



Wind Turbines

Estes Park Community Development Department

Municipal Building, 170 MacGregor Avenue

PO Box 1200

Estes Park, CO 80517

Phone: 970-577-3721

Fax: 970-586-0249

www.estesnet.com

DATE:

Estes Valley Planning Commission -

- November 12, 2009: Initial discussion, set parameters
- November 17, 2009: After public input regarding "micro-wind", opted to continue to December meeting
- **December 15, 2009**

Town Board –

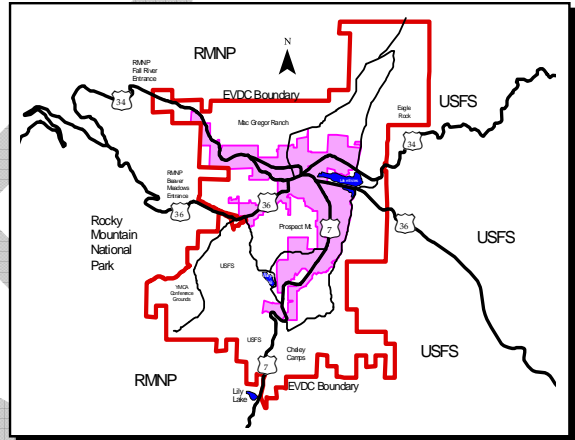
- January 26, 2009
- February 22, 2009

Board of County Commissioners –

- March 8, 2010 (tentative)

REQUEST: To adopt regulations pertaining to Small Wind Energy Conversion Systems (commonly referred to as "small wind turbines")

STAFF CONTACT: Bob Joseph



PURPOSE AND INTENT: The purpose of this proposed amendment is to establish use and development regulations for Small Wind Energy Conversion Systems (SWECS) within the Estes Valley.

REVIEW CRITERIA: Per Section 3.3.D of the EVDC, all applications for amendments to the development code shall be reviewed by the EVPC and Boards for compliance with the relevant standards and criteria set forth below and with other applicable provisions of this Code.

1. The amendment is necessary to address changes in conditions in the areas affected;
2. The development plan, which the proposed amendment to this Code would allow, is compatible and consistent with the policies and intent of the Comprehensive Plan and with existing growth and development patterns in the Estes Valley; and
3. The Town, County or other relevant service providers shall have the ability to provide adequate services and facilities that might be required if the application were approved.

Of these, only the first is relevant. Staff suggests the factors listed below constitute changes in conditions in the areas affected:

- Citizen Requests. The Community Development Department has had multiple requests from residents to build small scale wind turbines. To date, four permits have been issued within Town limits, and two outside town limits.
- Moratorium: On August 11, the Town Board issued a 120-day moratorium on the issuance of any building permits for the installation of any wind turbine within the Town of Estes Park; on December 8, the Board extended this moratorium to March 8, 2010.

The moratorium was intended to obtain and review public comment regarding the installation and operation of wind turbines as an indication of a need to consider adopting regulations by the Town to address issues surrounding the siting, noise, visual and other potential impact to adjoining properties. It was anticipated by the Board of Trustees that the public process would lead to the possible introduction of regulations.

- Problem Statement: Following the moratorium, the Planning Commission drafted this problem statement: "Identify the needs and issues associated with potential regulation of residential wind turbines. Recommend appropriate code language, if necessary, to the Town Board and County Commissioners."

OPTIONS: The following options are potential recommendations to the Town Board and Board of County Commissioners:

Planning Commission can make the following recommendations to the Town Board and Board of County Commissioners:

1. No change.
2. Classify as an accessory use, and apply standard height, setback, and noise regulations.
3. Allow and regulate. Staff has drafted potential code amendments, following public input and Planning Commission review, as delineated below.

FORMATTING:

- 1) Existing text in black font.
- 2) Proposed text in blue underlined text.
- 3) Text to be removed in ~~red strikethrough~~.
- 4) **Yellow highlights** indicate revisions from the November 17 draft.

§ 5.2 ACCESSORY USES (INCLUDING HOME OCCUPATIONS) AND ACCESSORY STRUCTURES

A. General Standards.

[No Changes]

B. Accessory Uses/Structures Permitted in the Residential Zoning Districts.

1. Table of Permitted Accessory Uses and Structures.

**Table 5-1
Accessory Uses and Structures Permitted in the Residential Zoning Districts**

Accessory Use	Residential Zoning District								Additional Requirements
	"Yes" = Permitted					"No" = Not Permitted			
	RE-1	RE	E-1	E	R	R-1	R-2	RM	
Small Wind Energy Conversion Systems	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	§5.2.B.2.h

2. Additional Requirements for Specific Accessory Uses/Structures Permitted in the Residential Zoning Districts.

[h. Small Wind Energy Conversion Systems \(SWECS, or "system"\).](#)

- (1) [Height.](#) Height shall be measured from **original natural grade** to the highest point of the SWECS structure moving or fixed, whichever is greatest, and shall not exceed thirty (30) feet.
- (2) [Setbacks.](#)
 - a. [Setbacks from property lines shall be five times the structure height. For example: a thirty \(30\) foot tall system shall have a minimum setback of 150-feet from the nearest property line.](#)
 - b. [This setback requirement shall also apply to public or private roads that serve more than four adjacent or off-site lots, and shall be measured from the edge of public or private roads, the edge of the dedicated right-of-way or recorded easement or the property line, whichever produces a greater setback.](#)
- (3) [Ridgeline Protection Areas.](#)
 - a. [SWECS shall not be permitted on land designated as a ridgeline protection area.](#)
 - b. [If the site contains an identified ridgeline protection area, the Applicant may, by site-specific analysis, demonstrate that the location of the proposed system is not on an ridgeline.](#)
 - c. [This shall require development plan review and approval of the Estes Valley Planning Commission.](#)
 - d. [The development plan application shall include a visual analysis, including photographic simulations, from viewpoints as determined by Staff.](#)

- e. In such review, the Planning Commission shall find the system has been sited to avoid the visible intrusion of the structure above the designated ridgelines or above existing ridge-top trees or vegetation, and thus preserve identified scenic views across or through the site. Compliance with this standard requires siting the structure such that the highest point is below a ridgeline so there is a solid, mountain backdrop behind the structure.
- (4) Noise. All systems outside the Town limits of the Town of Estes Park shall comply with the noise standards found in Larimer County Ordinance 97-03 (as amended). All systems located within the Town of Estes Park shall comply with the noise standards found in the Municipal Code of the Town of Estes Park.
- (5) Lighting Prohibited. Lighting, graphics, signs and other decoration are prohibited on the system, or located in such a manner to illuminate the structure.
- (6) Operating Condition. All systems shall be kept in safe operating condition. Inoperative systems, or systems found to be unsafe by an official of the Town of Estes Park Light and Power Department, or the Protective Inspection Divisions of the Town of Estes Park or Larimer County, shall be repaired within three (3) months of becoming inoperative or unsafe, or be subsequently entirely removed by the owner, at the owners expense, within six (6) months of becoming inoperative or unsafe. If the installation ceases to function as intended and designed by the manufacturer it shall be deemed inoperative.
- (7) Ground Clearance. The minimum distance between the ground and any blades or moving parts utilized on a system shall be ten (10) feet as measured at the lowest point of the swept area.
- (8) Blade Speed. Systems shall be equipped with controls to limit the rotational speed of the blade within the design limits of the rotor.
- (9) Safety Standards. SWECS shall meet or exceed current published safety standards as issued by the International Electrotechnical Commission (IEC 61400-1, as may be amended from time to time), or alternative as approved by the State Electrical Inspector.
- (10) Permit Required. A building permit shall be required for the installation of all Small Wind Energy Conversion Systems.
- (11) Limit on Number. There shall not be more than one (1) system on a lot.
- (12) Swept Area shall mean the largest vertical cross-sectional area of the wind-driven parts as measured by the outermost perimeter of blades.
- (13) Micro-Wind.

- a. Systems with a swept area of fifteen (15) square feet or less shall be exempt from setback regulations set forth in this sub-section, but shall be subject to other zone district setback requirements.
- b. Multiple micro-wind systems may be installed on lot, but shall not exceed a cumulative aggregate swept area of fifteen-square feet.

C. Accessory Uses and Structures Permitted in the Nonresidential Zoning Districts.

- 1. Table of Accessory Uses and Structures Permitted in the Nonresidential Zoning Districts.

**Table 5-2
Accessory Uses Permitted in the Nonresidential Zoning Districts**

Accessory Use	Nonresidential Zoning District							Additional Conditions
	"Yes" = Permitted				"No" = Not Permitted			
	A	A-1	CD	CO	O	CH	I-1	
Small Wind Energy Conversion Systems	Yes	Yes	Yes	Yes	Yes	Yes	Yes	5.2.B.2.h

D. General Dimensional and Operational Requirements. The following standards shall apply to all accessory uses and structures in all zoning districts, except for: (1) Satellite antenna dishes accessory to residential uses that are one (1) meter or less in diameter; and (2) Satellite antenna dishes accessory to nonresidential uses that are two (2) meters or less in diameter. (Ord. 15-03 #1)

- 1. *Time of Establishment.* No accessory use shall be established and no accessory structures shall be allowed on the subject parcel until after all required permits and approvals for the principal use or activity have been obtained. (Ord. 15-03 #1)
- 2. *Setbacks.* No accessory use, structure or activity, except for permitted fences or walls shall be located or take place within a required setback. On residential lots of less than one (1) acre all accessory buildings, excluding detached garages, shall be located no closer to the front property line than the residential dwelling. [Small Wind Energy Conversion Systems shall be subject to setback requirements set forth in Section 5.2.B.](#) (Ord. 15-03 #1)
- 3. *Setbacks from Easements.* No accessory structure shall be located within any platted or recorded easement or over any known utility. (Ord. 15-03 #1)
- 4. *Maximum Building or Structure Size for Nonresidential Uses.* [No Changes]
- 5. *Maximum Cumulative Gross Floor Area Allowed for all Accessory Uses in Accessory Buildings, Accessory Structures and/or Principal Buildings for Residential Uses.* [No Changes]

6. *Maximum Number of Freestanding Accessory Buildings and Structures, Including Detached Garages, Per Single-Family Residential Lot.* No more than one (1) accessory building or structure less than or equal to one hundred twenty (120) square feet and no more than two (2) accessory buildings or structures greater than one hundred twenty (120) square feet shall be allowed on a lot of two-and-a-half (2.5) acres or less. [Small Wind Energy Conversion Systems and "micro-wind" systems shall be exempt from this limitation.](#)
7. *Building or Structure Height.* The height limitations set forth in the underlying zoning districts shall apply to all accessory buildings and structures located therein. (Ord. 15-03 #1)
8. *Dwelling Unit Prohibited.* [No Changes]
9. *Operations.* Accessory structures, buildings and uses shall be constructed, maintained and conducted to avoid production of noise, vibration, concussion, dust, dirt, smoke, odors, noxious gases, fly ash, heat or glare from artificial illumination or from reflection of natural light.
10. *Limits on Mobile Homes/RVs.* [No Changes]

Chapter 13 - Definitions

Section 13.3

xxx. [Small Wind Energy Conversion System \(SWECS\). A wind energy conversion system consisting of a wind turbine with a swept area greater than fifteen \(15\) square feet, a tower, and associated control and conversion electronics, which has a rated capacity of not more than 25 kW and which is intended to primarily reduce on-site consumption of utility power. Such systems are accessory to the principal use or structure on a lot.](#)

STAFF FINDINGS AND RECOMMENDATION: Based on the foregoing, Staff finds:

1. Staff has received multiple requests for small wind energy conversion systems over the past year.
2. The Town Board imposed a moratorium on wind turbines on August 11th.
3. This moratorium was intended to obtain public input regarding wind turbines, with the possibility of introduction of necessary regulations addressing any negative impacts of the location and operation of wind turbines.
4. The Planning Commission drafted a problem statement: "Identify the needs and issues associated with potential regulation of residential wind turbines. Recommend appropriate code language, if necessary, to the Town Board and County Commissioners."
5. The Planning Commission has conducted three public hearings to obtain public input, and finds it necessary to recommend appropriate code language to the Town Board and Board of County Commissioners.
6. The Planning Commission has drafted a proposed amendment to the Estes Valley Development Code to address concerns expressed by members of the public.

7. The proposed amendment is intended to address issues surrounding the siting, noise, visual and other potential impacts to adjoining properties.
8. The proposed amendment is necessary to address changes in conditions in the areas affected
9. This is a Planning Commission recommendation the Town Board and Board of County Commissioners;

Therefore, Staff recommends **APPROVAL** of the proposed Amendment to the Estes Valley Development Code.

SUGGESTED MOTION: I move to recommend **APPROVAL** of the proposed amended plat to the Town Board of Trustees and Larimer County Board of County Commissioners with the findings recommended by staff.