Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 U U U U U U U U U U U U U U U U U U U	Land Base Project Infrastructure Points of Access* ← Transmission Line ← Major Road ← Major Road ← Proposed Access Point ← Major Road ← BPIII Final Preferred Route ← Major Stream Crossing ← Kailway (Operational) ← First Nation ← Railway (Objecontinued) ← Railway (Discontinued) ← First Nation ← Provincial Forest ← Proposed Access Route	ESS Features Cons Draft: For



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Manitoba Hydro	Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	ad ad ad Operational) Discontinued)	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 Water Water Crossing	Cons Draft: For



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ESS Group: Water Crossing

S	ec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
	C2-S02	C2-Aqua-100	Unnamed wetland	Site: 3 to 4	E-487196 N-5662226	E-487204 N-5662201	14N	26m

Potential Effects:

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

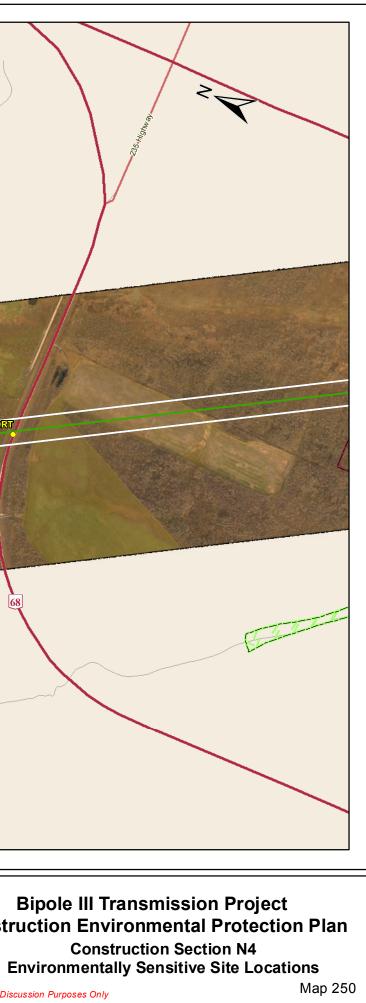
Specific Mitigation:

- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.

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			C2-502		Tower 110 E-488003, N-5659725	<u>c2-503</u>	Ser.
	L Coordinate System: UTM Zong 14N NA D22		Project Infractructure	Points of Access*	- ESS Features		
A Manitoba Hydro	Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 Metres 1:10,000	Land Base ← Transmission Line Highway Major Road ← Local Road ← Vinter Road ← Railway (Operational) ← Railway (Discontinued) First Nation Mining Provincial Forest	Project Infrastructure Angle Tower Locations BPIII Final Preferred Route 66 m Right of Way	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 Habitat Land Use Residential Water Water Crossing		Draft: For D

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1	Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014	Land Base Project Infrastructure → Transmission Line Highway BPIII Final Preferred Route Major Road 66 m Right of Way		ESS Features Heritage Archaeological Wildlife Birds and Habitat	Cons
Manitoba Hydro	0 125 250 500 L I I I I I I I Metres	Local Road Winter Road Aailway (Operational) + Railway (Discontinued)	Abandoned Rail Crossing Rail Crossing Transmission Line Crossing	Ecosystem Habitat Land Use Residential	
	1:10,000	First Nation Mining Provincial Forest	 Proposed Access Route *Labels correspond to BPIII Access Management Database 	Water	Draft: For L

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ESS Group: Archaeological

Sec-Seg ID ESS ID		ESS Name	Easting	Northing	UTM Zone	
C2-S03	C2-Hert-100	Creek near PTH 235	489800	5656547	14N	

Potential Effects:

Potential disturbance to Heritage Resource

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: Birds and Habitat

Sec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-Wild-101	Lagoon	Site: L1 to L2	E-489320 N-5657406	E-489391 N-5657281	14N	143m
C2-S03	C2-Wild-102	Waterfowl sensitivity area	Site: L3 to L4	E-489881 N-5656418	E-490154 N-5655938	14N	552m

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: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-Aqua-101	Small, unnamed waterbody	Site: 7 to 8	E-489343 N-5657365	E-489386 N-5657289	14N	87 m
C2-S03	C2-Aqua-102	Small, unnamed waterbody	Site: 9 to 10	E-489634 N-5656853	E-489654 N-5656817	14N	41 m

Potential Effects:

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

Specific Mitigation:

- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.

ESS Group: Residential

Sec-Seg I D	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03		Recreational Development – Crown land encumbrance	Site: 5 to 6	E-488933 N-5658085	E-489386 N-5657289	14N	916m

Potential Effects:

Potential disruption to recreational use activities

Specific Mitigation:

- · Notify Manitoba Conservation, local authorities and operator regarding construction activities and schedule, and address concerns prior to construction
- Observe municipal and local by-laws and protocols including noise and work scheduling
- Provide warning signage for vehicle traffic and public safety

ESS Group: Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-Eco-100	Dry Upland Prairie	Site: 11 to 12	E-489717 N-5656707	E-489837 N-5656496	14N	242 m

Potential Effects:

Potential loss of plants of conservation concern and grassland species/communities from clearing, construction, maintenance and decommissioning activities if route is moved to include this site.

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

• Minimize noise, dust and other emissions from work activities and maintain clean and aesthetic appearance of work site

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Manitoba Hydro	Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 0 125 250 500 0 125 250 500 0 125 10,000	Land Base → Transmission Line Highway Major Road Local Road → Railway (Operational) -+ Railway (Discontinued) First Nation Mining Project Infrastructure ★ Angle Tower Locations BPIII Final Preferred Ro 66 m Right of Way = 66 m Right of Way	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	Cons Draft: For



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	Date Created: April 12, 2014 Version: Draft	 Highway Major Road 	BPIII Final Preferred Route	Major Stream Crossing	Water Crossing	0
Manitoba		Local Road Winter Road	66 m Right of Way	Abandoned Rail Crossing		Cons
Manitoba Hydro	0 125 250 500	-+ Railway (Operational)		Rail Crossing		
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	1:10,000	Mining Provincial Forest		*Labels correspond to BPIII Access Management Database		Draft: For I
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Bipole III Transmission Project struction Environmental Protection Plan Construction Section N4 Environmentally Sensitive Site Locations

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ESS Group: Water Crossing

Sec-Seg I D	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width		Habitat Sensitivity
C2-S03	C2-Aqua- 103	Unnamed Creek	493688	5649707	14N	N/A	N/A	N/A	N/A
C2-S03	C2-Aqua- 104	Unnamed Creek	493891	5649349	14N	N/A	N/A	N/A	N/A

Potential Effects:

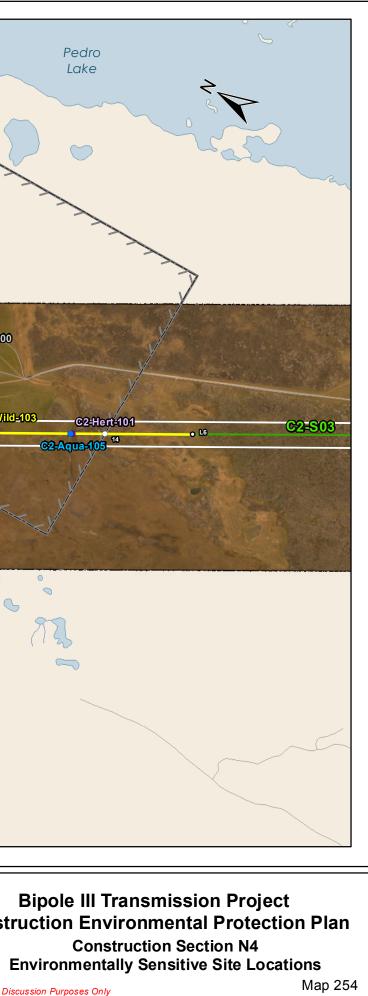
Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

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

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Manitoba Hydro	Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 Metres	Transmission Line Highway Major Road	Project Infrastructure Angle Tower Locations BPIII Final Preferred Route 66 m Right of Way	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 Wildlife Birds and Habitat Land Use Crown Land Encumbrance		Const



ESS Group: Archaeological

Sec-Seg ID ESS ID		ESS Name	Easting	Northing	UTM Zone	
C2-S03	C2-Hert-101	Creek west of Pedro Lake	496345	5645030	14N	

Potential Effects:

Potential disturbance to Heritage Resource

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 Name		Northing	UTM Zone	Channel Width			Habitat Sensitivity
C2-S03	C2-Aqua- 105	Unnamed Creek	493891	5649349	14N	N/A	N/A	N/A	N/A

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

ESS Group: Birds and Habitat

Sec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-Wild-103	Waterfowl sensitivity area	Site: L5 to L6	E-496068 N-5645531	E-496512 N-5644751	14N	897m

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: Crown Land Encumbrance

Sec-Seg I D	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-LUse- 200		00	E-496086 N-5645501	E-496397 N-5644953	14N	629m

Potential Effects:

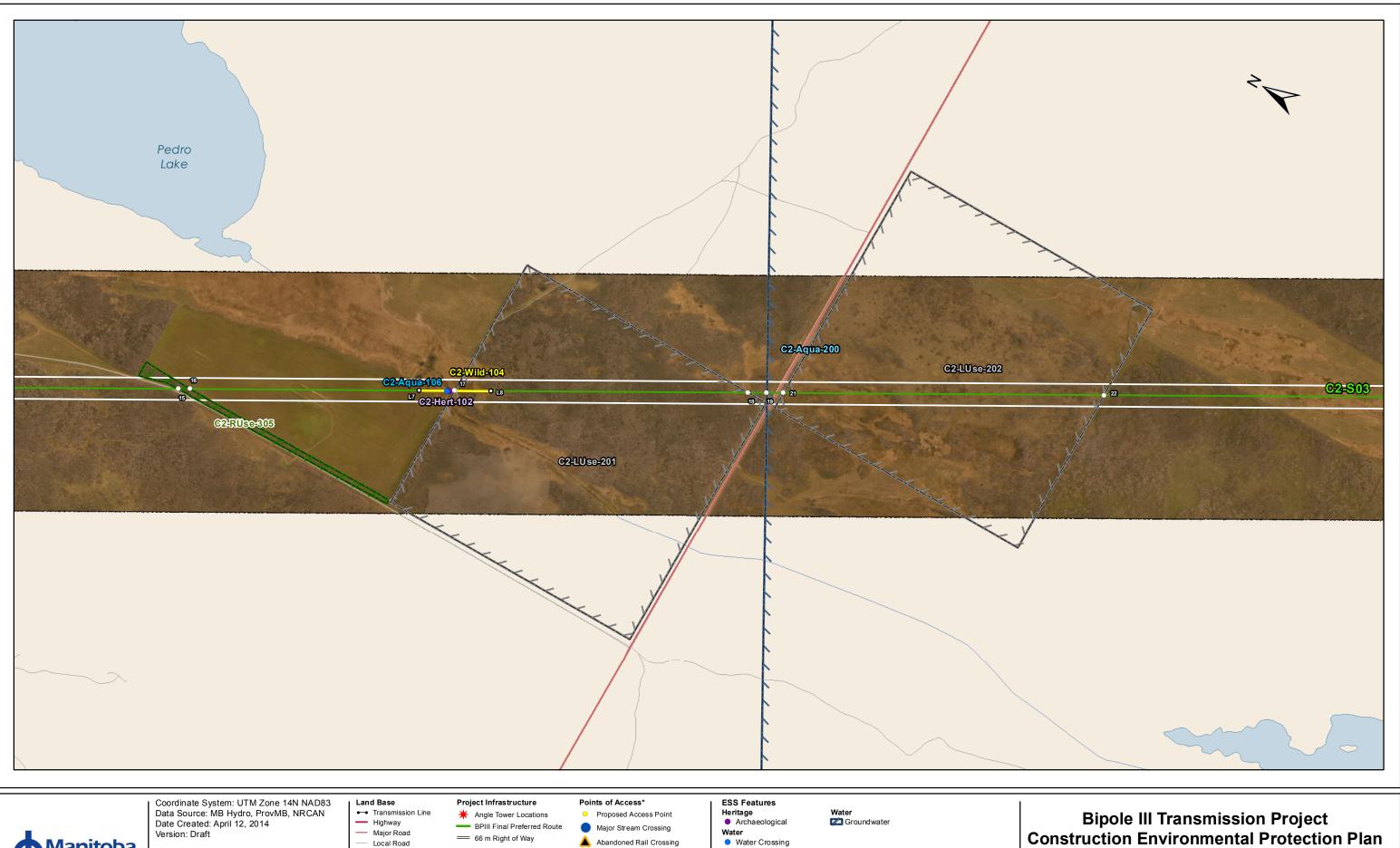
Potential disturbance effects to conservation land

Specific Mitigation:

- Notify Crown Lands and permittee with respect to clearing and construction schedules; adhere to Manitoba Hydro's standard environmental protection practices in wetland areas
- seasonally limited maintenance times

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• Clearing and construction to occur in the winter months; install bird diverters if a waterfowl sensitive area; adhere to



Manitoba Hydro	Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 Metres 1:10,000	Land Base ← Transmission Line ← Highway ← Major Road ← Local Road ← Vinter Road ← Railway (Decontinued) ← F Railway (Discontinued) ← First Nation ✓ Mining ← Provincial Forest	 Project Infrastructure ★ Angle Tower Locations BPIII Final Preferred Route = 66 m Right of Way 	Points of Access* Proposed Access Point Major Stream Crossing Abandoned Rail Crossing Rail Crossing Transmission Line Crossing Proposed Access Route *Labels correspond to BPII Access Management Database	ESS Features Heritage Archaeological Water Water Crossing Wildlife Birds and Habitat Land Use Crown Land Encumbran Resource Use Porestry	Water Croundwater	Const Draft: For Di
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Construction Section N4 Environmentally Sensitive Site Locations

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ESS Group: Archaeological

Sec	Sec-Seg ID ESS ID		ESS Name	Easting	Northing	UTM Zone	
C	2-S03	C2-Hert-102	Creek south of Pedro Lake	497321	5643312	14N	

Potential Effects:

Potential disturbance to Heritage Resource

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
C2-S03	C2- Aqua- 106	Unnamed tributary from Pedro Lake	497321	5643312	14N	N/A	N/A	TBD	TBD

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

ESS Group: Birds and Habitat

Sec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-Wild-104	Waterfowl sensitivity area	Site: L7 to L8	E-497283 N-5643394	E-497387 N-5643211	14N	209m

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: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03			Site: 19 to 20	E-497785 N-5642511	E-499686 N-5639166	14N	3847 m

Potential Effects:

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

Specific Mitigation:

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

Version: Draft

ESS Group: Forestry

Sec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-RUse-305	Shelterbelt	Site: 15 to 16	E-496936 N-5644005	E-496953 N-5643975	14N	33 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
- Where applicable, ensure compensation agreement is in place 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

ESS Group: Crown Land Encumbrance

Sec-Seg I D	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03		DU Canada Project – Crown land encumbrance	Site: 17 to 18	E-497334 N-5643303	E-497758 N-5642559	14N	856 m

Potential Effects:

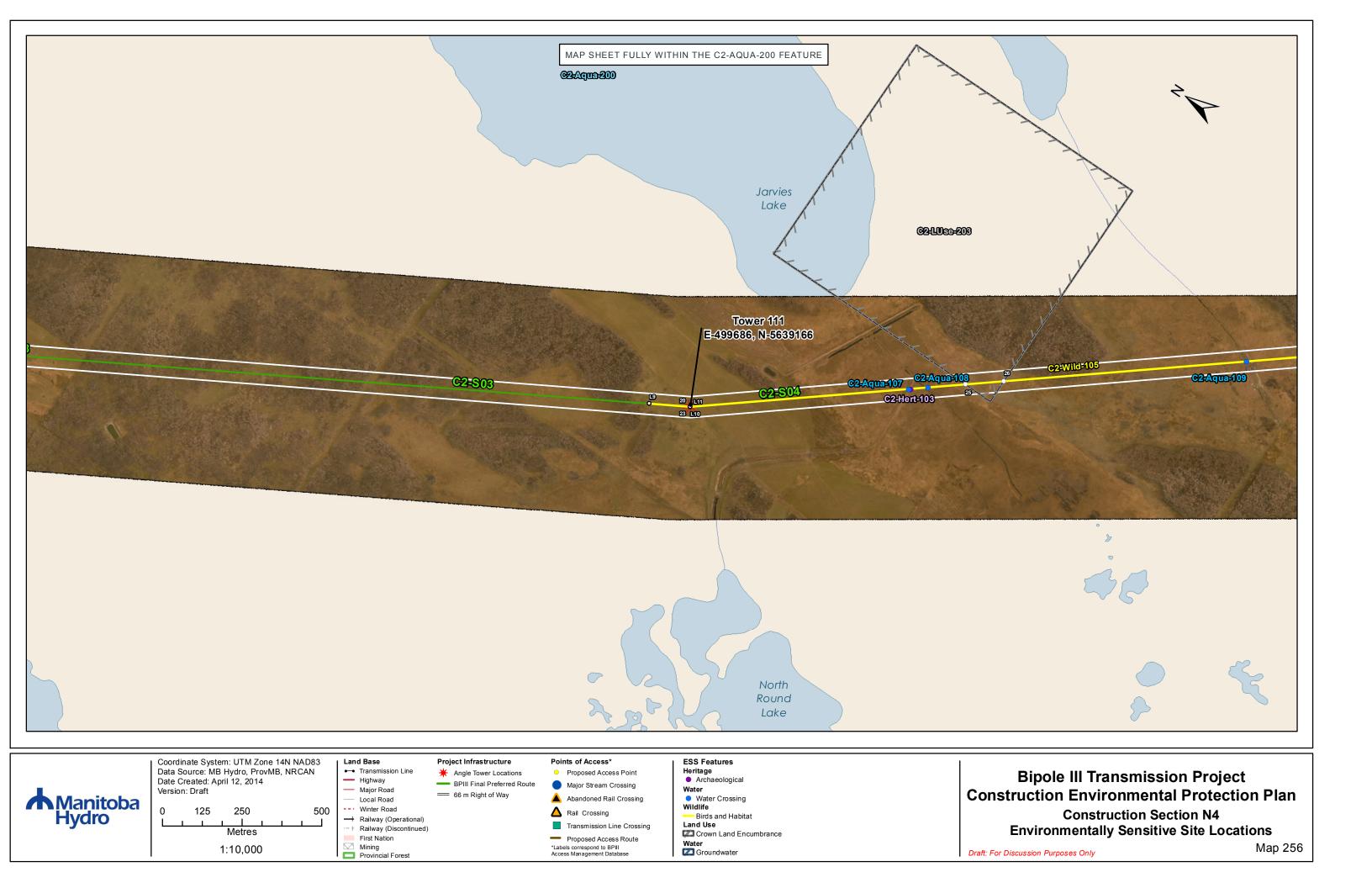
Potential disturbance effects to conservation land

Specific Mitigation:

- Notify Crown Lands and permittee with respect to clearing and construction schedules; adhere to Manitoba Hydro's standard environmental protection practices in wetland areas
- Clearing and construction to occur in the winter months; install bird diverters if a waterfowl sensitve area; adhere to seasonally limited maintenance times

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ESS Group: Archaeological

Sec-Seg ID	ESS I D	ESS Name	Easting	Northing	UTM Zone
C2-S04	C2-Hert-103	Creek near Jarvies Lake	500119	5638626	14N

Potential Effects:

Potential disturbance to Heritage Resource

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 I D	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
C2- S04	C2-Aqua- 107	Drain	500119	5638626	14N	N/A	N/A	N/A	N/A
C2- S04	C2-Aqua- 108	Unnamed tributary from Jarvies Lake	500152	5638584	14N	N/A	N/A	N/A	N/A
C2- S04	C2-Aqua- 109	Unnamed stream between Jarvies Lake and an unnamed lake	500784	5637795	14N	N/A	3m	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.
- 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 I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S04	C2-Wild-105	Waterfowl sensitivity area		E-499622 N-5639279	E-499686 N-5639166	14N	129m
C2-S04	C2-Wild-105	Waterfowl sensitivity area	Site: L11 to L12	E-499686 N-5639166	E-500907 N-5637641	14N	1953m

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: Crown Land Encumbrance

Sec-Seg I D	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S04			Site: 25 to 26	E-500229 N-5638487	E-500305 N-5638393	14N	121m

Potential Effects:

Potential disturbance effects to conservation land

Specific Mitigation:

- Notify Crown Lands and permittee with respect to clearing and construction schedules; adhere to Manitoba Hydro's standard environmental protection practices in wetland areas
- Clearing and construction to occur in the winter months; install bird diverters if a waterfowl sensitive area; adhere to seasonally limited maintenance times

Version: Draft

ESS Group: Groundwater

Sec-Seg I D	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S03	C2-Aqua- 200	Artesian areas with uncertain water quality	Site: 19 to 20	E-497785 N-5642511	E-499686 N-5639166	14N	3847 m
C2-S04	C2-Aqua- 200	Artesian areas with uncertain water quality	Site: 23 to 24	E-499686 N-5639166	E-501935 N-5636356	14N	3598 m

Potential Effects:

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

Specific Mitigation:

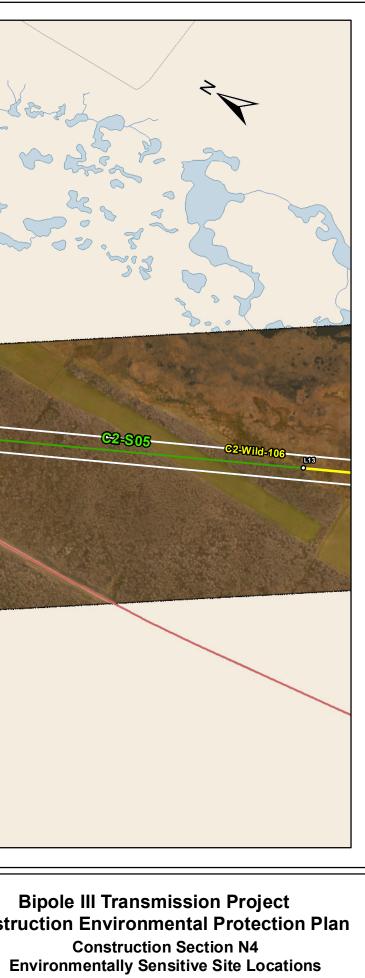
- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.

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	E-	Tower 112 501936, N-5636357				
	C2-S04				C2-Aqua-200	
Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 Metres	Transmission Line Highway Major Road Local Road Winter Road Railway (Operational) Hailway (Discontinued) First Nation	 Angle Tower Locations BPIII Final Preferred Route 	Points of Access* Proposed Access Point Major Stream Crossing Abandoned Rail Crossing Rail Crossing Transmission Line Crossing Proposed Access Route	ESS Features Wildlife Birds and Habitat Water Coundwater		Cons
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ESS Group: Birds and Habitat

Sec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S04	C2-Wild-105	Waterfowl sensitivity area	Site: L11 to L12	E-499686 N-5639166	E-500907 N-5637641	14N	1953m
C2-S05	C2-Wild-106	Waterfowl sensitivity area	Site: L13 to L14	E-502864 N-5634426	E-503326 N-5633466	14N	1065m

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: Groundwater

Sec-Seg I D	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S04		Artesian areas with uncertain water quality	Site: 23 to 24	E-499686 N-5639166	E-501935 N-5636356	14N	3598m
C2-S05		Artesian areas with uncertain water quality	Site: 27 to 28	E-501935 N-5636356	E-502400 N-5635389	14N	1073m

Potential Effects:

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

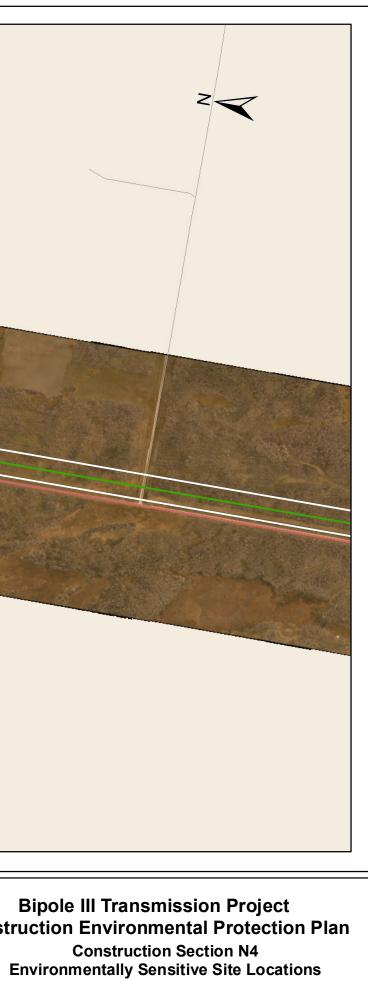
Specific Mitigation:

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

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	Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014	Land Base	Project Infrastructure	Points of Access* Proposed Access Point	ESS Features Heritage Archaeological	
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ESS Group: Water Crossing

Sec-Seg I D		ESS Name		Northing	UTM Zone	Channel Width		Fish Habitat Class	Habitat Sensitivity
C2-S05	C2-Aqua- 110	Unnamed Creek	503131	5633872	14N	N/A	N/A	N/A	N/A

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

ESS Group: Birds and Habitat

Sec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S05	C2-Wild-106	Waterfowl sensitivity area	Site: L13 to L14	E-502864 N-5634426	E-503326 N-5633466	14N	1065m

Potential Effects:

Higher risk of wire collision, Risk of wire collision is localized to the right-of-way

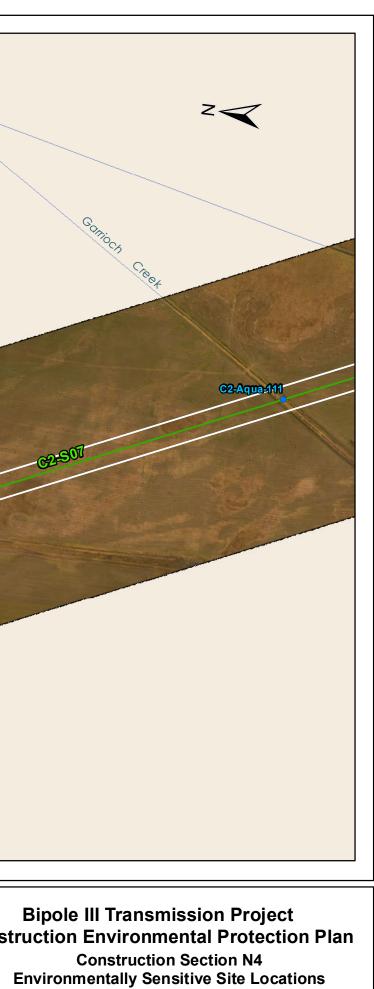
Specific Mitigation:

- 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

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			C2-RU	se-306			
					E-5035	Tower 114 369, N-5627665	
						50	
Manitoba Hydro	Coordinate System: UTM Zone 14N NAD83 Data Source: MB Hydro, ProvMB, NRCAN Date Created: April 12, 2014 Version: Draft 0 125 250 500 Metres 1:10,000	Transmission Line Highway Majar Road	Project Infrastructure Angle Tower Locations BPIII Final Preferred Route 66 m Right of Way	Points of Access* Proposed Access Point Major Stream Crossing Abandoned Rail Crossing Rail Crossing Transmission Line Crossing Proposed Access Route *Labels correspond to BPII Access Management Database	ESS Features Water Water Crossing Resource Use Forestry		Cons Draft: For

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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
C2-S07	C2-Aqua- 111	Garrioch Creek	503982	5626741	14N	N/A	3m	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.
- 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: Forestry

Sec-Seg ID	ESS I D	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S06	C2-RUse-306	Alonsa Woodlots	Site: 29 to 30	E-503563 N-5630190	E-503569 N-5627740	14N	2449m

Potential Effects:

Potential for additional damage outside of ROW

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; pile debris Xm away from ROW edge
- Notify landowner regarding construction activities and schedule, and address concerns prior to start of work
- Where applicable, ensure compensation agreement is in place 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 clear trees only

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