

# City of Raymore Unified Development Code

## Section 420.070 Renewable Energy Systems

### A. Building Permits

Systems shall be in compliance with the standards set by the International Building Code and International Residential Code. Building permits are required for all systems.

### B. Conformance to Applicable Rules and Regulations

1. Systems shall be in compliance with any applicable federal regulations and Section 386.890 of the Revised Statutes of Missouri, which mandates compliance with all applicable safety, performance, interconnection, and reliability standards established by the National Electrical Code, the National Electrical Safety Code, the Institute of Electrical and Electronics Engineers, Underwriters Laboratories, and the Federal Energy Regulatory Commission.
2. No building permits shall be issued for a system until a copy of the utility company's approval for interconnection of a customer-owned generator has been provided. Off-grid systems shall be exempt from this requirement.

### C. Conditional Use Permits

A request to install a system that is not in conformance with the standards of this section may be filed as a Conditional Use Permit in accordance with Section 470.030.

### D. Standards of General Applicability

1. Systems shall not be used as signs or used to support signage. Exceptions include appropriate warning signage and reasonable identification of the manufacturer, installer, or operator.
2. Systems shall not be lighted or have affixed any lights, reflectors, flashers, or any other illumination except where required by federal regulations.
3. Systems shall be a neutral, non-reflective color designed to blend with the surrounding environment.

### E. Exemptions

Except as specifically required elsewhere in this section, systems are exempt from the mechanical screening requirements of Section 430.120.

### F. Abandonment

Any system that is out of service for a continuous period of 12 months will be considered abandoned. The owner of such system must remove it within 90 days of receipt of notice from the City notifying the owner of such abandonment. If such system is not removed within 90 days, the City may remove such system at the owner's expense.

### G. Large Wind Energy Conversion Systems

Large wind energy conversion systems must be approved in accordance with the conditional use permit procedure in Section 470.030. Conditional Use Permit applications for large wind energy conversion systems shall be accompanied by the following technical studies demonstrating compliance with the following minimum standards:

1. A shadow flicker analysis demonstrating that the proposed system is sited to minimize impact on all occupied structures. The analysis shall identify the locations of shadow flicker that may be caused by the system and the expected duration of the shadow flicker over the course of a year. The analysis shall be conducted by a qualified engineer or other qualified professional approved by the Planning and Zoning Commission and shall take into account site-specific topography.
2. A noise study from a qualified professional demonstrating that the system shall not produce noise in excess of 60 decibels or 10 decibels above ambient noise levels as measured from the property line under normal operating conditions. The study shall be conducted by an acoustical engineer or other qualified professional as approved by the Planning and Zoning Commission and shall be in compliance with IEC 61400-11 Acoustic Noise Measurement Techniques for Wind Turbines.
3. A study evaluating potential adverse impacts on avian or bat species and their critical habitats and potential mitigation measures that could be taken to minimize any such impacts. The study shall be conducted by an environmental professional with ornithological and bat ecology expertise or other qualified professional approved by the Planning and Zoning Commission.

#### H. Small Wind Energy Conversion Systems

Small wind energy conversion systems shall be a permitted accessory use in all districts subject to compliance with the following requirements:

1. One small wind energy conversion system shall be permitted per lot.
2. The following size and height standards apply to small wind energy conversion systems in all districts:

Lot Size	Maximum Rotor Diameter	Maximum Height
≤ 1 acre	6 feet	50 feet or maximum height allowed by zoning, whichever is greater
1 – 10 acres	12 feet	80 feet
≥ 10 acres	20 feet	100 feet

3. The height of a system shall be defined as the distance between the base of the tower and the highest point of the wind energy conversion system. For a horizontal axis wind turbine, the highest point shall be the highest vertical point of the swept rotor arc.
4. Systems shall maintain a minimum setback from all lot lines in accordance with the following:

Rotor Diameter	Minimum Setback
≤ 6 feet	Equal to that required for the principal structure
6 – 12 feet	1.1 times the height of the system
≥ 12 feet	1.5 times the height of the system

5. The minimum distance between the ground and any rotor shall be 15 feet.
6. On properties under 10 acres, commercial properties, and properties zoned PR, systems must be on a monopole tower or roof-mounted. Lattice, guyed, or tilt-up

towers are only permitted on lots over 10 acres in agricultural, residential or industrial zoning districts.

7. The first twelve feet of the tower shall be unclimbable by design or the tower shall be enclosed by a six foot high, unclimbable fence with a self-locking gate. This provision does not apply to roof-mounted systems.
8. Guy cables must be visibly marked from the anchor points to a height of six feet from the ground. Guy cables must be located at least 30 feet from the nearest property line.
9. Systems must be equipped with both manual and automatic overspeed controls to prevent uncontrolled rotation, overspeeding and excessive pressure on the tower structure, rotor blades and turbine components.
10. Systems shall not emit noise that exceeds 55 decibels or 10 decibels above ambient noise levels as measured from the property line under normal operating conditions.
11. Meteorological towers shall be permitted under the same standards and permit requirements as small wind energy conversion systems. Meteorological towers and small wind energy conversion systems may be considered under a single conditional or special use permit application.

#### **I. Solar Energy Systems**

Solar energy systems shall be a permitted accessory use in all districts subject to compliance with the following requirements:

1. Roof-mounted systems located on front building roofs shall not project more than 24 inches perpendicular to the point on the roof where it is mounted.
2. Roof-mounted systems shall not project above the ridge of a gabled or gambrel roof.
3. Roof-mounted systems shall not project more than four feet above the deck or parapet of a flat or mansard roof. All mounting hardware shall be screened from view according to Section 430.120A.
4. Ground-mounted systems shall not be located in any required yard.
5. Ground-mounted systems on lots under 1 acre shall not be higher than 8 feet.
6. Solar collectors designed as part of an accessory structure such as an awning or canopy shall conform to the standards for that structure.
7. Appurtenant components must be located within an enclosed structure or screened according to Section 430.120.