

**INGHAM TOWNSHIP  
INGHAM COUNTY, MICHIGAN  
ORDINANCE NO. \_\_\_\_**

**ORDINANCE AMENDING THE INGHAM TOWNSHIP ZONING ORDINANCE  
TO REGULATE WIND ENERGY SYSTEMS**

At a meeting of the Township Board of Ingham Township, Ingham County, Michigan (“Township”), held at the Township Hall on \_\_\_\_\_, 2024, at \_\_:\_\_ p.m., Township Board Member \_\_\_\_\_ moved to adopt the following Ordinance, which motion was seconded by Township Board Member \_\_\_\_\_.

*An Ordinance to amend the Ingham Township Zoning Ordinance to define and regulate the development and use of Wind Energy Facilities within the Township.*

**THE TOWNSHIP OF INGHAM, INGHAM COUNTY, MICHIGAN ORDAINS:**

**SECTION 1. AMENDMENT TO ARTICLE FIVE, SECTION 508:** Zoning Ordinance Article Five, Section 508, entitled “Meteorological Tower” is amended to read as follows:

**Section 508. Meteorological Towers:**

- A. Purpose: The purpose of this Section is to establish standards for the siting, installation, operation, and removal or repair of Meteorological Towers within Wind Parks as a special use.
- B. Application Materials:
1. The tenancy, ownership, or other legal interest in the subject property, including copies of any executed property leases or other land evidence of a legal interest in the subject property.
  2. Proposed construction schedule.
  3. Narrative outlining the use and purpose of the Meteorological Tower, including the entire proposed lifespan of the tower from pre-construction through decommissioning, the anticipated active data collection period, and a description of how existing uses and purposes of the subject property will be preserved.
  4. The sketch plan as required under this Ordinance shall be signed and sealed by a registered surveyor or professional engineer, including:
    - i. Proposed location and overall height of the Meteorological Tower and all associated and supporting structures, improvements, or guy wires.
    - ii. Lot lines and dimensions of the subject property.
    - iii. Location and dimension of access roads for the Meteorological Tower.
    - iv. Location of any rights of way abutting the subject property.

- v. Setbacks as required by this Ordinance.
- 5. Security Plan, including methods utilized to prevent unauthorized climbing.
- 6. Decommissioning Plan.
- 7. Lighting Plan.

C. Design Standards and Operations:

- 1. Setbacks: No part of a Meteorological Tower (including guy wire anchors) shall be located closer than 110% of the Meteorological Tower height to any occupied building, property line, road, or utility.
- 2. Height: No Meteorological Tower (including guy wire anchors) shall be higher than 250 feet.
- 3. Lighting Plan: The lighting plan shall conform to all Federal Aviation Administration (FAA) rules, requirements, or guidelines.
- 4. Visibility: The Meteorological Tower shall comply with all FAA, Michigan Tall Structures Act, and any local jurisdiction airport overlay requirements, regulations, recommendations, or guidelines regarding visibility of the Meteorological Tower and accessories including lighting, painting, flagging, marker balls, visibility sleeves or any other method of visibility. Guy wires shall be clearly visible from its anchor at ground level through a height of six feet with additional visibility required by this subsection.
- 5. Tower Access: The Meteorological Tower shall be constructed and maintained in a manner intended to prevent unauthorized climbing. The methods utilized to prevent unauthorized climbing shall be included with the application and may include one or more of the following:
  - i. Enclosure by a locked protective fence at least ten (10) feet high topped with barbed or razor wire fence.
  - ii. External tower climbing apparatus or footholds shall not be located within twelve (12) feet of the ground.
  - iii. A locked anti-climb device shall be installed and maintained.
- 6. Duration of SUP: The Zoning or Planning Commission may specifically limit the duration of a special use permit and require review and renewal no more than every four years.

**SECTION 2. AMENDMENT TO ARTICLE FIVE, TO ADD SECTION 509:** Zoning Ordinance Article Five is amended to add Section 509, entitled “Wind Parks” providing as follows:

**Section 509 Wind Parks:**

**A. Submission Requirements.**

- 1. All applications for Wind Energy Facilities, except for Single WECS for On-Site Service Only, must be accompanied by detailed site plans, drawn to scale and dimensioned and certified by a registered engineer licensed in the State of

Michigan, displaying or containing the following information (in addition to the information required for other special use permits):

- i. *Site Plan*. A site plan.
- ii. *Application Escrow*. An application escrow account, which shall be funded by the applicant when an applicant applies for a special land use permit for a WECS. The monetary amount placed by the applicant in escrow with the Township shall be estimated by the Township to cover all reasonable costs and expenses associated with the special land use permit review and approval process (including site plan review), which costs include, but are not limited to, reasonable fees of a Township attorney, planner, and/or engineer, as well as costs for any other outside consultants or reports or studies that the Township determines are reasonably related to the zoning review process for a particular application. Such escrow amount shall be in addition to any non-refundable application fees determined by the Township. At any point during the zoning review process, the Township may require that the applicant place additional monies in escrow with the Township should the existing escrow amount filed by the applicant be insufficient. If the escrow account needs replenishing and the applicant refuses to do so within 45 days, the zoning review and approval process shall cease until and unless the applicant makes the required escrow deposit. Such application escrow shall be held by the Township Treasurer in a separate bank account, and upon completion of Township zoning review, all excess escrow funds must be returned to an applicant without interest.
- iii. *Contact Information*. The complete name, address, and telephone number of the applicant.
- iv. *Construction Plan*. The planned date for the start of construction and the expected duration of construction.
- v. *Project Description*. A description of the WECS, including:
  1. The location and a description of the WECS.
  2. Location and height of all proposed buildings, structures, electrical lines, towers, guy wires, guy wire anchors, security fencing, and all above ground structures associated with each WECS.
  3. The designed energy capacity of each WECS in the Wind Park and total designed capacity for the Wind Park.
  4. Location of all existing and proposed overhead and underground electrical transmission or distribution lines within the Wind Park. All collection lines must be on a participating property.

5. Proposed setbacks between each WECS and from each WECS to all existing and proposed structures within the Wind Park.
6. Access driveways to each WECS, together with a detailed narrative regarding dimensions, composition, and maintenance of each proposed driveway. All access driveways shall be subject to Ingham Road Commission approval, and the use of the drives shall be planned so as to minimize the use of lands for that purpose.
7. Existing drainage ways and proposed changes to drainage ways, including calculations of current and future stormwater runoff or drainage from any proposed WECS, impervious surface, access road, temporary or permanent construction sites, or temporary or permanent roadway improvements.
8. The location of all farmland within the Wind Park that is designated for preservation, a written description of the plan for preservation of farmland within the Wind Park, and copies of all easements, restrictive covenants and other documents proposed to be used to achieve that plan.
9. Planned security measures to prevent unauthorized trespass and access and to warn of potential dangers, during the construction, operation, removal, remodeling or repair of the WECS.
10. A copy of the manufacturer's safety measures to prevent uncontrolled rotation or speeding.
11. Planned lighting protection measures.
12. A description of the anticipated effects of the WECS on the natural environment, natural resources, and solid waste disposal capacity, which may include records of consultation with relevant state, tribal, and federal agencies.
13. Additional information required by the Township as it relates to the site plan.
  - i. *Expected Use*. A description of the expected use of the WECS.
  - ii. *Expected Benefits*. Expected public benefits of the proposed WECS.
  - iii. *Environment and Natural Resources*. The expected direct impacts of the proposed WECS on the environment and natural resources, including impacts to avian wildlife and wildlife migration due to fenced areas, and how the applicant intends to address and mitigate these impacts.
  - iv. *Public Health and Safety*. Information on the effects of the proposed WECS on public health and safety.
  - v. *Consultations*. Evidence of consultation, before submission of the application, with the Michigan Department of Environment, Great Lakes,

and Energy and other relevant state and federal agencies before submitting the application, including, but not limited to, the Department of Natural Resources and the Department of Agriculture and Rural Development.

- vi. *Agricultural Lands Analysis.* Each applicant must commission and submit a study at their own expense, on the impacts of the WECS on prime farmland with the Township, including whether such a system will result in the conversion of any prime farmland, whether such land may be simultaneously used for animal grazing and/or farming in addition to housing the system, the availability of other prime farmland to support the Township's farms and the economic impact of conversion of such prime farmland on the Township. Such study shall indicate how: (1) an applicant selected the project location and layout in a manner that minimizes impacts to prime farmland and utilizes project lands for, if applicable, continued agricultural activities; and (2) project restoration and decommissioning plans enable project lands that were prime farmland or used for agricultural purposes to still be prime farmland or suitable for agricultural purposes. Applicants shall ensure that any WECS sited on lands used for agricultural purposes or prime farmland can be maintained and returned to a state to continue to be used for agricultural purposes after project decommissioning and all costs associated with such maintenance and restoration of lands back to a state suitable to continue agricultural purposes or to still be considered prime farmland is included in any decommissioning security submitted to the Township.
- vii. *Alternative Locations.* If the proposed site of the WECS is undeveloped land or on prime farmland, a description of feasible alternative developed locations, including, but not limited to, vacant industrial property and brownfields and lands not as better suited for agricultural production, and an explanation of why they were not chosen.
- viii. *Interference.* If the WECS is reasonably expected to have an impact on television signals, microwave signals, agricultural global position systems, military defense radar, radio reception, or weather and doppler radio, a plan to minimize and mitigate that impact.
- ix. *Drainage.* The applicant shall submit to the Township a report with images of all existing drainage tiles to establish a baseline condition of the tile. To preserve agricultural drainage and to manage stormwater, an applicant must further: (1) submit an approved stormwater management plan for the WECS that is approved by the Ingham County Drain Commissioner; (2) submit a required drain tile maintenance plan for the life of the system that ensures the restoration and maintenance of any agricultural drain tile affected by a project; (3) ensure modifications to lands hosting a WECS do not adversely impact neighboring agricultural drainage infrastructure; and (4) must

restore all public and private drainage systems (including agricultural drain tile) at decommissioning to allow drainage to occur consistent with pre-construction conditions, including, but not limited to, pre-construction conditions that provide for agricultural uses of properties. All requirements to restore public and private drainage infrastructure as required by this section must be accounted for in the value of any decommissioning security posted by an applicant.

- x. *Fire and Emergency Response.* A fire response plan and an emergency response plan must specifically reference the equipment and training necessary for local emergency responders to respond to emergencies, including fires, that could occur on project lands. The applicant must identify any training and/or equipment it will provide local first responders should they lack sufficient resources to respond to an emergency at the project.
- xi. *Decommissioning Bond.* A decommissioning plan that is consistent with the requirements of this section. The decommissioning plan shall include, but is not limited to, financial assurance in the form of a bond, a parent company guarantee, or an irrevocable letter of credit, but excluding cash. The amount of the financial assurance shall not be less than the estimated cost of decommissioning the WECS, without deducting salvage value, as calculated by a third party with expertise in decommissioning, hired by the applicant. Applicants shall enter into a decommissioning agreement with the Township in a form acceptable to the Township Board to govern the use of the financial assurance. The decommissioning agreement must specify: (1) the anticipated life of the project before decommissioning; (2) how the Township will receive land access rights to decommission a project should it be required to decommission the project; and (3) periodic updates to the financial assurance in five-year periods to increase the amount of the financial assurance.
- xii. *As-Builts.* 180 days after construction of a WECS, as-built files shall be submitted in electronic and paper copies demonstrating that a project was built in compliance with any application materials and Township zoning approvals. The as-built submittals must include all applicable electronic and hard copies of the following information: Adobe PDF documents, coordinate data for all site features, and GIS and CAD files for all the information listed above.
- xiii. *Material Safety Data Sheets and Manufacturer's Manuals.* Upon submission of an application, an applicant must provide all material safety data sheets and manufacturer's instructions/manuals for substantive project components (e.g., panels and inverters, but not fencing) and all cleaning agents planned for use during the life of the project for Township review

and inspection. Should any of the above information be considered confidential or a trade secret, the applicant shall indicate a process to allow inspection of such materials upon request by the Township while at the same time protecting disclosure of the documents to the extent permitted by Michigan public record statutes.

- xiv. *Community Impacts Analysis.* A study that identifies all impacts of a proposed project on community resources and services, including, but not limited to, roads, fire protection (including any necessary training or equipment), police protection, emergency medical services, and public drainage systems including culverts. Applicants shall demonstrate in an application for a WECS, how they will ensure impacts from a proposed project on community resources and services will be addressed by the applicant and not be borne by the Township.
- xv. *Visual Analysis.* Renderings of the proposed project that show the Township how the proposed project will look from various vantage points from roadways and non-participating properties.
- xvi. Other information reasonably required by the Township.

**B. Operational Requirements.** Wind Energy Facilities, except for Single WECS for On-Site Service Only, shall conform to the following requirements.

- 1. Setbacks. The WECS shall conform to the following setback requirements, measured from the center of the base of the wind tower:

<b>Setback Description</b>	<b>Setback Distance</b>
Occupied community buildings and residences on nonparticipating properties	2.1 times the maximum blade tip height to the nearest point on the outside wall of the structure
Residences and other structures on participating properties	1.1 times the maximum blade tip height to the nearest point on the outside wall of the structure
Nonparticipating property lines	1.1 times the maximum blade tip height
Public road right-of-way	1.1 times the maximum blade tip height to the center line of the public road right-of-way
Overhead communication and electric transmission, not including utility service lines to individual houses or outbuildings	1.1 times the maximum blade tip height to the center line of the easement containing the overhead line

- 2. Shadow Flicker. Each wind tower shall be sited such that any occupied community building or nonparticipating residence will not experience more than 30 hours per year of shadow flicker under planned operating conditions as indicated by industry standard computer modeling.

3. Height. Each wind tower blade tip shall not exceed the height allowed under a Determination of No Hazard to Air Navigation by the Federal Aviation Administration under 14 CFR part 77.
4. Sound. The WECS shall not generate a maximum sound in excess of 55 average hourly decibels as modeled at the nearest outer wall of the nearest dwelling located on an adjacent nonparticipating property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.
5. Lighting. The WECS shall be equipped with functioning light-mitigating technology. To allow proper conspicuity of a wind turbine at night during construction, a turbine may be lighted with temporary lighting until the permanent lighting configuration, including the light-mitigating technology, is implemented. The Township may grant a temporary exemption from the requirements of this subparagraph if installation of appropriate light-mitigating technology is not feasible. A request for a temporary exemption must be in writing and state all of the following:
  - i. The purpose of the exemption.
  - ii. The proposed length of the exemption.
  - iii. A description of the light-mitigating technologies submitted to the Federal Aviation Administration.
  - iv. The technical or economic reason a light-mitigating technology is not feasible.
  - v. Any other relevant information requested by the Township.
6. Visual Appearance, Lighting, Power Lines. The applicant shall use measures to reduce the visual impact of wind turbines to the extent possible, utilizing the following:
  - i. Wind turbines shall be mounted on tubular towers and painted a non-reflective, non-obtrusive color. The appearance of turbines, towers, and buildings shall be maintained throughout the life of the WECS (i.e., condition of paint, signs, landscaping, etc.).
  - ii. Wind turbines shall not be used for displaying any advertising except of reasonable identification of the manufacturer or operator of the WECS.
  - iii. The electrical collection system shall be placed underground at a depth designed to accommodate any agricultural land use to the maximum extent practicable. The collection system may be placed overhead from substations to points of interconnection to the electrical grid or in other areas as necessary.
7. Rotor or Blade Clearance. Blade arcs created by a WECS shall have a minimum of seventy-five (75) feet of clearance over and from any structure, adjoining property



or tree. The minimum blade or rotor clearance above ground level shall be at least seventy-five (75) feet.

8. Ice Detection Safety System. Applicants shall install an ice detection safety system on each wind turbine, such as a system installed by a turbine manufacturer to monitor ice formations on a wind turbine and to facilitate immediate shutdown of any turbine if ice is detected that would present a safety risk to nearby persons or property. The Township may waive this requirement if an applicant demonstrates that a mechanical or other function of a turbine (including operation activities) prevents risk of injury to persons or property caused by ice formations.
9. Continuing Enforcement Escrow. Prior to construction and until a WECS is decommissioned, a project owner or operator shall deposit and maintain a continuing escrow deposit (either in cash, letter of credit, or by surety bond) to cover all reasonable costs and expenses incurred by the Township to enforce the Zoning Ordinance and the terms of the project's zoning approvals including site plan and conditions, for the life of the project. Such continuing enforcement escrow deposit may be used towards necessary enforcement actions and reports or studies necessary for enforcement and may fund reasonable fees for the Township Attorney, Township Engineer, Township Planner, or any other consultant necessary for enforcement action and the project owner or operator must deposit more funds with the Township as part of the continuing enforcement escrow should the Township expend all deposited funds or need to spend more funds for a particular enforcement action. The initial enforcement escrow deposit shall be in the amount no less than \$7,500.
10. Application Consistency and Repowering. Any project must be constructed, operated, and maintained consistent with this Section and its zoning approval unless the owner or operator obtains a new zoning approval from the Township to alter the approval project. The owner or operator must apply for and be granted a new special use permit and site plan under the Zoning Ordinance prior to repowering the project.
11. Liability Insurance. The applicant shall maintain a current general liability policy for any project covering bodily injury and property damage with limits of at least five million dollars (\$5,000,000) per occurrence and five million dollars (\$5,000,000) in aggregate and naming the Township and its officers and staff as additional insureds, and provide proof that it meets the insurance requirements to the Township prior to approval.
12. Abandonment, Decommissioning, and Financial Surety.
  - i. Any WECS which has reached the end of its useful life or has been abandoned consistent with this section of the Zoning Ordinance shall be

removed and parcel owners shall be required to restore the site to its original condition. The owner or operator shall physically remove installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the Township and the Planning Commission by certified mail of the proposed date of discontinued operations and plans for removal.

- ii. Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the WECS shall be considered abandoned when it remains nonfunctional or inoperative to the extent that it is not used to generate electric energy for a continuous period of 18 months. If the owner or operator fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment, the Township is permitted to enter the property and physically remove the installation at the owner's expense.
- iii. Decommissioning shall consist of:
  - 1. Physical removal of all Wind Energy Facilities, structures, equipment, security barriers, concrete, and transmission lines (including underground lines) from the site. All underground infrastructure shall be removed completely and disposed of.
  - 2. Disposal of all solid and hazardous waste in accordance with local, state and federal waste disposal regulations.
  - 3. Stabilization or re-vegetation of the site as necessary to minimize erosion.
- iv. To ensure decommissioning occurs, prior to construction of a project, a WECS owner and operator must prepare a decommissioning agreement and corresponding bond in a format and amount acceptable to the Township's legal counsel. Such documents may be submitted to the Township and to the Planning Commission but shall be approved by the Township Board. The amount of bond outlined in the decommissioning agreement shall not credit salvage value of any project improvements due to, among other things, the Township lacking expertise to salvage a large-scale utility project. The decommissioning agreement entered into with the Township shall include a mechanism to increase the amount of decommissioning bond at a periodic interval (e.g., every five years) using a method deemed acceptable by the Township (e.g., inflationary index or new study estimating decommissioning costs) to account for changing decommissioning costs.

13. Complaint Resolution. From construction until project decommissioning, an applicant or owner or operator of the WECS must maintain a complaint resolution process that includes a publicly available permanent phone number and contact information from residents to make complaints regarding the project related to violations of the Zoning Ordinance or any zoning approvals. Such process must

include a form available to the public to submit complaints which shall also be made available online and be provided to the Township for distribution to residents. A WECS owner or operator shall acknowledge receipt of such complaints within five (5) business days and shall acknowledge receipt of such complaints within 30 days unless impracticable in which case the owner or operator must notify the Township and complainant of an estimated timeframe to resolve a complaint. The complaint resolution process may not require a complainant or the Township to post a monetary deposit or otherwise pay for the owner or operator to resolve or investigate a complaint. The WECS owner or operator must notify the Township of any received complaints and resolutions to complaints on a monthly or bi-monthly basis.

14. Reporting. From construction until project decommissioning, an applicant shall make available upon request annual reports on trends and usage of the project including all maintenance activities.
15. Inspection. The Township shall have the right to inspect a WECS for consistency with the requirements of the Zoning Ordinance and all zoning approvals. The owner or operator shall provide the Township and any of its officials, employees, or retained consultants access to the project for such inspections, but may accompany the Township on such inspections and require individuals inspecting the project to adhere to required safety protocols. The Township shall give reasonable advance notice of an inspection, which in no case shall be less than three (3) business days.
16. Transportation Plan and Road Impacts. Prior to any construction, an owner or operator of a WECS shall provide the Township the description of routes to be used for construction of the project, any improvements to roadways necessary for the project, a copy of any performance guarantee, and any executed agreements related to the aforementioned matters submitted to the County Road Commission or Michigan Department of Transportation for project road use and repair. All material damage to a public road located within the Township resulting from a WECS's construction, maintenance, or operation, must be repaired at a project owner or operator's expense.
17. Safety.
  - i. All collection system wiring shall comply with all applicable safety and stray voltage standards.
  - ii. Wind turbine towers shall not be climbable on the exterior.
  - iii. All access doors to wind turbine towers and electrical equipment shall be lockable.
  - iv. Appropriate warning signals shall be placed on wind turbine towers, electrical equipment, and WECS entrances.

- v. Appropriate signage for emergency contact information shall be located at each wind turbine tower.

**ARTICLE 3: AMENDMENT TO ARTICLE THREE, SECTION 312 OF THE ZONING ORDINANCE.**

Article 3, Section 312 shall be amended to make Single WECS for On-Site Service Only a special land use in all zoning districts.

**ARTICLE 4: REPEAL.** All ordinances or parts of ordinances in conflict herewith are hereby repealed.

**ARTICLE 5: SAVINGS CLAUSE.** The remainder of the Township Zoning Ordinance is unaffected. Except as expressly amended by this Ordinance amendment, the rest of the Township Zoning Ordinance remains unchanged and in full force and effect.

**ARTICLE 6: SEVERABILITY.** Should a court of competent jurisdiction determine that any portion of this Ordinance amendment (or any portion thereof) is invalid or unconstitutional, that shall not effect any other portions of this Ordinance amendment, which shall remain in full force and effect.

**ARTICLE 7: EFFECTIVE DATE.** This Ordinance amendment shall become effective seven (7) days after this Ordinance amendment or a summary thereof appears in the newspaper as provided by law.

YEAS: \_\_\_\_\_

NAYS: \_\_\_\_\_

ABSENT: \_\_\_\_\_

ORDINANCE DECLARED ADOPTED.

\_\_\_\_\_  
Bruce Harris, Supervisor  
Ingham Township

**CERTIFICATION**

I hereby certify that the above is a true copy of an Ordinance that was:

1. Adopted by the Ingham Township Board at the time, date, and place specified above pursuant to the required statutory procedures;
2. Published by summary following its adoption in the \_\_\_\_\_ newspaper, a newspaper that circulates within Ingham Township, on \_\_\_\_\_, 2024;
3. Recorded one (1) week after such publication in a book of ordinances kept by me for that purpose, including the date of passage of the Ordinance, the names of the members of the Township Board voting, and how each member voted; and
4. Filed as an attested copy with the Ingham County Clerk on \_\_\_\_\_, 2024.

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Kathy LaGrow, Clerk  
Ingham Township