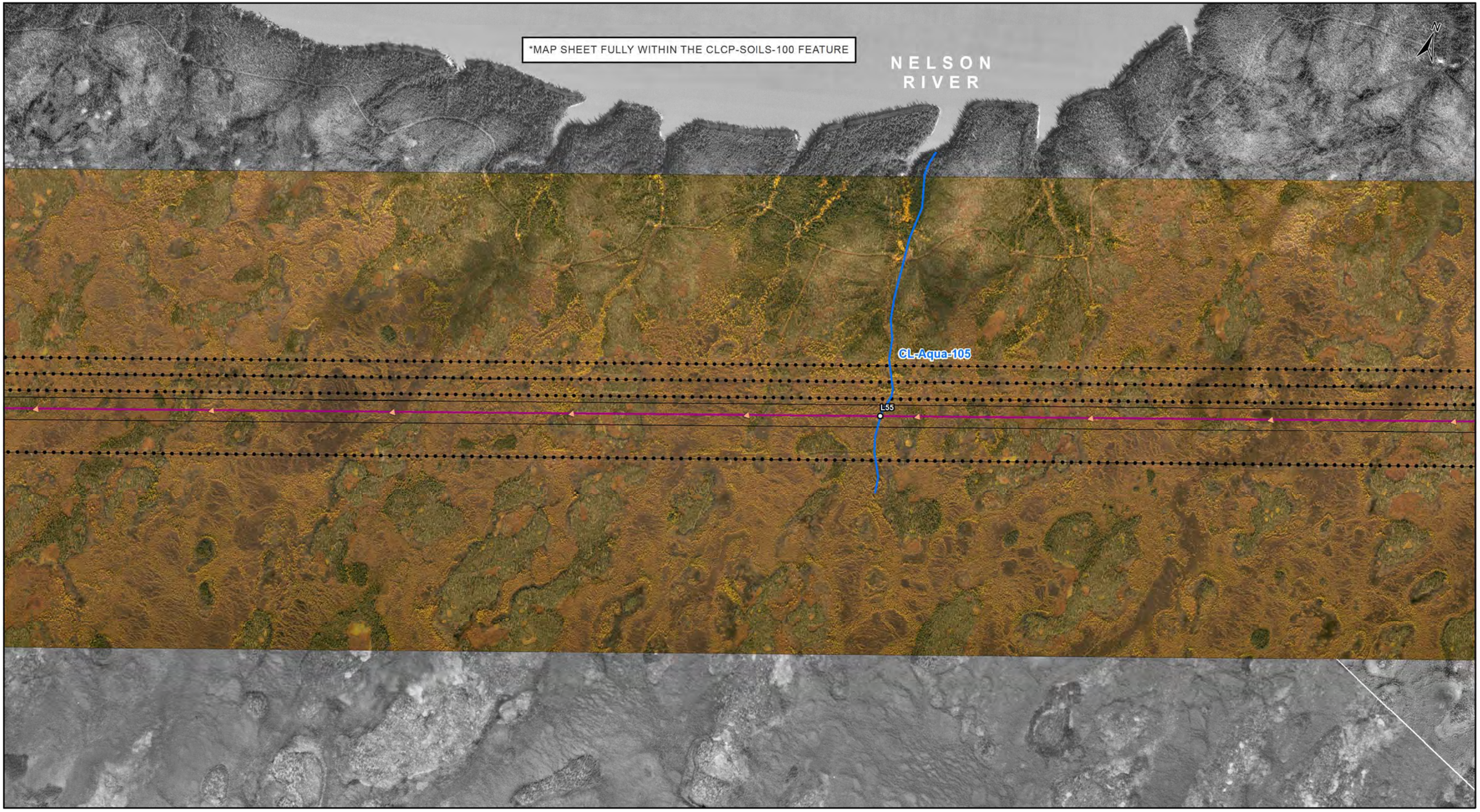


Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: November 15, 2016
Version: Final 4.0

0 125 250 500
Metres
1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Forest

Project Infrastructure
- BPIII Final Preferred Route
- Ground Electrode Line
- Construction Power Line
- Borrow Deposits
- Excavated Material Placement Area
- Keewatinohk Converter Station
- Ground Electrode
- Manitoba Hydro & Contractor Work Area
- Access Road Security Gatehouse
- Preliminary Tower Location

ESS Legend

BPIII ESS - Lines

Water
- Water Crossing

Bipole III Transmission Project
Construction Environmental Protection Plan
AC Collector Lines, Construction Power Line and Station Environmentally Sensitive Site Locations

Map 13

ESS Group: Water Crossing

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
CL	CL-Aqua-105	Unnamed Tributary of Nelson River	L55	793709	6260455	N/A	0	Marginal	Low

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation; fish habitat disturbances and impeded fish movement; rutting of floodplain.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers, shrub and herbaceous understory vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction
- No instream works or fording from April 15 - July 15

ESS Group: Permafrost

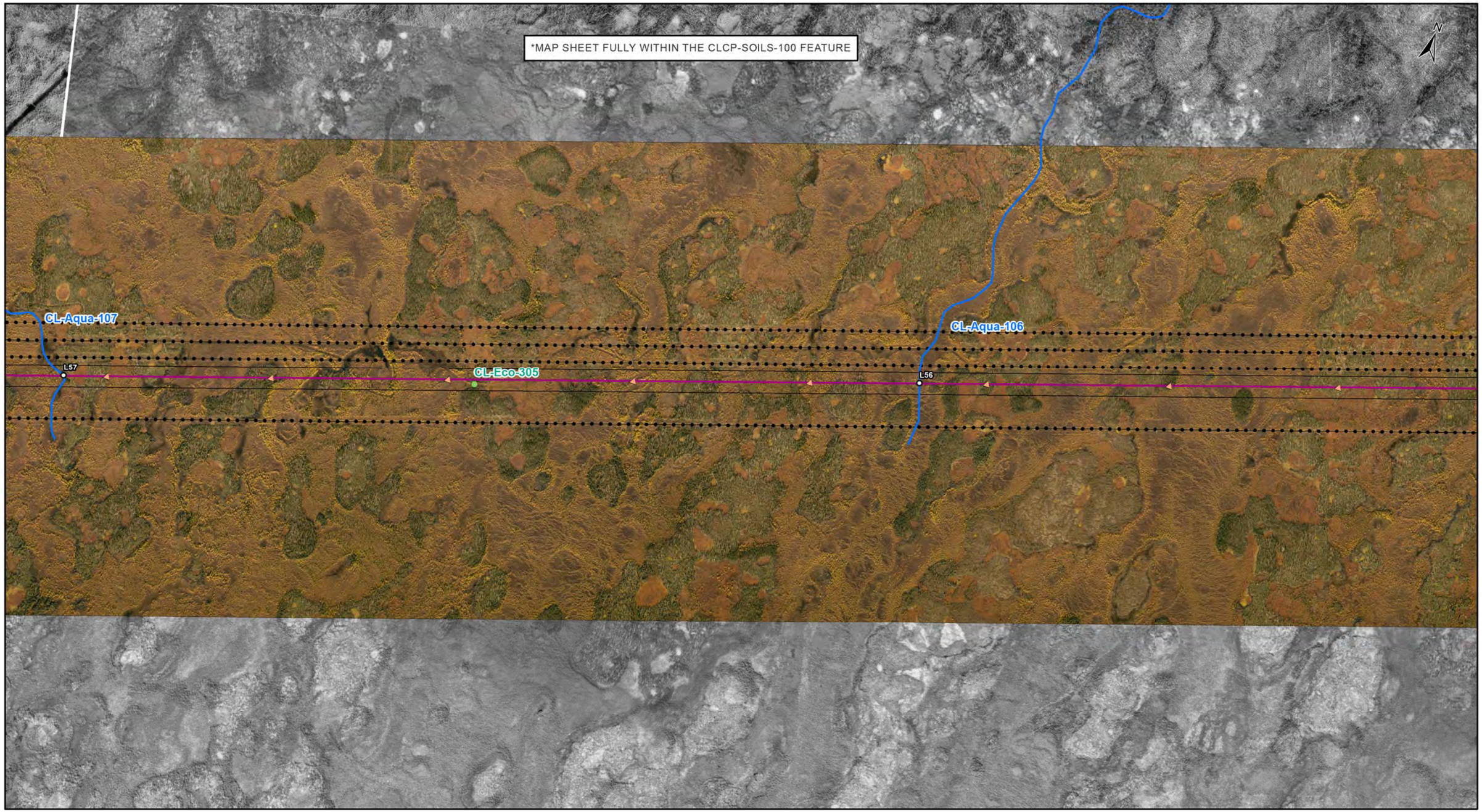
Sec-Seg ID	ESS ID	ESS Name
CLCP	CLCP-Soils-100	Permafrost

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting
- Use existing trails, roads or cut lines whenever possible as access routes
- Avoid organic soils containing permafrost to the extent possible
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees >3m by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan



Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: November 15, 2016
Version: Final 4.0

0 125 250 500
Metres
1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Forest

Project Infrastructure
- BPIII Final Preferred Route
- Ground Electrode Line
- Construction Power Line
- Borrow Deposits
- Excavated Material Placement Area
- Keewatinohk Converter Station
- Ground Electrode
- Manitoba Hydro & Contractor Work Area
- Access Road
- Security Gatehouse
- Preliminary Tower Location

ESS Legend

BPIII ESS - Points

Ecosystem
- Species of Concern

BPIII ESS - Lines

Water
- Water Crossing

Bipole III Transmission Project
Construction Environmental Protection Plan
AC Collector Lines, Construction Power Line and Station Environmentally Sensitive Site Locations

Map 14

ESS Group: Water Crossing

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
CL	CL-Aqua-106	Unnamed Tributary of Nelson River	L56	790009	6259218	N/A	N/A	Marginal	Moderate
CL	CL-Aqua-107	Unnamed Tributary of Nelson River	L57	787804	6258481	N/A	N/A	Marginal	Moderate

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation; fish habitat disturbances and impeded fish movement; rutting of floodplain.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers, shrub and herbaceous understory vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction
- No instream works or fording from April 15 - July 15

ESS Group: Species of Concern

Sec ID	ESS ID	ESS Name	Easting	Northing
CL	CL-Eco-305	Species of Concern (plant)	788866	6258822

Potential Effects:

Potential loss of plants of conservation concern from clearing, construction, maintenance and decommissioning activities.

Specific Mitigation:

- Identify and flag prior to start of work
- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Provide 5m vegetated (shrub and herbaceous) buffer around site
- Remove trees by hand or other low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible

ESS Group: Permafrost

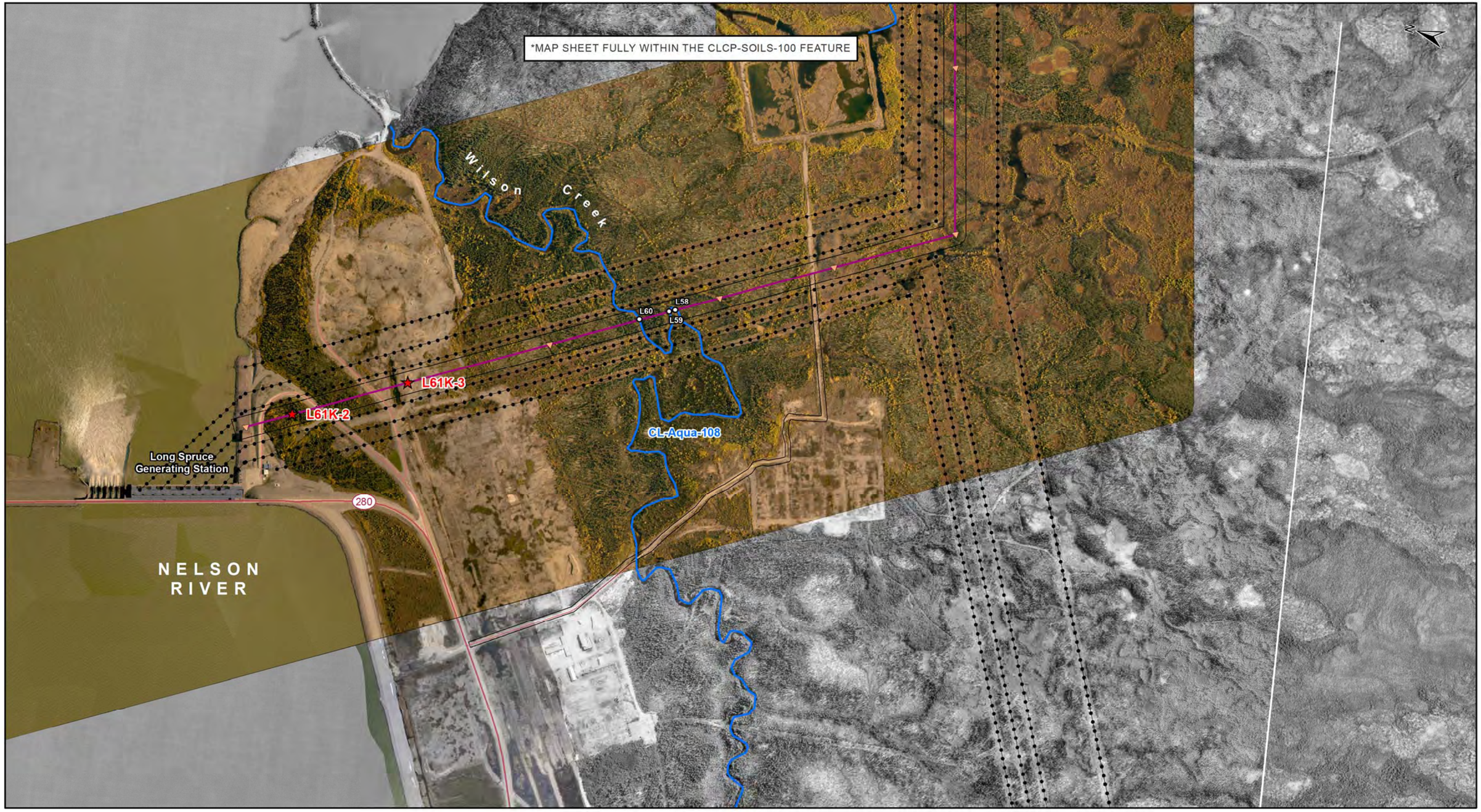
Sec-Seg ID	ESS ID	ESS Name
CLCP	CLCP-Soils-100	Permafrost

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting
- Use existing trails, roads or cut lines whenever possible as access routes
- Avoid organic soils containing permafrost to the extent possible
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees >3m by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan



Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: November 15, 2016
Version: Final 4.0

0 125 250 500
Metres
1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Forest

Project Infrastructure
- BPIII Final Preferred Route
- Ground Electrode Line
- Construction Power Line
- Borrow Deposits
- Excavated Material Placement Area
- Keewatinohk Converter Station
- Ground Electrode
- Manitoba Hydro & Contractor Work Area
- Access Road
- Security Gatehouse
- Preliminary Tower Location

ESS Legend

BPIII ESS - Lines

Water
- Water Crossing

Bipole III Transmission Project
Construction Environmental Protection Plan
AC Collector Lines, Construction Power Line and Station Environmentally Sensitive Site Locations

Map 15

ESS Group: Water Crossing

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
CL	CL-Aqua-108	Wilson Creek	L58	786613	6258885	4	4	Important	Moderate
CL	CL-Aqua-108	Wilson Creek	L59	786604	6258899	5	5	Important	Moderate
CL	CL-Aqua-108	Wilson Creek	L60	786557	6258969	5	5	Important	Moderate

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation; fish habitat disturbances and impeded fish movement; rutting of floodplain.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers, shrub and herbaceous understory vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction
- No instream works or fording from September 1 – July 15

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name
CLCP	CLCP-Soils-100	Permafrost

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage and rutting Construction matting will be used to protect the area from rutting and exposure to mineral soil during wet conditions
- Construction exceptions exist for the tower spans involving L61K (Str121-122), K61H-K64H (Str 60and 61), K61H & K62H (Str 62), K63H & K64H (Str. 64), K63H & K64H (Str 63.)
- Use existing trails, roads or cut lines whenever possible as access routes
- Avoid organic soils containing permafrost to the extent possible
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees >3m by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan