

TOWN OF COLUMBUS

WIND ENERGY SYSTEMS ORDINANCE

ARTICLE I. GENERAL PROVISIONS

Section 1.1 – Findings

Wind Energy Systems (“WES”), while an important component of renewable energy development, can have adverse impacts. Of particular importance, the Town of Columbus recognizes the findings of the Wind Siting Council’s Minority Report (2024), which identified significant information omitted from the majority’s report, including, but not limited to: (1) acoustic testing at Shirley Wind in Brown County documenting infrasonic pressure pulsations; (2) resident reports of adverse health effects in proximity to industrial wind turbines; and (3) peer-reviewed research on pathological and physiological responses to very low-frequency (“infrasonic”) oscillations unique to large turbines. The Minority Report provides a more balanced and complete assessment of available evidence regarding health, safety, and financial impacts, and underscores the need for further investigation to adequately protect residents and fulfill statutory obligations. With these concerns in mind, the Town Board of the Town of Columbus finds and declares that:

- 1.1.1 The Wisconsin State Constitution obligates local government officials to protect the health, safety, and welfare of their residents. This Ordinance is enacted in furtherance of that duty.
- 1.1.2 Inadequate planning has led to WES negatively impacting public health, quality of life, community character, and the visual landscape.
- 1.1.3 Regulation of the siting and installation of WES is necessary to protect the health, safety, and well-being of residents, property owners, the local economy, and ecosystems.
- 1.1.4 Modern industrial wind turbines are significantly larger and more powerful than those previously studied in Wisconsin, with proposals exceeding 6 MW and 698 feet in height, yet no health or medical research has evaluated the impacts of these newer turbines, despite reports of adverse effects from existing large turbines at considerable distances.
- 1.1.5 By excluding broader research and stricter regulatory models from other jurisdictions, the Wind Siting Council has provided the Legislature with incomplete information, leaving Wisconsin residents subject to setbacks and turbine sizes that may not adequately protect health and welfare.

- 1.1.6 Shadow flicker from wind turbines can cause dizziness, nausea, and concentration problems, yet PSC 128 allows up to 30 hours per year with no effective enforcement, leaving the burden of proof on residents. Other countries use a stricter 10-hour annual limit, but the Wind Siting Council declined to recommend lowering Wisconsin's standard.
- 1.1.7 As turbines increase in size (approaching 700 feet), shadow flicker extends across larger areas, restricting property use beyond the home itself and creating uncompensated impacts on non-participating landowners—effectively a form of “trespass zoning.”
- 1.1.8 Wind turbine noise is more disturbing than traffic or natural sounds due to its constant but variable “swoosh” and pulsing quality, which prevents acclimatization and triggers a continual alert response in the brain.
- 1.1.9 Persistent audible noise disrupts sleep and contributes to symptoms such as anxiety, nervousness, and fatigue; long-term sleep disturbance is linked to serious health risks including depression, diabetes, obesity, cardiovascular disease, and impaired cognitive performance.
- 1.1.10 Wisconsin allows higher sound limits (50 dBA daytime / 45 dBA nighttime) than many European countries, where thresholds are often set between 35–45 dBA. Residents face greater risks in Wisconsin due to weaker standards and limited setbacks.
- 1.1.11 Noise complaints must be made to turbine operators, who face little accountability and often ignore them. Residents are left with ineffective, costly mitigation measures (soundproofing, earplugs) or forced relocation, shifting the burden from operators to affected property owners.
- 1.1.12 Industrial Wind Turbines (IWTs) generate infrasound (<20 Hz) and low-frequency noise (20–200 Hz) that travel long distances, penetrate buildings, and resonate indoors. Taller turbines with longer blades create stronger, lower-frequency pulses that worsen health impacts.
- 1.1.13 Even though inaudible, these pulses can cause “Wind Turbine Syndrome,” including sleep disturbance, headaches, vertigo, nausea, tinnitus, anxiety, and cardiovascular stress. Roughly 10–15% of people are highly sensitive, and repeated exposure can increase susceptibility.
- 1.1.14 Numerous international studies (Pierpont, Salt & Lichtenhan, Schomer, Cooper, Dumbrille, etc.) link turbine-generated infrasound to adverse health effects, meeting Bradford-Hill criteria for causation.

Symptoms are consistent globally and increase with proximity and exposure.

- 1.1.15 PSC 128 measures setbacks from residences or community buildings instead of property lines, which is inconsistent with traditional zoning practices and allows turbines closer to neighboring properties.
- 1.1.16 Current PSC 128 setbacks (1,250 ft) were designed for smaller turbines (~400 ft) and are inadequate for modern turbines exceeding 600 ft. Other jurisdictions, such as Scotland, require setbacks of 1.24 miles, and some U.S. counties mandate up to 1.5–3 miles from homes or schools.
- 1.1.17 Research shows low-frequency pressure pulsations travel farther than audible noise, penetrate structures, and are linked to adverse health effects, necessitating greater setbacks.
- 1.1.18 Brown County, Wisconsin's Board of Health declared turbines at the Shirley Wind Farm a human health hazard in 2014, while Madison County, Iowa, adopted 1.5-mile setbacks and turbine size/power limits based on medical research.
- 1.1.19 Studies show wind turbines reduce property values up to 2.5 km (1.5 miles) away (Andersen & Hener, 2022). Local examples near Shirley Wind include homes vacated or foreclosed due to health impacts and inability to obtain mortgages.
- 1.1.20 Livestock health issues, reduced hunting opportunities, and declines in birds, bats, and insects diminish both the productivity and scenic/recreational value of nearby land. Controlled studies in India (2022) and Finland (2023) confirm measurable wildlife population declines extending over 3 miles.
- 1.1.21 Current law requires no appraisal of surrounding property values before wind projects are approved. Federal studies cited by developers often omit health and wildlife impacts and fail to account for unsold homes.
- 1.1.22 Developers should be required to fund independent pre- and post-construction appraisals, with compensation mechanisms for neighboring property owners who suffer value loss or health-related impacts.
- 1.1.23 Due to their scale and effects, WES can impose significant negative aesthetic and environmental impacts on the community.
- 1.1.24 Construction of WES often requires heavy vehicles and equipment, which can cause significant damage to local roads and infrastructure.

- 1.1.25 This community has scenic viewsheds, many of which would be negatively affected by WES.
- 1.1.26 This community is surrounded by other communities that share its agricultural and rural residential character.
- 1.1.27 The community and its citizens seek to preserve a pastoral, rural identity that may be in conflict with industrial-scale WES. The Town's Comprehensive Plan expressly envisions "a community of rural and urban mix that respects the rights and freedom of each person; preserves the rural atmosphere of the agricultural community; promotes economic development compatible with agriculture; protects private property rights and surface and ground water quality and quantity; maintains schools and quality education; and fosters cooperation with the City of Columbus.
- 1.1.28 According to the Wisconsin Department of Natural Resources, the Town of Columbus contains approximately 2,046 acres of wetlands, representing about 10.1 percent of the Town's surface area. In addition, several areas within the Town contain wet soils known as hydric soils, which form where prolonged saturation or flooding reduces oxygen levels during the growing season. Although hydric soils share many characteristics with wetlands, they are not classified as wetlands and therefore do not receive the same regulatory protections. Portions of the Town that include state-regulated wetlands or hydric soils may be unsuitable for industrial wind energy development.

Section 1.2 – Title

This Ordinance shall be known as the "Town of Columbus Wind Energy Systems Ordinance."

Section 1.3 – Authority

This Ordinance is enacted pursuant to Wis. Stat. ch. 60, Wis. Stat. § 66.0401, and Wis. Admin. Code ch. PSC 128.

Section 1.4 – Purpose

WHEREAS, Wis. Stat. § 66.0401 and Wis. Admin. Code ch. PSC 128 authorize political subdivisions to adopt ordinances regulating the construction, installation, operation, and decommissioning of WES in order to preserve and protect public health, safety, and welfare;

WHEREAS, any person or entity proposing to construct or operate a WES within the Town must first submit an application for local approval with the Town Clerk, and such application shall be reviewed in accordance with this Ordinance and applicable state law;

WHEREAS, the Town recognizes the potential benefits of wind energy as a renewable resource, while also acknowledging potential impacts on residents, property, and the environment;

NOW, THEREFORE, the Town of Columbus hereby adopts this Ordinance to establish comprehensive requirements for the application, review, and approval process for Wind Energy Systems (WES), as well as for their siting, construction, operation, monitoring, and decommissioning within the Town, consistent with state law and designed to protect public health, safety, and welfare.

Section 1.5 – Applicability

This Ordinance applies to all WES proposed to be located, constructed, operated, or decommissioned within the Town of Columbus that have a total installed nameplate capacity of 300 kilowatts or greater and consists of individual wind turbines that have an installed nameplate capacity of more than 100 kilowatts. This Ordinance also applies to “Small” WES proposed to be located, constructed, operated, or decommissioned within the Town of Columbus that have a total installed nameplate capacity of 300 kilowatts or less and that consists of individual wind turbines that have an installed nameplate capacity of not more than 100 kilowatts.

Section 1.6 – Definitions

The definitions contained in PSC 128.01 are hereby incorporated by reference as if fully set forth herein. In addition, the following apply:

- a. “Town.” The Town of Columbus, Columbia County, Wisconsin, including its Town Board when acting within its official capacity.
- b. “Applicant.” The person, partnership, company, corporation, association, or other legal entity, including its successors, assigns, and agents, who submits an application to the Town for approval to construct, expand, or operate a WES.
- c. “Application.” The materials submitted to the Town by an applicant to request approval to construct, expand, or operate a WES.
- d. “Owner.”
 1. A person with a direct ownership interest in a wind energy system, regardless of whether the person was involved in acquiring the necessary rights, permits and approvals or otherwise planning for the construction and operation of a wind energy system.
 2. At the time a wind energy system is being developed, a person who is acting as a wind energy system developer by acquiring the necessary rights, permits and approvals for or by planning for the construction

and operation of a wind energy system, regardless of whether the person will own or operate the wind energy system.

ARTICLE II. PRE-APPLICATION REQUIREMENTS

Section 2.1 – Pre-Application Consultation

- a. Purpose. Prior to filing an application, an owner is required to meet with the Town to discuss:
 - 1. Filing requirements under PSC 128 and this Ordinance;
 - 2. Application formats, such as paper versus electronic, Adobe Acrobat (*.pdf) versus Geographical Information System (GIS) data files;
 - 3. Review timelines and important milestones;
 - 4. When and how permits/approvals from state and/or federal regulatory agencies should be shared with the political subdivision;
 - 5. Confidential information handling;
 - 6. Applicable review fees and independent review costs.
- b. Nature. This pre-application consultation is intended to be a series of discussions between the owner and Town representatives to identify issues early and ensure that the application will be complete and reviewable when filed.

Section 2.2 – Pre-Application Notice

- a. Timing. At least 90 days before filing an application, the owner shall provide written notice of the planned WES to all persons and entities listed in subsection (b).
- b. Recipients. As required by PSC 128.105(1), including landowners within one mile, relevant political subdivisions, emergency responders, WisDOT, PSC, DNR, DATCP, and the office of the deputy undersecretary of the U.S. department of defense.
- c. Content. The owner shall include all of the following in a notice:
 - 1. A complete description of the wind energy system, including the number and size of the planned wind turbines;
 - 2. A map showing the planned location of all wind energy system facilities;
 - 3. Contact information for the owner;

4. A list of all potential permits or approvals the owner anticipates may be necessary for construction of the wind energy system;
 5. Whether the owner is requesting a joint application review process under PSC 128.30 (7) and the name of each political subdivision that may participate in the joint review process.
- d. Delivery. By U.S. Mail or commercial service, with proof retained.
 - e. Proof. Copy of notice and recipient list must be submitted with the application.
 - f. Small WES. The Pre-Application Notice requirements for Small WES are as follows: At least 60 days before an owner files an application to construct a WES, an owner shall use commercially reasonable methods to provide written notice of the planned WES to adjacent landowners and the political subdivisions with jurisdiction over the small WES.

Section 2.3 – Other State and Federal Regulatory Reviews

- a. General Requirement. In addition to meeting the requirements of the Town under this Ordinance, the applicant may be required to consult with and/or obtain permits or approvals from other state and federal agencies, including but not limited to:
 1. Wisconsin Department of Natural Resources (DNR);
 2. Wisconsin Department of Transportation (WisDOT);
 3. Federal Aviation Administration (FAA);
 4. U.S. Fish and Wildlife Service (USFWS); and
 5. U.S. Army Corps of Engineers (USACOE).
- b. Timing of Consultations. Applicants are encouraged to contact these agencies early in the planning process to simplify review and permitting. The applicant shall share communications, findings, and approvals from these agencies with the Town as they become available.
- c. WisDOT Permits and Reviews.
 1. Oversize and overweight permits from WisDOT will be required for transporting large wind turbine components to construction sites.
 2. Review by the WisDOT Bureau of Aeronautics for high-structure permits may also be required.

d. DNR Permits and Reviews.

1. DNR regulates construction site erosion control and stormwater management plans, wetland and waterway permits, and incidental take permits for endangered or threatened species.
 2. The permits and approvals required will depend on the project's location and the ancillary facilities proposed.
 3. DNR may require field studies related to wetlands, waterways, or threatened or endangered species.
 4. The DNR Office of Energy will assist the applicant in determining the timing and scope of field work required:
 - Prior to application submission;
 - While the application is under review; and
 - After construction is completed.
 5. The applicant shall provide DNR with relevant project information, including schedule, major actions, and current aerial photographs, at least two (2) to four (4) months before the beginning of the appropriate field study period.
 6. DNR's timing and scope requirements will be based on project-specific considerations and may require adherence to DNR-issued guidelines for wind energy projects.
- e. FAA, USFWS, and USACOE. The applicant shall consult with the FAA regarding airspace impacts, the USFWS for potential impacts to protected species, and the USACOE for impacts to waters of the United States, and shall obtain all required permits or determinations prior to commencing construction.

ARTICLE III – APPLICATION FOR LOCAL APPROVAL

Section 3.1 – General Requirement

No person may construct a WES within the Town without first obtaining local approval. Applications shall be submitted with the Town Clerk and contain all information required by PSC 128 and the PSC's "Application Filing Requirements for Wind Energy Systems Subject to Political Subdivision Review," as fully set

forth herein. The applicant shall ensure that the information contained in the application is accurate, as required by PSC 128.30(3).

Section 3.2 – Application Formats

- a. Applications may be submitted in a variety of formats depending on the Town's technical capacity to conduct its review.
- b. Certain information is best reviewed in its native format rather than Adobe PDF. For example, tables and spreadsheets may be required in Microsoft Excel format, and maps shall be accompanied by GIS data files when available.
- c. The Town shall discuss and determine acceptable application formats during the pre-application consultation required under Article II.

Section 3.3 – Confidential Materials

- a. The Town shall establish filing procedures for handling confidential information if such procedures are not already in place.
- b. The amount of application material filed as confidential should be kept to a minimum and reserved only for information containing clearly defined proprietary data.
- c. Confidential submissions must comply with any applicable state public records laws.

Section 3.4 – Application Size and Organization

- a. Applicants shall minimize the physical size of their applications by eliminating superfluous information not material to the project.
- b. Only those pages relevant to the information requirements under this Ordinance, PSC 128.30(2), and PSC 128.50(1) shall be submitted.
- c. Duplicative information should be avoided; where appropriate, an appendix may be used for material referenced in multiple sections.
- d. Only official correspondence between the applicant and state, local, and federal agencies shall be included.
- e. Applications should be printed double-sided when appropriate.

Section 3.5 – Application Copies, Availability, and Public Comment

- a. Pursuant PSC 128.30(4), the Town hereby requires that each applicant submit four (4) complete paper copies and one (1) complete electronic copy of the application. Each copy shall include all worksheets, maps, GIS

data (where applicable), and other attachments. The Town will make a complete application available to the public at a local library and at the Town's business office or another publicly accessible location, consistent with PSC 128.30(6)(a).

- b. Pursuant to PSC 128.30(5)(a), on the same day the applicant files an application for a WES, the applicant shall, under Wis. Stat. § 66.0401 (4) (a) 3., use commercially reasonable methods to provide written notice of the filing of the application to property owners and residents located within one mile of the proposed location of any WES facility. The notification shall include all of the following:
 - 1. A complete description of the wind energy system, including the number and size of the wind turbines.
 - 2. A map showing the locations of all proposed wind energy system facilities.
 - 3. The proposed timeline for construction and operation of the wind energy system.
 - 4. Locations where the application is available for public review.
 - 5. Owner contact information.
- c. Pursuant to PSC 128.30(5)(b), after the Town receives an application for a WES, the notice required to be published by the Town under Wis. Stat. § 66.0401 (4) (a) 1., shall include a brief description of the proposed wind energy system and its proposed location, the locations where the application is available for public review, the method and time period for the submission of public comments to the Town, and the approximate schedule for review of the application by the Town.
- d. Pursuant to Wis. Admin. Code § PSC 128.30(6)(b) and (c), the Town shall accept and consider written public comments on any application for a WES. The Town shall hold at least one (1) public meeting to obtain comments on, and to inform the public about, a proposed WES. Notice of such meeting shall be provided in accordance with applicable Wisconsin open meetings laws.

Section 3.6 – Application Completeness Review

- a. The completeness review period shall begin the day after the applicant provides written notice to the Town Clerk that all application materials have been submitted.

- b. The Town shall complete its review for completeness within forty-five (45) days.
- c. By the end of the 45-day period, the Town shall notify the applicant in writing whether the application is complete.
- d. If incomplete, the Town shall identify all deficiencies in writing. The applicant may then submit revised or supplemental materials to address the deficiencies.
- e. A new forty-five (45) day completeness review period shall commence upon the Town's receipt of such revised or supplemental materials.
- f. If the Town does not issue a written completeness determination within the 45-day period, the application shall be deemed complete by operation of law.
- g. The 45-day period includes Saturdays, Sundays, and legal holidays; if the final day falls on a weekend or statewide legal holiday, the period shall end on the next business day.

Section 3.7 – Post-Completeness Information Requests

- a. A determination of completeness does not preclude the Town from requesting additional information during its substantive review of the application per PSC 128.30(2)(p).
- b. Applicants must respond to all reasonable Town inquiries made after a completeness determination in a timely, complete, and accurate manner.
- c. Failure to respond may result in delays or grounds for denial under the applicable provisions of PSC 128 and this Ordinance.

Section 3.8 – Compliance with Other Regulatory Reviews

- a. Applicants shall provide the Town with copies of all relevant communications, determinations, and approvals from other state or federal agencies with jurisdiction over the WES, as required by Article II, Section 2.3.
- b. Such materials shall be filed with the Town promptly upon receipt.

Section 3.9 – Joint Application Review Process

- a. Applicability. If a proposed WES is to be located in more than one political subdivision with jurisdiction over the project, the Town may, on its own motion or upon request of the applicant, participate in a joint application

review process with the other political subdivision(s), consistent with Wis. Admin. Code § PSC 128.30(7).

- b. Request by Applicant. If the applicant requests a joint application review process, the request shall be included in the applicant's notice of intent to file an application, as required under Wis. Admin. Code § PSC 128.105(1). Upon receipt of such a request, the Town and the other political subdivision(s) shall approve or deny the request within sixty (60) days of receipt of the applicant's notice.
- c. Establishment of Joint Review Process. If the Town elects to participate in a joint application review process, the process shall be consistent with PSC 128 and shall be established within ninety (90) days of the date the participating political subdivision(s) receive the applicant's Notice of Intent to File an Application. The Town may adopt the review process of another participating political subdivision for purposes of conducting the review concurrently.
- d. Filing Requirements in Joint Review. If a joint application review process is adopted, the applicant shall file the joint-review process application with all participating political subdivisions, in the form and manner prescribed by each subdivision.

Section 3.10 – Fees

- a. The Town may charge an applicant a reasonable application fee or require reimbursement for reasonable expenses related to the review and processing of a WES application.
- b. Fees and reimbursements shall be based on the actual and necessary costs of reviewing the application, including costs of services provided by outside engineers, attorneys, planners, environmental specialists, and other consultants or experts. The Town may by ordinance set standardized application fees based on the size and complexity of the proposed WES.
- c. The Town may require an applicant to submit up to fifty percent (50%) of the total estimated fee or reimbursement before issuing a written decision, provided the Town gives written notice of its intent to do so within ten (10) days of the date the application is deemed complete. The notice shall contain an estimate of the total fee and any reimbursement requirements.
- d. The Town shall not charge an owner any annual or recurring fees for the operation or maintenance of a WES, consistent with PSC 128.32(5)(d).

Section 3.11 – Application Content Requirements

A complete application must contain the following information or a showing must be made as to why the information is not applicable. The application's

organization must follow the major format and numbering system of these filing requirements. Questions about the applicability of specific information requirements should be discussed with the Town during pre-application consultations. A complete application for a Small WES shall include all information otherwise required under this Ordinance, except that the applicant is not required to provide the information specified below in 1.16.3 and 3.9.

Applications shall include, in order:

1. PROJECT OVERVIEW

1.1 Project Owners. Identify the owners of the proposed project including their names, addresses, and percent of ownership. If different, identify the operators of the proposed project including names and addresses.

1.2 Project Description. Describe all features of the proposed project including the size and location of the project area, the number and the capacities of the proposed wind turbines, the lifespan of the facility, operation and maintenance (O&M) building, collector circuits, the number of participating property owners, and the facilities necessary to connect the project to the transmission system.

1.3 Application Maps. Provide maps that use the best and most recent data available. Maps must clearly portray the project in a format and scale that is unambiguous and easy to understand. Labels and symbology used on the maps must be clearly visible. The scale of the maps and number required to show all relevant data will be discussed during pre-application consultations. Maps should show all pertinent aspects of temporary and permanent features discussed in the application.

- Aerial photographs not more than three years old
- Project data
 - Project area (at a minimum all properties within 0.5 miles of any proposed wind energy system facility)
 - Proposed wind turbine sites
 - Proposed turbine pads
 - Proposed construction footprints at turbine sites
 - Properties with project easements or other forms of land rights

- Proposed underground collector circuits
- Proposed overhead collector circuits
- Proposed electric lines and structures
- Proposed access roads
- Local roads/culverts that would be altered or modified
- Proposed construction crane paths
- Proposed interconnection facilities, new substation, and/or expansion of an existing substation
- Proposed operation and maintenance building, if applicable
- Proposed construction laydown areas
- Meteorological towers
- Any other structure required for the operation of the proposed wind energy system
- Environmental data
 - Rivers, lakes, and other waterways
 - Wetlands (identified by the Wisconsin Wetland Inventory and/or field delineations)
 - Soils
 - Topography
 - Floodplains
 - Depth to bedrock
- Parcel data
 - Private properties
 - Public properties (symbolized differently than private properties)
 - Tribal or other types of properties

- Political subdivisions
- Land use
 - Land cover
 - Zoning
 - Sensitive sites (e.g. daycare centers, schools, hospitals, cemeteries, etc.)
 - Confined animal dairy operations
 - Airports, airstrips, heliports (public and private) within and near the project area (see Section 3.3 of this document)
 - Roads
 - Recreation areas, trails
- Utility data
 - Existing transmission
 - Distribution, telephone, or cable lines that would be affected by the proposed project
 - Other existing utilities necessary to understand the proposed project (natural gas lines, railroads, etc.)

1.4 Wind Turbine Description. Provide a technical description of the proposed wind turbine model(s) chosen or being considered including, but not limited to the following:

- 1.4.1 Dimensions (total height, hub height, blade length, rotor swept area, etc.)
- 1.4.2 Turbine capacities
- 1.4.3 Cut-in and Cut-out speeds
- 1.4.4 Fixed or variable speed – include rpm
- 1.4.5 Rated wind speed
- 1.4.6 Look and finish of wind turbines
- 1.4.7 Turbine foundation dimensions, depth, and types

1.4.8 Transformer type, location, and physical size of transformer pad at each turbine site

1.4.9 Turbine coolant or heating systems

1.5 Overhead Collector Circuits.

1.5.1 If overhead collector circuits are part of the proposed project, explain the reason for not constructing the circuits underground.

1.5.2 Provide an inspection schedule for the overhead collector circuits when construction is completed.

1.6 Substation/Interconnection Facilities. If the proposed wind energy system includes a new substation/interconnection facility or modifications to an existing substation, provide the following information:

1.6.1 Location and dimensions of any new proposed substation, interconnection facility, or addition to an existing substation.

1.6.2 The location of any electric lines entering and leaving the substation/facility, including turning structures, guy wires, and describe impacts to adjacent landowners.

1.6.3 The location of any access roads.

1.6.4 Any equipment noise or facility lighting that might be perceptible to adjacent property owners.

1.6.5 Proposed look and landscaping surrounding facility.

1.7 Other Proposed Facilities. Describe the location and layout for any other facility needed such as:

1.7.1 Parking lots

1.7.2 Sheds or storage buildings

1.7.3 Supplies of water, sewers, or septic systems

1.8 Proposed Turbine Lighting

1.8.1 Submit documentation from the Federal Aviation Administration (FAA) regarding the proposed wind energy system.

1.8.2 Describe the FAA-approved lighting that would be used for the proposed wind energy system, including the substation, O&M building, and any other proposed facilities.

1.8.3 Identify any proposed use of shielding or control systems approved by the FAA to reduce visibility of lighting to individuals on the ground.

1.9 Safety

1.9.1 Identify the wind energy system safety measures that would be used to prevent access and make the turbines not readily climbable by unauthorized individuals.

1.9.2 Provide samples of warning signs that would be located at the base of each wind turbine and at every intersection of a wind turbine access road and a public road.

1.9.3 Identify any safety features that would be used on any other proposed feature of the project.

1.10 Brownfields (as defined in Wis. Stat. § 560.13(a)(a)). Identify the location and describe any facilities that would be constructed on brownfields. Describe the type of brownfield and if there are any construction or operation limitations for the project because of the properties' brownfield status.

1.11 Proof of Insurance. Submit proof of general liability insurance relating to claims for property damage or bodily injury in effect during construction, operation, and decommissioning of the proposed facility.

1.12 Notices. Submit representative copies of all notices and who the notices were/would be issued to, including the following:

1.12.1 Pre-application notice issued 90 days prior to submitting the application in compliance with Wis. Admin. Code § PSC 128.105(1)(a).

1.12.2 Public notice of application filing to political subdivision that meets Wis. Admin. Code § PSC 128.30(5).

1.12.3 Notice of complaint process in compliance with Wis. Admin. Code § PSC 128.42(1)

1.12.4 Notification regarding noise criteria in compliance with Wis. Admin. Code § PSC 128.14(6)(a), if such notification will be or is anticipated to be used.

1.12.5 Notification regarding shadow flicker rules in compliance with Wis. Admin. Code § PSC 128.15(5)(a), if such notification will be or is anticipated to be used.

1.12.6 Prior to the initial operation of the facility, notification of noise criteria and shadow flicker rules to non-participating residence or occupied community building owners within 0.5 mile of a constructed wind turbine in compliance with Wis. Admin. Code §§ PSC 128.14(6)(b) and PSC 128.15(5)(b).

1.13 Siting Criteria

1.13.1 Identify the siting criteria used to design the proposed project.

1.13.2 Specify whether the siting criteria used meets or exceeds those specified by Wis. Admin Code § PSC 128.13 (1)(a), Table 1.

1.13.3 Identify if any additional siting criteria or greater setbacks than those specified in Wis. Admin. Code § PSC 128.13(1)(a), Table 1, were used to design the proposed project.

1.13.4 Describe the reasons for and the effects of any additional siting standards.

1.13.5 Discuss how wind turbines were located so as to minimize any individual hardships.

1.13.6 Identify any nonparticipating landowners or community building owners which agreed to a setback waiver as described in Wis. Admin. Code § PSC 128.13(1)(d).

1.14 State, Federal, and Local Permits, Approvals, and Correspondence

1.14.1 Provide a list of all state, federal, and county permits/approvals required to construct and operate the proposed wind energy system.

1.14.2 Provide copies of the permits/approvals or their current status including, but not limited to:

1.14.2.1 DNR wetland and waterway permits

1.14.2.2 DNR Construction Site Erosion Control and Storm Water Discharge Permit

1.14.2.3 DNR-approved endangered resource review

1.14.2.4 If applicable, WisDOT high structure permits

1.14.2.5 FAA aeronautical study determinations

1.14.3 Provide copies of all official correspondence between the applicant and all regulatory entities.

1.14.4 State and Federal Recommendations (if required by the political subdivision)

1.14.4.1 Provide any non-binding recommendations from state or federal agencies regarding constructing, operating, or decommissioning the proposed wind energy system.

1.14.4.2 Discuss the recommendations and whether they are incorporated into the proposed wind energy system construction, operation, or decommissioning.

1.15 Monetary Compensation

1.15.1 Specify if nonparticipating landowners would receive monetary compensation.

1.15.2 Discuss the criteria for determining which non-participating landowners would receive monetary compensation.

1.15.3 Discuss how and if the payments would be modified annually.

1.16 Decommissioning

1.16.1 Provide decommissioning estimates as required by the political subdivision for the actual and necessary cost of decommissioning.

1.16.2 If the wind energy system would be more than one megawatt, provide proof of the financial ability of the applicants to fund the actual and necessary cost of decommissioning in a form and amount as required by the political subdivision.

1.16.3 Submit a decommissioning and site restoration plan which includes deconstruction sequence, construction details environmental impacts, and site restoration.

2. PROJECT CONSTRUCTION DESCRIPTION AND IMPACTS

2.1 Provide the anticipated construction schedule, in-service date, and any seasonal or regulatory constraints and electric system outage constraints.

2.2 Describe the sequence for constructing the proposed wind energy system.

2.3 Describe the construction impacts and zone of disturbance that may be associated with the construction of each type of facility.

2.4 If applicable, discuss construction methods that would be used where bedrock is close to the surface and the potential impacts.

2.5 Identify any soil conditions related to site geology, groundwater, contamination, erosion, etc. that might create circumstances requiring special methods or management during construction.

2.6 Construction and Delivery Vehicle Descriptions

2.6.1 Identify roads and routes in the project area that would be used by construction equipment and to haul heavy and oversized equipment and materials

2.6.2 Describe the types of construction equipment and delivery vehicles that would use local roads. Diagrams and information should specify the following details:

2.6.2.1 Gross vehicle weight (loaded and unloaded for all vehicles using local roads

2.6.2.2 Overall vehicle length

2.6.2.3 Turning radius

2.6.2.4 Minimum ground clearance

2.6.2.5 Minimum slope tolerance

2.7 Roads and Infrastructure Impacts

2.7.1 Local Infrastructure Impacts Identify and discuss any anticipated impact of the wind energy system on local infrastructure during construction and during operation, including but not limited to roads, bridges, culverts, sewer, and electric distribution or any other lines.

2.7.2 Road Modifications Describe and submit the following information regarding modifications to local roads necessary for the construction of the proposed wind energy system (e.g., turn radii expansion, road culvert reconstruction to withstand heavy traffic, impacts to wetlands or drainage swales due to road modifications, etc.):

2.7.2.1 Location of road modifications.

2.7.2.2 Complete description of modification.

2.7.2.3 Tree clearing that would occur along roads (in road ROW and on private property).

2.7.2.4 Environmental issues associated with road modification.

2.7.2.5 Any post-construction changes to road modifications.

2.7.3 Road Impacts

2.7.3.1 Describe the process which would be used to determine the condition of roads pre-construction and post-construction.

2.7.3.2 Describe how and when road repairs would be performed on local roads and how disputes on causes of road damage would be resolved.

2.7.4 Electric Distribution and Other Lines

2.7.4.1 Provide the likely locations where existing electric distribution and other lines would need to be disconnected in order to allow passage of equipment and materials.

2.7.4.2 Describe how residents would be notified before disconnection of local power, telephone, or cable.

2.7.4.3 Estimate the typical duration of the outage resulting from equipment or materials delivery.

2.8 Access Roads

2.8.1 Provide the width of access roads during construction and post-construction.

2.8.2 Describe construction materials.

2.8.3 Describe any site access control (i.e., fences or gates).

2.9 Crane Paths

2.9.1 Description of width and depth of crane path preparations.

2.9.2 Describe construction materials.

2.9.3 Describe any site access control (i.e., fences or gates).

2.9.4 Post-construction management of crane paths and methods that would be used to recover the land.

2.10 Collector Circuits (overhead and underground)

2.10.1 Length and location of collector circuits that would be constructed.

2.10.2 Voltage of collector circuits.

2.10.3 Configuration of collector circuits.

2.10.4 Construction methods for collector circuits (i.e., trench dimensions, burial method, collector poles, etc.).

2.11 Temporary Laydown Areas

2.11.1 Identify the location, footprint, and existing land use of all temporary laydown/staging areas and any additional temporary workspace.

2.11.2 Describe the impacts to the proposed areas.

2.12 Hazardous Materials

2.12.1 Provide a list of hazardous materials to be used on-site during construction and operation of the proposed project.

2.12.2 Discuss spill containment and cleanup measures including the Spill Prevention, Control, and Countermeasures (SPCC) and Risk Management planning.

2.13 Post-Construction Restoration. For each temporary impact, describe the revegetation and restoration efforts after the facilities are constructed, including at locations of access roads, crane paths, and laydown areas.

3. COMMUNITY IMPACTS

3.1 Existing Land Uses

3.1.1 Describe existing land uses within one-half mile of all proposed wind-turbine sites.

3.1.2 Discuss any changes to existing land uses that occurred since the pre-application notice was provided.

3.1.3 Discuss how the construction and operation of wind turbine sites and related facilities might impact the identified existing land use.

3.1.4 Discuss how the impacts have been minimized or would be mitigated.

3.1.5 Describe the potential aesthetic impacts to the community and how these impacts would be mitigated.

3.1.6 Provide representative photo simulations of the proposed project in the project area.

3.2 Agriculture

3.2.1 Describe how the design of the proposed wind energy system minimizes the conversion of land from agricultural use.

3.2.2 Describe construction methods that would be used to minimize soil compaction, topsoil mixing, and damage to drainage systems on agricultural lands.

3.2.3 Aerial Spraying or Seeding Operations (if required by the political subdivision)

3.2.3.1 Discuss the use of aerial spraying for pest control or seeding at project area farm operations.

3.2.3.2 Discuss the impacts of the proposed wind energy system on aerial spraying or seeding operations.

3.2.3.3 Identify potential mitigation of these impacts including monetary compensation.

3.3 Airports and Airspace

3.3.1 Identify the location and owner of private and public airports, airstrips, or heliports in the project area or which may be affected by the proposed project including:

3.3.1.1 Public airports within 5 miles of the nearest turbine location.

3.3.1.2 Private use airports/landing strips within two miles of the project area.

3.3.2 Identify the location and owner of any heliports at a medical facility used for air ambulance service within the project area or which may be affected by the proposed project.

3.3.3 Discuss any wind turbine setbacks used in the vicinity of airports or heliports to protect airport approaches including:

3.3.3.1 Any turbine locations subject to height limitation zoning or land use controls due to municipally owned public use airports as specified under Wis. Stat. § 114.136.

3.3.3.2 Any turbine locations that would be subject to a WisDOT tall structure permit under Wis. Stat. § 114.135.

3.4 Construction Impacts to Project Area

3.4.1 Discuss the anticipated traffic congestion during construction that would be experienced on project area roads and how the congestion would be minimized and mitigated.

3.4.2 Discuss the anticipated noise and lighting disturbances during construction and how the impacts would be minimized and mitigated.

3.5 Noise from Operating Wind Turbines

3.5.1 Discuss how the proposed wind energy system is designed to minimize noise at nonparticipating residences or occupied community buildings to the extent practicable.

3.5.2 Provide noise estimates that show compliance with a noise standard established by the political subdivision under Wis. Admin. Code § PSC 128.14.

3.5.3 Specify whether the noise criteria used to design the project will result in the following at the outside wall nearest a proposed wind turbine of nonparticipating residences or occupied community buildings under normal operating conditions:

3.5.3.1 Noise from the proposed wind energy system would not exceed 50 dBA during daytime hours of 6 a.m. to 10 p.m.

3.5.3.2 Noise from the proposed wind energy system would not exceed 45 dBA during the nighttime hours of 10 p.m. to 6 a.m.

3.5.4 Provide the methods for assessing pre-construction noise levels for the proposed project.

3.5.5 Provide the methods for assessing post-construction noise levels.

3.5.6 Identify the properties of nonparticipating residences and occupied community buildings for which the applicant has secured noise waivers.

3.6 Shadow Flicker from Operating Wind Turbines

3.6.1 Discuss how the proposed wind energy system is designed to minimize shadow flicker at nonparticipating residences or occupied community buildings.

3.6.2 Provide the results of shadow flicker computer modeling that shows the operation of the proposed project would not exceed shadow flicker limits established by the political subdivision under Wis. Admin. Code § PSC 128.15.

3.6.3 Specify whether the shadow flicker criteria used to design the project will result in shadow flicker not exceeding 30 hours per year of shadow flicker at nonparticipating residence or occupied community buildings.

3.6.4 Based on computer modeling, identify the properties of nonparticipating residences or occupied community buildings that would experience 20 hours or more of shadow flicker.

3.6.5 Describe the options for mitigating shadow flicker on nonparticipating residences or occupied community buildings that would experience 20 or more hours of shadow flicker.

3.6.6 Identify the properties of nonparticipating residences and occupied community buildings for which the applicant has secured shadow flicker waivers.

3.7 Signal Interference of Commercial and Personal Communications from Operating Wind Turbines

3.7.1 Discuss how the proposed wind energy system is designed to minimize signal interference to commercial communications¹ and personal communications² to the extent practicable.

3.7.2 Specify whether any wind turbines are proposed within existing line-of-sight communication paths used by government or military entities to provide services essential to protect public safety.

3.7.3 Identify and discuss the types and particulars of commercial and personal communications that may be affected by the operation of the proposed wind energy system, including:

3.7.3.1 Line-of-site analysis for potential interference with microwave communications.

3.7.3.2 Analysis of the potential television interference within the project area and within one mile of the project boundary.

3.7.3.3 Aviation radar installations, Doppler weather radar installations of the National Weather Service, and any broadcast television stations.

3.7.3.4 Any other personal communications systems such as cell phone, radio, and internet (WiFi).

3.7.4 Discuss the potential options that would be available to mitigate interference of commercial and personal communications.

3.7.5 Describe the procedure for communication complaint resolution that would be established once the wind energy system is operational and during the life of the project.

3.8 Stray Voltage

3.8.1 Discuss the involvement and recommendations of the local electric distribution company regarding the testing for stray voltage prior to construction of all dairy and confined animal operations within 0.5 mile of a wind energy system.

¹ Commercial communications include communications used by government and military entities for emergency purposes, licensed amateur radio service, and non-emergency communications used by agricultural, business, government, and military entities including aviation radar, commercial mobile radio service, fixed wireless service, global positioning, line-of-sight, microwave, personal communications service, weather radar, and wireless internet service (Wis. Admin. Code § PSC 128.01(1)).

² Personal communication includes wireless telecommunications, personal communications service, radio, television, wireless internet service, and other systems used for personal use purposes.

3.8.2 Briefly discuss the involvement of PSCW staff in determining the manner in which stray voltage testing would be conducted and on which properties.

3.8.3 Identify the dairy or confined animal operations within 0.5 miles of any proposed wind energy system facility.

3.8.4 Submit the testing procedures that would be used on the identified properties prior to the start of construction and post-construction when the wind energy system is fully operational.

3.9 Emergency Procedures

3.9.1 Identify the first responders the applicant has worked with regarding emergency planning for the proposed wind energy system.

3.9.2 Describe the collaborative process for developing local emergency plans between the applicant and area first responders.

3.9.3 Provide a copy of the emergency plan (may be filed confidentially) or its status.

3.9.4 Provide details for any first responder annual training that would be conducted by the applicant.

3.10 Complaint Resolution. Describe the procedures that would be used for complaint resolution when the wind energy system is operational and during the life of the project.

3.11 Shared Revenue and Community Benefits

3.11.1 For each political subdivision, provide an estimate of the shared revenue resulting from the proposed project, if applicable (Wis. Stat. ch. 79).

3.11.2 Describe any other benefits (e.g., employment, infrastructure improvements) the community would receive due to the operation or construction of the proposed project.

ARTICLE IV – DECISION PROCESS AND POST CONSTRUCTION FILING

Section 4.1 – Applicability of Approval Requirement

- a. Except as provided in PSC 128.02(1), no person or entity may construct or expand a WES within the Town without first obtaining written approval from the Town pursuant to this Ordinance and PSC 128.32(1).

Section 4.2 – Decision Criteria

- a. Approval Standards. Approval shall be granted only if the application meets all requirements of PSC 128, this Ordinance, and applicable laws.

- b. Conditions on Approval. Approval of an application to construct a WES is conditioned upon the following:
1. Information. The Town requires information about whether the owner of the WES has consulted with and received any non-binding recommendations for constructing, operating or decommissioning the wind energy system from a state or federal agency, and whether the owner has incorporated such non-binding recommendations into the design of the wind energy system.
 2. Studies. The Town requires the owner to cooperate with any study of the effects of wind energy systems coordinated by a state agency.
 3. Monetary compensation. The Town requires the owner of a WES to offer an agreement that includes annual monetary compensation to the owner of a nonparticipating residence, if the residence is located within 0.5 mile of a constructed wind turbine. For one turbine located within 0.5 mile of a nonparticipating residence, the initial annual monetary compensation may not exceed \$600. For two turbines located within 0.5 mile of a nonparticipating residence, the initial annual monetary compensation may not exceed \$800. For three or more turbines located within 0.5 mile of a nonparticipating residence, the initial annual monetary compensation may not exceed \$1,000. The initial annual monetary compensation under this subsection shall apply to agreements entered into in 2011. For agreements entered into in 2012 and thereafter, the initial annual amounts shall increase each year by the greater of two percent or the increase in the Consumer Price Index, as described in s. 196.374 (5) (bm) 2. b., Stats., from the previous year. An agreement offered under this subsection shall specify in writing any waiver of a requirement or right under this chapter and whether the landowner's acceptance of payment establishes the landowner's property as a participating property under this chapter.
 4. Aerial spraying. The Town requires the owner to offer an agreement that includes monetary compensation to a farm operator farming on a nonparticipating property located within 0.5 mile of a constructed wind turbine if the farm operator demonstrates all of the following:
 - i. Substantial evidence of a history, before the wind energy system owner gives notice under s. PSC 128.105 (1), of using aerial spraying for pest control or disease prevention for growing potatoes, peas, snap beans or sweet corn on all or part of a farm field located within 0.5 mile of a constructed wind turbine.

- ii. A material reduction in potato, pea, snap bean or sweet corn production or a material increase in application costs on all or part of a farm field located within 0.5 mile of a constructed wind turbine as a result of the wind energy system's effect on aerial spraying practices.
- 5. Permits. The Town requires the owner to submit to the Town copies of all necessary state and federal permits and approvals.
- 6. Annual reports. The Town requires the owner to file an annual report with the Town documenting the operation and maintenance of the wind energy system during the previous calendar year.
- c. Conditions on Approval of Small WES. Approval of an application to construct a Small WES is conditioned upon the following:
 - 1. Permits. The Town requires the owner to submit to the Town copies of all necessary state and federal permits and approvals.
- d. Denial of Application. Denial permissible if the application fails to meet the regulatory standards or the applicant does not cure identified deficiencies.
 - 1. Standard for Denial. The Town may deny an application for a WES if the denial is reasonable, supported by substantial evidence in the record, and based on a failure to comply with:
 - i. Wis. Admin. Code ch. PSC 128;
 - ii. Wis. Stat. § 66.0401;
 - iii. This Ordinance; or
 - iv. Other applicable state or federal law.
 - 2. Grounds for Denial. Denial may be based on one or more of the following, provided that the finding is supported by substantial evidence:
 - i. The proposed WES or its components would violate applicable safety codes, electrical codes, structural standards, or Federal Aviation Administration (FAA) requirements.

- ii. The applicant has failed to provide information required under this Ordinance or PSC 128, or has failed to cure identified deficiencies within the time allowed.
- iii. The WES would result in significant adverse impacts to public health or safety, supported by objective evidence such as expert studies, accident history, or regulatory guidance.
- iv. The project would violate environmental protection requirements, including but not limited to Department of Natural Resources (DNR) permits, wetland or waterway regulations, or endangered species protections.
- v. The WES would cause demonstrable interference with existing public safety communications, commercial communications, or radar systems, in violation of PSC 128.16.
- vi. The WES is materially inconsistent with approved site plans, operational standards, or conditions of approval imposed under PSC 128 or this Ordinance.

Section 4.3 – Decision Timeline

- a. Written Decision. The Town shall issue a written decision approving, approving with conditions, or denying an application for a WES within ninety (90) days after determining the application is complete. The written decision shall include findings of fact supported by evidence in the record. If an application is denied, the decision shall specify the reason for the denial. As addressed above in Section 4.2 sub. b., the Town may make its approval subject to the conditions in PSC 128.33.
- b. Extensions. For cause, the Town may extend the review period in writing, but the extension shall not exceed an additional ninety (90).
- c. Deemed Approval. If the Town fails to issue a decision within the prescribed period (including extensions), the application is deemed approved, subject to applicable conditions.

Section 4.4 – Modifications to an Approved Wind Energy System

- a. Material Change Prohibited Without Approval. No owner may make a material change to the approved design, location, or construction of a Wind Energy System without the prior written approval of the Town Board, unless such change is deemed automatically approved under PSC 128.32(2)(b).

- b. Application Required. The owner shall submit a written application to the Town Board for any proposed material change to an approved Wind Energy System.
- c. Scope of Review.
 - 1. The Town Board shall limit its review to issues relevant to the proposed material change and may not reopen the merits of the original approval.
 - 2. Applications for a material change shall be reviewed in accordance with PSC 128.30(1), (3)–(5), (6)(a)–(b), (7), and PSC 128.31–128.34.
- d. Application Content. An application for a material change shall contain sufficient information to allow the Town Board to understand and evaluate the proposed modification.
- e. Public Meeting. The Town Board may hold at least one public meeting to obtain comments from, and provide information to, the public regarding the proposed material change.

Section 4.5 – License Issuance, Renewal, and Indemnification

- a. License Required. Approval of an application under this Ordinance constitutes the issuance of a Wind Energy System License (“WES License”) by the Town. Operation of a WES without a valid WES License is prohibited.
- b. License Term. The initial WES License shall be valid for a period not to exceed ten (10) years from the date of issuance.
- c. Renewal Application.
 - 1. At least six (6) months prior to expiration, the owner shall submit a renewal application.
 - 2. The renewal application need not repeat all materials from the initial application but shall include updated information, including:
 - i. Current ownership and operator information;
 - ii. Updated maps/site plans;
 - iii. Reports on noise, shadow flicker, environmental impacts, and any conditions imposed in the original approval;

- iv. Certification that the WES remains in compliance with PSC 128, this Ordinance, and all conditions of approval.
- 3. The Town may require additional information reasonably related to continued compliance.
- d. Renewal Decision. Renewal shall be granted if the owner demonstrates continued compliance with PSC 128, this Ordinance, and all conditions of approval. The Town Board may impose updated conditions necessary to address changed circumstances or new impacts.
- e. Failure to Renew. Operation of a WES without a valid, renewed WES License constitutes a violation of this Ordinance and may result in enforcement action, including suspension of operations.
- f. Indemnification. The granting of WES License for a WES shall contain an indemnification provision that shall require the owner to hold harmless and indemnify the real property owner for all of the following:
 - 1. Any violation of federal, state, or local law by the owner of the WES.
 - 2. Any damage or bodily injury caused by the construction, operation or decommissioning of the WES per PSC 128.11(2).

Section 4.6 – Post-Construction Filing Requirement

- a. Applicability. This section applies to all WES except Small WES.
- b. Filing Requirement. If an application is approved and a license is granted to construct a Wind Energy System, the owner shall, within ninety (90) days of the date the WES commences operation, file with the Town and the Public Service Commission of Wisconsin all of the following:
 - 1. An as-built description of the Wind Energy System;
 - 2. An accurate map of the Wind Energy System showing the location of all facilities;
 - 3. Geographic Information System (GIS) data showing the location of all facilities; and
 - 4. Current information identifying the owner of the Wind Energy System.
- c. Turbine Identification. Each wind turbine location shall be labeled with a unique identifier consistent with the signage posted at the turbine location under PSC 128.18(1)(g).

ARTICLE V – CONSTRUCTION AND OPERATIONAL STANDARDS

Section 5.1 – General Compliance

All approved WES shall comply with PSC 128 and the following standards.

Section 5.2 – Setbacks

Setback Description	Setback Distance*
Occupied Community Buildings	The lesser of 1,250 feet or 3.1 times the maximum blade tip height
Participating Residences	1.1 times the maximum blade tip height
Nonparticipating Residences	The lesser of 1,250 feet or 3.1 times the maximum blade tip height
Participating Property Lines	None
Nonparticipating Property Lines	1.1 times the maximum blade tip height
Public Road Right-of-Way	1.1 times the maximum blade tip height
Overhead Communication and Electric Transmission or Distribution Lines - Not including utility service lines to individual houses or outbuildings	1.1 times the maximum blade tip height
Overhead Utility Service Lines - Lines to individual houses or outbuildings	None

* Wind turbine setback distances shall be determined as a straight line from the vertical centerline of the wind turbine tower to the nearest point on the permanent foundation of a building or residence or to the nearest point on the property line or feature, as applicable. The owner of a nonparticipating residence or occupied community building may waive the applicable wind turbine setback distances of this section for those structures to a minimum setback distance of 1.1 times the maximum blade tip height. The owner of a nonparticipating property may waive the applicable wind turbine setback distance in this section from a nonparticipating property line.

Section 5.3 – Setbacks – Small Wind Energy Systems

Setback Description	Setback Distance*
Occupied Community Buildings	1.0 times the maximum blade tip height
Participating Residences	None
Nonparticipating Residences	1.0 times the maximum

	blade tip height
Participating Property Lines	None
Nonparticipating Property Lines	1.0 times the maximum blade tip height
Public Road Right-of-Way	None
Overhead Communication and Electric Transmission or Distribution Lines - Not including utility service lines to individual houses or outbuildings	1.0 times the maximum blade tip height
Overhead Utility Service Lines - Lines to individual houses or outbuildings	None

* Wind turbine setback distances shall be determined as a straight line from the vertical centerline of the wind turbine tower to the nearest point on the permanent foundation of a building or residence or to the nearest point on the property line or feature, as applicable. The owner of a nonparticipating residence or occupied community building may waive the applicable wind turbine setback distances of this section for those structures to a minimum setback distance of 1.1 times the maximum blade tip height. The owner of a nonparticipating property may waive the applicable wind turbine setback distance in this section from a nonparticipating property line.

Section 5.4 – Noise Criteria

- a. Noise Limits. The noise generated by the operation of a WES shall not exceed 50 dBA during daytime hours and 45 dBA during nighttime hours, as measured at the outside wall of a nonparticipating residence or occupied community building that existed when the owner gave notice under PSC 128.105(1), or for which complete, publicly available plans for construction were on file with the Town within 30 days of the notice. “Daytime hours” are 6:00 a.m. to 10:00 p.m. daily, and “nighttime hours” are 10:00 p.m. to 6:00 a.m. daily.
- b. Design Standards. An owner shall design a WES to minimize noise to the extent reasonably practicable and to comply with the noise standards under planned operating conditions, consistent with PSC 128.14(2)(b)–(c).
- c. Pure Tone Prohibition. If audible noise contains a steady pure tone such as a whine, whistle, screech, or hum, the owner shall promptly take corrective action to permanently eliminate the tone, including operational curtailment if necessary, as required by PSC 128.14(3)(b) and (4)(c).
- d. Compliance Studies.

1. Except as provided for Small WES under subsection (g), the owner shall conduct pre- and post-construction noise studies using the PSC-approved measurement protocol under PSC 128.50(2).
 2. If a complaint is received and no accurate test has been submitted to the Town within two (2) years showing compliance at the relevant location, the owner shall promptly conduct a new study at its expense.
 3. Testing shall be performed as near as possible to the outside wall nearest the closest wind turbine, unless another wall is specified by the affected residence or building owner, consistent with PSC 128.14(4)(a).
- e. Waivers. The owner of a nonparticipating residence or occupied community building may relieve the WES owner of compliance with this section by a written contract under PSC 128.14(5). Any such waiver shall run with the land, constitute an encumbrance under Wis. Stat. ch. 706, and remain effective until the WES is decommissioned, unless otherwise specified in the contract.
- f. Notification. Before initial operation of a WES, the owner shall provide written notice of these noise requirements to all nonparticipating residences or occupied community buildings within 0.5 miles of a constructed turbine that have not entered into a waiver, consistent with PSC 128.14(6).
- g. Small WES. Owners of Small WES are not subject to the pre- and post-construction study requirements in subsection d.1. but shall comply with all other noise limitations, notification, and compliance rules as prescribed in PSC 128.61(4).

Section 5.5 – Shadow Flicker

- a. Applicability. The requirements of this section apply to any nonparticipating residence or occupied community building that exists on the date the applicant provides notice under Wis. Admin. Code § PSC 128.105(1), or has complete, publicly-available construction plans on file with the Town within thirty (30) days of the date the applicant provides such notice.
- b. Design Requirements. The WES shall be designed to minimize shadow flicker at any nonparticipating residence or occupied community building to the extent reasonably practicable. For proposed WES, the applicant shall conduct and submit shadow flicker computer modeling as part of its

- application, estimating the annual hours of shadow flicker expected at each nonparticipating residence and occupied community building. The Wind Energy System shall be designed so that the modeling demonstrates that no nonparticipating residence or occupied community building will experience more than thirty (30) hours per year of shadow flicker under planned operating conditions.
- c. Operational Limits. The owner shall operate the Wind Energy System so that no nonparticipating residence or occupied community building experiences more than thirty (30) hours per year of shadow flicker under normal operating conditions. If shadow flicker exceeds this limit, the owner shall employ operational curtailment or other measures sufficient to comply with this requirement.
 - d. Mitigation Requirements. The owner shall work with any affected nonparticipating residence or occupied community building to mitigate shadow flicker effects to the extent reasonably practicable. At the owner's expense, reasonable mitigation shall be provided for any nonparticipating residence or occupied community building experiencing twenty (20) hours or more per year of shadow flicker, as determined by: shadow flicker modeling; or documented records kept by the resident or occupant. Eligible mitigation measures may include, but are not limited to, installation of blinds, plantings, or operational adjustments. The affected property owner or occupant shall have the right to select a reasonable mitigation option. The owner may provide mitigation for any residence or occupied community building beyond what is required in this subsection.
 - e. Complaint-Triggered Mitigation. The mitigation requirements in subsection d. apply when the owner receives a complaint or formal request for mitigation from the owner or occupant of an eligible nonparticipating residence or occupied community building.
 - f. Waiver. An owner of an affected nonparticipating residence or occupied community building may waive the requirements of subsections (c) and (d)(2) by written contract with the owner. Unless otherwise stated in the contract, such a waiver shall:
 - 1. Be considered an encumbrance on the property;
 - 2. Run with the land until the WES is decommissioned; and
 - 3. Be recorded with the County Register of Deeds pursuant to Wis. Stat. ch. 706.
 - g. Notification Requirements. Before entering into a waiver under subsection f., the owner shall provide written notice of the requirements of this section

to the affected property owner. Before the initial operation of the WES, the owner shall provide written notice of the requirements of this section to all owners of nonparticipating residences and occupied community buildings within one-half (0.5) mile of any constructed wind turbine who have not executed a waiver under subsection f.

h. Small WES.

1. Computer Modeling. The requirement in subsection (b) that an applicant submit shadow flicker computer modeling does not apply to Small WES.
2. Mitigation. The mitigation requirements in subsections (d) and (e), do not apply to Small WES.
3. Notification. The notification requirements in subsection (g), do not apply to Small WES.

Section 5.6 – Signal Interference

- a. Applicability. The requirements of this section apply to commercial communications and personal communications in use when the WES begins operation, except as provided in subsection h. This section also applies to any government or military line-of-sight communication path used to provide services essential to public safety.
- b. Planning and Design Requirements. The applicant shall use reasonable efforts to design the WES to avoid causing interference with commercial or personal communications to the extent practicable. The applicant may not construct WES within existing line-of-sight communication paths used by government or military entities for essential public safety services. The Town may require the applicant to submit documentation demonstrating that proposed turbine locations and other facilities will not infringe upon or obstruct such line-of-sight communication paths.
- c. Commercial Communications Interference Mitigation. The owner shall use reasonable and commercially available technology to mitigate any interference with commercial communications in use when the WES begins operation. Before implementing mitigation measures, the owner shall consult with affected parties to identify the preferred reasonable mitigation solution. Except as provided in subsection e., the owner shall implement and maintain the affected party's preferred reasonable mitigation solution until the earlier of:
 1. The WES is decommissioned; or
 2. The affected commercial communication is no longer in use.

- d. Personal Communications Interference Mitigation. The owner shall use reasonable and commercially available technology to mitigate any interference with personal communications in use when the WES begins operation. The Town may require mitigation for interference with personal communications that were not in use at the start of commercial operation if:

1. The WES is causing the interference; and
2. The interference occurs at a location at least one-half (0.5) mile from a wind turbine.

Before implementing mitigation measures, the owner shall consult with affected parties to identify the preferred reasonable mitigation solution. Except as provided in subsection h., the owner shall implement and maintain the affected party's preferred reasonable mitigation solution until the earlier of:

4. The WES is decommissioned; or
5. The affected personal communication is no longer in use.

- e. Mitigation. All mitigation measures required under this section shall remain in effect and in working order until the WES is decommissioned, unless the affected communication ceases to be in use. Pursuant to PSC 128.50(2), the Town may require the owner to implement any new commercially available mitigation solution developed before decommissioning of the Wind Energy System if:

1. The original mitigation solution is only partially effective; and
2. The new solution would materially reduce or eliminate the interference for which mitigation is required under this section.

- f. Small WES.

1. Commercial Communications Mitigation. The requirements of subsection (c), do not apply to Small WES.
2. Personal Communications Mitigation. The requirements of subsection (d), do not apply to Small WES.
3. Mitigation Protocol. The requirements of subsection (e), do not apply to Small WES.

Section 5.7 – Stray Voltage

- a. Applicability. This section applies to all WES located within one-half (0.5) mile of a dairy or confined animal operation.
- b. Pre-Construction Testing. Prior to any WES construction activity, the owner shall work with the local electric distribution company to test for stray voltage at all dairy and confined animal operations within one-half (0.5) mile of any WES, and conduct testing in accordance with the Wisconsin Public Service Commission's Stray Voltage Protocol. Testing shall be conducted at the owner's expense. Before testing begins, the owner shall work with Wisconsin Public Service Commission staff to determine:
 - 1. The manner in which testing will be conducted; and
 - 2. Which properties will be included in the testing program.
- c. Post-Construction Testing. The owner shall conduct a second round of stray voltage testing after construction of the WES is complete, in accordance with the Commission's protocol. Post-construction testing shall be completed before the WES begins commercial operation, unless otherwise authorized by the Commission.
- d. Submission of Test Results. The owner and the electric distribution company shall provide the results of all stray voltage testing, in writing, to Wisconsin Public Service Commission staff. Copies of all results shall also be provided to the Town within five (5) business days of submission to the Commission.
- e. Mitigation of Problems. If testing identifies stray voltage attributable to the construction or operation of the WES, the owner shall, at its expense, work with the electric distribution company and the affected farm owner to correct the problem, and implement corrective measures in compliance with the Wisconsin Public Service Commission's Stray Voltage Protocol.

Section 5.8 – Safety, Construction, and Operation Standards

- a. Applicability. This section applies to WES facilities approved and constructed under this Ordinance, and remains in effect for the life of the facility until decommissioning is complete.
- b. Physical Characteristics.
 - 1. Signage and Advertising.

- i. No advertising material or signage is permitted on a wind turbine except for required warnings, equipment information, or indicia of ownership.
 - ii. Decorative elements such as flags, streamers, pennants, ribbons, spinners, fluttering, or revolving devices are prohibited, except for safety features or wind monitoring devices.
- 2. Finish and Appearance.
 - i. All wind turbines shall have a conventional or unobtrusive finish.
- 3. Lighting.
 - i. All lighting shall comply with Federal Aviation Administration (FAA) standards.
 - ii. The Town may require use of FAA-approved shielding or control systems to reduce ground visibility of lighting.
- 4. Security Measures.
 - i. Wind turbines shall not be readily climbable except by authorized personnel.
 - ii. All access doors and electrical equipment shall be locked when unattended.
 - iii. Appropriate warning signage shall be posted on or at the base of each wind turbine.
- 5. Contact Information Signs. Signs must be displayed with a 24-hour emergency contact number, owner identification, and location information shall be posted:
 - i. At every intersection of a WES access road with a public road; and
 - ii. At each wind turbine location.
- 6. Aviation Safety. All guy wires and supports for any WES facility, meteorological tower, or other measurement device shall be clearly marked for visibility to low-flying aircraft in fair weather conditions.

c. Electrical Standards.

1. All collector circuit facilities shall comply with the National Electrical Safety Code and ch. PSC 114. All WES facilities shall comply with the National Electrical Code.
2. Collector circuits shall be constructed underground to the extent practicable.
3. The owner shall maintain an inspection schedule for overhead collector circuits to ensure no unauthorized attachments, such as cable television or telecommunications cables. Any discovered attachments shall be removed promptly.

d. Construction, Operation, and Maintenance Standards.

1. The owner shall construct, operate, repair, maintain, and replace WES facilities to keep them in good repair and operating condition, ensuring protection of individuals from injury.
2. Soil compaction, topsoil mixing, and damage to drainage systems on agricultural land shall be minimized during construction and decommissioning. The Town may impose reasonable conditions to achieve this.
3. Except for areas physically occupied by WES facilities, the owner shall restore topography, soils, and vegetation to preconstruction condition after construction, unless otherwise agreed in writing with affected landowners and in compliance with Wisconsin DNR requirements.
4. The owner shall maintain general liability insurance covering property damage and bodily injury related to WES construction, operation, and decommissioning, naming turbine host property owners as additional insureds.

e. Emergency Procedures.

1. Notification of Emergencies. The owner shall notify the Town within 24 hours of any WES emergency, describing the occurrence and nature of the emergency.
2. Emergency Planning. The owner shall establish and maintain liaison with the Town and with fire, police, and other appropriate first responders to create and maintain an effective emergency plan that includes:

- i. A list of emergency types requiring notification;
 - ii. Current emergency contact information for first responders and the owner;
 - iii. Shutdown procedures for the WES or portions thereof;
 - iv. Duties and responsibilities of the owner and first responders;
 - v. An emergency evacuation plan for areas within 0.5 mile of any WES facility, including designated alternate landing zones for emergency aircraft.
- 3. Review and Distribution. The emergency plan shall be reviewed annually in collaboration with emergency responders and updated as needed. Updated copies shall be provided to the Town and to identified first responders.
- 4. Training. The Town may require the owner to provide annual emergency response training for fire, police, and other responders until decommissioning is complete.
- 5. Implementation. The owner shall:
 - i. Furnish all relevant personnel with a copy of the current emergency procedures;
 - ii. Train personnel to ensure familiarity with emergency procedures;
 - iii. Review post-incident performance to evaluate effectiveness of the procedures.
- f. Small WES. The following provisions of this Section do not apply to Small WES: subsection b.5 (contact information signs), subsection c.2 (underground collector circuits), subsection c.3 (overhead circuit inspection), subsection d.2 (soil compaction and drainage), subsection d.3 (site restoration), subsection d.4 (general liability insurance), and subsections e.2–e.5 (emergency procedures).

ARTICLE VI – DECOMMISSIONING & FINANCIAL ASSURANCE

Section 6.1 – Requirement to Decommission

- a. The owner of a WES shall decommission and remove the WES when it reaches the end of its useful life.
- b. A WES is presumed to be at the end of its useful life if it generates no electricity for 360 consecutive days.
- c. A Small WES is presumed to be at the end of its useful life if it generates no electricity for a continuous 540-day period.
- d. The owner may apply to the Town Board for extensions of up to 180 days each, provided the owner demonstrates a good faith plan to return the WES to service within a reasonable time, including through repair, replacement, or repowering. Extensions may also be granted if the WES is used for research, demonstration, or educational purposes.
- e. The Town Board may deny an extension if the WES has produced no electricity for 540 consecutive days and the owner is not capable of returning it to service within a reasonable time.
- f. A WES is irrebuttably presumed to be at the end of its useful life if it generates no electricity for 540 days and either:
 - 1. The owner does not request an extension, or
 - 2. The Town Board denies an extension and all appeals are exhausted.
- g. When decommissioning is required, the owner shall begin decommissioning within 360 days and complete it within 540 days after the WES has reached the end of its useful life.

Section 6.2 – Decommissioning Review

For the decommissioning of a WES, the Town Board may establish a review process to determine when a WES has reached the end of its useful life.

Section 6.3 – Financial Assurance

- a. For any WES with a nameplate capacity of one megawatt (1 MW) or larger, the owner shall maintain proof of financial responsibility to cover the actual and necessary cost of decommissioning.
- b. The Town Board may require such proof prior to major civil construction activities, such as blasting or foundation construction. Acceptable forms of financial assurance include:
 - 1. Bond,

2. Deposit,
 3. Escrow account,
 4. Irrevocable letter of credit,
 5. Or a combination thereof.
- c. The Town Board may require financial assurance in an amount up to the estimated actual and necessary cost of decommissioning. The Town Board may:
1. Require up to three (3) third-party cost estimates agreed upon by the owner and the Town, with the amount of assurance not exceeding the average of such estimates;
 2. Require that the financial assurance secure the Town's interest so that funds may only be used for decommissioning until the Town determines the WES has been decommissioned;
 3. Require that the financial assurance permit the Town to access funds if the owner fails to decommission the WES when required.
- d. During the useful life of the WES, the Town Board may request updated information on industry decommissioning costs. If costs vary by 10% or more from the previously required amount, the Town may increase or decrease the financial assurance accordingly, but not more than once every five (5) years.
- e. The Town Board may require substitute financial assurance if material concerns arise regarding the viability of the existing assurance.
- f. Approval of a WES under this Ordinance may be conditioned on compliance with this section.

Section 6.4 – Site Restoration

- a. If the WES is constructed on land not owned by the owner, the owner shall restore the property to preconstruction condition unless otherwise agreed to in writing with the landowner, subject to any Wisconsin DNR requirements.
- b. If the WES is constructed on a brownfield site as defined in Wis. Stat. § 238.13(1)(a), the owner shall restore the site to eliminate impacts caused by the WES, except for effects of environmental remediation activities.

Section 6.5 – Completion of Decommissioning.

- a. Upon decommissioning and removal of a WES, the owner shall file a notice of completion with the Town Board and the Public Service Commission of Wisconsin.
- b. Within 360 days of receiving such notice, the Town Board shall determine whether the owner has complied with decommissioning and restoration requirements under this Article.

Section 6.6 – Applicability to Small WES

The following provisions of this Article do not apply to Small WES: Section 6.1(d)–(f) (extensions and irrebuttable presumption), Section 6.3 (Financial Assurance), and Section 6.4 (Site Restoration). Small WES are presumed to be at the end of their useful life if they generate no electricity for 540 consecutive days.

ARTICLE VII – COMPLIANCE MONITORING & COMPLAINT RESOLUTION

Section 7.1 – Monitoring Compliance

- a. Applicability. This section applies to all WES except Small WES.
- b. Authority. The Town may establish procedures to monitor compliance by the owner with any condition of approval for a Wind Energy System and to assess whether facilities are maintained in good repair and operating condition.
- c. Procedures. Monitoring procedures may include timelines, provide for public notification, and require payment of reasonable fees by the owner for the cost of compliance assessments.
- d. Third-Party Inspector. The Town may require the owner to pay a reasonable fee for a third-party inspector to monitor and report on compliance with permit conditions during construction. Any inspector engaged under this subsection shall also report to state permitting authorities upon request.

Section 7.2 – Complaint Process

- a. Filing a Complaint. Any aggrieved person may make a complaint regarding the owner's failure to comply with obligations under PSC 128 or this Ordinance.
- b. First to Owner. Complaints must first be submitted to the owner, who shall maintain a complaint resolution process consistent with this Section.

- c. Town Review. If a complaint is not resolved within forty-five (45) days of receipt by the owner, the complainant may petition the Town for review. The Town's decision is subject to review under Wis. Stat. § 66.0401(5).
- d. Owner Obligations. The following obligations apply to all WES except Small WES:
 - 1. Before construction of a wind energy system begins, an owner shall provide written notice of the process for making complaints and obtaining mitigation measures to all residents and landowners within 0.5 mile of any wind energy system facility. An owner shall include in the notice the requirements under s. PSC 128.40 (1) for submitting a complaint to the owner, a petition for review to the political subdivision, and an appeal to the commission, and shall include a contact person and telephone number for the owner for receipt of complaints or concerns during construction, operation, maintenance and decommissioning.
 - 2. An owner shall provide a copy of the notice under sub. 1. to any political subdivision with jurisdiction over the wind energy system, and the owner shall keep the contact person and telephone number current and on file with the political subdivision.
 - 3. The owner shall investigate all complaints at its expense and make reasonable efforts to resolve them.
 - 4. Within thirty (30) days of receiving a complaint, the owner shall provide an initial response to the complainant and a copy of the notice required under PSC 128.42(1).
 - 5. The owner shall make a good faith effort to resolve all complaints within forty-five (45) days. If unresolved, the owner shall notify the Town.
 - 6. The owner shall maintain a complaint log including the name and address of the complainant, the nature of the complaint, and steps taken to resolve it. Copies of the log shall be submitted monthly, at no cost, to the Town or to a monitoring committee established under Section 7.3. The log shall also be available to the Public Service Commission upon request.

Section 7.3 – Monitoring Committee

- a. Applicability. This section applies to all WES except Small WES.
- b. Establishment. The Town may establish a monitoring committee to oversee resolution of complaints. Membership shall include one local

employee of the owner and, if available, at least one nonparticipating landowner residing within the Town and within one-half (0.5) mile of a wind turbine located in the Town.

- c. Duties. A monitoring committee may:
 - 1. Maintain a record of all complaints received;
 - 2. Require the owner to provide information regarding responses to complaints; and
 - 3. Recommend to the Town a reasonable resolution to a complaint.
- d. Multiple Jurisdictions. If a Wind Energy System is located in more than one political subdivision, and multiple jurisdictions wish to establish a monitoring committee, the participating political subdivisions shall jointly establish a single monitoring committee.

ARTICLE VIII – ENFORCEMENT & PENALTIES

Section 8.1 – Violations

- a. Any violation of this Ordinance, or of a condition of approval issued under it, is unlawful and subject to enforcement under this Article and applicable Wisconsin law.
- b. Each day a violation continues constitutes a separate offense.

Section 8.2 – Remedies

- a. The Town may enforce this Ordinance through any lawful means, including:
 - 1. Stop-work orders;
 - 2. Suspension or revocation of approvals granted under this Ordinance;
 - 3. Actions for injunctive or other equitable relief;
 - 4. Citations or forfeitures under the Town's general penalty provisions;
 - 5. Abatement of unlawful conditions as provided by law.
- b. In addition to any forfeiture, the Town may recover its actual costs of enforcement, including reasonable attorney's fees, from the responsible owner or applicant.

- c. Remedies are cumulative and not exclusive; the Town may pursue any combination of remedies available at law or in equity.

Section 8.3 – Compliance with PSC Protocols

Where the Public Service Commission has issued measurement, compliance, or testing protocols under PSC 128.50(2) (including noise, shadow flicker, communications interference, and stray voltage), compliance with those protocols is a condition of approval under this Ordinance. Failure to comply may be enforced under this Article.

Section 8.4 – Coordination with State Agencies

The Town may refer potential violations implicating standards enforced by the Public Service Commission, Department of Natural Resources, Department of Transportation, or other state or federal agencies for investigation or enforcement, in addition to the Town's own remedies.

Section 8.5 Road Related Damage

Consistent with PSC 128.30(2)(k), the owner of a WES shall provide a process for assessing road damage caused by its activities and, additionally, shall conduct road repairs related to such activities at its own expense. In the event of the owner's failure to maintain and repair such road damage, the Town may, but shall not be obligated to, maintain, or repair such road damage and charge the cost of such maintenance or repairs as a special charge or special assessment against the owner of the WES.

Pursuant to and without waiving any rights under Wisconsin Statute 86.02, "Injury to highway", should Town road surfaces or rights of way become damaged by any means, including, but not limited to, unloading of equipment onto Town roads or travel of equipment over Town roads, the owner of a WES, or individuals associated therewith, causing such damage shall be liable for damages up to and including treble the costs of remediation of the damaged road surface.

ARTICLE IX – SEVERABILITY & EFFECTIVE DATE

Section 9.1 – Severability

If any section, subsection, sentence, clause, or phrase of this Ordinance is held invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of the remaining provisions, which shall remain in full force and effect.

Section 9.2 – Effective Date

This Ordinance shall take effect upon adoption by the Town Board and publication as required by Wisconsin law.

Town of Columbus

Wind Energy Systems Ordinance

Adopted this 8th day of September, 2025 by the Town Board of
Columbus, Columbia County, WI

X

Darren Schroeder
Town Chair

X

Ed Wolf
Supervisor 1

Edward H. Wolf Sep 1

X

Harold Schwoerer
Supervisor 2

X

Gabrielle Loeffler
Attest-Town Clerk