

Appendix A Maps

Map 1 Proposed Route

Map 1a – Sheets 1-5 Proposed Route Detail

Map 2 Project Vicinity

Map 3 Alternatives

Map 4 Regions of Influence

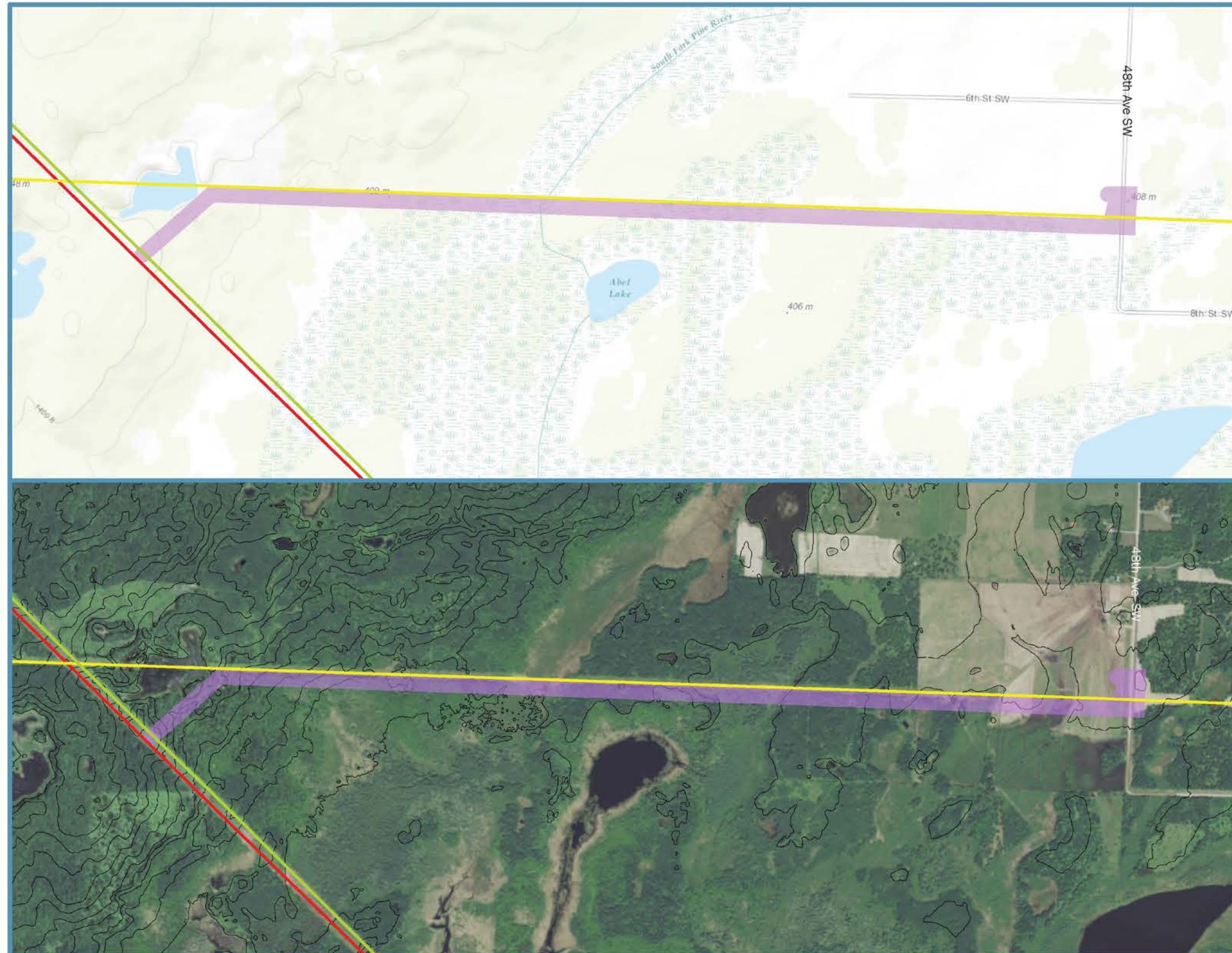
Map 5 Land Cover

Map 6 Proposed Line 3 Project

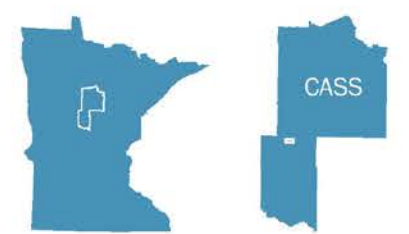
Map 7 Zoning

Map 8 Water Resources

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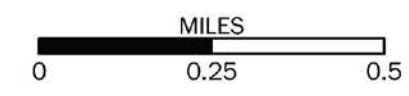


Map 1 Proposed Route



Legend

- Applicant's Proposed Route
- Existing ±250 kV DC HVTL
- Existing 115 kV HVTL
- Existing 230 kV HVTL
- Elevation Contours (10 feet)



World Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
 World Topo Map: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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- Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)
- Minnesota Power
- Existing 115 kV transmission line
- Existing 230 kV transmission line
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
 Appendix B - Detailed Route Maps
 Map Sheet 1 of 5


0 50 100 200 Feet
 GIS Data sources include:
 MNGEO, MNDNR, MNDOT, and Great River Energy.




Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

- Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)
- Minnesota Power
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 2 of 5


 0 50 100 200 Feet
 GIS Data sources include:
 MNGEO, MNDNR, MNDOT, and Great River Energy.


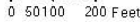





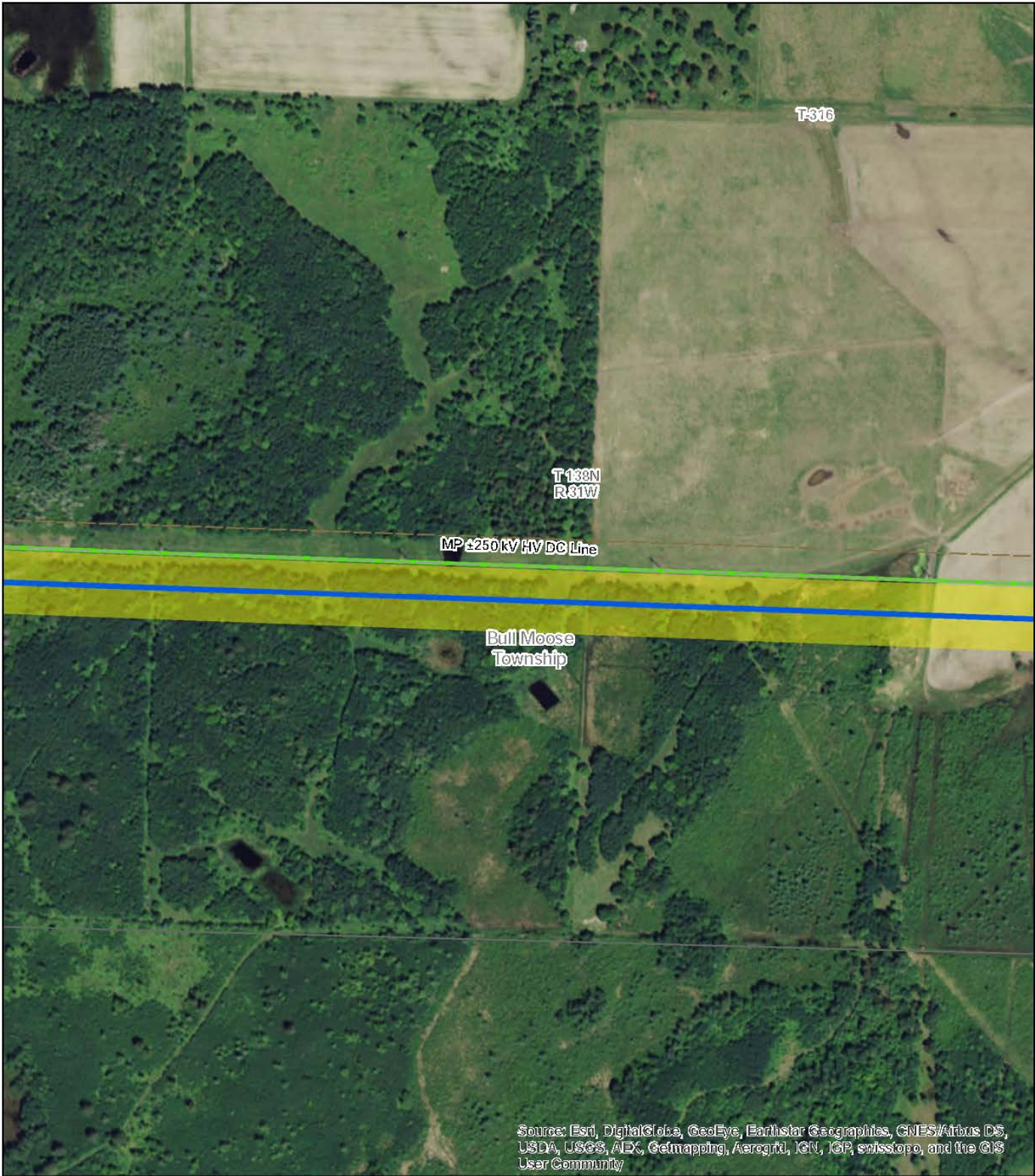
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

- Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)
- Minnesota Power
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 3 of 5



 GIS Data sources include:
 MNGEO, MNDNR, MNDOT, and Great River Energy.





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

- Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)
- Minnesota Power
- Existing ±250 kV DC transmission line
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 4 of 5

0 50 100 200 Feet
 GIS Data sources include:
 MNGEO, MNDNR, MNDOT, and Great River Energy.



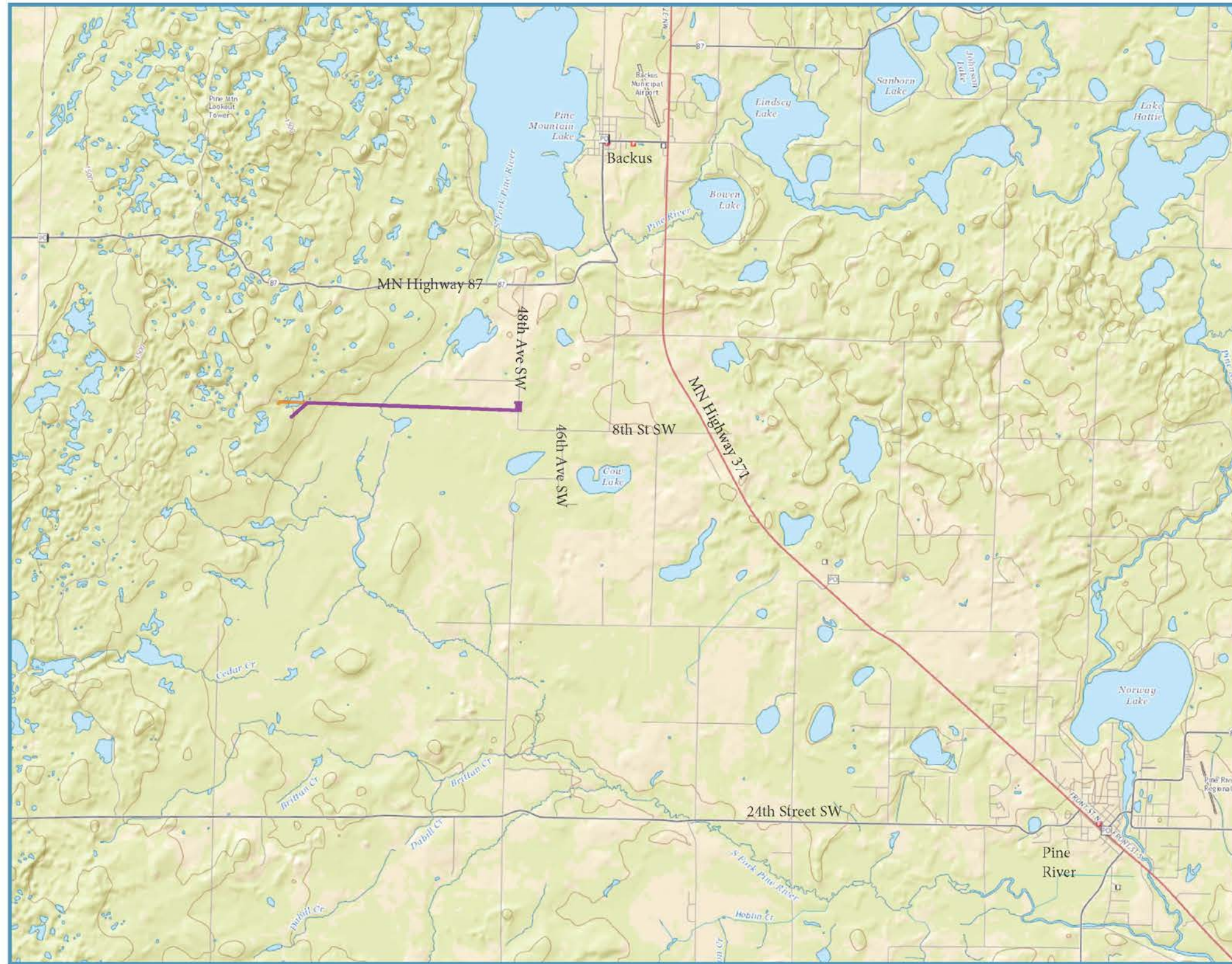
- Great River Energy
- Anticipated 115 kV transmission line
- Proposed route (200 feet)
- Minnesota Power
- Existing ±250 kV DC transmission line
- Enbridge
- Anticipated pump station
- Anticipated pipeline

Bull Moose 115 kV Project
Appendix B - Detailed Route Maps
Map Sheet 5 of 5

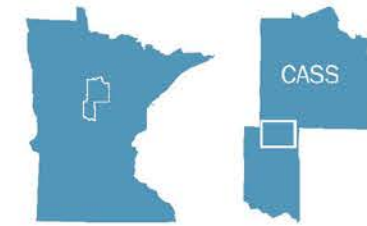
N
 0 50 100 200 Feet
 GIS Data sources include:
 MNGEO, MNDNR, MNDOT, and Great River Energy.



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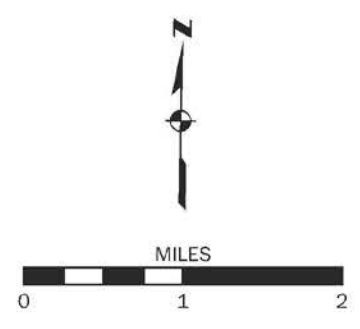


Map 2 Project Vicinity



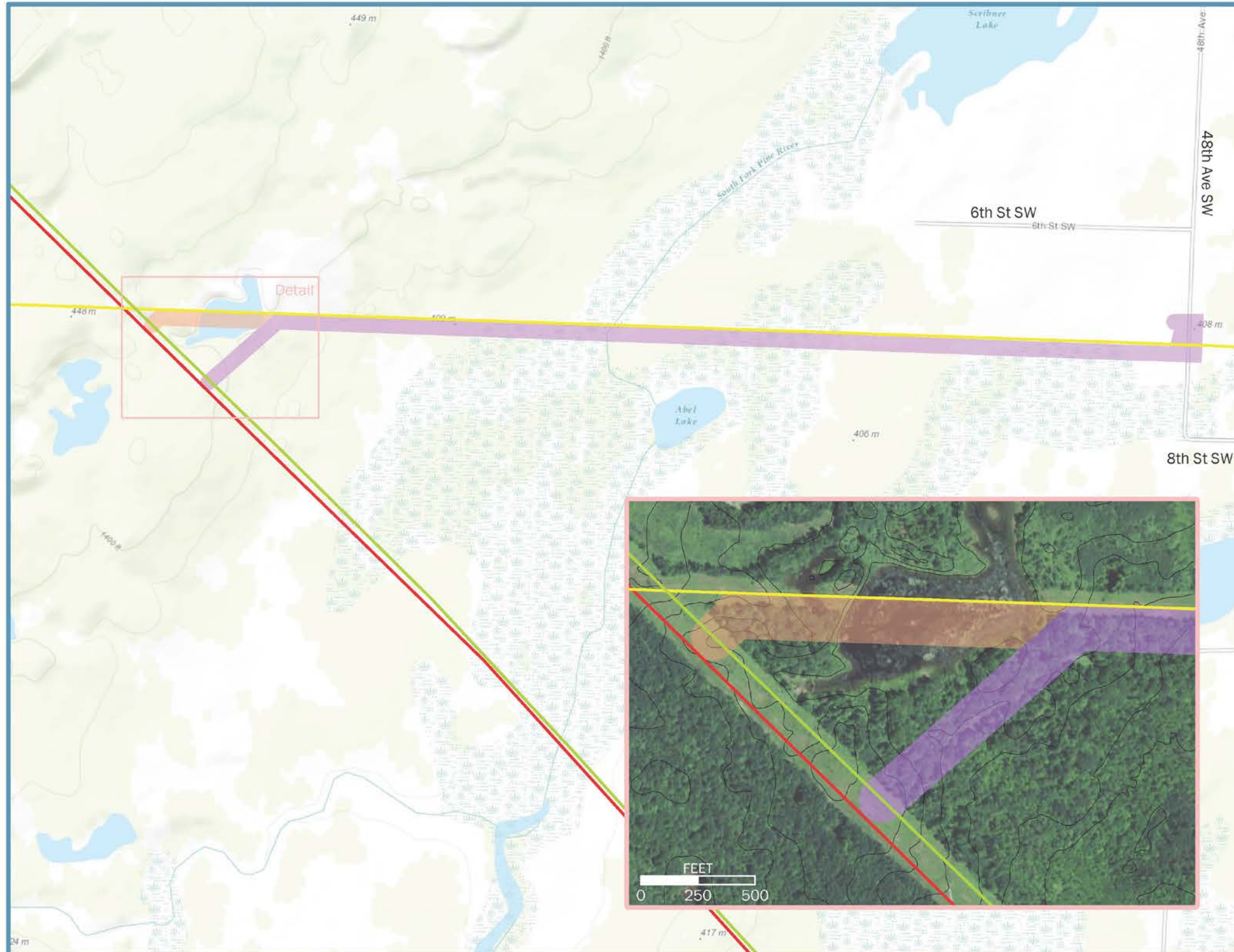
Legend

- Applicant's Proposed Route
- Alternative Route Segment A

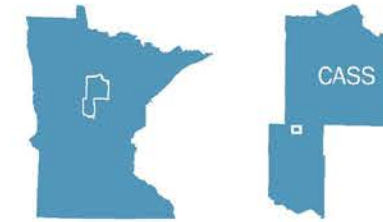


USGSTopo: USGS The National Map: National Boundaries Dataset, 3D Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau TIGER/Line

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Map 3 Alternatives



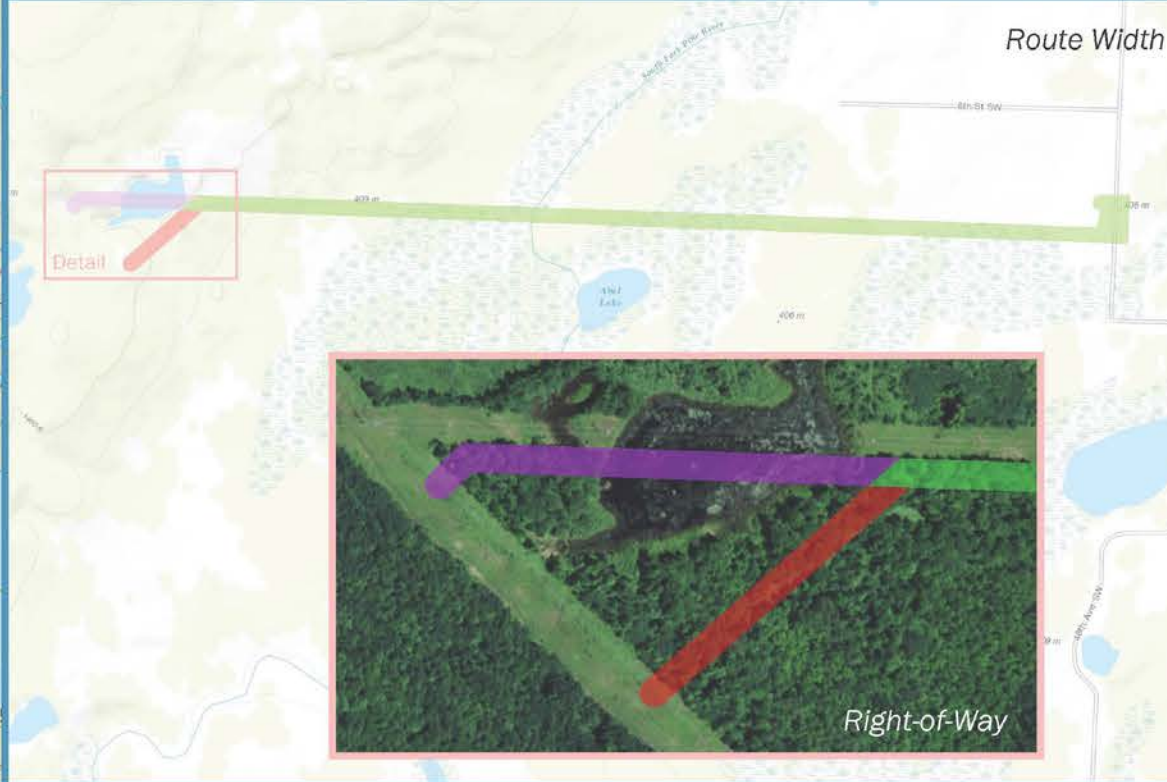
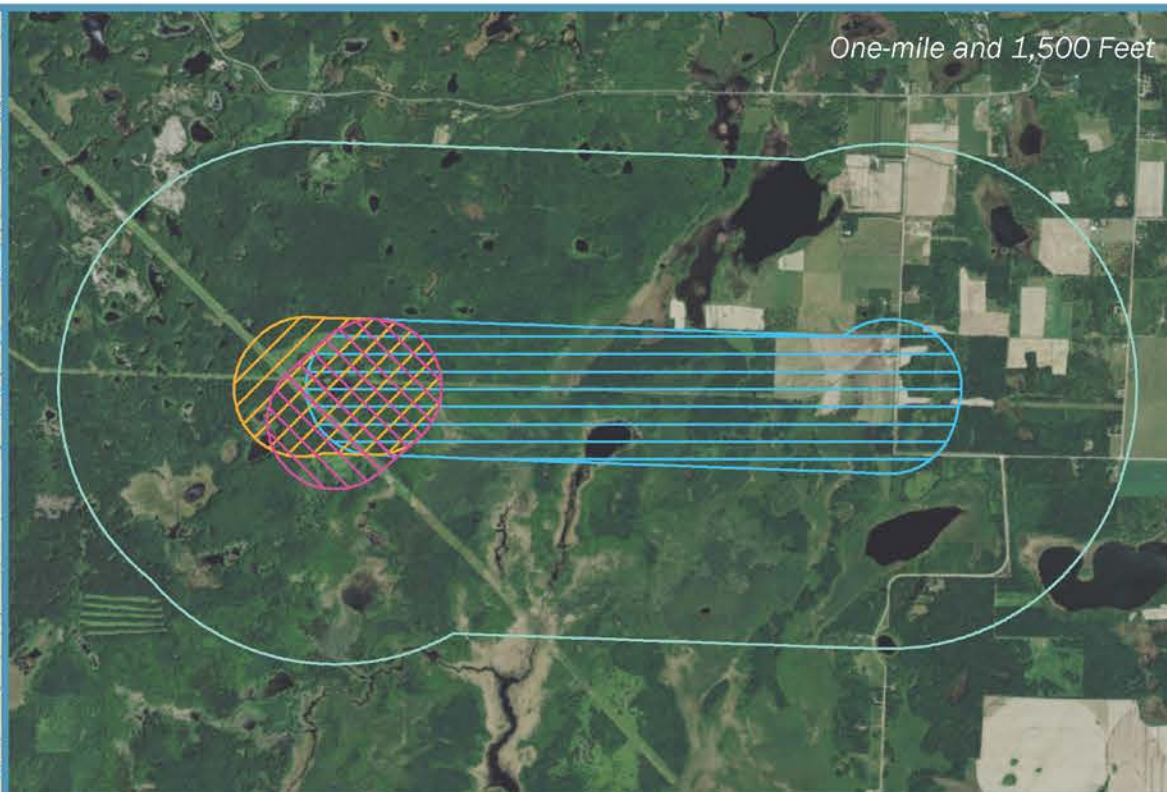
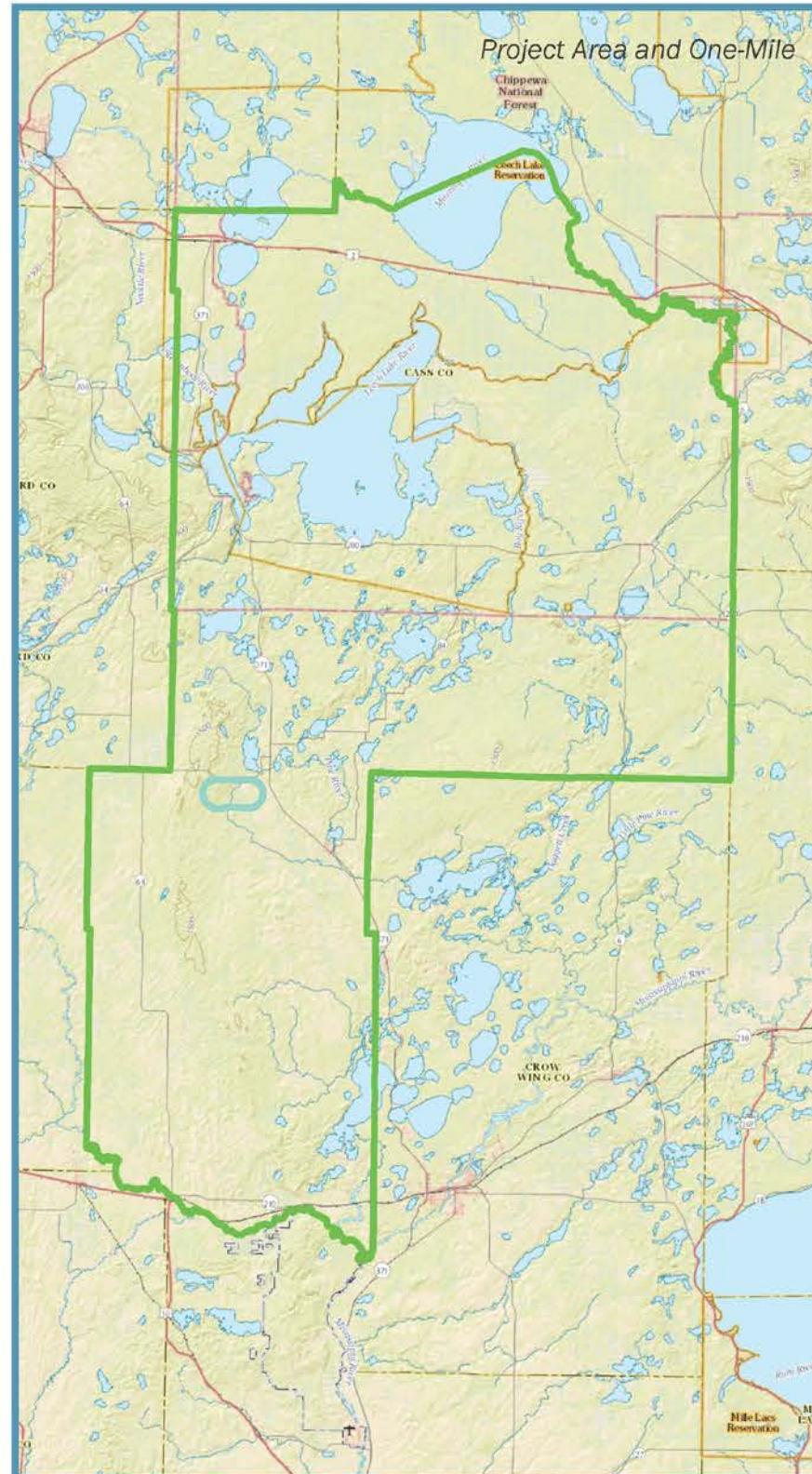
Legend

- Applicant's Proposed Route
- Alternative Route Segment A
- Existing 115 kV HVTL
- Existing 230 kV HVTL
- Existing ±250 kV DC HVTL
- Elevation Contours (10 feet)

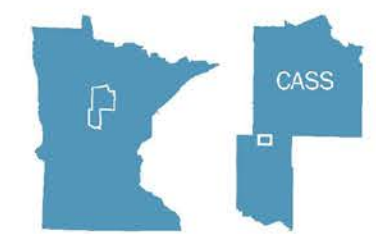


World Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
 World Topo Map: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBasis, IGN, Radaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapboxIndia, © OpenStreetMap contributors, and the GIS User Community

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Map 4 Regions of Influence



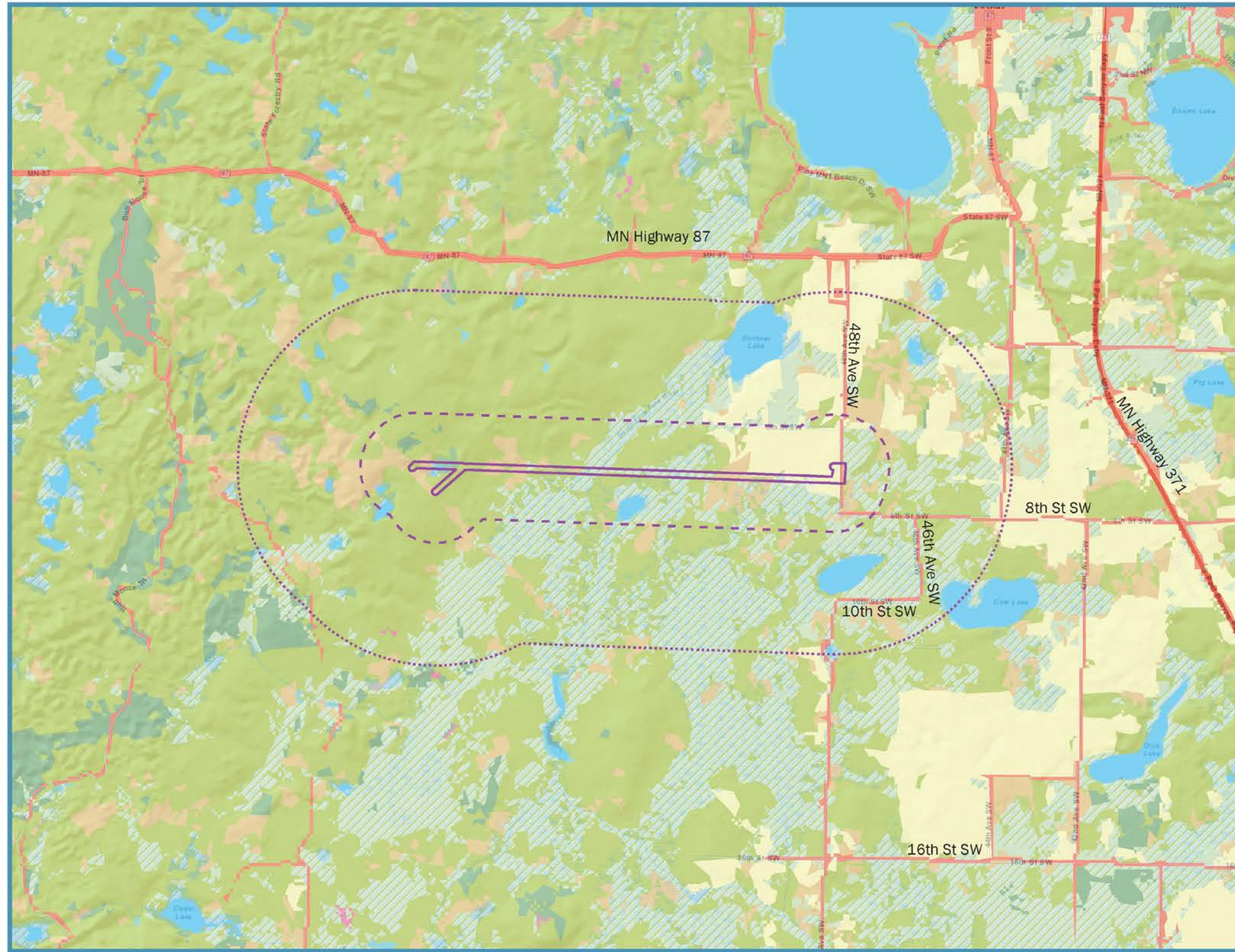
Legend

- Cass County
- One Mile
- 1,500 Feet
- Proposed Route Segment
- Alternative Route Segment A
- Proposed Route
- Right-of-Way
- Route Width
- Right-of-Way
- Route Width
- Right-of-Way
- Route Width

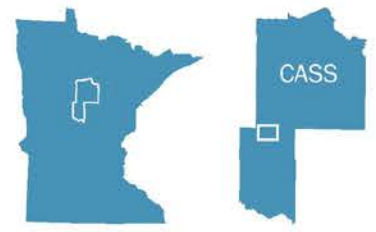


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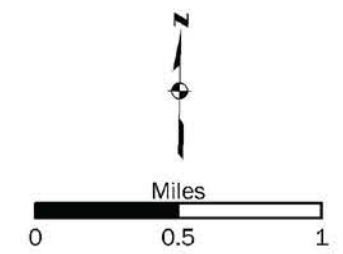


Map 5 Land Cover



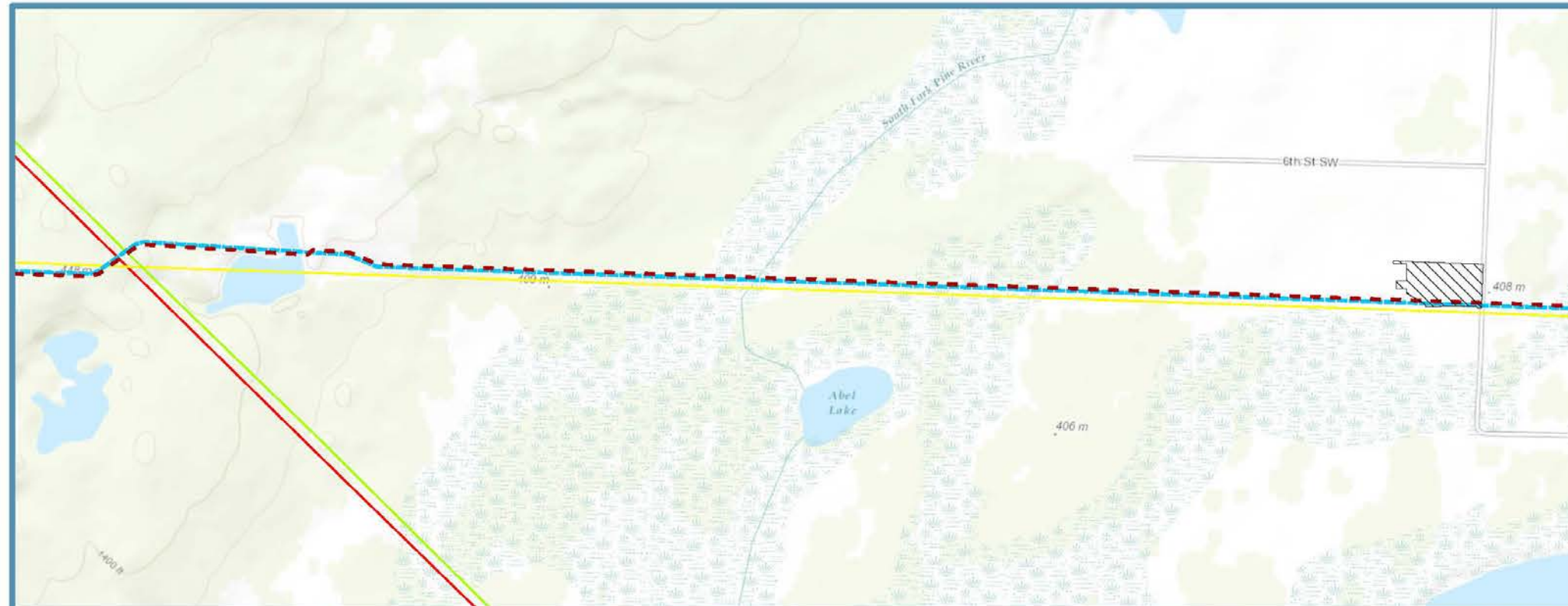
Legend

- Regions of Influence (combined)
- Route Width
 - 1,500 Feet
 - One Mile
- NLCD Classification
- Open Water
 - Developed
 - Barren Land
 - Deciduous Forest
 - Evergreen Forest
 - Mixed Forest
 - Shrub/Scrub
 - Grassland/Herbaceous
 - Pasture/Hay/Cultivated Crops
 - Wetlands

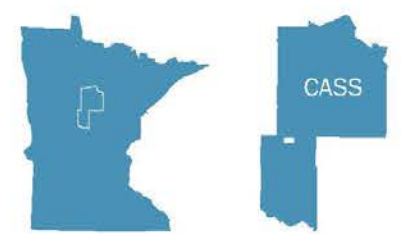


Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), Mapbox, © OpenStreetMap contributors, and the GIS User Community
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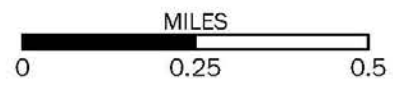


Map 6 Proposed Pipeline Projects



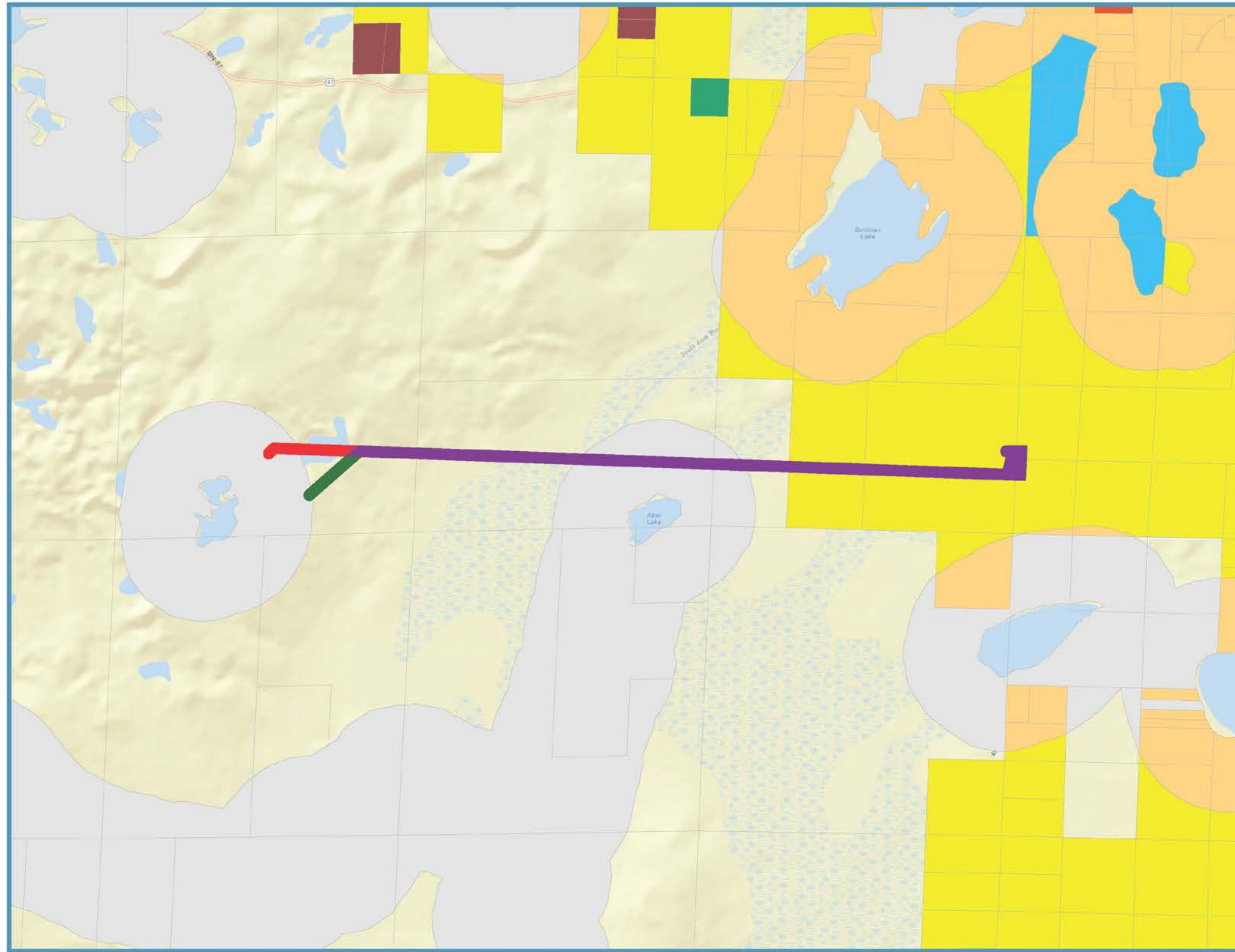
Legend

-  Proposed Pump Station
 -  Proposed Sandpiper Project
 -  Proposed Line 3 Pipeline
- Existing Electric Transmission Lines
-  Existing ±250 kV DC HVTL
 -  Existing 115 kV HVTL
 -  Existing 230 kV HVTL

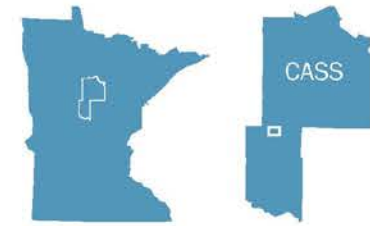


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Map 7 Zoning



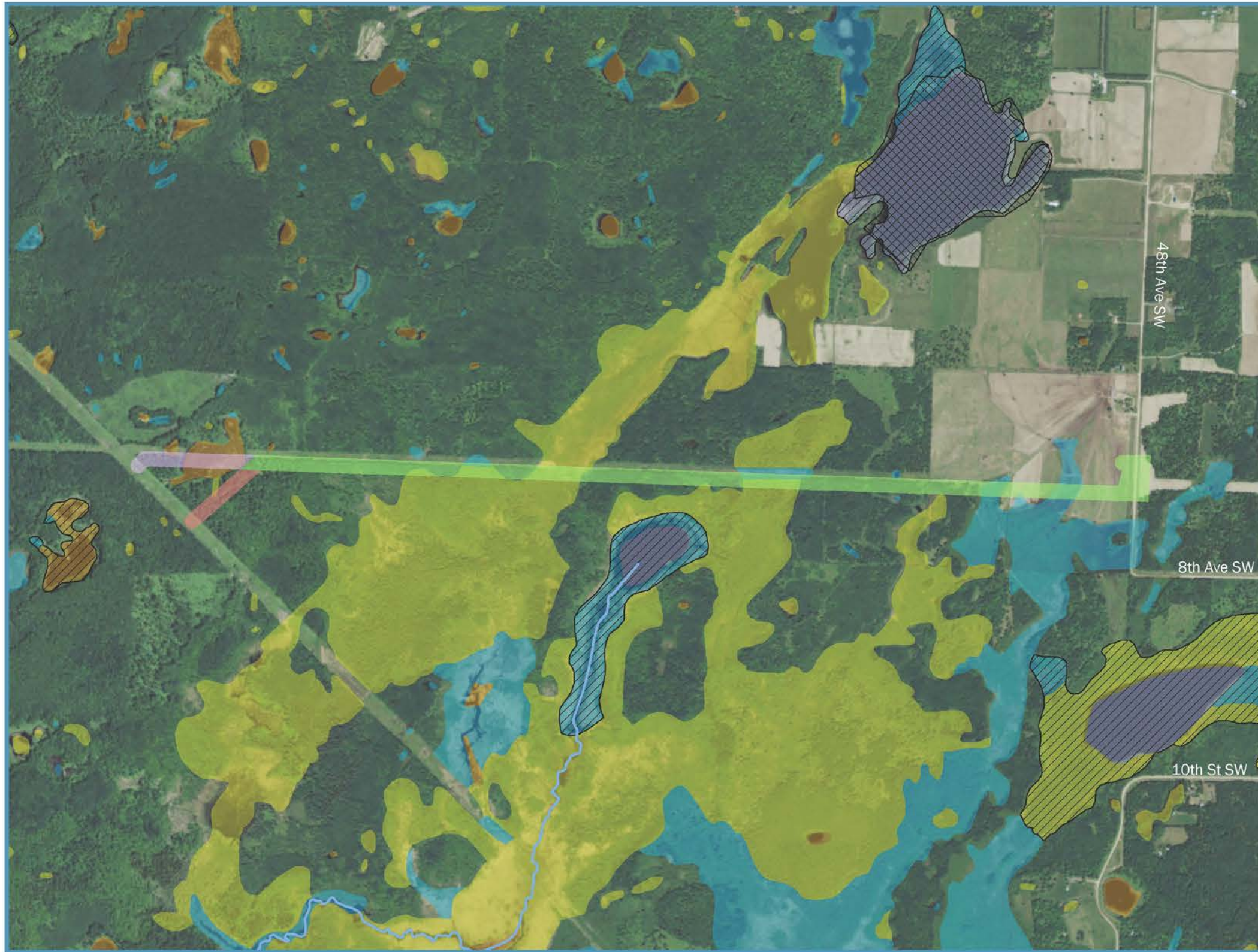
Legend

- Proposed Route
- Proposed Route Segment
- Alternative Route Segment A
- Cass County Shoreland Zoning
- Shoreland Residential
- Urban Growth
- Water-Oriented Commercial
- Shoreland Commercial
- Public Land
- Cass County Zoning
- Rural Residential 1 (RR-1)
- Rural Residential 2.5 (RR-2.5)
- Rural Residential 5 (RR-5)
- Rural Residential 10 (RR-10)
- Rural Residential 20 (RR-20)
- Agricultural/Forestry
- Commercial
- Public Land or Within City Limits

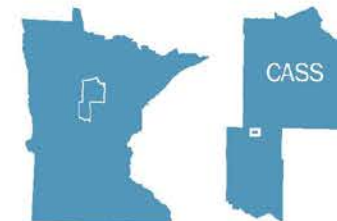


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Map 8 Water Resources



Legend

Proposed Route Segment

Route Width

Alternative Route Segment A

Route Width

Proposed Route

Route Width

Non-delineated Wetlands

Freshwater Emergent

Freshwater Forested/Shrub

Freshwater Pond

Lake

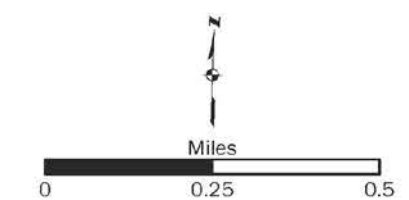
MN Public Water Inventory

Watercourse

Waterbody

Other

Wild Rice Lake



World Imagery: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aergrid, IGN, IGP, swisstopo, and the GIS User Community

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