

PLANNING & ZONING STAFF SUMMARY REPORT

MEETING DATE: DECEMBER 20, 2022

CASE # ETZ 2022-28

ROSWELL-CHAVES COUNTY EXTRATERRITORIAL PLANNING AND ZONING COMMISSION

ACTION REQUESTED:	Special Use Permit for a Community Solar Facility in the Rural Suburban District
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LAND OWNER & AGENT:	Guadalupe and Guadalupe Jr. Morales Chaberton Solar Guadalupe LLC
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LOCATION & LEGAL:	5800 block of S. Washington Avenue SW4SE4-S2NW4SE4-NE4NW4SE4 of Section 29, T.11S, R. 24E.
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ITEM SUMMARY	<p>The Morales and Chaberton Solar Guadalupe LLC are proposing a 5 MW community solar facility on 36.4 acres of the 70-acre parcel of land located at O'Connor Rd and Lea Ave. Mr. Morales is a resident of Chaves County. The surrounding area is zoned R-S with the exception of the lots to the south and across Hobson Rd., they are zoned R-1 Residential. The proposed site is not in the flight zone of the Roswell Air Center. The County Comp. Master Plan recommends that renewable energy facility be located in places that would have minimal impact on adjacent residential neighborhoods. Article 25 states reasons for granting a SUP shall; 1. not be a danger to public health and safety; 2. Not be detrimental to the economic welfare of the county; 3. Not be a nuisance; 4. meet the use standard for R-S district; 5. be compatible with the surrounding area; 6. conform with the 2016 Comp. Master Plan.</p>
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SUPPORTING DOCUMENTS	Staff Report, Application, Warranty Deed, Development Plan & Chaberton Solar Guadalupe LLC information, Vicinity Map.
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SUMMARY BY: Louis Jaramillo –Planning & Zoning Director

STAFF'S REPORT

CASE # ETZ 2022-28

Chaberton Solar Guadalupe LLC and Guadalupe and Guadalupe Jr. Morales are requesting a Special Use Permit for a community solar facility located along the 5800 block of S. Washington Ave. on the east side. The proposed solar facility would be located on the south portion (36.4 acres) of a large 70-acre lot. The proposed facility is not in the F-1 Flight Zone Area of the Roswell Air Center. The lot is accessible from O'Connor Road, S. Washington Ave., S. Lea Ave. and Hobson Rd. Affordable Solar Group LLC's site plan indicates the proposed community solar facility would be accessible from S. Washington Avenue only.

In 2021, the proposed site was over run with two feet of storm water due to the Macho/Rocky Array ponds, out west. Because of this, the agent has hired Sauder, Miller and Associates to conduct a preliminary drainage assessment of the property. Their report is included with this report. Also, the agent has attempted to contact the residential neighbors to the east and RISD as noted in their Community Engagement report. It seems the agent may have not contacted with the property owners to the south.

The proposed site and the properties to the west, north and east are zoned R-S Rural-Suburban District. The properties to the south and across Hobson Road are located in the City of Roswell, zoned Planned Unit Development (PUD)-Residential. The property to the north is RISD-Sunset Elementary School. The properties to the west are large parcels that are vacant. One of the vacant lots to the west is requesting a SUP for Community Solar Facility (ETZ 2022-26). The properties to the east consist of small residential lots that are either vacant or have a single wide residential dwelling unit. The properties to the south and within the city limits of Roswell, are all single-family residential homes.

O'Connor Road is a twenty-four-foot-wide County maintained road that runs from the Roswell Relief Route to S. Main Street. South Washington Avenue and South Lea Avenue are twenty-one-foot-wide County maintained roads that run from O'Connor Road to Hobson Road. Hobson Road is a city and county-maintained road along the Roswell Air Center. It is classified as a minor collector, in the City of Roswell's Comprehensive Master Plan.

Staff has reviewed Mitchell A. Pavao-Zuckerman's (2016 assistant professor University of Maryland) report which states that the measured ambient air temperature over a solar facility was warmer than the surrounding area by 5-7-degrees F (3-4 C), at night and that the added heat was unmeasurable and dissipated within 100 feet of the facility. The report also states the heat effect may be caused by the natural ground's, underneath the solar panels, inability to cool off as quickly as the surrounding area. (See attachment).

The 2016 Comprehensive Master Plan encourages new commercial or industrial uses be located in areas that are not injurious to residential neighborhoods and, when possible, along major highways and arterial roads. (Land Use 4.3) It also notes that new solar energy facilities should be located and designed to mitigate negative impacts on surrounding residential neighborhoods (Physical Appearance 4.4). The Future Land Use Scenario map recommends this area as Mid-Density Residential (5-10 residential

homes per acre) use which is really not possible in the ETZ area due to the 5-acre minimum lot size in the ETZ area.

If approved, Chaberton Solar Guadalupe LLC proposes to construct a twenty-four (24') foot service road along the perimeter of the facility for fire prevention and emergency service access. Chaberton Solar Guadalupe LLC has provided a development plan showing the solar panels will be ground based. The

facility would be fenced in for security reasons. (See Project Description for details.) The facility will tie into the nearby overhead electric line on O'Connor Road. Xcel Energy is unable to determine if they will be able to accept the 5-megawatt community solar facility on their distribution line.

Article 25 of the Roswell-Chaves County Extraterritorial Zoning Ordinance No. 80-1 states that a Special Use Permit shall not be transferable from one property owner or location to another. It lists four considerations the Commission must take into account when acting on a SUP. It also states six reasons for granting a Special Use Permit-1. not be a danger to public health and safety; 2. Not be detrimental to the economic welfare of the county; 3. Not be a nuisance; 4. meet the use standard for R-S district; 5. be compatible with the surrounding area; 6. conform with the 2016 Comp. Master Plan. The Article notes thirteen development restrictions or conditions the Commission may require as part of the approval such as screen fencing, additional setback requirements and size of the array farm, just to name a few. Finally, Article 25 gives reasons for revoking or terminating the Special Use Permit, such as but not limited to, failure to begin construction, the restrictions and conditions have not been met, or the use becomes detrimental to the public's health and safety. (See attachment)

Should the Special Use Permit receive favorable consideration, Staff recommends the following Conditions of Approval:

1. A twenty-four (24) foot wide hard pack, weather proof, service road shall be required along the perimeter the facility and within the fenced in area for fire and other emergency vehicles.
2. The location and development of the community solar facility shall conform to the presented and approved site plan, included in this report. Changes or modification by the Commission may be necessary for public health, safety and welfare or to compliance with other Conditions of Approval listed. Any modification to the location or an increase in size of the facility **made after** this public hearing shall require ETZ Commission's approval at a second public hearing.
3. Failure to complete the construction of the community solar facility within ten (10) years shall result in the Special Use Permit being terminated.
4. Chaberton Solar Guadalupe LLC shall apply for any necessary building and electrical permits for construction of the community solar facility within one year of being award the solar project.
5. Chaberton Solar Guadalupe LLC shall utilize the existing electric transmission lines in the area.

6. Chaberton Solar Guadalupe LLC shall provide a de-commissioning and restoration plan for this property.
7. All lighting used on-site shall be shielded from traffic, surrounding properties and shall comply with the NM Night Sky Act.
8. All solar panels and their foundations shall be setback from all property lines a minimum of one hundred (100) feet to reduce the effects on the surrounding residential lots and public school.
9. A minimum (6) six-foot security fence around the perimeter of the facility.

Findings of Fact:

1. The proposed solar facility **(is or is not)** be a low impact commercial use in a vacant area and would be an economic benefit to the community with rising utility costs, and to assist in the costly and limited space for personal solar facilities on one's private property.
2. The proposed solar facility **(may or may not)** conforms with the requirements for approval as stated in Article 25 of the Roswell-Chaves County ETZ Ordinance 80-1.
3. The proposed Special Use Permit **(may or may not)** correspond with the recommendation of the Chaves County 2016 Comprehensive Master Plan.
4. Owner's within 100 feet of the proposed Special Use Permit have been notified of this public hearing by certified and standard mail, per Section 2.5 of the Roswell-Chaves County Extraterritorial Zoning Ordinance No. 80-1. Staff has received a number of phone calls concerning this case but no protest letters have been received at the time of this writing.
5. Planning and Zoning Staff have advertised this meeting in the local Roswell Daily Record 15 days prior to today's public hearing per the Roswell-Chaves County Extraterritorial Zoning Ordinance No. 80-1.



CHAVES COUNTY/ETZ ZONING ORDINANCE

APPLICATION FOR A **SPECIAL USE PERMIT**

Case Number: _____ Date Received: _____ Fee: _____

Name of Property Owner: Guadalupe Morales Phone Number: 575-910-2442
 Mailing Address: 36 Harris Pl, Roswell, NM, 88203
 Name of Applicant: Chaberton Solar Guadalupe LLC
 Mailing Address: 11900 Parklawn Dr, Suite 406 Home Phone Number: 202-792-4364
 City, State, Zip: North Bethesda, MD, 20852 Business Phone Number: 814-999-1833
 Applicant Status: Owner Agent Tenant Other Solar Developer

Site Address: 33°19'28.0"N 104°31'48.0"W ETZ Chaves County
 Property Legal Description: The parcel ID for the project is 4-135-066-363-428-000000
 UPN: R008066
 Present Land Use: Vacant
 Intended Land Use: Solar Photovoltaic Generation
 Present Zoning: R Size of Development in Acres: 36.4 Acres
 Reason for Request (Attach sheets if more space is needed): To allow a portion of the parcel to be used for solar electricity development as described in the supporting documents and design, that are attached to this application. Attachment 1- Project Description, Attachment 2- Site Plan, Attachment 3- Official copy of Deed, Attachment 4- Lease, Attachment 5- Decommissioning Plan Attachment 6- Community Engaement, Attachment 7- Landowners list, Attachment 8- Accessors Map, Attachment 9- Preliminary Civil Assessment, Attachment 10- Permitting Plan.
 Copy of Deed Attached:

I ACKNOWLEDGE THAT I HAVE BEEN INFORMED OF THE DATES, TIMES, AND LOCATIONS OF THE PUBLIC MEETINGS WHICH I OR MY AGENT MUST ATTEND IN ORDER TO FULFILL THE REQUIREMENTS OF THIS APPLICATION.

Guadalupe Morales 11/9/2022
Guadalupe Morales (Nov 9, 2022 09:28 MST)
 Owner's Signature Date



WARRANTY DEED

GF#2200331

Nancy J. Crownover, Successor Trustee of the Haake Family Trust under Trust Agreement dated February 1, 1977, Amended February 12, 1981 and Amended March 14, 1983 and Floyd R. McDaniel, Trustee of the Floyd R. McDaniel Heritage Trust under Trust Agreement dated May 28, 1993, for consideration paid,

grants to: Guadalupe Morales, a married man as his sole and separate property and Guadalupe Morales, Jr., a married man as his sole and separate property, as Tenants in Common

Whose address is: 36 Harris Place
Roswell Nm 88203

the following described property situated in Chaves County, New Mexico.

SECTION 29, TOWNSHIP 11 SOUTH, RANGE 24 EAST, N.M.P.M., in the County of Chaves and State of New Mexico:

SECTION 29: SW1/4SE1/4; S1/2NW1/4SE1/4 and NE1/4NW1/4SE1/4

SUBJECT to all reservations contained in the Patent and all covenants, easements and restrictions of record and taxes of current year and there-after.

With Warranty Covenants

Ⓢ WITNESS our hands and seals this 24th day of March, 2022.

Haake Family Trust

Floyd R. McDaniel Heritage Trust

Ⓢ Nancy J. Crownover
Nancy J. Crownover, Successor Trustee

Ⓢ Countersigned
Floyd R. McDaniel, Trustee

ACKNOWLEDGEMENT FOR NATURAL PERSONS

Ⓢ STATE OF Oklahoma)
COUNTY OF Pittsburg) ss.

Ⓢ This instrument was acknowledged before me this 24th day of March, 2022, by Nancy J. Crownover as Successor Trustee of the Haake Family Trust under Trust Agreement dated February 1, 1977, Amended February 12, 1981 and Amended March 14, 1983.

Ⓢ My Commission Expires: 09/27/25



Ⓢ Cheyenne Lasho
Notary Public

ACKNOWLEDGEMENT FOR NATURAL PERSONS

Ⓢ STATE OF _____)
COUNTY OF _____) ss.

WARRANTY DEED

CF#2200331

Nancy J. Crownover, Successor Trustee of the Haake Family Trust under Trust Agreement dated February 1, 1977, Amended February 12, 1981 and Amended March 14, 1983 and Floyd R. McDaniel, Trustee of the Floyd R. McDaniel Heritage Trust under Trust Agreement dated May 28, 1993, for consideration paid,

grants to: Guadalupe Morales, a married man as his sole and separate property and Guadalupe Morales, Jr., a married man as his sole and separate property, as Tenants in Common

Whose address is: 36 Harris Place
ROSWELL NM 88003

the following described property situated in Chaves County, New Mexico.

SECTION 28, TOWNSHIP 11 SOUTH, RANGE 24 EAST, N.M.P.M., in the County of Chaves and State of New Mexico:

SECTION 29: SW1/4SE1/4; S1/2NW1/4SE1/4 and NE1/4NW1/4SE1/4

SUBJECT to all reservations contained in the Patent and all covenants, easements and restrictions of record and taxes of current year and there after.

With Warranty Covenants

WITNESS our hands and seals this 24 day of March, 2022.

Haake Family Trust

Countersigned
Nancy J. Crownover, Successor Trustee

Floyd R. McDaniel Heritage Trust

Floyd R. McDaniel
Floyd R. McDaniel, Trustee

ACKNOWLEDGEMENT FOR NATURAL PERSONS:

STATE OF 20)
COUNTY OF _____) ss.

This instrument was acknowledged before me this _____ day of March, 2022, by Nancy J. Crownover as Successor Trustee of the Haake Family Trust under Trust Agreement dated February 1, 1977, Amended February 12, 1981 and Amended March 14, 1983.

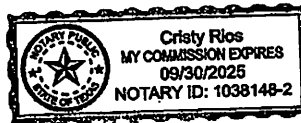
My Commission Expires: _____ Notary Public

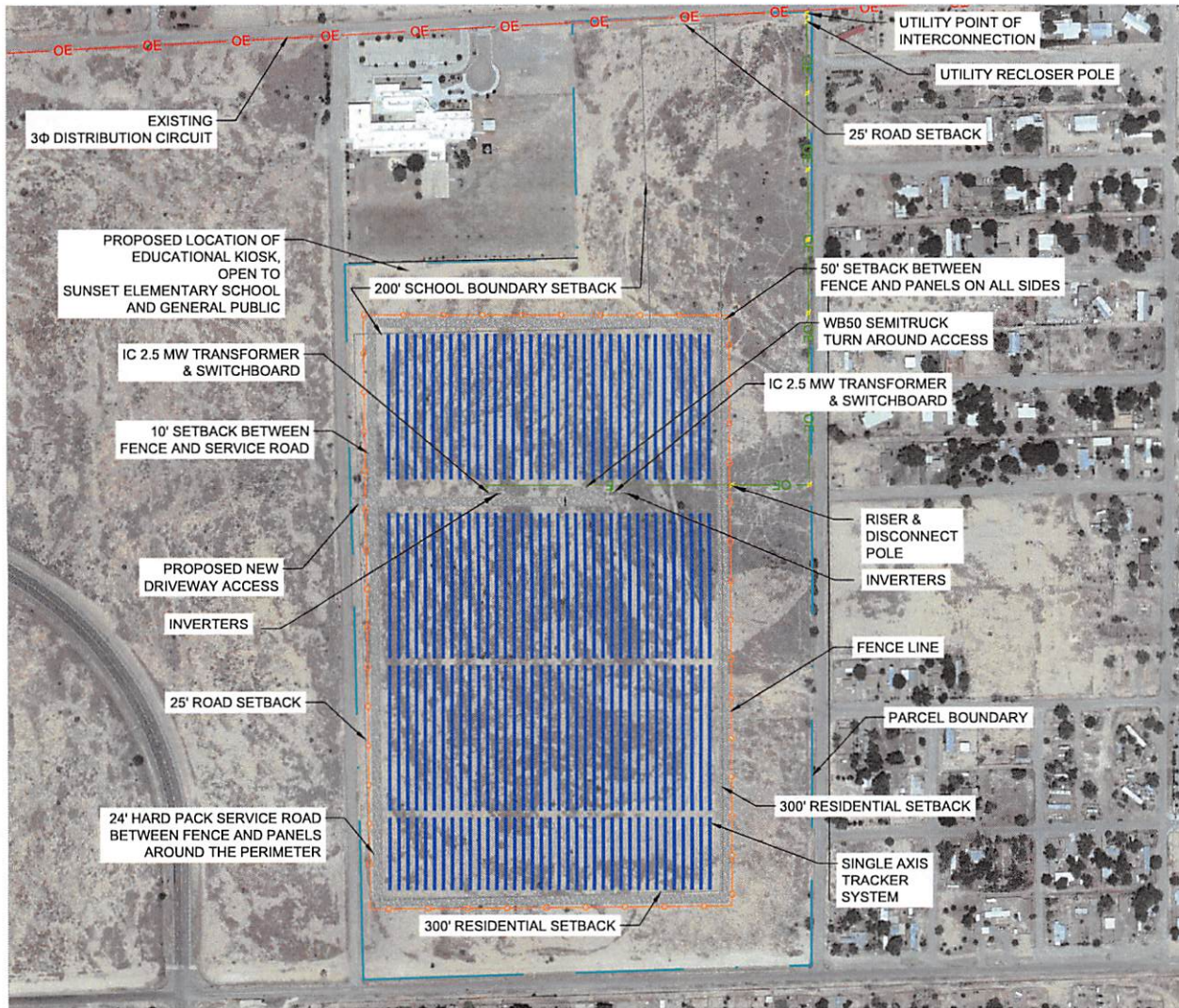
ACKNOWLEDGEMENT FOR NATURAL PERSONS

STATE OF Texas)
COUNTY OF Collin) ss.

This instrument was acknowledged before me this 24 day of March, 2022, by Floyd R. McDaniel as Trustee of the Floyd R. McDaniel Heritage Trust under Trust Agreement dated May 28, 1993.

My Commission Expires: 9/30/2025 Cristy Rios
Notary Public





SYSTEM SUMMARY	
DC SYSTEM SIZE	7552.40 kW
AC SYSTEM SIZE	5000 kW
DC/AC RATIO	1.51
MODULES	HT-SAE, HT72-18X 540/545 (540Wp±45Wp) OR EQUIV.
MODULE QUANTITY	13385
INVERTERS	CHINT CPS SCH125KTL-DO/US-600 OR EQUIV.
INVERTER QUANTITY	40
AZIMUTH/TILT	180° / SINGLE AXIS TRACKER
PITCH	25 FT
LAYER LEGEND	
PROPOSED UTILITY UNDERGROUND ELECTRIC	E
PROPOSED UTILITY ABOVE GROUND ELECTRIC	OE
EXISTING UTILITY DISTRIBUTION LINE ABOVE GROUND ELECTRIC	OE
PROPOSED FENCE LOCATION	
PV MODULE	

NOT FOR CONSTRUCTION

REV.	DESCRIPTION	DATE	BY	CKD	DRAWING TITLE	
E	HARD PACK SERVICE ROAD UPDATE	11/10/2022	VD	JG	ELECTRICAL SITE PLAN	
D	FENCE BUFFER UPDATE	11/01/2022	VD	JG		
C	UPDATE DRIVE ACCESS	10/13/2022	VD	JG		
					REVISION D	DRAWING NO. E-001

PROJECT
 CHABERTON SOLAR GUADALUPE
 7.55 MWdc / 5.00 MWac GROUND MOUNT AT
 PROJECT GUADALUPE, NM, USA
 33°19'28"N, 104°31'48"W

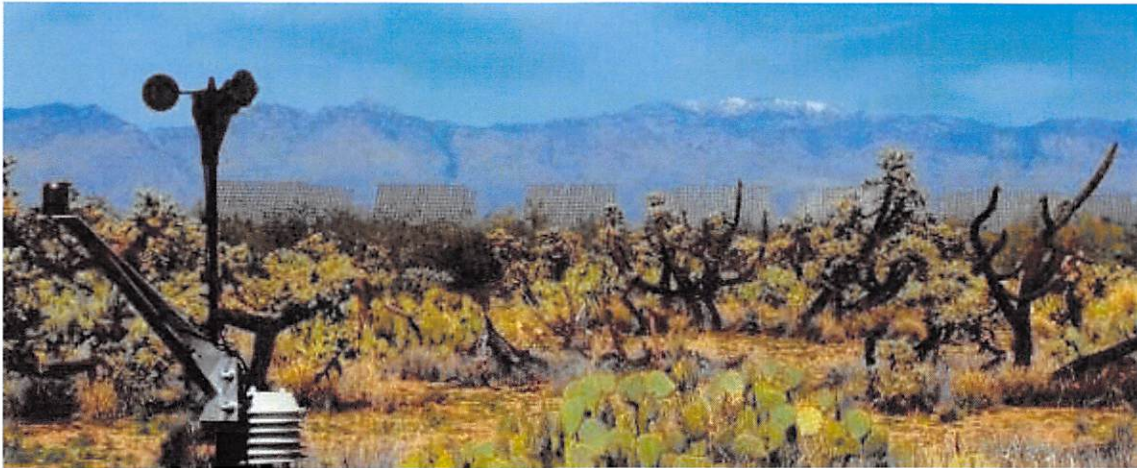
DEVELOPER
 CHABERTON ENERGY
 11900 Parklawn Drive, Suite 406
 North Bethesda, MD 20852



REV.	DESCRIPTION	DATE	BY	CKD
E	HARD PACK SERVICE ROAD UPDATE	11/10/2022	VD	JG
D	FENCE BUFFER UPDATE	11/01/2022	VD	JG
C	UPDATE DRIVE ACCESS	10/13/2022	VD	JG

Researchers discover solar heat island effect caused by large-scale solar power plants

by Graham Binder, [University of Maryland](#)



Credit: University of Maryland

Large-scale solar power plants raise local temperatures, creating a solar heat island effect that, though much smaller, is similar to that created by urban or industrial areas, according to a new study.

The finding by Mitchell A. Pavao-Zuckerman, an assistant professor from the University of Maryland's College of Agriculture and Natural Resources, and colleagues from the University of Arizona, University of Madison-Wisconsin, and the Nevada Center of Excellence appears to contradict previous theoretical work and modeling studies predicting solar power installations would decrease temperatures around them by intercepting some of the sun's potentially warming energy and converting it into electricity.

"The understanding of energy balance - how heat moves in and out of ecosystems that change from natural to built settings is a big game changer for the future. Consider how PV [solar] panels absorb and reflect certain types of radiation which prevents the soil beneath from cooling like it would under a regular night sky," said Pavao-Zuckerman. "With this knowledge at our fingertips, we can mitigate environmental impacts by creating novel systems to make PV power plants work more efficiently and produce other co-benefits."

The multidisciplinary team examined the "heat island" effect of solar energy installations using experiments that spanned three different desert ecosystems in Arizona:

1. a natural desert ecosystem,
2. the traditional built environment of a parking lot surrounded by buildings and
3. a photovoltaic (PV) power plant. Prior studies on the "heat island" effect of solar power installations have been confined to just one biome or ecosystem.

For this study, the team defined the heat island effect as the difference in ambient air temperature around the solar power plant compared to that of the surrounding wild desert landscape. Findings demonstrated that temperatures around a solar power plant were 5.4-7.2 °F (3-4 °C) warmer than nearby wildlands.

The result demonstrates that there are potential heat costs to generating green power although the added heat dissipates quickly and can't be measured 100 feet away from the power plants. Considering the external costs of solar power, the discovery of this heat island effect may affect future decisions on when and where to convert natural ecosystems into large-scale solar facilities.

Pavao-Zuckerman, lead author Greg Barron-Gafford of the University of Arizona School of Geography and Development, and their research colleagues recently published their findings in the journal *Nature Scientific Reports* in a paper titled "The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures."

Continuing studies by the group will focus on determining how far away from solar power plants the temperature increases reach, and on mitigating impact through such strategies as growing plants next to and under solar panels.

Journal information: [Scientific Reports](#)

Provided by [University of Maryland](#)

ARTICLE 25
SPECIAL USE PERMITS

Section 25.1 Granting Special Use Permits

A Special Use Permit shall be bound and limited to the parcel(s) of land described in the application and to the land owner/petitioner of the property stated in the application and as stated in the Certificate of Zoning. A Special Use Permit is nontransferable in location or ownership including the name change of a company, LLC, corporation, trust, and/or partnership. So as not to misperceive, confuse and misapprehend prospective owners, a real estate contract shall be construed as a change in ownership and as such shall require a new Special Use Permit application and process.

1. It is the purpose of this article to establish criteria for those uses listed as special uses in Section 25.2 of this Ordinance, and similar uses, as determined by the Planning Director, and to specify the expiration date as appropriate for approval of such uses. It is recognized that these uses which, because of their unique characteristics, cannot be properly addressed without consideration in each case of the impact of those uses upon neighboring land and of the public need for the particular use at the particular location. Special uses shall require issuance of a Zoning Certificate by the ETZ Commission.

Each zoning district lists special uses that, because of their special impact or unique characteristics, can have a substantial adverse impact upon or be incompatible with other uses of land. This impact often cannot be determined in advance of the use being proposed for a particular location. Such uses may be allowed to locate within given districts only through the review process of the special use permit and under the controls, limitations and regulations of such permits. This article establishes general and specific development standards for special uses and provides for a review process which will evaluate the location, scale, compatibility with rural character and development characteristics of such uses and their impact on adjacent properties and the county as a whole, to the end that such uses may be approved, modified, or disapproved fairly and objectively.

Upon the filing of a complete application for a Special Use Permit per the requirements contained in Article 2, Section 2.5 of this Ordinance, the application shall be scheduled for a public hearing before the ETZ Commission. Public notice of the hearing shall be issued as provided for in Article 2, Section 2.5 of this Ordinance. The ETZ Commission may grant approval of special use permits, grant approval with conditions of approval, or deny an application if the characteristics of the intended use would create an incompatible or hazardous condition. The ETZ Commission shall not use a Special Use Permit to alter or reduce the zoning requirements of the zone in which the proposed land use is to locate.

2. Prior to granting any Special Use Permit, the Commission shall hold a public hearing and shall determine that:
 - a. The granting of the Special Use Permit will not be injurious to the public health, safety, morals, and general welfare of the community.
 - b. The use or value of the area adjacent to the property included in the Special Use Permit will not be affected in a substantially adverse manner.
 - c. The site for the proposed Special Use Permit is suitable for that use, and the surrounding properties are compatible with that use.

- d. That the grant of the Special Use Permit would be within the spirit, intent, purpose, and general plan of this Ordinance.
3. The ETZ Commission, upon receiving a properly filed application or petition, may permit and authorize a Special Use Permit when the following requirements have been met:
 - a. The proposed use will not endanger the public health or safety;
 - b. The proposed use at the proposed location will not be unreasonably detrimental to the economic welfare of the county, and that it will not create excessive public cost for facilities and services by finding that:
 1. The proposed use will be adequately serviced by adequate existing facilities such as highways, roads, police and fire protection, irrigation and drainage structures, refuse disposal, water and sewers/septic systems, and schools; or
 2. The applicant shall provide such facilities; or
 3. The proposed use will be of sufficient economic benefit to offset additional public costs or economic detriment;
 - c. The proposed use will not generate significant nuisance conditions such as noise, dust, glare, vibration;
 - d. The proposed use meets all required conditions and standards set forth in the zoning district where it proposes to locate;
 - e. The location and character of the proposed use is compatible and consistent with the character of the area in which it is to be located, and will ensure compatibility with existing neighboring land uses; and
 - f. The proposed use is in conformance with the Chaves County Comprehensive Plan.
4. In permitting such uses the ETZ Commission may impose, in addition to the regulations specified herein, such conditions as it deems necessary to protect the best interests of the surrounding property or neighborhood or the county as a whole. These conditions may include, but are not limited to, the following:
 - a. Increasing the required lot size, setback or yard dimensions;
 - b. Limiting the height of buildings or structures;
 - c. Controlling the number and location of vehicular access points;
 - d. Requiring the dedication of additional rights-of-way for future public roadway improvements;
 - e. Requiring the designation of public use easements;
 - f. Increasing or decreasing the number of required off-street parking and/or loading spaces as well as designating the location, screening, drainage, surfacing or other improvement of a parking area;
 - g. Limiting the number, size, height, shape, location and lighting of signs;

- h. Requiring or limiting view-obscuring fencing, landscaping or other facilities to protect adjacent or nearby properties;
- i. Designating sites for and/or the size of open space or recreational areas;
- j. Requiring site reclamation upon discontinuance of the use and/or expiration or revocation of the Special Use Permit;
- k. Limiting hours and size of operation;
- l. Controlling the siting of the use and/or structures on the property;
- m. Requiring mitigation measures to effectively reduce the potential for land use conflicts with agricultural lands and adjacent residential lands, such as: landscape buffers, special setbacks, screening, and/or site design criteria using physical features, such as rock outcrops, ravines, and roads.

A Special Use Permit shall become void one (1) years after approval or such other time period as established by the ETZ Commission if the use is not completely developed. Failure to begin such action within the time limit specified shall void approval of the Zoning Certificate for the special use.

- 5. A Special Use Permit may be revoked or limited by the ETZ Commission if any one (1) of the following findings can be made:
 - a. That one or more of the conditions of approval of the Special Use Permit have not been met;
 - b. That the Special Use Permit was obtained by misrepresentation or fraud;
 - c. That the use for which the Special Use Permit was granted has ceased or was suspended for twelve (12) or more consecutive calendar months;
 - d. That the actual or permitted use is in violation of any statute, ordinance, law, or regulation; or
 - e. That the use permitted by the Special Use Permit is detrimental to the public health, safety or welfare, or constitutes a nuisance.
 - f. Change in property ownership or site location.

The ETZ Commission's decision is subject to appeal in accordance with the provisions of Article 2 of this Ordinance.

Section 25.2 Use Regulations A special use permit **shall be required** for the following uses:

- 1. Airports* or landing fields.
- 2. Cemeteries and mausoleums
- 3. Commercial communications transmitter antennas or towers provided they are at least 100 feet from any public way.
- 4. Community buildings or recreation fields.
- 5. Electric substations, gas regulator or pump/booster stations, and well and water pumping stations in any district, provided that in any residential district or commercial district, the site shall be developed and maintained in conformance with the general character and

appearance of the district. Such development shall include landscaping and suitable screening in the form of a wall, or solid fence and compact evergreen shrub.

6. Extraction of gravel, sand or other raw materials, provided that a satisfactory guarantee be posted with the Commission assuring that the land be left in such a condition that all faces, slopes, edges, or spoil piles have a maximum slope 2½ feet horizontal to one (1) foot vertical.
7. Hospitals, clinics*, and institutions
8. Night clubs*
9. Nursery schools, day nurseries, child care centers, pre-kindergartens, and other special and similar private schools in an Industrial District as an accessory or function for employees, provided that adequate safety from loud noises and other industrial dangers are supplied and there is at least 100 square feet of open play for each child enrolled. Each play area shall be screened with a suitable wall, fence, or evergreen shrub.
10. Parking lots adjacent to, across the street from, or across the alley from the Commercial District, or a Business District.
11. Penal institutions
12. Poultry hatcheries, poultry production, dairying and any similar activities.
13. Private clubs or lodges
14. Railroad tracks, yards, and similar railroad facilities
15. State licensed or state operated family or group care residences for homeless, the criminal offender, or alcohol or drug abusers that function as a transition from institution to community.
16. Substance abuse treatment facilities.
17. Temporary commercial amusements or recreational developments
18. Multigenerational housing as a second dwelling unit in a residential district, with a yearly review by Staff.
19. Day Care Home-Group in a residential district.
20. Workforce Camps



Project Description:

Chaberton Solar Guadalupe LLC (“Chaberton” or the “Applicant”) proposes to install a solar photovoltaic power generation (“PV”) project (the “Project”) on vacant land owned by Mr. Guadalupe Morales in Roswell, New Mexico. This project is designed as a Community Solar facility to comply with The Community Solar Act passed in 2021. Community Solar is an extremely exciting development in New Mexico to expand access to solar for everyone, specifically low to middle income consumers who have in large part been unable to access the benefits of solar power to date. If approved, this project will allow consumers to subscribe to a guaranteed reduced rate (as compared to the normal residential tariff rate) with no need for any upfront capital or “buy in”. We can achieve this via the lower cost of building solar on the ground vs on residential rooftops, achieving some scale (vs residential rooftops), along with enabling legislation and incentives from both the state and federal governments.

Chaberton is a developer of solar generation projects with a portfolio of more than 75 projects under development. They are composed of community solar projects, aggregate net meter projects for institutional clients, and other solar power purchasing arrangements with commercial and industrial customers.

Chaberton Energy has performed significant local engagement with the neighbors and greater community in Roswell, New Mexico in order to demonstrate our commitment to being a good neighbor and design a project which will have minimal negative impact to the community while providing significant positive impact. Some of our engagement activities so far have included:

- Sent letters to all adjacent property owners within 300 feet of the property, notifying them of our proposed development and providing contact details.
- Visited with our neighbors and knocked on their door, speaking with many, and leaving a follow up letter and flier for all neighbors. From these meetings, the vast majority of neighbors expressed no concerns with the proposed development, and some were in support due to the property currently being vacant and often times trespassed upon and used to dump garbage. We were equipped with a fluent Spanish speaker to be able to successfully converse with all local stakeholders.
- Communicated multiple times with Sunset Elementary School, which is located adjacent to the site, as well as the Roswell Independent School District, notifying them of the project and offering to partner to provide direct benefits to the school. We had a local resident hand deliver a letter and flier to the main office.
- Met with an official at Eastern New Mexico University to introduce the project to them and discuss potential partnership opportunities. We are planning to attend their next job



- fair in early 2023 to introduce the concept of solar energy as a career to their students.
- Sent a second batch of letters to all adjacent neighbors inviting them to a Community Meeting.
 - We placed an advertisement both online and via the print version of the Roswell Daily Record inviting all community members to a Community Meeting.
 - Spoke with a local reporter at the Roswell Daily Record and invited them to the Community Meeting.
 - Held a Community Meeting at Eastern New Mexico University and provided an overview of the Chaberton, Community Solar, and the project.

We have focused on delivering benefits to our neighbors and local community. As a Community Solar project, we will first offer subscriptions to participate in the Community Solar program to our neighbors and other members of the community. We estimate that this project will deliver over \$4M in utility savings to our subscribers over the life of the project, many of whom will be Low to Moderate Income residents.

We remain committed to communicating with our neighbors and the people of Roswell in order to develop and deliver a project of the highest quality that provides tangible benefits to our community. We have included a more detailed breakdown of our outreach efforts as well as copies of the various letters and other outreach materials we have utilized in Attachment 6.

We also maintained a minimum 300' residential set back from the south and east side neighbors, a 200' setback from school on the north side, a minimum 25' setback from the road on north and west side of the property. A 24' hard pack service road is provided around the perimeter of the site for emergency and fire trucks. An additional 10' setback between the fence and the hard pack service road is ensured. These setbacks are called out for in the Site Plan (Attachment 2).

The landowner's address is 36 Harris Pl, Roswell, NM, 88203. The project is located at the following parcel coordinates: 33.324444, -104.530000. The project site is in Zone "R" and located in the Roswell-Chaves County Extraterritorial Zone. The parcel number is 4-135-066-363-428-000000.

The Applicant has executed a lease agreement whereby Chaberton has the exclusive right to develop a solar photovoltaic project on the subject property land for a 12–18-month period beginning Q3 of 2023. A copy of the lease option is attached as Attachment in this submission. Upon approval, the Applicant will construct the Project, and own and operate the facility during a 25-year lease period, which may be extended for up to an additional 15-year period, to a total of up to 40 years.

The proposed project is 5 Megawatts ("MW") alternating current ("AC") and covers approximately 36.4 acres. The solar modules will be installed on steel racking structures. The posts for the racking structures will be driven approximately 5-6 feet into the ground using a post-driving machine. The medium voltage step-up transformers will be set on concrete pads which are typically 12-18 inches deep and raised above ground level as recommended via civil



engineering basin studies. The project will be surrounded by a 7ft chain link fence for safety and security. A driveway access with gravel road will be constructed for construction, maintenance and other municipal requirements.

The project has completed a pre-application for utility interconnection with Xcel Energy Inc ("Xcel"). The Pre-application report can be submitted to the County if requested. The interconnection point proposed on the existing utility pole is located at the GPS coordinates of (33.328692, -104.527795).

There will be light traffic generated during the construction of the project which will last for 4 to 6 months, with "peak" activity being approximately 2 months. Deliveries of solar equipment will be scheduled and adjusted as feasible to minimize the effect on local traffic and the adjacent school. Post construction, the traffic to the solar facility will be almost negligible, with only periodic inspections and response to maintenance, as necessary, averaging 1 to 2 visits per month.

Once the field is constructed, it generates virtually no noise. The only components that generate any detectable sound are the transformers and the inverters. The inverters are the noisiest component, but these are relatively quiet with a similar sound as a refrigerator. The proposed project will use string inverters, which are small units, about the size of a desktop computer, distributed across the system. At 50 feet from the equipment, any noise will fade into typical rural ambient noise.

The following attachments are provided in addition to the permit application:

1. Project Description
2. Site Plan
3. Official Copy of Deed
4. Lease Agreement
5. Decommissioning Plan
6. Community Engagement
7. List of Landowners within 100ft
8. Accessor's Map
9. Preliminary Civil Engineering Site Assessment
10. Permitting Plan

Comprehensive of Community Engagement Activities

- ✓ Mailed letters on 08/10/2022 to all neighbors adjacent to the parcel; 110 in total for Project Guadalupe, providing information on the project and our contact information. *(Included a copy of this letter)*
- ✓ Sent emails to Sunset Elementary School and Roswell Independent School District first on 07/25/22, again on 08/16/22, and 08/30/22 to notify them of our neighbor engagement, and on 10/19/22 to notify them of the community meeting and propose an in-person meeting. The contacts and dates we reached out to them are below:
 - ✓ Sunset Elementary Principal: Principal Russ; 07/25/22, 08/16/22, 08/30/22, 10/19/22, 10/31/22
 - ✓ Sunset Elementary Secretary: B Lozano; 07/25/22, 10/25/22
 - ✓ Assistant Superintendent for Finance and Operations: Chad Cole; 08/16/22
 - ✓ Director of Business Services: Linda Purcella; 07/25/22
 - ✓ Support Services and Transportation: Chris Thweatt; 10/19/22, 11/03/22
 - ✓ District 3 Rep: Jack Cheney; 07/25/22, 08/16/22, 10/25/22
 - ✓ Human Resources: Ralph Matta; 10/28/22, 10/31/22
 - ✓ Business Services: Vickie Dunn; 10/28/22
 - ✓ Maintenance Services: Rayanne Duran; 10/31/22
 - ✓ Superintendent's Office: Julie Whitcamp; 10/25/22
- ✓ Expanded outreach network to RISD staff via email on 08/16/22 and again 10/19/22 to invite them to our community meeting
- ✓ Visited neighborhood to knock on doors, speak with neighbors, and leave letters when neighbors were not home on 08/30/22 thru 09/02/2022. We were able to speak with a few neighbors. *(Included a copy of the fliers we left)*
- ✓ Sent initial partnership/engagement email to Eastern New Mexico University Roswell (ENMUR) to expand support for community-based organizations on 09/19/22
- ✓ Posted notice of our Community Meeting in The Daily Roswell News online and in print on 10/21/22 dates, which ran from 10/26/22 through 11/03/22
- ✓ Mailed follow up letter on 10/19/22 to all neighbors adjacent to the parcel to inform neighbors of our Community Meeting *(included copy of this letter)*
 - ✓ Also sent notifications to RISD, Sunset Elementary, and ENMUR to remind them of the presentation, extend invitation once more, and offer to meet in-person for any remaining questions/concerns.

- ✓ Visited neighborhood 11/03/22 in anticipation of the Community Meeting to knock on doors and invite neighbors
- ✓ Held Community Meeting on 11/03/22



August 10, 2022

Chaberton Energy
11900 Parklawn Drive, Ste 406
North Bethesda, MD 20852

Hello,

Nice to meet you! My name is Inaya Molina and I am the Associate Manager of Community Engagement at Chaberton Energy. We are a Maryland-based renewable energy company that specializes in leasing and/or purchasing property for development of ground mounted solar arrays, as well as developing community solar systems, which offer savings off customers' utility bills. We are reaching out regarding Project Guadalupe, a prospective solar project near your property located at O'Connor Rd. in Chaves County.

We strive to design a project that blends into the neighborhood and that promotes the highest environmental stewardship for our local community; therefore, we will follow stormwater management and screening best practices.

Solar is a great neighbor; it is quiet by nature (no noise will be heard outside the property boundary) and generates no long-term traffic. Solar requires no county or city services while providing significant tax revenue. Most importantly, renewable electricity improves air quality and lowers the cost of power.

Unlike residential solar, community solar:

1. Has a maximum capacity of 5MW on average
2. Occupies approx. 20-30acres
3. Serves local constituents/subscribers at a discounted price including renters, small business owners, and those without sufficient property for residential solar

This will be a community solar project, which means that you will be eligible to and obtain the solar benefits without the need or expense of physically installing panels on your property. We will provide you with priority access to the output of the facility (there is normally a waitlist for these projects), and a premium discount offering for you and our other adjacent neighbors. We can follow up with you regarding this offer as the project proceeds through permitting and receives all necessary approvals.

We are preparing to host a Community Meeting to be held mid-September in Roswell. Please look forward to another letter from us detailing the date, time, and location closer to time.

My colleague and I plan on being in the neighborhood on September 1st and 2nd so we can meet you in person and provide more information on Chaberton and the project. I hope to be able to connect with you then. I am also happy to address any questions via phone or email if we cannot connect in person. You can contact me at 334-235-2404 or at inaya.molina@chaberton.com.

I look forward to hearing from you.

Best Regards,

Inaya Molina, Associate Manager of Community Relations
Inaya.Molina@chaberton.com
334-235-2404

Flip page for information in Spanish
Información en español si vuelven la página

Chaberton Energy
11900 Parklawn Drive, Ste 406
North Bethesda, MD 20852

10 de agosto de 2022

Buenas,

¡Es un placer conocerse! Mi nombre es Inaya Molina y soy la administradora asociada de participación comunitaria para Chaberton Energía. Chaberton es una compañía de energías renovables que se especializa en el arrendamiento y/o compra de propiedad para el desarrollo de paneles solares montados en tierra, así como el desarrollo de sistemas solares comunitarios que ofrecen ahorros en las facturas de servicios públicos al cliente. Estamos escribiéndole para compartir con ustedes nuestros planes para construir Proyecto Guadalupe, un proyecto de servicios solares comunitarios cerca de su propiedad localizada en la calle O'Connor en el condado de Chaves.

Nos dedicamos a diseñar un proyecto que se mezcla con el vecindario y que promueve la administración ambiental más alta para su comunidad local. Por lo tanto, seguiremos las mejores prácticas para el manejo de aguas pluviales y privacidad con vallas.

Los sistemas solares son gran vecinos. No hacen ruido ni generan tráfico a largo plazo. El sistema solar no necesita los servicios de la ciudad ni condado mientras contribuyen significativamente a los ingresos fiscales.

A diferencia de la solar residencial, un sistema solar comunitario:

1. Genera hasta un máximo de cinco megavatios
2. Ocupa no más de 30 acres de propiedad local
3. Sirve a los locales de Roswell a un descuento incluyendo los quien alquilan, los dueños de empresas pequeñas, y aquellos quien no tienen espacio para paneles en el techo

Proyecto Guadalupe será un sistema solar comunitario y significa que ustedes serán elegibles a obtener los beneficios solares sin la necesidad o costo de instalar paneles en su propiedad. Normalmente hay una lista de espera para la energía de los sistemas, le proporcionaremos acceso prioritario y a un descuento solo para usted y sus vecinos. Haremos un seguimiento con ustedes sobre la oferta a medida que el proyecto procede a través de permisos y recibe las aprobaciones necesarias.

Nosotros estamos preparando una presentación para la comunidad en septiembre en Roswell que contiene más detalles sobre el proyecto y sus beneficios. Enviaremos una invitación con el día, hora, y lugar de la presentación.

Mi colega y yo vamos a estar en el vecindario tocando puertas y hablando con sus vecinos el 1 y 2 de septiembre para reunirnos en persona y hablar sobre Chaberton y el proyecto. Ojalá podemos conectarnos entonces. También me complace responder a cualquier pregunta por teléfono o correo electrónico si no podemos conectarnos en persona.

Saludos cordiales,

Inaya Molina, Administradora Asociada de Participación Comunitaria
Inaya.Molina@chaberton.com
334-235-2404

Flip for information in English
Información en inglés si vuelven la página



Chaberton Energy
October 19th, 2022
11900 Parklawn Drive, Suite 406
North Bethesda, MD 20852

Hello,

My name is Inaya Molina, and I am the Community Engagement Associate Manager at Chaberton Energy. We are a renewable energy company that specializes in leasing and/or purchasing property for development of ground mounted solar arrays, as well as developing community solar projects, which offer electricity savings to Southwestern Public Service (SPS) customers. We are reaching out regarding Project Guadalupe, a prospective solar project located in Chaves County.

I was out in the neighborhood in early September and had a chance to meet many of our neighbors. We have scheduled a **Community Meeting to be held on Wednesday, November 3rd at 6:00pm, to be located at the Eastern New Mexico University: Campus Union Building at 48 University Blvd. Roswell, NM (on the corner of University Blvd and W. Martin St.).** We hope you can attend and look forward to providing more detail to our neighbors!

We strive to design a project that promotes the highest environmental stewardship of the local community. Solar is a great neighbor; it is quiet by nature (no noise will be heard outside the property boundary) and generates no long-term traffic. Solar requires no county or city services while providing significant tax revenue. Importantly, renewable electricity improves air quality and lowers the cost of power.

I plan on being in the neighborhood early on Wednesday, November 3rd before the Community Meeting, so if you are unable to attend the Community Meeting but will be available earlier in the day, please give me a call so we can schedule a time to meet. I hope to be able to connect with you then. I am also happy to address any questions via phone or email, in person, or during the community meeting. You can contact me at 334-235-2404 or at inaya.molina@chaberton.com.

I look forward to hearing from you.

Best Regards,
Inaya Molina, Community Engagement Associate Manager
Inaya.Molina@chaberton.com
334-235-2404



Chaberton Energy
19 de octubre 2022
11900 Parklawn Drive, Ste 406
North Bethesda, MD 20852

Buenas:

Mi nombre es Inaya Molina y soy la administradora asociada de participación comunitaria para Chaberton Energy. Chaberton es una compañía de energías renovables que se especializa en el arrendamiento y/o compra de propiedad para el desarrollo de paneles solares montados en la tierra. Estamos escribiéndole de nuevo para compartir con ustedes los planes para construir Proyecto Guadalupe. Es un proyecto de servicios solares comunitarios cerca de su propiedad localizada en la calle O'Connor en el condado de Chaves, y dar detalles sobre nuestra reunión pública comunitaria.

La carta que ustedes recibieron en agosto menciona una presentación para la comunidad que tiene detalles sobre el proyecto y sus beneficios. Desde entonces, hemos visitado los vecinos del proyecto y decidimos tener nuestra reunión pública comunitaria y presentación en **el campus de Eastern New Mexico University, dentro del Campus Union Building localizado a 48 University Blvd. Roswell, NM (en la esquina de University Boulevard y W. Martin Road) a las 6:00 PM.** ¡Esperamos verlos allí!

Nos dedicamos a diseñar un proyecto que se mezcla con el vecindario y que promueve la administración ambiental más alta para su comunidad local. Los sistemas solares son buen vecinos. No hacen ruido ni genera tráfico. El sistema solar no necesita los servicios de la ciudad o condado mientras contribuyen significativamente a los ingresos fiscales. También, la energía renovable mejora la calidad del aire y reduce el costo de electricidad.

Mi colega y yo estaremos en el vecindario temprano miércoles, el 3 de noviembre antes de la reunión comunitaria. Si usted no puede venir a la reunión comunitaria, pero estará disponible más temprano en el día, contáctame para que podamos programar un tiempo para reunirnos. Espero que podamos hablarnos con usted. También me complace responder cualquier pregunta por teléfono o correo electrónico, en persona, o durante la reunión comunitaria. Puedes contactarme al (334) 235-2404 o a inaya.molina@chaberton.com

Sinceramente,

Inaya Molina, Administradora Asociada de Participación Comunitaria
Inaya.Molina@chaberton.com
334-235-2404



COMMUNITY SOLAR

for CHAVES neighbors
COUNTY

GUADALUPE PROJECT



The solar site is located on O'Connor Drive and is approximately 20 acres.



A **Single Axis Tracker** system will allow panels to track the movement of the sun.



We are early in the **application process**. A formal application is yet to be submitted to the County. We want our neighbors to help us make this project a **success!**



We will unveil the project concept plan in a **Community Meeting** open to the public planned for **September**. More details will be provided to you soon!



The only **noise** making equipment will be located sufficiently far from our neighbors to ensure no noise will escape the property boundary.



Construction is expected to take 4-6 months, with 2 months of peak activity.



An **unloading area** on site will prevent construction traffic from blocking roads.



Post-construction, there will **no impacts to long term traffic**. A pick up style truck will visit the site for maintenance once a month at the most.



You can subscribe to receive a portion of the energy produced by this array. Our neighbors receive an additional discount!

For more information or any questions, call or email Inaya Molina at (334) 235-2404 or inaya.molina@chaberton.com



What is COMMUNITY SOLAR



Electricity is ready to be distributed to subscribers through the local power grid



Credits are issued to subscribers in their utility bill based on the power generation of the solar farm

Subscribers pay less for energy credits



Community solar farm generates solar power



BENEFITS

- ✓ Community solar is great for:
 - Homes that cannot accommodate solar
 - Renters or those who may have restrictions on their homes
 - Homeowners that are hesitant to enter long term financing contracts for rooftop solar
- ✓ **Savings are guaranteed**
- ✓ By adding its power to the grid, community solar increases the grid's reliability.
- ✓ With Community Solar you are supporting the decarbonization of our electricity and aiding in the transition away from fossil fuels.

More information, as well as details on how to subscribe, will be provided as the project gets closer to the start of construction.



November 10, 2022

#9330713

Vasavi Devineni
Development Engineer
Chaberton Energy
11900 Parklawn Dr, Suite 406 North
Bethesda, MD 20852
(573) 529-8003
vasavi.devineni@chaberton.com

RE: Preliminary Civil Engineering Site Assessment – Guadalupe Community Solar Project

Dear Ms. Devineni:

A preliminary civil engineering site assessment has been conducted for the proposed Chaberton Energy Guadalupe Community Solar Site (site), near Roswell, New Mexico. The components of the site assessment include review of the existing topography, an initial drainage investigation methodology and results, and site access requirements. The drainage investigation portion of this letter includes results for the approximate peak flows and volumes draining to and on the site during a 10-year and 100-year, 24-hour frequency storm event.

Existing Topography

SMA used existing topographic data, publicly available from the United States Geological Survey (USGS) National Map, to determine the on-site and off-site drainage basins. The Guadalupe Site has generally flat terrain with slopes averaging 0.5%. The relatively flat terrain of the site should not inhibit placement of PV arrays. The site drains from the southwest to the northeast. The site is bounded to the west by Washington Road. Washington Road has a drainage swale running parallel to it which will route offsite runoff around the site during minor storm events. It is expected that this swale will be overtopped during major storm events and offsite runoff from the west will impact the site. To the west of Washington Road lies Sunset Place. Sunset Place is elevated several feet preventing any runoff to the west from impacting the site. The southern edge of the site is bounded by West Hobson Road. West Hobson Road has a large swale which routes runoff to the east toward South Lea Avenue. Beyond South Lea Avenue, the swale is heavily silted reducing its carrying capacity. It is expected that any overtopping of the swale will continue to flow east and should not impact the development.

According to the Federal Emergency Management Agency (FEMA), the project site is located within Flood Zone X. Zone X designation indicates an area of minimal flood risk outside the 1% and 2% annual chance floodplains. The corresponding FIS map number for the project area is Map #35005C1635D effective 9/25/2009.

The total area contributing runoff to the site's hydrologic design point has been divided into one offsite basin and one onsite basin. The offsite basin, B1, is approximately 35.65 acres and the onsite basin, B2, is approximately 57.83 acres. The basin map enclosed illustrates the basin delineations.

Drainage Investigation

To calculate the storm water discharge rates and volumes for the 10-year and 100-year, 24-hour storm frequency events, the SCS Unit Hydrograph method was used. This method uses hydrologic data such as the Curve Number (CN) and the Lag Time (T_{lag}) to determine the peak runoff and volume for the site. The Type II-75 storm distribution method developed by NRCS is used in accordance with the NMDOT Drainage Design Manual. The calculations for this analysis were computed using The United States Army Corp of Engineers’ HEC-HMS hydrologic modeling software version 4.8.

Drainage patterns for each basin were estimated from the topographic maps analyzed in the Existing Topography section. The terrain is gentle with slopes averaging 0.5%. The offsite basin flow path is approximately 1,750 feet and the onsite flow path is approximately 2,242 feet. The dominant flow regime through each basin is sheet flow with minor elements of shallow concentrated flow along the edges of the basin. The Upland Method and Kerby Equation were used for time of concentration calculations. The SCS Unit Hydrograph method uses T_{lag} in its hydrologic calculations. The lag Time is defined as $0.6 * T_c$ and has been calculated for each basin. The offsite B1 lag time was estimated to be 15.53 minutes and the onsite B2 lag time was calculated to be 36.92 minutes.

The soils within the contributing drainage area consist of sandy loams. All the soils within the drainage area are classified as Hydrologic Soil Group (HSG) C. The vegetative cover within this area is classified as Herbaceous and consists of grass, weeds, and minor elements of low-growing brush. The canopy coverage of the site appears to be greater than 70% indicating a good hydrologic condition. The condition of the site vegetation was estimated based on aerial imagery from Google Earth Pro® and imagery from Google Street view. According to Technical Release 55, the curve number associated with this ground cover and HSG is 74.

NOAA Atlas 14, Volume 1, Version 5 precipitation data was used for the analysis. The 10-year and 100-year, 24-hour point precipitation data for the site is 3.27 inches and 5.31 inches, respectively.

The aforementioned basin characteristics were used to model the hydrologic response for the site. The following table summarizes the results of the hydrologic analysis with the 100-Year values listed in parentheses.

Hydrologic Calculations, 24-hour Storm 10-Yr (100-Yr)					
Basin ID	Area (acres)	T_{lag} (min)	CN	Peak Discharge (cfs)	Volume (ft ³)
B1	35.65	15.53	74	36.2 (95.1)	139,745 (337,716)
B2	57.83	36.92	74	34.4 (89.6)	226,726 (547,921)

The maximum depth of flow within the site for the 100-year storm is estimated to be 2.61 inches as determined by HEC-HMS. Based on the time of concentration calculations, the runoff velocity within the site is approximately 0.5 feet per second. Due to the low velocity, the potential for scour is low.

The next steps for the drainage analysis include estimating the increase in peak flow due to project-related changes to land cover and use within the site (e.g., concrete pads, roadways, vegetation). Common stormwater mitigation methods, including detention facilities, if required, could mitigate increased drainage

impacts due to post-development conditions. These stormwater mitigation measures will be explored during final design to optimize the projects goals. Mitigation measures could include revegetation, post brush clearing operations and/or the use of small detention swales.

Site Access Requirements

A 24-foot-wide gravel road around the perimeter of the site will allow access to the panels. Another 24-foot-wide internal gravel road will allow access to the transformers, inverters, and switchboard. The client proposed access point connects to Washington Road along the west edge of the site. No vertical or horizontal curves were identified restricting site distance at the entrance. Based on the flat topography of the site, soils, and existing drainage patterns, access to and within the site is expected to be unobstructed.

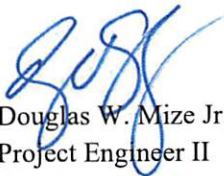
Conclusion

Based on the topographic data and the hydrologic analysis of the site, the site appears to be suitable for the proposed development. Due to the larger flow rates and depth of flow expected, it is recommended that electrical components such as the IC Transformer and components be raised at least one foot above the expected flow depth.

Please do not hesitate to contact me if you have questions or comments regarding this preliminary civil engineering site assessment.

Sincerely,

MILLER ENGINEERS, INC. D/B/A
SOUDER, MILLER & ASSOCIATES



Douglas W. Mize Jr., PE, CFM
Project Engineer II
douglas.mizejr@soudermiller.com

*Attachments: Figure 1: Site Plan
Figure 2: Basin Map
Figure 3: Slope Analysis Map*

DATE	DESCRIPTION

SMA
 SOUDER, MILLER & ASSOCIATES
 Engineers • Environment • Construction
 401 West Broadway Avenue
 Toms River, NJ 08052
 Phone (609) 251-1515 Fax (609) 251-4665
 www.sma.com

CHABERTON ENERGY
 ROSWELL, NEW MEXICO
**GUADALUPE COMMUNITY SOLAR PROJECT
 SITE PLAN**

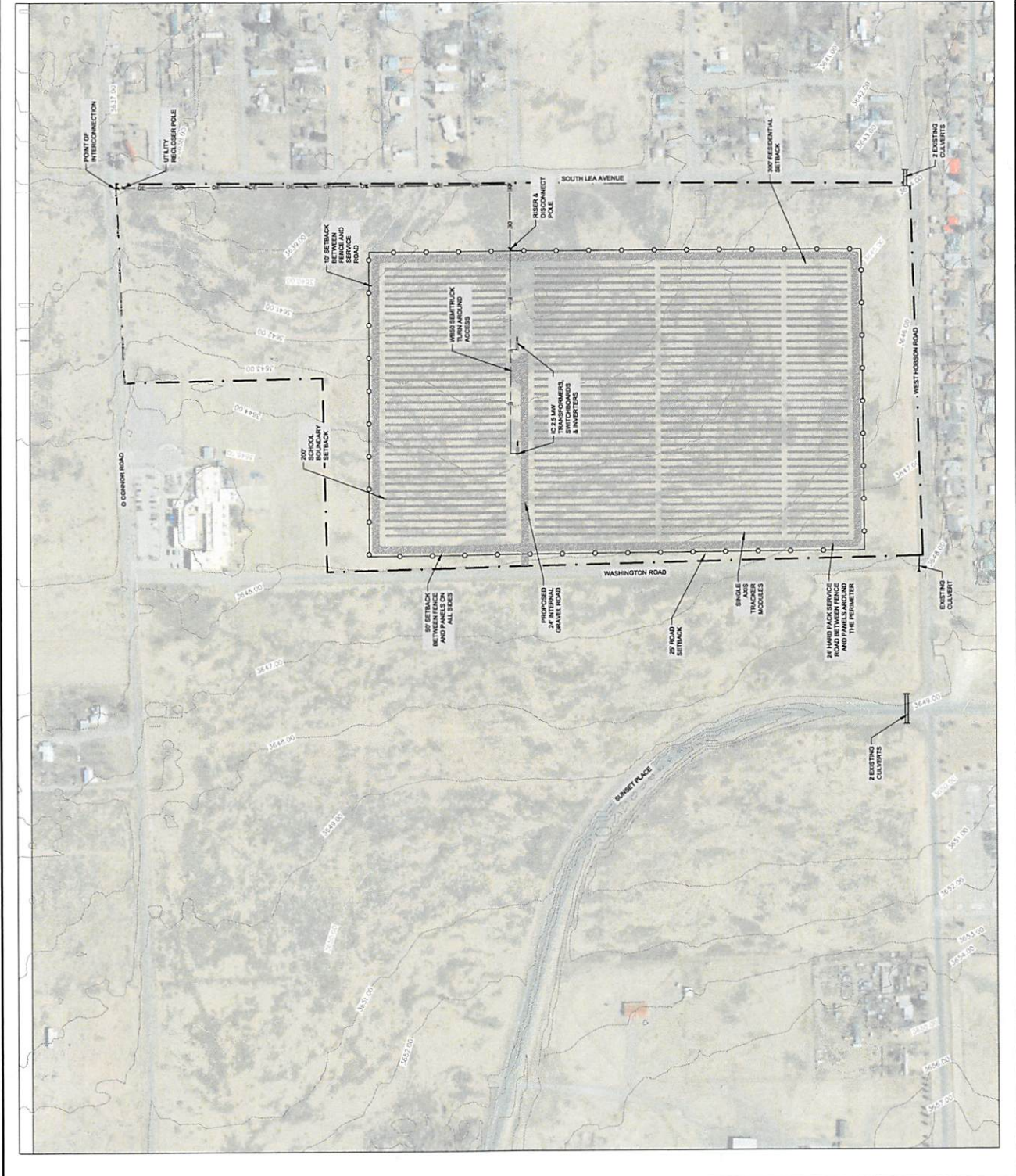
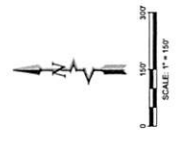
PROJECT NO.	330713
DATE	11/15/2011
SCALE	1" = 100'
SHEET	FIGURE 1



To Request a Laser Level (Call 811)
 Note: This is a 2D plan view. The project is shown in plan view. It is not intended to be used as a construction document. It is not intended to be used as a legal document. It is not intended to be used as a legal document. It is not intended to be used as a legal document.

GENERAL LEGEND

- EXISTING ELECTRICAL LINE
- PROPOSED ELECTRICAL LINE
- ELECTRICAL CONNECTION
- SITE FENCE
- PROPERTY BOUNDARY
- MAJOR CONTOUR (10' INTERVAL)
- MINOR CONTOUR (2' INTERVAL)



SOUDER, MILLER & ASSOCIATES
 Registered Professional Engineers & Geologists
 401 West Broadway Avenue
 Philadelphia, PA 19101
 Tel: (215) 251-2525 Fax: (215) 518-8898
 www.soudermiller.com

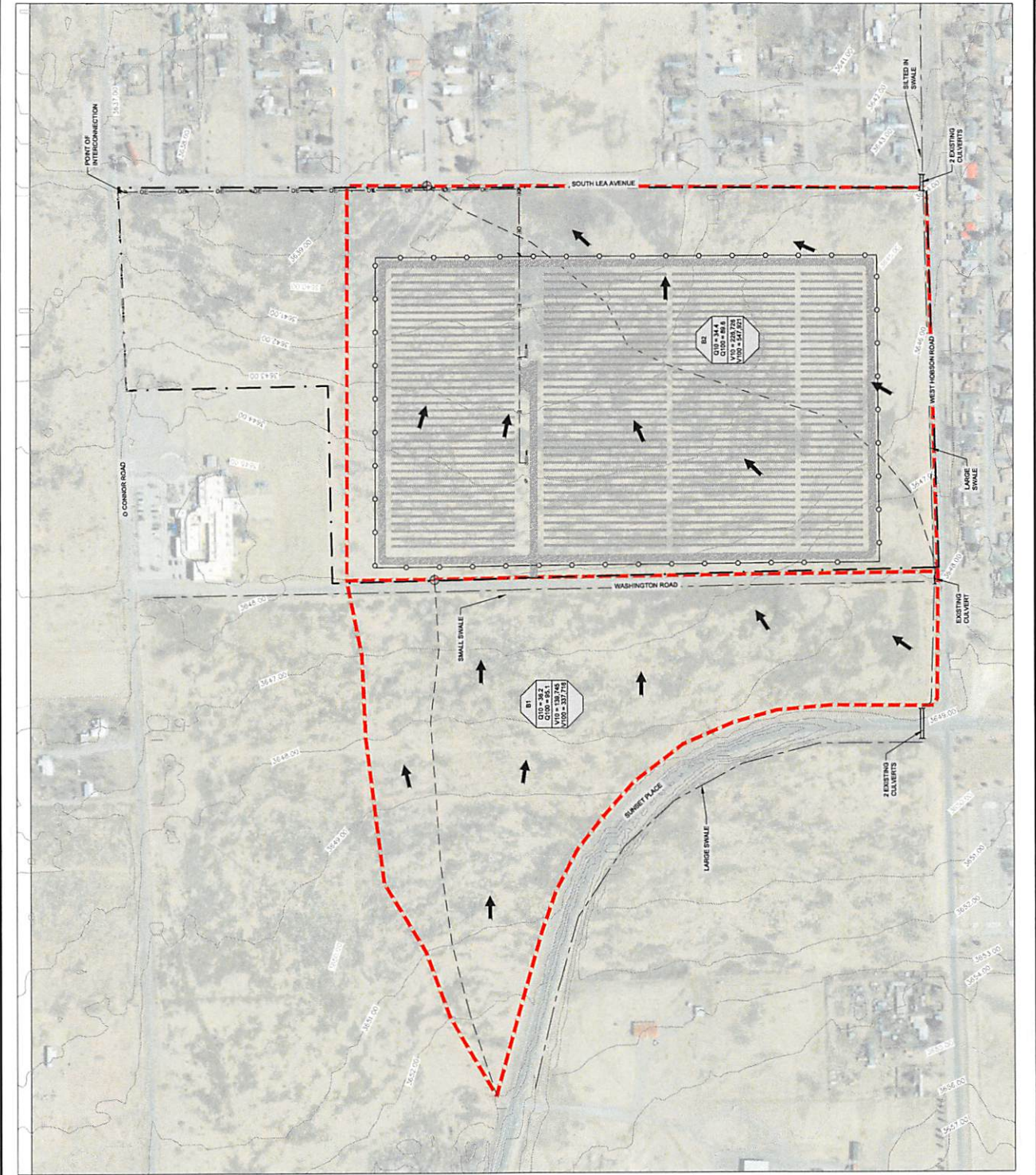
ROSWELL, NEW MEXICO
 GUADALUPE COMMUNITY SOLAR PROJECT
 BASIN MAP

CHARTERED ENERGY
 Scale: 1" = 400'
 Project No: 0320713
 Sheet: FIGURE 2

GENERAL LEGEND

- BASIN IDENTIFICATION
- PROPOSED ELECTRICAL LINE
- EXISTING ELECTRICAL LINE
- ELECTRICAL CONNECTION
- SITE FENCE
- DEVELOPMENT BASIN
- PRE-DEVELOPMENT FLOW PATH
- MAJOR CONTOUR (10' INTERVAL)
- MINOR CONTOUR (2' INTERVAL)
- ANALYSIS POINT
- DIRECTION OF FLOW

Resources for Damage Prevention
The Report & Map Locate Data File
Note: mm811 can identify objects located in the excavation records at the time of the excavation. It does not identify objects located in the excavation records prior to the excavation. It is the responsibility of the excavator to ensure that the location of any objects is properly marked in the excavation records.



CHABERTON ENERGY
 ROSWELL, NEW MEXICO

GUADALUPE COMMUNITY SOLAR PROJECT
 SLOPE ANALYSIS

SOUDER, MILLER & ASSOCIATES
 Engineers • Architects • Planners
 401 West Broadway Avenue
 Farmington, NM 87401
 Phone (505) 223-7273 Fax (505) 228-0643
 www.souderml.com

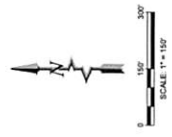
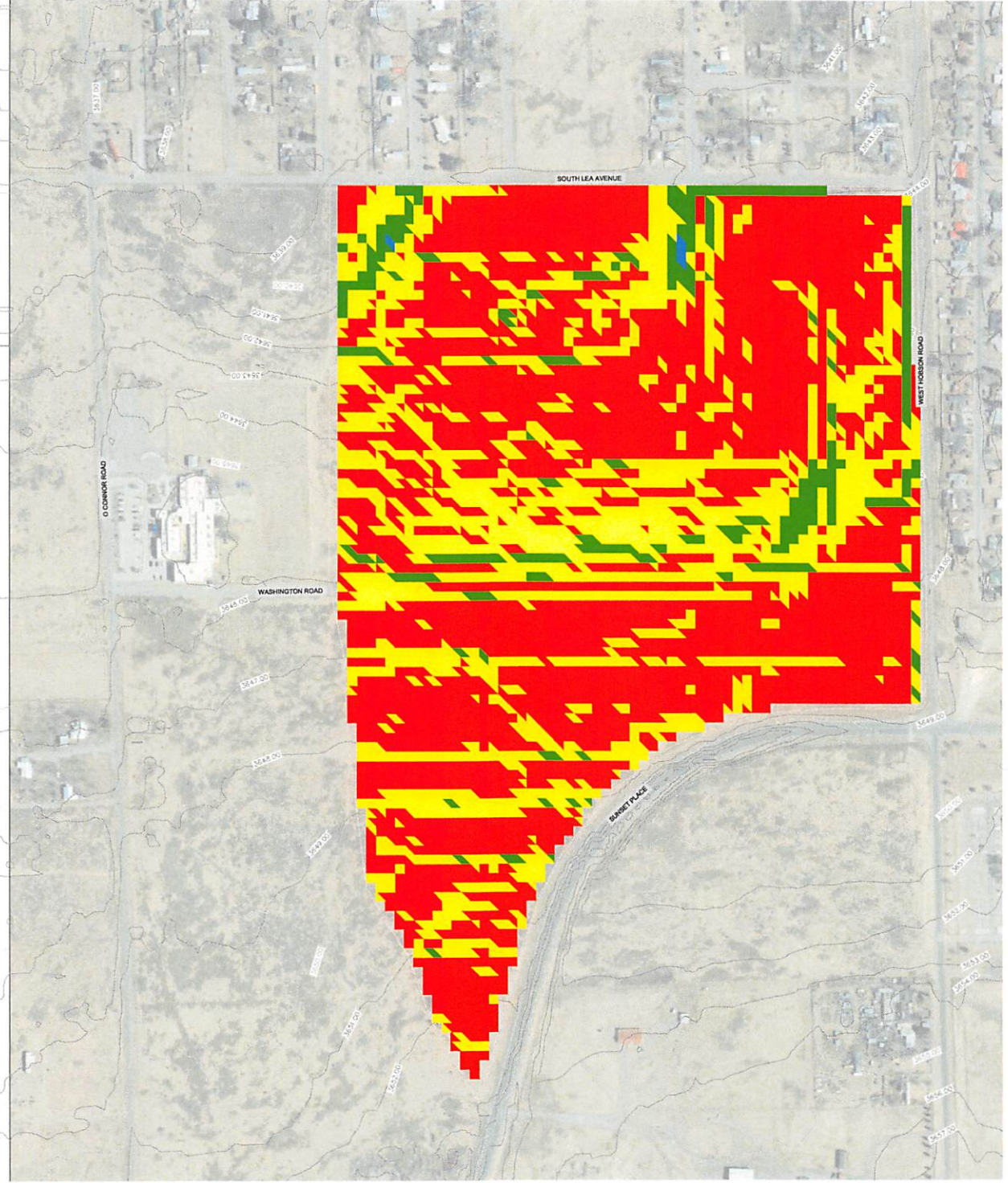
Scale: 1" = 100'
 Date: 11/11/2022
 Project No.: 2020113
 Sheet: FIGURE 3

THE REQUEST IS FOR A LEASER (WILL BE)
 Resource for
 Professional
 Damage Prevention

NOTE: THIS REPORT IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT TO BE USED FOR ANY OTHER PURPOSES. THE USER OF THIS REPORT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES. THE USER OF THIS REPORT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES. THE USER OF THIS REPORT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES.

Slopes Table

Number	Minimum Slope	Maximum Slope	Area	Color
1	0.00%	0.50%	2437972.02	Red
2	0.50%	1.00%	1732528.86	Yellow
3	1.00%	2.00%	241200.35	Green
4	2.00%	5.00%	1113.81	Blue
5	5.00%	10.00%	0.00	Purple



Guadalupe Solar Project Decommissioning Plan

Prepared By:
Chaberton Solar Guadalupe LLC

Prepared for:
Roswell-Chaves County Extraterritorial
Authority, New Mexico

Date:
September 29th, 2022

Property:
Parcel Number: 4-135-066-363-428-000000

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Section 1: Introduction

Chaberton Solar Guadalupe LLC ("Chaberton") will construct, own, and operate a project, approximately 5 megawatts (MW) of total photovoltaic ("PV") capacity in the Roswell-Chaves County, New Mexico. The Project is located on Parcel number 4-135-066-363-428-000000 and consists of approximately 36.4 acres. The project will lease the property from the current owner for 25 years with an option to extend the lease for three (3) additional five (5) year periods, for a maximum operation term of forty (40) years.

Chaberton provides this Decommissioning Plan as part of our Application for Administrative Approval.

Section 2: Project Background

The project is located to the south of Sunset Elementary, part of the Roswell Independent Schools, with project coordinates 33.324444, -104.530000. The project will consist of approximately 14,742 solar modules, associated solar module racking system and foundations, 40 DC (DIRECT CURRENT) to AC (ALTERNATING CURRENT) electrical inverters, 2 medium voltage step-up transformers and associated electrical equipment and materials necessary to connect to the local power distribution system. Medium voltage distribution lines will run to the North of the project to interconnect with the SPS power grid.

Section 3: Existing Site Conditions

The project is zoned "R". The topography of the site is very flat, with some very shallow slopes on the extreme NE corner of the parcel. Adjacent land use includes school and residential homes.

Section 4: Description of Work to Construct Utility Scale Solar Facility

Major Activities

Cable Trenching: Trenching requirements for the electrical cables and telecommunication lines would consist of a trench up to approximately three feet deep and one to four feet wide. The trenches would be filled with base material above and below the conductors and communications lines to ensure adequate thermal conductivity and electrical insulating characteristics. The topsoil from trench excavation would be set aside before the trench is backfilled and would comprise the uppermost layer of the trench. Any excess material from the foundation and trench excavations is incorporated onsite and will not be exported.

Foundations: The solar modules will be installed on steel racking structures. The posts for the racking structures and DC to AC inverters will be driven 5-6 feet into the ground using a post-driving machine. The medium voltage step-up transformers will be set on concrete pads which are typically 12-18 inches deep.

Modules Racking System: Galvanized beams and other structural members will be bolted to the foundation posts of the racking system. The solar modules are then mounted on these structural members.

Medium Voltage Step-Up Transformers: The medium voltage step-up transformers will be offloaded from delivery trucks and placed on concrete foundations. This equipment will be bolted to the concrete foundations. The underground electrical and communication cables will be routed and connected to this equipment.

4.1 System Overview and Components

PV solar modules absorb sunlight and use silicone cells to generate electrical current. The PV Modules are mounted on a single axis tracker racking system which allows the modules to track the sun throughout the day. Components of the system include the following:

4.1.1. **Combiner Boxes:** Combiner boxes allow for the paralleling of multiple conductors/feeder inputs and allow for fewer outputs.

4.1.2. **Inverters:** Inverters are power conversion devices which transform direct current (DC) to alternating current (AC). There are 40 inverters planned. These are mounted on the same racking that supports the solar modules.

4.1.3. **Transformers, Recloser, Disconnect Switch:** Transformers are an apparatus for reducing or increasing the voltage of an alternating current. There are 2 medium voltage step-up transformers. The Recloser and Disconnect Switch are protection devices that allow the Project or SPS to isolate the projects from the wider distribution system.

4.1.4. **Underground Cables and Conduits:** Underground power (AC and DC) cables, communication and grounding cables will be either direct buried or placed in conduit. The cables will be rated in accordance with their application. The cables will be in a conduit as per code when transitioning from below grade to above grade.

4.1.5. **Access and Internal Roads:** Due to the small size of the projects, the only access will be a short driveway leading to the transformer equipment pads. Internal to the fence, a grass open area will be maintained for infrequent maintenance access to the modules and inverters.

4.1.6. **Buildings and Enclosures:** The Project will not contain any permanent occupied building structures once construction is complete and the plant is operating. The site may have storage containers used for storing spare parts and materials, but these will not be affixed to a foundation. Except for periodic maintenance, the site is unstaffed.

4.1.7. **Security Fencing:** To ensure security of the facility, the property will be fenced with seven-foot-high ag fencing. Access to the site will be controlled via locked access gates.

4.1.8. **Project Life:** The facility has an estimated useful life of at least 30 years with an opportunity for extension depending on equipment replacements or refurbishments.

4.1.9. **SCADA and Communications Equipment Enclosure:** Supervisory Control and Data Acquisition (SCADA) refers to the entire communication and control components. The SCADA equipment for the projects will be mounted inside of an enclosure in the vicinity of the transformers. The enclosure is affixed to a foundation or mounted on piles, depending on soil conditions. The SCADA system includes an internet router, server(s), a firewall, battery backup, and other hardware to monitor the solar farm.

Section 5: Decommissioning Process

Decommissioning consists of the removal of above- and below-ground facility components, management of excess wastes and materials, and the restoration of ground surface irregularities and herbaceous vegetation. If commercial operations cease for over twelve months, the project area is to be restored in a manner consistent with its condition prior to facility construction. Decommissioning activities are expected to take between 6 to 8 months. Removal of all equipment will be done in accordance with applicable regulations of the time.

5.1 Equipment Removal

After the facility has been disconnected and isolated from the utility power grid and all electrical components have been disconnected within the facility, equipment will be dismantled and removed. Decommissioning will be undertaken by licensed subcontractors using similar techniques and equipment to those used in the construction of the Project.

The following describes the methods for dismantling and removal of various Project Components:

PV arrays and associated equipment

- Disconnect all wiring, cables, and electrical interconnections.
- Remove PV arrays from racks.
- Dismantle and remove all racks and extract all pile-drive support structures (see Equipment foundations).

Generation Tie-Line cables

- All aboveground and underground cables will be removed and transported off-site to an approved recycling facility or landfill.

Equipment foundations

- The pile-drive support structures for the solar arrays will have foundations that require removal. Other underground infrastructure that requires removal may include concrete protective electrical structures. Any foundation structures and below ground concrete will be fully removed from the ground and the affected area will be backfilled as necessary with native soil.

Access roads

- All aggregate and other underlying materials from the access driveway / road will be excavated.
- As necessary, all compacted areas will be disc-ed or tilled to restore soil densities consistent with the surrounding area.

- The access road area will be restored in a manner consistent with its condition prior to facility construction.

Other components

- Fences, gates, and guards will be removed.

5.2 Site Restoration

The portion of the site currently in use as agriculture will be returned to that use or stabilized with grasses common to the area if the future owner does not plan to return the site to agricultural crops.

5.3 Managing Excess Materials and Waste

A variety of excess materials and wastes will be generated during decommissioning. To the extent practical, Chaberton will coordinate with manufacturers, contractors, waste firms, and other entities to maximize the reuse and/or recycling of materials. Those materials deemed reusable/recyclable will be transported offsite and managed at approved receiving facilities following all applicable federal, state, and county waste management regulations of the time.

All residual waste will be removed by a licensed contractor and transported to an approved landfill. No waste materials will remain on the site.

Decommissioned materials will include:

5.3.1 PV Panels

The Project will coordinate the collection and dispensation of the PV modules to minimize the potential for modules to be discarded prematurely. If there is no possibility for reuse, PV panels will either be returned to the manufacturer for appropriate recycling/disposal or will be transported to a recycling facility where the glass, metal and semiconductor will be recycled. Best management practices at the time of decommissioning shall be utilized.

5.3.2 Racking and Supports

All steel racks and pile-driven supports will be transported offsite and recycled at an approved recycling facility.

5.3.3 Inverters and Transformers

All metal components of the DC to AC inverters will be recycled at an approved recycling facility to the extent practical. Transformers will be transported off-site for reuse. If no reuse option is available, transformers will be recycled or disposed at an approved facility.

5.3.4 Gravel and Aggregates

Any used gravel or aggregates will be tested for contamination prior to removal. All uncontaminated materials will be transported offsite for salvage processing and then reused for

construction fill. In the unlikely event that the used gravel or aggregates are found to be contaminated, these will be disposed at an approved facility.

5.3.5 Concrete

All concrete, including all foundations, will be broken down and transported to an approved landfill or recycling facility.

5.3.6 Cables and Wiring

All copper and/or aluminum wiring and associated electronic equipment (e.g., isolation switches, fuses, metering) will be recycled to the extent practical. Any materials not deemed recyclable will be disposed of at an approved landfill.

5.3.7 Fencing

All fencing materials will be recycled at a metal recycling facility to the extent practical.

5.3.8 Debris and Residual Waste

Any remaining debris or residual waste will be collected, and all recyclable materials will be sorted. All sorted materials will be removed and sent to either an approved recycling or disposal facility.

5.4 Security for Removal of Solar Energy System

Prior to issuance of a building permit, the project will provide a decommissioning letter of credit, bond, or such other security as approved by the Roswell-Chaves County Extraterritorial Authority based on the requirements of the Administrative Approval. The security will be in an amount equal to the cost of performing the decommissioning obligations as determined by an independent engineer. The security provided will be enough to perform the necessary decommissioning obligations for the entire project site. The financial assurance shall be reviewed and renewed every five (5) years to ensure that the amount reflects the current market.

5.5 Abandonment

If the Community Energy Generating Facility does not produce energy for a continuous period of one year or more, it will be presumed to have been abandoned. A Good Cause Exemption from Roswell-Chaves County Extraterritorial Authority may be requested and may not be unreasonably withheld so long as all Real Estate and Personal Property Taxes are in good standing. If the facility is abandoned without obtaining a Good Cause Exemption in writing, it must be decommissioned and removed within 180 days.

5.6 Responsibility for Decommissioning

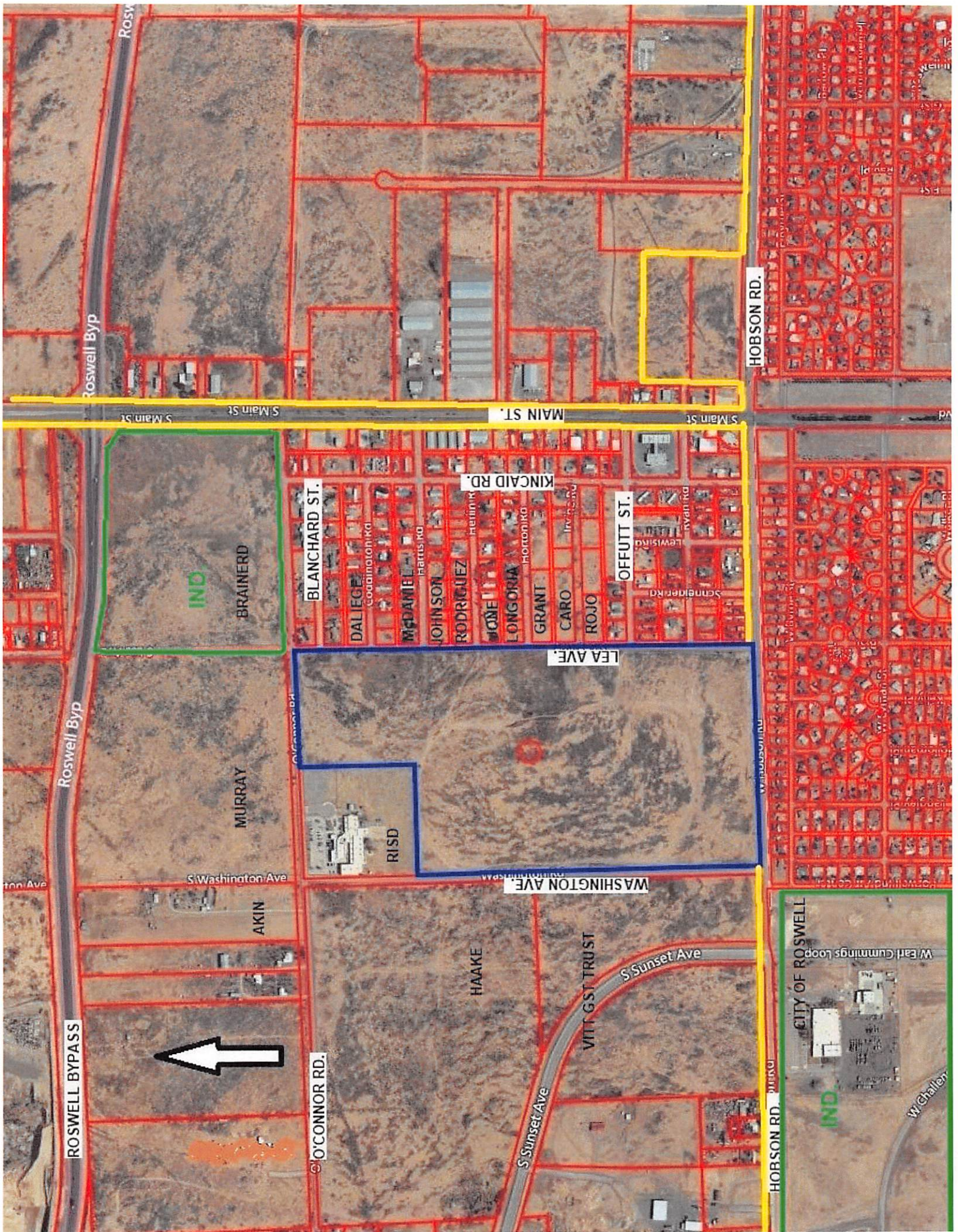
Chaberton Solar Guadalupe is responsible for decommissioning of the Community Energy Generating Facility at the end of its useful life under normal business operations. If the facility is deemed to be abandoned by Roswell-Chaves County Extraterritorial Authority and such

designation is not disputed by Chaberton Energy Guadalupe or its affiliates within 60 days of official notification in writing, the security shall be in place to defray the cost of decommissioning by Roswell-Chaves County Extraterritorial Authority.

5.7 Summary Decommissioning Cost Analysis

DECOMMISSIONING COST ANALYSIS		Based on conceptual site plan dated 11/01/22		
PROJECT GUADALUPE		ROSWELL-CHAVES COUNTY, NM		
Description of Item	Quantity	Unit	Unit Cost	Total Cost (2022)
Disassembly and Disposal				
PV Modules	14,742	EA	\$ 6.25	\$ 92,138
Inverters (string)	40	EA	\$ 25.00	\$ 1,000
Transformers	2	EA	\$ 625.00	\$ 1,250
Racking Frame (Tracker)	215	EA	\$ 125.00	\$ 26,875
Racking Posts	2,200	EA	\$ 20.00	\$ 44,000
LV Wiring	120,000	LF	\$ 0.80	\$ 96,000
MV Wiring	2,000	LF	\$ 0.80	\$ 1,600
Ag Fence	5,500	LF	\$ 4.70	\$ 25,850
Concrete	30	CY	\$ 73.00	\$ 2,190
Gravel (Access Road)	0	CY	\$ 73.00	\$ -
Removal of utility poles	8	EA	\$ 2,000.00	\$ 16,000
			Subtotal	\$ 306,903
Site Restoration				
Re-seeding (includes seed)	2	AC	\$ 2,500.00	\$ 5,000
Re-grading	100	CY	\$ 12.00	\$ 1,200
			Subtotal	\$ 6,200
Demolition Cost				\$ 319,303

* Racking Frames were calculated with the assumption that poles are installed at 18 ft distance.



ROSWELL BYPASS

Roswell Byp

S Main St

S Main St

MAIN ST.

HOBSON RD.

IND

BRAINERD

BLANCHARD ST.

DALIEGE

McDAMIEL

JOHNSON

RODRIGUEZ

WONE

LONGORIA

GRANT

CARO

ROJO

OFFUTT ST.

LEA AVE.

MURRAY

RISD

WASHINGTON AVE

S Washington Ave

AKIN

HAAKE

VTT GST TRUST

S Sunset Ave

S O'CONNOR RD.

S Sunset Ave

HOBSON RD.

CITY OF ROSWELL

IND

W Challenger