

Brian R. Bjella
100 West Broadway, Suite 250
P.O. Box 2798
Bismarck, ND 58502-2798
701.223.6585
bbjella@crowleyfleck.com

October 9, 2014

Hand Delivery

Mr. Darrell Nitschke
Executive Director
NORTH DAKOTA PUBLIC
SERVICE COMMISSION
600 E. Boulevard Avenue, Dept. 408
Bismarck, ND 58505-0480



Dear Mr. Nitschke:

In re: Antelope Hills Wind Project, LLC
Corridor/Route Application
Mercer County, North Dakota
Case No. PU-14-678

Enclosed for filing is one copy each of the following for the Antelope Hills Wind Energy Project:

1. Updated Acoustic analysis
2. Replacement pages 19-20 for the Corridor/Route Permit application
3. Complete set of Figures for Corridor/Route Permit application

Please call should you have any questions.

Very truly yours,

A handwritten signature in blue ink, appearing to read "BRB".

BRIAN R. BJELLA

bw
Enc.
cc: Mercer County Auditor



TETRA TECH

TO: Infinity Wind Power
FROM: Tetra Tech, Inc.
DATE: October 7, 2014
PROJECT: Antelope Hills 345kV Transmission Line Project
RE: Acoustic Screening Level Analysis

Infinity Wind Power is proposing to construct and operate the Antelope Hills 345-kV Transmission Line Project (Project) in accordance with the North Dakota Energy Conversion Facility Siting Criteria (North Dakota 2013). The Project is located approximately eleven miles northwest of Beulah, North Dakota in Mercer County, North Dakota and about five miles south of Lake Sakakawea. Tetra Tech has completed the following screening level acoustic assessment to determine the feasibility of the Project to operate within applicable noise criteria. Additionally, construction noise levels have been qualitatively assessed. The results of the acoustic analysis demonstrate that the Project would not exceed the State's regulatory limit for transmission lines associated with wind energy projects at any noise sensitive receptors (NSRs).

This analysis is based on the revised transmission line location provided on October 6, 2014.

Applicable Regulation

Tetra Tech completed a review of regulations and at the federal and local regulatory levels there are no applicable noise regulations for the Project; however, the State provides regulatory limits that are applicable to the Project. North Dakota Chapter 69-06-08-01(4) provides for the State's noise requirements with respect to wind energy projects. Because the transmission line is being constructed as a support facility to the Antelope Hills Wind Energy Project the noise limits for wind energy projects are believed to be applicable:

"Additional avoidance areas for wind energy conversion facilities. A wind energy conversion facility site must not include a geographic area where, due to operation of the facility, the sound levels within one hundred feet of an inhabited residence or a community building will exceed fifty dBA. The sound level avoidance area criteria may be waived in writing by the owner of the occupied residence or the community building."

345-kV Transmission Line Construction Sound Levels

Project construction may cause short-term but unavoidable noise impacts. The sound levels resulting from construction activities vary significantly depending on several factors such as the type and age of equipment, the specific equipment manufacturer and model, the operations being performed, and the overall condition of the equipment and exhaust system mufflers. Noise would be generated along the Project route, access roads, structure sites, conductor pulling sites, and staging and maintenance areas. Additional noise sources may include commuting workers and trucks moving material to and from the work sites. The construction equipment to be used is similar to that used during typical public works projects and tree service operations (e.g., road resurfacing, storm sewer installation, natural gas line installation, tree removal, etc.). Overhead line construction is typically completed in the following stages, but various construction activities may overlap and with multiple construction crews operating simultaneously:

- Site access and preparation;
- Installation of structure foundations;
- Erecting of support structures;
- Stringing of conductors, shield wire and fiber optic ground wire; and
- Cleanup and site restoration.

Noise levels from overhead transmission line construction were evaluated using a screening level analysis approach. The calculation methodology requires the input of the number and type of construction equipment by phase as well as a typical noise source levels associated with that equipment to determine the composite sound levels for a standard distance of 50 feet and 1,000 feet. Table 1 summarizes results for the five conceptual construction phases.

Table 1: Construction Phase Noise Levels for Overhead Line Construction

Phase No.	Construction Phase	Example Construction Equipment	Equipment Noise Level at 15 m (50 ft), dBA L_{max}	Composite L_{eq} Noise Level at 15 m (50 ft), dBA	Composite L_{eq} Noise Level at 1000 feet, dBA
1	Site Access and Preparation	Bulldozer	85	86	51
		Grader	85		
		Roller – Compactor	85		
		Loader	80		
		Water Truck	76		
		Dump Truck	76		
2	Installation of Structure Foundations	Bulldozer	85	90	56
		Loader	80		
		Backhoe-Loader	80		
		Fork Lift	85		
		Mobile Crane	85		
		Mobile Crane	85		
		Auger Rig	85		
		Drill Rig	84		
		Compressor	80		
		Pump	82		
		Portable Mixer	85		
		Jackhammer	85		
		Cement Mixer Truck	85		
		Dump Truck	76		
Slurry Truck	76				
Specialty Truck	75				
Water Truck	76				
3	Erecting of Support Structures	Forklift	85	87	52
		Mobile Crane	85		
		Compressor	80		
		Flatbed Truck	74		
		Water Truck	76		
4	Stringing of Conductors, Shield Wire and Fiber Optic Ground Wire	Tracked Dozer	85	85	51
		Backhoe-Loader	80		
		Compressor	80		
		Line Puller	81		
		Mixed Trucks	75		
Specialty Truck	75				

Table 1: Construction Phase Noise Levels for Overhead Line Construction

Phase No.	Construction Phase	Example Construction Equipment	Equipment Noise Level at 15 m (50 ft), dBA L_{max}	Composite L_{eq} Noise Level at 15 m (50 ft), dBA	Composite L_{eq} Noise Level at 1000 feet, dBA
		Water Truck	76		

Data compiled in part from the following sources:

Federal Highway Administration, "Roadway Construction Noise Model User's Guide," Report FHWA-HEP-05-054 / DOT-VNTSC-FHWA-05-01, January 2006.

Power Plant Construction Noise Guide, Bolt Beranek and Newman, Inc. 1977.

Federal Highway Administration, "Procedures for Abatement of Highway Traffic Noise and Construction Noise." Code of Federal Regulations, Title 23, Part 772, 1992.

Sound generated by construction activities is generally exempt from the state noise regulation. Construction would be limited to daytime hours between 7:00 a.m. and 7:00 p.m. to the extent practicable and reasonable efforts would be made to minimize the impact of noise resulting from construction activities. The construction contractor would notify the community of the expected Project construction schedule and duration.

345-kV Transmission Line Operational Sound Levels

Noise generated by transmission lines typically contributes little to area noise levels when compared to other common sources such as noise from vehicles, aircraft, and industrial sources; however, with increasing transmission line voltages audible noise produced by corona on the transmission line conductors is sometimes of concern. Audible noise from transmission lines occurs primarily in foul weather where the conductors are wet, such as during rain events. In dry conditions, corona sources are limited to insects, scratches, and vegetation. These sources are such that the corona threshold is barely exceeded, and the audible noise generated is very low. Generally, the fair-weather audible noise of transmission lines cannot be distinguished from ambient noise at the edge of the right-of-way. Conversely, in wet conditions water drops impinging or collecting on the conductors produce a large number of corona discharges, each of them creating a burst of noise.

Audible noise generated by corona on power transmission lines is composed of two major components. The first is a broadband component that has a significant high-frequency content distinguishing it from more common environmental noises. The random phase relationship of the pressure waves generated by each corona source along a line combined with the significant high-frequency content results in the crackling, frying, or hissing characteristic of transmission line noise. The second component is a low-frequency pure tone that is superimposed over the broadband noise. The corona discharges produce positive and negative ions that, under the influence of the alternating electric field around AC conductors, are alternately attracted to and repelled from the conductors. This motion establishes a sound-pressure wave having a frequency twice that of the voltage, namely, 120 Hz for a 60-Hz system. Higher harmonics, 240 Hz, may also be present, but they are of generally less significance. In different weather conditions the relative magnitudes of random noise and hum may be different. Noise levels in fog and snow usually do not attain the elevated level as compared to rain, and when attained, are usually for a shorter duration in proportion of the event.

In conditions of foul weather, there exists the potential for a large concentration of corona sources in the form of water drops or snowflakes that stick to the conductor surface. Noise levels in rain may vary over a wide range. In the initial stages of a rain, when the conductors are not thoroughly wet, there may be a considerable fluctuation in the noise level as the rain intensity varies. When the conductors are thoroughly wet, the noise fluctuations will often be less significant because, even as the rain intensity lessens, the conductors will still be saturated with water drops that act as corona sources. The variation in noise levels

during rain depends greatly on the surface condition, size, and type of conductor as well as on the voltage gradient at which the conductors are operating. At high operating gradients, the audible noise is less sensitive to rain rate than at low gradients. Consequently, the dispersion of noise levels is less for the higher gradients.

The Project will be built to transmit electricity from the Antelope Hills Wind Energy Project to the grid at the Antelope Valley Substation which is collocated with the Antelope Valley Coal Power Plant. The proposed 345 kV line would parallel an existing 345 kV line and two 500 kV lines as the transmission line corridor moves from east to west from the coal power plant to the wind energy project. To support engineering design and permitting efforts for the Project, audible noise calculations were performed for the proposed 345 kV line. The existing high voltage transmission lines were not evaluated in this analysis.

Corona source noise levels for the proposed line were calculated using methodologies described in the Bonneville Power Administration (BPA) Corona and Field Effects (CAFE) program. Developed by the U.S. Department of Energy (DOE) and the BPA, CAFE algorithms have been validated and used by engineers and scientists for many years to calculate the expected levels of audible noise produced by transmission lines. The inputs to the model include line voltage, load flow (current), altitude, meteorological conditions that would result in the conductors being wet, the physical dimensions of the line, conductor diameter, spacing, and height of the conductors and receivers above ground level (see Table 2). The BPA method of calculating audible noise from transmission lines is based on long-term statistical data collected from operating and test transmission lines. This method calculates the foul weather L_{50} noise level during rainy conditions of 1 millimeter per hour (mm/hr) (0.039 inch/hr). Long-term measurements show that L_{50} audible noise levels occur at this rain rate (EPRI 2005). The BPA CAFE program assumes this standard rain rate, and does not allow for adjustments or modifications. Results during fair weather conditions were also estimated.

The Project would consist of wood H-Frame or steel monopole tangent structures in the western segment and steel monopole tangent structures in the eastern or "Roughrider" segment. The typical height and span of the wood H-Frame structures would be approximately 80 feet above ground with 700 foot spans. The typical height and span of the steel monopole structures will be approximately 110-130 feet above ground with 700 foot spans. Figures 1 and 2 provide examples of similar structures from the Electric Power and Research Institute (EPRI) *Transmission Line Reference Book 200kV and Above* (EPRI 2005). Table 2 provides a summary of the inputs used in the BPA CAFE model to predict sound levels from the proposed line. Figures 3 and 4 provide the sound profiles for the H-Frame and monopole structures, respectively.

Figure 1: H-Frame Structure EPRI Example

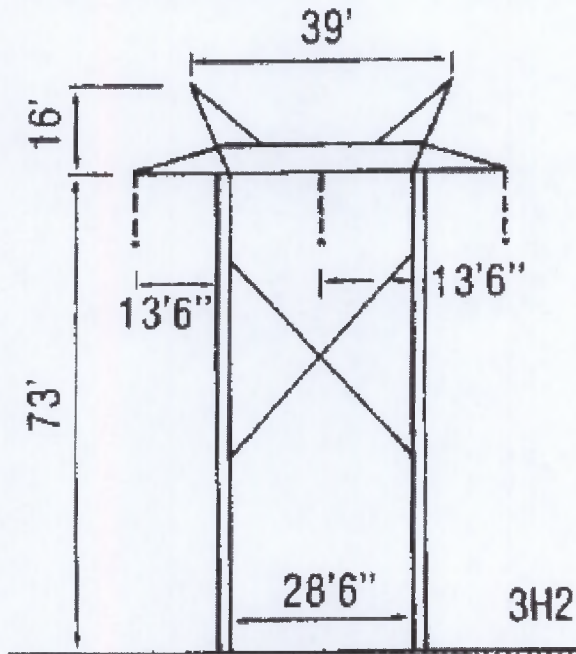


Figure 2: Steel Monopole Structure EPRI Example

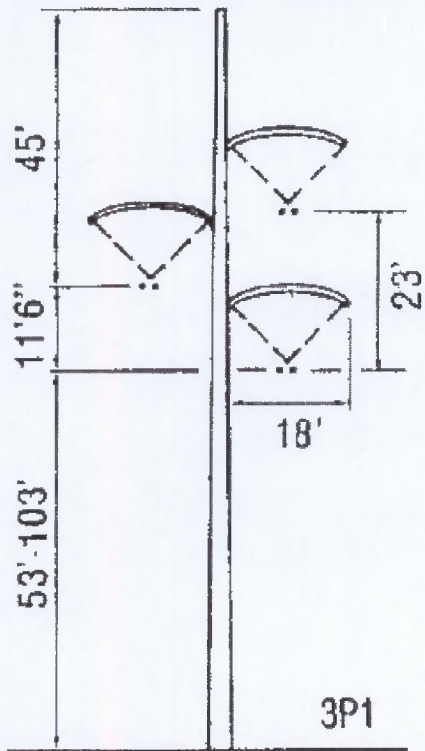


Table 2: CAFE Model Assumptions

Model Parameter	H-Frame 345-kV Line	Monopole 345-kV Line
No. of Energized Conductors	3	3
Bundle Type	2 line bundle	2 line bundle
Total Number of Lines (including earthwires)	5	5
Line Voltage	345 kV	345 kV
Rain Rate	1 mm/hr	1 mm/hr
Max Ground Altitude	2300 feet	2300 feet
Microphone Height	5 feet	5 feet
Midspan Height (conductors)	63 feet	68.5-91.5 feet
Conductor diameter	1.107 inches	1.1079 inches
Earthwire diameter	0.486 inches	0.486 inches
Phase spacing	18 inches	18 inches
Line to Ground Voltage	199.422 kVrms	199.422 kVrms
Ampacity	907 amps	907 amps

Figure 3: H-Frame Sound Level Profile

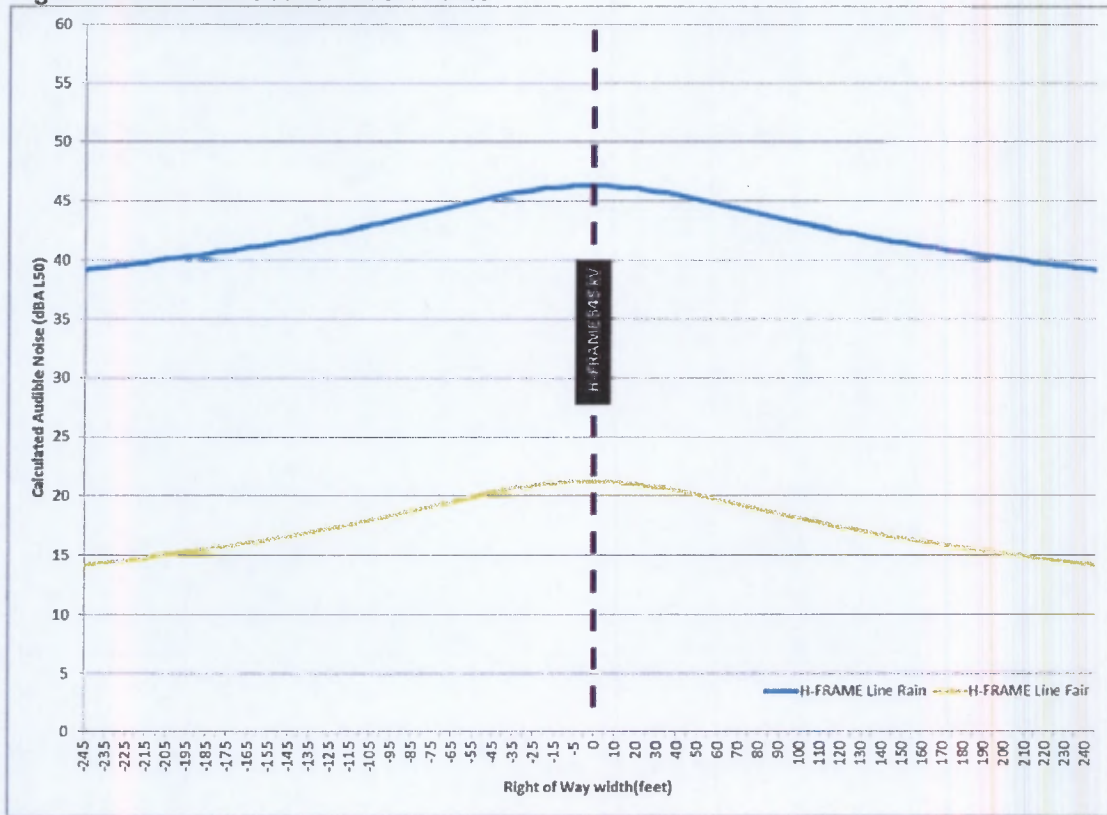
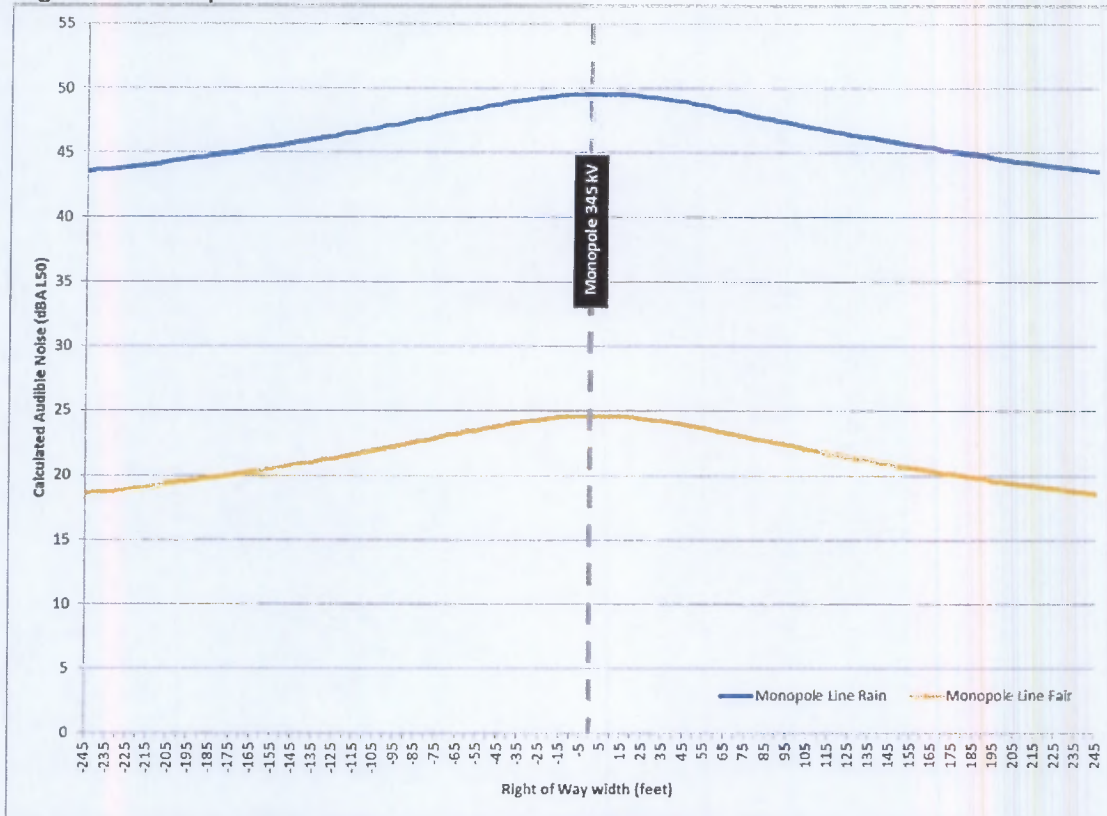


Figure 4: Monopole Sound Level Profile



Received Operational Sound Levels at NSRs

To determine compliance with the State’s noise regulation received sound level predictions were completed for the Project operation at NSRs using geometric spreading from a linear sound source. Received sound levels from a linear sound source typically decrease by 3 dBA as the distance doubles from the sound source. Noise was modeled at a distance of 100 feet from each residential structure in consideration of the North Dakota noise standard described above.

As expected, results show that higher received sound levels are generated under foul weather conditions. Based on these results and applying geometric spreading the sound level at the closest NSR, which is located approximately 600 feet from the proposed line, was calculated. In addition, a modeling uncertainty factor of 3 dBA was added to the BPA CAFE sound power levels as an added level of conservatism. Using the H-Frame structure the received sound level is predicted to be 34 dBA L₅₀ and with the monopole structure the received sound level is predicted to be 39 dBA L₅₀. The L₅₀ is often used as a surrogate for the L_{eq} sound level, which is referenced in the State’s noise standard. Taking this into consideration the received sound levels for both the H-Frame and monopole structures are well below the regulatory limit of 50 dBA L_{eq}. As a result no exceedances are predicted with the Project.

3.3 County Criteria

In addition to the North Dakota siting criteria discussed above, Antelope will comply with the setbacks for non-agricultural uses established by Mercer County (Figure 6), as shown in Table 7.

Table 7. Mercer County Zoning Ordinance Setback Distances for Non-Agricultural Land Uses

Ordinance Section	Setback Type	Setback Distance
Chapter 3, Section 1, District Regulations	Setbacks for structure and improvements to centerline of all county, state, and federal highways and roads	150 feet
Chapter 3, Section 1, District Regulations	Side lot lines	50 feet
Chapter 3, Section 1, District Regulations	Rear lot lines	50 feet

4.0 DESCRIPTION OF THE PROPOSED FACILITY

4.1 Proposed Corridor

NDAC 69-06-04-02 states that the width of a corridor must be at least 10 percent of the length of the line, not less than 1 mile and not more than 6 miles in width. The proposed corridor is approximately 1 mile wide and encompasses the proposed transmission line route. The proposed corridor is shown on all map figures for this application.

The Proposed Corridor is located in northwestern Mercer County, North Dakota, northwest of the town of Beulah, and north of the towns of Zap and Golden Valley (see Figure 1). The corridor encompasses approximately 6,414 acres. Most of the land in the Corridor is in private ownership; a 160-acre parcel of State Trust land is partially within the Corridor (Figure 2). Table 8 lists the township, range and section locations in which the Proposed Corridor is located; these are also identified on Figure 2.

Table 8. Proposed Corridor Location

Township	Range	Section(s)
145N	88W	7, 13-18, 20-24
145N	89W	9-16

The 160-acre State Trust parcel encompasses the northwest quarter of Section 16, Township 145 North, Range 88 West (Parcel number 14508816B; Figure 2).

4.2 Proposed Route

Antelope has identified one Proposed Route between the Project substation and the point of interconnection at the AVS switchyard. (Figure 2). The Proposed Route is approximately 9.5 miles long and would be constructed within an approximately 150-foot wide right-of-way. The Proposed Route is located entirely within the Proposed Corridor. The Proposed Route does not cross the State Trust parcel that is within the Corridor.

The eastern approximately 3 miles of the proposed transmission line route would utilize an existing transmission corridor now occupied by a 69kV double-circuit transmission line owned by Roughrider and Coteau. This portion of the Roughrider/Coteau line would be replaced with a new 345 kV monopole structure with the Roughrider/Coteau double circuit 69 kV lines strung on the poles as an underbuild enabling the lines to share the same right-of-way. This section of the Project is referred to as the Roughrider/Coteau underbuild segment. Both the western portion and the Roughrider underbuild portion of the Project would utilize a 150 foot-wide right-of-way. At approximately ¼ mile west of AVS the triple circuit structure supporting the proposed 345 kV with the double circuit 69 kV underbuild would no longer be required. At this point, the poles

P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_TimeMX\Ds\CC\Infinity_AHT\LineCC_Fig_01_ProposedCorridor_17/11_2014\1007.mxd - Last Saved 1/16/2014

Antelope Hills Transmission Line Application for North Dakota Certificate of Corridor Compatibility

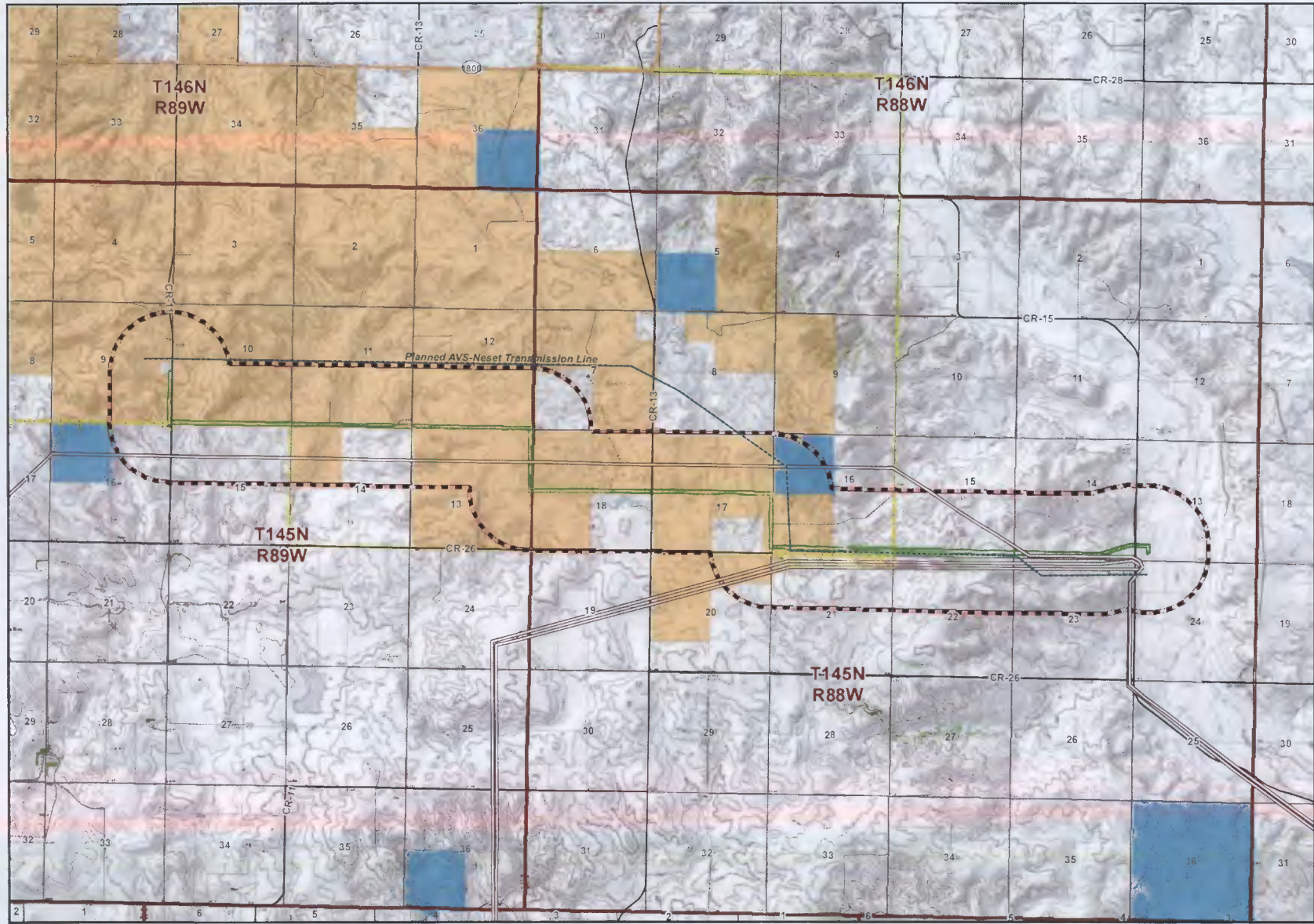
Figure 1 Proposed Corridor and Route Location

Mercer County, ND
Amended, October 2014

-  Proposed Corridor
-  Wind Energy Facility Project Area
-  County Boundary
-  Existing Transmission Line (Over 230 kV)
-  Railroad
-  Interstate Highway
-  Federal Highway
-  State Highway
-  Stream or River
-  City/Town



P:\GIS_PROJECTS\Antelope Hills Wind Power\AntelopeHills_TileMXDs\CC\AntelopeHills_AHTLineCCC_Fig_02_TRS_171111_20141007.mxd - Last Saved 10/8/2014

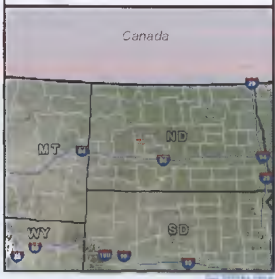


**Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility**

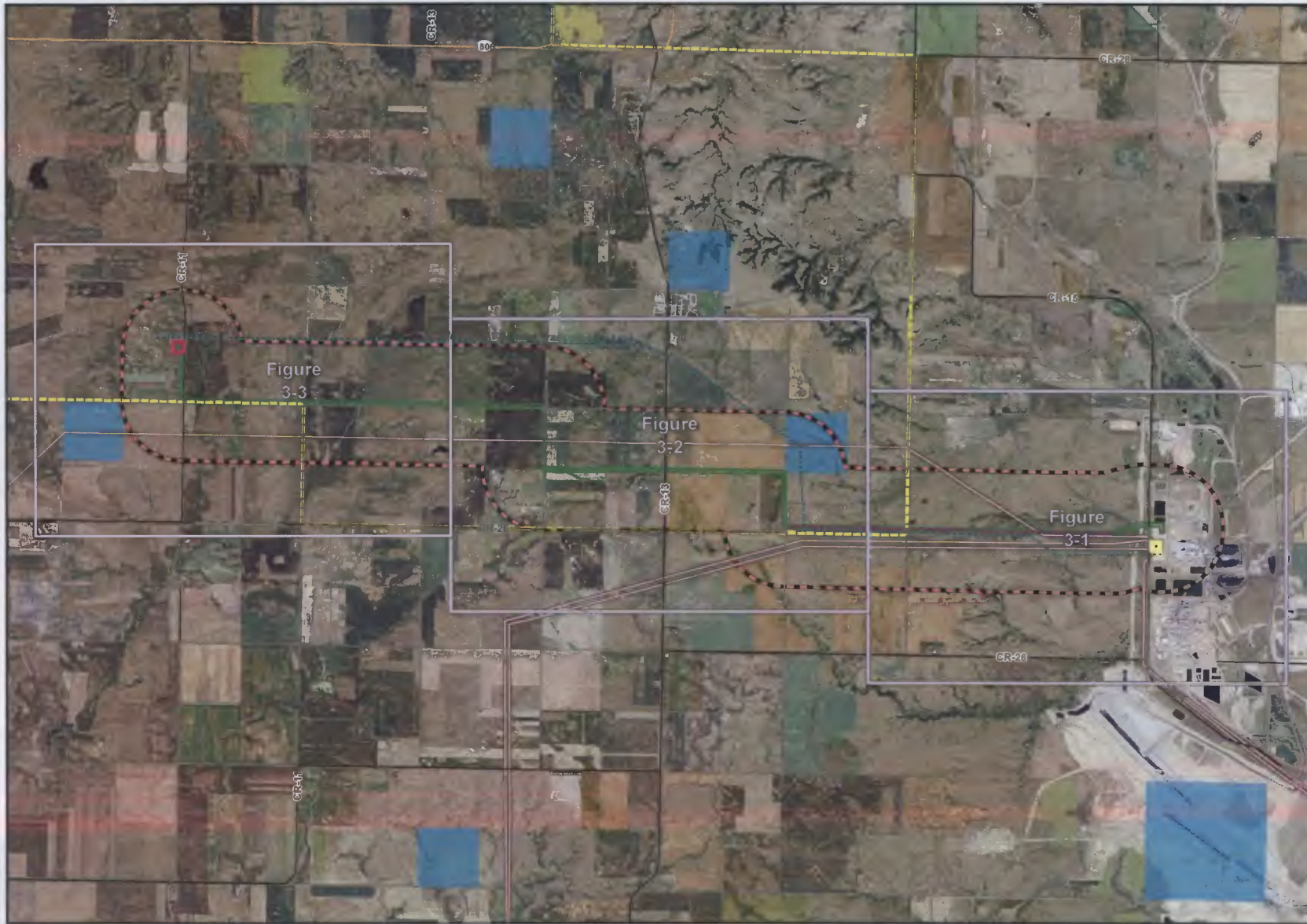
**Figure 2
Project Location
by Township, Range,
and Section**

Mercer County, ND
Amended, October 2014

- Proposed Route ROW
- Proposed Corridor
- Wind Energy Facility Project Area
- Planned AVS-Neset Transmission Line
- Existing Transmission Line (Over 230 kV)
- Participating Landowner
- State Land
- Section
- Township/Range



P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_TheMXData\CCC\Infinity_AHTLineCCC_Fig_03_AerialIndex_17/11/11_20141007.mxd - Last Saved 10/6/2014

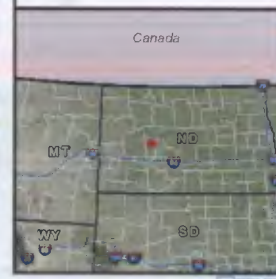


Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

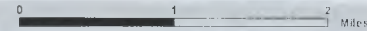
Figure 3
Proposed Corridor
and Route
Aerial Image Index Map

Mercer County, ND
Amended, October 2014

- Map Grid
- Existing Antelope Valley Station
- Proposed Substation
- Rough Rider Underbuild
- Proposed Route ROW
- Proposed Corridor
- Planned AVS-Neset Transmission Line
- Wind Energy Facility Project Area
- Existing Transmission Line (Over 230 kV)
- State Land












1:50,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet



PIGS_PROJECTS\Infinity_Wind_Power\AntelopeHills_Time\WXD\CCC\Infinity_AH\Time\CCC_Fig_03_AerialDetails_171111_20141007.mxd - Last Saved 10/6/2014



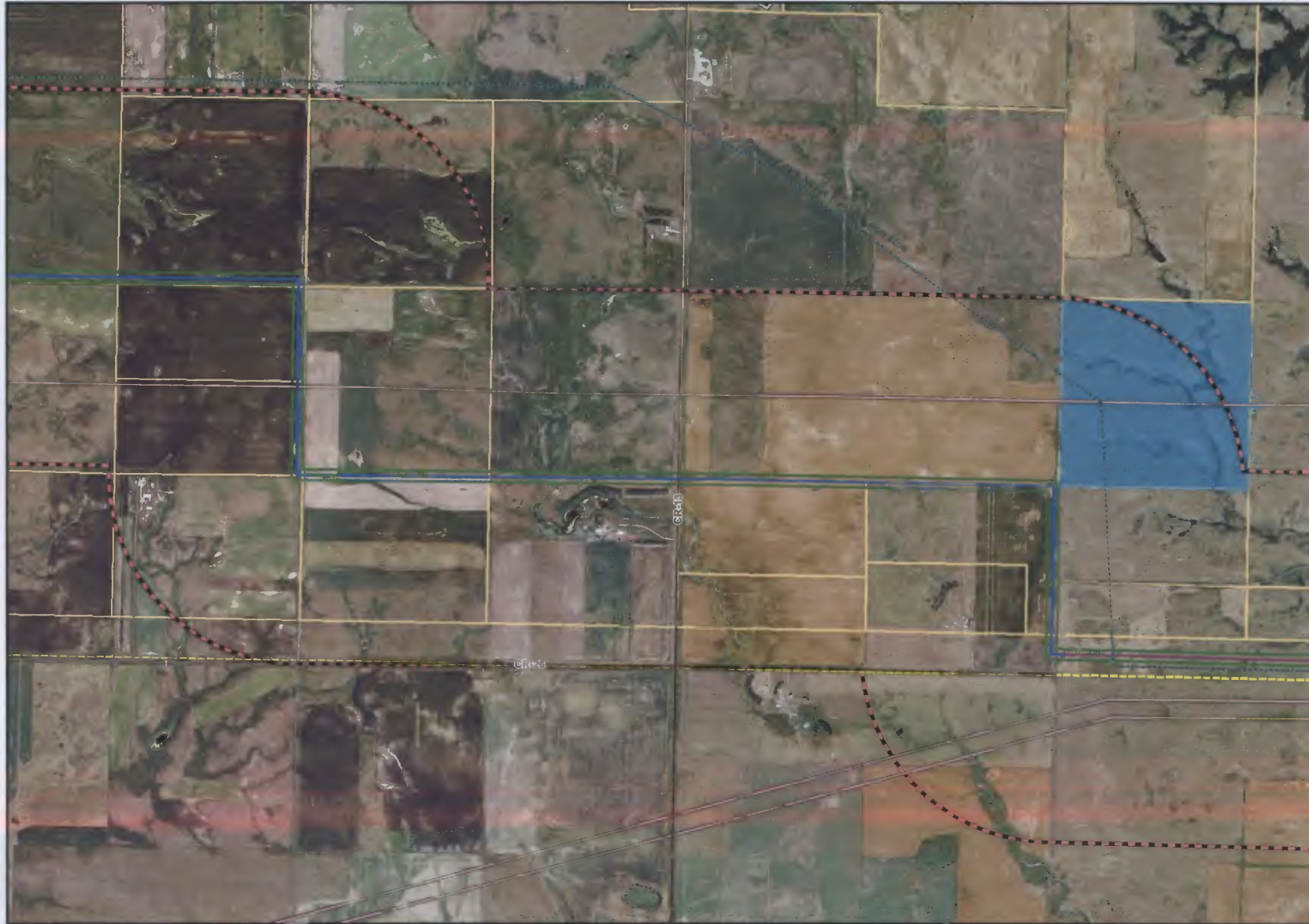
Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility
Figure 3-1
Proposed Corridor
and Route
Aerial Image Detail Maps
Mercer County, ND
Amended, October 2014

-  Existing Antelope Valley Station
-  Route Centerline
-  Rough Rider Underbuild
-  Proposed Route ROW
-  Proposed Corridor
-  Planned AVS-Neset Transmission Line
-  Wind Energy Facility Project Area
-  Parcel Boundary
-  Existing Transmission Line (Over 230 kV)



1:16,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet 0 0.5 Miles

P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_Tile\MXD\AntelopeHills_AerialDetail_17111_20141007.mxd - Last Saved 10/8/2014



Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility
Figure 3-2
Proposed Corridor
and Route
Aerial Image Detail Maps
Mercer County, ND
Amended, October 2014

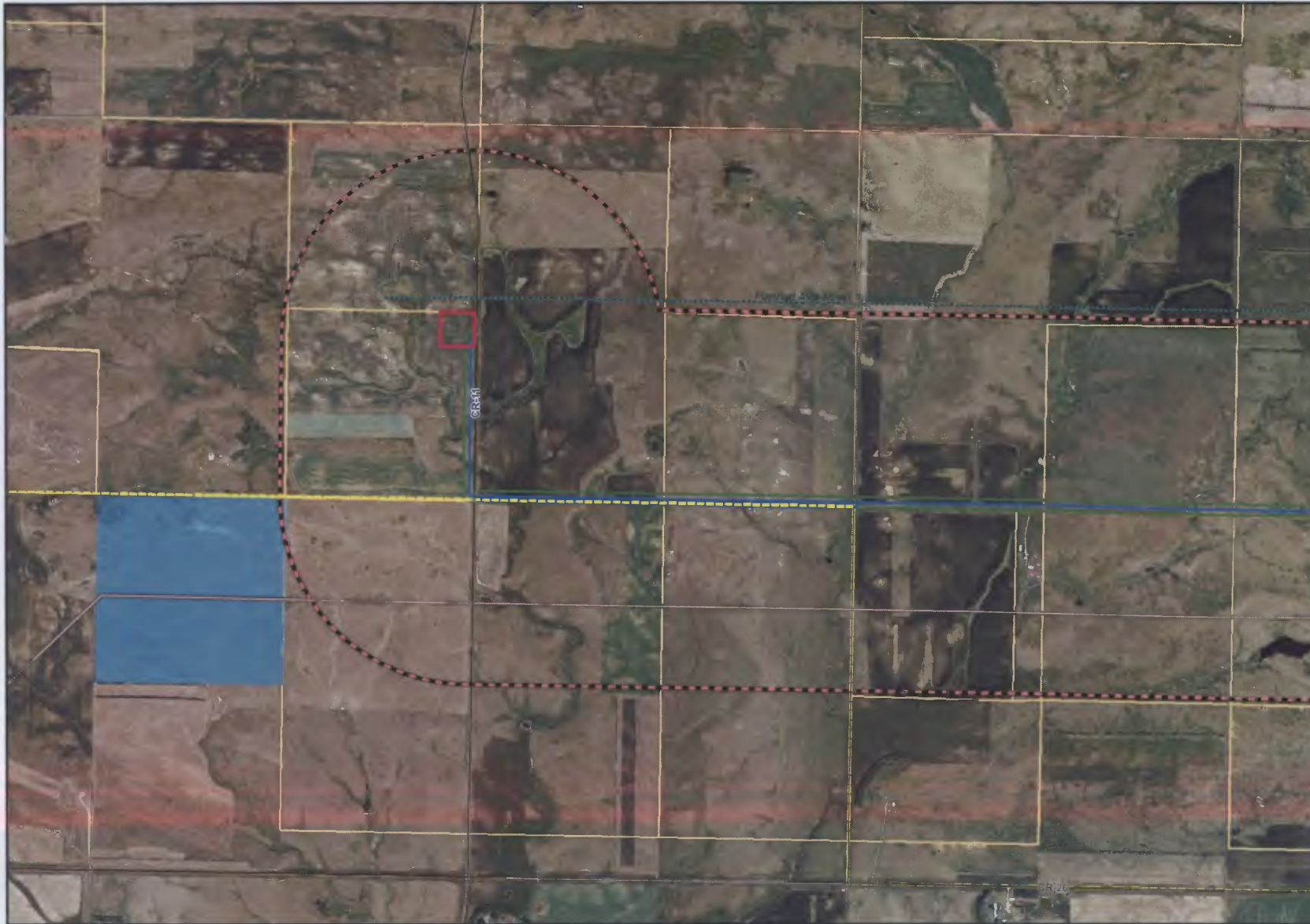
- Route Centerline
- Rough Rider Underbuild
- Proposed Route ROW
- Proposed Corridor
- Planned AVS-Neset Transmission Line
- Wind Energy Facility Project Area
- Parcel Boundary
- Existing Transmission Line (Over 230 kV)
- State Land












1:16,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet

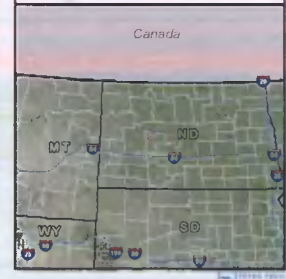
0 0.5 Miles

P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_T\Time\WX\Ost\CC\Winfinny_AH\Time\CCC_Fig_03_AerialDetails_171111_20141007.mxd - Last Saved 10/6/2014

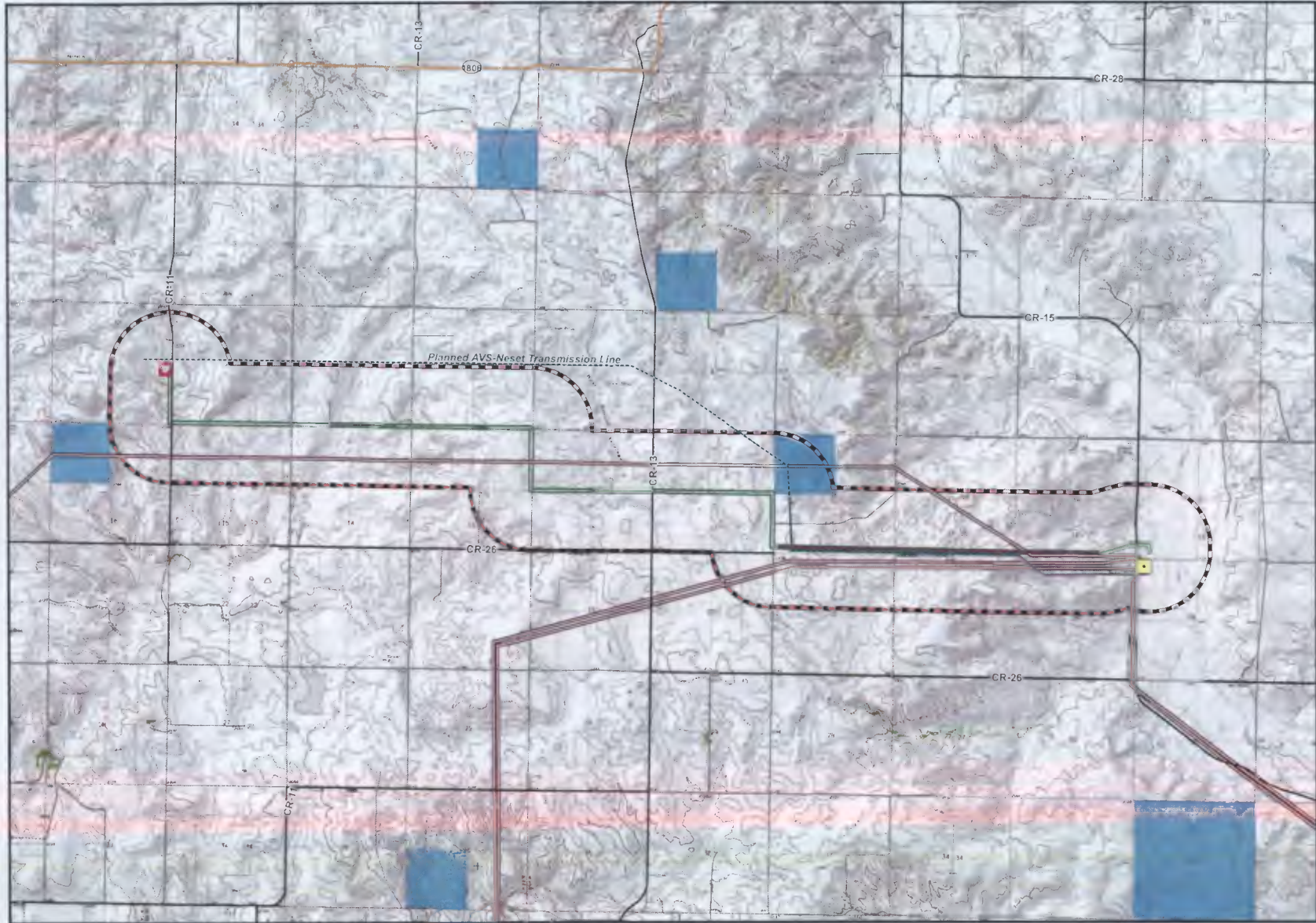


Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility
Figure 3-3
Proposed Corridor
and Route
Aerial Image Detail Maps
Mercer County, ND
Amended, October 2014

-  Proposed Substation
-  Route Centerline
-  Proposed Route ROW
-  Proposed Corridor
-  Planned AVS-Neset Transmission Line
-  Wind Energy Facility Project Area
-  Parcel Boundary
-  Existing Transmission Line (Over 230 kV)
-  State Land











P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_Tile\MXD\BACC\Infinity_AHTLineCCC_Fig_04_TopoMap_17111_20141007.mxd - Last Saved 10/8/2014



Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

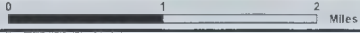
Figure 4
Proposed Corridor
and Route
Topographic Image

Mercer County, ND
Amended, October 2014

-  Existing Antelope Valley Station
-  Proposed Substation
-  Rough Rider Underbuild
-  Proposed Route ROW
-  Proposed Corridor
-  Planned AVS-Neset Transmission Line
-  Existing Transmission Line (Over 230 kV)
-  State Land



1:50,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet













PAISIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_Tile\MXD\AntelopeHills_AHTLineCCC_Fig_05_AlternativesConsidered_17111_20141007.mxd - Last Saved 10/09/2014



Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

Figure 5
Alternative Routes
Considered and Eliminated

Mercer County, ND
Amended, October 2014

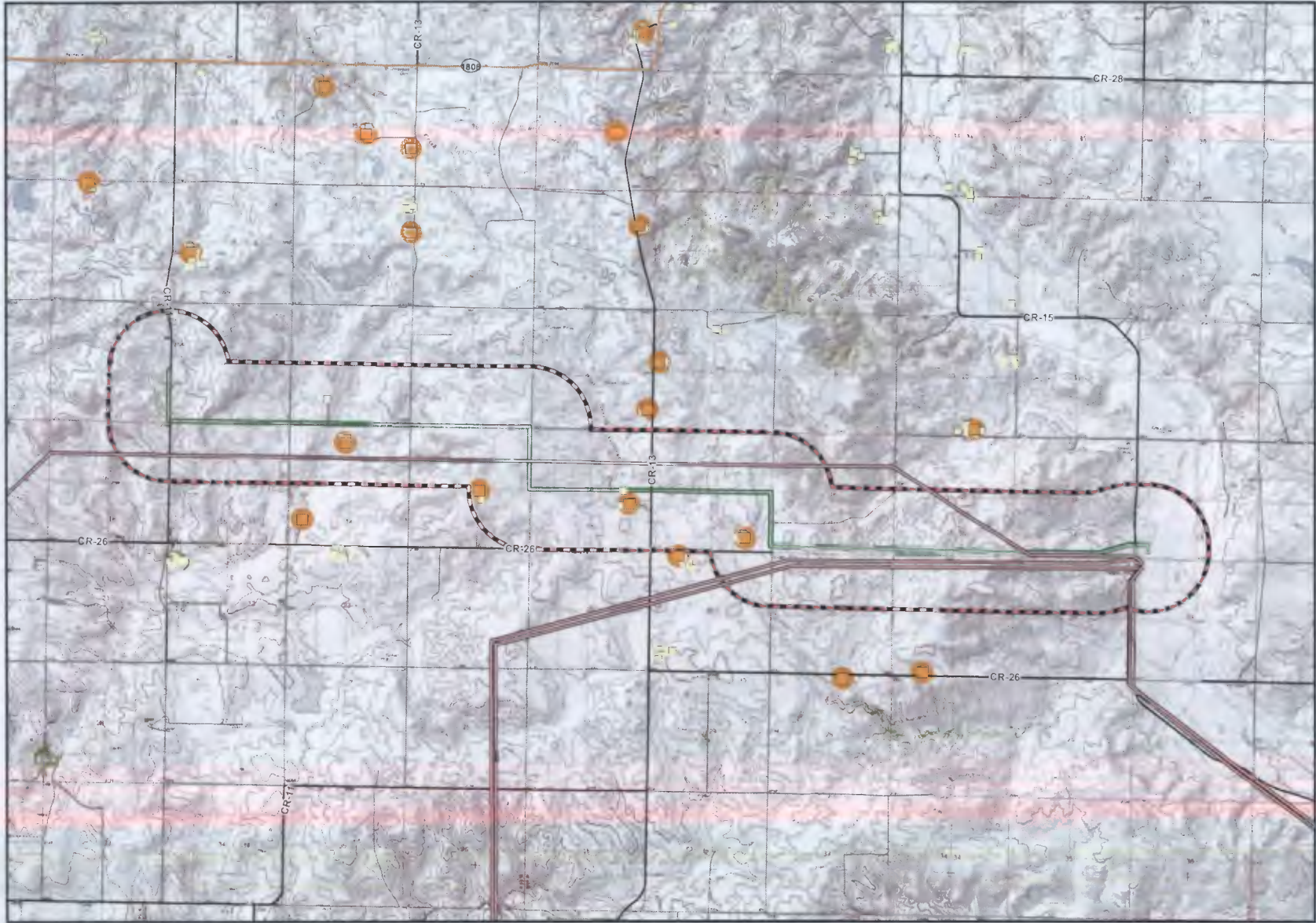
-  Existing Antelope Valley Station
-  Eliminated Substation Location
-  Proposed Substation
-  Rough Rider Underbuild
-  Proposed Route ROW
-  Eliminated Route Location
-  Planned AVS-Neset Transmission Line
-  Existing Transmission Line (Over 230 kV)
-  Economic Coal Deposit
-  State Land



1:45,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet

0 1 2 Miles







P:\GIS\PROJECTS\Infinity_Wind_Power\AntelopeHills_Time\WX\DX\CC\Infinity_AH\LineCC_Fig_06_ExclusionAvoidance_17111_20141007.mxd - Last Saved 10/8/2014

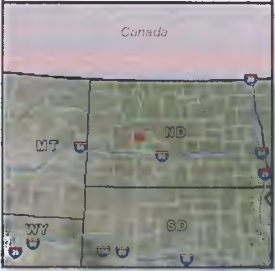


**Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility**

**Figure 6
Exclusion and
Avoidance Areas**

Mercer County, ND
Amended, October 2014

-  Proposed Route ROW
-  Proposed Corridor
-  Residence
-  Other Structure
-  500 foot Avoidance Buffer
-  Existing Transmission Line (Over 230 kV)









P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_Tile\MapDocs\Infinity_AHTimeCCC_Fig_08_GeoMinerals_17111_20141007.mxd - Last Saved 10/6/2014

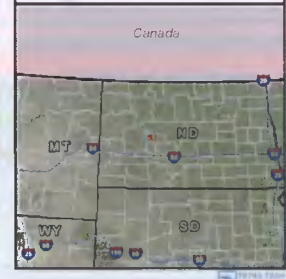


Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

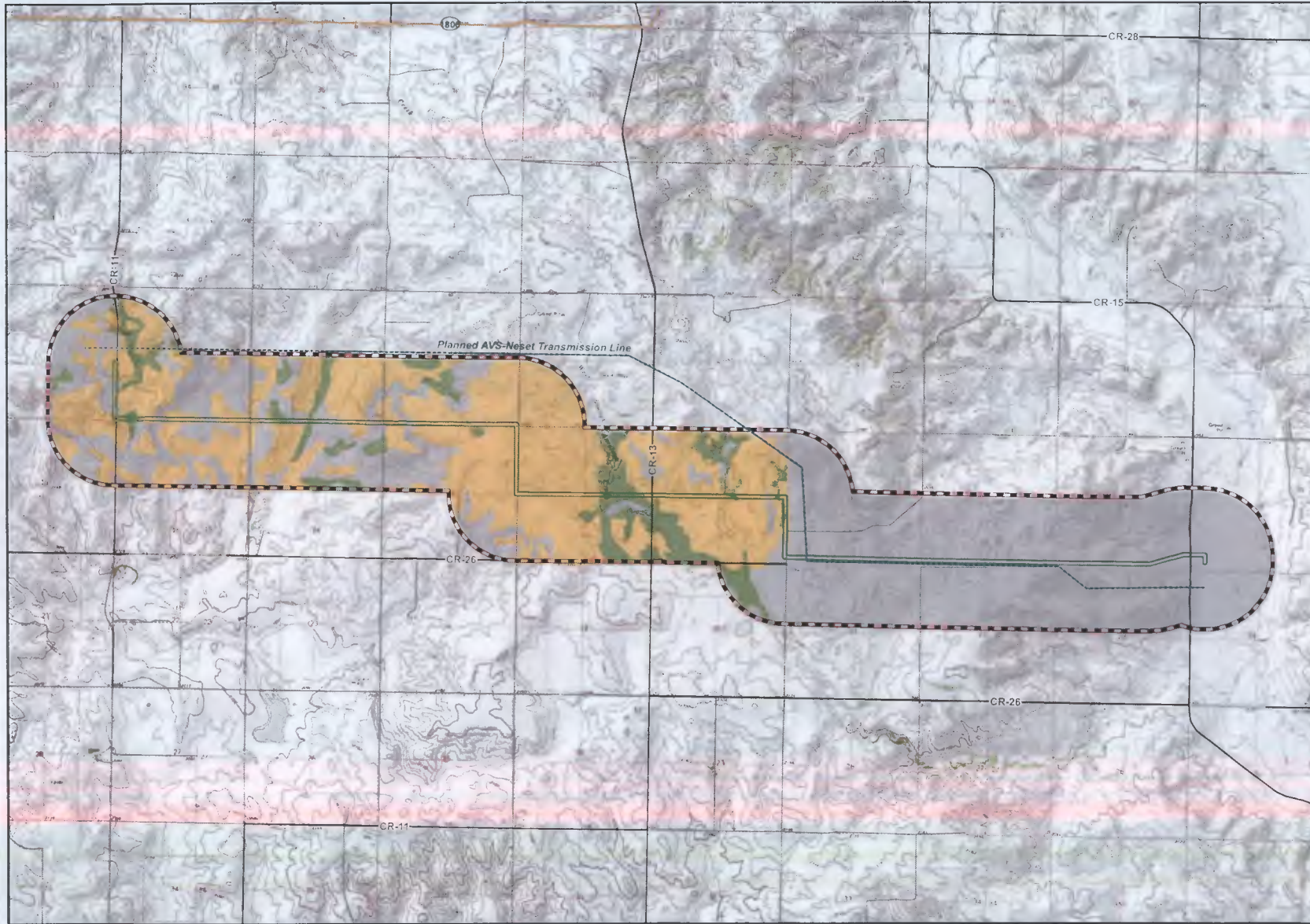
Figure 8
Geology and
Mineral Resources

Mercer County, ND
Amended, October 2014

-  Proposed Route ROW
-  Proposed Corridor
-  Economic Coal Deposit
-  Well Site
-  Gravel Pit
-  Oil/Gas Well









P:\GIS_PROJECTS\infinity_Wind_Power\AntelopeHills_Tile\WXDs\CCC\infinity_AH\TimeCCC_Fig_09_SoilTypes_171111_20141007.mxd - Last Saved 10/6/2014



Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

Figure 9
Farmland Soils

Mercer County, ND
Amended, October 2014

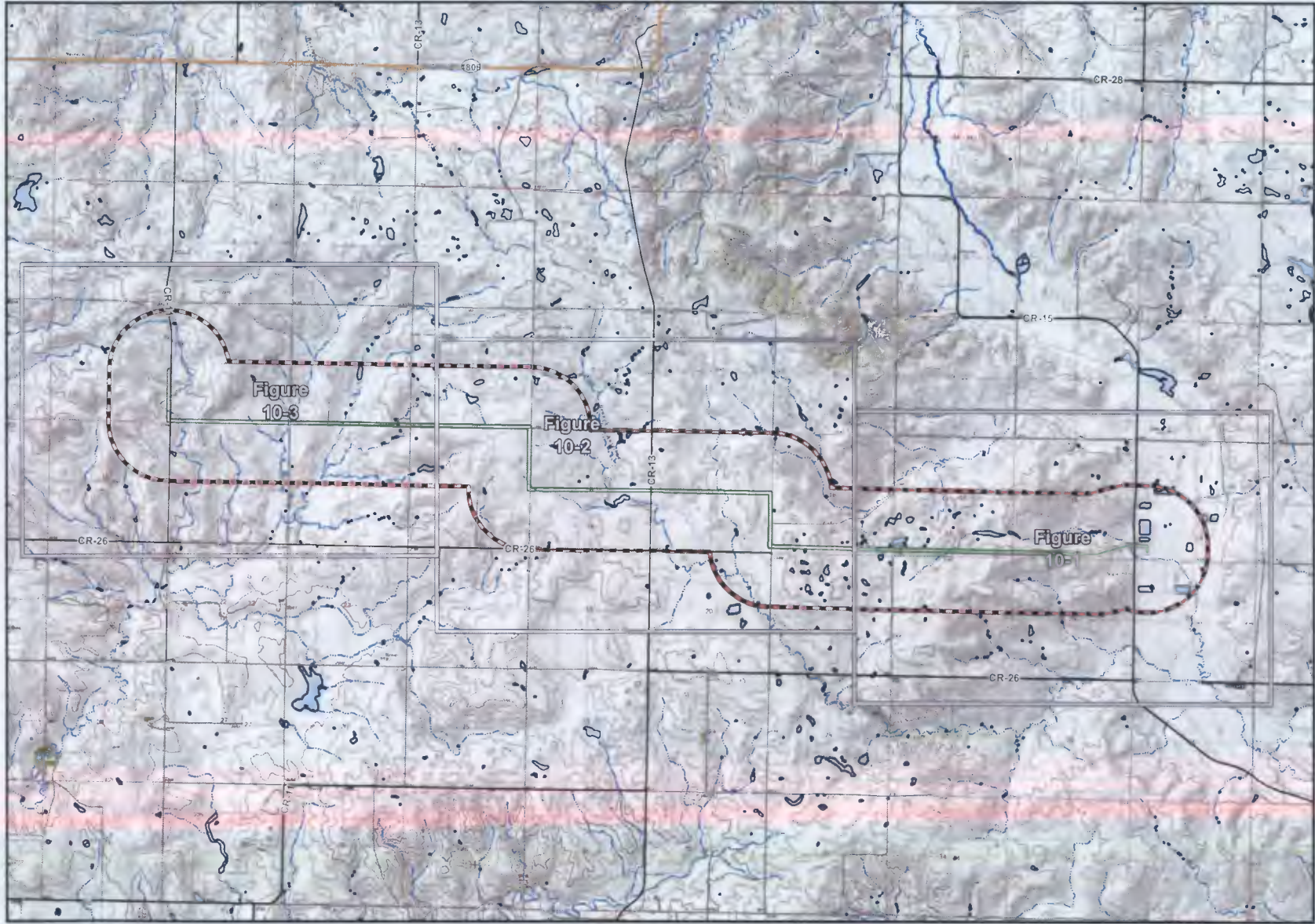
-  Proposed Route ROW
 -  Proposed Corridor
 -  Planned AVS-Neset Transmission Line
- Farmland Classification**
-  All areas are prime farmland
 -  Farmland of statewide importance
 -  Not prime farmland

1:45,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet

0 1 2 Miles








P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_TimeMXData\CC\Infinity_AHT\LineCCC_Fig_10_WetlandsWetlands_Index_17/11_2014\1007.mxd - Last Saved 10/6/2014

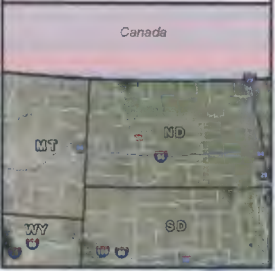


Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

Figure 10
Wetlands and
Surface Waters
Index Map

Mercer County, ND
Amended, October 2014

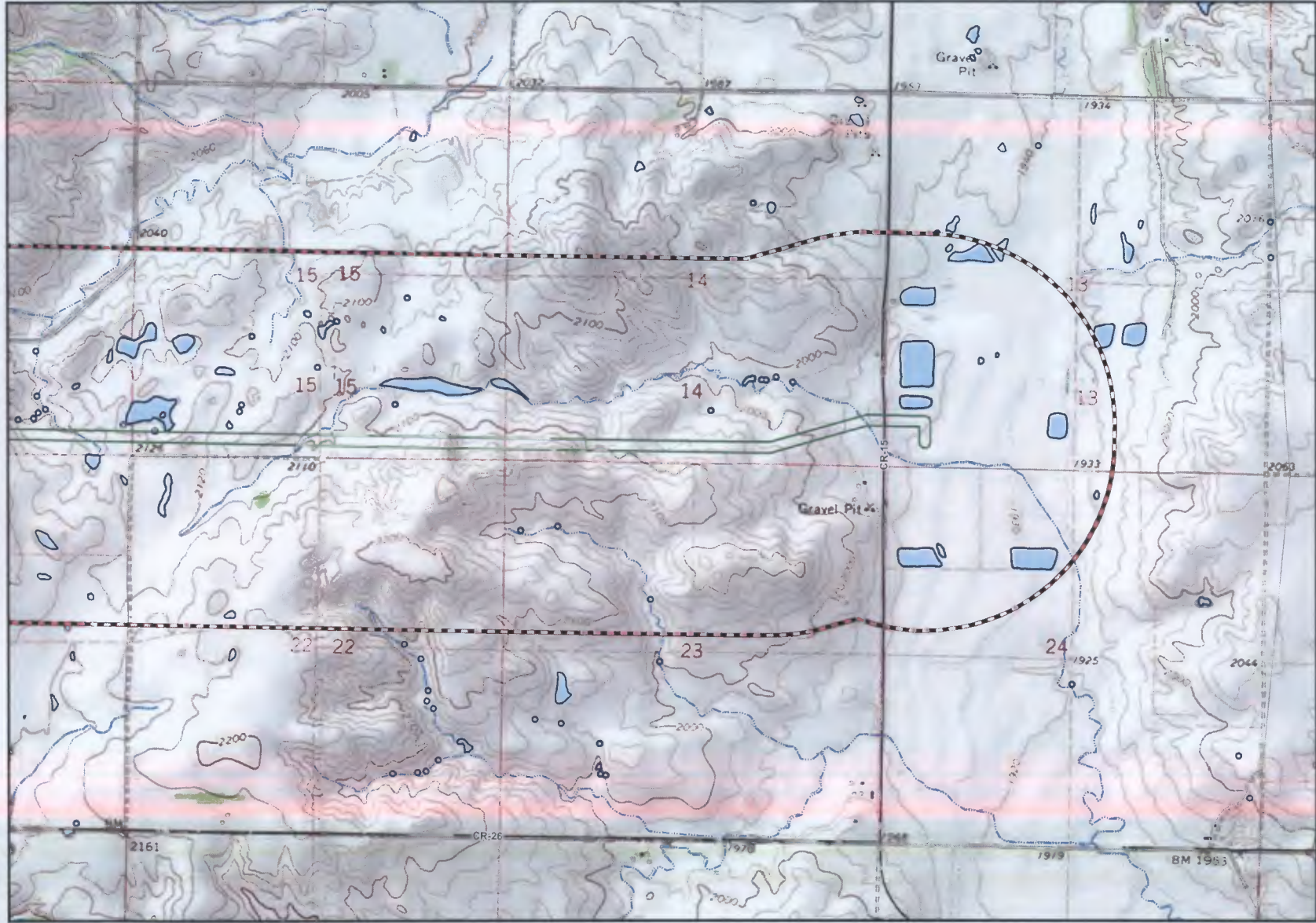
-  Map Grid
-  Proposed Route ROW
-  Proposed Corridor
-  NW1 Wetland
-  Perennial Stream
-  Intermittent Stream



1:50,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet

0 1 2 Miles






P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_TireWXDs\CC\Infinity_AH\TimeCCC_Fig_10_WatersWetlands_Details_17111_20141007.mxd - Last Saved 10/8/2014

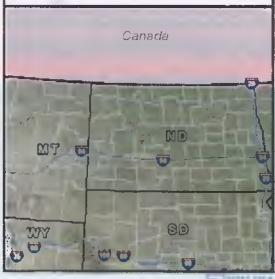


Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

Figure 10-1
Wetlands and
Surface Waters

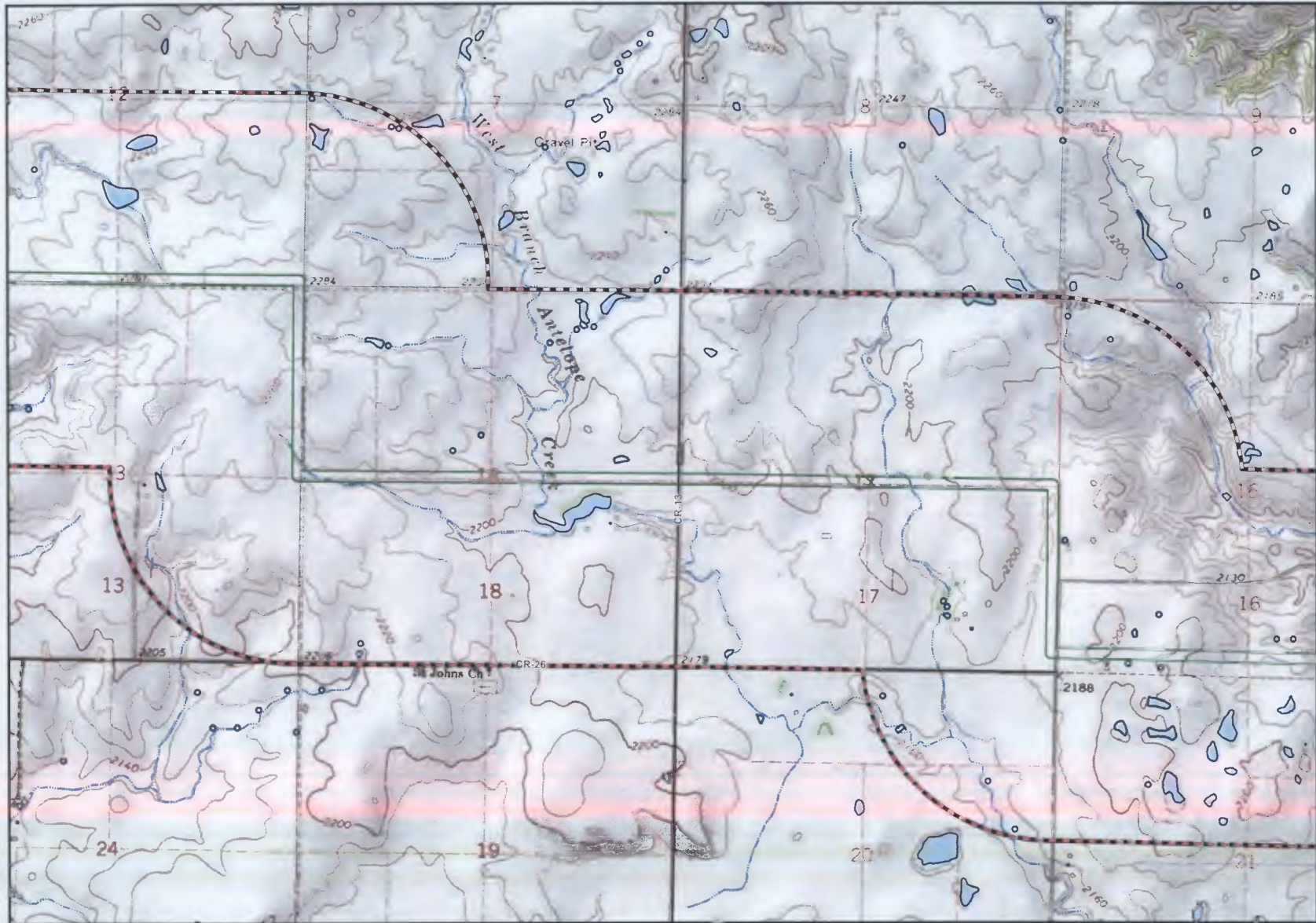
Mercer County, ND
Amended, October 2014

-  Proposed Route ROW
-  Proposed Corridor
-  NWI Wetland
-  County Road
-  Local Road



1:16,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet 0 0.5 1 Miles

P:\GIS_PROJECTS\Shirley_Wind_Power\AntelopeHills_Tile\MXD\CC\Infinity_AH\InfinityCC\Fig_10_WetlandsWetlands_Details_17111_20141007.mxd - Last Saved 10/8/2014



Antelope Hills Transmission Line Application for North Dakota Certificate of Corridor Compatibility

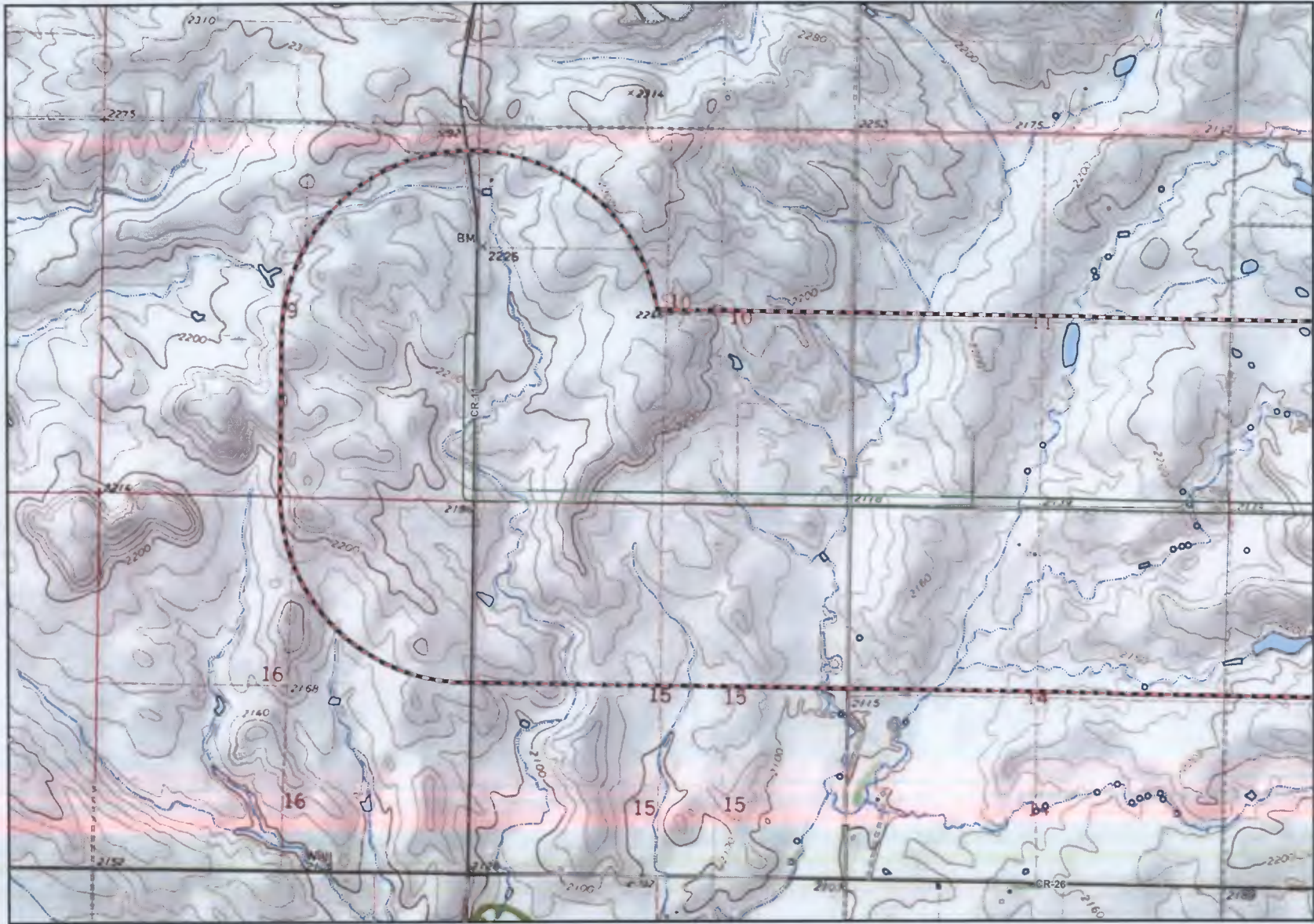
Figure 10-2
Wetlands and
Surface Waters

Mercer County, ND
Amended, October 2014

- Proposed Route ROW
- Proposed Corridor
- NWI Wetland
- Intermittent Stream
- County Road
- Local Road



P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_TimeMX\Ds\CCC\Infinity_AH\LineCCC_Fig_10_WatersWetlands_Details_17111_20141007.mxd - Last Saved 10/9/2014



Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility

Figure 10-3
Wetlands and
Surface Waters

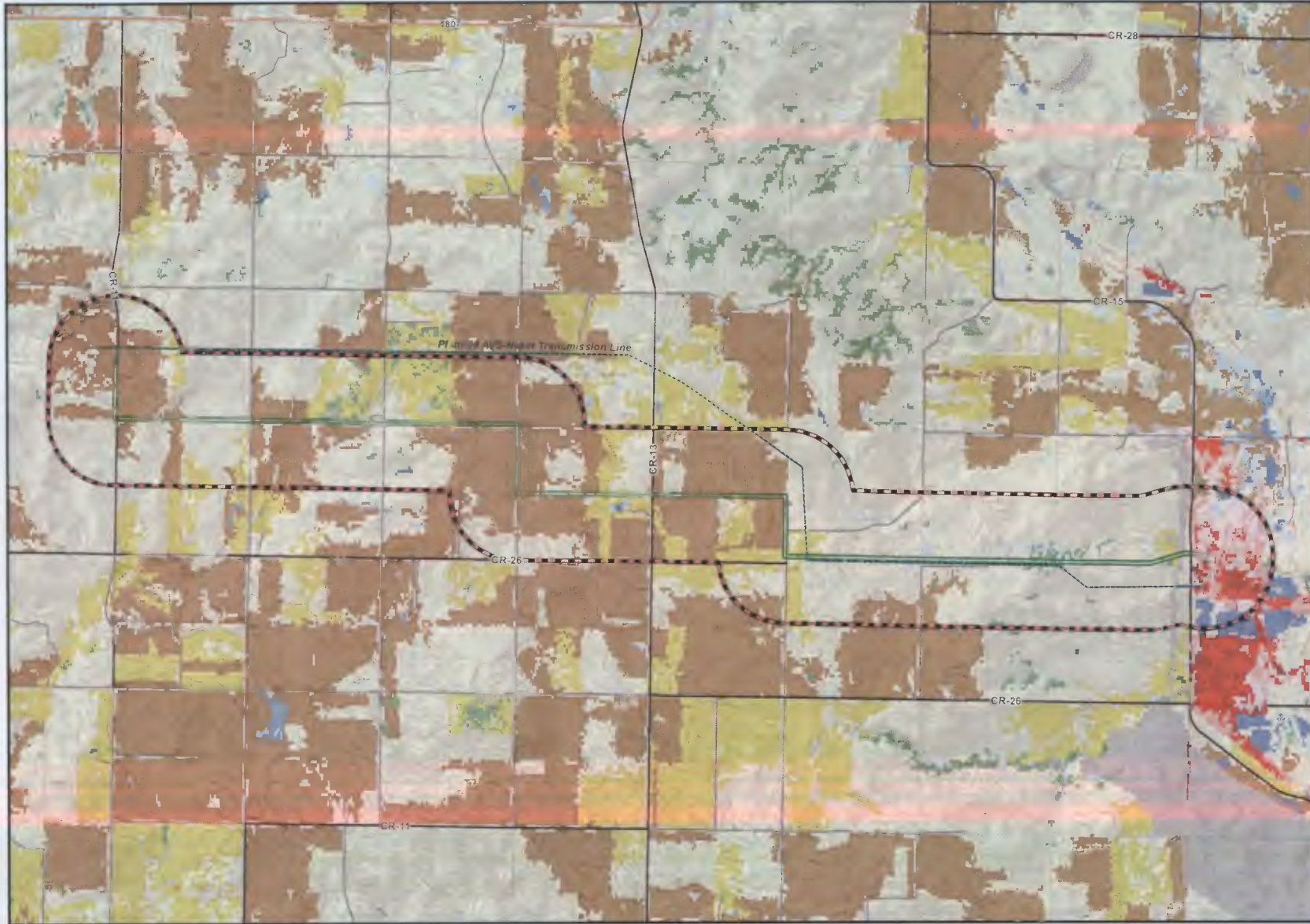
Mercer County, ND
Amended, October 2014

- Proposed Route ROW
- Proposed Corridor
- NWI Wetland
- County Road
- Local Road



1:16,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet 0 0.5 1 Miles




P:\GIS_PROJECTS\Infinity_Wind_Power\AntelopeHills_Time\WX\GIS\NLCD_Landcover_Fig_11_NLCD_Landcover_171111_20141007.mxd - Last Saved 10/6/2014





Antelope Hills Transmission Line Application for North Dakota Certificate of Corridor Compatibility

Figure 11
Land Cover
Map

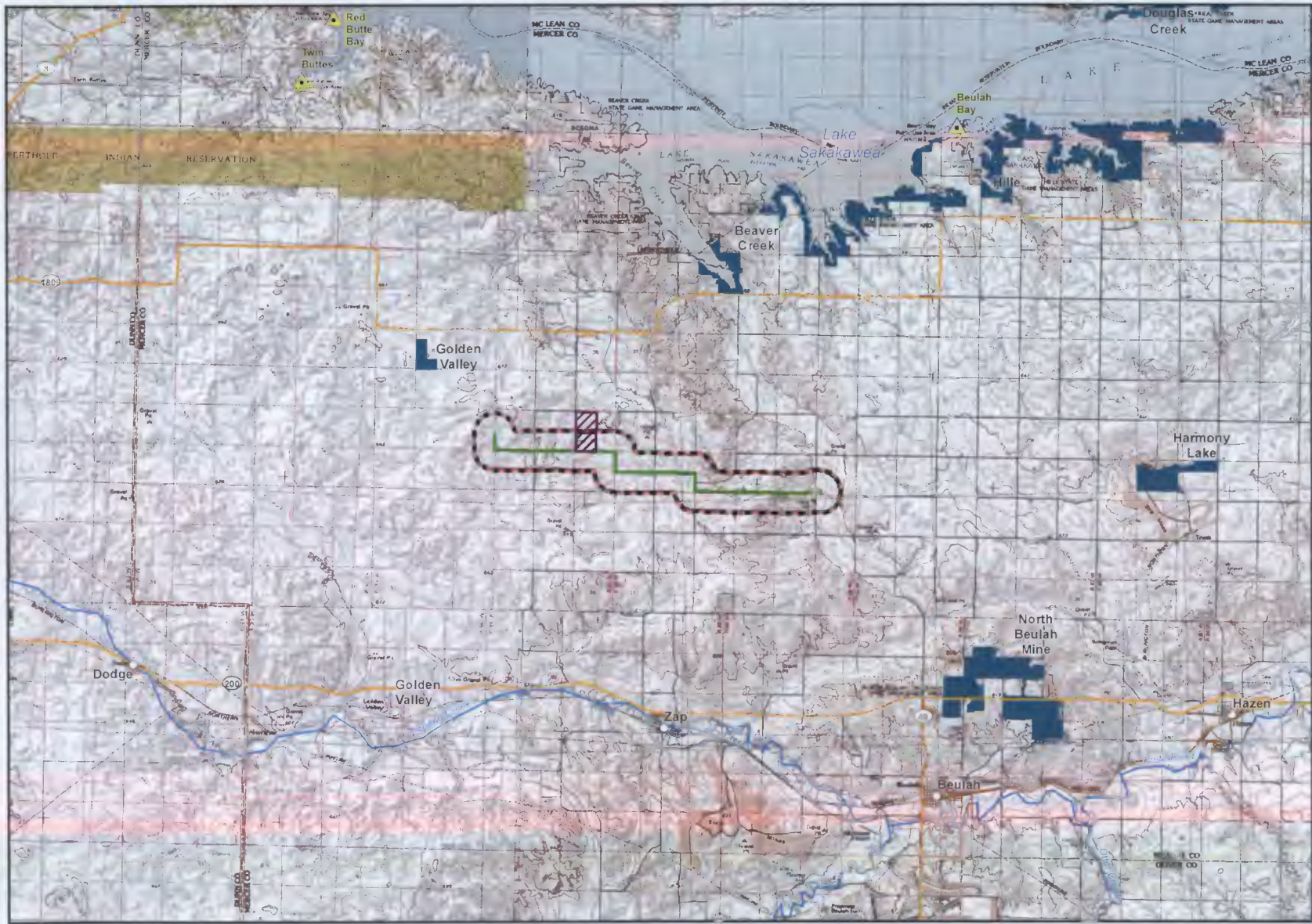
Mercer County, ND
Amended, October 2014

-  Proposed Route ROW
-  Proposed Corridor
-  Planned AVS-Neset Transmission Line

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



P:\GIS_PROJECTS\stn\Wind_Power\AntelopeHills_T\TimeXDs\ccc\Infinity_AHT\LineCCC_Fig_12_Recreation_171111_20141007.mxd - Last Saved 10/02/2014



**Antelope Hills
Transmission Line
Application for North Dakota
Certificate of
Corridor Compatibility**

**Figure 12
Area Recreation
Resources**

Mercer County, ND
Amended, October 2014

- Proposed Route ROW
- Proposed Corridor
- PLOTS Land
- Wildlife Management Area
- Public Use Area
- County Boundary
- Railroad
- Stream or River
- City/Town

1:150,000 NAD_1983_StatePlane_North_Dakota_South_FIPS_3302_Feet

0 5 10 Miles



