



**LINCOLN COUNTY PLANNING & INSPECTIONS DEPARTMENT**  
302 NORTH ACADEMY STREET, SUITE A, LINCOLNTON, NORTH CAROLINA 28092  
704-736-8440 OFFICE 704-736-8434 INSPECTION REQUEST LINE 704-732-9010 FAX

To: Board of Commissioners  
Planning Board

From: Randy Hawkins, Zoning Administrator

Date: February 13, 2015

Re: CUP #341  
Freemont Solar Center, LLC, applicant  
Parcel ID# 30054 and 51301 (portions of each)

*The following information is for use by the Lincoln County Board of Commissioners and Planning Board at their joint meeting/public hearing on March 2, 2015. (This hearing was originally scheduled for February 2, 2015, but the applicant requested a postponement.)*

### REQUEST

The applicant is requesting a conditional use permit to establish a solar farm in the R-T (Transitional Residential) district. Under the Unified Development Ordinance, a solar farm may be permitted in the R-T district only where approved by the Board of Commissioners through conditional use review.

### SITE AREA AND DESCRIPTION

The proposed 40-acre site is located on the east side of N.C. 16 bypass about 3,500 feet south of Sedgebrook Drive West. The site would be accessed via Avenel Lane, a private road off Sedgebrook Drive West, a state-maintained road. The site is adjoined by property zoned R-T and PD-MU (Planned Development Mixed Use) and by a railroad. Land uses in this area are primarily residential and agricultural. The site is located in an area designated by the Lincoln County Land Use Plan as Residential Suburban.

### SOLAR FARM STANDARDS

The UDO establishes the following standards for a solar farm:

#### **§4.3.7. Solar Farm**

- A. All structures and security fencing shall be set back a minimum of 50 feet from property lines and road right-of-ways.

- B. Where a site abuts a public road or property with a residential use, the following screening shall be provided unless a modification is approved by the Board of Commissioners: two parallel rows of evergreen trees or shrubs, a minimum of five feet in height at planting, arranged in a staggered manner a maximum of 10 feet apart in each row, with the rows a maximum of 10 feet apart.
- C. No panel structures shall be greater than 20 feet in height.
- D. The electrical collection system shall be placed underground except near points of interconnection with the electric grid.
- E. A map analysis showing a radius of five nautical miles from the center of the project with any airport operations in the area highlighted shall be submitted with the conditional use permit application. If a Federal Aviation Administration (FAA) regulated airport is located within the radius, all required information shall be submitted to the FAA for review. Proof of delivery of notification and date of delivery shall be submitted with the permit application.
- F. A decommissioning plan signed by the party responsible for decommissioning and the landowner shall be submitted with the permit application and shall be recorded with the Register of Deeds prior to final electrical inspection. The plan shall include the following information: defined conditions upon which decommissioning will be initiated, the anticipated manner in which the solar farm project will be decommissioned and the site restored, a timetable for completion of decommissioning, description of any agreement with the landowner regarding decommissioning, the party responsible for decommissioning, and plans for updating the decommissioning plan.
- G. A solar farm that ceases to produce energy on a continuous basis for 12 months shall be considered abandoned and the property owner and other responsible party shall be required to decommission the facility and restore the site to its prior condition within 12 months from the time that the facility is deemed to be abandoned, unless substantial evidence is presented to the Director of the intent to maintain and reinstate the operation of the facility.
- H. In the event the property owner and/or responsible party fail to timely decommission the solar farm facility as required above, Lincoln County and the Director shall be entitled to take all measures allowed by this UDO and the North Carolina General Statutes, including, but not limited to, the right to levy penalties as provided in §11.2.1, the right to obtain a permanent injunction ordering the removal of such solar farm facility, and the right to obtain a court order permitting Lincoln County to remove such solar farm facility.



# County Of Lincoln, North Carolina

## Planning Board

Applicant **Freemont Solar Center, LLC**

Application No. **CUP #341**

Parcel ID# **30054 and 51301 (portions of each)**

Zoning District **R-T**

Proposed Conditional Use **solar farm**

### **FINDINGS OF FACT**

1. The use will not materially endanger the public health or safety if located where proposed and developed according to plan. YES \_\_\_\_\_ NO \_\_\_\_\_

FACTUAL REASONS CITED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. The use meets all required conditions and specifications. YES \_\_\_\_\_ NO \_\_\_\_\_

FACTUAL REASONS CITED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. The use will not substantially injure the value of adjoining or abutting property unless the use is a public necessity. YES \_\_\_\_\_ NO \_\_\_\_\_

FACTUAL REASONS CITED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. The location and character of use, if developed according to the plan as submitted and approved, will be in harmony with the area in which it is to be located and will be in general conformity with the Land Use Plan for the area in question. YES \_\_\_\_\_ NO \_\_\_\_\_

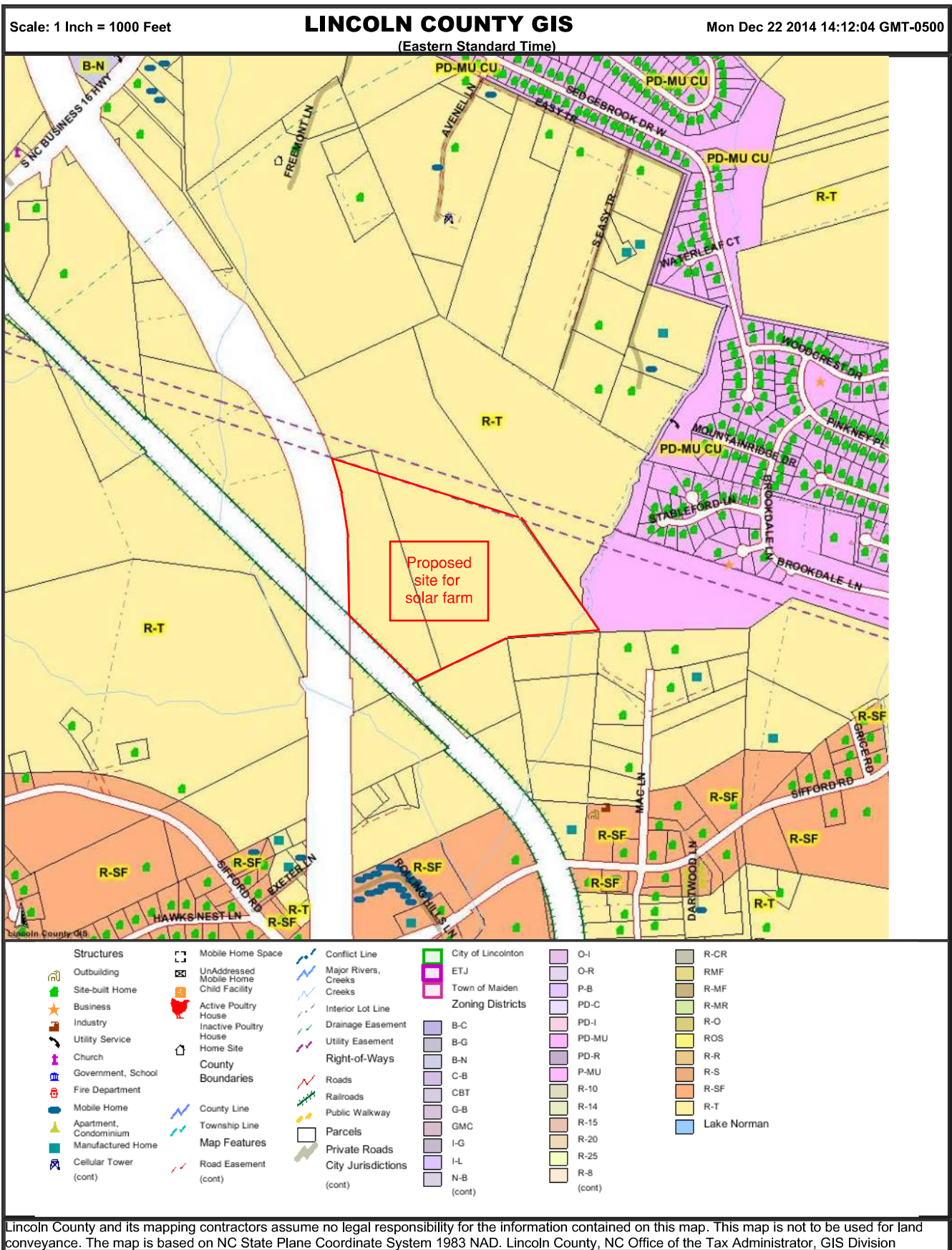
FACTUAL REASONS CITED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

After having held a Public Hearing on \_\_\_\_\_ and in light of the Findings of Facts listed herein, the following action was taken by the Lincoln County Planning Board:

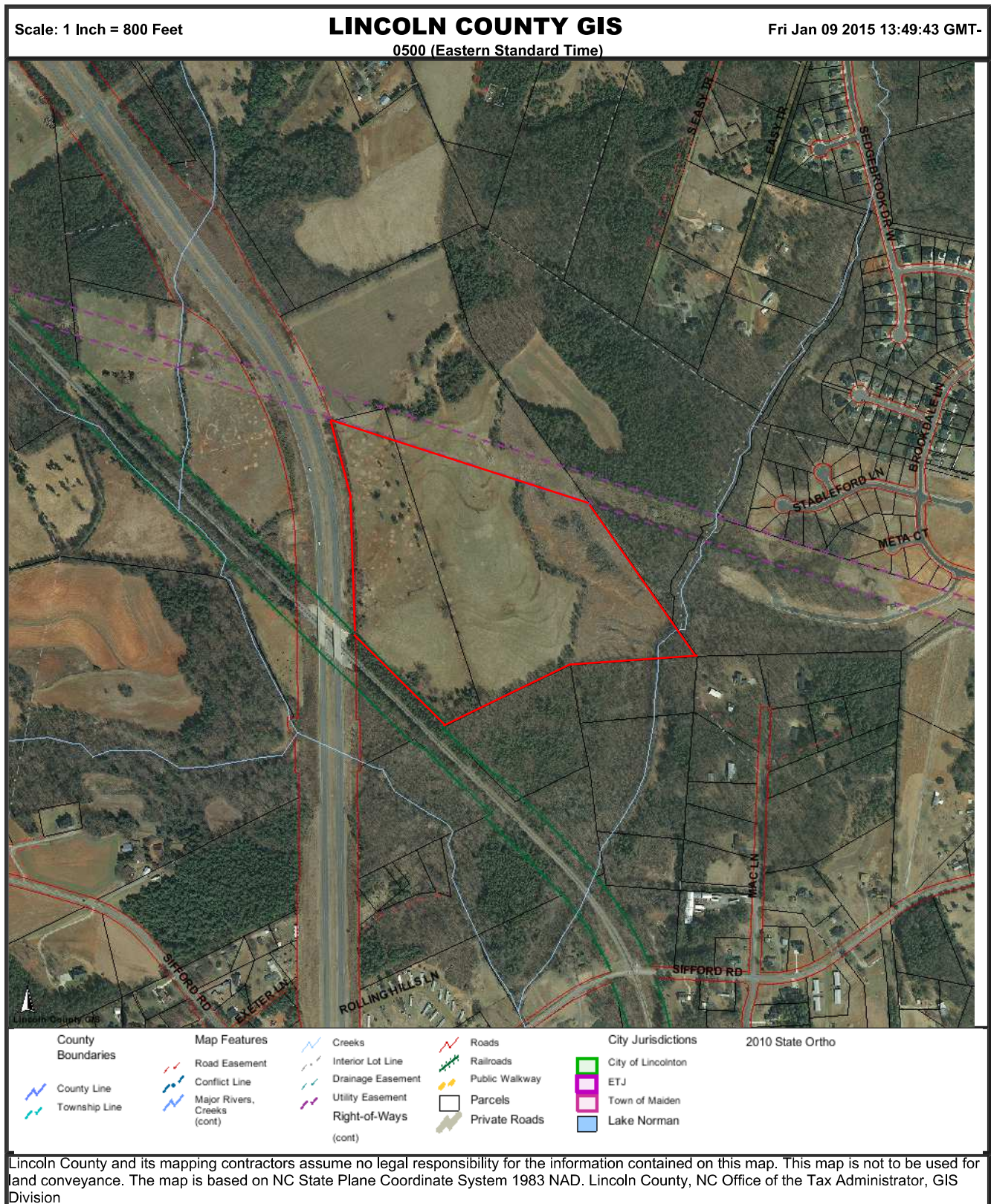
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In recommending such Conditional Use, the following conditions were recommended by the Lincoln County Planning Board:

\_\_\_\_\_  
\_\_\_\_\_







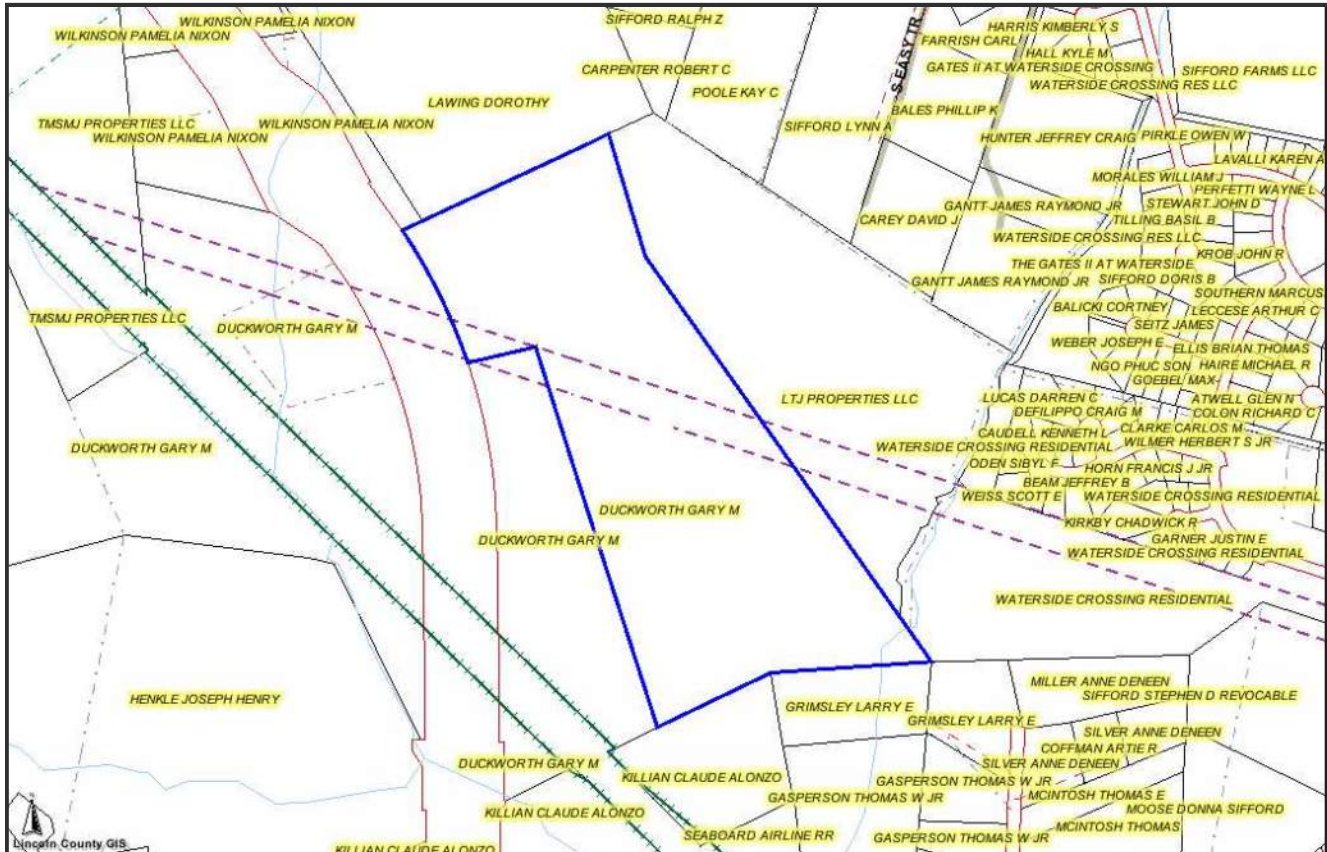
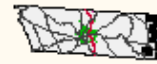




## Lincoln County, NC

Office of the Tax Administrator, GIS Mapping Division  
 Lincoln County and its mapping contractors assume no legal responsibility for  
 the information contained on this map. This map is not to be used for land  
 conveyance. The map is based on NC State Plane Coordinate System 1983 NAD.

Date: 1/9/2015 Scale: 1 Inch = 800 Feet



### PHOTOS



Photo Not  
Available

### PARCEL INFORMATION FOR 4601-56-3475

<b>Parcel ID</b>	<b>30054</b>	<b>Owner</b>	DUCKWORTH GARY M DUCKWORTH JANET S
<b>Map Account</b>	<b>4601-02</b>	<b>Mailing Address</b>	857 S HWY 16 STANLEY NC 28164
<b>Deed</b>	<b>1266-135</b>	<b>Recorded</b>	8/7/2001
<b>Land Value</b>	<b>\$285,301</b>	<b>Total Value</b>	\$285,301
----- All values are for tax year 2014. -----			
<b>Description</b>	KAY LAND OFF RD 1394		
<b>Address</b>	MAC LN		
<b>Township</b>	CATAWBA SPRINGS		
<b>Improvement</b>	No Improvements		
<b>Zoning District</b>	<b>Calculated Acres</b>	<b>Voting Precinct</b>	<b>Calculated Acres</b>
R-T	53.12	LOWESVILLE (LW31)	53.12
<b>Watershed Class</b>	<b>Calculated Acres</b>	<b>Sewer District</b>	<b>Calculated Acres</b>
WS-IVP	53.12	Not in the sewer district	53.12
<b>2000 Census County</b>	<b>Tract</b>	<b>Block</b>	
37109	071100	3003	53.12
<b>Flood</b>	<b>Zone Description</b>	<b>Panel</b>	
X	NO FLOOD HAZARD	3710460100	53.12

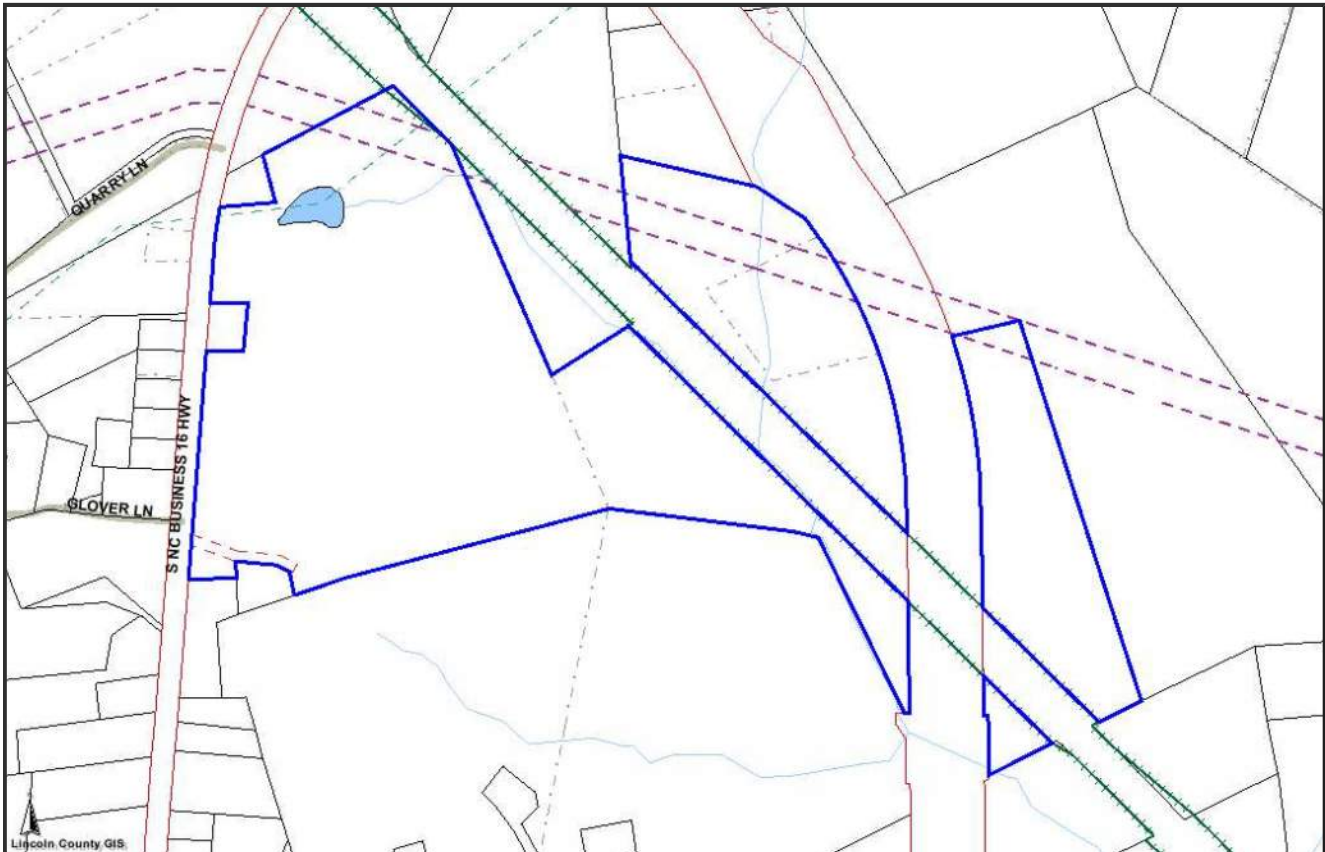
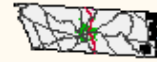


## Lincoln County, NC

### Office of the Tax Administrator, GIS Mapping Division

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Date: 1/9/2015 Scale: 1 Inch = 800 Feet



#### PHOTOS



51301

#### PARCEL INFORMATION FOR 4601-26-9542

<b>Parcel ID</b>	<b>51301</b>	<b>Owner</b>	DUCKWORTH GARY M
<b>Map</b>	<b>4601-01</b>	<b>Mailing</b>	857 S NC 16 HWY
<b>Account</b>	37867	<b>Address</b>	STANLEY NC 28164-8707
<b>Deed</b>	633-69	<b>Recorded</b>	10/6/2008
<b>Land Value</b>	\$1,077,913	<b>Total Value</b>	\$1,248,021
<b>----- All values are for tax year 2014, -----</b>			
<b>Description</b>	J DUCKWORTH/HWY 16	<b>Sale Price</b>	0
<b>Address</b>	857 S NC 16 HWY	<b>Previous Parcel</b>	
<b>Township</b>	CATAWBA SPRINGS	<b>Deed Acres</b>	0
<b>Main Improvement</b>	RANCH	<b>Tax Acres</b>	114.86
<b>Main Sq Feet</b>	2112	<b>Value</b>	\$138,094
<b>Unfinished Basement</b>	1267	<b>Stories</b>	1
<b>1 Year Built</b>	1950	<b>Calculated Acres</b>	114.86
<b>Zoning District</b>	R-T	<b>Voting Precinct</b>	LOWESVILLE (LW31)
<b>Watershed Class</b>	Not in a watershed	<b>Sewer District</b>	Not in the sewer district
<b>2000 Census County</b>	37109	<b>Tract</b>	071100
<b>Flood</b>	X	<b>Block</b>	3003
<b>Zone Description</b>	NO FLOOD HAZARD	<b>Panel</b>	3710460100
			114.86



Lincoln County Planning and Inspections Department  
Randy Hawkins  
Zoning Administrator  
302 N. Academy St., Suite A  
Lincolnton, NC 28092

**December 8, 2014**

**Re: Conditional Use Permit Application  
For a 4.99MWac Solar Farm at  
857 S. Hwy. 16, Stanley, NC 28164**

Dear Mr. Hawkins:

Freemont Solar Center, LLC is pleased to submit a complete Conditional Use Permit application for the development, construction and operation of a solar farm at 857 S. Hwy. 16, Stanley, NC 28164. HelioSage is the developer and sole member of Freemont Solar Center, LLC. HelioSage is under contract via a lease option with the landowners (Mr. Gary M. and Mrs. Janet S. Duckworth). If a conditional use permit is approved, Freemont Solar Center will install, own, and operate the solar farm for a minimum of 15 years on the property. Under the terms of the lease and decommissioning plan, the solar farm will be removed at the end of the lease term.

Please find included in this application package:

1. \$750 Application Fee (Check)
2. Completed and signed CUP application form
3. Proposed Statement of Findings
4. Site Plan (18 copies)
5. FAA airport analysis map (18 copies)
6. Decommissioning Plan signed by landowner (18 copies)

Please do not hesitate to reach me with any questions.

Andrew Foukal  
Vice President of Operations  
HelioSage, LLC  
[afoukal@heliosage.com](mailto:afoukal@heliosage.com) | 434 293 7589

**WISDOM IN SUN**

117 4th Street SE, Suite B | Charlottesville, VA 22902 | 434.293.7589 | [info@heliosage.com](mailto:info@heliosage.com)





## **Conditional Use Permit Application**

Lincoln County Planning and Inspections Department  
Zoning Administrator  
302 N. Academy St., Suite A, Lincolnton, NC 28092  
Phone: (704)736-8440 FAX: (704)732-9010

### **PART I**

Applicant Name Freemont Solar Center, LLC

Applicant Address PO Box 2055, Charlottesville, VA 22902

Applicant Phone Number 434-293-7589

Property Owner Name Gary M. and Janet S. Duckworth

Property Owner Address 857 S. Hwy. 16, Stanley, NC 28164

Property Owner Phone Number (704) 827-9205

### **PART II**

Property Location 857 S. Hwy. 16, Stanley, NC 28164

Property ID (10 digits) 4601563475, 4601269542 Property size 53.12 acres, 114.86 acres

Parcel # (5 digits) 30054, 51301 Deed Book(s) 1266, 633 Page(s) 135, 69

### **PART III**

Existing Zoning District R-T

Briefly describe how the property is being used and any existing structures.

Areas that would be impacted by the new use are being used for agriculture only

Briefly explain the proposed use and/or structure which would require a Conditional Use Permit.

Solar PV farm

**\$750 APPLICATION FEE MUST BE RECEIVED BEFORE PROCESSING.**

*I hereby certify that all knowledge of the information provided for this application and attachments is true and correct to the best of my knowledge.*

 12/2/14  
Applicant's Signature Date

Kyle S. West, Director of Development, HelioSage LLC

## **Proposed Findings of Fact – Freemont Solar Center**

- 1. The use will not materially endanger the public health or safety if located where proposed and developed according to plan.**

Yes - The solar PV facility will be designed and built to code and will not materially endanger the public health and safety. All electrical components will be UL-listed and NEC-compliant. Components will be surrounded by chain link fencing for security and safety of the public. The facility will not produce any emissions or contain hazardous materials.

- 2. The use meets all required conditions and specifications.**

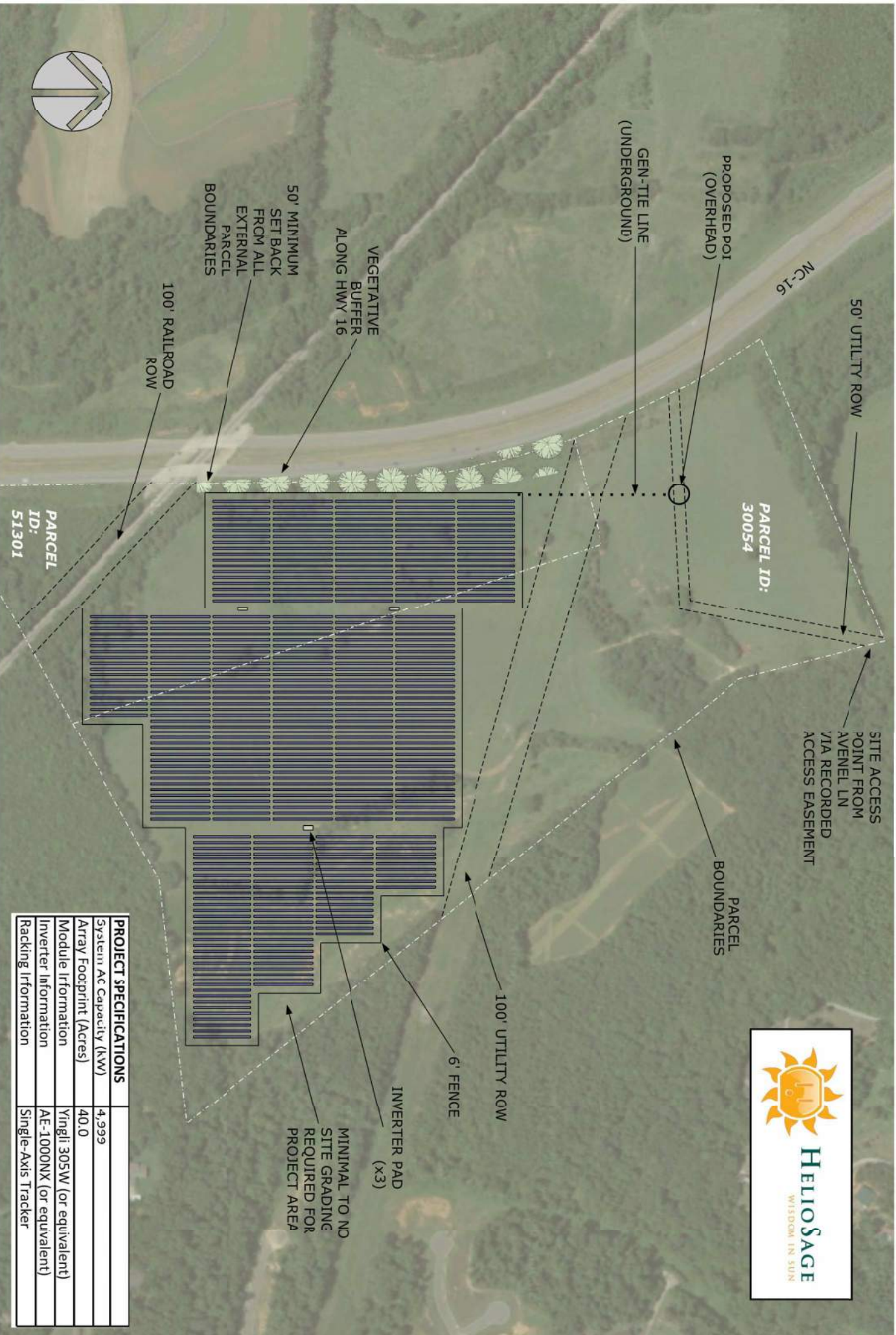
Yes - A solar power generation facility is a conditional use in R-T districts. The site plan meets all setback, screening, height, and wiring requirements listed as part of the Lincoln County Unified Development Ordinance. The facility is located greater than 5 miles from any FAA-regulated airport. A decommissioning plan for the facility has been drafted and provided as part of the conditional use permit application.

- 3. The use will not substantially injure the value of adjoining or abutting property unless the use is a public necessity.**

Yes - There is no research proving that the value of properties adjoining or abutting solar installations is positively or negatively impacted due to the presence of a solar installation. The facility will not generate significant noise, traffic, emissions, or glare, and will be visually screened in accordance with Lincoln County ordinance.

- 4. The location and character of use, if developed according to the plan as submitted and approved, will be in harmony with the area in which it is to be located and will be in general conformity with the Land Use Plan for the area in question.**

Yes - The site is remotely located away from residences and will be visually screened as necessary. The passive nature of this use fits well with this rural, agricultural, and low-density residential area.



PROJECT SPECIFICATIONS	
System Ac Capacity (kW)	4,999
Array Footprint (Acres)	40.0
Module Information	Yingli 305W (or equivalent)
Inverter Information	AE-1000NX (or equivalent)
Racking Information	Single-Axis Tracker

DWG NO.

PROJECT

DEVELOPER

NOTES

A1.02

CONCEPTUAL SITE PLAN

FREMONT SOLAR CENTER

HELIOUSAGE ENERGY

11/26/2014

DRAWN BY: B. COMBS

857 NC HWY 16, STANLEY, NC 28164

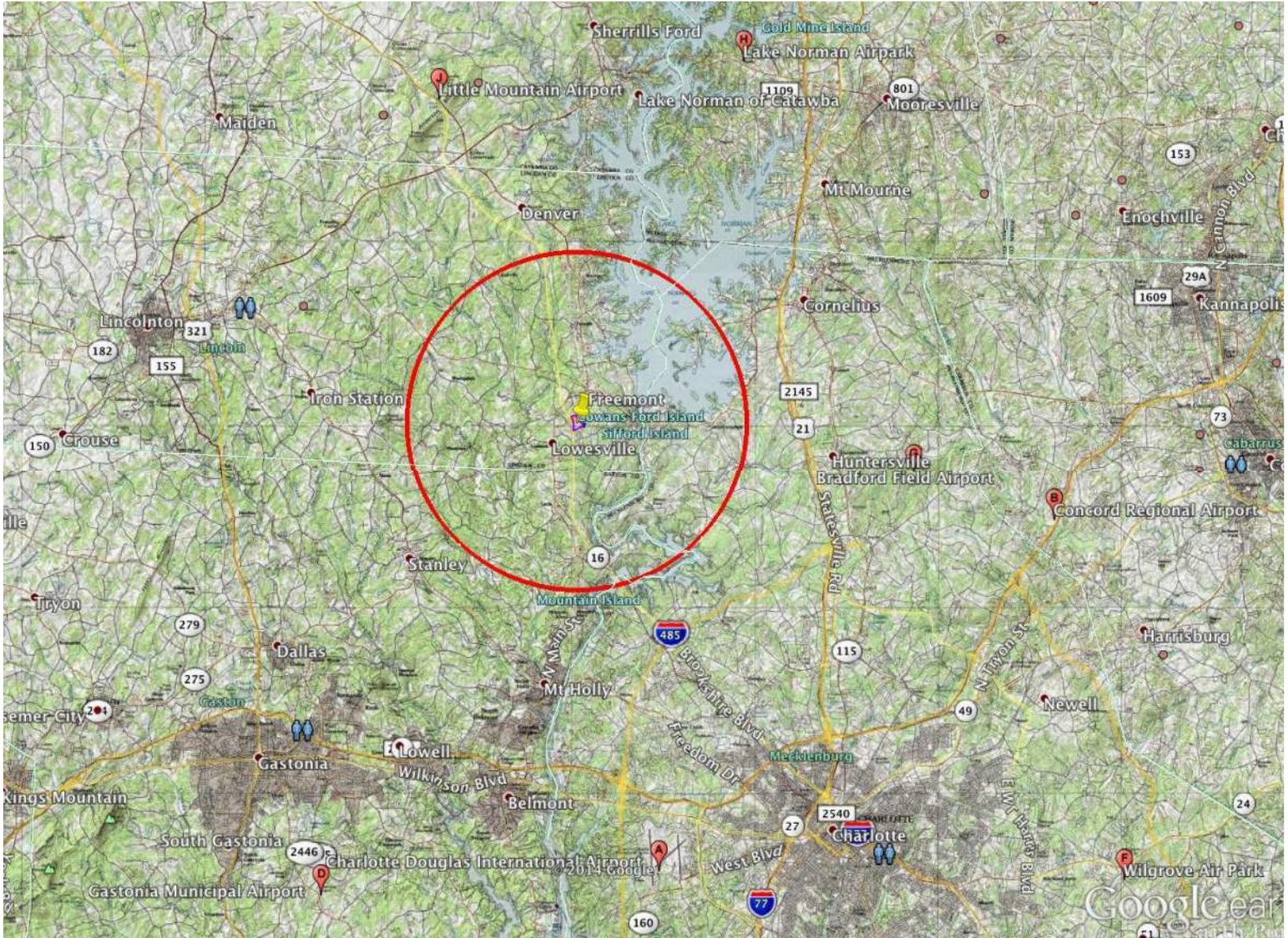
117 4TH STREET CHARLOTTEVILLE, VA 22902

1. Equipment is representative only and may change based on availability and market conditions.
2. This drawing is a preliminary design - not for construction.
3. All dimensions specified here are for reference only; do not scale this drawing.





**FAA Map Analysis – Freemont Solar Center**  
**Stanley, NC**





*Freemont Solar Center:  
Decommissioning Plan*

Prepared by:

HelioSage Energy

117 4<sup>th</sup> Street SE, Suite B | Charlottesville, VA 22902

Tel: 434-293-7589 | Fax: 434-293-4749 | [www.heliosage.com](http://www.heliosage.com)



## **PART 1**

### **I. BACKGROUND**

PV facility decommissioning is generally described as the removal of all system components and the rehabilitation of the site to pre- construction conditions. The typical goal of project decommissioning and reclamation is to remove the installed power generation equipment and return the site to a condition as close to a pre- construction state as feasible.

Deconstruction procedures are designed to ensure public health and safety, environmental protection, and compliance with applicable regulations. Typical activities during a solar energy facility decommissioning and site reclamation phase include facility de-energization, PV module removal, dismantle and demolition of above grade structures, removal of concrete pads and foundations, dismantle and removal of all aboveground and belowground utilities, debris management including hauling, temporary erosion control, removal of access roads that are not maintained for other uses, removal of security fencing, regrading, and revegetation.

Much of the solid material waste can be recycled or sold as scrap.

### **II. FACILITY MATERIALS**

PV facilities are constructed using the same basic materials and methods of installation common to their application. Materials include:

Metals: Steel from pier foundations, racking, conduits, electrical enclosures, fencing, equipment buildings, and storage containers; aluminum from racking, module frames, electrical wire, and transformers; stainless steel from fasteners, electrical enclosures, and racking; copper from electrical wire, transformers, and inverters.

Concrete: Equipment pads and footings.

PV Cells: PV Modules are typically constructed of glass front sheets (some used glass back sheets as well), plastic back sheets and laminates, semiconductor rigid or thin film silicon cells, internal electrical conductors (aluminum or copper), silver solder, plus a variety of micro materials. The semiconductor PV cell materials represent a very small part of a PV module's weight, between 1 and 2%. As manufacturers pursue lower cost modules, thinner layers of semiconductor materials are used which reduces this percentage. The most commonly used semiconductor material for the construction of PV modules is silicon. Other materials used for the construction of photovoltaic modules are polycrystalline thin films include copper, indium, cadmium, and telluride. In addition to the glass and aluminum, Silicon can be recycled by a specialty electronics recycler.

Glass: Most PV modules are approximately 80% glass by weight. There are certain





modules, which use plastic and/or metal sheets for their foundations, however these are very specialized in their application and are generally not used for ground mounted projects.

Plastics: A limited amount of plastic materials are used in PV systems due to a system's continuous exposure to the elements and long operational lifetime. Plastics typically are found in PV facilities as wire insulation, electrical enclosures, control and monitoring equipment, and inverter components. Additionally plastic laminate films are used in most PV module assemblies.

Wood: Used vary sparingly due to the 20-35 year planned lifetimes of these facilities.

It is generally agreed that the metals in PV Facilities will be highly valued as recycled materials when these facilities are deconstructed. In the limited number of facility deconstruction projects performed to date, the revenue from the recycling of these materials was found to cover the removal and transportation costs of these materials.

If a facility is operational at the time of decommissioning and the PV modules are producing within specifications, there is a likely outlet for the used PV modules into a secondary market. It is generally accepted that the existing global market for used solar PV panels will be even more robust in the future.

**PART 2****I. Freemont Solar Center LLC shall:**


- a. Be responsible for all decommissioning costs;
- b. Obtain any additional permits required for the decommissioning, removal and legal disposal of Project components prior to commencement of decommissioning activities;
- c. Dispose complete decommissioning, including component removal and disposition, grading and re-vegetation in accordance with permits and in compliance with all applicable rules and regulations then in effect governing the disposal thereof; and
- d. Remove all hazardous materials and transport them to be disposed of by licensed contractors at an appropriate facility in accordance with rules and regulations governing the disposal of such materials.

**II. Estimated Cost to Decommission**

The Estimated Cost of Decommissioning the Project is \$22,558 in 2014 dollars. A breakout of the cost elements is incorporated into this Plan as Appendix A with a majority of the material being recycled so the net cost is much lower. The Estimated Cost of Decommissioning was prepared by Freemont Solar Center LLC, which is knowledgeable and experienced with solar projects and cost estimating procedures.

**III. Decommissioning Conditions and Timeframe**

As written into the lease documentation signed by the landowner (the Landlord), Freemont Solar Center LLC (the Tenant) shall be entitled to remove the generating facility or any part thereof and any related equipment from the Site or the Easement Lands at any time upon reasonable notice to Landlord. Freemont Solar Center shall be obligated to remove the Generating Facility within one hundred eighty (180) days after the expiration or other termination of the term of said lease.

  
Landowner Signature and Date  
12/2/2014

  
HelioSage Signature and Date  
12/8/14

## Appendix – A

### Freemont Solar Center 5.0 MWac Capacity Facility Decommissioning

Decommissioning Costs			
Category	Labor	Equipment	Total
1. Earthwork/Recontouring	58,578	49,846	\$ 108,424
2. Revegetation/Stabilization	81,074	156,206	\$ 237,279
3. Detoxification/Water Treatment/Disposal of Wastes	11,325	8,515	\$ 19,840
4. Structure/Equipment and Facility Removal	710,113	499,331	\$ 1,209,444
5. Monitoring	38,400	0	\$ 38,400
6. Construction Management and Support	210,535	56,682	\$ 267,217
Direct Decommissioning Construction Costs	1,110,025	770,580	\$ 1,880,604
7. Additional Costs	110,647	403,440	\$ 514,087
Total Decommissioning Costs	1,220,672	1,174,019	\$ 2,394,691
Recycled Materials Credit			
8. Fence	0	(121,856)	\$ (121,856)
9. AC and DC electric wiring	0	(953,651)	\$ (953,651)
10. Switchgear	0	(253,968)	\$ (253,968)
11. Steel Module Support	0	(529,806)	\$ (529,806)
12. Steel posts	0	(512,852)	\$ (512,852)
Total Recycled Materials Credit	0	(2,372,133)	\$ (2,372,133)
<b>NET FACILITY COST/(CREDIT)</b>	<b>\$ 1,220,672</b>	<b>\$ (1,198,113)</b>	<b>\$ 22,558</b>