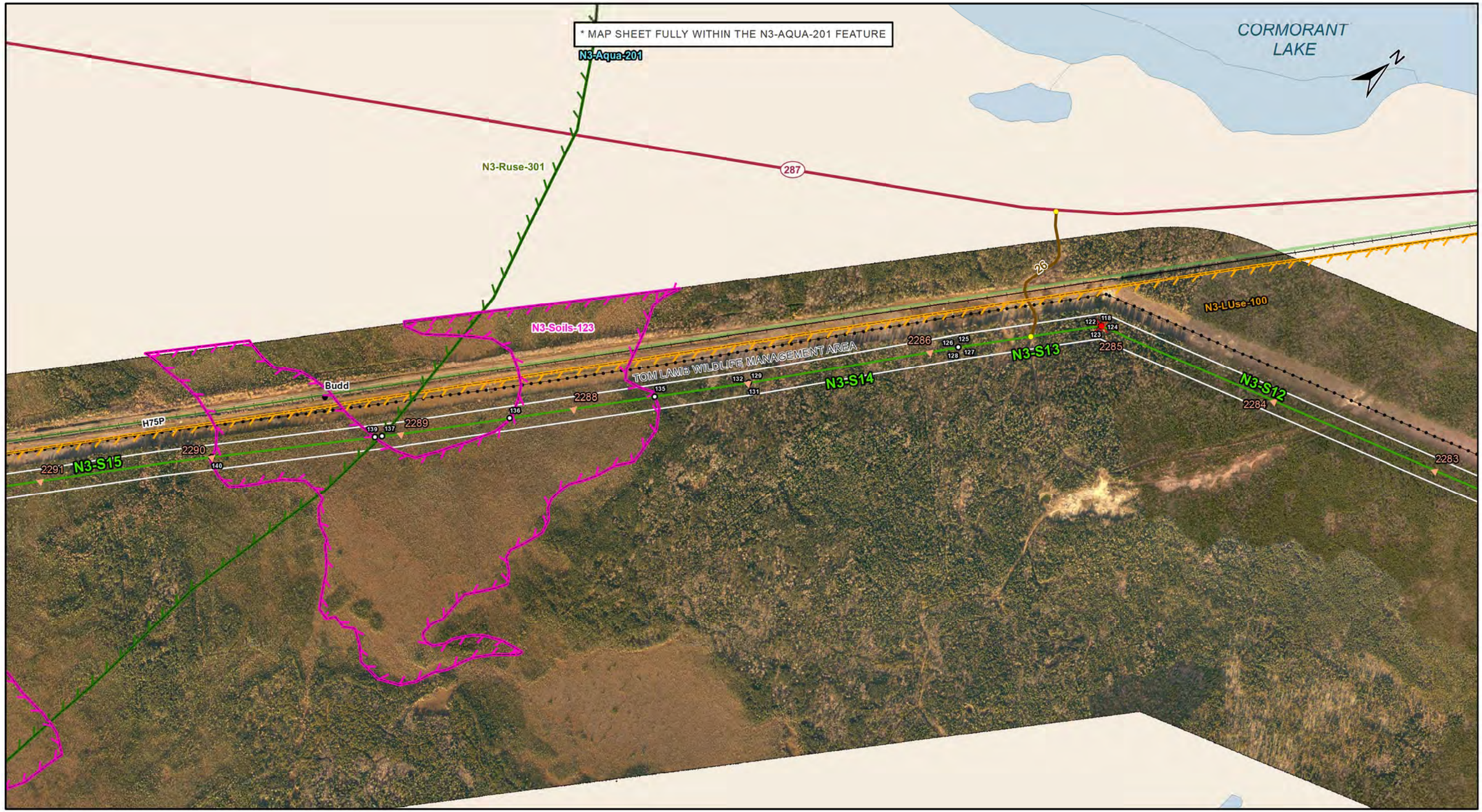

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Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
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Metres
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Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

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
Land Use
- Conservation

Resource Use
- Forestry

Soils and Terrain
- Permafrost

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 145

ESS Group: Conservation

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S12	N3-LUse-100	Tom Lamb WMA	Site: 117 to 118	E-399755 N-6003576	E-386710 N-5996976	14N	14619 m
N3-S13	N3-LUse-100	Tom Lamb WMA	Site: 123 to 125	E-386710 N-5996976	E-386506 N-5996642	14N	391 m
N3-S14	N3-LUse-100	Tom Lamb WMA	Site: 128 to 130	E-386506 N-5996642	E-386217 N-5996141	14N	578 m
N3-S15	N3-LUse-100	Tom Lamb WMA	Site: 132 to 134	E-386217 N-5996141	E-383782 N-5992197	14N	4635 m

Potential Effects:

Potential disruption to resource use activities

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding bears
- All project staff must record all bears encountered/observed on a daily basis, any observations of bears or bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions.
- Carry out construction activities on well frozen ground in wetlands.

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S12	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 121 to 122	E-393304 N-6000312	E-386710 N-5996976	14N	7389 m
N3-S13	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 124 to 126	E-386710 N-5996976	E-386506 N-5996642	14N	391 m
N3-S14	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 127 to 129	E-386506 N-5996642	E-386217 N-5996141	14N	578 m
N3-S15	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 131 to 133	E-386217 N-5996141	E-383782 N-5992197	14N	4635 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S15	N3-RUse-301	ATK-66 Cormorant	Site: 137 to 138	E-385689 N-5995283	E-383782 N-5992197	14N	3628m

Potential Effects:

Potential to disrupt access to fuel wood area

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Avoid surface damage to and obstruction of access route
- Make fuel wood from ROW clearing available to local community where demand exists

ESS Group: Permafrost

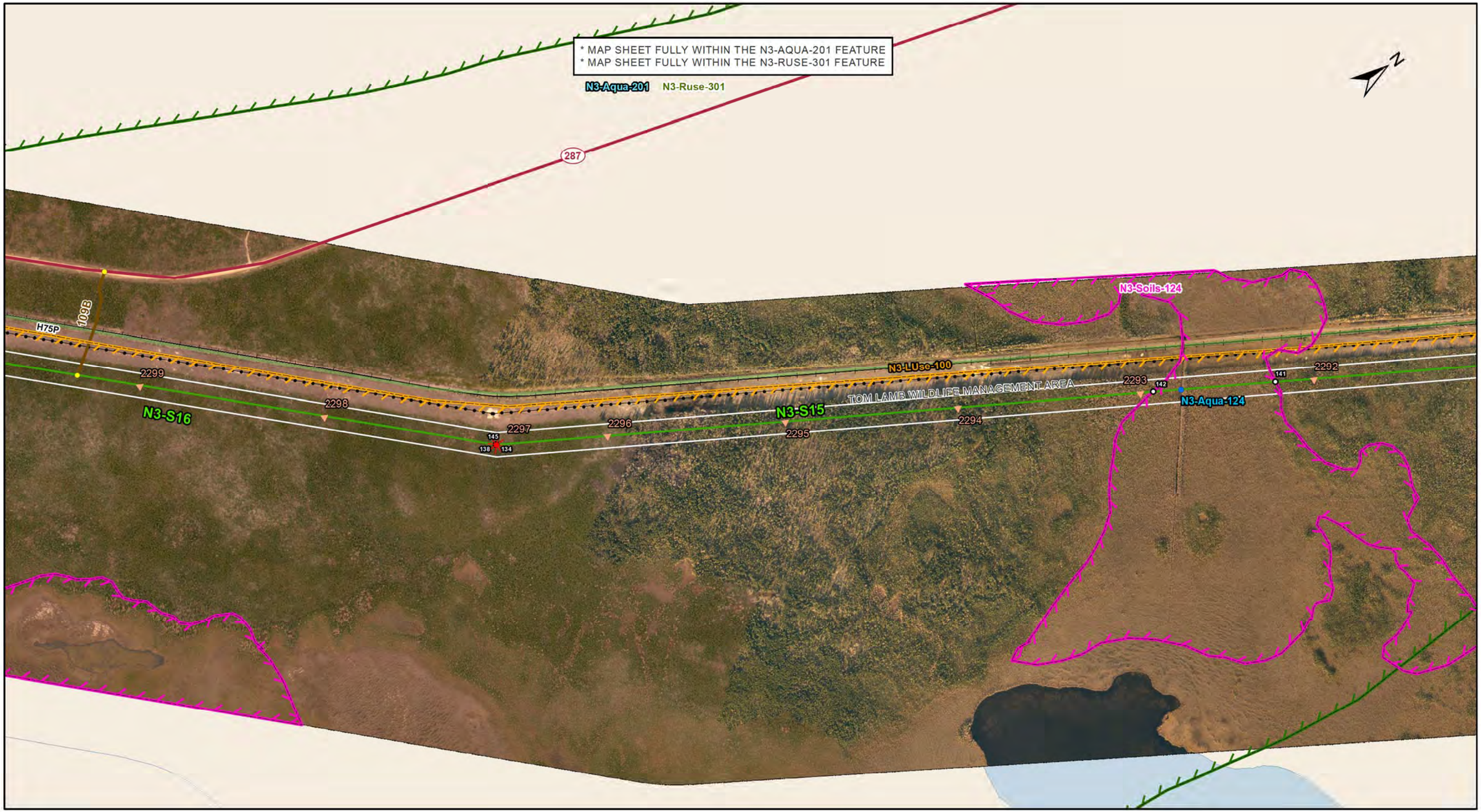
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S15	N3-Soils-123	Permafrost	Site: 135 to 136	E-386082 N-5995921	E-385874 N-5995581	14N	397 m
N3-S15	N3-Soils-123	Permafrost	Site: 139 to 140	E-385679 N-5995267	E-385436 N-5994891	14N	447 m

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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- Towers (Preliminary)*
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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

Water
- Water Crossing
- Groundwater

Land Use
- Conservation

Resource Use
- Forestry

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 146

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S15	N3-Aqua-124	Unnamed Tributary of Unnamed Lake	384758	5993791	14N	N/A	N/A	Low	No Fish Habitat

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.

ESS Group: Conservation

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S15	N3-LUse-100	Tom Lamb WMA	Site: 132 to 134	E-386217 N-5996141	E-383782 N-5992197	14N	4635 m
N3-S16	N3-LUse-100	Tom Lamb WMA	Site: 144 to 148	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m

Potential Effects:

Potential disruption to resource use activities

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding bears
- All project staff must record all bears encountered/observed on a daily basis, any observations of bears or bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions.
- Carry out construction activities on well frozen ground in wetlands.

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S15	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 131 to 133	E-386217 N-5996141	E-383782 N-5992197	14N	4635 m
N3-S16	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 145 to 147	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S15	N3-RUse-301	ATK-66 Cormorant	Site: 137 to 138	E-385689 N-5995283	E-383782 N-5992197	14N	3628m
N3-S16	N3-RUse-301	ATK-66 Cormorant	Site: 143 to 146	E-383782 N-5992197	E-378809 N-5987312	14N	6970m

Potential Effects:

Potential to disrupt access to fuel wood area

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Avoid surface damage to and obstruction of access route
- Make fuel wood from ROW clearing available to local community where demand exists

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S15	N3-Soils-124	Permafrost	Site: 141 to 142	E-384893 N-5994010	E-384719 N-5993726	14N	333 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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- Towers (Preliminary)*
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- 66 m Right of Way

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- Linear Features
- Area Features

*Currently outside the Project footprint

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

ESS Features
Land Use
- Conservation

Resource Use
- Forestry

Soils and Terrain
- Permafrost

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 147

ESS Group: Conservation

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-LUse-100	Tom Lamb WMA	Site: 144 to 148	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m

Potential Effects:

Potential disruption to resource use activities

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding bears
- All project staff must record all bears encountered/observed on a daily basis, any observations of bears or bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions.
- Carry out construction activities on well frozen ground in wetlands.

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 145 to 147	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Soils-125	Permafrost	Site: 151 to 152	E-381080 N-5989543	E-380801 N-5989269	14N	391 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

ESS Group: Forestry

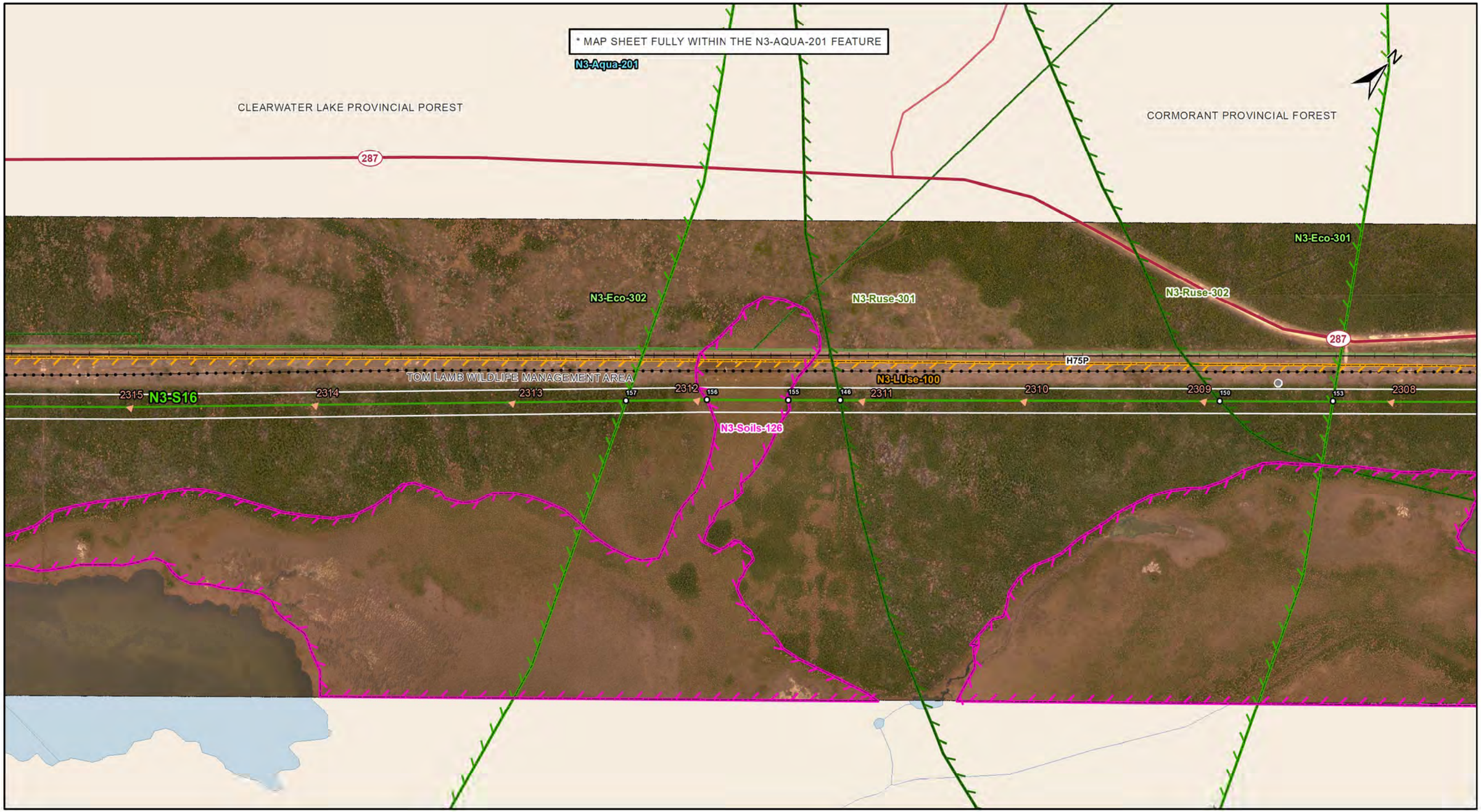
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-RUse-301	ATK-66 Cormorant	Site: 143 to 146	E-383782 N-5992197	E-378809 N-5987312	14N	6970 m
N3-S16	N3-RUse-302	ATK-97 Cormorant	Site: 149 to 150	E-381523 N-5989978	E-379545 N-5988036	14N	2772 m

Potential Effects:

Potential to disrupt access to fuel wood area

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Avoid surface damage to and obstruction of access route
- Make fuel wood from ROW clearing available to local community where demand exists



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- Linear Features
- Area Features

*Currently outside the Project footprint

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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
Land Use
- Conservation

Ecosystem
- Species of Concern

Resource Use
- Forestry

Soils and Terrain
- Permafrost

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 148

ESS Group: Conservation

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-LUse-100	Tom Lamb WMA	Site: 144 to 148	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m

Potential Effects:

Potential disruption to resource use activities

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding bears
- All project staff must record all bears encountered/observed on a daily basis, any observations of bears or bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions.
- Carry out construction activities on well frozen ground in wetlands.

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 145 to 147	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Soils-126	Permafrost	Site: 155 to 156	E-378709 N-5987214	E-378550 N-5987058	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

ESS Group: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Eco-301	Species of Concern	Site: 153 to 154	E-379764 N-5988250	E-376423 N-5984938	14N	4704 m
N3-S16	N3-Eco-302	Species of Concern	Site: 157 to 158	E-378395 N-5986902	E-376423 N-5984938	14N	2783 m

Potential Effects:

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

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing access roads and trails to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Stabilize sites immediately after construction and re-vegetate disturbed areas in accordance with site Rehabilitation Plan

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-RUse-301	ATK-66 Cormorant	Site: 143 to 146	E-383782 N-5992197	E-378809 N-5987312	14N	6970 m
N3-S16	N3-RUse-302	ATK-97 Cormorant	Site: 149 to 150	E-381523 N-5989978	E-379545 N-5988036	14N	2772 m

Potential Effects:

Potential to disrupt access to fuel wood area

Specific Mitigation:

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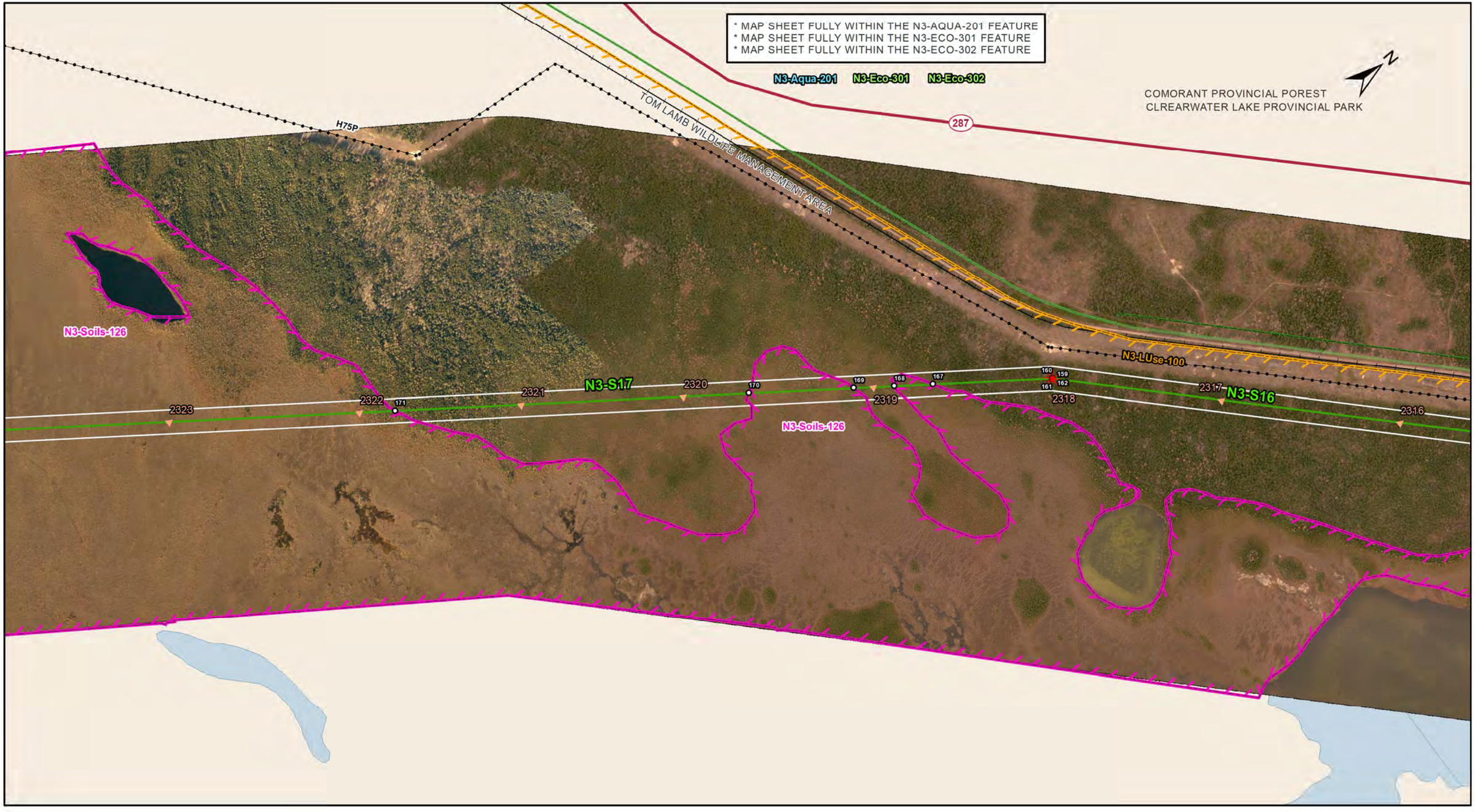

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- Conservation

Ecosystem
- Species of Concern

Soils and Terrain
- Permafrost

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 149

ESS Group: Conservation

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-LUse-100	Tom Lamb WMA	Site: 144 to 148	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m
N3-S17	N3-LUse-100	Tom Lamb WMA	Site: 159 to 163	E-376423 N-5984938	E-372982 N-5980114	14N	5925 m

Potential Effects:

Potential disruption to resource use activities

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding bears
- All project staff must record all bears encountered/observed on a daily basis, any observations of bears or bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions.
- Carry out construction activities on well frozen ground in wetlands.

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 145 to 147	E-383782 N-5992197	E-376423 N-5984938	14N	10336 m
N3-S17	N3-Aqua-201	Aquifers Vulnerable to contamination	Site: 160 to 166	E-376423 N-5984938	E-372982 N-5980114	14N	5925 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Soils-126	Permafrost	Site: 167 to 168	E-376234 N-5984673	E-376173 N-5984587	14N	105 m
N3-S17	N3-Soils-126	Permafrost	Site: 169 to 170	E-376109 N-5984497	E-375942 N-5984264	14N	286 m
N3-S17	N3-Soils-126	Permafrost	Site: 171 to 172	E-375381 N-5983478	E-373338 N-5980614	14N	3518 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

ESS Group: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Eco-301	Species of Concern	Site: 153 to 154	E-379764 N-5988250	E-376423 N-5984938	14N	4704 m
N3-S17	N3-Eco-301	Species of Concern	Site: 161 to 164	E-376423 N-5984938	E-372982 N-5980114	14N	5925 m
N3-S16	N3-Eco-302	Species of Concern	Site: 157 to 158	E-378395 N-5986902	E-376423 N-5984938	14N	2783 m
N3-S17	N3-Eco-302	Species of Concern	Site: 162 to 165	E-376423 N-5984938	E-372982 N-5980114	14N	5925 m

Potential Effects:

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

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing access roads and trails to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Stabilize sites immediately after construction and re-vegetate disturbed areas in accordance with site Rehabilitation Plan