1.0 Introduction and background

1.1 Purpose of the document

This Environmental Assessment Report (EA Report) for the proposed Birtle Transmission Project (the "Project") is in support of an application to obtain a license for a Class 2 development under *The Environment Act* (Manitoba). For Class 2 developments, proponents are required to submit an Environment Act Proposal Form (EAPF) and EA Report to Manitoba Sustainable Development's Environmental Approvals Branch. This provides the public, Indigenous communities, and government agencies with an opportunity to examine the details of the Project, its anticipated impact on biophysical and socio-economic aspects of the environment, and measures that Manitoba Hydro intends to use to mitigate potential adverse effects. The purpose of this EA Report is to identify, assess and mitigate any adverse environmental effects associated with the proposed Project and forms part of *The Environment Act* proposal.

1.2 Project scope and location

The Project involves the construction, operation and maintenance of a new 46.2 km 230kV transmission line located between Birtle South Station and the Manitoba border and modifications to the Birtle Station. Manitoba Hydro refers to this line as the Birtle Transmission Line (B71T). The final preferred route and adjacent land ownership for the proposed Project is shown on Map 1-1. It is located primarily in agricultural areas in southwest Manitoba, and passes through a community pasture prior to crossing the Manitoba border.

1.3 Project need and justification

The purpose of the Project is to facilitate the sale of 100 MW of electricity from Manitoba to Saskatchewan, based on a 20-year power purchase agreement signed in January 2016 between Manitoba Hydro and the Saskatchewan Power Corporation (SaskPower).

There are currently three tie-lines that synchronously connect Manitoba Hydro's transmission system and SaskPower's transmission system:

- A 230 kV transmission line between EB Campbell Station in Saskatchewan and Ralls Island Station in Manitoba (P52E);
- A 230 kV transmission line between Yorkton in Saskatchewan and Roblin Station in Manitoba (R25Y); and
- A 230 kV transmission line between Boundary Dam in Saskatchewan and

Reston Station in Manitoba (R7B).

Manitoba Hydro and SaskPower each carried out studies of their existing transmission systems to identify the best way to send electricity from Manitoba to Saskatchewan. It was determined that there was the potential for loading impacts and system constraints in the existing system and that the safe reliable transfer of electricity would require a new 230 kV line. It was also determined that the preferred terminals for a new Manitoba-Saskatchewan tie-line were at the Birtle South station in Manitoba and at the Tantallon station in Saskatchewan.

1.4 Environmental regulatory framework

1.4.1 Manitoba Hydro mission, vision and goals

Established in 1961 Manitoba Hydro is a Crown Corporation, headquartered in Winnipeg, Manitoba. It is the province's major energy utility serving electric customers throughout Manitoba and natural gas customers in various communities throughout southern Manitoba.

Manitoba Hydro is administered by the Manitoba Hydro-electric Board appointed by the Lieutenant-Governor in Council. The Board reports to the Minister responsible for the *Manitoba Hydro Act* (1987) who, in turn, reports to the Manitoba Legislative Assembly.

For more than 50 years Manitoba Hydro's projects have primarily focused on the development of renewable hydroelectric power, and have played a major role in the development of the provincial economy and the Province as a whole. Manitoba Hydro's Corporate Vision is to "*be recognized as a leading utility in North America with respect to safety, reliability, rates, customer satisfaction and environmental leadership*."

Manitoba Hydro respects the need to protect and preserve natural environments, social, economic and heritage resources affected by its projects and facilities and it does so through the following practices that form its Environmental Management Policy (Manitoba Hydro 2017g):

Manitoba Hydro is committed to protecting the environment by:

- Preventing or minimizing any adverse impacts on the environment, and enhancing positive impacts;
- Continually improving our Environmental Management System
- Meeting compliance obligations;
- Considering the interests and recognizing the knowledge of our interested parties who may be affected by our actions;

- Reviewing our environmental objectives and targets regularly to ensure improvement in our environmental performance; and
- Documenting and reporting our activities and environmental performance.

Manitoba Hydro has developed and implemented an Environmental Management System (EMS) and has registered the system to the International Organization for Standardization (ISO) 14001 EMS standard. The Manitoba Hydro EMS enables the identification of environmental effects, setting of goals to manage effects, implementation of plans to meet the goals, and evaluation of performance. The EMS enables Manitoba Hydro to make continual improvements to its EMS and its environmental performance. As a member of the Canadian Electrical Association, Manitoba Hydro participates in the Sustainable Electricity Program. Under this program every member utility must implement an EMS consistent with ISO standards.

1.4.2 Provincial regulatory framework

At a voltage capacity of 230 kV, the Project is a Class 2 Development as defined by the Classes of Development Regulation 164/88 under Manitoba's *The Environment Act*. The Project will therefore require a license under *The Environment Act* prior to the initiation of construction. In addition to a provincial license, the construction and operation of the proposed Project is subject to all applicable provincial legislation, guidelines, codes and standards.

1.4.3 Federal regulatory framework

As the Project involves a transmission line less than 345 kV and less than 75 km in length it would not be a *Canadian Environmental Assessment Act 2012* Designated Project as defined in the Regulations Designating Physical Activities SOR/2012-147, and therefore not require approvals under this act. However, the Project is subject to all applicable federal legislation, guidelines, codes and standards for Project activities.

1.5 Environmental assessment report outline

The sections of this report that follow begin with a project description in chapter 2 that discusses project planning and alternatives, and the various project components. The Project description ends with descriptions of the various activities for construction, operation and maintenance, and decommissioning phases.

After the Project description, the report includes sections on the engagement process, with both the public (chapter 3) and Indigenous communities and organizations (chapter

4). For both sections there is discussion on the purpose, goals and objectives, methods, and a summary of feedback received.

Following the engagement sections the report includes a description of the existing physical, ecological and socioeconomic environment in chapter 5, starting with a section describing regional historical, existing and future conditions. Physical topics include atmospheric conditions, surface water, geology and hydrogeology and terrain and soils. Ecological topics include fish habitat and resources, vegetation, terrestrial invertebrates, amphibians, reptiles, mammals, and birds, with discussion on species of conservation concern, if present. Socioeconomic topics include population, infrastructure and services, employment and economy, property and residential development, agriculture, other commercial resource use, recreation and tourism, health, traditional land and resource use, and heritage resources.

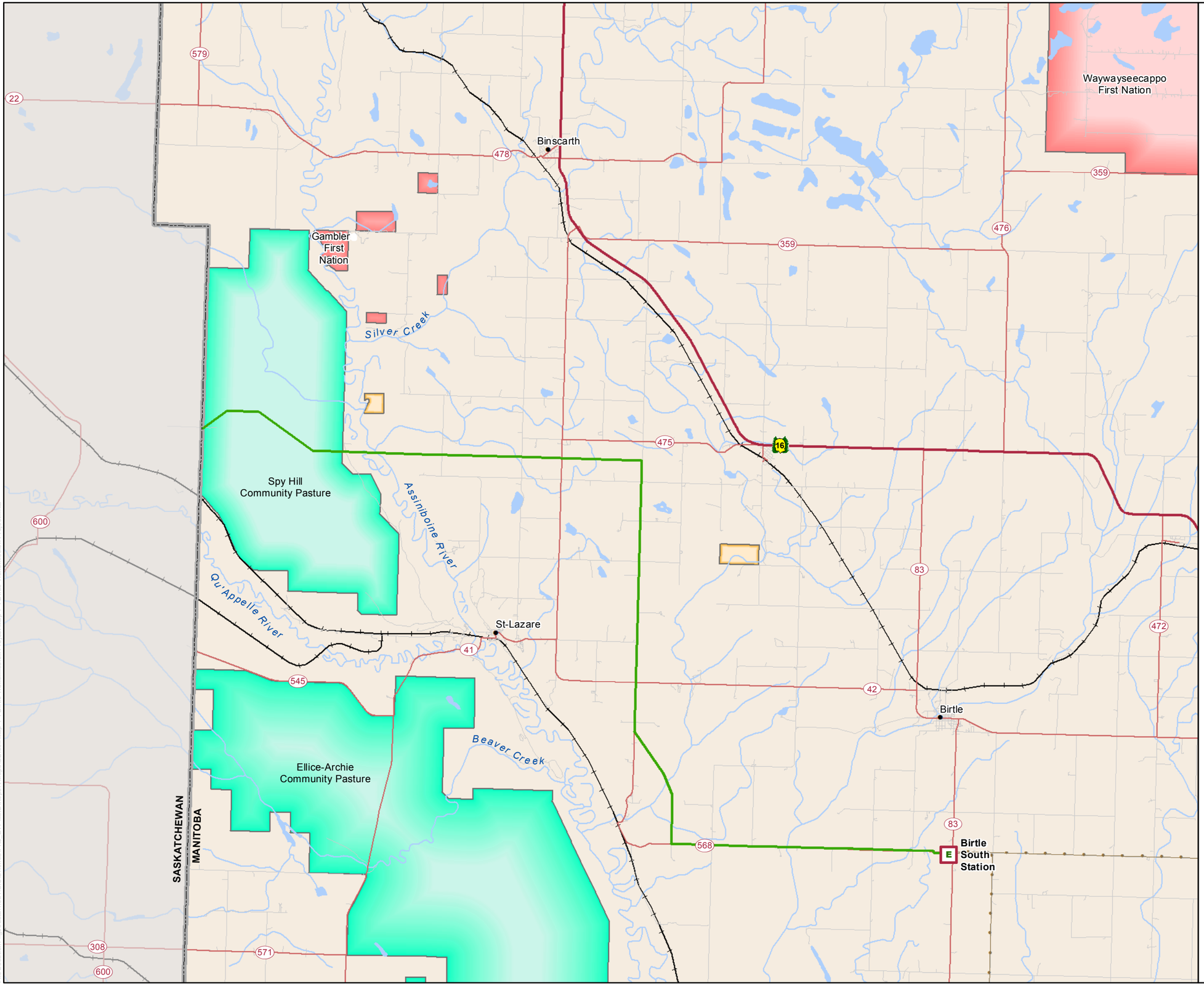
Chapter 6 describes the routing process, including the establishment of the border crossings and the selection of preferred border crossing. It covers the development of alternate routes, selection of a preferred route, and then development of the final preferred route.

Chapter 7 provides a description of the environmental assessment of the Project. After an initial section on the scope of the assessment and methodology it follows the various topics described in the existing environment section, and provides an assessment conclusion for each component. Cumulative effects are covered within each assessment section.

Chapter 8 covers effects of the environment on the Project. This is followed by an analysis of potential accidents, malfunctions and unplanned events in chapter 9.

Chapter 10 describes the environmental protection program developed for the Project, including the various roles and communication protocols, and the various plans for environmental protection to mitigate Project activities and effects.

The document ends with a summary of the environmental assessment in chapter 11, followed by appendices providing details on the routing process, engagement materials, biophysical and socioeconomic materials, and documents associated with the environmental protection program.



Manitoba Hydro

Birtle Transmission Project

Project Infrastructure

- Birtle South Station
- Final Preferred Route

Infrastructure

- Transmission Line

Landbase

- Community
- Yellowhead Highway
- Road
- Municipal Road
- Railway Line
- First Nation
- Wildlife Management Area
- Community Pasture
- Province of Manitoba Boundary

Coordinate System: UTM Zone 14N NAD83
Data Source: MBHydro, ProvMB, NRCAN
Date: December 15, 2017
Available in accessible formats upon request.

N

0 4 8 Kilometres
0 2 4 Miles

1:150,000

Birtle Transmission Project

Map 1-1