



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

120 240 480 Metres 1:10,000

Highway

- Railway (Operational)

Mining

-+ Railway (Discontinued)

BPIII Final Preferred Route Major Road == 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

Terrain

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

ESS Group : Terrain

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05		Enduring Features (Unique Terrain/Soil Features)		E-767167 N-6289733	E-766404 N-6289630	14N	769 m

Potential Effects:

Impairment or loss of rare occurrence PAI enduring feature from right-of-way establishment.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag prior to start of work
- · Avoid dry soil conditions with high and severe wind erosion risk to the extent possible
- Maintain 100m setback around feature outside of ROW
- Minimize movement of vehicles, machinery and equipment during construction
- Prevent off-ROW activities and equipment use within terrain feature, during construction

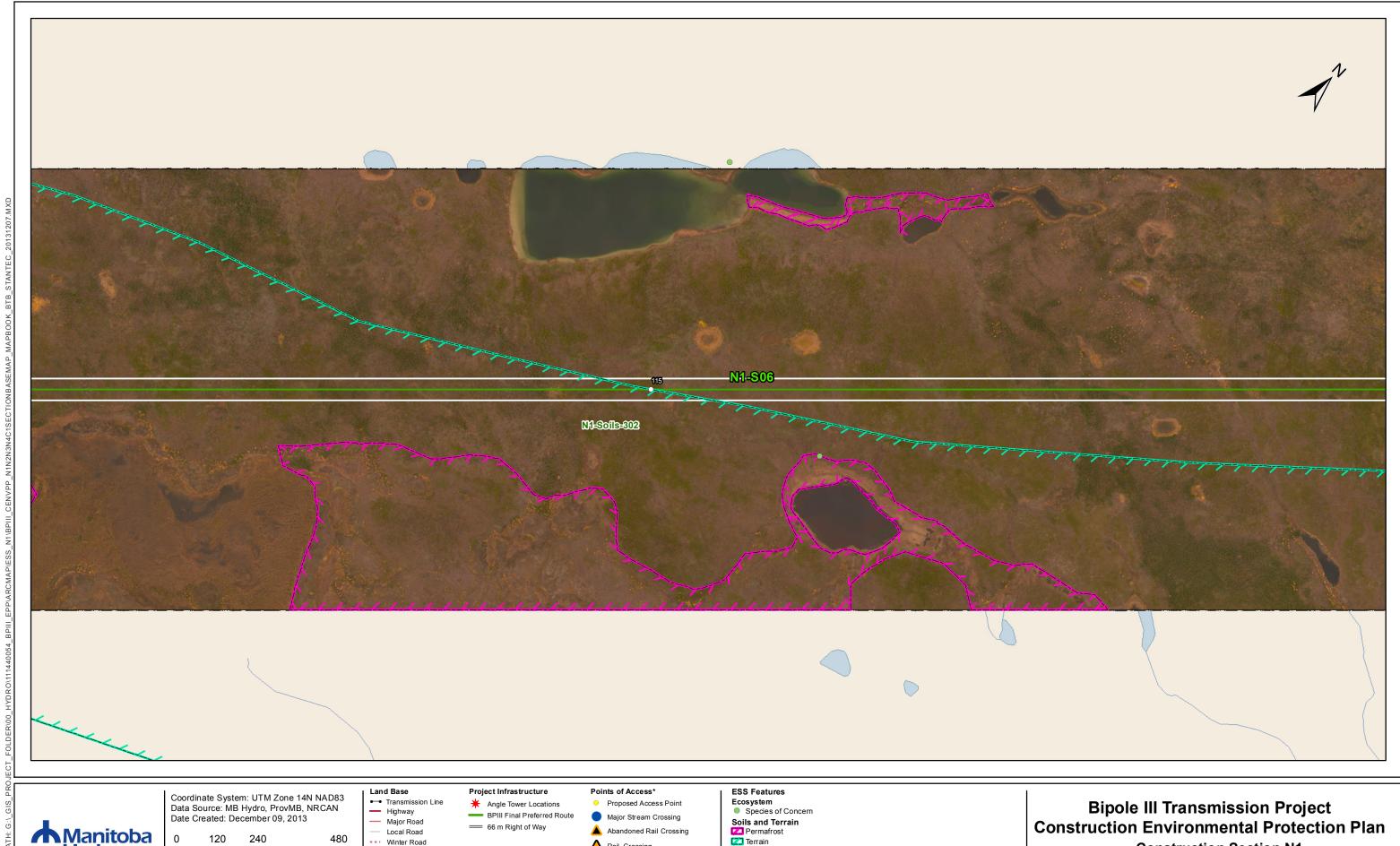
ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-132	Permafrost	Site: 109 to 110	E-768929 N-6289970	E-768758 N-6289947	14N	172 m
N1-S05	N1-Soils-133	Permafrost	Site: 113 to 114	E-766466 N-6289638	E-766251 N-6289609	14N	217 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



Manitoba Hydro

120 240

- Railway (Operational)

Mining

-+ Railway (Discontinued)

Metres 1:10,000 A Rail Crossing

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

Construction Section N1 Environmentally Sensitive Site Locations

Map 14

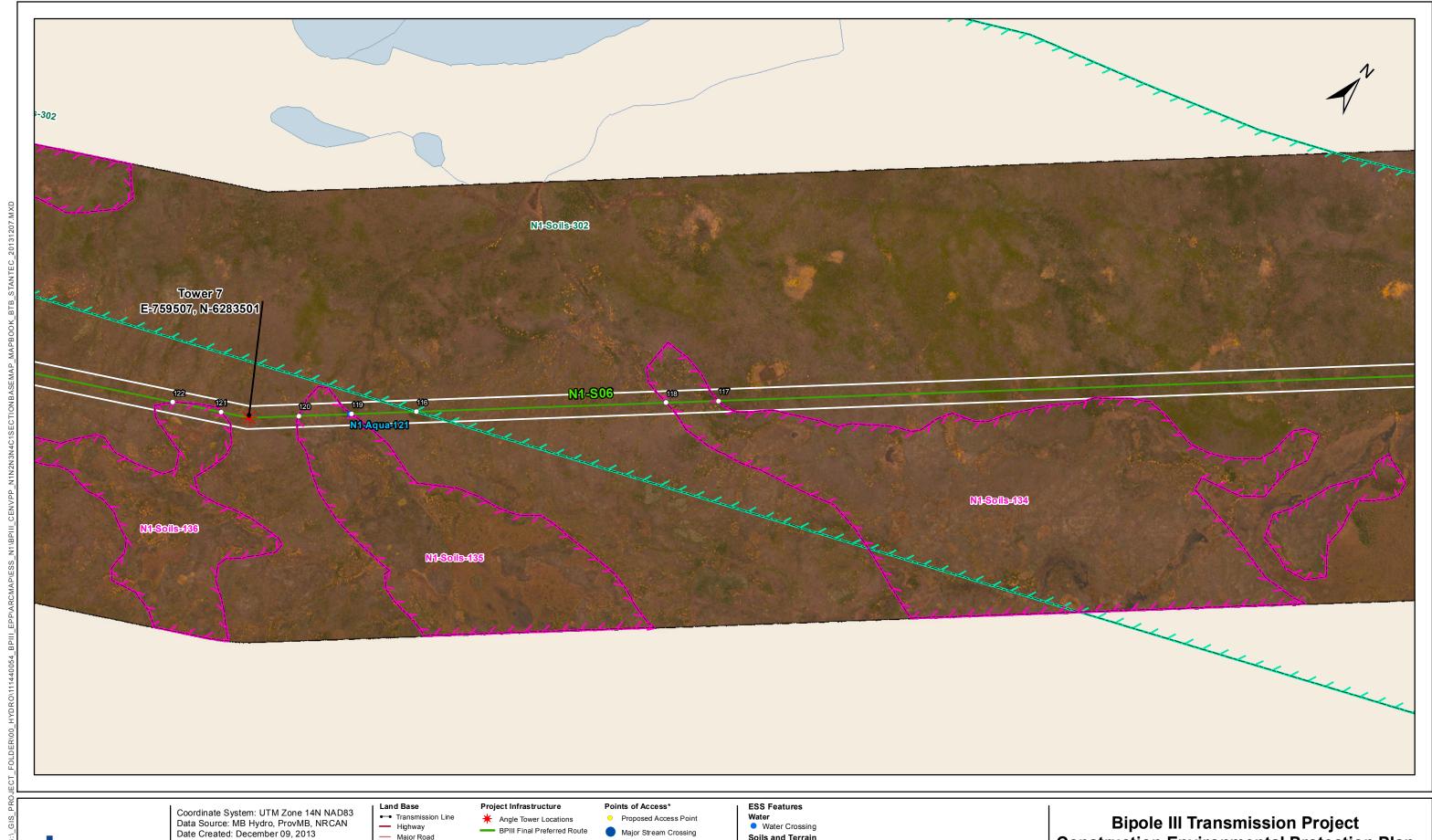
ESS Group: Terrain

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S06	N1-Soils- 302			E-763228 N-6287070		14N	4671 m

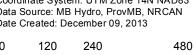
Potential Effects:

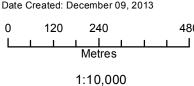
Impairment or loss of rare occurrence PAI enduring feature from right-of-way establishment.

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Identify and flag prior to start of work
- Avoid dry soil conditions with high and severe wind erosion risk to the extent possible
- Maintain 100m setback around feature outside of ROW
- Minimize movement of vehicles, machinery and equipment during construction
- Prevent off-ROW activities and equipment use within terrain feature, during construction









Highway Major Road

Mining

- Railway (Operational)

-+ Railway (Discontinued)

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

Major Stream Crossing

A Rail Crossing

Abandoned Rail Crossing Transmission Line Crossing

Soils and Terrain Terrain 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 15

ESS Group: Water Crossing

Sec- Seg ID				Northing	UTM Zone			Fish Habitat Class	Habitat Sensitivity
N1-S06	N1-Aqua- 121	Unnamed Tributary	759718	6283703	14N	N/A	N/A	Low	No Fish Habitat

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

ESS Group : Terrain

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05		Enduring Features (Unique Terrain/Soil Features)	Site: 115 to 116	E-763228 N-6287070	E-759857 N-6283837	14N	4671 m

Potential Effects:

Impairment or loss of rare occurrence PAI enduring feature from right-of-way establishment.

Specific Mitigation:

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- Maintain 100m setback around feature outside of ROW
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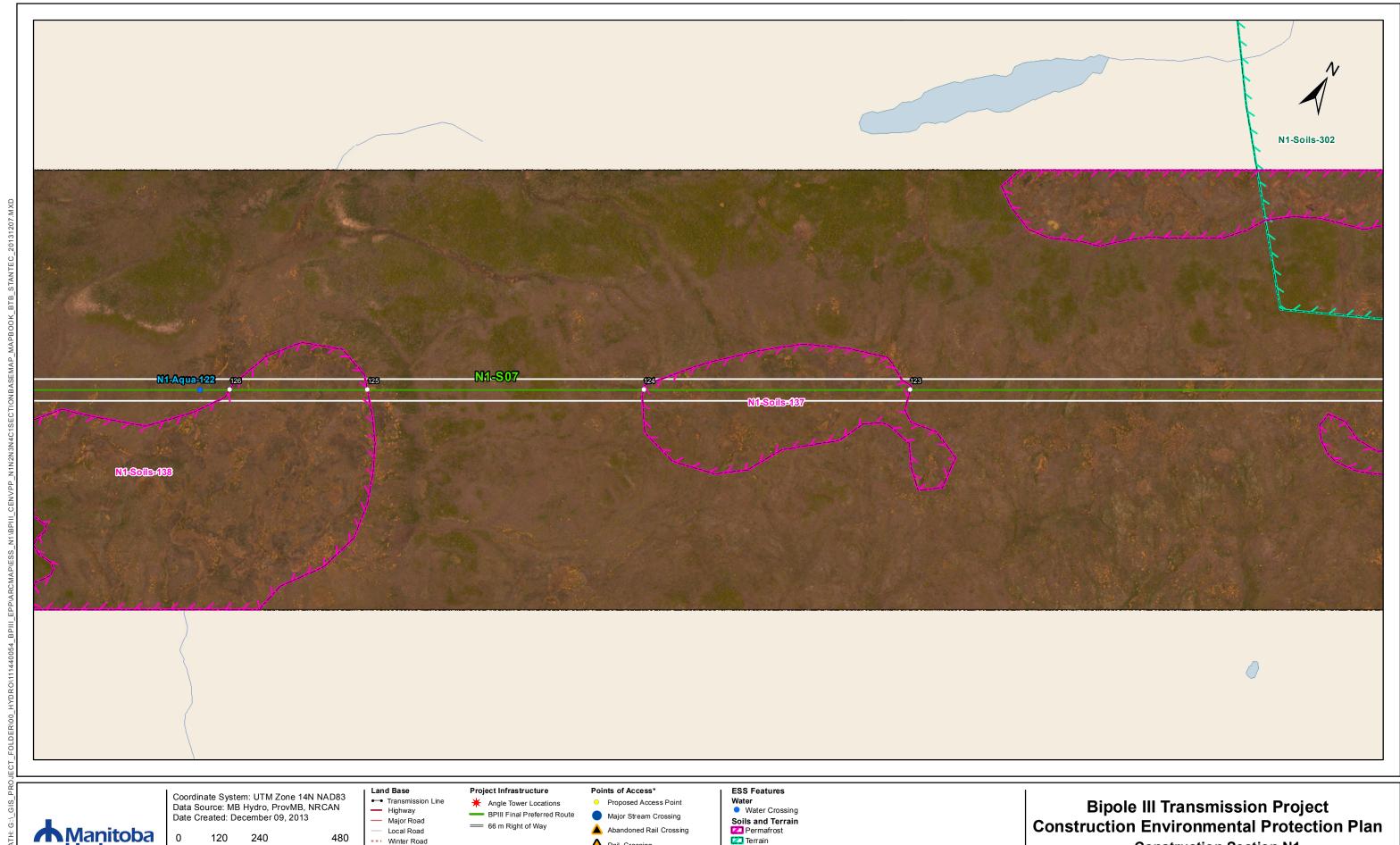
ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S06	N1-Soils-134	Permafrost	Site: 117 to 118	E-760489 N-6284443	E-760380 N-6284338	14N	151 m
N1-S06	N1-Soils-135	Permafrost	Site: 119 to 120	E-759721 N-6283706	E-759611 N-6283601	14N	152 m
N1-S07	N1-Soils-136	Permafrost	Site: 121 to 122	E-759437 N-6283460	E-759313 N-6283388	14N	143 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



Manitoba Hydro

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

Terrain

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-S07	N1- Aqua- 122	Unnamed Tributary of Limestone River	755973	6281452	14N	N/A	N/A	Low	No Fish Habitat

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

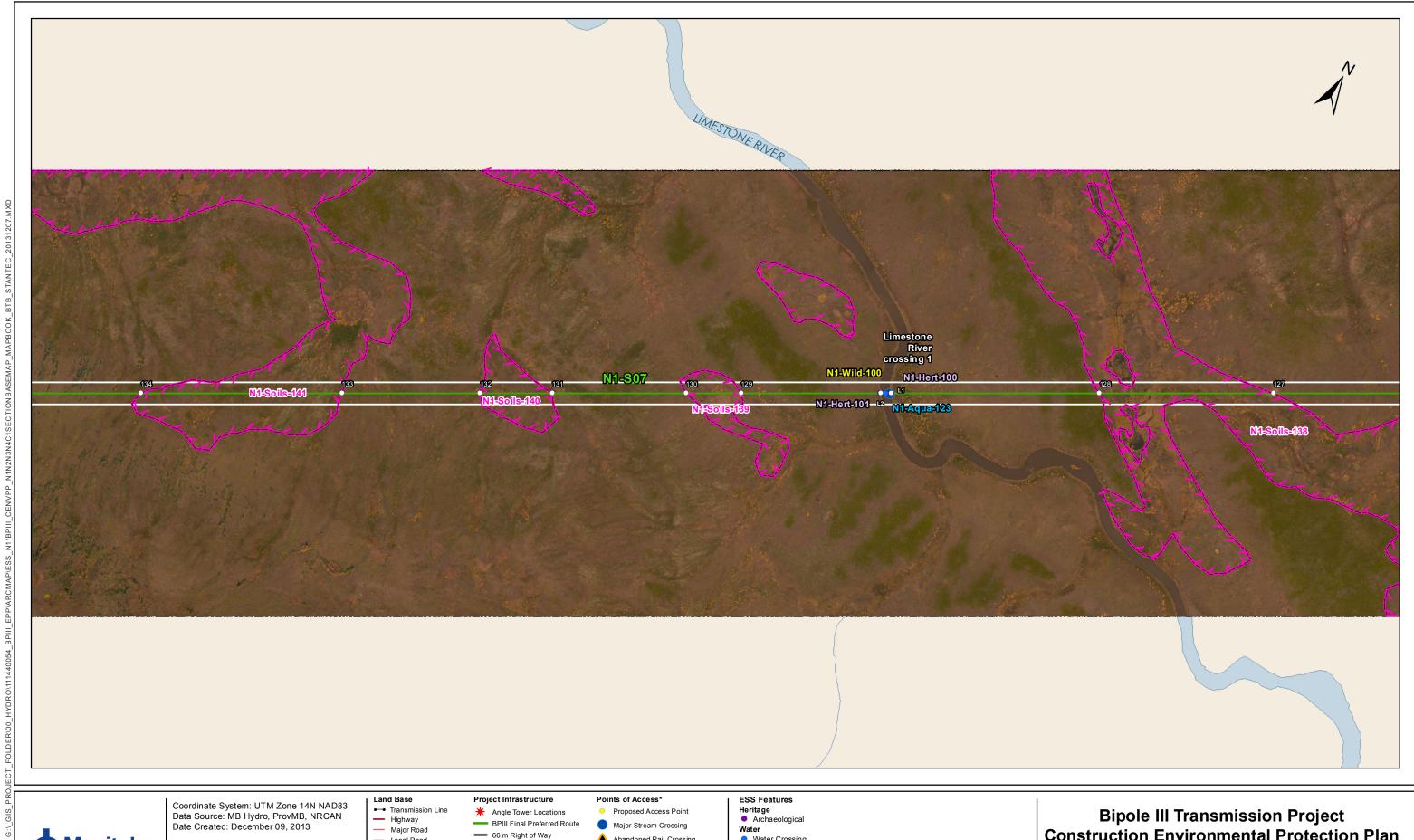
ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S07	N1-Soils-137	Permafrost	Site: 123 to 124	E-757792 N-6282506	E-757109 N-6282110	14N	789 m
N1-S07	N1-Soils-138	Permafrost	Site: 125 to 126	E-756401 N-6281700	E-756048 N-6281495	14N	407 m

Potential Effects:

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

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120 240 480

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

 Local Road -- Winter Road

- Railway (Operational)

Mining

-+ Railway (Discontinued)

Abandoned Rail Crossing A Rail Crossing

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

Water Crossing

Wildlife Birds and Habitat Soils and Terrain Permafrost

Construction Environmental Protection Plan Construction Section N1 Environmentally Sensitive Site Locations

ESS Group: Archaeological

Sec-Seg ID	Sec-Seg ID ESS ID		Easting	Northing	UTM Zone
N1-S07	N1-Hert-100	Limestone River	754293	6280478	14N
N1-S07	N1-Hert-101	Limestone River	754267	6280463	14N

Potential Effects:

Potential disturbance to Heritage Resources

Specific Mitigation:

- · Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Identify and flag prior to start of work
- Conduct site investigation with Archaeologist post clearing and prior to construction
- Minimize surface disturbance around the site to the extent possible
- Inspect excavated materials or surface disturbance for heritage resources and report any finds to Environmental Inspector
- Implement additional mitigation from site investigation

ESS Group: Water Crossing

Sec- Seg ID				Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S07	N1-Aqua- 123	Limestone River	754280	6280471	14N	12m	12m	Low	Important

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
- 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 September 1 July 15

ESS Group: Birds and Habitat

Sec- Seg ID	ESS ID	ESS Name	Location	Start	Ston	UTM Zone	Distance
N1-S07		Limestone River crossing; movement route for raptors and waterfowl		E- 754292 N- 6280478		14N	29 m

Potential Effects:

Higher risk of wire collision, risk of wire collision is localized to the right-of-way

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

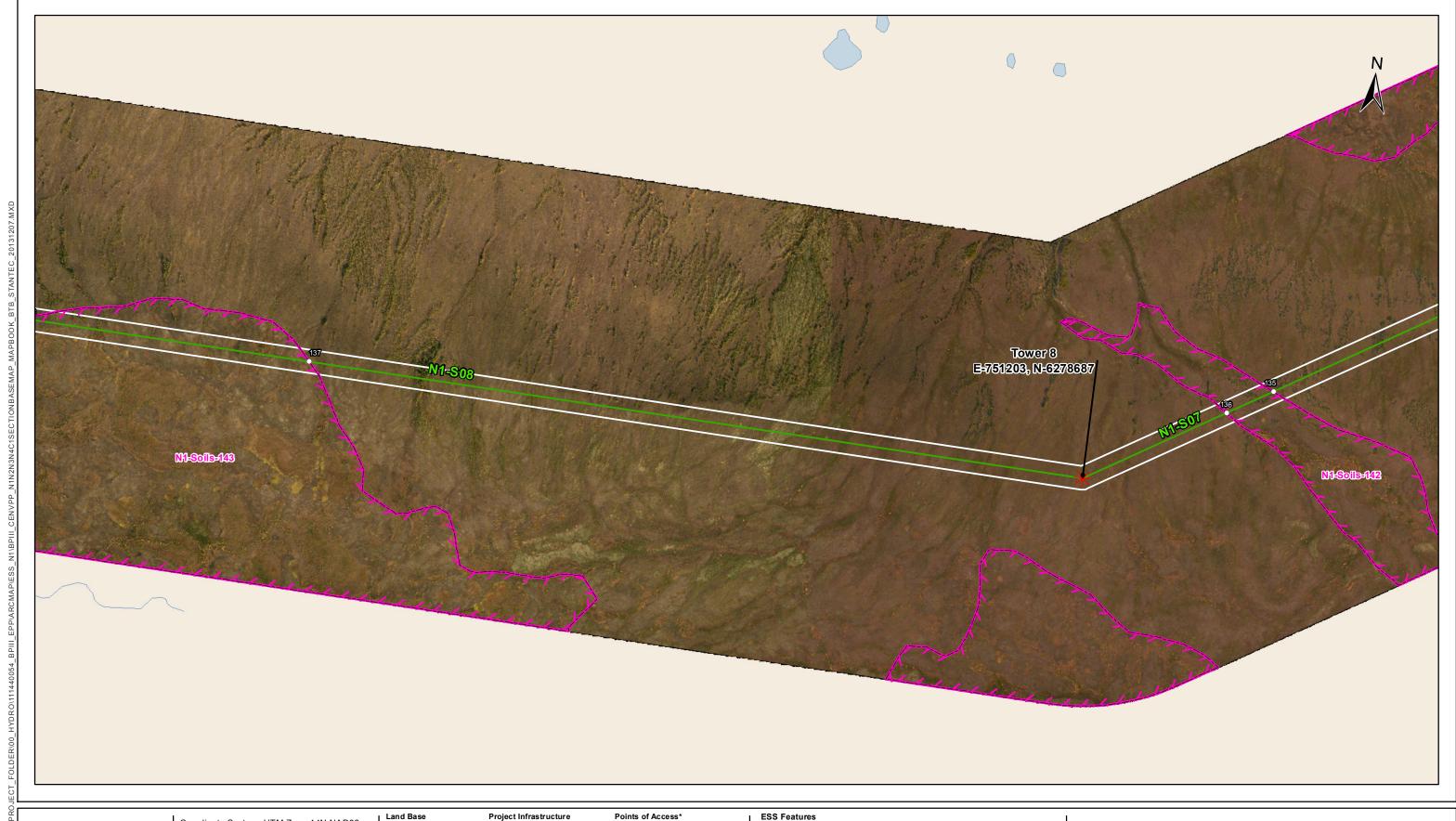
ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S07	N1-Soils-138	Permafrost	17 / to 178	E-755259 N-6281038	E-754819 N-6280783	14N	509 m
N1-S07	N1-Soils-139	Permafrost	Site: 129 to 130	E-753913 N-6280258	E-753774 N-6280177	14N	160 m
N1-S07	N1-Soils-140	Permafrost	Site: 131 to 132	E-753435 N-6279981	E-753253 N-6279875	14N	210 m
N1-S07	N1-Soils-141	Permafrost	Site: 133 to 134	E-752903 N-6279672	E-752396 N-6279378	14N	586 m

Potential Effects:

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

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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

Highway

- Railway (Operational)

-+ Railway (Discontinued)

-- Winter Road

Mining

■ Transmission Line * Angle Tower Locations Major Road == 66 m Right of Way Local Road

BPIII Final Preferred Route

Points of Access*

 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

Soils and Terrain

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

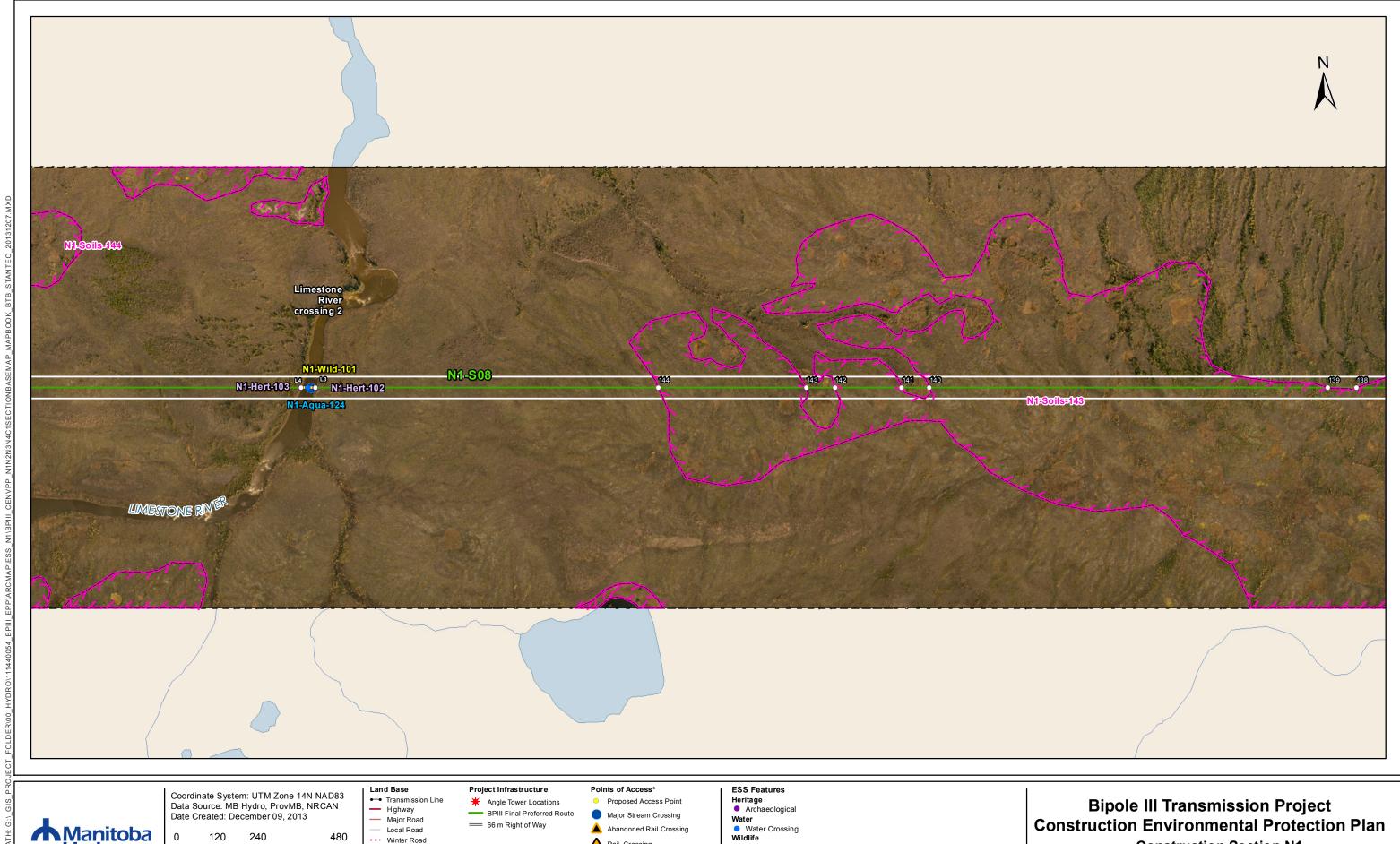
ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S07	N1-Soils-141	Permafrost	Site: 133 to 134	E-752903 N-6279672	E-752396 N-6279378	14N	586 m
N1-S07	N1-Soils-142	Permafrost	Site: 135 to 136	E-751719 N-6278985	E-751591 N-6278912	14N	147 m
N1-S08	N1-Soils-143	Permafrost	Site: 137 to 138	E-748976 N-6278798	E-748152 N-6278839	14N	824 m

Potential Effects:

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120 240 480

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- Railway (Operational)

Mining

-+ Railway (Discontinued)

A Rail Crossing

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

Wildlife

Birds and Habitat Soils and Terrain Permafrost

Construction Section N1 Environmentally Sensitive Site Locations

ESS Group: Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N1-S08	N1-Hert-102	Limestone River	745083	6278993	14N
N1-S08	N1-Hert-103	Limestone River	745041	6278995	14N

Potential Effects:

Potential disturbance to Heritage Resources

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Identify and flag prior to start of work
- Conduct site investigation with Archaeologist post clearing and prior to construction
- Minimize surface disturbance around the site to the extent possible
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- Implement additional mitigation from site investigation

ESS Group: Water Crossing

Sec- Seg ID				Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S08	N1-Aqua- 124	Limestone River	745061	6278994	14N	15m	15m	Low	Important

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
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ESS Group: Birds and Habitat

Seall			Location	Start	Stop	UTM Zone	Distance
N1-S08	N1-Wild- 101	Limestone River crossing; movement route for raptors and waterfowl	Site: L3 to L4	E- 745083 N- 6278993		14N	41 m

Potential Effects:

Higher risk of wire collision, risk of wire collision is localized to the right-of-way

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
N1-S08	N1-Soils-143	Permafrost	Cito, 10 / to 100	E-748976 N-6278798	E-748152 N-6278839	14N	824 m
N1-S08	N1-Soils-143	Permafrost		E-748068 N-6278843		14N	1176 m
N1-S08	N1-Soils-143	Permafrost	Site: 141 to 142	E-746812 N-6278906	E-746614 N-6278916	14N	197 m
N1-S08	N1-Soils-143	Permafrost	Site: 143 to 144	E-746530 N-6278920	E-746094 N-6278942	14N	436 m

Potential Effects:

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

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- Maintain shrub and herbaceous vegetation to the extent possible
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- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan