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**ESS Group: Water Crossing**

### 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 disturbance and impacted fish movement; Flooding 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 to 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.
- 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**

### Potential Effects:
Potential interference with snowmobilers; safety issues

### 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: Groundwater**

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

### Specific Mitigation:
- Marshaling 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: Groundwater**

<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>S2-531</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 125 to 128</td>
<td>E-659514 N-5499235</td>
<td>E-659208 N-5507734</td>
<td>14N</td>
<td>8504 m</td>
</tr>
<tr>
<td>S2-532</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 133 to 134</td>
<td>E-659208 N-5507734</td>
<td>E-666608 N-5507894</td>
<td>14N</td>
<td>7401 m</td>
</tr>
</tbody>
</table>

**Potential Effects:**

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

**Specific Mitigation:**

- Marshaling 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**

<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>S2-531</td>
<td>S2-Verse-307</td>
<td>Shelterbelt</td>
<td>Site: 129 to 130</td>
<td>E-659267 N-5506093</td>
<td>E-659267 N-5506101</td>
<td>14N</td>
<td>8 m</td>
</tr>
<tr>
<td>S2-531</td>
<td>S2-Verse-308</td>
<td>Shelterbelt</td>
<td>Site: 131 to 132</td>
<td>E-659253 N-5506469</td>
<td>E-659253 N-5506550</td>
<td>14N</td>
<td>7 m</td>
</tr>
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</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: 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>S2-S32</td>
<td>S2-Agua-143</td>
<td>Seine River</td>
<td>Site: 133 to 134</td>
<td>E-659208 N-5507734</td>
<td>E-666008 N-5507994</td>
<td>14N</td>
<td>7401 m</td>
</tr>
<tr>
<td>S2-S33</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 140 to 142</td>
<td>E-666608 N-5507894</td>
<td>E-666812 N-5508433</td>
<td>14N</td>
<td>575 m</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 impacted fish movement; Flooding of floodplain

Specific Mitigation:
- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing tracks, 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: Forestry

<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>S2-S32</td>
<td>S2-Rise-309</td>
<td>Shelterbelt</td>
<td>Site: 135 to 136</td>
<td>E-664920 N-5507816</td>
<td>E-664941 N-5507937</td>
<td>14N</td>
<td>21m</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 or clearing desired 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

<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>S2-S32</td>
<td>S2-Aqua-204</td>
<td>Freshwater artesian areas</td>
<td>Site: 137 to 138</td>
<td>E-665140 N-5507861</td>
<td>E-666008 N-5507894</td>
<td>14N</td>
<td>1468 m</td>
</tr>
<tr>
<td>S2-S33</td>
<td>S2-Aqua-204</td>
<td>Freshwater artesian areas</td>
<td>Site: 139 to 141</td>
<td>E-666608 N-5507894</td>
<td>E-666812 N-5508433</td>
<td>14N</td>
<td>575 m</td>
</tr>
</tbody>
</table>

Potential Effects:
Wetting the surficial environment near potential discharge from tower foundation drill hole (ground saturation); also, potential level drop in the aquifer.

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.

MAP NUMBER: 334
### ESS Group: Water Crossing

<table>
<thead>
<tr>
<th>Sec-Seq 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>S2-S34</td>
<td>S2-Aqua-144-144</td>
<td>Unnamed Drain</td>
<td>bbb//b</td>
<td>33UBJ5/5</td>
<td>14N</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>S2-S34</td>
<td>S2-Aqua-145-145</td>
<td>Unnamed ditch/drain connected to Seine River</td>
<td>666897</td>
<td>5508521</td>
<td>14N</td>
<td>N/A</td>
<td>5m</td>
<td>Low</td>
<td>Marginal</td>
</tr>
<tr>
<td>S2-S34</td>
<td>S2-Aqua-146-146</td>
<td>Unnamed ditch/drain connected to Seine River</td>
<td>667102</td>
<td>5508735</td>
<td>14N</td>
<td>10m</td>
<td></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 or dry ground to minimize surface damage, rutting and erosion. If wet conditions, one time fording is permitted
- Use existing trails, roads or cut lines whenever possible as access routes
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at trail crossing.
- Limit machinery fording of the watercourse to a one-time event (over and back) only if no alternative crossing method is available. If repeated crossings of the watercourse are necessary prior approval from the MH Environmental inspector is required
- Locate crossings perpendicular to the bank, whenever possible.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.

### ESS Group: Intersection

<table>
<thead>
<tr>
<th>Sec-Seq ID</th>
<th>ESS ID</th>
<th>Location</th>
<th>ESS Name</th>
<th>Crossing Coordinates</th>
<th>UTM Zone</th>
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</thead>
<tbody>
<tr>
<td>S2-S34</td>
<td>S2-RecUse-107</td>
<td>C6</td>
<td>Snowmobile Trail</td>
<td>E-667675 N-5509344</td>
<td>14N</td>
</tr>
</tbody>
</table>

**Potential Effects:**
Potential interference with snowmobilers; safety issues.

**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: Groundwater

**Potential Effects:**
Wetting the surficial environment near potential discharge from lower foundation drill hole (ground saturation); also, potential level drop in the aquifer.

**Specific Mitigation:**
- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/gutting and pumping will be implemented as required.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.
### ESS Group: Groundwater

<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>S2-533</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 140 to 142</td>
<td>E-666608</td>
<td>E-666812</td>
<td>N-5507894</td>
<td>575 m</td>
</tr>
<tr>
<td>S2-534</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 143 to 145</td>
<td>E-666812</td>
<td>E-667701</td>
<td>N-5508433</td>
<td>1291 m</td>
</tr>
<tr>
<td>S2-535</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 148 to 150</td>
<td>E-667701</td>
<td>E-667482</td>
<td>N-5509369</td>
<td>9278 m</td>
</tr>
</tbody>
</table>

### Potential Effects:

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

### Specific Mitigation:

- Harshailing 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.
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ESS Group: Water Crossing

<table>
<thead>
<tr>
<th>Sec-Seg ID</th>
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<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-S35</td>
<td>S2-Aqua-147</td>
<td>Fish Creek</td>
<td>E-667701</td>
<td>E-667728</td>
<td>14N</td>
<td>3078m</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 disturbance and impacted fish movements, flooding 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 Canonical Requirements
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- No instream works or fording until April 1 - July 15

ESS Group: Water Crossing

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<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-S35</td>
<td>S2-Aqua-148</td>
<td>Unnamed Drain</td>
<td>E-667701</td>
<td>E-667728</td>
<td>14N</td>
<td>9278 m</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

Specific Mitigation:
- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion. If wet conditions, one time fording is permitted
- Use existing trails, roads or cut lines whenever possible as access routes
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Limit machinery fording of the watercourse to a one-time event (over and back) only if no alternative crossing method is available. If repeated crossings of the watercourse are necessary prior approval from the MH Environmental Inspector is required
- Locate crossings perpendicular to the bank, whenever possible.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.

ESS Group: Groundwater

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<tr>
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<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-S35</td>
<td>S2-Aqua-204</td>
<td>Freshwater artesian areas</td>
<td>Site: 147 to 149</td>
<td>E-667701</td>
<td>N-559369</td>
<td>14N</td>
<td>3078m</td>
</tr>
</tbody>
</table>

Potential Effects:
- Wetting the surficial environment near potential discharge from tower foundation drill hole (ground saturation), also, potential level drop in the aquifer.

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: Groundwater

<table>
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<tr>
<th>Sec-Seg ID</th>
<th>ESS ID</th>
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<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-S35</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 148 to 150</td>
<td>E-667701</td>
<td>N-559369</td>
<td>14N</td>
<td>9278 m</td>
</tr>
</tbody>
</table>

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 lot 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: 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>
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<tbody>
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<td>S2-S35</td>
<td>S2-Aqua-150</td>
<td>Unnamed Drain</td>
<td>667525</td>
<td>5516946</td>
<td>14N</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>S2-S35</td>
<td>S2-Aqua-151</td>
<td>Unnamed Drain</td>
<td>667486</td>
<td>5518589</td>
<td>14N</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
<td>None</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. If wet conditions, one time fording is permitted.
- Use existing trails, roads or cut lines whenever possible as access routes.
- No new machine, crew will contact equipment in close proximity to the waterbody except at the trail crossing.
- Limit machinery fording of the watercourse to one-time event (over and back) only if no alternative crossing method is available. If repeated crossings of the watercourse are necessary prior approval from the NH Environmental Inspector is required.
- Locate crossings perpendicular to the bank, whenever possible.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.

**ESS Group: Groundwater**

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<tr>
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<th>Stop</th>
<th>UTM Zone</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-S35</td>
<td>S2-Aqua-202</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 148 to 150</td>
<td>E-667701 N-559369</td>
<td>E-667462 N-5518646</td>
<td>14N</td>
<td>9278 m</td>
</tr>
</tbody>
</table>

**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: Groundwater**

<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>S2-S35</td>
<td>S2-Aqua-202</td>
<td>Freshwater artesian areas</td>
<td>Site: 151 to 154</td>
<td>E-667484 N-5510830</td>
<td>E-667428 N-5520906</td>
<td>14N</td>
<td>5577 m</td>
</tr>
</tbody>
</table>

**Potential Effects:**
Wetting the surficial environment near potential discharge from tower foundation drill hole (ground saturation); also, potential level drop in the aquifer.

**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.

**MAP NUMBER:** 337
**ESS Group:** Groundwater

<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>S2-S35</td>
<td>S2-Aqua-205</td>
<td>Freshwater artesian areas</td>
<td>Site: 151 to 152</td>
<td>E-667464</td>
<td>N-5518530</td>
<td>14N</td>
<td>2377m</td>
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<td>22-45-05</td>
<td>S2-Aqua-205</td>
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<td>2041m</td>
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<tr>
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<td>Freshwater artesian areas</td>
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<td>E-664912</td>
<td>N-5521792</td>
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<td>3497m</td>
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</table>

**Potential Effects:**

Wetting the surficial environment near potential discharge from tower foundation drill hole (ground saturation); also, potential level drop in the aquifer.

**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**

<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>S2-S38</td>
<td>S2-Aqua-152</td>
<td>Unnamed Drain</td>
<td>662951</td>
<td>5523672</td>
<td>14N</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
<td>None</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.

**Specific Mitigation:**
- Carry out construction activities on frozen or dry ground to minimize surface damage, cutting and erosion. If wet conditions, one time fording is permitted.
- Use existing trails, roads or cut lines whenever possible as access routes.
- No machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Limit machinery fording of the watercourse to a one-time event (over and back) only if no alternative crossing method is available. If repeated crossings of the watercourse are necessary prior approval from the Michigan Environmental Protection Act is required.
- Locate crossings perpendicular to the bank, wherever possible.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.

---

**ESS Group: Forestry**

<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>S2-S27</td>
<td>S2-Aqua-210</td>
<td>Shuttershed</td>
<td>Site: 150 to 150</td>
<td>E-6620K N-5523910</td>
<td>E-6620N N-5523930</td>
<td>14N</td>
<td>20m</td>
</tr>
</tbody>
</table>

**Potential Effects:**
- Removal of area of ASW climax.

**Specific Mitigation:**
- Carry out construction activities on frozen or dry ground to minimize surface damage, cutting 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.

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**ESS Group: Groundwater**

<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>S2-S37</td>
<td>S2-Aqua-210</td>
<td>Freshwater artesian areas Site: 150 to 150</td>
<td>E-664912 N-5521792</td>
<td>E-662381 N-5524205</td>
<td>14N</td>
<td>3497 m</td>
<td></td>
</tr>
<tr>
<td>S2-S38</td>
<td>S2-Aqua-210</td>
<td>Freshwater artesian areas Site: 150 to 150</td>
<td>E-664912 N-5521792</td>
<td>E-662381 N-5524205</td>
<td>14N</td>
<td>1527 m</td>
<td></td>
</tr>
</tbody>
</table>

**Potential Effects:**
- Wetting the surficial environment near potential discharge from tower foundation drill hole (ground saturation); also, potential level drop in the aquifer.

**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

<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>S2-S40</td>
<td>S2-Aqua-155</td>
<td>Unnamed Drain</td>
<td>661597</td>
<td>5524953</td>
<td>14N</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>S2-S40</td>
<td>S2-Aqua-156</td>
<td>Unnamed Drain</td>
<td>661526</td>
<td>5525020</td>
<td>14N</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>S2-S40</td>
<td>S2-Aqua-157</td>
<td>Swede Drain</td>
<td>659919</td>
<td>5525149</td>
<td>14N</td>
<td>N/A</td>
<td>N/A</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; Deterioration to stream banks, loss of riparian vegetation, non-habitat disturbances and impacted flow conditions, resulting in flood plains.

**Specific Mitigation:**

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion. If wet conditions, use toeholds is permitted
- Use existing trails, roads or cut lines whenever possible as access routes
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Limit machinery fording of the watercourse to a one-time event (over and back) only if no alternative crossing method is available. If repeated crossings of the watercourse are necessary prior approval from the HHI Environmental Inspector is required
- Locate crossings perpendicular to the bank, whenever possible.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through revegetation with native species suitable for the site.

### ESS Group: Groundwater

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<thead>
<tr>
<th>Sec-Seg ID</th>
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<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-330</td>
<td>S2-Aqua-200</td>
<td>Aquifers vulnerable to contamination</td>
<td>Site: 165 to 106</td>
<td>E-660940 N-35224m</td>
<td>E-650224 N-35249m</td>
<td>S41m</td>
<td>10710 m</td>
</tr>
</tbody>
</table>

**Potential Effects:**

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

**Specific Mitigation:**

- Marshaling 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: Groundwater

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<thead>
<tr>
<th>Sec-Seg ID</th>
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</tr>
</thead>
<tbody>
<tr>
<td>S2-638</td>
<td>S2-Aqua-205</td>
<td>Freshwater artesian areas</td>
<td>Site: 16 to 150</td>
<td>E-662381 N-55242m</td>
<td>E-661274 N-55252m</td>
<td>14N</td>
<td>1527 m</td>
</tr>
<tr>
<td>S2-639</td>
<td>S2-Aqua-205</td>
<td>Freshwater artesian areas</td>
<td>Site: 16 to 150</td>
<td>E-661274 N-55252m</td>
<td>E-661284 N-55252m</td>
<td>14N</td>
<td>191 m</td>
</tr>
<tr>
<td>S2-640</td>
<td>S2-Aqua-205</td>
<td>Freshwater artesian areas</td>
<td>Site: 16 to 150</td>
<td>E-661284 N-55252m</td>
<td>E-661226 N-55252m</td>
<td>14N</td>
<td>2899 m</td>
</tr>
</tbody>
</table>

**Potential Effects:**

Wetting the surficial environment near potential discharge from tower foundation drill hole (ground saturation); also, potential level drop in the aquifer.

**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.

**MAP NUMBER:** 340