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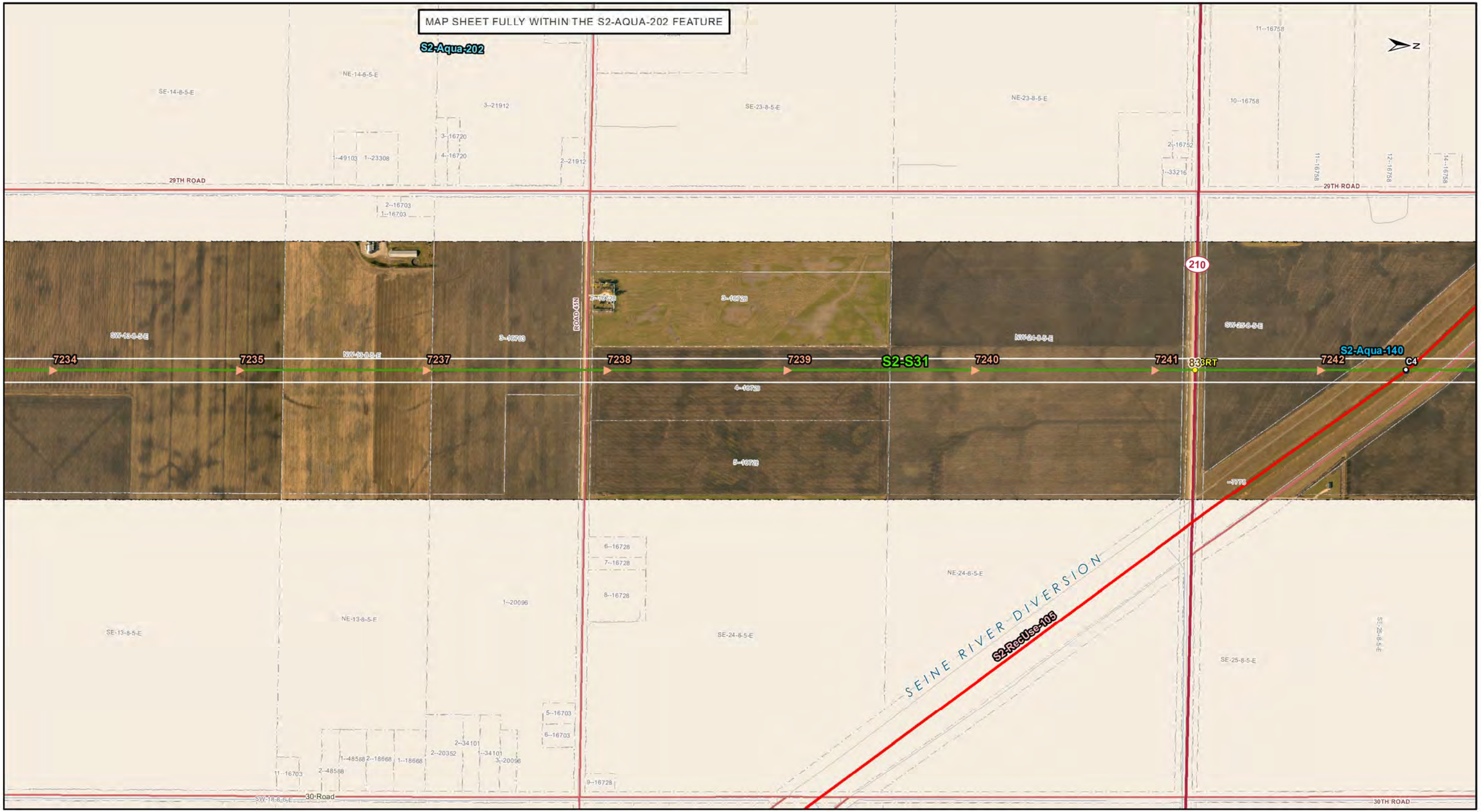

Manitoba Hydro

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Land Base
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- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Mining
- Provincial Forest
- Parcel Fabric

Project Infrastructure
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- Towers (Preliminary)
- BPIII Final Preferred Route
- 66 m Right of Way
- Ground Electrode Line
- Proposed Converter Station

*Towers subject to change, only used as a rough guide

Sensitive Sites
- Point Features
- Linear Features
- Area Features

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

*Labels correspond to BPIII Access Mgmt Database

ESS Features
Water
- Water Crossing

Access
- Intersection

Water
- Groundwater

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

Map 332

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-S31	S2-Aqua-140	Seine River Diversion	659278	5505833	14N	17m	17m	Low	Important

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.
- No instream works or fording from April 1 - July 15

ESS Group: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
S2-S31	S2-RecUse-105	C4	Snowmobile Trail	E-659277 N-5505834	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-S31	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 125 to 128	E-659514 N-5499235	E-659208 N-5507734	14N	8504m

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.

Manitoba Hydro

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- Area Features

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- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Bypass Trails
- Proposed Access Route

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ESS Features
Access
- Intersection

Resource Use
- Forestry

Water
- Groundwater

Bipole III Transmission Project
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Environmentally Sensitive Site Locations

Map 333

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S31	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 125 to 128	E-659514 N-5499235	E-659208 N-5507734	14N	8504 m
S2-S32	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 133 to 134	E-659208 N-5507734	E-666608 N-5507894	14N	7401 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-S31	S2-RUse-307	Shelterbelt	Site: 129 to 130	E-659267 N-5506093	E-659267 N-5506101	14N	8 m
S2-S31	S2-RUse-308	Shelterbelt	Site: 131 to 132	E-659253 N-5506495	E-659253 N-5506503	14N	7 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
- 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

Manitoba Hydro

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ESS Features
Water
- Water Crossing

Resource Use
- Forestry

Water
- Groundwater

Bipole III Transmission Project
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Environmentally Sensitive Site Locations

Map 334

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-S32	S2-Aqua-143	Seine River	665027	5507085	14N	8.7m	7.8m	Moderate	Important

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.
- No instream works or fording from April 1 - July 15

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S32	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 133 to 134	E-659208 N-5507734	E-666608 N-5507894	14N	7401 m
S2-S33	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 140 to 142	E-666608 N-5507894	E-666812 N-5508433	14N	575 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-S32	S2-RUse-309	Shelterbelt	Site: 135 to 136	E-664920 N-5507856	E-664941 N-5507857	14N	21m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S32	S2-Aqua-204	Freshwater artesian areas	Site: 137 to 138	E-665140 N-5507861	E-666608 N-5507894	14N	1468 m
S2-S33	S2-Aqua-204	Freshwater artesian areas	Site: 139 to 141	E-666608 N-5507894	E-666812 N-5508433	14N	575 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.

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Sensitive Sites
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- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Bypass Trails
- Proposed Access Route

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ESS Features
Water
- Water Crossing

Access
- Intersection

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

Map 335

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-S34	S2-Aqua-144	Unnamed Drain	666776	5508337	14N	N/A	N/A	None	None
S2-S34	S2-Aqua-145	Unnamed ditch/drain connected to Seine River	666897	5508521	14N	N/A	5m	Low	Marginal
S2-S34	S2-Aqua-146	Unnamed ditch/drain connected to Seine River	667102	5508736	14N	N/A	10m	Low	Marginal

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 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: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
S2-S34	S2-RecUse-107	C5	Snowmobile Trail	E-667675 N-5509341	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: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
S2-S34	S2-RecUse-106	C6	Snowmobile Trail	E-667545 N-5509204	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-S33	S2-Aqua-204	Freshwater artesian areas	Site: 139 to 141	E-666608 N-5507894	E-666812 N-5508433	14N	575m
S2-S34	S2-Aqua-204	Freshwater artesian areas	Site: 144 to 146	E-666812 N-5508433	E-667701 N-5509369	14N	1291m
S2-S35	S2-Aqua-204	Freshwater artesian areas	Site: 147 to 149	E-667701 N-5509369	E-667628 N-5512447	14N	3078m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S33	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 140 to 142	E-666608 N-5507894	E-666812 N-5508433	14N	575 m
S2-S34	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 143 to 145	E-666812 N-5508433	E-667701 N-5509369	14N	1291 m
S2-S35	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 148 to 150	E-667701 N-5509369	E-667482 N-5518646	14N	9278 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.

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- Proposed Access Route

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ESS Features
Water
- Water Crossing

Water
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Environmentally Sensitive Site Locations

Map 336

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-S35	S2-Aqua-147	Fish Creek	667639	5512026	14N	N/A	7m	Low	Marginal

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.
- No instream works or fording from April 1 - July 15

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-S35	S2-Aqua-148	Unnamed Drain	667601	5513664	14N	N/A	N/A	None	None
S2-S35	S2-Aqua-149	Unnamed Drain	667601	5513664	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

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S35	S2-Aqua-204	Freshwater artesian areas	Site: 147 to 149	E-667701 N-5509369	E-667628 N-5512447	14N	3078m

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

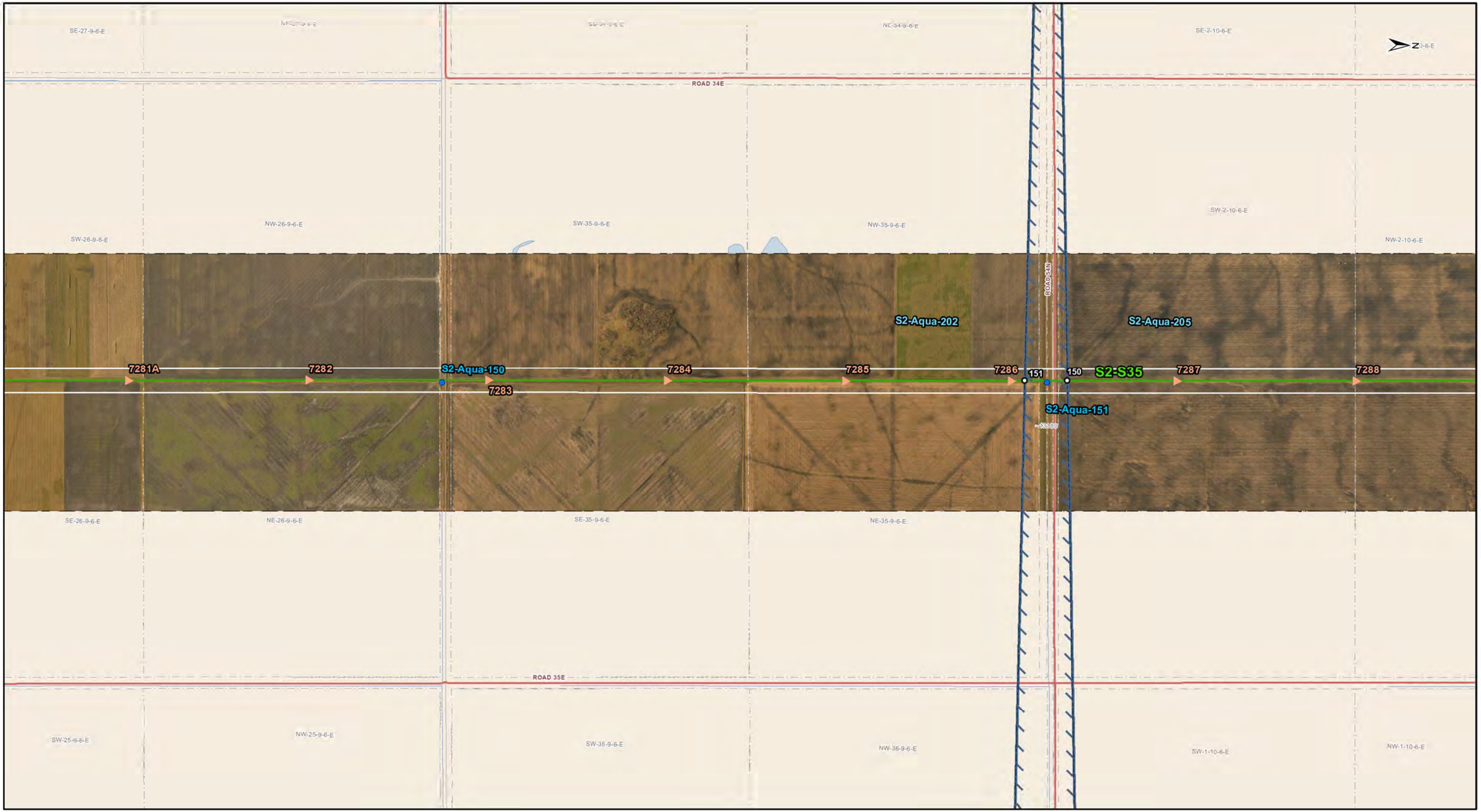
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S35	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 148 to 150	E-667701 N-5509369	E-667482 N-5518646	14N	9278 m

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.



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ESS Features
Water
- Water Crossing

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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-S35	S2-Aqua-150	Unnamed Drain	667525	5516946	14N	N/A	N/A	None	None
S2-S35	S2-Aqua-151	Unnamed Drain	667486	5518589	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 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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S35	S2-Aqua-205	Freshwater artesian areas	Site: 151 to 152	E-667484 N-5518530	E-667428 N-5520906	14N	2377m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S35	S2-Aqua-202	Aquifers vulnerable to contamination	Site: 148 to 150	E-667701 N-5509369	E-667482 N-5518646	14N	9278 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.

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ESS Features
Water
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ESS Group: Groundwater

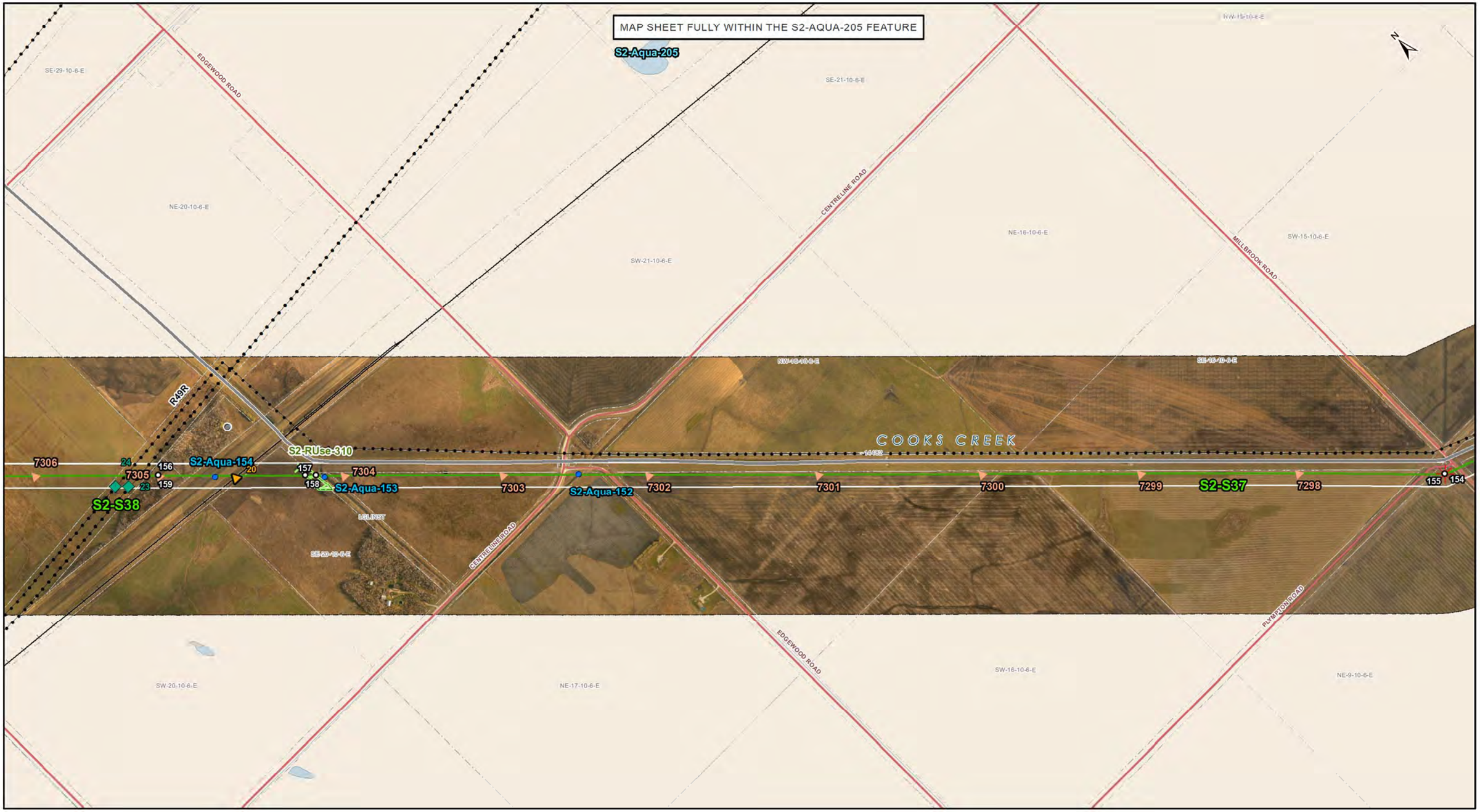
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S35	S2-Aqua-205	Freshwater artesian areas	Site: 151 to 152	E-667484 N-5518530	E-667428 N-5520906	14N	2377m
S2-S36	S2-Aqua-205	Freshwater artesian areas	Site: 153 to 154	E-667428 N-5520906	E-664912 N-5521792	14N	2667m
S2-S37	S2-Aqua-205	Freshwater artesian areas	Site: 155 to 156	E-664912 N-5521792	E-662381 N-5524205	14N	3497m

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.



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: November 01, 2016
Version: Final 2.0

0 125 250 500
Metres 1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Mining
- Provincial Forest
- Parcel Fabric

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

*Towers subject to change, only used as a rough guide

Sensitive Sites
- Point Features
- Linear Features
- Area Features

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

*Labels correspond to BPIII Access Mgmt Database

ESS Features
Water
- Water Crossing

Resource Use
- Forestry

Water
- Groundwater

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

Map 339

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-S38	S2-Aqua-152	Unnamed Drain	662951	5523672	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

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: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
S2-S38	S2-Aqua-153	Unnamed Drain	662705	5523892	14N	N/A	N/A	None	None
S2-S38	S2-Aqua-154	Unnamed Drain	662489	5524097	14N	N/A	N/A	Low	No Fish Habitat

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 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.

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S37	S2-RUse-310	Shelterbelt	Site: 157 to 158	E-662690 N-5523910	E-662669 N-5523930	14N	28m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S37	S2-Aqua-205	Freshwater artesian areas	Site: 155 to 156	E-664912 N-5521792	E-662381 N-5524205	14N	3497 m
S2-S38	S2-Aqua-205	Freshwater artesian areas	Site: 159 to 160	E-662381 N-5524205	E-661274 N-5525259	14N	1527 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.

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
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0 125 250 500
Metres 1:10,000

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- Bypass Trails
- Proposed Access Route

*Labels correspond to BPIII Access Mgmt Database

ESS Features
Water
- Water Crossing

Water
- Groundwater

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

Map 340

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-S40	S2-Aqua-155	Unnamed Drain	661597	5524953	14N	N/A	N/A	None	None
S2-S40	S2-Aqua-156	Unnamed Drain	661526	5525020	14N	N/A	N/A	None	None
S2-S40	S2-Aqua-157	Swede Drain	659919	5525149	14N	N/A	N/A	Low	Marginal

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 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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S38	S2-Aqua-205	Freshwater artesian areas	Site: 159 to 160	E-662381 N-5524205	E-661274 N-5525259	14N	1527m
S2-S39	S2-Aqua-205	Freshwater artesian areas	Site: 161 to 162	E-661274 N-5525259	E-661084 N-5525236	14N	191m
S2-S40	S2-Aqua-205	Freshwater artesian areas	Site: 163 to 164	E-661084 N-5525236	E-658226 N-5525173	14N	2859m

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

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
S2-S40	S2-Aqua-206	Aquifers vulnerable to contamination	Site: 165 to 166	E-660940 N-5525233	E-650224 N-5524973	14N	10719 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.