ESS Group: Permafrost

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-S04</td>
<td>N3-Scals-109</td>
<td>Permafrost</td>
<td>Site: 49 to 50</td>
<td>E-456727 N-6042283</td>
<td>E-455490 N-6042156</td>
<td>14N</td>
<td>1399 m</td>
</tr>
<tr>
<td>N3-S04</td>
<td>N3-Scals-110</td>
<td>Permafrost</td>
<td>Site: 51 to 52</td>
<td>E-455203 N-6042283</td>
<td>E-454962 N-6042156</td>
<td>14N</td>
<td>272 m</td>
</tr>
</tbody>
</table>

**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
- Confining vehicular traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan
ESS Group: Historic

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>Location</th>
<th>ESS Name</th>
<th>Crossing Coordinates</th>
<th>UTM Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-S04</td>
<td>N3-Hert-300</td>
<td>C2</td>
<td>Freighting</td>
<td>E-451689 N-604009</td>
<td>14N</td>
</tr>
<tr>
<td>N3-S04</td>
<td>N3-Hert-300</td>
<td>C3</td>
<td>Freighting</td>
<td>E-451421 N-6040285</td>
<td>14N</td>
</tr>
<tr>
<td>N3-S04</td>
<td>N3-Hert-300</td>
<td>C4</td>
<td>Freighting</td>
<td>E-451079 N-6040640</td>
<td>14N</td>
</tr>
</tbody>
</table>

Potential Effects:
Potential disturbance of historic trail

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
- Inspect excavated materials or surface disturbance for heritage resources and report any finds to Environmental Inspector
- If any heritage resources are discovered, Archaeologist to conduct site investigation and recommend any additional mitigation measures

ESS Group: Historic

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-S04</td>
<td>N3-Hert-301</td>
<td>School</td>
<td>Site: 53 to 54</td>
<td>E-450918 N-6040019</td>
<td>E-450469 N-6039781</td>
<td>14N</td>
<td>508m</td>
</tr>
</tbody>
</table>

Potential Effects:
Potential for presence of important archaeological heritage resources; Ref: Herb Lake Group A - Lines 6602 - 6612

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
- 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
ESS Group: Permafrost

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>NJ-S04</td>
<td>NJ-Soils-111</td>
<td>Permafrost</td>
<td>Site: 55 to 56</td>
<td>E-445363</td>
<td>E-444057</td>
<td>14N</td>
<td>1477m</td>
</tr>
</tbody>
</table>

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
- Confinve 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

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Easting</th>
<th>Northing</th>
<th>UTM Zone</th>
<th>Channel Width</th>
<th>Wet Width</th>
<th>Fish Habitat Class</th>
<th>Habitat Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-504</td>
<td>N3-Aqua-110</td>
<td>Unnamed Tributary into Mitshto River</td>
<td>445121</td>
<td>6036955</td>
<td>14N</td>
<td>5.2m</td>
<td>5.2m</td>
<td>Low</td>
<td>Marginal</td>
</tr>
</tbody>
</table>

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.
- 3m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- No in stream works or fending from April 1 - July 15

ESS Group: Permafrost

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-504</td>
<td>N3-Soils-111</td>
<td>Permafrost</td>
<td>Site: 55 to 56</td>
<td>E-445363 N-6037084</td>
<td>E-444057 N-6037963</td>
<td>14N</td>
<td>1477m</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-S05</td>
<td>N3-Seco-300</td>
<td>Species of Concern</td>
<td>Site: 57 to 58</td>
<td>E-441317</td>
<td>E-437399</td>
<td>14N</td>
<td>4096m</td>
</tr>
</tbody>
</table>

**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.
- Confin e vehicle traffic to established trails to the extent possible.
- Stabilize sites immediately after construction and re-vegetate disturbed areas in accordance with the site Rehabilitation Plan.

**ESS Group: Permafrost**

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3-S05</td>
<td>N3-Skils-112</td>
<td>Permafrost</td>
<td>Site: 59 to 60</td>
<td>E-438993</td>
<td>E-438494</td>
<td>14N</td>
<td>520 m</td>
</tr>
</tbody>
</table>

**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 wherever possible as access routes.
- Maintain shrub and herbaceous vegetation to the extent possible.
- Remove trees by low-disturbance methods.
- Confin e 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

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>NJ-DUB 111</td>
<td>E-441317</td>
<td>57 to 58</td>
<td>E-437389</td>
<td>N-6033813</td>
<td>14N</td>
<td>4096m</td>
<td></td>
</tr>
<tr>
<td>NJ-DUB 111</td>
<td>E-437289</td>
<td>61 to 62</td>
<td>E-428218</td>
<td>N-6033813</td>
<td>14N</td>
<td>9008m</td>
<td></td>
</tr>
</tbody>
</table>

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 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 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 shrubs and herbaceous understory veg will be maintained along with trees that do not violate 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: Species of Concern

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
- Confinve 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

MAP NUMBER: 129