**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>C1-S11</td>
<td>C1-Aqua-126</td>
<td>Unnamed wetland</td>
<td>Site: 77 to 78</td>
<td>E-448543</td>
<td>E-448596</td>
<td>14N</td>
<td>79m</td>
</tr>
</tbody>
</table>

**Potential Effects:**

Increased erosion and sedimentation; rutting of floodplains; loss of riparian vegetation

**Specific Mitigation:**

- 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: Groundwater**

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</tr>
</thead>
<tbody>
<tr>
<td>C1-S11</td>
<td>C1-Aqua-204</td>
<td>Artesian areas with uncertain water quality</td>
<td>Site: 79 to 80</td>
<td>E-449205</td>
<td>E-450423</td>
<td>14N</td>
<td>1834 m</td>
</tr>
</tbody>
</table>

**Potential Effects:**

Potential increase in salinity of soils and surface water in case where aquifer is saline and groundwater discharges to the surface. Also, wetting the surficial environment (around saturation)

**Specific Mitigation:**

- 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.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.
### ESS Group: Forestry

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<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
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<th>Location</th>
<th>Start</th>
<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S12</td>
<td>C1-RUse-315</td>
<td>Shelterbelt</td>
<td>Site: 83 to 84</td>
<td>E-451358 N-5704087</td>
<td>E-451385 N-5704069</td>
<td>14N</td>
<td>32m</td>
</tr>
</tbody>
</table>

**Potential Effects:**

- Removal in area of ROW Intersect

**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
- If burning of clearing debris is required it must be conducted during winter months only and ensure that all fires are extinguished prior to spring break-up
- Notify landowner regarding construction activities and schedule, and address concerns prior to start of work
- Use existing access trails, roads or cut lines whenever possible as access routes
- Limit all equipment to project footprint only, where possible
- No damage to vegetation on the edge of the Right of Way
- No pushing debris into adjacent timber

### ESS Group: Groundwater

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<thead>
<tr>
<th>Sec-Seg ID</th>
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<th>ESS Name</th>
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<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S11</td>
<td>C1-Aqua-204</td>
<td>Artesian areas with uncertain water quality</td>
<td>Site: 79 to 80</td>
<td>E 440208 N-5706117</td>
<td>E 450423 N-5704746</td>
<td>14N</td>
<td>1834 m</td>
</tr>
<tr>
<td>C1-S12</td>
<td>C1-Aqua-204</td>
<td>Artesian areas with uncertain water quality</td>
<td>Site: 81 to 82</td>
<td>E-450423 N-5704746</td>
<td>E-453335 N-5702694</td>
<td>14N</td>
<td>3562 m</td>
</tr>
</tbody>
</table>

**Potential Effects:**

- Potential increase in salinity of soils and surface water in case where aquifer is saline and groundwater discharges to the surface; also, wetting the surficial environment (ground saturation)

**Specific Mitigation:**

- 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.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.
ESS Group: Water Crossing

Potential Effects:
Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; disturbance to stream banks; loss of riparian vegetation; runnng of chemicals and impurities into streams; running 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 wherever 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: Groundwater

Potential Effects:
Potential increase in salinity of soils and surface water in case where aquifer is saline and groundwater discharges to the surface; Also, wetting the surficial environment (ground saturation).

Specific Mitigation:
• 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.
• Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.

ESS Group: Forestry

Potential Effects:
Removal in area of ROW intersect.

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
• If burning of clearing debris is required it must be conducted during winter months only and ensure that all fires are extinguished prior to spring break-up
• Notify landowner regarding construction activities and schedule, and address concerns prior to start of work
• Use existing access trails, made or cut lines wherever possible as access routes
• Limit all equipment to project footprint only, where possible
• No damage to Vegetation on the edge of the Right of Way
• No pushing debris into adjacent timber
ESS Group: Archaeological

<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>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S12</td>
<td>C1-Hert-127</td>
<td>Creek</td>
<td>455825</td>
<td>570940</td>
<td>14N</td>
</tr>
</tbody>
</table>

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: Forestry

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<th>Sec-Seg ID</th>
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<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S12</td>
<td>C1-Ruse-318</td>
<td>Shelterbelt</td>
<td>Site: 89 to 90</td>
<td>E-456850</td>
<td>E-456857</td>
<td>N-570217</td>
<td>N-570212</td>
</tr>
</tbody>
</table>

Potential Effects:
Removal in area of ROW intersect

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
- If burning of clearing debris is required it must be conducted during winter months only and ensure that all fires are extinguished prior to spring break-up
- Notify landowner regarding construction activities and schedule, and address concerns prior to start of work
- Use existing access trails, roads or cut lines wherever possible as access routes
- Limit all equipment to project footprint only, where possible
- No damage to Vegetation on the edge of the Right of Way
- No pushing debris into adjacent timber
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</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S12</td>
<td>C1-Aqua-128</td>
<td>Unnamed Agricultural Drain</td>
<td>460647</td>
<td>5697543</td>
<td>14N</td>
<td>N/A</td>
<td>8m</td>
<td>Low</td>
<td>Marginal</td>
</tr>
</tbody>
</table>

Potential Effects:
- Hydraulic loss and contamination from structure breakdown & undermining; 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 30m, buffers are already in place and因此 will not be disturbed along with trees that do not violate H&V or VP
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.

ESS Group: Forestry

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<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S12</td>
<td>C1-Ruse-319</td>
<td>Shelterbelt</td>
<td>Site: 91 to 92</td>
<td>E-459270</td>
<td>E-459298</td>
<td>14N</td>
<td>34 m</td>
</tr>
<tr>
<td>C1-S12</td>
<td>C1-Ruse-320</td>
<td>Shelterbelt</td>
<td>Site: 93 to 94</td>
<td>E-459254</td>
<td>E-459266</td>
<td>14N</td>
<td>15 m</td>
</tr>
</tbody>
</table>

Potential Effects:
- Removal in area of ROW intersect

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
- If burning of clearing debris is required it must be conducted during winter months only and ensure that all fires are extinguished prior to spring break-up
- Notify landowner regarding construction activities and schedule, and address concerns prior to start of work
- Use existing access trails, roads or cut lines wherever possible as access routes
- Limit all equipment to project footprint only, where possible
- No damage to Vegetation on the edge of the Right of Way
- No pushing debris into adjacent timber

ESS Group: Groundwater

<table>
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<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
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<th>Start</th>
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<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S12</td>
<td>C1-Aqua-205</td>
<td>Saline artesian areas</td>
<td>Site: 95 to 96</td>
<td>C-459700</td>
<td>C-459790</td>
<td>14N</td>
<td>10785 m</td>
</tr>
</tbody>
</table>

Potential Effects:
- Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

Specific Mitigation:
- 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.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.
ESS Group: Water Crossing

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<tr>
<th>Sec-Seq ID</th>
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<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>C1-S12</td>
<td>C1-Aqua-129</td>
<td>Unnamed Agricultural Drain</td>
<td>464949</td>
<td>5694511</td>
<td>14N</td>
<td>15m</td>
<td>3m</td>
<td>Low</td>
<td>Important</td>
</tr>
</tbody>
</table>

Potential Effects:
- Habitat loss and contamination from structure foundations & instability;
- 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 caving
- 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 the buffer, buffers shall be constructed; Vegetation disturbance very will be maintained along with trees that do not violate Min. 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: Groundwater

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<tbody>
<tr>
<td>C1-S12</td>
<td>C1-Aqua-205</td>
<td>Saline artesian areas</td>
<td>Site: 95 to 96</td>
<td>E-459788 N-5698147</td>
<td>E-468605 N-5691935</td>
<td>14N</td>
<td>10785m</td>
</tr>
</tbody>
</table>

Potential Effects:
- Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

Specific Mitigation:
- 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.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.
### ESS Group: Archaeological

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<th>UTM Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-S12</td>
<td>C1-Hert-128</td>
<td>Abandoned Building</td>
<td>46638</td>
<td>5693533</td>
<td>14N</td>
</tr>
</tbody>
</table>

**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

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<td>14N</td>
<td>10785m</td>
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**Potential Effects:**

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

**Specific Mitigation:**

- 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.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.
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<tr>
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<td>Saline artesian areas</td>
<td>Site: 95 to 96</td>
<td>E-459788 N-5690147</td>
<td>E-468605 N-5691935</td>
<td>14N</td>
<td>10785m</td>
</tr>
</tbody>
</table>

Potential Effects:

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

Specific Mitigation:

- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for wetting/grounding and pumping will be implemented as required.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.