

1:10,000

Map 32

ESS Group: Water Crossing

Sec- Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S15	N1- Aqua- 137	Unnamed tributary of Stephens Lake	706978	6254165	14N	N/A	N/A	Moderate	Marginal

#### **Potential Effects:**

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

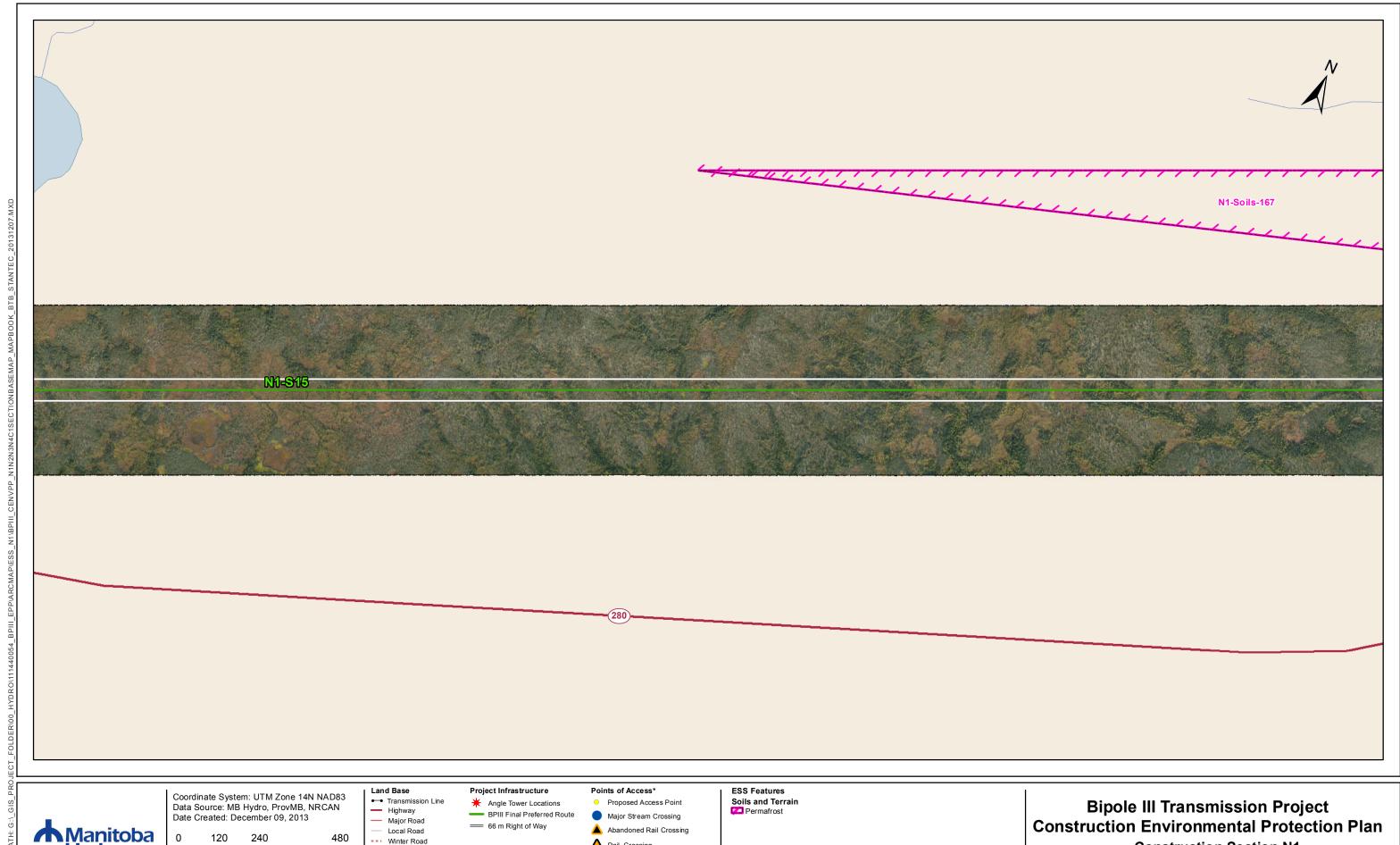
**ESS Group**: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S15	N1-Soils-167	Permafrost	Sita: 230h to 231	E-711282 N-6256124	_	14N	2718 m

#### **Potential Effects:**

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

- · 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



120 240

480 Metres 1:10,000

- Railway (Operational)

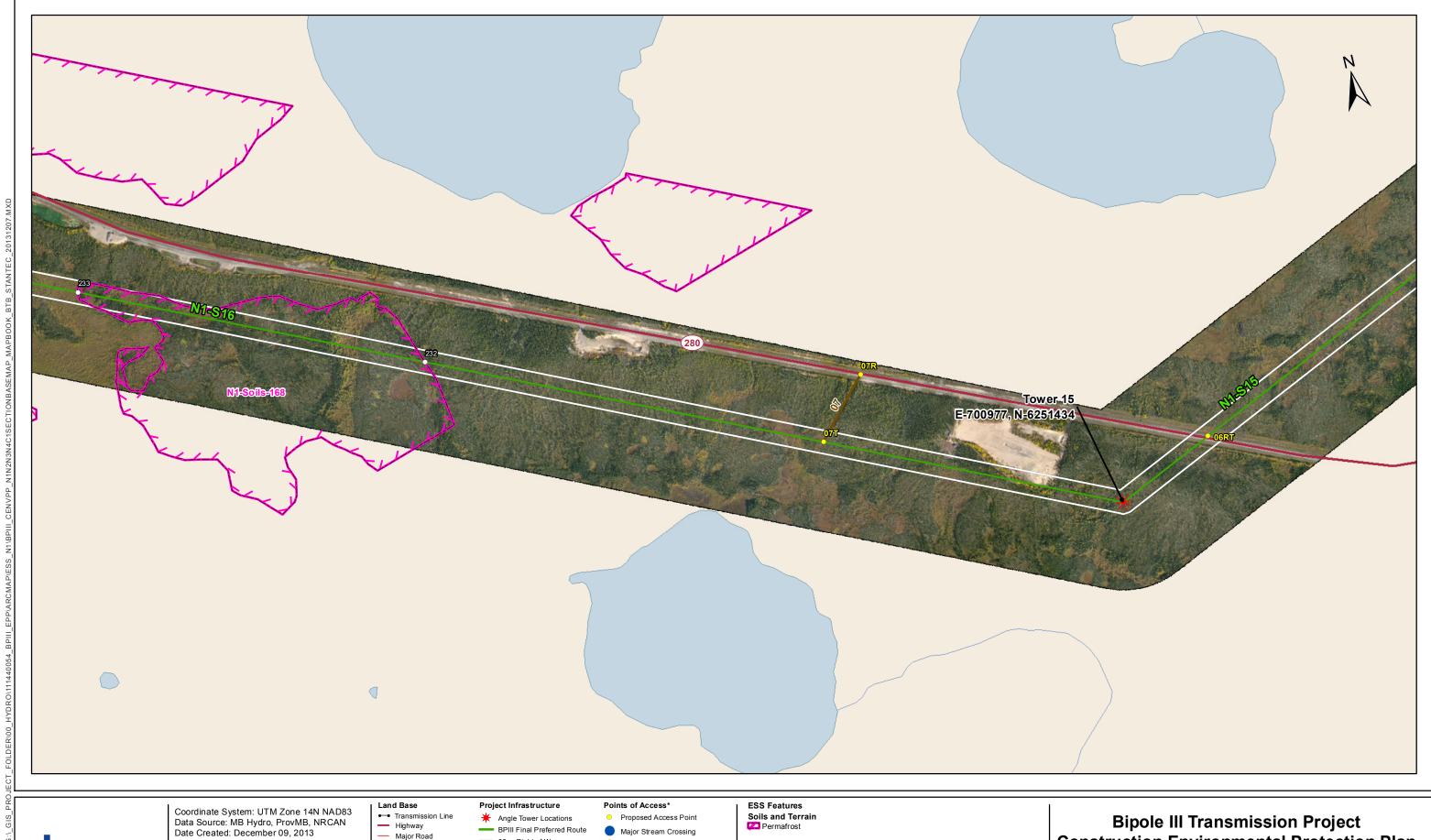
Mining

-+ Railway (Discontinued)

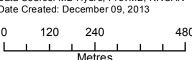
A Rail Crossing Transmission Line Crossing Proposed Access Route
\*Labels correspond to BPIII
Access Management Database

**Construction Section N1 Environmentally Sensitive Site Locations** 

No ESS Features Identified on this map segment







480 Metres

1:10,000

Highway Major Road

- Railway (Operational)

Mining

-+ Railway (Discontinued)

BPIII Final Preferred Route == 66 m Right of Way Local Road • Winter Road

Major Stream Crossing

Abandoned Rail Crossing A Rail Crossing Transmission Line Crossing

Proposed Access Route
\*Labels correspond to BPIII
Access Management Database

**Bipole III Transmission Project Construction Environmental Protection Plan Construction Section N1 Environmentally Sensitive Site Locations** 

Map 34

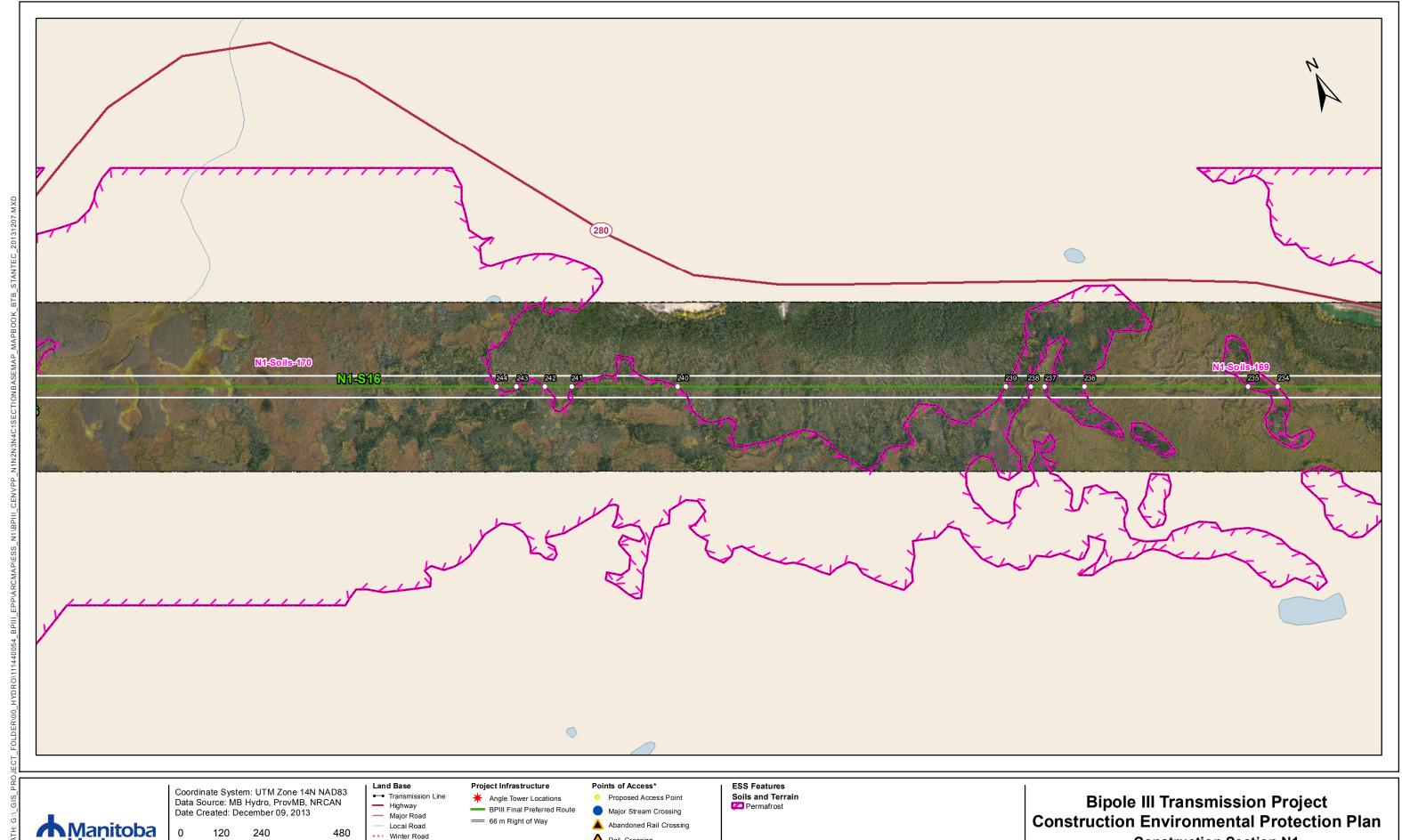
ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S16	N1-Soils-168	Permafrost	Site: 232 to 233	E-699110 N-6252298	E-698183 N-6252728	14N	1022 m

## **Potential Effects:**

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

- 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



| <u>|</u> Metres 1:10,000

- Railway (Operational)

Mining

-+ Railway (Discontinued)

A Rail Crossing

Transmission Line Crossing Proposed Access Route
\*Labels correspond to BPIII
Access Management Database

**Construction Section N1 Environmentally Sensitive Site Locations** 

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S16	N1-Soils-169	Permafrost	Sita 23/1 to 235	E-697840 N-6252886	E-697760 N-6252924	14N	88 m
N1-S16	N1-Soils-170	Permafrost	Site: 236 to 237	E-697319 N-6253128	E-697212 N-6253178	14N	117 m
N1-S16	N1-Soils-170	Permafrost	Site: 238 to 239		E-697107 N-6253226	14N	75 m
N1-S16	N1-Soils-170	Permafrost	Site: 240 to 241		E-695936 N-6253769	14N	314 m
N1-S16	N1-Soils-170	Permafrost	Site 242 to 243	E-695864 N-6253802	E-695788 N-6253837	14N	83 m

## **Potential Effects:**

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

- 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





480

120 240 | <u>|</u> Metres 1:10,000 Major Road

- Railway (Operational)

-+ Railway (Discontinued)

• Winter Road

Mining

== 66 m Right of Way Local Road

Abandoned Rail Crossing A Rail Crossing

Transmission Line Crossing

Proposed Access Route
\*Labels correspond to BPIII
Access Management Database

**Construction Environmental Protection Plan Construction Section N1 Environmentally Sensitive Site Locations** 

Map 36

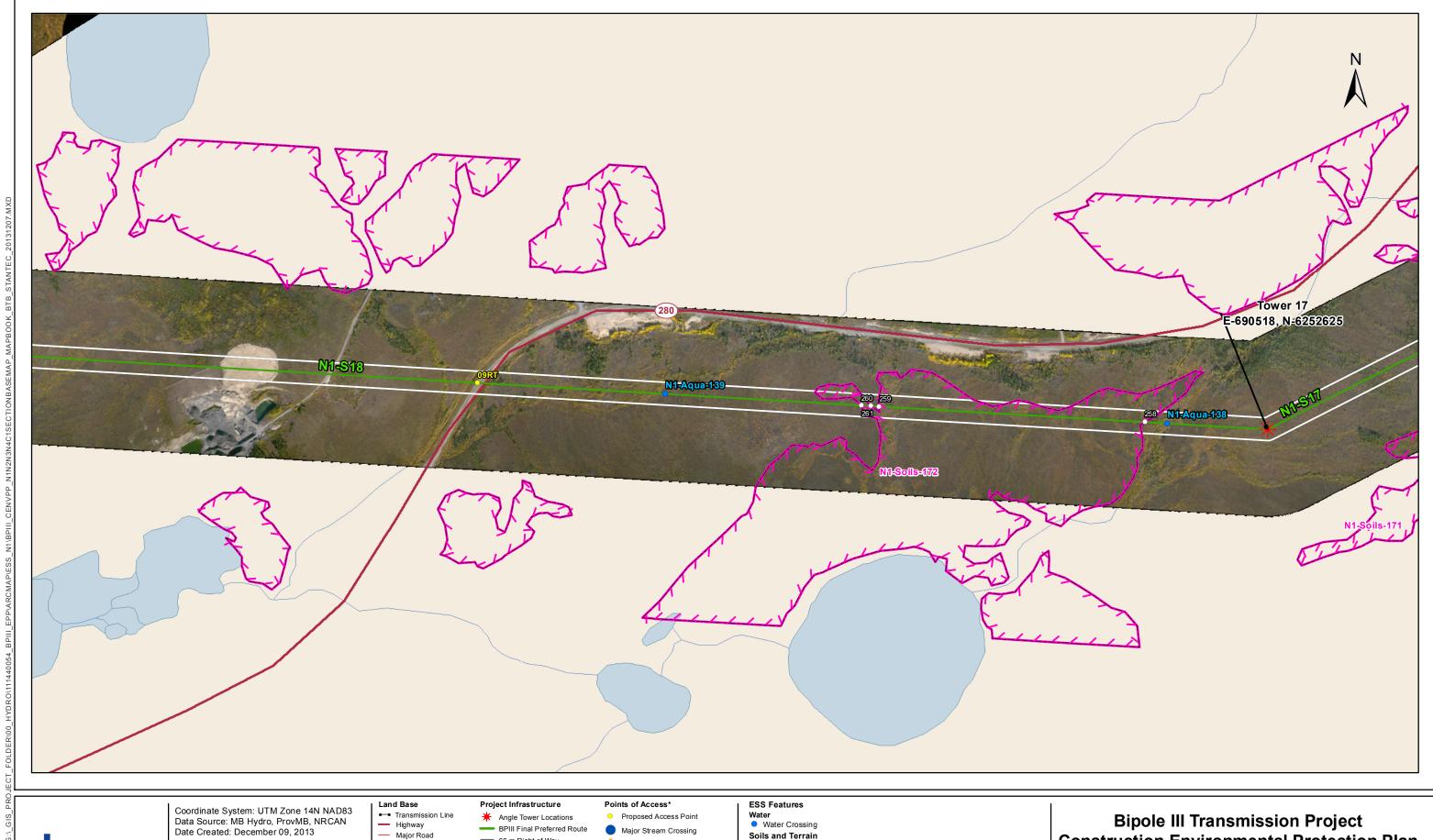
ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S16	N1-Soils-170	Permafrost	Site: 244 to 245	E-695733 N-6253863	E-694445 N-6254460	14N	1419 m
N1-S16	N1-Soils-170	Permafrost	Site: 246 to 246a	E-694333 N-6254512	E-694290 N-6254532	14N	48 m
N1-S17	N1-Soils-170	Permafrost	Site: 246b to 247	E-694290 N-6254532	E-694242 N-6254507	14N	54 m
N1-S17	N1-Soils-170	Permafrost	Site: 248 to 249	E-694114 N-6254443	E-692987 N-6253873	14N	1263 m
N1-S17	N1-Soils-170	Permafrost	Site: 250 to 251	E-692443 N-6253597	E-692377 N-6253564	14N	73 m
N1-S17	N1-Soils-170	Permafrost	Site: 252 to 253	E-692315 N-6253533	E-692270 N-6253510	14N	50 m
N1-S17	N1-Soils-170	Permafrost	Site: 254 to 255	E-691964 N-6253355	E-691924 N-6253335	14N	44 m
N1-S17	N1-Soils-171	Permafrost	Site: 256 to 257	E-691299 N-6253019	E-691213 N-6252976	14N	96 m

## **Potential Effects:**

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

- 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



120 240 480 Metres 1:10,000

Local Road

• Winter Road

Mining

- Railway (Operational)

-+ Railway (Discontinued)

# == 66 m Right of Way

Abandoned Rail Crossing A Rail Crossing

Transmission Line Crossing Proposed Access Route
\*Labels correspond to BPIII
Access Management Database

Soils and Terrain

**Construction Environmental Protection Plan Construction Section N1 Environmentally Sensitive Site Locations** 

ESS Group: Water Crossing

Sec- Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S18	N1- Aqua- 138	Unnamed tributary of Assean River	690229	6252642	14N	N/A	N/A	Moderate	Marginal
N1-S18	N1- Aqua- 139	Unnamed tributary of Assean River	688782	6252727	14N	N/A	N/A	Moderate	Marginal

#### **Potential Effects:**

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

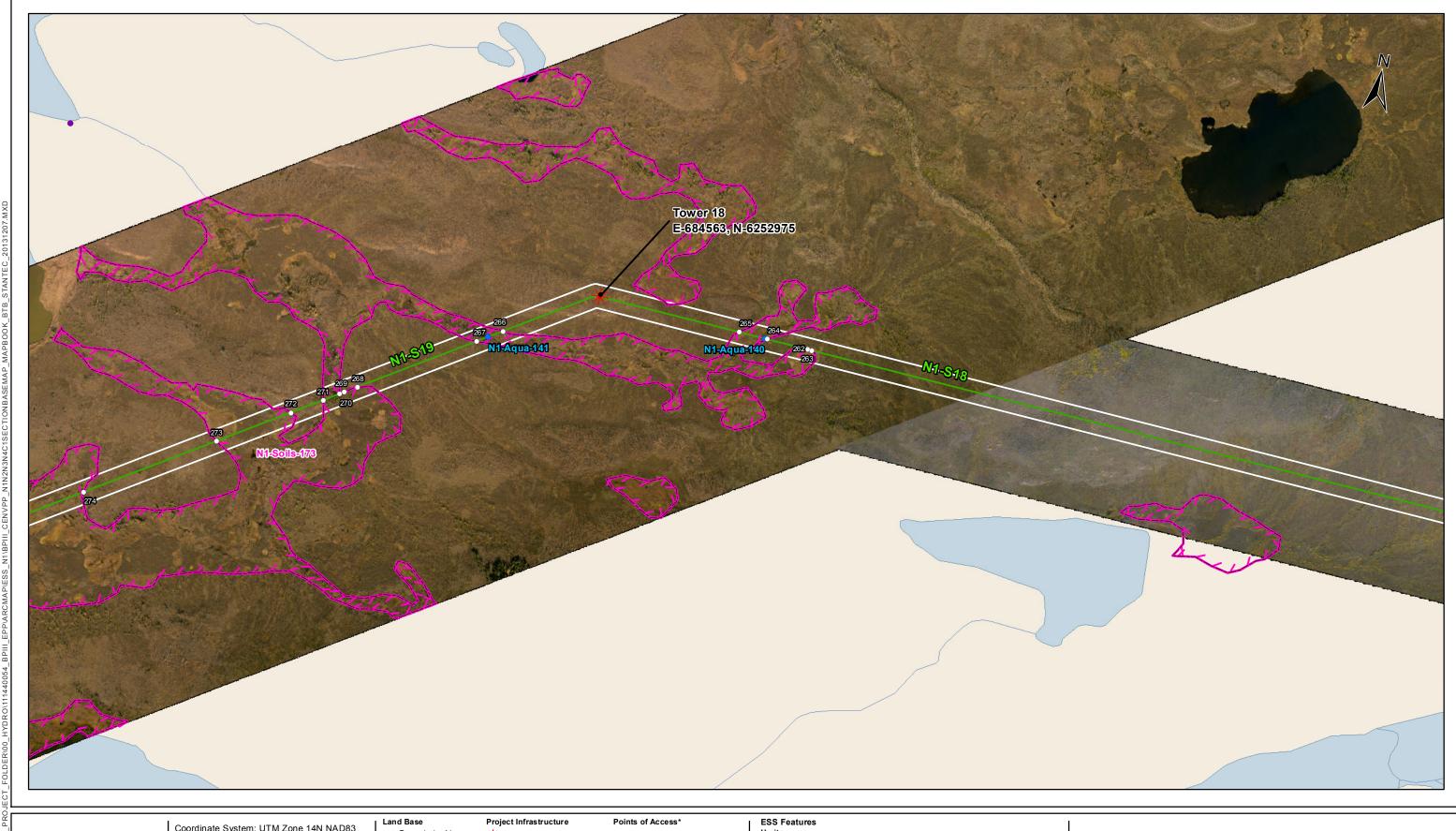
**ESS Group**: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S18	N1-Soils-172	Permafrost	Site: 258 to 259	E-690164 N-6252645	E-689397 N-6252690	14N	767 m
N1-S18	N1-Soils-172	Permafrost	Site: 260 to 261	E-689372 N-6252691	E-689347 N-6252693	14N	25 m

#### **Potential Effects:**

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

- · 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 Erosion/Sediment Control Plan



Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: December 09, 2013 120 240 480

| <u>|</u> Metres 1:10,000 ■ Transmission Line Highway Major Road

 Local Road • Winter Road - Railway (Operational) -+ Railway (Discontinued)

Mining

\* Angle Tower Locations BPIII Final Preferred Route == 66 m Right of Way

 Proposed Access Point Major Stream Crossing Abandoned Rail Crossing

A Rail Crossing Transmission Line Crossing

Proposed Access Route
\*Labels correspond to BPIII
Access Management Database

Heritage Archaeological Water Crossing Soils and Terrain

Permafrost

**Bipole III Transmission Project Construction Environmental Protection Plan Construction Section N1 Environmentally Sensitive Site Locations** 

ESS Group: Water Crossing

Sec- Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1- S19	N1- Aqua- 140	Unnamed tributary of Apetowachakamasik Lake	685045	6252947	14N	N/A	N/A	Moderate	Marginal
N1- S19	N1- Aqua- 141	Unnamed Tributary of Apetowachakamasik Lake	684276	6252804	14N	N/A	N/A	Low	Marginal

#### **Potential Effects:**

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

#### Specific Mitigation:

- · Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
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- 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

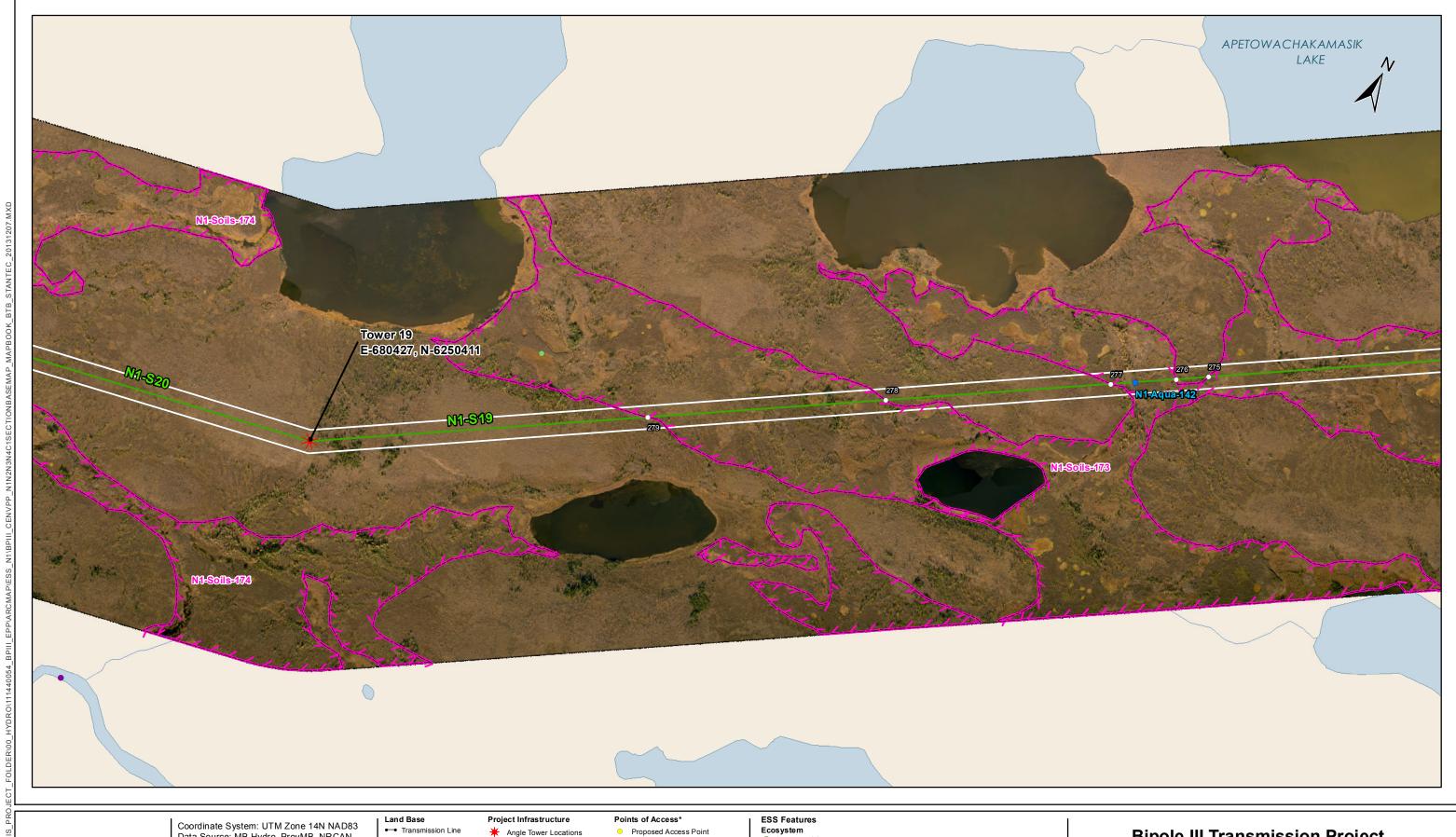
#### ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S18	N1-Soils-173	Permafrost	Site: 262 to 263	E-685180 N-6252938	E-685169 N-6252939	14N	11 m
N1-S18	N1-Soils-173	Permafrost	Site: 264 to 265	E-685052 N-6252946	E-684970 N-6252951	14N	82 m
N1-S18	N1-Soils-173	Permafrost	Site: 266 to 267	E-684314 N-6252827	E-684246 N-6252785	14N	79 m
N1-S18	N1-Soils-173	Permafrost	Site: 268 to 269	E-683940 N-6252595	E-683906 N-6252574	14N	39 m
N1-S18	N1-Soils-173	Permafrost	Site: 270 to 271	E-683894 N-6252566	E-683851 N-6252540	14N	49 m
N1-S18	N1-Soils-173	Permafrost	Site: 272 to 273	E-683769 N-6252488	E-683578 N-6252369	14N	225 m
N1-S18	N1-Soils-173	Permafrost	Site: 274 to 275	E-683236 N-6252157	E-682599 N-6251761	14N	749 m

#### **Potential Effects:**

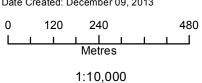
Melting or loss of permafrost due to disturbance of the active layer

- · Carry out construction activities on frozen ground to minimize surface damage and rutting
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- 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





Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: December 09, 2013



Highway

- Railway (Operational)

Mining

-+ Railway (Discontinued)

BPIII Final Preferred Route Major Road == 66 m Right of Way Local Road • Winter Road

# Proposed Access Point Major Stream Crossing

Abandoned Rail Crossing A Rail Crossing

Transmission Line Crossing Proposed Access Route
\*Labels correspond to BPIII
Access Management Database

Species of Concern Heritage

 Archaeological Water Crossing

Soils and Terrain
Permafrost

**Bipole III Transmission Project Construction Environmental Protection Plan Construction Section N1 Environmentally Sensitive Site Locations** 

ESS Group: Water Crossing

Sec- Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1- S19	N1- Aqua- 142	Unnamed Tributary of Apetowachakamasik Lake	682424	6251649	14N	N/A	N/A	Low	Marginal

#### **Potential Effects:**

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

#### 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
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  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

**ESS Group**: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S18	N1-Soils-173	Permafrost	Site: 274 to 275	E-683236 N-6252157	E-682599 N-6251761	14N	749 m
N1-S18	N1-Soils-173	Permafrost	Site: 276 to 277	E-682521 N-6251713	E-682363 N-6251614	14N	186 m
N1-S18	N1-Soils-173	Permafrost	Site: 278 to 279	E-681820 N-6251277	E-681244 N-6250919	14N	678 m

#### **Potential Effects:**

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

- · 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