

CITY OF MAYER  
ORDINANCE NO. 201

(LAND USAGE)  
(ALTERNATIVE ENERGY SYSTEMS)

Aug 24, 2015

AN ORDINANCE REPEALING CITY OF MAYER ORDINANCE NO. 192 DATED APRIL 4, 2014. AN ORDINANCE AMENDING CHAPTER 152 OF TITLE XV OF THE CODE OF ORDINANCES OF THE CITY OF MAYER BY AMENDING SECTION 152.003 TO ADD NEW DEFINITIONS; BY AMENDING SECTIONS 152.053, 152.054, 152.055, 152.056, 152.058, 152.059, 152.060, AND 152.061 BY ADDING ALTERNATIVE ENERGY SYSTEMS AS A PERMITTED, ACCESSORY, CONDITIONAL, OR INTERIM USE; BY AMENDING SECTION 152.091 BY ADDING SOLAR FARMS AS PART OF SCREENING REQUIREMENTS; AMENDING CHAPTER 152 BY ADDING NEW SECTION 152.102 PERTAINING TO ALTERNATIVE ENERGY SYSTEMS AND SOLAR ENERGY SYSTEMS (SES).

THE CITY COUNCIL OF THE CITY OF MAYER, CARVER COUNTY, MINNESOTA, ORDAINS:

**Section 1.** Ordinance No. 192 of the City of Mayer dated April 4, 2014 is hereby repealed.

**Section 2.** Section 152.003 pertaining to definitions is amended by adding the following new definitions:

**ALTERNATIVE ENERGY SYSTEM.** A ground source heat pump, hydronic furnace, wind or solar energy system.

**BUILDING-INTEGRATED SOLAR ENERGY SYSTEM.** A 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 including, but not limited to, photovoltaic or hot water solar systems contained within roofing materials, windows, skylights and awnings.

**CLOSED LOOP GROUND SOURCE HEAT PUMP SYSTEM.** A system that circulates a heat transfer fluid, typically food-grade antifreeze, through pipes or coils buried beneath the land surface or anchored to the bottom in a body of water.

**COMMUNITY SOLAR ENERGY SYSTEM.** A solar-electric (photovoltaic) array that provides retail electric power (or a financial proxy for retail power) to multiple community members or businesses residing or located off-site from the location of the solar energy system.

**GEOHERMAL ENERGY.** Renewable energy generated from the interior of the earth and used to produce energy for heating buildings or serving building commercial or industrial processes.

**GROUND MOUNTED SES.** Freestanding solar energy system (panels) that are mounted to the ground by use of stabilizers or similar apparatus.

**GROUND SOURCE HEAT PUMP SYSTEM (GSHPs).** A system that uses the relatively constant temperature of the earth or a body of water to provide heating in the winter and cooling in the summer. System components include closed loops of pipe, coils or plates; a fluid that

absorbs and transfers heat; and a heat pump unit that processes heat for use or disperses heat for cooling; and an air distribution system. The energy must be used on-site.

**HEAT TRANSFER FLUID.** A non-toxic and food grade fluid such as potable water, aqueous solutions of propylene glycol not to exceed twenty percent (20%) by weight or aqueous solutions of potassium acetate not to exceed twenty percent (20%) by weight.

**HORIZONTAL GROUND SOURCE HEAT PUMP SYSTEM.** A closed loop ground source heat pump system where the loops or coils are installed horizontally in a trench or series of trenches no more than twenty (20) feet below the land surface.

**OPEN LOOP GROUND SOURCE HEAT PUMP SYSTEM.** A system that uses groundwater as a heat transfer fluid by drawing groundwater from a well to a heat pump and then discharging the water over land, directly in a water body or into an injection well.

**OUTDOOR HYDRONIC FURNACE.** A freestanding accessory structure housing a wood or other approved solid fuel burning furnace, with a smoke stack, used to provide heat or hot water to a building, or accessory structure, designed to:

- (1) Burn wood or other approved solid fuels;
- (2) That the manufacturer specifies for outdoor installation or installation in structures not normally occupied by humans; and
- (3) Heat building space and/or water via the distribution, typically through pipes, of a fluid heated in the device, typically water or a water/antifreeze mixture. This includes, without limitation, any structure, equipment, device, or apparatus, or any part thereof, which is installed, affixed, constructed or located outdoors for the primary purpose of combustion of solid fuel, including but not limited to wood, to produce heat or energy used as a component of a heating system.

**OUTDOOR WOOD BOILER.** See "Outdoor Hydronic Furnace".

**PASSIVE SOLAR ENERGY SYSTEM.** A system that captures solar light or heat without transferring it to another form of energy or transferring the energy via a heat exchanger.

**PHOTVOLTAIC SYSTEM.** A solar energy system that converts solar energy directly into electricity.

**ROOF OR BUILDING MOUNTED SES.** A solar energy system (panels) that are mounted to the roof or building using brackets, stands or other apparatus.

**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.

**ROTOR DIAMETER.** The diameter of the circle described by the moving rotor blades on a (WECS).

**SOLAR ACCESS.** A view of the sun, from any point on the collector surface that is not obscured by any vegetation, building, or object located on parcels of land other than the parcel upon which the solar collector is located, between the hours of 9:00 AM and 3:00 PM Standard time on any day of the year.

**SOLAR COLLECTOR.** A device, or combination of devices, structure, or part of a device or structure that transforms direct solar energy into thermal, mechanical, chemical or electrical energy.

**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 or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection of storage and distribution of solar energy for space heating or cooling, electricity generating, or water heating.

**SOLAR FARM.** A commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal devices (CST), or other conversion technology, for the primary purpose of wholesale sales of generated electricity. A solar farm is the primary land use for the parcel on which it is located.

**SOLAR MOUNTING DEVICES.** Racking, frames, or other devices that allow the mounting of a solar collector onto a roof surface or ground.

**SOLAR SKYSPACE.** The space between a solar energy collector and the sun, which must be free of obstructions that shade the collector to an extent which precludes its cost effective operation.

**SOLAR SKYSPACE EASEMENT.** A right, expressed as an easement, covenant, condition, or other property interest in any deed or other instrument executed by or on behalf of any landowner, which protects the solar skyspace of an actual, proposed, or designated solar energy collector at a described location by forbidding or limited activities or land uses that interfere with access to solar energy. The solar skyspace must be described as the three dimensional space in which obstruction is prohibited or limited, or as the times of day during which direct sunlight to the solar collector may not be obstructed, or as a combination of the two methods.

**SOLAR STORAGE UNIT.** A component of a solar energy device that is used to store solar generated electricity for later use.

**STORMWATER POND.** These are ponds created for stormwater treatment. A stormwater pond shall not include wetlands created to mitigate the loss of other wetlands.

**STRUCTURE HEIGHT.** A distance to be measured from the mean ground level to the top of the structure.

**VERTICAL GROUND SOURCE HEAT PUMP SYSTEM.** A closed loop ground source heat pump system where the loops or coils are installed vertically in one or more borings below the land surface.

**WIND ENERGY CONVERSION SYSTEM (WECS).** An electrical generating facility comprised of one or more wind turbines and accessory facilities, including but not limited to: power lines, transformers, substations, and metrological towers that operate by converting the kinetic energy of wind into electrical energy. The energy may be used on-site or distributed to the electrical grid.

**WIND ENERGY CONVERSION SYSTEM (WECS), COMMERCIAL.** A WECS of equal to or greater than 40kW in total nameplate generating capacity.

**WIND ENERGY CONVERSION SYSTEM (WECS), NON-COMMERCIAL.** A WECS of less than 40kW in total name plate generating capacity.

**WIND ENERGY CONVERSION SYSTEM, ROOF-MOUNTED.** A WECS affixed to the roof of a building or other structure.

**WIND ENERGY CONVERSION SYSTEM (WECS), TOTAL HEIGHT.** The highest point above ground reached by a rotor tip or any other part of the WECS.

**WIND ENERGY CONVERSION SYSTEM (WECS), TOWER.** A vertical structure that supports an electrical generator, rotor blades, and/or meteorological equipment used in the operation of a WECS.

**WIND ENERGY CONVERSION SYSTEM (WECS), TOWER HEIGHT.** The total height of the WECS exclusive of the rotor blades.

**Section 3.** Section 152.053 pertaining to the (A) Agricultural District is amended to add subsections (D) and (E) to read as follows:

**SECTION 152.053 (A) AGRICULTURAL.**

(D) Permitted accessory uses.

- (1) Roof-mounted Wind Energy Conversion Systems (WECS).
- (2) Ground source heat pump systems.
- (3) Roof or building mounted, ground mounted and community solar energy systems.

(E) Conditional Uses.

- (1) Wind Energy Conversion Systems (WECS) mounted on a tower.

**Section 4.** Section 152.054 pertaining to the (R-1) Low-Density Residential District is amended to add subsection (D) to read as follows:

**SECTION 152.054 (R-1) LOW-DENSITY RESIDENTIAL.**

(D) Permitted accessory uses.

- (1) Roof-mounted Wind Energy Conversion Systems (WECS).
- (2) Ground source heat pump systems.
- (3) Roof or building mounted and ground mounted solar energy systems.

**Section 5.** Section 152.055 pertaining to the (R-2) Medium-Density Residential District is amended to add subsection (C) to read as follows:

**SECTION 152.055 (R-2) MEDIUM-DENSITY RESIDENTIAL.**

(C) Permitted accessory uses.

- (1) Roof-mounted Wind Energy Conversion Systems (WECS).
- (2) Ground source heat pump systems.
- (3) Roof or building mounted and ground mounted solar energy systems.

**Section 6.** Section 152.056 pertaining to the (R-3) Multiple Family Residential District is amended to add subsection (C) to read as follows:

**SECTION 152.056 (R-3) MULTIPLE-FAMILY RESIDENTIAL.**

(C) Permitted accessory uses.

- (1) Roof-mounted Wind Energy Conversion Systems (WECS).
- (2) Ground source heat pump systems.
- (3) Roof or building mounted and ground mounted solar energy systems.

**Section 7.** Section 152.058 pertaining to the (C-1) General Commercial District is amended by amending subsection (C) and adding subsection (D), to read as follows:

**SECTION 152.058 (C-1) GENERAL COMMERCE.**

(C) Permitted accessory uses.

- (1) Sexually oriented uses, accessory, as regulated by Chapter 114.
- (2) Roof-mounted Wind Energy Conversion Systems (WECS).
- (3) Ground source heat pump systems.
- (4) Roof or building mounted, ground mounted and community solar energy systems.

(D) Conditional Uses.

- (1) Wind Energy Conversion Systems (WECS) mounted on a tower.

**Section 8.** Section 152.059 pertaining to the (C-2) Central Business District is amended by amending subsection (C) to read as follows:

**SECTION 152.059 (C-2) CENTRAL BUSINESS.**

(C) Permitted accessory uses.

- (1) Sexually oriented uses, accessory, as regulated by Chapter 114.
- (2) Roof-mounted Wind Energy Conversion Systems (WECS).
- (3) Ground source heat pump systems.
- (4) Roof or building mounted, ground mounted and community solar energy systems.

**Section 9.** Section 152.060 pertaining to the (C/I) Commercial Industrial District is amended by amending subsection (C) and adding new subsection (E) to read as follows:

**SECTION 152.060 (C/I) COMMERCIAL/INDUSTRIAL.**

(C) Permitted accessory uses.

- (1) Off-street parking and loading.

- (2) Signs as regulated by §§ 152.120 through 152.133.
- (3) Offices ancillary to the principal use.
- (4) Outdoor storage.
- (5) Sexually oriented uses, accessory, as regulated by Chapter 114.
- (6) Roof-mounted Wind Energy Conversion Systems (WECS).
- (7) Ground source heat pump systems.
- (8) Roof or building mounted, ground mounted and community solar energy systems.

(E) Interim uses.

- (1) Solar Farms as regulated by section 152.102 of this ordinance.

Old subsection (E), SPECIAL REQUIREMENTS, is re-lettered to letter (F).

**Section 10.** Section 152.061 pertaining to the (P/I) Public/Institutional District is amended by adding subsections (C), (D), and (E) to read as follows:

**SECTION 152.061 (P/I) PUBLIC/INSTITUTIONAL.**

(C) Permitted accessory uses.

- (1) Roof-mounted Wind Energy Conversion Systems (WECS).
- (2) Ground source heat pump systems.
- (3) Roof or building mounted, ground mounted and community solar energy systems.

(D) Conditional Uses.

- (1) Wind Energy Conversion Systems (WECS) mounted on a tower.

(E) Interim uses.

- (1) Solar Farms as regulated by section 152.102 of this ordinance.

**Section 11.** Section 152.091 pertaining to Screening is amended to read as follows:

**152.091 SCREENING.**

The screening of outside storage areas and solar farms required herein shall consist of a solid fence or wall that is 100% opaque and not less than six feet or more than eight feet in height. Such a screen wall or fence shall be designed and constructed as to be architecturally harmonious with the principal structure or solar farm and located so as to not extend within 25 feet of any street. Landscaping (trees, shrubs, grass and other plantings) shall be on the right-of-way side of any screening or fencing. A screen planting may be substituted for a screen wall or fence at the discretion of the Council, provided that any such screen planting shall fulfill the foregoing height and opacity requirements throughout each season of the year within 24 months after date of planting, and that no such screen planting shall be located across any existing easements.

**Section 12.** Chapter 152 of Title XV of the Code of Ordinances of the City of Mayer is amended by adding new Section 152.102 pertaining to Alternative Energy Systems.

- (A) Purpose
- (B) Ground Source Heat Pump Systems
- (C) Solar Energy Systems (SES)
- (D) Wind Energy Conversion Systems (WECS)
- (E) Outdoor Hydronic Furnaces

(A) PURPOSE

The purpose of this section is to establish standards for alternative energy systems within the City.

(B) GROUND SOURCE HEAT PUMP SYSTEMS

(1) Accessory Use.

(a) Ground Source Heat Pump Systems shall be allowed as a permitted accessory use in all zoning districts in accordance with the standards in this section.

(b) Ground Source Heat Pump Systems in public water bodies or water bodies owned or managed by the City of Mayer shall be prohibited except for stormwater ponds managed by the City of Mayer and when accessory to a City of Mayer facility.

(2) System Requirements.

(a) All Ground Source heat Pump Systems shall be closed loop systems that circulate heat transfer fluids as allowed by this section through pipes or coils buried beneath the land surface.

(b) Heat transfer fluids shall be limited to Minnesota Department of Health approved nontoxic, food grade fluids such as potable water, aqueous solutions of propylene glycol not to exceed twenty (20) percent by weight or aqueous solutions of potassium acetate not to exceed twenty (20) percent by weight.

(3) Location.

(a) Ground Source Heat Pump Systems shall only be located in the rear yard as defined by the City of Mayer zoning ordinance.

(b) All components of Ground Source Heat Pump Systems shall be set back a minimum of five (5) feet from interior side lot lines and ten (10) feet from rear lot lines.

(c) Ground Source Heat Pump Systems shall not encroach upon drainage and utility easements or any other easement.

(4) Screening: Ground Source Heat Pump Systems installed for use in a commercial, industrial or institutional uses are considered mechanical equipment and shall be screened in accordance with the requirements of the City's zoning ordinance, if required. Ground source heat pumps installed for residential use shall be exempt from the screening requirement.

(5) Noise: Ground Source Heat Pump Systems shall comply with Minnesota Pollution Control Agency standards outlined in Minnesota Rules Chapter 7030.

(6) Certification: The Ground Source heat Pump System shall be certified by Underwriters Laboratories, Inc., and comply with the requirements of the international building code.

(7) Abandonment: Any Ground Source Heat Pump System which is inoperable for twelve (12) successive months shall be deemed to be abandoned and shall be deemed a public nuisance. The owner shall remove the abandoned system at their expense after obtaining a demolition permit as follows:

(a) The heat pump and any external or aboveground mechanical equipment shall be removed.

(b) Pipes or coils below the land surface shall be filled with grout to displace the heat transfer fluid, which is to be captured and disposed of in accordance with state and federal regulations.]

(c) The top of the pipe, coil or boring shall be uncovered and sealed.

(8) Building Permit.

(a) A building permit shall be obtained for any Ground Source Heat Pump System prior to installation.

(b) Borings for Ground Source Heat Pump System where the pipes or coils are installed vertically below the land shall also be subject to approval by the Minnesota Department of health.

#### (C) SOLAR ENERGY SYSTEMS (SES).

(1) Purpose and Intent. Mayer finds that it is in the public interest to encourage the use and development of renewable energy systems that have a positive impact on energy conservation with limited adverse impact on nearby properties. As such, the City supports the use of Solar Energy Systems and the development of Solar Farms. Mayer also finds that the development of Solar Farms should be balanced with the protection of the public health, safety and welfare. The City intends the following standards will ensure that Solar Farms can be constructed within the City while also protecting public safety and the natural resources of the City. Consistent with the Comprehensive Plan, it is the intent of the City, with this section, to create standards for the reasonable capture and use, by households, businesses and property owners, of their Solar Energy resource and encourage the development and use of Solar Energy.

(2) Severability. The provisions of this section shall be severable and the invalidity of any paragraph, subparagraph or subdivision thereof shall not make void any other paragraph, subparagraph or subdivision of this section.

(3) Applicability. These regulations are for all SES and solar farms on properties and structures under the jurisdiction of the zoning ordinance except that the City requires the owner or operator of solar farms that would generate more than fifty (50) megawatts of power to get approval for such a system from the Minnesota Public Utilities Commission (PUC).

(4) Types of SES.

(a) Roof or Building Mounted SES. Accessory to the primary land use, designed to supply energy for the primary use.

1. Roof or Building Mounted SES are permitted accessory uses in all districts in which buildings are permitted.

2. All Roof or Building Mounted SES shall meet the standards of the Minnesota Building Code and the owner or contractor shall receive a building or mechanical permit before installing a Roof or Building Mounted SES.

3. Color: All Roof or Building Mounted SES shall use colors that are the same or similar with the color of the building or roof material of the building on which the system is mounted.

4. Roof or Building Mounted SES shall not exceed the maximum allowed height in any zoning district and shall not extend beyond the perimeter of the roof line of the building on which it is mounted. For purposes of height measurement, Roof or Building Mounted SES other than building-integrated systems shall be considered to be mechanical devices and are restricted consistent with other building mounted mechanical devices for the zoning district in which the system is being installed.

5. Roof Mounted SES shall be placed on the roof to limit visibility from the public right-of-way or to blend into the roof design, provided that minimizing visibility still allows the property owner to reasonably capture Solar Energy.

(b) Ground Mounted SES. Accessory to the primary land use, designed to supply energy for the primary use.

1. Ground Mounted SES are permitted accessory uses in all districts in which buildings are permitted and shall be limited to a maximum area of two hundred twenty (200) square feet in residential districts and shall not encompass more than ten percent (10%) of the total property area or lot size in all other districts.

2. Ground Mounted SES require a City building permit and is subject to the accessory use standards for the district in which it is located, including setback, height and impervious surface coverage limits.

3. The City does not consider the collector surface of a Ground Mounted SES that is not in a DNR designated Shoreland District as impervious surface. Any collector surface of a Ground Mounted SES foundation that is in a DNR designated Shoreland District and compacted soil or other component of the solar installation that rests on the ground is considered impervious surface.

4. The height of a Ground Mounted SES shall not exceed twenty (20) feet at maximum tilt.

5. Ground Mounted SES shall only be located in the rear yard as defined by this Chapter.

6. Ground Mounted SES shall not encroach upon drainage and utility easements.

(c) Community SES. Community SES shall be accessory to the primary land use and designed to supply energy for off-site uses on the distribution grid, but not for export to the wholesale market or connection to the electric transmission grid. These systems shall be subject to the following conditions:

1. Community SES are permitted accessory uses in all districts in which buildings are permitted except for residential districts.

2. Prohibitions: The City prohibits Community SES within:

i. Shoreland Districts as designated by the Department of Natural resources (DNR) and the Mayer Zoning Map.

ii. Wetlands to the extent required by the Minnesota Wetland Conservation Act,

iii. The Floodplain Overlay District.

iv. Residential Districts

3. An interconnection agreement must be submitted to the utility company and proof be provided to the City that the utility company has deemed the agreement "complete".

4. All structures must meet the setback, height and coverage limitations for the zoning district in which the system is located, except as otherwise stated in this section.

5. Ground Mounted Community SES must meet all required standards for structures in the district in which the system is located.

6. Site Plan Required: The owner or operator shall submit to the City a detailed site plan for both existing and proposed conditions. These plans shall show the location of all areas where solar arrays would be placed, the existing and proposed structures, property lines, access points, fencing, landscaping, surface water drainage patterns, floodplains, wetlands, the ordinary high water mark for all water bodies, any other protected resources, topography, electric equipment and all other characteristics requested by the City.

7. Power and communication lines. Power and communication lines running between banks of solar panels and to electric substations or interconnections with buildings shall be buried underground. The City may grant exemptions to this requirement in instances where shallow bedrock, water courses or other elements of the natural landscape interfere with the ability to bury lines.

8. Decommissioning Plan: The City requires the owner or operator to submit a decommissioning plan for Community SES to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. The disposal of structures and/or foundations shall meet all City requirements. The City also may require the owner or operator to post a bond, letter of credit or establish an escrow account to ensure property decommissioning.

(d) Solar Farms: Solar Farms shall be Ground Mounted SES arrays that are the primary use on parcel on which it is located and are designed for providing energy to off-site uses or export to the wholesale market. Solar Farms, including those that are not permitted or regulated by the State of Minnesota Public Utilities Commission (PUC), shall be subject to the following conditions:

1. Solar Farms shall be permitted as an interim use in the C/ Commercial/Industrial and P/I Public/Institutional zoning districts, and shall be processed according to the standards of Chapter 1006 of the Zoning Ordinance.

2. Shall be on properties of at least five (5) acres in size.

3. Stormwater management and erosion and sediment control shall meet the requirements of the City and best management practices.

4. Prohibitions: The City prohibits Solar Farms within:

i. Shoreland Districts as designated by the Department of Natural resources (DNR) and the Mayer Zoning Map.

ii. Wetlands to the extent required by the Minnesota Wetland Conservation Act,

iii. The Floodplain Overlay District.

5. Foundations. The manufacturer's engineer or another qualified engineer shall certify that the foundation and design of the solar panels meets the accepted professional standards, given local soil and climate conditions.

6. Other standards and codes. All Solar Farms shall meet all applicable local, state and federal regulatory standards, including the State of Minnesota Building Code, as amended; and the National Electric Code, as amended.

7. Power and communication lines. All power and communication lines running between banks of solar panels and to electric substations or interconnections with buildings shall be buried underground. The City may grant exemptions to this requirement in instances where shallow bedrock, water courses or other elements of the natural landscape interfere with the ability to bury lines.

8. Interconnection. The owner or operator of the Solar Farm must complete an interconnection agreement with the electric utility in whose service territory the system is located.

9. Site Plan Required. The owner or operator of the Solar Farm must submit to the City a detailed site plan for both existing and proposed conditions. These plans shall show the location of all areas where solar arrays would be placed, the existing and proposed structures, property lines, access points to the site, fencing, landscaping, surface water drainage patterns, floodplains, wetlands, the ordinary high water mark for all water bodies, any other protected resources, topography, electric equipment and all other characteristics requested by the City. The Plan shall be reviewed and approved by the City's Emergency Management Director.

10. The owner or operator of the Solar Farm must submit to the City a detailed emergency shutdown plan as part of the review process.

11. The City allows the installation of small operations, security and equipment buildings on the site of solar farms as permitted accessory uses to the Solar Farm.

12. The owner or operator shall contain all unenclosed electrical conductors located above ground within structures that control access. In addition solar farms shall be protected from entry by a minimum six (6) foot tall fence. Razor wire is prohibited on all fences. All electrical connections to the utility system must meet or exceed the National Electrical Safety Code.

13. Signage shall be posted at all entrance points to the property the Solar Farm is located on that includes at a minimum, the owner and operator's name, contact information and emergency phone numbers.

14. The Solar Farm owner or operator shall provide access to the Mayer Fire Department either in the form of a lock or key to all access points to the property the Solar Farm is located on.

15. Solar Farms that have panels that are 10 megawatts or more shall meet the review and design standards of the MN Department of Commerce and/or MN Public Utilities Commission (PUC) for Solar Farms, as applicable.

16. Decommissioning Plan: The City requires the owner or operator to submit a decommissioning plan for Solar Farms to ensure that the owner or operator properly removes the equipment and facilities upon the end of project life or after their useful life. The owner or operator shall decommission the solar panels in the event they are not in use for twelve (12) consecutive months. The plan shall include provisions for the removal of all structures and foundations, the removal of all electrical transmission components, the restoration of soil and vegetation and a soundly-based plan ensuring financial resources will be available to fully decommission the site. The disposal of structures and/or foundations shall meet all City requirements. The City also may require the owner or operator to post a bond, letter of credit or establish an escrow account to ensure proper decommissioning.

(e) Additional standards. In addition to the standards allowed above, all SES shall meet the following standards.

1. The owners or operators of SES that are connected to the electric distribution or transmission system, either directly or through the existing service of the primary use on the site, shall obtain an interconnection agreement with the electric utility in whose service territory the system is located. Off-grid systems are exempt from this requirement.

2. Electric SES components that are connected to a building electric system must have an Underwriters Laboratory (UL) listing.

3. All SES shall meet the standards of the Minnesota and National Electric Code.

4. All SES using a reflector to enhance solar production shall minimize glare from the reflector that affects adjacent or nearby properties. Steps to minimize glare nuisance may include selective placement of the system, screening on the north side of the solar array, reducing use of the reflector system or other remedies that limit glare.

5. Setbacks. All SES structures and equipment shall meet the setback and coverage limitations for the zoning district in which the system is located, except that Solar Farms shall be setback from all property lines at least one hundred (100) feet. In addition, Solar Farms shall be screened from adjacent residential uses in accordance with Section 152.091 Screening.

6. Abandonment. Any SES which is inoperable for twelve (12) successive months shall be deemed to be abandoned and shall be deemed a public nuisance. The owner shall remove the abandoned system at their expense after obtaining a demolition permit.

7. Building Permit. A building permit shall be obtained for any SES prior to installation.

8. All SES shall meet all federal and state requirements including the Public Utilities Commission (PUC) including size requirements.

(D) WIND ENERGY CONVERSION SYSTEMS (WECS).

(1) Purpose. The purpose of this section is to establish standards and procedures by which the installation and operation of wind energy conversion systems (WECS) shall be governed within the City.

(2) Application.

(a) Conditional Use Permit Required.

1. The erection of a wind energy conversion system shall require approval of a conditional use permit, according to Section 152.155 of this Chapter.

2. Commercial wind energy conversion systems shall only be allowed as conditional uses within the A Agriculture zoning district on lots at least ten (10) acres in area. The acreage restriction is required to protect WECS from encroachment by other uses or structures and to accommodate required setback between the WECS and property lines.

3. Non-commercial, tower-mounted WECS shall be allowed as conditional uses within A Agriculture, C-1 General Commerce, C/I Commercial/ Industrial, and P/I Public/Institutional zoning districts of the City, subject to the regulations and requirements of this section, provided the property upon which the system is to be located is constructed and maintained on any parcel of at least two and one-half (2.5) acres in size. The acreage restriction is required to protect WECS from encroachment by other uses or structures and to accommodate required setback between the WECS and property lines.

4. Non-commercial, roof-mounted WECS shall be allowed as an accessory use on all properties within all zoning districts in the City of Mayer, subject to the regulations and requirements of this section. Only one (1) roof-mounted WECS shall be allowed per lot.

5. Site Plan Drawing: All applications for a WECS conditional use permit shall be accompanied by a detailed site plan drawn to scale and dimensioned, displaying the information as specified in Section 152.031 of this Chapter, including the following:

i. Location and height of all buildings, structures, aboveground utilities and trees on the lot, including both existing and proposed structures and guy wire anchors.

ii. Location and height of all adjacent buildings, structures, aboveground utilities and trees located within three hundred fifty (350) feet of the exterior boundaries of the property in question.

iii. Sketch elevation drawing of the premises accurately depicting the proposed WECS and its relationship to structures on the subject site and adjacent lots.

iv. A description of the project including: nameplate generating capacity, proposed tower height, and proposed rotor diameter.

v. Engineer's certification of structure design, electrical design, and fall zone.

vi. An elevation drawing of the premises accurately depicting the proposed WECS and its relationship to structures on the subject site and adjacent lots.

vii. In addition, applications for commercial WECS shall include:

(a) An FAA permit application, if required.

(b) A decommissioning plan.

6. Declaration of Conditions: The Planning Commission may recommend and the City Council may impose such conditions on the granting of a WECS conditional use permit as may be necessary to carry out the purpose and provisions of this section.

(3) Code Compliance.

(a) Compliance with State Building Code: Standard drawings of the structural components of the wind energy conversion system and support structures, including base and footings shall be provided along with engineering data and calculations to demonstrate compliance with the structural design provisions of the State Building Code. Drawings and engineering calculations shall be certified by a Minnesota licensed engineer.

(b) Compliance with National Electrical Code: WECS electrical equipment and connections shall be designed and installed in adherence to the National Electrical Code as adopted by the City.

(4) Warranty. Applicant shall provide documentation or other evidence from the dealer or manufacturer that the WECS has been successfully operated in atmospheric conditions similar to the conditions within Mayer. The WECS shall be warranted against any system failures reasonably expected in severe weather operation conditions.

(5) Design Standards.

(a) Height of Tower-mounted WECS: The permitted maximum height of a tower mounted WECS shall be determined in one of two (2) ways. In determining the height of the WECS the total height of the system shall be included. System height shall be measured from the base of the tower to the highest possible extension of the rotor blades.

1. A ratio of one foot to one foot (1:1) between the distance of the closest property line to the base of the WECS to the height of the system. If the property the WECS is located on is adjacent to a residential zoned property an additional setback of ten (10) feet shall be added.

2. A maximum system height of one hundred seventy-five (175) feet.

The shortest height of the two (2) above mentioned methods shall be used in determining the maximum allowable height of a WECS system. The height of a WECS must also comply with FAA regulation part 77 "Objects Affecting Navigable Air Space" and/or MNDOT Rule 14, MCAR 1.3015 "Criteria for Determining Obstruction to Air Navigation".

(b) Height of Roof-mounted WECS: A roof-mounted WECS shall only be allowed a maximum six (6) feet above the roof line of the building or structure.

(c) Setbacks: No part of a WECS (including guy wire anchors) shall be located within or above any required front, side or rear yard setback. WECS towers shall be setback from the closest property line one (1) foot for every one (1) foot of system height. WECS shall not be located within thirty (30) feet of an aboveground utility line.

(d) Rotor Size: All WECS rotors shall not have rotor diameters greater than twenty-six (26) feet, except that roof-mounted WECS shall not have a rotor diameter greater than three (3) feet.

(e) Rotor Clearance: Blade arcs created by the WECS shall have a minimum of thirty (30) feet of clearance over any structure or tree within a two hundred (200) foot radius.

(f) Rotor Safety: Each WECS shall be equipped with both a manual and automatic braking device capable of stopping the WECS operation in high winds (40 miles per hour or greater).

(g) Lightning Protection: Each WECS shall be grounded to protect against natural lightning strikes in conformance with the National Electrical Code as adopted by the City.

(h) Tower Access: To prevent unauthorized climbing, WECS towers must comply with one of the following provisions:

1. Tower climbing apparatus shall not be located within twelve (12) feet of the ground.

2. A locked anti-climb device shall be installed on the tower.

3. Towers capable of being climbed shall be enclosed by a locked, protective fence at least six (6) feet high.

(i) Signs: WECS shall have one sign, not to exceed two (2) square feet posted at the base of the tower and said sign shall contain the following information.

1. Warning high voltage.

2. Manufacturer's name.

3. Emergency phone number.

4. Emergency shutdown procedures.

(j) Lighting: WECS shall not have affixed or attached any lights, reflectors, flasher or any other illumination, except for illumination devices required by FAA regulations part 77 "Objects Affecting Navigable Air Space" and FAA Advisory circular 70/7460-1F, September 1978 "Obstruction Marking and Lighting".

(k) Electromagnetic Interference: WECS shall be designed and constructed so as not to cause radio and television interference.

(l) Noise Emission: Noises emanating from the operation of WECS shall be in compliance with and regulated by the State of Minnesota Pollution Control Standards, Minnesota Regulations NPC 1 and 2, as amended.

(m) Utility Company Interconnection: No WECS shall be interconnected with a local electrical utility company until the utility company has reviewed and commented upon it. The interconnection of the WECS with the utility company shall adhere to the National Electrical Code as adopted by the City.

(6) Ornamental Wind Devices. Ornamental wind devices that are not a WECS shall be exempt from the provisions of this chapter and shall conform to other applicable provisions of this title.

(7) Inspection. The City hereby reserves the right upon issuing any WECS conditional use permit to inspect the premises on which the WECS is located. If a WECS is not maintained in operational condition and poses a potential safety hazard, the owner shall take expeditious action to correct the situation.

(8) Abandonment. Any WECS or tower which is not used for twelve (12) successive months shall be deemed abandoned and shall be dismantled and removed from the property at the expense of the property owner.

(E) OUTDOOR HYDRONIC FURNACES.

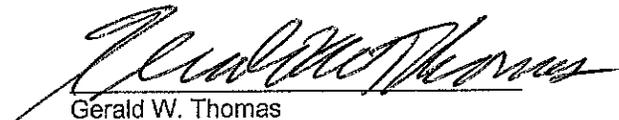
(1) Purpose. To promote the public health, safety and welfare and to safeguard the health, comfort, living conditions, safety and welfare of the citizens of the City of Mayer due to air pollution and human health impacts caused by the use of outdoor hydronic furnaces and similar devices.

(2) Prohibited Use. No outdoor hydronic furnace or similar device shall be permitted within any zoning district of the City.

**EFFECTIVE DATE.**

This Ordinance shall become effective following its publication in the official newspaper of the City.

Passed and adopted by the City Council of the City of Mayer, Carver County, Minnesota this 24 day of August, 2015.

  
Gerald W. Thomas  
Mayor

ATTEST:

  
Lois A. Maetzold  
City Clerk

Moved by:  
Seconded by:

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