LEON TOWNSHIP
GOODHUE COUNTY, MINNESOTA

ORDINANCE NO. _____

AN ORDINANCE AMENDING SECTION 11 OF THE LEON TOWNSHIP ZONING ORDINANCE REGARDING WIND ENERGY CONVERSION SYSTEMS AND SOLAR ENERGY SYSTEMS

The Board of Supervisors of the Town of Leon ordains:

Section 1. Special Provisions. Section 11 of the Township of Leon Zoning Ordinance ("Ordinance") is hereby amended by adding the following new Sections 11.11 and 11.12:

11.11 Wind Energy Conversion Systems.

11.11.1 Purpose.

This ordinance is established to regulate the installation and operation of Wind Energy Conversion Systems ("WECS") within the Township that have a total nameplate capacity of 5 Megawatts or less and are not otherwise subject to siting and oversight by the State of Minnesota pursuant to Minnesota Statutes, Chapter 216I, Wind Energy Conversion Systems, as amended. For Large Wind Energy Conversion Systems ("LWECS"), the Township does not assume regulatory responsibility or permit authority under MS 216I.18.

11.11.2 Definitions.

Airfoil: A part such as a blade, with a flat or curved surface, designed to provide a desired reaction.

Azimuth: A horizontal angle measured clockwise in degrees with 00° 00′ 00″ being the north reference point.

Aggregated Project: Aggregated projects are those which are developed and operated in a coordinated fashion, but which have multiple entities separately owning one or more of the individual WECS within the larger project. Associated infrastructure such as power lines and

transformers that service the facility may be owned by a separate entity but are also included as part of the aggregated project.

C-BED Project: As defined in Minnesota Statutes 216B.1612, as amended. Based on the total name plate generating capacity, C-BED Projects are considered to be (1) Micro-WECS, (2) Non-Commercial WECS or (3) Commercial WECS as defined in this Section.

Commercial WECS: A WECS of 1 megawatt to 5 megawatts in total name plate generating capacity.

Comprehensive Plan: Comprehensive Plan means the policies, statements, goals, and interrelated plans for private and public land and water use, transportation, and community facilities including recommendations for plan execution, documented in texts, ordinances and maps which constitute the guide for future development of the unincorporated area of the Township.

Decibel: A unit of measure of sound pressure.

dB (A), A-Weighted Sound Level: A measure of over-all sound pressure level in decibels, designed to reflect the response of the human ear.

Fall Zone: The area, defined as the furthest distance from the tower base, in which a guyed tower will collapse in the event of a structural failure. This area is less than the total height of the structure.

Feeder Line: Any power line that carries electrical power from one or more wind turbines or individual transformers associated with individual wind turbines to the point of interconnection with the electric power grid, in the case of interconnection with the high voltage transmission systems the point of interconnection shall be the substation serving the WECS.

Generator nameplate capacity: The maximum rated output of electrical power production of a generator under specific conditions designated by the manufacturer with a name plate physically attached to the generator.

Hub Height: The distance from the ground to the center axis of the turbine rotor.

Large wind energy conversion system or LWECS. "Large wind energy conversion system" or "LWECS" means any combination of WECS with a combined nameplate capacity of 5,000 kilowatts or more.

Meteorological Tower: For the purposes of this Wind Energy Conversation System Ordinance, meteorological towers are those towers which are erected primarily to measure wind speed and directions plus other data relevant to siting WECS. Meteorological towers do not include towers and equipment used by airports, the Minnesota Department of Transportation, or other similar applications to monitor weather conditions.

Micro-WECS: Micro-WECS are WECS of 1 kilowatt nameplate generating capacity or less and utilizing supporting towers of 40 feet or less.

Nacelle: Contains the key components of the wind turbine, including the gearbox, yaw system, and electrical generator.

Non-Commercial WECS: A WECS of less than 1 megawatt in total name plate generating Capacity and 225 feet in total height or less.

Non Prevailing Wind: The non-dominant wind direction in Goodhue County.

Power Purchase Agreement: A legally enforceable agreement between two or more persons where one or more of the signatories agrees to provide electrical power and one or more of the signatories agrees to purchase of power.

Preliminary Acoustic Study: A study certifying the WECS will be in compliance with State of Minnesota Noise Standards.

Prevailing Wind: The predominant wind direction in Goodhue County.

Project: A WECS or combination of WECS.

Project Boundary: The boundary line of the area over which the entity applying for a WECS permit has legal control for purposes of installation of a WECS. This control may be attained through fee title ownership, easement, or other appropriate contractual relationship between the project developer and landowner.

Project Owner: An individual or entity with legal ownership of WECS project.

Public conservation lands: Land owned in fee title by State or Federal agencies and managed specifically for conservation purposes, including but not limited to State Wildlife Management Areas, State Parks, State Scientific and Natural Areas, federal Wildlife Refuges and Waterfowl Production Areas. For the purposes of this section public conservation lands will also include lands owned in fee title by non-profit conservation organizations. Public conservation lands do not include private lands upon which conservation easements have been sold to public agencies or non-profit conservation organizations.

Qualified Independent Acoustical Consultant: A person with Full Membership in the Institute of Noise Control Engineers/INCE, or other demonstrated acoustical engineering certification. The Independent Qualified Acoustical Consultant can have no financial or other connection to a WECS developer or related company.

Rotor: A system of airfoils connected to a hub that rotates around an axis.

Rotor Blades: See Airfoil.

Rotor diameter (RD): The diameter of the circle described by the moving rotor blades.

Small wind energy conversion system or SWECS: "Small wind energy conversion system" or "SWECS" means any combination of WECS with a combined nameplate capacity of less than 5,000 kilowatts.

Substations: Any electrical facility designed to convert electricity produced by wind turbines to a voltage greater than 35,000 volts (35 kilovolts) for interconnection with high voltage transmission lines shall be located outside of the road right of way.

Total height: The highest point, above ground level, reached by a rotor tip or any other part of the WECS.

Total Name Plate Capacity: The total of the maximum rated output of the electrical power production equipment for a WECS project

Tower: Towers include vertical structures that support the electrical generator, rotor blades, or meteorological equipment.

Tower height: The total height of the WECS exclusive of the rotor blades.

Transmission Line: Those electrical power lines that carry voltages of at least 69,000 volts (69 kilovolts) and are primarily used to carry electric energy over medium to long distances rather than directly interconnecting and supplying electric energy to retail customers.

WECS: "Wind energy conversion system" or "WECS" means any device such as a wind charger, windmill, or wind turbine and associated facilities that converts wind energy to electrical energy

Wind Turbine: A wind turbine is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

11.11.3 Procedures.

A. Permits and Variances shall be applied for and reviewed under the procedures established in the Leon Township Zoning Ordinance, except where noted below.

B. The application for WECS that are under the permitting authority of this ordinance shall include the following information:

1. The name and address of all project applicants and project owners.

2. The legal description, address, and parcel identification numbers associated with the project.

3. Project description including: the number and type of towers, tower height; if applicable, name plate generating capacity, rotor diameter, and total structure height with blades.

4. A site plan drawn to scale showing the following information within the project boundary and within one mile of the project boundary, unless otherwise noted, (in the case of single towers, the plan shall show this information within a one mile buffer of the individual tower):

    a. The project boundary, parcels lines, and landowner names.

    b. Contours: 2 foot – 10 foot depending on the scale of the project.

    c. Existing structures including but not limited to: buildings, communication towers, and WECS towers.

    d. Existing registered feedlots, registered mining operations, airports, air strips.

    e. Natural and Regulatory features as defined in the County's Environmental Constraints Land Use Evaluation (ECLUE) Model.

    f. Existing roads.

    g. Proposed location of towers, related accessory structures, concrete batch plants, and staging areas. If the location of related structures and staging areas are unknown at the time of application, indicate the proposed size or area dimensions as a note on the plan.

    h. Proposed Haul Routes within the Township to be utilized for material transport, construction, and maintenance activities. Indicate which roads the anticipated loads are more than posted weight limits

5. If energy produced will be used exclusively on-site or connected to a utility electrical grid. If connected to a grid, indicate on the site plan the proposed route and connection points.

6. A Decommissioning plan as outlined in Section 11.11.5 of this ordinance.

C. The application for Commercial WECS, as defined in this article, shall also include the following information:

1. Preliminary Stray Voltage Test as outlined in Section 11.11.6 of this ordinance.

2. A Preliminary Acoustic Study as outlined in Section 11.11.8 of this ordinance.

3. A list of all other State and Federal regulatory permits necessary for the project. Evidence of these permit approvals must be provided to the Township prior to the issuance of building permits.

4. Documentation indicating if the project is a C-BED project. If the project is a C-BED project, the documentation shall indicate the percentage ownership of the project owners.

5. If the energy produced from a project is not used exclusively on-site but is distributed to a utility electrical grid, provide documentation from the utility companies involved indicating they have entered a Power Purchase Agreement with the project participants.

D. Aggregated Projects – Procedures: Aggregated Projects may jointly submit a single application and be reviewed under joint proceedings, including notices, hearings, reviews, and as appropriate, approvals. Permits will be issued and recorded separately. Joint applications will be assessed fees as one project. Aggregated projects having a combined capacity equal to or greater than the threshold for State oversight as set forth in MS Statute 216F.01 through 216F.07 shall be regulated by the State of Minnesota.

E. The Town may, at its discretion, require a Development Agreement to address specific technical procedures which may include but are not limited to: road use and repair, telephone line repair, site specific issues, payment in lieu of taxes, other financial securities, or real property value protection plans. The Town may negotiate with applicants to limit night time noise to a limit of an annual average of 40 decibels (dBA), corresponding to the sound from a quiet street in a residential area (World Health Organization night noise guidelines for Europe).

F. WECS projects that have a total nameplate capacity of more than 5 megawatts shall provide to the Town copies of all PUC filings and decisions as it pertains to the proposed project. The owners/operators of such WECS projects shall also provide the items listed in this Section to the Township at the time of filing with the PUC in order that the Town has adequate time to review and comment on the project to the PUC. The Town may, at its discretion, hold public meetings to discuss such projects.

G. The applicant must provide proof of liability insurance covering the towers/project covering the lifespan of the project from the initial construction to final decommissioning.

11.11.4 District Regulations.

A. WECS will be permitted, conditionally permitted or not permitted based on the generating capacity and land use district as established in the table below:

DISTRICT	NON-COMMERCIAL MICRO WECS	NON-COMMERICAL*	COMMERCIAL	METEOROLOGICAL TOWER*
Agricultural	Permitted	Conditionally Permitted	Not Permitted	Conditionally Permitted
Residential	Permitted	Not Permitted	Not Permitted	Not Permitted
Commercial	Permitted	Conditionally Permitted	Not Permitted	Not Permitted
Industrial	Permitted	Permitted	Conditionally Permitted	Permitted
Flood Plain	Not Permitted	Not Permitted	Not Permitted	Not Permitted
Preservation	Not Permitted	Not Permitted	Not Permitted	Not Permitted
All other areas	Not Permitted	Not Permitted	Not Permitted	Not Permitted

* Setbacks – Wind Turbines and Meteorological Towers

	WIND TURBINE – NON-COMMERCIAL MICRO WECS	WIND TURBINE – NON-COMMERCIAL WECS	WIND TURBINE – COMMERCIAL WECS	METEOROLOGICAL TOWER
Property Lines	1.1 times the total height or in A-1 and A-2 Districts only the distance of the fall zone as certified by a professional engineer plus 10 feet.	1.1 times the total height or in A-1 and A-2 Districts only the distance of the fall zone as certified by a professional engineer plus 10 feet.	3 RD Non-prevailing and 5 RD Prevailing***	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.
Neighboring Dwellings*	750 feet This setback requirement may be reduced by the Zoning Administrator subject to maintaining adequate health and safety requirements.	750 feet	750 feet from participating neighboring dwellings; non-participating dwelling setbacks are 10 RD; Setbacks can be less if an owner agrees to a reduced setback, but no less than 750 feet.	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.
ROAD RIGHTS OF WAY**	The Distance Of The Fall Zone, As Certified By A Professional Engineer Plus 10 Feet Or 1.1 Times The Total Height	The Distance Of The Fall Zone, As Certified By A Professional Engineer Plus 10 Feet Or 1 Times The Total Height	1.1 Times The Height May Be Reduced For Minimum Maintenance Roads Or A Road With An Average Daily Traffic Count Of Less Than 10.	The Fall Zone, As Certified By A Professional Engineer Plus 10 Feet Or 1.1 Times The Total Height.
OTHER RIGHTS-OF-W	THE LESSER OF 1.1 TIMES THE TOTAL	The fall zone, as certified by a	THE LESSER OF 1.1 TIMES THE	THE FALL ZONE, AS CERTIFIED BY A

AY (RAILROADS, POWER LINES, ETC.)	HEIGHT OR THE DISTANCE OF THE FALL ZONE, AS CERTIFIED BY A PROFESSIONAL ENGINEER PLUS 10 FEET.	professional engineer plus 10 feet or 1.1 times the total height.	TOTAL HEIGHT OR THE DISTANCE OF THE FALL ZONE, AS CERTIFIED BY A PROFESSIONAL ENGINEER PLUS 10 FEET.	PROFESSIONAL ENGINEER PLUS 10 FEET OR 1.1 TIMES THE TOTAL HEIGHT.
Public conservation lands	1.1 TIMES THE TOTAL HEIGHT	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	3 RD Non-Prevailing and 5 RD Prevailing***	600 feet
Wetlands	1.1 TIMES THE TOTAL HEIGHT	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	1,000 FEET OR 3 RD NON-PREVAILING AND 5 RD PREVAILING***	600 feet
Other Structures	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	3 RD Non-Prevailing and 5 RD Prevailing***	The fall zone, as certified by a professional engineer plus 10 feet or 1.1 times the total height.	The fall zone, as certified by a professional engineer plus 10 feet or 1 times the total height.
Other Existing WECS and Internal Turbine Spacing	NA	750 FEET FROM TOP OF BLUFF (MISSISSIPPI RIVER AND CANNON RIVER), 500 FEET FROM TOP OF BLUFF FROM OTHER BLUFFS IN SHORELAND AREAS OR FOR NON-SHORELAN D BLUFFS.	3 RD Non-Prevailing and 5 RD Prevailing	The fall zone, as certified by a professional engineer plus 10 feet or 1 times the total height. -Extent of wake interference impacts on existing WECS shall be considered
BLUFFS	750 FEET FROM TOP OF BLUFF (MISSISSIPPI RIVER AND CANNON RIVER), 500 FEET FROM TOP OF BLUFF FROM OTHER BLUFFS IN SHORELAND AREAS OR FOR NON-SHORELAND BLUFFS.		1350 FEET FROM TOP OF BLUFF (MISSISSIPPI RIVER AND CANNON RIVER), 500 FEET FROM TOP OF BLUFF FROM OTHER BLUFFS IN SHORELAND AREAS OR FOR NON-SHORELAND BLUFFS.	1350 FEET FROM TOP OF BLUFF (MISSISSIPPI RIVER AND CANNON RIVER), 500 FEET FROM TOP OF BLUFF FROM OTHER BLUFFS IN SHORELAND AREAS OR FOR NON-SHORELAND BLUFFS.

* The setback for dwellings, schools, churches, health care facilities, campgrounds shall be reciprocal unless the owner or authorized agent signs a letter of understanding waiving this setback, but no less than a 750 foot setback.

** The setback shall be measured from future rights-of-way if a planned changed or expanded right-of-way is known.

***Prevailing and Non Prevailing Rotor Diameter setbacks shall be measured horizontally from the tower base.

• Prevailing Wind –Azimuth between 290 degrees to 30 degrees and between 130 degrees and 230 degrees.

• Non-Prevailing Wind – Azimuth between 30 degrees and 130 degrees and between 230 degrees and 290 degrees.

11.11.5 Requirements and Standards.

A. Safety Design Standards.

1. Engineering Certification – For all WECS, a Minnesota licensed engineer shall certify that the turbine, foundation and tower design of the WECS is within accepted professional standards, given local soil and climate conditions.

2. Rotor blades or airfoils must maintain at least 12 feet of clearance between their lowest point and the ground.

3. Warnings –For all Commercial WECS, a sign or signs shall be posted on the tower, transformer and substation warning of high voltage.

B. Total height – Non-Commercial WECS shall have a total height of 225 feet or less.

C. Tower configuration – All wind turbines, which are part of a commercial WECS, shall be installed with a tubular, monopole type tower.

D. Meteorological towers may be guyed.

E. Color and Finish – All wind turbines and towers that are part of a commercial WECS shall be white, grey or another non-obtrusive color. Blades may be black in order to facilitate deicing. Finishes shall be matte or non-reflective. Exceptions may be made for metrological towers, where concerns exist relative to aerial spray applicators.

F. Lighting – Lighting, including lighting intensity and frequency of strobe, shall adhere to but not exceed requirements established by Federal Aviation Administration permits and regulations,. Red strobe lights are preferred for night-time illumination to reduce impacts on migrating birds. Red pulsating incandescent lights should be avoided. Exceptions may be made for metrological towers, where concerns exist relative to aerial spray applicators.

G. Other Signage – All signage on site shall comply with Article 11 (Performance Standards) and Section 18 (Sign Regulations) of the County Zoning Ordinance. The manufacturer's or owner's company name and/or logo may be placed upon the nacelle of the WECS.

H. Feeder Lines – All communications and feeder lines, equal to or less than 34.5 kilovolts in capacity, installed as part of a WECS shall be buried where reasonably feasible. Feeder lines installed as part of a WECS shall not be considered an essential service. This standard applies to all feeder lines subject to Town ordinances.

I. Waste Disposal – Solid and Hazardous wastes, including but not limited to crates, packaging materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site promptly and disposed of in accordance with all applicable local, state and federal regulations.

J. Avoidance and mitigation of damages to Public Infrastructure:

1. All public roads to be used for the purpose of transporting WECS, substation parts, materials, and/or equipment for construction, operation or maintenance of the WECS shall obtain applicable weight and size permits from the impacted road authorities prior to construction.

2. Contact the road authority for road closures, road signage removals, road signage re-locating, road signage restoring, moving permits, culverts, access/driveway permits, tile outlet permits, widening road intersections, standard utility permits and any other road activities that may require permits.

3. Contact Goodhue County Dispatch prior to any road closures for the re-routing of emergency vehicles. Notify and consult with affected property owners to ensure reasonable access.

4. Contact the Town to conduct an inspection of the road conditions of the haul routes prior to and after construction.

5. The applicant shall retain a Minnesota Licensed Engineer approved by the Town Engineer to analyze bridges along the haul routes to determine if the bridges have the capacity to support the oversized vehicles. The applicant shall provide a signed report by the registered engineer to the road authority to the use of the bridges identified on the haul routes.

6. The applicant shall provide financial assurance in the form of a cash escrow or irrevocable letter of credit in an amount equal to 125% of the cost(s) to repair anticipated damages to public infrastructure including

public roads and drainage systems as determined by the road authority, to be held by the Township until the Township and/or County road authority have provided the Township with a written release that all haul routes within their jurisdiction in the Township have been returned to pre-construction condition by the Applicant/Developer. As an alternative for paved roads the road authorities may agree to accept a payment as reimbursement for the road life consumed by the project.

7. The developer will be responsible to maintain the haul roads during construction to insure they can be used by the travelling public.

8. The Town will repair the roads if the Applicant/Developer is not responsive and invoice Applicant/Developer.

K. The Applicant shall be responsible for immediate repair of damage to public and private drainage systems stemming from construction, operation, maintenance, or decommissioning.

L. Discontinuation and Decommissioning - A WECS shall be considered a discontinued use after 1 year without energy production, unless a plan is developed and submitted to the Township outlining the steps and schedule for returning the WECS to service.

1. All WECS towers shall be removed from the properties and properly disposed of, recycled, or reclaimed within 90 days of discontinuation of use. Accessory facilities, footings and foundations must be reviewed by an engineer, geoscientist, and/or the Building Official to determine the reuse or environmental impact of removal within 90 days of the discontinuation of use. If it is determined that the footings or foundations must be removed, a removal plan must be submitted to the Township for approval.

2. Each WECS shall have a Decommissioning plan outlining the anticipated means and cost of removing WECS at the end of their serviceable life or upon becoming a discontinued use.

3. The cost estimates shall be made by a competent party approved by the Township; such as a Professional Engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning.

4. The plan shall also identify the financial resources that will be available to pay for the decommissioning and removal of the WECS and accessory facilities.

5. The owner and/or operator shall provide financial security in the form of a cash escrow or an irrevocable letter of credit in an amount equal to 125%

of the cost estimate prepared by a competent party (see paragraph C) to ensure that decommissioning of Commercial WECS is completed as required in this subdivision.

M. Orderly Development – Upon issuance of a conditional use permit, all Commercial WECS shall notify the PUC or Department of Commerce, Energy Facility Permitting staff of the project, location, and details on the survey form specified by the PUC.

11.11.6 Stray Voltage Testing for Commercial WECS Projects.

A. Pre-construction Stray Voltage Test. The applicant shall offer to perform at least two pre-construction stray voltage tests at all registered feedlots within the proposed project boundary and within a one-mile radius beyond the proposed project boundary. The applicant shall pay for these associated costs.

B. A copy of the test results shall be sent to each of the following: property owners, Minnesota Public Utilities Commission, local utilities, and the Township. The applicant shall obtain written permission from property owners prior to stray voltage testing. If permission is denied, all responsibility for stray voltage problems shall be with the property owner.

C. If a registered feedlot owner within the project boundary has a stray voltage test performed for their facility, and it is found that the cause of the stray voltage is attributed to the Commercial WECS project, the project owners shall pay for all costs associated with the testing and correcting of the problem.

11.11.7 Preliminary Acoustic Study for Commercial WECS Projects.

A. An acoustic study that demonstrates the project will be compliant with State of Minnesota Noise Standards.

B. This shall include the estimated dB (A) levels at all receptors within one (1) mile of the nearest turbine within a project area and shall include accumulated sound within the project.

11.11.8 Local Emergency Services Notification Requirements for Commercial WECS Projects

A. The Applicant shall provide a copy of the project summary and site plan to local emergency services, including paid or volunteer Fire Department(s) that serve the WECS project area.

B. The Applicant shall coordinate with local emergency response serves for the WECS Project. A copy of the plan shall be submitted to the Goodhue County Office of Emergency Management.

11.11.9 Other Applicable Standards.

A. Noise – All WECS shall comply with State of Minnesota Noise Standards.

B. Electrical codes and standards – All WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.

C. Owner/Operator contact information shall be provided to the Township on a yearly basis.

D. Minnesota State Building Code – All WECS shall comply with the Minnesota State Building Code.

E. Interference – The applicant shall minimize or mitigate interference with electromagnetic communications, such as radio, telephone, microwaves, or television signals cause by any WECS. The applicant shall notify all communication tower operators within two miles of the proposed WECS location upon application to the county for permits. No WECS shall be constructed so as to interfere with County or Minnesota Department of Transportation microwave transmissions.

11.12 Solar Energy Systems (SES) Regulations.

11.12.1 Purpose.

Purpose – This ordinance is established to regulate the installation and operation of Solar Energy Systems ("SES"). The purpose of these regulations, along with other pertinent references found in other sections of this ordinance, is to regulate the installation and operation of Solar Energy Systems (residential, commercial, and utility) pursuant to applicable Minnesota Statutes and Rules.

11.12.2 Definitions.

Grid-intertie SES. A photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.

Ground-mounted SES. A solar collector, or collectors, located on the surface of the ground. The collector or collectors may be physically affixed or attached to the ground; ground-mounted systems include pole-mounted systems.

1. Residential SES. Accessory to the primary use of the land, designed to supply energy for onsite residential use; excess energy produced may be sold back to the grid through net metering.

2. Commercial SES. Accessory to a permitted farm or business use of the land, designed to generate energy to offset utility costs or as an additional revenue stream.

3. Utility Scale SES. An energy system that is the primary use of the land, designed to provide energy primarily to off-site uses or export to the wholesale market.

Off-grid SES. A photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by electric utility company.

Photovoltaic SES. An active solar energy system that converts solar energy directly into electricity.

Roof-mounted SES. A solar collector, or collectors, located on the roof of the building or structure. The collector or collectors may be physically affixed or attached to the roof.

1. Residential SES. Accessory to the primary use of the land, designed to supply energy for onsite residential use; excess energy produced may be sold back to the grid through net metering.

2. Commercial SES. Accessory to a permitted farm or business use of the land, designed to generate energy to offset utility costs or as an additional revenue stream.

3. Utility Scale SES. An energy system that is the primary use of the land, designed to provide energy primarily to off-site uses or export to the wholesale market.

Solar Cell. The basic unit of a photovoltaic solar panel.

Solar Collector. A device, structure, or part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.

Solar Easement. A right, whether or not stated in the form of a restriction, easement, covenant, or condition, in any deed, will, or other instrument executed by or on behalf of any owner of land or solar skyspace for the purpose of ensuring adequate exposure of a solar energy system as defined in Section 216C.06, Subdivision 17, to solar energy. Required contents of a Solar Easement are defined in Minnesota Statute Section 500.30.

Solar Energy. Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

Solar Energy System (SES). A device set of devices, or structural design feature, a substantial purpose of which is to provide for the collection, storage and distribution of sunlight for space

heating or cooling, generation of electricity, water heating, or providing daylight for interior lighting.

Substation. Any electrical facility containing power conversion equipment designed for interconnection with power lines. Part of the electrical transmission system converting high voltage to low voltage or converting low voltage to high voltage for incorporation into the electrical power grid.

11.12.3 General Procedures.

A. Approval Required.

All Solar energy systems greater than 2000 watt capacity shall require a building permit and a zoning approval in the form of an administrative review or a Conditional/Interim Use Permit as set forth in Section 11.11.7 of this ordinance.

1. Residential Rooftop and Ground Mounted Solar Energy Systems may be approved administratively.

2. Commercial Rooftop and Ground Solar Energy Systems may be approved through a SES Zoning Permit or a Conditional/Interim Use Permit.

3. Utility Scale Photovoltaic (PV) Rooftop and Ground Solar Energy Systems require a conditional/interim use permit.

11.11.4 Solar Energy System Standards.

A. General Standards.

1. Systems shall be designed and operated in a manner that protects public safety.

2. Systems shall be in compliance with any applicable local, state and federal regulatory standards, including, but not limited to, the State of Minnesota Uniform Building Code, as amended, and the National Electric Code, as amended.

3. Tree removal shall be minimized and mitigated in accordance with Article 11, Section 7 of the County Zoning Ordinance.

B. Roof-Mounted Solar Energy Systems. The following standards shall apply to roof-mounted solar energy systems:

1. Roof-mounted solar shall not exceed by more than four feet the maximum allowed height in any zone district except in Shoreland areas the height

limits established within Article 31 of the County Zoning Ordinance for structures may not be exceeded.

2. In addition to the structure setback, the collector surface and mounting devices for roof-mounted solar systems shall not extend beyond the exterior perimeter of the structure on which the system is mounted or built, except for when such an extension is designed as an awning.

3. Exterior piping and conduit for roof-mounted solar hot water systems may extend beyond the perimeter of the structure on side and rear exposures.

C. Ground-Mounted and Pole-Mounted Solar Energy Systems. The following standards shall apply to ground and pole-mounted solar energy systems:

1. Ground and pole-mounted systems shall not exceed twenty (20) feet in height when oriented at maximum design tilt.

2. Ground and pole-mounted systems shall be subject to yard setback requirements for the Zoning District within which they are located.

3. The total collector surface area of pole or ground mount systems shall not exceed fifty percent (50%) of the building footprint of the principal structure in the Residential Zoning District.

4. Ground and pole-mounted systems shall have natural ground cover under and between the collectors and surrounding the system's foundation or mounting device(s).

5. Ground and pole-mounted solar energy systems do not count as an accessory structure for the purpose of meeting limits on the total square footage of accessory structures allowed in the Agricultural Zoning Districts.

D. Photovoltaic Solar Energy Systems. The following standards shall apply to photovoltaic solar energy systems:

1. The electrical disconnect switch shall be clearly identified and unobstructed.

2. No grid-intertie photovoltaic solar energy system shall be installed until documentation has been given to the Zoning Administrator which confirms that the owner has notified the utility company of the customer's intent to install an interconnected customer-owned generator. Documentation may consist of an interconnection agreement or a written explanation from the utility provider or contractor outlining why an

interconnection agreement is not necessary. Offgrid systems are exempt from this requirement.

3. Photovoltaic solar energy system components must have an Underwriters laboratory (UL) listing and solar hot water systems must have a Solar Rating & Certification Corporation (SRCC) rating.

E. Utility Scale Solar Energy Systems (Roof and Ground-Mounted)

1. All elements of the system shall meet or exceed all district regulations based on the applicable zoning district except as may be amended by provisions of this Section.

2. Systems shall meet the requirements for erosion and sediment control per Article 11, Section 12 of the County Zoning Ordinance.

3. Power and communication lines running between banks of solar collectors and to electric substations or interconnections with buildings shall be buried underground or in conduit overheard to an Inverter if the system is fenced in. Exemptions may be granted in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines.

4. Vegetative screening or buffering of the system may be required as part of the conditions of approval. Screening or buffering shall be based on the proximity of the system to residential buildings and to abutting public rights-of-way.

11.11.5 Applications for Solar Energy Systems.

An application to the Township for a permit under this section shall contain the following information, including but not limited to the following:

A. Application Submittal Requirements for Solar Energy Systems:

1. A site plan of existing and proposed conditions as defined in Article 10, Section 2, Subd. 95. B.

2. Number of Solar Collectors to be installed.

3. Location and spacing of solar panels.

4. Ground mounted system applications shall identify existing vegetation on installation site (list type and percent of coverage; i.e. grassland, plowed field, wooded areas, etc.), and provide a maintenance plan for controlling vegetative growth on site upon installation of the SES.

5. A description of the method of connecting the array to a building or substation and a signed copy of the interconnection agreement with the local electric utility or a written explanation outlining why an interconnection agreement is not necessary.

6. Planned location of underground or overhead electric lines connecting the SES to the building, substation or other electric load.

7. New electrical equipment other than at the existing building or substation that is the connection point for the SES.

8. Manufacturer's specifications and recommended installation methods for all major equipment, including solar panels, mounting systems and foundations for poles or racks.

9. Existing and proposed (if existing grade will be altered) topography at 2 foot contours.

B. Additional application submittal requirements for Commercial and Utility Scale Roof, Ground Mounted, and all reflective Solar Energy Systems:

10. Visual Impact Analysis: Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

11. Proposed storm-water management measures: Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction. A NPDES permit may be required.

12. Screening or buffering plan included any site grading and/or landscape plantings proposed along public roads or abutting residential properties.

13. Maintenance plan for grounds surrounding the systems.

14. A plan outlining the use, storage, and disposal of chemicals used in the cleaning of the collectors and/or reflectors unless certified organic cleaning products are used.

15. Identify the onsite location and measures that will be taken to avoid, minimize, or mitigate adverse effects to existing historical, cultural, and archeological features identified by SHPO, the County's databases, and those discovered onsite.

C. Additional application submittal requirements for Utility Scale Roof, Ground Mounted, and all reflective Solar Energy Systems:

16. Criteria to determine potential impacts on agricultural production due to temporary or permanent use of agricultural land for the production of solar energy:

a. Number of acres of Prime Agricultural Soils to be impacted.

b. Number of acres in Agricultural Zone to be impacted.

c. Proposed duration of operation of the SES.

17. Criteria to evaluate potential environmental impacts:

a. Environmental Assessment Worksheet (EAW) determination as to the potential for any significant impacts and proposed mitigation measures (for Solar Energy Projects subject to environmental review under Minnesota Rules Chapter 4410.

b. Review of Goodhue County Environmental Constraints Land Use Model (ECLUE) Ratings for proposed Utility Scale Site Area.

c. Proximity to existing Electric Utility Lines and Substations for Grid-Intertie and existing SES projects.

11.11.6 Decommissioning.

A decommissioning plan shall be submitted with all applications for Commercial and Utility Scale solar energy systems.

A. Decommissioning plans shall outline the anticipated means and cost of removing the system at the end of its serviceable life or upon its becoming a discontinued use. The cost estimates shall be made by a competent party, such as professional engineer, a contractor capable of decommissioning or a person with suitable expertise or experience with decommissioning. The plan shall also identify the financial resources that will be available to pay for the decommissioning and removal of the system. Owners of residential SES may rely on manufactures data to submit estimates.

B. Decommissioning of the system must occur within ninety (90) days from either of the following:

1. The end of the system's serviceable life; or

2. The system becomes a discontinued use.

C. A system shall be considered a discontinued use after one (1) year without energy production, unless a plan is developed and submitted to the Zoning Administrator outlining the steps and schedule for returning the system to service.

D. The Township may at its discretion require the owner and/or operator of the commercial or utility scale system to provide financial security in the form of a cash escrow or irrevocable letter of credit in an amount equal to 125% of a cost estimate for decommissioning prepared by a competent party to ensure that decommissioning shall be completed if the applicant or operator for any reason fails to meet the requirements of this Section.

11.11.7 Permitted Uses, Conditional Uses or Interim Uses for Solar Energy Systems.

Solar Energy Systems will be permitted, conditionally permitted, interim permitted or not permitted based on the generating capacity and land use district as established in the table below (P=Permitted, C=Conditionally Permitted, I=Interim Permitted, NP=Not Permitted):

DISTRICT	UTILITY SOLAR ENERGY SYSTEMS	COMMERCIAL SCALE ENERGY SYSTEMS	RESIDENTIAL SCALE SOLAR ENERGY SYSTEMS
Agricultural	C	I	P
Residential	NP	I	P
Commercial	C	I	P
Industrial	C	I	P
Flood Plain	NP	I*	C*
Preservation	NP	NP	NP
All other areas	NP	NP	NP

*All provisions of Article 31 (Floodplain Regulations) must be met.

Projects must comply with Minnesota Statutes for Protection of Water Resources, Minnesota Shoreland Management Act, and Minnesota Wetland Conservation Act.

Section 2. Severability. Should any section or part of this Ordinance be declared by a court of competent jurisdiction to be invalid, such decision will not affect the validity of the ordinance as a whole or any part other than the part declared invalid

Section 3. Effective Date. This ordinance shall be effective on the first day of publication of an approved summary after adoption.

Adopted this __ day of _____ 2026.

BY THE TOWN BOARD

_____
Town Chairperson

Attest:_____
Town Clerk

THIS INSTRUMENT DRAFTED BY:
Town Law Center PLLP (JMH)
1250 Wayzata Boulevard E, Unit #1065
Wayzata, MN 55391
(612) 361-7041