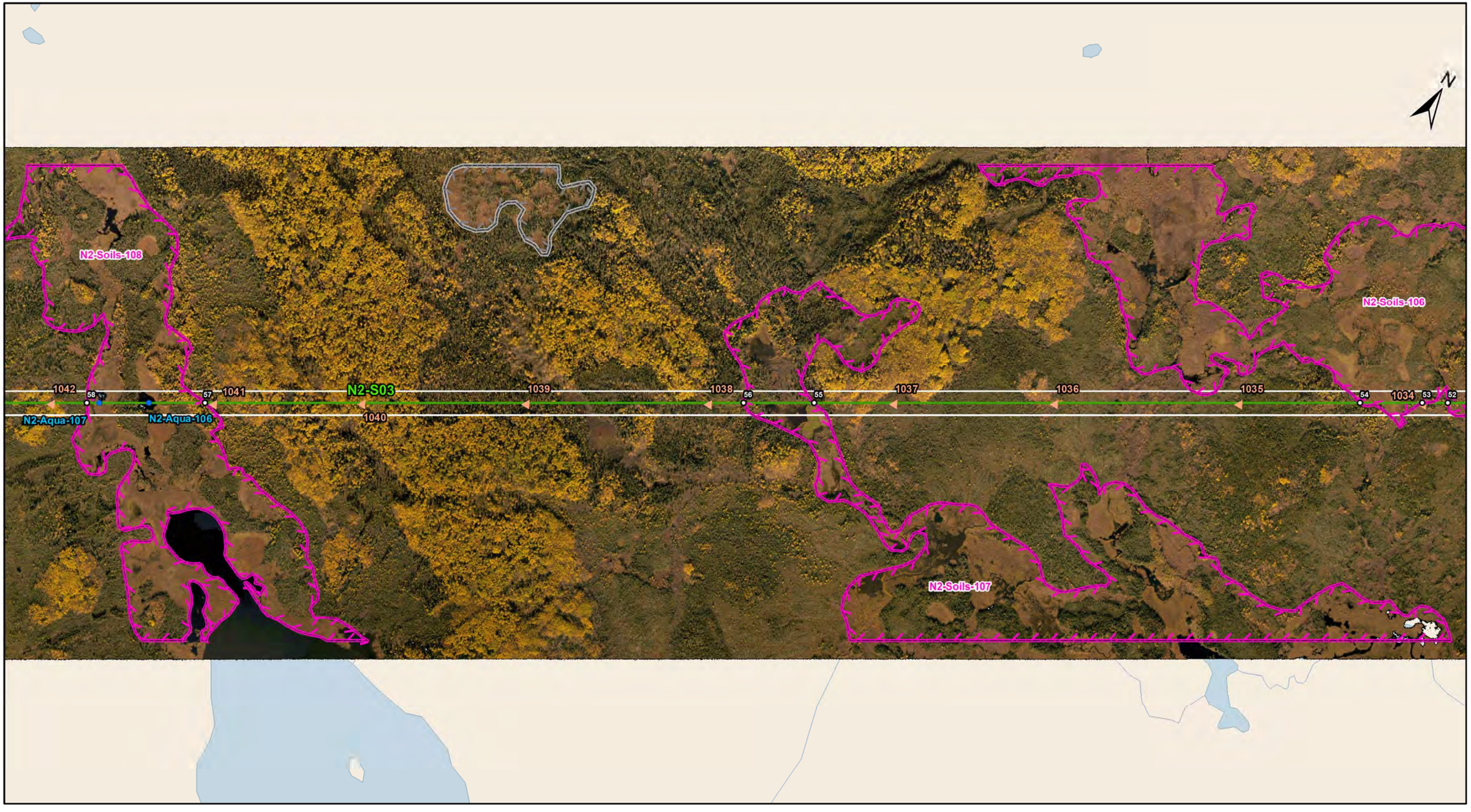

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 31, 2016
Version: Final 4.0

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Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

Project Infrastructure
- Angle Tower Locations*
- Towers (Preliminary)*
- BPIII Final Preferred Route
- 66 m Right of Way

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

Sensitive Sites*
- Point Features
- Linear Features
- Area Features

*Currently outside the Project footprint

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

ESS Features
Water
- Water Crossing

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N2
Environmentally Sensitive Site Locations

Map 65

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S03	N2-Aqua-106	Unnamed stream	603319	6193004	14N	25m	25m	Low	Marginal
N2-S03	N2-Aqua-107	Unnamed stream	603204	6192932	14N	29m	29m	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: Permafrost

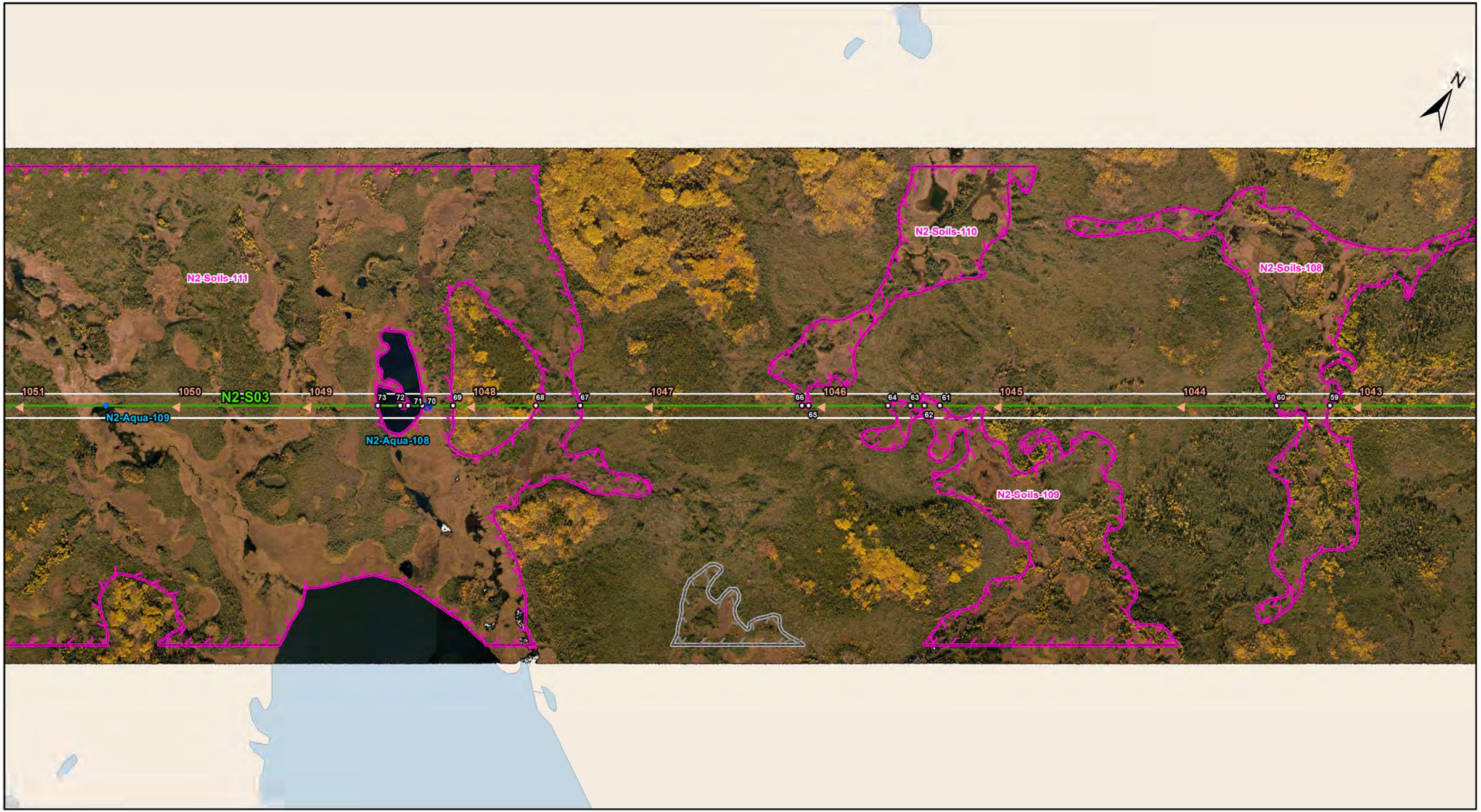
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S3	N2-Soils-106	Permafrost	Site: 51 to 52	E-606380 N-6194927	E-606329 N-6194895	14N	60 m
N2-S3	N2-Soils-106	Permafrost	Site: 53 to 54	E-606270 N-6194858	E-606125 N-6194767	14N	171 m
N2-S3	N2-Soils-107	Permafrost	Site: 55 to 56	E-604861 N-6193972	E-604696 N-6193869	14N	194 m
N2-S3	N2-Soils-108	Permafrost	Site: 57 to 58	E-603449 N-6193085	E-603176 N-6192913	14N	322 m

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting.
- Use existing trails, roads or cut lines whenever possible as access routes
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan



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Land Base
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- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

Project Infrastructure
- Angle Tower Locations*
- Towers (Preliminary)*
- BPIII Final Preferred Route
- 66 m Right of Way

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- Point Features
- Linear Features
- Area Features

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

ESS Features
Water
- Water Crossing

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N2
Environmentally Sensitive Site Locations

Map 66

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S03	N2-Aqua-108	Small, unnamed lake	600563	6191272	14N	N/A	N/A	Low	Marginal
N2-S03	N2-Aqua-109	Tributary of Isbister Creek	599865	6190834	14N	2m	2m	Moderate	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: Permafrost

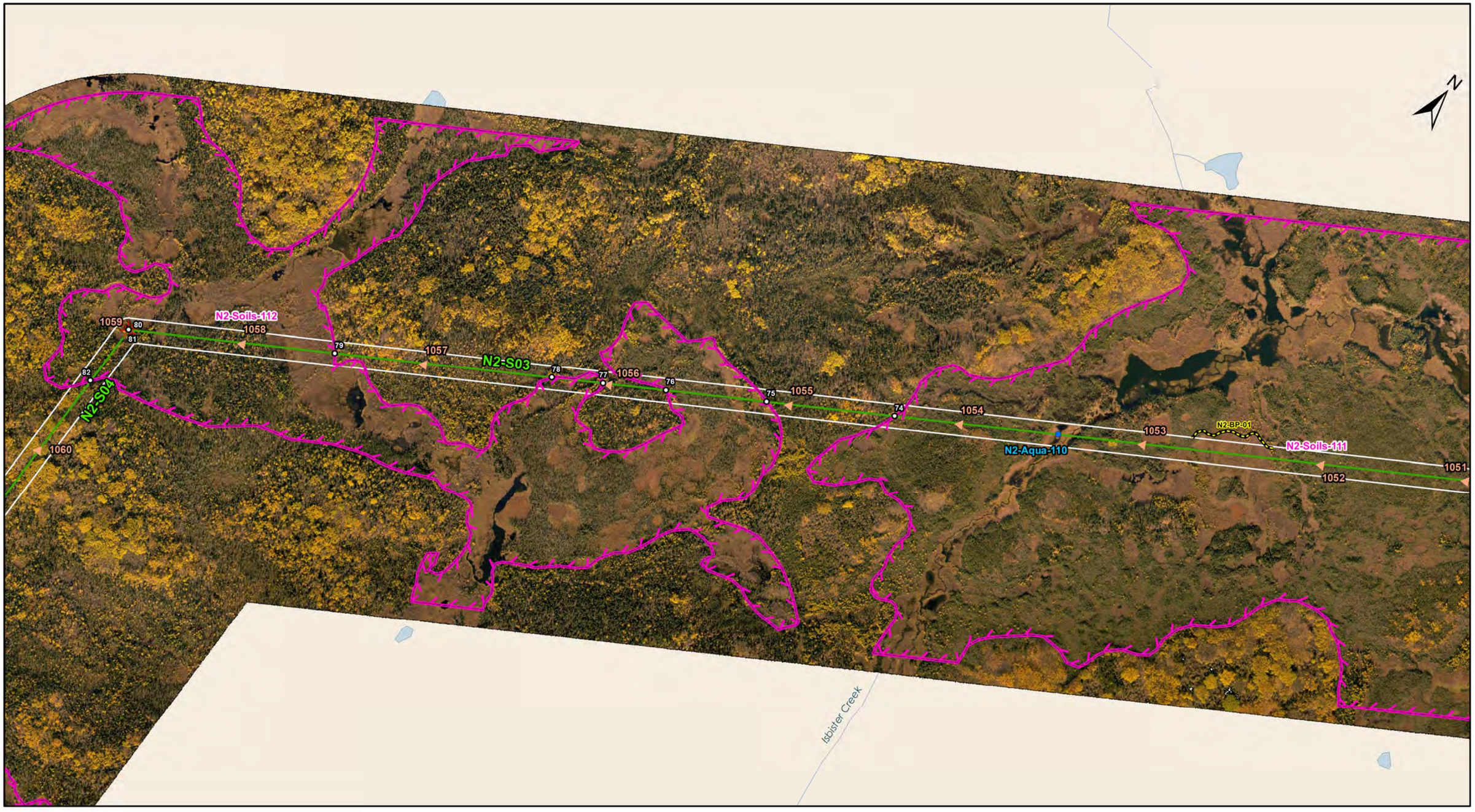
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S3	N2-Soils-108	Permafrost	Site: 59 to 60	E-602682 N-6192603	E-602560 N-6192527	14N	144 m
N2-S3	N2-Soils-109	Permafrost	Site: 61 to 62	E-601784 N-6192039	E-601748 N-6192017	14N	41 m
N2-S3	N2-Soils-109	Permafrost	Site: 63 to 64	E-601717 N-6191997	E-601664 N-6191964	14N	62 m
N2-S3	N2-Soils-110	Permafrost	Site: 65 to 66	E-601483 N-6191850	E-601467 N-6191840	14N	18 m
N2-S3	N2-Soils-111	Permafrost	Site: 67 to 68	E-600956 N-6191519	E-600854 N-6191455	14N	120 m
N2-S3	N2-Soils-111	Permafrost	Site: 69 to 70	E-600663 N-6191335	E-600592 N-6191290	14N	83 m
N2-S3	N2-Soils-111	Permafrost	Site: 71 to 72	E-600560 N-6191270	E-600542 N-6191259	14N	22 m
N2-S3	N2-Soils-111	Permafrost	Site: 73 to 74	E-600491 N-6191227	E-598340 N-6189875	14N	2540 m

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting.
- Use existing trails, roads or cut lines whenever possible as access routes
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan



Manitoba Hydro

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Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

Project Infrastructure
- Angle Tower Locations*
- Towers (Preliminary)*
- BPIII Final Preferred Route
- 66 m Right of Way

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Sensitive Sites*
- Point Features
- Linear Features
- Area Features

*Currently outside the Project footprint

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

ESS Features

Water
- Water Crossing

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N2
Environmentally Sensitive Site Locations

Map 67

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S03	N2-Aqua-110	Tributary of Isbister Creek	598721	6190115	14N	3m	3m	Moderate	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: Permafrost

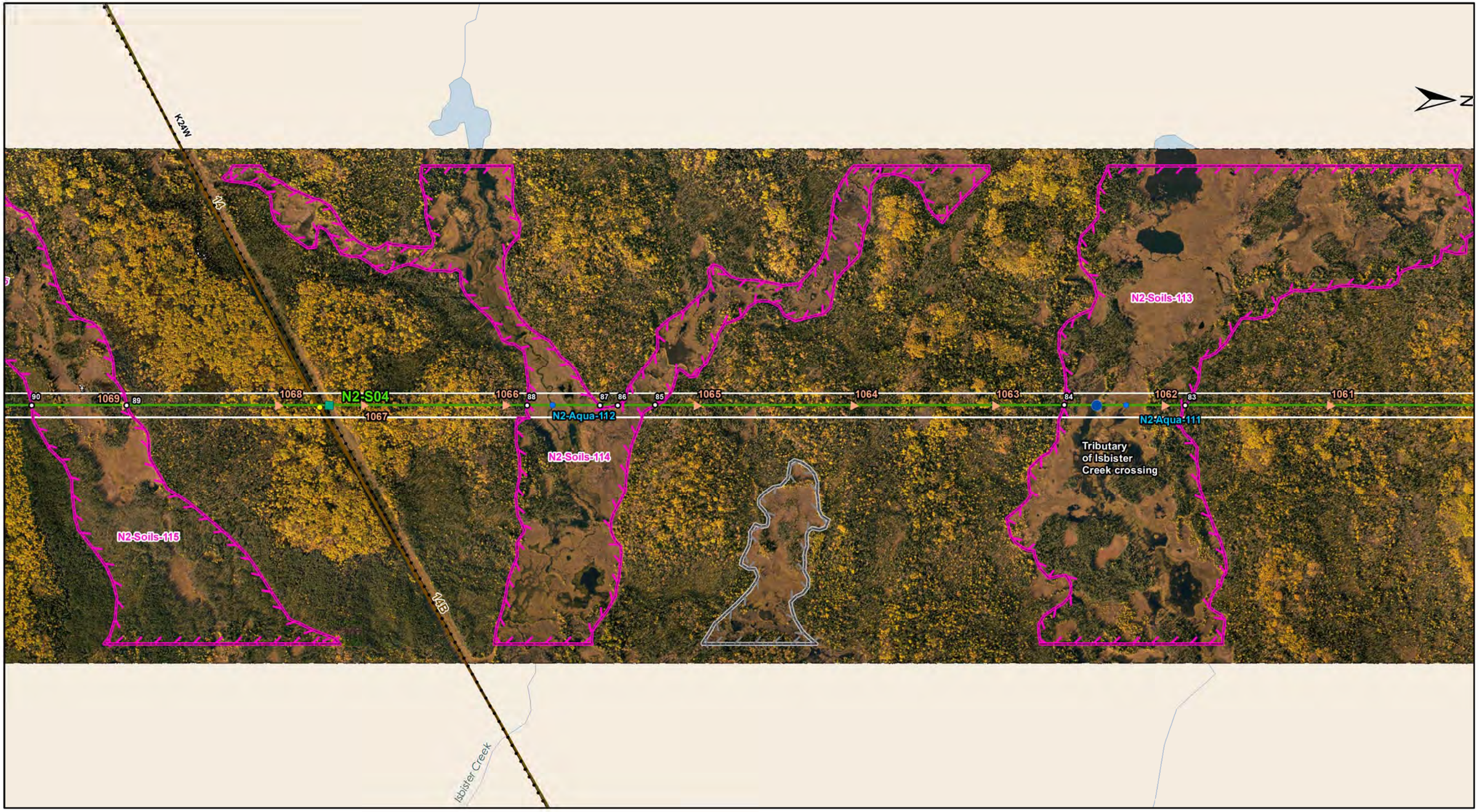
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S3	N2-Soils-111	Permafrost	Site: 73 to 74	E-600491 N-6191227	E-598340 N-6189875	14N	2540 m
N2-S3	N2-Soils-112	Permafrost	Site: 75 to 76	E-598043 N-6189689	E-597807 N-6189541	14N	278 m
N2-S3	N2-Soils-112	Permafrost	Site: 77 to 78	E-597662 N-6189449	E-597542 N-6189374	14N	140 m
N2-S3	N2-Soils-112	Permafrost	Site: 79 to 80	E-597038 N-6189057	E-596559 N-6188756	14N	565 m
N2-S4	N2-Soils-112	Permafrost	Site: 81 to 82	E-596559 N-6188756	E-596564 N-6188584	14N	172 m

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting.
- Use existing trails, roads or cut lines whenever possible as access routes
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan



Manitoba Hydro

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- Linear Features
- Area Features

*Currently outside the Project footprint

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

ESS Features
Water
- Water Crossing

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N2
Environmentally Sensitive Site Locations

Map 68

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S04	N2-Aqua-111	Tributary of Isbister Creek	596604	6187322	14N	41m	2m	Moderate	Marginal
N2-S04	N2-Aqua-112	Isbister Creek	596654	6185761	14N	5m	5m	Moderate	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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S4	N2-Soils-113	Permafrost	Site: 83 to 84	E-596599 N-6187484	E-596610 N-6187154	14N	330 m
N2-S4	N2-Soils-114	Permafrost	Site: 85 to 86	E-596645 N-6186041	E-596648 N-6185939	14N	102 m
N2-S4	N2-Soils-114	Permafrost	Site: 87 to 88	E-596650 N-6185891	E-596656 N-6185692	14N	198 m
N2-S4	N2-Soils-115	Permafrost	Site: 89 to 90	E-596691 N-6184604	E-596699 N-6184346	14N	258 m

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting.
- Use existing trails, roads or cut lines whenever possible as access routes
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan

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- Railway (Operational)
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- Mining
- Provincial Park

Project Infrastructure
- Angle Tower Locations*
- Towers (Preliminary)*
- BPIII Final Preferred Route
- 66 m Right of Way

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Sensitive Sites*
- Point Features
- Linear Features
- Area Features

*Currently outside the Project footprint

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

ESS Features
Water
- Water Crossing

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N2
Environmentally Sensitive Site Locations

Map 69

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S05	N2-Aqua-113	Tributary of Isbister Creek	596578	6182939	14N	3m	3m	Moderate	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: Permafrost

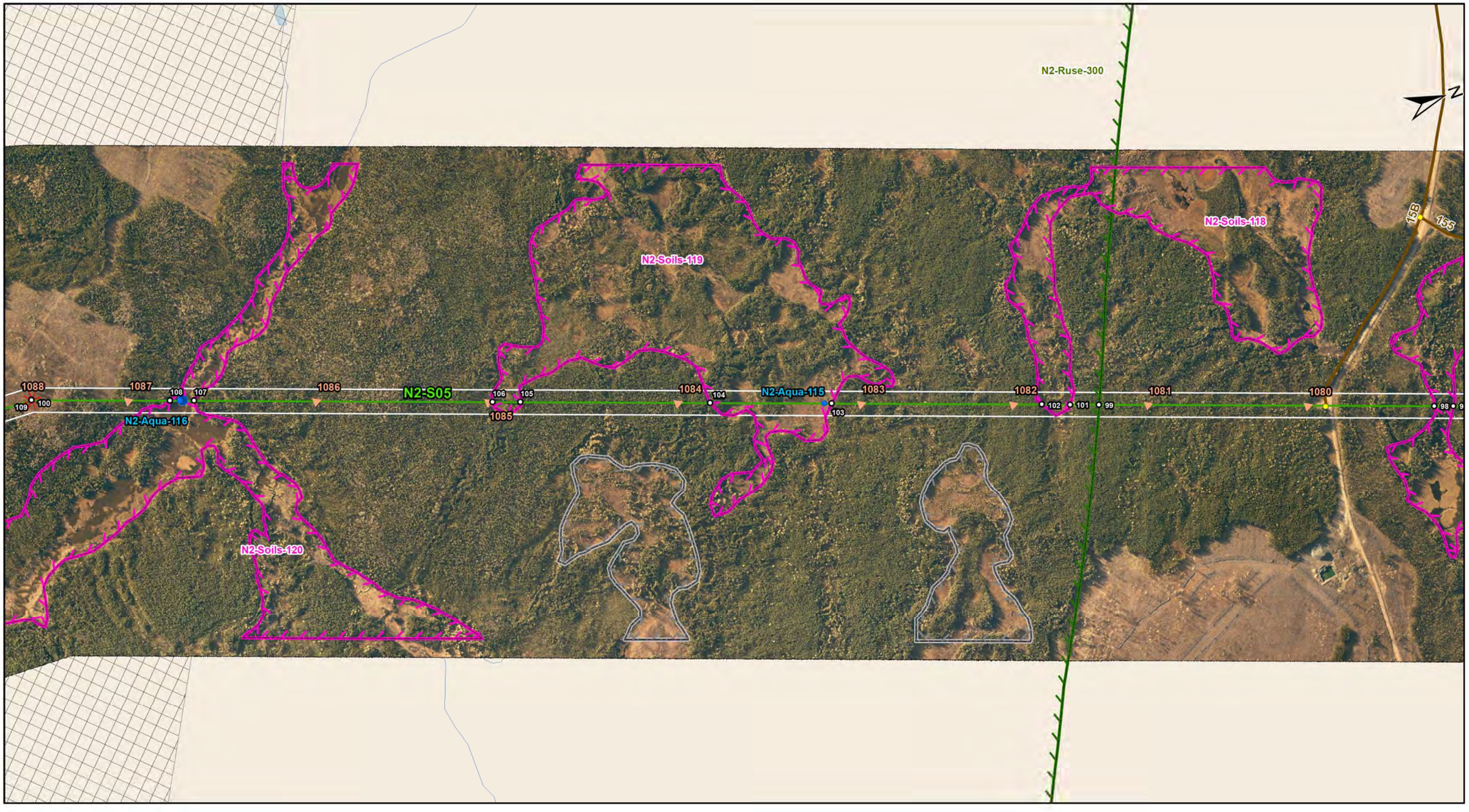
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S4	N2-Soils-115	Permafrost	Site: 91 to 92	E-596713 N-6183918	E-596719 N-6183735	14N	183 m
N2-S5	N2-Soils-116	Permafrost	Site: 93 to 94	E-596630 N-6183076	E-596612 N-6183030	14N	49 m
N2-S5	N2-Soils-116	Permafrost	Site: 95 to 96	E-596599 N-6182994	E-596530 N-6182808	14N	198 m
N2-S5	N2-Soils-117	Permafrost	Site: 97 to 98	E-595670 N-6180496	E-595652 N-6180447	14N	51 m

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting.
- Use existing trails, roads or cut lines whenever possible as access routes
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan



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- Area Features

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- Major Stream Crossing
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- Rail Crossing
- Transmission Line Crossing
- Bypass Trails
- Approved Access Route

ESS Features
Water
- Water Crossing

Resource Use
- Forestry

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N2
Environmentally Sensitive Site Locations

Map 70

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N2-S05	N2-Aqua-115	Tributary of Partridge Crop Lake	595070	6178880	14N	N/A	N/A	Low	Marginal
N2-S05	N2-Aqua-116	Unnamed Tributary of Partridge Crop Lake	594454	6177224	14N	68m	68m	Moderate	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: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S5	N2-RUse-300	ATK-91 Pikwitonei	Site: 99 to 100	E-595332 N-6179585	E-594313 N-6176844	14N	2924m
N2-S6	N2-RUse-300	ATK-91 Pikwitonei	Site: 109 to 110	E-594313 N-6176844	E-594014 N-6169622	14N	7228m

Potential Effects:

Potential to disrupt access to fuel wood area

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Avoid surface damage to and obstruction of access route
- Make fuel wood from ROW clearing available to local community where demand exists

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S5	N2-Soils-117	Permafrost	Site: 97 to 98	E-595670 N-6180496	E-595652 N-6180447	14N	51 m
N2-S5	N2-Soils-118	Permafrost	Site: 101 to 102	E-595305 N-6179512	E-595278 N-6179439	14N	77 m
N2-S5	N2-Soils-119	Permafrost	Site: 103 to 104	E-595077 N-6178899	E-594960 N-6178586	14N	333 m
N2-S5	N2-Soils-119	Permafrost	Site: 105 to 106	E-594779 N-6178099	E-594753 N-6178028	14N	75 m
N2-S5	N2-Soils-120	Permafrost	Site: 107 to 108	E-594468 N-6177261	E-594445 N-6177199	14N	66 m

Potential Effects:

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage and rutting.
- Use existing trails, roads or cut lines whenever possible as access routes
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan