

**PLANNING COMMISSION REPORT**  
**Regular Agenda – Public Hearing Item**

PC Staff Report  
4/21/2014

**ITEM NO. 2:      CONDITIONAL USE PERMIT; METEOROLOGICAL TOWER; N 400 ROAD  
AND E 1000 ROAD (SLD)**

**CUP-14-00002:** Consider a Conditional Use Permit for a 60 meter (196') meteorological tower to monitor and collect wind data located between E 400 and E 450 Roads and north of N 300 Road. Submitted by Tower Associates LLC on behalf of Charles and Doris Fawl, property owners of record.

**STAFF RECOMMENDATION:** Staff recommends approval of the Conditional Use Permit for the meteorological tower and forwarding it to the County Commission subject to the following conditions:

- 1) Approval of the Conditional Use Permit shall be limited to 6 years from the date of the County Commission approval. Any extension of the time limit shall be allowed only per written request from the applicant and approval for extension by the County Commission following public notice.
- 2) The provision of a revised site plan that adds the following notes to the face of the drawing:
  - a) *"A sign shall be posted on the tower or the exterior fence around the base of the tower with the name and telephone number of the tower owner/operator."*
  - b) *"Use of this tower shall be limited to meteorological equipment only and will not be allowed for use by telecommunication providers."*
  - c) *"This tower will be removed at the end of the Conditional Use Permit approval period."*
  - d) *"A change of ownership of the tower shall require a new Conditional Use Permit and public hearing by the Planning Commission."* This will allow review of the intended use of the tower and public notice of the proposed change.

**Reason for Request:**      *"Tower Associates would like to install a meteorological tower to monitor and collect wind data over a period of time."*

**Note:** Much of the information in this staff report is duplicated from SUP-13-00480. Information related to the specific location of this tower is highlighted in **bold purple** for reference.

**ATTACHMENTS**

1. Site plan

**KEY POINTS**

- This application is not an application for a "Wind Farm." The purpose of the application is to collect wind data over a period of several years..
- **This application is related to SUP-13-00480 but for a separate property along the Highway 56 corridor.**
- Per Section 12-319-4.31 of the Zoning Regulations for the Unincorporated Territory of Douglas County, *radio, television, telecommunication and microwave towers* are uses which may be approved as a Conditional Use.
- This use – metrological tower - is not specifically listed in the Zoning Regulations but is considered by staff to be a similar use.
- This structure is temporary and does not include a fixed foundation and permanent land alterations.

- Douglas County Board of County Commissioners approved a resolution on 12/11/2013 to establish a moratorium on wind farms but amended their interpretation to allow the applications for data collection to proceed.

### DESCRIPTION OF USE

Request is for the installation of a 196 foot structure (metrologic tower) to monitor and collect wind data over a period of 5–6 years. Collected data will be used by the applicant in the *"determination of this areas' possession of sufficient wind resources to support development of a wind energy center, sometimes referred to as a wind farm."*

This application is not for the development of a wind energy center (wind farm) or the placement of wind turbines. Such application will require a separate Conditional Use Permit with appropriate documentation and public notice. Also, this application is not intended for communication or cellular equipment. There is no expectation that communication equipment would be co-located on this structure in the future.

The structure is a monopole held in place by guy wires anchored at various distances from the structure for support. Data collection equipment (anemometer) is attached to the tower at intervals. Staff requested additional information about the equipment. The applicant's response was: "There are three pairs of anemometers placed at 30, 50, and 60 meters. The anemometers consist of three "cups" that rotate depending on wind speed and are approximately six inches across. Although the anemometers rotate, the rotation is contained within the approximately 6 inch diameter."



Closeup view of an anemometer

### ASSOCIATED CASES/OTHER ACTION REQUIRED

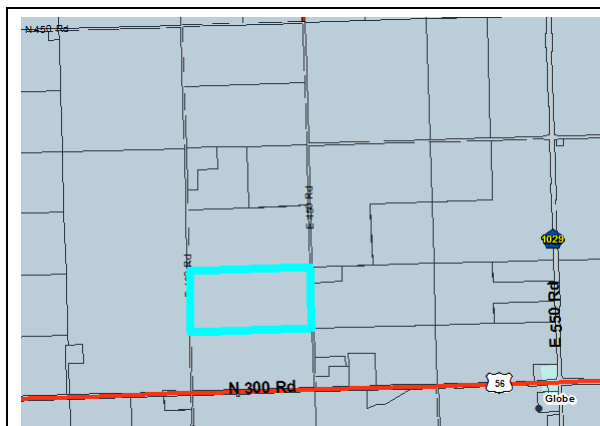
- Board of County Commissioners' approval of the Conditional Use.

- Zoning and Codes Office issuance of a Conditional Use Permit when plans have been released to the Zoning and Codes Office and conditions of approval have been met.

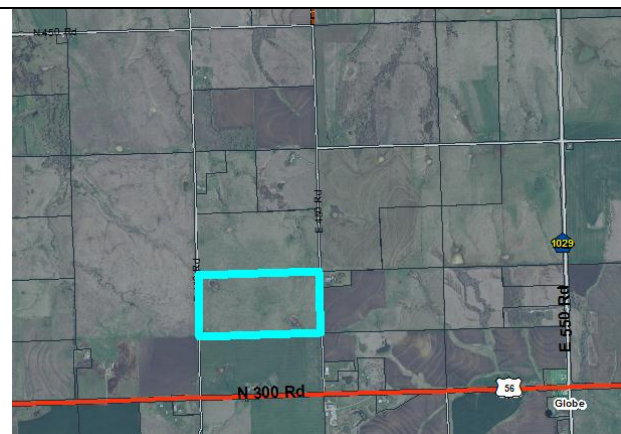
#### PUBLIC COMMENT

- Area property owners called asking for more detail regarding the location, use and intent of the proposed tower.

<b>Site Summary:</b> Subject Property: Proposed Buildings:	<b>80 acre parcel</b> <b>None</b>
<b>GENERAL INFORMATION</b>	
Current Zoning and Land Use:	<b>A (County-Agricultural) District; 80-acre agricultural field.</b>
Surrounding Zoning and Land Use:	A (County-Agricultural) District in all directions. Agricultural uses and rural residential homes.



**Figure 1. Zoning of Area**



**Figure 2. Land Use of Area**

#### I. ZONING AND USES OF PROPERTY NEARBY

This property is located in the southwest portion of Douglas County approximately **four miles east of the west Douglas County Boundary and 5 ½ miles west of the tower proposed per application CUP-13-00480**. This property and the surrounding area is zoned A (Agricultural). This area is rural in nature and includes numerous residential homes located along the surrounding County roads.

Section 12-319-4.31(d)(5) recommends that towers be located in commercial, industrial or agricultural zoning districts. The subject property is zoned Agricultural.

**Staff Finding** – Nearby properties are zoned A (Agricultural) and contain a mix of rural residential and agricultural land uses. The proposed tower would be located in a recommended district.

#### II. CHARACTER OF THE AREA

This portion of southwest Douglas County is rural in nature. There are no urban growth boundaries that extend to this portion of Douglas County. The area includes large parcels of land used for agricultural purposes with **scattered** rural residential homes located along County roads. **This portion of Douglas County is slightly less populated than the area closer to Highway 59 to the east.**

**Staff Finding** – This area is rural in nature, with agricultural lands, and residential homes along County roads.

### **III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED**

Applicant's response: *"The subject property is clear of physical obstructions that would interfere with access to wind resource and it possesses representative characteristics of the overall area."*

The current zoning designation for the property is A (Agricultural) District. A variety of agriculture-related uses are allowed in this district. The proposed request will not alter the underlying zoning district. Towers are allowed in the A (Agricultural) District with approval of a Conditional Use Permit. The A (Agricultural) District is a recommended base district for towers. This structure is temporary in nature and will be removed at the end of the study period.

**Staff Finding** – The property is suitable for agricultural uses. A Conditional Use Permit (CUP) does not change the underlying zoning; therefore, the suitability of the property for agricultural uses will not be altered.

### **IV. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED**

This A (Agricultural) District zoning has been in place since 1966.

**Staff Finding** – The property has been zoned A (Agricultural) since the adoption of the zoning in 1966.

### **V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY**

Applicant's Response: *"The tower is approximately 196' in height therefore will be visible from nearby properties from areas not obstructed by trees, buildings or other structures."*

Section 12-319-1.01 of the County Zoning Regulations recognize that *"....certain uses may be desirable when located in the community, but that these uses may be incompatible with other uses permitted in a district...when found to be in the interest of the public health, safety, morals and general welfare of the community may be permitted, except as otherwise specified in any district from which they are prohibited."*

This request is for a 196' guy-wired tower that will support data collecting equipment. Access to the site shall be limited to regular service and maintenance of the tower and associated equipment. This structure is temporary and does not include a foundation or other permanent changes. The structure will be visible across the property for land owners with an unobstructed view within this area. No detrimental effects are anticipated from the approval of This Conditional Use Permit for this structure for the purpose of data collection.

**Staff Finding** – Given the non-permanent nature of the structure there should be no detrimental effect on surrounding property.

### **VI. RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER'S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS**

Applicant's Response: *"This metrological tower will monitor and collect wind data (speed and direction) over a period of time which will help determine area feasibility for future wind development which would create jobs and economic development for the overall area."*

The purpose of this criterion is to compare the effect of denial of the request on the public health, safety and welfare to the effect on the individual landowner.

The purpose of this request is to collect additional information to determine feasibility of wind development as an accessible resource. Approval of this request does not convey any approval for a specific development of a wind energy facility. Information collected by the applicant will be for the applicant's benefit in the final determination of a future request.

The proposed structure is temporary in nature and should not impose a hardship on individual landowners. There is no office or manned facility associated with the structure.

**Staff Finding** – Approval of the request will facilitate the applicant's assessment of wind energy as a developable resource in Douglas County. The structure is non-permanent and does not guarantee the approval of a future application for a "wind farm." There is no substantial gain or loss to the public that result from the approval of this request.

## **VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN**

Applicant's Response: *"This request is an initial step in considering future wind development in the area which would conform with the overall planning goals of economic diversity, compatibility and sustainability."*

The subject property is not located within an identified Urban Growth Area for any of the incorporated cities in Douglas County. There are several unincorporated communities and land divisions forming informal subdivisions in the surrounding area.

Chapter 16 of *Horizon 2020* addresses environmental policies applicable to Lawrence and Douglas County. The plan states that the recommendations are "intended to foster a healthy environment that contributes to a growing economy and a livable community." The overall policy applicable to this development project states:

*"We will strive to ensure the sustainability of our physical environment, both natural and built, the health of our economy and the efficient and effective functioning of our community"*(Chapter 1, *Horizon 2020*).

Chapter 16 of *Horizon 2020* identifies the following resources and provides applicable policies:

<b>Water Resources:</b>	<i>Water shed protection, public water supply reservoirs, water quality, floodplain management and aquatic habitats.</i>
<b>Land Resources:</b>	<i>Rural woodlands, urban forests, native prairies, agricultural soils, slopes, and open spaces.</i>
<b>Air Resources:</b>	<i>Excess greenhouse gases, air quality, and indoor pollution.</i>
<b>Resource Management:</b>	<i>low cost raw materials, such as sand gravel, timber oil, gas, and stone</i>
<b>Waste Management:</b>	<i>Solid waste and hazardous waste to reduce reuse and recycle materials produced in Douglas County.</i>



The Comprehensive Plan does not explicitly address wind energy resources. In practice wind energy is recognized by many as a “clean” or “green” energy resource. The County does not currently have any policies regarding this specific land use.

It should be clear that this application is for a Conditional Use Permit for the construction of a tower (structure) to support equipment for the purpose of data collection only. Any application for equipment related to a wind farm that is part of an energy collection facility would require a separate application. The tower structure has been evaluated by staff with respect to its land use impact similar to a communication tower. Communication towers are generally incorporated in Chapter 10 Communities Facilities *of Horizon 2020*.

**Staff Finding** – The comprehensive plan does not provide any specific land use recommendations regarding wind energy. A Conditional Use Permit can be used to allow specific non-residential uses subject to approval of a site plan. This tool allows proportional development in harmony with the surrounding area. The proposed request is consistent with the Comprehensive Plan.

### **STAFF REVIEW**

Section 12-319-4.31 allows radio, television, telecommunication, and microwave towers in Douglas County subject to approval of a Conditional Use Permit when the structures are more than 100’ tall. This section also provides guidelines and standards intended to be used during the review of towers related to communication equipment. This request is for a tower that will support specific data collection equipment and not cellular or radio communication equipment. Some provisions of the Code address co-location requirements which are not applicable to this request and would not be expected to be added to the structure if approved.

This tower structure has a comparable height to communication towers. It is a mono pole construction with guy wires to anchor the structure. A permanent foundation is not proposed with this application since the structure is temporary and will be removed at the conclusion of the data collection period. Land use concerns include adequate setback and proximity to other land uses.

### **Tower Removal**

Communication towers require that if the equipment is removed and the tower is vacant for 3 years then the tower owner would be required to remove the structure. All towers are required to provide a sign on the structure or fence around the base of the tower identifying the tower owner/operator with a name and phone number. This application is requested for the purpose of data collection. Documents from the applicant indicate that the maximum time limit for use of the structure would be 6 years. A condition, if approved, setting a specific a time limit will ensure the removal of the structure. At a minimum, a sign should be added to the tower site providing contact information as required for similar structures towers.

### **Setback**

The County Zoning Regulations require the tower to be setback a distance equal to the height of the tower from any property line except that the setback may be reduced if documentation from a registered engineer is submitted certifying the fall zone of the tower in event of a failure or collapse. The proposed structure complies with the setback requirements and is more than 500’ from the nearest property line. The structure is designed to be tipped down for maintenance as needed.

### **Lighting**

No lighting per FAA is required for this structure.

### **Airstrips**

As a courtesy, staff has provided notice to owners of private airstrips in the vicinity. A map showing permitted airfields in the county is attached.

**County Zoning Regulations – Wind Farms**

County staff is currently preparing draft regulatory language to be considered as a set of general guidelines a future text amendment to specifically address “Wind Farms”.

**Conclusion**

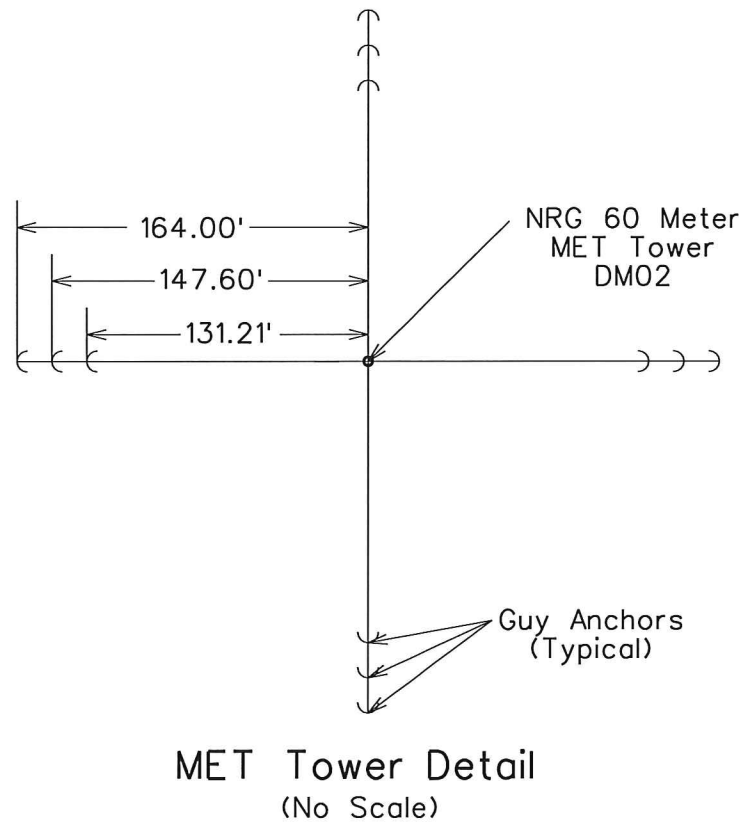
This request is for the construction of a tower for the exclusive use of data collection. Additional site plan notes are recommended to clarify the use and intent of this tower. Staff recommends approval of the Conditional Use Permit subject to conditions related to signage and a time limit for the use.



**CUP-14-00002: Conditional Use Permit for a meteorological tower  
Located between E 400 and E 450 Roads.**



Nextera Energy - Pleasant Grove, KS  
Site Plan for Proposed Meteorological Tower DM02 Sec 33-14-18, Douglas County, KS

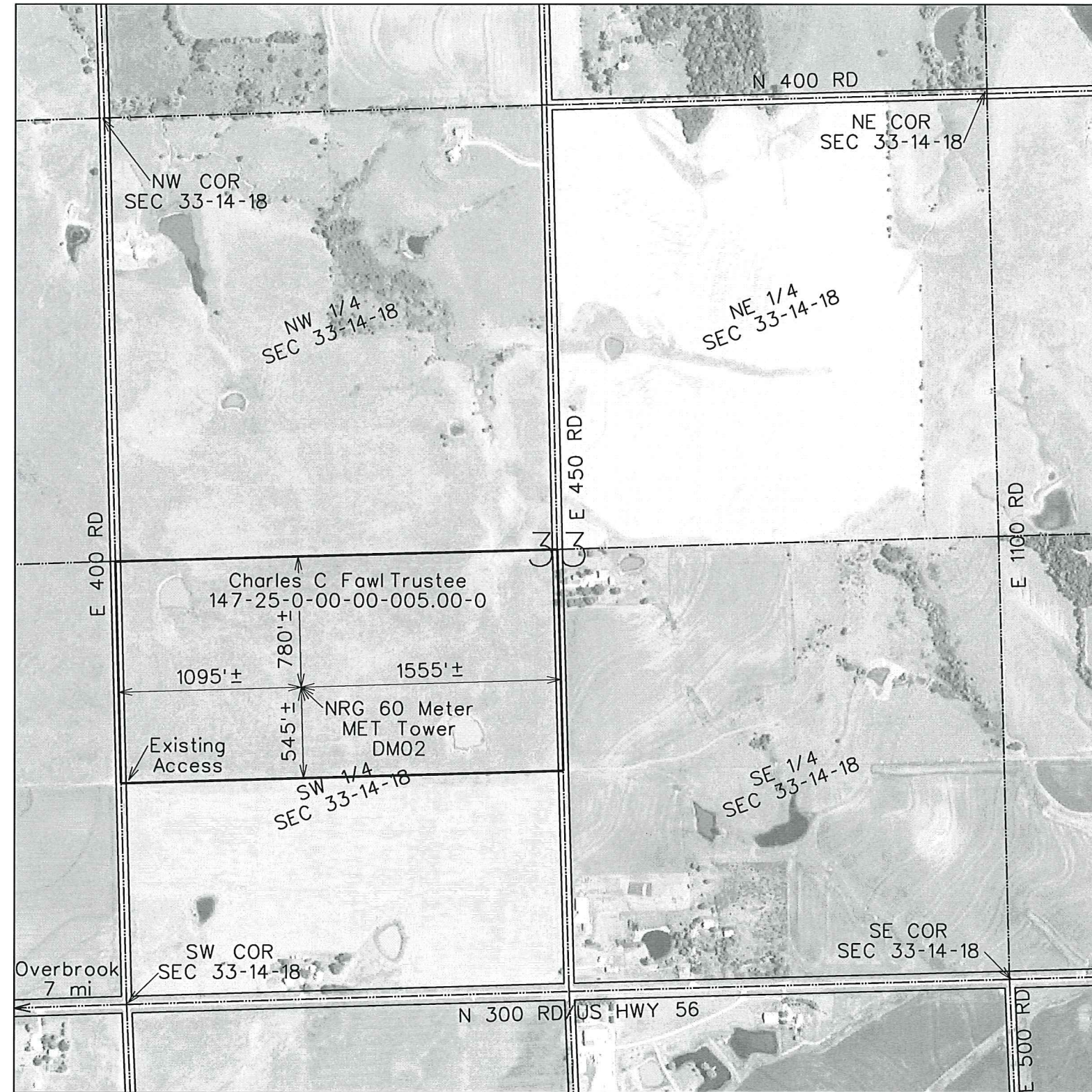


MET Tower Detail  
(No Scale)

Certificate of Report

I, Mike Schulte, Kansas Land Surveyor #1548, do hereby certify that this site plan drawing was prepared under my direct personal supervision on December 19, 2013 for Section 33, Township 14 South, Range 18 East, of the 6th P.M., Douglas County Kansas.

*Mike Schulte*  
Mike Schulte, L.S. # 1548  
1751 Madison Ave.  
Council Bluffs, Iowa 51503  
(712) 322-3202



Location Map  
Location Map Legend

- Parcel Boundary
- 1/4 Section Line
- Existing Road Right-of-Way

Note: Project location does not fall within any Flood Hazard Zone as shown on FIRM Maps # 20045C0270D dated 8/5/2010.



ISSUE DATE: 12-19-2013

NEXTERA ENERGY - PLEASANT GROVE, KS

Site Plan for Proposed Meteorological Tower DM02 Sec 33-14-18 DOUGLAS COUNTY, KANSAS

SNYDER & ASSOCIATES, INC.

1751 MADISON AVENUE  
COUNCIL BLUFFS, IA 51503  
712-322-3202 | www.snyder-associates.com



Project No: 1131062

Sheet 1 of 1

MARK	REVISION	DATE	BY
JWK	Checked By: MGG	11-06-13	Scale: 1"=400'
DW	Date: 11-06-13	Field Bk:	Pg:
Project No: 1131062			Sheet 1 of 1



**1. Please provide narrative regarding the purpose of the request. In this narrative please state that communication equipment is not proposed or allowed. This will help to clarify the use.**

The purpose of the request is to install a meteorological tower which will monitor and collect wind data (speed, direction, etc.) over a period of time up to a maximum of 5 ½ years (according to the terms of the agreement). This data will be used to validate the applicant's previous desk top analysis of available wind data in order to determine if this area possesses a wind resource that will support development of a wind energy center.

The proposed tower is an NRG 60 meter XHD Tall-tower that is approximately 196 feet in height and has a tubular structure. The tower sits on a baseplate and therefore requires no foundation or outside utilities. Four sets of guy wire anchors are placed at **40m (131')**, **45m (147')**, and the outermost guy anchor at **50m (164')**. The tower is constructed on the ground and is tilted into its final position with a temporarily anchored winch.

The tower will be striped orange and white and will have orange marker balls placed on the guy wires to increase visibility, per FAA recommendations, however FAA approval is not required because the tower stands below the 200' threshold.

**2. Please clarify the time line. Is this CUP requested for 5 years or 6 to accommodate the removal of the equipment per the lease.**

The normal operating timeline for meteorological towers are approximately 2 years. However, based on the terms and conditions of the property owner's agreement, the maximum time the applicant is allowed to have the met tower in place is 5 ½ years (5 year term with up to 6 months to remove the tower).

**3. Please clarify the location of equipment in relationship to the property line. Two graphics in your attachments suggest it may or may not be over a property line.**

The met tower is located in the northwest corner of the parcel. Below is a list of distanced to the property line in each direction, starting with the closest proximity:

- Western property line: 205 feet
- Northern property line: 490 feet
- Southern property line: 2,160 feet
- Eastern property line: 3,765 feet

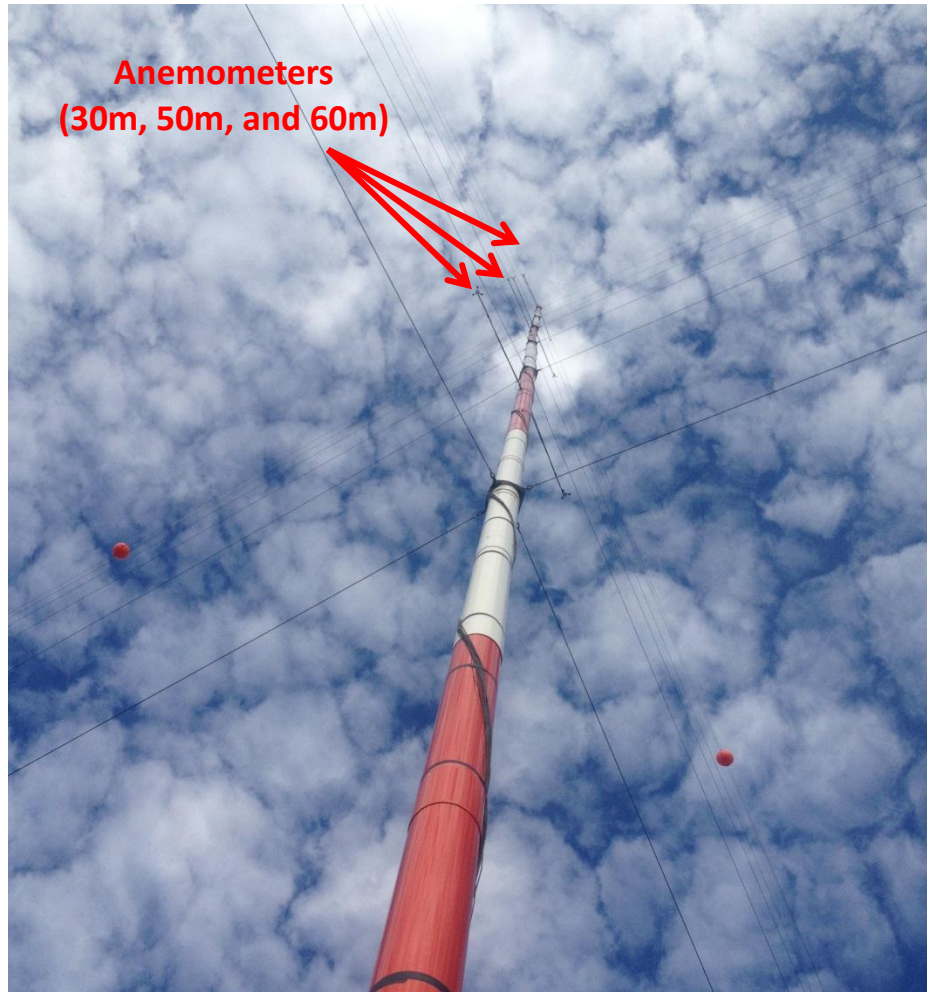
The met tower has no foundation, therefore requires four sets of anchored guy wires to support the structure, with the farthest guy wire anchor placed approximately 164 feet from the base of the tower, therefore the entire structure and associated support structures will be installed away from the property line and roads.

**4. How often is the tower accessed for maintenance?**

Normal maintenance is conducted once a year unless there is extraordinary reason to visit the site. Extraordinary reasons could include damage from extreme wind, lightning strike, or if the data uplink is interrupted over a period of time.

##### 5. Do the attachments move or rotate?

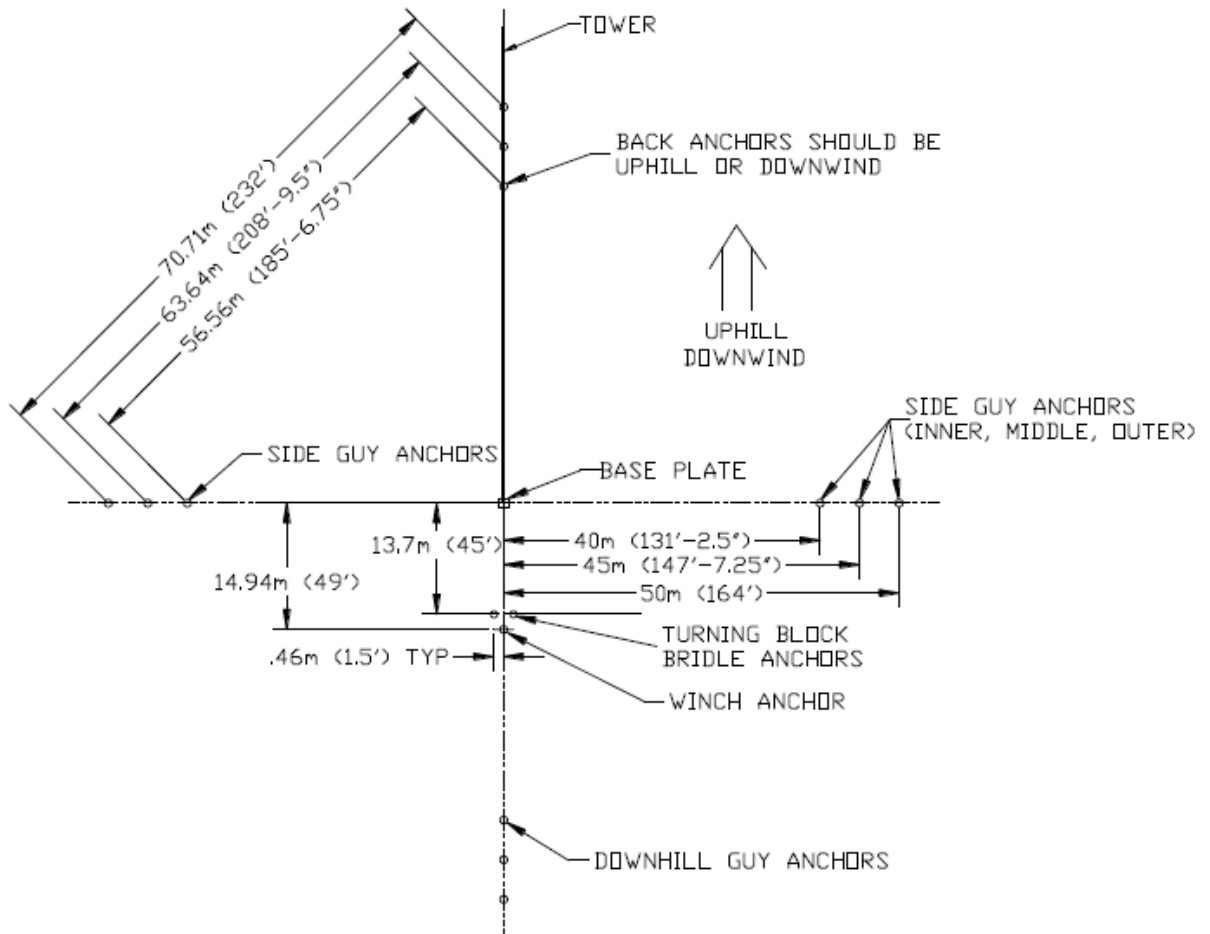
Below is a photo looking up at an installed meteorological tower. There are three pairs of anemometers placed at 30, 50, and 60 meters. The anemometers consist of three “cups” that rotate depending on wind speed and are approximately six inches across. Although the anemometers rotate, the rotation is contained within the approximately 6 inch diameter.



Closeup view of an anamometer

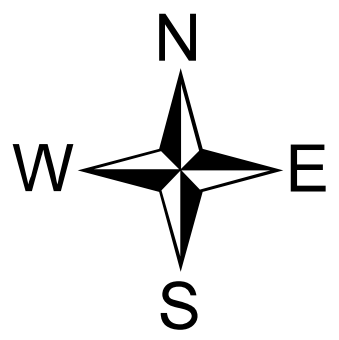
6. Please provide an elevation of the tower showing dimensions, height of equipment attached, any GPS units (that extend height), etc.

In addition to the first photo used to address the previous question, below is a cross section showing placement of guy wires and anchors. Neither the tower, nor any associated equipment will exceed the maximum height of 60m (approximately 196 feet).



We will prepare the landowner list and have it ready for submittal with the application.

# Douglas County Air Uses



## Legend

### Towers

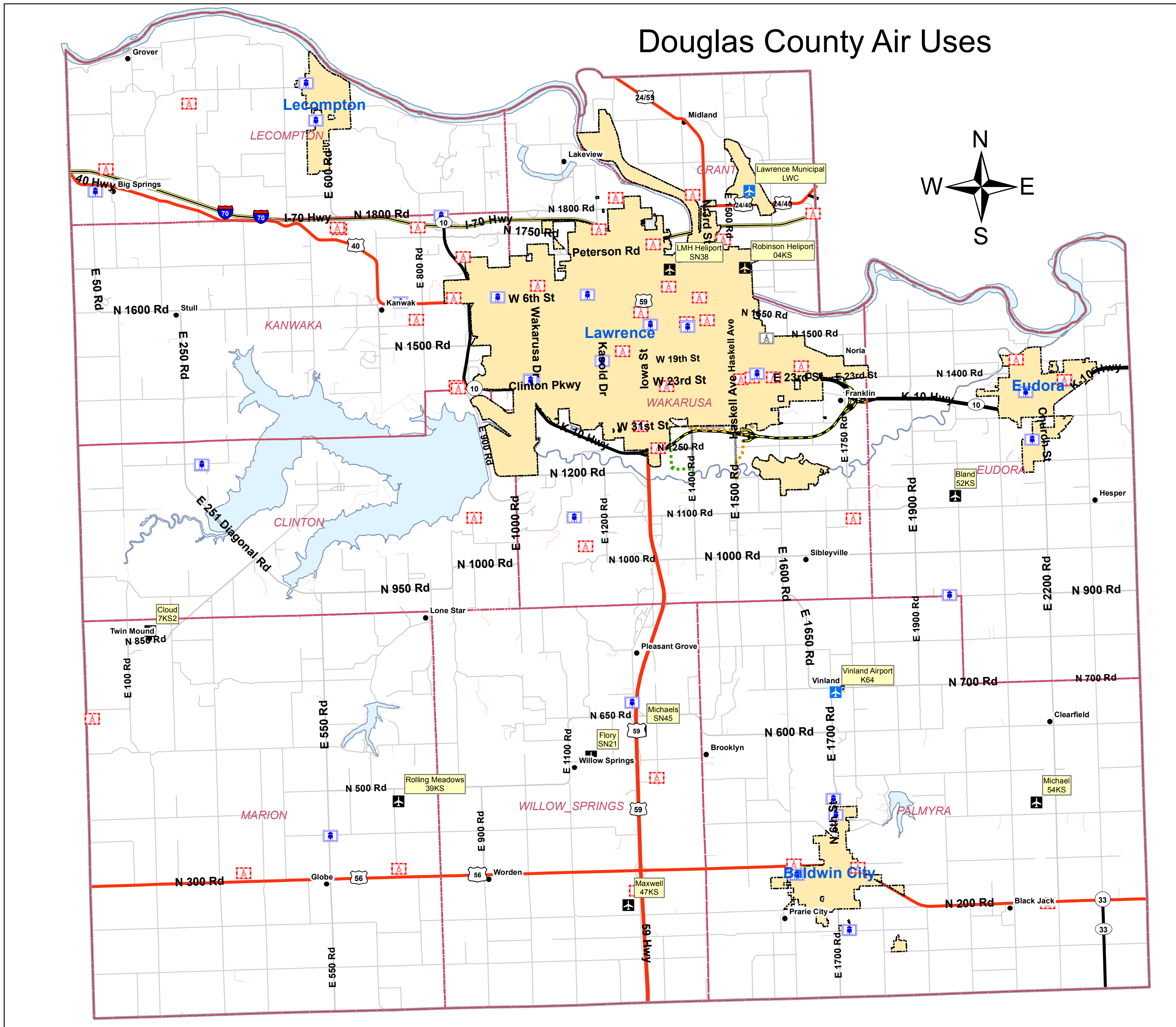
#### TYPE

- COMMUNICATION
- TV
- WATER

### County Airports / Helipads

#### Entity

- Private
- Public
- City Limits - Douglas County
- township
- County Limits
- Water Bodies
- Townsites



0 2 4 8 Miles

1 in = 2 miles