sources of noise will include activities associated with periodic site-visits of workers once the station is in operation which will be minimal because it is an un-manned site. Given the location of the proposed station sites, noise levels are not expected to be a concern. No mitigation is required.

6.2.3.5 Spraying

Construction Phase - Transmission Line

No herbicides will be applied during ROW clearing, therefore no effect is anticipated.

Operations and Maintenance Phase - Transmission Line

Through the public involvement process a number of communities expressed concerns over spraying herbicides within the existing 66 kV or new 115 kV transmission line ROWs to control vegetation and its effects on vegetation, mammals, aquatic resources, and people.

Vegetation management is required on an ongoing basis to ensure that re-growth in cleared ROW does not interfere with transmission line operations. Vegetation management involves a variety of methods including hand cutting (e.g., utilizing chainsaws, brush saws, axes, or brush hooks), mechanical shear blading (using “V” or “KG” blades), brush mowing with rotary and drum cutters (typically rubber-tired equipment), and herbicide treatment.

An integrated vegetation management and weed control approach is used within the ROW to control and reduce potential tree and weed problems. Herbicide treatments are formulated to target only broad-leafed plants (trees and weeds) leaving grasses unaffected. Permits for herbicides use are obtained on an annual basis. The process involves public notification as part

of the formal permit application to Manitoba Conservation Pesticide Approvals Branch. All herbicide applications are completed and supervised by licensed applicators and in accordance with conditions specified in a Pesticide Use Permit. Herbicide application rates are established by Manitoba Hydro's Chief Forester in accordance with product label instructions. Only herbicides which have been approved in the Pesticide Use Permit are used. Manitoba Hydro maintains a typical list of herbicide foliage treatments and has developed application guidelines that it adheres to for its activities. Manitoba Hydro's vegetation management procedures are well established with respect to herbicide application requirements and obtaining the Pesticide Use Permits. On provincial Crown lands, a work permit issued under The *Forest Act* (Manitoba) is required and owners adjacent to the ROW are typically notified in advance. Manitoba Hydro's Chief Forester coordinates the necessary approvals and is responsible for obtaining the necessary Pesticide Use Permits and submitting Post Seasonal Control Reports as per Manitoba Regulation 94-88R under *The Environment Act*. No effect on health is anticipated.

Herbicides will be applied according to standard Manitoba Hydro practices and applicable legislation, this includes:

- If herbicides are required to control vegetation growth, all applicable permits and provincial regulations will be followed;
- Plants of value to communities in the ROW will be identified and herbicide application will be restricted
- On private lands, prior to any vegetation management work, landowners or appropriate authorities will be contacted to obtain the necessary permission.
- On Crown land adjacent to Aboriginal communities, communities will be notified prior to any vegetation management work.

Table 6-14 Potential Effects to Spraying from Operations and Maintenance of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
A change in personal well-being due to perceived health effects as a result of spraying herbicides	Operations and Maintenance	• All applicable permits and regulations will be followed • Plants of value to local communities will be identified and spraying restricted • On private land, landowners or appropriate authorities will be contacted for permission • On Crown land adjacent to Aboriginal communities, communities will be notified prior to any vegetation management work	Minor decrease in personal well-being due to perceived health effects of spraying	Direction: negative Magnitude: small to moderate Geographic Extent: project footprint Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic

Construction Phase - Stations

No herbicides will be applied during site preparation, therefore no effect is anticipated.

Operations and Maintenance Phase - Station

Herbicides will be used to control vegetation at the Manigotagan Corner Station within the gated area and along the outside of perimeter fencing. Herbicides will be applied according to standard Manitoba Hydro practices and applicable legislation. No effect on health is anticipated from spraying herbicides.

6.2.3.6 Electrical Interference

Construction Phase – Transmission Line and Stations

No electrical interference effects are expected during the construction phase of the Project.

Operations and Maintenance Phase – Transmission Line and Stations

Electrical interference from the proposed line and station could affect local residents, as well as communications infrastructure in the area. Radio and TV inference occurs by 'corona discharge' that occurs around transmission lines and stations; corona discharge generates broad band 'radio noise' over a range of radiofrequency signals. If the signals from AM and non-digital TV sources are weak, the radio noise from nearby power lines can overlap and cause poor reception very close to the lines. To the extent technically feasible and practical, Manitoba Hydro employs efforts to select routes to avoid interactions with infrastructure facilities and residences that could potentially be affected. With respect to the number and proximity of residences that could be affected, the route selected avoided all private property with residences. In the event that any residences experience interference problems, Manitoba Hydro will work with customers to rectify any issues.

There are also 20 antenna communication towers and 6 broadcast communication towers in the study area. The nearest broadcast tower to the transmission line located over 2.5 kilometers away. The nearest antenna tower is located approximately one kilometer away from the Pine Falls Generating Station Switchyard. It is anticipated that there will not be any effects from the transmission line on the facilities.

Overall, Manitoba Hydro does not anticipate any electrical interference effects with the various infrastructure facilities and residences near the transmission line or station. Manitoba Hydro will meet the requirements of the Radio Communications Act and the Radio Communication Regulations, and will also meet the requirements of industry Canada's Interference-Causing Equipment Standard - ICES-004 Issue December 2001 - Alternating Current High Voltage Power System. Therefore, no mitigation is required. For follow-up, in the event interference difficulties are encountered in the vicinity of the transmission line and/or at the station, Manitoba Hydro will identify the interference source, assess and test the signal reception equipment, and work with affected parties to rectify the problem.

Table 6-15 Potential Effects to Electrical Interference from Operations and Maintenance of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Electrical interference effects on communication equipment	Operations and maintenance	n/a	Minor increased risk of electrical interference effects on communication equipment.	Direction: negative Magnitude: small Geographic Extent: Local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic

6.2.4 Land Ownership and Tenure

6.2.4.1 Land Ownership and Tenure

Construction Phase - Transmission Line

Effects can occur from a transmission line being located in lands with different ownership and tenure arrangements, as well as affecting existing and prospective land use. Issues related to a transmission line in close proximity to residences or on private property, for example, can include concerns regarding EMF, electrical interference, aesthetics, and impacts on property values. Potential issues regarding the above, excluding property values, are addressed under Personal Well-being. Furthermore, the presence of a transmission line can affect development of land by communities (e.g., residential use) for future use. The following highlights the effects of the project due to its presence in different ownership and tenure arrangements.

The total length of the transmission line is approximately 71 km. Approximately 98% of the transmission line crosses Crown Lands and 2% crosses private lands. There are a number of encumbrances located on Crown Land where the route will be located (e.g., Manitoba Highways and Manitoba Hydro rights-of-ways, forest management licence areas). The transmission line could affect tenure of some holders but mostly through nuisance effects, which are covered under personal well-being and are expected to be minimal. The required permits will be acquired from the Crown Lands and Property Agency for locating the line on crown lands.

With respect to communities, two boundaries would be traversed by the transmission line. The Pine Falls Generating Station Switchyard, where the transmission line originates, is located in the RM of Alexander. Approximately 3.8 km of the transmission line is located in the RM of Alexander in lands zoned as Open Space “OS”, Agricultural over 80 acres “A80” and Resource Development “RD”. The municipality was involved in the public engagement process and did not identify any conflicts with existing or future land use. The other community boundary that the line would traverse is Manigotagan for approximately 3 km. Manitoba Hydro met with the community as part of the public engagement process, and representatives did not identify any concerns with respect to incompatible land use as a result of the location of the line.

Three private properties at the southern part of the route would be affected by the transmission line; however, none of the properties have residences located on their respective properties. Concerns respecting future development of property, aesthetics, and property values were identified by the property owners and route adjustments were made to accommodate their concerns. Changes made to the route are identified below:

- Local business owner - Travelling east after the Winnipeg River Crossing, the route was changed to avoid future development. Travelling north from Pine Creek, the route was adjusted and moved further east to allow for a buffer between the transmission line and future development of the site.
- Second property owner - The property owners had an interest in keeping their property unencumbered for future residential development. The route was adjusted by moving it further west on the property to accommodate their concerns.
- Third property owner – Through discussion it was identified that there were no immediate concerns about the proposed line other than assurance that there would be adequate clearances in case the property was developed in the future.

A review of the final route through private property is provided in the following paragraph.

Once the route crosses the Winnipeg River, it travels east and crosses the property of a local business for approximately 75 meters. The route then continues to the juncture of the Pine Creek and the Winnipeg River. From this point the route travels north where the second private property is traversed. A total of approximately 600 m of the proposed route traverses the second property. Crossing PR #304, the route heads north and crosses 160 m of the third affected property before entering Crown Land for the remainder of the route. The location of the preferred route in the southern part of the study area was largely dictated by proximity to residences, location of the generating station, and addressing landowner concerns. Therefore, it will result in minimal effects on private property owners. Easements will be acquired for locating the line on private lands and directly affected landowners will be compensated.

Manitoba Hydro has a policy in place for landowners whose property is crossed by the transmission line by way of easement. A one-time payment based on 75% of the market value of the land within the required ROW is provided to affected landowners, as well as payments for impacts associated with structures placed on agricultural lands.

With respect to Aboriginal Lands, all Reserve Lands were avoided during the identification of alternative routes. There are no Treaty Land Entitlements or Community Interest Zones near the Project. The closest parcel of Aboriginal lands to the transmission line is Black River First Nation, approximately 3 km west of the Project. No effect to Aboriginal lands is anticipated from the transmission line.

Regarding designated protected areas, such lands were identified and avoided during the identification of alternative routes. Protected Areas Initiative also reviewed the route and they

have no concerns with the location of the transmission and station. The Final Preferred Route is located between the Observation Point WMA and Manigotagan River Provincial Park. The Observation Point WMAs is approximately 3 km west of the route and approximately 0.5 km west of the Manigotagan River Provincial Park. No ecological reserve lands or conservation districts were crossed by the preferred route and, therefore, no effects are expected.

Examples of measures to mitigate effects will include:

- In addition to design mitigation through routing, tower location (tower "spotting") will be used, where feasible, to reduce potential negative effects, and location preferences identified where technically and economically feasible
- Municipal and local protocols and by-laws will be respected and appropriate methods will be applied to comply with regulatory standards during construction of the line
- Care will be taken so construction activities and equipment do not impact neighbouring properties
- Manitoba Hydro's Property Compensation Policy will be implemented; and
- Work permits from Manitoba Conservation will be obtained for all project activities occurring on provincial Crown lands.

Effects on existing land use during construction are largely nuisance effects (e.g., noise, vibration, dust) during construction and are addressed under personal well-being.

Operations and Maintenance Phase - Transmission Line

Given the life expectancy of the project, the three private properties crossed by the transmission line will be directly affected by the presence of the line. Future development of their respective properties will be affected and the line may be an inconvenience when working in close proximity. The remainder of the line is located in Crown Land and land ownership and tenure will not be affected other than some potentially minor impacts on future development of lands.

Concerns raised during the consultation process with the affected landowners were rectified through on-going discussions with Manitoba Hydro which resulted in route adjustments to accommodate their concerns. Overall, the line will be a net addition to the landscape and any adverse effects will be incremental in nature, particularly in areas where other infrastructure facilities are present (e.g., Pine Falls Generating Station Switchyard). Furthermore, with respect to effects on private property, in the unlikely event that physical damages are incurred by a landowner during operations and maintenance of the transmission line, damages are subject to compensation through Manitoba Hydro's existing compensation policies.

In addition to concerns regarding development and enjoyment of property, effects on property values was another issue that was raised. In terms of property values, Manitoba Hydro's position is that the presence of transmission lines does not negatively affect residential property

values. Since 2000, Manitoba Hydro has undertaken an annual Property Value Monitoring Program in the Birds Hill and Lister Rapids areas (RMs of East and West St. Paul), north of the City of Winnipeg. The program was initiated in response to concerns about property values as these residential areas are located north of an existing transmission line ROW containing 500 kV and 230 kV transmission lines. Real estate transactions for residential properties have been tracked over the period from January 1, 1992.

Examples of mitigation measures to minimize effects during operations and maintenance include the following:

- Municipal and local protocols and by-laws will be respected and appropriate methods will be applied to comply with regulatory standards during operations and maintenance of the line; and care will be taken to ensure that operations activities/equipment do not impact neighbouring properties.
- In the event that physical damages are incurred by a landowner during operations of the transmission line, damages are subject to compensation through Manitoba Hydro's existing compensation policies.

With respect to other lands, the Final Preferred Route does not cross any Reserve Lands, Treaty Land Entitlements, Community Interest Zones, or Federal lands. Furthermore, the transmission line is not located in any designated protected areas. The presence of the line is expected to have only a minimal impact on potential future development.

Table 6-16 Potential Effects to Land Ownership and Tenure from Operations and Maintenance of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
• Physical presence of the transmission line resulting in limitation of future land use	Operations and Maintenance	• Land owner compensation for damages incurred during operations and maintenance	• Minor effect on future development potential	Direction: negative Magnitude: small Geographic Extent: Project Footprint Duration: medium-term Reversibility: reversible Frequency: regular/continuous
• Perceived effect of presence of transmission lines affecting property values	Operations and Maintenance		• Perceived effect of impairment to property values due to presence of transmission lines.	Direction: negative Magnitude: small Geographic Extent: Local Duration: medium-term Reversibility: reversible Frequency: regular/continuous

Construction Phase - Stations

The Manigotagan Corner Station will be located on Manitoba Hydro owned property and is approximately 3.5 km away from the nearest community. Manitoba Hydro will acquire the property rights for the station site from the Crown (excluding mineral rights) prior to construction. All Aboriginal lands were avoided in the selection of the site. The closest parcel of Aboriginal lands to the station is Hollow Water First Nation, approximately 3.5 km to the northwest. Furthermore, no designated protected areas are affected by the location of the station site. The nearest designated protected lands are 4.5 km away. A dog sled trail is situated at the corner station site, but Manitoba Hydro has been in discussion with the affected parties and agreed to relocate the dog sled trail. Due to the remoteness of the station and distance from the nearest community it is anticipated that there will be negligible effects on existing land use (other nuisance effects [e.g., noise, dust, vibration] which are covered under personal well-being). The Pine Falls Generating Station Switchyard upgrades are occurring within Manitoba Hydro owned property and within the existing footprint and, therefore, will not have any effects on land ownership and tenure.

Operations and Maintenance Phase - Stations

No significant effects of the acquired property are anticipated from the Operations and Maintenance of the Manigotagan Corner Station or Pine Falls Generating Station Switchyard upgrades. The relative isolation and limited development of the area and lack of community and residential development in the vicinity of the Manigotagan Corner Station means that there is likely to be minimal impact on future development.

Table 6-17 Potential Effects to Land Ownership and Tenure from Operations and Maintenance of the Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Physical presence of the facilities resulting in limitation of future land use	Operations and Maintenance		Minor effect on future development potential	Direction: negative Magnitude: negligible to small Geographic Extent – local Duration – medium-term Reversibility – reversible Frequency – regular/continuous

6.2.5 Resource use

6.2.5.1 Traditional Land Use

Construction – Transmission Line and Stations

Domestic resource use in the Project Study Area includes hunting, fishing, and plant gathering. ATK activities have identified important locations for hunting, fishing, and plant gathering. The

Project covers a total of 431.3 ha. Of that area, approximately 76.9 ha (17.8%) of the 60 m ROW and Manigotagan Corner Station footprint are located in areas identified during ATK interviews as being important bird and mammal traditional use areas. A further 12.4 ha (2.9%) of the 60 m ROW and Manigotagan Corner Station footprint are located in areas containing cultural and heritage resources (see LWESI Heritage Technical Report). A further, 340.6 ha (79.0%) of the 60 m ROW and Manigotagan Corner Station footprint overlap forestry (timber) and vegetation resource use areas (See Forestry Technical Report and Plants Technical Report). Many of these areas overlap one another (i.e., the numbers above are not cumulative).

During construction, sensory disturbance (e.g., construction noise) and nuisance effects (e.g., traffic and construction activities) are anticipated to result in some sensitive bird and mammal species avoiding the area (See Wildlife Technical Report for further information). Hunting and trapping are occasionally used to supplement diet in the Project Study Area. As a result, some individuals may experience a small reduction in harvesting success. Effects on harvesting success rates are expected to be minimal, due to the fact that construction of the line will primarily take place during the winter months and are limited to areas near the Project construction activities. Any changes are expected to be short-term and minor.

Alternative areas may be used to harvest wildlife during the construction period, and shift hunting activities to other geographic areas in Project Study Area and elsewhere. Individuals may have to travel further to find animals during the construction period. Added harvest pressure on other local wildlife populations and unfamiliarity with new hunting areas can marginally reduce harvest success rates if alternative hunting areas are over-utilized. Any changes are expected to be short-term and minor within and outside the Project Study Area.

Plant gathering areas may be temporarily disturbed by construction activities. Re-growth along the transmission line may provide new areas to harvest berries, while in some cases, other plant species (e.g., medicinal plants) may be reduced. The Project may also result in increased access to berry picking and other important plant locations. Access will be managed through the development of an Access Management Plan.

To mitigate effects to traditional land use, applicable legislation, regulations and guidelines will be adhered to, and Project-specific mitigation measures will be outlined in the Construction Environmental Protection Plan. Examples of measures to mitigate or minimize the effects of Project-related impacts include the following:

- Manitoba Hydro will work with individual communities that have identified important resource use sites that are in close proximity the project site to minimize effects.
- Where ever possible, existing trails will be used as access routes if necessary
- Care will be taken to protect the natural landscape surrounding work activity sites;
- Construction activities will be conducted to prevent any unnecessary damage outside the required rights-of-way and other disturbed/developed areas; and

- Access will be managed through development of an Access Management Plan.

Table 6-18 Potential Effects to Traditional Land Use from Construction of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Reduced wildlife harvest success rate due to construction based disturbance	Construction	• Care will be taken to protect the natural landscape surrounding work activity sites; • Construction activities will be conducted to prevent any unnecessary damage outside the required rights-of-way and other disturbed/developed areas; and	Minor reduction in harvester success rate	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Shift of harvest locations for existing users	Construction	• Construction activities will be conducted to prevent any unnecessary damage outside the required rights-of-way and other disturbed/developed areas; and	Minor reduction in overall harvester success.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Increased access to plant/berry harvest areas for existing users	Construction	n/a	Minor increase in plant/berry harvest for existing users	Direction: positive Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous
Increased access to plant/berry gathering locations for new users	Construction	• With respect to wildlife and plant gathering, access will be managed through the development of an Access Management Plan.	Potential increase in plant /berry harvesting by new users and, therefore, affecting availability for existing users.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous
Decreased plant gathering locations for some plant species (e.g., medicinal plants).	Construction	n/a	Potential reduction in desired plant abundance and, therefore, affecting plant harvest success	Direction: negative Magnitude: negligible to small Geographic Extent: project footprint Duration: short-term Reversibility: permanent Frequency: regular/continuous

Operations and maintenance – Transmission Line and Stations

Operations and maintenance has less potential for disturbance to traditional land use in the Project Study Area. The presence of the transmission line and station, and the removal of habitat have the potential to affect wildlife movement, but wildlife generally returns to areas previously inhabited once the disturbance has ended (see Wildlife Technical Report). Removal of habitat is expected to be limited and not affect the overall abundance of bird and mammal species used for traditional resource purposes. Annual inspections could have an occasional effect on a few individual wildlife species, temporarily decreasing bird and mammal abundance in the area. Low level disturbances are not likely to be measureable. Increased access to the

area could result in increased pressure on species harvested for traditional use purposes in the Project Study Area. Because the transmission line parallels and is located near existing access, access to remote wildlife populations (e.g., moose) should not occur. Although hunting may improve locally, regional hunting of wildlife species is not expected to change. In the long-term, the potential for increased wildlife mortality due to increased hunting pressure from new access may result in a minor decrease in local wildlife populations. For important species such as moose which are in decline in GHA 26, on-going management initiatives including the Cooperative Committee for Moose Management, will ensure that a sustainable moose population is maintained.

Plant harvesting during operations and maintenance has the potential to increase due to plant growth on the ROW and improved access in the area. To mitigate increased access resulting in pressure on traditional use plants and medicines, an Access Management Plan will be developed. Spraying during operations and maintenance also has the potential to affect plant harvesting (See Section 6.2.3.5 for more details).

Adherence to measures outlined in the Operations Environmental Protection Plan will mitigate effects on traditional use resources. Examples of measures to mitigate or minimize the effects of Project-related impacts include the following:

- Care will be taken to protect the natural landscape surrounding work activities; and
- Access will be managed through development of an Access Management Plan.

Table 6-19 Potential Effects to Traditional Land Use from Operations and Maintenance of the Transmission Line and Station

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Reduced harvest success rate due to disturbance and increased hunting pressure from new access	Operations and Maintenance	• Access will be managed through development of an Access Management Plan. • In the event than an access trail is needed, it will be decommissioned prior to the operations and maintenance phase	Minor reduction in harvester success rate due to disturbance and increase hunting pressure on the resource as a result of access	Direction: negative Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous
Increased access to plant/berry harvest areas for existing users	Operations and Maintenance	n/a	Minor increase in plant/berry harvest for existing users	Direction: positive Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous

Table 6-19 Potential Effects to Traditional Land Use from Operations and Maintenance of the Transmission Line and Station

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Increased access to plant/berry gathering locations for new users	Operations and Maintenance	• Access will be managed through development of an Access Management Plan. • In the event than an access trail is needed, it will be decommissioned prior to the operations and maintenance phase	Potential increase in plant /berry harvesting by new users and, therefore, affecting availability for existing users.	Direction: negative Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous

6.2.5.2 Commercial Trapping

Construction Phase - Transmission Line

As noted in Section 4.5, the Project Study Area is located in the Eastern Registered Trapline District (Manitoba); trapping in the area is organized by the Hole River and Lac Du Bonnet RTLs). There are three community lines within the Lac Du Bonnet Trapline Section – Manigotagan (RTL 70-28), Black River (RTL 70-27), and Sagkeeng First Nation (RTL 70-26). The Hollow Water (RTL 80-16) Trapline Section has one registered trapline holder. The transmission line component of the Project traverses 22.4 km of RTL 70-26, 20.7 km of RTL 70-27, 27.5 km of RTL 70-28, and 0.3 km of RTL 80-16.

Based on trapping records from 2001 to 2011, marten was the predominant furbearer trapped in the area. Marten are considered a popular target species for local trappers because they are typically available for harvest, relatively easy to handle and prepare and the market demands a good price for pelts. For example, a price for a marten pelt could be in the range of $100 to $120 in the market based on recent fur auction sales (North American Fur Auctions – 2012 Spring Auction).

During construction of the transmission line, activities may temporarily displace wildlife from areas in proximity to the ROW due to sensory disturbances (see Wildlife Technical Report). A pilot project undertaken by Manitoba Hydro in 2012 for the Wuskwatim Transmission Line Project supported the assertion in which furbearers avoided areas with consistent amounts of noise and disturbance during construction; however, furbearers returned to the area once the disturbance ceased. It is possible that trappers could see a decrease in furbearer capture rates during construction in the area. Manitoba Hydro has a Trapper's Notification/Compensation Policy in place since the 1980s, for registered trapline holders to address these matters. Mitigative measures which are part of the notification policy are outlined below. In terms of compensation, the program is intended to provide compensation to holders of registered traplines whose lines are affected by the construction of transmission facilities 115 kV or greater

based on a 10 km disturbance zone. Prior to construction, a compensation amount will be determined with eligible holders of registered traplines for disturbance during the period of construction. Compensation would also be paid for any damage to equipment, buildings and trapping trails during construction activities.

Examples of measures to minimize the effects of project-related impacts will include the following:

- Prior to construction activities, registered trapline holders will be notified as to the schedule for construction activities;
- Trapline holders will be requested to remove trapping equipment as required;
- Access will be managed through development of an Access Management Plan; and
- Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues.

Table 6-20 Potential Effects to Commercial Trapping from Construction of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Reduced harvest success rate due to construction based disturbance	Construction	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues. • Implementation of Trappers compensation policy	Minor reduction in harvester success rate due to disturbance	Direction: negative Magnitude: small Geographic extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic

Operations and Maintenance Phase - Transmission Line

After construction, some trappers may benefit from improved access to their trapping areas. Conversely, there may also be concerns regarding managing access to these areas. The cleared ROW will largely be accessible during the winter months (i.e., frozen period) due to the nature of the terrain in some areas (rock outcrops, difficult water crossings, extensive fens). However, because of proximity to PR #304, increased access in the summer may also occur (Ron Rawluk pers. comm. 2012). Increased access is not anticipated to provide much benefit to trappers, who already have access to local traplines from the Provincial Road. However, trap placement on the Project ROW may increase depending on targeted species. The main species trapped in the Project Study Area is Marten, which is a forest dwelling species. Although the right-of-way may result in increased trap placement on the ROW, marten are often trapped near forest edges, and in these cases, the right-of-way and access may prove to be beneficial. An access management plan will be prepared and implemented for the operations phase of the

project to address issues of increased access potential. Anticipated effects are expected to be minimal.

The presence of the transmission line and the removal of habitat have the potential to affect furbearer movements, but these species generally return to areas previously inhabited once the disturbance has ended (see Wildlife Technical Report). Removal of habitat is expected to be limited and not affect the overall abundance of commercial furbearing species. Annual inspections could have an occasional effect on a few individual wildlife species, temporarily decreasing furbearer abundance in the area. Low level disturbances are not likely to be measureable.

Examples of measures to minimize the effects of Project-related impacts will include the following:

- Access will be managed through development of an Access Management Plan; and
- Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues.

Table 6-21 Potential Effects to Commercial Trapping from Operations and Maintenance of the Transmission Line

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Reduced trapping success rate due to disturbance	Operations and Maintenance	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues.	Minor reduction in trapping success rate due to disturbance	Direction: negative Magnitude: negligible to small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic

Construction Phase - Stations

Construction activities could temporarily affect trapping in the area of the proposed Manigotagan Corner Station. There is one registered trapline holder in the Hollow Water (Hole River) trapline area that is directly affected. Sensory disturbance associated with construction could result in avoidance of the area by furbearers. The total area affected is approximately 0.3 km. Under Manitoba Hydro's Trapper's Notification/Compensation Policy, compensation will be paid to the registered trapline holder for the period of construction. Compensation would also be paid for any damage to equipment, buildings, and trapping trails during construction activities. No effects to traplines are anticipated from the Pine Falls Generating Station Switchyard upgrades.

Examples of measures to mitigate or minimize the effects of Project-related impacts include the following:

- Ongoing discussions with directly affected registered trapline holders will continue to establish mutually acceptable measures to deal with any issues;
- Prior to construction activities, registered trapline holders will be notified as to the schedule for clearing and construction activities; and
- Trapline holders will be notified to remove trapping equipment as required.

Table 6-22 Potential Effects to Commercial Trapping from of the Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Potential for decreased harvest due to construction – based disturbance	Construction	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues. • Implement trappers compensation policy	Minor decrease in trapping harvests	Direction: negative Magnitude: negligible to small Geographic extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic

Operations and Maintenance Phase - Stations

Sensory disturbances associated with the long-term operation of the Manigotagan Corner Station could result in the avoidance of the local area by furbearers (see Wildlife Technical Report). It is possible that the local trapper may have to move the trapline to an alternate site to improve trapping success elsewhere in the RTL. During operations, Manitoba Hydro will continue to have discussions with registered trapline holders to address any remaining Project-related concerns. Anticipated effects are expected to be minimal.

Examples of measures to mitigate or minimize the effects of Project-related impacts will include:

- Ongoing discussions with directly affected registered trapline holders will continue to establish mutually acceptable measures to deal with any issues.
- Access will be managed through development of an Access Management Plan

Table 6-23 Potential Effects to Commercial Trapping from Operations and Maintenance of the Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Reduced trapping success rate due to disturbance	Operations and Maintenance	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues.	Minor reduction in trapping success rate due to disturbance in the vicinity of the station	Direction: negative Magnitude: negligible to small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic

6.2.5.3 Commercial Fishing

No effect to commercial fishing in the Project Study Area is anticipated due to the distance of the Project from Lake Winnipeg.

6.2.5.4 Existing Mining and Mineral Resources

Construction Phase - Transmission Line and Station

Manitoba Hydro met with the Manitoba Mining Association about the proposed project and the Mines Branch reviewed the Final Preferred Route. An initial review of the transmission line by the Mines Branch did not identify any concerns. Overall, the location of the transmission line has a limited impact on existing mineral interests in the area. No active claims, mines, or mine leases are traversed by the proposed transmission line or station. There are only three casual quarry permit areas that crossed, as well as two others in close proximity that could be potentially affected. Potential concerns relate to the ability to develop sites and interference with operations of an aggregate deposit.

In instances where a potential adverse effect exists with quarry or aggregate operations, possible mitigation measures will include placement of towers to lessen/avoid interference with operations at those locations.

Table 6-24 Potential Effects to Existing Mining and Mineral Resources from Construction of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Nuisance effects on nearby casual quarry permit holders	Construction	• Towers will be placed to lessen/avoid interference • Permit holders will be informed when construction is in proximity to a quarry permit holders	Nuisance effects to casual permit holders	Direction: negative Magnitude: negligible to small Geographic extent: project footprint Duration: short-term Reversibility: reversible Frequency: sporadic/periodic

Operations and Maintenance - Transmission Line and Stations

No adverse effects are expected from operations of the line on any existing mines, properties, quarry operations, or future exploration activities due to the type of minerals present in the area. Quarry operators in proximity to the line will be provided information regarding operations and maintenance schedules to minimize potential interference with operations.

6.2.5.5 Forestry

See the Forestry Technical Report (Maskwa 2012) for information on forestry in the Project Study Area.

6.2.5.6 Wild Rice Harvesting

No effect to commercial wild rice harvesting in the Project Study Area is anticipated due to the project not crossing any wild rice licence areas. There are six wild rice harvesting locations within approximately 3 km of the transmission line. The nearest location is approximately 0.8 km east of the line.

6.2.6 Recreation and Tourism

6.2.6.1 Recreation

Construction – Transmission Line and Stations

The route selection process sought to avoid/minimize effects on recreation through routing, to the extent possible. The majority of the effects during construction will be nuisance effects. With respect to recreation, there are three outfitters (i.e., Hasting Brothers Outfitting, Sandy River Outfitters, Black River Outfitters) that have allocation areas affected by the proposed transmission line; however, their main lodges are not near the proposed route. Black River Outfitters is not known to actively outfit in the Project Study Area. Hastings Brothers and Sandy River Outfitters both specialize in bear hunts and Sandy River Outfitters also offers deer hunting packages in GHA 26. The outfitters have been apprised of the project as well as asked to identify any issues or concerns they have regarding the project. Both outfitters identified bear stands and bait sites in the area where the proposed route would be located. Effects on harvesting could result through sensory disturbance during construction (i.e., noise resulting in mammals avoiding the area) (See Wildlife Technical Report for further information) and nuisance effects through the need to relocate stands. Effects on harvesting success rates are expected to be minimal, due to the fact that construction of the line will primarily take place during the winter months when big game hunting is limited by closed hunting seasons. This includes bear hunting, which is the primary business of the outfitters in the project area. Manitoba Hydro will work with both outfitters to coordinate schedules regarding construction to minimize potential effects.

There is one established cottage area (i.e., Manigotagan) that is in the vicinity of the transmission line but it is over 1 km away from the line. It is anticipated that there will not be any effect on cottage subdivisions. Furthermore, a review of Crown Land encumbrances near the project did not identify any vacation/cottage property in the area.

The Final Preferred Route crosses the Manigotagan River, but avoids the Manigotagan River Provincial Park and Observation Point WMA. Due to the distance of the Manigotagan Corner Station from the river, and the fact that construction of the transmission line will take place during the winter months when the Manigotagan River is not frequented by visitors, it is expected that there will be no effect during the construction phase of the project.

There are a total of three campgrounds and one picnic site in the vicinity of the proposed route. One campground is located southeast of the community of Manigotagan and is managed by the Manigotagan Community Council. It is located approximately 1 kilometer away from the transmission line. Another campground is located northeast of the proposed Manigotagan Corner Station (i.e., English River). It is located approximately 2 km from the proposed station site. There is also a picnic site near the Black River. It is located approximately 680 m from the proposed route. There is also an RV park located at the southern end of the route near the Pine Falls Generating Station Switchyard. Manitoba Hydro has met with the proprietor of the RV park and his concerns have been addressed through routing. Due to the distance of the sites from the transmission line and station site, there is limited potential for effects, other than temporary nuisance effects during construction (see Section 6.2.3, Personal Well-being).

Residents of Manitoba actively hunt a variety of wildlife species in the Project Study Area for recreation purposes (e.g., big game species - deer, bear, wolf; upland and migratory game birds – grouse, geese duck). The route traverses GHA 26. Game Hunting Area 26 is currently closed to licensed moose hunting and to rights-based moose hunting in designated areas. Effects on harvesting big games species and birds could result through sensory disturbance during construction which could temporarily displace wildlife from areas in proximity to the ROW (e.g., noise from construction could result in mammals and birds avoiding the area). Effects are expected to be minimal, especially due to the fact that construction of the line will primarily take place during the winter months when big game hunting in GHA 26 is closed (except for hunting wolves), upland game bird hunting is closed, and migratory birds are outside of the study area in wintering areas. Only the Manigotagan Corner Station and Pine Falls Generating Station Switchyard upgrades will be taking place over the summer months. The site specific nature of the facilities suggests they would only have a minor effect on resident hunting. Direct project impacts on mammals and bird species and their habitat can be found in the Wildlife Technical Report.

No effects on recreational angling are anticipated during the construction of the project. The most direct access to the main rivers for angling is via PR #304, and it is unlikely that the project will create any new access points that are more desirable to anglers. The transmission line will not cross any known fish spawning sites (which could potentially draw anglers to the transmission line crossing locations). Effects on fish and fish habitat can be found in the Aquatics Technical Report.

The proposed transmission line is not located near any hiking or snowmobile trails; however the Manigotagan Corner Station overlaps a dog sled track. Manitoba Hydro will work with communities to identify the portion of the track that is affected and will help relocate the route (see the Cultural Resources Technical Report for more details).

To mitigate effects to recreation and tourism, applicable legislation, regulations and guidelines will be adhered to, and Project-specific mitigation measures will be outlined in the construction

Environmental Protection Plan. Examples of measures to mitigate or minimize the effects of Project-related impacts include the following:

- Affected outfitters and recreational resource users, including Crown land encumbrance holders, will be notified in advance as to the schedule for clearing and construction;
- Care will be taken to protect the natural landscape surrounding work activity sites; construction activities will be conducted to prevent any unnecessary damage outside the required rights-of-way and other disturbed/developed areas; and
- Access will be managed through development of an Access Management Plan.

Table 6-25 Potential Effects to Recreation and Tourism from Construction Maintenance of the Transmission Line and Stations

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Nuisance effects to tourism activities due to construction	Construction	• Initial routing of the line and selection of the station site avoided recreational facilities • Affected parties to be notified in advance	Minor nuisance effects on tourism activities during construction	Direction: negative Magnitude: negligible to small Geographic Extent: local Duration: short-term Reversibility: permanent Frequency: continuous
Nuisance effects to outfitters and recreational hunters from the need to relocate baits and stands	Construction	• With respect to wildlife, access will be managed through the development of an Access Management Plan	Minor increase in inconvenience from needing to relocate baits and stands	Direction: negative Magnitude: Small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: continuous
Reduced harvest success rate for outfitters and resident hunters due to construction based disturbance	Construction	• Communication with affected outfitters regarding construction schedule and associated activities	Minor reduction in harvester success rate by outfitter's clients and resident hunters	Direction: negative Magnitude: Small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: continuous

Operations and maintenance – Transmission Line and Stations

Operations have less potential for disturbance to recreation and tourism than construction activities. The physical presence of the line and stations will be a net addition to the landscape, and any adverse effect will be incremental in nature particularly in areas where other infrastructure facilities are present.

With respect to affected lodges/outfitters in the area, once a disturbance has ceased (e.g., sensory disturbance during construction) wildlife are known to return to areas once inhabited. There could be disruption to animal movements associated with the existence of transmission line corridor, but such effects are not expected with mammals targeted by outfitters (see Wildlife Technical Report for effects of the project on wildlife). Annual inspections of the transmission line could have a minor effect on wildlife but such events would be brief and infrequent.

Increased access to the area could potentially lead to increased pressure on the desired mammal species through hunting and, thereby, affect outfitters/lodge operators harvest success.

Regarding the Manigotagan River Crossing, an adjustment was made to move the route further east of the PR #304 bridge to limit effects on the view shed due to the bridge being a common location for visitors to take photographs. The presence of the line could have a minor impairment on aesthetics for those who frequent the waterway (Aesthetics is addressed under Personal Well-being).

Effects on resident hunting will be similar to what is identified for lodges and outfitters above. Once a disturbance has ceased (e.g., sensory disturbance during construction) mammal and bird species are typically known to return to areas previously inhabited for the most part, but there could be disruption regarding wildlife movements associated with the transmission line corridor (e.g., migratory birds and small mammal species)(see Wildlife Technical Report for direct impacts of the project on wildlife). Annual inspections of the transmission line could disturb wildlife but such events will be brief and infrequent. Increased access to the area caused by the ROW could potentially lead to increased pressure on desired mammal and bird species and, therefore, reduce harvest success rates by resident hunters. Effects are expected to be negligible.

With respect to recreational angling, while lakes are common in the Lake Winnipeg East region, they are not common within the Project Study Area where recreational fishing often occurs. Pine Falls Generating Station Switchyard is a common location for recreational anglers but the project will not affect this. Furthermore, the majority of the river crossings where the transmission line will be located are not locations recreational anglers are known to frequent (i.e., river mouths). Due to the location of the transmission line, increased pressure from increased access is anticipated to have any effect on recreational fishing. Further information on fish and fish habitat can be found in the Aquatics Technical Report.

Mitigation measures

Adherence to measures outlined in the Operations Environmental Protection Plan will tend to protect the same environmental qualities that are valued for outdoor recreation purposes. Examples of measures to mitigate or minimize the effects of Project-related impacts include the following:

- Care will be taken to protect the natural landscape surrounding work activities; and
- Access will be managed through the development of an Access Management Plan.

Table 6-26 Potential Effects to Recreation and Tourism from Operations and Maintenance of the Transmission Line and Station

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Nuisance effects to tourism and recreation due to the physical presence of the line and increased access	Operations and Maintenance	• Access will be managed through the development of an Access Management Plan	Minor nuisance effects on recreation and tourism.	Direction: negative Magnitude: negligible to small Geographic Extent: local Duration: medium-term Reversibility: permanent Frequency: continuous
Increased mortality from new access due to increased hunting pressure	Operations and Maintenance	• With respect to wildlife, access will be managed through the development of an Access Management Plan	Minor decrease in local mammal and bird population	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: permanent Frequency: continuous
Reduced harvest success rate for outfitter's clients and resident hunters due to increased hunting pressure from new access	Operations and Maintenance	• With respect to wildlife, access will be managed through the development of an Access Management Plan	Minor reduction in harvester success rate by outfitter's clients and by resident hunters	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: permanent Frequency: continuous

6.3 Proposed Mitigation Measures and Residual Effects

Table 6-27 summarizes the tables presented in Section 6.2. Each potential effect is described, along with the project phase and examples of key mitigation measures applied to the potential effect. The residual effect is the anticipated effect following mitigation, and is assessed using significance criteria (i.e. direction, magnitude, geographic extent, duration, reversibility, and frequency).

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
6.2.1.1 Population - Transmission Line and Stations				
Increase in population	Construction	• The majority of construction for the transmission line will occur during the winter months, outside of the regular increase in population seen in summer months in the Study Area	Minor increase in study area population	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
6.2.1.2 Transportation Infrastructure - Transmission Line and Stations				
Increased traffic volumes on roadways	Construction	• Manitoba Hydro will work with appropriate government agencies and governing authorities • Manitoba Hydro will notify appropriate agencies and infrastructure operators of activities • All transportation will be subject to load restrictions and transport of dangerous goods regulations	Minor increase in traffic volumes	Direction: Negative Magnitude: Moderate Geographic Extent: Local Duration: short-term Reversibility: reversible Frequency: regular/continuous
Disruption to traffic flows caused by lane closures	Construction	• Manitoba Hydro will work with appropriate government agencies and governing authorities • Manitoba Hydro will notify appropriate agencies and infrastructure operators of activities • Appropriate traffic warning signs and other safety measures will be put in place as necessary	Minor disruption to traffic flows caused by lane closures	Direction: negative Magnitude: Moderate Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Effects on Project Study Area road and highway conditions.	Construction	• All transportation will be subject to load restrictions and transport of dangerous goods regulations	Minor adverse effect on road conditions	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
6.2.1.3 Existing Infrastructure and Facilities - Transmission Line and Stations				
Potential for Interference with navigation	Construction	• Implementation of appropriate standards (e.g., CSA) • Consultation with appropriate agencies responsible for infrastructure crossed by the Project • Confirm any necessary permits, approvals, and design measures	Minor effect on navigation	Direction – negative Magnitude – small Geographic Extent - local Duration – short-term Reversibility – reversible Frequency – regular/continuous
6.2.1.5 Temporary Accommodation - Transmission Line and Stations				
Increased pressure on temporary accommodations during construction and, therefore, reducing availability	Construction	• Work camps or temporary accommodation outside the Project Study Area will be used as necessary • Local hiring will reduce the workforce requiring temporary accommodation	Minor decrease in availability of temporary accommodations	Direction: negative Magnitude: moderate Geographic extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
6.2.1.6 Health and Emergency Services - Transmission Line and Stations				
Increased pressure on health (i.e., hospital and medical clinic) services in Powerview-Pine falls	Construction	• Winter construction for the transmission line will reduce pressure on health and emergency services during the busy summer months. • Provide emergency services with a schedule of Project activities.	Minor increase in pressure on health services	Direction: negative Magnitude: small Geographic Extent: Local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Increased pressure on emergency (i.e., fire, RCMP, EMS) services in Powerview-Pine falls	Construction	• Winter construction for the transmission line will reduce pressure on health and emergency services during the busy summer months • Provide emergency services with a schedule of Project activities.	Minor increase in pressure on emergency services	Direction: negative Magnitude: small Geographic Extent: Local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
6.2.2.1 Employment and Business Opportunities - Transmission Line				
Potential employment opportunities	Construction	n/a	Increase in employment opportunities in the Project Study Area	Direction: positive Magnitude: moderate Geographic Extent: regional Duration: short-term Reversibility – n/a Frequency: infrequent
Job skills through employment may be applied to other employment opportunities	Construction	n/a	Transferability of skills to other employment opportunities	Direction: positive Magnitude: small Geographic Extent: regional Duration: long-term Reversibility – permanent Frequency: sporadic/periodic
Contractors and local businesses (i.e., restaurants, temporary accommodation, entertainment) could financially benefit	Construction	n/a	Minor increase in direct and indirect business (e.g., increased cash flow from rooms and meals) opportunities in the Project Study Area	Direction: positive Magnitude: small Geographic Extent: regional Duration: short-term Reversibility – n/a Frequency: regular/continuous
Limited direct and indirect business opportunities	Operations and Maintenance	n/a	Minor increase in direct and indirect business opportunities	Direction: positive Magnitude: negligible to small Geographic Extent: local Duration: medium-term Reversibility – n/a Frequency: infrequent
6.2.2.1 Employment and Business Opportunities – Stations				
Potential employment opportunities	Construction	n/a	Minor increased employment opportunities in the Project Study Area	Direction: positive Magnitude: negligible to small Geographic Extent: local Duration: short-term Reversibility – n/a Frequency: infrequent

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Job skills through employment may be applied to other employment opportunities;	Construction	n/a	Transferability of skills to other employment opportunity	Direction: positive Magnitude: negligible to small Geographic Extent: regional Duration: long-term Reversibility – permanent Frequency: sporadic/periodic
Contractors and local businesses (i.e., restaurants, temporary accommodation, entertainment) could financially benefit	Construction	n/a	Minor increase in direct and indirect business (e.g., increased cash flow from rooms and meals) opportunities in the Project Study Area	Direction: positive Magnitude: negligible to small Geographic Extent: regional Duration: short-term Reversibility – n/a Frequency: regular/continuous
6.2.3.1 Aesthetics – Transmission Line and Stations				
Impaired aesthetic values in local study area due to presence of the transmission line and station	Operations and Maintenance	• Minimize extent of clearing adjacent to private property where feasible owners (i.e., buffers) • Engage directly affected private landowners in tower spotting for structures placed on private property	Minor impairment of aesthetic values	Direction: negative Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous
6.2.3.3 Electric and Magnetic Fields – Transmission Line and Stations				
Decreased individual well-being due to perceived health risk of EMF from station and line	Operations and Maintenance	• public education on health and EMF	Perceived risk to health from EMF	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous
6.2.3.4 Noise, Dust, and Vibration - Transmission Line				
A change in personal well-being due to nuisance effects (i.e., increased noise, dust, and vibration)	Construction	• Provide 48 hours advanced notice • Comply with legislations and guidelines, • Restrict use of implosives to working hours and regular schedule • Ensure persons using explosives are licensed	Decrease in personal well-being due to nuisance based effects.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic.
A change in personal well-being due to nuisance effects (i.e., increased noise) during operations	Operations and Maintenance	n/a	Decrease in personal well-being due to nuisance based effects.	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic.
6.2.3.4 Noise, Dust, and Vibration - Stations				
A change in personal well-being due to nuisance effects (i.e., increased noise, dust and vibration) during construction	Construction	Limit noise and vibration causing activities to daytime working hours in developed areas and comply with all applicable by-laws. Only water and approved dust suppression products will be used to control dust	Minor decrease in personal well-being due to nuisance based effects.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: infrequent.

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
6.2.3.5 Spraying – Transmission Line				
A change in personal well-being due to perceived health effects as a result of spraying herbicides	Operations and Maintenance	• All applicable permits and regulations will be followed • Plants of value to local communities will be identified and spraying restricted • On private land, landowners or appropriate authorities will be contacted for permission • On Crown land adjacent to Aboriginal communities, communities will be notified prior to any vegetation management work	Minor decrease in personal well-being due to perceived health effects of spraying	Direction: negative Magnitude: small to moderate Geographic Extent: local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic
6.2.3.6 Electrical Interference – Transmission Line and Stations				
Electrical interference effects on communication equipment	Operations and maintenance	n/a	Minor increased risk of electrical interference effects on communication equipment.	Direction: negative Magnitude: small Geographic Extent: Local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic
6..2.4.1 Land Ownership and Tenure – Transmission Line				
Physical presence of the transmission line resulting in limitation of future land use	Operations and Maintenance	• Land owner compensation for damages incurred during operations and maintenance	• Minor effect on future development potential	Direction: negative Magnitude: small Geographic Extent: Project Footprint Duration: medium-term Reversibility: reversible Frequency: regular/continuous
Perceived effect of presence of transmission lines affecting property values	Operations and Maintenance		• Perceived effect of impairment to property values due to presence of transmission lines.	Direction: negative Magnitude: small Geographic Extent: Local Duration: medium-term Reversibility: reversible Frequency: regular/continuous
6..2.4.1 Land Ownership and Tenure – Stations				
Physical presence of the facilities resulting in limitation of future land use	Operations and Maintenance		Minor effect on future development potential	Direction: negative Magnitude: negligible to small Geographic Extent – local Duration – medium-term Reversibility – reversible Frequency – regular/continuous

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
6.2.5.1 Traditional Land Use – Transmission Line and Stations				
Reduced wildlife harvest success rate due to construction based disturbance	Construction	• Care will be taken to protect the natural landscape surrounding work activity sites; • Construction activities will be conducted to prevent any unnecessary damage outside the required rights-of-way and other disturbed/developed areas; and	Minor reduction in harvester success rate	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Shift of harvest locations for existing users	Construction	• Construction activities will be conducted to prevent any unnecessary damage outside the required rights-of-way and other disturbed/developed areas; and	Minor reduction in overall harvester success.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Increased access to plant/berry harvest areas for existing users	Construction	n/a	Minor increase in plant/berry harvest for existing users	Direction: positive Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous
Increased access to plant/berry gathering locations for new users	Construction	• With respect to wildlife and plant gathering, access will be managed through the development of an Access Management Plan.	Potential increase in plant /berry harvesting by new users and, therefore, affecting availability for existing users.	Direction: negative Magnitude: small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: regular/continuous
Decreased plant gathering locations for some plant species (e.g., medicinal plants).	Construction	• n/a	Potential reduction in desired plant abundance and, therefore, affecting plant harvest success	Direction: negative Magnitude: negligible to small Geographic Extent: project footprint Duration: short-term Reversibility: permanent Frequency: regular/continuous
Reduced harvest success rate due to disturbance and increased hunting pressure from new access	Operations and Maintenance	• Access will be managed through development of an Access Management Plan. • In the event than an access trail is needed, it will be decommissioned prior to the operations and maintenance phase	Minor reduction in harvester success rate due to disturbance and increase hunting pressure on the resource as a result of access	Direction: negative Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous
Increased access to plant/berry harvest areas for existing users	Operations and Maintenance	n/a	Minor increase in plant/berry harvest for existing users	Direction: positive Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
Increased access to plant/berry gathering locations for new users	Operations and Maintenance	• Access will be managed through development of an Access Management Plan. • In the event than an access trail is needed, it will be decommissioned prior to the operations and maintenance phase	Potential increase in plant /berry harvesting by new users and, therefore, affecting availability for existing users.	Direction: negative Magnitude: small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: regular/continuous
6.2.5.2 Commercial Trapping – Transmission Line				
Reduced harvest success rate due to construction based disturbance	Construction	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues. • Implementation of Trappers compensation policy	Minor reduction in harvester success rate due to disturbance	Direction: negative Magnitude: small Geographic extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Reduced trapping success rate due to disturbance	Operations and Maintenance	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues.	Minor reduction in trapping success rate due to disturbance	Direction: negative Magnitude: negligible to small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic
6.2.5.2 Commercial Trapping – Stations				
Potential for decreased harvest due to construction –based disturbance	Construction	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues. • Implement trappers compensation policy	Minor decrease in trapping harvests	Direction: negative Magnitude: negligible to small Geographic extent: local Duration: short-term Reversibility: reversible Frequency: sporadic/periodic
Reduced trapping success rate due to disturbance	Operations and Maintenance	• Ongoing discussions with directly affected registered trapline holders to establish mutually acceptable measures to deal with any issues.	Minor reduction in trapping success rate due to disturbance in the vicinity of the station	Direction: negative Magnitude: negligible to small Geographic extent: local Duration: medium-term Reversibility: reversible Frequency: sporadic/periodic
6.2.5.4 Existing Mining and Mineral Resources – Transmission Line and Stations				
Nuisance effects on nearby casual quarry permit holders	Construction	• Towers will be placed to lessen/avoid interference • Permit holders will be informed when construction is in proximity to a quarry permit holders	Nuisance effects to casual permit holders	Direction: negative Magnitude: negligible to small Geographic extent: project footprint Duration: short-term Reversibility: reversible Frequency: sporadic/periodic

Table 6-27 Socio-economic Residual Effects and Significance Criteria

Potential Effect	Project Phase	Key Mitigation Measures	Residual Effect	Significance Criteria
6.2.6.1 Recreation – Transmission Line and Stations				
Nuisance effects to tourism activities due to construction	Construction	• Initial routing of the line and selection of the station site avoided recreational facilities • Affected parties to be notified in advance	Minor nuisance effects on tourism activities during construction	Direction: negative Magnitude: negligible to small Geographic Extent: local Duration: short-term Reversibility: permanent Frequency: continuous
Nuisance effects to outfitters and recreational hunters from the need to relocate baits and stands	Construction	• With respect to wildlife, access will be managed through the development of an Access Management Plan	Minor increase in inconvenience from needing to relocate baits and stands	Direction: negative Magnitude: Small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: continuous
Reduced harvest success rate for outfitters and resident hunters due to construction based disturbance	Construction	• Communication with affected outfitters regarding construction schedule and associated activities	Minor reduction in harvester success rate by outfitter's clients and resident hunters	Direction: negative Magnitude: Small Geographic Extent: local Duration: short-term Reversibility: reversible Frequency: continuous
Nuisance effects to tourism and recreation due to the physical presence of the line and increased access	Operations and Maintenance	• Access will be managed through the development of an Access Management Plan	Minor nuisance effects on recreation and tourism.	Direction: negative Magnitude: negligible to small Geographic Extent: local Duration: medium-term Reversibility: permanent Frequency: continuous
Increased mortality from new access due to increased hunting pressure	Operations and Maintenance	• With respect to wildlife, access will be managed through the development of an Access Management Plan	Minor decrease in local mammal and bird population	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: permanent Frequency: continuous
Reduced harvest success rate for outfitter's clients and resident hunters due to increased hunting pressure from new access	Operations and Maintenance	• With respect to wildlife, access will be managed through the development of an Access Management Plan	Minor reduction in harvester success rate by outfitter's clients and by resident hunters	Direction: negative Magnitude: small Geographic Extent: local Duration: medium-term Reversibility: permanent Frequency: continuous

6.4 Interactions with Other Projects

The spatial boundary for the interactions with other projects is the Project Study Area. Potential interactions were determined for adverse residual effects to VECs that have the potential to interact with the effects of other past, current, or future projects and human activities. VECs with no residual effect or a positive residual effect are not included in the assessment. Finally, the assessment only includes adverse residual effects on VECs that overlap both spatially and temporally with the effects of other projects and human activities.

Project and human activities were selected for inclusion in the assessment based on the following criteria:

- Past Projects: Projects within the Study Area, whose ongoing effects can be reasonably expected to change in the future and, as a result of those changes, interact with this Project's adverse residual effects.
- Current Projects: Projects in construction, development or operation within the Study Area.
- Future Projects: Projects approved for construction/development or in the permitting process within the Study Area.
- Prospective Projects: Projects announced in the Study Area (e.g., wind farms, transmission expansion, government vision statements) but not yet moving along a development or permitting pathway, and any projected changes in land use patterns (e.g., changes in agricultural activity).

Table 6-28 lists the projects that were considered to have a potential interaction with the Project.

The following describes only the projects in Table 6-28 that interact with Socioeconomic VECs.

Although the Project Study Area is sparsely populated, there are a variety of projects and activities that have the potential to interact with the Project, particularly in the northern Project Study Area. Mining activity in the Project Study Area is primarily in the northeast, extending north and east of Bissett, where the current San Gold Mine expansion is located. Mineral exploration includes a variety of mining claims and exploration drill holes held by companies including Golden Pocket Resources, DLW Gold Ventures Inc., Canada Bay Resources Ltd., and San Gold Corp. There have been 83 casual quarry permits, spread throughout the Project Study Area, over the past four years and an additional 30 quarry leases in the past two years. The Project crosses three of the casual quarry permits and may temporarily affect production, depending on the timing of construction. The Project is not expected to have any direct impacts on mining or forestry activities, but if work is occurring simultaneously, there may be competition for labour force and accommodation. The Project crosses three of the casual quarry permits and may temporarily affect production, depending on the timing of construction. The Project is not expected to have any direct impacts on mining or forestry activities, but if work is occurring simultaneously, there may be competition for labour force and accommodation.

There is also renewed interest in forestry in the Project Study Area. Manitoba Conservation and Water Stewardship has issued a request for proposal for timber harvesting in the area. This could create numerous jobs in the next 1-3 years depending on the outcome of the request for proposal. If timber harvesting occurs during Project construction, there is the potential for the Project and timber harvesting activities to interact indirectly, through use of local infrastructure and services, and workforce.

Hunting activity in the Project Study Area is currently not expected to interact with the Project because most licensed game hunting is closed in the winter, when the transmission line construction is expected to take place. All licenses moose hunting in GHA 26 is closed, and rights-based hunting for moose is also closed in areas of heavy moose populations and along roads. Should hunting be opened to licensed or rights-based hunters during Project construction, there may be temporary interactions between the Project and local hunting activities.

Other projects in the Project Study Area include the construction of a 156 km road by the East Side Road Authority, leading north out of the Project Study Area. The project began in 2010 and is expected to conclude in 2014. The East Side Road Authority project is already using many of the services in the northern Project Study Area, including the limited accommodation. Community members and the San Gold Mine have also expressed interest in a fibre optic cable.

Finally, the three First Nations in the Project Study Area are currently investigating and planning for future cottage developments. Hollow Water and Sagkeeng First Nation are each looking into projects in conjunction with Manitoba Conservation and Water Stewardship. Black River First Nation has begun Phase I of a cottage development initiative with Manitoba Conservation and Water Stewardship. Phase I will include 50 cottages and is expected to last five years.

Table 6-28 Existing, Planned, and Potential Projects in the Project Study Area

Sector	Project	Description	Location	Status	Timelines
Mining	San Gold Mine Expansion	Planned expansion of San Gold's Gold Mine and tailings pond in Bissett, northeast of Project Study Area; Production is expected to double;	Northeast of Project Study Area	Ongoing	Ongoing
	Mineral Exploration	The north end of the Project Study Area overlaps with many mining claims and exploration activities (e.g., drill holes); Mining claims are held by Golden Pocket Resources, DLW Gold Ventures Inc., Canada Bay Resources Ltd., and San Gold Corp.	North of Project Study Area	Ongoing/ Planned	Ongoing/ Planned
	Quarry Development	There have been 83 casual quarry permits in the past four years, several in close proximity to the Project, and 30 quarry leases in the past two years within the Project Study Area; Lease holders include private companies, as well as MIT, and the East Side Road Authority; Development and expansion of existing and new quarries is likely, particularly for projects such as the East Side Road;	Within the Project Study Area	Ongoing/ Planned	Ongoing/ Planned
Forestry	Timber Resource Harvesting	Request for Proposal to for timber resource harvesting in FML01 by Manitoba Conservation and Water Stewardship; A potential respondent to the request for proposal would be a community and forest industry joint venture being spearheaded by the Manitoba Model Forest (Winnipeg River Integrated Wood and Biomass Project); This would result in an estimated 400 – 450 direct jobs, up to 400,000 m^3 softwood/year and 200,000 m^3 hardwood/year;	Within the Project Study Area	Planned	Within 1 – 3 years
Wildlife	Closure of Licensed and Rights Based Moose Hunting	As of January 26, 2012, all licensed hunting in GHA 26 is closed; In addition, moose protection zones in areas of heavy moose concentration areas along roads and rivers are closed to hunting for rights-based peoples; Proposed decommissioning of roads by Manitoba Conservation and Water Stewardship;	GHA 26 within the Project Study Area	Ongoing/ Planned	2012 - unknown

Table 6-28 Existing, Planned, and Potential Projects in the Project Study Area (continued)

Sector	Project	Description	Location	Status	Timelines
Transportation & Communication Infrastructure	East Side Road Authority	Construction of a 156 km all season gravel road along the east side of Lake Winnipeg from PR #304 east of Hollow Water to Berens River First Nation;	North of Project Study Area	Ongoing	2010 - 2014
	Fibre Optic Cable	The San Gold Mine in Bissett, and several community members have expressed an interest in fibre optic cable service in the area;	Within and northeast of Project Study Area	Potential	unknown
Cottage Development	Black River First Nation Cottage Development Initiative	Expansion of cottage development within the Black River FN territory in conjunction with Manitoba Conservation and Water Stewardship ; Phase I of the project is underway with road development underway for servicing of 50 cottage lots; Future phases are planned for an additional 550 additional cottage lots;	Black River First Nation Reserve at the west of the Project Study Area	Ongoing/ Planned	Phase I: underway (year 1 of 5) Phase II:– 5 – 10 years
	Hollow Water First Nation Cottage Development Plans	Considering cottage development projects with Manitoba Conservation and Water Stewardship;	Hollow Water First Nation Reserve at the north end of the Project Study Area	Potential	Unknown
	Sagkeeng First Nation Cottage Development Plans	Considering cottage development projects with Manitoba Conservation and Water Stewardship;	Sagkeeng First Nation Reserve at the southwest end of the Project Study Area	Potential	Unknown

6.5 Monitoring and Follow-Up

Monitoring key components of the socio-economic environment will be undertaken during the Construction of the proposed Project. Socioeconomic monitoring plans will be developed and submitted to the regulator in advance of all project phases. All results from the socio-economic monitoring program will be reported to regulatory authorities annually. Two streams of socio-economic monitoring will be undertaken for the project – economic monitoring and social monitoring.

The purposes of the socio-economic monitoring program for the Project will be to:

- Confirm effects predictions documented in the Environmental Assessment Report;
- Monitor the effectiveness of mitigation measures;
- Identify unanticipated effects;
- Identify other actions necessary to mitigate adverse effects or enhance positive effects; and
- Provide socio-economic information for other uses.

7 CONCLUSIONS

The Final Preferred Route will travel across mostly Crown land in a forested landscape. There are scattered communities in the Project Study Area, including two in proximity (within approximately 1M) to the Project. At the south end, the transmission line will begin at the Powerview-Pine Falls Generating Station Switchyard and travel north across several parcels of private land before entering Crown land. As it continues north, it will cross PR #304 and the existing 66 kV transmission line several times before passing through the southeast corner of the Northern Affairs Community of Manigotagan and turning east to the proposed Manigotagan Corner Station.

Potential effects on the socio-economic environment in the Project Study Area are anticipated in relation to: population, infrastructure, and services; employment and economy; and personal well-being. Effects on land use in the Project Study Area are anticipated in relation to: land ownership and tenure; resource use; and recreation and tourism.

Infrastructure and services in the Project Study Area have the potential to be affected by an increase in population caused by the Project workforce from outside the Project Study Area... The workforce will use existing infrastructure and facilities for transportation, accommodation, and other utilities. Services such as healthcare, fire, and police may be required by the workforce. However, it is expected that a portion of the hiring will be done locally, reducing the effects. Effects to infrastructure and services include negative effects that are small to moderate in magnitude and local to regional in extent (e.g., increased pressure on temporary accommodation, health services). Effects are short in duration, reversible at the end of construction, and infrequent to regular/continuous.

Employment and economy in the Project Study Area is expected to experience a small boost as a result of the Project. The Project will create some temporary jobs, provide experience to the labour force, and provide other indirect business opportunities (e.g., to restaurants). Effects to employment and economy (e.g., job opportunities and benefits to local businesses) are positive, small to moderate in magnitude, regional in extent, short to medium-term in duration, permanent (where reversibility applies), and infrequent to regular/continuous in duration.

Personal well-being is a result of a variety of social and natural environment factors. The Project has the potential to affect personal well-being by changing the aesthetic along the Project ROW, causing health concerns relating to EMF or spraying, causing nuisance effects (such as noise, dust, and vibration), and causing electrical interference. Effects to personal well-being are negative, with mostly small magnitudes at a local to regional scale. Personal well-being effects (e.g., change to visual aesthetic, perceived health effects of EMF) are both short- and long-term, reversible and permanent, and are infrequent to regular/continuous.

The Project has the potential to affect land ownership and tenure in the Project Study Area in relation to changing current land use and limiting future land use or development. This could be

in relation to communities, protected areas, or private property. To the extent feasible, the transmission line avoids communities, First Nations, and residences. Effects to land ownership and tenure (e.g., limitations to future land use) are negative, small in magnitude, local in extent or limited to the Project footprint, long-term, permanent, and regular/continuous.

The Project Study Area economy relies in part on natural resources, including traditional land use amongst the First Nation and Métis populations, commercial trapping, commercial fishing, mining, forestry, and wild rice harvesting. Effects on resource use (e.g., traditional land use and commercial trapping) are both positive (e.g., increased access to traditional use areas) and negative (e.g., nuisance effects on quarry lease holders) and are small to moderate in magnitude. Effects are local or limited to the Project footprint, short to medium-term, reversible, and sporadic/periodic.

Recreation and tourism is an important part of the Project Study Area economy. Recreation in the area includes outfitters, protected areas, campgrounds, fishing and hunting, hiking, and snowmobiling. Effects on recreation and tourism (e.g., effects on recreation facilities) are negative and small in magnitude, with a local extent, short duration, and are permanent and continuous.

8 GLOSSARY

Aboriginal: individuals who are First Nation, Inuit, or Métis.

Aboriginal Traditional Knowledge (ATK): Knowledge that is held by and unique to Aboriginal peoples. It is a living body of knowledge that is cumulative and dynamic and adapted over time to reflect changes in the social, economic, environmental, spiritual and political spheres of the Aboriginal knowledge holders. It often includes knowledge about the land and its resources, spiritual beliefs, language, mythology, culture, laws, customs and medicines. The term Traditional Ecological Knowledge (TEK) is often used interchangeably with the term ATK.

However, TEK is generally considered to be a subset of ATK that is primarily concerned with knowledge about the environment (Also see TEK).

Aerodrome: Any area of land or water designed, equipped, set apart or commonly used for affording facilities for the landing and departure of aircraft

Aesthetics: sensory (primarily visual) characteristics.

Alternative Routes: the three potential paths for the transmission line that were developed and compared to one another.

Annual Average Daily Traffic (AADT): the median number of vehicles that travel along a stretch of highway each day (Vehicles that travel through the area twice a day [i.e., to and from a location] are counted twice).

Biophysical: the biotic (i.e., any living organism including plants, animals, fungi, bacteria, etc.) and abiotic (i.e., non-living parts of the environment including water, temperature, soil, etc.) components of the environment.

Commercial Land: land that is primarily used for business and trade of products and services (e.g., agricultural land use to grow crops, urban shopping areas).

Community Interest Zones: temporary areas of protection adjacent to the main reserves intended to protect such areas from development while a First Nation is involved in selection or acquisition.

Construction Phase: Phase I of the Project, which will include clearing of the ROW and station site, construction of the transmission line, construction of the Manigotagan Corner Station, and upgrades at the Pine Falls Generating Station Switchyard.

Direct Effects: impacts or changes that are an immediate result of the Project (e.g., increased population from the temporary workforce).

Disturbance: a major change to a system (e.g., fire or human development activities).

Domestic Resource Use: traditional use of resources such as wildlife and plants for domestic purposes including income, diet, and medicine.

Environmental Assessment (EA): the process of examining the existing environment and considering what potential effects may occur as a result of the Project.

Effect: a change or alteration from baseline conditions.

Electric and Magnetic Fields (EMFs): forces generated around electricity, found around power lines, electric wiring, tools, and appliances. Field strength depends on voltage and current, and decreases rapidly with increased distance from the source.

Electrical Interference: disruption of radio, television, or cellular service in an area due to a transmission line.

Evaluation Criteria: factors used to determine the effect of the Project.

Explosives: substances that can create an explosion, a destructive increase in volume and energy.

Furbearer: an animal with a commercially valuable fur.

Game Hunting Area (GHA): Designated areas in Manitoba in which game hunting is regulated by species, quota, means.

Generating Station: a power station that generates electric power.

Impact: a change or alteration from baseline conditions.

Implosives: substances that can create an implosion, or a collapsing of matter and energy (the opposite of an explosion).

Incorporated Municipality: self-governing towns, rural municipalities, cities, townships, and villages.

Indirect Effects: impacts or changes that are a result of changes due to direct effects of the project (e.g., increased pressure on infrastructure and services from the increase in population).

Exploration activities: small-scale development and testing to determine extent of local resources and potential for future large-scale development.

Key Person Interviews (KPI): interviews with local individuals who are in a position to have knowledge and insight into local health, infrastructure, services, and other characteristics of the socio-economic environment.

Labour Force: the portion of a population that is actively working, looking for work, or unemployed.

Manigotagan Corner Station: the station that will be constructed at the north end of the transmission line, east of Manigotagan.

Measurement Parameters: characteristics used to determine the impact on VECs.

Mitigative Measures: programs, processes, and techniques used to reduce or avoid negative impacts of a Project.

Northern Affairs Community: communities under the jurisdiction of the Manitoba Department of Aboriginal and Northern Affairs.

Operations and Maintenance Phase: Phase II of the Project, including the life of the transmission line and Manigotagan Corner Station, as well as any repairs or upgrades that are required in the future.

Outfitter: an individual or company that specializes in providing equipment, supplies, and guides for outdoor activities such as hunting, fishing, and recreational activities.

Personal Well Being: quality of life and emotional well-being, based on factors such as aesthetics, noise, and other social values.

Preferred Route: the selected route for the Project, based on an assessment of the alternative routes.

Project Study Area: the area for which effects were assessed, based on the predicted spatial extent of effects.

Quarry: an open-pit mine, usually for small-scale extraction of granular materials such as stone, sand, and gravel.

Registered Trapline (RTL) Districts: Manitoba is divided into RTL Districts, which are composed of RTLs. RTL Districts are managed either by Manitoba Conservation and Water Stewardship as individually allocated lines, or as a community trapping block where local councils recommend individual allocations.

Residential Land: land used for private homes/residences.

Resource-based Industries: economic activities that are centered around a natural resource such as mining or forestry.

Resource Use: use of natural resources for commercial or domestic purposes.

Right-of-way (ROW): a defined corridor that is purchased/leased for the purpose of a road, pipeline, transmission line, or other linear development.

Rural Municipality (RM): a legally defined area in Manitoba, governed by a council. Rural municipalities include only rural populations and exclude any incorporated communities (towns, villages, and cities) within their boundaries.

Site Selection and Environmental Assessment (SSEA): Manitoba Hydro's method of completing an environmental assessment.

Socio-economics: includes social and economic components, such as culture, labour force, employment opportunities, and infrastructure.

Socio-economic Impact Assessment: a way of determining what effects a Project may have on socio-economic aspects of nearby communities.

Switchyard: An assembly of equipment in an electric power system through which electrical energy is passed for switching for alternate connections and isolation of failed or overloaded lines and equipment

Stakeholder: an individual, group, or organization with an interest in or the potential to be affected by the Project.

Treaty Land Entitlement: land claims created to settle land debt owed to First Nations under a Treaty.

Traditional Land Use: use of resources by a First Nation following customs and historical use (e.g., hunting, fishing, medicinal plants).

Transmission Line: a system of towers and conductors that transfer electricity from a source, such as a generating station, to a destination, such as a community or industrial development.

Valued Environmental Component (VEC): Aspects of the natural and socio-economic environment that are particularly notable or valued because of their ecological, scientific, resource, socio-economic, cultural, health, aesthetic, or spiritual importance

Wildlife Management Area (WMA): in Manitoba, a provincial designation to designate an area as protected to manage wildlife populations.

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Hollow Water First Nation – October 4, 2012

Black River First Nation – October 5, 2012

Manigotagan – October 5, 2012