CITY OF DELANO
COUNTY OF WRIGHT
STATE OF MINNESOTA

ORDINANCE 0-16-11

AN ORDINANCE AMENDING DELANO CITY CODE, CHAPTER 51 ZONING REGULATIONS, TO ESTABLISH ALTERNATIVE ENERGY SYSTEM REGULATIONS

THE CITY COUNCIL OF THE CITY OF DELANO ORDAINS:

Section 1. Section 51.01, Subd. B.2 (Zoning Definitions) is hereby amended to add the following definitions:

Alternative Energy System. A ground source heat pump, wind or solar energy system.

Ground Source Heat Pump System. 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 open or 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 including:

1. 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.

2. Heat Transfer Fluid. A non-toxic and food grade fluid 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. 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.

4. 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.

5. 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.

Solar Energy System. A device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage and distribution of solar energy not exceeding one hundred twenty-five (125) percent hourly peak load use for space heating or cooling, electricity generation or water heating, including the following related definitions:

1. 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.

2. Bracket Mounted Solar Energy System. A roof mounted system mounted as a non-parallel angle to the roof (the most common installation on commercial flat roofs, typical height of 1.5 feet to 3 feet above the surface of the roof, usually unperceivable from the ground level when there is a parapet or the array is a few feet back from the edge of the roof).

3. Flush-Mounted Solar Energy System. A roof-mounted system mounted directly abutting the roof. The solar collector shall not be higher than ten (10) inches above the roof.

4. Ground Mounted Solar System. A freestanding solar energy system structure mounted on the ground.

5. Passive Solar Energy System. A system that captures solar light or heat without transforming it to another form of energy or transferring the energy via a heat exchanger.

6. Photovoltaic System. A solar energy system that converts solar energy directly into electricity.

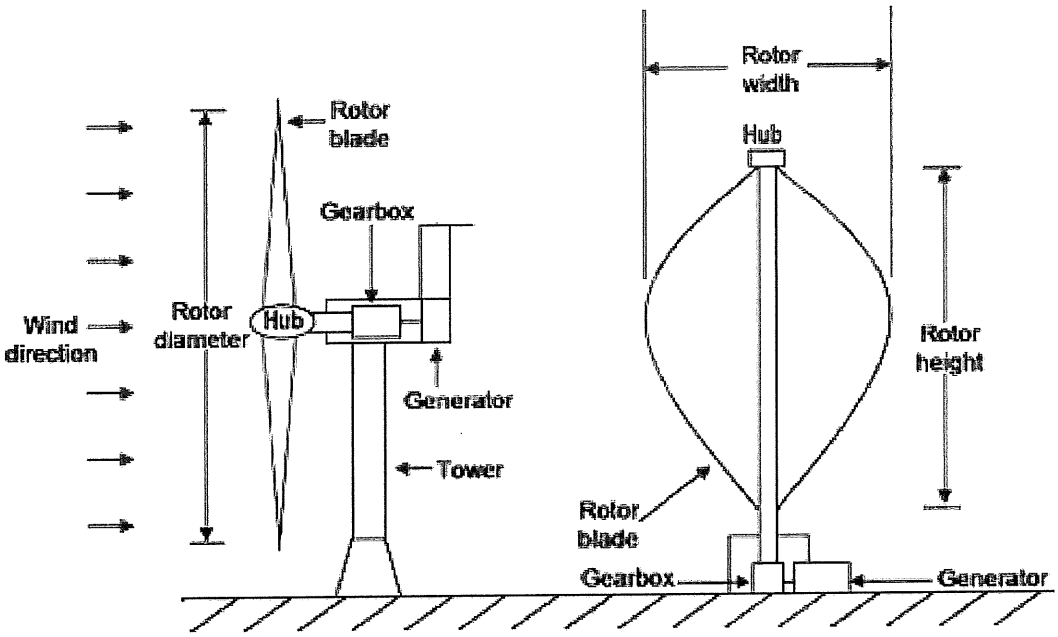
Wind Energy Conversion System (WECS). An electrical generating facility that consists of a wind turbine, feeder line(s), associated controls and may include a tower.

Wind Energy Conversion System (WECS) Related:

1. Horizontal Axis Wind Turbine. A wind turbine design in which the rotor shaft is parallel to the ground and the blades are perpendicular to the ground.

2. Hub. The center of a wind generator rotor, which holds the blades in place and is attached to the shaft.

Wind Turbine Configurations



3. Hub Height. The distance measured from natural grade to the center of the turbine hub.

4. Monopole Tower. A tower constructed of tapered tubes that fit together symmetrically and are stacked one section on top of another and bolted to a concrete foundation without support cables.

5. Small Wind Turbine. A wind turbine of 100 kW nameplate generating capacity or less.

6. Total Wind Turbine Height. The highest point above natural grade reached by a rotor tip or any other part of a wind turbine.

7. Tower. A vertical structure that supports a wind turbine.

8. Utility Wind Turbine. A wind turbine of more than 100 kW nameplate generating capacity.

9. Vertical Axis Wind Turbine. A type of wind turbine where the main rotor shaft runs vertically.

9. Wind Turbine. 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.

Section 2. Section 51.03, General Provisions, Subd. O is hereby repealed in its entirety and replaced with the following code language to read as follows:

Subd. O Alternative Energy Systems.

1. **Purpose and Intent.**

   a. The intent of this section is to establish standards and procedures by which the installation and operation of alternative energy systems shall be governed within the city of Delano. The City finds that it is in the public interest to encourage alternative energy systems that have a positive impact on energy production and conservation while not having an adverse impact on the community.

   b. Objectives.

      1) Accommodate alternative energy sources by removing regulatory barriers and creating a clear regulatory path for approving alternative energy systems.

      2) Create a livable community where development incorporates sustainable design elements such as resource and energy conservation and use of renewable energy.

      3) Protect and enhance air quality and decrease use of fossil fuels.

      4) Accommodate alternative energy development in locations where the technology is viable and environmental, economic and social impacts can be mitigated.

      5) Control potential nuisances and hazards created with the placement, installation and or operation of alternative energy systems.

2. **Ground Source Heat Pump Systems.**

   a. Zoning District Allowance. Ground source heat pump systems in accordance with the standards in this Chapter are allowed as a permitted accessory use with an administrative permit in all zoning districts.

   b. Standards.

      1) System Requirements. Only closed loop ground source heat pump systems utilizing heat transfer fluids as defined in Section 51.01, Subd. B are permitted. Open loop ground source heat pump systems are not permitted.

2) Lot Size. In residential and commercial zoning districts, individual lots must have a lot area of contiguous buildable land of twenty thousand (20,000) square feet to install a ground source heat pump system.

3) Setbacks.

a) All components of ground source heat pump systems including pumps, borings and loops shall be set back at least ten (10) feet from interior side lot lines and rear lot lines, and at least twenty (20) feet from any lot line abutting a street.

b) Above-ground equipment associated with ground source heat pumps shall not be installed in the front yard of any lot or the side yard of a corner lot adjacent to a public right-of-way and shall meet all required principal building front and side yard setbacks abutting a street for the applicable zoning district.

4) Easements. Ground source heat pump systems shall not encroach on public drainage, utility roadway or trail easements.

5) Noise. Ground source heat pump systems shall comply with Delano City Code Section 801.03 and Minnesota Pollution Control Agency Standards outlined in Minnesota Rules Chapter 7030.

6) Screening. Ground source heat pumps are considered mechanical equipment and subject to the screening requirements of Section 51.03, Subd. D.10 of this Ordinance.

7) Safety. Ground source heat pumps shall be certified by Underwriters Laboratories, Inc. and meet the requirements of the State Building Code.

c. Abandonment. If a ground source heat pump system remains nonfunctional or inoperative for a continuous period of one (1) year or has fallen into disrepair, the system shall be deemed to be abandoned and shall constitute a public nuisance. The owner shall remove the abandoned system at their expense after a demolition permit has been obtained in accordance with the following:

1) The heat pump and any external mechanical equipment shall be removed.

2) Pipes or coils below the land surface shall be filled with grout to displace the heat transfer fluid. The heat transfer fluid shall be captured and disposed of in accordance with applicable

regulations. The top of the pipe, coil or boring shall be uncovered and grouted.

3) Lake ground source heat pump systems shall be completely removed from the bottom of the body of water.

d. Permits. A building permit shall be obtained for any ground source heat pump system prior to installation. Borings for vertical systems are subject to approval by the Minnesota Department of Public Health.

3. **Wind Energy Conversion Systems (WECS).**

a. Zoning District Allowance.

1) Small WECS in accordance with the standards in this Chapter are allowed as a permitted accessory use with an administrative permit in all zoning districts.

2) Utility WECS in accordance with the standards of this section are allowed in the I-1 and I-2 zoning districts by interim use permit.

b. General Design Standards. The following standards shall be applicable to both small WECS and utility WECS:

1) Compliance with State Building Code.

a) Standard drawings of the structural components of the WECS and support structures, including base and footings shall be provided along with the engineering data and calculations to demonstrate compliance with the structural design provisions of the State Building Code especially with regards to wind and icing loads. Drawings and engineering calculations shall be certified by a registered structural engineer.

b) Roof-mounted WECS shall include detailed plans illustrating roof construction, mounting techniques and wind load capacity.

2) 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.

3) Manufacturer Warranty. The 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 the City. The WECS shall be warranted

against any system failures reasonably expected in severe weather operation conditions.

4) Safety.

   a) WECS shall meet minimum standards such as International Electrotechnical Commission (IEC) 61400-2 or the American Wind Energy Association's (AWEA) Small Wind Turbine Performance and Safety Standard or other standards as determined by the City Building Official.

   b) WECS shall be certified by Underwriters Laboratories, Inc., the Small Wind Certification Council or other body as determined by the City. The City reserves the right to deny a building permit for proposed wind energy systems deemed to have inadequate certification or testing for operation in a severe winter climate.

   c) WECS shall be maintained under an agreement or contract by the manufacturer or other qualified entity.

5) Rotor Design. The blade design and materials are to be designed and constructed to ensure safe operation in an urban/rural area.

6) Rotor Safety. Each WECS shall be equipped with both a manual and automatic braking device capable of stopping WECS operation in high wind or in conditions of imbalance.

7) 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.

8) Aesthetics. All portions of the wind energy system shall be a non-reflective, non-obtrusive color, subject to the approval of the Zoning Administrator. The appearance of the turbine, tower and any other related components shall be maintained throughout the life of the wind energy system pursuant to industry standards. Systems shall not be used for displaying any advertising. Systems shall not be illuminated.

9) Feeder Lines. The electrical collection system shall be placed underground within the interior of each parcel. The collection system may be placed overhead near substations or points of interconnection to the electric grid.

10) Lighting. WECS shall not have affixed or attached any lights, reflectors, flashers or any other illumination, except for illumination devices required by the FAA or other State or Federal agency.

11) Electromagnetic Interference. WECS shall be designed and constructed so as not to cause interference with radios, televisions or other electronic devices. Electromagnetic interference, as measured at the property line, shall be less than or equal to pre-existing conditions.

12) Noise Emissions. Noises emanating from the operation of WECS shall be in compliance with Delano City Code Section 801.03 and Minnesota Pollution Control Standards, Minnesota Rules 7030, as amended, as measured at the property line.

13) Utility Company Interconnection. No WECS shall be interconnected with the local electrical utility company until the utility company and the City Utility Manager have reviewed and approved such proposal. The Utility Manager and the applicant shall enter into an agreement for the interconnection fees and for the purchase for any excess power generated. Prior to issuance of a building permit, the applicant shall enter into the agreement with the utility or DMU to be approved for connection to the grid. The interconnection of the WECS with the utility company shall adhere to the National Electrical Code as adopted by the City. All connecting power lines shall be buried underground. A visible external disconnect shall be provided if required by the utility. Written approval by the DMU or the appropriate utility company of any utility interconnection shall be provided to the city prior to issuing a building permit.

14) Building Permit Required. A building permit shall be required for the installation of a WECS in the City.

15) Inspection. The City hereby reserves the right upon issuing any WECS interim use permit or administrative permit to inspect the premises on which the WECS is located. Utility wind turbines shall be inspected annually by a certified installer or registered structural engineer. Small WECS shall be inspected biannually by a certified installer or a registered structural engineer. Proof of inspection shall be submitted to the City as requested. If a WECS is not maintained in operational condition and poses a potential safety hazard, the owner shall upon written notice from the City, take expeditious action to correct the situation.

16) Abandonment. If a WECS remains non-functional or inoperative for a continuous period of one (1) year or has fallen into disrepair, the system shall be deemed to be abandoned and shall constitute a public nuisance. The owner shall remove the abandoned system at their expense after a demolition permit has been obtained.

Removal includes the entire structure including foundations to below natural grade and transmission equipment.

c. Standards for Small WECS Systems. The following standards shall be applicable to small wind turbine systems in all zoning districts:

1) Number. No more than one (1) WECS is permitted per parcel.

2) Setbacks. The base of the WECS tower shall be set back from all property lines a distance equal to the highest possible extension of the system apparatus.

3) Roof Mounting. Roof-mounted WECS shall be permitted only when a determination is made by the City Building Official that the underlying roof structure will support such system and all applicable building standards are satisfied.

4) Rotor Clearance. Except for roof mounted WECS, no part of a rotor blade shall be located within thirty (30) feet of the ground and within twenty (20) feet of the nearest tree, structure or above-ground utility facility.

5) Screening. The base of ground mounted WECS shall be screened from adjoining properties and public rights-of-way in accordance with the screening requirements of Section 51.03, Subd. D.10 of this Ordinance.

6) Residential District Standards.

a) Mounting. All WECS shall be roof-mounted. Ground-mounted systems are not permitted.

b) Height. WECS shall not extend more than ten (10) feet above the highest point of the roof.

7) Commercial and Industrial District Standards for Small Wind Energy Systems:

a) Mounting. Subject to the requirements of this section, WECS may either be roof-mounted or ground-mounted.

b) Height.

(1) Small WECS shall conform to the maximum height requirements of the applicable commercial, industrial or institutional zoning district except by interim use permit.

(2) Small WECS heights in excess of the maximum height requirement of the applicable zoning district may be permitted by interim use permit provided that:

(a) The WECS height, as measured from the base of the tower for ground-mounted systems, or base of the building for roof-mounted systems, to the highest possible extension of the system apparatus shall not exceed seventy-five (75) feet.

(b) The applicant has demonstrated that additional system height is required to allow for the improved operation of the WECS for the site at which the it is located.

(c) The additional WECS height results in a net energy gain.

(d) The WECS does not adversely affect solar access to adjacent properties.

(e) The WECS complies with all other engineering, building, safety and fire regulations.

(f) The WECS is found to not have any adverse impacts on the area, including the health, safety and general welfare of occupants of neighboring properties and users of public rights-of-way.

(g) Small WECS that exceed the District height standard shall be setback from the nearest property line a distance equal to one and one-half (1.5) feet for every one (1) foot of height of the system.

(h) The city may require a shadow flicker study to demonstrate that the requirements of Section 51.03, Subd. O.3.c.7)d.5) of this code.

(i) The criteria and applicable standards of Section 51.02 Subd. C. of this Ordinance are considered and determined to be satisfied.

c) Ground Mounted Systems.

(1) Ground-mounted WECS shall not be installed in the front yard of any lot or in the side yard of a corner lot adjacent to a public right-of-way.

(2) Only monopole towers are permitted.

(3) System height shall be measured from the base of the tower to the highest possible extension of the system apparatus.

(4) Ground-located WECS shall not encroach on public drainage, utility roadway or trail easements.

d) Blade Length. A maximum blade length of fifteen (15) feet is permitted.

d. Standards for Utility WECS. The following standards shall be applicable to utility WECS in industrial zoning districts:

1) Utility WECS shall require an interim use permit per Section 51.02, Subd. C of this Ordinance.

2) All utility WECS shall be ground mounted. No more than one (1) wind energy system per lot.

3) Height. The permitted maximum height of a WECS shall be determined based on the type of system proposed. In determining the height of the WECS, the total height of the system shall be included.

a) Utility WECS.

(1) A ratio of one and one half (1.5) feet of the distance to the closest property line to one (1) foot of the height of the system between the base of WECS and the nearest property line.

(2) A maximum system height of one hundred fifty (150) feet.

(3) 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."

4) Setbacks. All utility WECS shall be set back a distance equal to no less than one and one half (1.5) times the total height of the

structure between the base of the WECS and the nearest property line, above ground utility, road right-of-way, or existing building on the same lot.

5) Shadow Flicker. A shadow flicker analysis shall be required for all Utility WECS . This analysis must demonstrate that shadow flicker shall not fall on, or in, any existing residential structure. Shadow flicker expected to fall on a roadway or portion of a residentially zoned property may be acceptable if the flicker does not exceed thirty (30) hours per year; and the flicker will fall more than one hundred (100) feet from an existing residence; or the traffic volumes are less than five hundred (500) vehicles per day (ADT). The shadow flicker model shall:

   a) Map and describe the topography, existing residences and location of their windows, locations of other structures, wind speeds and directions, existing vegetation and roadways within a one thousand (1,000) foot radius of the proposed WECS. The model shall represent the most probable scenarios of wind constancy, sunshine constancy, wind directions and speed.

   b) Calculate the locations of shadow flicker caused by the proposed WECS and the expected durations of the flicker in these locations, calculate the total number of hours per year of flicker at all locations.

   c) Identify problem areas where shadow flicker will interfere with existing or future residences and roadways and describe proposed mitigation measures including, but not limited to, a change in siting of the WECS, a change in the operation of the WECS, or grading and landscaping mitigation measures.

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

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

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

   c) Tower capable of being climbed shall be enclosed by a locked, protective fence at least eight (8) feet high.

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

a) Warning high voltage.
b) Manufacturer's name.
c) Emergency phone number.
d) Emergency shutdown procedures.

4. **Solar Energy Systems.**

1. Zoning District Allowance. Solar energy systems in accordance with the standards in this Chapter are allowed as a permitted accessory use with an approved administrative permit in all zoning districts.

2. Standards.

1) Exemption. Passive or building-integrated solar energy systems are exempt from the requirements of this Chapter and shall be regulated as any other building element.

2) Height. Roof-mounted solar energy systems shall comply with the maximum height requirements in the applicable zoning district. Ground-mounted solar energy systems shall not exceed fifteen (15) feet in height.

3) Location. In residential zoning districts, ground-mounted solar energy systems shall be limited to the rear yard. In commercial, industrial and institutional districts, ground-mounted solar energy systems may be permitted in front yards, side yards adjacent to public rights-of-way and rear yards.

4) Setbacks. Ground-mounted solar energy systems in residential zoning districts shall comply with all accessory structure setbacks. In commercial and industrial districts, ground mounted solar energy systems must comply with the principal building setbacks. Roof-mounted systems shall comply with all building setbacks in the applicable zoning district and shall not extend beyond the exterior perimeter of the building on which the system is mounted.

5) Roof Mounting. Roof-mounted solar collectors may be installed on either the principal or accessory building and may be flush-mounted or bracket-mounted. Only flushed mounted solar collectors shall be allowed on roofs that are not flat. Bracket-mounted collectors shall be permitted only on flat roof buildings with parapets that screen the bracketed panels. Roof mounted solar shall only be allowed when a determination is made by the City Building Official that the underlying roof structure will support apparatus, wind, and snow loads and all applicable building standards are satisfied.

6) Easements. Solar energy systems shall not encroach on public drainage, utility roadway or trail easements.

7) Screening. Ground mounted solar energy systems shall be screened from view of adjoining properties and street rights-of-way to the extent possible without impacting their function in accordance with Section 51.03, Subd. D.10 of this code.

8) Maximum Area. In residential districts, ground-mounted solar energy systems shall be limited in size to the maximum area requirement allowed for the accumulate area of accessory structures or no more than twenty-five (25) percent of the rear yard, whichever is less. In commercial, industrial and institutional districts ground mounted solar energy systems shall not occupy more than twenty five (25) percent of the total lot area.

9) Aesthetics. All solar energy systems shall be designed and oriented in a manner that minimizes glare towards vehicular traffic and adjacent properties.

10) Feeder lines. The electrical collection system shall be placed underground within the interior of each parcel. All feeder lines must be underground per City standards.

c. Safety.

1) Standards. Solar energy systems shall meet the minimum applicable standards outlined by the International Electrotechnical Commission (IEC) ,the American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE), ASTM International, British Standards Institution (BSI), International Electrotechnical Commission (IEC), International Organization for Standardization (ISO), Underwriter's Laboratory (UL), the Solar Rating and Certification Corporation (SRCC) or other standards as determined by the City Building Official. Systems must also comply with Minnesota State Plumbing Code, if applicable (Solar Thermal Systems).

2) Certification. Solar energy systems shall be certified by Underwriters Laboratories, Inc., the Solar Rating and Certification Corporation or other body as determined by the Community Development Director. The City reserves the right to deny a building permit for proposed solar energy systems deemed to have inadequate certification.

3) System installation must be done by a NABCEP licensed installer, or other licensed installer approved by the City Building Official or his designee.

d. Utility Company Interconnection. No solar energy systems shall be interconnected with the local electrical utility company until the utility company and the City Utility Manager have review and approved such proposal. The DMU or local utility shall enter into an agreement for interconnection fees and for the purchase of excess power. Prior to issuance of a building permit, the applicant shall enter into the agreement with the utility or DMU to be approved for connection to the grid. The interconnection of the solar energy systems with the utility company shall adhere to the National Electrical Code as adopted by the City. All connecting power lines shall be buried underground. A visible external disconnect shall be provided if required by the utility.

e. Abandonment. If a solar energy system remains nonfunctional or inoperative for a continuous period of one (1) year or has fallen into disrepair, the system shall be deemed to be abandoned and shall constitute a public nuisance. The owner shall remove the abandoned system at their expense after a demolition permit has been obtained. Removal includes the entire structure including transmission equipment.

f. Permit. An administrative permit and building permit shall be obtained for any solar energy system prior to installation.

5. **Application Information.** All applications for an alternative energy system interim use permit or administrative permit shall be accompanied by a detailed plans and specifications including, but not limited to, the following information:

a. Site Plan showing:

1) Lot lines and dimensions.

2) Location and height of all buildings, structures, above ground utilities, and trees on the lot, including both existing and proposed structures and guy wires anchors.

3) For small WECS, locations and height of all adjacent buildings, structures, above ground utilities and trees located within one hundred (100) feet of the exterior boundaries of the property in question. For utility wind systems, location and height of all adjacent buildings, structures, above ground utilities, and trees located within three hundred fifty (350) feet of the exterior boundaries of the property in question.

4) Existing and proposed setbacks of all structures located on the property in question.

b. Scaled drawings accurately depicting the proposed location of the alternative energy system and its relationship to structures on adjacent lots.

c. Construction drawings signed by a licensed installer, architect, or engineer showing alternative energy system specifications including manufacturer and model, power generation capabilities, engineering analysis and certification. In addition to the aforementioned information, WECS rotor diameter, WECS tower, and data pertaining to the tower's safety and stability must be provided for all WECS applications.

d. For freestanding ground mounted wind and solar systems, the city may require soil analysis documentation from the manufacturer or a registered soil or geotechnical engineer that the site's soil conditions meet minimum standards as specified by the manufacturer.

e. Written approval by the DMU or the appropriate utility company of any utility interconnection shall be provided to the city prior to issuing a building permit.

Section 3. Section 51.05, Subd. F (R-A District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 4. Section 51.06, Subd. F (R-E District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 5. Section 51.07, Subd. F (R-1 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 6. Section 51.08, Subd. F (R-2 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 7. Section 51.09, Subd. F (R-3 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 8. Section 51.10, Subd. F (R-4 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 9. Section 51.11, Subd. F (R-5 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 10. Section 51.12, Subd. F (R-6 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 11. Section 51.13, Subd. F (R-7 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 12. Section 51.14, Subd. F (R-8 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 13. Section 51.15, Subd. F (R-B District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 14. Section 51.20, Subd. F (B-1 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use ground mounted small wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 15. Section 51.20, Subd. E (B-1 District Uses by Interim Use Permit) is hereby amended to add the following:

Accessory use ground mounted small wind energy systems that exceed the height of the district height standards as regulated by Section 51.03, Subd. O of this Ordinance.

Section 16. Section 51.21, Subd. F (B-2 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use ground mounted small wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 17. Section 51.21, Subd. E (B-2 District Uses by Interim Use Permit) is hereby amended to add the following:

Accessory use ground mounted small wind energy systems that exceed the height of the district height standards as regulated by Section 51.03, Subd. O of this Ordinance.

Section 18. Section 51.22, Subd. F (B-3 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use ground mounted small wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 19. Section 51.22, Subd. E (B-3 District Uses by Interim Use Permit) is hereby amended to add the following:

Accessory use ground mounted small wind energy systems that exceed the height of the district height standards as regulated by Section 51.03, Subd. O of this Ordinance.

Section 20. Section 51.23, Subd. F (B-4 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 21. Section 51.24, Subd. F (B-4 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use ground mounted small wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 22. Section 51.30, Subd. F (I-1 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use ground mounted small wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 23. Section 51.30, Subd. E (I-1 District Uses by Interim Use Permit) is hereby amended to add the following:

Accessory use ground mounted small wind energy systems that exceed the height of the district height standards as regulated by Section 51.03, Subd. O of this Ordinance.

Utility wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 24. Section 51.31, Subd. F (I-2 District Uses by Administrative Permit) is hereby amended to add the following:

Accessory use ground source heat pump systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use roof-mounted small wind energy systems which extend not more than ten (10) feet above the highest point of the roof as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use ground mounted small wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Accessory use solar energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 25. Section 51.31, Subd. E (I-2 District Uses by Interim Use Permit) is hereby amended to add the following:

Accessory use ground mounted small wind energy systems that exceed the height of the district height standards as regulated by Section 51.03, Subd. O of this Ordinance.

Utility wind energy systems as regulated by Section 51.03, Subd. O of this Ordinance.

Section 26. This Ordinance shall be effective immediately upon its passage and publication.

ADOPTED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF DELANO, MINNESOTA THIS _____ DAY OF _____ 2016.

Dale Graunke, Mayor

ATTEST:

Brian Bloch, Finance Director/Clerk

Motion by: Jack Russek
Seconded By: Betsy Stolfa
Graunke: Aye
Stolfa: Aye
Russek: Aye
Franzen: Aye
Schrupp: Aye