

## ESS Group : Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N1-S20	N1-Hert-108	Crying River	676592	6249671	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 I D	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S20	N1- Aqua- 143	Unnamed Tributary of Assean River	678980	6250132	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 ٠
- 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 ٠ Bridges and Snow Fills, and Overhead Line Construction
- No instream works or fording from April 15 July 15 ٠

ESS Group : Water Crossing

Sec-Seg I D	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S20	N1-Aqua- 144	Crying River	676590	6249670	14N	10m	27m	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
- 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-S20	N1-Soils-174	Permafrost	Site: 280 to 281	E-679174 N-6250169	E-678899 N-6250116	14N	280 m
N1-S20	N1-Soils-174	Permafrost	Site: 282 to 283	E-678519 N-6250042	E-678064 N-6249954	14N	463 m
N1-S20	N1-Soils-175	Permafrost	Site: 284 to 285	E-677614 N-6249867	E-677400 N-6249826	14N	217 m
N1-S20	N1-Soils-175	Permafrost	Site: 286 to 287	E-676858 N-6249722	E-676855 N-6249721	14N	2 m
N1-S20	N1-Soils-175	Permafrost	Site: 288 to 289	E-676683 N-6249688	E-676641 N-6249680	14N	42 m
N1-S20	N1-Soils-176	Permafrost	Site: 290 to 291	E-676556 N-6249663	E-676034 N-6249563	14N	531 m
N1-S20	N1-Soils-176	Permafrost	Site: 292 to 293	E-675840 N-6249525	E-675272 N-6249415	14N	578 m

#### **Potential Effects:**

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

Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice

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# **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
N1-S20	N1-Wild- 105	Crying River crossing; movement route for raptors and waterfowl	Site: L9 to L10	E- 676604 N- 6249673	E- 676577 N- 6249667	14N	27 m

## **Potential Effects:**

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

- 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

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## ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S20	N1-Soils-176	Permafrost	Site: 292 to 293	E-675840 N-6249525	E-675272 N-6249415	14N	578 m
N1-S20	N1-Soils-177	Permafrost	Site: 294 to 294a	E-674689 N-6249303	E-674599 N-6249286	14N	94 m
N1-S21	N1-Soils-177	Permafrost	Site: 294b to 295	E-674599 N-6249286	E-674480 N-6249239	14N	128 m
N1-S21	N1-Soils-178	Permafrost	Site: 296 to 297	E-673737 N-6248945	E-673686 N-6248925	14N	54 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



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-S23	N1- Aqua- 145	Unnamed Tributary of Hunting River	671335	6248510	14N	N/A	N/A	Low	Marginal
N1-S23	N1- Aqua- 146	Hunting River	670099	6248578	14N	14.5m	14.5m	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 ٠
- 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 : Water Crossing

Sec- Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S23	N1- Aqua- 147	Unnamed Tributary of Hunting River	668062	6248433	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 ٠ 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 : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S22	N1-Wild- 106	Unnamed creek crossing; likely used by waterfowl	Site: L9 to L10	E- 670115 N- 6248577	E- 670081 N- 6248579	14N	34 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-S22	N1-Soils-179	Permafrost	Site: 298 to 299	E-670030 N-6248582	E-669728 N-6248598	14N	302 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



ESS Group : Water Crossing

Sec- Seg I D	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S23	N1- Aqua- 148	Awaweyaykamak Creek	665031	6247072	14N	2.5m	2.5m	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

- 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-S23	N1-Soils-180	Permafrost	Site: 300 to 301	E-663878 N-6246554	E-662539 N-6245953	14N	1467 m
N1-S23	N1-Soils-180	Permafrost	Site: 302 to 303	E-662361 N-6245873	E-662339 N-6245863	14N	23 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