

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-S09	N1-Aqua-127	Unnamed Tributary of Unnamed Lake	733269	6278543	14N	N/A	N/A	Moderate	Marginal

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 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
- No instream works or fording from April 1 - July 15

ESS Group: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
N1-S09	N1-RecUse-101	C5	Trail	E-735598 N-6279248	14N

Potential Effects:

Potential disturbance of access

Specific Mitigation:

- Identify and flag prior to start of work
- Notify Manitoba Infrastructure and Transportation (MIT)/winter road operator and local authorities regarding construction activities and schedule, and address concerns prior to construction
- Avoid surface damage to and obstruction of access route
- Ensure that access road/trail are visible from RoW
- Provide warning signage for vehicle traffic and public safety

ESS Group: Terrain

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S08	N1-Soils-303	Enduring Features (Unique Terrain/Soil Features)	Site: 161 to 162	E-738796 N-6279308	E-736223 N-6279437	14N	2576m
N1-S09	N1-Soils-303	Enduring Features (Unique Terrain/Soil Features)	Site: 169 to 170	E-736223 N-6279437	E-732666 N-6278360	14N	3716m

Potential Effects:

Existing access routes will be utilized and machinery shall not operate outside of the project areas within enduring features.

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
- Avoid development of new borrow areas, access routes and other activities within enduring features
- 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-S09	N1-Soils-147	Permafrost	Site: 171 to 172	E-734920 N-6279042	E-734442 N-6278898	14N	499 m
N1-S09	N1-Soils-147	Permafrost	Site: 173 to 174	E-733067 N-6278482	E-732854 N-6278417	14N	223 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
- 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

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Land Base

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

Project Infrastructure

- Angle Tower Locations*
- Towers (Preliminary)*
- BP/III Final Preferred Route
- 66 m Right of Way

*Towers are subject to change, and are only used as a rough guide

Sensitive Sites*

- Point Features
- Linear Features
- Area Features

*Currently outside the Project footprint

Points of Access

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

ESS Features

Water

- Water Crossing

Soils and Terrain

- Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N1
Environmentally Sensitive Site Locations
Map 23

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-S09	N1-Aqua-128	Unnamed Tributary of Unnamed Lake	731834	6278109	14N	N/A	N/A	Low	Marginal

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 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
- No instream works or fording from April 1 - July 15

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S09	N1-Soils-148	Permafrost	Site: 175 to 176	E-731814 N-6278102	E-731191 N-6277914	14N	650 m
N1-S10	N1-Soils-149	Permafrost	Site: 177 to 178	E-729034 N-6277138	E-728329 N-6276590	14N	892 m

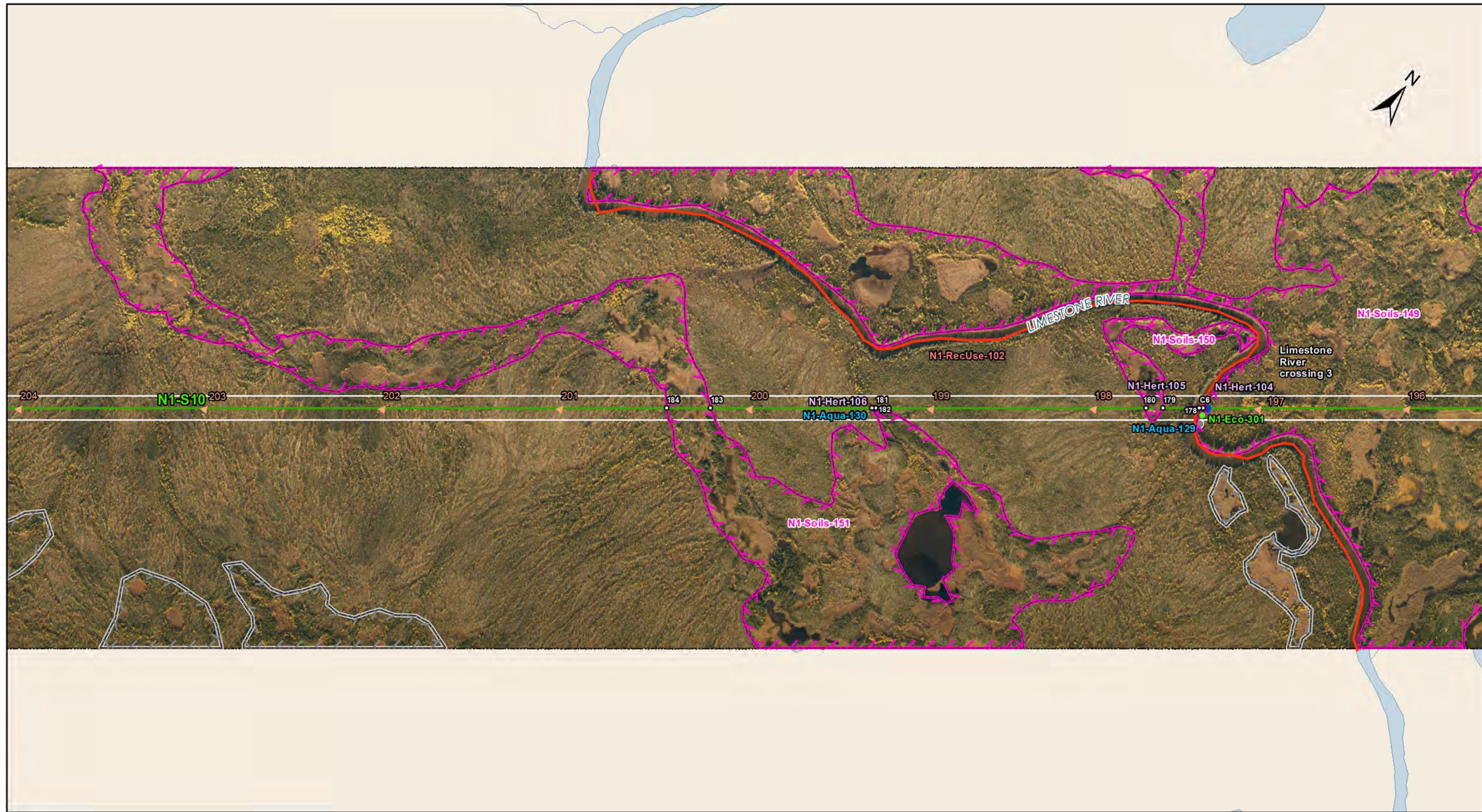
Potential Effects:

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

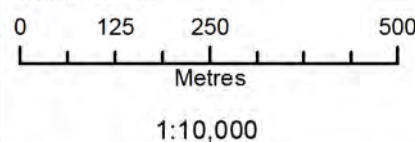
Specific Mitigation:

- 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
- 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

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Land Base

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

Project Infrastructure

- Angle Tower Locations*
- Towers (Preliminary)*
- BP/II Final Preferred Route
- 66 m Right of Way
- *Towers are subject to change, and are only used as a rough guide
- Sensitive Sites***
- Point Features
- Linear Features
- Area Features
- *Currently outside the Project footprint

Points of Access

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

ESS Features

- Ecosystems**
- Species of Concern
- Heritage**
- Archaeological
- Water**
- Water Crossing
- RecUse**
- Intersection
- Soils and Terrain**
- Permafrost

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

Map 24

ESS Group: Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N1-S10	N1-Hert-104	Limestone River	728330	6276592	14N
N1-S10	N1-Hert-105	Limestone River	728304	6276571	14N
N1-S10	N1-Hert-106	Unnamed Creek	727626	6276044	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: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N1-S10	N1-Eco-301	Species of Concern (plant)	728338	6276574	14N

Potential Effects:

Loss of plants of conservation concern from clearing and construction 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 low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible

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-S10	N1-Aqua-129	Limestone River	728318	6276582	14N	11m	11m	Moderate	Important
N1-S10	N1-Aqua-130	Unnamed Tributary of Limestone River	727624	6276043	14N	N/A	N/A	Low	Marginal

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 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
- No instream works or fording from April 1 - July 15

ESS Group: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
N1-S10	N1-RecUse-102	C6	Trail	E-728321 N-6276584	14N

Potential Effects:

Potential disturbance of access

Specific Mitigation:

- Identify and flag prior to start of work
- Notify Manitoba Infrastructure and Transportation (MIT)/winter road operator and local authorities regarding construction activities and schedule, and address concerns prior to construction
- Avoid surface damage to and obstruction of access route
- Ensure that access road/trail are visible from RoW
- Provide warning signage for vehicle traffic and public safety

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S10	N1-Soils-149	Permafrost	Site: 177 to 178	E-729034 N-6277138	E-728329 N-6276590	14N	892 m
N1-S10	N1-Soils-150	Permafrost	Site: 179 to 180	E-728244 N-6276524	E-728207 N-6276496	14N	45 m
N1-S10	N1-Soils-151	Permafrost	Site: 181 to 182	E-727628 N-6276046	E-727620 N-6276040	14N	10 m
N1-S10	N1-Soils-151	Permafrost	Site: 183 to 184	E-727274 N-6275770	E-727181 N-6275698	14N	118 m

Potential Effects:

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

Specific Mitigation:

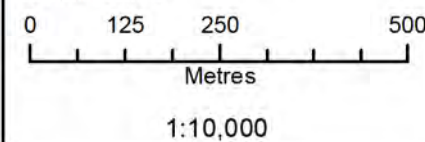
- Carry out construction activities on frozen ground to minimize surface damage and rutting.
- Use existing trails, roads or cut lines whenever possible as access routes
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic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

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Land Base

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

Project Infrastructure

- Angle Tower Locations*
- Towers (Preliminary)*
- BP/II Final Preferred Route
- 66 m Right of Way
- *Towers are subject to change, and are only used as a rough guide
- Sensitive Sites***
- Point Features
- Linear Features
- Area Features
- *Currently outside the Project footprint

Points of Access

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

ESS Features

- Soils and Terrain
- Permafrost

**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-S10	N1-Soils-152	Permafrost	Site: 185 to 186	E-725210 N-6274166	E-725152 N-6274121	14N	74 m
N1-S10	N1-Soils-153	Permafrost	Site: 187 to 188	E-724597 N-6273690	E-724176 N-6273363	14N	533 m
N1-S11	N1-Soils-154	Permafrost	Site: 189 to 190	E-722914 N-6272435	E-722426 N-6272144	14N	568 m

Potential Effects:

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

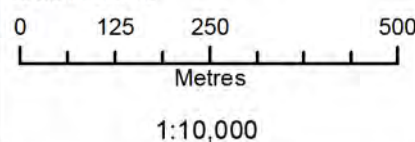
Specific Mitigation:

- 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
- 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

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Land Base

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Sensitive Sites*

- Point Features
 - Linear Features
 - Area Features
- *Currently outside the Project footprint

Points of Access

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

ESS Features

- RecUse
- Intersection
- Soils and Terrain
- Permafrost

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

Map 26

ESS Group: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
N1-S11	N1-RecUse-103	C7	Snowmobile Trail	E-722164 N-6271988	14N

Potential Effects:

Potential disturbance of access

Specific Mitigation:

- Identify and flag prior to start of work
- Avoid surface damage to and obstruction of access route
- Post warning markers and signs at snowmobile trail location
- Notify snowmobile club/users and local authorities regarding construction activities and schedule, and address concerns prior to construction

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S11	N1-Soils-154	Permafrost	Site: 189 to 190	E-722914 N-6272435	E-722426 N-6272144	14N	568 m
N1-S11	N1-Soils-155	Permafrost	Site: 191 to 192	E-720753 N-6271149	E-720627 N-6271074	14N	146 m
N1-S11	N1-Soils-156	Permafrost	Site: 193 to 194	E-720538 N-6271021	E-720448 N-6270967	14N	104 m
N1-S11	N1-Soils-156	Permafrost	Site: 195 to 196	E-720379 N-6270926	E-720329 N-6270897	14N	57 m

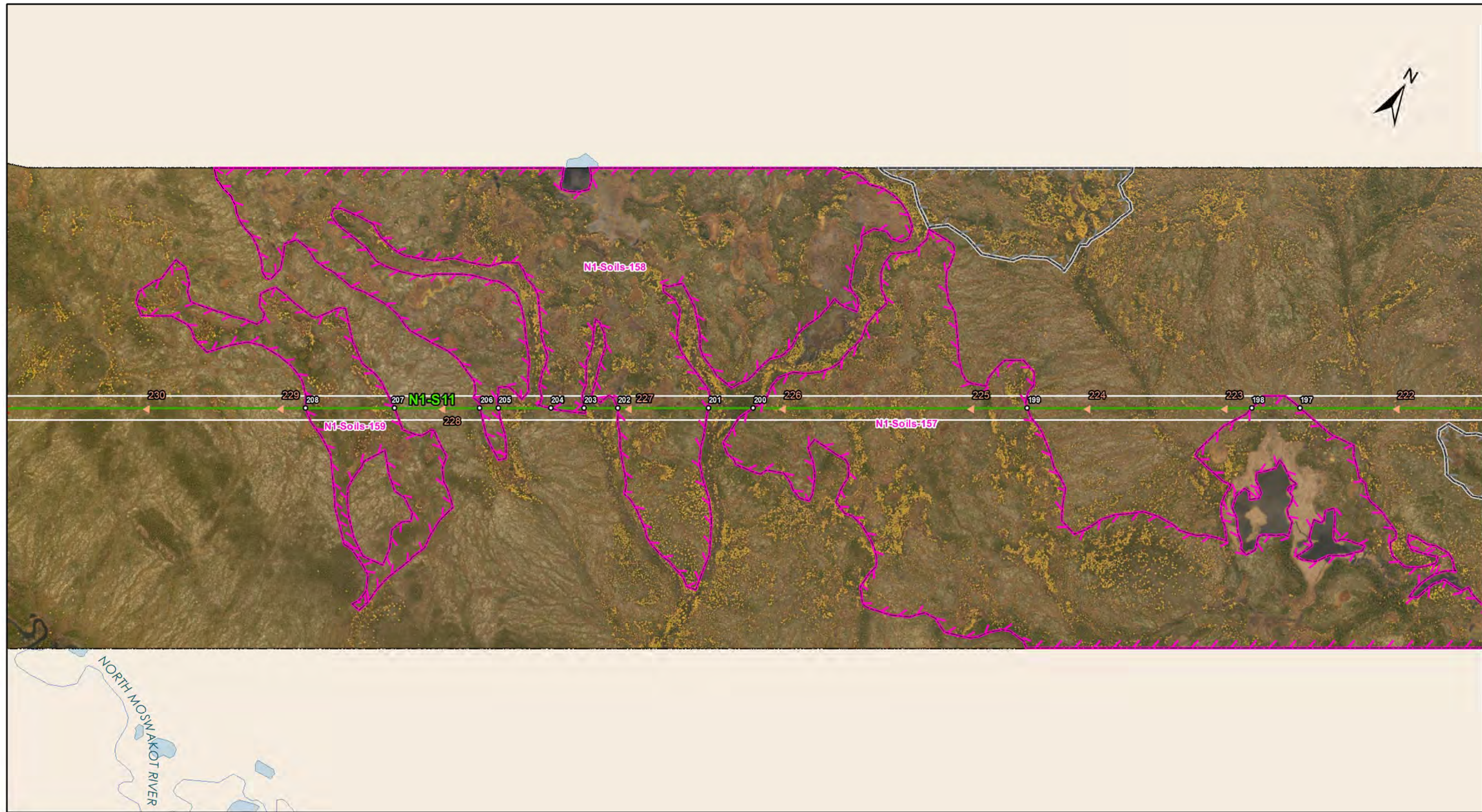
Potential Effects:

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
- 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

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

- Project Infrastructure**
- Angle Tower Locations*
 - Towers (Preliminary)*
 - BPIII Final Preferred Route
 - 66 m Right of Way
- *Towers are subject to change, and are only used as a rough guide
- Sensitive Sites***
- Point Features
 - Linear Features
 - Area Features
- *Currently outside the Project footprint

- Points of Access**
- Proposed Access Point
 - Major Stream Crossing
 - Abandoned Rail Crossing
 - Rail Crossing
 - Transmission Line Crossing
 - Bypass Trails
 - Approved Access Route

- ESS Features**
- Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N1
Environmentally Sensitive Site Locations
Map 27

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S11	N1-Soils-157	Permafrost	Site: 197 to 198	E-718814 N-6269995	E-718701 N-6269928	14N	131 m
N1-S11	N1-Soils-157	Permafrost	Site: 199 to 200	E-718179 N-6269617	E-717541 N-6269238	14N	741 m
N1-S11	N1-Soils-158	Permafrost	Site: 201 to 202	E-717435 N-6269175	E-717225 N-6269049	14N	245 m
N1-S11	N1-Soils-158	Permafrost	Site: 203 to 204	E-717146 N-6269003	E-717069 N-6268957	14N	89 m
N1-S11	N1-Soils-158	Permafrost	Site: 205 to 206	E-716946 N-6268884	E-716904 N-6268858	14N	49 m
N1-S11	N1-Soils-159	Permafrost	Site: 207 to 208	E-716705 N-6268740	E-716498 N-6268617	14N	241 m

Potential Effects:

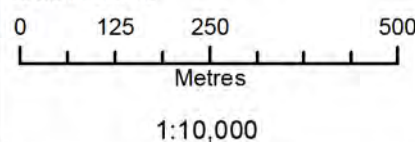
Melting or loss of permafrost due to disturbance of the active layer

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
- 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
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Land Base

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- Transmission Line Crossing
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- Approved Access Route

ESS Features

- Heritage**
- Archaeological
- Water**
- Water Crossing
- Soils and Terrain**
- Permafrost

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

ESS Group: Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N1-S12	N1-Hert-107	North Moswak River	714735	6267846	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	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S12	N1-Aqua-131	North Moswakot River	714738	6267847	14N	8.9m	N/A	Low	Important
N1-S13	N1-Aqua-132	Unnamed tributary of South Moswakot River	713755	6264884	14N	50m	110m	Moderate	Marginal

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
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- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing
- No instream works or fording from April 1 - July 15

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S12	N1-Soils-160	Permafrost	Site: 209 to 210	E-715315 N-6268038	E-715236 N-6268012	14N	82 m
N1-S13	N1-Soils-161	Permafrost	Site: 211 to 212	E-713502 N-6267167	E-713600 N-6266287	14N	885 m
N1-S13	N1-Soils-162	Permafrost	Site: 213 to 214	E-713746 N-6264967	E-713760 N-6264839	14N	128 m

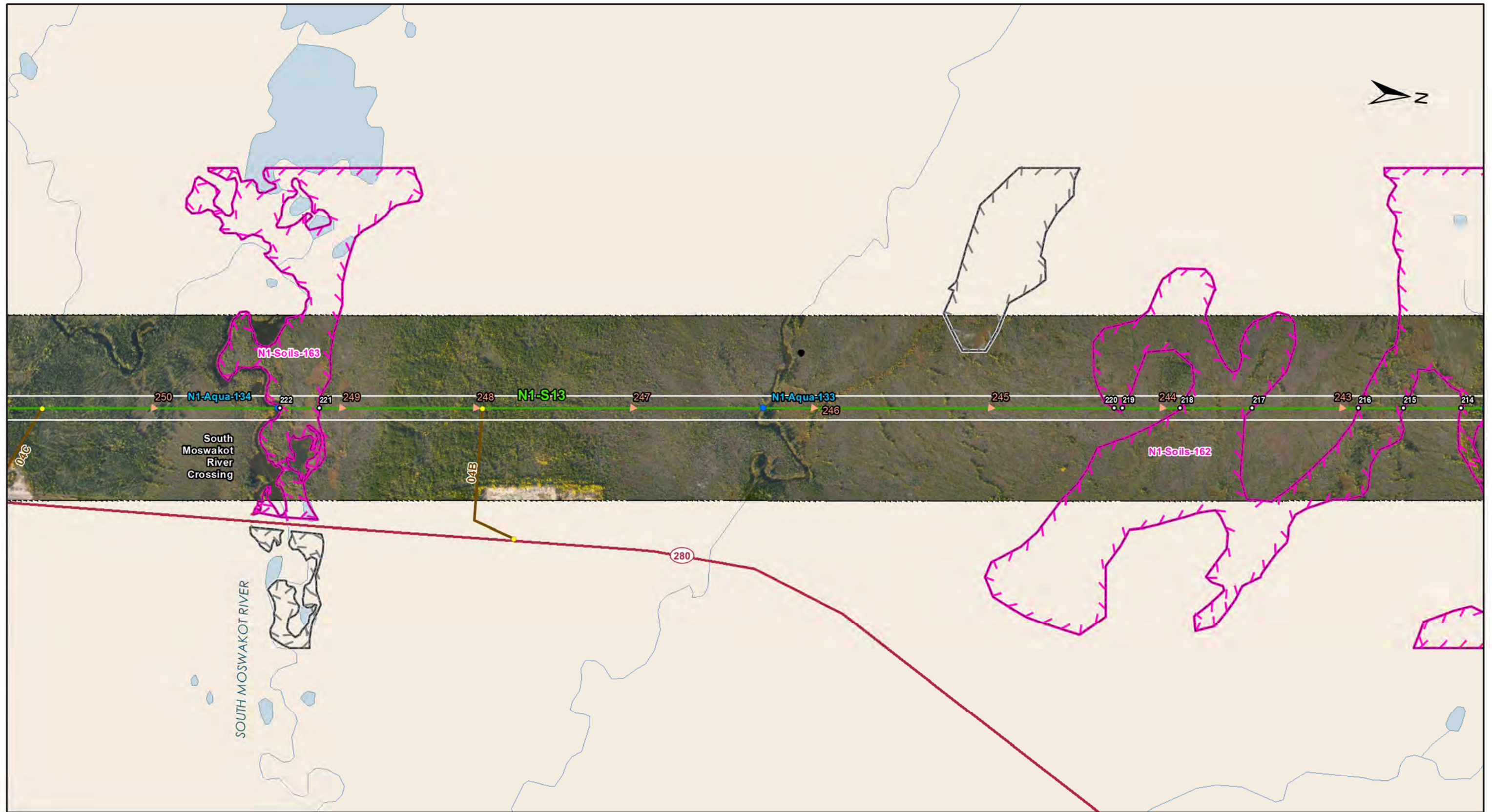
Potential Effects:

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
- 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

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

- ESS Features**
- Water**
- 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-S13	N1-Aqua-133	Unnamed tributary of South Moswakot River	713966	6262984	14N	16m	N/A	Moderate	Important
N1-S13	N1-Aqua-134	South Moswakot River	714113	6261652	14N	11m	11m	Moderate	Important

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 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
- No instream works or fording from April 1 - July 15

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S13	N1-Soils-162	Permafrost	Site: 215 to 216	E-713777 N-6264684	E-713791 N-6264563	14N	122 m
N1-S13	N1-Soils-162	Permafrost	Site: 217 to 218	E-713822 N-6264278	E-713844 N-6264084	14N	195 m
N1-S13	N1-Soils-162	Permafrost	Site: 219 to 220	E-713861 N-6263927	E-713864 N-6263905	14N	22 m
N1-S13	N1-Soils-163	Permafrost	Site: 221 to 222	E-714101 N-6261763	E-714112 N-6261657	14N	106 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
- 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