

LAKE MANITOBA LAKE ST. MARTIN

OUTLET CHANNELS PROJECT

CONSTRUCTION SEQUENCING OVERVIEW

The following pages summarize the plan for the sequence of construction and contracts. Information is organized by channel and proposed construction year.

This document updates information previously provided in the [July 2021](#) and [January 2022](#) newsletters.

The proposed project includes:

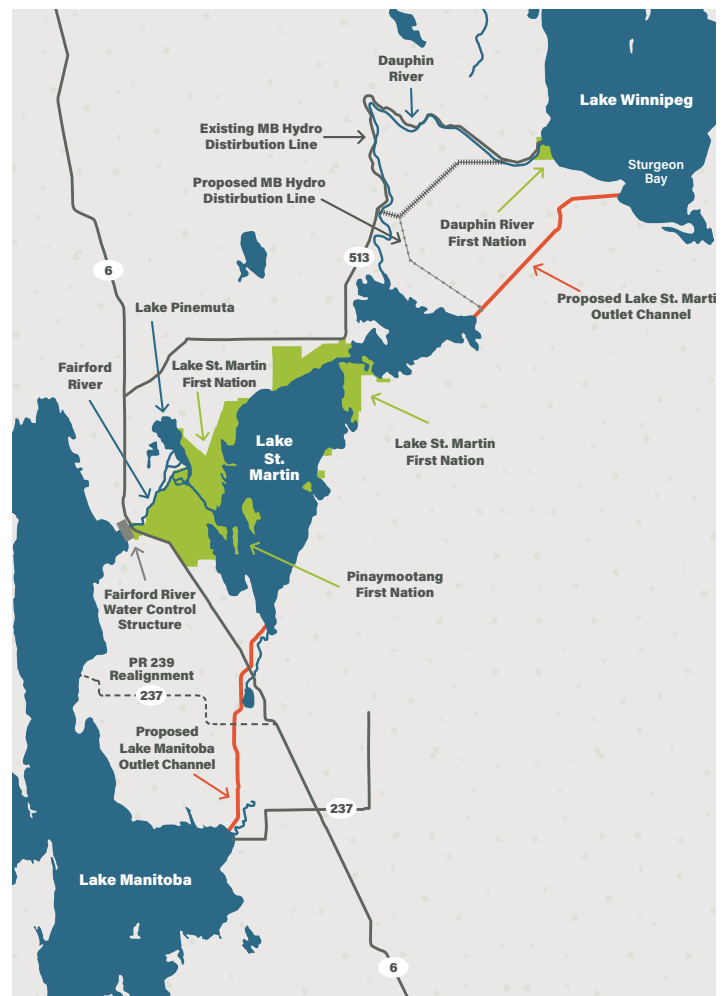
- Building two channels
 - the Lake Manitoba Outlet Channel
 - the Lake St. Martin Outlet Channel
- three Bridges
- two water control structures (one per channel), including one bridge per control structure
- one Manitoba Hydro distribution line
- Provincial Road (PR) 239 realignment and municipal road realignments

The proposed plan is based on:

- Environmental requirements
- Contract sizes and number of contracts
- Input from nearby communities
- Local conditions such as the presence of groundwater

All construction activities will follow environmental mitigation and management activities listed in Manitoba Transportation and Infrastructure's environmental management plans, as well as all conditions and requirements stipulated in regulatory permits, approvals, and authorizations.

More information on these processes and plans is available online at: www.gov.mb.ca/mit/wms/lmblsmoutlets/environmental/index.html



Terms used in this overview:

- Spoil pile: a pile of material from excavation (soil or peat) that is not required for the project once complete
- Water control structure: a structure that manages the speed and amount of water moving into the channel
- Underflow gate style: a type of water structure
- Armour: A thin lift of rock that covers the base of channel to minimize/eliminate erosion
- Riprap: Big size of rock placed on the inlets and outlets of water structures to eliminate erosions
- Revegetate: Seeding and planting native plants in disturbed areas
- Earthworks: Excavation and moving the excavated materials
- Commissioning: The process of flooding the channel with lake water after the construction is complete to test the channel different components performance
- Decommissioning: Removing the system and bring back to original condition
- Depressurization: The process of reducing the groundwater pressure and lowering the water table elevation to allow for a dry excavation
- KM/kms: kilometre/kilometres

Lake Manitoba Outlet Channel

The Lake Manitoba Outlet Channel is planned to be approximately 24 km long and connect Watchorn Bay on Lake Manitoba to Birch Bay on Lake St. Martin.

Includes:

- An outside drain along the west right-of-way limits
- A water control structure at Iverson Road, including a bridge
- three bridges over the channel
- Realignment of PR 239 (to current Carne Ridge Road)
- 10 kms of adjacent municipal road realignments
- Approximately 35 kms of improvements to the existing road network within the RM of Grahamdale

Construction activities include, but are not limited to:

- Tree clearing and site preparation
- Earthworks for the channel and roads
- Building bridges and the water control structure
- Environmental mitigation efforts (including heritage excavation and manure management)
- Revegetation

Total Channel Contracts: 16 over three years

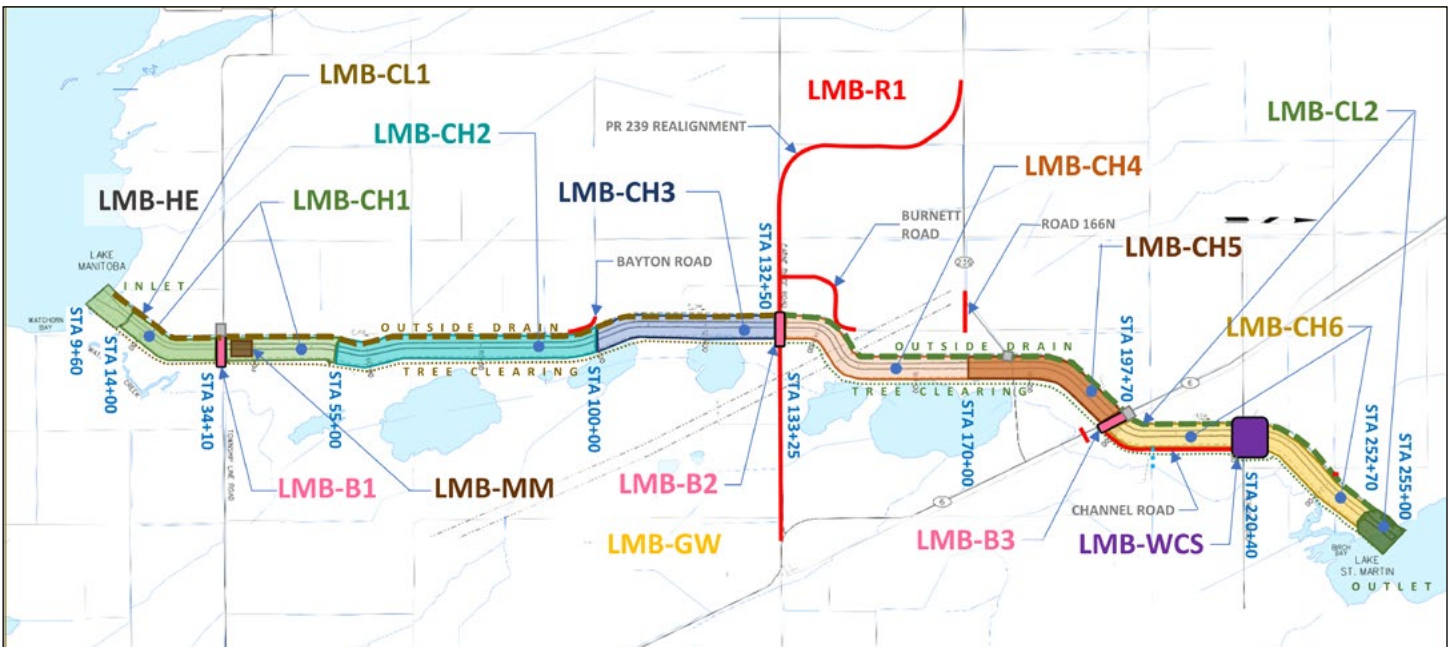


Illustration 1: Lake Manitoba Outlet Channel Contracts

Lake Manitoba Channel Year One: Site Preparation, Bridges, and Roadworks

Activities:

- Preparing the right of way
- Excavating the outside drain
- Excavating heritage sites
- Beginning multi-year contracts (water control structure and groundwater management)

Year One Contracts: nine

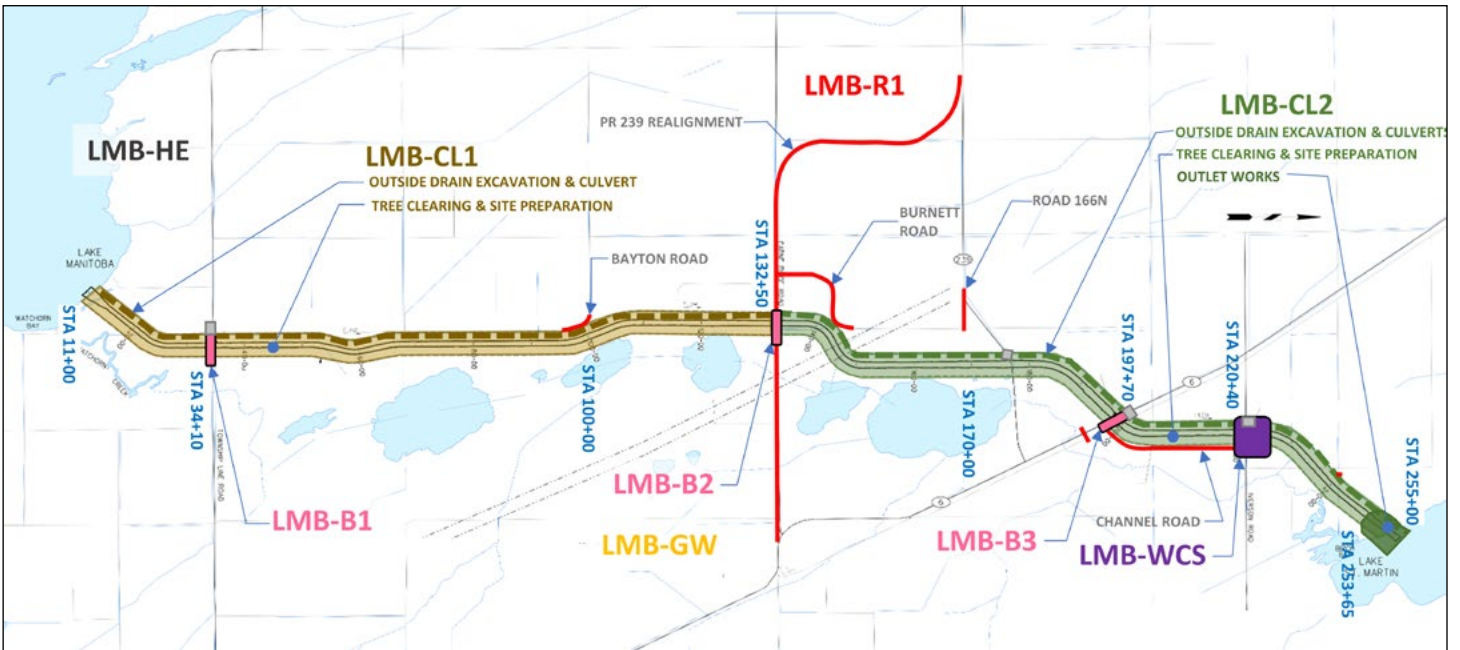


Illustration 2: Lake Manitoba Outlet Channel Contracts (Year One) – contract details next page



Lake Manitoba Channel Year One Continued – Contract Details

CONTRACT ID	CONTRACT DESCRIPTION	DURATION	START	CONSTRUCTION ACTIVITIES
LMB-CL1	Clearing and Outside Drain Excavation	1 Year	Early in year 1	<ul style="list-style-type: none"> Clear trees (approximately 12 km) Excavate (approximately 12.3 km) Remove manure from a former agricultural operation and stockpile on several locations
LMB-CL2	Clearing and Outside Drain Excavation and Outlet Works	1 Year	Early in year 1	<ul style="list-style-type: none"> Clear trees (approximately 12 km) Excavate (approximately 12 km) Outlet works: excavate and complete riprap protection
LMB-HE	Lake Manitoba Heritage Excavation	6 months	Early in year 1	<ul style="list-style-type: none"> Excavate (with monitoring) Remove potential artifacts
LMB-B1	Township Line Road Bridge	1 Year	Year 1	<ul style="list-style-type: none"> Build new multi-span, concrete girder bridge Include a detour and new approach roadworks
LMB-B2	New PR 239 (Carne Ridge Road) Bridge	1 Year	Year 1	<ul style="list-style-type: none"> Build new multi-span, concrete girder bridge Include a detour and new approach roadworks
LMB-B3	Provincial Trunk Highway (PTH) 6 Bridge	18 Months	Year 1	<ul style="list-style-type: none"> Build new multi-span, steel girder bridge Include a 1 km paved detour and new approach roadworks
LMB-R1	PR 239 Realignment, Municipal Roads Realignments, RM of Grahamdale Haul Road Improvements	18 Months	Year 1	<ul style="list-style-type: none"> PR 239 Realignment: clear, prepare site, and build gravel surface- will continue into year 2 (approximately 10 km) Municipal Road Realignments: build new gravel roads (approximately 8 km total) RM Haul Road Improvements: make structural and surface improvements (approximately 35 km total)
LMB-WCS	Water Control Structure and Bridge – Gates, Guides, and Hoists (GGH)	2.5 years	Year 1	<ul style="list-style-type: none"> Build structure Include detour, utility relocations, and approach roadworks Commissioning
LMB-GW	Groundwater Depressurization and Monitoring	3 years	Early in year 1	<ul style="list-style-type: none"> Install groundwater monitoring and wells Operate, maintain, and monitor wells throughout construction Monitor and decommission wells post-construction Groundwater monitoring will continue after channels begin operating

Lake Manitoba Channel Year Two: Upstream Channel Works

Activities:

- Excavating the channel from the Lake Manitoba inlet location to the new PR 239
- Excavating the inlet
- Paving PR 239
- Managing manure
- Multi-year contracts continue (water control structure, roadwork, and groundwater management)

Year Two Contracts: four (LMB-R1, LMB-WCS, and LMB-GW continue from previous year)

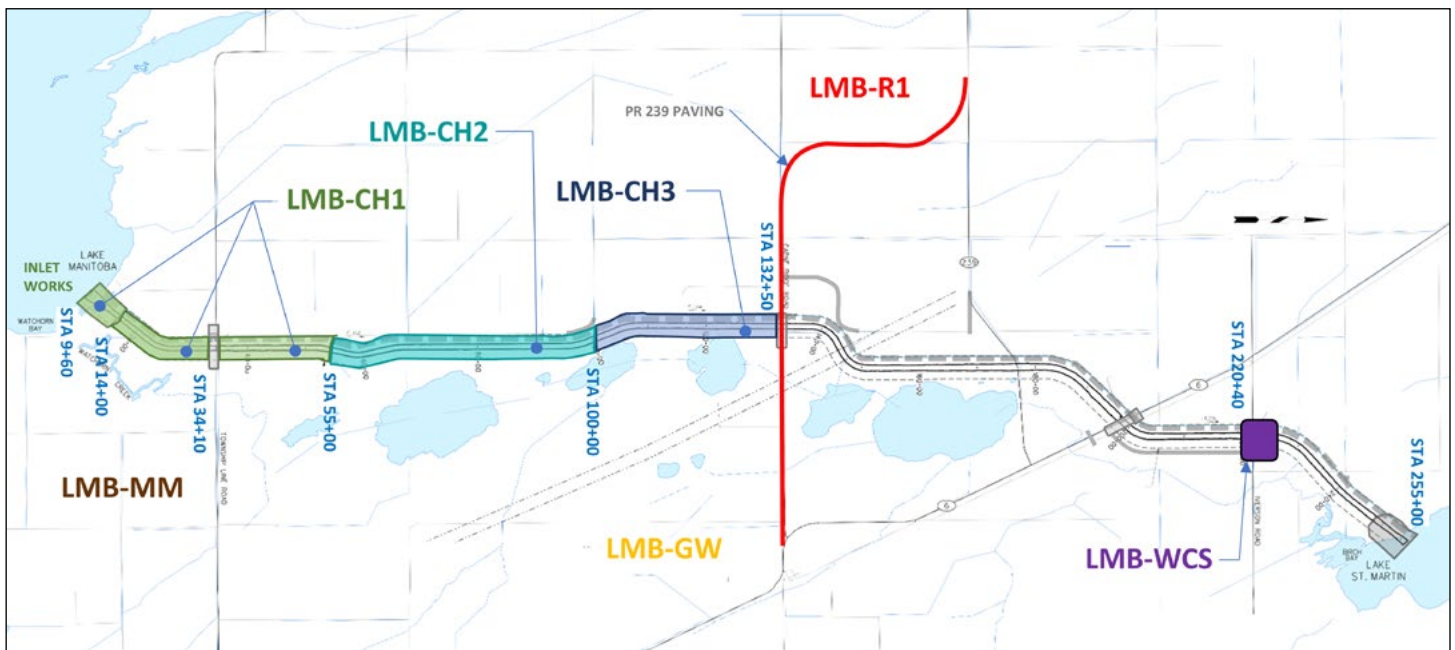


Illustration 3: Year Two Lake Manitoba Outlet Channel Contracts

CONTRACT ID	CONTRACT DESCRIPTION	DURATION	START	CONSTRUCTION ACTIVITIES
LMB-CH1, -CH2, -CH3	Channel Excavation Works south of New PR 239 and Inlet Works	1 Year	Early in year 2	<ul style="list-style-type: none"> • Excavate the channel in stages (approximately 4 km, 4.5 km, and 3.5 km respectively) • Construct spoil pile and dike • Armour (protect) channel with crushed rock and revegetate inlet works: excavate the shoreline and bed of Lake Manitoba and place riprap protection
LMB-MM	Manure Management Works (outside of LMOC Right of Way)	1 Year	Year 2	<ul style="list-style-type: none"> • Remove manure from stockpile locations and distribute on farmers field

Lake Manitoba Channel Year Three: Downstream Channel Works

Activities:

- Excavating the channel from the new PR 239 to the Lake St. Martin outlet location
- Multi-year contracts complete (water control structure and groundwater management)
- Decommission the existing PR 239 highway

Year Three Contracts: three

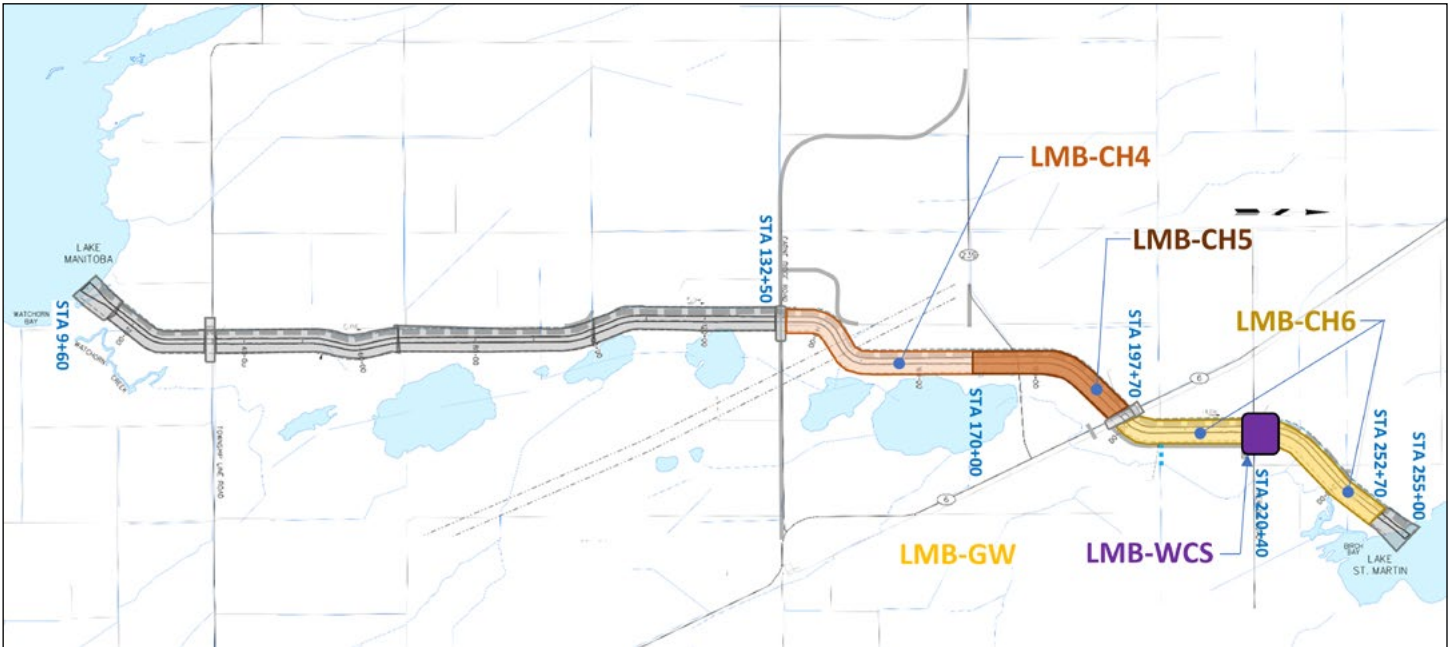


Illustration 4: Year Three Lake Manitoba Outlet Channel Contracts

CONTRACT ID	CONTRACT DESCRIPTION	DURATION	START	CONSTRUCTION ACTIVITIES
LMB-CH4, -CH5, -CH6	Channel Excavation Works north of New PR 239	1 year, 1 year, 16 months respectively	Early in year 3	<ul style="list-style-type: none"> • Excavate the channel in stages (approximately 3.7 km, 2.8 km, and 4.5 km) • Construct spoil pile and dike • Armour (protect) channel with crushed rock and revegetate

Lake St. Martin Outlet Channel

The Lake St. Martin Outlet Channel is planned to be approximately 24 km long and connect the northern basin of Lake St. Martin to Sturgeon Bay on Lake Winnipeg.

Includes:

- An outside drain and maintenance road along the east right-of-way limits
- A water control structure and bridge just downstream of the Lake St. Martin inlet

Construction activities include, but are not limited to:

- Tree clearing and site preparation
- Earthworks for the channel and drain
- Building the water control structure, including a bridge
- A new Manitoba Hydro distribution line
- Environmental mitigation efforts
- Revegetation

Total Channel Contracts: eight contracts over three years

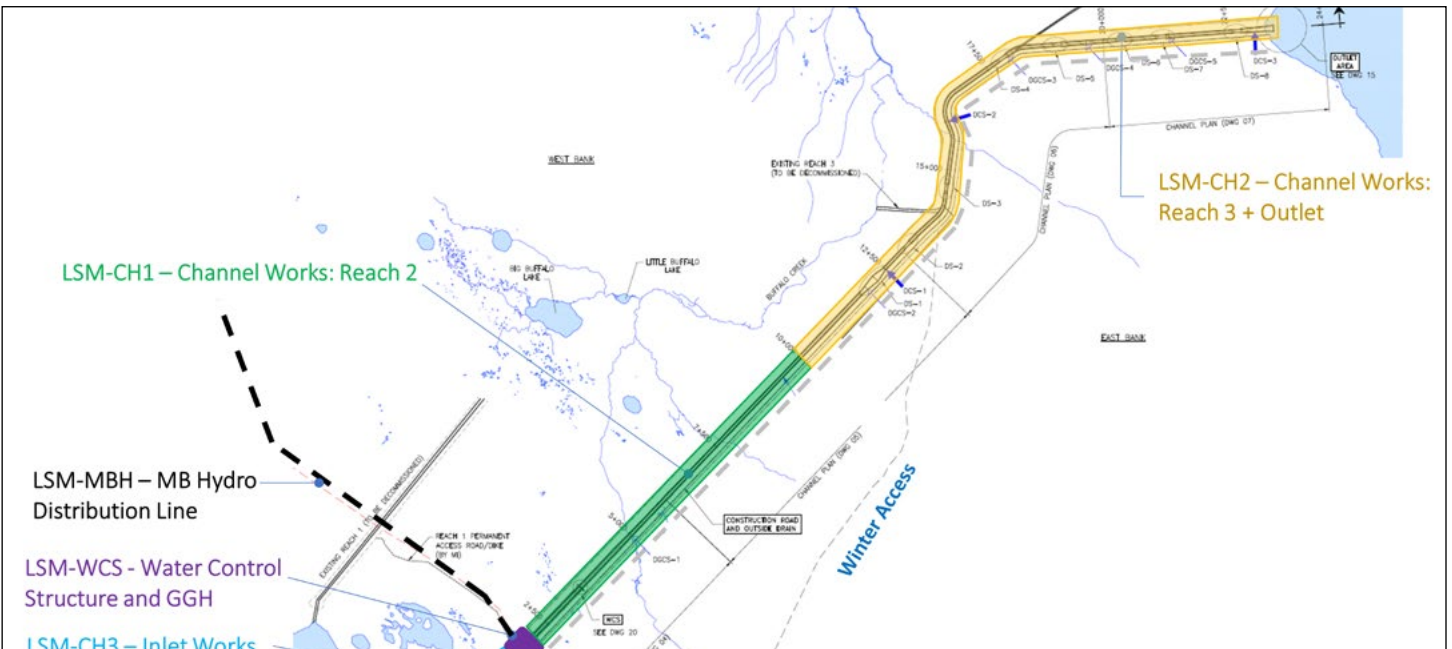
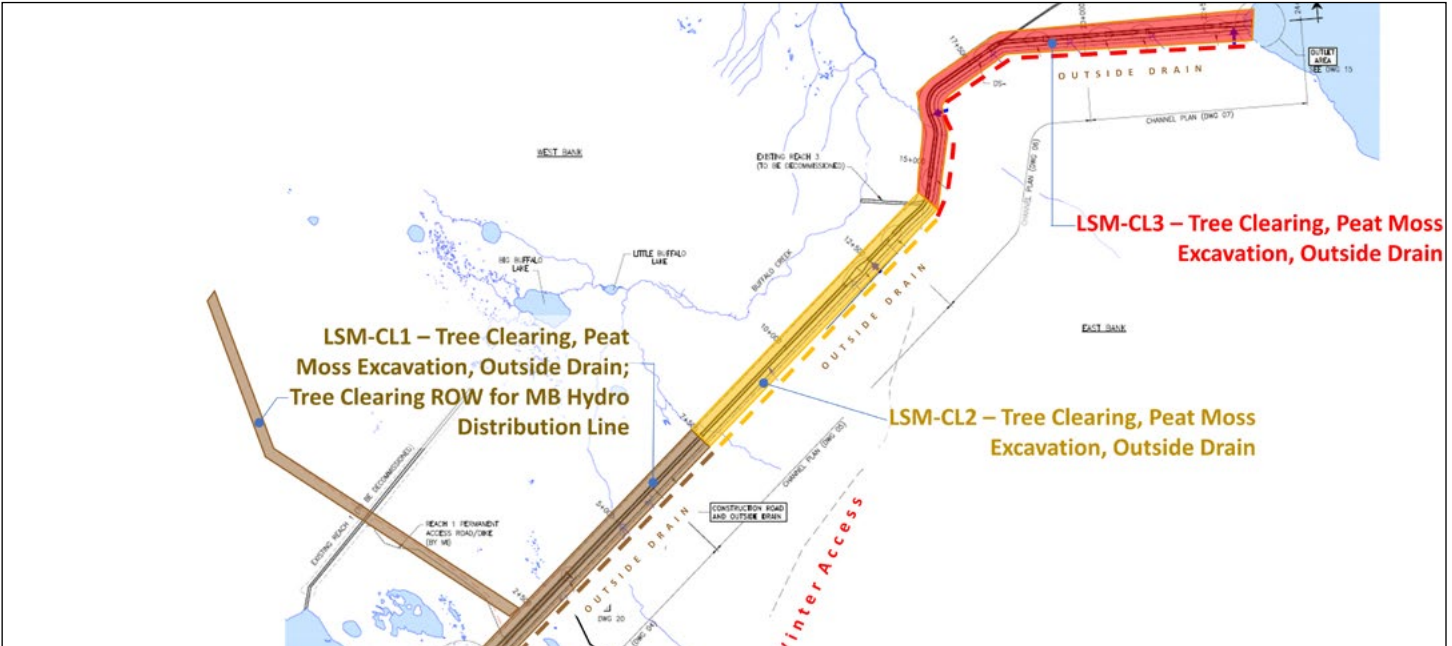


Illustration 5: Year One and Year Two Lake St. Martin Outlet Channel

Lake St. Martin Channel Year Two: Channel Works and Water Control Structure Construction

Activities:

- Excavating the channel
- Excavating the outlet
- Multi-year contract continues (water control structure)
- Installing Manitoba Hydro distribution line

Year Two Contracts: four

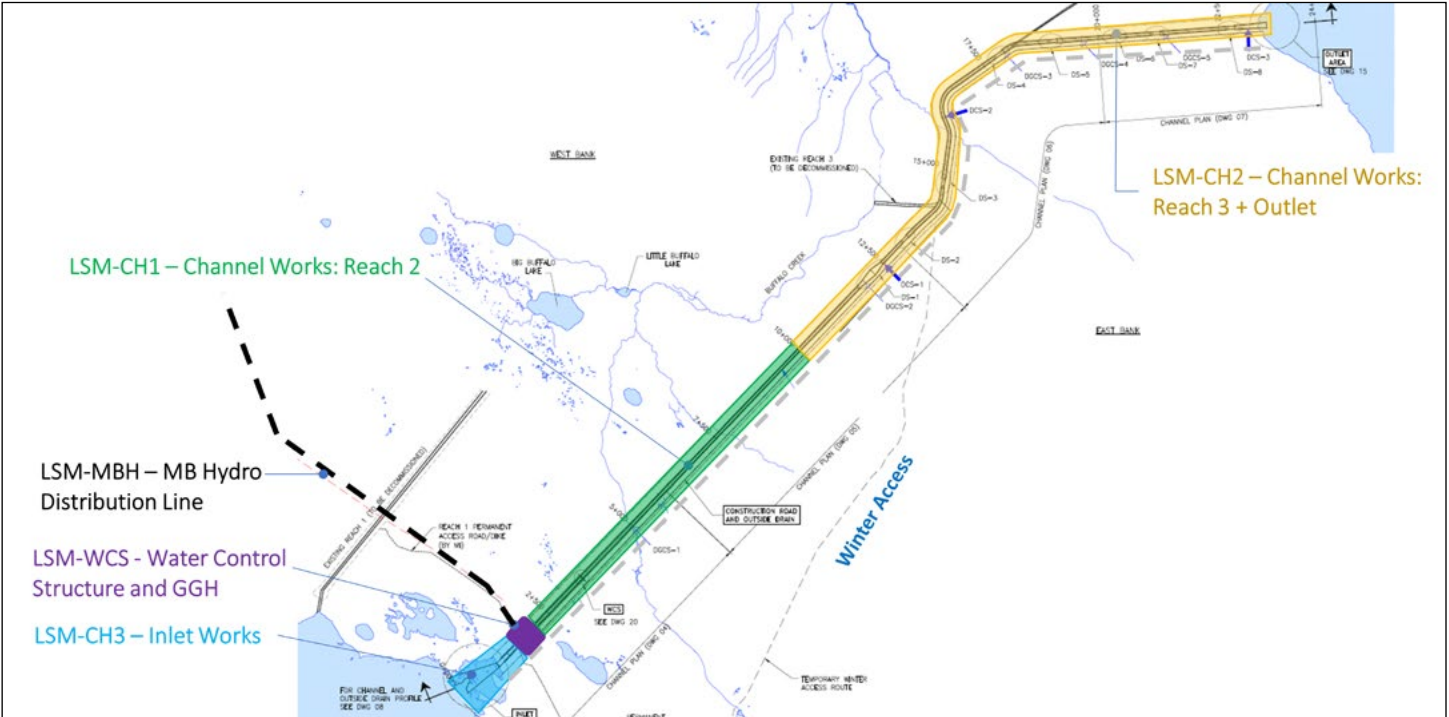


Illustration 7: Year Two Lake St. Martin Outlet Channel Contracts

CONTRACT ID	CONTRACT DESCRIPTION	DURATION	START	CONSTRUCTION ACTIVITIES
LSM-WCS	Water Control Structure and Bridge – Gates, Guides, and Hoists (GGH)	2.5 years	Year 1	<ul style="list-style-type: none"> • Build a water control structure, Build gates, guides, and hoists, Include approach roadworks, Commissioning
LSM-CH1, -CH2	Channel Excavation Works from the Water Control Structure to Lake St. Martin	2 years	Year 2	<ul style="list-style-type: none"> • Excavate the channel in stages (approximately 8km and 14 km) • Construct spoil pile and dike • Armour (protect) channel with crushed rock and revegetate • LSM-CH2 includes building 8 drop structures along the channel to manage the steep elevation drops near Lake St. Martin
LSM-CH3	Inlet Works	1 Year	Year 2	<ul style="list-style-type: none"> • Excavate (with monitoring) • Remove potential artifacts
LSM-MBH	Manitoba Hydro Distribution Line	1-2 years	TBD	<ul style="list-style-type: none"> • After clearing, Manitoba Hydro builds the new line along PR 513 (power supply to water control structure)