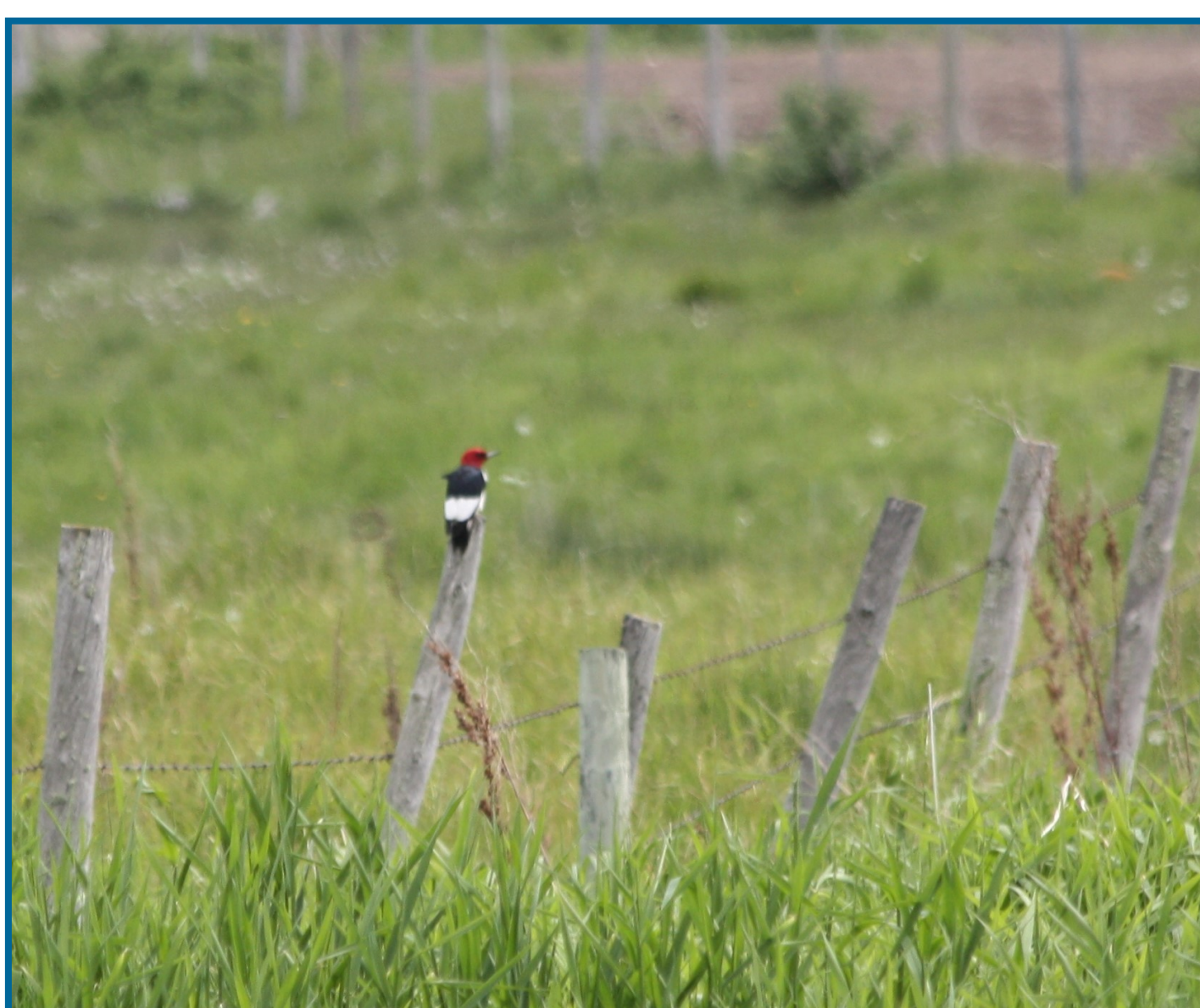


Welcome

# Lake Manitoba and Lake St. Martin Outlet Channels Project



Open House



# Lake Manitoba and Lake St. Martin Outlet Channels Project

## What's New

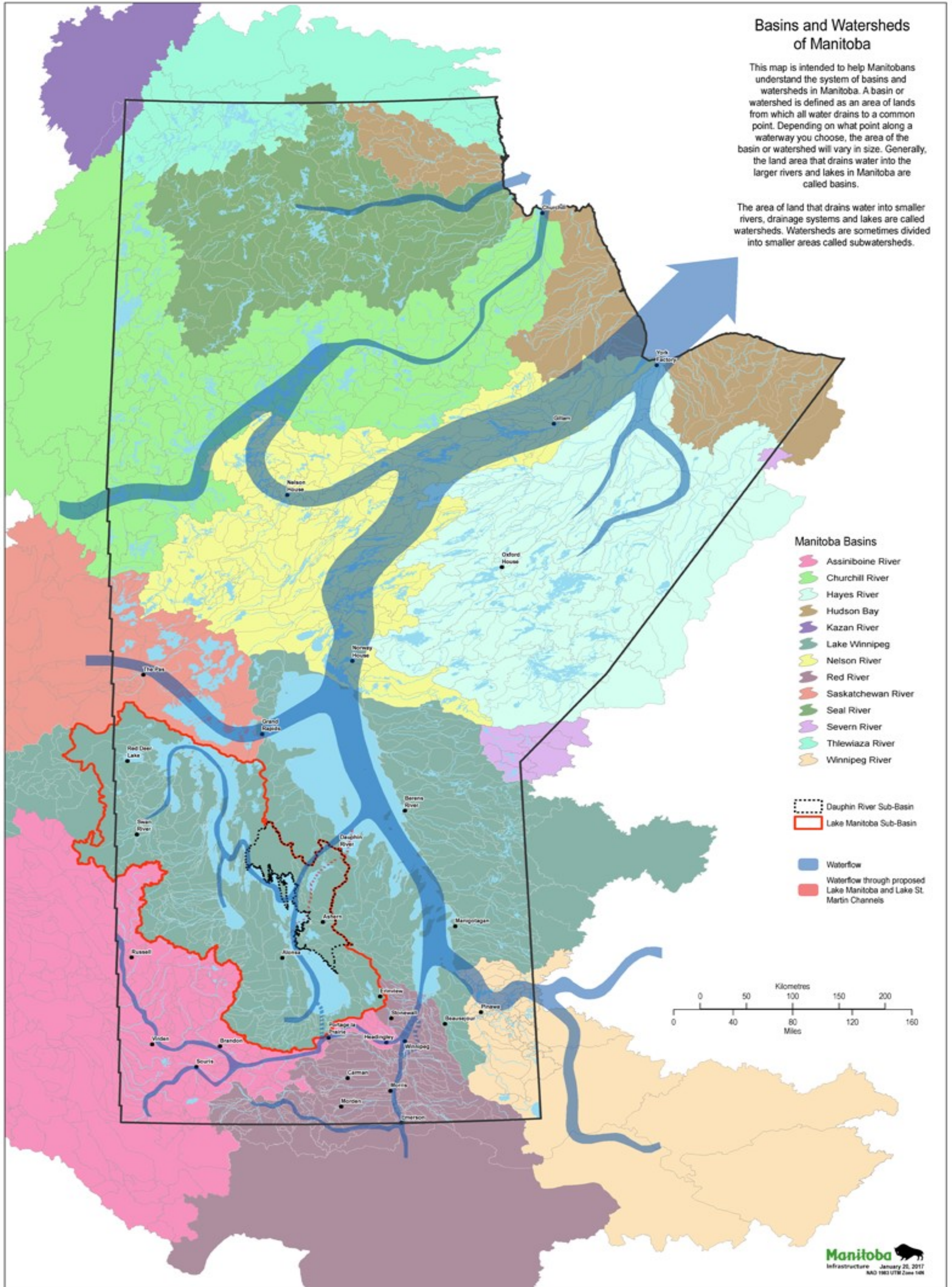
This open house is intended to share information about the Lake Manitoba and Lake St. Martin Outlet Channel Project and How it has progressed  
Here's what is new:

The Canadian Environmental Assessment agency requires a federal environmental assessment in addition to the provincial environmental assessment report for Manitoba Sustainable Development. The requirements for both assessments will be combined and submitted as one report in the fall 2018.

- ▶ Field programs for the environmental assessments are completed.
  - The Spatial Boundaries and Valued Components have been selected for the project.
  - The identification of potential effects of the project are under way.
  - Traditional use studies will be completed by several indigenous communities
- ▶ Preliminary post-construction land-use analysis is under development
- ▶ Road network modifications have been chosen



# Basins and Watersheds of Manitoba





# Background & History

- ▶ 2011 Spring Flood Event
  - High flows recorded on most streams and rivers in the Assiniboine and Lake Manitoba Watershed
  - Led to widespread flooding across much of southern Manitoba
  - Resulted in unprecedented inflows into Lake Manitoba and Lake St. Martin overwhelming the capacity of existing waterways.
- ▶ 2014 Spring Rain Event
  - Large amounts of precipitation beginning in the winter and carrying into the spring led to high flows and elevated water levels
  - Again, unprecedented inflows into Lake Manitoba and Lake St. Martin exceeded the capacity of existing waterways

Subsequent high lake levels resulted in long-term evacuation of First Nation Communities surrounding Lake Manitoba and Lake St. Martin, affecting thousands of acres of farmland, bridges, highways, homes and cottages

## Flood Studies

- ▶ 2011 Flood Review Task Force Report (Farlinger)
- ▶ 2013 Lake Manitoba and Lake St. Martin Regulation Review Committee Report (Westdal)
- ▶ 2016 Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group)

## Consideration to

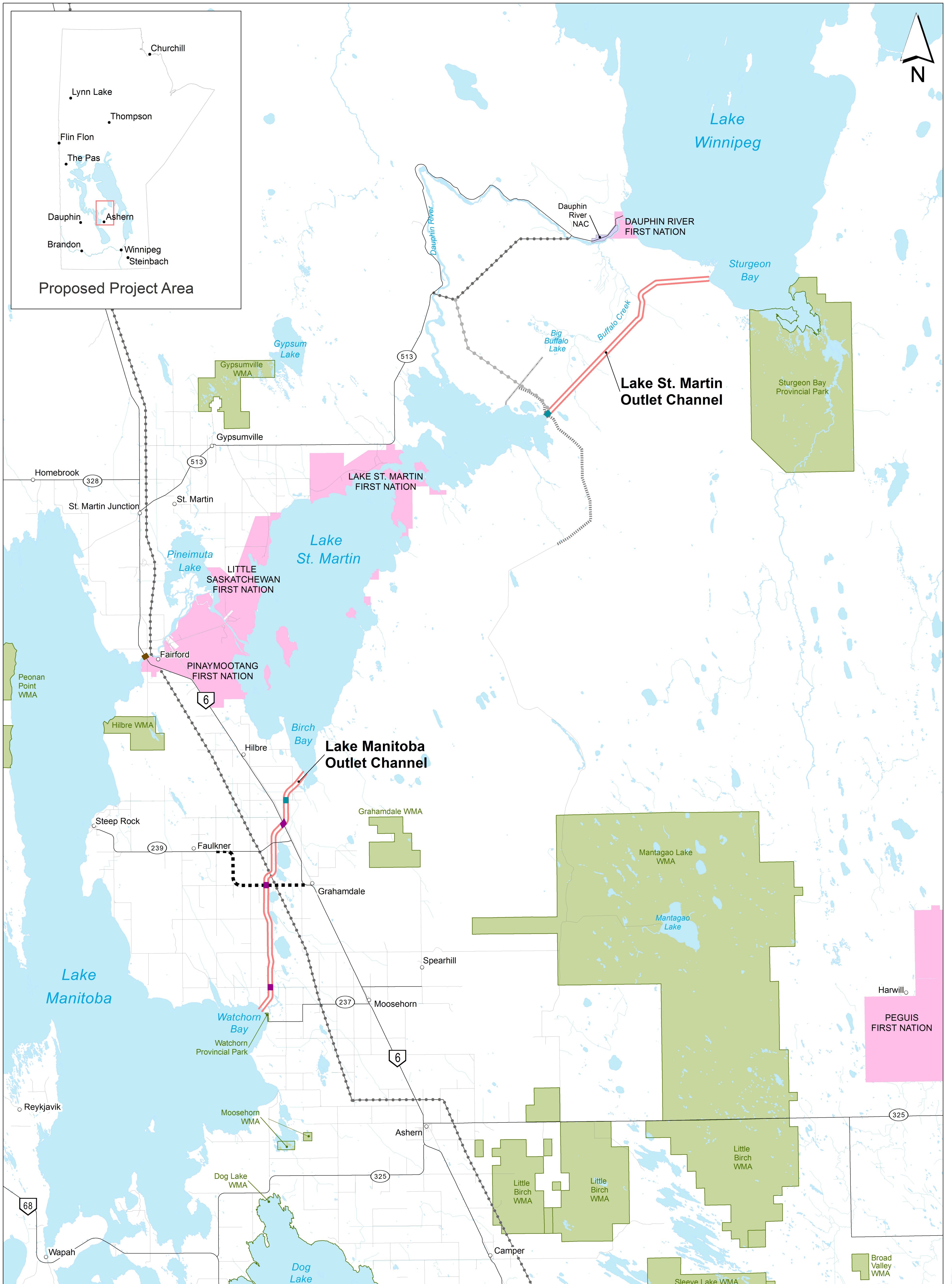
- ◇ Water Retention along Assiniboine River
- ◇ Water Control on Waterhen River
- ◇ Pumping Lake Winnipegosis to Cedar Lake
- ◇ Increased Outlet Capacity from Lake Manitoba and Lake St. Martin

## Study Outcomes

- ▶ The Provincial Review resulted in many different options and recommendations, but overall increasing the outlet capacity of Lake Manitoba and Lake St. Martin was the preferred recommendation
- ▶ The outlet channels will be supplemental to, but not an expansion of existing flood infrastructure in Manitoba









## Project Overview Location









### Lake Manitoba & Lake St. Martin Outlet Channels

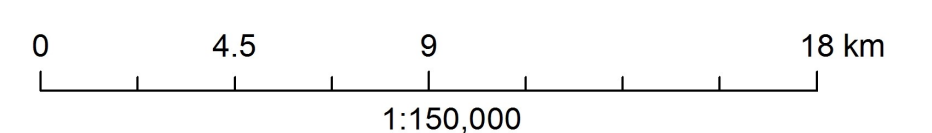
#### Proposed Features

-  Proposed Water Control Structure
-  Proposed Bridge
-  Proposed Outlet Channel
-  Proposed Power Line
-  Proposed Access Road
-  Proposed PR 239 Realignment

#### Base Map Features

-  Lake St. Martin Emergency Outlet Channel
-  Provincial Highway (PTH/PR)
-  Local Road
-  Power Line
-  Fairford Water Control Structure
-  First Nation

-  Northern Affairs Community (NAC)
-  Provincial Park / Wildlife Management Area (WMA)



- NOTES:
1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North
  2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
  3. Last Update: 06/06/2018

**DRAFT**



# Project Benefits

## Water control systems working together

- ▶ The Lake Manitoba Outlet Channel will work with the Fairford River Water Control Structure to help mitigate flooding on Lake Manitoba
  - ▶ The Lake St. Martin Outlet Channel will help move flood waters to Lake Winnipeg and provide improved flood protection around Lake St. Martin without appreciably affecting lake levels on Lake Winnipeg
  - ▶ The channels will only be operational when levels on Lake Manitoba and Lake St. Martin exceed a certain threshold.
- ▶ The Lake Manitoba and Lake St. Martin Outlet Channels will also provide a greater ability to mitigate adverse effects related to the operation of existing critical flood infrastructure
  - ▶ Provincial Government expecting cost sharing of Outlet Channel Project with Federal Government
    - 50/50 cost share of \$495 Million Budget Estimate
    - Desirable completion in 2020/21 creates accelerated schedule



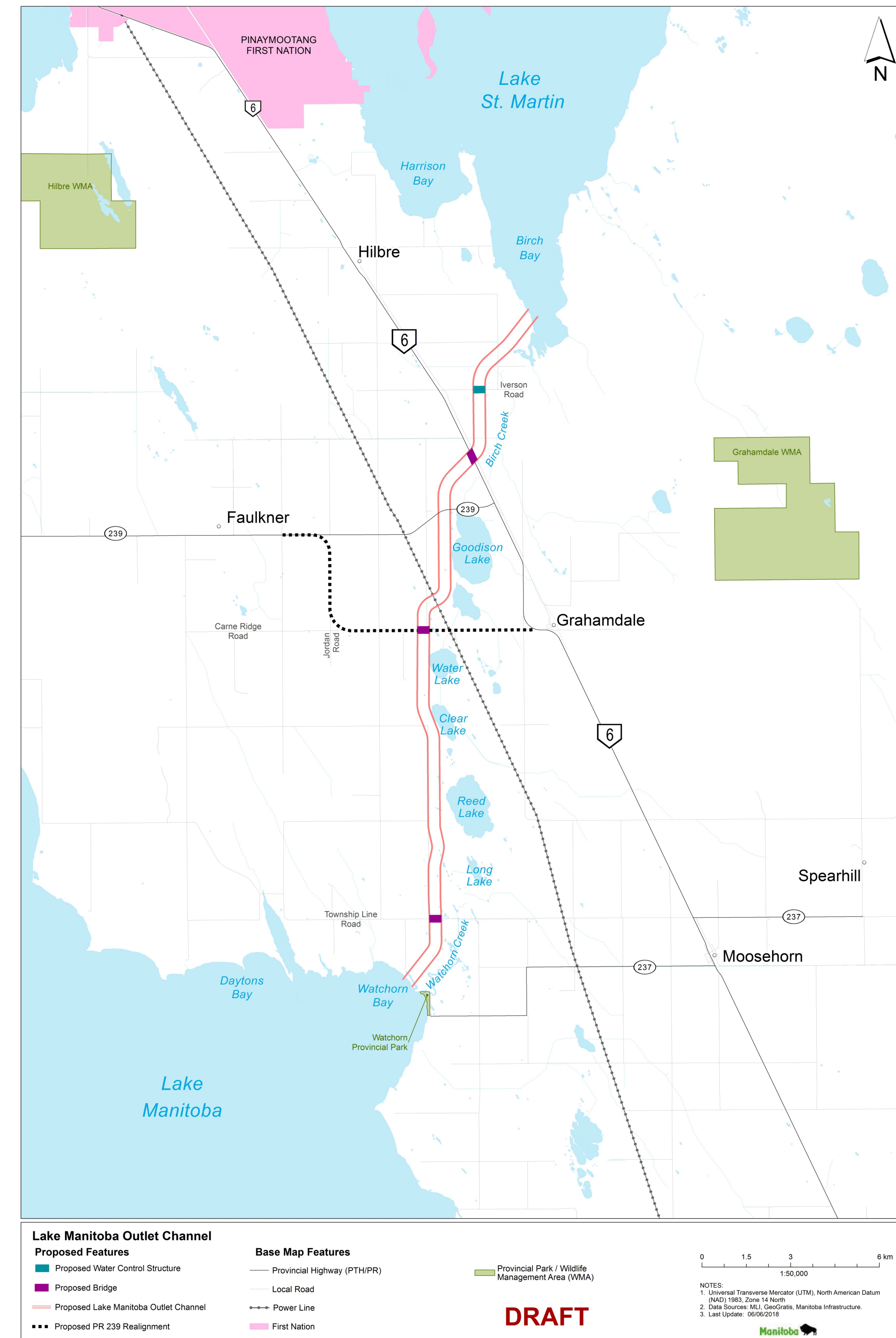
# Proposed Lake Manitoba Outlet Channel

## Components

- Excavation of an outlet channel from Lake Manitoba to Lake St. Martin, including the channel inlet and outlet
- Realignment of PR 239
- Construction of 3 new bridges
  - PTH 6
  - Carne Ridge Road
  - Township Line Road
- Construction of a combined bridge and water control structure at Iverson Road

### Conceptual Dimensions and Performance Specifications

Right of Way Width	400 m
Channel Length	23 km
Channel Slopes	4:1 (Horizontal : Vertical)
Depth of Excavation	8 - 12 m
Maximum Flow Capacity	7,500 cfs





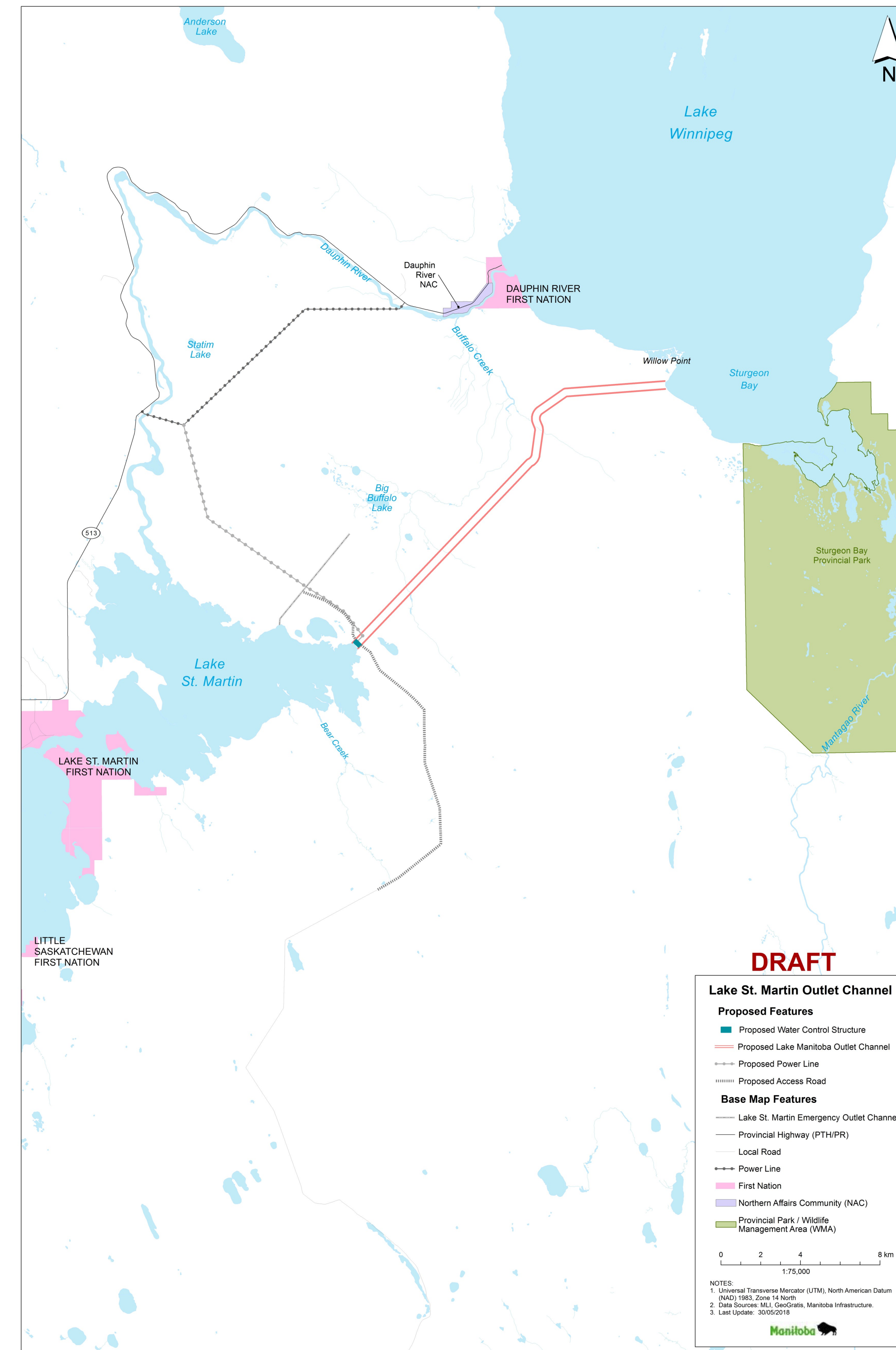
## Proposed Lake St. Martin Outlet Channel

### Components

- Excavation of an outlet channel from Lake St. Martin to Lake Winnipeg, including the channel inlet and outlet
- Construction of a water control structure near the channel inlet
- Construction of a new power line for construction and operation of the water control structure

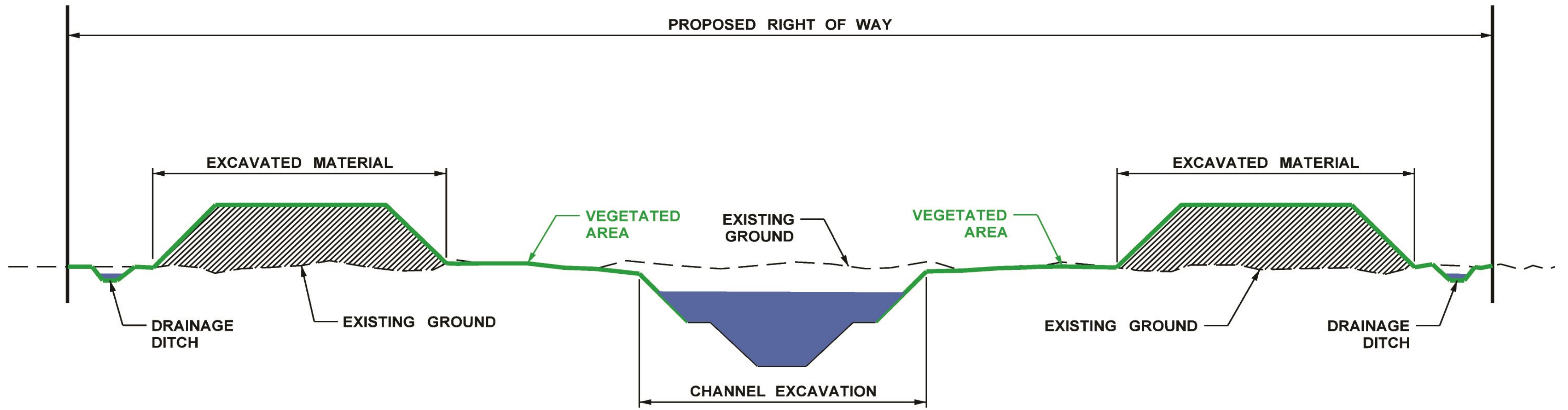
### Conceptual Dimensions and Performance Specifications

Right of Way Width	225 m
Channel Length	23 km
Channel Slopes	4:1 (Horizontal : Vertical)
Depth of Excavation	8-10 m
Maximum Flow Capacity	11,500 cfs

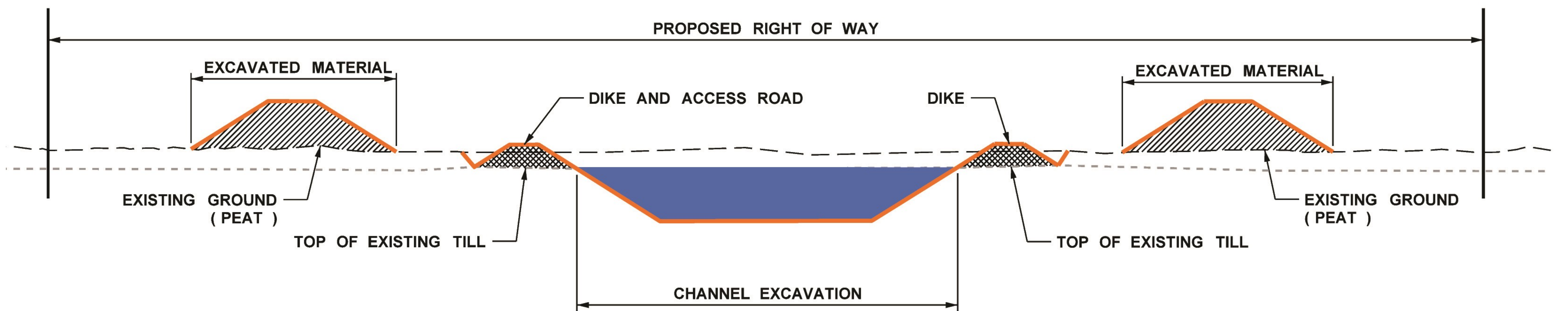




# Proposed Outlet Channels: Conceptual Design



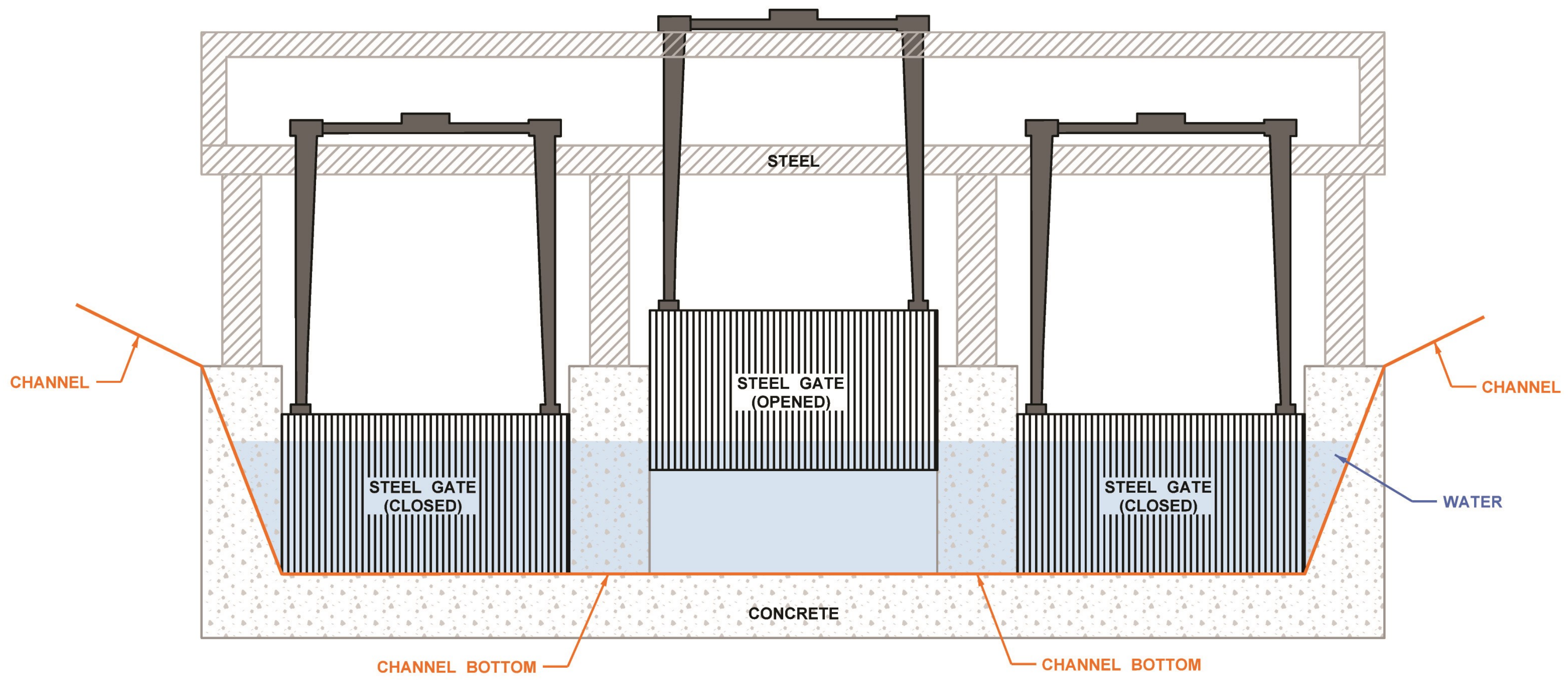
## Lake Manitoba Outlet Channel Conceptual Cross Section



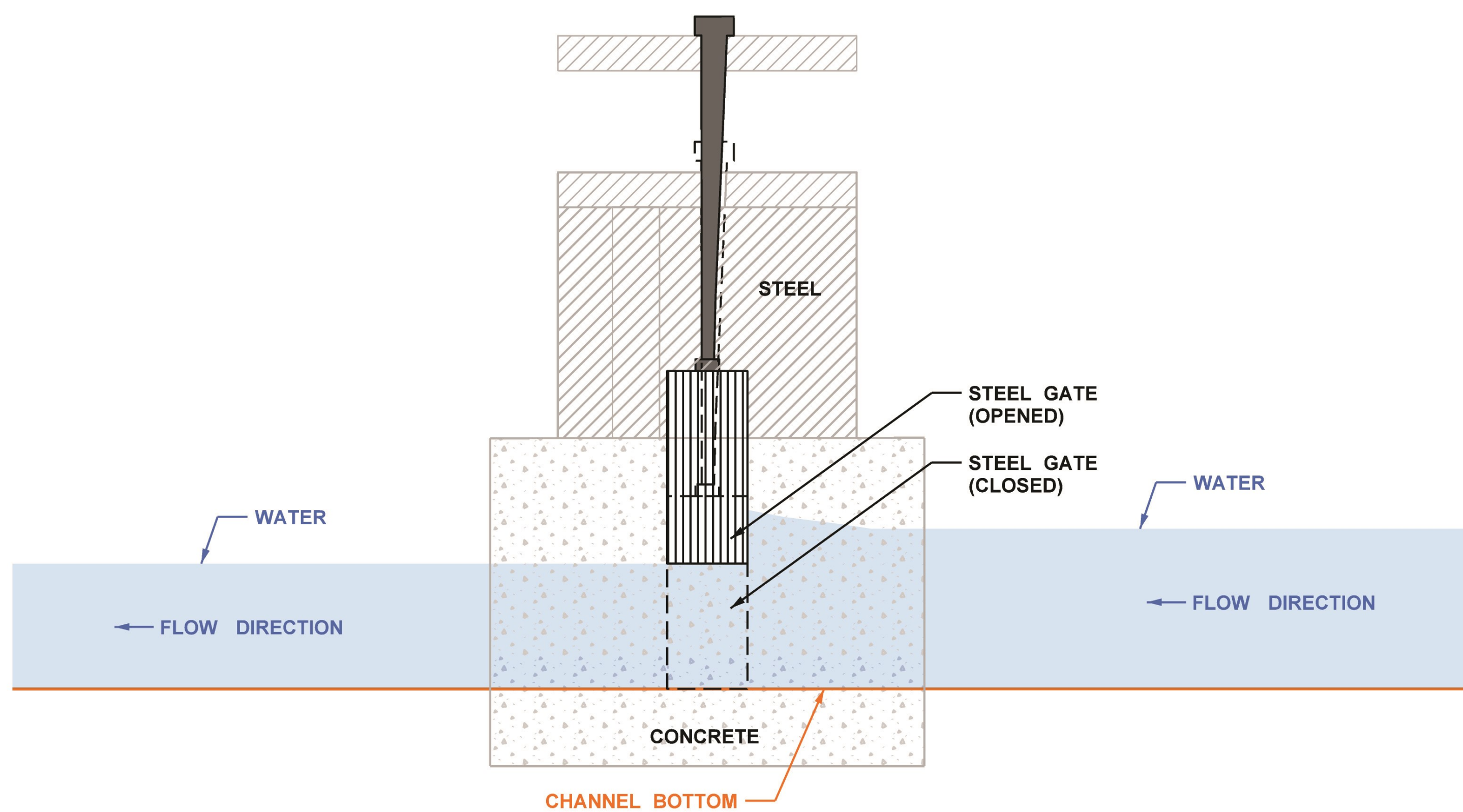
## Lake St. Martin Outlet Channel Conceptual Cross Section



# Proposed Water Control Structures: Conceptual Design



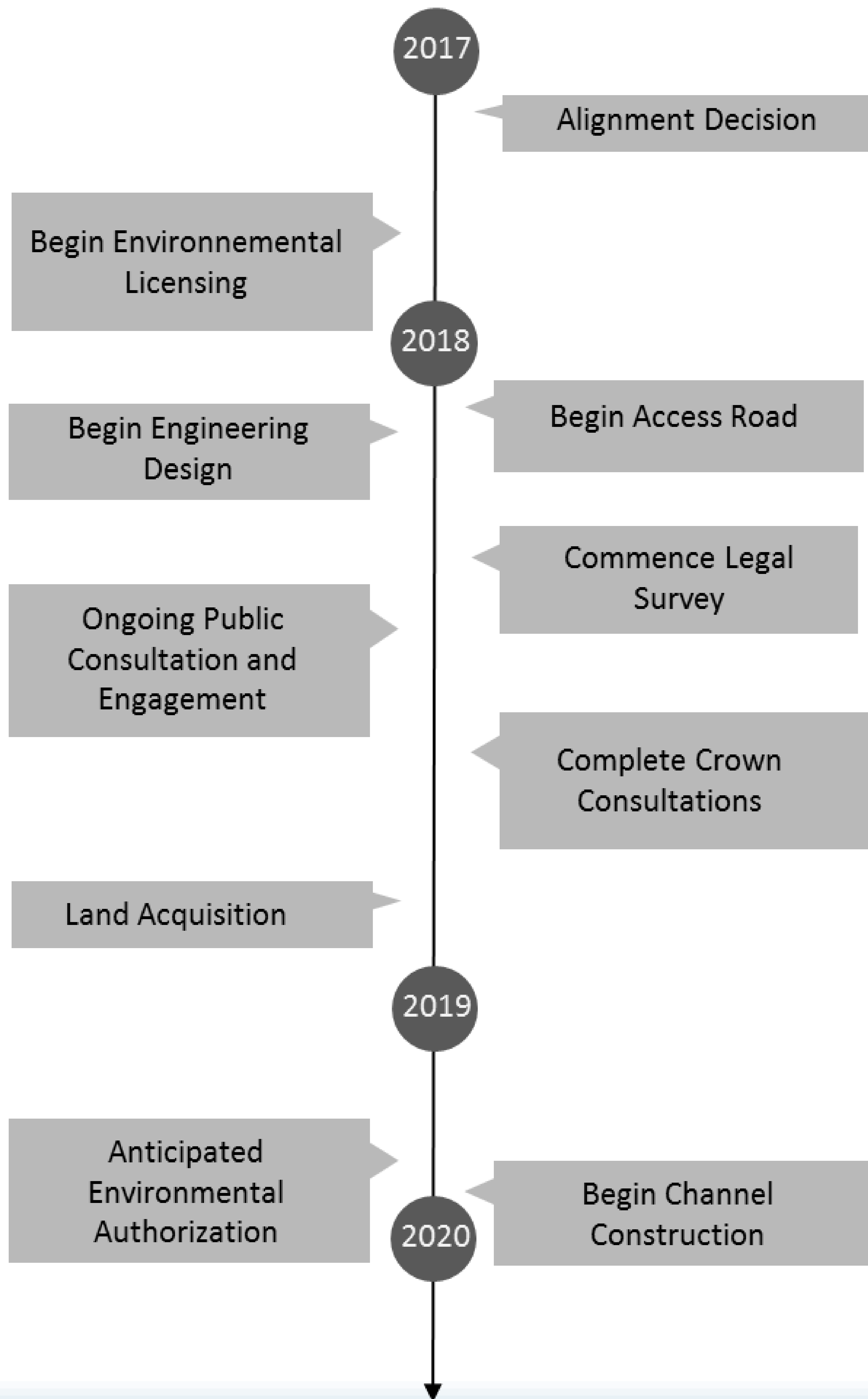
**Water Control Structure (3 Bay) Conceptual Cross Section**



**Water Control Structure (3 Bay) Conceptual Profile**



# Project Timeline





# Public Engagement History

**2012** 2011 Flood Review Task Force  
Lake Manitoba and Lake St. Martin Regulation Review Committee

**2013 - 2014** Assiniboine River & Lake Manitoba Basins Flood Mitigation Study

**2017 - Present** Lake Manitoba and Lake St. Martin Outlet Channels Project

## Project Engagement Activities





# Public Engagement: What We've Heard So Far

- Most support the concept of the Project and the proposal to construct additional flood control infrastructure.
- Many want the Project constructed as quickly as possible to reduce future flood risks.
- Many feel that the proposed operating guidelines will keep Lake Manitoba water levels too high.
- Many feel that the Portage Diversion is to blame for flooding on Lake Manitoba and Lake St. Martin, and that its use and operation should be considered as part of the Project's environmental assessment.
- Many feel that the Project does not work to resolve greater water management issues which contribute to flooding, including the channelization of waterways and loss of wetlands.

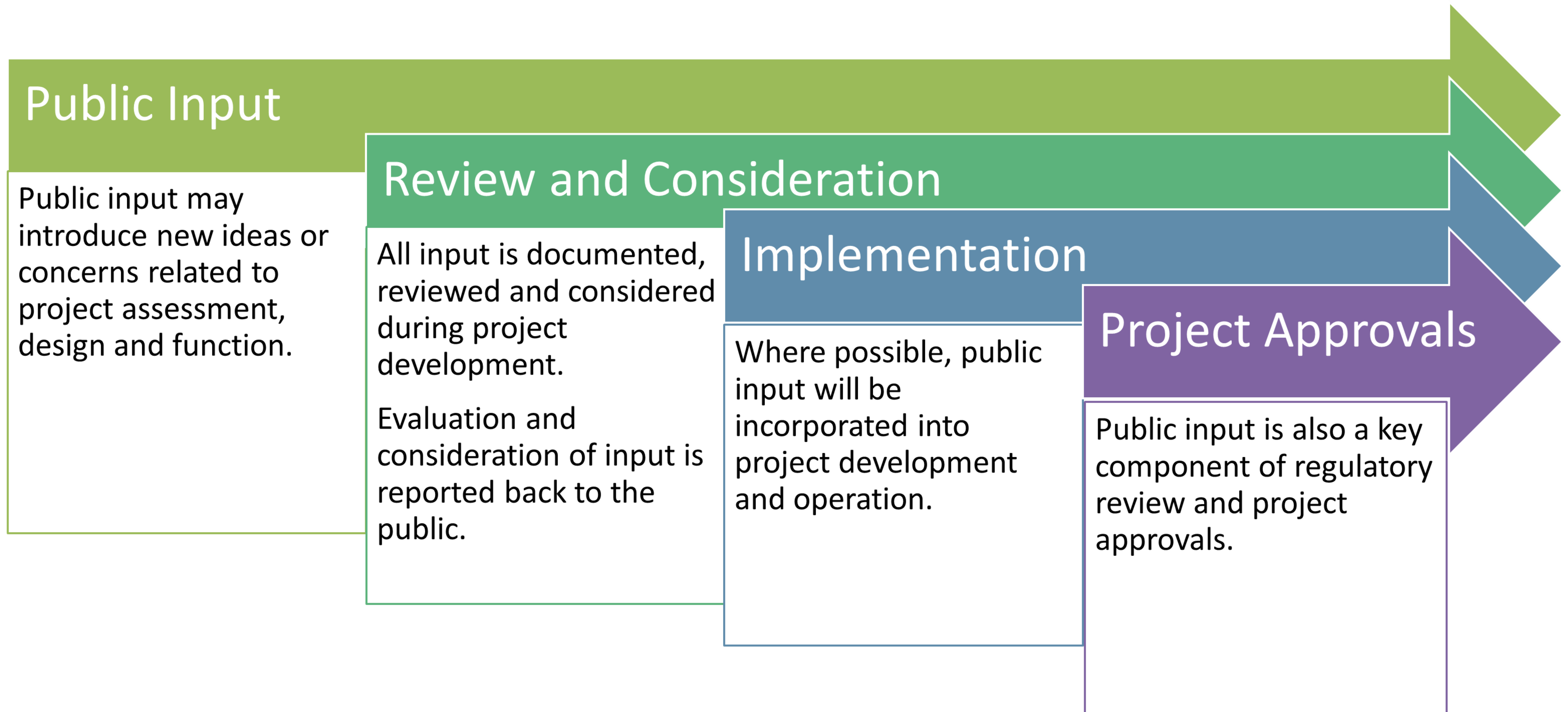
## Other Common Concerns Include:



- Impacts to local communities
- Loss of agricultural lands and immediate impacts to affected landowners
- Impacts to water quality in Lake Manitoba and Lake St. Martin
- Impacts to groundwater, including contamination and reduced flows
- Impacts to fish, wildlife and natural systems
- Loss of riparian (shoreline) ecosystems and natural protections as a result of the 2011 and 2014 floods



# How We Use Your Input





# Environmental Authorization and Approvals

## Environmental Assessment

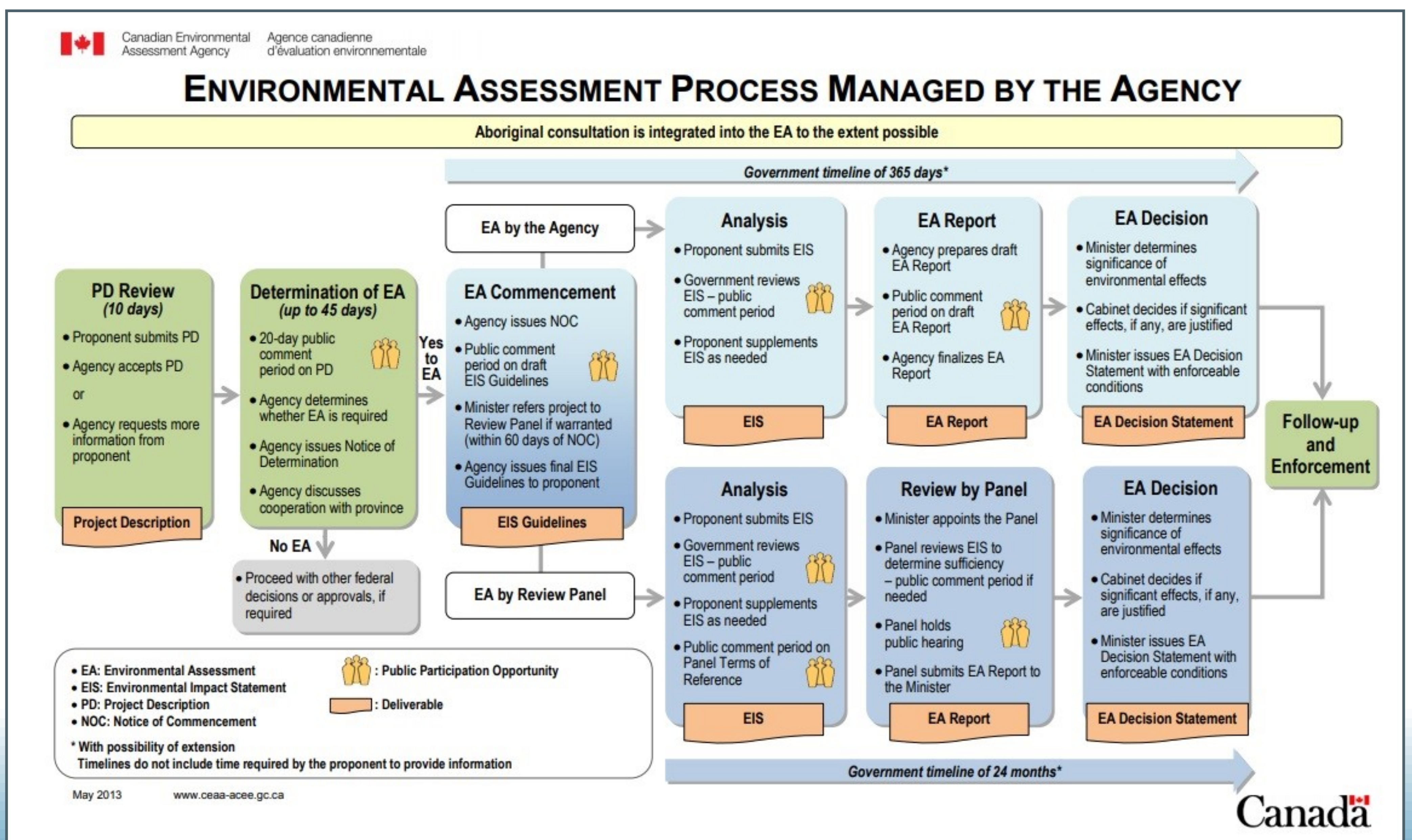
- Federal and Provincial law mandate that large projects meeting designated criteria require environmental assessment prior to construction.

## Fisheries Act Authorization

- Any work or activities which could result in serious harm to fish that support or are part of a commercial, recreational or Aboriginal fishery requires a Fisheries Act Authorization from Fisheries and Oceans Canada.

## Transport Canada

- Any structure which will be located in, on, over, through or across navigable water requires EA authorization from Transport Canada's Navigation Protection Program.





# Environmental Authorization and Approvals

## Environmental Assessment

### What is it?

- A project planning and evaluation process that is mandated by Federal and Provincial law and required before construction of large projects.
- Determines **Where, What, When** and **How** a project could affect the environment, including traditional, cultural, social and economic impacts to people.
- Provides a process to **Avoid** and **Mitigate** (minimize) potential effects.
- Identifies monitoring programs to ensure predictions made about project-related effects are accurate and that mitigation measures are working as intended.

### Who does it?

- Environmental assessments are conducted by project proponents, those who are responsible for design, construction and operation of a project.
- **Manitoba Infrastructure** is the proponent for the Lake Manitoba and Lake St. Martin Outlet Channels Project, and is leading the Environmental Assessment.

### Who reviews it?

- Once complete, an Environmental Impact Statement is submitted to the Canadian **Environmental Assessment Agency (CEAA)** and **Manitoba Sustainable Development Environmental Approvals Branch** for independent review.
- Both the Federal and Provincial review processes include several opportunities for **public involvement and commentary**.



# Main Stages of Environmental Assessment

## Scoping

Outlining the area and timeframe in which changes to people and the environment are assessed.

## Understanding the Existing Environment

Defining the existing environment, including people by use of various information sources, including traditional knowledge, studies and surveys, or existing reports.

We Are Here

### Identifying Potential Effects

Identifying potential changes to environment and resulting effects on Valued Components such as people, plants and animals.

### Avoiding and Mitigating Adverse Effects

Identifying opportunities and committing to actions to avoid or minimize project-related effects to people and the environment.

## Other Considerations

Other considerations include potential accidents or malfunctions, cumulative effects as a result of other undertakings and activities, and potential effects of the environment on the Project (e.g. climate change).

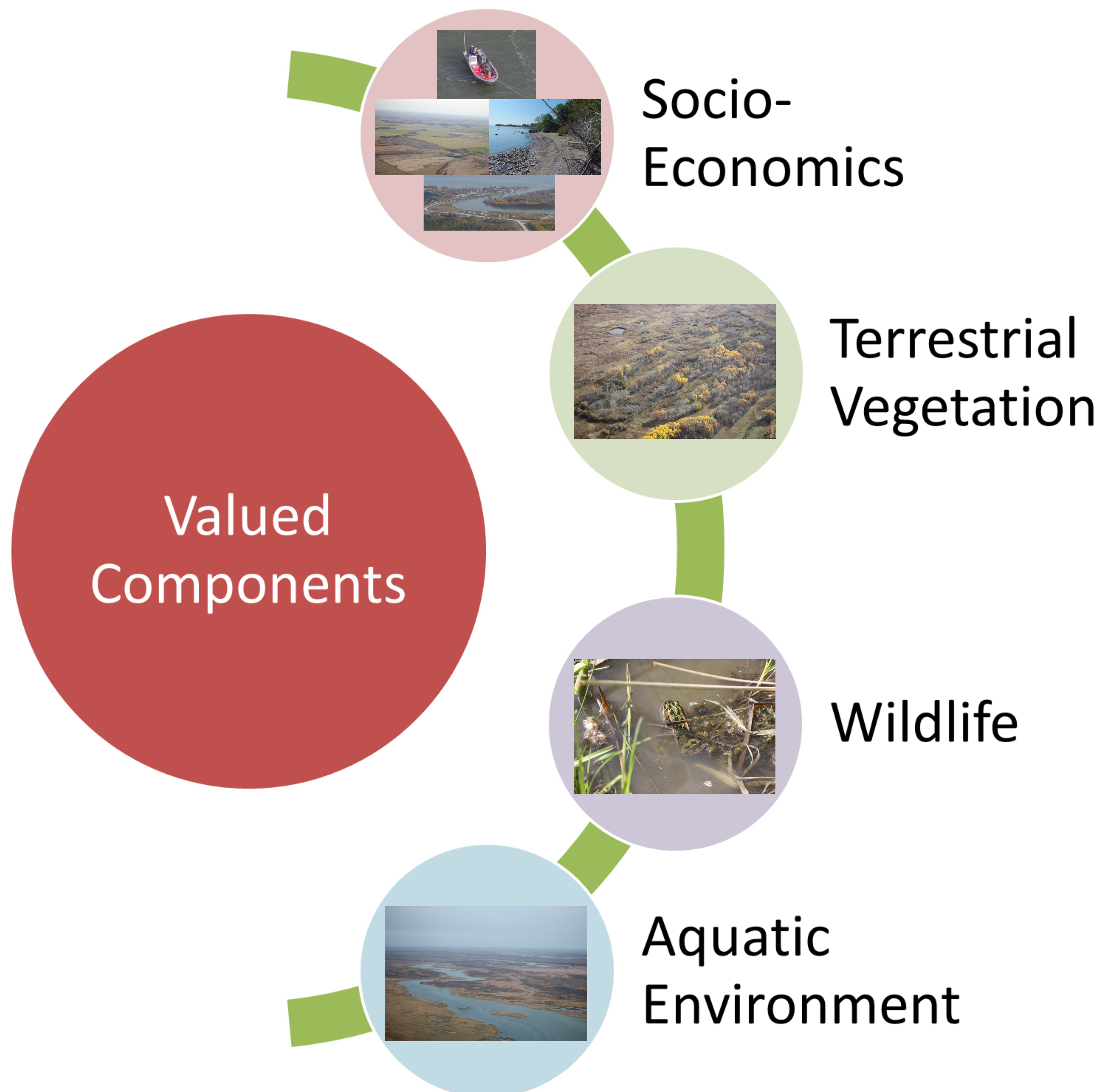
## Follow-up and Monitoring

Identify commitments and processes to verify the accuracy of the effects assessment and determine effectiveness of mitigation.



# Valued Components

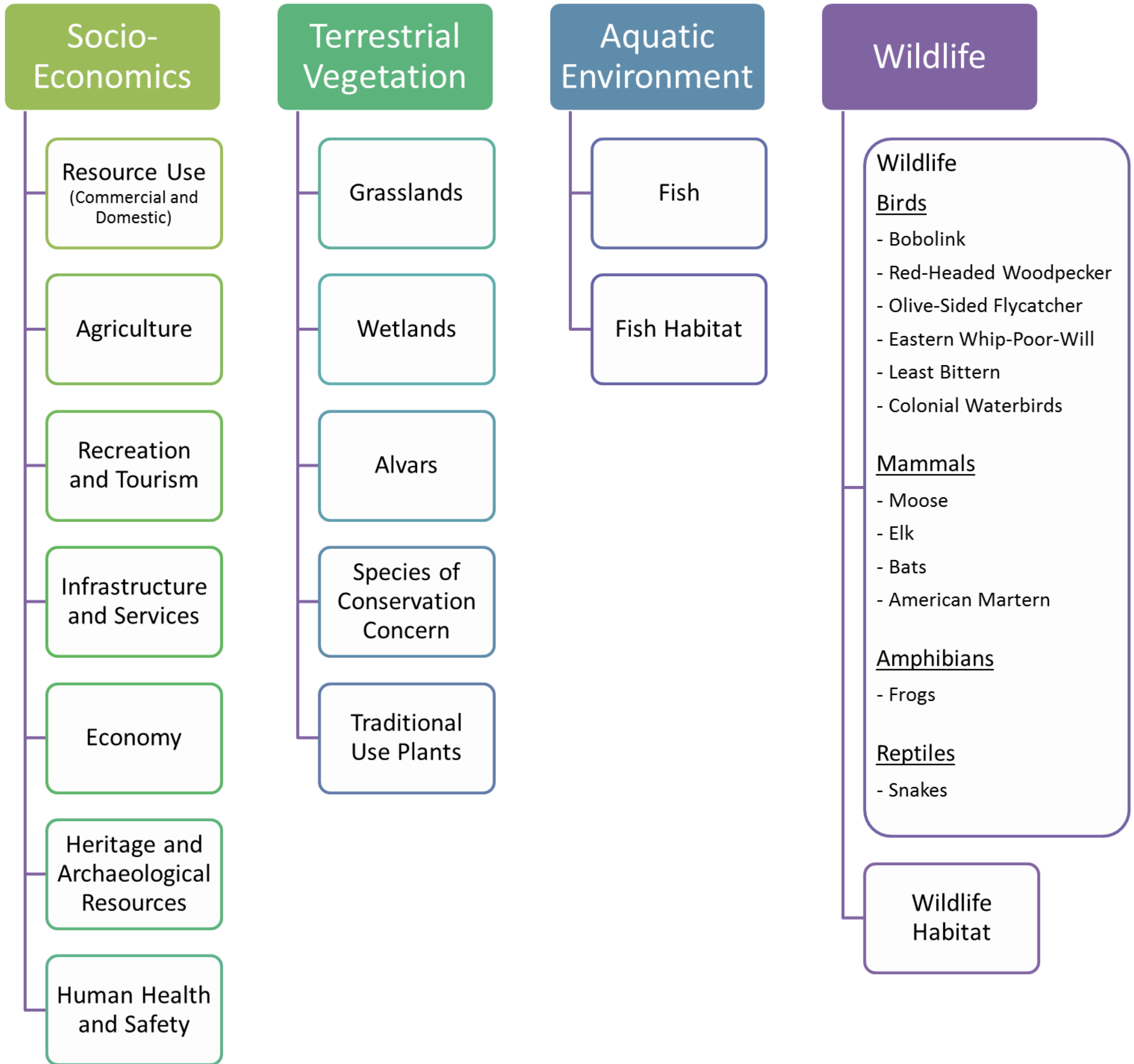
“Valued Component” is a term used by the Canadian Environmental Assessment Agency to describe important components of the environment which are used to assess potential effects of a project.





# Valued Components

Proposed Valued Components for the Lake Manitoba and Lake St. Martin Outlet Channels Project are:



**What's important to you?**

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# Spatial Boundaries

- Spatial boundaries are used to identify the areas or regions where Project effects are likely to occur and be assessed.
- To accurately assess effects, spatial boundaries are divided into 3 categories:

## **Project Footprint**

The area on which the Project components or activities are located (e.g. Channel Right of Way).

## **Local Assessment Area**

Area beyond the Project Footprint in which direct and indirect Project effects are measurable.

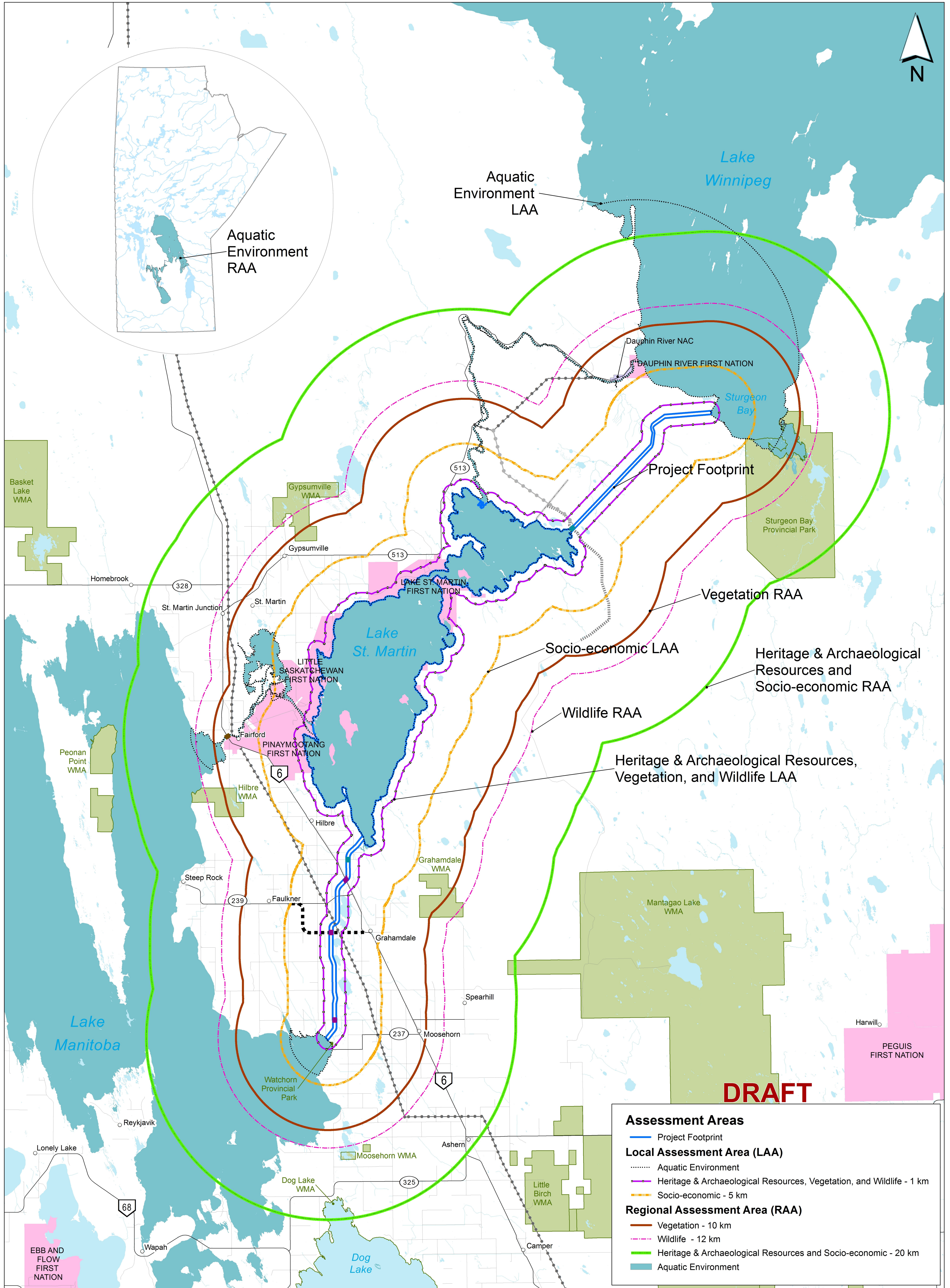
## **Regional Assessment Area**

Area beyond the LAA within which most indirect and cumulative effects are expected to occur.


Different spatial boundaries may be used for each Valued Component based on their predicted project related effects.



# Proposed Spatial Boundaries



**Lake Manitoba & Lake St. Martin Outlet Channels**

<p><b>Proposed Features</b></p> <ul style="list-style-type: none"> <li>Proposed Water Control Structure</li> <li>Proposed Bridge</li> <li>Proposed Power Line</li> <li>Proposed Access Road</li> <li>Proposed PR 239 Realignment</li> </ul>	<p><b>Base Map Features</b></p> <ul style="list-style-type: none"> <li>Fairford Water Control Structure</li> <li>Provincial Highway (PTH/PR)</li> <li>Local Road</li> <li>Power Line</li> <li>Lake St. Martin Emergency Outlet Channel</li> <li>First Nation</li> </ul>	<ul style="list-style-type: none"> <li>Northern Affairs Community (NAC)</li> <li>Provincial Park / Wildlife Management Area (WMA)</li> </ul>	<p>0 5 10 20 km</p> <p>1:175,000</p> <p>NOTES:                      1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North                      2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.                      3. Last Update: 12/06/2018</p> <p></p>
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# Lake Manitoba Outlet Channel - Proposed Land Use Limitations

Environmental Assessment also considers post-construction land uses and management activities and how these may affect people and the environment. Based on consideration of potential effects and public input received to date, MI is proposing the following land use limitations for the right of way:

Land Use	Examples of Risks or Concerns	Proposed Mitigation	What do you think?
Vehicle and Off-Road Access	<ul style="list-style-type: none"> <li>• Personal injury</li> <li>• Infrastructure and environmental damage, such as rutting and erosion, or introduction of noxious weeds</li> <li>• Accidents, such as wild fires, spills or leaks</li> <li>• Unintentional trespassing, crop damage or livestock harassment on privately held adjacent lands</li> </ul>	Prevent vehicular access to the Project right of way by use of signage and/or barriers	
Hunting	<ul style="list-style-type: none"> <li>• Personal injury</li> <li>• Increased hunting pressure on wildlife species</li> <li>• Infrastructure and property damage</li> </ul>	Hunting activity within the Project right of way will not be permitted	
Fishing	<ul style="list-style-type: none"> <li>• Personal injury</li> <li>• Increased fishing pressure on fish</li> </ul>	Fishing activity within the Project right of way will not be permitted	
Boating	<ul style="list-style-type: none"> <li>• Personal injury</li> <li>• Infrastructure and property damage</li> </ul>	Boating activity within the inlets, channels and outlets will not be permitted	
Grazing or Haying Leases	<ul style="list-style-type: none"> <li>• Livestock safety</li> <li>• Nutrient loading near water from livestock manure</li> <li>• Infrastructure and environmental damage, such as rutting and erosion or reduced vegetative cover</li> <li>• Biosecurity or transmission of livestock diseases</li> </ul>	Grazing or haying leases will not be issued or extended to the Lake Manitoba Outlet Channel Right of Way	

The proposed land uses are not intended to affect existing Indigenous rights-based activities.



# Potential Key Interactions Between the Project and the Environment

Project Component	Project Phase	Receptor									
		Climate, Noise and Air Quality	Geology and Soils	Groundwater	Surface Water	Fish and Fish Habitat	Vegetation	Mammals	Birds	Amphibians and Reptiles	Species at Risk
Lake Manitoba Outlet Channel, Inlet and Outlet	Construction	+	+	+	+	+	+	+	+	+	+
	Operation		+	+	+	+	+	+	+	+	+
	Maintenance	+			+	+	+	+	+	+	+
	Non-Operation			+	+	+	+	+	+	+	+
Lake Manitoba Outlet Channel Water Control Structure	Construction	+					+	+	+	+	+
	Operation	+									
	Maintenance	+									
Lake St. Martin Outlet Channel, Inlet, Outlet and Drop Structures	Construction	+	+	+	+	+	+	+	+	+	+
	Operation		+		+	+	+	+	+	+	+
	Maintenance	+			+	+	+	+	+	+	+
	Non-Operation				+	+	+	+	+	+	+
Lake St. Martin Outlet Channel Water Control Structure	Construction	+	+				+	+	+	+	+
	Operation	+									
	Maintenance	+									
Bridges and Culverts	Construction	+			+	+	+	+	+	+	+
	Operation				+	+		+	+	+	+
	Maintenance	+			+	+		+	+	+	+
PR 239 and Municipal Road Re-Alignments	Construction	+	+	+	+	+	+	+	+	+	+
	Operation	+		+	+	+	+	+	+	+	+
	Maintenance	+	+		+	+	+	+	+	+	+
Temporary Construction Camps and Staging Areas	Construction*	+	+		+		+	+	+	+	
	Operation**										
	Maintenance**										
Quarries	Construction	+	+	+	+		+	+	+	+	
	Operation	+	+	+	+		+	+	+	+	
	Maintenance	+	+	+	+		+	+	+	+	
Distribution Line	Construction	+	+	+	+	+	+	+	+	+	+
	Operation						+	+	+	+	+
	Maintenance	+					+	+	+	+	+

† Potential interaction; Blank cell: No anticipated interaction

Construction: Phase in which the Project components are being built, and are not yet functional  
 Operation: Phase in which the Project components have been built and are functional  
 Maintenance: Phase in which Project components are functional but undergo repair or replacement

\*Includes mobilization, demobilization and rehabilitation of temporary sites that are only required during the Project's construction phase  
 \*\*Temporary Construction Camps and Staging Areas will be decommissioned after construction and are therefore not required in the Maintenance and Operation phases



# Potential Key Interactions Between the Project and People

Project Component	Project Phase	Health and Socio-Economic Conditions	Physical and Cultural Heritage	Current use of Lands and Resources for Traditional Purposes	Sites of Importance
Lake Manitoba Outlet Channel, Inlet and Outlet	Construction	+	+	+	+
	Operation	+	+	+	+
	Maintenance	v		+	
	Non-Operation				
Lake Manitoba Outlet Channel Water Control Structure	Construction	+	+		
	Operation	+	+	+	+
	Maintenance	+			
Lake St. Martin Outlet Channel, Inlet, Outlet and Drop Structures	Construction	+	+	+	+
	Operation	+	+	+	+
	Maintenance	+		+	
	Non-Operation				
Lake St. Martin Outlet Channel Water Control Structure	Construction	+	+		
	Operation	+	+	+	+
	Maintenance	+			
Bridges and Culverts	Construction	+	+	+	
	Operation				
	Maintenance	+			
PR 239 and Municipal Road Re-Alignments	Construction	+	+	+	
	Operation				
	Maintenance	+			
Temporary Construction Camps and Staging Areas	Construction*	+	+	+	+
	Operation**				
	Maintenance**				
Quarries	Construction	+	+	+	+
	Operation			+	
	Maintenance	+			
Distribution Line	Construction	+	+	+	
	Operation			+	
	Maintenance	+		+	

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\*\*Temporary Construction Camps and Staging Areas will be decommissioned after construction and are therefore not required in the Maintenance and Operation phases



## Please Stay and Talk With Us

Provide information and concerns so they can be considered in the environmental assessment and in project design.

- ✓ Write on Discussion Boards
- ✓ Talk with Project Staff
- ✓ Complete a Questionnaire
- ✓ Email comments: [outletchannel@gov.mb.ca](mailto:outletchannel@gov.mb.ca)

Learn more:

[www.gov.mb.ca/mit/wmslmbblmoutlets/index.html](http://www.gov.mb.ca/mit/wmslmbblmoutlets/index.html)

### Future Discussion Topics:

- Environmental Effects Assessment Details
- Conclusions



# Thank You



For more information, feel free to contact  
Manitoba Infrastructure staff directly at:

**Mark Allard**

Project Director

Phone: 204-622-2261

Email: [Mark.Allard@gov.mb.ca](mailto:Mark.Allard@gov.mb.ca)

**Christine Baljko**

Environmental Coordinator

Phone: 204-479-6025

Email: [Christine.Baljko@gov.mb.ca](mailto:Christine.Baljko@gov.mb.ca)