

Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 02, 2013

0 120 240 480
 Metres

1:10,000

- Land Base**
- Transmission Line
 - Highway
 - Major Road
 - Local Road
 - Winter Road
 - Railway (Operational)
 - Railway (Discontinued)
 - ⊠ Mining
 - ▭ Provincial Park

- Project Infrastructure**
- ★ Angle Tower Locations
 - BPIII Final Preferred Route
 - 66 m Right of Way

- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
 - ▲ Abandoned Rail Crossing
 - ▲ Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

- ESS Features**
- Water
 - Water Crossing
 - Soils and Terrain
 - Permafrost

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N2
 Environmentally Sensitive Site Locations**

MAP NUMBER : 92

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S16	N2-Soils-142	Permafrost	Site: 277 to 278	E-547904 N-6114041	E-547682 N-6113343	14N	732 m
N2-S16	N2-Soils-142	Permafrost	Site: 279 to 280	E-547601 N-6113090	E-547512 N-6112810	14N	293 m
N2-S16	N2-Soils-143	Permafrost	Site: 281 to 282	E-547263 N-6112030	E-547227 N-6111918	14N	118 m
N2-S16	N2-Soils-143	Permafrost	Site: 283 to 284	E-547160 N-6111708	E-547100 N-6111521	14N	196 m
N2-S16	N2-Soils-143	Permafrost	Site: 285 to 286	E-546952 N-6111059	E-546932 N-6110995	14N	67 m
N2-S16	N2-Soils-144	Permafrost	Site: 287 to 288	E-546836 N-6110695	E-546795 N-6110565	14N	137 m
N2-S16	N2-Soils-145	Permafrost	Site: 289 to 290	E-546745 N-6110408	E-546665 N-6110159	14N	261 m

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 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

ESS Group : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S16	N2-Aqua-153	Unnamed tributary of Thicket Creek	547522	6112844	14N	34 m	N/A	Marginal	Low

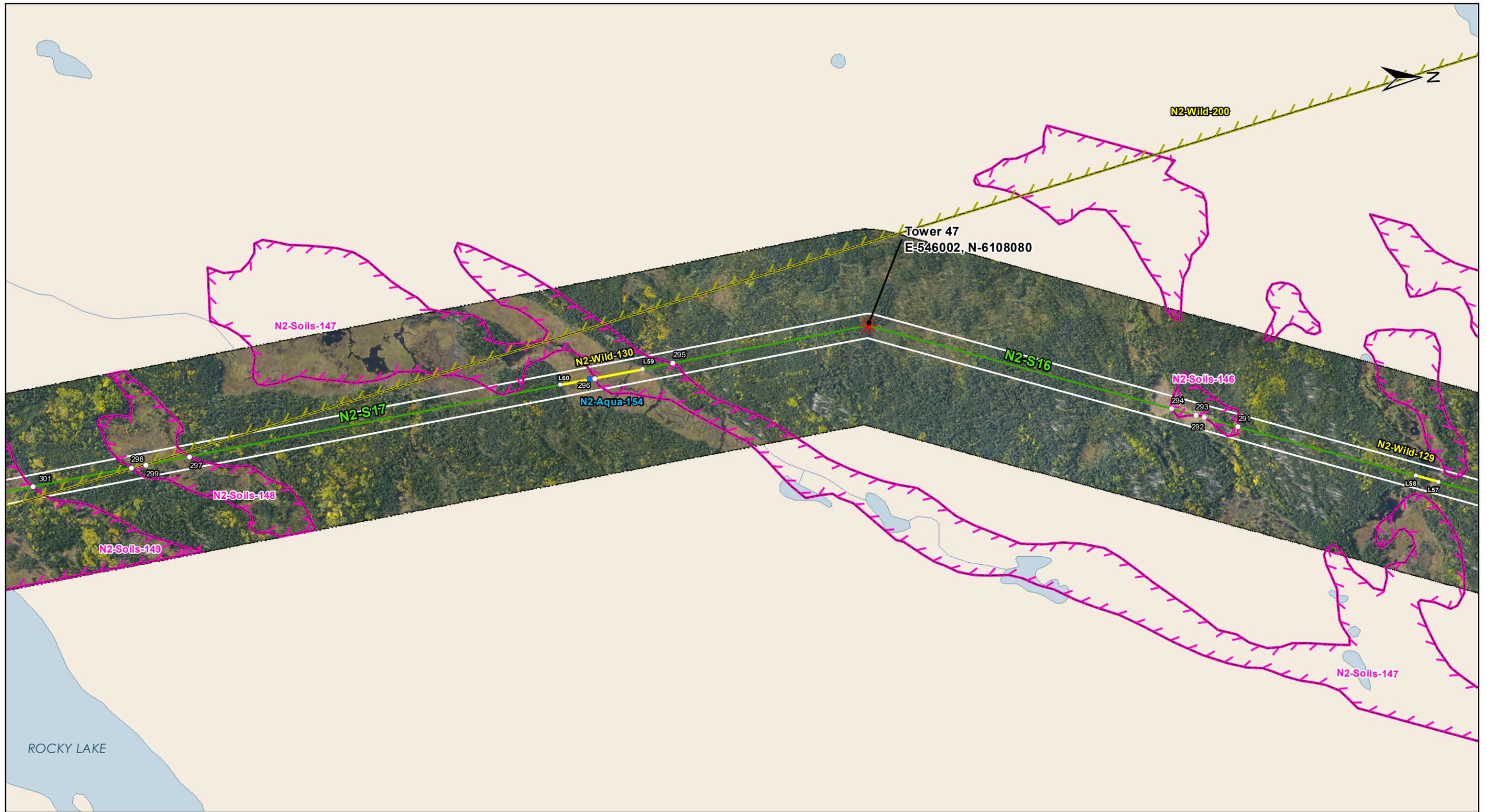
Potential Effects:

Habitat loss & contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation

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 veg will be maintained along with trees that do not violate MH Veg 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

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\011440054_BPIII_EPP\ARCMAPIESS_N2\BPIII_CENVPP_NIN2\N3\4\C1\SECTIONBASEMAP_MAPBOOK_BTIB_STANTEC_20131201.MXD



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 02, 2013

0 120 240 480
 Metres
 1:10,000

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

- Project Infrastructure**
- Angle Tower Locations
 - BPIII Final Preferred Route
 - 66 m Right of Way

- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
 - Abandoned Rail Crossing
 - Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

- ESS Features**
- Water**
 - Water Crossing
 - Wildlife**
 - Birds and Habitat
 - Wildlife**
 - Mammals and Habitat
 - Soils and Terrain**
 - Permafrost

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N2
 Environmentally Sensitive Site Locations**

MAP NUMBER : 93

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S16	N2-Wild-129	Waterfowl sensitivity area	Site: L57 to L54	E-546490 N-6109610	E-546471 N-6109551	14N	62 m
N2-S17	N2-Wild-130	Waterfowl sensitivity area	Site: L59 to L60	E-546093 N-6107464	E-546127 N-6107239	14N	228 m

Potential Effects:

Higher risk of wire collision, disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can effect colonies up to 400 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S16	N2-Soils-146	Permafrost	Site: 291 to 292	E-546318 N-6109072	E-546290 N-6108982	14N	95 m
N2-S16	N2-Soils-146	Permafrost	Site: 293 to 294	E-546282 N-6108959	E-546262 N-6108894	14N	68 m
N2-S17	N2-Soils-147	Permafrost	Site: 295 to 296	E-546081 N-6107546	E-546113 N-6107333	14N	216 m
N2-S17	N2-Soils-148	Permafrost	Site: 297 to 298	E-546278 N-6106224	E-546302 N-6106065	14N	161 m
N2-S17	N2-Soils-148	Permafrost	Site: 298 to 301	E-546302 N-6106065	E-546342 N-6105795	14N	273 m
N2-S17	N2-Soils-149	Permafrost	Site: 301 to 302	E-546342 N-6105795	E-546453 N-6105048	14N	756 m

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 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

ESS Group : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S17	N2-Aqua-154	Unnamed tributary of Clarke Creek	546115	6107319	14N	N/A	15 m	Marginal	Moderate

Potential Effects:

Habitat loss & contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation

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 veg will be maintained along with trees that do not violate MH Veg 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

MAP NUMBER : 93 con't

ESS Group : Mammals

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S17	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 299 to 300	E-546296 N-6106105	E-546485 N-6104831	14N	1288 m

Potential Effects:

Potential disturbance to and loss of sensitive caribou habitat

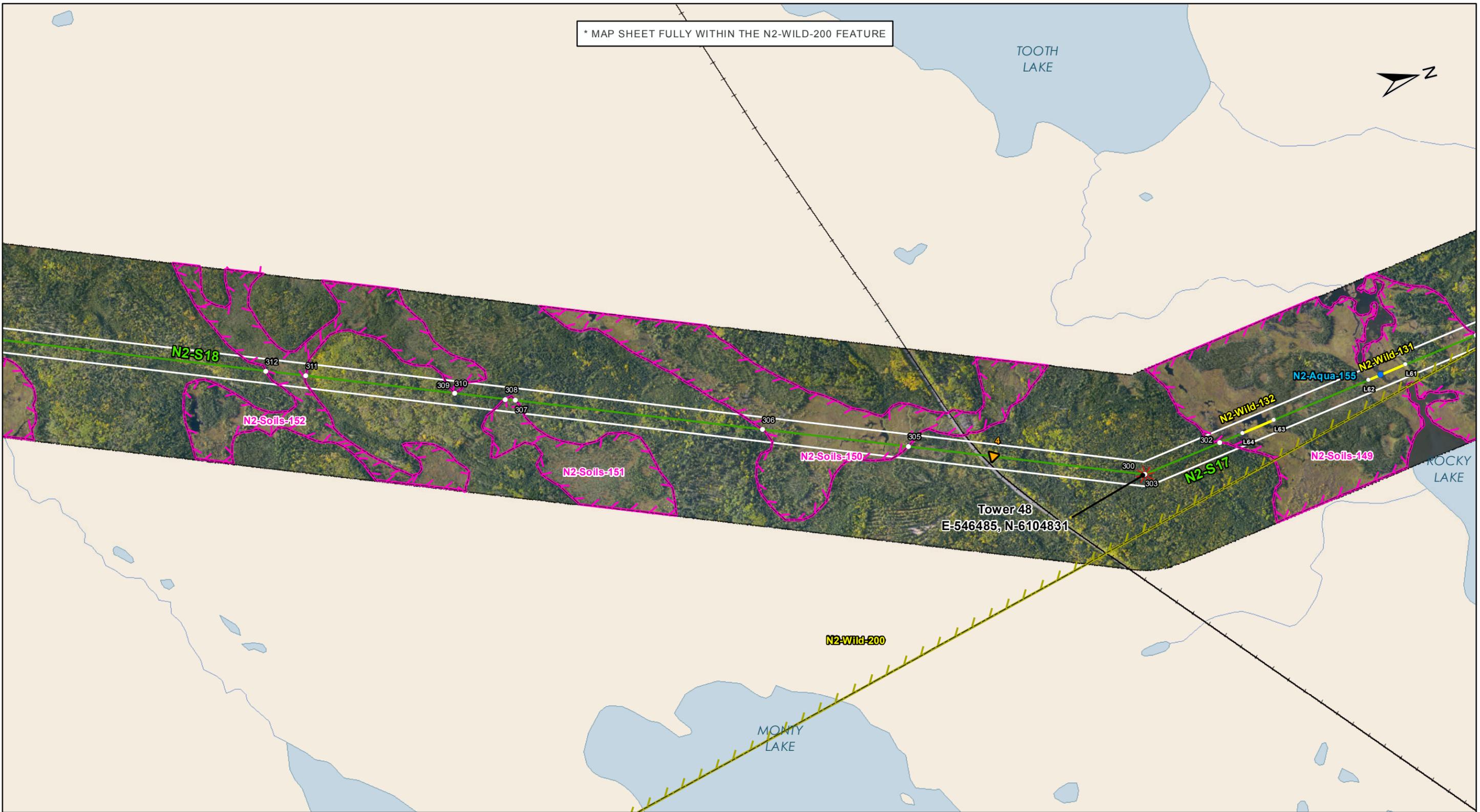
Specific Mitigation:

- Harvest within caribou range boundary will not include shear blading except for access, conductor stringing trails, and tower footprints.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used to remove danger trees, vegetation within tower footprint, access route, and helicopter access points, to maintain low tree, shrub and herb plant communities on the ROW. Use existing access roads and trails to the extent possible
- Maintenance trails to be maintained to reduce line of sight for hunters and predators. Remove trees by low-disturbance methods
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- Any Manitoba Hydro constructed or improved access routes used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction. Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash <1 m in height will also be evenly distributed over the access route to reduce the possibility of use by ATV traffic.

This page is intentionally left blank.

DOCUMENT PATH: G:\GIS\PROJECT_FOLDER\011440054_BPIII_EPP\ARCMAPIESS_N2\BPIII_CENVPP_NIN2\N3\4\CISECTION\BASEMAP_MAPBOOK_BTIB_STANTEC_20131201.MXD

* MAP SHEET FULLY WITHIN THE N2-WILD-200 FEATURE



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 02, 2013

0 120 240 480
 Metres
 1:10,000

Land Base

- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

Project Infrastructure

- Angle Tower Locations
- BPIII Final Preferred Route
- 66 m Right of Way

Points of Access*

- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Proposed Access Route

*Labels correspond to BPIII Access Management Database

ESS Features

- Water**
 - Water Crossing
- Wildlife**
 - Birds and Habitat
- Wildlife**
 - Mammals and Habitat
- Soils and Terrain**
 - Permafrost

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N2
 Environmentally Sensitive Site Locations**

MAP NUMBER : 94

ESS Group : Mammals

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S17	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 299 to 300	E-546296 N-6106105	E-546485 N-6104831	14N	1288 m
N2-S18	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 303 to 304	E-546485 N-6104831	E-544212 N-6098902	14N	6350 m

Potential Effects:

Potential disturbance to and loss of sensitive caribou habitat

Specific Mitigation:

- Harvest within caribou range boundary will not include shear blading except for access, conductor stringing trails, and tower footprints.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used to remove danger trees, vegetation within tower footprint, access route, and helicopter access points, to maintain low tree, shrub and herb plant communities on the ROW. Use existing access roads and trails to the extent possible
- Maintenance trails to be maintained to reduce line of sight for hunters and predators. Remove trees by low-disturbance methods
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- Any Manitoba Hydro constructed or improved access routes used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction. Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash <1 m in height will also be evenly distributed over the access route to reduce the possibility of use by ATV traffic.

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S17	N2-Soils-149	Permafrost	Site: 301 to 302	E-546342 N-6105795	E-546453 N-6105048	14N	756 m
N2-S18	N2-Soils-149	Permafrost	Site: 305 to 306	E-546254 N-6104227	E-546111 N-6103854	14N	399 m
N2-S18	N2-Soils-151	Permafrost	Site: 307 to 308	E-545869 N-6103224	E-545859 N-6103198	14N	28 m
N2-S18	N2-Soils-152	Permafrost	Site: 309 to 310	E-545810 N-6103070	E-545810 N-6103069	14N	0.5 m
N2-S18	N2-Soils-152	Permafrost	Site: 311 to 312	E-545664 N-6102689	E-545625 N-6102587	14N	109 m

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 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

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S17	N2-Wild-131	Waterfowl sensitivity area	Site: L61 to L62	E-546373 N-6105590	E-546388 N-6105483	14N	108 m
N2-S17	N2-Wild-132	Waterfowl sensitivity area	Site: L63 to L64	E-546430 N-6105206	E-546443 N-6105115	14N	92 m

Potential Effects:

Higher risk of wire collision, disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can effect colonies up to 400 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

MAP NUMBER : 94 con't

ESS Group : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S17	N2-Aqua-155	Unnamed tributary of Clarke Creek	546383	6105516	14N	N/A	9 m	Marginal	Moderate

Potential Effects:

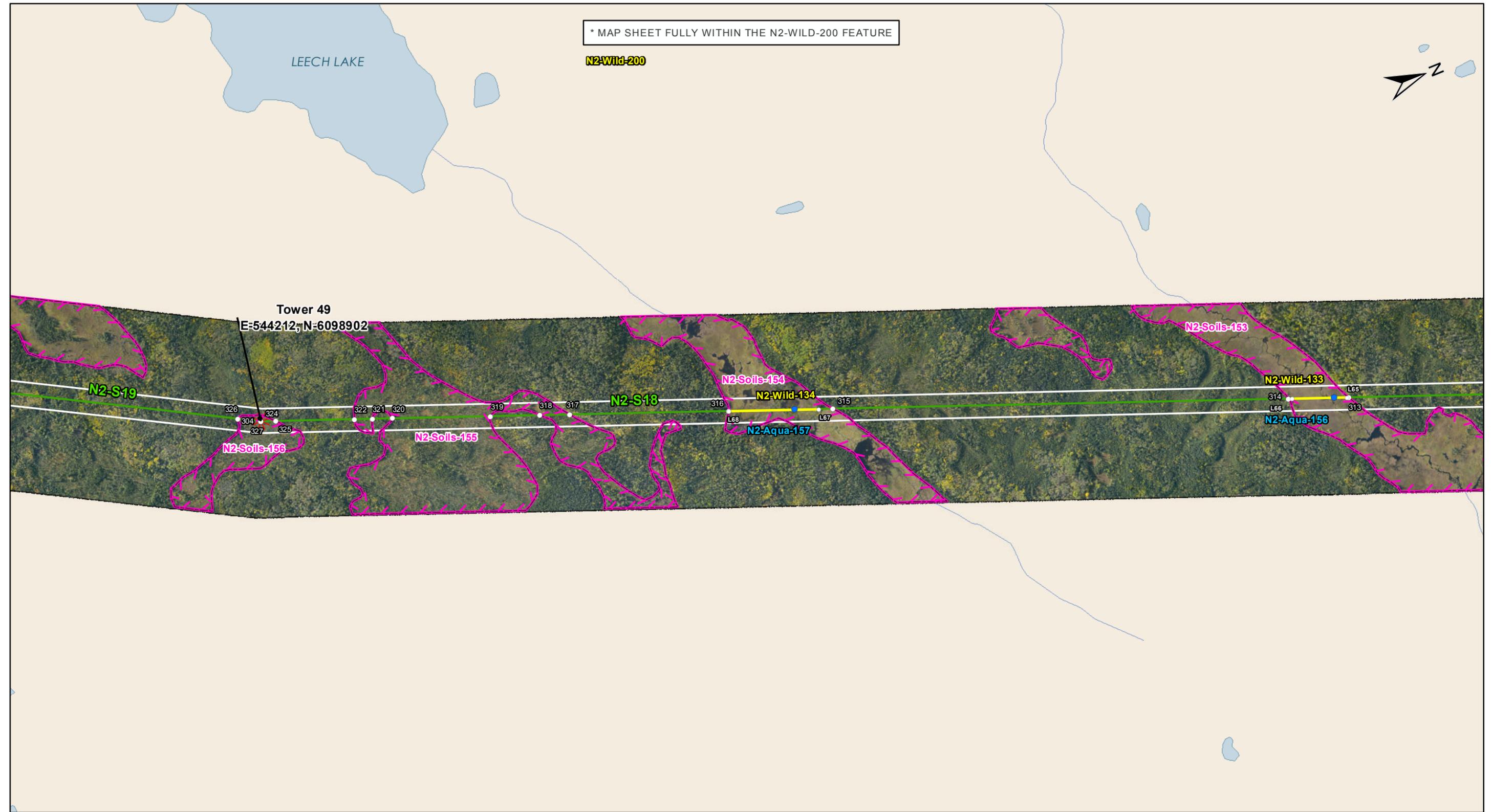
Habitat loss & contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation

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 veg will be maintained along with trees that do not violate MH Veg 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

This page is intentionally left blank.

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER00_HYDRO\11440054_BPIII_EPP\ARCMAPIESS_N2\BPIII_CENVPP_NIN2\N3\N4\CISECTIONBASEMAP_MAPBOOK_BTIB_STANTEC_20131201.MXD



* MAP SHEET FULLY WITHIN THE N2-WILD-200 FEATURE

N2-Wild-200

Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 02, 2013

0 120 240 480
 Metres
 1:10,000

Land Base

- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

Project Infrastructure

- ★ Angle Tower Locations
- BPIII Final Preferred Route
- 66 m Right of Way

Points of Access*

- Proposed Access Point
- Major Stream Crossing
- ▲ Abandoned Rail Crossing
- ▲ Rail Crossing
- Transmission Line Crossing
- Proposed Access Route

*Labels correspond to BPIII Access Management Database

ESS Features

- Water
- Water Crossing
- Wildlife
- Birds and Habitat
- Wildlife
- Mammals and Habitat
- Soils and Terrain
- Permafrost



**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N2
 Environmentally Sensitive Site Locations**

MAP NUMBER : 95

ESS Group : Mammals

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S18	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 303 to 304	E-546485 N-6104831	E-544212 N-6098902	14N	6350 m
N2-S19	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 327 to 328	E-544212 N-6098902	E-542040 N-6094919	14N	4537 m

Potential Effects:

Potential disturbance to and loss of sensitive caribou habitat

Specific Mitigation:

- Harvest within caribou range boundary will not include shear blading except for access, conductor stringing trails, and tower footprints.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used to remove danger trees, vegetation within tower footprint, access route, and helicopter access points, to maintain low tree, shrub and herb plant communities on the ROW. Use existing access roads and trails to the extent possible
- Maintenance trails to be maintained to reduce line of sight for hunters and predators. Remove trees by low-disturbance methods
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- Any Manitoba Hydro constructed or improved access routes used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction. Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash <1 m in height will also be evenly distributed over the access route to reduce the possibility of use by ATV traffic.

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S18	N2-Soils-153	Permafrost	Site: 313 to 314	E-545269 N-6101660	E-545211 N-6101507	14N	163 m
N2-S18	N2-Soils-154	Permafrost	Site: 315 to 316	E-544768 N-6100353	E-544667 N-6100089	14N	282 m
N2-S18	N2-Soils-155	Permafrost	Site: 317 to 318	E-544512 N-6099685	E-544483 N-6099609	14N	81 m
N2-S18	N2-Soils-155	Permafrost	Site: 319 to 320	E-544435 N-6099484	E-544340 N-6099236	14N	266 m
N2-S18	N2-Soils-155	Permafrost	Site: 321 to 322	E-544320 N-6099185	E-544303 N-6099139	14N	49 m
N2-S18	N2-Soils-156	Permafrost	Site: 323 to 324	E-544226 N-6098940	E-544212 N-6098902	14N	41 m
N2-S19	N2-Soils-156	Permafrost	Site: 325 to 326	E-544212 N-6098902	E-544182 N-6098847	14N	62 m

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 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

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S18	N2-Wild-133	Waterfowl sensitivity area	Site: L65 to L66	E-545268 N-6101657	E-545215 N-6101517	14N	150 m
N2-S18	N2-Wild-134	Waterfowl sensitivity area	Site: L67 to L68	E- 544755 N-6100317	E-544668 N-6100091	14N	243 m

Potential Effects:

Higher risk of wire collision, disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can effect colonies up to 400 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

MAP NUMBER : 95 con't

ESS Group : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S18	N2-Aqua-156	Unnamed tributary of Clarke Creek	545255	6101624	14N	N/A	8 m	Marginal	Moderate
N2-S18	N2-Aqua-157	Unnamed tributary of Clarke Creek	544730	6100255	14N	N/A	5 m	Marginal	Moderate

Potential Effects:

Habitat loss & contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation

Specific Mitigation:

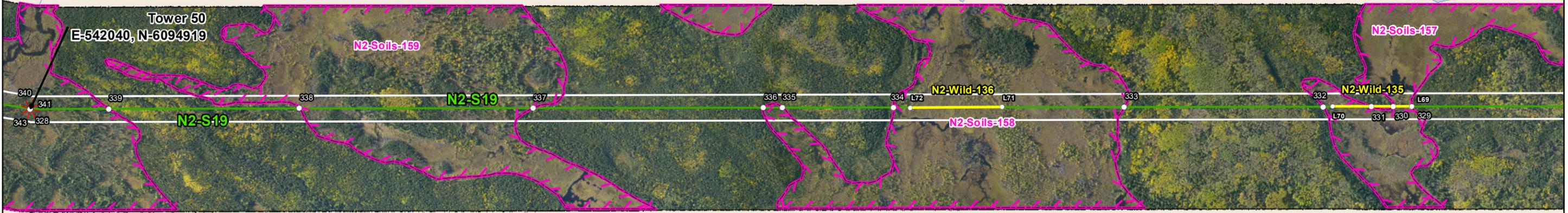
- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg 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

This page is intentionally left blank.

DOCUMENT PATH: G:\GIS\PROJECT_FOLDER00_HYDRO\11440054_BPIII_EPP\ARCMAPIESS_N2\BPIII_CENVPP_NIN2\N3\N4\CISECTIONBASEMAP_MAPBOOK_BTIB_STANTEC_20131201.MXD

* MAP SHEET FULLY WITHIN THE N2-WILD-200 FEATURE

N2-Wild-200



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 02, 2013

0 120 240 480
 Metres

1:10,000

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

- Project Infrastructure**
- Angle Tower Locations
 - BPIII Final Preferred Route
 - 66 m Right of Way

- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
 - Abandoned Rail Crossing
 - Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

- ESS Features**
- Wildlife**
 - Birds and Habitat
 - Wildlife**
 - Mammals and Habitat
 - Soils and Terrain**
 - Permafrost

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N2
 Environmentally Sensitive Site Locations**

MAP NUMBER : 96

ESS Group : Mammals

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S19	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 327 to 328	E-544212 N-6098902	E-542040 N-6094919	14N	4537 m
N2-S20	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 343 to 344	E-542040 N-6094919	E-538695 N-6090747	14N	5347 m

Potential Effects:

Potential disturbance to and loss of sensitive caribou habitat

Specific Mitigation:

- Harvest within caribou range boundary will not include shear blading except for access, conductor stringing trails, and tower footprints.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used to remove danger trees, vegetation within tower footprint, access route, and helicopter access points, to maintain low tree, shrub and herb plant communities on the ROW. Use existing access roads and trails to the extent possible
- Maintenance trails to be maintained to reduce line of sight for hunters and predators. Remove trees by low-disturbance methods
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- Any Manitoba Hydro constructed or improved access routes used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction. Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash <1 m in height will also be evenly distributed over the access route to reduce the possibility of use by ATV traffic.

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S19	N2-Soils-157	Permafrost	Site: 329 to 330	E-543734 N-6098026	E-543712 N-6097985	14N	47 m
N2-S19	N2-Soils-157	Permafrost	Site: 331 to 332	E-543685 N-6097936	E-543625 N-6097827	14N	125 m
N2-S19	N2-Soils-158	Permafrost	Site: 333 to 334	E-543382 N-6097380	E-543099 N-6096861	14N	591 m
N2-S19	N2-Soils-158	Permafrost	Site: 335 to 336	E-542962 N-6096610	E-542939 N-6096568	14N	48 m
N2-S19	N2-Soils-159	Permafrost	Site: 337 to 338	E-542656 N-6096050	E-542370 N-6095524	14N	598 m
N2-S19	N2-Soils-160	Permafrost	Site: 339 to 340	E-542136 N-6095095	E-542040 N-6094919	14N	201 m
N2-S20	N2-Soils-160	Permafrost	Site: 341 to 342	E-542040 N-6094919	E-541592 N-6094360	14N	715 m

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 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

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S19	N2-Wild-135	Waterfowl sensitivity area	Site: L69 to L70	E-543735 N-6098027	E-543637 N-6097848	14N	204 m
N2-S19	N2-Wild-136	Waterfowl sensitivity area	Site: L71 to L72	E-543233 N-6097106	E-543120 N-6096900	14N	235 m

Potential Effects:

Higher risk of wire collision, disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can effect colonies up to 400 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\011440054_BPIII_EPP\ARCMAPIESS_N2\BPIII_CENVPP_NIN2\N3\N4\C1\SECTIONBASEMAP_MAPBOOK_BTIB_STANTEC_20131201.MXD

* MAP SHEET FULLY WITHIN THE N2-WILD-200 FEATURE

N2-Wild-200



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 02, 2013

0 120 240 480
 Metres

1:10,000

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

- Project Infrastructure**
- Angle Tower Locations
 - BPIII Final Preferred Route
 - 66 m Right of Way

- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
 - Abandoned Rail Crossing
 - Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

- ESS Features**
- Water**
 - Water Crossing
 - Wildlife**
 - Birds and Habitat
 - Mammals and Habitat
 - Soils and Terrain**
 - Permafrost

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N2
 Environmentally Sensitive Site Locations**

MAP NUMBER : 97

ESS Group : Mammals

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S20	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 343 to 344	E-542040 N-6094919	E-538695 N-6090747	14N	5347 m

Potential Effects:

Potential disturbance to and loss of sensitive caribou habitat

Specific Mitigation:

- Harvest within caribou range boundary will not include shear blading except for access, conductor stringing trails, and tower footprints.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used to remove danger trees, vegetation within tower footprint, access route, and helicopter access points, to maintain low tree, shrub and herb plant communities on the ROW. Use existing access roads and trails to the extent possible
- Maintenance trails to be maintained to reduce line of sight for hunters and predators. Remove trees by low-disturbance methods
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- Any Manitoba Hydro constructed or improved access routes used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction. Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash <1 m in height will also be evenly distributed over the access route to reduce the possibility of use by ATV traffic.

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S20	N2-Soils-160	Permafrost	Site: 341 to 342	E-542040 N-6094919	E-541592 N-6094360	14N	715 m
N2-S20	N2-Soils-161	Permafrost	Site: 347 to 348	E-541023 N-6093650	E-540812 N-6093387	14N	338 m
N2-S20	N2-Soils-161	Permafrost	Site: 349 to 350	E-540601 N-6093124	E-540155 N-6092567	14N	713 m
N2-S20	N2-Soils-162	Permafrost	Site: 355 to 356	E-540066 N-6092457	E-539934 N-6092292	14N	212 m

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 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

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S20	N2-Wild-137	Waterfowl sensitivity area	Site: L73 to L74	E-541990 N-6094857	E-541797 N-541797	14N	308 m
N2-S20	N2-Wild-138	Waterfowl sensitivity area	Site: L75 to L76	E-541029 N-6093657	E-540924 N-6093527	14N	168 m

Potential Effects:

Higher risk of wire collision, disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can effect colonies up to 400 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

MAP NUMBER : 97 con't

ESS Group : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S20	N2-Aqua-158	Clarke Creek	541943	6094799	14N	N/A	5m	Marginal	Moderate

Potential Effects:

Habitat loss & contamination from structure foundations & installations; Increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation

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 veg will be maintained along with trees that do not violate MH Veg 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

This page is intentionally left blank.

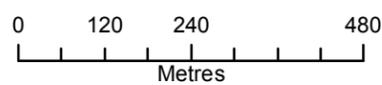
DOCUMENT PATH: G:_GIS_PROJECT_FOLDER00_HYDRO\11440054_BPIII_EPP\ARCMAPIESS_N2\BPIII_CENVPP_NIN2\N3\N4\CISECTIONBASEMAP_MAPBOOK_BTIB_STANTEC_20131201.MXD

* MAP SHEET FULLY WITHIN THE N2-WILD-200 FEATURE

N2-Wild-200



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: December 02, 2013



1:10,000

Land Base

- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

Project Infrastructure

- Angle Tower Locations
- BPIII Final Preferred Route
- 66 m Right of Way

Points of Access*

- Proposed Access Point
 - Major Stream Crossing
 - Abandoned Rail Crossing
 - Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

ESS Features

- Water**
- Water Crossing
- Wildlife**
- Birds and Habitat
- Wildlife**
- Mammals and Habitat
- Soils and Terrain**
- Permafrost

**Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N2
Environmentally Sensitive Site Locations**

MAP NUMBER : 98

ESS Group : Mammals

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S20	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 343 to 344	E-542040 N-6094919	E-538695 N-6090747	14N	5347 m
N2-S21	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 359 to 360	E-538695 N-6090747	E-536966 N-6087758	14N	3453 m

Potential Effects:

Potential disturbance to and loss of sensitive caribou habitat

Specific Mitigation:

- Harvest within caribou range boundary will not include shear blading except for access, conductor stringing trails, and tower footprints
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used to remove danger trees, vegetation within tower footprint, access route, and helicopter access points, to maintain low tree, shrub and herb plant communities on the ROW. Use existing access roads and trails to the extent possible
- Maintenance trails to be maintained to reduce line of sight for hunters and predators. Remove trees by low-disturbance methods
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW
- Any Manitoba Hydro constructed or improved access routes used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction. Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash <1 m in height will also be evenly distributed over the access route to reduce the possibility of use by ATV traffic

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S21	N2-Wild-138	Waterfowl sensitivity area	Site: L77 to L78	E-538417 N-6090266	E-538270 N-6090012	14N	294 m

Potential Effects:

Higher risk of wire collision, disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can effect colonies up to 400 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S20	N2-Soils-163	Permafrost	Site: 357 to 358	E-539162 N-6091329	E-538972 N-6091092	14N	303 m
N2-S21	N2-Soils-164	Permafrost	Site: 361 to 362	E-538619 N-6090615	E-538603 N-6090587	14N	32 m
N2-S21	N2-Soils-165	Permafrost	Sit: 363 to 364	E-538438 N-6090302	E-538252 N-6089982	14N	370 m
N2-S21	N2-Soils-165	Permafrost	Site: 365 to 366	E-538140 N-6089787	E-538111 N-6089737	14N	58 m
N2-S21	N2-Soils-166	Permafrost	Site: 367 to 368	E-538038 N-6089611	E-537958 N-6089473	14N	160 m
N2-S21	N2-Soils-166	Permafrost	Site: 369 to 370	E-537890 N-6089354	E-537876 N-6089330	14N	28 m
N2-S21	N2-Soils-166	Permafrost	Site: 371 to 372	E-537860 N-6089304	E-537772 N-6089151	14N	176 m
N2-S21	N2-Soils-166	Permafrost	Site: 373 to 374	E-537575 N-6088810	E-537547 N-6088762	14N	55 m

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 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

ESS Group : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S21	N2-Aqua-159	Unnamed tributary of Lumgair Creek	538328	6090113	14N	N/A	9 m	Marginal	Moderate

Potential Effects:

Habitat loss & contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation

MAP NUMBER : 98 con't

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 veg will be maintained along with trees that do not violate MH Veg 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

This page is intentionally left blank.

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER00_HYDRO\11440054_BPIII_EPP\ARCMAPIESS_N2\BPIII_CENVPP_NIN2\N3\N4\C1\SECTIONBASEMAP_MAPBOOK_BTIB_STANTEC_20131201.MXD

* MAP SHEET FULLY WITHIN THE N2-WILD-200 FEATURE

N2-Wild-200



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 02, 2013

0 120 240 480
 Metres

1:10,000

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

- Project Infrastructure**
- ★ Angle Tower Locations
 - BPIII Final Preferred Route
 - == 66 m Right of Way

- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
 - ▲ Abandoned Rail Crossing
 - ▲ Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

- ESS Features**
- Water
 - Water Crossing
 - Wildlife
 - Birds and Habitat
 - Wildlife
 - Mammals and Habitat
 - Soils and Terrain
 - Permafrost

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N2
 Environmentally Sensitive Site Locations**

MAP NUMBER : 99

ESS Group : Mammals

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S21	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 359 to 360	E-538695 N-6090747	E-536966 N-6087758	14N	3453 m
N2-S22	N2-Wild-200	MCWS Caribou Sensitive Area	Site: 375 to 376	E-536966 N-6087758	E-531097 N-6075843	14N	13283 m

Potential Effects:

Potential disturbance to and loss of sensitive caribou habitat

Specific Mitigation:

- Harvest within caribou range boundary will not include shear blading except for access, conductor stringing trails, and tower footprints.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used to remove danger trees, vegetation within tower footprint, access route, and helicopter access points, to maintain low tree, shrub and herb plant communities on the ROW. Use existing access roads and trails to the extent possible
- Maintenance trails to be maintained to reduce line of sight for hunters and predators. Remove trees by low-disturbance methods
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- Any Manitoba Hydro constructed or improved access routes used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction. Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash <1 m in height will also be evenly distributed over the access route to reduce the possibility of use by ATV traffic.

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S22	N2-Soils-167	Permafrost	Site: 377 to 378	E-536777 N-6087375	E-536734 N-6087287	14N	97 m
N2-S22	N2-Soils-167	Permafrost	Site: 379 to 380	E-536722 N-6087263	E-536674 N-6087166	14N	108 m
N2-S22	N2-Soils-167	Permafrost	Site: 381 to 382	E-536593 N-6087001	E-536554 N-6086921	14N	89 m
N2-S22	N2-Soils-168	Permafrost	Site: 385 to 386	E-536401 N-6086612	E-536147 N-6086096	14N	575 m
N2-S22	N2-Soils-169	Permafrost	Site: 387 to 388	E-535958 N-6085712	E-535662 N-6085112	14N	669 m

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 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

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S22	N2-Wild-140	Waterfowl sensitivity area	Site: L79 to L80	E-536403 N-6086615	E-536268 N-6086341	14N	305 m

Potential Effects:

Higher risk of wire collision, disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can effect colonies up to 400 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

ESS Group : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S22	N2-Aqua-160	Unnamed pond	536577	6086970	14N	N/A	N/A	Marginal	Moderate
N2-S22	N2-Aqua-161	Unnamed tributary of Tooth Lake	536296	6086398	14N	N/A	9m	Marginal	Moderate

Potential Effects:

Habitat loss & contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation

MAP NUMBER : 99 con't

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 veg will be maintained along with trees that do not violate MH Veg 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

This page is intentionally left blank.