MAP SHEET FULLY WITHIN THE S2-AQUA-201 FEATURE

S2-Aqua-201

MARSH RIVER

S2-Acss-101

S2-Acss-102

TWP007
RGE03
E1M

Marsh River crossing

Rat River
crossing

S2-Wild-101

S2-Wild-102

S2-S15

S2-Aqua-121

S2-Aqua-123

S2-Hert-105

S2-Hert-104

S2-Aqua-122

S2-RUse-300

S2-Eco-300

S2-S16

S2-Aqua-124

S2-Aqua-125

S2-Aqua-202

Tower 153
E-636182, N-5489133

Tower 152
E-633124, N-5489008

Crystal Spring Road

S2-S17

RAT RIVER

Tower 154
E-636200, N-5488229

Alarie Road

S2-S18

TWP006
RGE03
E1M

200

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: July 23, 2014
Version: Draft

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Metres

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Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Mining
- Provincial Forest
- Township/Range

Project Infrastructure
- Angle Tower Locations
- BPIII Final Preferred Route
- 66 m Right of Way
- Ground Electrode Line
- Proposed Converter Station

Points of Access*
- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Proposed Access Route

*Labels correspond to BPIII Access Management Database

ESS Features

Heritage
- Archaeological

Water
- Water Crossing

Access
- Intersection

Wildlife
- Birds and Habitat

Ecosystem
- Species of Concern

Resource Use
- Forestry

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section S2
Environmentally Sensitive Site Locations

Map 322

Draft: For Discussion Purposes Only

ESS Group: Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
S2-S17	S2-Hert-104	Marsh River	634076	5489069	14N
S2-S17	S2-Hert-105	Rat River	635443	5489103	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 ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
S2-S18	S2-Aqua-121	Unnamed tributary of Marsh River	633750	5489061	14N	N/A	N/A	Low	Marginal
S2-S18	S2-Aqua-122	Marsh River	634072	5489069	14N	10m	10m	Moderate	Important
S2-S18	S2-Aqua-123	Rat River	635432	5489103	14N	14m	12m	High	Important
S2-S18	S2-Aqua-124	Unnamed Drain	635974	5489116	14N	N/A	7m	Low	Marginal
S2-S18	S2-Aqua-125	Unnamed Drain	636186	5488953	14N	N/A	N/A	None	None

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.
- 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 work or fording from April 1 to June 30

ESS Group: Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S17	S2-Wild-101	Marsh River crossing - migratory route for raptors and waterfowl	Site: L3 to L4	E-634062 N-5489036	E-634116 N-5489038	14N	53m
S2-S17	S2-Wild-102	Rat River crossing - migratory route for raptors and waterfowl	Site: L5 to L6	E-635406 N-5489116	E-635487 N-5489118	14N	80m

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 applicable setback during nesting and breeding 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: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
S2-S16	S2-Acss-101	C3	Canoe Route	E-634085 N-5489037	14N
S2-S16	S2-Acss-102	C2	Canoe Route	E-635431 N-5489117	14N

Potential Effects:

Potential aesthetic concerns with presence to canoe route traffic; disruption from operational activities

Specific Mitigation:

- Carry out construction activities during frozen ice conditions to avoid conflict with canoe route traffic
- Avoid obstruction of access route
- Post warning markers and signs at crossing location

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S15	S2-Aqua-201	Saline artesian areas	Site: 13 to 14	E-632182 N-5489241	E-633123 N-5489008	14N	970 m
S2-S16	S2-Aqua-201	Saline artesian areas	Site: 15 to 16	E-633123 N-5489008	E-636181 N-5489132	14N	3062 m
S2-S17	S2-Aqua-201	Saline artesian areas	Site: 22 to 23	E-636181 N-5489132	E-636200 N-5488229	14N	903 m
S2-S18	S2-Aqua-201	Saline artesian areas	Site: 25 to 27	E-636200 N-5488229	E-638445 N-5488287	14N	2245 m

Potential Effects:

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface; 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: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S16	S2-RUse-300	Shelterbelt	Site: 17 to 18	E-633775 N-5489028	E-633786 N-5489028	14N	11m

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
- Burn clearing debris 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: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S16	S2-Eco-300	Species of Concern (plant)	Site: 19 to 20	E-635641 N-5489121	E-636181 N-5489132	14N	540 m
S2-S17	S2-Eco-300	Species of Concern (plant)	Site: 21 to 24	E-636181 N-5489132	E-636200 N-5488229	14N	903 m
S2-S18	S2-Eco-300	Species of Concern (plant)	Site: 26 to 28	E-636200 N-5488229	E-638851 N-5488297	14N	2652 m

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
- Confine 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

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MAP SHEET FULLY WITHIN THE S2-ECO-300 FEATURE

S2-Eco-300

TOUROND CREEK

TWP007
RGE03
E1M

Levesque Road

Wallace Road

Krahn Road

Alarie Road

S2-Aqua-201

S2-Aqua-202

S2-Aqua-126

S2-S19

S2-S20

S2-Aqua-127

S2-S18

Tower 156
E-639172, N-5488407

Tower 155
E-638852, N-5488297

TWP006
RGE03
E1M

S2-Eco-301

N

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: July 23, 2014
Version: Draft

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Metres
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- 66 m Right of Way
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Points of Access*
- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Proposed Access Route

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ESS Features
Water
- Water Crossing

Ecosystem
- Species of Concern

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section S2
Environmentally Sensitive Site Locations

Map 323

Draft: For Discussion Purposes Only

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
S2-S21	S2-Aqua-126	Tourond Creek	639024	5488356	14N	N/A	N/A	None	None
S2-S21	S2-Aqua-127	Unnamed Drain	640396	5488416	14N	N/A	N/A	None	None

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.
- 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 Timing Windows, Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S18	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 29 to 30	E-636960 N-5488248	E-638851 N-5488297	14N	1891 m
S2-S19	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 31 to 34	E-638851 N-5488297	E-639171 N-5488407	14N	338 m
S2-S20	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 36 to 38	E-639171 N-5488407	E-646209 N-5488575	14N	7039 m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S18	S2-Aqua-201	Saline artesian areas	Site: 25 to 27	E-636200 N-5488229	E-638445 N-5488287	14N	2245 m

Potential Effects:

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface; 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: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S18	S2-Eco-300	Species of Concern (plant)	Site: 26 to 28	E-636200 N-5488229	E-638851 N-5488297	14N	2652 m
S2-S19	S2-Eco-300	Species of Concern (plant)	Site: 32 to 33	E-638851 N-5488297	E-639171 N-5488407	14N	338 m
S2-S20	S2-Eco-300	Species of Concern (plant)	Site: 35 to 37	E-639171 N-5488407	E-646209 N-5488575	14N	7039 m
S2-S20	S2-Eco-301	Species of Concern (plant)	Site: 39 to 40	E-640472 N-5488432	E-646209 N-5488575	14N	5738 m

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
- Confine 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 SHEET FULLY WITHIN THE S2-AQUA-202 FEATURE
MAP SHEET FULLY WITHIN THE S2-ECO-300 FEATURE
MAP SHEET FULLY WITHIN THE S2-ECO-301 FEATURE

S2-Aqua-202 S2-Eco-300 S2-Eco-301

N

TWP007 RGE03 E1M

TWP007 RGE04 E1M

TWP006 RGE03 E1M

TWP006 RGE04 E1M

Loeppky Road

Schantz Road

318 Road

Alare Road

S2-RUse-301

TOUROND CREEK S2-S20

Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
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- Proposed Access Route

*Labels correspond to BPIII Access Management Database

ESS Features
Ecosystem
- Species of Concern

Resource Use
- Forestry

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section S2
Environmentally Sensitive Site Locations

Map 324

Draft: For Discussion Purposes Only

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S20	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 36 to 38	E-639171 N-5488407	E-646209 N-5488575	14N	7039 m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S20	S2-RUse-301	Shelterbelt	Site: 41 to 42	E-641253 N-5488452	E-641984 N-5488473	14N	730m

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
- Burn clearing debris 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: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S20	S2-Eco-300	Species of Concern (plant)	Site: 35 to 37	E-639171 N-5488407	E-646209 N-5488575	14N	7039 m
S2-S20	S2-Eco-301	Species of Concern (plant)	Site: 39 to 40	E-640472 N-5488432	E-646209 N-5488575	14N	5738 m

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
- Confine 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 SHEET FULLY WITHIN THE S2-AQUA-202 FEATURE
MAP SHEET FULLY WITHIN THE S2-ECO-300 FEATURE
MAP SHEET FULLY WITHIN THE S2-ECO-301 FEATURE

S2-Aqua-202 S2-Eco-300 S2-Eco-301

N

TWP007
RGE04
E1M

TWP006
RGE04
E1M

Tower 158
E-646519, N-5488657

Tower 157
E-646209, N-5488575

S2-S20 S2-S21 S2-S22

S2-Aqua-203

S2-RUse-302 S2-RUse-303 S2-RUse-304

S2-Acss-103 S2-Acss-104

79RT

TOUROND CREEK

59 52

Manitoba Hydro

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ESS Features
Access
- Intersection

Ecosystem
- Species of Concern

Resource Use
- Forestry

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section S2
Environmentally Sensitive Site Locations

Map 325

Draft: For Discussion Purposes Only

ESS Group: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
S2-S20	S2-Acss-103	C4	Snowmobile Trail	E-645759 N-5488578	14N
S2-S20	S2-Acss-104	C5	Snowmobile Trail	E-645873 N-5488577	14N

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S20	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 36 to 38	E-639171 N-5488407	E-646209 N-5488575	14N	7039 m
S2-S21	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 45 to 50	E-646209 N-5488575	E-646519 N-5488657	14N	320 m
S2-S22	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 56 to 59	E-646519 N-5488657	E-651924 N-5488794	14N	5406 m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S20	S2-Aqua-203	Freshwater artesian areas	Site: 43 to 44	E-645608 N-5488575	E-646209 N-5488575	14N	600 m
S2-S21	S2-Aqua-203	Freshwater artesian areas	Site: 47 to 51	E-646209 N-5488575	E-646519 N-5488657	14N	320 m
S2-S22	S2-Aqua-203	Freshwater artesian areas	Site: 54 to 58	E-646519 N-5488657	E-651924 N-5488794	14N	5406 m

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: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S22	S2-RUse-302	Shelterbelt	Site: 61 to 62	E-646944 N-5488669	E-646964 N-5488669	14N	19 m
S2-S22	S2-RUse-303	Shelterbelt	Site: 63 to 64	E-647350 N-5488680	E-647369 N-5488680	14N	19 m
S2-S22	S2-RUse-304	Shelterbelt	Site: 65 to 66	E-648590 N-5488714	E-648609 N-5488714	14N	19 m

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
- Burn clearing debris 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: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S20	S2-Eco-300	Species of Concern (plant)	Site: 35 to 37	E-639171 N-5488407	E-646209 N-5488575	14N	7039 m
S2-S21	S2-Eco-300	Species of Concern (plant)	Site: 48 to 49	E-646209 N-5488575	E-646519 N-5488657	14N	320 m
S2-S22	S2-Eco-300	Species of Concern (plant)	Site: 53 to 57	E-646519 N-5488657	E-649744 N-5488745	14N	3226 m
S2-S20	S2-Eco-301	Species of Concern (plant)	Site: 39 to 40	E-640472 N-5488432	E-646209 N-5488575	14N	5738 m
S2-S21	S2-Eco-301	Species of Concern (plant)	Site: 46 to 52	E-646209 N-5488575	E-646519 N-5488657	14N	320 m
S2-S22	S2-Eco-301	Species of Concern (plant)	Site: 55 to 60	E-646519 N-5488657	E-651924 N-5488794	14N	5406 m

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
- Confine 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

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MAP SHEET FULLY WITHIN THE S2-AQUA-202 FEATURE
MAP SHEET FULLY WITHIN THE S2-AQUA-203 FEATURE
MAP SHEET FULLY WITHIN THE S2-ECO-301 FEATURE

S2-Aqua-202 S2-Aqua-203 S2-Eco-301

N

S2-S23

S2-S22

Tower 159
E-651924, N-5488794

S2-Aqua-128

S2-Eco-300

S2-Eco-302

TOUROND CREEK

Autumwood Road

Willow Ridge Road

TWP007
RGE04
E1M

TWP007
RGE05
E1M

TWP006
RGE04
E1M

TWP006
RGE05
E1M

Manitoba Hydro

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Land Base
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- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Mining
- Provincial Forest
- Township/Range

Project Infrastructure
- Angle Tower Locations
- BPIII Final Preferred Route
- 66 m Right of Way
- Ground Electrode Line
- Proposed Converter Station

Points of Access*
- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Proposed Access Route

*Labels correspond to BPIII Access Management Database

ESS Features
Ecosystem
- Species of Concern

Water
- Groundwater
- Water Crossing

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section S2
Environmentally Sensitive Site Locations

Map 326

Draft: For Discussion Purposes Only

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S22	S2-Aqua-128	Unnamed wetland	Site: 67 to 68	E-650492 N-5488763	E-650510 N-5488763	14N	18 m

Potential Effects:

Increased erosion and sedimentation; rutting of floodplains; 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 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 Timing Windows,Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S22	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 56 to 59	E-646519 N-5488657	E-651924 N-5488794	14N	5406 m
S2-S23	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 71 to 78	E-651924 N-5488794	E-651845 N-5491506	14N	2713 m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S22	S2-Aqua-203	Freshwater artesian areas	Site: 54 to 58	E-646519 N-5488657	E-651924 N-5488794	14N	5406 m
S2-S23	S2-Aqua-203	Freshwater artesian areas	Site: 74 to 77	E-651924 N-5488794	E-651845 N-5491506	14N	2713 m

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: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S22	S2-Eco-300	Species of Concern (plant)	Site: 53 to 57	E-646519 N-5488657	E-649744 N-5488745	14N	3226 m
S2-S22	S2-Eco-301	Species of Concern (plant)	Site: 55 to 60	E-646519 N-5488657	E-651924 N-5488794	14N	5406 m
S2-S23	S2-Eco-301	Species of Concern (plant)	Site: 72 to 76	E-651924 N-5488794	E-651850 N-5491324	14N	2531 m
S2-S22	S2-Eco-302	Species of Concern (plant)	Site: 69 to 70	E-651266 N-5488780	E-651924 N-5488794	14N	657 m
S2-S23	S2-Eco-302	Species of Concern (plant)	Site: 73 to 75	E-651924 N-5488794	E-651909 N-5489310	14N	516 m

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
- Confine 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