



Rowan County Planning and Development Department

402 North Main Street, Suite 204 • Salisbury, NC 28144-4341

Office: 704-216-8588 Fax: 704-638-3130

MEMORANDUM

TO: Chairman Edds and Rowan County Board of Commissioners
FROM: Shane Stewart, Assistant Planning Director
DATE: September 9, 2016
RE: **CUP 07-16**

SUGGESTED BOARD OF COMMISSIONERS ACTION

- Sworn oath for those testifying
- Receive staff report
- Petitioner comments
- Conduct quasi-judicial hearing
- Close hearing and discuss
- Three separate motions to adopt findings of fact
- Motion to Approve / Deny / Table **CUP 07-16**

REQUEST

O2 EMC, LLC is requesting a conditional use permit to construct a five (5) megawatt photovoltaic solar energy system a 44.2 acre portion of a 103 acre parcel owned by William Barber located at the 2100 Block of Graham Rd. referenced as Tax Parcel 762-006 (see attached site plan).

CONDITIONAL USE REQUIREMENTS

Section 21-60 (4) of the Zoning Ordinance indicates solar energy systems larger than 6,000 sq.ft. are subject to the following standards (**staff comments in bold text**):

1. *Setbacks.* Solar collectors shall be located a minimum of fifty (50) feet from adjoining property lines. **The proposed site plan indicates all solar panel arrays will be more than 50 feet from adjoining property lines.**
2. *Airport Zone Overlay (AZO).* Systems proposed within ten thousand (10,000) feet of the extended runway approach surface of the AZO shall provide an approved FAA form 7460. **N/A. The proposed site is not located within the approach surface of the AZO.**

EVALUATION CRITERIA

As provided in Section 21-59, the applicant has provided responses to the evaluation criteria with staff comments indicated below.

- 1. Adequate transportation access to the site exists.** The property contains 676 feet of frontage along Graham Rd. with an existing driveway serving the farm. Per NCDOT staff, this location contains adequate site distance to obtain a commercial driveway permit (potential condition if approved).
- 2. The use will not significantly detract from the character of the surrounding area.**

During the 2013 zoning ordinance amendment process focused on solar energy systems, it was agreed that these uses are generally appropriate in rural settings and within the Rural Agricultural (RA) district. This request is the 10th solar energy system application received to date and the 8th in the RA zoning district.

Surrounding Land Uses include:

North: Agricultural crop lands and wooded property.

South: Back Creek and its associated floodplain, large areas of agricultural crop and pasture land.

East: Large areas of agricultural crops including property part of the Piedmont Research Station for North Carolina.

West: Several residences along Graham Rd. mixed with smaller agricultural uses including the Twin Oaks Equine Center at 2220 Graham Rd.

This property is located within a very large active agriculture area containing croplands and cattle pastures primarily owned by the Brown, Hodge, Lylerly, and Moore families. As indicated by section six (6) below, the solar arrays should mainly be visible to active farmland and, to a much lesser degree, a couple of residences. The West Rowan Land Use Plan does not provide specific recommendations for the proposed land use.

The subject property contains Bear Poplar Farm, which consists of organic beef cattle, pick your own blueberries, and, per the property owner, will contain a diverse series of agricultural ventures adjacent to the proposed solar facility. Additionally, this property is currently located within a voluntary agricultural district, which would need to be amended by the agricultural advisory board to exclude the solar area. If approved, the BoC should add this as a condition of approval.

3. **Hazardous safety conditions will not result.** A six (6) foot chain link security fence is proposed to restrict access to the facility with warning signage posted at 120 foot intervals around the facility. No hazardous safety conditions are envisioned. A certified water point source (66-001) referred to a “Rand’s Pond” is located 500’ north of the site entrance serving as a reliable source for fire suppression for the West Rowan Fire District.
4. **The use will not generate significant noise, odor, glare, or dust.** If approved, the installation phase should generate more noise and dust than during operation based on the passive nature of this use. From staff’s experience at similar sites, the inverters exhibit a “hum”, which should be minimal and should not exceed the noise ordinance levels. Dust levels during operation should also be largely attributed to the infrequent trips along the driveway.

The reflectivity (albedo), of the panels should be minimal since they are designed to absorb the sun’s energy rather than reflect. Surprisingly, most solar panels have similar if not lower albedo levels than agricultural crops, grass, and bodies of water (Source: Oke: 1992 and Ahrens: 2006 by means of *Encyclopedia of Earth “Albedo”*, 2010 and *Photovoltaic Engineering Handbook*, Lasnier and Ang: 1990).

Odor – N/A.

5. **Excessive traffic or parking problems will not result.** Once construction is complete, only infrequent trips for system and property maintenance should be expected, which would add a nominal number of vehicles to Graham Rd. The site plan proposes two (2) permanent gravel parking spaces to accommodate potential site visitors.
6. **The use will not create significant visual impacts for adjoining properties or passersby.** The proposed facility should primarily be visible to undeveloped property and agricultural lands. As best staff can discern, the solar facility would be visible from two (2) sections of Graham Rd. (site entrance and 2500 Block) and minimally visible from three (3) residences along Graham Rd. The residence at 2575 Graham Rd. serves as the nearest property improvement located 440 feet away, which would also experience the greatest visual impact. Should this impact serve as a point of concern, an evergreen hedge could be required as a condition of approval. Visual impacts from the two (2) other residences at 2440 and 2540 Graham Rd. should be minimal based on tree coverage and separation distances of 830 and 1,005 feet respectively.

PROCEDURES

The BoC must adopt facts supporting the below findings of fact based on the above six (6) criteria:

1. The development of the property in accordance with the proposed conditions will not materially endanger the public health or safety;
2. That the development of the property in accordance with the proposed conditions will not substantially injure the value of adjoining or abutting property, or that the development is a public necessity; and
3. That the location and character of the development in accordance with the proposed conditions will be in general harmony with the area in which it is located and in general conformity with any adopted county plans.

See enclosed checklist to guide decision. Planning Staff will provide example findings for consideration at the hearing.

STAFF COMMENTS

It is generally accepted that the predominant “impact” associated with solar facilities is visibility. As indicated in section six of this report, visibility should be minimal based on the limited number of nearby residences and small sections of visibility along Graham Road. If approved, the following three (3) conditions should be included:

1. Obtain driveway permit prior to the issuance of a zoning permit;
2. Maintain warning signage around the fence perimeter at 120 foot intervals; and
3. Adhere to applicable standards of Chapter 8.5 of the Code of Ordinances (Farmland Preservation) regarding the voluntary agricultural district status.