



July 30, 2026

VIA UPS

Mr. Seth V. Sunderman, P.E.
Taylor County Engineer
505 State Street
Bedford, Iowa 50833

Re: Black Maple Wind, LLC
Application for Wind Energy Conversion System

Dear Mr. Sunderman,

Black Maple Wind, LLC (Black Maple Wind), an indirect subsidiary of Apex Clean Energy Holdings, LLC, is developing an up to 413-megawatt name plate capacity wind energy conversion system (WECS) known as the Black Maple Wind Project (Project) in northern Taylor County, Iowa. Pursuant to Taylor County Ordinance #37, an Ordinance Regulating the Placement of Wind Energy Conversion Systems on Property Located in the Unincorporated Areas of Taylor County, Iowa (dated February 27, 2020), Black Maple Wind has enclosed one hard copy of the WECS Permit Application for submission to Taylor County. Black Maple Wind also includes the WECS Permit Application fee of \$27,500 with this submittal (calculated as \$250 per turbine at 110 turbine locations).

Please let me know if you have any questions. I can be reached at matt.eberl@apexcleanenergy.com or at 434-806-7692.

Sincerely,

Matt Eberl
Senior Development Manager



WIND ENERGY CONVERSION SYSTEM PERMIT APPLICATION

BLACK MAPLE WIND PROJECT

TAYLOR COUNTY, IOWA

Submitted by Black Maple Wind, LLC

July 2026

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1. INTRODUCTION

Black Maple Wind, LLC (Applicant or Black Maple Wind), an indirect subsidiary of Apex Clean Energy Holdings, LLC (Apex), submits this Wind Energy Conversion System (WECS) Permit application (Application) to the Taylor County Board of Supervisors (Board) to develop an up to 413 megawatt (MW) capacity WECS known as the Black Maple Wind Project (Project). This Application seeks siting approval for 110 turbine locations, but not all turbine locations will be utilized when the Project is constructed. Up to 103 turbines will be installed when the project is built, depending on the selected turbine model. Taylor County Ordinance #37, an Ordinance Regulating the Placement of Wind Energy Conversion Systems on Property Located in the Unincorporated Areas of Taylor County, Iowa (dated February 27, 2020; WECS Ordinance), requires applicants to submit a WECS Permit application for a WECS and substation according to the procedures and specifications in the Ordinance. The following subsections demonstrate how the Applicant meets the WECS Ordinance requirements to obtain a permit for siting and construction of a WECS.

Many different portions of the Taylor County community support this Project. For example, nearly 36,500 acres of family farms in the County have signed up to participate in the Project. For these families, the Project will provide direct payments every year for at least thirty years while the Project only utilizes a small fraction of agricultural ground for each wind energy turbine and access road (approximately up to 0.25 acre, which comprises less than 0.1% of the total Project Area). Therefore, the Project represents critical revenue for these Taylor County farms. The Project will bring improved roads and millions of dollars to the county and township road districts. As detailed in this Application, the Project will bring over \$198 million in property tax revenue over the life of the Project to county and township taxing authorities. This Application is an opportunity for Taylor County to enjoy all of these benefits without having to raise any taxes. Thus, Taylor County and other critical County services will all benefit from the Project. We ask the Board to approve the Project and enable Taylor County and its many participating residents to benefit from the Project.

1.1 Project Benefits

The Project will provide meaningful economic benefits to landowners, local governments, and communities, including the following:

- Provides additional income in the form of lease payments to landowners.
- Allows landowners to diversify their operations with minimal disruption to existing agricultural use. Agricultural uses, including grazing and cultivation, will be able to continue in the Project Area around above-ground Project facilities during the life of the Project, consistent with the purposes of the Agricultural District.
- Diversifies economic development in the County.
- Creates up to approximately 300 construction jobs during Project construction.
- Creates up to four full-time jobs during operations.

- Provides significant and measurable indirect economic benefits to the general area, including increased retail activity at restaurants, gas stations, and local purchases of construction materials and supplies, such as concrete, fuel and aggregate.
- Generates personal income by circulation and recirculation of dollars paid out by the Project as business expenditures and state and local taxes.

In addition to direct payments to participating landowners, creation of jobs, and other economic activity, the Project will also generate significant direct economic benefits in the form of taxes paid to county and township taxing authorities (*see Table 1*). Specifically, the Project would be subject to the Taylor County special valuation ordinance for wind energy conversion property provided in Iowa Code § 427B.26. Applying the most recent levy rates to the Project's anticipated special valuation, Black Maple Wind would pay an estimated \$6.6 million in property taxes annually and over \$198 million over the life of the Project. The estimated tax allocation is included in *Table 1*.

Table 1 Tax Benefits from the Black Maple Wind Project		
	Average Annual	30-year Total
County Services		
Taylor County (General, Supplemental, Rural Service)	\$77,953,638	\$2,598,455
Debt Service	\$3,845,134	\$128,171
Taylor County Assessor	\$4,450,743	\$148,358
Taylor County Ag Extension	\$2,048,072	\$68,269
Townships		
Grant Township	\$227,588	\$7,586
Grove Township	\$2,129,171	\$70,972
Holt Township	\$499,836	\$16,661
Marshall Township	\$913,782	\$30,459
Nodaway Township	\$238,848	\$7,962
Washington Township	\$136,407	\$4,547
School Districts and Community Colleges		
Lenox School District	\$82,304,838	\$2,743,495
Corning School District	\$12,521,604	\$417,387
Bedford School District	\$4,204,460	\$140,149
Southwestern Area Community College	\$7,516,560	\$250,552
TOTAL	\$198,990,682	\$6,633,023

In summary, Black Maple Wind will pay over \$198 million dollars to taxing districts in the Project Area over the life of the Project, which includes county services, townships, and school districts and local community college.

2. ORGANIZATION OF THIS APPLICATION

This Application is organized with several purposes in mind. First, the Application supplies all of the information necessary to satisfy the criteria for issuance of the WECS Permit as set forth in the Taylor County WECS Ordinance. Next, the Application sets forth the various components that are necessary to construct and operate the Project. Last, the Application follows the WECS Ordinance structure, specifically identifying each section of the ordinance and how it has been satisfied:

- Section 3: Sets forth the WECS permit application requirements found in the *WECS Permit Application Requirements* section (§3) of the WECS Ordinance.
- Section 4: Provides documentation concerning how the Project does or will meet the *General Requirements for Commercial WECS and Meteorological Towers* section (§4) of the WECS Ordinance.
- Section 5: Sets forth how the Project meets or will meet the *Avoidance and Mitigation of Damages to Public Infrastructure and Decommissioning* section (§5) of the WECS Ordinance.
- Section 6: Sets forth the requirements in the *Liability Insurance* section (§8) of the WECS Ordinance.

This Application seeks approval of up to 110 turbine locations generating a capacity of up to 413 MW. Up to 103 turbine locations will be constructed, but the Application seeks approval of a greater number of locations to allow flexibility, and to ensure that all locations meet the siting criteria and Black Maple Wind's technical criteria.

2.1 Permit Application Checklist

Table 2 is a detailed cross reference sheet, which notes the sections of the WECS Ordinance applicable to this Project and the corresponding information contained in this Application required to demonstrate compliance with the WECS Ordinance.

Table 2 Permit Application Key to WECS Ordinance Requirements		
WECS Ordinance Reference	Requirement	Location in Application
§3	WECS Permit Application Requirements (including Permit Fee)	3.0
§3.A.1	WECS Project Summary	3.1
§3.A.2	Applicant Description and Contact Information	3.2
§3.A.3	Project Location	3.3 and Appendix A
§3.A.4	Total Height and Diameter of Wind Turbines	3.4
§3.A.5	Preliminary Site Layout	3.5 and Appendices A.1 and A.2
§3.A.6	Engineer's Certification of the Wind Turbines	3.6 and Appendix B.1
§3.A.7	Documentation of Land Ownership or Legal Control of Property	3.7 and Appendices A.3 and C
§3.A.8	Latitude/Longitude of Wind Turbines	3.8 and Appendix B.2
§3.A.9	Location of Public Areas	3.9 and Appendix A.4
§3.A.10	Affirmation of Sound Study	3.10 and Appendix B.3
§3.A.11	Affirmation of FCC and FAA Applications	3.11 and Appendices B.4 and B.5
§3.A.12	Affirmation of Migratory Flyways and Nesting Areas for Birds, Bats, and Endangered Species within 1 mile	3.12 and Appendix B.6
§4	General Requirements for C-WECS and Meteorological Towers	4.0
§4.1	Color and Finish	4.1
§4.2	Tower Configuration	4.2
§4.3	Lighting	4.3
§4.4	Signage	4.4
§4.5	Feeder Lines	4.5
§4.6	Waste Disposal	4.6
§4.7	Minimum Ground Clearance	4.7
§4.8	Signal Interference	4.8 and Appendix B.7
§4.9	Federal Aviation Administration	4.9 and Appendices B.4 and B.5
§4.10	Electrical Codes and Standards	4.10
§4.11	Setbacks	4.11 and Appendix A.2
§4.12	Safety	4.12 and Appendix B.8
§5	Avoidance and Mitigation of Damages to Public Infrastructure and Decommissioning	5.0
§5.1	Roads	5.1 and Appendix B.9
§5.2	Drainage Systems	5.2
§5.3	Decommissioning	5.3 and Appendix B.10
§8	Liability Insurance	6.0

3. WECS PERMIT APPLICATION REQUIREMENTS (§3)

The WECS Ordinance requires that a permit application be accompanied by a fee of \$250.00 per wind turbine payable to Taylor County, Iowa.

$$\$250 \times 110 \text{ turbines} = \$27,500.$$

Black Maple Wind includes a permit fee of \$27,500 with this Application.

The following sections address the WECS permit application requirements, as outlined in the WECS Ordinance.

3.1 WECS Project Summary (§3.A.1)

The Project ranges over approximately 46,000 acres of agricultural land (Project Area) in northern Taylor County, Iowa. The Project is generally bounded by the Adams County line to the north, the Page County line to the west, the Ringgold County line to the east, and State Highway 2 to the south.

The Project consists of 110 turbine locations, of which up to 103 will be constructed, depending on final turbine model. The total installed capacity of the Project will not exceed 413 MW and will deliver up to 400 MW of electricity to a single point of interconnection on the existing Mid-American Atchison County to Booneville 345 kV transmission line running southwest to northeast in the northwest corner of the Project Area. The Project will consist of:

- 110 wind turbines (of which, up to 103 will be built);
- Access roads to each turbine and associated facility;
- Underground 34.5 kilovolt (kV) electrical collection lines connecting the turbines to the Project Substation and associated facilities;
- Underground fiber-optic cable for turbine communications co-located with the collection lines;
- Up to two permanent met towers;
- An operations and maintenance (O&M) Facility;
- One Aircraft Detection Lighting System (ADLS) radar tower; and
- Temporary construction facilities such as a laydown yard and a concrete batch plant.

The Project Area is largely utilized for agricultural purposes with corn and soybeans as the predominant crops. All wind turbines will be located on agricultural land with each turbine and access road utilizing approximately up to 0.25 acres of land. The access roads to each turbine will comprise most of this acreage. In some cases, existing field lanes are being upgraded to the standards necessary for turbine access. Applicant, landowners, their designees, and tenant farmers can use or continue to use the access roads for agricultural purposes. In addition, construction and operation of the Project will not significantly affect current land use in the Project Area, and crop production can continue surrounding the wind turbines and access roads. Outside of the small amount of land actually needed to site the wind farm, the remaining land of participating and neighboring farms is unaffected and can

continue to be farmed, unlike other more intrusive developments that might not be consistent with the rural character of the community.

This portion of Taylor County is considered an excellent location for constructing and operating a wind farm. The area contains large, open, and flat farmland, a strong wind resource, close proximity to existing transmission infrastructure, interested landowners and broad community support, readily accessible transportation routes for delivery and construction of turbine components, and suitable geology to support turbine foundations.

3.1.1 Turbines

Each wind turbine consists of three major components: the tower, the nacelle, and the rotor. These components are mounted on a concrete foundation to provide structural support to the assembled turbine. The height of the tower, or "hub height" (height from the base of the tower to the center of the rotor hub on top of the tower), will be dependent on the final turbine selection and design. The nacelle sits atop the tower, and the rotor hub is mounted on a drive shaft that is connected to the gearbox and generator contained within the nacelle.

Tower: The tubular towers for the Project will be conical steel structures or a combination of steel and concrete, depending on final turbine selection. Each tower has a lockable access door, internal lighting, and an internal ladder to access the nacelle.

Nacelle: The main mechanical and electrical components of the wind turbine are housed in the nacelle. The nacelle is mounted on a sliding ring that allows it to rotate, or "yaw," into the wind to maximize energy capture. The nacelle components include the drive train, gearbox, generator, and generator step-up transformer (for the Vestas and Nordex turbine models; the GE turbine model has a pad-mounted transformer at the base of the turbine). The nacelle is housed in a steel-reinforced fiberglass shell that protects internal machinery from the environment. The housing is designed to allow for adequate ventilation to cool internal machinery. It is externally equipped with an anemometer and a wind vane to measure wind speed and direction. The generated electricity is conducted through cables within the tower to a switch enclosure mounted at the base of the turbine tower.

Rotor: A rotor assembly is mounted on the drive shaft and operates upwind of the tower. Electric motors within the rotor hub vary the pitch of each blade according to wind conditions to maximize turbine efficiency at varying wind speeds.

Turbine operation controls: Having turbines and/or anemometers that are working properly is an important aspect of a well-operating wind project. Each turbine will have multiple redundant sensors on the rotor and drive train to sense when blades become imbalanced or create vibration and can automatically shut down the turbine. The sensors monitor the wind speed and direction to ensure its current position is most efficient to produce electricity. These data are also used for feathering the blades, applying the brakes in high wind speeds, determining if the blades are off-balance, and to communicate to the turbine when the wind is strong enough to begin turning the generator and producing electricity at the "cut-in" wind speed.

The Project will utilize a Remote Operations Control Center (ROCC) that is actively staffed 24 hours a day, seven days a week, 365 days a year. The ROCC operators are connected to the facilities with real-time monitoring, alarm, and control capabilities. These capabilities include individual inverters and substation breakers that can isolate (i.e., turn off) affected component(s) in an emergency. Additionally, O&M staff on-site also have the capability to turn off turbines in an emergency.

Black Maple Wind will select one of three turbine models with a hub height ranging from 110.5 to 118 meters (363 to 388 feet), a rotor diameter of up to 163 meters (535 feet), and a tip height of up to 199.5 meters (655 feet). Final turbine selection is based on several factors, including availability from the manufacturer, cost, geotechnical constraints of the possible turbine locations, technical factors that promote maximum electricity generation, and the like.

Turbine Model	Hub Height	Rotor Diameter	Tip Height	Ground Clearance	# Turbines¹
Nordex N163/5.x VPC	110.5 m / 363 ft	163 m / 535 ft	192 m / 630 ft	29 m / 96 ft	70
Vestas V163-4.5 MW	118 m / 388 ft	163 m / 535 ft	199.5 m / 655 ft	36.5 m / 120 ft	91
GE 4.0-154	116 m / 381 ft	154 m / 506 ft	193 m / 634 ft	39 m / 128 ft	103
¹ # Turbines represents the total number of turbines required to achieve up to a 413 MW nameplate capacity for the Project and that would be constructed. Black Maple Wind is seeking approval for all 110 turbine locations, of which, up to 103 will be constructed.					

The Site Layout Map in **Appendix A.1** shows the 110 proposed wind turbine locations for the County's consideration. The final number of turbines installed will depend on the turbine model selected, as depicted in Table 3. Turbine models with a greater generating capacity will require installation of fewer turbines to reach the up to 413 MW nameplate capacity. As noted above, circumstances may arise that were not known when the Application was submitted that could cause an approved turbine location to become unusable. To account for such situations, the Applicant has submitted more turbine locations than are needed to serve as backups in the event any location becomes unusable. All setback distances are calculated using the tip height of the tallest turbine under consideration, the Vestas V163-4.5 MW turbine at a 118-meter hub height and 199.5-meter tip height. Therefore, the turbine locations shown in the Site Layout Map in **Appendix A.1** comply with all setbacks and restrictions for all three turbine models under consideration.

3.1.2 Access Roads

Construction and service access to each turbine location will be facilitated by a compacted gravel road within the Project Area. Roads have been located in consultation with the landowner to avoid or minimize impacts to land use and the environment. The permanent access roads will be up to 18 feet wide (5.5 meters) and constructed with locally-sourced

gravel, if available. The Project roads will support the size and weight of maintenance vehicles. During construction, some of the access roads will be widened to accommodate movement of the turbine erection crane, with temporary widths generally not exceeding 50 feet (15.2 meters). Following construction, the access roads will be reduced back to 18 feet (5.5 meters), and the area temporarily used will be restored to the extent practicable. Separate access may be required for the cranes used to erect the wind turbines. In such cases, temporary crane paths will be constructed between turbine locations. Following completion of construction, the temporary crane paths will be removed and the area restored to the extent practicable.

3.1.3 Underground Electrical Collection Lines

The Project will utilize underground electrical collector lines to connect turbines to one another and to deliver electricity to the Project Substation. The electrical collector lines will consist of an underground cable system between the Project Substation and the individual turbine locations. The collector system has been designed for operation at 34.5 kV and has been sited to minimize cost and land impacts and in consideration of landowner input and constraints. The collector lines will be installed in a trench at least 48 inches below the ground in a location that was reviewed by the landowner to minimize potential impact from the existing land uses. This depth is consistent with the Taylor County WECS Ordinance. A fiber-optic cable and an additional separate ground wire will also be installed with the collector system. The fiber-optic cable will be used for Project-specific telemetry, control, and communication purposes. Above-ground junction boxes will be installed, as required, for connections or splices. Once construction is complete, the land will be restored to pre-construction conditions.

3.1.4 Project Substation

The Project Substation is centrally located within the Project Area at the northwest corner of State Highway 148 and 140th Street. The Project Substation will consist of up to two substation transformers, circuit breakers, switching devices, auxiliary equipment, a control enclosure containing equipment for proper control, protection, monitoring, and communications, and associated equipment and facilities. The Project Substation will require a construction workspace of approximately 15 acres, with the final fenced-in area anticipated to be approximately 300 feet by 150 feet (92 meters by 46 meters). The location is shown on the Site Layout Map in **Appendix A.1**. The principal function of the substation is to increase the voltage from the collection system (34.5 kV) to the voltage of the transmission line (345 kV), which will transport the electricity of the entire Project to the Midcontinent Independent System Operator (MISO) grid via the interconnection switching station.

3.1.5 Switching Station

The Switching Station will be located in the northwest portion of the Project Area and adjacent to the existing Atchison County to Booneville 345 kV transmission line. The Switching Station will require a construction workspace within approximately 20 acres, with the final fenced-in area anticipated to be approximately 350 feet by 325 feet (107 meters by

99 meters). The Switching Station components will be mounted on concrete pads. The Switching Station will be constructed, owned, operated, and maintained by MidAmerican. Further, Black Maple Wind includes the Switching Station in this WECS permit for information purposes only to demonstrate how the Project will interconnect to the transmission grid; the Switching Station will be permitted by the Iowa Utilities Commission process. Therefore, Black Maple Wind is not requesting a WECS permit for this facility.

3.1.6 Transmission Line

The Project will require an approximately nine-mile 345 kV transmission line between the Project Substation and Switching Station. Like the Switching Station above, Black Maple Wind includes the transmission line in this Application for information purposes only to demonstrate how the Project will interconnect into the transmission grid; the transmission line will be permitted by the Iowa Utilities Commission process. Therefore, Black Maple Wind is not requesting a WECS permit for this facility.

3.1.7 Permanent Meteorological Towers

The Project will include up to two permanent meteorological (MET) towers that will remain in place for the life of the Project. These permanent MET towers will be as tall as the hub height of the selected wind turbine and will provide data critical to assessing the performance of the Project and aid in short-term forecasting for the Project. The permanent MET towers will be marked and lighted as specified by the Federal Aviation Administration. Additionally, the reflective warning markers on Project's permanent MET towers will comply with the WECS Ordinance (§ Safety 4.12(e)).

3.1.8 Operations & Maintenance Facility

An O&M Facility will be constructed in the Project Area and will provide access and storage for Project operations and maintenance. The O&M Facility is proposed to be located in the north central portion of the Project, on the west side of State Highway 148 between 140th Street and 150th Street. The buildings typically used for this purpose are approximately 3,000 to 5,000 square feet and house the equipment to operate and maintain the Project. The parking lot adjacent to the building is typically approximately 3,000 square feet. Black Maple Wind includes an approximately 5-acre area for the O&M Facility and associated parking area. The O&M Facility will apply for well and/or septic permits, as needed, prior to construction.

3.1.9 SCADA System

Each wind turbine will communicate directly with the Supervisory Control and Data Acquisition (SCADA) system for remote performance monitoring, energy reporting, and troubleshooting. The SCADA system provides data on turbine generation and production, availability, meteorology, and communications. The SCADA system allows for 24/7 monitoring of the Project, and relays alarms and communication errors to an off-site operations center. Black Maple Wind's permanent, full-time staff will provide service and maintenance for the Project.

3.1.10 ADLS

Any tall structure over 200 feet above ground level, including wind turbines, requires lighting and approval by the Federal Aviation Administration (FAA) for aircraft safety (14 C.F.R. §77.9). By default, the FAA requires synchronized red flashing lights on wind turbines for aircraft safety. However, Aircraft Detection Lighting Systems (ADLS) are a newer technology that allow the red lights to remain off as a default. With this radar system, turbine lighting is off until the radar detects an aircraft within a prescribed distance and elevation to the Project, at which time, the blinking red lights turn on. After the aircraft is safely beyond the Project, the blinking lights are again turned off. More specifically, the ADLS radar detects aircraft within 16 nautical miles and activates the lights when the aircraft is within 3.5 nautical miles. The lights turn off five minutes after the aircraft is at least 3.5 nautical miles past the turbines. Aircraft flying at cruising altitudes, Class A airspace above 18,000 feet, do not trigger the ADLS.

The ADLS tower is located strategically to ensure direct communication with the lights installed on the turbines, similar to a motion sensor on a light outside of a home. The ADLS manufacturer will work with the Black Maple Wind team, which includes the landowner[s] who would host the ADLS tower[s], to design the ADLS system. Once the ADLS design is complete, the ADLS system design requires FAA review and approval, which Black Maple Wind anticipates the FAA will grant. On July 20, 2026, Black Maple Wind submitted the ADLS location to the FAA for review and approval.

The ADLS tower will be an approximately 110-foot lattice tower with a rotating radar on the top and will sit inside a graveled and fenced enclosure of approximately 35 feet by 35 feet. The radar tower is connected to the turbines with underground (at least 48 inches below ground) fiber optic cabling that allows the ADLS system to communicate with the turbines to turn the lights on and off. The location of this radar system is such that it provides adequate coverage of the Project (all turbines) and a buffer beyond and must be located at least 2,000 feet from a turbine.

Once the ADLS system is installed during construction of the wind farm, the system requires calibration and testing that cannot occur until the turbines are operational. For safety reasons, the FAA will not allow Black Maple Wind to rely on the ADLS system to turn on the synchronized flashing lights on the wind turbines until it is tested and functioning properly. Therefore, during the calibration phase, the FAA requires the synchronized red lights to be on at all times. The radar system is then "trained" to detect aircraft and differentiate them from birds and other targets. As the radar system is tested in groups, and determined to be functioning properly, the percentage of time that the lights are on will decrease. The construction, calibration, and testing phase typically takes three to six months but has been known to take longer.

The ADLS features built-in safeguards to ensure light activation in the event of equipment/software failure or loss of power or network. The high reliability, state-of-the-art, long-range, solid state doppler radar has 15 selectable channels within the band to prevent interference from other sensors operating in the area.

3.1.11 Temporary Facilities

Other temporary facilities will be required for the construction phase of the Project, including a concrete batch plant, laydown areas for equipment and construction management facility, intersection improvements to facilitate over-length turning, crane paths and working pads, and staging areas for turbine and transmission structure delivery. The temporarily affected areas will be restored to pre-construction conditions, to the extent practicable, after construction has been completed.

3.1.12 Project Construction Timeline

Upon approval of the Application and issuance of a WECS Permit, and as other state and federal approvals are obtained, Black Maple Wind will complete engineering-scale design of the access roads, construction areas, turbine foundations, and the electrical components including the underground electrical collection lines. The engineering-scale design of the Project will be included on the Final Site Plan included in the Building Permit submittal. Black Maple Wind anticipates commencing construction as early as Summer 2027. Subject to receipt of the necessary permits, interconnection approvals, and any weather delays, the Project is slated to commence commercial operations by December 2028.

3.2 Applicant Description and Contact Information (§3.A.2)

Black Maple Wind is a Delaware limited liability company authorized and qualified to do business in the State of Iowa. Black Maple Wind is a wholly owned, indirect subsidiary of Apex.

Founded in 2009, Apex is a full-service renewable energy company that develops, constructs, and operates utility-scale generation facilities across the United States. Driven by a team of approximately 400 professionals and headquartered in Charlottesville, Virginia; Apex has commercialized more than 50 projects totaling nearly twelve (12) gigawatts (GW) of capacity. Operating assets under management have grown to two GW with nearly another GW currently under construction. In Iowa, Apex operates the 224.25 MW Great Pathfinder Wind Project in portions of Boone and Hamilton Counties.

Black Maple Wind is the Applicant, Owner and Operator of this Project. The address for Black Maple Wind is:

Black Maple Wind, LLC
120 Garrett Street, Suite 700
Charlottesville, VA 22902

Apex Clean Energy's Project contact for the Project is:

Matt Eberl
Senior Development Manager
Apex Clean Energy
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Phone: (434) 806-7692
Matt.Eberl@apexcleanenergy.com

Scott Jansen
Vice President of Development
Apex Clean Energy
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Phone: (715) 432-3927
Scott.Jansen@apexcleanenergy.com

3.3 Project Location (§3.A.3)

The Project is generally located in northern Taylor County and includes portions of seven Townships. Table 4 lists the township names, and the township, range, and sections at least partially included in the Project Area.

Table 4 Project Area Location			
Township Name	Township	Range	Sections
Nodaway	70N	35W	1-2, 11-14
Holt	70N	34W	5-7, 9, 12-13, 16-18, 21-28, 34-36
Grove	70N	33W	3-5, 7-36
Platte	70N	32W	18-19, 30-34
Washington	69N	34W	1-2, 11-14, 23-26, 35-36
Marshall	69N	33W	5-8, 17-19, 30
Grant	69N	32W	3-4, 6, 9, 15-16, 20-22, 28

3.4 Total Height and Diameter of Wind Turbines (§3.A.4)

As described in Section 3.1.1 (Turbines), the total height (tip height) of the turbines ranges from 192 meters (630 feet) to 199.5 meters (655 feet), depending on turbine model. Similarly, rotor diameters range from 154 meters (506 feet) to 163 meters (535 feet).

3.5 Site Layout (§3.A.5)

The Site Layout, including the location of wind turbines, is included on the Site Layout Map in **Appendix A.1**. The Site Layout Map also displays the rest of the Project facilities described in Section 3.1 (WECS Project Summary).

The Site Layout complies with all of the setback requirements outlined in Section 4.11 (Setbacks) below. Setbacks have been applied measuring from the center point of the foundation of the wind turbine to the applicable feature. Black Maple Wind is considering three turbine models and has designed the turbine layout based on the tallest turbine (a turbine up to 199.5 meters or 655 feet tip height; see Sections 3.1.1 and 3.4). This ensures all turbine locations meet the setback requirements for all three turbine models. Project Setbacks are demonstrated on the Turbine Setback Maps included in **Appendix A.2**.

The Site Layout Map identifies 110 potential turbine locations; however, no more than 103 of these locations will be used when the Project is constructed. The selection of turbine sites for construction will be made during the final implementation stage of the Project. All turbine positions comply with the Taylor County setbacks described in the WECS Ordinance (§4.11, *Setbacks*); these are discussed in more detail in Section 4.11 of this Application.

The Final Site Layout will be subject to final engineering and other development considerations and will be provided with the Building Permit submittal. Although the Site Layout is not finalized, as allowed by the WECS Ordinance, no turbine locations will be moved more than 300 feet from the location depicted on the Site Layout Map so long as the turbine shifts comply with all county setback requirements and specified noise requirements; cultural resource impacts are avoided or mitigated; environmental minimization and avoidance measures are adhered to; and wetland impacts are avoided or appropriately permitted.

3.6 Engineer's Certification of the Wind Turbines (§3.A.6)

All wind turbines will be built to conform to industry standards, including the American National Standards Institute (ANSI). **Appendix B.1** is a representative design safety certification for a similar turbine model. Black Maple Wind will provide the certification for the selected turbine model in the Building Permit submittal. Additionally, Black Maple Wind will include a certification from a qualified structural engineer in its Building Permit Submittal stating that the foundation and tower designs for the Project are compatible with and within acceptable standards given local soil and climate conditions, which is consistent with industry standards.

3.7 Documentation of Land Ownership or Legal Control of Property (§3.A.7)

Community support for the Project has been overwhelmingly positive, with 147 agreements signed covering 1,041 parcels and over 36,450 acres in the Project Area (**Appendices C and A.3**). Black Maple Wind has signed additional agreements for parcels outside the Project Area that are not included in this Application. Black Maple Wind has completed its site control efforts for the WECS Project and does not anticipate any additional agreements. The Project's compensation package will provide over \$168 million in payments to participating landowners over the course of the Project's 30-year life. This includes lease and easement agreements (landowners that enter into these agreements with Black Maple Wind are referred to as "Participating Landowners"). The compensation formula for the full landowner leases includes payments to landowners for signed acreage, turbines hosted on signed parcels, and other facilities installed on signed parcels such as underground collection cables and turbine access roads. This type of lease agreement pays all participants, even those that do not get the opportunity to host wind facilities on their property. All the land included in the Project has been secured through agreements that were voluntarily signed. The names of the Participating Landowners in the Project, as well as a hyperlink to recorded memoranda reflecting lease agreements entered into with Participating Landowners, can be found in **Appendix C** of the Application. The Participating Properties map in **Appendix A.3**

illustrates that all parcels hosting any type of facility for the Project have signed an agreement.

3.8 Latitude/Longitude of Wind Turbines (§3.A.8)

Appendix B.2 includes a table of the latitude and longitude coordinates of the 110 turbine locations included in this Application.

3.9 Location of Public Areas (§3.A.9)

Appendix A.4 includes a map demonstrating there are no public areas or areas under Taylor County Conservation Board management identified in the WECS Ordinance (§4.11(f)) in the Project Area. Furthermore, the Turbine Setbacks maps (*Appendix A.2*) demonstrate all turbines are sited to meet setback distances from these lands that are located outside the Project Area. Therefore, the Project will avoid these resources.

3.10 Affirmation of Sound Study (§3.A.10)

Sound is produced by wind turbines due to turbulence at the blade tips and trailing edge, from mechanical systems in the hub or nacelle (which radiates throughout the structure), and from transformers either within the nacelle or pad-mounted at the base of the turbine. However, the primary source of sound is the aerodynamic sound from the blades. Sound increases with wind speed until maximum blade rotational speed is reached, which usually occurs when wind speeds reach 8-10 m/s at the turbine hub. Even at the base of a wind turbine, two people can carry on a conversation in a normal speaking voice.

The WECS Ordinance requires that wind turbines be sited such that sound levels measured at non-participating residences do not exceed 55 dBA for any period of time.

Black Maple Wind conducted a sound level modeling analysis for the Project including the three turbine models under consideration (*Appendix B.3*). The analysis was performed in accordance with the International Organization for Standardization (ISO) standard 9613-2, taking into account typical industry standards for modeling inputs and assumptions such as American National Standards Institute/American Clean Power (ANSI/ACP) 111-1. The turbine models have sound mitigation built into the turbine blades in the form of serrated trailing edges (Vestas and Nordex turbines) and low-noise trailing edges (GE turbines). The analysis incorporated conservative assumptions, including:

- all 110 potential wind turbine locations would be operating, even though only up to 103 will be constructed for the Project;
- a +2 dB adjustment factor was applied to the sound power level, which means the turbines are modeled with sound power levels 2 dB higher than the manufacturer specification;
- the model assumes that all turbines are always operating at the maximum sound emission simultaneously; and

- the model assumes that all receptors are downwind from every turbine, which is not possible.

Based on this analysis, no non-participating residences will have sound levels above 55 dBA for any period of time for any of the three turbine models under consideration, and, therefore, the Project is designed to meet the County's sound level requirement.

3.11 Affirmation of FCC and FAA Applications (§3.A.11)

The FAA has the regulatory authority to evaluate and permit structures which may pose a hazard to aviation. When evaluating a wind farm, FAA issues two determinations, together called "determinations of no hazard," under the following federal regulations:

- U.S. Department of Transportation FAA Code of Federal Regulations, Part 77, dated March 1993—Objects Affecting Navigable Airspace; and
- U.S. Department of Transportation FAA Advisory Circular 70/7460-1M, Obstruction Marking and Lighting.

Because the process can be lengthy, wind operators generally submit multiple layouts over time and work closely with the FAA. In January 2025, Black Maple Wind submitted a turbine layout filing to the FAA seeking a Determination of No Hazard (DNH) for 120 turbine locations in the Project vicinity at a turbine height of up to 707 feet. On May 28, 2025, the FAA issued DNHs for all 120 turbines described above to a height of 707 feet above ground level (see **Appendix B.4** for a representative DNH).

On July 17, 2026, Black Maple Wind submitted turbine locations for the 110 turbine locations, two permanent met towers, and ADLS radar location to the FAA as they appear in the Site Layout Map in **Appendix A.1** to this Application. The FAA submittal is included in **Appendix B.5**. The FAA is conducting further study on the proposed turbine array with a final determination expected in Q2 2027. Black Maple Wind will provide the FAA DNHs prior to construction. The FAA DNH for the ADLS radar tower is needed to initiate Federal Communications Commission (FCC) review of an ADLS system. FCC review is initiated by submitting Form 620 to the Iowa State Historic Preservation Office (SHPO). Black Maple Wind will provide the Taylor County Engineer this FCC Form 620 and documentation of FCC approval prior to construction of the ADLS radar tower.

3.12 Affirmation of Migratory Flyways and Nesting Areas for Birds, Bats, and Endangered Species within 1 mile (§3.A.12)

Black Maple Wind identified bird, bat, and species of concern, which included federally and state-listed endangered and threatened species, that have potential to occur within one mile of Project turbines using U.S. Fish and Wildlife Service (USFWS) and Iowa Department of Natural Resources (IDNR) database records. Black Maple Wind hired Western EcoSystems Technology, Inc. and Copperhead Environmental Consultants, Inc. to conduct bird and bat surveys and habitat studies between 2023 and 2026 at the Project. Species of concern were documented whenever observed during any studies. The studies met or exceeded USFWS

and IDNR recommendations and protocols, and the results of the studies were shared with both agencies.

As detailed in **Appendix B.6**, the desktop and field studies completed at the Project do not indicate a concentration or significant migratory pathway for birds, bats, endangered species, within one mile of Project turbines. As demonstrated in **Appendix B.6**, the Project Area does not contain a concentration of significant migratory flyways or nesting areas for birds, bats, or endangered species. Moreover, the Project is following all guidelines and recommendations of state and federal environmental agencies, including buffers to avoid habitat areas and time-of-year restrictions on certain activities. By doing so, the Project will not have a negative impact on populations of birds, bats, or endangered species.

4. GENERAL REQUIREMENTS FOR C-WECS AND METEOROLOGICAL TOWERS (§4)

As part of the siting, construction and operation of the WECS, Black Maple Wind will comply with following requirements described below.

4.1 Color and Finish (§4.1)

The tower and blades for each wind turbine will be painted with a white non-reflective, unobtrusive color. The surface of each turbine will consist of non-reflective material. All wind turbine surfaces will be designed to resist corrosion. No advertising or signage, outside of safety warnings or standard manufacturer markings, will be affixed to any of the turbines.

4.2 Tower Configuration (§4.2)

The wind turbine towers, by design, will be self-supporting and not require guy wires or anchor bases. Guy wires may be used on the permanent MET tower(s); these will have reflective warning markers consistent with the WECS Ordinance (§ *Safety 4.12(e)*).

4.3 Lighting (§4.3)

Wind turbines are required to have appropriate lighting to effectively alert aircraft of turbine locations, as regulated by the FAA. If approved by the FAA, Black Maple Wind plans to use an ADLS radar system. ADLS uses a combination of radar and associated software to control when turbine lights turn on. Under normal conditions, the lights stay off. With this radar system, turbine lighting (synchronized flashing red lights) is off until the radar detects an aircraft within a prescribed distance to the Project, at which time, the blinking red lights turn on. After the aircraft is safely beyond the Project, the blinking lights are again turned off. This can significantly reduce the amount of time turbine lights are on and minimize potential nighttime light concerns. Black Maple Wind has submitted the ADLS radar location to the FAA for approval (see *Appendix B.5*).

Black Maple Wind also notes that during construction and until ADLS is fully operational, the FAA requires all turbines be lit with temporary lighting once they reach a height of 200 feet above ground level or greater in order to ensure proper conspicuity of turbines. Black Maple Wind will comply with these FAA requirements during construction and until the ADLS is operational.

4.4 Signage (§4.4)

No advertising or signage, outside of safety warnings or standard manufacturer markings, will be affixed to any of the turbines. Each turbine and the fenced area around the Project Substation will also have a sign that indicates the turbine number and provides a toll-free telephone number to be answered twenty-four hours a day, seven days per week for emergency calls.

4.5 Feeder Lines (§4.5)

As described in Section 3.1.3 (Underground Electrical Collection Lines), all 34.5 kV collection and communication lines connecting each wind turbine to other turbines and the Project Substation will be installed underground to a depth of at least 48 inches in accordance with the WECS Ordinance and participating landowner agreements.

4.6 Waste Disposal (§4.6)

All solid wastes generated during the construction, operation, and maintenance of the Project will be removed from the site promptly and recycled to the extent practicable and disposed of in accordance with all federal, state and local laws and regulations regarding waste disposal.

Construction, operation, and maintenance of the Project are not likely to result in the generation of any hazardous waste. If hazardous waste is produced, it will be handled according to local, state or federal laws and regulations. Safety Data Sheets will be retained at the O&M Facility and copies of these sheets will be provided to the local fire departments in accordance with federal laws and regulations.

The Project will comply with all existing applicable septic and well regulations of the Taylor County Public Health Department and the Iowa Department of Natural Resources.

4.7 Minimum Ground Clearance (§4.7)

In accordance with Section 4.7 of the WECS Ordinance, the blade tip of any wind turbine shall, at its lowest point, have ground clearance of no less than 50 feet. As demonstrated in Table 3.1 in Section 3.1.1 (Turbines), all three turbine models under consideration for the Project have a ground clearance of at least 96 feet.

4.8 Signal Interference (§4.8)

Black Maple Wind contracted with ComSearch to conduct telecommunication studies on microwave beam paths, AM/FM radio, emergency services (E-911), and television reception as required in the WECS Ordinance (§ *Signal Interference* 4.8; **Appendix B.7**).

The microwave beam path study demonstrates that all turbines are sited to avoid interference with microwave beam paths in the Project Area, regardless of the turbine model.

The AM and FM Radio Report concludes that there is one AM station within 30 kilometers (18.6 miles) of the Project. Black Maple Wind turbines are sited outside the 3-kilometer (1.86 mile) exclusion distance for which interference can occur (the closest turbine to an AM tower is nearly 26-kilometers (16.0 miles)), and, therefore, will not impact coverage of local AM radio stations. Similarly, the closest distance of Project turbines to an FM station is 5.71 kilometers (3.55 miles). The report goes on to indicate that the coverage of FM stations is generally not sensitive to interference due to wind turbines, especially when turbines are

located in the far field region of radiating antenna. At over 5 kilometers from the nearest FM station, turbines are sited adequately to avoid interference.

The land mobile and emergency services analysis found that no FCC-licensed land mobile or public safety transmitting stations are expected to be adversely affected. This conclusion is based on: turbines being sited more than 77.5 meters from a tower (the closest proposed turbine is approximately 640 meters); the E-911 communication system operating on a reliable network with multiple transmitter stations and a not line-of-sight environment; and the frequencies of operation for E-911 services have characteristics that allow the signal to propagate through wind turbines.

An assessment of television channels that serve the Project Area was conducted, as summarized in the Off-air Television Report. As identified in the report, there are 32 off-air television stations currently licensed and operating within 150 kilometers (approximately 93 miles) of proposed turbine locations; television stations at a distance of 150 kilometers or less are the most likely to provide off-air coverage to the Project Area and neighboring communities. Of these 32 stations, 8 are low-power stations or translators, which receive signals from distant broadcasters and retransmit the signal to a local audience. Construction of wind turbines has the potential to impact television reception to residences as a result of an obstruction in the line of sight between the television station antennas and the antennas at residences. However, modern digital television receivers have undergone significant improvements to mitigate the effects of signal scattering. As such, television reception at residences relying on cable or satellite television service will not be impacted by construction or operation of the Project. If residences that rely on antennas experience signal disruption, Black Maple Wind will coordinate with the residence to mitigate the disruption.

To comply with the WECS Ordinance, the Applicant must take commercially reasonable measures to minimize or mitigate any severe interference with microwave transmissions, emergency services, residential television interference, or radio reception. Black Maple Wind commits to undertaking commercially reasonable steps to respond to a written complaint related to interference caused by the Project as is required by the WECS Ordinance.

4.9 Federal Aviation Administration (§4.9)

As described in Section 3.11 (Affirmation of FCC and FAA Applications), Black Maple Wind has received DNHs for a similar turbine layout and taller turbine tip height. Black Maple Wind submitted the turbine layout in this Application to the FAA on July 17, 2026 (*Appendix B.5*) and will comply with FAA standards and regulations.

4.10 Electrical Codes and Standards (§4.10)

All electrical components for the Project will conform to applicable national, state and local codes and relevant national and international standards such as the National Electric Code and ANSI.

4.11 Setbacks (§4.11)

Table 5 identifies setbacks applicable to the Project as designated by the WECS Ordinance. The Project layout will comply with all of the setback requirements outlined below. Setbacks have been applied measuring from the center point of the foundation of the wind turbine to the applicable feature. Black Maple Wind is considering three turbine models and has designed the turbine layout based on the tallest turbine (a turbine up to 199.5 meters or 655 feet tip height; see Section 3.1.1). Because the setbacks listed below are either set distances or based on turbine tip height, using the tallest turbine model ensures all turbine locations meet the setback requirements. Project Setbacks are demonstrated on the Turbine Setback Maps included in **Appendix A.2**. These include a map depicting all 110 turbine locations with setbacks, and an individual map for every turbine location with required setbacks, along with a table that provides the distance of each turbine to each WECS Ordinance setback.

Table 5 Turbine and Meteorological Tower Setback Requirements for WECS Projects	
Setback Feature	Taylor County WECS Ordinance ¹
Inhabited Structures – Non-participating Landowner ^{1,2}	No less than 1.1 times the total height (721 feet) or 1,500 feet , whichever is greater.
Inhabited Structures – Participating Landowner ^{1,2}	No less than 1.1 times the total height (721 feet) or 1,250 feet , whichever is greater.
Property Lines ^{2,3}	No less than 1.1 times the total height
Public Right-of-way	No less than 1.1 times the total height
Radio Communication Pathways	No part of the Wind Turbine interferes with the path's Fresnel zone
Public Areas and Areas under UCCB ⁴ Management	State & Federal Parks -> 1.0-mile setback distance Specially designated protected areas -> 1.0-mile setback distance a) Windmill Lake b) Sands Timber c) Wilson Lake d) Bedford Reservoir All other parks or areas -> 0.5-mile setback distance
Municipalities ²	Each Wind Turbine and meteorological tower shall be set back from the city limits of any incorporated municipality by a distance no less than one (1) mile.
¹	Where different distances are provided, the bold distance reflects the setback applied to the Project.
²	While setbacks from non-participating inhabited structures, participating inhabited structures, property lines, and municipalities can be waived by executed in written waiver or agreement, Black Maple Wind has designed the Project such that waivers are not needed from these setbacks.
³	All participating parcels have signed agreements; therefore, this setback is applied to non-participating parcels.
⁴	Black Maple Wind understands UCCB should be Taylor County Conservation Board.

As demonstrated in Section 3.9 (Location of Public Areas) and in **Appendix A.4**, there are no public areas and areas under Taylor County Conservation Board Management in the Project Area. There is one state park and wildlife management area within one mile of the Project Area, and all turbines comply with the one-mile setback. Similarly, there are no municipalities within the Project Area; the municipalities of Gravity, Sharpsburg, Lenox, and Clearfield are all within one mile of the Project Area and all turbines are sited to comply with the one-mile setback. As demonstrated in Section 4.8 (Signal Interference), all turbine locations are sited to avoid interference with microwave beam path Fresnel zones, regardless of the turbine model selected (**Appendix B.7**).

4.12 Safety (§4.12)

Black Maple Wind will incorporate several safety measures into the design and construction of the Project. For example, as discussed in Sections 3.1.3 (Underground Electrical Collection Lines) and 4.5 (Feeder Lines), all wiring between the turbines and the Project Substation will be underground. Additionally, the turbines and permanent MET tower(s) will not be climbable. Access to the inside of wind turbines will be limited to Project employees. Each wind turbine will be mounted on a tubular tower which will be a smooth, tapered monopole structure. The only climbing access will be by ladder or lift located inside the tower. By design, the towers will be externally un-climbable. Further, the access doors to the turbines and electrical equipment will be locked when not being serviced.

Black Maple Wind will include visible warning signage concerning voltage at the Project Substation. Additionally, if the GE turbine is used, voltage warning signage will be placed at the pad-mounted transformer at the base of the turbine. This voltage warning signage would not be needed at the base of the Nordex or Vestas turbines because the turbine transformer is located in the nacelle; it is not pad-mounted.

If guy wires are used on the permanent met tower(s), visible and reflective objects, such as plastic sleeves, balls, reflectors, or tape, will be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of twelve (12) feet above the ground.

In addition to the design and construction safety measures described above, Black Maple Wind has also considered the public safety measures of constructing and operating a WECS. Specifically, on July 7, 2026, Black Maple Wind met with local emergency responders including the Lenox, Gravity, and Sharpsburg Fire Departments. For those departments or personnel that were unable to attend the meeting, Black Maple Wind has offered to provide the same overview documents via email and answer any questions that arise. The primary purpose of this meeting was to provide an overview of the Emergency Action Plan for Black Maple Wind, answer questions, and collect feedback from local emergency responders. The discussion was focused around Apex Clean Energy's core value of safety, and how we remain diligent on validating this throughout the duration of the project, during construction, as well as once the site is fully operational. The Apex Team, including Mr. Jason Conley, a Director of Health and Safety who is a safety professional with experience in emergency response, is committed to creating open lines of communication and establishing key relationships for future collaboration and safe operations at and around the Project.

Black Maple Wind provides the overview Emergency Action Plan that was shared during the meeting in **Appendix B.8**. This overview Emergency Action Plan is intended to demonstrate the attention, diligence, and resources the Applicant dedicates to safety and responding to emergency situations. Black Maple Wind has shared an overview of the Emergency Action Plan with the attendees. Based on this coordination and prior to construction, Black Maple Wind will finalize an emergency response plan that ensures that there will always be close coordination with emergency responders and local officials. This plan, at a minimum, will include contact information (names, titles, email addresses, cell phone numbers) for Black Maple Wind's local Project representatives as well as its ROCC, which is staffed 24 hours a

day, 7 days a week, 365 days per year. The plan will be updated upon changes in the designated WECS representatives, and annually. Any changes to the designated representative and their contact information will be promptly communicated to the County.

5. AVOIDANCE AND MITIGATION OF DAMAGES TO PUBLIC INFRASTRUCTURE AND DECOMMISSIONING (§5)

5.1 Roads (§5.1)

The WECS Ordinance requires the Applicant to enter into a Road Use Agreement (RUA) with the County prior to construction substantially in the form provided in the template RUA in **Appendix B.9**. The template RUA provides the framework that is subject to the RUA including the road maintenance to be performed, road restoration, time to complete restoration, and other standards during construction such as maintenance, inspections, and traffic control.

Black Maple Wind is currently coordinating with the Taylor County engineer on road evaluations. Black Maple Wind will conduct pre-construction baseline road surveys to assess the current condition of the roads and will submit these to the County Engineer. These surveys will be used to determine needed improvements and for assessing potential future damage.

After construction, all repairs and improvements to public roads and roadway appurtenances shall be subject to inspection and acceptance by the County and Townships after such repairs and improvements have been made. Black Maple Wind accepts responsibility for the reasonable cost of improving roads used to construct the Project and the reasonable cost of repairing roads used during construction, so those roads are in a condition that is safe for the motoring public after completion of the Project's construction. Further, Black Maple Wind has reviewed the template RUA and will continue to work with the County to execute it prior to construction.

5.2 Drainage System (§5.2)

The WECS Ordinance requires the Applicant to repair public drainage systems that are damaged by Project construction, operation, or maintenance. Based on coordination with the County Engineer, Seth Sunderman, there are no drainage districts or public watersheds that are managed by Taylor County. The Applicant will comply with all state and local requirements related to the treatment and repair of private drainage tiles. Additionally, all bridge and culvert crossings will be preapproved by the Taylor County Engineer.

5.3 Decommissioning (§5.3)

Black Maple Wind commits to decommissioning the Project at the end of its useful life and ensuring that Taylor County have to decommission the Project. In furtherance of this commitment, Black Maple Wind includes a Draft Decommissioning Plan in **Appendix B.10** which was prepared by an Iowa-licensed engineer and includes information on decommissioning and site restoration activities and associated costs for all three turbine models. Black Maple Wind provides this Draft Decommissioning Plan for information purposes. The WECS Ordinance requires an Applicant to enter into a Decommissioning Agreement prior to construction, at which time, Black Maple Wind will provide a Decommissioning Plan and cost estimate for the Project layout to be constructed. The

Decommissioning Agreement form provided by Taylor County is the framework for requirements and standards to decommission the Project.

Black Maple Wind's Draft Decommissioning Plan.

Westwood Professional Services (Westwood) prepared a Draft Decommissioning Plan for Black Maple Wind which fulfills the decommissioning requirements of the WECS Ordinance. As discussed in more detail in the Draft Decommissioning Plan, decommissioning of Black Maple Wind includes:

- Removal of all above-ground components (turbines, ADLS radar tower, Project Substation, O&M Facility, permanent MET tower(s)).
- Removal of all turbine, tower, and building foundations to a depth of four feet.
- Removal of all underground collection systems and cables to a depth of four feet.
- Removal of access roads (unless the landowner requests the road to remain) and crane paths.
- Restoration of access roads, including decompaction.
- Reclamation, re-grading, and restoration of disturbed areas including topsoil reapplication and decompaction of soils.
- Sediment and erosion controls during and following decommissioning.
- Repair of public roads to pre-decommissioning condition.

Westwood determined the estimated decommissioning costs for all decommissioning activities based on the requirements in the Decommissioning Agreement form as well as cost assumptions based on a variety of factors including the future land use after decommissioning, engineering and construction practices, road and turbine removal, salvage value of Project materials, and more. The estimated net decommissioning cost in current dollars is anticipated to be \$26,853,883 for the Nordex N163, \$30,767,150 for the Vestas V163-4.5 MW, and \$32,946,378 for the GE 4.0-154, including associated facilities.

Black Maple Wind has Included Extra Protections to Further Protect Taylor County.

Black Maple Wind has specifically incorporated the following three terms into the Draft Decommissioning Plan:

- Included a 10% cost contingency and county administrative cost;
- Included payments to farmers in the event of crop damage during decommissioning; and
- Reduced the salvage value of scrap materials based on potential concerns that current scrap metal pricing is unusually high.

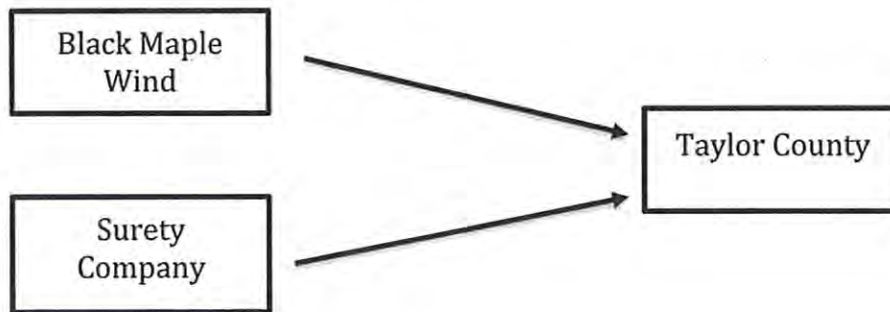
None of these are required by the Decommissioning Agreement form. Nonetheless, Black Maple Wind's Draft Decommissioning Plan includes each of these extra provisions.

Black Maple Wind has Included a template Bond to Further Guarantee that Taylor County Will Not Have to Pay for Decommissioning.

Black Maple Wind includes a draft performance bond in **Appendix B.10** for the Draft Decommissioning Plan that complies with Section 7 of the Decommissioning Agreement form.

A bond is a legal agreement where a separate company (known as a surety) guarantees that Black Maple Wind performs its decommissioning obligations for the benefit of Taylor County. In exchange for this guarantee, Black Maple Wind pays the surety an annual premium.

The Bond Provides a Second Source of Protection for Taylor County



The entire purpose of such a decommissioning performance bond is to protect Taylor County. Thus, it is designed, along with the Decommissioning Plan, to ensure that if unexpected conditions should happen to prevent Black Maple Wind from decommissioning the Project, Taylor County can draw on the bond to ensure that decommissioning is completed without Taylor County paying for it.

Prior to construction, Black Maple Wind will enter into a Decommissioning Agreement with Taylor County. This includes a Decommissioning Plan and cost estimate that reflects the selected turbine model and financial assurance in the form of a performance bond that names Taylor County the primary beneficiary.

Pursuant to the Decommissioning Agreement form, the Decommissioning Plan and associated cost estimate and financial assurance will be updated every five (5) years from the Commercial Operation Date upon written request of the County.

6. LIABILITY INSURANCE (§8)

The Taylor County WECS Ordinance requires that an Applicant shall maintain sufficient insurance. In accordance with these requirements, Black Maple Wind will maintain and pay for (a) comprehensive commercial general liability insurance and automobile liability coverage covering bodily injury, death and illness, and property damage with limits of not less than \$3,000,000 per occurrence, and (b) excess liability insurance with a limit of not less than \$3,000,000 in the aggregate. All of these limits will be met with primary and excess policies and Black Maple Wind will ensure that the total amount of insurance coverage provided is equal to or greater than the amount specified here and will be in place prior to construction.

7. CONCLUSION

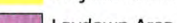
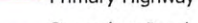
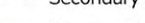
Through this Application and the attached appendices, Black Maple Wind has demonstrated compliance with all requirements of the Taylor County WECS Ordinance. The Project is designed to minimize impacts on agricultural operations, environmental resources, and other sensitive features in Taylor County. Granting a WECS permit for the Project will bring investment, tax revenue, jobs, and revenue for landowners, while supporting the policy of the State of Iowa to promote development of renewable energy generation sources.

Accordingly, Black Maple Wind respectfully requests that the Board issue a WECS permit for the Project as described in this Application.



Figure 1
Black Maple Wind
Site Layout

Project Facilities

-  Turbine*
-  ADLS
-  Proposed MET
-  Underground Collection
-  Access Road
-  Transmission Line**
-  O&M
-  Project Substation
-  Laydown Area
-  Switching Station**
-  Project Area
-  County Boundary
-  Primary Highway
-  Secondary Road
-  City Street

*Turbines are not drawn to scale.

**The Transmission Line and Switching Station will be permitted at the IUC.

7/21/2026

Coordinate System: NAD 1983 StatePlane Iowa South FIPS 1402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

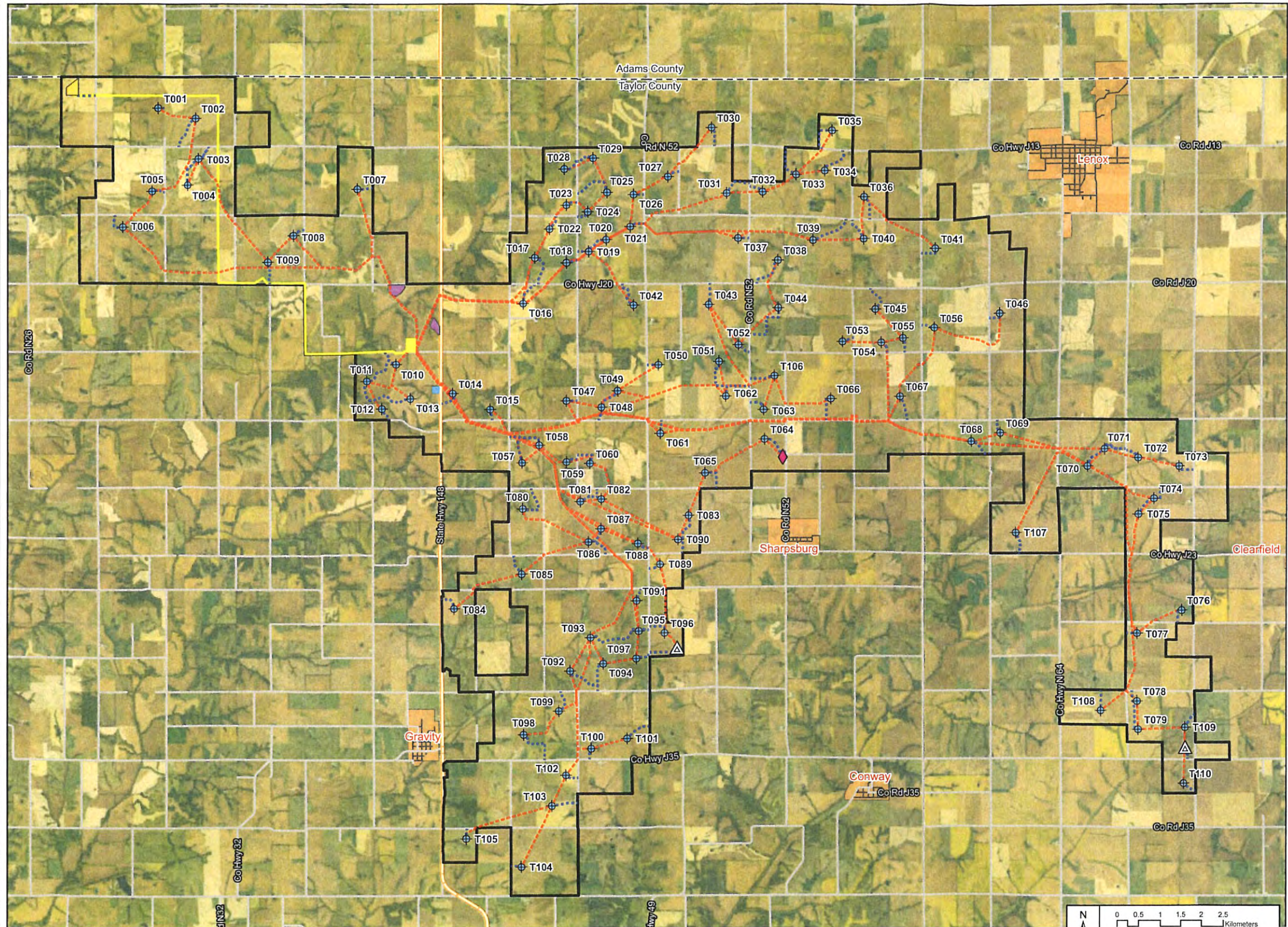




Figure 2
Black Maple Wind
Turbine Setback
Overview

- Turbine*
- Project Area
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)
- Municipalities (setback is one mile)
- Participating Parcel
- County Boundary
- City Street
- Secondary Road
- Primary Highway

*Turbines are not drawn to scale.

7/22/2026
Coordinate System: NAD 1983 StatePlane Iowa South FIPS 1402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

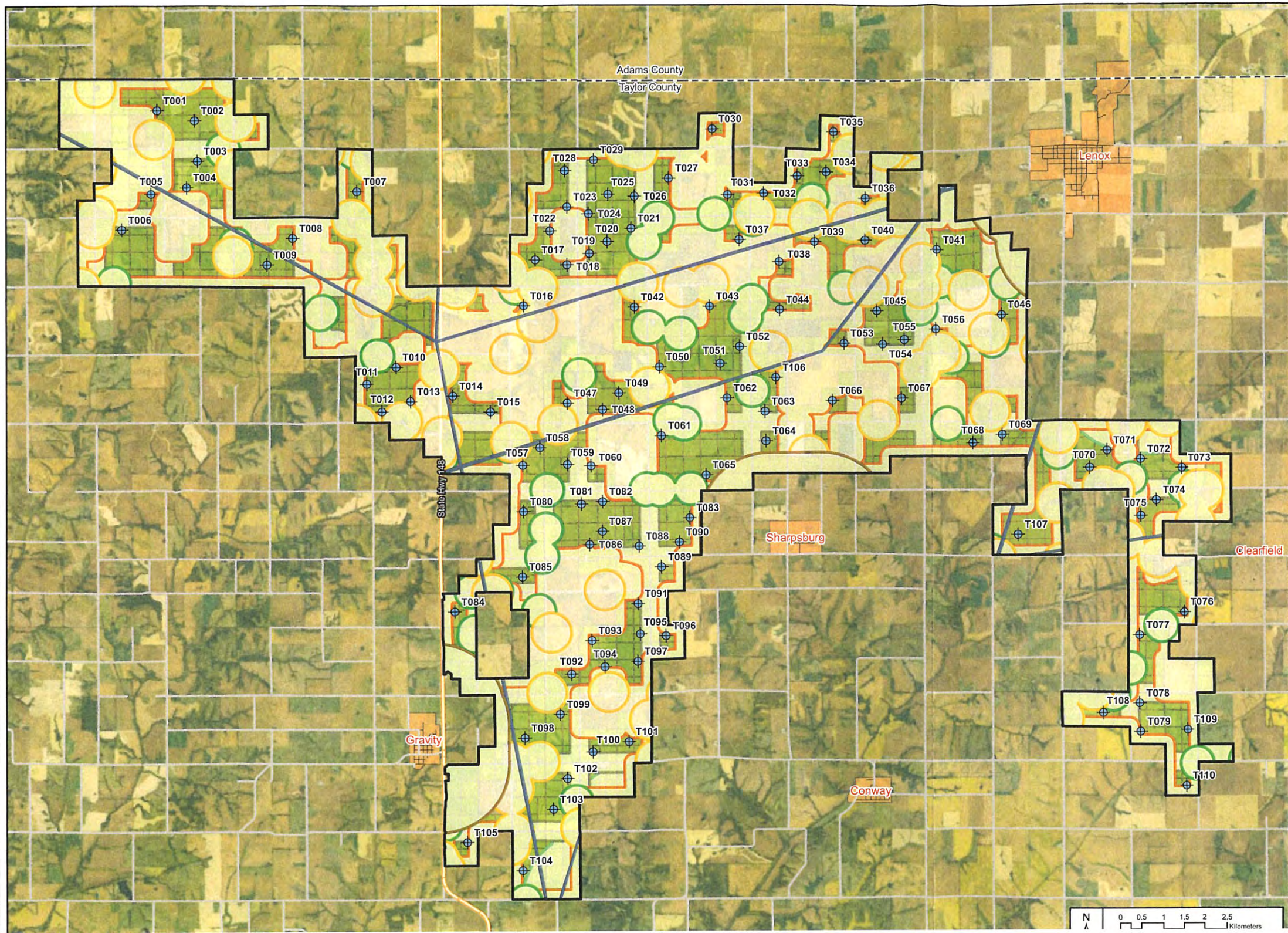




Figure 3
Black Maple Wind
Participating Properties

Project Facilities

- Turbine*
- ADLS
- Proposed MET
- Underground Collection
- Access Road
- O&M
- Project Substation
- Laydown Area
- Participating Parcel
- County Boundary
- Project Area
- Primary Highway
- Secondary Road
- City Street

*Turbines are not drawn to scale.

7/21/2026
Coordinate System: NAD 1983 StatePlane Iowa South FIPS 1402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

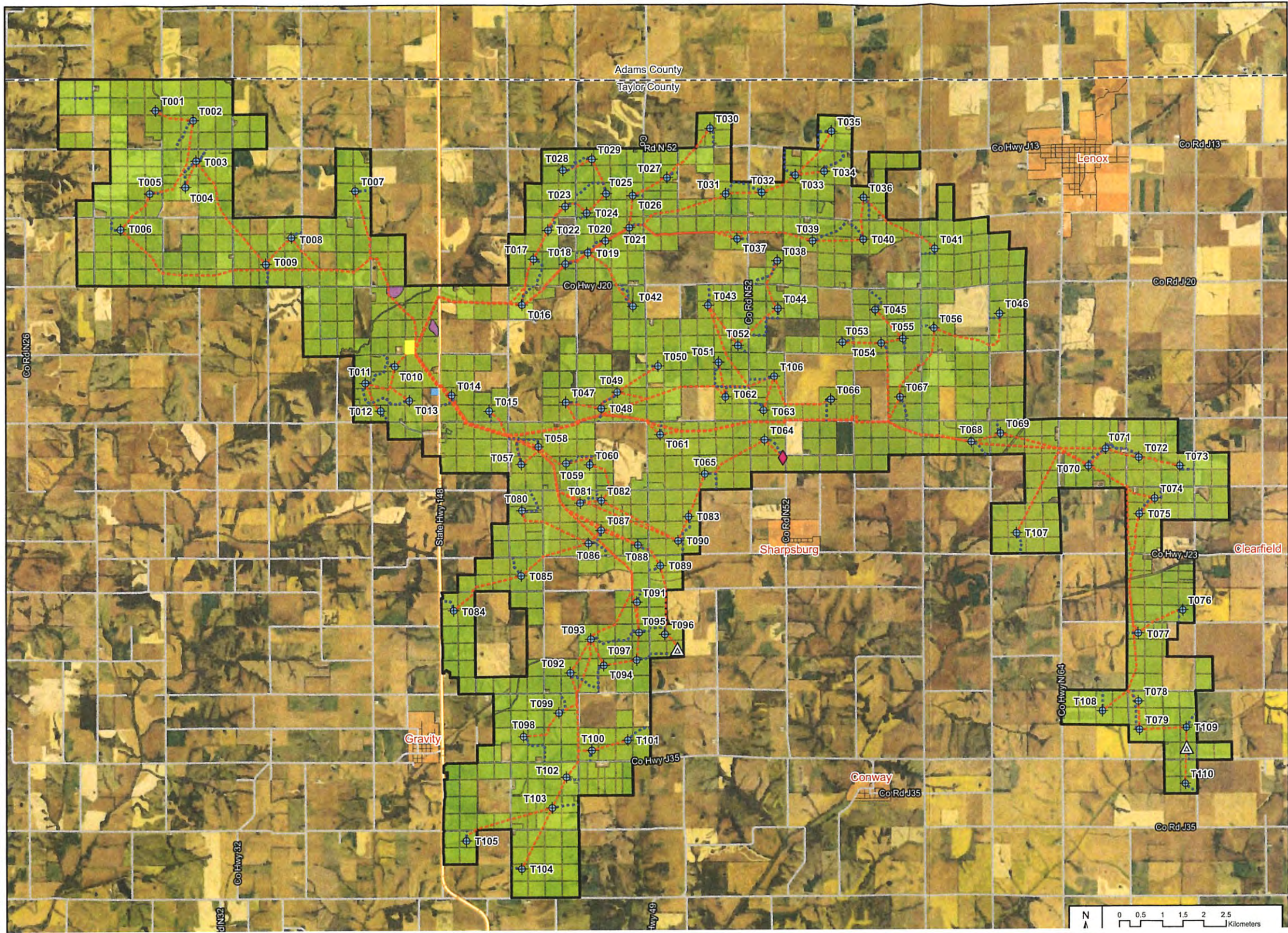




Figure 4
Black Maple Wind
Public Areas

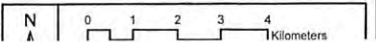
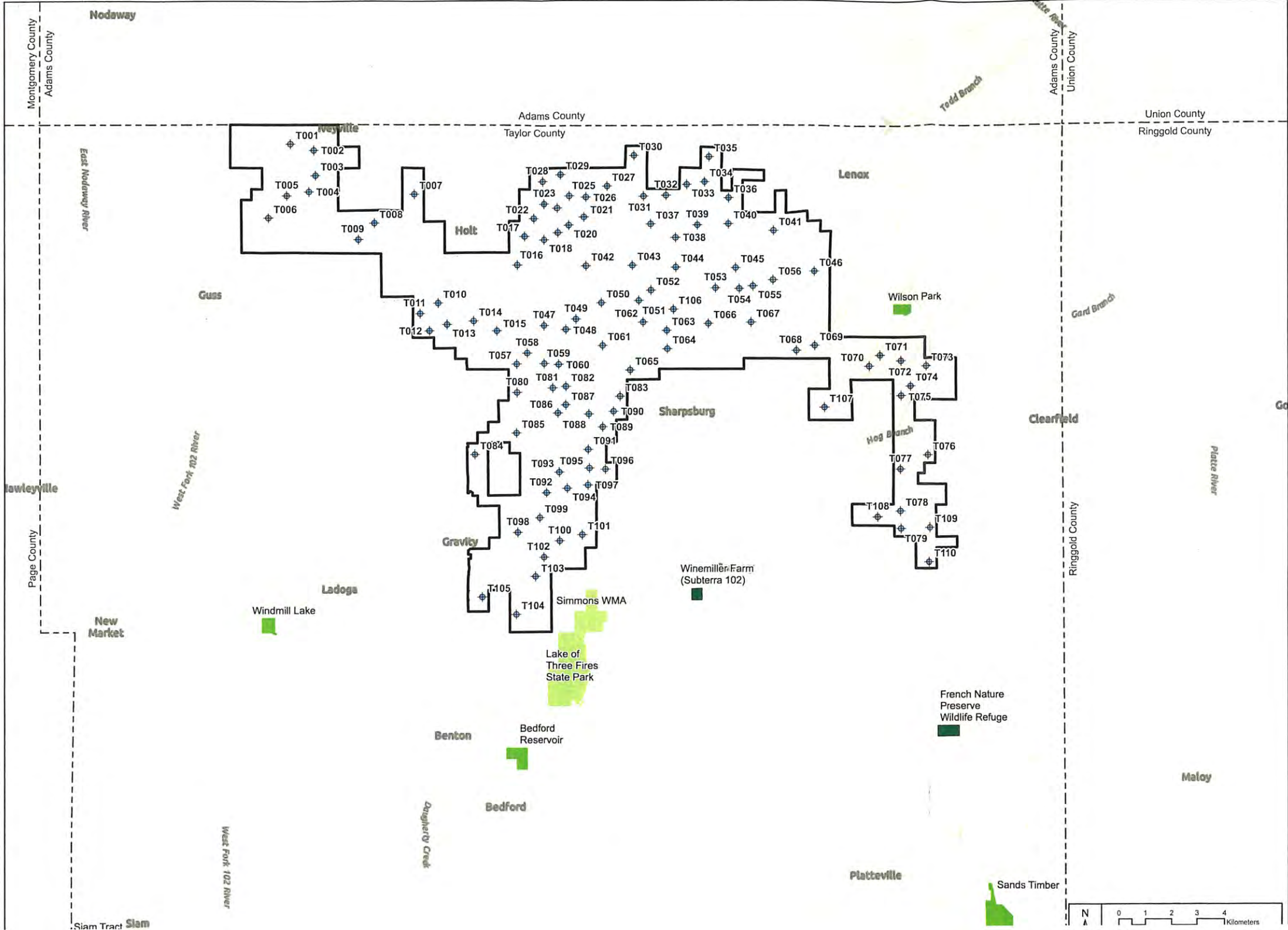
Project Facilities

-  Turbine*
-  Project Area
-  State Park
-  City/County Park
-  Park - Special Designation
-  County Boundary

Note: No Federal Areas are within 10 miles of the Project Area

*Turbines are not drawn to scale.

7/17/2026
Coordinate System: NAD 1983 StatePlane Iowa South FIPS 1402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US



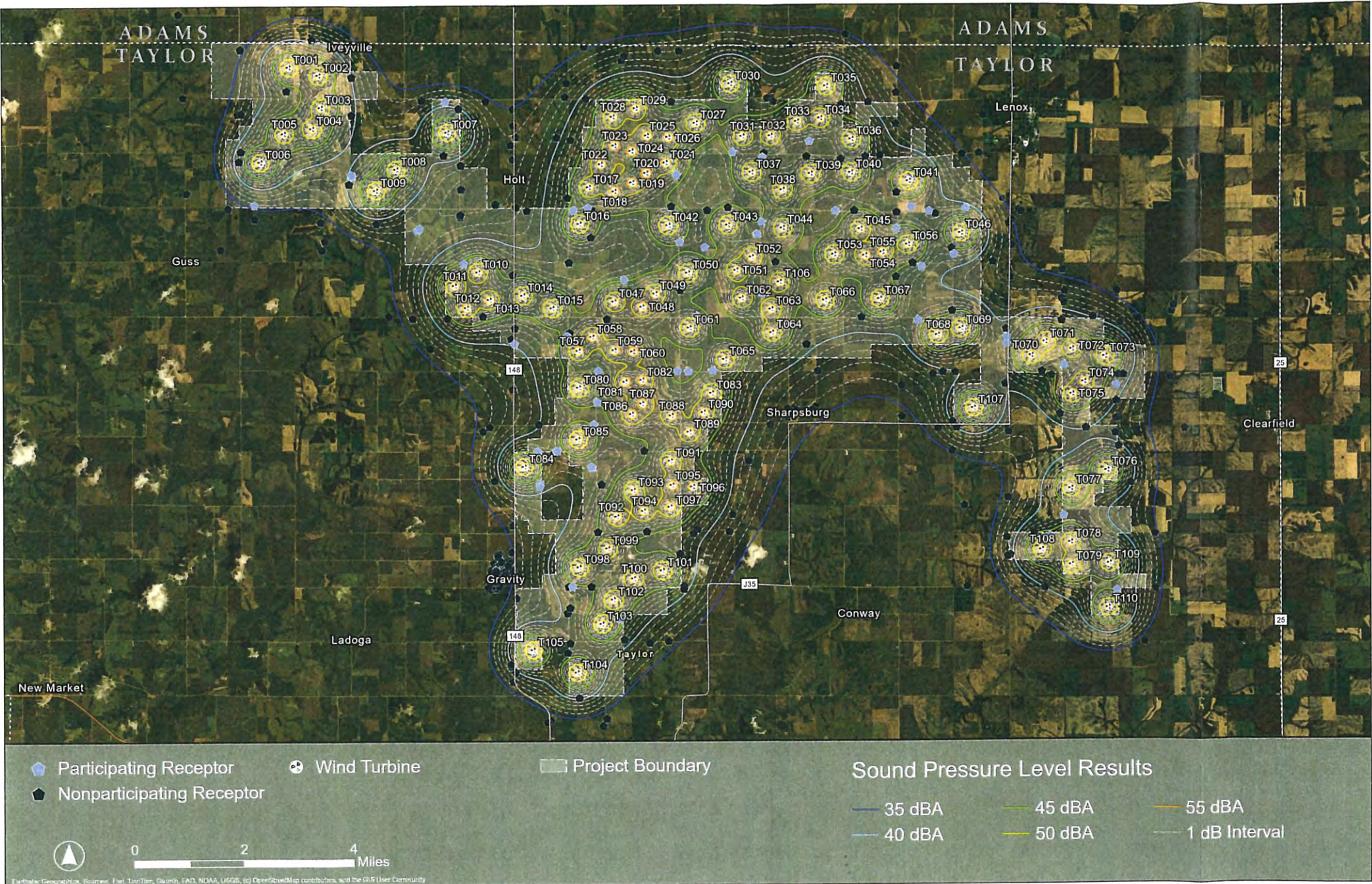


Figure 9: Project-Only Model Results Map for Turbine GE 154 (11 x 17)

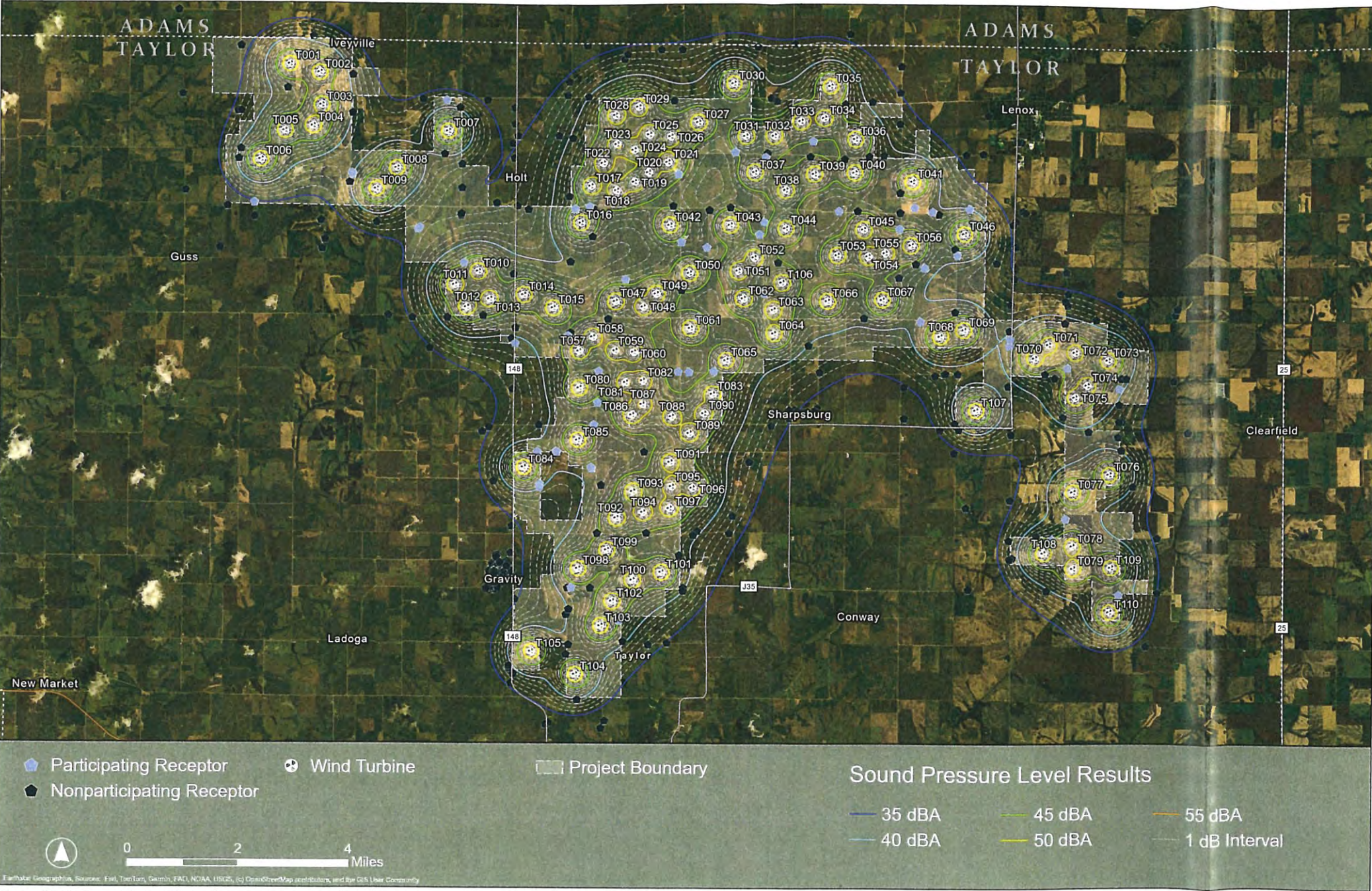


Figure 10: Project-Only Model Results Map for Turbine V163 (11 x 17)

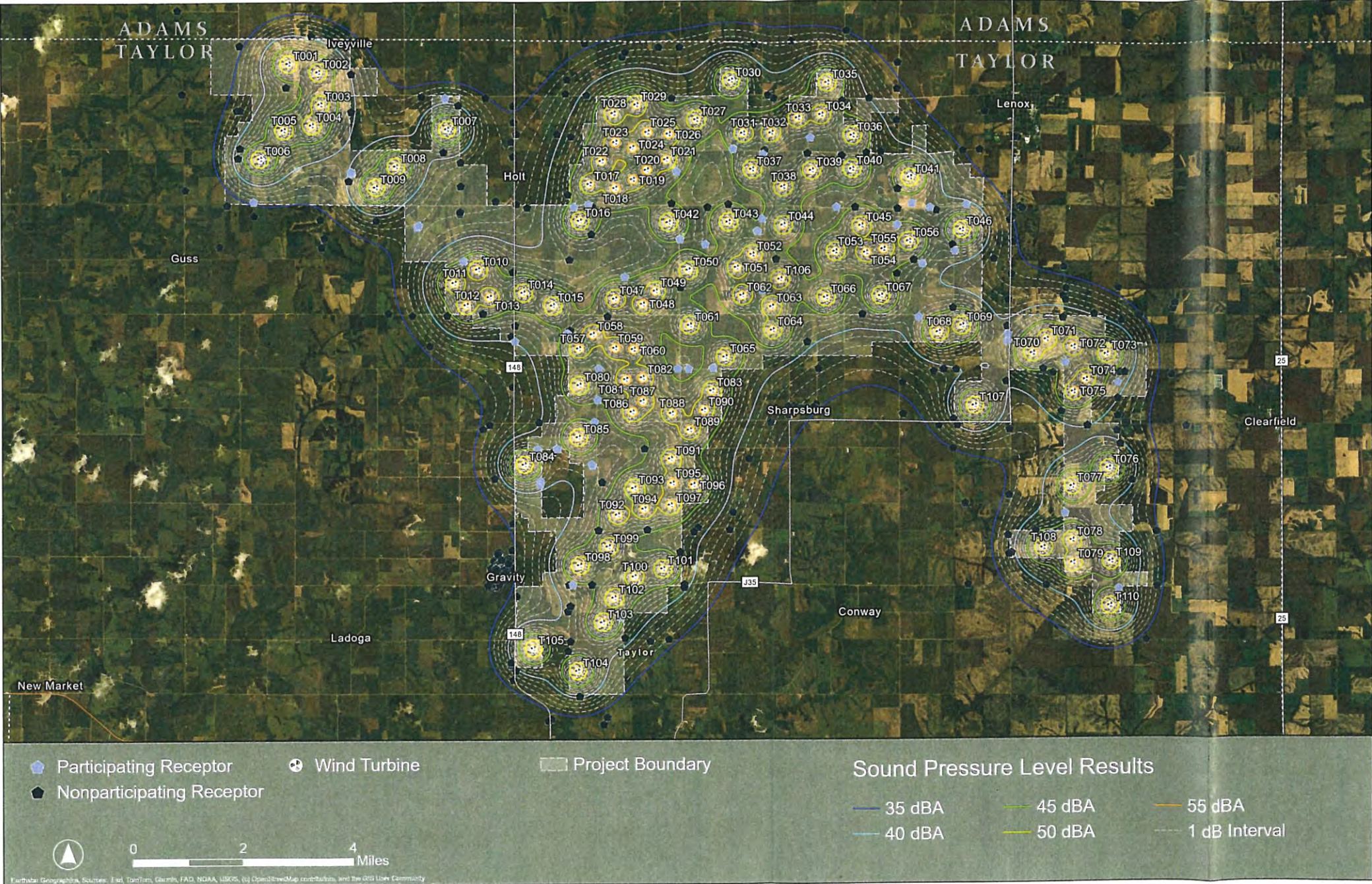


Figure 11: Project-Only Model Results Map for Turbine N163 (11 x 17)

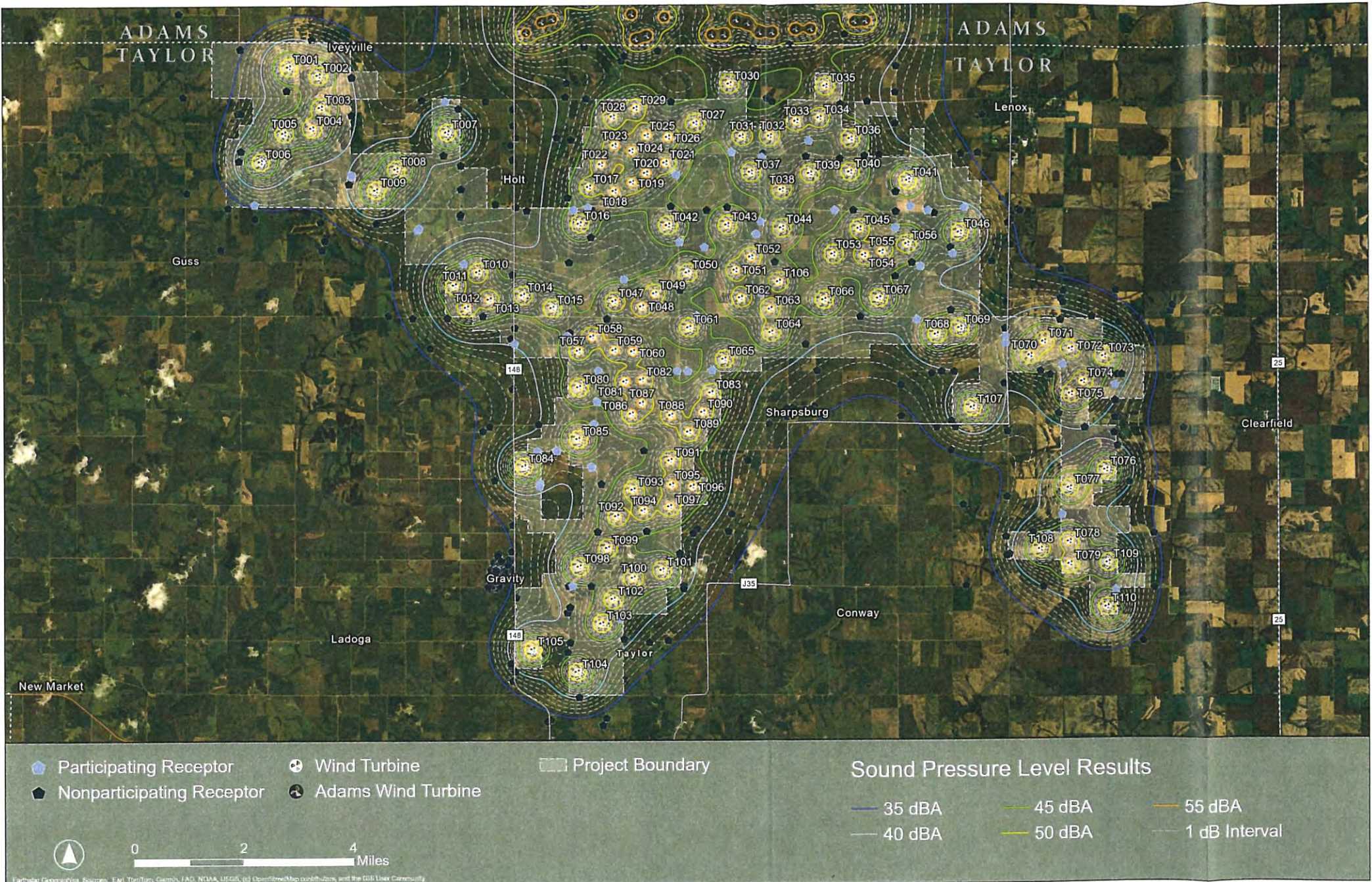


Figure 12: Cumulative Model Results Map for Turbine GE 154 and Adams Wind (11 x 17)



Figure 13: Cumulative Model Results Map for Turbine V163 and Adams Wind (11 x 17)

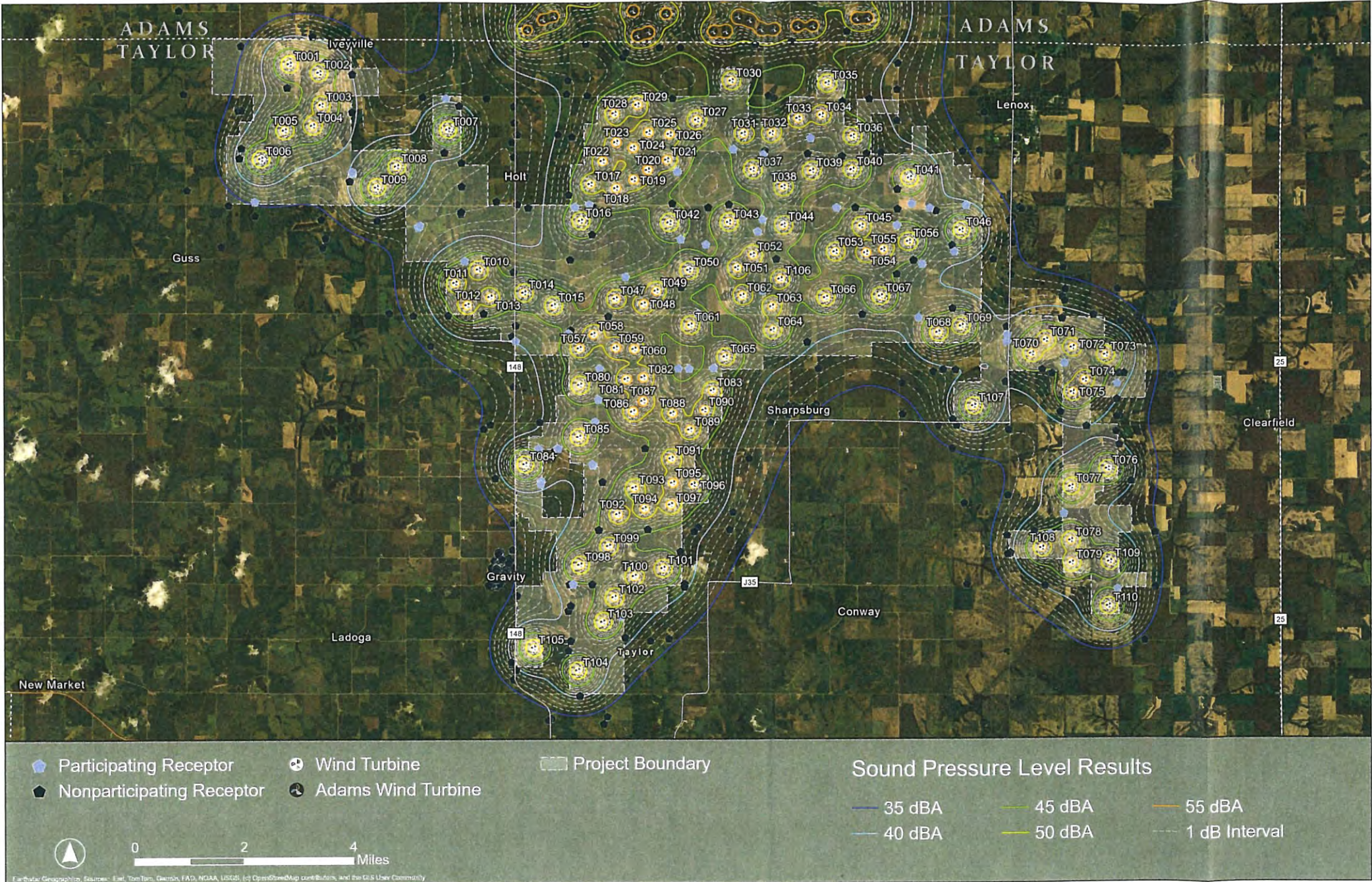
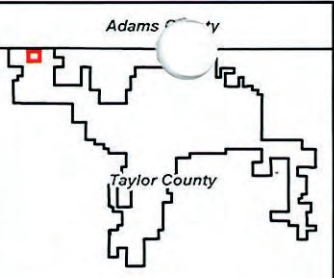


Figure 14: Cumulative Model Results Map for Turbine N163 and Adams Wind (11 x 17)



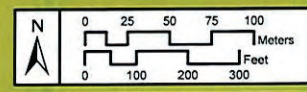
**Black Maple Wind
Turbine Setbacks:
T001**

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)

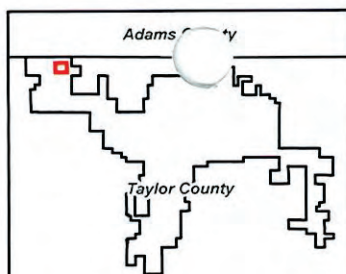
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T001	2,236	5,918	900	2,310	5,124	11.66	7.25	4.63



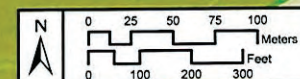
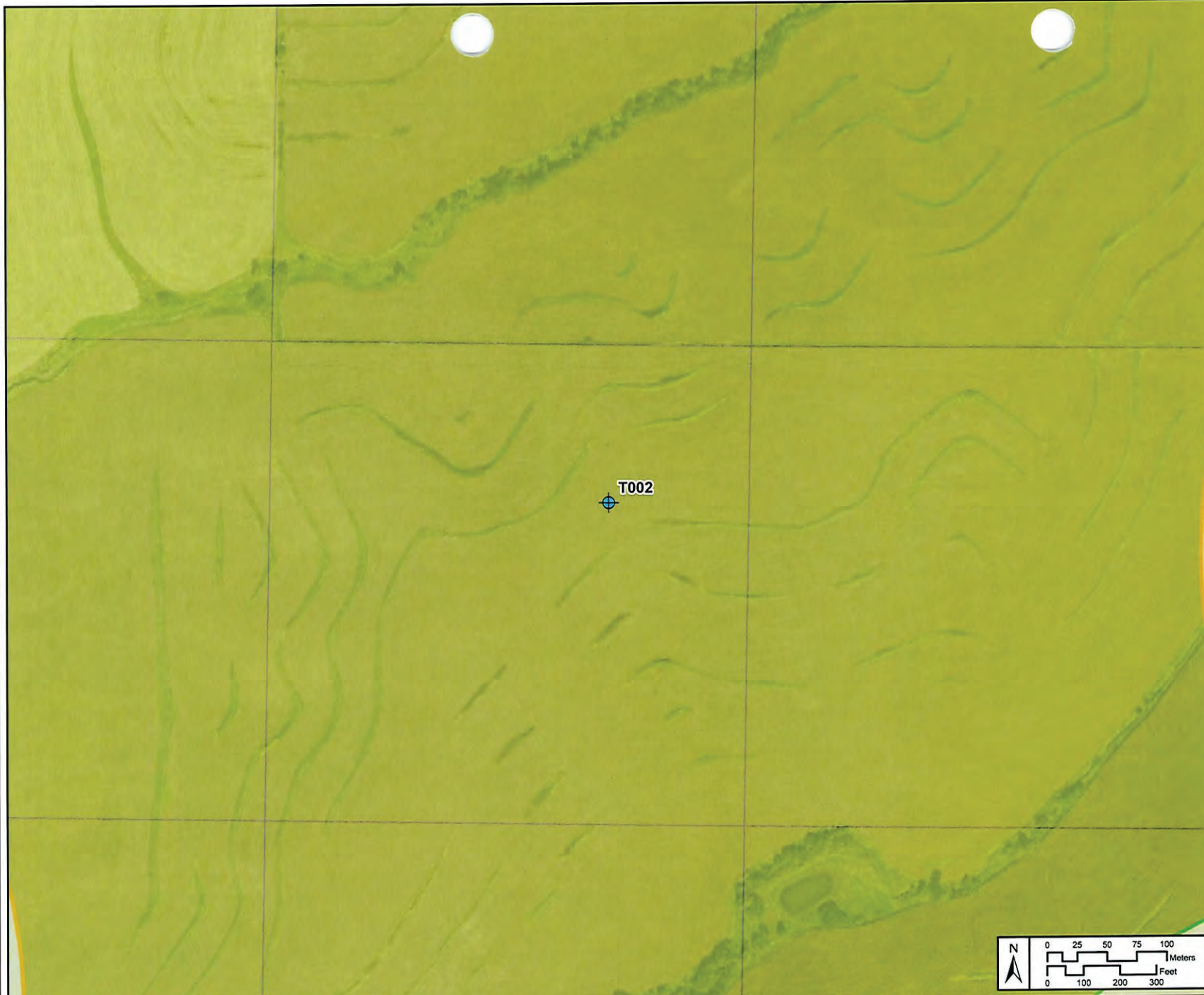
Black Maple Wind Turbine Setbacks: T002

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Road Public Right-of-Way (setback is 721 feet)

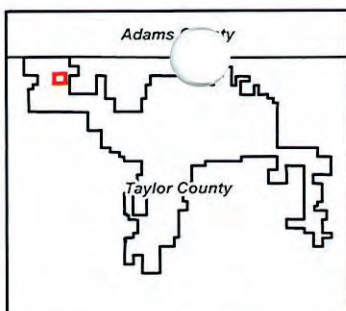
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T002	3,131	3,159	2,821	2,146	5,837	11.59	7.08	5.17



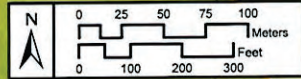
Black Maple Wind Turbine Setbacks: T003

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Road Public Right-Of-Way (setback is 721 feet)

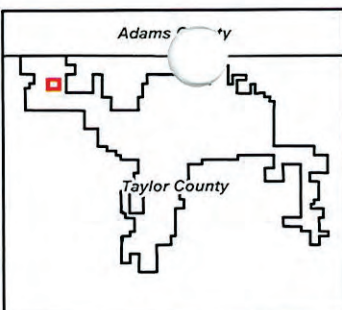
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T003	2,992	2,147	2,604	883	3,213	11.65	7.57	5.53



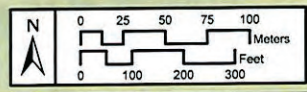
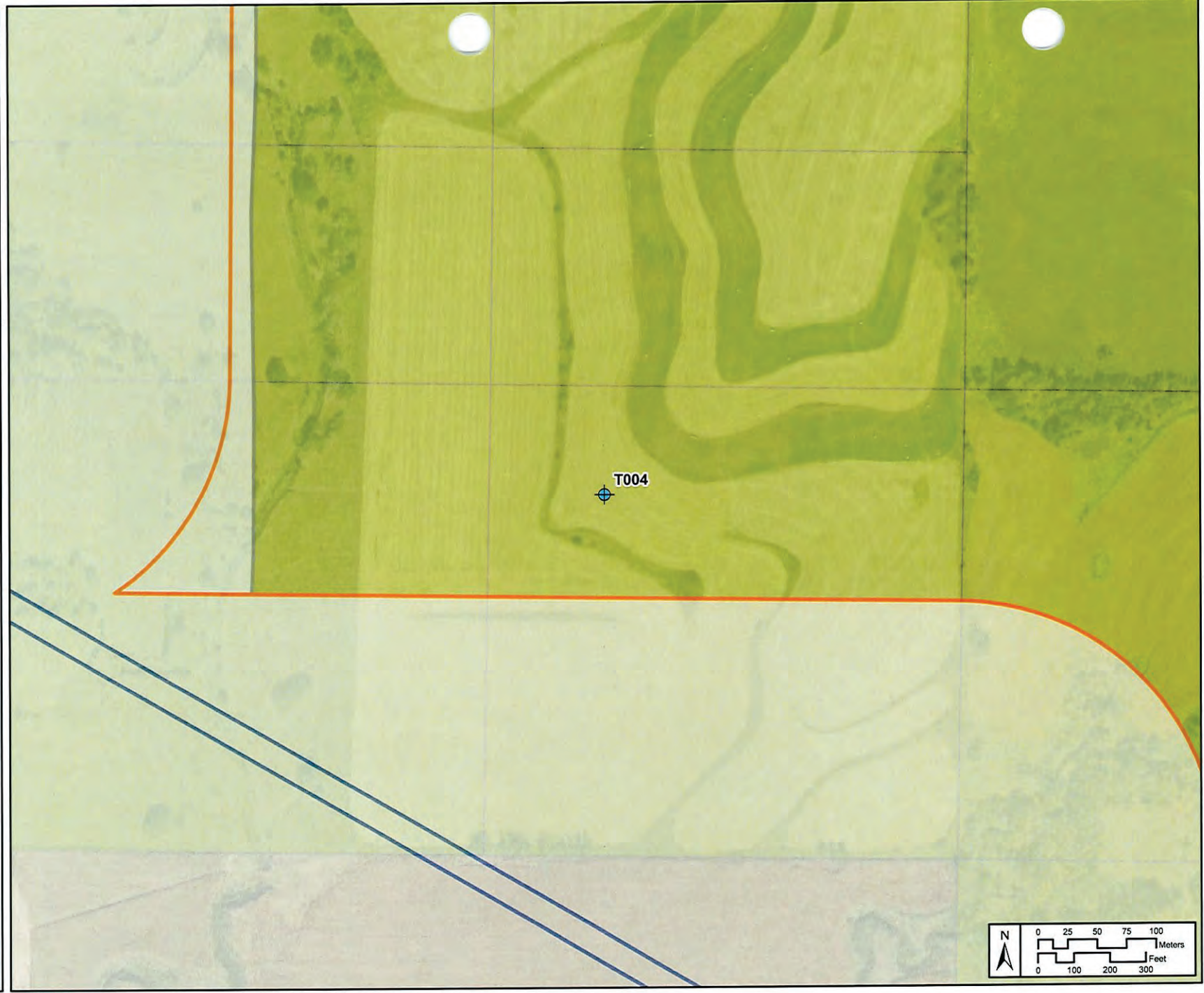
Black Maple Wind Turbine Setbacks: T004

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

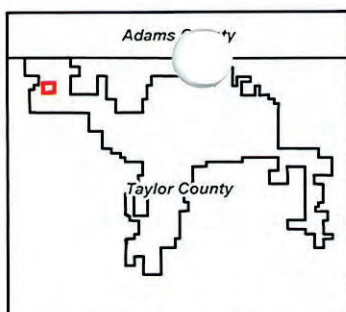
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T004	3,990	3,984	1,007	1,698	1,054	11.42	7.98	5.64



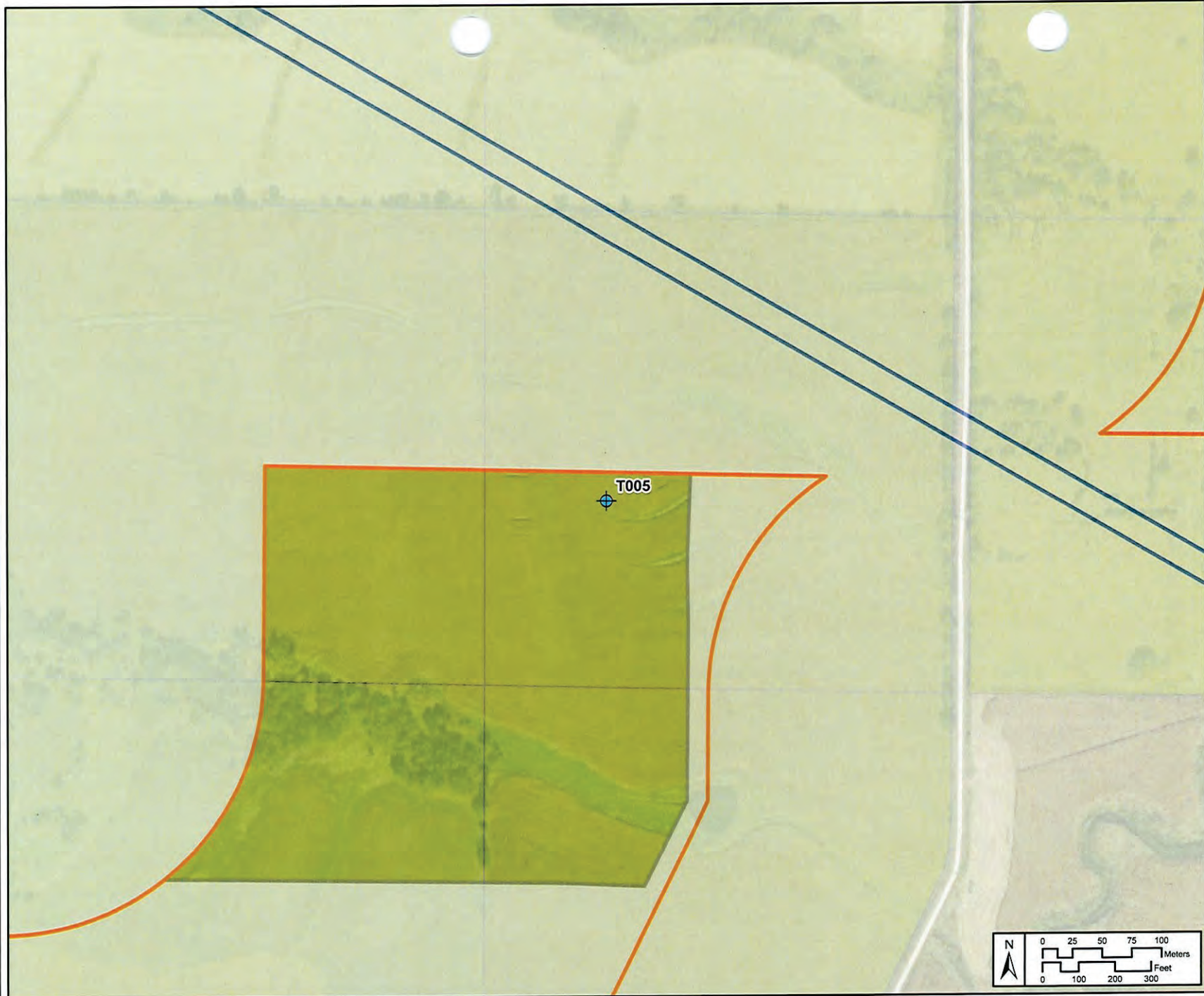
Black Maple Wind Turbine Setbacks: T005

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

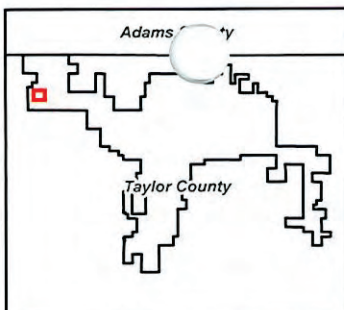
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T005	4,154	6,447	799	950	622	11.65	8.32	5.31



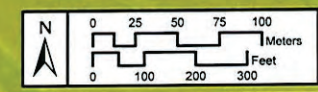
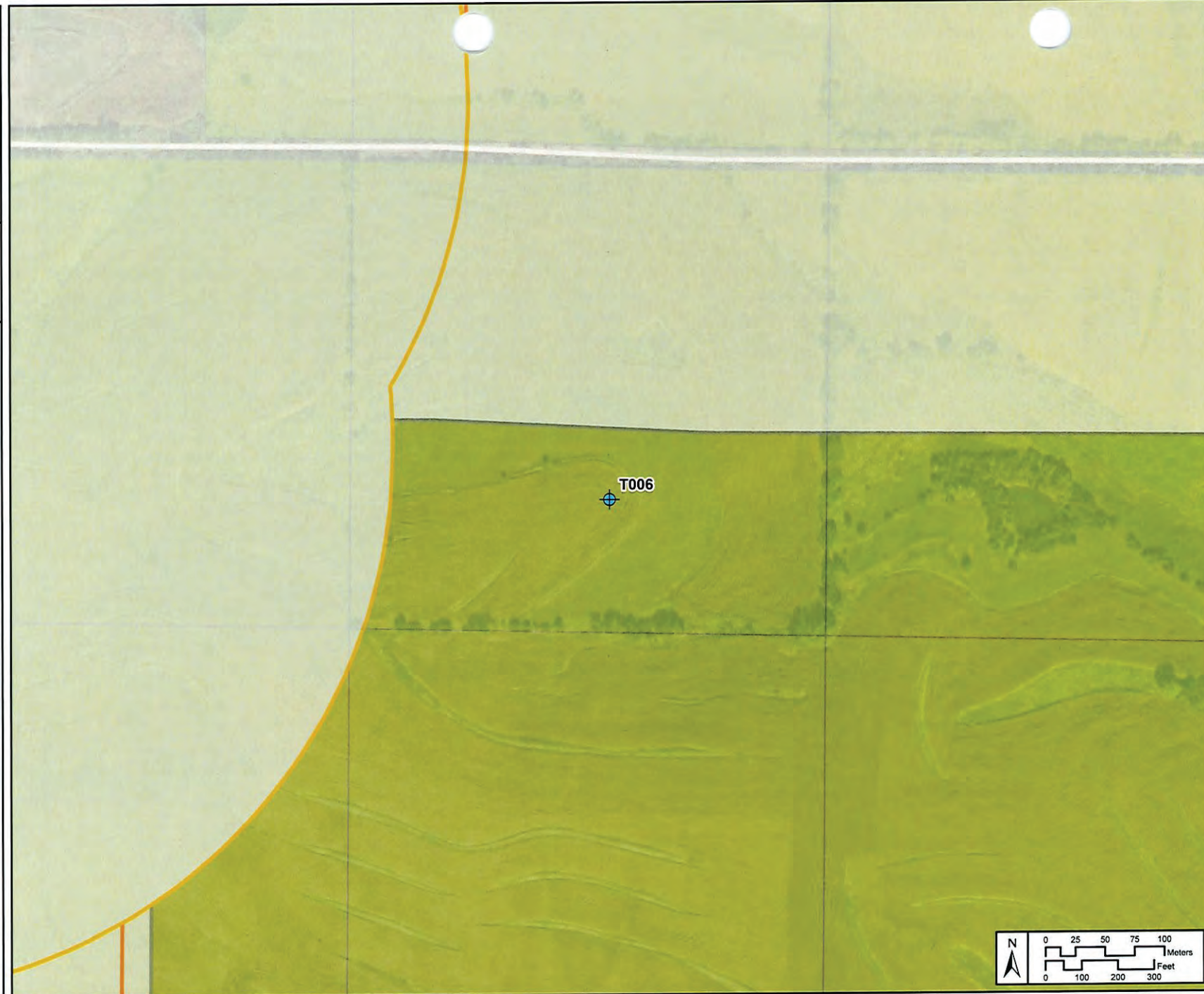
Black Maple Wind Turbine Setbacks: T006

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

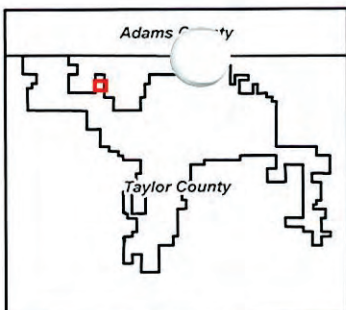
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T006	2,104	4,102	1,501	916	4,130	11.50	8.62	5.41



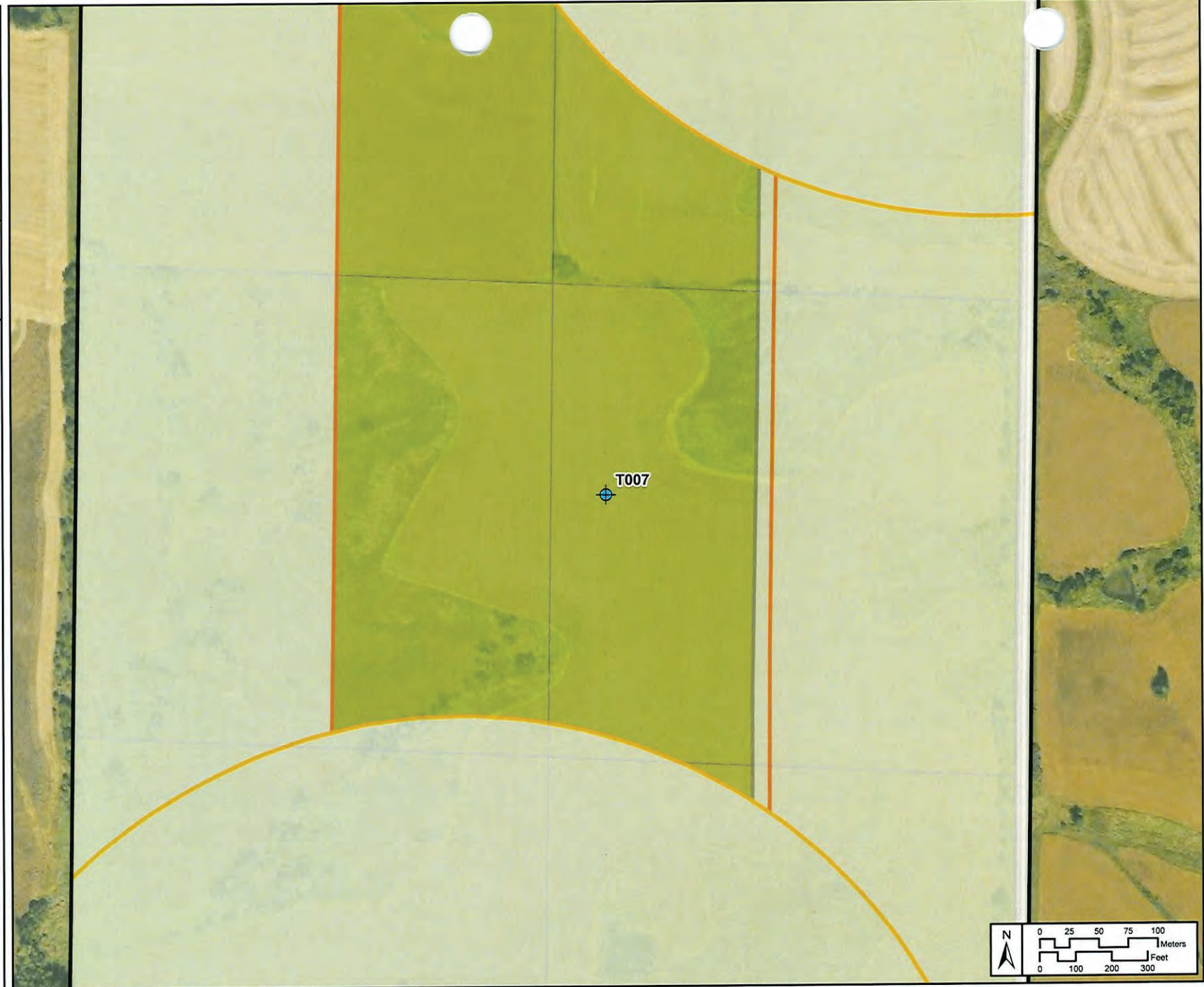
Black Maple Wind Turbine Setbacks: T007

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

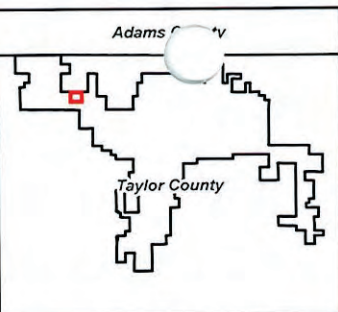
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T007	2,153	3,011	1,183	1,138	6,485	10.16	7.20	7.21



Black Maple Wind Turbine Setbacks: T008

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

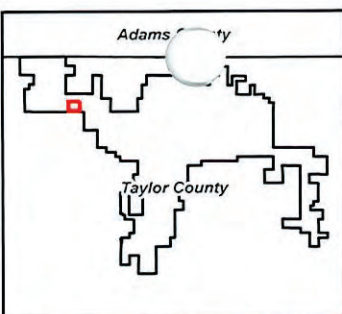
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T008	4,731	4,329	835	784	1,589	9.97	8.08	7.12



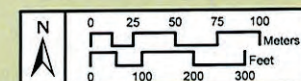
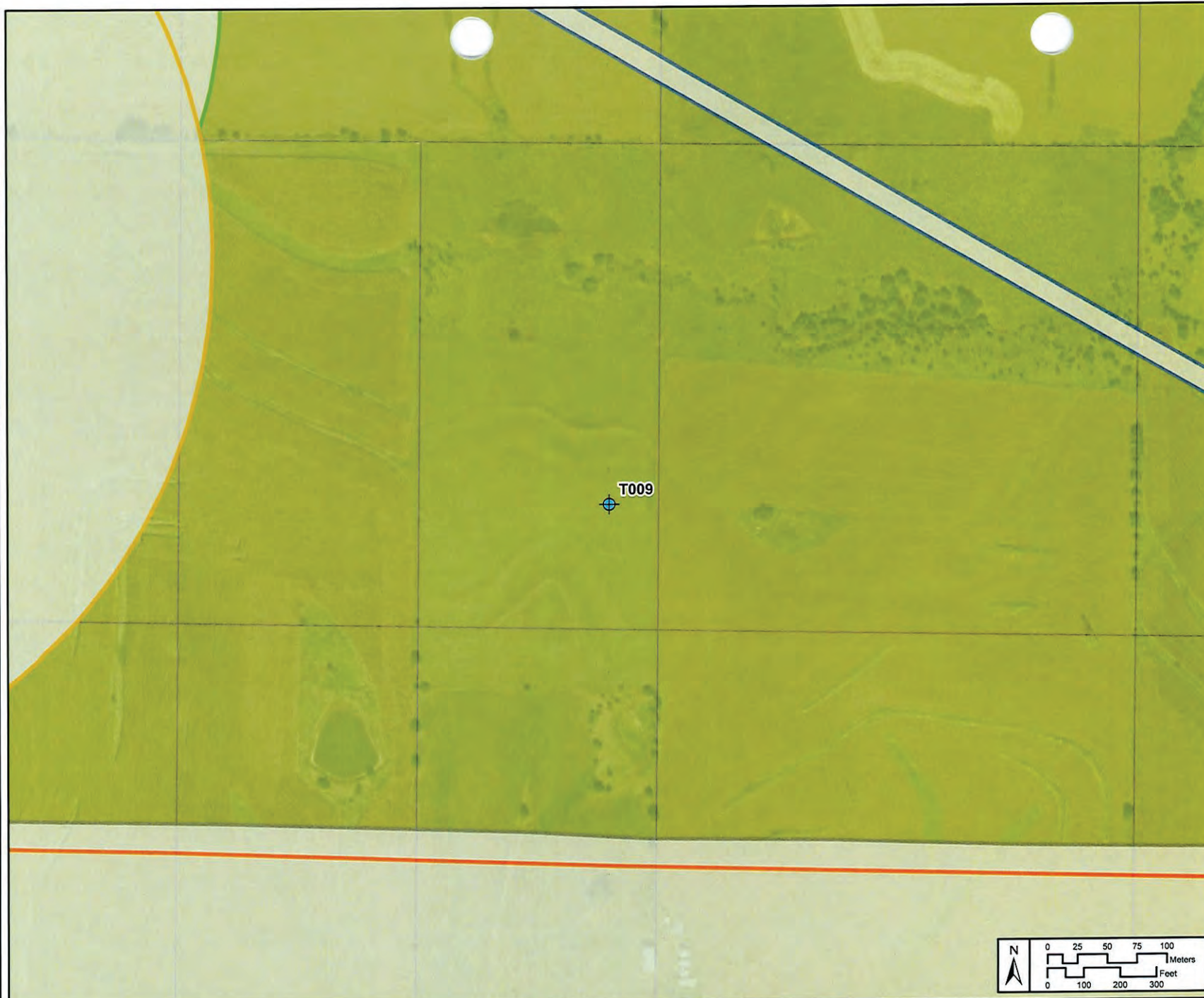
Black Maple Wind Turbine Setbacks: T009

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)
-  Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

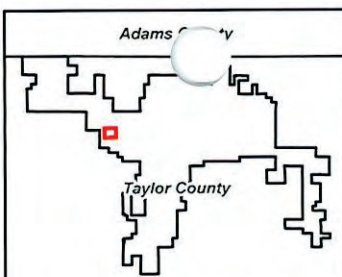
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T009	2,677	2,717	1,715	1,634	1,076	9.83	8.56	6.85



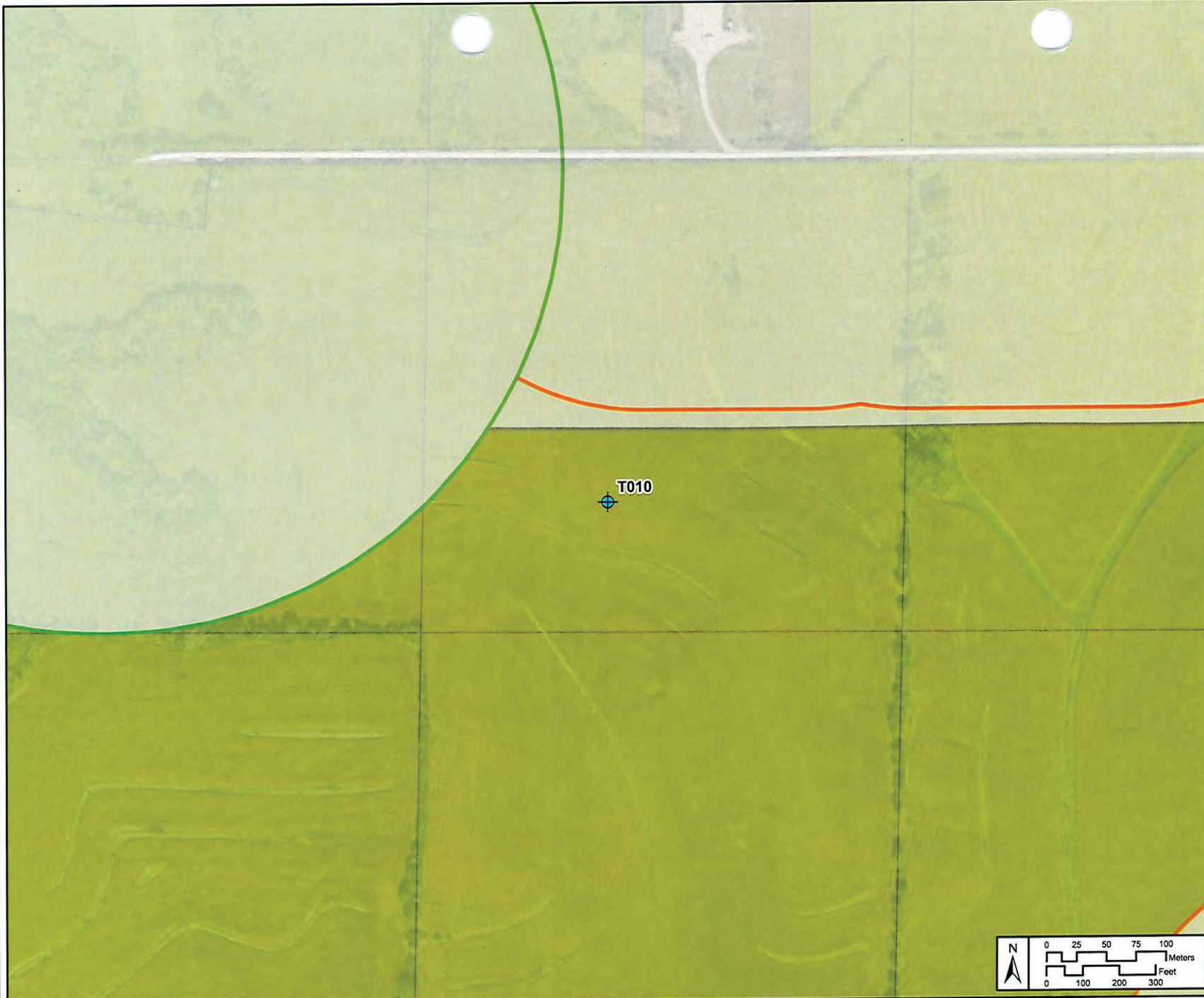
Black Maple Wind Turbine Setbacks: T010

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

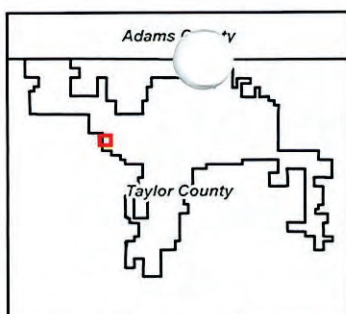
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T010	3,295	1,637	977	920	3,202	7.61	8.35	5.04



Black Maple Wind Turbine Setbacks: T011

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

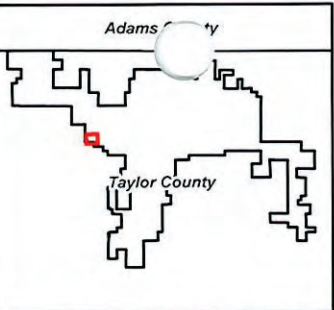
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T011	3,161	2,323	877	1,534	5,428	7.59	7.94	4.83



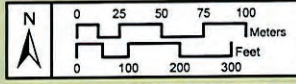
**Black Maple Wind
Turbine Setbacks:
T012**

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

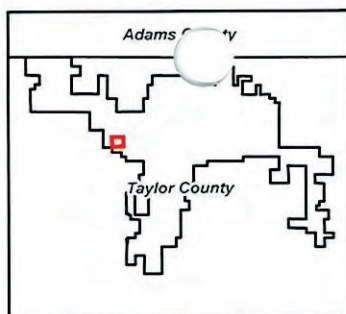
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T012	1,673	4,326	839	799	5,103	7.13	7.68	4.40



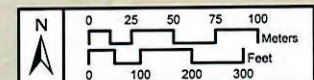
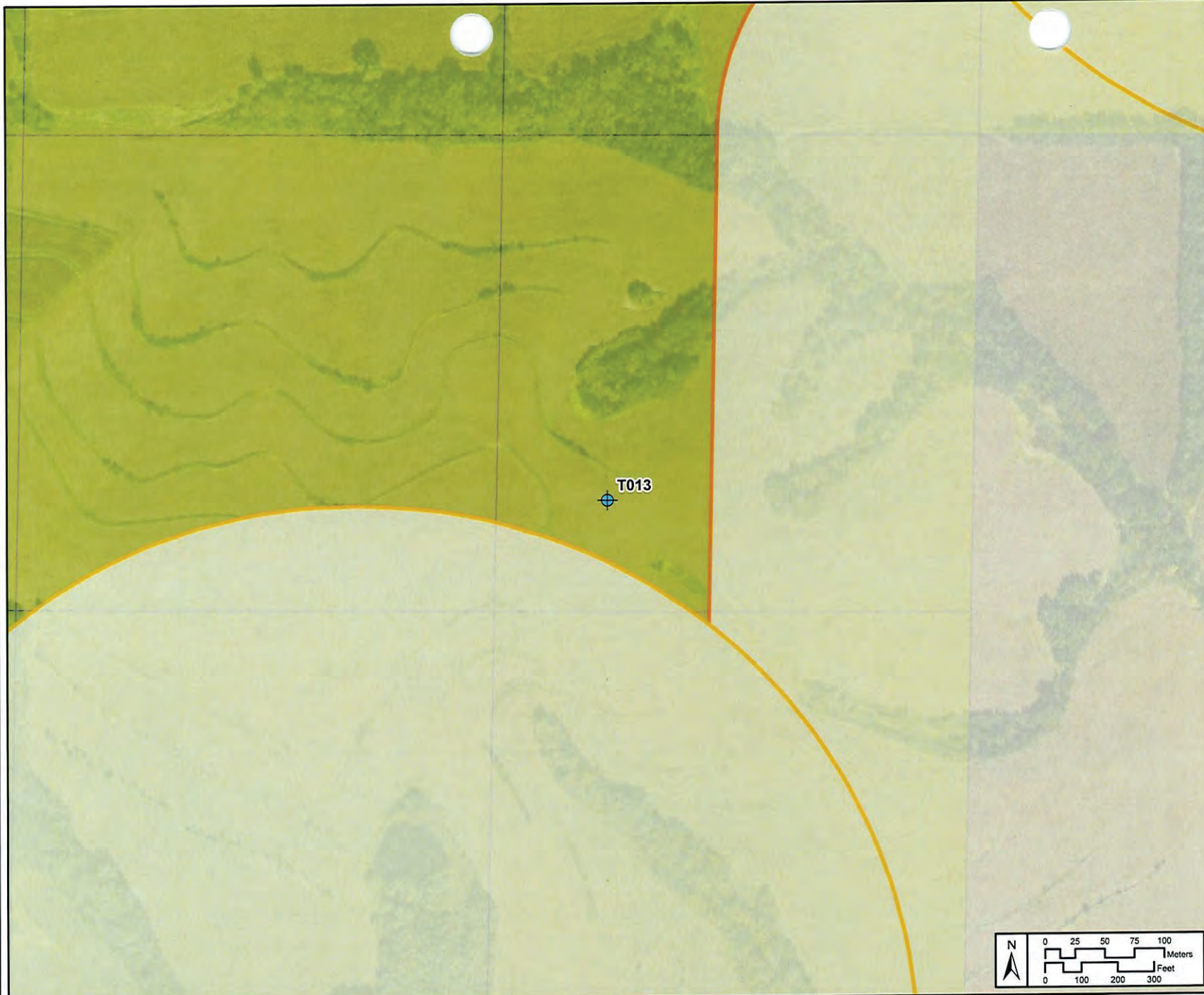
Black Maple Wind Turbine Setbacks: T013

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

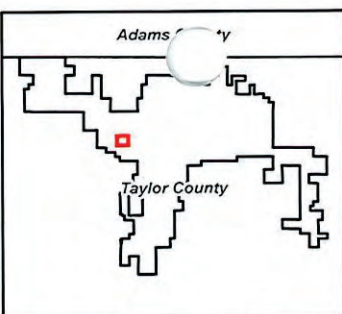
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T013	1,654	4,327	1,007	1,738	2,802	7.06	8.01	4.54



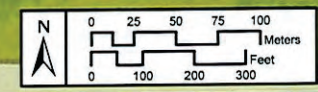
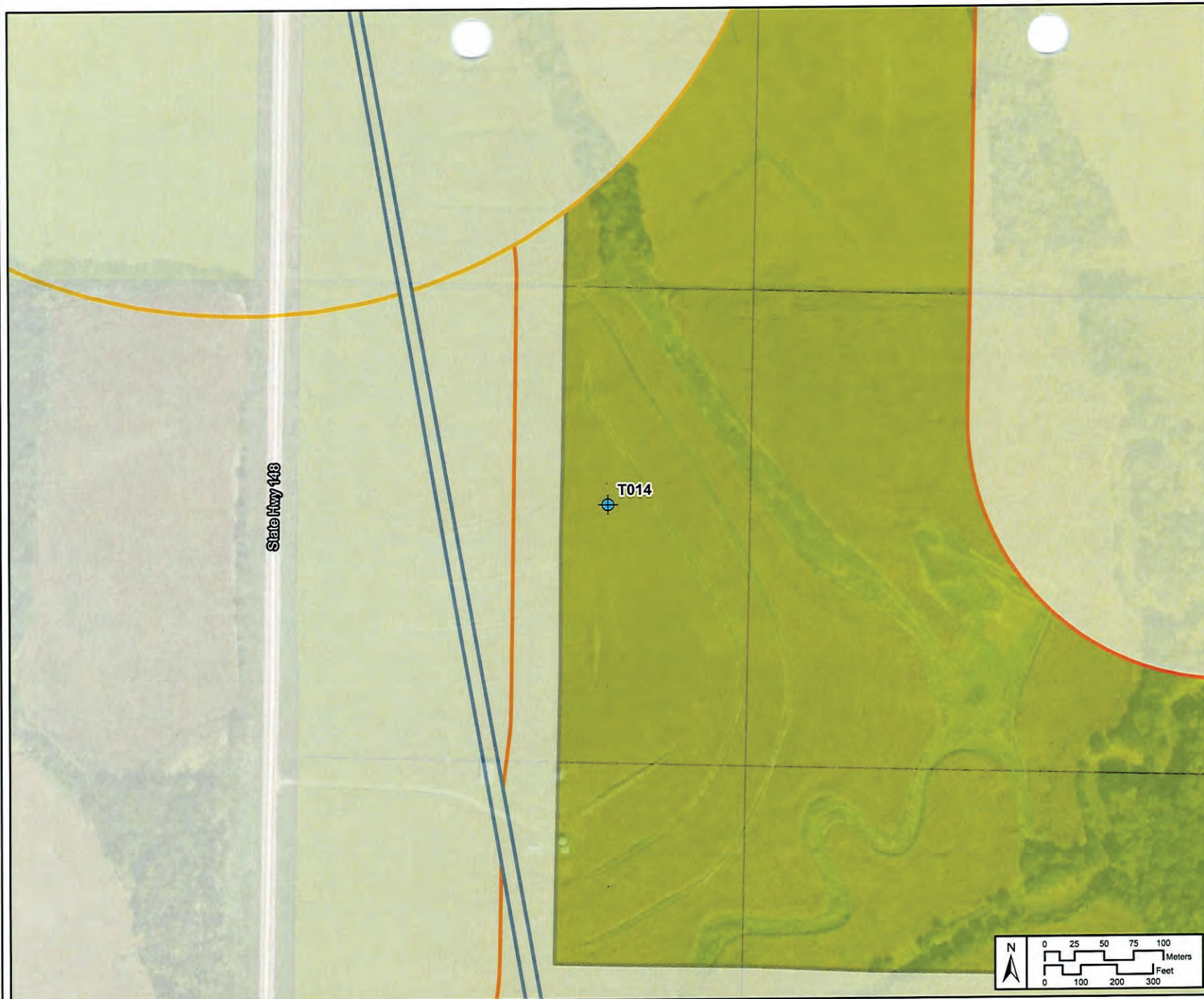
Black Maple Wind Turbine Setbacks: T014

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)
-  Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

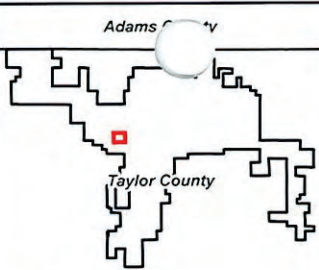
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T014	2,256	4,681	982	849	427	6.87	8.13	4.62



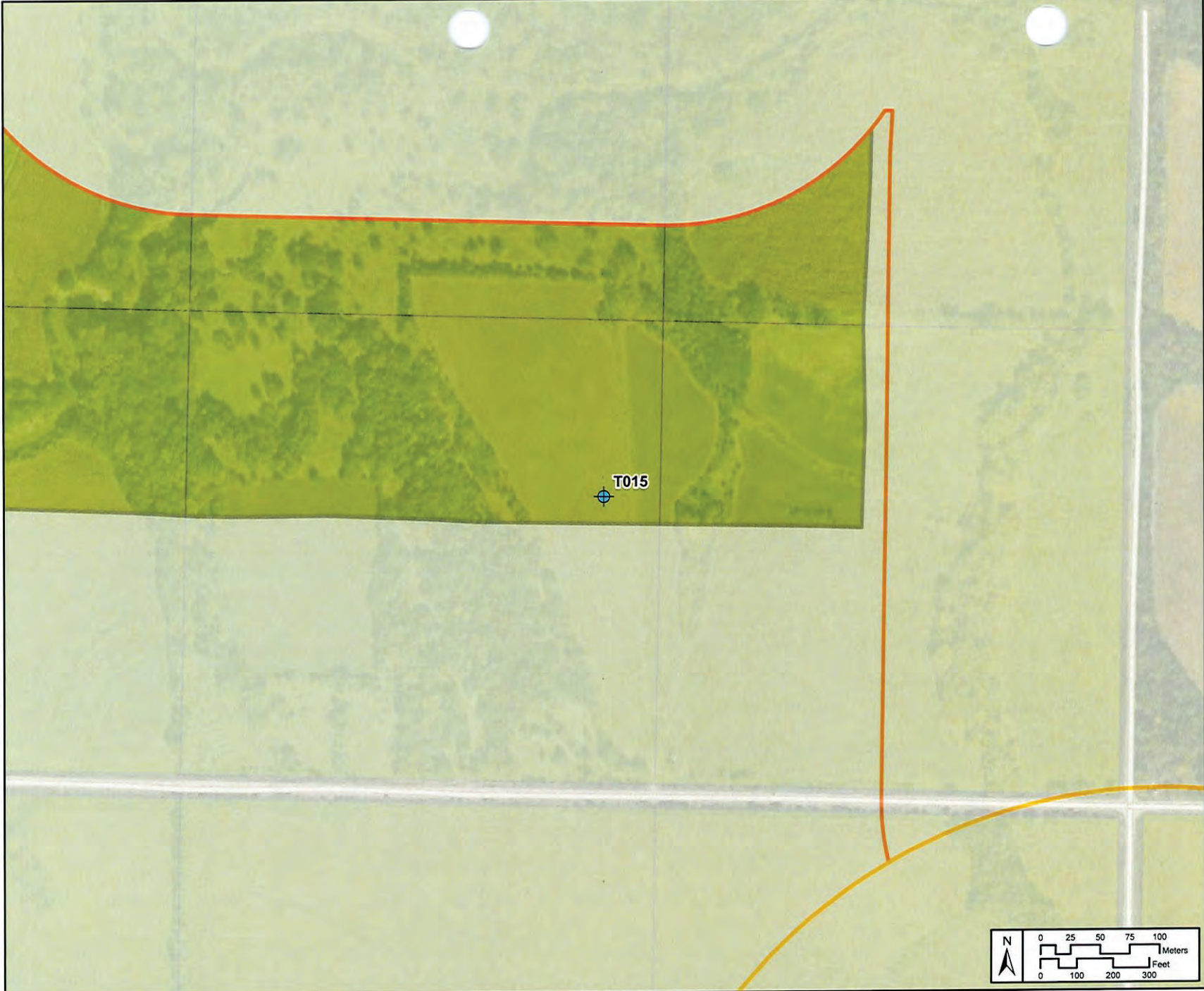
Black Maple Wind Turbine Setbacks: T015

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

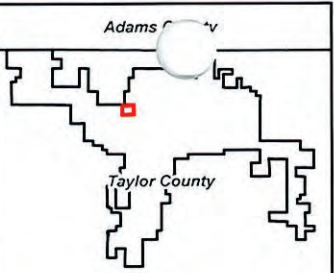
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T015	2,776	2,945	1,470	795	2,993	6.46	7.61	4.34



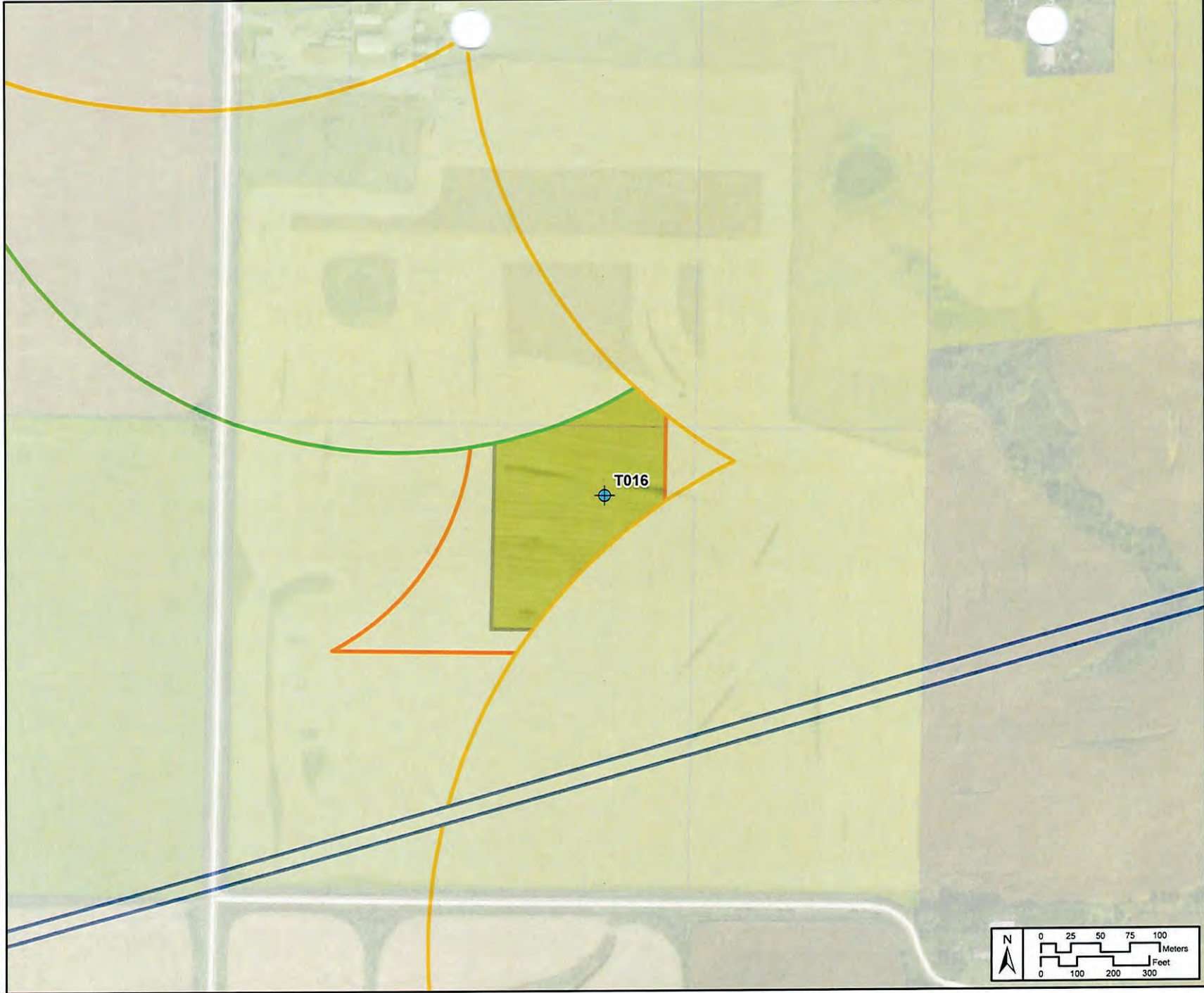
Black Maple Wind Turbine Setbacks: T016

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

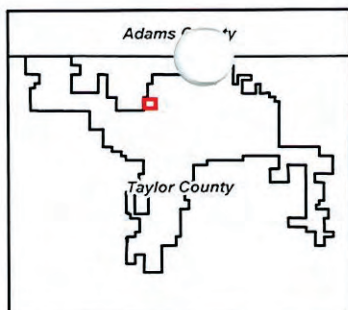
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T016	1,613	1,478	888	1,028	707	7.83	8.66	4.75



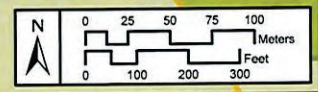
Black Maple Wind Turbine Setbacks: T017

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

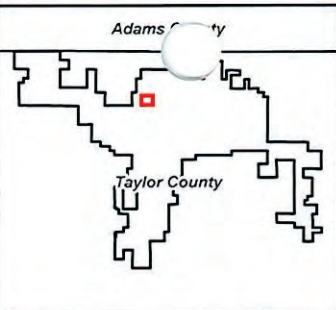
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T017	2,112	1,899	1,932	1,940	3,851	8.46	8.17	5.11



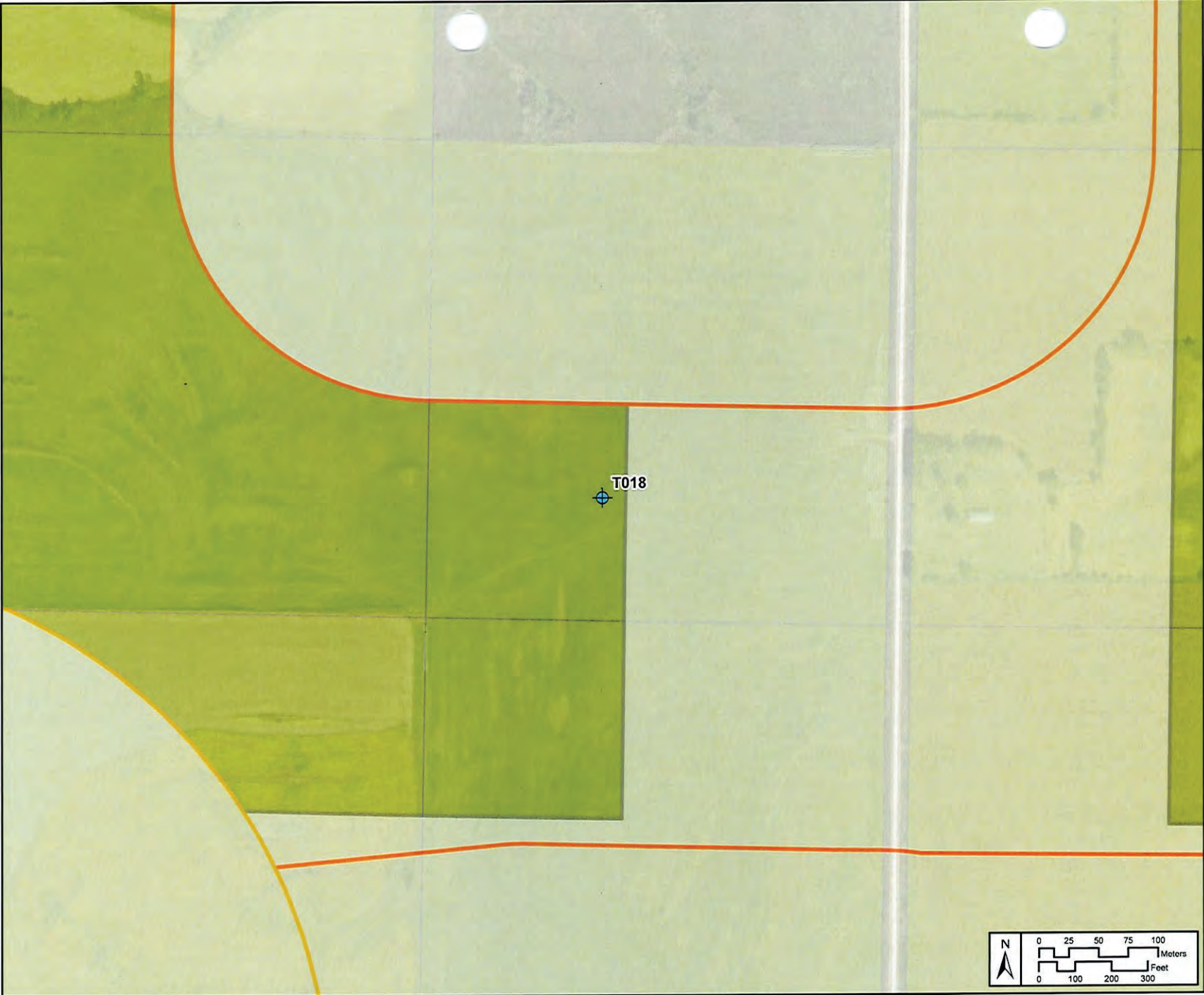
**Black Maple Wind
Turbine Setbacks:
T018**

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

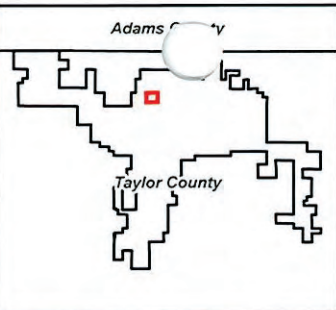
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T018	2,805	2,964	979	785	2,770	8.31	8.33	4.75



Black Maple Wind Turbine Setbacks: T019

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

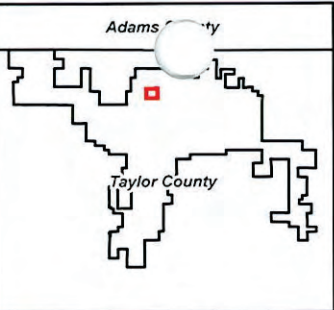
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T019	4,278	4,223	916	838	3,107	8.03	8.24	4.70



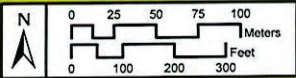
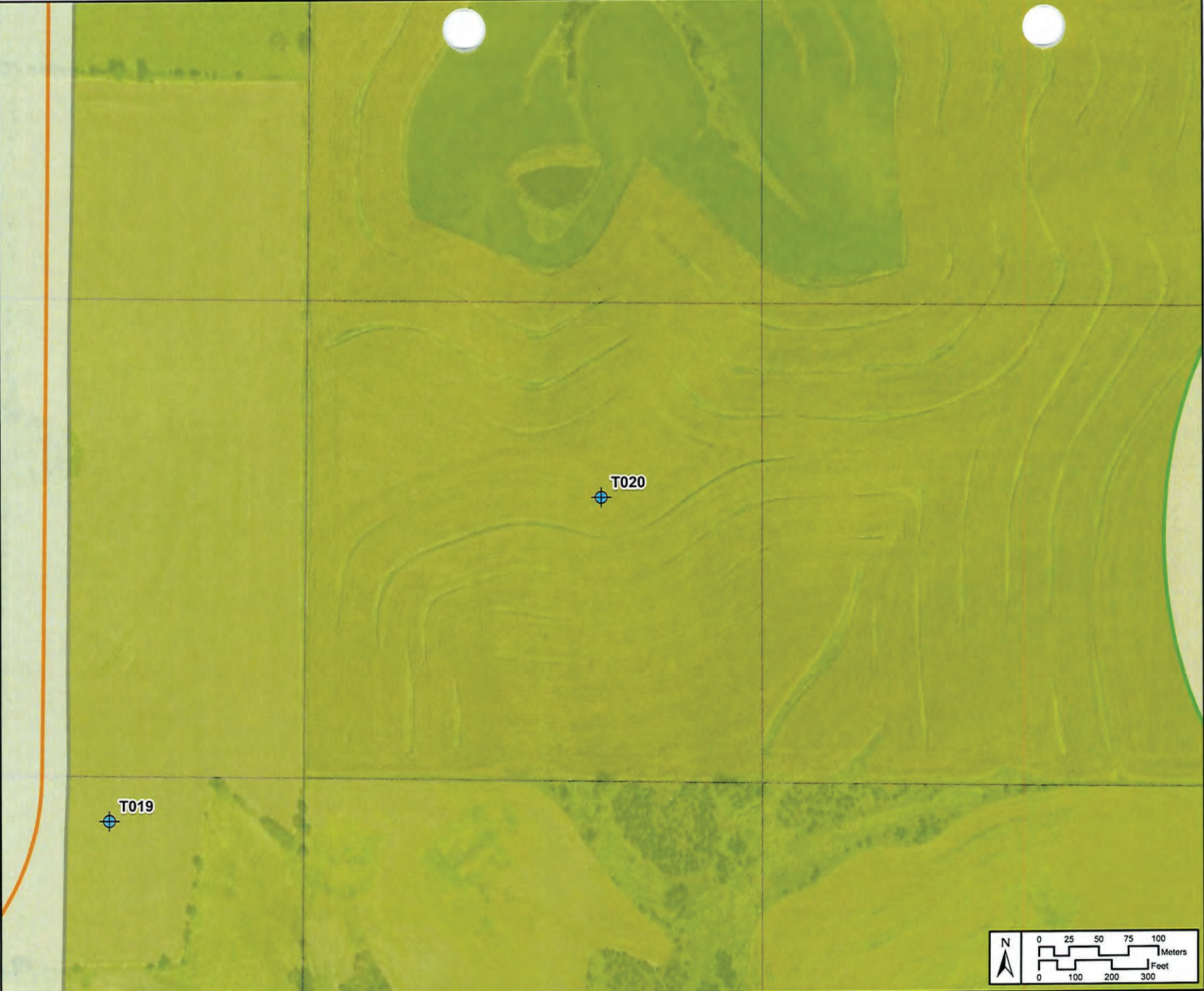
Black Maple Wind Turbine Setbacks: T020

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

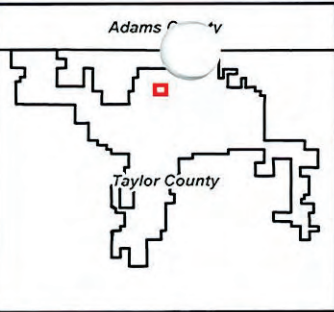
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T020	3,893	2,801	2,254	2,187	3,595	7.82	8.14	4.71



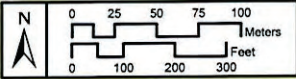
Black Maple Wind Turbine Setbacks: T021

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

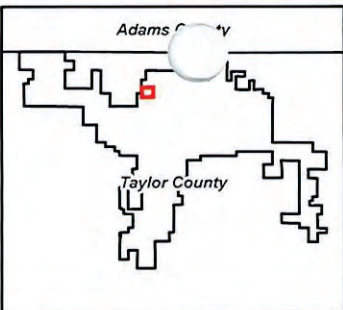
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T021	4,168	1,439	2,117	1,051	4,038	7.53	8.06	4.72



Black Maple Wind Turbine Setbacks: T022

 Turbine*

 Project Area

 Participating Parcel

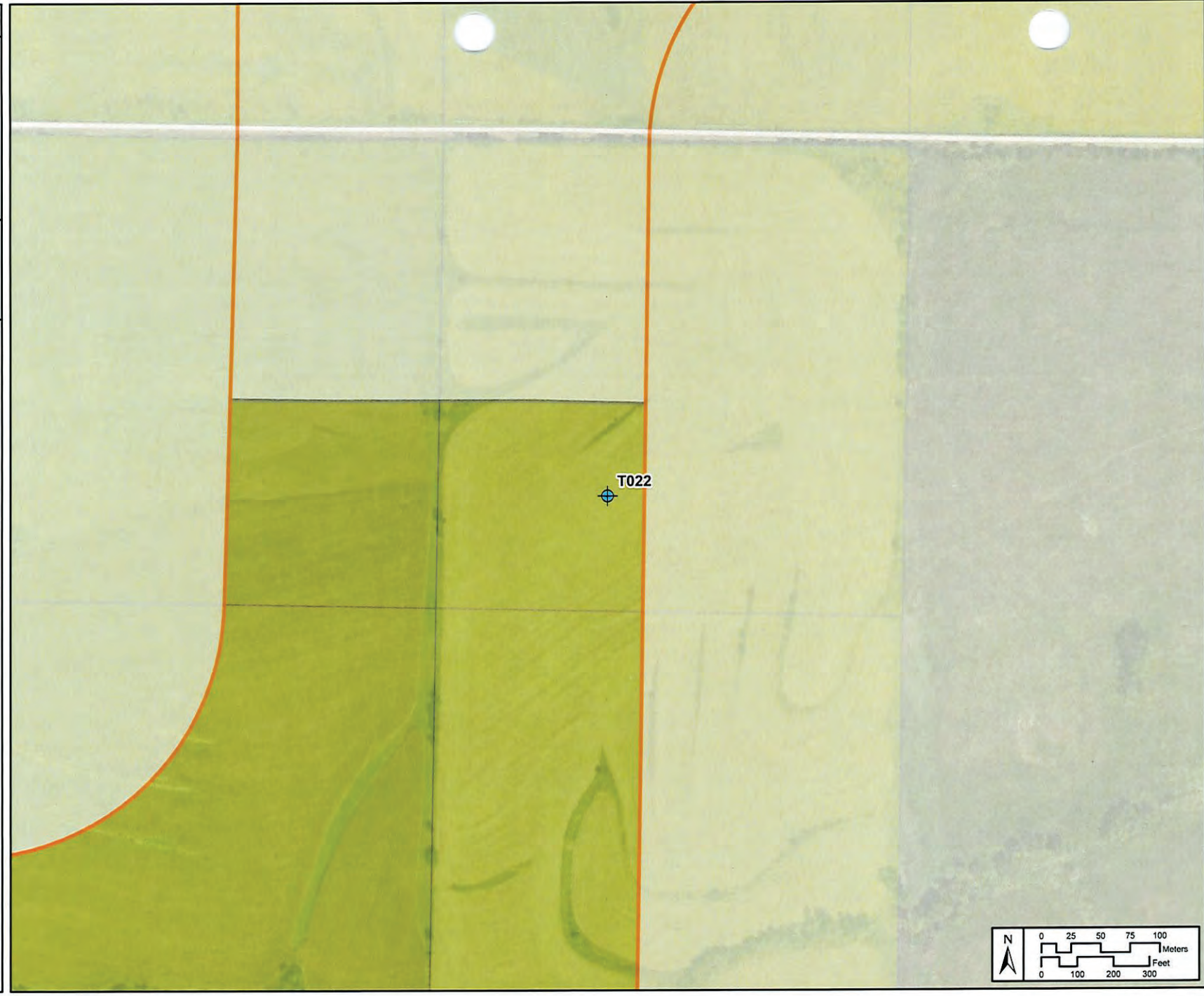
 Nonparticipating Property Lines (setback is 721 feet)

 Road Public Right-of-Way (setback is 721 feet)

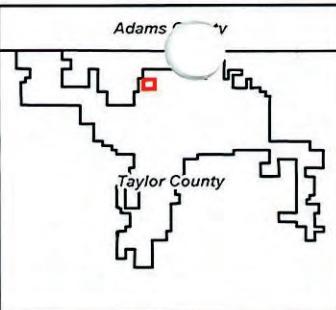
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T022	3,763	4,305	823	980	5,652	8.66	7.79	5.30



Black Maple Wind Turbine Setbacks: T023

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

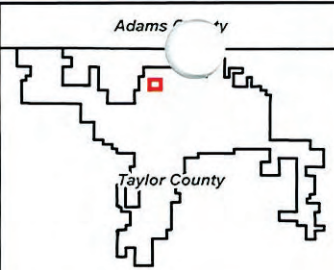
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T023	4,249	5,589	846	784	7,026	8.51	7.50	5.44



Black Maple Wind Turbine Setbacks: T024

-  Turbine*
-  Project Area
-  Participating Parcel
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

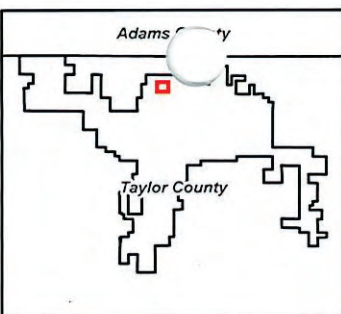
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T024	5,796	4,765	907	774	6,061	8.19	7.68	5.20



Black Maple Wind Turbine Setbacks: T025

 Turbine*

 Project Area

 Participating Parcel

 Road Public Right-of-Way
(setback is 721 feet)

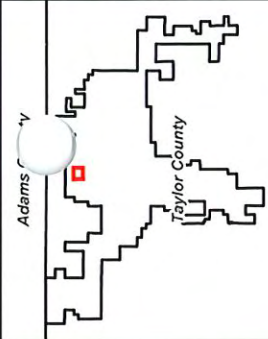
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T025	3,823	4,187	2,947	2,255	7,066	8.00	7.48	5.31



Black Maple Wind Turbine Setbacks: T026

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Road Public Right-of-Way (setback is 721 feet)

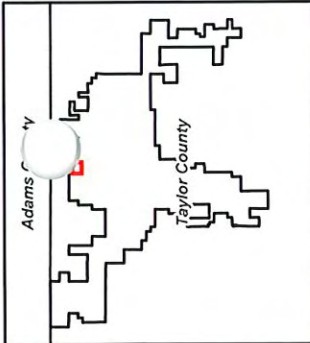
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T026	3,467	2,408	3,335	775	6,339	7.63	7.64	5.13



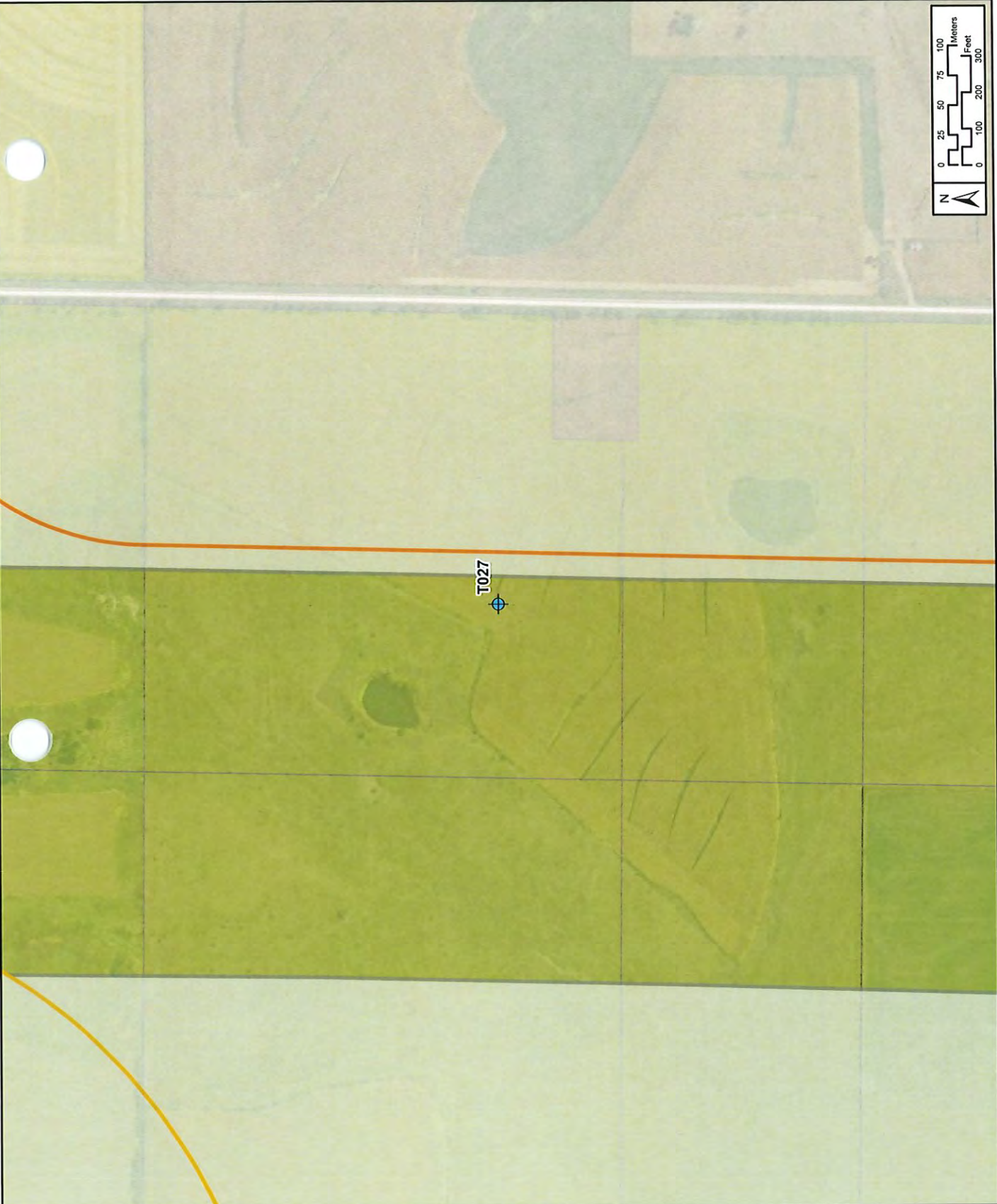
Black Maple Wind Turbine Setbacks: T027

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

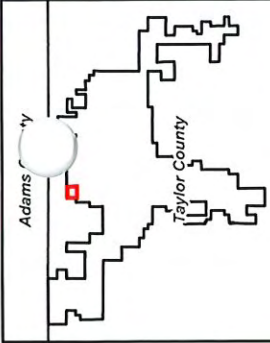
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T027	3,135	3,135	864	797	6,901	7.26	7.59	5.21



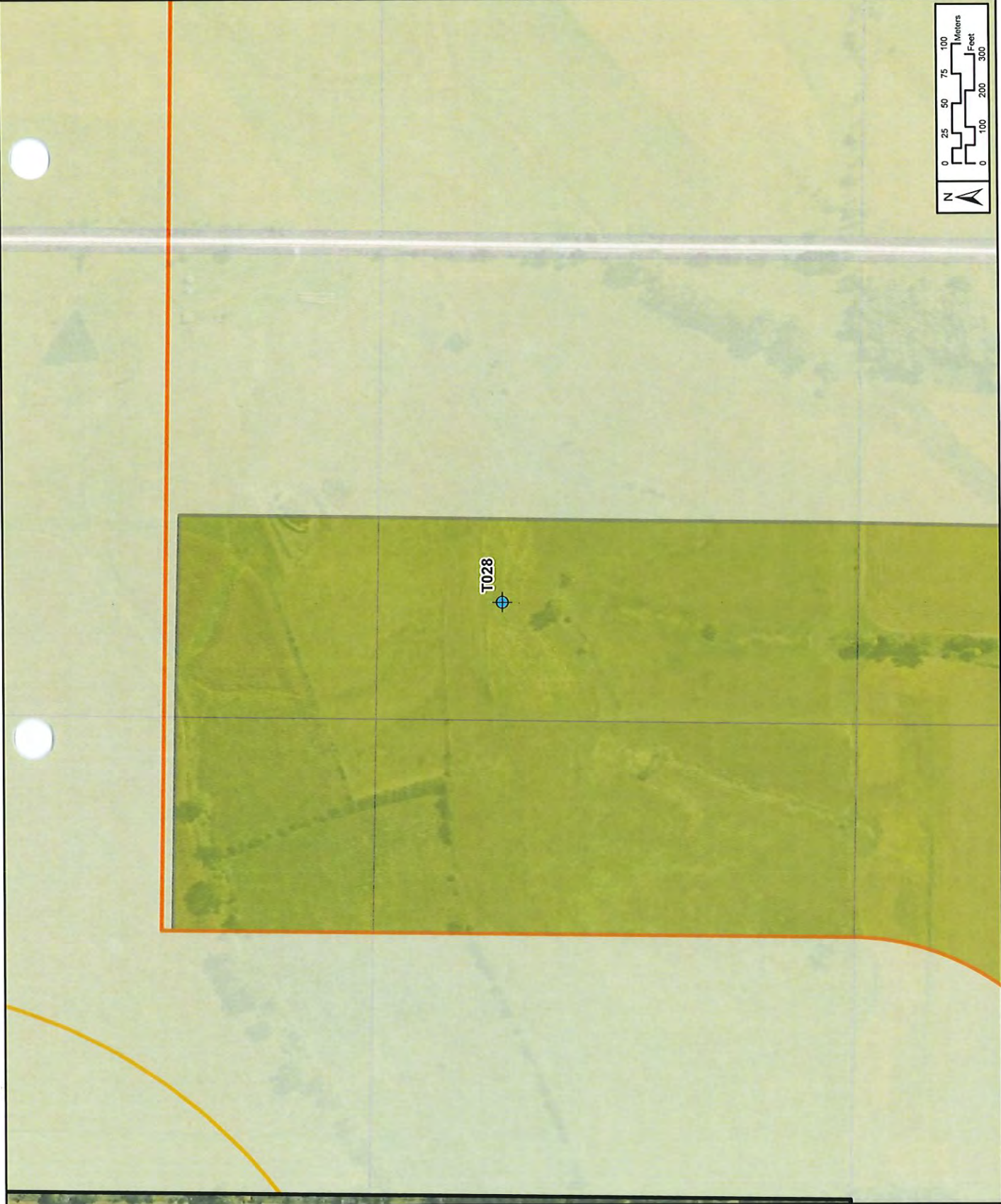
Black Maple Wind Turbine Setbacks: T028

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

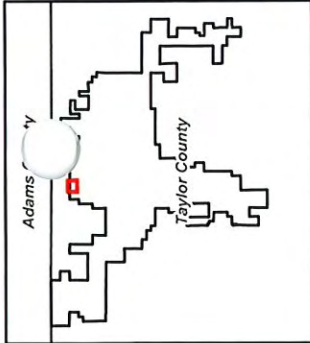
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T028	3,117	4,940	1,631	950	9,289	8.70	6.98	5.31



Black Maple Wind Turbine Setbacks: T029

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T029	2,554	6,583	821	806	9,901	8.37	6.95	5.85



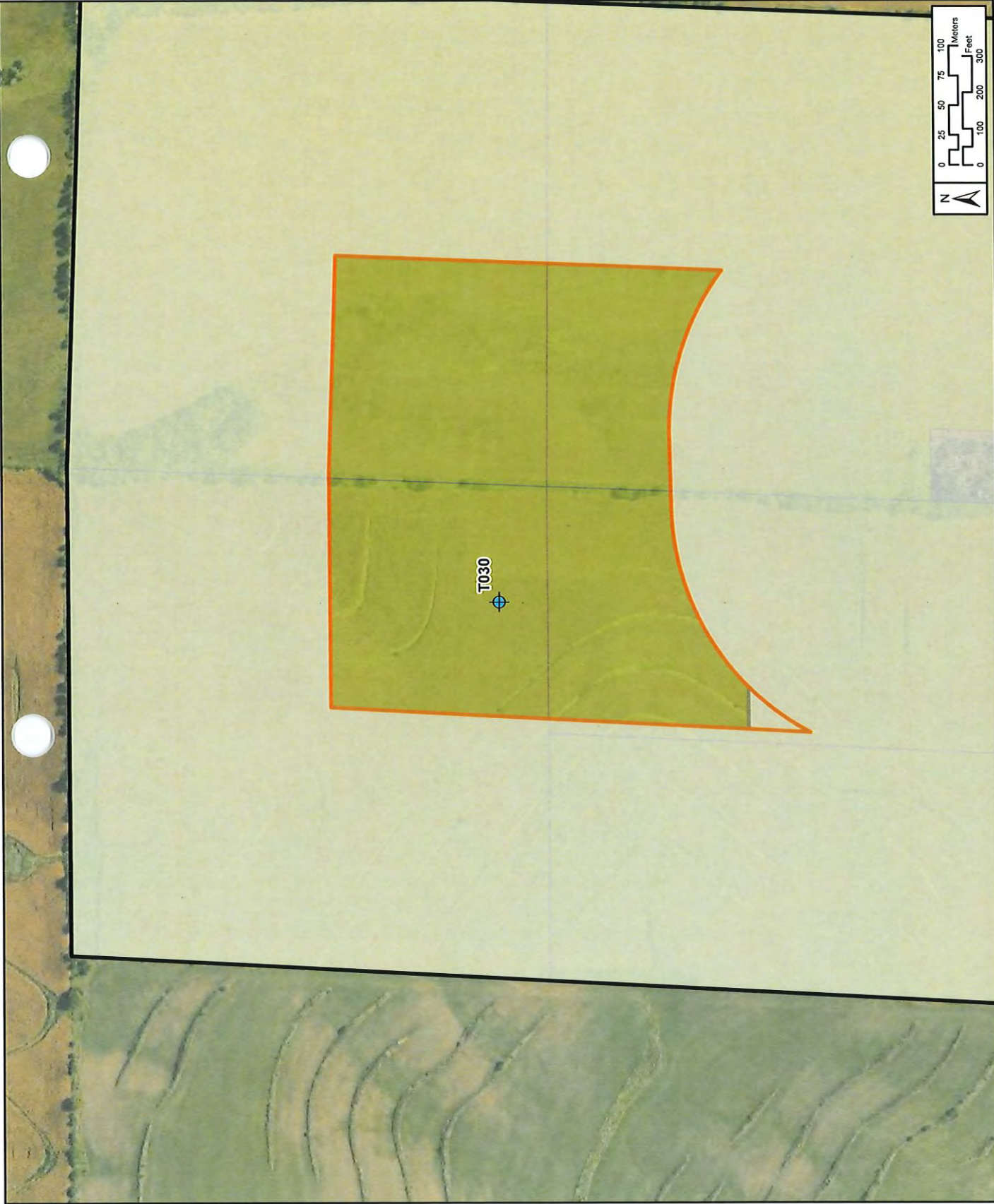
Black Maple Wind Turbine Setbacks: T030

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

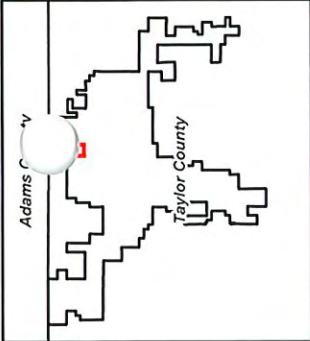
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T030	6,531	1,034	1,405	9,594	7.02	6.78	4.62



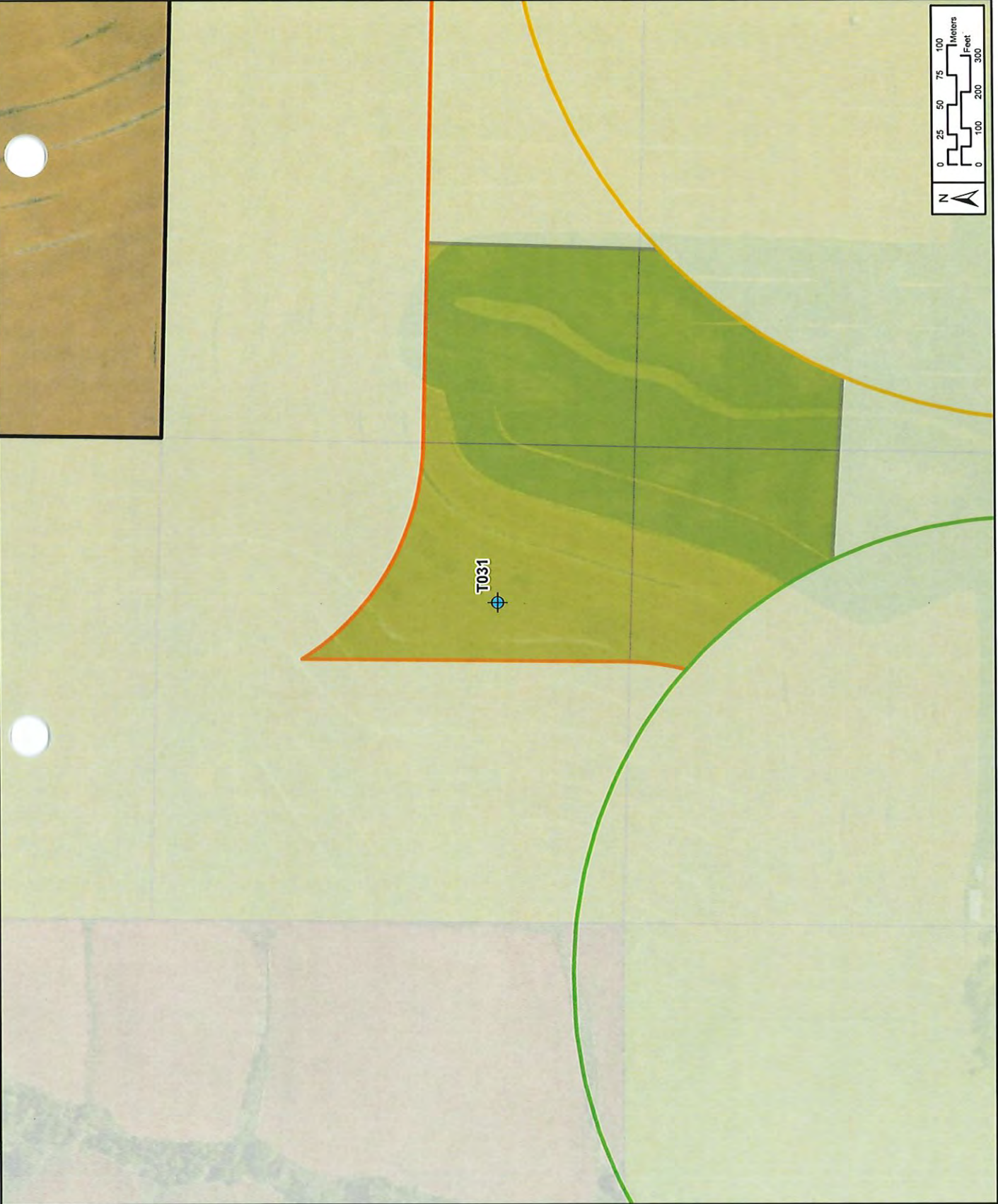
Black Maple Wind Turbine Setbacks: T031

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

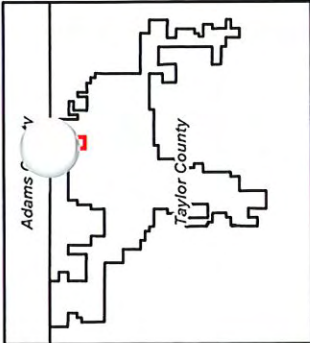
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T031	2,526	1,774	881	1,641	4,406	6.38	7.45	4.40



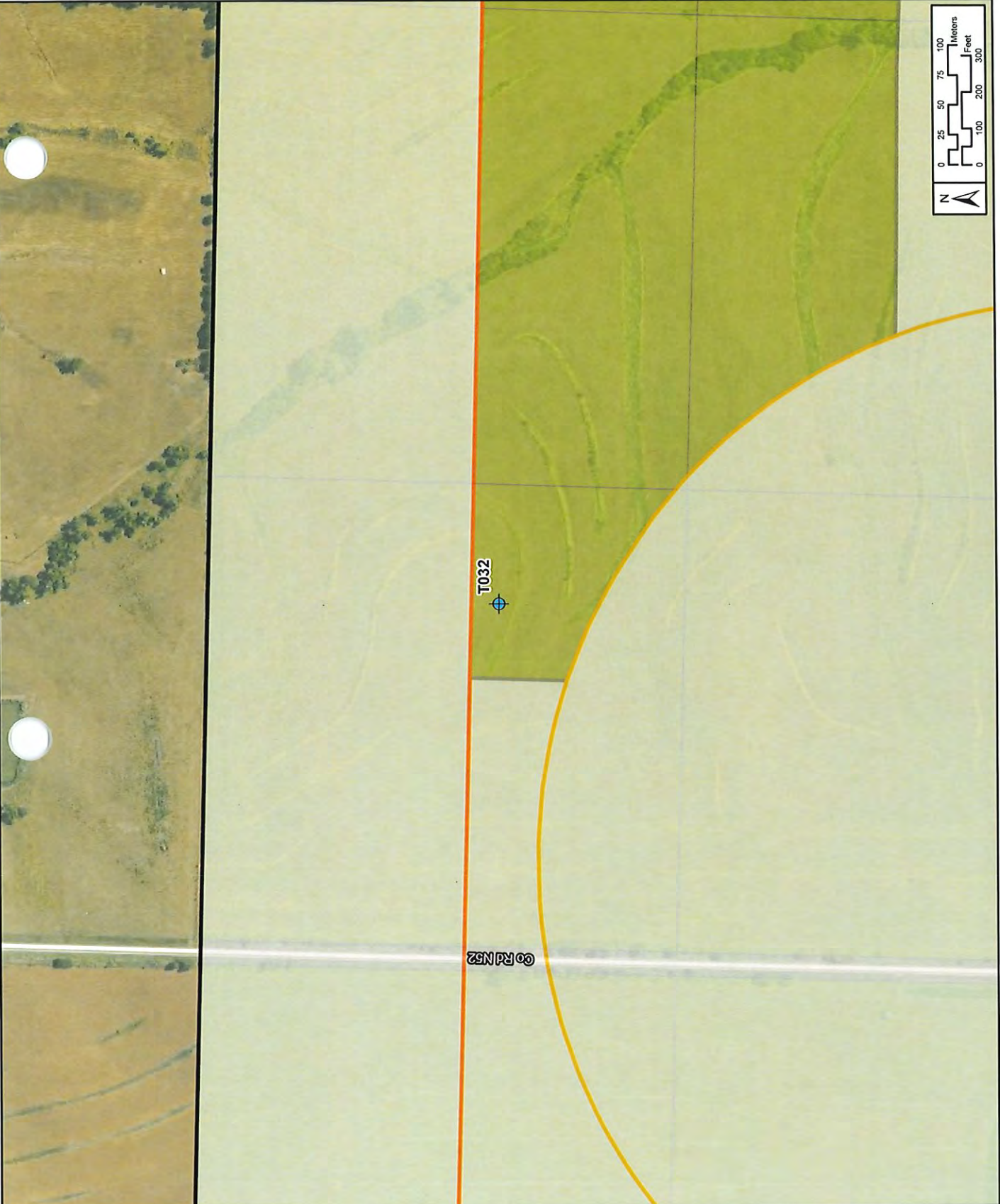
Black Maple Wind Turbine Setbacks: T032

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

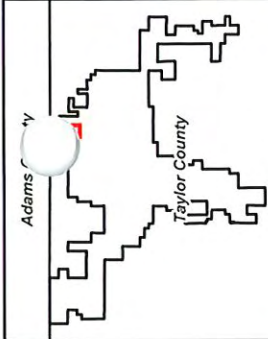
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T032	1,751	2,165	794	927	3,734	5.92	7.18	3.88



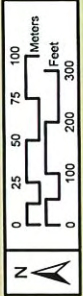
Black Maple Wind Turbine Setbacks: T033

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

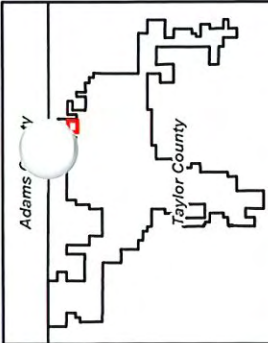
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T033	3,053	2,163	886	1,982	4,295	5.61	6.74	3.39



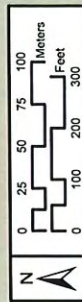
Black Maple Wind Turbine Setbacks: T034

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

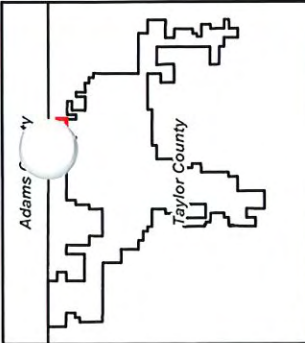
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T034	2,384	2,405	1,305	1,581	3,966	5.28	6.52	2.97



Black Maple Wind Turbine Setbacks: T035

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

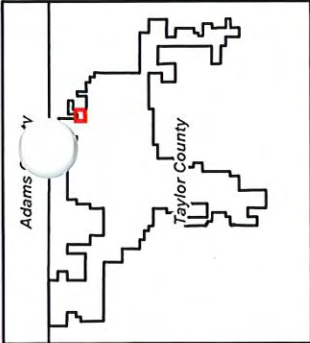
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to turbine (miles)
T035	2,180	5,500	1,017	1,437	6,780	5.54	5.94	2.86



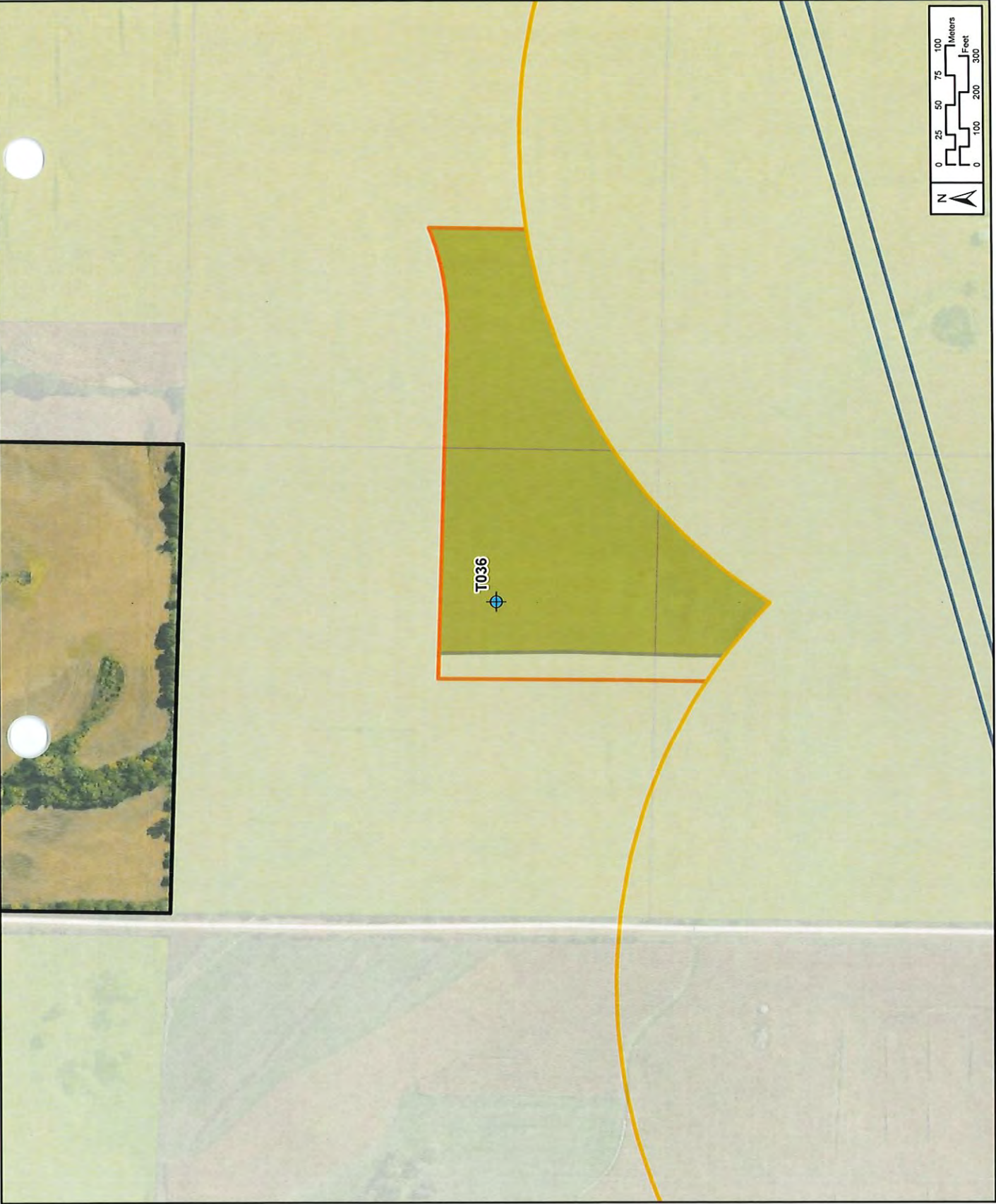
Black Maple Wind Turbine Setbacks: T036

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

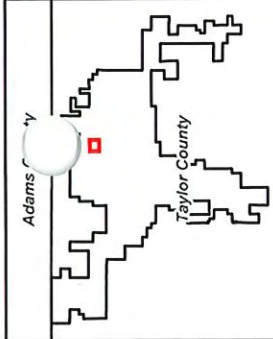
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T036	2,010	4,045	872	861	1,212	4.60	6.69	2.42



Black Maple Wind Turbine Setbacks: T037

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

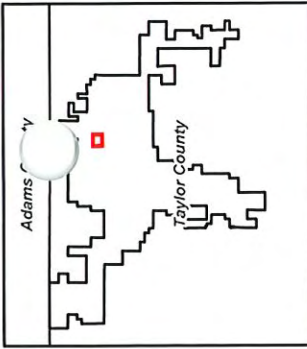
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T037	2,229	1,823	851	789	836	5.99	7.94	4.13



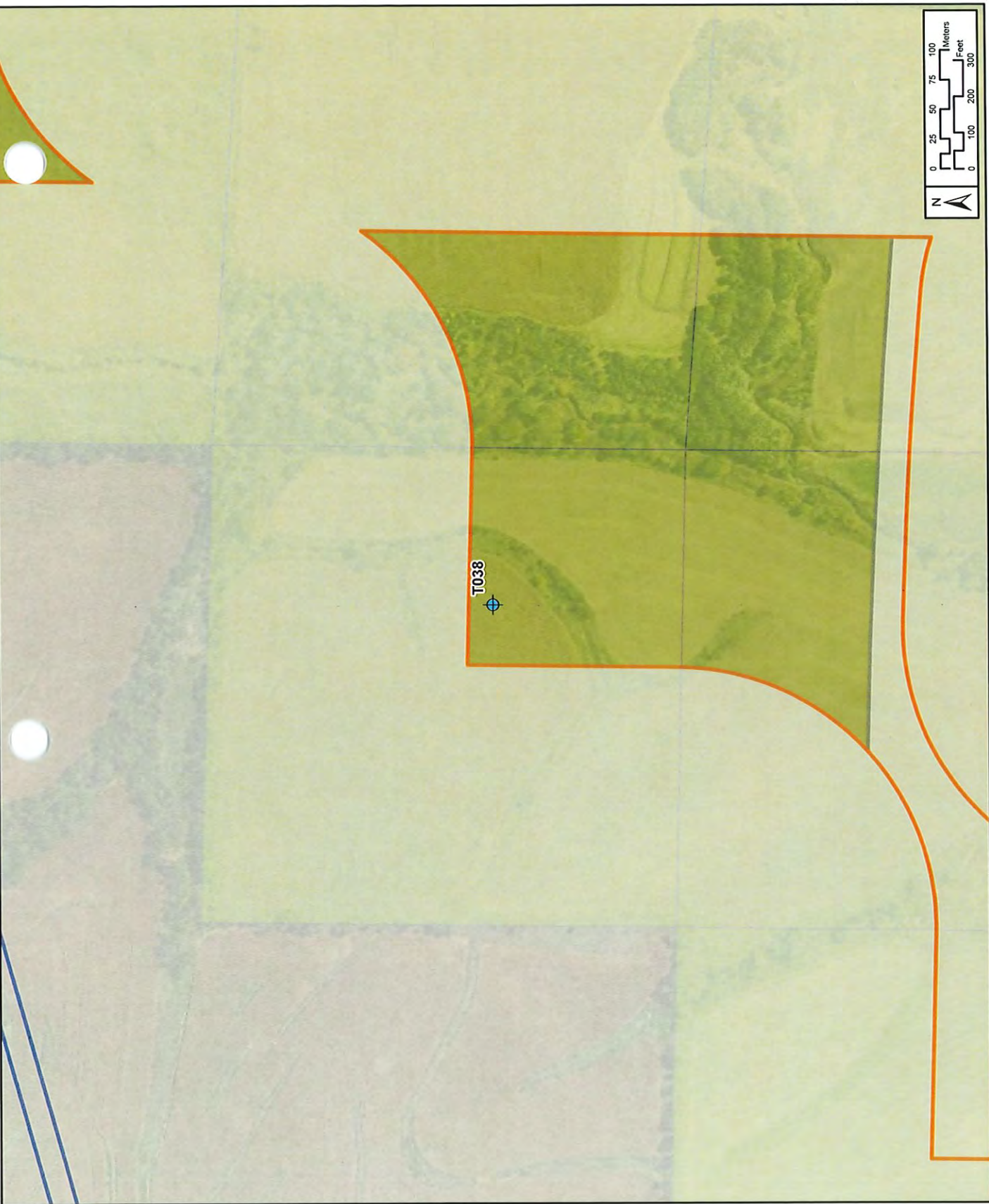
Black Maple Wind Turbine Setbacks: T038

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

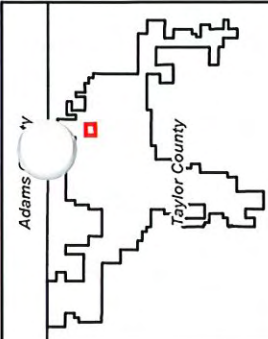
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T038	3,921	3,665	788	1,766	1,563	5.35	7.99	3.79



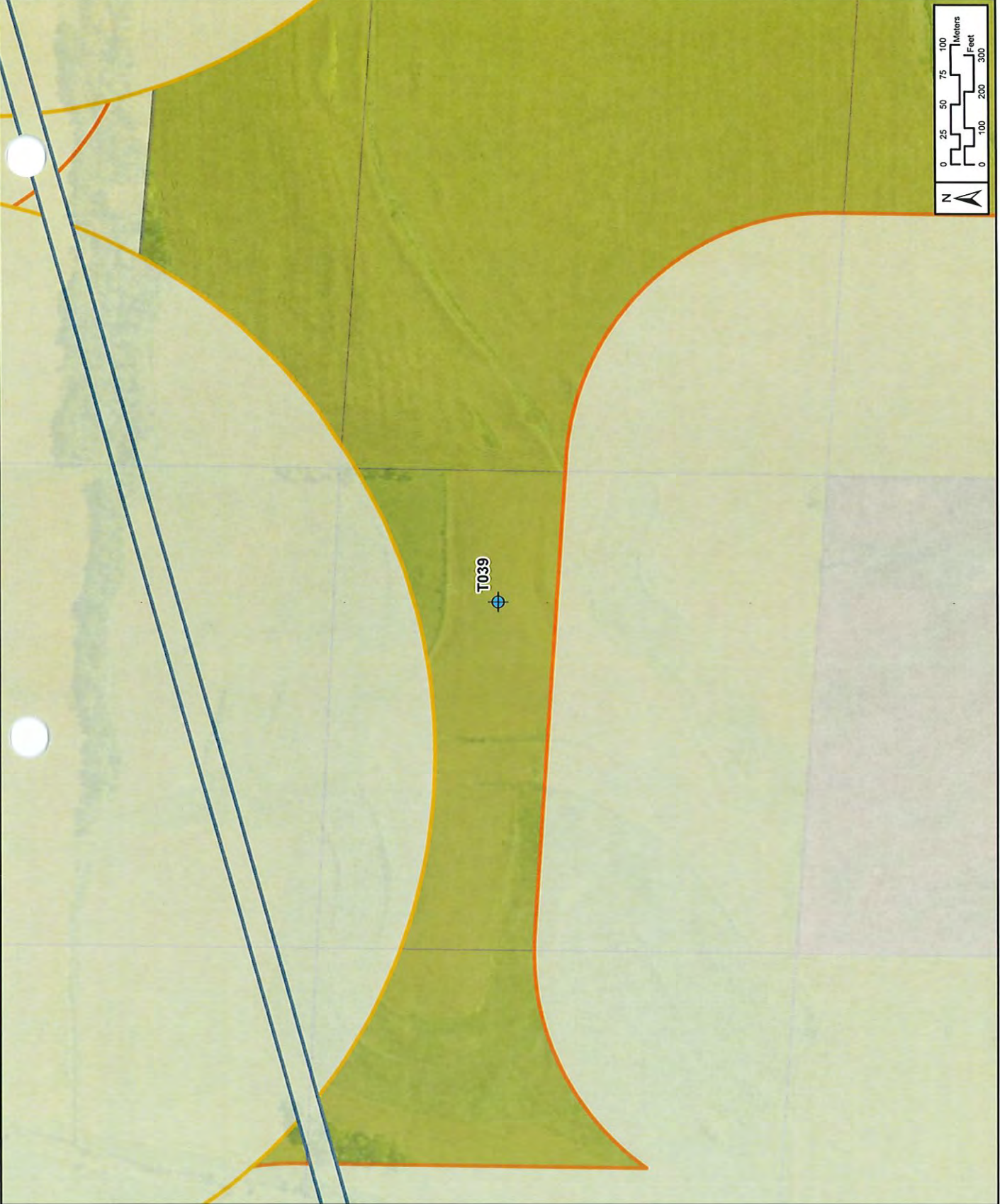
Black Maple Wind Turbine Setbacks: T039

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

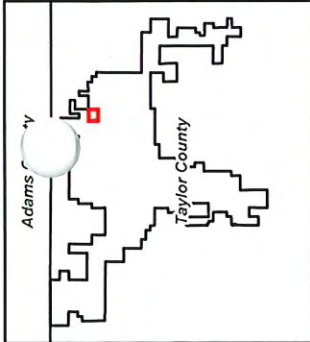
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T039	1,722	3,163	881	1,760	847	4.96	7.53	3.26



Black Maple Wind Turbine Setbacks: T040

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

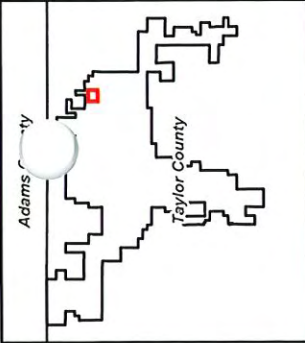
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T040	1,660	3,933	1,176	1,445	1,814	4.30	7.29	2.55



Black Maple Wind Turbine Setbacks: T041

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

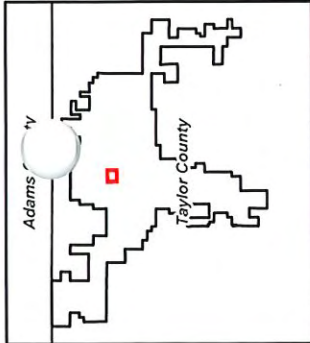
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T041	1,572	2,413	1,131	1,069	2,358	3.31	7.25	1.69



Black Maple Wind Turbine Setbacks: T042

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

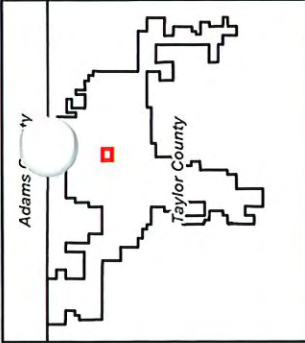
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T042	1,881	1,863	987	930	1,778	7.26	8.01	3.68



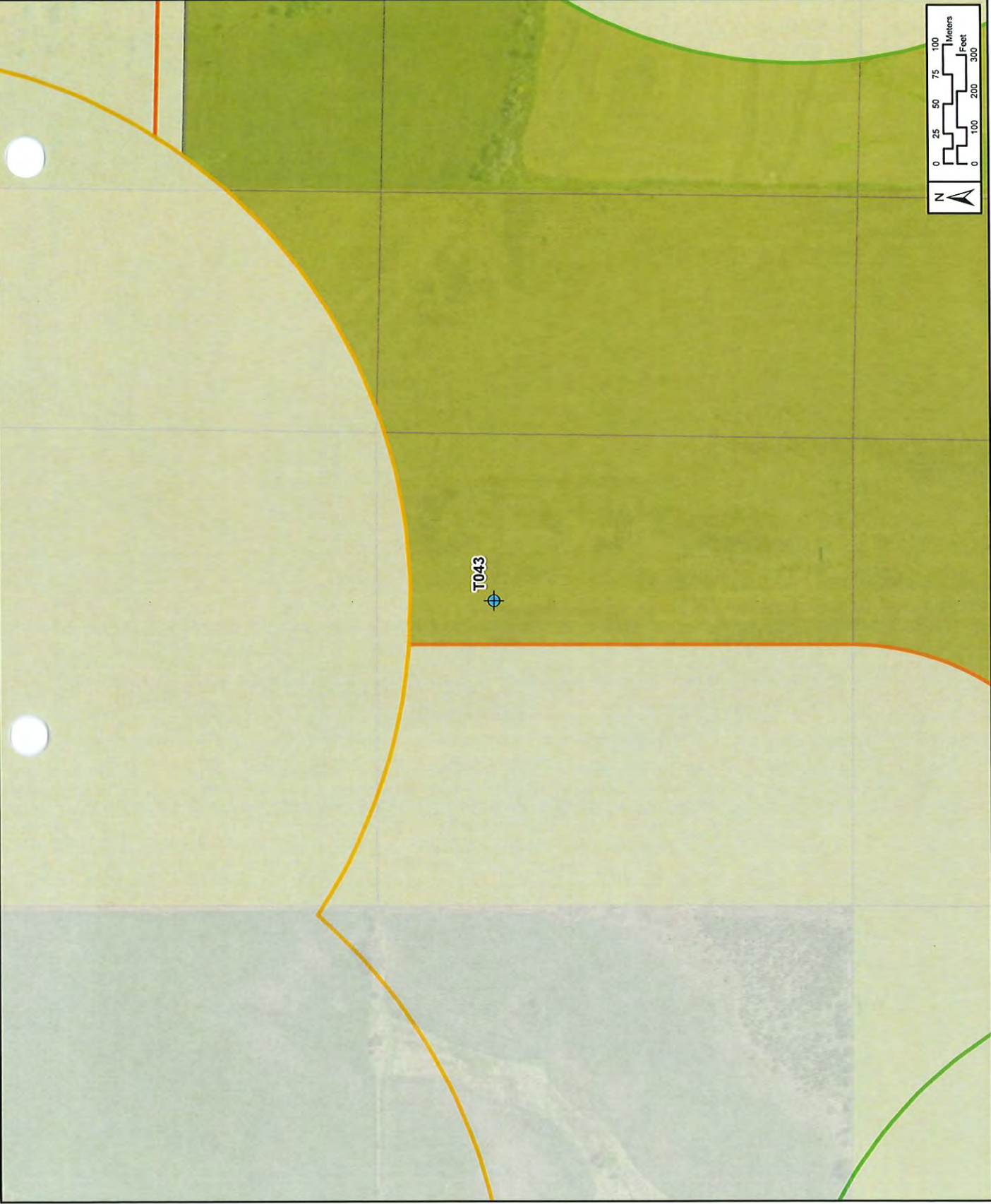
Black Maple Wind Turbine Setbacks: T043

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

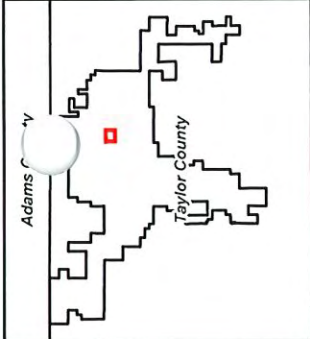
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T043	1,729	2,856	842	1,590	3,357	6.18	7.75	3.25



Black Maple Wind Turbine Setbacks: T044

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

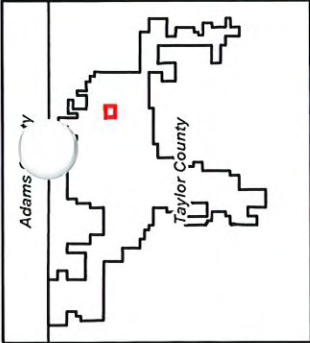
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T044	3,290	2,179	787	1,811	4,033	5.18	7.59	3.09



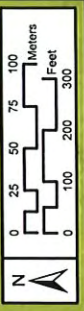
**Black Maple Wind
Turbine Setbacks:
T045**

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

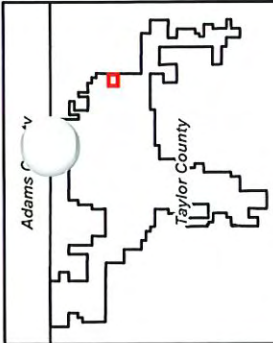
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T045	1,890	2,986	1,645	1,566	1,434	3.79	7.60	2.92



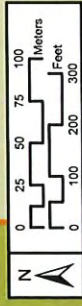
Black Maple Wind Turbine Setbacks: T046

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

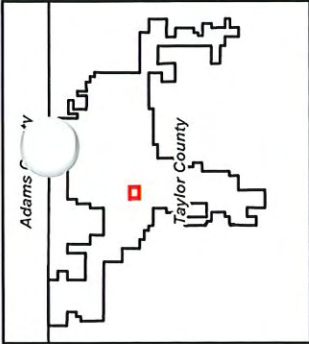
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T046	1,660	2,077	857	789	5,251	2.03	7.93	1.43



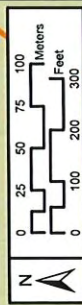
Black Maple Wind Turbine Setbacks: T047

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

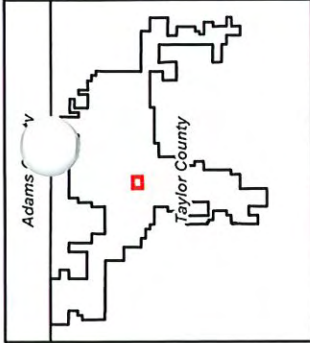
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T047	1,774	2,318	1,188	807	2,116	6.32	7.11	3.39



Black Maple Wind Turbine Setbacks: T048

-  Turbine*
-  Project Area
-  Participating Parcel
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)
-  Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

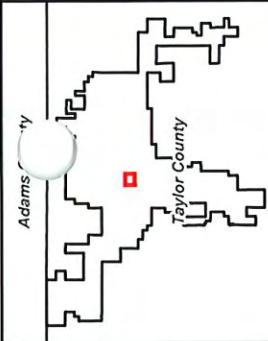
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCEB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T048	3,572	3,166	1,060	993	818	6.16	6.79	2.91



Black Maple Wind Turbine Setbacks: T049

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

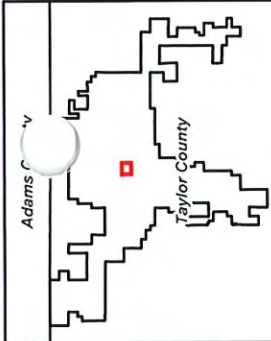
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T049	2,368	3,284	1,658	2,222	1,651	6.39	6.92	2.87



Black Maple Wind Turbine Setbacks: T050

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

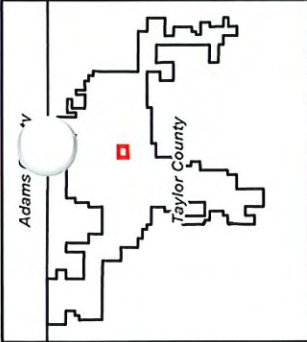
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T050	1,730	2,938	922	837	2,617	6.77	7.07	2.76



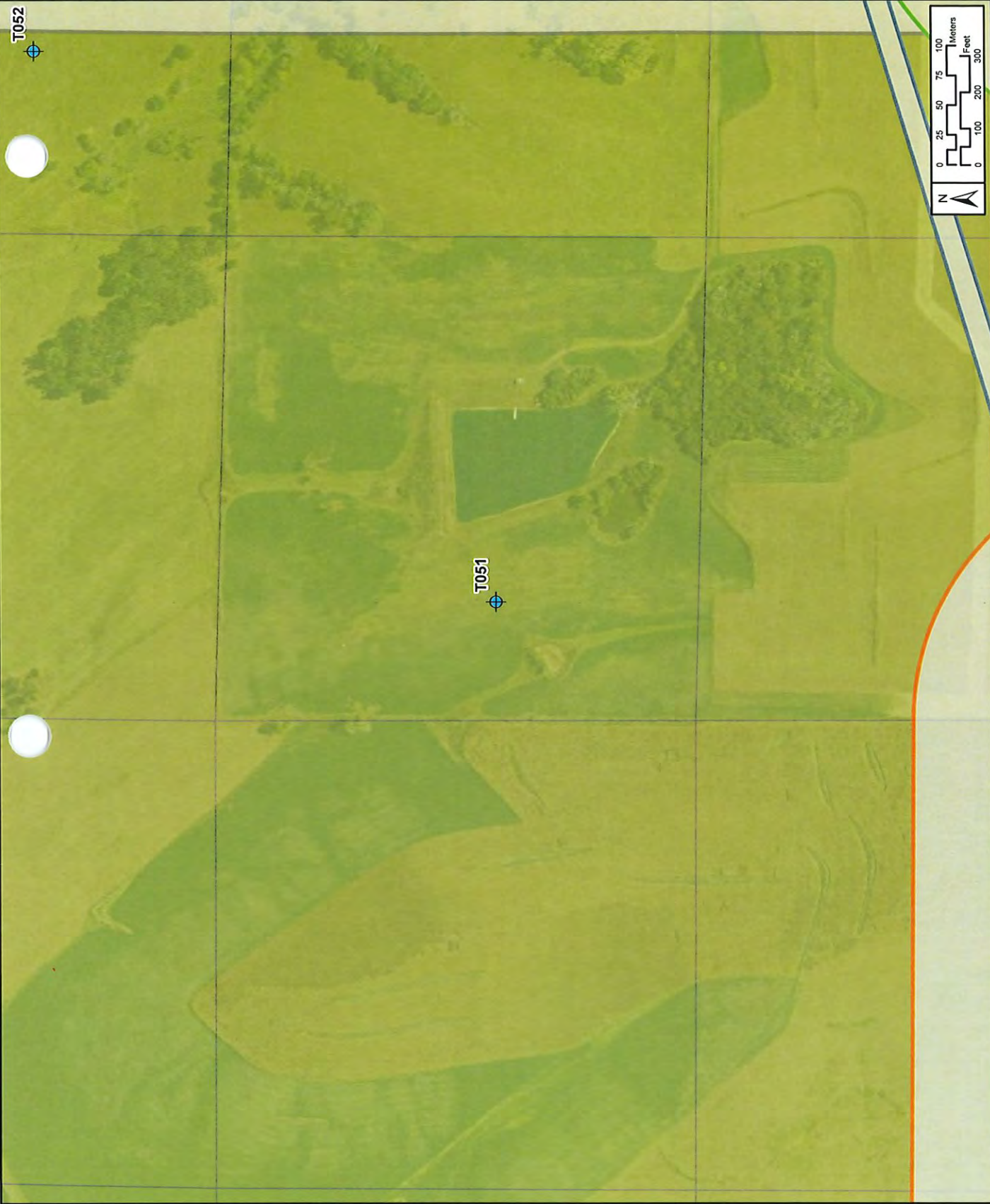
Black Maple Wind Turbine Setbacks: T051

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

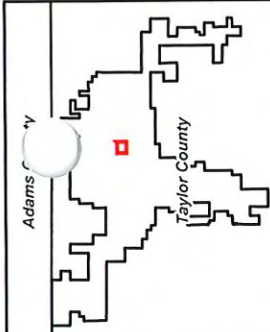
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T051	3,882	3,201	1,897	2,284	1,457	5.96	6.91	2.41



Black Maple Wind Turbine Setbacks: T052

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

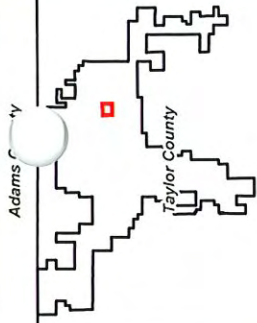
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T052	2,309	2,318	2,172	776	2,233	5.69	7.11	2.59



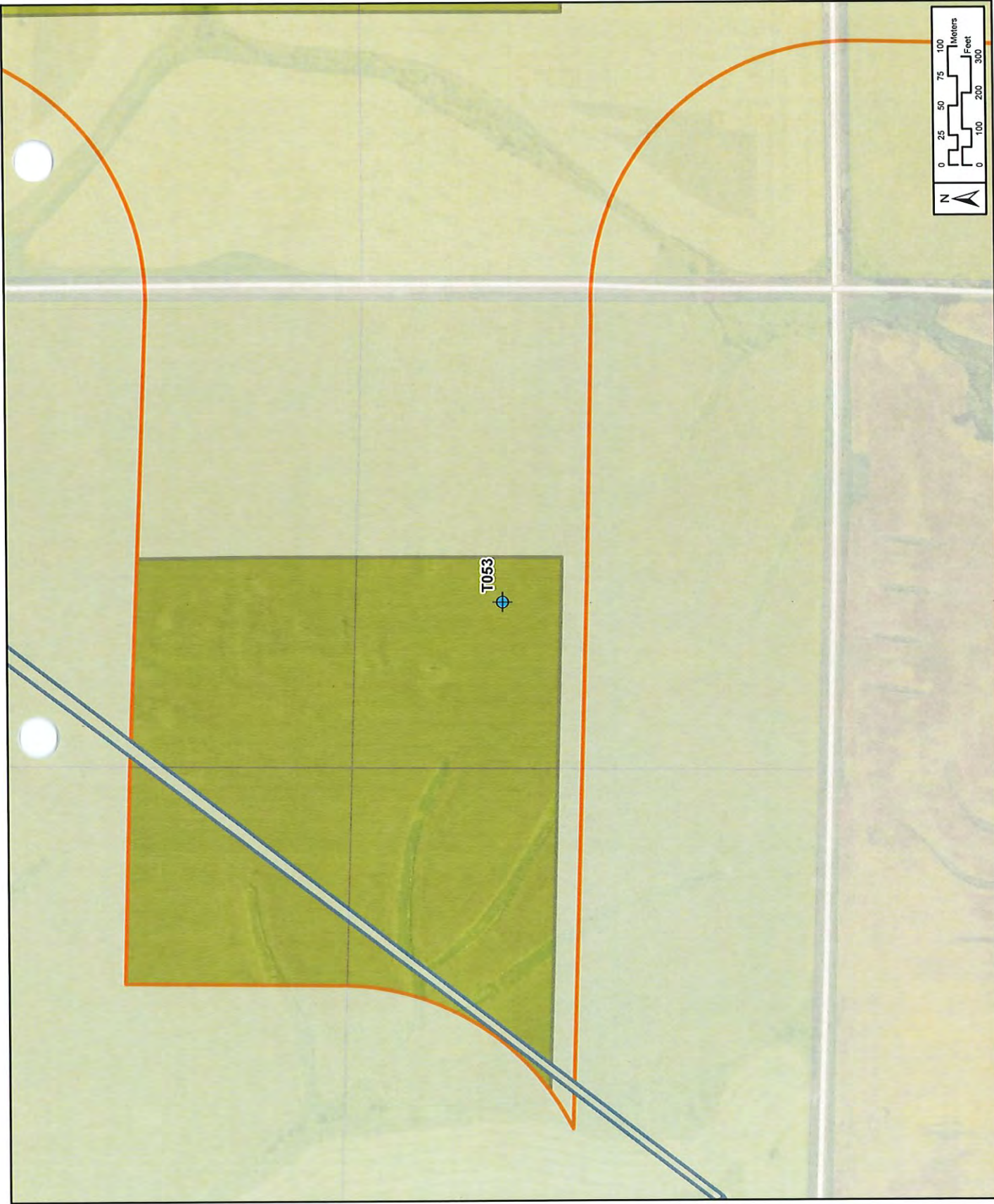
Black Maple Wind Turbine Setbacks: T053

- | | |
|---|---|
|  | Turbine* |
|  | Project Area |
|  | Participating Parcel |
|  | Nonparticipating Property Lines (setback is 721 feet) |
|  | Road Public Right-of-Way (setback is 721 feet) |
|  | Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet) |

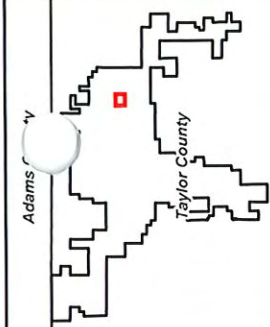
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T053	4,677	4,276	954	845	933	4.19	7.09	2.62



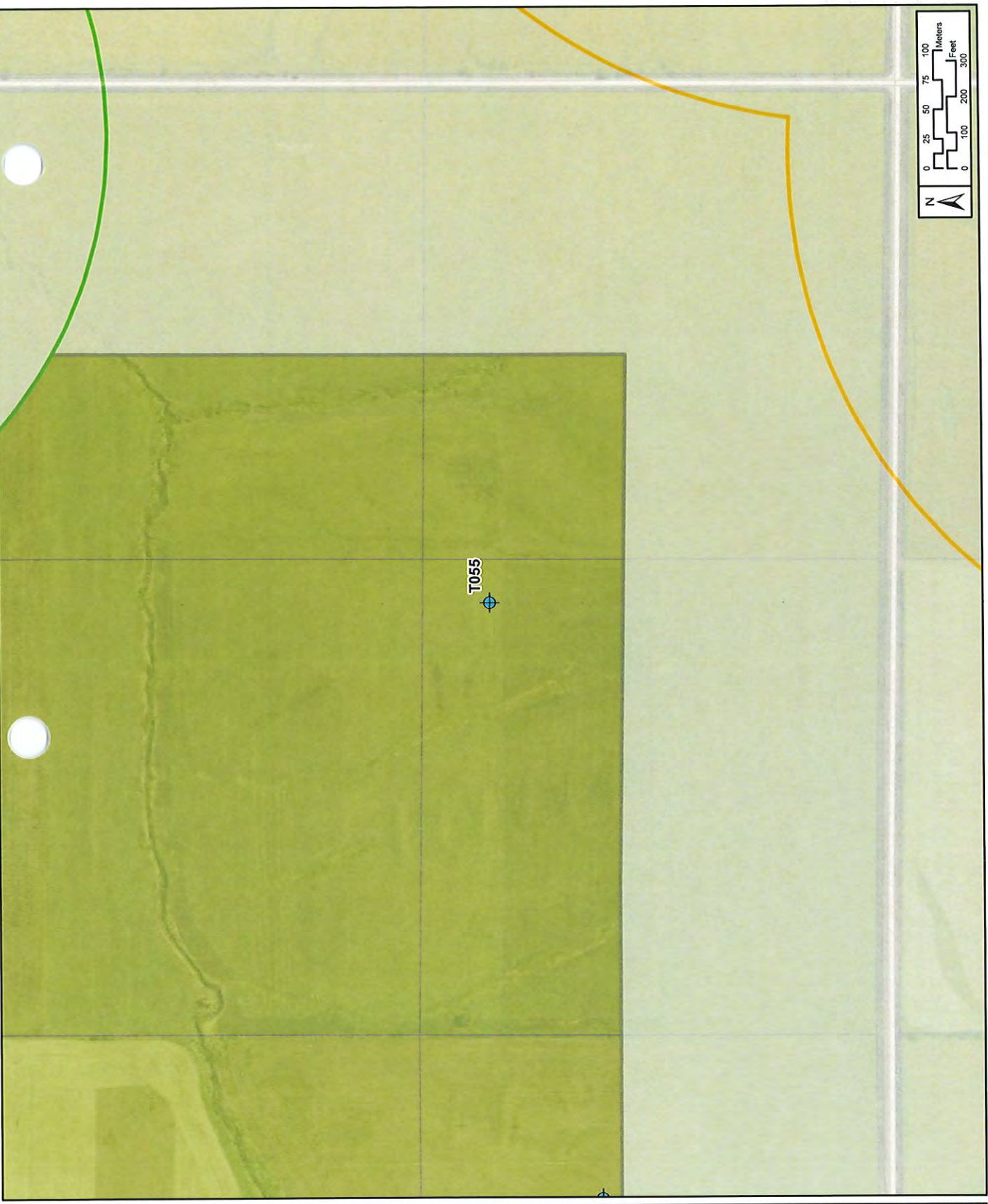
Black Maple Wind Turbine Setbacks: T055

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Road Public Right-of-Way (setback is 721 feet)

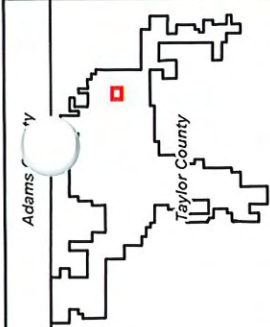
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile) to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T055	2,643	2,651	2,414	1,091	4,473	3.32	7.23	2.76



Black Maple Wind Turbine Setbacks: T056

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T056	1,784	1,958	799	980	5,976	2.89	7.46	2.29



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T057	1,955	1,835	790	965	1,293	5.58	6.71	3.66

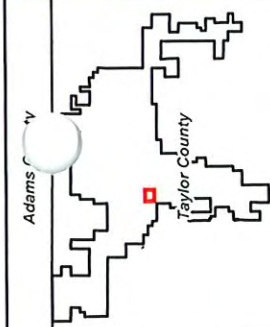
Black Maple Wind Turbine Setbacks: T057

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

*Turbines are not drawn to scale.



Date: 7/22/2026



Black Maple Wind Turbine Setbacks: T058

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

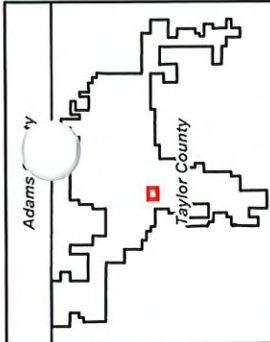
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (miles)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T058	2,169	2,390	1,928	1,873	396	5.76	6.77	3.49



Black Maple Wind Turbine Setbacks: T059

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

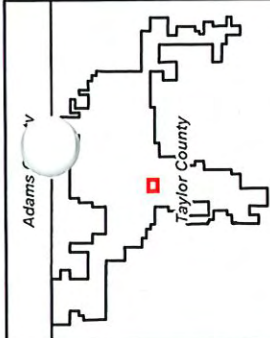
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T059	3,144	2,476	2,281	789	2,292	5.43	6.34	3.03



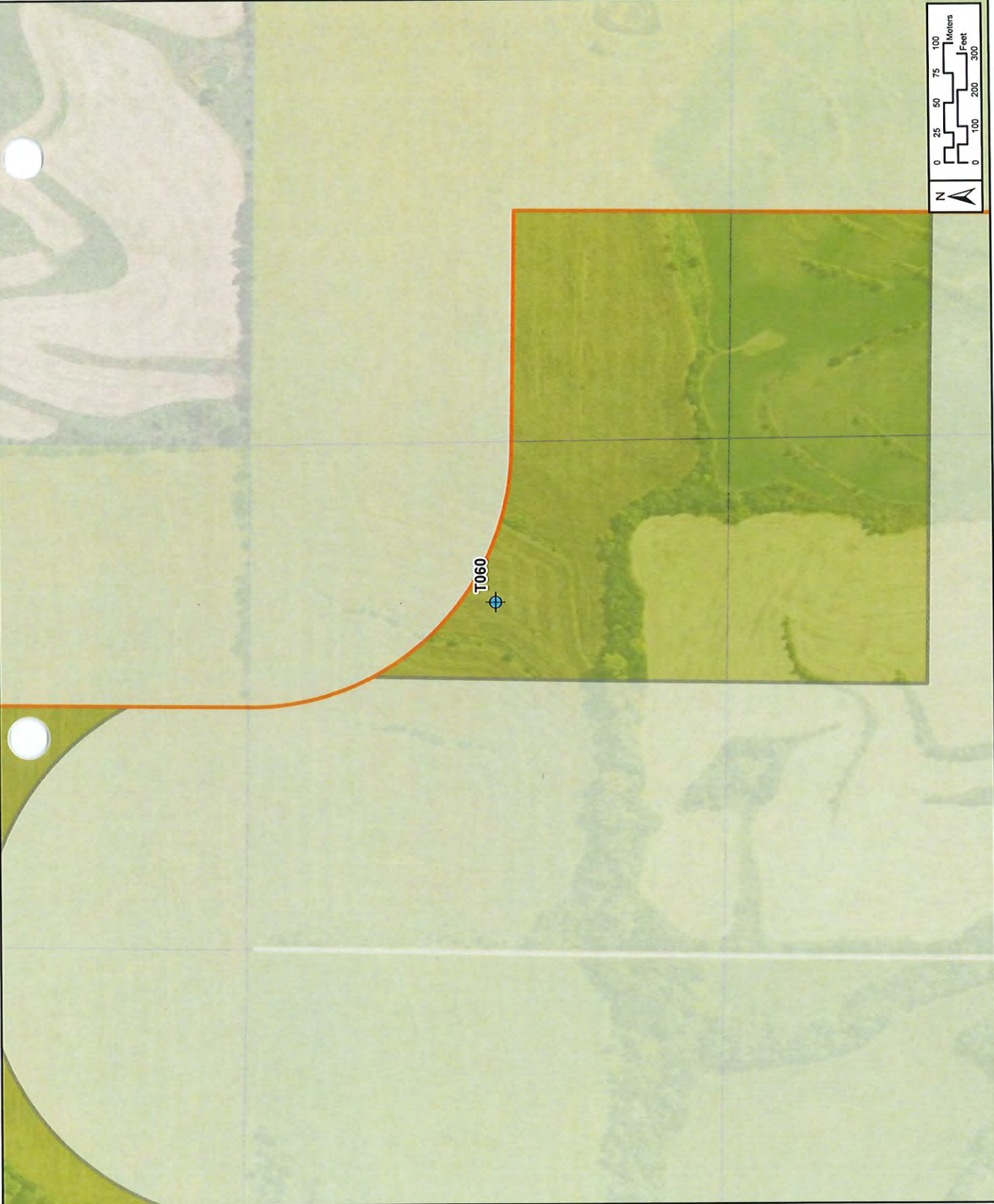
Black Maple Wind Turbine Setbacks: T060

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

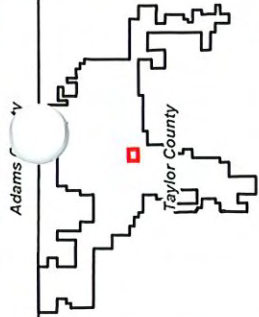
*Turbines are not drawn to scale.



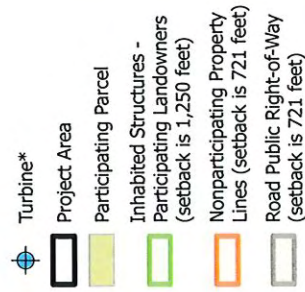
Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to turbine (miles)
T060	4,045	3,792	801	932	2,947	5.36	6.14	2.70



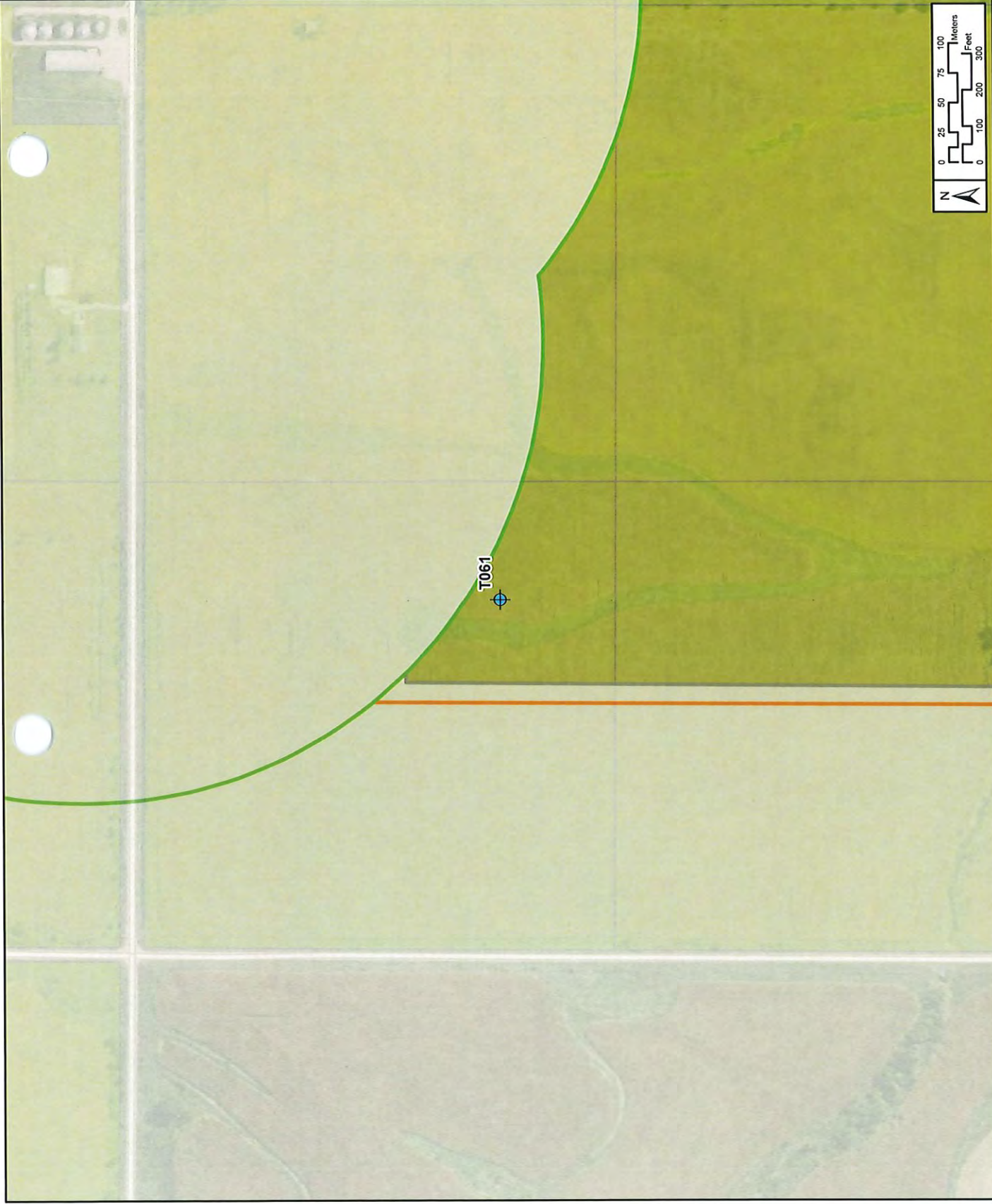
Black Maple Wind Turbine Setbacks: T061



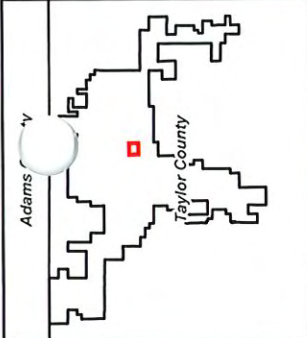
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
7061	3,767	1,328	1,006	951	2,390	5.76	6.11	2.00



Black Maple Wind Turbine Setbacks: T062

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

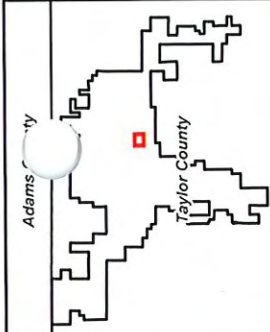
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T062	4,829	1,978	811	1,787	1,189	5.86	6.39	1.90



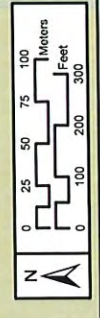
Black Maple Wind Turbine Setbacks: T063

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way Lines (setback is 721 feet)

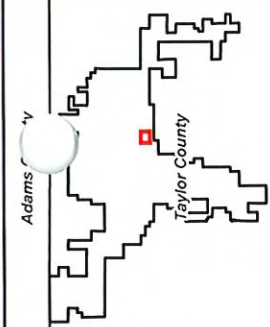
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T063	4,619	1,847	1,764	771	3,061	5.33	6.12	1.61



Black Maple Wind Turbine Setbacks: T064

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Municipalities (setback is one mile)

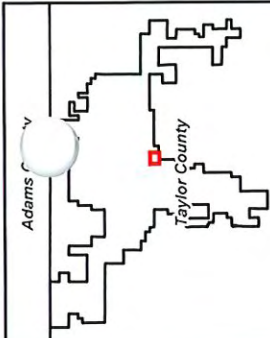
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnal Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T064	3,456	3,999	1,647	1,036	5,249	5.36	5.69	1.18



Black Maple Wind Turbine Setbacks: T065

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way Lines (setback is 721 feet)
- Municipalities (setback is one mile)

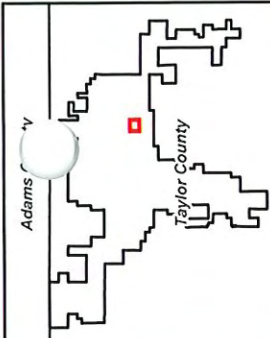
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T065	7,611	1,560	1,214	1,155	6,349	5.24	5.36	1.13



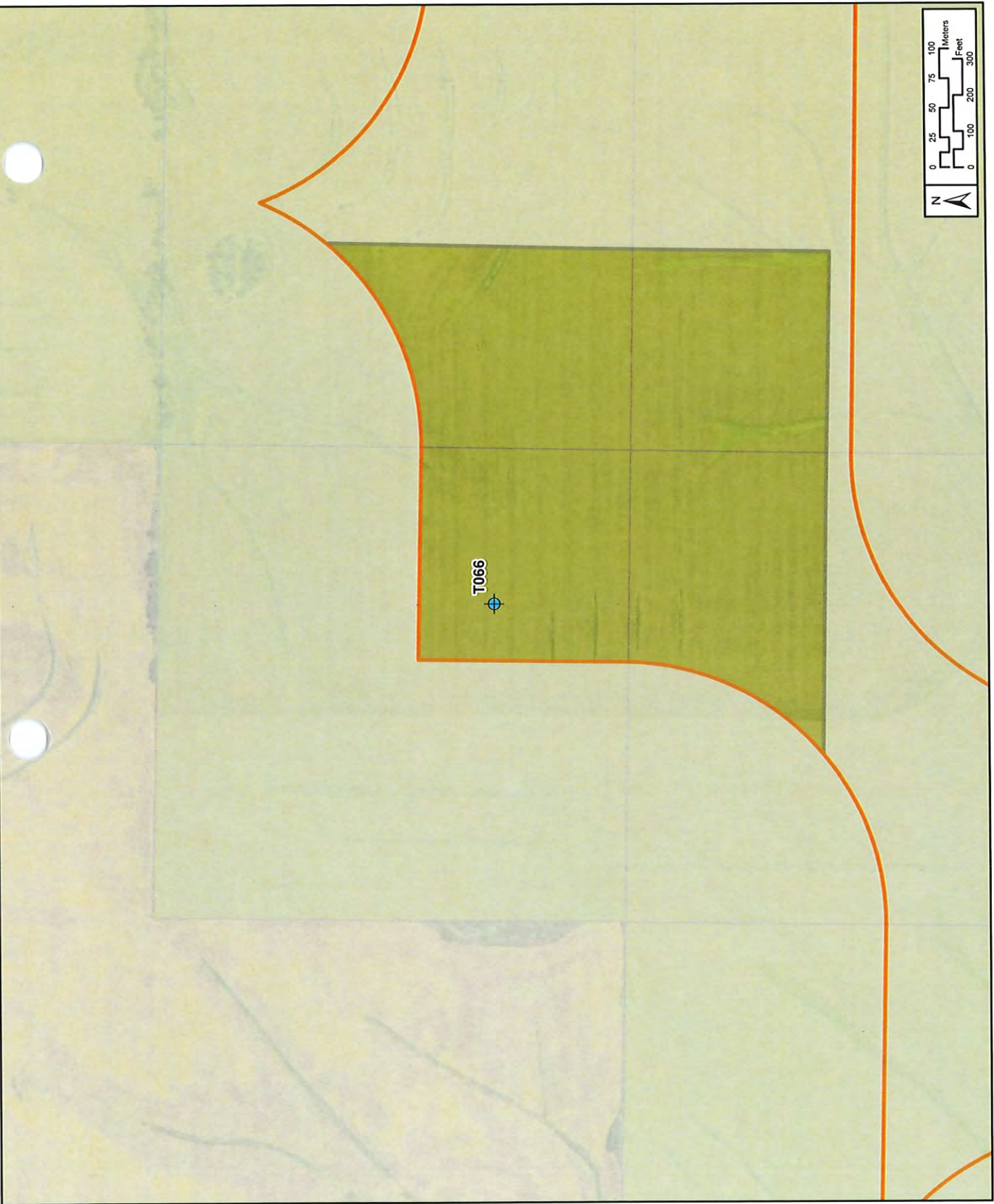
Black Maple Wind Turbine Setbacks: T066

-  Turbine*
-  Project Area
-  Participating Parcel
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

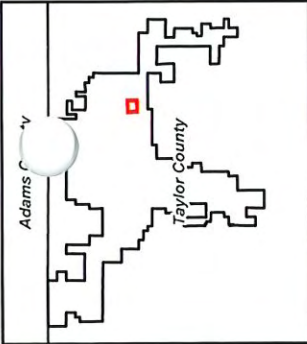
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T066	3,794	6,139	879	1,639	3,853	4.34	6.25	1.77



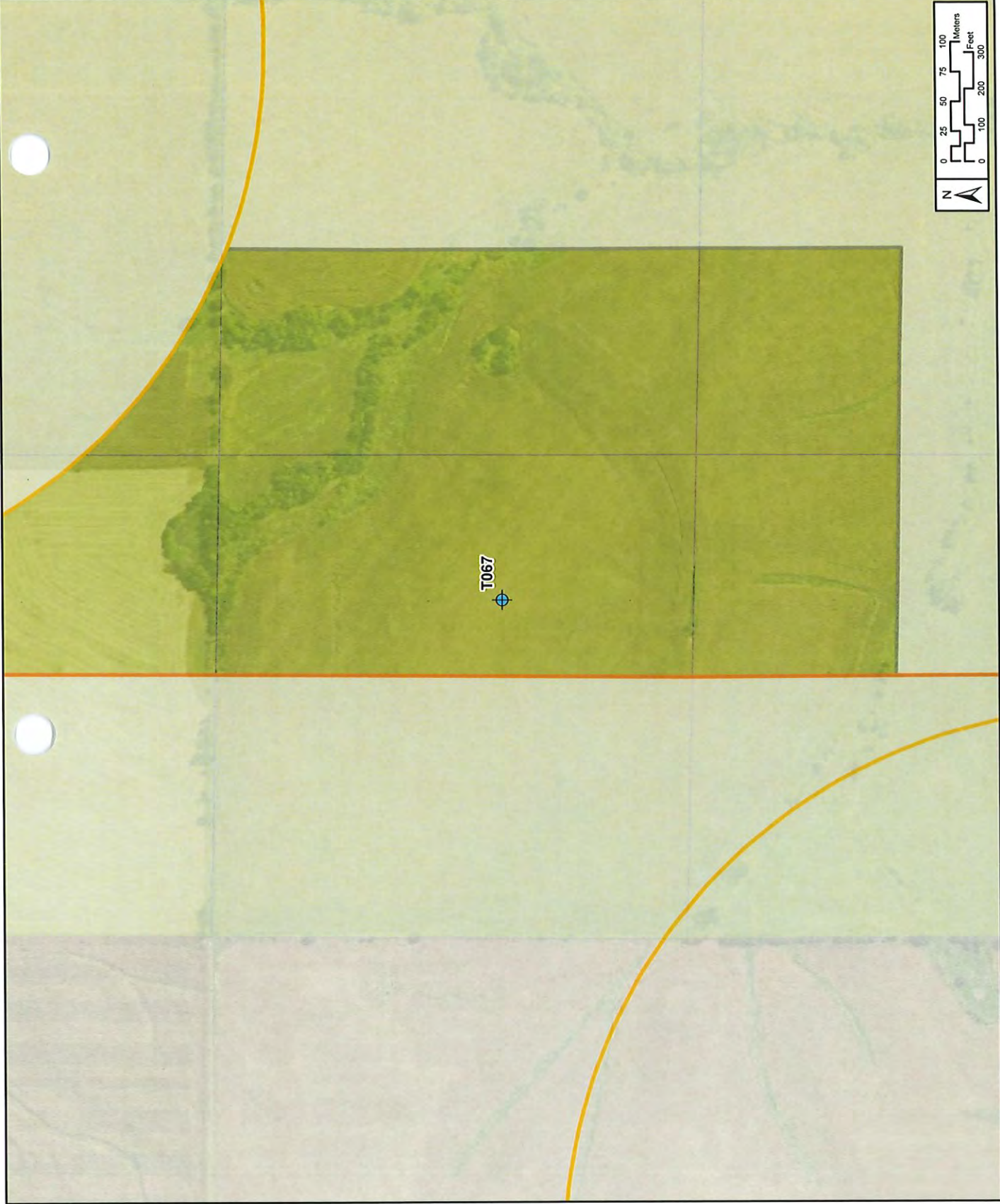
Black Maple Wind Turbine Setbacks: T067

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way Lines (setback is 721 feet)

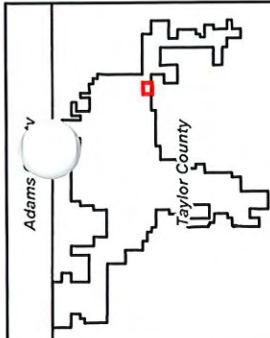
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T067	2,454	4,084	931	1,685	7,016	3.34	6.38	2.13



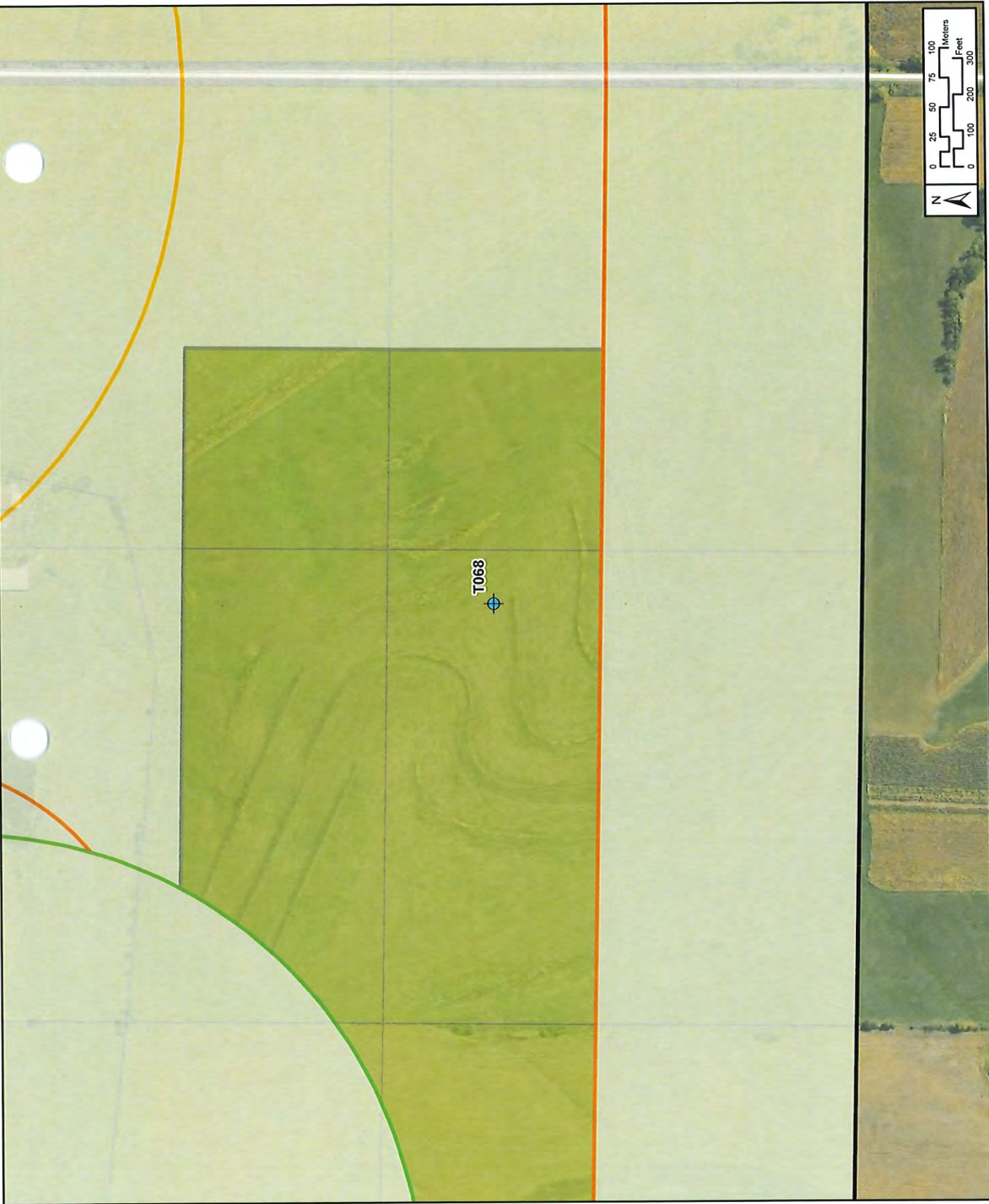
Black Maple Wind Turbine Setbacks: T068

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

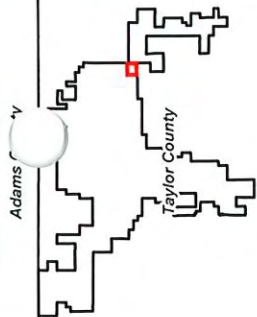
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T068	2,721	2,387	1,017	1,424	4,411	2.44	6.03	2.48



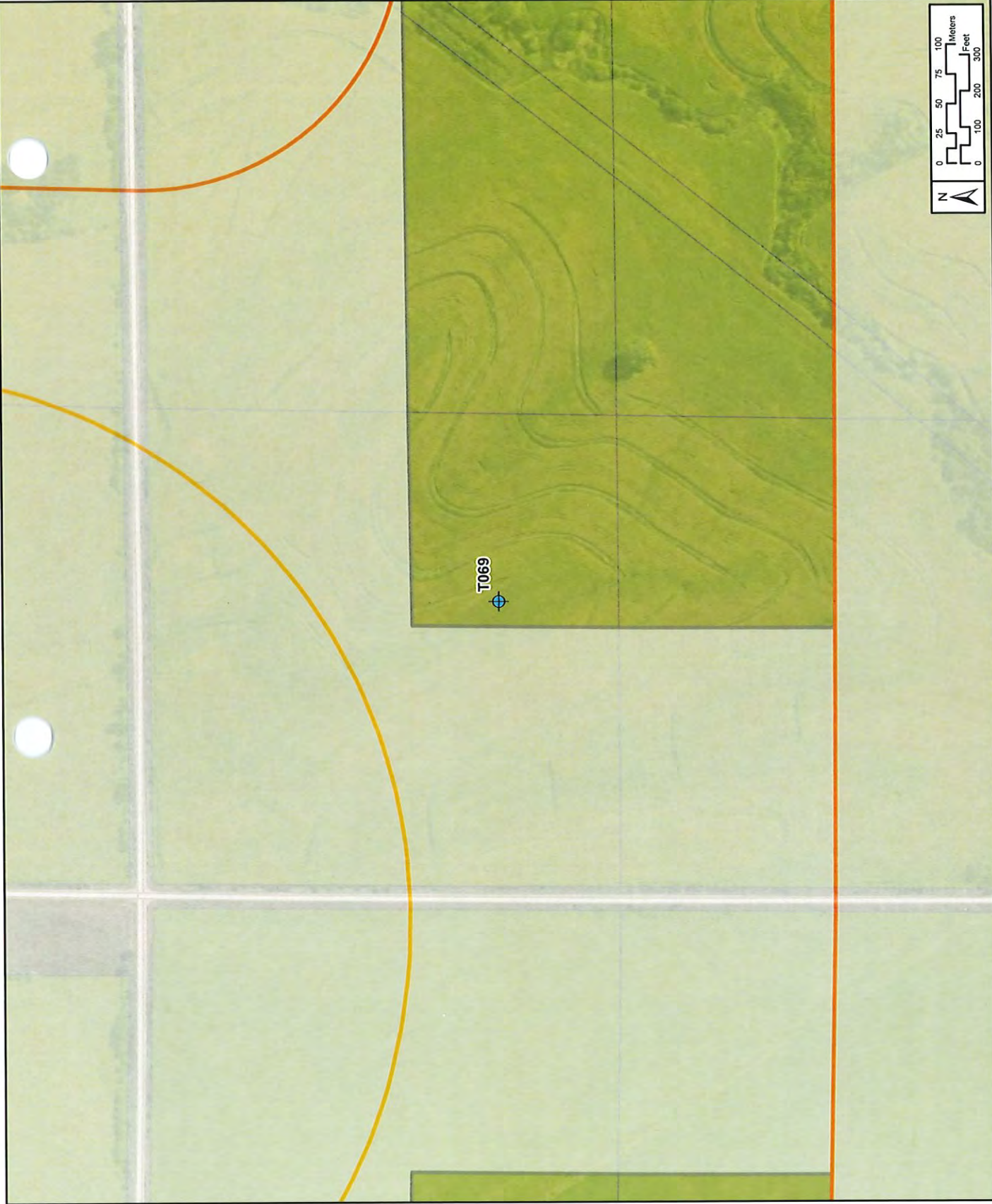
Black Maple Wind Turbine Setbacks: T069

- Turbine*
Project Area
Participating Parcel
Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
Nonparticipating Property Lines (setback is 721 feet)
Road Public Right-of-Way (setback is 721 feet)

*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
7069	1,949	4,233	1,325	790	2,430	2.00	6.31	2.92



- Turbine***

- Project Area**

- Participating Parcel**

- Inhabited Structures - Non-Participating Landowner
(setback is 1,500 feet)**

- Inhabited Structures - Participating Landowners
(setback is 1,250 feet)**

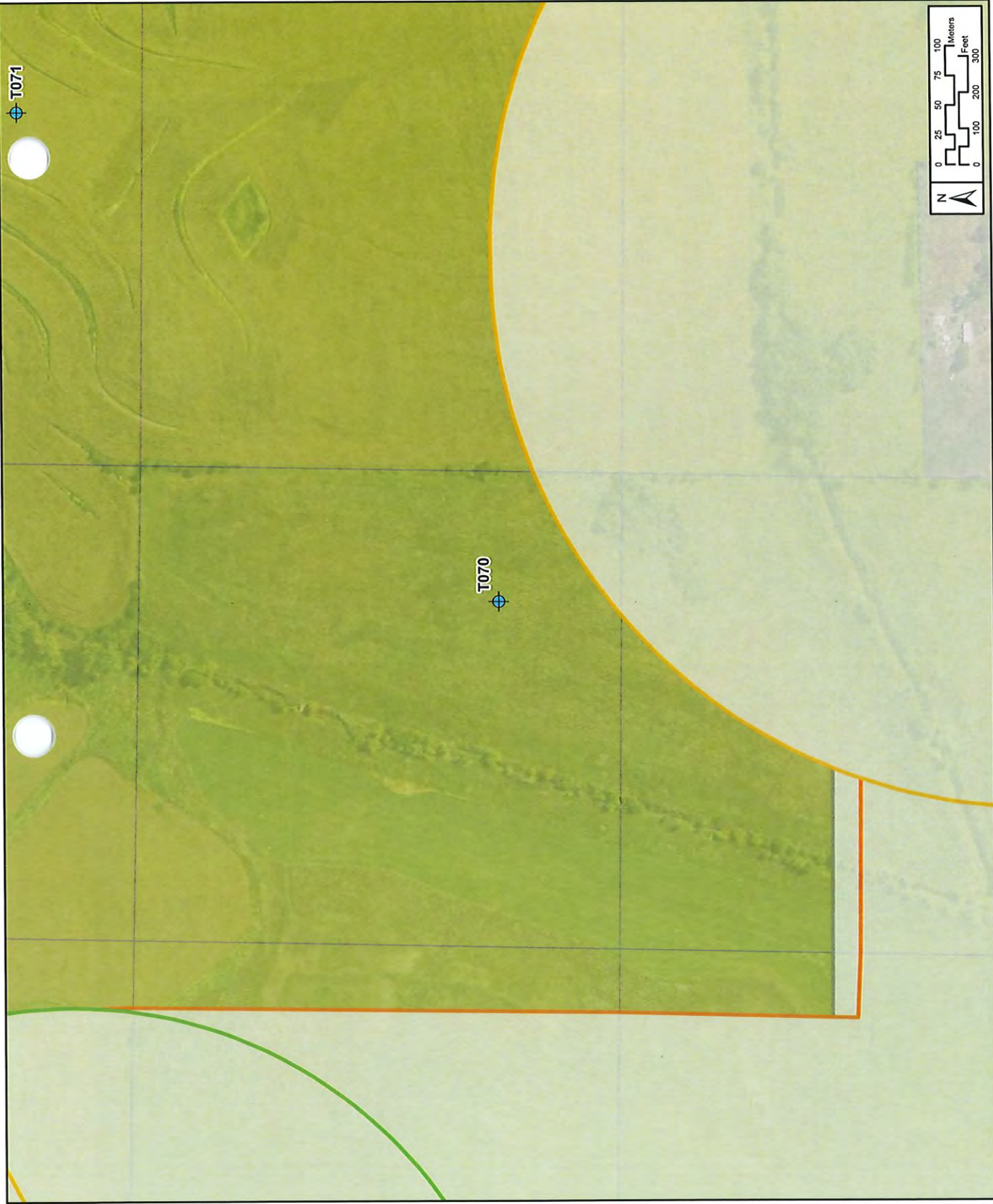
- Nonparticipating Property Lines (setback is 721 feet)**

- Road Public Right-of-Way (setback is 721 feet)**

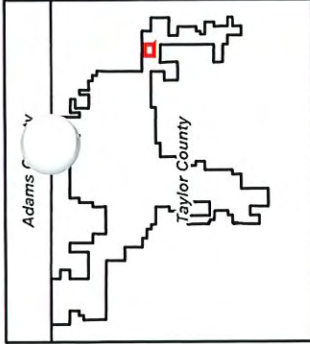

*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
1070	1,750	2,850	1,228	1,648	4,673	1.37	6.54	3.18



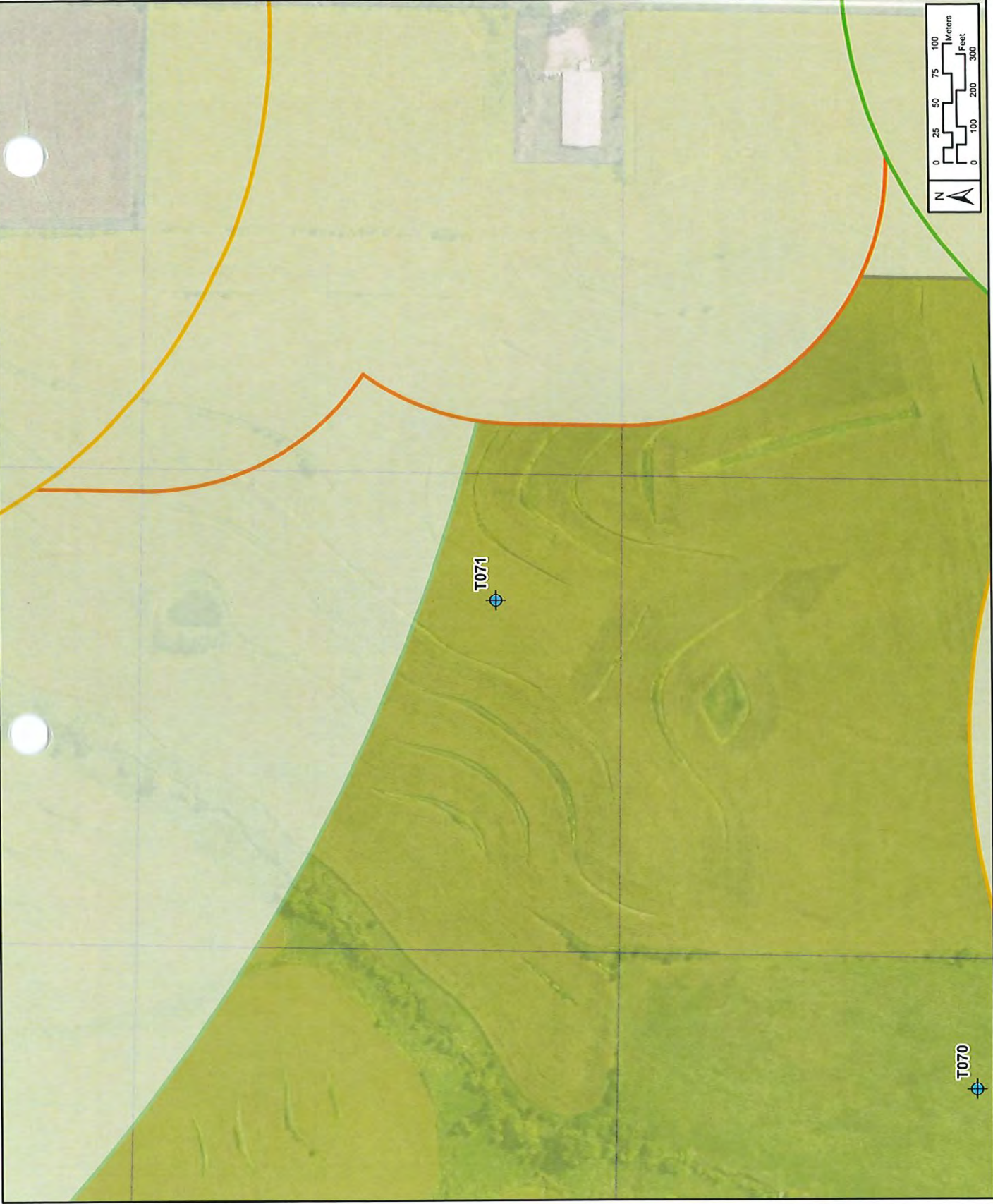
Black Maple Wind Turbine Setbacks: T071

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)

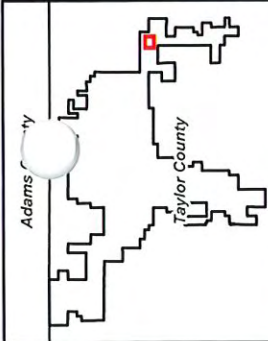
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T071	2,626	2,829	1,210	1,629	5,545	1.04	6.89	3.07



Black Maple Wind Turbine Setbacks: T072

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)

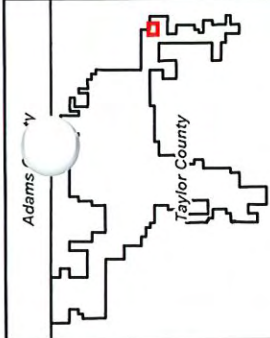
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T072	3,014	1,678	1,024	903	6,081	1.08	7.10	2.59



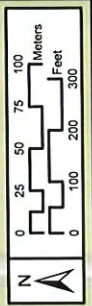
Black Maple Wind Turbine Setbacks: T073

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)

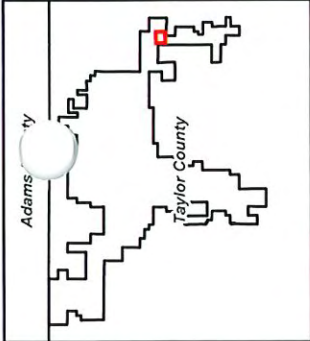
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T073	2,123	1,523	1,005	1,118	4,959	1.30	7.42	1.99



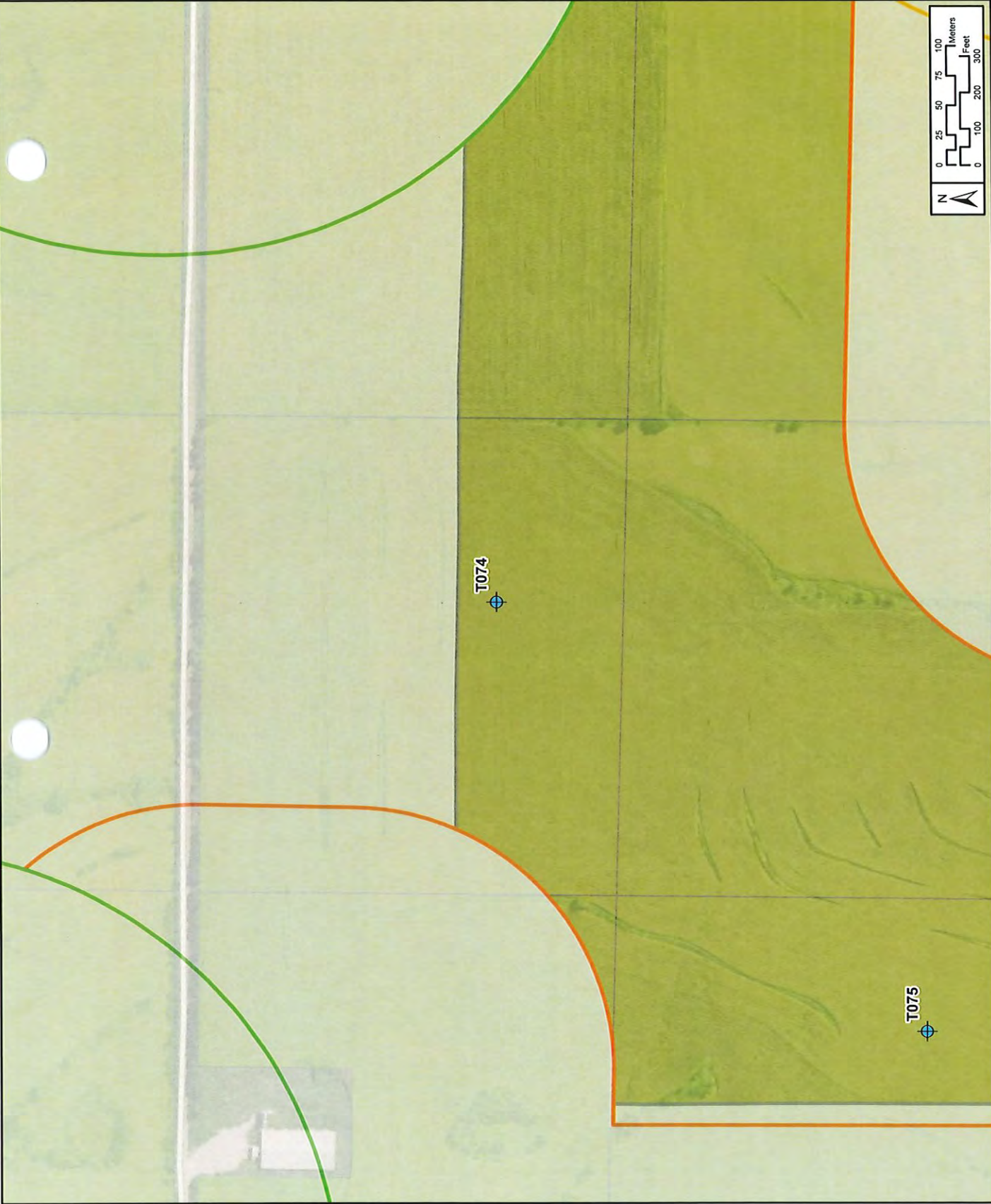
Black Maple Wind Turbine Setbacks: T074

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

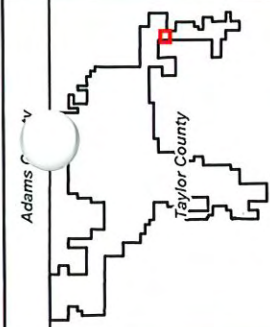
*Turbines are not drawn to scale.



Date: 7/22/2025



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T074	3,236	2,384	1,349	827	2,779	1.68	6.82	2.10



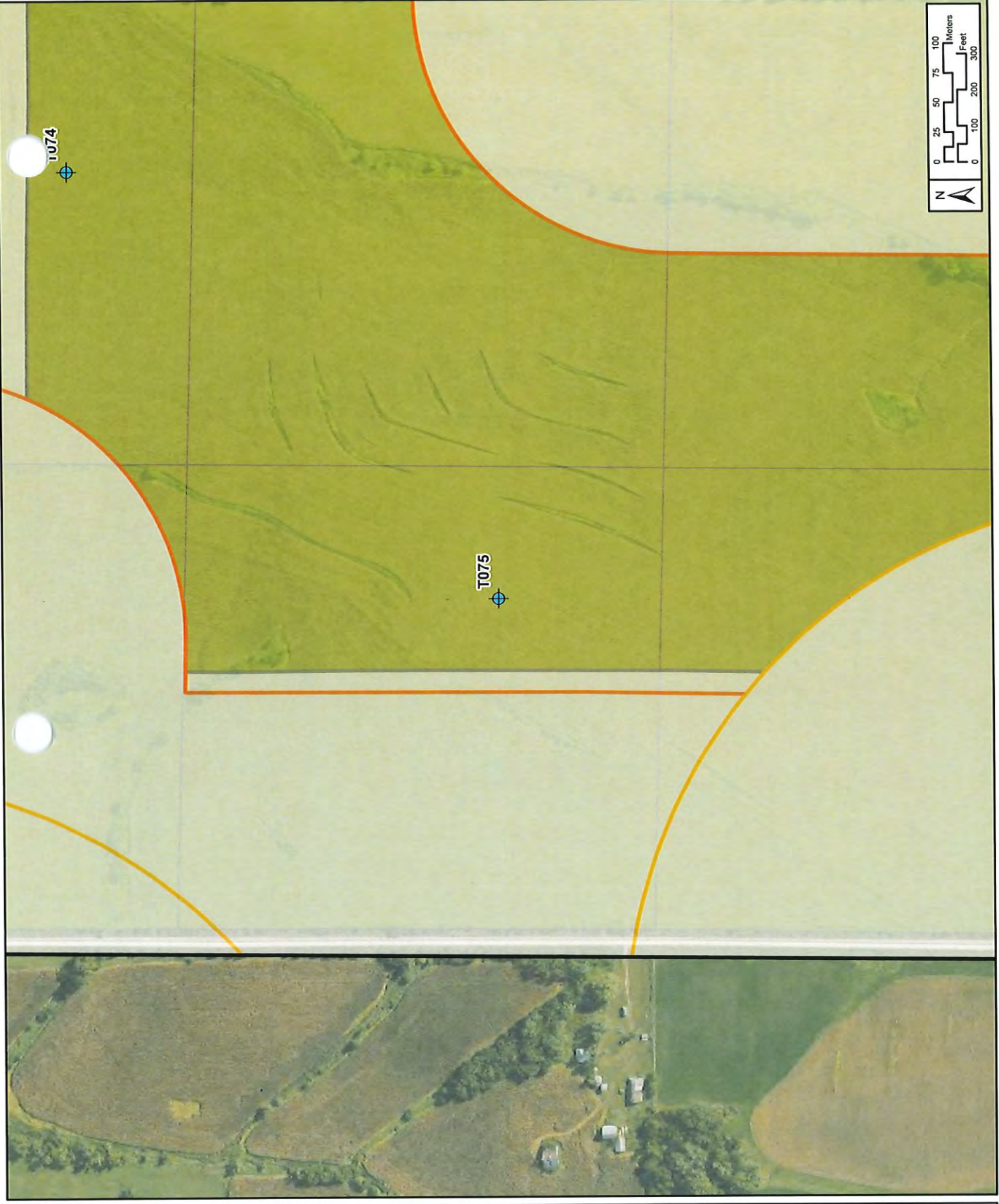
Black Maple Wind Turbine Setbacks: T075

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

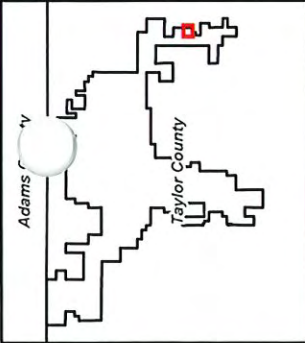
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T075	2,211	2,965	980	920	1,754	1.90	6.50	2.23



Black Maple Wind Turbine Setbacks: T076

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

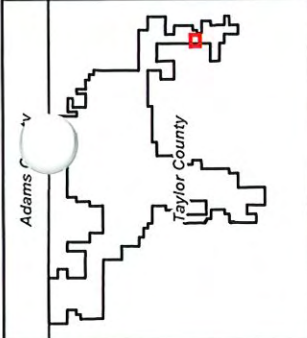
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T076	2,448	2,063	934	928	6,025	3.35	6.15	1.63



Black Maple Wind Turbine Setbacks: T077

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

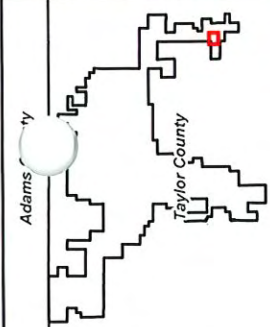
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T077	5,513	1,776	848	788	7,288	3.64	5.42	2.36



Black Maple Wind Turbine Setbacks: T078

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

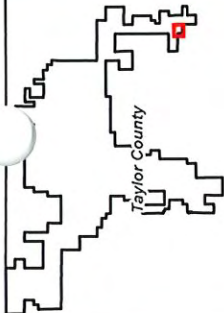
*Turbines are not drawn to scale.



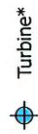
Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T078	3,679	2,109	1,206	763	9,472	4.63	4.98	2.90



Black Maple Wind Turbine Setbacks: T079



Project Area

Participating

Participating Parcel

Nonparticipating Property

Nonparticipating Property Lines (setback is 721 feet)

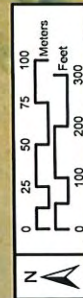
Road Public Right-of-Way

Road Public Right-of-
(setback is 721 feet)

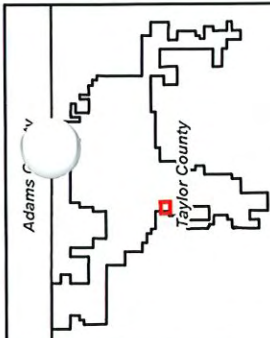
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
1076	3,326	3,533	828	763	9,291	5.05	4.73	3.18



Black Maple Wind Turbine Setbacks: T080

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

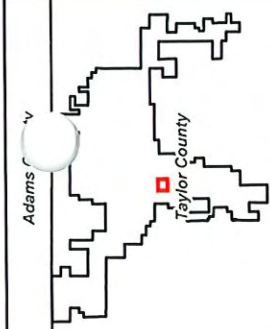
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T080	5,218	2,170	1,080	1,020	4,004	4.93	6.18	3.19



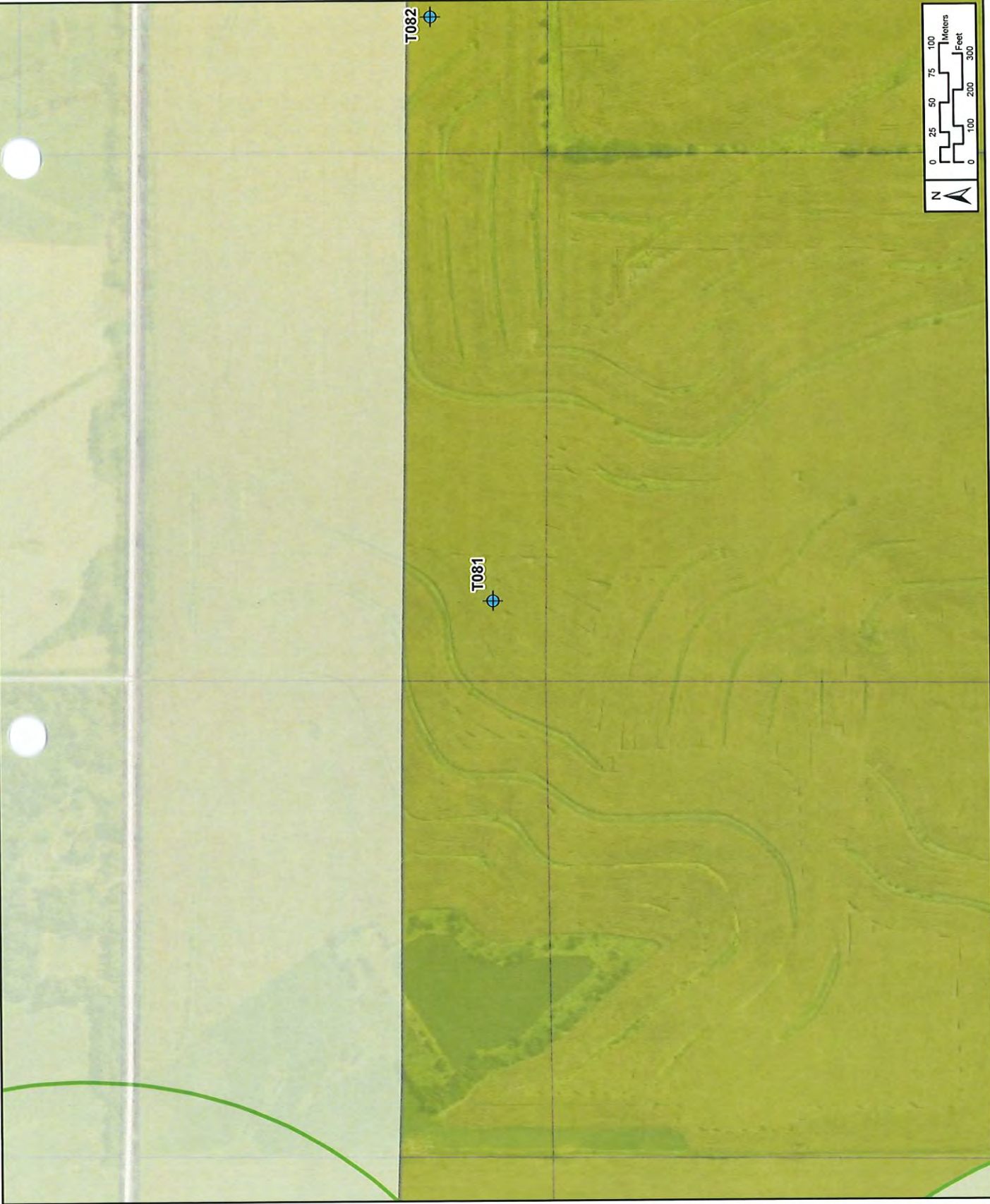
Black Maple Wind Turbine Setbacks: T081

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Road Public Right-of-Way (setback is 721 feet)

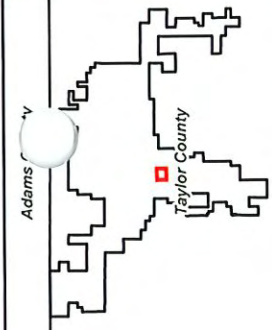
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T081	6,367	2,809	2,737	965	5,523	4.83	5.75	2.72



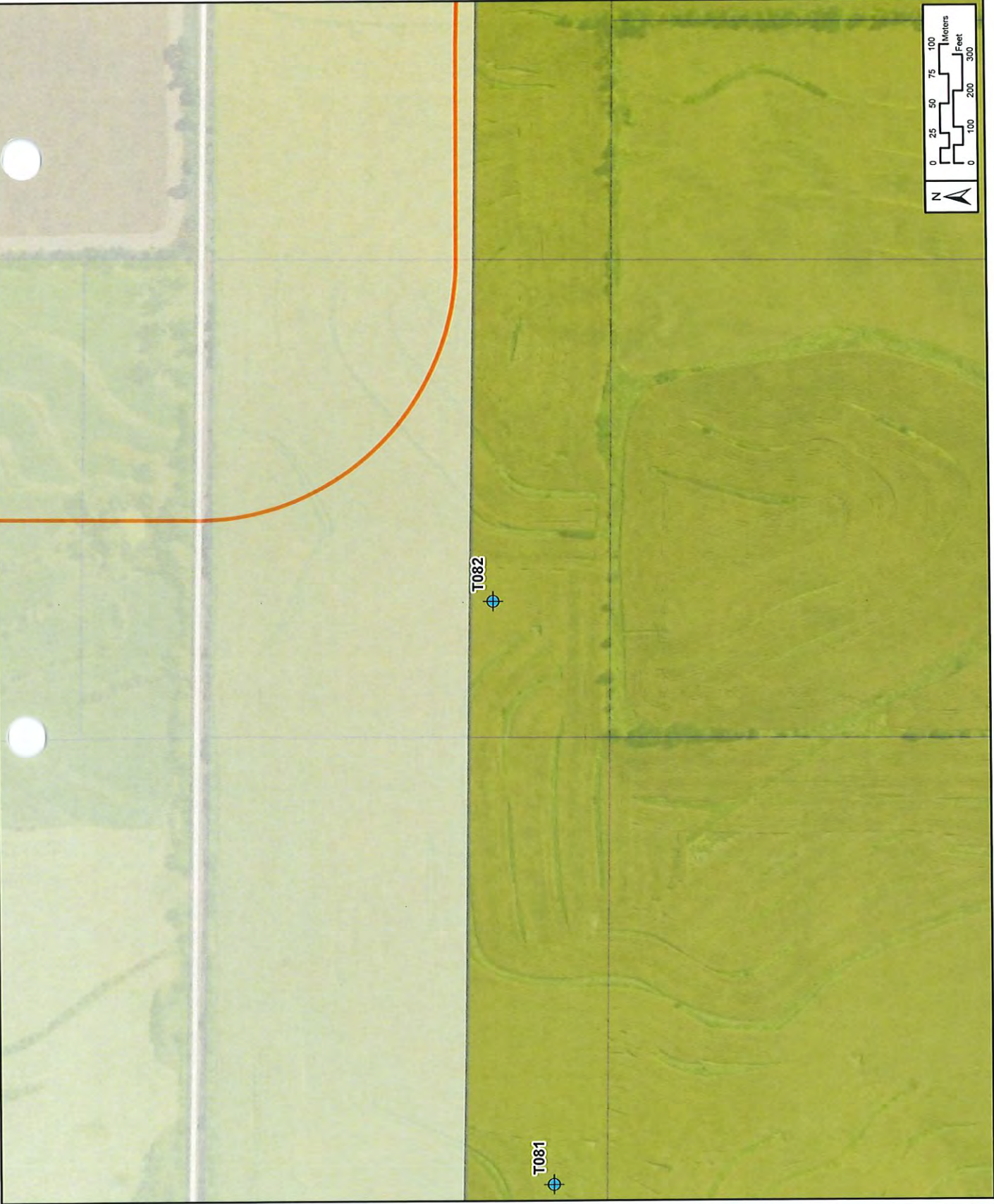
Black Maple Wind Turbine Setbacks: T082

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

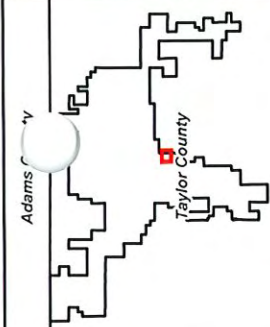
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T082	6,790	3,437	1,250	783	5,844	4.82	5.61	2.43



Black Maple Wind Turbine Setbacks: T083

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Municipalities (setback is one mile)

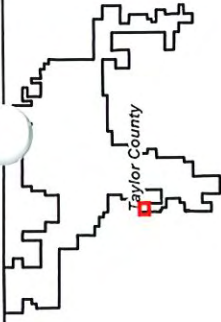
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T083	6,354	2,217	876	814	9,084	4.59	4.84	1.15



Black Maple Wind Turbine Setbacks: T084

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

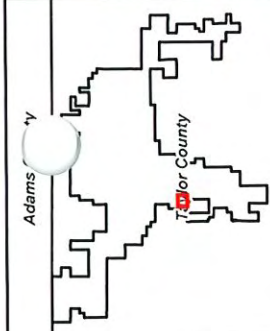
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T084	3,117	1,983	933	929	2,542	4.13	5.99	1.49



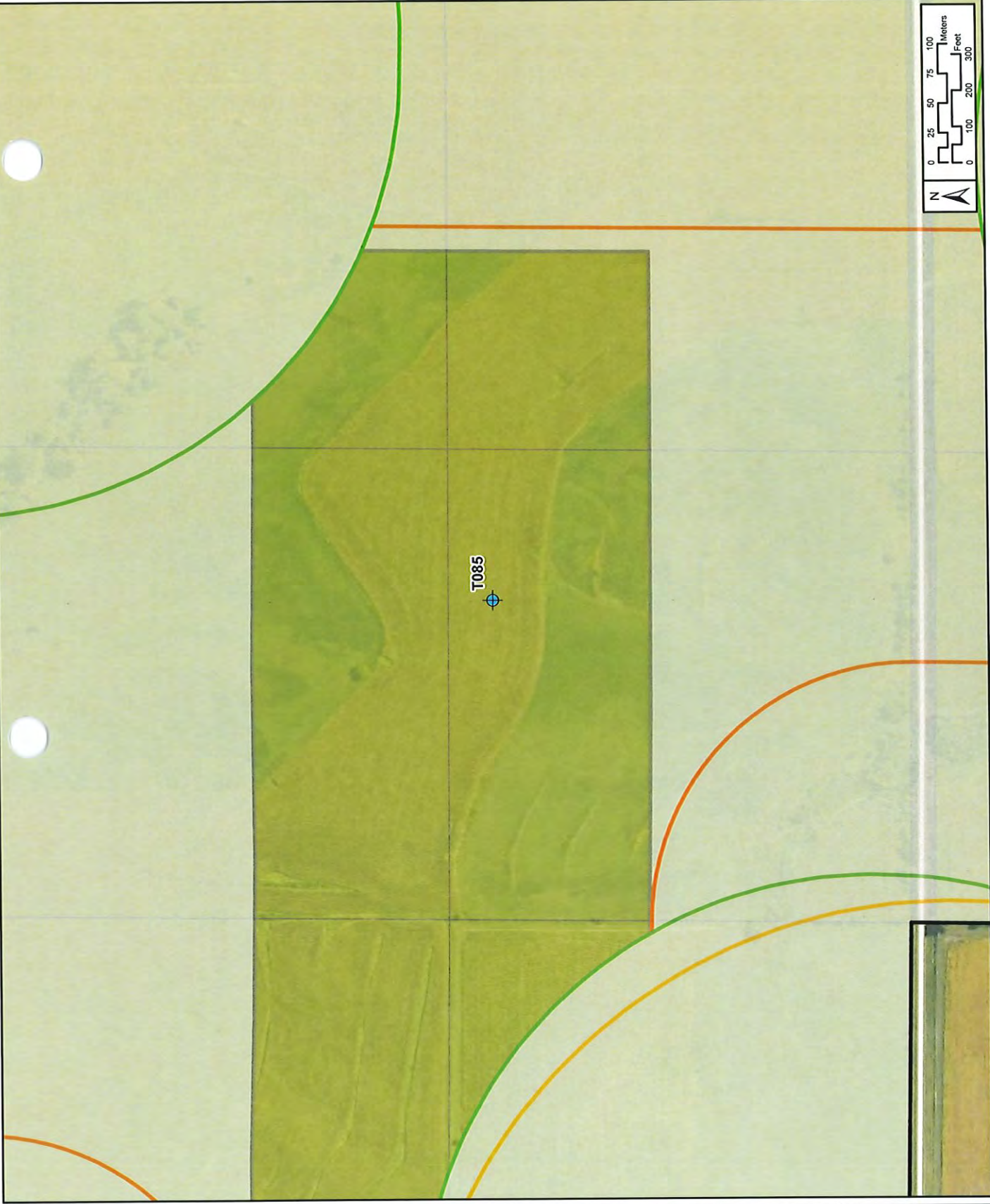
Black Maple Wind Turbine Setbacks: T085

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

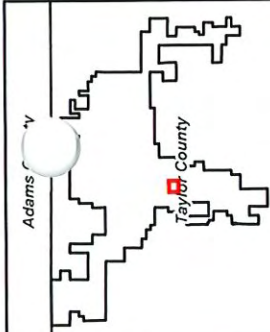
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T085	2,652	2,106	1,461	1,155	2,979	4.05	5.51	2.34



Black Maple Wind Turbine Setbacks: T086

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

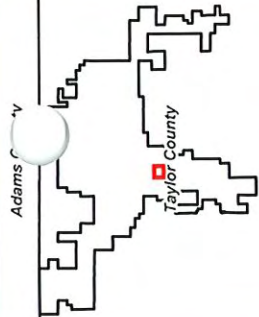
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T086	3,675	3,511	809	1,199	8,500	4.23	5.20	2.60



**Black Maple Wind
Turbine Setbacks:
T087**



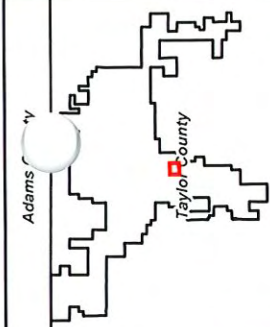
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
1087	4,509	4,270	1,986	1,948	8,012	4.40	5.25	2.41



Black Maple Wind Turbine Setbacks: T088

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

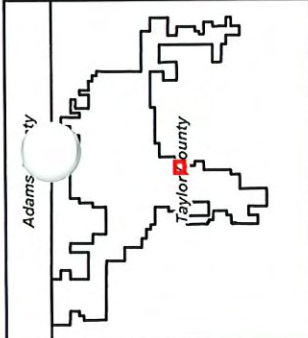
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T088	4,233	4,360	2,183	775	9,978	4.15	4.78	1.88



Black Maple Wind Turbine Setbacks: T089

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

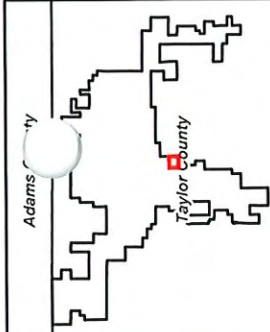
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T089	4,637	5,901	1,707	764	12,027	3.84	4.36	1.57



Black Maple Wind Turbine Setbacks: T090

-  Turbine*
-  Project Area
-  Participating Parcel
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)
-  Municipalities (setback is one mile)

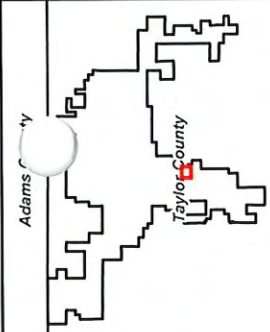
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T090	6,316	4,171	1,106	1,022	10,614	4.22	4.57	1.30



Black Maple Wind Turbine Setbacks: T091

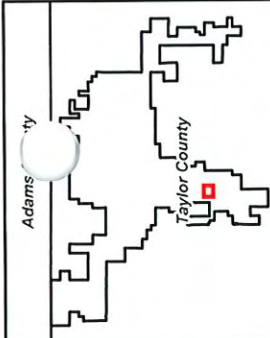
- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

*Turbines are not drawn to scale.



Date: 7/22/2026

Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T091	2,709	7,535	1,047	909	11,273	3.31	4.09	2.03



Black Maple Wind Turbine Setbacks: T092

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

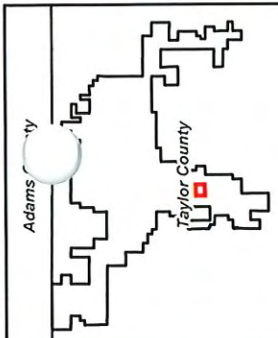
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T092	2,340	5,322	1,075	1,523	5,243	2.47	4.08	2.05



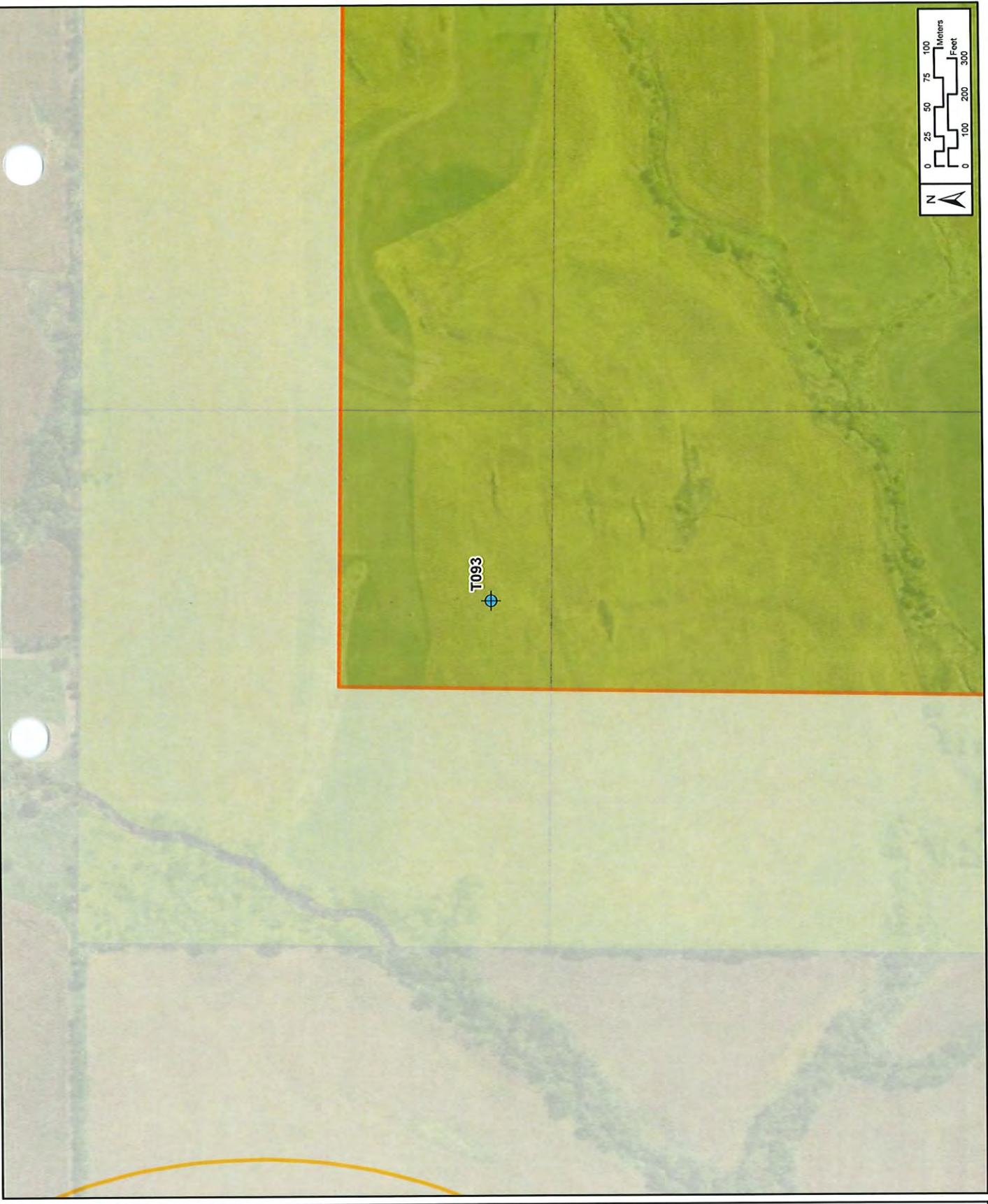
Black Maple Wind Turbine Setbacks: T093

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)

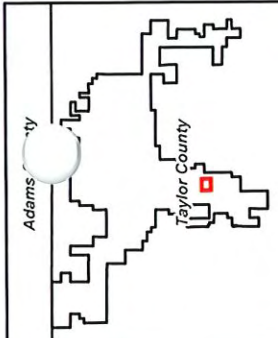
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T093	3,120	4,531	966	3,538	7,265	2.84	4.14	2.50



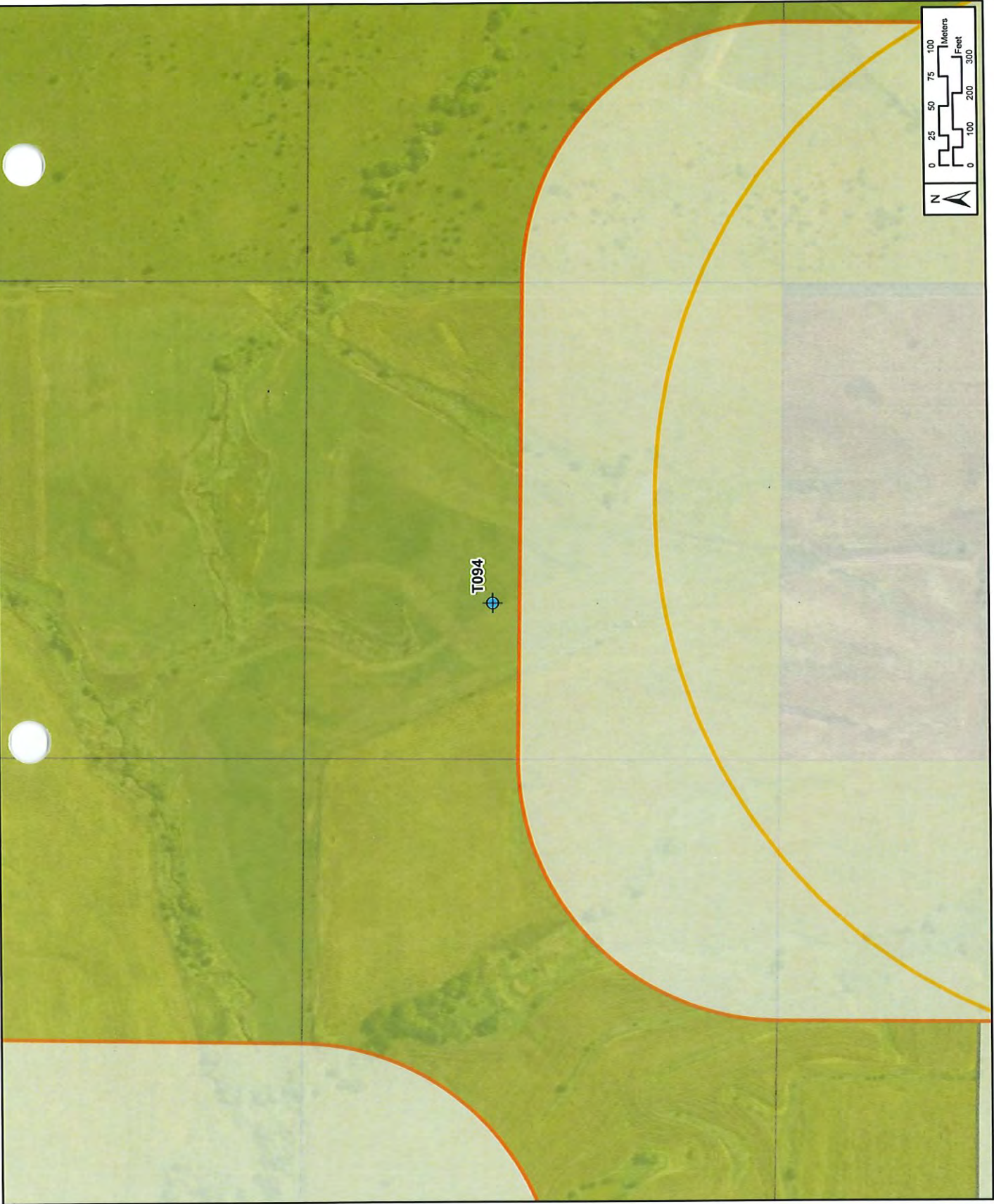
Black Maple Wind Turbine Setbacks: T094

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way Lines (setback is 721 feet)

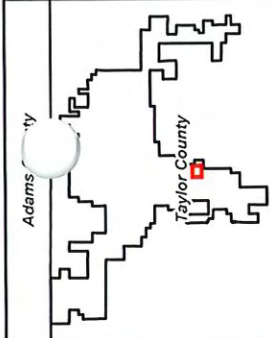
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T094	1,966	6,484	796	2,081	7,845	2.43	3.75	2.54



Black Maple Wind Turbine Setbacks: T095

-  Turbine*
-  Project Area
-  Participating Parcel
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)

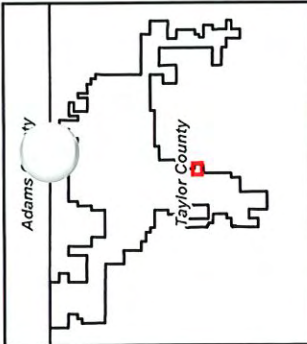
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T095	4,289	7,023	1,963	769	10,985	2.87	3.72	2.20



Black Maple Wind Turbine Setbacks: T096

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

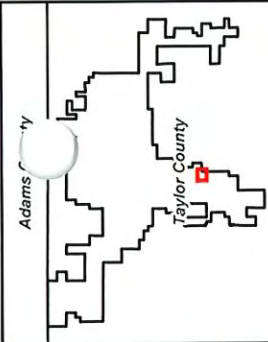
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T096	4,098	5,523	818	1,132	12,889	2.85	3.47	1.91



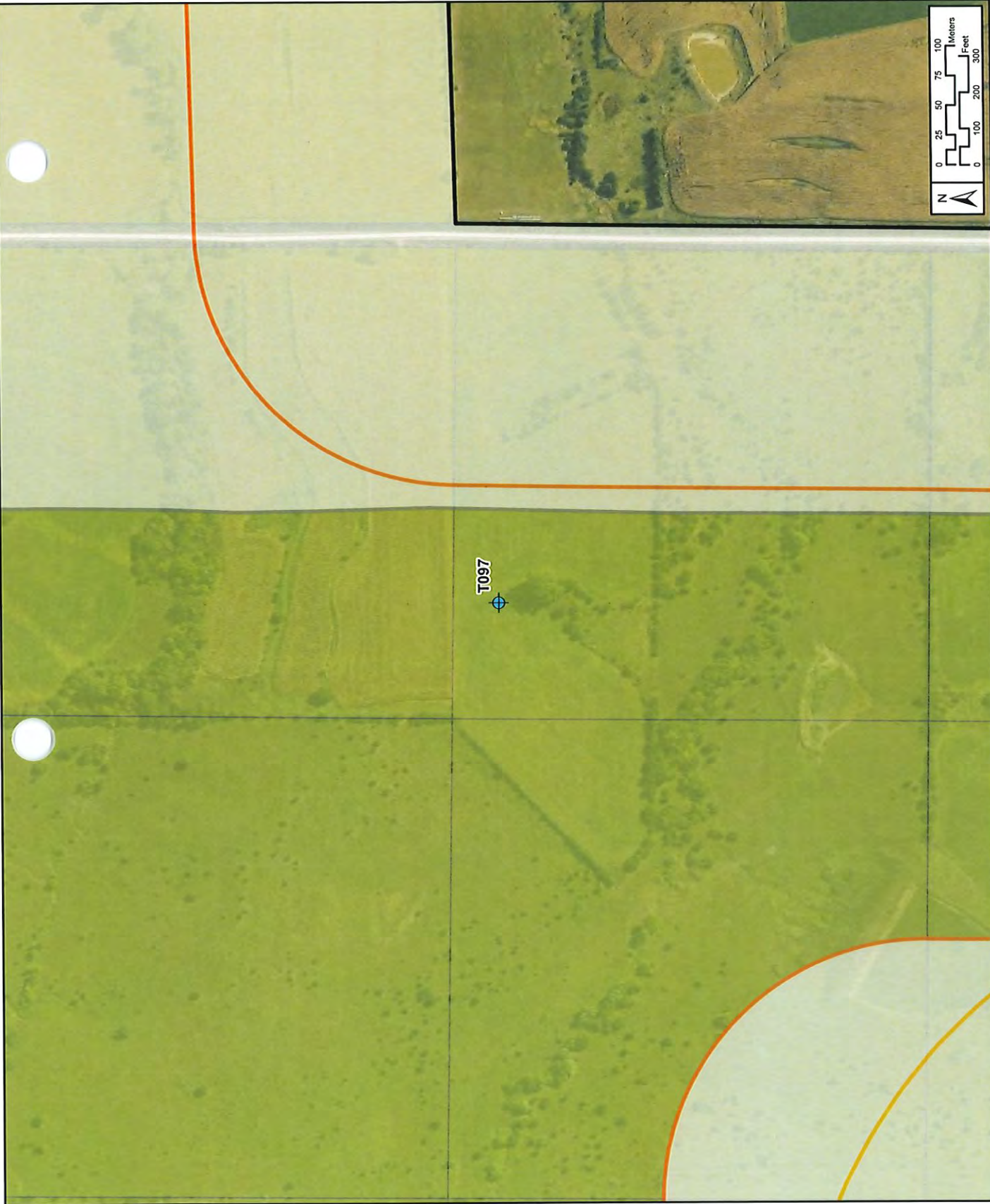
Black Maple Wind Turbine Setbacks: T097

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way Lines (setback is 721 feet)

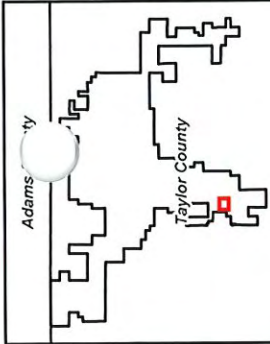
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T097	3,218	6,086	1,044	979	10,403	2.47	3.45	2.46



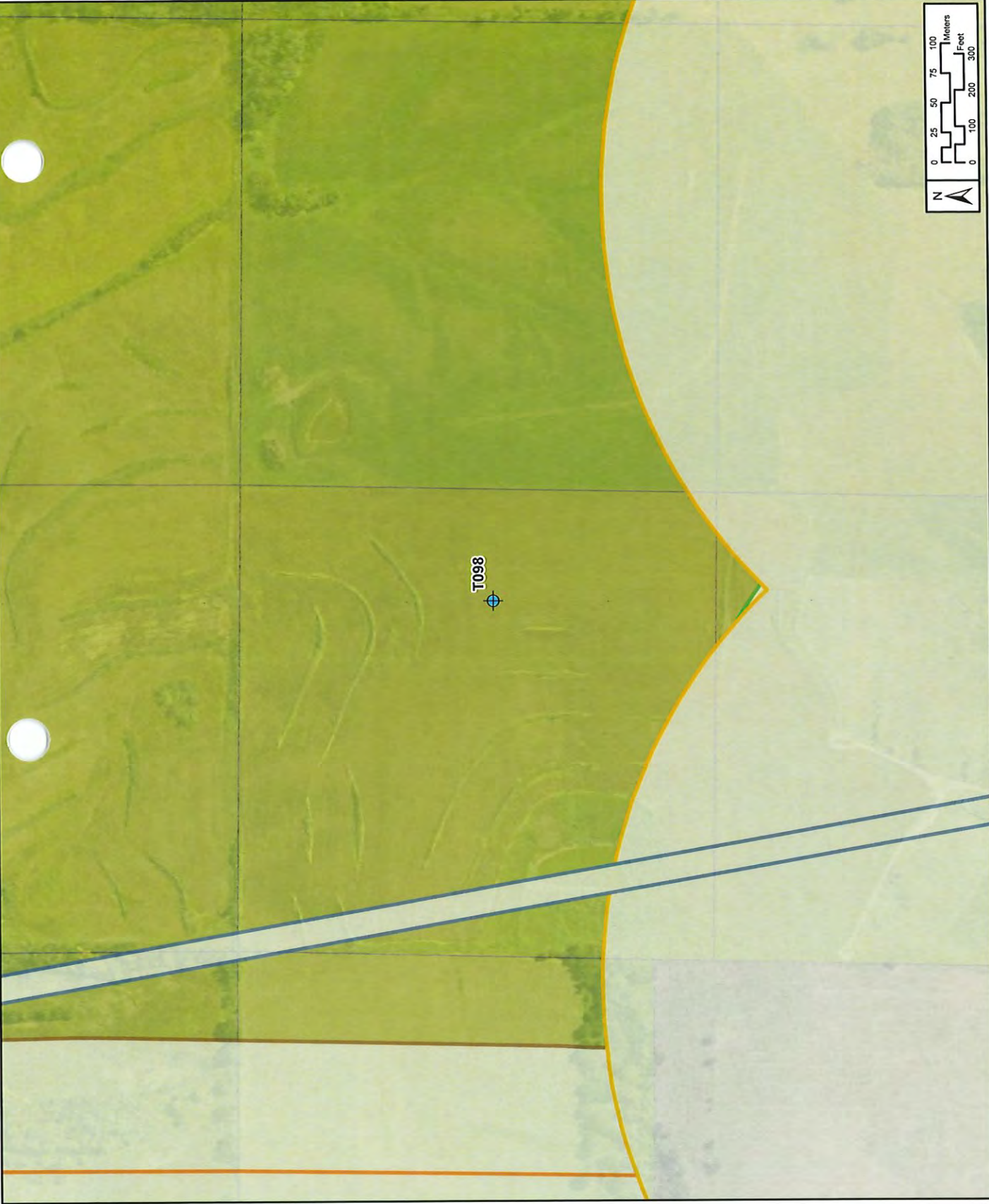
Black Maple Wind Turbine Setbacks: T098

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)
-  Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)
-  Municipalities (setback is one mile)

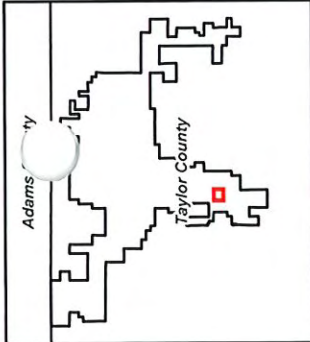
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T098	2,079	1,879	1,842	1,923	776	2.10	4.28	1.23



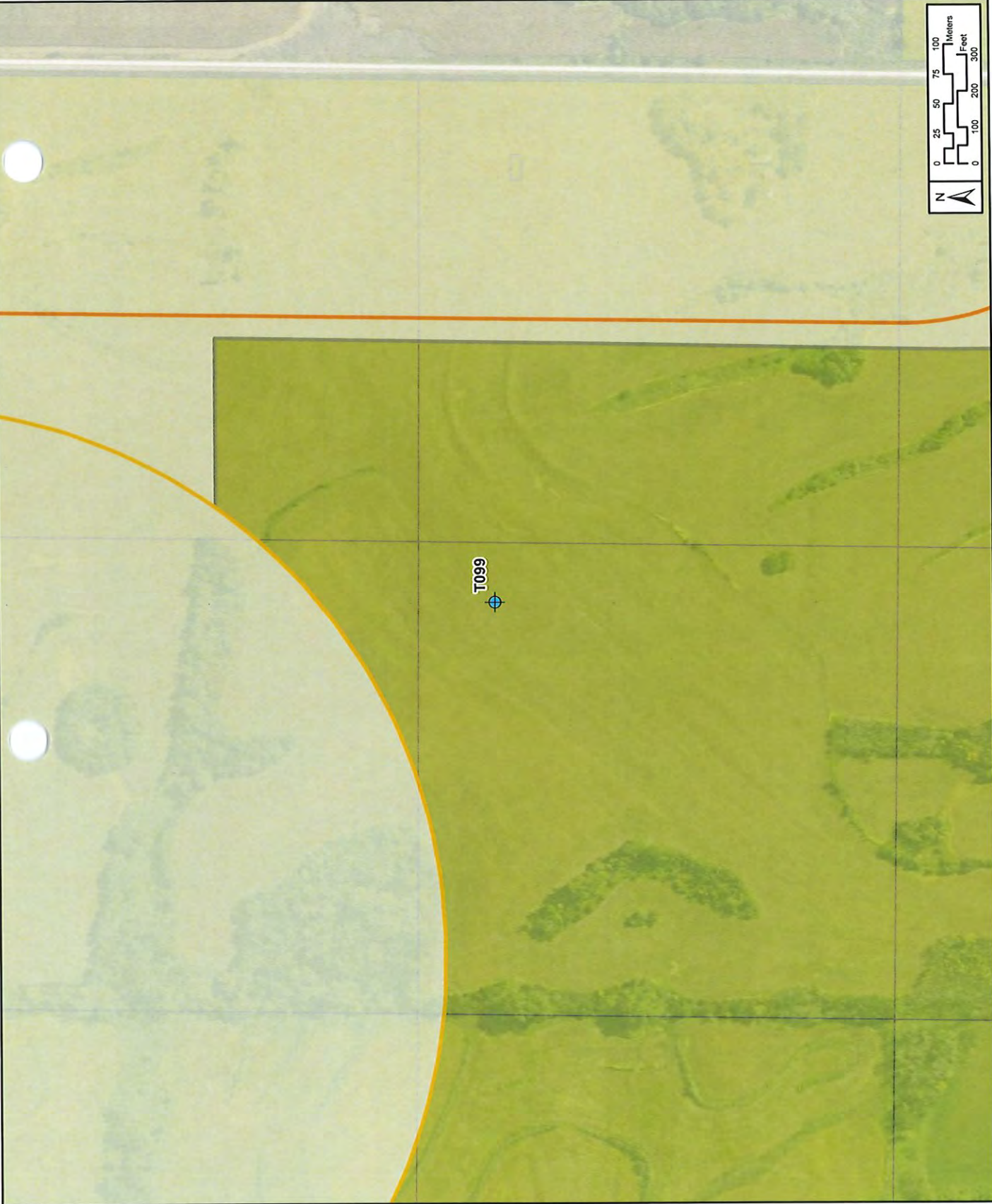
Black Maple Wind Turbine Setbacks: T099

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

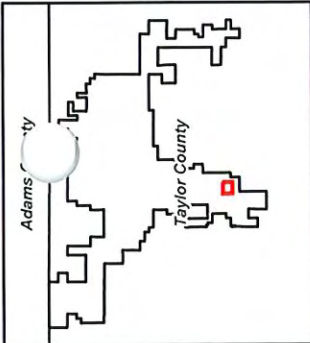
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T099	1,900	4,926	1,502	1,437	3,803	2.02	3.93	1.75



Black Maple Wind Turbine Setbacks: T100

- Turbine*
- Project Area
- Participating Parcel
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)

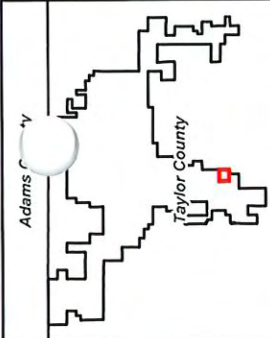
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T100	4,129	4,030	1,762	774	5,699	1.31	3.28	2.22



Black Maple Wind Turbine Setbacks: T101

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

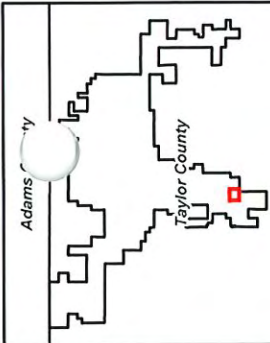
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T101	2,299	6,104	1,054	1,552	8,073	1.31	2.86	2.74



Black Maple Wind Turbine Setbacks: T102

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)

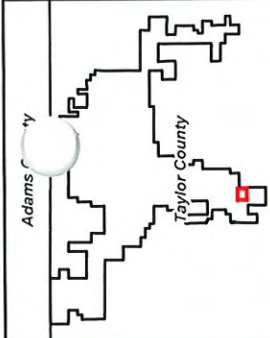
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T102	2,487	1,902	1,691	888	3,411	1.24	3.53	1.86



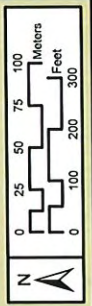
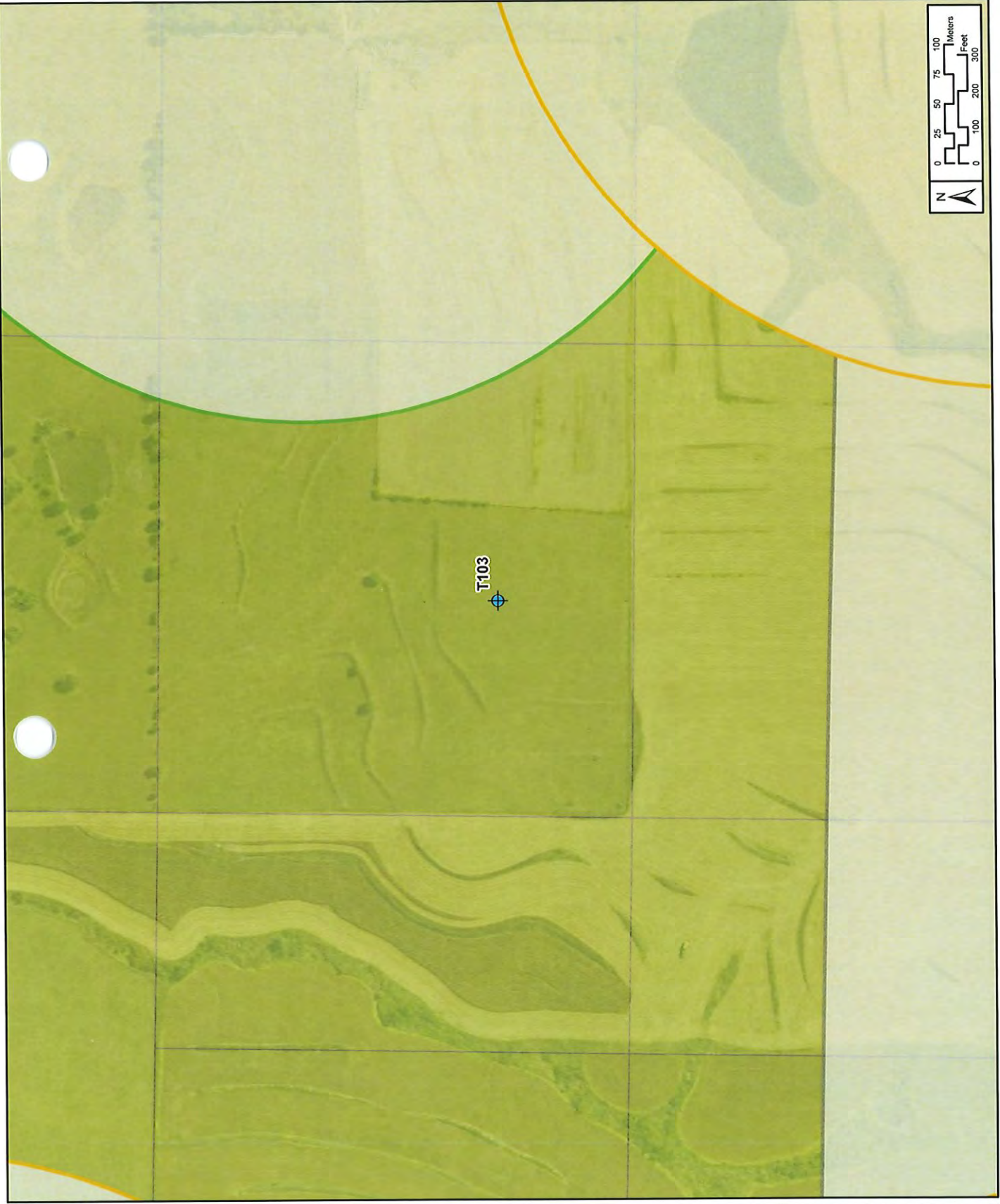
Black Maple Wind Turbine Setbacks: T103

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)

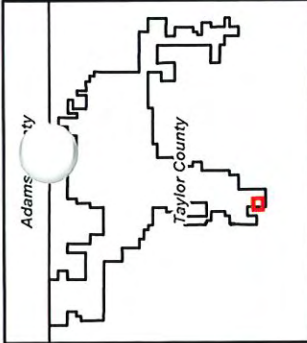
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T103	2,541	1,825	1,982	1,638	1,892	1.22	3.67	1.77



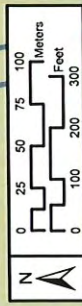
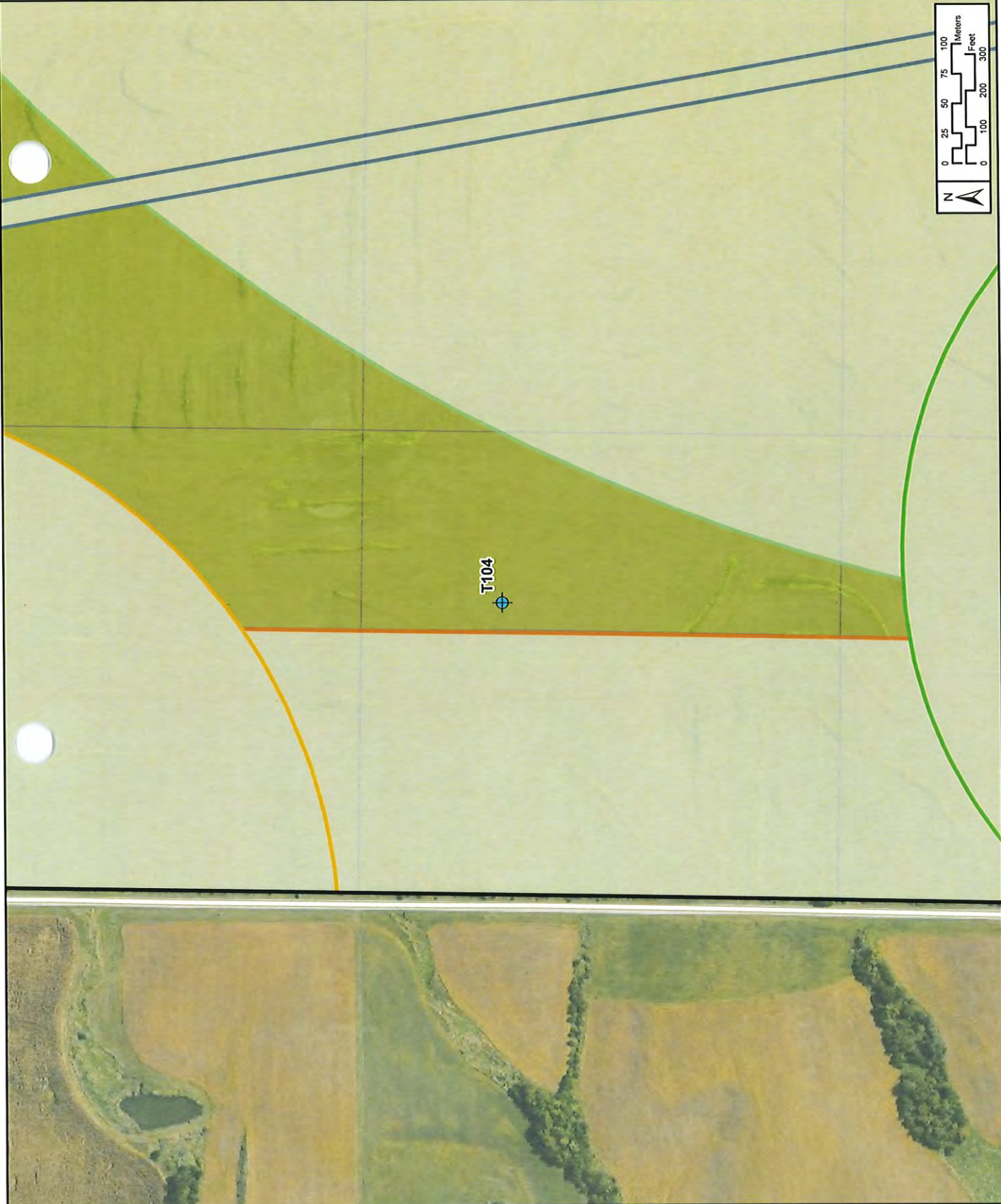
Black Maple Wind Turbine Setbacks: T104

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)
- State & Federal Parks and Areas under TCCB Management (setback is one mile)

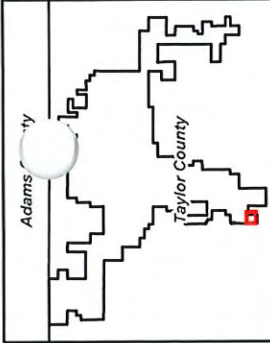
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T104	2,159	2,354	801	800	1,256	1.08	4.12	1.96



Black Maple Wind Turbine Setbacks: T105

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Municipalities (setback is one mile)

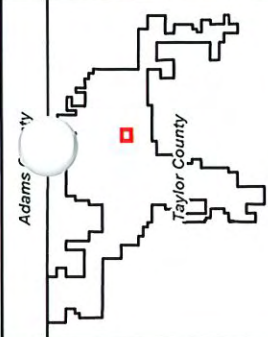
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCEB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T105	2,516	2,157	793	773	5,010	1.98	4.89	1.21



Black Maple Wind Turbine Setbacks: T106

-  Turbine*
-  Project Area
-  Participating Parcel
-  Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
-  Inhabited Structures - Participating Landowners (setback is 1,250 feet)
-  Nonparticipating Property Lines (setback is 721 feet)
-  Road Public Right-of-Way (setback is 721 feet)
-  Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

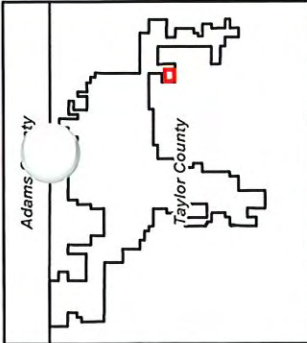
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T106	2,016	2,025	846	778	810	5.16	6.61	2.10



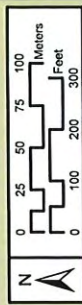
Black Maple Wind Turbine Setbacks: T107

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)
- Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)

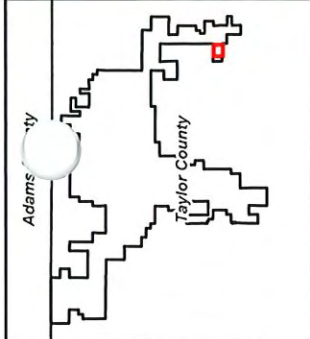
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T107	2,469	2,408	1,604	1,598	945	2.74	5.14	2.87



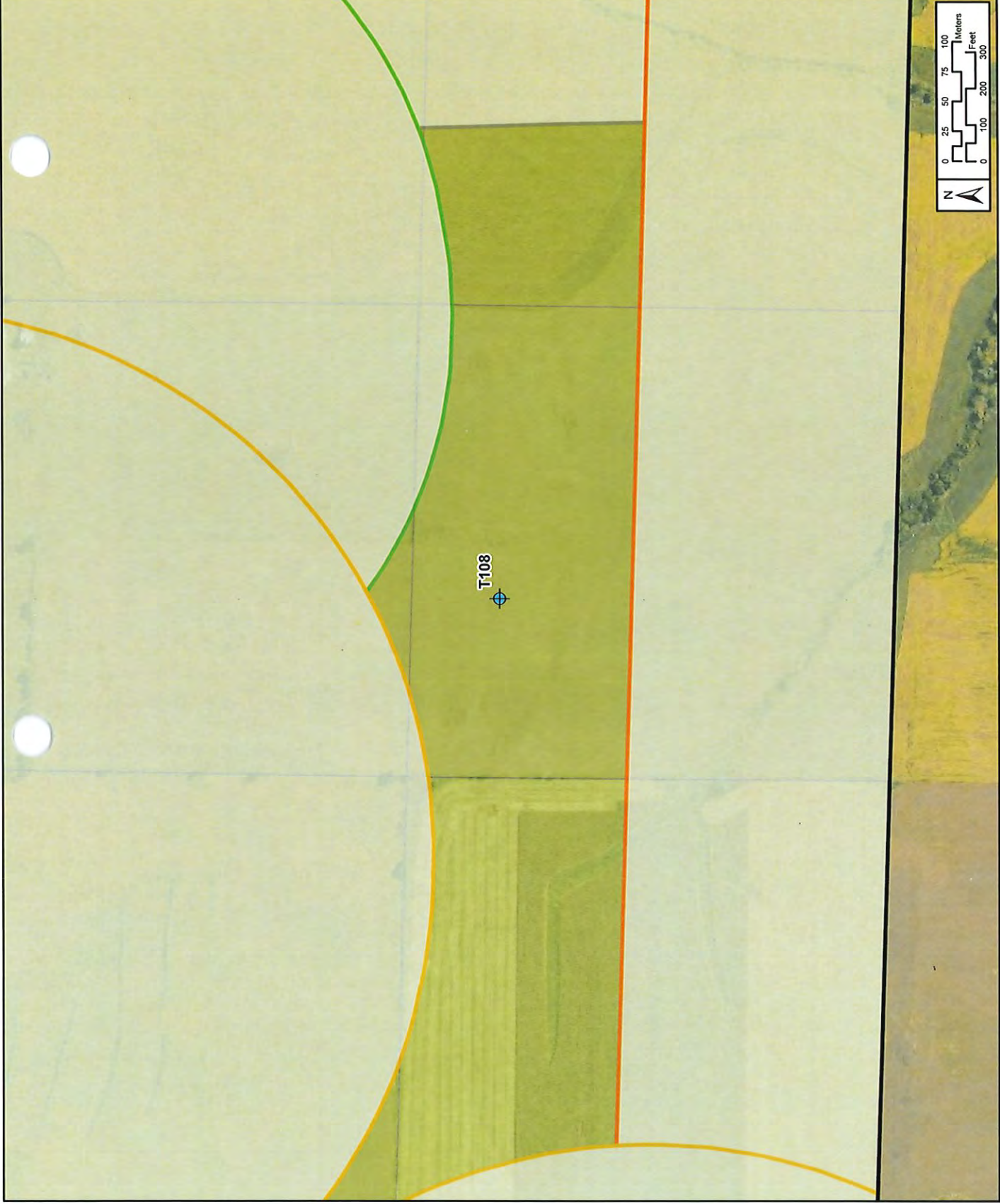
Black Maple Wind Turbine Setbacks: T108

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet)
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

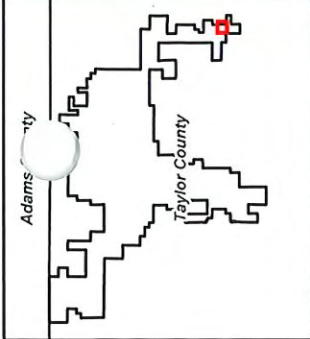
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T108	1,822	1,569	1,083	1,535	6,579	4.82	4.43	3.25



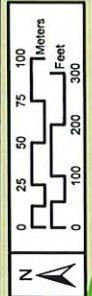
Black Maple Wind Turbine Setbacks: T109

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

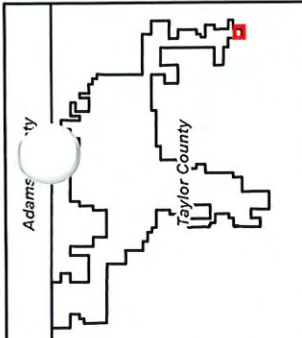
*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T109	5,182	2,651	849	779	12,929	5.05	4.68	2.74



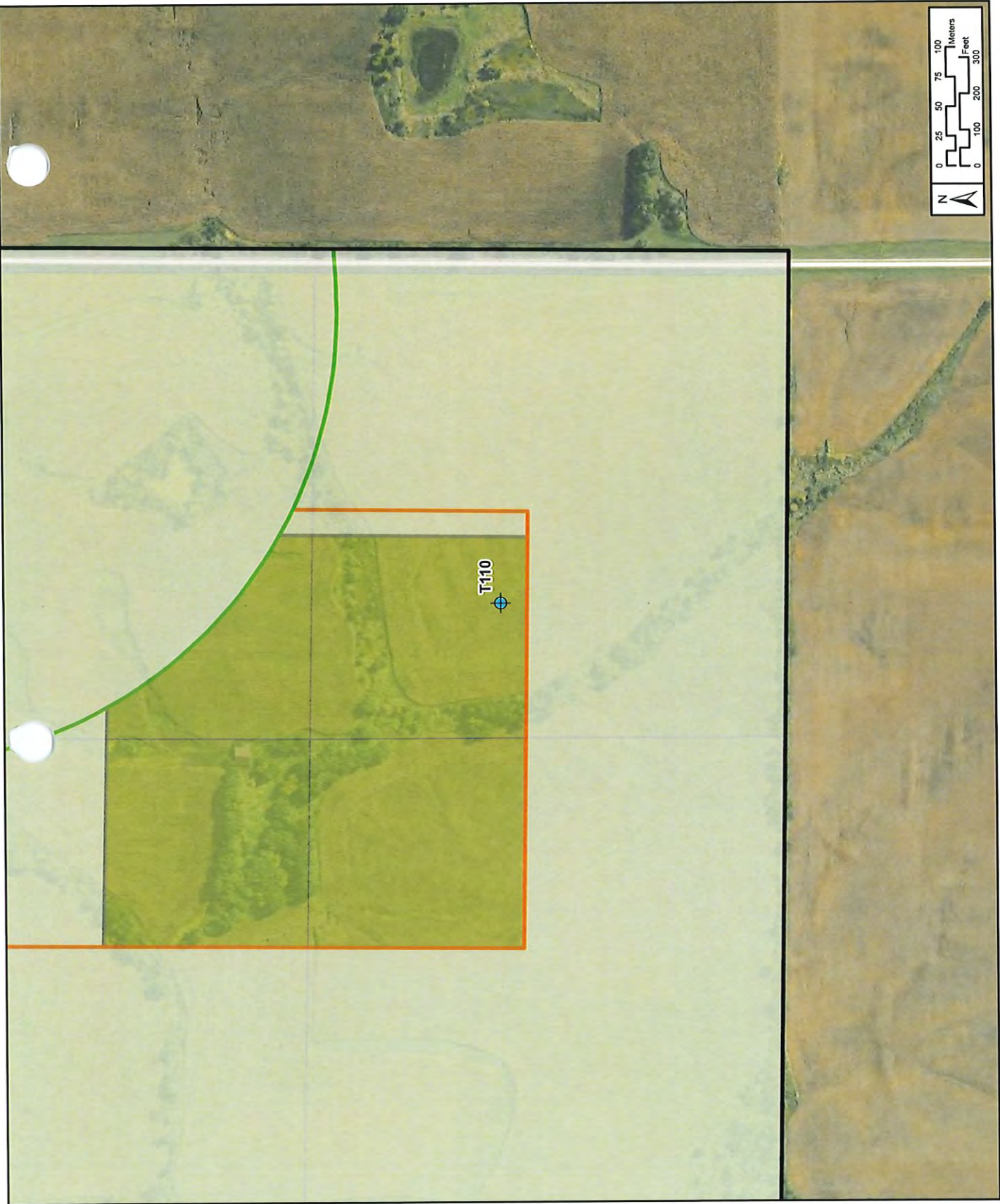
Black Maple Wind Turbine Setbacks: T110

- Turbine*
- Project Area
- Participating Parcel
- Inhabited Structures - Participating Landowners (setback is 1,250 feet)
- Nonparticipating Property Lines (setback is 721 feet)
- Road Public Right-of-Way (setback is 721 feet)

*Turbines are not drawn to scale.



Date: 7/22/2026



Turbine Number	Inhabited Structures - Non-Participating Landowner (setback is 1,500 feet) - distance of closest to each turbine (feet)	Inhabited Structures - Participating Landowners (setback is 1,250 feet) - distance of closest to each turbine (feet)	Property Lines (setback is 721 feet) - distance of closest to each turbine (feet)	Public Right-of-Way (setback is 721 feet) - distance of closest to each turbine (feet)	Worst Case Fresnel Zone (turbines must avoid) - distance of closest to each turbine (feet)	State & Federal Parks and Areas under TCCB Management (setback is one mile) - distance of closest to each turbine (miles)	Other Parks (setback is one-half mile) - distance of closest to each turbine (mile)	Municipalities (setback is one mile) - distance of closest to each turbine (miles)
T110	4,725	1,877	793	905	12,321	5.86	3.86	3.47

Appendix B.1

**Representative Engineer's Certification of Wind
Turbines (§3.A.6)**

Type Certificate

Registration no. 44 220 21850888-TC-IEC-b, Rev. 9

This Certificate is issued to GE Wind Energy GmbH
Holsterfeld 16
48499 Salzbergen
Germany

For the wind turbine GE 6.1-158, GE 5.x-158, GE 4.X-158

WT Class IEC S

This Certificate attests compliance with the below cited certification scheme and standards.

Certification scheme:

IEC 61400-22 "Wind turbines - Part 22: Conformity testing and certification", Edition 1.0, 2010-05

In combination with:

IEC 61400-1 "Wind Turbines - Part 1: Design requirements", Third Edition, 2005-08 and Amendment 1, 2010-10

The wind turbine type is specified on pages 3 - 29 of this Certificate.

Any change in the design, the production and erection or the manufacturer's quality system has to be approved by TÜV NORD CERT GmbH. Without approval this Certificate loses its validity.

Provided that valid Component Certificates of the Rotor Blades are available, this Certificate is valid until: 2027-01-30 (First issue: 2022-01-31)

(under the condition of regular maintenance according to chapter 6.5.2 of IEC 61400-22)

Essen, 2024-07-25

TÜV NORD CERT GmbH
Certification Body, Wind Energy
Am TÜV 1 | 45307 Essen
email: windenergy@tuev-nord.de

Dr. F. Messer

TÜV®



Form P20-F-2005, Rev.07 / 05.23

THE CERTIFICATE IS BASED ON THE FOLLOWING REFERENCE DOCUMENTS:

Conformity Statements:

TÜV NORD 44 220 19711611-TDB-IEC	Design Basis	Rev. 7	2023-01-12
TÜV NORD 44 220 21850888-D-IEC-b	Design Evaluation	Rev. 10	2024-07-25
TÜV NORD 44 220 19288026-M-IEC	Manufacturing Evaluation	Rev. 14	2023-11-24
TÜV NORD 44 220 19288026-T-IEC	Type Testing	Rev. 5	2024-02-08
TÜV NORD 44 220 21554772-CC-IEC	Component Certificate for LM77.4P3 (valid until 2026-12-09)	Rev. 1	2022-06-20
TÜV NORD 44 220 21884831-CC-IEC	Component Certificate for LM77.4P6 / IMS (valid until 2026-12-09)	Rev. 0	2021-12-10

Final Evaluation Report:

TÜV NORD ER-811 850888-020-02-10	GE6.1-158, GE5.x-158, GE4.x-158 (60Hz)	Rev. 10	2024-07-25
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WIND TURBINE TYPE SPECIFICATION:

Machine parameters:

Model	GE6.1-158, GE5.x-158, GE4.x-158
Type	Horizontal axis wind turbine with variable rotor speed
Wind turbine manufacturer and country	GE Wind Energy GmbH, Germany
Power regulation	Independent electromechanical pitch system for each blade
Variable Rating Concept	Torque and Thrust based
Rotor diameter	158 m
Rotor orientation	Upwind
Number of rotor blades	3
Rotor tilt	4°
Cone angle	5°
IEC WT class	S
Operating wind speed range $V_{in} - V_{out}$	3 – 25 m/s (reduced power mode above V_{HWSNR})
Operating range rotational speed	6 – 12 rpm
Lightning protection class	Protection class 1 as per IEC 61400-24
Software version	see Control & Safety System

Electrical network conditions:

Normal supply voltage and range	33 kV, 34.5 kV $\pm 10\%$
Normal supply frequency and range	60 Hz ± 3 Hz
Voltage imbalance	4%
Maximum duration of electrical power network outages	no information
Number of electrical network outages	290/ year

Other environmental conditions:

Normal climate conditions (STW)	
Operational temperature range	-15°C - +40°C (Start: - 10°C, derated above 35°C)
Survival temperature range	-20°C - +50°C
Cold climate conditions (CWE)	
Operational temperature range	-30°C - +40°C (Start: - 10°C, derated above 35°C and below - 15°C)
Survival temperature range	-40°C - +50°C
Air density	see table below
Relative humidity of the air	up to 95%
Solar radiation	1000 W/m ²
Ice conditions	STW: No ice considered CWE: see table below
Earthquake model and parameters	not considered

Wind turbine configurations:

Configuration	1 (PRD 68)	2 (PRD 69)	3 (PRD 35)	4 (PRD 136)
Max Rated Power	5530 kW	5530 kW	5530 kW	6130 kW
Variable Rating	possible variable rating from 5530 kW down to 4500 kW	possible variable rating from 5530 kW down to 4500 kW	possible variable rating from 5530 kW down to 4500 kW	possible variable rating from 6130 kW down to 4830 kW
Hub Height	107.4 m	125.4 m	101 m	125.4 m
Frequency	60 Hz	60 Hz	60 Hz	60 Hz
Rated wind speed	11.55 m/s	11.55 m/s	11.55 m/s	12 m/s
Rated rpm	9.7 rpm	10.1 rpm	10.1 rpm	10.1 rpm
IEC WT class	S	S	S	S
Design Lifetime WT	20 years ⁽⁴⁾	25 years ^(3,4)	25 years ^(3,4)	25 years ^(3,4)
I_{ref}	Specific turbulence profile ⁽²⁾	Specific turbulence profile ⁽²⁾	Specific turbulence profile ⁽²⁾	Specific turbulence profile ⁽²⁾
V_{ave}	9.5 m/s ⁽¹⁾	9.6 m/s ⁽¹⁾	10.2 m/s ⁽¹⁾	7.2 m/s ⁽¹⁾
V_{ref}	28.0 m/s	28.0 m/s	36.4 m/s	40 m/s
V_{e50}	39.2 m/s	39.2 m/s	50.96 m/s	56 m/s
Mean inflow	0.3°	2.7°	6.9°	2.7°
Air density	1.156 kg/m ³	1.138 kg/m ³	1.104 kg/m ³	1.096 kg/m ³
Climate	STW	STW	STW	STW
Ice conditions	none	none	none	none
V_{HWSNR}	15 m/s	15 m/s	15 m/s	18 m/s
Special blade feature:	-	-	-	-

Configuration	5 (PRD 142)	6 (PRD 169)	7 (PRD 153)
Max Rated Power	6130 kW	6130 kW	6130 kW
Variable Rating	possible variable rating from 6130 kW down to 4830 kW	possible variable rating from 6130 kW down to 4830 kW	possible variable rating from 6130 kW down to 4930 kW
Hub Height	101 m	117 m	101 m
Frequency	60 Hz	60 Hz	60 Hz
Rated wind speed	12 m/s	11.55 m/s	12 m/s
Rated rpm	10.1 rpm	10.1 rpm	10.1 rpm
IEC WT class	S	S	S
Design Lifetime WT	25 years ^(3,4)	20 years	25 years ^(3,5,6)
I_{ref}	Specific turbulence profile ⁽²⁾	Specific turbulence profile ⁽²⁾	Specific turbulence profile ⁽²⁾
V_{ave}	7.2 m/s ⁽¹⁾	7.9 m/s	7.25 m/s
V_{ref}	40 m/s	39.9 m/s	39.9 m/s
V_{e50}	56 m/s	55.86 m/s	55.86 m/s
Mean inflow	6.9°	1.6°	0.7°
Air density	1.104 kg/m ³	1.089 kg/m ³	1.103 kg/m ³
Climate	STW	STW / CWE	STW/CWE
Icing conditions	none	168 hours/year	168 hours/year
V_{HWSNR}	18 m/s	18 m/s	18 m/s
Special blade feature:	-	-	optional VGs Extension for LM77.4P3

⁽¹⁾Reported V_{ave} corresponds to the value used for Extreme Loads. For Fatigue Loads, refer to corresponding evaluation report in the Design Evaluation Conformity Statement

⁽²⁾Details available in loads evaluation report in the Design Evaluation Conformity Statement

⁽³⁾Design lifetime of components relevant for operation of safety functions: 20 years, replacement required to continue

⁽⁴⁾Design lifetime pitch drive: 15 years when equipped with LM77.4P3 blades or LM77.4P6 blades

⁽⁵⁾Design lifetime pitch drive: 20 years when equipped with LM77.4P3 blades

⁽⁶⁾Design lifetime pitch drive: 15 years when equipped with LM77.4P3 (Extended VGs) blades (PRD153)

MAJOR COMPONENTS:

Manufacturing site(s) for hub and nacelle assembly:

- (1) GE GE Wind Energy, Salzbergen, Germany
- (2) GE Wind Energy Equipment Manufacturing (Shenyang), China
- (3) GE Energia Renováveis Ltda, Camaçari, Brazil
- (4) GE Vernova Operations LLC, Schenectady, NY, USA

Nacelle cover

Designed by:
GE Part no.:
450W4798G002 (Brackets)

GE Renewable Energy
450W4473G001 (Cover)

Alternative
GE Part no.:

450W4473G003 (Cover)
450W4798G004 (Brackets)

Alternative
GE Part no.:

451W6589G001 (Cover)
450W4798G004 (Brackets)

Alternative
GE Part no.:

453W0897G001 (Cover)
450W4798G004 (Brackets)

Alternative
GE Part no.:

450W4473G004 (Cover)
450W4798G005 (Brackets)

Alternative
GE Part no.:

453W5175G001 (Cover)
450W4798G005 (Brackets)

Blade

For configurations 1-7

Designed by:
Designation:
Material:

LM Wind Power Group
LM77.4P3 Gen A
E-glass and carbon fibre reinforced polyester

Blade length:

77.491 m

Number of blades:

3

Drawing no.:

DR-09345/A6, Rev. A6

GE PN (root group, version 1):

451W4184G001-G018

GE PN (tip group, version 1):

451W4182G001-G014

alternative:

GE PN (root group, version 2):

454W9440G001

GE PN (tip group, version 2):
 alternative:
 GE PN (root group, version 3):
 GE PN (tip group, version 3):
 Specification:
 Attachments:

455W0060G001
 454W7941G001-G005
 454W9251G001-G012
 BS-01170/A5, Rev. A5
 Vortex Generators / Serrations / LNTE
 T-spoilers / Stiffner plate

Alternative for configurations 1-7

Designed by:
 Designation:
 Material:

LM Wind Power Group
 LM77.4P3 Gen B
 E-glass and carbon fibre reinforced
 polyester
 77.491 m

Blade length:
 Number of blades:
 Drawing no.:
 GE PN (root group):
 GE PN (tip group):
 Alternative:
 GE PN (root group):
 GE PN (tip group):
 Alternative:
 GE PN (root group):
 GE PN (tip group):
 Specification:
 Attachments:

3
 DR-09345/A6, Rev. A6
 454W3270G001-G012
 451W4182G001-G014
 454W9440G002
 455W0060G001
 454W9248G001-G012
 454W9251G001-G012
 BS-01170/A5, Rev. A5
 Vortex Generators / Serrations / LNTE
 T-spoilers / Stiffner plate

Alternative for configuration 7

Designed by:
 Designation:
 Material:

LM Wind Power Group
 LM77.4P3 Gen B (VG Extn)
 E-glass and carbon fibre reinforced
 polyester
 77.491 m

Blade length:
 Number of blades:
 Drawing no.:
 GE PN (root group, version 1):
 GE PN (tip group, version 1):
 alternative:
 GE PN (root group, version 2):
 GE PN (tip group, version 2):
 Specification:
 Attachments:

3
 DR-09345/A6, Rev. A6
 455W1820G001-G010
 454W9251G001-G012
 456W6183P001/P002/P004/P005/P007
 454W9251G001-G012
 BS-01170/A5, Rev. A5
 Extended Vortex Generators /
 Serrations / LNTE
 T-spoilers / Stiffner plate

Alternative for configurations 1-6

Designed by:	LM Wind Power Group
Designation:	LM77.4P6 with IMS
Material:	E-glass and carbon fibre reinforced polyester
Blade length:	77.491 m
Number of blades:	3
Drawing no.:	DR-15590/A4, Rev. A4
GE PN:	452W3948G001 452W3948G002
Specification:	BS-01369/A2, Rev. A2
Attachments:	Vortex Generators / Serrations / LNTE T-spoilers / Stiffner plate

Alternative for configurations 1-6

Designed by:	LM Wind Power Group
Designation:	LM77.4P6 without IMS
Material:	E-glass and carbon fibre reinforced polyester
Blade length:	77.491 m
Number of blades:	3
Drawing no.:	DR-15590/A4, Rev. A4
GE PN:	452W8900G001-G004 454W5940G001-G005 454W9316G001-G002
Specification:	BS-01510/A2, Rev. A2
Attachments:	Vortex Generators / Serrations / LNTE T-spoilers / Stiffner plate

Manufacturer/Site:	LM Wind Power A/S All manufacturing sites covered by same global Manufacturing process and ISO9001 certificate 10000451440-MSC-DANAK-DNK
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Blade bearing

Type:	Ball bearing slewing ring
Designed by:	GE Renewable Energy
Designation:	448W4841G001/G002
Drawing no.:	448W4841, Rev. A, dated 2020-01-08
Manufacturer/Site:	(1) Tianma (Chengdu) Precision Machinery Co. Ltd., Chengdu, P.R. China (2) Shilla Brazil Industria de Rolament de Giro Ltda, Tiete, Brazil (3) SKF do Brazil Ltda, Cajamar, Brazil

Alternative

Designed by:

GE Part no.:

Drawing no.:

Manufacturer/Site:

GE Renewable Energy

452W1372G001

453W6327G001

452W1372, Rev. C, dated 2022-01-10

453W6327, Rev. -, dated 2021-10-25

(1) Shilla Brazil Industria de Rolament de Giro Ltda, Tiete, Brazil

(2) SKF do Brazil Ltda, Cajamar, Brazil

(3) Liebherr Components GmbH, Biberach, Germany

(4) Tianma (Chengdu) Precision Machinery Co. Ltd., Chengdu, P.R. China

Alternative

Designed by:

GE Part no.:

Drawing no.:

Manufacturer/Site:

GE Renewable Energy

453W1204G001

453W1204, Rev. A, dated 2022-04-12

(1) SKF do Brazil Ltda, Cajamar, Brazil

(2) Liebherr Components GmbH, Biberach, Germany

(3) Shilla Brazil Industria de Rolament de Giro Ltda, Tiete, Brazil

(4) Tianma (Chengdu) Precision Machinery Co. Ltd., Chengdu, P.R. China

Alternative

Designed by:

GE Part no.:

Drawing no.:

Manufacturer/Site:

GE Renewable Energy

457W0239G001

457W0239, Rev. -, dated 2023-09-29

(1) SKF do Brazil Ltda, Cajamar, Brazil

(2) Liebherr Components GmbH, Biberach, Germany

(3) Shilla Brazil Industria de Rolament de Giro Ltda, Tiete, Brazil

(4) Tianma (Chengdu) Precision Machinery Co. Ltd., Chengdu, P.R. China

Pitch Motor

Designed by:

GE Part no.:

GE VSPN:

Designation:

AMD /Nidec

448W0101P001

448W3984P001

1175.291.1256

Alternative

Designed by:
GE Part no.:
GE VSPN:
Designation:

AMD /Nidec
451W6807P002
451W6808P002
1175.291.1682

Pitch drive

Type:
Designed by:
Designation:
Drawing no.:
GE Part no.:
GE VSPN:
Manufacturer/Site:

3-stage planetary gearbox
Bonfiglioli Trasmital
2T709T3157A02
I7090T012600, Rev. D, dated 2019-02-01
446W6974P001
446W6973P001
(1) Bonfiglioli Riduttori S.p.A., Bologna, Italy

Alternative

Designed by:
Designation:
Drawing no.:
GE Part no.:
GE VSPN:
Manufacturer/Site:

Liebherr Components Biberach GmbH
DAT 350/2491 V2 (12805547)
268 491 3000 99 2, Rev.02, dated 2019-10-14
446W6974P001
448W3394P001
(1) Liebherr Machinery (Dalian) Co., Ltd., China
(2) Liebherr Components GmbH, Biberach, Germany

Alternative

Designed by:
Designation:
Drawing no.:
GE Part no.:
GE VSPN:
Manufacturer/Site:

SEW Eurodrive Brasil
PW022
2422 433 2.30.1, Rev.00, dated 2019-06-08
446W6974P001
449W7381P001
(1) Sew-Eurodrive Brasil Ltda, Indaiatuba, Brazil

Alternative

Designed by:
Designation:
Drawing no.:
GE Part no.:
GE VSPN:
Manufacturer/Site:

NGC
FDX104E-01-00R3
FDX104E-01-00R3, Rev. B, dated 2020-06-18
446W6974P001
451W2061P001
(1) Nanjing High Speed & Accurate Gear, Nanjing, China

Pitch lock

Type:
Designed by:
GE Part no.:

Drawing no.:

Blade Locking Device
GE Renewable Energy
449W5494
450W2224
449W5494, Rev. -, dated 2019-08-22
450W2224, Rev. -, dated 2020-01-09

Hub

Type:
Designed by:
Designed by:
Material:
GE Part no.:

Drawing no. (machining):

Drawing no. (casting):
Manufacturer/Site:

Cast
GE Renewable Energy
GE Renewable Energy
acc. to spec. B50WE001
449W9972G001 (serial, standard)
450W0325G001/G003 (Serial. IMS)
451W4185G001/G003
454W5903G001
457W1688G001
449W9972, Rev. -, dated 2020-01-31
450W0325, Rev. -, dated 2020-01-31
451W4185, Rev. A, dated 2021-10-12
454W5903, Rev. -, dated 2022-06-08
457W1688, Rev. -, dated 2024-01-03
449W9971, Rev. -, dated 2019-11-15
(1) Jiangsu FAW Foundry Co. Ltd, Wuxi, Jiangsu, P.R. China
(2) Himile Mechanical Science and Technology Co. Ltd, Shandong, P.R. China
(3) Stepan ind de Maquinas e Motoresl, Campinas, Brazil
(4) Jiangsu Sinojit Wind Energy Technology Co. Ltd., Jiangyin City, P.R. China

Main shaft

Type:
Designed by:
Material:
GE Part no.:

Drawing no.:

Manufacturer/Site:

Forged
GE Renewable Energy
34CrNiMo6, WTG-113 acc. to spec.
450W3625G001/G002
454W2923G001/G002
450W3625, Rev. -, dated 2020-06-10
454W2923, Rev. -, dated 2020-06-10
(1) Tongyu Heavy Industry Co. Ltd, Yucheng City, P.R. China
(2) Jinlei Technology Co. Ltd., Laiwu City, Shandong, P.R. China
(3) Mecanizados Tar, S.L., Arrona-Zestoa, Spain

Main bearing

Type:	Spherical roller bearing
Designed by:	NTN Bearing Corporation of America
GE Part no.:	448W2212P001
	456W6326P001
GE VSPN:	456W6327P001
Designation:	5MX4-240/1120BPX3V4S30
	240/1120BPX3V4S30
Drawing no.:	19-01937, Rev. -, dated 2019-03-15
	23-03183-A, Rev. -, dated 2024-01-19
Manufacturer/Site:	(1) NTN Houdatsushimizu Corporation, Ishikawa, Japan
	(2) NTN Waelzlager Europa GmbH, Erkrath, Germany

Alternative

Designed by:	Schaeffler Technologies AG & Co. KG
GE Part no.:	448W2212P001
	456W6326P001
GE VSPN:	456W6328P001
Designation:	F-623433.03.PRL-WPO-J48BB
	F-623433.03.PRL-WPO
Drawing no.:	EDD F-623433.03.PRL-WPO-J48BB 000, Rev. AE, dated 2019-03-21
	EDD F-623433.03.PRL-WPO 000, Rev. 00, dated 2023-11-21
Manufacturer/Site:	(1) Schaeffler Technologies AG & Co. KG, Schweinfurt, Germany
	(2) Schaeffler Technologies AG & Co. KG, Brasov, Romania

Low Speed Coupling

Type:	Shrink disc
Designed by:	Stüwe GmbH & Co KG
GE Part no.:	446W5714P001
GE VSPN:	449W0153P001
Designation:	HSD 890-23-2
Main Drawing no.:	HSD 890-23-2, Rev. 1, dated 2018-01-31
Manufacturer/Site:	(1) Stüwe GmbH and Co. KG, Hattingen, Germany

Alternative

Designed by:	Rexnord Tollok
GE Part no.:	446W5714P001

GE VSPN:
Designation:
Main Drawing no.:
Manufacturer/Site:

449W0156P001
TLK622 890x1310 Y2360
Y2360, Rev. -, dated 2018-01-29
(1) Rexnord Tollok S.r.l., Masi Torello, Italy

Alternative

Designed by:
GE Part no.:
GE VSPN:
Designation:
Main Drawing no.:

Manufacturer/Site:

Luoyang Haozhi Machinery Co.,Ltd
446W5714P001
449W0155P001
FN890-23B
446W5714P001 (FN890-23B), Rev. 2,
dated 2019-01-21
(1) Luoyang Haozhi Machinery Co. Ltd.,
Luoyang, P.R. China

Alternative

Designed by:
GE Part no.:
GE VSPN:
Designation:
Main Drawing no.:
Manufacturer/Site:

SIT S.p.A
446W5714P001
449W0154P001
SIT-LOCK 14 4.8/5.3-158
300320/10/CL, Rev. -, dated 2021-10-01
(1) SIT S.p.A., Cusago, Italy

Gearbox

Type:
Designed by:
GE Part no.:

GE VSPN:

Designation:
Gear ratio:
Main drawing no.:
Sectional drawing no.:
Restriction:

Manufacturer/Site:

planetary helical gearbox
ZF Wind Power Antwerpen
451W6174P003
451W6174P005
451W6174P007
451W6175P001 (Hydac Pump / Filter)
451W6175P003 (Hydra Specma Pump /Filter)
451W6175P005 (P001 + Planet Brg. Sensor)
451W6175P007 (P003 + Planet Brg. Sensor)
451W6175P009 (P001 + Housing Modification)
451W6175P011 (P003 + Housing Modification)
EH0941A-0X2 (JB-Version)
142.86
097-EH0941A021, Rev. A, dated 2021-06-17
098-EH0941A021, Rev. A, dated 2020-06-23
**Released for configurations without VG
Extensions only**
(1) ZF Wind Power Antwerpen N.V. Lommel,
Belgium
(2) ZF Wind Power Coimbatore pvt. Ltd.,
Coimbatore, India

Alternative

Type:
Designed by:
GE Part no.:
GE VSPN:

Designation:
Gear ratio:
Main drawing no.:
Sectional drawing no.:
Restriction:

Manufacturer/Site:

planetary helical gearbox
ZF Wind Power Antwerpen
451W6174P011
451W6177P001 (Hydac Pump / Filter)
451W6177P003 (Hydra Specma Pump / Filter)
EH0941B-0X2 (TRB-Version)
142.86
097-EH0941A021, Rev. A, dated 2021-06-17
098-EH0941B011, Rev. A, undated
Released for configurations without VG Extensions only
(1) ZF Wind Power Antwerpen N.V. Lommel, Belgium
(2) ZF Wind Power Coimbatore pvt. Ltd., Coimbatore, India

Alternative

Type:
Designed by:
GE Part no.:
GE VSPN:

Designation:
Gear ratio:
Main drawing no.:
Sectional drawing no.:
Restriction:

Manufacturer /Site:

planetary helical gearbox
Moventas Gears Oy
451W6174P001
451W6176P001 (Hydac Pump + Hydac Filter)
451W6176P003 (Hydac Pump + Agro-Hytos Fil.)
PPH-5700
143.079
GDRM107213, Rev. B, dated 2019-09-09
GDRM105685, Rev. -, dated 2018-04-11
Released for configurations without VG Extensions only
(1) Moventas Gearx Oy, Jyväskylä, Karkkila, Finland

Alternative for configurations 1-7

Type:
Designed by:
GE Part no.:

GE VSPN:

Designation:

Gear ratio:

planetary helical gearbox
ZF Wind Power Antwerpen
451W0528P003
453W3938P001
451W0529P001 (Hydac Pump + Filter)
453W3946P001 (Hydac Pump + Filter)
451W0529P003 (Hydra Specma Pump + Filter)
453W3946P003 (Hydra Specma Pump + Filter)
EH0941A-004
EH0941A-014
142.86

Main drawing no.:
Sectional drawing no.:
Manufacturer/Site:

097-EH0941A003, Rev. C, 2022-12-06
098-EH0941A003, Rev. A, undated
(1) ZF Wind Power Antwerpen N.V. Lommel,
Belgium
(2) ZF Wind Power Coimbatore pvt. Ltd.,
Coimbatore, India

Alternative

Type:
Designed by:
GE Part no.:

planetary helical gearbox
Flender GmbH
451W6174P013
453W3938P003
453W3947P001 (Hydac Lubrication)
452W7004P001 (Hydac Lubrication)
453W3947P003 (Hydra Specma Lubrication)
452W7004P003 (Hydra Specma Lubrication)
PDAJ 3750

GE VSPN:

142.73
F2E01045927A / AA, Rev.001,
dated 2022-08-05
F2E01082750A / AB, Rev.002,
dated 2022-08-04

Designation:
Gear ratio:
Main drawing no.:

Sectional drawing no.:

Restriction:

Released for configurations without VG Extensions only

Manufacturer/Site:

(1) Flender GmbH, Voerde, Germany
(2) Flender Ltd. China, Tianjin, China

Gearbox support

Type:
Designed by:
GE Part no.:

Cast part
GE Renewable Energy
451W2612G001
454W0959G001
455W0592G001
Material: SSDI class C acc. to spec. A50WE053
451W2612, Rev. B, dated 2021-06-01
454W0959, Rev. A, dated 2022-11-03
455W0592, Rev. A, dated 2022-11-03
451W4798, Rev. -, dated 2020-07-30

Main drawing no. (machining):

Main drawing no. (casting):

Gearbox Elastomer Bearing

Type:
Designed by:

GE Part no.:
Designation:
Main drawing no.:

Elastomer bearing
ESM Energie- und
Schwingungstechnik Mitsch GmbH
449W5051P001 (Serial)
UB17_001_02
UB17_001_02, Rev. -, dated 2019-07-30

Generator Elastomer Bearing

Type:	Generator isolation mount
Designed by:	ESM Energie- und Schwingungstechnik Mitsch GmbH
GE Part no.:	448W9164P001
Designation:	ML01_003_44
Main drawing no.:	ML01_003_44_KD, dated 2019-03-15

Generator coupling

Type:	Friction clutch
Designed by:	Flender GmbH
GE Part no.:	449W3630P001/P002
GE VSPN:	449W3633P001
Designation:	ARV-4 KZR 570-4
Main drawing no.:	A5E47722315A_AB, Rev.002, dated 2020-04-21
Manufacturer/Site:	(1) Flender GmbH, Bocholt, Germany

Alternative

Type:	Friction clutch
Designed by:	KTR-Group
GE Part no.:	449W3630P002
GE VSPN:	449W3632P002
Designation:	RADEX-N 220 NANA 4 special
Main drawing no.:	M 809751, Rev. 0, dated 2020-07-13
Manufacturer/Site:	(1) KTR Kupplungstechnik GmbH, Rheine, Germany

Rotor brake

Type:	Hydraulic braking system
Designed by:	KTR Group
GE Part no.:	449W3580P001 (Serial)
GE VSPN:	449W3583P001 (Serial)
Designation:	KTR-STOP YAW M C-40
Number of brakes:	1
Position:	High speed shaft
Drawing no.:	M 777412, Rev.1, dated 2019-08-16
Manufacturer/Site:	(1) KTR Brake Systems GmbH, Schloss Holte Stukenbrock, Germany

Alternative

Designed by:	Svendborg Brakes
GE Part no.:	449W3580P001
	449W3258P001
GE VSPN:	449W2412P001
	449W3259P001

Designation:
Number of brakes:

Drawing no.:

Manufacturer/Site:

BSAB90 / CB90R

1

Position: High speed shaft

490-6914-801, Rev. A, dated 2019-04-04

490-6909-801, Rev. A, dated 2020-03-03

(1) Svendborg Brakes A/S, Vejstrup,
Denmark

(2) Altra Industrial Motion do Brasil S.A.,
Cotia, Brazil

(3) Svendborg Brakes (Shanghai), Shanghai,
China

Alternative

Designed by:

GE Part no.:

GE VSPN:

Designation:

Number of brakes:

Position:

Drawing no.:

Manufacturer/Site:

Antec

449W3580P001

451W2168P001

HE-2-90/110

1

High speed shaft

20.104.587, Rev. J, dated 2020-09-23

(1) Antec Eolica Fabricacao e Comercio de
Freios Ltda, Camacari, Brazil

Low Speed Rotor Lock Disc

Type:

Designed by:

GE Part no.:

Drawing no.:

Manufacturer/Site:

Manual rotor lock disc

GE Renewable Energy

448W2972P001

448W2972, Rev.-, dated 2019-01-04

(1) Shandong Weiteng Machine Co Ltd.,
Weifang, Shandong, China

(2) Energy Hardware Holdings, LLC
(Shanghai Aerotech), P.R. China

(3) Liyang Flying Industry Co. Ltd., Liyang
City, Jiangsu Province, P.R. China

(4) Wheels India Limited, Chennai, India

Low Speed Rotor Lock Pin

For configurations 1-3

Type:

Designed by:

GE Part no.:

GE VSPN:

Drawing no.:

Manufacturer/Site:

Manual Rotor Lock Pin

Svendborg Brakes A/S

448W4722P001

448W4730P001

490-6366-802, Rev.-, dated 2018-05-04

(1) Svendborg Brakes A/S, Vejstrup, Denmark

(2) Svendborg Brakes Shanghai Co. Ltd.,

Shanghai, China
(3) Altra Industrial Motio do Brasil, Cotia, Brazil

Alternative for configurations 1-3

Designed by:

GE Part no.:

GE VSPN:

Designation:

Drawing no.:

Manufacturer/Site:

KTR Group

448W4722P001

448W4731P001

KTR-STOP RL M-B-355-214 (740101)

740101, Rev. 0, dated 2018-09-12

(1) KTR Brake Systems GmbH, Schloss Holte Stukenbrock, Germany

Alternative

Designed by:

GE Part no.:

Drawing no.:

Manufacturer/Site:

GE Renewable Energy

451W7440G001

453W4704G001

456W2403G001

451W7440, Rev. -, dated 2020-09-16

453W4704, Rev. -, dated 2021-09-17

456W2403, Rev. -, dated 2023-03-01

(1) Svendborg Brakes A/S, Vejstrup, Denmark

(2) Altra Industrial Motio do Brasil, Cotia, Brazil

(3) Svendborg Brakes (Shanghai) Co. Ltd, Shanghai, China

(4) CSIC Heisheng Technology Co Ltd., Yichang, China

(5) Dellner Bubenzer Germany Wind GmbH, Dorsten, Germany

(6) Antec Eolica Fabricacao e Comercio de Freios Ltda., Camacari, Brazil

(7) KTR Brake Systems GmbH, Schloss Holte Stukenbrock, Germany

High Speed Rotor Lock

Type:

Designed by:

GE Part no.:

Main Drawing no.:

Manufacturer/Site:

Manual rotor lock

GE Renewable Energy

448W2230G001

448W2230, Rev.-, dated 2018-10-17

(1) Duomo Euroservices S.L., Santiago, Toledo, Spain

(2) Shenyang Sunny Lion Equipment Co. Ltd., Shenyang, China

(3) Dalian E & T., Development Zone,

Bolted Connection Hub-Main Shaft

Type:
Designed by:
GE Part no.:
Drawing no.:

Jingshang Mould Co., Ltd., Dalian, China
(4) Energy Hardware Holdings, LLC
(Shanghai Aerotech), P.R.China

Double-row bolted connection
GE Renewable Energy
450W9911G001
451W1408, Rev. -, dated 2020-06-03

Main frame

Type:
Designed by:
GE Part no.:

Cast
GE Renewable Energy
450W8034G001
452W9306G001
452W7091G001
453W7241G001
454W0334G001
454W8894G001
457W0545G001

Material:
Main Drawing no. (machining):

SSDI class C acc. to spec. A50WE053
450W8034, Rev. B, dated 2020-12-02
452W9306, Rev. -, dated 2021-05-17
452W7091, Rev. -, dated 2021-03-19
453W7241, Rev. A, dated 2022-03-04
454W0334, Rev. -, dated 2022-01-28
454W8894, Rev. -, dated 2022-08-18
457W0545, Rev. -, dated 2023-10-06
450W8033, Rev. -, dated 2020-06-02
453W7240, Rev. -, dated 2021-11-18
454W8893, Rev. -, dated 2022-08-18

Main Drawing no. (casting):

Manufacturer/Site:

(1) Jiangsu Sinojit Wind Energy
Technology Co. Ltd, Jiangsu, P.R. China
(2) Jiangsu FAW Foundry Co. Ltd, Wuxi,
Jiangsu, P.R. China
(3) GE Energias Renovaveis Ltda, Brazil
(4) Himile Mechanical Science and Tech-
nology Co. Ltd, Shandong, P.R. China

Pillow Block

Type:
Designed by:
GE Part no.:

Cast
GE Renewable Energy
451W4791G001

Material:
Main Drawing no. (machining):

Main Drawing no. (casting):

Manufacturer/Site:

452W7093G001
453W7242G001
454W8897G001
SSDI class C acc. to spec. A50WE053
451W4791, Rev. A, dated 2020-12-02
452W7093, Rev. -, dated 2021-03-19
453W7242, Rev. -, dated 2022-03-07
454W8897, Rev. -, dated 2022-08-17
452W1636, Rev. -, dated 2020-11-27
454W8896, Rev. -, dated 2022-08-17
(1) Wuxi Rhester Machinery Co. Ltd., Wuxi, Jiangsu, China
(2) Jiangsu Sinojit Wind Energy Technology Co. Ltd, Jiangsu, China
(3) Himile Mechanical Science and Technology Co. Ltd, Shandong, P.R. China
(4) Shandong Weiteng Machine Co. Ltd., Weifang, Shandong, P.R. China
(5) Baettr Lem A/S, Lem, Denmark

Generator frame

Type:
Designed by:
GE Part no.:
Material:
Main Drawing no. (fabrication):
Main Drawing no. (machining):
Manufacturer/Site:

Welded part
GE Renewable Energy
452W4085G001
S355J2 or ASTM A572 Grade 50 (steel)
452W4084, Rev. -, dated 2021-02-04
452W4085, Rev. -, dated 2021-02-05
(1) Liyang Flying Industry Co. Ltd. Jiangsu Province, P.R. China
(2) Himile Mechanical Science and Technology, Shandong, P.R. China
(3) Painco Industria e Comercio S/A, rio das Pedras, Brazil
(4) Wuxi Rhester Machinery Co. Ltd., Wuxi, Jiangsu, China
(5) ATES CELIK INSAAT TAAHHÜT PROJE MÜH. SAN. CE TIC A.S., BERGAMA / IZMIR, Turkey

Alternative

Designed by:
GE Part no.:

Material:
Main Drawing no. (fabrication):

GE Renewable Energy
453W0577G001
453W3848G001
S355J2 or ASTM A572 Grade 50 (steel)
452W4084, Rev. A, dated 2021-03-18
453W3847, Rev. A, dated 2021-10-14

Main Drawing no. (machining): 453W0577, Rev. -, dated 2021-06-23
 453W3848, Rev. A, dated 2021-10-14
 Manufacturer/Site: see above

Alternative

Designed by: GE Renewable Energy
 GE Part no.: 454W2102G001
 Material: S355J2 or ASTM A572 Grade 50 (steel)
 Main Drawing no. (fabrication): 454W2101, Rev. A, dated 2022-07-13
 Main Drawing no. (machining): 454W2102, Rev. A, dated 2022-07-13
 Manufacturer/Site: see above

Yaw system

Type: Active, yaw bearing slewing ring with 4 active yaw drives and 20 hydraulic brakes

Yaw drive

Type: 4 stage planetary gearbox
 Designed by: Bonfiglioli Transmittal
 GE Part no.: 449W3493P001
 456W3344P001
 GE VSPN: 449W3495P001
 456W3367P001
 Designation: 714T4 (JB00004586)
 714T4 (JB00039356)
 Drawing no.: I7140T012700, Rev. -, dated 2019-05-23
 CD00025633, Rev. C, dated 2023-08-24
 Manufacturer/Site: (1) Bonfiglioli Riduttori S.p.A., Bologna, Italy
 Manufacturer motor: Bonfiglioli
 Designation motor: BN132MB 6

Alternative

Designed by: SEW Eurodrive Brasil
 GE Part no.: 449W3493P001
 452W6636P001
 GE VSPN: 450W1703P001/P002
 452W7635P001
 Designation: PW067 / PW067L
 Drawing no.: 2422 441 3.30.1, Rev.00, dated 2019-07-08
 2422 441 5.30.1, Rev.00, dated 2020-08-31
 Manufacturer/Site: (1) Sew-Eurodrive Brasil Ltda., Indaiatuba, Brazil
 Manufacturer motor: SEW Eurodrive
 Designation motor: DRN132M6

Alternative

Designed by:

GE Part no.:

GE VSPN:

NGC PN:

Drawing no.:

Manufacturer/Site:

Manufacturer motor:

Designation motor:

NGC

449W3493P001

452W6636P001

449W8163P001/P002

110200000326 / 110200000328

SYW07A010101 / SYW07A010301, Rev. A,
dated 2020-09-10

(1) Nanjing High Speed & Accurate Gear,
Nanjing, China

LEOG / Marathon

AKEJ132M2-6H / LEB 132MD-6

Alternative

Designed by:

GE Part no.:

GE VSPN:

Designation:

Drawing no.:

Manufacturer/Site:

Germany

Liebherr Components Biberach GmbH

449W3493P001

452W6636P001

450W7982P001

DAT 450/3462-4MA0 (13401783)

368 462 4000 99 0, Rev. 08, dated 2021-01-26

(1) Liebherr Components GmbH, Biberach,

(2) Liebherr Machinery (Dalian) Co., Ltd.,
P.R. China

LEOG

AKEJ132M2-6H

Manufacturer motor:

Designation motor:

Yaw bearing

Type:

Designed by:

Designation:

Drawing no.:

Manufacturer/Site:

Ball bearing slewing ring

GE Renewable Energy

448W3840G001

449W9228G001

454W8188G001

455W2003G001

448W3840, Rev. -, dated 2018-11-21

449W9228, Rev. -, dated 2021-01-26

454W8188, Rev. -, dated 2022-07-25

455W2003, Rev. A, dated 2023-07-13

(1) Tianma (Chengdu) Precision Machinery
Co. Ltd., Chengdu, P.R. China

(2) CS Bearing Co. Ltd., Kyoungnam, Korea

(3) Shilla Corporation, Cheonan-si,
Chungnam, South Korea

- (4) Shilla Brazil Industria de Rolament de Giro Ltda, Tiete, Brazil
- (5) SKF do Brazil Ltda, Cajamar, Brazil
- (6) Changzhou Shilla Machinery Manufacturing Co. Ltd., Changzhou, China

Yaw brakes

Type:
Designed by:

GE VSPN:

Designation:

Drawing no.:

Manufacturer/Site:

Yaw brake
JHS Jungblut GmbH & Co.KG
GE Part no.: 446W7576P001
456W9419P001
446W7577P001
456W9420P001
JHS-08-1x100
JHS-YBA-8-120-0-2106-AP
VA002274, Rev. D, dated 2018-09-06
VA004749, Rev. -, dated 2023-10-12
(1) Dellner Bubenzer Germany Wind GmbH, Dorsten, Germany
(2) KTR Brake Systems GmbH, Schloss Holte Stukenbrock, Germany

Passive Cooler

Type:
Designed by:
GE PN Cooler:

Designation cooler:
GE PN Heat Exchanger:

Designation Heat Exchanger:
HydraSpecma Drawing Cooler No.:

GE Drawing Cooler no.:

GE Drawing Heat Exchanger:

passive cooler with plate heat exchanger
HydraSpecma (previously Ymer Technology)
452W0376P001 (1070.0087)
453W1497P001 (1070.0087)
453W4029P001 (1070.0104)
453W6400P001 (1070.0112)
457W0285P001 (1070.0104)
457W0280P001 (1070.0087)
457W0295P001 (1070.0112)
3000x1274x63
452W0379P001
454W0579P001
840x394x450 – 1071.0491
1070.0087, Rev. D, dated 2021-01-22
1070.0104, Rev. B, dated 2021-09-15
1070.0112, Rev. A, dated 2021-11-05
450W8866, Rev. -, dated 2020-11-09
453W1944, Rev. -, dated 2021-07-26
453W4314, Rev. -, dated 2021-09-13
457W0387, Rev. -, dated 2023-10-05
457W0386, Rev. -, dated 2023-10-05
452W1013, Rev. -, dated 2020-11-17

Hydraulic system

Type:
Designed by:
GE Part no.:

GE VSPN:

Designation:

Main drawing no.:

Circuit Diagram no.:

Hydraulic system
HAWE-Hydraulik
447W8054P001 (STW)
449W3384P001 (CWE)
448W3498P001 (STW)
453W5827P001 (STW)
449W3391P001 (CWE)
453W5828P001 (CWE)
17-111-H-01-00 (8801 0270-00) (STW)
17-111-H-02-00/UL (8801 1646-00) (STW)
17-111-H-01-01 (8801 0506-00) (CWE)
17-111-H-02-01 (8801 1645-00) (CWE)
00_DE-D00018518, Rev. 00 (STW)
00_DE-D00071337, Rev. 00 (STW)
00_DE-D00025855, Rev. 00 (CWE)
00_DE-D00071343, Rev. 00 (CWE)
00_DE-D00018005, Rev. 01 (STW)
00_DE-D00067395, Rev. 00 (STW)
00_DE-D00024437, Rev. 01 (CWE)
00_DE-D00067394, Rev. 00 (CWE)

Alternative

Type:
Designed by:
GE Part no.:

GE VSPN:

Designation:

Main Drawing no.:

Circuit Diagram no.:

Hydraulic system
Svendborg Brakes
447W8054P001 (STW)
449W3384P001 (CWE)
449W2454P001 (STW)
449W3392P001 (CWE)
1110-0027-801 (STW)
1110-0027-802 (CWE)
1110-0027-801, Rev. -, dated 2019-03-22 (STW)
1110-0027-802, Rev. -, dated 2019-10-31 (CWE)
1110-0027-601, Rev.C, dated 2019-04-25 (STW)
1110-0027-602, Rev. -, dated 2019-11-05 (CWE)

Alternative

Type:
Designed by:
GE Part no.:
GE VSPN:
Designation:
Main Drawing no.:
Circuit Diagram no.:

Hydraulic system
Hine S.A.
447W8054P001 (STW)
452W3416P001 (STW)
HR002761
B1-9216, Rev. F, dated 2021-11-08 (STW)
B1-11259, Rev. -, dated 2021-03-30 (STW)

Generator

for configurations 1-3

Type:	Asynchronous doubly-fed induction
Designed by:	Indar
GE Part no.:	448W9503P004
GE VSPN:	448W9505P002
Designation:	NAR710G6B60NS2 (3002045)
Rated power:	5733 kW
Rated frequency:	60 Hz
Rated speed:	1444 rpm
Rated voltage:	6000 V (stator)
Insulation class:	F
Degree of protection:	IP34 (generator) IP23 (slip ring)
Manufacturer/Site:	(1) Indar Electric S.L., Beasain, Gipuzkoa, Spain.

Alternative for configurations 4-7

Type:	Asynchronous doubly-fed induction
Designed by:	Indar
GE Part no.:	452W6597P002
GE VSPN:	452W1605P002
Designation:	NAR710G6SB60N
Rated power:	5733 / 6049 / 6357 kW
Rated frequency:	60 Hz
Rated speed:	1444 rpm
Rated voltage:	6000 V (stator)
Insulation class:	F
Degree of protection:	IP34 (generator) IP23 (slip ring)
Manufacturer/Site:	(1) Indar Electric S.L., Beasain, Gipuzkoa, Spain.

Alternative for configurations 1-7

Type:	Asynchronous doubly-fed induction
Designed by:	Winergy
GE Part no.:	452W6597P002
GE VSPN:	447W9924P003
Designation:	W1G53000345
Rated power:	6357 kW
Rated frequency:	60 Hz
Rated speed:	1444 rpm
Rated voltage:	6000 V (stator) 489 V (rotor)
Rated current:	510 A (stator) 1532 A (rotor)
Insulation class:	F

Degree of protection: IP34 (generator)
IP23 (slip ring)
Manufacturer/Site: (1) Siemens d.o.o. Belgrade, Subotica, Serbia

Converter

Designed by: GE Power Conversion
Designation: 151X1258KA01SA03
151X1258KA01SA04
151X1258KA01SA05
GE Part no.: 448W0372P003
448W0372P004
448W0372P005
Power: 4.5 to 6.1 MW
Rated voltage (grid side): 690 V AC
Rated current (grid side): 1050 A
Rated voltage (machine side): 0 to 825 V AC
Rated current (machine side): 2400 A
Degree of protection: IP 21 (cabinet)
IP 41 (bridge cabinet)
IP 22 (filter and inductor cabinet)
IP 21 (AC entry cabinet)
Manufacturer/Site: (1) GE Power and Water, Hai Phong City, Vietnam
(2) GE Shenyang, Liaoning, P.R. China
(3) Jabil do Brasil Industria Electroeletronica Ltda, Betim, Brazil

Transformer

Type: dry type
Designed by: Hainan Jinpan Smart Technology (JST)
Rated power: 6228 kVA
Degree of protection: IP 00 (degree not yet defined)
Location: Inside nacelle
Manufacturer/Site: (1) Hainan Jinpan Electric Co. Ltd. (JST), Haikou, P.R. China
(2) JST Power Equipment Inc., Nogales, Mexico

GE Part no.	GE VSPN	Supplier Designation	Rated voltage (HV)
452W0495P001	452W0496P001	316010893001	33-34.5 kV
452W0495P003	452W0496P003	316010913001	
452W0495P002	452W0496P002	316010903001	34.5 kV
452W0495P004	452W0496P004	316012383001	

Medium voltage Switchgear

Manufacturer:	Schneider Electric
Designation:	DVCAS 38.5 (operation from -30°C to 40°C)
Rated voltage:	38.5 kV
Rated current:	630 A
Location:	Inside tower
Manufacturer/Site:	(1) Schneider Electric, Libourne, France (2) Schneider Electric, Stezzano, Italy (3) Schneider Electric, Mungia, Spain

Alternative

Manufacturer:	Schneider Electric
Designation:	RM6 (operation from -25°C to 45°C)
Rated voltage:	24 kV
Rated current:	630 A
Location:	Inside tower
Manufacturer/Site:	see above

Alternative

Manufacturer:	Schneider Electric
Designation:	Flusarc (operation from -25°C to 55°C)
Rated voltage:	36 kV
Rated current:	630 A
Location:	Inside tower
Manufacturer/Site:	see above

Alternative

Manufacturer:	Ormazabal
Designation:	cgm.3 (operation from -30°C to 40 °C)
Rated voltage:	38 kV
Rated current:	600 A
Location:	Inside tower
Manufacturer/Site:	(1) Ormazabal, Igorre, Spain (2) Ormazabal do Brasil, Sao Paulo, Brazil

Alternative

Manufacturer:	ABB
Designation:	SafePlus 36 (operation from -25°C to 40°C)
Rated voltage:	40.5 kV
Rated current:	630 A
Location:	Inside tower
Manufacturer/Site:	(1) ABB, Skien, Norway (2) ABB Eletrificacao Ltda, Sorocaba, Brazil

Tower HH107.4 (Conf. 1)

Type:
Designed by:
Sections:
Length:
Main drawing no.:
Foundation specification:

Tubular steel tower
GE Renewable Energy
5
104.785 m
447W2844, Rev. B
Foundation_Load_Drawing_5.5-
158_60Hz_107.4mHH-PRD068_EN_r01

Tower HH125.4 (Conf. 2, 4)

Type:
Designed by:
Sections:
Length:
Main drawing no.:

Tubular steel tower
GE Renewable Energy
5
122.705 m
449W9393, Rev. -
451W1779, Rev. A (alternative)
451W2505, Rev. - (alternative)

Foundation specification:

(1) Foundation_Load_Drawing_5.5-
158_60Hz_125.4mHH _PRD069_EN_r01
(2) Foundation_Load_Drawing_6.1-
158_60Hz_125.4mHH-PRD136_EN_r02

Tower HH101 (Conf. 3, 5)

Type:
Designed by:
Sections:
Length:
Main drawing no.:
Foundation specification:

Tubular steel tower
GE Renewable Energy
4
98.345 m
449W5216, Rev. -
(1) Foundation_Load_Drawing_5.5-
158_60Hz_101mHH-PRD035_EN_r01
(2) Foundation_Load_Drawing_6.1-
158_60Hz_101mHH-PRD142_EN_r01

Tower HH101 (Conf. 7)

Type:
Designed by:
Sections:
Length:

Tubular steel tower
GE Renewable Energy
4
98.345 m

Main drawing no.: 452W7380, Rev. A, dated: 2023-05-03
Foundation specification: (1) Foundation_Load_Drawing_6.1-158_60Hz_101mHH-PRD153_EN_RevB

Tower HH117 (Conf. 6)

Type: Tubular steel tower
Designed by: GE Renewable Energy
Sections: 5
Length: 114.305 m
Main drawing no.: 452W3871, Rev. -, dated: 2021-09-13
Foundation specification: (1) Foundation_Load_Drawing_6.1-158_60Hz_117mHH-PRD169_EN_r01

All Towers

Manufacturers/Sites: (1) Torres Eolicas do Nordeste SA, Jacobina, Brazil
(2) Ventower Industries, Monroe, Michigan, USA
(3) GRI Tower Brazil Estruturas Metalicas S.A., Cabo de Santo Agostinho, Brazil
(4) Marmen Inc., Brandon, South Dakota, USA

Manuals

see Evaluation Reports on Safety System and Manuals
For the Rotor Blade LM77.4P3: see manuals BM-00207/A8 and SI-00922/B9
Service instruction for LM77.4P6 with IMS: UK_SI-50057_A2

Control and safety system

Designed by: GE Renewable Energy
Hardware: Mark VIe
Software: V5.7.10

Note:

Please refer to the mentioned evaluation reports for revision control of drawings/documents, detailed drawings, detailed design documents and other requirements and conditions.

- End of Certificate -

Appendix B.2

Latitude/Longitude of Wind Turbines (§3.A.8)



Appendix B.2 –
Latitude and Longitude of Turbine Locations

Turbine ID	Turbine Location ¹	
	Latitude	Longitude
T001	40.89393504	-94.81659659
T002	40.89176409	-94.80622735
T003	40.88317922	-94.80546084
T004	40.87765676	-94.80845372
T005	40.87633310	-94.81829420
T006	40.86875574	-94.82643123
T007	40.87664801	-94.76135541
T008	40.86684919	-94.77916394
T009	40.86127104	-94.78622325
T010	40.83950949	-94.75072956
T011	40.83594517	-94.75883414
T012	40.83006446	-94.75467589
T013	40.83219199	-94.74674361
T014	40.83332114	-94.73501090
T015	40.82992274	-94.72470265
T016	40.85234628	-94.71538009
T017	40.86207525	-94.71211475
T018	40.86096957	-94.70323923
T019	40.86330450	-94.69711142
T020	40.86578786	-94.69224746
T021	40.86854313	-94.68558459
T022	40.86816285	-94.70794590
T023	40.87314975	-94.70322838
T024	40.87170282	-94.69735762
T025	40.87577296	-94.69200275
T026	40.87533037	-94.68466885
T027	40.87905068	-94.67520182
T028	40.88078356	-94.70382249
T029	40.88302236	-94.69586177
T030	40.88943744	-94.66315121
T031	40.87554588	-94.65888912
T032	40.87582369	-94.64900634
T033	40.87948124	-94.63976589
T034	40.88033069	-94.63171123
T035	40.88882838	-94.62967949
T036	40.87485163	-94.62091175
T037	40.86603357	-94.65574845
T038	40.86140473	-94.64481458
T039	40.86563072	-94.63502722
T040	40.86597529	-94.62103647



Appendix B.2 –
Latitude and Longitude of Turbine Locations

Turbine ID	Turbine Location ¹	
	Latitude	Longitude
T041	40.86368690	-94.60106525
T042	40.85192152	-94.68470423
T043	40.85201018	-94.66399361
T044	40.85130476	-94.64473388
T045	40.85102520	-94.61784049
T046	40.84989006	-94.58293363
T047	40.83170267	-94.70335450
T048	40.83030097	-94.69366864
T049	40.83378433	-94.68917628
T050	40.83927842	-94.67790067
T051	40.83997265	-94.66111936
T052	40.84350542	-94.65570061
T053	40.84418360	-94.62692965
T054	40.84393889	-94.61622557
T055	40.84483059	-94.61023562
T056	40.84689066	-94.60137761
T057	40.81857206	-94.71578507
T058	40.82230703	-94.71105168
T059	40.81871445	-94.70334740
T060	40.81839233	-94.69689388
T061	40.82472832	-94.67742233
T062	40.83260780	-94.65924191
T063	40.82974675	-94.64883358
T064	40.82349732	-94.64859296
T065	40.81630627	-94.66512606
T066	40.83201928	-94.63017598
T067	40.83241128	-94.61109293
T068	40.82278474	-94.59110726
T069	40.82450905	-94.58287643
T070	40.81730143	-94.55860306
T071	40.82097393	-94.55376786
T072	40.81904871	-94.54439706
T073	40.81714913	-94.53294450
T074	40.81034671	-94.54014425
T075	40.80705922	-94.54437257
T076	40.78662878	-94.53227284
T077	40.78181541	-94.54480733
T078	40.76745749	-94.54487100
T079	40.76145231	-94.54462123
T080	40.80879704	-94.71564283



Appendix B.2 –
Latitude and Longitude of Turbine Locations

Turbine ID	Turbine Location ¹	
	Latitude	Longitude
T081	40.81032419	-94.69955854
T082	40.81080944	-94.69374303
T083	40.80731344	-94.66970764
T084	40.78769167	-94.73465259
T085	40.79497336	-94.71592788
T086	40.80174070	-94.69732824
T087	40.80454477	-94.69382113
T088	40.80134695	-94.68365847
T089	40.79693420	-94.67751450
T090	40.80219495	-94.67262539
T091	40.78922797	-94.68398601
T092	40.77442267	-94.70243884
T093	40.78145409	-94.69677123
T094	40.77593954	-94.69325483
T095	40.78279513	-94.68343235
T096	40.78239666	-94.67633091
T097	40.77701018	-94.68412121
T098	40.76097355	-94.71548041
T099	40.76593880	-94.70560098
T100	40.75798959	-94.69664102
T101	40.76009003	-94.68669709
T102	40.75239780	-94.70364416
T103	40.74589393	-94.70759740
T104	40.73299291	-94.71619341
T105	40.73898849	-94.73149182
T106	40.83696464	-94.64584326
T107	40.80327988	-94.57856443
T108	40.76548301	-94.55508791
T109	40.76179477	-94.53145429
T110	40.74998435	-94.53188520
¹ Latitude and Longitude provided in WGS_84		

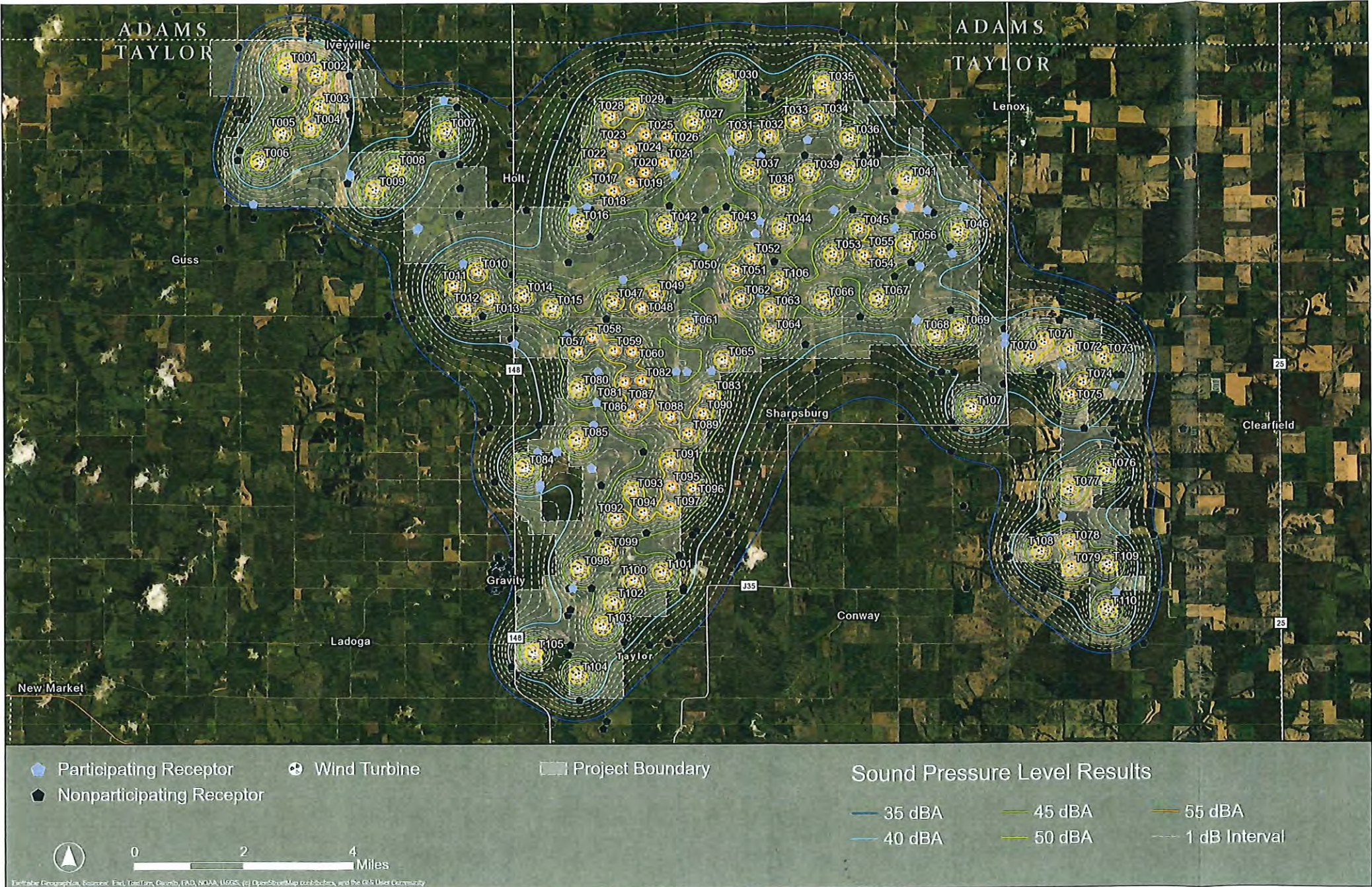


Figure 9: Project-Only Model Results Map for Turbine GE 154 (11 x 17)

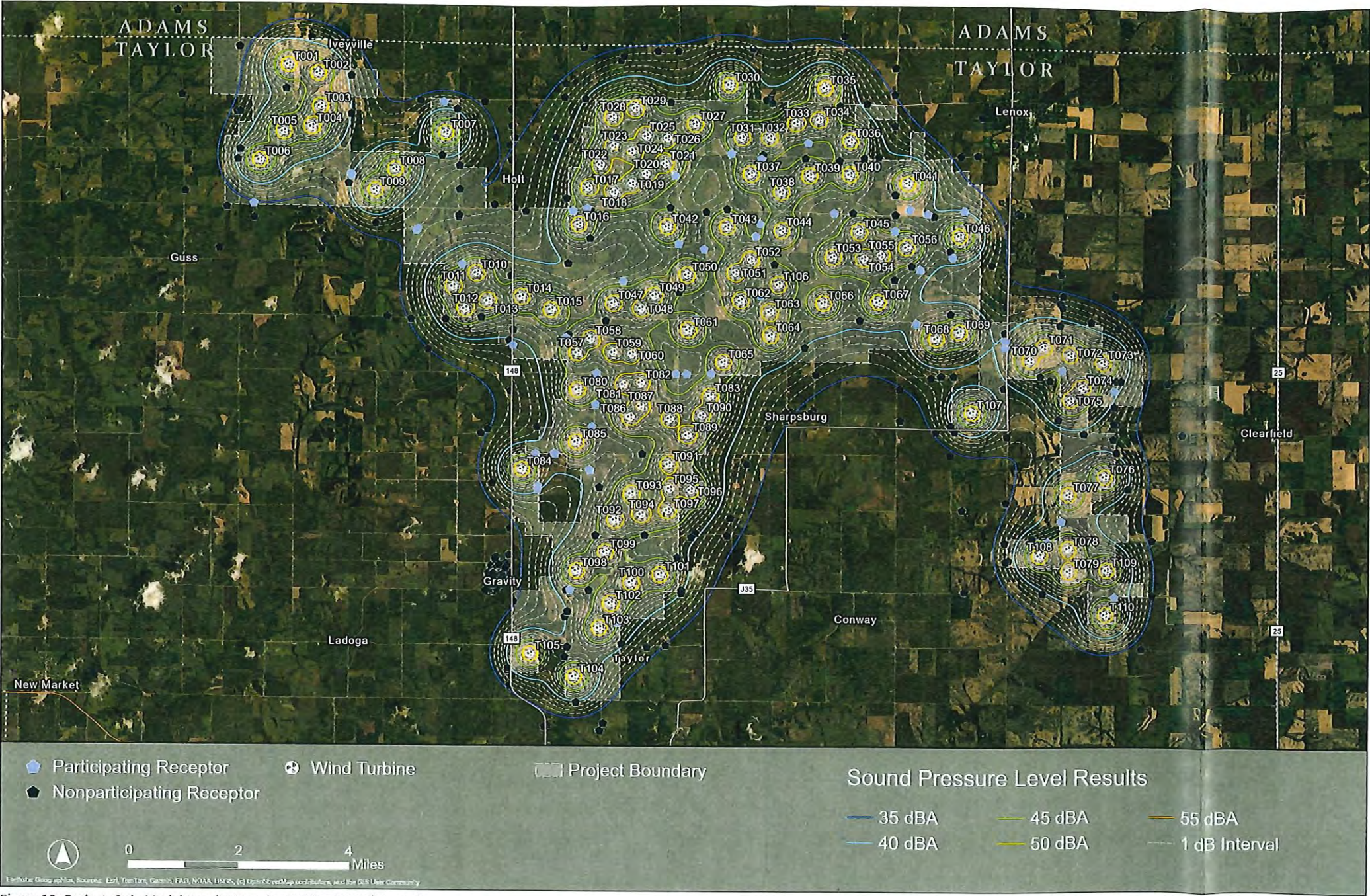


Figure 10: Project-Only Model Results Map for Turbine V163 (11 x 17)

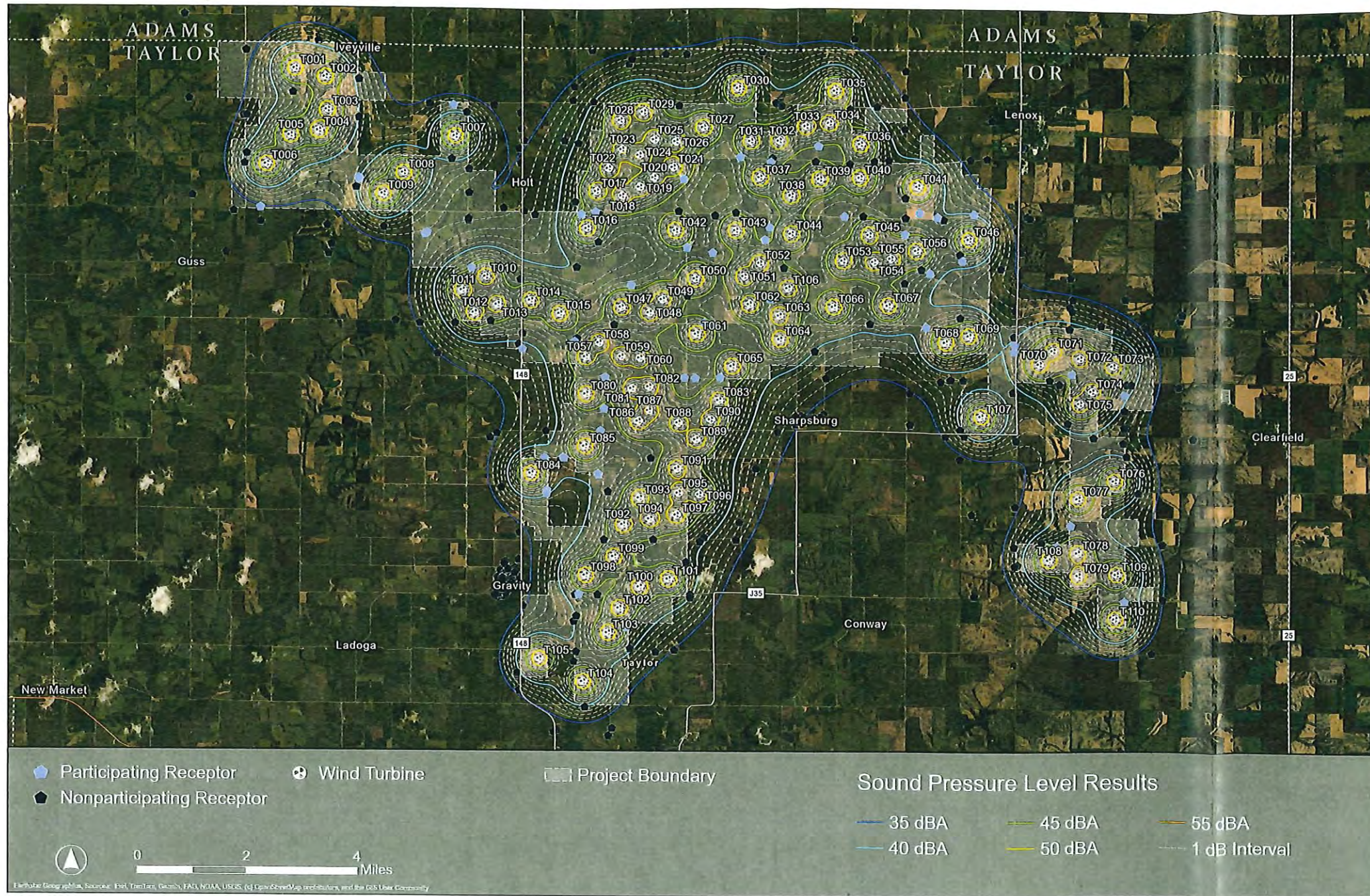


Figure 10: Project-Only Model Results Map for Turbine V163 (11 x 17)

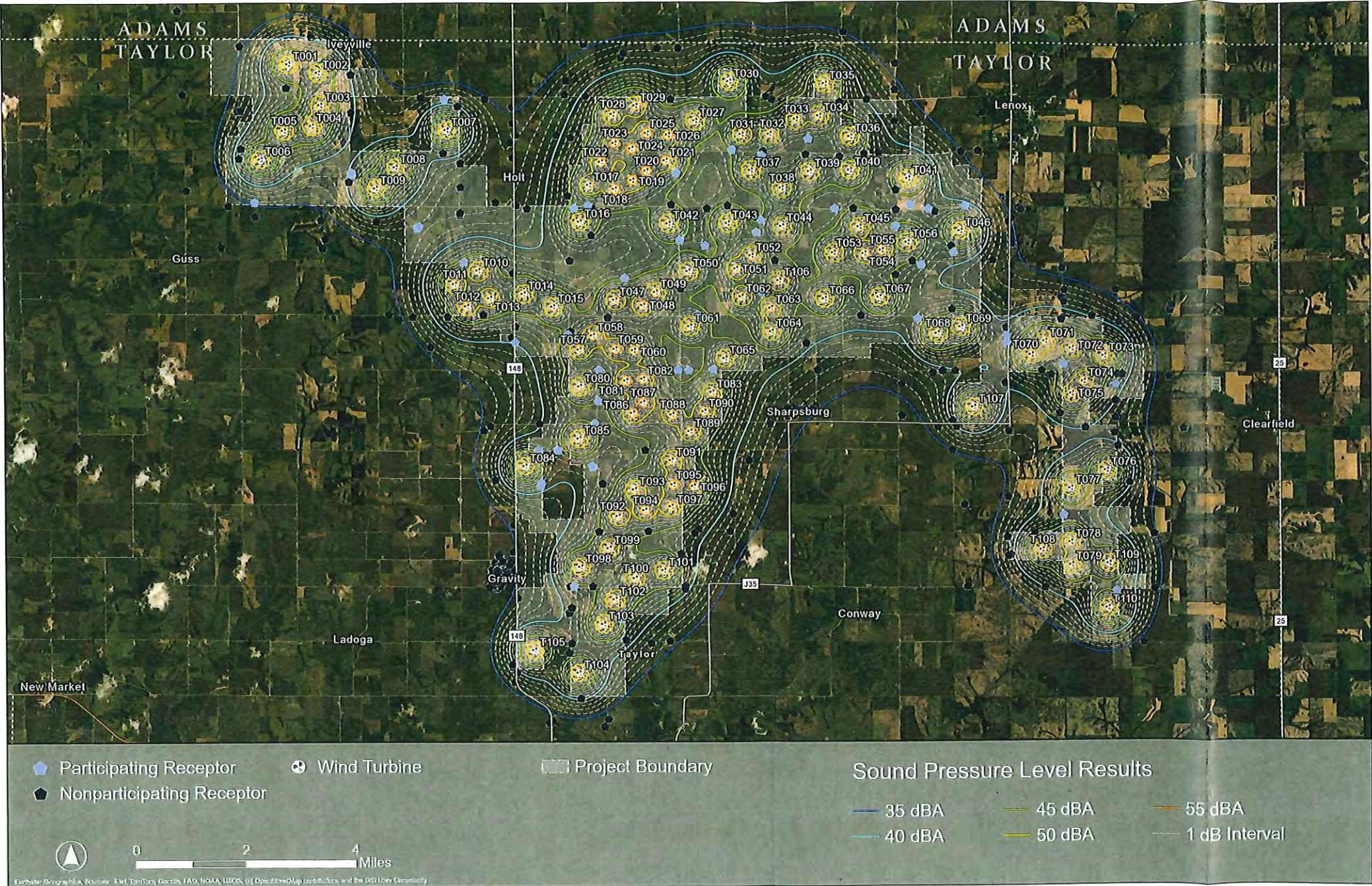


Figure 11: Project-Only Model Results Map for Turbine N163 (11 x 17)

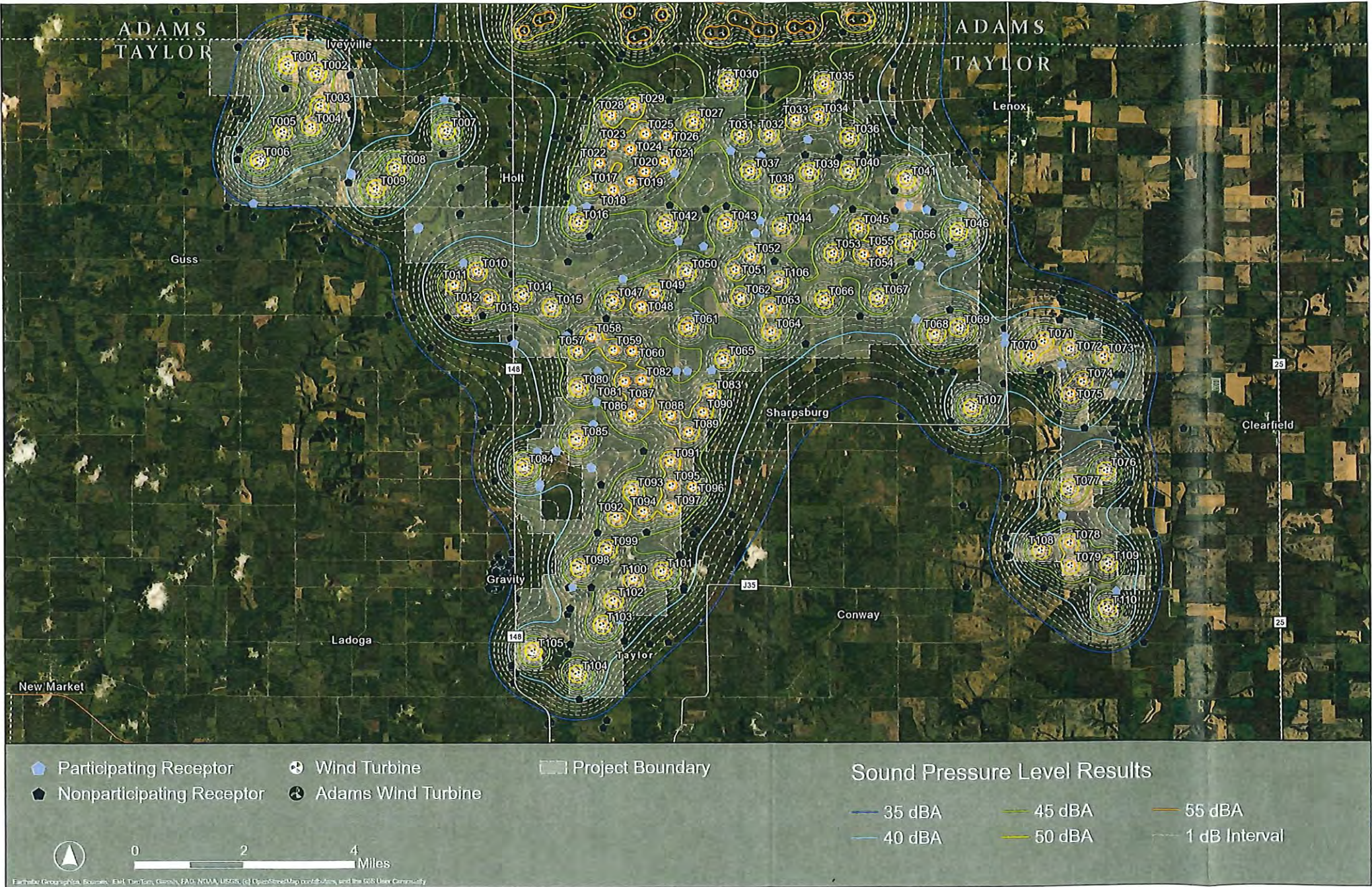


Figure 12: Cumulative Model Results Map for Turbine GE 154 and Adams Wind (11 x 17)

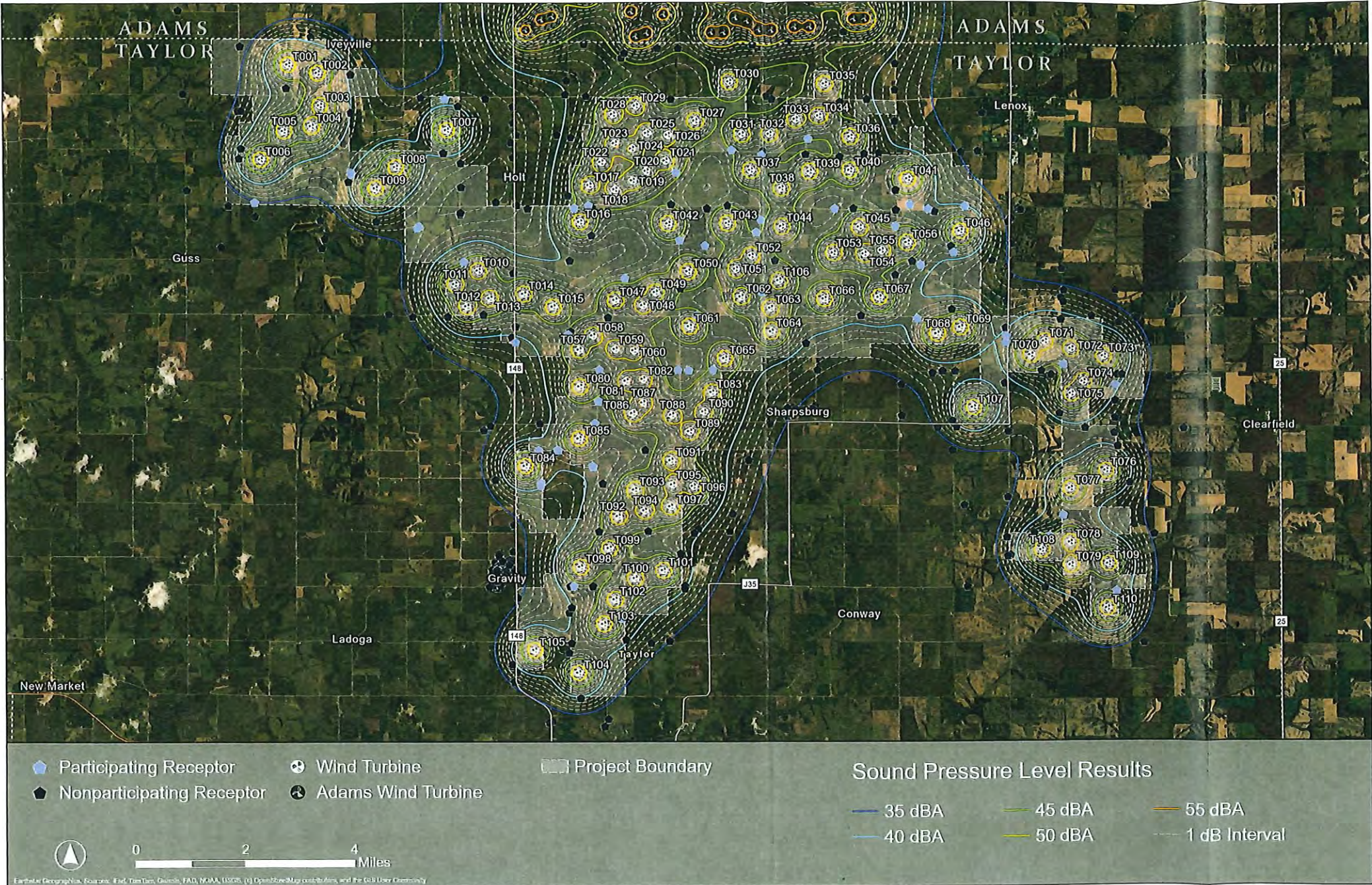


Figure 13: Cumulative Model Results Map for Turbine V163 and Adams Wind (11 x 17)

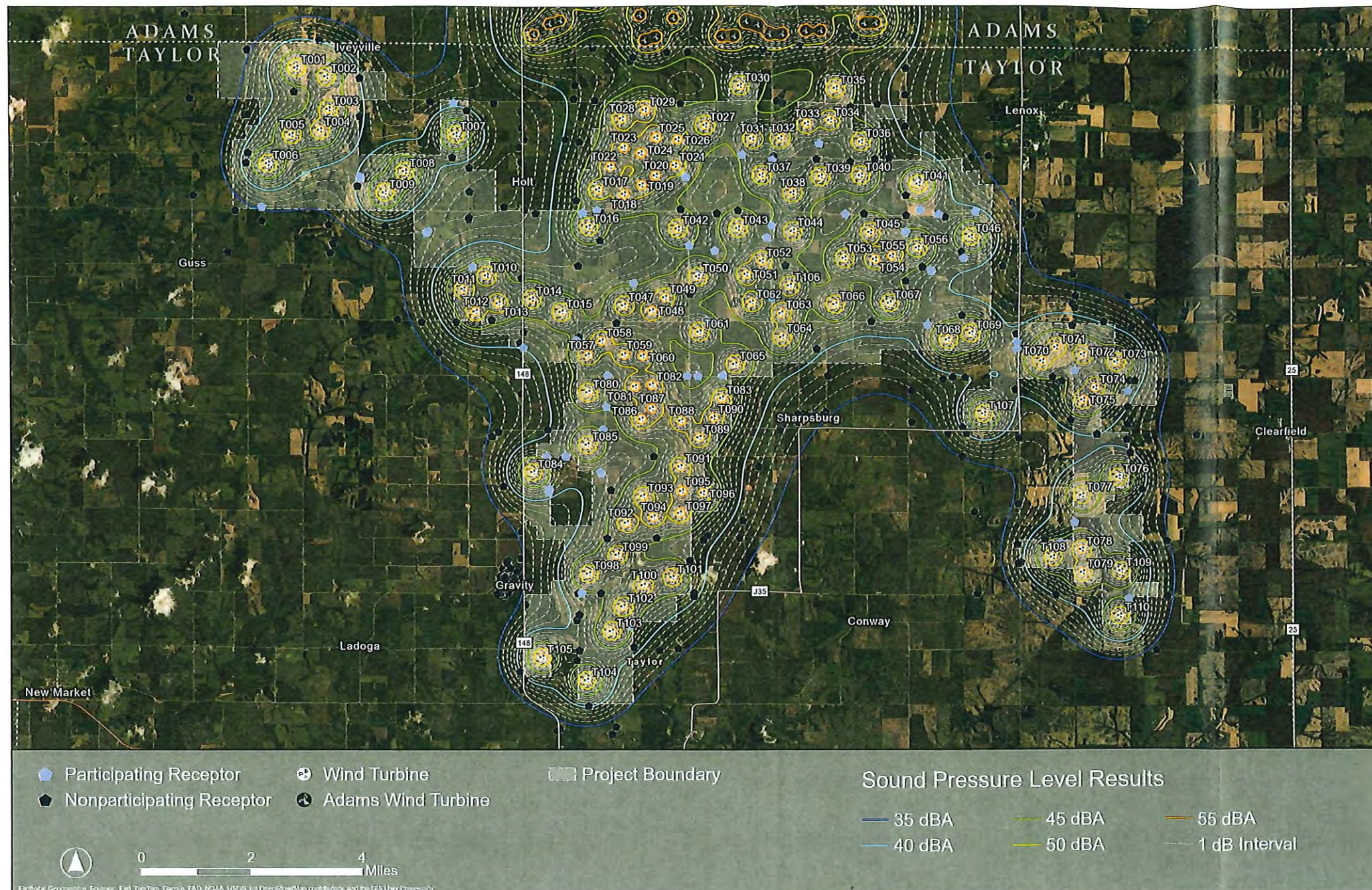


Figure 14: Cumulative Model Results Map for Turbine N163 and Adams Wind (11 x 17)

Appendix B.4

Representative Determination of No Hazard from Federal Aviation Administration for 120 Turbines to a height of 707 feet Above Ground Level (May 2025) (§3.A.11)



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2025-WTE-1032-OE

Issued Date: 05/28/2025

BLACK MAPLE WIND, LLC
MATT EBERL
120 Garrett Street
Suite 700
Charlottesville, VA 22902

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T119
County, State: Taylor, Iowa

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
T119	40-50-47.45N	94-41-15.69W	1203 Ft	707 Ft	1910 Ft

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M Change 1, Obstruction Marking and Lighting, white paint/synchronized red lights- Chapters 4,13(Turbines),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☒ At least 10 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 11/28/2026 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 27, 2025. In the event an interested party files a petition for review, it must contain a full statement of the basis upon which the petition is made. Petitions can be submitted to the Manager, Rules and Regulations Group via email at OEPetitions@faa.gov, or via mail to Federal Aviation Administration, Air Traffic Organization, Rules and Regulations Group, 5th floor, 600 Independence Ave, SW., Washington, DC 20597. FAA encourages the use of email to ensure timely processing.

This determination becomes final on July 07, 2025 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. Any questions regarding your petition, contact Rules and Regulations Group via telephone (202) 267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed

and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact wayne.reynolds@faa.gov, at 1-847-294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-WTE-1032-OE.

Signature Control No: 644483826-660224007

(DNH -WT)

Julie A. Morgan

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

The FAA completed an aeronautical study of this proposal in accordance with 14 CFR Part 77. The results of aeronautical studies conducted by the FAA are published in determination letters which are public record and available through the FAA public website at <https://oeaaa.faa.gov>. This determination does not constitute FAA approval or disapproval of the physical development involved in this proposal. It is a determination with respect to the safe and efficient use of the navigable airspace by aircraft. The FAA does not have land use authority or issue construction permits and cannot prevent construction on privately owned/leased property. Land use authority resides with the government body at the local city, county or state level that is responsible for regulating how land can be used within their jurisdiction, typically through zoning ordinances and other land use planning mechanisms. This determination in no way preempts or waives any ordinances, laws, or regulations of any government body or agency.

A list of commonly used acronyms and abbreviations is available at the end of this document. A full list is available at the FAA's public website at https://oeaaa.faa.gov/oeaaa/downloads/external/content/FAA_Acronyms.pdf.

1. PROPOSAL DESCRIPTION

Proposed are 120 wind turbines for a project that lies approximately 5.7 NM north of the airport reference point (ARP) of the Bedford Municipal Airport (Y46), Bedford, IA, extending to 17.83 NM northwest of the Y46 ARP and 16.02 NM northeast of the Y46 ARP.

For the sake of efficiency, all of the wind turbines in this project that have similar impacts are included in this narrative.

The proposed wind turbines' described heights and locations are expressed in Above Ground Level (AGL) height, Above Mean Sea Level (AMSL) height and latitude (LAT)/longitude (LONG).

ASN	/	AGL	/	AMSL	/	LAT	/	LONG
2025-WTE-914-OE	/	707	/	1949	/	40-51-55.65N	/	94-49-50.82W
2025-WTE-915-OE	/	707	/	1944	/	40-47-47.60N	/	94-43-13.20W
2025-WTE-916-OE	/	707	/	1937	/	40-52-39.03N	/	94-49-06.60W
2025-WTE-917-OE	/	707	/	1957	/	40-53-50.48N	/	94-48-25.52W
2025-WTE-918-OE	/	707	/	1953	/	40-52-58.37N	/	94-48-21.14W
2025-WTE-919-OE	/	707	/	1959	/	40-53-44.93N	/	94-47-56.42W
2025-WTE-920-OE	/	707	/	1966	/	40-53-42.82N	/	94-47-15.64W
2025-WTE-921-OE	/	707	/	1963	/	40-51-56.92N	/	94-47-03.74W
2025-WTE-922-OE	/	707	/	1993	/	40-53-21.68N	/	94-36-39.96W
2025-WTE-923-OE	/	707	/	1969	/	40-51-55.45N	/	94-38-08.97W
2025-WTE-924-OE	/	707	/	1951	/	40-51-13.04N	/	94-46-06.54W
2025-WTE-925-OE	/	707	/	1992	/	40-52-39.00N	/	94-45-46.56W
2025-WTE-926-OE	/	707	/	1932	/	40-51-41.49N	/	94-44-58.64W
2025-WTE-927-OE	/	707	/	1955	/	40-53-53.27N	/	94-45-02.14W
2025-WTE-928-OE	/	707	/	1954	/	40-48-16.68N	/	94-42-56.96W
2025-WTE-929-OE	/	707	/	1953	/	40-51-07.46N	/	94-42-55.85W
2025-WTE-930-OE	/	707	/	1956	/	40-53-53.34N	/	94-46-45.07W
2025-WTE-931-OE	/	707	/	1942	/	40-47-40.96N	/	94-40-37.08W

2025-WTE-932-OE	/	707	/	1967	/	40-49-20.41N	/	94-35-38.67W
2025-WTE-933-OE	/	707	/	1923	/	40-48-19.58N	/	94-41-03.53W
2025-WTE-934-OE	/	707	/	1947	/	40-49-05.15N	/	94-41-36.22W
2025-WTE-935-OE	/	707	/	1971	/	40-48-31.01N	/	94-42-14.25W
2025-WTE-936-OE	/	707	/	1942	/	40-50-21.52N	/	94-45-00.06W
2025-WTE-937-OE	/	707	/	1981	/	40-48-39.06N	/	94-41-54.46W
2025-WTE-938-OE	/	707	/	1979	/	40-47-22.62N	/	94-41-02.82W
2025-WTE-939-OE	/	707	/	2005	/	40-53-45.05N	/	94-50-26.11W
2025-WTE-940-OE	/	707	/	1946	/	40-47-00.39N	/	94-37-01.72W
2025-WTE-941-OE	/	707	/	1978	/	40-51-39.06N	/	94-42-11.55W
2025-WTE-942-OE	/	707	/	1987	/	40-51-58.05N	/	94-41-32.54W
2025-WTE-943-OE	/	707	/	1963	/	40-50-00.56N	/	94-41-15.64W
2025-WTE-944-OE	/	707	/	2000	/	40-52-07.68N	/	94-41-06.32W
2025-WTE-945-OE	/	707	/	1960	/	40-52-46.40N	/	94-38-22.91W
2025-WTE-946-OE	/	707	/	1968	/	40-46-57.56N	/	94-40-37.26W
2025-WTE-947-OE	/	707	/	2003	/	40-49-55.88N	/	94-37-47.11W
2025-WTE-948-OE	/	707	/	2001	/	40-52-25.02N	/	94-40-31.06W
2025-WTE-949-OE	/	707	/	1952	/	40-52-31.78N	/	94-38-57.63W
2025-WTE-950-OE	/	707	/	1962	/	40-48-18.29N	/	94-40-38.90W
2025-WTE-951-OE	/	707	/	1924	/	40-49-11.83N	/	94-51-23.11W
2025-WTE-952-OE	/	707	/	1991	/	40-48-07.29N	/	94-40-10.48W
2025-WTE-953-OE	/	707	/	1937	/	40-45-43.51N	/	94-39-32.13W
2025-WTE-954-OE	/	707	/	1954	/	40-48-57.17N	/	94-39-54.14W
2025-WTE-955-OE	/	707	/	1999	/	40-53-23.89N	/	94-39-50.18W
2025-WTE-956-OE	/	707	/	1941	/	40-51-58.59N	/	94-42-41.38W
2025-WTE-957-OE	/	707	/	1963	/	40-49-47.49N	/	94-39-22.36W
2025-WTE-958-OE	/	707	/	2001	/	40-52-33.43N	/	94-39-30.44W
2025-WTE-959-OE	/	707	/	1937	/	40-51-00.61N	/	94-39-40.01W
2025-WTE-960-OE	/	707	/	1976	/	40-49-15.53N	/	94-38-54.97W
2025-WTE-961-OE	/	707	/	1977	/	40-51-57.07N	/	94-39-20.46W
2025-WTE-962-OE	/	707	/	1983	/	40-49-59.67N	/	94-38-45.68W
2025-WTE-963-OE	/	707	/	1990	/	40-51-04.97N	/	94-35-35.88W
2025-WTE-964-OE	/	707	/	1931	/	40-50-09.51N	/	94-50-40.68W
2025-WTE-965-OE	/	707	/	1996	/	40-49-21.31N	/	94-37-54.49W
2025-WTE-966-OE	/	707	/	1925	/	40-52-46.36N	/	94-37-56.17W
2025-WTE-967-OE	/	707	/	1968	/	40-50-46.77N	/	94-37-46.84W
2025-WTE-968-OE	/	707	/	1985	/	40-53-21.22N	/	94-37-47.08W
2025-WTE-969-OE	/	707	/	2005	/	40-52-28.18N	/	94-37-15.07W
2025-WTE-970-OE	/	707	/	1989	/	40-48-55.34N	/	94-37-02.82W
2025-WTE-971-OE	/	707	/	1938	/	40-49-28.06N	/	94-34-57.42W
2025-WTE-972-OE	/	707	/	1976	/	40-47-14.57N	/	94-36-44.82W
2025-WTE-973-OE	/	707	/	1988	/	40-49-57.33N	/	94-36-41.87W
2025-WTE-974-OE	/	707	/	1988	/	40-51-46.26N	/	94-41-50.47W
2025-WTE-975-OE	/	707	/	1969	/	40-51-03.29N	/	94-31-52.30W

2025-WTE-976-OE / 707 / 1944 / 40-50-59.31N / 94-36-48.55W
 2025-WTE-977-OE / 707 / 1956 / 40-51-49.08N / 94-36-04.86W
 2025-WTE-978-OE / 707 / 1973 / 40-50-46.47N / 94-36-06.80W
 2025-WTE-979-OE / 707 / 1963 / 40-52-26.82N / 94-49-40.46W
 2025-WTE-980-OE / 707 / 1955 / 40-51-11.44N / 94-31-30.03W
 2025-WTE-981-OE / 707 / 1909 / 40-46-27.46N / 94-35-29.58W
 2025-WTE-982-OE / 707 / 1905 / 40-53-44.02N / 94-48-58.06W
 2025-WTE-983-OE / 707 / 1959 / 40-47-37.11N / 94-34-55.12W

2025-WTE-984-OE / 707 / 1956 / 40-48-24.39N / 94-34-57.53W
 2025-WTE-985-OE / 707 / 1933 / 40-47-14.45N / 94-50-11.77W
 2025-WTE-986-OE / 707 / 1960 / 40-45-01.48N / 94-34-54.99W
 2025-WTE-987-OE / 707 / 1957 / 40-51-01.41N / 94-37-13.65W
 2025-WTE-988-OE / 707 / 1924 / 40-45-56.79N / 94-40-06.20W
 2025-WTE-989-OE / 707 / 1923 / 40-46-30.02N / 94-34-22.99W
 2025-WTE-990-OE / 707 / 1936 / 40-49-06.22N / 94-34-28.80W
 2025-WTE-991-OE / 707 / 1949 / 40-45-39.40N / 94-32-40.54W
 2025-WTE-992-OE / 707 / 1965 / 40-45-53.28N / 94-33-16.98W
 2025-WTE-993-OE / 707 / 1955 / 40-49-16.52N / 94-33-12.69W

2025-WTE-994-OE / 707 / 1965 / 40-48-17.37N / 94-32-40.22W
 2025-WTE-995-OE / 707 / 1940 / 40-45-37.58N / 94-38-54.87W
 2025-WTE-996-OE / 707 / 1935 / 40-46-00.24N / 94-32-28.08W
 2025-WTE-997-OE / 707 / 1955 / 40-46-39.55N / 94-32-38.81W
 2025-WTE-998-OE / 707 / 1989 / 40-52-51.02N / 94-41-38.86W
 2025-WTE-999-OE / 707 / 1956 / 40-44-08.47N / 94-32-08.27W
 2025-WTE-1000-OE / 707 / 1957 / 40-47-10.88N / 94-32-39.68W
 2025-WTE-1001-OE / 707 / 1972 / 40-48-37.39N / 94-32-25.96W
 2025-WTE-1002-OE / 707 / 1937 / 40-49-03.31N / 94-31-54.11W
 2025-WTE-1003-OE / 707 / 1966 / 40-44-10.15N / 94-31-45.64W

2025-WTE-1004-OE / 707 / 1970 / 40-48-55.73N / 94-31-19.64W
 2025-WTE-1005-OE / 707 / 1996 / 40-51-03.92N / 94-34-53.92W
 2025-WTE-1006-OE / 707 / 1977 / 40-49-54.86N / 94-41-35.86W
 2025-WTE-1007-OE / 707 / 1937 / 40-47-12.27N / 94-41-31.55W
 2025-WTE-1008-OE / 707 / 1924 / 40-50-36.65N / 94-46-55.91W
 2025-WTE-1009-OE / 707 / 1963 / 40-48-05.54N / 94-34-29.70W
 2025-WTE-1010-OE / 707 / 1933 / 40-50-56.01N / 94-50-42.08W
 2025-WTE-1011-OE / 707 / 1957 / 40-51-14.54N / 94-32-26.66W
 2025-WTE-1012-OE / 707 / 1953 / 40-47-12.13N / 94-32-10.00W
 2025-WTE-1013-OE / 707 / 1943 / 40-49-29.44N / 94-39-46.76W

2025-WTE-1014-OE / 707 / 1984 / 40-53-23.46N / 94-45-01.92W
 2025-WTE-1015-OE / 707 / 1954 / 40-52-49.39N / 94-42-12.42W
 2025-WTE-1016-OE / 707 / 1948 / 40-51-54.41N / 94-37-31.87W
 2025-WTE-1017-OE / 707 / 1917 / 40-51-53.91N / 94-37-05.72W
 2025-WTE-1018-OE / 707 / 1975 / 40-52-49.83N / 94-41-14.89W
 2025-WTE-1019-OE / 707 / 1954 / 40-45-13.03N / 94-40-05.87W
 2025-WTE-1020-OE / 707 / 1955 / 40-45-36.85N / 94-41-11.56W

2025-WTE-1021-OE	/	707	/	1973	/	40-52-57.49N	/	94-43-53.57W
2025-WTE-1022-OE	/	707	/	1962	/	40-45-28.74N	/	94-41-50.56W
2025-WTE-1023-OE	/	707	/	1967	/	40-45-37.42N	/	94-42-55.42W
2025-WTE-1024-OE	/	707	/	1912	/	40-44-58.43N	/	94-42-41.38W
2025-WTE-1025-OE	/	707	/	1978	/	40-44-18.42N	/	94-42-41.58W
2025-WTE-1026-OE	/	707	/	1946	/	40-44-18.48N	/	94-43-46.78W
2025-WTE-1027-OE	/	707	/	2004	/	40-43-56.53N	/	94-42-58.52W
2025-WTE-1028-OE	/	707	/	1944	/	40-45-38.01N	/	94-41-33.66W
2025-WTE-1029-OE	/	707	/	1753	/	40-53-53.07N	/	94-55-07.06W
2025-WTE-1030-OE	/	707	/	1749	/	40-53-00.89N	/	94-55-03.80W
2025-WTE-1031-OE	/	707	/	1843	/	40-51-44.20N	/	94-53-33.93W
2025-WTE-1032-OE	/	707	/	1910	/	40-50-47.45N	/	94-41-15.69W
2025-WTE-1033-OE	/	707	/	1923	/	40-46-48.32N	/	94-41-03.04W

2. TITLE 14 CFR PART 77 - OBSTRUCTION STANDARDS EXCEEDED

- a. Section 77.17(a)(1): Exceeds a height of 499 feet AGL at the site of the object. The proposals would all exceed this standard by 208 feet.
- b. Section 77.17 (a)(3): A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

The following proposed turbines would increase LAMONI MUNI (LWD) LAMONI, IA. RNAV (GPS) RWY 18, AMDT 1, TAA Right Base Area, 088 inbound to 358 inbound clockwise (30 NM TO ZERMY) TAA; increase from 3000 feet AMSL to 3100 feet AMSL.

2025-WTE-958-OE
 2025-WTE-969-OE
 2025-WTE-948-OE
 2025-WTE-947-OE
 2025-WTE-1027-OE

The following structures increase the GREENFIELD MUNI (GFZ), GREENFIELD, IA. RNAV (GPS) RWY 25, AMDT 1A, MSA from 3000 feet AMSL to 3100 feet AMSL.

2025-WTE-958-OE
 2025-WTE-969-OE

The following proposed turbines would increase the GREENFIELD MUNI (GFZ), GREENFIELD, IA. RNAV (GPS) RWY 7, AMDT 1, MSA from 3000 feet AMSL to 3100 feet AMSL.

2025-WTE-958-OE
 2025-WTE-969-OE

The following proposed turbine would increase the GREENFIELD MUNI (GFZ), GREENFIELD, IA. RNAV (GPS) RWY 7, AMDT 1, increase feeder altitude from CETUB to WUGRA from 3000 feet AMSL to 3100 feet AMSL.

2025-WTE-948-OE

The following proposed turbines would increase CRESTON MUNI (CSQ) CRESTON MUNI, IA. Obstacle penetrates RWY 22 40:1 departure surface (by _____ feet, however, departure NA due to environmental, No IFR Effect.

2025-WTE-975-OE 49 feet

2025-WTE-980-OE 78 feet

2025-WTE-1011-OE 17 feet

The following proposed turbines would increase the SCHENCK FLD (ICL) CLARINDA, IA. RNAV (GPS) RWY 20, AMDT 1A, increase TAA Straight-In Area, 290 inbound clockwise to 110 inbound (4 NM to ZESSA), 110 inbound clockwise 290 inbound (20 NM ZESSA), HILPT at ZESSA from 3000 feet AMSL to 3100 feet AMSL, NEH 2000 feet AMSL, increase Intermediate Fix crossing altitude from 3000 feet AMSL to 3100 feet AMSL.

2025-WTE-939-OE

2025-WTE-947-OE

2025-WTE-948-OE

2025-WTE-958-OE

2025-WTE-969-OE

The following proposed turbine would increase the SCHENCK FLD (ICL) CLARINDA, IA. RNAV (GPS) RWY 2, AMDT 1A, Missed Approach: Climb to 3100 direct ZESSA and hold, an increase from 3000.

2025-WTE-939-OE

c. Section 77.17(a)(4): A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

The following proposed turbines would increase the Minimum Obstruction Clearance Altitude (MOCA) along V181 from LAMONI (LMN) VOR/DME, 287 Radial, to OMAHA (OVR) VORTAC from 2700 to as much as 3100 feet AMSL.

Increase to 2800 feet AMSL

2025-WTE-1029-OE

2025-WTE-1030-OE

Increase to 2900 feet AMSL

2025-WTE-1031-OE

Increase to 3000 feet AMSL

2025-WTE-914-OE

2025-WTE-915-OE

2025-WTE-916-OE

2025-WTE-917-OE

2025-WTE-918-OE
2025-WTE-919-OE
2025-WTE-920-OE
2025-WTE-921-OE
2025-WTE-923-OE
2025-WTE-924-OE

2025-WTE-925-OE
2025-WTE-926-OE
2025-WTE-927-OE
2025-WTE-928-OE
2025-WTE-929-OE
2025-WTE-930-OE
2025-WTE-931-OE
2025-WTE-932-OE
2025-WTE-933-OE
2025-WTE-934-OE

2025-WTE-935-OE
2025-WTE-936-OE
2025-WTE-937-OE
2025-WTE-938-OE
2025-WTE-940-OE
2025-WTE-941-OE
2025-WTE-942-OE
2025-WTE-943-OE
2025-WTE-944-OE
2025-WTE-945-OE

2025-WTE-946-OE
2025-WTE-949-OE
2025-WTE-950-OE
2025-WTE-951-OE
2025-WTE-952-OE
2025-WTE-953-OE
2025-WTE-954-OE
2025-WTE-955-OE
2025-WTE-956-OE
2025-WTE-957-OE

2025-WTE-959-OE
2025-WTE-960-OE
2025-WTE-961-OE
2025-WTE-962-OE
2025-WTE-963-OE
2025-WTE-964-OE
2025-WTE-965-OE
2025-WTE-966-OE
2025-WTE-967-OE

2025-WTE-970-OE

2025-WTE-971-OE

2025-WTE-972-OE

2025-WTE-973-OE

2025-WTE-974-OE

2025-WTE-975-OE

2025-WTE-976-OE

2025-WTE-977-OE

2025-WTE-978-OE

2025-WTE-979-OE

2025-WTE-981-OE

2025-WTE-982-OE

2025-WTE-983-OE

2025-WTE-984-OE

2025-WTE-986-OE

2025-WTE-987-OE

2025-WTE-988-OE

2025-WTE-989-OE

2025-WTE-990-OE

2025-WTE-991-OE

2025-WTE-992-OE

2025-WTE-993-OE

2025-WTE-994-OE

2025-WTE-995-OE

2025-WTE-996-OE

2025-WTE-997-OE

2025-WTE-998-OE

2025-WTE-999-OE

2025-WTE-1000-OE

2025-WTE-1001-OE

2025-WTE-1002-OE

2025-WTE-1003-OE

2025-WTE-1004-OE

2025-WTE-1005-OE

2025-WTE-1006-OE

2025-WTE-1007-OE

2025-WTE-1008-OE

2025-WTE-1009-OE

2025-WTE-1010-OE

2025-WTE-1011-OE

2025-WTE-1012-OE

2025-WTE-1013-OE

2025-WTE-1014-OE

2025-WTE-1015-OE

2025-WTE-1016-OE
2025-WTE-1017-OE
2025-WTE-1018-OE
2025-WTE-1021-OE
2025-WTE-1032-OE
2025-WTE-1033-OE

Increase to 3100 feet AMSL

2025-WTE-939-OE
2025-WTE-947-OE
2025-WTE-948-OE
2025-WTE-958-OE
2025-WTE-969-OE

The following proposed turbines would increase Minimum EnRoute Altitude (MEA) along V181 from LAMONI (LMN) VOR/DME, 287 Radial, to OMAHA (OVR) VORTAC from 3000 feet AMSL to 3100 feet AMSL.

2025-WTE-939-OE
2025-WTE-947-OE
2025-WTE-948-OE
2025-WTE-958-OE
2025-WTE-969-OE

3. TITLE 14 CFR PART 77 - EFFECT ON AERONAUTICAL OPERATIONS

a. Section 77.29 (a)(1): impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules.

At a height greater than 499 feet AGL, the proposed wind farm would extend into airspace normally used for VFR en route flight and may be located within 2 statute miles (SM) of potential VFR Routes as defined by FAA Order 7400.2, Section 6-3-8. The turbines within 2 SM of a VFR Route would have an adverse effect upon VFR air navigation.

4. TITLE 14 CFR PART 77 - FURTHER STUDY AND PUBLIC COMMENTS

In order to facilitate the public comment process, all 120 studies were circularized under ASN 2025-WTW-929-OE on 4/15/2025, in accordance with JO 7400.2, Chapter 6-3-17. No comments were received during the public comment period in response to the circularization concluding on 5/22/2025.

5. BASIS FOR DETERMINATION

a. IFR EFFECTS

The aeronautical study identified an IFR effect(s) for ICL, GFZ, LWD, and V-181. MEAs are established for each segment of an airway or an approved route based upon obstacle clearance, navigational signal reception, and communications. The MEA assures obstruction clearance and acceptable navigational signal coverage over the entire airway or route segment flown. The effect may not be substantial if the aeronautical study discloses that the affected MEA is not normally flown by aircraft, nor used for air traffic control purposes. Further study, including a review by the controlling Air Traffic Control facility determined that the MEA is not

normally assigned. Additionally, there were no public comments received during the public comment period regarding the MEA increase; therefore would not have a substantial adverse effect.

MSAs are the minimum obstacle clearance altitudes within a specified distance from the navigation facilities upon which procedures are predicated. MSA altitudes are designed for emergency use only and are not routinely used by pilots or by air traffic control. Consequently, MSAs are not circulated for public comment as they are not considered a factor in determining the extent of adverse effect.

MOCAs assure obstacle clearance over the entire route segment to which they apply and assure navigational signal coverage within 22 NM of the associated VOR navigational facility. For that portion of the route segment beyond 22 NM from the VOR, where the MOCA is lower than the MEA and there are no plans to lower the MEA to the MOCA, a structure that affects only the MOCA would not be considered to have substantial adverse effect. Other situations require study as ATC may assign altitudes down to the MOCA under certain conditions. Further study revealed that only the MOCA is effected in this area and that the MOCA is not routinely assigned by ATC.

The increase to the Terminal Arrival Area altitudes, feeder fix altitudes, and Intermediate fix altitudes are not considered excessive. Increasing these altitudes would ensure the required obstacle clearances are maintained and would not have a significant impact on a pilot's ability to safely execute the procedures. Therefore, the proposed wind farm would not have a substantial adverse effect on IFR operations for ICL, GFZ, and LWD.

The proposed structures would have no effect on any other existing or proposed arrival, departure, or en route IFR operations or procedures.

b. VFR EFFECTS

The aeronautical study identified no effect on any existing or proposed VFR arrival or departure operations. The proposals would be located beyond the traffic pattern airspace for any known public use or military airports.

At over 499 feet AGL, the structures would be located within the altitudes commonly used for en route VFR flight. In coordination with ATC, an analysis of potential VFR Routes and available traffic data indicated that an average of less than one VFR aircraft per day may be affected by the proposed wind farm.

In accordance with FAA Order 7400.2, the proposed wind farm would not affect a significant volume of aircraft and therefore, it is determined they will not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be charted on VFR sectional aeronautical charts and appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

c. RADAR EFFECTS

The aeronautical study identified no effect on ATC radar, direction finders, ATC tower line-of-sight visibility, air navigation, communication facilities, and other surveillance systems for any known public-use or military airports.

d. CUMULATIVE EFFECT

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any substantial adverse effect on existing or

proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

6. DETERMINATION

It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

7. CONDITIONS

The proponent is required to file FAA form 7460-2, part 1, Notice of Actual Construction or Alteration, ten (10) days prior to beginning construction, at the OE/AAA website (<https://oeaaa.faa.gov>) for all of the wind turbines in this project.

Additionally, within five days after each project structure reaches its greatest height, the proponent is required to file a FAA form 7460-2, Actual Construction notification, at the OE/AAA website (<https://oeaaa.faa.gov>). This actual construction notification will be the source document detailing the site location, site elevation, structure height, and date structure was built for the FAA to map the structure on aeronautical charts and update the national obstruction database.

ACRONYMS & ABBREVIATIONS

AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARP, Airport Reference Point
ARSR, Air Route Surveillance Radar
ARTCC, Air Route Traffic Control Center
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
ATCT, Air Traffic Control Tower
CARSR, Common Air Route Surveillance Radar
CAT, Category
CFR, Code of Federal Regulations
CG, Climb Gradient
DA, Decision Altitude
DME, Distance Measuring Equipment
FAA, Federal Aviation Administration
FUS, Fusion
GPS, Global Positioning System
IAF, Initial Approach Fix
IAP, Instrument Approach Procedure
ICA, Initial Climb Area
IFR, Instrument Flight Rules
INT, Intersection
LAT, Latitude
LNAV, Lateral Navigation
LOC, Localizer
LONG, Longitude

LP, Localizer Performance
LPV, Localizer Performance with Vertical Guidance
MDA, Minimum Descent Altitude
MEA, Minimum En route Altitude
MET, Meteorological Evaluation Tower
MIA, Minimum IFR Altitude
Min, Minimum
MOCA, Minimum Obstruction Clearance Altitude
MSA, Minimum Safe Altitude
MSL, Mean Sea Level
MVA, Minimum Vectoring Altitude
NA, Not Authorized
NAS, National Airspace System
NAVAID, Navigational Aid
NDB, Non-Directional Radio Beacon
NEH, No Effect Height
NM, Nautical Mile
NOTAM, Notice to Airmen
NPF, Notice of Preliminary Findings
OCS, Obstacle Clearance Surface
OE, Obstruction Evaluation
OEG, Obstruction Evaluation Group
Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace.
P-NOTAM, Permanent Notice to Airmen
RLOS, Radar Line of Sight
RNAV, Area Navigation
RNP, Required Navigation Performance
RWY, Runway
S-, Straight-in
SE, Site Elevation
S-LOC, Straight-in Localizer
SM, Statute Miles
Std., Standard
TAA, Terminal Arrival Area
TACAN, Tactical Air Navigation System
TERPS, Terminal Instrument Procedures
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
V, Victor Airway
VFR, Visual Flight Rules
VHF, Very High Frequency
VOR, VHF Omnidirectional Radio Range System
VORTAC, VOR/TACAN System
WTE, Wind Turbine East
WTW, Wind Turbine West



Appendix B.5

**July 2026 Turbine Layout, Met Towers, and ADLS
submitted to Federal Aviation Administration
(§3.A.11)**

Structure Name	Latitude (DD-MM-SS.SS)	Longitude (DD-MM-SS.SS)	Site Elevation	Structure Height (AGL)	Marking Type	Lighting Type	ASN
T001	40 53 38.17N	94 48 59.75W	1219	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3028-OE
T002	40 53 30.35 N	94 48 22.42 W	1240	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3031-OE
T003	40 52 59.45 N	94 48 19.66 W	1248	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3033-OE
T004	40 52 39.56 N	94 48 30.43 W	1174	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3035-OE
T005	40 52 34.80 N	94 49 05.86 W	1215	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3036-OE
T006	40 52 07.52 N	94 49 35.15 W	1250	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3038-OE
T007	40 52 35.93 N	94 45 40.88 W	1292	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3039-OE
T008	40 52 00.66 N	94 46 44.99 W	1221	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3041-OE
T009	40 51 40.58 N	94 47 10.40 W	1255	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3043-OE
T010	40 50 22.23 N	94 45 02.63 W	1240	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3044-OE
T011	40 50 09.40 N	94 45 31.80 W	1252	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3046-OE
T012	40 49 48.23 N	94 45 16.83 W	1230	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3048-OE
T013	40 49 55.89 N	94 44 48.28 W	1228	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3049-OE
T014	40 49 59.96 N	94 44 06.04 W	1191	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3051-OE
T015	40 49 47.72 N	94 43 28.93 W	1220	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3053-OE
T016	40 51 08.45 N	94 42 55.37 W	1252	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3055-OE
T017	40 51 43.47 N	94 42 43.61 W	1242	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3056-OE
T018	40 51 39.49 N	94 42 11.66 W	1270	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3058-OE
T019	40 51 47.90 N	94 41 49.60 W	1281	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3060-OE
T020	40 51 56.84 N	94 41 32.09 W	1278	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3061-OE
T021	40 52 06.76 N	94 41 08.10 W	1294	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3062-OE
T022	40 52 05.39 N	94 42 28.61 W	1261	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3064-OE
T023	40 52 23.34 N	94 42 11.62 W	1214	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3065-OE
T024	40 52 18.13 N	94 41 50.49 W	1225	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3067-OE
T025	40 52 32.78 N	94 41 31.21 W	1240	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3068-OE
T026	40 52 31.19 N	94 41 04.81 W	1226	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3070-OE
T027	40 52 44.58 N	94 40 30.73 W	1284	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3072-OE
T028	40 52 50.82 N	94 42 13.76 W	1253	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3073-OE
T029	40 52 58.88 N	94 41 45.10 W	1281	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3075-OE
T030	40 53 21.97 N	94 39 47.34 W	1296	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3076-OE
T031	40 52 31.97 N	94 39 32.00 W	1292	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3078-OE
T032	40 52 32.97 N	94 38 56.42 W	1256	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3080-OE
T033	40 52 46.13 N	94 38 23.16 W	1255	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3082-OE
T034	40 52 49.19 N	94 37 54.16 W	1239	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3083-OE
T035	40 53 19.78 N	94 37 46.85 W	1280	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3085-OE
T036	40 52 29.47 N	94 37 15.28 W	1297	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3087-OE
T037	40 51 57.72 N	94 39 20.69 W	1270	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3088-OE
T038	40 51 41.06 N	94 38 41.33 W	1205	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3090-OE
T039	40 51 56.27 N	94 38 06.10 W	1260	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3092-OE
T040	40 51 57.51 N	94 37 15.73 W	1253	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3094-OE
T041	40 51 49.27 N	94 36 03.83 W	1252	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3095-OE
T042	40 51 06.92 N	94 41 04.94 W	1193	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3096-OE
T043	40 51 07.24 N	94 39 50.38 W	1245	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3097-OE
T044	40 51 04.70 N	94 38 41.04 W	1218	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3099-OE
T045	40 51 03.69 N	94 37 04.23 W	1275	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3101-OE
T046	40 50 59.60 N	94 34 58.56 W	1288	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3102-OE
T047	40 49 54.13 N	94 42 12.08 W	1246	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3104-OE
T048	40 49 49.08 N	94 41 37.21 W	1258	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3106-OE
T049	40 50 01.62 N	94 41 21.03 W	1278	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3108-OE
T050	40 50 21.40 N	94 40 40.44 W	1259	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3109-OE
T051	40 50 23.90 N	94 39 40.03 W	1242	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3111-OE
T052	40 50 36.62 N	94 39 20.52 W	1214	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3113-OE
T053	40 50 39.06 N	94 37 36.95 W	1276	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3115-OE
T054	40 50 38.18 N	94 36 58.41 W	1256	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3116-OE
T055	40 50 41.39 N	94 36 36.85 W	1269	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3118-OE
T056	40 50 48.81 N	94 36 04.96 W	1276	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3134-OE
T057	40 49 06.86 N	94 42 56.83 W	1237	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3133-OE
T058	40 49 20.31 N	94 42 39.79 W	1249	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3132-OE
T059	40 49 07.37 N	94 42 12.05 W	1204	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3131-OE
T060	40 49 06.21 N	94 41 48.82 W	1214	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3130-OE
T061	40 49 29.02 N	94 40 38.72 W	1222	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3129-OE
T062	40 49 57.39 N	94 39 33.27 W	1262	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3128-OE
T063	40 49 47.09 N	94 38 55.80 W	1242	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3127-OE
T064	40 49 24.59 N	94 38 54.93 W	1280	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3126-OE
T065	40 48 58.70 N	94 39 54.45 W	1257	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3125-OE
T066	40 49 55.27 N	94 37 48.63 W	1297	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3124-OE
T067	40 49 56.68 N	94 36 39.93 W	1279	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3123-OE
T068	40 49 22.03 N	94 35 27.99 W	1234	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3122-OE
T069	40 49 28.23 N	94 34 58.36 W	1235	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3121-OE
T070	40 49 02.29 N	94 33 30.97 W	1199	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3120-OE
T071	40 49 15.51 N	94 33 13.56 W	1249	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3119-OE
T072	40 49 08.58 N	94 32 39.83 W	1200	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3117-OE
T073	40 49 01.74 N	94 31 58.60 W	1227	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3114-OE
T074	40 48 37.25 N	94 32 24.52 W	1265	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3112-OE
T075	40 48 25.41 N	94 32 39.74 W	1263	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3110-OE
T076	40 47 11.86 N	94 31 56.18 W	1251	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3107-OE

Structure Name	Latitude (DD-MM-SS.SS)	Longitude (DD-MM-SS.SS)	Site Elevation	Structure Height (AGL)	Marking Type	Lighting Type	ASN
T077	40 46 54.54 N	94 32 41.31 W	1259	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3105-OE
T078	40 46 02.85 N	94 32 41.54 W	1245	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3103-OE
T079	40 45 41.23 N	94 32 40.64 W	1246	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3100-OE
T080	40 48 31.67 N	94 42 56.31 W	1244	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3098-OE
T081	40 48 37.17 N	94 41 58.41 W	1275	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3093-OE
T082	40 48 38.91 N	94 41 37.47 W	1269	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3091-OE
T083	40 48 26.33 N	94 40 10.95 W	1277	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3089-OE
T084	40 47 15.69 N	94 44 04.75 W	1263	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3086-OE
T085	40 47 41.90 N	94 42 57.34 W	1271	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3084-OE
T086	40 48 06.27 N	94 41 50.38 W	1230	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3081-OE
T087	40 48 16.36 N	94 41 37.76 W	1240	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3079-OE
T088	40 48 04.85 N	94 41 01.17 W	1227	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3077-OE
T089	40 47 48.96 N	94 40 39.05 W	1223	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3074-OE
T090	40 48 07.90 N	94 40 21.45 W	1272	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3071-OE
T091	40 47 21.22 N	94 41 02.35 W	1269	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3069-OE
T092	40 46 27.92 N	94 42 08.78 W	1248	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3066-OE
T093	40 46 53.23 N	94 41 48.38 W	1238	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3063-OE
T094	40 46 33.38 N	94 41 35.72 W	1242	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3059-OE
T095	40 46 58.06 N	94 41 00.36 W	1261	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3057-OE
T096	40 46 56.63 N	94 40 34.79 W	1271	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3054-OE
T097	40 46 37.24 N	94 41 02.84 W	1231	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3052-OE
T098	40 45 39.50 N	94 42 55.73 W	1259	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3050-OE
T099	40 45 57.38 N	94 42 20.16 W	1264	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3047-OE
T100	40 45 28.76 N	94 41 47.91 W	1261	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3045-OE
T101	40 45 36.32 N	94 41 12.11 W	1253	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3025-OE
T102	40 45 08.63 N	94 42 13.12 W	1254	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3042-OE
T103	40 44 45.22 N	94 42 27.35 W	1267	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3040-OE
T104	40 43 58.77 N	94 42 58.30 W	1297	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3037-OE
T105	40 44 20.36 N	94 43 53.37 W	1233	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3034-OE
T106	40 50 13.07 N	94 38 45.04 W	1294	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3032-OE
T107	40 48 11.81 N	94 34 42.83 W	1229	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3030-OE
T108	40 45 55.74 N	94 33 18.32 W	1263	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3029-OE
T109	40 45 42.46 N	94 31 53.24 W	1225	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3027-OE
T110	40 44 59.94 N	94 31 54.79 W	1226	707	White Paint Only	Synchronized Red Lighting	2026-WTE-3026-OE
ADLS1	40 49 10.73N	94 38 36.95W	1293	199	Not Marked	Medium Dual System	2026-WTE-3137-OE
Pmet_109	40 45 27.99N	94 31 52.94W	1236	400	Not Marked	Dual, Medium Strobe during day, Red at night	2026-WTE-3136-OE
Pmet_096	40 46 45.88N	94 40 22.48W	1276	400	Not Marked	Dual, Medium Strobe during day, Red at night	2026-WTE-3135-OE

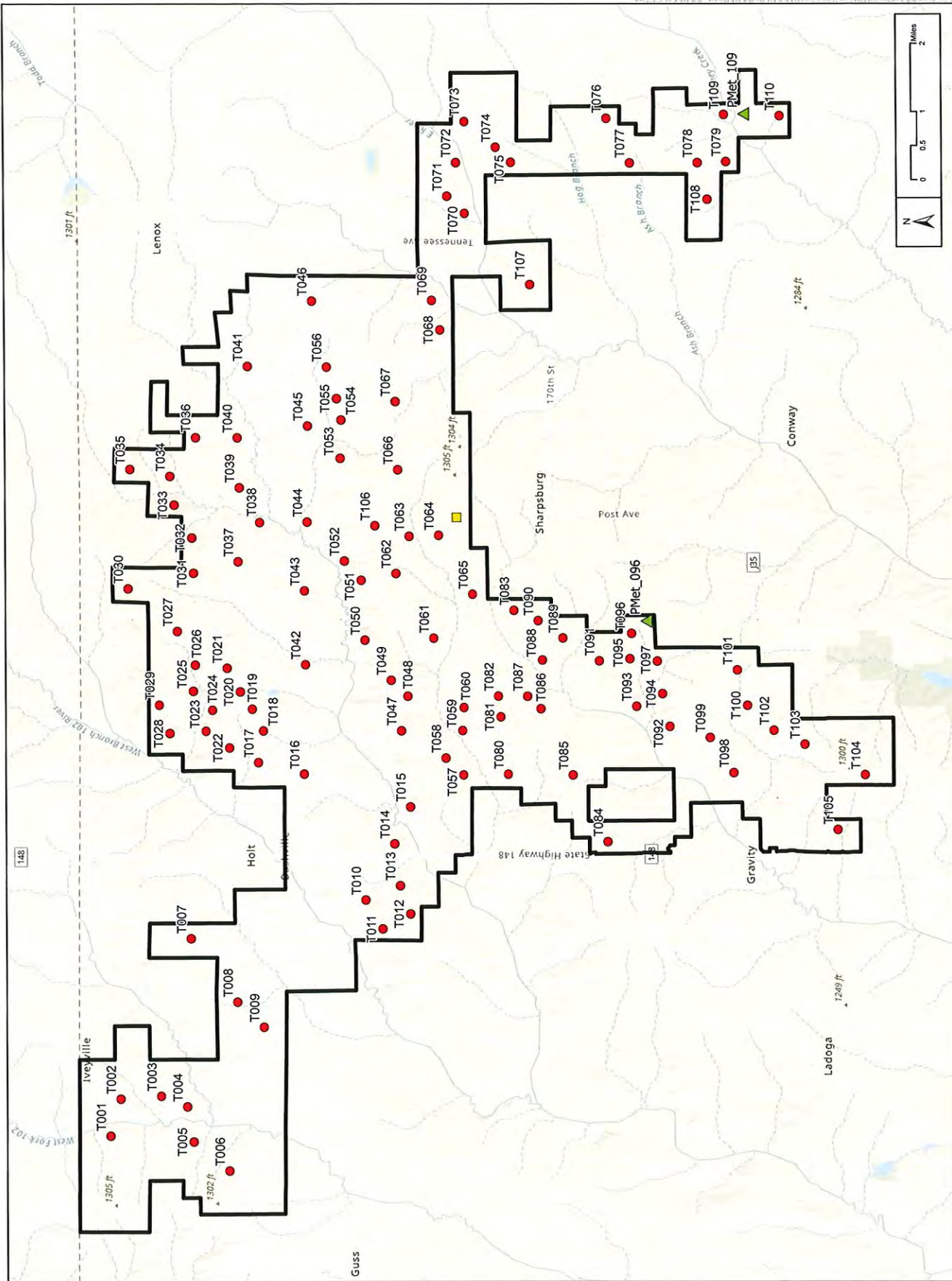


Black Maple Wind (Layout 22)

- Turbine (110)
- ADLS Tower
- ▲ Met Tower
- Project Boundary

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Appendix B.6
Wildlife Study Technical Memorandum (§3.A.12)

TECHNICAL MEMORANDUM

Date: July 16, 2026

To: Black Maple Wind, LLC

From: Western EcoSystems Technology, Inc.

Subject: Wildlife Studies Conducted at the Proposed Black Maple Wind Project in Taylor County, Iowa

INTRODUCTION

Black Maple Wind, LLC (Black Maple) is developing the proposed Black Maple Wind Project (Project) in Taylor County, Iowa, that will have a nameplate capacity of up to 413 megawatts. The Taylor County *Ordinance Regulating the Placement of Wind Energy Conversion Systems (WECS) on Property Located in the Unincorporated Areas of Taylor County, Iowa* (2020)¹ requires the following review as part of the WECS application: "Affirmation that the applicant has identified significant migratory flyways and nesting areas for birds, bats, and endangered species within one (1) mile of the proposed Wind Turbine".

Black Maple retained Western EcoSystems Technology, Inc. (WEST)², an environmental and statistical consulting firm, to prepare this memorandum (memo) in support of the Project's WECS application. The purpose of this memo is to summarize Black Maple's compliance with the Taylor County WECS ordinance by detailing bird, bat, and endangered species that have potential to occur within one mile of Project turbines (Project Area)³ and review completed wildlife studies within the Project Area. Endangered species, for the purposes of this memo includes: species listed as threatened or endangered under the Endangered Species Act of 1973, the Iowa Administrative Code (2009, 2026), or protected by the Bald and Golden Eagle Protection Act of 1940 (BGEPA) with the potential to occur within the Project Area..

As demonstrated in the below summary of surveys and studies, the Black Maple Wind Project Area does not contain a concentration of significant migratory flyways or nesting areas for birds, bats, or endangered species. Moreover, the Project is following all guidelines and

¹ All citations available upon request.

² WEST has conducted research on the interaction of wildlife and energy for over 30 years, and WEST staff have worked on thousands of pre- and post-construction studies of wildlife and their habitats at wind energy facilities across the United States.

³ The Project boundary has been modified throughout Project development. When wildlife studies were completed, the Project boundary was larger and encompassed substantially more area than the currently defined Project Area. When referring to the Project Area throughout this memo, it should be understood that wildlife studies occurred within and outside of the currently defined Project Area.

recommendations of State and federal agencies, including buffers to avoid habitat areas and time of year restrictions on certain activities. By doing so, the Project will not have a negative, population-level impact on birds, bats, or endangered species.

BACKGROUND

The Project is sited in a landscape that generally avoids natural habitats that may be used by birds, bats and endangered species. The Project Area encompasses approximately 69,509 acres, 70.0% of which is cultivated crops and 22.4% of which is pasture/hay (National Land Cover Database [NLCD] 2025; Figure 1). Creeks occur throughout the Project Area, with some small, associated wetlands (US Fish and Wildlife Service [USFWS] Nation Wetland Inventory 2024). No public lands, conservation easements, or Iowa Bird Conservation Areas occur within the Project Area. The Project boundary was reduced during development to avoid the East Nodaway River.

Based on field surveys and agency databases (USFWS Information for Planning and Consultation tool [2026], Iowa Department of Natural Resources [IDNR] Permit and Environmental Review Management Tool [2026], and the IDNR endangered and threatened species list updated in June 2026 [Iowa Administrative Code (2026)]) ten species were identified with potential to occur within the Project Area, including three birds, four bats, one reptile, and two plants (Table 1).

Table 1. Species of concern with potential to occur within the proposed Black Maple Wind Project Area in Taylor County, Iowa.

Common Name	Scientific Name	Status ¹	Source ²
Birds			
bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA	Survey
golden eagle	<i>Aquila chrysaetos</i>	BGEPA	Survey
short-eared owl	<i>Asio flammeus</i>	ST	Survey
Mammals			
Indiana bat	<i>Myotis sodalis</i>	FE, SE	IPaC, IDNR, Survey
little brown bat	<i>Myotis lucifugus</i>	ST	IDNR, Survey
northern long-eared bat	<i>Myotis septentrionalis</i>	FE, SE	IPaC, IDNR
tricolored bat	<i>Perimyotis subflavus</i>	ST	IDNR, Survey
Reptiles			
gopher snake	<i>Pituophis catenifer</i>	ST	IDNR
Plants			
Mead's milkweed	<i>Asclepias meadii</i>	SE	IPaC
western prairie fringed orchid	<i>Platanthera praeclara</i>	FT, ST	IDNR

¹. BGEPA = Bald and Golden Eagle Protection Act of 1940; FE = federally listed endangered; FT = federally listed threatened; SE = state-listed endangered; ST = state-listed threatened.

². IPaC = US Fish and Wildlife Service Information for Planning and Consultation tool (2026); IDNR = Iowa Department of Natural Resources Permit and Environmental Review Management Tool (2026); Survey = wildlife survey conducted at the Project Area.



July 2026

STUDIES COMPLETED

Black Maple conducted a series of wildlife surveys and habitat assessments for birds, bats, and endangered species in the Project Area (Table 2). These studies followed the most recent recommendations and guidelines from the USFWS and/or IDNR, including the USFWS *Land-based Wind Energy Guidelines* (Wind Energy Guidelines; 2012), the USFWS *Eagle Conservation Plan Guidance* (2013), and IDNR recommendations.

Table 2. Wildlife and habitat studies¹ within the proposed Black Maple Wind Project Area in Taylor County, Iowa.

Study Type	Study Period
Avian Use Surveys – Year 1 ¹	January – December 2023
Avian Use Surveys – Year 2 ¹	January – December 2024
Raptor Nest Survey ¹	March 2023
Raptor Nest Survey ²	April 2026
Bat Habitat Assessment ²	2025
Bat Presence/Probable Absence Survey ²	July 2025

¹ Studies completed by Western EcoSystems Technology Inc.

² Studies completed by Copperhead Environmental Consulting Inc.

Birds

Avian Use Surveys

Avian use surveys were completed in 2023 and 2024, which encompassed the majority of the Project Area (Patterson and Foo 2024, 2025). During both years, the species observed were generally widespread and abundant species. Waterfowl made up the majority of large bird observations, primarily due to snow goose (*Anser caerulescens*), Canada goose (*Branta canadensis*), and greater white-fronted goose (*A. albifrons*) flocks during migration and the winter. Blackbird species, primarily red-winged blackbirds (*Agelaius phoeniceus*), made up the majority of small bird observations. Although migratory species move through the Project Area, the habitat types present within the Project Area are generally abundant in this region and do not concentrate use of birds.

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*; protected under the BGEPA), and one State-listed threatened species short-eared owl (*Asio flammeus*) were observed during avian use surveys. Golden eagles are rare in the Project Area and only occur as occasional migrants. Short-eared owls were observed in small numbers within agricultural and hay/pasture habitats. Short-eared owls are semi-nomadic species with population and reproductive dynamics that follow the cyclical population density of small mammals, their primary prey (Iowa Audubon 2026). They nest in large areas of dry grassland and hunt in open areas including pastures, marshes, and agricultural lands. During the breeding season, disturbance in suitable breeding habitat will be avoided to the greatest extent practicable.

Raptor Nest Surveys

Raptor nest surveys were completed in 2023 and 2026 (Patterson and Foo 2023, Schirmacher et al. 2026). In summary, biologists observed nests of the following species during surveys: bald eagle, red-tailed hawk (*Buteo jamaicensis*), and great-horned owl (*Bubo virginianus*).

As a result, the Project will site all construction activity and infrastructure away from these nests to ensure that there is no disturbance. For example, USFWS recommends a 660-foot setback for wind turbines from eagle nests (USFWS 2024). The Project's layout exceeds this recommendation and ensures that all turbines are greater than 660 feet from known eagle nests. In addition, tree clearing will be limited during the nesting season for raptors to the greatest extent practicable to minimize potential impacts to nesting raptors.

Bats

Desktop Bat Habitat Assessment

A desktop bat habitat assessment was completed in 2025 (Baer et al. 2026). Suitable summer habitat for the federally and State-listed endangered northern long-eared (*Myotis septentrionalis*) and Indiana (*M. sodalis*) bats were mapped (Baer et al. 2026). This habitat may also be used for roosting by the tricolored bat (State-listed threatened) and other common bat species. There are 2,353 acres (3.4% of Project Area) of which are potentially suitable habitat for northern long-eared and Indiana bats (Baer et al. 2026). The Project will avoid clearing suitable habitat to the greatest extent practicable. In addition, clearing will occur during the winter season when bats are not active or expected to use this habitat to avoid any impacts to bats.

Bat Presence/probable Absence Acoustic and Mist-netting Study

An acoustic and mist-netting study was completed in July 2025 (Alexander and Samoray 2026) following the USFWS *Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines* (USFWS 2024). The purpose of the survey was to determine if the Indiana and northern long-eared bats are using the Project Area. The following species were present at the Project: big brown (*Eptesicus fuscus*), eastern red (*Lasiurus borealis*), hoary (*L. cinereus*), silver-haired (*Lasionycteris noctivagans*), little brown (*M. lucifugus*; State-listed threatened), Indiana (federally and State-listed endangered), evening (*Nycticeius humeralis*), and tricolored (*Perimyotis subflavus*; State-listed threatened). Based on surveys, northern long-eared bats are likely absent from the Project Area. Indiana bat calls were recorded at three acoustic locations, and one Indiana bat was captured during mist-netting. The captured bat was tracked to a roost tree, likely a maternity colony, outside of the Project Area.

To avoid any potential impacts to the Indiana bat roost tree, all turbines have been sited at least three miles from the documented location, which exceeds the siting recommendation of 2.5 miles from USFWS to avoid impacts to Indiana bats. Additionally, all turbines located within 2.5 miles of the Indiana bat maternity colony and within five miles of acoustic sites where Indiana bat recordings were documented, were sited 1,000 feet plus the turbine rotor radius away from potentially suitable Indiana bat habitat, in accordance with the *Range-wide Indiana Bat and*

Northern Long-eared Bat Survey Guidelines (USFWS 2026). By following these recommendations, Black Maple will minimize and avoid any impacts to federally and State-listed bat species during the summer maternity season. Black Maple has communicated these findings and voluntary setbacks to the IDNR and USFWS.

Plants and Reptile

Two plant species of concern have potential to occur in the Project Area: the State-listed endangered Mead's milkweed (*Asclepias meadii*) and the federally and State-listed threatened western prairie fringed orchid (*Platanthera praeclara*; Table 1). Mead's milkweed occur in mesic tallgrass prairies and western prairie fringed orchids occur in sedge meadows and native prairie habitat (USFWS and IDNR 2026). Species-specific surveys were not completed for either of these species; however, Black Maple has sited turbines to avoid wetlands and native grasslands.

One reptile of concern has potential to occur in the Project Area: the State-threatened gopher snake (*Pituophis catenifer*). Gopher snakes are found in open areas of native grasslands and sand prairie. The soils in the Project Area are primarily silty and loamy (USDA 2025); gopher snakes prefer sandy soils for burrowing (IDNR 2026). Black Maple has sited turbines to avoid native grasslands.

SUMMARY

Black Maple has conducted desktop and field studies to gather information on birds, bats, and endangered species within the Project Area to inform turbine siting and other best management practices. The studies met or exceeded USFWS and IDNR recommendations, and the results of the studies were shared with both agencies. These studies also address the Taylor County WECS ordinance's requirement to identify significant migratory flyways and nesting areas for birds, bats, and endangered species within one mile of the proposed wind turbine locations.

The desktop and field studies do not indicate a concentration or significant migratory pathway for birds, bats, and endangered species. In addition, the Project has been sited to avoid impacts to any known nests, roosting areas, and/or occurrences of endangered species.

Appendix B.7

Telecommunications Studies (§4.8)



Wind Power GeoPlanner™

Microwave Study

Black Maple Wind Project

Prepared on Behalf of
Black Maple Wind, LLC

June 25, 2026

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1. Introduction

Microwave bands that may be affected by the installation of wind turbine facilities operate over a wide frequency range (900 MHz – 23 GHz). Comsearch has developed and maintains comprehensive technical databases containing information on licensed microwave networks throughout the United States. These systems are the telecommunication backbone of the country, providing long-distance and local telephone service, backhaul for cellular and personal communication service, data interconnects for mainframe computers and the Internet, network controls for utilities and railroads, and various video services. This report focuses on the potential impact of wind turbines on licensed, proposed and applied non-federal government microwave systems.

2. Project Overview

Project Information

Name: Black Maple Wind Project

County: Taylor

State: Iowa

Number of Turbines: 110

Blade Diameter: 154/163 meters

Hub Height: 110.5/116/118 meters

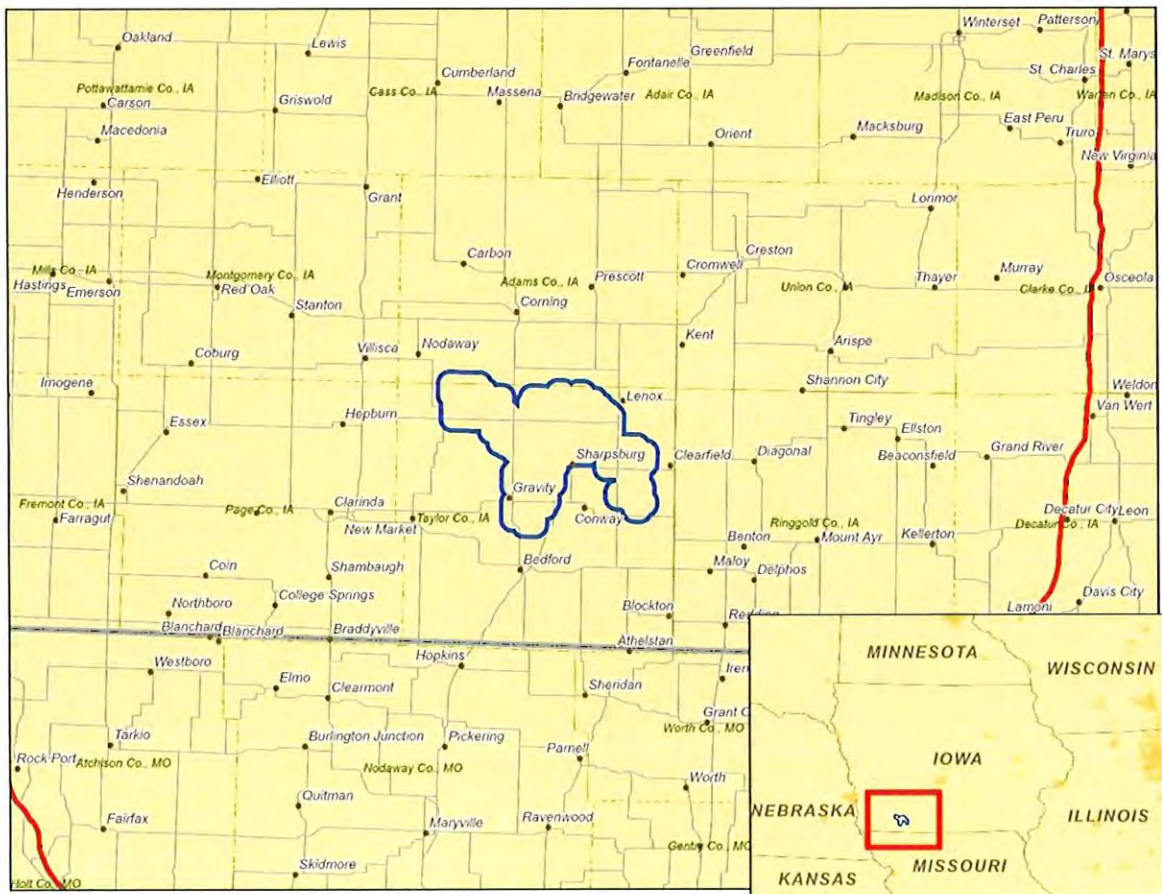


Figure 1: Area of Interest

3. Two-Dimensional Fresnel Zone Analysis

Methodology

Our obstruction analysis was performed using Comsearch's proprietary microwave database, which contains all non-government licensed, proposed and applied paths from 0.9 - 23 GHz¹. First, we determined all microwave paths within one mile of the project area² and listed them in Table 1. These paths and the project area that encompasses the planned turbine locations are shown in Figure 2.

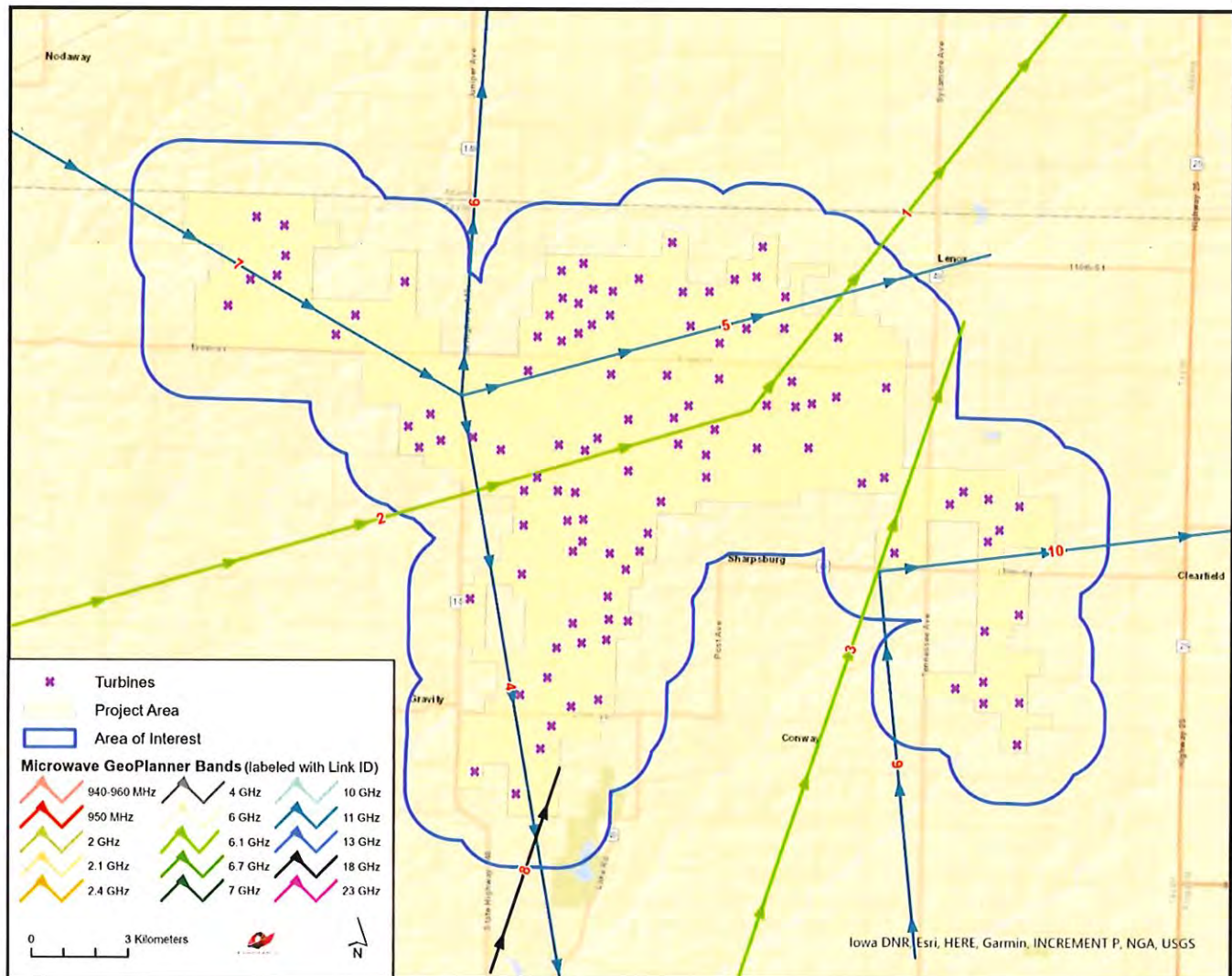


Figure 2: Microwave Paths that Intersect the Area of Interest

¹ Please note that this analysis does not include unlicensed microwave paths or federal government paths that are not registered with the FCC.

² We use FCC-licensed coordinates to determine which paths intersect the area of interest. It is possible that as-built coordinates may differ slightly from those on the FCC license.

ID	Status	Callsign 1	Callsign 2	Band	Path Length (km)	Licensee
1	Licensed	KAC94	KAC93	6.1 GHz	38.94	MidAmerican Energy Company
2	Licensed	KAD98	KAC94	6.1 GHz	30.70	MidAmerican Energy Company
3	Licensed	WMT214	WQCL347	6.1 GHz	24.79	USCC Wireless Holdings, LLC
4	Licensed	WRMF515	WRJZ642	11 GHz	19.67	Bug Tussel Wireless LLC
5	Licensed	WRMF515	WRMI339	11 GHz	17.02	Bug Tussel Wireless LLC
6	Licensed	WRMF515	WRMI347	11 GHz	14.66	Bug Tussel Wireless LLC
7	Licensed	WRML711	WRMF515	11 GHz	23.59	Bug Tussel Wireless LLC
8	Licensed	WRPM374	WRXT811	18 GHz	6.74	AMG Technology Investment Group LLC
9	Licensed	WRPM375	WSAN230	11 GHz	12.13	AMG Technology Investment Group LLC
10	Licensed	WSAN230	WSAN240	11 GHz	11.16	AMG Technology Investment Group LLC

Table 1: Summary of Microwave Paths that Intersect the Area of Interest

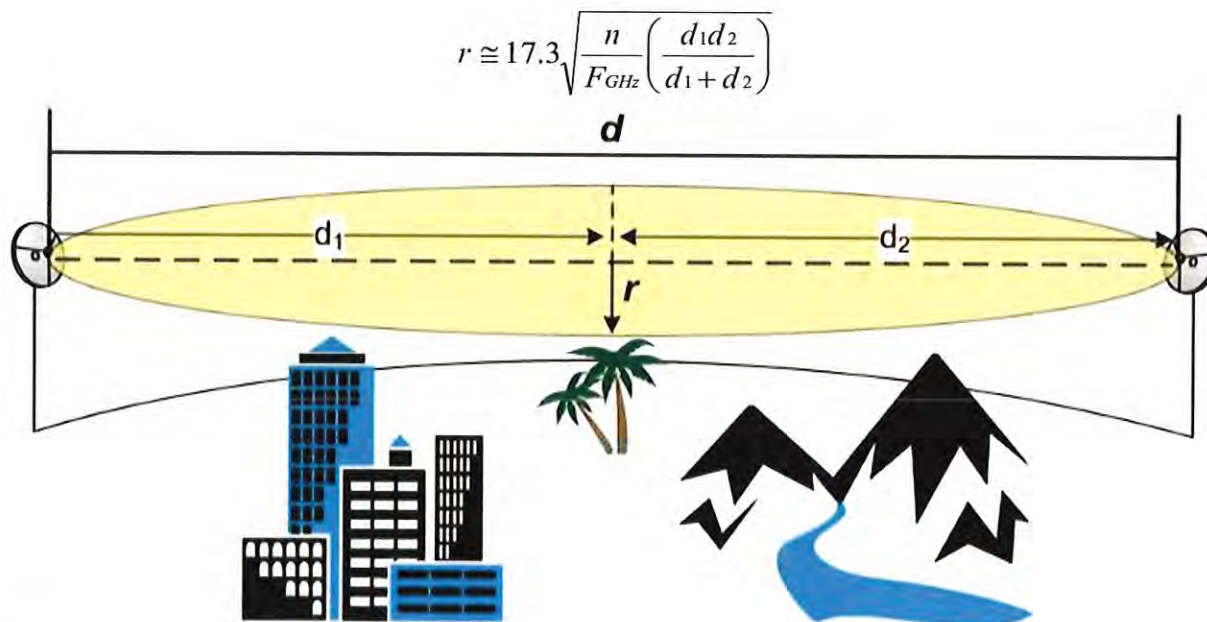
*(See enclosed mw_geopl.xlsx for more information and
 GP_dict_matrix_description.xls for detailed field descriptions)*

Verification of Coordinate Accuracy

It is possible that as-built coordinates may differ from those on the FCC license. For this project, all ten paths cross within close proximity of the proposed turbines and the tower locations for these paths will have a critical impact on the result. Therefore, we verified these locations using aerial photography. Some of the towers were found to be slightly off and were moved to their locations based on the aerial photos³.

³ See enclosed mw_geopl.shp (adjusted locations based on aerial photography/basis for report images and results) and mw_geopl_fcc.shp (locations solely based on FCC licensed information) for details.

Next, we calculated a Fresnel Zone for each path based on the following formula:



Where,

- r = Fresnel Zone radius at a specific point in the microwave path, meters
- n = Fresnel Zone number, 1
- F_{GHz} = Frequency of microwave system, GHz
- d_1 = Distance from antenna 1 to a specific point in the microwave path, kilometers
- d_2 = Distance from antenna 2 to a specific point in the microwave path, kilometers

In general, this is the area where the planned wind turbines should be avoided, if possible. Likewise, Comsearch recommends that an area directly in front of each microwave antenna should be avoided. This corresponds to the Consultation Zone which measures 1 kilometer along the main beam of the antenna and 24 ft (7.3 meters) wide. A depiction of the Fresnel Zones and Consultation Zones for each microwave path listed can be found in Figures 3 through 9, and is also included in the enclosed shapefiles^{4,5}.

⁴ The ESRI® shapefiles enclosed are in NAD 83 UTM Zone 15 projected coordinate system.

⁵ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data provided in this report is governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

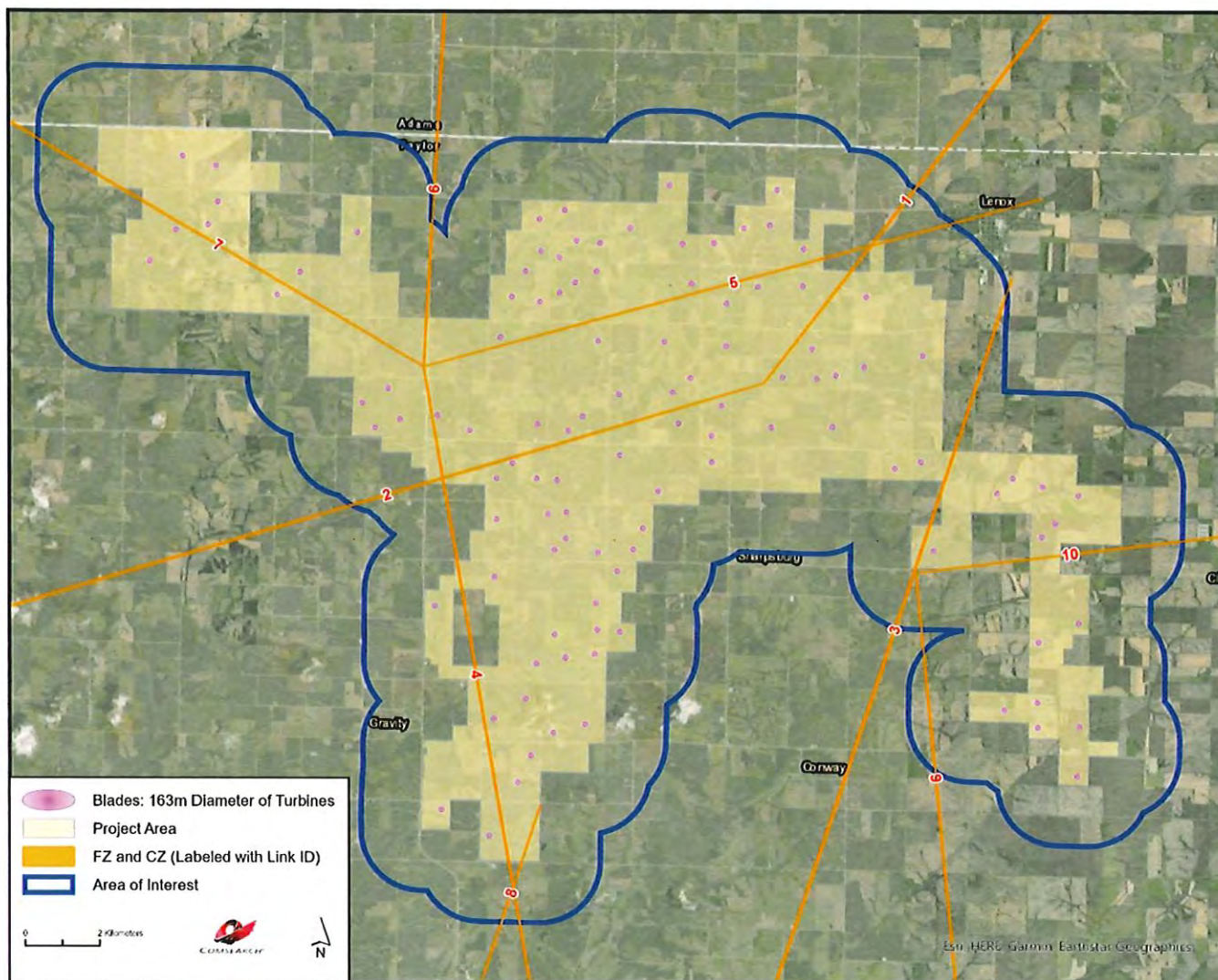


Figure 3: Microwave Paths with Fresnel Zones

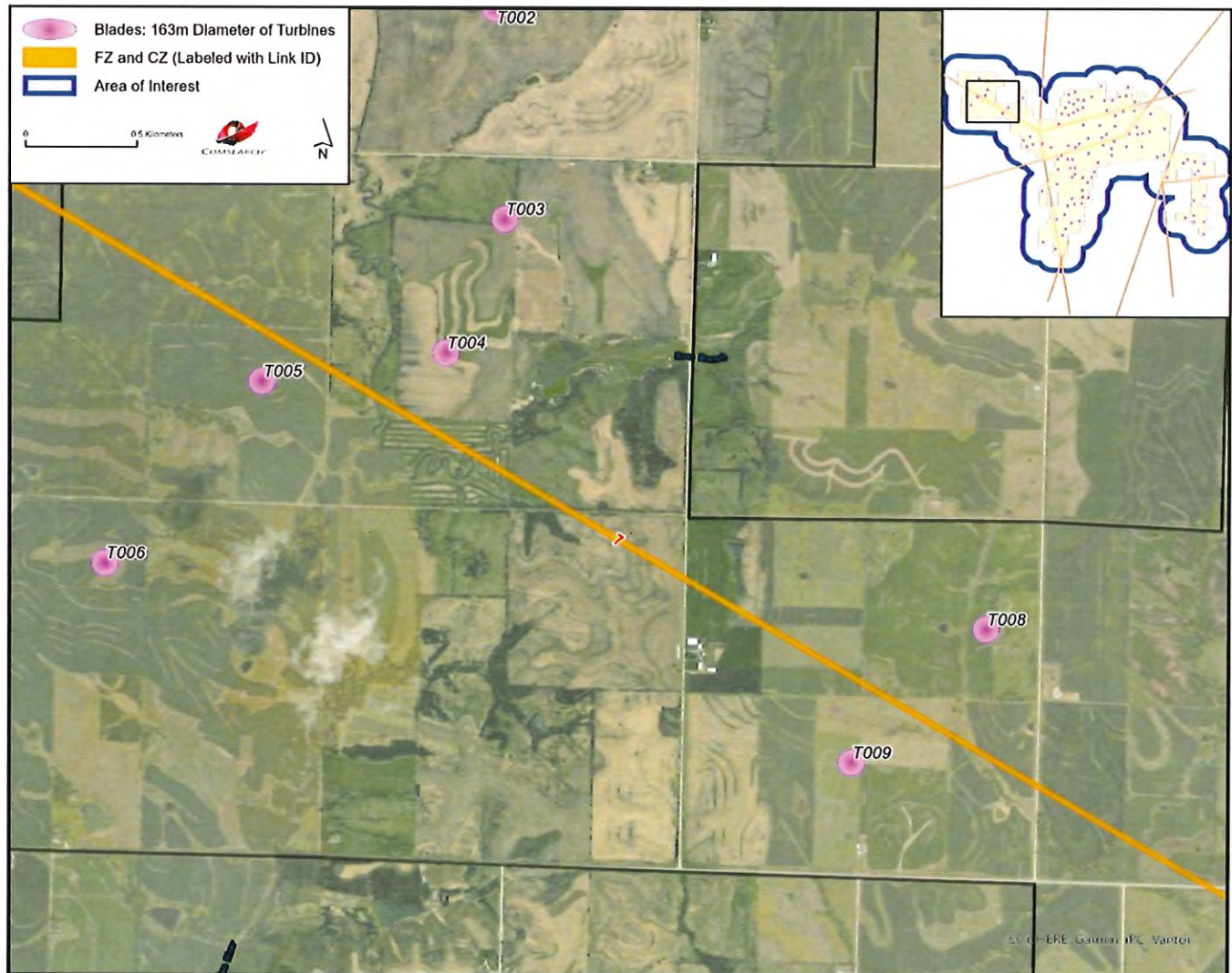


Figure 4: Microwave Paths with Fresnel Zones

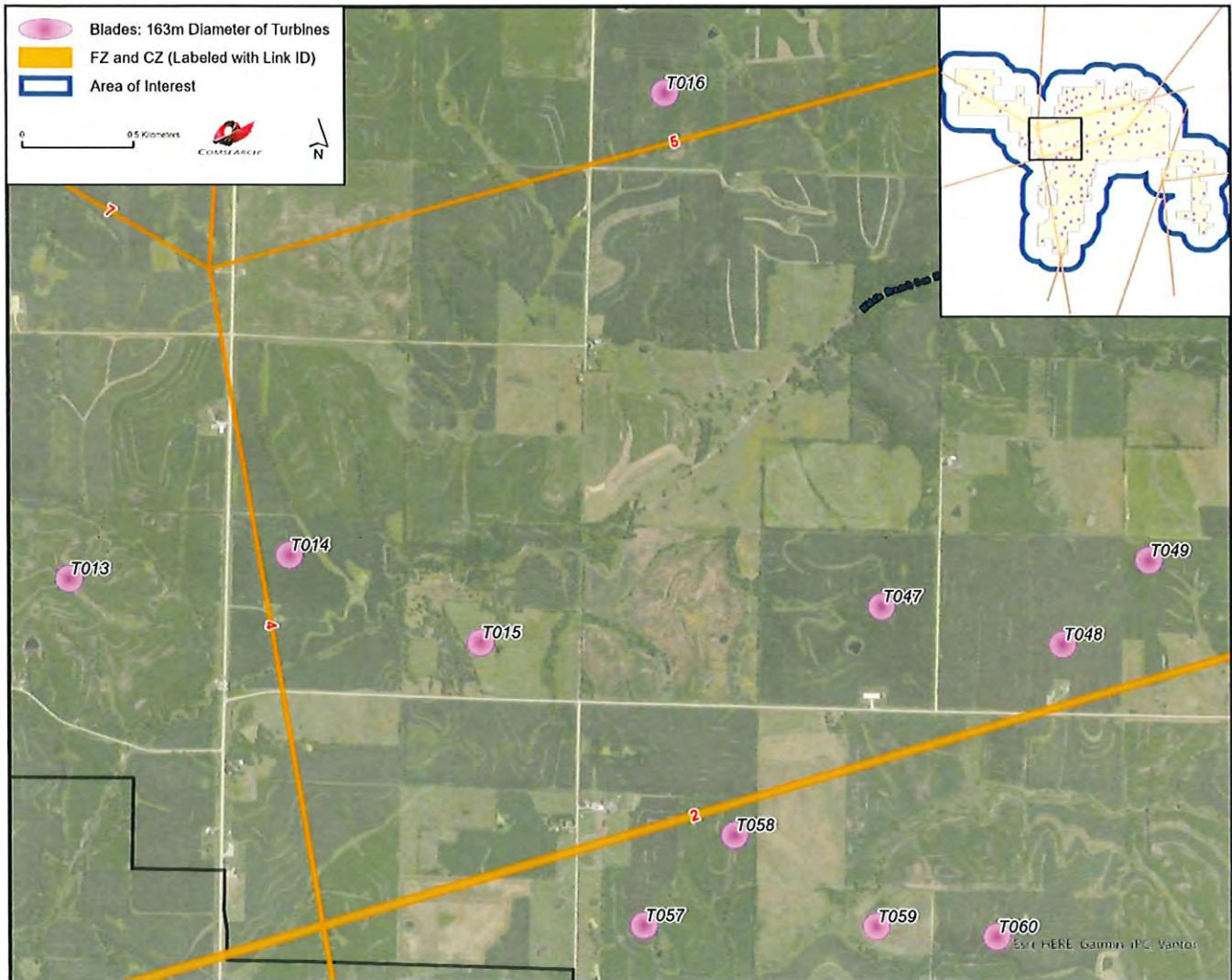


Figure 5: Microwave Paths with Fresnel Zones

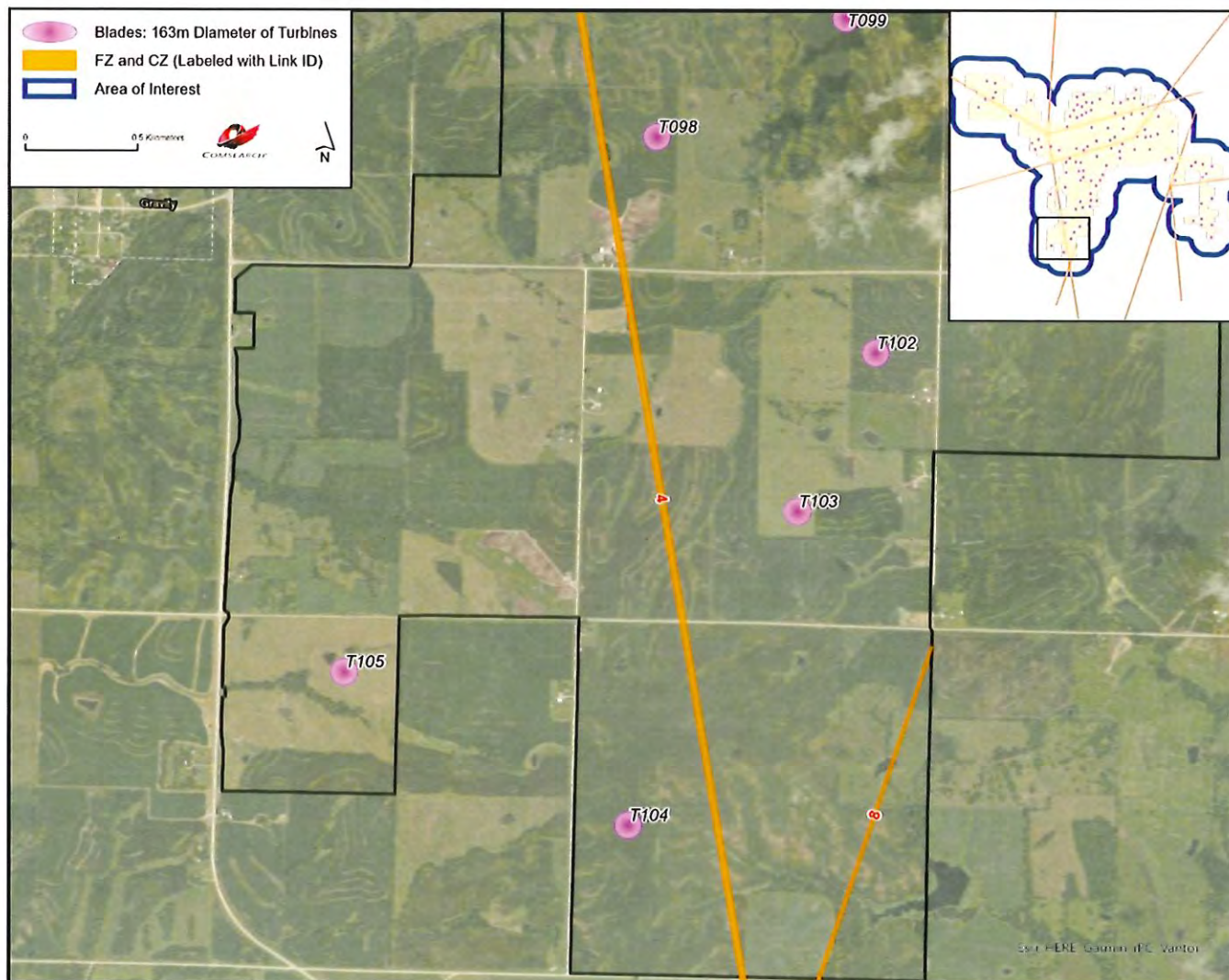


Figure 6: Microwave Paths with Fresnel Zones

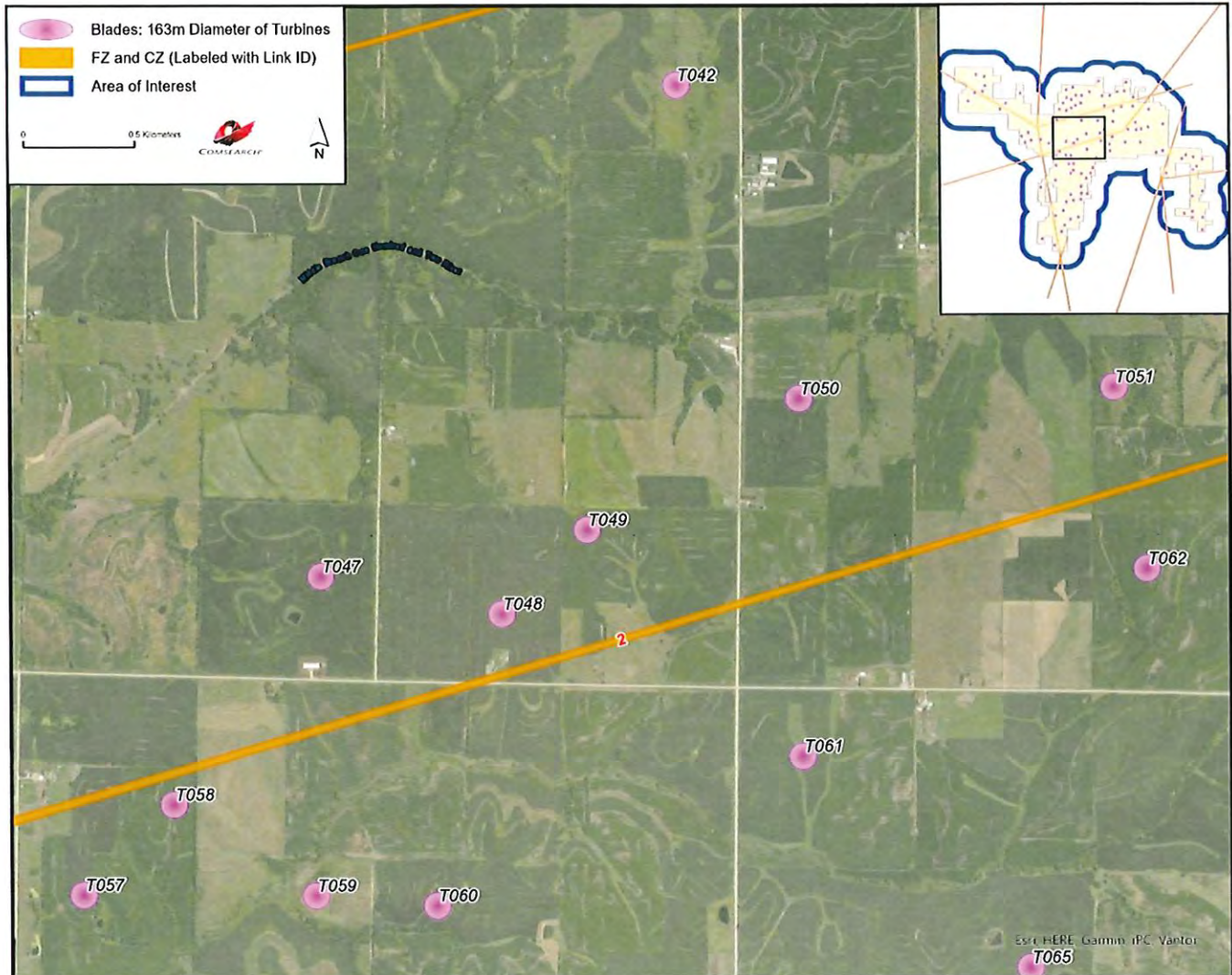


Figure 7: Microwave Paths with Fresnel Zones

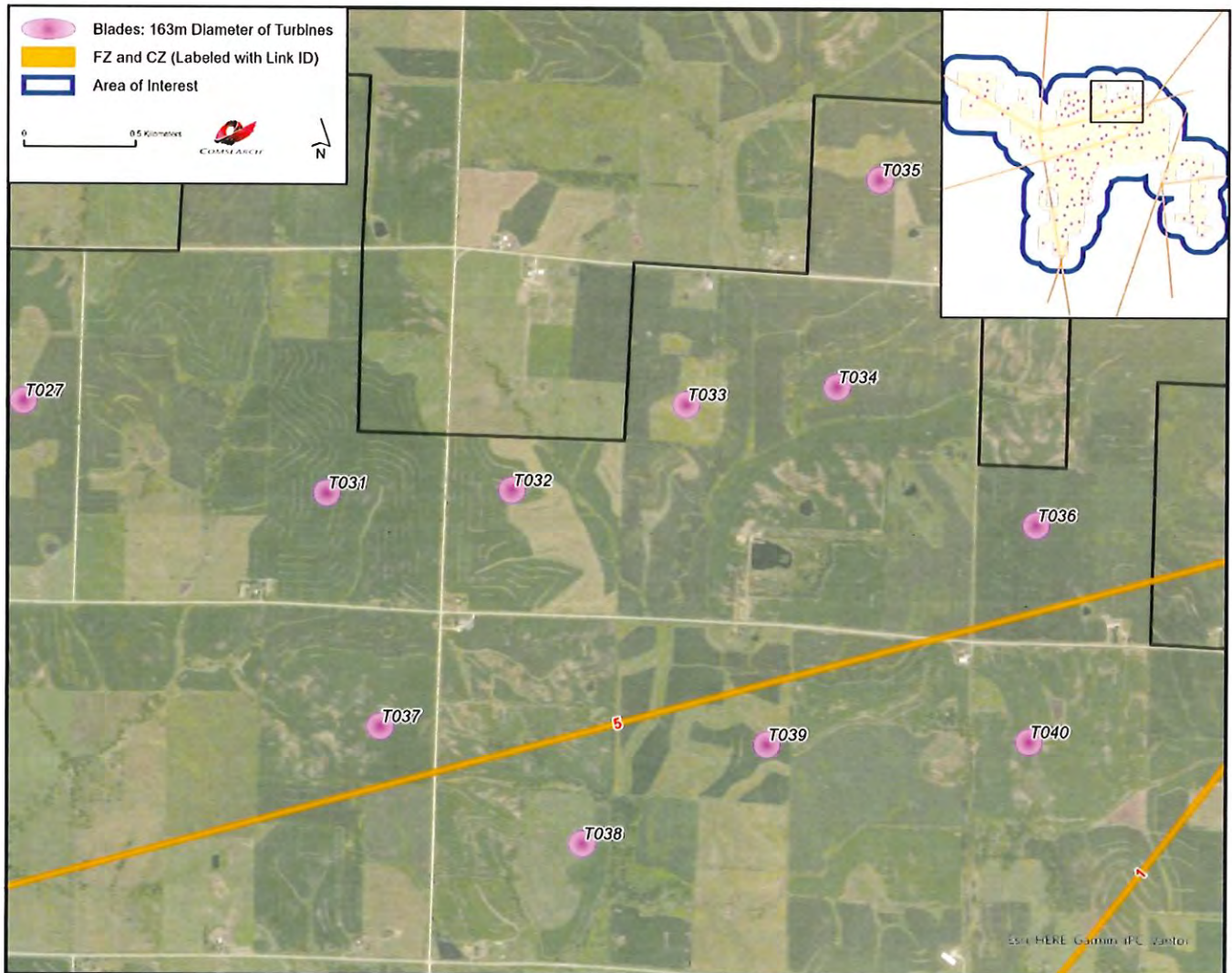


Figure 8: Microwave Paths with Fresnel Zones

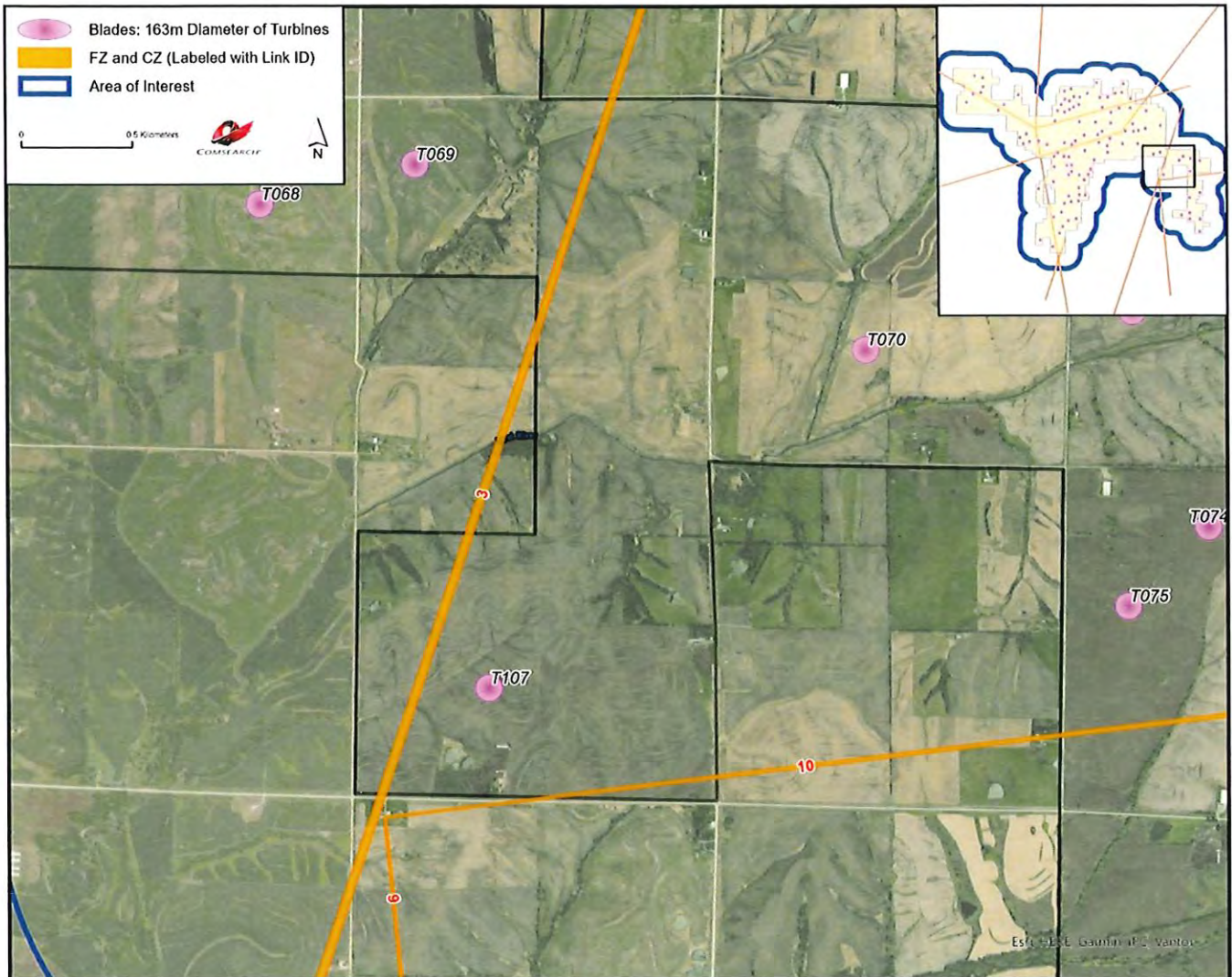


Figure 9: Microwave Paths with Fresnel Zones

4. Conclusion

Total Microwave Paths	Paths with Affected Fresnel Zones	Total Turbines	Turbines intersecting the Fresnel Zones
10	0	110	0

Table 2: Fresnel Zone Analysis Result

Our study identified 10 microwave paths the intersect the Black Maple Wind Project Area of Interest. The Fresnel and Consultation Zones for these microwave paths were calculated and mapped in order to assess the potential impact from the turbines. A total of 110 turbines were considered in the analysis, each with a max blade diameter of 163 meters. Of those turbines, none were found to have potential obstruction with the microwave systems in the area. T058 is the closest turbine to a Fresnel Zone and was found to have a clearance value of 39.1 meters using the max blade size.

5. Contact

For questions or information regarding the Microwave Study, please contact:

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Web site: www.comsearch.com

Appendix: Turbine Locations

Turbine_ID	Latitude	Longitude	Distance to Closest Fresnel Zone with 81.5 m blades (m)
T001	40.89393504	-94.81659659	1480.17
T002	40.89176409	-94.80622735	1697.56
T003	40.88317922	-94.80546084	897.96
T004	40.87765676	-94.80845372	239.77
T005	40.8763331	-94.8182942	108.10
T006	40.86875574	-94.82643123	1177.32
T007	40.87664801	-94.76135541	1895.07
T008	40.86684919	-94.77916394	402.92
T009	40.86127104	-94.78622325	246.35
T010	40.83950949	-94.75072956	894.38
T011	40.83594517	-94.75883414	1572.96
T012	40.83006446	-94.75467589	1473.70
T013	40.83219199	-94.74674361	772.45
T014	40.83332114	-94.7350109	48.65
T015	40.82992274	-94.72470265	830.82
T016	40.85234628	-94.71538009	133.90
T017	40.86207525	-94.71211475	1092.04
T018	40.86096957	-94.70323923	762.69
T019	40.8633045	-94.69711142	865.43
T020	40.86578786	-94.69224746	1014.18
T021	40.86854313	-94.68558459	1149.19
T022	40.86816285	-94.7079459	1640.98
T023	40.87314975	-94.70322838	2059.73
T024	40.87170282	-94.69735762	1765.84
T025	40.87577296	-94.69200275	2071.97
T026	40.87533037	-94.68466885	1850.43
T027	40.87905068	-94.67520182	2021.83
T028	40.88078356	-94.70382249	2749.69
T029	40.88302236	-94.69586177	2935.97
T030	40.88943744	-94.66315121	2842.45
T031	40.87554588	-94.65888912	1261.28
T032	40.87582369	-94.64900634	1056.56
T033	40.87948124	-94.63976589	1227.40
T034	40.88033069	-94.63171123	1127.25
T035	40.88882838	-94.62967949	1984.75
T036	40.87485163	-94.62091175	287.89
T037	40.86603357	-94.65574845	173.28
T038	40.86140473	-94.64481458	394.93
T039	40.86563072	-94.63502722	176.53
T040	40.86597529	-94.62103647	471.33
T041	40.8636869	-94.60106525	637.21
T042	40.85192152	-94.68470423	460.39

Turbine_ID	Latitude	Longitude	Distance to Closest Fresnel Zone with 81.5 m blades (m)
T043	40.85201018	-94.66399361	941.58
T044	40.85130476	-94.64473388	1147.55
T045	40.8510252	-94.61784049	355.46
T046	40.84989006	-94.58293363	1518.94
T047	40.83170267	-94.7033545	563.25
T048	40.83030097	-94.69366864	167.71
T049	40.83378433	-94.68917628	421.79
T050	40.83927842	-94.67790067	715.97
T051	40.83997265	-94.66111936	362.58
T052	40.84350542	-94.65570061	599.06
T053	40.8441836	-94.62692965	202.91
T054	40.84393889	-94.61622557	938.64
T055	40.84483059	-94.61023562	1281.71
T056	40.84689066	-94.60137761	1739.68
T057	40.81857206	-94.71578507	312.54
T058	40.82230703	-94.71105168	39.10
T059	40.81871445	-94.7033474	616.94
T060	40.81839233	-94.69689388	816.77
T061	40.82472832	-94.67742233	646.87
T062	40.8326078	-94.65924191	280.96
T063	40.82974675	-94.64883358	851.35
T064	40.82349732	-94.64859296	1518.31
T065	40.81630627	-94.66512606	1853.53
T066	40.83201928	-94.63017598	1092.83
T067	40.83241128	-94.61109293	2056.79
T068	40.82278474	-94.59110726	1262.81
T069	40.82450905	-94.58287643	659.24
T070	40.81730143	-94.55860306	1342.58
T071	40.82097393	-94.55376786	1608.48
T072	40.81904871	-94.54439706	1771.74
T073	40.81714913	-94.5329445	1429.82
T074	40.81034671	-94.54014425	765.34
T075	40.80705922	-94.54437257	453.00
T076	40.78662878	-94.53227284	1754.74
T077	40.78181541	-94.54480733	2139.57
T078	40.76745749	-94.544871	2805.22
T079	40.76145231	-94.54462123	2750.00
T080	40.80879704	-94.71564283	1138.83
T081	40.81032419	-94.69955854	1601.63
T082	40.81080944	-94.69374303	1699.68
T083	40.80731344	-94.66970764	2686.84
T084	40.78769167	-94.73465259	693.17
T085	40.79497336	-94.71592788	826.48
T086	40.8017407	-94.69732824	2509.14
T087	40.80454477	-94.69382113	2360.24

Turbine_ID	Latitude	Longitude	Distance to Closest Fresnel Zone with 81.5 m blades (m)
T088	40.80134695	-94.68365847	2959.48
T089	40.7969342	-94.6775145	3584.00
T090	40.80219495	-94.67262539	3153.21
T091	40.78922797	-94.68398601	3354.28
T092	40.77442267	-94.70243884	1516.30
T093	40.78145409	-94.69677123	2132.57
T094	40.77593954	-94.69325483	2309.33
T095	40.78279513	-94.68343235	3266.32
T096	40.78239666	-94.67633091	3846.77
T097	40.77701018	-94.68412121	3088.88
T098	40.76097355	-94.71548041	154.90
T099	40.7659388	-94.70560098	1077.51
T100	40.75798959	-94.69664102	1655.24
T101	40.76009003	-94.68669709	2378.95
T102	40.7523978	-94.70364416	958.16
T103	40.74589393	-94.7075974	495.06
T104	40.73299291	-94.71619341	301.20
T105	40.73898849	-94.73149182	1445.26
T106	40.83696464	-94.64584326	165.33
T107	40.80327988	-94.57856443	206.68
T108	40.76548301	-94.55508791	1923.34
T109	40.76179477	-94.53145429	3858.65
T110	40.74998435	-94.5318852	3673.27



Wind Power GeoPlanner™

AM and FM Radio Report

Black Maple Wind Project

Prepared on Behalf of
Black Maple Wind, LLC

June 26, 2026

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1. Introduction

Comsearch analyzed AM and FM radio broadcast stations whose service could potentially be affected by the proposed Black Maple Wind Project in Taylor County, Iowa.

2. Summary of Results

AM Radio Analysis

Comsearch found one database record¹ for AM stations within approximately 30 kilometers of the project, as shown in Table 1 and Figure 1. The identified station, KSIB, which is licensed in Creston, Iowa, is located to the northeast of the project area of interest (AOI), 25.82 km from the nearest turbine location.

ID	Call Sign	Status ²	Frequency (kHz)	Transmit ERP ³ (kW)	Operation Time	Latitude (NAD 83)	Longitude (NAD 83)	Required Separation Distance ⁴ (km)	Distance to Nearest Turbine Location (km)
1	KSIB	LIC	1520	1.0	Daytime	41.037778	-94.394139	1.97	25.82

Table 1: AM Radio Stations within 30 Kilometers of Project Area

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the AM/FM station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

² LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

³ ERP = Transmit Effective Radiated Power.

⁴ The required separation distance is based on the lesser of 10 wavelengths or 3 kilometers for directional antennas and 1 wavelength for non-directional antennas.

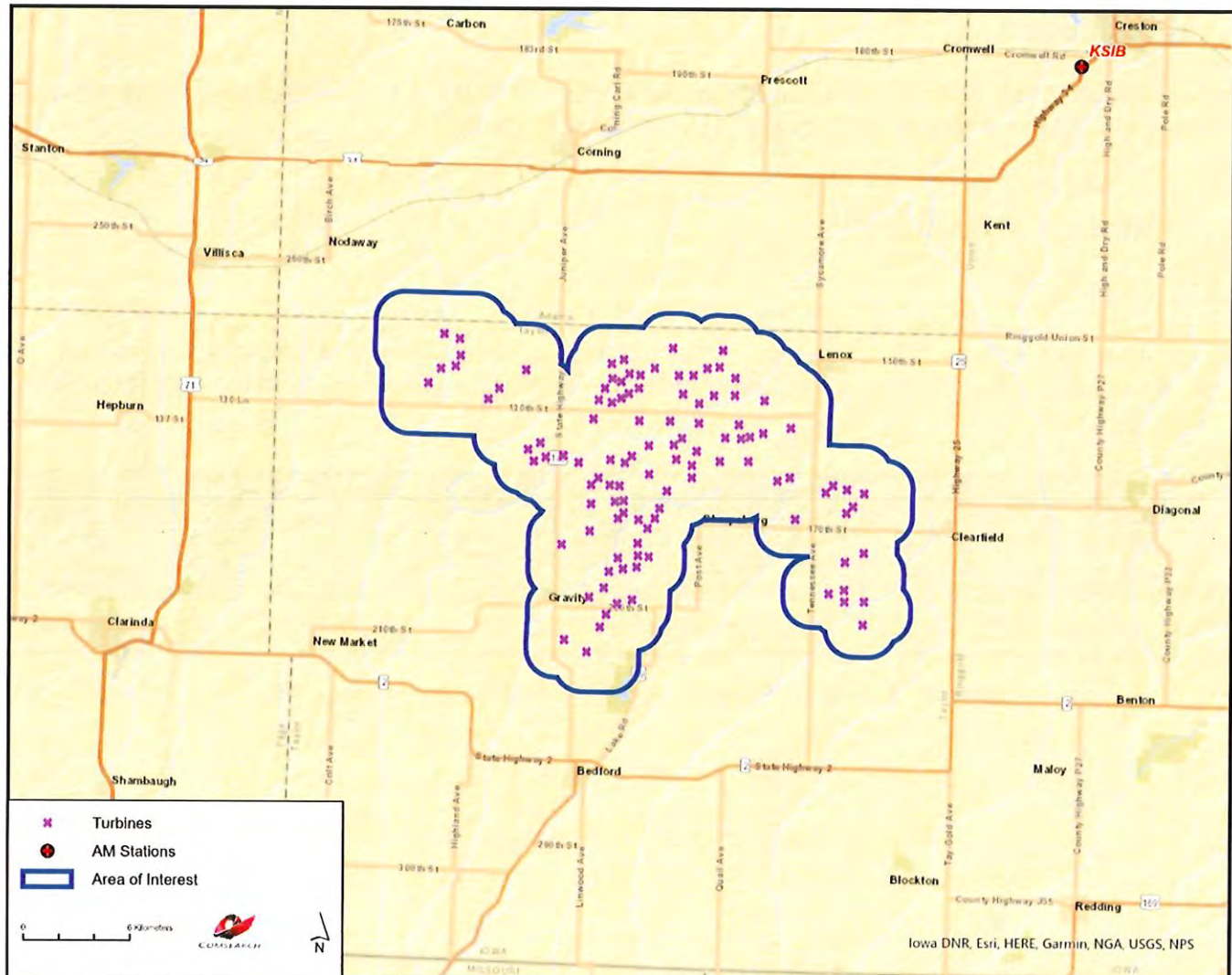


Figure 1: AM Radio Stations within 30 Kilometers of Project Area

FM Radio Analysis

Comsearch determined that there were five database records for FM stations within a 30-kilometer radius of the Black Maple Wind Project, as shown in Table 2 and Figure 2. All three of these stations are currently licensed and operating, one of which is an auxiliary (backup) station that operates with limited range. The closest station is KCJA, which is currently licensed in Conway, Iowa, to the south of the project area, 5.71 km from the nearest proposed turbine location.

ID	Call Sign	Status ⁵	Service ⁶	Frequency (MHz)	Transmit ERP ⁷ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Nearest Turbine Location (km)
1	KCJA	LIC	FM	89.5	0.1	40.748861	-94.619111	5.71
2	KMA-FM	LIC	FM	99.1	100.0	40.801111	-94.901917	9.85
3	KMA-FM	LIC	FS	99.1	46.0	40.801111	-94.901917	9.85
4	KLOX	MOD	FM	90.9	100.0	40.999028	-94.434750	20.47
5	KFOM	LIC	FM	88.7	0.1	40.947000	-95.061444	21.45

Table 2: FM Radio Stations within 30 Kilometers of Project Area

⁵ LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

⁶ FM = FM broadcast station; FX = FM translator station; FL = Low-power FM station; FS = FM auxiliary (backup) station; FB = FM booster station.

⁷ ERP = Transmit Effective Radiated Power.

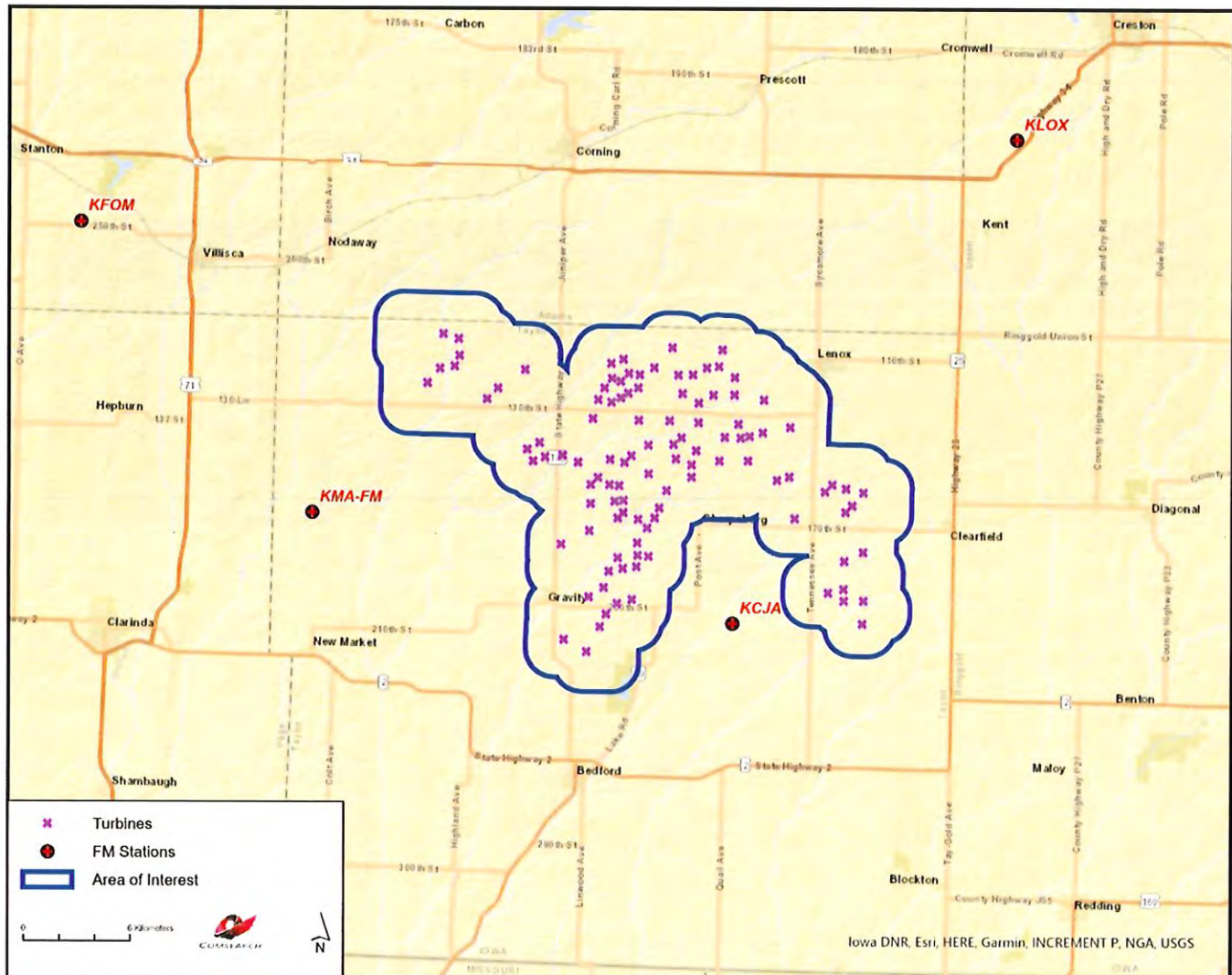


Figure 2: FM Radio Stations within 30 Kilometers of Project Area

3. Impact Assessment

The exclusion distance for AM broadcast stations varies as a function of the antenna type and broadcast frequency. For directional antennas, the exclusion distance is calculated by taking the lesser of 10 wavelengths or 3 kilometers. For non-directional antennas, the exclusion distance is simply equal to 1 wavelength. Potential problems with AM broadcast coverage are only anticipated when AM broadcast stations are located within their respective exclusion distance limit from wind turbine towers. The closest AM station (KSIB) is located 25.82 km from the project. As there were no stations found within 3 kilometers of the project, which is the maximum possible exclusion distance based on a directional AM antenna broadcasting at 1000 KHz or less, the project should not impact the coverage of local AM stations.

The coverage of FM stations is generally not sensitive to interference due to wind turbines, especially when large objects (e.g., wind turbines) are located in the far field region of the radiating antenna to avoid the risk of distorting its radiation pattern. Station KCJA would be the nearest FM station to any given turbine at 5.71 km away. At this distance there should be adequate separation to avoid radiation pattern distortion.

4. Recommendations

Since no impact on the licensed and operational AM or FM broadcast stations was identified in our analysis, no recommendations or mitigation techniques are required for this project.

5. Contact

For questions or information regarding the AM and FM Broadcast Radio Study, please contact:

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Wind Power GeoPlanner™

Land Mobile & Emergency Services Report

Black Maple Wind Project

Prepared on Behalf of
Black Maple Wind, LLC

June 24, 2026

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2. Summary of Results	- 2 -
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1. Introduction

An assessment of the emergency services in the Black Maple Wind Project area was performed by Comsearch to identify potential impact from the planned turbines. We evaluated the registered frequencies for the following types of first responder entities: police, fire, emergency medical services, emergency management, hospitals, public works, transportation and other state, county, and municipal agencies. We also identified all industrial and business land mobile radio (LMR) systems and commercial E911 operators within the proposed wind energy facility boundaries. This information is useful in the planning stages of the wind energy facility because the data can be used in support of facility communications needs and to evaluate any potential impact on the emergency services provided in that region. An overview of the project area, which is located in Taylor County, Iowa, appears below in Figure 1.

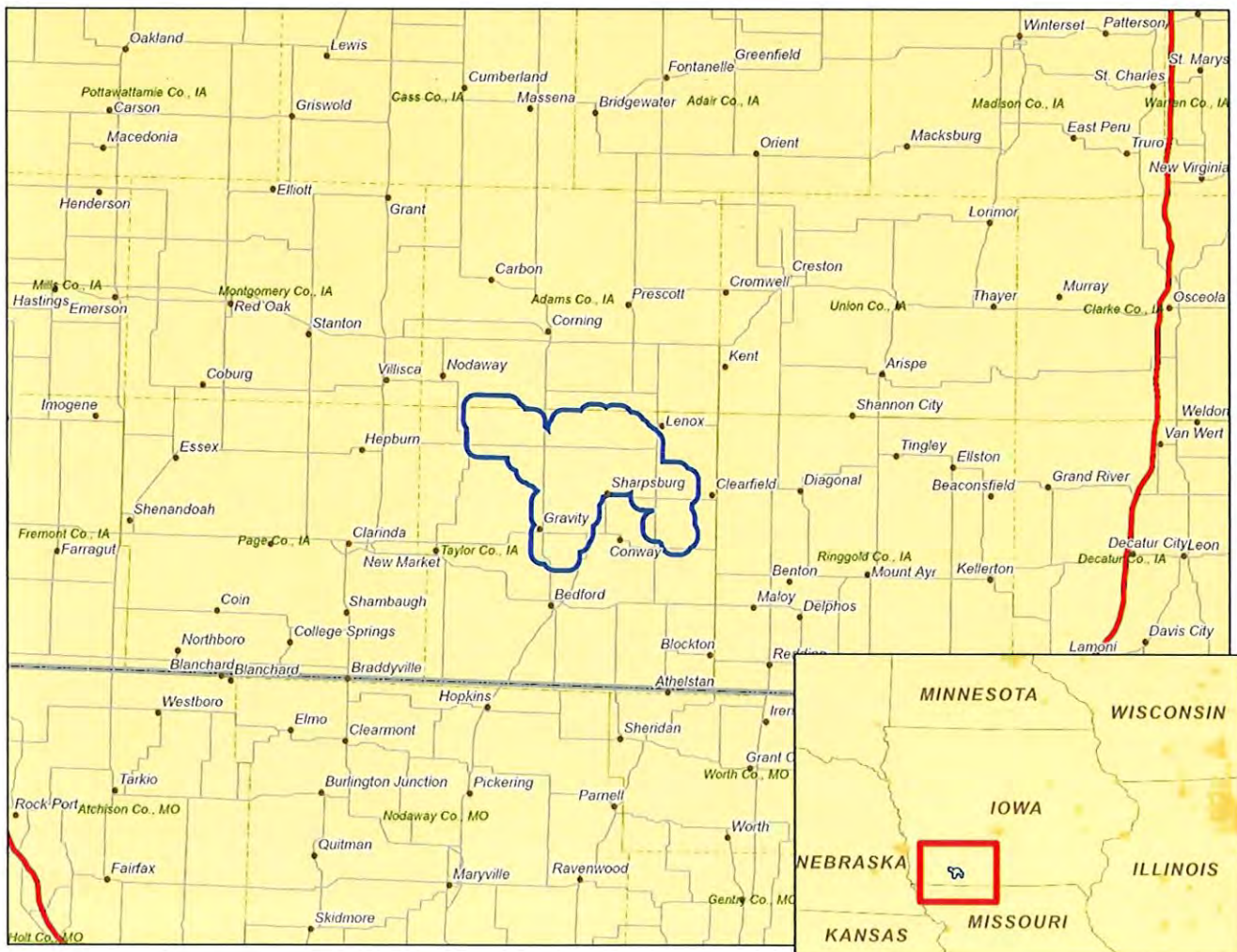


Figure 1: Area of Interest (AOI)

Our land mobile and emergency services incumbent data¹ was derived from the FCC's Universal Licensing System (ULS) and the FCC's Public Safety & Homeland Security bureau. We identified both site-based licenses as well as regional area-wide licenses designated for public safety use.

The site-based licenses were imported into GIS software and geographically mapped relative to the wind energy project area of interest as defined by the customer. Each site on the map was given an ID number and associated with site information in a data table. A depiction of the fixed-site licenses within 1 mile of the project area appears in Figure 2.



Comsearch Proprietary

Figure 2 identifies 14 site-based licenses in the Black Maple Wind Project area of interest. Specific information about these sites is provided in Table 1.

ID	Call Sign	Frequency Band (MHz)	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance to Nearest Turbine (km)
1	WRUZ699	150-174	Houchin, Franklin	18	40.823611	-94.719417	0.64
2	KAR528	25-50	DOUGHERTY FARMS INC	23	40.885278	-94.687750	0.73
3	WNRD523	450-470	MILLER, WILLIAM	9	40.883889	-94.768306	0.99
4	WPLE954	150-174	SOUTHERN IOWA RURAL WATER ASSOCIATION	4.6	40.727139	-94.737917	1.42
5	WQEV790	150-174	TAYLOR, COUNTY OF	60.9	40.755556	-94.575278	2.03
6	WPGC862	150-174	SOUTHERN IOWA RURAL WATER ASSOCIATION	4.6	40.755722	-94.575556	2.04
7	WPXR824	150-174	MOTHERSHEAD, NOBLE T	37	40.725000	-94.747472	2.06
8	WQTD817	150-174	SOUTHERN IOWA RURAL WATER	4.6	40.760667	-94.741306	2.18
9	WPZB999	150-174	SOUTHERN IOWA RURAL WATER ASSOCIATION	4.6	40.757722	-94.741167	2.20
10	WPGC861	150-174	SOUTHERN IOWA RURAL WATER ASSOCIATION	4.6	40.762361	-94.743972	2.41
11	WPGC861	150-174	SOUTHERN IOWA RURAL WATER ASSOCIATION	30.5	40.801861	-94.641500	2.46
12	WSBA953	450-470	Michael Foods, Inc.	11	40.869278	-94.564083	2.68
13	WRZF541	150-174	Agri-Tech Services	42.7	40.881333	-94.576278	2.86
14	WPGC862	150-174	SOUTHERN IOWA RURAL WATER ASSOCIATION	27.4	40.871333	-94.562556	2.94

Table 1: Land Mobile & Emergency Service Sites in Area of Interest

Mobile Licenses

In addition to the fixed-site licenses above, 261 mobile licenses defined by center point and radius were found to intersect the Black Maple Wind Project Wind project area. Appendix A contains a tabular summary of these stations.

Area-Wide Licenses

The regional area-wide licenses were compiled from FCC data sources and identified for each county intersected by the wind energy project area. The Black Maple Wind Project is located in Taylor County, Iowa, part of Public Safety Region #15, which contains all the counties in Iowa. The regional public safety operations are overseen by the entity listed below.

Rob Dehnert

Chairperson, Public Safety Region #15
City of West Des Moines-Westcom
PO Box 65320, West Des Moines, IA 50265-0320
Phone: 515-273-0762
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The chairperson for Region #15 serves as the representative for all public safety entities in the area and is responsible for coordinating current and future public safety use in the wireless spectrum. In the bands licensed by the FCC for area-wide first responders, which include 220 MHz, 700 MHz, 800 MHz and 4.9 GHz, as well as the traditional Part 90 public safety pool of frequencies, twenty-one licenses were found for the State of Iowa and two for the County of Taylor (see Table 2). These area-wide licenses are designated for mobile use only.

ID	Licensee	Area of Operation	Frequency Band (MHz)
1	American National Red Cross	Statewide: IA	25-50
2	CEDAR RAPIDS, CITY OF	Statewide: IA	450-470, 2450-2500
3	CITY OF OTTUMWA (HAZMAT) SOUTHEAST IOWA RESPONSE GROUP	Statewide: IA	150-174
4	CITY OF WATERLOO POLICE DEPARTMENT	Statewide: IA	2450-2500
5	CITY OF WEST DES MOINES	Statewide: IA	800/900
6	DES MOINES, CITY OF	Statewide: IA	150-174, 450-470, 800/900, 2450-2500
7	Director/coordinator	Countywide: TAYLOR, IA	450-470
8	IOWA DEPARTMENT OF NATURAL RESOURCES	Statewide: IA	450-470
9	IOWA DEPARTMENT OF TRANSPORTATION	Statewide: IA	150-174
10	IOWA DEPT OF AG AND LAND STEWARDSHIP	Statewide: IA	450-470
11	Iowa Dept of Public Safety	Statewide: IA	150-174, 450-470, 800/900, 2450-2500
12	Iowa State Department of Public Safety Communications	Statewide: IA	150-174, 2450-2500
13	IOWA, STATE OF	Statewide: IA	150-174, 769-775/799-805
14	IOWA, STATE OF, DOT	Statewide: IA	150-174, 800/900
15	LEES SUMMIT UNDERWATER RECOVERY, INC	Statewide: IA	150-174
16	LINN, COUNTY OF	Statewide: IA	450-470, 2450-2500
17	NATIONAL SKI PATROL SYSTEM INC	Statewide: IA	150-174
18	OMAHA PUBLIC POWER DISTRICT	Statewide: IA	800/900
19	POTTAWATTAMIE, COUNTY OF	Statewide: IA	450-470, 2450-2500
20	SAC, COUNTY OF	Statewide: IA	150-174
21	STAR 1 SEARCH AND RESCUE	Statewide: IA	150-174
22	TAYLOR, COUNTY OF	Countywide: TAYLOR, IA	150-174, 450-470
23	WATERLOO POLICE DEPARTMENT	Statewide: IA	450-470

Table 2: Regional Licenses

E911 Operators

Wireless operators are granted area-wide licenses from the FCC to deploy their cellular networks, which often include handsets with E911 capabilities. Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. We have identified the type of service for each carrier in Taylor County, Iowa, in Table 3.

Mobile Phone Carrier	Service ²
AT&T	700 MHz, AWS, PCS, WCS
Chat Mobility	Cellular
DISH Network	700 MHz, AWS
TerreStar	AWS
T-Mobile	AWS, PCS
US Cellular	700 MHz, AWS, Cellular, PCS
Verizon	700 MHz, AWS, PCS

Table 3: Mobile Phone Carriers in Area of Interest with E911 Service

² AWS: Advanced Wireless Service at 1.7/2.1 GHz
CELL: Cellular Service at 800 MHz
PCS: Personal Communication Service at 1.9 GHz
WCS: Wireless Communications Service at 2.3 GHz
700 MHz: Lower 700 MHz Service

3. Impact Assessment

The first responder, industrial/business land mobile sites, area-wide public safety, and commercial E-911 communications as described in this report are typically unaffected by the presence of wind turbines, and we do not anticipate any significant harmful effect to these services in the Black Maple Wind Project area. Although each of these services operates in different frequency ranges and provides different types of service including voice, video and data applications, there is commonality among these different networks with regard to the impact of wind turbines on their service. Each of these networks is designed to operate reliably in a non-line-of-sight (NLOS) environment. Many land mobile systems are designed with multiple base transmitter stations covering a large geographic area with overlap between adjacent transmitter sites in order to provide handoff between cells. Therefore, any signal blockage caused by the wind turbines does not materially degrade the reception because the end user is likely receiving signals from multiple transmitter locations. Additionally, the frequencies of operation for these services have characteristics that allow the signal to propagate through wind turbines. As a result, very little, if any, change in their coverage should occur when the wind turbines are installed.

When planning the wind energy turbine locations in the area of interest, a conservative approach would dictate not locating any turbines within 77.5 meters of land mobile fixed-base stations to avoid any possible impact to the communications services provided by these stations. This distance is based on FCC interference emissions from electrical devices in the land mobile frequency bands. As long as the turbines are located more than 77.5 meters from the land mobile stations, they will meet the setback distance criteria for FCC interference emissions in the land mobile bands.

4. Contact

For questions or information regarding the Land Mobile & Emergency Services Report, please contact:

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Fax:	703-726-5595
Email:	DMeyer@comsearch.com
Web site:	www.comsearch.com

Appendix A

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
1	WRMP994	150-174	21ST CENTURY COOPERATIVE	40	41.257694	-94.763194
2	WQUX247	150-174	3 Mohr Farms LLC	40	40.895750	-94.395917
3	WQNT370	450-470	A & M Green Power Group LLC	32	40.984361	-95.096833
4	WQNT370	450-470	A & M Green Power Group LLC	32	41.051361	-94.565778
5	WREC334	150-174	Adams, Brandon	80	41.116500	-95.055444
6	WQAW570	450-470	ADAMS, COUNTY OF	40	40.994139	-94.747750
7	WNVW282	150-174	AFTON, CITY OF	56	41.034167	-94.200778
8	WQXP573	150-174	Ag Choice	40	40.655306	-95.230917
9	WRZF541	150-174	Agri-Tech Services	40	40.881333	-94.576278
10	WQCH492	150-174	ALEGENT HEALTH MERCY HOSPITAL DBA CATHOLIC HEALTH INITIATIVES	24	40.992778	-94.761361
11	WNQJ842	800/900	Ameren Services Company	402	38.669194	-92.208528
12	WQPA253	150-174	ANDERSON, JAMES	40	40.915361	-94.564917
13	KYX300	150-174	ATCHISON HOLT AMBULANCE DIST.	80	40.341667	-95.386361
14	WRVX298	150-174	AUFFERT, DAKOTA J	40	40.452750	-94.677028
15	WQKI314	150-174	B AND B PUMPING	160	40.476389	-93.006111
16	WNXJ418	150-174	BARKER FARMS INC	40	40.884722	-94.532194
17	WXP550	150-174	BEDFORD COMMUNITY SCHOOLS	40	40.677222	-94.806083
18	WRUE640	150-174	BEEBE, DELL	40	41.231083	-94.982139
19	WQYF356	150-174	Beem, John	80	40.927472	-94.986917
20	WRCQ894	150-174	Belt, Dane	40	40.983306	-95.236111
21	KNED476	150-174	BNSF Railway Co.	40	41.057944	-94.355472
22	KNIV548	150-174	BNSF Railway Co.	40	41.004639	-95.235139
23	WQXX633	150-174	BNSF RAILWAY CO.	40	40.925222	-94.977083

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
24	KD28649	450-470	BRINK'S INCORPORATED	121	39.765833	-94.850806
25	WPJN968	150-174	BROWN, NORVAN	40	40.934167	-94.583583
26	WNBZ370	150-174	CARLSON, ROGER	48	41.008333	-95.350278
27	KQB633	150-174	Carter Media Too, LLC	80	40.254444	-94.157444
28	KD50046	450-470	CLARK, DOROTHY V DBA ELECTRONIC REALTY COMPANY	121	41.591944	-93.631333
29	KNFC877	150-174	CLARKE COUNTY PUBLIC HOSPITAL	64	41.019444	-93.797500
30	WQQG978	150-174	Clinton, Mark C	40	41.156361	-94.675889
31	WPET576	150-174	COLEMAN, KEVIN	56	40.779444	-94.758028
32	KNRP571	800/900	COMMUNICATIONS EQUIPMENT HOLDINGS, INC.	113	39.859444	-94.816667
33	WNRM676	150-174	Creston City Water Works	32	41.050000	-94.350500
34	WZN233	150-174	CRESTON, CITY OF	40	41.074250	-94.369500
35	WZN233	150-174	CRESTON, CITY OF	32	41.065556	-94.362194
36	WRJF661	450-470	Crozier, Galen	32	41.101250	-94.836111
37	WSFL478	150-174	CURT HAGEY FARMS INC.	40	40.458250	-95.054500
38	WSGI275	450-470	DAYBREAK FOODS, INC.	32	40.796583	-94.502861
39	WPPV918	450-470	DELMAR COMMUNICATIONS	120	39.740556	-94.240222
40	WQZF405	150-174	DEMOTT, JOHN	40	40.718444	-94.681500
41	WQSX293	150-174	DERRY CONSTRUCTION INC	40	40.741250	-94.814528
42	WNML831	450-470	Director/coordinator	32	40.682222	-94.722500
43	WNSU480	450-470	DOLAN FARMS	48	41.296111	-94.461083
44	KAR528	25-50	DOUGHERTY FARMS INC	121	40.954167	-94.715528
45	WQTF866	150-174	DOWNING BROTHERS	40	41.092361	-94.356222
46	WPUA607	800/900	ELECTRONIC RADIO SERVICES INC	113	41.584722	-93.641667
47	KNRS369	800/900	Electronic Radio Services, Inc.	113	41.584722	-93.641611
48	WSDL523	800/900	EVERGY METRO	113	40.426333	-95.081306

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
49	WSDL524	800/900	EVERGY METRO	113	40.401694	-93.555583
50	WSDL519	800/900	EVERGY MISSOURI WEST INC	113	40.082750	-93.660333
51	KNJF677	450-470	Evergy Missouri West, Inc.	89	40.125000	-95.000250
52	WSDL515	800/900	EVERGY MISSOURI WEST, INC.	113	39.959639	-94.836694
53	WSDL517	800/900	EVERGY MISSOURI WEST, INC.	113	40.229306	-94.870528
54	WSDL518	800/900	EVERGY MISSOURI WEST, INC.	113	40.473528	-94.414639
55	WSDL518	800/900	EVERGY MISSOURI WEST, INC.	113	40.363611	-94.009389
56	WSDL520	800/900	EVERGY MISSOURI WEST, INC.	113	39.934167	-93.918667
57	WSDL522	800/900	EVERGY MISSOURI WEST, INC.	113	40.407556	-95.531333
58	WSDL522	800/900	EVERGY MISSOURI WEST, INC.	113	40.069639	-95.194778
59	WRDF985	150-174	FARM SERVICE COOP	80	41.349056	-95.385722
60	KNDE916	150-174	FARMERS COOP CO	40	41.059667	-94.349806
61	KNDE916	150-174	FARMERS COOP CO	40	41.029167	-94.194667
62	KNHJ403	800/900	FIRST DIGITAL HOLDINGS LLC	113	41.215000	-96.075306
63	WPED559	800/900	FIRST DIGITAL HOLDINGS LLC	113	41.241111	-95.963639
64	WPMR777	800/900	First Student Inc	113	41.319444	-95.981667
65	WROK493	150-174	Focht, Andrew	40	41.074556	-94.984222
66	WRUE641	150-174	FOCHT, GRANT	40	41.201833	-95.030778
67	WNWD338	150-174	FOCHT, MARVIN	56	41.057222	-95.004972
68	WNZN638	150-174	FONTANELLE, CITY OF	48	41.305556	-94.569694
69	WQNX229	450-470	FORSMAN FARMS INC	15	40.923000	-95.013500
70	WQNX229	450-470	FORSMAN FARMS INC	32	40.923000	-95.013500
71	WQNW230	450-470	Freedom Creek Prairie LLC	40	41.028917	-94.622639
72	WREJ345	150-174	FRUEH, DENNIS R	40	40.546361	-94.760639
73	WRWP573	150-174	Frueh, Shawn	40	40.468972	-94.857667

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
74	WQPB722	150-174	Gaesser, Ray	40	40.933889	-94.584139
75	WPFG874	150-174	GERDES, JIM	161	40.277778	-95.844722
76	WQTU339	150-174	GOLDSMITH, TODD	40	40.946917	-94.701167
77	BLP00963	25-50, 150-174	GRAY TELEVISION LICENSEE, LLC	145	41.257222	-95.963917
78	WQXU487	150-174	GREEN VALLEY CHEMICAL CORPORATION	40	41.116667	-94.355556
79	WPGT781	150-174	GRISWOLD COMMUNITY SCHOOL DISTRICT	64	41.240556	-95.135000
80	WSLC656	150-174	Hannah Farms	80	40.432500	-95.292500
81	WQPN549	450-470	Haug Communications Inc	32	40.608333	-95.072778
82	WQPN549	150-174	Haug Communications Inc	40	40.608333	-95.072778
83	WNZS923	450-470	HAUG COMMUNICATIONS INC	97	39.858889	-94.829694
84	WPHM769	450-470	HAUG COMMUNICATIONS INC	121	39.858889	-94.829694
85	KNHF879	450-470	Haug Communications Inc.	121	40.028333	-95.594417
86	BLP00407	150-174, 470-512, 800/900	Hearst Properties Inc.	129	41.593056	-93.629667
87	KAN550	450-470	Hearst Properties Inc.	121	41.308889	-96.026167
88	WQND261	72-76, 450-470, 470-512	Hearst Properties Inc.	129	41.250167	-95.928667
89	WQKT535	450-470, 470-512, 800/900	Hearst Stations Inc.	482	39.006833	-94.503333
90	WNWR486	450-470	Hen Haven, LLC	32	40.807500	-94.492500
91	WQPN313	450-470	HOEPKER, JOHN	32	41.036167	-94.317556
92	WNZS393	150-174	HOSSLE, JOE	48	41.001667	-95.390278
93	WRUZ699	150-174	Houchin, Franklin	40	40.823611	-94.719417
94	WPEJ639	150-174	HRS FARM INC	105	40.268333	-94.971639
95	WQBF926	150-174	HUGHES JR, GLENN H	40	40.494167	-94.408583
96	WSAX484	150-174	Hultman, Bret	33	40.959250	-95.212194

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
97	KTO612	150-174	IDEKER INC	120	39.734722	-94.791083
98	KB55300	450-470	IHM LICENSES, LLC	129	41.584722	-93.641611
99	WNSK320	150-174	Imboden, Phillip	72	41.458333	-94.229417
100	KA2786	150-174	Interstate Power and Light Company	169	40.725306	-92.872417
101	WNNH905	800/900	Interstate Power and Light Company	113	40.913500	-95.020917
102	WNNH905	800/900	Interstate Power and Light Company	113	41.489444	-94.780000
103	WNNH905	800/900	Interstate Power and Light Company	113	41.631500	-94.489528
104	WNNH905	800/900	Interstate Power and Light Company	113	41.112500	-94.346944
105	WPHH314	800/900	Interstate Power and Light Company	113	40.709444	-94.268611
106	WPHH314	800/900	Interstate Power and Light Company	113	41.046667	-93.760833
107	WPHH314	800/900	Interstate Power and Light Company	113	40.743333	-93.706111
108	WPHH314	800/900	Interstate Power and Light Company	113	40.773889	-93.317778
109	WPHH314	800/900	Interstate Power and Light Company	113	41.056667	-93.302444
110	WQVK205	800/900	INTERSTATE POWER AND LIGHT COMPANY	113	41.344639	-94.481444
111	WQVK869	800/900	INTERSTATE POWER AND LIGHT COMPANY	113	41.263861	-94.873722
112	WQWY242	800/900	INTERSTATE POWER AND LIGHT COMPANY	113	41.581528	-94.209917
113	KYG600	150-174, 450-470	Iowa, State of	32	40.763639	-95.038278
114	WQMM943	450-470	ITC MIDWEST	80	41.054528	-94.688306
115	WROR597	450-470	Johannes, Paul	32	41.148750	-94.756528
116	WQRI671	150-174	JOHNSTON, DALLAS	40	40.969111	-94.568306
117	WNKU850	150-174	JONES, FRANK J	48	41.235278	-94.893028
118	WNXW546	800/900	KEANE, RICHARD M	113	41.717222	-95.485583
119	WPJM246	450-470	KERNEN, RANDALL I	32	40.677222	-94.806083
120	WPGD205	150-174	LAMONI MUNICIPAL UTILITIES	80	40.618056	-93.923556
121	WPBY279	150-174	LEIGHTON, SCOTT	48	41.227778	-95.141944

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
122	WRNS928	72-76	Lenox Community School District	0.7	40.876139	-94.556833
123	WNHW749	450-470	LENOX COMMUNITY SCHOOL DISTRICT	8	40.875944	-94.555861
124	WNHW749	450-470	LENOX COMMUNITY SCHOOL DISTRICT	32	40.875944	-94.555861
125	WREP462	150-174	LINVILLE, SCOTT	40	40.501389	-94.978694
126	WPJS795	150-174	LUND, CHUCK	30	40.919444	-94.918306
127	WPJS795	150-174	LUND, CHUCK	40	40.953778	-94.789333
128	WRWE268	150-174	LUND, DUSTIN	40	40.933083	-94.716556
129	WREQ928	150-174	MARSHALL, BRIAN	112	39.832222	-94.316500
130	WRUA807	150-174	MAYNES SEED LLC	32	41.013361	-95.212917
131	WQKB435	150-174	MCALEXANDER, JEFFREY	40	40.839722	-94.115278
132	WQJY285	150-174	MEREDITH COMMUNICATIONS, L.C.	161	41.435278	-94.833611
133	WPDS224	800/900	Metropolitan Utilities District	113	41.309167	-96.095583
134	WSBA953	450-470	Michael Foods, Inc.	16	40.869278	-94.564083
135	WSBA953	450-470	Michael Foods, Inc.	32	40.869278	-94.564083
136	WQIV823	450-470	MIDAMERICAN ENERGY COMPANY	80	41.419167	-95.403889
137	WQIV886	450-470	MIDAMERICAN ENERGY COMPANY	80	40.758333	-94.979028
138	WQIV888	450-470	MIDAMERICAN ENERGY COMPANY	80	41.051111	-95.708611
139	WQJI835	450-470	MIDAMERICAN ENERGY COMPANY	80	41.006667	-95.209722
140	WQKA981	450-470	MIDAMERICAN ENERGY COMPANY	80	40.758056	-95.344444
141	WQKA982	450-470	MIDAMERICAN ENERGY COMPANY	80	41.404722	-95.164889
142	WPQI766	800/900	MIDWEST MOBILE RADIO SERVICE INC	113	39.734722	-94.791083
143	WQFU528	450-470	MIDWEST MOBILE RADIO SERVICE INC	32	40.473528	-94.414639
144	WYN386	450-470	MILLARD PUBLIC SCHOOLS	121	41.251389	-96.139472
145	WPIU749	800/900	MILLER, JACKIE L	112	39.734722	-94.790806
146	WNRD523	450-470	MILLER, WILLIAM	40	40.883889	-94.768306

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
147	WNUE566	150-174	MOELLER, DEVIN D	72	41.504722	-95.108333
148	KLG458	150-174	MONTGOMERY, COUNTY OF	64	41.016667	-95.222500
149	WSES529	150-174	MORGAN, DANA P	40	41.039111	-94.790028
150	WPXR824	150-174	MOTHERSHEAD, NOBLE T	40	40.725000	-94.747472
151	KFP256	150-174	MOUNT AYR COMMUNITY SCHOOL	40	40.717333	-94.239611
152	KFP256	150-174	MOUNT AYR COMMUNITY SCHOOL	40	40.716944	-94.230222
153	WQFC877	150-174	MS Tree Service	40	41.030278	-94.615528
154	KTV820	150-174	NEMAHA VALLEY COMMUNITY HOSPITAL	161	39.836111	-96.079167
155	WQZJ635	150-174	NICHOLAS, STEVE	50	40.970833	-94.605806
156	WPBX601	450-470	Nodaway Valley Community School District	48	41.296111	-94.461083
157	KAF568	150-174	NODAWAY, COUNTY OF	40	40.375556	-94.856667
158	WPZM258	150-174	NODAWAY, COUNTY OF	40	40.375556	-94.856667
159	WPLT267	800/900	OAKLAND FOODS LLC	113	41.329167	-95.385000
160	WQUQ656	150-174	OGBURN, TYLER	40	40.989694	-94.823833
161	WPSZ331	800/900	Omaha Public Power District	113	40.581389	-95.943889
162	KA3453	150-174, 450-470	OMAHA PUBLIC POWER DISTRICT	121	40.662222	-96.178611
163	KA3453	150-174, 450-470	OMAHA PUBLIC POWER DISTRICT	121	40.328333	-95.948056
164	KA3453	150-174, 450-470	OMAHA PUBLIC POWER DISTRICT	121	40.163611	-95.943056
165	KA3453	150-174, 450-470	OMAHA PUBLIC POWER DISTRICT	121	40.620833	-95.775278
166	WQAS801	800/900	OMAHA PUBLIC POWER DISTRICT	113	40.581389	-95.943889
167	WQAS802	800/900	OMAHA PUBLIC POWER DISTRICT	113	40.895000	-95.842778
168	WPTA210	800/900	OMAHA PUBLIC POWER DISTRICT (OPPD)	113	40.895000	-95.842778
169	WRAH505	450-470	P&J JOHANNES CO	32	41.148639	-94.756333
170	KNJY741	150-174	PAGE, COUNTY OF	56	40.742778	-95.094694
171	WQOB924	150-174	PAGE, COUNTY OF	32	40.741167	-95.055389

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172	WQBI477	150-174	PELZER, MIKE D	40	41.233167	-95.020833
173	WRPW621	150-174	PENDLETON, RANDALL	40	41.082139	-95.176444
174	WQLL849	150-174	PETERSEN, BRANDON	40	41.023056	-94.614861
175	WNVS279	150-174	PLATTE VIEW FARMS	40	40.405556	-94.641917
176	WQHF690	450-470	POET Biorefining - Corning, LLC	32	40.968444	-94.792250
177	WSIE491	150-174	Pontier Farms LLC	80	41.025917	-93.888889
178	WPIA270	150-174	PORTER FARMS	120	40.738889	-93.750222
179	WPIA270	150-174	PORTER FARMS	120	40.558333	-93.541889
180	WPIA270	150-174	PORTER FARMS	120	40.587500	-93.478000
181	WRME281	450-470	Precision Drainage LLC	32	40.823889	-95.146944
182	KNAW735	150-174	PRESCOTT, CITY OF	32	41.025000	-94.617500
183	KNAW735	150-174	PRESCOTT, CITY OF	32	41.023611	-94.609972
184	WQSD446	150-174	QUERRY, GARY	40	41.031333	-95.280528
185	WQAN389	800/900	RACOM Corporation	113	41.691806	-93.763861
186	WQKD861	800/900	RACOM Corporation	113	40.608333	-95.072778
187	WQKD867	800/900	RACOM Corporation	113	41.587500	-93.628611
188	WQKD873	800/900	RACOM Corporation	113	41.316583	-95.299861
189	WQKD887	800/900	RACOM Corporation	113	41.256944	-95.955000
190	WQKD888	800/900	RACOM Corporation	113	41.253333	-96.119167
191	WQKD890	800/900	RACOM Corporation	113	41.026111	-93.862222
192	WQKD895	800/900	RACOM Corporation	113	41.072222	-95.156667
193	WQKD896	800/900	RACOM Corporation	113	41.686111	-94.159167
194	WQKD905	800/900	RACOM Corporation	113	40.810000	-95.712222
195	WQKD913	800/900	RACOM Corporation	113	41.691806	-93.763861
196	WQKD918	800/900	RACOM Corporation	113	41.490833	-94.965833

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
197	WQN216	150-174	RED OAK COMMUNITY SCHOOLS	40	41.016389	-95.220278
198	WPKY728	150-174	RINGGOLD COUNTY HOSPITAL	40	40.709444	-94.268611
199	KAD502	150-174	RINGGOLD, COUNTY OF	40	40.621111	-94.471944
200	KAD502	150-174	RINGGOLD, COUNTY OF	40	40.896111	-94.375833
201	KAD502	150-174	RINGGOLD, COUNTY OF	40	40.709444	-94.268611
202	KAD502	150-174	RINGGOLD, COUNTY OF	40	40.841111	-94.088611
203	KAD502	150-174	RINGGOLD, COUNTY OF	40	40.644444	-94.071944
204	WQYJ984	150-174	Roberts, Larry	40	40.546583	-94.806250
205	WROE629	150-174	Robinette, David	40	41.060139	-94.964250
206	WRPG705	150-174	ROBISON, BRANDON	48	41.024250	-94.617917
207	KNFF441	150-174	RONALD BROWN	40	40.957250	-94.797278
208	WNHT433	150-174	ROSENBOHM, MICHAEL K	80	40.150000	-95.041917
209	WSDK456	150-174	RUSSELL, ROB	40	41.043083	-94.602750
210	WQLJ671	150-174	SCHMITZ MR, DAN J	40	40.429750	-94.664472
211	WQZI275	150-174	SCHMITZ, CLINTON T	40	40.373444	-94.693778
212	WQEU915	150-174	SHERIDAN FIRE PROTECTION DISTRICT	40	40.485611	-94.585611
213	WSIT710	150-174	Shielded Signals, LLC	80	41.481833	-95.223889
214	WQWL857	450-470	Siemens Gamesa Renewable Energy, LLC	16	40.913611	-94.653528
215	WQWL857	450-470	Siemens Gamesa Renewable Energy, LLC	24	40.913611	-94.653528
216	WRPX342	450-470	Siemens Gamesa Renewable Energy, LLC	32	41.075611	-94.482417
217	WRPX342	450-470	Siemens Gamesa Renewable Energy, LLC	32	41.075611	-94.481306
218	WNKN916	150-174	SMITH, DONALD K	48	41.201667	-95.101389
219	WPEQ333	150-174	SOUTH HARRISON R II SCHOOL DISTRICT	80	40.283056	-94.013556
220	WQRE419	450-470	SOUTHERN IOWA TROLLEY	32	41.048889	-94.363583
221	WQRB767	450-470	SOUTHERN WASTE HANDLING, INC.	32	40.722417	-94.221917

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
222	WNGL500	450-470	Southwest Iowa Rural Electric Cooperative	80	40.984722	-95.098889
223	WNGL500	450-470	Southwest Iowa Rural Electric Cooperative	32	40.914444	-95.022472
224	WPET201	450-470	SPRING VALLEY RADIO	120	41.584167	-93.667444
225	WROI734	150-174	Standley Brothers Nutrient Solutions	80	40.999472	-94.520944
226	WQAL885	150-174	STANDLEY, MIKE	16	40.898889	-94.514167
227	WQAL885	150-174	STANDLEY, MIKE	40	40.898889	-94.514167
228	WSHB549	450-470	Stanton Community School District	32	40.984861	-95.100472
229	WSHB549	450-470	Stanton Community School District	64	40.984861	-95.100472
230	WPCB361	150-174	TAYLOR COUNTY Emergency Management	32	40.682222	-94.722500
231	WPCC623	150-174	TAYLOR COUNTY EMERGENCY MANAGEMENT	40	40.682222	-94.722500
232	WQCA669	450-470	TAYLOR, COUNTY OF	32	40.677222	-94.806083
233	WQHT384	150-174	TAYLOR, COUNTY OF	40	40.682222	-94.722500
234	WPTX730	800/900	TEAM AIR EXPRESS SERVICES, INC.	113	41.259000	-95.937972
235	WRJI201	450-470	The Carpet Store	80	41.009861	-95.228889
236	WRKI261	800/900	The Conley Group, Inc.	113	41.593056	-93.630278
237	WREE240	150-174	Thummel Iowa Cattle Co.	80	40.510194	-94.580000
238	WQGW699	150-174	TOMAS, EDDIE	40	41.056639	-94.222722
239	WROA740	150-174	Tracy Family Farms Inc.	40	40.430111	-94.279944
240	WQLU245	150-174	TRAVIS, ADAM	40	41.130556	-94.257167
241	WQFH388	150-174	TRAVIS, DAVID A	32	40.979167	-94.316667
242	WQXP495	150-174	Tri-State Excavation	50	40.623444	-95.125889
243	WRDA336	150-174	Trost Farms	32	40.885000	-94.468889
244	WPYZ557	450-470	TTWN Networks, LLC	120	41.260889	-95.929167
245	WPXK622	150-174	UNION, COUNTY LEC	40	41.059722	-94.358333
246	WPXK622	150-174	UNION, COUNTY LEC	32	41.056639	-94.342583

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
247	KAA599	150-174	UNION, COUNTY OF	40	41.059722	-94.358306
248	KKW639	150-174	United Farmers Mercantile	40	40.991667	-95.207778
249	KKW639	150-174	United Farmers Mercantile	80	40.991667	-95.207778
250	WNXY737	450-470	UNPLUGGED WIRELESS	121	41.491667	-94.136889
251	WNWZ644	150-174	VAN DEVENTER, THOMAS	80	40.183333	-95.258861
252	WPSN329	150-174	VILLISCA, CITY OF	30	40.933889	-94.976667
253	WQVM601	450-470	WALTERSDORF, CODY	32	41.007722	-94.339222
254	WRMX969	450-470	Waste Management Holdings, Inc	32	41.058333	-94.367472
255	WNIP646	150-174	WHILEY, LARRY	48	41.203333	-95.225000
256	WSMW249	450-470	WILLETT FARM TRUCKING	50	41.011944	-94.099167
257	WNAA702	150-174	WILLIAMS, JAMES F	402	38.450028	-92.983528
258	WNUT932	150-174	Wilson, Ray	64	41.250000	-95.250278
259	WNWE306	450-470	WORTH, COUNTY OF	32	40.485833	-94.408306
260	WPWC762	150-174	WORTH, COUNTY OF	40	40.473528	-94.414639
261	KD49978	450-470	WRC COMMUNICATIONS	121	41.591944	-93.631333

Table A: Mobile Licenses Intersecting Project Area



Wind Power GeoPlanner[™]

Off-Air Television Report

Black Maple Wind Project

Prepared on Behalf of
Black Maple Wind, LLC

June 24, 2026

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1. Introduction

Off-air television stations broadcast signals from terrestrially-based facilities directly to television receivers. Comsearch identified those off-air stations whose service could potentially be affected by the proposed Black Maple Wind Project in Taylor County, Iowa. Comsearch then examined the coverage of the stations and the communities in the area that could potentially have degraded television reception due to the location of the proposed wind turbines.

2. Summary of Results

The proposed wind energy project area and local communities are depicted in Figure 1, below.

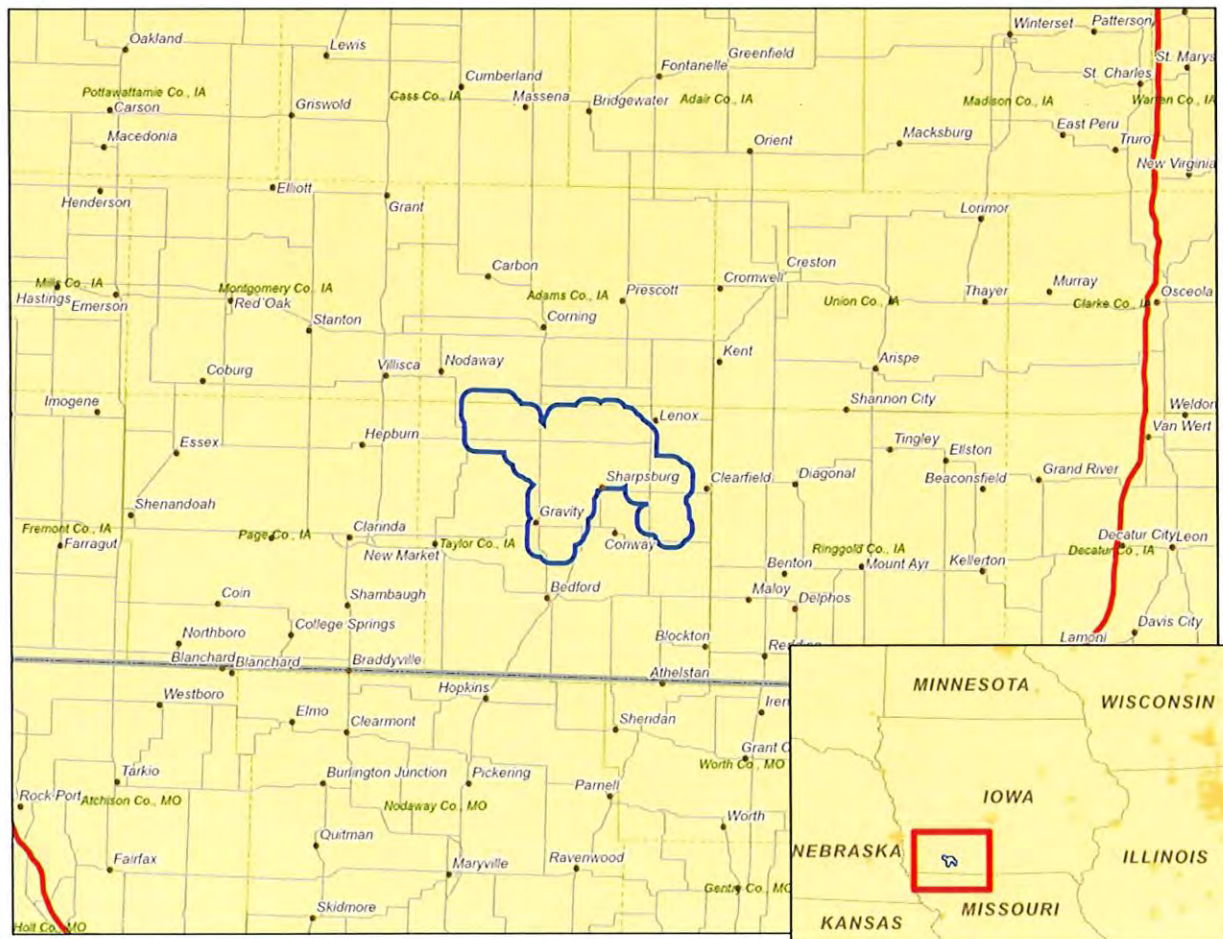


Figure 1: Wind Farm Project Area and Local Communities

To begin the analysis, Comsearch compiled all off-air television stations¹ within 150 kilometers of the project area. TV stations at a distance of 150 kilometers or less are the most likely to provide off-air coverage to the project area and neighboring communities. These stations are listed in Table 1, on the next page, and a plot depicting their locations is provided in Figure 2. There are a total of 77 database records for stations within approximately 150 kilometers of the project area. Of these stations, 32 stations are currently licensed and operating, 8 of which are low-power stations or translators. Translator stations are low-power stations that receive signals from distant broadcasters and retransmit the signal to a local audience. These stations serve local audiences and have limited range, which is a function of their transmit power and the height of their transmit antenna.

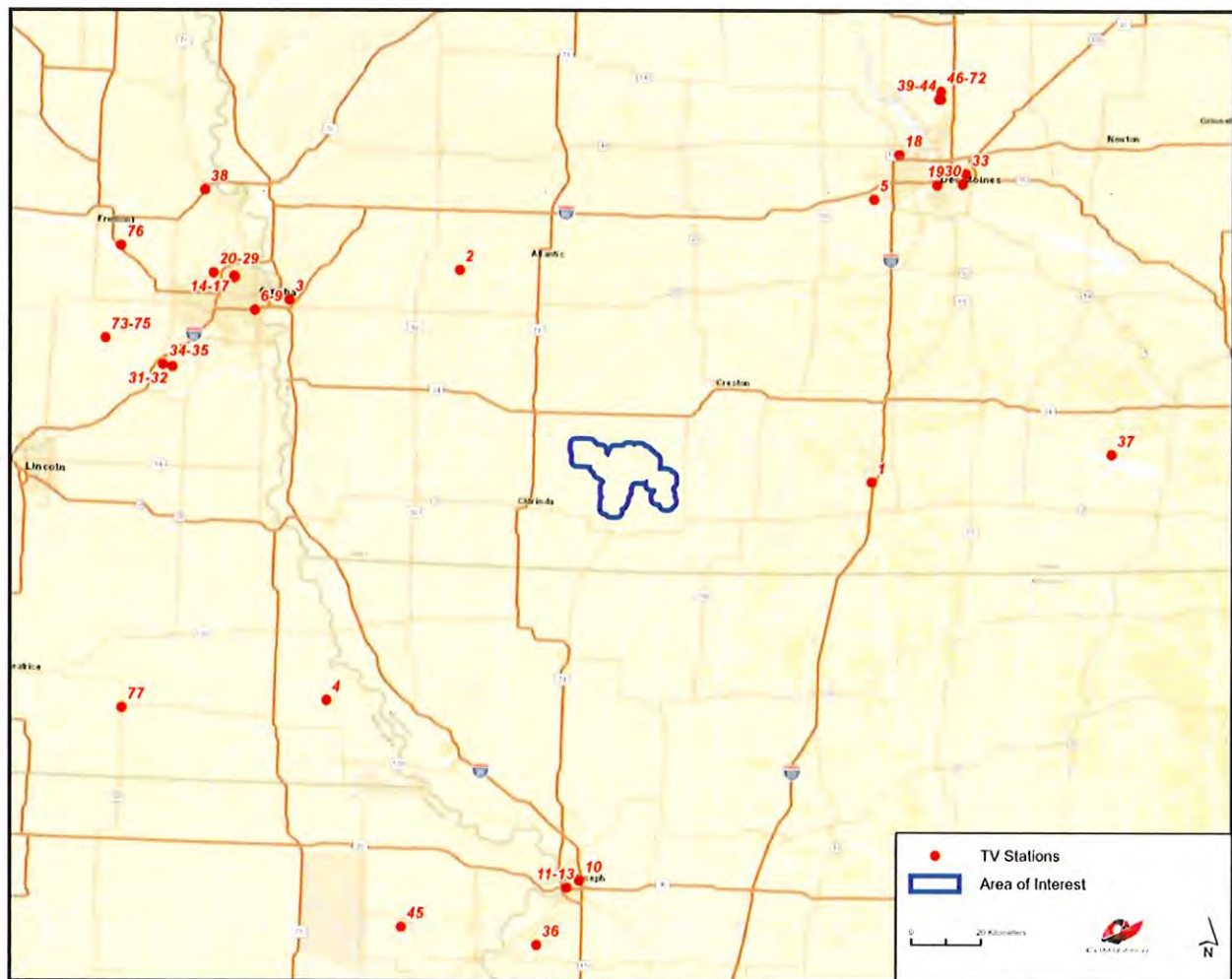


Figure 2: Plot of Off-Air TV Stations within 150 Kilometers of Project Area

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the TV station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Closest Turbine (km)
1	K31QN-D	CP	LPT	31	15.0	40.814444	-93.837778	58.64
2	KHIN	LIC	DTV	35	600.0	41.344167	-95.256111	62.15
3	KBIN-TV	LIC	DTV	33	200.0	41.254167	-95.835556	94.52
4	K25OG-D	LIC	LPT	25	8.3	40.219722	-95.665556	97.97
5	K33RJ-D	CP	LPD	33	15.0	41.548139	-93.841611	98.61
6	KOHA-LD	LIC	LPD	30	15.0	41.224889	-95.953222	102.38
7	KQMK-LD	LIC	LPD	21	10.0	41.224889	-95.953222	102.38
8	NEW	CP	LPD	14	15.0	41.224889	-95.953222	102.38
9	NEW	CP	LPD	16	15.0	41.224889	-95.953222	102.38
10	KQTV	LIC	DTV	7	40.0	39.77	-94.798333	107.14
11	KCJO-CD	LIC	DCA	28	1.75	39.750778	-94.8405	109.56
12	KNPG-CD	LIC	DCA	9	3.0	39.750778	-94.8405	109.56
13	KNPN-CD	LIC	DCA	15	15.0	39.750778	-94.8405	109.56
14	KMTV-TV	LIC	DTV	31	652.0	41.306833	-96.027139	111.57
15	KETV	LIC	DTV	20	700.0	41.308889	-96.026167	111.58
16	KYNE-TV	LIC	DTV	17	36.1	41.308889	-96.026167	111.58
17	WOWT	LIC	DTV	22	1000.0	41.311111	-96.027222	111.77
18	K32NM-D	LIC	LPD	32	15.0	41.664722	-93.756944	112.98
19	WBXF-CD	LIC	DCA	28	9.3	41.586944	-93.626111	114.37
20	NEW	CP	LPD	2	3.0	41.317583	-96.097278	117.43
21	NEW	CP	LPD	3	3.0	41.317583	-96.097278	117.43
22	NEW	CP	LPD	4	3.0	41.317583	-96.097278	117.43
23	NEW	CP	LPD	5	3.0	41.317583	-96.097278	117.43
24	NEW	CP	LPD	6	3.0	41.317583	-96.097278	117.43

² Definitions of service and status codes:

ACA - Analog Class A

DCA - Digital Class A

DRT - Digital Replacement Translator

DT - ETL testing

DTS - Distributed Transmission System

DTV - Full Service Television

DTX - Digital TV Auxiliary

LPA - Low Power Analog TV

LPD - Low Power Digital TV

LPT - Digital TV Translator

LPX - Analog TV Translator

TS - Legacy Service for Analog TV Auxiliary

TV - Analog TV legacy

LIC – Licensed and operational station

CP – Construction permit granted

APP – Application for construction permit, not yet operational

STA – Special transmit authorization, usually granted by FCC for temporary operation

AMD - Amendment

³ ERP = Transmit Effective Radiated Power

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Closest Turbine (km)
25	NEW	CP	LPD	18	15.0	41.317583	-96.097278	117.43
26	NEW	CP	LPD	19	15.0	41.317583	-96.097278	117.43
27	NEW	CP	LPD	23	15.0	41.317583	-96.097278	117.43
28	NEW	CP	LPD	25	7.5	41.317583	-96.097278	117.43
29	NEW	CP	LPD	34	7.5	41.317583	-96.097278	117.43
30	NEW	CP	LPD	35	15.0	41.588944	-93.538278	119.58
31	KPTM	LIC	DTV	26	800.0	41.071083	-96.225639	119.92
32	KXVO	LIC	DTV	29	630.0	41.071083	-96.225639	119.92
33	NEW	CP	LPD	35	15.0	41.616389	-93.526667	122.43
34	K36QD-D	CP	LPT	36	15.0	41.074806	-96.256667	122.56
35	KAJS-LD	LIC	LPD	32	15.0	41.074806	-96.256667	122.56
36	K35QD-D	APP	LPD	35	15.0	39.601	-94.936972	127.08
37	K21PT-D	CP	LPT	21	15.0	40.889861	-93.024944	127.37
38	K24GO-D	LIC	LPT	24	0.03	41.531361	-96.136944	131.44
39	KCCI	LIC	DTV	8	44.6	41.809722	-93.621389	132.55
40	KFPX-TV	LIC	DTV	36	270.0	41.809722	-93.621389	132.55
41	KDIN-TV	LIC	DTV	11	22.5	41.809167	-93.615	132.85
42	KDIN-TV	LIC	DTV	34	1000.0	41.809167	-93.615	132.85
43	WHO-DT	LIC	DTV	13	36.5	41.809167	-93.615	132.85
44	WOI-DT	LIC	DTV	5	13.9	41.809167	-93.615	132.85
45	K22PD-D	CP	LPD	22	15.0	39.639167	-95.391389	134.38
46	K31PO-D	CP	LPT	31	15.0	41.83	-93.615167	134.62
47	KCWI-TV	LIC	DTV	23	246.0	41.83	-93.615167	134.62
48	KCWI-TV	APP	DTV	23	1000.0	41.83	-93.615167	134.62
49	KDIT-CD	LIC	DCA	17	15.0	41.83	-93.615167	134.62
50	KDMI	STA	DTV	19	335.6	41.83	-93.615167	134.62
51	KDMI	LIC	DTV	19	839.0	41.83	-93.615167	134.62
52	KDMI	AMD	DTV	19	419.0	41.83	-93.615167	134.62
53	KDSM-TV	LIC	DTV	16	1000.0	41.83	-93.615167	134.62
54	NEW	CP	LPD	2	3.0	41.83	-93.615167	134.62
55	NEW	CP	LPD	3	0.25	41.83	-93.615167	134.62
56	NEW	CP	LPD	3	3.0	41.83	-93.615167	134.62
57	NEW	CP	LPD	4	0.5	41.83	-93.615167	134.62
58	NEW	CP	LPD	4	3.0	41.83	-93.615167	134.62
59	NEW	CP	LPD	6	3.0	41.83	-93.615167	134.62
60	NEW	CP	LPD	7	3.0	41.83	-93.615167	134.62
61	NEW	CP	LPD	9	3.0	41.83	-93.615167	134.62
62	NEW	CP	LPD	10	3.0	41.83	-93.615167	134.62
63	NEW	CP	LPD	12	3.0	41.83	-93.615167	134.62
64	NEW	CP	LPD	14	15.0	41.83	-93.615167	134.62
65	NEW	CP	LPD	15	15.0	41.83	-93.615167	134.62
66	NEW	CP	LPD	18	15.0	41.83	-93.615167	134.62

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Closest Turbine (km)
67	NEW	CP	LPD	20	15.0	41.83	-93.615167	134.62
68	NEW	CP	LPD	22	15.0	41.83	-93.615167	134.62
69	NEW	CP	LPD	25	15.0	41.83	-93.615167	134.62
70	NEW	CP	LPD	27	15.0	41.83	-93.615167	134.62
71	NEW	CP	LPD	29	15.0	41.83	-93.615167	134.62
72	NEW	CP	LPD	30	5.0	41.83	-93.615167	134.62
73	KUON-TV	STA	DTV	27	22.3	41.138333	-96.455833	140.34
74	KUON-TV	LIC	DTV	12	75.0	41.138333	-96.455833	140.34
75	KUON-TV	CP	DTV	27	680.0	41.138333	-96.455833	140.34
76	K36QD-D	LIC	LPT	36	3.0	41.379389	-96.41575	144.71
77	K33AC-D	LIC	LPT	33	8.5	40.183611	-96.351389	149.98

Table 1: Off-Air TV Stations within 150 Kilometers of Project Area

3. Impact Assessment

Based on a contour analysis of the licensed stations within 150 kilometers of the Black Maple Wind Project, it was determined that 9 of the full-power digital stations, identified below in Table 2, along with 5 low-power digital stations, may have their reception disrupted in and around the project. The areas primarily affected would include TV service locations within 10 kilometers of the turbines that have clear line-of-sight (LOS) to a proposed wind turbine but not to the respective station. After the wind turbines are installed, communities and homes in these locations may have degraded reception of these stations. This is due to multipath interference caused by signal scattering as TV signals are reflected by the rotating wind turbine blades and mast.

ID	Call Sign	Status	Service	Channel	Transmit ERP (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Closest Turbine (km)
2	KHIN	LIC	DTV	35	600.0	41.344167	-95.256111	62.15
14	KMTV-TV	LIC	DTV	31	652.0	41.306833	-96.027139	111.57
15	KETV	LIC	DTV	20	700.0	41.308889	-96.026167	111.58
17	WOWT	LIC	DTV	22	1000.0	41.311111	-96.027222	111.77
31	KPTM	LIC	DTV	26	800.0	41.071083	-96.225639	119.92
32	KXVO	LIC	DTV	29	630.0	41.071083	-96.225639	119.92
39	KCCI	LIC	DTV	8	44.6	41.809722	-93.621389	132.55
43	WHO-DT	LIC	DTV	13	36.5	41.809167	-93.615	132.85
44	WOI-DT	LIC	DTV	5	13.9	41.809167	-93.615	132.85

Table 2: Licensed Off-Air TV Stations Subject to Degradation

4. Recommendations

While TV signals are reflected by wind turbines, which can cause multipath interference to the TV receiver, modern digital TV receivers have undergone significant improvements to mitigate the effects of signal scattering. When used in combination with a directional antenna, it becomes even less likely that signal scattering from wind farms will cause interference to digital TV reception.

Nevertheless, signal scattering could still impact certain areas currently served by the TV station mentioned above, especially those that would have line-of-sight to at least one wind turbine but not to the station antenna. In the unlikely event that interference is observed in any of the TV service areas, it is recommended that a high-gain directional antenna be used, preferably outdoors, and oriented towards the signal origin in order to mitigate the interference.

Both cable service and direct broadcast satellite service will be unaffected by the presence of the wind turbine facility and may be offered to those residents who can show that their off-air TV reception has been disrupted by the presence of the wind turbines after they are installed.

5. Contact

For questions or information regarding the Off-Air TV Analysis, please contact:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
Address:	21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
Telephone:	703-726-5656
Fax:	703-726-5595
Email:	DMeyer@comsearch.com
Web site:	www.comsearch.com

Appendix B.8

Emergency Action Plan (§4.12)



Black Maple Wind Emergency Action Plan OVERVIEW

Equipment Shut-down During Emergencies

Equipment (turbines, inverters, etc.) and the substation have redundant automated systems that shut the equipment down when a fault condition is detected. Human intervention is not required.

As an example, Apex utilizes a 24/7 365 Remote Operation Control Center (ROCC) connected to the Facility that also has control capabilities with individual equipment, groups of equipment or the substation breakers to isolate in an emergency. Other Operators will have a similar type of control center.

The Facility will also have on-site technicians.

Emergency, Fire, and Explosive Hazards

Unlike thermal power plants, wind power facilities pose minimal explosion or fire potential, as there is no need to combust fuel to generate power. However, as with any major construction undertaking, construction of the Project does present some minimal fire risks. Fire risk mitigation starts with facility design, especially with electrical design, which needs to comply with the National Electric Code (NEC), National Electric Safety Code (NESC) and the National Fire Protection Agency (NFPA).

Emergency Preparedness Training

The site and project leadership will hold a pre-construction coordination meeting with the appropriate County emergency management personnel, along with project contractors to discuss preventive measures prior to the start of Construction.

After COD, the site leadership for the project will check-in with the County Emergency Management annually to determine what form of emergency drills (in-person, on-line,

or other options that may become available over the life of the Project) are appropriate to train and coordinate efforts with local emergency responders.

Fire and Explosion Sources and Mitigation Measures

Lightning-induced fires are rare in project areas, but regardless, the equipment and substation are equipped with specially engineered lightning protection systems.

For wind projects – as is the case with almost any complex machine, there is some potential for fire inside the wind turbine generators. With the types of modern wind turbines proposed for the Project, however, turbine malfunctions leading to fires in the nacelle are extremely rare. The turbine-control system detects overheating in turbine machinery, and internal fires would be detected by these sensors. The machines would shut down immediately and send an alarm signal to the central SCADA system, which would notify operators of the problem by cell phone or pager.

In terms of Project decommissioning, the potential fire risks are similar in nature to those during Project construction but are lower in probability.

Handling of Hazardous Material During Construction and Operation

Construction

Diesel fuel is the only potentially hazardous material that will be used in any significant quantity during construction of the Project. It will be used for operating construction equipment and vehicles. Construction of the Project will not result in the generation of any hazardous wastes in quantities regulated by State or Federal law. During construction, the primary wastes generated will be solid construction debris such as scrap metal, cable, wire, wood pallets, plastic packaging materials and cardboard. This waste will be accumulated on-site until it is hauled away to a licensed transfer station or landfill.

Operations

Operation of the Project will not result in the generation of regulated quantities of hazardous wastes. Wind projects, no fuel is burned to power the wind turbine generators, there will be no spent fuel, ash, sludge or other process waste generated. The primary type of waste generated by Project's operations will be municipal solid waste generated at the O&M facility, consisting of typical office wastes (paper, cardboard, food waste, etc.) which will be stored in a dumpster until it is collected by the local solid waste collection service provider. The periodic changing of lubricating oils and hydraulic fluids used in the individual wind turbine generators will also result in the generation of small quantities of these materials. These waste fluids will be generated

in small quantities because they need to be changed only infrequently and the changing of these fluids is not done all at once, but rather on an individual turbine-by-turbine basis. These waste fluids will be stored for short periods of time in appropriate containers at the O&M facility for collection by a licensed collection service for recycling or disposal.

On-Site Emergency Plans

On-site emergency plans will be prepared to protect the public health, safety and environment on and off the Project site in the case of a major natural disaster or industrial accident relating to or affecting the Project. The Project shall prepare the plans and be responsible for implementing the plan with its construction and operations teams in coordination with the local emergency response agencies. The plans will describe the emergency response procedures to be implemented during various emergency situations that may affect the Project or the surrounding community or environment.

The emergency plans described in this section are an outline of the details that will be included in the emergency plans to be developed prior to the construction and operating phases of the Project. This outline is based on the Applicant's experience in operating other similar Projects. The key element of an effective emergency and safety plan is the ability to communicate. Therefore, during both construction and operation of the Project, all operations and construction team leaders will be equipped with two-way short-band radios and cellular phones.

During the Project's construction and start-up period, the emergency plans will be updated to conform to manufacturer and vendor safety information for the specific equipment installed at the Project.

Events Covered by Emergency Plans

The emergency plans cover multiple events that may occur at or near the Project site by natural causes, equipment failure or by human mistake. The following is a list of potential events that will be covered by the emergency plans.

- Personnel injury;
- Construction emergencies;
- Facility evacuation;
- Fire or explosion;
- Floods;
- Extreme weather abnormalities.

The Project O&M group and third-party contractors will receive annual emergency response-and safety training to assure that effective and safe action will be taken to reduce and limit the impact of an emergency at the Project site.

Information Signs

The project will post information signage to be placed at the substation and O&M buildings with contact information to the ROCC and relevant onsite personnel (if needed). If called, the operator will take action notifying the on-call technician and if needed initiate the emergency action plan. Local emergency responders and County Commissioners will be given an up-to-date map prior to construction showing the turbine ID numbers in relation to all public roads.

Appendix B.9
Template Road Use Agreement Form (§5.1)

**ROAD USE AGREEMENT
RELATING TO THE DEVELOPMENT
OF
(WIND FARM NAME) WIND FARM**

THIS ROAD USE AGREEMENT (this “**Agreement**”), dated this ____ day of _____, 20__, between the BOARD OF COUNTY SUPERVISORS OF TAYLOR COUNTY, IOWA, (hereinafter sometimes referred to as “**County**”) and (COMPANY NAME) (hereinafter sometimes referred to as “**Developer**”).

WITNESSETH:

WHEREAS, Developer intends the construction of wind turbine generators in Taylor County as part of one or more wind projects (including without limitation, the project known as the _____) (a “**Wind Farm**”); and

WHEREAS, Developer and County wish to formally document the expectations for road maintenance and restoration during and following construction of each Wind Farm in Taylor County; and

WHEREAS, County has fully considered the proposed development and improvement of the land and the requirements to be imposed upon other adjoining or neighboring properties by reason of the proposed development and improvement of the land; and

WHEREAS, County and Developer mutually acknowledge that the matters hereinafter described will be subject to all the requirements, terms and conditions of Taylor County, now in effect and other laws, rules, and regulations, as those are promulgated by statutes, resolutions, or otherwise; and

WHEREAS, County and Developer mutually acknowledge and agree that the matters hereinafter set forth are reasonable conditions and requirements to be imposed by Taylor County, and that such matters are necessary to protect, promote, and enhance the public welfare; and

WHEREAS, it is further mutually acknowledged that Taylor County is entitled to other assurance that the matters hereinafter agreed to will be performed as agreed by Developer, and in that regard, Developer has made available to County it’s most recent publicly filed financial statements indicating it to be of investment grade, assuring County that there are available funds to cover the estimated costs of performance of the matters hereinafter agreed to. Should Developer fail to maintain such investment grade, it may be required to post security to cover the estimated cost of performance. At no time will security in excess of \$500,000 per each Wind Farm be required.

NOW, THEREFORE, in consideration of the premises, the mutual covenants herein contained it is agreed as follows:

PROJECT BOUNDARIES SUBJECT TO THIS AGREEMENT

1. The Wind Farm project boundaries subject to this Agreement are outlined in Exhibit A for the Wind Farm (and Exhibit A may be supplemented in the event any further Wind Farms are to be developed by Developer and approved by Taylor County or the boundaries attached to this Agreement in Exhibit A are modified in the future).

ROAD MAINTENANCE TO BE PERFORMED

2. During the period of Wind Farm construction, Developer and its contractors and sub-contractors will be responsible for maintaining the unpaved roads within the Wind Farm project boundaries. Maintenance of the unpaved roads during construction will consist of the following:
 - Blading roads on a weekly or more frequent basis as needed due to construction traffic or weather.
 - Placement of granular surfacing on road soft spots on a weekly or more frequent basis as needed due to construction traffic or weather.
 - Shaping roads as necessary for drainage and safety on a weekly or more frequent basis as needed due to construction traffic or weather.
 - Utilization of dust mitigation and control measures on road surfaces, including, but not limited to the use of magnesium chloride and water, to provide adequate site distance for vehicles and users of the unpaved road.

County may inspect the roads at any time and offer suggestions for maintenance to improve safety.

Developer's obligation to maintain specific unpaved roads within the Wind Farm project boundaries will cease at such time as the specific sections of unpaved roads are no longer required for transportation of wind turbine components for the initial construction of the Wind Farm and such specific road sections have been restored in accordance with this Agreement and

have received probationary acceptance. For the purposes of this Agreement, County road sections will be defined as encompassing the entire distance between road intersections.

ROAD RESTORATION TO BE COMPLETED

3. All road restoration contemplated by this Agreement shall be performed by Developer in a good and workmanlike manner and in accordance with applicable County standards, rules, and regulations governing such construction as reasonably determined by the Taylor County Secondary Roads Department. AASHTO Publications and Iowa DOT Standard Specifications shall be utilized as primary guidelines. A template of the typical unpaved road profile is attached to this Agreement as Exhibit B.

TIME OF COMPLETION

4. Except where a lesser time period is prescribed, all improvements herein described and all matters herein agreed to be performed shall be restored, constructed, or performed by Developer within one (1) year from the date of final wind turbine generator component delivery for the applicable Wind Farm project, provided however, that labor disputes, fire, unusual delays in transportation, unavoidable casualties, causes beyond the Developer's control or by any other cause which County may reasonably determine justifies the delay shall extend the said time period for performance of this Agreement as mutually agreed between the County and the Developer.

OWNERSHIP OF IMPROVEMENTS

5. Subject to the County's reasonable acceptance of road improvements for maintenance purposes, upon completion of road restoration work located in County right-of-way, all such completed road restoration work shall become the sole property of Taylor County, free and clear of all liens, encumbrances, and restrictions. Developer's underground collector lines, communications lines, or other Wind Farm facilities constructed in the right-of-way are expressly excluded from the definition of completed road restoration work. Developer shall furnish to County lien waivers and/or satisfactory proof that all claims and payments to be made in connection with construction of said road improvements have been satisfied. All other improvements referenced in this Agreement shall be owned and maintained by Developer and their successors and assigns.

FAILURE TO COMPLETE THE RESTORATION

6. In the event that any portion of road restoration work has not been made, installed, or performed within said one (1) year period, except as provided for in paragraph 4 above, then, and in that event, County may have such remaining road restoration work completed within a reasonable time by such means and in such manner, by contract with or without public letting, or otherwise, as it may deem advisable, at Developer's expense. County shall be entitled to reimbursement from Developer upon demand for any such documented reasonable costs incurred by County, plus 1.5% interest per month on unpaid balance.

PARTIAL RELEASE

7. In the event security has been provided in accordance with this Agreement, as road restoration work is completed, Developer may request in writing that County inspect such work and upon probationary acceptance corresponding reductions of such security will be granted. The procedures for completion of road improvements and work by County and payment to County therefore shall apply whether there be one or more defaults on the part of Developer in performing the terms, conditions, and covenants contained in this Agreement.

RELEASE

8. The County shall not release the Developer from its obligations with respect to a particular Wind Farm project until all road restoration work with respect to such Wind Farm project has been completed and the probationary period(s) has expired or when all deficiencies identified prior to the expiration of the probationary period have been corrected. Following expiration of the probationary period the County will provide Developer with an acknowledgement that the probationary period has expired.

PRESERVATION OF OTHER REMEDIES

9. The rights and remedies of the County provided in this Agreement shall not be exclusive and are in addition to any other rights or remedies provided by law. Developer, in developing the applicable Wind Farm project shall fully comply with all applicable rules, regulations, standards, and laws of the County and other governmental agencies and bodies having jurisdiction.

STANDARDS FOR ACCEPTANCE

10. County shall accept the road restoration in County right-of-way as public improvements which are constructed under this Agreement for full maintenance in accordance with its regulations once

probationary acceptance has been granted for a road section under the following terms and conditions:

- A) As soon as all of the restoration in a road section which is covered by this Agreement has been completed in accordance with the terms of this Agreement, Developer shall send a letter to the County Engineer requesting probationary acceptance with the following statement included: "I hereby state that to the best of my knowledge, information and belief, the road section has been restored in substantial compliance with the Road Use Agreement Relating to the Development of (Wind Farm Name) Wind Farm." When improvements are determined to be constructed to the County's reasonable satisfaction, the County will send a letter to the Developer granting probationary acceptance of public improvements. The probationary period will terminate one year from the date of probationary acceptance unless one or more deficiencies is identified by the County prior to such termination.
- B) Prior to termination of the probationary period the County may identify and provide a written list of deficiencies based on a physical inspection of the road sections subject to this Agreement. The Developer shall correct all of said deficiencies to the County's reasonable satisfaction within six (6) months from the date said deficiency list is issued. When all of said deficiencies on a specific road section have been corrected to the County's reasonable satisfaction, the road section will be deemed accepted and Developer will have no further obligations for restoration on said road section.

PLAN EXECUTION BY TAYLOR COUNTY

- 11. The execution of this Agreement by the Board of County Supervisors of Taylor County in no way represents that the County will accept the public road restoration contemplated by this Agreement for title or maintenance purposes until said road restorations have been completed in compliance with this Agreement and with applicable Taylor County standards, rules and regulations.

RESPONSIBILITY FOR INSTALLING UTILITIES AND FOR THE PERMITTING OF THEIR INSTALLATION

STIPULATIONS

- 13. This Agreement in addition to the consideration of the premises, the mutual covenants herein contained, and the approval and execution, of this Agreement by Taylor County shall be and is subject to the following stipulations(s) and Developer agrees to the following:

- A) Developer shall be responsible for maintenance of unpaved roads within the Wind Farm project boundaries as described in this Agreement. This will include, but is not limited to blading, placing of granular surfacing, shaping, and dust control. Coordination with Taylor County will be necessary, including response to citizen concerns. Taylor County will not provide maintenance service to roadways within the Wind Farm project boundaries until the time of probationary acceptance.
- B) Developer shall be responsible for an inspection of all County roadways within the Wind Farm project boundaries and subject to the Agreement prior to any major road improvement work being performed, as burden of proof of repairs and deficiencies is the responsibility of the Developer. Developer shall provide Taylor County with a video survey of all the roads in the Wind Farm project boundaries prior to start of construction of the Wind Farm. Developer shall be responsible for obtaining any and all permits, permissions, or compliances not covered in the provisions of this Agreement or those permitted by Taylor County.
- C) Developer shall provide and maintain all traffic control as required for the safe and efficient movement of traffic as a result of its construction activities.
- D) Should construction operations necessitate the crossing of an existing county roadway with a crawler crane, Developer shall adhere to the following requirements for each such crossing:
 - 1. Developer shall provide the County with a map identifying the total number of crossings along with coordinates of each crossing.
 - 2. Developer shall supply a traffic control plan for the crane crossing, traffic control, the time frame for all road closures, and how the closure will be handled with the County Engineer and County Law Enforcement. No roadway shall be closed without giving 24 hours notice to the County Engineer and County Law Enforcement.
 - 3. Developer shall provide a detail of how the weight of the crane will be bridged over the roadway for approval by the County Engineer. Developer will repair any damages to the roadway to the extent caused by such crane crossing over the roadway.
 - 4. Developer must obtain the approval of the County Engineer to such crossing, such approval not to be unreasonably withheld if Developer complies with the requirements in this part D).
- E) The following shall apply with respect to Level B roads:

1. Surfacing will be allowed on Level B roads; however, if Developer proposes to place granular surfacing on Level B roads, the Level B road will need to be improved to meet or exceed the typical section as depicted in Exhibit B.
2. If Developer requests that the Board consider upgrading a Level B road to a Level A service road and the Board so approves, then Developer will be required to meet the minimum requirements as set forth in Exhibit B. There is no obligation on the part of the Board of Supervisors or in this Agreement that requires that the Board of Supervisors accept the improved road into the County's Level A system.
3. In certain locations, existing right-of-way width for such Level B roads may not be adequate to accommodate the proposed cross section as depicted in Exhibit B; and in such locations the Taylor County Engineer will review each such location on a case by case basis and upgrade work will not be permitted in such locations until and unless a construction plan for such location is mutually agreed upon by the Taylor County Engineer and the Developer.

F) The following provisions shall also apply:

1. Any (metal) culverts proposed to be used by Developer will need to meet Taylor County minimum specifications (as described below), as Taylor County will be responsible for the future maintenance as provided herein. The minimum culvert specifications are as follows: minimum size in entrances is 18"; minimum size in roadway is 24"; minimum gauge for pipe 42" and smaller is 14 gauge; minimum gauge for pipe 48" to 66" is 14 gauge; culverts larger than 66" will need to be a minimum of 10 gauge; all metal culverts are to be aluminized and riveted; spiral pipe will not be allowed; plastic pipe will not be allowed; all pipe installations shall be approved (not to be unreasonably withheld) by the Taylor County Engineer prior to construction; and all pipe will be sized to meet the drainage area rather than just matching the existing pipe diameter.
2. No fabric or geotextiles are to be placed within 12" of the surface of any roadway entrance or on County roadways.
3. Seeding and erosion control of all disturbed areas is to be performed by Developer.
4. Developer will provide maintenance to the Level B roads where Developer has added granular surfacing.

5. Developer will be required to obtain applicable permits for all oversized loads on all county roads from the County (the issuance of such permits not be unreasonably withheld by the County).
6. Developer agrees to hire an outside engineering firm to review the potentially affected bridges and culverts within each Wind Park's project boundaries to verify the load capacities in respect to the expected loads from Developer's construction and delivery activities, with same outside engineering firm conducting a post-construction structural review of the same bridges and culverts to verify that load capacities remain the same as the initial review.

SECTION HEADINGS

14. The section headings are inserted herein only for convenience of reference and in no way shall they define, limit or describe the scope or intent of any provisions of this Agreement.

ASSIGNMENT CLAUSE

15. Upon written notification to Developer by County, County may assign this Agreement in whole or in part, to any person or third party ("**Assignee**") that is a government entity that becomes responsible for the County roads. Notwithstanding the above, County may hire or retain an Assignee to perform remedial work on the county roads in the event Developer does not comply with its obligations under this Agreement. County's notification to Developer shall state the date of the assignment, the name of the Assignee, the percentage and or limits of the project being assigned, and if applicable work not completed to the County's reasonable satisfaction in accordance with this Agreement. Upon assignment, County shall be relieved of any liability or obligation under this Agreement. Upon written notification to the County by Developer, Developer may assign this Agreement in whole or in part to another party subject to the Taylor County Board of Supervisors' approval, which approval shall not be unreasonably withheld, conditioned or delayed.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above written.

For the Board of County Supervisors

Taylor County

By: _____

Name:

Title:

(COMPANY NAME)

By: _____

Name:

Title:

Attest:

EXHIBIT A

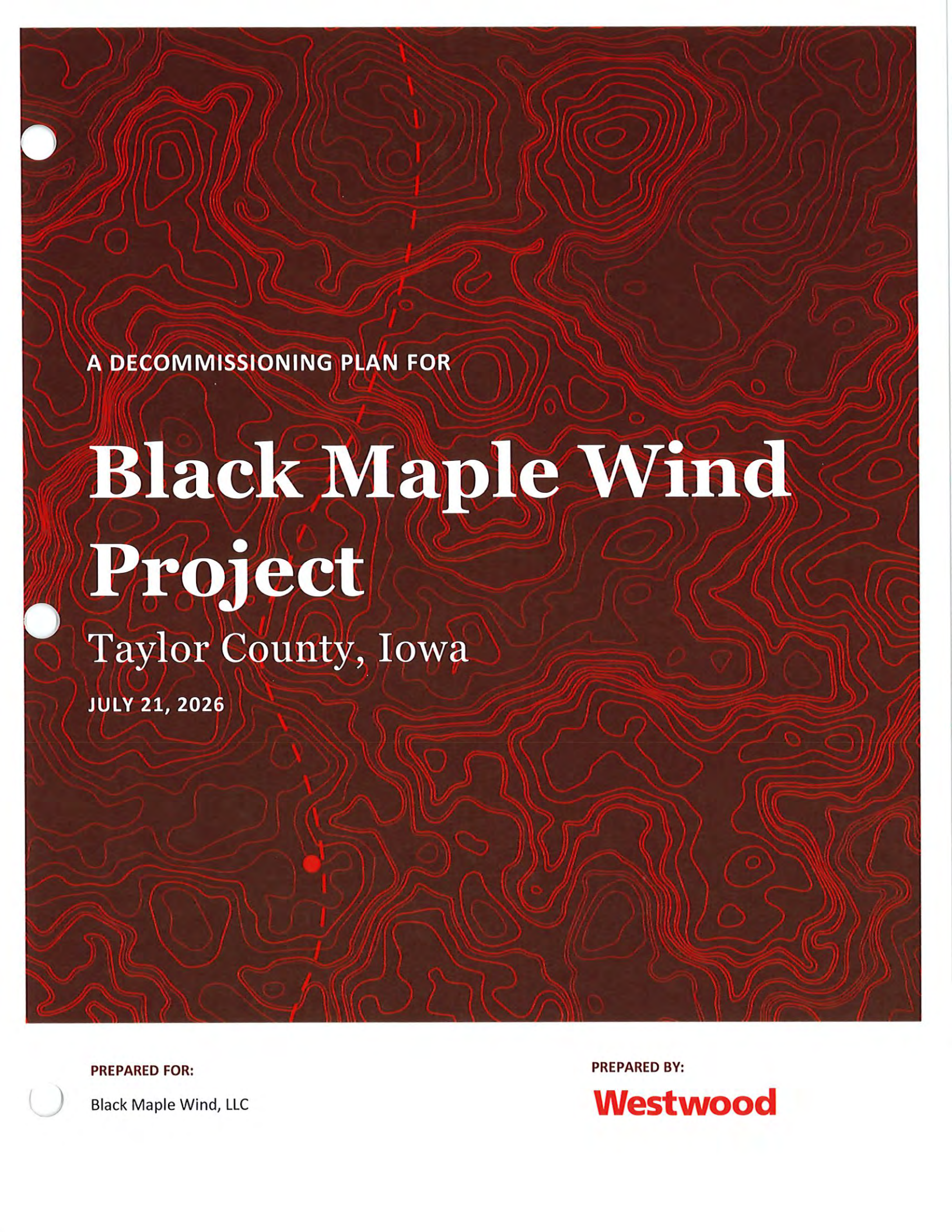
Wind Farm Project Boundaries

EXHIBIT B

Typical Section Rural Granular Road

Appendix B.10

Decommissioning Plan, Draft Financial Assurance, and Form Decommissioning Agreement (§5.3)



A DECOMMISSIONING PLAN FOR

Black Maple Wind Project

Taylor County, Iowa

JULY 21, 2026

PREPARED FOR:

Black Maple Wind, LLC

PREPARED BY:

Westwood

Decommissioning Plan

Black Maple Wind Project

Taylor County, Iowa

Prepared for:

Black Maple Wind, LLC
120 Garrett Street, Suite 700
Charlottesville, VA 22902
(434) 220-7595

Prepared by:

Westwood Professional Services
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343
(952) 937-5150



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.


STEPHEN J. BATTAGLIA

07/21/26
DATE

LICENSE NUMBER: P25848
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2027
SHEETS COVERED BY THIS SEAL: 1-38

Project Number: 0061031.00

Date: July 21, 2026

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Appendices

Appendix A: Decommissioning Cost Estimate Assumptions

Appendix B: Decommissioning Cost Estimate – GE Turbine

Appendix C: Decommissioning Cost Estimate – Nordex Turbine

Appendix D: Decommissioning Cost Estimate – Vestas Turbine

Appendix E: Draft Financial Assurance

Appendix F: Decommissioning Agreement Form

1.0 Introduction / Project Description

This Decommissioning Plan ("Plan") has been prepared for the Black Maple Wind Project in accordance with the Taylor County Wind Turbine Ordinance. The purpose of the Plan is to describe the means and methods that can be used to remove all structures, foundations, underground cables, and equipment and to reclaim and restore the land altered during the construction and operation of the wind project to its predevelopment condition to the extent feasible.

The Black Maple Wind Project ("Project") is a wind power generation project proposed by Black Maple Wind, LLC ("Applicant") in Taylor County, Iowa. The Project includes the construction of permanent facilities of turbines, access roads, two meteorological (MET) towers, one aircraft detection lighting system (ADLS) towers, a substation, underground collection lines, and an operation and maintenance (O&M) facility. Specific models and characteristics of wind turbines under consideration for the proposed Project can be found in the table below. An estimate for each turbine model can be found in Appendices B, C, and D.

Turbine Model	Hub Height	Rotor Diameter	Turbine Count
GE 154 4.0-MW	110.5 m / 363 ft	154 m / 506 ft	103
Nordex N163 5.9-MW	118 m / 388 ft	163 m / 535 ft	70
Vestas V163 4.5-MW	116 m / 381 ft	163 m / 535 ft	91

The useful life of commercial size turbines is generally considered to be 30 years. At that time, the Project will either be decommissioned or repowered with newer technology. The Plan reflects the full decommissioning of the Project, including removal of all infrastructure and equipment and reclamation of the site to match previous land use, unless otherwise specified.

2.0 Proposed Future Land Use

Prior to the development of the Project, the land use of the Project Area was primarily agricultural production. After the developed areas of the Project are decommissioned, they will be returned to their predevelopment condition via grading and seeding. Please refer to Section 3.2 for a detailed description of reclamation activities.

3.0 Engineering Techniques

Decommissioning of the Project will include multiple phases and activities such as:

- Application of necessary sediment and erosion controls during and following decommissioning activities.
- Public road modifications (if required) and access road improvements to accommodate heavy equipment traffic during decommissioning.
- Removal of aboveground components (turbines, transformers, O&M facility, and substation) for either resale or scrap.

- Removal of turbine foundations to a depth of four (4) feet below grade.
- Removal of other underground components (junction boxes, transformer and substation foundations) to a depth of four (4) feet below grade.
- Removal of access roads (unless the landowners request the roads to remain) and decompaction.
- Reclamation, re-grading, and restoration of disturbed areas including topsoil reapplication and decompaction of soils.
- Repair and/or restoration of public roads and culverts to pre-decommissioning conditions, as required.

During decommissioning, the landowners will be consulted to identify the extent and type of work to be completed. Some Project infrastructure, such as the access roads, may be left in place at the landowners' requests. Underground utility lines, if deeper than four (4) feet below ground surface elevation, may be left in place to minimize land disturbance and associated impacts to future land use.

Decommissioning will include the removal and transportation of all turbine components from the Project site. Decommissioning will also include the removal of electrical components, foundations, and any other associated facilities in the manner described in the Plan, unless otherwise agreed upon by Applicant and the applicable landowners. All dismantling, removal, recycling, and disposal of materials generated during decommissioning will comply with rules, regulations, and prevailing federal, state, and local laws at the time decommissioning is initiated and will use approved local or regional disposal or recycling sites as available. Recyclable materials will be recycled to the furthest extent practicable. Non-recyclable materials will be disposed of in accordance with federal, State, and local law.

3.1 Decommissioning of Project Components

3.1.1 Public Road Improvement and Access Road Modifications and Removal

As the cost estimate is based on scrapping and recycling turbine components where possible, sections of public roads that have insufficient strength to accommodate the construction traffic necessary for decommissioning will need to be improved prior to the start of hauling operations. Intersection turning radius modifications are not anticipated since turbine components will be cut to fit on standard semitrailer trucks. The roads subjected to decommissioning traffic will be restored to a condition equal to or better than the condition of the road prior to decommissioning activities. Aggregate removed from the Project access roads is a potential source for the public road restoration material, however, the Decommissioning Cost Estimate assumes a disposal cost for all on-site aggregate. A pre-decommissioning road survey, similar to a pre-construction survey, may be prepared so that road conditions pre- and post-decommissioning can be accurately assessed.

3.1.2 Crane Path and Crane Pad Preparation and Removal

A 40-foot by 80-foot crane pad will be prepared at each turbine location to be used during dismantling of the turbines. Temporary alteration of turbine pads may be necessary to facilitate crane movements during decommissioning of above-ground turbine components. If such alteration is necessary, topsoil from the additional disturbed areas will be stripped and isolated for re-application after turbines have been dismantled and crane pads removed. After removal of all turbine components, the crane pad area will be removed by excavating any granular materials placed during the initial construction of the crane pad. Disturbed areas will be restored to pre-construction conditions to the extent practicable by re-

grading the area, reapplying topsoil, and de-compacting the subsoil and topsoil. See Section 3.2 for additional information on reclamation and restoration.

3.1.3 Wind Turbine Removal

Each wind turbine consists of steel tower segments, a nacelle, a rotor and hub assembly, and three blades. These modular components can be disassembled and then processed into pieces small enough (less than 40 feet by eight feet by eight feet and less than 20 tons) to be loaded onto standard semitrailer trucks and transported off-site. The components of the wind turbines that are not designated for resale will be cut into pieces sized to meet recycling requirements so the scrap value may be maximized. The components will then be loaded onto tractor-trailers and transported off-site. This cost estimate assumes that the blades will be hauled to a licensed recycling facility for processing into reusable material.

3.1.4 Turbine Foundation Removal and Restoration

The turbine foundations are constructed from concrete and rebar. Little topsoil stripping will be required since the portion of the foundation less than four (4) feet deep is within the gravel ring around each turbine. The foundation will first be exposed using backhoes or other earth moving equipment. The pedestal (upper part of the turbine foundation) will then be removed to a depth of at least four (4) feet below grade using hydraulic vibratory hammers to break up the concrete. The rebar can be cut with torches or cutoff saws. The concrete will be broken into pieces sized for transport. The foundation debris will be hauled off-site to be recycled or disposed of, depending on market prices for aggregate at the time of decommissioning¹. The rebar will be recycled.

Following removal of the turbine foundation, the resulting void will be backfilled with native subsoils and compacted to at least 90% of the fill material's standard Proctor density. Topsoil will be reapplied to the site and graded to match surrounding grade to preserve existing drainage patterns. The topsoil and subsoil will be decompacted and revegetated to match pre-construction conditions.

3.1.5 Meteorological (MET) and Aircraft Detection Lighting System (ADLS) Towers

Following disconnection of electrical components, towers will be gradually lowered to the ground for disassembly. The steel structures will be cut into pieces sized to meet recycling requirements so the scrap value may be maximized. The components will then be loaded on tractor-trailers and transported to a metal recycling facility.

The concrete pads, along with any anchoring components, will be excavated to a depth of four (4) feet. Concrete will be broken into transportable pieces and hauled off-site². Following removal of the foundations, the resulting void will be backfilled with native subsoils and compacted to at least 90% of the fill material's standard Proctor density. The topsoil and subsoil will be decompacted and topsoil will be reapplied to match the surrounding grade.

¹ For the purposes of this Plan, Westwood conservatively assumes turbine foundations cannot be recycled and therefore have a cost for disposal.

² For the purposes of this Plan, Westwood conservatively assumes the ADLS and LiDAR concrete pad(s) cannot be recycled and therefore have a cost for disposal.

3.1.6 Access Roads

Removal of access roads will entail removal of the road base aggregate and any other materials used for constructing the roads. During removal, the topsoil adjacent to both sides of the roads will be stripped and stockpiled in a windrow paralleling the road. The road base materials will then be removed by bulldozers, wheeled loaders, or backhoes and hauled off-site in dump trucks to be recycled or disposed of at an off-site facility. On-site processing may allow much of the aggregate to be re-used to improve public roads. The aggregate base can often be used by local landowners for driveway or clean fill. Another option is to use the aggregate base as “daily cover” at a landfill, where it is usually accepted without cost³. If geotextile fabric was utilized under the aggregate base, it will be removed and disposed of in a landfill off-site. The access road removal will proceed from the turbine area to the public roads to limit tracking and provide stable access during removal. Following removal, topsoil will be reapplied and graded to blend with surrounding contours to promote pre-construction drainage patterns. Topsoil to cover the access roads, turbine rings, and met tower rings will be acquired from the areas where it was reapplied following the original construction. Since topsoil stayed with each landowner during the construction of the wind farm, there will be adequate topsoil to restore each area to its pre-construction condition. The soil and topsoil will then be decompacted and restored to pre-construction tillable conditions or revegetated.

3.1.7 Underground Electrical Collection Lines

All underground collection cables and conduits will be removed to a depth of four (4) feet. All cables will be installed deeper than four (4) feet below ground and will therefore be abandoned in place, with the exception of those cables running to surface equipment. Topsoil will be segregated and stockpiled for later use prior to any excavation and the subsurface soils will be staged next to the excavation. The subgrade will be compacted, and topsoil will be redistributed across the disturbed area. Overhead lines, support poles, and attachments will be removed from the Project and taken to a recycling facility. The topsoil and subsoil will be decompacted and tilled to farmable conditions.

3.1.8 Substation

Decommissioning of the Project’s substation will be performed with the rest of the Project. All steel, conductors, switches, transformers, and other components of the substation will be disassembled and taken off-site to be recycled or reused. Foundations and underground components will be removed to a depth of four (4) feet. The rock base will be removed using bulldozers and backhoes or front loaders. The material will be hauled from the site using dump trucks to be recycled or disposed of at an off-site facility. Additionally, any permanent stormwater treatment facilities (*e.g.*, infiltration ponds and engineered drainage swales) will be removed. Topsoil will be reapplied to match surrounding grade to preserve existing drainage patterns. Topsoil and subsoil will be decompacted and the site will be revegetated to match pre-construction conditions.

3.1.9 Operations and Maintenance Facility

The O&M Facility is a sturdy, general purpose steel building. If the facility is not repurposed, decommissioning will include disconnection of the utilities and demolition of the building structure,

³ For the purposes of this Plan, Westwood conservatively assumes access road aggregate cannot be recycled and therefore has a cost for disposal.

foundation, rock base parking lot, and associated vegetated/stormwater handling facilities. All associated materials will be removed from the site using wheeled loaders or backhoes and bulldozers and hauled off-site in dump trucks. All recyclable materials will be brought to appropriate facilities and sold; the remaining materials will be disposed of at an approved landfill facility. Subgrade soils will be decompacted and graded to blend with the adjacent topography. Topsoil will be reapplied to match existing surrounding grade to preserve existing drainage patterns, and the site will be tilled to a farmable condition to match pre-construction conditions to the extent practicable.

3.2 Reclamation

In addition to the reclamation activities described above for each decommissioning activity, all unexcavated areas compacted by equipment and activity during the decommissioning will be decompacted to a depth as needed to ensure proper density of topsoil consistent and compatible with the surrounding area and associated land use. All materials and debris associated with Project decommissioning will be removed and properly recycled or disposed of at off-site facilities.

As necessary, the topsoil will be stripped and isolated prior to removal of structures and facilities for reapplication to promote future land use activities. Preservation of topsoil will be key for re-establishing vegetation at the site. The topsoil will be reapplied following backfill, as necessary, and graded to blend with adjacent contours to maintain pre-construction drainage patterns. The soil and topsoil will then be decompacted and restored to pre-construction tillable conditions or revegetated.

4.0 Best Management Practices (BMPs)

4.1 Construction Stormwater Practices

During decommissioning, erosion and sediment control BMPs will be implemented to minimize potential for erosion of site soils and sedimentation of surface waters and waters of the State. Because decommissioning will entail disturbance of more than one acre of soil, the Applicant will prepare a Stormwater Pollution Prevention Plan (SWPPP) and obtain coverage with the Iowa Department of Natural Resources (DNR) under the National Pollutant Discharge Elimination System (NPDES) Permit prior to initiating soil disturbing activities. Potential BMPs to be implemented during decommissioning activities are described below and will be subject to refinement in the SWPPP. The decommissioning team will review the permitting requirements at the time of decommissioning and obtain any other necessary permits.

4.1.1 Erosion Control

Erosion control measures will be refined based on the standard of practice current at the time the SWPPP is developed for decommissioning. All disturbed areas without permanent impermeable or gravel surfaces, or planned for use as crop land, will be vegetated for final stabilization. All slopes steeper than 4:1 should be protected with erosion control blankets. Restoration should include seed application prior to application of the blanket. All slopes 4:1 or flatter should be restored with seed and mulch, which will be disc anchored.

4.1.2 Sediment Control

Sediment controls, such as silt fences, fiber logs, dewatering practices, construction entrances, and sedimentation traps and/or basins will be implemented during construction to prevent the transport of sediment off-site during decommissioning activities. Street sweeping/scraping will also be implemented to mitigate potential tracking of sediment onto public roadways.

4.1.3 Controlling Stormwater Flowing onto and Through the Project

Given the low gradient of the slopes in the Project Area, controlling stormwater flow that enters the Project Area will likely require minimal effort during decommissioning activities. Only newly disturbed areas may require new, temporary stormwater control. If necessary, water may be diverted around the Project site using diversion berms.

4.2 Permitting

All decommissioning and reclamation activities will comply with Federal, State, and local permit requirements. Decommissioning activities that will disturb more than one acre of soil will require coverage under the NPDES Permits for construction stormwater. The permits will be applied for and received prior to decommissioning construction activities commencing. A SWPPP will be developed prior to filing for construction stormwater permit coverage.

If necessary for decommissioning activities, wetlands and waters permits will be obtained from USACE or Iowa DNR. A Spill Prevention, Control, and Countermeasures (SPCC) Plan for decommissioning will likely also be required for decommissioning work.

4.3 Health and Safety Standards

Work will be conducted in strict accordance with the Applicant's health and safety plan. The construction contractor hired to perform the decommissioning will also be required to prepare a site-specific health and safety plan. All site workers, including subcontractors, will be required to read, understand, and abide by the plans. A site safety officer will be designated by the construction contractor to ensure compliance. This official will have stop-work authority over all activities on the site should unsafe conditions or lapses in the safety plan be observed.

5.0 Timeline

Decommissioning of the Project will be initiated in the event that the use of any wind turbines has been discontinued for a period of 180 consecutive days, unless a plan is developed and submitted to the Taylor County Engineer or his designee outlining the steps and schedule for returning the Project to service; or when the Project has surpassed the useful lifespan of the turbines and facilities. It is anticipated that the decommissioning activities for the Project can be completed in a 52-week period. The estimated costs for decommissioning are tied to assumptions about the amount of equipment mobilized, the crew sizes, weather and climate conditions, and the productivity of the equipment and crews.

6.0 Decommissioning Costs

The decommissioning costs are calculated using current pricing. In keeping with the requirements of the Taylor County Wind Turbine Ordinance, the estimate of net costs shall be updated every five (5) years to recognize price trends for both decommissioning costs and the salvage and resale values of the components.

There are currently active markets for scrap steel, aluminum, and copper, and used transformers and electrical equipment. Scrap metal prices have been discounted from posted spot prices found on www.scrapmonster.com.

The total estimated cost of decommissioning the Black Maple Wind Project for each turbine model under consideration can be found in the table below as well as Appendix B, C, and D. A summary of assumptions used to generate the cost estimates can be found in Appendix A.

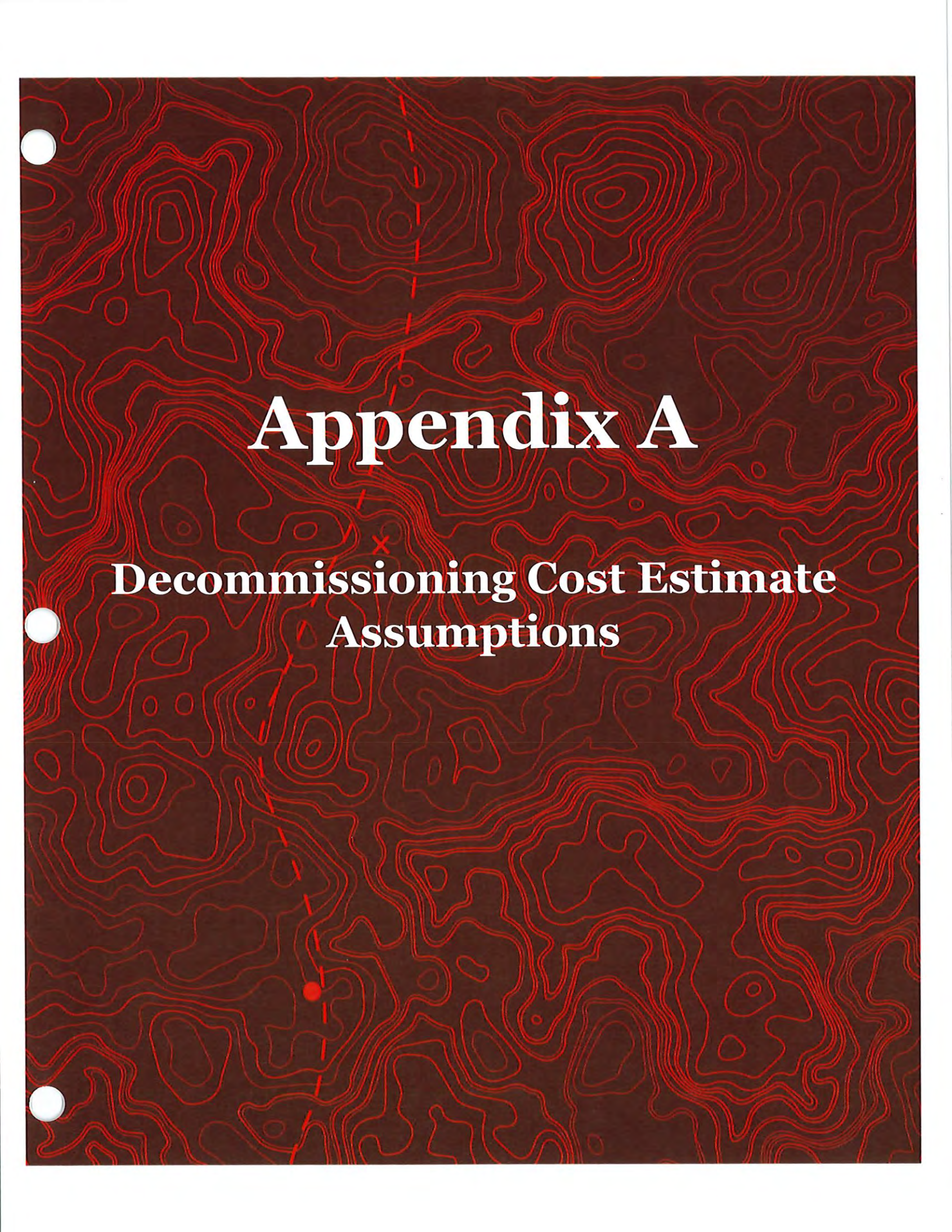
Turbine Model	Decommissioning Cost	Salvage Value	Net Decommissioning Cost
GE 154 4.0-MW	\$41,040,762	\$8,094,384	\$32,946,378
Nordex N163 5.9-MW	\$38,182,606	\$11,328,723	\$26,853,883
Vestas V163 4.5-MW	\$43,236,816	\$12,469,666	\$30,767,150

7.0 Financial Assurance

As part of the Decommissioning Agreement form, Black Maple Wind shall provide financial assurance ("Financial Assurance") that protects the County from having to pay for the costs of decommissioning the Project less salvage value. In accordance with this requirement, the Applicant shall provide the County with Financial Assurance in the amount of the total estimated costs of decommissioning the Project. The form of Financial Assurance to be provided is attached as Appendix E to this Plan.

In accordance with the Taylor County Wind Turbine Ordinance and Decommissioning Agreement Form (Appendix F), the form of financial assurance that is attached is a decommissioning surety bond. A surety bond is a legal agreement where the surety guarantees that the Applicant performs its decommissioning obligations for the benefit of Taylor County. In exchange for this guarantee, the Applicant pays the surety an annual premium. Thus, a surety bond is similar to an insurance policy for Taylor County: it insures that decommissioning will occur even if something happens to Black Maple Wind or the Applicant. Yet, a surety bond provides even more protection for a county than insurance because under the bond, the surety must ensure that decommissioning actually occurs, rather than simply pay out an insurance claim.

Pursuant to the Decommissioning Agreement form, the Decommissioning Plan and associated cost estimate and financial assurance will be updated every five (5) years from the Commercial Operation Date upon written request of the County.



Appendix A

Decommissioning Cost Estimate Assumptions

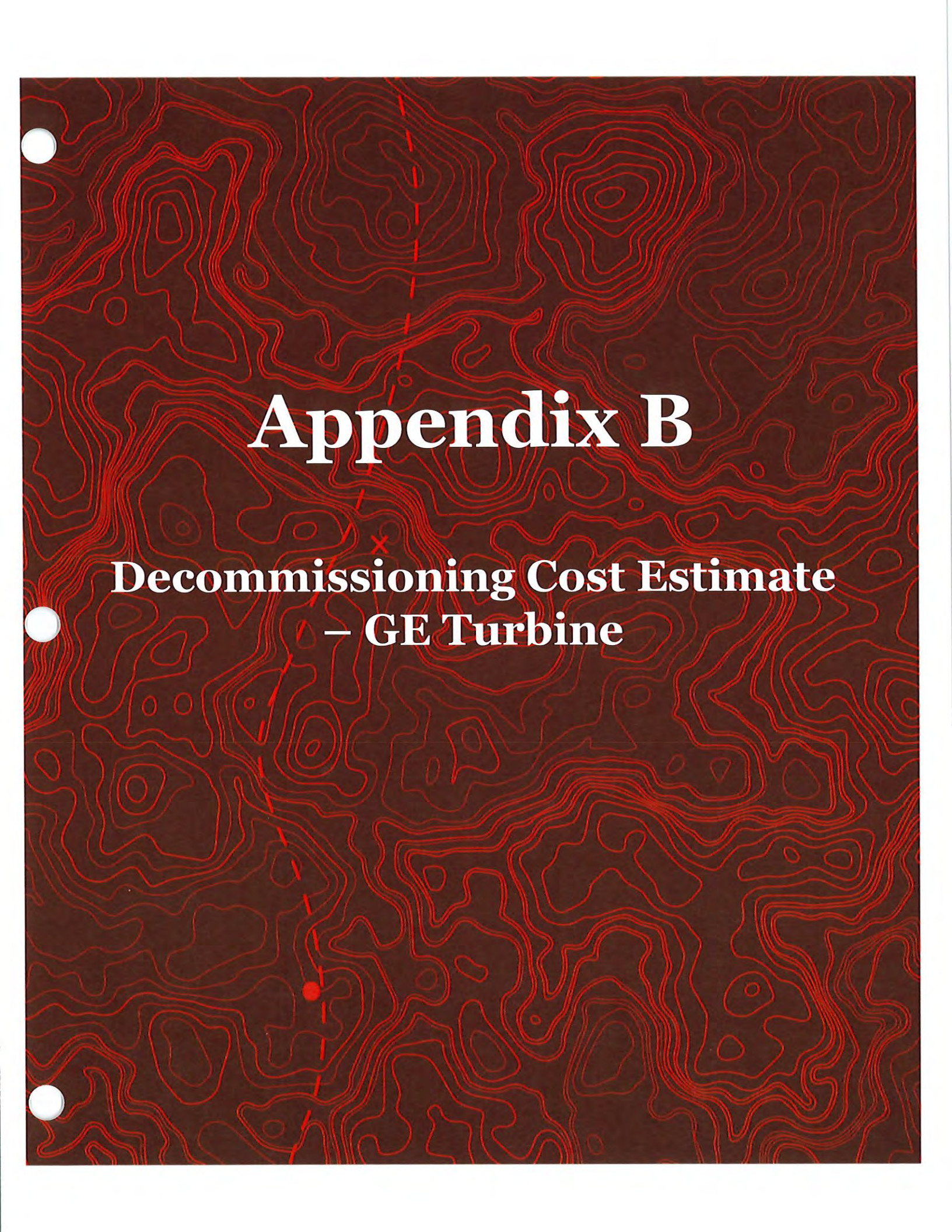
Cost Estimate Assumptions

To develop a cost estimate for the decommissioning of the Black Maple Wind Project, Westwood engineers made the following assumptions and used the following pricing references. Costs were estimated based on current pricing, technology, and regulatory requirements. The assumptions are listed in order from top to bottom of the estimate spreadsheet. When publicly available bid prices or State Department of Transportation bid summaries were not available for particular work items, we developed time- and material-based estimates considering composition of work crews and equipment and material required. While materials may have a salvage value at the end of the Project life, the construction activity costs and the hauling/freight costs are separated from the disposal costs or salvage value to make revisions to salvage values more transparent.

1. Project quantities are based on Conditional Use Permit (CUP) design files, dated June 17, 2026.
2. Unit pricing obtained from RS Means for the Creston, Iowa area for the second quarter of 2026.
3. Common labor will be used for the majority of tasks, supplemented by electricians, steel workers, and equipment operators where labor rules may require. The labor rates reflect union labor rates.
4. Mobilization was estimated at approximately 7% of total cost of other items.
5. Permit applications will require the preparation of a SWPPP and an SPCC Plan.
6. The selected disposal facility (Page County Landfill) is located in Clarinda, Iowa, approximately 34.3 miles from the Project site. Hauling costs to the landfill are estimated to be \$15.97 per ton.
7. The selected metal recycling facility (Frederikson Iron Recycling, Inc.) is located in Atlantic, Iowa, approximately 55.0 miles from the Project site. Hauling costs to the recycling facility are approximately \$0.41 per ton mile, or \$22.72 per ton.
8. Wind turbines are assumed to be removed using a dismantling method.
9. Fiberglass blades will be hauled for recycling at REGENFibers's recycling plant located in Fairfax, Iowa.
10. Subsurface turbine components will be removed to a depth of four (4) feet below ground surface. This will include removal of the turbine pedestal.
11. Medium voltage AC collection lines comprise 3-phase aluminum cables plus an aluminum grounding conductor and fiber optic cable. The underground collector system cables are placed in trenches with a minimum of 48 inches of cover. Several cables/circuits are placed side by side in each trench. The conduits and cables can be removed by trenching.
12. Road gravel removal was estimated on a time and material basis. Since the material will not remain on-site, a hauling cost is added to the removal cost. Clean aggregate can typically be used as "daily cover" at landfills without incurring a disposal cost, however, Westwood conservatively assumes all aggregate cannot be recycled and therefore has a cost for disposal. The road gravel may also be used to fortify local driveways and roads, lowering hauling and disposal costs but incurring placing and compaction costs. The hauling costs to a landfill represents an upper limit to costs for disposal of the road gravel.
13. Erosion and sediment control along road reflects the cost of silt fences on the downgradient side of the proposed roads. As such, the length of controls has been estimated to be approximately 50% of the road length.
14. Topsoil is required to be stockpiled on-site during construction, so no topsoil replacement is expected to replace the road aggregate. Subsoiling cost to decompact roadway areas is estimated as \$274.31. per acre and tilling to an agriculture-ready condition is estimated as \$198.32 per acre.
15. Metal salvage prices (steel, aluminum, copper) are based on June 2026 quotes from www.scrapmonster.com for the Midwest. Posted prices are three months old. These prices are

based on delivery to the recycling facility with the material prepared to meet size, thickness, cleanliness, and other specifications.

16. A reduction of 25% has been taken from all pricing obtained from www.scrapmonster.com to reflect the processing by the contractor to meet the specifications.
17. The salvage value for steel uses pricing from the Midwest United States at \$365.00 per metric ton, or \$331.12 for U.S. ton. Turbine generators are priced to reflect current values for scrap electric motors, \$0.44/pound.
18. The collection lines are priced assuming copper conductor wire for the direct current circuits and aluminum wire for the alternating current circuits. The prices reflect a reduced yield of copper or aluminum resulting from the stripping of insulation and other materials from the wire prior to recycling. The estimate uses the Midwest prices of #2 insulated copper wire with a 50% recovery rate (\$2.55 /pound) and E.C. Aluminum Wire (\$1.48 /pound).
19. Care to prevent damage and breakage of equipment must be exercised, but removal assumes unskilled common labor under supervision.



Appendix B

Decommissioning Cost Estimate – GE Turbine

Black Maple Wind Project - GE 154 4.0-MW Turbines

	Quantity	Unit	Unit Cost	Total Cost
Mobilization/Demobilization	1	Lump Sum	\$2,266,000.00	\$2,266,000
<i>Mobilization was estimated to be approximately 7% of total cost of other items.</i>				
Permitting				
County Permits	1	Lump Sum	\$10,000.00	\$10,000
State Permits	1	Lump Sum	\$20,000.00	\$20,000
Subtotal Permitting				\$30,000
<i>Decommissioning will require SWPPP and SPCC Plans. Cost is an estimate of the permit preparation cost.</i>				
Wind Turbine Generators				
Disconnect Turbine Wiring	103	Each	\$3,264.80	\$336,274
Dismantle Turbines	103	Each	\$19,040.09	\$1,961,129
Process to Size and Load Turbine Components	42,905	Tons	\$148.64	\$6,377,399
Haul Turbine Components Offsite for Recycling (except blades)	29,723	Tons	\$22.72	\$675,307
Haul Turbine Components For Disposal (except blades)	7,221	Tons	\$15.97	\$115,319
Turbine Component Disposal (except blades)	7,221	Tons	\$75.00	\$541,575
Haul Turbine Blades for Recycling (Fairfax, IA)	5,961	Tons	\$125.67	\$749,119
Recycle Fiberglass Blades	5,961	Tons	\$550.00	\$3,278,550
Excavate Around Turbine Foundation	103	Each	\$38.64	\$3,980
Remove Turbine Foundation and Load	4,326	Cubic Yards	\$231.61	\$1,001,945
Backfill Excavation Area from Turbine Foundation Removal	103	Each	\$229.71	\$23,660
Haul Concrete Turbine Foundation to Landfill (Clarinda, IA)	8,782	Tons	\$15.97	\$140,249
Disposal of Concrete from Turbine Foundation	8,782	Tons	\$75.00	\$658,650
Remove and Load Transformer	103	Each	\$620.99	\$63,962
Haul Transformer to Recycler (Des Moines, IA)	103	Each	\$181.09	\$18,653
Remove Transformer Pad	196	Cubic Yards	\$154.10	\$30,157
Haul Concrete Transformer Pad to Landfill (Clarinda, IA)	397	Tons	\$15.97	\$6,340
Dispose Concrete from Transformer Pad	397	Tons	\$75.00	\$29,775
Grade Wind Turbine Generator Site	103	Each	\$7,935.15	\$817,320
Decompact Wind Turbine Generator Sites	297	Acres	\$274.31	\$81,498
Erosion and Sediment Control at Turbine Sites	64,717	Linear Feet	\$4.30	\$278,282
Till to Farmable Condition	297	Acres	\$198.32	\$58,921
Subtotal Wind Turbine Generators				\$17,248,064
Access Roads				
Remove and Load Gravel Surfacing from Access Roads	75,713	Cubic Yards	\$3.35	\$253,639
Haul Gravel Removed from Access Roads to Landfill (Clarinda, IA)	113,570	Tons	\$15.97	\$1,813,713
Disposal of Gravel Removed from Access Roads	113,570	Tons	\$75.00	\$8,517,750
Remove and Load Geotextile	340,708	Square Yards	\$0.94	\$321,898
Haul Geotextile Fabric	75	Tons	\$15.97	\$1,198
Dispose of Geotextile Fabric	75	Tons	\$75.00	\$5,625
Remove and Load Culvert from Beneath Access Roads	10	Each	\$670.34	\$6,703
Haul Culvert Removed from Access Roads (Clarinda, IA)	3	Tons	\$15.97	\$48
Disposal of Culverts	3	Tons	\$75.00	\$225
Remove Low Water Crossing from Access Roads	1	Each	\$3,978.81	\$3,979
Haul Low Water Crossing Materials Removed from Access Roads to Landfill (Clarinda, IA)	40	Tons	\$15.97	\$639
Disposal of Low Water Crossing Materials	40	Tons	\$75.00	\$3,000
Decompact Access Road Corridor	191,648	Linear Feet	\$0.10	\$19,165
Grade Access Road Corridor	191,648	Linear Feet	\$1.27	\$243,321
Erosion and Sediment Control Along Access Roads	143,736	Linear Feet	\$4.30	\$618,065
Till to Farmable Condition	70	Acres	\$198.32	\$13,962
Subtotal Access Roads				\$11,822,929
Crane Paths				
Decompaction of Crane Path	153.9	Acres	\$274.31	\$42,216
Erosion and Sediment Control Along Crane Path	45,309	Linear Feet	\$4.30	\$194,829
Till to Farmable Condition	153.9	Acres	\$198.32	\$30,521
Subtotal Crane Paths				\$267,566
MET and ADLS Towers				
Disconnect Tower Wiring	3	Each	\$1,632.40	\$4,897
Dismantle, Disassemble, and Load Tower Components	3	Each	\$5,441.25	\$16,324
Haul Tower Components to Metal Recycler (Atlantic, IA)	12.1	Tons	\$22.72	\$275
Excavate Around Tower Foundation	3	Each	\$4.03	\$12
Remove Tower Foundation and Load	12.0	Cubic Yards	\$231.61	\$2,779
Haul Concrete Turbine Foundation to Landfill (Clarinda, IA)	24.3	Tons	\$15.97	\$388
Disposal of Concrete from Towers	24.3	Tons	\$75.00	\$1,823
Grade Tower Sites	3	Each	\$3,596.46	\$10,789
Erosion and Sediment Control at Tower Sites	100	LF	\$4.30	\$430
Till to Farmable Condition	0.2	Acres	\$198.32	\$40
Subtotal MET and ADLS Towers				\$37,757

Electrical Collection System

Removal of Underground Collector System Cables (Stub-Ups)	116	Locations	\$620.99	\$72,035
Haul Underground Collector System Cables to Metal Recycler (Atlantic, IA)	11	Tons	\$22.72	\$250
Removal of Junction Box	13	Each	\$310.49	\$4,036
Subtotal Electrical Collection System				\$76,321

Substation

Disassemble and Remove Main Power Transformers	2	Each	\$5,000.00	\$10,000
Haul Transformers Offsite (Des Moines, IA)	2	Each	\$724.38	\$1,449
Haul Transformer Oil Offsite (Des Moines, IA)	25,660	Gallons	\$0.13	\$3,380
Excavate Around Transformer Foundations	2	Each	\$2,026.19	\$4,052
Remove Complete Transformer Foundations	140	Cubic Yards	\$201.40	\$28,196
Backfill Excavation Area from Transformer Foundation Removal	280	Cubic Yards	\$1.96	\$549
Haul Concrete (Foundations Transformer, Switch Gear, etc.) to Landfill (Clarinda, IA)	284	Tons	\$15.97	\$4,539
Dispose of Concrete from Transformer Foundation	284	Tons	\$75.00	\$21,315
Demolish Substation Site Improvements (fences, etc.)	3,330	LF	\$8.25	\$27,472
Demolish Control Building and Foundation	1	LS	\$12,000.00	\$12,000
Remove Medium/High Voltage Equipment	1	LS	\$4,500.00	\$4,500
Remove Structural Steel Substation Frame	1	LS	\$4,500.00	\$4,500
Remove and Load Copper Ground Grid	264,449	Feet	\$0.87	\$230,071
Haul Copper Wire to Metal Recycling (Atlantic, IA)	85.9	Tons	\$22.72	\$1,952
Haul Demolition Materials, Removed Equipment & Structural Steel to Landfill (Clarinda, IA)	20	Tons	\$15.97	\$319
Dispose of Demolition Materials & Removed Equipment	20	Tons	\$75.00	\$1,500
Remove and Load Gravel Surfacing from Substation Site	9,793	Cubic Yards (BV)	\$3.35	\$32,807
Haul Gravel Surfacing from Substation Site to Landfill (Clarinda, IA)	12,241	Cubic Yards (LV)	\$15.97	\$195,489
Dispose of Gravel Surfacing from Substation Site	15,864	Tons	\$75.00	\$1,189,800
Grade Substation Site	661,023	SF	\$0.08	\$52,453
Sediment Control at Substation Site	2,497	LF	\$4.30	\$10,737
Decompact Substation Site	15.2	Acres	\$274.31	\$4,170
Till to Farmable Condition	15.2	Acres	\$198.32	\$3,014
Subtotal Substation				\$1,844,262

O&M Facility

Demolish O&M Facility	15,000	Cubic Feet	\$0.55	\$8,250
Haul O&M Facility Demo Materials/Site Improvements to Recycler (75%)	73	Tons	\$22.72	\$1,651
Haul O&M Facility Demo Materials/Site Improvements to Landfill (25%)	24	Tons	\$15.97	\$387
Dispose of Demo Materials/Site Improvements at Landfill (25%)	24	Tons	\$75.00	\$1,816
Demolish O&M Facility Foundation	69	Cubic Yards	\$201.40	\$13,844
Demolish O&M Facility Site Improvements (fences, etc.)	1,898	Linear Feet	\$8.25	\$15,654
Haul Concrete (O&M Facility Foundation) to Landfill Clarinda, IA)	140	Tons	\$15.97	\$2,236
Dispose of Concrete from O&M Facility Foundation	140	Tons	\$75.00	\$10,500
Cap and Abandon Well	1	Lump Sum	\$1,000.00	\$1,000
Remove & Restore Septic and Drainfield area	1	Lump Sum	\$3,000.00	\$3,000
Remove and Load Gravel Surfacing of O&M Facility Site	4,103	Cubic Yards (BV)	\$3.35	\$13,731
Haul Gravel Removed from O&M Facility Site to Landfill (Clarinda, IA)	5,129	Cubic Yards (LV)	\$15.97	\$81,908
Dispose of Gravel from O&M Site	7,693	Tons	\$75.00	\$576,999
Decompact O&M Facility Site	5.1	Acres	\$274.31	\$1,399
Grade O&M Facility Site	221,568	SF	\$0.08	\$17,582
Erosion and Sediment Control at O&M Facility Site	949	Linear Feet	\$4.30	\$4,080
Till to Farmable Condition	5.1	Acres	\$198.32	\$1,011
Subtotal O&M Facility				\$755,048

Project Management

Project Manager	52	Weeks	\$3,749.00	\$194,948
Superintendent (full-time)	52	Weeks	\$3,525.00	\$183,300
Field Engineer (full-time)	52	Weeks	\$3,269.00	\$169,988
Clerk (full-time)	52	Weeks	\$750.00	\$39,000
Subtotal Project Management				\$587,236

Standard industry weekly rates from RSMMeans.

Public Road Restoration	55.099	Miles	\$48,000.00	\$2,644,752
Contingency	10%			\$3,466,762
Crop Loss (153.9 Acres)	153.9	Acres	\$1,700.00	\$261,630
Subtotal Demolition/Removals				\$41,040,762

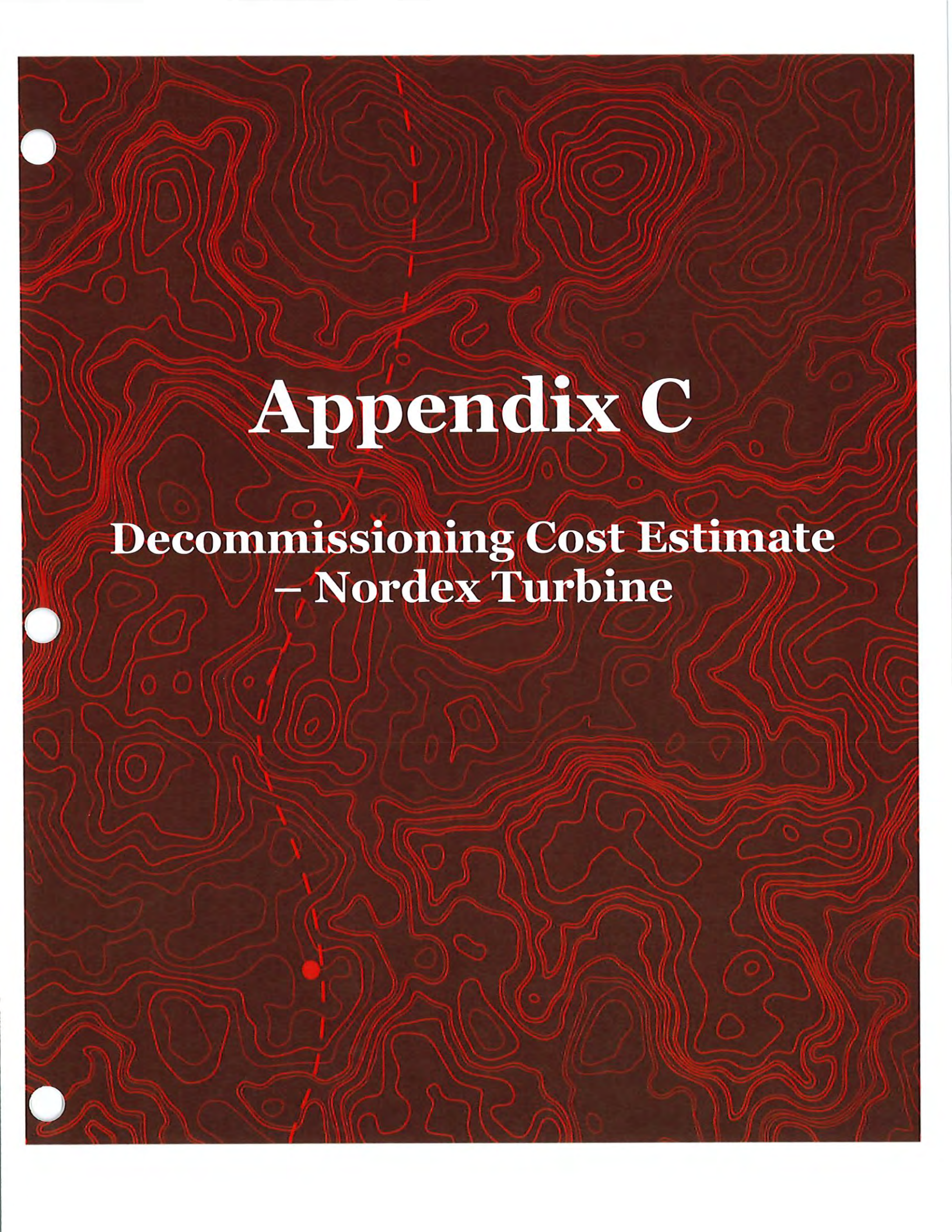
Salvage				
Turbine Towers (Structural Steel)	20,138	Tons	\$248.34	\$5,001,071
Turbine Nacelles (Structural Steel)	4,780	Tons	\$248.34	\$1,187,065
Turbine Generators	2,179,480	Pounds	\$0.33	\$719,228
Turbine Transformers	481,525	Pounds	\$0.42	\$202,241
MET and ADLS Towers	11	Tons	\$248.34	\$2,732
Substation Structural Steel	10	Tons	\$248.34	\$2,483
Substation Transformers (Core and Coils)	451,257	Pounds	\$0.42	\$189,528
Substation Transformers (Tanks and Fittings)	152	Tons	\$248.34	\$37,748
Transformers (Oil)	99,820	Gallons	\$0.70	\$69,874
Substation Ground Grid (Copper)	171,800	Pounds	\$3.83	\$657,994
AC Collection Lines (Aluminum)	22,000	Pounds	\$1.11	\$24,420
Subtotal Salvage				\$8,094,384

Salvage values are a combination of the following factors; current market metal salvage prices, discussions with national companies that specialize in recycling and reselling electrical transformers and inverters, and the assumption that care is taken to prevent any damage or breakage of equipment.

Total Demolition Minus Salvage	\$32,946,378
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Notes:

1. Prices used in analysis are estimated based on research of current average costs and salvage values.
2. Prices provided are estimates and may fluctuate over the life of the project.
3. Contractor means and methods may vary and price will be affected by these.



Appendix C

Decommissioning Cost Estimate – Nordex Turbine

Black Maple Wind Project - Nordex N163 5.9-MW Turbines

	Quantity	Unit	Unit Cost	Total Cost
Mobilization/Demobilization	1	Lump Sum	\$2,102,700.00	\$2,102,700
<i>Mobilization was estimated to be approximately 7% of total cost of other items.</i>				
Permitting				
County Permits	1	Lump Sum	\$10,000.00	\$10,000
State Permits	1	Lump Sum	\$20,000.00	\$20,000
Subtotal Permitting				\$30,000
<i>Decommissioning will require SWPPP and SPCC Plans. Cost is an estimate of the permit preparation cost.</i>				
Wind Turbine Generators				
Disconnect Turbine Wiring	70	Each	\$3,264.80	\$228,536
Dismantle Turbines	70	Each	\$19,040.09	\$1,332,806
Process to Size and Load Turbine Components	42,806	Tons	\$148.64	\$6,362,684
Haul Turbine Components Offsite for Recycling (except blades)	32,631	Tons	\$22.72	\$741,376
Haul Turbine Components For Disposal (except blades)	4,589	Tons	\$15.97	\$73,286
Turbine Component Disposal (except blades)	4,589	Tons	\$75.00	\$344,175
Haul Turbine Blades for Recycling (Fairfax, IA)	5,586	Tons	\$125.67	\$701,993
Recycle Fiberglass Blades	5,586	Tons	\$550.00	\$3,072,300
Excavate Around Turbine Foundation	70	Each	\$38.64	\$2,705
Remove Turbine Foundation and Load	2,940	Cubic Yards	\$231.61	\$680,933
Backfill Excavation Area from Turbine Foundation Removal	70	Each	\$229.71	\$16,080
Haul Concrete Turbine Foundation to Landfill (Clarinda, IA)	5,968	Tons	\$15.97	\$95,309
Disposal of Concrete from Turbine Foundation	5,968	Tons	\$75.00	\$447,600
Grade Wind Turbine Generator Site	70	Each	\$7,935.15	\$555,461
Decompact Wind Turbine Generator Sites	202	Acres	\$274.31	\$55,383
Erosion and Sediment Control at Turbine Sites	43,982	Linear Feet	\$4.30	\$189,124
Till to Farmable Condition	202	Acres	\$198.32	\$40,041
Subtotal Wind Turbine Generators				\$14,939,791
Access Roads				
Remove and Load Gravel Surfacing from Access Roads	75,713	Cubic Yards	\$3.35	\$253,639
Haul Gravel Removed from Access Roads to Landfill (Clarinda, IA)	113,570	Tons	\$15.97	\$1,813,713
Disposal of Gravel Removed from Access Roads	113,570	Tons	\$75.00	\$8,517,750
Remove and Load Geotextile	340,708	Square Yards	\$0.94	\$321,898
Haul Geotextile Fabric	75	Tons	\$15.97	\$1,198
Dispose of Geotextile Fabric	75	Tons	\$75.00	\$5,625
Remove and Load Culvert from Beneath Access Roads	10	Each	\$670.34	\$6,703
Haul Culvert Removed from Access Roads to Landfill (Clarinda, IA)	3	Tons	\$15.97	\$48
Disposal of Culverts	3	Tons	\$75.00	\$225
Remove Low Water Crossing from Access Roads	1	Each	\$3,978.81	\$3,979
Haul Low Water Crossing Materials Removed from Access Roads (Clarinda, IA)	40	Tons	\$15.97	\$639
Disposal of Low Water Crossing Materials	40	Tons	\$75.00	\$3,000
Decompact Access Road Corridor	191,648	Linear Feet	\$0.10	\$19,165
Grade Access Road Corridor	191,648	Linear Feet	\$1.27	\$243,321
Erosion and Sediment Control Along Access Roads	143,736	Linear Feet	\$4.30	\$618,065
Till to Farmable Condition	70	Acres	\$198.32	\$13,962
Subtotal Access Roads				\$11,822,929
Crane Paths				
Decompaction of Crane Path	87.6	Acres	\$274.31	\$24,030
Erosion and Sediment Control Along Crane Path	20,559	Linear Feet	\$4.30	\$88,404
Till to Farmable Condition	87.6	Acres	\$198.32	\$17,373
Subtotal Crane Paths				\$129,806
MET and ADLS Towers				
Disconnect Tower Wiring	3	Each	\$1,632.40	\$4,897
Dismantle, Disassemble, and Load Tower Components	3	Each	\$5,441.25	\$16,324
Haul Tower Components Off Site (Atlantic, IA)	12.1	Tons	\$22.72	\$275
Excavate Around Tower Foundation	3	Each	\$4.03	\$12
Remove Tower Foundation and Load	12.0	Cubic Yards	\$231.61	\$2,779
Haul Concrete Turbine Foundation to Landfill (Clarinda, IA)	24.3	Tons	\$15.97	\$388
Disposal of Concrete from Towers	24.3	Tons	\$75.00	\$1,823
Grade Tower Sites	3	Each	\$3,596.46	\$10,789
Erosion and Sediment Control at Tower Sites	100	LF	\$4.30	\$430
Till to Farmable Condition	0.2	Acres	\$198.32	\$40
Subtotal MET and ADLS Towers				\$37,757

Electrical Collection System

Removal of Underground Collector System Cables (Stub-Ups)	79	Locations	\$620.99	\$49,058
Haul Underground Collector System Cables (Atlantic, IA)	8	Tons	\$22.72	\$182
Removal of Junction Box	9	Each	\$310.49	\$2,794
Subtotal Electrical Collection System				\$52,034

Substation

Disassemble and Remove Main Power Transformers	2	Each	\$5,000.00	\$10,000
Haul Transformers Offsite (Des Moines, IA)	2	Each	\$724.38	\$1,449
Haul Transformer Oil Offsite (Des Moines, IA)	25,660	Gallons	\$0.13	\$3,380
Excavate Around Transformer Foundations	2	Each	\$2,026.19	\$4,052
Remove Complete Transformer Foundations	140	Cubic Yards	\$201.40	\$28,196
Backfill Excavation Area from Transformer Foundation Removal	280	Cubic Yards	\$1.96	\$549
Haul Concrete (Foundations Transformer, Switch Gear, etc.) to Landfill (Clarinda, IA)	284	Tons	\$15.97	\$4,539
Dispose of Concrete from Transformer Foundation	284	Tons	\$75.00	\$21,315
Demolish Substation Site Improvements (fences, etc.)	3,330	LF	\$8.25	\$27,472
Demolish Control Building and Foundation	1	LS	\$12,000.00	\$12,000
Remove Medium/High Voltage Equipment	1	LS	\$4,500.00	\$4,500
Remove Structural Steel Substation Frame	1	LS	\$4,500.00	\$4,500
Remove and Load Copper Ground Grid	264,449	Feet	\$0.87	\$230,071
Haul Copper Wire to Recycling (Atlantic, IA)	85.9	Tons	\$22.72	\$1,952
Haul Demolition Materials, Removed Equipment & Structural Steel to Landfill (Clarinda, IA)	20	Tons	\$15.97	\$319
Dispose of Demolition Materials & Removed Equipment	20	Tons	\$75.00	\$1,500
Remove and Load Gravel Surfacing from Substation Site	9,793	Cubic Yards (BV)	\$3.35	\$32,807
Haul Gravel Surfacing from Substation Site to Landfill (Clarinda, IA)	12,241	Cubic Yards (LV)	\$15.97	\$195,489
Dispose of Gravel Surfacing from Substation Site	15,864	Tons	\$75.00	\$1,189,800
Grade Substation Site	661,023	SF	\$0.08	\$52,453
Sediment Control at Substation Site	2,497	LF	\$4.30	\$10,737
Decompact Substation Site	15.2	Acres	\$274.31	\$4,170
Till to Farmable Condition	15.2	Acres	\$198.32	\$3,014
Subtotal Substation				\$1,844,262

O&M Facility

Demolish O&M Facility	15,000	Cubic Feet	\$0.55	\$8,250
Haul O&M Facility Demo Materials/Site Improvements to Recycler (75%)	73	Tons	\$22.72	\$1,651
Haul O&M Facility Demo Materials/Site Improvements to Landfill (25%)	24	Tons	\$15.97	\$387
Dispose of Demo Materials/Site Improvements at Landfill (25%)	24	Tons	\$75.00	\$1,816
Demolish O&M Facility Foundation	69	Cubic Yards	\$201.40	\$13,844
Demolish O&M Facility Site Improvements (fences, etc.)	1,898	Linear Feet	\$8.25	\$15,654
Haul Concrete (O&M Facility Foundation) to Landfill (Clarinda, IA)	140	Tons	\$15.97	\$2,236
Dispose of Concrete from O&M Facility Foundation	140	Tons	\$75.00	\$10,500
Cap and Abandon Well	1	Lump Sum	\$1,000.00	\$1,000
Remove & Restore Septic and Drainfield area	1	Lump Sum	\$3,000.00	\$3,000
Remove and Load Gravel Surfacing of O&M Facility Site	4,103	Cubic Yards (BV)	\$3.35	\$13,731
Haul Gravel Removed from O&M Facility Site to Landfill (Clarinda, IA)	5,129	Cubic Yards (LV)	\$15.97	\$81,908
Dispose of Gravel from O&M Facility Site	7,693	Tons	\$75.00	\$576,999
Decompact O&M Facility Site	5.1	Acres	\$274.31	\$1,399
Grade O&M Facility Site	221,568	SF	\$0.08	\$17,582
Erosion and Sediment Control at O&M Facility Site	949	Linear Feet	\$4.30	\$4,080
Till to Farmable Condition	5.1	Acres	\$198.32	\$1,011
Subtotal O&M Facility				\$755,048

Project Management

Project Manager	52	Weeks	\$3,749.00	\$194,948
Superintendent (full-time)	52	Weeks	\$3,525.00	\$183,300
Field Engineer (full-time)	52	Weeks	\$3,269.00	\$169,988
Clerk (full-time)	52	Weeks	\$750.00	\$39,000
Subtotal Project Management				\$587,236

Standard industry weekly rates from RSMeans.

Public Road Restoration	55.1	Miles	\$48,000.00	\$2,644,752
Contingency	10%			\$3,217,176
Crop Loss (87.6 Acres)	87.6	Acres	\$1,700.00	\$148,920
Subtotal Demolition/Removals				\$38,182,606

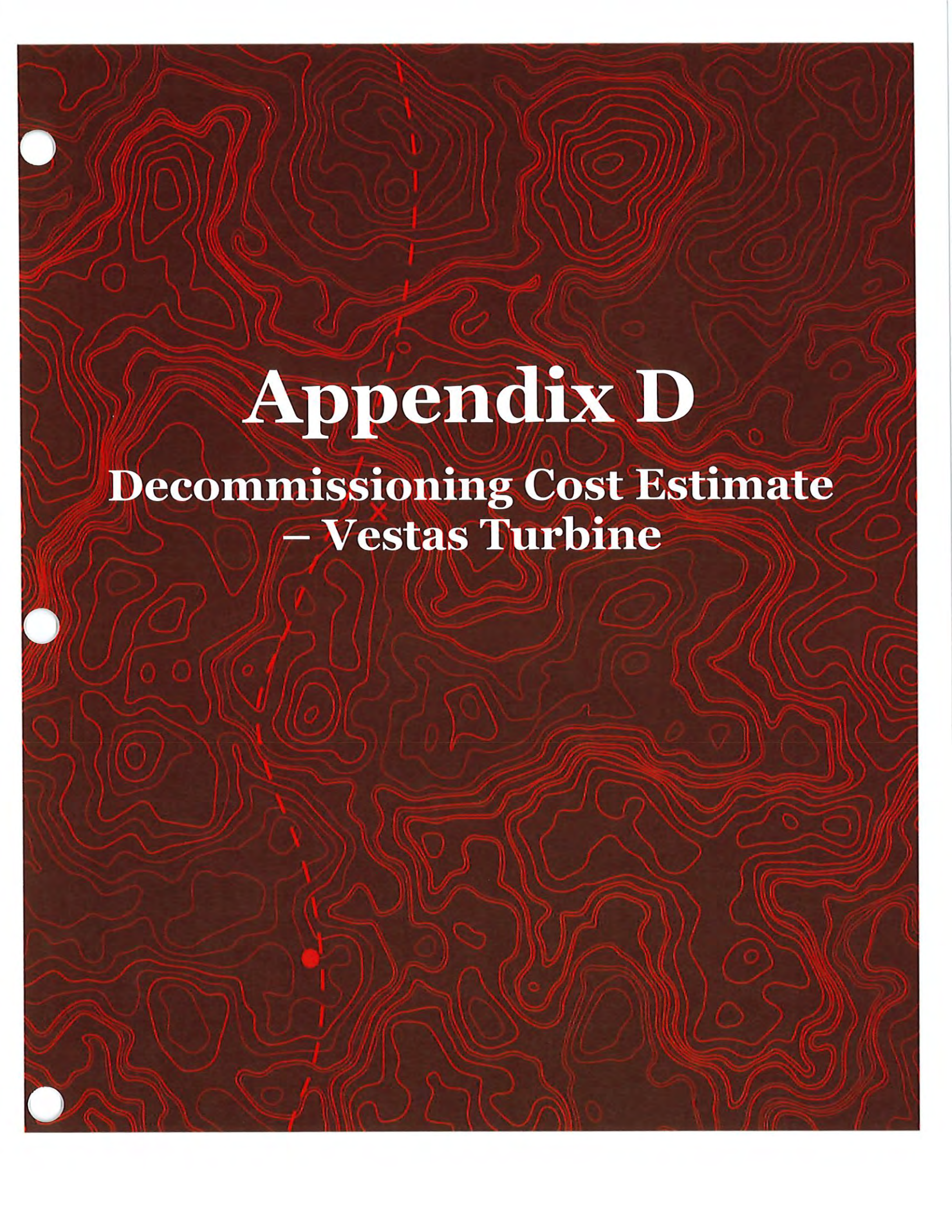
Salvage				
Turbine Towers (Structural Steel)	19,752	Tons	\$248.34	\$4,905,212
Turbine Nacelles (Structural Steel)	2,396	Tons	\$248.34	\$595,023
Turbine Generators	14,855,400	Pounds	\$0.33	\$4,902,282
MET and ADLS Towers	11	Tons	\$248.34	\$2,732
Substation Structural Steel	10	Tons	\$248.34	\$2,483
Substation Transformers (Core and Coils)	451,257	Pounds	\$0.42	\$189,528
Substation Transformers (Tanks and Fittings)	152	Tons	\$248.34	\$37,748
Transformers (Oil)	25,660	Gallons	\$0.70	\$17,962
Substation Ground Grid (Copper)	171,800	Pounds	\$3.83	\$657,994
AC Collection Lines (Aluminum)	16,000	Pounds	\$1.11	\$17,760
Subtotal Salvage				\$11,328,723

Salvage values are a combination of the following factors; current market metal salvage prices, discussions with national companies that specialize in recycling and reselling electrical transformers and inverters, and the assumption that care is taken to prevent any damage or breakage of equipment.

Total Demolition Minus Salvage	\$26,853,883
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Notes:

1. Prices used in analysis are estimated based on research of current average costs and salvage values.
2. Prices provided are estimates and may fluctuate over the life of the project.
3. Contractor means and methods may vary and price will be affected by these.



Appendix D

Decommissioning Cost Estimate – Vestas Turbine

Black Maple Wind Project - Vestas V163 4.5-MW Turbines

	Quantity	Unit	Unit Cost	Total Cost
Mobilization/Demobilization	1	Lump Sum	\$2,400,400.00	\$2,400,400
<i>Mobilization was estimated to be approximately 7% of total cost of other items.</i>				
Permitting				
County Permits	1	Lump Sum	\$10,000.00	\$10,000
State Permits	1	Lump Sum	\$20,000.00	\$20,000
Subtotal Permitting				\$30,000
<i>Decommissioning will require SWPPP and SPCC Plans. Cost is an estimate of the permit preparation cost.</i>				
Wind Turbine Generators				
Disconnect Turbine Wiring	91	Each	\$3,264.80	\$297,097
Dismantle Turbines	91	Each	\$19,040.09	\$1,732,648
Process to Size and Load Turbine Components	58,484	Tons	\$148.64	\$8,693,062
Haul Turbine Components Offsite for Recycling (except blades)	43,515	Tons	\$22.72	\$988,661
Haul Turbine Components For Disposal (except blades)	9,160	Tons	\$15.97	\$146,285
Turbine Component Disposal (except blades)	9,160	Tons	\$75.00	\$687,000
Haul Turbine Blades for Recycling (Fairfax, IA)	5,809	Tons	\$125.67	\$730,017
Recycle Fiberglass Blades	5,809	Tons	\$550.00	\$3,194,950
Excavate Around Turbine Foundation	91	Each	\$38.64	\$3,516
Remove Turbine Foundation and Load	3,822	Cubic Yards	\$231.61	\$885,213
Backfill Excavation Area from Turbine Foundation Removal	91	Each	\$229.71	\$20,904
Haul Concrete Turbine Foundation to Landfill (Clarinda, IA)	7,759	Tons	\$15.97	\$123,911
Disposal of Concrete from Turbine Foundation	7,759	Tons	\$75.00	\$581,925
Grade Wind Turbine Generator Site	91	Each	\$7,935.15	\$722,099
Decompact Wind Turbine Generator Sites	263	Acres	\$274.31	\$72,006
Erosion and Sediment Control at Turbine Sites	57,177	Linear Feet	\$4.30	\$245,861
Till to Farmable Condition	263	Acres	\$198.32	\$52,059
Subtotal Wind Turbine Generators				\$19,177,214
Access Roads				
Remove and Load Gravel Surfacing from Access Roads	75,713	Cubic Yards	\$3.35	\$253,639
Haul Gravel Removed from Access Roads to Landfill (Clarinda, IA)	113,570	Tons	\$15.97	\$1,813,713
Disposal of Gravel Removed from Access Roads	113,570	Tons	\$75.00	\$8,517,750
Remove and Load Geotextile	340,708	Square Yards	\$0.94	\$321,898
Haul Geotextile Fabric	75	Tons	\$15.97	\$1,198
Dispose of Geotextile Fabric	75	Tons	\$75.00	\$5,625
Remove and Load Culvert from Beneath Access Roads	10	Each	\$670.34	\$6,703
Haul Culvert Removed from Access Roads to Landfill (Clarinda, IA)	3	Tons	\$15.97	\$48
Disposal of Culverts	3	Tons	\$75.00	\$225
Remove Low Water Crossing from Access Roads	1	Each	\$3,978.81	\$3,979
Haul Low Water Crossing Materials Removed from Access Roads to Landfill (Clarinda, IA)	40	Tons	\$15.97	\$639
Disposal of Low Water Crossing Materials	40	Tons	\$75.00	\$3,000
Decompact Access Road Corridor	191,648	Linear Feet	\$0.10	\$19,165
Grade Access Road Corridor	191,648	Linear Feet	\$1.27	\$243,321
Erosion and Sediment Control Along Access Roads	143,736	Linear Feet	\$4.30	\$618,065
Till to Farmable Condition	70	Acres	\$198.32	\$13,962
Subtotal Access Roads				\$11,822,929
Crane Paths				
Decompaction of Crane Path	116.5	Acres	\$274.31	\$31,957
Erosion and Sediment Control Along Crane Path	36,309	Linear Feet	\$4.30	\$156,129
Till to Farmable Condition	116.5	Acres	\$198.32	\$23,104
Subtotal Crane Paths				\$211,190
MET and ADLS Towers				
Disconnect Tower Wiring	3	Each	\$1,632.40	\$4,897
Dismantle, Disassemble, and Load Tower Components	3	Each	\$5,441.25	\$16,324
Haul Tower Components to Metal Recycler (Atlantic, IA)	12.1	Tons	\$22.72	\$275
Excavate Around Tower Foundation	3	Each	\$4.03	\$12
Remove Tower Foundation and Load	12.0	Cubic Yards	\$231.61	\$2,779
Haul Concrete Turbine Foundation to Landfill (Clarinda, IA)	24.3	Tons	\$15.97	\$388
Disposal of Concrete from Towers	24.3	Tons	\$75.00	\$1,823
Grade Tower Sites	3	Each	\$3,596.46	\$10,789
Erosion and Sediment Control at Tower Sites	100	LF	\$4.30	\$430
Till to Farmable Condition	0.2	Acres	\$198.32	\$40
Subtotal MET and ADLS Towers				\$37,757

Electrical Collection System

Removal of Underground Collector System Cables (Stub-Ups)	102	Locations	\$620.99	\$63,341
Haul Underground Collector System Cables to Metal Recycler (Atlantic, IA)	10	Tons	\$22.72	\$227
Removal of Junction Box	11	Each	\$310.49	\$3,415
Subtotal Electrical Collection System				\$66,984

Substation

Disassemble and Remove Main Power Transformers	2	Each	\$5,000.00	\$10,000
Haul Transformers Offsite (Des Moines, IA)	2	Each	\$724.38	\$1,449
Haul Transformer Oil Offsite (Des Moines, IA)	25,660	Gallons	\$0.13	\$3,380
Excavate Around Transformer Foundations	2	Each	\$2,026.19	\$4,052
Remove Complete Transformer Foundations	140	Cubic Yards	\$201.40	\$28,196
Backfill Excavation Area from Transformer Foundation Removal	280	Cubic Yards	\$1.96	\$549
Haul Concrete (Foundations Transformer, Switch Gear, etc.) to Landfill (Clarinda, IA)	284	Tons	\$15.97	\$4,539
Dispose of Concrete from Transformer Foundation	284	Tons	\$75.00	\$21,315
Demolish Substation Site Improvements (fences, etc.)	3,330	LF	\$8.25	\$27,472
Demolish Control Building and Foundation	1	LS	\$12,000.00	\$12,000
Remove Medium/High Voltage Equipment	1	LS	\$4,500.00	\$4,500
Remove Structural Steel Substation Frame	1	LS	\$4,500.00	\$4,500
Remove and Load Copper Ground Grid	264,449	Feet	\$0.87	\$230,071
Haul Copper Wire to Recycling (Atlantic, IA)	85.9	Tons	\$22.72	\$1,952
Haul Demolition Materials, Removed Equipment & Structural Steel to Landfill (Clarinda, IA)	20	Tons	\$15.97	\$319
Dispose of Demolition Materials & Removed Equipment	20	Tons	\$75.00	\$1,500
Remove and Load Gravel Surfacing from Substation Site	9,793	Cubic Yards (BV)	\$3.35	\$32,807
Haul Gravel Surfacing from Substation Site to Landfill (Clarinda, IA)	12,241	Cubic Yards (LV)	\$15.97	\$195,489
Dispose of Gravel Surfacing from Substation Site	15,864	Tons	\$75.00	\$1,189,800
Grade Substation Site	661,023	SF	\$0.08	\$52,453
Sediment Control at Substation Site	2,497	LF	\$4.30	\$10,737
Decompact Substation Site	15.2	Acres	\$274.31	\$4,170
Till to Farmable Condition	15.2	Acres	\$198.32	\$3,014
Subtotal Substation				\$1,844,262

O&M Facility

Demolish O&M Facility	15,000	Cubic Feet	\$0.55	\$8,250
Haul O&M Facility Demo Materials/Site Improvements to Recycler (75%)	73	Tons	\$22.72	\$1,651
Haul O&M Facility Demo Materials/Site Improvements to Landfill (25%)	24	Tons	\$15.97	\$387
Dispose of Demo Materials/Site Improvements at Landfill (25%)	24	Tons	\$75.00	\$1,816
Demolish O&M Facility Foundation	69	Cubic Yards	\$201.40	\$13,844
Demolish O&M Facility Site Improvements (fences, etc.)	1,898	Linear Feet	\$8.25	\$15,654
Haul Concrete (O&M Facility Foundation) to Landfill (Clarinda, IA)	140	Tons	\$15.97	\$2,236
Dispose of Concrete from O&M Facility Foundation	140	Tons	\$75.00	\$10,500
Cap and Abandon Well	1	Lump Sum	\$1,000.00	\$1,000
Remove & Restore Septic and Drainfield area	1	Lump Sum	\$3,000.00	\$3,000
Remove and Load Gravel Surfacing of O&M Facility Site	4,103	Cubic Yards (BV)	\$3.35	\$13,731
Haul Gravel Removed from O&M Facility Site to Landfill (Clarinda, IA)	5,129	Cubic Yards (LV)	\$15.97	\$81,908
Dispose of Gravel from O&M Facility Site	7,693	Tons	\$75.00	\$576,999
Decompact O&M Facility Site	5.1	Acres	\$274.31	\$1,399
Grade O&M Facility Site	221,568	SF	\$0.08	\$17,582
Erosion and Sediment Control at O&M Facility Site	949	Linear Feet	\$4.30	\$4,080
Till to Farmable Condition	5.1	Acres	\$198.32	\$1,011
Subtotal O&M Facility				\$755,048

Project Management

Project Manager	52	Weeks	\$3,749.00	\$194,948
Superintendent (full-time)	52	Weeks	\$3,525.00	\$183,300
Field Engineer (full-time)	52	Weeks	\$3,269.00	\$169,988
Clerk (full-time)	52	Weeks	\$750.00	\$39,000
Subtotal Project Management				\$587,236

Standard industry weekly rates from RSMMeans.

Public Road Restoration	55.099	Miles	\$48,000.00	\$2,644,752
Contingency	10%			\$3,672,183
Crop Loss (116.5 Acres)	116.5	Acres	\$1,700.00	\$198,050
Subtotal Demolition/Removals				\$43,236,816

Salvage

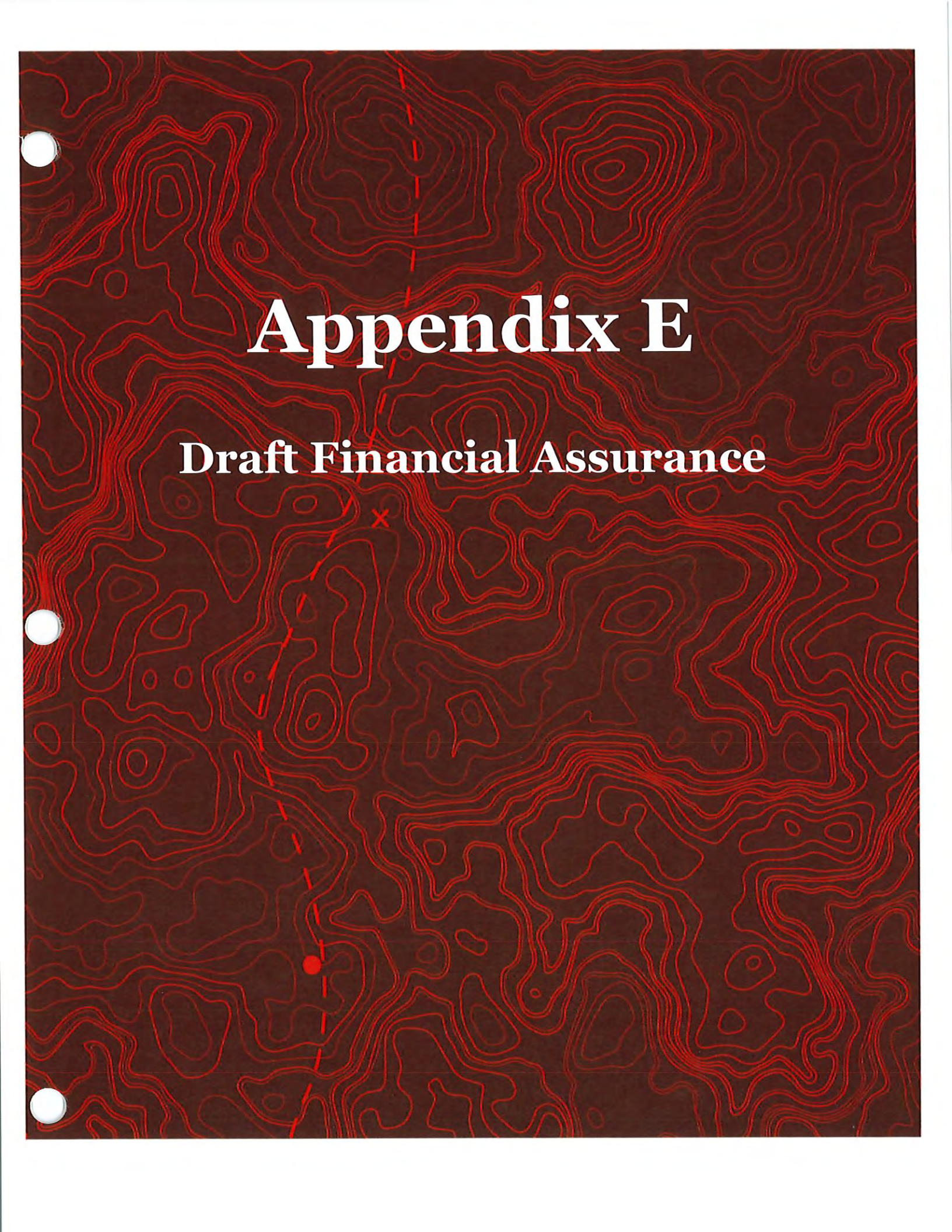
Turbine Towers (Structural Steel)	30,208	Tons	\$248.34	\$7,501,855
Turbine Nacelles (Structural Steel)	6,561	Tons	\$248.34	\$1,629,359
Turbine Generators	7,296,380	Pounds	\$0.33	\$2,407,805
MET and ADLS Towers	11	Tons	\$248.34	\$2,732
Substation Structural Steel	10	Tons	\$248.34	\$2,483
Substation Transformers (Core and Coils)	451,257	Pounds	\$0.42	\$189,528
Substation Transformers (Tanks and Fittings)	152	Tons	\$248.34	\$37,748
Transformers (Oil)	25,660	Gallons	\$0.70	\$17,962
Substation Ground Grid (Copper)	171,800	Pounds	\$3.83	\$657,994
AC Collection Lines (Aluminum)	20,000	Pounds	\$1.11	\$22,200
Subtotal Salvage				\$12,469,666

Salvage values are a combination of the following factors; current market metal salvage prices, discussions with national companies that specialize in recycling and reselling electrical transformers and inverters, and the assumption that care is taken to prevent any damage or breakage of equipment.

Total Demolition Minus Salvage	\$30,767,150
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Notes:

1. Prices used in analysis are estimated based on research of current average costs and salvage values.
2. Prices provided are estimates and may fluctuate over the life of the project.



Appendix E

Draft Financial Assurance

DECOMMISSIONING SURETY BOND

KNOW ALL BY THESE PRESENTS: That we, Black Maple Wind, LLC, as Principal, and, _____, an _____ corporation duly authorized under the laws of the State of _____, as Surety, are held and firmly bound unto Taylor County, Iowa, as Obligee in the maximum aggregate penal sum of _____ Dollars (\$ _____), lawful money of the United States of America, to be paid to the said Obligee, successors or assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, successors, administrators and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE OBLIGATION IS SUCH THAT:

Whereas, the Obligee approved Taylor County Ordinance #37: An Ordinance regulating the placement of Wind Energy Conversion Systems (WECS) on Property located in the Unincorporated Areas of Taylor County Iowa, dated February 27, 2020 ("the Ordinance"), which sets forth the terms and conditions that govern the siting approval process, development, construction, operation, maintenance and decommissioning of wind energy facility in Taylor County, Iowa;

Whereas, under the Ordinance, said Principal is required to furnish a decommissioning plan and a decommissioning surety bond for the faithful performance of the decommissioning of any wind facility.

Now, Therefore, the condition of this obligation is such that if the above bounded Principal, his or its heirs, executors, administrators, successors or assigns, shall in all thing stand to and abide by, and well and truly keep and perform the decommissioning provisions in the said decommissioning plan and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Obligee, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

Provided further, that if the Principal fails to respond to the Obligee's notice of default or fails to perform its Decommissioning responsibilities as outlined in said decommissioning plan the Surety shall promptly and at the Surety's election and expense take one of the following actions:

1. Arrange for the Principal, with consent of the Obligee, to perform and complete the Decommissioning; or
2. Undertake to perform and complete the Decommissioning itself, through its agents or through independent contractors; or
3. Waive its right to perform the Decommissioning and forfeit the full bond penalty to the Obligee.

The surety may cancel this bond at any time by giving the Obligee sixty (60) days written notice of its desire to be relieved of Liability. However, the failure or inability of the Principal to file a replacement bond or other security in the event the Surety exercises its right to cancel this Bond, shall not itself constitute a loss to the Obligee recoverable under this Bond or any extension thereof.

Nonpayment of the premiums associated with this Bond will not invalidate this Bond nor shall Obligee be obligated for the payment thereof.

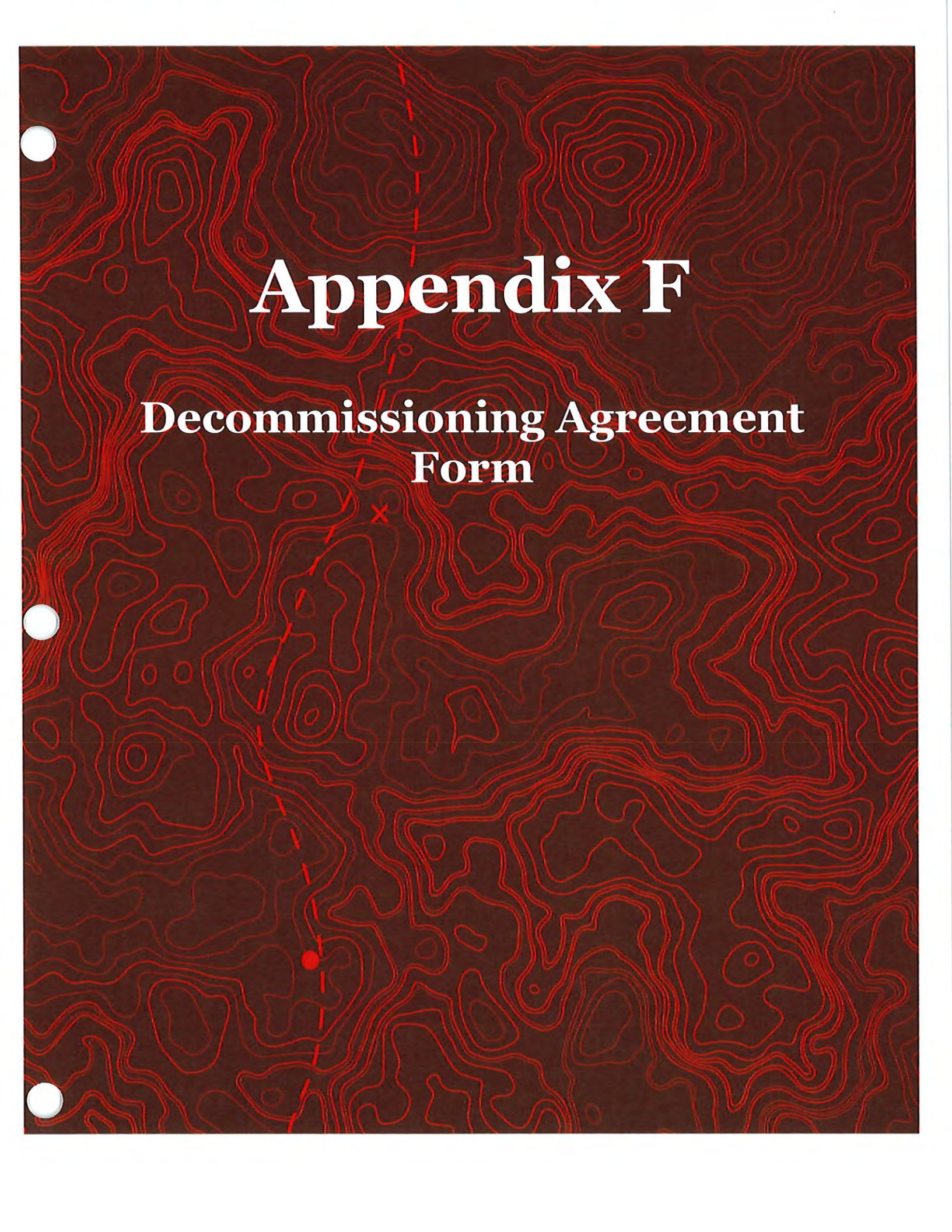
The liability of the Surety under this bond and all continuation certificates issued in connection therewith shall not be cumulative and shall in no event exceed the amount as set forth in this bond or in any additions, riders, or endorsements properly issued by the Surety as supplements thereto.

IN WITNESS WHEREOF, the signature of said Principal is hereto affixed and the corporate seal and the name of the Surety is hereto affixed and attested by its duly authorized Attorney-in-Fact,

_____ day of _____, 20__.

By: _____

By: _____



Appendix F

Decommissioning Agreement Form

DECOMMISSIONING PLAN

For [insert name of wind project] Wind Project in Taylor County, Iowa
[Month Day, Year]

Submitted by:
[insert applicant name]

1. DEFINITIONS

Commercial Operation Date shall mean the first day of the Project Term.

County shall mean Taylor County, Iowa.

Decommissioning Plan shall mean the plan to decommission the WECS as set out in this document as such plan may be revised from time to time as provided herein.

Discontinued Use shall mean with respect to an individual WECS that the use of such WECS has been discontinued for a period of [180] consecutive days, unless a plan is developed and submitted to the Taylor County Engineer or his designee outlining the steps and schedule for returning the WECS to service as outlined in such plan.

Easement Agreement shall mean an agreement between a Participating Landowner and the Facility Owner granting the Facility Owner an easement or other real estate rights for the right to use the Participating Landowner's property to construct, maintain, operate, repair, repower, and remove the WECS.

Facility Owner (or Owner) shall mean the entity or entities having controlling or majority equity interest in the Wind Energy Conversion System, including their respective successors and assigns. As of the date of this Decommissioning Plan, the Owner is [insert Applicant name].

Project shall mean the [insert project name] as located in Taylor County, Iowa.

Participating Landowner shall mean any landowner under easement, lease or other agreement with the Facility Owner pertaining to the WECS.

Project Term shall mean the period commencing on the date Owner notifies Taylor County in writing that the entire Project has commenced commercial operation and expiring on the date [insert number of years] years after the date specified in such notice, unless sooner terminated or extended as provided herein.

Property shall mean the real property for which real property rights have been provided to Owner by a Participating Landowner under an Easement Agreement.

Wind Energy Conversion System (WECS) shall mean an electrical generating facility comprised of one or more wind turbines (made up of a foundation, tower, nacelle and rotor) and accessory facilities, including but not limited to: power lines, access roads, communication lines, transformers, substations, and meteorological towers that operate by converting the kinetic energy of wind into electrical energy. The energy may be used on-site or distributed into the electrical grid.

WECS Ordinance shall mean the Taylor County, Iowa Wind Energy Conversion Systems (WECS) Ordinance adopted _____, 2019.

Wind Turbines shall have the meaning in Section 5.

2. PURPOSE

The purpose of this Decommissioning Plan is to set out Owner's written agreement (as required in the WECS Ordinance) to dismantle and remove the Wind Turbine within [180] days after cessation of use, as further provided herein.

This Decommissioning Plan (a) outlines the anticipated means and cost of decommissioning the WECS upon a WECS becoming a Discontinued Use and (b) identifies the financial resources that will be available to pay for decommissioning and removal of the WECS and other accessory structures.

3. PROJECT DESCRIPTION

Owner is planning to construct a [] MW wind Project which is located in Taylor County, Iowa. The Project involves constructing wind turbines, associated access roads, underground electrical collection system, underground communication system and other facilities.

4. PROJECT LIFE

Owner intends to install [insert wind turbine type(s)] wind turbine generators ("**Wind Turbines**") for the Project which such Wind Turbines are expected to have a useful life of at least [] years. The term of the operating period as provided in the Easement Agreements is [] years. Beyond the end of its useful life, or at any other time, if a Wind Turbine needs to be replaced for any reason, a new Wind Turbine could potentially be installed as a part of the Project. It is expected that during the life of the Project that parts and components of the WECS will be repaired and/or replaced from time to time in order to continue to operate the WECS.

5. DECOMMISSIONING

In the event the use of any Wind Turbine has been discontinued for a period of [180] consecutive days, it shall be deemed to be abandoned (except as otherwise provided herein). Determination of the date of abandonment shall be made by the Taylor County Engineer or his designee and the County will notify Owner of such determination and the date of such abandonment. Upon such notice of abandonment, the Owner shall have an additional [180] days within which to reactivate the use of the Wind Turbine or dismantle and remove the Wind Turbine. As an alternative, the Owner may prepare and submit a plan for the "banking" of the Wind Turbine for future reactivation and use. Said plan must be submitted to the Taylor County Engineer or his designee within [180] days of the discontinuation of use of the

Wind Turbine, and shall be updated and submitted every [180] days thereafter for a maximum of two [2] years, at which time the wind turbine must be reactivated or dismantled.

Decommissioning is a procedural process which involves the removal of the WECS and associated facilities and infrastructure as further described herein. The process of decommissioning a WECS will involve evaluating and categorizing all components and materials based on their anticipated post-Project use. The categories will include recondition and reuse, salvage, recycle, and disposal. In order to reduce impacts from the transport of components to and from the county, materials will likely be stored onsite at one or more locations until the bulk of similar components or materials are ready for transport. The components and material will be transported to the appropriate facilities for reconditioning and reuse, salvage, recycling, or disposal.

This Decommissioning Plan requires that each wind turbine foundation and gravel ring will be excavated and removed to a depth of forty-eight inches (48") below ground level. If, however, the landowner has entered into an Easement Agreement which provides for more stringent requirements than this Decommissioning Plan, the wind turbine foundation and gravel ring will be excavated and removed in accordance with the applicable provisions of the Easement Agreement.

The following is a general description of the anticipated decommissioning process (and the decommissioning is also generally described in Appendix A1):

5.1 WIND TURBINES

Wind Turbines are generally comprised of the tower, nacelle and rotor with blades which are modular items that can be disassembled. With some exceptions, Wind Turbine components are dismantled in the reverse order of their assembly using large crawler cranes. These turbine components are typically stored in temporary laydown areas before being hauled off-site to be resold or taken to a scrap metal facility or offsite disposal facility. It is common for blades to be cut-up into smaller pieces at the location of such Wind Turbine and then transported to an offsite disposal facility.

5.2 UNDERGROUND COLLECTION LINES

Underground electrical and communication collection lines are typically installed at least forty-eight inches (48") below grade. As a result, the collection lines are typically rendered inert and left in the ground after decommissioning; however, at Owner's option, these lines may be removed and hauled off-site for scrap value.

5.3 FOUNDATIONS

Turbine foundations and gravel rings will be excavated around the concrete pedestal to a depth of forty-eight inches (48") below grade. Turbine footings and foundations below forty-eight inches (48") of the ground level will remain after decommissioning.

5.4 ACCESS ROADS

Once all of the Project components have been removed from the site, not including those parts of the WECS located more than forty-eight inches (48") below grade, the access roads will be removed, unless requested otherwise by the Participating Landowner and agreed to by Owner. The road material will be removed, soil will be ripped and topsoil will be used to fill these areas.

5.5 SITE RESTORATION

Upon completion of the dismantling and removal of all WECS (not including that part of a WECS that is more than forty-eight inches (48") below ground level) the land will be returned to a condition reasonably comparable to the immediate surrounding property. Restoration of the land includes backfilling all excavated areas with clean sub-grade material and topsoil, both as to quality and depth, as the immediate surrounding area.

5.6 WASTE DISPOSAL

Solid and hazardous wastes, including but not limited to crates, packing materials, decommissioned WECS, as well as used oils and lubricants shall be removed from the site promptly and disposed of in accordance with all applicable local, state and federal regulations.

5.7 ROAD AND DRAINAGE SYSTEM

Prior to any decommissioning work involving a substantial portion of the whole WECS Project, Owner intends to enter into a Road Use Agreement in a form similar to that Road Use Agreement that is attached to the WECS Ordinance.

5.8 COMPLIANCE WITH LAWS

Solid waste and hazardous material will be disposed of offsite in accordance with applicable state and federal laws and regulations. Decommissioned gearboxes, transformers, and hydraulic systems will be drained of fluids, put into appropriate containers before dismantling, and then transported and disposed of off-site in accordance with state and federal laws and regulations.

5.9 FORCE MAJEURE

Notwithstanding any other provision in this Decommissioning Plan to the contrary, if performance of any act required to be performed by Owner under this Decommissioning Plan is in whole or in part prevented or delayed by reason of any fire, earthquake, flood, tornado, act of God or natural disaster, strike, lock-out, labor disputes or trouble, war, civil strife or other violence, inability to secure materials, any law, order, proclamation,

regulation, ordinance, action, demand or requirement of any government agency, or any other cause, event or circumstance not the fault of Owner, including without limitation the invocation of a force majeure provision by any third party to excuse such third party's performance of any obligations related to the decommissioning of the WECS, then Owner, upon giving notice to County, shall be excused from such performance to the extent of and for the duration of such prevention, restriction or delay.

6. SUMMARY OF DECOMMISSIONING COST ESTIMATE

The estimated cost to decommission and remove the Project, including the estimated Project salvage value, is attached hereto as Appendix A1. The estimated cost is based on [insert year] dollars. This Decommissioning Plan and all appendices will be reviewed and updated by the Owner every five (5) years from the Commercial Operation Date upon written request of the County in the manner provided in Section 8. If there are items upon which the Owner and County disagree with respect to assumed decommissioning costs, Owner and County shall meet to attempt to reach agreement on all such items. If agreement cannot be reached within a reasonable time, Owner shall engage and pay for an independent engineer acceptable to County to review the items and this Decommissioning Plan and determine whether the items in dispute should be re-evaluated. The determination of the independent engineer shall be final until the next time the Decommissioning Plan and appendices are updated as provided herein.

Based on Appendix A1, the following costs were estimated:

Decommissioning Cost Estimate (costs less salvage/scrap values)	Project	Per Wind Turbine
Estimated Cost for Wind Turbine Decommissioning		
Estimated Cost for Balance of Plant Decommissioning		
Totals		

7. FINANCIAL RESOURCES TO PAY FOR DECOMMISSIONING AND REMOVAL OF WECS

The Owner will be responsible for all costs to decommission the WECS in accordance with this Decommissioning Plan and the Easement Agreements. The decommissioning activities will be funded by the proceeds from one or more of the following:

- i. Proceeds from the salvage and scrap value of certain components and raw materials included as part of the WECS as further described in Appendix A1.
- ii. Other Owner funding.

The County will have the right to request that Owner provide financial assurance in the form of (a) a cash escrow or deposit, bond, or letter of credit (as selected by Owner) in the amount of the total estimated costs of decommissioning the WECS located in the County (as such amount is set out in the most recent Decommissioning Plan (including appendices) provided by Owner to County in accordance herewith) or (b) a guarantee or such other form of security that is acceptable to the County. The County may waive the financial assurance requirement if the Owner is a public utility regulated by the Iowa Utilities Board in the State of Iowa with the financial wherewithal to pay for the estimated decommissioning costs. However, in the event of a material change to the public utility status and financial status of Owner that would reasonably be expected to impair Owner's ability to fund the total estimated costs to decommission the WECS in Taylor County (as such expected costs are set out in this Decommissioning Plan (or any future plan provided in accordance herewith), the County will have the right to require Owner to provide financial assurance as described above.

This Decommissioning Plan may be transferred to another party subject to the approval of the Taylor County Board of Supervisors, which approval shall not unreasonably be withheld. The County will have the right to request financial assurance from the new Owner and the new Owner will be subject to the requirements in this Decommissioning Plan.

8. NOTICES

Any notice, demand, or other communication ("**Notice**") given under this Decommissioning Plan shall be in writing and given personally or by registered or certified mail (return receipt requested). A courtesy copy of the Notice may be sent by facsimile or email transmission.

Notices shall be given to the Parties at their addresses set forth below.

If to County:

Taylor County Engineer
[insert address and contact information]
Bedford, IA 50833
E-mail:
FAX:

If to Owner:

[Applicant Name]
[Applicant Address]
[Applicant Contact Information]

By Notice to the other, either Owner or the County may at any time designate a different address or person to which such Notice or communication shall be given.

In Witness Whereof, [insert County Official] has executed this Decommissioning Plan for Taylor County, Iowa as the date set out above on the cover page.

Taylor County, Iowa

By: _____

Name Printed: _____

Title: _____

In Witness Whereof, [insert Applicant name] has executed this Decommissioning Plan for [insert applicant name] as the date set out above on the cover page.

[insert Applicant name]

By: _____

Name Printed: _____

Title: _____

- END PAGE -

Appendix A1
[insert year] Decommissioning Estimate

Appendix C

Landowner Agreements

1. Summary of Participating Properties (§3.A.7)
2. Evidence of Recorded Participating Property Documents (§3.A.7)
3. Template Wind Energy Lease (§3.A.7)

Appendix C.1

Summary of Participating Properties (§3.A.7)

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-007	534200110000	37.79	Richard L. Muff	9/19/2022	Memorandum of Lease	11/8/2022	23477
IA-BMP-008	527200300000	40	Richard L. Muff	9/19/2022	Memorandum of Lease	11/8/2022	23478
	527300100000	40					
	527300200000	40					
	527300410000	37.97					
	527400200000	40					
	527400300000	40					
	528100400000	40					
	528400110000	35					
	534100110000	17.7					
	534100200000	17.29					
IA-BMP-011	534100210000	19	Robert F. Ryan	9/21/2022	Memorandum of Lease	11/9/2022	23483
	1520200302000	37.09					
IA-BMP-012	1520200400000	40	Sandra S. Sweeney	9/21/2022	Memorandum of Lease	11/9/2022	23484
	325300200000	39					
	325300300000	38					
	336100100000	34.52					
	336100210000	20.6					
	336100300000	40					
IA-BMP-015	336100400000	39	Ted M. Gordon	9/26/2022	Memorandum of Lease	11/29/2022	23549
	333400100000	39					
	334400100000	38					
	334400200000	38					
	335300200000	39					
IA-BMP-018	331300100000	40	Terry L. Booth	9/27/2022	Memorandum of Lease	11/29/2022	23551
	331300200000	43.37					
	331300300000	42.39					
	331300400000	10					
	331300403000	29					
	334100200000	39					
	334100300000	39					
IA-BMP-019	315400300000	37.19	Seth Frederick Evans	9/28/2022	Memorandum of Lease	11/29/2022	23552
	315400401000	3.7					
	315400402000	32.64					
	320300202000	36.2					
	320300300000	39					
	323200300000	39					
	323200400000	40					
	333300100000	38					
	333300400000	38					
	319400100000	39	Nicholas Leo Evans	9/28/2022	Memorandum of Lease	11/29/2022	23553
IA-BMP-020	319400200000	40					
	319400310000	33					
	319400400000	39					
	329200200000	39					
	329200310000	29					
	330100100000	26					
	330100300000	40					
	330100400000	39					
	331200200000	42.33					
	331200300000	43.35					
	332200100000	39					
	332200200000	38					
	332200300000	39					
	332200400000	40					
	333300200000	40					
	333300300000	39					
	525400100000	39					
	525400210000	20					
	525400240000	20					
	525400300000	39					
	525400400000	38					
	536100100000	38					
	536100210000	35.7					
	536100300000	40					
	536100400000	39					
IA-BMP-021	1509100101000	16.58	Billy W. Oliver	9/29/2022	Memorandum of Lease	11/29/2022	23554
	1509100204000	6					
	1509100301000	26.94					
	1509100401000	19.5					
	1509100411000	6.77					
IA-BMP-023	334200100000	39	Terry L. Booth	9/29/2022	Memorandum of Lease	11/29/2022	23555
	334200402000	34.43					
	334300100000	38					
	334300200000	38					
IA-BMP-025	313200300000	39	Alan L. GoodsonAlan	10/6/2022	Memorandum of Lease	11/9/2022	23489
	313200400000	40					
	313300100000	40					
	313300200000	39					
	313300300000	36.8					
	313300400000	37.7					
	323400100000	39					
	323400200000	40					
	323400300000	39					
	323400400000	38					
	324200100000	38					
	324200200000	36.88					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-027	331400304000	0.61	Rodney E. Belding	10/10/2022	Memorandum of Lease	11/29/2022	23558
	331400401000	29.81					
	331400404000	1.19					
IA-BMP-029	517200200000	38	Richard R. Nicholson	10/12/2022	Memorandum of Lease	12/7/2022	23586
	517200300000	39					
	517200400000	40					
IA-BMP-032	118300100000	40	Philip C. Morris	10/14/2022	Memorandum of Lease	12/7/2022	23603
	118300200000	41.43					
	118300310000	36.93					
	118300340000	1					
	118300400000	38.37					
	119200100000	38.21					
	119200200000	37.85					
	119200300000	40.5					
	119200400000	40					
	323200100000	37.15					
	323200200000	36.66					
IA-BMP-033	328100100000	38	Steven A. Basler	10/14/2022	Memorandum of Lease	12/7/2022	23588
	328100300000	39					
	328100400000	39					
	328200200000	40					
	328200300000	40					
	328200400000	39					
	328300100000	39					
	328300200000	40					
	328300300000	39					
	328300400000	38					
	328400100000	39					
	328400210000	25					
	328400240000	15					
	328400300000	38					
	328400400000	38					
	333200100000	38					
	333200200000	39					
IA-BMP-034	332300300000	40	Richard Roy Beck	10/19/2022	Memorandum of Lease	12/7/2022	23589
	332300200000	39					
	332300301000	23.56					
	332300401000	38.99					
	332400100000	40					
	332400200000	40					
	332400300000	39					
	332400400000	39					
	1305200200000	32.44					
	1305200300000	39					
	1308300200000	38					
	1308300300000	39					
	1317200100000	40					
IA-BMP-035	332300303000	16.06	Brian Andrew Beck	10/19/2022	Memorandum of Lease	12/7/2022	23590
	332300403000	0.03					
IA-BMP-036	335100100000	38	Richard Roy Beck	10/19/2022	Memorandum of Lease	12/7/2022	23591
	335100200000	39					
	335100300000	40					
	335100400000	39					
	335200100000	39					
	335200200000	38					
	335200300000	39					
	335200400000	40					
	336200200000	38					
IA-BMP-037	329200100000	39	Richard Roy Beck	10/19/2022	Memorandum of Lease	12/7/2022	23592
	329200400000	39					
	329300100000	39					
	329300402000	35.5					
IA-BMP-038	332100100000	39	Terry Dale Beck	10/19/2022	Memorandum of Lease	12/7/2022	23593
	332100200000	1.25					
	332100201000	37.75					
	332100300000	40					
IA-BMP-039	332100400000	40	John A. Cade	10/20/2022	Memorandum of Lease	12/7/2022	23594
	1101100100000	32.71					
	1101100400000	44.34					
	1306100100000	32.78					
	1306100200000	33.74					
	1306100301000	20					
	1306100400000	39					
	1306200100000	33.7					
	1306200200000	36.49					
	1306200300000	43.46					
	1306400100000	39					
	1306400201000	20					
	1306400301000	19					
	1306400400000	38					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-040	1515300200000	39	William J. Henderson	10/20/2022	Memorandum of Lease	12/7/2022	23595
	1515300300000	37					
	1522300300000	38					
	1522300400000	39					
IA-BMP-041	316400100000	40	Mervin Clyde Belding	10/10/2022	Memorandum of Lease	11/29/2022	23562
	316400300000	36.9					
	316400400000	36.45					
	321100100000	33.75					
	321100200000	36.09					
	321100300000	39					
	321100400000	40					
	321200100000	37.03					
	321200210000	17.93					
	321200310000	20					
	321200400000	39					
	321300100000	39					
	321300210000	20					
	321300401000	37.32					
	321300402000	1.68					
	321400200000	38					
	321400300000	37					
	322200300000	40					
	322200400000	40					
	328100200000	39					
	328200100000	39					
IA-BMP-045	1111200400000	39	Thomas Scott Sheffield	10/25/2022	Memorandum of Lease	1/9/2023	23707
	1111300100000	38					
	1111300400000	39					
IA-BMP-046	1111100300000	40	Jeffrey L. Akers	10/25/2022	Memorandum of Lease	1/9/2023	23708
	1111100400000	40					
	1112300100000	40					
	1112300200000	40					
IA-BMP-047	1112300400000	40	Kenneth P. Stephens	10/25/2022	Memorandum of Lease	1/9/2023	23709
	133400300000	39					
	133400400000	38					
IA-BMP-049	1504100200000	36.25	David E. Parrish	10/27/2022	Memorandum of Lease	11/29/2022	23563
	1516300300000	38					
	1516300400000	39					
	1520100100000	38					
	1520100200000	39					
	1520100300000	40					
IA-BMP-050	1520100400000	39	Douglas Reed	10/28/2022	Memorandum of Lease	1/9/2023	23710
	131100104000	33.94					
	131100200000	40.29					
	131100300000	40					
	131100400000	37.05					
	131400100000	37.4					
	131400200000	40					
	131400300000	40					
	131400400000	37.25					
	1506100103000	29.24					
	1506100200000	36.71					
	1506100300000	40					
IA-BMP-055	320400300000	39	Thomas E. Reed	11/2/2022	Memorandum of Lease	12/7/2022	23602
	320400400000	40					
	321300300000	40					
	329100100000	40					
	329100200000	39					
	329100300000	39					
	329100400000	40					
IA-BMP-056	315200110000	35	Gary A. Freeman	11/2/2022	Memorandum of Lease	1/18/2023	23765
	315200200000	39					
	315200300000	39					
	315200400000	40					
IA-BMP-057	336100120000	3.48	Keith A. Bennett	11/2/2022	Memorandum of Lease	1/9/2023	23711
	336100220000	18.4					
	336200100000	10.7					
IA-BMP-060	526100200000	39	C. Gayl Hopkins	10/24/2022	Memorandum of Lease	1/9/2023	23714
	526400100000	39					
	527300300000	39					
	528400130000	5					
	528400400000	39					
IA-BMP-061	522100100000	35.5	Timothy J. Kreifels	10/26/2022	Memorandum of Lease	1/9/2023	23715
	522100200000	39					
	522100300000	40					
	522100400000	36.3					
	522200100000	39					
	522200210000	33.75					
	522200300000	39					
	522200400000	40					
	522300100000	40					
	522300200000	40					
	522300402000	33.26					
	522400100000	38					
	522400200000	40					
	522400300000	39					
	522400400000	36.77					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-062	713300100000	40	Steven D. Davies	10/28/2022	Memorandum of Lease	1/9/2023	23716
	713300410000	38.26					
IA-BMP-064	536400300000	3.67	Quentin D. Dalton	10/28/2022	Memorandum of Lease	1/9/2023	23718
IA-BMP-065	318400410000	33.04	Richard D. Dalton	10/28/2022	Memorandum of Lease	1/18/2023	23767
	319100110000	26.86					
	319100400000	39					
	323100300000	36.34					
	323100400000	35.34					
	324200300000	34.96					
	536400100000	39					
	536400200000	40					
	536400301000	35.33					
	536400400000	38					
	1113300100000	39					
	1113300300000	38.85					
	1113300400000	38					
	1114400404000	1.5					
IA-BMP-066	325100300000	40	Steven L. Kerns	10/31/2022	Memorandum of Lease	1/18/2023	23769
	325100400000	39					
IA-BMP-067	1101300101000	19.5	Terry L. Weaver	11/10/2022	Memorandum of Lease	1/9/2023	23719
	1101400100000	39					
	1101400200000	39					
	1101400300000	38					
IA-BMP-070	1101400400000	38	Chris Barrans	11/4/2022	Memorandum of Lease	1/9/2023	23722
	1521200300000	39					
	1521200400000	40					
	1521300100000	40					
IA-BMP-072	1521300200000	39	Kenneth P. Stephens	11/8/2022	Memorandum of Lease	1/18/2023	23774
	134300100000	40					
	134300202000	38.01					
	134300300000	38					
	134300400000	39					
	1504100100000	36.25					
IA-BMP-074	1504100300000	40	John D. Lyddon	11/17/2022	Memorandum of Lease	2/2/2023	23815
	1504100400000	39					
	1509300300000	38					
	1509300400000	39					
	1509400300000	39					
	1509400400000	38					
	1516100202000	12					
	1516100302000	12					
	1516200101000	20					
	1516200102000	20					
IA-BMP-075	1516200200000	38	Peter L. Brantner	11/15/2022	Memorandum of Lease	1/9/2023	23728
	1516200400000	40					
IA-BMP-076	326300200000	39	Ronald L. Travis	11/15/2022	Memorandum of Lease	2/2/2023	23816
	326300300000	38					
	320300100000	39					
IA-BMP-079	320300400000	39	Ronald K. Calfee	11/10/2022	Memorandum of Lease	2/2/2023	23844
	320400200000	39					
	523100200000	37.5					
	523100300000	40					
	523100400000	39					
	526300100000	40					
	526300200000	38.25					
	526300300000	36.75					
	526300400000	39					
	1124400300000	37					
	1124400400000	36.39					
	1125100100000	35.76					
	1125100400000	37.4					
	1125100401000	1.6					
	1125200100000	35.41					
	1125200200000	34.78					
	1125200304000	9.88					
	1125200306000	21.9					
	1125200400000	40					
	1125300101000	20					
	1125300401000	19.5					
IA-BMP-081	1125400300000	39	Maynard M. Dolecheck	11/2/2022	Memorandum of Lease	1/9/2023	23731
	1125400400000	38					
	1135200100000	39					
	1135200200000	37.29					
	1135200300000	37.4					
IA-BMP-081	1135200400000	40	Maynard M. Dolecheck	11/2/2022	Memorandum of Lease	1/9/2023	23731
	1112200100000	38					
	1112200200000	38					
	1112200300000	38					
IA-BMP-081	1112200400000	38	Maynard M. Dolecheck	11/2/2022	Memorandum of Lease	1/9/2023	23731
	1112200400000	38					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-083	329300200000	39	Jimmy D. Hartman	11/18/2022	Memorandum of Lease	1/9/2023	23732
	329300300000	38					
	330400100000	39					
	330400200000	40					
	330400310000	25.9					
	330400330000	13.1					
	330400400000	38					
	13071001000000	38					
	13071002010000	35					
	13071004000000	39					
	13072001030000	36					
	13072004020000	1					
	13082001000000	39					
	13082002000000	38					
	13082003010000	13					
	13082003040000	26					
	13082004010000	17					
	13082004040000	22					
IA-BMP-084	322300300000	39	Monty Clair Douglas	11/21/2022	Memorandum of Lease	1/9/2023	23733
	322300400000	39					
	323300200000	39					
	323300300000	38					
	333100100000	38					
	333100200000	38					
	333100300000	40					
	333100400000	39					
	333400220000	1					
	521300400000	38					
	521400200000	40					
	521400302000	29.2					
	521400402000	19.1					
	522300300000	39					
	527200220000	2.7					
	528100100000	40					
IA-BMP-086	11111001000000	38	Mark Kalen Petersen	11/22/2022	Memorandum of Lease	1/9/2023	23735
	11111002000000	39					
IA-BMP-088	333400210000	38	Monty Clair Douglas	11/23/2022	Memorandum of Lease	2/2/2023	23818
IA-BMP-089	322400100000	39	Monty Clair Douglas	11/23/2022	Memorandum of Lease	2/2/2023	23819
	322400200000	40					
	322400300000	39					
	322400400000	38					
	323300100000	40					
	323300400000	39					
	521400401000	20.9					
IA-BMP-090	312300100000	40	Monty Clair Douglas	11/23/2022	Memorandum of Lease	2/2/2023	23820
	312300400000	39					
	315100102000	36.39					
	315100200000	39					
	315100300000	40					
	315100400000	39					
	315300200000	40					
	315300300000	37.15					
	315400100000	39					
	315400200000	40					
IA-BMP-092	15062003000000	40	Jerry M. Reed	11/28/2022	Memorandum of Lease	2/2/2023	23822
	15062004000000	40					
	15063001000000	40					
	15063002000000	40					
	15063003000000	41					
	15063004000000	41					
IA-BMP-096	513100200000	39	Justin Otto Petersen	11/28/2022	Memorandum of Lease	2/2/2023	23826
	513100300000	40					
	518400105000	37.49					
	518400403000	37					
	523200111000	9.98					
	523200112000	27.62					
	523200210000	33.79					
	523200400000	39					
	524100201000	20.82					
	524200101000	18.67					
	524200102000	13.29					
	524200201000	33.58					
	524200300000	38					
	524200401000	20					
IA-BMP-098	11024001000000	39	Kirk P. Naber	11/30/2022	Memorandum of Lease	2/2/2023	23828
	11024004000000	38					
IA-BMP-100	11263001000000	40	Pamela J. Sprague	12/2/2022	Memorandum of Lease	2/2/2023	23848
	11263002000000	36					
	11263003010000	38					
	11263004000000	39					
	11264002020000	1					
IA-BMP-102	51230010000000	40	Connie K. Sullivan	12/6/2022	Memorandum of Lease	2/2/2023	23851
	51230040000000	39					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-103	310200100000	38.83	Monty Clair Douglas	12/6/2022	Memorandum of Lease	2/2/2023	23831
	310200310000	38					
	310200320000	2					
	310200400000	40					
	310300100000	40					
	310300400000	39					
	310400200000	40					
IA-BMP-111	513300400000	38.63	Matthew H. Lundquist	12/9/2022	Memorandum of Lease	2/2/2023	23837
IA-BMP-113	513300300000	36.84	Terry L. Lundquist	12/14/2022	Memorandum of Lease	2/2/2023	23839
	513400300000	37.75	Justin Otto Petersen				
	513400400000	36.73					
	524200202000	4.49					
IA-BMP-117	1516200300000	39	Lincoln John Parrish	12/15/2022	Memorandum of Lease	2/2/2023	23842
	1516300100000	40					
	1516300200000	39					
IA-BMP-121		36.74	Joseph G. Gorman	12/27/2022	Memorandum of Lease	3/20/2023	23981
	521100200000	40					
	521200100000	38					
	521200400000	39					
	521300100000	38					
IA-BMP-122	1124300200000	40	Todd D. Calfee	12/27/2022	Memorandum of Lease	3/21/2023	231011
	1124300300000	37.75	Ronald K. Calfee				
	1126400300000	39					
	1126400400000	38					
IA-BMP-123	1124300100000	39	Todd D. Calfee	12/27/2022	Memorandum of Lease	3/20/2023	23982
	1124300402000	34.43					
	1125300300000	8.8					
	1126200202000	28.09					
	1126200300000	35.21					
IA-BMP-128	506100102000	36.71	Mark William Jorgensen	1/5/2023	Memorandum of Lease	3/20/2023	23986
	506100200000	43.44					
	506100300000	40					
	506100400000	39					
	506200100000	43.64					
	506200400000	40					
	517100100000	38					
	517100200000	39					
	517100300000	40					
	517100400000	39					
	521200202000	37.28					
IA-BMP-129	525100300000	40	Jeff Sporrer	1/6/2023	Memorandum of Lease	3/20/2023	23987
	525100410000	31.5					
IA-BMP-131	1305100200000	34.49	John W. DeMott	1/6/2023	Memorandum of Lease	3/20/2023	23989
	1305100300000	39					
	1305200100000	34.21					
	1305200400000	40					
	1305400200000	39					
	1305400300000	38					
IA-BMP-136	326100200000	39	George W. Bledsoe Jr.	1/12/2023	Memorandum of Lease	3/21/2023	231032
	326100300000	40					
IA-BMP-138	313100300000	40	Donald E. Beck	1/16/2023	Memorandum of Lease	3/21/2023	231021
	313100400000	39					
	313400110000	19					
	313400120000	20					
	313400200000	40					
	313400300000	38.13					
	313400410000	17.68					
	313400420000	19					
IA-BMP-139	507400100000	39	Laura A. Johnson	1/17/2023	Memorandum of Lease	3/21/2023	231024
	507400200000	40					
	507400300000	39					
	507400400000	38					
	518300200000	43.31					
	518300300000	40.35					
	521200300000	39					
	521300200000	40					
IA-BMP-141	1503200100000	37.75	Christopher D. Hogan	1/19/2023	Memorandum of Lease	3/21/2023	231034
	1503200201000	18.43					
	1503200300000	39					
	1503200400000	40					
IA-BMP-142	318300100000	40	Mikel W. Curtis	1/19/2023	Memorandum of Lease	3/21/2023	231035
	318300400000	37.84					
	318400200000	40					
	318400300000	37.3					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-144	303400102000	36.05	Lanny Douglas	1/17/2023	Memorandum of Lease	3/21/2023	231025
	303400200000	40					
	303400300000	39					
	303400400000	38					
	310100110000	35					
	310100200000	39					
	310400300000	30					
	310400301000	9					
	314200100000	39					
	314200200000	38					
	314200300000	39					
	314200402000	34.29					
	512400100000	39					
	512400200000	40					
	512400300000	39					
	512400400000	38					
IA-BMP-146	310200200000	30	Lanny Douglas	1/17/2023	Memorandum of Lease	3/21/2023	231037
	314100301000	13.65					
	314300101000	1.06					
IA-BMP-147	506200200000	40.64	David W. Bengtson	1/19/2023	Memorandum of Lease	3/21/2023	231038
	506200300000	43.26					
	506300100000	40					
	506300200000	43.25					
	506300300000	40.24					
	506300400000	39					
	506400100000	39					
	506400200000	40					
	506400300000	39					
	506400400000	38					
	701100100000	42.41					
	701100200000	43.19					
	701100300000	40					
	701100400000	39					
	701400100000	39					
	701400401000	14.47					
	702400300000	39					
	702400400000	37					
IA-BMP-148	1136100100000	39	Todd Alan Brown	1/26/2023	Memorandum of Lease	3/21/2023	231039
	1136100400000	40					
IA-BMP-149	310100300000	40	Monty Clair Douglas	1/4/2023	Memorandum of Lease	3/21/2023	23994
	310100400000	39					
IA-BMP-150	310300200000	37.75	Otto F. Petersen, Jr.	1/23/2023	Memorandum of Lease	3/21/2023	23995
	310300300000	39					
	316100100000	39					
	316100200000	38					
	513200100000	39					
	513200300000	39					
	513200400000	40					
	1101100200000	32.84					
	1101100300000	39					
	1101200403000	24					
IA-BMP-151	316200100000	38	Otto F. Petersen, Jr.	1/23/2023	Memorandum of Lease	3/20/2023	23996
	316200200000	39					
	316200300000	40					
	316200400000	39					
IA-BMP-155	535200100000	33	William Shane Bennett	1/27/2023	Memorandum of Lease	3/20/2023	23999
	535200101000	6					
	535200202000	3.51					
	535200210000	27.63					
	535200220000	4					
	535200303000	1.7					
IA-BMP-159	535300200000	0.81	Rodney L. Johnson	1/26/2023	Memorandum of Lease	4/4/2023	231111
	131200100000	36					
	131200104000	2.58					
	131200200000	38.91					
	131200300000	39.79					
	131200304000	1.17					
	131200400000	37					
	131200402000	2.34					
	516300200000	39					
	516300302000	37.17					
	517400100000	39					
	517400400000	36.11					
	527200100000	39					
	527200210000	36.3					
	527200400000	40					
IA-BMP-160	535200300000	32.87	William Shane Bennett	1/27/2023	Memorandum of Lease	4/4/2023	231112
	535200400000	40					
	535300100000	40					
	535300202000	36.69					
IA-BMP-163	509100101000	26.13	John W. DeMott	2/6/2023	Memorandum of Lease	4/4/2023	231115
	509100400000	39					
IA-BMP-167	1506100400000	37	Jerry M. Reed	2/7/2023	Memorandum of Lease	4/13/2023	231165
	1506400100000	37					
	1506400200000	40					
	1506400300000	37.55					
	1506400400000	38.27					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-168	1125300102000	20	Lori Thompson	2/7/2023	Memorandum of Lease	5/30/2023	231295
	1125300200000	39					
	1125300303000	27.4					
	1125300402000	19.5					
IA-BMP-172	324400300000	39	Mark Barrans	2/9/2023	Memorandum of Lease	5/30/2023	231299
	324400400000	38					
	325200101000	10					
	325200102000	29					
	325200200000	38					
	325200300000	39					
	325200400000	40					
IA-BMP-173	119300100000	40	Randall L. Riley	2/10/2023	Memorandum of Lease	5/30/2023	231300
	119300200000	41.94					
	119300300000	40.31					
	119300400000	39					
IA-BMP-174	521300300000	40	Theodore M. Hardebeck	2/20/2023	Memorandum of Lease	4/21/2023	231183
IA-BMP-176	308300240000	19.5	Gary D. Stoaks	2/17/2023	Memorandum of Lease	3/31/2023	231076
	308300300000	38					
	317200200000	38					
	317200300000	39					
IA-BMP-177	317200400000	40	Terry L. Lundquist	2/15/2023	Memorandum of Lease	3/31/2023	231077
	513300100000	40					
IA-BMP-178	513300200000	39	Theodore M. Hardebeck	2/20/2023	Memorandum of Lease	3/31/2023	231080
	518100100000	38					
	518100200000	39					
	518100300000	40					
	518100400000	39					
	518200400000	40					
	518300100000	40					
	518300400000	39					
	518400200000	40					
	518400300000	39					
	712400100000	39					
	712400200000	40					
	712400300000	39					
	712400410000	38					
	713100100000	38					
	713100200000	39					
	713100300000	39					
	713100400000	39					
	713300200000	39					
	713300300000	36.34					
	713400100000	39					
	713400200000	40					
	713400300000	37.43					
	713400400000	37.72					
	714400100000	39					
	714400400000	36.86					
IA-BMP-180	713200200000	38	Theodore M. Hardebeck	2/20/2023	Memorandum of Lease	3/31/2023	231082
	713200300000	39					
	713200400000	40					
IA-BMP-181	516300400000	38.74	Galyn G. Mitchell	2/20/2023	Memorandum of Lease	3/31/2023	231083
	711400400000	38					
	712300302000	27.3					
	712300400000	39					
IA-BMP-183	713200100000	39	Duane D. Dougherty	2/24/2023	Memorandum of Lease	4/12/2023	231149
	319100120000	10					
	319100200000	38.03					
	319100300000	40					
	323100100000	37.12					
	323100200000	37.87					
	326100102000	36.04					
IA-BMP-184	326100402000	38.05	Justin Otto Petersen	3/7/2023	Memorandum of Lease	4/12/2023	231150
	512100300000	40					
IA-BMP-188	513400100000	40	Carroll R. Baker	3/30/2023	Memorandum of Lease	4/12/2023	231156
	513400200000	40					
	1521100100000	38					
	1521100200000	39					
	1521400300000	38.01					
	1521400400000	38					
	1528100100000	38					
	1528100200000	39					
IA-BMP-191	1528100300000	40	Christopher Christensen	3/20/2023	Memorandum of Lease	5/3/2023	231221
	1528100400000	39					
	324300100000	39					
	324300200000	40					
IA-BMP-198	324300300000	38	Mick James Dougherty	4/18/2023	Memorandum of Lease	5/31/2023	231308
	324300403000	37.46					
	314400300000	37.92					
	314400401000	35.07					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-203	1124100100000	38	Deborah S. Garner	4/14/2023	Memorandum of Lease	5/31/2023	231311
	1124100200000	38					
	1124100300000	39					
	1124100401000	38.95					
	1124100402000	0.05					
	1124400100000	39					
	1124400200000	39					
	1319300100000	42					
	1319300200000	43.97					
	1319300300000	41.99					
	1319300400000	42					
	1319400200000	40					
	1319400300000	40					
IA-BMP-207	308300110000	19.5	John M. Cade	5/4/2023	Memorandum of Lease	5/31/2023	231323
	308300210000	19.5					
	308400400000	39					
	309300200000	40					
	309300300000	39					
	318100100000	38					
	318100200000	39					
	318100300000	40					
	318100410000	19					
	318100420000	20					
	318200100000	39					
	318200400000	40					
	318400100000	39					
IA-BMP-208	307300400000	39	John M. Cade	5/4/2023	Memorandum of Lease	5/31/2023	231325
	307400100000	39					
	307400200000	40					
	307400300000	39					
	307400400000	38					
	308300140000	19.5					
	308300400000	38					
	308400300000	38					
	309300100000	39					
	309300400000	38					
	309400100000	40					
	309400200000	39					
	309400300000	35.9					
	309400400000	39					
IA-BMP-210	307300100000	40	Monty Clair Douglas	5/11/2023	Memorandum of Lease	5/31/2023	231316
	307300200000	44.24					
	307300300000	43.15					
IA-BMP-212	335300100000	40	Amy Klocke Diggs	5/1/2023	Memorandum of Lease	5/31/2023	231317
	1521200100000	39					
	1521200200000	38					
IA-BMP-214	507100100000	7.8	James Dean McMann	5/16/2023	Memorandum of Lease	6/14/2023	231405
IA-BMP-215	505300100000	40	Claude W. Hayes	5/16/2023	Memorandum of Lease	6/14/2023	231406
	505300202000	36.57					
	505300300000	37					
	505300400000	39					
	507100101000	30.2					
	507100200000	39					
	507100300000	40					
	507100400000	39					
	507200100000	39					
	507200200000	42.16					
	507200310000	21.8					
	507200340000	21.8					
	507200410000	20					
	507200440000	20					
	507300100000	40					
	507300200000	42.84					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-216	130300100000	40	Chad M. Klocke	5/17/2023	Memorandum of Lease	6/28/2023	231453
	130300200000	40.5					
	130300300000	39.19					
	130300400000	39					
	325100100000	38					
	325100200000	39					
	325400100000	39					
	325400200000	40					
	325400300000	39					
	325400401000	34.23					
	326200100000	39					
	326200200000	38					
	326400100000	39					
	326400200000	40					
	326400300000	39					
	326400400000	38					
	327100400000	39					
	336200101000	28.3					
	336200400000	40					
	1305300100000	40					
	1305300200000	39					
	1305300300000	38					
	1305300400000	39					
	1330100202000	16					
	1330100302000	16					
	1330200101000	20.18					
	1330200102000	10.79					
	1330200201000	22.42					
	1330200301000	25.1					
	1330200401000	24.85					
	1330200402000	15.7					
IA-BMP-217	132300100000	40	Michael Klocke	5/17/2023	Memorandum of Lease	6/28/2023	231454
	132300202000	27.53					
	132300303000	26.86					
	132300400000	39					
	1509200301000	3.12					
IA-BMP-218	1509200401000	3.08	Michael Klocke	5/17/2023	Memorandum of Lease	6/28/2023	231455
	132100101000	19					
	132100200000	39					
	132100300000	40					
	132100402000	36.07					
	132200100000	39					
	132200200000	37.25					
	132200300000	38.5					
	132200400000	40					
	1504300200000	39					
	1504300300000	38					
	1504300402000	35.06					
	1509200103000	12.1					
	1509200200000	37.3					
	1509200300000	36					
	1509200403000	33.91					
	1509300100000	40					
	1509300200000	39					
IA-BMP-219	133100210000	30	Michael Klocke	5/17/2023	Memorandum of Lease	6/28/2023	231456
	133100220000	10					
	133100310000	30					
	133100320000	10					
	133200100000	39					
	133200200000	38					
	133200300000	39					
	133200400000	40					
	133300100000	40					
	133300200000	38.52					
	133300300000	37.98					
	133300400000	39					
	133400100000	39					
	133400200000	40					
	1504200100000	37					
	1504200202000	33.06					
	1504200300000	39					
	1504200400000	40					
	1504300100000	40					
IA-BMP-220	132400100000	38.74	Michael Klocke	5/19/2023	Memorandum of Lease	6/22/2023	231436
	132400200000	40					
	132400310000	29					
	132400400000	38					
	1509100300000	13.06					
	1509100404000	12.73					
	1509400100000	39					
IA-BMP-221	1509400200000	40	Miriam L. Dolezal	3/15/2023	Memorandum of Lease	7/31/2023	24102
	524400400000	39					
	525100100000	39					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-223	318200200000	43.05	Deborah Jane Houchin	6/16/2023	Memorandum of Lease	6/28/2023	231461
	318200300000	44					
	318300200000	43.85					
	318300300000	40.73					
	330300100000	42					
	330300200000	41.5					
	330300300000	40.38					
	330300400000	41					
	526200100000	39					
	526200200000	36					
	526200300000	38.4					
	526200400000	40					
	535400100000	39					
	535400200000	40					
	536200100000	39					
	536200200000	38					
	536200302000	33.52					
	536200400000	40					
	536300100000	40					
	536300202000	33.59					
	536300302000	37.04					
	536300400000	39					
	1101200100000	33.98					
	1101200200000	33.11					
	1101200300000	39					
	1101200401000	10					
	1101200402000	5					
	1101300104000	20					
	1101300200000	39					
	1101300300000	38					
	1101300400000	40					
IA-BMP-224	311100100000	37.72	Gary A. Freeman	6/7/2023	Memorandum of Lease	7/14/2023	2447
	311100200000	39					
	311200100000	39					
	311200410000	30					
	311300100000	40					
	311300200000	39					
	311300300000	38					
	311300404000	36.5					
IA-BMP-225	1136400300000	39	Larry M. Robey	6/9/2023	Memorandum of Lease	7/14/2023	2448
	1330100201000	22.43					
	1330100301000	24					
	1330200202000	17.48					
	1330200302000	19					
IA-BMP-226	118200300000	38	Darlene H. Freeman	6/13/2023	Memorandum of Lease	7/14/2023	2451
	313100100000	38					
	313100200000	39					
	313200100000	39					
IA-BMP-228	313200200000	38	Franklin C. Houchin	6/27/2023	Memorandum of Lease	8/4/2023	24113
	1123400100000	37.2					
	1123400300000	36.47					
	1123400401000	16.48					
	1126100100000	35.38					
	1126100200000	37.37					
	1126100302000	1					
	1126200100000	38.1					
IA-BMP-229	1126200400000	40	Angela K. Robey Stream	6/30/2023	Memorandum of Lease	8/4/2023	24118
	1125100200000	40					
	1125100300000	40					
	1125400100000	37.5					
IA-BMP-230	1125400200000	40	Angela K. Robey Stream	6/30/2023	Memorandum of Lease	8/4/2023	24121
	1125400101000	2.5					
IA-BMP-231	330200100000	40	James A. Miller	7/6/2023	Memorandum of Lease	8/4/2023	24114
	330200200000	43.74					
	330200300000	43.62					
IA-BMP-235	330200400000	40	Kennard L. Barker	8/11/2023	Memorandum of Lease	9/25/2023	24320
	1319100300000	40					
	1319400100000	39					
IA-BMP-236	1319400400000	36.53	LaRon D. Beemer	8/15/2023	Memorandum of Lease	9/25/2023	24321
	535100300000	40					
IA-BMP-237	535100400000	39	Deborah S. Garner	8/18/2023	Memorandum of Lease	9/25/2023	24322
	1136100200000	39					
	1136100300000	40					
	1136200100000	39					
	1136200200000	35.59					
	1136200300000	39					
	1136200400000	40					
	1136300100000	40					
	1136300200000	39					
	1136300300000	38					
	1136300400000	39					
	1136400100000	40					
	1136400200000	40					
	1136400400000	39					
IA-BMP-239	5091002100000	39	Robert C. Wetzel	9/22/2023	Memorandum of Lease	11/3/2023	24471
	5091003000000	40					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-240	320100100000	37.75	Brandon Petersen	10/26/2023	Memorandum of Lease	11/20/2023	24515
	320100400000	40					
	320400100000	40					
	321200220000	18.81					
	321200320000	20					
	321300220000	20					
IA-BMP-241	305400100000	40	John M. Cade	11/10/2023	Memorandum of Lease	12/12/2023	24587
	305400410000	19.5					
	305400420000	19.5					
	308100100000	39					
	308100200000	38					
	308100410000	20					
	308200300000	39					
	308200400000	39					
IA-BMP-242	1114300100000	39	Daina L. Taylor	11/10/2023	Memorandum of Lease	12/12/2023	24589
	1114300200000	32					
	1114300400000	38					
	1114400300000	38					
	1114400401000	37.5					
	1123100101000	37.65					
	1123100104000	1.35					
	1123100401000	37.7					
IA-BMP-243	1123100402000	2.3	Shannon Richelle Robbins Davidoff	11/15/2023	Memorandum of Lease	12/12/2023	24590
	509400100000	39					
	509400200000	40					
	509400300000	39					
	509400400000	38					
	515200300000	39					
	515200400000	40					
	515300100000	40					
	515300203000	31.46					
	515300300000	25.96					
	515300400000	39					
	516100100000	38					
	516100201000	31.29					
	516100300000	40					
	516100400000	38					
	516200100000	39					
	516200400000	40					
	516400100000	39					
IA-BMP-244	1114200100000	39	Jimmie D. Hughes	11/27/2023	Memorandum of Lease	12/12/2023	24591
	1114200200000	37					
	1114200300000	37.2					
	1114200400000	39					
IA-BMP-245	526400201000	30	Lucas D. Dalton	11/20/2023	Memorandum of Lease	12/22/2023	24635
	526400300000	39					
	526400400000	38					
IA-BMP-246	517300110000	20	Ronald E. Naven	12/1/2023	Memorandum of Lease	12/22/2023	24636
	517300410000	19.38					
	517300411000	0.12					
	517400200000	40					
IA-BMP-249	517400302000	39	Thomas M. O'Brien	1/2/2024	Memorandum of Wind Energy Lease	1/26/2024	24768
	317100100000	40					
	317100200000	40					
IA-BMP-252	317200100000	40	Paul H. Fraley	12/12/2023	Memorandum of Lease	3/4/2024	24894
	314100100000	40					
	314100200000	40					
	327300300000	40					
	327300400000	40					
	327400100000	39					
	327400200000	40					
IA-BMP-254	327400300000	40	Donald Frank Reineke	3/12/2024	Memorandum of Lease	4/11/2024	241019
	327400400000	38					
	527100102000	32.86					
	527100200000	39					
	527100300000	40					
	527100402000	36.45					
IA-BMP-255	535100100000	38	David W. Bengtson	4/2/2024	Memorandum of Wind Energy Lease	5/17/2024	241150
	535100200000	39					
	701200100000	42.68					
IA-BMP-257	701200400000	40	Rosemary Dougherty	4/30/2024	Memorandum of Lease	5/31/2024	241195
	307100100002	36.36					
	307100200000	39					
	307100300000	40					
	307100400000	39					
	308200100000	38					
	308200200000	38					
IA-BMP-258	512100200000	39	Rosemary Dougherty	4/30/2024	Memorandum of Lease	5/31/2024	241200
	307200100000	39					
	307200200000	43.43					
	307200300000	44					
	307200400000	40					
	512100100000	38					
	512100400000	39					

Agreement Number ^{1,2,3}	Parcel ID	Acres	Landowner Name	Effective Date	Document Description	Recording Date	Instrument Number
IA-BMP-260	1307400100000	38	Daniel David Kinser	11/11/2024	Memorandum of Lease	12/13/2024	25608
	1307400200000	39					
	1307400300000	40					
	1307400400000	39					
	1318100100000	39					
	1318100200000	40					
	1318100300000	40					
	1318100400000	40					
	1318400100000	40					
	1318400200000	40					
	1318400300000	40					
	1318400400000	40					
IA-BMP-261	304300200000	40	Monty Clair Douglas	11/22/2024	Memorandum of Lease	12/13/2024	25609
	304300310000	37.8					
IA-BMP-263	517300120000	20	Cory Shelton	1/10/2025	Memorandum of Lease	1/28/2025	25806
	517300200000	39					
	517300300000	37.18					
	517300420000	19					
	702100200000	42.1					
	702100300000	40					
	702100400000	39					
IA-BMP-267	1521100300000	40	Estella L. Copeland	6/10/2025	Memorandum of Wind Energy Lease	7/2/2025	2025 338
	1521100400000	39					
	1521400100000	39					
	1521400200000	40					
	1521400302000	0.99					
IA-BMP-272	1111300202000	36	Paul John Klocke	8/1/2025	Memorandum of Wind Energy Lease	8/15/2025	2025 521
	1111300300000	38.3					
	1318200100000	40					
	1318200200000	44.71					
	1318200300000	44.77					
	1318200400000	40					
	1318300100000	40					
	1318300200000	44.83					
	1318300300000	43.89					
IA-BMP-283	1306100302000	20	Thomas J. Reising	10/7/2025	Memorandum of Wind Energy Lease	10/22/2025	2025 751
	1306200400000	40					
	1306300100000	40					
	1306300200000	43.49					
	1306300302000	41.27					
	1306300402000	38.78					
	1306400202000	20					
	1306400302000	19					
	1307200202000	40.1					
	1307200302000	4.59					
IA-BMP-284	1113400100000	40	Brian D. Knau	11/17/2025	Memorandum of Wind Energy Lease	1/6/2026	2026 15
	1113400200000	38.48					
	1113400302000	36.05					
	1113400400000	39					
IA-BMP-285	0522400300000A	15	Timothy J. Kreifels	12/3/2025	Memorandum of Purchase and Sale Agreement	1/6/2026	2026 16
IA-BMP-289	1124200100000	38	C. Gayl Hopkins	12/16/2025	Memorandum of Wind Energy Lease	1/16/2026	2026 66
	1124200200000	38.88					
	1124200300000	40					
	1124200400000	39					
IA-BMP-297	322200100000	38.07	Martha Baker Howland	1/21/2026	Memorandum of Wind Energy Lease	3/9/2026	2026 260
	322200200000	37.46					
IA-BMP-300	309200300000	40	John M. Cade	1/6/2026	Memorandum of Wind Energy Lease	3/3/2026	2026 230
IA-BMP-301	1520200100000	39	Matthew L. Ryan	2/11/2026	Memorandum of Wind Energy Lease	4/9/2026	2026 376
	1520200200000	34.82					
147 Agreements	1,041 Parcels	36,451.99 Acres					

¹ Some agreements may include additional parcels not included here; those parcels not included are now outside the WECS Permit Project Area.

² Site control agreements have all been recorded with Taylor County. They can also be viewed online at:
<https://apexcleanenergy.app.box.com/folder/398256157786?v=BlackMapleWindLandAgreements>

³ All site control documents have been executed by Black Maple Project, LLC, a direct subsidiary of Black Maple Wind, LLC. Through its direct subsidiary, Black Maple Wind, LLC has full site control for construction and operation of the Project.

Appendix C.2

Evidence of Recorded Participating Property Documents (§3.A.7)

All site control documents have been recorded at Taylor County Recorder of Deeds Office. For convenience, Black Maple Wind has assembled all of the land agreements associated with this WECS Permit Application in a single place. These documents are available for viewing at <https://apexcleanenergy.app.box.com/folder/398256157786?v=BlackMapleWindLandAgreements>

Appendix C.3

Template Wind Energy Lease (§3.A.7)

WIND ENERGY LEASE

This Wind Energy Lease (this “Lease”) is entered into as of the _____ day of _____, 20____ (the “Effective Date”) by and between «Current_Legal_Name» (collectively, “Landlord”), and Black Maple Project, LLC, a Delaware limited liability company (“Tenant”).

WITNESSETH:

WHEREAS, Landlord is the owner of the real property legally described in Exhibit A attached hereto and incorporated by reference herein (the “Property”); and

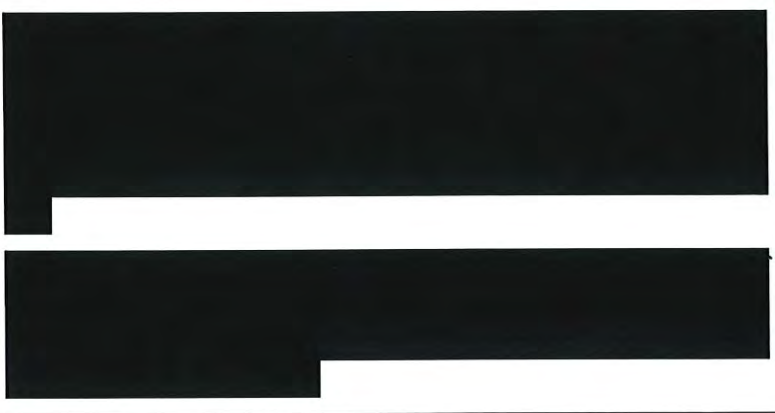
WHEREAS, Tenant desires to obtain a land lease and wind easement from Landlord, on, along, over and under the Property for the purposes of wind energy conversion for the generation, distribution and transmission of electric power and related purposes as described herein;

NOW, THEREFORE, in consideration of the understandings and mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant, intending to be legally bound, mutually agree to the following terms and conditions:

1. BASIC LEASE TERMS.

1.1 <u>Property.</u>	The real property owned by Landlord and located in Taylor County (“County”), State of Iowa, as more particularly described in <u>Exhibit A</u> hereto, including all rights, privileges, easements and appurtenances pertaining thereto. The Property consists of «Verified_Acres» acres.
1.2 <u>Project.</u>	The larger, integrated wind energy project that may be constructed by Tenant on the Property and on other adjacent or nearby real property. The final boundaries of the Project shall be determined by Tenant in its reasonable discretion.
1.3 <u>Phase.</u>	A portion of the Project that is distinguishable from the remainder of the Project because it is constructed and put into operation at approximately the same time. The Project may have one or more phases, each a “Phase.” Phases shall be determined by Tenant in its reasonable discretion.
1.4 <u>Development Period.</u>	The period commencing on the Effective Date of this Lease and expiring seven (7) years after the Effective Date, if not extended or sooner terminated as provided in this Lease.

1.5 <u>Operations Period.</u>	The period commencing on the last day of the Development Period and expiring thirty (30) years thereafter, as more fully set forth in <u>Section 3.2</u> , and which may be extended pursuant to <u>Section 3.3</u> .
1.6 <u>Commencement of Construction.</u>	The date that Tenant pours the foundation for the first Wind Turbine (as defined in <u>Section 4.1.2</u>) installed in the Phase that includes the Property.
1.7 <u>Commercial Operations Date.</u>	With respect to any Phase, the date that Commercial Operations (or a similar concept) is declared under the interconnection agreement(s) for the Project. Tenant shall notify Landlord in writing of the Commercial Operations Date for any Phase that includes the Property no later than sixty (60) days after it occurs.
1.8 <u>Development Rent.</u>	
1.9 <u>Annual Rent.</u>	
1.10 <u>Inflation Adjustment Factor.</u>	

1.11 <u>Other Equipment Fees.</u>	
1.12 <u>Laydown Yard Fee.</u>	
1.13 <u>Installation Fee.</u>	
1.14 <u>Transmission and Access Easement Fee.</u>	

2. LEASING CLAUSE.

Landlord leases the Property to Tenant, and Tenant leases the Property from Landlord, on the terms and conditions of this Lease.

3. TERM.

3.1 Development Period. The initial term of this Lease shall be for the Development Period specified in Section 1.4.

3.2 Operations Period. If, at any time during the Development Period, either: (a) the Commercial Operations Date for a Phase that includes the Property occurs; or (b) Tenant first pays Landlord the Annual Rent specified in Section 1.9 (prorated for the remainder of the calendar year in which the payment is made), then the Development Period of this Lease shall end, and the term of this Lease automatically shall be extended for the Operations Period specified in Section 1.5.

3.3 Extension Rights. If the term of this Lease has been extended for the Operations Period, and provided that Tenant is not then in default of this Lease, Tenant shall have the right to extend the Operations Period for two (2) additional ten (10) year period(s) by providing written notice thereof to Landlord no later than thirty (30) days before the then-existing expiration date of the Operations Period. As used hereafter, “**Term**” refers collectively to the Development Period and any Operations Period, including any and all extensions thereof.

4. USE OF PROPERTY

4.1 Tenant’s Use. Throughout the Term, Tenant shall have the sole and exclusive rights to use the Property for Wind Energy Purposes and to convert all of the wind resources of the Property including, without limitation, all rents, royalties, credits and profits derived from wind energy and the wind resources upon, over and across the Property. “**Wind Energy Purposes**” means: wind resource evaluation (including use of SODAR or LIDAR technology) and determination of the feasibility of wind energy conversion on the Property or on adjacent lands, including studies of wind speed, wind direction and other meteorological data; wind energy development; conversion of wind energy into electrical energy; collection and transmission of electrical energy converted from wind energy; and any and all other activities related to the foregoing. Tenant’s rights hereunder specifically include, but are not limited to, the right to:

4.1.1 Extract soil samples, perform geotechnical tests, and conduct such other tests, studies, inspections and analysis on the Property as Tenant deems necessary, useful or appropriate in its sole discretion.

4.1.2 Construct, install, lay down, erect, improve, place, replace, remove, relocate and operate any and all improvements, machinery or equipment that Tenant deems necessary or desirable in connection with the uses described above, including, without limitation, the following (collectively, the “**Wind Facilities**”): (a) one or more wind turbine energy generators, associated towers, related fixtures, equipment and improvements, including the appurtenant footings, support structures and towers (“**Wind Turbines**”); (b) underground electrical and communications lines, collection and transmission equipment; (c) power conditioning equipment, substations,

interconnection facilities, switchyards, switching facilities, battery storage facilities, ADLS Towers, operations and maintenance buildings, transformers, SCADA and telecommunications equipment; (d) roads, gates, signs, fences, Met Towers, wind energy measurement equipment, maintenance yards and other related facilities, machinery, equipment and improvements; and (e) temporary improvements of any kind, including but not limited to temporary security, office, and guest facilities, staging areas, power generation facilities used for wind turbine installations, laydown areas, temporary roads and crane paths, crane pads, and related facilities (collectively, "**Temporary Improvements**"). An improvement shall be deemed "temporary" if it will be located on the Property for less than two years and "permanent" if it will be located on the Property for two years or longer.

4.1.3 Capture, use and convert the unobstructed wind resources over and across the Property.

4.1.4 Generate audio, visual and electrical effects, as well as shadow flicker, and/or other effects, on the Property attributable to the operation of Wind Facilities or any other activities of Tenant; and allow the rotors of Wind Turbines located on adjacent properties in the Project to overhang onto the Property.

4.1.5 Undertake any other activities whether accomplished by Tenant or third parties authorized by Tenant that Tenant reasonably deems necessary, useful or appropriate to accomplish the development and operation of the Wind Facilities, provided that such activities are conducted in a manner consistent with customary industry practices.

4.2 Ownership of Wind Facilities. Tenant shall at all times retain title to the Wind Facilities and shall have the right to remove them from the Property at any time. Landlord shall have no ownership, lien, security or other interest in any Wind Facilities installed on the Property and Landlord expressly waives, relinquishes and quitclaims any lien or security interest in and to the Wind Facilities or any other real or personal property of Tenant, whether arising at law or in equity. Landlord shall not have any ownership or other interest in any and all credits, tax credits, benefits, emissions reductions, offsets and allowances of any kind, howsoever entitled, attributable to the Wind Facilities, nor to the electric energy, capacity or other products produced therefrom. The manner of operation of the Wind Facilities is within the sole discretion of Tenant.

4.3 Right of Access. Tenant shall have the right of access over and across all portions of the Property, and any adjacent property owned by Landlord, except a yard around an occupied residence, as reasonably necessary to use the Property as permitted by this Lease and to develop, construct and operate the Project, including installing Wind Facilities to and through the Property in order to connect to other properties with Wind Facilities.

4.4 No Warranty of Energy Production. Tenant has not made and does not make any representations or warranties regarding energy production from Wind Facilities on the Property or the likelihood that Tenant will install Wind Facilities on the Property.

4.5 Quiet Enjoyment. As long as Tenant observes the terms and conditions of this Lease, it shall peaceably hold and enjoy the rights of Tenant hereunder and any and all other rights

granted by this Lease for its entire term without hindrance or interruption by Landlord or any other person or persons.

4.6 Mineral Development. Landlord reserves the right to develop the minerals, if any, owned by Landlord or third parties on the Property so long as such development (including any drilling or mining) does not interfere with Tenant's use of the Property and does not materially diminish the amount of land surface of the Property available for the Tenant activities.

4.7 Agricultural Activities. In the construction and operation of its Wind Facilities, Tenant will make reasonable efforts not to interfere with Landlord's agricultural activities on the Property. To that end, Tenant will designate a single point of contact for communications with Landlord at all times.

4.8 Review of Site Plan. At least thirty (30) days prior to the Commencement of Construction, Tenant shall provide Landlord with a site development plan for the Property including all proposed sites and locations for all roads, turbines, underground electrical lines, substations, O&M buildings, or any other constructs constituting Wind Facilities. Within fifteen (15) days after Landlord has been provided with the site development plan, Landlord will notify Tenant of any potential problems foreseen with the proposed locations of the Wind Facilities and offer good faith suggestions, comments and possible remedies to address the areas of concern to aid Tenant in its final site development planning. Tenant will consider Landlord's suggestions and comments, and wherever reasonable, revise the site development plan to accommodate or mitigate the impact to the Property to address reasonable Landlord concerns regarding the location of the Wind Facilities. Tenant shall make good faith efforts to locate Wind Facilities in areas consistent with Landlord's reasonable requests and close to pre-existing access roads and property lines while limiting surface obstructions and minimizing impacts on existing farming operations, including where feasible, locating roads parallel to crop rows. Tenant shall make all final siting decisions in its sole and absolute discretion.

5. RENT AND OTHER PAYMENTS.

5.1. Payment of Rent Generally. Tenant shall not be required to make any rent payment to Landlord under this Lease until such time as Landlord has returned to Tenant a completed and executed Internal Revenue Service Form W-9 and a payment instruction form signed by each person or entity holding record or equitable title to the Property.

5.2. Attorney's Fees. If Landlord has consulted an attorney on the terms of the agreement, Tenant shall reimburse Landlord [REDACTED] for Landlord's attorneys' fees incurred in review and preparation of this Lease. Such payment shall be made within thirty (30) days after the later of (i) the Effective Date of this Lease, and (ii) the date Tenant receives an invoice for attorney's fees from Landlord.

5.3. Installation Fee. If Wind Turbines, or underground transmission or collection lines, or permanent roads are installed on the Property, Tenant shall pay Landlord the Installation Fee described in Section 1.13. [REDACTED]

[REDACTED] Once such payment, as applicable, has been made, Tenant shall have no further obligations with respect to the Installation Fee.

5.4. Payments During the Development Period. During the Development Period, Tenant shall pay the Development Rent specified in Section 1.8. Payment shall be due within sixty (60) days after the Effective Date and within thirty (30) days after each anniversary of the Effective Date during the Development Period. If the Development Period ends on any day other than an anniversary of the Effective Date, Development Rent already paid for periods of time after termination of the Development Period shall be applied to payments due during the Operations Period.

5.5. Permitting Payment. Within forty-five (45) days after Tenant has acquired all non-appealable permits from Taylor County required for the construction and operation of the phase of the Project that includes the Property, Tenant shall make a one-time payment to Landlord equal to the sum of [REDACTED] (the "**Permitting Payment**").

5.6. Other Equipment Fees. If Tenant installs a Met Tower and/or an ADLS Tower on the Property, Tenant shall pay Landlord the annual Other Equipment Fees in Section 1.11 while the Met Tower and/or ADLS Tower (as applicable) is/are installed on the Property. This fee will be paid annually, with the first payment due within forty-five (45) days of the installation of the Met Tower and/or ADLS Tower (as applicable). For each Ranging Unit Tenant installs on the Property, Tenant shall pay Landlord the semi-annual Ranging Unit fee in Section 1.11 for each six-month period that the Ranging Unit is installed on the Property. The Ranging Unit fee shall be paid semi-annually, with the first payment due within forty-five (45) days of the installation of the Ranging Unit.

5.7. Laydown Yard Fee. If Tenant installs a laydown yard on the Property, Tenant shall pay Landlord the annual Laydown Yard Fee in Section 1.12 while the laydown yard is installed. The Laydown Yard Fee will be paid annually, with the first payment due within forty-five (45) days after the installation of the laydown yard. The Laydown Yard Fee shall be in addition to any Annual Rent that might be due pursuant to Section 1.9.

5.8. Facilities Tract Fee. If a transmission substation, switchyard, switching facility, battery storage facility, or operations and maintenance facility ("**O&M Facility**") is constructed on the Property pursuant to this Lease, (the "**Facilities Tract**", as further defined below) Tenant shall pay Landlord a one-time Facilities Tract Fee equal to [REDACTED] (the "**Facilities Tract Fee**"). The Facilities Tract shall include all the area that is unavailable for agricultural purposes because of facilities installed for electric power switching, transformation, metering, conditioning, interconnection, battery storage, and/or operations and maintenance. If the parties are unable to agree on the fair market value of the Facilities Tract, the fair market value shall be determined by written appraisal performed by an independent appraiser reasonably acceptable to Landlord and Tenant. [REDACTED]

[REDACTED]

If a substation, switchyard, switching facility, battery storage facility, or O&M Facility is constructed on the Property pursuant to this Lease and is removed before the termination of this Lease, Tenant shall restore the portion of the Property affected by the substation, switchyard, switching facility, battery storage facility or O&M building to its original state as nearly as is reasonably possible within one hundred eighty (180) days of such removal. Each Facilities Tract Fee shall be paid, if at all, within thirty (30) days after the Commercial Operations Date.

[REDACTED]

5.9. Transmission and Access Easement Fee. Tenant shall pay Landlord a one-time Transmission and Access Easement Fee in the amount specified in Section 1.14 if permanent roads or buried cables, but no Wind Turbines, are installed on the Property. The Transmission and Access Easement Fee shall be in addition to any Minimum Annual Rent that might be due pursuant to Section 1.19. The Transmission and Access Easement Fee shall be paid, if due, within thirty (30) days after the Commercial Operations Date.

5.10. Annual Rent. During the Operations Period, Tenant shall pay the Annual Rent specified in Section 1.9 to Landlord. The first Annual Rent payment shall be due within thirty (30) days after the commencement of the Operations Period and subsequent payments shall be due within thirty (30) days after each anniversary of the commencement of the Operations Period during the remainder of the Term.

[REDACTED]

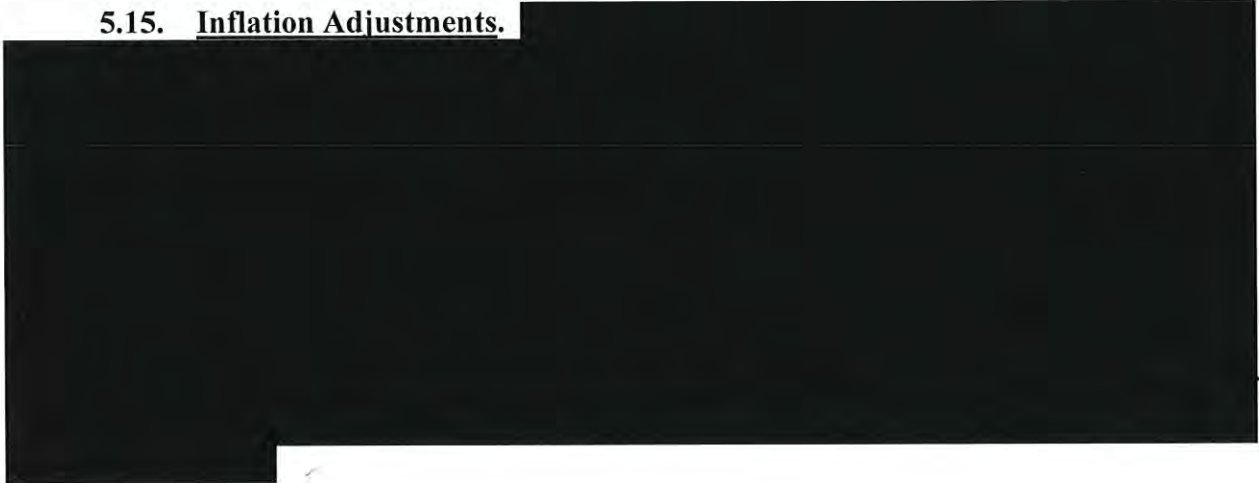
5.11. Taxes and Assessments. Tenant shall pay any increase in the real property taxes levied against the Property directly attributable to the installation of Wind Facilities on the Property. Tenant shall not be liable for taxes attributable to facilities installed by Landlord or others on the Property or to the underlying value of the Property itself. Landlord and Tenant shall cooperate in an effort to have Tenant separately billed for its share of taxes; however, if such arrangement cannot be made, then Landlord shall submit the real property tax bill to Tenant within thirty (30) days after Landlord receives the bill, and Tenant shall pay its share of the taxes to Landlord no later than ten (10) days prior to the date the taxes are due. If Landlord does not timely pay its share of taxes on the Property, Tenant shall be entitled (but not obligated) to make payments in fulfillment of Landlord's tax obligations and may offset those payments against future payments due Landlord under this Lease.

5.12. Tenant's Right to Contest Taxes. Tenant shall have the right to contest the legal validity or amount of any taxes in connection with the Property and may institute such proceedings as it considers necessary, at its own cost. If the contest poses a reasonable risk of loss, forfeiture, or imposition of a penalty on Landlord, then Tenant shall, at Tenant's option, post sufficient financial assurance or provide Landlord with a reasonably satisfactory indemnity against such risks. Landlord shall render to Tenant all reasonable assistance, at no cost or expense to Landlord, in pursuing any tax contest, including joining in the signing of any protest or pleadings which Tenant reasonably deems advisable; provided, however, that Tenant shall reimburse Landlord for its reasonable attorney fees and other expenses actually incurred in connection with providing such assistance.

5.13. Land Conservation Programs. Landlord has disclosed to Tenant all portions of the Property, if any, that are currently enrolled in the USDA Conservation Reserve Program or any substantially similar local, state or federal program for the preservation of agricultural land (any such program, "CRP") as of the Effective Date. Landlord shall cooperate (at no out-of-pocket cost to Landlord) in any effort by Tenant to remove all or a portion of any such land from the CRP as needed for construction, operation and maintenance of the Project. Upon removal from CRP of any portion of the Property that is enrolled in CRP as of the Effective Date, Tenant shall reimburse Landlord for any penalties or reinstated taxes resulting from such removal, but shall not be obligated to reimburse Landlord for any future CRP payments that would otherwise have been made to Landlord after the date of removal. After the Effective Date, Landlord shall not enroll any portion of the Property in CRP without Tenant's consent, not to be unreasonably withheld.

5.14. Utilities. Tenant shall pay for all water, electric, telecommunications and any other utility services used by the Wind Facilities or Tenant on the Property.

5.15. Inflation Adjustments.

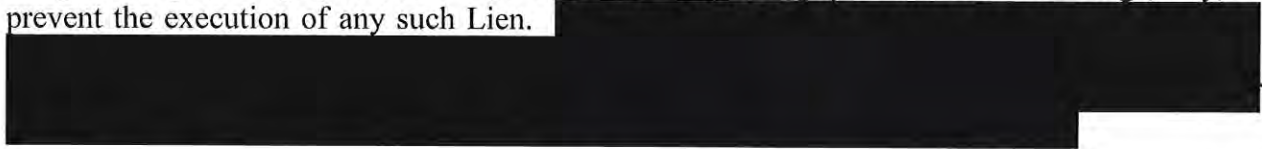


6. IMPROVEMENTS TO THE PROPERTY.

6.1. Mechanics Liens. Tenant shall pay when due all claims for labor and material furnished to the Property, and shall not permit any mechanic's, materialmen's, contractor's, or other claims of liens (collectively "**Liens**") arising from any construction, maintenance, repair, or alteration of improvements by Tenant to be enforced against the Property or any part thereof.

Tenant may, however, in good faith and at Tenant's own expense, contest the validity of any asserted Lien, provided that Tenant has, at Tenant's option, bonded against the Lien pursuant to applicable law or provided Landlord with an indemnity against enforcement of the Lien in a form reasonably satisfactory to Landlord. Tenant shall give Landlord at least twenty (20) days' prior written notice of the commencement of any work on the Property that could be the subject of a Lien, and Landlord shall have the right to record and post notices of non-responsibility for the work.

6.2. Landlord's Right to Discharge Lien. If Tenant fails to comply with Section 6.1 and a Lien is enforced against the Property as a result, Landlord shall have the right, but not the obligation, upon ten (10) business days' notice to Tenant, to pay or otherwise discharge, stay, or prevent the execution of any such Lien.



6.3. Maintenance of Property. On completion of construction, Tenant shall restore all portions of the Property temporarily disturbed by Tenant to a condition substantially similar to the condition that existed prior to construction, to the extent such restoration is commercially reasonable; provided however that if crops are displaced, Tenant shall not be responsible for replacing crops but shall instead pay crop damage pursuant to Section 6.7, if applicable. Tenant shall reseed any areas that were vegetated prior to disturbance to commercially reasonable standards, in consultation with Landlord. Throughout the Term, Tenant shall, at Tenant's sole cost and expense, maintain the Wind Facilities in good condition and repair, ordinary wear and tear excepted, and in accordance with all applicable Laws.

6.4. Transmission and Collection Lines. All underground transmission and collection lines on the Property shall be buried at least four feet below the surface.

6.5. Erosion and Weed Control. Tenant shall, at its sole cost and expense, take commercially reasonable steps to mitigate erosion and control noxious weeds within one hundred (100) feet of the Wind Facilities, along roads built by Tenant, and on any other portions of the Property where the surface of the land has been disturbed by Tenant. If Tenant fails to control noxious weeds as required by this Section 6.5, then Landlord may upon ten (10) days prior written notice to Tenant assume responsibility for the implementation of all weed control measures, and Tenant shall reimburse Landlord for all reasonable weed control measures at the normal and reasonable rates in the County where the Property are located.

6.6. Roads. Tenant shall post any roads it constructs on the Property as private roads only for use by authorized personnel in connection with the Wind Facilities. Landlord may use or cross (or permit the use or crossing of) such roads only to the extent such use or crossing does not interfere with Tenant's operations pursuant to this Lease or enjoyment of Tenant's rights hereby granted. Landlord shall reimburse Tenant for the cost to repair any damage to Tenant's roads caused by Landlord or those using the roads with Landlord's permission.

6.7. Crop/Livestock Damage. Tenant shall reimburse Landlord (or, if requested by Landlord, Landlord's agricultural tenants) one time for all damage to cropland, crops and livestock

caused by Tenant's construction, operation and maintenance of Wind Facilities on the Property as follows:

6.7.1. For growing crops (provided that Landlord was farming such portions of the Property immediately prior to such crop damage occurring), within thirty (30) days after agreeing to the extent of the damage and receiving all documents required to calculate the payment, Tenant shall pay a one-time lump-sum amount equal to [REDACTED]

Upon completion of construction of Wind Facilities, Tenant may require that Landlord not grow crops within the boundaries of the access roads and Wind Facilities installed on the Property pursuant to this Lease, and thereafter no crop damage payments will be payable with respect to such areas (except for compaction payments, if any, pursuant to Section 6.7.2 below). For the purposes of this Section 6.7.1, the "boundaries" of the Wind Facilities shall include the immediate area upon which improvements are located plus a 10-foot wide perimeter surrounding such immediate area.

6.7.2. If Tenant causes compaction of any part of the Property which is located more than five feet (5') from the edge of the areas occupied by the Wind Facilities, and such compaction impairs crop yield the growing season following construction activities, then within thirty (30) days after agreeing to the extent of the damage and receiving all documents required to calculate the payment, Tenant shall compensate Landlord [REDACTED]

6.7.3. For livestock, an amount equal to [REDACTED]

6.7.4. The remedies provided in this Section 6.7 shall be the exclusive remedy for damages to cropland, crops or livestock caused by construction, operation and maintenance of Wind Facilities on the Property. Landlord and Tenant acknowledge that this liquidated remedy is appropriate because of the difficulty and expense of fixing actual, direct damages for such losses. Except as expressly set forth in this Section 6.7, Tenant shall not be responsible to compensate Landlord or its agricultural tenants for soil compaction, its inability to grow crops, raise livestock or otherwise use the Property as a result of the construction, maintenance or operation of the Wind Facilities on the Property except as described in Section 6.7.2 above.

6.7.5. If Landlord and Tenant cannot agree in good faith in calculating the payments required under this Section 6.7, the dispute shall be resolved by an arbitrator mutually acceptable to the parties. If the parties cannot agree on an arbitrator, then each party shall select an arbitrator, and the two arbitrators together shall select a third arbitrator to resolve the matter. The determination of the arbitrator shall be final and binding upon the parties. [REDACTED]

6.8. Gates and Fences. Tenant shall keep all gates on the Property closed except when open to permit the passage of vehicular traffic, and shall not permit livestock to stray or escape through the gates at any time. Tenant and Landlord may maintain separate locks on all gates such that either lock is capable of unlocking a given gate. When relocating an existing fence, Tenant shall pay for the cost of relocation, and also shall obtain Landlord's prior consent on the new location of the fence, not to be unreasonably withheld. When installing a gate within an existing fence, Tenant shall make fence cuts, braces, and repairs that will be permanent and remain functional for the remaining expected life of the fences of which they are part. Tenant shall have the right to install cattle guards in lieu of gates with the consent of Landlord, not to be unreasonably withheld. Within ten (10) days after written notice from Landlord of any problem with a gate, cattle guard or fence installed or maintained by Tenant, Tenant shall make adequate repairs, weather permitting; provided, however, that in the event Landlord reasonably deems it necessary to make repairs without notice to Tenant because of the imminent escape or loss of livestock, then Landlord may do so and shall be reimbursed by Tenant for the reasonable and actual out-of-pocket costs incurred by Landlord.

6.9. Drain Tile Repair by Tenant. Tenant shall make commercially reasonable repair (including replacement of damaged tile as necessary) of any tile damage that Tenant's construction or operation activities cause on Landlord's property. Tenant shall also pay crop damage for any crops damaged by flood due to broken tile which would not have occurred but for Tenant's activities on the property and indemnify Landlord against any third-party claims for any such damage pursuant to Section 8.2. Underground electrical wires and cables shall be installed with a trencher to a depth not less than forty-eight (48) inches below the natural surface of the ground and below any existing drain tile. All farm drainage tile which intersects the Tenant's underground electrical wires and cable shall be identified and repaired and/or replaced if damaged, by a contractor qualified in farm drainage. Tenant agrees to consult, in good faith, with Landlord regarding the repair and/or replacement of said drainage tile. Landlord shall have the right to inspect all tile repairs and connections prior to backfill, provided Landlord is immediately available to do so. If Landlord is not available, Tenant's contractor shall provide Landlord with digital photographs of the repair. Upon completion of a Project and the commercial production of electricity from all of the Wind Turbines therein, Tenant shall provide Landlord with i) a GPS coordinate reading of the location of such repaired or replaced tile and ii) an illustration depicting the location of all underground electrical wires and cables, on the property of Landlord, as well as the intersection of all such underground improvements with the drainage tile system on Landlord's property. In the event that Landlord's activities on the Property subsequent to installation of the Wind Power Facilities and the commercial production of electricity from all of the Wind Turbines therein shall require identification of the physical location of said wires and cables, Tenant agrees to do so, at no expense to Landlord, within five (5) days of receiving the locate request.

6.10 Aerial Spraying. In the event that Landlord will utilize aerial spraying (crop dusting), Tenant will provide a two (2) hour window of day-light time during which the Wind Turbines located on a particular property will be turned off to facilitate safer flying. The Landlord, any neighboring landowners who are parties to wind energy leases that are a part of the Project, Tenant and the crop duster company shall work together to coordinate this time, to the end of avoiding, to the maximum extent commercially feasible, the staggered shutting down of individual Wind Turbines as opposed to shutting down of groups of physically contiguous turbines. To the extent commercially feasible, Landlord shall be flexible as to time and date of such requests so as to avoid shutting down of portions of the Project during periods of peak demand for electricity.

7. LANDLORD'S REPRESENTATIONS AND COVENANTS.

7.1. No Interference. Landlord shall not cause nor permit any restriction or interference with: (a) the siting, permitting, construction, installation, maintenance, operation, replacement, or removal of Wind Facilities; (b) the flow of wind, wind speed or wind direction over the Property; (c) access over the Property to Wind Facilities; or (d) any other activities of Tenant permitted under this Lease.

7.2. Trees, Structures and Improvements. Section 7.1 notwithstanding, all structures and improvements on the Property as of the Effective Date shall be allowed to remain and Tenant may not require their removal. After the Effective Date, Landlord may install new trees, structures and improvements on the Property that are less than fifty (50) feet in height and at least five hundred (500) feet from the base of any Wind Turbine without Tenant's consent; provided, however, that such an installation shall not violate any setback or other permitting or regulatory requirement for the Wind Facilities or the Project set by any governmental authority. If construction of the Wind Facilities on the Property is not yet complete then Landlord shall first consult with Tenant to ensure that the new tree, structure or improvement is not within five hundred (500) feet of any planned Wind Turbine and does not interfere with any other requirements of the Project. Any new trees, structures and improvements on the Property after the Effective Date that either exceed fifty (50) feet in height or are proposed to be within five hundred (500) feet of the base of an existing or planned Wind Turbine shall require Tenant's prior written consent, not to be unreasonably withheld. For the purposes of this Section 7.2, the height of planted trees will be deemed to be their expected height at full maturity.

7.3. Legal Requirements. Landlord shall, at no out-of-pocket cost to Landlord, assist and fully cooperate with Tenant in complying with or obtaining any and all Laws, land use permits and approvals, tax-incentive or tax-abatement program approvals, building permits, environmental impact reviews or any other approvals required or deemed desirable by Tenant in connection with the development, financing, sale, construction, installation, replacement, relocation, maintenance, operation or removal of the Project and/or Facilities, including, execution of applications for such approvals, allowing Tenant to submit applications for such approvals on behalf of Landlord, and delivery of any other requested information and documentation. Nothing herein shall prevent Landlord from expressing its opinion or appearing at any public proceeding and providing information to any government agency; provided, Landlord may only oppose Tenant's projects if and to the extent Tenant has breached this Lease beyond the expiration of any applicable cure periods.

7.4. Reclassification of Property. Landlord shall not take or agree to any action that could potentially cause a rezoning or reclassification of the Property resulting in Tenant's use of the Property pursuant to this Lease being: (a) nonconforming, (b) prohibited, or (c) a conditional or special use if Tenant's use was not a conditional or special use as of the Effective Date, unless Landlord has Tenant's prior written consent which Tenant may withhold in its sole discretion.

7.5. Lateral Support. Tenant shall have and exercise the right of subjacent and lateral support for Wind Facilities on the Property to whatever extent is necessary for the safe construction, operation and maintenance of Wind Facilities. Landlord expressly covenants that Landlord shall not excavate so near the sides of or underneath the Wind Facilities, either on Landlord's property or adjacent property, so as to undermine or otherwise adversely affect their stability.

7.6. Representations and Warranties. Landlord (and each person or entity comprising Landlord, if applicable) represents and warrants to Tenant as follows:

7.6.1. Landlord is the sole owner of the Property and has the unrestricted right and authority to execute this Lease and to grant to Tenant the rights granted hereunder. Each person signing this Lease on behalf of Landlord is authorized to do so, and all persons having any ownership or possessory interest in the Property have signed this Lease as Landlord. When signed by Landlord, this Lease constitutes a valid and binding agreement enforceable against Landlord in accordance with its terms and shall run with the land. With respect to this Lease and Tenant's and Mortgagee's rights hereunder, each person signing this Lease on behalf of Landlord, or a spouse of such person signing this Lease, hereby relinquishes all rights of dower, homestead and distributive share in and to the Property and waives all rights of exemption as to the Property.

7.6.2. No rights to convert the wind resources of the Property or to otherwise use the Property for Wind Energy Purposes have been granted to or are held by any party other than Tenant, nor shall Landlord grant such rights in the future without the written consent of Tenant, which Tenant may withhold in its sole discretion.

7.6.3. Landlord shall not violate, and shall defend, indemnify and hold Tenant harmless for, from and against any violation or claimed violation (past, present or future), including any associated attorneys' fees, by Landlord or by persons on the Property with Landlord's permission of any federal, state or local law, ordinance or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any substance, material or waste which is now or hereafter classified as hazardous or toxic, or which is regulated under current or future federal, state or local laws or regulations (collectively, "**Hazardous Materials**") on or under the Property. Landlord has no knowledge of the presence of any Hazardous Materials on or under the Property, and shall, at Landlord's expense, remove any Hazardous Materials that are discovered on or under the Property.

7.7. Subordination and Non-Disturbance. Landlord shall cause any person or entity (including without limitation Landlord or any person or entity comprising Landlord) with a lien, encumbrance, mortgage, lease or other exception to Landlord's fee title to the Property, whether recorded or unrecorded, to enter into nondisturbance, subordination and other title curative agreements as requested by Tenant in its sole discretion. If Landlord and Tenant are unable to

obtain such agreements from any person or entity holding an interest in the Property, and Landlord defaults on its obligations to such holder, then Tenant shall be entitled (but not obligated) to fulfill Landlord's obligations to such holder, and may offset the cost of doing so against future payments due Landlord under this Lease. After the Effective Date, Landlord shall not create or suffer any lien, mortgage or encumbrance against the Property unless the holder thereof enters into a subordination, nondisturbance, recognition or similar agreement in a form reasonably acceptable to Tenant, which protects and preserves all of Tenant's rights hereunder in the event of a foreclosure.

7.8. Indemnity. Landlord shall defend, indemnify and hold Tenant harmless for, from and against any third-party claims, losses, liabilities, damages, costs or expenses, including reasonable attorney fees (collectively, "**Claims**"): (a) for physical damage to property and for physical injuries or death, to the extent caused by the negligence or willful misconduct of Landlord or the negligence or willful misconduct of persons on the Property with Landlord's permission; (b) arising out of or related to the inaccuracy of any representation or warranty made by Landlord herein; or (c) any violation or claimed violation (past, present or future), by Landlord or by persons on the Property with Landlord's permission of any federal, state or local law, ordinance or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any Hazardous Materials on or under the Property.

8. TENANT'S REPRESENTATIONS AND COVENANTS.

8.1. Insurance. Throughout the Term, Tenant shall, at its expense, maintain: (a) a commercial general liability insurance policy in an amount not less than [REDACTED]; and (b) casualty loss insurance on the Wind Facilities [REDACTED]. Limits can be achieved through a combination of primary and excess limits. Tenant shall have the right to use a program of self-insurance to meet these requirements.

8.2. Indemnity. Tenant shall defend, indemnify and hold Landlord harmless for, from and against any third-party Claims: (a) for physical damage to property and for physical injuries or death, to the extent caused by the negligence or willful misconduct of Tenant or the negligence or willful misconduct of persons on the Property with Tenant's permission; and (b) arising out of or related to the inaccuracy of any representation or warranty made by Tenant herein; or (c) arising out of any violation or claimed violation (past, present or future), by Tenant or by persons on the Property with Tenant's permission of any federal, state or local law, ordinance or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any Hazardous Materials on or under the Property. The indemnity provided by this Section 8.2 does not extend to Claims for damage to cropland, crops or livestock, which are governed solely by Section 6.7.

8.3. Permits and Laws. Tenant and its designees shall, at its expense, comply in all material respects with all federal, state and local laws, statutes, ordinances, rules, regulations, judgments and other valid orders of any governmental authority (each, a "**Law**") applicable to

Tenant's operations or activities on the Property and shall obtain all permits, licenses and orders required to conduct any and all such activities; provided, however, that Tenant party shall have the right, in its sole discretion, to contest, by appropriate legal proceedings (which may be brought in the names of Landlord and/or Tenant where appropriate or required), the validity or applicability of any such Law, and Landlord shall cooperate in every reasonable way in such contest, at no out-of-pocket expense.

9. ASSIGNMENTS AND SUBLEASES.

9.1. Tenant's Right to Transfer. Tenant and any Transferee (as defined below) shall have the right throughout the Term to transfer, convey, sublease or assign this Lease or any interest in this Lease, the Property or the Wind Facilities to any person or entity (a "**Transferee**") without the consent of Landlord. Tenant and any Transferee shall provide written notice to Landlord of any transfer provided that failure to give such notice shall not constitute a default under this Lease but rather shall only have the effect of not binding Landlord with respect to such Assignment until such notice shall have been given. A Transferee also includes any person or entity acquiring an interest in the Lease or the Wind Facilities by foreclosure or a conveyance in lieu of foreclosure, and a Mortgagee as defined in Section 10.1. Upon receipt of written notice of any transfer under this Section 9.1 that includes contact information for the Transferee, Landlord shall thereafter provide the Transferee with simultaneous copies of any notices of default issued to any person or entity under this Lease.

9.2. Liability of Assignor. Upon a transfer, conveyance or assignment of all of Tenant's interest in this Lease, Tenant shall be released from all obligations and liabilities accruing after the date such obligations and liabilities are assumed by Transferee, to the extent assumed by Transferee. Any obligations accruing before the date such obligations and liabilities are assumed by Transferee shall be the responsibility of either the Tenant or Transferee, as determined jointly by Tenant and Transferee.

9.3. Rights and Obligations of Transferees. No Transferee shall have any obligation or liability under this Lease prior to the time that the Transferee directly holds an interest in the Lease or the Wind Facilities, or in the case of an interest granted for security purposes, the holder thereof succeeds to absolute title to the interest. Except as otherwise expressly provided in this Lease, a Transferee shall be liable to perform obligations under this Lease only for and during the period the Transferee directly holds such interest or absolute title. Subject to Section 9.4, and provided that any Mortgagee (as defined in Section 10.1) shall also have the supplemental cure periods described in Section 10.4, Transferees shall be entitled to the same cure period (if any) granted to the defaulting party under this Lease. For any Transferee that holds an interest in less than all of the Tenant's rights and interests under this Lease or the Wind Facilities, any default under this Lease shall be deemed remedied as to the Transferee's partial interest if the Transferee has cured its pro rata portion of the default, and thereafter Landlord shall not disturb the Transferee's possession of the Property or enjoyment of its rights hereunder. However, any Transferee shall have the right, but not the obligation, to cure any default of any other holder of a portion of Tenant's interest in this Lease or the Wind Facilities.

9.4. Cure Requiring Possession of an Interest. Notwithstanding Section 9.3 or Section 10.4, if any default under this Lease cannot be cured without obtaining possession of all or part of the Wind Facilities or an interest in this Lease, then the default shall be deemed remedied if, within sixty (60) days after receiving notice of the default, the Transferee: (a) shall have acquired possession of the necessary interest, or shall have commenced and is diligently pursuing appropriate proceedings to obtain the same; and (b) performs all other obligations that are capable of performance without being in possession of the Property as and when due under this Lease during the pendency of any proceedings to gain possession and after gaining possession of the necessary interest. Further, a Transferee's deadline for any action under this Lease shall be tolled to the extent the Transferee is prohibited from acting by any process or injunction issued as a result of any bankruptcy, reorganization, insolvency or other debtor-relief proceeding, provided that Transferee continues to perform all obligations under this Lease that are capable of performance during such process or injunction as they come due during the tolling period.

9.5. New Lease to Transferee. In the event of termination of this Lease for any reason, including without limitation foreclosure, conveyance in lieu of foreclosure, and rejection in any bankruptcy proceeding, any Transferee shall have the right to enter into a new lease with Landlord for the interest the Transferee held in the Property prior to termination, on all the terms and conditions of this Lease and for the remainder of the Term as of the date of termination, and subject to any subleases existing as of the date of termination, provided that the Transferee: (a) is not then in default of this Lease; and (b) cures any existing default to the extent applicable to the Transferee's interest in the Lease or the Wind Facilities (except that any defaults not susceptible of cure by the Transferee shall be deemed waived as to the Transferee). Any receipt of sublease rent by Landlord shall be for the account of the Transferee requesting a new lease. Any new lease shall maintain the same priority as to the Property as this Lease. The provisions of this Section 9.5 shall survive termination of this Lease and shall continue in effect thereafter until execution and delivery of the new lease.

9.6. Separability. Tenant may use the Property for one wind energy project or Tenant may divide the Property between two or more separate wind energy projects. If Tenant elects to so divide the Property into two or more wind energy projects, then Landlord shall, within twenty (20) days after written request from Tenant, and without demanding any additional consideration, bifurcate this Lease by entering into and delivering to Tenant two or more stand-alone new leases (which shall supersede and replace this Lease) that provide Tenant with separate leasehold estates in different portions of the Property, as designated by Tenant. Each of such new leases shall: (a) specify the portion(s) of the Property to be covered thereby, (b) contain the same terms and conditions as this Lease (except for any requirements that have been fulfilled by Tenant or any other person or entity prior to the execution of such new leases, and except for any modifications that may be required to ensure that each party's combined obligations under such new leases do not exceed such party's obligations under this Lease) and be in a form reasonably acceptable to Tenant; (c) be for a term equal to the remaining term of this Lease; (d) contain a grant of access, transmission, communications and other easements for the benefit of the bifurcated leasehold estates, covering such portion or portions of the Property as Tenant may designate; (e) require payment to Landlord of only an acreage-proportionate part of each payment due under Section 5 (which under all such new leases shall in the aggregate equal the amounts that are due under this Lease); (f) provide for payments thereafter due under Section 5 and elsewhere to be paid with

respect to the Wind Turbines and Wind Facilities actually installed under such new lease for the portion of the Property subject to such lease, and (g) enjoy the same priority as this Lease over any lien, mortgage, encumbrance or other interest against the Property. Further, notwithstanding any other provision of this Lease, (i) in the event of any uncured default under any such new lease, such event of default shall not affect, or cause a termination of, any other such new lease or any rights or interests granted under any other such new lease, and (ii) in the event of a termination of any such new lease, the remaining new leases and all rights granted therein, including all easements affecting any portions of the Property (regardless of whether such portions of the Property are part of or outside the benefited estate), shall remain in full force and effect without any further compensation due Landlord.

9.7. No Severance of Wind Energy Rights. Landlord shall not assign or otherwise transfer an interest in the wind energy rights to the Property, or a portion thereof, separate from fee title to such real property, without Tenant's consent which Tenant may withhold in its sole discretion. Further, notwithstanding Tenant's consent to any severance, Landlord assumes all risk that the severance of the wind energy rights from fee title is invalid, and shall jointly and severally indemnify and hold Tenant harmless from and against any and all claims, losses, liabilities, damages, costs or expenses arising out of or related to the purported severance of wind energy rights and fee title. Such indemnity shall survive any further conveyance of the wind energy rights and/or fee title to the Property or a portion thereof.

9.8. Subdivision. If, subject to the terms of Section 9.7, Landlord transfers less than all of the Property to any party or entity (a "**Partial Transferee**") (i) Tenant shall have the right to receive, review, comment on and/or approve any applications for any such Subdivision and shall be entitled to receive notice from Landlord of any public proceeding relating thereto and (ii) any such Subdivision shall not violate any zoning and/or subdivided land ordinances and regulations (including but not limited to any setback requirements) imposed upon the Project. "**Subdivision**" shall mean any subdivision or zoning approval other than an exemption under any applicable subdivision map act or equivalent law applicable to the Property. All references in this Lease to Landlord shall be deemed to include a Partial Transferee.

10. LENDER PROTECTION.

10.1. Right to Mortgage. Tenant or any Transferee may without the consent of Landlord transfer an interest in this Lease or the Wind Facilities to any third party (a "**Mortgagee**") for security purposes, whether by mortgage, deed of trust, security agreement or otherwise (a "**Mortgagee**"). As long as any Mortgage is in effect, the Mortgagee shall be entitled to the protections of this Section 10. Mortgagees shall include the successors and assigns, if any, of any original Mortgagees.

10.2. Consent to Modification or Termination. For the benefit of each Mortgagee, Landlord shall not, without the prior written consent of each Mortgagee amend, modify, or take any action consenting to or accepting the voluntary surrender or termination of this Lease by Tenant or any Transferee. This Lease shall not be terminated by Landlord as a result of any Tenant or Transferee default unless all Mortgagees have first been provided with notice and the opportunity to cure any such default in accordance with the provisions of this Lease.

10.3. Right to Perform. A Mortgagee shall have the right (but not the obligation) to perform any term, covenant, condition, or agreement and to remedy any default by Tenant or any Transferee hereunder, and Landlord shall accept such Mortgagee performance, payment and cure as if such performance had been made, done and performed by Tenant or any Transferee.

10.4. Extended Cure Periods. All cure periods provided to Tenant or a Transferee for a default under this Lease shall be extended for any Mortgagee: (a) by thirty (30) days if the default is a failure to pay money when due under this Lease; or (b) by ninety (90) days in the event of any other default. Nothing in this Section 10.4 modifies a Mortgagee's rights under Section 9.4, to the extent that section applies.

10.5. Foreclosure and Conveyance after Foreclosure. A Mortgagee or its assigns may enforce its mortgage and acquire title to the Tenant's or Transferee's interest in the Lease in any lawful way and, pending foreclosure of such mortgage, the Mortgagee may take possession of Tenant's or Transferee's interest in this Lease and operate the Wind Facilities, performing all obligations performable by Tenant or Transferee subject to all of the terms of this Lease. Any default not susceptible of being cured by the Mortgagee or party acquiring the Tenant's or Transferee's interest in the Lease shall be, and shall be deemed to have been, waived by Landlord upon completion of the foreclosure proceedings or acquisition of Tenant's or Transferee's interest in this Lease by any purchaser (who may, but need not be, Mortgagee) at the foreclosure sale, or who otherwise acquires the Tenant's or Transferee's interest in the Lease from the Mortgagee or by virtue of a Mortgagee's exercise of its remedies. Upon the sale or other transfer of an interest in this Lease or the Wind Facilities acquired pursuant to foreclosure or conveyance in lieu of foreclosure, the Mortgagee shall have no further liabilities or obligations under this Lease.

10.6. Impact of Bankruptcy. The filing of a petition in bankruptcy or insolvency or for reorganization or arrangement under the bankruptcy laws of the United States or the insolvency act of any state, or involuntary proceedings under any bankruptcy laws or insolvency act are instituted against Tenant or any Transferee shall not be grounds for terminating this Lease or an interest therein, as long as the rent and all other monetary charges payable by Tenant or the Transferee are paid by a Mortgagee as required by this Lease.

10.7. New Lease. If more than one Mortgagee requests a new lease pursuant to Section 9.5, then Landlord shall enter into a new lease with the most senior Mortgagee.

10.8. Minor Modifications of Lease Terms. If requested by a Mortgagee, Landlord shall modify the Lease to include any supplemental Mortgagee protection provisions reasonably requested by the Mortgagee, provided such provisions do not impair Landlord's rights or increase the burdens or obligations of Landlord.

10.9. No Merger. There shall be no merger of this Lease, or of the leasehold estate or other interests created by this Lease, with the fee estate in the Property by reason of the fact that this Lease or any such interests may be held, directly or indirectly, by or for the account of any person or entity who shall own the fee estate or any interest therein, and no such merger shall occur unless and until all persons or entities at the time having an interest in the fee estate in the Property, and all persons or entities (including Mortgagees) having an interest in or under this Lease and any

portion of the fee estate shall join in a written instrument effecting such merger and shall duly record the same.

11. DEFAULT AND REMEDIES.

11.1. Default. Subject to any applicable notice and cure rights set forth in this Lease, the occurrence of any of the following events shall constitute a default and a breach of this Lease:

11.1.1. Either Tenant or Landlord fails to perform as required by any representation, warranty, covenant, term, or condition of this Lease; or

11.1.2. Tenant fails to make any payments required by this Lease when due.

11.2. Notice of Default and Cure. Subject to the terms and conditions of Section 10 and notwithstanding Section 11.1, no party shall be in default under this Lease unless: (a) with respect to a failure to pay any rent, charges, or other amounts due and payable hereunder, Tenant fails to cure the default within sixty (60) days from receipt of notice from Landlord in writing that such amounts are due; or (b) with respect to any other default, the defaulting party fails either to cure the default within one hundred twenty (120) days after notice thereof or, if the failure to perform is such that it cannot reasonably be cured within one hundred twenty (120) days, to commence cure within the one hundred twenty (120) day period and to proceed diligently to cure the default in a manner reasonably acceptable to the other party.

11.3. Remedies - Landlord. In the event of any default by Tenant, and subject to any notice rights after the expiration of any applicable cure periods provided for in this Lease, Landlord shall have the following remedies, in addition to all other rights and remedies provided by law or equity:

11.3.1. Landlord may continue this Lease in effect as long as Landlord does not terminate Tenant's right to possession, and Landlord shall have the right to collect rent when due, plus interest on any unpaid sums at the Default Rate.

11.3.2. Landlord may cure any default by Tenant after Tenant's cure period has expired. If Landlord, at any time, by reason of Tenant's default, pays any sum or does any act that requires the payment of any sum, the sum paid by Landlord shall be due and owing immediately from Tenant to Landlord as additional rent hereunder, together with any interest thereon at the Default Rate.

11.3.3. If Tenant does not cure a default in the payment of money within sixty (60) days after written notice from Landlord, or in the case of any other default within one hundred twenty (120) days of such notice, then Landlord may by written notice to Tenant terminate this Lease, provided that Tenant does not cure such default prior to the date for termination set forth in such notice, all subject to the rights of Mortgagees forth in Section 10. Landlord may not terminate this Lease or Tenant's right of possession of the Property except as set forth in this Section 11.3. Landlord's right of termination shall not be effective as to any default that is subject to a good faith dispute pending the resolution of such dispute by the parties or by a court of competent jurisdiction. Upon termination Tenant shall restore the Property as required by Section 15.3.

11.4. Remedies - Tenant. In the event of any default by Landlord of Landlord's duties, obligations, or covenants hereunder, Tenant may, in addition to all other rights and remedies provided by law or equity, terminate this Lease by written notice to Landlord and payment to Landlord of any payments then due and unpaid under this Lease. Landlord further acknowledges and agrees that should Landlord breach any of its obligations hereunder or otherwise fail to permit Tenant to exercise any of the rights and privileges granted herein, Tenant shall have the right to seek specific enforcement of this Lease.

11.5. Records. Upon the termination or expiration of this Lease, Tenant shall record appropriate termination of lease documentation if the Landlord expressly requests.

12. FORCE MAJEURE.

12.1. Defined. An "Event of Force Majeure" includes without limitation flood, drought, earthquake, storm, fire, pestilence, lightning, or other natural catastrophe, unusually inclement weather, including but not limited to rain which falls earlier in the year, or in greater amounts, or for longer periods than has historically been experienced in the area of the Property, epidemics, acts of God or the public enemy, war, riot, civil disturbance or disobedience, strike, labor dispute, delays by third parties in the delivery of materials to the Property, expropriation or confiscation of facilities, changes of applicable law, compliance with any order of any governmental authority, or failure, threat of failure or sabotage of facilities which have been maintained in accordance with good industry engineering and operating practices, so long as the affected party makes good faith and reasonable efforts to remedy the delays or failures in performance caused thereby.

12.2. Limitations. The parties shall be excused for any delay or failure to perform their respective duties hereunder, except for obligations to pay money, only to the extent that such failure or delay is caused by an Event of Force Majeure. If an Event of Force Majeure causes a delay or failure in performance of only a portion of the obligations of a party under this Lease, then only that portion of performance which was delayed or prevented by such cause shall be deemed excused, and the performance of all other obligations of a party not so delayed shall not be excused. No such delay or failure in performance which is the result of an Event of Force Majeure shall be deemed excused for a period longer than the delay or failure in performance caused by such event.

13. LEGAL MATTERS.

13.1. Attorney Fees. In the event of any litigation, arbitration or alternative dispute resolution to interpret or enforce the provisions of this Lease, including any appeal, the prevailing party or parties in such litigation, arbitration or alternative dispute resolution shall be entitled to reasonable attorney fees, expert witness fees, and costs as shall be fixed by the court or arbitrator.

13.2. Governing Law. This Lease shall be governed by and construed and enforced in accordance with the laws of the state in which the Property are located.

13.3. Jurisdiction and Venue. Any action that may be instituted relating to this Lease shall be prosecuted in the federal courts of the state in which the Property are located, to the extent

federal jurisdiction is available. Landlord and Tenant each waive the right to object to the removal to federal court of any action instituted hereunder in state court, except on grounds of lack of federal jurisdiction.

13.4. Defense of Indemnity Claims. In connection with any indemnity provided under this Lease, the indemnifying party shall defend any Claims with legal counsel reasonably acceptable to the indemnified party.

13.5. Estoppel Certificates, etc. Landlord shall execute such estoppel certificates (certifying as to such matters as Tenant may reasonably request, including that no default then exists under this Lease, if such be the case) and/or consents to assignment and/or non-disturbance agreements (including with respect to other property on or in the vicinity of the Project as to which Landlord or its affiliates may have lease, use or other rights) as Tenant or any Mortgagee may reasonably request from time to time. Landlord shall cooperate in amending this Lease from time to time to include any provision that may be reasonably requested by Tenant or any Lender for the purpose of implementing the terms and conditions contained in this Lease or of preserving a Mortgagee's security interest, at no out-of-pocket cost to Landlord. Any such statement may be conclusively relied upon by any prospective purchaser or encumbrancer of the Property or encumbrancer of the interest of Tenant hereunder. A party's failure to deliver such statement within fifteen (15) days following request shall be conclusive upon such party: (i) that this Lease is in full force and effect without modification, except as may be represented by the party requesting the certificate, and (ii) that there are no uncured defaults in the requesting party's performance. Landlord shall also provide Tenant with any further assurances and shall execute any additional documents that may be reasonably necessary for recording purposes or otherwise reasonably requested by Tenant.

13.6. Jury Trial Waiver. EACH OF THE PARTIES KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES THE RIGHT TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED ON THIS LEASE, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS LEASE, AND ANY AGREEMENT CONTEMPLATED TO BE EXECUTED IN CONJUNCTION HERewith, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN) OR ACTIONS OF ANY PARTY HERETO. EACH OF THE PARTIES TO THIS LEASE WAIVES ANY RIGHT TO CONSOLIDATE ANY ACTION IN WHICH A JURY TRIAL HAS BEEN WAIVED WITH ANY OTHER ACTION IN WHICH A JURY TRIAL CANNOT OR HAS NOT BEEN WAIVED.

13.7. Waiver of Certain Damages. THE PARTIES' LIABILITY ARISING OUT OF OR RELATED TO THIS LEASE UNDER ANY LEGAL THEORY, WHETHER CONTRACT, TORT, STRICT LIABILITY, STATUTORY OR OTHERWISE, SHALL BE LIMITED TO DIRECT DAMAGES, AND IN NO EVENT SHALL LANDLORD, TENANT OR ANY OF THEIR RESPECTIVE OFFICERS, DIRECTORS, MEMBERS, PARTNERS, SHAREHOLDERS, EMPLOYEES, AGENTS OR AFFILIATES BE LIABLE FOR INDIRECT, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

14. CONDEMNATION.

14.1 Effect of Condemnation. If eminent domain proceedings are commenced against all or any portion of the Property, and the taking and proposed use of such property would prevent or adversely affect Tenant's construction, installation or operation of the Wind Facilities on the Property, at Tenant's option, the parties shall amend this Lease to reflect any necessary relocation of the Wind Facilities which will preserve the value and benefit of the Lease to Tenant, together with any corresponding payments, or this Lease shall terminate in which event neither party shall have any further obligations.

14.2 Apportionment; Distribution of Award. On any taking covered by Section 14.1, all sums, including damages and interest, awarded shall be paid first to Tenant in an amount equal to the aggregate of any costs or losses that Tenant may sustain for the loss of its leasehold estate or in the taking, removal and/or relocation of the Wind Facilities; and then to Landlord and/or Tenant consistent with the law of the state in which the Property are located.

15. EXPIRATION OR TERMINATION.

15.1 Tenant's Right to Terminate. Subject to Section 10.2 and Section 15.3, Tenant shall have the right, at any time and from time to time, to surrender all or any portion of its right, title and interest in this Lease (as to all or any portion or portions of the Property), by giving written notice to Landlord at least thirty (30) days before the termination date. Upon any such release by Tenant, the parties' respective rights and obligations hereunder (including as to the Annual Rent) shall cease as to the portion of the Property or the right, title or interest herein as to which such release applies, but this Lease and the parties' respective rights and obligations hereunder shall remain in full force and effect as to any right, title and interest of Tenant not so released. Notwithstanding the foregoing, Tenant shall not terminate or surrender its right, title and interest in this Lease for any portion of the Property located within three quarters (3/4) of a mile of a Wind Turbine (measured from the center of the Wind Turbine) operated by Tenant as part of the Project, without the written consent of the Landlord, unless there is a title curative issue, permitting issue, or environmental issue affecting the Property in which case Tenant may terminate this Lease with respect to that portion of the Property so affected.

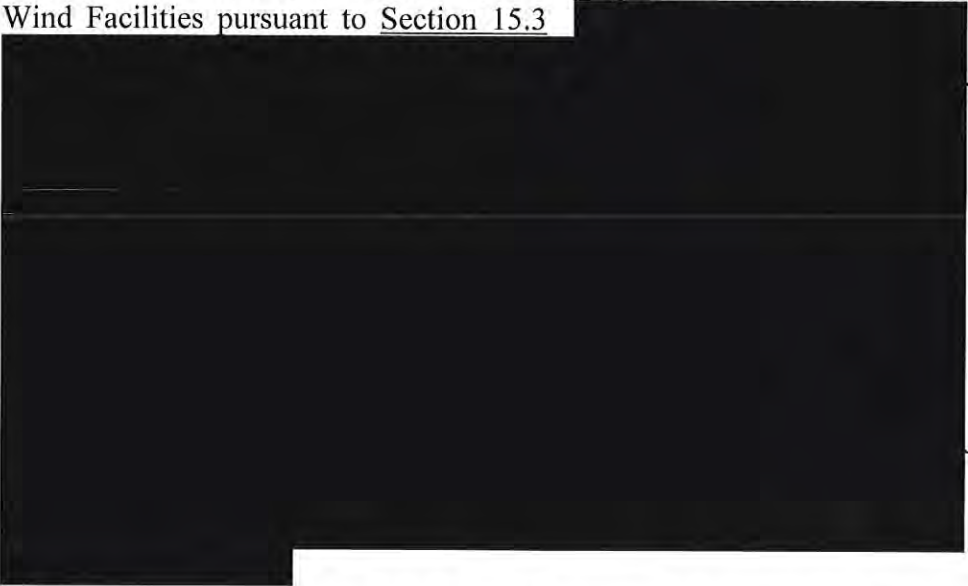
15.2 Holding Over. This Lease shall terminate without further notice at the date of expiration of the Term. Any holding over by Tenant after expiration shall not constitute a renewal or extension of this Lease or give Tenant any rights in or to the Property, except as set forth in Section 15.3.

15.3 Restoration of Property. Upon expiration or termination of the Term, Tenant shall surrender and vacate the Property within sixty (60) days; provided, however, that Tenant shall have a license to enter onto the Property for eighteen (18) months following termination to: (a) remove or cause to be removed any and all Wind Facilities from the Property, except that any Wind Facilities more than three (3) feet below the surface may be left in place, except foundation which shall be removed to a depth of four (4) feet, and Tenant shall leave in place any roads it constructed if requested to do so by Landlord and Tenant is not otherwise prohibited from doing so; (b) otherwise restore the Property to substantially the same condition that existed on the Effective Date, to the extent it is commercially reasonable to do so; (c) reseed any areas that were

vegetated prior to disturbance to commercially reasonable standards, in consultation with Landlord; and (d) implement commercially reasonable erosion control devices and procedures. If Tenant does not remove the Wind Facilities and restore the Property as required by this Section 15.3 within eighteen (18) months after termination, Landlord may do so and Tenant shall reimburse Landlord the reasonable and actual costs incurred by Landlord, less the salvage value of the Wind Facilities, within thirty (30) days of receipt of an invoice from Landlord.

15.4 Security for Restoration.

15.4.1 Commencing with the 17th calendar year following the Commercial Operations Date, Tenant shall establish security ("**Restoration Security**") in an amount intended to cover Tenant's obligations for removal of the Wind Facilities pursuant to Section 15.3



15.4.2 If Tenant is a "public utility" as defined by Iowa Code § 476.1, in lieu of the obligations set forth in Section 15.4.1, Tenant may, commencing on the seventeenth (17th) anniversary of the Commercial Operations Date, establish an escrow account with a financial or other suitable institution ("**Escrow Agent**") and deliver into escrow a letter of credit, bond, or other reasonable means of security ("**Project Restoration Security**") in an amount that is not less than the Net Project Restoration Cost. The "**Net Project Restoration Cost**" is an amount equal to the amount of the Total Restoration Cost, less the amount of the Total Salvage Value (i.e., Net Project Restoration Cost = Total Restoration Cost - Total Salvage Value). The "**Total Restoration Cost**" is an amount equal to the sum of (i) the cost of performing Tenant's obligations under Section 15.3, plus (ii) the cost of restoration of other lands included in the Project. The "**Total Salvage Value**" is an amount equal to the sum of (i) the salvage value of the Wind Facilities on the Property, plus (ii) the salvage value of the wind facilities on other lands included in Project. Tenant shall determine the Net Project Restoration Cost in accordance with standard engineering and financial

practices commonly applied within the electric utility industry. If Tenant is determined to be in default of its obligation to remove Wind Facilities and restore the Property in accordance with Section 15.3, then Landlord shall then have the right to demand, and upon such demand the Escrow Agent shall disburse to Landlord, available funds from the Project Restoration Security to remove Wind Facilities and restore the Property, at Tenant's expense, in accordance with Section 15.3. Interest earnings, if any, on any Project Restoration Security shall be the property of Tenant, and any amounts remaining in any escrow fund after Tenant has complied with its obligations shall belong to Tenant.

15.4.3 Notwithstanding the foregoing provisions of Section 15.4.1 and Section 15.4.2, if Tenant installs new Wind Turbines on the Property, Tenant shall not be required to provide Restoration Security or Project Restoration Security for the removal of such new Wind Turbines until the seventeenth (17th) anniversary of the installation of such new Wind Turbines.

15.4.4 In the event the county or other governmental authority requires Tenant to provide security for removal or decommissioning of the Project, Tenant shall provide a single Restoration Security that benefits both Landlord and the governmental authority in a manner consistent with the requirements of the Governmental Authority, and such Restoration Security will be deemed to satisfy the requirements of this Section 15.4.

16. GENERAL PROVISIONS.

16.1 Confidentiality. Landlord shall maintain in the strictest confidence, for the benefit of Tenant: (a) all the terms and conditions of this Lease; (b) all information provided by Tenant pursuant to this Lease; and (c) all information obtained by or about Tenant's site or product design, methods of operation, and methods of construction, regardless of its source; unless such information either: (i) is in the public domain by reason of prior publication through no act or omission of Landlord or its employees or agents; or (ii) was already known to Landlord at the time of disclosure and which Landlord is free to use or disclose without breach of any obligation to any person or entity ("**Confidential Information**"). Landlord shall not use Confidential Information for its own benefit, publish or otherwise disclose it to others, or permit its use by others for their benefit or to the detriment of Tenant. Notwithstanding the foregoing, Landlord may disclose Confidential Information to Landlord's lenders, attorneys, accountants and other personal financial advisors solely for use in connection with their representation of Landlord regarding this Lease or to any prospective purchaser of the Property who has made a written offer to purchase or otherwise acquire the Property that Landlord desires to accept; provided that in making such disclosure, Landlord shall advise the party receiving the information of the confidentiality of the information. Landlord may also disclose Confidential Information pursuant to lawful process, subpoena or court order requiring such disclosure, provided that Landlord shall give Tenant reasonable advance notice of the required disclosure and will cooperate with Tenant in limiting such disclosure and in obtaining protective orders where appropriate. Landlord shall obtain Tenant's written consent

before issuing a press release or having any contact with or responding to the news media with any operational, sensitive, or confidential information with respect to this Lease or the Project. The provisions of this Section 16.1 shall survive the termination or expiration of this Lease.

16.2 Notices. All notices or other communications required or permitted by this Lease, including payments to Landlord, shall be in writing and shall be deemed given when personally delivered, or in lieu of such personal service, five days after deposit in the United States mail, first class, postage prepaid, certified, or the next business day if sent by reputable overnight courier, provided receipt is obtained and charges prepaid by the delivering party. Any notice shall be addressed as follows:

(i) To Landlord:

«Current_Legal_Name»
«Address_1_1»
«Address_2_1»
«City_1», «State_1» «Zip_1»

(ii) To Tenant:

Black Maple Project, LLC
c/o Apex Clean Energy, Inc.
Attn: Land Manager
120 Garrett Street, Ste 700
Charlottesville, VA 22902
Phone: (434) 220-7595

with a copy to any Transferee if required by this Lease.

Any party may change its contact information by written notice thereof to the other party.

16.3 Successors and Assigns. This Lease shall run with the land and shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

16.4 Waiver. No delay or omission by the parties hereto in exercising any right or remedy provided for herein shall constitute a waiver of such right or remedy, nor shall it be construed as a bar to or a waiver of any such right or remedy on any future occasion.

16.5 Effect of Headings, Terms. Headings appearing in this Lease are inserted for convenience of reference only and shall in no way be construed to be interpretations of the provisions hereof. The term Tenant herein includes any Transferee to the extent the Transferee has an interest in this Lease.

16.6 Cooperation. Each of the parties, without further consideration, agrees to execute and deliver such additional documents, including a Memorandum of this Lease for recording

purposes, and take such action as may be reasonably necessary to carry out the purposes and intent of this Lease and to fulfill the obligations of the respective parties.

16.7 Amendments. This Lease may be modified, amended, or supplemented only by the mutual written agreement of the parties hereto, and with the consent of all Mortgagees, if any, as set forth in Section 10.2. This Section 16.7 shall be binding upon Tenant, all Transferees, all Mortgagees and all of their successors and assigns.

16.8 Further Assurances. The parties shall do such further acts and things and execute and deliver such additional agreements and instruments as the other may reasonably require to consummate, evidence, or confirm the agreements contained herein.

16.9 Consent. Where rights under this Lease are conditioned upon the consent of one of the parties hereto, it shall not be unreasonably withheld, conditioned or delayed unless expressly stated otherwise.

16.10 Entire Lease. This Lease constitutes the entire agreement between the parties and supersedes all prior agreements and understandings, oral and written, between the parties hereto with respect to the subject matter hereof.

16.11 Counterparts. This Lease may be executed by the parties in one or more counterparts, all of which taken together shall constitute one and the same instrument.

16.12 Ambiguities. Any rule of construction to the effect that ambiguities are to be resolved in favor of either party shall not be employed in the interpretation of this Lease and is hereby waived. No waiver by a party of any provision of this Lease shall be deemed to be a waiver of any other provision hereof. The use of the neuter gender includes the masculine and feminine, and the singular number includes the plural, and vice versa, whenever the context so requires. The terms "include", "includes" and "including", as used herein, are without limitation. The term "hereof" or "herein" means the entirety of this Lease unless otherwise indicated.

16.13 Time of Essence. Time and strict and punctual performance are of the essence with respect to each provision of this Lease.

16.14 Relationship of Parties. The relationship of the parties hereto is solely that of landlord and tenant, and nothing contained in this Lease shall be construed to create an association, joint venture, trust or partnership between them.

16.15 Hunting. All hunting rights and privileges on the Property are reserved to Landlord. None of Tenant, its employees, agents or invitees shall have any hunting rights or privileges on the Property. Tenant, in its discretion, may establish zones around the improvements on the Property within which hunting shall be absolutely prohibited. Tenant may require that hunting be suspended completely during certain periods designated by Tenant such as initial construction and erection and other periods of higher-than-usual levels of activity on the Property. Landlord and Tenant may jointly prepare reasonable hunting rules, which either party shall have the right to enforce.

16.16 Boundary Discrepancies. Landlord agrees on behalf of itself, its heirs, successors or assigns that if Landlord were to acquire any property adjacent to the Property via an adverse possession claim, Landlord waives: (a) any claim that any additional compensation is due to Landlord for improvements placed on the acquired property as part of the Project; and (b) any claim that the acquired property is not subject to any lease and other instruments for the Project executed by the record owner of the acquired property as of the Effective Date of this Lease; provided that the waiver is limited in scope and relates only to the terms and conditions in this Lease, and not for any other purpose. Landlord shall indemnify and hold harmless Tenant against any Claims asserted by any person or entity arising out of an encroachment of any kind onto property adjacent to the Property as described in this Lease.

16.17 Setback Waiver. To the extent that any applicable law, ordinance, regulation or permit establishes minimum setbacks from the exterior boundaries of the Property for Wind Facilities (including Wind Turbines) constructed on the Property or adjacent real property, then Landlord hereby waives any and all such setbacks and setback requirements for the benefit of Tenant, the owner(s) of the adjacent real property, and their respective successors and assigns provided however, Tenant agrees not to construct a Wind Turbine within One Thousand Two Hundred Feet (1,200') of any occupied residence located on the Property (as measured from the edge of the base of the Wind Turbine to the exterior of the closest foundation of any occupied residence on the Property as of the date hereof). Further, if requested by Tenant, Landlord shall execute and deliver to Tenant one or more separate setback waivers and/or easements in a form provided by Tenant, which Tenant may then record at its expense. This waiver shall survive the termination of this Lease for so long as Wind Turbines or other Wind Facilities exist on real property adjacent to the Property.

16.18 Severability. Each provision of this Lease shall be valid and shall be enforceable to the extent not prohibited by law. If any provision of this Lease or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remaining provisions and applications shall not be affected.

16.19 Benefited Property. The interest created by this Lease is an in gross interest and therefore does not benefit any particular parcel or parcels of real property.

16.20 No Third Party Beneficiaries. Except for the rights of Mortgagees set forth above, no provision of this Lease is intended to nor shall it in any way inure to the benefit of any third party so as to constitute any such person a third party beneficiary under this Lease, or of any one or more of the terms of this Lease, or otherwise give rise to any cause of action in any person not a party to this Lease.

16.21 No Recordation; Memorandum of Lease. Landlord shall not record this Lease. Concurrently with execution hereof, the parties shall execute and record a memorandum of this Lease, a copy of which is attached hereto as Exhibit B.

16.22 Survival of Covenants. The covenants, conditions, rights and restrictions in favor of Tenant under this Lease and Tenant's reliance on and benefit from those covenants, conditions, rights and restrictions may necessarily be a portion of the Project which will from time to time share structural and transmission components, ingress and egress, utility access, and other support

with the Wind Facilities located on the Property. Accordingly, the covenants, conditions, rights and restrictions in favor of Tenant pursuant to this Lease shall not be deemed invalid or inoperative or otherwise be disregarded while any portion of the Wind Facilities on the Property or an adjacent property are under development, being replaced or operational.

16.23 Transmission and Access Easement. Tenant's (i) exclusive right to construct, install, lay down, erect, improve, place, replace, remove, relocate and operate permanent roads, underground electrical and communications lines, collection and transmission equipment (collectively, the "**Transmission Facilities**") on the Property, and (ii) right of access more particularly described in Section 4.3 (collectively, the "**Transmission and Access Easement**") runs with the land, shall be binding upon Landlord and Tenant and their respective successors and assigns. No act or failure to act on the part of Tenant or any subsequent holder of the Transmission and Access Easement shall be deemed to constitute an abandonment, surrender, or termination of the Transmission and Access Easement, except upon recordation by the holder of a quitclaim deed specifically conveying the Transmission and Access Easement back to Landlord, and nonuse of the Transmission and Access Easement shall not prevent the future use of the entire scope of the Transmission and Access Easement if it is later needed. Furthermore, no use of or improvement to the Property or any lands benefited by the Transmission and Access Easement, and no transfer of the Transmission and Access Easement, shall, separately or in the aggregate, constitute an overburdening of the Transmission and Access Easement. The term of the Transmission and Access Easement shall expire upon expiration or termination of this Lease, and Tenant shall have the right, without need for Landlord's consent, to assign or convey all or any portion of the Transmission and Access Easement to any person or entity on an exclusive or nonexclusive basis during the term of this Lease. Notwithstanding any provision of this Lease to the contrary, upon request by Tenant, Landlord agrees to execute transmission agreements and/or other instruments directly with any utility requiring such agreements or instruments in connection with the construction, operation and maintenance of Transmission Facilities on the Property. Such transmission agreements and instruments shall be on the standard form used or proposed by the utility, so long as the rights and obligations granted to the utility are substantially similar to those granted herein. Notwithstanding the term of the Transmission and Access Easement granted herein or any other provision of this Lease to the contrary, if a utility requires and/or Tenant requests an easement in perpetuity with respect to one or more of the rights granted to Tenant pursuant to the Transmission and Access Easement, then Landlord shall grant the utility and/or Tenant, as applicable, such perpetual easement which covers the portion of the Property occupied by the utility's and/or the Transmission Facilities, as applicable, and the utility and/or Tenant, as applicable, shall make a one-time payment to Landlord equal to the fair market value of such perpetual easement less any Transmission and Access Easement Fees paid pursuant to this Lease prior to the grant of such perpetual easement. Notwithstanding any provision of this Lease to the contrary, no Transmission Facilities shall be installed or constructed in the Transmission and Access Easement unless said Transmission Facilities are related to the Project.

16.24 No Broker. Landlord and Tenant each hereby represent and warrant to the other that its contact with the other or with the Property in connection with the transactions contemplated by this Lease has been made without the assistance of any broker or other third party. Landlord and Tenant agree to save, indemnify and hold each other free, clear, and harmless from any claim, cost, or expense, including reasonable attorneys' fees, for or in connection with any claims for

commissions or compensation claimed or asserted by or through each respective party in connection with the transaction contemplated herein. The terms and provisions of this Section shall survive the expiration or the earlier termination of this Lease.

16.25 Favorable Terms. Prior to the Commencement of Construction, Tenant shall include by amendment or modification to this Lease, any more favorable Fees and Payments (as defined below) contained within later revisions of a Wind Energy Lease between Tenant and a different landlord whose Property is within the Project. **“Fees and Payments”** shall include Development Rent, Installation Fees, Laydown Yard Fees, Annual Rent, Other Equipment Fees, Facilities Tract Fees, or Transmission and Access Easement Fees.

[see Rider(s)]

[signatures on following page]

IN WITNESS WHEREOF, AND INTENDING TO BE LEGALLY BOUND HEREBY, Tenant and Landlord have caused this Lease to be duly executed and delivered by their authorized representatives to be effective as of the date first written above.

TENANT:

Black Maple Project, LLC,
a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

LANDLORD:

By: _____

Name: «Current_Legal_Name»

With respect to this Lease and Tenant's and Mortgagee's rights hereunder, by executing this Lease Spouse hereby relinquishes all rights of dower, homestead and distributive share in and to the Property and waives all rights of exemption as to the Property, and ratifies the contents of this Lease.

Spouse's signature (if applicable)

By: _____

Printed Name: _____

LANDLORD:

By: _____

Name: «Current_Legal_Name»

With respect to this Lease and Tenant's and Mortgagee's rights hereunder, by executing this Lease Spouse hereby relinquishes all rights of dower, homestead and distributive share in and to the Property and waives all rights of exemption as to the Property, and ratifies the contents of this Lease.

Spouse's signature (if applicable)

By: _____

Printed Name: _____

EXHIBIT A

LEGAL DESCRIPTION

All that real property located in Taylor County, Iowa, totaling «Verified_Acres» acres, more or less, more fully described as follows:

Tract 1:

Tax Parcel Reference(s): «Parcel_ID_1» («Verified_Acres_1» acres)

Tract 2:

Tax Parcel Reference(s): «Parcel_ID_2» («Verified_Acres_2» acres)
«Parcel_ID_3» («Verified_Acres_3» acres)
«Parcel_ID_4» («Verified_Acres_4» acres)

THIS INSTRUMENT DRAFTED BY AND
WHEN RECORDED RETURN TO:

Black Maple Project, LLC
c/o Apex Clean Energy, Inc.
120 Garrett Street, Ste 700
Charlottesville, VA 22902
Telephone: 434-220-7595
Attention: Vincent Reres, Esq.

MEMORANDUM OF LEASE

THIS MEMORANDUM OF LEASE ("**Memorandum**") is made and entered into as of the ____ day of _____, 20____, by and between «Current Legal Name» (collectively, "**Landlord**"), with a tax mailing address of «Address 1 1»«Address 2 1», «City 1», «State 1» «Zip 1», and Black Maple Project, LLC, a Delaware limited liability company ("**Tenant**"), with a tax mailing address of c/o Apex Clean Energy, Inc., 120 Garrett St., Ste 700, Charlottesville, Virginia 22902.

1. Lease. For the term and upon the provisions set forth in that Wind Energy Lease of even date herewith (the "**Effective Date**") between Landlord and Tenant (the "**Lease**"), all of which provisions are specifically made a part hereof as though fully and completely set forth herein, Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord for Wind Energy Purposes, that certain real property (the "**Property**") located in Taylor County, Iowa, as more particularly described in Exhibit "A" attached hereto, together with all rights of ingress and egress and all other rights appurtenant to the Property, as more particularly described in the Lease. Pursuant to the Lease, Tenant has the sole and exclusive rights to use the Property for Wind Energy Purposes.
2. No Interference. The Lease requires Landlord, during the Term of the Lease, not to cause nor permit any restriction or interference with: (a) the siting, permitting, construction, installation, maintenance, operation, replacement, or removal of Wind Facilities; (b) the flow of wind, wind

speed or wind direction over the Property; (c) access over the Property to Wind Facilities; or (d) any other activities of Tenant permitted under the Lease.

3. Term. The term of the Lease shall expire seven (7) years after the Effective Date, if not extended or sooner terminated as provided in this Lease. Tenant may at its sole discretion extend the term of this Lease for an additional thirty (30) year term, with the further option to extend the term for two (2) additional ten (10) year terms.

4. Setback Waiver. To the extent that any applicable law, ordinance, regulation or permit establishes, or has established, minimum setbacks from the exterior boundaries of the Property, from any structures on the Property (occupied or otherwise) or from any other point of measurement for Wind Facilities (including Wind Turbines) constructed on the Property or otherwise within the Project, Landlord hereby waives any and all such setback requirements (the "**Setback Waiver**"). The Setback Waiver is for the benefit of Tenant, the owner(s) of adjacent properties within the Project, and their respective successors and assigns, and shall run with the land. If requested by Tenant, Landlord shall execute and deliver to Tenant one or more separate setback waivers evidencing the intent of this Setback Waiver, in a form provided by Tenant, which Tenant may then record at its expense.

5. Notice. This Memorandum is prepared for the purpose of giving notice of the Lease and in no way modifies the express provisions of the Lease. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control. This Memorandum shall continue to constitute notice of the Lease and all amendments thereto, even if the Lease is subsequently amended.

6. Successors and Assigns. The covenants, conditions and restrictions contained in the Lease shall run with the land and be binding on the successors and assigns of both Landlord and Tenant. Tenant and any transferee shall have the right throughout the Term to transfer, convey, sublease or assign this Lease or any interest in this Lease, the Property or the wind facilities to any person or entity without the consent of Landlord.

7. Ownership of Wind Facilities. Tenant shall at all times retain title to the Wind Facilities and shall have the right to remove them from the Property at any time. Landlord shall have no ownership, lien, security or other interest in any Wind Facilities installed on the Property and Landlord expressly waives, relinquishes and quitclaims any lien or security interest in and to the Wind Facilities or any other real or personal property of Tenant, whether arising at law or in equity.

8. No Severance of Wind Energy Rights. Landlord shall not assign or otherwise transfer an interest in the wind energy rights to the Property, or a portion thereof, separate from fee title to such real property, without Tenant's consent which Tenant may withhold in its sole discretion.

9. Right of Reentry. Upon expiration or termination of the Term, Tenant shall have a license to enter onto the Property for eighteen (18) months following termination to restore the Property and for other activities as set forth in the Lease.

10. Transmission and Access Easement. If a utility requires and/or Tenant requests an easement in perpetuity with respect to one or more of the rights granted to Tenant pursuant to the Transmission and Access Easement, then Landlord shall grant the utility and/or Tenant, as applicable, such perpetual easement which covers the portion of the Property occupied by the utility's and/or Tenant's permanent roads, underground electrical and communications lines, collection and/or transmission equipment, as applicable, upon the terms set forth in the Lease.

As used herein, the term "**Transmission and Access Easement**" means, collectively, Tenant's (i) exclusive right to construct, install, lay down, erect, improve, place, replace, remove, relocate and operate permanent roads, underground electrical and communications lines, collection and transmission equipment on the Property, and (ii) right of access more particularly described in Section 4.3 of the Lease.

The remainder of this page is intentionally blank.

IN WITNESS WHEREOF, AND INTENDING TO BE LEGALLY BOUND HEREBY, Tenant and Landlord have caused this Memorandum to be duly executed and delivered by their authorized representatives to be effective as of the date first written above.

LANDLORD:

By: _____

Name: «Current_Legal_Name»

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, 20____, by «Current_Legal_Name».

(SEAL)

Notary Public

Typed or Printed

Commission Expiration Date

With respect to this Lease and Tenant's and Mortgagee's rights hereunder, by executing this Lease Spouse hereby relinquishes all rights of dower, homestead and distributive share in and to the Property and waives all rights of exemption as to the Property, and ratifies the contents of this Lease.

Spouse's signature (if applicable):

By: _____

Printed Name: _____

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, 20____, by _____, spouse.

(SEAL)

Notary Public

Typed or Printed

Commission Expiration Date

TENANT:

Black Maple Project, LLC,
a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

COMMONWEALTH OF VIRGINIA

CITY OF CHARLOTTESVILLE

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by Jeanine G. Wolanski as the Senior Vice President of Land Management for Apex Clean Energy Holdings, LLC, a Delaware limited liability company, the Manager of Apex GBR, LLC, a Delaware limited liability company, the Sole Member Apex Clean Energy Finance, LLC, a Delaware limited liability company, the Sole Member of Black Maple Project, LLC, a Delaware limited liability company, on behalf of the company.

Notary Public

EXHIBIT A

LEGAL DESCRIPTION

[Copy from Lease – No PINs Required]

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