

- Turbine Location
- ▲ Met Tower Location
- ⊞ Project Boundary (2007)
- Regional Wind Turbines*

- ⊞ Municipal Boundary
- ⊞ Civil Township
- ⊞ County Boundary

*Adjacent wind project location and extents are approximate and indicated by the label (eg.):
Buffalo Ridge Wind

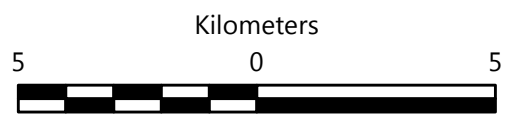
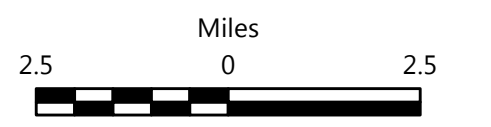
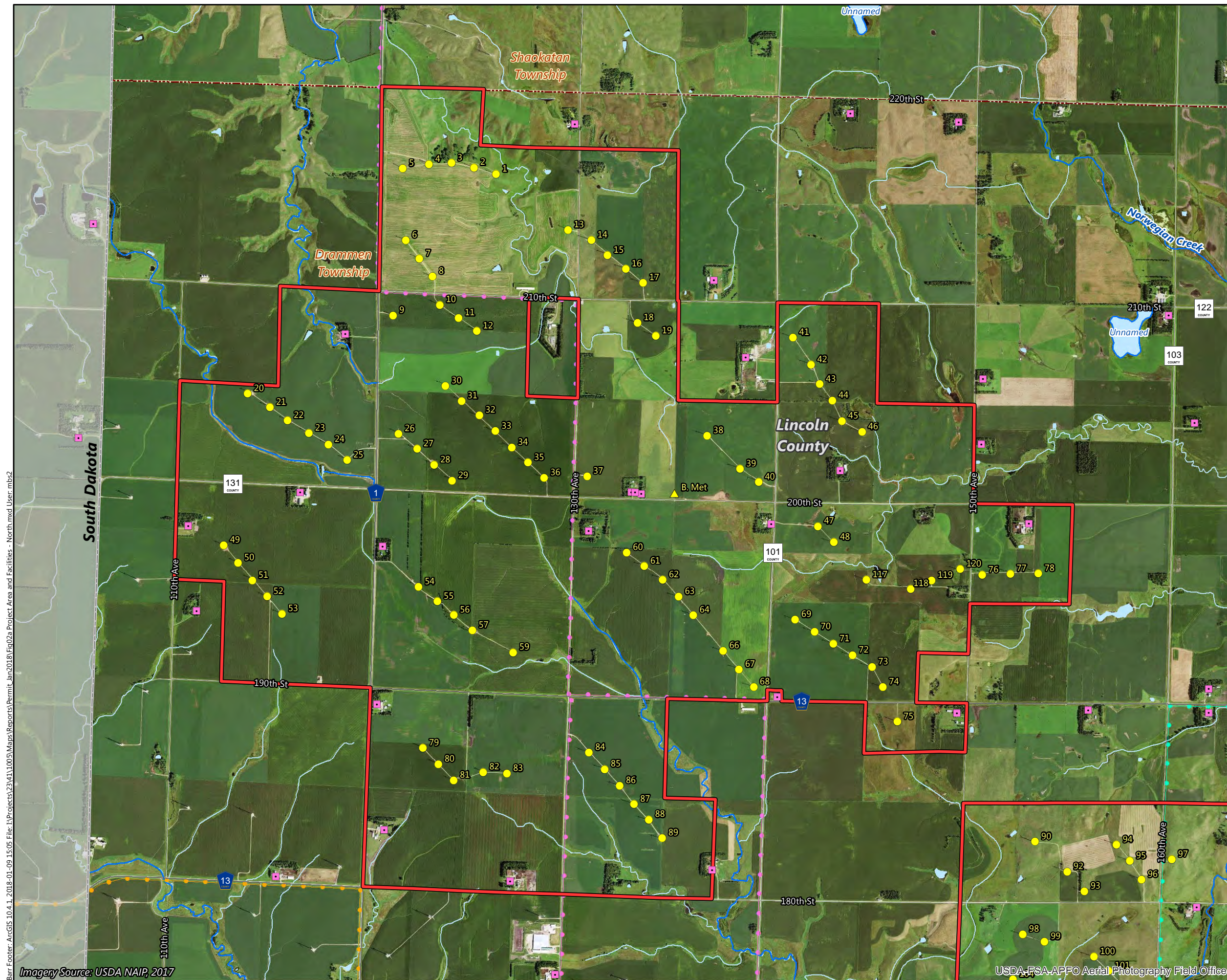


Figure 1

SITE LOCATION
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- Residence Location
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- NHD Watercourse
- NHD Waterbody
- PWI Watercourse
- PWI Basin
- Municipal Boundary
- Civil Township
- County Boundary

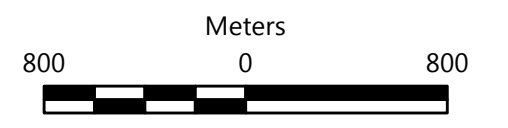
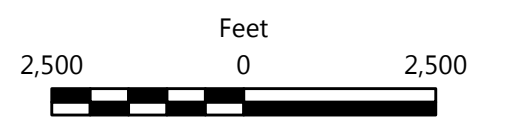
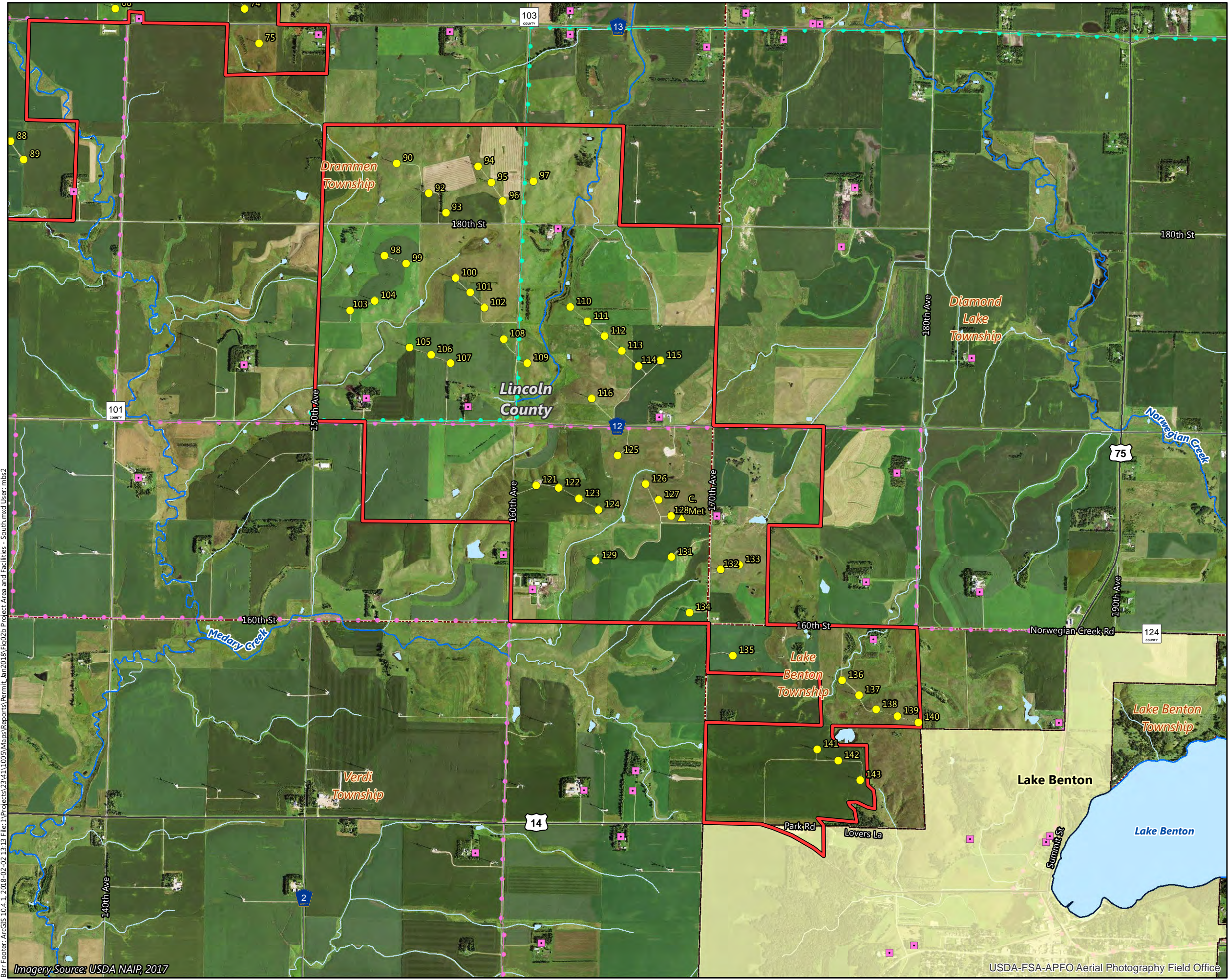


Figure 2a

PROJECT AREA AND FACILITIES - NORTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- Residence Location
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- NHD Watercourse
- NHD Waterbody
- PWI Watercourse
- PWI Basin
- Municipal Boundary
- Civil Township
- County Boundary

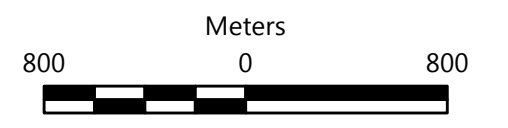
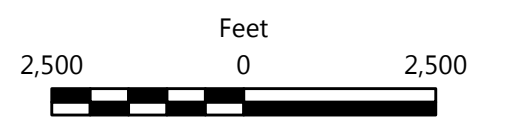


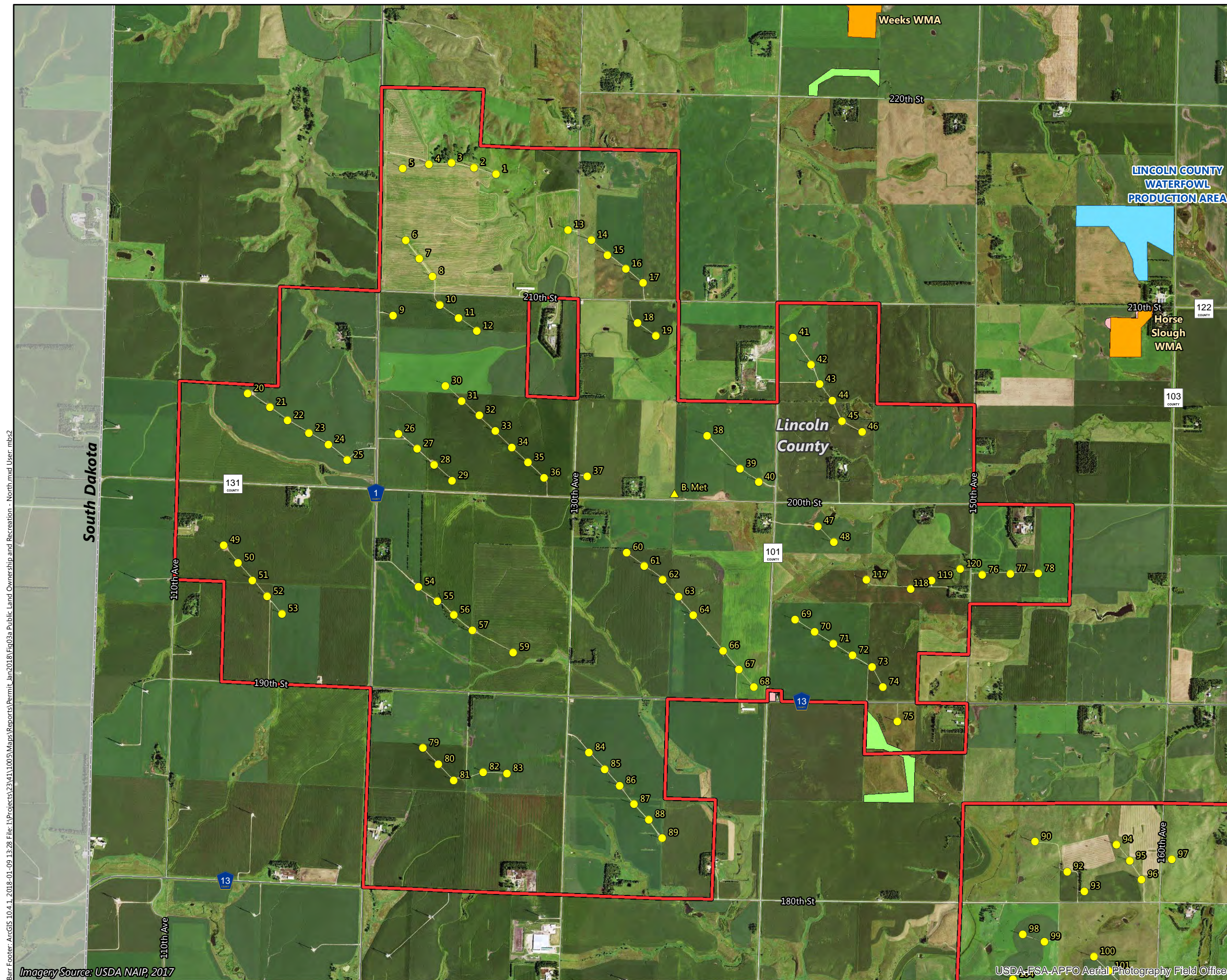
Figure 2b

PROJECT AREA AND FACILITIES - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-02-02 13:13 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig02b Project Area and Facilities - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- State Wildlife Management Area (WMA)
- Conservation Easement
- Publicly Owned Land
- Federal Waterfowl Production Area
- County Boundary

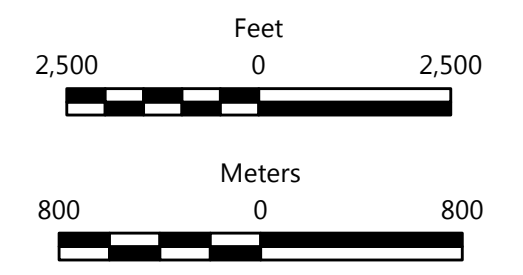
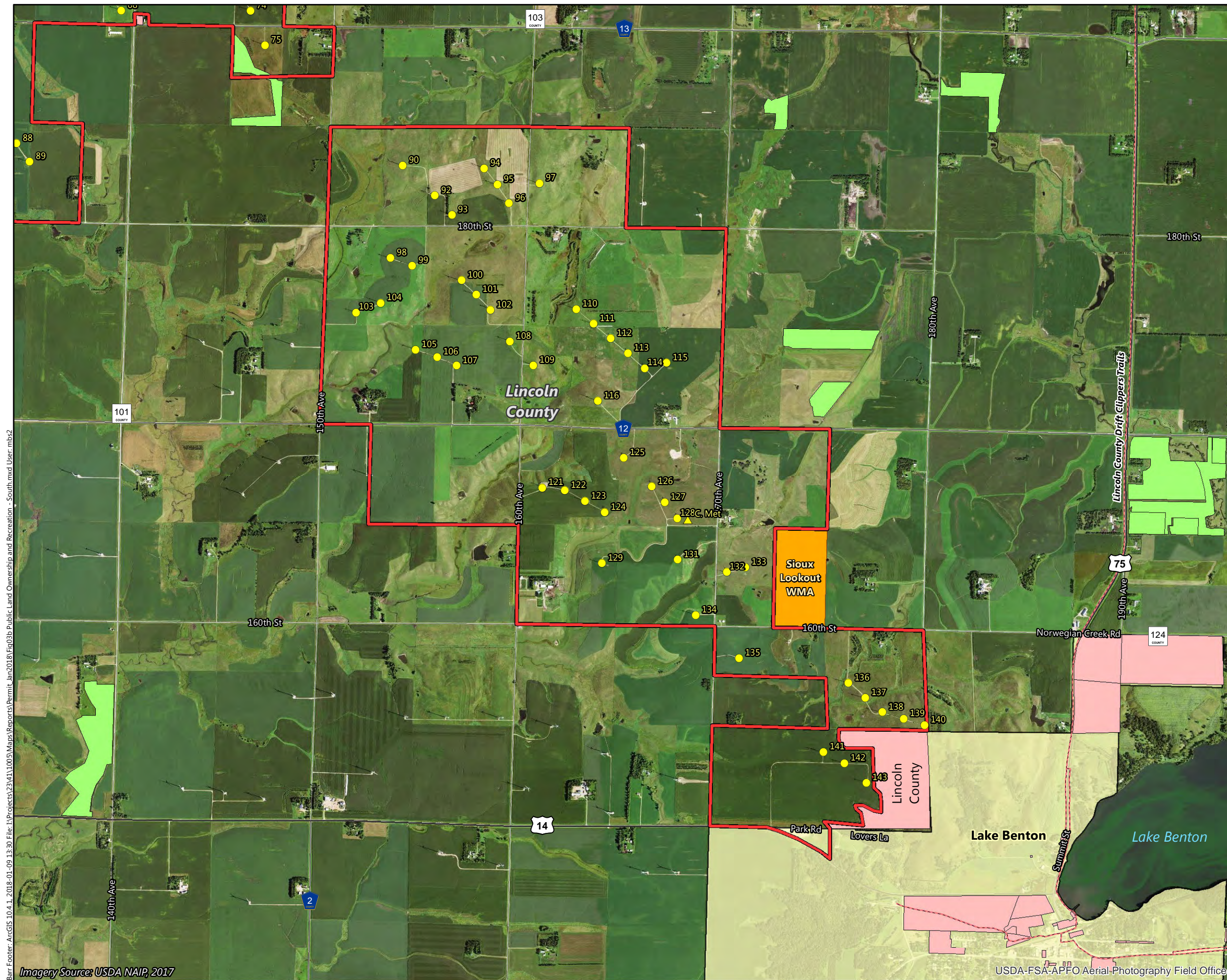


Figure 3a

**PUBLIC LAND OWNERSHIP
AND RECREATION - NORTH**
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- Snowmobile Trail
- State Wildlife Management Area (WMA)
- Conservation Easement
- Publically Owned Land
- Municipal Boundary
- County Boundary

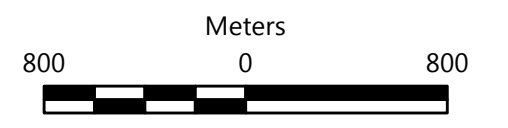
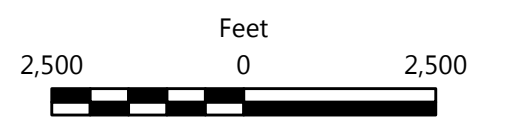


Figure 3b

**PUBLIC LAND OWNERSHIP
AND RECREATION - SOUTH**
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 13:30 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig03b Public Land Ownership and Recreation - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Turbine Location Not Meeting One or More Setback Requirements
- Project Boundary (2007)
- Residence Location
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- ~ PWI Watercourse
- PWI Basin
- Wind Access Buffer (Prevailing Wind)
- Residence Setback - 500 ft
- Road Setback - 250 ft
- PWI Setback
- Municipal Boundary
- County Boundary

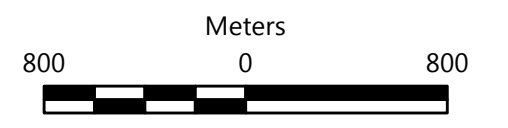
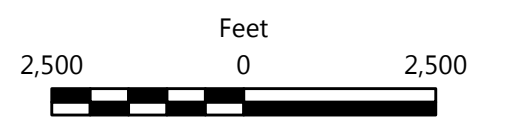


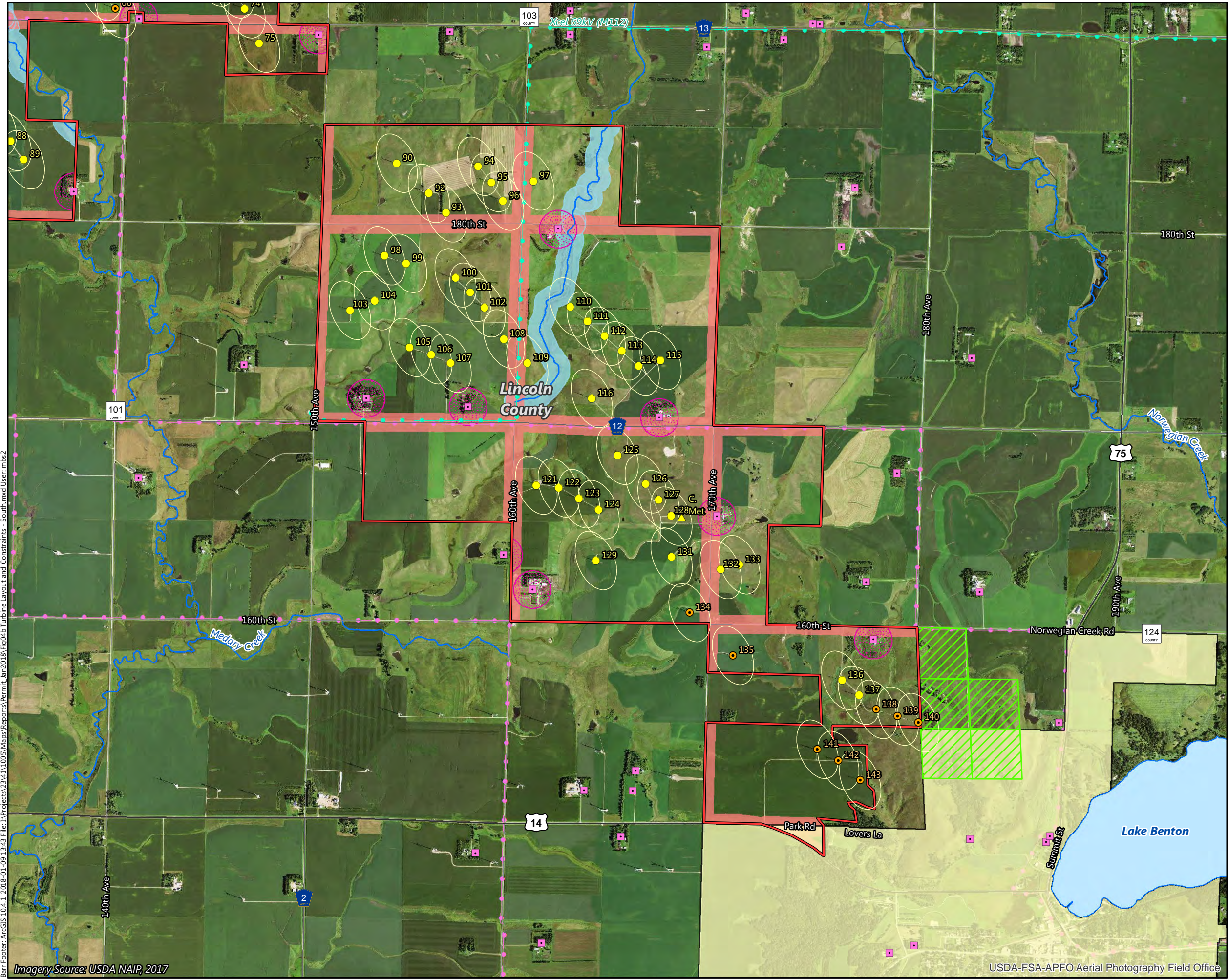
Figure 4a

**TURBINE LAYOUT
AND CONSTRAINTS - NORTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 15:00 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig04a Turbine Layout and Constraints - North.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Turbine Location Not Meeting One or More Setback Requirements
- Project Boundary (2007)
- Adjacent Land Under Agreement
- Residence Location
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- ~ PWI Watercourse
- PWI Basin
- Wind Access Buffer (Prevailing Wind)
- Residence Setback - 500 ft
- Road Setback - 250 ft
- PWI Setback
- Municipal Boundary
- County Boundary

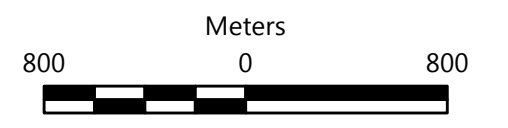
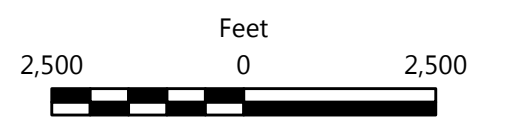


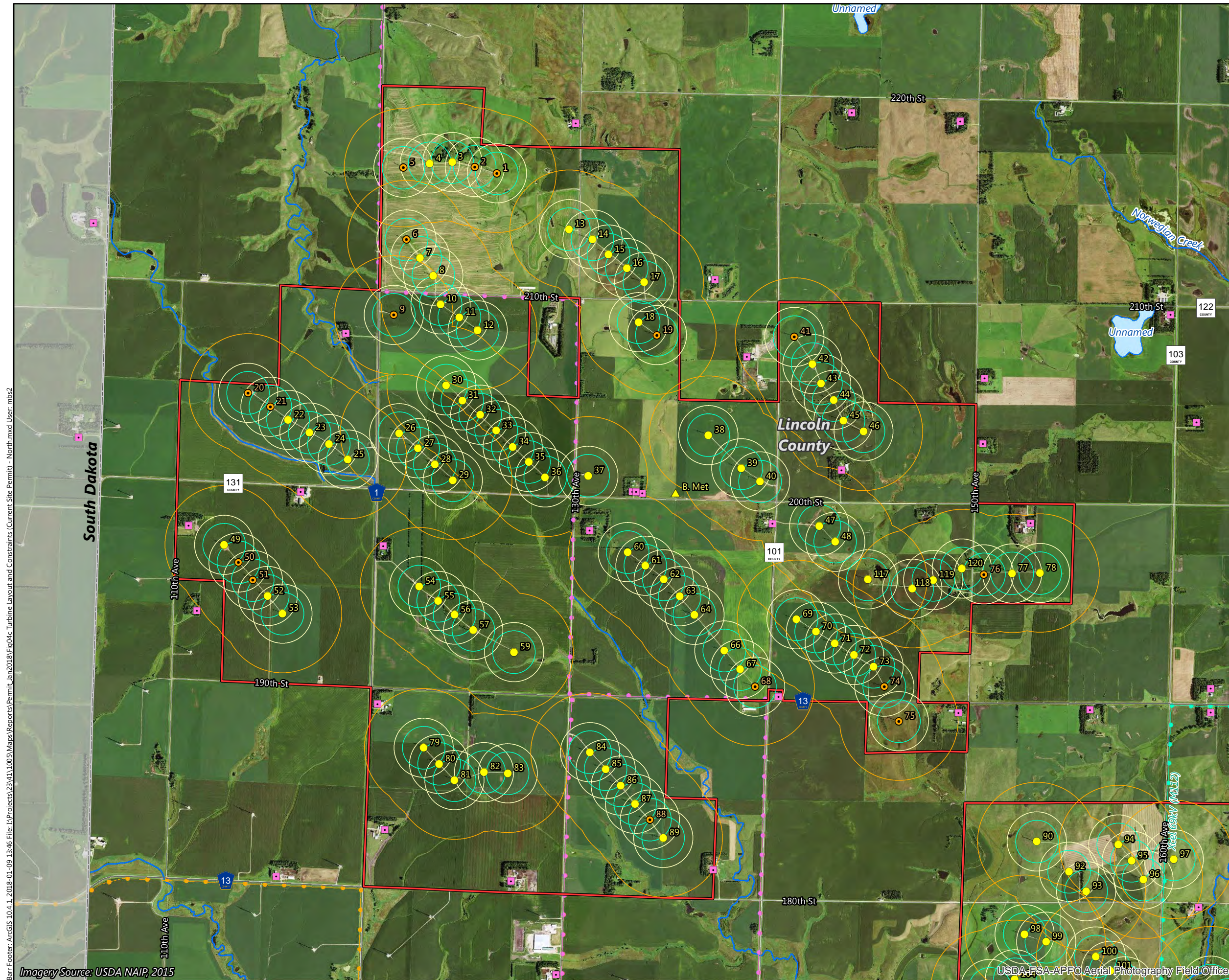
Figure 4b

TURBINE LAYOUT AND CONSTRAINTS - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 13:43 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig4b\Fig4b_Turbine Layout and Constraints - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Turbine Location Not Meeting One or More Setback Requirements
- Project Boundary (2007)
- Residence Location
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- ~ PWI Watercourse
- PWI Basin
- Boundary Setback (48m x 5)
- Internal Turbine Spacing (48m x 3.6)
- String Spacing (48m x 10)
- Municipal Boundary
- County Boundary

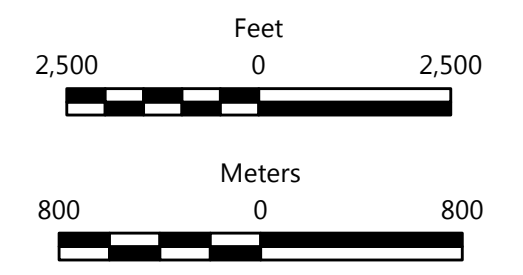
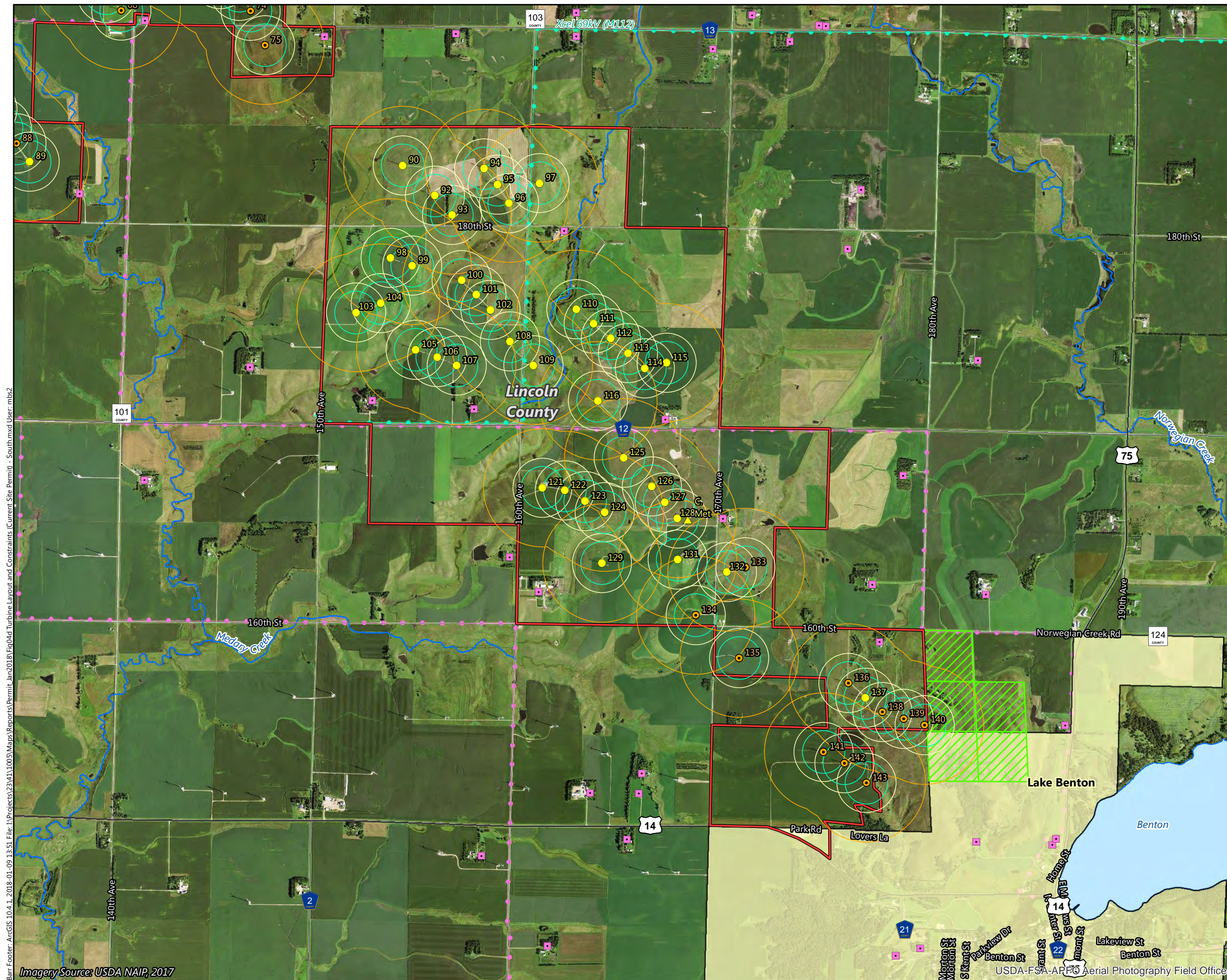


Figure 4c

TURBINE LAYOUT AND CONSTRAINTS (CURRENT SITE PERMIT) - NORTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Turbine Location Not Meeting One or More Setback Requirements
- Project Boundary (2007)
- Adjacent Land Under Agreement
- Residence Location
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- ~ PWI Watercourse
- ◊ PWI Basin
- Boundary Setback (48m x 5)
- Internal Turbine Spacing (48m x 3.6)
- String Spacing (48m x 10)
- Municipal Boundary
- County Boundary

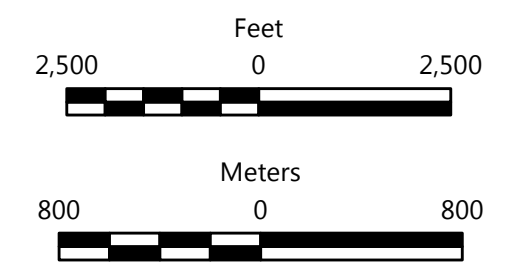


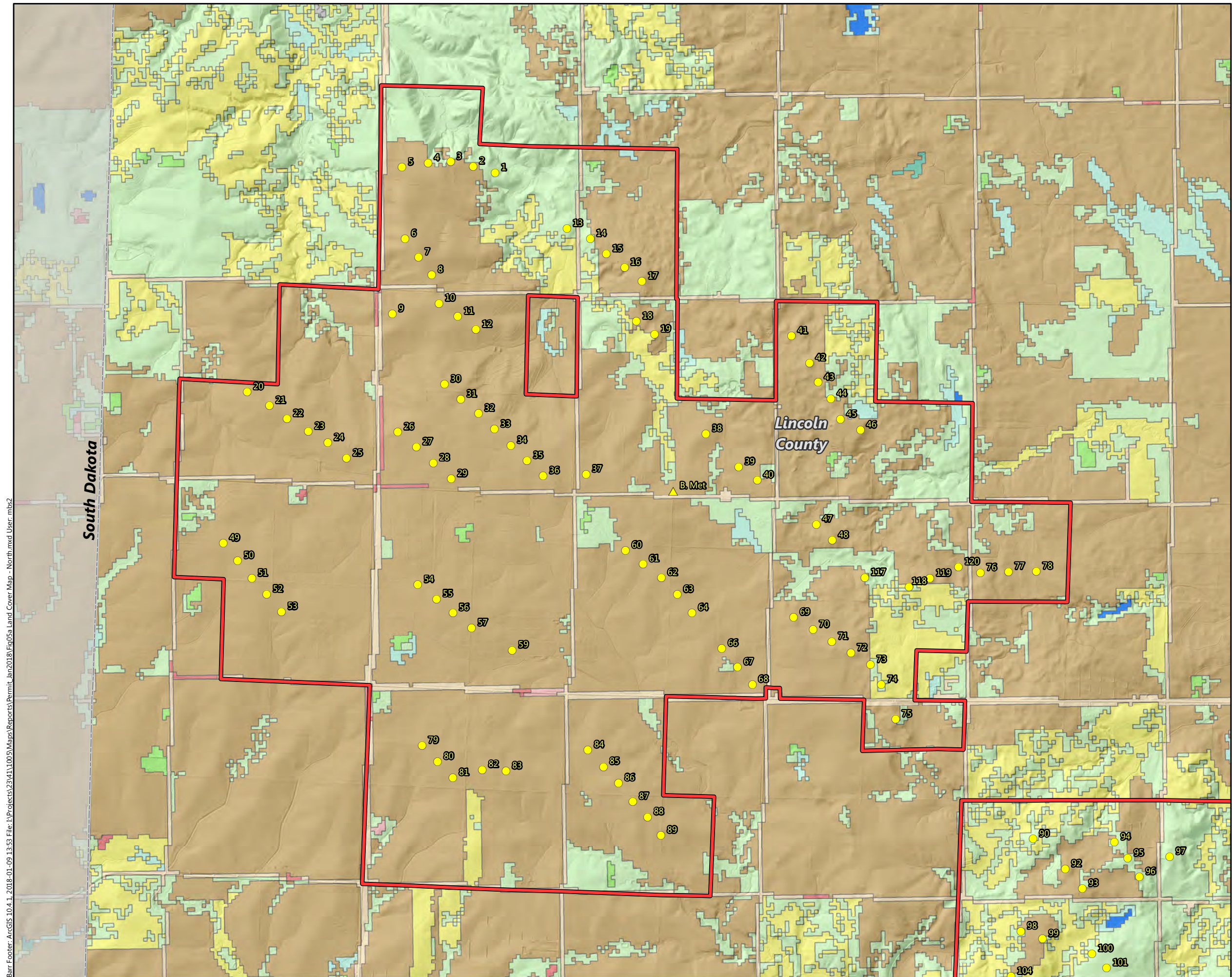
Figure 4d

TURBINE LAYOUT AND CONSTRAINTS (CURRENT SITE PERMIT) - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 13:51 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig4d4d.Turbine Layout and Constraints (Current Site Permit) - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFG Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- Land Cover (NLCD, 2011)
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Barren Land
- Hay/Pasture
- Cultivated Crops
- Herbaceous
- Deciduous Forest
- Emergent Herbaceous Wetlands
- Woody Wetlands
- Open Water

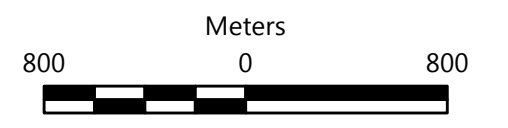
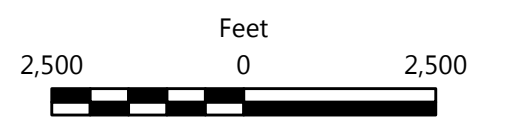
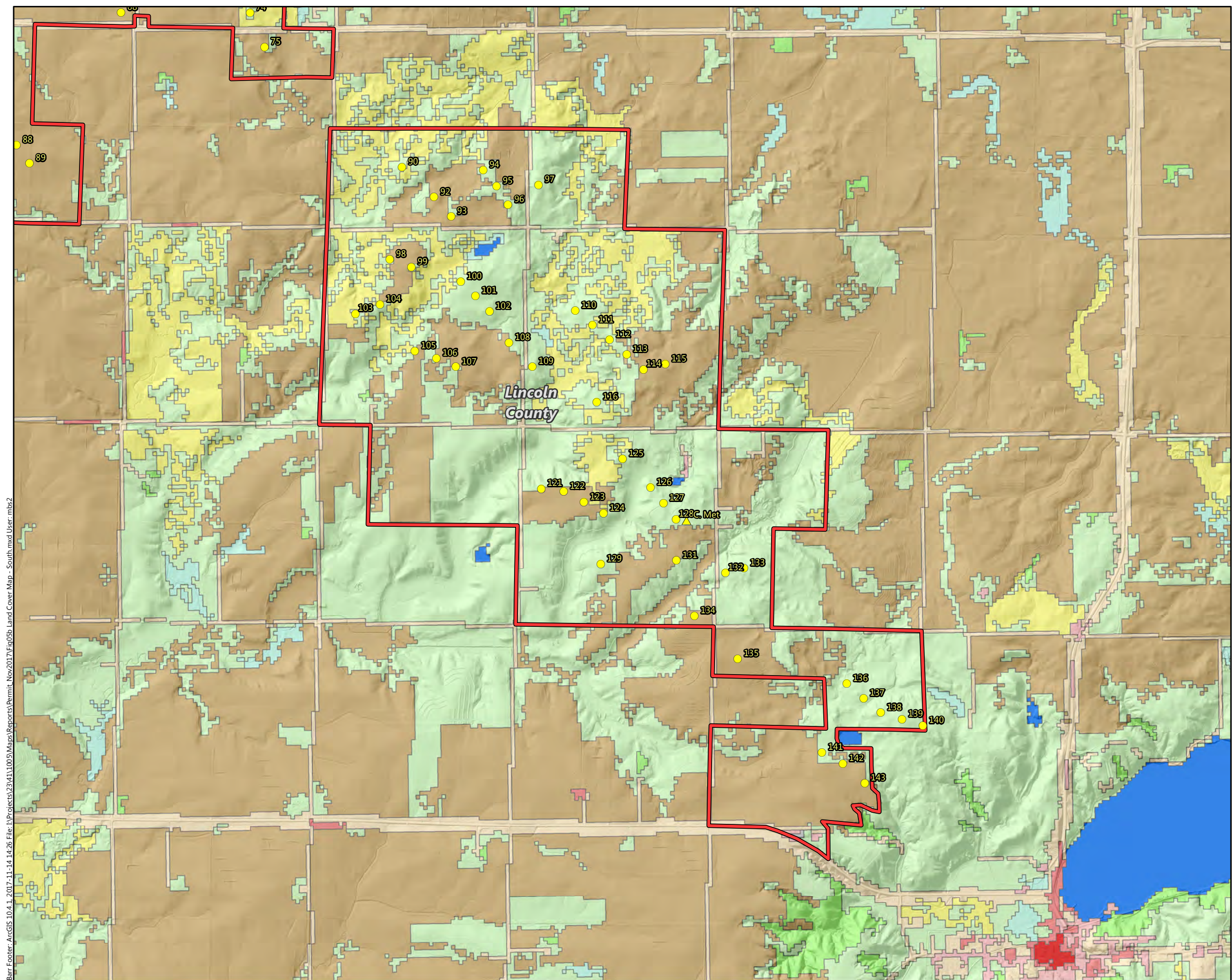


Figure 5a

LAND COVER - NORTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- Land Cover (NLCD, 2011)
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Hay/Pasture
- Cultivated Crops
- Herbaceous
- Deciduous Forest
- Emergent Herbaceous Wetlands
- Open Water

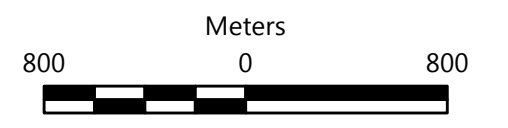
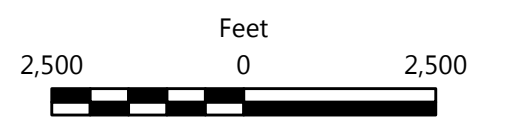
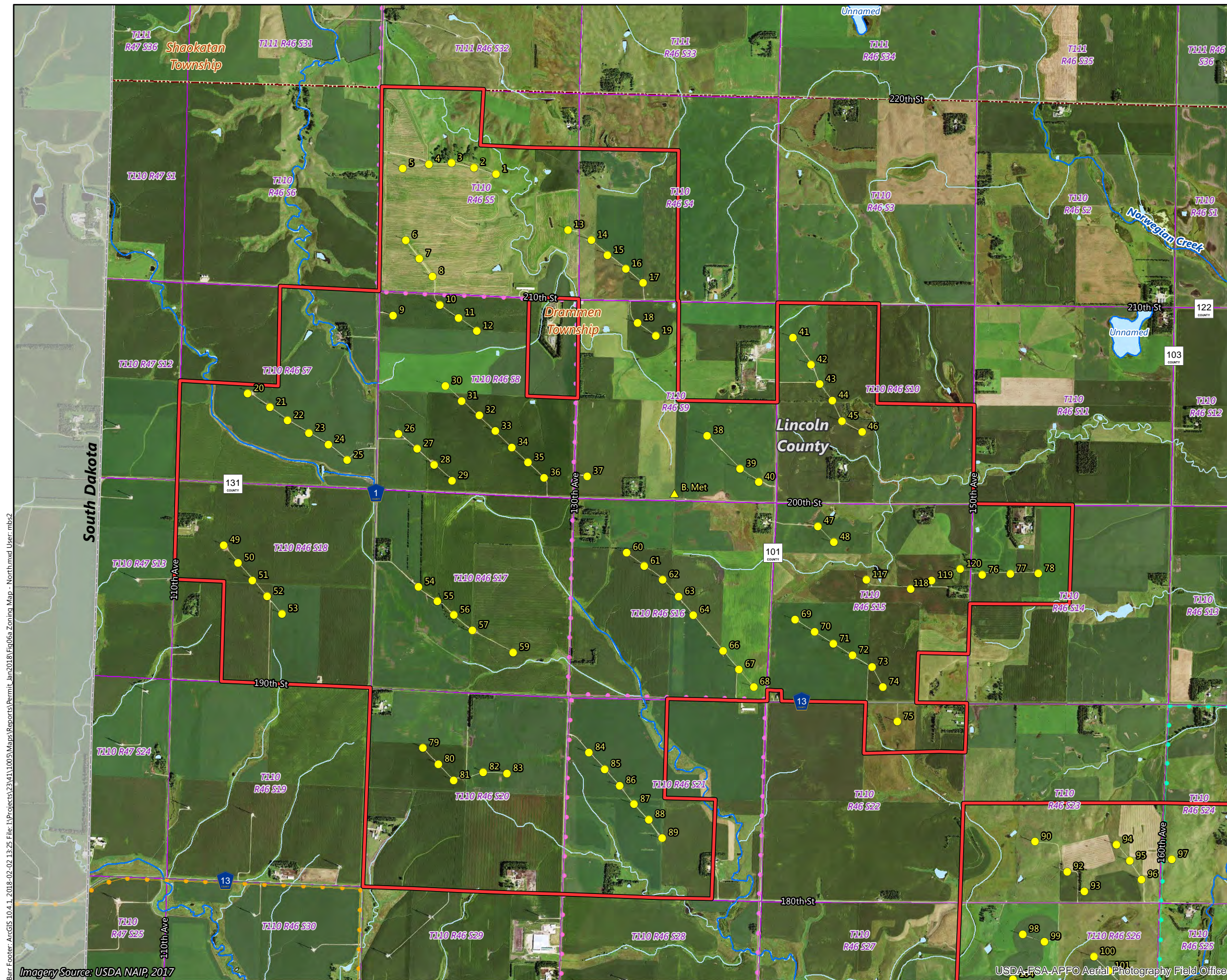


Figure 5b

LAND COVER - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- NHD Watercourse
- NHD Waterbody
- PWI Watercourse
- PWI Basin
- Municipal Boundary
- Public Land Survey Section
- Civil Township
- County Boundary

* All Areas shown are zoned as Rural Preservation Areas / Agriculture (AG)

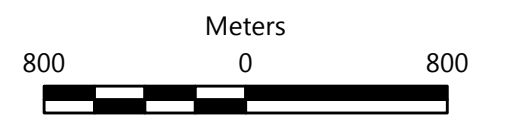
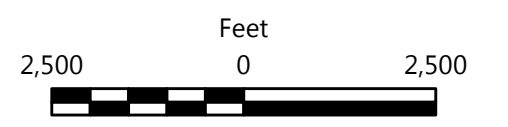


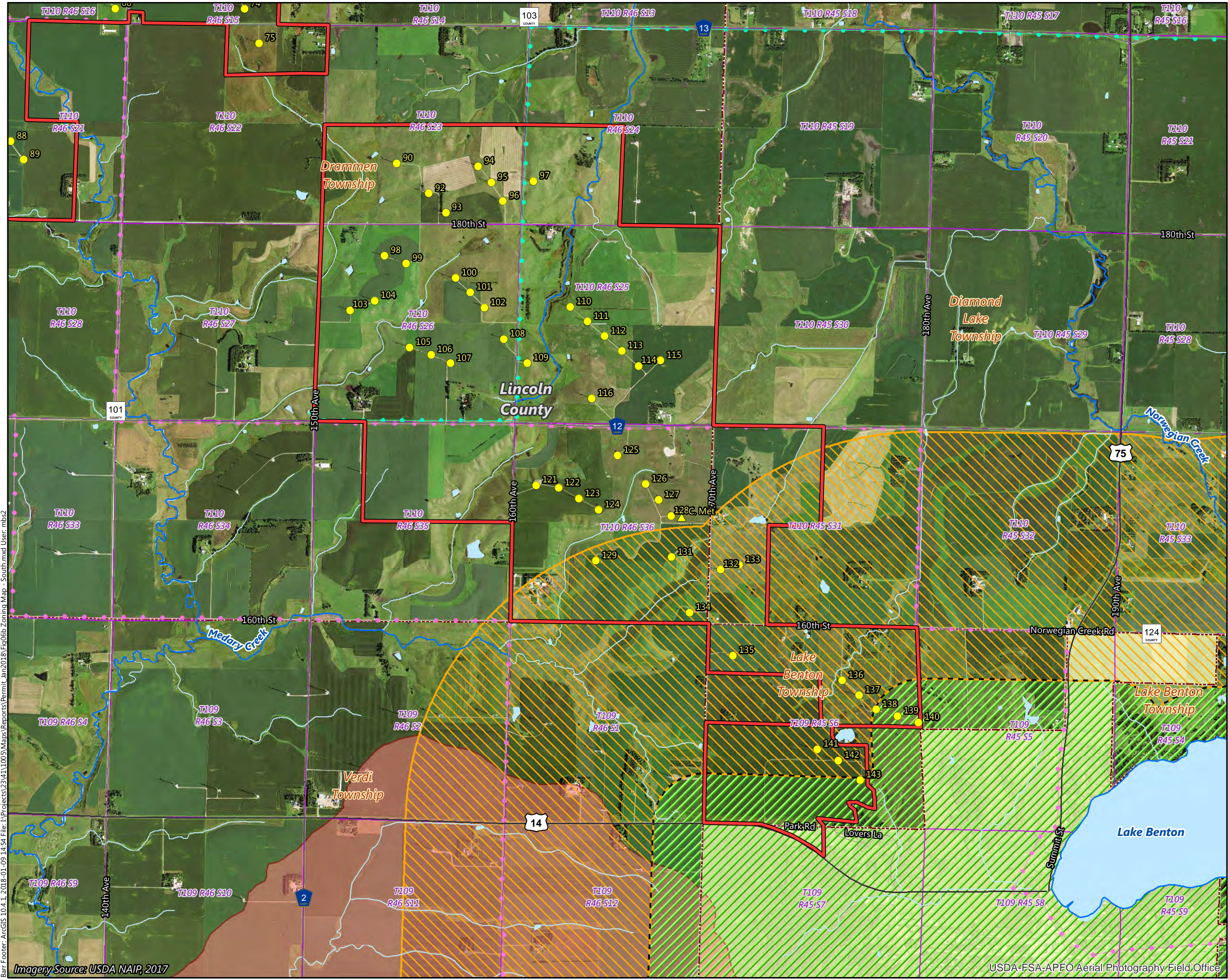
Figure 6a

ZONING MAP - NORTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-02-02 13:25 File: I:\Projects\23\11005\Maps\Reports\Permit_Jan2018\Fig06a Zoning Map - North.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- 34.5kV Transmission Line
- 69kV Transmission Line
- 115kV Transmission Line
- NHD Watercourse
- NHD Waterbody
- PWI Watercourse
- PWI Basin
- Commercial and Industrial_Zoning
- Residential Zoning
- Wellhead Protection Area
- Municipal Boundary
- Public Land Survey Section
- Civil Township
- County Boundary

* Unless otherwise indicated, all areas shown are zoned as Rural Preservation Areas / Agriculture (AG)

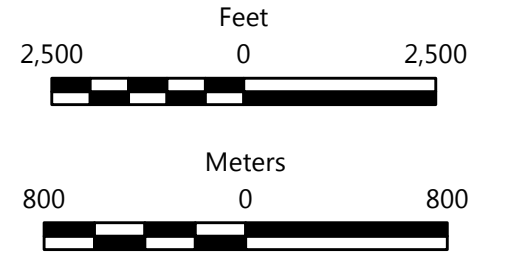


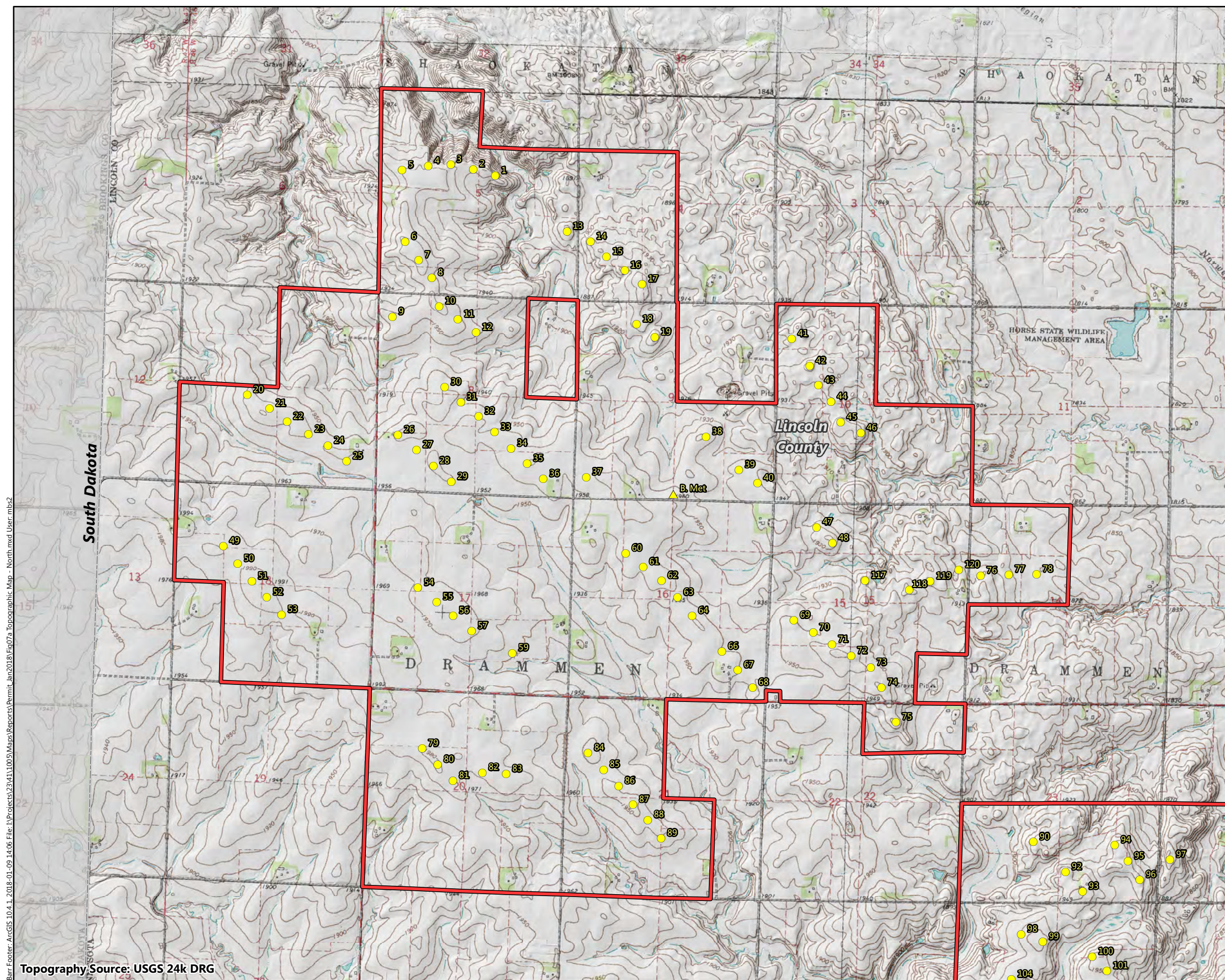
Figure 6b

ZONING MAP - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:54 File: I:\Projects\23\11005\Maps\Reports\Permit_Jan2018\Fig6b Zoning Map - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary

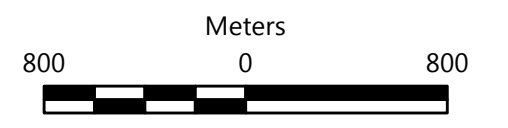
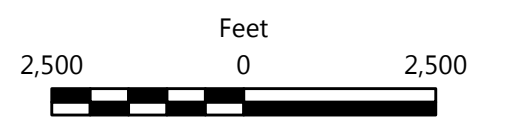
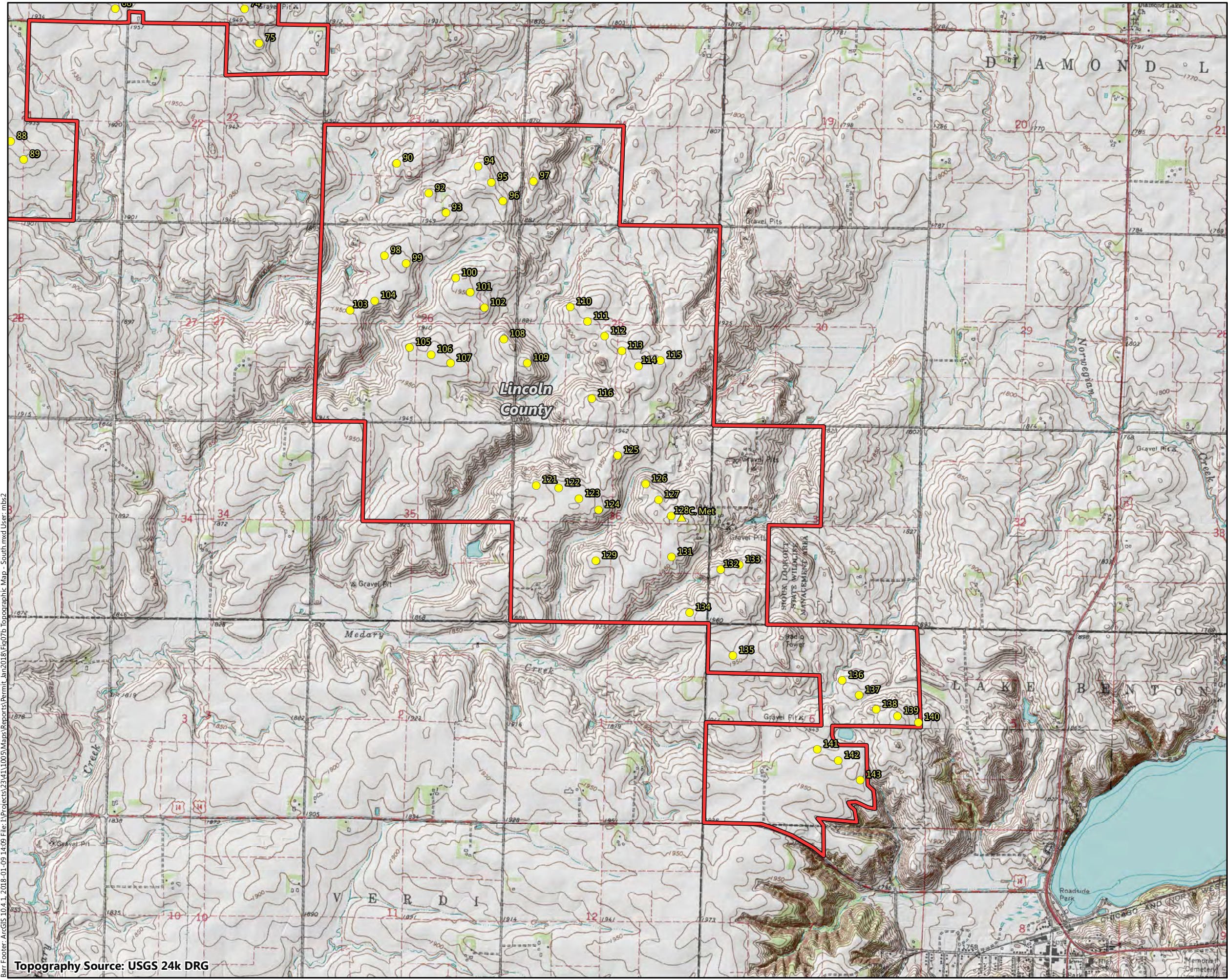


Figure 7a

TOPOGRAPHIC MAP - NORTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:06 File: I:\Projects\23\11\1005\Maps\Reports\Permit_Jan2018\Fig7a Topographic Map - North.mxd User: mbs2

Topography Source: USGS 24k DRG



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary

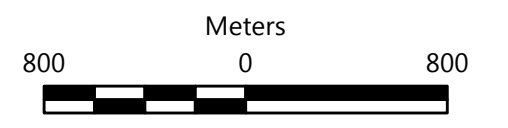
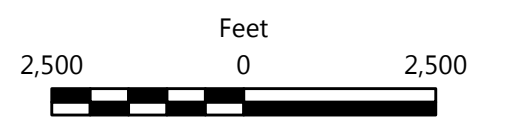
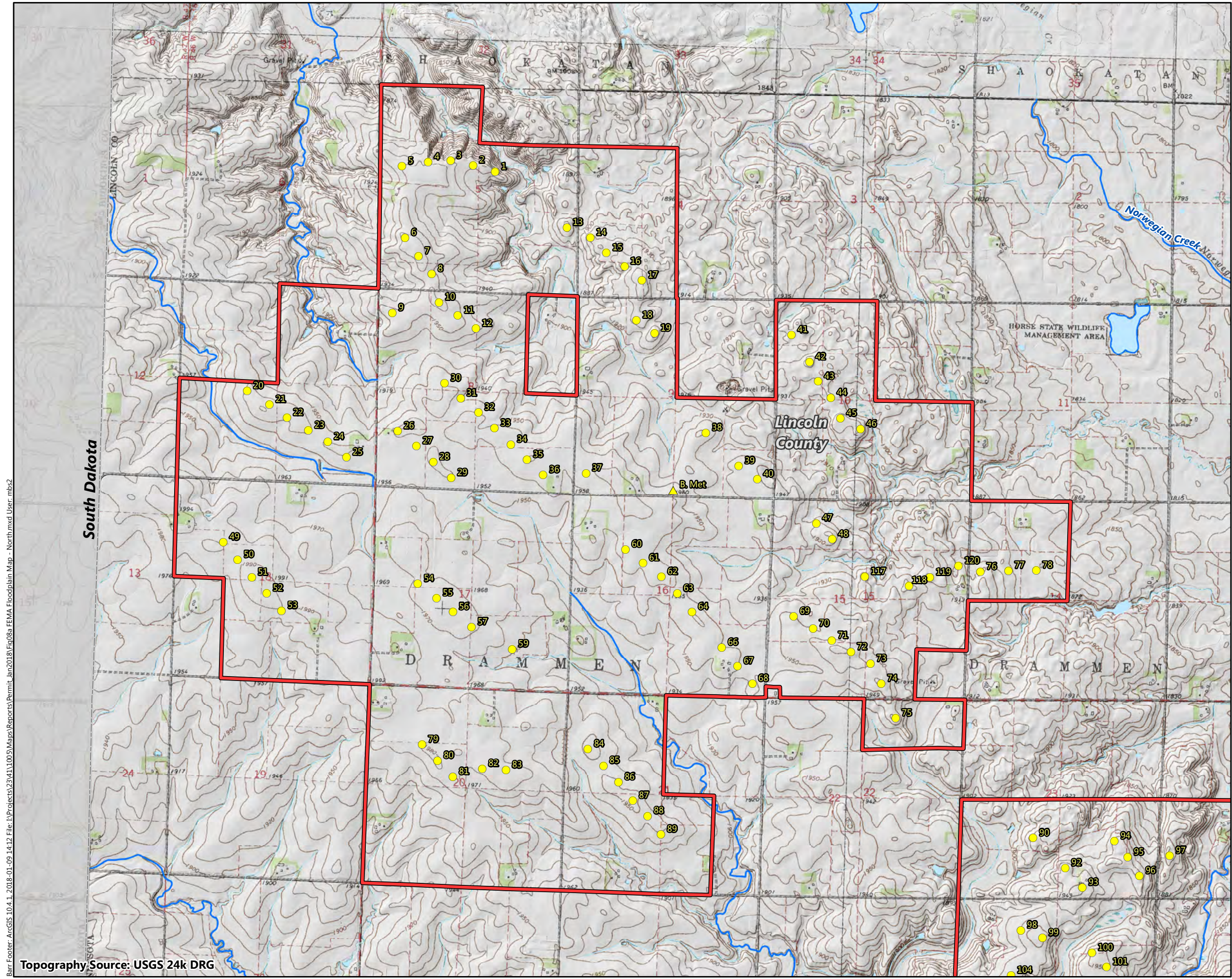


Figure 7b

TOPOGRAPHIC MAP - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

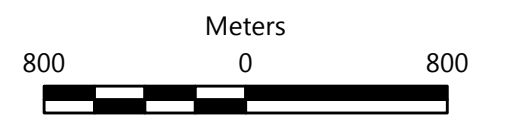
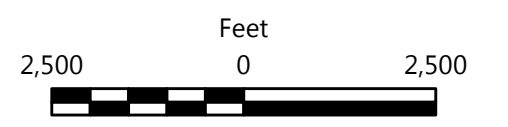
Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:09 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig7b Topographic Map - South.mxd User: mbs2

Topography Source: USGS 24k DRG



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- NHD Watercourse
- NHD Waterbody
- PWI Watercourse
- PWI Basin
- Flood Hazard Area*
(FEMA, Barr Digitized)

* No mapped flood hazard areas are available from FEMA for this area of the project.

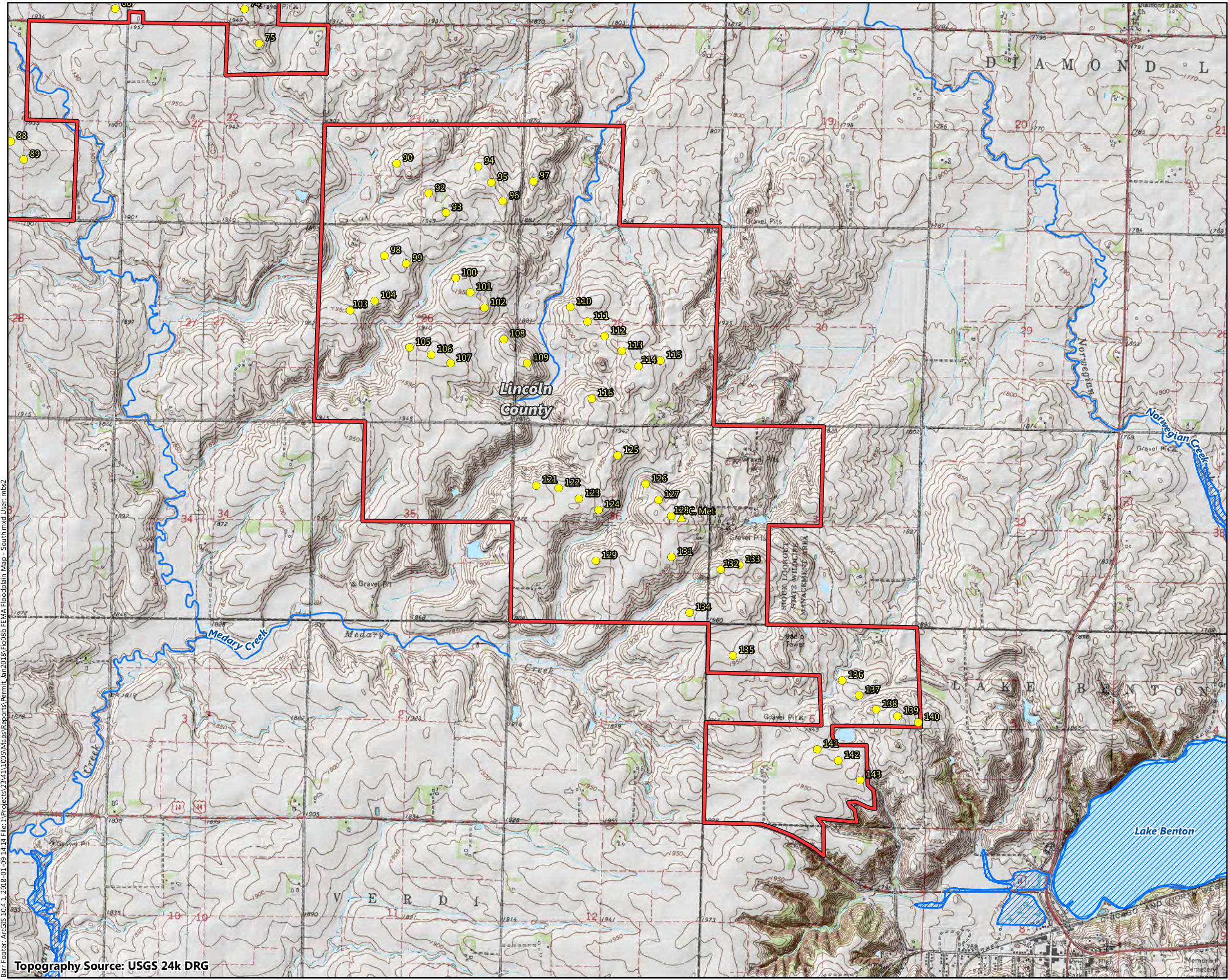


Topography Source: USGS 24k DRG

Figure 8a

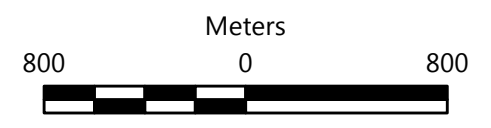
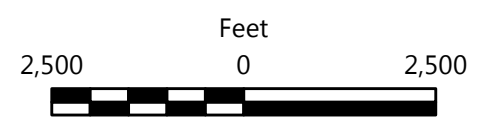
FEMA FLOODPLAIN MAP - NORTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:12 File: I:\Projects\23\11\005\Maps\Reports\Permit_Jan2018\Fig08a FEMA Floodplain Map - North.mxd User: mbs2



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- NHD Watercourse
- NHD Waterbody
- PWI Watercourse
- PWI Basin
- Flood Hazard Area*
(FEMA, Barr Digitized)

*Flood hazard areas digitized from georeferenced maps taken from the Lincoln County FIRM. The county has not been updated to DFIRMs at this time and no GIS data is available.

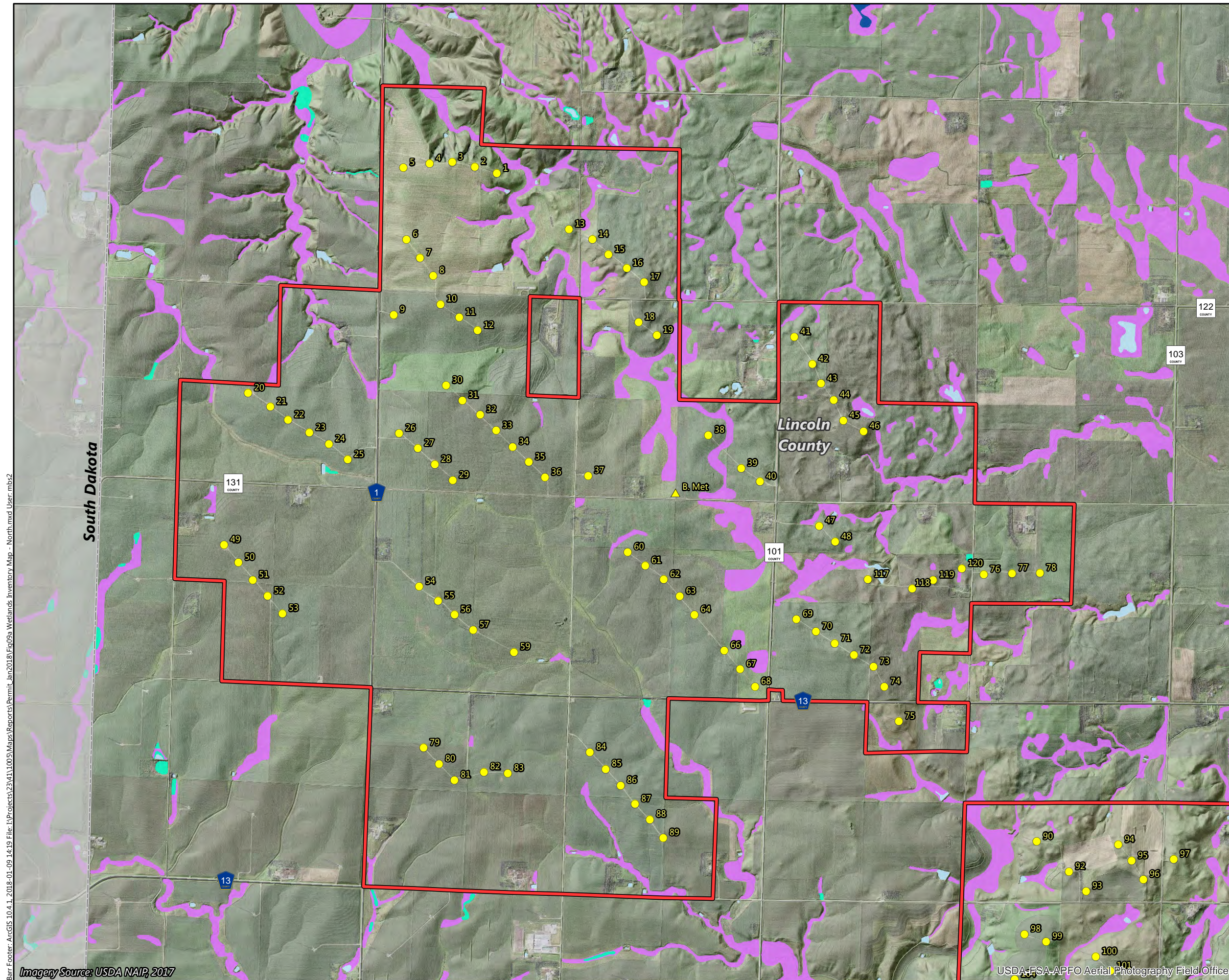


Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:14 File: I:\Projects\23\41\1005\Maps\Reports\Permit_Jan2018\Fig8b\FEMA Floodplain Map - South.mxd User: mbs2

Topography Source: USGS 24k DRG

Figure 8b

FEMA FLOODPLAIN MAP - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- National Wetland Inventory (MN Update)
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- Lake

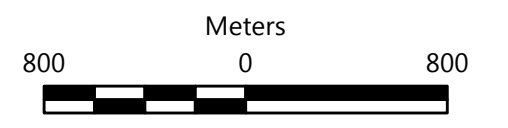
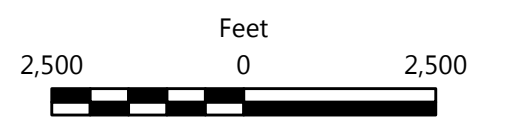


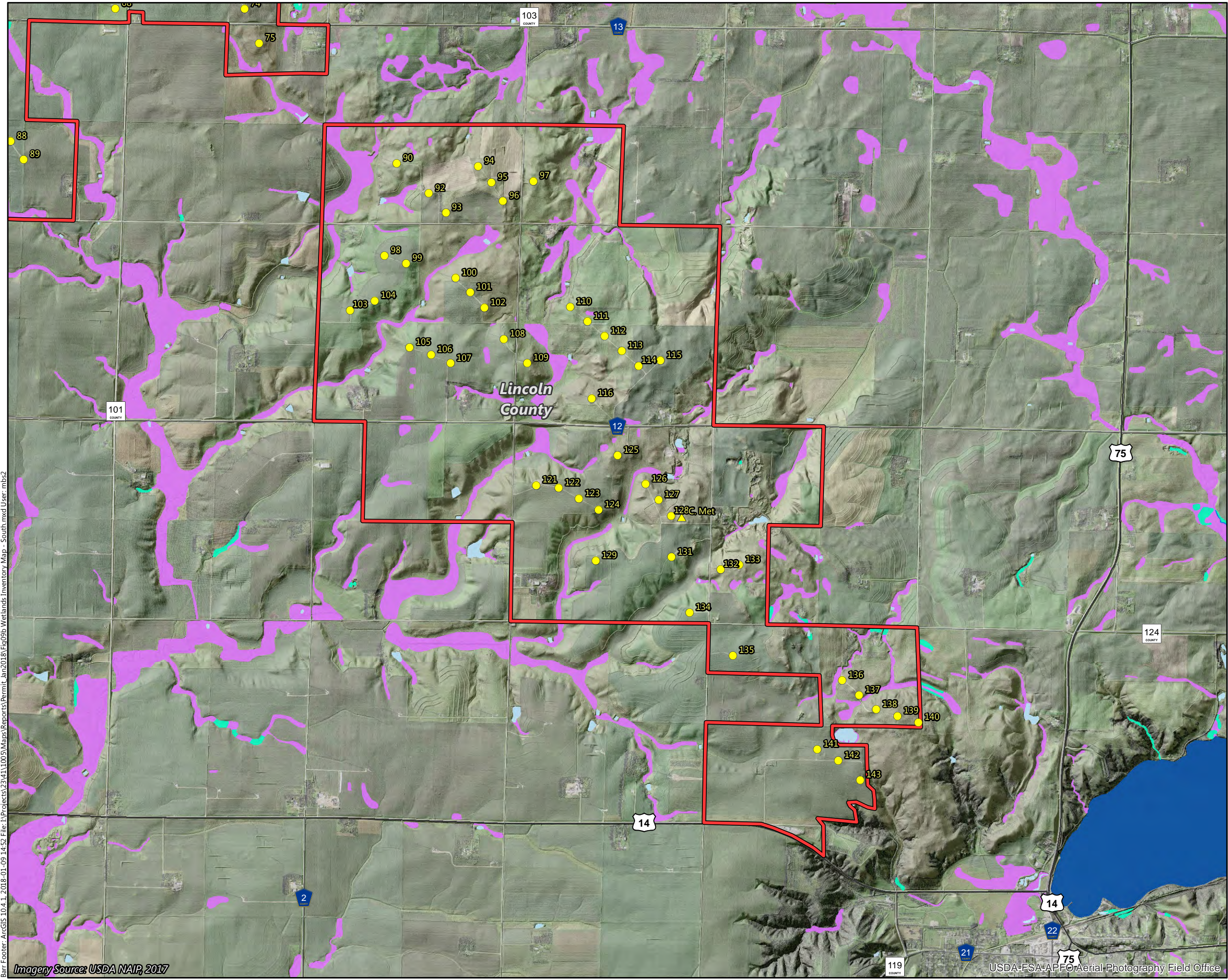
Figure 9a

**WETLANDS INVENTORY
MAP - NORTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:19 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig09a\Wetlands Inventory Map - North.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- National Wetland Inventory (MN Update)
- ✂ Freshwater Emergent Wetland
- ✂ Freshwater Forested/Shrub Wetland
- ✂ Freshwater Pond
- ✂ Riverine
- ✂ Lake

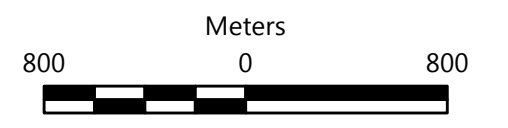
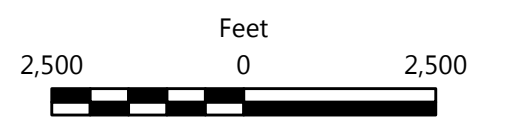


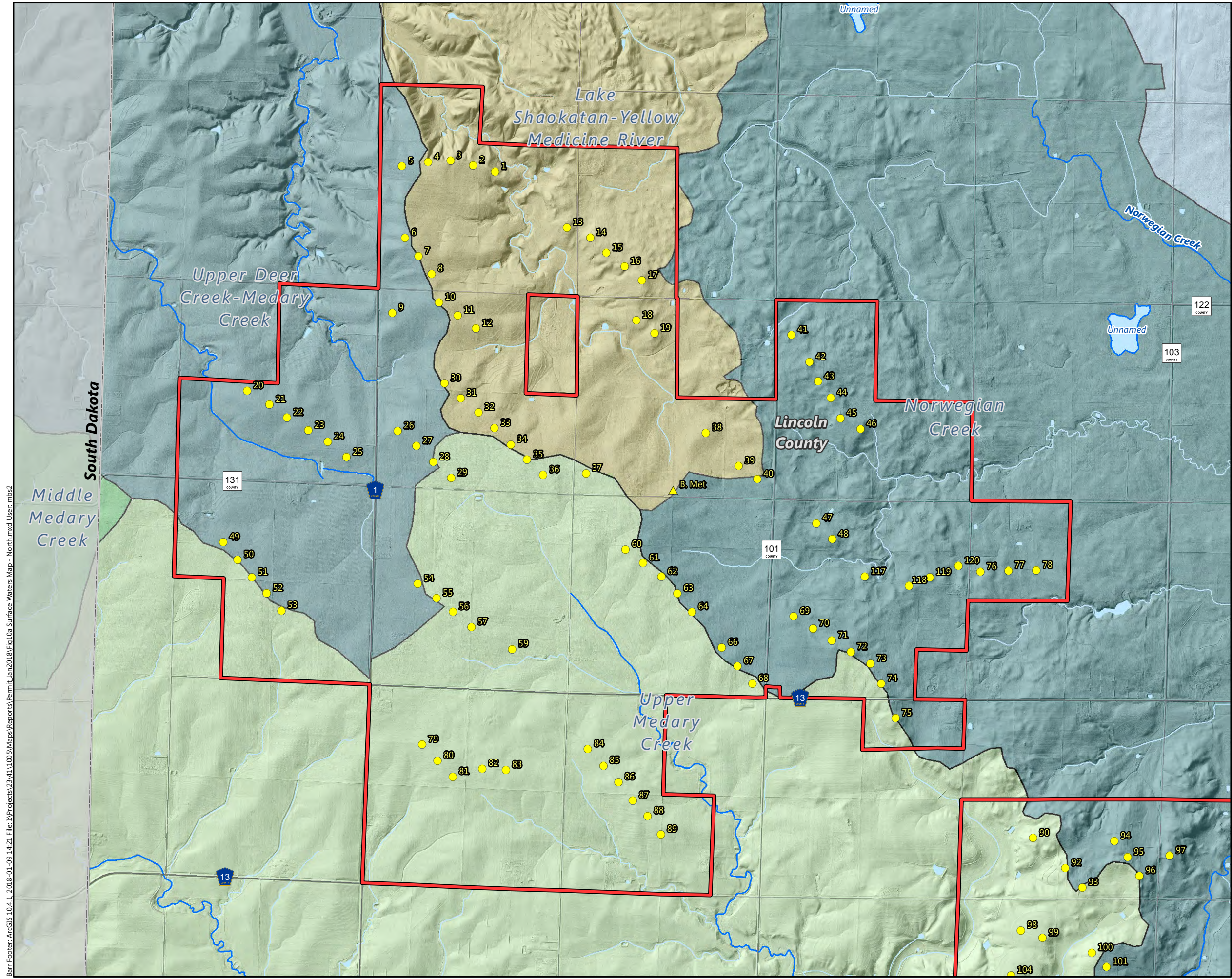
Figure 9b

**WETLANDS INVENTORY
MAP - SOUTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:52 File: I:\Projects\23\411\1005\Maps\Reports\Permit_Jan2018\Fig09b\Wetlands Inventory Map - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- Impaired Stream (MPCA)
- Impaired Lake (MPCA)
- NHD Watercourse (USGS)
- NHD Waterbody (USGS)
- PWI Watercourse (DNR)
- PWI Basin (DNR)
- Watershed (NHD, HUC-12)
- Lake Shaokatan-Yellow Medicine River
- Norwegian Creek
- Upper S. Branch Yellow Medicine River
- Middle Medary Creek
- Upper Deer Creek-Medary Creek
- Upper Medary Creek

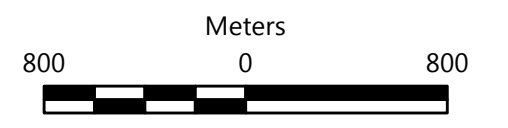
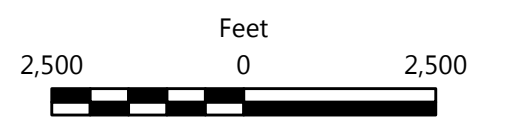
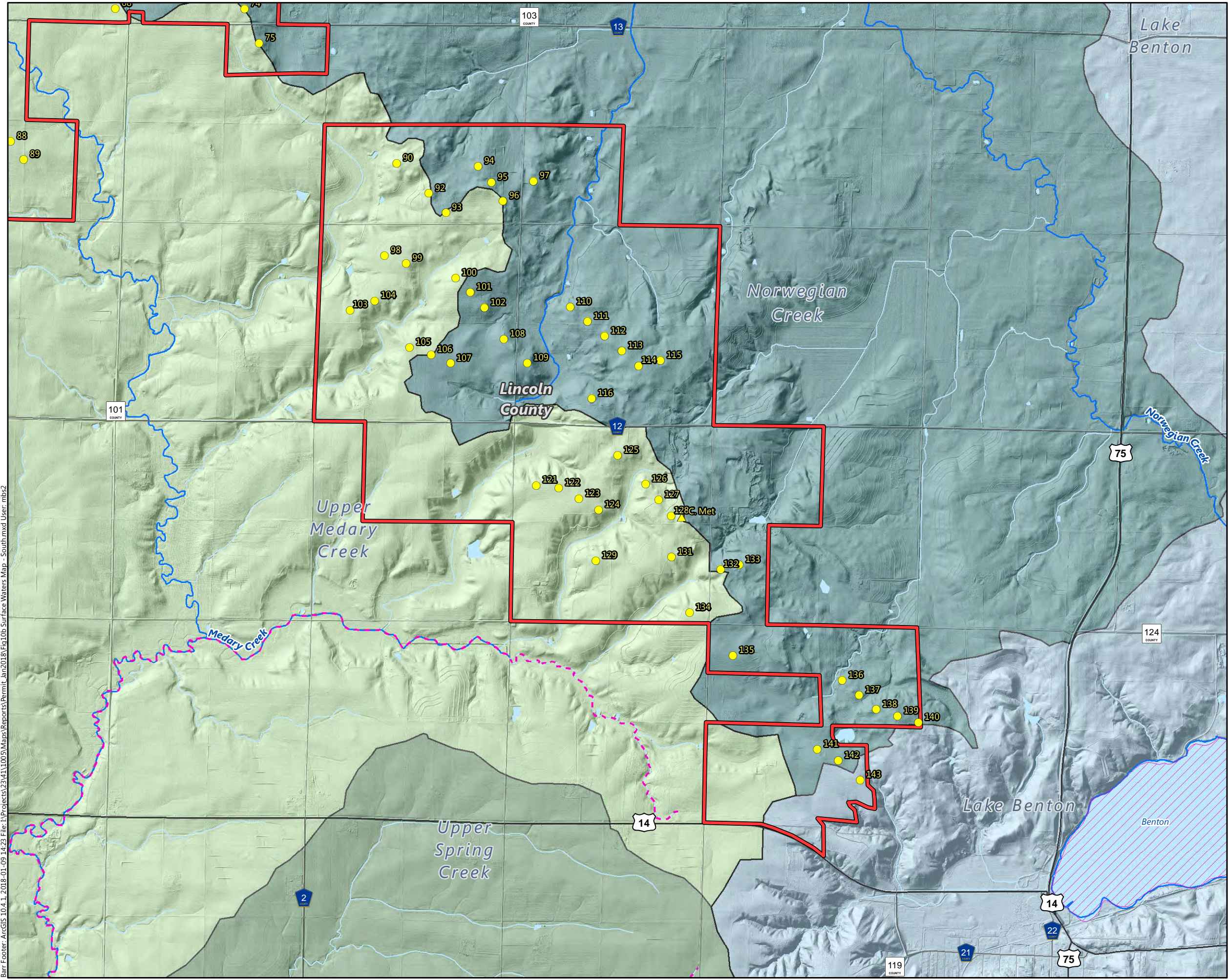


Figure 10a

**SURFACE WATERS
MAP - NORTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota



Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:23 File: I:\Projects\23\411\1005\Maps\Reports\Permit_Jan2018\Fig.10b Surface Waters Map - South.mxd User: mbs2

- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- County Boundary
- Impaired Stream (MPCA)
- Impaired Lake (MPCA)
- NHD Watercourse (USGS)
- NHD Waterbody (USGS)
- PWI Watercourse (DNR)
- PWI Basin (DNR)
- Watershed (NHD, HUC-12)
- Lake Benton
- Norwegian Creek
- Upper Medary Creek
- Upper Spring Creek

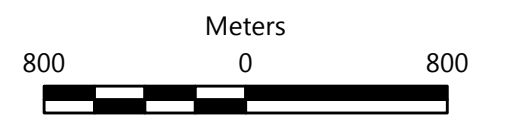
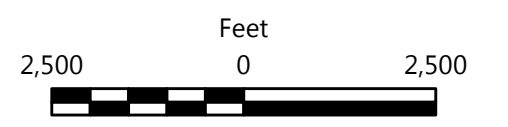
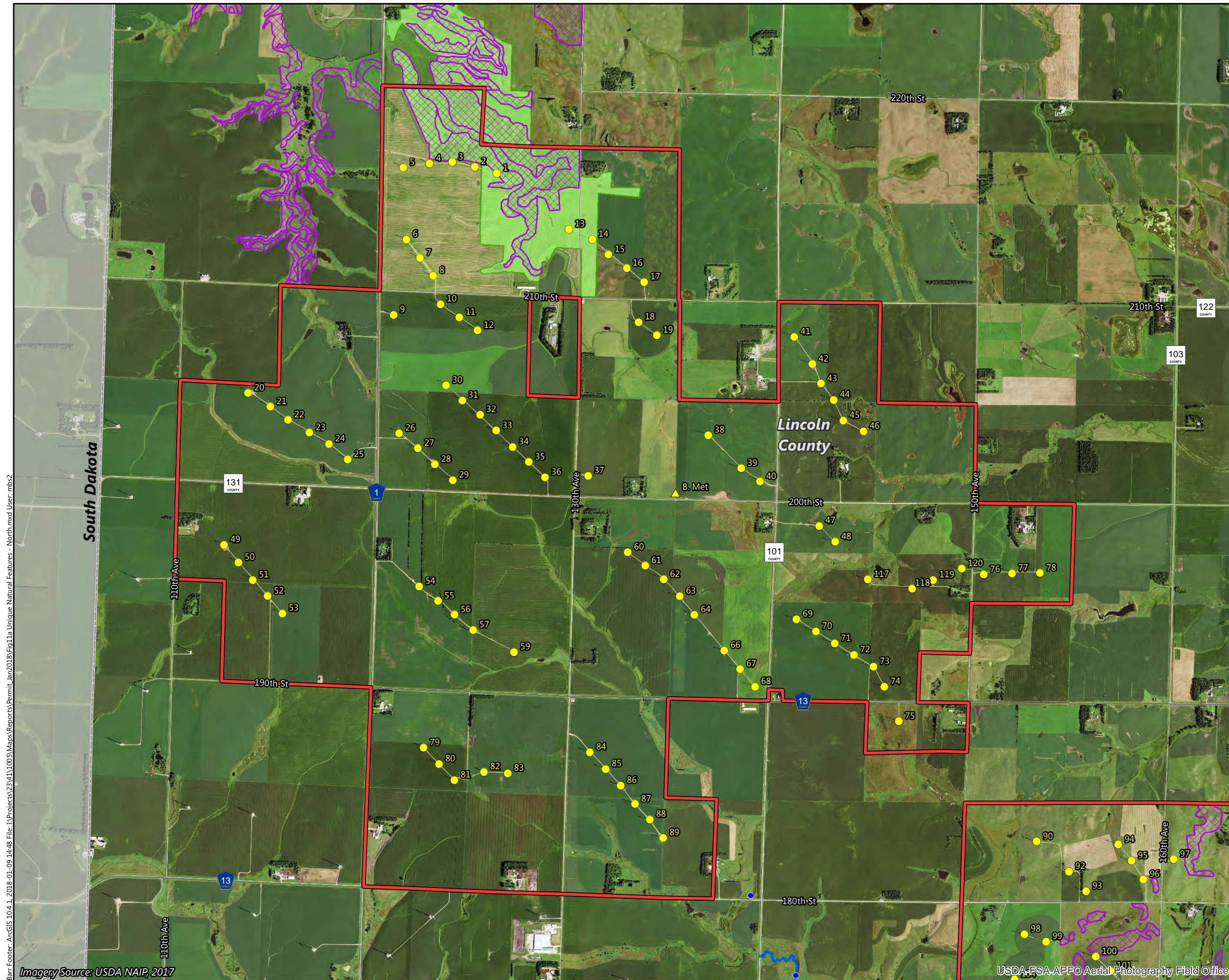


Figure 10b

**SURFACE WATERS
MAP - SOUTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- Native Plant Community (MBS)
- Site with High Biodiversity Significance (DNR MBS)
- NHIS Rare Natural Features (DNR)
- Vertebrate Animal
- Invertebrate Animal
- Municipal Boundary
- County Boundary

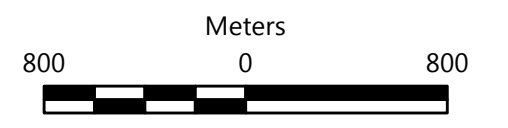
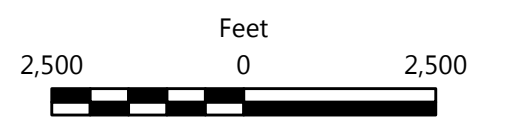


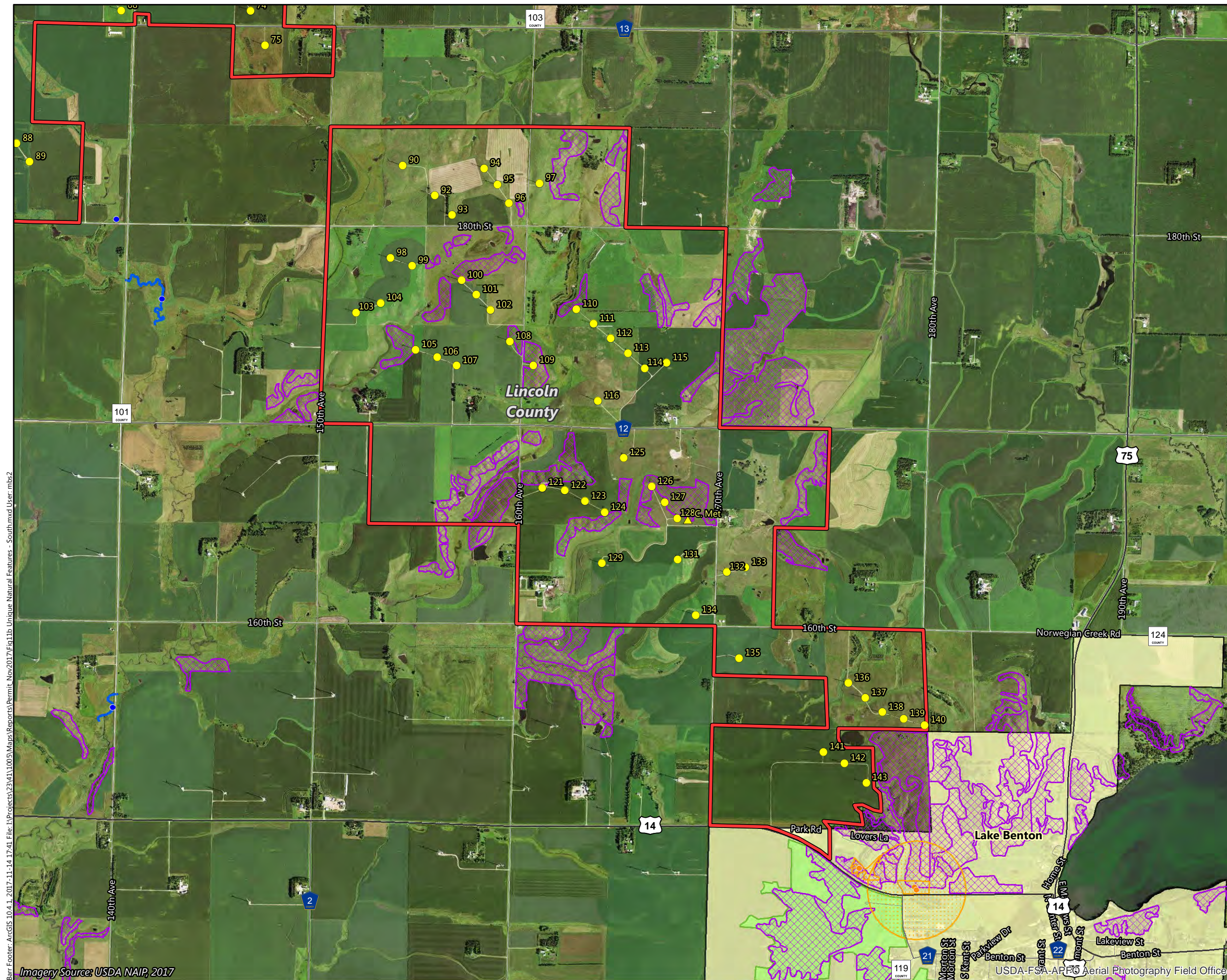
Figure 11a

**UNIQUE NATURAL
FEATURES - NORTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:48 File: I:\Projects\23\11\1005\Maps\Reports\Permit_Jan2018\Fig.11a Unique Natural Features - North.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- Native Plant Community (MBS)
- Site with High Biodiversity Significance (DNR MBS)
- NHIS Rare Natural Features (DNR)
 - Vertebrate Animal
 - Invertebrate Animal
 - Municipal Boundary
 - County Boundary

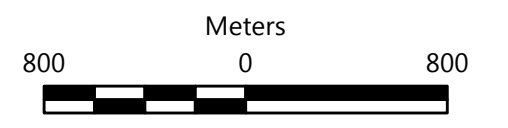
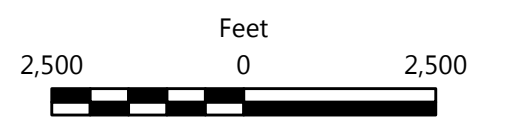


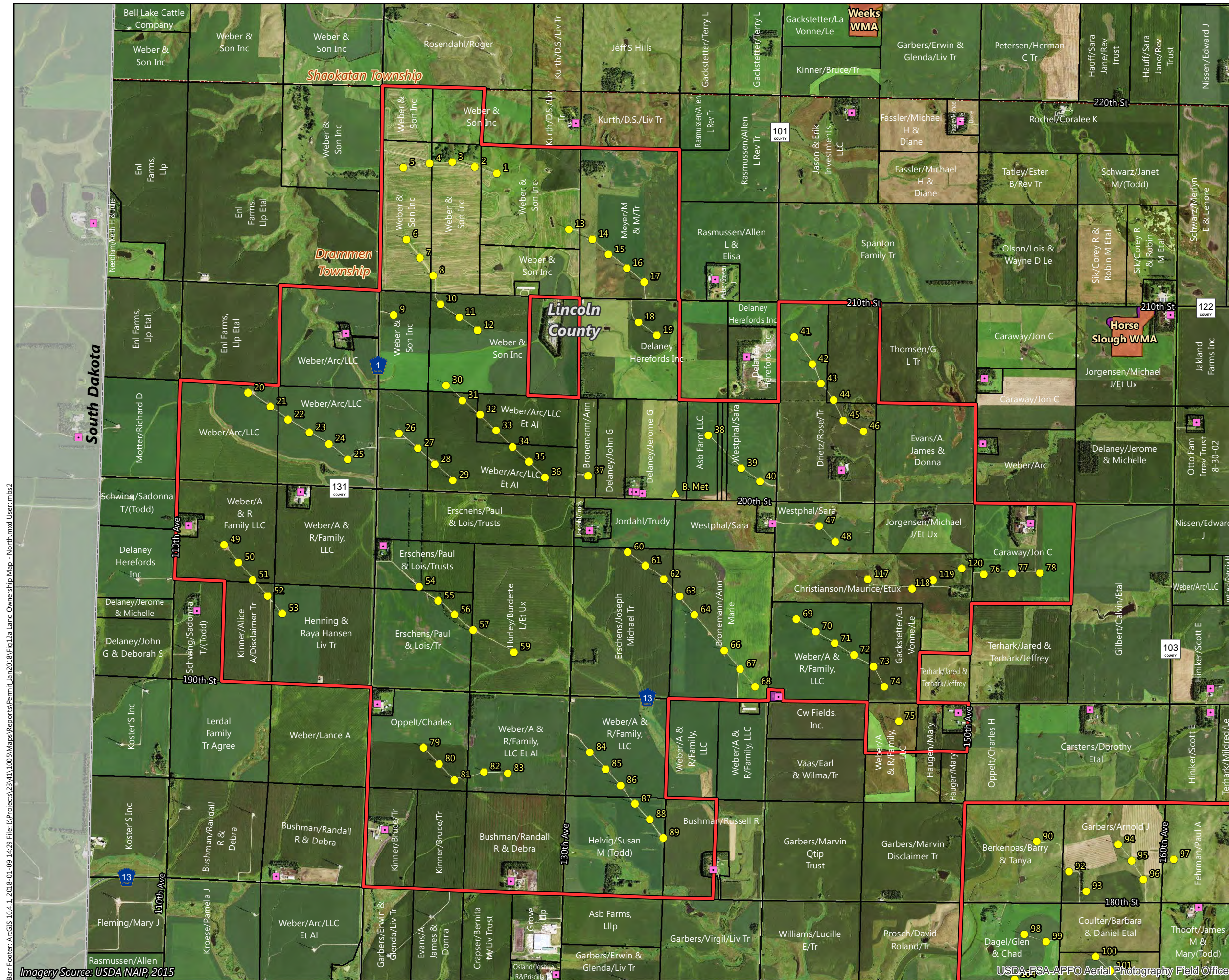
Figure 11b

UNIQUE NATURAL FEATURES - SOUTH
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2017-11-14 17:41 File: I:\Projects\23\41\1005\Maps\Reports\Permit_Nov2017\Fig11b Unique Natural Features - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFG Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- Residence Location
- Lincoln County Parcels (Oct. 2017)
- State Wildlife Management Area (WMA)
- State Park
- State Game Refuge
- Conservation Easement
- Publicly Owned Land
- Municipal Boundary
- Civil Township
- County Boundary

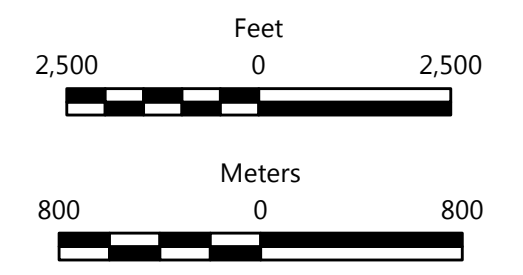


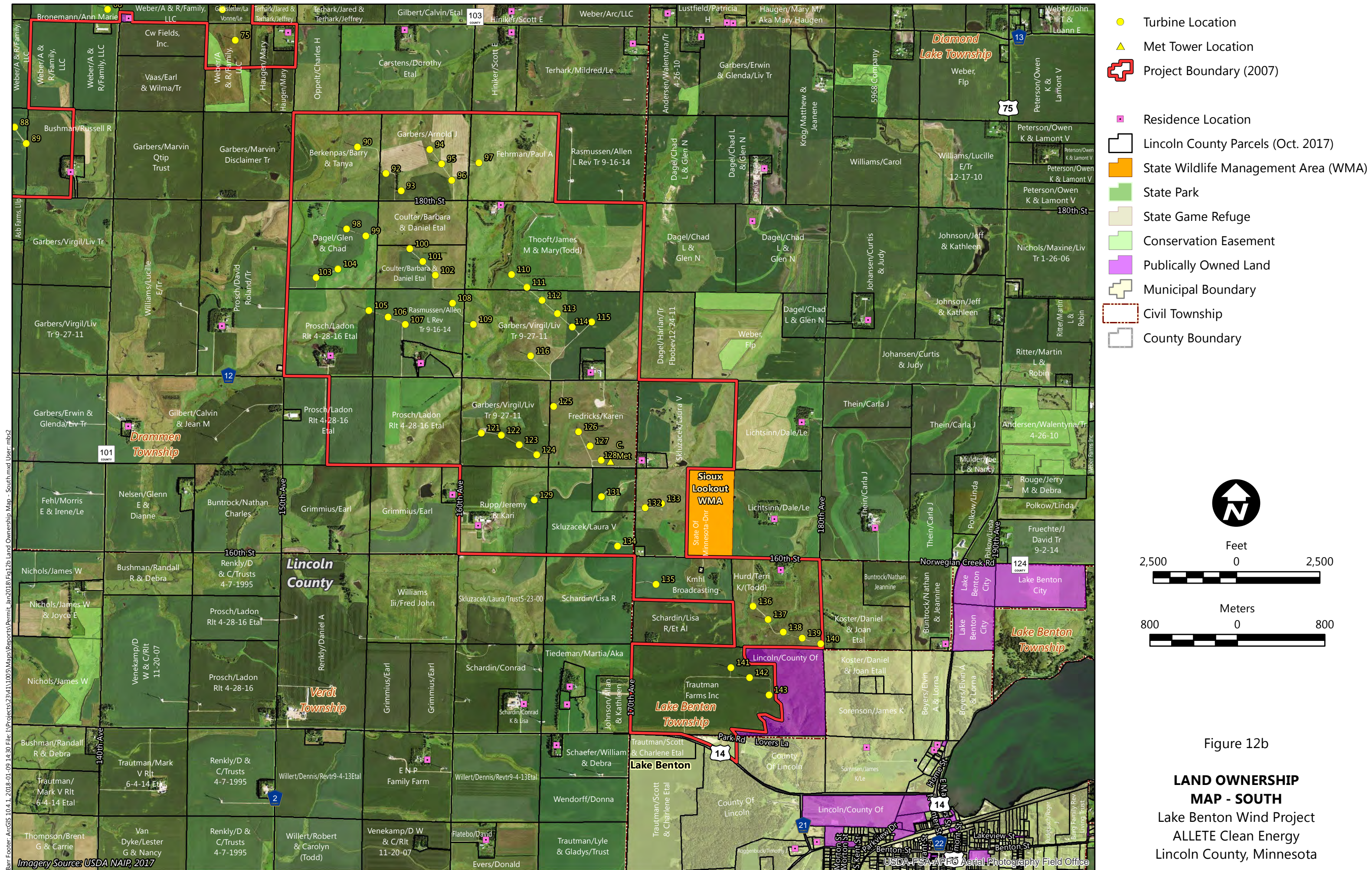
Figure 12a

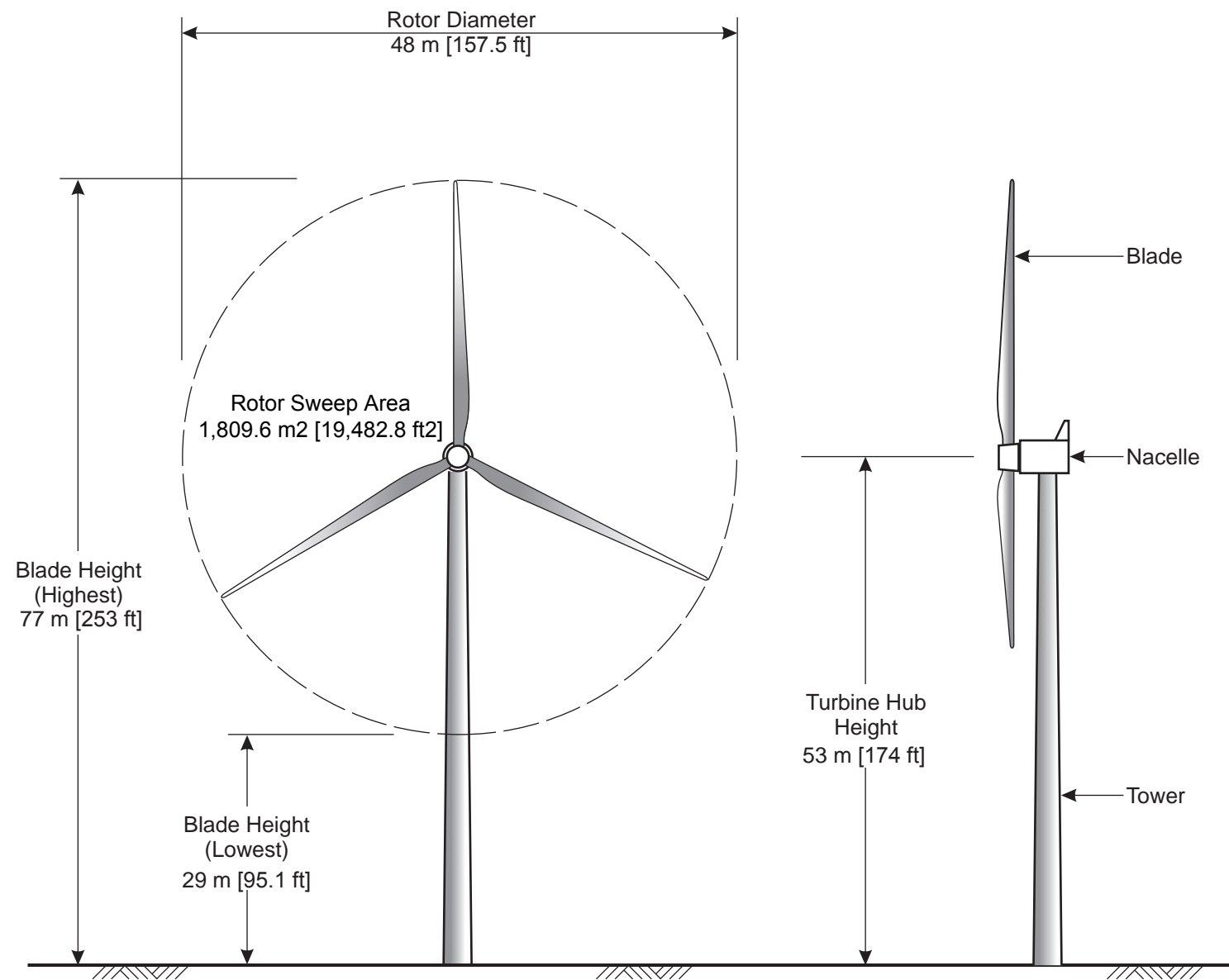
**LAND OWNERSHIP
MAP - NORTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:29 File: I:\Projects\23\111005\Maps\Reports\Permit_Jan2018\Fig.12a Land Ownership Map - North.mxd User: mbs2

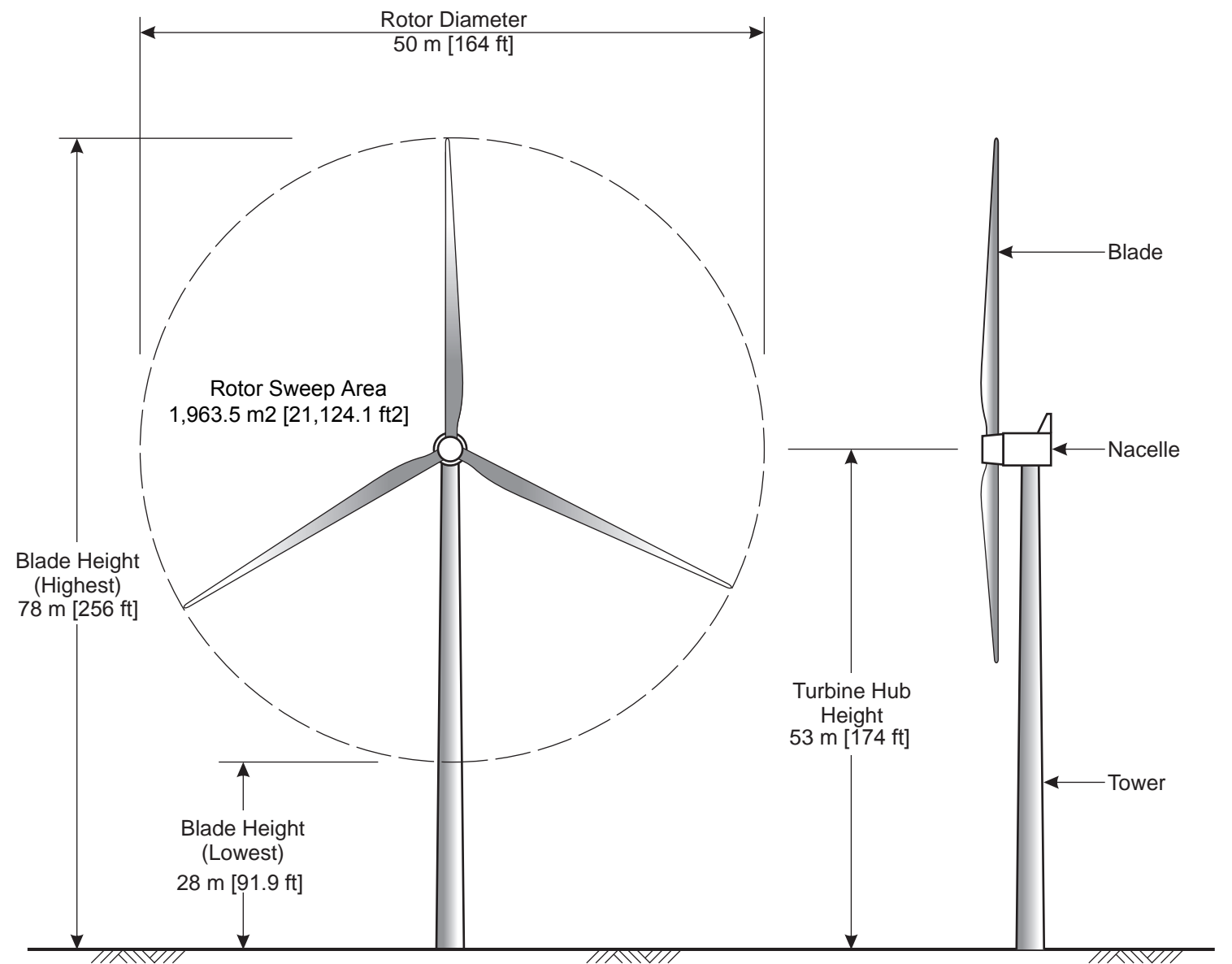
Imagery Source: USDA NAIP, 2015

USDA-FSA-APFO Aerial Photography Field Office





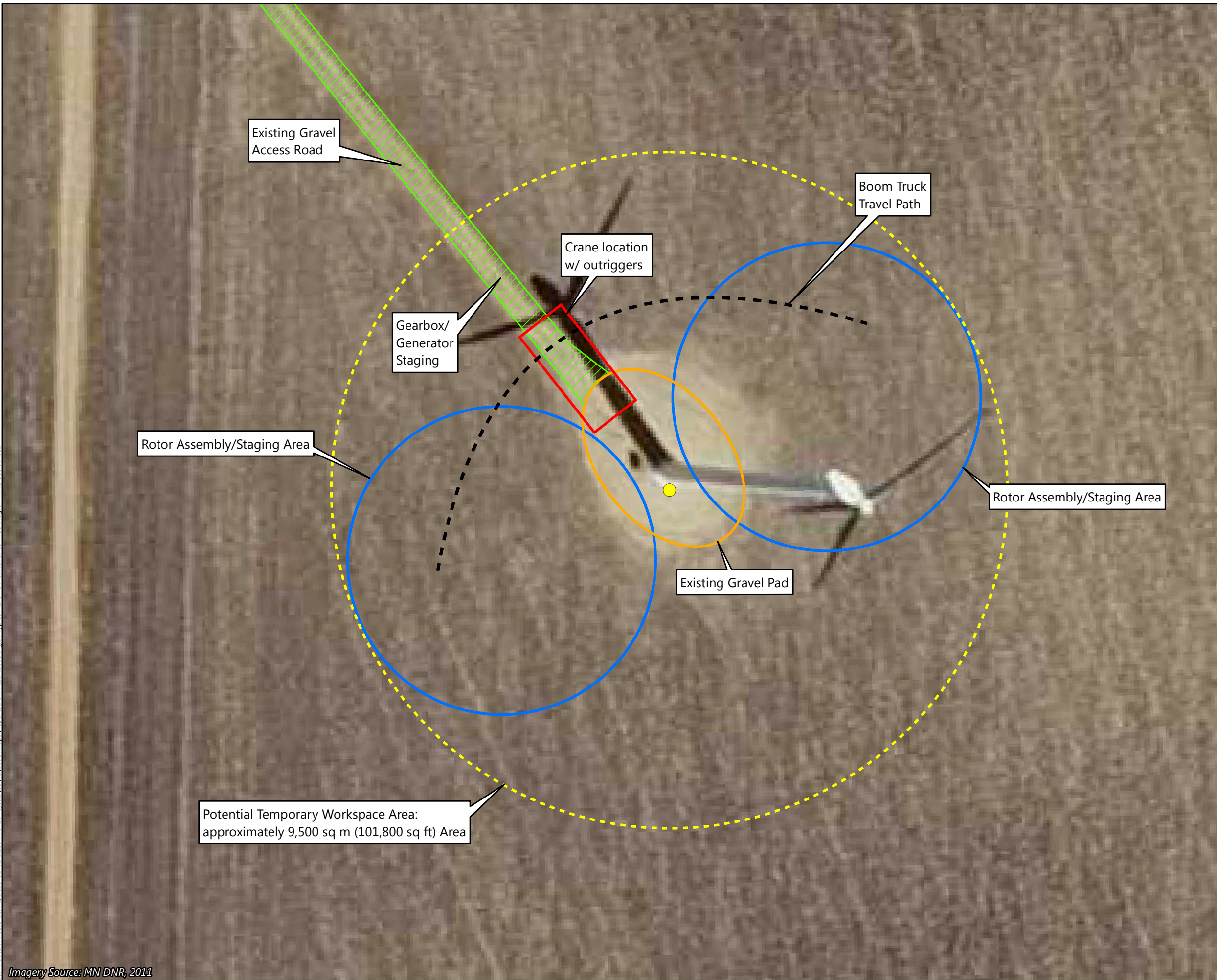
EXISTING WIND TURBINE DESIGN



PROPOSED WIND TURBINE DESIGN

FIGURE 13
WIND TURBINE DESIGN FEATURES
Lake Benton Power Partners

Barr Footer: ArcGIS 10.4.1, 2018-02-02 11:53 File: I:\Projects\23411\005\Maps\Reports\Permit_Jan2018\Fig.14 Typical Turbine Maintenance Area Diagram.mxd User: mbs2



- Turbine Location
- Existing Turbine Access Road
- Existing Graveled Area
- Crane Location
- Rotor Assembly/Staging Area
- Potential Temporary Workspace Area

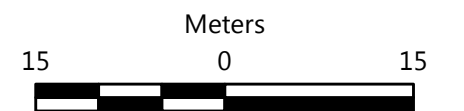
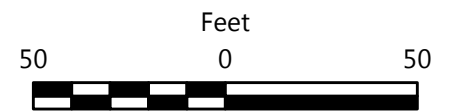
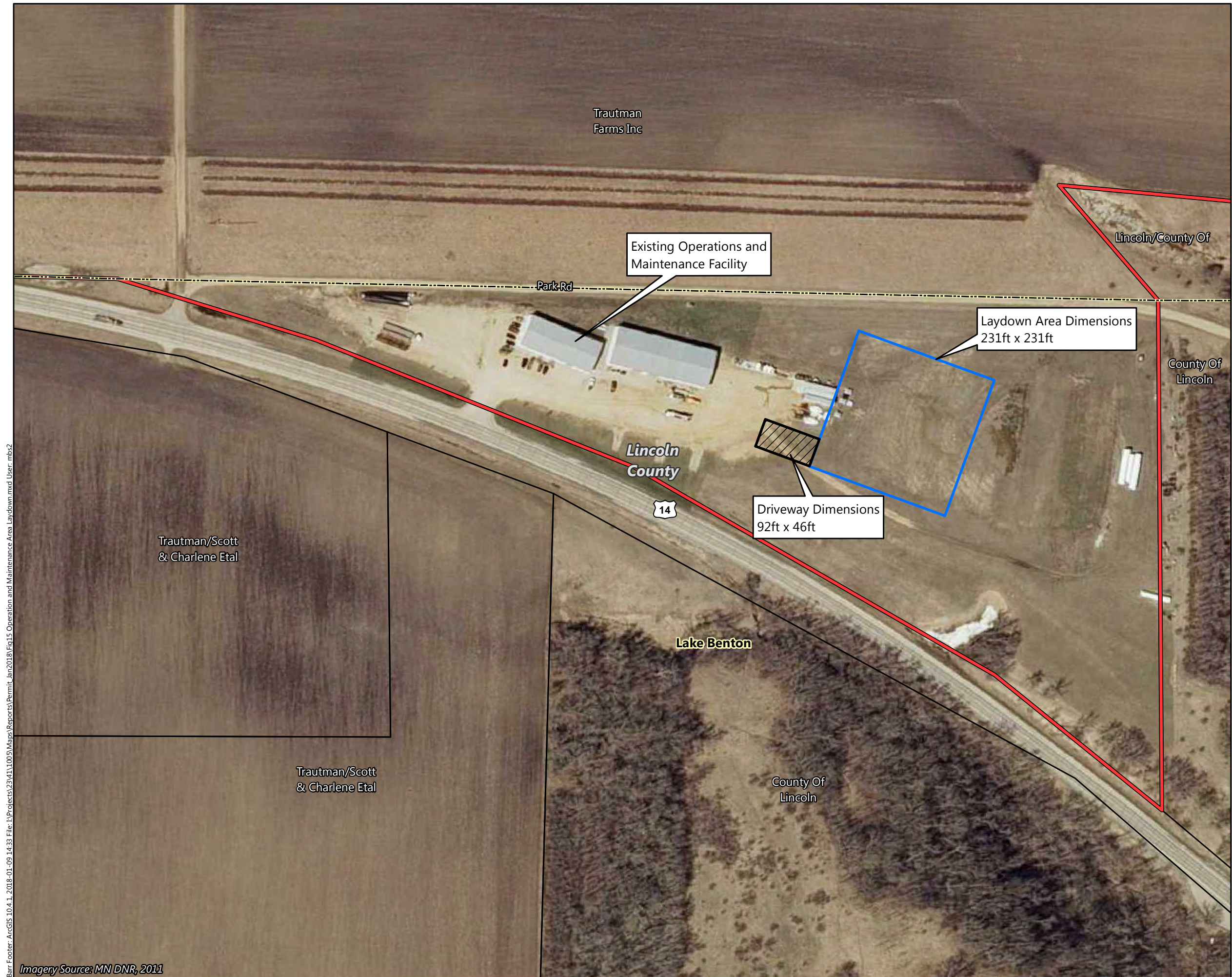







Figure 14

**TYPICAL TURBINE
MAINTENANCE AREA DIAGRAM**

Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota



-  Driveway
-  Laydown Area
-  Lincoln County Parcels (Oct. 2017)
-  Project Boundary (2007)
-  Municipal Boundary

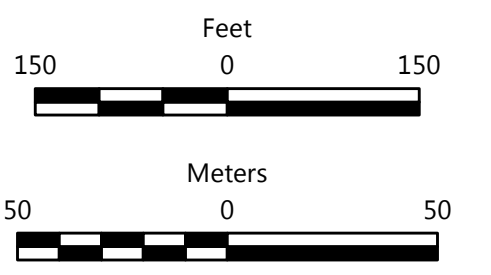
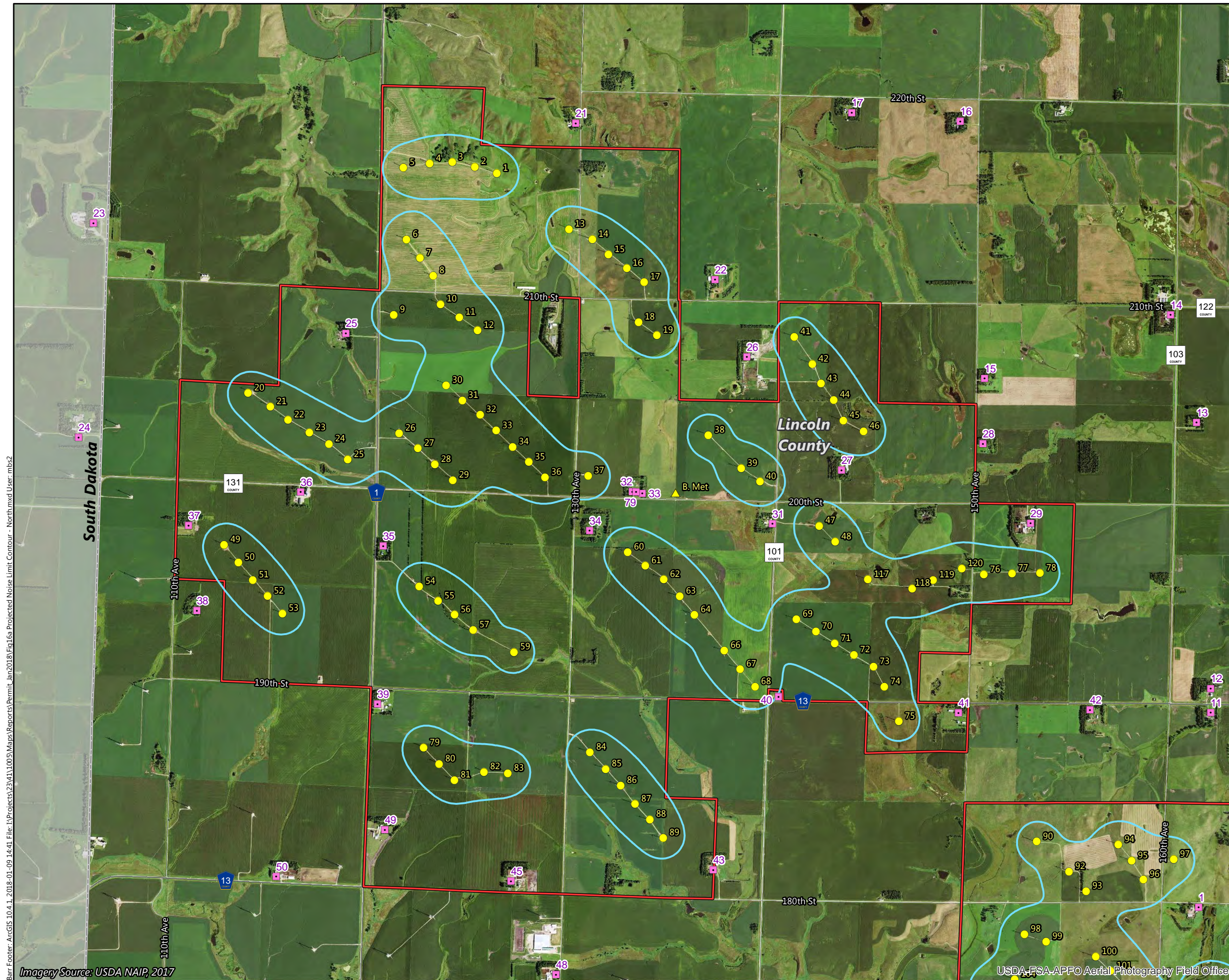


Figure 15

OPERATION AND MAINTENANCE AREA LAYDOWN
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- Projected 50 dBA Contour
- Residence Location
- Municipal Boundary
- County Boundary

50 dBA NAC-1 L₅₀ applies for residences
 Receptor #40 is Drammen Township Hall:
 65 dBA NAC-2 L₅₀ noise standard applies.

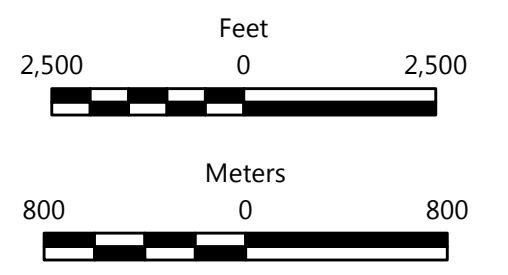


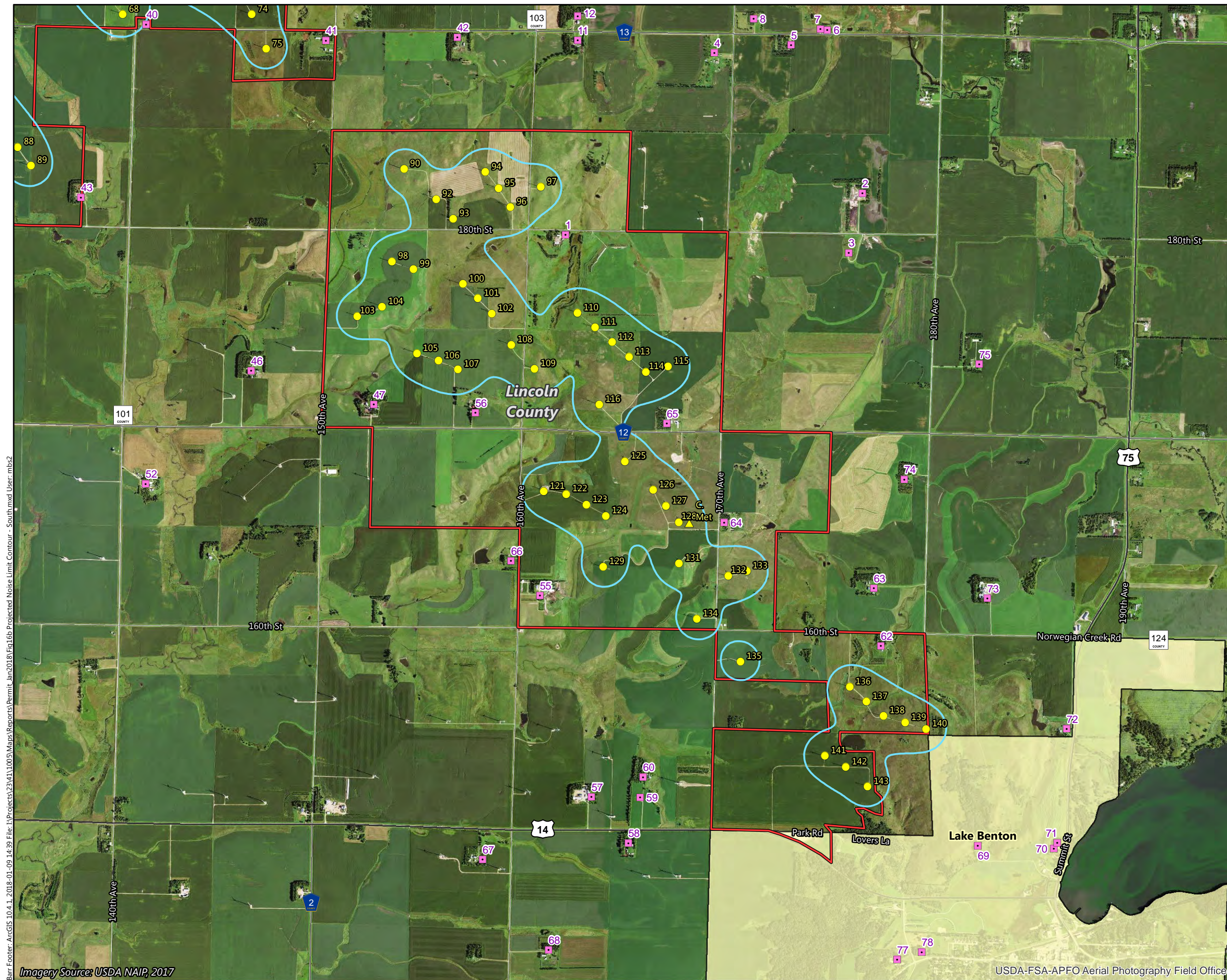
Figure 16a

**PROJECTED NOISE
 CONTOUR - NORTH**
 Lake Benton Wind Project
 ALLETE Clean Energy
 Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:41 File: I:\Projects\23\11\1005\Maps\Reports\Permit_Jan2018\Fig.16a Projected Noise Limit Contour - North.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office



- Turbine Location
- ▲ Met Tower Location
- Project Boundary (2007)
- ~ Projected 50 dBA Contour

- Residence Location
- Municipal Boundary
- County Boundary

50 dBA NAC-1 L₅₀ applies for residences

Receptor #40 is Drammen Township Hall:
65 dBA NAC-2 L₅₀ noise standard applies.

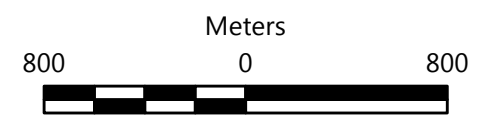
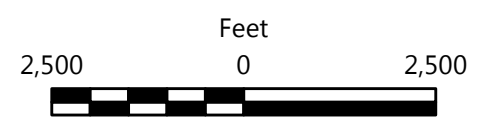


Figure 16b

**PROJECTED NOISE
CONTOUR - SOUTH**
Lake Benton Wind Project
ALLETE Clean Energy
Lincoln County, Minnesota

Barr Footer: ArcGIS 10.4.1, 2018-01-09 14:39 File: I:\Projects\23\411\005\Maps\Reports\Permit_Jan2018\Fig.16b Projected Noise Limit Contour - South.mxd User: mbs2

Imagery Source: USDA NAIP, 2017

USDA-FSA-APFO Aerial Photography Field Office