

Lake Manitoba and Lake St. Martin Outlet Channels Project

Environmental Assessment Scoping Document



Prepared for:
Environmental Approvals Branch
Manitoba Sustainable Development

Submitted by:
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1 Introduction

1.1 Purpose of Scoping Document

The purpose of this Scoping Document is to provide information related to the scope and structure of the environmental assessment (EA) for the proposed Lake Manitoba and Lake St. Martin Outlet Channels Project (LMBOC & LSMOC or the Project). This framework in combination with the anticipated Environmental Impact Assessment guidelines from the Canadian Environmental Assessment Agency (the Agency) will set the course for the development and preparation of an environmental impact statement (EIS) for the proposed Project which will be submitted to regulatory authorities. This document also incorporates the guidelines established by the Province of Manitoba as listed in the “Information Bulletin – Environment Proposal Report Guidelines” (Manitoba Sustainable Development October 2017).

The Scoping Document for the Project has been developed with consideration of:

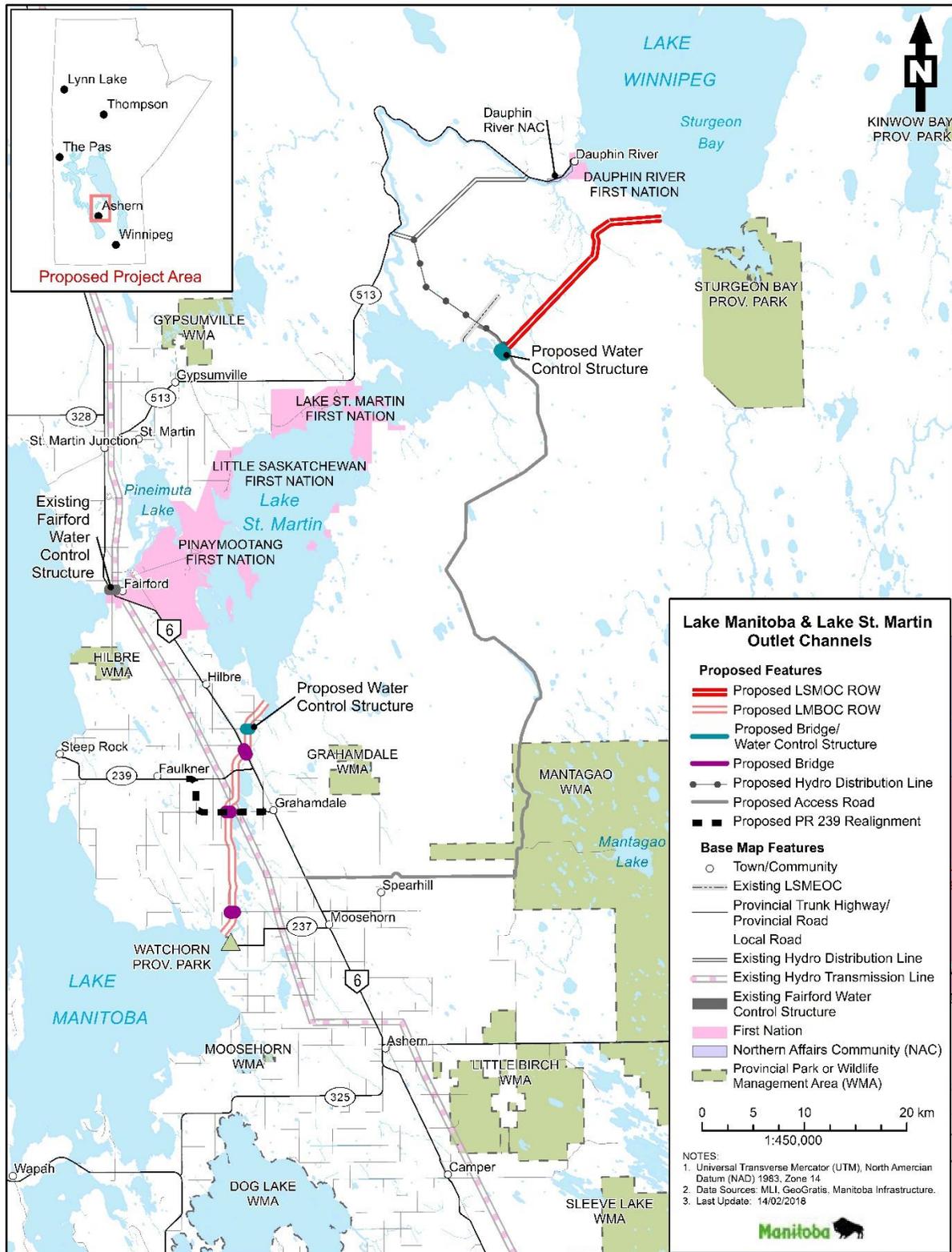
- Requirements under *The Environment Act* E125 (Manitoba)
- Requirements under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012)
- Importance and need to use Indigenous and local knowledge, and public and stakeholder input into the EA process, and
- Project components and activities as outlined in the Project Description filed with the Agency in January 2018.

1.2 Background

Manitoba Infrastructure (MI) has been tasked with the development and construction of a permanent flood control management system for Lake Manitoba and Lake St. Martin. It will consist of a new diversion channel from Lake Manitoba to Lake St. Martin (Lake Manitoba Outlet Channel) and a new diversion channel from Lake St. Martin to Lake Winnipeg (Lake St. Martin Outlet Channel) (Map 1). During high water events, the Lake Manitoba and Lake St. Martin Outlet Channels will allow for better management and control of the water levels on Lake Manitoba and Lake St. Martin by providing additional capacity to divert water from Lake Manitoba through Lake St. Martin into Lake Winnipeg. Additional detail is provided in the Project Description filed with the Agency in January 2018.

In support of the preparation of an EIS for the Project, MI has initiated an EA focussing on the biophysical and socio-economic environments, as well as Traditional Knowledge (TK) and the Indigenous and Public¹ Engagement Program (IPEP) for the proposed Project.

¹ When used on its own, the term ‘public’ means all interested parties.



Map 1. Lake Manitoba and Lake St. Martin Outlet Channel Project Area

1.3 Regulatory Framework

1.3.1 *The Environment Act (Manitoba)*

Being that the Project is a flood control project protecting an area greater than 100 km², it is defined as a Class 3 Development under the Classes of Development Regulation 164/88 pursuant to *The Environment Act* E125 (Manitoba). As such, an assessment as described in Section 12(5) of the Act will be required for review by the minister, and the issuance of a licence will be required prior construction.

1.3.2 *The Canadian Environmental Assessment Act, 2012*

As the Project involves the construction and operation of a new structure for the diversion of 10,000,000 m³/year (or more) of water from one natural water body into another, it is a designated project under the *Canadian Environmental Assessment Act* 2012. As such, it is also expected to require an EA under this legislation, and will require authorization prior to construction.

1.3.3 Other Regulatory Requirements

The EIS will outline other regulatory approvals required for Project implementation.

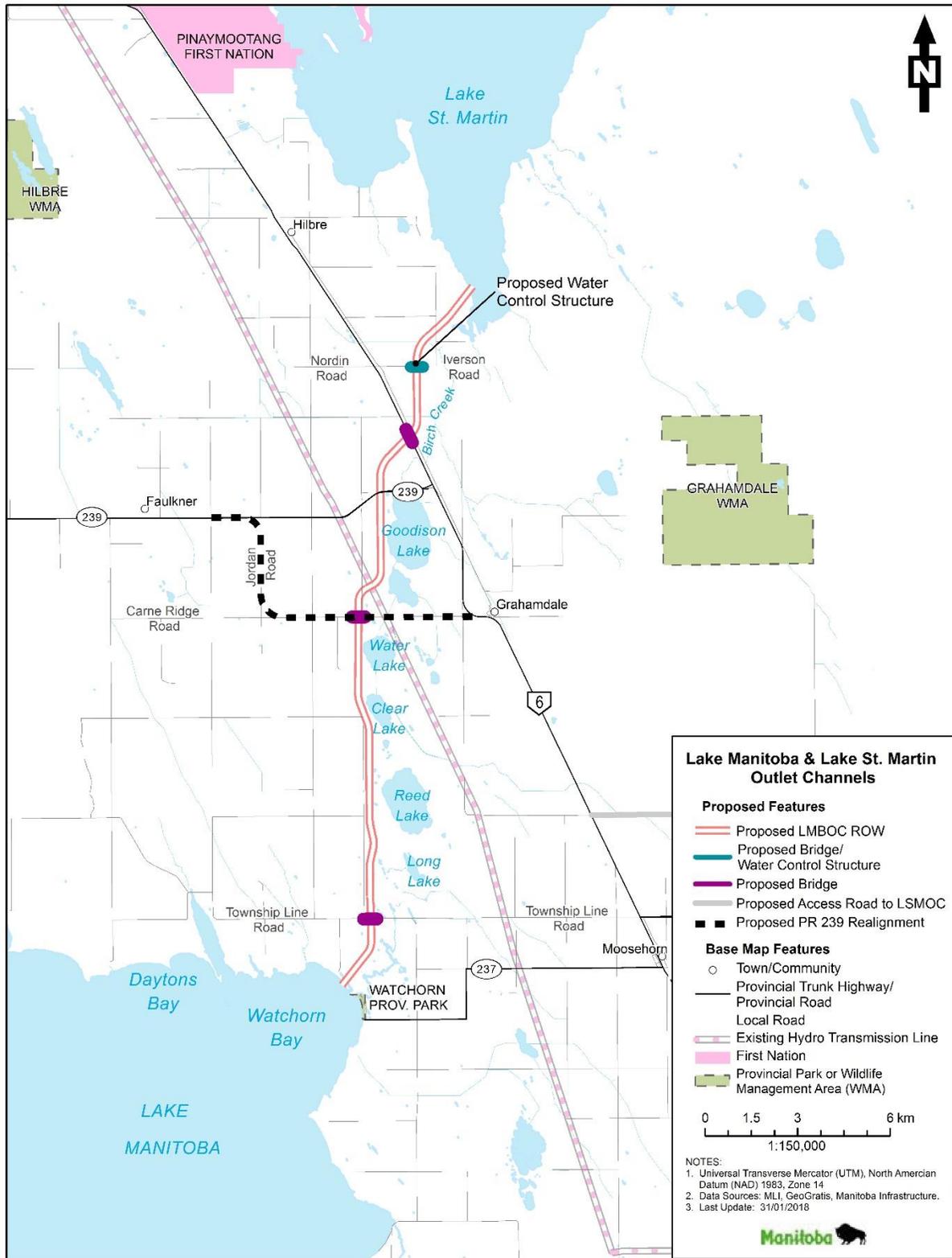
2 Scope of the Project

2.1 Project Description and Components

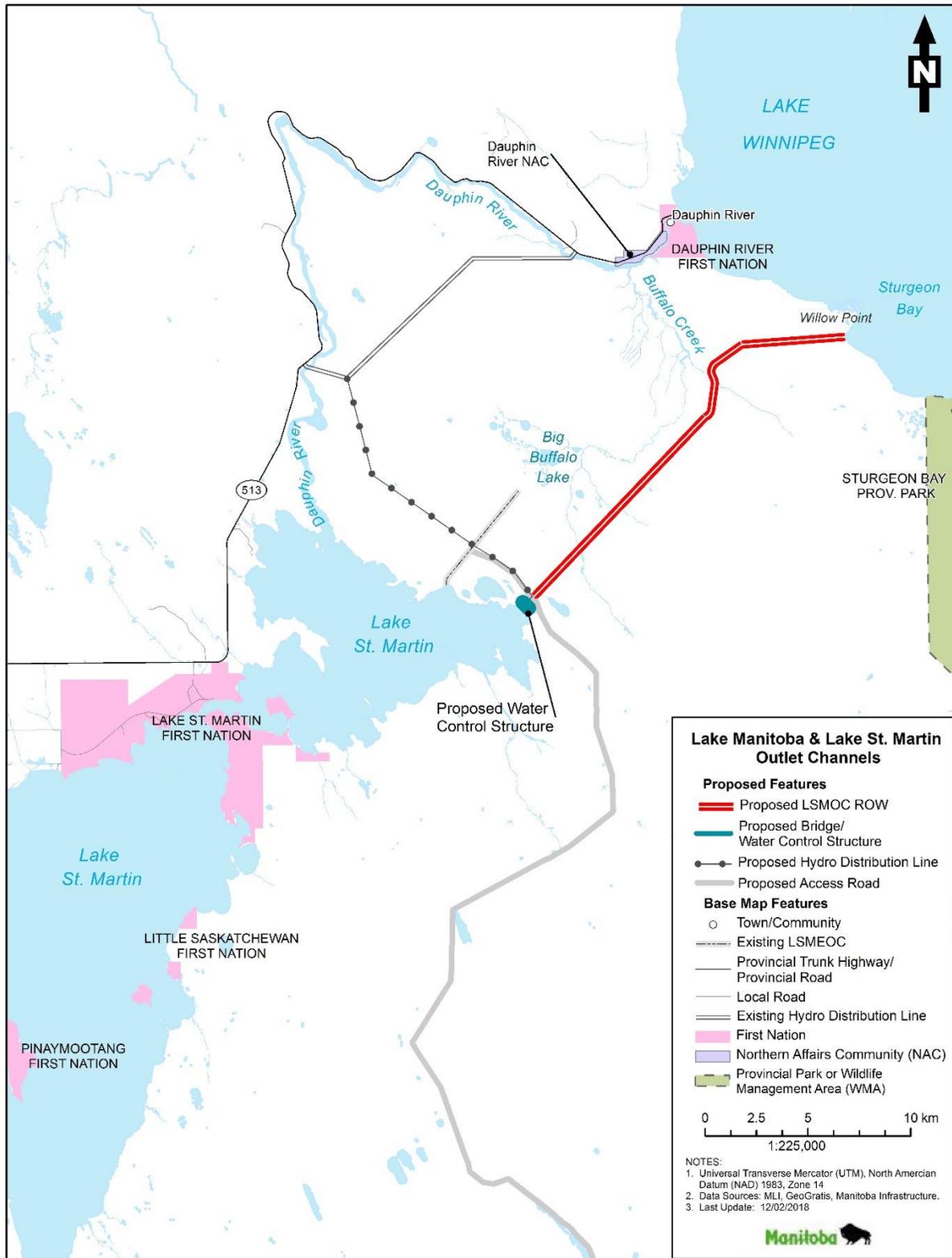
The proposed Project consists of the design, construction, operation and maintenance of new permanent flood protection infrastructure; the LMBOC and the LSMOC, and associated works. The Project components include:

1. Lake Manitoba Outlet Channel (LMBOC) (Map 2)
 - a. Excavation of approximately 23 km long diversion channel
 - b. Construction of a combined bridge and water control structure
 - c. Re-alignment and/or construction of provincial highways, municipal roads and three bridge structures
 - d. Rock quarries
 - e. Channel inlet and outlet at lakes
 - f. Temporary construction camps and staging areas

2. Lake St. Martin Outlet Channel (LSMOC) (Map 3)
 - a. Excavation of approximately 23 km long diversion channel
 - b. Construction of a combined bridge and water control structure
 - c. Construction of drop structures
 - d. Rock quarries
 - e. Temporary construction camps and staging areas
 - f. Channel inlet and outlet and lakes
 - g. Construction of a 24 kilovolt (kV) distribution line



Map 2. Detailed Route – Proposed LMBOC



Map 3. Detailed Route – Proposed LSMOC

The scope of the Project will comprise the physical works and activities associated with the construction, operation and maintenance of the outlet channels and related infrastructure. The EIS will also include the following:

- Project funding sources
- Results of the IPEP undertaken in conjunction with Project planning, and
- Description of the activities related to the construction, operation, maintenance and non-operation of the proposed Project.

Given that the Project is expected to be in place for 100 years or more, the EA will not assess the decommissioning of permanent infrastructure. Upgrading or rehabilitation to extend the life of the structures will take place as part of major maintenance activities. The Project is expected to be operable for flood events well into the future, nonetheless, the EIS will include a commitment to comply with legislative and licensing requirements at that time.

2.2 Project Location

The EIS will describe the Project using appropriate figures, diagrams, maps and/or orthophotos, and will, at minimum, include the following additional information:

- Location of the Project components and associated works, as described above;
- Legal description of land upon which the proposed Project will be constructed;
- Land ownership information, including ownership of mineral rights;
- Land acquisition plans for Project construction, operation and maintenance, and
- Existing land use and land use designations currently in place.

2.3 Project Schedule

The EIS will describe the Project's construction schedule, and will describe the construction, operation and maintenance phases of the Project.

2.4 Scope of the Assessment

The scope of the assessment will address the requirements of a Class 3 Development pursuant to *The Environment Act*, including conducting an EA, carrying out Indigenous and public consultation and engagement, and preparing an EIS.

The following factors will be considered in the EA:

- Need and purpose of the proposed Project;
- Alternative means of carrying out the proposed Project that are technically and economically feasible;
- Environmental effects of the proposed Project, including the environmental effects of malfunctions or accidents that may occur;
- Changes to the proposed Project that may be caused by the environment;
- Comments received from Indigenous people, local communities, and other stakeholders through the IPEP;
- Technically and economically feasible measures to avoid, minimize or mitigate adverse environmental effects;
- The significance of the residual environmental effects;

- Cumulative environmental effects that are likely to result from the proposed Project in combination with the effects of other known projects and activities that have been or will be carried out for the reasonably foreseeable future, and
- Requirements for follow-up and monitoring.

The assessment will also consider previous studies and activities relating to feasibility, exploration, project siting and prior authorization received from other government agencies.

3 Environmental Setting

This section outlines the parameters that will be evaluated by MI in developing the EA. The approach used to assess the potential effects of the Project is described in Section 5.

3.1 Physical Environment

3.1.1 Atmospheric Environment

The EIS will describe the following attributes as they pertain to the Project:

- Prevailing climate and meteorological conditions including historical and seasonal averages and extremes in monthly temperatures and dates of freeze and thaw; and monthly precipitation and snow cover;
- Local air quality
 - Parameters related to climate change, and
 - Existing greenhouse gas and other emissions sources and production.

3.1.2 Geology and Geochemistry

The EIS will describe the geology and surficial materials, including geological deposits or resources that may be used for or otherwise potentially affected by the proposed Project.

3.1.3 Topography and Soil

The EIS will describe soils and landform features within the Project region.

3.1.4 Groundwater and Surface Water

The EIS will describe the following attributes as they pertain to the Project:

- Watersheds (including lakes and streams);
- Regional surface water flow and drainage;
- Regional surface water quality;
- Groundwater quantity, and
- Groundwater quality.

3.2 Aquatic Environment

3.2.1 Fish and Fish Habitat

The EIS will describe the following attributes as they pertain to the proposed Project:

- Fish populations on the basis of species, life stage, abundance, distribution, and movements, including information on the surveys carried out and the sources of data (e.g. location of sampling stations, catch methods, date of catches, species);
- Habitat preferences and requirements for fish species in Lake Manitoba, Lake St. Martin and its tributaries, and Lake Winnipeg;
- Primary and secondary production in terms of phytoplankton, aquatic plants, zooplankton and benthic invertebrates;
- Fish/Aquatic Habitat based on water depth, velocity, substratum, presence of cover (e.g., aquatic macrophytes, riparian vegetation), and function (including photos of representative habitats). Maps will be provided at a suitable scale indicating the surface area of potential or confirmed fish habitat for spawning, nursery, feeding, overwintering, migration routes, etc;
- Obstacles (e.g. beaver dams) or structures (e.g., water crossings, DAMS) that hinder the free passage of fish;
- Species of interest identified by local and/or Indigenous people through TK studies and the IPEP.

3.2.2 Aquatic Species at Risk

The EIS will also consider aquatic species identified as being of conservation concern at a national, provincial, regional or local level within the Project region with a focus on The Endangered Species and Ecosystems Act (Manitoba), Species at Risk Act, Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and S1 to S2 Manitoba Conservation Data Centre Provincial ranked species.

3.3 Terrestrial Environment

3.3.1 Ecosystems and Vegetative Communities

The EIS will describe the following attributes as they pertain to the Project:

- Ecological land classification using ecological stratification;
- Identification and quantification of broad vegetation classes;
- Description of vegetation communities based on species composition, site conditions, and topography;
- Description of natural disturbance cycles, including fire and flooding, and their influence on ecosystems and vegetation;
- Invasive species, and
- Species of interest identified by local and/or Indigenous peoples through TK studies and the IPEP.

3.3.2 Ecosystems and Vegetative Species at Risk

The EA will also consider ecosystems and vegetative species identified as being of conservation concern at a national, provincial, regional or local level within the Project region, with a focus on *The Endangered Species and Ecosystems Act* (Manitoba), *Species at Risk Act*, COSEWIC, and S1 to S2 Manitoba Conservation Data Centre Provincial ranked species.

3.3.3 Wildlife and Wildlife Habitat

Amphibians and Reptiles

The EIS will describe the following attributes as they pertain to the Project:

- General information on amphibian and reptile (herptile) species known or expected to inhabit the area, including habitat and other life cycle requirements;
- Information generated through desktop investigations, discussions with local and Indigenous people, and field investigations, and
- Other information sources relevant to herptiles in the region, such as the Manitoba Herps Atlas and Manitoba Conservation Data Centre (MBCDC).

Birds

The EIS will describe the following attributes as they pertain to the Project:

- General information on bird species known or expected to inhabit the area, including habitat and other life cycle requirements;
- Identification of important areas, including nesting sites for colonial waterbirds and raptors;
- Migratory birds and their habitats;
- Species of interest identified by local and/or Indigenous peoples through TK studies;
- Information generated through desktop investigations, discussions with local and Indigenous people, and field investigations, and
- Other information sources relevant to birds in the region, such as the Manitoba Breeding Bird Atlas and MBCDC information.

Mammals

The EIS will describe the following attributes as they pertain to the Project:

- General information on mammal species known or expected to inhabit the area, including habitat and other life cycle requirements;
- Species of interest identified by local and/or Indigenous peoples through TK studies;
- Information generated through desktop investigations, discussions with local and Indigenous people, and field investigations, and
- Other information sources relevant to mammals in the region, such as the MBCDC or MSD survey data.

Terrestrial Species at Risk

The EIS will also consider terrestrial species identified as being of conservation concern at a national, provincial, regional or local level within the Project region, with a focus on *The Endangered Species and Ecosystems Act* (Manitoba), *Species at Risk Act*, COSEWIC, and S1 to S2 Manitoba Conservation Data Centre Provincial ranked species.

3.4 Socio-Economic Environment

The EIS will describe the following attributes as they pertain to the Project:

- Land and resource use;

- Parks and Designated Protected Areas;
- Tourism and recreation;
- Human health and safety, and
- Infrastructure and services.

3.4.1 Indigenous Peoples

Through the IPEP, TK, prior studies and existing information, the EIS will provide information on the following with respect to Indigenous communities:

- Community information such as population and services;
- Resource use including hunting, fishing, trapping and gathering;
- Other economic activities;
- Traditional and cultural activities, and
- Heritage and cultural resources.

3.4.2 Human Environment

The EIS will provide information on the following with respect to non-Indigenous communities:

- Community information such as population and services;
- Resource use including hunting, fishing and trapping;
- Economic activities such as agriculture and other businesses, and
- Heritage and cultural resources.

4 Indigenous and Public Engagement Program

Stakeholder engagement is an integral part of the planning and assessment process for the Project. The Project's IPEP involves Indigenous (First Nations and metis) and non-Indigenous communities, organizations, and municipalities, as well as government departments and agencies, and other potentially affected or interested stakeholders. Comments, questions and responses provided through the IPEP will be summarized by community and organization, and documented in the EIS.

4.1 Objectives

The overall objective of the IPEP is to provide information on the proposed Project to interested and potentially affected parties and to provide meaningful opportunities for input and feedback on the Project. The IPEP aims to achieve the following:

- Provide opportunities for the general public and other stakeholders to participate throughout the EA process;
- Provide involvement opportunities for local Indigenous people and residents who may be directly affected by the Project throughout the EA and the various stages of Project development;
- Receive meaningful feedback and input for Project planning, development, operation and maintenance, and to:
 - Clearly communicate the purpose and scope of the proposed Project;
 - Obtain information on the physical and biophysical environment, land use, key features, heritage resources, and cultural and traditional practices in the area;

- Identify potential environmental effects, effective mitigation measures and opportunities to enhance Project benefits;
- Identify the need for follow-up and monitoring programs.
- Implement an adaptive approach that adjusts the IPEP in response to stakeholder interests, and
- Respond to stakeholders and demonstrate how input and information provided is being used in EA.

4.2 Approach

The IPEP builds on past studies and ongoing discussions with First Nation communities and other Indigenous People and stakeholders who have expressed interest in the proposed Project. MI will initiate meetings, open houses and/or other forms of correspondence with the public and stakeholders, as well as Indigenous community leaders and members to discuss Project components, planning, potential effects, mitigation, follow-up and monitoring, and to invite opportunities for input and feedback.

Communication will be phased to reflect the progression of the assessment, from planning and development to EA submission and beyond. These phases of the IPEP will include information landmarks including: introduction of the Project and Project design; EA approach (e.g., spatial and temporal assessment boundaries, preliminary Valued Component (VC) selection, and potential Project linkages to VCs; potential effects of the development, possible mitigation measures, and residual effects). Commentary and input obtained from each session will be considered and incorporated for follow-up discussion with the community and/or the public.

TK will also be incorporated into the IPEP process. It will inform the IPEP and EA processes by providing local information pertaining to traditional land uses, economic activities, ceremonial pursuits, as well as local knowledge. TK will also facilitate the direct inclusion of local Indigenous communities in project planning and design. TK information will be obtained through use of existing information (with permission), focused TK studies with the consent of the directly affected communities, workshops, interviews, community meetings and Open Houses.

The IPEP will extend beyond the local Indigenous communities, with Public Open Houses in Winnipeg and/or Moosehorn, MB, and presentations to interested stakeholders. Information from previous engagement initiatives and/or programs may also be incorporated if required. The IPEP will include descriptions of the Project and solicit input on comments and questions relating to the Project and the EA, prior to submission of the EIS.

In addition to the above, the IPEP will also include communications on the Project through other media (i.e., local radio and/or newspapers) and the Project web site (<http://www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html>).

5 Environmental Assessment Approach

5.1 Effects Assessment Principles and Objectives

The EA will consider the existing environment without the Project as the baseline condition against which changes caused by the Project will be identified, measured and assessed. The main objectives of the EA for the Project are to:

- Assist in planning and design of the Project by identifying and assessing potential environmental effects;
- Address comments and questions identified by Indigenous peoples, local residents and communities, and other stakeholders with respect to the Project;
- Identify technically and economically feasible opportunities to avoid, minimize or mitigate adverse effects and maximize positive effects of the Project;
- Evaluate whether the Project is likely to result in significant adverse effects;
- Provide sufficient information to prepare an EA for consideration by regulators to exercise their legislated mandate, and
- Provide sufficient information about the existing environment, so that follow-up monitoring and studies can be planned, conducted and reported on.

5.2 Valued Components

Valued Components are key indicators of the existing environment and may include components of the physical, biophysical or socio-economic environment. The value of a component not only relates to its role in the ecosystem, but also to the value people place on it. For example, it may have been identified as having scientific, social, cultural, economic, historical, archaeological or aesthetic importance. These VCs will be selected to help focus the EA, assess potential effects and, where necessary, measure the effectiveness of mitigation measures. Scoping of and justification for the VCs to be selected, and the resulting assessment of effects before and after the implementation of mitigation measures, will be provided in the EIS. VC selection will consider one or more of the following factors:

- Potential to occur in the local and/or regional area;
- Potential to interact with the proposed Project;
- Identified by First Nations or other Indigenous Peoples;
- Identified by other stakeholders;
- Identified by regulatory authorities, and
- Identified through primary data collection, literature references, expert input and professional judgement.

The EIS will contain detailed rationale for the selection of VCs used for EA.

5.3 Spatial and Temporal Boundaries

Spatial and temporal boundaries will be scoped, justified and used for the EA. Spatial boundaries will delineate the geographic confines for assessment of potential effects to VCs and, as such, may vary in size for the following spatial extents:

- Project Footprint (PF) – Physical space or directly affected area within which Project components/activities are located and the immediately adjacent area. Permanent and temporary facilities (e.g., quarries and borrows) within which effects are likely to be measurable are included.
- Local Assessment Area (LAA) – Area within which Project effects are measurable and extending beyond the Project Footprint. This area will vary by VC.

- Regional Assessment Area (RAA) – Area beyond the LAA within which most potential indirect and cumulative effects would occur. This area will vary by VC.

Temporal boundaries will span all phases the Project, including construction, operation and maintenance phases. Temporal boundaries for the Project will consider the duration of construction (anticipated to be 5 years between 2019 and 2023) and operation. There are currently no plans to decommission the LMBLSMOC Project as it will provide flood protection for the future. The components of the existing physical, biophysical, Indigenous, and socio-economic environments will be described for the Project's designated temporal and spatial assessment boundaries to provide context for an understanding of the potential effects of the proposed Project.

5.4 Potential Effects and Mitigation

Potential direct and indirect effects of the Project will be identified through detailed review of the construction, operation and maintenance of Project components and how these activities may interact with the existing environment. This review will be done by use of assessment tools such as interaction matrices and professional judgement.

Potential effects that will be taken into account and addressed in the EIS will include those identified in Section 5 of CEAA 2012, as well as those identified in the Environment Act Proposal Report Guidelines (Manitoba Sustainable Development 2017). Positive effects resulting from the Project will also be identified and discussed in the EIS.

The methods by which potential effects of the Project are predicted and assessed will be detailed in the EIS.

5.4.1 Effects Assessment Criteria

The EIS will characterize and define all potential interactions between the Project and VCs by use of the following criteria:

- Magnitude of the effect
- Geographic extent of the effect
- Timing of the effect
- Duration of the effect
- Frequency of the effect
- Reversibility of the effect
- Ecological and social context of the effect, and
- Existence of environmental standards, guidelines or objectives for assessing the effect.

These criteria will facilitate the understanding and characterization of Project-related effects both before and after mitigation.

5.4.2 Mitigation

The EIS will identify, describe and propose technically and economically feasible mitigation or effect management measures to avoid, prevent or minimize potential effects at all Project phases. Mitigations measures will target specific Project-related effects and may include design

changes, environmental protection policies, procedures and plans or Best Management Practices (BMPs). Positive effects will not require mitigation, but may be enhanced where feasible.

The anticipated effectiveness of mitigation measures will be demonstrated in the EIS through the assessment of residual effects.

5.5 Residual Effects

Residual effects are adverse Project-related effects that are anticipated to remain after the implementation of mitigation. If residual effects are identified, they will be characterized by use of the effects assessment criteria (see Section 5.4.1), demonstrating how the effect has diminished or persisted through mitigation.

The determination of the significance of residual environmental effects will involve consideration and evaluation of specific assessment criteria based on the degree of potential Project effects. Characterization of the significance of the residual adverse effects will consider scientific study and analysis, TK, local knowledge and professional judgement, and will relate to all phases of the Project. The EIS will contain a conclusion on significance of residual environmental effects supported by scientific rationale and EA results, including the IPEP.

5.6 Accidents and Malfunctions

Project-related accidents and malfunctions relative to VCs will also be considered and described in the EIS, including accidental spills or releases of hazardous products during construction and structural failure of channels during and after operation.

5.7 Effects of the Environment on the Project

The potential for local conditions and natural hazards (e.g., severe weather conditions) to adversely affect the Project will be described in the EIS. Further consideration will also be given to how this, in turn, could result in effects to the environment.

5.8 Cumulative Effects Assessment

The EIS will include an assessment of potential cumulative effects (i.e., the potential for Project effects to act in combination with the effects of other past, present and/or reasonably foreseeable future projects in the area). The EIS will outline the approach and methods used and will include a description and rationale for the spatial and temporal boundaries used in the cumulative effects assessment. This will be done in a manner that complies with the approach described in the Agency's Operational Policy Statement entitled Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act (2012).

6 Monitoring and Follow-Up

The EIS will summarize proposed monitoring and follow-up actions where appropriate, including monitoring, inspection and reporting to be implemented during construction, operation and maintenance of the proposed Project. Monitoring and follow-up will focus on areas of key potential effects on VCs and will consider various methods such as the implementation of contract specifications, environmental management plans and emergency response plans, as well as specific environmental surveys and analysis.

Monitoring and follow-up actions will be considered to facilitate compliance with mitigation measures, confirm effect predictions related to anticipated effects, to determine whether unexpected effects are occurring, and to allow for adaptive management and appropriate mitigation measures if unexpected effects do occur. Suggested monitoring and follow-up action will be presented in the EIS, but will only be finalized once regulatory requirements and feedback are known, and following the issuance of authorizations and regulatory approvals.

7 Report Format and Organization

The Project triggers both federal and provincial requirements for EA. As such, MI will produce a single document which will be submitted for independent review by both regulatory agencies. The EIS will be formatted and organized in accordance with the environmental assessment guidelines issued by the Agency for the Project, but will address all requirements for consideration by Manitoba. The EIS will use maps, charts, diagrams and photographs as appropriate for presentation. A concordance table, which cross references the information presented in the EIS with the information requirements identified in the EIS Guidelines, will also be included. Translation of the text in the official languages of Canada (French and English) will be provided for the Executive Summary of the EIS; otherwise, text will be in English.

The following structure is anticipated to be utilized for the EIS:

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References

Additional information which is relevant to the EA will be appended to the document. This information may include, but may not be limited to:

- Materials presented to Indigenous peoples or the public
- Additional information related to the existing environment
- Background, rationale and justification for assessment of effects, and,
- Detailed mitigation measures.

8 References

Manitoba Sustainable Development. 2017. Information Bulletin – Environment Act Proposal Report Guidelines. Available at: https://www.gov.mb.ca/sd/eal/publs/info_eap_2017_10.pdf
Accessed: December 2017.