MAP NUMBER : 6

ESS Group : Conservation

<table>
<thead>
<tr>
<th>Sec ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Easting</th>
<th>Northing</th>
<th>UTM Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP</td>
<td>CP-LUse-100</td>
<td>Churchill Wildlife Management Area</td>
<td>Entire Extent of Map 6</td>
<td>-</td>
<td>-</td>
<td>14N</td>
</tr>
</tbody>
</table>

Potential Effects:
Within the Churchill Wildlife Management Area

Specific Mitigation:
- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar 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-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 : Species of Concern

<table>
<thead>
<tr>
<th>Sec 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>KW</td>
<td>KW-Eco-324</td>
<td>Species of Concern (plant)</td>
<td>811816</td>
<td>6285361</td>
<td>14N</td>
</tr>
</tbody>
</table>

Potential Effects:
Loss of plants of conservation concern from clearing and construction activities.

Specific Mitigation:
- Non-mitigable due to complete removal of all vegetation cover for site.

ESS Group : Species of Concern

<table>
<thead>
<tr>
<th>Sec 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>KW</td>
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<td>Species of Concern (plant)</td>
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<td>6284064</td>
<td>14N</td>
</tr>
<tr>
<td>KW</td>
<td>KW-Eco-326</td>
<td>Species of Concern (plant)</td>
<td>811191</td>
<td>6284025</td>
<td>14N</td>
</tr>
</tbody>
</table>

Potential Effects:
Potential loss of plants of conservation concern from clearing, construction, maintenance and decommissioning activities.

ESS Group : Water Crossing

<table>
<thead>
<tr>
<th>Sec ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Easting</th>
<th>Northing</th>
<th>Channel Width (m)</th>
<th>Wet Width (m)</th>
<th>Fish Habitat Class</th>
<th>Habitat Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW</td>
<td>KW-Aqua-113</td>
<td>Swift Creek</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>KW</td>
<td>KW-Aqua-117</td>
<td>Unnamed Tributary of Swift Creek</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>KW</td>
<td>KW-Aqua-118</td>
<td>Unnamed Tributary of Swift Creek</td>
<td>-</td>
<td>-</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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
### Potential Effects:

Loss of riparian vegetation, rutting, altered surface water flows, contamination.

### Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer
**MAP NUMBER : 7**

**ESS Group : Conservation**

<table>
<thead>
<tr>
<th>Sec ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Location</th>
<th>Northing</th>
<th>Easting</th>
<th>UTM Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP</td>
<td>CP-LUse-100</td>
<td>Churchill Wildlife Management Area</td>
<td>Entire Extent of Map 7</td>
<td></td>
<td></td>
<td>14N</td>
</tr>
</tbody>
</table>

**Potential Effects:**

*Loss of riparian vegetation, rutting, altered surface water flows, contamination.*

**Specific Mitigation:**

- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar 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 : Species of Concern**

<table>
<thead>
<tr>
<th>Sec ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Northing</th>
<th>Easting</th>
<th>UTM Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE</td>
<td>GE-Eco-100</td>
<td>Species of Concern (plant)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>GE</td>
<td>GE-Eco-101</td>
<td>Species of Concern (plant)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Potential Effects:**

*Loss of plants of conservation concern from clearing and construction activities.*

**Specific Mitigation:**

- Identify and flag prior to start of work
- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Provide 5m vegetated (shrub and herbaceous) buffer around site
- Remove trees by hand or other low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible

**ESS Group : Wetland**

<table>
<thead>
<tr>
<th>Sec ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Northing</th>
<th>Easting</th>
<th>Channel Width (m)</th>
<th>Wet Width (m)</th>
<th>Fish Habitat Class</th>
<th>Habitat Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE</td>
<td>GE-Aqua-300</td>
<td>Unnamed wetland</td>
<td></td>
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<td>N/A</td>
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<td>N/A</td>
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<tr>
<td>KW</td>
<td>KW-Aqua-305</td>
<td>Unnamed wetland</td>
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<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Potential Effects:**

*Instream works & diversion effects; increased erosion and sedimentation of stream; contamination of a watercourse from leaching of embedded coke; stream crossing effects.*

**ESS Group : Water Crossing**

<table>
<thead>
<tr>
<th>Sec ID</th>
<th>ESS ID</th>
<th>ESS Name</th>
<th>Northing</th>
<th>Easting</th>
<th>Channel Width (m)</th>
<th>Wet Width (m)</th>
<th>Fish Habitat Class</th>
<th>Habitat Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE</td>
<td>GE-Aqua-100</td>
<td>Unnamed Tributary of Nelson River</td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Marginal</td>
</tr>
</tbody>
</table>

**Potential Effects:**

*Loss of riparian vegetation, rutting, altered surface water flows, contamination.*

**Specific Mitigation:**

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer

- No instream work or fording between April 15 and July 15
- Construction will be postponed under adverse weather (i.e., storm events), to minimize potential sediment introduction into the aquatic environment
- All instream construction activities will be conducted in isolation of flowing water using a temporary diversion
- Temporary diversions will be constructed and operated using the best management practices outlined in Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat (DFO and MNR 1996) and DFO Operational Statement for Isolated or Dry Open Cut Stream Crossings
- During pump around diversions, pump intakes will be screened according to DFO guidelines (DFO 1991). Water will be discharged downstream from the worksite, onto a splash pad to prevent channel and bank erosion
- Any diversions channels will be designed to accommodate high flows due to storm events, be lined with erosion-resistant lining, be passable by fish under all flow conditions, & will be backfilled & stabilized upon completion of construction
- Flow to downstream areas will be maintained at all times while diversions are in place
- Turbid water generated from the isolated work site will be pumped away from the watercourse to a vegetated area, filter fabric dam or other acceptable area that will provide filtration and/or settling time prior to entering watercourses
- A fish salvage will be conducted following isolation of the worksite. Fish will be relocated to an area downstream from the site
- Turbidity monitoring will be conducted during instream construction activities. Turbidity measurements will detect changes in turbidity resulting from construction activities and monitor effectiveness of mitigation measures.
- Diversions will be removed following completion of works. The site will be restored and all disturbed surfaces stabilized (i.e. re-vegetated)
- Disturbed areas will be re-vegetated following completion of works
Specific Mitigation cont’d

• Coke may be rinsed or leached (aged), will be stored >100 m from the ordinary high water mark, & will be adequately contained & protected from wind & rain to prevent entry of fine particulates into streams through runoff or dust deposition
• Appropriate erosion and sediment control measures will be implemented to mitigate sediment introduction into watercourses
• Where crossing a stream is necessary, fording or construction of temporary stream crossings will follow DFO’s operational statements for Temporary Stream Crossings & if appropriate conditions exist, Ice Bridges and Snow Fills
A fish salvage will be conducted following isolation of the worksite. Fish will be relocated to an area downstream from the site.

Turbidity monitoring will be conducted during instream construction activities. Turbidity measurements will detect changes in turbidity resulting from construction activities and monitor effectiveness of mitigation measures.

Diversions will be removed following completion of works. The site will be restored and all disturbed surfaces stabilized (i.e. re-vegetated).

Disturbed areas will be re-vegetated following completion of works

Coke may be rinsed or leached (aged), will be stored >100 m from the ordinary high water mark, & will be adequately contained & protected from wind & rain to prevent entry of fine particulates into streams through runoff or dust deposition

Appropriate erosion and sediment control measures will be implemented to mitigate sediment introduction into watercourses

Where crossing a stream is necessary, fording or construction of temporary stream crossings will follow DFO’s operational statements for Temporary Stream Crossings B, if appropriate conditions exist, Ice Bridges and Snow Fills

- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar 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
- Carry out construction activities on well frozen ground in wetlands

### Potential Effects:

**Within the Churchill Wildlife Management Area**

**Specific Mitigation:**

- No instream work or fording between April 15 and July 15
- Construction will be postponed under adverse weather (i.e., storm events), to minimize potential sediment introduction into the aquatic environment
- All instream construction activities will be conducted in isolation of flowing water using a temporary diversion
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- Flow to downstream areas will be maintained at all times while diversions are in place
- Turbid water generated from the isolated work site will be pumped away from the watercourse to a vegetated area, filter fabric dam or other acceptable area that will provide filtration and/or settling time prior to entering watercourses
- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer

### Specific Mitigation:

- • Carry out construction activities on well frozen ground in wetlands

### Potential Effects:

**Instream works & diversion effects; increased erosion and sedimentation of stream; contamination of a watercourse from leaching of embedded coke; stream crossing effects.**

### Specific Mitigation:

- Carry out construction activities on well frozen ground in wetlands

### Potential Effects:

**Loss of riparian vegetation, rutting, altered surface water flows, contamination.**

### Specific Mitigation:

- Carry out construction activities on well frozen ground in wetlands

### Potential Effects:

**Loss of riparian vegetation, rutting, altered surface water flows, contamination.**

### Specific Mitigation:

- Carry out construction activities on well frozen ground in wetlands