

Martin County Renewable Energy Ordinance

Table of Contents

SECTION 1 TITLE, REPEALER..... 3

SECTION 2 PURPOSE 3

SECTION 3 JURISDICTION..... 3

SECTION 4 INTERPRETATION 3

SECTION 5 DEFINITIONS 4

SECTION 6 PROCEDURES 10

 601 General Procedures..... 10

 602 Applications for Wind Energy Conversion systems..... 10

 603 Applications for Primary Use Solar Energy Systems 12

SECTION 7 DISTRICT REGULATIONS..... 15

 701 Permitted and Conditional Uses 15

SECTION 8 WECS GENERAL STANDARDS..... 16

 801 WECS Setbacks 16

 802 Additional Setback Requirements 17

 803 Safety Design Standards 17

 804 Tower Configuration Standards..... 18

 805 Decommissioning 18

 806 Other Applicable Standards..... 19

 807 Interference..... 19

SECTION 9 SOLAR ENERGY SYSTEM STANDARDS 20

 901 General Standards..... 20

 902 Roof-mounted Solar Energy Systems..... 20

 903 Ground-mounted and Pole-Mounted Solar Energy Systems 21

 904 Wall-mounted Solar Energy Systems 21

 905 Accessory Solar Energy Systems 21

 906 Large Solar Energy Systems..... 22

 907 Photovoltaic Solar Energy Systems..... 22

 908 Reflecting Solar Energy Systems 23

 909 Decommissioning 23

SECTION 10 ENFORCEMENT, VIOLATIONS, REMEDIES AND PENALTIES 24

SECTION 11 PUBLIC HEARINGS AND PLANNING COMMISSION RECOMMENDATIONS 24

SECTION 12 ADOPTION..... 24

SECTION 13 EFFECTIVE DATE..... 25

SECTION 1 TITLE, REPEALER

The title of this Ordinance is the Martin County Renewable Energy Ordinance, and will be Referred to herein as THIS ORDINANCE.

The existing Martin County Wind Energy Conversions Systems Ordinance previously adopted November 16, 2004, is hereby repealed. The adoption of this Ordinance, however, shall not effect nor prevent any pending or future prosecution or legal action to abate, any existing violation of the previous Martin County Wind Energy Conversion Systems Ordinance provided the violation is also a violation of this Ordinance.

SECTION 2 PURPOSE

This Ordinance is established to regulate the installation and operation of Renewable Energy Systems within Martin County not otherwise subject to siting and oversight by the State of Minnesota pursuant to Minnesota Statutes Chapters 216F, 216C.25, and 500.30, and Minnesota Rules Chapter 1325.1100, as amended. In no case shall the provisions of this Ordinance guarantee rights to solar access.

SECTION 3 JURISDICTION

The jurisdiction of this Ordinance shall apply to all areas of Martin County outside of incorporated municipalities.

SECTION 4 INTERPRETATION

This Ordinance, shall at a minimum, promote and protect the public health, safety, and general welfare. Where the provisions of this Ordinance impose greater restrictions than those of any statute, ordinance, or regulations, the provisions of this Ordinance shall be controlling. Where the provisions of any statute, ordinance or regulation impose greater restrictions than this Ordinance, the provisions of such statute, other ordinance, or regulation shall be controlling.

SECTION 5 DEFINITIONS

For the purpose of this Ordinance, the following terms shall have the meaning given to them in this section. To the extent a term is used in this Ordinance is not defined in this section, the term shall have the meaning given in the Martin County Zoning Ordinance.

1. **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.
2. **Airfoil** – A part such as a blade, with a flat or curved surface, designed to provide a desired reaction force when in motion relative to the surrounding air.
3. **Applicant** – Any person, provider, firm, partnership or company who files an application for any permit required for this Ordinance for the construction, replacement, or alteration of WECS/Solar/Construction/Development or any component thereof.
4. **Awning** – A sheet of material stretched on a frame and used to keep the sun or rain off a storefront, window, doorway, patio, or deck.
5. **Azimuth** – A clockwise measurement around the horizon in degrees, beginning and ending at true north.
6. **Board of Adjustment and Appeals** – An officially constituted quasi-judicial body appointed by the County Board whose principle duties are to hear appeals from decisions of the Zoning Administrator and, where appropriate, grant variances from the strict application of this Ordinance.
7. **C-BED (Community-based energy development) 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.
8. **Campground** – A facility licensed by the Minnesota Department of Health for the purposes of camping.
9. **Church** – As defined in Minnesota Statute 272.
10. **Commercial WECS** – A WECS or combination of WECS that is designed to have a capacity in excess of the amount needed for residential and agricultural uses and that has a combined nameplate capacity of 125 KW or more.
11. **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 the future development of the unincorporated area of the County.

12. **Conditional Use** – Means a specific type of structure or land use listed in the official control that may be allowed but only after an in-depth review procedure and with appropriate conditions or restrictions as provided in the official zoning controls or building codes and upon a finding that: (1) certain conditions as detailed in the Zoning Ordinance exist and (2) the structure and/or land use conform to the comprehensive land use plan if one exists and are compatible with the existing neighborhood.
13. **County** – Martin County, Minnesota.
14. **County Board** – The words County Board includes the County Commissioners, the Board of County Commissioners or any other word or words meaning the Martin County Board of Commissioners.
15. **Decibel** – A unit of measure of sound pressure.
16. **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.
17. **Dwelling** – A residential building or portion thereof intended for occupancy by a single family, but not including hotels, motels, boarding or rooming houses or tourist homes.
18. **Fall Zone** – The area, defined as the furthest distance from the tower base, in which a guyed tower may collapse in the event of a structural failure.
19. **Flicker** – The moving shadow cast by the rotating blades of a WECS, or any intermittent, repetitive, or rhythmic lighting effect that is a direct result of rotating WECS blades.
20. **Generator Nameplate Capacity** – The maximum rated output of electrical power production of a generator under specific conditions designated by the manufacturer with a nameplate physically attached to the generator.
21. **Health Care Facilities** – Facilities principally engaged in providing services for health maintenance and the treatment of mental or physical conditions including but not limited to hospitals, clinics, and nursing homes.
22. **Hub Height** – The distance from the ground to the center axis of the turbine rotor.
23. **Maximum Design Tilt (Solar Energy System)** – Maximum tilt, or angle, is vertical, or ninety (90) degrees for a solar energy system designed to track daily or seasonal sun position or capable of manual adjustment on a fixed rack.
24. **Meteorological Tower** – For the purposes of this 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.
25. **Micro-WECS** – A WECS which is less than one hundred (100) feet in total height.
26. **Minimum Design Tilt (Solar Energy System)** – Minimum tilt, or angle, is horizontal, or zero (0) degrees for a solar energy system designed to track daily or seasonal sun position or capable of manual adjustment on a fixed rack.

27. **Nameplate Capacity** – The total maximum rated output of a solar energy system.
28. **Native Prairie Plan** – The plan shall address steps to be taken to identify native prairie within the project area, measures to avoid impacts to native prairie, including foundations, access roads, underground cable and transformers, shall not be placed in native prairie unless addressed in the prairie protection and management plan.
29. **Noise Profile** – A study certifying the WECS is in compliance with Minnesota Chapter 7030, as amended, of the Minnesota Pollution Control Agency noise standards.
30. **Non-Commercial WECS** – A WECS or combination of WECS that is designed to have a capacity for residential and agricultural uses and has a combined nameplate capacity of less than 125 KW.
31. **Non-Prevailing Wind** – The non-dominant wind direction in the County.
32. **Operator** – The entity responsible for the day-to-day operation and maintenance of the WECS, including any third party subcontractors.
33. **Power Line** – An overhead or underground conductor and associated facilities used for the transmission or distribution of electricity.
34. **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 the power.
35. **Preliminary Acoustic Study** – A study certifying the WECS will be in compliance with Minnesota Chapter 7030, as amended, of the Minnesota Pollution Control Agency.
36. **Prevailing Wind** – The predominant wind direction in the County.
37. **Professional Engineer** – A qualified individual who is licensed as a professional engineer in the State of Minnesota.
38. **Project** – A WECS or combination of WECS.
39. **Project Boundary/Property Line** – The boundary line of the area over which the entity applying for a WECS permit has legal control for the 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.
40. **Project Owner** – An individual or entity with legal ownership of a WECS project.
41. **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.

42. **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.
43. **Receptor** – Structures intended for human habitation, whether inhabited or not, including but not limited to churches, schools, hospitals, public parks, state and federal wildlife areas, the manicured areas of recreational establishments designed for public use, including but not limited to golf courses, and camp grounds.
44. **Renewable Energy** – Energy from sources that are not easily depleted such as moving water (hydro, tidal and wave power), biomass, geothermal energy, solar energy, wind energy, and energy from solid waste treatment plants.
45. **Roof Pitch** – The final exterior slope of a building roof calculated by the rise over the run, typically but not exclusively expressed in twelfths, such as 3/12, 9/12, or 12/12.
46. **Rotor** – A system of airfoils connected to a hub that rotates around an axis.
47. **Rotor Blades** – See Airfoil.
48. **Rotor Diameter (RD)** – The diameter of the circle described by the moving rotor blades.
49. **School** – As defined in Minnesota Statute 120A.05, as amended, and private schools excluding home school sites.
50. **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.
51. **Solar Daylighting** – A device specifically designed to capture and redirect the visible portion of the solar spectrum, while controlling the infrared portion, for use in illuminating interior building spaces in lieu of artificial lighting.
52. **Solar Energy** – Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.
53. **Solar Energy Device** – A system or series of mechanisms designed primarily to provide heating, cooling, electrical power, mechanical power, solar daylighting or to provide any combination of the foregoing by means of collecting and transferring solar generated energy into such uses either by active or passive means. Said systems may also have the capacity to store energy for future utilization. Passive solar energy systems shall clearly be designed as a solar energy device, such as a trombe wall, and not merely part of a normal structure, such as a window.
54. **Solar Energy System** – A set of devices that the primary purpose is to collect solar energy and convert and store it for useful purposes including heating and cooling buildings or other energy-using processes, or to produce generated power by means of any combination of collecting, transferring, or converting solar energy. This definition also includes structural design features, the purpose of which is to provide daylight for interior lighting.

55. **Solar Energy System, Accessory Use** – A solar energy system that is secondary to the primary use of the parcel on which it is located and which is directly connected to or designed to serve the energy needs of the primary use. Excess power may be sold to a power company.
56. **Solar Energy System, Active** – A solar energy system whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.
57. **Solar Energy System, Building Integrated** – An active solar energy system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Such systems include, but are not limited to, solar energy systems that function as roofing materials, windows, skylights, and awnings.
58. **Solar Energy System, Grid-intertie** – A photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.
59. **Solar Energy System, Ground-mounted** – A solar collector, or collectors, located on the surface of the ground. The collector or collectors may or may not be physically affixed, or attached to the ground. Ground-mounted systems include pole-mounted systems.
60. **Solar Energy System, Large** – A solar energy system with a nameplate capacity of forty (40) kilowatts or more. (For numbers 1-100, you can spell out or leave as numbers or do forty (40), the rule is to be consistent. Numbers are not always consistent in this ordinance).
61. **Solar Energy System, Off-grid** – 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 an electric utility company.
62. **Solar Energy System, Passive** – A solar energy system that captures solar light or heat without transforming it to another form of energy or transferring the heat via a heat exchanger.
63. **Solar Energy System, Photovoltaic** – An active solar energy system that converts solar energy directly into electricity.
64. **Solar Energy System, Primary Use** – A solar energy system which is the primary land use for the parcel on which it is located and which generates power for sale to a power company, or other off-premise consumer.
65. **Solar Energy System, Reflecting** – A solar energy system that employs one or more devices designed to reflect solar radiation onto a solar collector. This definition includes systems of mirrors that track and focus sunlight onto collectors located at a focal point. The collectors may be thermal or photovoltaic.
66. **Solar Energy System, Roof-mounted** – A solar collector, or collectors, located on the roof of a building or structure. The collector or collectors may or may not be physically affixed, or attached to the roof.
67. **Solar Energy System, Small** – A solar energy system with a nameplate capacity of less than forty (40) kilowatts.

68. **Solar Heat Exchanger** – A component of a solar energy device that is used to transfer heat from one substance to another, either liquid or gas.
69. **Solar Hot Air System** – Also referred to as solar air heat; or a solar furnace. An active solar energy system that includes a solar collector to provide direct supplemental space heating by heating and re-circulating conditioned building air. The most efficient performance typically means vertically mounted on a south-facing wall.
70. **Solar Hot Water System** – Also referred to as a solar thermal. A system that includes a solar collector and heat exchanger that heats or preheats water for building heating systems or other hot water needs, including domestic hot water and hot water for commercial or industrial purposes.
71. **Solar Mounting Devices** – Devices that allow the mounting of a solar collector onto a roof surface, wall, or the ground.
72. **Substation** – Any electrical facility containing power conversion equipment designed for interconnection with power lines.
73. **Transmission Line** – See Power Line.
74. **Total Height** – The highest point, above ground level, reached by a rotor tip or any other part of the WECS.
75. **Total Name Plate Capacity** – The total of the maximum rated output of the electrical power production equipment for a WECS project.
76. **Tower** – Towers include vertical structures that support the electrical generator, rotor blades, or meteorological equipment.
77. **Tower Height** – The total height of the Tower exclusive of the rotor blades.
78. **Wind Energy Conversion System (WECS)** – A device such as a wind charger, windmill, or wind turbine and associated facilities that converts wind energy to electric energy, including, but not limited to: power lines, transformers, substations, and meteorological towers. The energy may be used on-site or distributed into the electrical grid.
79. **Wind Turbine** – Any equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.
80. **Zoning Ordinance** – The Martin County Zoning Ordinance, regulating the use of land and water in the County.

SECTION 6 PROCEDURES

601 GENERAL PROCEDURES

1. Zoning permits, conditional use permits and variances shall be applied for and reviewed under the procedures established in the Zoning Ordinance and Minnesota Statutes Chapter 394, except where noted below.
2. Permit Required

WECS and solar energy systems may be allowable as either permitted or conditional uses:

- A. A zoning permit shall be required for all Micro-WECS, Non Commercial WECS and small solar energy systems.
- B. A conditional use permit shall be required for all Commercial WECS, meteorological towers, large solar energy systems, and reflecting solar energy systems.

602 APPLICATIONS FOR WIND ENERGY CONVERSION SYSTEMS

1. Micro and Non-Commercial WECS

An application to the County for a permit under this section shall not be considered complete unless it contains the following information, including but not limited to:

- A. The name(s) and address(es) of all project applicant(s).
- B. The name(s) and address(es) of the project owner(s). For C-BED projects, must provide percent of ownership for each of the project owners.
- C. The legal description(s) of all properties within the project boundary.
- D. A description of the project including: number, type, total name plate generating capacity, tower height, rotor diameter, total height of all wind turbines, and means of interconnecting with the electrical grid.
- E. Site layout, including the location of project area boundaries (purchased and leased wind rights), property lines, roads, wind turbines, electrical wires, and all related accessory structures. The site layout shall include distances and be drawn to scale.
- F. Documentation of land ownership or legal control of the property and current land use on the site and surrounding area.
- G. Copies of all permits or documentation that indicates compliance with all other applicable State and Federal Regulatory Standards including, but not limited to:
 - i. The National Electrical Code, as amended.
 - ii. Federal Aviation Administration (FAA), as amended.

- iii. Minnesota Pollution Control Agency (MPCA)/Environmental Protection Agency (EPA), as amended.
 - iv. Microwave Beam Path Study.
 - v. Minnesota Pollution Control Agency Chapter 7030, Noise Standards, as amended
- H.** Location of all known telecommunication towers within a two (2) mile radius of the proposed WECS.
- I.** Location of all known public or private airports or heliports within a five (5) mile radius of the proposed WECS.
- J.** Detailed Decommissioning Plan including how decommissioning costs would be covered.
- K.** Engineer's Certification of the proposed WECS.
- L.** Documentation of land ownership or legal control of all property within a project boundary and current land use on the site and surrounding area.
- M.** Any other information normally required by the County as part of its Zoning Ordinance.

2. Commercial WECS

An application to the County for a permit under this section shall not be considered complete unless it contains the following information, including but not limited to:

- A.** If required, a letter from the State Agency responsible for size determination of a project, pursuant to Minnesota Statutes, Chapter 216F.011, as amended.
- B.** The name(s) and address(es) of project applicant(s).
- C.** The name(s) and address(es) of the project owner(s). For C-BED projects, must provide percent of ownership for each of the project owners.
- D.** The legal description(s) and address(es) of the project.
- E.** A description of the project including: number, type, total name plate generating capacity, tower height, rotor diameter, total height of all wind turbines, and means of interconnecting with the electrical grid.
- F.** Site layout, including the location of project area boundaries (wind rights purchased, leased, or acquired by easement), property lines, roads, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale.
- G.** Documentation of land ownership or legal control of all property within a project boundary and current land use on the site and surrounding area.
- H.** The latitude and longitude of individual wind turbines.

- I. A USGS topographical map, or map with similar data, of the property and surrounding area, including any other WECS within ten (10) rotor diameters of the Proposed WECS.
- J. Copies of all permits or documentation that indicates compliance with all other applicable State and Federal Regulatory Standards including, but not limited to:
 - i. The National Electrical Code, as amended.
 - ii. Federal Aviation Administration (FAA), as amended.
 - iii. Minnesota Pollution Control Agency (MPCA)/Environmental Protection Agency (EPA), as amended.
 - iv. Microwave Beam Path Study.
 - v. Preliminary Acoustic Study.
 - vi. Noise Abatement Mitigation Plan.
 - vii. Minnesota Pollution Control Agency, Chapter 7030, Noise Standards, as amended.
- K. Location of all known communications towers and microwave beam paths within a five (5) mile radius of the proposed WECS.
- L. Location of all known public or private airports or heliports within a five (5) mile radius of the proposed WECS.
- M. Detailed Decommissioning Plan including how decommissioning costs would be covered.
- N. Additional information stated in Minnesota Rules, part 7854.0500 (subpart 1), as amended.
- O. Identification of any and all haul routes to be utilized for material transportation and construction activities including state, federal, county, township, or private roads within the County.
- P. Locations and site plans for all temporary, non-residential construction sites and staging areas.
- Q. Any other information normally required by the County as part of its Zoning Ordinance.

603 APPLICATIONS FOR PRIMARY USE SOLAR ENERGY SYSTEMS

An application to the County for a permit under this section shall not be considered complete unless it contains the following information, including but not limited to:

1. Primary Use Solar Energy Systems

- A. Site Plans

i. Existing Conditions

- 1) Existing property lines and property lines extending one hundred (100) feet from the exterior boundaries, including the names of the adjacent property owners and current use of those properties.
- 2) Existing public and private roads, showing widths of the roads and any associated easements.
- 3) Location and size of any abandoned wells, sewage treatment systems, and dumps.
- 4) Existing buildings and any impervious surface.
- 5) Existing vegetation (list type and percent of coverage; i.e. grassland, plowed field, wooded areas, etc.).
- 6) Waterways, watercourses, lakes and public water wetlands.
- 7) Delineated wetland boundaries.
- 8) Flood plain district boundary, if applicable.
- 9) The shoreland district boundary, if applicable.
- 10) Mapped soils according to the County Soil Survey.
- 11) Surface water drainage patterns.

ii. Proposed Conditions

- 1) Location and spacing of solar collectors.
- 2) Location of access roads.
- 3) Planned location of underground or overhead electric lines connecting the system to the building, substation, or other electric load.
- 4) New electrical equipment other than at the existing building or substation that is the connection point for the system.
- 5) Proposed erosion and sediment control measures
- 6) Proposed storm water management measures.
- 7) Sketch elevation of the premises accurately depicting the proposed solar energy system and its relationship to any buildings or structures on adjacent lots.

- B. Manufacturer's specifications and recommended installation methods for all major equipment, including solar collectors, mounting systems, and foundations for poles or racks.**

- C.** The number of collectors to be installed.
- D.** A description of the method of connecting the system to a building or substation.
- E.** A signed copy of the interconnection agreement with the local electric utility or a written explanation outlining why an interconnection agreement is not necessary.
- F.** Maintenance plan for grounds surrounding the systems.
- G.** A plan outlining the use, storage, and disposal of chemicals used in the cleaning of the collectors and/or reflectors.

SECTION 7 DISTRICT REGULATIONS

701 PERMITTED AND CONDITIONAL USES

WECS and Solar Energy Systems will be permitted, conditionally permitted, or not permitted based on the land use district as established in the tables below (P=Permitted, C=Conditionally Permitted, NP=Not Permitted):

<i>DISTRICT</i>	<i>Micro-WECS</i>	<i>Non-Commercial WECS</i>	<i>Commercial WECS</i>	<i>Meteorological Tower</i>
A Agricultural District	P	P	C	C
R-1 Single Family Residential	P	P	NP	NP
HB Highway Business	P	P	C	C
I Industry District	P	P	C	C
SL1 Shoreland	P	P	NP	NP
SL2 Shoreland	P	P	NP	NP
SLB Shoreland	P	P	NP	NP
SLC Shoreland	P	P	NP	NP
Flood Plain	NP	NP	NP	NP

<i>DISTRICT</i>	<i>Solar Energy System, Small</i>	<i>Solar Energy System, Large</i>	<i>Solar Energy System, Reflecting</i>
A Agricultural District	P	C	C
R-1 Single Family Residential	P	NP	NP
HB Highway Business	P	C	C
I Industry District	P	C	C
SL1 Shoreland	P	NP	NP
SL2 Shoreland	P	NP	NP
SLB Shoreland	P	NP	NP
SLC Shoreland	NP	NP	NP
Flood Plain	NP	NP	NP

SECTION 8 WECS GENERAL STANDARDS

801 WECS SETBACKS

All WECS and meteorological towers shall meet the following setbacks:

<i>SETBACK TYPE</i>	<i>MICRO-WECS</i>	<i>NON-COMMERCIAL WECS</i>	<i>COMMERCIAL</i>	<i>METEOROLOGICAL TOWER</i>
Project Boundary/ Property Lines	1.1 times the total height	1.1 times the total height	1.1 times the total height	1.1 times the total height
Dwellings, other than project owners	1.1 times the total height	750' and sufficient distance to meet state noise standards	750' and sufficient distance to meet state noise standards	1.1 times the total height, minimum of 250 feet
Noise Standard	Minnesota Rule 7030, as amended	Minnesota Rule 7030, as amended	Minnesota Rule 7030, as amended	N/A
Road Right-of-Way	1.1 times the total height	1.1 times the total height	1.1 times the total height	1.1 times the total height
Other Right-of-Way (Railroads, Power lines, Recreational Trails, etc.)	1.1 times the total height	1.1 times the total height	1.1 times the total height	1.1 times the total height
Public Conservation Lands	1.1 times the total height	1.1 times the total height	1.1 times the total height	1.1 times the total height
Wetlands, USFW Types III, IV, and V	1.1 times the total height	1.1 times the total height	1.1 times the total height	1.1 times the total height
Other Structures	N/A	1.1 times the total height	1.1 times the total height	1.1 times the total height

1. The setback for dwellings, schools, churches, health care facilities, and campgrounds shall be reciprocal other than those owned by the project owner.
2. Setbacks shall be measured from future rights-of-way if planned, changed, or expanded rights-of-way are known.

802 ADDITIONAL SETBACK REQUIREMENTS

1. Based on the total height, Micro WECS, Non-Commercial WECS, or Commercial WECS as defined in this Ordinance, will follow the setbacks established for the category for which they fall under, as listed in Section 8 of this Ordinance.

2. Native Prairie

WECS and associated facilities shall not be placed in native prairie unless approved in a native prairie protection plan. A native prairie protection plan shall be submitted if native prairie is present. The permittee shall, with the advice of the DNR and any others selected by the permittee, prepare a prairie protection and management plan and submit it to the County and DNR Commissioner sixty (60) days prior to the start of construction.

3. Sand and Gravel Operations

WECS shall be prohibited in active sand and gravel operations.

4. Aviation (public and private airports)

No WECS shall be located so as to create an obstruction to navigable airspace of public and private airports in the County. Setbacks or other limitations determined in accordance with MnDOT Department of Aviation and Federal Aviation Administration (FAA) requirements.

5. Setbacks

Substations, accessory facilities, and power lines associated with the WECS not located within a public right-of-way or any utility easement required by the Zoning Ordinance shall meet Chapter 24 Subdivision 6 as regulated in the Zoning Ordinance.

6. The setback for new dwellings shall be reciprocal in that no dwelling shall be constructed within the same setback as a new wind turbine would need to meet to an existing dwelling.

7. Commercial Wind turbines shall be prohibited within the Shoreland District.

803 SAFETY DESIGN STANDARDS

1. **Engineering Certification**

For all WECS, the manufacturer's engineer or another qualified 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. **Clearance**

At all times, rotor blades or airfoils must maintain at least thirty (30) feet of clearance between their lowest point and grade/ground surface.

3. Warnings

- A. For all WECS: a sign or signs shall be posted on the tower, transformer and substation warning of high voltage. Signs with emergency contact information shall also be posted on the turbine or at another suitable point.
- B. For all guyed towers:
 - i. Visible and reflective objects, such as plastic sleeves, reflectors or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of eight (8) feet above grade/ground surface.
 - ii. Four (4) marker balls shall be placed sixteen (16) feet above grade and at fifty (50) foot intervals along the guy wires from grade/ground surface.
 - iii. Visible, anti-climbing fencing shall be installed around anchor points of guy wires and tower base.

804 TOWER CONFIGURATION STANDARDS

1. All wind turbines, which are part of a commercial and C-BED WECS project, shall be installed with a tubular, monopole type tower.
2. Meteorological towers, Micro, and Non-Commercial wind turbines may be guyed.
3. Color and Finish
All wind turbines and towers that are part of a 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.
4. 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 are prohibited.

805 DECOMMISSIONING

A. Decommissioning Plan

The permit application must contain a Decommissioning Plan to ensure the project is properly decommissioned upon Facility Abandonment. At a minimum, the Decommissioning Plan shall include:

- Provisions for the removal of all structures, debris and above cabling within 180 days after Facility Abandonment.
- Provisions for the restoration of the soil and vegetation within 270 days after Facility Abandonment.

B. Financial Surety

The Owner or Operator of the WECS(s) shall maintain a current general liability policy covering bodily injury and property damage. Coverage should vary with size of the

installation. Minimum amount shall be \$300,000.00. Existing WECS shall be brought into compliance with this section within one year from adoption of this Ordinance.

806 OTHER APPLICABLE STANDARDS

1. Other Signage

Each WECS must have a sign posted at the base of the tower that specifies the following information; warning high voltage, manufactures'/owner's company name and/or logo and emergency phone numbers. No permitted sign may exceed three square feet in area. Signs other than warning signs, equipment labels, emergency information or owner identification are prohibited on a WECS.

2. 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.

3. Noise

All WECS shall comply with Minnesota Rule 7030, as amended, governing noise.

4. Electrical Code and Standards

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

5. Federal Aviation Administration

All WECS shall comply with FAA standards and permits.

807 INTERFERENCE

The applicant shall minimize or mitigate interference with electromagnetic communications including, but not limited to radio, telephone, microwaves, or television signals caused by any WECS. No WECS shall be constructed so as to interfere with County or Minnesota Department of Transportation microwave transmissions.

SECTION 9 SOLAR ENERGY SYSTEM STANDARDS

901 GENERAL STANDARDS

The following standards shall be applicable to all solar energy systems:

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. Systems that result in the creation of one (1) or more acres of impervious surface, must comply with the MPCA Construction Stormwater Permit Requirements.
4. Systems shall not be used to display advertising, including; signage, streamers, pennants, spinners, reflectors, ribbons, tinsel, balloons, flags, banners or similar materials. The manufacturers and equipment information, warning, or indication of ownership shall be allowed on any equipment of the solar energy system provided they comply with the prevailing sign regulations.
5. The applicant shall submit a decommissioning plan, per the standards of this Ordinance, with the permit application.

902 ROOF-MOUNTED SOLAR ENERGY SYSTEMS

The following standards shall apply to roof-mounted solar energy systems:

1. Roof-mounted solar energy systems shall not exceed by more than four (4) feet the maximum allowed height in any zoning district.
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. The collector and racking for roof-mounted systems that have a greater pitch than the roof surface shall be set back from all roof edges by at least two (2) feet.
4. Exterior piping for roof-mounted solar hot water systems may extend beyond the perimeter of the structure on side and rear yard exposures.
5. Roof-mounted solar systems, excluding building-integrated systems, shall not cover more than eighty percent (80%) of the south-facing or flat roof upon which the collectors are mounted.

903 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 not extend into the side-yard, rear, or road right-of-way setback when oriented at minimum design tilt.
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 following zoning districts:
 - A. “A”, Agricultural District
 - B. “R-1”, Single Family Residential
 - C. “SL-1” Special Protection Shoreland District
 - D. “SL-2” Residential Recreational District Shoreland
 - E. “SL-B” Shoreland Business 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).

904 WALL-MOUNTED SOLAR ENERGY SYSTEMS

The following standard shall apply to wall-mounted solar energy systems:

1. In residential zoning districts, wall-mounted solar energy systems shall cover no more than twenty-five percent (25%) of any exterior wall facing a front yard.

905 ACCESSORY SOLAR ENERGY SYSTEMS

The following standards shall apply to accessory solar energy systems:

1. Accessory solar energy systems must meet all setback requirements pertinent to accessory structures for the zoning district.
2. Accessory solar energy systems shall not be located nearer the front lot line than the principal building on the lot. This requirement shall apply to the following zoning districts:
 - A. “A”, Agricultural District
 - B. “R-1”, Single Family Residential
 - C. “SL-1” Special Protection Shoreland District

D. “SL-2” Residential Recreational District Shoreland

E. “SL-B” Shoreland Business District

906 LARGE SOLAR ENERGY SYSTEMS

The following standards shall apply to large solar energy systems:

1. All elements of the system shall meet or exceed all district regulations based on the applicable zoning district.
2. Systems shall meet the requirements of the MPCA Construction Stormwater Permit requirements.
3. Systems shall meet the requirements for erosion and sediment control according to the Martin County Zoning Ordinance.
4. The manufacturer’s engineer or another qualified engineer shall certify that the foundation and design of the solar energy system is within accepted professional standards, given local soil and climate conditions.
5. Power and communication lines running between banks of solar collectors and to electric substations or interconnections with buildings shall be buried underground. 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.
6. Vegetative screening of the system may be required as a part of the conditions of approval. It shall be based on the proximity of the system to residential buildings and to abutting public rights-of-way. The vegetation shall consist of canopy and conifer trees.

907 PHOTOVOLTAIC SOLAR ENERGY SYSTEMS

The following standards shall apply to photovoltaic solar energy systems:

1. For photovoltaic solar energy systems, 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 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. Off-grid 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.

908 REFLECTING SOLAR ENERGY SYSTEMS

The following standards shall apply to reflecting solar energy systems:

1. Systems shall be designed and operated to prevent the misdirection of reflected solar radiation onto adjacent or nearby property, public roads, or other areas open to the public.
2. Systems shall not be located so as to create an obstruction to navigable airspace of public and private airports in the County.

909 DECOMMISSIONING

A decommissioning plan shall be submitted with all applications for a solar energy system.

1. 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 a 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.
2. Decommissioning of the system must occur within sixty (60) days from either of the following:
 - A. The end of the system's serviceable life; or
 - B. The system becomes a discontinued use.
3. 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.
4. Decommissioning shall consist of the following:
 - A. The removal of the system's foundation. An exemption from this requirement may be granted by the conditional use permit granting authority if it is determined that the removal of the foundation will significantly increase erosion and/or significantly disrupt vegetation on the site.
 - B. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
 - C. The stabilization of soils and/or re-vegetation of the site as necessary to minimize erosion. The conditional use permit granting authority may allow the owner to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.
5. The Board may require the posting of a bond, letter of credit, or the establishment of an escrow account to ensure proper decommissioning.

SECTION 10 ENFORCEMENT, VIOLATIONS, REMEDIES AND PENALTIES

Enforcement of this Ordinance shall be done in accordance with the process and procedures established in the Martin County Zoning Ordinance.

SECTION 11 PUBLIC HEARINGS AND PLANNING COMMISSION RECOMMENDATIONS

The Martin County Planning Commission, after proper notice and publication, held a public hearing on the adoption of this Ordinance and as amended on the 23rd day of June, 2015, at the Martin County Courthouse. After hearing public testimony and with deliberation, the Planning Commission voted to recommend adoption of this Ordinance to the Martin County Board of Commissioners.

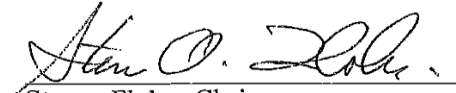
SECTION 12 ADOPTION

The Martin County Board of Commissioners, after proper notice and publication, held a public hearing on the adoption of this Ordinance on the 21st day of July, 2015, at the Martin County Courthouse. After hearing public testimony and with due deliberation, the Martin County Board of Commissioners voted to adopt this Ordinance.

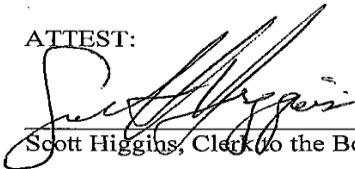
SECTION 13 EFFECTIVE DATE

This Ordinance shall be in full force and effect from and after July 21st, 2015 of the date of its passage and publication according to law, whichever occurs first.

Dated this 21st day of July, 2015



Steven Flohrs, Chair
Chairman, Martin County Board of
Commissioners

ATTEST:


Scott Higgins, Clerk to the Board

