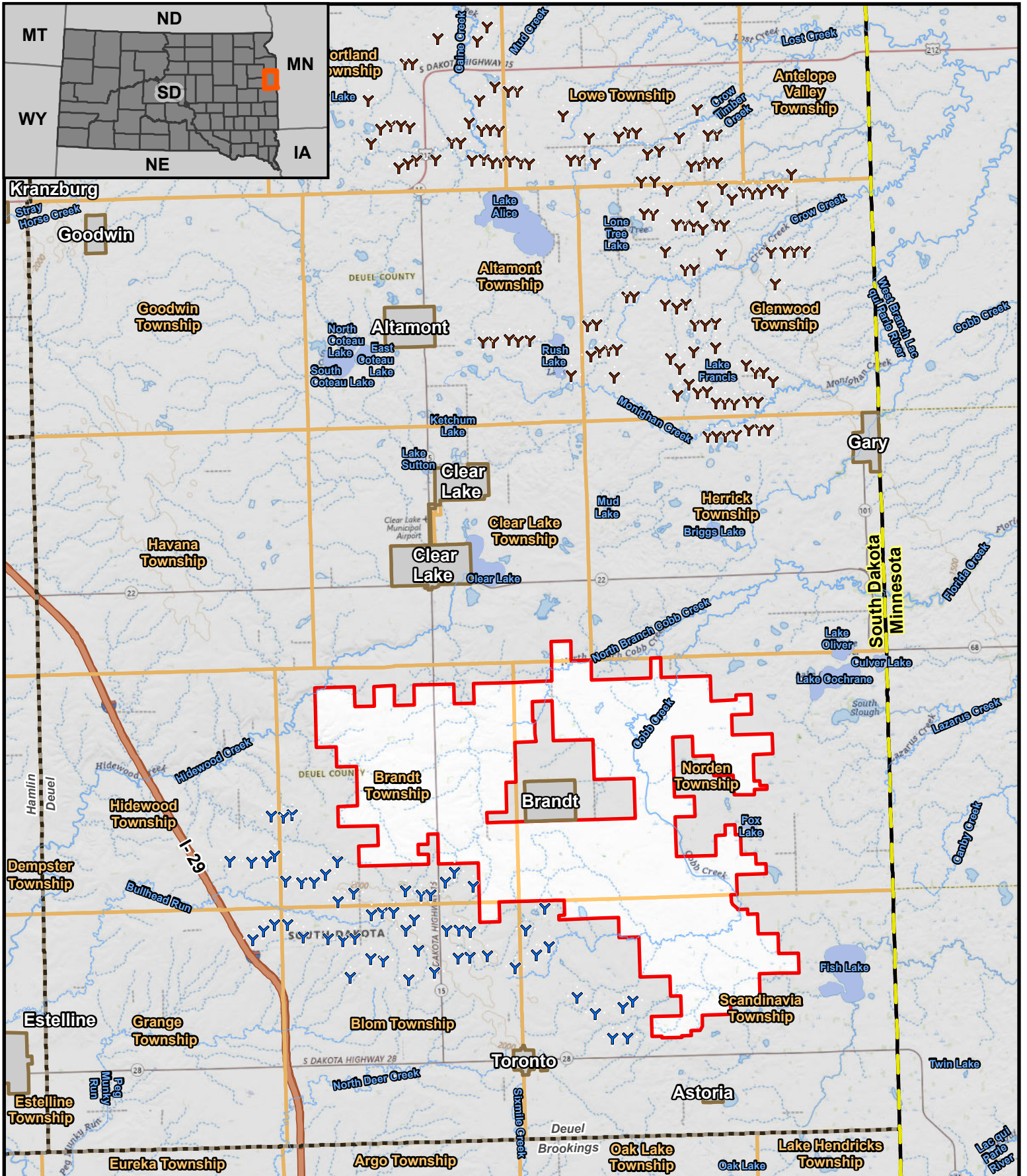


Appendix A – Figures

Figures

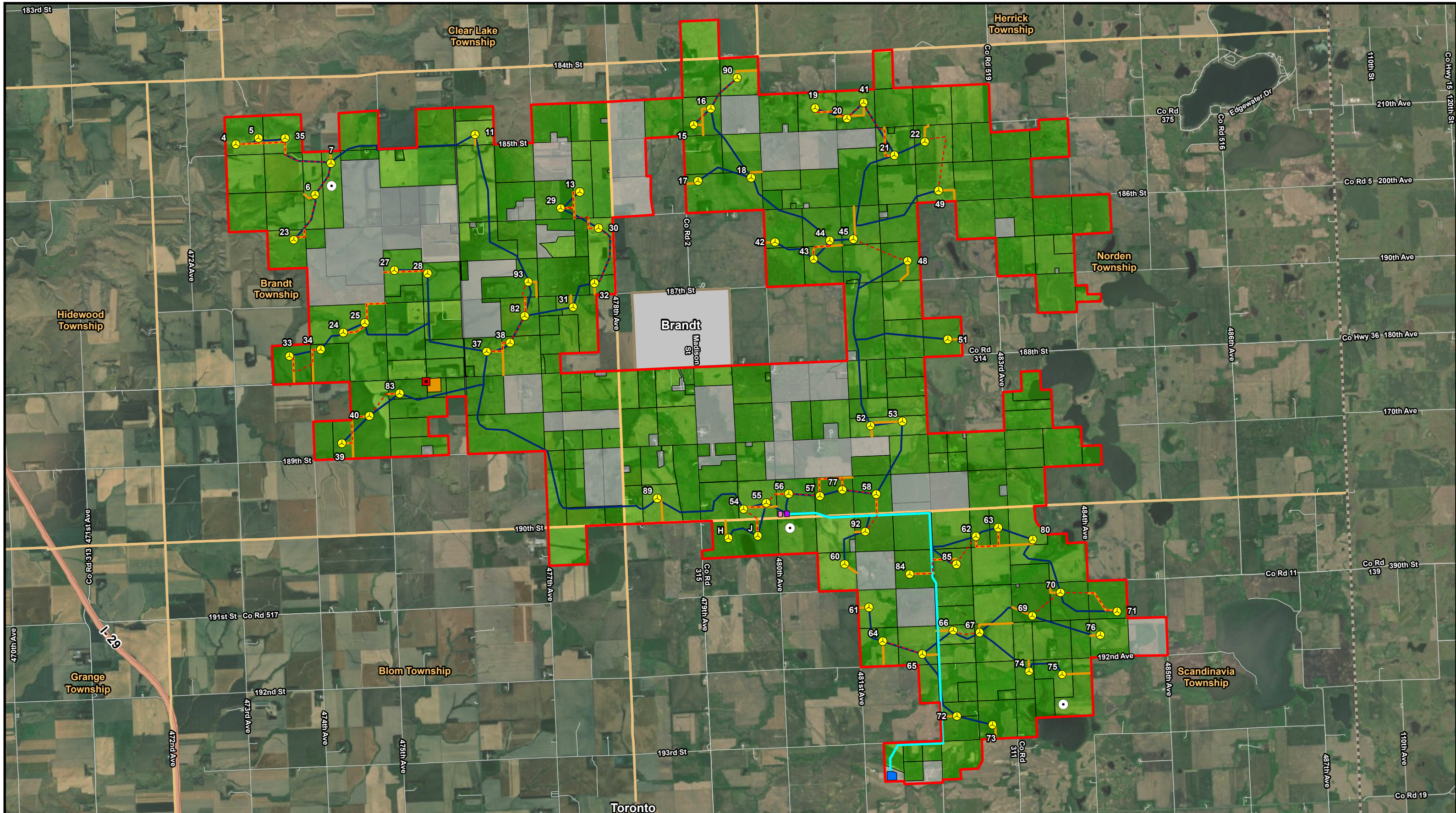
- Figure 1. Project Location Map
- Figure 2. Project Layout Mapbook
- Figure 3. Transmission Line Structures
- Figure 4. Turbine Siting Constraints Map
- Figure 5. Surficial Geology Map
- Figure 6. Surficial Geology Cross Section
- Figure 7. Bedrock Geology Map
- Figure 8. Soil Map
- Figure 9. Water Resources Map
- Figure 10. NLCD Map
- Figure 11. Environmental Constrains Map
- Figure 12. Land Use Map
- Figure 13. Public & Conservation Lands Map
- Figure 14. Public Facilities Map



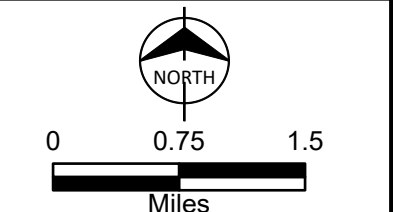
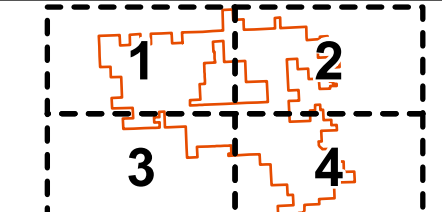
Project Area	State Boundary	 NORTH 0 1.25 2.5 Miles
River	Township Boundary	
Municipal Boundary	Existing Wind Turbines	
Lake	Deuel Harvest Wind Farm	
County Boundary	Tatanka Ridge Wind Farm	

Invenergy

Figure 1
 Project Location Map
 South Deuel Wind Project
 Deuel County, South Dakota



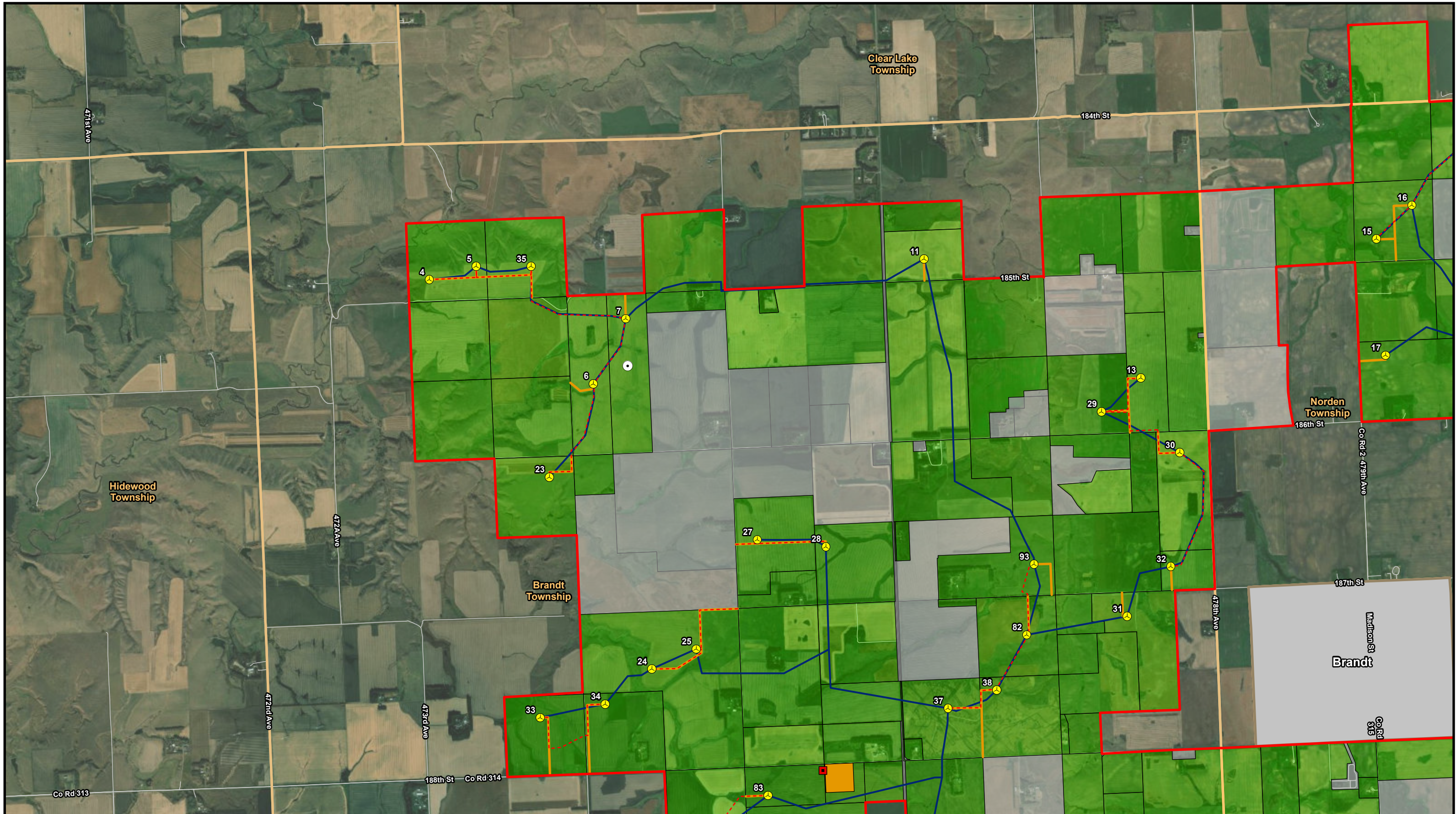
Turbine Location	Interconnection Switchyard	Municipal Boundary
Meteorological Tower	Access Road	County Boundary
Aircraft Detection Lighting System Tower	Electrical Collection and SCADA Systems	Township Boundary
General Construction Laydown Yard	Crane Path	Land Status
Collector Substation	Gen-Tie Line	Participating
O&M Facility	Project Area	Not Participating



Invenergy

Figure 2
Project Layout Map
South Deuel Wind Project
Deuel County, South Dakota

Source: ESRI, Census TIGER Data, Invenergy, Burns & McDonnell



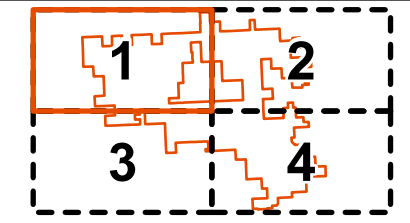
- Turbine Location
- Meteorological Tower
- Aircraft Detection Lighting System Tower
- Crane Path
- Electrical Collection and SCADA Systems

- Access Road
- General Construction Laydown Yard
- Municipal Boundary
- Project Area
- Township Boundary

County Boundary

Land Status

- Participating
- Not Participating



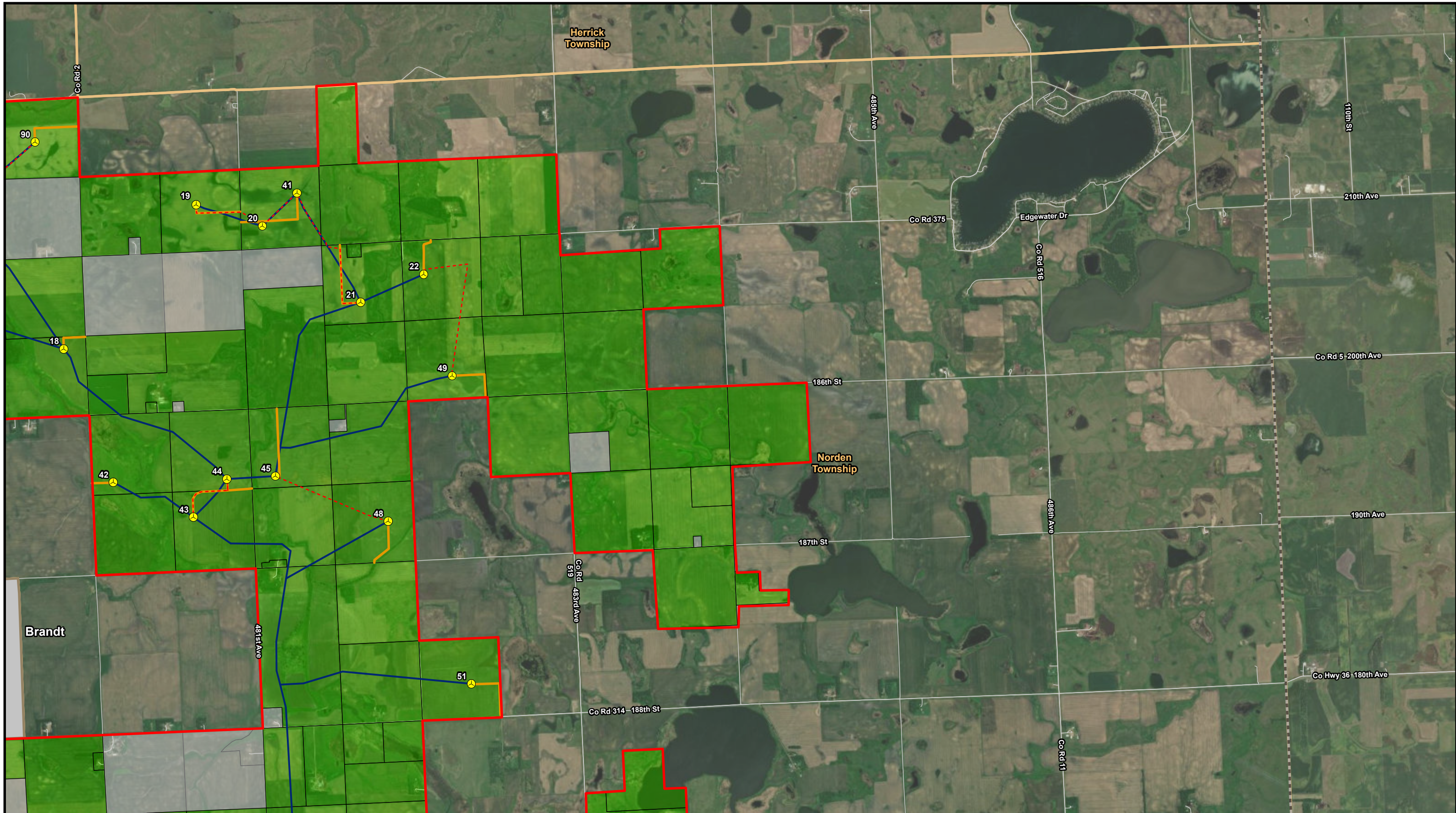
0 0.75 1.5

Miles



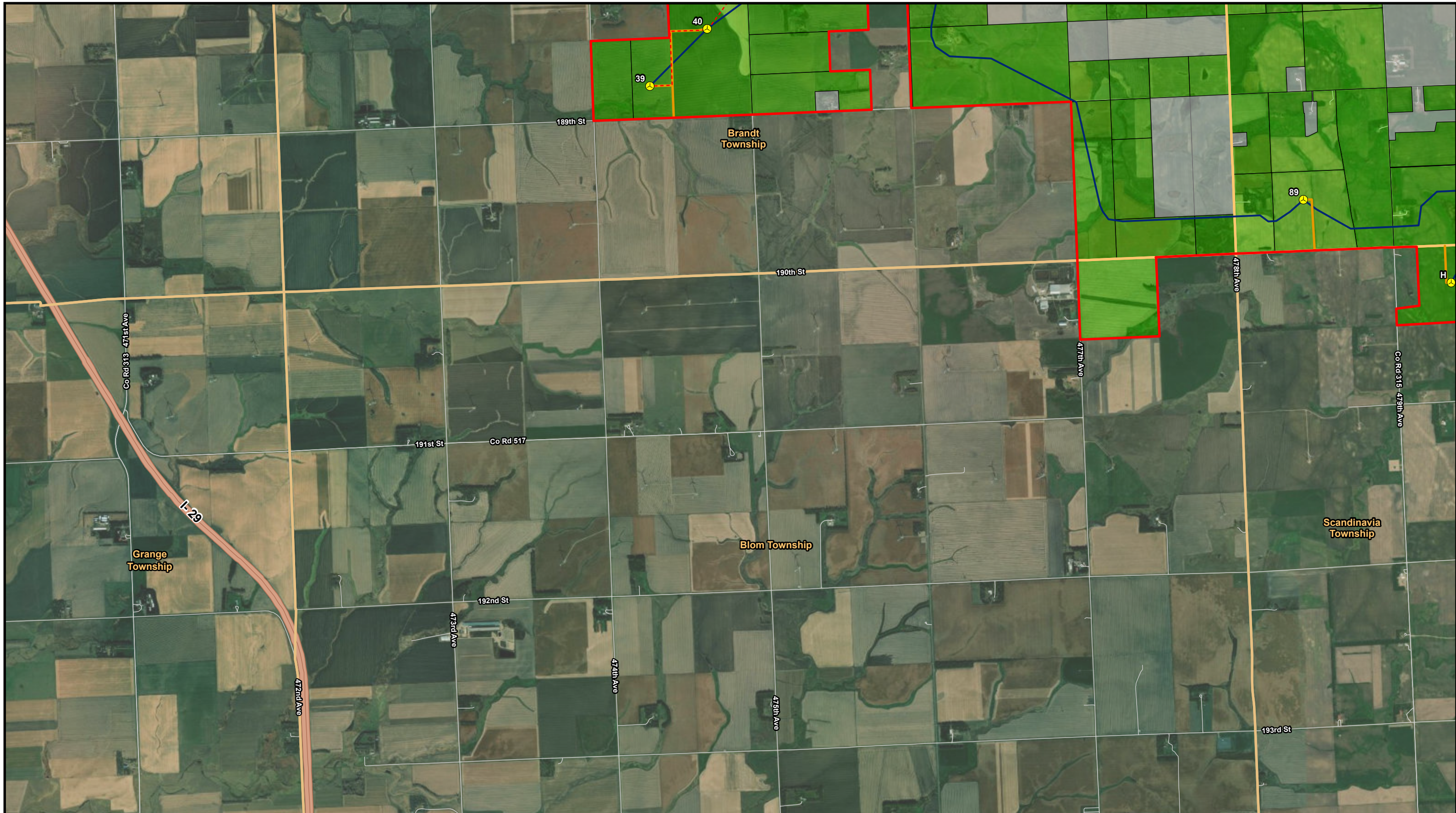
Figure 2
Project Layout Mapbook
South Deuel Wind Project
Deuel County, South Dakota
Page 1 of 4

Source: ESRI, Census TIGER Data, Invenergy, Burns & McDonnell



<ul style="list-style-type: none"> Turbine Location Meteorological Tower Crane Path Electrical Collection and SCADA Systems 	<ul style="list-style-type: none"> Access Road Municipal Boundary Project Area Township Boundary 	<ul style="list-style-type: none"> County Boundary <p>Land Status</p> <ul style="list-style-type: none"> Participating Not Participating 				<p>Figure 2 Project Layout Mapbook South Deuel Wind Project Deuel County, South Dakota Page 2 of 4</p>
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Source: ESRI, Census TIGER Data, Invenergy, Burns & McDonnell



- Turbine Location
- Meteorological Tower
- Crane Path
- Electrical Collection and SCADA Systems
- Access Road
- Project Area
- Township Boundary
- County Boundary

- Land Status**
- Participating
 - Not Participating

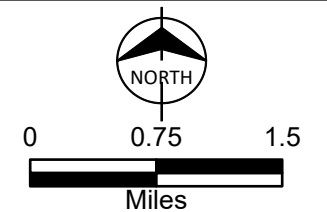
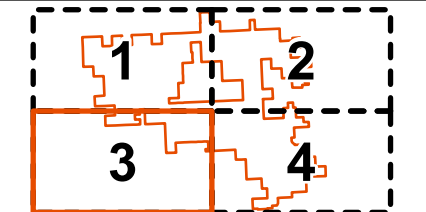
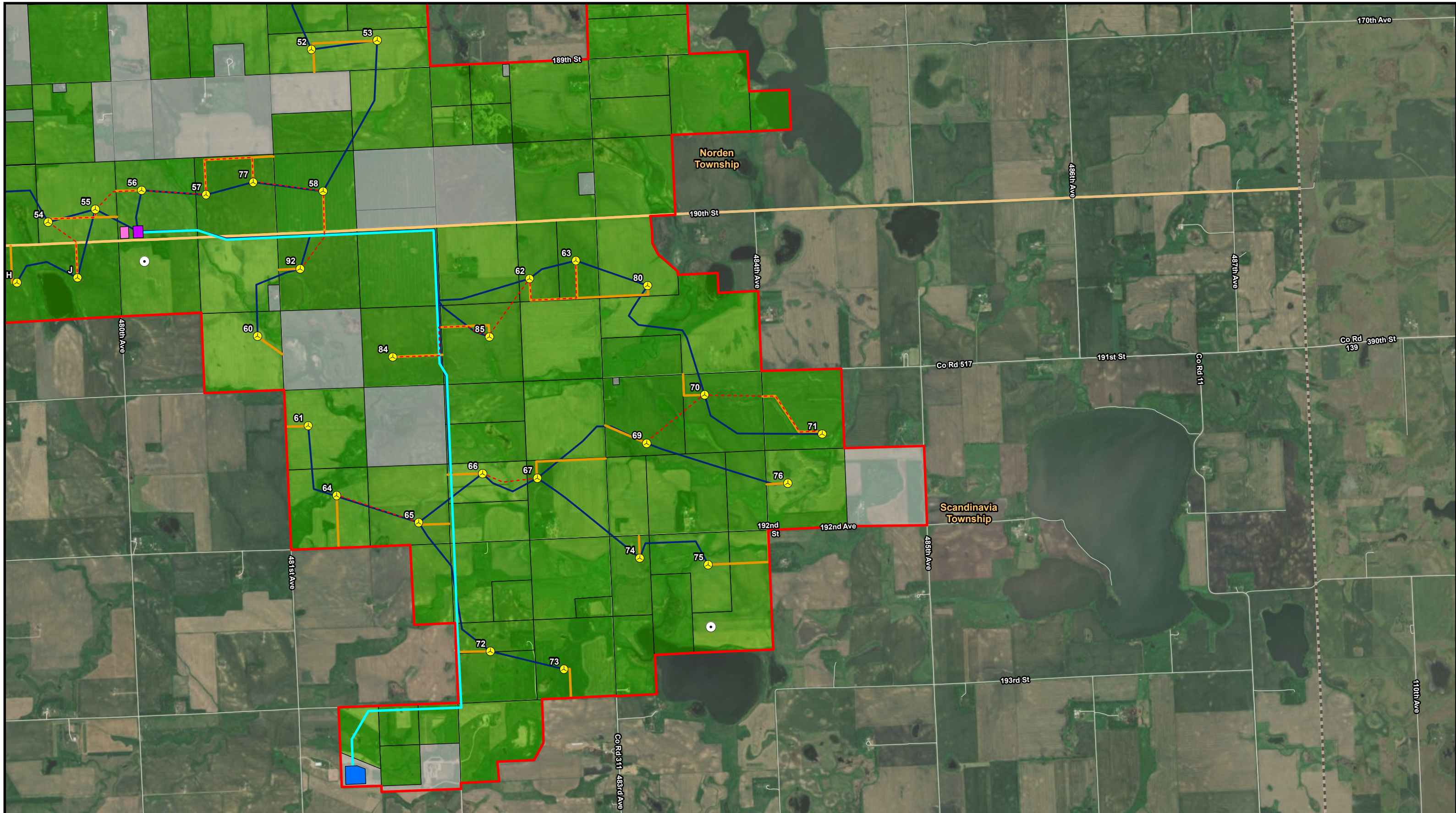


Figure 2
 Project Layout Mapbook
 South Deuel Wind Project
 Deuel County, South Dakota
 Page 3 of 4



Turbine Location	Gen-Tie Line	Township Boundary
Meteorological Tower	Interconnection Switchyard	County Boundary
Crane Path	Collector Substation	Land Status
Electrical Collection and SCADA Systems	O&M Facility	Participating
Access Road	Project Area	Not Participating

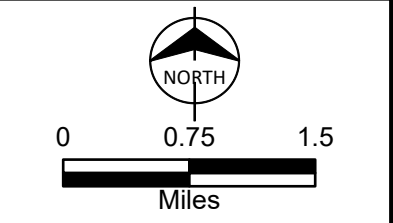
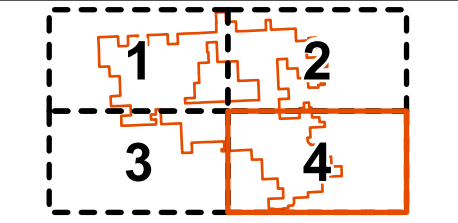
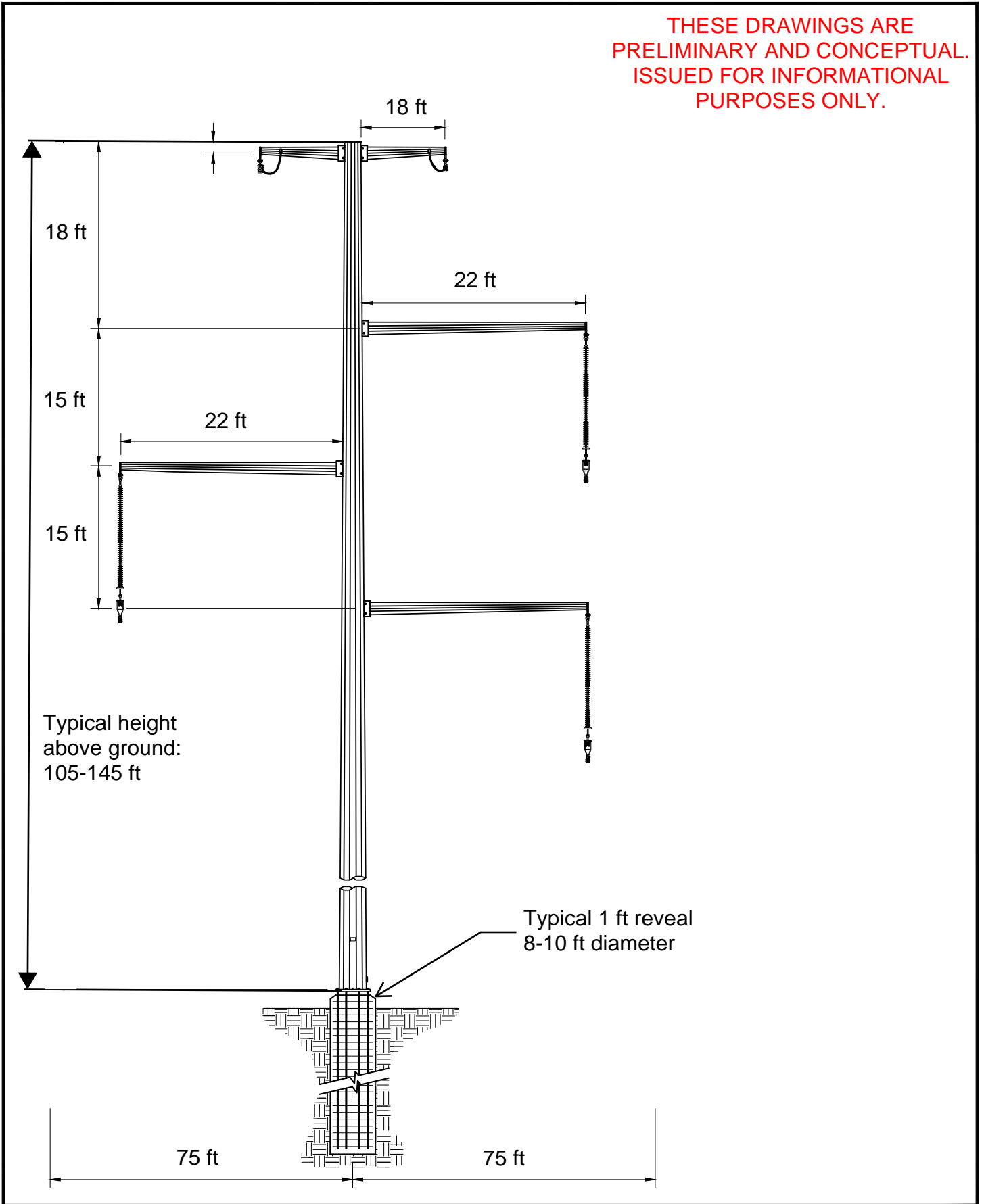


Figure 2
 Project Layout Mapbook
 South Deuel Wind Project
 Deuel County, South Dakota
 Page 4 of 4

Source: ESRI, Census TIGER Data, Invenergy, Burns & McDonnell

THESE DRAWINGS ARE
PRELIMINARY AND CONCEPTUAL.
ISSUED FOR INFORMATIONAL
PURPOSES ONLY.



Invenergy

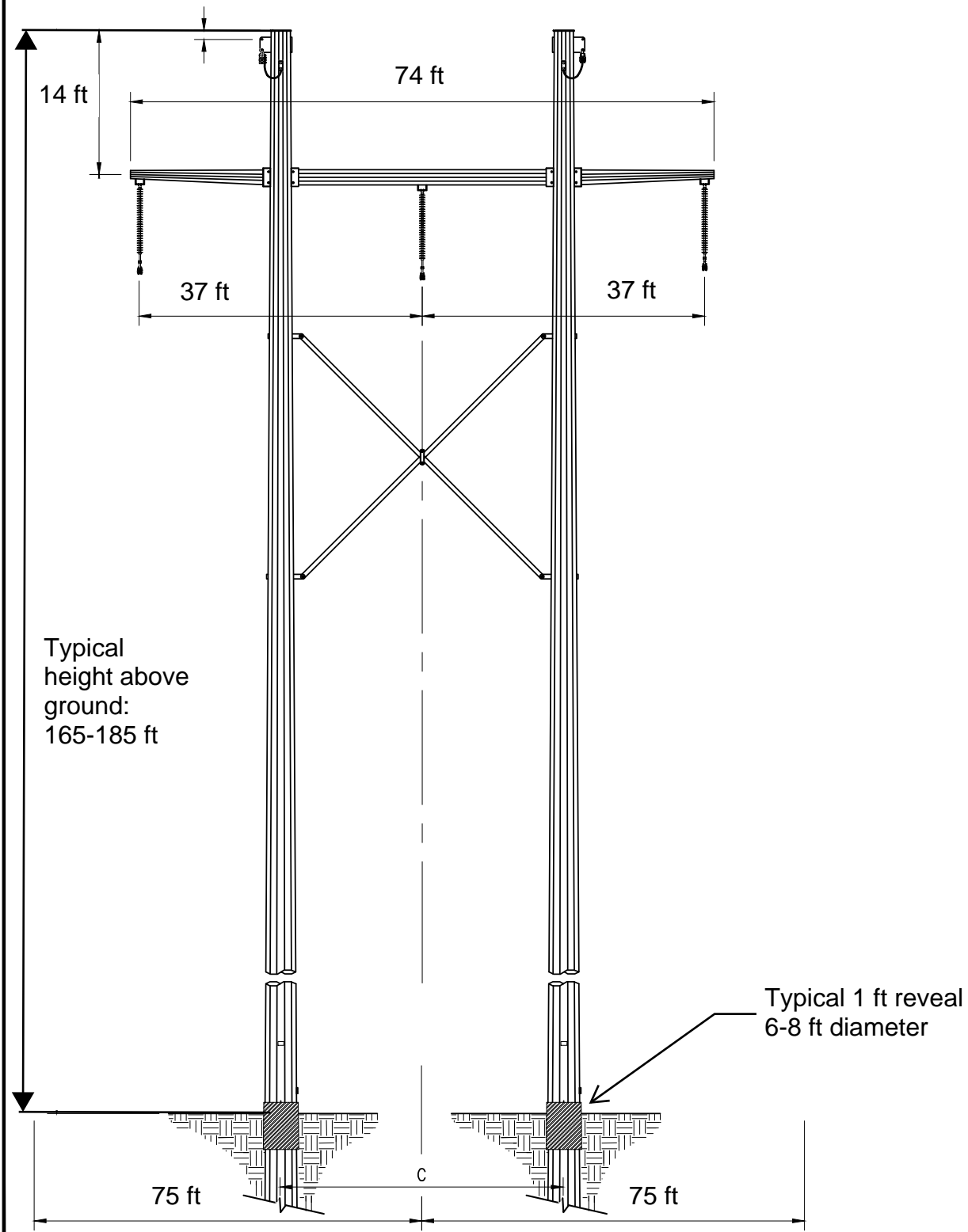
ENGINEERING RECORD		DATE
DRAWN		
DESIGNED		
CHECKED		
APPROVED		
DWG SCALE:	PLT SCALE:	

345 kV - Typical Single Pole
Angle Structure

DWG. NAME:

REVISION NO.:

THESE DRAWINGS ARE
PRELIMINARY AND CONCEPTUAL.
ISSUED FOR INFORMATIONAL
PURPOSES ONLY.



Invenergy

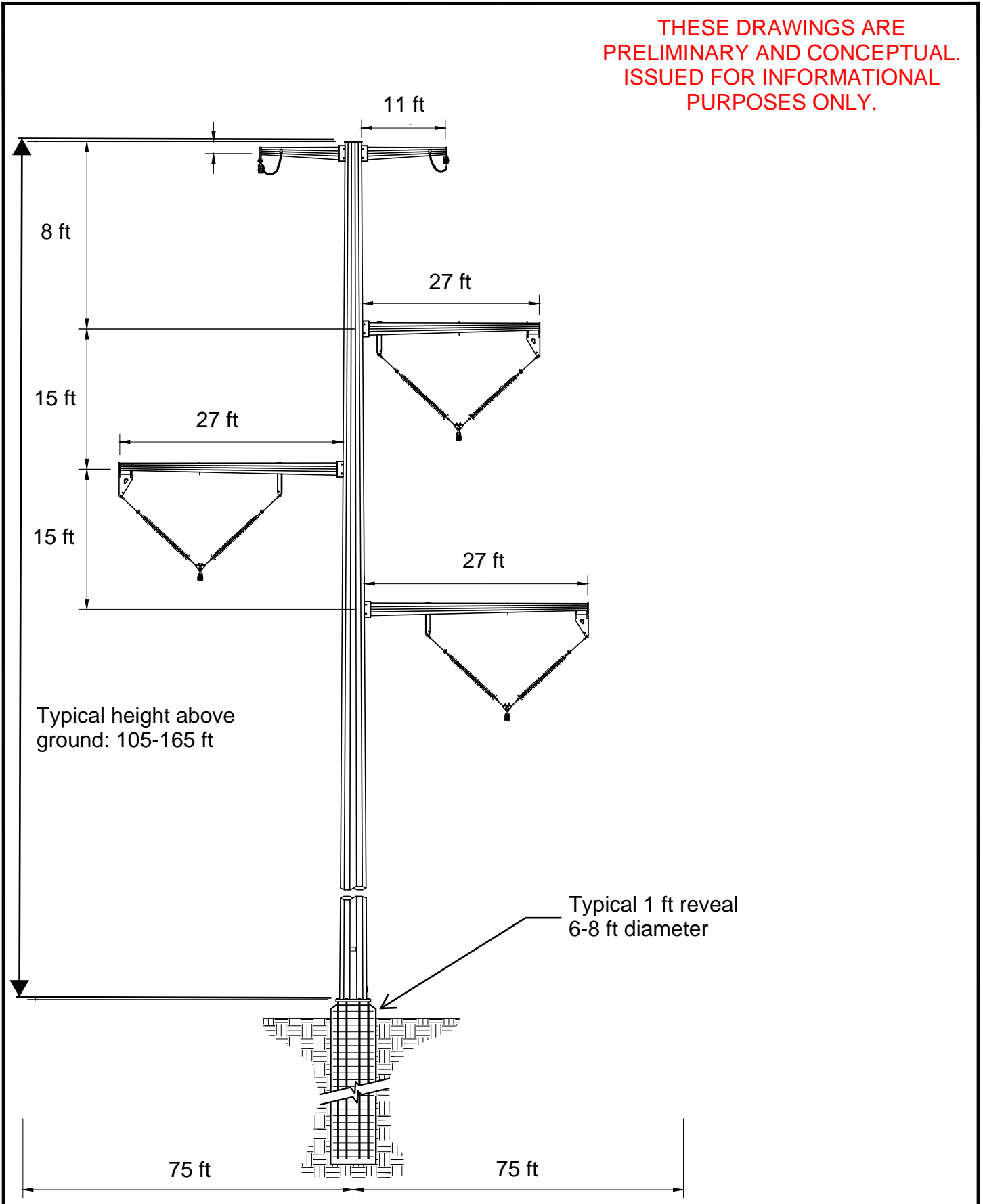
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DRAWN		
DESIGNED		
CHECKED		
APPROVED		
DWG SCALE:	PLT SCALE:	

**345 kV - Typical H Frame
Tangent Structure**

DWG. NAME:

REVISION NO :

THESE DRAWINGS ARE
PRELIMINARY AND CONCEPTUAL.
ISSUED FOR INFORMATIONAL
PURPOSES ONLY.

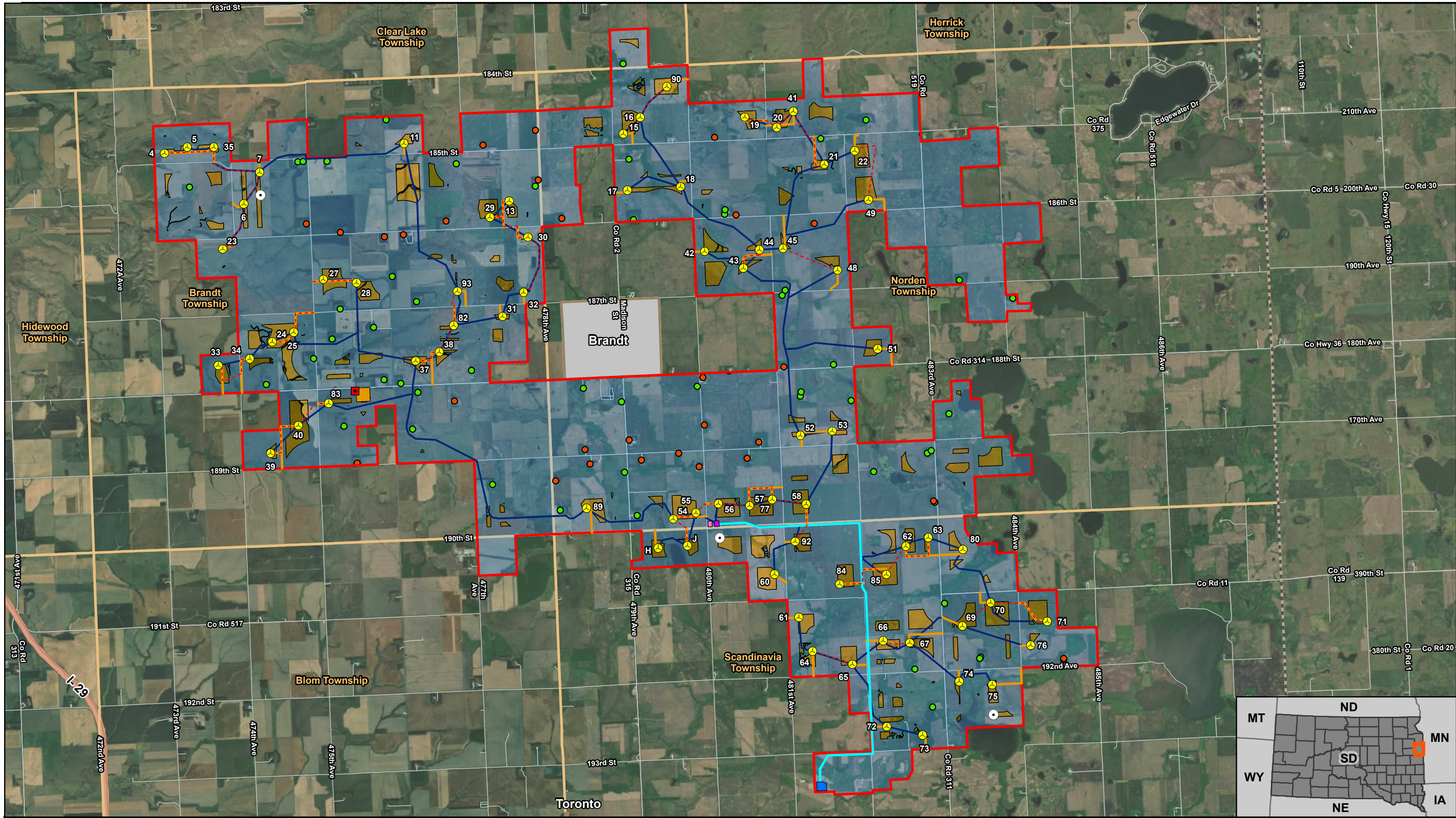


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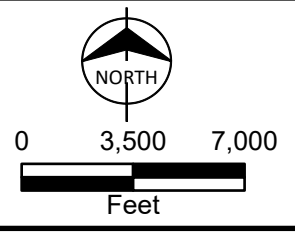
ENGINEERING RECORD		DATE
DRAWN		
DESIGNED		
CHECKED		
APPROVED		
DWG SCALE:	PLT SCALE:	

345 kV - Typical Single Pole
Tangent Structure

DWG. NAME: REVISION NO :



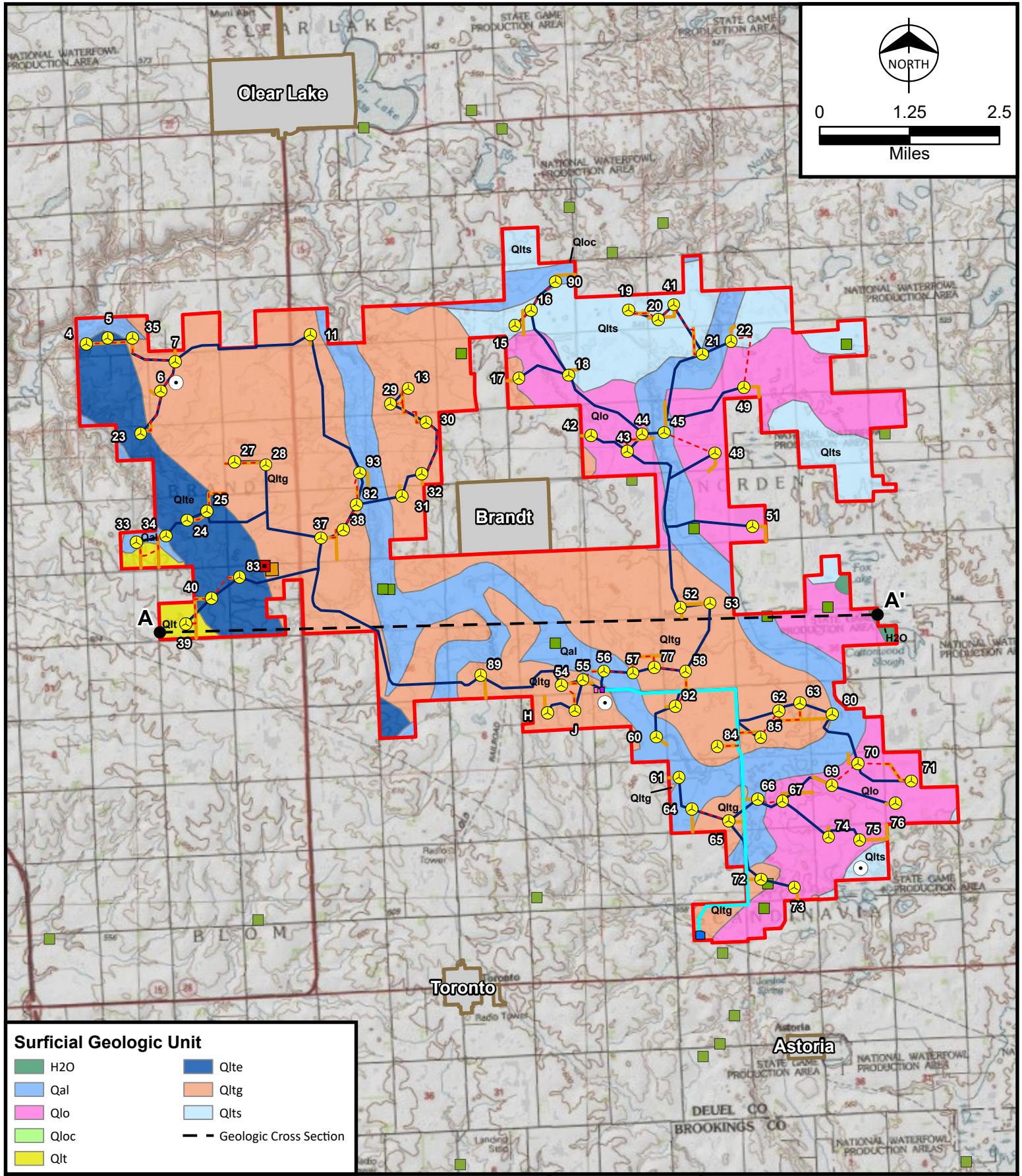
Turbine Location	Buildable Area	Township Boundary	Access Road
Meteorological Tower	Constraints	Project Area	O&M Facility
Aircraft Detection Lighting System Tower	Interconnection Switchyard	County Boundary	Residence Status
Gen-Tie Line	Collector Substation	Municipal Boundary	Participating
Crane Path	General Construction Laydown Yard	Electrical Collection and SCADA Systems	Non-Participating



Invenergy

Figure 4
Turbine Siting Constraints Map
South Deuel Wind Project
Deuel County, South Dakota

Source: ESRI, Census TIGER Data, Invenergy, Burns & McDonnell



Surficial Geologic Unit

H2O	Qlte
Qal	Qltg
Qlo	Qlts
Qloc	Geologic Cross Section
Qlt	

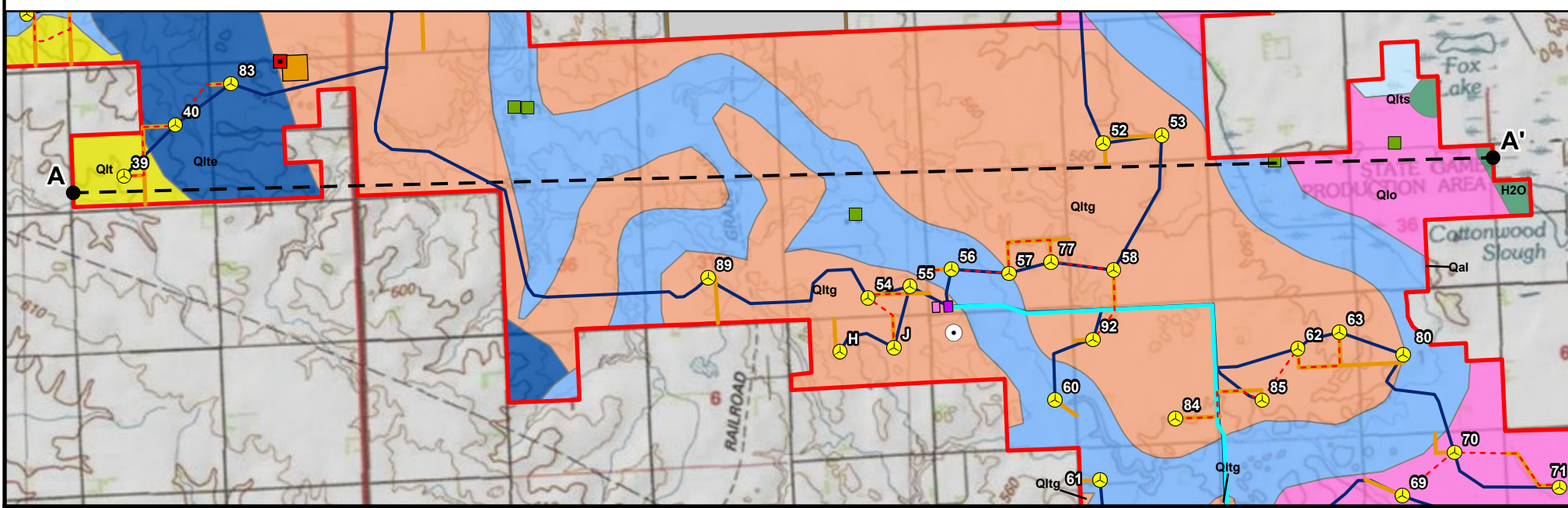
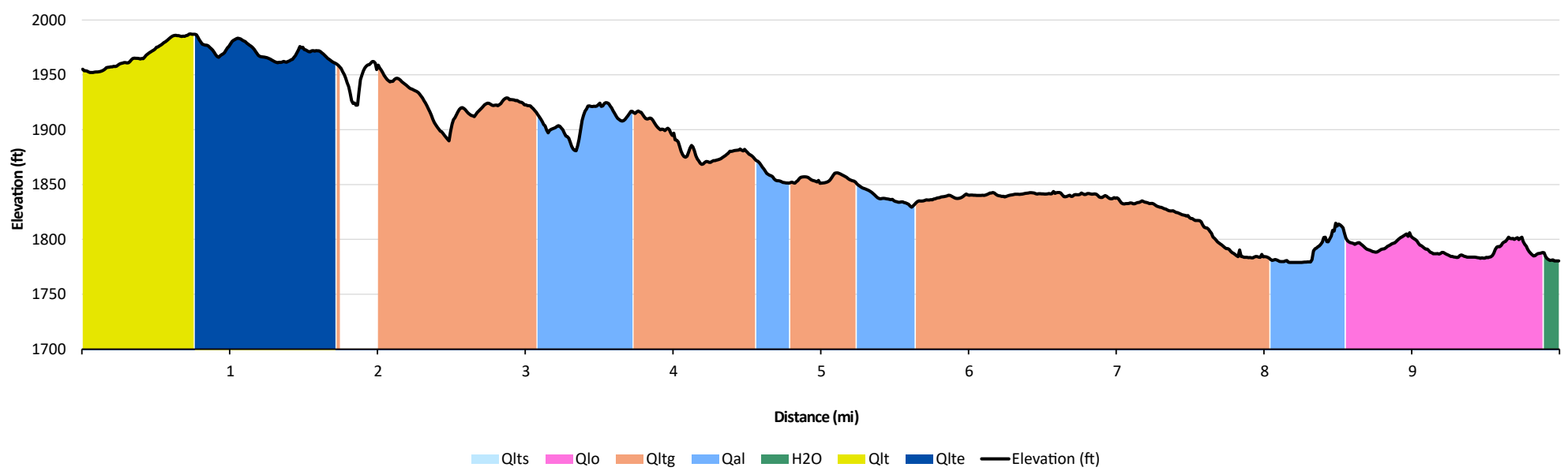
Turbine Location	O&M Facility
Meteorological Tower	Gen-Tie Line
Aircraft Detection Lighting System Tower	Access Road
Potentially Inactive Gravel Pit	Electrical Collection and SCADA Systems
Interconnection Switchyard	Crane Path
Collector Substation	Municipal Boundary
General Construction Laydown Yard	Project Area



Figure 5
Surficial Geology Map
 South Deuel Wind Project
 Deuel County, South Dakota

Source: ESRI, Census TIGER Data, USGS, Invenergy, Burns & McDonnell

A - A' Profile



- Turbine Location
- Meteorological Tower
- Aircraft Detection Lighting System Tower
- Potentially Inactive Gravel Pit
- Collector Substation
- General Construction Laydown Yard

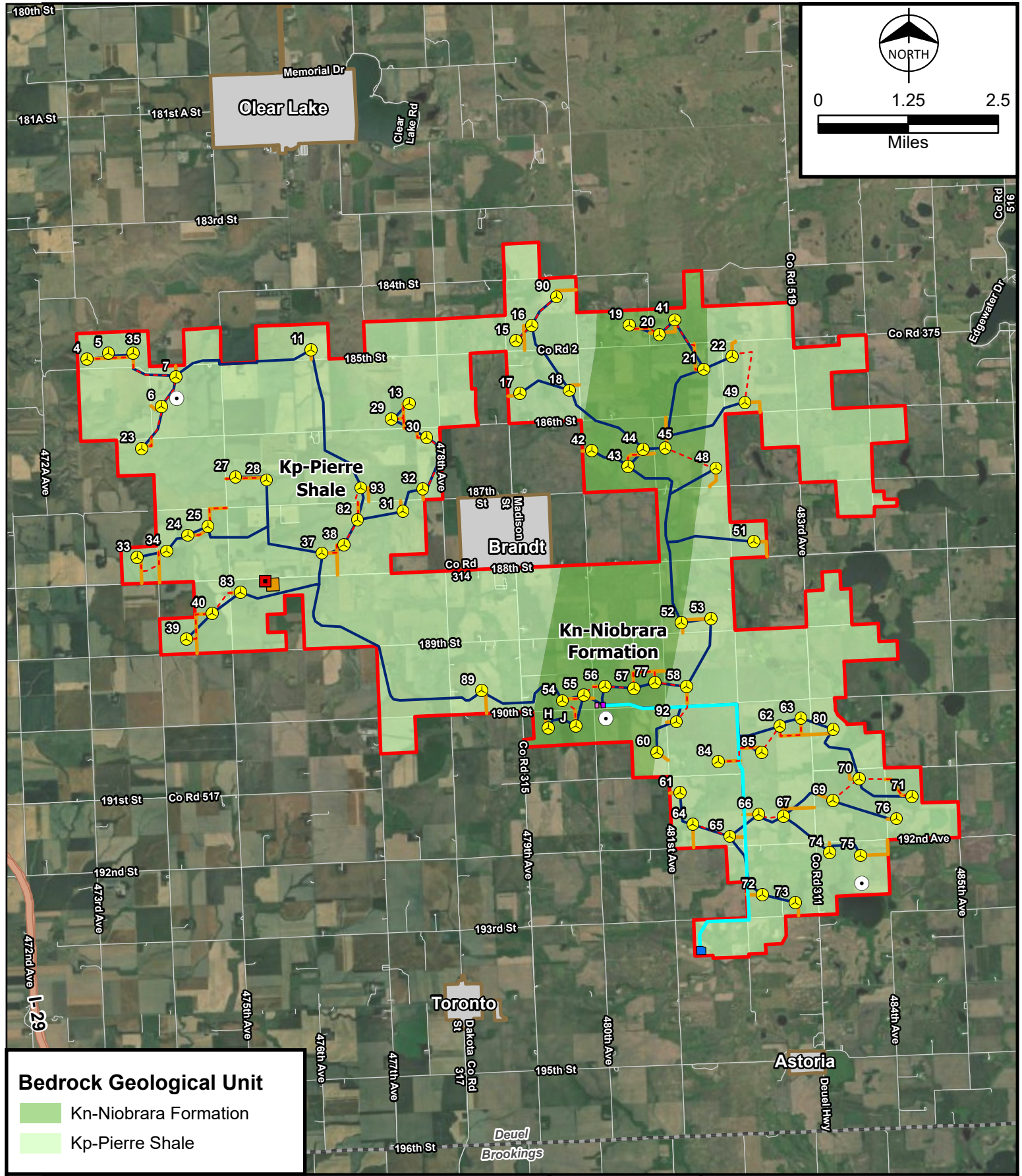
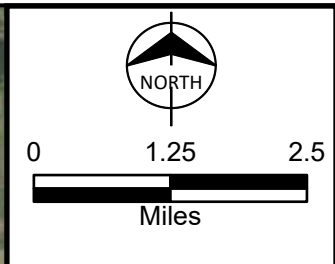
- O&M Facility
- Gen-Tie Line
- Access Road
- Electrical Collection and SCADA Systems
- Crane Path
- Municipal Boundary
- Project Area

- Surficial Geologic Unit**
- H2O
 - Qal
 - Qlo
 - Qt
 - Qlte
 - Qltg
 - Qlts
 - Geologic Cross Section



Figure 6
 Surficial Geology Cross Section
 South Deuel Wind Project
 Deuel County, South Dakota

Source: ESRI, Census TIGER Data, USGS, Invenergy, Burns & McDonnell



Bedrock Geological Unit

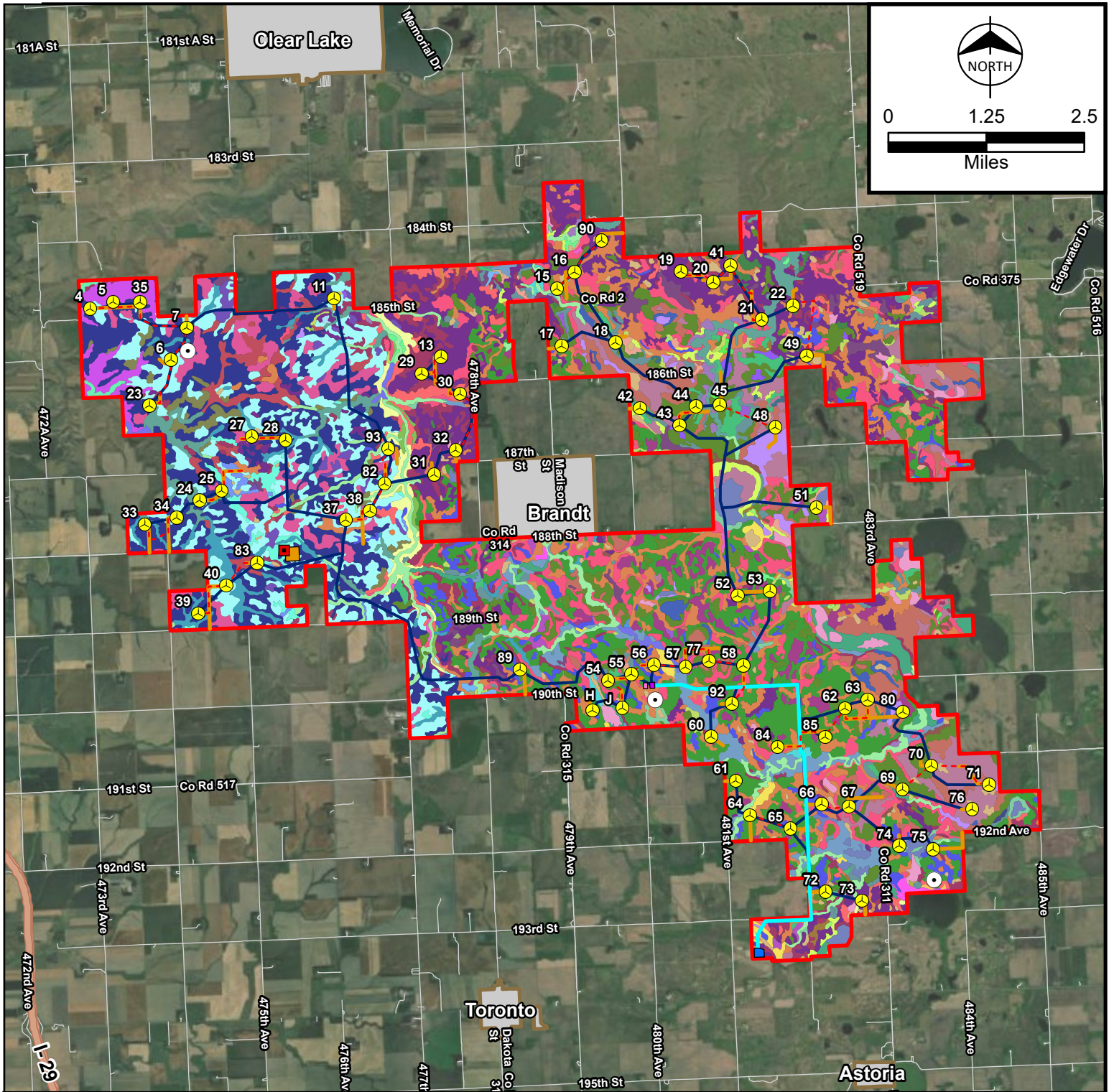
- Kn-Niobrara Formation
- Kp-Pierre Shale

- Turbine Location
- Meteorological Tower
- Aircraft Detection Lighting System Tower
- Interconnection Switchyard
- Collector Substation
- General Construction Laydown Yard
- O&M Facility
- Gen-Tie Line
- Access Road
- Electrical Collection and SCADA Systems
- Crane Path
- Municipal Boundary
- Project Area
- County Boundary



Figure 7
Bedrock Geology Map
 South Deuel Wind Project
 Deuel County, South Dakota

Source: Esri, Census TIGER Data, USGS, Invenergy, and Burns & McDonnell



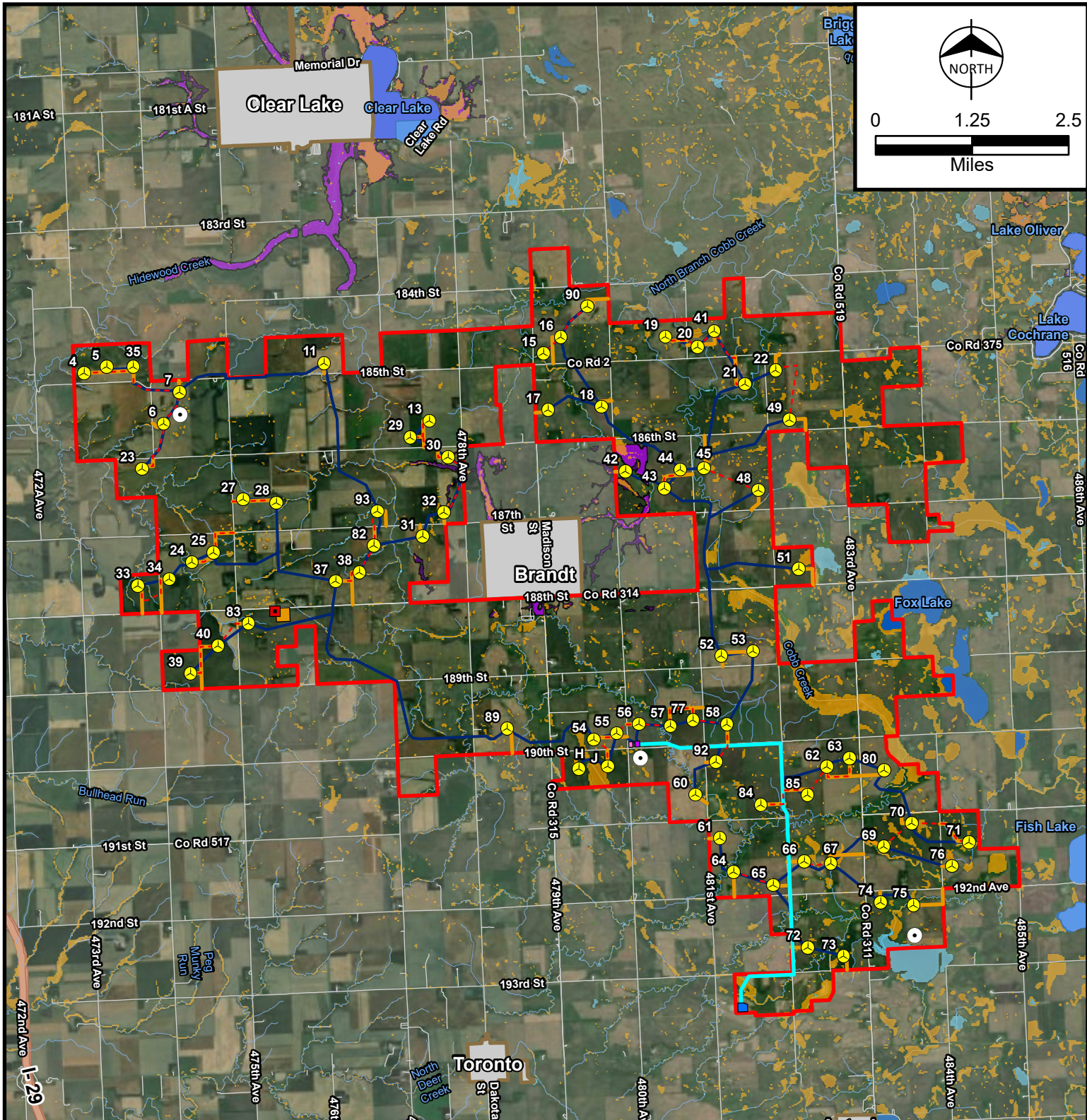
Soil Type										
ArA	BcE	Br	Dv	Fy	Ld	Mn	Pc	RIA	Vc	Z152A
ArB	BgD	BIIE	EgA	Hm	Lp	Mr	Pm	SbA	VrA	Z153A
ArC	BKA	BvE	EgB	HtA	Lr	NsC	PoC	SbB	VtB	Z164A
AvD	BKB	BxE	EsA	KrA	Lw	Od	PwA	ShA	VwC	Z171B
BaB	BmC	Cu	EsB	KrB	Mg	Ok	PwB	ShB	W	Z172A
BcB	BnD	DcB	FeA	La	Mk	Pa	RsB	So	Z150A	Z181A

- Project Area
- Turbine Location
- Meteorological Tower
- Aircraft Detection Lighting System Tower
- Interconnection Switchyard
- Collector Substation
- General Construction Laydown Yard
- O&M Facility
- Gen-Tie Line
- Access Road
- Electrical Collection and SCADA Systems
- Crane Path
- Municipal Boundary



Figure 8
Soil Map
South Deuel Wind Project
Deuel County, South Dakota

Source: Esri, NRCS, Census TIGER Data, Invenergy, and Burns & McDonnell



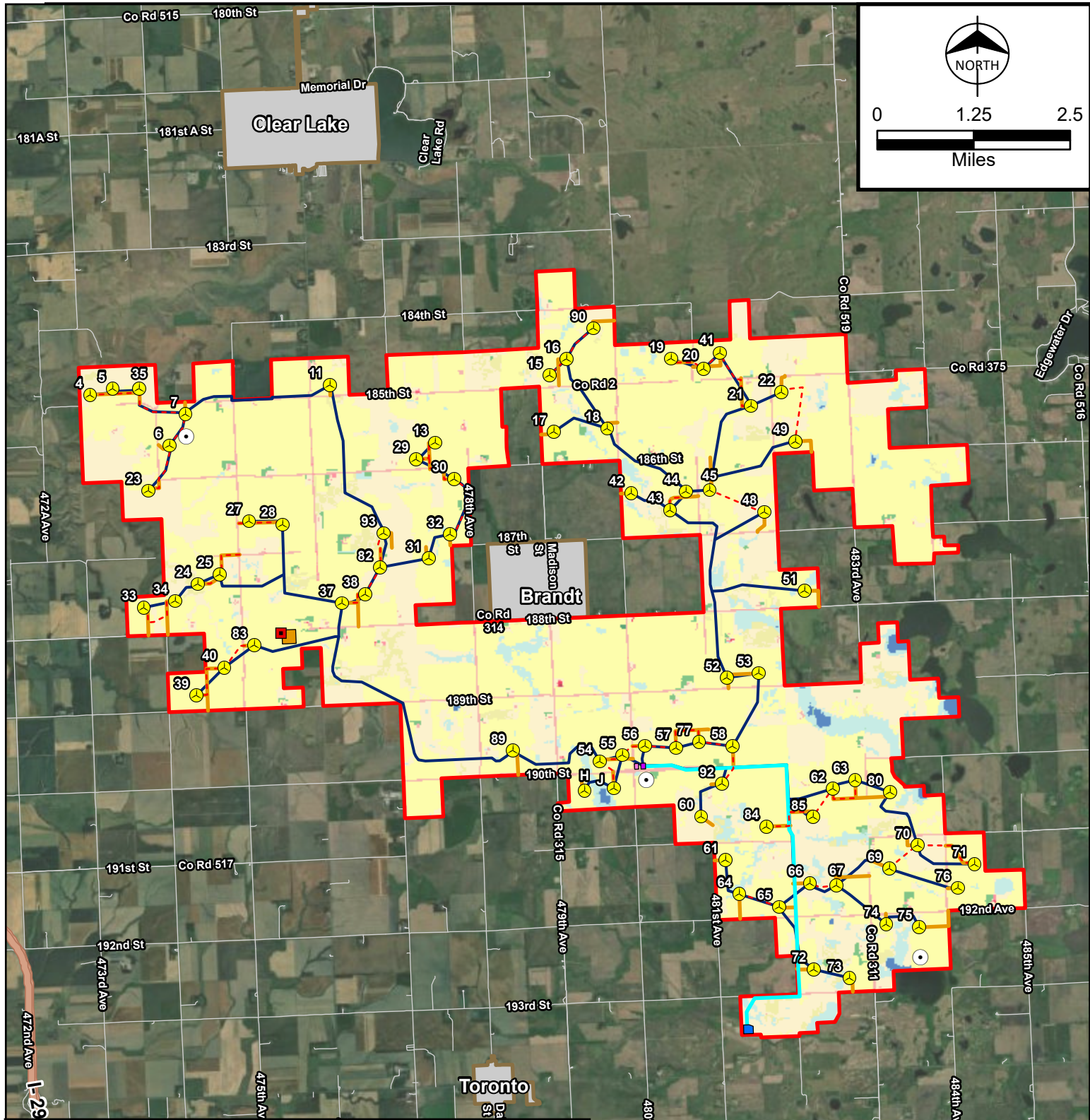
Water Resources

- | | |
|--|-----------------------------------|
| River | NWI Wetland |
| 0.2% Annual Chance Flood Hazard, FEMA Flood Zone X | Freshwater Emergent Wetland |
| 1% Annual Chance Flood Hazard, FEMA Flood Zone A | Freshwater Forested/Shrub Wetland |
| 1% Annual Chance Flood Hazard, FEMA Flood Zone AE | Freshwater Pond |
| Regulatory Floodway, FEMA Flood Zone AE | Lake |

- | | |
|--|---|
| Turbine Location | Gen-Tie Line |
| Meteorological Tower | Access Road |
| Aircraft Detection Lighting System Tower | Electrical Collection and SCADA Systems |
| Interconnection Switchyard | Crane Path |
| Collector Substation | Municipal Boundary |
| General Construction Laydown Yard | Project Area |
| O&M Facility | County Boundary |



Figure 9
Water Resources Map
 South Deuel Wind Project
 Deuel County, South Dakota



Land Cover

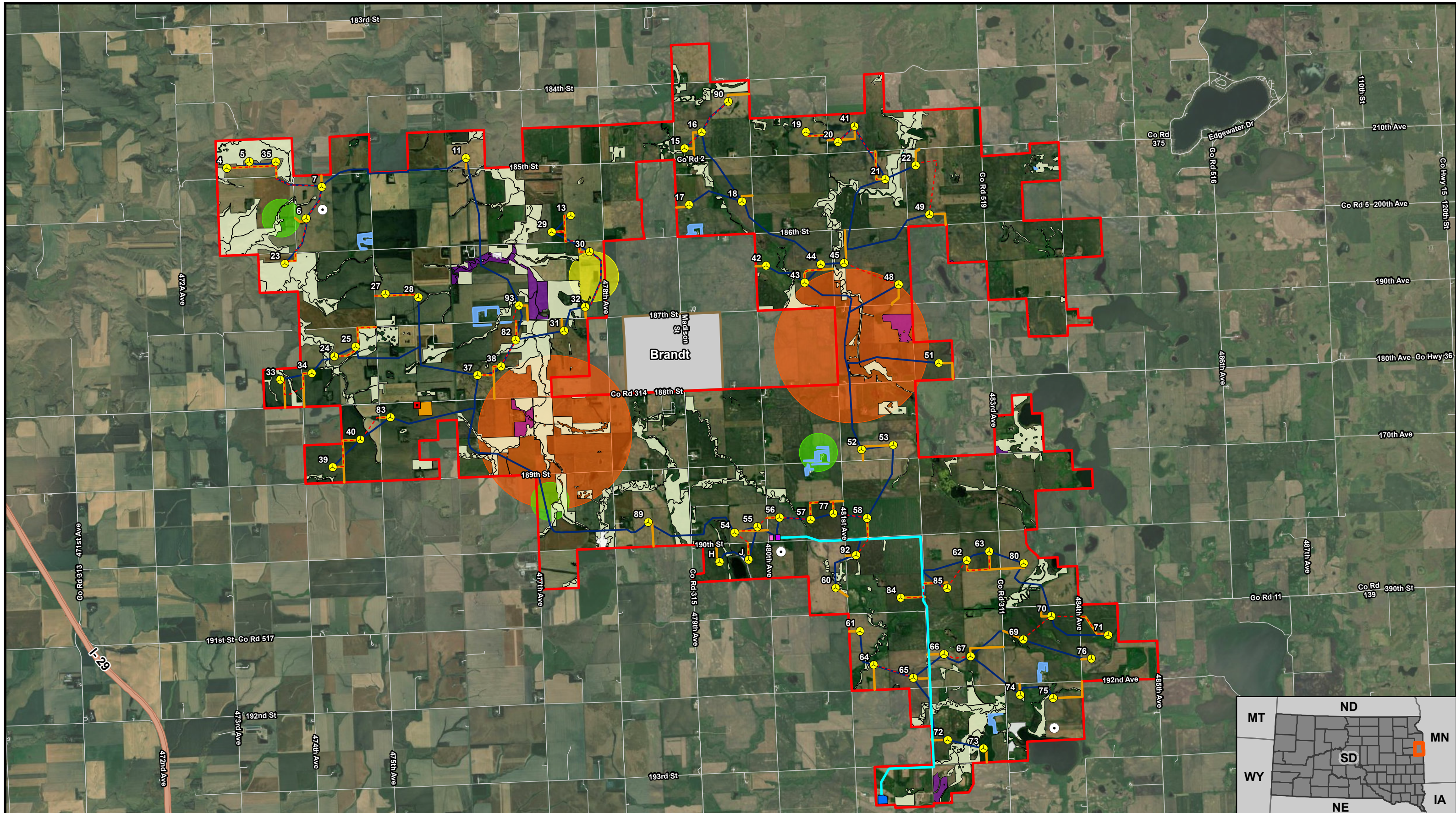
- | | | |
|----------------------------|--------------------------|------------------------------|
| Open Water | Developed High Intensity | Grassland/Herbaceous |
| Developed Open Space | Barren Land | Pasture/Hay |
| Developed Low Intensity | Deciduous Forest | Cultivated Crops |
| Developed Medium Intensity | Mixed Forest | Woody Wetlands |
| | Shrub/Scrub | Emergent Herbaceous Wetlands |

- | | |
|--|---|
| Turbine Location | Gen-Tie Line |
| Meteorological Tower | Access Road |
| Aircraft Detection Lighting System Tower | Electrical Collection and SCADA Systems |
| Interconnection Switchyard | Crane Path |
| Collector Substation | Municipal Boundary |
| General Construction Laydown Yard | Project Area |
| O&M Facility | County Boundary |

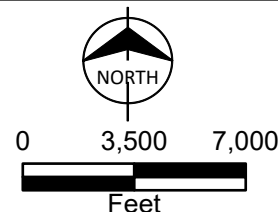


Figure 10
 NLCD Map
 South Deuel Wind Project
 Deuel County, South Dakota

Source: Esri, Census TIGER Data, NLCD, Invenergy, and Burns & McDonnell



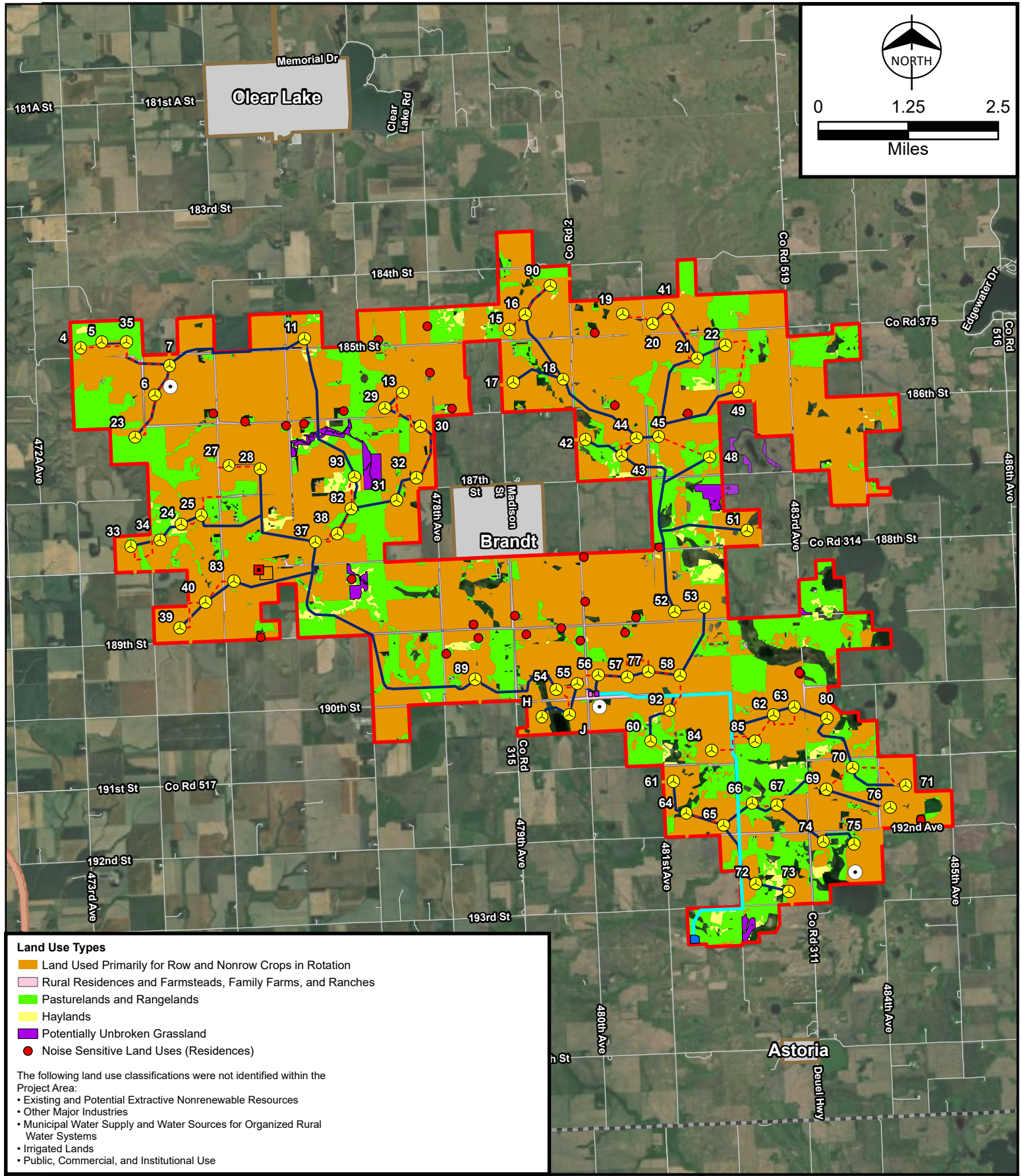
Turbine Location	General Construction Laydown Yard	Crane Path	Great Horned Owl Nest Buffer
Meteorological Tower	O&M Facility	Municipal Boundary	Red Tailed Hawk Nest Buffer
Aircraft Detection Lighting System Tower	Gen-Tie Line	Project Area	Potential Northern Long-eared Summer Bat Habitat
Interconnection Switchyard	Access Road	Potential Listed Butterfly Habitat	Broken Grassland
Collector Substation	Electrical Collection and SCADA Systems	Eagle Nest Buffer	Unbroken Grassland



Invenergy

Figure 11
Environmental Constraints Map
South Deuel Wind Project
Deuel County, South Dakota

Source: ESRI, USFWS, Census TIGER Data, Invenergy, Burns & McDonnell



Land Use Types

- Land Used Primarily for Row and Nonrow Crops in Rotation
- Rural Residences and Farmsteads, Family Farms, and Ranches
- Pasturelands and Rangelands
- Haylands
- Potentially Unbroken Grassland
- Noise Sensitive Land Uses (Residences)

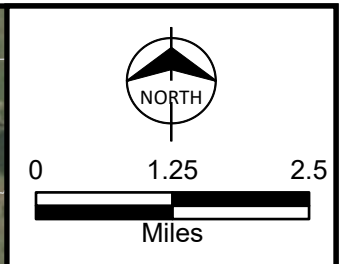
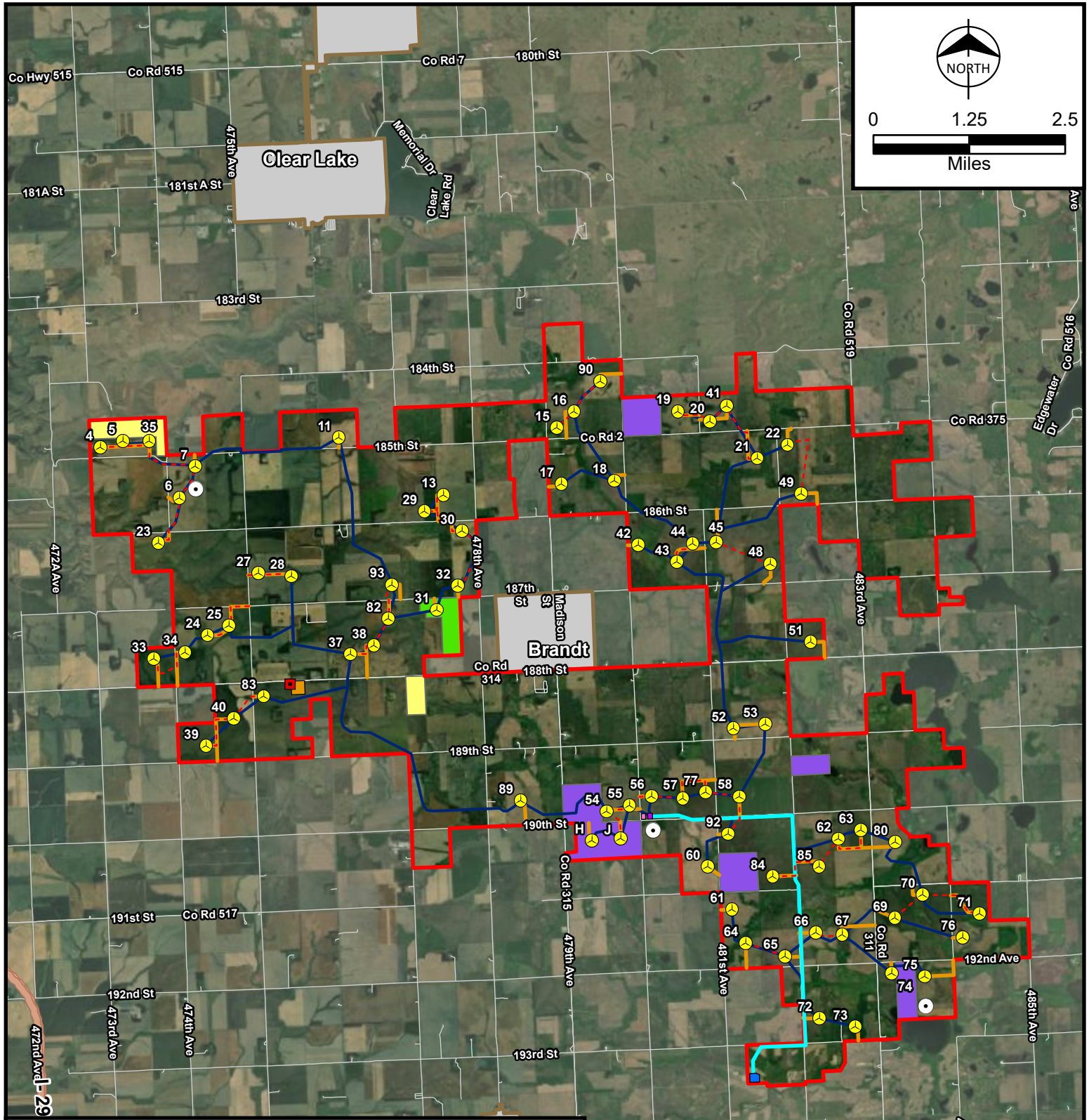
The following land use classifications were not identified within the Project Area:

- Existing and Potential Extractive Nonrenewable Resources
- Other Major Industries
- Municipal Water Supply and Water Sources for Organized Rural Water Systems
- Irrigated Lands
- Public, Commercial, and Institutional Use

 Turbine Location	 Gen-Tie Line
 Meteorological Tower	 Access Road
 Aircraft Detection Lighting System Tower	 Electrical Collection and SCADA Systems
 Interconnection Switchyard	 Crane Path
 Collector Substation	 Municipal Boundary
 General Construction Laydown Yard	 Project Area
 O&M Facility	 County Boundary



Figure 12
Land Use Map
South Deuel Wind Project
Deuel County, South Dakota



Public/Conservation Lands

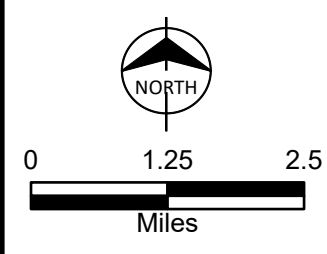
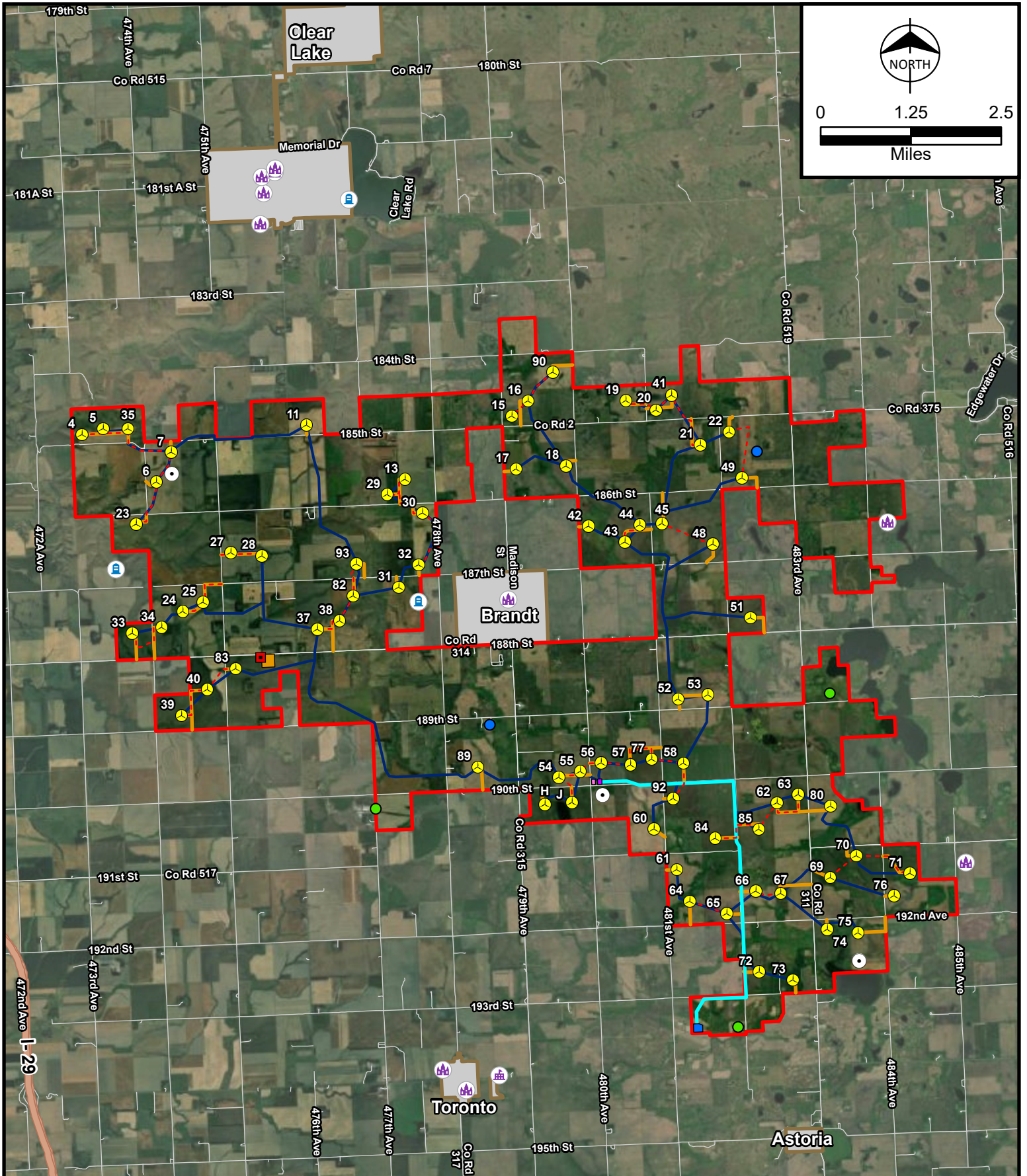
- Dakota Tallgrass Prairie Wildlife Management Area
- Deuel County Waterfowl Production Area
- Fox Lake State Recreation Area
- Singaas State Conservation Area
- SDGFP Walk-In Hunting Area

 Turbine Location	 Gen-Tie Line
 Meteorological Tower	 Access Road
 Aircraft Detection Lighting System Tower	 Electrical Collection and SCADA Systems
 Interconnection Switchyard	 Crane Path
 Collector Substation	 Municipal Boundary
 General Construction Laydown Yard	 Project Area
 O&M Facility	



Figure 13
Public/Conservation Lands Map
South Deuel Wind Project
Deuel County, South Dakota

Source: ESRI, Census TIGER Data, PADUS, Invenergy, Burns & McDonnell



- Turbine Location
- Meteorological Tower
- Aircraft Detection Lighting System Tower
- Interconnection Switchyard
- Collector Substation
- General Construction Laydown Yard
- O&M Facility
- Crane Path
- Gen-Tie Line
- Access Road
- Electrical Collection and SCADA Systems
- Municipal Boundary
- Project Area
- Cemetery
- Church
- School
- Water Rights
- Water Well

Invenergy

Figure 14
Public Facilities Map
South Deuel Wind Project
Deuel County, South Dakota

Source: ESRI, Census TIGER Data, Invenergy, Burns & McDonnell