



PINAL COUNTY BOARD OF SUPERVISORS
AGENDA FOR WORK SESSION
Thursday, September 14, 2023

9:30 AM - CALL TO ORDER

PINAL COUNTY ADMINISTRATIVE COMPLEX
BOARD OF SUPERVISORS HEARING ROOM
135 N. PINAL STREET
FLORENCE, AZ 85132

-
- (1) Presentation and discussion from the Director of Growth Initiatives for the University of Arizona - Maricopa Campus regarding the results of recent grant application processes, the university's future plans for the campus, and the potential for future grant processes and how they will impact those future plans. (James Smith)
 - (2) Work Session on case PZ-PA-006-23, A Major Comprehensive Plan Amendment proposal requested by Pinal County to update Chapter 7: Environmental Stewardship, Section–Energy, Sub-Sections- Renewable Energy Sources, Energy Generation and Transmission, Goals, Objectives and Policies, and Appendix D of the 2019 Pinal County Comprehensive plan document. (Sangeeta Deokar/Brent Billingsley)
 - (3) Work Session on case PZ-PA-009-23, A Major Comprehensive Plan Amendment request by SWCA Environmental Consultants for Cielo Solar and Storage project, to re-designate 1086± acres from Moderate Low Density Residential (MLDR) and Employment to Green Energy Production for large scale PV Solar generation facility, located south of central Coolidge and east of central Casa Grande, Pinal County. Supervisor District #3. (Ryan Green/Brent Billingsley)
 - (4) Work Session on case PZ-PA-010-23, A County initiated Major Comprehensive Plan Amendment request by SWCA Environmental Consultants for Casa Grande Carmel Solar Project, to re-designate 955.85± acres from Moderate Low Density Residential (MLDR) and Employment to Green Energy Production for a photovoltaic Solar Power Plant, located along east of Corrales Road, north of I-8, and 1.5 miles west of the city of Casa Grande in Pinal County. Supervisor District #3. (Glenn Bak/Brent Billingsley)

ADJOURNMENT

(SUPPORTING DOCUMENTS ARE AVAILABLE AT THE CLERK OF THE BOARD OF SUPERVISORS' OFFICE AND AT <https://pinal.novusagenda.com/AgendaPublic/>)

NOTE: One or more members of the Board may participate in this meeting by telephonic conference call.

In accordance with the requirement of Title II of the Americans with Disabilities Act (ADA), the Pinal County Board of Supervisors and Pinal County Board of Directors do not discriminate against qualified individuals with disabilities admission to public meetings. If you need accommodation for a meeting, please contact the Clerk of the Board Office at (520) 866-6068, at least (3) three business days prior to the meeting (not including weekends or holidays) so that your request may be accommodated.

Meeting Notice of Posting

General Board Meeting Rules of Order



AGENDA ITEM

September 14, 2023 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name:

Director:

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Presentation and discussion from the Director of Growth Initiatives for the University of Arizona - Maricopa Campus regarding the results of recent grant application processes, the university's future plans for the campus, and the potential for future grant processes and how they will impact those future plans. (James Smith)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

In addition, the President & CEO of the Maricopa Economic Development Alliance will be present to discuss the future impacts and potential opportunities for the City of Maricopa.

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

No attachments

History

Time

Who

Approval

ATTACHMENTS:

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☐ [09.14.2023 Presentation](#)



AREA OF INNOVATION

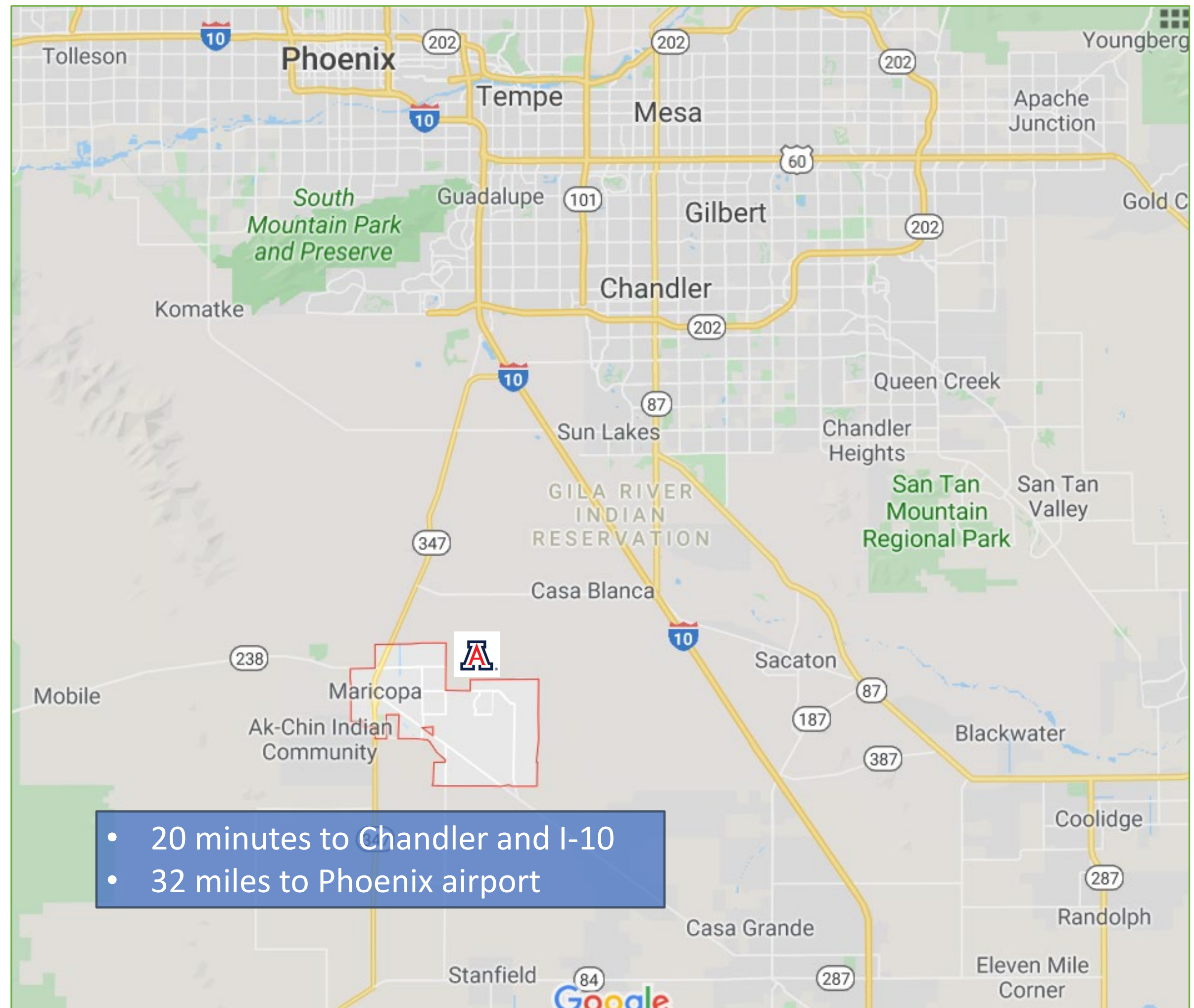
at the Arizona Experiment Station / Maricopa Agricultural Center



**WE RESPECTFULLY ACKNOWLEDGE THE UNIVERSITY OF ARIZONA
IS ON THE LAND AND TERRITORIES OF INDIGENOUS PEOPLES.**

Today, Arizona is home to 22 federally recognized tribes, with Maricopa being home to the Gila River and Ak-Chin communities. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native nations and Indigenous communities through education offerings, partnerships, and community service.

Where is Maricopa Agricultural Center?



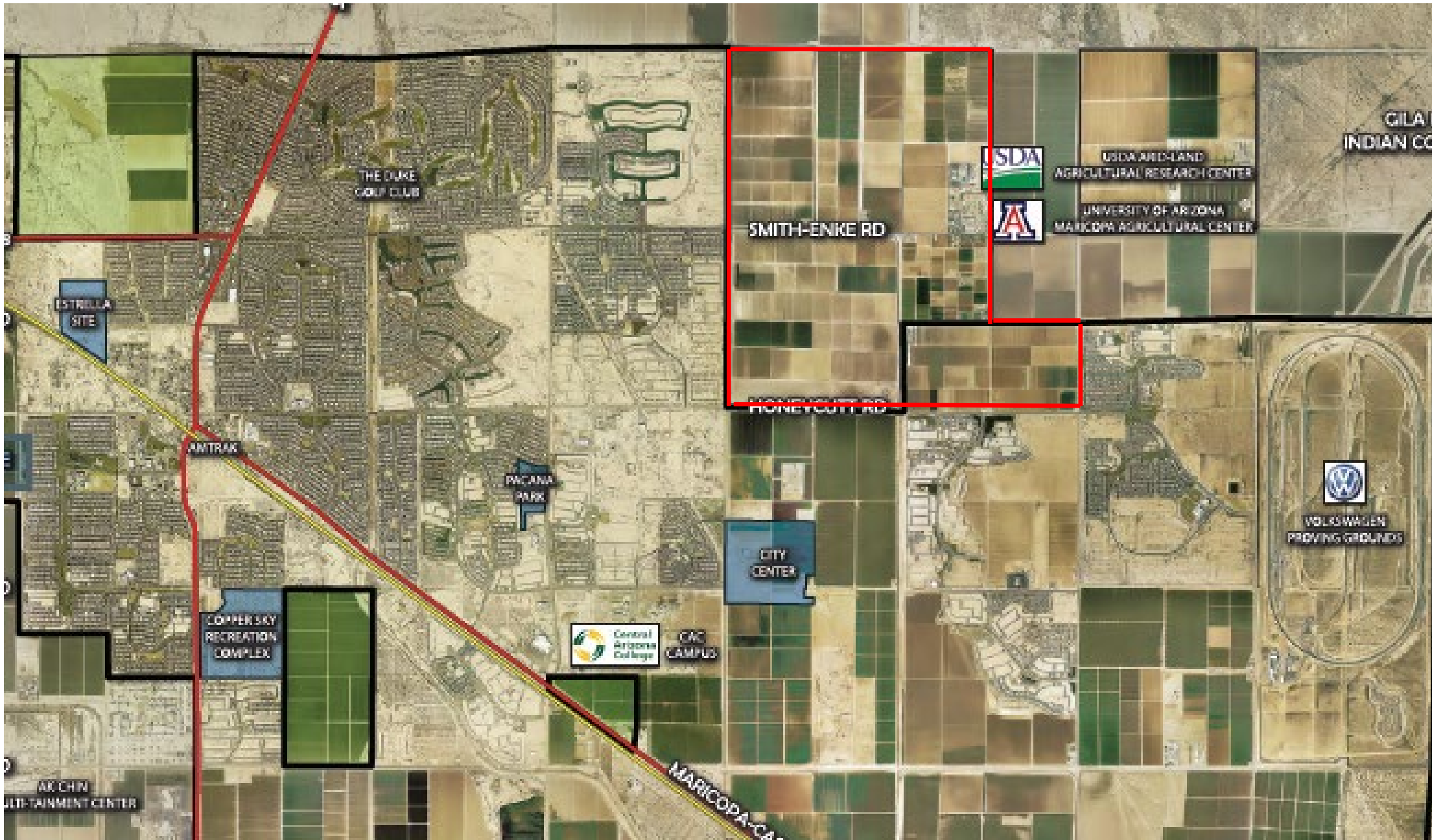


- City of Maricopa / Pinal County experiencing rapid growth and business expansion, especially in non-agricultural sectors.
- No major university research park / business incubator currently exists in Pinal County
- MAC is conveniently located near the 5th largest metropolitan area in the U.S.
- Success of the region strongly tied to the creating new economic and educational opportunities, including Gila River and Ak-Chin Indian Communities
- ~1/3rd of UA students come from Maricopa County
- UArizona continually seeking to expand its mission and impact
- Idea: Portions of MAC acreage could be re-purposed for greater benefit



Regional Insights

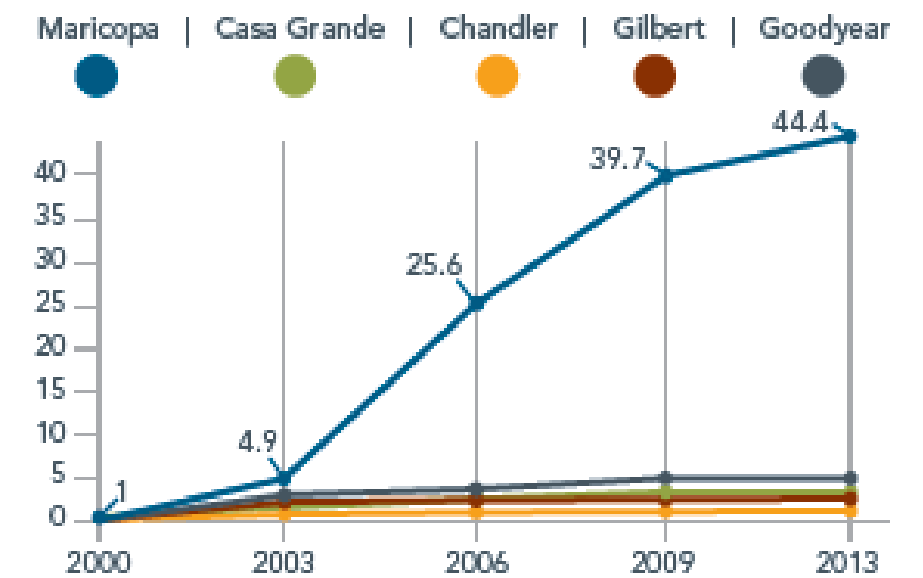
UA Maricopa Growth Initiative



Maricopa AZ Fast Facts

- Incorporated in 2003
- 2000: ~1,000 residents
- 2022: ~ 70,000 residents
- **2050 projection: +500K residents**
- Highly educated workforce
 - Median age: 33
 - Most commute to Maricopa County
- Home of CAC Maricopa Campus
- Major industries:
 - Agritech, MedTech, Transportation, Semiconductor, Recreational, Tech Services

POPULATION GROWTH Maricopa vs Other Cities (x Larger Than 2000)



Data Sources

- Arizona Dept of Administration Annual Estimates
- 2000 U.S. Census

THE PROJECT

VISION

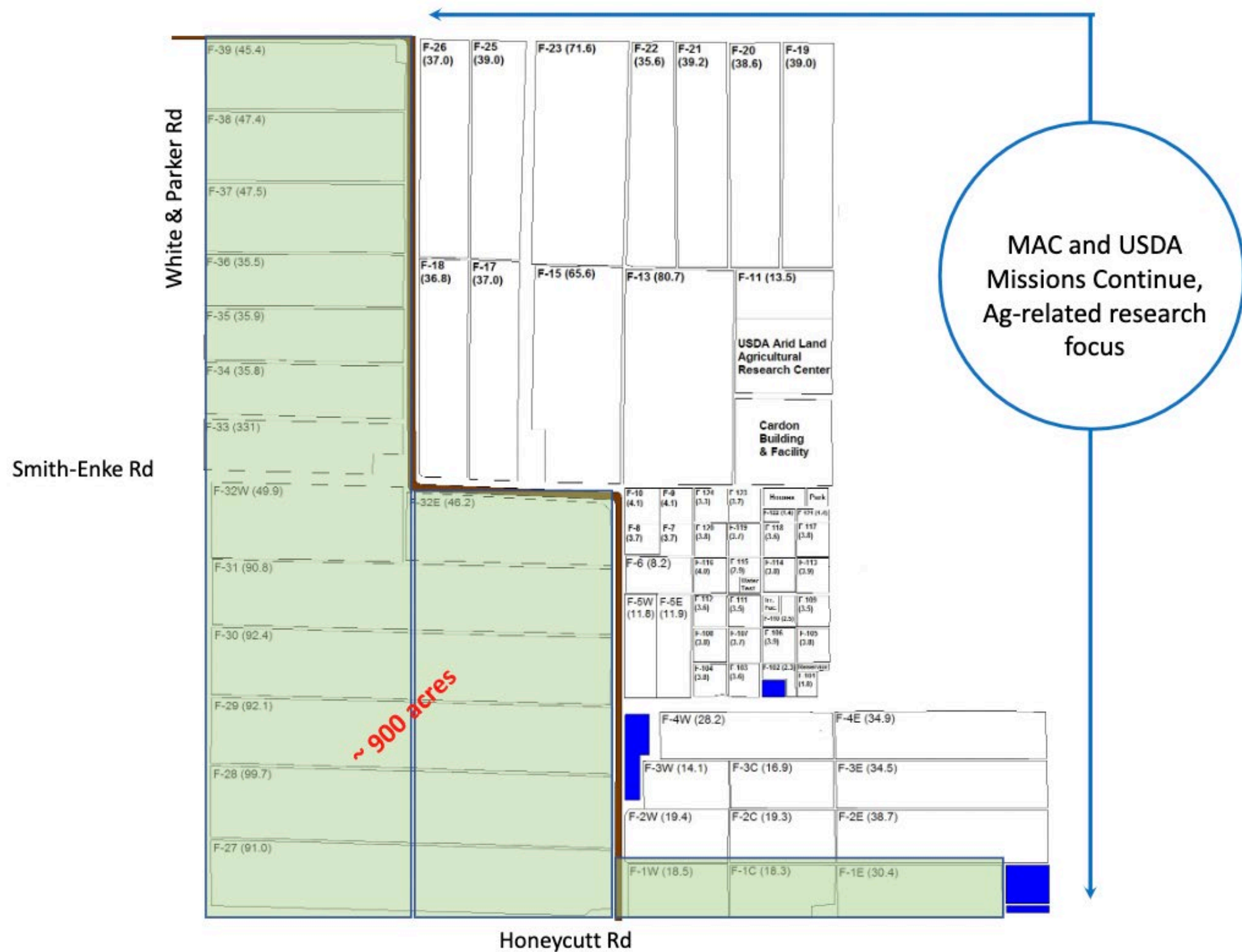
The area of innovation (Aoi) is a transformative project for the University of Arizona, the City of Maricopa and Tech Parks Arizona. This bold initiative will advance and expand the research and educational programming mandate of the University of Arizona in Pinal County.

PURPOSE

This project assesses the highest and best value use of a 2,100-acre research site that is being considered for the University of Arizona and regional economic development use. Specifically, the project will consider whether the site can be developed as an area of innovation (Aoi) with potential components including a research and technology park, commercial spaces, and University education / research programming.

MARICOPA AG CENTER SITE MAP

What it shows:
High-level view
of the project
site location and
orientation



Research and
Academic Expansion
Potential: 900 – 1,200
acres

Opportunities

**Innovative research
that benefits Arizona
communities**



A thriving university, government, and commercial community, driving innovative solutions to local and global food supply, environmental, and health & wellness challenges.

**A vibrant hub for new
and expanding
businesses**



A multi-institutional translational R&D hub that is a major economic catalyst and business attractor, embedded within a 300-acre UA Tech Park, business incubator, and 600-acre area of innovation.

**Education
opportunities that
improve life chances**



A new satellite campus strategically located in Pinal County, providing educational programming, career training, and professional development for students of all ages.

300

ACRE

Technology Park

- Component of land to be leased to external developers
 - Meet specific criteria to reside in the tech park
- Startups: 20,000 sq. ft. incubator
- Earn revenue from various sources
- Various operating costs

600

ACRE

Area of Innovation

- Primarily leased to external developers
- May include downtown walking core, retail development, office development, residential and multi-residential development, hotels
 - In specific areas: industrial development

Education Campus


Satellite

- Located within the technology park
- Falls under separate governance structure
- Financial model provides high-level overview of opportunity available for this initiative

ECONOMIC IMPACT

TOTAL: AOI, TECH PARK,
AND SATELLITE CAMPUS

| | YEAR 5 | | YEAR 10 | | YEAR 15 | |
|--|---------------|----------------|---------------|----------------|----------------|----------------|
| | ANNUAL | CUMULATIVE | ANNUAL | CUMULATIVE | ANNUAL | CUMULATIVE |
|  JOB-YEARS | 19,424 | 50,631 | 39,893 | 211,588 | 51,266 | 449,476 |
|  EMPLOYMENT INCOME | \$1.6B | \$4.0B | \$3.4B | \$17.5B | \$4.3B | \$37.6B |
|  ECONOMIC OUTPUT | \$4.0B | \$10.2B | \$8.6B | \$44.6B | \$11.0B | \$95.8B |
|  TAX REVENUES | \$74.0M | \$206.5M | \$145.9M | \$800.9M | \$178.1M | \$1.7B |

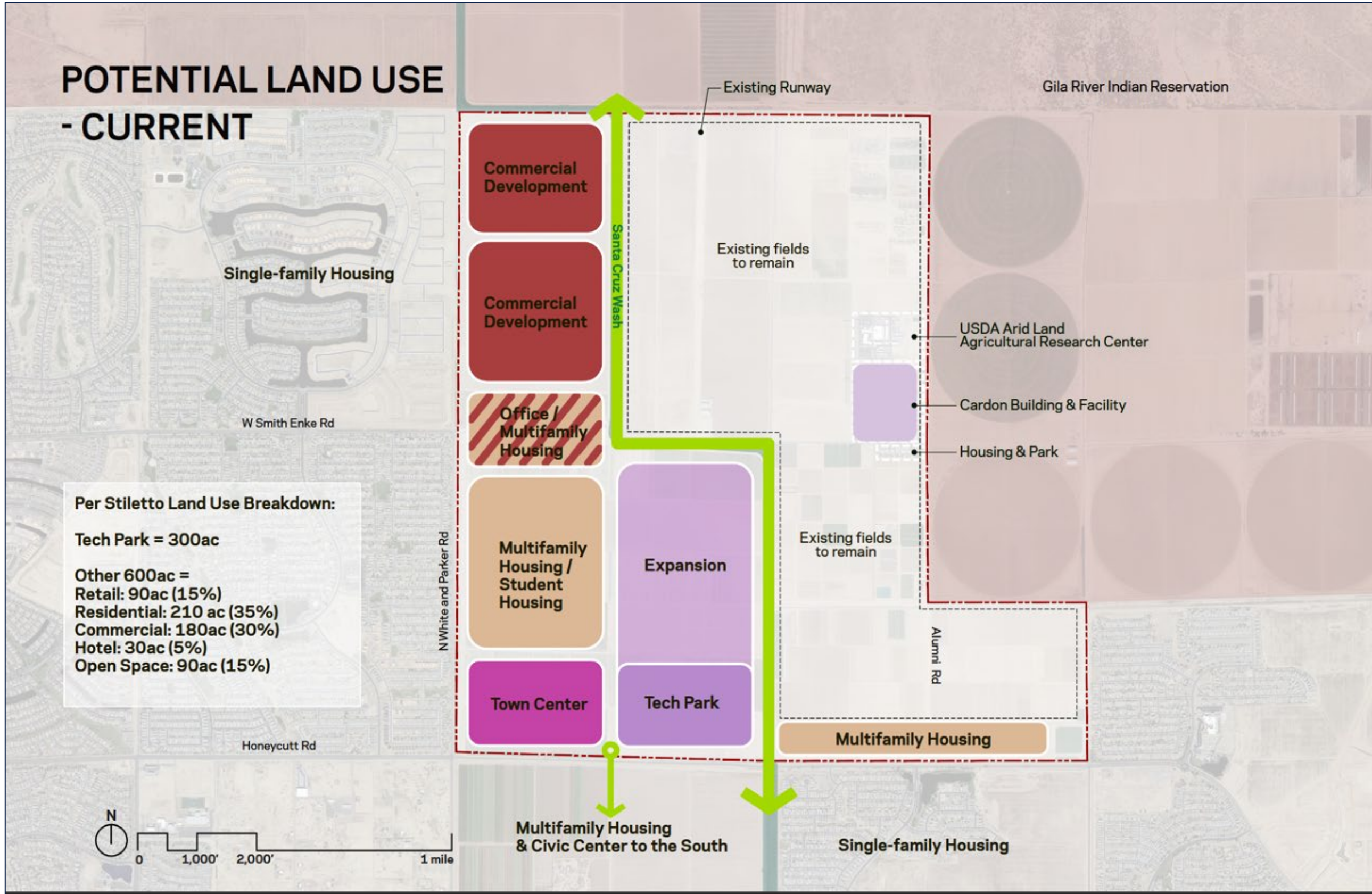
| | ANNUAL | CUMULATIVE | ANNUAL | CUMULATIVE | ANNUAL | CUMULATIVE |
|--|---------------|----------------|---------------|----------------|----------------|----------------|
|  ECONOMIC OUTPUT | \$4.0B | \$10.2B | \$8.6B | \$44.6B | \$11.0B | \$95.8B |

WHAT THE SITE COULD LOOK LIKE:



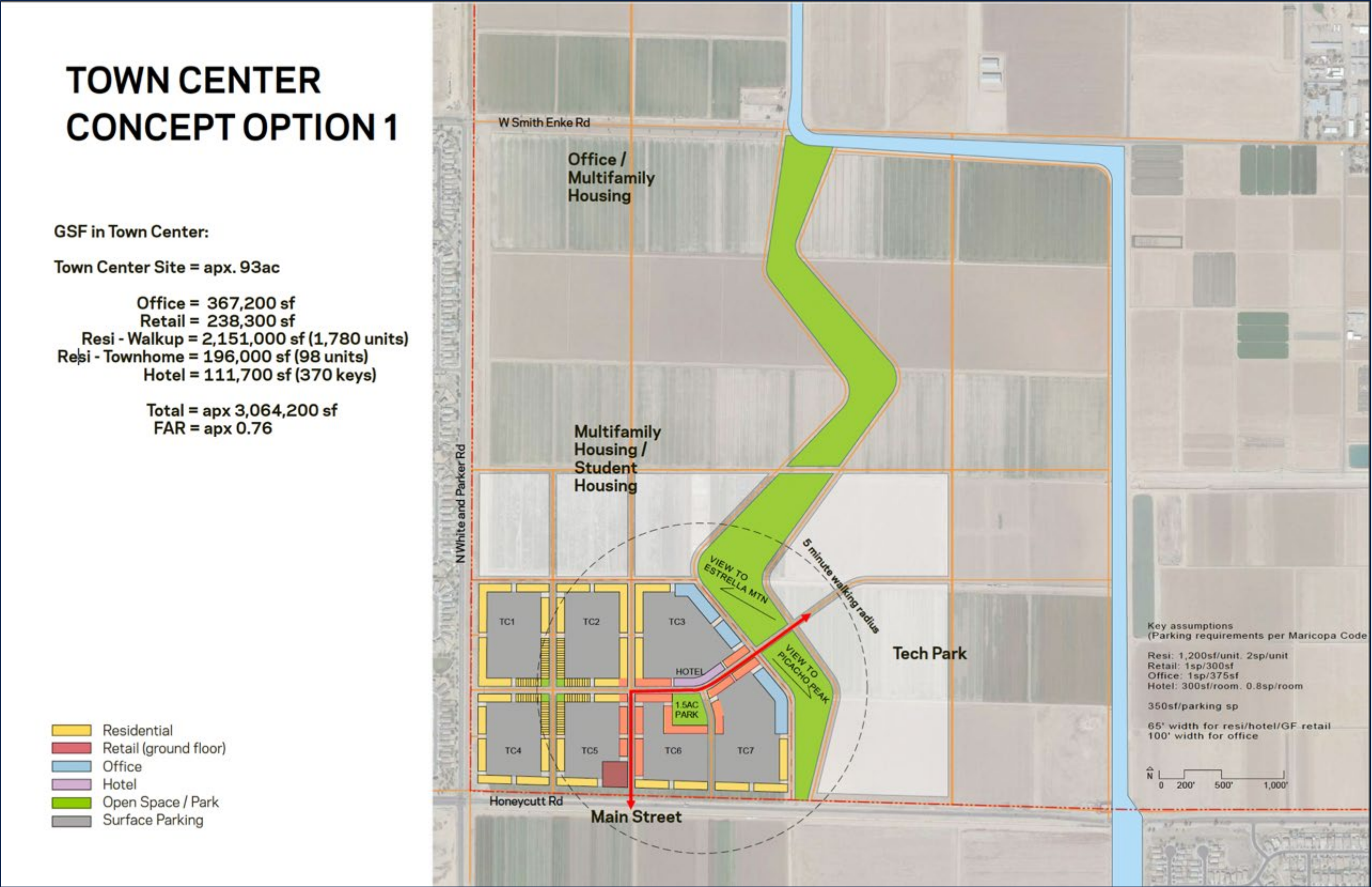
POTENTIAL LAND USE

What it shows: Possible allotment of acreage to kind of land use



TOWN CENTER CONCEPT

What it shows: Relationship of project components to one another and shows the scale / scope of the project in relation to surrounding lands












NEXT STEPS

WHAT'S NEXT: PLANNING & AGREEMENTS

Next Six to Eight Months

(May to December 2023):

-  Launch communication campaign
-  Refine financial model
-  Refine governance model
-  Obtain Tribal endorsement
-  City of Maricopa annexation
-  Develop five-year business plan
-  Identify potential funding sources
– State and Other
-  Identify potential developers
-  Identify potential anchor companies

TIME HORIZON

MAY TO DECEMBER 2023

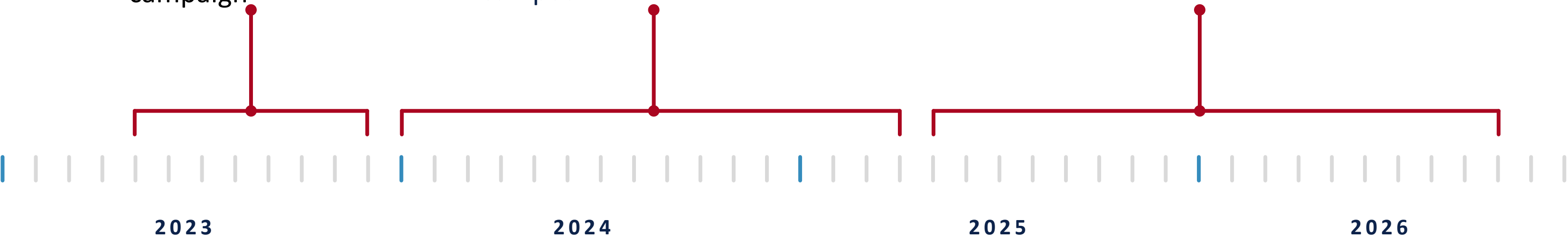
- Business & implementation plans
- Funding sources and applications
- Market demand and outreach
- Communication campaign

JANUARY 2024 TO APRIL 2025

- Confirmation of funding for site development and funding for tech park and satellite campus (Q1 2024)
- Detailed site planning
- Site preparation
- Developer and tenant agreements
- Financing for park
- Program development / Planning for satellite campus

SPRING 2025 TO FALL 2026

- Construction: Building One at tech park
- Construction: Building One at satellite campus
- Construction: Partial development – town center





Contact

Malcolm Green

The University of Arizona
Arizona Experiment Station
Director, Growth Initiatives
mkgreen@arizona.edu



AGENDA ITEM

September 14, 2023 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #: 1030

Dept. Name: Community Development

Director: Brent Billingsley

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Work Session on case PZ-PA-006-23, A Major Comprehensive Plan Amendment proposal requested by Pinal County to update Chapter 7: Environmental Stewardship, Section–Energy, Sub-Sections- Renewable Energy Sources, Energy Generation and Transmission, Goals, Objectives and Policies, and Appendix D of the 2019 Pinal County Comprehensive plan document. (Sangeeta Deokar/Brent Billingsley)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

N/A

| | | |
|------------------|--------------------|----------|
| History | | |
| Time | Who | Approval |
| 9/7/2023 8:45 AM | County Attorney | Yes |
| 9/7/2023 1:49 PM | County Manager | Yes |
| 9/7/2023 1:55 PM | Clerk of the Board | Yes |

ATTACHMENTS:

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☐ [Staff Presentation](#)

☐ [Staff Report](#)

BOARD OF SUPERVISORS WORK SESSION 2023- MCPA- ALL ITEMS



PINAL COUNTY
WIDE OPEN OPPORTUNITY

PROPOSED 2023 MAJOR COMPREHENSIVE PLAN AMENDMENTS

9/14/2023

Community Development Department

SCHEDULE - 2023

Major Comprehensive Plan Amendments



PINAL COUNTY

WIDE OPEN OPPORTUNITY

MCPA SCHEDULE

- July 20: 1st Work session with P&Z Commission
(All proposals)
- August 9: 2nd Work session with P&Z (County initiated)
- August 11: Agency review period ends
- September 7: CAC Meeting
- September 14: Work session with BOS (All Proposals)
- October 19: Public Hearing P&Z (All Proposals)
- November 15: Public Hearing P&Z (All Proposals)

PROPOSALS - 2023

Major Comprehensive Plan Amendments



PINAL COUNTY

WIDE OPEN OPPORTUNITY

PROPOSALS FOR 2023 MAJOR AMENDMENTS

- PZ-PA-006-23 : Update CHAPTER 7 : Environmental Stewardship (County Initiated)

- PZ-PA-009-23 : Cielo Solar

- PZ-PA-010-23 : Casa Grande Carmel Solar

2023 MCPA - Proposed Major Comprehensive Plan Amendments



PINAL COUNTY
WIDE OPEN OPPORTUNITY

PINAL County -Applicant

PZ-PA-006-23 – Renewable Energy Sources

This application is a request to update the renewable energy source categories under Chapter 7: Environmental Stewardship, Section—Energy, Sub-Sections- Renewable Energy Sources and Energy Generation and Transmission, Goals, Objectives and Policies and Appendix D of the 2019 Pinal County Comprehensive plan document.

Item #1: PZ-PA-006-23

Renewable Energy Sources

□ **Proposal:** (Includes following)

1. Expand the Renewable Energy sources to include additional categories besides 'Solar'
2. Update Goals, Objectives and Policies under the same Chapter 7
3. Update Appendix D: Glossary of additional terms (definitions) in the vocabulary of the Comprehensive Plan Document

Item #1: PZ-PA-006-23

Renewable Energy Sources



□ Objective:

1. Provide a comprehensive list of renewable energy sources promoting quality, safety and benefits to the Pinal County Residents
2. Expand the toolbox and provide options for renewable sources of energy to create diversity within this category.

Item #1: PZ-PA-006-23

Renewable Energy Sources



□ Purpose:

1. Ensure projects proposed in future that fall in the category of 'renewable energy sources' can be tied to the policy stated in the comprehensive plan.
2. Bring the Pinal County Comprehensive Plan document up-to-date with current trends in the Energy Sector in the State of Arizona

Item #1: PZ-PA-006-23

Renewable Energy Sources

□ Sources used:

EIA - Department of Energy-Arizona

1. <https://www.eia.gov/state/print.php?sid=AZ#:~:text=In%202022%2C%2099%25%20of%20Arizona's, and%20petroleum%2C%20supplied%20the%20rest>

EIA

2. <https://www.eia.gov/state/rankings/?sid=AZ#series/12>

US. Census Data

3. <https://azmag.gov/Programs/Maps-and-Data/Census-2020>

SRP

4. <https://www.srpnet.com/grid-water-management/grid-management/improvement-projects/coolidge-expansion-project-faq>

Item #1: **PZ-PA-006-23**

Renewable Energy Sources



□ Renewable Energy Sources:

1. Solar Energy
2. Bioenergy
3. Geothermal Energy
4. Hydrogen
5. Hydropower
6. Wind Energy

Item #1: **PZ-PA-006-23**

Renewable Energy Sources

1. **Solar Energy**

a. Photo Voltaics (PV)

b. Concentrating Solar Thermal Power (CSP)



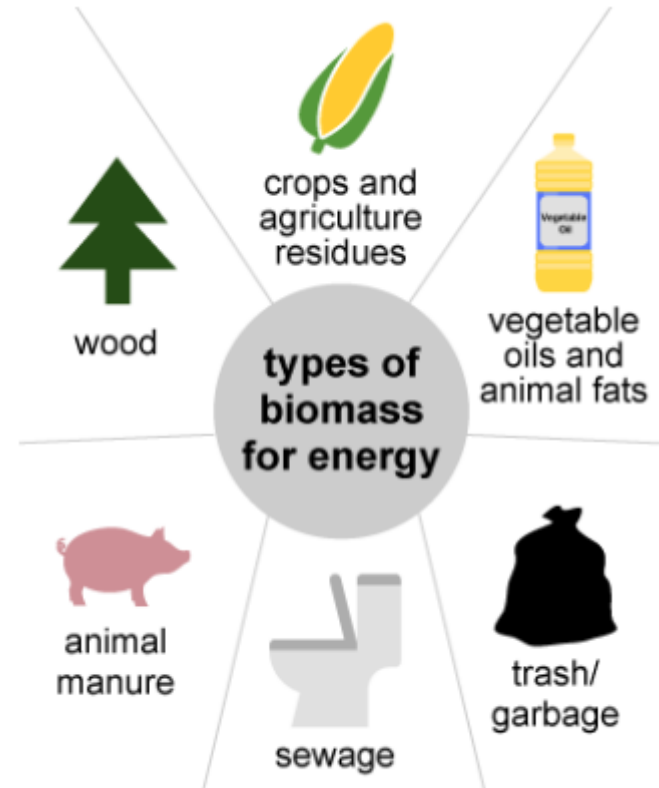
Item #1: PZ-PA-006-23

Renewable Energy Sources

2. Bioenergy

Derived from Organic Materials called biomass

(Forest thinning)



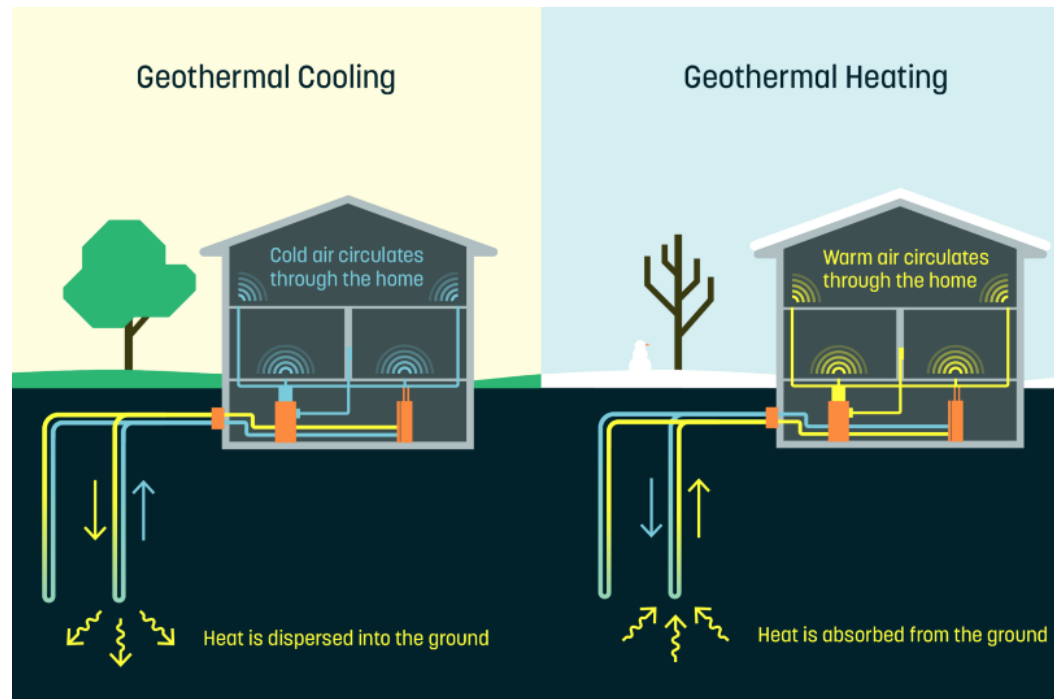
Source: U.S. Energy Information Administration (public domain)

Item #1: PZ-PA-006-23

Renewable Energy Sources

3. Geothermal Energy systems

Heat harnessed from beneath the earth

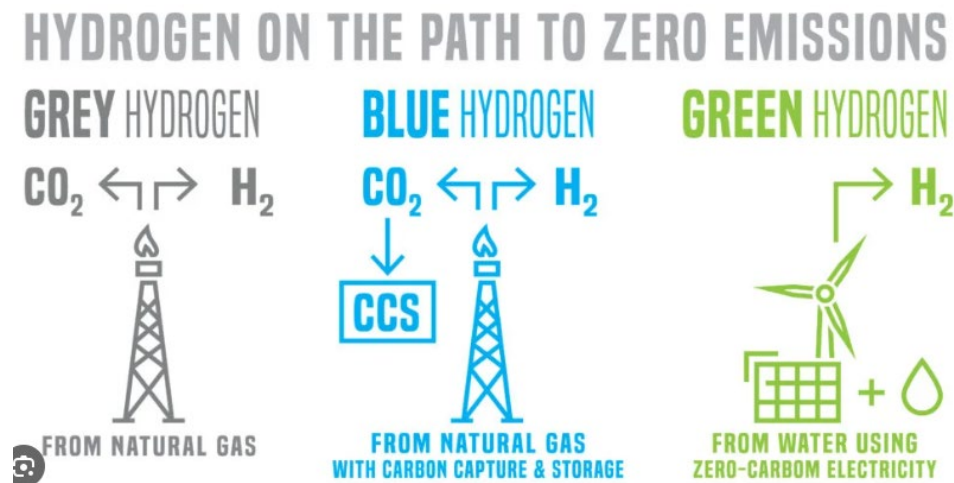


Item #1: PZ-PA-006-23

Renewable Energy Sources

4. Hydrogen

Energy carrier produced from domestic sources (Natural gas, solar wind, geothermal, biomass,) or from processes (Electrolysis, biological, water splitting, steam methane reforming)

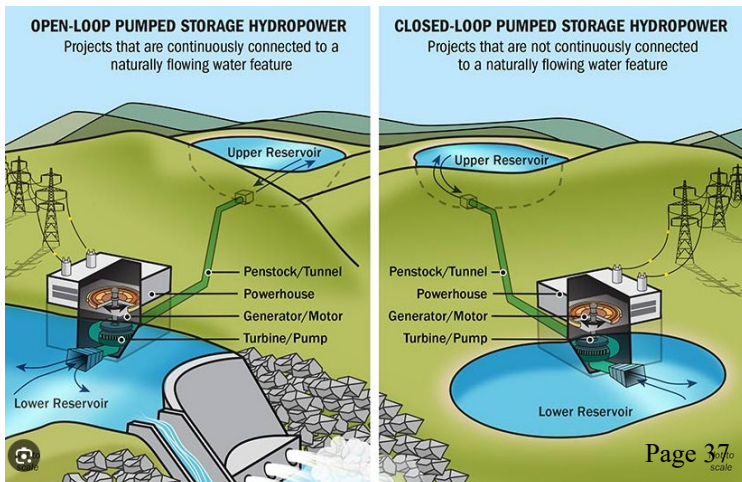


Item #1: PZ-PA-006-23

Renewable Energy Sources

5. Hydropower

Usually associate energy source with Hoover Dam, harnessing power from with large water bodies/rivers. With technological advances and research, smaller facilities (Micro turbines) take advantage of water flows in Municipal water facilities or irrigation ditches.



Micro-hydroelectric Dams Sustain Life in Rural Communities

Item #1: **PZ-PA-006-23**

Renewable Energy Sources

6. Wind Energy

Harnessing power of the wind through wind turbines collecting and converting the kinetic energy into electricity.



The ASU School of Sustainability

Item #1: **PZ-PA-006-23**

Renewable Energy Sources



Update Appendix G: Glossary to include the new terms introduced in the Renewable Energy Section

Appendix D: Glossary

The terms defined in this glossary are done so for purposes of the Pinal County Comprehensive Plan only and may not be relevant or accurate for use outside of this plan.

- **NOTE** : Comprehensive Plan document shows the updated version. Old Version shows portions highlighted for changes

Questions

□ Comments



Item #2: **PZ-PA-009-23** Cielo Solar Project



- **Proposal:** HA Cielo LLC; landowner, Storage Development LLC/Amy Smolen, agent, requesting approval of a MCPA to re-designate 1086± acres from MLDR (Moderate Low Density Residential) and Employment to Green Energy Production
- **Area:** 1086± acres
- **Location:** south of east Laughlin Rd, north of Selma Highway, west of S Highway 87, and on both sides of south La Palma Rd in the unincorporated Pinal County area near Coolidge, AZ.
- **Owners:** HA Cielo LLC
- **Applicant:** Storage Development LLC/Amy Smolen

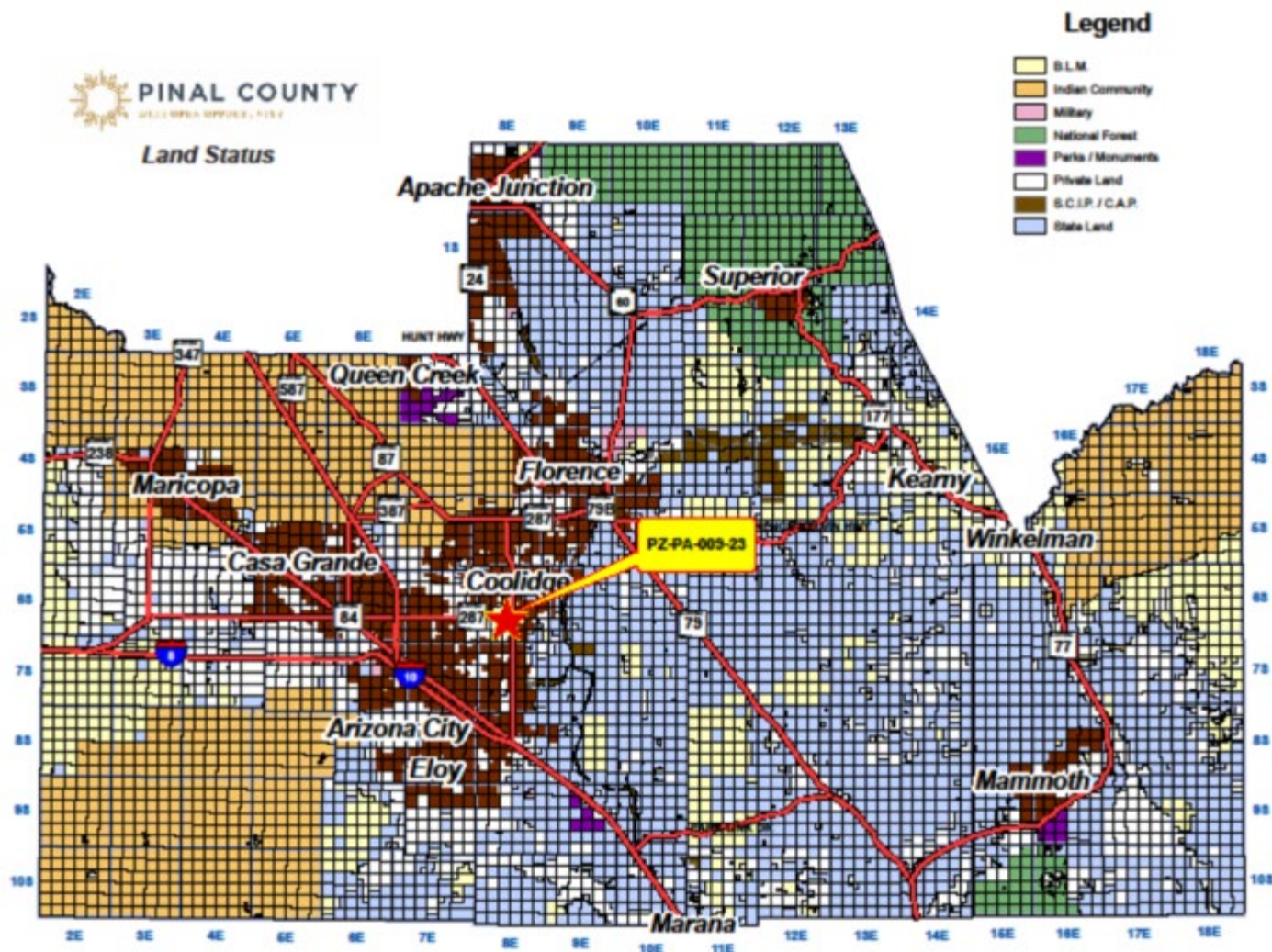
Item #2: PZ-PA-009-23

Cielo Solar Project



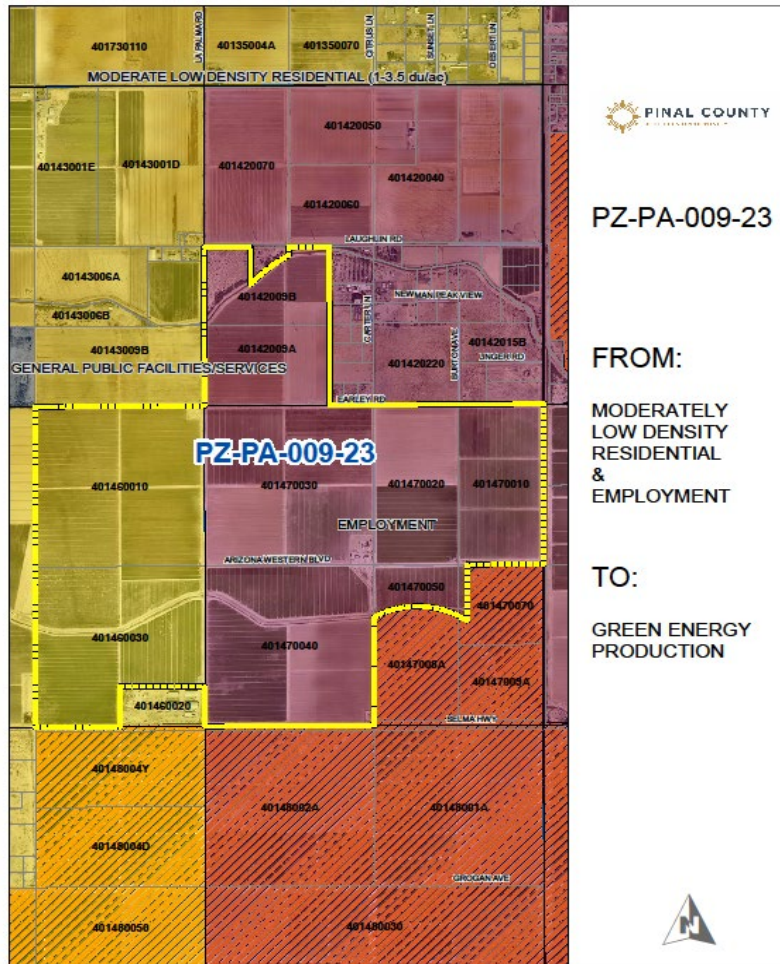
PINAL COUNTY

WIDE OPEN OPPORTUNITY



Item #2: PZ-PA-009-23

Cielo Solar Project Comprehensive Plan



Existing Land Use Designation:

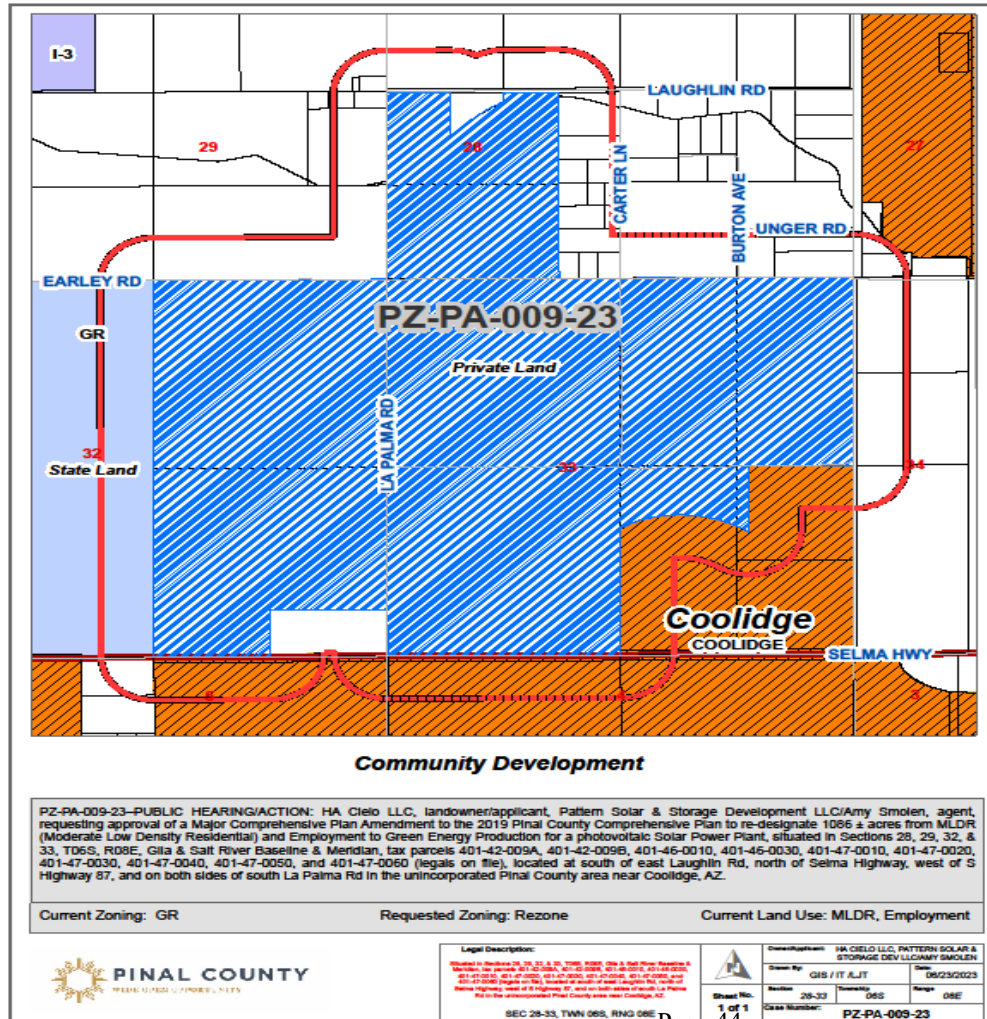
MLDR 1 – 3.5 du/ac & Employment

Proposed Land Use Designation:

Green Energy Production

Item #2: PZ-PA-009-23

Cielo Solar Project - Zoning



Site:
GR-General Rural

Surrounding:
GR-General Rural & City of Coolidge

Item #2: **PZ-PA-009-23**

Cielo Solar Project

- Current Conditions:
 - Relatively flat topography and is farmland.

- Proposal: Solar generation of up to 150 MW photovoltaic solar energy to include:
 - Solar array field
 - Battery Energy Storage System (BESS)
 - Project Substation
 - Generation tie transmission line
 - Timing of the development to meet a commercial operation date- end of 2026

Questions



Item #3: **PZ-PA-010-23**

Casa Grande Carmel Solar



- **Proposal:** Altura Properties, Michael Hu and Lei Zhao, Quantum Resource Group Limited Partnership, a Nevada Limited Partnership, Traviano Partners LLC, an Arizona Limited Liability Company, Casa Grande Carmel Solar Park LLC, landowners; Casa Grande Carmel Solar Park LLC, applicant, Cecilia Chiu, agent, requesting to re-designate 955.875± acres from MLDR (Moderate Low Density Residential) and Employment to **Green Energy Production**
- **Area:** 955.875± acres
- **Location:** Intersection of Cornman Rd. and Bianco Rd. on the west side in the South western Casa Grande area, just north of Interstate-8
- **Owners:** Altura Properties, Michael Hu and Lei Zhao, Quantum Resource Group Limited Partnership, a Nevada Limited Partnership, Traviano Partners LLC, an Arizona Limited Liability Company, & Casa Grande Carmel Solar Park LLC
- **Applicant:** Casa Grande Carmel Solar Park LLC

Item #3: PZ-PA-010-23

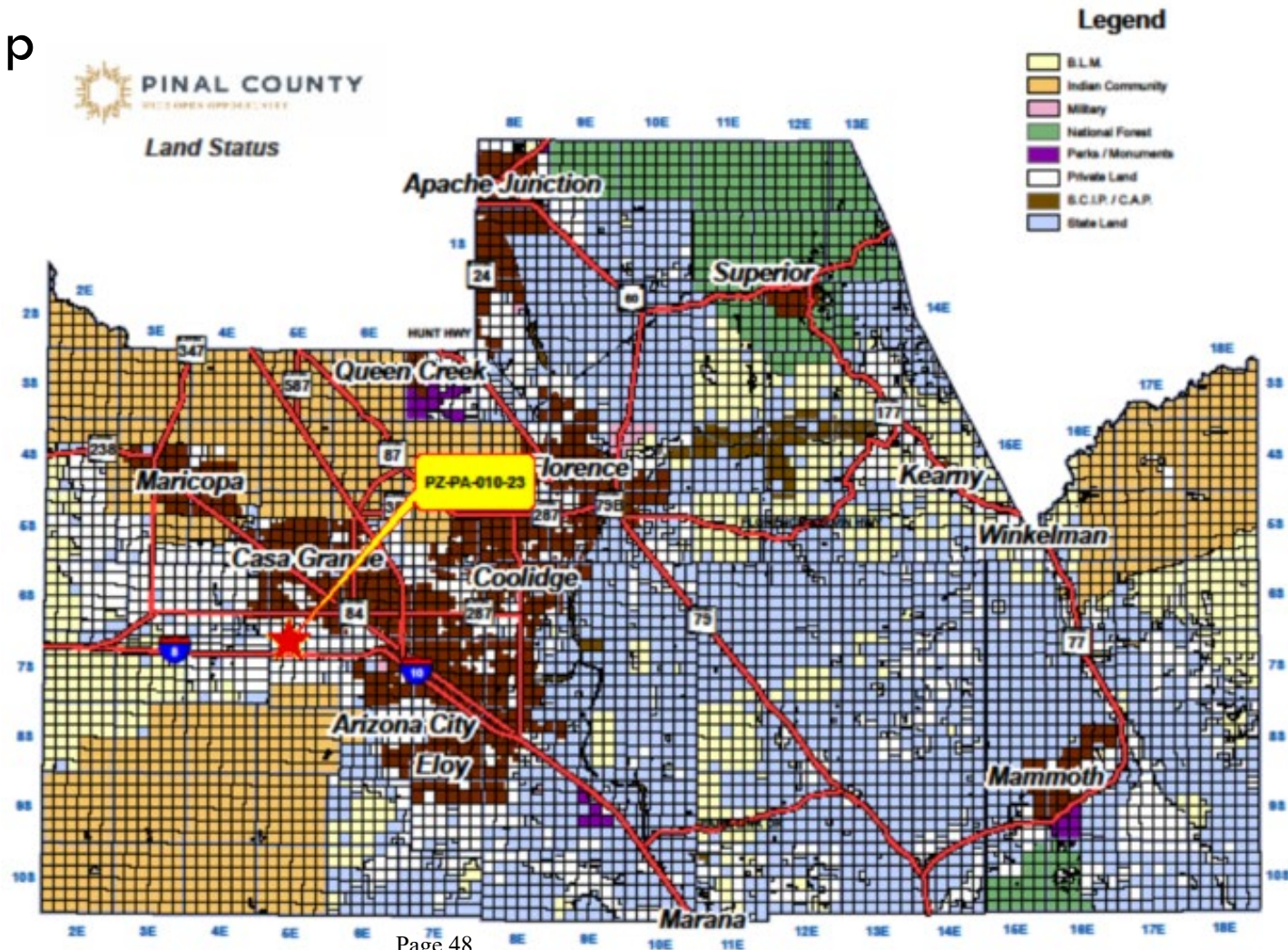
Casa Grande Carmel Solar



PINAL COUNTY

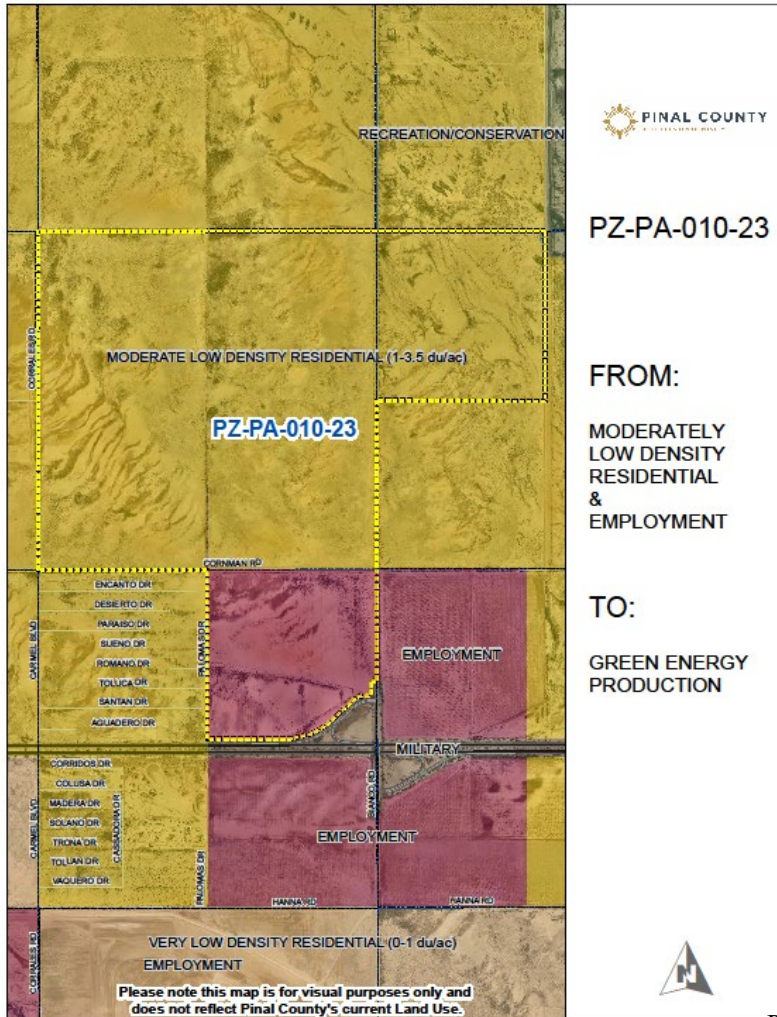
WIDE OPEN OPPORTUNITY

Location Map



Item #3: PZ-PA-010-23

Casa Grande Carmel Solar



Comprehensive Plan

Existing Land Use Designation:

MLDR 1 – 3.5 du/ac
Employment

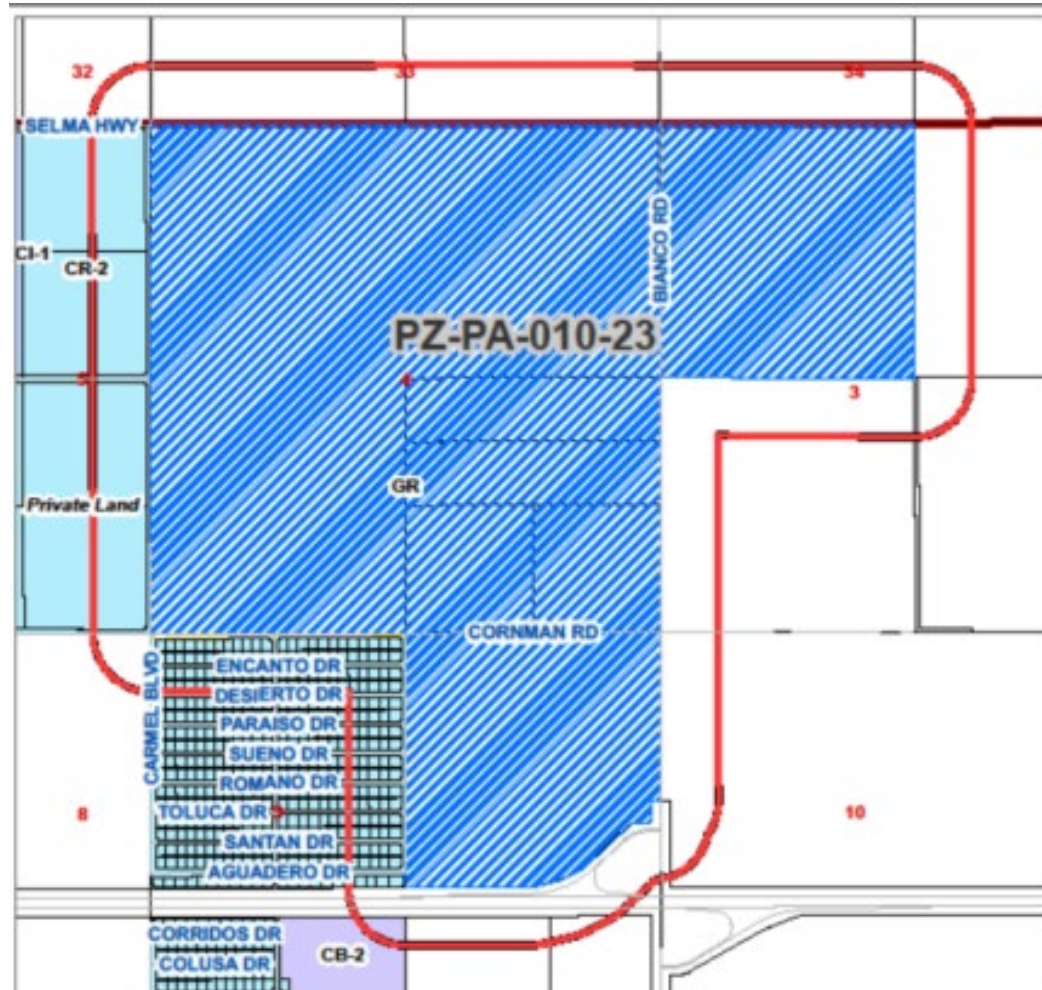
Proposed Land Use Designation:

Green Energy Production

Item #3: **PZ-PA-010-23**

Casa Grande Carmel Solar

Current Zoning



Item #3: **PZ-PA-010-23**

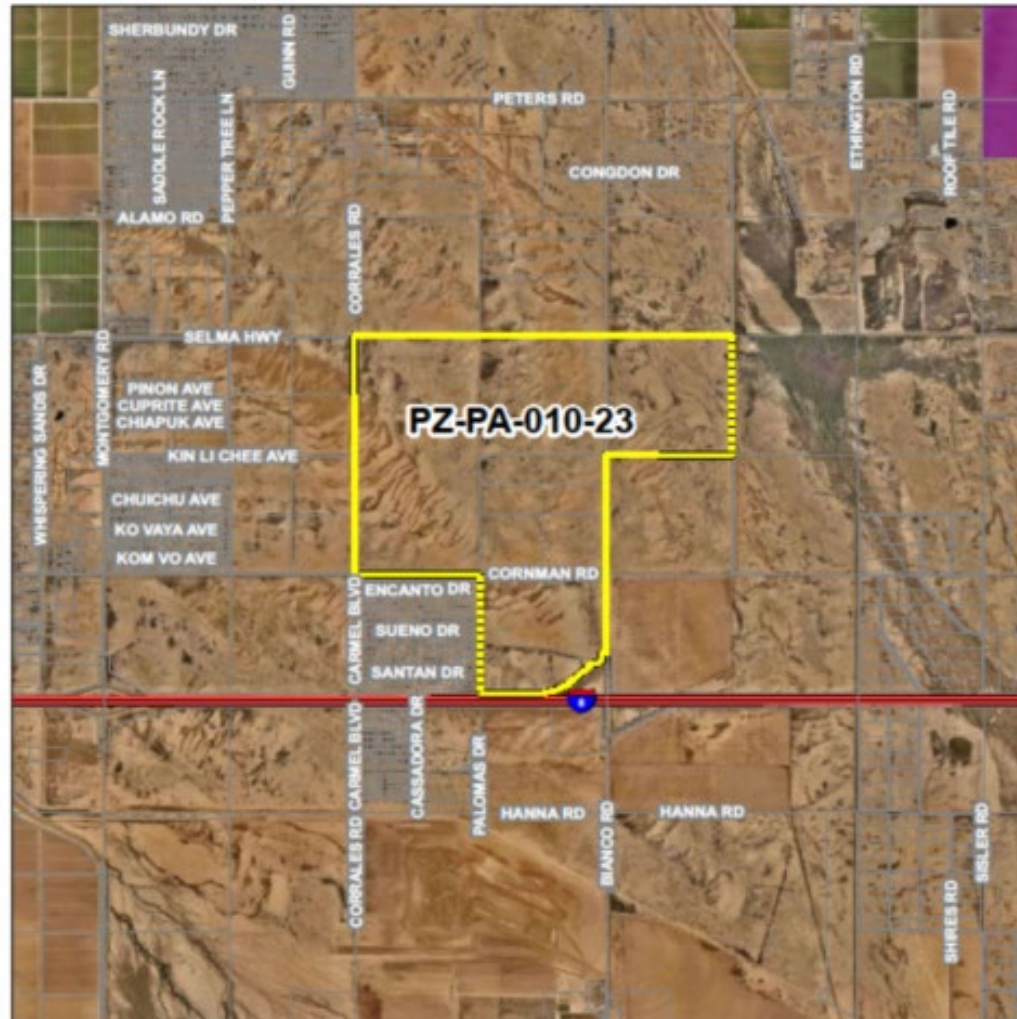
Casa Grande Carmel Solar



PINAL COUNTY

WIDE OPEN OPPORTUNITY

Aerial Map



Item #3: **PZ-PA-010-23**

Casa Grande Carmel Solar

□ Current Conditions:

- Relatively flat topography, site contains little vegetation.

□ Proposal: Solar generation of up to 96 MW photovoltaic solar energy to include:

- Solar array of PV modules
- Potential Battery Energy Storage System (BESS)
- Project Substation
- Generation tie transmission line
- Timing of the development to meet a commercial operation date- end of 2026

Questions



PZ-PA-006-23

PROCEDURE AND APPLICATION FOR A PROPOSED NON-MAJOR COMPREHENSIVE PLAN AMENDMENT

- A. Attend a Concept Review (Zoning pre-application (Z-PA)) meeting with the Planning Department and affected County agencies.
- B. File an application and all required supporting documentation for a Comprehensive Plan Amendment. Please use the attached application forms.
- C. Public hearing before the Planning Commission with Commission recommendation to the Board of Supervisors. Time frame is approximately 10 to 15 weeks from application acceptance by the Planning Department.
- D. Public hearing, (approximately 4 to 8 weeks after Planning Commission hearing), before the Board of Supervisors.

PROCEDURE FOR A PROPOSED MAJOR COMPREHENSIVE PLAN AMENDMENT

- A. Attend a Concept Review (Zoning Pre-Application (Z-PA)) meeting with the Planning Department and affected County agencies.
- B. File an application and all required supporting documentation for a Comprehensive Plan Amendment. Please use the attached application forms.
- C. Public meeting with the Citizens Advisory Committee.
- D. Public hearing before the Planning Commission with Commission recommendation to the Board of Supervisors.
- E. Public hearing before the Board of Supervisors.

*Public hearing schedule will be made available in June.

FEE SCHEDULE FOR MAJOR AND NON-MAJOR AMENDMENTS

- A. Major Comprehensive Plan Amendment: \$5,091.00
- B. Non-major Comprehensive Plan Amendment:
 - a. 0-499 mailouts: \$4,478.00
 - b. 500 or more mailouts: \$4,824.00
 - c. With accompanying zone change: \$3,354.00



APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA
(All Applications Must Be Typed or Written in Ink)

Comprehensive Plan Amendment unincorporated & Property Information:

(Feel free to include answers and to these questions in a Supplementary Narrative, when doing so write see narrative on the space provided)

1. The legal description of the property: County -Wide

2. Parcel Number(s): County-wide Total Acreage: _____

3. Current Land Use Designation: N/A

4. Requested Land Use Designation: Update Chapter 7- Sub Section Energy - Renewable Energy Sources

5. Date of Concept Review: 5/23/2023 Concept Review Number: Z-PA-060-23

6. Why is this Comprehensive Plan Amendment being requested? (You must provide a summary of the anticipated development on this page, if not provided, the application cannot be processed.): _____

Update Chapter 7 Environmental Stewardship- Energy Element, Section Renewable Energy Sources to include other renewable energy sources besides Solar. Proposed multiple renewable energy sources besides Solar are Geothermal, Wind Energy, Bioenergy and Small hydro.
Pinal County would like to propose a diverse renewable energy mix options for future energy demands that might arise.

7. Discuss any recent changes in the area that would support your application. _____

Multiple potential customers who have expressed interest in renewable sources other than Solar have been turned down from Pinal County as the Comprehensive plan does not address Geothermal, Wind, Bioenergy or Small Hydro projects.

8. Explain why the proposed amendment is needed and necessary at this time. _____

Pinal County is not equipped to currently process renewable energy applications besides Solar as the Comprehensive plan does not address other renewable sources.

INV#: _____ AMT: _____ DATE: _____ CASE: _____ Xref: _____

COMMUNITY DEVELOPMENT
Planning Division

PINAL COUNTY COMPREHENSIVE PLAN AMENDMENT APPLICATION

IN ADDITION TO THIS APPLICATION, YOU WILL NEED TO SUBMIT:

- ☐ A. **Certified Boundary Survey**, including legal descriptions of the proposed designations
- ☐ B. Location map which identifies the property and its relationship to Pinal County environs.
- ☐ C. Map showing the topography of the property.
- ☐ D. Site map which specifically identifies the property including parcels under separate ownership.
- ☐ E. Property owner(s) authorization for the Comprehensive Plan Amendment.
- ☐ F. Other information as may be determined necessary by the Planning staff or other information the applicant feels is pertinent to this request.
- ☐ G. Non-refundable filing fee as shown on the cover page.
- ☐ H. Narrative in PDF format.
- ☐ I. Neighborhood meeting report

Your application must be submitted digitally via the online submittal portal site at <https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>

Please call or email the Planning Division for more information.

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Pinal County

520 866 6642

Name of Landowner (Applicant)

Address

Phone Number

N/A

Signature of Landowner (Applicant)

E-Mail Address

Brent Billingsley

520 866 6642

Name of Agent

Address

Phone Number



brent.billingsley@pinal.gov

Signature of Agent

E-Mail Address

The Agent has the authority to act on behalf of the landowner. The Agent will be the contact person for Planning staff and must be present at all hearings. Please use the attached Agency Authorization form, if applicable

MEETING DATE: September 7, 2023

TO: PINAL COUNTY CITIZEN ADVISORY COMMITTEE

CASE NO.: **PZ-PA-006-23 (Chapter 7- Energy Section Update)**

CASE COORDINATOR: Sangeeta Deokar, Senior Planner

Executive Summary:

This is a major amendment to the Pinal County Comprehensive Plan to update Chapter 7: Environmental Stewardship, Section–Energy, Sub-Section- Renewable Energy Sources, and Appendix D.

If This Request is Approved:

If this major amendment to the Pinal County Comprehensive Plan is approved, the action will allow the county to be able to review and process applications received under renewable energy sources besides solar.

Staff Recommendation/Issues for Consideration/Concern:

Staff recommends approval to benefit the people of Pinal County.

LEGAL DESCRIPTION: N/A

TAX PARCEL: Multiple APN's

APPLICANT: PINAL COUNTY

REQUESTED ACTION & PURPOSE: **PZ-PA-006-22–PUBLIC HEARING/ACTION:** Pinal County, applicant requesting approval of a Major Comprehensive Plan Amendment to the **2019 Pinal County Comprehensive Plan** to update Chapter 7: Environmental Stewardship, Section–Energy, Sub-Section- Renewable Energy Sources, and Appendix D.

PUBLIC COMMENT:

To date no comments in writing have been received.

PUBLIC PARTICIPATION:

| | |
|--------------------------------|------------------------|
| P&Z Work Session: | 7/21/2023, 8/9/2023 |
| Web posting and 60 day review: | 6/10/2022 to 8/12/2022 |
| Citizen Advisory Committee: | 9/01/2022 |

OTHER REVIEW AGENCY COMMENTS:

As of the writing of this report no agency comment has been received.

PLAN AMENDMENT DISCUSSION:

The Pinal County Comprehensive Plan under Chapter 7, Environmental Stewardship, subsection Energy Element, states data that has not been updated for last 10+ years. Also subsection of Renewable Energy Sources currently includes only solar energy as a renewable source.

This application for Comprehensive Plan amendment proposes updates to information related to energy consumed in Arizona, and Pinal County with population data as shared by the U.S. Census Board. The Renewable Energy sources has been updated to include other renewable energy sources besides Solar like Bioenergy, Geothermal, Hydrogen, Hydropower and Wind Energy. With the increase in research and improvements in technology, along with incentives from federal and state government, there has been increase in project proposals under renewable energy. This amendment would help Pinal county review and assess proposals under the other renewable energy sources besides Solar.

In addition Pinal County proposes to update the Appendix D: Glossary to include additional terms included in the Chapter 7 of the Comprehensive plan document.

The proposed Major Comprehensive Plan Amendment represents:

- A step towards expanding other renewable energy sources, besides Solar through Land-use planning under Chapter 7, Environmental Stewardship, subsection Energy Element Renewable Energy Sources
- An opportunity to bring up-to-date the renewable energy Goals, Objectives, and Policies.
- An opportunity to also update outdated information and reflect the current date related to energy usage and population.
- Update Appendix D: Glossary to include additional terms in the vocabulary of the Comprehensive Plan document.

Proposed Updates: Changes to text have been on Pgs. 281, 283, 284, 285, 286, 287, 288, 289, 290, 294 and Appendix D: Glossary

Following are the links to the websites that have been used for updating the document:

1. <https://www.eia.gov/state/print.php?sid=AZ#:~:text=In%202022%2C%2099%25%20of%20Arizona's, and%20petroleum%2C%20supplied%20the%20rest>
2. <https://www.eia.gov/state/rankings/?sid=AZ#series/12>
3. <https://azmag.gov/Programs/Maps-and-Data/Census-2020>
4. <https://www.srpnet.com/grid-water-management/grid-management/improvement-projects/coolidge-expansion-project-faq>

Date Prepared: 08/17/23 SD

UPDATED AS PROPOSED

Chapter 7: Environmental Stewardship

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Energy

Introduction

Pinal County has a tremendous opportunity to be a leader in sustainability through prudent energy management. Using energy efficient materials and planning techniques is much easier and cost effective for new construction than trying to retrofit older structures. Pinal County has witnessed growth in traditional industries like agriculture and mining and has also seen strong growth in emerging manufacturing and technology sectors like aerospace and aviation, electric vehicles and batteries, renewable/green technologies and supply chains related to semiconductors and building materials.

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The planning and siting of infrastructure is much better done now than after development has occurred. For these reasons and others, it is the right time and place for a comprehensive energy approach to be created and implemented.

Purpose The Pinal County Energy element is an important component of the Plan. By developing a comprehensive energy strategy now, the County can be prepared to shape more sustainable growth.

Relationship to Pinal County's Vision several components of the Pinal County Vision are directly impacted by energy.

Environmental Stewardship How energy is generated and distributed in the County and the success level of conservation efforts will directly impact the regional environment. Air quality, water usage, and protection of sensitive areas and view sheds (siting facilities to minimize impact on key visual resources) will need to be addressed.

Economic Sustainability Without ample and reliable energy, Pinal County will not be competitive in attracting business and industry which will bring new jobs. In addition, energy costs have a direct impact on the cost of living and doing business.

Open Spaces and Places Generation and transmission facilities have to be located somewhere. There is a tendency of the public to not want facilities close to population centers. However, the County's open spaces are also cherished. How and where facilities are sited will need to be carefully planned.

Strategic Areas

The Energy element contains three strategic areas. The first two, Conservation and Renewable Energy Sources, satisfy the state of Arizona's Growing Smarter requirements that state an Energy element should include:

- A component that identifies policies that encourage and provide incentives for efficient use of energy.
- An assessment that identifies policies and practices that provide for greater uses of renewable energy sources.

The third strategic area addresses Energy Generation and Transmission. Conservation and the development of renewable energy sources will be effective in ensuring that the County's energy future moves toward sustainability but anticipated growth will certainly require an exponential growth in the generation and distribution of energy for the coming decades.

It should be noted that the Arizona Corporation Commission (ACC) is responsible for final decisions about facility siting. However, Pinal County needs to be active in providing input to ensure compatibility with the County's Vision and goals.

The focus of the Generation and Distribution Strategic Area of the Energy element is to:

- Illustrate the potential needs for generation and transmission infrastructure as the County grows.
- Inform residents and stakeholders of the present plans to locate future facilities throughout the County and the fact that everyone will need to share the burden of having safe, reliable, and clean energy throughout the County.
- Outline goals and policies to ensure that the County, municipal governments, and energy providers maintain a cooperative working relationship to facilitate appropriate locations for facilities while protecting Pinal County's physical environment and natural resources.

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Conservation

Pinal County will work with residents, other agencies, and the business community to expand energy conservation efforts. The County can have the most impact on conservation efforts through influencing construction methods and materials, site planning and community design, and education.

The importance of energy conservation cannot be overstated. It is not just the right thing to do, it has tremendous environmental, natural resource, and economic implications. To illustrate the sweeping impacts of the benefits of electrical energy conservation, the Coolidge Gas fired plant case study can be analyzed.

U.S. Energy Information Administration (EIA) projections for energy consumption shows an increase up to 15 % by the year 2050 in the Annual Energy Outlook (AEO 2023) (Figure 7.1). This projection in energy growth is result of the effects of economic growth, population growth, and increased travel offsetting continued energy efficiency improvements. In Arizona, the average household

electricity use yearly as recorded in April 2023 was 13,364 kWh. (1.52 kW). Pinal County as per U.S. Census recorded 145,554 households and consumed 221 megawatt in 2020. To put this in perspective, the Hoover Dam has a maximum capacity of 2,080 megawatts.

A natural gas fired plant, the Coolidge Generating Station with 575 megawatts capacity from 12 aero-derivative turbine units was completed in May 2011 by SRP. This power plant was proposed at a cost of \$500 million and completed on time and budget. Based on the 10,000 megawatt need projected in 2010, 18 new power plants of this type were proposed to generate the estimated additional electricity needs. However with a growing diversified energy portfolio and a mix of generation resources, the expansion of Coolidge Generating Station proposed 12 new generating units identical to the 12 existing units.

Conservation efforts have reduced the need for six of these plants and savings to ratepayers. In addition, the fuel and water saved in not operating those six facilities would have significant positive environmental and natural resource implications. Finally, less land would be required for generation and fewer transmission corridors could be a result. Additional conservation efforts would need to be encouraged to ensure sustainable growth for Pinal County.

As energy prices continue to rise, electricity, natural gas, and transportation costs take a larger piece of household and business budgets. The economic viability of energy efficient construction will increase due to this as will the need to find alternative transportation modes and a reduction in travel needs.

Renewable Energy Sources

Pinal County will review and consider proposals for the development and location of renewable sources to meet current

and future needs and to lessen the regions dependence on non-renewable energy sources. These might be stand alone facilities or co-located with other energy providers. Due to the intermittent nature of renewable energy sources, energy management for the grid operators can be a challenging task to balance between the supply and demand at all times.

Renewable Energy sources, such as biomass, geothermal resources, sunlight, water and wind are natural resources that can be converted into the following types of clean energy:

- Solar Energy
- Bioenergy
- Geothermal Energy
- Hydrogen
- Hydropower
- Wind Energy

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Source: <https://www.eia.gov/state>

The expansion of renewable energy opportunities shall be reviewed and considered by the County through its land use planning and permitting processes, at locations that do not disturb biologically sensitive areas and recommends guidelines to be followed issued by Arizona Game and Fish Department for all renewable projects. Pinal County intends to work with different jurisdictions/agencies and departments to identify locations suitable for such projects.

One of the most commonly used renewable energy source in Arizona is solar energy. The two main types of solar energy technologies are Photovoltaics (PV) and Concentrating Solar-thermal Power (CSP). With Federal and State grants, multiple solar farms have been approved by the County using the Photovoltaic technology. Historically, the economics of solar power have been

for smaller, individual property generation units and this solution should continue to be encouraged by the County.

Advances have now made it possible for entire households or buildings to significantly reduce their traditional energy dependence and at times may be able to generate enough power to make the meter run backwards. Unfortunately, the majority of homeowners and businesses do not have the financial resources to install such infrastructure. Federal and state grants have provided support but there is still a significant cost for installation. As energy costs continue to rise and technological advancements occur, renewable energy methodologies will become more feasible and attractive to individual property owners. Pinal County must be ready for this. Through its regulatory and taxation policies, the County can provide additional support.

There are major changes on the near horizon regarding large scale solar energy generation. There are two major reasons for this trend: technology has started to make large scale generation more financially feasible and government/regulatory agencies are requiring energy producers to diversify their energy portfolios and have set targets for renewable energy sources.

The solar power plant near Gila Bend that extends over three square miles of land area serves approximately 75,000 homes. The energy generated from it has been more costly than traditional sources and has been subsidized by ratepayers. Another challenge to large scale solar generation is space and location. The location for the renewable power sources must be consistent with other provisions existing in the Comprehensive plan (Pg. 341, Section 3, a, and e)

Solar energy technology doesn't end with electricity generation by PV or CSP systems. These solar energy systems must be integrated

into homes, businesses, and existing electrical grids with varying mixtures of traditional and other renewable energy sources.

Concentrating solar-thermal power (CSP) systems use mirrors to reflect and concentrate sunlight into receivers that collect solar energy and convert it to heat, which can then be used to produce electricity or stored for later use.

Pinal County residents have also expressed a strong desire for expanded post-secondary education and training opportunities. The emerging renewable energy market could provide the catalyst for college, university and technical training programs for the design, installation, and maintenance of renewable energy equipment and infrastructure.

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In addition to solar energy discussed above, the following are types of renewable energy Pinal County would assess through land-use planning concepts.

Bioenergy is a form of renewable energy that is derived from living organic materials known as biomass which can be used to produce transportation fuels, heat, electricity and other products. Biomass includes crop waste, urban construction material waste, food waste, forest thinning, purpose-grown grasses, woody energy crops and microalgae.

Geothermal energy is heat energy harnessed from the earth's interior. Geothermal resources are reservoirs of hot water and heat that exist or are human made at varying temperatures and depth below Earth's surface. Heat flow from earth is brought up to the surface in the form of hot ground water and steam. Geothermal heat pumps circulates water through pipes buried in the ground, or submerged in a water body, to heat and cool a building's HVAC system.

Hydrogen is another clean energy carrier produced from diverse domestic sources (natural gas, solar, wind, geothermal, biomass, fossil fuels, electricity) or produced from different processes (electrolysis, biological, water splitting, steam methane reforming) Hydrogen can be used in fuel cells to generate electricity or power and heat.

Hydropower or hydroelectric power is one of the oldest and largest sources of renewable energy that uses the natural flow of moving water to generate electricity. While most people associate the energy source with the Hoover Dam, a huge facility harnessing the power of an entire river, hydropower facilities come in all sizes. Technological advances and research have led some of the tiny facilities (micro turbines) to take advantage of water flows in municipal water facilities or irrigation ditches.

Wind Energy is a renewable source of energy that harnesses the power of wind through wind turbines collecting and converting the kinetic energy into electricity. Wind energy is actually a byproduct of the sun. The uneven heating of the atmosphere along with earth's irregular surfaces, and planets revolution around the sun combine to create wind.

Energy Generation and Transmission

Pinal County is served by several energy providers. Arizona Public Service, Salt River Project, Southwest Gas, and numerous Electrical and Irrigation and Drainage Districts all provide service in the County and several more entities have facilities such as the Western Area Power Authority, Tucson Electric Power, and the Southwest Transmission Cooperative.

Pinal County will work with these energy providers to facilitate the provision of sufficient energy for residents and businesses and to encourage development of new facilities within the parameters of

the seven components of the Comprehensive Plan Vision for the Future.

Based on 2020 census data, the state population recorded was 7,151,502. The population increased for the State of Arizona from 2010 was 11.90 %, however Pinal County showed 9% increase with 425,264 population as recorded. (MAG Census 2020)

APRIL 3, 2023

U.S. energy consumption increases between 0% and 15% by 2050

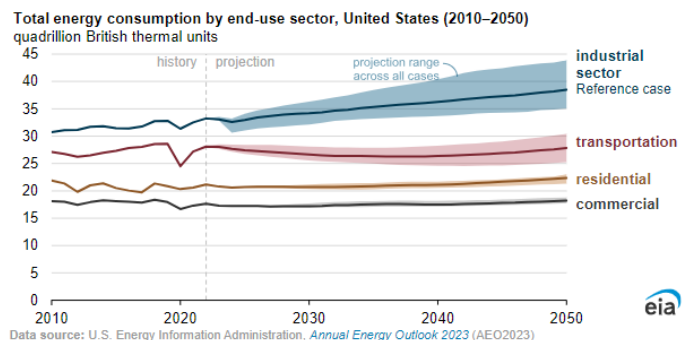


Figure 7.1 Source: US Energy Information Administration (EIA)

| Year | Arizona Population | Pinal County Population |
|------|--------------------|-------------------------|
| 2020 | 7,151,502 | 425,264 |
| 2030 | 8,313,814 | 587,821 |
| 2040 | 9,206,879 | 778,909 |
| 2050 | 9,961,322 | 994,166 |
| 2060 | 10,662,273 | 1,230,545 |

Source: US Census Data and Arizona Commerce Authority

The above table is for illustrative purposes only as these are population projections that can change each year. Energy consumed for the year 2021 was 221 Megawatts. (Source EIA). Population projections indicate the increase in need for energy and with effective conservation and moving toward renewable sources, it is evident that additional traditional generation facilities will be needed. Citizens, governmental entities, and the energy providers will have to work closely together to ensure appropriate locations for new facilities. Significant planning has been done to project future electrical power needs for the region. The delivery of new energy sources to homes and businesses will also require the delivery system. Additional generation and transmission project that have been identified in past, ongoing and future studies will be subject to review and approval by the ACC.

In summary, with Pinal County not being a direct service provider, its role in the energy future of the region will consist of providing education and information to the public, maintaining codes and policies to encourage conservation of energy, supporting the development of renewable sources, and coordinating with the energy industry to ensure appropriate development of adequate facilities.

Neither Pinal County's tax base nor legislative authority allow the County to play a large financial role in the energy future through incentives, tax credits, or other financing programs. However, the County can play a significant role in serving as the central point to assemble a diverse group of communities and regional stakeholders and partners to secure energy for future use.

The County can also be a leader in identifying new programs for funding sources to expand development of renewable energy sources.

Goals, Objectives and Policies

In order to make it easier for property owners to use the Goals, Objectives and Policies in the Plan and then incorporate them into their development proposals or amendments, the Policies have been placed into two separate categories. The two categories are:

- Public Responsibilities
- Private and Public Shared Responsibilities

Private development applicants should be aware of Public and Private Shared Responsibilities throughout the development process and should focus their Comprehensive Plan applications as specified in the implementation section of the Comprehensive Plan, or other relevant documents that set criteria for other applications.

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Public Responsibilities are primarily incumbent on the County to implement through its policy development and planning.

Private and Public Shared Responsibilities, all entities, private and public, share the responsibilities of implementing these Policies.

Conservation

7.3 Goal: Improve the energy efficiency of Pinal County government.

7.3.1 Objective: Set an example by improving energy efficiency and use of renewable sources in County facilities, vehicle fleets, and equipment.

Policies:

7.3.1.1 Convert the vehicle fleet over time to alternative fuels.

7.3.1.2 Move toward compliance with green building benchmarks and programs for existing County buildings and

facilities and require green building standards be developed in all new facility designs.

7.3.1.3 Locate solar energy generation equipment on County facilities which cost/benefit analyses proves advantageous.

7.3.1.4 Convert County facilities to low energy lighting and install energy efficient electrical equipment when economically feasible.

7.4 Goal: Improve the energy efficiency of structures in Pinal County.

7.4.1 Objective: Improve the energy efficiency of new construction and the existing building stock through building codes and processes.

Policies:

7.4.1.1 Maintain the most up to date International Building Codes (IBC) and International Energy Conservation Code (IECC) and provide training for staff to implement.

7.4.1.2 Encourage the expansion of energy efficient building practices.

7.4.1.3 Work with municipalities and Native American communities to standardize energy efficiency requirements and codes throughout the County.

7.4.1.4 Support refurbishing and remodeling projects to include energy efficiency components through expedited permitting and assistance.

7.4.1.5 Encourage all residential, commercial and industrial construction to meet “ENERGY STAR” as a minimum efficiency standard.

7.4.2 Objective: Reduce energy demand through community design.

Policies:

7.4.2.1 Encourage developments that use energy smart site design (e.g., solar orientation, cluster development).

7.4.2.2 Encourage Sonoran-friendly landscaping in developments to provide shade.

7.4.2.3 Implement the Activity Center philosophy to bring employment, commercial, and educational activities closer to residents and increase multimodal transportation options including transit, bicycle, and pedestrian modes.

7.5 Goal: Improve overall communication and collaboration regarding energy issues.

7.5.1 Objective: Provide energy conservation education and awareness in County communications.

Policies:

7.5.1.1 Provide energy conservation information on the County Web site with links to energy providers and conservation and consumer groups.

7.5.1.2 Work with energy providers to include energy conservation promotional materials to building owners at the issuance of Certificates of Occupancy.

ENERGY STAR is a joint program of the EPA and the U.S. Department of Energy helping to save Americans money and protect the environment through energy efficient products and practices.

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7.5.2 Objective: Maintain cooperative working relationships.

Policies:

7.5.2.1 Hold periodic coordination meetings with energy providers to keep informed of the latest conservation programs offered.

7.5.2.2 The County should continue to participate in regional energy planning forums, such as the CATS Group, and work with the County's municipalities, Native American communities and energy providers to create a County-wide, long range energy strategy.

Renewable Sources

7.6 Goal: Expand small scale renewable energy in Pinal County.

7.6.1 Objective: Support small scale renewable energy projects

Policies:

7.6.1.1 Support statewide policy that provides property tax credits for renewable energy facilities on individual homes and businesses from net assessed valuation calculations.

7.6.1.2 Assess current codes so they are supportive in permitting small scale renewable energy projects. Explore ways to reduce barriers caused by homeowner's association restrictions.

7.6.1.3 Work with developers and energy providers to design neighborhoods with optimum solar orientation.

7.6.1.4 Support state and federal incentive programs for the development of renewable energy infrastructure for individuals and businesses.

7.6.1.5 Develop/amend ordinances to protect solar access through sensitive building orientation and for property owners, builders and developers wishing to install solar energy systems.

7.6.1.6 Support the transmission of renewable energy from sources within and outside of Pinal County.

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7.6.2 Objective: Support the growth of the renewable energy in Pinal County.

Policies:

7.6.2.1 Identify through specific area planning potential locations for renewable energy projects.

7.6.2.2 Support the attraction of renewable energy providers through the County's economic development strategy.

7.6.2.3 Work with economic development proponents to develop education and training programs for renewable energy employment opportunities.

Generation and Transmission

7.7 Goal: Support the provision of adequate energy for the future while protecting the natural environment and resources.

7.7.1 Objective: Identify and protect potential sites and corridors for new energy generation and transmission facilities.

Policies:

7.7.1.1 Work with energy providers through the specific area planning process to identify appropriate locations and buffering of future projects.

7.7.1.2 Work with energy providers to co-locate where possible facilities such as transmission lines, pipelines, substations, and terminals.

7.7.1.3 Encourage the adoption of designated generation and transmission and facility sites and corridors in future updates to County and municipal planning documents to protect against incompatible development and to maximize increased capacity.

7.7.2 Objective: Protect water and environmental resources.**Policies:**

7.7.2.1 Monitor the evaluation process by other agencies of all proposals for new generating facilities to determine long-term impacts on water resources.

7.7.2.2 Support innovative designs for new generating facilities that minimize water use.

7.7.2.3 Explore innovative water re-use strategies.

7.7.2.4 Discourage facilities from locating in designated environmentally sensitive areas and encourage facilities to be in context with view sheds and waterways.

7.7.3 Objective: Provide information to citizens and the development community regarding future energy facilities.

Policies:

7.7.3.1 Keep up to date information about locations of existing and potential new generation and transmission facilities on the County Web site.

7.7.3.2 Review development proposals along with short and long range plans of energy providers to ensure an understanding of where facilities may be and to keep prospective residents and businesses informed.

7.7.4 Objective: Maintain cooperative working relationships with energy providers.

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Policies:

7.7.4.1 Hold a biannual “energy summit” bringing together providers, landowners and key county staff and leadership to discuss future plans and update one another on current planning and trends.

7.7.4.2 Work closely with energy providers during the evaluation of development plans to assess cumulative, County-wide impacts on energy availability and reliability.

7.7.4.3 Coordinate with energy providers in the implementation of the Growth Areas element to ensure energy infrastructure is adequate to support growth and infrastructure development.

7.7.4.4 Encourage involvement of energy providers in area planning processes.

7.7.4.5 Continue to participate in regional energy planning forums such as the CATS Group

Urban Heat Islands are built up areas that are hotter than nearby rural areas. Elevated heat island temperatures can cause environmental impacts. (EPA)

Cool Pavements include a range of technologies aimed at reducing urban heat island effect.

Cool Roofs is a term that describes roofing materials with a high solar reflectance.

Green Roofs is a term describing a vegetative layer grown on a rooftop that can be installed on a wide range of buildings

Urban Heat Island

7.8 Goal: Support strategies to reduce Urban Heat Islands and their environmental effects.

7.8.1 Objective: Identify key Urban Heat Island mitigation techniques and reduce Urban Heat Island effect through community planning and design

7.8.1.1 Work with municipalities to avoid the development of heat islands through land use planning, open space preservation between developments, site design, and building materials and colors.

7.8.1.2 Encourage underground, understructure and/or multilevel parking structures

7.8.1.3 Encourage the use of “cool pavement” materials, “cool roofs” and “green roofs”

Appendix D: Glossary

The terms defined in this glossary are done so for purposes of the Pinal County Comprehensive Plan only and may not be relevant or accurate for use outside of this plan.

Acre foot (ac/ft) is equivalent to the volume of water required to cover 1 acre to a depth of 1 foot.

Agriculture includes areas where agri-business activities are permitted, including traditional farming and ranching operations.

Alluvial plain is fairly flat, gently sloping landform found at the base of mountain ranges. The geography requires careful planning so that drainage patterns are preserved.

Airport Reserve surrounds existing airports to allow for adequate buffering of surrounding land uses, buffering of surrounding land uses, expansion of airport operations and facilities and employment uses compatible with the airport.

Aviation-Based Commerce Center is a facility served by passenger service and air freight providers; it should be buffered from incompatible uses and may have surrounding employment-related uses that take advantage of aviation services and allow for expansion of airport operations and facilities.

Bajadas are shallow slopes that lie at the base of rocky hills, where materials accumulate from the weathering of the rocks. They typically have a mixture of boulders, stones, gravel, sand and silt particles, creating a deep and complex soil structure that retains water and supports a rich vegetation.

Basic activities bring new dollars into the community.

Bioenergy is the form of renewable energy derived from living organic materials known as biomass.

Biomass is a renewable energy resource derived from plant and algae based materials that include wood and wood processing waste (firewood, wood pellets, chips, lumber, black liquor from pulp and paper mills, furniture mill sawdust), agricultural crops and waste (corn, soybeans, sugarcane, switch grass, woody plants, crop residues), biogenic materials in municipal solid waste (cotton and wool products, paper products, food, yard and wood wastes), animal manure and human sewage for producing biogas.

Biome is a major regional or global biotic community, such as a grassland or desert, characterized chiefly by the dominant forms of plant life and the prevailing climate.

Buildout is defined as the ultimate development of land in Pinal County with appropriate land uses based on a series of assumptions, including land ownership patterns, topographic and environmental constraints and opportunities, development potential, infrastructure support, and private property rights.

The **Certified Local Government Program** is a preservation partnership between local, state and national governments focused on promoting historic preservation at the grass roots level.

Community Commercial is intended to be mid-scale (approximately 20 to 40 acres) of retail, service, and professional office.

Compendium is a concise, yet comprehensive, compilation of a body of knowledge.

Concentrating Solar-Thermal Power (CSP) systems use mirrors to reflect and concentrate sunlight onto receivers that collect solar energy and convert it to heat, which can be used to produce electricity or stored for later use.

Context Sensitive is defined as an approach by which development fits its physical setting and preserves scenic, aesthetic, historic and environmental resources.

Density is the number of housing units per acre developed or allowed to develop.

Density Bonus or Incentive is allowing higher density residential as a trade-off for including in a project a desired need such as open space or affordable housing unit.

Desert Habitats: Desert Habitats such as the Sonoran desert scrub habitats are low-elevation areas that receive less than 10 in (25 cm) of rain each year, mostly in bi-modal pattern (occurring in winter and summer). In these arid habitats, vegetation is generally sparse and represented by cacti and other succulents as well as other vegetative species including mesquite, ironwood, and palo verde, among others.

Design charrette is a workshop in which participants work together, collaborating or building off of others work, and present their findings in a public forum.

Eco-tourism is about creating and satisfying a hunger for nature, about exploiting tourism's potential for conservation and development, and about averting its negative impact on ecology, culture and aesthetics.

Employment is defined as areas that can support a variety of employment-generating business activities such as industrial, office, business park, and warehousing and distribution.

Endangered species are those in immediate danger of becoming extinct and in need of protection in order to survive.

ENERGY STAR is a joint program of the EPA and the U.S. Department of Energy helping to save Americans money and protect the environment through energy efficient products and practices.

Floor Area Ratio (FAR) is a formula for determining volume of building as a multiple of the lot area.

General Commercial provides locations for commercial development included in adopted municipal general plans. The Pinal County Comprehensive Plan does not make any changes to these locations. This category allows uses in unincorporated areas.

General Public Facilities/Services includes large public facilities that require significant space such as landfills, wastewater facilities, water campuses, and concentrations of public buildings.

Goals represent the desired outcomes or results that the County hopes to realize over time. Goals will align with Pinal County's Vision.

Geothermal Energy is heat energy from the earth – Geo (earth) + thermal (heat)

High Intensity Activity Centers are approximately 1,000 or more acres with a mix of professional office, business parks, and industrial often in a campus-like setting, as well as high and medium density residential.

Hohokam is a term derived from an O'odham word "Huhugam" that is often used to reference people and things that have gone before.

Horizontal Mixed Use combines residential, commercial and employment-type uses on the same site, but in separate buildings.

Hydrogen is a clean and flexible energy carrier. It can deliver and store energy.

Hydropower is a source of renewable energy that uses the natural flow of moving water to generate electricity.

Indian Community indicates a sovereign nation, operating under its own tribal government laws.

Landscape: Landscape is an area of land composed of an interacting variety of ecosystems with a diversity of physical elements. The configuration of a landscape is defined by the physical character, arrangement, and context of its elements. Combining both their physical origins and the cultural overlay of human presence, often created over millennia, landscapes reflect a living mixture of people and place that is vital to local and national identity.

Land use transition is defined as a gradual change in land use intensities to ensure compatibility.

Low Intensity Activity Centers are approximately 100 acres with a mix of professional office, commercial, tourism and hospitality uses, as well as medium to high density residential.

Major Open Space indicates lands preserved for recreational purposes or lands protected for cultural or ecological reasons.

Mid Intensity Activity Centers are approximately 500 acres with a mix of clustered professional office, commercial, tourism and hospitality uses, medical, and medium to high density residential.

Military represents the Florence Military Reservation, Silver Bell Army Heliport (SBAH) and other ancillary facilities.

Mining/Extraction identifies those areas where mineral resources have been identified or are likely to be identified in the future. The intent of this designation is to protect the mineral resources by minimizing conflicts with surrounding land uses. This designation recognizes the rights of exploration, mining, and processing of mineral resources. Copper mining is currently occurring around Superior and Kearny. All mining operations conducted by whatever techniques and technologies employed are required to comply with all applicable federal, state, and local laws providing for the protection of environmental resources.

Municipal Planning Areas (MPAs) are defined as the geographic areas around an incorporated city or town that is influenced by the city's land use pattern and may be incorporated into the jurisdiction at some point in the future.

Natural Resources: The naturally occurring assets that provide use benefits through the provision of raw materials and energy used in economic activity (or that may provide such benefits one day) and that are subject primarily to quantitative depletion through human use. They are subdivided into four categories: mineral and energy resources, soil resources, water resources, and biological resources.

Neighborhood Commercial is defined as less than 20 acres and is not shown on the Land Use Plan, but may be included in all land use designations if it addresses the Comprehensive Plan planning guidelines. Neighborhood commercial includes commercial goods and services and typically serves a surrounding residential population.

Noise Sensitive areas include properties that are adjacent to or within the flight path of airports, including Casa Grande, Eloy, Superior, San Manuel, and Coolidge Airports, Pinal Air Park, and Phoenix-Mesa Gateway Airport. The area is subject to high noise levels resulting from aircraft arrival and departures. The intent is to encourage land use compatibility with airport activities. The Noise Sensitive Area designation is an overlay designation with additional stipulations to the underlying designations.

Non-basic activities, in most cases, circulate existing dollars within the community.

Objectives are broad statements of intent to implement the goals and provide framework for the policies.

Photovoltaic (PV) is a cell that is used to convert sunlight into electrical energy. A single cell is small, typically producing about 1 or 2 watts of power.

Policies address how the goals will be achieved. Policies should be read as if it is preceded by the words “It is the County’s general policy to...” Some policies may appear to conflict with one another.

Primary Airport are those airports that have 10 or more based aircraft and have 2,000 or more annual aircraft operations. These airports offer future economic development opportunities as they grow and expand.

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Public Responsibilities are primarily incumbent on the County to implement through its policy development and planning.

Recreation/Conservation identifies areas under an extra layer of federal protection, meaning that any infrastructure planned to traverse these lands will have to go through a federal permitting process and environmental review.

Regional Commercial is intended to be large-scale (over 40 acre) retail centers that draw from a large regional market area. These centers might include malls, power centers, big box retail centers, and auto dealerships.

Riparian areas: Riparian areas are the natural areas around rivers, washes, and other bodies of water. These areas include channel itself as well as the vegetation that acts as a transition zone between the riparian and upland area.

Scenic vista is a view of an area that is visually or aesthetically pleasing.

Secondary Airport is an airport that does not qualify as a Primary Airport. These airports offer future economic development opportunities as they grow and expand.

Solar Energy is the energy produced by harnessing the solar radiation or the sun rays.

State Shared Revenues is a portion of revenues Arizona shares with local governments.

Threatened species are defined as those likely to become endangered if not protected.

Time Tax is the price paid sitting in long commutes that cuts into what we value most – our time with family, friends, home, and community.

Transit-Oriented Development is pedestrian-oriented development designed to facilitate access and use of transit facilities including buses, bus stops and light rail stations.

Vertical Mixed Use is typified by residential use over commercial uses in the same building or any other potential diversity of land uses within a building.

Viewshed is the entire area an individual can see from a given point.

Wildlife Corridors: Wildlife corridors are pathways or habitats with no or few barriers to wildlife species. These landscape linkages allow for the safe passage of daily, seasonal, or annual wildlife movements. Wildlife corridors often occur in riparian areas, canyons, ridgelines, and other landscape features that constrain wildlife movements into more restricted paths.

Wind Energy is a renewable energy source that harnesses the power of wind through wind turbines.

Wind Turbine is a device that converts kinetic energy of wind into electrical energy.

ORIGINAL- FOR REFERENCE WITH TEXT REMOVED
SHOWN AS STRIKE-OFF

Chapter 7: Environmental Stewardship

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Energy

Introduction

Pinal County has a tremendous opportunity to be a leader in sustainability through prudent energy management. Unlike many areas of the country where the majority of the built environment is decades old, by 2020, a vast majority of Pinal County's built environment will have been constructed after the Millennium. Using energy efficient materials and planning techniques is much easier and cost effective for new construction than trying to retrofit older structures.

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The planning and siting of infrastructure is much better done now than after development has occurred. For these reasons and others, it is the right time and place for a comprehensive energy approach to be created and implemented.

Purpose The Pinal County Energy element is an important component of the Plan. By developing a comprehensive energy strategy now, the County can be prepared to shape more sustainable growth.

Relationship to Pinal County's Vision Several components of the Pinal County Vision are directly impacted by energy.

Environmental Stewardship How energy is generated and distributed in the County and the success level of conservation efforts will directly impact the regional environment. Air quality, water usage, and protection of sensitive areas and viewsheds (siting facilities to minimize impact on key visual resources) will need to be addressed.

Economic Sustainability Without ample and reliable energy, Pinal County will not be competitive in attracting business and industry which will bring new jobs. In addition, energy costs have a direct impact on the cost of living and doing business.

Open Spaces and Places Generation and transmission facilities have to be located somewhere. There is a tendency of the public to not want facilities close to population centers. However, the County's open spaces are also cherished. How and where facilities are sited will need to be carefully planned.

Strategic Areas

The Energy element contains three strategic areas. The first two, Conservation and Renewable Energy Sources, satisfy the state of Arizona's Growing Smarter requirements that state an Energy element should include:

- A component that identifies policies that encourage and provide incentives for efficient use of energy.
- An assessment that identifies policies and practices that provide for greater uses of renewable energy sources.

The third strategic area addresses Energy Generation and Transmission. Conservation and the development of renewable energy sources will be effective in ensuring that the County's energy future moves toward sustainability but anticipated growth will certainly require an exponential growth in the generation and distribution of energy for the coming decades.

It should be noted that the Arizona Corporation Commission (ACC) is responsible for final decisions about facility siting. However, Pinal

County needs to be active in providing input to ensure compatibility with the County's Vision and goals.

The focus of the Generation and Distribution Strategic Area of the Energy element is to:

- Illustrate the potential needs for generation and transmission infrastructure as the County grows.
- Inform residents and stakeholders of the present plans to locate future facilities throughout the County and the fact that everyone will need to share the burden of having safe, reliable, and clean energy throughout the County.
- Outline goals and policies to ensure that the County, municipal governments, and energy providers maintain a cooperative working relationship to facilitate appropriate locations for facilities while protecting Pinal County's physical environment and natural resources.

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Conservation

Pinal County will work with residents, other agencies, and the business community to expand energy conservation efforts. The County can have the most impact on conservation efforts through influencing construction methods and materials, site planning and community design, and education.

The importance of energy conservation cannot be overstated. It is not just the right thing to do, it has tremendous environmental, natural resource, and economic implications. To illustrate the sweeping impacts of the benefits of electrical energy conservation, an actual case study can be analyzed.

~~The recently completed Central Arizona Transmission System 2016 Transmission Study estimates a need for 10,000 more megawatts of~~

~~power to serve Pinal County.~~ To put this in perspective, the Hoover Dam has a maximum capacity of 2,080 megawatts.

A natural gas fired plant that will generate 575 megawatts of electricity is proposed in Coolidge at a cost of \$500 million. Based on the 10,000 megawatt need, 18 new power plants of this type would be needed to generate the estimated additional electricity needs. A decrease in demand through conservation efforts of 11 percent would eliminate the need for two of these plants at a savings of \$1 billion to ratepayers. In addition, the fuel and water saved in not operating those two facilities would have significant positive environmental and natural resource implications. Finally, less land would be required for generation and fewer transmission corridors could be a result. A conservation level of 11% is an attainable goal.

As energy prices continue to rise, electricity, natural gas, and transportation costs take a larger piece of household and business budgets. The economic viability of energy efficient construction will increase due to this as will the need to find alternative transportation modes and a reduction in travel needs.

Renewable Energy Sources

Pinal County will ~~provide support~~ for the development and location of renewable sources to meet current and future needs and to lessen the regions dependence on non-renewable energy sources. These might be stand alone facilities or co-located with other energy providers.

The expansion of renewable energy opportunities ~~should be supported~~ by the County through its land use planning and permitting processes. One ~~very exciting viable~~ renewable energy source in Arizona is solar. ~~Historically, the economics of solar power~~

~~have been for smaller, individual property generation units and this solution should continue to be encouraged by the County.~~

Advances have now made it possible for entire households or buildings to significantly reduce their traditional energy dependence and at times may be able to generate enough power to make the meter run backwards. Unfortunately, the majority of homeowners and businesses do not have the financial resources to install such infrastructure. Federal and state grants have provided support but there is still a significant cost for installation. As energy costs continue to rise and technological advancements occur, ~~this option~~ will become more feasible and attractive to individual property owners. Pinal County must be ready for this. Through its regulatory and taxation policies, the County can provide additional support.

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There are major changes on the near horizon regarding large scale solar energy generation. There are two major reasons for this trend: technology has started to make large scale generation more financially feasible and government/regulatory agencies are requiring energy producers to diversify their energy portfolios and have set targets for renewable energy sources.

~~A planned solar power plant near Gila Bend will serve approximately 75,000 homes upon completion. While this plant will be a breakthrough for Arizona, the energy generated from it will be much more costly than current sources and will be subsidized by ratepayers. However, as non-renewable energy sources continue to become more expensive and technology improves, the gap between traditional and solar power should begin to close. Another challenge to large scale solar generation is space. The planned Gila Bend facility will require up to three square miles of land for its solar fields and power plant.~~

Pinal County residents have also expressed a strong desire for expanded post-secondary education and training opportunities. The emerging renewable energy market could provide the catalyst for college, university and technical training programs for the design, installation, and maintenance of renewable energy equipment and infrastructure.

Energy Generation and Transmission

Pinal County is served by several energy providers. Arizona Public Service, Salt River Project, Southwest Gas, and numerous Electrical and Irrigation and Drainage Districts all provide service in the County and several more entities have facilities such as the Western Area Power Authority, Tucson Electric Power, and the Southwest Transmission Cooperative.

Pinal County will work with these energy providers to facilitate the provision of sufficient energy for residents and businesses and to encourage development of new facilities within the parameters of the seven components of the Comprehensive Plan Vision for the Future.

~~According to the CATS HV 2016 Transmission Study, in 2016, annual electric power generation in Arizona is projected to be 30,997 megawatts and electricity used 24,819 megawatts. This means that overall, Arizona is anticipated to be a net energy exporter. However, this will not be the case throughout the year. During the summer months, Arizona providers must purchase additional power from other states to meet higher demands.~~

~~Based on the 2006 state population of 6.3 million and using a straight line projection, each 100,000 people in Arizona will require 394 megawatts of power. The following table (7-1) estimates the electrical energy needs of Pinal County at various~~

population levels. This information is for illustrative purposes only as these needs change significantly by season.

7-1: Pinal County Electricity Need

| Population Growth | Additional Electricity Required |
|-------------------|---------------------------------|
| 100,000 | 394 megawatts |
| 500,000 | 1,970 megawatts |
| 1,000,000 | 3,940 megawatts |
| 2,000,000 | 7,880 megawatts |
| 3,000,000 | 11,820 megawatts |

Source: CATS HV 2016 Transmission Study

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Even with effective conservation and moving toward renewable sources, it is evident that additional traditional generation facilities will be needed (see table 7-1). In fact, several new generating facilities have recently been identified for development on the short term horizon. Citizens, governmental entities, and the energy providers will have to work closely together to ensure appropriate locations for new facilities.

Significant planning has been done to project future electrical power needs for the region. The delivery of new energy sources to homes and businesses will also require the delivery system. Additional generation and transmission project that have been identified in past, ongoing and future studies will be subject to review and approval by the ACC.

In summary, with Pinal County not being a direct service provider, its role in the energy future of the region will consist of providing education and information to the public, maintaining codes and policies to encourage conservation of energy, supporting the development of renewable sources, and coordinating with the

energy industry to ensure appropriate development of adequate facilities.

Neither Pinal County's tax base nor legislative authority allow the County to play a large financial role in the energy future through incentives, tax credits, or other financing programs. However, the County can play a significant role in serving as the central point to assemble a diverse group of communities and regional stakeholders and partners to secure energy for future use.

The County can also be a leader in identifying new programs for funding sources to expand development of renewable energy sources.

Goals, Objectives and Policies

In order to make it easier for property owners to use the Goals, Objectives and Policies in the Plan and then incorporate them into their development proposals or amendments, the Policies have been placed into two separate categories. The two categories are:

- Public Responsibilities
- Private and Public Shared Responsibilities

Private development applicants should be aware of Public and Private Shared Responsibilities throughout the development process and should focus their Comprehensive Plan applications as specified in the implementation section of the Comprehensive Plan, or other relevant documents that set criteria for other applications.

Public Responsibilities are primarily incumbent on the County to implement through its policy development and planning.

Private and Public Shared Responsibilities, all entities, private and public, share the responsibilities of implementing these Policies.

Conservation

7.3 Goal: Improve the energy efficiency of Pinal County government.

7.3.1 Objective: Set an example by improving energy efficiency and use of renewable sources in County facilities, vehicle fleets, and equipment.

Policies:

7.3.1.1 Convert the vehicle fleet over time to alternative fuels.

7.3.1.2 Move toward compliance with green building benchmarks and programs for existing County buildings and facilities and require green building standards be developed in all new facility designs.

7.3.1.3 Locate solar energy generation equipment on County facilities which cost/benefit analyses proves advantageous.

7.3.1.4 Convert County facilities to low energy lighting and install energy efficient electrical equipment when economically feasible.

7.4 Goal: Improve the energy efficiency of structures in Pinal County.

7.4.1 Objective: Improve the energy efficiency of new construction and the existing building stock through building codes and processes.

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ENERGY STAR is a joint program of the EPA and the U.S. Department of Energy helping to save Americans money and protect the environment through energy efficient products and practices.

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Policies:

7.4.1.1 Maintain the most up to date International Building Codes (IBC) and International Energy Conservation Code (IECC) and provide training for staff to implement.

7.4.1.2 Encourage the expansion of energy efficient building practices.

7.4.1.3 Work with municipalities and Native American communities to standardize energy efficiency requirements and codes throughout the County.

7.4.1.4 Support refurbishing and remodeling projects to include energy efficiency components through expedited permitting and assistance.

7.4.1.5 Encourage all residential, commercial and industrial construction to meet “ENERGY STAR” as a minimum efficiency standard.

7.4.2 Objective: Reduce energy demand through community design.

Policies:

7.4.2.1 Encourage developments that use energy smart site design (e.g., solar orientation, cluster development).

7.4.2.2 Encourage Sonoran-friendly landscaping in developments to provide shade.

7.4.2.3 Implement the Activity Center philosophy to bring employment, commercial, and educational activities closer to residents and increase multimodal transportation options including transit, bicycle, and pedestrian modes.

7.5 Goal: Improve overall communication and collaboration regarding energy issues.

7.5.1 Objective: Provide energy conservation education and awareness in County communications.

Policies:

7.5.1.1 Provide energy conservation information on the County Web site with links to energy providers and conservation and consumer groups.

7.5.1.2 Work with energy providers to include energy conservation promotional materials to building owners at the issuance of Certificates of Occupancy.

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7.5.2 Objective: Maintain cooperative working relationships.

Policies:

7.5.2.1 Hold periodic coordination meetings with energy providers to keep informed of the latest conservation programs offered.

7.5.2.2 The County should continue to participate in regional energy planning forums, such as the CATS Group, and work with the County's municipalities, Native American communities and energy providers to create a County-wide, long range energy strategy.

Renewable Sources

7.6 Goal: Expand renewable energy in Pinal County.

7.6.1 Objective: Support small scale renewable energy projects

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Policies:

7.6.1.1 Support statewide policy that provides property tax credits for renewable energy facilities on individual homes and businesses from net assessed valuation calculations.

7.6.1.2 Assess current codes so they are supportive in permitting small scale renewable energy projects. Explore ways to reduce barriers caused by homeowner's association restrictions.

7.6.1.3 Work with developers and energy providers to design neighborhoods with optimum solar orientation.

7.6.1.4 Support state and federal incentive programs for the development of renewable energy infrastructure for individuals and businesses.

7.6.1.5 Develop/amend ordinances to protect solar access through sensitive building orientation and for property owners, builders and developers wishing to install solar energy systems.

7.6.1.6 Support the transmission of renewable energy from sources within and outside of Pinal County.

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7.6.2 Objective: Support the growth of the renewable energy in Pinal County.

Policies:

7.6.2.1 Identify through specific area planning potential locations for renewable energy projects.

7.6.2.2 Support the attraction of renewable energy providers through the County's economic development strategy.

7.6.2.3 Work with economic development proponents to develop education and training programs for renewable energy employment opportunities.

Generation and Transmission

7.7 Goal: Support the provision of adequate energy for the future while protecting the natural environment and resources.

7.7.1 Objective: Identify and protect potential sites and corridors for new energy generation and transmission facilities.

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Policies:

7.7.1.1 Work with energy providers through the specific area planning process to identify appropriate locations and buffering of future projects.

7.7.1.2 Work with energy providers to co-locate where possible facilities such as transmission lines, pipelines, substations, and terminals.

7.7.1.3 Encourage the adoption of designated generation and transmission and facility sites and corridors in future updates to County and municipal planning documents to protect against incompatible development and to maximize increased capacity.

7.7.2 Objective: Protect water and environmental resources.

Policies:

7.7.2.1 Monitor the evaluation process by other agencies of all proposals for new generating facilities to determine long-term impacts on water resources.

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7.7.2.2 Support innovative designs for new generating facilities that minimize water use.

7.7.2.3 Explore innovative water re-use strategies.

7.7.2.4 Discourage facilities from locating in designated environmentally sensitive areas and encourage facilities to be in context with viewsheds and waterways.

7.7.3 Objective: Provide information to citizens and the development community regarding future energy facilities.

Policies:

7.7.3.1 Keep up to date information about locations of existing and potential new generation and transmission facilities on the County Web site.

7.7.3.2 Review development proposals along with short and long range plans of energy providers to ensure an understanding of where facilities may be and to keep prospective residents and businesses informed.

7.7.4 Objective: Maintain cooperative working relationships with energy providers.

Policies:

7.7.4.1 Hold a biannual “energy summit” bringing together providers, landowners and key county staff and leadership to discuss future plans and update one another on current planning and trends.

7.7.4.2 Work closely with energy providers during the evaluation of development plans to access cumulative, County-wide impacts on energy availability and reliability.

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7.7.4.3 Coordinate with energy providers in the implementation of the Growth Areas element to ensure energy infrastructure is adequate to support growth and infrastructure development.

7.7.4.4 Encourage involvement of energy providers in area planning processes.

7.7.4.5 Continue to participate in regional energy planning forums such as the CATS Group

Urban Heat Islands are built up areas that are hotter than nearby rural areas. Elevated heat island temperatures can cause environmental impacts. (EPA)

Cool Pavements include a range of technologies aimed at reducing urban heat island effect.

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Urban Heat Island

7.8 Goal: Support strategies to reduce Urban Heat Islands and their environmental effects.

7.8.1 Objective: Identify key Urban Heat Island mitigation techniques and reduce Urban Heat Island effect through community planning and design

7.8.1.1 Work with municipalities to avoid the development of heat islands through land use planning, open space preservation between developments, site design, and building materials and colors.

7.8.1.2 Encourage underground, understructure and/or multilevel parking structures

7.8.1.3 Encourage the use of “cool pavement” materials, “cool roofs” and “green roofs”

Cool Roofs is a term that describes roofing materials with a high solar reflectance.

Green Roofs is a term describing a vegetative layer grown on a rooftop that can be installed on a wide range of buildings

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Appendix D: Glossary

The terms defined in this glossary are done so for purposes of the Pinal County Comprehensive Plan only and may not be relevant or accurate for use outside of this plan.

Acre foot (ac/ft) is equivalent to the volume of water required to cover 1 acre to a depth of 1 foot.

Agriculture includes areas where agri-business activities are permitted, including traditional farming and ranching operations.

Alluvial plain is fairly flat, gently sloping landform found at the base of mountain ranges. The geography requires careful planning so that drainage patterns are preserved.

Airport Reserve surrounds existing airports to allow for adequate buffering of surrounding land uses, buffering of surrounding land uses, expansion of airport operations and facilities and employment uses compatible with the airport.

Aviation-Based Commerce Center is a facility served by passenger service and air freight providers; it should be buffered from incompatible uses and may have surrounding employment-related uses that take advantage of aviation services and allow for expansion of airport operations and facilities.

Bajadas are shallow slopes that lie at the base of rocky hills, where materials accumulate from the weathering of the rocks. They typically have a mixture of boulders, stones, gravel, sand and silt particles, creating a deep and complex soil structure that retains water and supports a rich vegetation.

Basic activities bring new dollars into the community.

Biome is a major regional or global biotic community, such as a grassland or desert, characterized chiefly by the dominant forms of plant life and the prevailing climate.

Buildout is defined as the ultimate development of land in Pinal County with appropriate land uses based on a series of assumptions, including land ownership patterns, topographic and environmental constraints and opportunities, development potential, infrastructure support, and private property rights.

The **Certified Local Government Program** is a preservation partnership between local, state and national governments focused on promoting historic preservation at the grass roots level.

Community Commercial is intended to be mid-scale (approximately 20 to 40 acres) of retail, service, and professional office.

Compendium is a concise, yet comprehensive, compilation of a body of knowledge.

Context Sensitive is defined as an approach by which development fits its physical setting and preserves scenic, aesthetic, historic and environmental resources.

Density is the number of housing units per acre developed or allowed to develop.

Density Bonus or Incentive is allowing higher density residential as a trade-off for including in a project a desired need such as open space or affordable housing unit.

Desert Habitats: Desert Habitats such as the Sonoran desert scrub habitats are low-elevation areas that receive less than 10 in (25 cm) of rain each year, mostly in bi-modal pattern (occurring in winter and summer). In these arid habitats, vegetation is generally sparse and represented by cacti and other succulents as well as other vegetative species including mesquite, ironwood, and palo verde, among others.

Design charrette is a workshop in which participants work together, collaborating or building off of others work, and present their findings in a public forum.

Eco-tourism is about creating and satisfying a hunger for nature, about exploiting tourism's potential for conservation and development, and about averting its negative impact on ecology, culture and aesthetics.

Employment is defined as areas that can support a variety of employment-generating business activities such as industrial, office, business park, and warehousing and distribution.

Endangered species are those in immediate danger of becoming extinct and in need of protection in order to survive.

ENERGY STAR is a joint program of the EPA and the U.S. Department of Energy helping to save Americans money and protect the environment through energy efficient products and practices.

Floor Area Ratio (FAR) is a formula for determining volume of building as a multiple of the lot area.

General Commercial provides locations for commercial development included in adopted municipal general plans. The Pinal County Comprehensive Plan does not make any changes to these locations. This category allows uses in unincorporated areas.

General Public Facilities/Services includes large public facilities that require significant space such as landfills, wastewater facilities, water campuses, and concentrations of public buildings.

Goals represent the desired outcomes or results that the County hopes to realize over time. Goals will align with Pinal County's Vision.

High Intensity Activity Centers are approximately 1,000 or more acres with a mix of professional office, business parks, and industrial often in a campus-like setting, as well as high and medium density residential.

Hohokam is a term derived from an O’odham word “Huhugam” that is often used to reference people and things that have gone before.

Horizontal Mixed Use combines residential, commercial and employment-type uses on the same site, but in separate buildings.

Indian Community indicates a sovereign nation, operating under its own tribal government laws.

Landscape: Landscape is an area of land composed of an interacting variety of ecosystems with a diversity of physical elements. The configuration of a landscape is defined by the physical character, arrangement, and context of its elements. Combining both their physical origins and the cultural overlay of human presence, often created over millennia, landscapes reflect a living mixture of people and place that is vital to local and national identity.

Land use transition is defined as a gradual change in land use intensities to ensure compatibility.

Low Intensity Activity Centers are approximately 100 acres with a mix of professional office, commercial, tourism and hospitality uses, as well as medium to high density residential.

Major Open Space indicates lands preserved for recreational purposes or lands protected for cultural or ecological reasons.

Mid Intensity Activity Centers are approximately 500 acres with a mix of clustered professional office, commercial, tourism and hospitality uses, medical, and medium to high density residential.

Military represents the Florence Military Reservation, Silver Bell Army Heliport (SBAH) and other ancillary facilities.

Mining/Extraction identifies those areas where mineral resources have been identified or are likely to be identified in the future. The intent of this designation is to protect the mineral resources by minimizing conflicts with surrounding land uses. This designation recognizes the rights of exploration, mining, and processing of mineral resources. Copper mining is currently occurring around Superior and Kearny. All mining operations conducted by whatever techniques and technologies employed are required to comply with all applicable federal, state, and local laws providing for the protection of environmental resources.

Municipal Planning Areas (MPAs) are defined as the geographic areas around an incorporated city or town that is influenced by the city’s land use pattern and may be incorporated into the jurisdiction at some point in the future.

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AGENDA ITEM

September 14, 2023 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #: 1030

Dept. Name: Community Development

Director: Brent Billingsley

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Work Session on case PZ-PA-009-23, A Major Comprehensive Plan Amendment request by SWCA Environmental Consultants for Cielo Solar and Storage project, to re-designate 1086± acres from Moderate Low Density Residential (MLDR) and Employment to Green Energy Production for large scale PV Solar generation facility, located south of central Coolidge and east of central Casa Grande, Pinal County. Supervisor District #3. (Ryan Green/Brent Billingsley)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

N/A

| | | |
|------------------|--------------------|----------|
| History | | |
| Time | Who | Approval |
| 9/7/2023 8:48 AM | County Attorney | Yes |
| 9/7/2023 1:47 PM | County Manager | Yes |
| 9/7/2023 1:56 PM | Clerk of the Board | Yes |

ATTACHMENTS:

Click to download

☐ [Reference page](#)

☐ [Staff Report](#)

To view a copy of the Staff Presentation and Report for this Agenda Item please refer to Planning Case PZ-PA-006-23 BOS Agenda Item, and if applicable to view a copy of the Applicant Presentation if submitted for the Record.

PZ-PA-009-23



APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA
(All Applications Must Be Typed or Written in Ink)

Comprehensive Plan Amendment unincorporated & Property Information:

(Feel free to include answers and to these questions in a Supplementary Narrative, when doing so write see narrative on the space provided)

1. The legal description of the property: Refer to Appendix A, attached to Narrative Report
401-47-0030, 401-47-0040, 401-47-0050, 401-47-0060
2. Parcel Number(s): _____ Total Acreage: _____
3. Current Land Use Designation: _____
4. Requested Land Use Designation: _____
5. Date of Concept Review: _____ Concept Review Number: _____
6. Why is this Comprehensive Plan Amendment being requested? (You must provide a summary of the anticipated development on this page, if not provided, the application cannot be processed.): _____

7. Discuss any recent changes in the area that would support your application. _____

8. Explain why the proposed amendment is needed and necessary at this time. _____

INV#: _____ AMT: _____ DATE: _____ CASE: _____ Xref: _____

COMMUNITY DEVELOPMENT
Planning Division

PINAL COUNTY COMPREHENSIVE PLAN AMENDMENT APPLICATION

IN ADDITION TO THIS APPLICATION, YOU WILL NEED TO SUBMIT:

- ☐ A. **Certified Boundary Survey**, including legal descriptions of the proposed designations
- ☐ B. Location map which identifies the property and its relationship to Pinal County environs.
- ☐ C. Map showing the topography of the property.
- ☐ D. Site map which specifically identifies the property including parcels under separate ownership.
- ☐ E. Property owner(s) authorization for the Comprehensive Plan Amendment.
- ☐ F. Other information as may be determined necessary by the Planning staff or other information the applicant feels is pertinent to this request.
- ☐ G. Non-refundable filing fee as shown on the cover page.
- ☐ H. Narrative in PDF format.
- ☐ I. Neighborhood meeting report

Your application must be submitted digitally via the online submittal portal site at <https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>

Please call or email the Planning Division for more information.

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

| | | |
|-------------------------------|---------|--------------|
| Name of Landowner (Applicant) | Address | Phone Number |
|-------------------------------|---------|--------------|

| | |
|------------------------------------|----------------|
| Signature of Landowner (Applicant) | E-Mail Address |
|------------------------------------|----------------|

| | | |
|---|------------------------------|--------------|
| Pattern Solar and Storage Development LLC | 1201 Lousiana St, Suite 3200 | 713-308-5061 |
|---|------------------------------|--------------|

| | | |
|---------------|---------|--------------|
| Name of Agent | Address | Phone Number |
|---------------|---------|--------------|

Attn: Ian Evans
Houston, TX 77002

generalcounsel@patternenergy.com

ian.evans@patternenergy.com

| | |
|--------------------|----------------|
| Signature of Agent | E-Mail Address |
|--------------------|----------------|

Amy Smolen
Vice President

The Agent has the authority to act on behalf of the landowner. The Agent will be the contact person for Planning staff and must be present at all hearings. Please use the attached Agency Authorization form, if applicable

AGENCY AUTHORIZATION

(To be completed by landowners of subject property when landowners do not represent themselves. Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals and cannot be submitted digitally)

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

HA Cielo LLC, a Delaware limited liability company

[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]
hereinafter referred to as "Owner," is/are the owner(s) of _____ approximately 1,006 acres located at
Sec 29-6S-8E; Sec 28-6S-8E; Sec 32-6S-8E; Sec 33-6S-8E, and further identified
[Insert Address of Property]
as assessor parcel number 40142009A; 40142009B; 40143009B; 401460010; 401470030; and legally described as follows:
401470020; 401470010; 401460030; 401470040; 401470050; 401470060
[Insert Parcel Number]

[Legal Description is attached hereto as Exhibit A]

Said property is hereinafter referred to as the "Property."

Owner hereby appoints Pattern Solar and Storage Development LLC, a Delaware limited liability company

[Insert Agent's Name. If the Agent Is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

[Signature] _____

[Signature] _____

[Address] _____

[Address] _____

Dated: _____

Dated: _____

STATE OF _____)
) ss.
COUNTY OF _____)

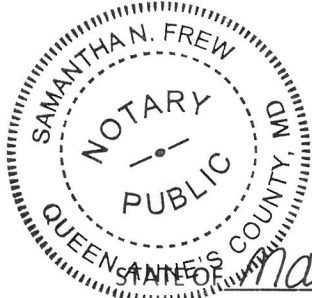
The foregoing instrument was acknowledged before me this ____ day of _____, _____ by _____
[Insert Name of Signor(s)]

My commission expires _____

Printed Name of Notary

Signature of Notary Public

Corporate PROPERTY OWNER signature block and acknowledgment the appropriate corporate officer or trustee signs this signature block NOT the block on the previous page.



HA Cielo LLC, a Delaware limited liability company

[Insert Company or Trustee's Name]

By: [Signature]
[Signature of Authorized Officer or Trustee]

Its: Authorized Representative
[Insert Title]

Dated: 4/11/2023

STATE OF Maryland
COUNTY OF Queen Anne's County ss.

The foregoing instrument was acknowledged before me, this 11 day of April, 2023 by Michelle Martin Authorized Representative
[Insert Signor's Name] [Insert Title]
HA Cielo, LLC, an Delaware limited liability
[Insert Name of Company or Trust] [Insert State of Incorporation, if applicable] company

and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

My commission expires 04/26/2023

[Signature]
Notary Public

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, _____, before me, the undersigned, personally appeared

[Insert Signor's Name] Who acknowledged himself/herself to be

[Title of Office Held] of _____ [Second Company]

As _____ for _____, and who being
[i.e., member, manager, etc.] [Owner's Name]

Authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

My commission expires: _____

Printed Name of Notary

Signature of Notary

The logo for the Santa Watershed Council of Arizona (SWCA) is positioned vertically on the left side of the page. It consists of the letters 'S', 'W', 'C', and 'A' in a large, stylized, light blue font, stacked one above the other.

Cielo Solar Project Application for a Major Comprehensive Plan Amendment Narrative Report

MAY 2023

SUBMITTED TO
Pinal County Planning Division

PREPARED BY
SWCA Environmental Consultants

**CIELO SOLAR PROJECT
APPLICATION FOR A MAJOR
COMPREHENSIVE PLAN AMENDMENT
NARRATIVE REPORT**

**PRE-APPLICATION PLANNING CASE NO. Z-PA-048-23
MCPA APPLICATION PLANNING CASE NO. PZ-PA-009-23**

Prepared for

Pinal County Planning Division
85 N. Florence Street
First Floor
P.O. Box 2973
Florence, Arizona 85132
(520) 866-6442

Prepared by

SWCA Environmental Consultants
20 E. Thomas Rd. #1700
Phoenix, Arizona 85012
(602) 274-3831
www.swca.com

On Behalf of

Pattern Solar and Storage Development, LLC
1201 Louisiana Street, Suite 3200
Houston, TX 77002
Attn: Ian Evans

May 2023

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A. EXECUTIVE SUMMARY

Pattern Solar and Storage Development LLC (Pattern), is requesting an amendment to the 2019 Pinal County Comprehensive Plan (Comprehensive Plan) to construct and operate the Cielo Solar Project (Project), a photovoltaic (PV) solar facility and battery energy storage system (BESS) comprising 11 parcels (Project Site) (Figure 1). Table 1 lists the Project parcels, including the Assessor's Parcel Numbers (APNs) and Public Land Survey System (PLSS) locations. An ALTA of the Project Site is included as a part of this narrative report (Appendix A).

Table 1. Proposed Comprehensive Plan Amendment Parcels

| APN | PLSS Location |
|-----------|---------------|
| 40142009A | 28 06S 08E |
| 40142009B | 28 06S 08E |
| 40143009B | 29 06S 08E |
| 401460010 | 32 06S 08E |
| 401460030 | 32 06S 08E |
| 401470010 | 33 06S 08E |
| 401470020 | 33 06S 08E |
| 401470030 | 33 06S 08E |
| 401470040 | 32 06S 08E |
| 401470050 | 33 06S 08E |
| 401470060 | 33 06S 08E |

The Project would include (1) a PV solar field; (2) a BESS; (3) a project substation including circuit breakers and a step-up transformer (Project Substation); (4) a short, 500-kilovolt (kV) generation intertie (gen-tie); (5) a Project switchyard, (6) an operation and maintenance (O&M) building, and (7) additional Project infrastructure, such as “collector lines” between the solar panels and the Project Substation. A 1-mile study area around the Project Site (Study Area) has been identified for land use surveys; this can be seen on Figures 2 and 3.

The Project plans to propose generous setbacks, well beyond the right-of-way requirement, along portions of the Project Site abutting Selma Highway and State Route 87 (see Figure 4). Pattern commits to working in good faith with County Staff and interested counterparties that want to subdivide and build gas stations, solar O&M offices, fire stations, etc. These additional setbacks would allow for the continued planned uses identified as Employment within the Comprehensive Plan. Paved and unpaved roads provide access to the Project Site. These roads include East Laughlin Road, East Early Road, East Arizona Western Boulevard, East Selma Highway, South La Palma Road, South Carter Lane, and State Route (SR) 87.

The amendment is needed to facilitate development of the Project, in turn allowing the contribution of clean, affordable, and renewable energy to the regional power grid. This Project would likely connect to a planned transmission infrastructure being developed separately by SunZia Transmission, LLC. Pattern anticipates that the Project will take approximately 3 years to develop, inclusive of planning, design, and construction.

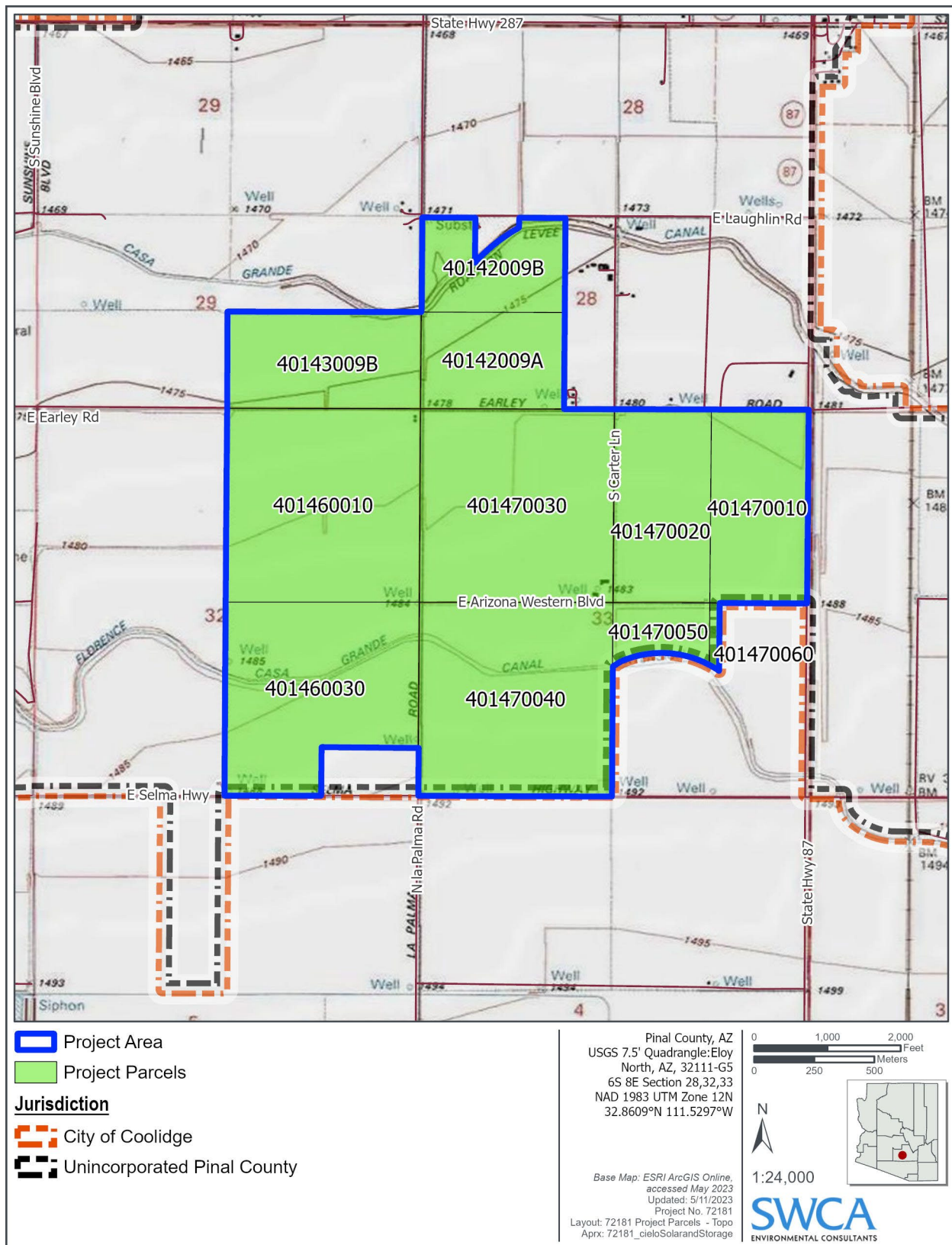


Figure 1. Project parcels.

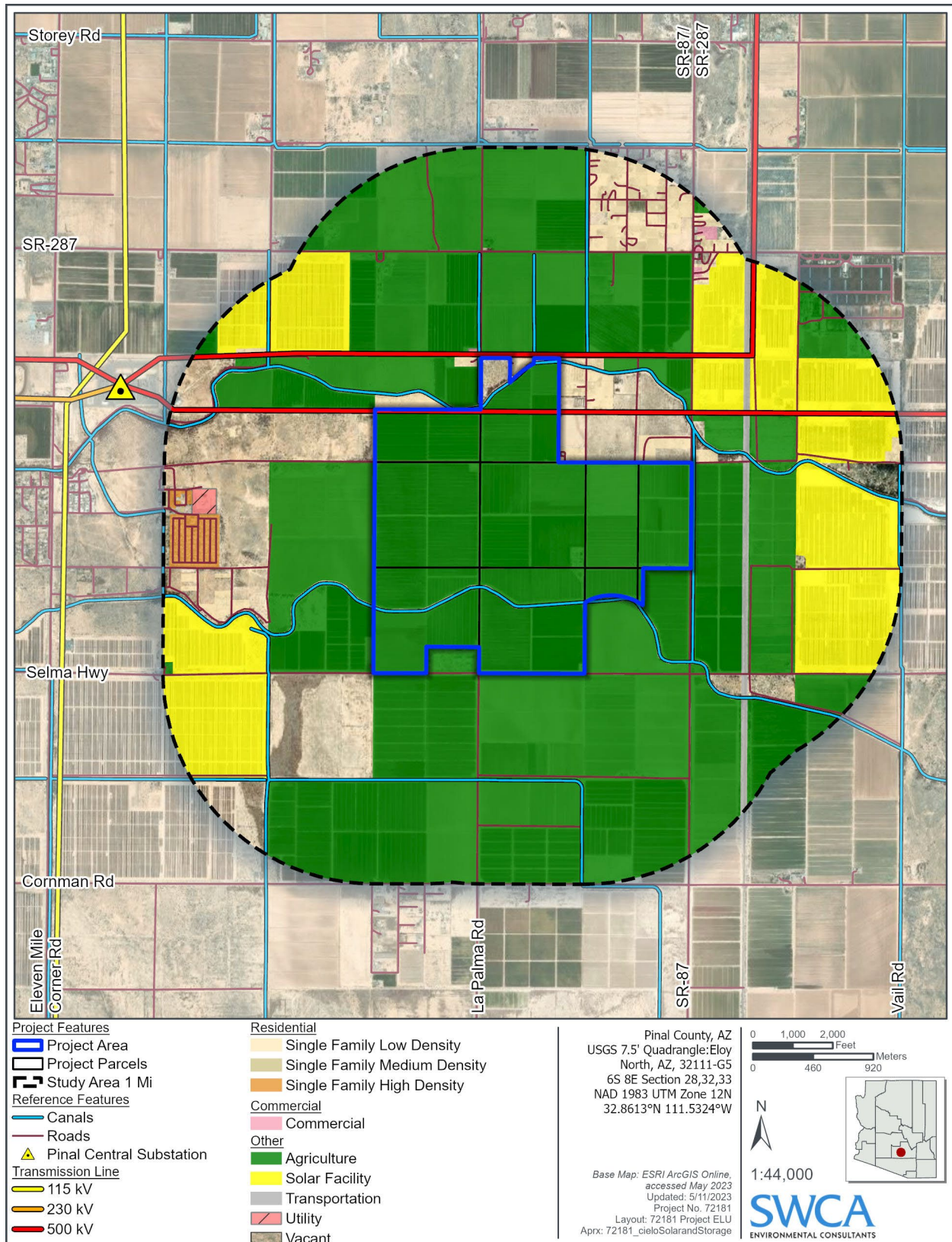


Figure 2. Existing land use.

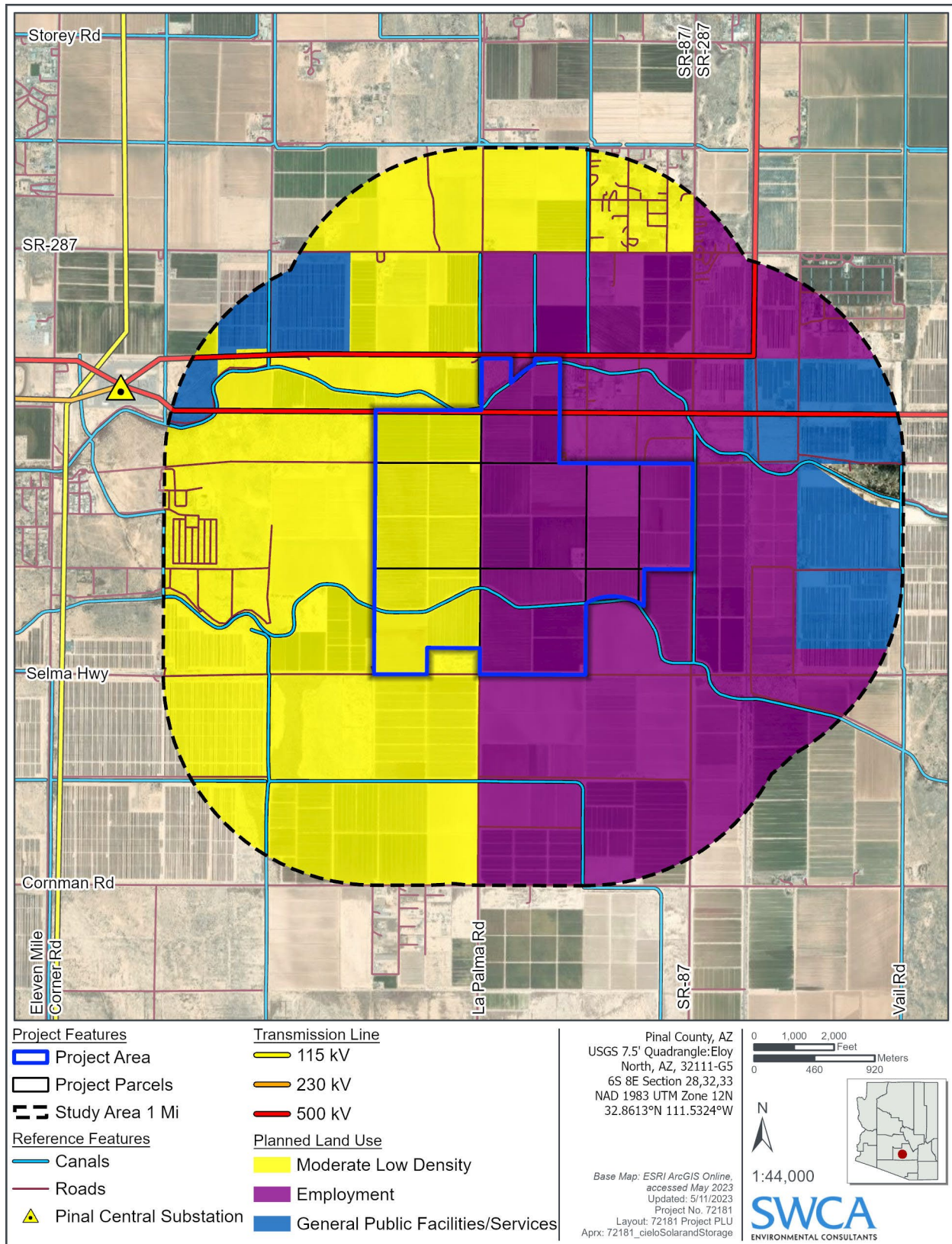


Figure 3. Planned land use.

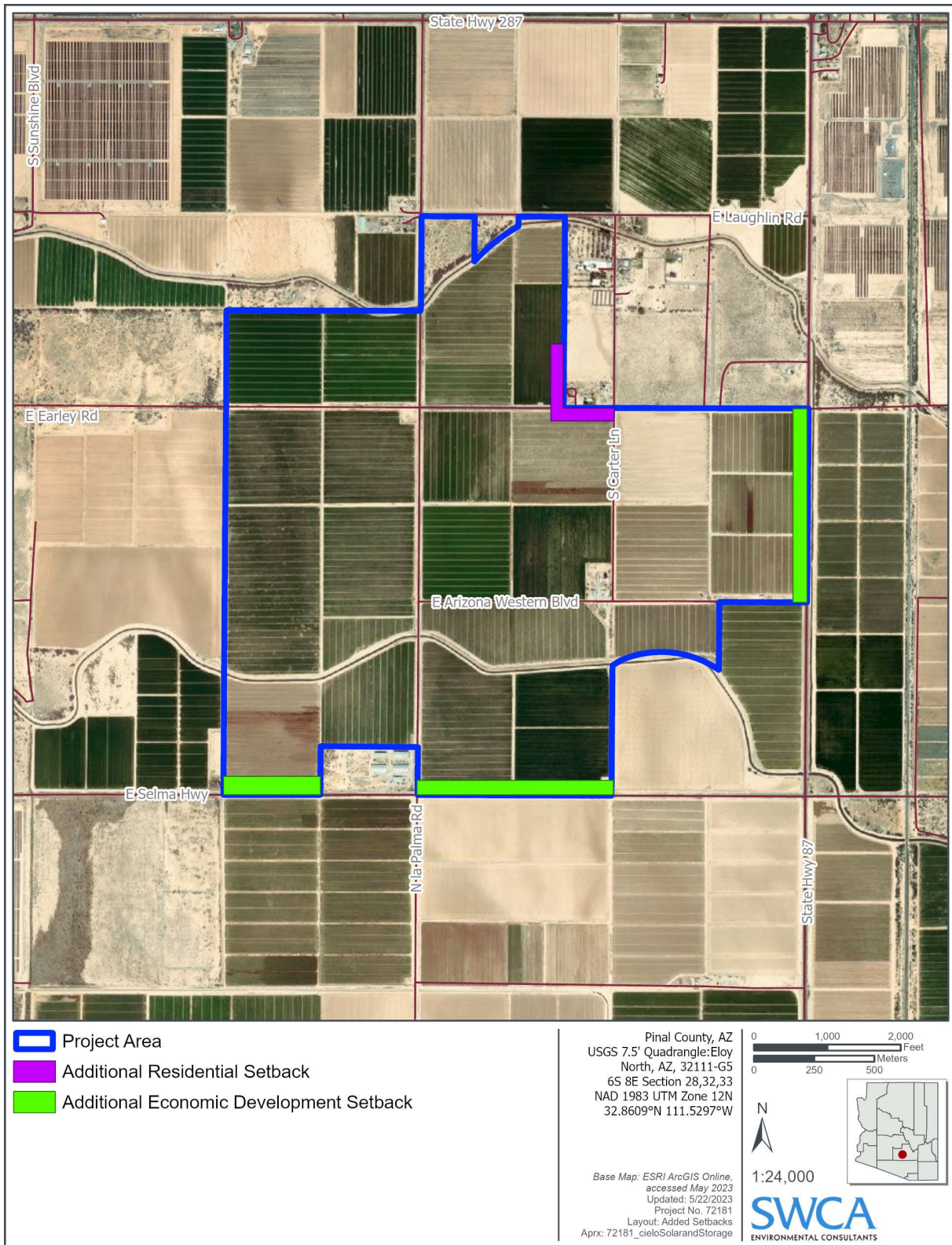


Figure 4. Preliminary Proposed Setbacks

A.1 Major Comprehensive Plan Amendment Approval Criteria

This section addresses the specific approval criteria for Major Comprehensive Plan Amendments outlined in the Comprehensive Plan.

A.1.1 The identified site is appropriate for the proposed use

The Comprehensive Plan land use designations for the Project Site include Moderate Low Density Residential and Employment. The proposed land use for the Project is Green Energy Production. The Project Site is well suited for the proposed changes to the Comprehensive Plan as the primary criteria for determining the location of power generation facilities includes the existence of compatible adjacent and nearby land uses; minimal topographic variability; and the proximity to existing electrical infrastructure. Figures 1, 2, and 3 below show the Project Site, Study Area, and existing compatible nearby land uses. The proposed land use associated with this amendment would be consistent with the goals, objectives, and policies of the current Comprehensive Plan. See Sections A through C of this application for additional information.

A.1.2 The amendment must constitute an overall improvement to the County

The Project will generate an estimated millions in property taxes for the County during its operating life. The Project will increase the land's taxable value and contribute to local employment opportunities while adding little, if any, burden to public services. The below sections of this application narrative provide support to how the Project will be an overall improvement to the County and consistent with the goals, policies, and objectives of the Comprehensive Plan.

A.1.3 The amendment will not adversely impact a portion of, or the entire County, by:

Significantly altering existing land use patterns, especially in established neighborhoods

The Comprehensive Plan does not include planning guidelines for Green Energy Production. In general, the Comprehensive Plan encourages developments that are compatible with surrounding land uses. As described in Sections B.2 and C.1.1, the Project would be located near existing large-scale solar PV developments, high-voltage transmission lines, substations, and agricultural and vacant land. Other existing and planned solar and utility developments proximate to the Project Site provide evidence of the Project's compatibility with the land use changes in this area.

Significantly reducing the jobs per capita balance in Pinal County

The amendment would further promote economic diversity and employment opportunities in the area by providing quality jobs during the construction and operational life of the facility. See sections C.1.3 and C.2.4 for additional information.

Replacing employment with residential uses

The Project does not intend to replace employment with residential uses.

Placing new development away from existing or approved development if the new development overtaxes infrastructure systems and public services when considering: future contributions to infrastructure and services through construction and dedication of improvement, payments of development fee, and other mitigation measures

As described in Sections B.2 and C.1.1, the Project would be located near existing large-scale solar PV developments, high-voltage transmission lines, substations, and agricultural and vacant land. Other existing and planned solar developments proximate to the Project Site provide evidence of the Project's compatibility with the land use changes in this area, as well as the attractiveness of this location by renewable energy developers. Additionally, no public improvements to roads, sewer systems, or water systems would be needed for the Project. See sections C.1.2, C.1.6, and C.2.8 for additional information.

Negatively impacting the existing character (i.e. visual, physical, environmental and functional) of the immediate area

Planning guidelines specify that solar projects are compatible with the county's farming heritage (Pinal County 2019). The amendment would be consistent with the Sense of Community vision as described in the Comprehensive Plan by locating the Project away from existing sensitive land uses (e.g., established residential neighborhoods) and consolidating the Project with existing energy facilities and compatible land uses such as agricultural land that is no longer considered viable (see Section C.2.5 for additional information).

Increasing the exposure of residents to aviation generated noise, and/or flight operations

The Project will not increase the exposure of residents to aviation generated noise, and/or flight operations.

Diminishing the environmental quality of the air, water, land, or cultural resources

The amendment is consistent with the Environmental Stewardship vision component of the Comprehensive Plan. Pattern has considered potential environmental impacts and is committed to minimizing impacts to the human, natural, and cultural environments that would result from the proposed development. Throughout its development and operation, the Project will comply with all applicable federal, state, and local laws, regulations, and guidelines. See sections C.1.5 and C.2.7 for additional information.

Significantly decreasing the quantity or quality of recreational amenities such as open space, parks, and trails

There are no existing dedicated Open Space areas, designated scenic resources, or designated view corridors within the Study Area. The Comprehensive Plan (Pinal County 2019) and the Open Space and Trails Master Plan (Pinal County 2007) indicate that a multi-use trail corridor is proposed along the Florence-Casa Grande Canal, which bisects the southern portion of the Project Site. Neither the proposed amendment nor the Project would conflict with this proposed land use. Pattern will work with the County to ensure the Project is minimizing any potential impacts to the proposed multi-use trail corridor. The Project is already planned to have conservative setbacks from the proposed corridor route. The Project would not impact any planned recreational uses. See sections C.1.4 and C.2.6 for additional information.

A.2 Responses to County Planning Staff Pre-Application Comments

Below is a summary of the comments made by Pinal County Planning staff from the pre-application meeting held on May 9, 2023 (Planning case number Z-PA-048-23). Responses to address these comments follow after each.

Staff Comment: Location of the project area is conducive to equitable employment compared to solar farms/projects that employ few people. Land has potential for other uses that employ more people (if rezoned) as compared to Solar facilities.

To allow for Employment permitted uses on the portion of the site categorized as Employment, coordination with the landowner to rezone the necessary parcels to a respective zoning district would be required. The land is not readily developable for employment type uses.

The amendment would further promote economic diversity and employment opportunities in the area by providing direct and indirect employment during the construction and operational life of the proposed facility. The Project would have a beneficial increase in the amount of employment currently generated at the Project Site. The Project would provide construction employment opportunities, which is considered an important employment sector for Pinal County (Pinal County 2019). As noted by the Board of Supervisors in previous proceedings, major corporation's and business' sustainability and energy goals to achieve net zero carbon emission or receive 100 percent of their energy from renewable energy sources, is growing. The project would increase Pinal County's attractiveness for these businesses to locate, contributing to the employment opportunities and economic benefits for the community. *See sections C.1.3 and C.2.4 for additional information.*

Area and location abutting major transportation corridors that has potential for residential and or commercial uses.

Power generation facilities on the Project Site would have minimal impact on planned land uses from traffic and the goals that address this vision. The Project plans to propose generous setbacks, well beyond the right-of-way requirements, along portions of the Project Site abutting Selma Highway and State Route 87 (see Figure 4). Pattern commits to working in good faith with County Staff and interested counterparties that want to subdivide and build gas stations, solar O&M offices, fire stations, etc. These additional setbacks would allow for the continued planned uses identified as Employment within the Comprehensive Plan. Paved and unpaved roads provide access to the Project Site. These roads include East Laughlin Road, East Early Road, East Arizona Western Boulevard, East Selma Highway, South La Palma Road, South Carter Lane, and State Route (SR) 87.

Pinal County currently has over 20,000 acres of land designated for Green Energy Production.

The Pinal County Comprehensive plan does not identify in its vision, goals, policies, and objectives a limit to any type of land use category. A good portion of the referenced approximately 20,000 acres of land redesignated Green Energy Production since 2019 lay within nearby incorporated municipalities (e.g., Coolidge). Other existing and planned solar developments proximate to the Project Site provide evidence of the Project's compatibility with the land use changes in this area, as well as the attractiveness of this location by renewable energy developers. As the county continues to develop, previous land use categories may no longer serve as the best identified use of land to achieve the vision and goals of the Comprehensive Plan. The Land Use Plan states that it "must be flexible enough to adjust to changing conditions and economic opportunities" (Pinal County 2019).

Historic canal to the south of the parcel has a multi-use trail corridor requiring pedestrian linkages from neighboring land use of residential development.

The Comprehensive Plan (Pinal County 2019) and the Open Space and Trails Master Plan (Pinal County 2007) indicate that a multi-use trail corridor is proposed along the Florence-Casa Grande Canal, which bisects the southern portion of the Project Site. Neither the proposed amendment nor the Project would conflict with this proposed land use. Pattern will work with the County to ensure the Project is minimizing any potential impacts to the proposed multi-use trail corridor. The Project is already planned to have conservative setbacks from the proposed corridor route. The Project would not impact any planned recreational uses.

Pinal County Comprehensive Plan designation is Moderate Low Density Residential and has versioned this area for residential development.

One of the two Pinal County Comprehensive Plan land use designations on the Property is moderate low density residential. Given its proximity to existing and planned transmission and solar energy facilities, the Project Site is less suitable for new housing developments. The Project is a sustainable land use alternative to the residential and commercial developments called for by the current Land Use Plan. The Project Site is subject to ongoing land subsidence that is actively monitored by the Arizona Department of Water Resources (ADWR). Recent ADWR mapping in the Eloy-Coolidge-Florence area indicates land subsidence rates at the Project Site as high as 0.8 inch per year (ADWR 2020, 2021). The ADWR notes that differential subsidence and earth fissures, a related hazard, can damage infrastructure, including residential structures, driveways, and fences (ADWR 2021). The Comprehensive Plan states that land subsidence and earth fissures “may cause significant damage to infrastructure” and that “development on lands that have historically experienced subsidence or fissuring require special consideration during the design-development process, and may require engineering solutions to safeguard people and property from the hazards” (Pinal County 2019). Portions of the Moderate Low Density Residential area closer to I-10 are outside of the ADWR-delineated subsidence area and, therefore, may be more suitable for housing developments. Designating the Project Site as Green Energy Production is appropriate because the Project is less susceptible to damage from land subsidence compared to residential or commercial land uses and, once operational, the Project would require little or no water.

A.3 Proposed Land Use

The Comprehensive Plan land use designations for the Project Site include Moderate Low Density Residential and Employment. The proposed land use for the Project is Green Energy Production.

A.4 Location and Accessibility

The Project Site is located entirely within unincorporated Pinal County, approximately 8 miles south of central Coolidge and approximately 11.5 miles east of central Casa Grande. The Project Site is accessible via East Laughlin Road, which runs east-west and borders a portion of the Project Site to the north, East Early Road running east-west through the Project Site, East Arizona Western Boulevard running east-west through the Project Site, East Selma Highway running east-west and bordering a portion of the Project Site to the south, South La Palma Road running north-south through the Project Site, South Carter Lane running north-south through the Project Site, and SR 87 running north-south and bordering a portion of the Project Site to the east.

The intersection of SR 87 and SR 287 is approximately 1 mile north of the Project Site. Interstate 10 (I-10) and the Union Pacific Railroad, a major transportation and freight corridor, are approximately 8.5 west of the Project Site. The Interstate 8 (I-8)/I-10 interchange is approximately 9.5 miles west of the Project Site.

A.5 Site Suitability

Pattern identified the Project Site as an optimal location for an electrical generation facility based on favorable resources available in Pinal County. These resources include large, generally level areas with a lack of sensitive biological resources, as well as close proximity to planned and existing transmission lines and electric load centers. These factors mean the build cost is low relative to other locations in Pinal County and could therefore sell power at lower cost than solar facilities built in other parts of the County. Those lower power sale prices could result in lower energy bills for Pinal County residents.

The Project Site consists of undeveloped, private lands that predominately include active and fallow agricultural areas, as well as some scrub-shrub and open areas. According to the National Hydrography Dataset, maintained by the U.S. Geological Survey, there are no perennial surface waters or wetlands on the Project Site (U.S. Geological Survey 2022). The Florence-Casa Grande Canal Extension and the Casa Grande Canal run east to west through the Project Site. The Project Site is located outside any Special Flood Hazard Areas (100-year floodplains) as identified by the Federal Emergency Management Agency or the Flood Control District of Pinal County (Pinal County 2023).

A.6 Public Services/Utilities

Existing utilities within the Project vicinity include a 500-kV, Tucson Electric Power Company-owned (TEP) transmission line, and the Pinal Central Substation (jointly owned by many utilities including Salt River Project-owned (SRP) and TEP). SunZia Transmission, LLC's transmission infrastructure, planned for construction completion in 2025, would also cross the northern portion of the Project Site. The Project's proposed switchyard would connect to the regional power grid via SunZia Transmission, LLC infrastructure. There are also numerous electrical distribution lines, communications cables, irrigation canals, laterals, and ditches on and in the vicinity of the site.

The Pinal County Sheriff's Office provides law enforcement services to the Project vicinity, and the Regional Fire and Rescue Department provides subscription-based fire and emergency medical services to the region. New or additional public services resulting from the amendment are not anticipated. Any water required for construction or operations is expected to be obtained from existing wells on-site. See Section C.2.8 for more details. Water required for construction and/or operations for the Project would be significantly less than water consumption of current farming operations. Pattern plans to work with local farmers and businesses to allocate any of its unused water rights during construction and operations.

B. PROJECT NARRATIVE

B.1 Introduction

This narrative report provides the required information to support Pattern's request for a Major Comprehensive Plan Amendment (MCPA) for the Cielo Solar Project on unincorporated land in Pinal County. Pattern is requesting this amendment to construct and operate a PV solar facility, BESS,

substation, switchyard, and other electrical infrastructure on the Project Site, which consists entirely of privately owned parcels controlled by Pattern (see Figure 1).

Should Pinal County approve the MCPA, Pattern intends to subsequently pursue and apply to Pinal County for a zoning change from *General Rural* (GR) to *Industrial Zoning* District (I-3) with a Planned Area Development overlay to allow for the development of the PV solar facility.

Changing the Comprehensive Plan land use designation from Moderate Low Density Residential and Employment to Green Energy Production and subsequently granting a zoning change from GR to I-3 would allow development of the Project. The Project would increase the production of clean, renewable energy for Pinal County and surrounding areas, where electrical demand is increasing. With its battery storage component, the Project also has the potential to boost grid reliability which may be of extra importance considering last year's cancellation of the nearby Coolidge gas plant expansion. Additionally, the Project would generate a positive economic effect in the form of local, short- and long-term job creation, tax benefits to Pinal County, and increased economic activity from Project contractors transacting with local businesses. Pattern would use local contractors and materials to the extent practical for the Project.

The Project Site is well suited for the proposed changes to the Comprehensive Plan. The primary criteria for determining the location of power generation facilities include the existence of compatible adjacent and nearby land uses; minimal topographic variability; and the proximity to existing electrical infrastructure. Figures 1, 2, and 3 above show the Project Site, Study Area, and existing compatible nearby land uses.

B.1.1 Project Description

As the solar PV panels generate power, electricity will either be dispatched to the regional grid or directed to the BESS where the energy will be stored and dispatched to the grid at a later time when that power is needed. To reach the regional grid, the power flows through inverter stations to convert the electricity to alternating current (AC) and a transformer at the Project Substation increases the voltage to 500 kV. Electricity will then flow through a short gen-tie line and into a switchyard that will connect directly to the planned SunZia Transmission LLC transmission line infrastructure. Alternatively, the power generated by the solar PV panels may be directed into the BESS via a network of underground, alternating current (AC), 34.5-kV collector circuits, and stored for later use. When it is advantageous to do so, the BESS sends electricity to the regional power grid via the Project Substation, gen-tie, and then switchyard.

Pattern plans to use solar PV panels equipped with an anti-reflective coating, mounted on a single-axis tracking system to maximize the Project's overall efficiency. The tallest position of the PV panels is expected to be 15 feet above the ground surface. When complete, the PV solar facility would have an expected nameplate generating capacity of 150 megawatt (MW) AC. The BESS would consist of approximately 300 enclosures housing lithium-ion battery cells; as currently designed, the BESS would have storage capacity of 150 MW, capable of delivering 600 megawatt-hours (MWh). Pattern plans to begin Project operations as early as December 2025.

Pattern has a well-established record of designing, constructing, and operating projects in a manner that promotes both public and worker safety. Access to the Project Site, including the Project Substation and BESS, will be restricted to authorized personnel by perimeter fencing and locked access gates. The BESS will be designed in compliance with all applicable electrical and fire safety codes, including National Fire Protection Association 855: Standard for the Installation of Stationary Energy Storage Systems. The BESS will be equipped with numerous, redundant safety features including a battery management system

(BMS), energy management system (EMS), thermal management system, fire alarm system, and container ventilation. The EMS will allow Pattern to remotely monitor BESS conditions (e.g., battery cell voltage, current, temperature) on a continuous basis. The EMS will include automated controls that would turn off and isolate equipment (e.g., battery cells) that operates outside of pre-determined tolerance levels. The thermal management system will maintain safe operating temperatures within each enclosure. The fire alarm system is expected to include optical smoke detectors, heat detectors, gas monitoring equipment, and siren alarms. In the unlikely event of a fire, a water-based fire suppression system would be utilized, and the ventilation system of the affected container would prevent the buildup of potentially hazardous gases. The BESS will be designed with proper spacing between battery containers and other electrical equipment and will be maintained free of vegetation. The Project would also include an O&M building to provide storage for parts and equipment and office space for O&M personnel. The O&M building would also house the Supervisory Control and Data Acquisition (SCADA) equipment that monitors and controls the Project's electrical output. It will be located adjacent to the Project Substation on approximately one acre of land. It will include an approximately 4,000 square foot building and parking for operations workers. Pattern plans to coordinate its plans for the O&M building with Pinal County.

Pattern will require construction contractors to install temporary erosion and sediment control features to prevent construction-period stormwater discharges. The Project Site is relatively flat and will require only minor grading. The Project will be designed with appropriately sized, permanent stormwater management features, such that post-construction stormwater discharges do not exceed existing conditions. Refer to Section C.2.8 for further information.

B.1.2 *Project Decommissioning*

Pattern Energy expects this Project to operate for at least 25 years. Decommissioning the Project will involve removing equipment in accordance with industry standards and appropriate site restoration. Where possible, equipment in good working condition may be repurposed for other projects. Other materials will be returned to their manufacturer, recycled by specialized contractors, or disposed of at an appropriate facility. Site restoration will include filling depressions left from removing equipment and re-seeding as dictated by agreements with private landowners. As design and equipment selection is finalized, Pattern will prepare a Decommissioning Plan for the Project outlining expected timelines, sequences, and recycle or disposal procedures for the various Project components.

B.2 Physical Settings, Existing Uses, and Relationship to Surrounding Land Uses

The Project is located entirely in unincorporated Pinal County, approximately 8 miles south of central Coolidge; the City of Coolidge borders the Project Site to the south. The entire Project Site is zoned as GR and consists of privately owned parcels controlled by Pattern. Existing land uses at the Project Site include active farmland, fallow farmland, and vacant lands. The Project Site does not contain any federal, state, or local municipal properties. The Project Site includes one residential structure and several outbuildings. The Casa Grande Canal and Florence-Casa Grande Canal bisect the Project Site; both canals are owned by the San Carlos Irrigation District, under the jurisdiction of the Bureau of Indian Affairs San Carlos Irrigation Project. Underground irrigation facilities owned by the Hohokam Irrigation and Drainage District, under jurisdiction of the Bureau of Reclamation, run parallel to portions of North La Palma Road, East Arizona Road, and East Selma Highway, within the Project Site.

Existing land uses within the Study Area (i.e., within 1 mile of the Project Site) include agriculture, single family low density, single family medium density, single family high density, commercial, solar facilities,

utility facilities, and vacant land (see Figure 2). The SRP-owned Pinal Central substation is approximately 0.5 mile west of the Project Site; high-voltage transmission lines bisect or border the northern portion of the Project Site. The nearest federal land is Bureau of Land Management–owned land located approximately 1.8 miles east of the Project Site. The nearest state-owned land is Arizona State Trust Land, adjacent to the western portion of the Project Site and within the Study Area.

Transportation and travel routes in the Project vicinity include I-10 running east-west approximately 8 miles southwest of the Project Site, SR 87 running north-south and bordering a portion of the Project Site to the east, SR 287 running east-west approximately 1 mile north of the Project Site, and several paved and unpaved local roads. In addition, the I-8/I-10 interchange is approximately 9.5 miles west of the Project Site. According to the Arizona Department of Transportation (ADOT), SR 87 and Selma Highway are designated as “major rural collectors”; the remainder of roadways intersecting or bordering the Project Site are designated as “rural local” (ADOT 2022). The Project will identify and adhere to the required setbacks along all the roadways adjacent to or that intersect the project site.

There are no areas designated as Open Space on the Project Site or in the Study Area. A multi-use trail corridor is proposed along the Florence-Casa Grande Canal, which bisects the southern portion of the Project Site (Pinal County 2007). The Project would not impact any planned recreational uses.

C. COMPREHENSIVE PLAN AMENDMENT CRITERIA

Pinal County describes the overall purpose of the Comprehensive Plan as:

The landmark document to steer the County on a positive course of action to manage growth, preserve the quality of life, and promote sustainability. It is a long-term vision that promotes effective economic vitality while ensuring environmental stewardship. The Plan articulates the vision and outlines the strategic direction to position Pinal as a vibrant, healthy, and economically sustainable region within the state of Arizona (Pinal County 2019).

The amendment is consistent with the vision components of the Comprehensive Plan, as discussed in the next section of this application. These include the following: Sense of Community; Mobility and Connectivity; Economic Sustainability; Open Spaces and Places; Environmental Stewardship; Healthy, Happy Residents; and Quality Educational Opportunities.

To ensure conformity with the Comprehensive Plan, all development proposals must meet the criteria outlined in the Plan’s compliance checklist as found in Appendix A of the Comprehensive Plan (Pinal County 2019). The following sections are provided in response to the criteria listed in the Comprehensive Plan compliance checklist, which is focused on two major components:

- Consistency with Pinal County’s Vision Components
- Consistency with the Plan’s Key Concepts illustrated on Land Use, Circulation, and Economic Development graphics.

C.1 Consistency with Pinal County’s Vision Components

The proposed land use associated with this amendment would be consistent with the goals, objectives, and policies of the current Comprehensive Plan.

The chapters of the Comprehensive Plan include the following: Sense of Community; Mobility and Connectivity; Economic Sustainability; Open Spaces and Places; Environmental Stewardship; Healthy,

Happy Residents; and Quality Educational Opportunities. These chapters are also the vision components and are discussed below with specific responses to the applicable questions included in the Comprehensive Plan compliance checklist found in Appendix A of the Comprehensive Plan (Pinal County 2019).

C.1.1 Sense of Community

Is the proposal consistent with the Sense of Community vision component?

The amendment is consistent with the Sense of Community vision component. Sense of Community is largely achieved by paying close attention to residential and commercial land uses in the area. Densities of development either encourage or discourage a sense of community based on the land uses described in the Comprehensive Plan. To that end, the Comprehensive Plan, Chapter 3: Sense of Community, includes Policy 3.1.1.5: “locate more impactful commercial and industrial uses in areas away from homes where negative impacts can be mitigated.” The Project Site is in an area predominantly characterized by rural land uses including active and fallow agricultural land, low density residential, and vacant land. As noted above, high-voltage transmission lines and canals bisect the Project Site.

Other existing and planned solar developments proximate to the Project Site provide evidence of the Project’s compatibility with the land use changes in this area, as well as the attractiveness of this location by renewable energy developers. The Pinal Central Energy Center, a 20-MW solar generating facility and 10-MW BESS, is located approximately 0.3 mile northwest of the Project Site. Saint Solar, an approximately 100-MW solar generating facility began operation in 2020. The Saint Solar site is located within the City of Coolidge, approximately 0.5 mile east of the Project Site, and includes a 230kV substation. East Line Solar, an approximately 100-MW solar generating facility began operation in 2020. The East Line Solar site is located approximately 0.5 mile east of the Project Site and includes an O&M building. Central Line Solar, an approximately 100-MW solar generating facility is under construction. The Central Line Solar site is located just south of the East Line Solar site. Storey Solar, a proposed 88-MW capacity solar generating facility and BESS, is located approximately 1.0 mile northeast of the Project Site in Pinal County and the city of Coolidge. Storey Solar is scheduled to begin operation as early as June 2023. The amendment would be consistent with the Sense of Community vision as described in the Comprehensive Plan by locating the Project away from existing sensitive land uses (e.g., established residential neighborhoods) and consolidating the Project with existing energy facilities and compatible land uses such as agricultural land that is no longer considered viable (see Section C.2.5 for additional information).

C.1.2 Mobility and Connectivity

Is the proposal consistent with the Mobility and Connectivity vision component?

The amendment is consistent with the Mobility and Connectivity vision component. Chapter 4: Mobility and Connectivity of the Comprehensive Plan explains Pinal County’s vision to strive to serve persons with multimodal transportation options in transportation corridors at appropriate locations. Under the goals, objectives, and policies in this chapter, Policy 4.1.1.4 states that “*The County will evaluate the transportation impacts of all proposed Comprehensive Plan amendments and rezonings on Pinal County’s regional transportation system*” (Pinal County 2019). Power generation facilities on the Project Site would have minimal impact on planned land uses from traffic and the goals that address this vision.

During Project construction, traffic on local roadways would increase due to contractors arriving at and departing from the Project Site and the routine delivery of equipment and materials. Pattern anticipates 260 to 360 trips per day during Project construction, lasting approximately 12 months, for contractors.

During the year of construction Pattern anticipates 1,200 to 1,800 delivery trips. Contractors and equipment deliveries would access the site predominantly from East Laughlin Road, East Early Road, East Selma Highway, North La Palma Road, and SR 87. Pattern expects that existing roadways and railroads are sufficient to accommodate construction traffic. Any internal access roadways would be constructed in accordance with all applicable state or local roadway standards. Pattern will work with Pinal County Public Works Department and ADOT to preserve the alignments of East Laughlin Road, East Early Road, East Selma Highway, North La Palma Road, and SR 87, as necessary.

During the operational phase of the Project, Pattern anticipates 15 trips per day, related to routine inspection and maintenance work performed by permanent site operations staff (2 to 6 employees). Because of the short construction process and minimal traffic to the site during operation, the transportation and traffic impacts associated with the project will be minimal and meet the standards of Pinal County's mobility and connectivity plans.

C.1.3 *Economic Sustainability*

Is the proposal consistent with the Economic Sustainability vision component?

The amendment is consistent with the Economic Sustainability vision component. Balancing residential growth with job creation is the central theme of the Economic Development element. The Economic Development element concentrates on the County's ability to provide quality employment opportunities for its residents by setting specific goals, objectives, and policies. Two main goals that address this vision are to:

1. *Encourage a full range of quality jobs for residents of Pinal County and increase the jobs per capita ratio.*
2. *Encourage sustainable development consistent with Pinal County's environmental preservation philosophy (Pinal County 2019).*

The amendment would further promote economic diversity and employment opportunities in the area by providing direct and indirect employment during the construction and operational life of the proposed facility. The Project would provide construction employment opportunities, which is considered an important employment sector for Pinal County (Pinal County 2019). During construction, Pattern anticipates 200 to 250 jobs, with an anticipated 2 to 4 full-time employees during the Project's operations. Given the other solar construction in the County, this project will help to sustain more than 200 permanent construction jobs in the County. Construction workers will be able to move from project to project while staying rooted in Pinal County. The Comprehensive Plan, Chapter 5: Economic Sustainability, highlights the importance of balancing employment opportunities with residential land use and suggests that, in recent years, residential development has outpaced local employment opportunities (Pinal County 2019). The Comprehensive Plan also notes that "residential land uses create more expenditure than revenues" (Pinal County 2019). Pattern notes that, elsewhere in Pinal County, datacenters and manufacturing centers have co-located adjacent to renewable energy projects. Renewable energy credits, direct service, or "micro-grid" systems are attractive propositions to energy-intensive facilities interested in lowering their carbon footprint. Pattern could accommodate direct service to a datacenter or manufacturing facility, in the instance that such a development is proposed in the vicinity of the Project. The Comprehensive Plan indicates that "industrial, office, business park, and warehousing and distribution" are consistent with the mix of uses within an Employment designation (Pinal County 2019). As noted by the Board of Supervisors in previous proceedings, major corporation's and business' sustainability and energy goals to achieve net zero carbon emission or receive 100 percent of their energy

from renewable energy sources, is growing. The project would increase Pinal County's attractiveness for these businesses to locate, contributing to the economic benefits for the community.

Additionally, the Comprehensive Plan indicates that a large portion of the County's planning area is designated as Moderate Low Density Residential. Therefore, to provide flexibility and promote mixed use concepts that will result in sustainable developments, alternative land uses may be allowed if certain guidelines are met. Within this land use designation "office and light industrial" developments would be permitted uses (Pinal County 2019). Refer to section C.1.1 for a detailed discussion of locating other existing and planned solar developments proximate to each other. Given its proximity to existing and planned transmission and solar energy facilities, the Project Site is less suitable for new housing developments. The Project will generate an estimated millions in property taxes for the County during its operating life. Unlike a residential development, the additional tax base from the Project will not substantially increase demand for municipal services such as roads, schools, or emergency services. The Project will increase the land's taxable value and contribute to local employment opportunities while adding little, if any, burden to public services.

The Comprehensive Plan establishes that the Economic Sustainability vision component is "directly impacted by energy." Specifically, the Comprehensive Plan states that "without ample and reliable energy, Pinal County will not be competitive in attracting business and industry which will bring new jobs" and that "energy costs have a direct impact on the cost of living and doing business" (Pinal County 2019). Power generated by the proposed facility could potentially support residential growth and job creation by providing clean, safe, affordable, and efficient electricity to local communities and the region. The Project Site is the ideal location for this land use due to its close proximity to existing energy infrastructure (i.e., SunZia Transmission and Pinal Central Substation) as well as its flat terrain and abundant sunshine. These factors mean the build cost is low relative to other locations in Pinal County and could therefore sell power at lower cost than solar facilities built in other parts of the County. Those lower power sale prices would result in lower energy bills for Pinal County residents.

The amendment would be compatible with the vision outlined in Chapter 5: Economic Sustainability as described in the Comprehensive Plan.

C.1.4 Open Spaces and Places

Is the proposal consistent with the Open Spaces and Places vision component?

The amendment is consistent with the Open Spaces and Places vision component. According to the Comprehensive Plan, siting of specific proposed open space and trails is based on the "suitability of activities, surrounding land uses, ecological factors, topography, viewsheds, and cultural resources" (Pinal County 2019). The Comprehensive Plan also notes that "conserving existing natural resources and cultural heritage" is an important aspect of the Open Spaces and Places vision component (Pinal County 2019). Pattern is designing the Project in a manner that minimizes impacts to the natural environment and preserves cultural resources (see Section C.2.7 for further details).

There are no existing dedicated Open Space areas, designated scenic resources, or designated view corridors within the Study Area. The Comprehensive Plan (Pinal County 2019) and the Open Space and Trails Master Plan (Pinal County 2007) indicate that a multi-use trail corridor is proposed along the Florence-Casa Grande Canal, which bisects the southern portion of the Project Site. Neither the proposed amendment nor the Project would conflict with this proposed land use. Pattern will work with the County to ensure the Project is minimizing any potential impacts to the proposed multi-use trail corridor. The Project is already planned to have conservative setbacks from the proposed corridor route. The Project would not impact any planned recreational uses.

C.1.5 Environmental Stewardship

Is the proposal consistent with the Environmental Stewardship vision component?

The amendment is consistent with the Environmental Stewardship vision component. Throughout initial Project planning, Pattern has considered potential environmental impacts and is committed to minimizing impacts to the human, natural, and cultural environments that would result from the proposed development. Throughout its development and operation, the Project will comply with all applicable federal, state, and local laws, regulations, and guidelines.

Solar generation conserves natural resources, and battery energy storage facilitates the integration of renewable energy sources into the power grid (see Section C.2.7 for additional information). The Comprehensive Plan, Chapter 7: Environmental Stewardship, states that “Pinal County will provide support for the development and location of renewable sources” and that “the expansion of renewable energy opportunities should be supported by the County through its land use planning and permitting process” (Pinal County 2019). Specifically, Policy 7.6.2.1 states that the County will “identify through specific area planning potential locations for renewable energy production” (Pinal County 2019). The Project would provide a source of renewable energy production and, therefore, is consistent with the Environmental Stewardship vision of the Comprehensive Plan as it relates to energy.

Regarding air quality and water resources, the Comprehensive Plan includes Goal 7.1.3, “improve air quality,” and Goal 7.2.2, “encourage the maximum conservation of water resources currently available in Pinal County” (Pinal County 2019). As a renewable energy source, the Project would not generate any air emissions and would require far less water compared to traditional fossil fuel-based energy sources. As such, the Project would allow the County to further its Environmental Stewardship objectives as they relate to promoting energy, without compromising air quality or water resources.

Chapter 7 of the Comprehensive Plan also notes that environmentally sensitive areas require special consideration during the development design process. Refer to Section C.2.7 for a discussion of biological and cultural resources at the Project Site.

Except for land subsidence, the Project Site does not contain any “environmentally sensitive areas” as described in the Comprehensive Plan Chapter 7: Environmental Stewardship (see Section C.2.1 for a detailed discussion of land subsidence). Pattern will continue to develop this Project in a manner that minimizes impacts to the human, natural, and cultural environments.

Should the County approve the requested amendment, Pattern intends to coordinate with the Arizona Game and Fish Department (AGFD) and Pinal County Parks and Recreation prior to submitting a rezoning application to the Pinal County Planning and Zoning Commission.

C.1.6 Healthy, Happy Residents

Is the proposal consistent with the Healthy, Happy Residents vision component?

The amendment is consistent with the Healthy, Happy Residents vision component. Factors that contribute to Healthy, Happy Residents include well-designed neighborhoods, the cost of housing and public services, and the availability of healthy foods. Refer to section C.1.1 for a detailed discussion of locating other existing and planned solar developments proximate to each other and the high costs of public infrastructure. Chapter 8: Healthy, Happy Residents of the Comprehensive Plan includes the following goals:

Goal 8.3: Promote a philosophy that new growth pays for its share of financial impacts in an equitable manner.

Goal 8.4: Maintain long-term financial sustainability for Pinal County.

The amendment would be consistent with this vision and would contribute to maintaining long-term financial stability (Goal 8.4) by increasing the tax base for Pinal County, as well as by contributing clean, safe, and affordable energy to the regional power grid. Additionally, the amendment would be consistent with Goal 8.3 because Pattern is committed to paying its proper and reasonable share of the costs of new infrastructure, services, and other public improvements that may be required for this Project. While no Project-related public expenditures are currently proposed, the Project may require internal access roads that intersect with roadways under the jurisdiction of the Pinal County Public Works Department. Pattern would pay for and construct any such access roads in coordination with the Pinal County Public Works Department and would not require public expenditures.

C.1.7 *Quality Educational Opportunities*

Is the proposal consistent with the Quality Educational Opportunities vision component?

As stated in the Comprehensive Plan compliance checklist found in Appendix A of the Comprehensive Plan (Pinal County 2019), this vision component may not apply to all projects. Pattern does not anticipate that this vision component would apply to this Project because no educational opportunities are associated with the Project.

C.2 Consistency with the Plan’s Key Concepts Illustrated on Land Use, Economic, and Circulation Graphics

C.2.1 *Consistency with the Land Use Designation Shown on the Graphics*

The Comprehensive Plan’s Land Use graphic shows that the western portion of the Project Site is designated for Moderate Low Density Residential and the eastern portion for Employment; surrounding land use designations include General Public Facilities/Services, high density residential, and general commercial (Pinal County 2019 (see Figure 3)). This application for a proposed MCPA is requesting to change the land use designations at the Project Site from Moderate Low Density Residential and Employment to Green Energy Production.

The Pinal County Land Use Plan designates a large, continuous swath of land north and west of the Project Site for Moderate Low Density Residential. If approved, the Project Site would account for a relatively small proportion (approximately 0.8%) of that area, leaving a significant, continuous area for future Moderate Low Density Residential developments. The Project Site is situated along part of the Moderate Low Density Residential area’s eastern boundary and, as such, developing the Project would not result in an “island” designated for Green Energy Production surrounded by residential land use. Furthermore, the Comprehensive Plan suggests that the most intense development in the “West Pinal growth area” will likely be focused near the juncture of I-8 and I-10 (Pinal County 2019). The Project Site is not in the immediate vicinity of the I-8/I-10 interchange and is unlikely to preclude other employment or residential developments from occurring closer to the interstate highways.

The Project Site would account for a similarly small proportion (approximately 3.6%) of the north-south-oriented Employment area identified by the Land Use Plan. To the extent that the Employment area is

intended to be a corridor along SR 87, the Project only borders the highway for approximately 0.5 miles and redesignating the Project Site as Green Energy Production would not compromise the continuity of the Employment area. The Comprehensive Plan also notes that “most of the employment opportunities will continue to occur within municipalities, due to the jurisdictions’ ability to provide needed public services and incentives for economic development” (Pinal County 2019). See section C.1.3 for further details.

The Project is a sustainable land use alternative to the residential and commercial developments called for by the current Land Use Plan. The Project Site is subject to ongoing land subsidence that is actively monitored by the Arizona Department of Water Resources (ADWR). Recent ADWR mapping in the Eloy-Coolidge-Florence area indicates land subsidence rates at the Project Site as high as 0.8 inch per year (ADWR 2020, 2021). The ADWR notes that differential subsidence and earth fissures, a related hazard, can damage infrastructure, including residential structures, driveways, and fences (ADWR 2021). The Comprehensive Plan states that land subsidence and earth fissures “may cause significant damage to infrastructure” and that “development on lands that have historically experienced subsidence or fissuring require special consideration during the design-development process, and may require engineering solutions to safeguard people and property from the hazards” (Pinal County 2019). Portions of the Moderate Low Density Residential area closer to I-10 are outside of the ADWR-delineated subsidence area and, therefore, may be more suitable for housing developments. Designating the Project Site as Green Energy Production is appropriate because the Project is less susceptible to damage from land subsidence compared to residential or commercial land uses and, once operational, the Project would require little or no water.

Finally, the Land Use Plan states that it “must be flexible enough to adjust to changing conditions and economic opportunities” (Pinal County 2019). Relatively low solar build costs, versus other locations in the County, make this an ideal location for solar development and could result in lower energy bills for Pinal County residents. Large setbacks, well beyond County requirements, maintain the potential for non-solar development along Selma Highway and State Route 87. After decommissioning, the land could be changed back to its original use or an alternative use, whereas, if a new housing development were placed at the Project Site and later the County wanted to convert the land back to farmland, the County would not be able to readily restore the land for agricultural use. Building solar at the Project Site allows for economic benefit today and maintains flexibility for new economic opportunities at the Project Site in the coming decades. Given the Project’s consistency with the County’s Vision components, described above, and the reasons noted in this section, Pattern submits that designating the Project Site as Green Energy Production would be consistent with the County’s Land Use Plan.

C.2.2 Consistency with the Mixed Use Activity Center Concepts

The Project Site does not overlap a Mixed Use Activity Center. The nearest Mixed Use Activity Center is a Mid Intensity Activity Center approximately 3.5 miles east of the Project Site.

C.2.3 Consistency with the Planning Guidelines Described in the Land Use Element

The amendment seeks to change existing designations from Moderate Low Density Residential and Employment to Green Energy Production. The Comprehensive Plan does not include planning guidelines for Green Energy Production. In general, the Comprehensive Plan encourages developments that are compatible with surrounding land uses. As described in Sections B.2 and C.1.1, the Project would be located near existing large-scale solar PV developments, high-voltage transmission lines, substations, and agricultural and vacant land.

The amendment would be a step toward adding state-of-the-art renewable energy and battery energy storage facilities, which would likely contribute toward meeting regional electric demand.

C.2.4 *Quality Employment Opportunities County-Wide*

The amendment is consistent with the Economic Development element. The amendment would further promote economic diversity and employment opportunities in the area by providing quality jobs during the construction and operational life of the facility. With other utility infrastructure construction in the County, this project will help sustain permanent construction jobs in the County. Construction workers will be able to move from project to project while staying rooted in Pinal County. As described in Section C.1.3, above, the amendment would be compatible with the Economic Sustainability Vision outlined in Chapter 5 of the Comprehensive Plan. Pattern notes that the Comprehensive Plan's Economic Development Plan does not identify any areas for Green Energy Production, indicating that any land designated as such must be done so via a Comprehensive Plan amendment. Additionally, a good portion of the referenced approximately 20,000 acres of land redesignated Green Energy Production since 2019 lay within nearby incorporated municipalities that do not allow for solar development (e.g., Coolidge).

C.2.5 *Viable Agriculture, Equestrian, and Rural Lifestyle*

The amendment would cluster industrial (utility) development into an area that now supports several existing and planned utility uses, thus limiting dispersed impacts to open space and agriculture, or sprawl. Although much of the Project Site and vicinity contain active agricultural areas the Project will occupy approximately 0.11% of irrigated croplands in the county. Additionally, with the anticipated reduction in the allocation of the canal water supply for irrigation, sustaining regular crop yields is less viable, with many farmers following their croplands to convert the land to energy generation and other uses. Just this year, the tenant farmer at the Project Site had to fallow another 300 acres due to a lack of available water. Pattern has water rights on the Project Site and plans to reallocated unused water rights to local farmers and businesses on an annual basis. After the Project decommissioning, equipment will be removed, and the Project Site will be restored and available for agricultural use. If instead a new housing development were placed at the Project Site and later the County wanted to convert the land back to farmland, the County would not be able to readily restore the land for agricultural use. Additionally, planning guidelines specify that solar projects are compatible with the county's farming heritage (Pinal County 2019).

C.2.6 *System of Connected Trails and Preservation of Open Space*

The Open Spaces and Places chapter of the Comprehensive Plan's vision is to site specific proposed open space and trails based on the "suitability of activities, surrounding land uses, ecological factors, topography, viewsheds, and cultural resources" (Pinal County 2019). Pinal County's Open Space and Trails Master Plan promotes the quality of life of the region by providing areas of passive and active recreational opportunities, while conserving existing resources, such as natural scenic beauty, view corridors, wildlife habitat, agricultural resources designated as at risk, and cultural heritage for the benefit of present and future generations (Pinal County 2007).

There are no existing dedicated Open Space areas, designated scenic resources, or designated view corridors within the 1-mile Study Area. The Comprehensive Plan and the Open Space and Trails Master Plan indicate that a multi-use trail corridor is proposed along the Florence-Casa Grande Canal, which bisects the southern portion of the Project Site. Pattern will work with the County to ensure the Project is minimizing any potential impacts to the proposed multi-use trail corridor. The Project is already planned to have conservative setbacks from the proposed corridor route. Neither the amendment nor the Project would impact any planned recreational uses.

The amendment would be compatible with Pinal County's vision regarding open space and trails.

C.2.7 Natural Resource Conservation

Pattern has considered potential environmental impacts of the Project and will seek to minimize and mitigate impacts where possible by minimizing ground disturbance and instituting appropriate best practices in siting, constructing, and operating of the Project.

Based on preliminary reviews, the Project Site is in an area with minimal sensitive environmental resources. More detailed environmental studies are anticipated as development and design advance in order to minimize impacts to sensitive resources. Consultation with appropriate natural resource agencies and acquisition of permits related to those resources may also be pursued to identify best management practices and maintain compliance with applicable federal, state, and local environmental laws. Results of a preliminary environmental review of the Project Site are described below.

C.2.7.1 BIOLOGICAL RESOURCES

The U.S. Fish and Wildlife Service (USFWS) maintains a list of protected species and the critical habitat known to occur in each Arizona county. These species are currently listed or are proposed for listing as endangered or threatened under the Endangered Species Act (ESA) (16 United States Code [USC] 1531 et seq.). The list also includes candidate species proposed as threatened or endangered, species delisted from protection under the ESA, and species delisted from protection under the ESA but currently proposed for relisting. The ESA specifically prohibits the "take" of a listed species. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct." Some bird species also receive legal protection under the federal Migratory Bird Treaty Act (MBTA) (16 USC 703–712).

Only species listed by the USFWS are afforded protection under the ESA. The special-status species evaluated in this document were based on the list of endangered, threatened, and proposed delisted species for Pinal County, Arizona, available at the USFWS website (USFWS 2022). The USFWS species list is provided in Appendix B.

Of the 21 species listed under the ESA for Pinal County by the IPaC Project-specific list (see Appendix B), only the monarch butterfly (*Danaus plexippus*), a candidate species, has the potential to occur on the Project Site. For the remaining 20 ESA-listed species, the Project Site is beyond the known geographic or elevational range of the species, or it does not contain vegetation or landscape features known to support these species. No designated or proposed critical habitat occurs on the Project Site.

As is common in agricultural areas, the Study Area has flowering plants that could serve as nectar sources for monarch butterfly during migration. During a site visit conducted in 2018, there were no breeding habitat present as no milkweed species were observed at the Project Site. Given the abundance of flowering plants in the Study Area, the proposed Project *may impact individuals but is not likely to result in a trend toward federal listing or loss of viability*.

It is unlikely that the proposed Project would have an effect on the remaining 20 species listed under the ESA. Dispersal habitat requirements, potential for occurrence, and possible effects of the Project on these species are summarized in Table 2. The effects determinations for all ESA-protected species are provided for feasibility purposes only. Additional details regarding the proposed Project construction and operations (such as timing, erosion controls, and/or noise levels) could change the potential to affect species. Additionally, an on-site visit with full site access will be conducted to validate the effects determinations that are specified herein.

To help validate IPaC findings, SWCA conducted a search of the AGFD Heritage Data Management System (HDMS) database, which tracks records for federally listed species and other species of special concern. SWCA accessed HDMS through the AGFD Arizona Heritage Geographic Information System (AZHGIS) online environmental review tool to determine whether any federally proposed or designated critical habitat or special-status species have been documented on or near the Project Site (AGFD 2022). The search results are included in Appendix C, which indicates that no critical habitat exists and no federally listed species occurrences have been reported on the Project Site. Federally listed species are summarized in Table 2.

Table 2. Federally Listed Species Potentially Occurring in Pinal County, Arizona

| Common Name (Species Name) | Status* | Range or Habitat Requirements | Potential for Occurrence on Project Site | Determination of Effect |
|---|---------|--|--|----------------------------|
| Acuña cactus (<i>Echinomastus erectocentrus</i> var. <i>acunensis</i>) | E | Occurs in disjunct populations across southern Arizona on well-drained gravel ridges and knolls on granite-derived soils. It grows in the Arizona Upland subdivision of the Sonoran desertscrub plant association at elevations between 1,198 and 2,789 feet above mean sea level (amsl). This species occurs in Maricopa, Pima, and Pinal Counties. | Unlikely to occur. There are no gravel ridges or knolls with granite-derived soils, and the Project Site is not within the current range of this species. | No effect. |
| Arizona hedgehog cactus (<i>Echinocereus arizonicus</i> var. <i>arizonicus</i>) | E | Found on open slopes of rugged, steep-walled canyons with granite or dacite bedrock among boulder piles in Arizona desert grassland and in the understory of shrubs in the ecotone between Madrean evergreen woodland and interior chaparral at elevations between 3,400 and 5,300 feet amsl. This species is found in Gila, Maricopa, and Pinal Counties. | Unlikely to occur. There are no canyons, boulder piles, or slopes suitable for the species on the Project Site. The Project Site is below the elevational range for this species and is outside the known range of this species. | No effect. |
| California least tern (<i>Sterna antillarum browni</i>) | E | Forms nesting colonies on barren to sparsely vegetated areas. Nests in shallow depressions on open sandy beaches, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, and drainage systems at elevations below 2,000 feet amsl. Found in Maricopa, Mohave, and Pima Counties. | Unlikely to occur. Suitable habitat for this species is not present at the Project Site. | No effect. |
| Chiricahua leopard frog (<i>Rana chiricahuensis</i>) | T | Historically occurred in cienegas, pools, livestock tanks, lakes, reservoirs, streams, and rivers at elevations of 3,281 to 8,890 feet amsl. It is now often restricted to springs, livestock tanks, and streams in the upper portions of watersheds where non-native predators either have yet to invade or habitats are marginal for them. | Unlikely to occur. There are no permanent water sources suitable for this species on or adjacent to the Project Site. | No effect. |
| Gila chub (<i>Gila intermedia</i>) | E | Found in pools in smaller streams, cienegas, and artificial ponds ranging in elevation from 2,000 to 5,500 feet amsl. Highly secretive, adults prefer deeper, quieter waters in pools and eddies below riffles or runs, often remaining in cover from terrestrial vegetation, boulder, and fallen logs. | Unlikely to occur. The canal on the Project Site is not suitable for this species, and no suitable habitat is present on or adjacent to the Project Site. | No effect. |
| Gila topminnow (incl. Yaqui) (<i>Poeciliopsis occidentalis</i>) | E | Occurs in small streams, springs, and cienegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system. | Unlikely to occur. The canals at the Project Site are not suitable for this species, and no suitable habitat is present on or adjacent to the Project Site. | No effect. |
| Gila trout (<i>Oncorhynchus gilae</i>) | T | Occurs in small mountain headwater streams at elevations ranging from 5,500 to 9,200 feet. This species prefers streams with extensive cover such as vegetation and undercut banks, and during drought years it tends to be confined to pools with suitable depth and cover. | Unlikely to occur. The canals at the Project Site are not suitable for this species, and no suitable habitat is present on or adjacent to the Project Site. | No effect. |

| Common Name (Species Name) | Status* | Range or Habitat Requirements | Potential for Occurrence on Project Site | Determination of Effect |
|--|---------|---|--|--|
| Huachuca water umbel (<i>Lilaeopsis schaffneriana</i> var. <i>recurva</i>) | E | Semi-aquatic to aquatic perennial found in shallow water or saturated soil of cienegas or marshy wetlands at elevations between 4,000 and 6,500 feet amsl. Known from the Huachuca Mountains, Canelo Hills, headwaters of the Santa Cruz River to Black Draw, and the San Pedro River. | Unlikely to occur. There are no wetlands in the project area, and the project area is outside the range of this species. | No effect. |
| Loach minnow (<i>Tiaroga cobitis</i>) | E | Occurs in turbulent, rocky riffles of mainstream rivers and tributaries at or less than 7,200 feet amsl. Habitat that is occupied is relatively shallow and has a moderate to swift current, with gravel to cobble-dominated substrates. | Unlikely to occur. The canals at the Project Site are not suitable for this species, and no suitable habitat is present on or adjacent to the Project Site. | No effect. |
| Mexican spotted owl (<i>Strix occidentalis lucida</i>) | T | Found in mature montane forests and woodlands and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak vegetation types. Generally, nests in older forests of mixed conifers or ponderosa pine (<i>Pinus ponderosa</i>)—Gambel oak (<i>Quercus gambelii</i>). Nests in live trees on natural platforms (e.g., dwarf mistletoe [<i>Arceuthobium</i> spp.] brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet amsl. | Unlikely to occur. The Project Site does not contain suitable habitat for this species, and the Project Site is below the known elevational range of this species. | No effect. |
| Mexican wolf (<i>Canis lupus baileyi</i>) | EXPN | Prefers mountain woodlands where cover, water, and suitable ungulate prey occur. | Unlikely to occur. The project area is distant from known occurrences of this species and does not contain suitable mountainous habitat. | No effect. |
| Monarch butterfly (<i>Danaus plexippus</i>) | C | Habitat is complex. Generally, breeding areas are virtually all patches of milkweed (<i>Asclepias</i> sp.). The species occurs throughout Arizona during the summer and migrates to winter in Mexico and California, though small numbers do overwinter in the low deserts of southwestern Arizona. | May occur. The Project Site could be potentially used as a migratory stopover as flowering plants are present. Breeding is unlikely given that there is no milkweed present. | May impact individuals but is not likely to result in a trend toward federal listing or loss of viability. |
| Nichol's Turk's head cactus (<i>Echinocactus horizonthalonius</i> var. <i>nicholii</i>) | E | Found in Sonoran desertscrub with limestone-derived alluvium at elevations between 2,000 and 3,600 feet amsl. In Arizona, its known range is limited to the Waterman and Vekol Mountains. | Unlikely to occur. The Project Site is far from known populations in the Waterman and Vekol Mountains. | No effect. |
| Northern Mexican gartersnake (<i>Thamnophis eques megalops</i>) | T | Riparian obligate species, found in lotic and lentic habitats that include cienegas and stock tanks (earthen impoundments) and rivers containing pools and backwaters. Most frequently found between 3,000 and 5,000 feet amsl but may occur up to approximately 8,500 feet amsl. Uses adjacent terrestrial habitats for foraging, thermoregulation, gestation, shelter, immigration, emigration, and brumation. Core population areas in Arizona include mid/upper Verde River drainage, mid/lower Tonto Creek, and the San Rafael Valley. | Unlikely to occur. The Project Site is below the typical elevational range for the species, and suitable habitat for this species is not present on or adjacent to the Project Site. | No effect. |

| Common Name (Species Name) | Status* | Range or Habitat Requirements | Potential for Occurrence on Project Site | Determination of Effect |
|---|---------|---|--|----------------------------|
| Ocelot (<i>Leopardus pardalis</i>) | E | In Arizona, typically observed in subtropical thorn forest, thornscrub, and dense, brushy thickets at elevations below 8,000 feet amsl and is often found in riparian bottomlands. The critical habitat component is probably dense cover near the ground and complete avoidance of open country. In Arizona, there are five recent confirmed sightings of ocelot in Cochise County (2009–2012), one confirmed sighting near Globe (2010), and unconfirmed sightings in the Chiricahua and Peloncillo Mountains. | Unlikely to occur. The species is very rare, and there are no dense, brushy thickets or riparian bottomlands at the Project Site. In recent years, this species has been documented in several areas in southern Arizona, including a dead ocelot on U.S. Route 60 between Superior and Globe, which is about 15 miles northeast of the Project Site. | No effect. |
| Razorback sucker (<i>Xyrauchen texanus</i>) | E | Found in riverine and lacustrine areas, generally not in fast-moving water, and may use backwaters at elevations below 6,000 feet amsl. | Unlikely to occur. The canals at the Project Site are not suitable for this species, and no suitable habitat is present on or adjacent to the Project Site. | No effect. |
| Sonoran pronghorn (<i>Antilocapra americana sonoriensis</i>) | EXPN | Found in Sonoran desertscrub within broad, intermountain alluvial valleys with creosote bush (<i>Larrea tridentata</i>)–bursage (<i>Ambrosia</i> spp.) and paloverde (<i>Parkinsonia</i> spp.)–mixed cacti associations at elevations between 2,000 and 4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, the USFWS has established a 10(j) area for reintroductions. The only current reintroduction is in and near the Kofa National Wildlife Refuge. | Unlikely to occur. The Project Site is outside the species' currently known range and is not within a potential reintroduction area. | No effect. |
| Sonoyta mud turtle (<i>Kinosternon sonoriense longifemorale</i>) | E | In Arizona, found only in pond and stream habitat at Quitobaquito Springs in Organ Pipe Cactus National Monument. This subspecies of the more common Sonora mud turtle (<i>Kinosternon sonoriense sonoriense</i>) also occurs in Rio Sonoyta, Mexico. | Unlikely to occur. This species is only found at Quitobaquito Springs, which is more than 110 miles southwest of the Project Site. | No effect. |
| Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>) | E | Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood (<i>Populus</i> spp.), willow (<i>Salix</i> spp.), boxelder (<i>Acer negundo</i>), saltcedar (<i>Tamarix ramosissima</i>), Russian olive (<i>Elaeagnus angustifolia</i>), buttonbush (<i>Cephalanthus</i> spp.), and arrowweed (<i>Pluchea sericea</i>) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13 to 23 feet high, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl. | Unlikely to occur. This species has one occurrence record within 5 miles, most likely from the Picacho Reservoir, which is approximately 1.5 miles east of the Project Site and contains suitable riparian habitat for this species. The HDMS indicates only one occurrence record in this area (not a population). It is not known if this occurrence is historical or recent. Dense riparian habitat for the species is not present at the Project Site. | No effect. |
| Spikedace (<i>Meda fulgida</i>) | E | Found in mid-water habitats, including runs, pools, and swirling eddies below 4,500 feet amsl. | Unlikely to occur. There is no suitable habitat for this species at or near the Project Site. | No effect. |

| Common Name (Species Name) | Status* | Range or Habitat Requirements | Potential for Occurrence on Project Site | Determination of Effect |
|--|---------|--|---|----------------------------|
| Yellow-billed cuckoo (<i>Coccyzus americanus</i>) | T | Typically found in riparian woodland vegetation (cottonwood, willow, or saltcedar) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages and Cienega and Sonoita Creeks. | Unlikely to occur. This species has many occurrence records and a population occurrence within 5 miles of the Project Site, centered on nearby proposed critical habitat. Proposed critical habitat (Unit 29 AZ—21 Picacho Reservoir) occurs approximately 1.5 miles east of the Project Site. The Picacho Reservoir is consistently occupied by this species (USFWS 2014). Because riparian woodlands are not present at the Project Site, this species is unlikely to use the area for migration, dispersal, foraging, or breeding. Individuals using the Picacho Reservoir will not be affected by construction or operation of the proposed Project. Thus, there will be no direct effects on this species resulting from the proposed Project. | No effect. |
| Yuma Ridgway's rail (<i>Rallus obsoletus yumanensis</i>) | E | Found in freshwater and brackish marshes below 4,500 feet amsl. | Unlikely to occur. There are no wetland/marsh vegetation areas on the Project Site. Therefore, this species is unlikely to use the Project Site for foraging or dispersal. However, this species has occurrence records at the Picacho Reservoir, approximately 1.5 miles east of the Project Site. Because wetland/marsh vegetation is not present at the Project Site, this species is unlikely to use the area for migration, dispersal, foraging, or breeding. Individuals using the Picacho Reservoir will not be affected by construction or operation of the proposed Project. Thus, there will be no direct effects on this species resulting from the proposed Project. | No effect. |

Sources: AGFD (2022); USFWS Arizona Ecological Services Field Office (USFWS 2022); Arizona Rare Plant Committee (n.d.); Corman and Wise-Gervais (2005).

* USFWS Status Definitions:

C = Candidate. Candidate species are those for which the USFWS has sufficient information on biological vulnerability and threats to support proposals to list as endangered or threatened under the ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

E = Endangered. An animal or plant species in danger of extinction throughout all or a significant portion of its range.

EXPAN = Experimental Population, Non-Essential. Experimental populations of a species designated under Section 10(j) of the ESA for which the USFWS, through the best available information, believes is not essential for the continued existence of the species. Regulatory restrictions are considerably reduced under an EXPAN designation.

T = Threatened. An animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

One species protected under the Migratory Bird Treaty Act and that is a state-protected species, the western burrowing owl (*Athene cunicularia hypugaea*), is known to occur within the Study Area. This species was observed at the Project Site and vicinity during the 2018 site visit, and the Project Site and surrounding areas are suitable habitat for this species. Pattern would comply with the MBTA when constructing, operating, and maintaining the Project, potentially by avoiding burrowing owl habitat, adhering to appropriate construction practices, and utilizing approved techniques to relocate individuals if appropriate.

A desktop review indicated that the Project Site and evaluation area are not within an Arizona Important Bird Area (Arizona Important Bird Area Program 2018).

C.2.7.2 CULTURAL RESOURCES

A desktop review of AZSITE, Arizona's online cultural resources database, which includes records from the Arizona State Museum (ASM), Arizona State University, and the Bureau of Land Management, was conducted to identify previous cultural resources investigations and known cultural resources at the Project Site.

AZSITE identified 9 prior cultural resources surveys, accounting for approximately 99 acres (11%) of the Project Site. Previous surveys were conducted between 1996 and 2019 for various projects including telecommunication construction, a fiber optic line, a solar project, gas pipeline storage, bridge improvements, and telecommunications (Table 3). The majority of these surveys are more than 10 years old and do not meet current survey guidelines and standards for cultural resources.

Table 3. Previously Conducted Archaeological Surveys in the Project

| Agency Number | Project Name (AZSITE Data) | Consultant or Institution |
|-------------------------------|--|---|
| 1996-306.ASM / SHPO-6804 | Bridges/Coolidge, Pinal County | Archaeological Research Services, Inc., Tempe, Arizona |
| 2000-723.ASM / SHPO-2000-1717 | AT&T NexGen/Core Project Link 3 | Western Cultural Resource Management Inc., Farmington, New Mexico |
| 2003-910.ASM / SHPO-2002-1717 | Cultural Resources Survey of the 360networks Fiber Optic Lines | TRCMA |
| 2004-679.ASM | AT&T NextGen/Core Project | Western Cultural Resource Management Inc., Farmington, New Mexico |
| 2008-254.ASM | La Palma Tie Rehabilitation | San Carlos Irrigation Project |
| 2010-59.ASM | Arizona Natural Gas Storage Geotechnical Monitoring | Archaeological Consulting Services, Tempe, Arizona |
| 2010-280.ASM | Arizona Natural Gas Storage Pipeline Header and Laterals | Archaeological Consulting Services, Tempe, Arizona |
| 2012-363.ASM | TEP Pinal Central to Tortolita Survey WRI 1610.86 CR 520 | WestLand Resources, Tucson, Arizona |
| 2019-218.ASM | East Line Solar | SWCA Environmental Consultants, Tucson, Arizona |

Three archaeological sites have been previously recorded on the Project Site (Table 4). These resources (i.e., linear in-use historic-era structures with ASM site numbers) do not qualify as archaeological sites. In-use historic-era structures may still constitute historic properties, and as such, may be eligible for listing in the Arizona Register of Historic Places and the National Register of Historic Places (NRHP). Florence-Casa Grande Canal Extension and the Casa Grande Canal have both been determined eligible for listing in the NRHP under Criteria A and D.

Table 4. Previously Recorded Sites in the Project Site

| Agency Number | Project Name (AZSITE Data) | Consultant or Institution |
|------------------|--------------------------------------|--|
| AZ AA:2:132(ASM) | La Palma Road | Determined not eligible |
| AZ AA:2:133(ASM) | Florence-Casa Grande Canal Extension | Determined eligible under Criteria A and D |
| AZ AA:3:209(ASM) | Casa Grande Canal | Determined eligible under Criteria A and D |

Additional linear historic-era structures border the Project Site. These are SR 84 (AZ AA:2:118[ASM]), Laughlin Road (AZ AA:2:330[ASM]), Selma Highway (AZ AA:2:333[ASM]), and State Route 87 (AZ AA:6:63[ASM]). SR 84 and SR 87 have been determined eligible for listing in the NRHP under Criteria A and D. Laughlin Road and Selma Highway have been recommended not eligible for listing in the NRHP.

The Project is historically used by the O’odham people and their prehistoric ancestors. It is near the reservation lands of the Gila River Indian Community. There are no known or evidently likely traditional cultural properties in the Project Site. Additionally, a review of current aerial imagery shows no formal cemeteries visible in the Project Site.

Pattern may conduct additional cultural resources surveys for compliance requirements, depending on the involvement of federal or state agencies. Pattern would need to coordinate with the lead agency (who will then coordinate with the State Historic Preservation Office) regarding the findings of additional cultural resources surveys. Consultation with these agencies would be completed to determine the NRHP eligibility of the previously known and newly discovered sensitive cultural resources, and to determine if there would be impacts to these historic resources from Project development.

C.2.8 Water Resources, Public Facilities/Services, and Infrastructure Support

The amendment has accounted for adequate services being in place or planned for within a reasonable time of the start of the new development.

The Pinal County Sheriff’s Office provides law enforcement services for the Project Site. The Regional Fire and Rescue Department provides subscription-based fire and emergency medical services to the region. New or additional public services resulting from the amendment are not anticipated. Pattern will coordinate with local emergency service providers during development, construction, and operations to provide information about Project, provide any relevant training, and ensure safe construction and operation of the Project.

No public improvements to roads, sewer systems, or water systems would be needed for the Project. Any water required for construction and operations is expected to be hauled to the site or obtained from new or existing wells on-site. Water hauled to the site would be from permitted sources, and any new or existing wells on-site would be permitted through the ADWR, as needed. Any road construction needed to access the Project would be paid for and constructed by Pattern, in coordination with Pinal County Public Works Department as necessary. As such, the Project will increase the land’s taxable value while adding little, if any, burden to public services.

Development of the Project would not impact existing water quality. The site would be designed to pass off-site stormwater through or around the site and release it in a manner similar to the existing conditions. Based on a final hydrologic analysis of the site, on-site drainage would be managed per Pinal County

Public Works regulations. The drainage design would allow the site to be developed without increasing stormwater runoff or creating an adverse impact on adjacent properties. Site design that is sensitive to existing topography and drainage patterns would also function to protect water quality.

In areas where there is any potential for contamination, all stormwater would be retained on-site to comply with Arizona Department of Environmental Quality requirements. Pattern will submit a Notice of Intent to gain authorization under the Arizona Pollutant Discharge Elimination System Construction General Permit and develop a site-specific Stormwater Pollution Prevention Plan, which describes how permit conditions will be met during construction. In addition, the Project will adhere to the Arizona Department of Environmental Quality Aquifer Protection Program and bi-annual Water Quality Assessment Report, as required by the Clean Water Act.

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APPENDIX A
ALTA
LEGAL DESCRIPTION

4/26/2023 2:59 PM S. RUTZEN ISAMINCDENPROJECTS\021060099\000SURVEY\06PLATS\022070500-BEN FATTO\060606SURVEY\06EXHIBITS\BEN_FATTO_BOUNDARY_AZC_NAD83-2011-IFT-ALTA-SHEETS.dwg

LEGAL DESCRIPTION:

AMTRUST TITLE INSURANCE COMPANY FILE NUMBER: FN-45018-AZ DATED DECEMBER 12, 2022:

PARCEL 1:
THE EAST HALF OF SECTION 32, TOWNSHIP 6 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPTING THEREFROM THAT PORTION THEREOF DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHEAST CORNER OF SAID SECTION 32; THENCE NORTH 00 DEGREES 05 MINUTES EAST, ALONG THE EAST LINE OF SAID SECTION 32, A DISTANCE OF 652.51 FEET; THENCE SOUTH 89 DEGREES 44 MINUTES WEST, A DISTANCE OF 1322.97 FEET; THENCE SOUTH 00 DEGREES 05 MINUTES WEST, A DISTANCE OF 652.51 FEET TO A POINT ON THE SOUTH LINE OF SAID SECTION 32; THENCE NORTH 89 DEGREES 44 MINUTES EAST, ALONG SAID SOUTH LINE, A DISTANCE OF 1322.97 FEET TO THE POINT OF BEGINNING

EXCEPTING THEREFROM ALL GAS, OIL, METALS AND MINERAL RIGHTS AS RESERVED TO THE UNITED STATES AND THE STATE OF ARIZONA IN THE PATENT FROM THE STATE OF ARIZONA RECORDED IN DOCKET 165, PAGE 144. (NORTHEAST QUARTER OF SECTION 32 ONLY)

EXCEPTING THEREFROM ALL GAS, OIL, METALS AND MINERAL RIGHTS AS RESERVED IN THE PATENT FROM THE STATE OF ARIZONA RECORDED IN DOCKET 47, PAGE 263. (SOUTHEAST QUARTER OF SECTION 32 ONLY).

TAX NUMBER: 401-46-00102, 401-46-00300

PARCEL 2:
ALL THAT PORTION OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE WEST 130 FEET OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, LYING NORTH OF THE FLORENCE-CASA GRANDE EXTENSION CANAL.

TAX NUMBER: 401-47-00506

PARCEL 3:
THE WEST HALF AND THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

TAX NUMBER: 401-47-00100, 401-47-00209, 401-47-00308, 401-47-00407

PARCEL 4:
THE EAST HALF OF THE SOUTH HALF OF THE SOUTH HALF OF SECTION 29, TOWNSHIP 6 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

TAX NUMBER: 401-43-00901

PARCEL 5:
THE WEST HALF OF THE SOUTHWEST QUARTER AND THE WEST HALF OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 28, TOWNSHIP 6 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA; EXCEPTING THEREFROM THAT PORTION THEREOF DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 28; THENCE WEST, ALONG THE NORTH LINE OF SAID SOUTHWEST QUARTER OF SAID SECTION 28, A DISTANCE OF 600 FEET; THENCE SOUTH A DISTANCE OF 600 FEET TO THE FLORENCE-CASE GRANDE CANAL; THENCE NORTHEASTERLY, ALONG SAID FLORENCE-CASE GRANDE CANAL, TO A POINT ON THE EAST LINE OF SAID NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 28; THENCE NORTH , ALONG SAID EAST LINE, A DISTANCE OF 157 FEET TO THE POINT OF BEGINNING.

TAX NUMBER: 401-42-009A1 AND 401-42-009B9

ALTA NOTES (OPTIONAL SURVEY RESPONSIBILITY NOTES) – TABLE A

- MONUMENTS PLACED (OR A REFERENCE MONUMENT OR WITNESS TO THE CORNER) AT ALL MAJOR CORNERS OF THE BOUNDARY OF THE SURVEYED PROPERTY, UNLESS ALREADY MARKED OR REFERENCED BY EXISTING MONUMENTS OR WITNESSES IN CLOSE PROXIMITY TO THE CORNER.
- VICINITY MAP SHOWN HEREON
- THIS SURVEY IS LOCATED IN:
"OTHER AREAS" ZONE X (UN-HATCHED).
FLOOD INSURANCE RATE MAP; MAP NUMBER 04021C1600E, EFFECTIVE DATE DECEMBER 04, 2007.
- THE APPROXIMATE TOTAL LAND AREA OF THIS SURVEY IS 1086.047 ACRES +/-.
- SUBSTANTIAL FEATURES ARE SHOWN HEREIN.
- UTILITY PLANS AND/OR REPORTS WERE NOT PROVIDED BY CLIENT. SEE EASEMENT LABELS AND LEGEND FOR MORE INFORMATION. THE OVERHEAD ELECTRIC LINES WERE THE ONLY VISIBLE UTILITIES OBSERVED ON THE SITE AND ARE SHOWN HEREON. LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.
- BASED UPON TAX RECORDS PROVIDED BY CLIENT, NAMES OF ADJOINING LAND OWNERS ARE SHOWN HEREIN.
- REMOTE SENSING DATA PROVIDED BY SAM, LLC, FLOWN MAY, 2021 FOR 1"=100' PLANIMETRIC MAPPING AND IMAGERY. IMAGERY ACCURACY IS RMSE 0.5' OR BETTER WITH LIDAR ACCURACY BEING RMSE 0.33' FOR WELL-DEFINED GROUND CONTROL POINTS. FOR ILLUSTRATIVE PURPOSES ONLY. REMOTE SENSING DATA DOES NOT COVER PARCEL IN ENTIRETY. DATA IS UTILIZED FROM A PREVIOUS SOURCE TO MEET THE NEEDS OF THE CLIENT FOR THIS PROJECT.
- EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS ARE DEPICTED HEREIN AS APPLICABLE.
- PLOTTABLE APPURTENANT EASEMENTS DISCLOSED IN DOCUMENTS PROVIDED TO, OR OBTAINED BY THE SURVEYOR, ARE SHOWN HEREIN.
- DOCUMENTATION PROVIDED TO CLIENT.

SURVEY NOTES:

- BEARINGS, DISTANCES, AND AREAS ARE ARIZONA COORDINATE SYSTEM, 1983(2011), CENTRAL ZONE, GRID, INTERNATIONAL FEET.
- EASEMENTS, RIGHTS OF WAY, AND RECORDED DEED REFERENCES SHOWN HEREON WERE PROVIDED BY THE CLIENT, BASED UPON THE NOTED TITLE CO
- THIS SURVEY DOES NOT SHOW THE LOCATION OF THE PROPOSED PROJECT IMPROVEMENTS PROVIDED TO THE SURVEYOR BY THE CLIENT OR CLIENT'S
- RECORD BEARINGS AND DISTANCES HAVE NOT BEEN SHOWN HEREON.
- THE SUBJECT TRACT HAS ACCESS FROM EARLEY ROAD, SHOWN HEREON.
- THE PARCELS CONTAINED IN THE LEGAL DESCRIPTION ARE CONTIGUOUS WITHOUT ANY GAPS, GORES OR OVERLAPS.



- PATTERN (CURRENTLY OPTIONEE) – PATTERN SOLAR AND STORAGE DEVELOPMENT LLC
- AMTRUST TITLE INSURANCE COMPANY, and NETCO TITLE COMPANY
- BUYER – HA Cielo LLC, a Delaware limited liability company, and its successors and assigns c/o HANNON ARMSTRONG CAPITAL, LLC.
- SELLER – BEN FATTO, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS SUCCESSOR BY MERGER TO BEN FATTO LIMITED PARTNERSHIP, AN ARIZONA LIMITED PARTNERSHIP, AS TO AN UNDIVIDED 59.39% INTEREST; LESJEUR INVESTMENTS: HA 1070, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TO AN UNDIVIDED 30.957% INTEREST; VIEL GLUCK, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TO AN UNDIVIDED 6.8302% INTEREST; ELOY 660, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TO AN UNDIVIDED 2.373% INTEREST; PIEMONTE'S DIRECT, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TO AN UNDIVIDED 0.320% INTEREST; AND FAR WARE, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TO AN UNDIVIDED 0.1298% INTEREST.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED IN 2021 BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 8, 11, 13, 15, 16, 18 AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED IN JULY, 2022.

DATE: DECEMBER 12, 2022

EXCEPTIONS (AMTRUST TITLE INSURANCE COMPANY FILE NUMBER FN-45018-AZ DATED DECEMBER 12, 2022 AT 8:00AM)

STANDARD EXCEPTIONS 1-9 NOT ADDRESSED HEREIN.

SPECIAL EXCEPTIONS:

10

10. ROAD DECLARATION AS SHOWN IN INSTRUMENT RECORDED FEBRUARY 21, 1964, IN BOOK 375, PAGE 572, OF THE OFFICIAL RECORDS OF PINAL COUNTY, ARIZONA.

(AFFECTS PARCELS 4 AND 5) (AS SHOWN HEREON)

11. RESOLUTION AS SHOWN IN INSTRUMENT RECORDED JUNE 21, 1984, IN BOOK 1231, PAGE 386, OF THE OFFICIAL RECORDS OF PINAL COUNTY, ARIZONA.

(AFFECTS PARCEL 4 AND 5) (NOT A SURVEY MATTER)

12. NON-EXCLUSIVE FRANCHISE FOR SOUTHWEST GAS CORPORATION AS SHOWN IN INSTRUMENT RECORDED JUNE 21, 2016, AS FEE NO. 2016-039825, OF THE OFFICIAL RECORDS OF PINAL COUNTY, ARIZONA.

(AFFECTS PARCELS 4 AND 5) (NOT A SURVEY MATTER)

13. INTENTIONALLY DELETED

14. RESOLUTION AS SHOWN IN INSTRUMENT RECORDED MAY 2, 2003, AS FEE NO. 2003-029072, OF THE OFFICIAL RECORDS OF PINAL COUNTY, ARIZONA.

(AFFECTS PARCELS 4 AND 5) (NOT A SURVEY MATTER)

15. RESOLUTION AS SHOWN IN INSTRUMENT RECORDED JANUARY 20, 2000, AS FEE NO. 2000-003019, OF THE OFFICIAL RECORDS OF PINAL COUNTY, ARIZONA.

(AFFECTS PARCELS 4 AND 5) (NOT A SURVEY MATTER)

16. PRE-ANNEXATION AND DEVELOPMENT AGREEMENT AS SHOWN IN INSTRUMENT RECORDED SEPTEMBER 6, 2006, AS FEE NO. 2006-125478, OF THE OFFICIAL RECORDS OF PINAL COUNTY, ARIZONA.

(AFFECTS PARCELS 4 AND 5) (NOT A SURVEY MATTER)

17

17. CONTRACT AND GRANT OF EASEMENT AS SHOWN IN INSTRUMENT RECORDED AS BOOK 1732, PAGE 629, OF THE OFFICIAL RECORDS OF PINAL COUNTY, ARIZONA.

(AFFECTS ALL PARCELS) (AS SHOWN HEREON)

18. MINERALS OF WHATSOEVER KIND, SUBSURFACE AND SURFACE SUBSTANCES, INCLUDING BUT NOT LIMITED TO COAL, LIGNITE, OIL, GAS, URANIUM, CLAY, ROCK, SAND, AND GRAVEL IN, ON, UNDER AND THAT MAY BE PRODUCED FROM THE LAND, TOGETHER WITH ALL RIGHTS, PRIVILEGES, AND IMMUNITIES RELATING THERETO, WHETHER APPEARING IN THE PUBLIC RECORDS OR LISTED IN SCHEDULE B. THE COMPANY MAKES NO REPRESENTATION AS TO THE PRESENT OWNERSHIP OF ANY SUCH INTERESTS. THERE MAY BE LEASES, GRANTS, EXCEPTIONS, OR RESERVATIONS OF INTERESTS THAT ARE NOT LISTED.

(NOT A SURVEY MATTER)

19

19. EASEMENT AGREEMENT DATED MAY 8, 2019 AND RECORDED ON MAY 10, 2019 AS DOCUMENT NUMBER 2019-036222, MADE BY AND BETWEEN LESJEUR INVESTMENTS: HA 1070, LLC, ARIZONA LIMITED LIABILITY COMPANY, BEN FATTO LIMITED PARTNERSHIP, AN ARIZONA LIMITED PARTNERSHIP, ANDUMA LIMITED PARTNERSHIP, AN ARIZONA LIMITED PARTNERSHIP, AND ELOY 660, LLC, AN ARIZONA LIMITED LIABILITY COMPANY (COLLECTIVELY "OWNER") AND SUNZIA TRANSMISSION, LLC, A DELAWARE LIMITED LIABILITY COMPANY.

FIRST AMENDMENT TO EASEMENT AGREEMENT DATED DECEMBER __, 2022 AND RECORDED DECEMBER __, 2022 AS DOCUMENT __, MADE BY AND BETWEEN HA CIELO LLC, A DELAWARE LIMITED LIABILITY COMPANY ("OWNER") AND SUNZIA TRANSMISSION, LLC, A DELAWARE LIMITED LIABILITY COMPANY.

(AFFECTS PARCELS 4 AND 5) (AS SHOWN HEREON)

20. EASEMENT AGREEMENT DATED DECEMBER __, 2022 AND RECORDED DECEMBER __, 2022 AS DOCUMENT NUMBER __, MADE BY AND BETWEEN HA CIELO LLC, A DELAWARE LIMITED LIABILITY COMPANY ("OWNER") AND SUNZIA TRANSMISSION, LLC, A DELAWARE LIMITED LIABILITY COMPANY.

(LOCATION CANNOT BE DETERMINED FROM THE RECORD DOCUMENT)

21. UNRECORDED FARM SUBLEASE AGREEMENT DATED DECEMBER __, 2022, MADE BY AND BETWEEN PATTERN SOLAR & STORAGE DEVELOPMENT LLC, A DELAWARE LIMITED LIABILITY COMPANY ("SUBLESSOR"); AND MDM FARMS, AN ARIZONA GENERAL PARTNERSHIP ("SUB LESSEE").

(LOCATION CANNOT BE DETERMINED FROM THE RECORD DOCUMENT)

22. MEMORANDUM OF GROUND LEASE AGREEMENT DATED DECEMBER __, 2022 AND RECORDED DECEMBER __, 2022 AS DOCUMENT NUMBER __, MADE BY AND BETWEEN HA CIELO LLC, A DELAWARE LIMITED LIABILITY COMPANY ("LANDLORD") AND PATTERN SOLAR AND STORAGE DEVELOPMENT LLC, A DELAWARE LIMITED LIABILITY COMPANY ("TENANT").

(LOCATION CANNOT BE DETERMINED FROM THE RECORD DOCUMENT)

SURVEYOR'S STATEMENT:

I, RANDY P. LOVELESS, HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR IN THE STATE OF ARIZONA AND THE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF ON THE DATE OF MY SIGNATURE, THIS EXHIBIT ACCURATELY REPRESENTS THE FACTS FOUND AT THE TIME OF SURVEY MADE UNDER MY RESPONSIBLE CHARGE.

CLERK AND RECORDER

STATE OF ARIZONA
COUNTY OF PINAL

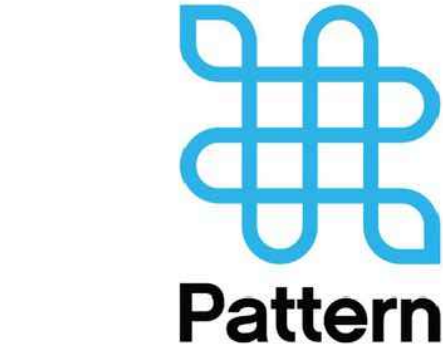
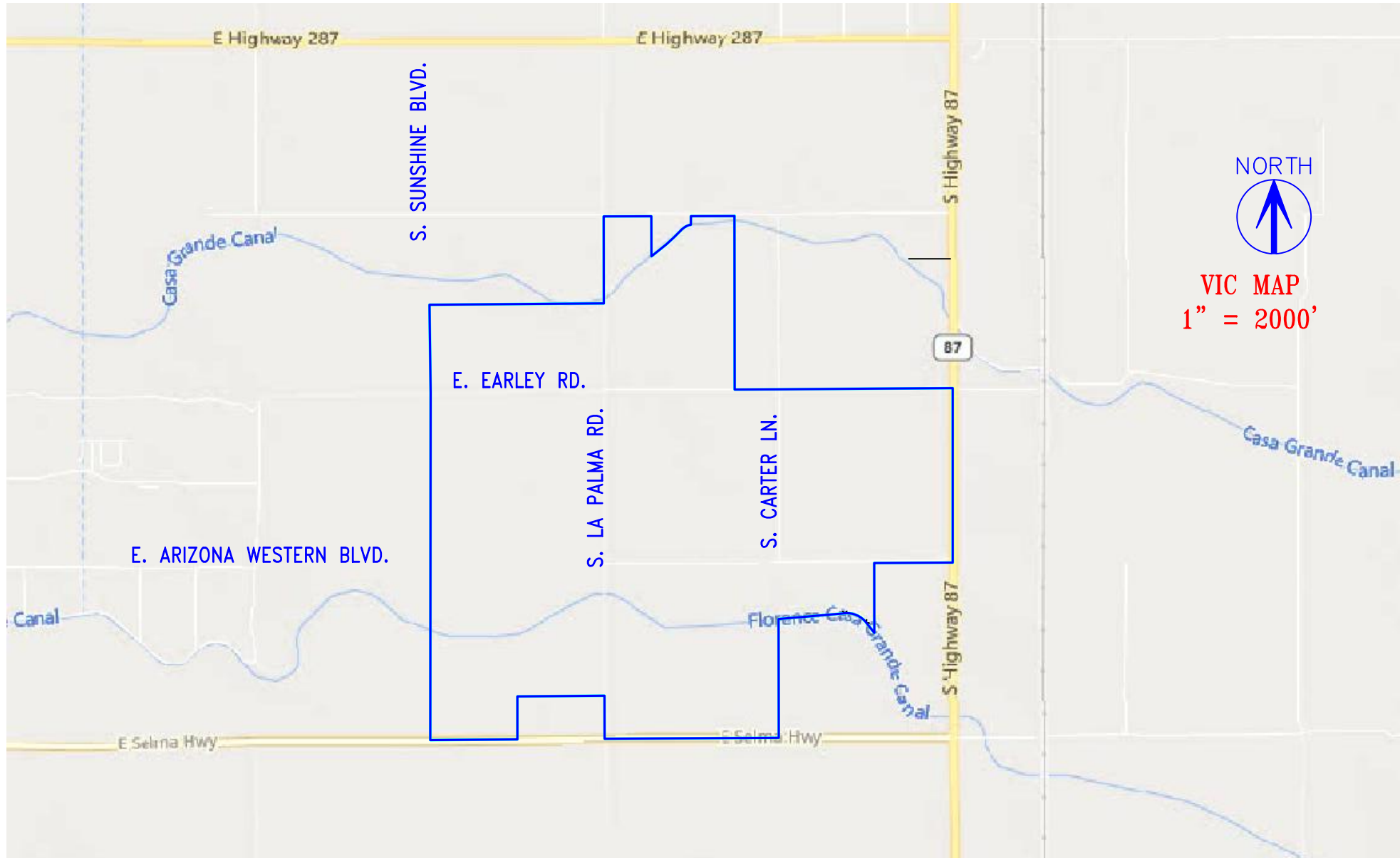
I HEREBY...

FEE NO:

DATE: _____

REQUEST
WITNESS

BY: _____ DEPUTY



BEARINGS, DISTANCES, COORDINATES AND ACREAGE SHOWN HEREON ARE GRID, NAD83(2011), ARIZONA CENTRAL ZONE, INTL. FEET.

LEGEND

- SECTION MONUMENT AS NOTED
- MONUMENT FOUND AS NOTED
- FOUND NO. 6 REBAR W/ 2 1/2" ALUMINUM CAP LS 54808
- FOUND NO. 5 REBAR W/ 3/4" ALUMINUM CAP LS 54808 - JOINT WITNESS CORNER
- FOUND NO. 5 REBAR W/ 3/4" ALUMINUM CAP LS 54808 - JOINT WITNESS CORNER
- FOUND NO. 5 REBAR W/ 3/4" ALUMINUM CAP LS 54808 - JOINT WITNESS CORNER
- FOUND NO. 5 REBAR W/ 3/4" ALUMINUM CAP LS 54808 - PROPERTY CORNER
- POWER POLE
- OVERHEAD ELECTRIC LINE
- DOWN-SLOPE
- WIRE FENCE
- PIPELINE
- SURFACE PIPELINE
- WATER LINE
- WATER VALVE/METER
- IRRIGATION SPINDLE
- WINDMILL
- WATER WELL
- GAS METER
- FIBER OPTIC/TELEPHONE EQUIPMENT BOX/MARKER

DENOTES SPECIAL EXCEPTION FROM AMTRUST TITLE FN-45018-AZ DATED DECEMBER 12, 2022 AT 8:00AM

DENOTES TITLE EXCEPTION FROM PRIOR LIMITED TITLE CERTIFICATE PROVIDED BY PERCHORON

- C.V. CENTERLINE
- TYP. TYPICAL
- P.O.C. POINT OF COMMENCEMENT OF LEGAL DESCRIPTION
- P.O.B. POINT OF BEGINNING OF LEGAL DESCRIPTION
- T-LINE OVERHEAD ELECTRIC TRANSMISSION LINE (BRG.-DIST.)
- RECORD CALL

- SUBJECT TRACT BOUNDARY
- QUARTER SECTION/ADJACENT LINE
- SECTION LINE
- HIGHWAY/ROAD R-O-W LINE
- FLOOD HAZARD ZONE LINE
- EASEMENT LINE
- GRAVEL/DIRT ROAD

TITLE CO. AMTRUST TITLE INSURANCE COMPANY

TITLE FILE # FN-45018-AZ

EFFECTIVE DATE DECEMBER 12, 2022 at 8:00AM

DEC. 12, 2022

ALTA/NSPS LAND TITLE
SURVEY OF
HA CIELO LLC,
LOCATED IN SECTIONS
28,29,32,33 T-6-S,
R-8-E OF THE GILA
AND SALT RIVER BASE
AND MERIDIAN
PINAL COUNTY,
ARIZONA



8300 E Maplewood Ave
Suite 300
Greenwood Village CO. 80111

Ofc: 303.988.5852
email: info@sam.biz

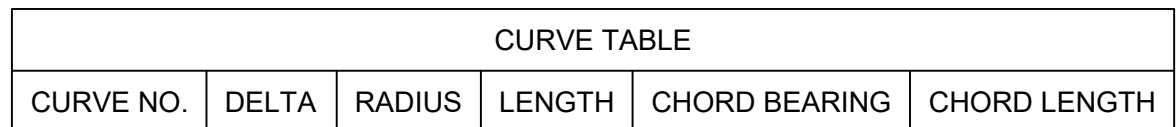
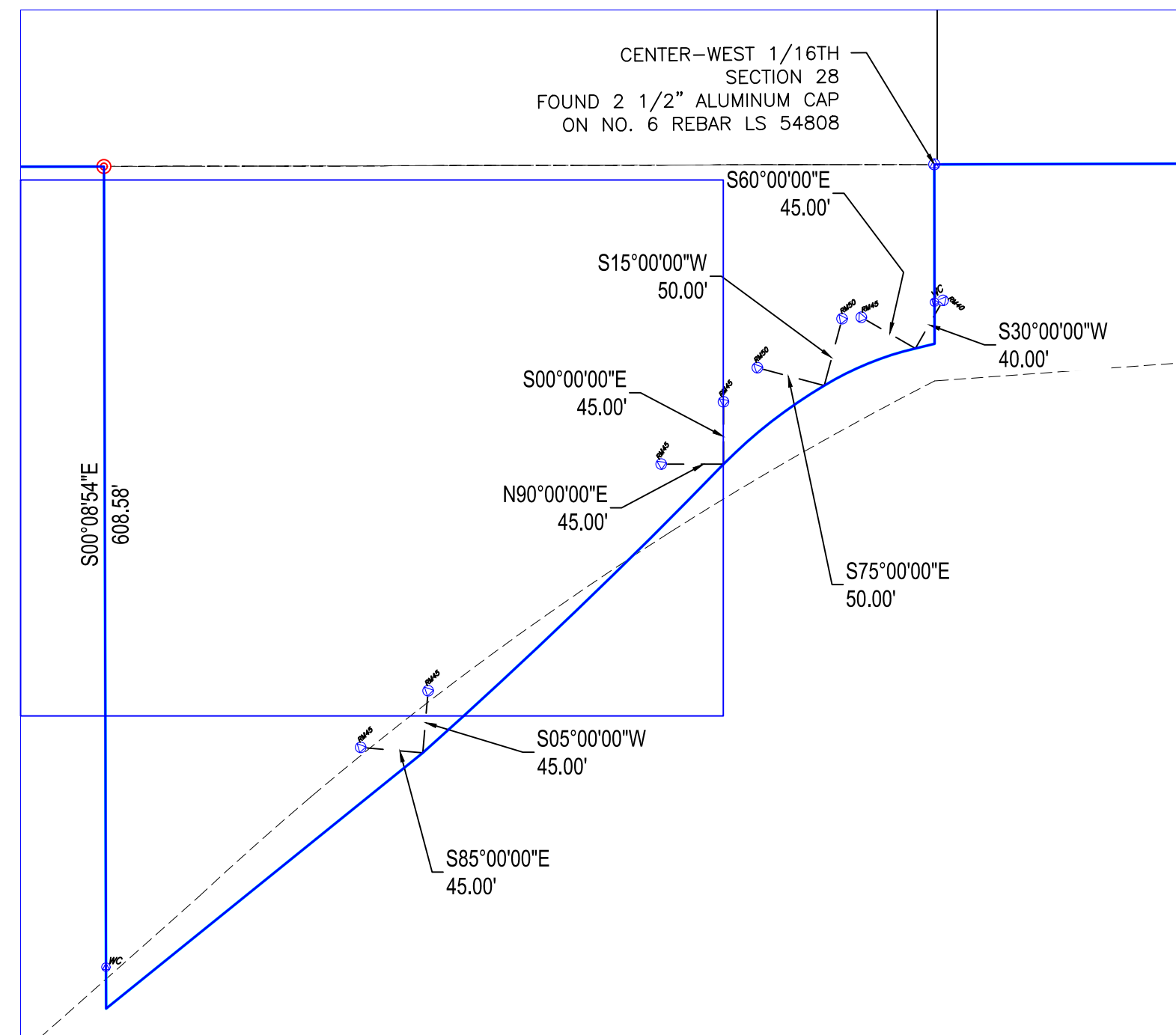
| | |
|---------------------|--------------------|
| JOB NO.: 1022070500 | FIELD BOOK DENVER |
| DRAFT KMF | CHECKED RPL |
| DATE 07/19/2022 | REV. NEW TC |
| DATE 08/23/2022 | REV. FINAL |
| DATE 12/07/2022 | REV. FINAL SRW |
| DATE 12/12/2022 | REV. CONTIGUITY WB |
| DATE 4/17/2023 | REV. UPDATED TITLE |
| DATE . | REV. . |
| DATE . | REV. . |
| DATE . | REV. . |


FILE: BEN_FATTO_BOUNDARY_AZC_NAD83-2011-IFT-ALTA-SHEETS.dwg


SHEET TITLE
ALTA/NSPS SURVEY

SHEET NUMBER
1 OF 2

PROVISIONAL & CONFIDENTIAL



 DENOTES SPECIAL EXCEPTION FROM ANTRUST TITLE
FN-45018-4Z DATED DECEMBER 12, 2022 AT 8:00AM

 DENOTES TITLE EXCEPTION FROM PRIOR LIMITED TITLE
CERTIFICATE PROVIDED BY PERCHON

C/L CENTERLINE


TYP. TYPICAL


P.O.C. POINT OF COMMENCEMENT OF LEGAL DESCRIPTION


P.O.B. POINT OF BEGINNING OF LEGAL DESCRIPTION


T-LINE OVERHEAD ELECTRIC TRANSMISSION LINE


(BRG-DIST.) RECORD CALL


 SUBJECT TRACT BOUNDARY


 QUARTER SECTION/ADJOINER LINE

 SECTION LINE

 HIGHWAY/ROAD R-O-W LINE

 FLOOD HAZARD ZONE LINE

 EASEMENT LINE

 GRAVEL/DIRT ROAD

DEC. 12, 2022

ALTA/NSPS LAND TITLE
SURVEY OF
HA CIELO LLC,
LOCATED IN SECTIONS
28,29,32,33 T-6-S,
R-8-E OF THE GILA
AND SALT RIVER BASE
AND MERIDIAN
PINAL COUNTY,
ARIZONA

8300 E. Maplewood Ave.
Suite 300,
Greenwood Village, CO. 80111

Ofc: 303.988.5852
email: info@sam.biz

FILE: BEN_FATTO_BOUNDARY_AZC_NAD83-2011-IFT-ALTA-SHEETS.dwg

SHEET NUMBER
2 OF 2

Page 151

EXHIBIT A

Description of Property

PARCEL 1:

The East half of Section 32, Township 6 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona. Excepting therefrom that portion thereof described as follows: Beginning at the Southeast corner of said Section 32; THENCE North 00 degrees 05 minutes East, along the East line of said Section 32, a distance of 652.51 feet; THENCE South 89 degrees 44 minutes West, a distance of 1322.97 feet; THENCE South 00 degrees 05 minutes West, a distance of 652.51 feet to a point on the South line of said Section 32; THENCE North 89 degrees 44 minutes East, along said South line, a distance of 1322.97 feet to the POINT OF BEGINNING

Excepting therefrom all gas, oil, metals and mineral rights as reserved to the United States and the State of Arizona in the Patent from the State of Arizona recorded in Docket 165, page 144. (Northeast Quarter of Section 32 only)

Excepting therefrom all gas, oil, metals and mineral rights as reserved in the Patent from the State of Arizona recorded in Docket 47, Page 263. (Southeast Quarter of Section 32 only).

PARCEL 2:

All that portion of the Northwest quarter of the Southeast quarter and the West 130 feet of the Northeast quarter of the Southeast quarter of Section 33, Township 6 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona, lying North of the Florence-Casa Grande Extension Canal.

PARCEL 3:

The West half and the Northeast quarter of Section 33, Township 6 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

PARCEL 4:

The South half of the South half of Section 29, Township 6 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

EXPRESSLY EXCLUDING, the West 1/2 of the South Half of the South Half of Section 29, Township 6 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

PARCEL 5:

The West Half of the Southwest Quarter and the West Half of the East Half of the Southwest Quarter of Section 28, Township 6 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona; Excepting therefrom that portion thereof described as follows: beginning at the Northeast corner of the Northeast Quarter of the Northwest Quarter of the Southwest Quarter of said Section 28; Thence

West, along the North line of said Southwest Quarter of said Section 28, a distance of 600 feet; thence South a distance of 600 feet to the Florence-Casa Grande Canal; thence Northeasterly, along said Florence-Casa Grande Canal, to a point on the East line of said Northeast Quarter of the Northwest Quarter of the Southwest Quarter of Section 28; thence North , along said East line, a distance of 157 feet to the point of beginning.

APPENDIX B

U.S. Fish and Wildlife Service Site-specific Official List of Threatened and Endangered Species



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
Phone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer To:
Project Code: 2023-0080996
Project Name: Cielo Solar 2023

May 11, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that *may* occur within the One-Range that has been delineated for the species (candidate, proposed, or listed) and its critical habitat (designated or proposed) with which your project polygon intersects. These range delineations are based on biological metrics, and do not necessarily represent exactly where the species is located. Please refer to the species information found on ECOS to determine if suitable habitat for the species on your list occurs in your project area.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If the Federal action agency determines that listed species or critical habitat *may be affected* by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. An effect exists even if only one individual

or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint." For example, projects that involve streams and river systems should consider downstream affects. If the Federal action agency determines that the action may jeopardize a *proposed* species or may adversely modify *proposed* critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.

Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>.

We also advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668 *et seq.*). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1,026 species of birds are protected by the MBTA, including the western burrowing owl (*Athene cunicularia hypugaea*). Protected western burrowing owls can be found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle or golden eagle nest occurs in or near the proposed project area, our office should be contacted for Technical Assistance. An evaluation must be performed to determine whether the project is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles (see <https://www.fws.gov/law/bald-and-golden-eagle-protection-act> and <https://www.fws.gov/program/eagle-management>).

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEP, and permitting processes, please visit the following web site: <https://www.fws.gov/program/migratory-bird-permit>. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at <https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation>.

The U.S. Army Corps of Engineers (Corps) may regulate activities that involve streams (including some intermittent streams) and/or wetlands. We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information about refuge resources, please visit [this link](#) or visit <https://www.fws.gov/program/national->

[wildlife-refuge-system](#) to locate the refuge you would be working in or around.

If your action is on tribal land or has implications for off-reservation tribal interests, we encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated. For more information, please contact our Tribal Coordinator, John Nystedt, at 928/556-2160 or John_Nystedt@fws.gov.

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (*Gopherus morafkai*) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program (<https://www.azgfd.com/wildlife/planning/projevalprogram/>).

We appreciate your concern for threatened and endangered species. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If we may be of further assistance, please contact our Flagstaff office at 928/556-2118 for projects in northern Arizona, our general Phoenix number 602/242-0210 for central Arizona, or 520/670-6144 for projects in southern Arizona.

Sincerely,
/s/

Heather Whitlaw
Field Supervisor
Attachment

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arizona Ecological Services Field Office

9828 North 31st Ave

#c3

Phoenix, AZ 85051-2517

(602) 242-0210

PROJECT SUMMARY

Project Code: 2023-0080996

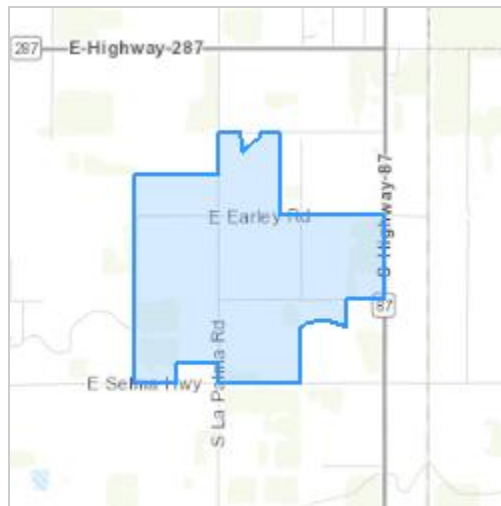
Project Name: Cielo Solar 2023

Project Type: Power Gen - Solar

Project Description: The proposed project involves constructing a 150 MW + photovoltaic solar facility including a battery energy storage system.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.8610254,-111.52814459975951,14z>



Counties: Pinal County, Arizona

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

| NAME | STATUS |
|--|------------|
| Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911 | Threatened |

INSECTS

| NAME | STATUS |
|--|-----------|
| Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743 | Candidate |

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|-------------------------|
| Bendire's Thrasher <i>Toxostoma bendirei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9435 | Breeds Mar 15 to Jul 31 |
| Costa's Hummingbird <i>Calypte costae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470 | Breeds Jan 15 to Jun 10 |

| NAME | BREEDING SEASON |
|--|------------------------|
| Gila Woodpecker <i>Melanerpes uropygialis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5960 | Breeds Apr 1 to Aug 31 |
| Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds elsewhere |

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

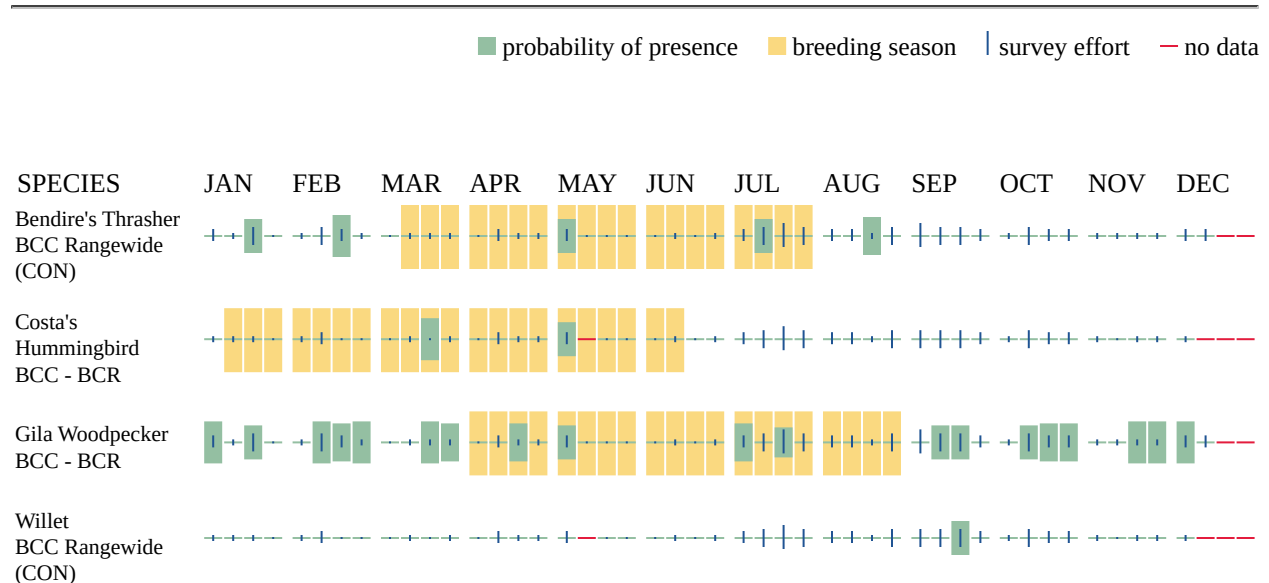
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding

in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities,

should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- [R2UBHx](#)

IPAC USER CONTACT INFORMATION

Agency: SWCA Environmental Consultants

Name: Tim Jordan

Address: 343 W. Franklin

City: Tucson

State: AZ

Zip: 85701

Email: timothy.jordan@swca.com

Phone: 5203259194

APPENDIX C

Arizona Environmental Online Review Tool Report

Arizona Environmental Online Review Tool Report



Arizona Game and Fish Department Mission

To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Cielo Solar 2023

User Project Number:

72181

Project Description:

The proposed project involves constructing a 150 MW + photovoltaic facility including a battery energy storage system.

Project Type:

Energy Storage/Production/Transfer, Energy Production (generation), photovoltaic solar facility (new)

Contact Person:

Tim Jordan

Organization:

SWCA Environmental Consultants

On Behalf Of:

CONSULTING

Project ID:

HGIS-19206

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. Arizona Wildlife Conservation Strategy (AWCS), specifically Species of Greatest Conservation Need (SGCN), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

Locations Accuracy Disclaimer:

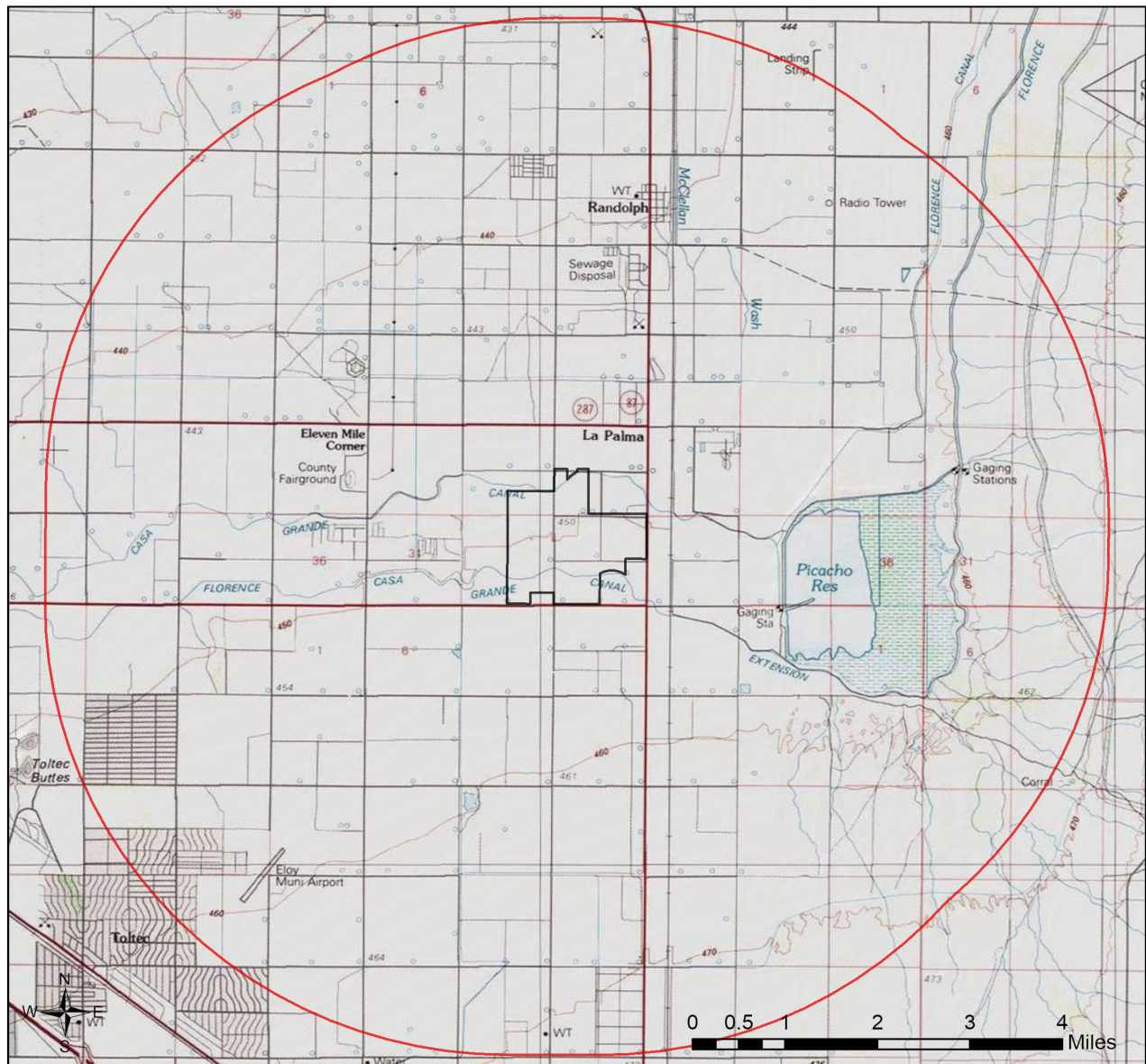
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.



Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366
Or
PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Cielo Solar 2023

USA Topo Basemap With Locator Map



-  Buffered Project Boundary
-  Project Boundary

Project Size (acres): 1,000.92

Lat/Long (DD): 32.8603 / -111.5300

County(s): Pinal

AGFD Region(s): Mesa

Township/Range(s): T6S, R8E; T7S, R8E

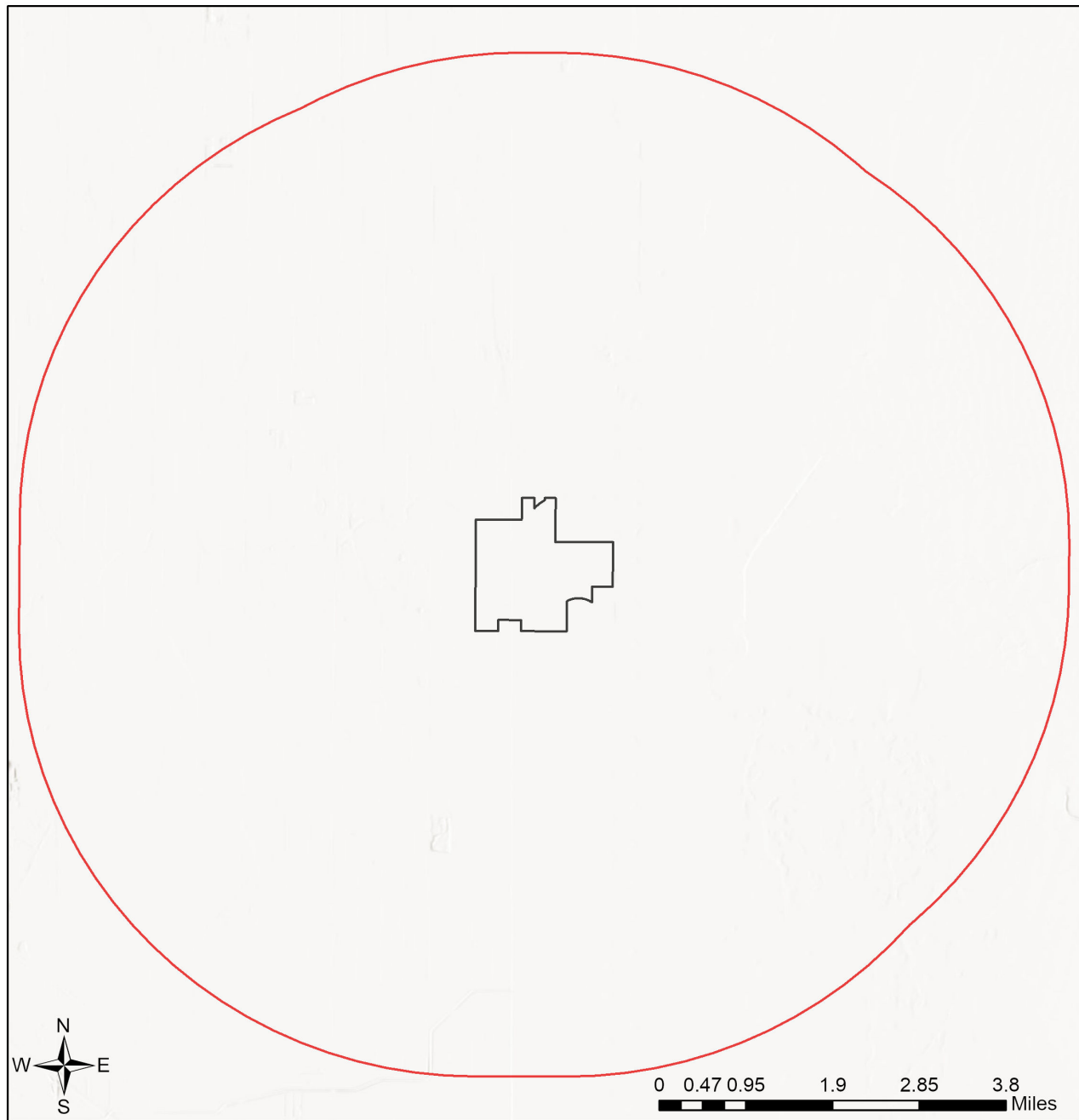
USGS Quad(s): ELOY NORTH



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community



Cielo Solar 2023

Web Map As Submitted By User



-  Buffered Project Boundary
-  Project Boundary

Project Size (acres): 1,000.92

Lat/Long (DD): 32.8603 / -111.5300

County(s): Pinal

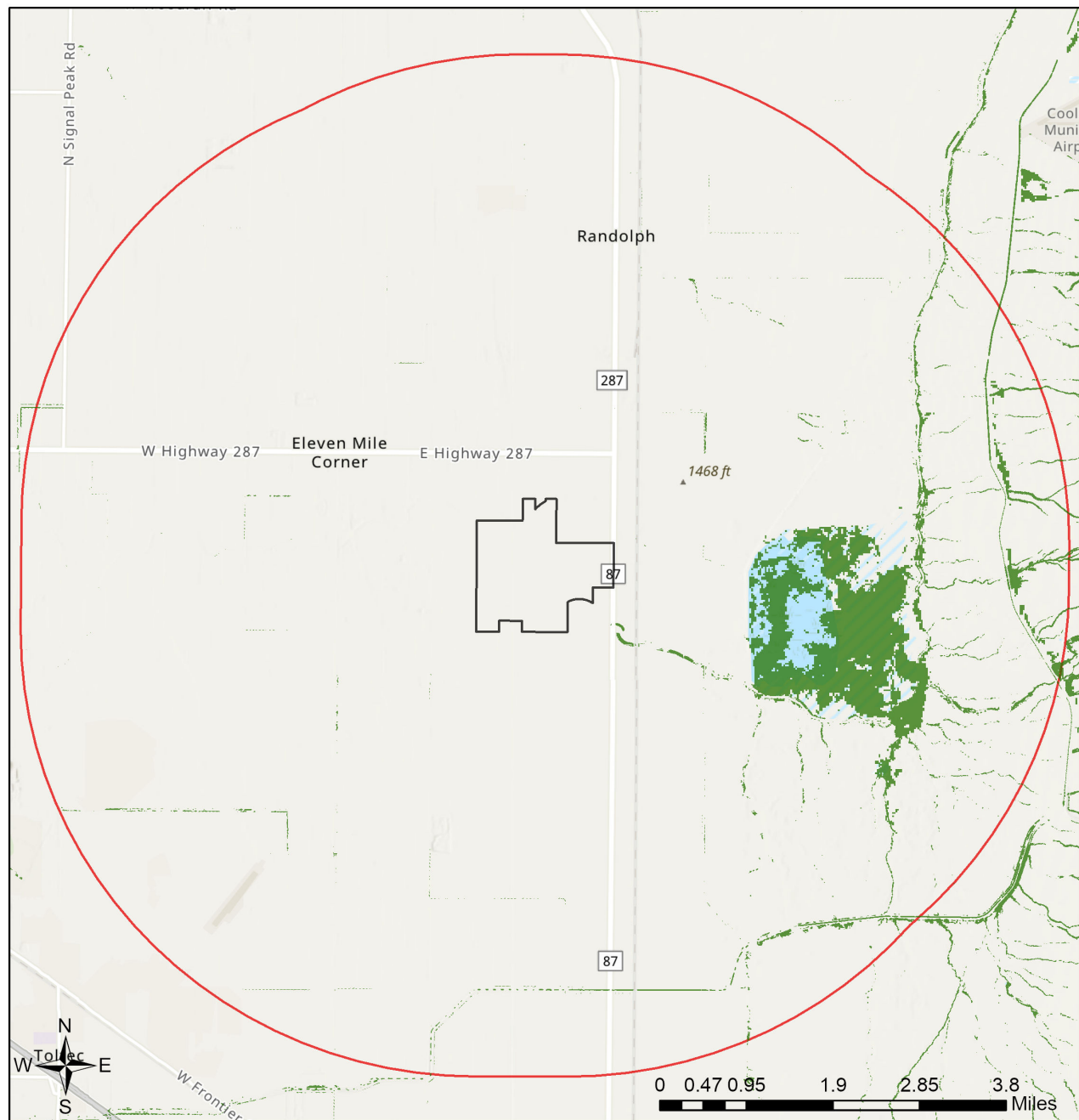
AGFD Region(s): Mesa

Township/Range(s): T6S, R8E; T7S, R8E

USGS Quad(s): ELOY NORTH

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Cielo Solar 2023 Important Areas



- Buffered Project Boundary
- Project Boundary
- Important Bird Areas
- Critical Habitat
- Pinal County Riparian
- Important Connectivity Zones
- Wildlife Connectivity

Project Size (acres): 1,000.92

Lat/Long (DD): 32.8603 / -111.5300

County(s): Pinal

AGFD Region(s): Mesa

Township/Range(s): T6S, R8E; T7S, R8E

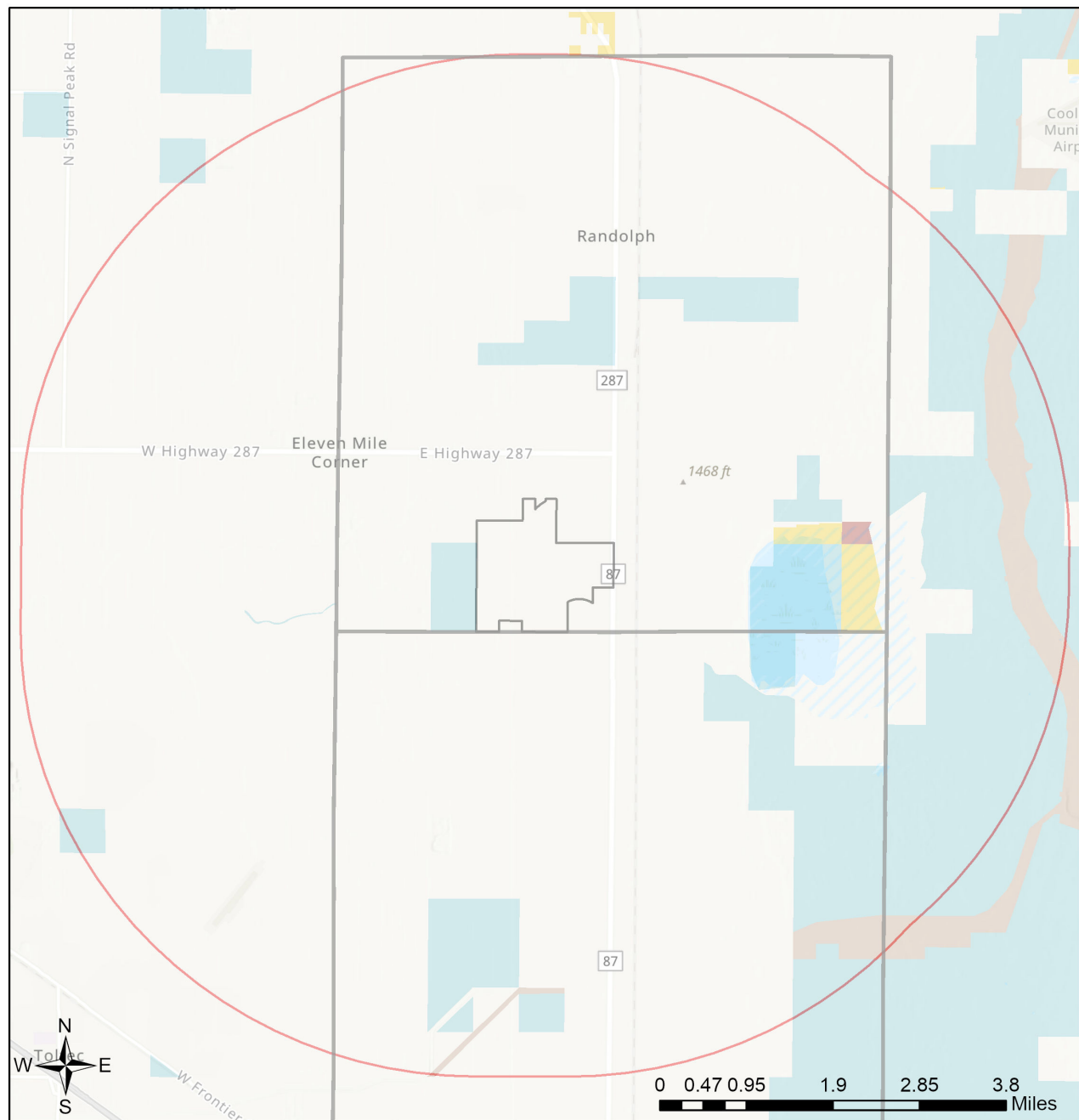
USGS Quad(s): ELOY NORTH

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cielo Solar 2023

Township/Ranges and Land Ownership



- | | |
|---|---|
| Buffered Project Boundary | National Park/Mon. |
| Project Boundary | Private |
| AZ Game & Fish Dept. | State & Regional Parks |
| BLM | State Trust |
| BOR | US Forest Service |
| Indian Res. | Wildlife Area/Refuge |
| Military | Township/Ranges |
| Mixed/Other | |

Project Size (acres): 1,000.92

Lat/Long (DD): 32.8603 / -111.5300

County(s): Pinal

AGFD Region(s): Mesa

Township/Range(s): T6S, R8E; T7S, R8E

USGS Quad(s): ELOY NORTH

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Special Status Species Documented within 5 Miles of Project Vicinity

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|-----------------------------|------------------------------------|-----|------|-----|-----|------|
| Athene cunicularia hypugaea | Western Burrowing Owl | SC | S | S | | 2 |
| Coccyzus americanus | Yellow-billed Cuckoo (Western DPS) | LT | S | S | | 1 |
| Empidonax traillii extimus | Southwestern Willow Flycatcher | LE | | | | 1 |
| Rallus obsoletus yumanensis | Yuma Ridgway's Rail | LE | | S | | 1 |

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/>

Special Areas Documented that Intersect with Project Footprint as Drawn

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|-----------------|---------------|-----|------|-----|-----|------|
| Riparian Area | Riparian Area | | | | | |

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/>

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|---------------------------------|------------------------------------|-----|------|-----|-----|------|
| Anthus spragueii | Sprague's Pipit | SC | | | | 2 |
| Aquila chrysaetos | Golden Eagle | | | S | | 2 |
| Artemisiospiza nevadensis | Sagebrush Sparrow | | | | | |
| Athene cunicularia hypugaea | Western Burrowing Owl | SC | S | S | | 2 |
| Auriparus flaviceps | Verdin | | | | | 2 |
| Buteo regalis | Ferruginous Hawk | SC | | S | | 2 |
| Buteo swainsoni | Swainson's Hawk | | | | | 2 |
| Calcarius ornatus | Chestnut-collared Longspur | | | | | 2 |
| Calypte costae | Costa's Hummingbird | | | | | 2 |
| Campylorhynchus brunneicapillus | Cactus Wren | | | | | 2 |
| Catharus ustulatus | Swainson's Thrush | | | | | 2 |
| Charadrius montanus | Mountain Plover | SC | | | | 2 |
| Chilomeniscus stramineus | Variable Sandsnake | | | | | 2 |
| Coccyzus americanus | Yellow-billed Cuckoo (Western DPS) | | | | | |
| Colaptes chrysoides | Gilded Flicker | | | S | | 2 |
| Columbina inca | Inca Dove | | | | | 2 |
| Cynanthus latirostris | Broad-billed Hummingbird | | S | | | 2 |
| Empidonax wrightii | Gray Flycatcher | | | | | 2 |
| Eumops perotis californicus | Greater Western Bonneted Bat | | | | | |
| Falco mexicanus | Prairie Falcon | | | | | 2 |
| Falco peregrinus anatum | American Peregrine Falcon | | | | | |
| Falco sparverius | American Kestrel | | | | | 2 |
| Gopherus morafkai | Sonoran Desert Tortoise | CCA | S | S | | 1 |

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|---------------------------|---------------------------|-----|------|-----|-----|------|
| Icterus bullockii | Bullock's Oriole | | | | | 2 |
| Incilius alvarius | Sonoran Desert Toad | | | | | 2 |
| Lanius ludovicianus | Loggerhead Shrike | SC | | | | 2 |
| Lasiurus blossevillii | Western Red Bat | | S | | | 2 |
| Lasiurus cinereus | Hoary Bat | | | | | 2 |
| Lasiurus xanthinus | Western Yellow Bat | | S | | | 2 |
| Lepus alleni | Antelope Jackrabbit | | | | | 2 |
| Lithobates yavapaiensis | Lowland Leopard Frog | SC | S | S | | 1 |
| Macrotus californicus | California Leaf-nosed Bat | SC | | S | | 2 |
| Megascops kennicottii | Western Screech-owl | | | | | |
| Melanerpes uropygialis | Gila Woodpecker | | | | | 2 |
| Melospiza lincolni | Lincoln's Sparrow | | | | | 2 |
| Micrathene whitneyi | Elf Owl | | | | | |
| Myotis velifer | Cave Myotis | SC | | S | | 2 |
| Myotis yumanensis | Yuma Myotis | SC | | | | 2 |
| Nyctinomops femorosaccus | Pocketed Free-tailed Bat | | | | | 2 |
| Parabuteo unicinctus | Harris's Hawk | | | | | 2 |
| Passerculus sandwichensis | Savannah Sparrow | | | | | 2 |
| Peucaea carpalis | Rufous-winged Sparrow | | | | | 2 |
| Poocetes gramineus | Vesper Sparrow | | | | | 2 |
| Spizella breweri | Brewer's Sparrow | | | | | 2 |
| Tadarida brasiliensis | Brazilian Free-tailed Bat | | | | | |
| Toxostoma bendirei | Bendire's Thrasher | | | | | 2 |
| Toxostoma lecontei | LeConte's Thrasher | | | S | | 2 |

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|---------------------|-------------------|-----|------|-----|-----|------|
| Callipepla gambelii | Gambel's Quail | | | | | |
| Pecari tajacu | Javelina | | | | | |
| Zenaida asiatica | White-winged Dove | | | | | |
| Zenaida macroura | Mourning Dove | | | | | |

Project Type: Energy Storage/Production/Transfer, Energy Production (generation), photovoltaic solar facility (new)

Project Type Recommendations:

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found

at: <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at <https://www.invasivespeciesinfo.gov/unitedstates/az.shtml> and the Arizona Native Plant Society <https://aznps.com/invas> for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at <https://imap.natureserve.org/imap/services/page/map.html>.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select "See What's Here" for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

For any powerlines built, proper design and construction of the transmission line is necessary to prevent or minimize risk of electrocution of raptors, owls, vultures, and golden or bald eagles, which are protected under state and federal laws. Limit project activities during the breeding season for birds, generally March through late August, depending on species in the local area (raptors breed in early February through May). Conduct avian surveys to determine bird species that may be utilizing the area and develop a plan to avoid disturbance during the nesting season. For underground powerlines, trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herpetofauna (snakes, lizards, tortoise) from entering ditches. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated.

Based on the project type entered, coordination with State Historic Preservation Office may be required (<https://azstateparks.com/>).

Based on the project type entered, coordination with U.S. Fish and Wildlife Service (Migratory Bird Treaty Act) may be required (<https://www.fws.gov/office/arizona-ecological-services>).

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:

HDMS records indicate that one or more **Listed, Proposed, or Candidate** species or **Critical Habitat** (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at <https://www.fws.gov/office/arizona-ecological-services> or:

Phoenix Main Office

9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office

201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office


SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies 6.1.2.1 and 7.1.2.4), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at:
<https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/>.



APPENDIX D
Public Participation Plan

The logo for the Southwest Council of Water Agencies (SWCA) is positioned vertically on the left side of the page. It consists of the letters 'S', 'W', 'C', and 'A' in a large, stylized, light blue font, stacked one above the other.

Cielo Solar Project Application for a Major Comprehensive Plan Amendment Public Participation Plan

MAY 2023

SUBMITTED TO
Pinal County Planning Division

PREPARED BY
SWCA Environmental Consultants

**CIELO SOLAR PROJECT
PUBLIC PARTICIPATION PLAN**

**PRE-APPLICATION PLANNING CASE NO. Z-PA-048-23
MCPA APPLICATION PLANNING CASE NO. PZ-PA-009-23**

Prepared for

Pinal County Planning Division

85 N. Florence Street
First Floor
P.O. Box 2973
Florence, Arizona 85132
(520) 866-6442

Prepared by

SWCA Environmental Consultants

20 E. Thomas Rd. #1700
Phoenix, Arizona 85012
(602) 274-3831
www.swca.com

On Behalf of

Pattern Solar and Storage Development, LLC

1201 Louisiana St., Suite 3200
Houston, Texas 77002
Attn: Ian Evans

May 2023

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A. INTRODUCTION

This report provides the summary of the public involvement activities and materials to be completed by Pattern Solar and Storage Development, LLC (Pattern) to support their request for a Major Comprehensive Plan Amendment (MCPA) for the Cielo Solar Project on unincorporated land in Pinal County.

Pattern has already been engaged with the community as part of last year's MCPA process. A copy of last year's Public Participation Results Report is on file with the Community Development Planning and Zoning Department. Additionally, Pattern was the Main Stage and Youth Agricultural/Livestock Blue Ribbon sponsor at this year's Pinal County Fair. Pattern representatives and staff were available during the fair to engage with residents and stakeholders about our projects.

B. REPORT PURPOSE

The purpose of the Public Participation Plan report is to document that Pattern intends to complete and fulfill the necessary public participation requirements for the Pinal County MCPA process, and to outline how it will be achieved. This includes providing information for each of the following topics, which are described in greater detail below:

- A description of the community involvement area.
- A list of stakeholders Pattern will contact to inform them about the application.
- A description of how Pattern will make information available to interested parties, prior to public hearings.
- A description of how Pattern will respond to stakeholders' feedback and recommendations.
- The timeline for the public participation program.

C. PROJECT DESCRIPTION

Pattern has requested approval of a Major Comprehensive Plan Amendment (MCPA) to the 2019 Pinal County Comprehensive Plan to construct and operate the Cielo Solar Project (Project), a photovoltaic (PV) solar facility and battery energy storage system (BESS) comprising of eleven parcels (Figure 1). Table 1 below lists the Project parcels, including the Assessor's Parcel Numbers (APNs), individual and total parcel acreage, and Public Land Survey System (PLSS) locations. The Project would redesignate approximately 1,086 acres from MLDR (Medium Low Density Residential) and Employment to Green Energy Production to allow for the Project's intended use.

Table 1. Proposed Comprehensive Plan Amendment Parcels

| APN | PLSS Location |
|-----------|---------------|
| 40142009A | 28 06S 08E |
| 40142009B | 28 06S 08E |
| 40143009B | 29 06S 08E |
| 401460010 | 32 06S 08E |

| | |
|-----------|------------|
| 401460030 | 32 06S 08E |
| 401470010 | 33 06S 08E |
| 401470020 | 33 06S 08E |
| 401470030 | 33 06S 08E |
| 401470040 | 32 06S 08E |
| 401470050 | 33 06S 08E |
| 401470060 | 33 06S 08E |

An energy storage facility (BESS) will also be developed with the PV solar field as part of the Project. Additionally, the Project would require a project substation, switchyard, operation and maintenance building, and associated project infrastructure.

Paved and unpaved rural roads would provide access to the site and adjacent properties. These roads include South Carter Lane and North la Palma Road, both running north to south through the Project site; State Hwy 87, running north to south adjacent to the easternmost portion of the Project; East Selma Hwy, running east to west adjacent to the southernmost portion of the Project; East Arizona Western Blvd and East Earley Road, both running east to west through the central portion of the Project; and East Laughlin Road, running east to west through the northernmost portion of the Project. The intersection of State Route 287 and State Route 87 is approximately 1 mile northeast of the Project. The intersection of Interstate 10 (I-10) and State Route 87 is approximately 8.5 miles south of the Project.

The amendment is needed to facilitate development of the Project, in turn allowing the contribution of clean, safe, affordable, and reliable energy to the regional transmission grid. The Project is anticipated to start construction in 2024 and be operational by 2025.

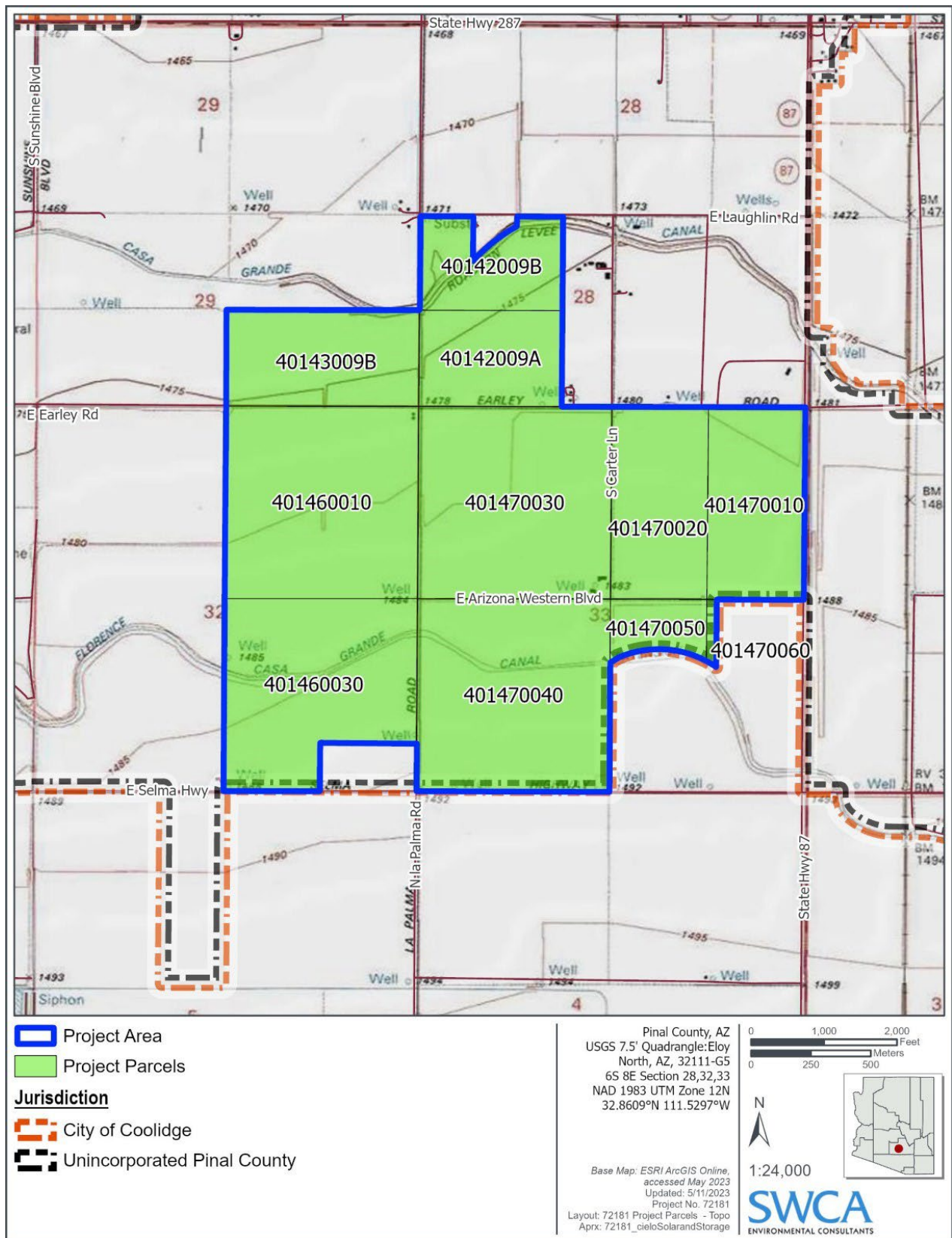


Figure 1. Project parcels.

D. DESCRIPTION OF COMMUNITY INVOLVEMENT AREA

The Project is located in unincorporated Pinal County, approximately 8 miles south of downtown Coolidge, AZ, approximately 3.5 miles south of central Randolph, Arizona, 3.6 miles north of Eloy, Arizona, and 4.8 miles southeast of Casa Grande, AZ. Existing land uses within 1 mile of the Project area include low density residential, agricultural, and utility, including two 500-kV transmission lines and one substation. Scattered single-family residences are located adjacent to the northeastern portion of the Project, including residences along East Laughlin Road and East Earley Road. No designated Open Space is located within the Project area.

Transportation and travel routes in the Project vicinity include State Route 87 running north to south, adjacent to the easternmost portion of the Project site, I-10 running east to west, approximately 8 miles south of the Project site, and several paved and unpaved local roads.

Existing utilities within the Project vicinity include a 500-kV, Tucson Electric Power Company-owned (TEP) transmission line, and the Pinal Central Substation (jointly owned by many utilities including Salt River Project-owned (SRP) and TEP). SunZia Transmission, LLC's transmission infrastructure, planned for construction completion in 2025, would also cross the northern portion of the Project Site. There are also numerous electrical distribution lines, communications cables, irrigation canals, laterals, and ditches on and in the vicinity of the site.

Land adjacent to the Project site is primarily privately owned and largely used for agricultural production; however, there is a portion of state owned ASLD land leased for agricultural use to the west of the Project. There are no areas designated as Open Space on the Project site. The Project would not impact known planned recreational uses.

The Project site is zoned as General Rural (GR), and the land uses entail a combination of active and fallow farmland.

E. PINAL COUNTY MCPA PROCESS

As part of the MCPA process, Pinal County requires the applicant to complete the following activities prior to a hearing with the Planning and Zoning Commission:

Table 2. Public Participation Activity Events and Timelines

| Public Participation Activity | Key Dates |
|---|--|
| Mail Notification letters to landowners within 1,200' of the Project | At least 15 days prior to the Neighborhood Meeting (Date TBD) |
| Install Broadcast Sign postings | At least 21 days prior to the Citizens' Advisory Committee meeting |
| Mail Notice of Hearing (NOH) to landowners within 600' of the Project | Done by County, at least 15 days prior to the Public Hearing of the Planning and Zoning Commission |
| Install Notice of Public Hearing small signs | At least 15 days prior to the Public Hearing of the Planning and Zoning Commission |

| | |
|--|---|
| Neighborhood Meeting | At least 15 days prior to the Public Hearing of the Planning and Zoning Commission, Date TBD |
| Newspaper posting of the NOH | Done by the County, 15 days prior to the Public Hearing of the Planning and Zoning Commission |
| Citizen Advisory Committee | September 7, 2023 |
| Public Hearing of the Planning and Zoning Commission | September 21, 2023 |
| Public Hearing of the Board of Supervisors | October 25, 2023 |

F. DESCRIPTION OF HOW PATTERN PLANS TO EXECUTE THE PINAL COUNTY MCPA PROCESS

Pattern’s proposed public participation activities will help to educate the public and interested parties about the proposed project and receive their input and opinions. The following mechanisms will allow for Pattern to provide opportunities for public education and input and meet Pinal County MCPA process requirements.

F.1 Stakeholders Identification

Pattern, supported by SWCA Environmental Consultants (SWCA), will develop a mailing list that will include stakeholders within 1,300 feet of the Project. Pattern plans to expand by an additional 100 feet beyond the 1,200 foot requirement to ensure any property owners on the edge of the 1,200-foot notice requirement are included. These mailing lists will be used to send out the Notification Letter to inform the stakeholders of the Neighborhood Meeting that will be held this summer 2023, date TBD (see Section F.3 and F.4 below). A detailed list of adjacent landowners within 1,300 feet of the Project will be provided as part of the Public Participation Plan Results report to be submitted to the county ahead of the Planning and Zoning Hearing.

F.2 Sign Posting

As required by the Pinal County MCPA process, Pattern will posted the recommended number of broadcast sign notifications around the project site, in accordance with the MCPA process guidelines for posting 21 calendar days prior to the Citizens’ Advisory Committee meeting. A list of sign locations along with the signed and notarized Affidavit of Posting of Broadcast Signs will be attached to the Public Participation Results report.

Additionally, as required by the Pinal County MCPA process, Pattern will install the Notification of Public Hearing small signs in accordance with the requirement for posting 15 days prior to the hearing.

F.3 Notice Mailing

Prior to mailing last year’s Notification Letter, on July 21, 2022 Pattern representatives canvassed residents located around the Project to introduce themselves, the company, and the Project. Pattern was able to answer many questions neighbors had about the project, provide a Project Fact Sheet, and leave the Project contact information for further communication. If no one was home, Pattern left a handwritten introduction note in mailboxes.

This outreach activity along with information and comments received from County Planning staff and other local residents, Pattern was able to incorporate changes to the Project and application this year to address their concerns.

Pattern intends to host a neighborhood meeting this summer 2023 and a copy of the Notification Letter Pattern intends to mail out will be included as an attachment to the Public Participation Results Report.

Pinal County Planning Department will mail the Notice of Public Hearing letter to the County's list of surrounding landowners. Pinal County Planning Department will also have published newspaper advertisements in local newspapers.

F.4 Neighborhood Meetings

Pattern will hold a public, in-person Neighborhood Meeting on a date TBD during evening hours at a nearby the project that is accessible to the public. Last year, Pattern held a public, in-person Neighborhood Meeting on Wednesday, August 17th from 5:00 to 7:00 PM at the Eloy City Hall Community Room located at 595 C Steet, Eloy, AZ 85131. Eleven members of the public attended the Neighborhood Meeting. Pattern and SWCA conducted the in-person meeting in a "Question and Answer" format, with posterboards where stakeholders could learn more about the project displayed around the room. Pattern plans to follow a similar format for this year's Neighborhood Meeting.

Pattern will provided meeting sign-in sheets, comment forms, posterboards, and light refreshments. A list of attendees from the Neighborhood Meeting will be attached to this Public Participation Results report.

G. PUBLIC PARTICIPATION PROGRAM SUMMARY

Table 4 provides a summary table for implementation of community outreach activities.

Table 4. Public Participation Activity Events

| Public Participation Activity | Primary Responsibility |
|--|------------------------|
| Mail Notification letters | Pattern |
| Install Broadcast Sign postings | Pattern |
| Mail Notice of Public Hearing letters | Pinal County |
| Install Notice of Public Hearing small signs | Pattern |
| Neighborhood Meeting | Pattern |
| Public Participation Results Report | Pattern |

H. NEXT STEPS

The overall goal of the stakeholder comment review and response process is to ensure that all substantive comments or questions are heard, responded to, tracked, and considered as part of the MCPA process.

Pattern is committed to listening and respecting the community through relationship building, open communication, and the reception of feedback. Stakeholder questions will be addressed during canvassing, phone calls, emails, and the Neighborhood Meeting. A list of additionally received comments

from the Neighborhood Meeting and their responses to date will be included in the Public Participation Results report. Pattern will consider stakeholder comments received within this context and will base responses to stakeholder comments on this premise. Pattern will respond to all comments that are substantive to the Project and its plans.

Additionally, Pattern will continue to be regularly available to answer questions from the public, as needed. Pattern representatives will keep records of the comments and/or questions provided, as well as Pattern's responses.

from the Neighborhood Meeting and their responses to date will be included in the Public Participation Results report. Pattern will consider stakeholder comments received within this context and will base responses to stakeholder comments on this premise. Pattern will respond to all comments that are substantive to the Project and its plans.

Additionally, Pattern will continue to be regularly available to answer questions from the public, as needed. Pattern representatives will keep records of the comments and/or questions provided, as well as Pattern's responses.



AGENDA ITEM

September 14, 2023 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #: 1030

Dept. Name: Community Development

Director: Brent Billingsley

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Work Session on case PZ-PA-010-23, A County initiated Major Comprehensive Plan Amendment request by SWCA Environmental Consultants for Casa Grande Carmel Solar Project, to re-designate 955.85± acres from Moderate Low Density Residential (MLDR) and Employment to Green Energy Production for a photovoltaic Solar Power Plant, located along east of Corrales Road, north of I-8, and 1.5 miles west of the city of Casa Grande in Pinal County. Supervisor District #3. (Glenn Bak/Brent Billingsley)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

N/A

| | | |
|------------------|--------------------|----------|
| History | | |
| Time | Who | Approval |
| 9/7/2023 8:51 AM | County Attorney | Yes |
| 9/7/2023 1:46 PM | County Manager | Yes |
| 9/7/2023 1:56 PM | Clerk of the Board | Yes |

ATTACHMENTS:

Click to download

☐ [Reference page](#)

☐ [Staff Report](#)

To view a copy of the Staff Presentation and Report for this Agenda Item please refer to Planning Case PZ-PA-006-23 BOS Agenda Item, and if applicable to view a copy of the Applicant Presentation if submitted for the Record.

PZ-PA-010-23

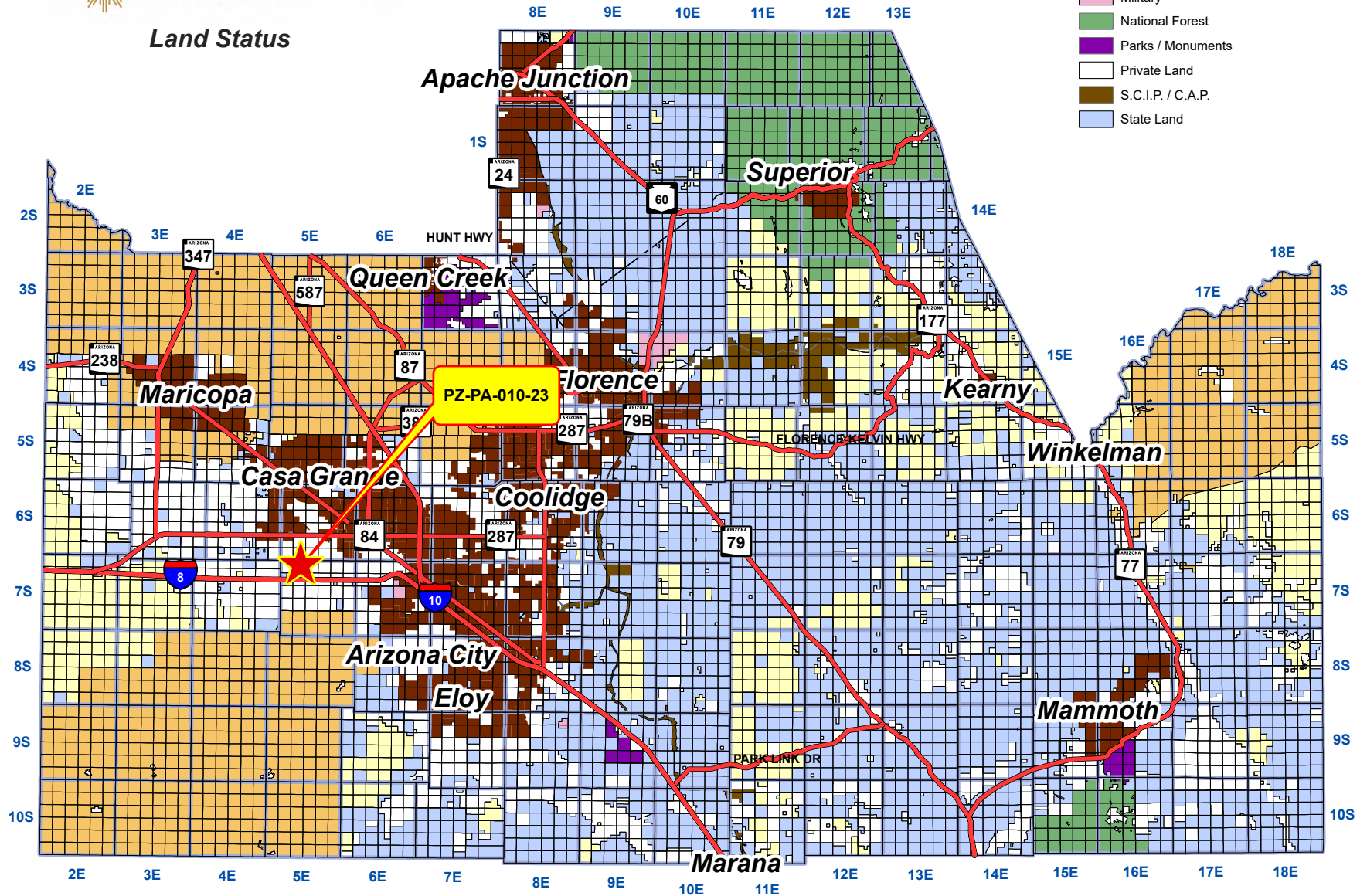


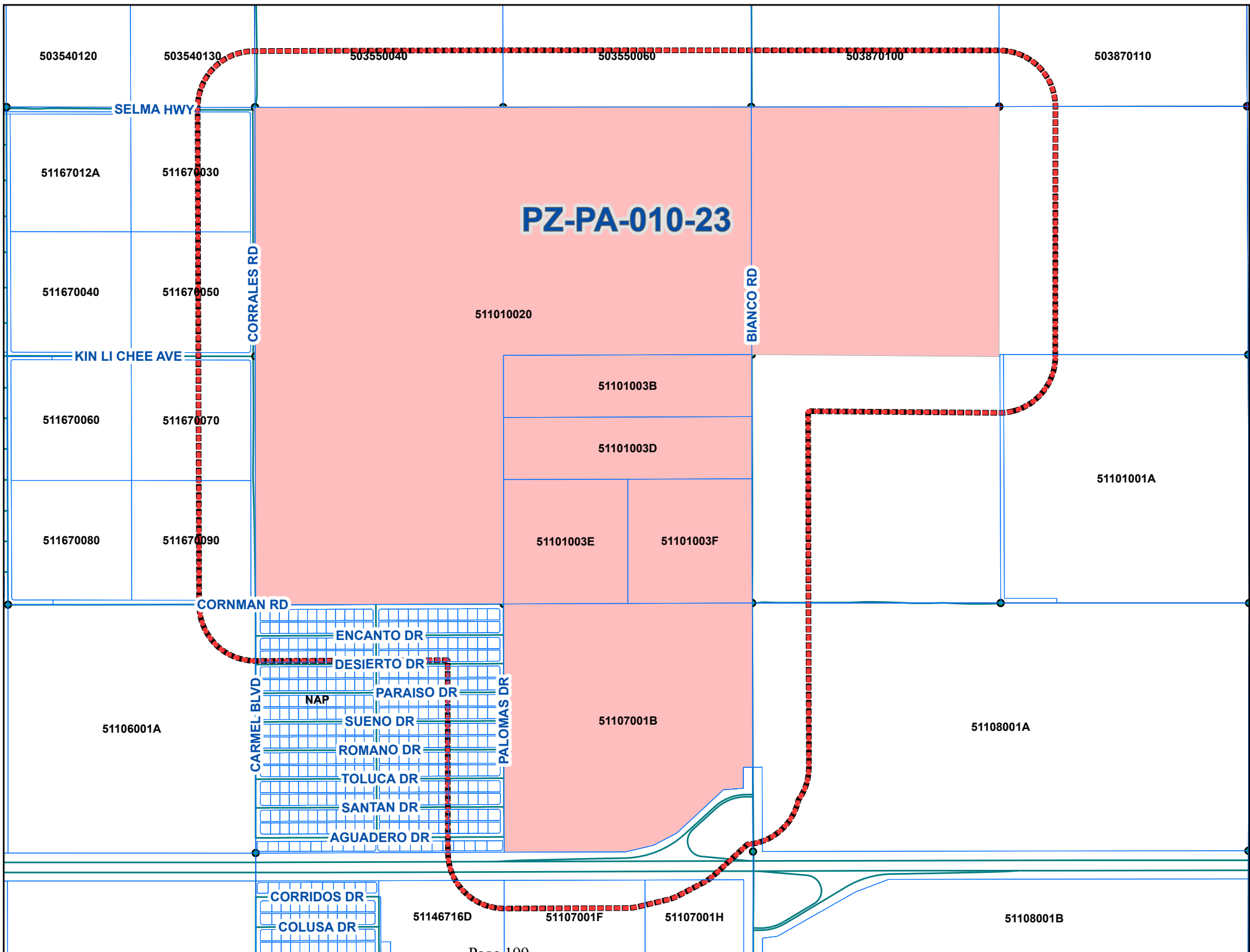
PINAL COUNTY
WIDE OPEN OPPORTUNITY

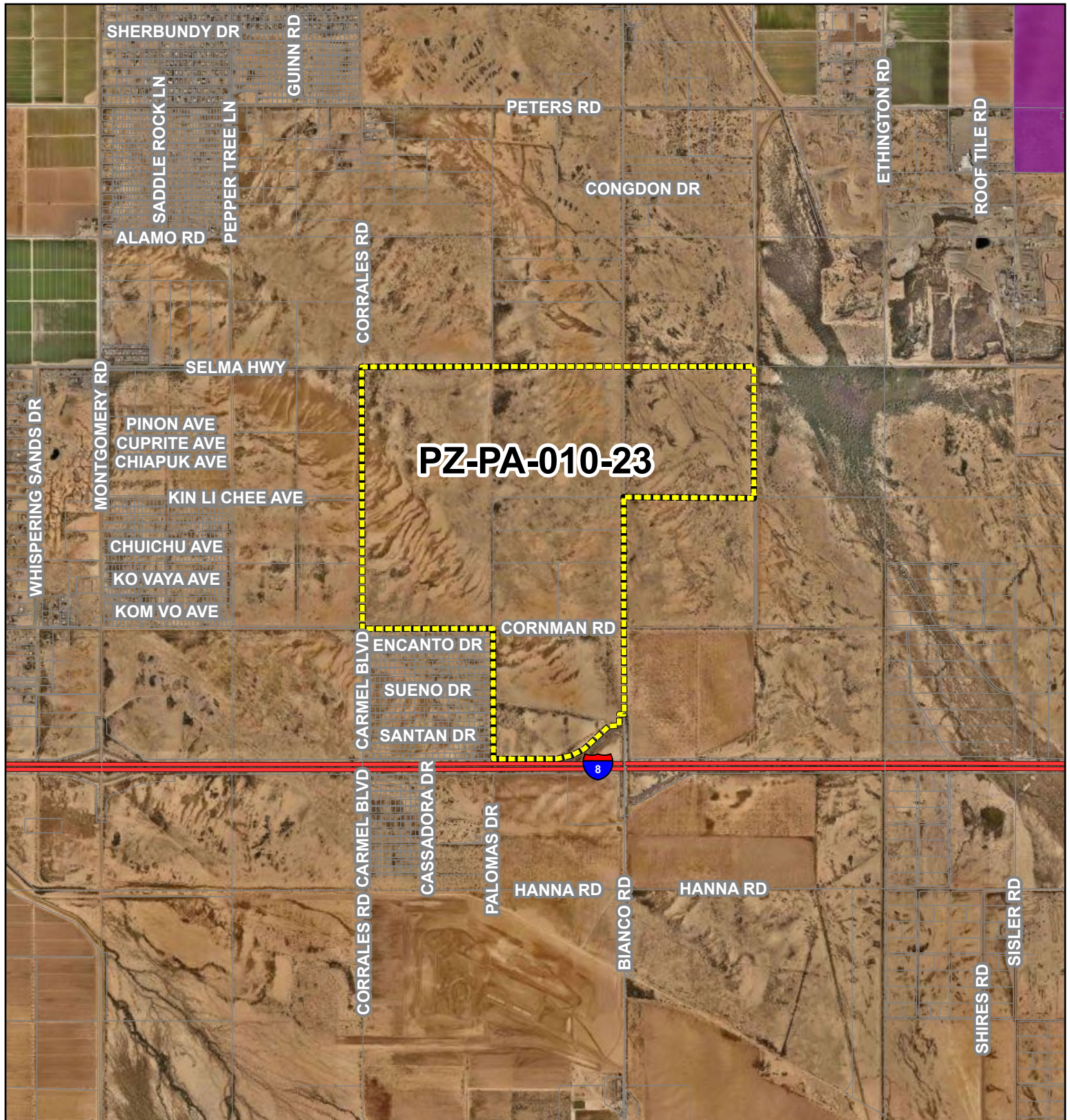
Land Status

Legend

- B.L.M.
- Indian Community
- Military
- National Forest
- Parks / Monuments
- Private Land
- S.C.I.P. / C.A.P.
- State Land





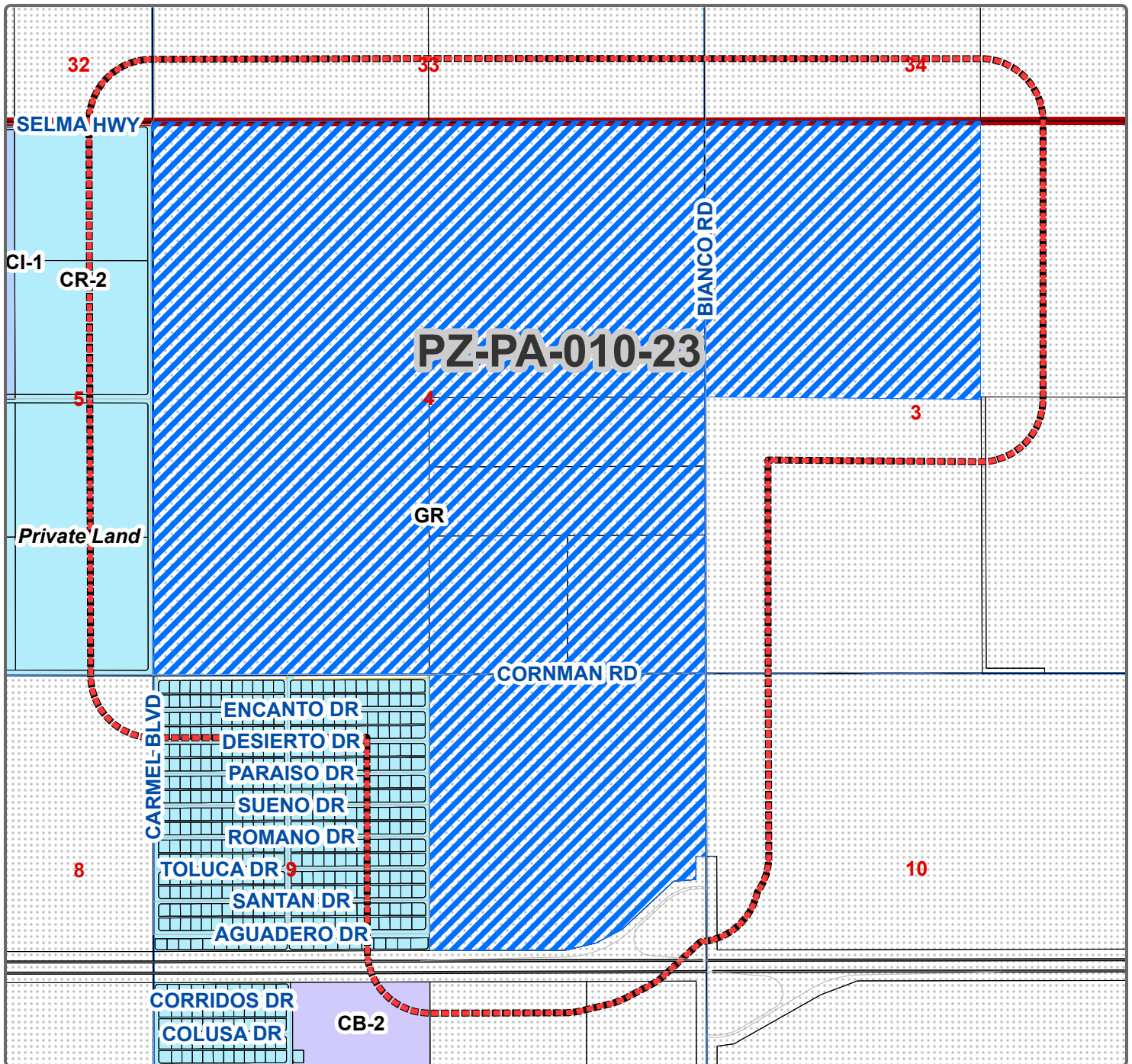


Community Development



PINAL COUNTY
WIDE OPEN OPPORTUNITY

PZ-PA-010-23



Community Development

PZ-PA-010-23 – PUBLIC HEARING/ACTION: Casa Grande Carmel Solar Park LLC, landowner, Cecelia Chiu, applicant, requesting a Major Comprehensive Plan Amendment to amend the Land Use Plan and re-designate 955.875± acres of land from Moderate Low Density Residential (1-3.5 du/ac), Employment, and Recreation/Conservation to Green Energy Production, to develop a solar energy production facility, situated on a portion of sections 3, 4, and 9, T07S, R05E, G&SRB&M (legal on file) tax parcels: 511-07-001B, 511-01-003E, 511-01-003F, 511-01-003D, 511-01-003B and a portion of 511-01-0020, located in the vicinity of Bianco and Cornman Roads in the SW Casa Grande area.

Current Zoning: GR

Requested Zoning: Rezone

Current Land Use: MLDR



Legal Description:

Situated on a portion of sections 3, 4, and 9, T07S, R05E, G&SRB&M (legal on file) tax parcels: 511-07-001B, 511-01-003E, 511-01-003F, 511-01-003D, 511-01-003B and a portion of 511-01-0020, located in the vicinity of Bianco and Cornman Roads in the SW Casa Grande area.

SEC 03, 04, 09 TWN 07S, RNG 05E



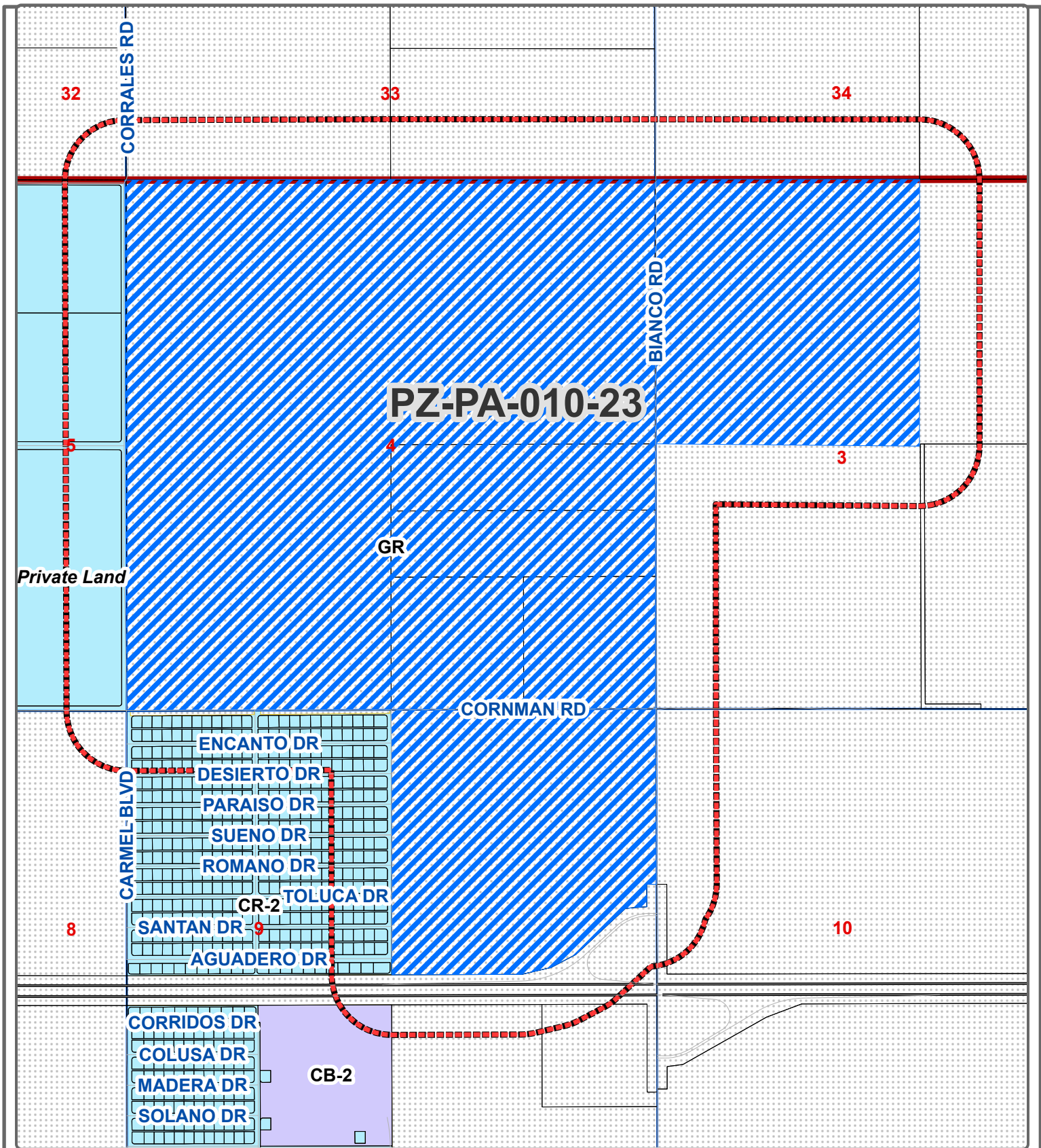
Owner/Applicant: CASA GRANDE CARMEL SOLAR PARK LLC / CECELIA CHIU

Drawn By: GIS / IT /LJT Date: 06/23/2023

Sheet No.
1 of 1

Section: 03,04,09 Township: 07S Range: 05E

Case Number: PZ-PA-010-23



Community Development

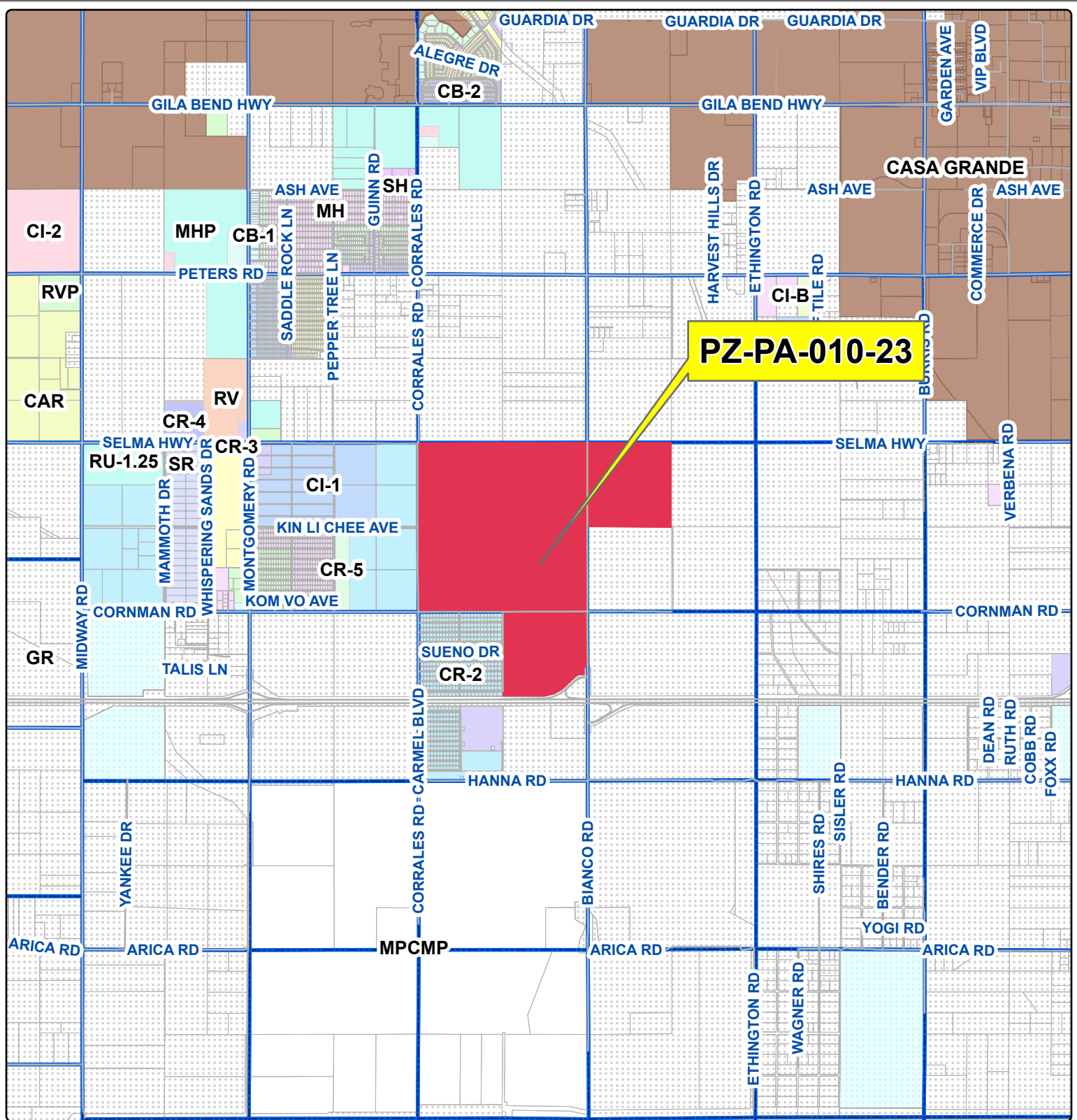
| | | |
|---|-----------------|--------------|
| Casa Grande Carmel Solar Park LLC / Cecelia Chiu | | |
| GIS/IT - LJT | 06/23/2023 | |
| Section 03,04,09 | Township 07S | Range 05E |
| PZ-PA-010-23 | | |

Legal Description:
 Situated on a portion of sections 3, 4, and 9, T07S, R05E,
 G&SRB&M (legal on file) tax parcels: 511-07-001B,
 511-01-003E, 511-01-003F, 511-01-003D, 511-01-003B
 and a portion of 511-01-0020, located in the vicinity of
 Blanco and Cornman Roads in the SW Casa Grande
 SEC 03, 04, 09TWN 07S, RNG 05E


 Sheet No.
 1 of 1



Current Zoning: GR
 Request Zoning: Rezone
 Current Land Use: MLDR



Community Development



PINAL COUNTY
WIDE OPEN OPPORTUNITY

Legal Description:

Situated on a portion of sections 3, 4, and 9, T07S, R05E, G&SRB&M (legal on file) tax parcels: 511-07-001B, 511-01-003E, 511-01-003F, 511-01-003D, 511-01-003B and a portion of 511-01-002D, located in the vicinity of Bianco and Cornman Roads in the SW Casa Grande area.

Page 203

Sections 03, 04, 09 T7N 07S, R5E



Sheet No.

1 of 1

Owner/Applicant: CASA GRANDE CARMEL
SOLAR PARK LLC / CECELIA CHIU

Drawn By: GIS / IT / LJT

Date: 06/23/2023

Section 03, 04, 09 Township 07S

Range 05E

Case Number: PZ-PA-010-23



PINAL COUNTY
WIDE OPEN OPPORTUNITY

Leo Lew
County Manager

APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA
(All Applications Must Be Typed or Written in Ink)

Comprehensive Plan Amendment unincorporated & Property Information:

(Feel free to include answers and to these questions in a Supplementary Narrative, when doing so write see narrative on the space provided)

1. The legal description of the property: Refer to Appendix A of Narrative Report
2. Parcel Number(s): 51101003B Total Acreage: 40.393
3. Current Land Use Designation: Moderate Low Density Residential
4. Requested Land Use Designation: Green Energy Production
5. Date of Concept Review: May 23, 2023 Concept Review Number: Z-PA-058-23
6. Why is this Comprehensive Plan Amendment being requested? (You must provide a summary of the anticipated development on this page, if not provided, the application cannot be processed.): See Narrative Report
7. Discuss any recent changes in the area that would support your application. See Narrative Report
8. Explain why the proposed amendment is needed and necessary at this time. See Narrative Report

INV#: _____ AMT: _____ DATE: _____ CASE: _____ Xref: _____

COMMUNITY DEVELOPMENT
Planning Division

85 N. Florence, St, PO Box 2973, Florence, AZ 85132 T 520-866-6442 FREE 888-431-1311 F 520-866-6530
www.pinalcountya.gov

PINAL COUNTY COMPREHENSIVE PLAN AMENDMENT APPLICATION

IN ADDITION TO THIS APPLICATION, YOU WILL NEED TO SUBMIT:

- ☐ A. **Certified Boundary Survey**, including legal descriptions of the proposed designations
- ☐ B. Location map which identifies the property and its relationship to Pinal County environs.
- ☐ C. Map showing the topography of the property.
- ☐ D. Site map which specifically identifies the property including parcels under separate ownership.
- ☐ E. Property owner(s) authorization for the Comprehensive Plan Amendment.
- ☐ F. Other information as may be determined necessary by the Planning staff or other information the applicant feels is pertinent to this request.
- ☐ G. Non-refundable filing fee as shown on the cover page.
- ☐ H. Narrative in PDF format.
- ☐ I. Neighborhood meeting report

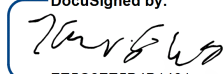
Your application must be submitted digitally via the online submittal portal site at <https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>

Please call or email the Planning Division for more information.

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Casa Grande Carmel Solar Park LLC 1501 McKinney St, Houston TX, 77002 **713-301-0141**

| | | |
|-------------------------------|---------|--------------|
| Name of Landowner (Applicant) | Address | Phone Number |
|-------------------------------|---------|--------------|


DocuSigned by:

 FE5C6FE5B4B1401...

kristofer.cheney@edp.com

| | |
|------------------------------------|----------------|
| Signature of Landowner (Applicant) | E-Mail Address |
|------------------------------------|----------------|

Cecilia Chiu 710 NW 14th Ave., Suite 250, Portland, OR 97209 **346-552-2737**

| | | |
|---------------|---------|--------------|
| Name of Agent | Address | Phone Number |
|---------------|---------|--------------|

DocuSigned by:

 EE8481EFE0F2458...

cecilia.chiu@edp.com

| | |
|--------------------|----------------|
| Signature of Agent | E-Mail Address |
|--------------------|----------------|

The Agent has the authority to act on behalf of the landowner. The Agent will be the contact person for Planning staff and must be present at all hearings. Please use the attached Agency Authorization form, if applicable

AGENCY AUTHORIZATION

(To be completed by landowners of subject property when landowners do not represent themselves. Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals and cannot be submitted digitally)

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Altura Properties LLC, an Arizona Limited Liability Company

[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of 40.393 acres located at

South Bianco Rd, near intersection with Comman Rd, Pinal County

[Insert Address of Property]

as assessor parcel number 51101003B

and legally described as follows:

[Insert Parcel Number]

[Legal Description is attached hereto as Exhibit A]

Said property is hereinafter referred to as the "Property."

Owner hereby appoints Casa Grande Carmel Solar Park LLC, a Delaware Limited Liability Company

[Insert Agent's Name. If the Agent Is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

[Signature] _____

[Signature] _____

[Address] _____

[Address] _____

Dated: _____

Dated: _____

STATE OF _____)
COUNTY OF _____) ss.

The foregoing instrument was acknowledged before me this _____ day of _____ by _____
[Insert Name of Signor(s)]

My commission expires _____

Printed Name of Notary

Signature of Notary Public

Corporate **PROPERTY OWNER** signature block and acknowledgment the appropriate corporate officer or trustee signs this signature block **NOT** the block on the previous page.

Altura Properties, LLC
 [Insert Company or Trustee's Name]
 By: [Signature]
 [Signature of Authorized Officer or Trustee]
 Its: CEO
 [Insert Title]

Dated: 6/7/2023

STATE OF Arizona)
) ss.
 COUNTY OF COCONINO)

The foregoing instrument was acknowledged before me, this 7 day of June,
2023, by Michael Welnick Jr CEO of
Altura Properties LLC, an Arizona
 [Insert Signor's Name] [Insert Title]
 [Insert Name of Company or Trust] [Insert State of Incorporation, if applicable]

and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

My commission expires: 07/25

[Signature]

Notary Public



ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF _____)
) ss.
 COUNTY OF _____)

On this _____ day of _____, _____, before me, the undersigned, personally appeared

 [Insert Signor's Name] Who acknowledged himself/herself to be

 [Title of Office Held] of _____
 [Second Company]

As _____ for _____, and who being
 [i.e., member, manager, etc.] [Owner's Name]

Authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

My commission expires: _____

 Printed Name of Notary

 Signature of Notary



PINAL COUNTY
WIDE OPEN OPPORTUNITY

Leo Lew
County Manager

APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA
(All Applications Must Be Typed or Written in Ink)

Comprehensive Plan Amendment unincorporated & Property Information:

(Feel free to include answers and to these questions in a Supplementary Narrative, when doing so write see narrative on the space provided)

1. The legal description of the property: Refer to Appendix A of Narrative Report
2. Parcel Number(s): 51101003D Total Acreage: 40.395
3. Current Land Use Designation: Moderate Low Density Residential
4. Requested Land Use Designation: Green Energy Production
5. Date of Concept Review: May 23, 2023 Concept Review Number: Z-PA-058-23
6. Why is this Comprehensive Plan Amendment being requested? (You must provide a summary of the anticipated development on this page, if not provided, the application cannot be processed.): See Narrative Report
7. Discuss any recent changes in the area that would support your application. See Narrative Report
8. Explain why the proposed amendment is needed and necessary at this time. See Narrative Report










INV#: _____ AMT: _____ DATE: _____ CASE: _____ Xref: _____

COMMUNITY DEVELOPMENT
Planning Division

85 N. Florence, St, PO Box 2973, Florence, AZ 85132 T 520-866-6442 FREE 888-431-1311 F 520-866-6530
www.pinalcountya.gov

PINAL COUNTY COMPREHENSIVE PLAN AMENDMENT APPLICATION

IN ADDITION TO THIS APPLICATION, YOU WILL NEED TO SUBMIT:

-  A. **Certified Boundary Survey**, including legal descriptions of the proposed designations
-  B. Location map which identifies the property and its relationship to Pinal County environs.
-  C. Map showing the topography of the property.
-  D. Site map which specifically identifies the property including parcels under separate ownership.
-  E. Property owner(s) authorization for the Comprehensive Plan Amendment.
-  F. Other information as may be determined necessary by the Planning staff or other information the applicant feels is pertinent to this request.
-  G. Non-refundable filing fee as shown on the cover page.
-  H. Narrative in PDF format.
-  I. Neighborhood meeting report

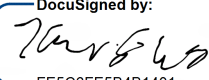
Your application must be submitted digitally via the online submittal portal site at <https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>

Please call or email the Planning Division for more information.

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Casa Grande Carmel Solar Park LLC 1501 McKinney St, Houston TX, 77002 **713-301-0141**

| | | |
|-------------------------------|---------|--------------|
| Name of Landowner (Applicant) | Address | Phone Number |
|-------------------------------|---------|--------------|


DocuSigned by:

 FE5C6FE5B4B1401...

kristofer.cheney@edp.com

| | |
|------------------------------------|----------------|
| Signature of Landowner (Applicant) | E-Mail Address |
|------------------------------------|----------------|

Cecilia Chiu 710 NW 14th Ave., Suite 250, Portland, OR 97209 **346-552-2737**

| | | |
|---------------|---------|--------------|
| Name of Agent | Address | Phone Number |
|---------------|---------|--------------|

DocuSigned by:

 EE8481EFE0F2458...

cecilia.chiu@edp.com

| | |
|--------------------|----------------|
| Signature of Agent | E-Mail Address |
|--------------------|----------------|

The Agent has the authority to act on behalf of the landowner. The Agent will be the contact person for Planning staff and must be present at all hearings. Please use the attached Agency Authorization form, if applicable

AGENCY AUTHORIZATION

(To be completed by landowners of subject property when landowners do not represent themselves. Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals and cannot be submitted digitally)

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Michael Hu and Lei Zhao

[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]
hereinafter referred to as "Owner," is/are the owner(s) of 40.395 acres located at
South Bianco Rd, near intersection with Cornman Rd, Pinal County, and further identified

[Insert Address of Property]
as assessor parcel number 51101003D and legally described as follows:
[Insert Parcel Number]

[Legal Description is attached hereto as Exhibit A]

Said property is hereinafter referred to as the "Property."

Owner hereby appoints Casa Grande Carmel Solar Park LLC, a Delaware Limited Liability Company

[Insert Agent's Name. If the Agent Is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

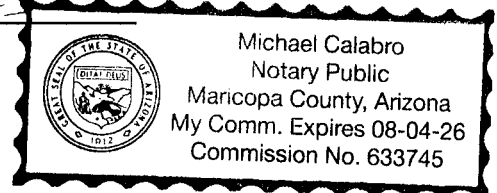
Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

[Signature] [Signature]
[Address] 945 E Prescott Pl, Chandler, AZ 85249
Dated: 6/20/23

[Signature] [Signature]
[Address] 945 E. Prescott Pl Chandler, AZ 85249
Dated: 6/20/23

STATE OF Arizona)
COUNTY OF Maricopa) ss.



The foregoing instrument was acknowledged before me this 20th day of June by Lei Zhao and Michael Hu.
[Insert Name of Signor(s)]

My commission expires 08/04/2026

Michael Calabro
Printed Name of Notary

[Signature]
Signature of Notary Public



PINAL COUNTY
WIDE OPEN OPPORTUNITY

Leo Lew
County Manager

APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA
(All Applications Must Be Typed or Written in Ink)

Comprehensive Plan Amendment unincorporated & Property Information:

(Feel free to include answers and to these questions in a Supplementary Narrative, when doing so write see narrative on the space provided)










1. The legal description of the property: Refer to Appendix A of Narrative Report
2. Parcel Number(s): 51101003E, 51101003F Total Acreage: 80.8
3. Current Land Use Designation: Moderate Low Density Residential
4. Requested Land Use Designation: Green Energy Production
5. Date of Concept Review: May 23, 2023 Concept Review Number: Z-PA-058-23
6. Why is this Comprehensive Plan Amendment being requested? (You must provide a summary of the anticipated development on this page, if not provided, the application cannot be processed.): See Narrative Report
7. Discuss any recent changes in the area that would support your application. See Narrative Report
8. Explain why the proposed amendment is needed and necessary at this time. See Narrative Report

INV#: _____ AMT: _____ DATE: _____ CASE: _____ Xref: _____
COMMUNITY DEVELOPMENT
Planning Division

85 N. Florence, St, PO Box 2973, Florence, AZ 85132 T 520-866-6442 FREE 888-431-1311 F 520-866-6530
www.pinalcountyz.gov

PINAL COUNTY COMPREHENSIVE PLAN AMENDMENT APPLICATION

IN ADDITION TO THIS APPLICATION, YOU WILL NEED TO SUBMIT:

-  A. **Certified Boundary Survey**, including legal descriptions of the proposed designations
-  B. Location map which identifies the property and its relationship to Pinal County environs.
-  C. Map showing the topography of the property.
-  D. Site map which specifically identifies the property including parcels under separate ownership.
-  E. Property owner(s) authorization for the Comprehensive Plan Amendment.
-  F. Other information as may be determined necessary by the Planning staff or other information the applicant feels is pertinent to this request.
-  G. Non-refundable filing fee as shown on the cover page.
-  H. Narrative in PDF format.
-  I. Neighborhood meeting report

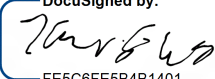
Your application must be submitted digitally via the online submittal portal site at <https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>

Please call or email the Planning Division for more information.

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Casa Grande Carmel Solar Park LLC 1501 McKinney St, Houston TX, 77002 **713-301-0141**

| | | |
|-------------------------------|---------|--------------|
| Name of Landowner (Applicant) | Address | Phone Number |
|-------------------------------|---------|--------------|

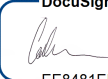
DocuSigned by:

 FE5C6FE5B4B1401...

kristofer.cheney@edp.com

| | |
|------------------------------------|----------------|
| Signature of Landowner (Applicant) | E-Mail Address |
|------------------------------------|----------------|

Cecilia Chiu 710 NW 14th Ave., Suite 250, Portland, OR 97209 **346-552-2737**

| | | |
|---------------|---------|--------------|
| Name of Agent | Address | Phone Number |
|---------------|---------|--------------|

DocuSigned by:

 EE8481EFE0F2458...

cecilia.chiu@edp.com

| | |
|--------------------|----------------|
| Signature of Agent | E-Mail Address |
|--------------------|----------------|

The Agent has the authority to act on behalf of the landowner. The Agent will be the contact person for Planning staff and must be present at all hearings. Please use the attached Agency Authorization form, if applicable

AGENCY AUTHORIZATION

(To be completed by landowners of subject property when landowners do not represent themselves. Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals and cannot be submitted digitally)

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Quantum Resource Group Limited Partnership, a Nevada Limited Partnership

[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of 80.8 acres located at
Comman Rd & Bianco Rd, Pinal County

[Insert Address of Property]

as assessor parcel number 51101003E, 51101003F and legally described as follows:

[Insert Parcel Number]

[Legal Description is attached hereto as Exhibit A]

Said property is hereinafter referred to as the "Property."

Owner hereby appoints Casa Grande Carmel Solar Park LLC, a Delaware Limited Liability Company

[Insert Agent's Name. If the Agent Is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

[Signature] _____

[Signature] _____

[Address] _____

[Address] _____

Dated: _____

Dated: _____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of __, ____ by _____
[Insert Name of Signor(s)]

My commission expires _____

Printed Name of Notary

Signature of Notary Public

Corporate PROPERTY OWNER signature block and acknowledgment the appropriate corporate officer or trustee signs this signature block NOT the block on the previous page.

[Insert Company or Trustee's Name]

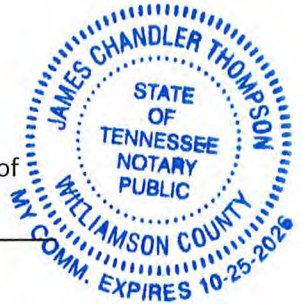
By: _____
[Signature of Authorized Officer or Trustee]

Its: _____
[Insert Title]

Dated: 6-16-2023

STATE OF Tennessee)
) ss.
COUNTY OF Williamson)

The foregoing instrument was acknowledged before me, this 16th day of June, 2023, by Donald Augustus Fugie, owner of _____
[Insert Signor's Name] [Insert Title]
Quantum Resource Group LP, an Nevada _____
[Insert Name of Company or Trust] [Insert State of Incorporation, if applicable]



and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

My commission expires: 10-25-2026

James Chandler Thompson
Notary Public

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, _____, before me, the undersigned, personally appeared

[Insert Signor's Name] Who acknowledged himself/herself to be

_____ of _____
[Title of Office Held] [Second Company]

As _____ for _____, and who being
[i.e, member, manager, etc.] [Owner's Name]

Authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

My commission expires: _____

Printed Name of Notary

Signature of Notary



APPLICATION FOR A COMPREHENSIVE PLAN AMENDMENT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA
(All Applications Must Be Typed or Written in Ink)

Comprehensive Plan Amendment unincorporated & Property Information:

(Feel free to include answers and to these questions in a Supplementary Narrative, when doing so write see narrative on the space provided)

1. The legal description of the property: Refer to Appendix A of Narrative Report
2. Parcel Number(s): Portion of 511-010-020; 511.-01-003B; 511-01-003D; 511-01-033E; 511-01-003F; 511-07-001B Total Acreage: 955.875; See Boundary Survey
3. Current Land Use Designation: Moderate Low Density Residential, Employment, and Recreation/Conservation
4. Requested Land Use Designation: Green Energy Production
5. Date of Concept Review: May 23, 2023 Concept Review Number: Z-PA-058-23
6. Why is this Comprehensive Plan Amendment being requested? (You must provide a summary of the anticipated development on this page, if not provided, the application cannot be processed.): See Narrative Report
7. Discuss any recent changes in the area that would support your application. See Narrative Report
8. Explain why the proposed amendment is needed and necessary at this time. See Narrative Report










INV#: _____ AMT: _____ DATE: _____ CASE: _____ Xref: _____

COMMUNITY DEVELOPMENT
Planning Division

85 N. Florence, St, PO Box 2973, Florence, AZ 85132 T 520-866-6442 FREE 888-431-1311 F 520-866-6530
www.pinalcountyyaz.gov

PINAL COUNTY COMPREHENSIVE PLAN AMENDMENT APPLICATION

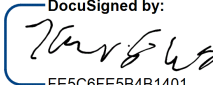
IN ADDITION TO THIS APPLICATION, YOU WILL NEED TO SUBMIT:

-  A. **Certified Boundary Survey**, including legal descriptions of the proposed designations
-  B. Location map which identifies the property and its relationship to Pinal County environs.
-  C. Map showing the topography of the property.
-  D. Site map which specifically identifies the property including parcels under separate ownership.
-  E. Property owner(s) authorization for the Comprehensive Plan Amendment.
-  F. Other information as may be determined necessary by the Planning staff or other information the applicant feels is pertinent to this request.
-  G. Non-refundable filing fee as shown on the cover page.
-  H. Narrative in PDF format.
-  I. Neighborhood meeting report

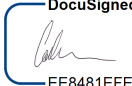
Your application must be submitted digitally via the online submittal portal site at <https://citizenaccess.pinalcountyz.gov/CitizenAccess/Default.aspx>
Please call or email the Planning Division for more information.

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

| | | |
|--|-------------------------------------|---------------------|
| Casa Grande Carmel Solar Park LLC | 1501 McKinney St, Houston TX, 77002 | 713-301-0141 |
| Name of Landowner (Applicant) | Address | Phone Number |

| | |
|---|--------------------------|
| DocuSigned by:  <small>FE5C6FE5B4B1401</small> | kristofer.cheney@edp.com |
| Signature of Landowner (Applicant) | E-Mail Address |

| | | |
|---------------------|--|---------------------|
| Cecilia Chiu | 710 NW 14th Ave., Suite 250, Portland OR 97209 | 346-552-2737 |
| Name of Agent | Address | Phone Number |

| | |
|--|----------------------|
| DocuSigned by:  <small>EE8481EFE0F2458...</small> | cecilia.chiu@edp.com |
| Signature of Agent | E-Mail Address |

The Agent has the authority to act on behalf of the landowner. The Agent will be the contact person for Planning staff and must be present at all hearings. Please use the attached Agency Authorization form, if applicable

The logo for the Southwest Council of Water Engineers and Surveyors (SWCA) is positioned vertically on the left side of the page. It consists of the letters 'S', 'W', 'C', and 'A' in a large, stylized, light blue font, stacked one above the other.

Casa Grande Carmel Solar Park Project Application for a Major Comprehensive Plan Amendment Narrative Report

JUNE 2023

SUBMITTED TO

Pinal County Planning Division

PREPARED BY

SWCA Environmental Consultants

ON BEHALF OF

Casa Grande Carmel Solar Park LLC

**CASA GRANDE CARMEL SOLAR PARK PROJECT
APPLICATION FOR A MAJOR
COMPREHENSIVE PLAN AMENDMENT
NARRATIVE REPORT**

Z-PA-058-23

Prepared for

Pinal County Planning Division
85 North Florence Street, First Floor
P.O. Box 2973
Florence, Arizona 85132
(520) 866-6442
Attn: Glenn Bak

Prepared by

SWCA Environmental Consultants
20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012
(602) 274-3831
www.swca.com

On Behalf of

Casa Grande Carmel Solar Park LLC
1501 McKinney Street, Suite 1300
Houston, Texas 77010
(346) 552-2737
Attn: Cecilia Chiu

June 2023

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A. EXECUTIVE SUMMARY

Casa Grande Carmel Solar Park LLC, a subsidiary of EDP Renewables North America LLC (Applicant), is requesting a major comprehensive plan amendment (MCPA) to the 2019 Pinal County Comprehensive Plan (Comprehensive Plan) (Pinal County 2021) to construct and operate the Casa Grande Carmel Solar Park Project (Project). The Project would include solar photovoltaic (PV) panels, a potential battery energy storage system (BESS), a project substation, and a generation tie transmission line (gen-tie line) (Figure 1, Figure B-1 in Appendix B). The Project includes a total of six parcels on approximately 955.875 acres in unincorporated Pinal County, Arizona (herein referred to as the MCPA Area). Table 1 below lists the Project parcels, including the Assessor's Parcel Numbers (APNs), individual and total parcel acreage, and Public Land Survey System (PLSS) locations. A legal description of the Project (Appendix A) and site plan (Appendix B) is included as a part of this narrative report.

Table 1. Proposed Comprehensive Plan Amendment Parcels

| APN | Acreage | PLSS Location |
|----------------------|-----------------------|-----------------|
| 511-01-0020 | 643.773 ^{ab} | 3 and 4 07S 05E |
| 511-01-003B | 40.393 | 4 07S 05E |
| 511-01-003D | 40.395 | 4 07S 05E |
| 511-01-003E | 40.397 | 4 07S 05E |
| 511-01-003F | 40.403 | 4 07S 05E |
| 511-07-001B | 150.514 ^a | 9 07S 05E |
| Total Acreage | 955.875 | - |

^a The MCPA Area includes a total of 4.003 acres within APN 511-01-0020 which are considered County Fee land located along Bianco Road (east and west 33 feet). This total is not reflected in the total acreage of APN 511-01-0020 (640.274 acres) as defined by the boundary survey. Also, the MCPA Area includes a total of 1.338-acre within APN 511-07-001B which is considered County Fee land located along Bianco Road (west 33 feet). This total is not reflected in the total acreage of APN 511-07-001B (149.176 acres) as defined by the boundary survey.

^b A 0.504-acre portion of parcel 511-01-0020 currently designated as Recreation/Conservation is reflected in the total acreage of APN 511-01-0020 as defined by the boundary survey, but is being excluded from the MCPA Area.

The Applicant's request includes an approximately 643.773-acre portion of assessor parcel number (APN) 511-01-0020 on private land in unincorporated Pinal County, Arizona in Sections 3 and 4, Township 7 South, Range 5 East (Figure 2). Please note that the land use designation for a small portion (0.504-acre) of APN 511-01-0020 is Recreation/Conservation in the Comprehensive Plan. However, the Applicant is not requesting a change in land use designation for this portion of the parcel and this portion of the parcel is not included in the MCPA Area. While the Applicant will obtain this portion of APN 511-01-0020 for the Project, the Applicant does not plan to develop within the portion of the parcel designated as Recreation/Conservation. The MCPA Area associated with this application only includes areas designated as Moderate Low Residential and Employment within the proposed amendment parcels. A boundary survey of the parcels associated with the MCPA Area is included as a part of this narrative report (Appendix A).

The Project would include a PV solar field with an alternating-current power output of up to approximately 96 megawatts (MWac). A BESS may also be developed with the PV solar field as part of the Project. Additionally, the Project would require a gen-tie line and a project substation. Other items outside of the MCPA Area that have been considered in the analyses for this MCPA, such as roadways, are referred to as the Project vicinity. A study area with a 1-mile buffer around the MCPA Area has been identified for resource surveys (1-mile study area) (Figures 3 and 4).

Paved and unpaved rural roads provide access to the site and adjacent properties, including a north-south paved portion of Bianco Road from Interstate 8 (I-8) to the MCPA. The remaining roads are unpaved and consist of east-west West Cornman Road, east-west Selma Highway, and north-south South Bianco Road, all of which intersect the MCPA Area, and north-south Carmel Boulevard/Corrales Road, directly west of the MCPA Area. The intersection of I-8 and Bianco Road is approximately 0.50 mile south of the MCPA Area.

The MCPA is needed to facilitate development of the PV solar facility and BESS to provide clean, safe, affordable, efficient energy to the regional transmission grid. This Project would likely connect to the Arizona Public Service (APS) Thornton Substation approximately 3 miles to the northeast of the MCPA Area along Thornton Road to the north of Peters Road. Project development would likely take 2 to 3 years, planning, design, and construction of the facility.

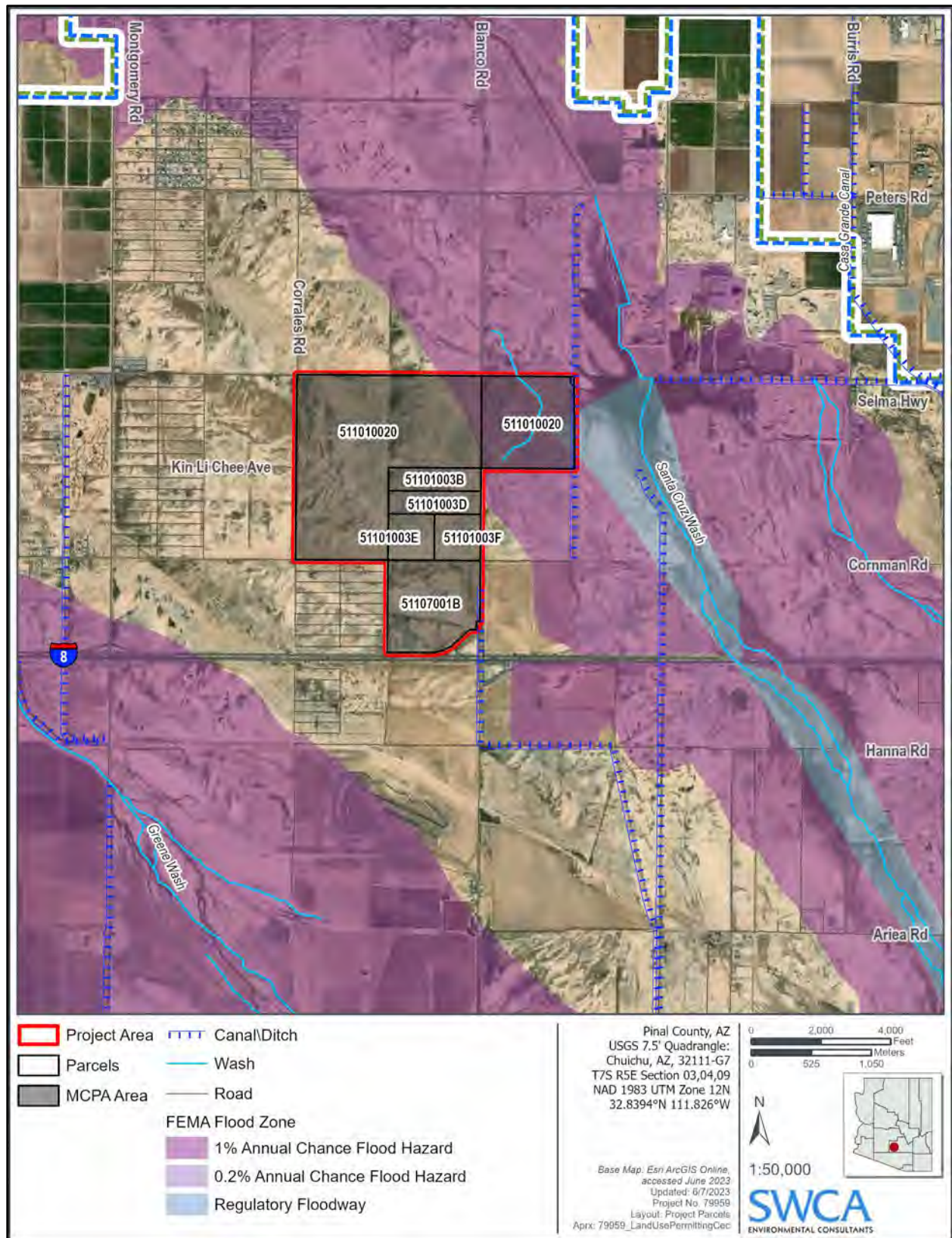


Figure 1. Project parcels.

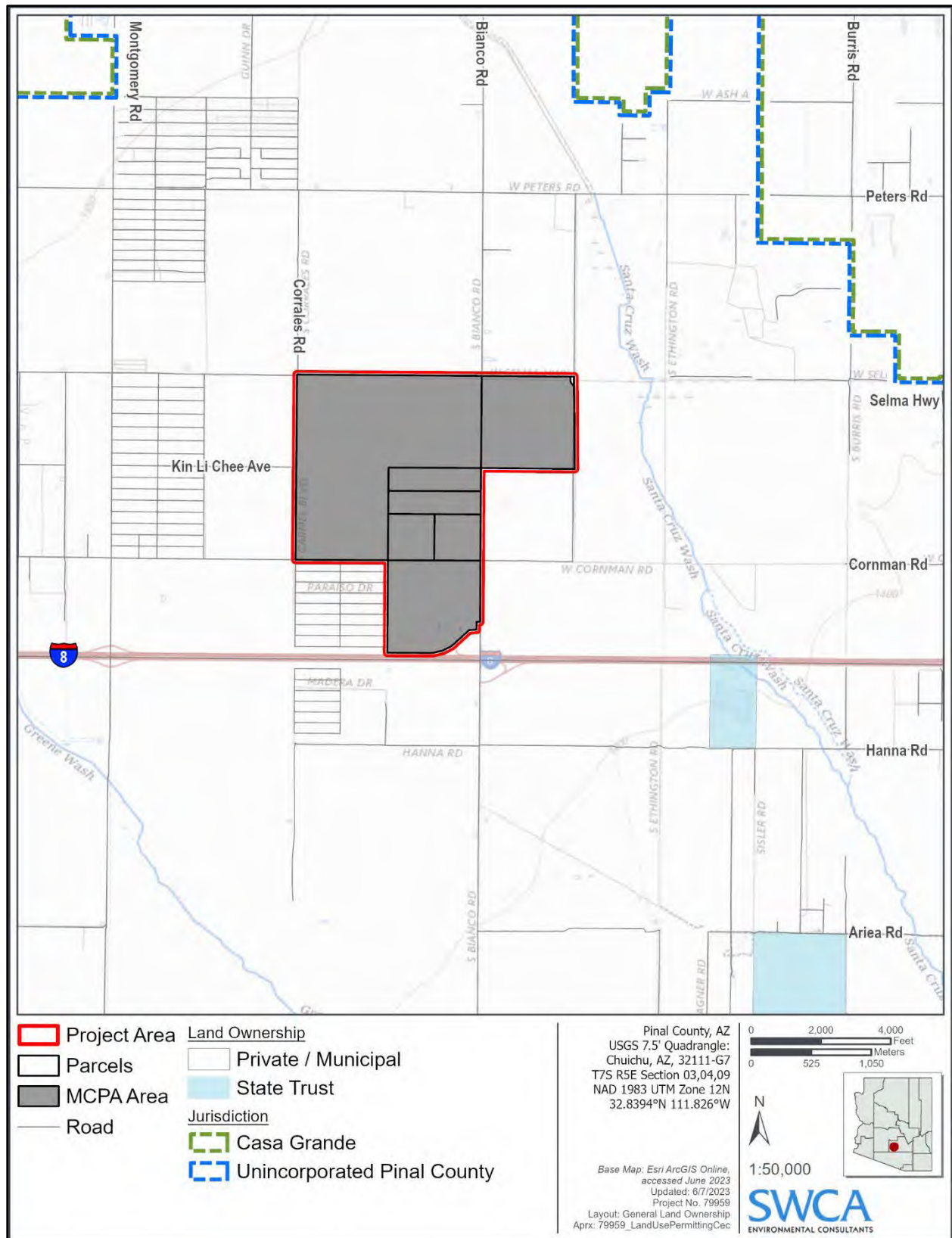


Figure 2. Topographic map.

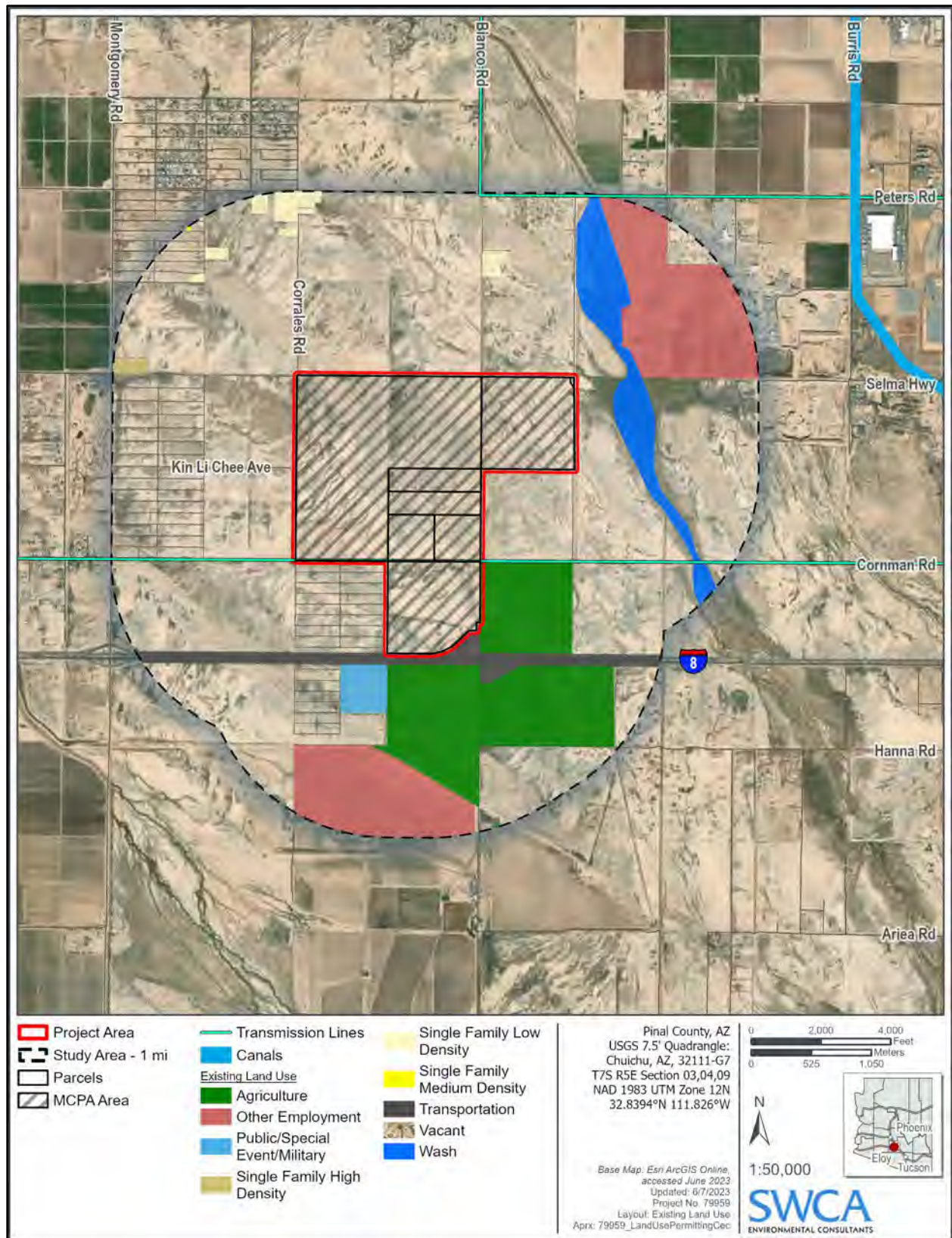


Figure 3. Existing land use.

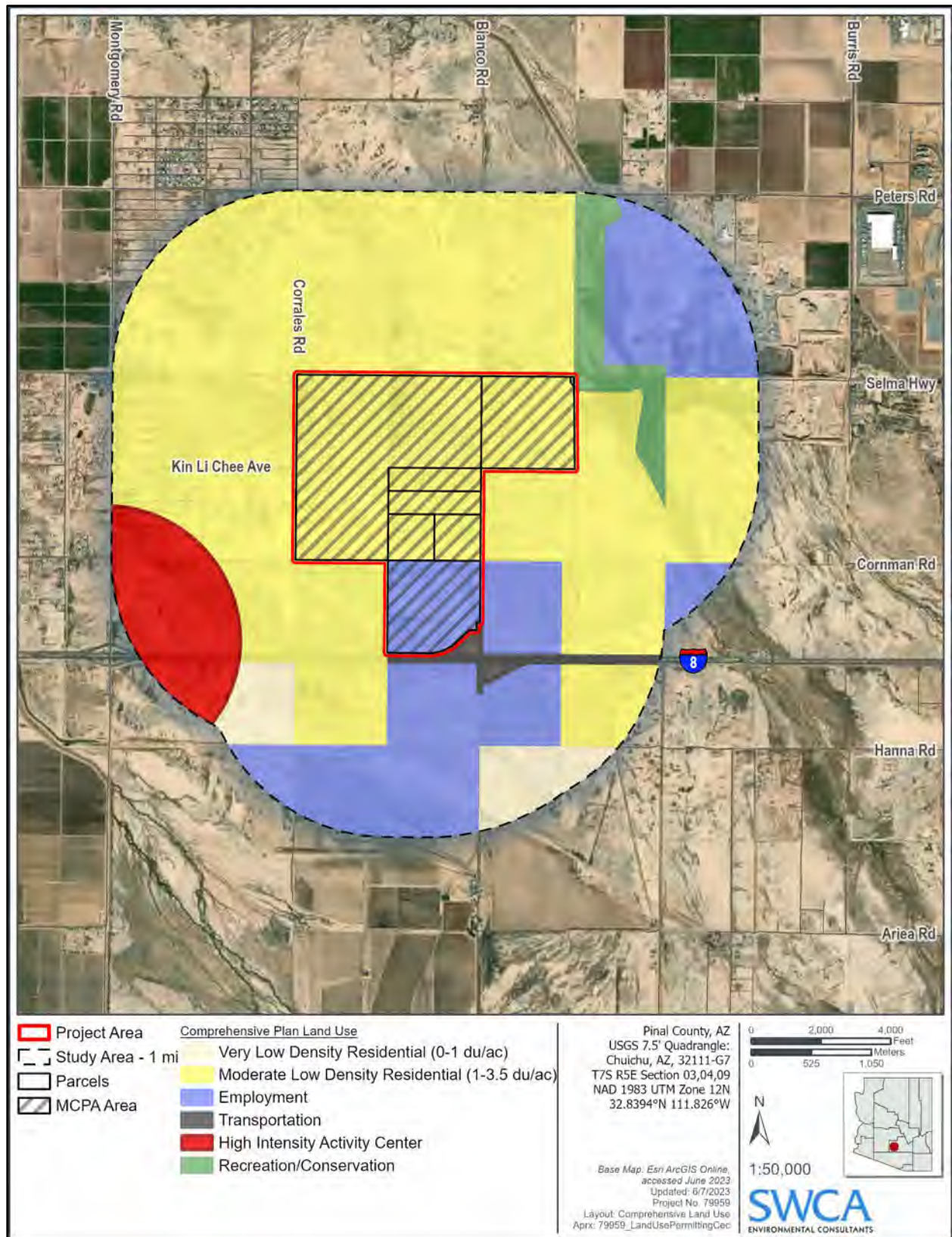


Figure 4. Planned land use.

A.1 Proposed Land Use

The Applicant is requesting an MCPA for 955.875 acres on private land in Sections 3,4, and 9, Township 7 South, Range 5 East (Figure 3). The Comprehensive Plan designates the land use for the MCPA Area as Moderate Low Density Residential and Employment (see Figure 4). Solar generating facilities are not identified in the Comprehensive Plan as a compatible or alternative use for areas designated as Moderate Low Residential or Employment. As such, the Applicant is submitting an MCPA application to redesignate the MCPA Area to General Public Facilities/Services and/or Green Energy Production..

Please note that the MCPA Area includes a total of 4.003 acres which are considered County Fee land located along Bianco Road (east and west 33 feet). This total is not reflected in the total acreage of APN 511-01-0020 as defined by the boundary survey (Appendix A). Also, the MCPA Area includes a total of 1.338-acre within APN 511-07-001B which is considered County Fee land located along Bianco Road (west 33 feet). This total is not reflected in the total acreage of APN 511-07-001B (149.176 acres) as defined by the boundary survey. Additionally, the land use designation for a small portion (0.504-acre) of APN 511-01-0020 is Recreation/Conservation in the Comprehensive Plan. The Applicant is not requesting a change in land use designation for this portion of the parcel and this portion of the parcel is not included in the MCPA Area. While the Applicant will obtain this portion of APN 511-01-0020 for the Project, the Applicant does not plan to develop within the portion of the parcel designated as Recreation/Conservation. The MCPA Area associated with this application only includes areas designated as Moderate Low Residential and Employment. A boundary survey of the MCPA Area is included as a part of this narrative report (Appendix A).

A.2 Location and Accessibility

The MCPA Area is entirely in unincorporated Pinal County, approximately 1.5 miles west of the city of Casa Grande's current municipal boundary. The MCPA consists of vacant, unimproved land entirely on privately owned land (see Figures 2 and 3). The MCPA Area is accessible via paved roads and dirt, two-track roads. The nearest maintained roadways are I-8, directly south of the MCPA Area; West Cornman and South Bianco Roads, which intersect the MCPA Area; and Carmel Boulevard/Corrales Road, directly west of the MCPA Area.

A.3 Site Suitability

The Applicant identified the MCPA Area as an optimal location for an electrical generation facility based on favorable resources available in Pinal County. These resources include large, generally level areas and close proximity to existing transmission lines. The MCPA Area lacks sensitive biological resources in terms of Endangered Species Act (ESA)-listed species. Additionally, the Planning and Zoning Commission recommended under case number PZ-PA-006-18 a change in land use designation to Green Energy Production for the parcels associated with the MCPA Area. Case PZ-PA-006-18 was withdrawn prior to Board of Supervisor approval; however, the Applicant's current request to designate the MCPA Area to Green Energy Production is consistent with the past findings of the County.

There are no perennial surface waters or wetlands in the MCPA Area; small, earthen ditches are present along the eastern boundary and along Bianco Road (see Figure 1). These ditches are not associated with any local irrigation and drainage district.

A portion of the MCPA Area is in Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map panel 04009C2075D and overlaps portions of special flood hazard areas (SFHA) Zone AO (approximately 146 acres) and Zone AE (approximately 32 acres) floodplain (i.e., 1% annual chance of

flooding) and a portion of regulatory floodway (approximately 10 acres) (FEMA 2023). The remaining portions of the MCPA Area are mapped as Zone X (0.2% annual chance of flooding) (see Figure 1). Project development within the FEMA floodway would not occur. If development occurs within the SFHA, the Applicant would obtain a floodplain use permit from the Pinal County Flood Control District at the time of Site Plan review and prior to the issuance of a building permit to ensure development meets minimum requirements of the National Flood Insurance Program (NFIP) and the Pinal County Floodplain Ordinance.

A.4 Public Services/Utilities

Existing utilities within the MCPA Area include a 500-kilovolt (kV) transmission line along Cornman Road. A 69-kV transmission line is at the northern limit of the MCPA Area along Peters Road (Figure 3). The Project's gen-tie line would run from the MCPA Area to the APS Thornton Substation approximately 3 miles to the northeast. There are also numerous electrical distribution lines, communications cables, and irrigation canals, laterals, and ditches in the vicinity of the MCPA Area. Water is expected to be hauled to the site during construction. Section C.2.7.3 provides more details. Any road construction needed to access the MCPA Area would be paid for and constructed by the Applicant, in coordination with the Pinal County Public Works Department, as necessary. Overall, the Project MCPA Area would increase the land's taxable value while adding little, if any, burden to public services.

The Pinal County Sheriff's Office provides law enforcement services to the Project vicinity, and the Regional Fire and Rescue Department provides subscription-based fire and emergency medical services to the region. New or additional public services resulting from the amendment are not anticipated.

B. PROJECT NARRATIVE

B.1 Introduction

This narrative report provides the required information to support the Applicant's request for an MCPA for the Casa Grande Carmel Solar Park Project on unincorporated land in Pinal County. The Applicant is requesting this amendment to construct and operate a PV solar facility, BESS, and substation in the MCPA Area, which consists entirely of privately owned parcels (see Figure 1). The Project is an electrical generation facility with an output of up to approximately 96 megawatts (see Figure B-1 in Appendix B). The Project would also require a gen-tie line and additional Project infrastructure. The gen-tie line would run from a proposed substation in the MCPA Area to the existing APS Thornton Substation.

Should the MCPA be approved by Pinal County, the Applicant intends to subsequently pursue and apply for a zoning change from General Rural (GR) to Industrial Zoning District (I-3) to allow for the development of the Project for the parcels associated with the MCPA.

Changing the Comprehensive Plan land use designation from Moderate Low Density Residential and Employment to General Public Facilities/Services and/or Green Energy Production and changing the zoning from GR to I-3 would allow for an increase in the production of energy for delivery to central Arizona and the Phoenix metropolitan area, where electrical demand is increasing. Additionally, a positive economic effect is expected to result from the proposed energy facility development by providing short- and long-term job opportunities in the area, tax benefits to Pinal County, and local economic activity from Project workers' transactions with local businesses. The Applicant would use local labor and local contractors/materials as much as possible for the Project.

A certificate of environmental compatibility (CEC) is not anticipated to be required from the Arizona Corporation Commission (ACC) for the Project because the gen-tie line connecting the generation facility to the existing power grid at the APS Thornton Substation is less than 115 kV.

The MCPA Area is well suited for the proposed changes to the Comprehensive Plan. The primary criteria for determining the location of power generation facilities include the existence of compatible adjacent and nearby land uses; minimal topographic variability; and the proximity to existing electrical infrastructure (see Figures 1, 2, and 3).

As part of the MCPA process, the Applicant was required to hold a neighborhood meeting that complies with the citizen review process outlined in Chapter 2.166.050, Section E: Citizen Review, of the Pinal County Development Services Code (Pinal County 2023). To support the neighborhood meeting, the Applicant initiated a public outreach program to ensure that community residents and local property owners were provided with the opportunity to communicate regarding the Project. To contact the potentially affected residents, the Applicant developed and facilitated public participation measures, including an informational mailer, newspaper advertisements, a Project website, and a telephone information line. The Applicant facilitated an in-person public open house on May 9, 2023. These outreach efforts provided information to members of the public and solicited feedback on the Project and were designed to help identify potential issues relative to the Project.

The Applicant has prepared a neighborhood meeting report (Appendix C) to document that the Applicant complied with the neighborhood meeting process and to meet the reporting requirements described in Chapter 2.166.050, Section E: Citizen Review, of the Pinal County Development Services Code (Pinal County 2023). Please note that the meeting materials reflect a portion of the MCPA Area as Green Energy Production. Following the Applicant's MCPA pre-application meeting with the County, which occurred after the neighborhood meeting, the Applicant was informed that parcels identified as Green Energy Production in the County's comprehensive plan geographic information system (GIS) mapping are incorrect and carry a planned land use designation of Moderate Low-Density Residential and Employment.

B.1.1 Project Description

The Project would include a PV solar field consisting of silicon-based, single-axis tracking panels with an output of up to approximately 96 MWac. The potential BESS would be developed with the PV solar field as part of the Project. Additionally, the Project would include an on-site project substation and gen-tie line with a proposed connection to the APS Thornton Substation. The Applicant has experience with renewable energy infrastructure development, which is demonstrated by their nine solar parks and 58 wind farms currently in operation throughout North America.

As the solar PV panels generate power, electricity will either be dispatched to the regional grid or directed to the BESS, where the energy will be stored and dispatched to the grid when that power is needed. The electricity generated by the PV panels is in the form of direct current (DC). Inverters will be installed to convert the DC output of the PV panels into alternating current (AC). Electricity will then flow through the gen-tie line and into the APS Thornton Substation (which will connect directly to the gen-tie line infrastructure). Alternatively, the power generated by the solar PV panels may be directed into the BESS via a network of underground AC 34.5-kV collector circuits and stored for later use. When it is advantageous to do so, the BESS will send electricity to the regional power grid via the Project substation, gen-tie, and the APS Thornton Substation.

The Applicant will require construction contractors to install temporary erosion and sediment control features to prevent construction-period stormwater discharges. The MCPA Area is relatively flat and will

require only minor grading. The Project will be designed with appropriately sized, permanent stormwater management features such that post-construction stormwater discharges do not exceed existing conditions. Refer to section C.2.7.3 for further information.

B.1.2 Project Decommissioning

The Applicant expects this Project to operate for approximately 35 years. Decommissioning the Project will involve equipment removal in accordance with industry standards and appropriate site restoration. When possible, equipment in good working condition may be repurposed for other projects. Other materials will be returned to their manufacturer, recycled by specialized contractors, or disposed of at an appropriate facility. Site restoration will include filling depressions left after equipment is removed and reseeded as dictated by agreements with private landowners. As design and equipment selection is finalized, the Applicant will prepare a decommissioning plan for the Project outlining expected timelines, sequences, and recycling or disposal procedures for the various Project components.

B.2 Physical Settings, Existing Uses, and Relationship to Surrounding Land Uses

The MCPA Area is entirely in unincorporated Pinal County, approximately 1.5 miles west of the city of Casa Grande's current municipal boundary. The MCPA Area is entirely on privately owned land (see Figure 2) zoned as GR and contains no residences or buildings. Existing land use consists of vacant, unimproved land (see Figure 3). The MCPA Area does not contain any federal, state, or local municipal properties.

Existing land uses within 1 mile of the MCPA Area include agricultural, public/special event military, other employment, transportation, single-family low-density, and wash (associated with Santa Cruz Wash), as well as utility use (including a 500-kV transmission line and a 69-kV transmission line) (see Figure 3). Irrigation ditches operated by the San Carlos Irrigation and Drainage District are east of the MCPA Area. The nearest federal land is the Tohono O'odham Indian Reservation approximately 3.0 miles south of the MCPA Area. The nearest state-owned land is Arizona State Trust Land, approximately 1.5 miles to the southeast. The area to the west of the MCPA Area was divided into small parcels over 20 years ago for residential use, but residences have not been constructed. Scattered single-family residences are west of the MCPA Area, including residences along Montgomery Road.

The Santa Cruz Wash is adjacent to the eastern boundary of the MCPA Area and includes land designated as Recreation/Conservation. The *Pinal County Open Space and Trails Master Plan* identifies this area as existing Open Space and an Existing/Planned Multi-Use Corridor (Pinal County 2007). A small portion of this Recreation/Conservation area (approximately 0.504 acre) is within the parcel subject to the MCPA; however, the Project is not anticipated to impact this area or other planned recreational use areas.

Transportation and travel routes in the vicinity of the MCPA Area include east-west I-8, approximately 0.2 mile south of the MCPA Area, east-west State Route (SR) 84, approximately 2 miles north of the MCPA Area, north-south I-10, approximately 7.5 miles east of the MCPA Area, and several paved and unpaved local roads. According to the Arizona Department of Transportation (ADOT), SR 84 and Selma Highway are designated as Rural Minor Arterial roadways, with I-8 and I-10 designated as Urban Principal Arterial Interstate. The remainder of roadways intersecting or bordering the MCPA Area are designated as Rural Local (ADOT 2023). The Project will identify and adhere to the required setbacks along all the roadways adjacent to or intersecting the MCPA Area .

C. COMPREHENSIVE PLAN AMENDMENT CRITERIA

The overall intent of the Comprehensive Plan is to act as a tool that will serve to “steer the County on a positive course of action to manage growth, preserve the quality of life, and promote sustainability. It is a long-term vision that promotes effective economic vitality while ensuring environmental stewardship. The Plan articulates the vision and outlines the strategic direction to position Pinal as a vibrant, healthy, and economically sustainable region within the state of Arizona” (Pinal County 2021).

The amendment is consistent with the vision components of the Comprehensive Plan, as discussed in sections C.1.1 through C.1.7 of this report. To ensure conformity with the Comprehensive Plan, all development proposals must meet the criteria outlined in the compliance checklist found in Appendix A of the Comprehensive Plan (Pinal County 2021). The following sections are provided in response to the criteria listed in the Comprehensive Plan compliance checklist, which is focused on two major components:

- Consistency with Pinal County’s vision components
- Consistency with the Plan’s key concepts illustrated on land use, circulation, and economic development graphics.

C.1 Consistency with Pinal County’s Vision Components

The proposed land use associated with this amendment would be consistent with the goals, objectives, and policies of the current Comprehensive Plan.

The chapters of the Comprehensive Plan include the following: Sense of Community; Mobility and Connectivity; Economic Sustainability; Open Spaces and Places; Environmental Stewardship; Healthy, Happy Residents; and Quality Educational Opportunities. These chapters are also the vision components and are discussed below with specific responses to the applicable questions included in the Comprehensive Plan compliance checklist found in Appendix A of the Comprehensive Plan (Pinal County 2021).

C.1.1 Sense of Community

Is the proposal consistent with the Sense of Community vision component?

Sense of Community is largely achieved by paying close attention to residential and commercial land uses in the area. Densities of development either encourage or discourage a sense of community based on the land uses described in the Comprehensive Plan. According to the land use plan described in Chapter 3: Sense of Community, the MCPA Area is within Moderate Low Density Residential and Employment land use. Parcels adjacent to the MCPA Area are generally vacant or inactive agricultural lands. As mentioned, an existing Recreation/Conservation land use area is located adjacent to the east of the MCPA Area.

The MCPA area is not served by any public utilities or services, which indicates that the land may be less suitable for residential development, as it is currently designated under the Comprehensive Plan. The proposed amendment is consistent with Policy 3.1.1.5, which is included in the Comprehensive Plan’s Sense of Community vision component: “locate more impactful commercial and industrial uses in areas away from homes where negative impacts can be mitigated.” There is also an active aggregate mining facility approximately 1 mile northeast of the MCPA area and a car manufacturing facility approximately 2 miles northeast from the MCPA area, which is zoned as I-2 (industrial) in the city of Casa Grande. The MCPA is consistent with Policy 3.1.1.2, “encourage, coordinate and support commercial and industrial land uses in appropriate areas to maximize adequate services including transportation, water, sewer, fire

suppression and utilities.” The MCPA would be consistent with the Sense of Community vision, as described in the Comprehensive Plan, because the MCPA Area is in a remote location where a utility-scale solar facility is unlikely to interfere with other planned developments or sensitive land uses.

C.1.2 Mobility and Connectivity

Is the proposal consistent with the Mobility and Connectivity vision component?

The amendment is consistent with the Mobility and Connectivity vision component. Chapter 4: Mobility and Connectivity of the Comprehensive Plan explains Pinal County’s vision to strive to serve persons with multimodal transportation options in transportation corridors at appropriate locations. Under the goals, objectives, and policies in this chapter, Policy 4.1.1.4 states that “The County will evaluate the transportation impacts of all proposed Comprehensive Plan amendments and rezonings on Pinal County’s regional transportation system” (Pinal County 2021). Development of power generation facilities in the MCPA area would have minimal impact on planned land uses from traffic and the goals that address this vision.

The Project would require an access road network, which would consist of existing primary access roadways (West Cornman Road and South Bianco Road), which may be improved, and the construction of internal access roads via new driveways from these primary access roadways. The Applicant plans to develop sufficient access roads to the Project site for construction workers/equipment and operational needs. There would be a temporary increase in daily vehicle trips during the construction period related to workers arriving and departing and equipment deliveries. During operation, the project would require infrequent visits for routine maintenance and repairs; as such, the Applicant does not anticipate the Project to have a negative effect on local roads.

Selma Highway and Bianco Road are identified as a Regionally Significant Route (Principal Arterial) in the *Regionally Significant Routes for Safety and Mobility, Final Report* (Pinal County 2008). In addition, the Applicant is aware that half-street dedications will be necessary along Selma Highway, Bianco Road, Carmel Boulevard/Corrales Road, and Cornman Road. The Project has accounted for future rights-of-way (ROWs) along these roadways, and any roadway construction would be in accordance with the current Pinal County Subdivision Regulations and Subdivision & Infrastructure Design Manual, or as stipulated. In addition, the County has stated that right-of-way dedication would be required along the alignments of Kin Li Chee Avenue and Palomas Drive, which cross the MCPA Area, unless this requirement is waived by the County. Any newly constructed internal roadways would be developed in accordance with state or local building requirements, as needed. The Applicant will work with ADOT and/or Pinal County Public Works Department to preserve the alignments of West Cornman Road, South Bianco Road, Carmel Boulevard/Corrales Road, Kin Li Chee, and Palomas Drive, as needed.

Construction is anticipated to last approximately 14 months. During construction, the Applicant anticipates that approximately 290 trips per day would occur along primary access roadways. During operation, which is expected to be approximately 35 years, the Applicant anticipates that a total of five trips per day would occur along primary access roadways. Therefore, the transportation and traffic impacts associated with the Project construction and operation are anticipated to be minimal. The Applicant anticipates the preparation of a Traffic Impact Statement to evaluate the Project’s impact on traffic and construction traffic. In addition, the Applicant will also review potential locations of solar project site access per the Pinal County Access Management Manual (Pinal County 2017).

C.1.3 Economic Sustainability

Is the proposal consistent with the Economic Sustainability vision component?

The amendment is consistent with the Economic Sustainability vision component. Balancing residential growth with job creation is the central theme of the Economic Development element. The Economic Development element concentrates on the County's ability to provide quality employment opportunities for its residents by setting specific goals, objectives, and policies. Two main goals that address this vision are:

1. *Encourage a full range of quality jobs for residents of Pinal County and increase the jobs per capita ratio.*
2. *Encourage sustainable development consistent with Pinal County's environmental preservation philosophy (Pinal County 2021).*

The amendment would further promote economic diversity and employment opportunities in the area by providing direct and indirect employment during the construction and operational life of the proposed facility. Additionally, power generated by the proposed facility could potentially support residential growth and job creation by providing clean, safe, affordable, and efficient electricity to local communities and the region. The Project would provide the opportunity for construction employment, which is considered an important employment sector for Pinal County (Pinal County 2021). The amendment would be compatible with the vision outlined in Chapter 5: Economic Sustainability as described in the Comprehensive Plan.

C.1.4 Open Spaces and Places

Is the proposal consistent with the Open Spaces and Places vision component?

The amendment is consistent with the Open Spaces and Places vision component. According to the Comprehensive Plan, siting of specific proposed open space and trails is based on the "suitability of activities, surrounding land uses, ecological factors, topography, viewsheds, and cultural resources" (Pinal County 2021).

As discussed in section B.2, Santa Cruz Wash is adjacent to the eastern boundary of the MCPA Area and is designated as Recreation/Conservation. The *Pinal County Open Space and Trails Master Plan* identifies this area and the corridor along Santa Cruz Wash as existing Open Space and with an Existing/Planned Multi-Use Corridor (Pinal County 2007). There are no other existing dedicated Open Space areas, designated scenic resources, or designated view corridors within the study area. The Applicant has excluded the Recreation/Conservation area from the MCPA area so that it retains the planned land use designation. The Applicant will obtain the parcel associated with the project, but development within the MCPA area would exclude the Recreation/Conservation Area. Exclusion of the Recreation/Conservation area from the MCPA area will allow the opportunity for Pinal County to develop the proposed open space as intended. The amendment is not expected to conflict with this proposed trail and would not conflict with the planned land use.

C.1.5 Environmental Stewardship

Is the proposal consistent with the Environmental Stewardship vision component?

The amendment is consistent with the Environmental Stewardship vision component. Throughout initial Project planning, the Applicant has considered potential environmental impacts in their Project plans and is committed to minimizing impacts to the human, natural, and cultural environments resulting from the proposed development. The Project will comply with all applicable federal, state, and local laws, regulations, and guidelines, as required.

Solar generation conserves natural resources, and battery energy storage facilitates the integration of renewable resources into the power grid (see section C.2.7 for additional information regarding project natural resource conservation). The Comprehensive Plan, Chapter 7: Environmental Stewardship, states that “Pinal County will provide support for the development and location of renewable sources” and that “the expansion of renewable energy opportunities should be supported by the County through its land use planning and permitting process” (Pinal County 2021). Under the goals, objectives, and policies of the same chapter, Policy 7.6.2.1 states that the County will “identify through specific area planning potential locations for renewable energy production” (Pinal County 2021). The MCPA Area would contribute to providing a source of renewable energy production and, therefore, is consistent with the Environmental Stewardship vision of the Comprehensive Plan as it relates to energy. In addition, the current project design includes the use of PV solar panels, which minimize water use.

The use of renewable energy sources (Objective 7.3.1) and the minimization of water use (Policy 7.7.2.2) are both stated elements of the Environmental Stewardship vision of the Comprehensive Plan.

Regarding air quality and water resources, the Comprehensive Plan, Chapter 7: Environmental Stewardship, includes Goal 7.1.3, “improve air quality,” and Goal 7.2.2, “encourage the maximum conservation of water resources currently available in Pinal County.” As previously noted, the MCPA Area would use PV solar panels to generate electricity. As a renewable energy source, solar PV facilities generate no air emissions and use less water compared to traditional fossil fuel-based energy sources. As such, the MCPA Area would allow the County to further its Environmental Stewardship objectives as they relate to promoting renewable energy, without compromising air quality or water resources.

Chapter 7 of the Comprehensive Plan also notes that environmentally sensitive areas require special consideration during the development design process. Refer to Section C.2.7 for a discussion of biological and cultural resources at the MCPA Area. The Applicant will continue to develop this Project in a manner that minimizes impacts to the human, natural, and cultural environments.

Should the County accept this application for consideration, the Applicant would coordinate with the Arizona Game and Fish Department and Pinal County Open Space and Trails Department prior to the Planning and Zoning Commission hearing on this MCPA.

C.1.6 *Healthy, Happy Residents*

Is the proposal consistent with the Healthy, Happy Residents vision component?

The amendment is consistent with the Healthy, Happy Residents vision component. Factors that contribute to Healthy, Happy Residents include well-designed neighborhoods, cost of housing and public services, and availability of healthy foods. Chapter 8: Healthy, Happy Residents of the Comprehensive Plan (Pinal County 2021) states the following goals:

Goal 8.1: Pinal County has a mix of housing types and is well positioned to respond to emerging housing industry trends and markets.

Goal 8.2: Maximize residential development opportunities where existing infrastructure and services are provided or planned.

Goal 8.3: Promote a philosophy that new growth pays for its share of financial impacts in an equitable manner.

Goal 8.4: Maintain long-term financial sustainability for Pinal County.

Goal 8.5: Pinal County and its residents have access to healthy foods.

The amendment would be consistent with this vision and would contribute to maintaining long-term financial stability (Goal 8.4) by generating revenues and contributing to the tax base for Pinal County and by allowing the contribution of clean, safe, affordable, and efficient energy to the regional transmission grid. Additionally, the amendment would be consistent with Goal 8.3 because the Applicant's is committed to paying its proper and reasonable share of the costs of new infrastructure, services, and other public improvements that may be required for this project. While no Project-related public expenditures are proposed or anticipated, the Applicant would likely need to improve the primary access roadways of West Cornman Road and South Bianco Road and develop internal access roads and driveways that lead into Pinal County Public Works Department and/or ADOT ROWs. Any proposed road construction needed to access the Project would be constructed and paid for by the Applicant in coordination with ADOT and/or Pinal County Public Works Department as necessary and would not require public expenditures.

C.1.7 Quality Educational Opportunities

Is the proposal consistent with the Quality Educational Opportunities vision component?

As indicated in the Comprehensive Plan compliance checklist found in Appendix A of the Comprehensive Plan (Pinal County 2021), this vision component may not apply to all projects. The Applicant does not anticipate that this vision component would apply to this Project because no educational opportunities are associated with the Project.

C.2 Consistency with the Plan's Key Concepts Illustrated on Land Use, Economic, and Circulation Graphics

C.2.1 Consistency with the Land Use Designation Shown on the Graphics

Land use within the MCPA Area includes designated Moderate Low Density Residential and Employment (see Figure 4). Land uses in areas surrounding the MCPA Area are Moderate Low Density Residential, Very Low Density Residential, Employment, Transportation, and Recreation/Conservation. This MCPA application requests to change the land use designation from Moderate Low Density Residential and Employment to General Public Facilities/Services and/or Green Energy Production in the MCPA area. The land use change would be consistent with supporting public utility infrastructure and energy facility uses and the major high-voltage transmission line that passes through the MCPA Area. As mentioned, under case number PZ-PA-006-18 the Planning and Zoning Commission recommended a change in land use designation to Green Energy Production for the parcels associated with the MCPA Area. Case PZ-PA-006-18 was withdrawn prior to Board of Supervisor approval; however, the Applicant's current request to designate the MCPA Area to Green Energy Production is consistent with the past findings of the County. Green energy production, solar in the case, is a passive land use that does not create large land impacts outside of development boundaries. Therefore, the requested MCPA Area would not be incompatible with surrounding land uses.

The Land Use Plan states that it "must be flexible enough to adjust to changing conditions and economic opportunities" (Pinal County 2021). Therefore, the proposed land use change would not be inconsistent with the Comprehensive Plan's Land Use graphic.

C.2.2 Consistency with the Mixed Use Activity Center Concepts

The MCPA area is not within a Mixed Use Activity Center. The nearest Mixed Use Activity Center is a High Intensity Activity Center approximately 1 mile southwest of the MCPA Area at the intersection of I-8 and Montgomery Road.

C.2.3 Consistency with the Planning Guidelines Described in the Land Use Element

The MCPA Area land uses are consistent with the applicable planning guidelines described in the Land Use element. The Comprehensive Plan's Land Use element (i.e., Chapter 3) does not include planning guidelines for Green Energy Production. Given that the project would be a passive, low-intensity use, the proposed amendment would be consistent with surrounding land uses, which include Moderate Low Density Residential and Employment on currently vacant parcels. The MCPA Area is in a relatively remote area of Pinal County; therefore, the proposed amendment is unlikely to conflict with other proposed developments or sensitive land uses.

The parcels adjacent to the MCPA Area are mainly Very Low and Moderate Low Density Residential and areas planned for Employment use. Transmission lines and associated structures cross the MCPA Area and in nearby areas, and the I-8 corridor, a planned transportation use, is immediately south of the MCPA Area.

The amendment would be a step toward allowing additional power generation and BESS facilities and infrastructure, which would contribute toward meeting regional electrical needs.

C.2.4 Quality Employment Opportunities Countywide

The amendment is consistent with the Economic Development element. The amendment would further promote economic diversity and employment opportunities in the area by providing quality jobs during the construction and operational life of the facility. The Applicant estimates that approximately 200 construction jobs would be created by the Project. The amendment would be compatible with the vision outlined in Chapter 5: Economic Sustainability of the Comprehensive Plan.

C.2.5 Viable Agriculture, Equestrian, and Rural Lifestyle

The amendment would allow the Project to develop currently vacant and unimproved land; therefore, the Project would not impede any agricultural activity in Pinal County.

C.2.6 System of Connected Trails and Preservation of Open Space

The amendment is consistent with the Trails and Open Space Master Plan and Chapter 6: Open Spaces and Places of the Comprehensive Plan.

The Open Spaces and Places chapter of the Comprehensive Plan's vision is to site specific proposed open space and trails based on the "suitability of activities, surrounding land uses, ecological factors, topography, viewsheds, and cultural resources" (Pinal County 2021).

Pinal County's Open Space and Trails Master Plan promotes the quality of life of the region by providing areas of passive and active recreational opportunities, while conserving existing resources, such as natural

scenic beauty, view corridors, wildlife habitat, agricultural resources designated at risk, and cultural heritage for the benefit of present and future generations.

As discussed in section C.1.4, Santa Cruz Wash is located adjacent to the eastern boundary of the MCPA Area, which is designated as Recreation/Conservation. The Comprehensive Plan (Pinal County 2021) and the *Pinal County Open Space and Trails Master Plan* (Pinal County 2007) identifies this area and the corridor along Santa Cruz Wash as existing Open Space and an Existing/Planned Multi-Use Corridor. There are no existing other dedicated Open Space areas, designated scenic resources, or designated view corridors within the study area. The amendment would not interfere with the proposed trail corridor or other designated Open Spaces nor is it expected to impact any designated scenic resources.

The amendment would be compatible with Pinal County's vision concerning open space and trails. The Applicant will work with Pinal County Open Space and Trails Department to avoid, minimize, and mitigate impacts to the identified trails and open space to the extent practicable. The Applicant will work with the Pinal County Open Space and Trails Department to ensure the amendment would be compatible with Pinal County's vision regarding the identified open space and trails.

C.2.7 Natural Resource Conservation

The amendment addresses environmentally sensitive areas it may impact, as described below.

The Applicant has considered potential environmental impacts of the Project and would mitigate impacts to the natural and cultural environment by minimizing ground disturbance where possible. Development of the Project would comply with all applicable federal, state, and local environmental laws, regulations, and guidelines, as required.

Based on preliminary review, the MCPA Area is in an area with minimal sensitive environmental resources present. Detailed environmental studies, including pedestrian biological and cultural/archaeological surveys may be completed and documented as part of the National Environmental Policy Act (NEPA) compliance process for the gen-tie line crossing of San Carlos Irrigation and Drainage District canals. The canal crossings would require encroachment permits and canal road use would require ROW permits and canal road use agreements from the associated jurisdictional agencies. Issuance of canal crossing encroachment and ROW permits from the Bureau of Indian Affairs (BIA) constitute federal action and are therefore subject to NEPA compliance. Results of a preliminary environmental review of the 1-mile study area are described below.

C.2.7.1 BIOLOGICAL RESOURCES

C.2.7.1.1 Federally Protected Species

The U.S. Fish and Wildlife Service (USFWS) maintains a list of protected species and the critical habitat known to occur in each Arizona county. These species are currently listed or are proposed for listing as endangered or threatened under the ESA (16 United States Code [USC] 1531 et seq.). The list also includes candidate species proposed as threatened or endangered, species delisted from protection under the ESA, and species delisted from protection under the ESA but currently proposed for relisting. The ESA specifically prohibits the "take" of a listed species. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct." Some bird species also receive legal protection under the federal Migratory Bird Treaty Act (MBTA) (16 USC 703–712). Only species listed by the USFWS are afforded protection under the ESA. The special-status species evaluated in this document were based on the list of endangered, threatened, and proposed delisted species for Pinal County, Arizona, available at the USFWS website (USFWS 2022).

The USFWS Information for Planning and Consultation (IPaC) system (USFWS 2023), the Arizona Game and Fish Department (AGFD) Online Environmental Review Tool (AGFD 2023), the U.S. Geological Survey (USGS) National Hydrography Dataset (USGS 2023a), recent aerial photography imagery available online (Google Earth 2023), and USGS topographic maps (USGS 2023b) were reviewed to assess the potential for federally protected species. No designated or proposed critical habitat for federally protected species is known to occur in or within 5 miles of the MCPA area.

The USFWS's IPaC system identified three federally listed species, monarch butterfly [*Danaus plexippus*], Sonoran pronghorn [*Antilocapra americana sonoriensis*], and yellow-billed cuckoo [*Coccyzus americanus*], with the potential to occur within the MCPA Area. The search results are included in Appendix D. The MCPA Area and 1-mile study area lack suitable habitat for one of the three species, is distant from the nearest known populations, or both. Monarch butterfly, a candidate species for listing, may occur in or near the MCPA Area wherever flowering plants may be present. The 1-mile study area occurs within the Sonoran pronghorn 10(j) experimental, non-essential population reintroduction area, and the species may occur in the MCPA Area. However, the 10(j) population would be treated as a candidate species in the MCPA Area and larger MCPA Area. There is no suitable riparian woodland habitat for the yellow-billed cuckoo in the 1-mile study area, and this species would not be expected to occur in the MCPA Area to breed, disperse, migrate, or forage.

The Applicant may conduct additional biological field surveys to confirm whether federally protected species may occur or are known to occur in the 1-mile study area as required for NEPA compliance. The Applicant would coordinate directly with the USFWS regarding federally listed species that may occur or are known to occur in the 1-mile study area and are protected under the Endangered Species Act.

To help validate IPaC findings, the AGFD Heritage Data Management System (HDMS) database was accessed, which tracks records for federally listed species and other species of special concern. The HDMS was accessed through the AGFD Arizona Heritage Geographic Information System (AZHGIS) online environmental review tool to determine whether any federally proposed or designated critical habitat or special-status species have been documented on or near the MCPA Area. The search results are included in Appendix E.

According to AZHGIS, there are records of western burrowing owl (*Athene cunicularia hypugaea*), resplendent shovel-nosed snake (*Chionactis annulata*), and Sonoran desert tortoise (*Gopherus morafkai*) within 5 miles of the MCPA Area (AGFD 2023). The western burrowing owl is a Migratory Bird Treaty Act (MBTA)-listed species and a state listed Species of Greatest Conservation Need (SGCN) species. The western burrowing owl has been known to occur within a variety of habitats, including urban and agricultural areas. Areas with slight slopes, moderately loose soils, and low vegetation are ideal for species occurrence. These resource features are present within sections of the MCPA Area and, therefore, species occurrence is likely. In the event a burrowing owl is encountered during project construction, the *Burrowing Owl Project Clearance Guidance for Landowners* should be followed. The resplendent shovel-nosed snake does not have a regulatory status. The resplendent shovel-nosed snake is unlikely to occur in the MCPA Area because it lacks suitable natural desert habitat for species occurrence. The MCPA also does not contain suitable rocky slope habitat for the Sonoran desert tortoise, and this species would be unlikely to disperse through the MCPA area. In the event a Sonoran desert tortoise is encountered during construction activities, the *Guidelines for Handling Sonoran Desert Tortoises* should be followed.

The AZHGIS online environmental review tool response also indicated that a Pinal County riparian area was identified as occurring in the MCPA area (AGFD 2023; Pinal County 2019). This mapped riparian area occurs within the eastern portion of the MCPA area and is more closely associated with xeroriparian

desert scrub vegetation which dominates the project vicinity, therefore impacts to Pinal County Riparian Areas would not be expected to occur as a result of the Project.

C.2.7.1.2 Other Federally Protected Species

Wildlife species protected under the MBTA include all bird species native to the United States or its territories. Numerous species protected by the MBTA are expected to forage and nest in the 1-mile study area and/or migrate through the 1-mile study area. The western burrowing owl is an MBTA-listed species and a state listed Species of Greatest Conservation Need (SGCN) species. The Applicant would comply with the MBTA when constructing, operating, and maintaining the Project.

C.2.7.1.3 State-protected Species

The Arizona Native Plant Law (Arizona Revised Statutes [ARS] 3-904) defines four categories of protected native plants: Highly Safeguarded, Salvage Restricted, Salvage Assessed, and Harvest Restricted. Highly Safeguarded native plants are those species for which removal is not allowed except with an Arizona Department of Agriculture (AZDA) scientific permit; no collection of these plants is allowed. Salvage Restricted native plants are those plants for which a salvage permit is required; collection is allowed only with a permit. The Salvage Assessed category consists of those plants for which a salvage permit is required for removal. Plants in the Harvest Restricted category are protected because they are subject to excessive harvesting or overcutting as a result of intrinsic value of their byproducts, fiber, or woody parts, and a harvest permit is required. No native plant species are known to occur within 5 miles of the MCPA Area (AGFD 2023).

C.2.7.1.4 Noxious Weeds

AZDA Administrative Code R3-4-245 (AZDA 2023) defines three categories of noxious weeds: Classes A, B, and C. Class A noxious weeds are categorized as a species of plant that is not known to exist or of limited distribution in the state and is a high-priority pest for quarantine, control, or mitigation. Class B noxious weeds are categorized as a species of plant that is known to occur but of limited distribution in the state and may be a high-priority pest for quarantine, control, or mitigation if a significant threat to a crop, commodity, or habitat is known to exist. Class C noxious weeds are categorized as a species of plant that is widespread but may be recommended for active control based on risk assessment. A Class C noxious weed, buffelgrass (*Pennisetum ciliare*) has been observed along an active roadway within 5 miles of the MCPA Area (iMapInvasives 2023).

The Applicant may conduct additional biological field surveys to determine the presence and extent of noxious weed species on the project as required for NEPA compliance. The Applicant will coordinate directly with AZDA should noxious weed species occur in the MCPA Area.

C.2.7.2 CULTURAL RESOURCES

A desktop review of AZSITE, Arizona's online cultural resources database, which includes records from the Arizona State Museum (ASM), Arizona State University, and the Bureau of Land Management, was conducted to identify previous cultural resources investigations and known cultural resources in the 1-mile study area.

According to AZSITE, 12 previous cultural resources surveys have taken place within the 1-mile study area, four of which intersect with the MCPA Area (Table 1). These projects took place from 1996 to 2016 in support of irrigation improvements, transportation improvements, and the installation of electrical transmission lines and solar utilities. These cultural surveys intersect and cover approximately 787 acres (83%) of the MCPA Area (Table 1). The remaining MCPA Area has not been surveyed.

Table 1. Previously Conducted Archaeological Surveys Intersecting the MCPA Area

| Agency Number | Project Name (AZSITE Data) | Consultant or Institution |
|---------------|--|--------------------------------|
| 2005-1018.ASM | West Casa Grande 2 – 194 Acre Survey* | SWCA Environmental Consultants |
| 2007-692.ASM | Pinal West to Dinosaur Transmission Line Surveys* | Desert Archaeology, Inc. |
| 2009-371.ASM | Casa Grande San Carlos Irrigation Project (SCIP) Survey* | SCIP |
| 2012-630.ASM | Casa Grande SCIP Survey* | SCIP |

*SWCA believes these surveys can be relied on for current inventory purposes.

The State Historic Preservation Office (SHPO) has provided guidance for the reliance on survey data that are 10 years old or older (SHPO 2004). Surveys conducted before 1995 did not use the current ASM site definition criteria (ASM 1995). The principal investigators meet current state and federal professional qualification standards. It is unlikely that there are additional resources present in the current area of potential effects that have become at least 50 years old (i.e., resources that may be considered historic) since the previous surveys. SWCA believes these four surveys can be relied on for current inventory purposes.

There are eight previously recorded archeological sites within the 1-Mile Study Area (Table 2). Two sites, AZ AA:1:132(ASM) and AZ AA:1:252(ASM) intersect the MCPA Area. AZ AA:1:132(ASM), is a historic-era road running along the eastern edge of the Project Area which has been determined not eligible. AZ AA:1:252(ASM) is a newly recorded artifact scatter without any current record in AZSITE, but is considered not eligible based on available survey data. The other six sites in the 1-Mile Study Area are outside the MCPA Area and consist of the Historic-era El Paso Natural Gas Line 1100, historic-era canals, artifact scatters, and roads, as well as Indeterminate Hohokam artifact scatters.

Table 2. Previously Recorded Archaeological Sites within the 1-Mile Study Area

| Site Number | Cultural/Temporal Affiliation | Site Type | Arizona Register of Historic Places Status | Associated Reference(s) |
|------------------|--|--|--|---------------------------|
| AZ AA:1:96(ASM) | Euroamerican/Historic era (1888–1925) | Canal | Determined eligible(A) | Palus 1997 |
| AZ AA:1:103(ASM) | Euroamerican/Historic era (1900–1930) | Habitation and Artifact scatter | Not Evaluated | Bilsbarrow and Palus 1997 |
| AZ AA:1:132(ASM) | Euroamerican/Historic era (1924–present) | Road | Determined not eligible | Young and Goldstein 2016 |
| AZ AA:1:133(ASM) | Euroamerican/Historic era (1924–present) | Road | Considered not eligible | Henderson et. al 2009 |
| AZ AA:1:157(ASM) | Indeterminate Hohokam | Artifact scatter and associated features | Considered not eligible | North et. al 2005 |
| AZ AA:1:158(ASM) | Indeterminate Hohokam | Artifact scatter | Considered not eligible | North et. al 2005 |
| AZ AA:1:252(ASM) | Hohokam/Ceramic Period (AD 650–1450) | Artifact Scatter | Considered not eligible | Hesse 2018 |
| AZ CC:16:24(ASM) | Historic/Euroamerican (1947–present) | El Paso Natural Gas Line 1100 | Determined eligible(A) | Jones 2008 |

* Site is within the 1-mile study area.

Additionally, historic resources, including dirt roads, 10 wells, Bianco and Cornman Roads, I-8, and several gravel pit features, are visible on the 1965 USGS Chuichu, Arizona, 7.5-minute quadrangle

(USGS 2023b). The modern roads and interstate constitute in-use historic-age structures under current use. None of these resources are visible on the 1961 or 1963 historic aerials. ASM policy and would not currently be associated with a site number. Two roads are visible on the 1889 GLO map within the 1-Mile Study Area and are labeled “Ranch Road” and “From Casa Grande to Vekol Mine”. These are not in the Project and are not visible in modern aerials. In-use historic-age structures may constitute historic properties (i.e., be eligible for listing in the Arizona and National Registers of Historic Places [A/NRHP]) but previous researchers have consistently considered these minor local roads to lack historical significance.

The MCPA Area was used historically by the O’odham people and their prehistoric ancestors. It is near the reservation lands of the Tohono O’odham Nation. There are no known or evidently likely traditional cultural properties in the 1-mile study area. Additionally, a review of current aerial imagery shows no formal cemeteries visible in the 1-mile study area.

The Applicant may conduct additional cultural resources surveys as required for NEPA compliance associated with San Carlos Irrigation and Drainage District canal crossings. The Applicant may coordinate with the BIA (who will then coordinate with the SHPO) regarding cultural resources findings. Consultation with these agencies will be completed to determine the NRHP eligibility of the previously known and newly discovered sensitive cultural resources and to determine whether there would be impacts to these historic resources from project development.

C.2.7.3 WATER RESOURCES, PUBLIC FACILITIES/SERVICES, AND INFRASTRUCTURE SUPPORT

Adequate services are in place or are planned for within a reasonable time of the start of the new development.

The Pinal County Sheriff’s Office provides law enforcement services to the MCPA Area. The Regional Fire and Rescue Department provides subscription-based fire and emergency medical services to the region. New or additional public services resulting from the MCPA are not anticipated.

No public improvements to sewer systems or water systems would be needed as a result of the Project. The Applicant will evaluate the impact of the Project on traffic and will work with the County to determine if any road improvements are needed. Water is expected to be hauled to the site during construction and operation. Water hauled to the site would be from permitted sources with existing water rights. If necessary, any new or existing wells on-site would be permitted through the Arizona Department of Water Resources, as needed.

Any proposed road construction needed to access the Project would be constructed and paid for by the Applicant, in coordination with ADOT and Pinal County Public Works Department, as necessary, and would not require public expenditures. As such, the Project will increase the land’s taxable value while adding little, if any, burden to public services.

Development of the Project would not impact existing water quality. The site would be designed to pass off-site stormwater through or around the site and release it in a manner similar to the existing conditions. Based on a final hydrologic analysis of the site, on-site drainage would be routed as necessary to retention basins in accordance with Pinal County Public Works regulations. This drainage design concept would allow the site to be developed, while not increasing stormwater runoff or creating an adverse impact on adjacent properties. Site design that is sensitive to existing topography and drainage patterns would also function to protect water quality.

In areas where there is any potential for contamination, all stormwater would be retained on-site to comply with Arizona Department of Environmental Quality requirements. The Project would comply with the Arizona Pollutant Discharge Elimination System construction general permit. In addition, the project will adhere to the Arizona Department of Environmental Quality Aquifer Protection Program and biannual water quality assessment report, as required by the Clean Water Act.

D. LITERATURE CITED

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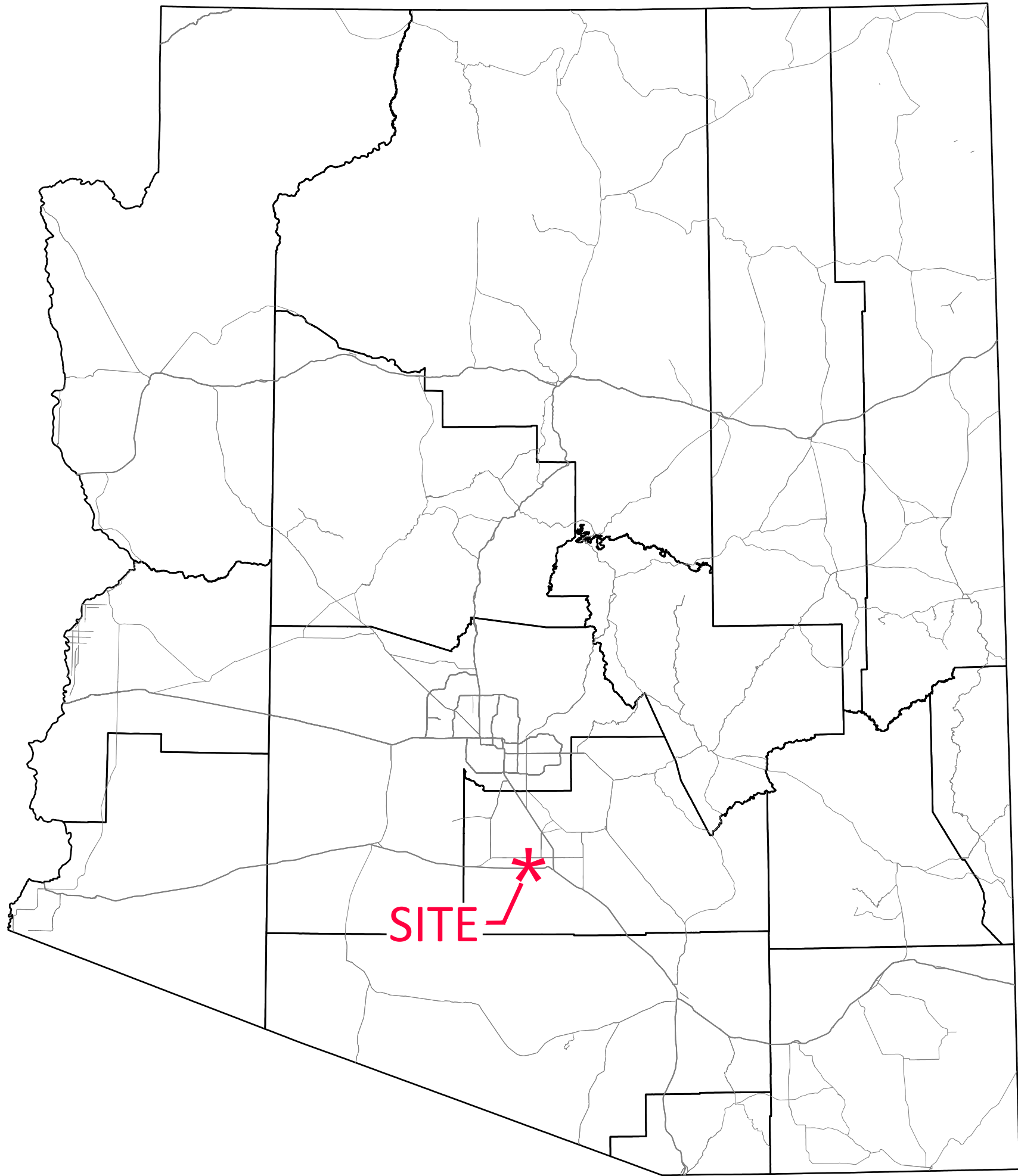
APPENDIX A
Boundary Survey

CASA GRANDE CARMEL

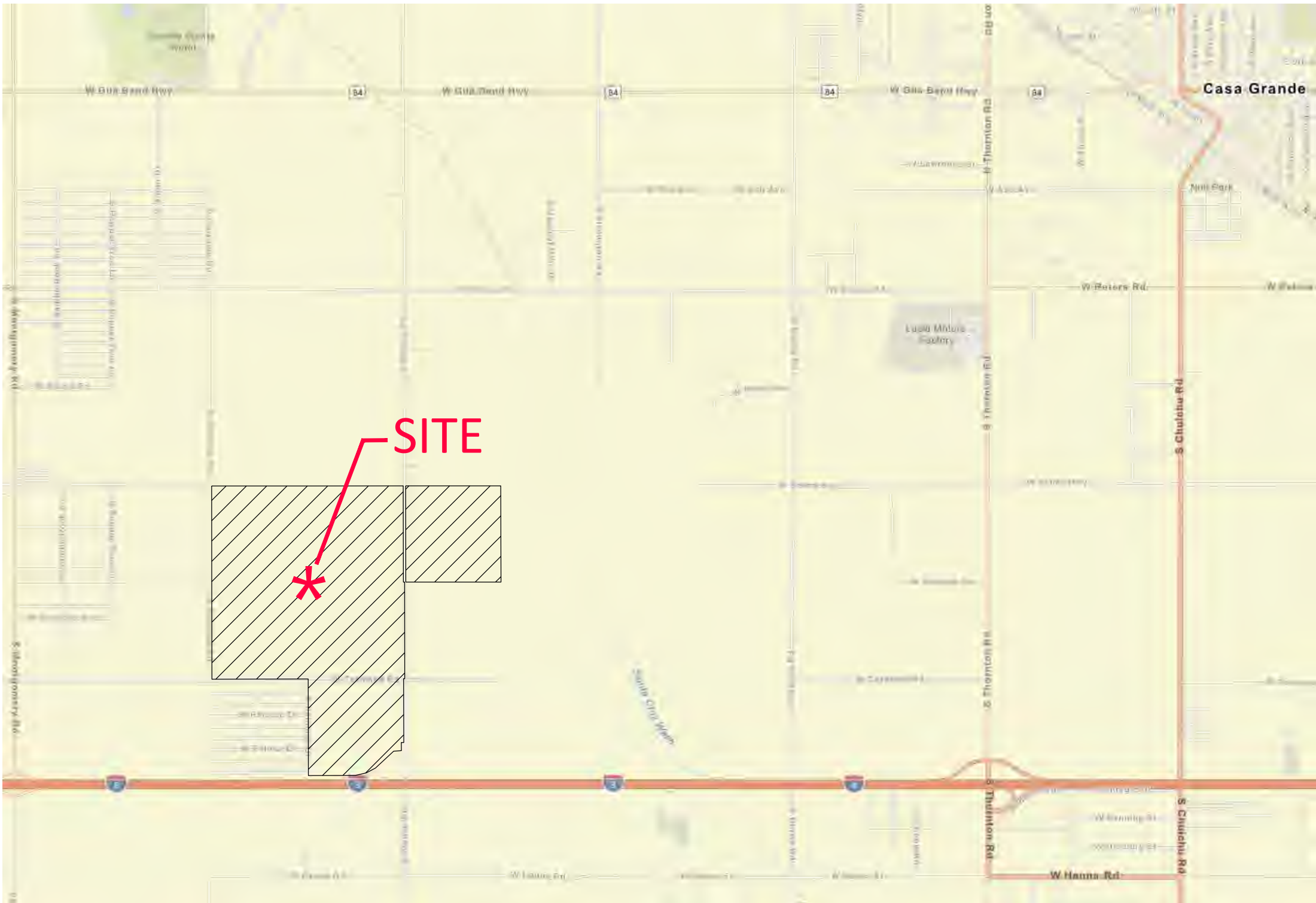
BOUNDARY SURVEY
PINAL COUNTY, ARIZONA

GENERAL DRAWINGS

| DWG. NO. | | TITLE |
|----------|-----|--|
| SHEET | 1 | COVER |
| SHEET | 2 | LEGAL DESCRIPTIONS, GENERAL NOTES AND CERTIFICATION |
| SHEETS | 3 | SITE OVERVIEW MAP |
| SHEETS | 4-6 | SECTIONAL DETAIL |



Vicinity Map



(Not to Scale)

PREPARED FOR:



REVISIONS:

| # | DATE | COMMENT |
|---|-----------|----------------------------|
| 1 | 5/18/2023 | UPDATE TO AREAS AND ZONING |
| | | |
| | | |
| | | |

LEGEND

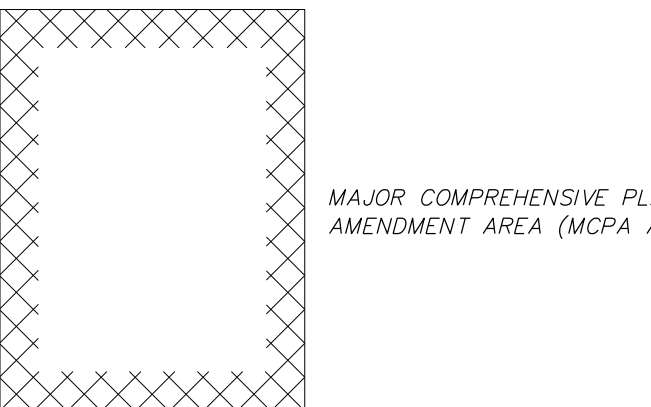
| | |
|--|---------------------------|
| | PROJECT BOUNDARY |
| | PARCEL LINE |
| | ROADWAY RIGHT OF WAY |
| | ROADWAY CENTERLINE |
| | EASEMENT LINE |
| | SECTION LINES |
| | QUARTER SECTION LINES |
| | ADJOINERS PROPERTY LINES |
| | FOUND MONUMENT (AS NOTED) |



RECREATION AND CONSERVATION AREA



FEMA ZONE (SEE DETAIL FOR ZONE DESIGNATIONS)



MAJOR COMPREHENSIVE PLAN AMENDMENT AREA (MCPA AREA)

Casa Grande Carmel Solar

Pinal County, Arizona

Boundary Survey

DATE: 6/6/2023

SHEET: 1 OF 6

N:\00448181\00_CAD_Survey\00448181 - Boundary.dwg 6/6/2023 11:19 AM Joe Distenwerf

LEGAL DESCRIPTION (AS SURVEYED)

A PORTION OF PARCEL NO. 2, SPECIAL WARRANTY DEED, RECORDED AS FEE NUMBER 2009-120120, RECORDS OF PINAL COUNTY, ARIZONA:

GOVERNMENT LOTS 3 AND 4 AND THE SOUTH HALF OF THE NORTHWEST QUARTER OF SAID SECTION 3, TOWNSHIP 7 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPT THE WEST 33 FEET OF GOVERNMENT LOT 4 AND THE WEST 33 FEET OF THE WEST HALF OF THE SOUTH HALF OF THE NORTH HALF OF SAID SECTION 3, AS CONVEYED TO PINAL COUNTY IN FEE NO. 2000-052535, RECORDS OF PINAL COUNTY, ARIZONA.

ALSO EXCEPTING 6% OF ANY AND ALL OIL, GAS AND MINERAL RIGHTS AS RESERVED IN INSTRUMENT RECORDED IN BOOK 78 OF DEED, PAGE 260, RECORDS OF PINAL COUNTY, ARIZONA.

AND ALSO,

PARCEL NO. 3, SPECIAL WARRANTY DEED, RECORDED AS FEE NUMBER 2009-120120, RECORDS OF PINAL COUNTY, ARIZONA:

GOVERNMENT LOTS 1, 2, 3 AND 4, THE SOUTH HALF OF THE NORTH HALF, AND THE SOUTHWEST QUARTER OF SECTION 4, TOWNSHIP 7 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPT THE EAST 33 FEET OF GOVERNMENT LOT 1 AND THE EAST 33 FEET OF THE SOUTH HALF OF THE NORTH HALF OF SAID SECTION 4, AS CONVEYED TO PINAL COUNTY IN FEE NO. 2000-052535, RECORDS OF PINAL COUNTY, ARIZONA.

ALSO EXCEPTING 6% OF ANY AND ALL OIL, GAS AND MINERAL RIGHTS AS RESERVED IN INSTRUMENT RECORDED IN BOOK 78 OF DEED, PAGE 260, RECORDS OF PINAL COUNTY, ARIZONA.

APN: 511-01-002

QUITCLAIM DEED, RECORDED AS FEE NUMBER 2018-010171, RECORDS OF PINAL COUNTY, ARIZONA:

THE NORTH HALF OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 7 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

APN: 511-01-003B

WARRANTY DEED, RECORDED AS FEE NUMBER 2016-048205, RECORDS OF PINAL COUNTY, ARIZONA:

THE SOUTH HALF OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 7 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

APN: 511-01-003D

PARCEL NO. 1 AND PARCEL NO. 2, BARGAIN AND SALE DEED, RECORDED AS FEE NUMBER 2009-043460, RECORDS OF PINAL COUNTY, ARIZONA:

THE WEST HALF OF THE SOUTH HALF OF THE SOUTHEAST QUARTER AND THE EAST HALF OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 7 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA.

APN: 511-01-003E AND 511-01-003F

PARCEL NO. 4, SPECIAL WARRANTY DEED, RECORDED AS FEE NUMBER 2009-120120, RECORDS OF PINAL COUNTY, ARIZONA:

THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 7 SOUTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA:

EXCEPT ANY PORTION LYING WITH THE FOLLOWING DESCRIBED PARCEL:

BEGINNING AT THE CENTER OF SAID SECTION 9;

THENCE SOUTHERLY ALONG THE NORTH-SOUTH MIDSECTION LINE, 300 FEET TO THE NEW SOUTHERLY RIGHT OF WAY LINE OF YUMA-CASA GRANDE HIGHWAY;

THENCE NORTH 89 DEGREES 46 MINUTES 36 SECONDS EAST, ALONG SAID NEW RIGHT OF WAY LINE, 2556.19 FEET (2557 FEET MORE OR LESS, RECORD) TO A POINT OPPOSITE ENGINEER'S STATION 2778+12.67, WHICH SAID POINT LIES 100.0 FEET ON A BEARING OF SOUTH 89 DEGREES 46 MINUTES 36 SECONDS WEST FROM THE EAST LINE OF SAID SECTION 9;

THENCE SOUTH 00 DEGREES 06 MINUTES 55 SECONDS EAST (SOUTH 00 DEGREES 13 MINUTES 14 SECONDS EAST, RECORD) 849.88 FEET (850.0 FEET RECORD);

THENCE NORTH 89 DEGREES 53 MINUTES 05 SECONDS EAST (NORTH 89 DEGREES 46 MINUTES 46 SECONDS EAST, RECORD) 200 FEET;

THENCE NORTH 00 DEGREES 06 MINUTES 55 SECONDS WEST (NORTH 00 DEGREES 13 MINUTES 14 SECONDS WEST, RECORD) 255.0 FEET;

THENCE NORTH 81 DEGREES 07 MINUTES 30 SECONDS EAST (NORTH 81 DEGREES 12 MINUTES 14 SECONDS EAST, RECORD) 164.96 FEET (161.45 FEET, RECORD);

THENCE NORTH 59 DEGREES 08 MINUTES 11 SECONDS EAST (NORTH 59 DEGREES 16 MINUTES 32 SECONDS EAST, RECORD) 959.40 FEET (959.54 FEET, RECORD);

THENCE NORTH 72 DEGREES 26 MINUTES 55 SECONDS EAST (NORTH 68 DEGREES 10 MINUTES 55 SECONDS EAST, RECORD) 366.95 FEET (376.96 FEET, RECORD);

THENCE NORTH 89 DEGREES 52 MINUTES 34 SECONDS EAST (NORTH 89 DEGREES 59 MINUTES 00 SECONDS EAST, RECORD) 50.25 FEET (50.00 FEET, RECORD) TO A POINT OPPOSITE ENGINEER'S STATION 2794+00;

THENCE NORTH 00 DEGREES 07 MINUTES 38 SECONDS WEST (NORTH 00 DEGREES 00 MINUTES 60 SECONDS WEST, RECORD) 299.78 FEET (300.00 FEET, RECORD) TO A POINT ON THE NEW NORTHERLY RIGHT OF WAY LINE OF SAID HIGHWAY AND THE EAST-WEST MIDSECTION LINE OF SECTION 10;

THENCE SOUTH 89 DEGREES 52 MINUTES 22 SECONDS WEST (SOUTH 89 DEGREES 59 MINUTES 00 SECONDS WEST, RECORD) ALONG THE SAID MIDSECTION LINE 1387.85 FEET;

THENCE NORTH 00 DEGREES 13 MINUTES 12 SECONDS WEST (NORTH 00 DEGREES 13 MINUTES 14 SECONDS WEST, RECORD) 900.36 FEET;

THENCE SOUTH 89 DEGREES 56 MINUTES 15 SECONDS WEST (SOUTH 89 DEGREES 46 MINUTES 46 SECONDS WEST, RECORD) 200.00 FEET;

THENCE SOUTH 00 DEGREES 13 MINUTES 12 SECONDS EAST (SOUTH 00 DEGREES 13 MINUTES 14 SECONDS EAST, RECORD) 224.89 FEET (225.00 FEET, RECORD);

THENCE SOUTH 85 DEGREES 36 MINUTES 26 SECONDS WEST (SOUTH 85 DEGREES 44 MINUTES 22 SECONDS WEST, RECORD) 212.95 FEET (213.21 FEET, RECORD);

THENCE SOUTH 47 DEGREES 10 MINUTES 21 SECONDS WEST (SOUTH 47 DEGREES 09MINUTES 45 SECONDS WEST, RECORD) 679.25 FEET (679.41 FEET, RECORD);

THENCE SOUTH 62 DEGREES 20 MINUTES 38 SECONDS WEST (SOUTH 62 DEGREES 18 MINUTES 08 SECONDS WEST, RECORD), 281.82 FEET (281.78 FEET, RECORD);

THENCE SOUTH 76 DEGREES 30 MINUTES 53 SECONDS WEST (SOUTH 76 DEGREES 38 MINUTES 34 SECONDS WEST, RECORD) 308.35 FEET (308.06 FEET, RECORD) TO A POINT ON THE EAST-WEST MIDSECTION LINE OF SECTION 9;

THENCE SOUTH 89 DEGREES 46 MINUTES 36 SECONDS WEST ALONG SAID MIDSECTION LINE, 1293.72 FEET (1295 FEET, MORE OR LESS, RECORD) TO THE POINT OF BEGINNING;

EXCEPT THE EAST 33 FEET AS CONVEYED TO PINAL COUNTY IN FEE NUMBER 2000-052535; AND

EXCEPT 6% OF ANY AND ALL OIL, GAS AND MINERAL RIGHTS AS RESERVED IN INSTRUMENT RECORDED IN BOOK 78 OF DEEDS, PAGE 260.

APN: 511-07-001B

GENERAL SURVEYOR'S NOTES:

- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.
- NAD1983(2011), ARIZONA STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE (0202), INTERNATIONAL FEET; NAVD88, GEOID 18 (CONUS), INTERNATIONAL FEET. ALL BEARINGS, DISTANCES, AND AREAS ARE BASED ON GRID. THE AVERAGE COMBINED SCALE FACTOR IS 0.99984006 ABOUT COORDINATES FOR POINT 200, N: 674740.800, E: 727784.108.

| | |
|---------------|---------------|
| APN: | AREA: |
| 511-01-002 : | 640.274 ACRES |
| 511-01-003B : | 40.393 ACRES |
| 511-01-003D : | 40.395 ACRES |
| 511-01-003E : | 40.397 ACRES |
| 511-01-003F : | 40.403 ACRES |
| 511-07-001B : | 149.176 ACRES |

COMBINED PARCELS CONTAINING 41,427,199 SQUARE FEET OR 951.038 ACRES, MORE OR LESS.

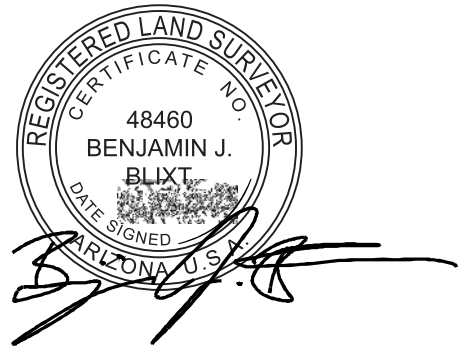
MAJOR COMPREHENSIVE PLAN AMENDMENT AREA: 41,637,905 SQUARE FEET OR 955.875 ACRES, MORE OR LESS

MAJOR COMPREHENSIVE PLAN AMENDMENT AREA INCLUDES RIGHTS-OF-WAY FOR BLANCO ROAD AND DOES NOT INCLUDE THE RECREATION AND CONSERVATION AREA.
- RIGHT OF WAY LOCATIONS AND WIDTHS FOR EXISTING GRAVEL ROADS AND HIGHWAYS ARE BASED ON A COMBINATION OF EASEMENT DOCUMENTS, AVAILABLE HIGHWAY MAPS OBTAINED FROM OFFICIAL RECORD OF PINAL COUNTY, ARIZONA.
- NO UTILITY INFORMATION OBTAINED OR PHYSICALLY LOCATED AND/OR PROVIDED BY ARIZONA 811.
- PROPERTY IS CURRENTLY ZONED AS DEPICTED HEREON, BASED ON FIRM MAP NUMBER 04021C1530E, EFFECTIVE DATE DECEMBER 4, 2007 AND GIS INFORMATION OBTAINED FROM FEMA FLOOD MAP SERVICE CENTER WEB PAGE, [HTTPS://MSC.FEMA.GOV/](https://msc.fema.gov/)
- THE AERIAL IMAGERY SHOWN HEREON IS MICROSOFT CORPORATION DISTRIBUTION AIRBUS DS 2023, THROUGH AUTODESK CIVIL 3D 2023.

CERTIFICATION

I, BENJAMIN J. BLIXT, HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR IN THE STATE OF ARIZONA AND THAT THE SURVEY SHOWN HEREON WAS COMPLETED UNDER MY DIRECT SUPERVISION DURING THE MONTH OF APRIL 2023, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THE MONUMENTS SHOWN HEREON ACTUALLY EXIST

BENJAMIN J. BLIXT, RLS DATE 6/6/2023
AZ LICENSE NO. 48460, EXPIRATION 09/30/2023
BEN.BLIXT@WESTWOODPS.COM



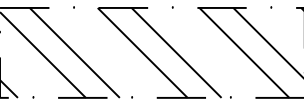
PREPARED FOR:



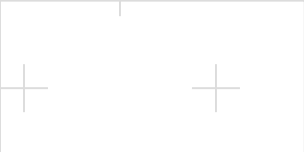
| REVISIONS: | | |
|------------|-----------|----------------------------|
| # | DATE | COMMENT |
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| | | |
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| | | |

LEGEND

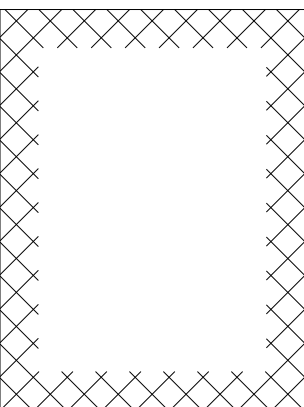
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- PARCEL LINE
- ROADWAY RIGHT OF WAY
- ROADWAY CENTERLINE
- EASEMENT LINE
- SECTION LINES
- QUARTER SECTION LINES
- ADJOINERS PROPERTY LINES
- FOUND MONUMENT (AS NOTED)



RECREATION AND CONSERVATION AREA



FEMA ZONE (SEE DETAIL FOR ZONE DESIGNATIONS)



MAJOR COMPREHENSIVE PLAN AMENDMENT AREA (MCPA AREA)

Casa Grande Carmel Solar

Pinal County, Arizona

Boundary Survey

DATE: 6/6/2023

SHEET: 2 OF 6

PREPARED FOR:



REVISIONS:

| # | DATE | COMMENT |
|---|-----------|----------------------------|
| 1 | 5/18/2023 | UPDATE TO AREAS AND ZONING |
| | | |
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LEGEND

- PROJECT BOUNDARY
- PARCEL LINE
- ROADWAY RIGHT OF WAY
- ROADWAY CENTERLINE
- EASEMENT LINE
- SECTION LINES
- QUARTER SECTION LINES
- ADJOINERS PROPERTY LINES
- FOUND MONUMENT (AS NOTED)
- RECREATION AND CONSERVATION AREA
- FEMA ZONE (SEE DETAIL FOR ZONE DESIGNATIONS)
- MAJOR COMPREHENSIVE PLAN AMENDMENT AREA (MCPA AREA)

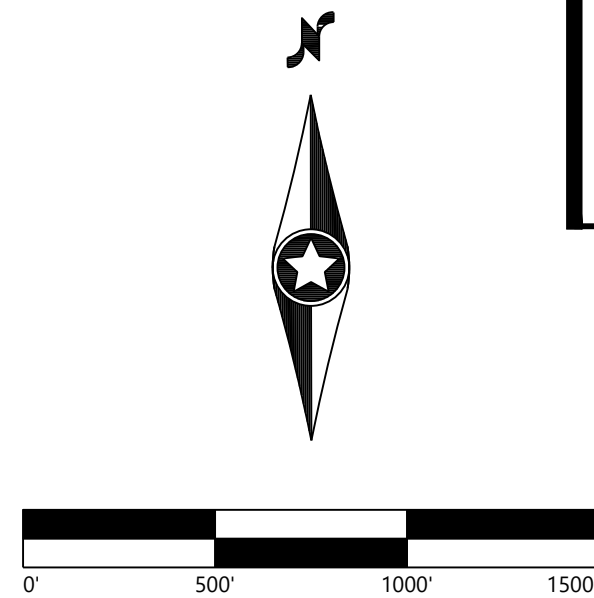
Casa Grande Carmel Solar

Pinal County, Arizona

Boundary Survey

DATE: 6/6/2023

SHEET: 3 OF 6



SECTION 3,
TOWNSHIP 7 SOUTH, RANGE 5 EAST,
GILA AND SALT RIVER MERIDIAN

PREPARED FOR:



REVISIONS:

| # | DATE | COMMENT |
|---|-----------|----------------------------|
| 1 | 5/18/2023 | UPDATE TO AREAS AND ZONING |
| | | |
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LEGEND

- PROJECT BOUNDARY
- PARCEL LINE
- ROADWAY RIGHT OF WAY
- ROADWAY CENTERLINE
- EASEMENT LINE
- SECTION LINES
- QUARTER SECTION LINES
- ADJOINERS PROPERTY LINES
- FOUND MONUMENT (AS NOTED)
- RECREATION AND CONSERVATION AREA
- FEMA ZONE (SEE DETAIL FOR ZONE DESIGNATIONS)
- MAJOR COMPREHENSIVE PLAN AMENDMENT AREA (MCPA AREA)

Casa Grande
Carmel Solar

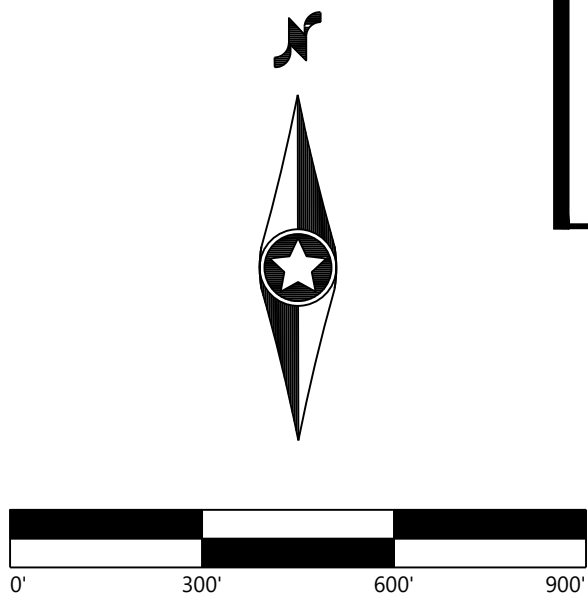
Pinal County, Arizona

Boundary Survey

DATE: 6/6/2023

SHEET: 4 OF 6

SEE SHEET 5 OF 6



PREPARED FOR:

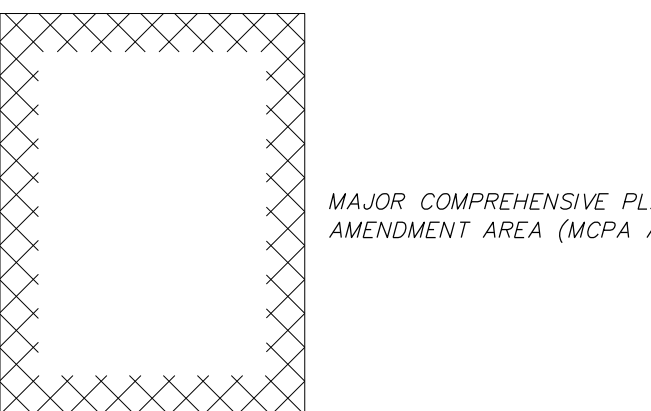


REVISIONS:

| # | DATE | COMMENT |
|---|-----------|----------------------------|
| 1 | 5/18/2023 | UPDATE TO AREAS AND ZONING |
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LEGEND

- PROJECT BOUNDARY
- PARCEL LINE
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- EASEMENT LINE
- SECTION LINES
- QUARTER SECTION LINES
- ADJOINERS PROPERTY LINES
- FOUND MONUMENT (AS NOTED)



Casa Grande Carmel Solar

Pinal County, Arizona

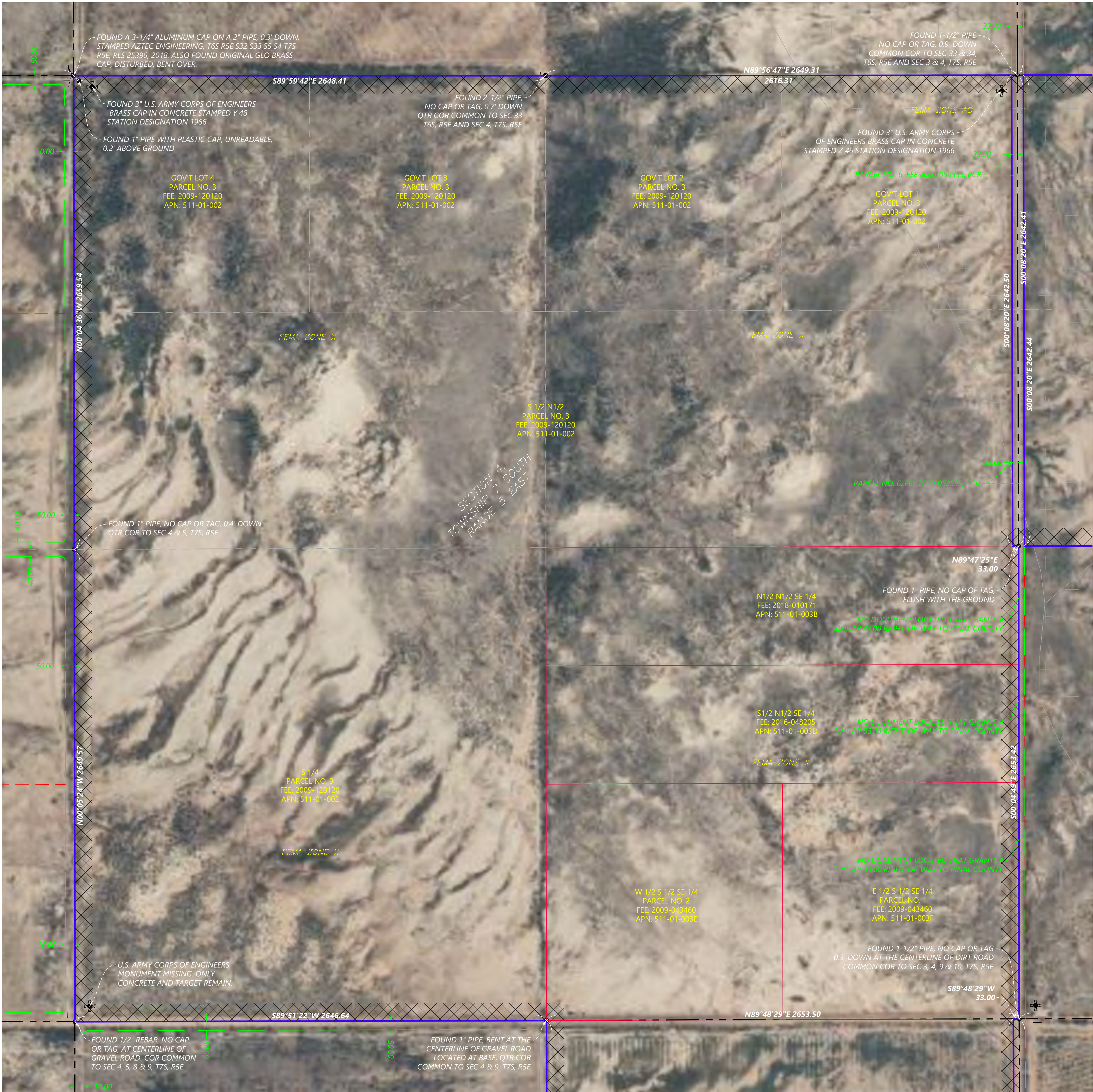
Boundary Survey

DATE: 6/6/2023

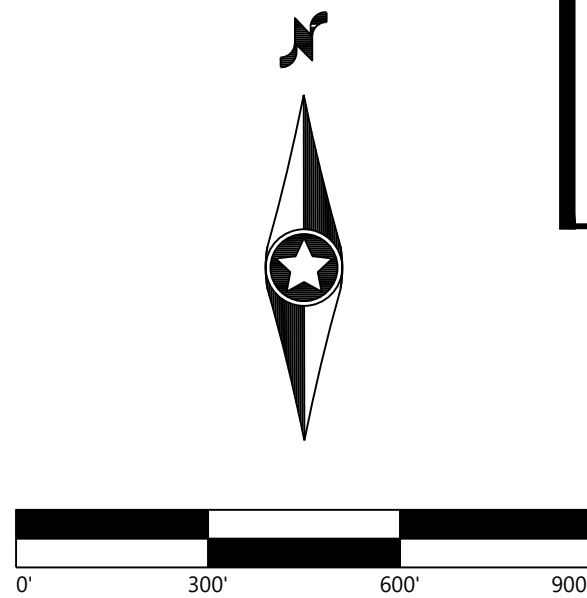
SHEET: 5 OF 6

SECTION 4,
TOWNSHIP 7 SOUTH, RANGE 5 EAST,
GILA AND SALT RIVER MERIDIAN

SEE SHEET 4 OF 6



SEE SHEET 6 OF 6



SEE SHEET 5 OF 6

SECTION 9,
TOWNSHIP 7 SOUTH, RANGE 5 EAST,
GILA AND SALT RIVER MERIDIAN



Westwood

Phone (480) 747-6558 6909 East Greenway Parkway, Suite 250
Fax (480) 367-8025 Scottsdale, AZ 85254
westwoodps.com

Westwood Professional Services, Inc.



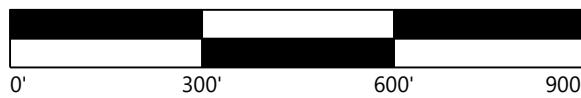
| REVISIONS: | | |
|------------|-----------|----------------------------|
| # | DATE | COMMENT |
| 1 | 5/18/2023 | UPDATE TO AREAS AND ZONING |
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LEGEND

- PROJECT BOUNDARY
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- SECTION LINES
- QUARTER SECTION LINES
- ADJOINERS PROPERTY LINES
- FOUND MONUMENT (AS NOTED)
- RECREATION AND CONSERVATION AREA
- FEMA ZONE (SEE DETAIL FOR ZONE DESIGNATIONS)
- MAJOR COMPREHENSIVE PLAN AMENDMENT AREA (MCPA AREA)

**Casa Grande
Carmel Solar**

Pinal County, Arizona



Boundary Survey

| | |
|--------|----------|
| DATE: | 6/6/2023 |
| SHEET: | 6 OF 6 |

APPENDIX B

Site Plan

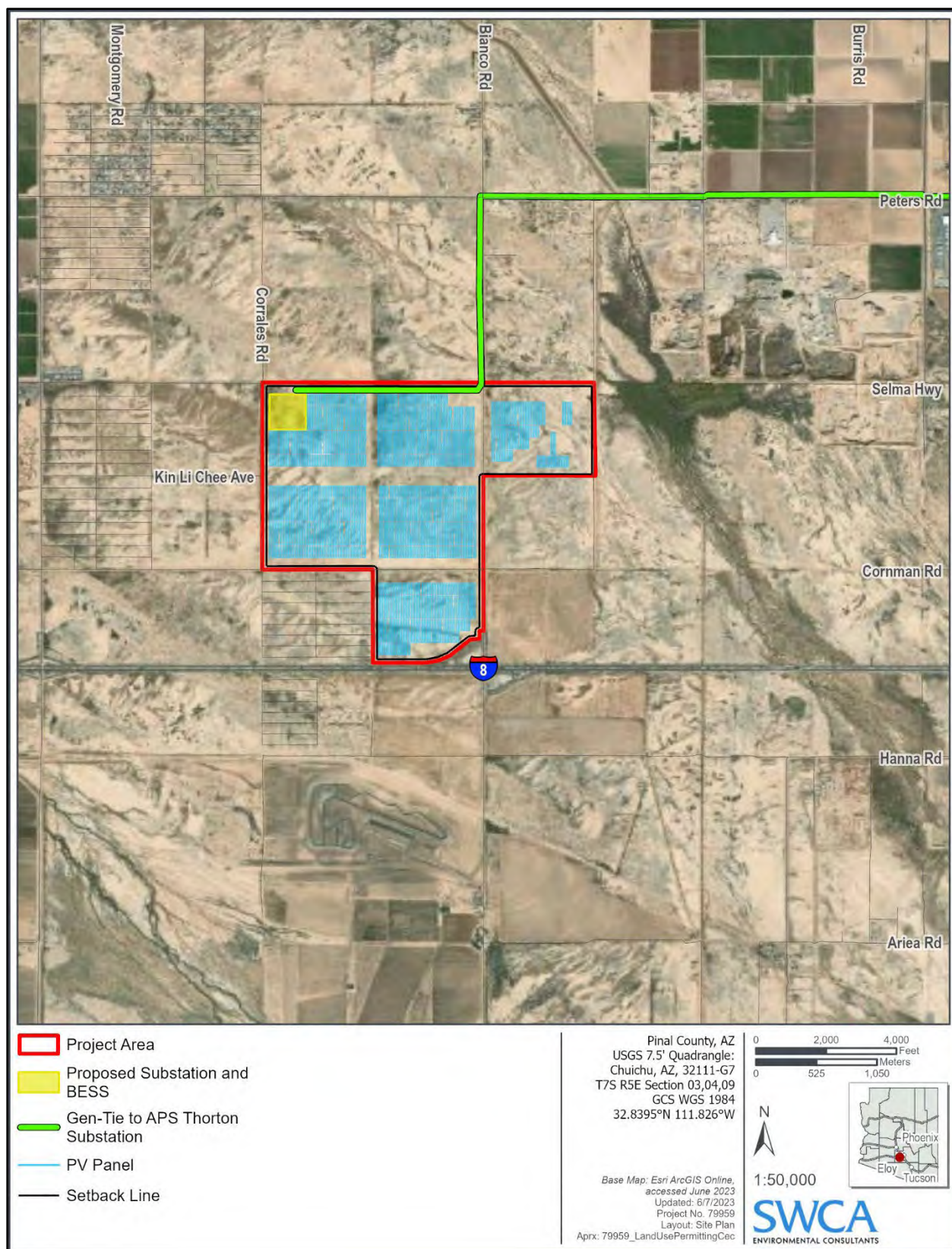



Figure B-1. Site plan.

APPENDIX C

Neighborhood Report



Neighborhood Meeting Report Casa Grande Carmel Solar Park Project

JUNE 2023

PREPARED FOR
Pinal County Planning Division

PREPARED BY
SWCA Environmental Consultants

ON BEHALF OF
Casa Grande Carmel Solar Park LLC

NEIGHBORHOOD MEETING REPORT CASA GRANDE CARMEL SOLAR PARK PROJECT

Prepared for

Pinal County Planning Division
85 N Florence Street, First Floor
P.O. Box 2973
Florence, Arizona 85132
(520) 866-6442
Attn: Glenn Bak

Prepared by

SWCA Environmental Consultants
20 E Thomas Road, Suite 1700
Phoenix, Arizona 85012
(602) 274-3831
www.swca.com

On Behalf of

Casa Grande Carmel Solar Park LLC
1501 McKinney Street, Suite 1300
Houston, Texas 77010
(346) 552-2737
Attn: Cecilia Chiu

June 2023

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| APPENDIX B | Informational Mailer |
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1 INTRODUCTION

Casa Grande Carmel Solar Park LLC, a subsidiary of EDP Renewables North America LLC (Applicant), plans to develop a solar photovoltaic (PV) generating facility, including a potential battery energy storage system (BESS), a project substation, and a generation tie transmission line (gen-tie) known as the Casa Grande Carmel Solar Project (Project). The Project consists of six privately owned parcels in unincorporated Pinal County, Arizona, including 511-01-0020, 003B, 003D, 003E, 003F, and 511-07-001B. The Project intends to connect to the regional transmission system at the existing Arizona Public Service Thornton Substation, approximately 3 miles to the northeast along Thornton Road and to the north of Peters Road.

The Applicant is requesting an MCPA for 955.875 acres on private land in Sections 3, 4, and 9, Township 7 South, Range 5 East. The 2021 Pinal County Comprehensive Plan (Comprehensive Plan) designates the land use for the MCPA Area as Moderate Low Density Residential and Employment. Solar generating facilities are not identified in the Comprehensive Plan as a compatible or alternative use for areas designated as Moderate Low Residential or Employment. As such, the Applicant is submitting an MCPA application to redesignate the MCPA Area to General Public Facilities/Services and/or Green Energy Production..

As part of the MCPA process, the Applicant is required to hold a neighborhood meeting that complies with the citizen review process outlined in Chapter 2.166.050 Section E: Citizen Review of the Pinal County Development Services Code (Pinal County 2023).

The process for the neighborhood meeting is described as follows:

- i. *Notice of the meeting shall be sent to the head of homeowners' or community associations nearest the property proposed for rezoning.*
- ii. *Notice shall be sent to all real property owners, as shown on the last assessment of the property, within 1,200 feet of the property proposed for rezoning.*
- iii. *Notification shall include the date, time and location of the meeting, a description and location of the project and how verbal and written comments can be submitted.*
- iv. *Notwithstanding the notice requirement, the failure of any person or entity to receive notice shall not constitute grounds for preventing any action by the county.*

As part of the process, the report must include the following:

- i. *Dates and locations of all meetings where citizens were invited to discuss the applicant's proposal.*
- ii. *Content, dates mailed, numbers of mailings, including letters, meeting notices, newsletters and other publications, and names and addresses where mailed.*
- iii. *Copies of mailings.*
- iv. *Copies of sign-in sheets from all public meetings.*
- v. *A summary of concerns, issues and problems expressed during the process, including:*
 - a. *The substance of the concerns, issues and problems.*
 - b. *Statement as to how the applicant has addressed or intends to address concerns, issues and problems expressed during the process.*
 - c. *A statement about the concerns, issues and problems the applicant is unwilling or unable to address and why.*

The purpose of this Neighborhood Meeting Report is to document that the Applicant complied with the neighborhood meeting process and to meet the reporting requirements described in the citizen review process (Pinal County 2023). This neighborhood meeting report is intended to be a part of the application for an MCPA for the Project.

Please note that the meeting materials reflect a portion of the MCPA Area as Green Energy Production. Following the Applicant's MCPA pre-application meeting with the County, which occurred after the neighborhood meeting, the Applicant was informed that parcels identified as Green Energy Production in the County's comprehensive plan geographic information system mapping are incorrect and carry a planned land use designation of Moderate Low-Density Residential and Employment. The Applicant's MCPA application has been updated accordingly. Neighborhood Meeting Notifications

1.1 Mailing List

The Applicant developed a mailing list that included real property owners within 1,600 feet of the anticipated Project area. The applicant went out an additional 400 feet beyond the requirements to ensure any property owners on the edge of the 1,200-foot notice requirement were included. Appendix A includes a copy of the mailing list (without duplicates). The mailing list and parcel data were obtained from the Pinal County Assessor's Office. The informational mailer described in the section below was sent to the full mailing list.

1.2 Informational Mailer

The informational mailer, which included the date, time, and location of the meeting; a description and map of the project location; and guidance on how verbal comments can be submitted, was sent to the mailing list (see Appendix A). The full-color 8.5 × 11-inch document included the required information, as well as the telephone number and email address to which comments could be submitted (Appendix B). The flyer was mailed on April 25, 2023, to ensure that the flyer would arrive approximately two weeks before the community meeting.

1.3 Newspaper Advertisements

The Applicant coordinated the publication of newspaper advertisements in the *Casa Grande Dispatch* to provide additional notification about the open house.

The advertisements were published for two consecutive weeks before the community meeting. Specifically, advertisements were published in the May 4 and May 9, 2023, editions. Appendix C includes a copy of the newspaper advertisement.

2 NEIGHBORHOOD MEETING

The Applicant held a neighborhood meeting on May 11, 2023, 5:00 p.m. to 7:00 p.m., at the Casa Grande Community Recreation Center at 1905 North Peart Road in Casa Grande, Arizona.

The neighborhood meeting was held in an open-house format. There was no formal presentation. Attendees were directed to Community Room 105 via signage. Upon entering, attendees were asked to provide their contact information at a discrete sign-in table and were then led to a series of ten 2 × 3-foot informational display boards. The Applicant subject matter experts were available to answer attendee questions on a one-on-one basis. Light refreshments were provided.

Appendix D shows images of the community meeting taken both before and during the meeting. Appendix E includes copies of the informational display boards. Appendix F includes copies of additional supporting materials, including project directional signage and blank comment forms. Appendix G provides copies of sign-in sheets from the neighborhood meeting.

2.1 Stakeholder Feedback

The Applicant received a total of one inquiry from stakeholders in advance of the neighborhood meeting and proactively consulted a neighbor. The inquiry was made through the project telephone number. Table 1 shows a summary of these inquiries. Personal information was redacted to protect privacy.

Table 1. Stakeholder Inquiries Received Before the Neighborhood Meeting

| Date | Name | Comment | Response |
|------------|---------------|--|---|
| 05/03/2023 | Alex McMillan | The Applicant representative initiated contact with Mr. McMillan via phone to introduce the company and project. Mr. McMillan is a residential developer on the southwest border of project boundary. Mr. McMillan asked where the project is located, and where exactly the project would border his property on a map. Mr. McMillan also asked who the company is and why the Applicant representative reached out directly via phone. He then said that he had no concerns about a bordering solar development affecting his property (predominantly a mobile home development) and expressed interest in attending the open house, but did not attend. | The Applicant representative described where the project is located according to road intersections, and provided a map in a follow-up email highlighting the project boundary in relation to Mr. McMillan's property. The representative went into detail describing the company and company values, explaining that the company wants to develop relationships with nearby landowners and address any concerns directly. The representative invited Mr. McMillan personally to the open house and followed up with more details via email. |
| 05/04/2023 | Tony Porco | "My name is Tony Porco. I own property there along Bianco Road, and I can't pinpoint exactly where this Casa Grande Carmel Solar Park is going to be and I was wondering if you could help me if you could return my call." | Based on the voicemail provided, Mr. Porco asked where the project was located because he was not able to find it, he also asked if this would affect his property value. Mr. Porco then thanked the representative for the information. The Applicant representative returned Mr. Porco's call and provided information on the exact location of the Project in correlation with Mr. Porco's property. The project is roughly 1500 feet South of Mr. Porco's property along South Bianco Road. The representative also shared that typically property value is unchanged from projects like this, and asked if they were worried about the view. The representative shared that the company typically works with the local communities and County to minimize the view impact. |

A total of four people attended the meeting. Each attendee signed in when prompted, but not all provided all requested information. No written comments were provided, despite encouragement to do so, and only verbal discussions occurred during the neighborhood meeting. Table 2 provides a summary of these discussions and responses.

Table 2. Stakeholder Comments and Responses During the Neighborhood Meeting

| Comment | Response |
|---|--|
| Mr. DeMiro asked where the panels come from. Mr. De Miro asked who EDP Renewables is and how much power does EDP Renewables generate in the United States? Mr. De Miro asked if EDP Renewables owns/operates any other projects in the area? | The Applicant responded that they are working to procure panels from the US as suppliers catch up with global demand. The Applicant has not procured panels yet and doesn't expect to procure panels until 2024-2025. The Applicant indicated that EDP Renewables is one of the largest renewable energy developers in the US by installed capacity. The Applicant's representatives indicated that EDP Renewables currently has 58 operational wind farms and 9 operational solar parks producing more than 8,200 megawatts of energy across the country. EDP Renewables' headquarters is in Houston, and they have several regional offices. EDP Renewables operates the Sun Streams Solar Park to the west of Phoenix. |
| Mr. Smith asked if EDP Renewables has determined the construction team. Mr. Smith indicated that he works for Rock Pros USA, a local rock & gravel supplier and would love to bid for Casa Grande Carmel Solar Park and work with EDP Renewables. | The Applicant indicated that they need to go through an Engineering, Procurement, and Construction Request for Proposal process first to determine our contractors for this project and expect that process in 2024. The Applicant thanked Mr. Smith for connecting and requested Mr. Smith's contact information to connect on contracting for this project. |
| Mr. Hoffna asked why EDPR was hosting the open house. Mr. Hoffna inquired about what benefits Casa Grande Carmel brings to the community. | The Applicant indicated that they wanted to engage the community and let the public know about their plans for the Casa Grande Carmel Solar Project. The Applicant indicated the project has several local benefits, including tax payments to the County. This goes to schools, roads, and other benefits to the community. The Applicant indicated they also hire local contractors to complete work during construction, such as supplying gravel, seeding, and other activities. The Applicant expects approximately 250 jobs during construction and 5 jobs during operations. These workers will boost spend in the local community. |
| Mr. Hu asked why the project has taken a long time to develop and where we are in the process. Mr. Hu asked for an updated timeline on the project schedule. Mr. Hu asked if we have thought about green hydrogen for this project or in this area. Mr. Hu thanked the representatives for all the information as he was leaving. | The Applicant representative thanked Mr. Hu for coming out to the open house and then shared that large scale utility projects like Casa Grande Carmel Solar Park typically take many years to develop and require due diligence from many different subject matters. In addition to the current permitting timelines, interconnection studies alone take about 2-3 years to complete. The representative shared that they have a renewed focus on this project and are excited to further development. The representatives provided a high-level timeline of the project. The representatives shared that the Applicant has thought about green hydrogen and has a hydrogen arm of the company that is exploring more of these opportunities. The representative thanked Mr. Hu for coming out. |

2.2 Proposed Mitigation of Concerns

The applicant promptly addressed any issues and concerns expressed by the public.

Based on the comments provided during the neighborhood meeting (see Table 2), no concerns, issues, or problems were identified. All attendees asked for additional information about different aspects of the Project but did not express any concerns, issues, or problems the project may have when explicitly asked. No written comments were provided by any of the attendees.

Because no concerns, issues, or problems were identified during the neighborhood meeting, the Applicant did not need to address any concerns, issues, or problems. If any concerns, issues, or problems arise during the project permitting process, the Applicant will address any concerns, issues, or problems where possible.

3 LITERATURE CITED

- Pinal County.2021. *We Create Our Future: Pinal County Comprehensive Plan*. Available at:
[https://www.pinal.gov/DocumentCenter/View/627/Comprehensive-Plan-2020-PDF?bidId=.](https://www.pinal.gov/DocumentCenter/View/627/Comprehensive-Plan-2020-PDF?bidId=)
Accessed May 2023
- _____. 2023. Development Services Code and Floodplain Management. Available online at:
[https://library.municode.com/az/pinal_county/codes/development_services_code_and_floodplain_management.](https://library.municode.com/az/pinal_county/codes/development_services_code_and_floodplain_management) Accessed February 2023.

APPENDIX A

Mailing List

Mailing List for the Casa Grande Carmel Solar Project Neighborhood Meeting

| Name | Mailing Address | City | State | Zip |
|---|--------------------------------------|---------------------|-------|-------|
| 2-K HOLDINGS LLC | 5795 ROGERS ST | LAS VEGAS | NV | 89118 |
| ALTURA PROPERTIES LLC | 5940 E WAKI RD | FLAGSTAFF | AZ | 86004 |
| BIANCO SELMA LLC | 403 MADISON AVE N STE 230 | BAINBRIDGE ISLAND | WA | 98110 |
| BURNSIDE JUDY | 1178 S 1000 E | DRIGGS | ID | 83422 |
| CAB LLC | 2704 E GEMINI ST | GILBERT | AZ | 85234 |
| CALIFORNIA PORTLAND CEMENT CO C/O RINKER MATERIALS CORPS-TAX DEPT | PO BOX 2883 | WEST PALM BEACH | FL | 33402 |
| CALLAHAN MICHAEL & SUSAN | 2481 GOLF TRAIL CT | AURORA | IL | 60506 |
| CAPNERHURST JEANNE M | 326-2451 GLADWIN RD | ABBOTSFORD | BC | |
| CG 160 LLC | PO BOX 5936 | MESA | AZ | 85211 |
| CORMAN/MONTGOMERY 160 LLC | 4711 E FALCON DR STE 231 | MESA | AZ | 85215 |
| CORMAN/MONTGOMERY 160 LLC C/O Henry McMillan | 4711 E FALCON DR STE 231 | MESA | AZ | 85215 |
| COWLEY MICHAEL T TR ETAL C/O SMT Investors | 1242 E JACKSON ST | PHOENIX | AZ | 85034 |
| DESERT SW CONFERENCE OF UN METH CHURCH | PO BOX 32830 | PHOENIX | AZ | 85064 |
| DOUGHTY ROBERT & JUDY | PO BOX 11651 | CASA GRANDE | AZ | 85130 |
| DUPLISEA ETHEL NORINE (EST OF) | 271 N MAIN ST | NORTH BROOKFIELD | MA | 01535 |
| HANKS AUDREY A | 14022 N BOLIVAR DR | SUN CITY | AZ | 85351 |
| HARVIK PROPERTIES LLC | 7981 SPANIEL CT | CORONA | CA | 92880 |
| HU MICHAEL & ZHAO LEI | 945 E PRESCOTT PL | CHANDLER | AZ | 85249 |
| KILPATRICK YVONNE | 11127 E BAJADA DR | SCOTTSDALE | AZ | 85262 |
| LEASK GARTH & SHIRLEY E | 147 4074 GELLATLY RD | WEST KELOWNA | BC | |
| MCMILLAN ALEX | 4711 E FALCON DR # 231 | MESA | AZ | 85215 |
| MONTEREY CASA GRANDE II LLC | 6501 E GREENWAY PKWY STE 103- 555 | SCOTTSDALE | AZ | 85254 |
| PATRICIA LILLE INVESTMENTS | 5835 N CASA BLANCA DR | PARADISE VALLEY | AZ | 85253 |
| PINAL COUNTY | PO BOX 827 | FLORENCE | AZ | 85132 |
| PORCO ANTHONY & MATHIA J | 389 TOWNSHIP RD 384 | STEUBENVILLE | OH | 43952 |
| PUZISS BRIAN R | PO BOX 6328 | PORTLAND | OR | 97228 |
| PUZISS BRIAN R | PO BOX 6328 | PORTLAND | OR | 97228 |
| QUANTUM RESOURCE GROUP LTD PSHIP | PO BOX 11809 | GLENDALE | AZ | 85318 |
| ROMMEL RHONDA L TR | PO BOX 974 | CAREFREE | AZ | 85377 |
| SMT INVESTORS LTD PSHIP ETAL C/O SMT INVESTORS LP | 1242 E JACKSON ST | PHOENIX | AZ | 85034 |

| Name | Mailing Address | City | State | Zip |
|----------------------------|---------------------------------------|-------------|--------------|------------|
| TRAVIANO PARTNERS LLC | 12340 SARATOGA SUNNYVALE RD STE 10 | SARATOGA | CA | 95070 |
| TRAVIANO PARTNERS LLC | 12340 SARATOGA SUNNYVALE RD STE 10 | SARATOGA | CA | 95070 |
| TRAVIANO PARTNERS LLC | 12340 SARATOGA SUNNYVALE RD STE 10 | SARATOGA | CA | 95070 |
| USCILLA MATTHEW & PATRICIA | 36 MOULTHROP ST | NORTH HAVEN | CT | 06473 |

APPENDIX B
Informational Mailer



April 25, 2023

Invitation to Learn about the Proposed Casa Grande Carmel Solar Park

Dear Neighbor,

This letter provides notice of and invites you to learn about, or provide input on, a proposed renewable energy development referred to as the Casa Grande Carmel Solar Park (Project). EDP Renewables (EDPR) plans to develop the Project in unincorporated Pinal County on approximately 953 acres. The Project would be located north of Interstate 8, at the intersection of South Bianco Road and West Cornman Road, as shown on Figure 1 (see attached). The Project would include solar photovoltaic panels, a potential battery energy storage system, a project substation, and a generation intertie transmission line (gen-tie).

EDPR plans to apply for a Major Comprehensive Plan Amendment to the Pinal County Comprehensive Plan to change the current land use designation from *Moderate Low Density Residential Land Use* to *Green Energy Production*. A portion of the Project area is already designed as Green Energy Production. A Major Comprehensive Plan Amendment is the first step in the Project's Pinal County permitting process.

If you're interested in learning more, or have questions regarding the proposal, we welcome your attendance at the following location, date, and time:

Casa Grande Community Recreation Center

1905 N Peart Rd
Casa Grande, AZ 85122
May 11, 2023
5:00 PM – 7:00 PM

During the open house, community members are encouraged to view poster boards, ask questions, and provide written comments. Project representatives will be on hand to answer questions and provide further information on the Project. In the meantime, please visit our Project website at: casagrandecarmelsolarpark.com.

We welcome your input and questions. We respectfully request any comments or questions be submitted by **May 19, 2023**, to be incorporated into our Public Participation Report. Please do not hesitate to reach the Project Team at the contact information below:

Casa Grande Carmel Solar Park
c/o SWCA Environmental Consultants
1645 S Plaza Way
Flagstaff, AZ 86001

Project Phone Number: (480) 447-4275
Project Email: casagrande.carmelsolar@edpr.com

Sincerely,

Cecilia Chiu
Development Project Manager
Casa Grande Carmel Solar Park LLC
EDP Renewables North America LLC

Krista Perry
Project Manager
SWCA Environmental Consultants

EDP Renewables North America LLC

710 NW 14th Avenue, Suite 250
Portland, OR 97209

Figure 1 - Proposed Casa Grande Carmel Solar Park



APPENDIX C

Newspaper Advertisement



Casa Grande Carmel Solar Park **OPEN HOUSE**

**Thursday,
May 11**

5–7 pm

**Casa Grande
Community
Recreation Center**

**1905 N Peart Rd
Casa Grande, AZ 85122**

EDP Renewables is developing the 96-megawatt Casa Grande Carmel Solar Park in unincorporated Pinal County, at the intersection of South Bianco Road and West Cornman Road, north of Interstate 8.

While we are still in the early stages and have many elements not yet finalized, we're eager to meet the southwest Casa Grande community and work together.

JOIN US FOR:

- **Current project plans**
- **Q&A with project team**
- **Overview of the upcoming process**

Casa Grande Carmel Solar Park
c/o SWCA Environmental Consultants
1645 S Plaza Way • Flagstaff, AZ 86001

casagrande.carmelsolar@edpr.com
(480) 447-4275
www.edpr.com/north-america

edp
Renewables

APPENDIX D

Images of Neighborhood Meeting



Photograph D-1. Entry table with sign-in sheet, comment form, and informational flyers.



Photograph D-2. Informational flyers and solar facility component information.



Photograph D-3. View of display boards for the open house.



Photograph D-4. Display boards for the open house.

APPENDIX E

Neighborhood Meeting Informational Display Boards

WELCOME CASA GRANDE CARMEL SOLAR PARK OPEN HOUSE



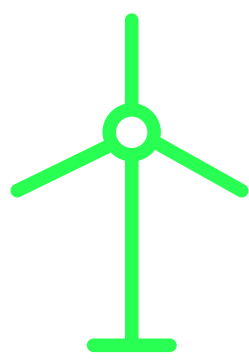
edp
Renewables

casagrandecarmelsolarpark.com

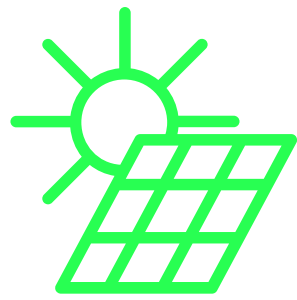


ABOUT EDP RENEWABLES NORTH AMERICA

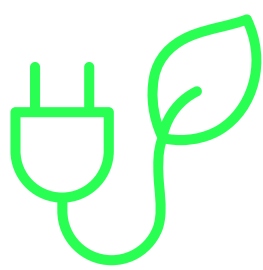
OPERATIONAL PROJECTS



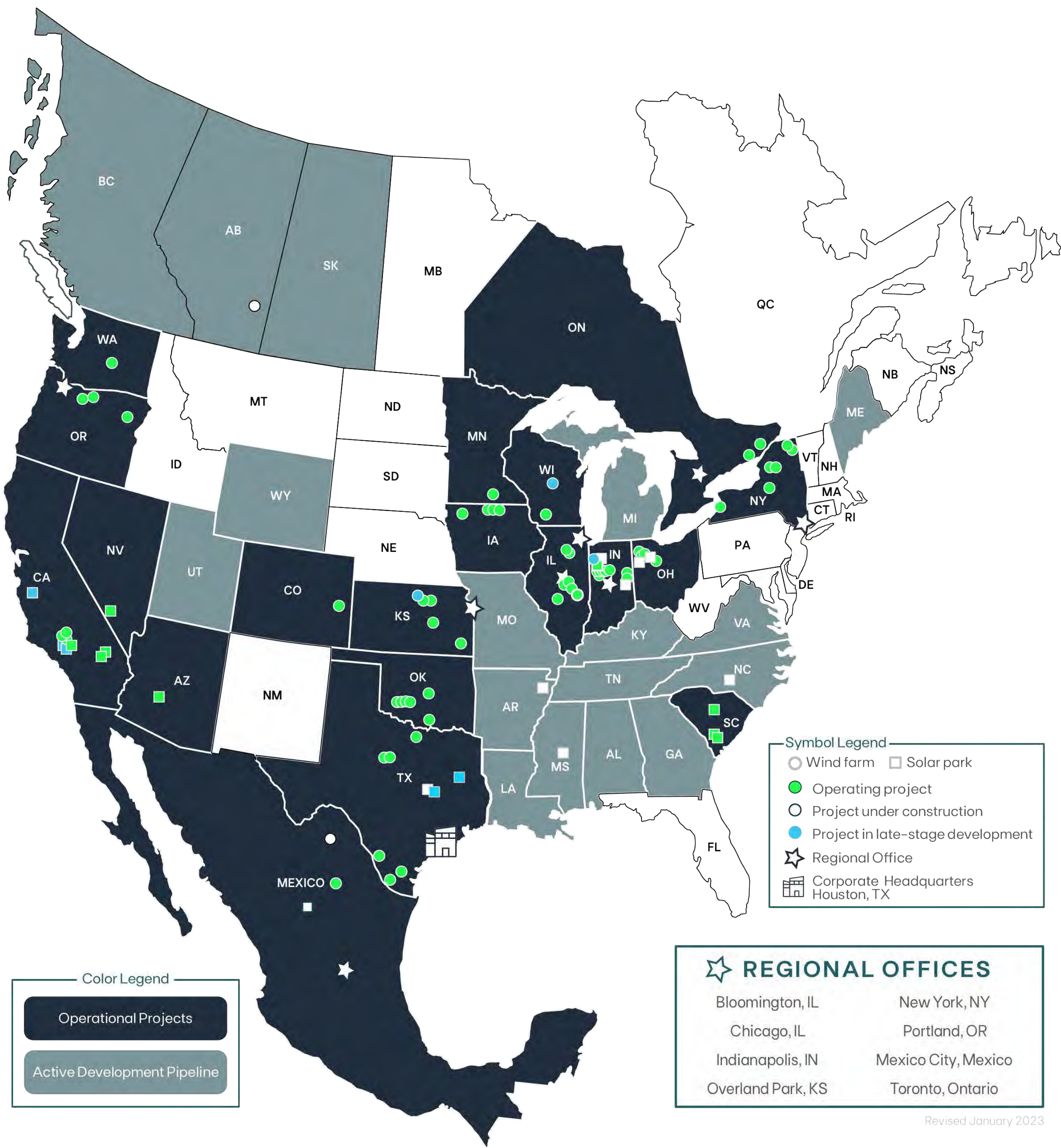
58
WIND FARMS



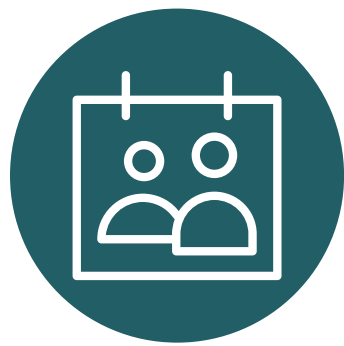
09
SOLAR PARKS



8,200+
MEGAWATTS



EDPR NA'S IMPACT



CREATED
1,000 permanent jobs
7,900 construction jobs



GENERATED
the equivalent of
2 million+ homes'
energy consumption



MAINTAINED
278 million+ hours
of operational history



PAID
\$379 million+ to landowners
\$308 million+ to local governments



SAVED
12.4 billion+ gallons of water
AVOIDED
24 billion+ pounds of CO₂



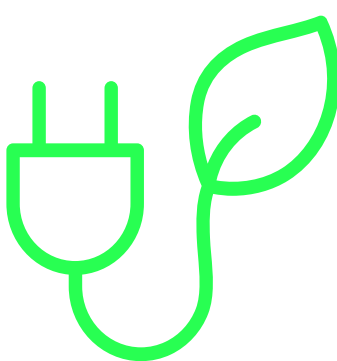
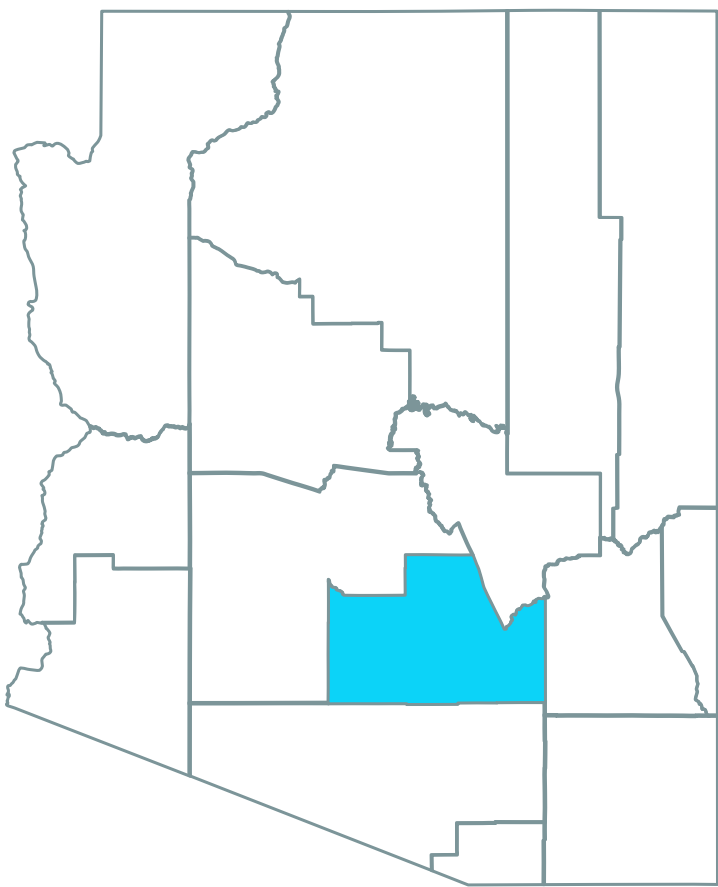
INVESTED
\$17 billion (approx.)
in capital

Casa Grande Carmel Solar Park

Pinal County, Arizona



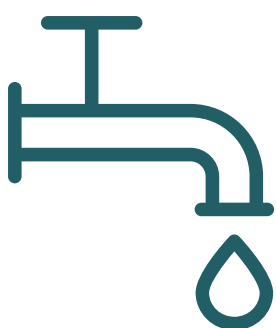
The solar park will be located in Pinal County, about 2 miles outside of Casa Grande city limits. The project is sited at the intersection of West Cornman Road and South Bianco Road, north of Interstate 8 and roughly 1.5 miles west of Lucid Motors Factory. The site is on undeveloped rural land, and is partially designated for Green Energy Production.



96 MW
ANTICIPATED COMMERCIAL
OPERATION DATE **2026**



This project’s generation would be equivalent to the average consumption of **16,700 Arizona homes**.¹



This solar park would save more than **121 million gallons** of water each year and would prevent the air pollution that causes smog, acid rain, and climate change.²

ECONOMIC BENEFITS

All economic data reflects the estimated amount throughout the life of the project and is based on a 96 MW project. A smaller capacity project would yield smaller economic benefits.



CAPITAL INVESTMENT
Approximately \$150 million



Millions of dollars
WOULD BE PAID TO LOCAL & STATE GOVERNMENTS



Millions of dollars
WOULD BE PAID TO LANDOWNERS



Millions of dollars
WOULD BE SPENT LOCALLY



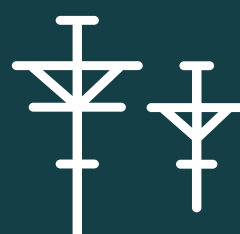
Up to 5 permanent jobs
WOULD BE CREATED



Up to 200 construction jobs
WOULD BE CREATED⁵



Casa Grande Carmel Solar Park will consist of **thousands of state-of-the-art, single-axis tracking PV panels**.



Power generated at Casa Grande Carmel Solar will **support the state of Arizona’s electric grid**.



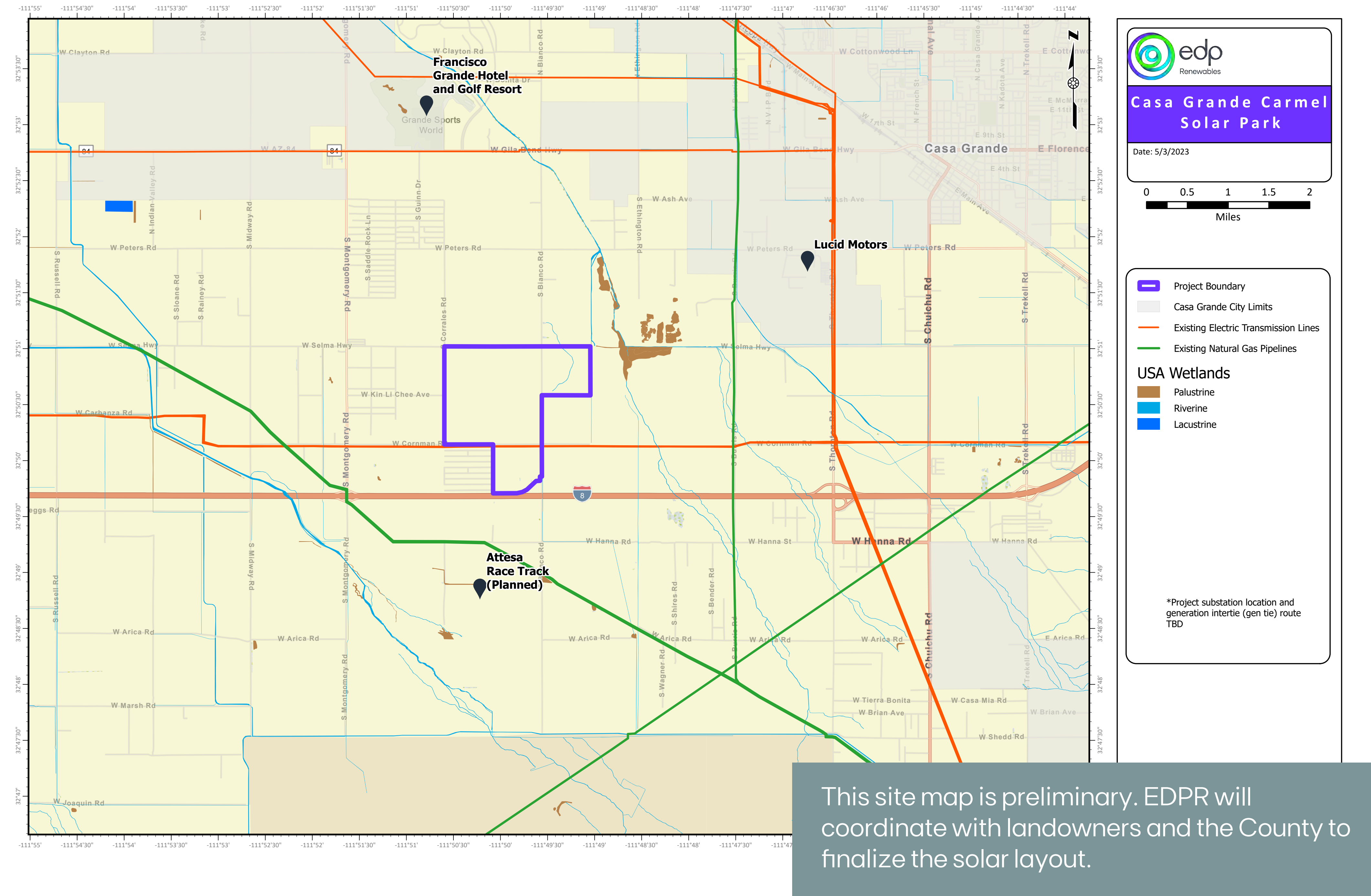
Casa Grande Carmel will **contribute to the national energy security** for the state of Arizona and the United States, helping diversify domestic supply.



In 2021, **solar energy represented nearly 46 percent of all newly installed U.S. electric capacity**.⁷

¹Power generation calculated using a 25% capacity factor. Household consumption based on the 2020 EIA Household Data monthly average consumption by state.

²Assumes 0.58 gallons of water consumed per kWh of conventional electricity from Lee, Han, & Elgowainy, 2016.

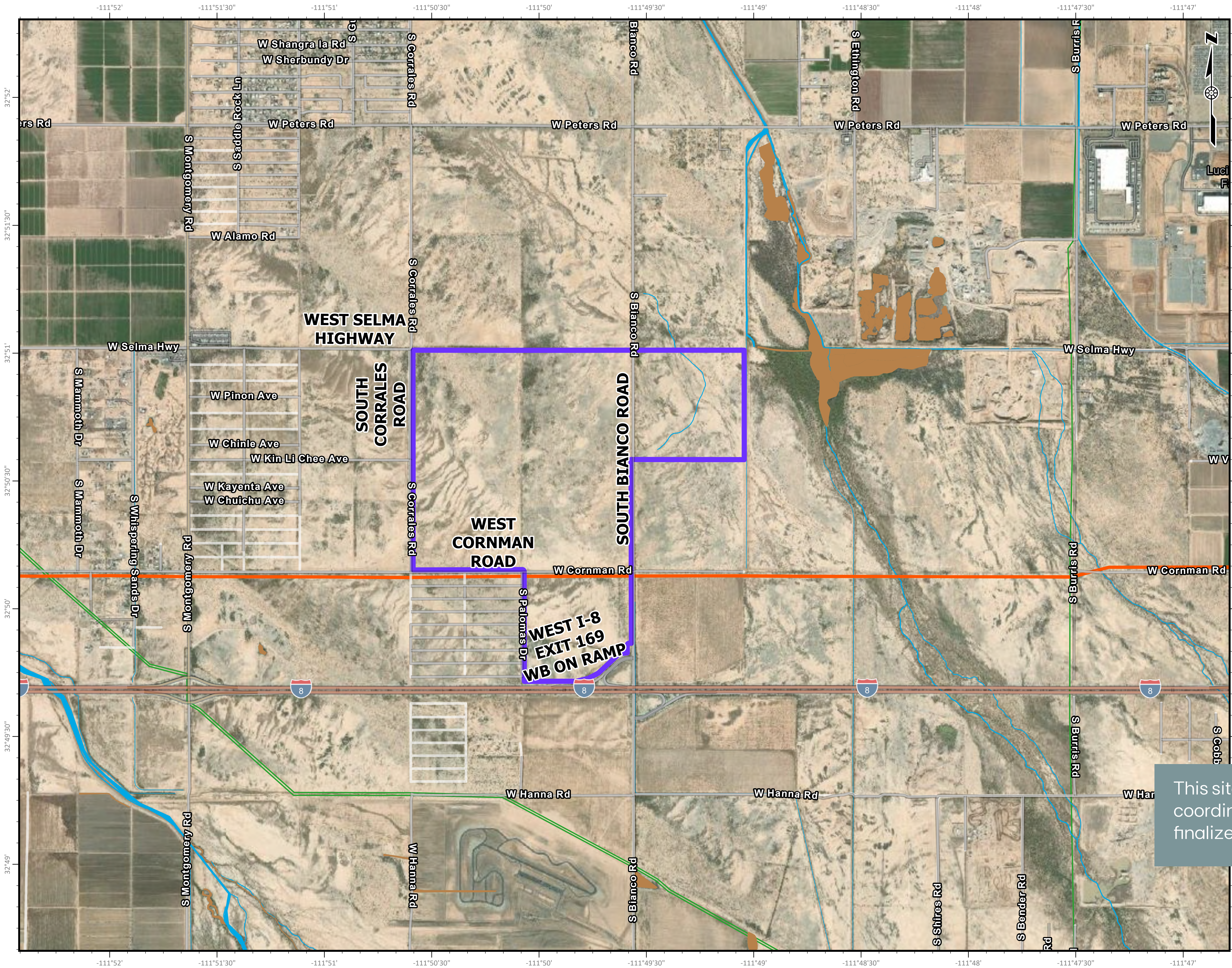


HIGH-LEVEL PROJECT SCHEDULE

The project timeline is an approximation. We are currently projecting to produce power as early as Q4 2026, but we will communicate a more precise timeline once more factors are confirmed.

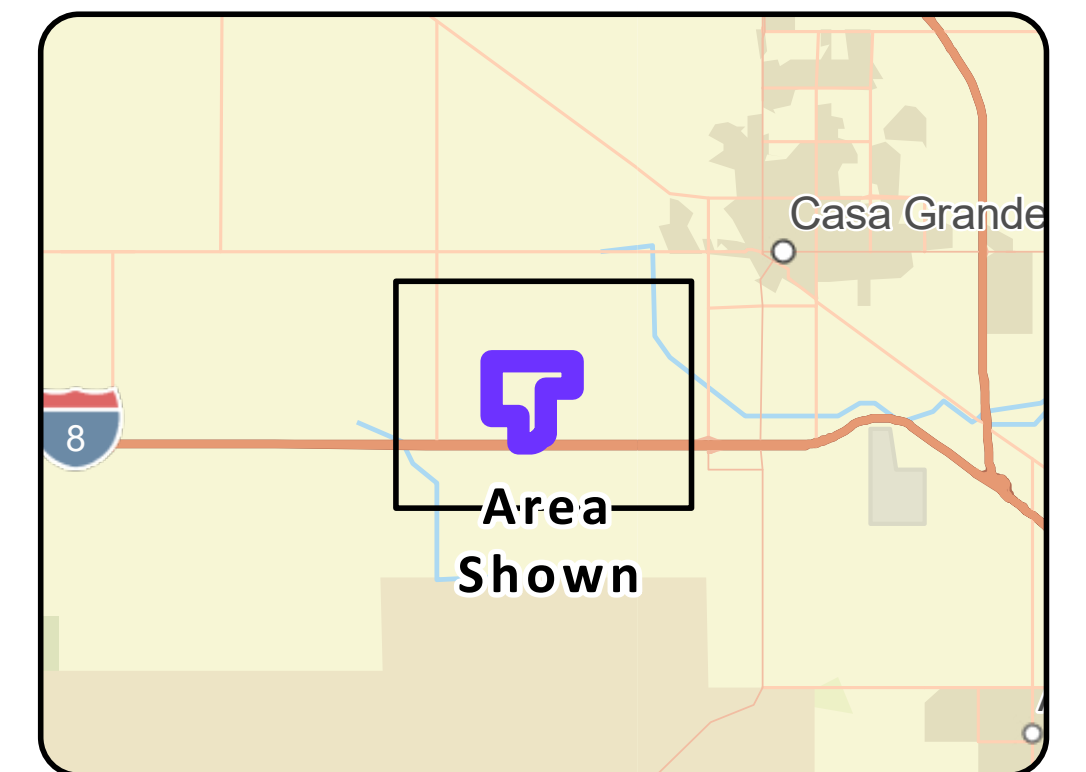
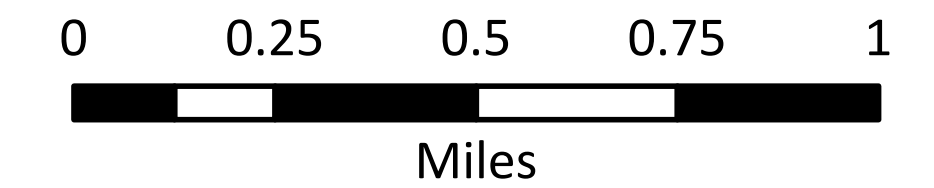
We are early in the development stage of the proposed project. Many aspects, including final project size and panel placement, are still under development and community input is valued as we move forward.

| | |
|----------------|--|
| July 2016 | Land Acquisition Activities Initiated |
| February 2017 | Interconnection Process Started |
| June 2018 | Environmental (Desktop and Field) Surveys Complete |
| June 2019 | First Public Open House |
| June 2020 | Large Generator Interconnection Agreement (LGIA) Signed |
| May 11, 2023 | Public Open House |
| May 26, 2023 | Major Comprehensive Plan Amendment (MCPA) Submission to Pinal County |
| September 2023 | Public Hearing of the Planning and Zoning Commission to Review Requests and Make Recommendations to Board of Supervisors |
| October 2023 | Public Hearing of the Board of Supervisors to Approve, Deny, or Continue Requests |
| 2023 to 2025 | Continued Permitting (County and Other Permits) |
| 2025 to 2026 | Construction (Subject to Permitting Timeline) |
| 2026 | Commercial Operations (Estimated) |



Casa Grande Carmel Solar Park

Date: 4/21/2023



- Project Boundary
- Existing Electric Transmission Lines
- Existing Natural Gas Pipelines

USA Wetlands

- Palustrine
- Riverine

*Project substation location and generation intertie (gen tie) route TBD

This site map is preliminary. EDPR will coordinate with landowners and the County to finalize the solar layout.

SOLAR ENERGY: Powering Local Economies

Explore the town below to see how the economic benefits of an EDP Renewables North America solar park flow through a community.

PROVIDING STABLE INCOME

The reliable revenue provided by a solar park sale can give landowners the financial freedom to expand their business, save for retirement, or pay for college.

REINVESTING IN THE COMMUNITY

With the additional income from a solar park sale, landowners have greater resources to reinvest in the community by increasing their spending at area businesses.

ATTRACTING GROWTH

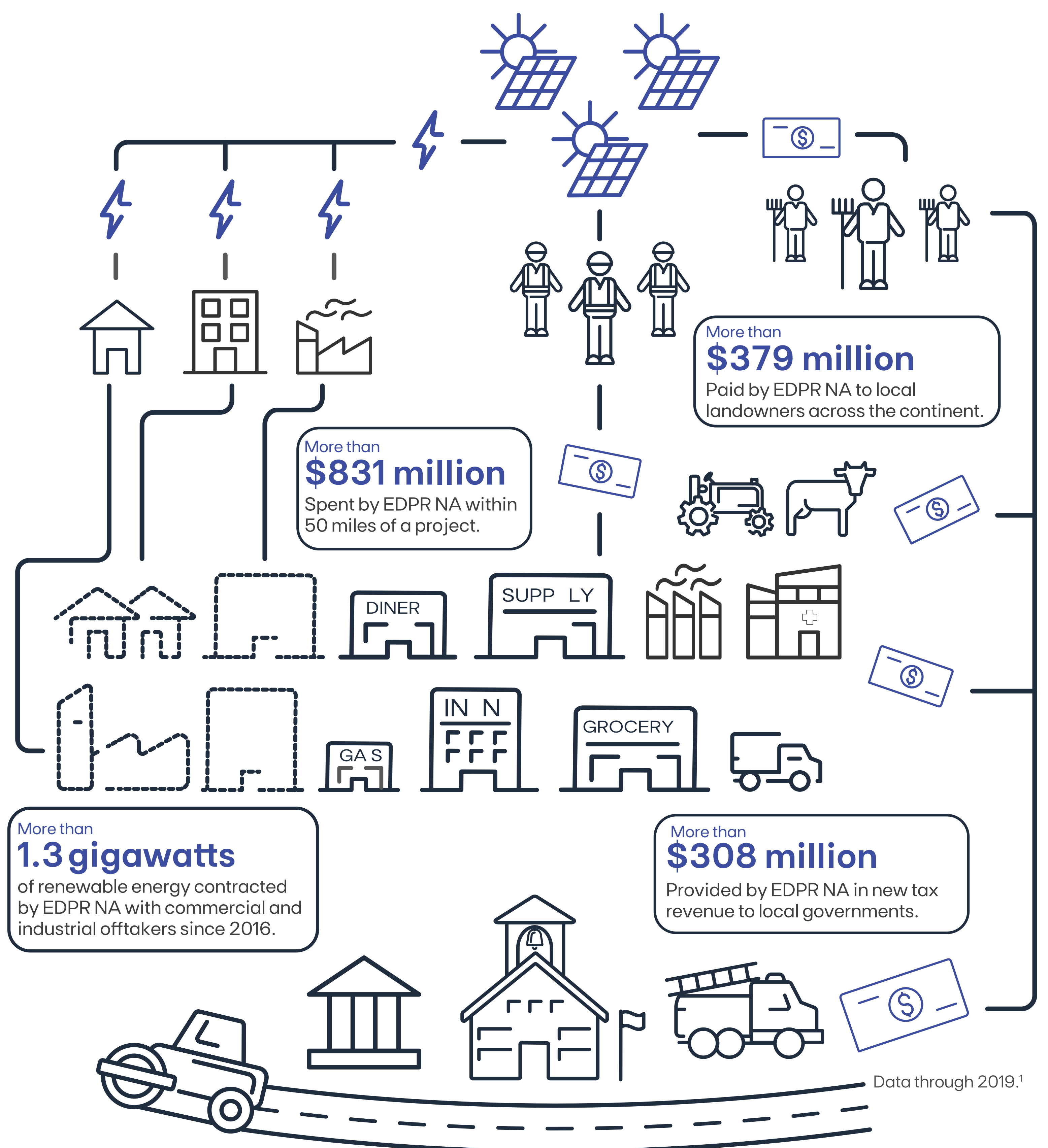
Companies are increasingly interested in powering their operations with clean energy at a fixed price. The availability of clean power generated by the solar park can help attract further business development to the project area.

STRENGTHENING LOCAL INFRASTRUCTURE

Government payments directly from the solar park, as well as increased economic activity from landowners and local businesses supported by the solar park, help fund essential services such as roads, schools, and fire departments.

SUPPORTING LOCAL BUSINESSES

Solar park construction generates an economic boost for the project area, with hundreds of workers relying on local businesses for food, lodging, materials, and contractor services. Once the project is in operation, the solar park continues to count on local businesses for ongoing maintenance needs, such as mowing, panel washing, and equipment.

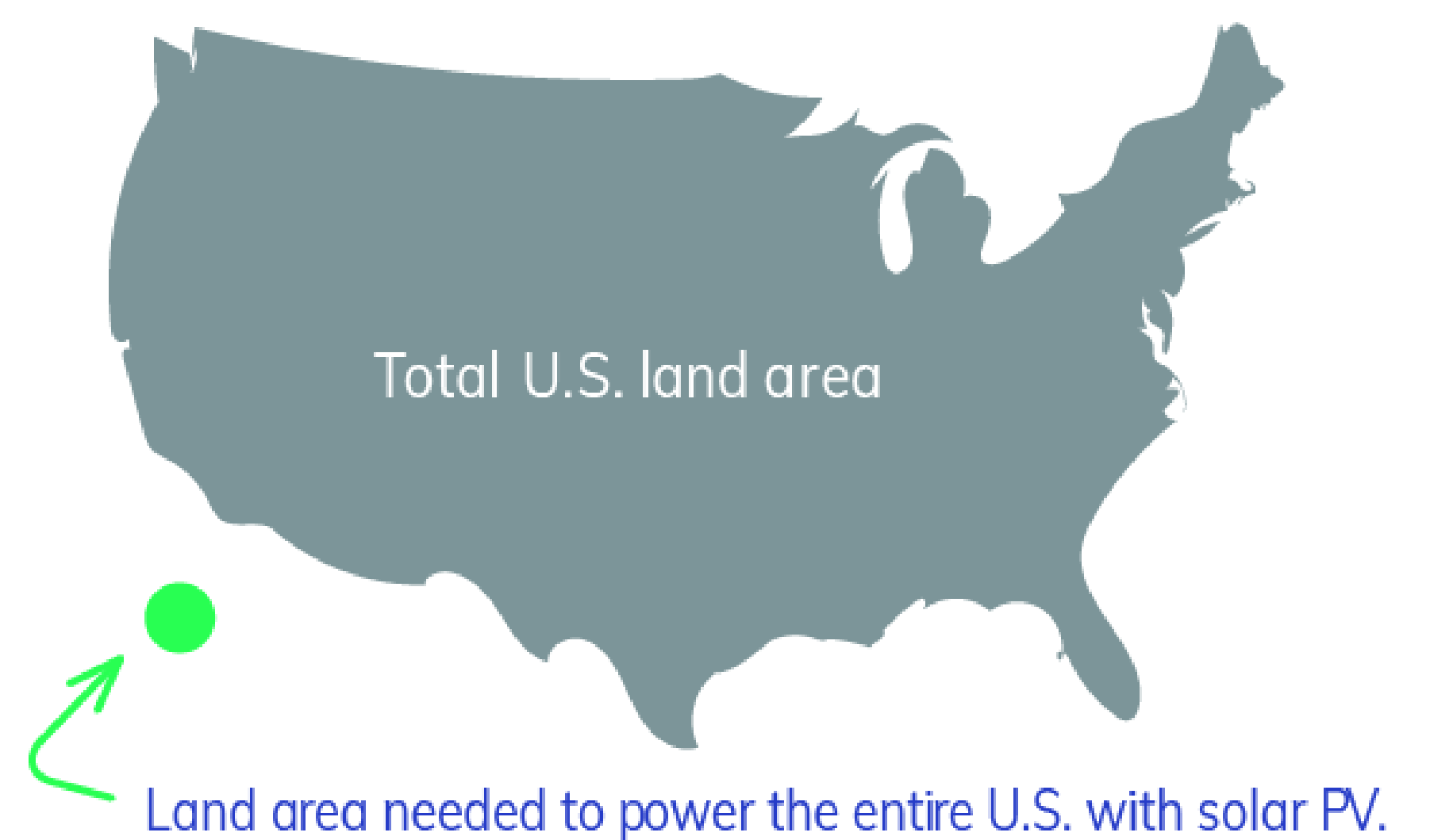


About Solar Technology

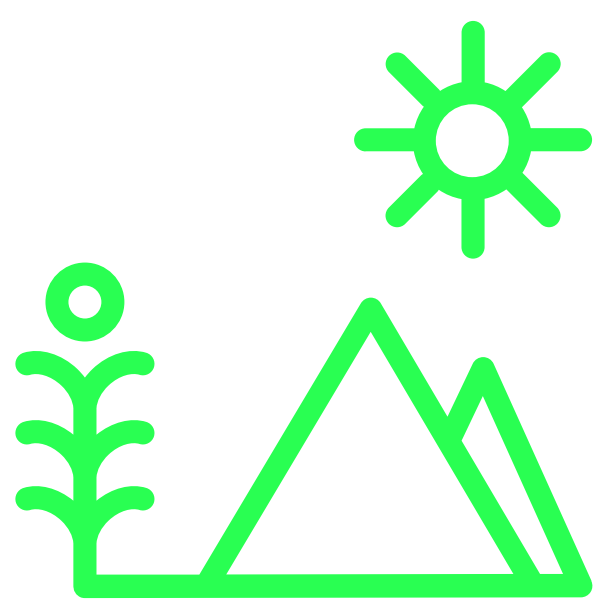
Solar is a critical and rapidly growing part of America's electric grid, producing enough energy to power more than 23 million homes nationwide and counting.¹

Solar projects are safe, clean, and have minimal impact on the land while providing a valuable economic boost to the rural economies that host them.

It would take less than 0.6% of total U.S. landmass to power the entire country with solar PV.² This represents half as much land as is currently being used to grow corn for ethanol production.³



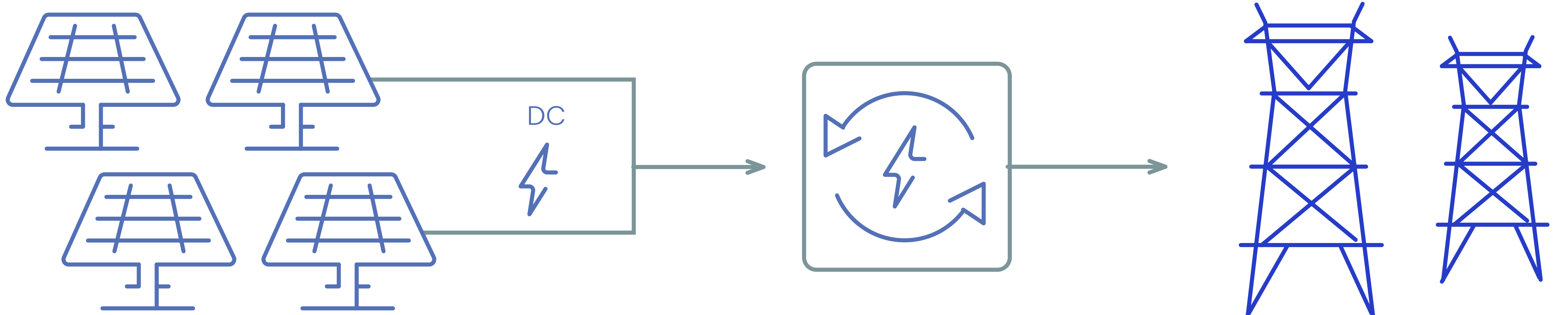
Solar is affordable to build and maintain, helping boost America's energy independence in the process. The price of solar has been falling for years, dropping by about 70% since 2010. Average operation and maintenance costs have fallen nearly 60% since 2011. In many cases, solar energy is cheaper than traditional forms of generation,⁴ giving utilities and corporate off-takers access to reliable, cheap energy at a fixed price. These guaranteed rates help keep consumer costs low and stable.



Requiring no water to generate power, solar energy saves 136 billion gallons of water each year that would otherwise be consumed by the traditional power industry.⁵

U.S. solar also avoids 81 million metric tons of carbon pollution annually, which is the equivalent of removing 17.2 million cars from the road.⁶

HOW A SOLAR PARK GENERATES ENERGY



The solar panels absorb sunlight and generate direct current (DC) electricity. Many have trackers installed to tilt toward the sun as it moves across the sky.

The electricity goes through an inverter, converting it to alternating current (AC) electricity.

Then it flows into the grid, supporting the region's energy needs.

¹ Solar Energy Industries Association. "U.S. Market Insight." September 8, 2022.

² Paul Denholm, Robert M. Margolis. "Land-use requirements and the per-capita solar footprint for photovoltaic generation in the United States." 2008.

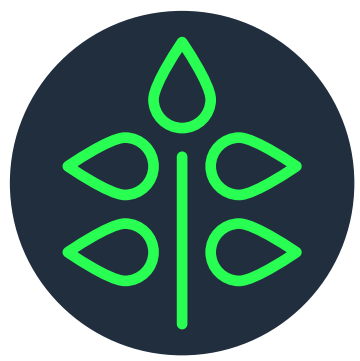
³ U.S. Department of Agriculture Economic Research Service. "Feed Grains: Yearbook Tables." June 15, 2021.

⁴ Lazard. "Lazard's Levelized Cost of Energy Analysis - Version 14.0." October 2020.

^{5,6} Calculated using the Environmental Protection Agency's AVERT tool.

Solar Projects & the Land

EDPR works with landowners who recognize the environmental and economic benefits of generating solar power on their land. This project will be sited entirely on private land.



Preserving the Land for the Next Generation

The project land will be maintained in a manner suitable for the local terrain and supportive of the natural ecosystem. EDP Renewables (EDPR) is committed to keeping the land healthy throughout the entire 35 year lifespan of the project.

EDPR will discuss ground cover and vegetation management with Pinal County during the permitting process.



Returning to Production After the Solar Park's Life

At the end of the project's useful life, the project will be decommissioned. The equipment will be removed and the land can return to its original use, including farming, ranching or wildlife habitat.

EDPR will work with Pinal County to develop a decommissioning agreement, including a commitment to returning the site to a condition suitable for the land's use prior to construction.



Safeguarding the Environment

As with all utility-scale solar parks in the U.S., the project will undergo extensive studies and approval processes through local, state, and federal channels regarding natural resources, habitat conservation, and wildlife impacts. Through careful site selection and thoughtful project design, impacts to the land and nearby wildlife can be minimized or entirely avoided.

Silicon-based PV panels are made of safe, well-tested materials commonly used in building and household products. The panels are fully sealed and do not contain any liquids.

^{1,2} Department of Energy. Office of Energy Efficiency and Renewable Energy. "A Farmer's Guide to Going Solar."

"The land is very important to me.

EDPR hasn't done anything that can't be removed off the land.

They've planted grass on it to keep it from eroding. They really respect the land and the landowners."

- Walt P., South Carolina landowner



Protecting Wildlife & the Environment

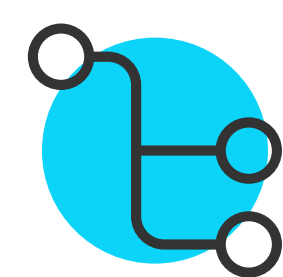
As a company committed to a clean energy future, we take our impacts on the environment extremely seriously and devote significant resources to ensuring proper permitting, siting, and mitigation steps are taken.

The following measures have been or will be taken to protect the environment that will host the project:



FIELD SURVEYS:

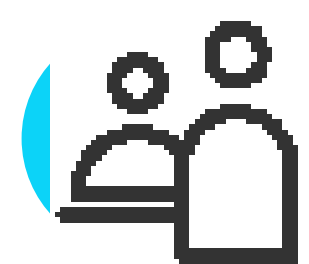
- Wildlife Assessment & Burrowing Owl Survey
- Hydrologic and Hydraulic Study
- Phase I Environmental Site Assessment
- Geotechnical (Soil Sampling) Study
- Wetlands & Waters Delineation
- Cultural Resources Survey



SITE DESIGN CONSIDERATIONS:

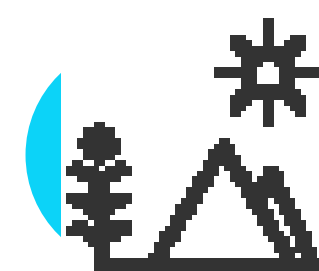
The project will be designed to minimize or avoid:

- Impacts to wetlands
- Impacts to natural vegetation
- Impacts to protected species



AGENCIES WORKED WITH:

- U.S. Fish & Wildlife Service
- U.S. Army Corps of Engineers
- Pinal County
- Arizona Game and Fish



DECOMMISSIONING COMMITMENTS:

- We will abide by the county laws and follow guidelines in accordance to any permits that are granted for the project for decommissioning.
- The project and EDP Renewables are committed to being good neighbors and ensuring that no above ground equipment is left in Pinal County after the project life.

“When we build a solar project, we make sure our impact on the land is as minimal as possible.”

– Fred Kelo
EDPR NA Associate Director of Operations
Western Region



Solar Park Construction

Building a solar park is a major construction project that takes approximately a year to complete and employs hundreds of people. Here are some of the goods and services we can source locally:

TECHNICAL & CONSTRUCTION EMPLOYMENT

- Civil contractors
- Concrete supply and delivery
- General laborers
- Safety staff
- Excavation and restoration
- Gravel supply and delivery
- Heavy equipment operators

SERVICES

- Accommodations and catering
- Vehicle and equipment maintenance
- Vehicle and equipment rentals
- Security
- Fuel supply

Throughout the construction process, we work closely with local stakeholders and officials to ensure everyone is informed and construction activities are minimally disruptive.

1 SITE PREPARATION

To prepare a site for a new solar project, vegetation and large rocks are first removed. In some cases, a grading technique is employed to provide a level foundation for the construction of the solar modules. Great care is taken to salvage topsoil, prevent erosion, and maintain natural drainage patterns.

2 SECURITY FENCE

To protect the public during construction activities, as well as to prevent trespassing and vandalism, a chain link fence is erected around the perimeter of the project location.

3 DRIVING & DRILLING PILES

Following site preparation, metal beams (typically steel or aluminum) are spaced out and inserted into the ground using pile-drivers to serve as the foundation for the solar modules.

4 INSTALLING TABLES, TRACKERS, & PANELS

A typical solar park is comprised of thousands of photovoltaic (PV) panels that are mounted to tables and affixed to the foundation to form a solar array. In most cases, trackers are installed to aim the panels toward the sun and increase power production throughout the day.

5 LAYING UNDERGROUND CABLES

Buried electrical collection cables are installed to connect the solar arrays, inverters, and transformer. The buried lines are contained within the project location and buried to a minimum depth of three feet.

6 INSTALLING INVERTERS & TRANSFORMERS

The electricity generated by the PV panels is in the form of direct current (DC). Inverters are installed to convert the DC output of the PV cells into alternating current (AC) suitable for supplying the electrical grid. The AC power then goes through a transformer to increase the voltage before connecting to the electrical grid.

7 INTERCONNECTION

The power then passes from the project substation, where the voltage was increased, to a substation owned by the utility. From the utility’s substation, the renewable electricity will be sent to homes, businesses, and utilities.

8 FULLY OPERATIONAL

Once the solar project is complete, it will be monitored on a continuing basis to ensure all components of the system are operating properly. Vegetation within the project area will be maintained, and the solar panels will be washed on a regular basis.

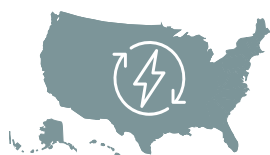
APPENDIX F

Neighborhood Meeting Supporting Materials

About Solar

U.S. Solar Energy Facts*

Utility-scale solar is the **3rd-largest source** of renewable energy.



Utility-scale solar farms have a total capacity of

68 GW nationwide



Powers more than

15 million homes



Employs more than

253,000

americans across all 50 states



88M

CO2 emissions avoided

Equivalent to taking 19 million cars off the road.



\$143B

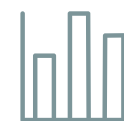
in economic contributions

Utility-scale solar is a major economic contributor.



\$633M

in state and local taxes and land-lease payments annually.



71%

decrease in cost

The cost of solar energy has fallen 71% in 10 years.



▲ Solar Projects Online in 2021
○ Solar Projects Online Before 2021

Over 400 utility-scale solar projects added to the grid in 2021.

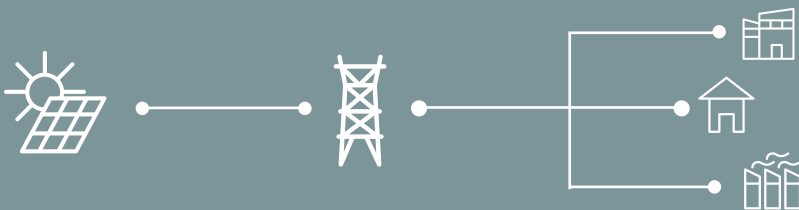
> 112 GW

of new utility-scale PV solar will be added from 2022 to 2027, nearly doubling the amount installed in the last decade.

Solar project overview

EDPR uses Photovoltaic (PV) solar cells. Photovoltaic solar cells have no moving parts and convert sunlight directly into electricity via the photoelectric effect. This direct-current electricity is then collected, transformed into alternating-current, and finally enters the electrical grid through a substation after being converted to the proper voltage.

Grid



1 MW Solar = about 6 football fields or 8-10 acres.

1 megawatt of solar energy powers more than 240 average homes.

About us

EDP Renewables North America LLC (EDPR NA), its affiliates, and its subsidiaries develop, construct, own, and operate wind farms and solar parks throughout North America. Headquartered in Houston, Texas, with 58 wind farms, nine solar parks, and eight regional offices across North America, EDPR NA has developed more than 8,800 megawatts (MW) and operates more than 8,200 MW of onshore utility-scale renewable energy projects. With more than 950 employees, EDPR NA's highly qualified team has a proven capacity to execute projects across the continent.

EDPR NA is a wholly owned subsidiary of EDP Renewables (Euronext: EDP), a global leader in the renewable energy sector. EDP is the fourth largest renewable energy producer worldwide with a presence in 28 markets across Europe, North America, South America, and Asia Pacific. EDP has a robust development portfolio with first-class assets and a market-leading operational capability in renewables. These include wind onshore, utility scale and distributed solar, wind offshore (through its 50/50 JV - OW), and technologies complementary to renewables such as batteries and green hydrogen.

EDPR is a division of EDP (Euronext: EDP), a leader in the energy transition with a focus on decarbonization. EDP – EDPR's main shareholder – has been listed on the Dow Jones Index for 14 consecutive years, recently being named the most sustainable electricity company on the Index.

For more information, visit www.edpr.com/north-america.



EDP Renewables North America Corporate Headquarters

1501 McKinney Street, #1300
Houston, TX 77010

713.265.0350
info@edpr.com

Solar as a Neighbor: Living Near a Solar Project



Background

As of 2021, there are more than 3,500 utility-scale solar projects in the United States. Millions of Americans – from California to Texas to New Hampshire – live near large solar projects. If a new solar project is proposed in your community, it is important to understand how the project will fit into the existing landscape. This fact sheet explores what it is like to live near a solar project.

Citing clean air benefits, the North Carolina State University notes “the overall impact of solar development on human health is overwhelmingly positive.”¹ Health benefits from solar relate to the avoidance of air pollution and greenhouse gas emissions from other generation sources, both of which have immediate, long term and cumulative negative health effects.²

Unlike other forms of electricity generation, operating solar facilities do not produce greenhouse gas emissions, odors, smoke clouds, or vapor. Additionally, solar facilities represent a stable source of revenue for localities and impose few costs on public services.³ American Clean Power (ACP) estimates state and local jurisdictions have accrued over \$548 million in tax payments from utility-scale solar projects.

What happens during project construction?

Solar project construction can take approximately one year or more in total for large systems. The types of activities that take place for a typical project, and what to expect around the site are outlined below.

Phase 1: Site Preparation

Open, flat spaces are generally preferable for solar projects and most sites still require a degree of site preparation to ensure they can accommodate the panels, maintenance building, and other equipment. Equipment used during this phase can include chainsaws, chippers, dozers, scrapers, end loaders, and trucks. Topsoil is typically stripped during construction but preserved on-site before performing cut/fill operations. Cut/fill operations level out the slope of the land, help control runoff and enable panels to be spaced appropriately.

Next, the developer will place fencing and temporary job site trailers on the site and construct an area to store panels and prepare them for installation, and access roads to facilitate entry and exit from the site.

Phase 2: Construction

Light duty trucks will also be used to transport construction workers to and from the site. To transport the panels and equipment onto the site, semi-trucks are used daily for several weeks during the delivery of racking equipment and solar modules. Typical construction equipment such as backhoes, pile drivers, scrapers, bulldozers, dump trucks, watering trucks, forklifts, bucket or concrete trucks and compactors may also be used during construction.

Maximum noise from the above equipment does not exceed 72 decibels from 200 feet away, according to the Federal Highway Administration Construction Handbook.^{5,6} This is equivalent to the noise of busy office.⁶

Pile drivers are used to place steel posts into the ground that support the panel racking system. Panels are attached to the racking system, which can include a tracking function to follow the sun throughout each day.

¹NC State University, Health and Safety Impacts of Solar Photovoltaics, <https://content.ces.ncsu.edu/health-and-safety-impacts-of-solar-photovoltaics> (2017)

² CDC. Climate Change Decreases the Quality of the Air We Breathe. https://www.cdc.gov/climateandhealth/pubs/air-quality-final_508.pdf/.

³ Mangum Economics. The Economic Development Contribution of Utility-Scale Solar to Virginia. May 2020. Available: <https://mdvseia.org/wp-content/uploads/2020/06/MDVSEIA-Report.pdf>

⁴ U.S. Department of Transportation. FHWA Highway Construction Handbook. 2006. https://rosap.ntl.bts.gov/view/dot/8837/dot_8837_DS1.pdf

Trenches are dug to bury wiring connecting the equipment, which will include the solar panels, transformers, and inverters. An inverter converts power from the solar panels from direct current (DC) into alternating current (AC), and transformers change the AC voltage. Individual components can be the size of a refrigerator, or multiple inverters can be assembled together on a skid with transformers, control systems and other necessary components.

Once construction is complete, a solar facility will have operations personnel maintain the vegetation, inspect the facility, make necessary repairs, and ensure efficient operations.

Phase 3: Revegetation and Operations

As parts of a project near completion, temporary staging and laydown areas and other temporary disturbance areas are restored. After construction, topsoil is reapplied to help revegetate the site and establish ground cover. Revegetation helps prevent erosion, manage stormwater, and support the surrounding ecosystem. Once construction is complete, a solar facility typically has one truck on-site weekly, with potentially more personnel on site depending upon maintenance needs. Operations personnel maintain the vegetation, inspect the facility, make necessary repairs, and ensure efficient operations.

How much traffic can I expect after the project is built?

Once solar projects are built, there is little traffic in and out of the project site. Most of the vehicular traffic will be made up of light duty trucks to transport the staff responsible for maintaining the vegetation around the project, or cleaning panel surfaces to ensure maximum power production.

How much noise do solar projects make?

While solar panels do not emit sound, inverters are the only primary component of a solar project that produces sound. These inverters are typically at least 100 feet from the nearest dwelling, and the sound of inverters from this distance is no higher than 38 decibels (dBA), quieter than a refrigerator hum^{6,7}. As inverters only make sound when they are working, there is typically no noise emitted at night.

Can I expect glare from the panels?

Solar panels are designed to capture, and not reflect, as much light as possible. Nonetheless, the glass from solar panels can produce glare. Studies indicate that the potential glare from solar arrays is comparable to glare from a body of smooth water.⁷ Modern PV panels reflect as little as two percent of incoming sunlight, which is about the same as water and less than soil or even wood shingles.⁷

To further reduce visual impacts from solar facilities, developers may plant vegetation along the perimeter of the project to provide visual barriers in accordance with local ordinance requirements.

Do solar projects make the surrounding area warmer?

Studies have indicated no significant “heat-island effect” from solar facilities, finding no consistent temperature difference between the solar project area and the surrounding area.⁸

⁵Kimley-Horn, LLC. “Noise Impact Assessment – Project Construction.” July 17 2020. Available: <https://www.roundhillsolarproject.com/wp-content/uploads/2020/11/Attachment-J-Noise-Memo.pdf>

⁶ Ibid

⁷ National Renewable Energy Laboratory. Research and Analysis Demonstrate the Lack of Impacts of Glare from Photovoltaic Modules. July 2018. <https://www.nrel.gov/state-local-tribal/blog/posts/research-and-analysis-demonstrate-the-lack-of-impacts-of-glare-from-photovoltaic-modules.html>

⁸ V. Fthenakis and Y. Yu, “Analysis of the potential for a heat island effect in large solar farms,” 2013 IEEE 39th Photovoltaic Specialists Conference (PVSC), 2013, pp. 3362-3366, doi: 10.1109/PVSC.2013.6745171.

Solar Panels and Your Community

Solar energy has been growing rapidly across the United States. As facilities are proposed in more and more communities, community members have questions about what materials are included in solar photovoltaic (PV) panels, and if they pose an environmental or health risk to surrounding neighbors. The fact sheet below explores the materials in solar panels, and how utility-scale solar facilities are safe for your community.

What is inside of a solar panel?

Solar panels consist of glass, aluminum, copper, and semiconductor materials. Solar cells are made of either connected silicon atoms or thin layers of photovoltaic material that have been placed onto glass or metal and are responsible for converting energy from sunlight into electricity. The thin layer of solar cells is sealed on both sides and covered with glass and an aluminum frame. The primary solar cell technologies used are Crystalline silicon (c-Si) and thin film Cadmium telluride (CdTe). While several different solar cell technologies exist, over 90% of the U.S. solar market uses Crystalline silicon (c-Si) cells.¹

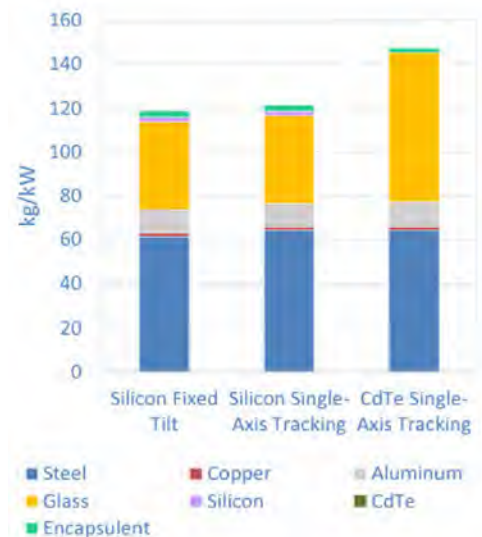
Are the materials in solar panels safe?

Modern commercial solar panels do not contain sufficient hazardous materials to pose a danger to the environment and human health. The primary component in crystalline silicon solar cells is silicon, the second-most common element on earth and found in most consumer electronics, from cell phones to computer chips.^{2,3} An assessment by the Ohio Department of Health highlighted the safety of crystalline silicone panels, concluding "Information to date does not indicate a public health burden from the use of crystalline silicone (c-Si) in solar farms...[as] crystalline silicone itself is non-toxic to humans."⁴ Other components used in c-Si cells include boron and phosphorus, which are also non-hazardous to the environment and human health. While some older panels may contain trace amounts of lead used to join the c-Si cells, manufacturers are increasingly ceasing use of lead. Furthermore, the amount of lead needed to solder the cells is roughly 1/750th of the amount used in a conventional car battery or half of the amount in a single 12-gauge shotgun shell. While a large solar energy project contains hundreds of panels, the leaded portions of the panel are enclosed in nonporous, non-toxic substances like glass, preventing the lead material from escaping or leaching into the ground.⁵

Another trace element found in c-Si solar panels is cadmium, which is sometimes used in the glass frit, materials used for the electrodes to make electrical contact with the PV cell, or the solder, which is used to join cells. However, according to the North Carolina Clean Energy Technology Center, research demonstrates the amount of cadmium found in solar panels poses negligible toxicity risk to public health and safety.⁶ Additionally, an assessment by the Ohio Department of Health determined that "the trace amounts of hazardous components used in solar panels...are not likely to enter the environment," as the materials are fully encapsulated by glass.⁷

Cadmium telluride (CdTe) is another trace component found in thin film solar panels; however, CdTe contains 1/100th the toxicity of free cadmium⁸, has a much lower risk of being released, and is not soluble in water.⁹ Additionally, researchers have found that use of cadmium telluride solar cells reduces the public's exposure to cadmium – as solar energy reduces the need for fossil fuel generation, which is a major source of cadmium exposure. For every five megawatts of solar power installed, it is estimated that 157 grams of cadmium are prevented from being released into the environment because of the reduction in traditional energy generation.¹⁰

20 MW PV Plant Component Materials by Weight (kg/kW)



Source: U.S. Department of Energy Solar Energy Technologies Office. Photovoltaics End-of-Life Action Plan. March 2022. Accessible: <https://www.energy.gov/sites/default/files/2022-03/Solar-Energy-Technologies-Office-PV-End-of-Life-Action-Plan.pdf>



Can solar panels leach chemicals or metals?

Solar panels are designed and manufactured to withstand harsh environmental conditions and extreme weather events. These hardened structures protect the solar cells from the elements and support plans to keep the facilities operating for 35+ years; therefore, the panels pose little risk of leaching during operation or during removal and disposal. In order to operate, the internal components of modules must be protected from the elements, particularly moisture, in order to prevent corrosion and the release of materials.

Furthermore, the EPA requires that solar panel modules pass toxicity characteristic leaching procedure (TCLP) testing before being disposed of in a landfill. TCLP testing assesses impacts of landfill conditions on solar panels, including leaching potential. This test is typically conducted during manufacturing to ensure the solar panels will meet the requirements of disposal at end-of-life. Testing has found that panels are durable and even capable of withstanding extreme weather events without leaching. In 2013, researchers at the University of Tokyo tested the environmental impact of CdTe panels being exposed to fires, floods, and earthquakes, and found that even under worst-case-scenario conditions, it is unlikely that the cadmium concentrations in air and sea water will exceed the environmental regulation values.

For more information on decommissioning solar facilities and disposal, please visit [What Happens When a Solar Project is Decommissioned](#) and Solar Panel Recycling and Disposal.

¹ International Renewable Energy Agency (IRENA). 2016. "End of Life Management of Solar Photovoltaics." Accessed at: <https://www.irena.org/publications/2016/Jun/End-of-life-management-Solar-Photovoltaic-Panels>

² Department of Energy. 2022. "Solar Photovoltaic Cell Basics." Accessed at: <https://www.energy.gov/eere/solar/solar-photovoltaic-cell-basics>

³ U.S. Geological Survey. 2016. "A World of Minerals in Your Mobile Phone." Accessed at: <https://pubs.usgs.gov/gip/0167/gip167.pdf>

⁴ Ohio Department of Health. 2022. "Ohio Department of Health Solar Farm and Photovoltaics Summary and Assessments." Accessed at: https://ohiodnr.gov/wps/wcm/connect/gov/fc124a88-62b4-4e91-b30b-bc1269d0dde5/ODH+Solar+Farm+and+PVs+Summary+Assessments_2022.04.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_K9I401S01H7F40QBNJU3SO1F56-fc124a88-62b4-4e91-b30b-bc1269d0dde5-o3S-Ssh

⁵ Ohio Department of Health, 2022.

⁶ NC Clean Energy Technology Center. 2017. "Health and Safety Impacts of Solar Photovoltaics." NC State University. Accessed at: <https://content.ces.ncsu.edu/health-and-safety-impacts-of-solar-photovoltaics>

⁷ Ohio Department of Health, 2022.

⁸ NC Clean Energy Technology Center, *ibid*.

⁹ Bonnet, Dieter and Meyers, Peter. 1998. "Cadmium-telluride-Material for thin film solar cells." *Journal of Materials Research*. Accessed at: <https://www.cambridge.org/core/journals/journal-of-materials-research/article/abs/cadmiumtelluridematerial-for-thin-film-solar-cells/8BEF27C9423BD204A4BC0AD1C34F2983>

¹⁰ NC Clean Energy Technology Center, 2017.

¹¹ NC Clean Energy Technology Center, 2017.

¹² North Carolina Department of Environmental Quality and the Environmental Management Commission. 2021. "Final Report on the Activities Conducted to Establish a Regulatory Program for the Management and Decommissioning of Renewable Energy Equipment." Accessed at: https://files.nc.gov/ncdeq/documents/files/DEQ_H329%20FINAL%20REPORT_2021-01-01.PDF

¹³ Matsuno, Yasunari. December 2013. Environmental Risk Assessment of CdTe PV Systems to be considered under Catastrophic Events in Japan. First Solar. Accessed at: https://www.firstsolar.com/-/media/First-Solar/Sustainability-Documents/Sustainability-Peer-Reviews/Japan_Peer-Review_Matsuno_CdTe-PV-Tsunami.ashx.

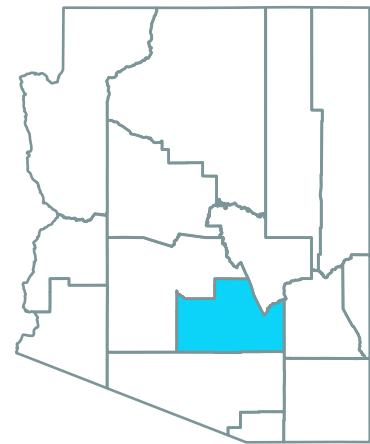





Casa Grande Carmel Solar Park

Pinal County, Arizona


Casa Grande Carmel Solar Park is a solar facility two miles outside of Casa Grande city limits. The project is sited at the intersection of West Cornman Road and South Bianco Road, north of Interstate 8 and roughly 1.5 miles west of Lucid Motors Factory. The site is on undeveloped rural land and has been partially designated for green energy production to date.






96 MW







ANTICIPATED COMMERCIAL
OPERATION DATE **2026**

- 

Casa Grande Carmel Solar Park’s generation would be equivalent to the average consumption of more than **16,700 Arizona homes**.¹
- 

Casa Grande Carmel would save more than **121 million gallons** of water each year and would prevent the air pollution that causes smog, acid rain, and climate change.²

Economic Benefits

| | |
|---|---|
|  <p>CAPITAL INVESTMENT³ Approximately \$150 million</p> |  <p>Millions of dollars WILL BE PAID TO LOCAL GOVERNMENTS</p> |
|  <p>Millions of dollars WILL BE PAID TO LANDOWNERS</p> |  <p>Millions of dollars WILL BE SPENT LOCALLY⁴</p> |
|  <p>PERMANENT JOBS⁵ Up to 5 permanent jobs will be created</p> |  <p>CONSTRUCTION JOBS⁵ Up to 200 construction jobs will be created</p> |



Casa Grande Carmel Solar Park will consist of **thousands of state-of-the-art, single-axis tracking PV panels.**



Power generated at Casa Grande Carmel Solar Park will **support the state of Arizona's electric grid.**



Casa Grande Carmel will **contribute to the national energy security** for the state of Arizona and the United States, helping diversify domestic supply.



In 2021, **solar energy represented nearly 46 percent of all newly installed U.S. electric capacity.**⁷

About Us

EDP Renewables North America LLC (EDPR NA), its affiliates, and its subsidiaries develop, construct, own, and operate wind farms and solar parks throughout North America. Headquartered in Houston, Texas, with 58 wind farms, nine solar parks, and eight regional offices across North America, EDPR NA has developed more than 8,800 megawatts (MW) and operates more than 8,200 MW of onshore utility-scale renewable energy projects. With more than 950 employees, EDPR NA's highly qualified team has a proven capacity to execute projects across the continent.

EDPR NA is a wholly owned subsidiary of EDP Renewables (Euronext: EDPR), a global leader in the renewable energy sector. EDPR is the fourth largest renewable energy producer worldwide with a presence in 28 markets across Europe, North America, South America, and Asia Pacific. EDPR has a robust development portfolio with first-class assets and a market-leading operational capability in renewables. These include wind onshore, utility scale and distributed solar, wind offshore (through its 50/50 JV – OW), and technologies complementary to renewables such as batteries and green hydrogen.

EDPR is a division of EDP (Euronext: EDP), a leader in the energy transition with a focus on decarbonization. EDP – EDPR's main shareholder – has been listed on the Dow Jones Index for 14 consecutive years, recently being named the most sustainable electricity company on the Index.

For more information, visit www.edpr.com/north-america.



Casa Grande Carmel Solar Park Western Regional Office

710 NW 14th Avenue
Suite 250
Portland, OR 97209

346.552.2737
casagrande.carmelsolar@edpr.com

¹Power generation calculated using a 35% capacity factor. Household consumption based on the 2018 EIA Household Data monthly average consumption by state.

²Assumes 0.58 gallons of water consumed per kWh of conventional electricity from Lee, Han, & Elgowainy, 2016.

³Assumes the average cost of an installed solar photovoltaic system is \$0.90/watt for a utility-scale project. Based on 2019 SEIA U.S. Solar Market Insight.

⁴Includes vendor spending, property taxes, landowner payments and wages from site jobs.

⁵Full-time equivalent jobs calculated by dividing number of contractor hours worked during construction by 2080.

⁷Based on SEIA and Wood Mackenzie, Power & Renewables U.S. Solar Market Insight Q2 2022.

ABOUT EDP RENEWABLES NORTH AMERICA

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EDPR's employee-centered policies resulted in its recognition as a Top Workplace 2022 in the United States, Top Employer 2022 in Europe (Spain, Italy, France, Romania, Portugal, and Poland) and Brazil, as well as its inclusion in the Bloomberg Gender-Equality Index.

EDPR is a division of EDP (Euronext: EDP), a leader in the energy transition with a focus on decarbonization. Besides its strong presence in renewables (with EDPR and hydro operations), EDP has an integrated utility presence in Portugal, Spain, and Brazil including electricity networks, client solutions, and energy management. EDP - EDPR's main shareholder - has been listed on the Dow Jones Index for 14 consecutive years, recently being named the most sustainable electricity company on the Index.

For more information, visit www.edpr.com/north-america.

Operational Projects



58
WIND FARMS



09
SOLAR PARKS



8,200+
MEGAWATTS

EDPR NA'S IMPACT



CREATED
950+ permanent jobs
7,900+ construction jobs



PAID
\$379 million+ to landowners
\$308 million+ to local governments



GENERATED
the equivalent of
2 million+ homes'
energy consumption



SAVED
12.4 billion+ gallons of water
AVOIDED
24 billion+ pounds of CO₂



MAINTAINED
278 million+ hours
of operational history



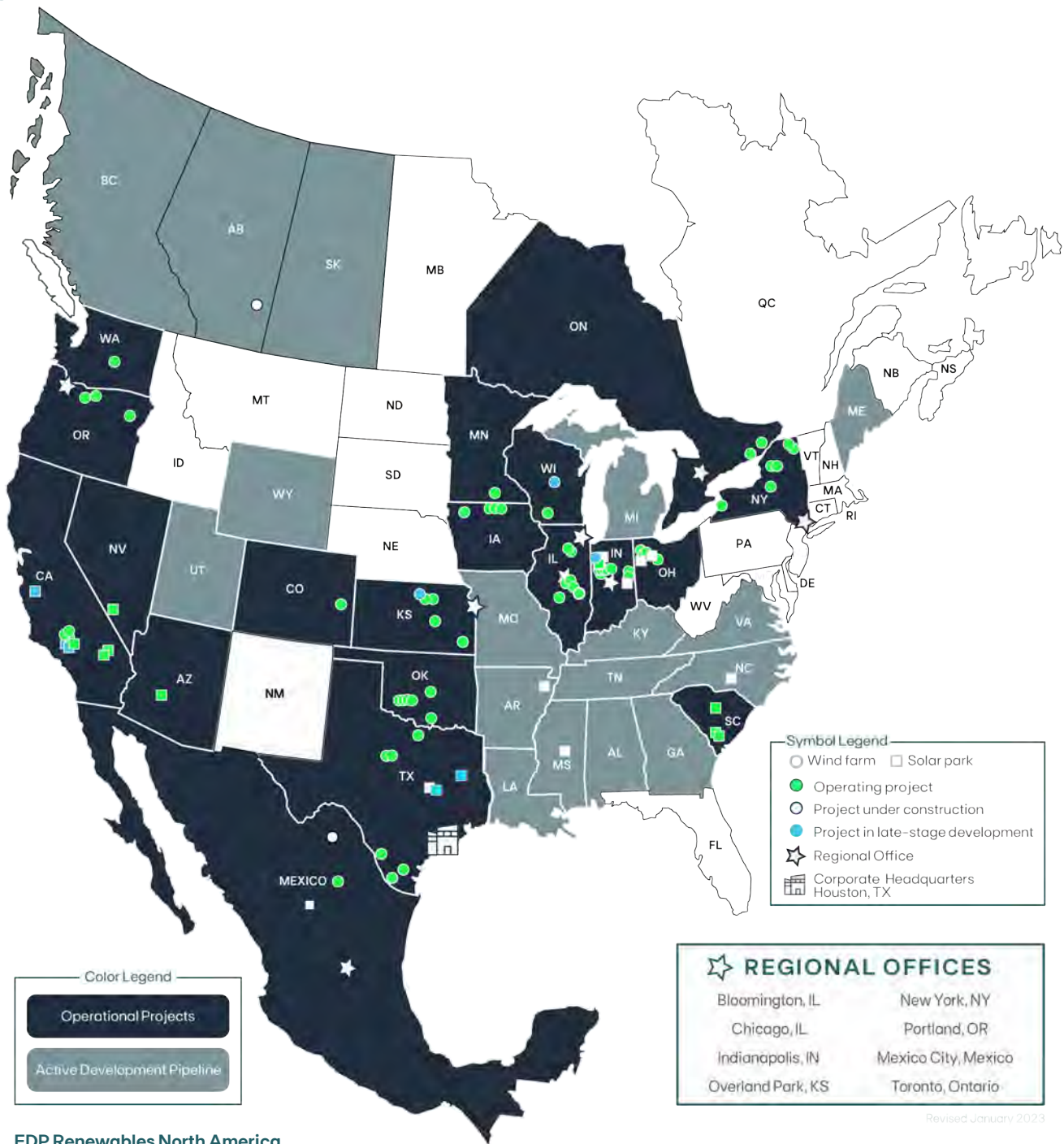
INVESTED
\$17 billion+ (approximately)
in capital

COMMUNITY SUPPORT

EDPR NA conducts the majority of its business in rural communities across the U.S., Canada, and Mexico. Obtaining and maintaining credibility and the trust of landowners, town officials, and other stakeholders is a crucial aspect of building successful projects. At EDPR NA, our community relationships represent more than business transactions. We value strong relationships with landowners and communities who see the possibilities of conscientious land stewardship, rural economic development, and contributing to a clean energy future.

The property taxes generated by EDPR NA's projects provide economic support for schools, local roads, police, fire protection, and other essential services. Additionally, EDPR NA's projects yield economic benefits to communities in the form of direct and indirect jobs, payments to landowners, and increased local spending. EDPR NA purchases many materials and services locally, and employee wages and landowner royalty payments are spent in local communities.

PROJECT MAP





NORTH AMERICA UTILITY-SCALE WIND FARMS & SOLAR PARKS

UNITED STATES

ARIZONA

- **Sun Streams Solar Park**
158 MW | Maricopa County | 2019

CALIFORNIA

- **Lone Valley Solar Park I & II**
30 MW | San Bernadino County | 2014
- **Rising Tree Wind Farm I, II, III**
198 MW | Kern County | 2014
- **Sandrini Sol Solar Park I & II**
299 MW | Kern County | 2022*
- **Sonrisa Solar Park**
240 MW | Fresno County | 2022*
- **Windhub A Solar Park**
20 MW | Kern County | 2019

COLORADO

- **Crossing Trails Wind Farm**
104 MW | Kit Carson & Cheyenne Counties | 2020

ILLINOIS

- **Bright Stalk Wind Farm**
205 MW | McLean County | 2019
- **Harvest Ridge Wind Farm**
200 MW | Douglas County | 2020
- **Rail Splitter Wind Farm**
101 MW | Tazewell & Logan Counties | 2009
- **Top Crop Wind Farm I & II**
300 MW | LaSalle & Grundy Counties | 2009
- **Twin Groves Wind Farm I & II**
396 MW | McLean County | 2007

INDIANA

- **Headwaters Wind Farm I & II**
400 MW | Randolph County | 2014
- **Indiana Crossroads Wind Farm II**
204 MW | White County | 2023*
- **Indiana Crossroads Solar Park**
200 MW | White County | 2022*
- **Meadow Lake Wind Farm I, II, III, IV, V, VI**
801 MW | White & Benton Counties | 2009
- **Riverstart Solar Park**
200 MW | White County | 2022

IOWA

- **Lost Lakes Wind Farm**
101 MW | Dickinson County | 2009
- **Pioneer Prairie Wind Farm I & II**
300 MW | Mitchell & Howard Counties | 2008
- **Turtle Creek Wind Farm**
199 MW | Mitchell County | 2018

KANSAS

- **Meridian Way Wind Farm I & II**
201 MW | Cloud County | 2008
- **Prairie Queen Wind Farm**
199 MW | Allen County | 2019
- **Waverly Wind Farm**
199 MW | Coffey County | 2016

MINNESOTA

- **Prairie Star Wind Farm**
101 MW | Mower County | 2007

* = Anticipated operations date



NORTH AMERICA UTILITY-SCALE WIND FARMS & SOLAR PARKS

NEVADA

- **Sunshine Valley Solar Park**
100 MW | Nye County | 2019

NEW YORK

- **Arkwright Summit Wind Farm**
78 MW | Chautauqua County | 2018
- **Jericho Rise Wind Farm**
78 MW | Franklin County | 2016
- **Madison Wind Farm**
12 MW | Madison County | 2000
- **Maple Ridge Wind Farm I & II**
322 MW | Lewis County | 2006
- **Marble River Wind Farm**
215 MW | Clinton County | 2012

OHIO

- **Amazon Wind Farm Ohio - Timber Road**
101 MW | Paulding County | 2016
- **Hog Creek Wind Project**
66 MW | Hardin County | 2017
- **Timber Road Wind Farm II & IV**
224 MW | Paulding County | 2011

OKLAHOMA

- **Arbuckle Mountain Wind Farm**
100 MW | Murray & Carter Counties | 2015
- **Blue Canyon Wind Farm I, II, V, VI**
423 MW | Caddo, Comanche, & Kiowa Counties | 2003
- **Redbed Plains Wind Farm**
99 MW | Grady County | 2017

OREGON

- **Elkhorn Valley Wind Farm**
101 MW | Union County | 2007
- **Rattlesnake Road Wind Farm**
103 MW | Gilliam County | 2008
- **Wheat Field Wind Farm**
97 MW | Gilliam County | 2009

SOUTH CAROLINA

- **Cameron Solar Park**
20 MW | Calhoun County | 2017
- **Estill Solar Park**
20 MW | Hampton County | 2017
- **Hampton Solar Park**
20 MW | Hampton County | 2017

TEXAS

- **Cattlemen Solar Park I**
390 MW | Milam County | 2023*
- **Lone Star Wind Farm I & II**
400 MW | Shackelford & Callahan Counties | 2007

- **Los Mirasoles Wind Farm I & II**
300 MW | Hidalgo & Starr Counties | 2016

- **Reloj del Sol Wind Farm**
209 MW | Zapata County | 2021
- **Wildcat Creek Wind Farm**
180 MW | Cooke County | 2021

WASHINGTON

- **Kittitas Valley Wind Farm**
101 MW | Kittitas County | 2010

WISCONSIN

- **Quilt Block Wind Farm**
98 MW | Lafayette County | 2017

CANADA

- **Nation Rise Wind Farm**
100 MW | United Counties of Stormont, Dundas, & Glengarry, Ontario | 2021
- **Sharp Hills Wind Farm**
300 MW | Sedalia & New Brigden, Alberta | 2023*
- **South Branch Wind Farm**
30 MW | United Counties of Stormont, Dundas, & Glengarry, Ontario | 2014

MEXICO

- **Eólica de Coahuila Wind Farm**
200 MW | Coahuila | 2016
- **Los Cuervos Solar Park**
200 MW | Aguascalientes | 2021
- **Los Cañones Wind Farm**
100 MW | Coahuila | 2021

* = Anticipated operations date



Phoenix, Arizona

Operations Manager **Natalie Currie**

I am the Operations Manager for the Sun Streams Solar Park, just outside of Phoenix, Arizona, and the Sunshine Valley Solar Park, northwest of Las Vegas, Nevada.

I began my career with EDPR in 2014 as an Operations Administrator at the Kittitas Valley Wind Farm in Cle Elum, Washington. While working there, I learned every detail of the EDPR processes and how a site is run. With the encouragement of my team, I decided to move into the solar sector and into management, as well.

Taking care of the communities that host our renewable energy projects is a top priority. Without the community's support, many of our projects would not be thriving as they are. Through donations that give our neighbors a hand-up and education programs for the local youth, EDPR can have a huge impact on the communities where we live and work.

For example, we contributed to local food banks to provide additional funding during COVID and supplied continuous funding for the emergency fund at nearby schools. We also visit local schools to demonstrate how renewable energy works, how the wind farm or solar park runs, and have even invited schools to the site for tours. I'm very proud to work in the solar industry. It's one of the most rapidly growing industries, particularly in the West. Having the chance to be part of the foundation of this is such a great opportunity.

As a woman in a primarily male-dominated field, I would encourage all students, especially girls, to take advantage of the ever-growing STEM programs offered at schools around the country. Renewable energy is the future, and what a great time to get on board!

"It's exciting to be a part of something so innovative that is changing, for the better, year over year.

Using a natural resource to provide us with a daily necessity is not only great for the environment now, but will leave a better world for the generations to come."

“

Each solar park benefits the community by providing more funding to schools and emergency services.

I think the local community is EDPR's number one stakeholder.”

These quotes are from an interview with Natalie Currie on May 25, 2021. They have been edited for clarity.

APPENDIX G

Neighborhood Meeting Sign-In Sheet



Thank you for attending. Please sign in below.

APPENDIX D

U.S. Fish and Wildlife Service Site-specific IPaC Resource List

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Pinal County, Arizona



Local office

Arizona Ecological Services Field Office

☎ (602) 242-0210

📠 (602) 242-2513

9828 North 31st Ave

#c3

Phoenix, AZ 85051-2517

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

| NAME | STATUS |
|--|--------|
| Sonoran Pronghorn <i>Antilocapra americana sonoriensis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4750 | EXPN |

Birds

| NAME | STATUS |
|---|------------|
| Yellow-billed Cuckoo <i>Coccyzus americanus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911 | Threatened |

Insects

| NAME | STATUS |
|---|-----------|
| Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743 | Candidate |

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the

general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

Bendire's Thrasher *Toxostoma bendirei*

Breeds Mar 15 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9435>

Gila Woodpecker *Melanerpes uropygialis*

Breeds Apr 1 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/5960>

Gilded Flicker *Colaptes chrysoides*

Breeds May 1 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/2960>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

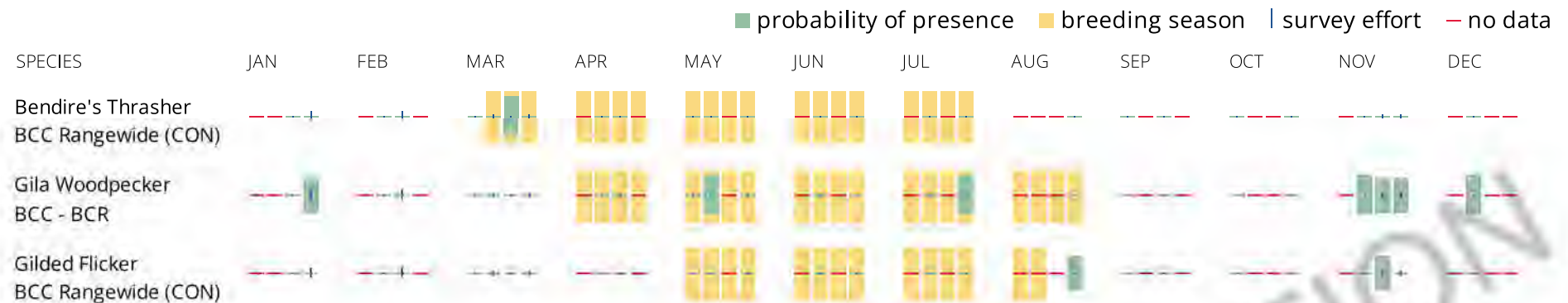
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the [Probability of Presence Summary](#). [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX E

Arizona Environmental Online Review Tool Report

Arizona Environmental Online Review Tool Report



Arizona Game and Fish Department Mission

To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Casa Grande Carmel Solar

User Project Number:

79959

Project Description:

Solar development

Project Type:

Energy Storage/Production/Transfer, Energy Production (generation), photovoltaic solar facility (new)

Contact Person:

Lyndsey Bradshaw

Organization:

SWCA Environmental Consultants

On Behalf Of:

PRIVATE

Project ID:

HGIS-19186

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. Arizona Wildlife Conservation Strategy (AWCS), specifically Species of Greatest Conservation Need (SGCN), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

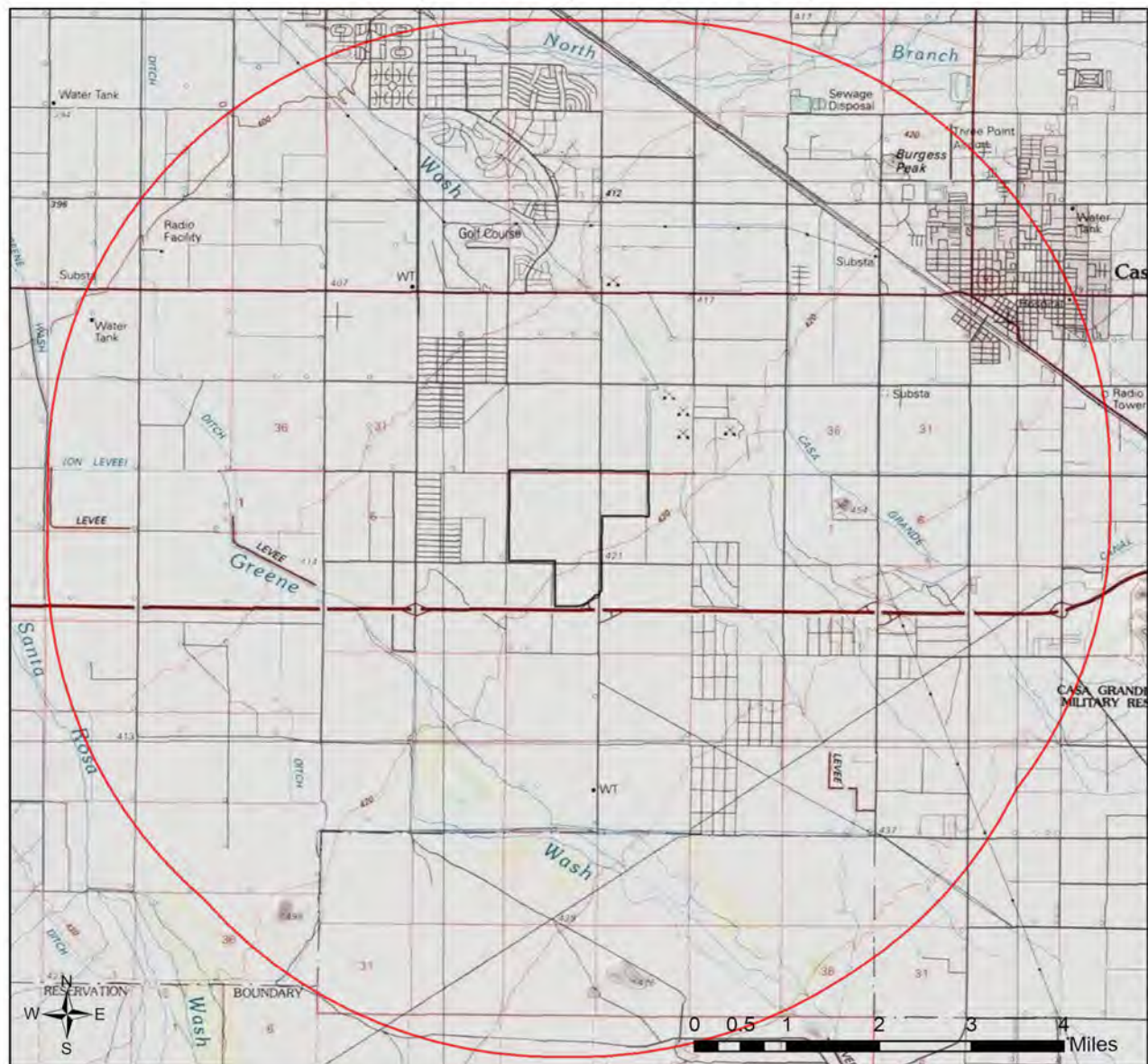
Locations Accuracy Disclaimer:

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366
Or
PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Casa Grande Carmel Solar USA Topo Basemap With Locator Map



- Buffered Project Boundary
- Project Boundary

Project Size (acres): 957.41

Lat/Long (DD): 32.8420 / -111.8318

County(s): Pinal

AGFD Region(s): Mesa

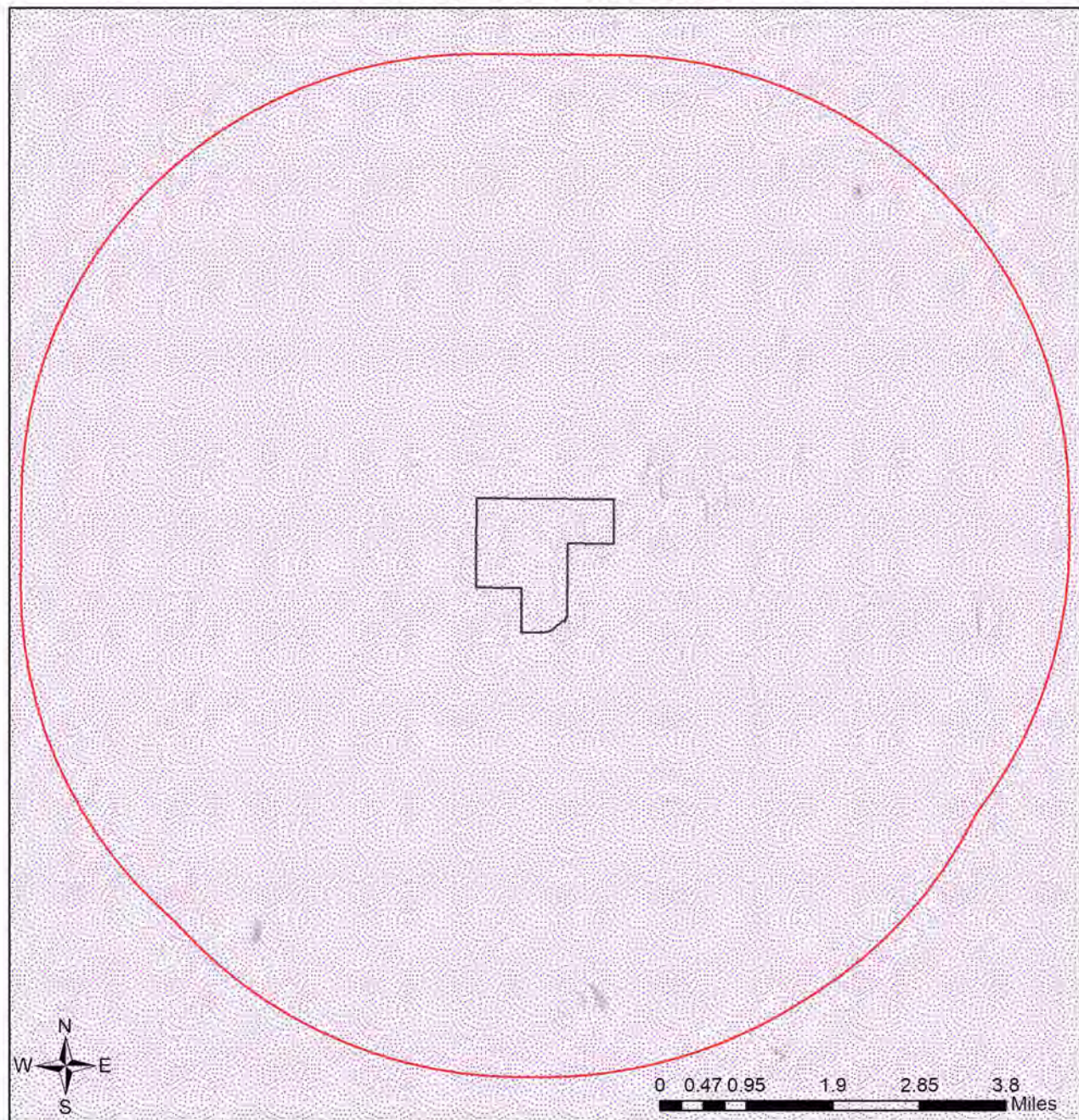
Township/Range(s): T7S, R5E






USGS Quad(s): CHUICHU

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community



Casa Grande Carmel Solar Web Map As Submitted By User

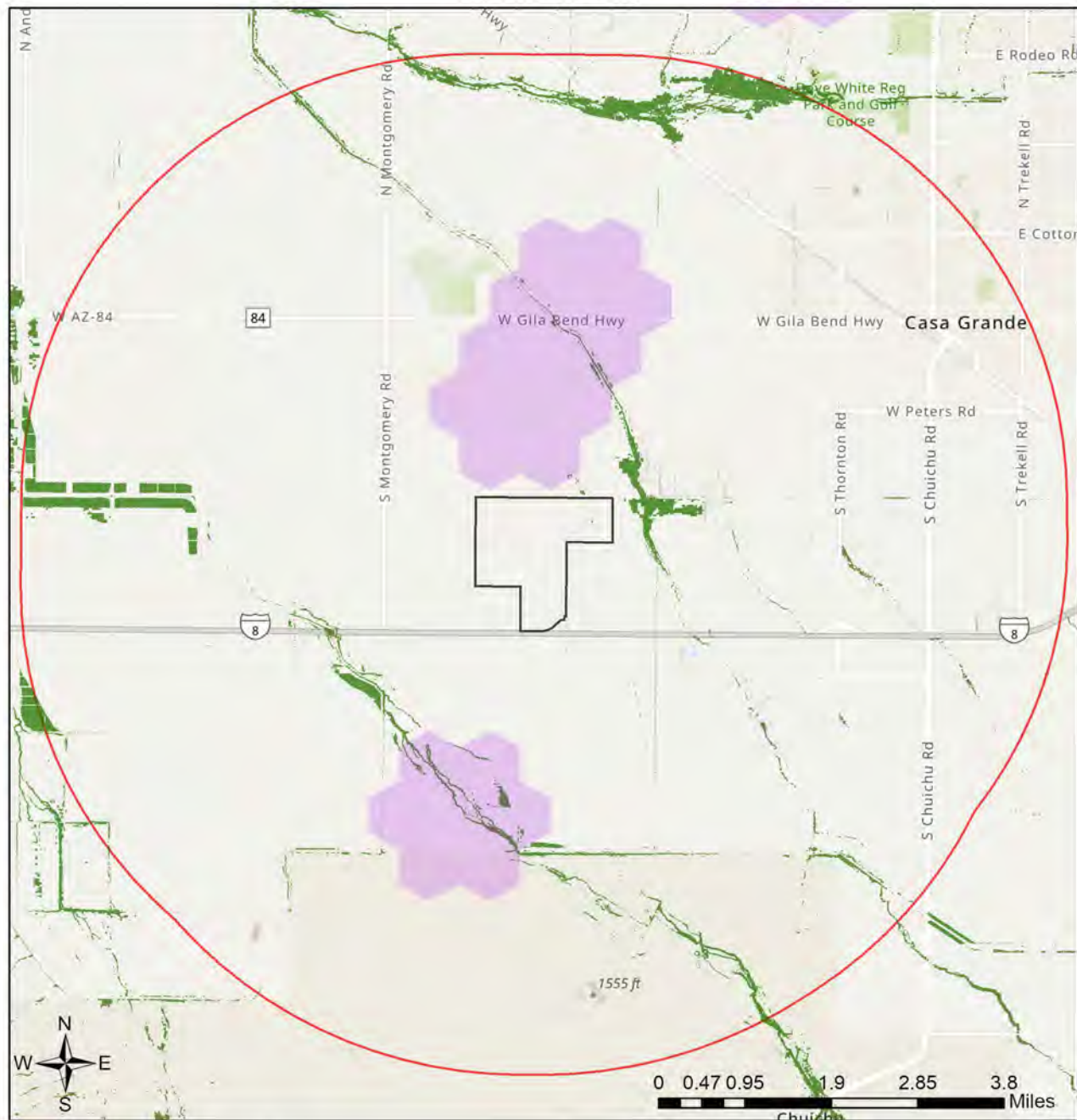


-  Critical Habitat
-  Important Bird Areas
-  Special Areas
-  Buffered Project Boundary
-  Project Boundary

Project Size (acres): 957.41
Lat/Long (DD): 32.8420 / -111.8318
County(s): Pinal
AGFD Region(s): Mesa
Township/Range(s): T7S, R5E
USGS Quad(s): CHUICHU

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Casa Grande Carmel Solar Important Areas

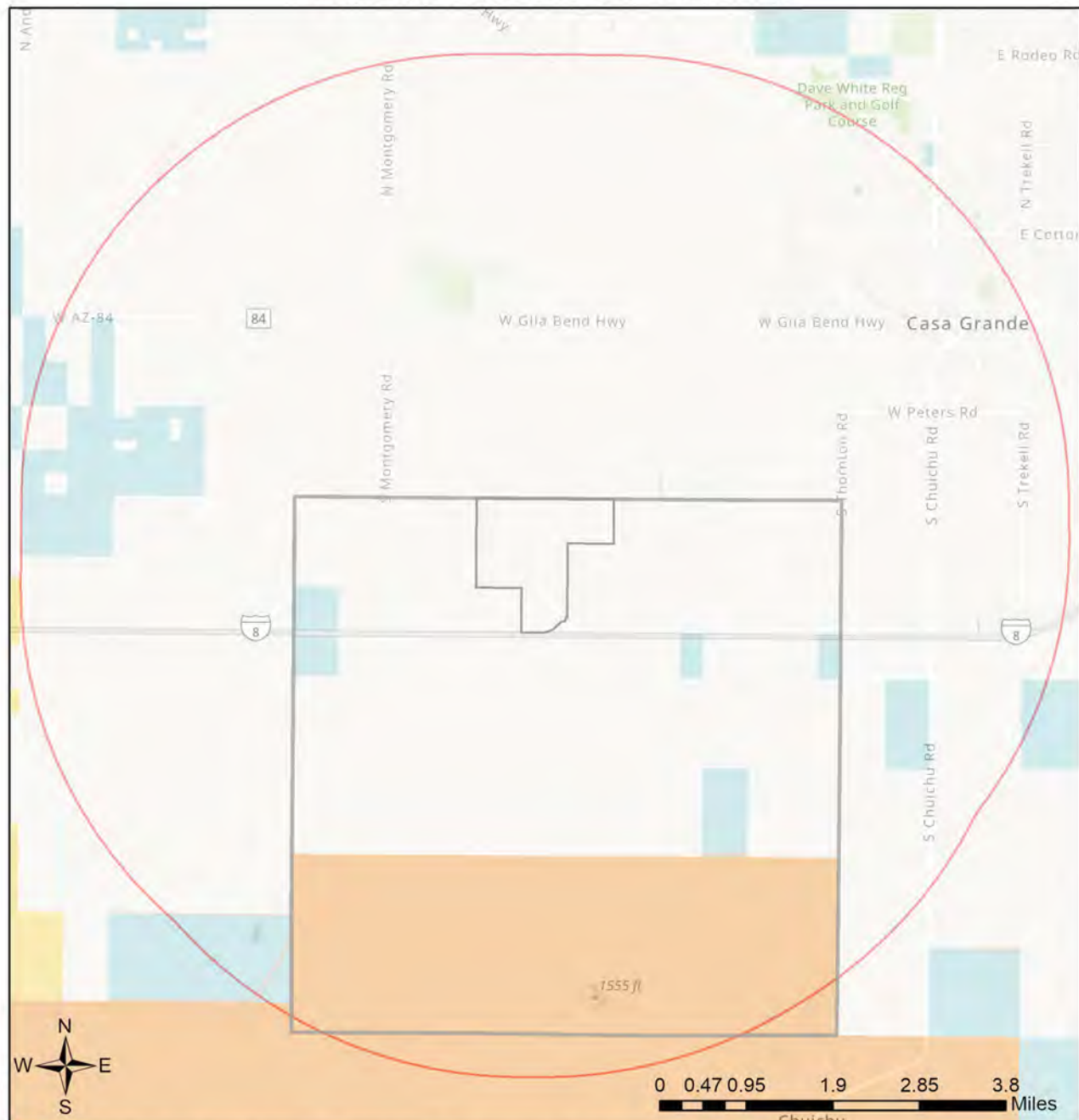


- Buffered Project Boundary
- Project Boundary
- Important Bird Areas
- Critical Habitat
- Pinal County Riparian
- Important Connectivity Zones
- Wildlife Connectivity

Project Size (acres): 957.41
 Lat/Long (DD): 32.8420 / -111.8318
 County(s): Pinal
 AGFD Region(s): Mesa
 Township/Range(s): T7S, R5E
 USGS Quad(s): CHUICHU

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasysteisen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
 Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Casa Grande Carmel Solar Township/Ranges and Land Ownership



- | | |
|---|---|
| Buffered Project Boundary | National Park/Mon. |
| Project Boundary | Private |
| AZ Game & Fish Dept. | State & Regional Parks |
| BLM | State Trust |
| BOR | US Forest Service |
| Indian Res. | Wildlife Area/Refuge |
| Military | Township/Ranges |
| Mixed/Other | |

Project Size (acres): 957.41
 Lat/Long (DD): 32.8420 / -111.8318
 County(s): Pinal
 AGFD Region(s): Mesa
 Township/Range(s): T7S, R5E
 USGS Quad(s): CHUICHU

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodataslyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
 Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Special Status Species Documented within 5 Miles of Project Vicinity

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|-----------------------------|--------------------------------|-----|------|-----|-----|------|
| Athene cunicularia hypugaea | Western Burrowing Owl | SC | S | S | | 2 |
| Chionactis annulata | Resplendent Shovel-nosed Snake | | | | | |
| Gopherus morafkai | Sonoran Desert Tortoise | CCA | S | S | | 1 |

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/>

Special Areas Documented that Intersect with Project Footprint as Drawn

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|-----------------|---------------|-----|------|-----|-----|------|
| Riparian Area | Riparian Area | | | | | |

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/>

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|------------------------------------|------------------------------------|-----|------|-----|-----|------|
| Anaxyrus retiformis | Sonoran Green Toad | | | S | | 2 |
| Anthus spragueii | Sprague's Pipit | SC | | | | 2 |
| Aquila chrysaetos | Golden Eagle | | | S | | 2 |
| Artemisiospiza nevadensis | Sagebrush Sparrow | | | | | |
| Athene cunicularia hypugaea | Western Burrowing Owl | SC | S | S | | 2 |
| Auriparus flaviceps | Verdin | | | | | 2 |
| Buteo regalis | Ferruginous Hawk | SC | | S | | 2 |
| Buteo swainsoni | Swainson's Hawk | | | | | 2 |
| Calypte costae | Costa's Hummingbird | | | | | 2 |
| Campylorhynchus brunneicapillus | Cactus Wren | | | | | 2 |
| Charadrius montanus | Mountain Plover | SC | | | | 2 |
| Chilomeniscus stramineus | Variable Sandsnake | | | | | 2 |
| Coccyzus americanus | Yellow-billed Cuckoo (Western DPS) | | | | | |
| Colaptes chrysoides | Gilded Flicker | | | S | | 2 |
| Columbina inca | Inca Dove | | | | | 2 |
| Corynorhinus townsendii pallescens | Pale Townsend's Big-eared Bat | SC | S | S | | 1 |
| Empidonax wrightii | Gray Flycatcher | | | | | 2 |
| Eumops perotis californicus | Greater Western Bonneted Bat | | | | | |
| Falco mexicanus | Prairie Falcon | | | | | 2 |
| Falco peregrinus anatum | American Peregrine Falcon | | | | | |
| Falco sparverius | American Kestrel | | | | | 2 |
| Gastrophryne mazatlanensis | Sinoloan Narrow-mouthed Toad | | | | | |
| Gopherus morafkai | Sonoran Desert Tortoise | CCA | S | S | | 1 |
| Icterus bullockii | Bullock's Oriole | | | | | 2 |

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|----------------------------------|---------------------------|-----|------|-----|-----|------|
| <i>Incilius alvarius</i> | Sonoran Desert Toad | | | | | 2 |
| <i>Lanius ludovicianus</i> | Loggerhead Shrike | SC | | | | 2 |
| <i>Lasiurus cinereus</i> | Hoary Bat | | | | | 2 |
| <i>Lasiurus xanthinus</i> | Western Yellow Bat | | S | | | 2 |
| <i>Lepus alleni</i> | Antelope Jackrabbit | | | | | 2 |
| <i>Lithobates yavapaiensis</i> | Lowland Leopard Frog | SC | S | S | | 1 |
| <i>Megascops kennicottii</i> | Western Screech-owl | | | | | |
| <i>Melanerpes uropygialis</i> | Gila Woodpecker | | | | | 2 |
| <i>Melospiza lincolni</i> | Lincoln's Sparrow | | | | | 2 |
| <i>Micrathene whitneyi</i> | Elf Owl | | | | | |
| <i>Myotis velifer</i> | Cave Myotis | SC | | S | | 2 |
| <i>Myotis yumanensis</i> | Yuma Myotis | SC | | | | 2 |
| <i>Nyctinomops femorosaccus</i> | Pocketed Free-tailed Bat | | | | | 2 |
| <i>Passerculus sandwichensis</i> | Savannah Sparrow | | | | | 2 |
| <i>Perognathus amplus</i> | Arizona Pocket Mouse | | | | | 2 |
| <i>Phrynosoma solare</i> | Regal Horned Lizard | | | | | 2 |
| <i>Poocetes gramineus</i> | Vesper Sparrow | | | | | 2 |
| <i>Spizella breweri</i> | Brewer's Sparrow | | | | | 2 |
| <i>Tadarida brasiliensis</i> | Brazilian Free-tailed Bat | | | | | |
| <i>Toxostoma bendirei</i> | Bendire's Thrasher | | | | | 2 |

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

| Scientific Name | Common Name | FWS | USFS | BLM | NPL | SGCN |
|----------------------------|-------------------|-----|------|-----|-----|------|
| <i>Callipepla gambelii</i> | Gambel's Quail | | | | | |
| <i>Pecari tajacu</i> | Javelina | | | | | |
| <i>Puma concolor</i> | Mountain Lion | | | | | |
| <i>Zenaida asiatica</i> | White-winged Dove | | | | | |
| <i>Zenaida macroura</i> | Mourning Dove | | | | | |

Project Type: Energy Storage/Production/Transfer, Energy Production (generation), photovoltaic solar facility (new)

Project Type Recommendations:

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at <https://www.invasivespeciesinfo.gov/unitedstates/az.shtml> and the Arizona Native Plant Society <https://aznps.com/invas> for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at <https://imap.natureserve.org/imap/services/page/map.html>.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select "See What's Here" for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

For any powerlines built, proper design and construction of the transmission line is necessary to prevent or minimize risk of electrocution of raptors, owls, vultures, and golden or bald eagles, which are protected under state and federal laws. Limit project activities during the breeding season for birds, generally March through late August, depending on species in the local area (raptors breed in early February through May). Conduct avian surveys to determine bird species that may be utilizing the area and develop a plan to avoid disturbance during the nesting season. For underground powerlines, trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herpetofauna (snakes, lizards, tortoise) from entering ditches. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated.

Based on the project type entered, coordination with State Historic Preservation Office may be required (<https://azstateparks.com/>).

Based on the project type entered, coordination with U.S. Fish and Wildlife Service (Migratory Bird Treaty Act) may be required (<https://www.fws.gov/office/arizona-ecological-services>).

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:

HDMS records indicate that one or more **Listed, Proposed, or Candidate** species or **Critical Habitat** (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at <https://www.fws.gov/office/arizona-ecological-services> or:

Phoenix Main Office

9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office

201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office

SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies 6.1.2.1 and 7.1.2.4), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that **Sonoran Desert Tortoise** have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at: <https://www.azgfd.com/wildlife/nongamemanagement/tortoise/>

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at:
<https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/>.





Photo A-1. Broadcast Sign 1 located near southeastern boundary at Bianco Road and Interstate 8 ramp.



Photo A-2. Broadcast Sign 2 located at northern boundary along Selma Highway alignment.



Photo A-3. Broadcast Sign 3 located northwest corner of boundary at Selma Highway alignment and Corrales Road.



Photo A-4. Broadcast Sign 4 located at southwest corner of boundary at Corrales Road and Cornman Road.

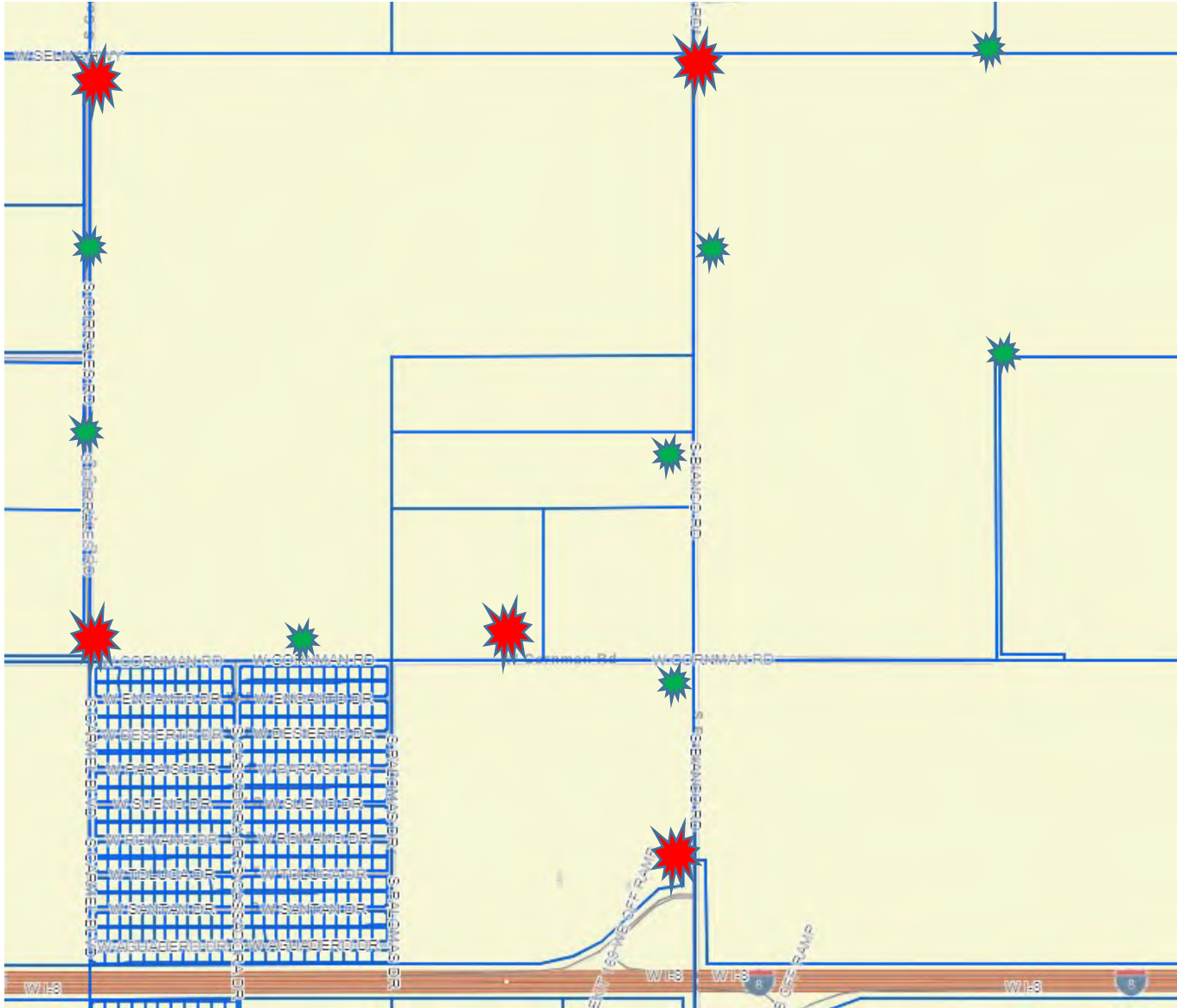


Photo A-5. Broadcast Sign 5 located at southern boundary along Cornman Road.

PZ-PA-010-23: Casa Grande Carmel Solar – Site Posting Locations:

Small Signs- **Green** 8 small sign posts (to be provided by the County and picked-posted by the applicant)

Large Signs- **Red** 5 large sign boards (to be made and installed by the applicant)





AGENDA ITEM

September 14, 2023 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name: Clerk of the Board

Director: Natasha Kennedy

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

Meeting Notice of Posting

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

| History | | |
|---------|-----|----------|
| Time | Who | Approval |

ATTACHMENTS:

Click to download

☐ [Notice of Posting](#)



MEETING NOTICE OF POSTING

STATE OF ARIZONA

COUNTY OF PINAL

I, Natasha Kennedy, being duly sworn upon her oath, says as follows:

I am the appointed Clerk of the Pinal County Board of Supervisors.

In my position as Clerk of the Board of Supervisors and Board of Directors, I am responsible for posting all Agendas.

Pursuant to A.R.S. 38-431.02 notice is hereby given that the Pinal County Board of Supervisors will hold a Work Session meeting on **Thursday, September 14, 2023 at 9:30 a.m.** in the Board Hearing Room, 1891 Historic Courthouse, Administrative Complex, located at 135 N. Pinal Street, Florence, Arizona 85132.

Board Meetings are broadcasted live and the public may access the meeting on the County Website at Pinal.gov under "Meeting Videos."

Board Agendas are available on the County Website at Pinal.gov under "Agendas & Minutes."

At any time during business hours, citizens may reach the Clerk of the Board Office at (520) 866-6068 or via email at ClerkoftheBoard@pinal.gov for information about Board meeting participation.


Note: One or more members of the Board may participate in this meeting by telephonic conference call.

I hereby further certify that I caused to be posted this Friday, September 8, 2023, around 11:00 AM the Work Session Agenda as follows:

1. A kiosk located outside the front entrance to The Old Historical Courthouse, Administrative Complex Building, 135 North Pinal Street, Florence, Arizona 85132
2. County Website under Agendas & Meetings located at Pinal.gov
3. Emailed the NOVUS Agenda Distribution List and Clerk of the Board Notification Distribution List

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Official Pinal County, Arizona Seal this 8th day of September, 2023.




Natasha Kennedy
Clerk of the Board of Supervisors
Pinal County, Arizona

CLERK OF THE BOARD OF SUPERVISORS

1891 Historic Courthouse | 135 North Pinal Street | P.O. Box 827 | Florence, AZ 85132 | T: 520-866-6068
www.pinal.gov



AGENDA ITEM

September 14, 2023 ADMINISTRATION BUILDING A
FLORENCE, ARIZONA

REQUESTED BY:

Funds #:

Dept. #:

Dept. Name:

Director:

BRIEF DESCRIPTION OF AGENDA ITEM AND REQUESTED BOARD ACTION:

[Click Here for the General Board Meeting Rules of Order](#)

BRIEF DESCRIPTION OF THE FISCAL CONSIDERATIONS AND/OR EXPECTED FISCAL IMPACT OF THIS AGENDA ITEM:

BRIEF DESCRIPTION OF THE EXPECTED PERFORMANCE IMPACT OF THIS AGENDA ITEM:

MOTION:

| History | Who | Approval |
|---------|-----|----------|
| Time | | |

ATTACHMENTS:

[Click to download](#)

No Attachments Available