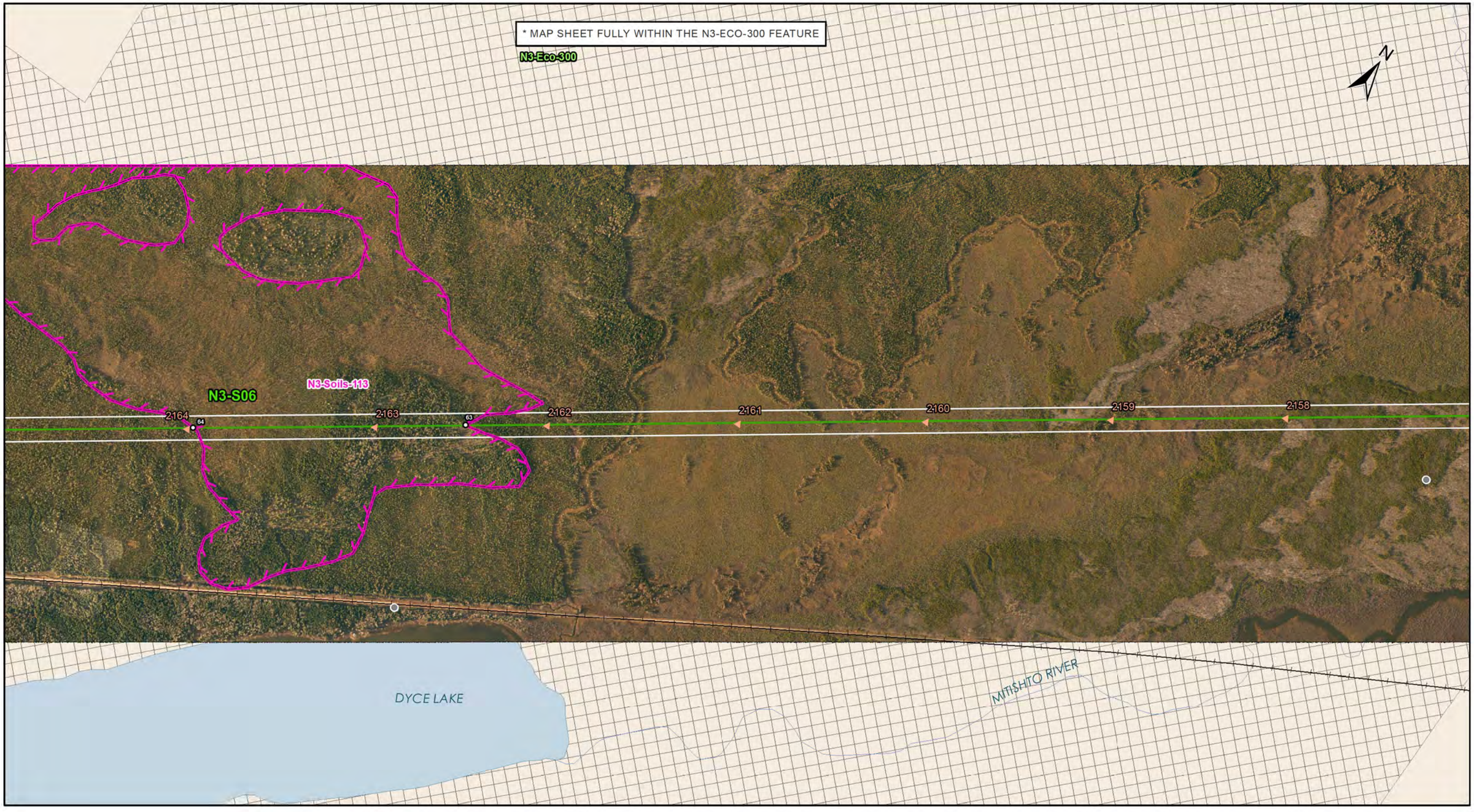

Manitoba Hydro

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
Ecosystem
- Species of Concern

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 130

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N3SECTION_MAPBOOK_20161031.MXD

ESS Group: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S06	N3-Eco-300	Species of Concern	Site: 61 to 62	E-437389 N-6033813	E-429218 N-6028068	14N	9988m

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

ESS Group: Permafrost

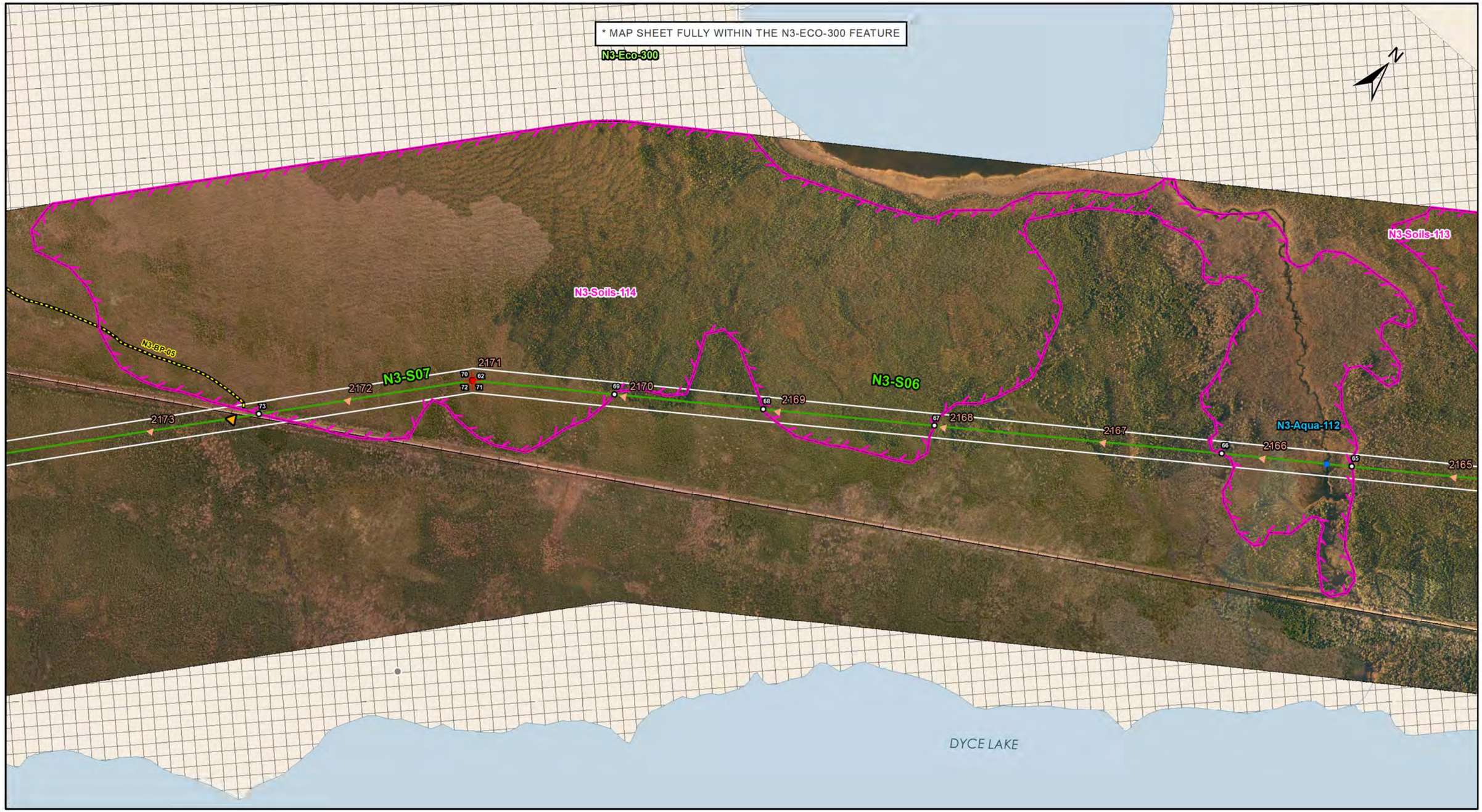
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S06	N3-Soils-113	Permafrost	Site: 63 to 64	E-432455 N-6030343	E-431846 N-6029915	14N	744 m

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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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

Ecosystem
- Species of Concern

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 131

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S06	N3-Aqua-112	Unnamed Tributary into Dyce Lake	431074	6029462	14N	N/A	8m	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: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S06	N3-Eco-300	Species of Concern	Site: 61 to 62	E-437389 N-6033813	E-429218 N-6028068	14N	9988m
N3-S07	N3-Eco-300	Species of Concern	Site: 71 to 74	E-429218 N-6028068	E-428102 N-6026762	14N	1718m

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

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S06	N3-Soils-114	Permafrost	Site: 65 to 66	E-431184 N-6029450	E-430893 N-6029245	14N	355 m
N3-S06	N3-Soils-114	Permafrost	Site: 67 to 68	E-430252 N-6028794	E-429869 N-6028526	14N	467 m
N3-S06	N3-Soils-114	Permafrost	Site: 69 to 70	E-429536 N-6028291	E-429218 N-6028068	14N	388 m
N3-S07	N3-Soils-114	Permafrost	Site: 72 to 73	E-429218 N-6028068	E-428837 N-6027622	14N	587 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*
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- Linear Features
- Area Features

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

ESS Features
Ecosystem
- Species of Concern

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 132

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N3SECTION_MAPBOOK_20161031.MXD

ESS Group: Species of Concern

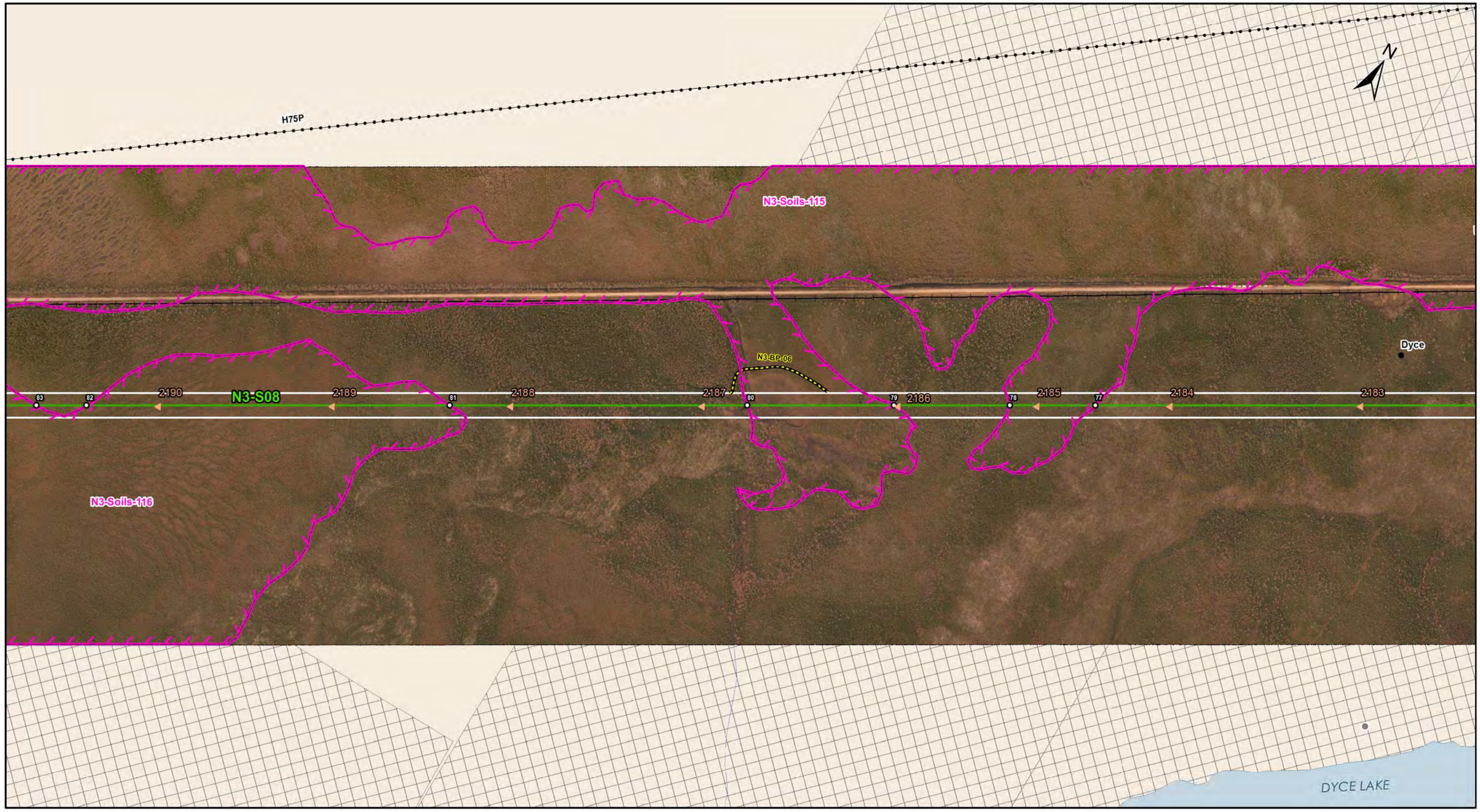
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S07	N3-Eco-300	Species of Concern	Site: 71 to 74	E-429218 N-6028068	E-428102 N-6026762	14N	1718m
N3-S08	N3-Eco-300	Species of Concern	Site: 75 to 76	E-428102 N-6026762	E-427787 N-6026578	14N	364m

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



Manitoba Hydro

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Land Base
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- Approved Access Route

ESS Features
Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 133

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N3SECTION_MAPBOOK_20161031.MXD

ESS Group: Permafrost

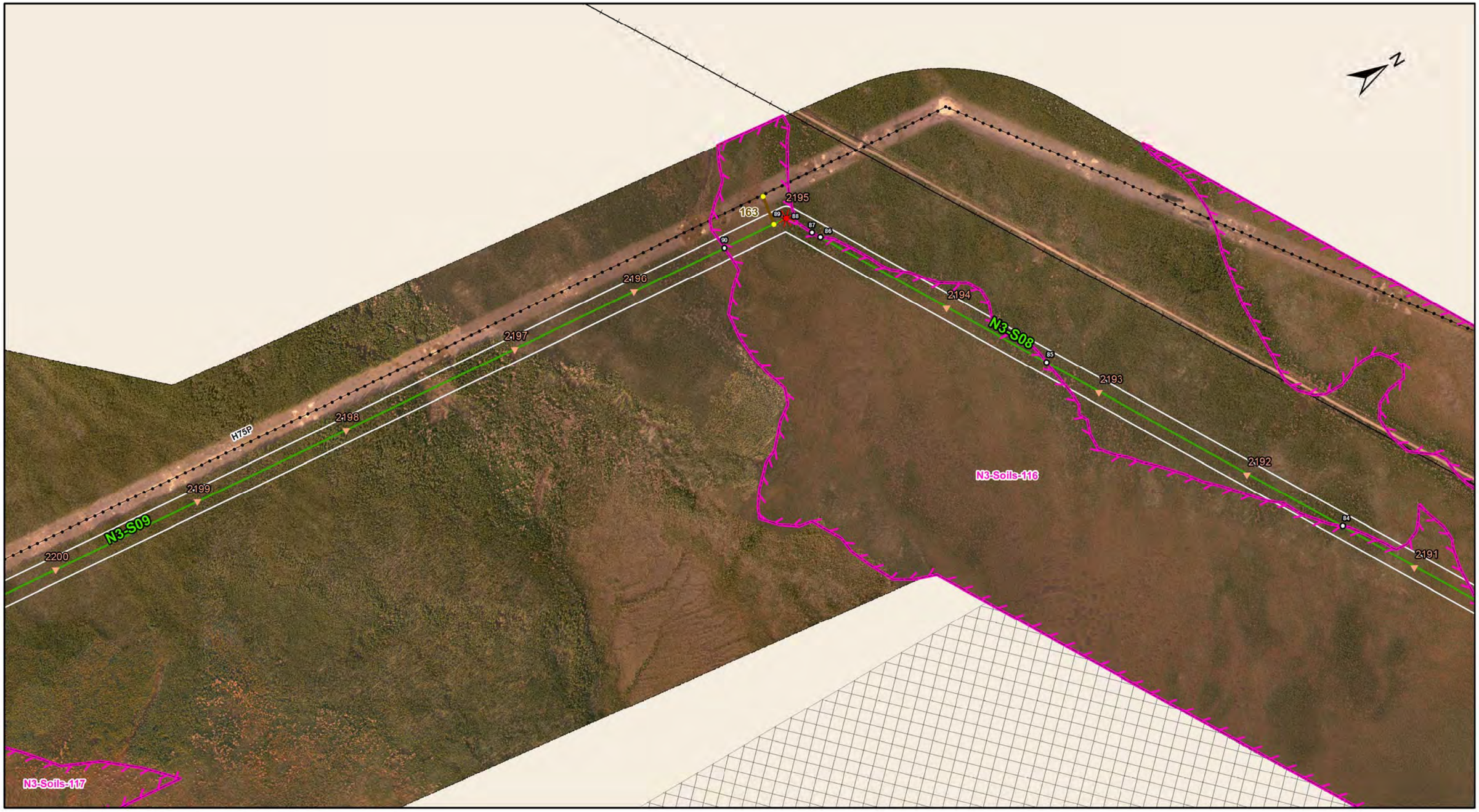
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S08	N3-Soils-115	Permafrost	Site: 77 to 78	E-424199 N-6024490	E-423998 N-6024373	14N	232 m
N3-S08	N3-Soils-115	Permafrost	Site: 79 to 80	E-423725 N-6024214	E-423381 N-6024014	14N	398 m
N3-S08	N3-Soils-116	Permafrost	Site: 81 to 82	E-422681 N-6023606	E-421826 N-6023109	14N	988 m
N3-S08	N3-Soils-116	Permafrost	Site: 83 to 84	E-421709 N-6023041	E-421346 N-6022830	14N	419 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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- Winter Road
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Project Infrastructure
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- 66 m Right of Way

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- Area Features

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- Bypass Trails
- Approved Access Route

ESS Features
Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 134

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N3SECTION_MAPBOOK_20161031.MXD

ESS Group: Permafrost

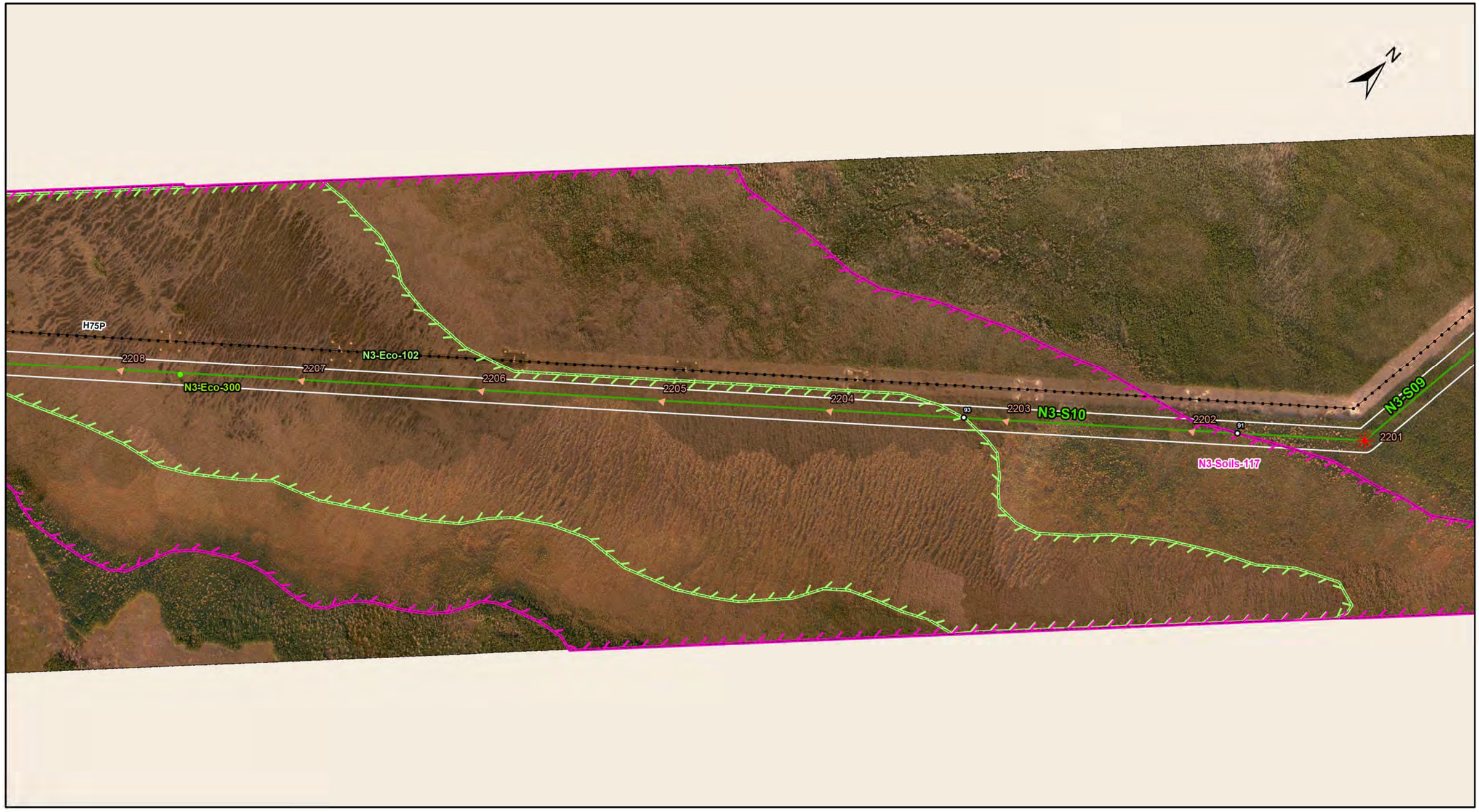
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S08	N3-Soils-116	Permafrost	Site: 83 to 84	E-421709 N-6023041	E-421346 N-6022830	14N	419m
N3-S08	N3-Soils-116	Permafrost	Site: 85 to 86	E-420549 N-6022366	E-419942 N-6022012	14N	702m
N3-S08	N3-Soils-116	Permafrost	Site: 87 to 88	E-419920 N-6022000	E-419850 N-6021959	14N	81m
N3-S09	N3-Soils-116	Permafrost	Site: 89 to 90	E-419850 N-6021959	E-419833 N-6021773	14N	186m

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

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

ESS Features
Ecosystems
- Species of Concern

Ecosystem
- Habitat

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 135

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N3SECTION_MAPBOOK_20161031.MXD

ESS Group: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N3-S10	N3-Eco-300	Species of Concern (plant)	417198	6017184	

Potential Effects:

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

Specific Mitigation:

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

ESS Group: Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S10	N3-Eco-102	Patterned Fen	Site: 93 to 94	E-418795 N-6018605	E-416751 N-6016795	14N	2729m

Potential Effects:

Potential loss of plants of conservation concern and habitat disturbance 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
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Install erosion protection and sediment control measures in accordance with Erosion/Sediment Control Plan

ESS Group: Permafrost

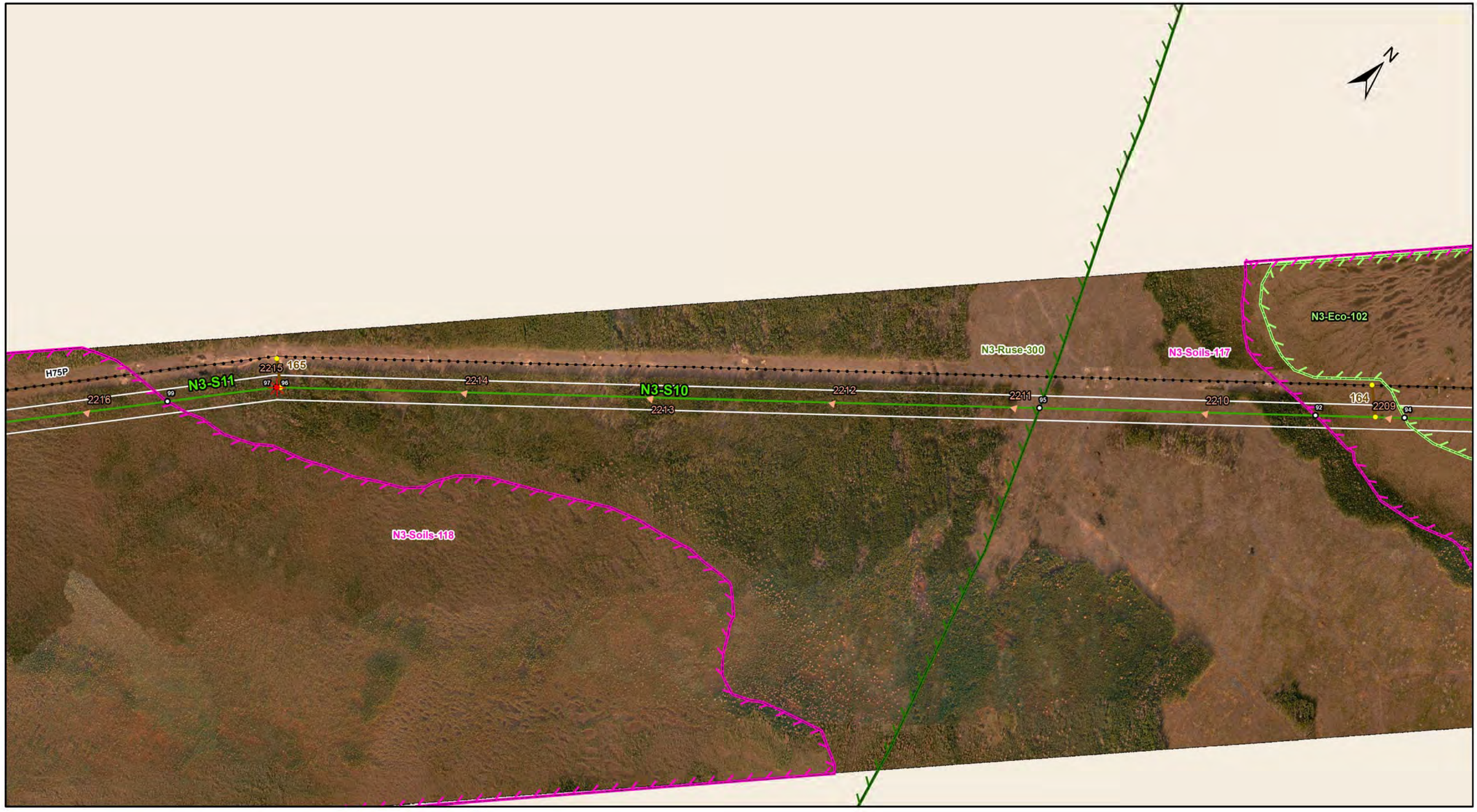
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S10	N3-Soils-117	Permafrost	Site: 91 to 92	E-419354 N-6019100	E-416569 N-6016634	14N	3719 m

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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- Towers (Preliminary)*
- BPIII Final Preferred Route
- 66 m Right of Way

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

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

ESS Features
Ecosystem
- Habitat

Resource Use
- Forestry

Soils and Terrain
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 136

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N3SECTION_MAPBOOK_20161031.MXD

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S10	N3-Soils-117	Permafrost	Site: 91 to 92	E-419354 N-6019100	E-416569 N-6016634	14N	3719 m
N3-S11	N3-Soils-118	Permafrost	Site: 99 to 100	E-414255 N-6014525	E-412981 N-6012989	14N	1995 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

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S10	N3-RUse-300	ATK-65 Cormorant	Site: 95 to 96	E-416005 N-6016135	E-414445 N-6014754	14N	2083m
N3-S11	N3-RUse-300	ATK-65 Cormorant	Site: 97 to 98	E-414445 N-6014754	E-409094 N-6008302	14N	8382m

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: Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S10	N3-Eco-102	Patterned Fen	Site: 93 to 94	E-418795 N-6018605	E-416751 N-6016795	14N	2729 m

Potential Effects:

Potential loss of plants of conservation concern and habitat disturbance 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
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Install erosion protection and sediment control measures in accordance with Erosion/Sediment Control Plan