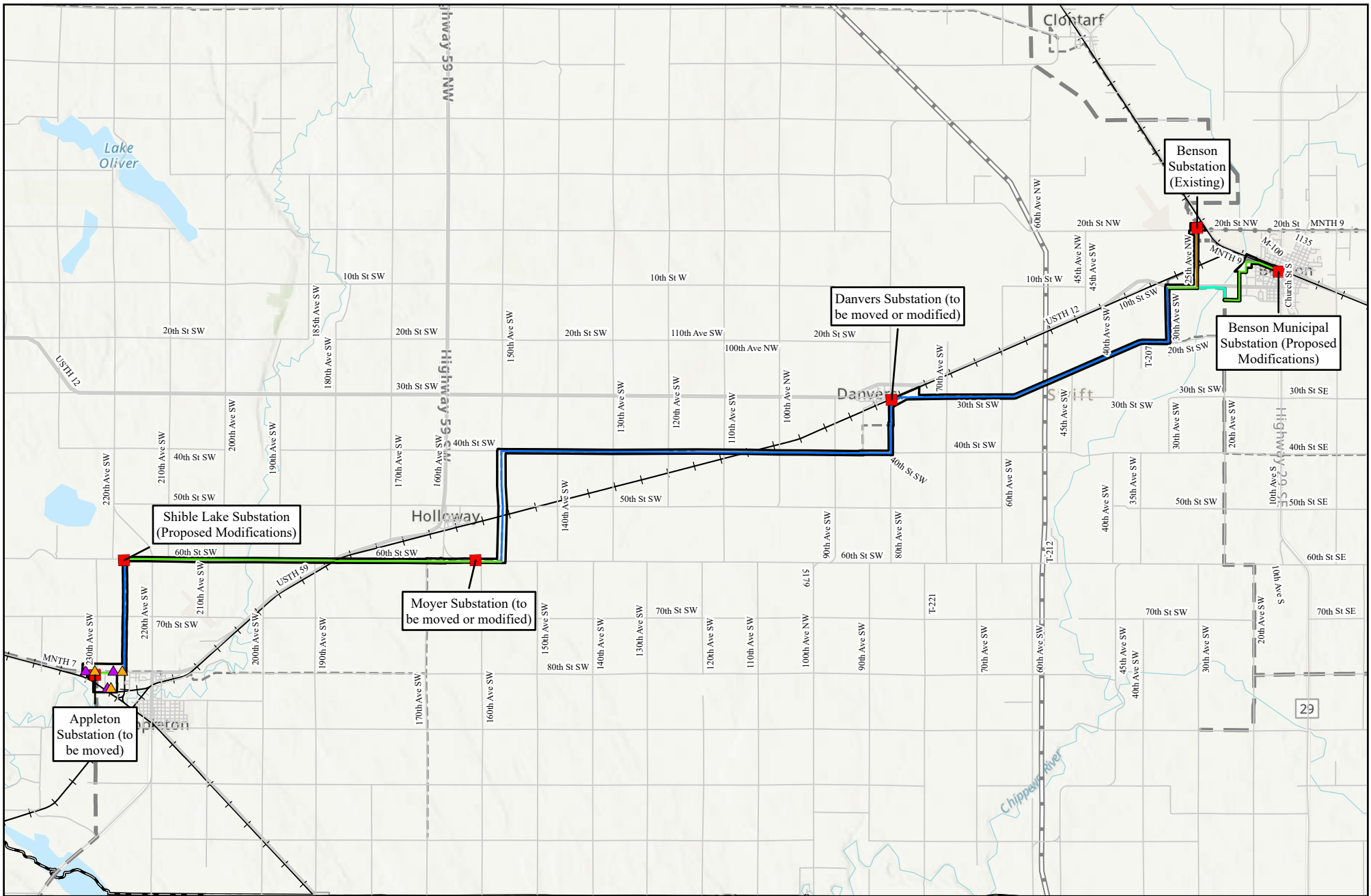


## **Appendix A- Figures**



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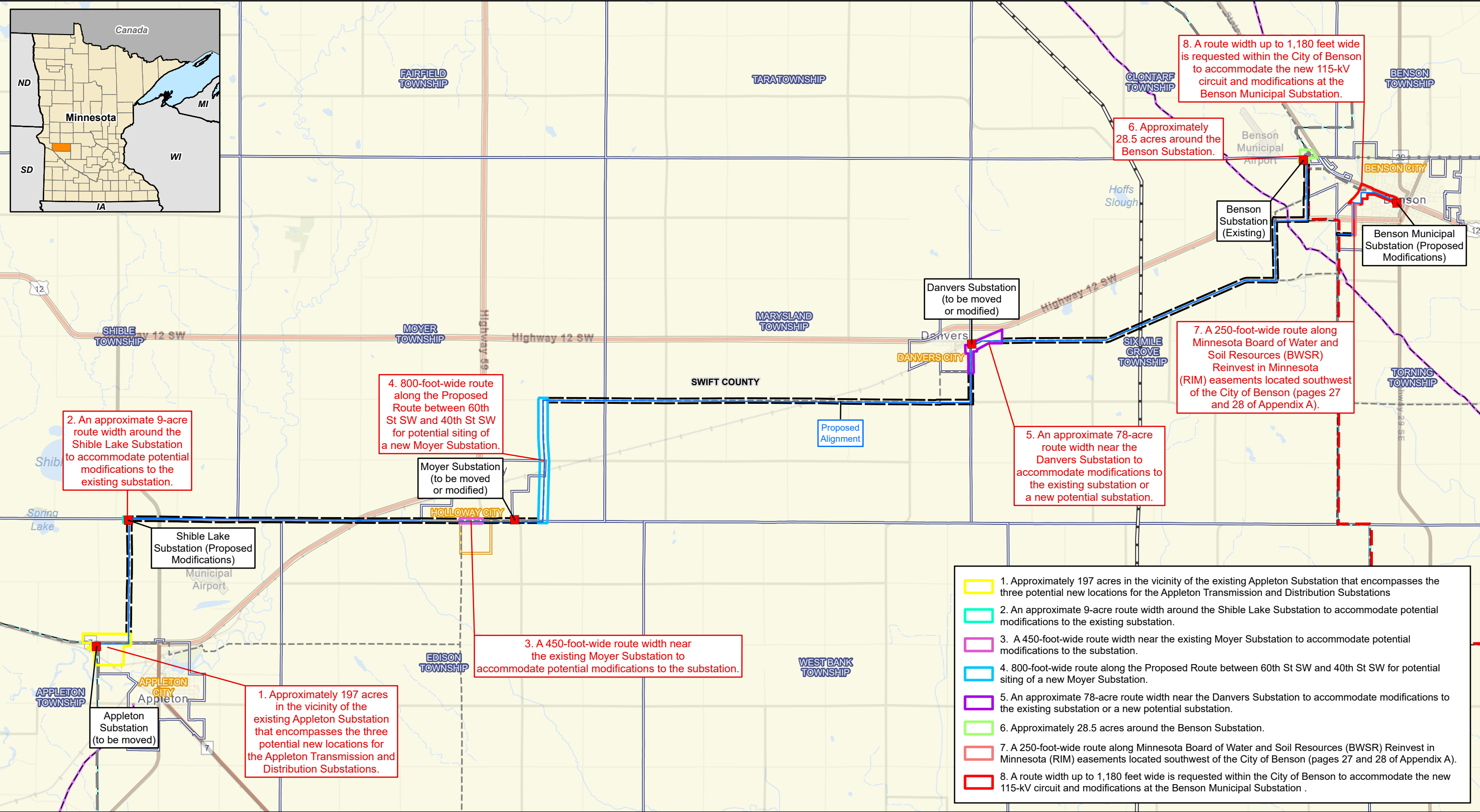
For Environmental Review Purposes Only

### Figure 1- Project Overview

## Appleton to Benson 115-kV Transmission Line Project

Swift County, Minnesota

<ul style="list-style-type: none"> <li><span style="color: red;">■</span> Substation</li> <li><span style="color: yellow;">▲</span> Appleton Distribution Substation Location Option</li> <li><span style="color: purple;">▲</span> Appleton Transmission Substation Location Option</li> <li><span style="color: green;">—</span> Proposed New 115 kV Transmission Line</li> <li><span style="color: orange;">—</span> Proposed Rebuild of Existing 115-kV</li> <li><span style="color: blue;">—</span> Proposed Upgrade 41.6-kV to 115-kV</li> <li><span style="color: cyan;">—</span> Proposed Removal of 115-kV Transmission Line</li> <li><span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Route Width</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: gray;">---</span> 41.6-kV Transmission Line</li> <li><span style="color: gray;">—</span> 69-kV Transmission Line</li> <li><span style="color: gray;">—</span> 115-kV Transmission Line</li> <li><span style="color: gray;">—</span> 230-kV Transmission Line</li> <li><span style="color: gray;">+</span> BNSF Railway</li> <li><span style="border: 1px solid gray; display: inline-block; width: 10px; height: 10px;"></span> County Boundary</li> </ul>
--	---



012 Miles

1 inch = 2 miles

N

W

E

S

**Figure 2- Proposed Route Widths**  
**Appleton to Benson 115-kV Transmission Line Project**  
**Swift County, Minnesota**

■ Substation

— Proposed Alignment

▭ Proposed Route

--- 41.6-kV Transmission Line

— 69-kV Transmission Line

— 115-kV Transmission Line

== 230-kV Transmission Line

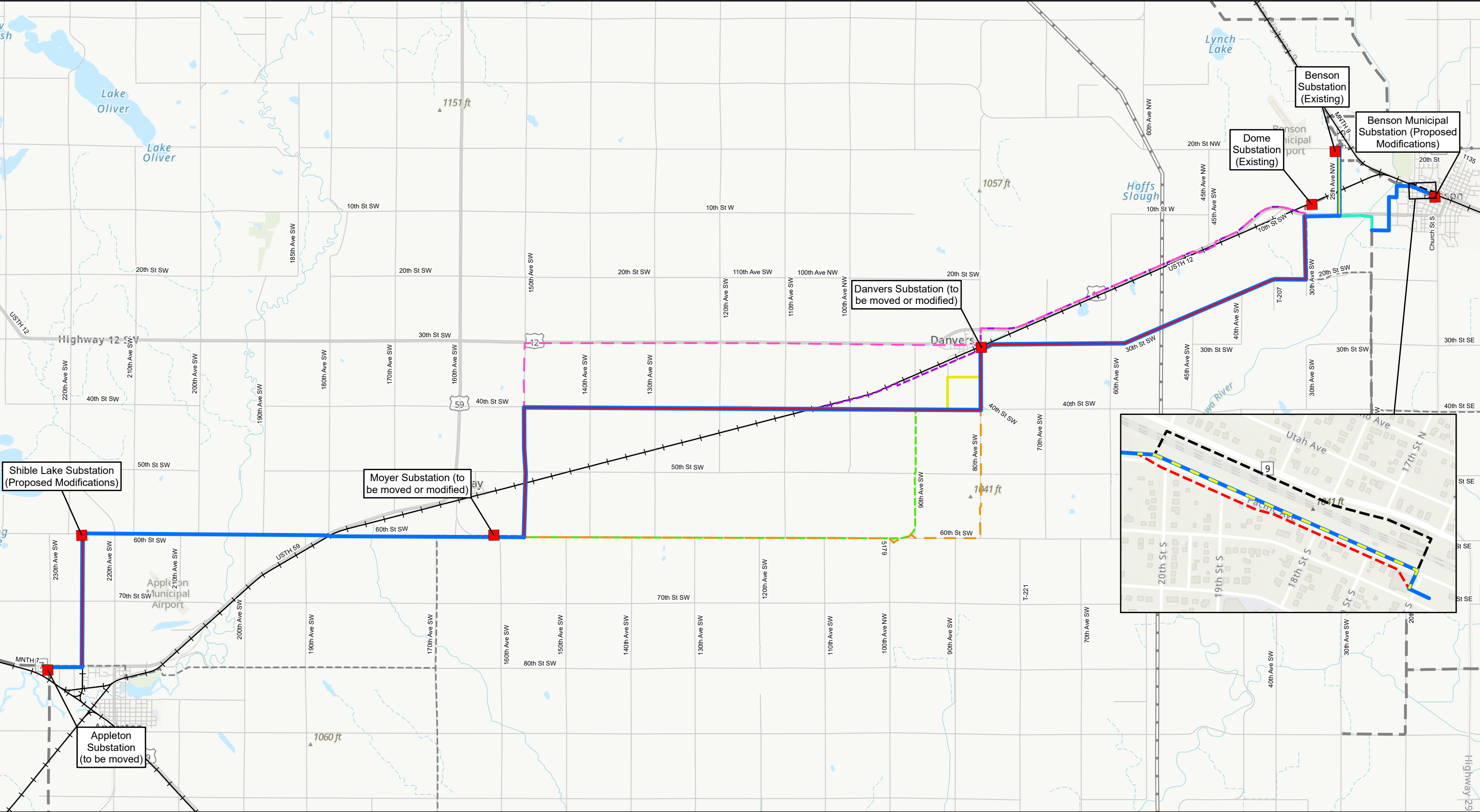
— GRE AG-BK 115-kV Line

— Existing Natural Gas Pipeline

▭ City Boundary

▭ Township Boundary

▭ County Boundary



012 Miles

1:90,000

Figure 3: Route Alternatives Considered but rejected  
Appleton to Benson 115-kV Transmission Line Project

Swift County, Minnesota

Substation

Proposed New 115 kV Transmission Line

Proposed Rebuild of Existing 115-kV

Proposed Upgrade 41.6-kV to 115-kV

Proposed Removal of 41.6-kV Transmission Line

Proposed Removal of 115-kV Transmission Line

Alternative 1

Alternative 2

Alternative 3

Alternative 4

City of Benson Alignment Alternative 1

City of Benson Alignment Alternative 2 (Proposed Line)

City of Benson Alignment Alternative 3

41.6-kV Transmission Line

69-kV Transmission Line

115-kV Transmission Line

230-kV Transmission Line

BNSF Railway

County Boundary

Date: (10/23/2024)

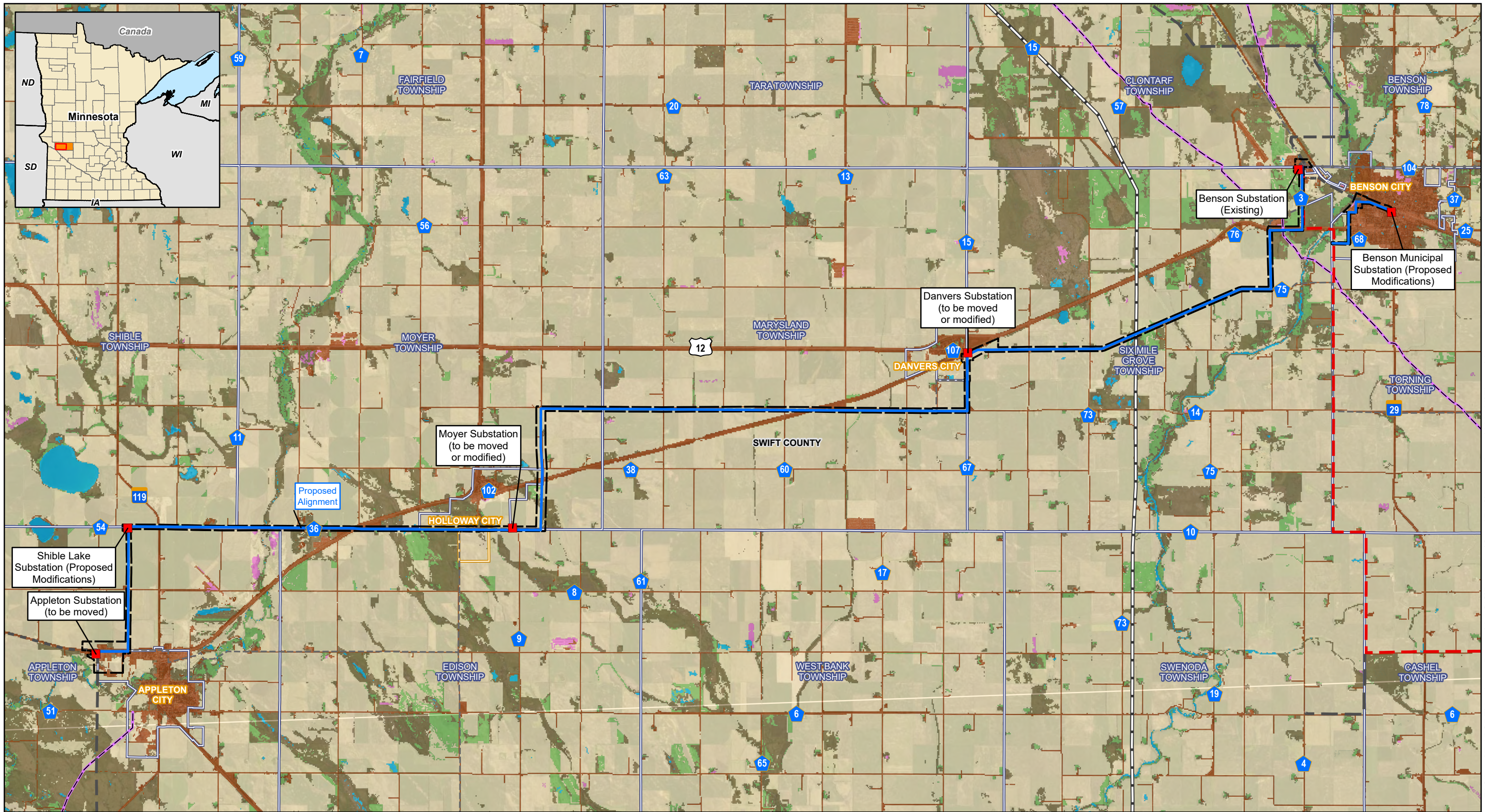
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For Environmental Review Purposes Only

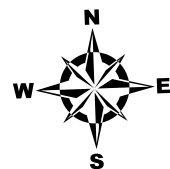








0 2  
Miles  
1 inch = 2 miles



**Figure 5: Land Use / Land Cover**  
**Appleton to Benson 115-kV Transmission Line Project**  
**Swift County, Minnesota**

**Great River Energy**

- Substation
- Proposed Alignment
- Proposed Route

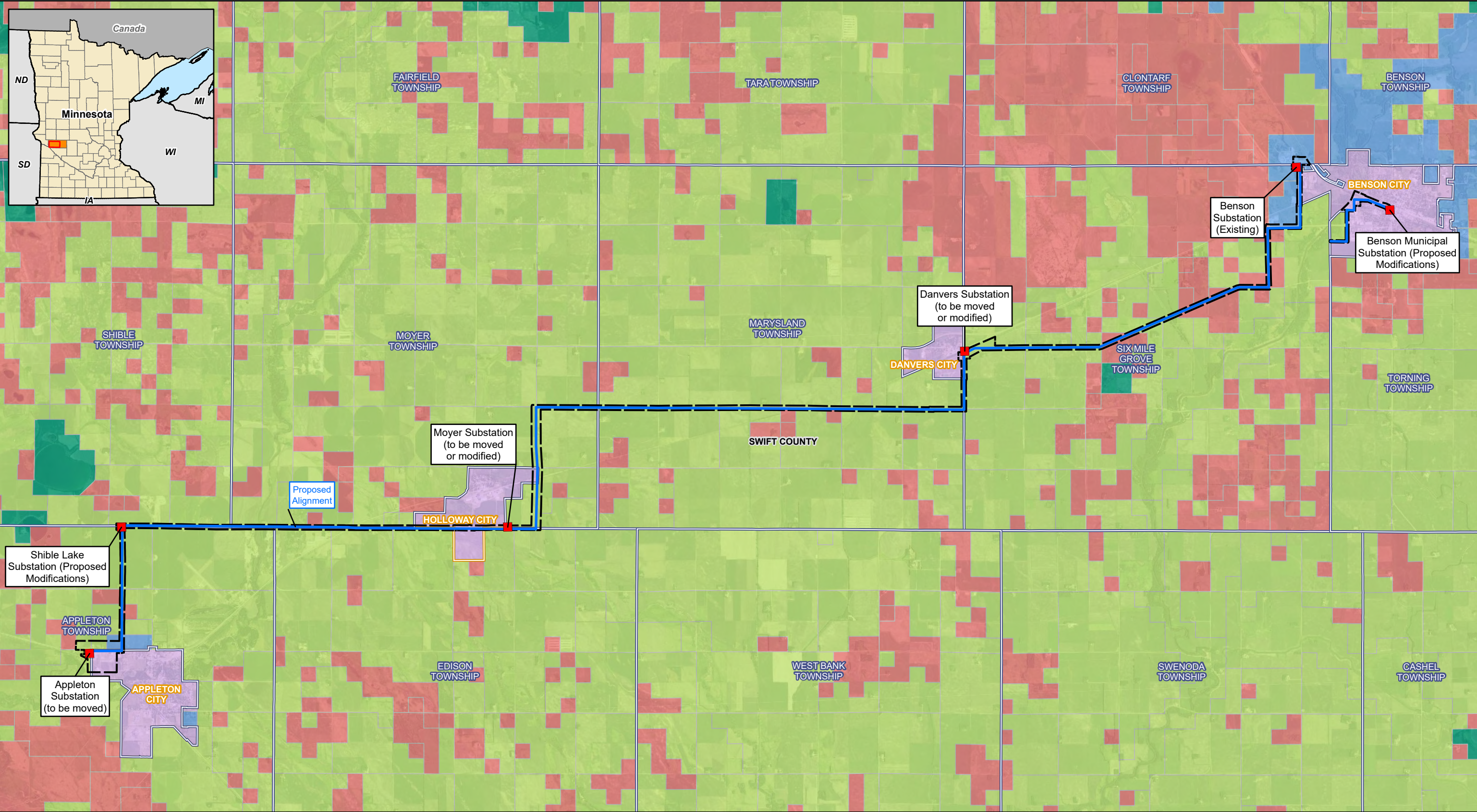
- GRE AG-BK 115-kV Line
- 41.6-kV Transmission Line
- 69-kV Transmission Line
- 115-kV Transmission Line
- 230-kV Transmission Line
- Existing Natural Gas Pipeline

**GAP Land Use**

- Agricultural & Developed Vegetation
- Developed & Other Human Use
- Forest & Woodland
- Open Water

- Recently Disturbed or Modified
- Shrub & Herb Vegetation
- City Boundary
- Township Boundary
- County Boundary





0

2

Miles

1 inch = 2 miles

**Figure 6: Zoning**

**Appleton to Benson 115-kV Transmission Line Project**

**Swift County, Minnesota**

**Great River Energy**

■ Substation

▬ Proposed Route

— Proposed Alignment

Ag Preservation District 1

Ag Preservation District 2

Municipality

Shoreland

Urban Development District

City Boundary

Township Boundary

County Boundary

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Date: (10/24/2024)



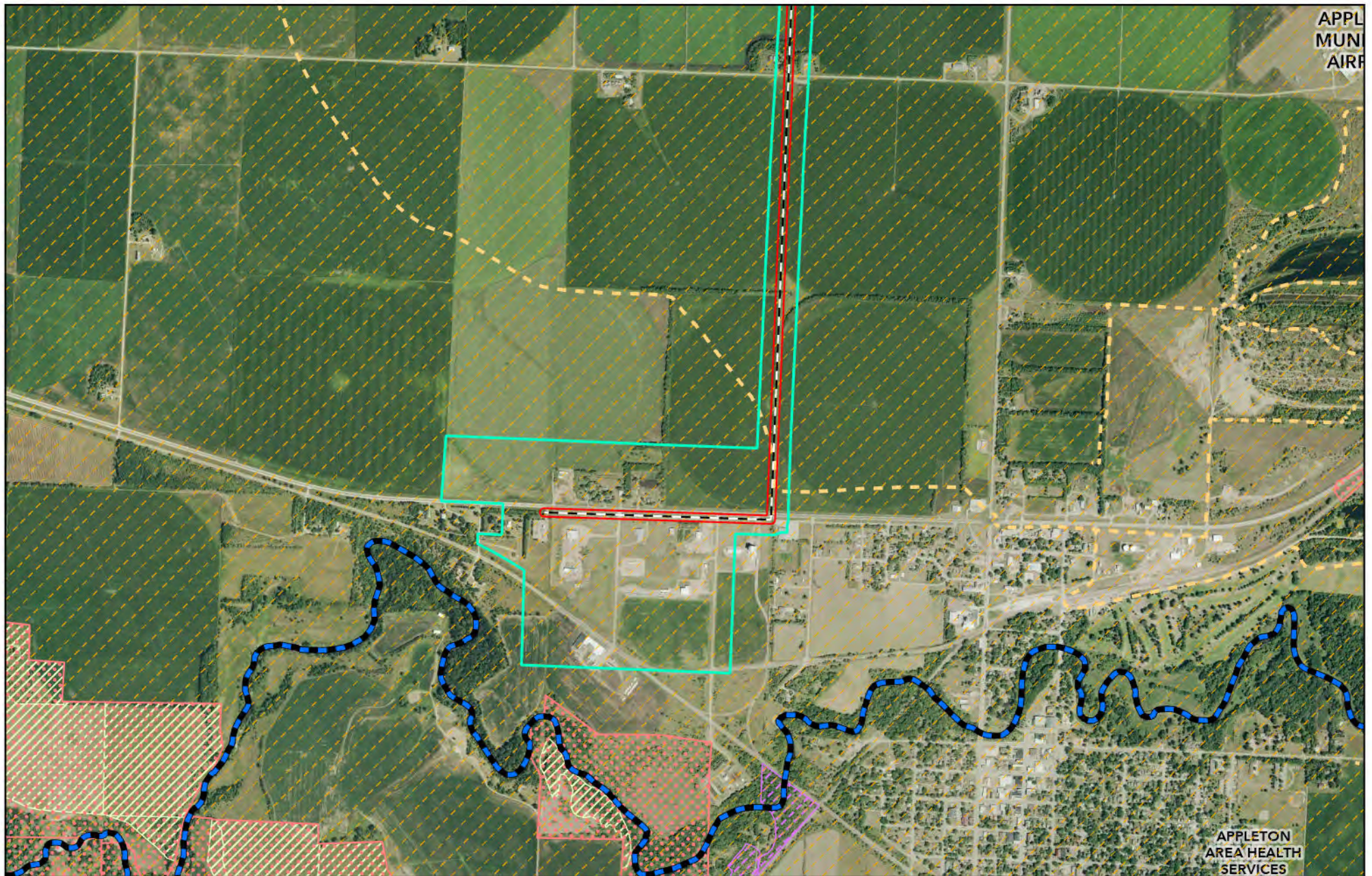
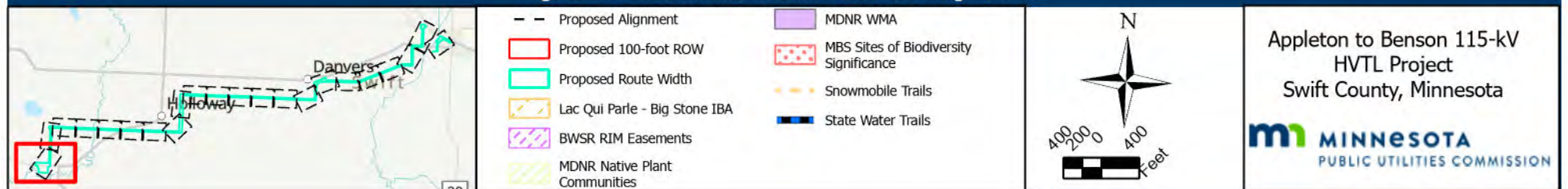


Figure 7: Recreation and Wildlife Resources: Page 1 of 22







APPLETON  
MUNICIPAL  
AIRPORT

Figure 7: Recreation and Wildlife Resources: Page 2 of 22







Figure 7: Recreation and Wildlife Resources: Page 3 of 22





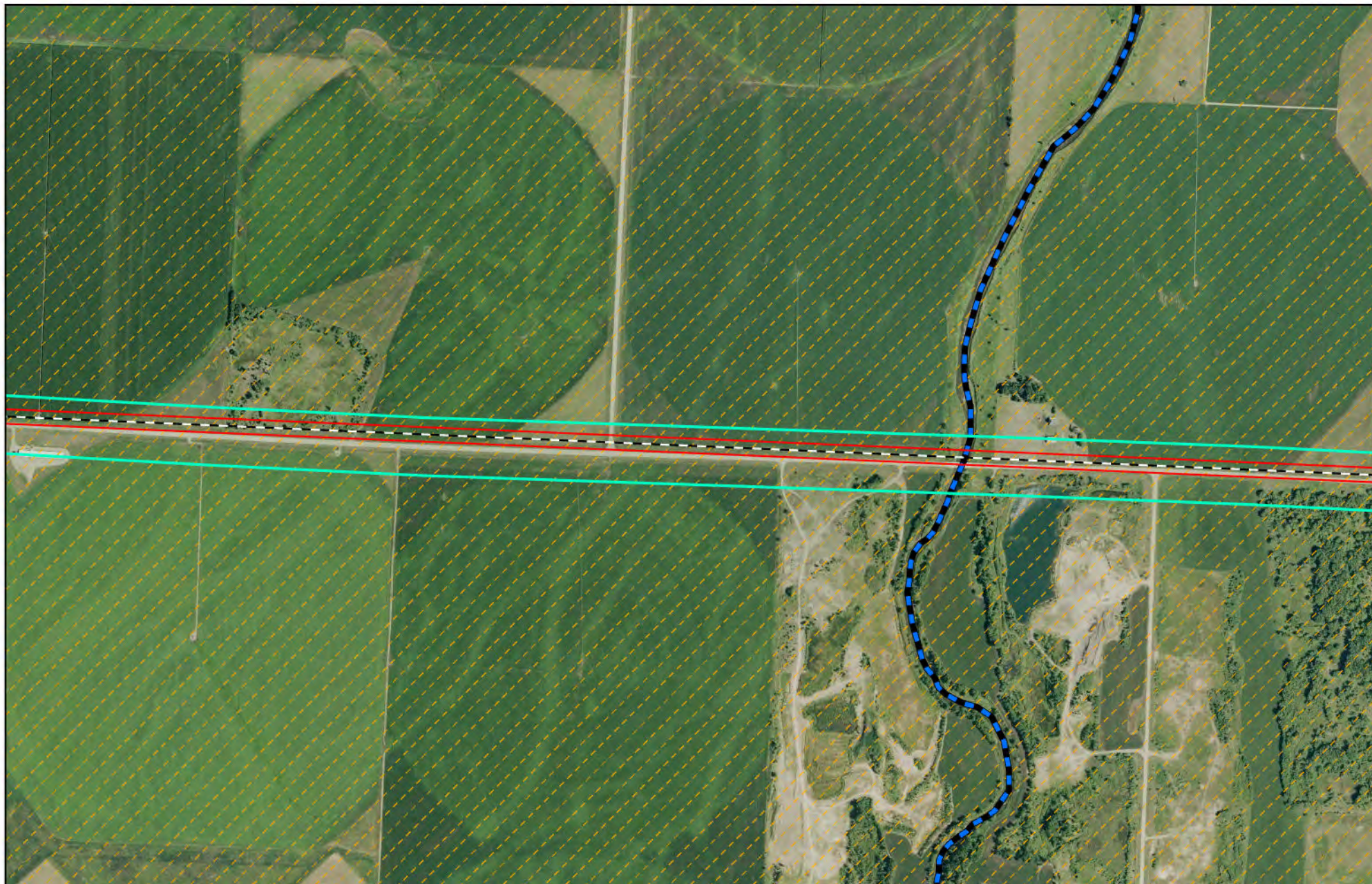


Figure 7: Recreation and Wildlife Resources: Page 4 of 22







Figure 7: Recreation and Wildlife Resources: Page 5 of 22







Figure 7: Recreation and Wildlife Resources: Page 6 of 22







Figure 7: Recreation and Wildlife Resources: Page 7 of 22







Figure 7: Recreation and Wildlife Resources: Page 8 of 22







Figure 7: Recreation and Wildlife Resources: Page 9 of 22







Figure 7: Recreation and Wildlife Resources: Page 10 of 22







Figure 7: Recreation and Wildlife Resources: Page 11 of 22







Figure 7: Recreation and Wildlife Resources: Page 12 of 22







Figure 7: Recreation and Wildlife Resources: Page 13 of 22







Figure 7: Recreation and Wildlife Resources: Page 14 of 22







Figure 7: Recreation and Wildlife Resources: Page 15 of 22







Figure 7: Recreation and Wildlife Resources: Page 16 of 22







Figure 7: Recreation and Wildlife Resources: Page 17 of 22





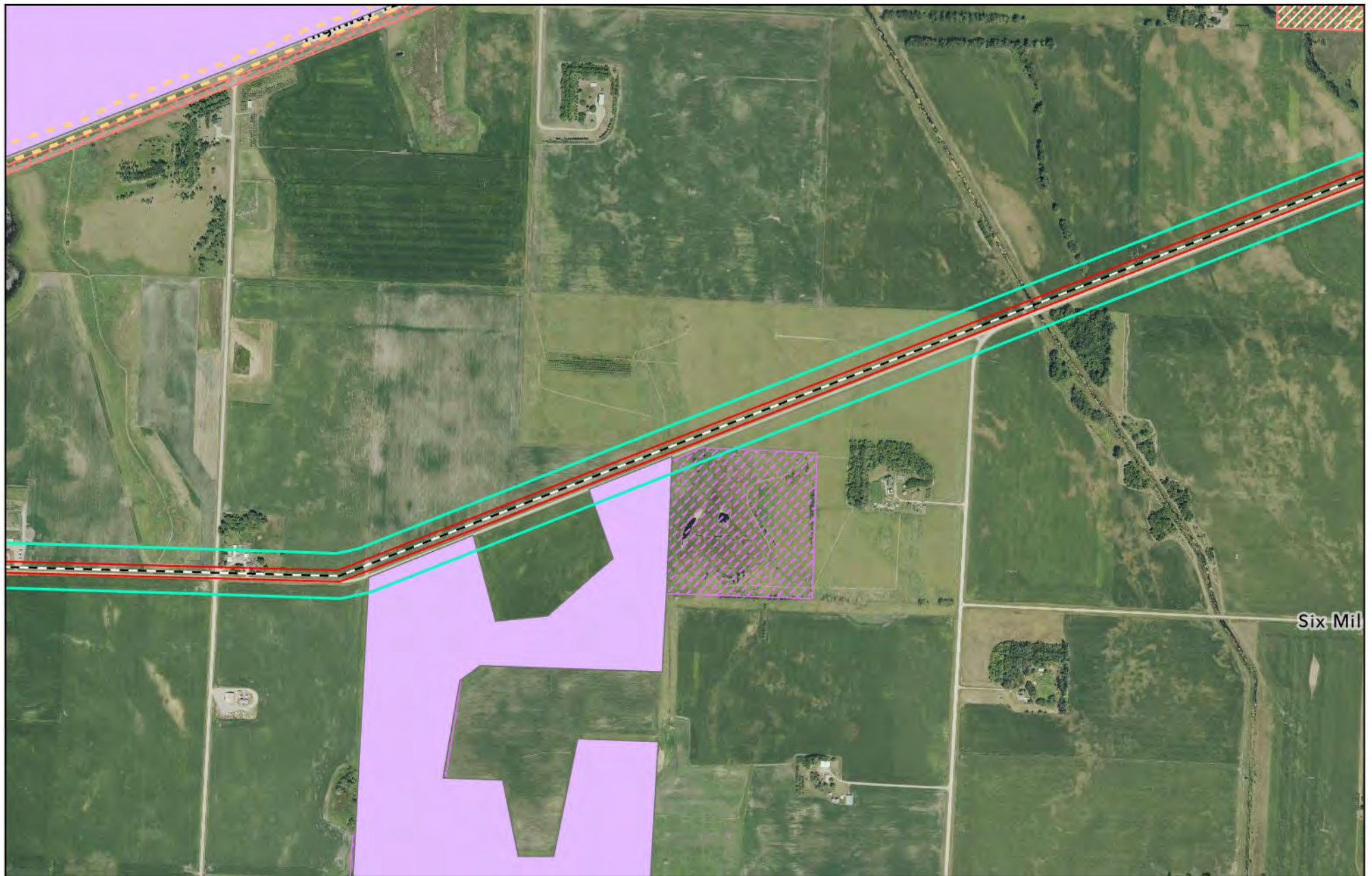


Figure 7: Recreation and Wildlife Resources: Page 18 of 22





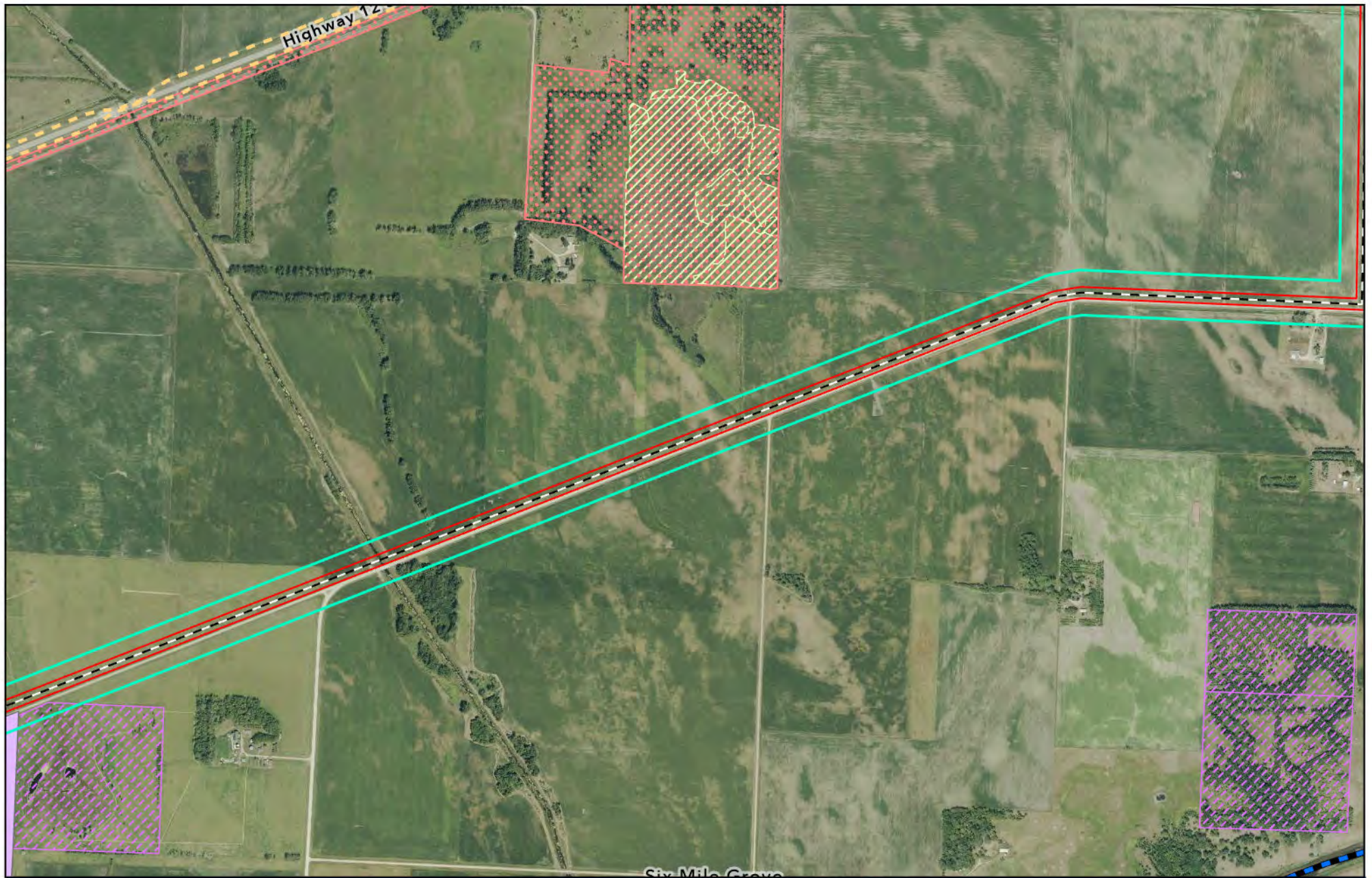


Figure 7: Recreation and Wildlife Resources: Page 19 of 22





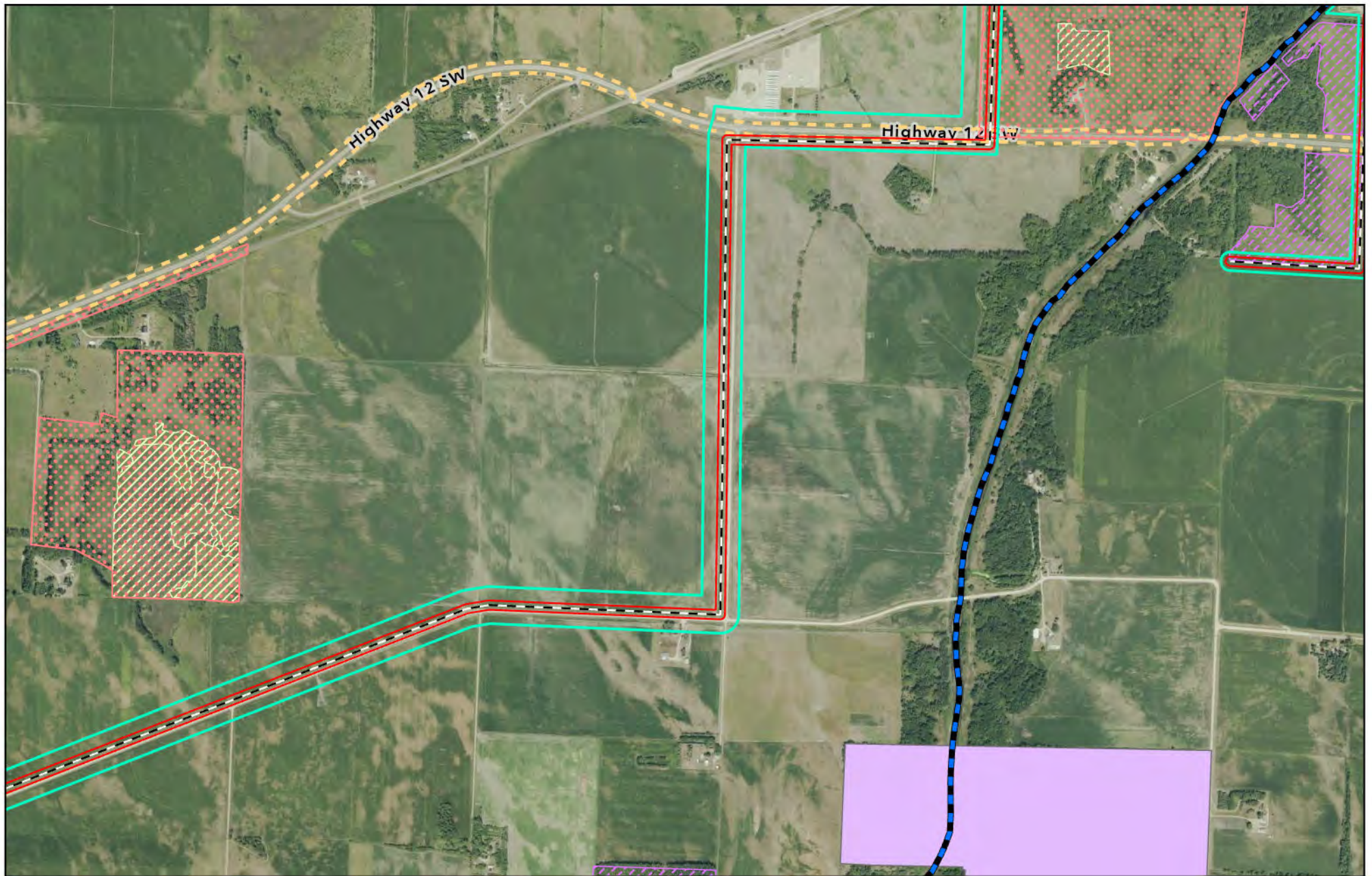


Figure 7: Recreation and Wildlife Resources: Page 20 of 22





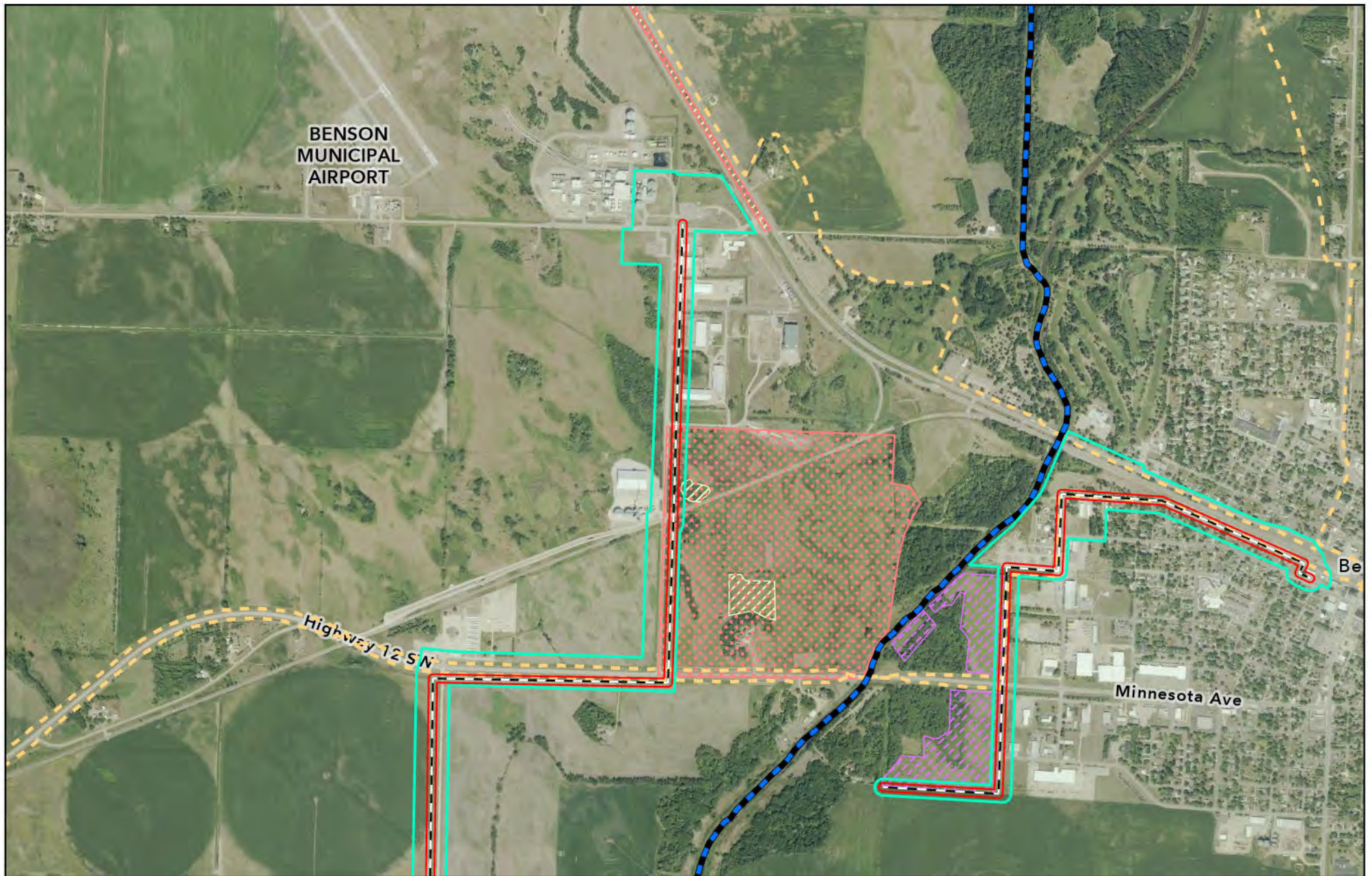


Figure 7: Recreation and Wildlife Resources: Page 21 of 22





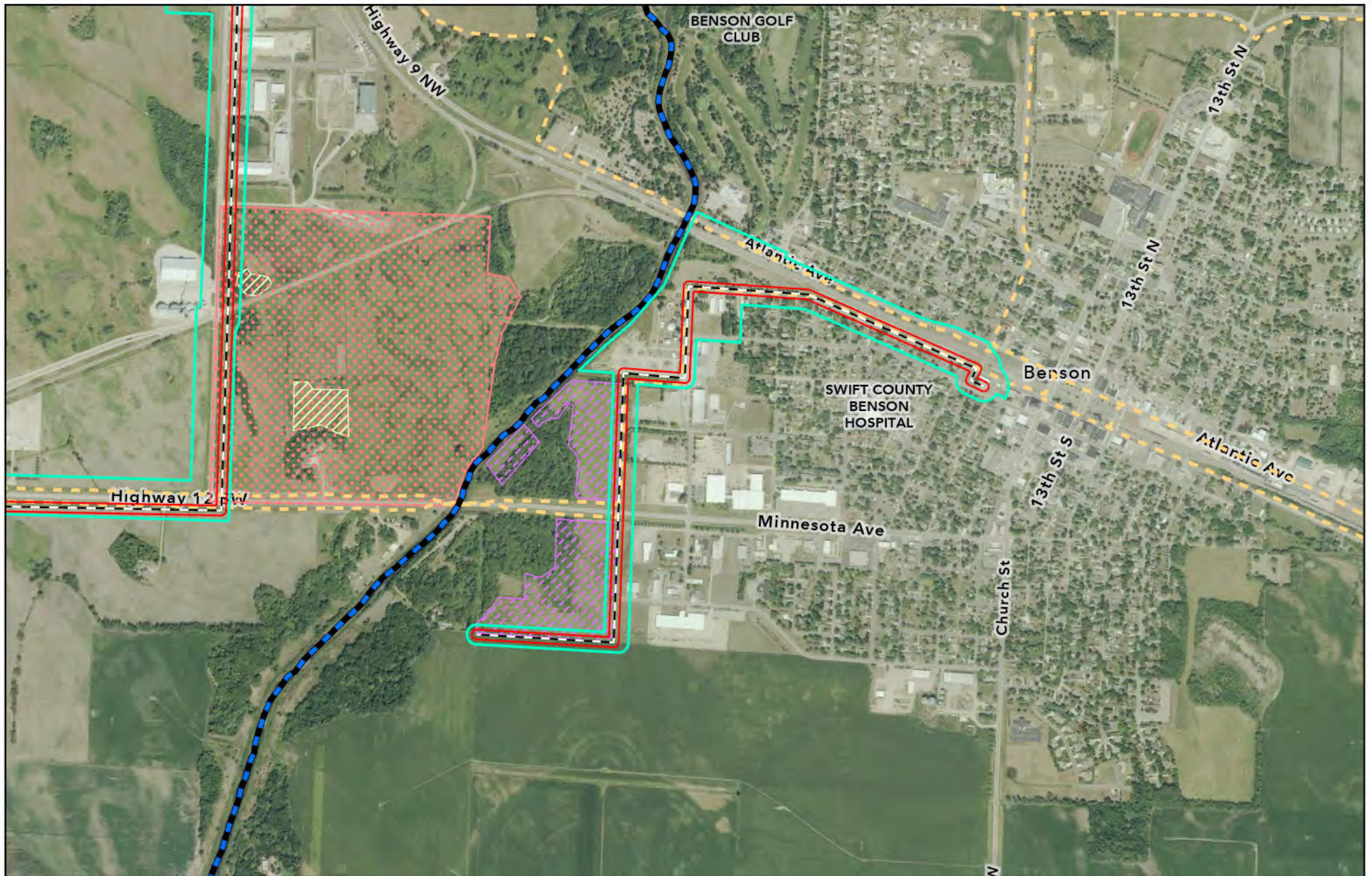
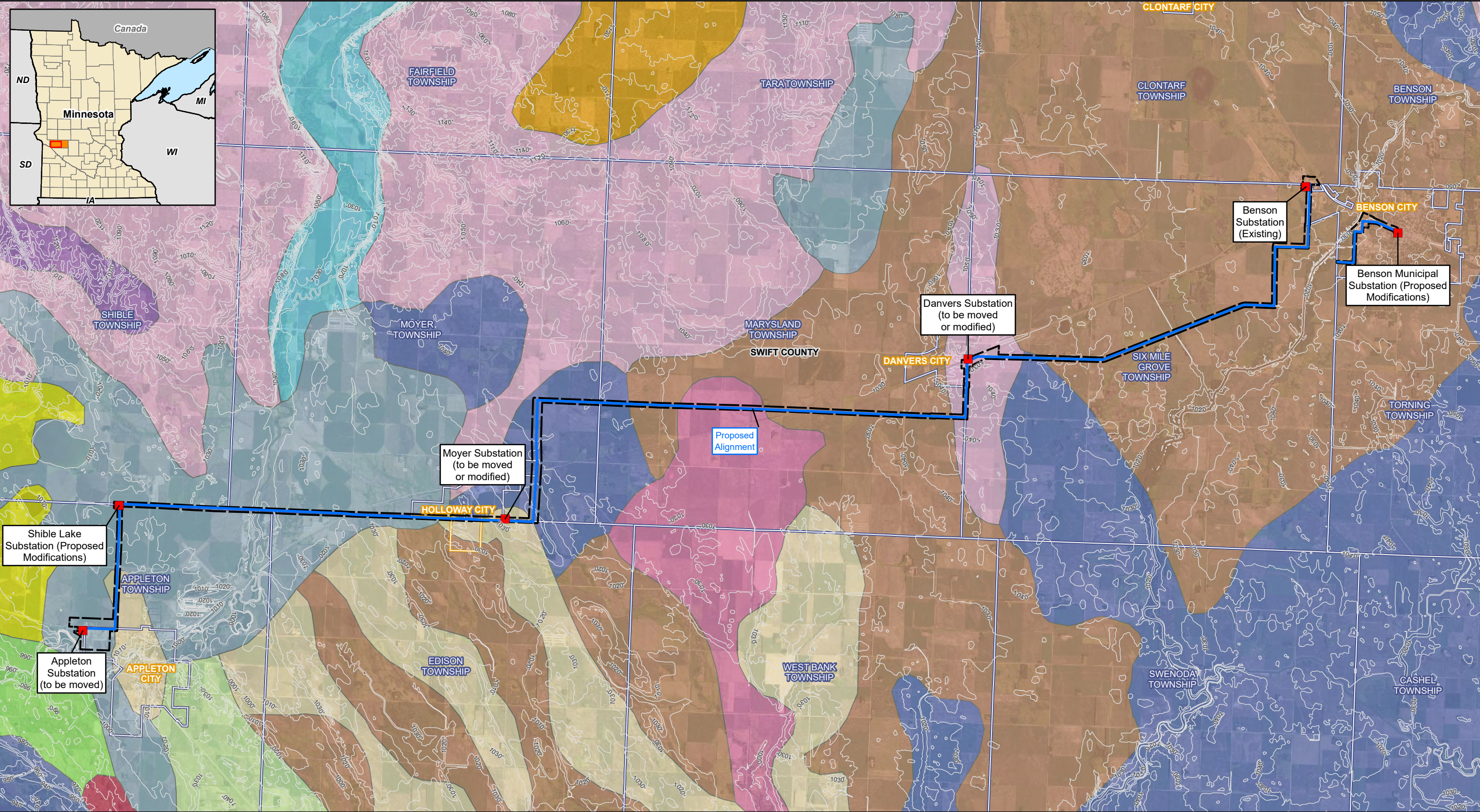


Figure 7: Recreation and Wildlife Resources: Page 22 of 22







02Miles

1 inch = 2 miles

**Figure 8: Soils and Topography**

**Appleton to Benson 115-kV Transmission Line Project**

**Swift County, Minnesota**

Great River Energy

Substation

Proposed Alignment

Proposed Route

10' Contour

City Boundary

Township Boundary

County Boundary

Soils (STATSGO)

Langhei-Hamerly-Barnes (s3467)

Maddock-Egeland (s3520)

Marysland-Esteline-Egeland (s3534)

Marysland-Hecla-Arveson (s3523)

Parnell-Hamerly-Aazdahl (s3485)

Spottswood-Sioux-Renshaw (s3518)

Sverdrup-Rothsay-Egeland (s3525)

Sverdrup-Shakopee-McDonaldsville (s3528)

Syrene-Sioux-Lohnes-Arvilla (s3445)

Tara-Parnell-Hamerly (s3519)

Tara-Spicer-Doland-Colvin (s3522)

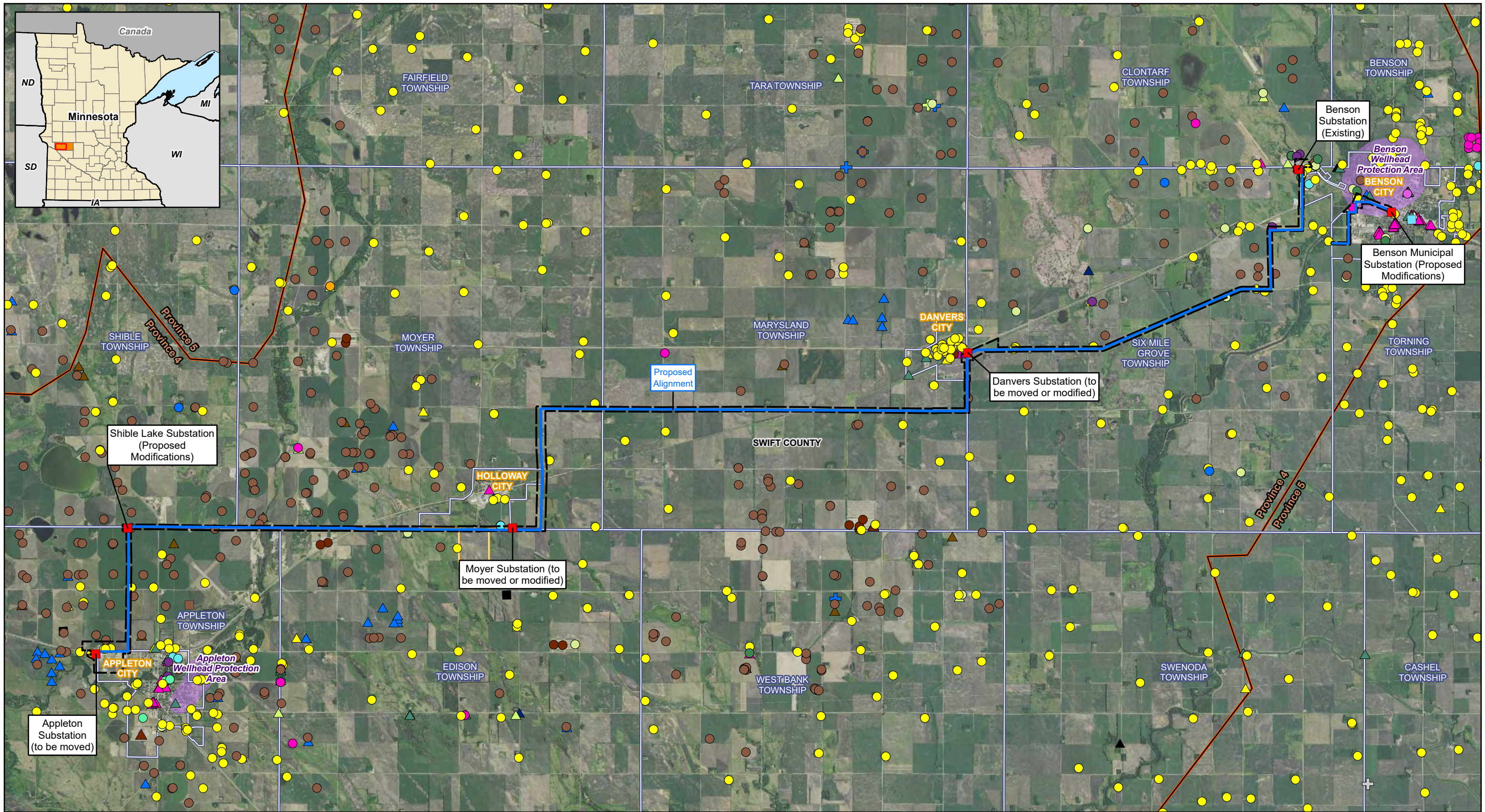
Webster-Ves-Normanica-Canisteo (s3529)

Winger-Vallers-Hamerly (s3521)

Source: Z:\Clients\E\_HIGRE\Appleton\_Benson\ArcGIS\Permitting\State\PUC\Route\Figures\Appleton\_Benson\_RP\_Figures.aprx

Date: (10/24/2024)





0 2 Miles

1 inch = 2 miles

### Figure 9: Groundwater Features

#### Appleton to Benson 115-kV Transmission Line Project

#### Swift County, Minnesota

<b>Great River Energy</b> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></div> Substation         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 2px; background-color: blue; border: 1px solid black; margin-right: 5px;"></div> Proposed Alignment         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; border-bottom: 2px dashed black; margin-right: 5px;"></div> Proposed Route         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid green; margin-right: 5px;"></div> Calcareous Fen         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid brown; margin-right: 5px;"></div> Groundwater Province         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid purple; margin-right: 5px;"></div> Wellhead Protection Area         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid orange; margin-right: 5px;"></div> City Boundary         </div>	<div style="display: flex; align-items: center;"> <div style="width: 10px; border: 1px solid blue; margin-right: 5px;"></div> Township Boundary         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; border: 1px solid black; margin-right: 5px;"></div> County Boundary         </div> <b>County Well Index - Located Well</b> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></div> Active         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></div> Inactive         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></div> Sealed         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></div> Unknown         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></div> Abandoned         </div>	<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid lightblue; margin-right: 5px;"></div> Commercial         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid yellow; margin-right: 5px;"></div> Domestic         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid magenta; margin-right: 5px;"></div> Elevator         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid green; margin-right: 5px;"></div> Environmental Bore Hole         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid cyan; margin-right: 5px;"></div> Heat Pump         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid purple; margin-right: 5px;"></div> Industrial         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid brown; margin-right: 5px;"></div> Irrigation         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid magenta; margin-right: 5px;"></div> Monitor Well         </div>	<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; border: 1px solid lightgreen; margin-right: 5px;"></div> Observation Well         </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; 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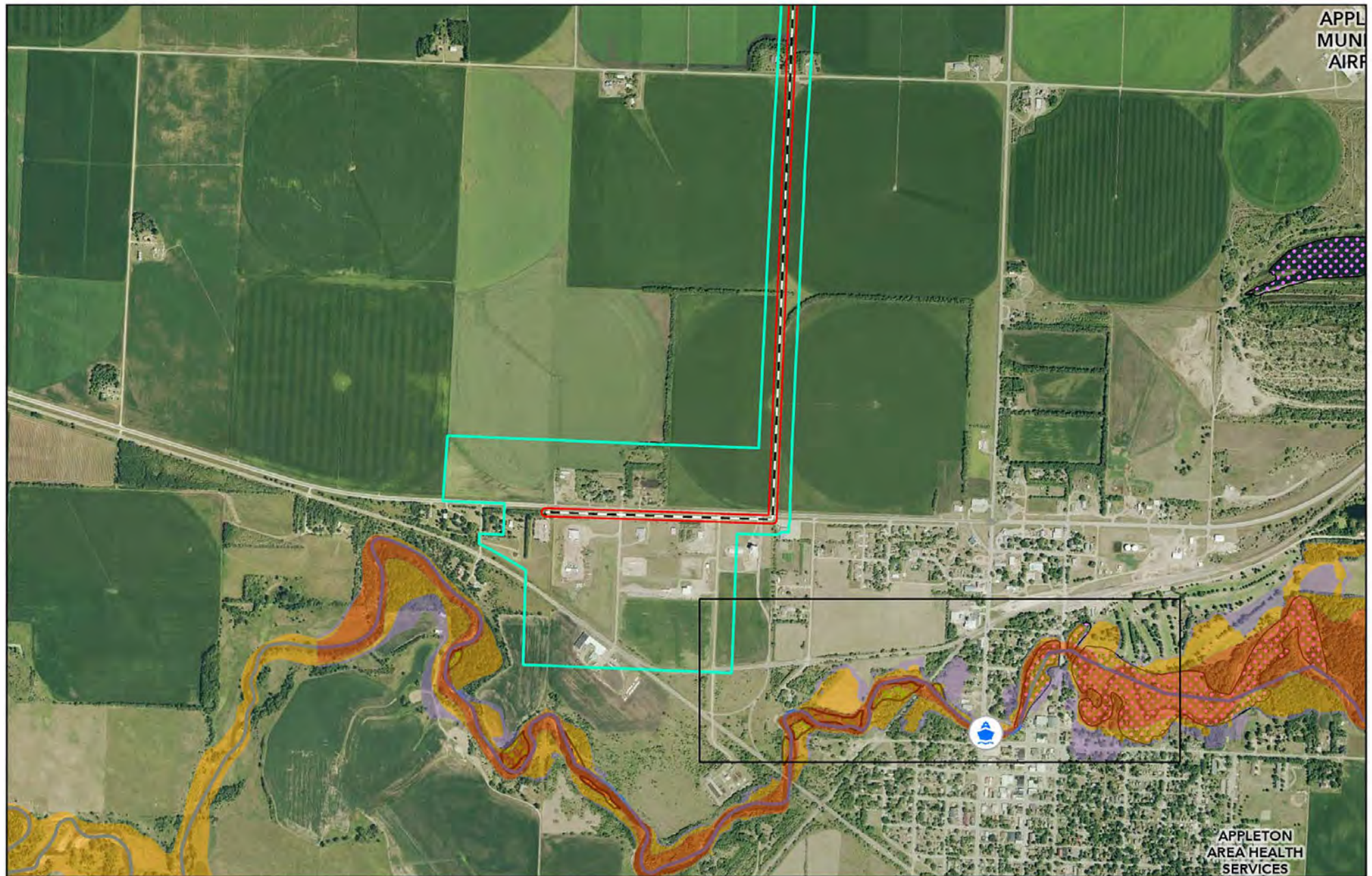


Figure 10: Surface Water Resources: Page 1 of 22

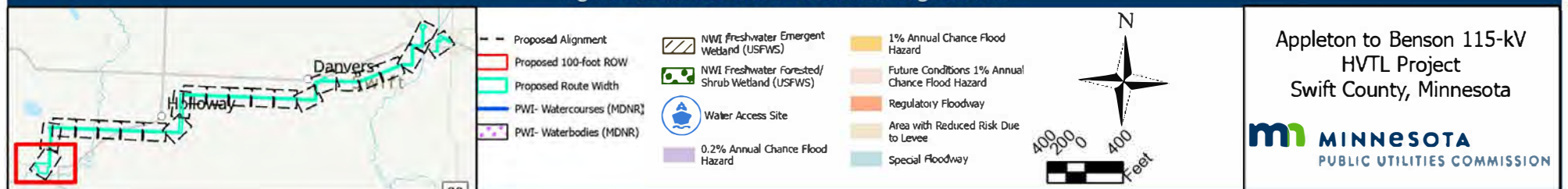






Figure 10: Surface Water Resources: Page 2 of 22

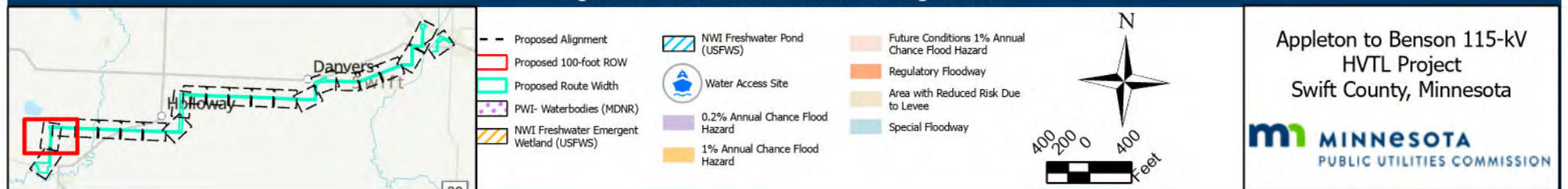
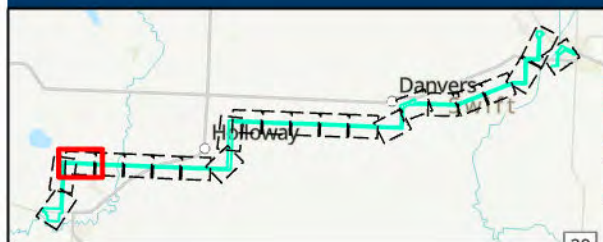


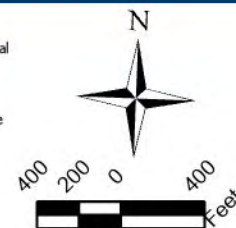




Figure 10: Surface Water Resources: Page 3 of 22



- Proposed Alignment
- Proposed 100-foot ROW
- Proposed Route Width
- NWI Freshwater Emergent Wetland (USFWS)
- NWI Freshwater Pond (USFWS)
- Water Access Site
- 0.2% Annual Chance Flood Hazard
- 1% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area with Reduced Risk Due to Levee
- Special Floodway



Appleton to Benson 115-kV  
HVTL Project  
Swift County, Minnesota



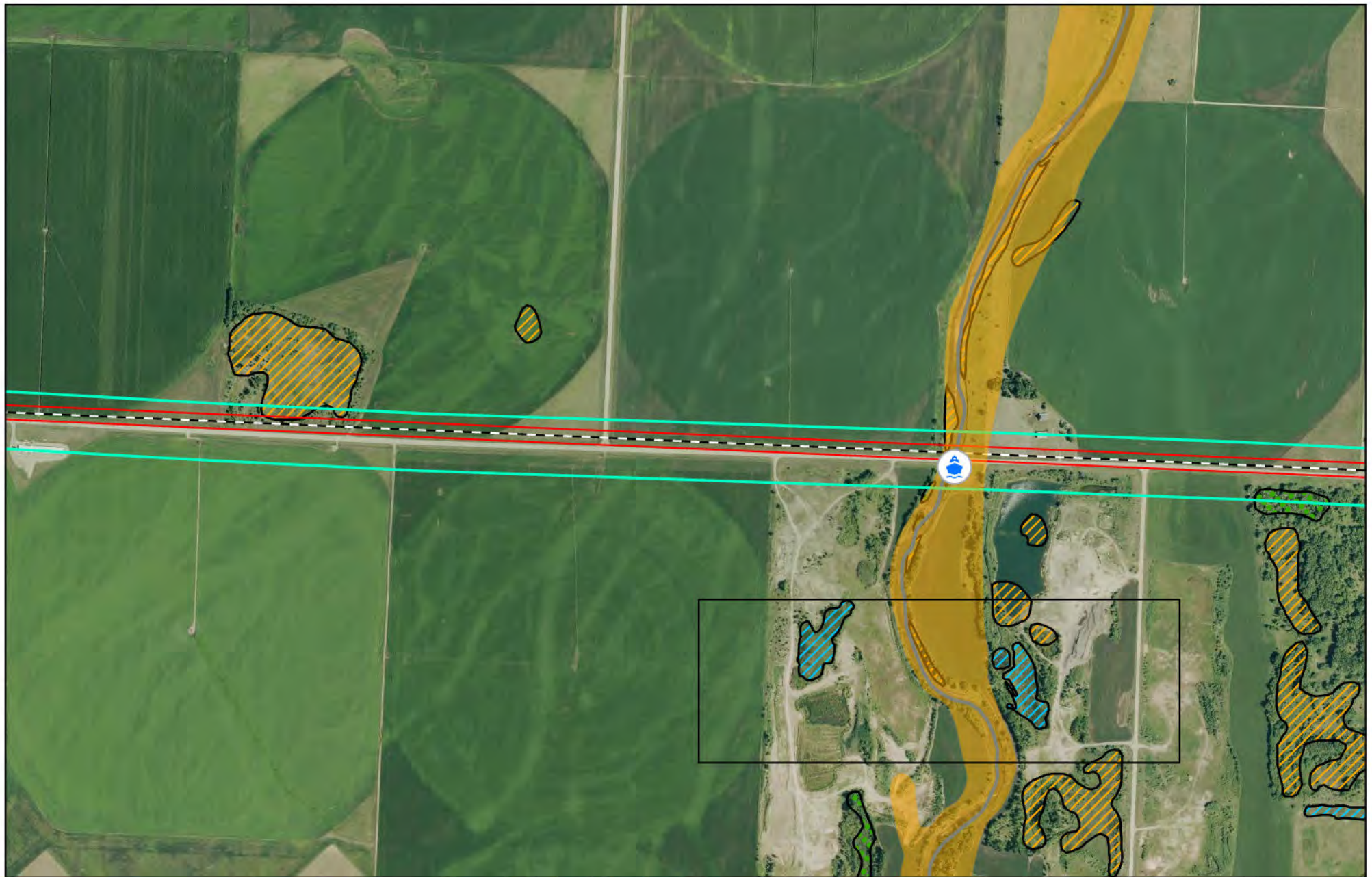
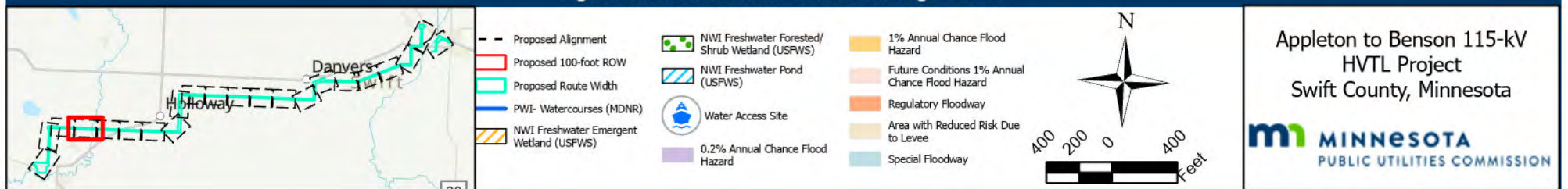


Figure 10: Surface Water Resources: Page 4 of 22





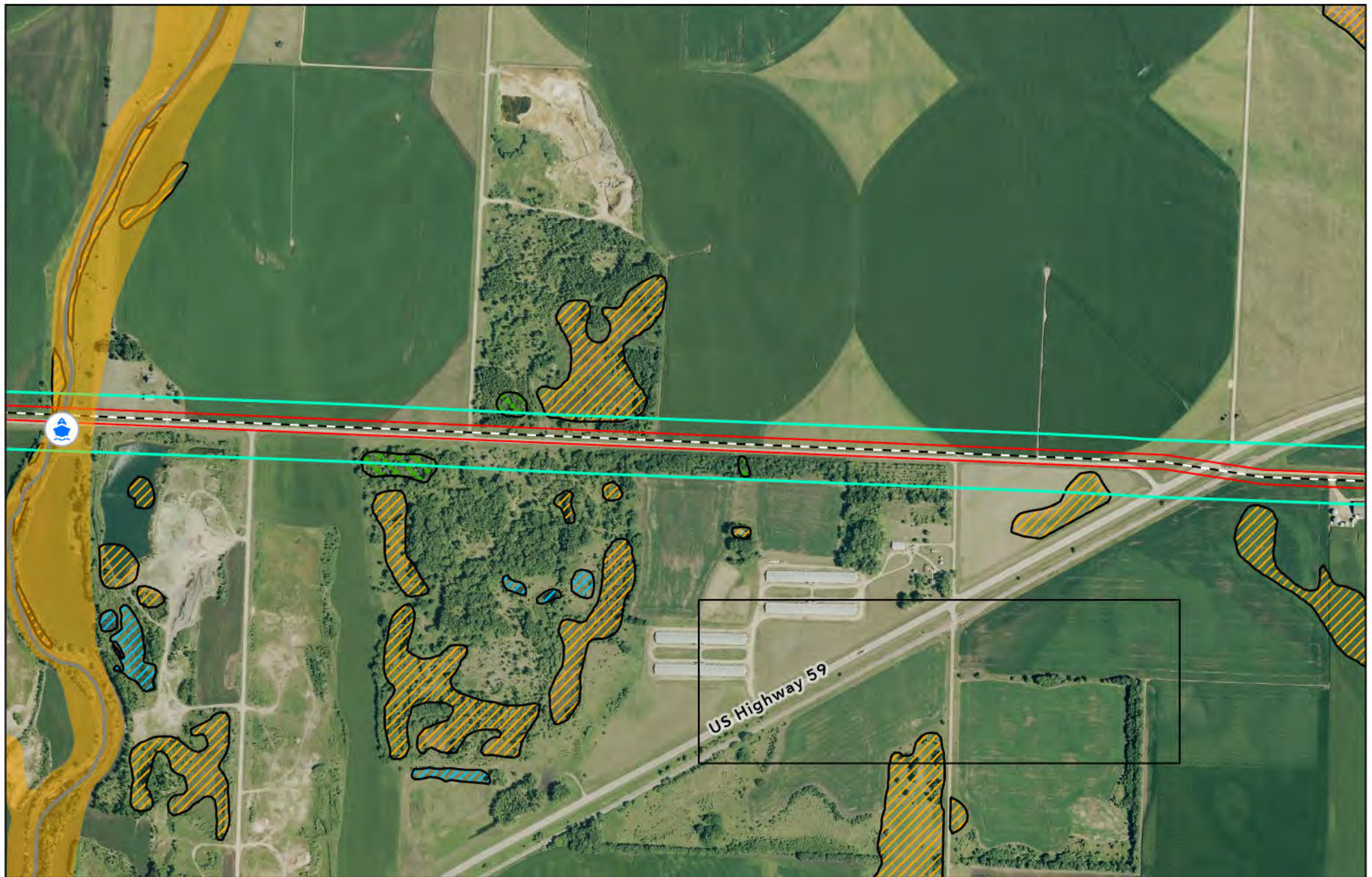
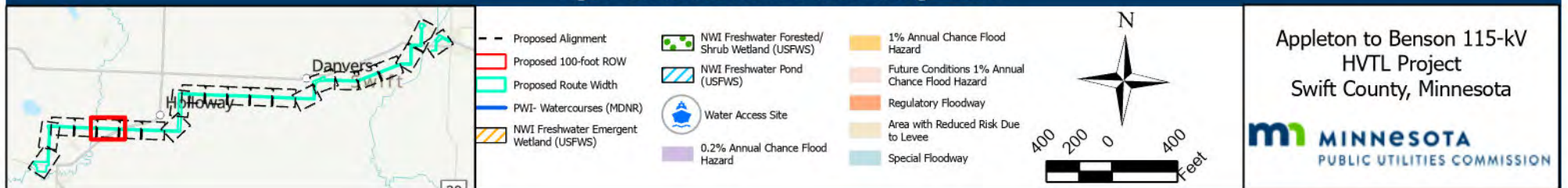


Figure 10: Surface Water Resources: Page 5 of 22





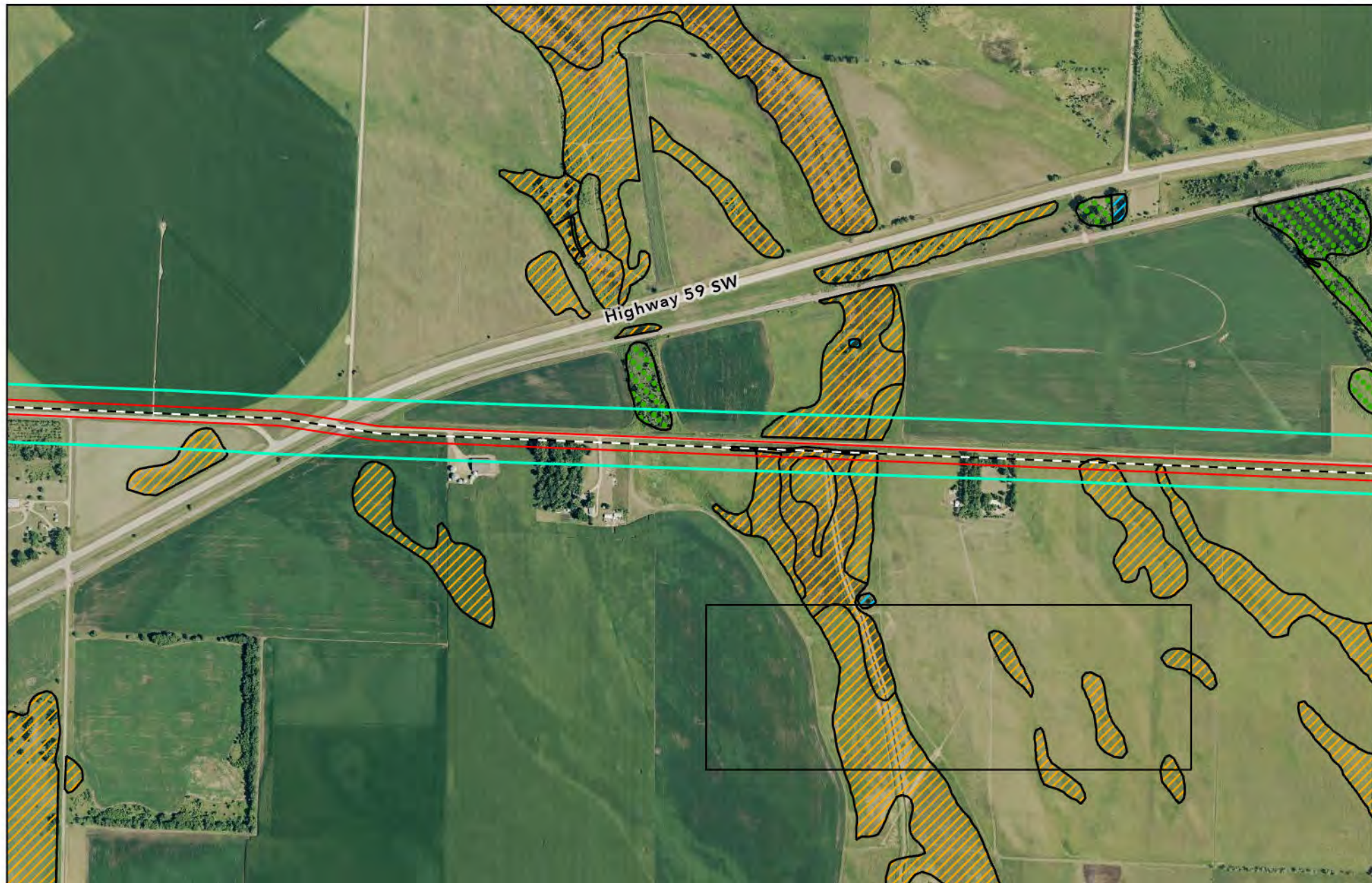
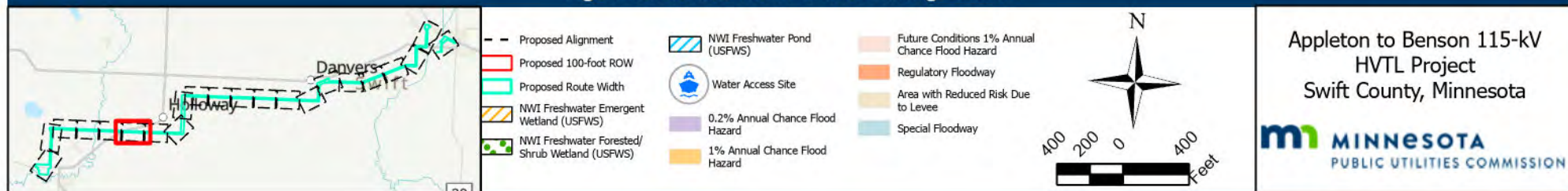


Figure 10: Surface Water Resources: Page 6 of 22





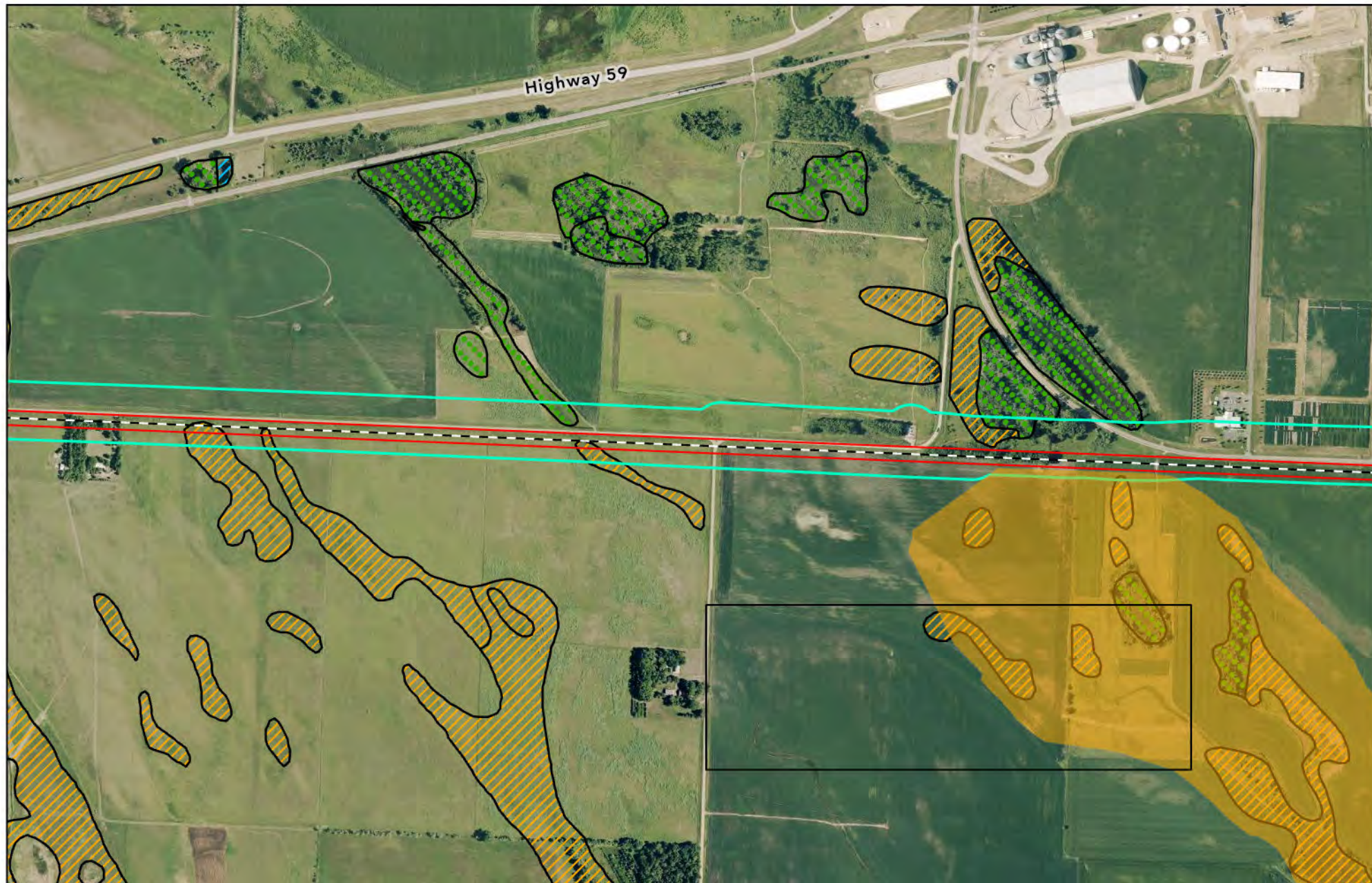
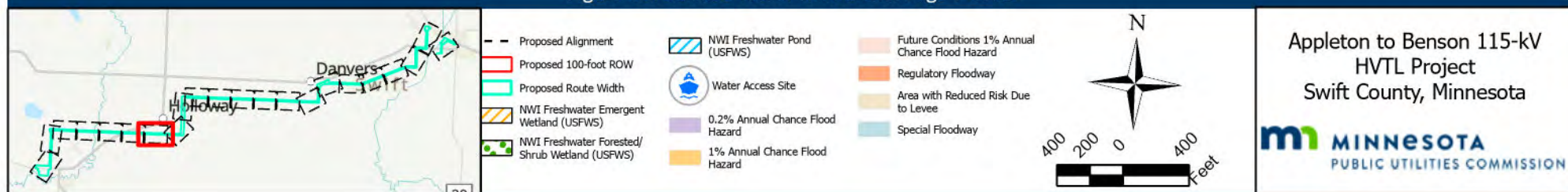


Figure 10: Surface Water Resources: Page 7 of 22





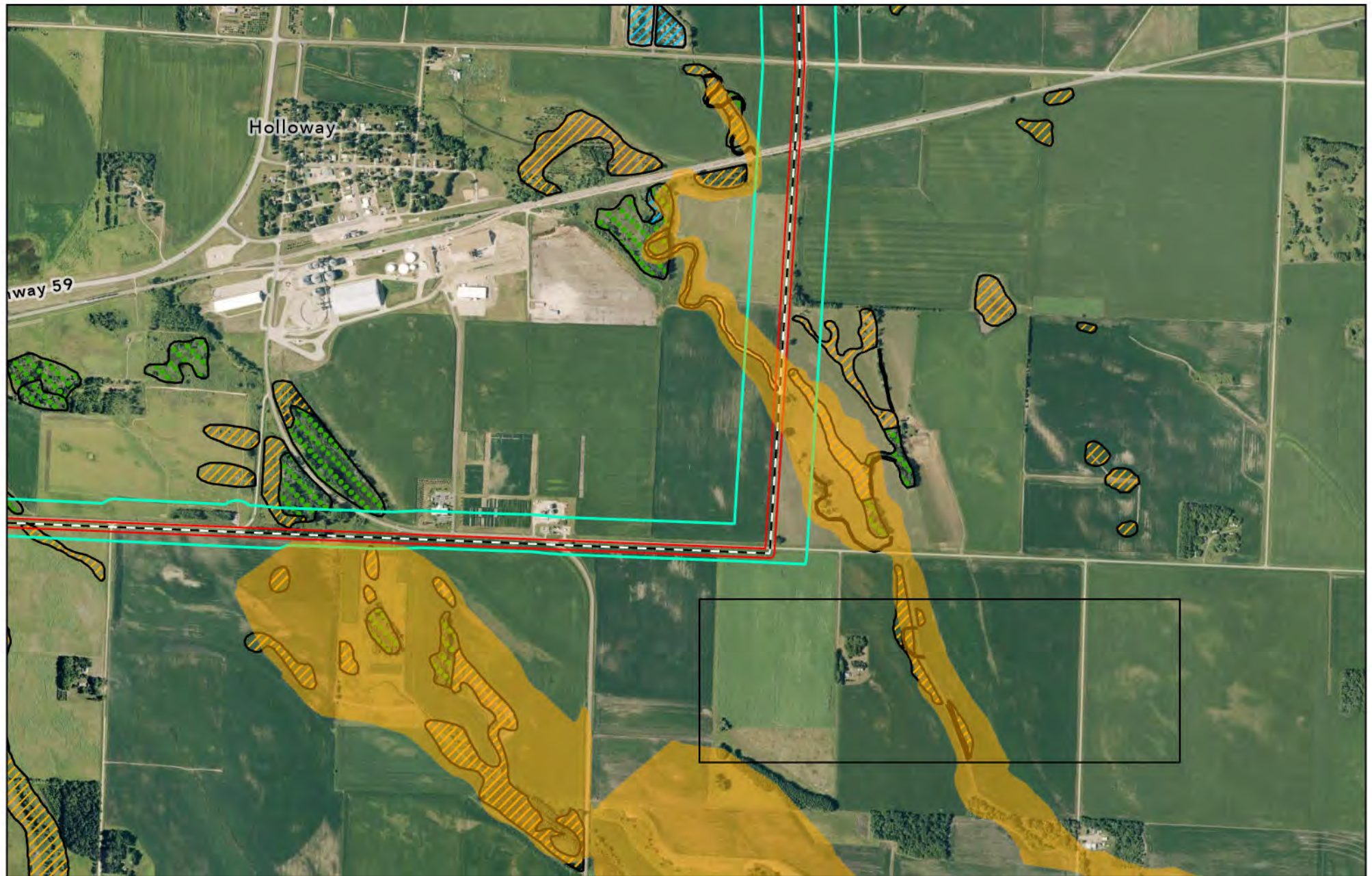
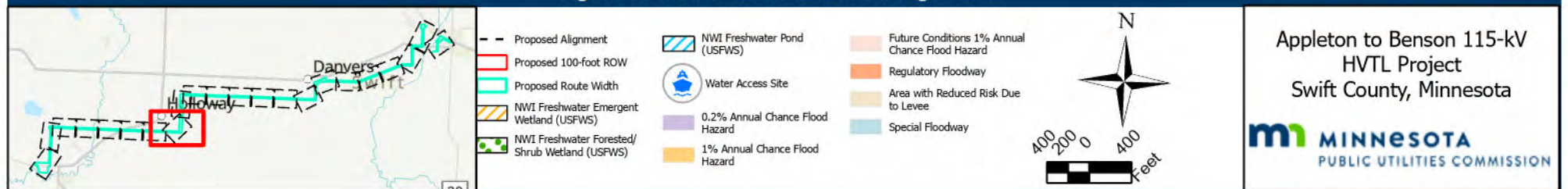


Figure 10: Surface Water Resources: Page 8 of 22





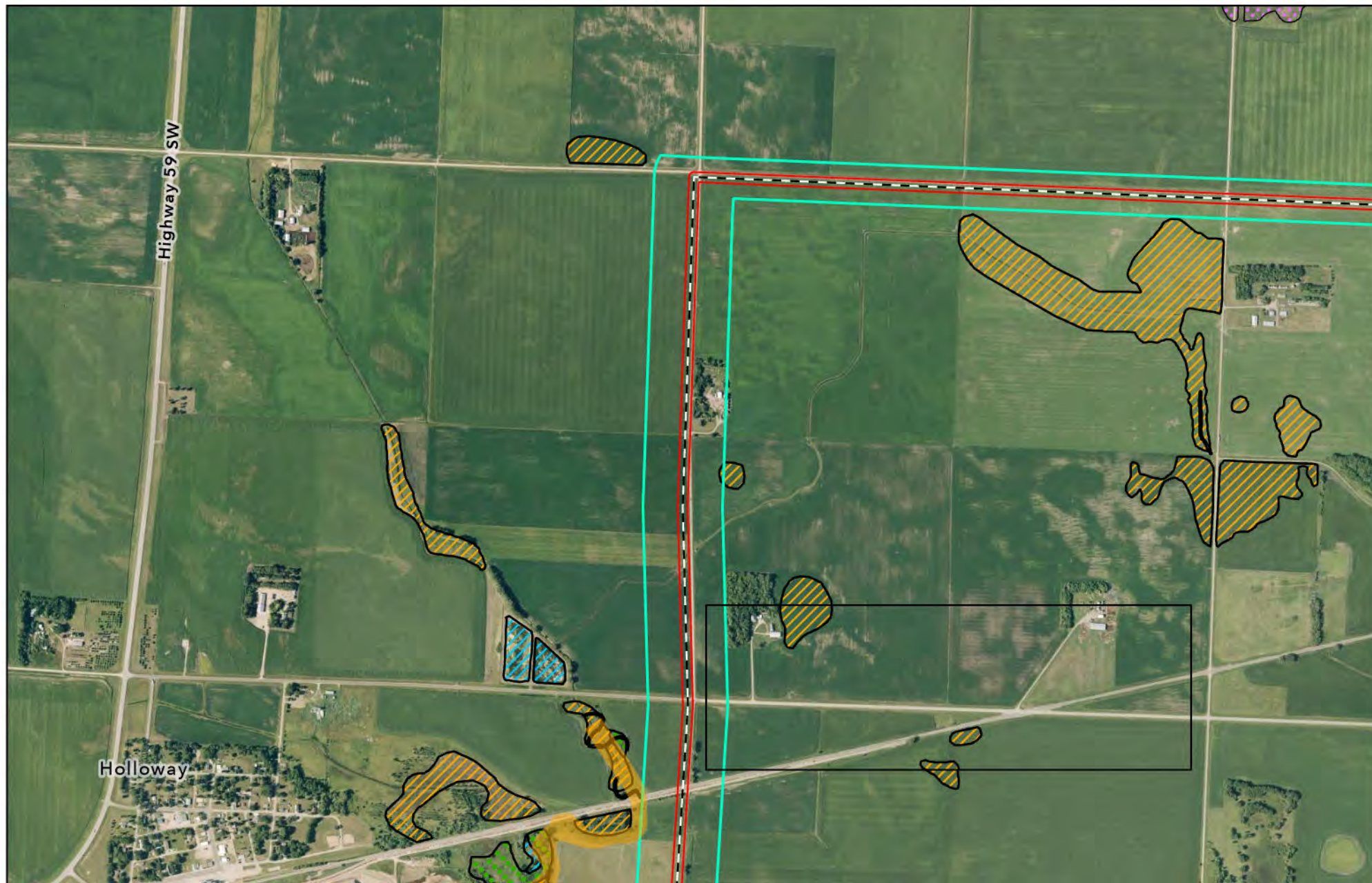


Figure 10: Surface Water Resources: Page 9 of 22



- Proposed Alignment
- Proposed 100-foot ROW
- Proposed Route Width
- PWI- Waterbodies (MDNR)
- NWI Freshwater Emergent Wetland (USFWS)
- NWI Freshwater Forested/Shrub Wetland (USFWS)
- NWI Freshwater Pond (USFWS)
- Water Access Site
- 0.2% Annual Chance Flood Hazard
- 1% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area with Reduced Risk Due to Levee
- Special Floodway



Appleton to Benson 115-kV  
HVTL Project  
Swift County, Minnesota

**MINNESOTA**  
PUBLIC UTILITIES COMMISSION



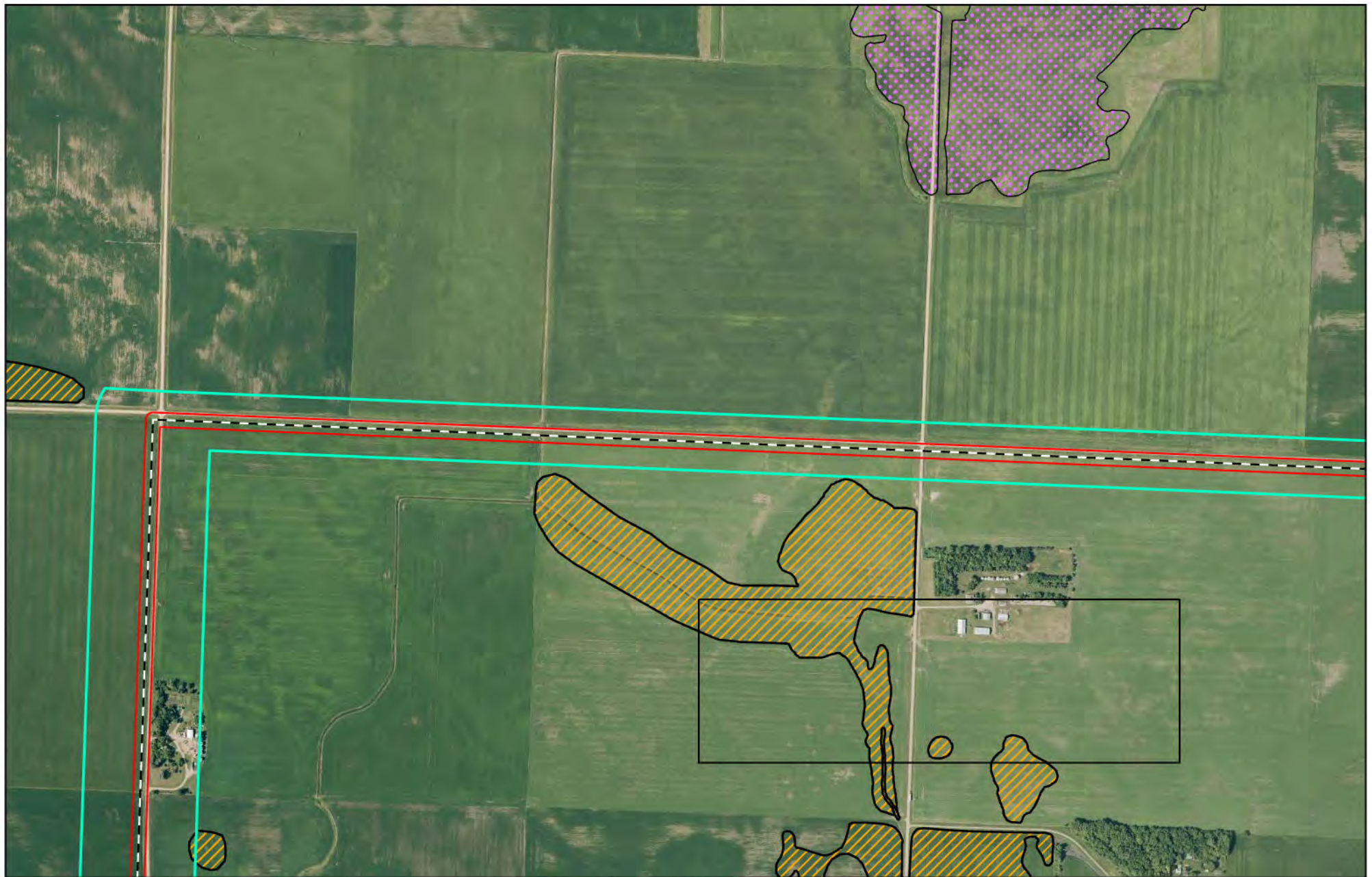


Figure 10: Surface Water Resources: Page 10 of 22



- Proposed Alignment
- Proposed 100-foot ROW
- Proposed Route Width
- PWI- Waterbodies (MDNR)
- NWI Freshwater Emergent Wetland (USFWS)



Water Access Site

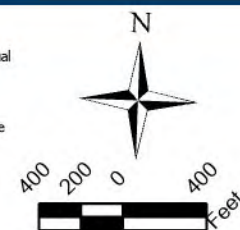


0.2% Annual Chance Flood Hazard



1% Annual Chance Flood Hazard

- Future Conditions 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area with Reduced Risk Due to Levee
- Special Floodway



Appleton to Benson 115-kV  
HVTL Project  
Swift County, Minnesota

**MINNESOTA**  
PUBLIC UTILITIES COMMISSION



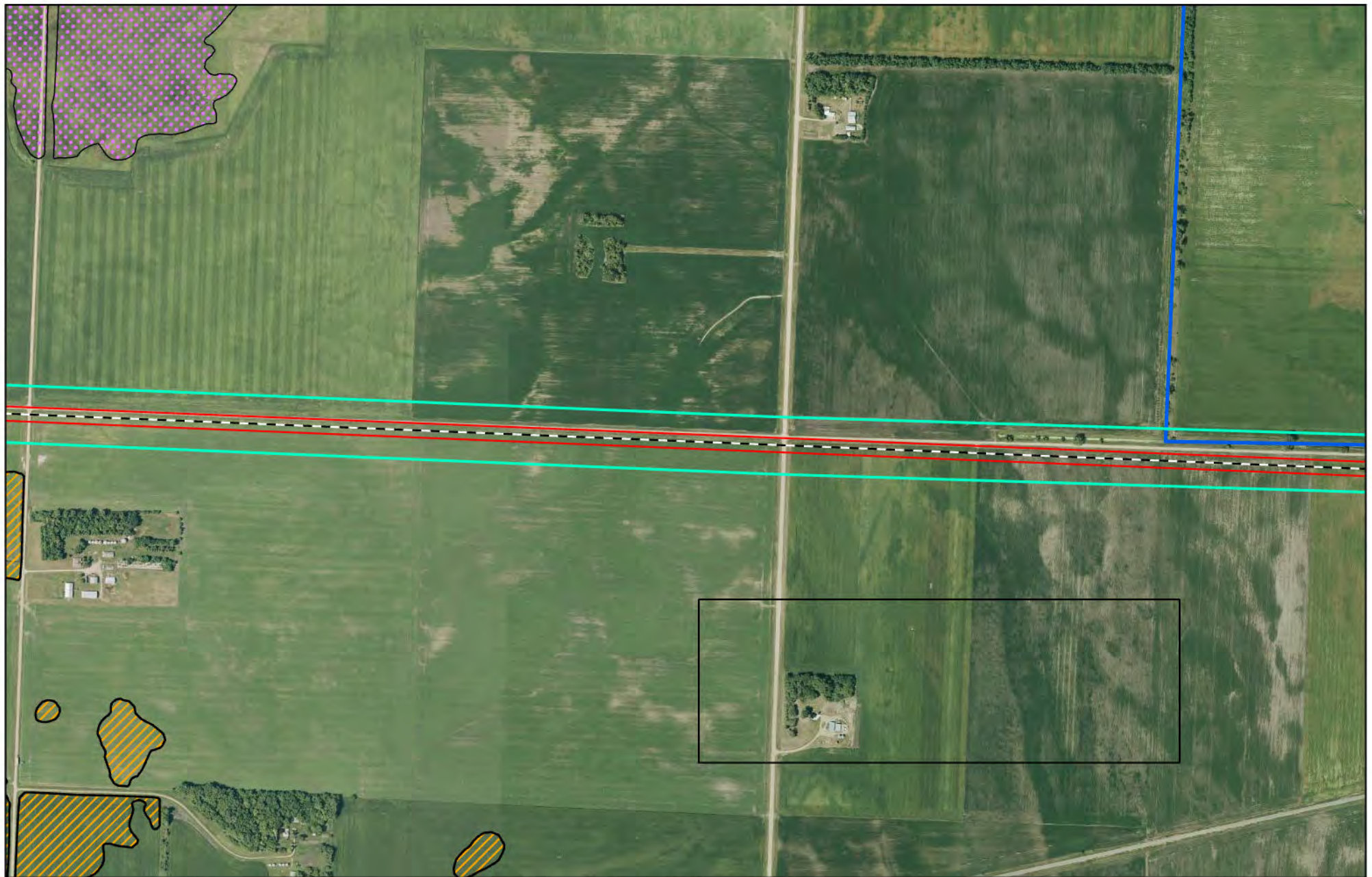
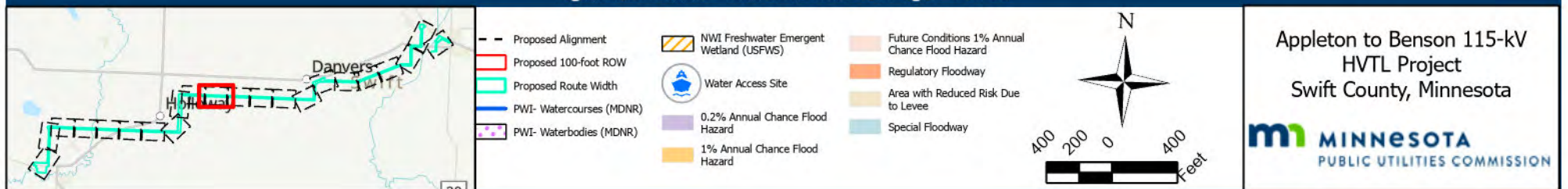


Figure 10: Surface Water Resources: Page 11 of 22





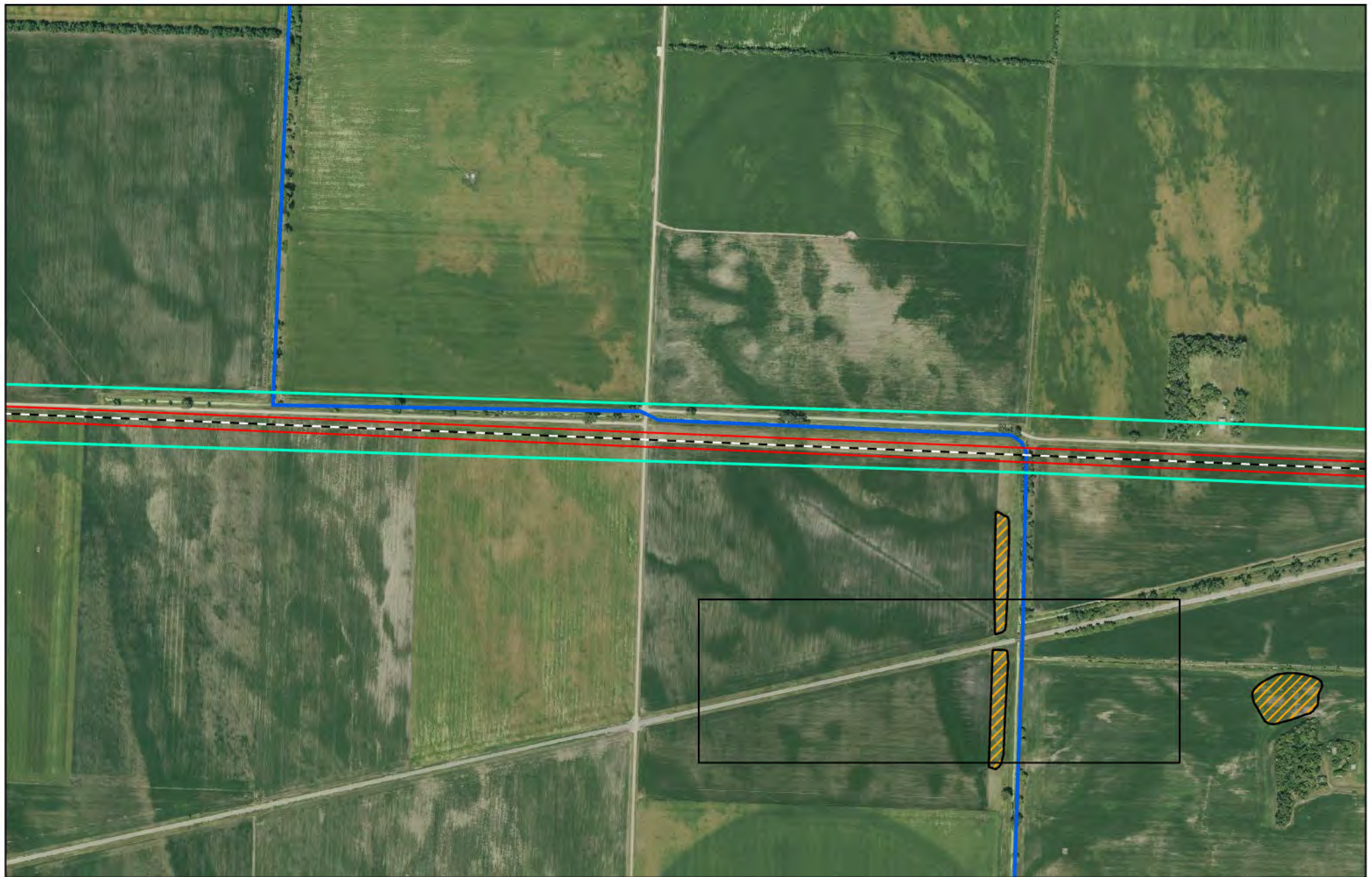


Figure 10: Surface Water Resources: Page 12 of 22

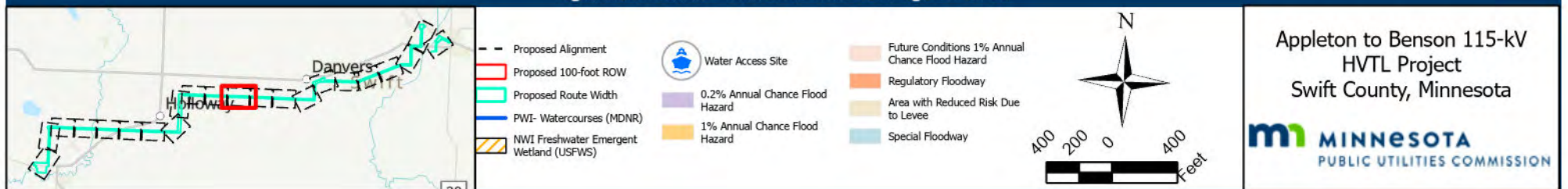






Figure 10: Surface Water Resources: Page 13 of 22

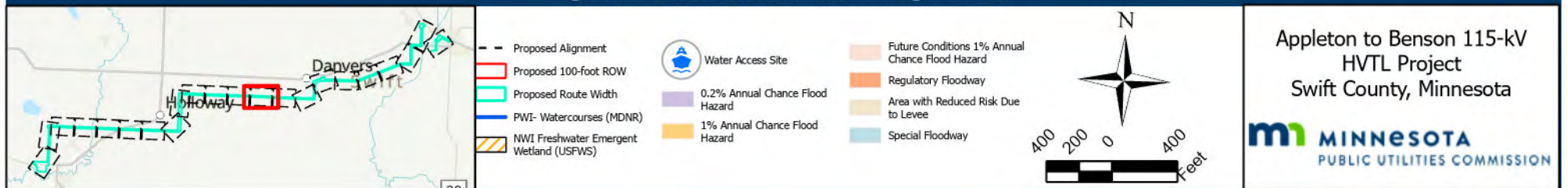
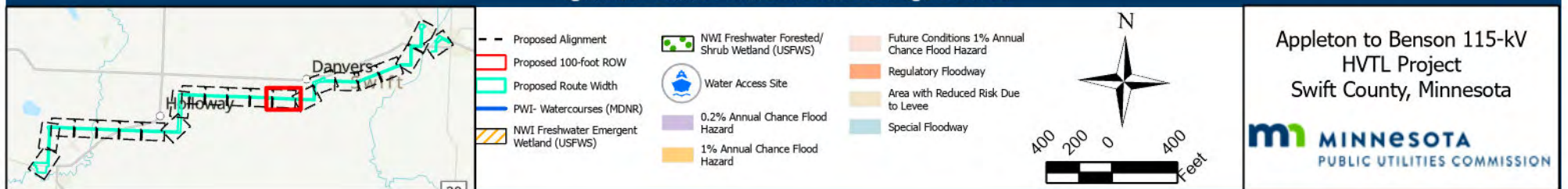






Figure 10: Surface Water Resources: Page 14 of 22





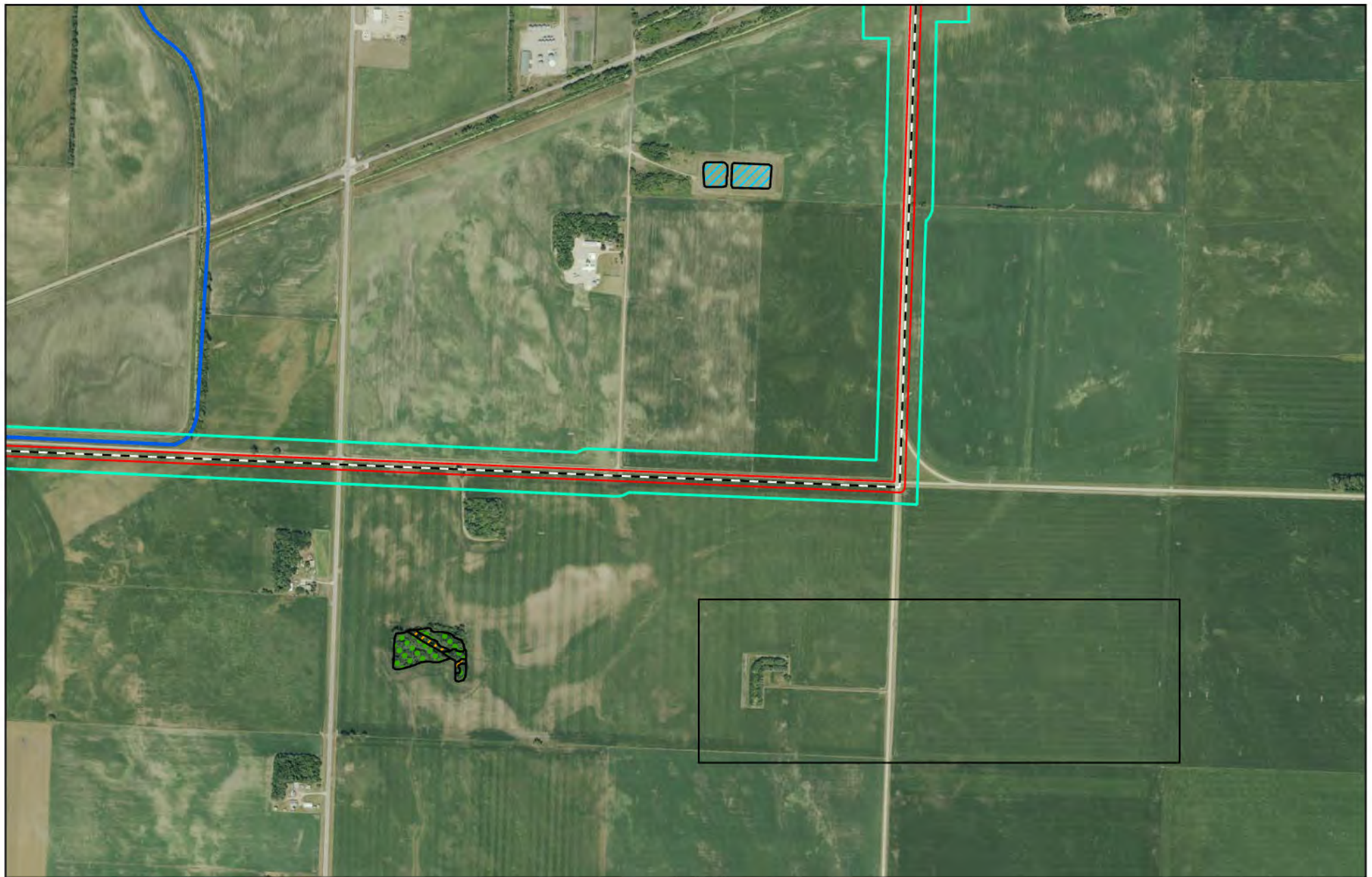


Figure 10: Surface Water Resources: Page 15 of 22

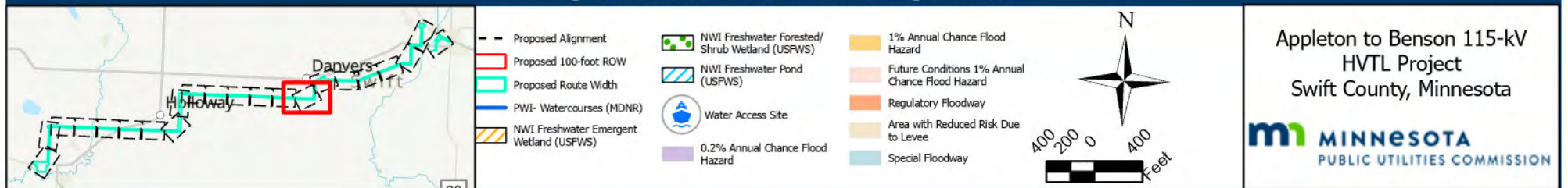
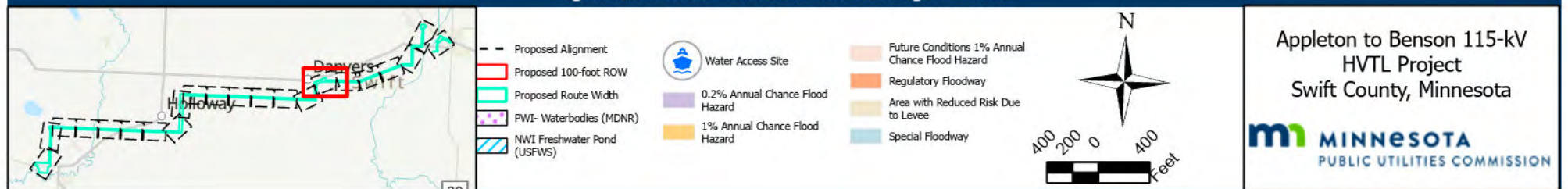






Figure 10: Surface Water Resources: Page 16 of 22





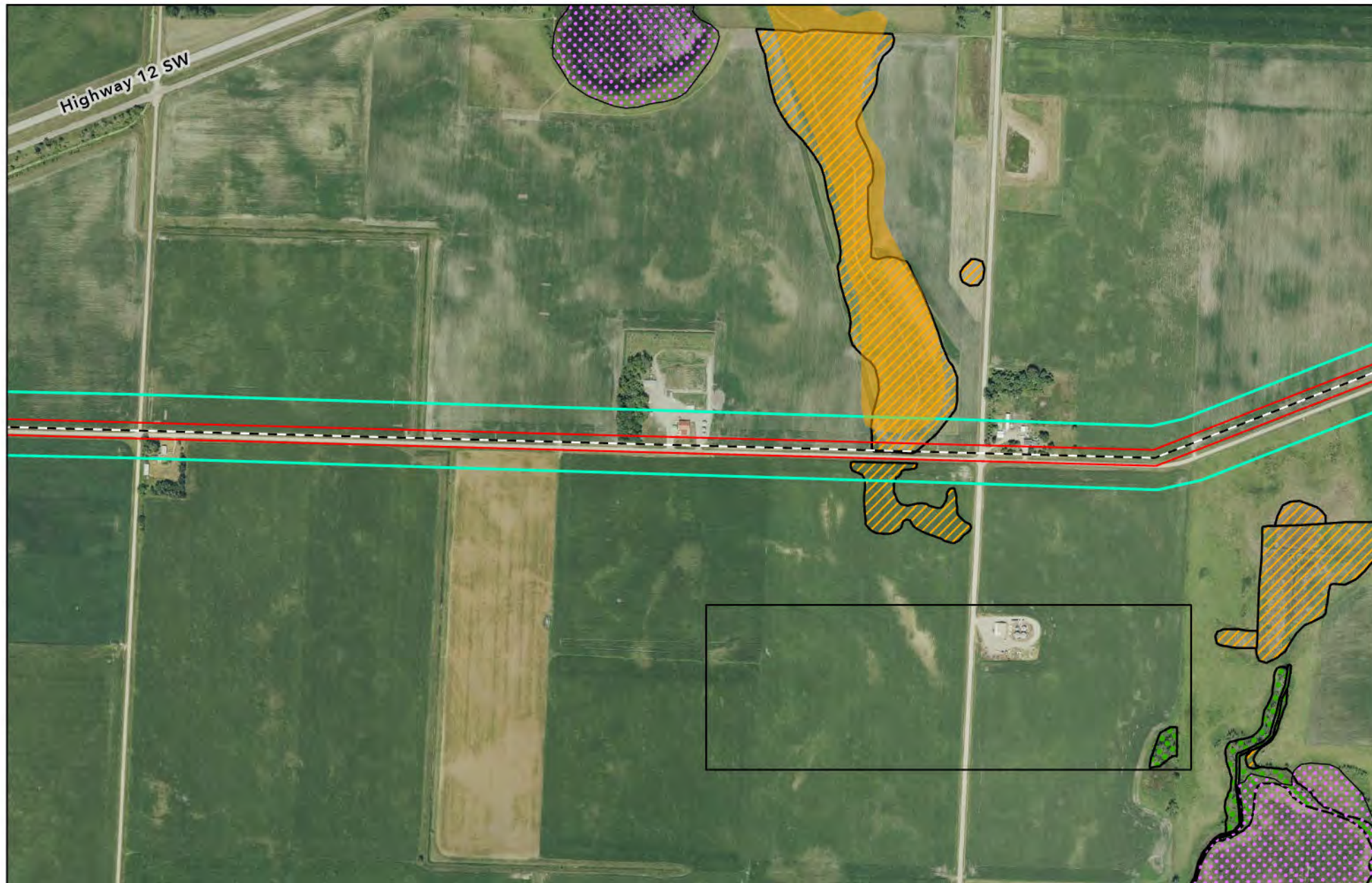
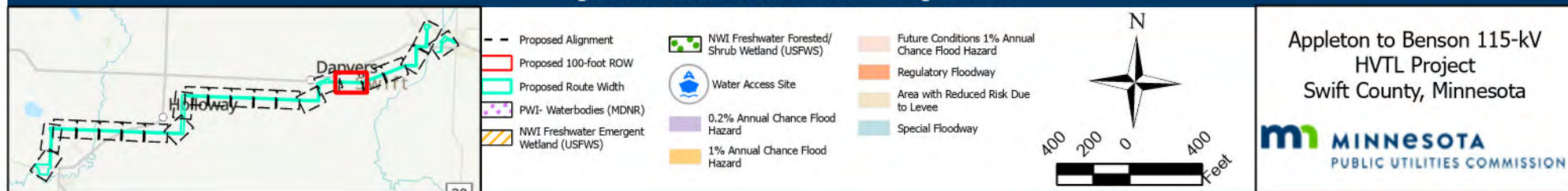


Figure 10: Surface Water Resources: Page 17 of 22





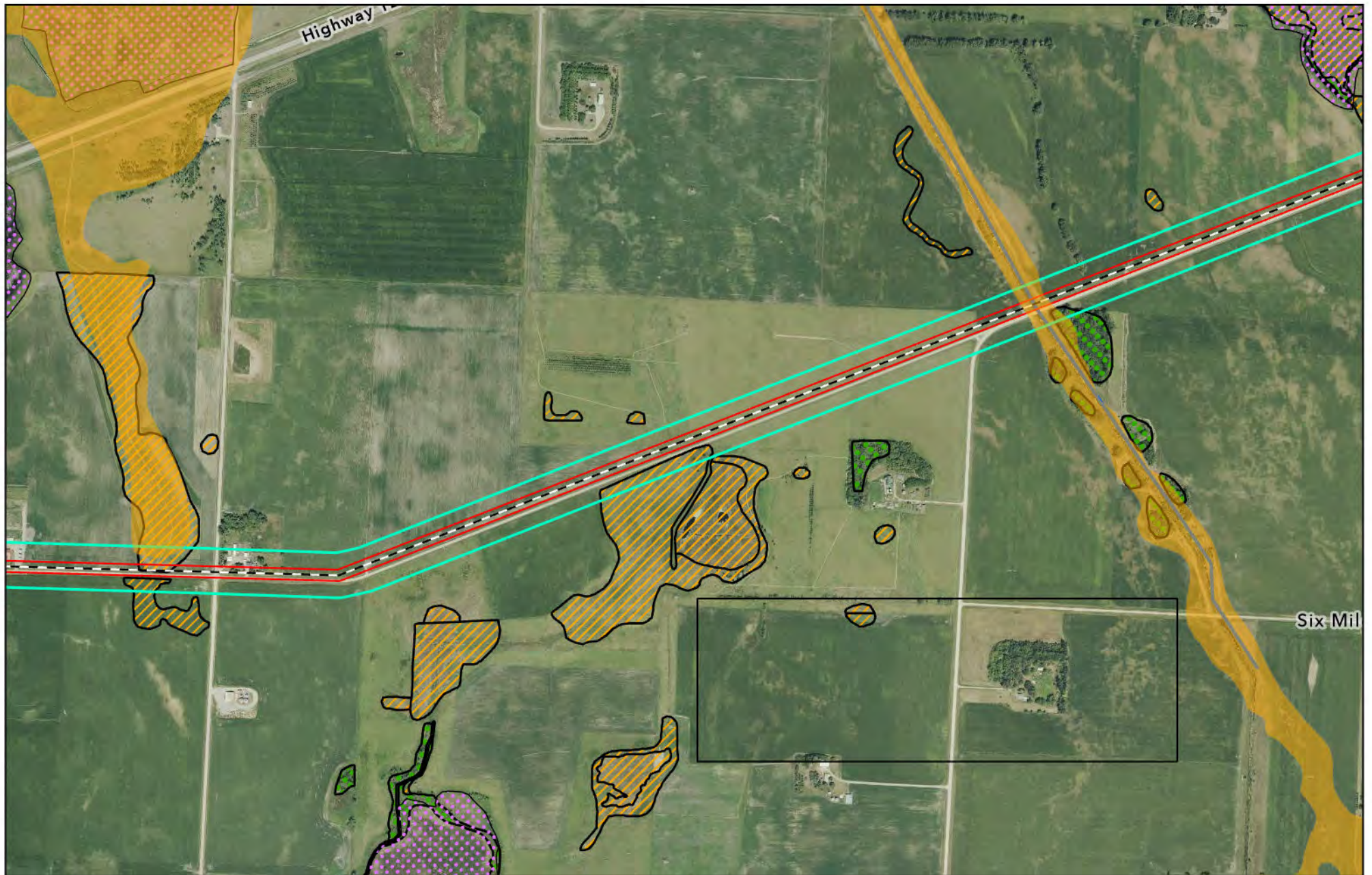
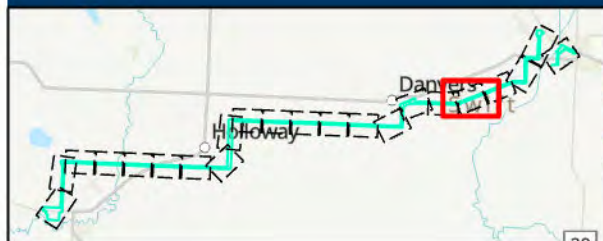
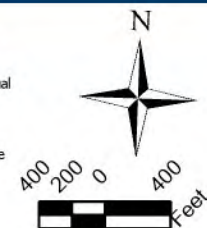


Figure 10: Surface Water Resources: Page 18 of 22



- Proposed Alignment
- Proposed 100-foot ROW
- Proposed Route Width
- PWI- Watercourses (MDNR)
- PWI- Waterbodies (MDNR)
- NWI Freshwater Emergent Wetland (USFWS)
- NWI Freshwater Forested/Shrub Wetland (USFWS)
- Water Access Site
- 0.2% Annual Chance Flood Hazard
- 1% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area with Reduced Risk Due to Levee
- Special Floodway



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Swift County, Minnesota



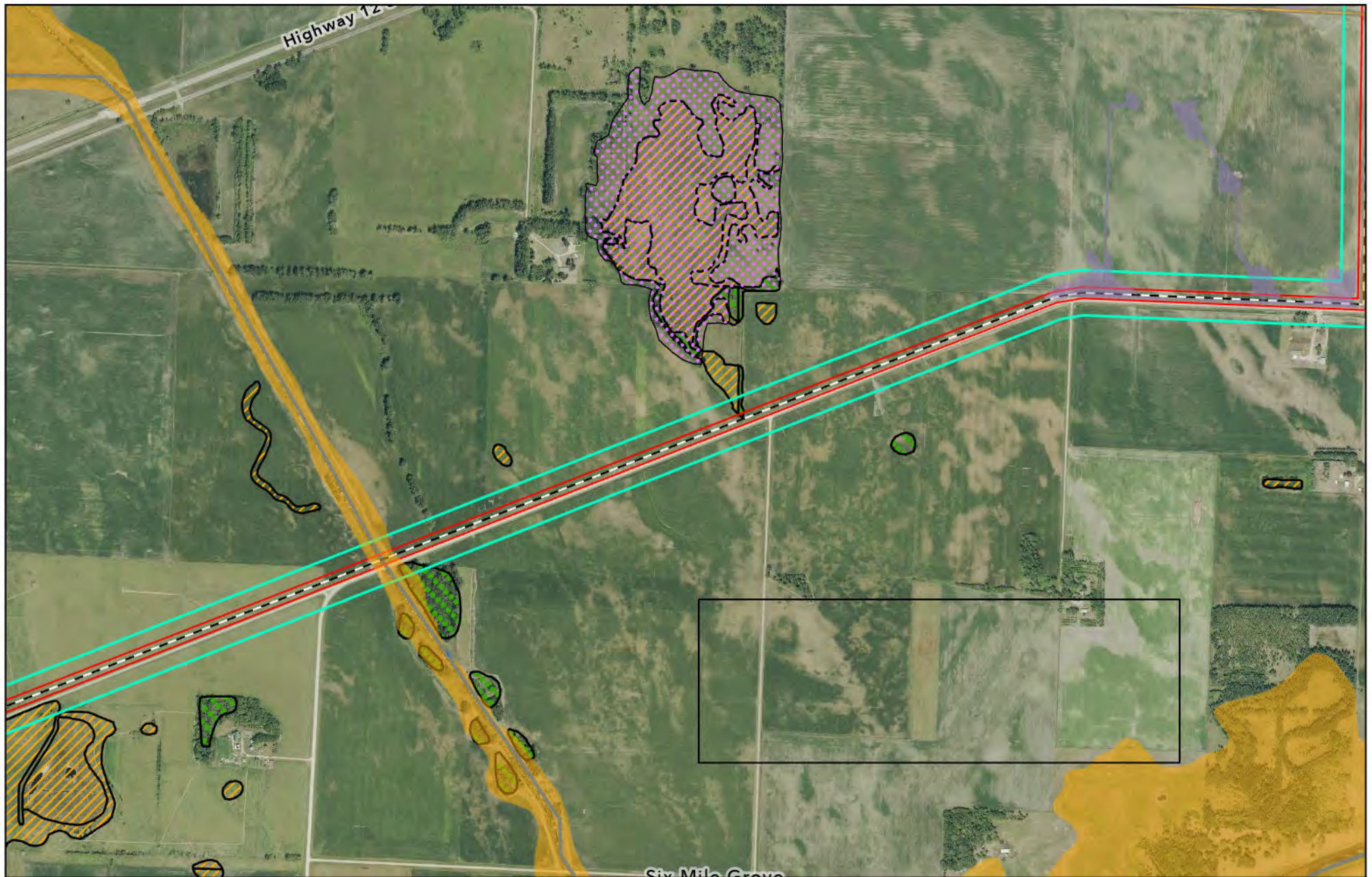
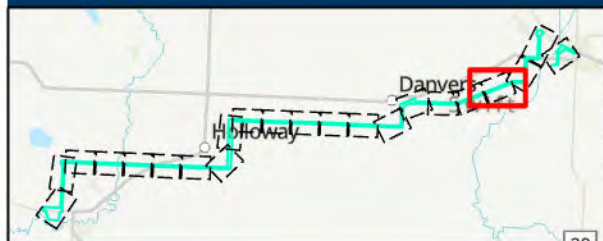
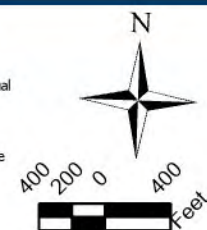


Figure 10: Surface Water Resources: Page 19 of 22



- - - Proposed Alignment
- Red Line Proposed 100-foot ROW
- Cyan Line Proposed Route Width
- Blue Line PWI- Watercourses (MDNR)
- Purple Dots PWI- Waterbodies (MDNR)
- Yellow Diagonal Lines NWI Freshwater Emergent Wetland (USFWS)
- Green Dots NWI Freshwater Forested/Shrub Wetland (USFWS)
- Blue Circle Water Access Site
- Purple Dots 0.2% Annual Chance Flood Hazard
- Yellow 1% Annual Chance Flood Hazard
- Light Orange Future Conditions 1% Annual Chance Flood Hazard
- Orange Regulatory Floodway
- Light Yellow Area with Reduced Risk Due to Levee
- Light Blue Special Floodway



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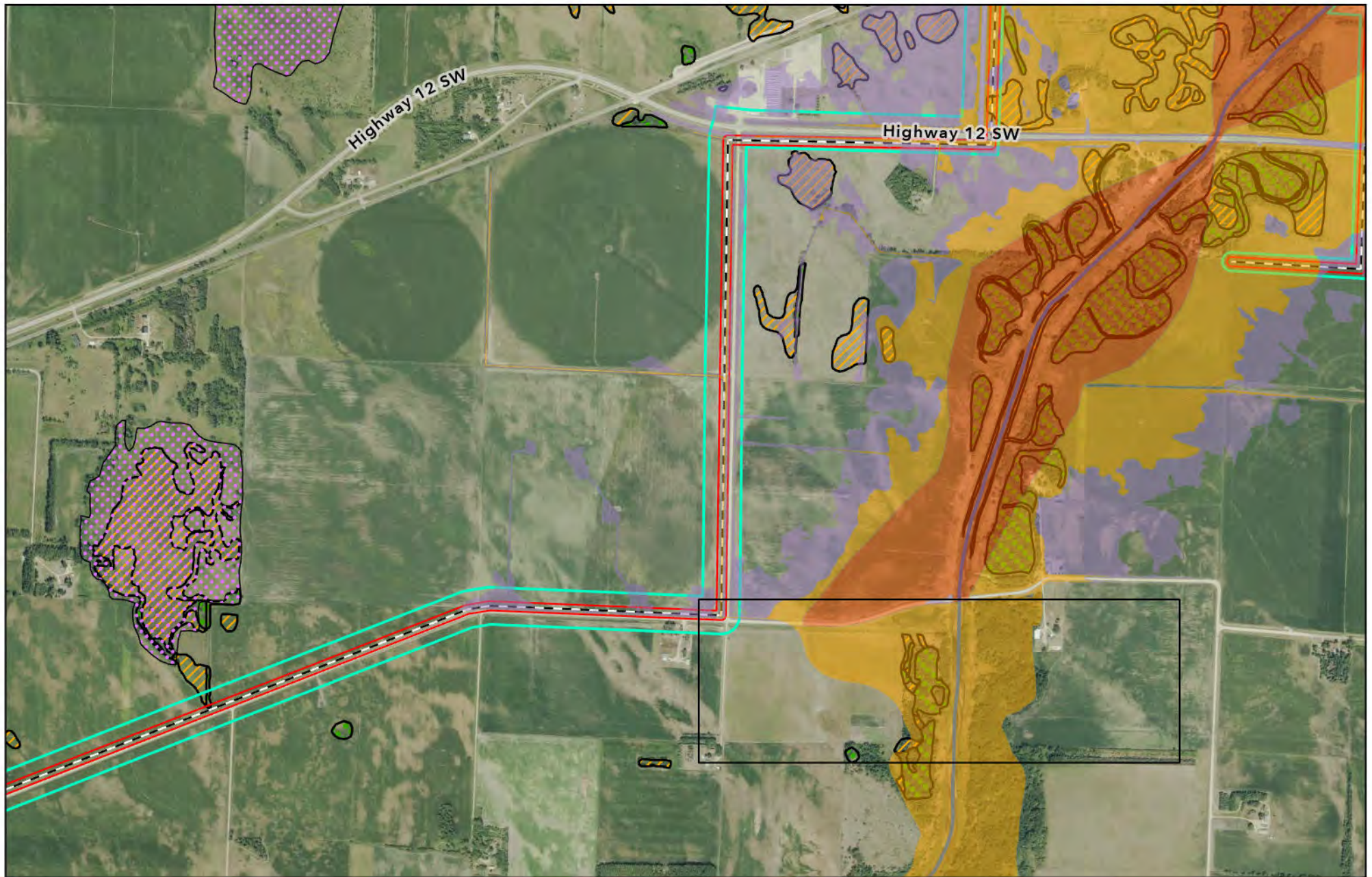
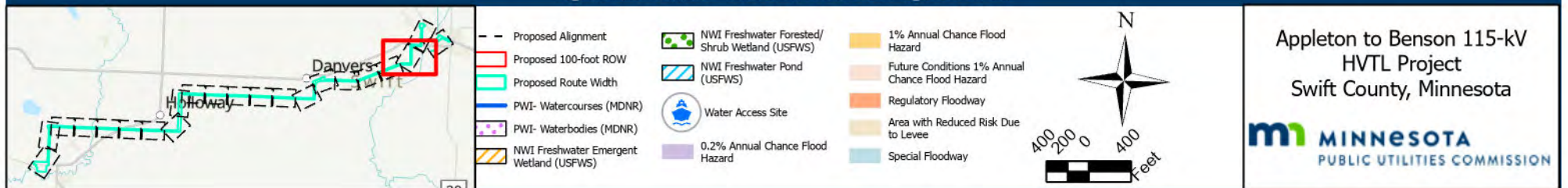


Figure 10: Surface Water Resources: Page 20 of 22





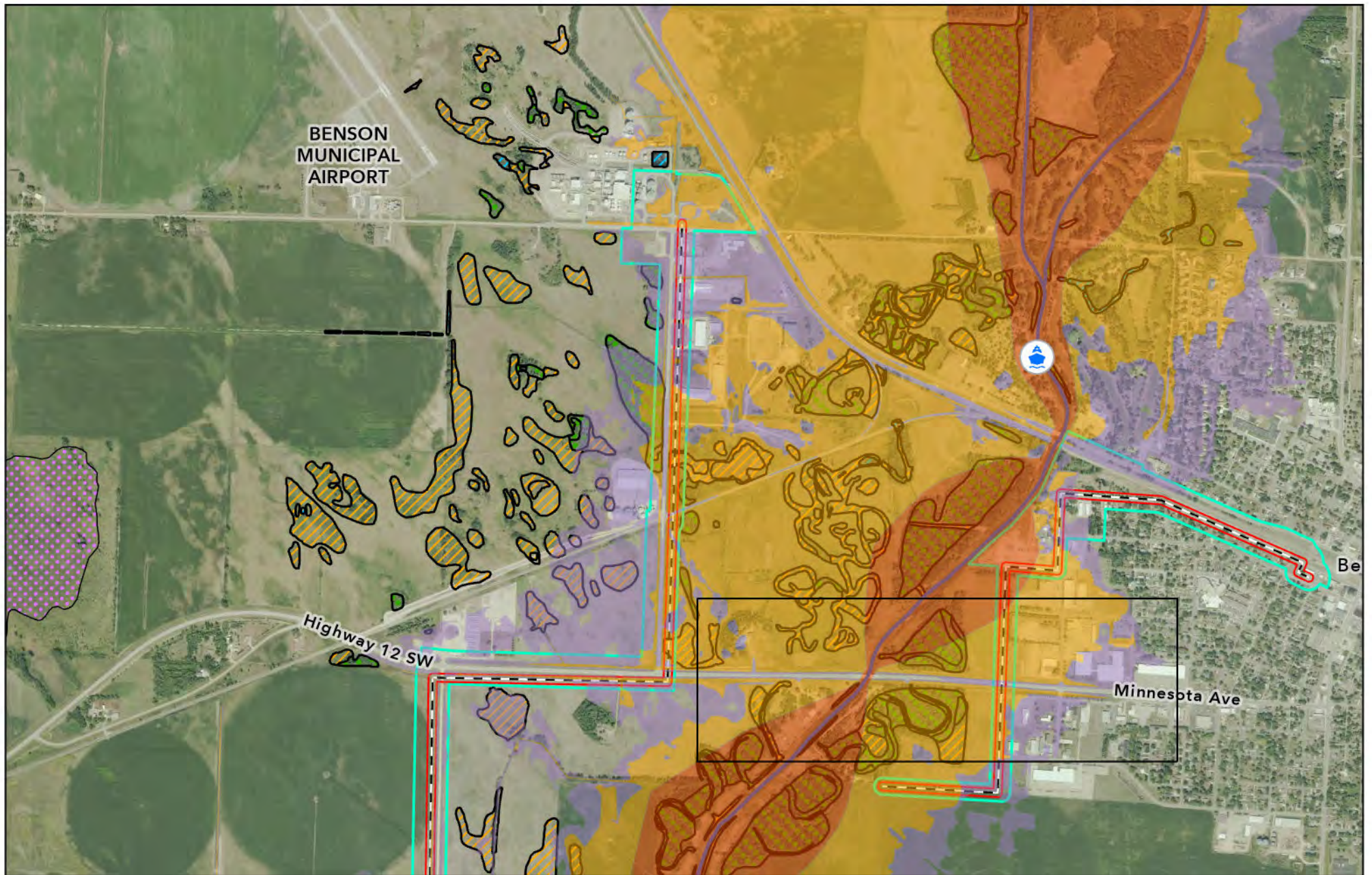
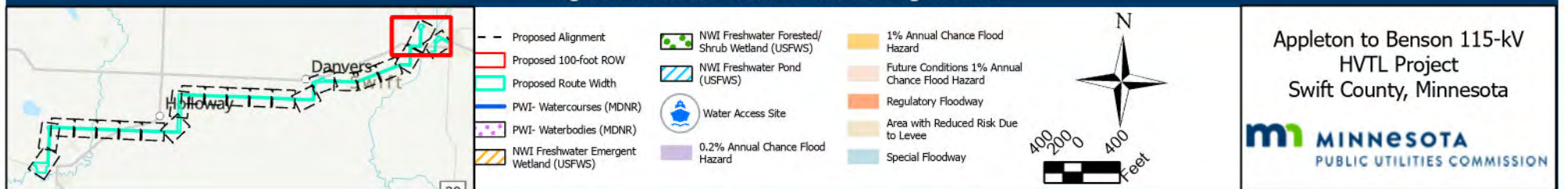


Figure 10: Surface Water Resources: Page 21 of 22





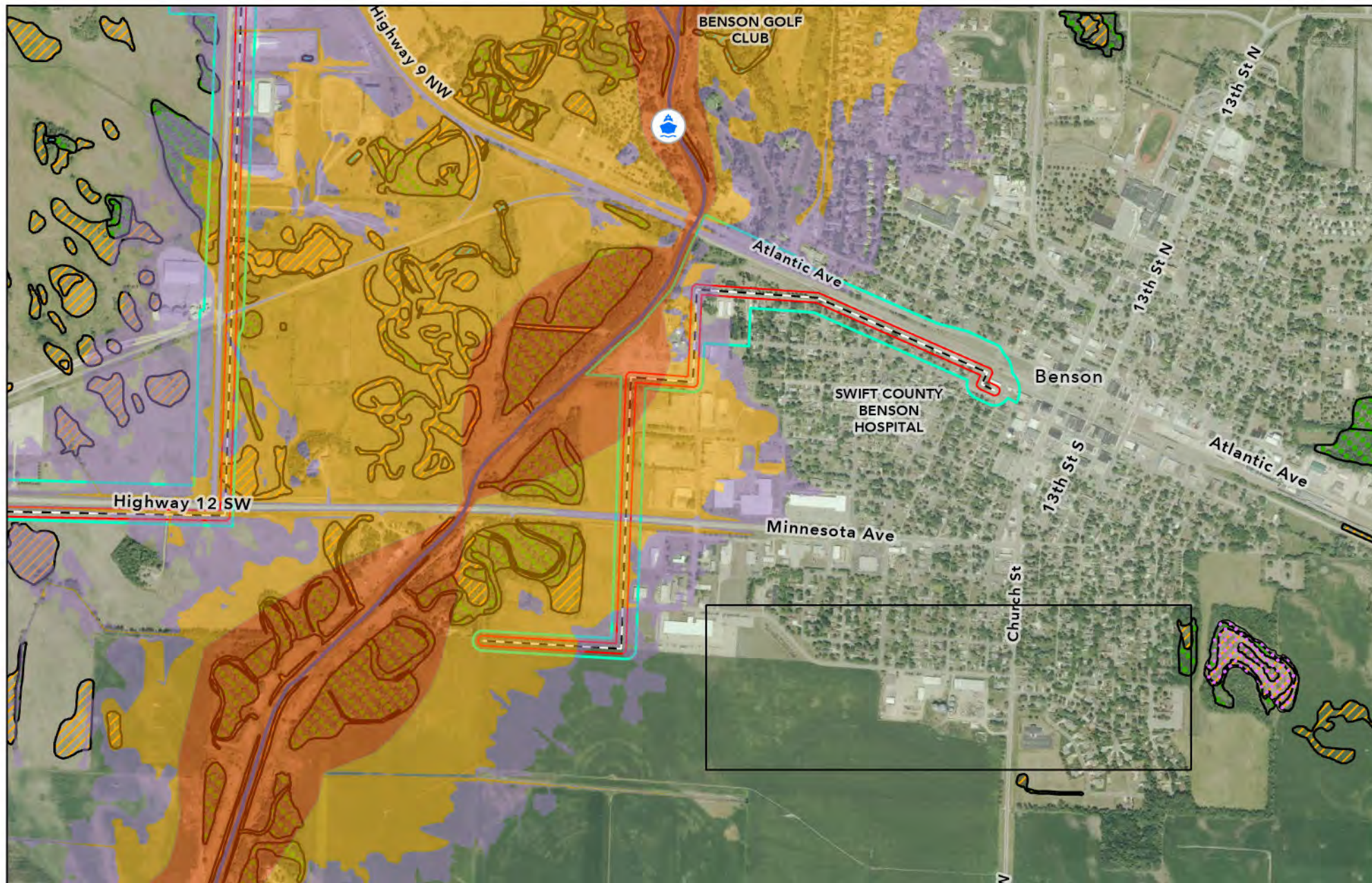
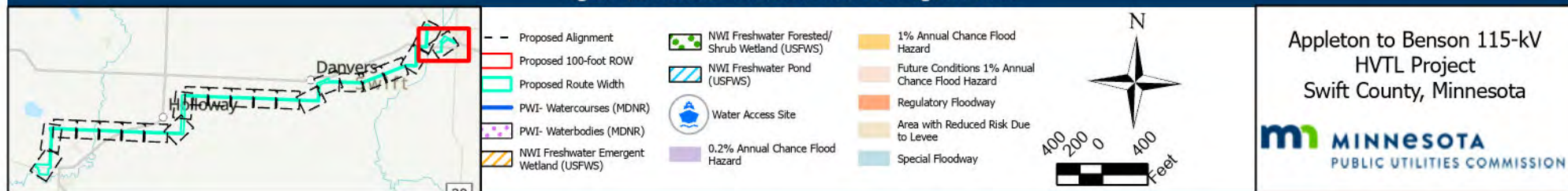


Figure 10: Surface Water Resources: Page 22 of 22





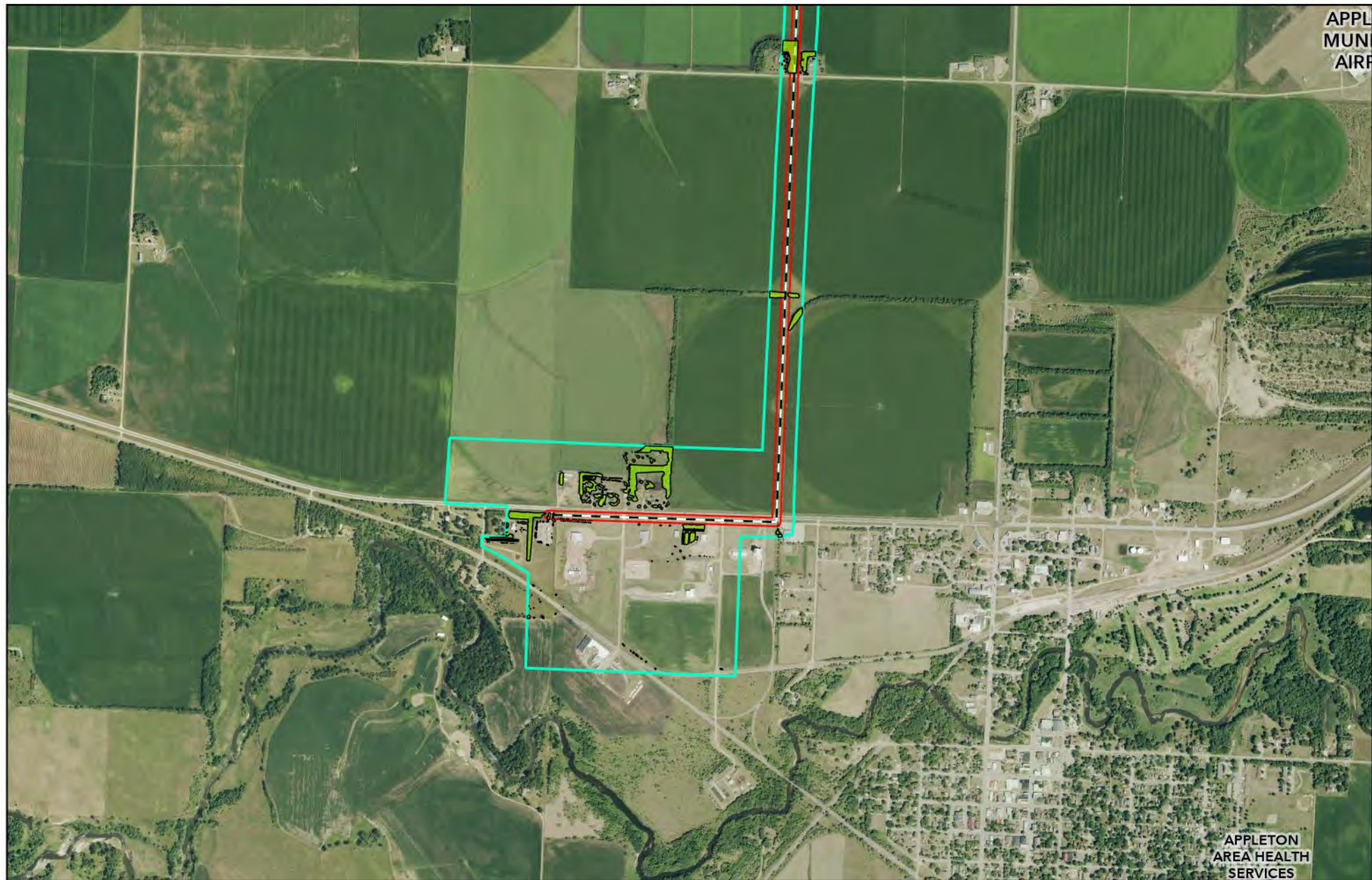


Figure 11: Mining and Forestry Resources: Page 1 of 22

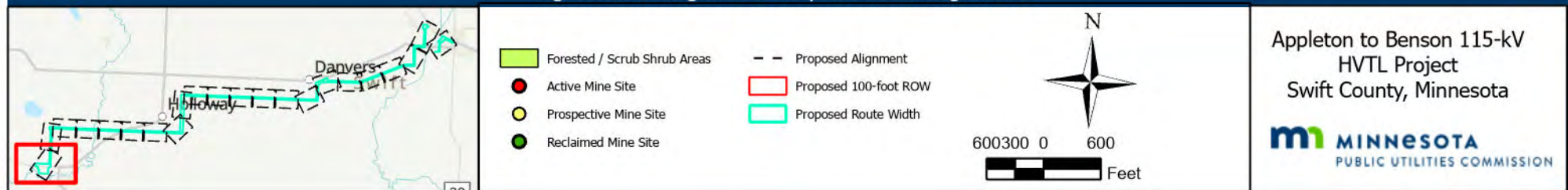






Figure 11: Mining and Forestry Resources: Page 2 of 22

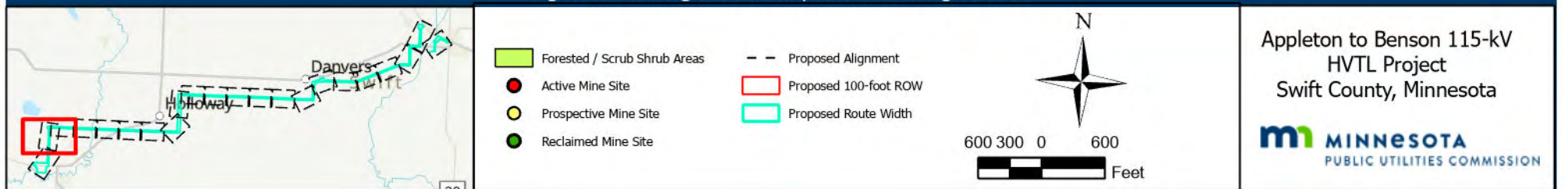






Figure 11: Mining and Forestry Resources: Page 3 of 22

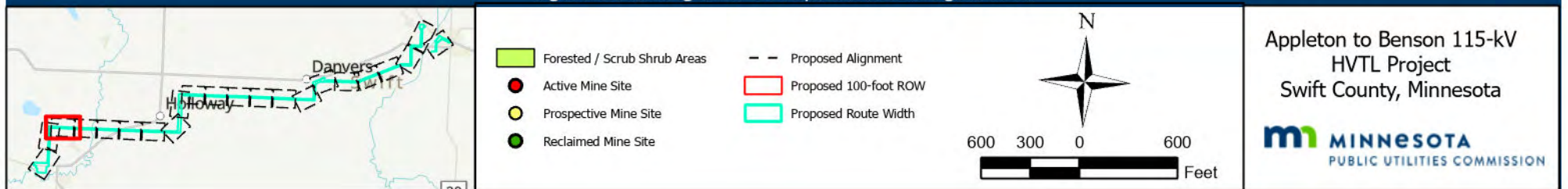






Figure 11: Mining and Forestry Resources: Page 4 of 22

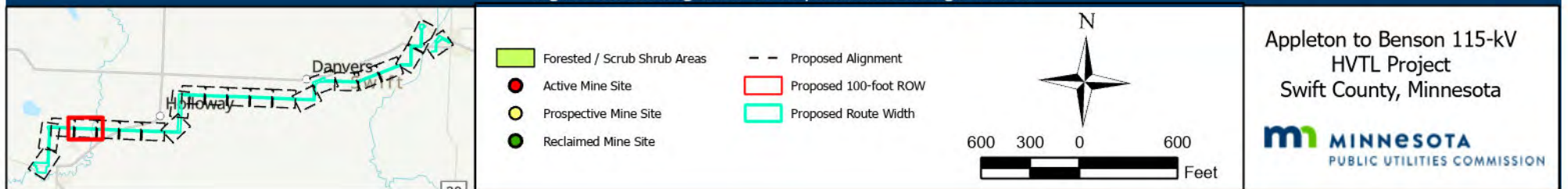
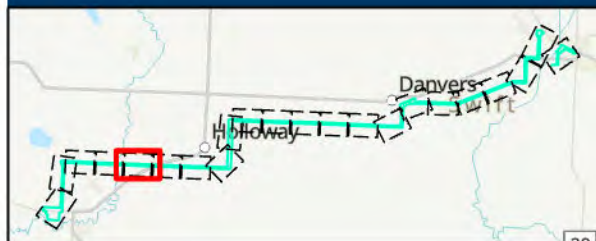


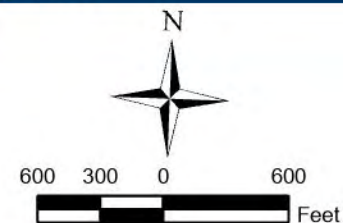




Figure 11: Mining and Forestry Resources: Page 5 of 22



- |  |  |
|--|--|
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| <span style="display: inline-block; width: 10px; height: 10px; background-color: red; border-radius: 50%;"></span> Active Mine Site                      | <span style="display: inline-block; width: 20px; height: 10px; border: 2px solid red;"></span> Proposed 100-foot ROW |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: yellow; border-radius: 50%;"></span> Prospective Mine Site              | <span style="display: inline-block; width: 20px; height: 10px; border: 2px solid cyan;"></span> Proposed Route Width |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: green; border-radius: 50%;"></span> Reclaimed Mine Site                 |  |



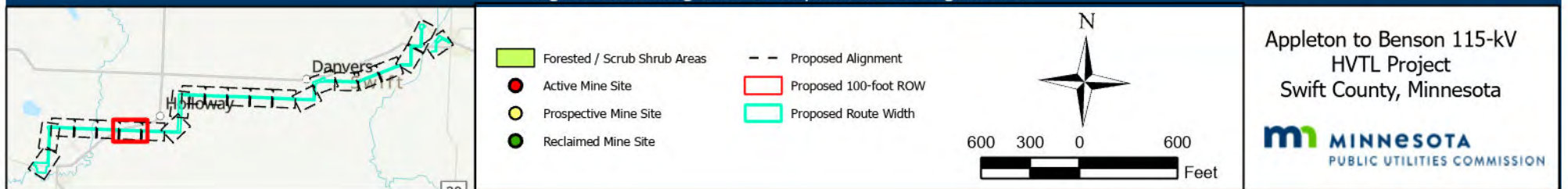
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Figure 11: Mining and Forestry Resources: Page 6 of 22





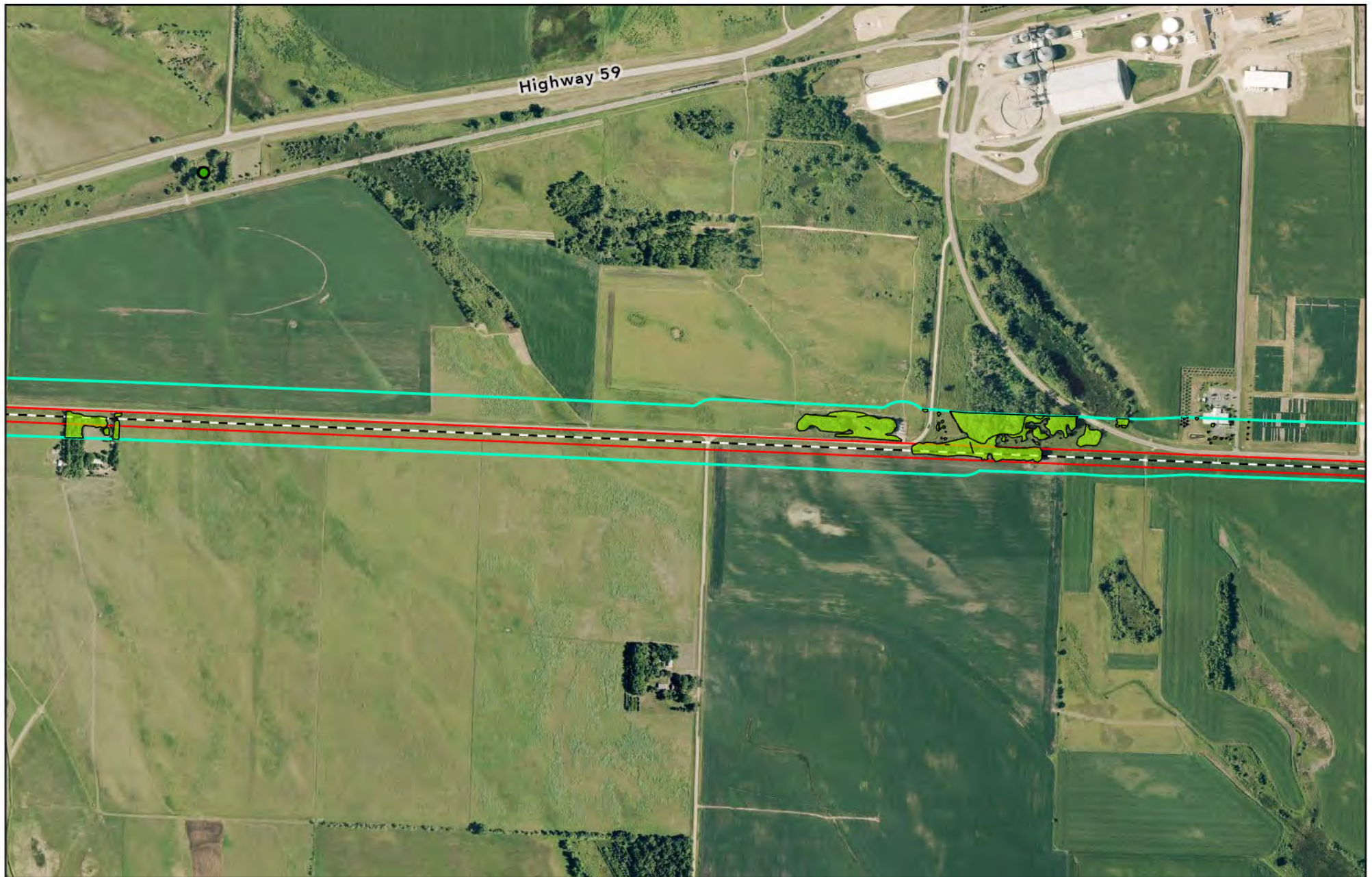


Figure 11: Mining and Forestry Resources: Page 7 of 22

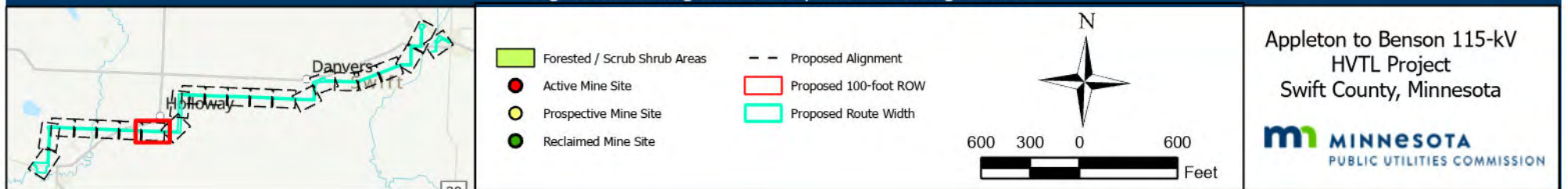






Figure 11: Mining and Forestry Resources: Page 8 of 22

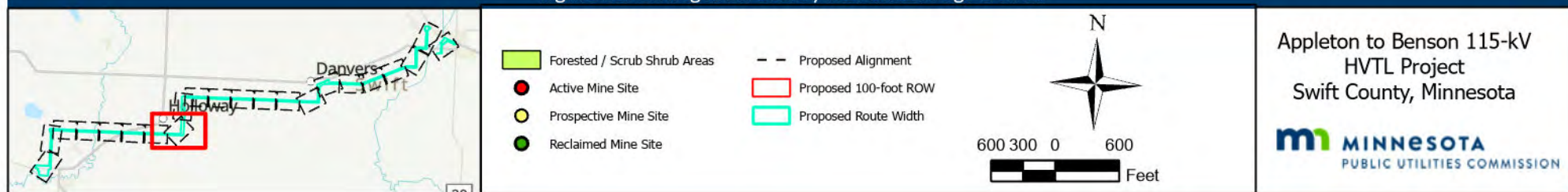






Figure 11: Mining and Forestry Resources: Page 9 of 22

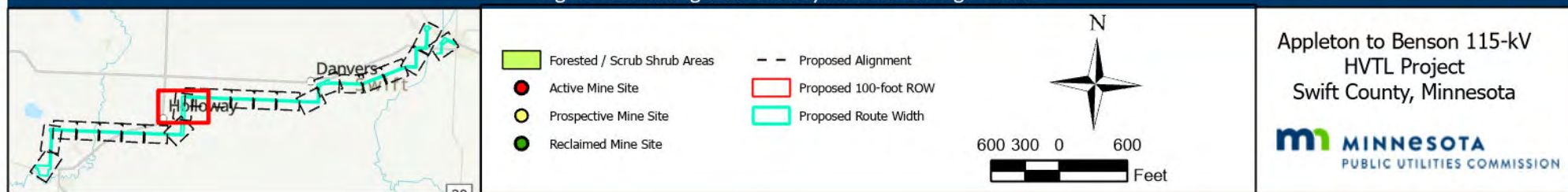






Figure 11: Mining and Forestry Resources: Page 10 of 22

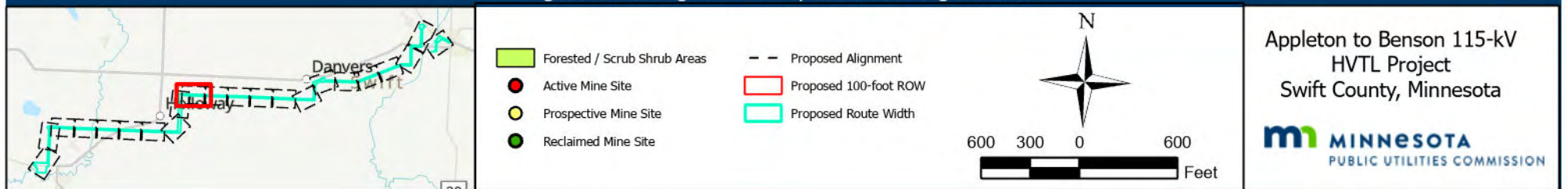






Figure 11: Mining and Forestry Resources: Page 11 of 22

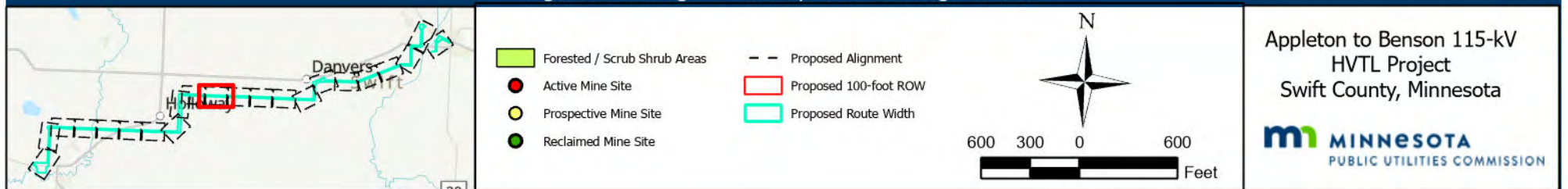






Figure 11: Mining and Forestry Resources: Page 12 of 22

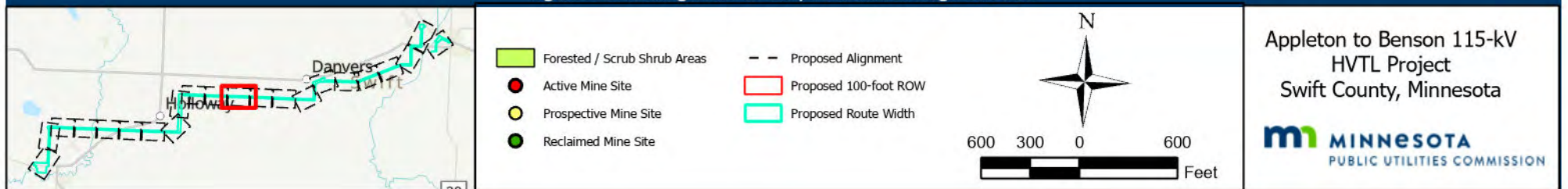






Figure 11: Mining and Forestry Resources: Page 13 of 22

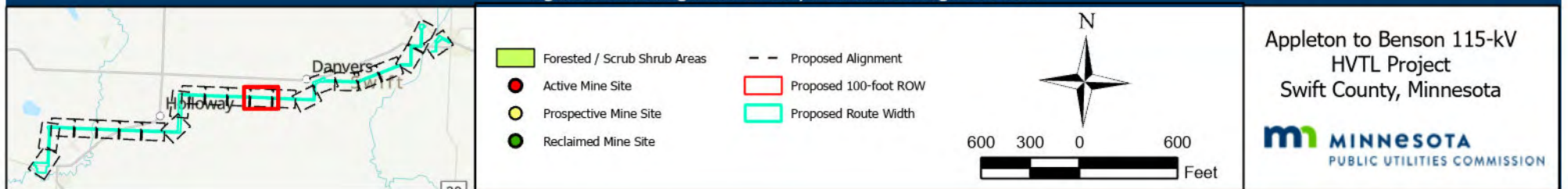
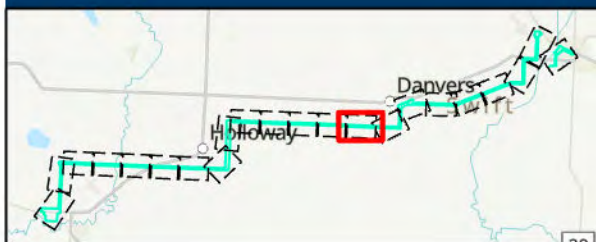


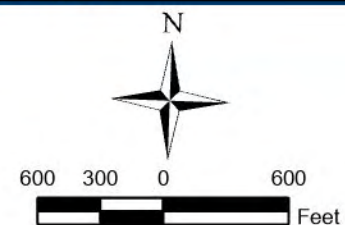




Figure 11: Mining and Forestry Resources: Page 14 of 22



- |  |  |
|--|--|
|  Forested / Scrub Shrub Areas |  Proposed Alignment    |
|  Active Mine Site             |  Proposed 100-foot ROW |
|  Prospective Mine Site        |  Proposed Route Width  |
|  Reclaimed Mine Site          |  |



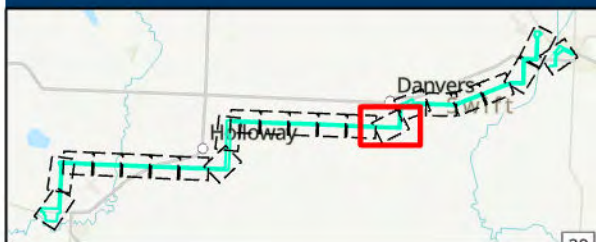
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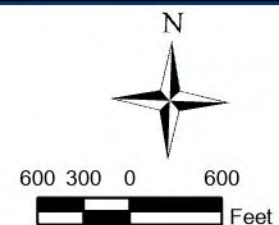




Figure 11: Mining and Forestry Resources: Page 15 of 22



- |  |  |
|--|--|
|  Forested / Scrub Shrub Areas |  Proposed Alignment    |
|  Active Mine Site             |  Proposed 100-foot ROW |
|  Prospective Mine Site        |  Proposed Route Width  |
|  Reclaimed Mine Site          |  |



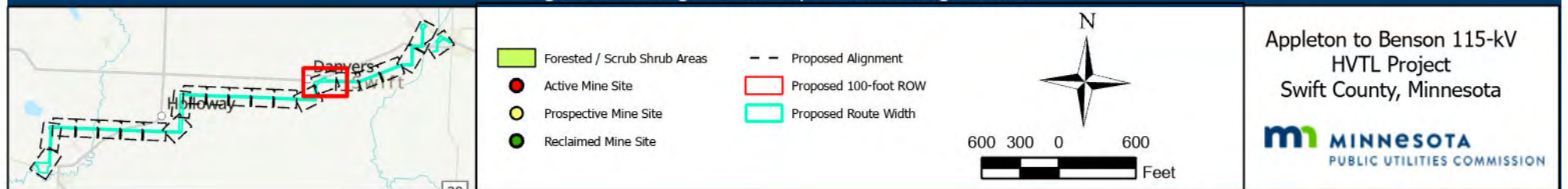
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HVTL Project  
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Figure 11: Mining and Forestry Resources: Page 16 of 22





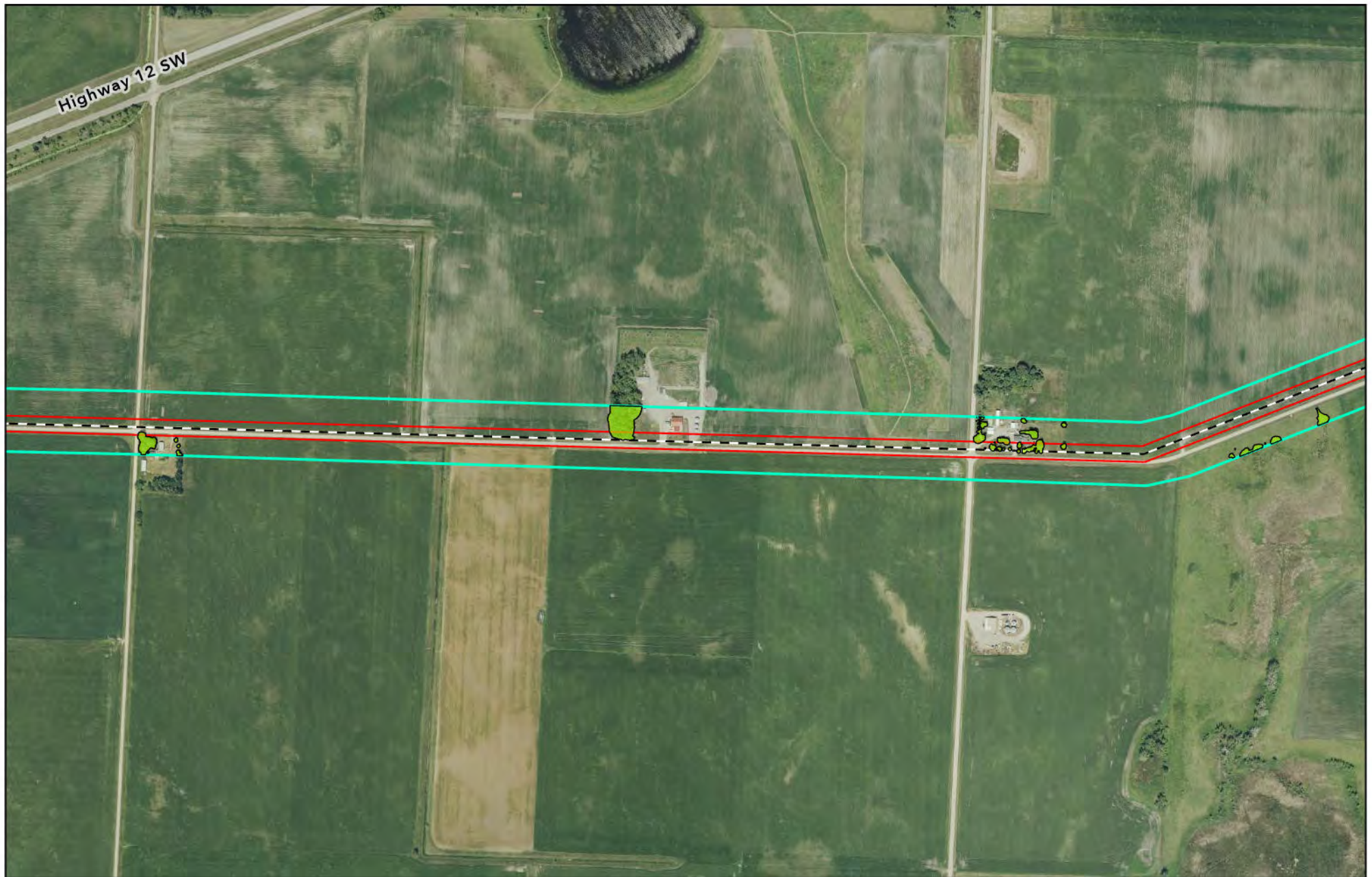
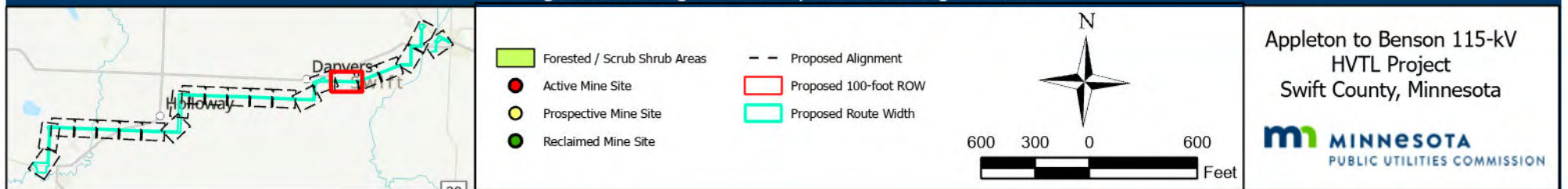


Figure 11: Mining and Forestry Resources: Page 17 of 22





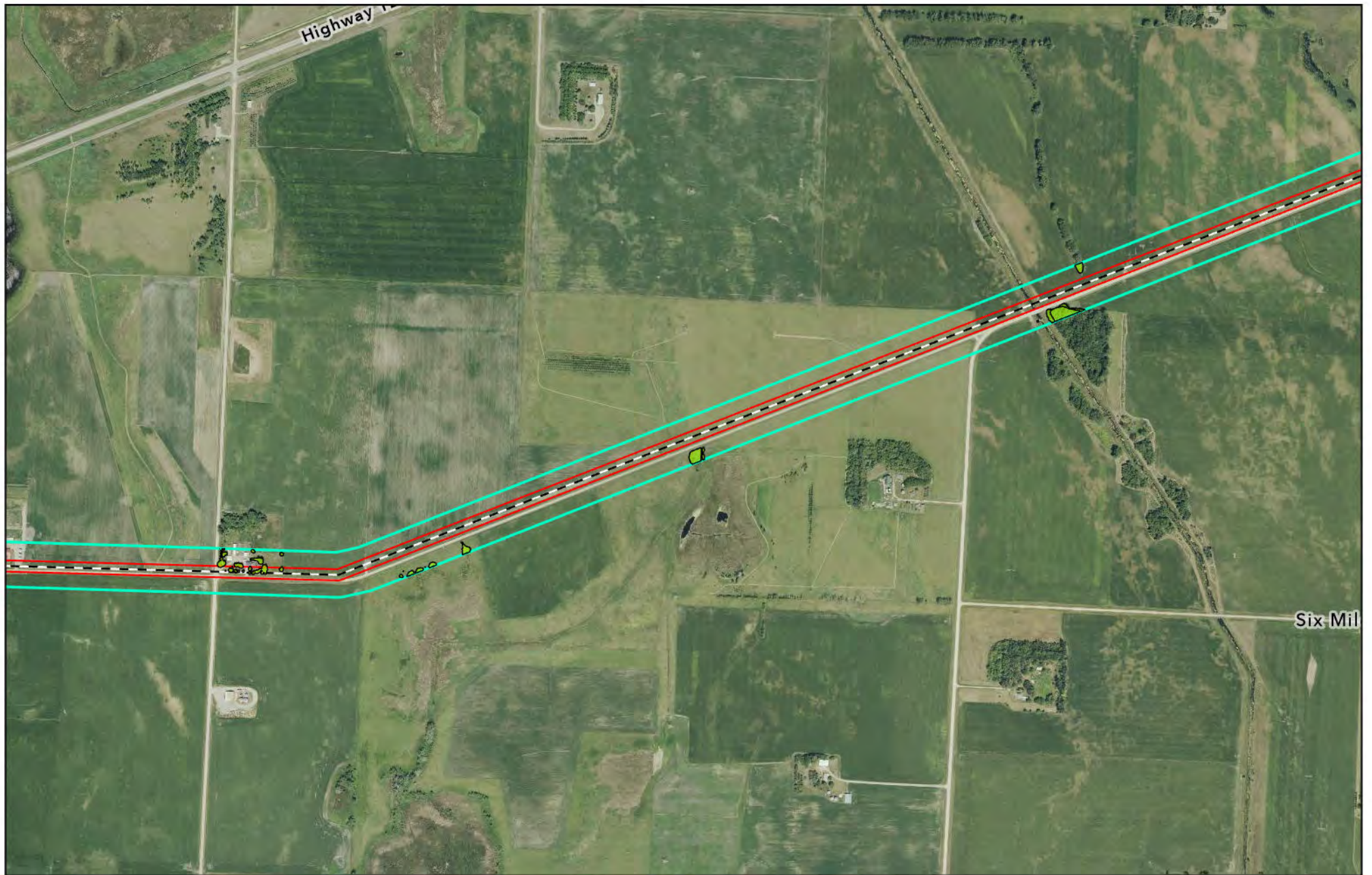
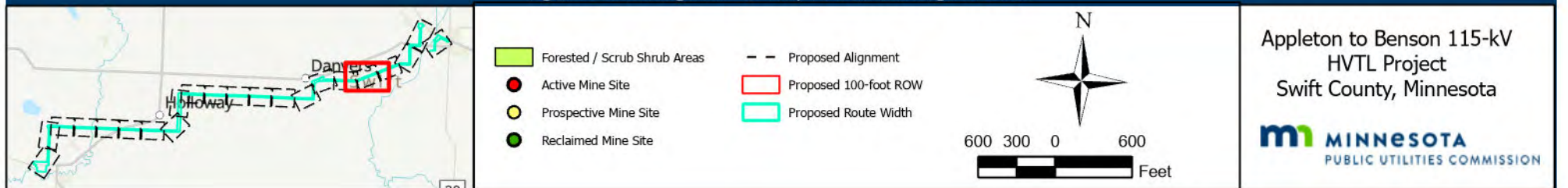


Figure 11: Mining and Forestry Resources: Page 18 of 22





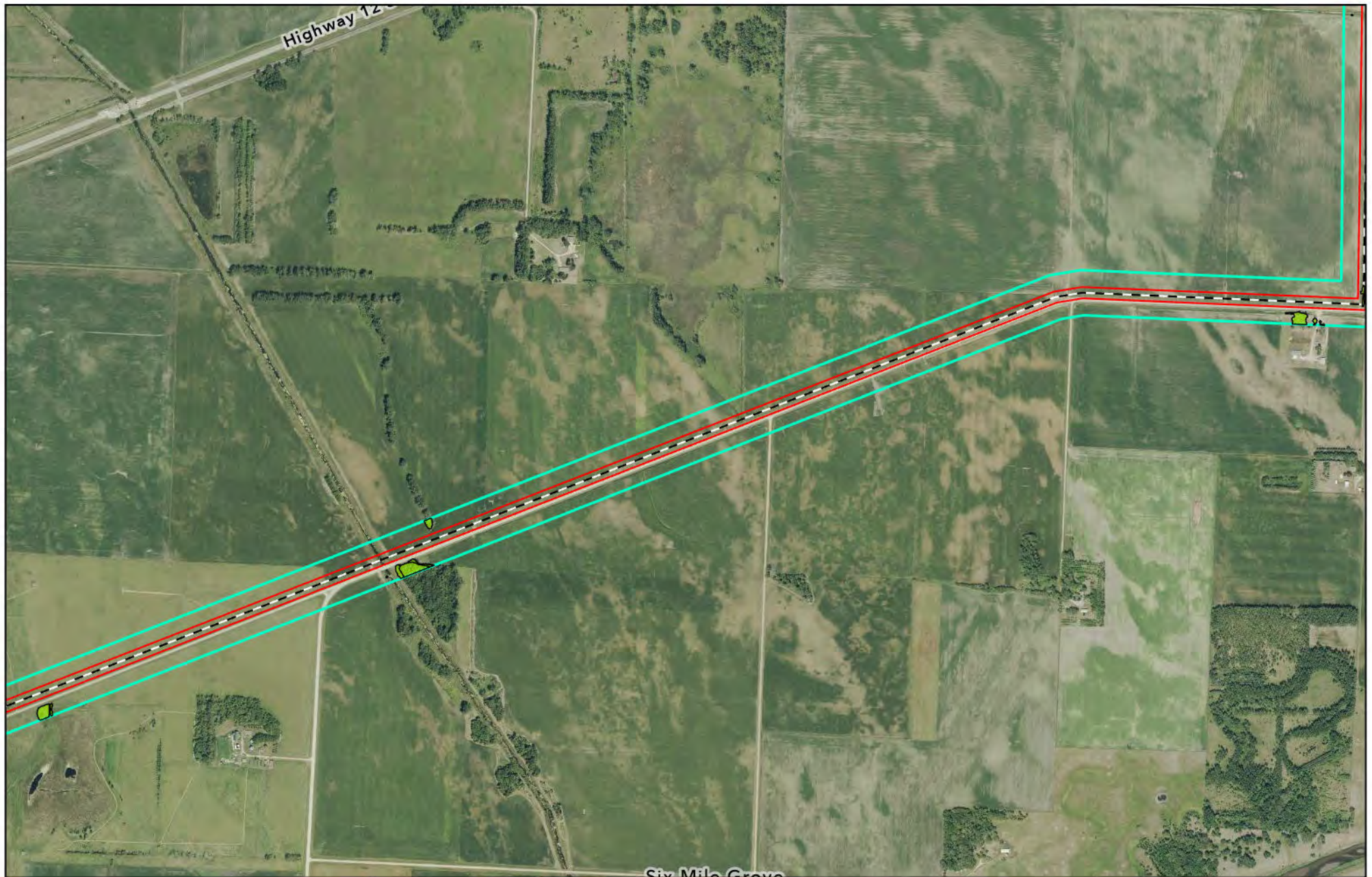
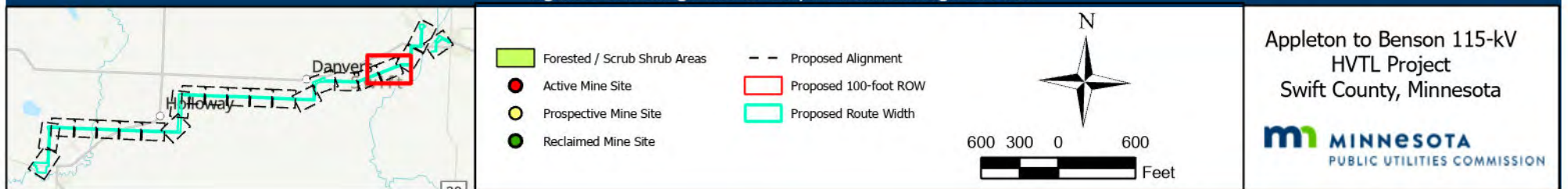


Figure 11: Mining and Forestry Resources: Page 19 of 22





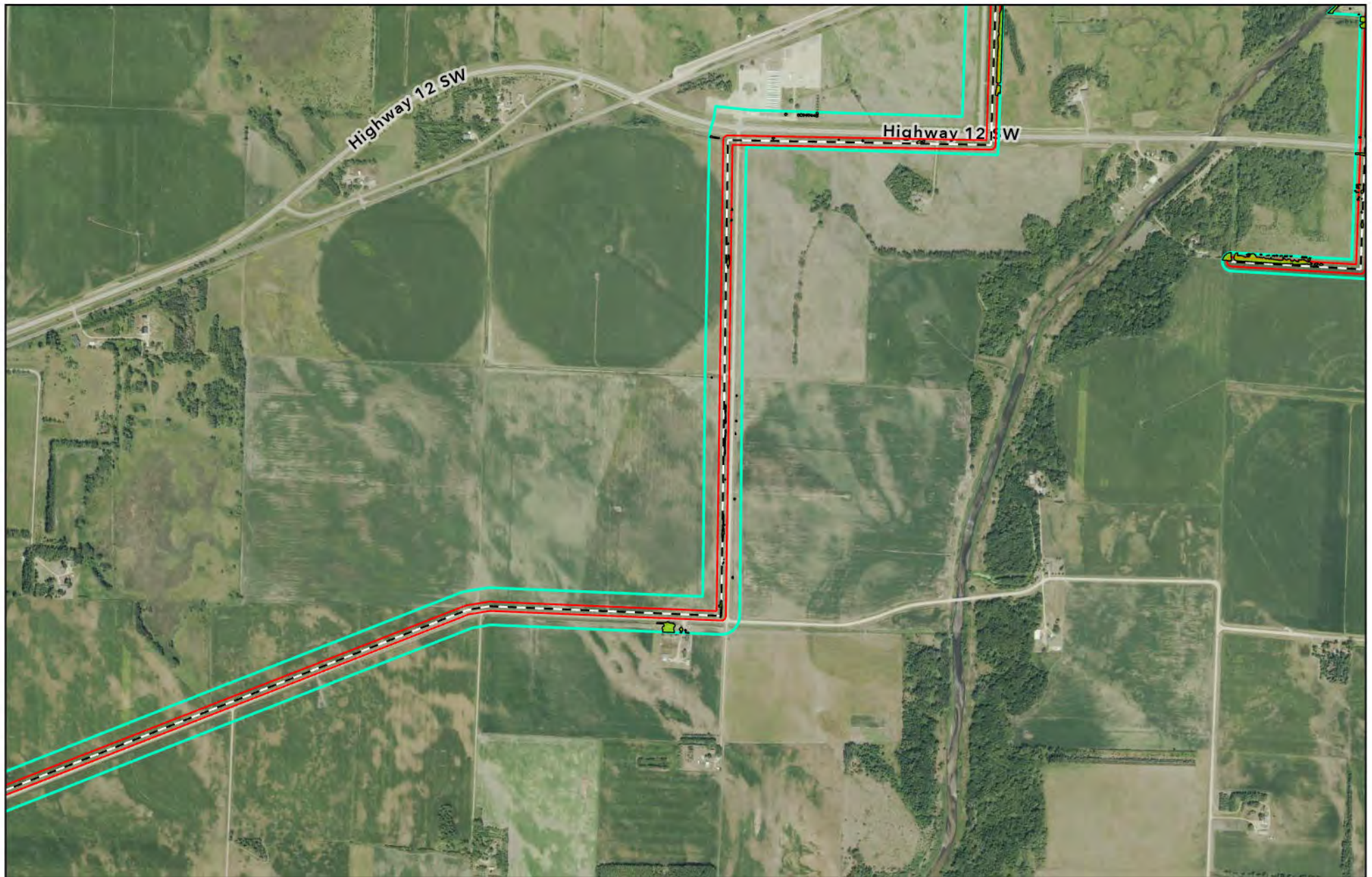
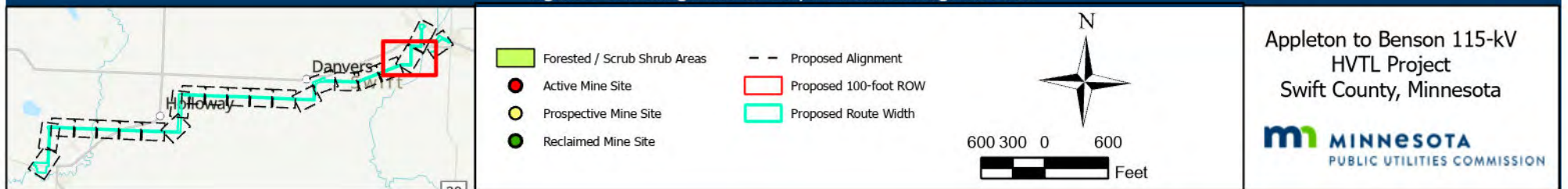


Figure 11: Mining and Forestry Resources: Page 20 of 22





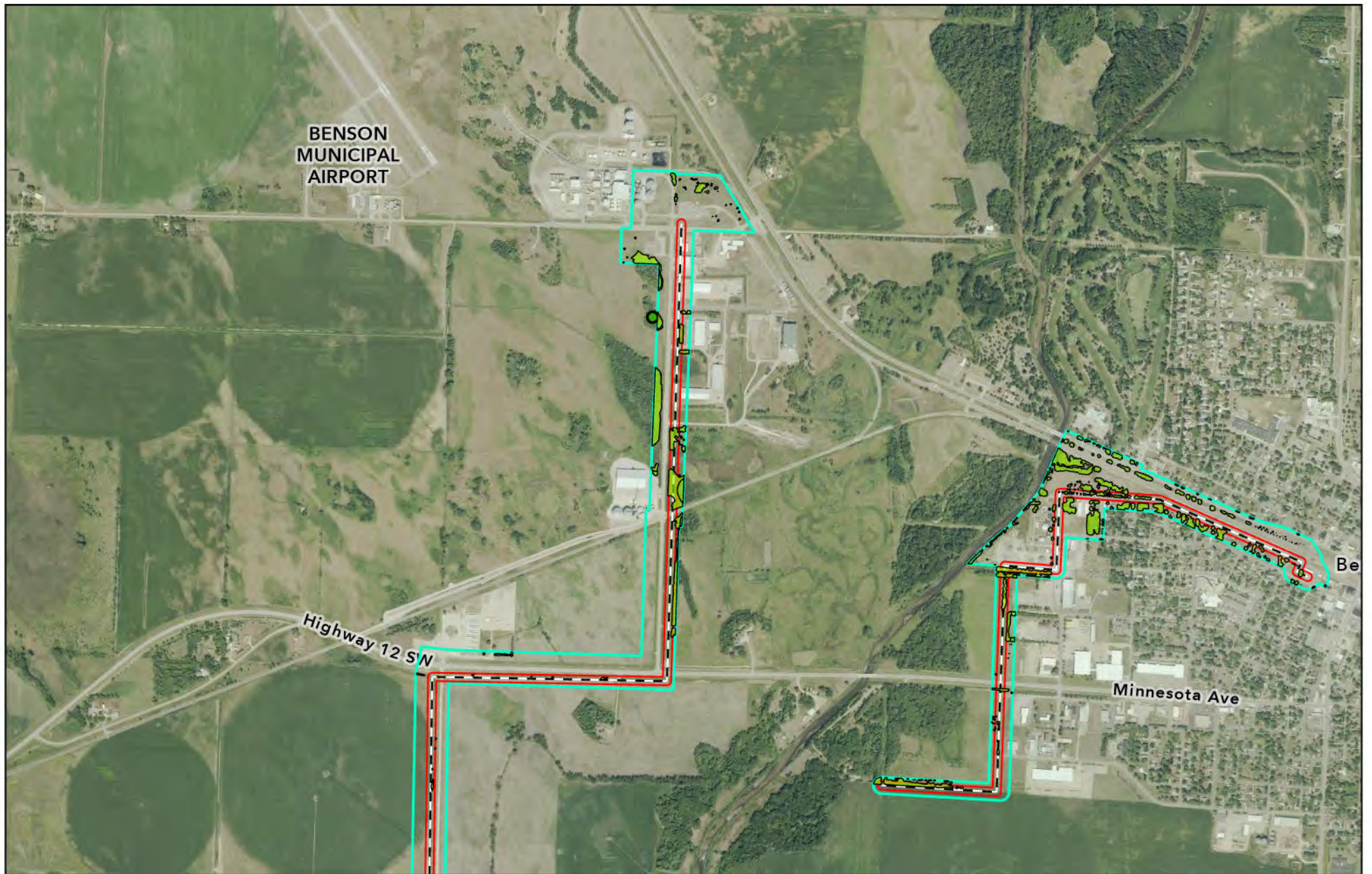


Figure 11: Mining and Forestry Resources: Page 21 of 22

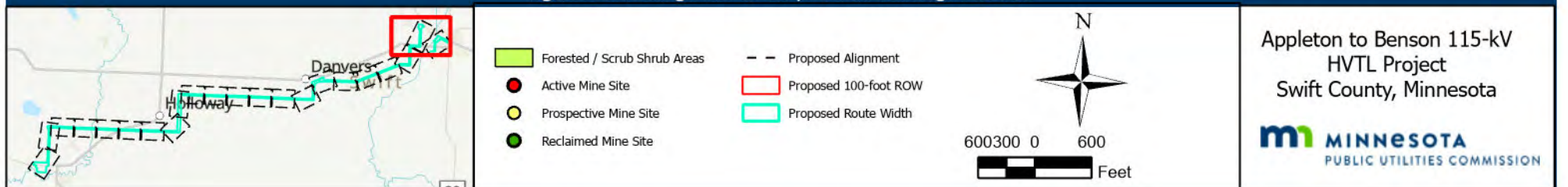
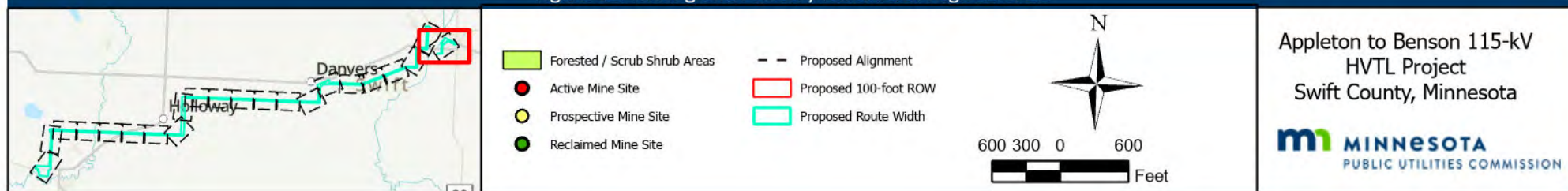






Figure 11: Mining and Forestry Resources: Page 22 of 22





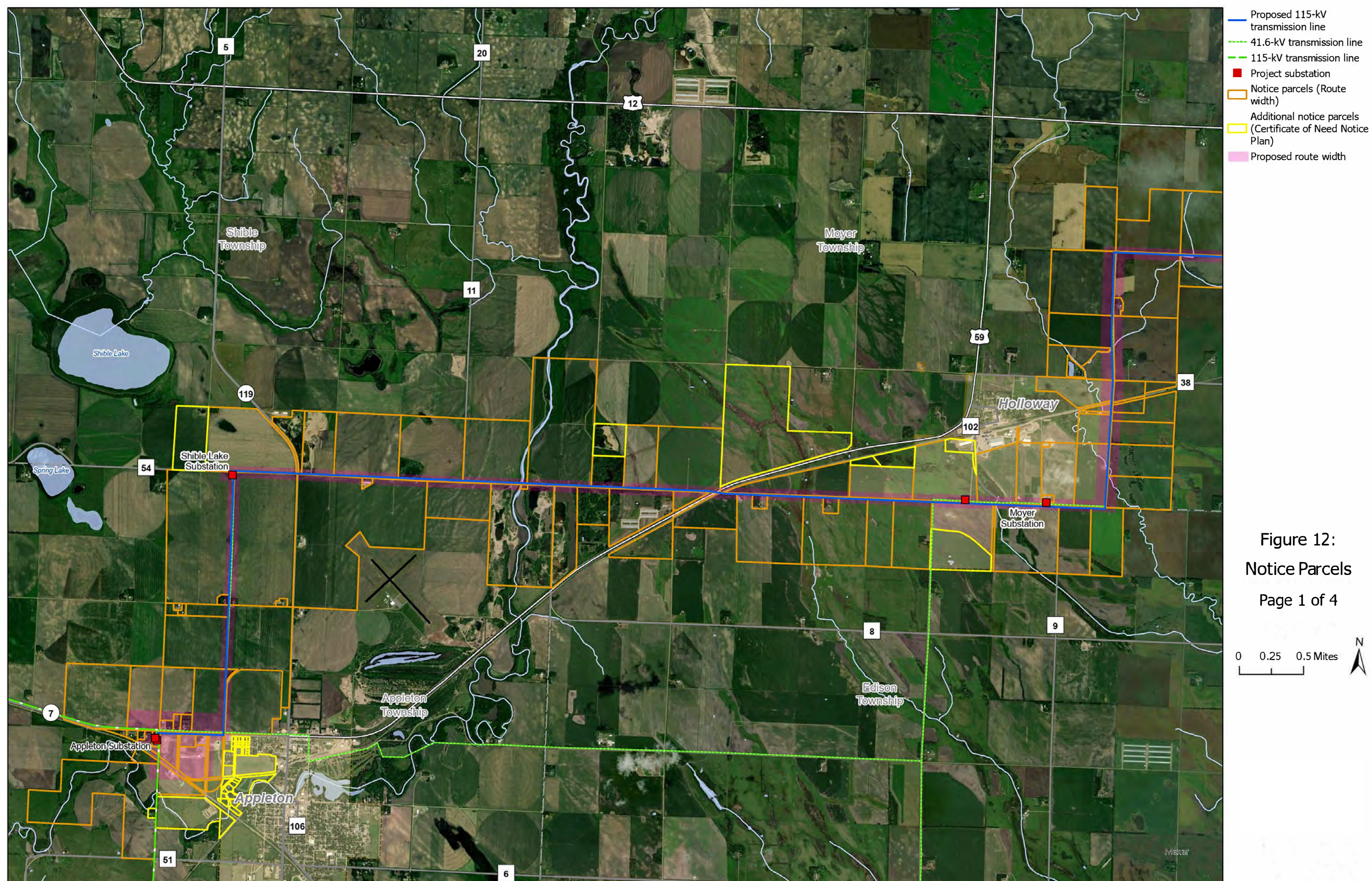
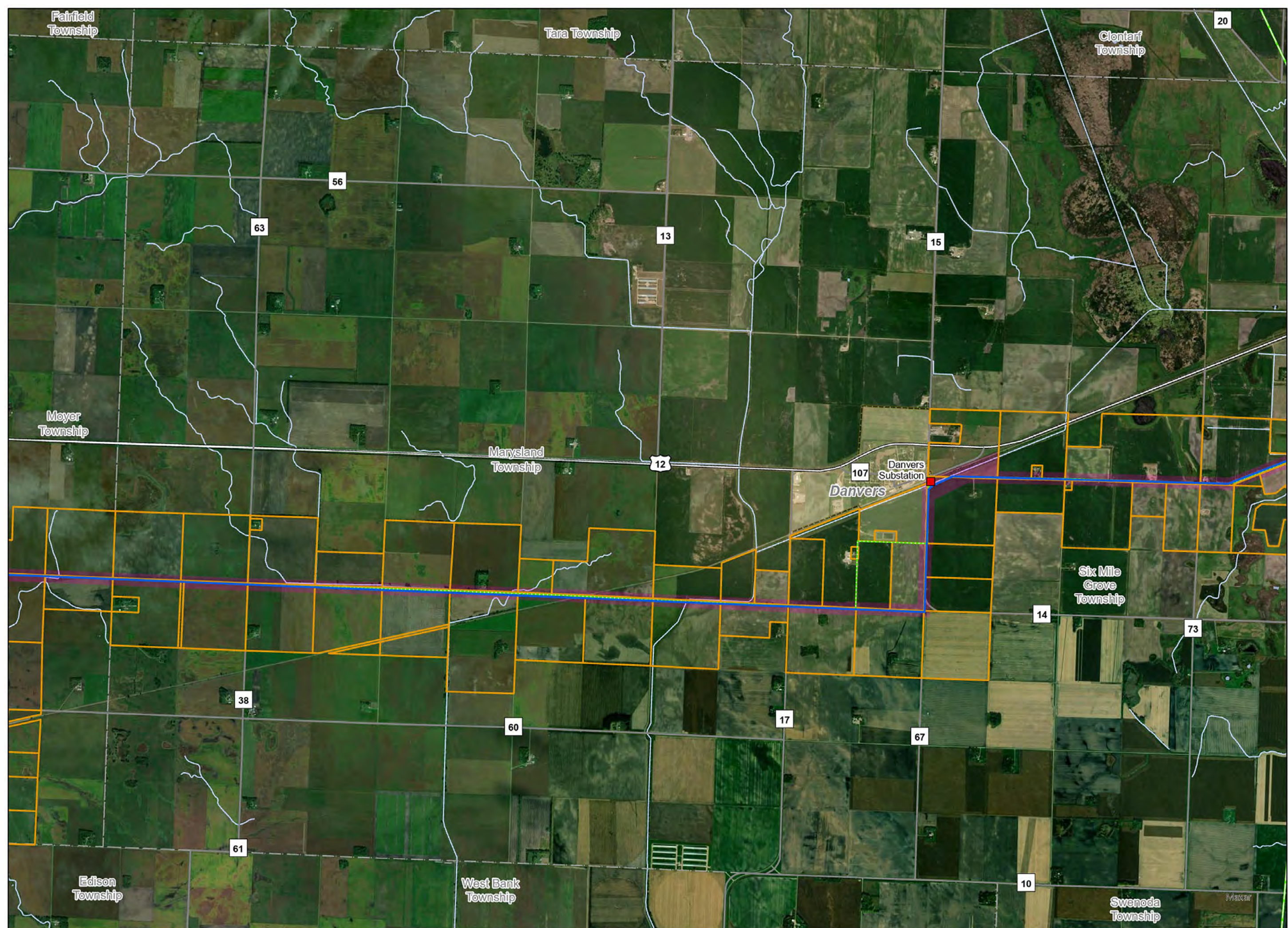


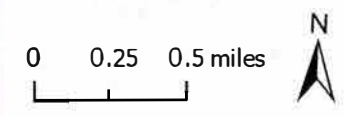
Figure 12:  
Notice Parcels  
Page 1 of 4



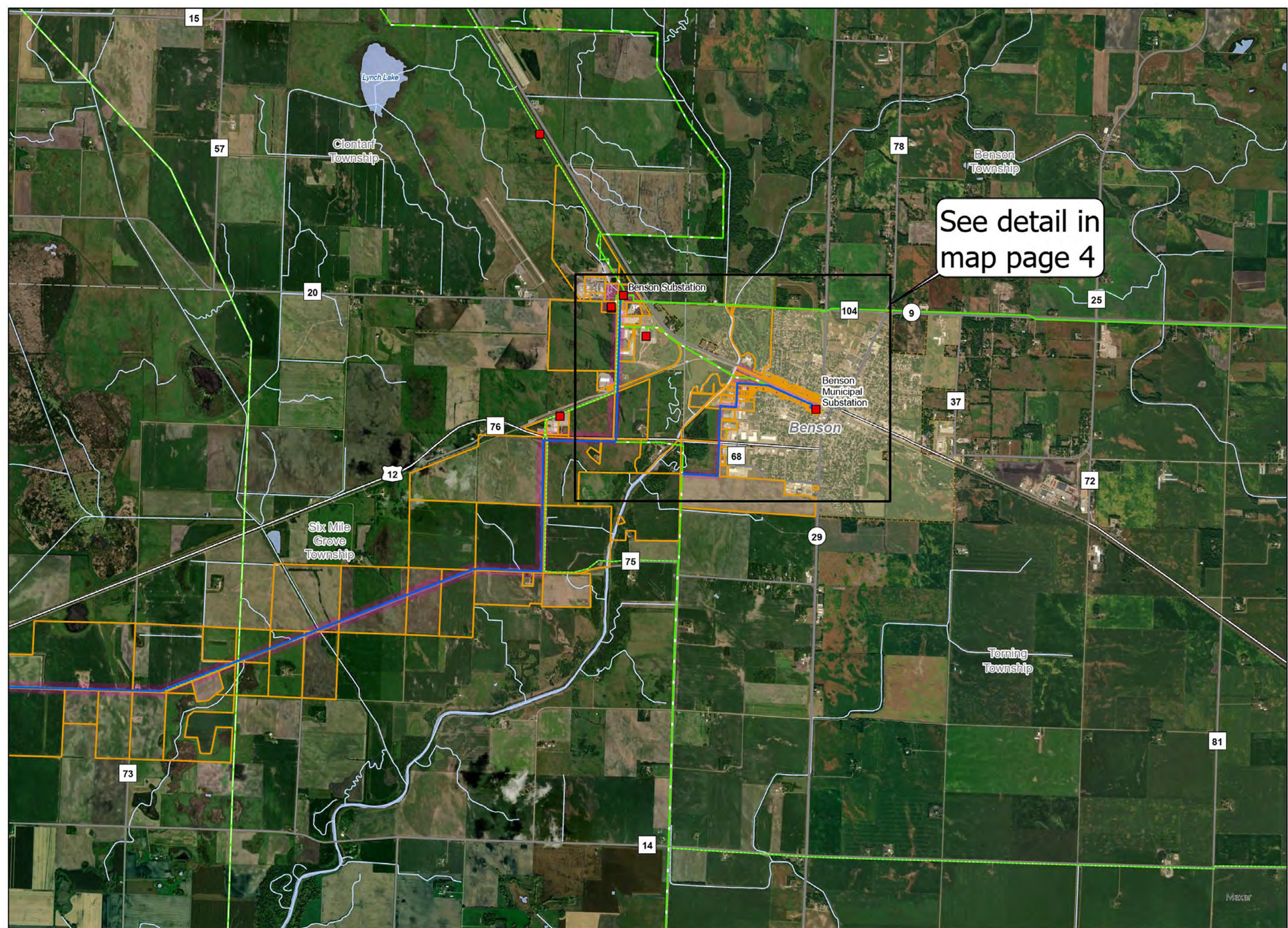


- Proposed 115-kV transmission line
- 41.6-kV transmission line
- 230-kV transmission line
- Project substation
- Notice parcels (Route width)
- Proposed route width

Figure 12:  
Notice Parcels  
Page 2 of 4



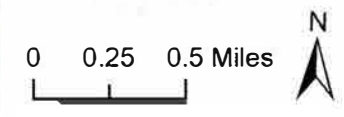




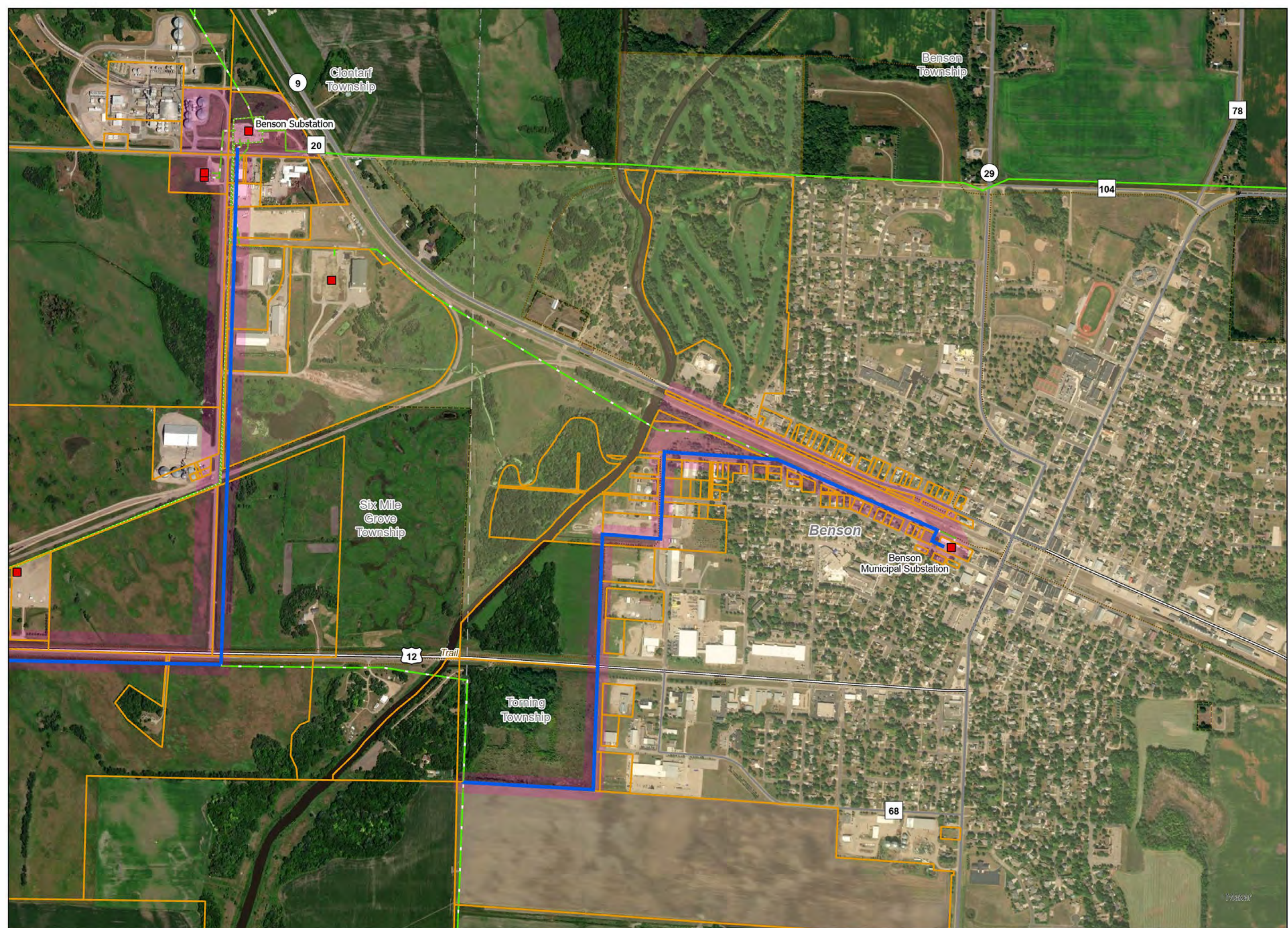
- Proposed 115-kV transmission line
- 41.6-kV transmission line
- 69-kV transmission line
- 115-kV transmission line
- 230-kV transmission line
- Project substation
- Notice parcels (Route width)
- Proposed route width

See detail in  
map page 4

Figure 11~2:  
Notice Parcels  
Page 3 of 4







- Proposed 115-kV transmission line
- 41.6-kV transmission line
- 69-kV transmission line
- 115-kV transmission line
- Project substation
- Notice parcels (Route width)
- Proposed route width

Figure 12:  
Notice Parcels

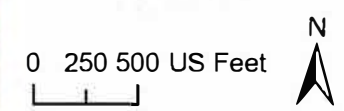
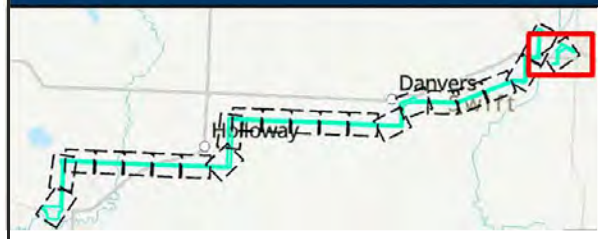


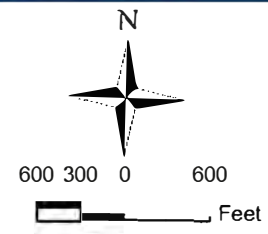




Figure 11: Mining and Forestry Resources: Page 22 of 22



- |                              |                       |
|------------------------------|-----------------------|
| Forested / Scrub Shrub Areas | Proposed Alignment    |
| Active Mine Site             | Proposed 100-foot ROW |
| Prospective Mine Site        | Proposed Route Width  |
| Reclaimed Mine Site          |                       |



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