ORIGINAL

NEW APPLICATION

0000215118

Application

for

Certificate of Environmental Compatibility

Lava Run
Interconnection Project

L-21365A-25-0198-00250
L-21364A-25-0198-00250

Prepared for:

State of Arizona
Power Plant and Transmission Line Siting Committee

Submitted by:

CG Apache County Wind LLC

CG Apache County Solar LLC

September 2025

TABLE OF CONTENTS

Appendices

Figures/Exhibits

Tables

INTRODUCTION

Pursuant to Arizona Revised Statutes (ARS) § 40-360 et seq., CG Apache County Wind LLC and CG Apache County Solar LLC (Applicants), submit this Application for a Certificate of Environmental Compatibility (CEC) for the Lava Run Interconnection Project (Interconnection Project or Project). The Interconnection Project is a 345-kilovolt (kV) alternating current generation tie (gen-tie) transmission line. The purpose of the Interconnection Project is to connect the Lava Run Wind Project, a proposed 500-megawatt (MW) wind facility (Wind Facility), and the Lava Run Solar Project, a proposed 450-MW solar facility (Solar Facility) with an on-site 450-MW battery energy storage system (BESS), to Tucson Electric Power Company's (TEP's) Springerville 345-kV Substation at the Springerville Generating Station.

The Interconnection Project will be approximately 29 miles in length, traversing Arizona State Trust land and private property in unincorporated areas of Apache County, Arizona. The Applicants will construct and operate the Interconnection Project through a series of project substations, which will allow for the connection of the Wind Facility, Solar Facility, and BESS to the regional electrical grid via the Springerville 345-kV Substation. The Applicants are affiliates of Repsol Renewables North America, which is affiliated with Repsol SA, a global multi-energy company at the forefront of the energy transition. Repsol Renewables North America has an established track record of developing renewable energy projects. Once operational, the Lava Run Wind and Lava Run Solar Projects will generate enough electricity to power more than 90,000 Arizona homes annually, while providing significant tax revenues to Apache County to fund schools and other critical services within Apache County.

The Interconnection Project construction is anticipated to begin in early 2027, with an expected commercial operation date sometime in late 2028.

Interconnection Project Overview

The Interconnection Project consists of a 345-kV alternating current, single-circuit gen-tie. The proposed route, depending on the final design, is up to 29 miles long, within an approximate 200-foot-wide right-of-way (ROW), beginning at the westernmost project substation (Project Substation 1) and terminating at the existing Springerville 345-kV Substation (Figure 1). The Interconnection Project is needed to deliver power from the Wind Facility and connect it to the regional electric grid. The Interconnection Project is also needed to deliver power from the Solar Facility to the grid and to facilitate power exchange to and from the BESS. The Interconnection Project engineering design will be finalized in the detailed design phase after land negotiations and permitting are complete.

The Applicants anticipate that structures for the Interconnection Project will be spaced up to 1,200 feet apart, depending on structure type, terrain, turns, and other factors. The transmission structures for the Interconnection Project are expected to be up to 180 feet tall; transmission structures will be made of galvanized or weathering steel and will be self-supporting. The structure types for the Interconnection Project are anticipated to include tangent monopoles, angle monopoles, and dead-end monopoles. Representative diagrams of the anticipated transmission structures are included in Exhibit G.

Interconnection Project Route

The proposed route for the Interconnection Project starts at Project Substation 1, on Arizona State Trust land approximately 0.5 mile southwest of U.S. Route (U.S.) 60 and 0.1 mile west of County Road (CR) 3123, which is maintained by Apache County (see Figure 1).

From Project Substation 1, the Interconnection Project will proceed approximately 0.4 mile southeast and then 0.9 mile northeast, crossing U.S. 60.

From there, the Interconnection Project will proceed approximately 3.6 miles southeast to Project Substation 2 and then continue 0.9 mile northeast.

Next, the Interconnection Project will proceed approximately 9.5 miles east, crossing U.S. 180.

From this point, the Interconnection Project heads east for approximately 4.1 miles and then north for approximately 3 miles.

The Interconnection Project will then proceed approximately 1.7 miles east and then 1.5 miles north. It will continue approximately 0.4 mile east and then 0.25 mile north to connect into the Springerville 345-kV Substation.

Approximately 25.5 miles (97%) will be on Arizona State Trust land that is managed by the Arizona State Land Department (ASLD), and approximately 0.75 mile (3%) will be on private property in unincorporated areas of Apache County, Arizona.

Requested CEC Corridor

The Applicants are requesting a variable-width corridor to allow for siting flexibility in coordination with landowners, utilities, and other operators in the region. The CEC Corridor will vary from 500 to 700 feet wide to allow for engineering design flexibility along the proposed route, with a corridor approximately 3,200 feet wide around the TEP Springerville 345-kV Substation to allow for various interconnection options into the facility. The requested CEC Corridor will vary to accommodate any design changes requested by TEP and other utility operators, adhere to safety standards, and allow for variations as detailed engineering design progresses.

Table 1 shows the township, range, and section of the proposed CEC Corridor. The existing Springerville 345-kV Substation point of interconnection is in Section 34, Township (T) 11 North (N), Range (R) 30 East (E). In total, the requested CEC Corridor is approximately 1,711 acres, including 1,533 acres (90%) of Arizona State Trust land and 178 acres (10%) of private property. The entire requested CEC Corridor is in unincorporated Apache County, Arizona. The requested CEC Corridor is displayed in Figure 2.

Table 1. Requested CEC Corridor Location

Township	Range	Section
10 North	27 East	20, 25–30, 35, 36
10 North	28 East	25–30
10 North	29 East	25–30
10 North	30 East	4, 8 17, 19, 20, 29, 30
11 North	30 East	33 and 34

Wind Facility Description

The Wind Facility, also known as the Lava Run Wind Project, is a standalone wind energy facility that will connect to the electric grid. It is entirely sited on Arizona State Trust land, with an infrastructure footprint of approximately 500 acres.

The Wind Facility is planned as an up to 500-MW facility and is anticipated to be constructed in two phases. The first phase consists of 300 MW, with construction anticipated to begin in early 2027 and a commercial operation date of late 2028. The second phase consists of 200 MW, with construction anticipated to begin in mid-2027 and a commercial operation date of late 2028.

Solar Facility Description

The Solar Facility, also known as the Lava Run Solar Project, is a standalone solar energy facility with a BESS that will interconnect to the electric grid. The Solar Facility is primarily sited on Arizona State Trust land, with an infrastructure footprint of approximately 3,760 acres. The Solar Facility is planned as an up to 450-MW solar energy facility with an up to 450-MW BESS, to be constructed in two phases. The first phase includes 200 MW of the Solar Facility and 200 MW of the BESS, with construction anticipated to begin in early 2027 and a commercial operation date expected in late 2028. The second phase consists of 250 MW of the Solar Facility and 250 MW of the BESS, with construction anticipated to begin in mid-2027 and a commercial operation date expected in mid-2029. The Solar Facility would be supported by up to approximately 2 miles of the Interconnection Project, within an approximate 200-foot-wide ROW, beginning at the proposed Project Substation 3 and terminating at the existing Springerville 345-kV Substation.

Purpose and Need

The Interconnection Project is needed to deliver electrical power produced from the Wind Facility and Solar Facility to the regional electric transmission grid. The Interconnection Project is also needed to charge and deliver stored energy from the BESS to the regional electric transmission grid.

Utilities in Arizona and across the West are facing unprecedented electricity demand. This growing demand is driving the need for a diverse mix of new generation and storage resources, including wind, solar, and batteries. The Lava Run Wind and Lava Run Solar Projects will add significant new generation and storage capacity to help address Arizona's growing energy needs, and the Interconnection Project is needed to deliver energy from these new resources to grid.

Environmental and Public Siting Process

Siting Process

The Applicants completed a siting process that focused on identifying possible transmission routes to interconnect the proposed Wind Facility and Solar Facility to the existing Springerville 345-kV Substation. The Applicants sought to minimize environmental impacts and expenses by selecting a direct route while also considering existing land use and infrastructure. Other factors considered in the siting process included:

- Class III cultural resource survey results
- Aquatic resources delineation survey results

- Topography
- Existing transmission infrastructure
- Land ownership
- Feedback from grazing lessees
- Cost efficiency

Constructing the Interconnection Project near the existing Springerville 345-kV Substation will help consolidate energy infrastructure and minimize the overall impact of the Interconnection Project.

Public Outreach Process

The Applicants have coordinated with property owners, agencies, and other stakeholders to present information about the Interconnection Project. The Applicants provided multiple ways to submit comments during the outreach process. The outreach activities included sending an informational mailer to stakeholders, establishing a project website and dedicated points of contact for the project team, running newspaper and digital advertisements for the Interconnection Project, and hosting in-person and virtual open houses. Additional information regarding the Applicants' public outreach is provided in Exhibit J of this application.

Summary of Environmental Compatibility

After conducting an environmental analysis and minimizing or avoiding environmental impacts based on the factors outlined in ARS § 40-360.06, the Applicants believe the Interconnection Project to be environmentally compatible.

As discussed in the following sections, the Interconnection Project

- will be compatible with existing plans in the vicinity of the proposed site,
- will be developed to avoid and, as necessary, mitigate potential impacts to areas of unique biological wealth and special-status species,
- will avoid impacts to historic sites or structures, or archaeological sites, or ground disturbance activities in these areas would be monitored by a qualified archaeologist and subject to data recovery where appropriate. The records review identified that 60% of the CEC Corridor has been previously and adequately surveyed for cultural resources (see Exhibit E). A cultural resources inventory of the unsurveyed portions of the Project disturbance footprint will be conducted prior to ground disturbance,
- will not affect any recreation opportunities in the area, and
- is not anticipated to result in significant impacts associated with noise or signal interference.

CONCLUSION

ARS § 40-360.03 requires the filing of an application for a CEC in the form prescribed by the Commission before commencing construction of any new transmission line. This application includes the environmental analysis, documentation, and exhibits required by Arizona Administrative Code R14-3-219. As shown in the application, the Interconnection Project is environmentally compatible under the factors identified in ARS § 40-360.06. Accordingly, the Applicants request that the Committee grant, and the Arizona Corporation Commission approve, a CEC for the Interconnection Project as requested herein.

The Interconnection Project will support the state's need for an adequate, economical, and reliable supply of electric power, while minimizing the effect on the environment and ecology of the state by facilitating the interconnection of important new renewable resources to the grid.

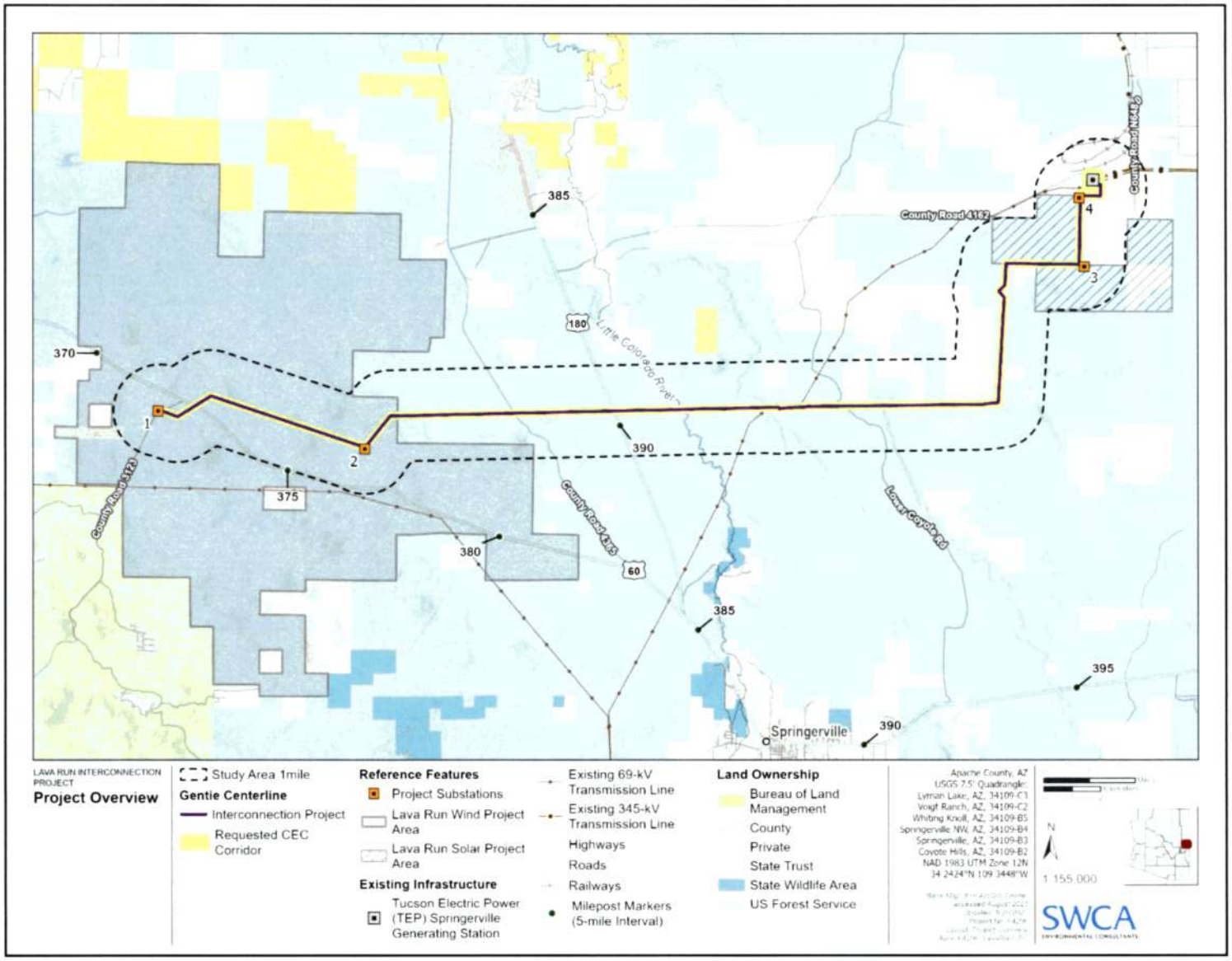


Figure 1. Interconnection Project.

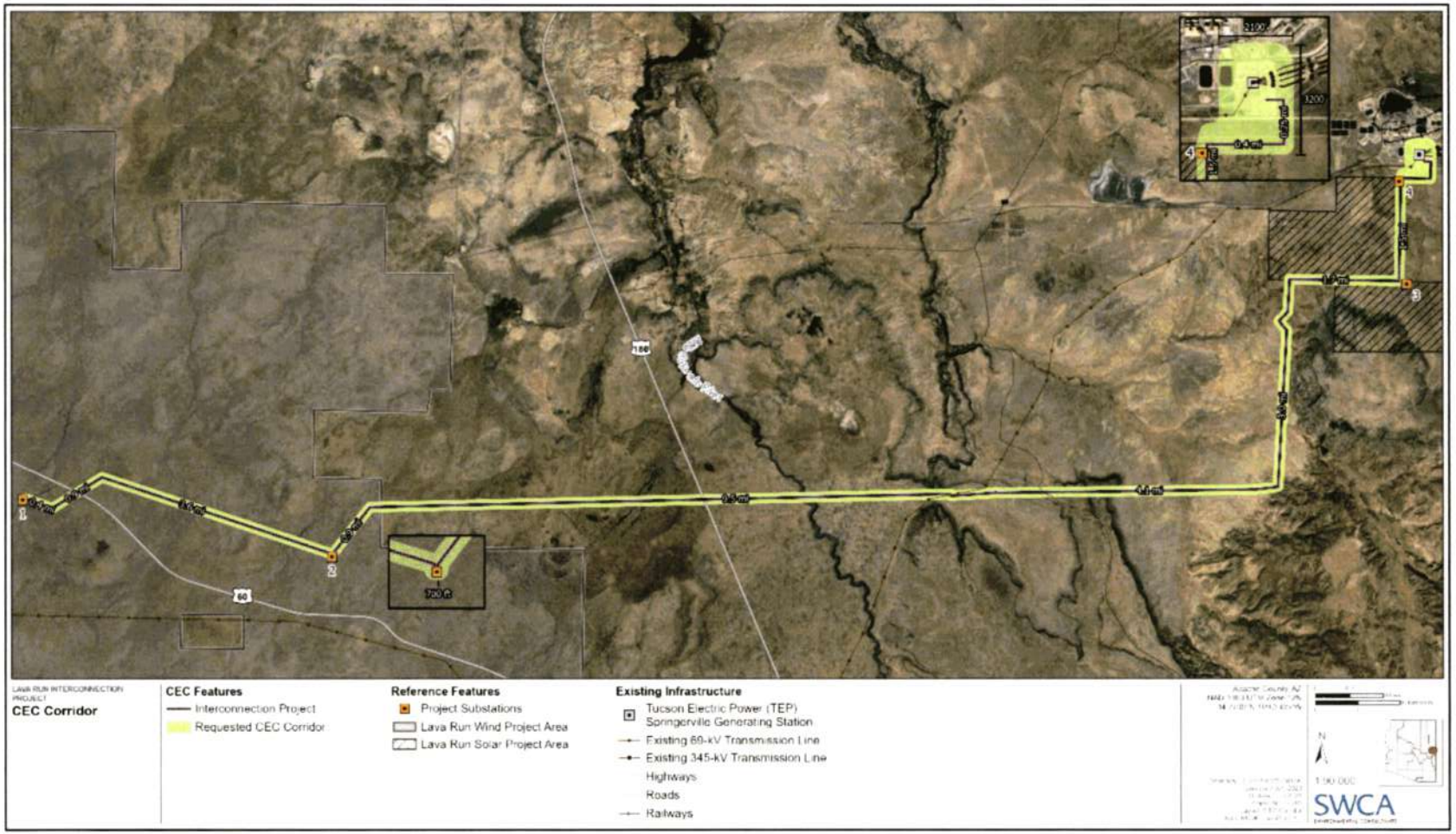


Figure 2. Requested CEC Corridor.

APPLICATION FOR CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

1. **Name and address of the Applicant**

   CG Apache County Wind LLC
   CG Apache County Solar LLC
   1221 McKinney Street, Suite 1900
   Houston, TX 77010

2. **Name, address, and telephone number of a representative of the applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information**

   Trey Patton
   Development Manager
   CG Apache County Wind LLC
   CG Apache County Solar LLC
   1221 McKinney Street, Suite 1900
   Houston, TX 77010
   (737) 386-4299
   trey.patton@repsol.com

3. **Date on which the applicant filed a Ten Year Plan in compliance with A.R.S. § 40-360.02, in which the facilities for which this application is made were described**

   CG Apache County Wind LLC and CG Apache County Solar LLC filed a Ten Year Plan in Docket E-99999A-23-0016 on August 9, 2023, and updated on July 30, 2025.

4. **Description of the proposed facility, including:**

   a. **With respect to an electric generating plant:**

      The Lava Run Interconnection Project (Interconnection Project) does not include an electrical generating plant.

   b. **With respect to a proposed transmission line:**

      i. **Nominal voltage for which the line is designed; description of the proposed structures and switchyards or substations associated therewith; and purpose for constructing said transmission line**

         (1) Nominal voltage:

         The nominal voltage for the proposed Interconnection Project is 345 kilovolts (kV), alternating current, single circuit.

         (2) Description of the proposed structures:

         The Interconnection Project will be constructed using galvanized or weathering steel monopole structures, with an estimated minimum of 25 feet of ground clearance. The transmission structures are expected to have an aboveground height of up to 180 feet and will be spaced no more than 1,200 feet apart. The estimated structure count for the Interconnection Project is up to approximately 200, which is subject to change pending detailed design. Conceptual drawings for typical structure types can be found in Exhibit G.

(3) Description of proposed switchyards and substations:

Four project substations are proposed for the Interconnection Project (one for each phase of the Solar Facility and Wind Facility). Each project substation is described below.

The westernmost project substation (Project Substation 1) is associated with the Wind Facility and is where the Interconnection Project will begin. Project Substation 1 is approximately 0.5 mile southwest of U.S. Route (U.S.) 60 and is immediately west of County Road (CR) 3123 on Arizona State Trust land in Section 30, Township (T) 10 North (N), Range (R) 27 East (E).

The second project substation (Project Substation 2) is associated with the Wind Facility. It is approximately 5 miles east along the Interconnection Project's route from the western terminus and 0.9 mile north of U.S. 60. The straight-line distance between Project Substation 1 and Project Substation 2 is approximately 4.6 miles. Project Substation 2 is on Arizona State Trust land in Section 36, T10N, R27E.

The third project substation (Project Substation 3) is associated with the Solar Facility and is further east along the Interconnection Project. The straight-line distance between Project Substation 2 and Project Substation 3 is approximately 16.4 miles. Project Substation 3 is approximately 19.2 miles east along the Interconnection Project's route from the western terminus, on Arizona State Trust land in Section 10, T10N, R30E.

The fourth project substation (Project Substation 4) is associated with the Solar Facility. It is immediately south of the existing Springerville Generating Station and immediately north of Project Substation 3. Both the straight-line distance and the distance along the Interconnection Project route between Project Substation 3 and Project Substation 4 is approximately 1.5 miles. Project Substation 4 is on Arizona State Trust land in Section 33, T10N, R30E.

Each project substation will convert power from 34.5 kV to 345 kV. The project substations will each include a control enclosure, 34.5-kV switchgear, step-up power transformers to increase the voltage to 345 kV, disconnect switches, a bus and line bay, and an A-frame dead-end structure.

Consistent with the positions of the Arizona Corporation Commission and the Siting Committee that a substation does not require a CEC under the definition of a transmission line in ARS § 40-360(10), the Applicants are not requesting a CEC for the project substations.

No switchyard is being proposed as part of the Interconnection Project.

In accordance with the Large Generator Interconnection Agreement (LGIA), TEP will install necessary equipment inside the existing Springerville Generating Station for the Interconnection Project. The existing point of interconnection for the Interconnection Project into the Springerville 345-kV Substation at the Springerville Generating Station is in Section 34, T11N, R30E.

(4) Purpose for constructing said transmission line:

The purpose of the Interconnection Project is to deliver electrical power generated at the up to 500-MW Wind Facility to the regional transmission grid for customer use, to deliver electrical power from the 450-MW Solar Facility to the grid, and to facilitate power exchange to and from the BESS.

ii. Description of geographical points between which the transmission line will run the straight-line distance between such points and the length of the transmission line for each alternative route for which the application is made

(1) Description of geographical points between which the transmission line will run:

The proposed route for the Interconnection Project starts at Project Substation 1, on Arizona State Trust land approximately 0.5 mile southwest of U.S. 60 and 0.1 mile west of CR 3123, which is maintained by Apache County.

From Project Substation 1, the Interconnection Project will proceed approximately 0.4 mile southeast and then 0.9 mile northeast, crossing U.S. 60. From there, the Interconnection Project will proceed approximately 3.6 miles southeast and then 0.9 mile northeast. Next, the Interconnection Project will proceed approximately 9.5 miles east, crossing U.S. 180. From this point, the Interconnection Project heads east for approximately 4.1 miles and then north for approximately 3 miles. The Interconnection Project will proceed approximately 1.7 miles east and then 1.5 miles north. The Interconnection Project will then proceed approximately 0.4 mile east and then approximately 0.25 mile north to connect into the Springerville 345-kV Substation.

(2) Straight-line distance between such points:

For the Interconnection Project, the straight-line distance between the westernmost project substation (Project Substation 1) and the existing Springerville 345-kV Substation is approximately 21.3 miles.

(3) Length of the transmission line for each alternative route:

The length of the Interconnection Project will be between 24.9 miles and 29 miles, depending on final design.

iii. Nominal width of right-of-way required, nominal length of spans, maximum height of supporting structures and minimum height of conductor above ground

(1) Nominal width of right-of-way required:

The Interconnection Project ROW will be approximately 200 feet wide within the requested variable-width CEC Corridor.

(2) Nominal length of spans:

The span length between structures will vary depending on terrain, constraints, and other factors, but it will be no more than approximately 1,200 feet.

(3) Maximum height of supporting structures:

The maximum aboveground height of the supporting structures is anticipated to be 180 feet.

(4) Minimum height of conductor above ground:

The minimum height of the conductor above the existing grade will be approximately 27 feet.

iv. To the extent available, the estimated costs of proposed transmission line and route, stated separately. (If application contains alternative routes, furnish an estimate for each route and a brief description of the reasons for any variations in such estimates.)

The estimated cost of the Interconnection Project is approximately $67 million.

v. Description of proposed route and switchyard locations. (If application contains alternative routes, list routes in order of applicant's preference with a summary of reasons for such order of preference and any changes such alternative routes would require in the plans reflected in (i) through (iv) hereof.)

The Interconnection Project proposed route is described generally in (ii) above and is depicted in Figure 1. The Applicants chose the Interconnection Project Preferred Route to safely avoid existing and planned transmission lines, safely cross existing roadway ROWs, and be adjacent to existing linear infrastructure to the extent practicable.

No switchyard is being proposed as part of the Interconnection Project.

vi. For each alternative route for which application is made, list the ownership percentages of land traversed by the entire route (federal, state, Indian, private, etc.).

Up to 25.5 miles (97%) will be on Arizona State Trust land that is managed by the ASLD, and up to 0.75 (3%) mile will be on private property in unincorporated areas of Apache County, Arizona.

No alternative routes are proposed.

5. List the areas of jurisdiction [as defined in A.R.S. § 40-360(1)] affected by each alternative site or route and designate those proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of any of such areas of jurisdiction.

The Interconnection Project will traverse Arizona State Trust land and private property in unincorporated areas of Apache County, Arizona. Therefore, the areas of jurisdiction, as defined in ARS § 40-360(1), are the ASLD and Apache County.

The Interconnection Project is consistent with the underlying zoning districts as designated by Apache County. The Interconnection Project is also compatible with the underlying planned land use categories, as designated by the *Apache County Comprehensive Plan*. The Interconnection Project does not violate any current zoning ordinances of the relevant jurisdictions.

6. Describe any environmental studies applicant has performed or caused to be performed in connection with this application or intends to perform or cause to be performed in such connection, including the contemplated date of completion.

The Applicants evaluated publicly available desktop data and used field data related to biological resources, visual resources, cultural resources, recreational resources, land use, noise levels, and communications signals to assess the potential impacts that may result from the construction, operation,

and maintenance of the Interconnection Project. The results of these evaluations are included in Exhibits B, C, D, E, F, H, and I of this application.

CG Apache County Wind LLC

Firmado por:
Derek Rieman
00E3BC2A661A496...
Derek Rieman, Authorized Signatory

CG Apache County Solar LLC

Firmado por:
Derek Rieman
00E3BC2A661A496...
Derek Rieman, Authorized Signatory

Original and eight copies of this Application for a Certificate of Environmental Compatibility filed with Docket Control, Arizona Corporation Commission on September 5, 2025.

EXHIBIT A. LOCATION MAP AND LAND USE MAPS

In accordance with Arizona Administrative Code Rules of Practice and Procedure R14-3-219, Exhibit 1, the applicant provides the following location maps and land use information:

> *Where commercially available**, 1) a topographic map, 1:250,000 scale, showing any proposed transmission line route longer than 50 miles and the adjacent area; and 2) a topographic map, a scale of 1:62,500, for routes shorter than 50 miles showing any proposed transmission line route and the adjacent area.*
>
> *Where commercially available, a topographic map,1:62,500 scale, of each proposed transmission line route longer than 50 miles showing that portion of the route within two miles of any subdivided area. The general land use plan within the area shall be shown on a 1:62,500 map required for Exhibit A-3, and for the map required by this Exhibit A-4, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of an overlay.*
>
> ***If a topographic map is not commercially available, a map of similar scale, which reflects prominent or important physical features of the area in the vicinity of the proposed site or route, shall be substituted.*

Land Use Overview

The following exhibits are required by the Arizona Corporation Commission's *Rules of Practice and Procedure* R14-3-219 to support the land use studies conducted for this Application:

- Exhibit A-1 illustrates the land ownership for the location of the proposed Interconnection Project and land within 1 mile of the requested Lava Run Interconnection Project centerline (Study Area).
- Exhibit A-2 illustrates existing land use within the Study Area.
- Exhibit A-3 illustrates future land use within the Study Area.
- Exhibit A-4 illustrates the Interconnection Project on a topographic map.

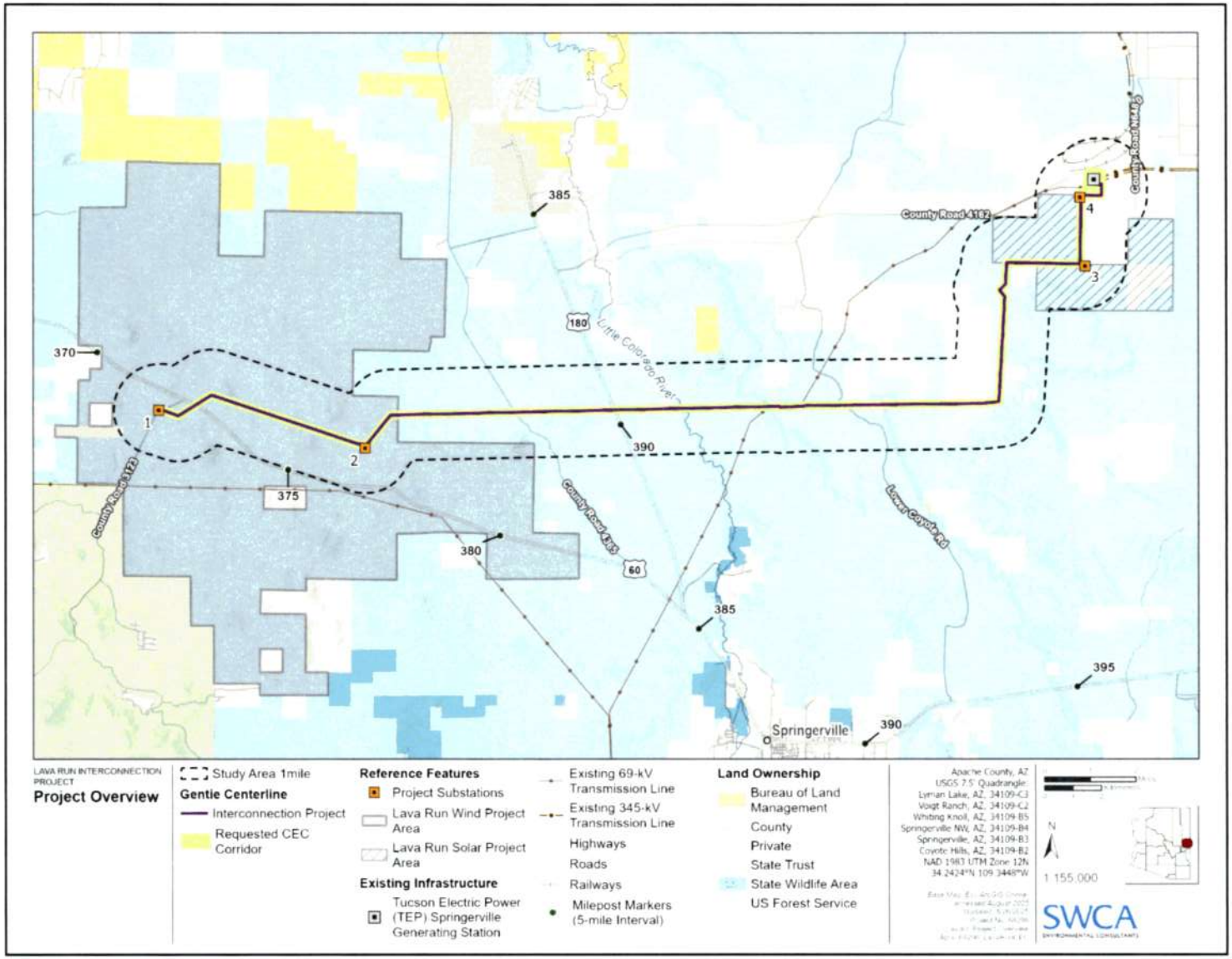


Exhibit A-1. Land ownership.

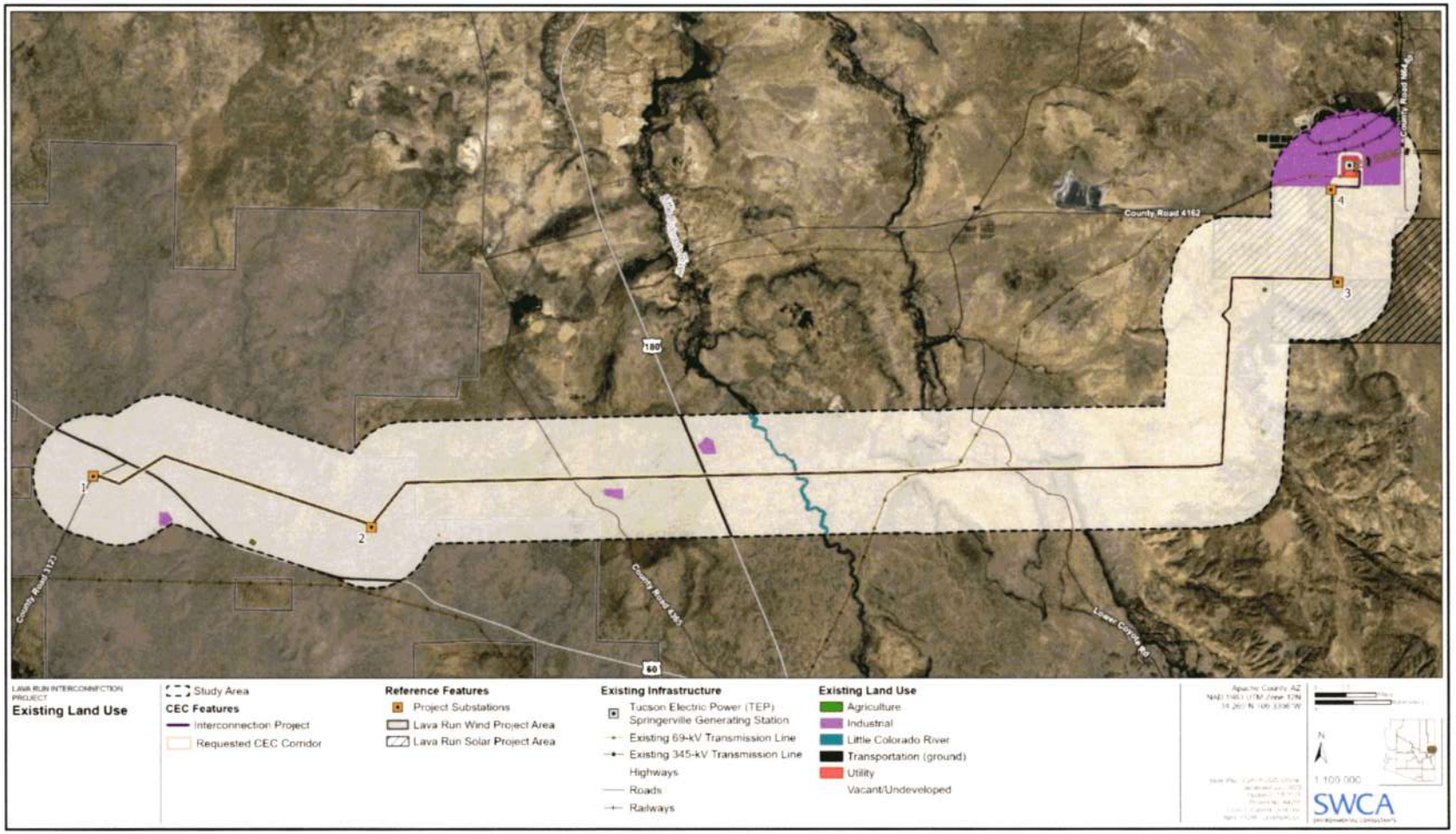


Exhibit A-2. Existing land use.

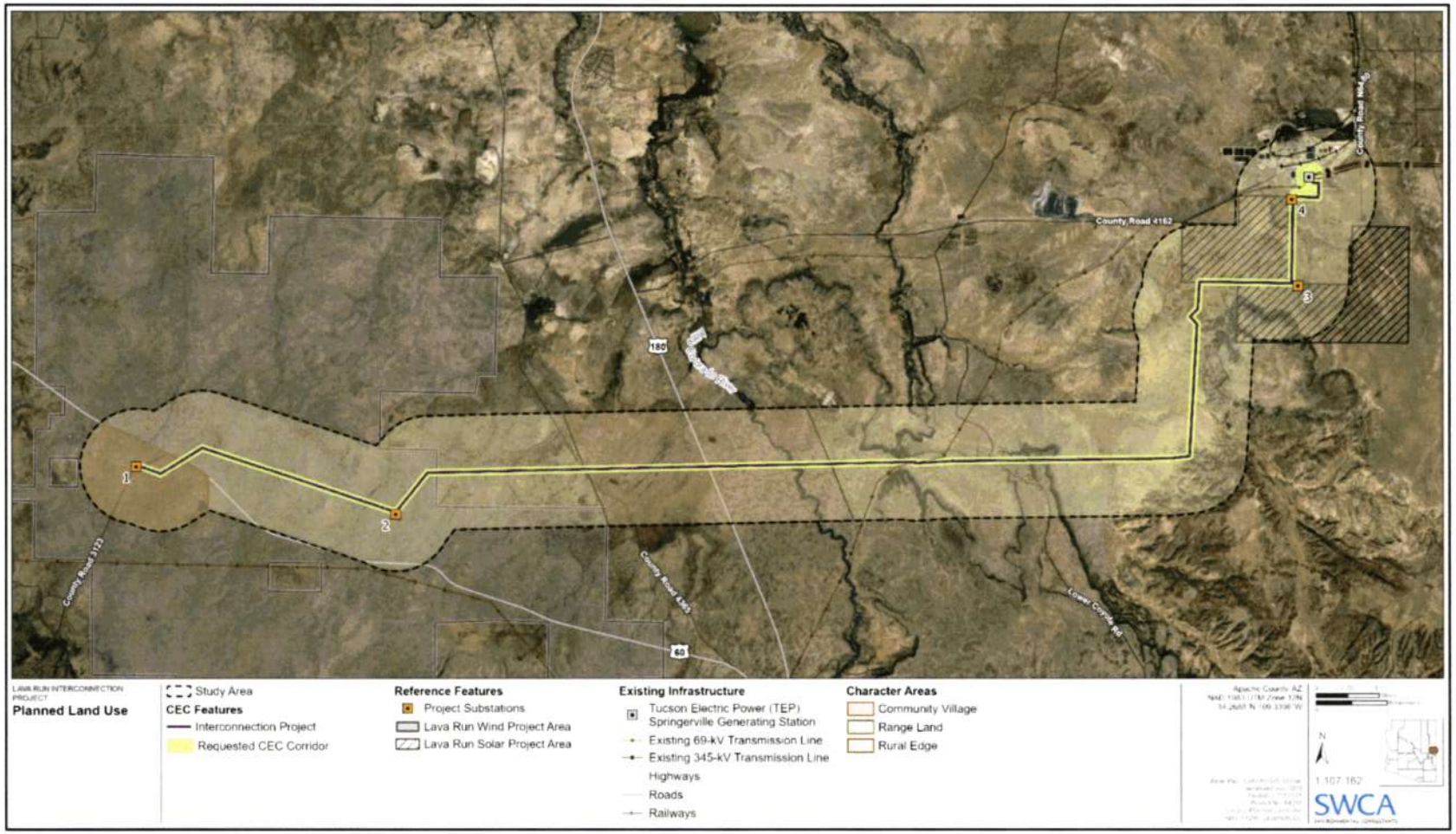


Exhibit A-3. Planned land use.

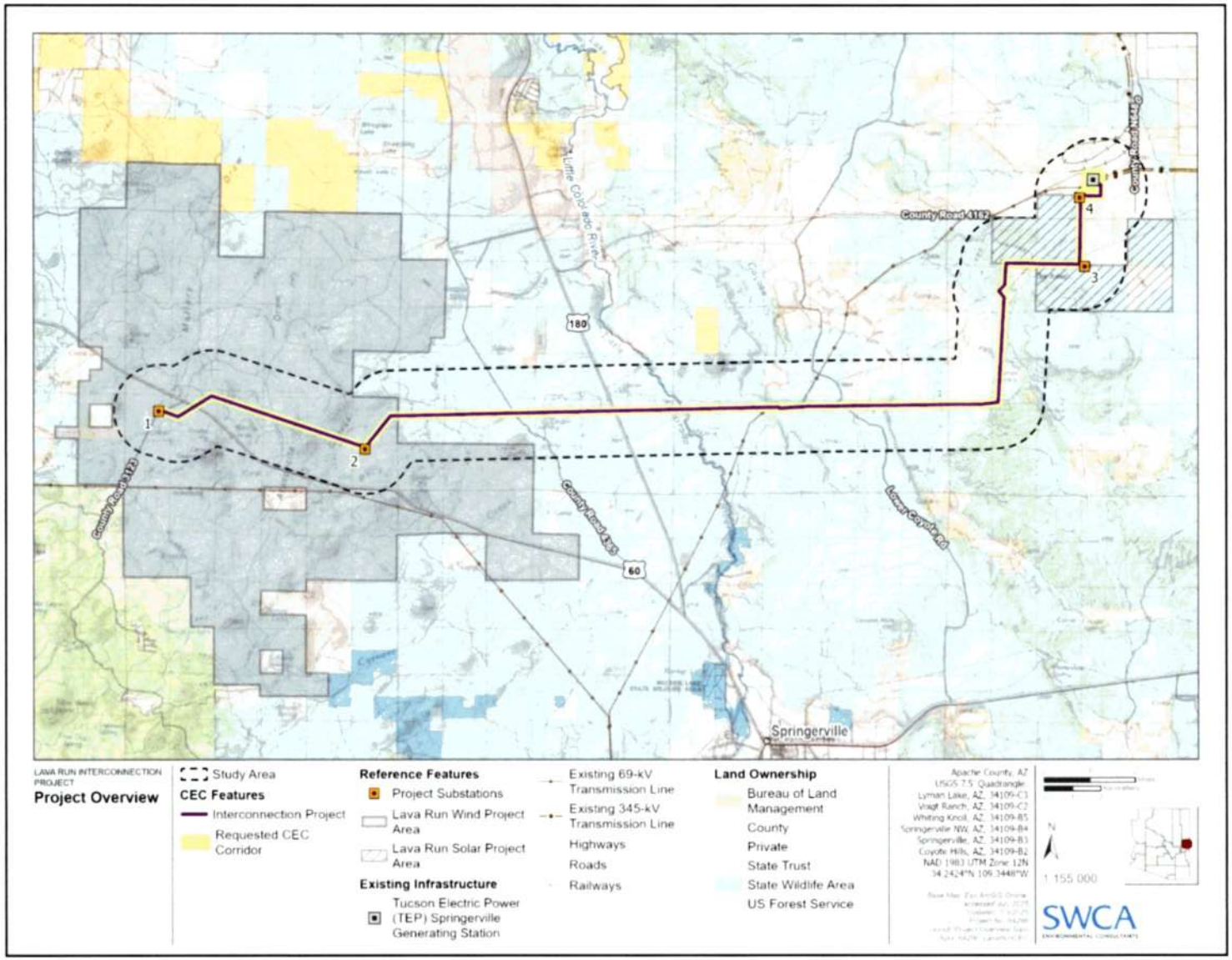


Exhibit A-4. Interconnection Project topographic map.

EXHIBIT B. ENVIRONMENTAL STUDIES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

> *Attach any environmental studies which applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any federal agency or if a federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as a part of this exhibit.*

Introduction

SWCA Environmental Consultants (SWCA) was retained by CG Apache County Wind LLC and CG Apache County Solar LLC (Applicants), to complete environmental analyses for the proposed Lava Run Interconnection Project (Interconnection Project, including the evaluation of land use and the biological, visual, cultural, and recreation resources within the requested CEC Corridor and the 1-mile buffer around the Interconnection Project centerline (herein called the Study Area). The Interconnection Project and Study Area are within unincorporated areas of Apache County, Arizona. Land ownership within the requested Certificate of Environmental Compatibility (CEC) Corridor includes private property (10%) and Arizona State Trust land (90%); Arizona State Trust land is managed by the Arizona State Land Department (ASLD). The Study Area includes land under the jurisdictions of Apache County and the ASLD. This exhibit provides a detailed inventory and evaluation of existing and planned land use within the Study Area. Biological, visual, cultural resource, recreational, and noise evaluations are discussed in Exhibits C, D, E, F, and I.

Land Use

Inventory

The methodology used for this land use inventory included field verification and a review of desktop data, such as maps, aerial imagery, general plans, and other supporting documents, including the *Apache County Comprehensive Plan* (ACCP; Apache County 2019a), the ASLD Parcel Viewer (ASLD 2025), and the Apache County GIS interactive mapping service (Apache County 2025). The inventory also included communication with government agencies, municipalities, and other stakeholders within the Study Area to gather information regarding further development plans or known development projects. Additional information regarding coordination with these entities can be found in Exhibit H.

Jurisdiction and Land Ownership

Land ownership within the Study Area consists of privately owned land and ASLD-administered lands, as shown in Exhibit A-1. The ASLD has jurisdiction over Arizona State Trust lands. The private lands in the Study Area are under the jurisdiction of unincorporated areas of Apache County.

Existing Land Use

The primary existing land uses within the Study Area are vacant, agriculture, and industrial. Other land uses in the Study Area include utility, the Little Colorado River, and transportation. Overall, the Study

Area can be described as rural in character with vacant land being the majority of the existing land use. The requested CEC Corridor is located within vacant, industrial, utility, and transportation land uses and crosses some existing rights-of-way (ROWs) on Arizona State Trust land. High and low-voltage transmission lines exist within the Study Area, as listed in Table B-1. The existing land uses within the Study Area are displayed in Exhibit A-2 and described in detail below.

Utility – Utilities within the Study Area include a 345-kilovolt (kV) transmission line and one 69-kV transmission line, and the existing Tucson Electric Power Company (TEP) Springerville 345-kV Substation to which the Interconnection Project will ultimately connect. Transmission lines in the immediate vicinity of the Interconnection Project are listed in Table B-1.

Table B-1. Transmission Lines in the Immediate Vicinity of the Interconnection Project

Owner	Voltage
Various	345-kV
Novopache Electric Cooperative, Inc.	69-kV

Agricultural – There are small agricultural areas located throughout the Study Area which include cattle tanks and yards.

Industrial – Multiple industrial areas are scattered throughout the Study Area, the largest on the northeastern end of the CEC Corridor bordering the interconnection point.

Little Colorado River – This corresponds to the Little Colorado River, which crosses the center of the Study Area, east of U.S. Route (U.S.) 180.

Transportation – Transportation uses within the Study Area are associated with roadways such as U.S. 180, U.S. 60, Lower Coyote Road, and multiple other smaller county roads.

Vacant – Numerous large tracts of undeveloped privately owned land and Arizona State Trust land are present within the Study Area. Undeveloped land within the immediate vicinity of the Interconnection Project is owned and managed by the ASLD, Apache County, TEP, and private entities.

Future Land Use

Data discussed in this section were derived from the ACCP (Apache County 2019a), the Apache County Zoning Ordinance (Apache County 2019b) and field studies.

Future land uses within the Study Area are shown in Exhibit A-3 and include Range Land, Rural Edge, and Community Village character areas as defined by the ACCP. The majority of requested CEC Corridor is located within the Range Land character area, which makes up the majority of the planned land use designation in the Study Area. The Community Village character area is located on the southwestern end of the CEC Corridor and within the Study Area. The Rural Edge character area runs through the center of the Study Area along U.S. 180. The ACCP identifies the Range Land character area as areas where "Commercial and industrial development should be restricted to locations with paved or other appropriately surfaced access and is encouraged at highway intersections" (Apache County 2019a). Community Village is defined as areas that "provide large areas with higher density residential development with a mix of related commercial, industrial, and institutional uses extending from highway corridors and highway intersections" (Apache County 2019a). Rural Edge is defined as areas that "provide lower density residential development adjacent to Community Village"; the ACCP also states

that "Any industrial or storage uses in Rural Edge should be screened from views from rights-of-way" (Apache County 2019a).

Multiple goals outlined by the ACCP align with the Interconnection Project. Goal 3 states that the County should "plan and approve growth and development with consideration to energy efficient patterns of development, including access to incident solar and wind energy, utilizing existing capital infrastructure, whenever possible" (Apache County 2019a). Additionally, Goal 8 discusses increasing the amount of industrially developable land including encouraging "the development of non-resource specific industrial uses along major transportation corridors, rail heads, and airports and the development of resource specific industrial uses in appropriate remote locations" (Apache County 2019a).

In May 2025, the Applicants sent letters to the relevant jurisdictions to provide information about the Interconnection Project and request new or additional information on plans or planned developments within the Study Area. Exhibit H provides a copy of the letter, written responses, and other correspondence from relevant jurisdictions.

Impact Assessment and Results

Land use impacts may be defined as restrictions on a land use that would result from the construction or operation of the Interconnection Project or incompatibility with existing land use plans. Typically, restrictions on a land use would result from ROW or easement acquisition across a property. The Interconnection Project will be on Arizona State Trust land and privately owned land in unincorporated areas of Apache County, Arizona. Although the Interconnection Project will cross existing ROWs on Arizona State Trust land, the Applicants will work with the ASLD to avoid, minimize, and mitigate any impacts to existing ROWs. The Interconnection Project has been sited in part by carefully coordinating with existing grazing leases on Arizona State Trust lands. All these existing land uses are compatible with the Interconnection Project.

The ACCP identifies the Interconnection Project in Apache County as being within the Range Land, Rural Edge, and Community Village character areas. One of the overarching goals in the ACCP is to "increase the amount of commercially and industrially developable land" (Apache County 2019a). Additionally, the ACCP requires "appropriate and adequate access to commercial and industrial uses" in order to work toward its goal to "maintain compatible land use patterns while encouraging free market development" (Apache County 2019a). The Interconnection Project will connect a source of quality power infrastructure to the community and provide a new source of employment and capital in the region; therefore, the Interconnection Project is compatible with the overarching goals of the ACCP.

The Interconnection Project has 27.4 acres zoned as agriculture general (AG); the remaining area is unzoned (Apache County 2019b). Allowable uses within the AG zone include public and quasi-public uses consisting of "water pumping plants, storage tanks, utilities, and other essential services" (Apache County 2019b). Therefore, the Interconnection Project is compatible with the Apache County zoning districts and land use designations.

Literature Cited

Arizona State Land Department (ASLD). 2025. ASLD's Parcel Viewer. Available at: https://land.az.gov/resources/aslds-parcel-viewer. Accessed June 2025.

Apache County. 2019a. *Apache County Comprehensive Plan*. Available at: https://www.apachecountyaz.gov/accnt_591117/site_591118/Documents/Comprehensive-Plan-Final-June-2019.pdf. Accessed June 2025.

———. 2019b. *Apache County Zoning Ordinance*. Available at: https://tb2cdn.schoolwebmasters.com/accnt_591117/site_591118/Documents/Apache-County-Zoning-Ordinance-amended.pdf. Accessed June 2025.

———. 2025. Apache County GIS. Available at: https://apache-co.maps.arcgis.com/apps/webappviewer/index.html?id=2fdb74d76b734d4c98869038eae12aea. Accessed June 2025.

EXHIBIT C. AREAS OF BIOLOGICAL WEALTH

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> *Describe any areas in the vicinity of the proposed site or route which are unique because of biological wealth or because they are habitats for rare and endangered species. Describe the biological wealth or species involved and state effects, if any, the proposed facilities will have thereon.*

Introduction

Areas of biological wealth can be defined as any habitat, feature, or location that might serve to provide important, unique, or concentrated resources for wildlife or plants in a landscape context, and where adverse impacts to these areas might have higher magnitude of impacts on wildlife or plants as compared to impacts occurring in the surrounding areas. Areas of biological wealth can include areas with high conservation value (e.g., riparian corridors, wetlands, major avian migratory routes, or unique or rare natural communities); conceptual, unprotected areas that have been delineated by an agency or nongovernmental organization (e.g., wildlife corridors, Important Bird Areas [IBA], and Conservation Opportunity Areas [COAs]); and features or areas (e.g., designated critical habitat) that are protected by a federal agency such as the U.S. Fish and Wildlife Service (USFWS) (e.g., National Parks, National Wildlife Refuges, Wilderness Areas, or National Forests), state agency (e.g., Arizona State Parks), or local government (e.g., parks or other areas protected by local ordinance).

SWCA Environmental Consultants (SWCA) conducted a biotic resource review to identify areas of biological wealth and the rare and endangered species that may occur at or in the vicinity of the Lava Run Interconnection Project (Interconnection Project). The Study Area consists of the requested Interconnection Project centerline plus a 1-mile buffer. SWCA consulted data sources that included:

- The USFWS official species list for the proposed Interconnection Project obtained from the USFWS online Information for Planning and Consultation (IPaC) system (Attachment C-1) (USFWS 2025a)
- Species information obtained from the Arizona Game and Fish Department (AZGFD) Environmental Online Review Tool (Attachment C-2) (AZGFD 2025a)
- Field visits
- Land cover, elevation data, and species descriptions from a variety of sources

The AZGFD Environmental Online Review Tool database query establishes a buffer beyond the Study Area to evaluate occurrence records and the presence of modeled habitat. The size of the buffer depends on the type of project being considered. For the Interconnection Project, the buffer extends 3 miles beyond the Study Area, which itself encompasses the 1-mile-buffer around the Interconnection Project centerline. The analysis in this exhibit is limited to the 1-mile Study Area. The AZGFD query identified federal and state special-status species that may intersect with the Interconnection Project footprint based on predicted range models, as well as those that have been documented within 3 miles of the Interconnection Project footprint. The report also identified special areas, such as wildlife movement areas, that may intersect the Interconnection Project.

The species identified by the USFWS via the IPaC system and by the AZGFD via the Environmental Online Review Tool database were reviewed by SWCA for the probability of the species' occurrence in the Study Area based on 1) species' distribution and the presence of suitable habitat, 2) occurrence records in publicly available authoritative databases, and 3) observations made by SWCA biologists during field visits to the Study Area. SWCA also conducted an effects analysis for those species that may occur in the Study Area.

SWCA biologists with expertise in the biology of flora and fauna of the region surveyed the CEC Corridor and Study Area on November 1, 13, and 14, 2024, and May 12, 2025. The site was assessed to determine whether habitat features for species protected under federal, state, or local regulations were present in the CEC Corridor and Study Area. These visits were in addition to preconstruction natural resources surveys in the area, which included:

- A reconnaissance visit to the Lava Run Wind Project (Wind Facility) and generation-tie transmission line on August 11 and 12, 2020, to support the wildlife site evaluation (SWCA 2022a).
- Two years of avian use surveys conducted monthly at fixed points distributed throughout the Wind Facility from January 2021 through December 2022 (SWCA 2023).
- Raptor nest surveys within 2 miles of the Wind Facility (including the Interconnection Project) and the Lava Run Solar Project in February and March 2021 and 2022 (SWCA 2022b).
- Two years of passive bat acoustic monitoring at fixed stations within the Wind Facility from March through November 2021 and 2022 (SWCA 2024a).
- Gunnison's prairie dog (*Cynomys gunnisoni*) colony surveys in August 2024 (SWCA 2024b).
- Aquatic resources inventories for the Wind Facility and Interconnection Project in November 2024 (SWCA 2025a).
- Native plant inventories for the Interconnection Project in November 2024 (SWCA 2025b).

During all preconstruction natural resources surveys, surveyors were instructed to record incidental wildlife observations, contributing to the understanding of special-status species presence and areas of biological wealth. Special-status species observed during these site visits are noted in Tables C-1 and C-2 below.

Results

Ecological Setting

The Study Area is within the Datil physiographic section of the Colorado Plateaus province (Fenneman and Johnson 1946). This section's prominent geological features include steep-sided cinder cones, low-profile shield volcanoes, and basaltic flows of the White Mountain and Springerville volcanic fields (Bezy and Trevana 2003). Some of these features are found within the Study Area, including Cerro Quemado and Scraper Knoll. Other features are located in the vicinity of the Study Area, such as Cerro Montoso, approximately 2.8 miles west of the Study Area, and the Coyote Hills, approximately 3.5 miles to the south. A lava flow is present within the Study Area and is approximately 0.8 mile west of U.S. Route (U.S.) 191. Other notable landforms include the Little Colorado River and Coyote Creek, which are crossed by the Interconnection Project; Lyman Lake, 6.5 miles north of the Study Area; and Becker Lake, 4.5 miles south of the Study Area.

Elevations within the Study Area range between approximately 6,453 and 7,698 feet above mean sea (amsl) level, with elevations gradually decreasing from west to east. Overall, topography within and

proximal to the site is characterized as flat and rolling, with some small cinder cones and flat-topped mesas.

The Study Area is within the Plains and Great Basin Grassland and Great Basin Conifer communities (Brown 1994). The vegetation within the Study Area is generally characterized as open savanna, dominated by perennial bunchgrasses and forbs, with a scattered to locally dense shrub and tree layer. Some areas of pinyon-juniper (*Pinus* spp.-*Juniperus* spp.) woodland are present within the Study Area, primarily on the slopes of mesas and in the eastern portion of the Study Area near the point of interconnection. Characteristic grasses include Arizona threeawn (*Aristida arizonica*), blue grama (*Bouteloua gracilis*), bristly wolfstail (*Lycurus setosus*), purple threeawn (*Aristida purpurea*), and sideoats grama (*Bouteloua curtipendula*). Scattered to locally dense shrubs include broom snakeweed (*Gutierrezia sarothrae*), fragrant sumac (*Rhus aromatica*), fourwing saltbush (*Atriplex canescens*), Fremont's mahonia (*Mahonia fremontii*), pale desert-thorn (*Lycium pallidum*), narrowleaf yucca (*Yucca angustissima*), rubber rabbitbrush (*Ericameria nauseosa*), twistspine pricklypear (*Opuntia macrorhiza*), wax currant (*Ribes cereum),* and whipple cholla (*Cylindropuntia whipplei*). The tree layer, where present, includes one-seed juniper (*Juniperus monosperma*), twoneedle pinyon (*Pinus edulis*), and alligator juniper (*Juniperus deppeana*).

The primary land use in the vicinity of the Study Area is cattle ranching, with additional uses including two transportation corridors (U.S. 191 and U.S. 60) and electrical energy transmission and distribution infrastructure. The Springerville Generating Station is at the east end of the Study Area. The towns of Springerville and Eagar are approximately 6.5 miles south of the Study Area, and the town of St. Johns is approximately 15 miles to the northwest. The Interconnection Project and Study Areas are relatively undisturbed and have a long history of cattle ranching. Prior disturbances include the transportation corridors and electrical energy transmission infrastructure described above.

The Little Colorado River, a perennial source of water within the Study Area, is a moderately incised canyon at the point where the Interconnection Project crosses it. The Little Colorado River is considered an Area of Biological Wealth and is addressed in more detail below. In addition to the Little Colorado River, the aquatic resources inventory conducted in 2024 for the Interconnection Project and Wind Facility identified one isolated, non-jurisdictional wetland within the Study Area, located approximately 0.75 mile northwest of the Interconnection Project, several ephemeral washes (including Coyote Creek) that may hold water seasonally or after rain events; and small stock tanks that may hold water seasonally. One other large stock tank occurs approximately 0.7 mile west of the Interconnection Project and may hold water year-round (SWCA 2025a).

Areas of Biological Wealth

No designated or proposed critical habitats, IBAs, National Wildlife Refuges, wetlands of international importance, wilderness areas, or areas of environmental concern are within the Study Area (AZGFD 2025a; 2022a). The nearest designated critical habitat is for the Mexican spotted owl (*Strix occidentalis lucida*) (listed threatened) 1 mile southwest of the Study Area within the Apache-Sitgreaves National Forests. The nearest special designation area is the Upper Little Colorado River Watershed IBA approximately 1.5 miles south of the Study Area along the Little Colorado River. No important eagle use areas, bird staging areas, migration concentration sites, lekking species, or bat colonies or roosts were identified in the Study Area during the wildlife site evaluation or surveys for the Wind Facility.

Areas of biological wealth within the Study Area include the Little Colorado River riparian habitats and associated canyon, which may provide stopover habitat for migrating birds and serve as a conduit for the movement of certain endangered and rare wildlife species. Other areas of conservation value within the Study Area include COAs, which are areas with high conservation value where actions will most likely

lead to substantial improvements for wildlife and their habitats (AZGFD 2022), and wildlife movement areas, which are described below.

THE LITTLE COLORADO RIVER

The Little Colorado River bisects the Interconnection Project and Study Area (Exhibit C-1). Within the Study Area, the Little Colorado River is a perennial river that flows through a moderately incised canyon and has a dense shrub layer present in places along the river corridor. Individuals of riparian tree species such as cottonwood (*Populus* spp.) may be present; however, they do not create a dense riparian tree canopy within the Study Area. The Little Colorado River is important to wildlife species (including most of the rare and endangered species that may occur within the Study Area, reviewed below), and the portion of the river within the Study Area intersects the Apache and Navajo Counties Little Colorado River Riparian Corridor wildlife riparian movement area. Riparian movement areas are wildlife linkages that follow sources of water (perennial or ephemeral) and enable movement of both terrestrial and aquatic species (AZGFD 2013). Species identified using this corridor include migratory and riparian bird species, southwestern willow flycatcher (*Empidonax traillii extimus*) (listed endangered), American pronghorn (*Antilocapra americana americana*) (AZGFD Species of Greatest Conservation Need [SGCN] Tier 2 species), and bat species (AZGFD 2013).

AZGFD has also identified two COAs associated with the Little Colorado River within the Study Area: the Middle Little Colorado River terrestrial COA and the Little Colorado River - Lyman Lake to Hwy 261 aquatic COA (see Exhibit C-1) (AZGFD 2025a). Both COAs intersect the Interconnection Project where it crosses the Little Colorado River. The conservation goals for the Middle Little Colorado River terrestrial COA include improving adjacent habitats, improving hydrological connections, and maintaining travel corridors for a variety of wildlife species (AZGFD 2025b). This COA provides habitat for aquatic- and riparian-dependent species, as well as migratory birds, and provides connectivity between other COAs. Strategy species identified for this COA include the southwestern willow flycatcher, Mexican spotted owl and Mexican wolf (*Canis lupus baileyi*) (nonessential experimental population). The Little Colorado River - Lyman Lake to Hwy 261 aquatic COA is managed for an assemblage of self-sustaining native fish populations (AZGFD 2025c). Strategy species identified for this COA include Little Colorado spinedace (*Lepidomeda vittata*) (listed threatened), Little Colorado sucker (*Catostomus* sp. 3) (SGCN Tier 2), and bluehead sucker (*Catostomus discobolus*) (SGCN Tier 2).

OTHER WILDLIFE MOVEMENT AREAS AND CONSERVATION OPPORTUNITY AREAS

Away from the Little Colorado River, AZGFD has identified two Apache and Navajo Counties diffuse wildlife movement areas, one landscape movement area, and one terrestrial COA that intersect the Study Area (see Exhibit C-1) (AZGFD 2025a). Diffuse wildlife movement areas are where wildlife move within a habitat block (an approximate location of wildlife movements on the landscape). Both movement areas have been identified as important for American pronghorn, and the diffuse area east of the Little Colorado River has also been identified as important for mule deer (*Odocoileus hemionus*) (AZGFD 2013).

Landscape movement areas are wildlife linkages where wildlife move between habitat blocks. The landscape movement area that intersects the Study Area is south of U.S. 60 at the western end of the Interconnection Project. This movement area has been identified as important for several game species, including American pronghorn and mule deer (AZGFD 2013).

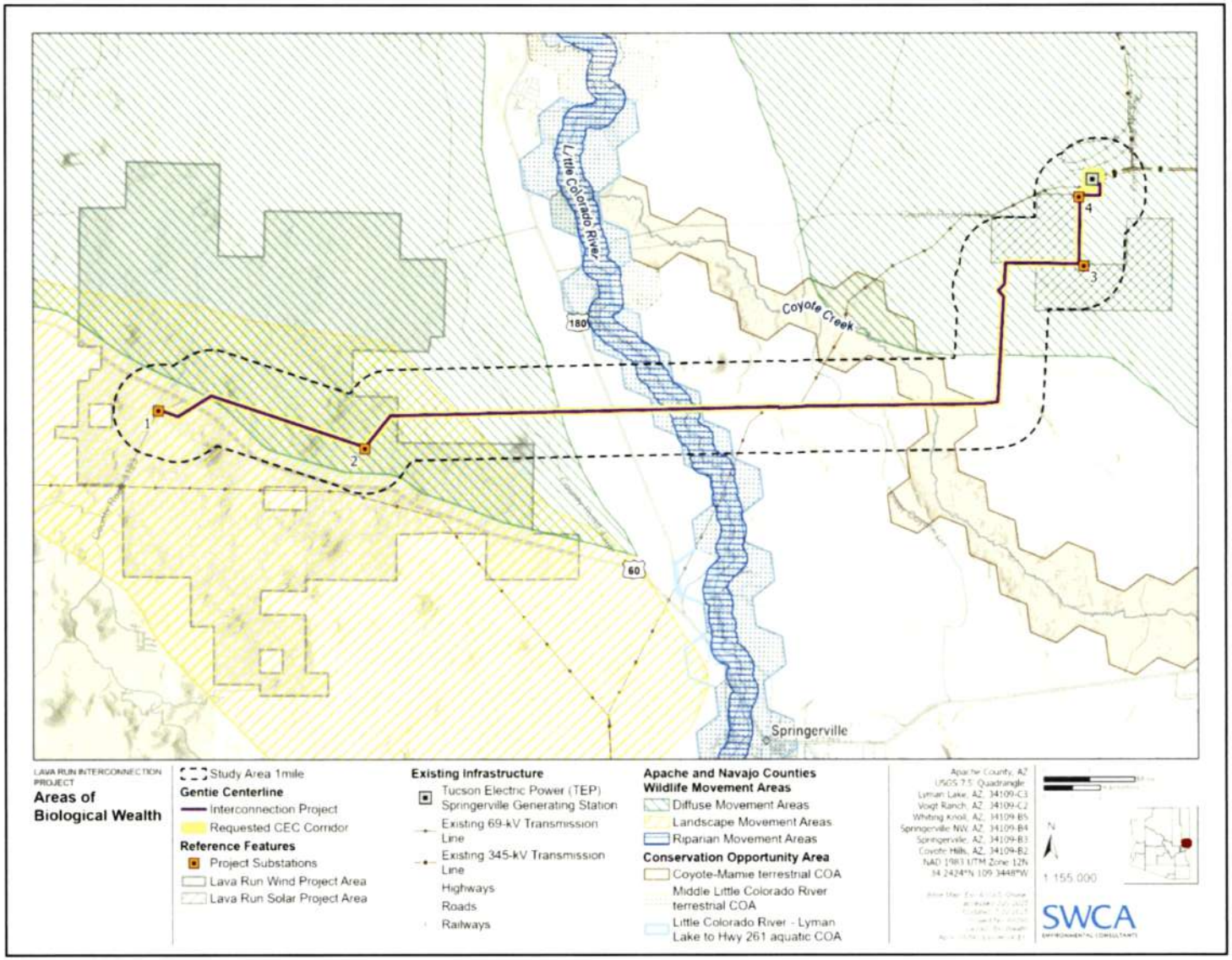


Exhibit C-1. Areas of biological wealth that intersect the Study Area.

The Coyote-Mamie terrestrial COA is located along Coyote Creek east of the Little Colorado River. The conservation goals of this COA include improving adjacent habitats, improving hydrological connections, and maintaining travel corridors for a variety of wildlife species (AZGFD 2025d). Within the Study Area, the creek is largely devoid of riparian vegetation, primarily containing sparsely distributed juniper and upland shrubs such as sand sagebrush (*Artemisia filifolia*). Riparian vegetation includes isolated occurrences (lone trees) of tamarisk (*Tamarix* spp.). Strategy species identified for this COA include Mexican spotted owl, pinyon jay (*Gymnorhinus cyanocephalus*) (Under Review for listing under the Endangered Species Act [ESA], SGCN Tier 2), and Mexican gray wolf.

Rare and Endangered Species

The USFWS and AZGFD provided lists of special-status species that should be considered in an effects analysis for the Interconnection Project (AZGFD 2025a; USFWS 2025a). These species and the likelihood of their presence in the vicinity of the Interconnection Project are addressed below in two sections: 1) ESA-Listed and Proposed Species and 2) Other Special-Status Species.

ENDANGERED SPECIES ACT THREATENED, ENDANGERED, PROPOSED, AND UNDER REVIEW SPECIES

Nine ESA-listed species, proposed species, or nonessential experimental populations were identified by the USFWS in its official species list for the Interconnection Project (USFWS 2025a). These species include two mammals (Mexican wolf, New Mexico meadow jumping mouse [*Zapus hudsonius luteus*]), three birds (Mexican spotted owl, southwestern willow flycatcher, and yellow-billed cuckoo [*Coccyzus americanus*]), two fish (Gila trout [*Oncorhynchus gilae*] and Little Colorado spinedace), and two insects (monarch butterfly [*Danaus plexippus*] and Suckley's cuckoo bumble bee [*Bombus suckleyi*]).

The Study Area is within the geographic/elevational range and contains appropriate habitat conditions for six of the nine species; the other three species are unlikely to occur in the Study Area (see Table C-1).

Table C-1. Federally Listed and Proposed Species Reviewed for Their Potential to Occur in the Study Area

Common Name (Scientific Name)	Status*		Range or Habitat Requirements	Potential for Occurrence in Study Area
	Federal	State		
Gila trout (*Oncorhynchus gilae*)	T	SGCN Tier 1	Small, mountain headwater streams, which are generally narrow and shallow, above 5,400 feet. Habitat associations include coniferous and mixed woodland, montane coniferous forest, and subalpine coniferous forest. Current range limited to creeks in the Agua Fria River, Blue River, Lower Verde River, and San Francisco River watersheds.	Unlikely to occur. Though the USFWS (2025b) indicates the Study Area is within the current species range, the Study Area does not contain modeled habitat and the species is not known to occur in the Little Colorado River (AZGFD 2025f; USFWS 2022). The nearest species occurrence (Coleman Creek) is approximately 31 miles south of the Study Area. No critical habitat has been designated for this species.
Little Colorado spinedace (*Lepidomeda vittata*)	T	SGCN Tier 1	See description below.	May occur. Documented within 3 miles of the Study Area. See below for details.
Mexican spotted owl (*Strix occidentalis lucida*)	T	SGCN Tier 1	See description below.	May occur. See below for details.

Common Name (Scientific Name)	Status*		Range or Habitat Requirements	Potential for Occurrence in Study Area
	Federal	State		
Mexican wolf (*Canis lupus baileyi*)	EXPN, XN	SGCN Tier 1	See description below.	May occur. Documented within 3 miles of the Study Area. See below for details.
Monarch butterfly (*Danaus plexippus*)	PT	–	See description below.	May occur. Documented within 3 miles of the Study Area. See below for details.
New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	E	SGCN Tier 1	Tall, dense riparian herbaceous vegetation, especially sedges and reed canarygrass alliances, and scrub-shrub wetlands (composed of willows and alders) associated with seasonally available or perennial flowing water from 4,500 to 9,500 feet. Also require adjacent intact upland areas for nesting and hibernation. In Arizona, found in southern Apache County and northern Greenlee County in the White Mountains.	Unlikely to occur. Though the Study Area is within the subspecies' current range, the nearest occurrences (Little Colorado River) are approximately 14 miles southwest of the Interconnection Project's Little Colorado River crossing. Critical habitat and modeled habitat for the subspecies are approximately 12 miles south of the Study Area (Nutrioso Creek).
Southwestern willow flycatcher (*Empidonax traillii extimus*)	E	SGCN Tier 1	See description below.	May occur. See below for details.
Suckley's cuckoo bumble bee (*Bombus suckleyi*)	PE	–	Historically found in various habitat types including prairies, grasslands, meadows, urban and agricultural areas, and woodlands up to 10,500 feet. This bumble bee is an obligate social parasite entirely dependent on social bumble bee hosts (Bombus spp., primarily western bumble bees [*Bombus occidentalis*]) to collect pollen to rear young. Suckley's cuckoo bumble bee has not been observed in the United States since 2016, despite widespread historic occurrence records and increased sampling effort for bumble bees.	Unlikely to occur. Species has not been observed in the United States since 2016. No critical habitat has been proposed for this species.
Yellow-billed cuckoo (*Coccyzus americanus*)	T	SGCN Tier 1	See description below.	May occur. Documented within 3 miles of the Study Area. See below for details.

Note: Table includes those species listed in USFWS (2025a). Potential occurrence determinations and habitat descriptions were based on information from AZGFD (2025e, 2025f), Bumble Bee Watch (2025), Corman and Wise-Gervais (2005), Morris et al. (2015), USFWS (2011, 2020, 2021a, 2023a 2024a, 2025a, 2025b, 2025c), Western Monarch Milkweed Mapper (2025).

* Federal status definitions

E = Endangered - species in danger of extinction throughout all or a significant portion of their range; EXPN, XN = Experimental population, nonessential; PE = Proposed for listing as endangered under ESA; PT = Proposed for listing as threatened under ESA; T = Threatened species likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

* State status definitions

SGCN = Species of Greatest Conservation Need; wildlife species identified by AZGFD as having conservation priority (AZGFD 2022). SGCN Tier 1 species are those categorized as "highest priority vulnerable" species.

Little Colorado River Spinedace

The Little Colorado spinedace is federally listed as threatened with designated critical habitat and is an SGCN Tier 1 species. The species inhabits pools with water flowing over fine gravel and silt-mud substrates in medium to small streams at elevations between 4,000 and 8,000 feet (AZGFD 2025e). According to the AZGFD (2025a, 2025e), the species has been documented within 3 miles of the Study Area, both upstream and downstream of the Interconnection Project's Little Colorado River crossing. In addition, the USFWS (2023a) describes the mainstem of the Little Colorado River upstream of Lyman

Lake as supporting the at low densities. Critical habitat is approximately 7 miles south of the Study Area along Nutrioso Creek.

Mexican Wolf

Wolves living in the Mexican Wolf Experimental Population Area (MWEPA), the geographic area within Arizona and New Mexico south of Interstate 40, which includes the Study Area, are designated as nonessential experimental population (i.e., treated as proposed for listing) (USFWS 2021a). No critical habitat has been designated for this species. The subspecies is also an SGCN Tier 1 species. It inhabits evergreen pine-oak woodlands, pinyon-juniper woodlands, and mixed-conifer montane forests inhabited by elk, deer, and cattle above 4,000 feet (USFWS 2015). Pups are born from March through May in dens located under rock ledges on the slopes of canyon walls or hills (AZGFD 2025e).

AZGFD (2025a) indicates that the species has been documented within 3 miles of the Study Area. The species was also documented in June 2025, approximately 5 miles south of the Study Area, north of U.S. 60 near the New Mexico border (USFWS 2025c). The Study Area contains suitable pinyon-juniper woodlands inhabited by elk and cattle. The Study Area is within MWEPA management area Zone 2, where the species is allowed to naturally disperse and may be translocated (USFWS 2015). The USFWS (2025c) indicates that the Study Area is within the subspecies' occupied range. Individuals, particularly dispersing young, may travel from core areas over hundreds of miles (Packard 2003, as cited in USFWS 2021a).

Mexican Spotted Owl

The Mexican spotted owl is federally listed as threatened with designated critical habitat and is an SGCN Tier 1 species. Nesting and roosting habitats include high-elevation (4,000–10,000 feet) mature forests with uneven-aged tree stands, multi-storied canopy, moderate to high canopy closure, downed logs, and snags (USFWS 2004) or incised rocky-canyon habitats with a perennial water source (Rinkevich 1991; Willey 1993). The latter typically contains small clumps or stringers of conifer or riparian forests (Gutierrez et al. 2020; USFWS 2004). While the owl is highly selective for its roosting and nesting habitats, which are not present within the Study Area, it will use a wider array of habitats, including sparse ponderosa pine (*Pinus ponderosa*), pinyon-juniper woodlands, and riparian habitats for foraging, dispersal, and wintering (Gutierrez et al. 2020; USFWS 2012). Preferred foraging habitats are closed canopy (canopy cover >40%) forests with large trees, logs, and snags, with a high percentage of ground litter and woody debris (Ganey and Balda 1994; Ganey et al. 1997; USFWS 2012). The owl is primarily a resident, although some individuals move to lower elevations or migrate short distances (<31 miles), leaving their breeding areas in October and returning in late February or March (Corman and Wise-Gervais 2005; Ganey and Block 2005).

The Study Area is within the subspecies' year-round range (Gutierrez et al. 2020; USFWS 2025b) and may support dispersing or wintering individuals. Critical habitat is 1 mile southwest of the Study Area. Two designated Protected Activity Center (PAC)[1] boundaries are approximately 3 miles and 4.5 miles south or southwest of the Study Area within the Apache-Sitgreaves National Forests (personal communication, email from Shaula Hedwall, Senior/Supervisory Fish and Wildlife Biologist, USFWS, to Allen Graber, Senior Ecologist, SWCA, October 6, 2023). Neither occupancy status of these PACs nor specific locations of owl observations in proximity to the Study Area are known by SWCA. The Study Area does not contain nesting, roosting, or preferred foraging habitat, but the limited pinyon-juniper woodlands and Little Colorado River riparian habitats may be used by dispersing juveniles and wintering owls. Though only some individuals move to lower elevations or migrate short distances in the winter and

[1] PACs are established by federal entities and Tribes as part of the owls' recovery strategy.

habitat associations are ubiquitous in the region, limited use by the owl cannot be ruled out. Potential use of the Study Area would be from October through late February or March (Corman and Wise-Gervais 2005; Ganey and Block 2005).

Monarch Butterfly

On December 12, 2024, the USFWS proposed listing the monarch butterfly under the ESA as a threatened species with a 4(d) rule for take exceptions (USFWS 2024b). There is proposed critical habitat on the western populations' wintering grounds in coastal California. There are no statutory protections under the ESA for species proposed for listing, but the USFWS encourages opportunities to conserve the species.

Adult monarchs feed on the nectar of many flowers (e.g., sunflowers [*Helianthus* spp.], rabbitbrush, thistles [Family Asteraceae], and milkweeds [Family Asclepiadaceae]) during breeding and migration, but they lay eggs only on milkweed plants (Morris et al. 2015). The species occurs throughout Arizona during the summer and migrates to winter in Mexico and California; small numbers also overwinter in the low deserts of southwestern Arizona (Morris et al. 2015; USFWS 2020). In the southwestern United States, migrating monarchs often occur near water sources such as rivers, creeks, riparian corridors, roadside ditches, and irrigated gardens. In middle elevations of Arizona, the species may occur as early as late March and early April, becoming more abundant in late July and August. Peak fall migration is from September through mid-October (Morris et al. 2015). The Study Area is within the spring, summer, and early fall migration range for the species and contains suitable nectar-producing species for foraging, such as rabbitbrush. Broadleaf milkweed (*Asclepias latifolia*) has been documented in the adjacent Wind Facility project area (SWCA 2022a), which could be used by breeding monarchs.

Southwestern Willow Flycatcher

The southwestern willow flycatcher is federally listed as endangered with designated critical habitat and is an SGCN Tier 1 species. The flycatcher breeds in dense, mesic riparian habitats at scattered, isolated sites along rivers and streams, reservoirs, cienegas, and other wetlands from near sea level to over 8,500 feet (Sogge and Marshall 2000; USFWS 2002). Nesting habitat is typically dense riparian thickets >3 meters high, >1 to 2 trees wide, with or without an overstory layer, where surface water or soil moisture is high enough to maintain appropriate vegetation characteristics (Sogge et al. 2010). During migration, the flycatcher uses a wider array of forest and shrub habitats, although riparian vegetation may still be a preferred migration habitat type (Finch et al. 2000). Breeding flycatchers in the state are predominantly found along major perennial drainages below 4,000 feet but also occur at 8,500 feet along the upper Little Colorado and San Francisco Rivers (Corman and Wise-Gervais 2005). Southwestern willow flycatchers have a short, approximately 100-day breeding season, with individuals typically arriving in May or June and departing in August or September (Sogge et al. 2010). The breeding season window is May 15 to August 15.

The Study Area is within the subspecies' current and predicted ranges (AZGFD 2025a; USFWS 2025b) and may support migrating individuals. Critical habitat and nearest records of the subspecies are approximately 9 miles south of the Study Area (Little Colorado River) (AZGFD 2025f). Where the Interconnection Project crosses the Little Colorado River, habitats are not suitable for breeding (they lack the necessary structure) but could support migrating individuals. Such individuals, if present, would likely be limited to the riparian habitats and adjacent uplands within the river canyon; the window of occurrence would be from May to September. Breeding individuals may occur up or downstream from the Interconnection Project crossing if appropriate habitats are present.

Yellow-billed Cuckoo

The cuckoo is federally listed as threatened with designated critical habitat and is an SGCN Tier 1 species. The species nests in low- to moderate-elevation (usually below 6,600 feet) riparian woodlands with native broadleaf trees and shrubs that are 50 acres or more in extent (Hughes 2015). The species is most associated with cottonwood/willow-dominated vegetation cover, but the composition of dominant riparian vegetation can vary across its range (Halterman et al. 2015). Typical nesting habitat contains trees of various ages, including large, mature trees (USFWS 2021b). The cuckoo has not been found nesting in isolated patches (1–2 acres) or narrow, linear riparian habitats less than 10 to 20 meters wide, although migrant cuckoos have been detected in these habitats (Halterman et al. 2015). The presence of abundant, large insects (e.g., cicadas, katydids, large beetles) and tree frogs during the nesting season is an essential habitat component. During migration and foraging, the species uses a wider array of forest and shrub habitats but is rarely observed away from riparian habitats (Corman and Wise-Gervais 2005). These sites may be similar to breeding sites, but may be smaller, narrower patches and may lack understory vegetation (USFWS 2021b). The species is a late spring migrant, arriving at breeding areas from mid-May to early July and departing in September or October (Halterman et al. 2015). The breeding season window is May 15 to September 30.

The Study Area is within the species' current and predicted ranges (AZGFD 2025a; USFWS 2025b) and may support migrating individuals. The species has been documented within 3 miles of the Study Area (AZGFD 2025a). Critical habitats for the species are approximately 60 miles south of the Study Area near Blue River, Arizona, and southeast near the San Francisco River, New Mexico. Habitats observed along the Little Colorado River within the Study Area are not suitable for breeding (they lack the necessary structure). Migrating individuals, if present, would likely be limited to the riparian habitats and adjacent uplands within the river canyon; the window of occurrence would be from mid-May through October. Breeding individuals may occur up or downstream of the Study Area if appropriate habitats are present.

OTHER SPECIAL-STATUS SPECIES

Other special-status species considered for the Interconnection Project include:

- Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), protected by the Bald and Golden Eagle Protection Act (BGEPA).
- Birds of Conservation Concern (BCC), which are bird species, beyond those designated as federally threatened or endangered, that represent the USFWS's highest conservation priorities (USFWS 2021c). The Interconnection Project is within BCC Bird Conservation Region 34.
- SGCN in Arizona, which are species identified by the AZGFD (2022) that are most in need of conservation action. SGCN are prioritized into three tiers. Tier 1 species include federally listed taxa (or those requiring post-delisting monitoring); closed-season species; and species covered by AZGFD-signed conservation agreements, a conservation strategy and assessment, or a strategic conservation plan. Tier 2 represents the remainder of the species meeting vulnerability criteria. Tier 3 species are those for which the AZGFD was unable to assess status and thus represent priority research and information needs. Only Tier 1 and 2 (vulnerable) species are addressed in this exhibit.
- State-Protected Native Plant Species. The Arizona Native Plant Law (ANPL) (Arizona Revised Statutes 3-904) identifies a lengthy list of plant species—largely cacti, agaves, yuccas, and desert trees—that are susceptible to removal for collection, landscaping, sale, or other commercial uses. The ANPL states that these plants shall not be taken, transported, or possessed from any non-federal land without permission and a permit from the Arizona Department of Agriculture. ANPL species are prioritized into four categories: Highly Safeguarded, which are species

threatened for survival or are in danger of extinction; Salvage Restricted, which are species subject to damage and vandalism; Salvage Assessed, which have a sufficient value if salvaged to support the cost of salvage tags and seals; and Harvest Restricted, which are species protected because they are subject to excessive harvesting.

Table C-2 at the end of this exhibit lists special-status species identified by the AZGFD that have the potential to occur in the Study Area because the area falls within the species' predicted range and contains suitable habitat (AZGFD 2025a). Also included in Table C-2 are species not identified by the AZGFD but that may occur in the Study Area because they were observed in the vicinity by SWCA biologists.

Bald and Golden Eagle Protection Act Species

Both bald eagles and golden eagles are known to occur in the Study Area and vicinity (see Table C-2). The nearest bald eagle nest is approximately 5 miles south of the Study Area near Becker Lake, and the nearest golden eagle nests are approximately 0.5 miles north of the Study Area along the Little Colorado River canyon (SWCA 2022b).

Birds of Conservation Concern and State Species

Of the total 84 SGCN Tier 1 and 2 species, 21 are known to occur based on preconstruction site surveys conducted for the Wind Facility (SWCA 2023, 2024a). Fifty-six species may occur in the Study Area because the area falls within the species' predicted range and contains suitable habitat (see Table C-2). The remaining seven SGCN Tier 1 and 2 species are unlikely to occur. Of the 18 BCC species, three are known to occur in the Study Area, 14 may occur in the Study Area, and one is unlikely to occur in the Study Area.

State-Protected Native Plant Species

During preconstruction site visits, eight salvage restricted species were observed within the Study Area (SWCA 2022a, 2025b). No Harvest Restricted, Salvage Assessed, or highly safeguarded species were observed within the Study Area during preconstruction site visits.

Potential Effects

Potential impacts to rare and endangered wildlife and areas of biological wealth can be grouped into two categories: direct impacts (i.e., collision and electrocution) and indirect impacts (i.e., habitat-based).

Bird electrocutions may occur due to a combination of biological, environmental, and electrical design factors, including habitat type, bird species, body size, behavior, distribution, abundance, and prey availability. Most electrocutions are of raptors, particularly golden eagles (Loss et al. 2014). Electrocutions occur primarily at distribution lines (small power lines with voltages <60 kilovolts) when a bird completes a circuit by touching fleshy parts (e.g., wrist, feet, bill) to two energized parts or an energized and grounded part (Avian Power Line Interaction Committee [APLIC] 2024, 2025; Lehman 2001; Lehman et al. 2007). Electric power lines of 69 kilovolts and above pose a very low risk of electrocution because the lines are designed with sufficient spacing between conductors (electric wires or lines) such that phase to phase or phase to ground contact is not generally possible (APLIC 2024). Low-voltage electric power lines, including overhead collection lines, have closer conductor spacing, which presents a greater electrocution hazard to larger avian species (APLIC 2024, 2025). APLIC provides electric utilities, wildlife agencies, and other stakeholders with suggested practices, guidance,

and recommendations for reducing electrocutions by using retrofitting measures or implementation of bird-safe standards at new construction.

Most collisions with overhead lines involve large birds with less maneuverability (e.g., waterfowl and other large waterbirds); however, passerines and raptors may also be susceptible (APLIC 2012). Migrating passerines are particularly susceptible to tower/guy wire collision because they are attracted to lights on the towers. Most overhead line collisions occur with the smallest diameter wire, which is typically the shield (or static) wire located above the phase conductors on transmission lines or the phase conductor and neutral wire on distribution lines (APLIC 2012). Power line spans in collision risk areas may be marked with diverters to reduce the risk (APLIC 2012, 2025).

Indirect impacts may include displacement of individuals from suitable habitat and demographic effects due to habitat fragmentation, habitat modification (e.g., changes to prey resource availability), or disturbance from construction. Construction activities would be short term. Once construction is completed, it is expected that wildlife would return to the area and resume normal behavior patterns.

Potential impacts to rare/endangered wildlife and areas of biological wealth will be mitigated by implementing minimization measures as described below. All minimization measures are summarized in the Minimization Measures section.

Areas of Biological Wealth

THE LITTLE COLORADO RIVER

The Interconnection Project will span the Little Colorado River, with structures located on either side of the canyon. No disturbance is proposed within the canyon or the river. The Applicant proposes to construct up to either side of the canyon and string the lines via aerial means, such as by helicopter or large crane.

As there will be no disturbance within the Little Colorado River, aquatic species using the river will not be directly impacted by the project; however, project construction on the rim of the canyon may contribute to sedimentation via stormwater runoff. To minimize sedimentation of the Little Colorado River, the Applicants will use erosion control measures as part of a Stormwater Pollution Prevention Plan (SWPPP). Areas of temporary disturbance will be revegetated in accordance with the vegetation/habitat restoration plan that will be developed as part of the Apache County permitting process for the Wind Facility.

Terrestrial species using the Little Colorado River and associated canyon could be impacted by construction activities. Such impacts may include displacement of individuals, temporary impacts on foraging or nesting behaviors, and noise-related disturbance. These impacts would generally cease after project construction.

In addition to impacts by construction activities, avian species that move along the riparian corridor may also collide with the Interconnection Project once constructed. To minimize risk of collision and electrocution, the Applicants will construct the proposed transmission line following the guidelines outlined in *Suggested Practices For Avian Protection on Power Lines: State of the Art in 2024* (APLIC 2024) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012), as feasible. Key avian-safe design elements identified by APLIC include installing line-marking devices (also known as diverters) in collision risk areas, removing ground wires, spacing energized and grounded parts appropriately, and capping energized parts. The Applicants will install bird diverters over the Little Colorado River crossing to further minimize the risk of avian collision.

OTHER WILDLIFE MOVEMENT AREAS AND CONSERVATION OPPORTUNITY AREAS

Construction activities may discourage wildlife movements within the Study Area due to human presence and noise-related disturbance. These impacts would generally be limited to the construction phase of the project. The project will be permeable in the long term, as towers will be separated by up to 1,200 feet, and fencing will be minimal and limited to areas of the most human activity (such as the four project substations) for security purposes.

The Coyote-Mamie terrestrial COA follows Coyote Creek in the Study Area, and the Interconnection Project proposes to span Coyote Creek. Available wildlife habitat within this COA would be slightly reduced by the permanent infrastructure of the Interconnection Project, and construction activities may discourage wildlife movements through the COA during construction due to human presence and noise-related disturbance. Avian species that move along the Coyote Creek riparian corridor may also collide with the Interconnection Project once constructed. The Applicants would implement APLIC guidelines as described above and would install bird diverters over the Coyote Creek crossing to further minimize the risk of avian collision. The Applicants would also implement erosion control measures as part of a SWPPP to minimize potential sedimentation from runoff into Coyote Creek.

Endangered Species Act-Listed and Proposed Species

LITTLE COLORADO RIVER SPINEDACE

The Interconnection Project will not directly disturb the Little Colorado River, as described above. Project construction on the rim of the canyon may contribute to sedimentation via stormwater runoff. The Applicants would implement erosion control measures as part of a SWPPP to minimize sedimentation.

MEXICAN WOLF

Dispersing Mexican wolves may experience temporary displacement or corridor impermeability during construction. Such effects are expected to be minor because the Study Area is outside of the species' core range and construction activities would not preclude individuals using adjacent habitats. Essential breeding activities would not be affected.

MEXICAN SPOTTED OWL

Though only some individuals move to lower elevations or migrate short distances in the winter and foraging, dispersal, and wintering habitat associations are ubiquitous in the region, limited use of the Study Area by the owl cannot be ruled out. Dispersing or wintering spotted owls may experience temporary displacement or impermeability during construction if construction activities are from October through March. However, any movements would likely occur at night (outside of construction timing). Effects are expected to be minimal because the Study Area is far from known PACs; essential breeding and sheltering activities would not be affected. Dispersing and wintering individuals may be at risk of collision during project operations, particularly along the Little Colorado River corridor. The Applicants will follow APLIC guidelines and install bird diverters over the Little Colorado River crossing to minimize the risk of collisions.

MONARCH BUTTERFLY

Project activities would not affect the ability of monarchs to migrate, forage, or disperse through the area, and impacts to individual monarchs would be limited to minor behavioral changes in individuals to avoid

construction equipment that could lead to collisions or in response to the removal of nectar sources during ground disturbance activities. Individuals would be expected to avoid the area and shift their activities to migratory or dispersal habitat outside of the CEC Corridor.

If the species becomes listed, the Applicants will evaluate the need for additional effects analysis associated with the new USFWS guidance, including any applicable survey needs, minimization measures, or permitting requirements at that time.

SOUTHWESTERN WILLOW FLYCATCHER AND YELLOW-BILLED CUCKOO

Both species may use the Little Colorado River corridor as a migration pathway; however, no breeding habitat for either species is present within the Study Area. Southwestern willow flycatcher may be present between May and September, and yellow-billed cuckoos may be present between May and October. Effects would include disturbance due to noise and activity from the presence of humans and equipment during the construction period. These effects would generally cease at the end of construction. During project operations, potential effects include risk of collisions with transmission lines. The Applicants will follow APLIC guidelines and install bird diverters over the Little Colorado River crossing to minimize the risk of collisions.

Other Special-Status Species

Terrestrial Wildlife Species – Interconnection Project construction activities could cause death or injury to terrestrial wildlife species that may not be able to flee from heavy equipment or vehicular traffic, with a higher likelihood of these impacts for individuals of species that are small or fossorial. To reduce the potential of negative effects to species through collisions, worker awareness trainings and low speed limits will be taken into consideration. To minimize impacts to fossorial species, if trenching is included as part of Interconnection Project construction, the following measures will be implemented as feasible to minimize injury to wildlife: when trenches cannot be backfilled immediately, escape ramps, which can be short lateral trenches or wooden planks sloping to the surface, would be constructed at least every 90 meters; trench slopes could be less than 45 degrees (1:1); and any trenches left open overnight would be inspected to remove wildlife prior to backfilling. Interconnection Project construction could cause behavior changes, as it would be expected that individuals would flee from an increase in noise, vibration, and human presence within the Interconnection Project vicinity. Individuals are expected to flee or hide, depending on the life history of the species, which could increase depredation, decrease foraging success, reduce reproductive success, or result in loss of fitness for that individual from increased metabolic output.

American pronghorn, a SGCN Tier 2 species, is known to occur in the Study Area and has been identified through coordination with AZGFD as a species of concern for the project (see Exhibit H). Construction activities may discourage pronghorn movements, foraging, and fawning (May to mid-June) within the Interconnection CEC Corridor during construction. These impacts would be short term and localized. To minimize impacts to pronghorn during fawning season, construction schedule modifications will be implemented as feasible to reduce the amount of area disturbed at any given time. The project will be permeable in the long term, as towers will be separated by up to 1,200 feet, and fencing will be minimal and limited to substations for security purposes.

Aquatic Wildlife Species – The only perennial source of water in the Study Area is the Little Colorado River. As described above, no disturbance is proposed within the river or associated canyon. Project construction on the rim of the canyon may contribute to sedimentation via stormwater runoff. The Applicants would implement erosion control measures as part of a SWPPP to minimize sedimentation.

Birds – During the construction phase of the Interconnection Project, active nests, eggs, and nestlings may be damaged. If vegetation-disturbing activities are planned during the migratory bird nesting season (March–September for most bird species or January–June for raptors), preconstruction surveys for migratory bird nests by a qualified biologist will be conducted to reduce impacts to nesting birds and to comply with the Migratory Birt Treaty Act (MBTA). Scavenging birds, particularly eagles, may be struck by construction vehicles. During operations, potential threats to birds, particularly eagles and other raptors, include risk of collisions with transmission lines and electrocution. The Applicants will implement APLIC guidelines and install bird diverters over the Little Colorado River and Coyote Creek crossings to minimize the risk of collisions and electrocutions.

In 2021 and 2022, there were occupied golden eagle nests approximately 0.5 mile north of the Study Area (SWCA 2022b). The USFWS recommends a disturbance buffer of 1 mile for golden eagles (USFWS 2024c). As the Interconnection Project is more than 1 mile from known nests, additional buffers would not be required. In the event a new in-use[2] eagle nest is found prior to or during construction within the species-specific recommended buffers, the Applicants will implement a temporal (and spatial) buffer during the eagle nesting season (February through July) or consider a disturbance permit (USFWS 2024c).

Bats – Bats may experience temporary displacement or corridor impermeability during construction; however, these impacts are anticipated to be minimal because there are no known maternity colonies or bat migration corridors, and movements would be at night, outside of construction activities. Bats also may be impacted by collision with the lines; however, the etiology of bat-wire collisions and efficacy of minimization measures is not well studied (Manville 2016).

State-Protected Native Plants – Potential effects of the proposed Interconnection Project on state-protected plant species include direct removal during vegetation clearing activities or crushing by heavy equipment and vehicles. In accordance with the ANPL requirements on state lands, the Arizona Department of Agriculture will be notified 60 days before plants are destroyed.

The Arizona State Land Department (ASLD) requires a Native Plant Inventory be conducted in areas of ground disturbance on state lands. This includes counting ASLD-valued species, most of which are also ANPL species. A Native Plant Inventory was conducted on state lands for the Interconnection Project in accordance with ASLD requirements, and the corresponding report will be submitted to ASLD for review.

Minimization Measures

The Applicants have coordinated with the AZGFD regarding the Interconnection Project, the Wind Facility, and the Solar Facility, and the AZGFD has provided recommendations to minimize impacts to wildlife. The AZGFD recommendation letters and the Applicants' responses can be found in Exhibit H. The following minimization measures relevant to the Interconnection Project are included below. For minimization measures for general vegetation and wildlife, see Exhibit D.

To minimize sedimentation of the Little Colorado River, the Applicants will use erosion control measures as part of a SWPPP. Areas of temporary disturbance will be revegetated in accordance with the vegetation/habitat restoration plan that will be developed as part of Apache County permitting for the Wind Facility.

[2] An *in-use nest* is a bald eagle or golden eagle nest that contains one or more viable eggs or dependent young, or, for golden eagles only, has had adult eagles on the nest within the past 10 days during the breeding season (USFWS 2024c).

To minimize risk of collision and electrocution, the Applicants will construct the proposed transmission line following the guidelines outlined in *Suggested Practices For Avian Protection on Power Lines: State of the Art in 2024* (APLIC 2024) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012), as feasible. Key avian-safe design elements identified by APLIC include installing line-marking devices (also known as diverters) in collision risk areas, removing ground wires, spacing energized and grounded parts appropriately, and capping energized parts. The Applicants will install bird diverters over the Little Colorado River crossing and Coyote Creek to further minimize the risk of avian collision, including by rare and ESA-listed bird species.

If vegetation-disturbing activities are planned during the migratory bird nesting season (March–September for most bird species or January–June for raptors), preconstruction surveys for migratory bird nests by a qualified biologist will be conducted to reduce impacts to nesting birds and to comply with the MBTA.

The Applicants have already conducted eagle nest surveys. The surveys indicated that no eagle nests will be disturbed (i.e., bald eagle nests are more than 660 feet and golden eagle nests are more than 1 mile from the Interconnection Project) (USFWS 2024c). In the event a new in-use eagle nest is found prior to or during construction within the species-specific recommended buffers, the Applicants will implement a temporal (and spatial) buffer during the eagle nesting season (February through July) or consider a disturbance permit (USFWS 2024c).

To minimize impacts to pronghorn during fawning season (May to mid-June), construction schedule modifications will be implemented as feasible to reduce the amount of area disturbed at any given time.

Fencing associated with the Interconnection Project will be minimized to the maximum extent practicable and will follow the recommendations in the AZGFD's *Wildlife Compatible Fencing Guidelines* (AZGFD 2011), as applicable and feasible.

If trenching is required for Interconnection Project construction, the following measures will be implemented as feasible to minimize injury to wildlife: when trenches cannot be backfilled immediately, escape ramps, which can be short lateral trenches or wooden planks sloping to the surface, would be constructed at least every 90 meters; trench slopes could be less than 45 degrees (1:1); and any trenches left open overnight would be inspected to remove wildlife prior to backfilling.

To minimize habitat degradation and fragmentation by the number and extent of new roads, the Applicants will follow existing road alignments or existing two track paths as the preferred option. New roads as well as areas of temporary disturbance created as part of the Interconnection Project will be revegetated in accordance with the vegetation/habitat restoration plan that will be developed as part of Apache County permitting for the Wind Facility.

For personnel safety and wildlife welfare, if injured or otherwise at-risk wildlife is encountered, wildlife specialists will be notified to assist in relocating the wildlife as needed.

To reduce the potential of negative effects to species through collisions, worker awareness trainings and low speed limits will be taken into consideration.

Conclusion

The Interconnection Project and Study Area intersect five areas of biological wealth. The Interconnection Project crosses the Little Colorado River, which is a perennial river and important riparian corridor that facilitates the movement and provides habitat for protected and non-protected species. No disturbance is proposed within the Little Colorado River or its associated canyon; construction and infrastructure will be

limited to the rim of the canyon. The proposed minimization measures listed above will reduce any impacts to wildlife using the Little Colorado River.

Three additional wildlife movement areas intersect the Interconnection Project. The Interconnection Project may discourage wildlife movements during the construction period; however, the project will be permeable to wildlife movement in the long term. The proposed minimization measures listed above will reduce impacts to wildlife movement during the construction period.

The Interconnection Project also crosses Coyote Creek, which is within the Coyote-Mamie COA. The Interconnection Project may discourage wildlife use during the construction period; however, the project will be permeable to wildlife movement and use in the long term. The proposed minimization measures listed above will reduce any impacts to wildlife using the Coyote Creek.

Four ESA-listed species, one proposed threatened species, and one nonessential experimental population may occur within the Study Area. Additionally, no designated critical habitat for any of these species occurs within the limits of the Study Area. With the proposed minimization measures, the Interconnection Project is not likely to significantly affect these six species. The Interconnection Project also has the potential to have minor impacts on non-ESA-listed special-status amphibian, bird, fish, mollusk, and mammal species. The proposed minimization measures listed above will reduce impacts to these species.

Table C-2. Other Special-Status Species with the Potential to Occur in the Study Area

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Amphibians				
Arizona toad (*Anaxyrus microscaphus*)	–	SGCN Tier 2	Riparian habitats containing shallow, flowing, permanent water over sandy or rocky substrates, typically in river canyons or foothill streams below 8,000 feet. Range in Arizona extends northwest to southeast through central portions of the state, including below the Mogollon Rim.	May occur. The Little Colorado River, where it crosses the Study Area, is within the species' predicted range.
Chiricahua leopard frog (*Rana chiricahuensis*)‡	T	SGCN Tier 1	Permanent or semi-permanent springs, stock tanks, lakes, streams, and rivers free of or containing low densities of nonnative predators at elevations between 3,200 and 8,900 feet. Emergent and perimeter vegetation provide substrate for egg deposition, thermoregulation, and invertebrate fauna for foraging. The species is often excluded from ephemeral habitats. The species' current range includes central, east-central, and southeastern portions of Arizona.	Unlikely to occur. Though AZGFD (2025a) indicates the Study Area is within the potential range of the species, the current USFWS range of the species is approximately 10 miles south of the Study Area (AZGFD 2023; USFWS 2025b). Nearest critical habitat is approximately 27 miles to the south (Deer Creek).
Lowland leopard frog (*Lithobates [Rana] yavapaiensis*)	–	SGCN Tier 1	Aquatic habitats associated with big rivers, streams, cattle tanks below 6,000 feet. The known range includes central Arizona below the Mogollon Rim and the southeastern corner of the state. The historical range included the Lower Colorado River Basin and the Gila River.	Unlikely to occur. Study Area is outside the known and historical range of the species.
Northern leopard frog (*Lithobates [Rana] pipiens*)	–	SGCN Tier 1	Variety of habitats usually in permanent waters with rooted aquatic vegetation from sea level to 11,000 feet. In Arizona, limited to stock tanks, wildlife waters, and a lake below the Mogollon Rim on the Coconino National Forest. Historic range includes northern and central portions of the state.	May occur. Study Area is within the species' predicted range and contains limited habitat associations (ephemeral stock tanks/playas).
Birds				
American goshawk (*Accipiter [Astur] atricapillus*)		SGCN Tier 2	Ponderosa pine forests; may also use Douglas-fir, various pine, and aspen forests. May hunt in habitats ranging from open sage steppes to dense forests. Year-round range includes roughly the eastern half of Arizona; non-breeding range includes roughly the western half of the state.	May occur. Study Area is within the species' year-round range and contains appropriate hunting habitats. Ponderosa forests are present just south of the Study Area.
American kestrel (*Falco sparverius*)	–	SGCN Tier 2	Variety of open to semi-open habitats including grasslands, deserts, open parkland, and agricultural fields. Year-round range includes all of Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
American peregrine falcon (*Falco peregrinus anatum*)	–	SGCN Tier 1	Found in a variety of biomes; generally associated with cliffs and open landscapes. Year-round range includes almost all of Arizona. Breeding and migration range includes north-central portion of the state.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
American pipit (*Anthus rubescens*)	–	SGCN Tier 2	Breeds in alpine meadows. During migration and non-breeding seasons, uses variety of open habitats including marshes, pastures, mudflats, and river courses. Non-breeding range includes most of Arizona; migration range includes the northern extreme of the state. Breeds in isolated locations in north-central and southeastern portions of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Bald eagle (*Haliaeetus leucocephalus*)	BGEPA	SGCN Tier 1	Found in areas with open water or, in arid regions, areas with available secondary prey (small birds, rodents, and carrion) and roost sites. Nests are placed in large coniferous trees or cliffs typically less than 1 mile from appropriate aquatic foraging conditions. Winter roosts are in large trees which tend to be located near aquatic foraging sites. Non-breeding eagles range throughout Arizona except for the south-central portion of the state; breeding eagles occur in limited, fragmented locations of central, east-central, and west-central portions of the state.	Known to occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023). Nesting and roosting habitats are not present within the Study Area. The nearest known bald eagle nest is approximately 5 miles south of the Study Area near Becker Lake (SWCA 2022a, 2022b).
Bendire's thrasher (*Toxostoma bendirei*)	BCC	SGCN Tier 2	Desert habitats: open grassland, shrubland, or woodland with scattered shrubs or trees from sea level to approximately 6,000 feet. Breeding range includes northern two-thirds of Arizona; year-round range includes southern third of the state.	May occur. Study Area is within the species' breeding range and contains appropriate habitat associations.
Black-chinned sparrow (*Spizella atrogularis*)	BCC	SGCN Tier 2	Arid brushlands on slopes of chaparral, sagebrush, and pinyon-juniper from sea level to 9,000 feet. Breeding range includes northwestern, central, and east-central portions of Arizona. Non-breeding range includes southeastern and southwestern portions of the state.	May occur. Study Area is within the species' breeding range and contains limited habitat associations.
Black-throated gray warbler (*Setophaga nigrescens*)	BCC	SGCN Tier 2	Open coniferous or mixed coniferous-deciduous woodland with brushy undergrowth, pinyon-juniper and pine-oak associations, and oak scrub. Breeding range includes northern and eastern Arizona; migration range includes central and southwestern portions of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Brewer's sparrow (*Spizella breweri*)	–	SGCN Tier 2	Shrublands dominated by big sagebrush. May occur in desert scrub, large openings in pinyon-juniper, or large parklands with coniferous forests. Breeds in northern Arizona. Migration-only range includes small portion of east-central Arizona. Non-breeding range includes west-central and southern portions of the state.	Known to occur. Species documented within Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Broad-tailed hummingbird (*Selasphorus platycercus*)	BCC	SGCN Tier 2	Breeds in open woodland, especially pine, pine-oak, pinyon-juniper, and conifer-aspen associations, brushy hillsides, montane scrub, and thickets. Breeding range fragmented throughout Arizona except for southwestern extreme of the state. Migrants may occur throughout Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the Wind Facility (SWCA 2023).
Bullock's oriole (*Icterus bullockii*)	–	SGCN Tier 2	Most common in riparian cottonwoods mixed with willows; also in sycamores, walnuts, ashes, pinyon-juniper, and evergreen oak woods. Migration-only range in west-central and southwestern portions of Arizona. Breeds in eastern and northern portions of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Canyon towhee (*Melozone fusca*)	–	SGCN Tier 2	Desert grasslands with scattered, dense shrubs; riparian mesquite bosques; pinyon-juniper-oak; and pine-oak. Year-round range includes west-central, central, and eastern portions of Arizona.	Known to occur. Species documented within Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Cassin's finch (*Haemorhous cassinii*)	–	SGCN Tier 2	Open coniferous forests across broad elevational range including ponderosa pine and pinyon pine associations. Non-breeding range includes central, east-central, and southeastern portions of Arizona; year-round range includes north-central and northeastern portions of the state.	May occur. Study Area is within the non-breeding range of the species and contains suitable pinyon pine habitats.

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Chestnut-collared longspur (*Calcarius ornatus*)	BCC	SGCN Tier 2	Frequents desert grasslands dominated by low grasses and forbs; flocks around isolated water sources. Tends to be more abundant in habitat where prairie dog colonies are present. Non-breeding range includes east half of Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Clark's grebe (*Aechmophorus clarkii*)	–	SGCN Tier 2	Occurs on freshwater lakes and marshes bordered by emergent vegetation. Breeding areas have large areas of open water. When migrating over land, may stop on small, fishless bodies of water. Breeding range includes most of Arizona; migration range includes very southern Arizona along the border with Mexico.	May occur. Study Area contains marginally suitable habitats (seasonally flooded stock tanks and playas) that may be used by migrating birds.
Common nighthawk (*Chordeiles minor*)	–	SGCN Tier 2	Found in a variety of open habitats, including sagebrush and desert grassland, prairies and plains, open forests, croplands, rock outcrops, and gravel rooftops. Breeding range includes northeastern and southeastern Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Evening grosbeak (*Coccothraustes vespertinus*)	BCC	SGCN Tier 2	Mixed-conifer and spruce-fir forests; less common in pine-oak, pinyon-juniper, ponderosa pine, and aspen forests. In winter, flocks typically observed in pinyon-juniper and ponderosa pine ecotone. Year-round (scarce) range includes northeastern Arizona; non-breeding (scarce) range includes central, west-central, northwestern, and southeastern portions of the state.	May occur. Study Area is within the species' year-round (scarce) range and contains limited pinyon-juniper and ponderosa pine habitats.
Ferruginous hawk (*Buteo regalis*)	–	SGCN Tier 2	Inhabits grasslands, shrub steppe, pinyon-juniper, sparse riparian forests, and canyon areas with cliffs and rock outcrops. Year-round range includes roughly the northern half of Arizona; wintering range includes roughly the southern half of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Flammulated owl (*Psiloscops flammeolus*)	BCC	SGCN Tier 2	Open, mature ponderosa pine or other forest (e.g., dry montane conifer, aspen) with similar features, often with oak, dense saplings, or other brushy understory. Where ponderosa pine is absent, may favor Douglas-fir, true fir, of other tall pines (e.g., limber pine). Less frequent in pinyon-juniper woodlands with scattered stands of ponderosa pine. May use riparian habitats in the spring. Breeding range includes central to east-central Arizona and fragmented locations of southeastern and northwestern portions of the state.	May occur. Study Area is within the breeding range of the species and contains habitats that are less frequented by the species (pinyon-juniper woodlands and riparian).
Golden eagle (*Aquila chrysaetos*)	BGEPA	SGCN Tier 2	Mountainous canyon land, rimrock terrain of open desert, grassland, and forested areas. Nests are placed in rugged terrain (e.g., cliffs); less often in forested areas (e.g., tall trees), and on human-made structures (e.g., transmission towers). Year-round range includes all of Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the Wind Facility (SWCA 2023). The nearest golden eagle nests are approximately 0.5 mile north of the Study Area within the Little Colorado River canyon (SWCA 2022b).
Gray flycatcher (*Empidonax wrightii*)	–	SGCN Tier 2	Open woodlands and shrub steppe including pinyon-juniper, sagebrush, and saltbush associations. Breeding range includes north-central and northeastern Arizona. Non-breeding range includes small portion of southeastern Arizona. Migrates elsewhere in the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Gray vireo (*Vireo vicinior*)	–	SGCN Tier 2	Mixed pinyon-juniper and oak scrub associations and/or chaparral. Breeding range includes northern, central, and eastern Arizona; non-breeding range includes south-central portion of the state.	May occur. Study Area is within the breeding range and contains pinyon-juniper woodlands.
Hermit thrush (*Catharus guttatus*)	–	SGCN Tier 2	Breeds in coniferous, deciduous, and mixed forest types including pine, Douglas-fir, pinyon-juniper, oaks, and aspen. Migrates in forest edges, second-growth woodlands, and deserts, near water. Breeds in northern Arizona. Year-round range includes central and southern portions of the state. Migration-only range includes west-central and southwestern portions of the state. Non-breeding range includes south-central and western border of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Horned lark (*Eremophila alpestris*)	–	SGCN Tier 2	Ubiquitous species of open grassland, shrub steppe, and agricultural fields. Prefers bare ground and low vegetation, avoids forests. Year-round range includes all of Arizona. Occurs in large groups in winter.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the Wind Facility (SWCA 2023).
Lewis's woodpecker (*Melanerpes lewis*)	BCC	SGCN Tier 2	Ponderosa pine and open riparian forests dominated by cottonwood with brushy understory and dead or downed woody material; may also use oak, pinyon-juniper, and pine-fir woodlands, and nut and fruit orchards. Year-round range includes northeastern portion of Arizona. Non-breeding range includes northwestern, central, and southeastern portions of the state.	May occur. Study Area is within the breeding range and contains pinyon-juniper woodlands and limited riparian conditions.
Lincoln's sparrow (*Melospiza lincolnii*)	–	SGCN Tier 2	Uses shrub-dominated habitats, particularly riparian sites, but also brushy forest edges and weedy fields during migration. Migration-only range includes northeastern portion of Arizona; non-breeding range includes the rest of the state. Isolated breeding locations are known in north-central and east-central portions of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Loggerhead shrike (*Lanius ludovicianus*)	–	SGCN Tier 2	Open country with short vegetation: pastures with fence rows, agricultural fields, riparian areas, and open woodlands. Year-round range includes all of Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Long-eared owl (*Asio otus*)	BCC	SGCN Tier 2	Open forests and dense vegetation adjacent to grasslands or shrublands. Rare breeding and wintering range in Arizona.	May occur. Study Area is within the species' year-round (rare) range and contains appropriate habitat conditions.
MacGillivray's warbler (*Geothlypis tolmiei*)	–	SGCN Tier 2	Breeds in mixed deciduous forests or coniferous forest clearcuts. Migrates through mountain shrublands, riparian woodlands, mixed pine-deciduous forests, and agricultural margins. Migrates throughout Arizona with isolated breeding locations in north-central, east-central, and northern extreme of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Mountain plover (*Charadrius montanus*)	–	SGCN Tier 2	Short-grass prairie dominated by blue grama; also, fallow or recently tilled agricultural fields. Often associated with prairie dog colonies. In migration, can use alkaline or mud soils. Non-breeding range includes central and southern portions of Arizona.	May occur. Study Area contains appropriate habitat associations and is within the species' breeding extent (AZGFD 2025f). Nearest documented record is from 1996, approximately 2 miles south of the Study Area. More recent records exist approximately 50 miles northeast of the Study Area.

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Northern harrier (*Circus hudsonius*)	–	SGCN Tier 2	Occurs in open wetlands and dry uplands, including prairies, grasslands, and shrub steppes. Breeding range includes northern Arizona, non-breeding range includes southern Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Northern pygmy-owl (*Glaucidium gnoma californicum*)	–	SGCN Tier 2	Many forest types including mesic Douglas-fir, mixed-conifer, ponderosa pine, western juniper, and Madrean pine-oak forests. Year-round range includes fragmented portions of central, eastern, northern, and southeastern Arizona.	May occur. The Study Area is within the year-round range and contains pinyon-juniper woodlands.
Olive-sided flycatcher (*Contopus cooperi*)	BCC	SGCN Tier 2	Openings or edges of coniferous forests, particularly burned ponderosa forests in Arizona; also, coniferous-deciduous forests and forested edges of wetlands. Very infrequent in pinyon-juniper habitats. In migration use greater diversity of habitats including substantially more riparian and non-coniferous forests. Breeding range includes central band following the Mogollon Rim of Arizona; migration range elsewhere in the state.	May occur. Study Area is on the edge of the species' breeding and migration ranges. The species may occur as a migrant (Little Colorado River riparian conditions) or infrequently during the breeding season (pinyon-juniper woodlands).
Phainopepla (*Phainopepla nitens*)	BCC	–	Desert riparian, desert washes, and adjacent mesquite belts; closely associated with desert mistletoe. Breeding-only range includes central band from east-central to northwestern Arizona. Year-round range includes west-central and southern portions of the state.	May occur. Study Area is on the northern edge of the species' breeding range. The Little Colorado River and Coyote Creek may provide appropriate habitat conditions.
Pinyon jay (*Gymnorhinus cyanocephalus*)	UR, BCC	SGCN Tier 2	Breeding flocks use pinyon-juniper woodland most extensively, but may also use sagebrush (Artemesia spp.), scrub oak (Quercus spp.), and chaparral communities. Year-round home ranges can encompass several thousand acres and include various vegetation types, mainly pinyon pine woodland, sparse and dense pinyon-juniper woodlands, juniper woodland and savanna, sagebrush shrubland, and ponderosa pine woodland (Johnson and Balda 2020; Johnson and Sadoti 2023). The species breeds in Arizona from approximately mid-February through the end of May (Colegrove et al. 2023).	May occur. Study Area is within the species' year-round range and contains appropriate breeding habitat conditions. It has been documented by SWCA biologists within the adjacent Wind Facility area during preconstruction avian use surveys (SWCA 2023).
Plumbeous vireo (*Vireo plumbeus*)	BCC	–	Montane coniferous and mixed forests including deciduous riparian, ponderosa pine, and pinyon-juniper. Breeding range includes northern and eastern portions of Arizona, winters in south-central portion of state.	May occur. Study Area is on the northern edge of the species' breeding range and contains appropriate habitat associations.
Prairie falcon (*Falco mexicanus*)	–	SGCN Tier 2	Open shrub steppe desert, grasslands, mixed shrub and grasslands, and alpine tundra containing cliffs or bluffs for nesting. Year-round resident throughout Arizona except for southwestern border of the state.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Red-faced warbler (*Cardellina rubrifrons*)	BCC	SGCN Tier 2	Montane fir, pine, and open pine-oak forests between 6,500 and 9,100 feet; may contain other deciduous trees (e.g., maple, aspen) in stream and snow melt drainages. Breeding range includes central and southeastern Arizona.	Unlikely to occur. Study Area is on the northern edge of the breeding range of the species; appropriate habitat conditions are found south of the Study Area in the Apache-Sitgreaves National Forests.
Red-winged blackbird (*Agelaius phoeniceus*)	–	SGCN Tier 2	Marshes, meadows, and old fields. Year-round range throughout Arizona except for non-breeding range on southwestern border of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Sage thrasher (*Oreoscoptes montanus*)	–	SGCN Tier 2	Shrub steppe dominated by big sagebrush. Migrates in arid shrublands, grassland with scattered shrubs, and open pinyon-juniper. Non-breeding range includes central, west-central and southern portions of the state. Breeds in the northeastern portion of the state. Migration-only range includes narrow band between the breeding and non-breeding range from east-central to northwestern Arizona.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Savannah sparrow (*Passerculus sandwichensis*)	–	SGCN Tier 2	Open, grassy meadows, cultivated fields, grazed pastures, and roadsides. The species' breeding range includes northeastern Arizona; the remainder of the state is within its non-breeding range.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Scaled quail (*Callipepla squamata*)	–	SGCN Tier 2	Mixed desert grasslands and shrublands, often interspersed with agricultural areas. Also found in disturbed areas having an abundance of annual forbs. Year-round range includes southeastern Arizona.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Scott's oriole (*Icterus parisorum*)	BCC	SGCN Tier 2	Live-oak foothills, high-elevation grasslands, and pinyon pine; closely associated with yucca in Arizona. Breeding range includes northern, western, southern and portions of eastern Arizona.	May occur. Study Area is in the limited breeding range of the species in eastern Arizona and contains pinyon pine habitats.
Swainson's hawk (*Buteo swainsoni*)	–	SGCN Tier 2	Grasslands, sparse shrublands, open woodlands, and agricultural landscapes. Migrates and breeds throughout Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Swainson's thrush (*Catharus ustulatus*)	–	SGCN Tier 2	Habitat used during migration includes desert habitats, canyon bottoms and riparian areas. Migration range of the species includes all of Arizona.	May occur. Study Area is in the migration range of the species and contains suitable habitats.
Townsend's solitaire (*Myadestes townsendi*)	–	SGCN Tier 2	Coniferous forest with various dominant species of pines (e.g., ponderosa pines), hemlocks, firs, and spruces from 1,000 to 12,000 feet. Less common in mixed coniferous-deciduous forests. Primary non-breeding habitats are juniper and pinyon-juniper woodlands. Year-round range includes northeastern Arizona. Non-breeding range includes northwestern, central, and southeastern portion of the state.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Vesper sparrow (*Pooecetes gramineus*)	–	SGCN Tier 2	Dry, open grasslands and shrublands including semi-desert grasslands, sagebrush steppe, old fields, and woodland edges. Breeding range includes northern half of the state. Non-breeding range includes southern half of the state.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Virginia's warbler (*Leiothlypis virginiae*)	BCC	SGCN Tier 3	Breeds in a variety of scrub-woodlands with dense understory vegetation, including oak, pinyon-juniper, and mixed-conifer forests. Commonly seen in pine habitats and riparian corridors during spring and fall migration. Migration range includes southeastern and central portions of the state; breeding range includes fragmented locations through the state except for southwestern Arizona.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Western burrowing owl (*Athene cunicularia hypugaea*)	–	SGCN Tier 2	Open, gently sloping, treeless areas within sparsely vegetated grassland, steppe, and desert biomes. Often associated with high densities of burrowing mammals such as prairie dogs. Year-round range includes southern half of Arizona; breeding range includes northern half of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Western flycatcher (*Empidonax difficilis*)§	BCC	–	Water courses of pine, fir, and spruce forests. In Arizona, uses snowmelt drainages with canopy of aspen, fir, ponderosa pine, Gambel's oak, canyon maple, and New Mexican locust. Breeds in northern and eastern portions of the state. Non-breeding range includes south-central portion of the state. Migration-only range includes southwestern and west-central portions of the state.	May occur. Study Area is within the species' breeding range but does not contain breeding habitat. The species may occur as a migrant along the Little Colorado River. Nearest breeding habitat is in the adjacent Wind Facility area and Apache-Sitgreaves National Forests.
Western grebe (*Aechmophorus occidentalis*)	BCC	SGCN Tier 2	Breeds on freshwater lakes and marshes with extensive areas of open water bordered by emergent vegetation. Migrates overland, stopping on various bodies of open water, preferring ones with fish. Migration range includes east-central and northeastern portions of Arizona; winters in central and western portions of the state; limited year-round range in central portion of the state.	May occur. Study Area is with species' migration range and on the edge of the species' non-breeding range. Flocks are commonly observed at Lyman Lake and Becker Lake. There is limited open water habitat in the Study Area but migrants may fly over.
Western screech-owl (*Megascops kennicottii*)	–	SGCN Tier 2	Diverse array of woodlands, especially riparian habitats, deciduous trees. In Arizona, found in mesquite washes, pinyon-juniper, ponderosa pine and other woodland types. Year-round range includes all of Arizona.	May occur. Study Area is within the year-round range and contains appropriate habitat associations.
White-crowned sparrow (*Zonotrichia leucophrys*)	–	SGCN Tier 2	Non-breeding individuals flock in grain fields, near roadsides, and near shrubs, brush, and dense weeds. Less reliant on standing water in non-breeding than during breeding season. In Arizona, breeds only in north-central and east-central portions of the state; non-breeding range throughout the state.	Known to occur. Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Woodhouse's scrub-jay (*Aphelocoma woodhouseii*)	–	SGCN Tier 2	Woodland (especially pinyon, juniper, and oak associations) and scrub habitats, also riparian woodland, and gardens. Year-round range includes all but southwestern and west-central portions of the state.	May occur. Species documented during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).
Fish				
Apache trout (*Oncorhynchus apache*)	–	SGCN Tier 1	Found in cool, clear, high-elevation streams and rivers. Individuals at all life stages use deep, slow pools with gravel and overhead vegetation cover. Endemic to the headwaters of the Little Colorado River in White Mountains of Arizona.	Unlikely to occur. Study Area is just outside of the current distribution of the species and does not contain suitable high-elevation streams or rivers with deep slow pools.
Bluehead sucker (*Catostomus discobolus discobolus*)	CCA	SGCN Tier 2	A variety of habitats including rocky riffles and runs of small to large rivers, including cold, clear streams and warm, turbid river from 2,000 to 6,800 feet. In Arizona, found in the Colorado River mainstem and Grand Canyon tributaries, including the Little Colorado River.	May occur. Species has been documented within 3 miles of the Study Area (AZGFD 2025a). Study Area is within the species' predicted range. The Little Colorado River may provide appropriate habitat conditions. Nearest species records appear to be within the Little Colorado River approximately 4 miles north and 8 miles south of the Interconnection Project Little Colorado River crossing.
Flannelmouth sucker (*Catostomus latipinnis*)	CCA	SGCN Tier 2	Restricted to large and moderately large rivers, with the larvae and young fish using slower moving, nearshore pools and eddies. In Arizona, found in the Colorado River and its larger tributaries, including the Little Colorado River.	May occur. Species has been documented within 3 miles of the Study Area (AZGFD 2025a), and the Little Colorado River may provide suitable habitat.

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Little Colorado sucker (*Catostomus* sp. 3)	CCA	SGCN Tier 2	Pools and riffles of creeks, small rivers, and impoundments from 670 to 7,400 feet. Endemic to the upper portion of the Little Colorado River and its north flowing tributaries in Coconino, Navajo, and Apache Counties.	May occur. Species has been documented within 3 miles of the Study Area (AZGFD 2025a). Study Area is within the species' predicted range. The species has been documented along the Little Colorado River from approximately 19 miles north to 13 southwest of the Interconnection Project Little Colorado River crossing, potentially within or adjacent to the crossing.
Invertebrates				
California floater (*Anodonta californiensis*)	–	SGCN Tier 1	Shallow areas of unpolluted lakes, reservoirs, and perennial streams with relatively stable water levels of low velocity flow regime from 4,000 to 8,700 feet. In Arizona, found in east-central portion of the state.	May occur. Study Area is within the species' predicted range, and the Little Colorado River may provide appropriate habitat conditions.
Diablo mountainsnail (*Oreohelix houghi*)	–	SGCN Tier 2	Other than being terrestrial, habitat requirements apparently not described. Other Oreohelix species in the region are found on steep slopes with cool microclimate and moist soils. The Diablo mountainsnail is known from Canyon Diablo on the Navajo Nation and the Yaeger Canyon/Diablo Canyon area near Meteor Crater.	Unlikely to occur. Study Area is outside the known range of the species.
Flowering Plants				
Banana yucca (*Yucca baccata*)	–	SR	Slopes and flats in a variety of soil types from 3,000 to 8,000 feet. Associated with pinyon-juniper, semi-desert grasslands with black grama, and desertscrub with creosote bush and shadscale. Widespread throughout the state.	Known to occur. The species was documented in the Study Area during preconstruction site visits (SWCA 2022a, 2025b).
Fendler's hedgehog cactus (*Echinocereus fendleri*)	–	SR	Sandy or gravelly soils in wide array of habitats between 3,000 and 8,000 feet. Range includes northern, northeastern, and southeastern Arizona.	Known to occur. Species was documented in the Study Area during preconstruction site visits (SWCA 2025b).
Narrowleaf yucca (*Yucca angustissima*)	–	SR	Desert flats and mesas, often in sandy habitats or sandstone outcrops from 3,000 to 7,500 feet. Associated with semi-desert, foothills, woodlands, canyons, and openings. Range includes northeastern Arizona.	Known to occur. Species was documented in the Study Area during preconstruction site visits (SWCA 2022a, 2025b).
Pale desert-thorn (*Lycium pallidum*)	–	SR	Variety of habitats on sandy or rocky soils between 2,500 and 7,500 feet. Widespread in Arizona above 2,500 feet.	Known to occur. Species was documented in the Study Area during preconstruction site visits (SWCA 2022a, 2025b).
Plains pricklypear (*Opuntia polyacantha*)	–	SR	Variety of habitats including semi-desert and foothill associations from 2,000 to 8,000 feet. Range includes northeastern, west-central, and southeastern portions of the state.	Known to occur. Species was documented in the Study Area during preconstruction site visits (SWCA 2022a).
Spinystar (*Escobaria vivipara*)	–	SR	Sandy and rocky soils in grasslands, woodlands, and forests from 4,500 to 8,300 feet. Range includes all of Arizona except for southwestern portion of state.	Known to occur. Species was documented in the Study Area during preconstruction site visits (SWCA 2022a, 2025b).
Tulip pricklypear (*Opuntia phaeacantha*)	–	SR	Sandy to rocky soils; deserts, chaparral and surrounding mountains, and plains below 7,000 feet. Range includes all of Arizona except for southwestern portion of state.	Known to occur. Species was documented in the Study Area during preconstruction site visits (SWCA 2025b).

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Whipple cholla (*Cylindropuntia whipplei*)	–	SR	Desert and plain grasslands, juniper woodlands, oak, pinyon, or pine forests, and sagebrush from 4,000 to 7,800 feet. Often in deep soils. Found in northern and southeastern Arizona.	Known to occur. Species was documented in the Study Area during preconstruction site visits (SWCA 2025b).
Mammals				
Allen's big-eared bat, Allen's lappet-browed bat (*Idionycteris phyllotis*)	–	SGCN Tier 2	Associated with cliffs, boulder piles, and lava flows of ponderosa pine, pinyon-juniper, Mexican woodland, and riparian areas; also in non-forested, arid habitats. Elevations from 1,300 to 9,800 feet. Day roosts include trees, rock shelters, caves, and mines. Ranges throughout Arizona except the southwestern portion of the state. Seasonal movements and winter whereabouts are unknown.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
American pronghorn (*Antilocapra americana americana*)	–	SGCN Tier 2	Inhabits grasslands, sagebrush plains, deserts, and foothills. In Arizona, range includes a narrow band of scattered populations from east-central through north-central and northwestern portions of the state. Also, a small, fragmented range in southeastern portion of the state.	Known to occur. Species has been observed within the Study Area during preconstruction field surveys.
Big free-tailed bat (*Nyctinomops macrotis*)	–	SGCN Tier 2	Rugged, rocky country. Roosts in rock crevices in cliffs, caves, and buildings, and occasional tree cavities. Associated with sage grassland, ponderosa pine-juniper, pine forest, desert scrub, and riparian habitats from 1,800 to 8,500 feet. Range includes all of Arizona; northern populations are migratory (winter in southern Arizona).	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
Black-footed ferret (*Mustela nigripes*)‡	EXPN, XN	SGCN Tier 1	Grassland plains on mountain basins in association with prairie dogs (*Cynomys* spp.). The Southwest Nonessential Experimental Population Area (SWEPA) for this species occurs over a large area of northern and central Arizona, primarily north of the Mogollon Rim (USFWS 2023b). Black-footed ferrets have been reintroduced at two sites in Arizona: Aubrey Valley/Double O Ranch (1996) and Espee Ranch (2007). The Espee Ranch introduction site population is currently unknown but likely extirpated due to plague. The Aubrey Valley/Double O Ranch reintroduction site contains the only known ferrets currently occurring in the SWEPA (USFWS 2023b).	Unlikely to occur; while the Study Area is within the SWEPA, the Aubrey Valley/Double O Ranch reintroduction site is more than 200 miles northwest of the Study Area (USFWS 2023b).
Brazilian free-tailed bat (*Tadarida brasiliensis*)	–	SGCN Tier 2	Wide variety of habitats from desert communities through pinyon-juniper woodlands and pine-oak forests at elevations up to approximately 9,000 feet. Widespread in large numbers. Maternity colonies and roosts found in limestone caves, abandoned mines, bridges, buildings, and hollow trees. Range throughout Arizona. In winter, only found in the southern half of the state.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
Cave myotis (*Myotis velifer*)	–	SGCN Tier 2	Evergreen or pine-oak forest and pine forest at mid and high elevations, also at lower elevations in riparian habitats near desert scrub. Roosts in caves, tunnels, mines, and buildings within a few miles of water. Range includes southern half of Arizona and portions of central and northwestern Arizona. Some populations hibernate, others migrate.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Fringed myotis (*Myotis thysanodes*)	–	SGCN Tier 2	Variety of habitats from desert scrub, grasslands, and woodlands; common in oak, pinyon, and juniper woodlands at middle elevations. Roosts in caves, mines, buildings, large snags, and exfoliating bark. Range includes all of Arizona. Migrate but little known about movements or destinations. Winter range in Arizona shifts to western and southern portions of the state.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
Gray-collared chipmunk (*Neotamias* [*Tamias*] *cinereicollis*)	–	SGCN Tier 2	Ponderosa pine and spruce-fir forests from 6,400 to 11,200 feet. Range includes central to east-central Arizona, roughly following the Mogollon Rim.	May occur. Study Area is in the northern extent of the species' geographic range. The southern edge of the Study Area contains pine-edge habitats.
Greater bonneted bat, Greater western mastiff bat (*Eumops perotis*)	–	SGCN Tier 2	Open areas of desert scrub near rocky canyons, and cliffs with abundant crevices at 200 to 8,500 feet. Roosts in horizontal crevices. Year-round resident of Arizona in all but east-central and northeastern portions of the state.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
Gunnison's prairie dog (*Cynomys gunnisoni*)	–	SGCN Tier 1	Gently sloping grasslands and semi-desert and montane shrublands between 4,600 and 12,000 feet. In Arizona, range includes central and northeastern portions of the state.	Known to occur. Species has been observed within the Study Area during preconstruction field surveys, colonies were delineated within the Wind Facility area in 2024 (SWCA 2024b).
Hoary bat (*Lasiurus cinereus*)	–	SGCN Tier 2	Deciduous and coniferous forests and woodlands from 500 to 9,900 feet. Roost in foliage of trees. Range throughout Arizona. Winters in Southern California, southeastern U.S., Mexico, and Central America.	May occur. Species was detected via passive bat acoustic surveys for the Wind Facility (SWCA 2024a).
Least chipmunk (*Neotamias* [*Tamias*] *minimus*)	–	SGCN Tier 2	Prefers montane coniferous forest but also occurs in sagebrush desert, dry scrub, sand dunes, meadows, and aspen groves usually from 7,000 to 12,000 feet. Range includes small portions of east-central and north-central Arizona.	May occur. Dry scrub habitats suitable for the species occur in the Study Area.
Mexican woodrat (*Neotoma mexicana mexicana*)	–	SGCN Tier 2	Found in rocky outcrops within ponderosa pine forest. Range includes southeastern Arizona within the Chiricahua, Huachuca, Pinaleno, Rincon, Santa Catalina and Santa Rita mountains.	Unlikely to occur. Study Area is outside the known range of the subspecies and does not contain suitable habitats.
Arizona montane vole (*Microtus montanus*)	–	SGCN Tier 2	Prefers high-elevation wet meadows, seeps, springs, and drainages from 7,000 to 9,000 feet. Often associated with wet soils, wet sedges, patches of cattail, and vertical grass cover. In Arizona, found in the White Mountains and Blue Range, Apache and Greenlee Counties.	May occur. Study Area is on the northern periphery of the species' range. The Little Colorado River and seasonally wet playas may provide appropriate habitats.
Townsend's big-eared bat, Pale Townsend's big-eared bat (*Corynorhinus townsendii*)	–	SGCN Tier 1	Day roosts and maternity and hibernation colonies in caves, mines, or buildings. Night roosts may include caves, buildings, and tree cavities. Associated with mesic forested habitats but occupies a broad range of habitats, including arid scrub, pine forest, pinyon-juniper, and wooded canyons between 500 and 8,400 feet. Range throughout Arizona.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
Southwestern myotis (*Myotis auriculus*)	–	SGCN Tier 2	Variety of habitats. Primarily found in ponderosa pine forests and other semi-arid woodlands; also found in desert scrub and desert grasslands. Roosts in building, mines, and caves. Range includes central and southeastern portions of the state. Winters in Chiricahua and Huachuca Mountains.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).

Common Name (Scientific Name)	Status*		Habitat/Range Requirements	Potential for Occurrence in Study Area†
	Federal	State		
Spotted bat (*Euderma maculatum*)	–	SGCN Tier 2	Roosts in crevices and cracks of cliff faces; sometimes roosts in caves or in buildings near cliffs. Variety of habitats, including low to high deserts, riparian areas, ponderosa, and spruce-fir forests below 10,600 feet. Range throughout Arizona.	May occur. Study Area is within the known range for the species and contains appropriate habitat associations.
Springerville pocket mouse (*Perognathus flavus goodpasteri*)	–	SGCN Tier 2	Found year-round in plains-like short grasslands interspersed with volcanic rock or other sparsely vegetated grasslands at elevations from 5,200 to 7,000 feet amsl. In Arizona, found in grasslands of the eastern end of the Mogollon Plateau near Springerville and Snowflake, south of Holbrook, and on the south side of the plateau above Nash Creek, south of Fort Apache, Arizona.	May occur. Species has been documented within 3 miles of the Study Area (AZGFD 2025a). Study Area is within the known range for the species and contains appropriate habitat associations.
Stephen's woodrat (*Neotoma stephensi*)	–	SGCN Tier 2	Rocky areas in pinyon-juniper woodlands. In Arizona, found roughly in the north half of the state.	May occur. Species has been documented within 3 miles of the Study Area (AZGFD 2025a). Study Area is within the known range for the species and contains appropriate habitat associations.
Western red bat, desert red bat (*Lasiurus blossevillii*)	–	SGCN Tier 2	Riparian and wooded areas. Roosts in trees, particularly cottonwoods. Associated with broadleaf deciduous riparian forests and woodlands from 1,900 to 7,200 feet. In Arizona, range includes narrow band from northwestern through southeastern portions of the state. Migration and hibernation behavior is complex.	May occur. Species was detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
Yuma myotis (*Myotis yumanensis*)	–	SGCN Tier 2	Roosts in caves, mines, cliff crevices, buildings, bridges, and similar structures. Nursery colonies in buildings, caves, mines, and bridges. Associated with wide variety of upland and lowland habitats (within wide range of elevations: sea level to 11,000 feet), including riparian, desert scrub, moist woodlands, and forests where they prefer cliffs and rocky walls near water. In Arizona, ranges throughout except south-central portion of the state. Winters in the lower Colorado River area.	May occur. Study Area is within the known range for the species and contains appropriate habitat associations.

Notes: Includes Birds of Conservation Concern (BCC) for Bird Conservation Region 34 that are known to occur or that may occur (USFWS 2021c), Salvage Restricted plants that are known to occur (SWCA 2022, 2025b), Arizona SGCN Tier 1 and 2 species listed in the AZGFD (2025a) Environmental Online Review Tool report, and species documented within the adjacent Wind Facility in preconstruction surveys (SWCA 2023, 2024a). Arizona SGCN Tier 3 species are only included if they are also a BCC species.

Range or habitat requirement information and potential occurrence justification from AZGFD (2023, 2025e), Ammerman et al. (2012), Billerman et al. (2020), Corman and Wise-Gervais (2005), Hoffmeister (1986), and Reid (2006).

* Federal Status Definitions

BCC = Bird of Conservation Concern; BGEPA = Bald and Golden Eagle Protection Act; CCA = Candidate Conservation Agreement, EXPN, XN = Experimental population, nonessential; T = Threatened species likely to become endangered within the foreseeable future throughout all or a significant portion of their range; UR = Under Review for listing under the ESA.

State Status Definitions

SGCN = Species of Greatest Conservation Need; wildlife species identified by AZGFD as having conservation priority (AZGFD 2022). SGCN Tier 1 species are those categorized as "highest priority vulnerable" species. Tier 2 represents the remainder of the species meeting the vulnerability criteria. Tier 3 species have an "unknown" status and are priority species for additional research.

SR = Salvage Restricted; plant species identified by the Arizona Department of Agriculture as being at risk of theft and removal.

† Bat species detections are based on analysis of bat acoustic data presented in SWCA (2024). Accuracy rates of species identification from bat acoustic data may range between 75% and 90% at best (Fraser et al. 2020).

‡ Species that are listed or experimental, nonessential populations included in this table were included in AZGFD (2025a) but were not included in the official species list for the proposed Interconnection Project (USFWS 2025a) and therefore were not included in Table C-1.

§ Western flycatcher is treated as cordilleran flycatcher in USFWS (2021c); cordilleran flycatcher and pacific-slope flycatcher were grouped together as western flycatcher in July 2023.

Literature Cited

Ammerman, L.K., C.L. Hice, and D.J. Schmidly. 2012. *Bats of Texas*. College Station: Texas A&M University Press.

Arizona Game and Fish Department (AZGFD). 2011. *Wildlife Compatible Fencing Guidelines.* Available at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/110125_AZGFD_fencing_guidelines.pdf. Accessed June 2025.

———. 2013. *The Apache and Navajo Counties Wildlife Connectivity Assessment: Report on Stakeholder Input*. Available at: https://azgfd-portal-wordpress-pantheon.s3.amazonaws.com/wp-content/uploads/archive/ApacheNavajoCountiesLinkagesStakeholderReport_20130128.pdf. Accessed June 2025.

———. 2022. The Arizona Wildlife Conservation Strategy 2022–2032. Phoenix: Arizona Game and Fish Department. Available at: https://azgfd-wdw.s3.amazonaws.com/awcs-2022/documents/AWCS_Final_Approved_11-22.pdf. Accessed June 2025.

———. 2023. Reptiles and Amphibians of Arizona. Available at: https://reptilesofaz.org/. Accessed July 2025.

———. 2025a. *Arizona Online Environmental Review Tool Report*, Lava Run Interconnection Project. Project ID: HGIS-25581. July 10, 2025.

———. 2025b. Middle Little Colorado River COA. Available at: https://awcs.azgfd.com/conservation-opportunity-areas/terrestrial/middle-little-colorado-river. Accessed June 2025.

———. 2025c. Little Colorado River - Lyman Lake to Hwy 261 COA. Available at: https://awcs.azgfd.com/conservation-opportunity-areas/aquatic/little-colorado-river-lyman-lake-to-hwy-261. Accessed June 2025.

———. 2025d. Coyote-Mamie COA. Available at: https://awcs.azgfd.com/conservation-opportunity-areas/terrestrial/coyote-maimie. Accessed June 2025.

———. 2025e. AZ Natural Heritage Program Program. Link to species abstracts. Available at: https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/cooperative-programs/az-natural-heritage-program/. Accessed July 2025.

———. 2025f. Arizona Environmental Review Tool Map Viewer. Available at: https://ert.azgfd.gov/content/map. Accessed June 2025.

Avian Power Line Interaction Committee (APLIC). 2012. *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*. Edison Electric Institute and APLIC, Washington, D.C.

———. 2024. *Suggested Practices for Raptor Protection on Powerlines: The State of the Art 2024*. Edison Electric Institute/Raptor Research Foundation, Washington, D.C.

———. 2025. Issues/Solutions. Available at: https://www.aplic.org/issues-and-solutions. Accessed July 2025

Bezy, J.V., and A.S. Trevana. 2003. *A Guide to the Geology of the White Mountains and the Springerville Volcanic Field, Arizona*. Down-to-Earth Series DTE-16. Tucson, Arizona: Arizona Geological Survey.

Billerman, S.M., B.K. Keeney, P.G. Rodewald, and T.S. Schulenberg (eds.). 2020. *Birds of the World*. Ithaca, New York: Cornell Laboratory of Ornithology. Available at: https://birdsoftheworld.org/bow/home. Accessed June 2025.

Brown, D.E. (editor). 1994. *Biotic Communities: Southwestern United States and Northwestern Mexico*. Salt Lake City: University of Utah Press.

Bumble Bee Watch. 2025. Interactive Map. Available at: https://www.bumblebeewatch.org/. Accessed June 2025.

Colegrove, K., J.D. Boone, E. Ammon, and E. Juarez. 2023. *Arizona Project-Level Protocol for Pinyon Jay Colony Clearance and Discovery Surveys*. Phoenix: Arizona Game and Fish Department. Available at: https://partnersinflight.org/wp-content/uploads/2019/10/Arizona-Project-level-protocol-for-Pinyon-Jay-colony-clearance-and-discovery-surveys.pdf. Accessed June 2025.

Corman, T.E., and C. Wise-Gervais. 2005. *Arizona Breeding Bird Atlas*. Albuquerque: University of New Mexico Press.

Fenneman, N.M., and D.W. Johnson. 1946. Physiographic divisions of the conterminous U.S. Reston, Virginia: U.S. Geological Survey. Available at: https://www.sciencebase.gov/catalog/item/631405bbd34e36012efa304e. Accessed June 2025.

Finch, D.M., J.F. Kelly, and J.E. Catron. 2000. *Chapter 7: Migration and Winter Ecology*, in Finch, D.M., and S.H. Stoleson (eds.), Status, ecology, and conservation of the southwestern willow flycatcher: U.S. Forest Service Rocky Mountain Research Station General Technical Report-60, p. 71–82.

Ganey, J.L., and R.P. Balda. 1994. Habitat selection by Mexican spotted owls in northern Arizona. *Auk* 111:162–169.

Ganey, J.L., and W.M. Block. 2005. *Winter Movements and Range Use of Radio-Marked Mexican Spotted Owls: Are Current Management Recommendations Adequate?* U.S. Forest Service, General Technical Report, RMRS-GTR-148-WWW. Fort Collins, Colorado: Rocky Mountain Research Station.

Ganey, J.L., W.M. Block, J.S. Jenness., and R.A. Wilson. 1997. Comparative habitat use of sympatric Mexican spotted and great horned owls. *Journal of Wildlife Research* 2:115–123.

Gutierrez, R.J., A.B. Franklin, and W.S. Lahaye. 2020 Spotted owl (*Strix occidentalis*). In *Birds of the World*, edited by A.F. Poole and F.B. Gill. Ithaca, New York: Cornell Lab of Ornithology. Available at: https://doi.org/10.2173/bow.spoowl.01. Accessed July 2025.

Halterman, M.D., M.J. Johnson, J.A. Holmes, S.A. Laymon. 2015. *A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo, Final Draft 22 April 2015*. U.S. Fish and Wildlife Techniques and Methods.

Hughes, J.M. 2015. Yellow-billed cuckoo (*Coccyzus americanus*). In *Birds of the World*, edited by P.G. Rodewald. Ithaca, New York: Cornell Lab of Ornithology. Available at https://doi.org/10.2173/bow.yebcuc.01. Accessed June 2025.

Hoffmeister, D.F. 1986. *Mammals of Arizona*. Phoenix: Arizona Game and Fish Department; Tucson: University of Arizona Press.

Johnson, K. and G. Sadoti. 2023. A review of Pinyon Jay (*Gymnorhinus cyanocephalus*) habitat ecology. *The Wilson Journal of Ornithology* 135:232–247.

Johnson, K. and R.P. Balda. 2020. Pinyon Jay (*Gymnorhinus cyanocephalus*).Version 2.0. In *Birds of the World*, edited by P.G. Rodewald and B.K. Keeney. Ithaca, New York: Cornell Lab of Ornithology. Available at: https://doi.org/10.2173/bow.pinjay.02. Accessed July 2025.

Lehman, R.N. 2001. Raptor electrocution on power lines: current issues and outlook. *Wildlife Society Bulletin* 29:804–813.

Lehman, R.N., P.L. Kennedy, J.A. Savidge. 2007. The state of the art in raptor electrocution: A global review. *Biological Conservation* 136:159–174.

Loss, S.R., T. Will, and P.P. Marra. 2014. Refining estimates of bird collision and electrocution mortality at power lines in the United States. *PLOS ONE* 9(7). Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4081594. Accessed July 2025.

Manville, A.M. 2016. Impacts to Birds and Bats Due to Collisions and Electrocutions from Some Tall Structures in the United States: Wires, Towers, Turbines, and Solar Arrays—State of the Art in Addressing the Problems. In *Problematic Wildlife*, edited by F. Angelici. Springer International.

Morris, G.M., C. Kline, and S.M. Morris. 2015. Status of *Danaus plexippus* population in Arizona. *Journal of the Lepidopterists' Society* 69:91–107.

Reid, F.A. 2006. A Field Guide to Mammals of North America. 4th ed. New York, New York: Houghton Mifflin Company.

Rinkevich, S.E. 1991. Distribution and habitat characteristics of Mexican spotted owls in Zion National Park, Utah. Master's thesis. Arcata, California: Humboldt State University.

Sogge, M.K., and R.M. Marshall. 2000. A survey of current breeding habitats. In *Status, Ecology, and Conservation of the Southwestern Willow Flycatcher*, edited by D.M. Finch and S.H. Stoleson, pp. 43–56. General Technical Report, RMRS-GTR-60. Ogden, Utah: U.S. Forest Service, Rocky Mountain Research Station.

Sogge, M.K., D. Ahlers, and S.J. Sferra. 2010. *A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher*. U.S. Geological Survey Techniques and Methods 2A-10. Flagstaff, Arizona: U.S. Geological Survey.

SWCA Environmental Consultants (SWCA). 2022a. *Wildlife Site Evaluation for ConnectGen's Lava Run Wind Project*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2022b. *Eagle and Other Raptor Species Nest Surveys for the Proposed Lava Run Wind Project, 2021 and 2022 Nesting Seasons*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2023. *Avian Use Surveys for the Proposed Lava Run Wind Project, January 2021–December 2022*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2024a. *Bat Acoustic Surveys for the Proposed Lava Run Wind Project, March–November 2021 and 2022.* Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2024b. *Gunnison's Prairie Dog Colony Delineation for the Lava Run Wind Project, August 2024.* Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2025a. *Aquatic Resources Inventory and Waters of the United States Analysis for the Lava Run Wind Project, Apache County, Arizona*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2025b. *Lava Run Wind Project, Generation-Tie Transmission Line Area: ASLD Right-of-Way No. 014-123938-00-100 Native Plant Inventory*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

U.S. Fish and Wildlife Service (USFWS). 2002. *Southwestern Willow Flycatcher Recovery Plan*. Albuquerque, New Mexico: U.S. Fish and Wildlife Service.

———. 2004. Endangered and threatened wildlife and plants; final designation of critical habitat for the Mexican spotted owl. *Federal Register* 69:53182–53230.

———. 2011. Chiricahua Leopard Frog (*Lithobates* [=*Rana*] *chiricahuensis*), 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office. January.

———. 2012. Recovery plan for the Mexican spotted owl (*Strix occidentalis lucida*). Original approval date: October 16, 1995. Albuquerque, New Mexico: U.S. Fish and Wildlife Service.

———. 2015. Endangered and threatened wildlife and plants; revision to the regulations for the nonessential experimental population of the Mexican wolf. *Federal Register* 80:2512–2567.

———. 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report, version 2.1. September. Available at: https://ecos.fws.gov/ServCat/DownloadFile/191345. Accessed June 2025.

———. 2021a. Endangered and Threatened Wildlife and Plants; Revision to the Nonessential Experimental Population of the Mexican Wolf. *Federal Register* 86(207):59953–59975. Available at: https://www.govinfo.gov/content/pkg/FR-2021-10-29/pdf/2021-23627.pdf#page=1. Accessed June 2025.

———. 2021b. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Western Distinct Population Segment of the Yellow-Billed Cuckoo. *Federal Register* 86: 207980–21005.

———. 2021c. Birds of Conservation Concern 2021. December. Available at: https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf. Accessed June 2025.

———. 2022. U.S. Fish and Wildlife Service Revised Recovery Plan for Gila Trout (*Oncorhynchus gilae*), 4th Revison, August 2022. Albuquerque, New Mexico: U.S. Fish and Wildlife Service. Available at: https://ecos.fws.gov/docs/recovery_plan/Revised%20Recovery%20Plan%20for%20the%20Gila%20trout%20(2022)%20Signed.pdf. Accessed July 2025.

———. 2023a. Little Colorado Spinedace (*Lepidomeda vittata*) 5-Year Status Review: Summary and Evaluation. Available at: https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/4113.pdf. Accessed June 2025.

———. 2023b. Endangered and Threatened Wildlife and Plants; Revision of a Nonessential Experimental Population of Black Footed Ferrets (*Mustela nigripes*) in the Southwest. *Federal Register* 88(192):69045–69073. Available at: https://www.govinfo.gov/content/pkg/FR-2023-10-05/pdf/2023-21978.pdf?utm_medium=email&utm_campaign=subscription+mailing+list&utm_source=federalregister.gov. Accessed June 2025.

———. 2024a. Endangered and Threatened Wildlife and Plants; Endangered Species Status for Suckley's Cuckoo Bumble Bee. *Federal Register* 89(242):102074–102091. Available at: https://www.govinfo.gov/content/pkg/FR-2024-12-17/pdf/2024-28729.pdf#page=1. Accessed June 2025.

———. 2024b. Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for Monarch Butterfly and Designation of Critical Habitat. Federal Register 89(239):100662. Available at: https://www.federalregister.gov/documents/2024/12/12/2024-28855/endangered-and-threatened-wildlife-and-plants-threatened-species-status-with-section-4d-rule-for. Accessed June 2025.

———. 2024c. Permits for Incidental Take of Eagles and Eagle Nests. Federal Register 89(29):9920-9965. Available at: https://www.govinfo.gov/content/pkg/FR-2024-02-12/pdf/2024-02182.pdf. Accessed June 2025.

———. 2025a. List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project. Lava Run Interconnection Project. Project Code: 2025-0120445. U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office. July 10, 2025.

———. 2025b. Environmental Conservation Online System (ECOS) Threatened & Endangered Species Profiles. Available at: https://ecos.fws.gov/ecp/. Accessed June 2025.

———. 2025c. FWS R2 ES Collared Mexican Wolf Project Public Location Map. Available at: https://www.arcgis.com/home/webmap/viewer.html?webmap=dbcc9960867948aea225fc53c50d0ed0&extent=-110.6313,32.9752,-106.5746,34.932. Accessed June 2025.

Willey, D.W. 1993. Home-range characteristics and juvenile dispersal ecology of Mexican spotted owls in southern Utah. Final report 1992–1993. Flagstaff, Arizona: High Desert Research Collective.

Western Monarch Milkweed Mapper. 2025. Sightings Map. Available at: https://www.monarchmilkweedmapper.org/app/#/combined/map. Accessed June 2025.

EXHIBIT C – ATTACHMENT C-1

U.S. Fish and Wildlife Service
Information for Planning and Consultation (IPaC) System
Official Species List for the Interconnection Project

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: 07/10/2025 23:55:48 UTC
Project Code: 2025-0120445
Project Name: Lava Run Interconnection Project

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 it's 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, BGEPA, 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-conservation/planning-for-wildlife/project-evaluation-program/).

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

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: 2025-0120445
Project Name: Lava Run Interconnection Project
Project Type: Transmission Line - New Constr - Above Ground
Project Description: Proposed transmission line.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.26326935,-109.1958164022115,14z

Counties: Apache County, Arizona

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 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 Fisheries[1], 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.

MAMMALS

NAME	STATUS
Mexican Wolf *Canis lupus baileyi* Population: U.S.A. (portions of AZ and NM)see 17.84(k) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3916	Experimental Population, Non-Essential
New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7965	Endangered

BIRDS

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* 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

FISHES

NAME	STATUS
Gila Trout *Oncorhynchus gilae* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/781	Threatened
Little Colorado Spinedace *Lepidomeda vittata* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6640	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee *Bombus suckleyi* Population: No critical habitat has been designated for this species.	Proposed Endangered

NAME STATUS

Species profile: https://ecos.fws.gov/ecp/species/10885

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.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Erica Fraley
Address: 1750 S Woodlands Village Blvd
City: Flagstaff
State: AZ
Zip: 86001
Email ericafrales@gmail.com
Phone: 9287745500

EXHIBIT C – ATTACHMENT C-2

Arizona Game and Fish Department
Arizona Environmental Online Review Tool
Report for the Interconnection Project

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.

The Department requests further coordination to provide project/species specific recommendations. Please use the Project Evaluation Form to submit your project to the Project Evaluation Program at PEP@azgfd.gov.

Project Name:
Lava Run Interconnection Project

Project Type:
Energy Production/Storage/Transfer, Energy Transfer, Power line/electric line (new)

Project ID:
HGIS-25581

Project Description:
Proposed transmission line.

Contact Person:
Erica Fraley

Organization:
SWCA, Inc.

On Behalf Of:
PRIVATE

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.

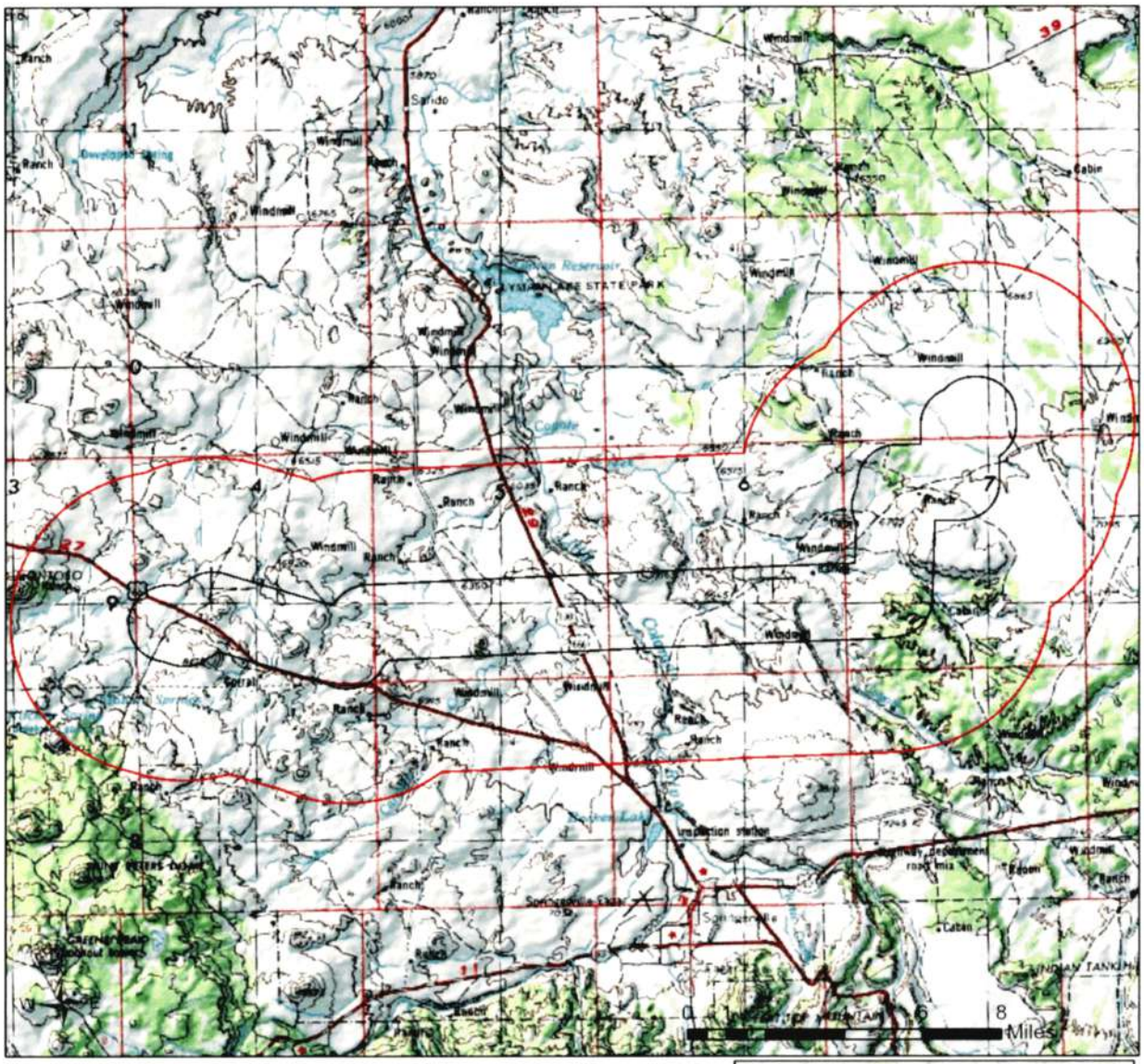
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

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.

Lava Run Interconnection Project

USA Topo Basemap With Locator Map



Buffered Project Boundary

Project Boundary

Project Size (acres): 34,766.46

Lat/Long (DD): 34.2496 / -109.3179

County(s): Apache

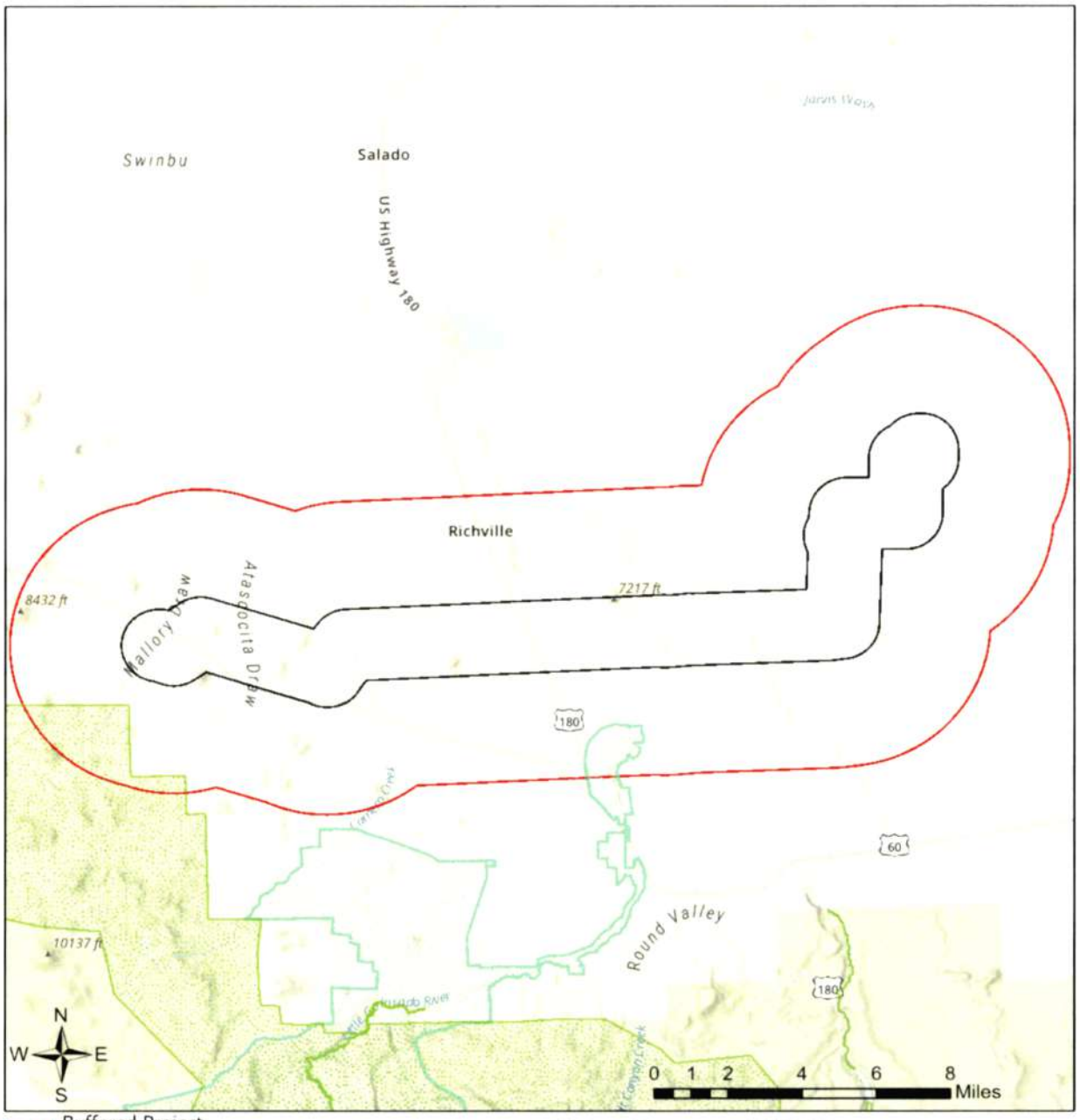
AGFD Region(s): Pinetop

Township/Range(s): T10N, R26E; T10N, R27E; T10N, R28E +

USGS Quad(s): CERRO HUECO; COYOTE HILLS +

Lava Run Interconnection Project

Important Areas



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

Project Size (acres): 34,766.46

Lat/Long (DD): 34.2496 / -109.3179

County(s): Apache

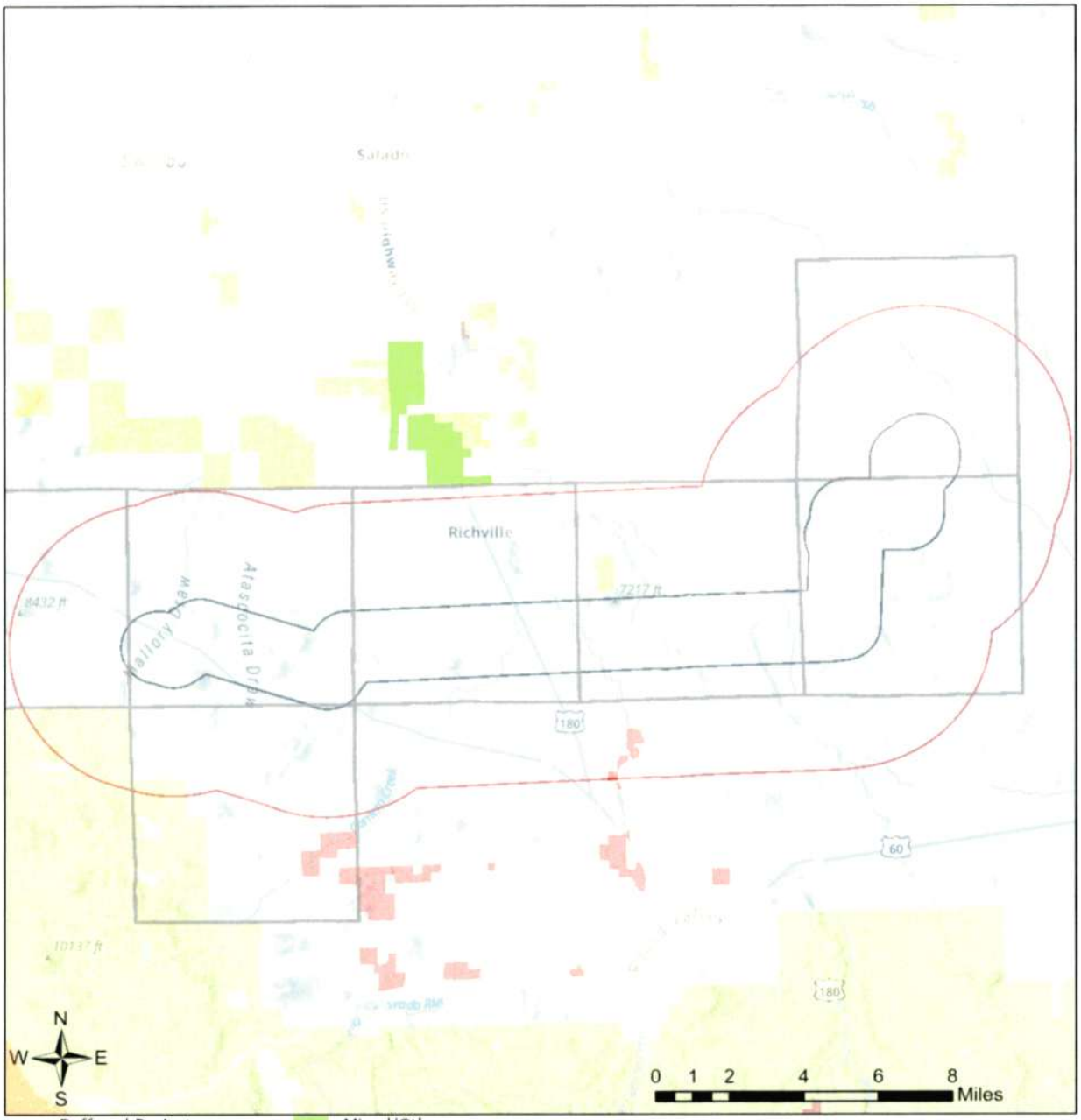
AGFD Region(s): Pinetop

Township/Range(s): T10N, R26E; T10N, R27E; T10N, R28E +

USGS Quad(s): CERRO HUECO; COYOTE HILLS +

Lava Run Interconnection Project

Township/Ranges and Land Ownership



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

Project Size (acres): 34,766.46

Lat/Long (DD): 34.2496 / -109.3179

County(s): Apache

AGFD Region(s): Pinetop

Township/Range(s): T10N, R26E; T10N, R27E; T10N, R28E +

USGS Quad(s): CERRO HUECO; COYOTE HILLS +

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Anarhynchus montanus	Mountain Plover					2
Aquila chrysaetos	Golden Eagle	BGA		S		2
Athene cunicularia hypugaea	Western Burrowing Owl		S	S		2
Canis lupus baileyi	Mexican Wolf	LE,XN		S		1
Catostomus discobolus discobolus	Bluehead Sucker	CCA		S		2
Catostomus latipinnis	Flannelmouth Sucker	CCA		S		2
Catostomus sp. 3	Little Colorado Sucker	CCA	S	S		2
Chordeiles minor	Common Nighthawk					2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1
Danaus plexippus	Monarch	PT		S		
Dumetella carolinensis	Gray Catbird		S			3
Eremophila alpestris	Horned Lark					2
Lepidomeda vittata	Little Colorado Spinedace	LT		S		1
Lycaena ferrisi	Ferris's Copper	UR	S			
Melozone fusca	Canyon Towhee					2
Neotoma stephensi	Stephen's Woodrat					2
Perognathus flavus goodpasteri	Springerville Pocket Mouse		S			2

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Coyote-Mamie	Conservation Opportunity Area					
Little Colorado River - Lyman Lake to Hwy 261	Conservation Opportunity Area					
Little Colorado River	Apache/Navajo Counties Wildlife Movement Area - Riparian/Wash					
Middle Little Colorado River	Conservation Opportunity Area					
N/A	Apache/Navajo Counties Wildlife Movement Area - Diffuse					
N/A	Apache/Navajo Counties Wildlife Movement Area - Landscape					
US Highway 60: MP 377	Apache/Navajo Counties Wildlife Crossing Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/.

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
Accipiter atricapillus	American Goshawk		S	S		2
Aechmophorus clarkii	Clark's Grebe					2
Aechmophorus occidentalis	Western Grebe					2
Anaxyrus microscaphus	Arizona Toad			S		2
Anodonta californiensis	California Floater		S			1
Antilocapra americana americana	American Pronghorn					2
Aquila chrysaetos	Golden Eagle	BGA		S		2
Athene cunicularia hypugaea	Western Burrowing Owl		S	S		2
Baeolophus ridgwayi	Juniper Titmouse					3
Buteo regalis	Ferruginous Hawk			S		2
Buteo swainsoni	Swainson's Hawk					2
Calcarius ornatus	Chestnut-collared Longspur					2
Callipepla squamata	Scaled Quail					2
Canis lupus baileyi	Mexican Wolf	LE,XN		S		1
Cardellina rubrifrons	Red-faced Warbler					2
Catharus ustulatus	Swainson's Thrush					2
Catostomus discobolus	Bluehead Sucker	PS		S		2
Catostomus sp. 3	Little Colorado Sucker	CCA	S	S		2
Charadrius montanus	Mountain Plover					2
Chordeiles minor	Common Nighthawk					2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat		S	S		1
Cynomys gunnisoni	Gunnison's Prairie Dog			S		1
Cyrtonyx montezumae	Montezuma Quail					3
Dumetella carolinensis	Gray Catbird		S			3
Empidonax wrightii	Gray Flycatcher					2
Euderma maculatum	Spotted Bat		S	S		2
Falco mexicanus	Prairie Falcon					2
Falco peregrinus anatum	American Peregrine Falcon		S	S		1
Falco sparverius	American Kestrel					2
Glaucidium gnoma californicum	Northern Pygmy-owl					2
Gymnorhinus cyanocephalus	Pinyon Jay	UR		S		2
Haemorhous cassinii	Cassin's Finch					2
Icterus bullockii	Bullock's Oriole					2
Lanius ludovicianus	Loggerhead Shrike					2
Lasiurus cinereus	Hoary Bat					2
Lepidomeda vittata	Little Colorado Spinedace	LT		S		1
Megascops kennicottii	Western Screech-owl					2
Melanerpes lewis	Lewis's Woodpecker					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
Microtus longicaudus	Long-tailed Vole					3
Microtus montanus	Montane Vole					2
Mustela nigripes	Black-footed Ferret	LE,XN				1
Myadestes townsendi	Townsend's Solitaire					2
Myotis auriculus	Southwestern Myotis					2
Myotis thysanodes	Fringed Myotis					2
Myotis yumanensis	Yuma Myotis					2
Neotamias cinereicollis	Gray-collared Chipmunk					2
Neotamias minimus	Least Chipmunk		S			2
Neotoma mexicana mexicana	Mexican Woodrat					2
Neotoma stephensi	Stephen's Woodrat					2
Nyctinomops macrotis	Big Free-tailed Bat					2
Oncorhynchus apache	Apache Trout					1
Oreohelix houghi	Diablo Mountainsnail					2
Oreoscoptes montanus	Sage Thrasher					2
Passerculus sandwichensis	Savannah Sparrow					2
Perognathus flavus goodpasteri	Springerville Pocket Mouse		S			2
Peucedramus taeniatus	Olive Warbler					3
Pooecetes gramineus	Vesper Sparrow					2
Psiloscops flammeolus	Flammulated Owl					2
Rallus limicola	Virginia Rail					3
Rana chiricahuensis	Chiricahua Leopard Frog	LT		S		1
Rana pipiens	Northern Leopard Frog		S	S		1
Rana yavapaiensis	Lowland Leopard Frog		S	S		1
Setophaga nigrescens	Black-throated Gray Warbler					2
Spizella breweri	Brewer's Sparrow					2
Strix occidentalis lucida	Mexican Spotted Owl	LT		S		1
Sylvilagus nuttallii pinetis	A Southwestern Cottontail					3
Tadarida brasiliensis	Brazilian Free-tailed Bat					2
Vireo vicinior	Gray Vireo		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
Antilocapra americana americana	America Pronghorn					
Callipepla squamata	Scaled Quail					
Odocoileus hemionus	Mule Deer					
Patagioenas fasciata	Band-tailed Pigeon					
Puma concolor	Mountain Lion					
Zenaida macroura	Mourning Dove					

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

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN

Project Type: Energy Production/Storage/Transfer, Energy Transfer, Power line/electric line (new)

Project Type Recommendations:
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/ and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control these species. 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.

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

The AZGFD recommends following the Avian Power Line Interaction Committee (APLIC) guidelines for new power lines, which can be found in the current version of *Suggested Practices for Avian Protection on Power Lines and Reducing Avian Collisions with Power Lines*. Large bodied birds, such as hawks, owls, vultures, and eagles, may be vulnerable to line strikes and electrocution during construction and operation of power lines and substations; power poles can also serve as perches for large-bodied birds. These potential impacts can be avoided or minimized by following the APLIC guidelines which include designing the power lines with enough space between energized components to reduce the likelihood of a bird electrocution or installing bird flight diverters in sections of line where elevated bird strikes are anticipated (e.g. lines over water bodies or in the path of colonial roosting locations). The AZGFD's Raptor Coordinator, who can be contacted at raptors@azgfd.gov or 623-236-7575, can provide further information on specific design features and best management practices.

The AZGFD recommends that a qualified biologist conduct a survey for nesting birds within the project area prior to removal or trimming of trees/vegetation, if the removal or trimming occurs during the breeding season (the Project Evaluation Program can be contacted at PEP@azgfd.gov or 623-236-7600 to determine the appropriate breeding season within the project area). Trees and/or vegetation within the project area may provide nesting opportunities for avian species that are regulated under the Migratory Bird Treaty Act (MBTA) and protected under state law. If it is anticipated the project will not be in compliance with MBTA, the AZGFD recommends contacting the U.S. Fish and Wildlife Service (https://www.fws.gov/office/arizona-ecological-services) for technical assistance. The USFWS will provide options to comply with the MBTA.

The AZGFD recommends revegetating disturbed areas with native drought-tolerant species that represent the natural surrounding landscape. Landscaping with native plants can help support wildlife and pollinator species in the area while reducing dust and erosion. In addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts. The AZGFD also recommends the development of a short and long-term monitoring plan, including adaptive management guidelines to address invasive species control and maintain native vegetation.

Project Location and/or Species Recommendations:
Analysis indicates that your project is located in the vicinity of an identified **Conservation Opportunity Area (COA)**. While there are many areas in Arizona that present abundant conservation opportunities, COAs are specific areas on the landscape that the Department identified as having the greatest potential for conservation efforts. COAs were identified using species and habitat data, the presence of unique landscape features, and Departmental expertise. COAs range in size, scope, and focal species and/or habitats and are strictly a non-regulatory conservation tool for the public and our conservation partners to consider. For more information regarding this particular COA near your project area and the Department's suggestions for potential conservation efforts, please visit the COA profile at https://awcs.azgfd.com/conservation-opportunity-areas.

Analysis indicates that your project is located in the vicinity of an identified ***wildlife habitat connectivity feature***. The **County-level Stakeholder Assessments** contain five categories of data (Barrier/Development, Wildlife Crossing Area, Wildlife Movement Area- Diffuse, Wildlife movement Area- Landscape, Wildlife Movement Area- Riparian/Washes) that provide a context of select anthropogenic barriers, and potential connectivity. The reports provide recommendations for opportunities to preserve or enhance permeability. Project planning and implementation efforts should focus on maintaining and improving opportunities for wildlife permeability. For information pertaining to the linkage assessment and wildlife species that may be affected, please refer to: https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-identifying-corridors/. Please contact the Project Evaluation Program (pep@azgfd.gov) for specific project 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

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-conservation/conservation-and-endangered-species-programs/burrowing-owl-management/.

EXHIBIT D. BIOLOGICAL RESOURCES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

> *List the fish, wildlife, plant life, and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, the proposed facilities will have thereon.*

Introduction

The Study Area for this biological resources review comprises the proposed centerline for the requested Interconnection Project plus a 1-mile buffer. To identify the plant and wildlife species that may occur in the vicinity of the Interconnection Project, SWCA Environmental Consultants (SWCA) consulted publicly available data sources, including:

- Topographic maps and aerial photographs (Google Earth 2025)
- Arizona Game and Fish Department (AZGFD) Online Environmental Review Tool (AZGFD 2025)
- *Biotic Communities: Southwestern United States and Northwestern Mexico* (Brown 1994)
- Regional checklists, reports, and publications (e.g., AZGFD 2020 and 2023; Billerman et al. 2025; eBird 2025; Hoffmeister 1986; Young et al. 2001).

SWCA biologists with expertise in the biology of flora and fauna of the region surveyed the CEC Corridor and Study Area on November 1, 13, and 14, 2024, and May 12, 2025. The site was assessed to determine whether habitat features for species protected under federal, state, or local regulations were present in the CEC Corridor and Study Area. These visits were in addition to preconstruction natural resources surveys in the area, which included:

- A reconnaissance visit to the Lava Run Wind Project (Wind Facility), generation-tie transmission line on August 11 and 12, 2020, to support the wildlife site evaluation (SWCA 2022a)
- Two years of avian use surveys conducted monthly at fixed points distributed throughout the Wind Facility from January 2021 through December 2022 (SWCA 2023)
- Raptor nest surveys within 2 miles of the Wind Facility (including the Interconnection Project) and the Lava Run Solar Project in February and March 2021 and 2022 (SWCA 2022b)
- Two years of passive bat acoustic monitoring at fixed stations within the Wind Facility from March through November 2021 and 2022 (SWCA 2024a)
- Gunnison's prairie dog (*Cynomys gunnisoni*) colony surveys in August 2024 (SWCA 2024b)
- Aquatic resources inventories for the Wind Facility and Interconnection Project in November 2024 (SWCA 2025a)
- Native plant inventories for the Interconnection Project in November 2024 (SWCA 2025b)

During all preconstruction natural resources surveys, surveyors were instructed to record incidental wildlife observations, adding to the understanding of special-status species presence as well as of areas of biological wealth. Special-status species observed during these site visits are noted in Tables C-1 and C-2 in Exhibit C.

Wildlife species observed during these site visits are noted in the species lists provided in this exhibit. Some of the species from the above surveys are evaluated in Exhibit C and so have been removed from discussion here. Exhibit C also describes the ecological setting of the Study Area.

Results

Vegetation

The Interconnection Project and Study Area are within the Plains and Great Basin Grassland and Great Basin Conifer communities (Brown 1994). Study Area vegetation is generally characterized as open savanna, dominated by perennial bunchgrasses and forbs and a scattered to locally dense shrub and tree layer. Some areas of pinyon-juniper woodland are present within the Study Area, primarily on the slopes of mesas and in the eastern portion of the Study Area near the point of interconnection. Characteristic grasses include Arizona threeawn (*Aristida arizonica*), blue grama (*Bouteloua gracilis*), bristly wolfstail (*Lycurus setosus*), purple threeawn (*Aristida purpurea*), and sideoats grama (*Bouteloua curtipendula*). Scattered to locally dense shrubs include broom snakeweed (*Gutierrezia sarothrae*), fragrant sumac (*Rhus aromatica*), fourwing saltbush (*Atriplex canescens*), Fremont's mahonia (*Mahonia fremontii*), pale desert-thorn (*Lycium pallidum*), narrowleaf yucca (*Yucca angustissima*), rubber rabbitbrush (*Ericameria nauseosa*), twistspine pricklypear (*Opuntia macrorhiza*), wax currant (*Ribes cereum*), and Whipple cholla (*Cylindropuntia whipplei*). The tree layer, where present, includes oneseed juniper (*Juniperus monosperma*), twoneedle pinyon (*Pinus edulis*), and alligator juniper (*Juniperus deppeana*).

Two Arizona Department of Agriculture (AZDA)-recognized Class C noxious weeds have been documented in the Study Area: burningbush (*Kochia scoparia*) and tamarisk (*Tamarisk* spp.). In addition, cheatgrass (*Bromus tectorum*), also a Class C noxious weed, has been previously documented within the Study Area (iMapInvasives 2025) along U.S. Route 60.

Within the Study Area, the Little Colorado River is a perennial river that flows through a moderately incised canyon and has a dense shrub layer present in places along the river corridor. Individuals of riparian tree species such as cottonwood (*Populus* spp.) may be present; however, they do not create a dense riparian tree canopy within the Study Area. See Exhibit C for a detailed discussion of conditions along the Little Colorado River within the Study Area.

Wildlife Species

Species that may occur in the Study Area are listed in Table D-1 (mammals), Table D-2 (birds), Table D-3 (reptiles and amphibians), and Table D-4 (fish). Species were considered for their potential to occur as follows:

- Mammal species evaluated in this exhibit include those typical of the Plains and Great Basin Grassland and Great Basin Conifer communities and within the range of the Study Area as described in *Mammals of Arizona* (Hoffmeister 1986) and *Biotic Communities: Southwestern United States and Northwestern Mexico* (Brown 1994). Bat species considered include those detected via passive bat acoustic surveys for the adjacent Wind Facility (SWCA 2024a).
- Bird species evaluated in this exhibit include those documented during preconstruction avian surveys for the adjacent Wind Facility (SWCA 2023), as well as typical bird species of the Plains and Great Basin Grassland and Great Basin Conifer communities and within the range of the Study Area (Billerman et al. 2025; Brown 1994; eBird 2025).

- Reptiles and amphibians evaluated in this exhibit were taken from species with the potential to occur based on range and vegetation community as described in *Online Field Guide to The Amphibians and Reptiles of Arizona* (AZGFD 2023).
- Finally, fish species evaluated in this exhibit were taken from the list of species documented as occurring in the Little Colorado River between Nutrioso Creek and Lyman Lake in the *Integrated Fisheries Management Plan for the Little Colorado River Watershed* (Young et al. 2001) and the *Becker Lake Fisheries Management Plan 2020-2030* (AZGFD 2020).

Some of the species in these lists are evaluated in Exhibit C and so have been removed from the discussion here.

Mammals

Small, medium-sized, and large terrestrial mammal species may occur in the Interconnection Project and Study Area (see Table D-1). Bat species have the potential to disperse, migrate through, or forage within the Interconnection Project and Study Area. There are no known bat roosts within 10 miles of the Wind Facility, which includes the Interconnection Project and Study Area (personal communication, Andrew Cavalcant, Project Evaluation Specialist, Kenneth "Tuk" Jacobson, Raptor Management Coordinator, Kyle McCarty, Eagle Field Projects Coordinator, Angie McIntire, Bat Biologist, AZGFD, with Allen Graber, Ecologist, SWCA, August 13, 2020). Special-status mammal species, including American pronghorn (*Antilocapra americana americana*), are addressed separately in Exhibit C.

Table D-1. Representative Mammal Species That May or Are Known to Occur in the Project Vicinity

Common Name (Scientific Name)	Common Name (Scientific Name)
American badger (*Taxidea taxus*)	Kit fox (*Vulpes macrotis*)*
American black bear (*Ursus americanus*)	Long-eared myotis (*Myotis evotis*)
Arizona myotis (*Myotis occultus*)	Long-legged myotis (*Myotis volans*)
Big brown bat (*Eptesicus fuscus*)*	Merriam's shrew (*Sorex merriami*)
Black-tailed jackrabbit (*Lepus californicus*)	Mexican vole (*Microtus mexicanus*)
Bobcat (*Lynx rufus*)	Mountain lion (*Puma concolor*)
Botta's pocket gopher (*Thomomys bottae*)	Mule deer (*Odocoileus hemionus*)*
Brush deermouse (*Peromyscus boylii*)	North American deermouse (*Peromyscus maniculatus*)
California myotis (*Myotis californicus*)*	North American porcupine (*Erethizon dorsatum*)
Canyon bat (*Parastrellus hesperus*)	Northern grasshopper mouse (*Onychomys leucogaster*)
Cliff chipmunk (*Neotamias dorsalis*)	Ord's kangaroo rat (*Dipodomys ordii*)
Coyote (*Canis latrans*)*	Pallid bat (*Antrozous pallidus*)
Crawford's gray shrew (*Notiosorex crawfordi*)	Piñon mouse (*Peromyscus truei*)
Desert cottontail (*Sylvilagus audubonii*)	Raccoon (*Procyon lotor*)
Elk (*Cervus elaphus*)*	Rock squirrel (*Otospermophilus variegatus*)
Gray fox (*Urocyon cinereoargenteus*)	Silky pocket mouse (*Perognathus flavus*)
Javelina (*Pecari tajacu*)	Silver-haired bat (*Lasionycteris noctivagans*)
Striped skunk (*Mephitis mephitis*)	Western spotted skunk (*Spilogale gracilis*)
Western harvest mouse (*Reithrodontomys megalotis*)	White-footed deermouse (*Peromyscus leucopus*)

Common Name (Scientific Name)	Common Name (Scientific Name)
Western small-footed myotis (*Myotis ciliolabrum*)	White-throated woodrat (*Neotoma albigula*)

* Species or its sign was observed during preconstruction site visits.

Birds

Birds have the potential to use the Interconnection Project and Study Areas for foraging, nesting, or perching. Table D-2 lists the bird species that may occur or are known to occur in the Study Area. Birds that are present in the Study Area only during migration are not included in the table unless they were documented during preconstruction avian use surveys. Special-status bird species are addressed separately in Exhibit C.

Table D-2. Representative Bird Species That May or Are Known to Occur in the Project Vicinity

Common Name (Scientific Name)	Common Name (Scientific Name)
American crow (*Corvus brachyrhynchos*)*	Gray flycatcher (*Empidonax wrightii*)*
American robin (*Turdus migratorius*)*	Great blue heron (*Ardea herodias*)
American wigeon (*Mareca americana*)	Great horned owl (*Bubo virginianus*)
Ash-throated flycatcher (*Myiarchus cinerascens*)	Greater roadrunner (*Geococcyx californianus*)
Band-tailed pigeon (*Patagioenas fasciata*)	Great-tailed grackle (*Quiscalus mexicanus*)
Barn swallow (*Hirundo rustica*)	Green-winged teal (*Anas crecca*)
Bewick's wren (*Thryomanes bewickii*)	Green-tailed towhee(*Pipilo chlorurus*)*
Black-chinned hummingbird (*Archilochus alexandri*)	Hairy woodpecker (*Dryobates villosus*)
Black-headed grosbeak (*Pheucticus melanocephalus*)	House finch (*Haemorhous mexicanus*)*
Black-throated sparrow (*Amphispiza bilineata*)	House wren (*Troglodytes aedon*)
Blue-gray gnatcatcher (*Polioptila caerulea*)	Juniper titmouse (*Baeolophus ridgwayi*)
Blue grosbeak (*Passerina caerulea*)	Lapland longspur (*Calcarius lapponicus*)
Brown creeper (*Certhia americana*)	Lark sparrow (*Chondestes grammacus*)*
Brown-headed cowbird (*Molothrus ater*)	Lesser goldfinch (*Spinus psaltria*)
Bullock's oriole (*Icterus bullockii*)	Long-billed curlew (*Numenius americanus*)*
Bushtit (*Psaltriparus minimus*)	Merlin (*Falco columbarius*)
Canyon wren (*Catherpes mexicanus*)	Mountain bluebird (*Sialia currucoides*)*
Cassin's kingbird (*Tyrannus vociferans*)	Mourning dove (*Zenaida macroura*)*
Cedar waxwing (*Bombycilla cedrorum*)	Northern flicker (*Colaptes auratus*)*
Chihuahuan meadowlark (*Sturnella lilianae*)	Northern mockingbird (*Mimus polyglottos*)*
Chipping sparrow (*Spizella passerina*)*	Northern rough-winged swallow (*Stelgidopteryx serripennis*)
Cliff swallow (*Petrochelidon pyrrhonota*)*	Northern shoveler (*Spatula clypeata*)
Common raven (*Corvus corax*)*	Orange-crowned warbler (*Oreothlypis celata*)
Cooper's hawk (*Accipiter cooperii*)	Osprey (*Pandion haliaetus*)
Crissal thrasher (*Toxostoma crissale*)	Pine siskin (*Spinus pinus*)
Dark-eyed junco (*Junco hyemalis*)*	Plumbeous vireo (*Vireo plumbeus*)
Eastern meadowlark (*Sturnella magna*)*	Purple martin (*Progne subis*)
European starling (*Sturnus vulgaris*)	Pygmy nuthatch (*Sitta pygmaea*)

Common Name (Scientific Name)	Common Name (Scientific Name)
Red-breasted nuthatch (*Sitta canadensis*)	Warbling vireo (*Vireo gilvus*)
Red crossbill (*Loxia curvirostra*)	Western bluebird (*Sialia mexicana*)*
Red-tailed hawk (*Buteo jamaicensis*)*	Western kingbird (*Tyrannus verticalis*)
Rock wren (*Salpinctes obsoletus*)*	Western tanager (*Piranga ludoviciana*)
Rough legged hawk (*Buteo lagopus*)*	Western meadowlark (*Sturnella neglecta*)
Ruby-crowned kinglet (*Regulus calendula*)*	Western wood-pewee (*Contopus sordidulus*)
Rufous hummingbird (*Selasphorus rufus*)*	Wild turkey (*Meleagris gallopavo*)
Say's phoebe (*Sayornis saya*)*	Wilson's warbler (Cardellina *pusilla*)
Scott's oriole (*Icterus parisorum*)	White-breasted nuthatch (*Sitta carolinensis*)
Sharp-shinned hawk (*Accipiter striatus*)*	White-crowned sparrow (*Zonotrichia leucophrys*)
Spotted towhee (*Pipilo maculatus*)	White-throated swift (*Aeronautes saxatalis*)
Townsend's warbler (*Setophaga townsendi*)	Yellow-rumped warbler (*Setophaga coronata*)*
Turkey vulture (*Cathartes aura*)*	Yellow warbler (*Setophaga petechia*)
Violet-green swallow (*Tachycineta thalassina*)*	Zone-tailed hawk (*Buteo albonotatus*)
Virginia's warbler (*Oreothlypis virginiae*)	

Note: Table excludes rare/uncommon species unless observed during preconstruction surveys.

* Species documented within the Study Area during preconstruction avian use surveys for the adjacent Wind Facility (SWCA 2023).

Reptiles and Amphibians

Reptile and amphibian species may occur in the Interconnection Project and Study Area (Table D-3). Special-status amphibian and reptile species are addressed separately in Exhibit C.

Table D-3. Amphibian and Reptile Species That May Occur in the Project Vicinity

Common Name (*Scientific Name*)	Common Name (*Scientific Name*)
Amphibians	
Barred tiger salamander (*Ambystoma mavortium*)	Plains spadefoot (*Spea bombifrons*)
Canyon treefrog (*Hyla arenicolor*)	Red-spotted toad (*Anaxyrus punctatus*)
Great plains toad (*Anaxyrus cognatus*)	Woodhouse's toad (*Anaxyrus woodhousii*)
New Mexico spadefoot (*Spea multiplicata*)	
Lizards	
Lesser earless lizard (*Holbrookia maculata*)	Many-lined skink (*Plestiodon multivirgatus*)
Sagebrush lizard (*Sceloporus graciosus*)	Ornate tree lizard (*Urosaurus ornatus*)
Common side-blotched lizard (*Uta stansburiana*)	Plateau fence lizard (*Sceloporus tristichus*)
Desert spiny lizard (*Sceloporus magister*)	Plateau striped whiptail (*Aspidoscelis velox*)
Eastern collared lizard (*Crotaphytus collaris*)	Southwestern fence lizard (*Sceloporus cowlesi*)
Short-horned lizard (*Phrynosoma hernandesi*)	
Snakes	
Gophersnake (*Pituophis catenifer*)	Eastern kingsnake (*Lampropeltis getula*)
Glossy snake (*Arizona elegans*)	Milksnake (*Lampropeltis triangulum*)
Striped whipsnake (*Coluber taeniatus*)	Terrestrial gartersnake (*Thamnophis elegans*)

Common Name (*Scientific Name*)	Common Name (*Scientific Name*)
Chihuahuan nightsnake (*Hypsiglena jani*)	Prairie rattlesnake (*Crotalus viridis*)

Source: AZGFD (2023)

Fish Species

The Little Colorado River is a perennial river that provides year-round aquatic habitat and would be crossed by the Interconnection Project. Becker Lake, a human-made lake approximately 5 miles south of the Interconnection Project, is annually stocked by AZGFD (AZGFD 2020). AZGFD occasionally releases water from Becker Lake into the Little Colorado River upstream of the Study Area; therefore, the fish species known to occur in Becker Lake are included in Table D-4 below. Lyman Lake is a human-made reservoir approximately 7.5 miles north of the Interconnection Project and has not been stocked by AZGFD since 1997 (AZGFD 2021). Fish species known to occur in Lyman Lake may be able to swim upstream into the Study Area and are therefore included in Table D-4.

Table D-4. Fish Species Documented in the Little Colorado River in the Project Vicinity

Common Name (*Scientific Name*)	Common Name (*Scientific Name*)
Brown trout (*Salmo trutta*)	**Largemouth bass (*Micropterus salmoides*)**
Channel catfish (*Ictalurus punctatus*)	Rainbow trout (*Oncorhynchus mykiss*)
Common carp (*Cyprinus carpio*)	Speckled dace (*Rhinichthys osculus*)
Fathead minnow (*Pimephales promelas*)	Tiger trout (*Salmo trutta x Salvelinus fontinalis*)
Green sunfish (*Lepomis cyanellus*)	Walleye (*Sander vitreus*)

Source: Young et. al (2001); AZGFD (2020, 2021).

Summary of Potential Effects

Vegetation

The Interconnection Project involves work in previously disturbed areas (i.e., existing roadways and electrical energy infrastructure), as well as in relatively undisturbed semi-desert grasslands, shrub steppe, and pinyon-juniper woodland vegetation communities. Native vegetation characteristic of the semi-desert grassland and shrub steppe, juniper savanna, and pinyon-juniper woodland communities is extensive in northern Arizona. The Interconnection Project will not result in landscape-level impacts to the Plains and Great Basin Grassland and Great Basin Conifer biotic community vegetation because of the relatively minor area of disturbance and the abundance of semi-desert grassland and shrub steppe, juniper savanna, and pinyon-juniper woodland communities in the Study Area and vicinity. Construction of the Interconnection Project may result in an increase of fugitive dust, which may coat plants near the area of active ground disturbance and decrease photosynthetic activity. However, the amount of dust that must accumulate to result in a measurable effect on plant productivity is far greater than what is typically observed under normal conditions (Thompson et al. 1984).

Noxious weeds have been documented within the Interconnection Project and Study Area. Ground disturbance from construction and increased vehicle and foot traffic may enable the spread of existing weeds to new locations or introduce new species.

Mammal Species

Interconnection Project construction activities could cause death or injury to terrestrial mammals that may not be able to flee from heavy equipment or vehicular traffic, with a higher likelihood of these impacts for individuals of species that are small, or fossorial. Interconnection Project construction could cause behavior changes, as it would be expected that individuals would flee from an increase in noise, vibration, and human presence within the Interconnection Project vicinity. Individuals are expected to flee or hide, depending on the life history of the species, which could increase depredation, decrease foraging success, reduce reproductive success, or result in loss of fitness for that individual from increased metabolic output.

Bats may experience temporary displacement or corridor impermeability during construction; however, these impacts are anticipated to be minimal because there are no known maternity colonies or bat migration corridors, and movements would be at night, outside of construction activities. Bats also may be impacted by collision with the lines; however, the etiology of bat-wire collisions and efficacy of minimization measures is not well studied (Manville 2016).

Bird Species

Potential impacts on bird species could include changes in behavior due to Interconnection Project–related noise and vibration, the presence of workers and equipment, loss of breeding and foraging habitat, and impacts to nesting species. During the construction phase of the Interconnection Project, active nests, eggs, and nestlings may be damaged. Scavenging birds, particularly raptors, may be struck by construction vehicles.

Birds, including raptors, can collide with power lines, resulting in injury or death (Avian Power Line Interaction Committee [APLIC] 2012). Birds that are large bodied, are fast flyers, and have large wing spans; birds that have low maneuverability (e.g., many wading birds or waterfowl); or birds that show certain behaviors (e.g., flocking, flying at altitudes at or below power line height, or nesting or foraging close to power lines) have a higher risk of impacts from power line collisions (APLIC 2012).

Power lines can also cause electrocution when a bird is able to touch both energized and grounded electrical components at the same time, which is generally more common in birds with large wing spans or that use power poles (e.g., perching, foraging, roosting, or nesting), or in situations where electrical configuration includes closely spaced energized and grounded components that are easily spanned by birds (APLIC 2024).

The increase in potential perches for hunting provided by the additional power poles could improve hunting habitat, i.e., perches, for some species.

Amphibian and Reptile Species

Potential impacts to amphibians and reptiles, including injury or death, or impacts arising from behavior changes or from the loss, degradation, and fragmentation of habitat, would be similar to those described for mammal species. Proposed ground-disturbing Interconnection Project activities could impact individuals of these species, including the potential for individuals to be crushed or buried during ground-disturbing activities. Fossorial species, species that are inactive from heat or cold, and small species would have a higher chance of injury or death compared with those individuals that are more mobile. Species near the additional power poles could experience predation because of the increase in available perches for avian predators.

Fish Species

Habitat for fish species within the Interconnection Project is limited to the Little Colorado River. As described in Exhibit C, the project will not result in road construction (permanent or temporary) or infrastructure within the Little Colorado River. The Applicants propose to construct up to either side of the canyon and string the lines via aerial means, such as by helicopter or large crane.

Minimization Measures

The Applicants have coordinated with AZGFD regarding the Interconnection Project, the Wind Facility, and the Solar Facility, and AZGFD has provided recommendations to minimize impacts to wildlife. The AZGFD recommendation letters, as well as Applicants' responses, can be found in Exhibit H. The following mitigation measures relevant to the Interconnection Project are included below. For mitigation measures specific to special-status species and other areas of biological wealth, see Exhibit C.

- To minimize risk of collision and electrocution, the Applicants will construct the proposed transmission line following the guidelines outlined in *Suggested Practices for Avian Protection on Power Lines: State of the Art in 2024* (APLIC 2024) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012), as feasible. Key avian-safe design elements identified by APLIC include installing line-marking devices (also known as diverters) in collision risk areas, removing ground wires, spacing energized and grounded parts appropriately, and capping energized parts. The Applicants will install bird diverters over the Little Colorado River crossing and Coyote Creek to further minimize the risk of avian collision.
- If vegetation-disturbing activities are planned during the migratory bird nesting season (March–September or January–June for raptors), preconstruction surveys for migratory bird nests by a qualified biologist will be conducted to reduce impacts to nesting birds and to comply with the Migratory Bird Treaty Act.
- If trenching is included as part of Interconnection Project construction, the following will implemented as feasible to minimize injury to wildlife: when trenches cannot be backfilled immediately, escape ramps, which can be short lateral trenches or wooden planks sloping to the surface, should be constructed at least every 90 meters (m); trench slopes could be less than 45 degrees (1:1); and any trenches left open overnight should be inspected to remove wildlife prior to backfilling.
- Fencing associated with the Interconnection Project will be minimized to the maximum extent practicable and will follow the recommendations in the AZGFD's *Wildlife Compatible Fencing Guidelines* (AZGFD 2011), as applicable and feasible.
- To minimize habitat degradation and fragmentation by the number and extent of new roads, the Applicants will follow existing road alignments or existing two-track paths as the preferred option. New roads, as well as areas of temporary disturbance, created as part of the Interconnection Project will be revegetated in accordance with the vegetation/habitat restoration plan that will be developed as part of Apache County permitting for the Wind Facility.
- For personnel safety and wildlife welfare, if injured or otherwise at-risk wildlife is encountered, wildlife specialists will be notified to assist in relocating wildlife as needed.
- To minimize the introduction and spread of invasive species and noxious weeds, standard best management practices, such as cleaning vehicles and identifying known infestations, should be taken into consideration during construction.

- To reduce the potential of negative effects on species from collisions, worker awareness trainings and low speed limits should be taken into consideration.

Conclusion

Portions of the Interconnection Project and Study Areas occur within previously disturbed and developed areas as well as relatively undisturbed areas. Vegetation will be disturbed in association with pole locations, access roads, and pulling locations, and areas of temporary disturbance (areas without permanent infrastructure such as towers or roads), will be revegetated. Since there is abundant habitat in the Study Area and vicinity, impacts to non-special-status plants and wildlife will be minor and restricted to individuals. At a landscape level, the Interconnection Project will not significantly reduce the amount of vegetation available for wildlife use. Therefore, the Interconnection Project may impact individuals (both wildlife and plants) but is unlikely to result in impacts at the population level for any species.

Literature Cited

Arizona Game and Fish Department (AZGFD). 2011. *Wildlife Compatible Fencing Guidelines.* Available at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/110125_AGFD_fencing_guidelines.pdf. Accessed June 2025.

———. 2020. *Becker Lake Fisheries Management Plan 2020-2030.* Available at: https://azgfd-portal-wordpress-pantheon.s3.us-west-2.amazonaws.com/wp-content/uploads/archive/Copy-of-Becker-Lake-Fisheries-Management-Plan-2020-2030.pdf. Accessed June 2025.

———. 2021. *Lyman Lake Fisheries Management Plan 2021-2031.* Available at: https://azgfd-portal-wordpress-pantheon.s3.us-west-2.amazonaws.com/wp-content/uploads/archive/Copy-of-Lyman-Lake-Fisheries-Management-Plan-2021-2031.pdf. Accessed June 2025.

———. 2023. Online Field Guide to the Reptiles and Amphibians of Arizona. Available at: https://reptilesofaz.org/. Accessed June 2025.

———. 2025. Arizona's Online Environmental Review Tool. Available at: https://ert.azgfd.gov/content/home. Lava Run Interconnection Project. Project ID: HGIS-25145. Accessed May 22, 2025.

Avian Power Line Interaction Committee (APLIC). 2012. *Reducing Avian Collisions with Power Lines: The State of the Art in 2012.* Washington, D.C.: Edison Electric Institute and Avian Power Line Interaction Committee.

———. 2024. *Suggested Practices for Avian Protection on Power Lines: State of the Art in 2024.*

Billerman, S.M., B.K. Keeney, G.M. Kirwan, F. Medrano, N.D. Sly, and M.G. Smith (eds.). 2025. *Birds of the World.* Cornell Laboratory of Ornithology, Ithaca, NY, USA. Available at: https://birdsoftheworld-org.proxy.birdsoftheworld.org/bow/home. Accessed June 2025.

Brown, D.E. 1994. *Biotic Communities: Southwestern United States and Northwestern Mexico.* Salt Lake City: University of Utah Press.

eBird. 2025. eBird. Available at: http://www.ebird.org. Accessed June 2025.

Google Earth. 2025. Aerial imagery. Available at: http://earth.google.com/web. Accessed June 2025.

Hoffmeister, D.F. 1986. *Mammals of Arizona.* Phoenix: Arizona Game and Fish Department; Tucson: University of Arizona Press.

iMapInvasives. 2025. iMapInvasives. Available at: https://www.imapinvasives.org/. Accessed June 2025.

Manville, A.M. 2016. Impacts to Birds and Bats Due to Collisions and Electrocutions from Some Tall Structures in the United States: Wires, Towers, Turbines, and Solar Arrays—State of the Art in Addressing the Problems. In *Problematic Wildlife*, edited by F. Angelici. Springer International.

———. 2022a. *Wildlife Site Evaluation for ConnectGen's Lava Run Wind Project.* Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2022b. *Eagle and Other Raptor Species Nest Surveys for the Proposed Lava Run Wind Project, 2021 and 2022 Nesting Seasons*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2023. *Avian Use Surveys for the Proposed Lava Run Wind Project, January 2021–December 2022*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2024a. *Bat Acoustic Surveys for the Proposed Lava Run Wind Project, March–November 2021 and 2022*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2024b. *Gunnison's Prairie Dog Colony Delineation for the Lava Run Wind Project, August 2024.* Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2025a. *Aquatic Resources Inventory and Waters of the United States* Analysis for the Lava Run Wind Project, Apache County, Arizona. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

———. 2025b. *Lava Run Wind Project, Generation-Tie Transmission Line Area: ASLD Right-of-Way No. 014-123938-00-100 Native Plant Inventory*. Prepared for CG Apache County Wind LLC. SWCA Environmental Consultants, Flagstaff, Arizona.

Thompson, J.R., P.W. Mueller, W. Fluckiger, and A.J. Rutter. 1984. The effect of dust on photosynthesis and its significance for roadside plants. *Environmental Pollution Series A, Ecological and Biological* 34(2):171–190.

Young, K.L., E.P. Lopez, and D.B. Dorum. 2001. *Integrated Fisheries Management Plan for the Little Colorado River Watershed*. Available at: http://www.riversimulator.org/Resources/GCMRC/LittleColoradoRiver/Young2001.pdf. Accessed June 2025.

EXHIBIT E. SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

> *Describe any existing scenic areas, historic sites, and structures or archaeological sites in the vicinity of the proposed facilities and state the effects, if any, the proposed facilities will have thereon.*

Scenic Areas and Visual Resources

Overview

This section of Exhibit E addresses the inventory of and potential impacts to scenic and/or visual resources in relation to construction and operation of the Lava Run Interconnection Project (Interconnection Project) by producing a Visual Resource Assessment (VRA). The VRA uses the methodology identified in the Methodology section below and includes separate discussions with regard to scenic quality (i.e., landscape character) and sensitive viewers as well as assessment of conformance with applicable state, county, and local management plans. The Methodology section is followed by the results of the inventory and the impact assessment, both of which include separate discussions for landscape character and sensitive viewers within the context of the area within the Study Area (i.e., the Interconnection Project centerline plus a 1-mile buffer) and conformance with nonfederal management plans.

SWCA Environmental Consultants (SWCA) conducted a review of scenic and visual resources in the Certificate of Environmental Compatibility (CEC) Corridor (i.e., the Preferred Route) and the Study Area. The following sections describe the methodology for assessing visual and scenic resources, results of the inventory of scenic resources and sensitive viewers, and a discussion of the potential effects of the project. The CEC Corridor within the Study Area will cross state-owned and privately owned lands within Apache County, Arizona. The CEC Corridor will consist of an up to approximately 29-mile-long, 345-kilovolt (kV) generation-tie (gen-tie) transmission line that connects the proposed project substations to the existing Springerville Generating Station and will be constructed within a 200-foot-wide right-of-way (ROW). Structures associated with the gen-tie line will be weathered steel monopoles in construction, with a maximum height of 180 feet.

The project is located in Apache County, Arizona, which has adopted the *Apache County Comprehensive Plan* (ACCP) (Apache County 2019). However, the ACCP does not contain any visual-specific goals, policies, or guidance related to the maintenance or protection of visual resources within the county relevant to the proposed gen-tie line. The project does not occur on land managed by the Bureau of Land Management (BLM), the U.S. Forest Service, or any other agency that requires conformance with visual resource management objectives or guidelines and is not within any designated national or state scenic areas.

Methodology

The purpose of the VRA is to identify and characterize the level of visual modification in the landscape that will result from the construction and operation of the project. Landscape modification is typically

described in terms of the degree of visual contrast, which can potentially affect both landscape character and views of the landscape from sensitive viewer locations. Whereas landscape character refers to the general characteristics of the landscape as a resource regardless of specific viewers, the term "sensitive viewer" refers to specific viewers and/or groups of viewers whose views could be affected by potential changes to the landscape. This assessment employed the following steps to assess the potential impacts to the visual environment and provide a completed VRA:

- Define a visual study area.
- Perform a desktop review to inventory designated scenic areas, identify existing land uses and future land use plans, and assess aerial imagery.
- Describe the affected environment by evaluating the existing landscape character within the Study Area to identify impacts from the introduction of project components within the landscape.
- Identify key observation points (KOPs) from where the project may be viewed and simulations created.
- Perform a field survey by visiting each KOP, collecting site photographs, and documenting existing conditions.
- Prepare visual simulations of the project using the KOP photographs.
- Assess the potential visual impacts of project development based on the existing conditions observed during the field survey in concert with the visual simulations.

The Study Area for the VRA encompasses areas from which viewers could potentially see any part of the project. Visual resource information and data for this VRA were developed based on desktop research, available geographic information system (GIS) data, aerial photography, and on-site field verification and photographic documentation. The data were collected for all land within the Study Area, regardless of jurisdiction, and used to develop a comprehensive understanding of the existing landscape and associated visual resources. The Study Area consists of Arizona State Trust land and private land and is mostly undeveloped, with dispersed recreation opportunities occurring along roadways and on high points in the landscape, as there are no developed recreation sites within the Study Area.

INVENTORY

Landscape Character

Landscape character refers to the overall visual and cultural impression of the landscape based on the distinct landscape attributes that exist throughout an area. Landscape character is a product of both natural and human influences on the landscape, including unique landforms, variable vegetation, and built features. In general terms, the scenic quality is based on the premise that landscapes with greater diversity and visual variety in landforms and vegetation are more aesthetically pleasing and therefore hold greater value.

Sensitive Viewers

The concept of sensitive viewers refers to members of the public who have potential views of the project and may be sensitive to potential changes in the surrounding landscape character and their existing views. Regarding sensitive viewers, the degree of contrast introduced by the project is dependent on several factors, including viewing distance, duration of view, viewing condition, and degree of visibility. When combined, these factors indicate the overall level of visual contrast, or visual dominance, of the project within the landscape.

Visual resource information and data for the visual assessment of the Study Area were developed based on publicly available GIS data, aerial photography, and on-site field verification and photographic documentation. These data were collected for all lands, regardless of jurisdiction, and used to develop a comprehensive understanding of the existing landscape and associated visual resources.

To assess how the project may visually modify the existing landscape, Repsol S.A. and the project team developed photo-realistic visual simulations of project components from KOPs. In selecting KOPs, the project team visited the CEC Corridor and Study Area in April 2025, to evaluate areas from which the project will likely be visible. Repsol S.A. identified six KOPs for further analysis (Table E-1, Exhibit E-1); existing conditions were photographed from each KOP for the purpose of creating photo-realistic visual simulations.

Table E-1. Key Observation Point Locations

KOP No.	KOP Name	Latitude / Longitude	Viewer Type	Distance to Nearest Interconnection Structure (miles)	Rationale for Selection
1	Arizona State Trust land, unnamed road	34.252804 / −109.268598	Recreational	0.9	Represents typical views from an off-road dual track travel route used for recreational purposes. Sensitivity of viewers is assessed as moderate. See Exhibits E2a–E2c.
2	U.S. Route (U.S.) 180	34.23006 / −109.340468	Traveler	0.60	Represents typical views for travelers on U.S. 180 within the Study Area. Sensitivity of viewers is assessed as low to moderate. See Exhibits E3a–E3c.
3	U.S. 60 eastbound	34.243495 / −109.519391	Traveler	0.7	Represents typical views from travel routes near U.S. 60 within the Study Area. Sensitivity of viewers is assessed as low to moderate. See Exhibits E4a–E4c.
4	Arizona State Trust land, unnamed road	34.302618 / −109.125473	Recreational	2.3	Represents typical views from an off-road dual track travel route used for recreational purposes. Sensitivity of viewers is assessed as moderate. See Exhibits E5a–E5c.
5	County Road 4365	34.246289 / −109.390297	Traveler	0.80	Represents typical views for travelers on County Road 4365 within the Study Area. Sensitivity of viewers is assessed as low to moderate. See Exhibits E6a–E6c.
6	U.S. 60 westbound	34.22948 / −109.492823	Traveler	0.85	Represents typical views for travelers on U.S. 60 within the Study Area. Sensitivity of viewers is assessed as low to moderate. See Exhibits E7a–E7c.

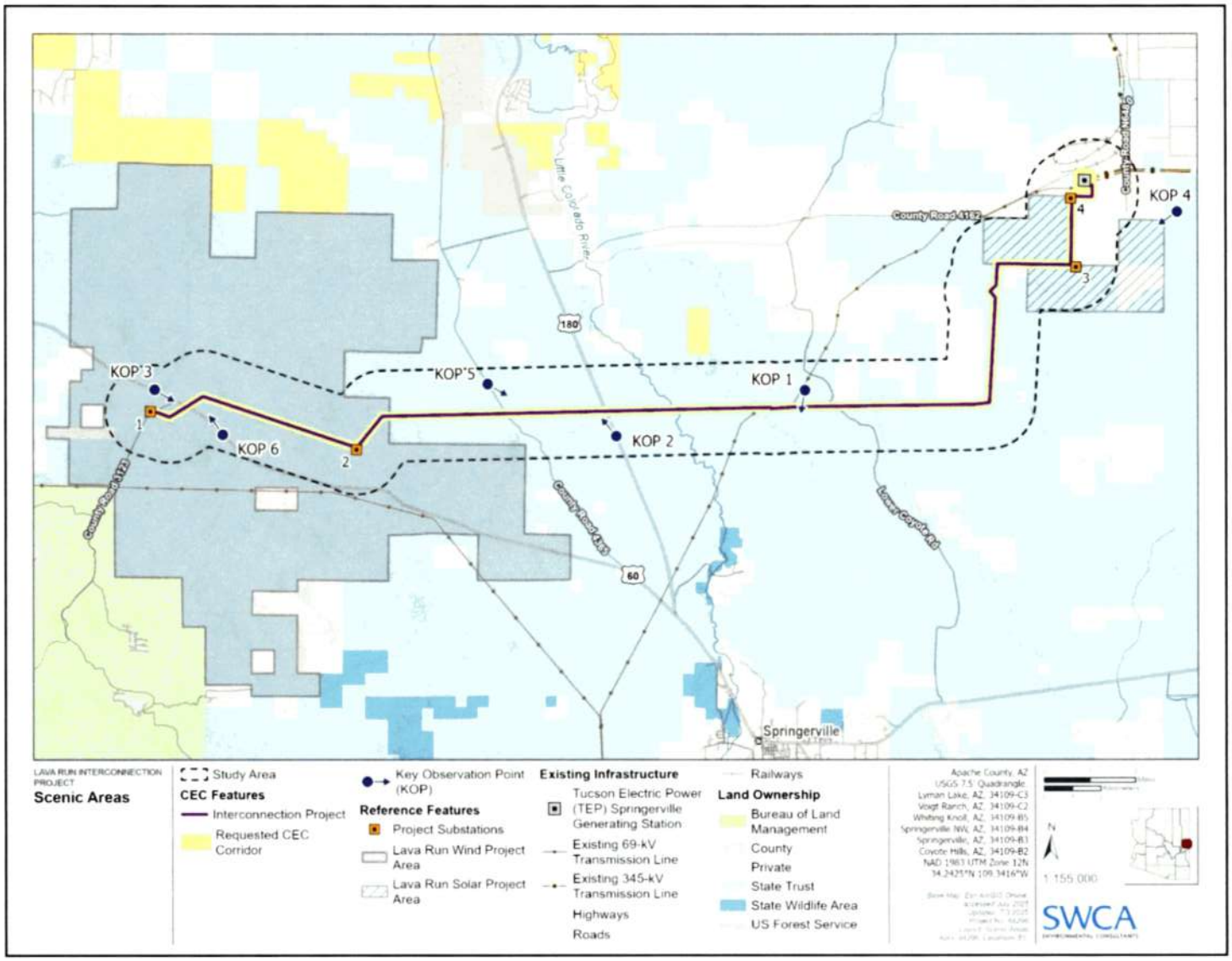


Exhibit E-1. Interconnection Project, Study Area, and KOPs.

Photo-realistic simulations of the project were made for each KOP using ArcGIS, Google Earth Pro, Autodesk products (AutoCAD and 3DS Max), and Adobe Photoshop software (Exhibits E-2a–E-7c). Developing visual simulations involves creating a three-dimensional model of project components, positioning the modeled project components on a digital elevation model of the CEC Corridor, and finally superimposing the resulting model onto the KOP photographs of existing conditions at the correct scale and distance. Date and time-of-day inputs determine shadows and reflected light, and the software accounts for distance and haze to increase accuracy of viewing conditions.

The term "viewing distance" refers to the viewer's physical distance from the project components and is predicated on the fact that one's ability to discern details dissipates over distance. Distance zones are used to separate an analysis area into distinct classifications based on the various levels of landscape detail available to the viewer and type of project infrastructure. SWCA reviewed established agency protocols, including those published by the U.S. Forest Service, BLM, and U.S. Department of Transportation, to determine an appropriate area for each distance zone for the Study Area.

For the purposes of this study, the distance to the project (in miles) was used to identify viewing distance, with a particular focus on the foreground distance zone. This area corresponds to the area within 0.5 mile of the project, where views of modifications to the landscape will be most prominent, leading to views potentially dominated by project infrastructure. The following distance zones were used for evaluating impacts landscape character from each KOP:

- **Immediate foreground:** up 0.25 mile
- **Foreground:** 0.25 to 1 mile
- **Middle ground/Background:** 1 mile and beyond the Study Area

The duration of view refers to the length of time the project will be visible and is based on the idea that viewer attention is attracted to a higher degree as the duration of view increases. Viewing position refers to whether the viewer is looking down at the project from a superior position, looking up at the project from an inferior position, or viewing the project from an elevation that is similar to that of the project (i.e., a neutral view). The term "degree of visibility" refers to whether views of the project would be either open and unobstructed or partially to fully obstructed by other features in the existing landscape (i.e., topography, vegetation, or built features). The degree of visibility also refers to whether the project would be viewed against the sky (i.e., skylined) or a backdrop of landforms, vegetation, and/or built features.

Anticipated viewer sensitivities to visual changes are also discussed within the VRA, including brief discussions regarding the potential sensitivities of different types of identified viewer groups within the vicinity of the project. Residential and recreational viewer groups are typically considered to have higher sensitivities to visual changes in the landscape, whereas typical motorists moving along travel routes are expected to have low to moderate sensitivities to visual changes (unless traveling along a designated scenic travel route or more natural appearing or specially protected areas).

Inventory Results

LANDSCAPE CHARACTER

The term landscape character refers to the overall visual and cultural impression of the landscape based on the distinct landscape attributes that exist throughout an area.

In the context of the project, scenic quality is a qualitative measure of the landscape's inherent aesthetic value on the appearance of existing landscape features, including landforms, vegetation, and built features. In general terms, the scenic quality is based on the premise that landscapes with greater diversity and visual variety in landforms and vegetation are more aesthetically pleasing and therefore hold greater value. For this analysis, impacts to scenic quality were based on comparing the inventoried quality of the scenery to the anticipated quality considering any contrast introduced as a result of the construction and operation of the project. The Study Area falls within the Semiarid Tablelands ecoregion within the larger Arizona/New Mexico Plateau (Level III Ecoregion) and the Conifer Woodlands and Savannas ecoregion within the larger Arizona/New Mexico Mountains (Level III Ecoregion). The Semiarid Tablelands ecoregion consists of mesas, plateaus, valleys, and canyons, with bedrock exposures being common. Grass, shrubs, and woodlands cover the tablelands. Elevations range from 5,000 to just over 7,500 feet. This ecoregion has more grassland and less sagebrush than ecoregions to the north. Scattered juniper occurs in some areas as dense patches. Pinyon-juniper woodlands are also common, with alkali sacaton, shadscale, fourwing saltbush, Indian ricegrass, and galleta (Griffith 2014).

Approximately 0.56 mile of the far western portion of the CEC Corridor is located within the Conifer Woodlands and Savannas ecoregion. This ecoregion is an area of mostly pinyon-juniper woodlands, with some ponderosa pine at higher elevations. It often intermingles with grasslands and shrublands, and elevations range from 5,000 to 84,000 feet. Vegetation includes one-seed juniper, pinyon pine, Stansbury cliffrose, Apache plume, fourwing saltbush, Mormon tea, needleandthread, sideoats grama, blue grama, black grama, galleta, bottlebrush squirreltail, and muttongrass. This ecoregion lacks the sagebrush of the Northern Woodlands and Sagebrush ecoregion to the north.

Development within the Study Area is limited and dispersed, including the Tucson Electric Power (TEP) Springerville 345-kV Substation, which is adjacent to the Springerville Generating Station and associated transmission equipment; U.S. 60 and U.S. 180; and an existing 69-kV transmission line. The heights of the existing infrastructure make them highly visible and dominant features in many portions of the landscape within the Study Area.

The scenic quality within the Study Area is considered low to moderate based on the moderately visually interesting landforms and vegetation, similar to landscape typical of the Colorado Plateau, including open rolling grassland with occasional cinder cones and buttes with the prominence of existing built features and development dominating the appearance of the natural landscape.

SENSITIVE VIEWERS

The concept of sensitive viewers refers to members of the public for whom the project may be visible and who may be sensitive to potential changes in the landscape character because of the project. With regard to sensitive viewers, the degree of project contrast is dependent on several factors, including viewing distance, duration of view, viewing condition, and degree of visibility. When combined, these factors indicate the overall visual dominance of the project within the landscape. The term "viewing distance" refers to the viewer's physical distance from the project components. The assessment of visual impacts is predicated on the fact that a person's ability to discern details decreases as viewing distance increases.

Residences

There are no residences located within the Study Area; the nearest communities with residential viewers are the towns of Springerville and Eagar, which are more than 7 miles south of the CEC Corridor.

Recreation Areas

Existing recreational uses within the Study Area are limited due to the mix of state and private lands. Recreational activities within the Study Area would consist of using local or county roads for walking, hiking, biking, operating off-road vehicles, horseback riding, nature viewing, birdwatching, and photography (Exhibit F). Existing transmission line infrastructure within the Study Area is also visible to many recreational users, and the heights of these features make them highly visible and dominant features in many portions of the landscape. Views from recreational users within the Study Area would be mostly panoramic and open in nature, with an undulating horizon line and including views of the surrounding unnamed and named (e.g., Scraper Knoll, Coyote Hills, and Cerro Quemado) mountain ranges, hills, and buttes, which range from approximately 6,500 to 7,500 feet in elevation. Recreational viewers are assumed to have relatively moderate durations of view and a moderate sensitivity to visual changes because of the mixture of existing visible development and infrastructure in the area in conjunction with more open natural views of surrounding mountainous landforms.

Travel Routes

The primary travel routes in the Study Area are U.S. 180 and U.S. 60, as well as a number of unimproved and two-track recreational roadways. These travel routes range from highways to smaller ancillary streets within 1 mile of the CEC Corridor and continue into the landscape beyond the Study Area. Views from travel routes typically include limited development including property fencing and existing transmission lines. Views of the Springerville 345-kV Substation and Springerville Generating Station would be distant, as they are over 12 miles east of U.S. 180 (the nearest major roadway) and U.S. 60. Views from travel routes within the Study Area would be mostly panoramic and open in nature, with an undulating horizon line and including views of the surrounding unnamed and named (e.g., Scraper Knoll, Coyote Hills, and Cerro Quemado) mountain ranges, hills, and buttes, which range from approximately 6,500 to 7,500 feet in elevation. Viewers moving along travel routes are expected to have relatively short durations of view due to travel speeds; views are typically focused on the immediate foreground while in motion, and viewers have relatively low sensitivities to visual changes as a result of the visibility of existing development within the Study Area.

IMPACT ASSESSMENT

Impacts to both landscape character and sensitive viewers are determined, in part, by evaluating the visual contrast the proposed features would have with the existing landscape. Visual contrast refers to the degree of visual change introduced by a project, as indicated by modifications to basic design elements (form, line, color, and texture), compared to the existing visual setting. The degree of visual contrast considers the existing landforms, vegetation, and built features present in the landscape and is described in terms of the degree of perceptible change in the basic design elements of form, line, color, and texture that will be evident by the introduction of the project in the landscape.

After assessing the level of visual contrast introduced by the Interconnection Project, the impacts on landscape character and on views from identified viewing locations associated with sensitive viewers (i.e., KOPs) were identified using the following approach. Impacts on landscape character were assessed by comparing the level of visual contrast with the existing landscape character to determine the magnitude of visual impacts as described in Table E-2. Impacts on sensitive viewers were assessed by evaluating visual contrast, viewer sensitivity, and viewshed analysis in context with the distance to the Interconnection Project based on the criteria outlined in Table E-2. If impacts were found to be between the low and moderate or between the moderate and high impact levels identified in Table E-2, low–moderate and moderate–high impact levels, respectively, were identified to provide additional impact thresholds to describe the intensity of the impacts.

Table E-2. Criteria for Assessing Level of Impacts on Visual Resources

Impact Level	Impacts on Landscape Character	Impacts on Sensitive Viewers
Negligible	Landscape would appear unaltered, and project elements would not be visually evident. Project elements would repeat forms, lines, colors, textures, and/or scale common in the landscape.	Project components would repeat forms, lines, colors, textures, and/or scale common in the landscape and would not be visually evident to the casual observer.
Low	Landscape would appear slightly altered. Project elements would introduce forms, lines, colors, textures, and/or scale common in the landscape and would be visually subordinate and not attract attention.	Project elements would introduce forms, lines, colors, textures, and/or scale common in the landscape and would create weak contrast compared with other features in the landscape when viewed. The project would be seen but would not attract the attention of the casual observer.
Moderate	Landscape would appear to be moderately altered, and project elements would begin to dominate the visual setting. Project elements would introduce forms, lines, colors, textures, and/or scale not common in the landscape and would be visually prominent in the landscape.	Project elements would introduce forms, lines, colors, textures, and/or scale that would attract attention of the casual observer and would create moderate contrast compared with other features in the landscape when viewed.
High	Landscape would appear to be heavily altered, and project elements would dominate the visual setting. Project elements would be out of scale or contain detail that is out of character with the existing landscape.	Project elements would introduce forms, lines, colors, textures, and/or scale that would be visually dominant for the casual observer and would dominate the visual setting, creating strong contrast compared with other features in the landscape.

Impact Assessment Results

Below are general descriptions of the potential impacts on landscape character and sensitive viewers based on the construction and operation of the Interconnection Project. Overall, impacts on sensitive viewers associated with the Interconnection Project will be moderate to high depending on viewer position, existing infrastructure, and the surrounding landscape. Table E-3 summarizes the results for each KOP.

Table E-3. Visual Contrast and Visual Impact Results Summary

KOP No.	KOP Name	Level of Sensitivity	Level of Contrast	Level of Impact
1	Arizona State Trust land, unnamed road	Moderate	Moderate	Moderate
2	U.S. 180	Low–moderate	Moderate–strong	Moderate–high
3	U.S. 60 eastbound	Low–moderate	Moderate–strong	Moderate–high
4	Arizona State Trust land, unnamed road	Moderate	Weak–moderate	Low–moderate
5	County Road 4365	Low–moderate	Moderate–strong	Moderate–high
6	U.S. 60 westbound	Low–moderate	Moderate–strong	Moderate–high

LANDSCAPE CHARACTER

The Interconnection Project is anticipated to be constructed using weathered steel double-circuit and single-circuit 345-kV monopoles. The structures will have a maximum height of 180 feet to maintain necessary clearances. The average span length between structures will range between approximately 675 and 770 feet, depending on final design. The structures will have a weatherized finish, and conductors

will have a nonspecular finish to reduce visibility. Variations may be required to achieve site-specific mitigation objectives or meet site-specific engineering requirements.

The forms, lines, colors, textures, and scale of the Interconnection Project components will be similar in appearance to those of other substation and transmission line infrastructure within the existing landscape. The existing transmission lines are 69 kV compared to the proposed 345-kV transmission line. Overall, the Interconnection Project is expected to create moderate to strong contrast against the existing low–moderate scenic quality of the landscape within the Study Area. The impact of the Interconnection Project will range from low–moderate (i.e., the CEC Corridor will appear as a codominant feature within the existing landscape, with visual codominance in areas where the Springerville Generating Station is visible) to moderate–high (i.e., the Interconnection Project will appear as a dominant feature within the existing landscape).

SENSITIVE VIEWERS

The following is a summary of anticipated impacts to sensitive viewers resulting from the construction and operation of the Interconnection Project.

Residences

There are no residences located within the Study Area; therefore, there will be no impacts to residential areas within the Study Area.

Recreation Areas

Views of the Interconnection Project from recreation areas within the Study Area will be partially obstructed by topography and existing vegetation. Based on the relatively flat landform on which the Interconnection Project will be located and the similar topography to that of existing recreational viewing locations, recreational viewers would typically have views of the Interconnection Project from a neutral or inferior viewing position, including skylined views of the transmission line and interconnection with the Springerville Generating Station.

Viewers in recreation areas accessed by two-track travel routes would have unobstructed to partially obstructed views of the CEC Corridor, as represented by KOPs 1 and 4 (see Exhibits E-2a–E-2c and E-5a–E-5c). The degree of contrast will vary by viewers' precise location but is anticipated to range from moderate to strong.

KOP 1 will experience moderate impacts in context. The existing transmission development will repeat forms, lines, colors, and textures common in the area, just at a larger scale. Viewers at this KOP would view the Interconnection Project from inferior viewing positions; the transmission poles will be elevated and prominently skylined and appear as codominant features, with the flat, expansive panoramic landscape surrounding the viewer.

KOP 4 will experience low–moderate impacts. The forms, lines, colors, and textures will be common in the area, and the nearby natural landscape will be modified by industrial development. Viewers at this KOP would be at a nearly level viewing position; the transmission poles will be backdropped against distant mountains and located behind the existing monopole transmission line in the landscape. The introduction of the double-circuit gen-tie visible from this KOP will expand the developed feel of the landscape and the amount of the landscape that appears disturbed to viewers.

Travel Routes

Views from travel routes within the Study Area will vary from unobstructed to partially or fully obstructed based on viewing location. Based on the generally flat landform on which the Interconnection Project will be located, views of the Interconnection Project from travel routes would generally be from a neutral or inferior viewing position and include skylined views of the transmission line and interconnection with the substation, where visible.

KOP 3 (see Exhibits E-4a–E-4c) and **KOP 6** (see Exhibits E-7a–E-7c) represent eastbound and westbound views, respectively, from U.S. 60. Travelers along this road will experience moderate to high impacts. The forms, lines, colors, and textures of the transmission line will be uncommon in this area. Travelers at this KOP would be at an inferior viewing position; the transmission poles will be elevated and prominently skylined, introducing a stronger-than-moderate contrast. Based on the orientation of U.S. 60, the CEC Corridor would be viewed peripherally from the travel lanes for a short duration of time due to travel speeds and because the Interconnection Project runs nearly perpendicular to the roadway crossing. However, the structures will remain a codominant feature in the landscape and begin to (but not fully) dominate the visuals of the overall flat, expansive panoramic horizon surrounding the viewer and the dark, sinuous asphalt roadway on which vehicular travelers would be more focused.

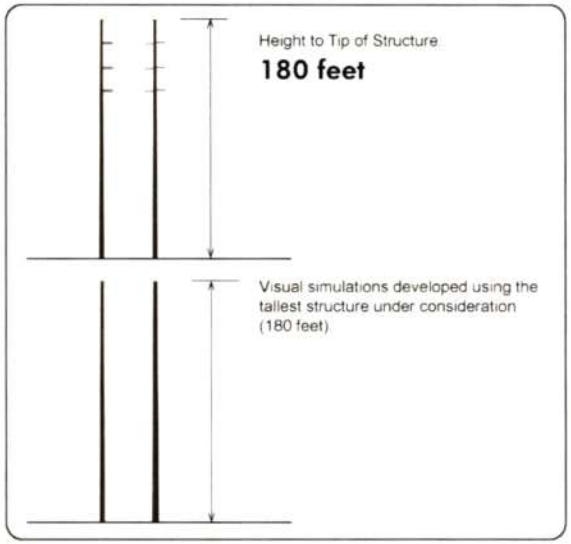
KOP 2 represents views from U.S. 180. Travelers along this road will experience moderate to high impacts (see Exhibits E-3a–E-3c). The forms, lines, colors, and textures of the transmission line will be uncommon in this area; travelers at this KOP would be at a neutral viewing position, and most of the length of the transmission poles will be skylined, introducing a stronger-than-moderate contrast. Based on the orientation of U.S. 180, the CEC Corridor would be viewed peripherally from the travel lanes for a short duration of time due to travel speeds and because the Interconnection Project runs nearly perpendicular to the roadway crossing. However, the structures will remain a codominant feature in the landscape and begin to (but not fully) dominate the visuals of the overall flat, expansive panoramic horizon surrounding the viewer and the dark, sinuous asphalt roadway on which vehicular travelers would be more focused.

KOP 5 will experience moderate to high impacts (see Exhibits E-6a–E-6c). The forms, lines, colors, and textures of the transmission line will be uncommon in this area. Viewers at this KOP would be at an inferior viewing position, and the transmission poles will be elevated and prominently skylined, introducing a stronger-than-moderate contrast. However, the structures will remain a codominant feature in the landscape and begin to (but not fully) dominate the visual of the overall flat, expansive panoramic horizon surrounding the viewer.

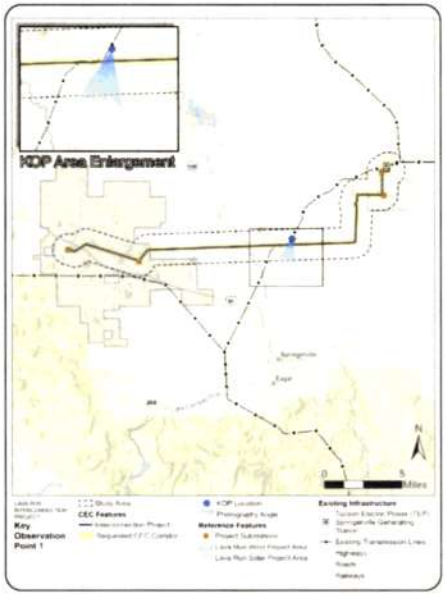
Conclusion

The construction and operation of the Interconnection Project and its components will introduce elements that are uncommon in some areas of the landscape in terms of form, line, color, texture, and/or scale. This will result in moderate to high impacts in areas where there is a lack of existing similar and visible modifications to the landscape, particularly near KOPs 2, 3, 5, and 6. In contrast, the introduction by the Interconnection Project of elements similar to those of existing substation and transmission line infrastructure, such as the substation infrastructure associated with the Springerville Generating Station (visible near KOPs 1 and 4), will result in a low–moderate to moderate–strong contrast against the existing landscape character. Similarly, impacts to sensitive viewers will range from low–moderate to moderate–high because of perceived contrast due to intervening visual elements, similarities with existing transmission infrastructure, and the duration of view of the CEC Corridor within the Study Area.

Lava Run Interconnection Project



Structure Diagram



KOP Location and Project Elements

KOP 1 - Arizona State Land, Unnamed Road

Latitude, Longitude (degrees):
34.252804, -109.268598

Time and Weather:

Sunny

Date:
4-16-25
Photo Time:
10:25 am

Approximate Distance to Nearest Interconnection Project Structure in Simulation:
0.9 mile

Simulation was prepared using information provided by client, "Lava Run_T-Line Prelim Civil Design_20250417" dated May 13, 2025. Locations, colors, and heights may vary based on final engineering and design.

Lava Run
Wind & Solar Projects

SWCA®
ENVIRONMENTAL CONSULTANTS

Exhibit E-2a. Photosimulation of the Interconnection Project from KOP 1, cover sheet (1 of 3).

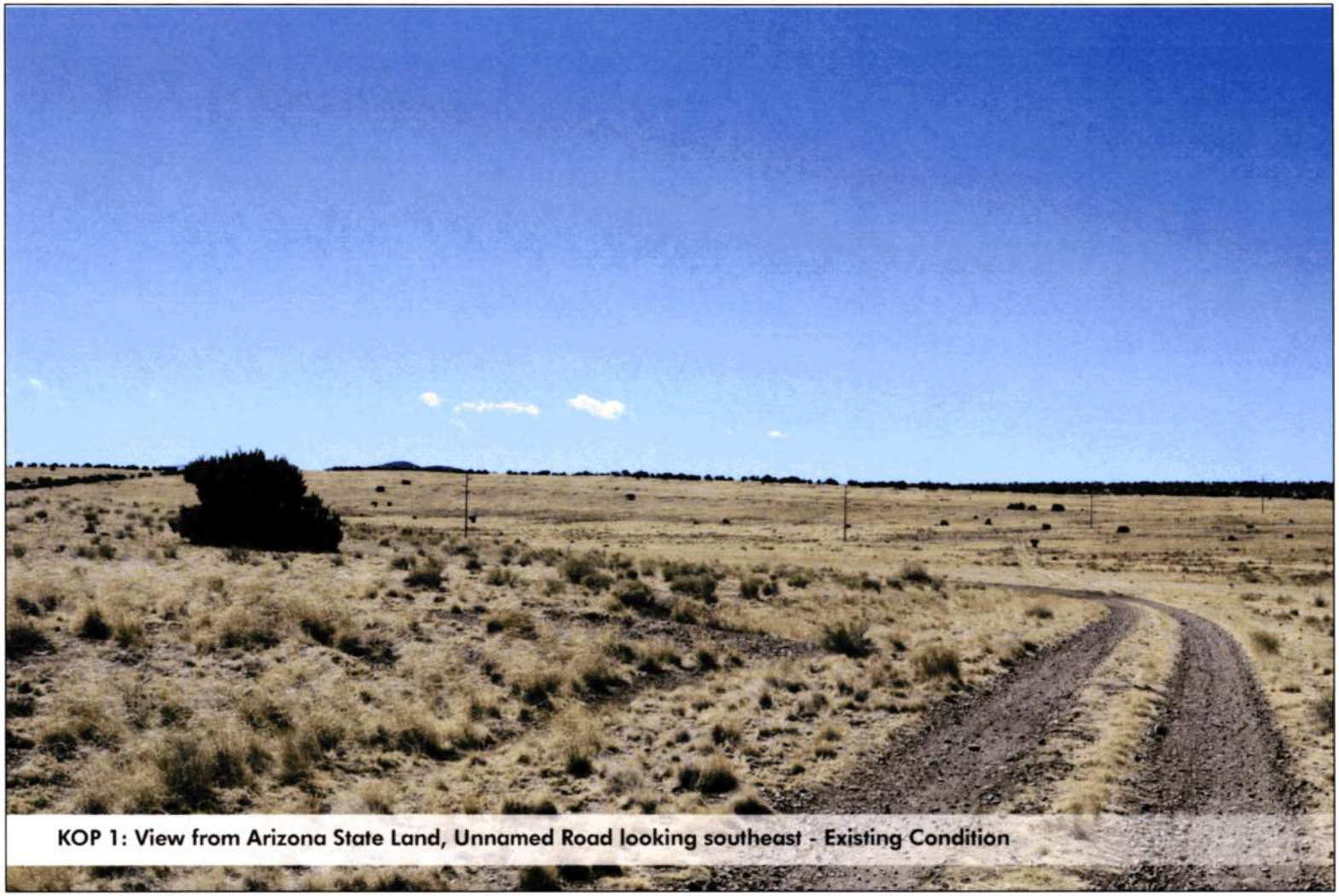


Exhibit E-2b. Photosimulation of the Interconnection Project from KOP 1, existing condition (2 of 3

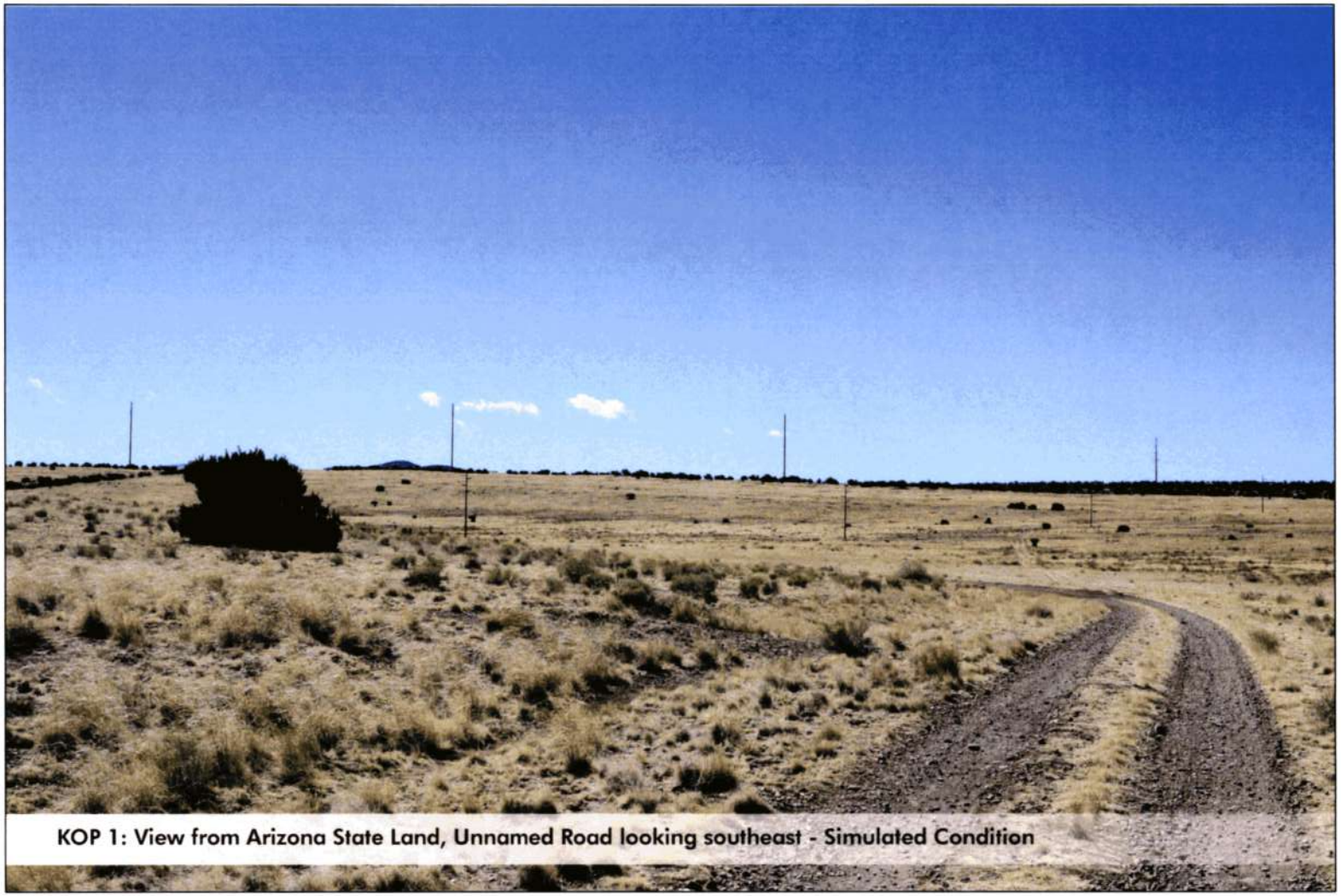
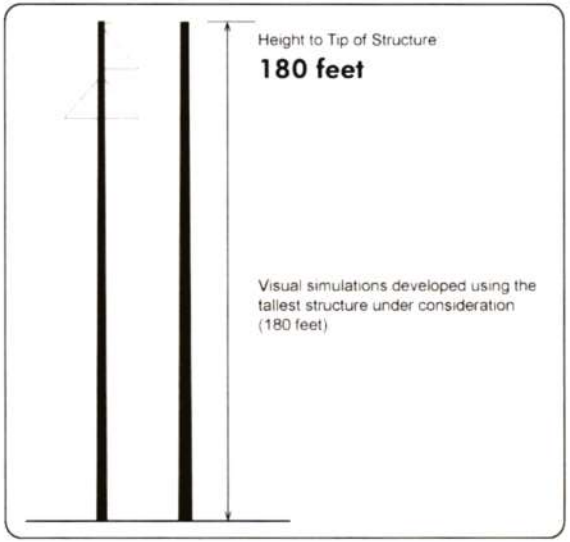
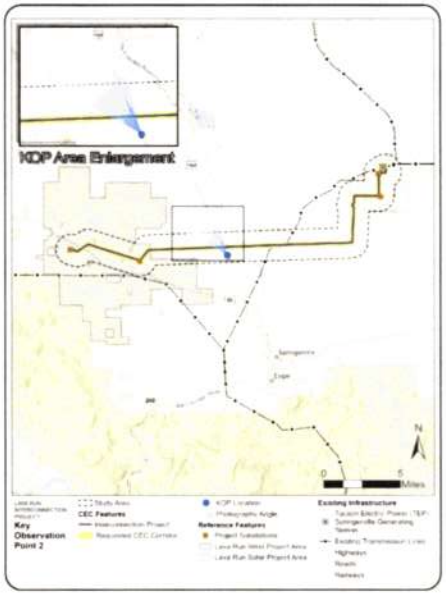


Exhibit E-2c. Photosimulation of the Interconnection Project from KOP 1, simulated condition (3 of 3).

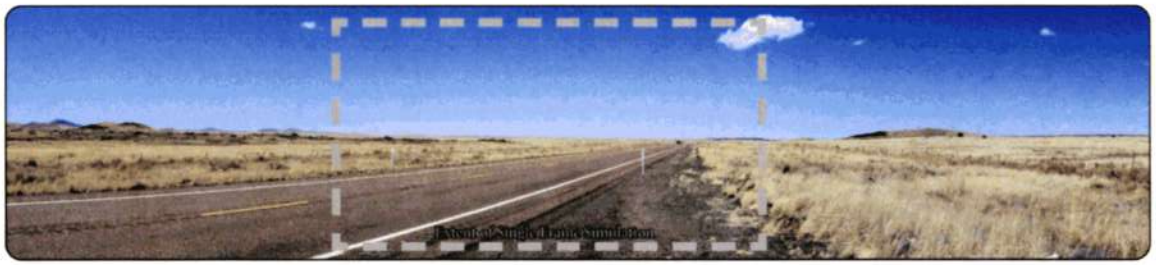
Lava Run Interconnection Project



Structure Diagram



KOP Location and Project Elements



KOP 2 - US 180

Latitude, Longitude (degrees):
34.23006, -109.340468

Time and Weather:

Sunny

Date
4-16-25
Photo Time
1:15 pm

Approximate Distance to Nearest Interconnection Project Structure in Simulation:
0.6 mile

Approximate Distance to Nearest Turbine in Simulation:
5.1 miles

Number of Turbines Visible in Simulation:
4

Simulation was prepared using information provided by client, "Lava Run_T-Line Prelim Civil Design_20250417" dated May 13, 2025. Locations, colors, and heights may vary based on final engineering and design.

Lava Run
Wind & Solar Projects

SWCA®
ENVIRONMENTAL CONSULTANTS

Exhibit E-3a. Photosimulation of the Interconnection Project from KOP 2, cover sheet (1 of 3).

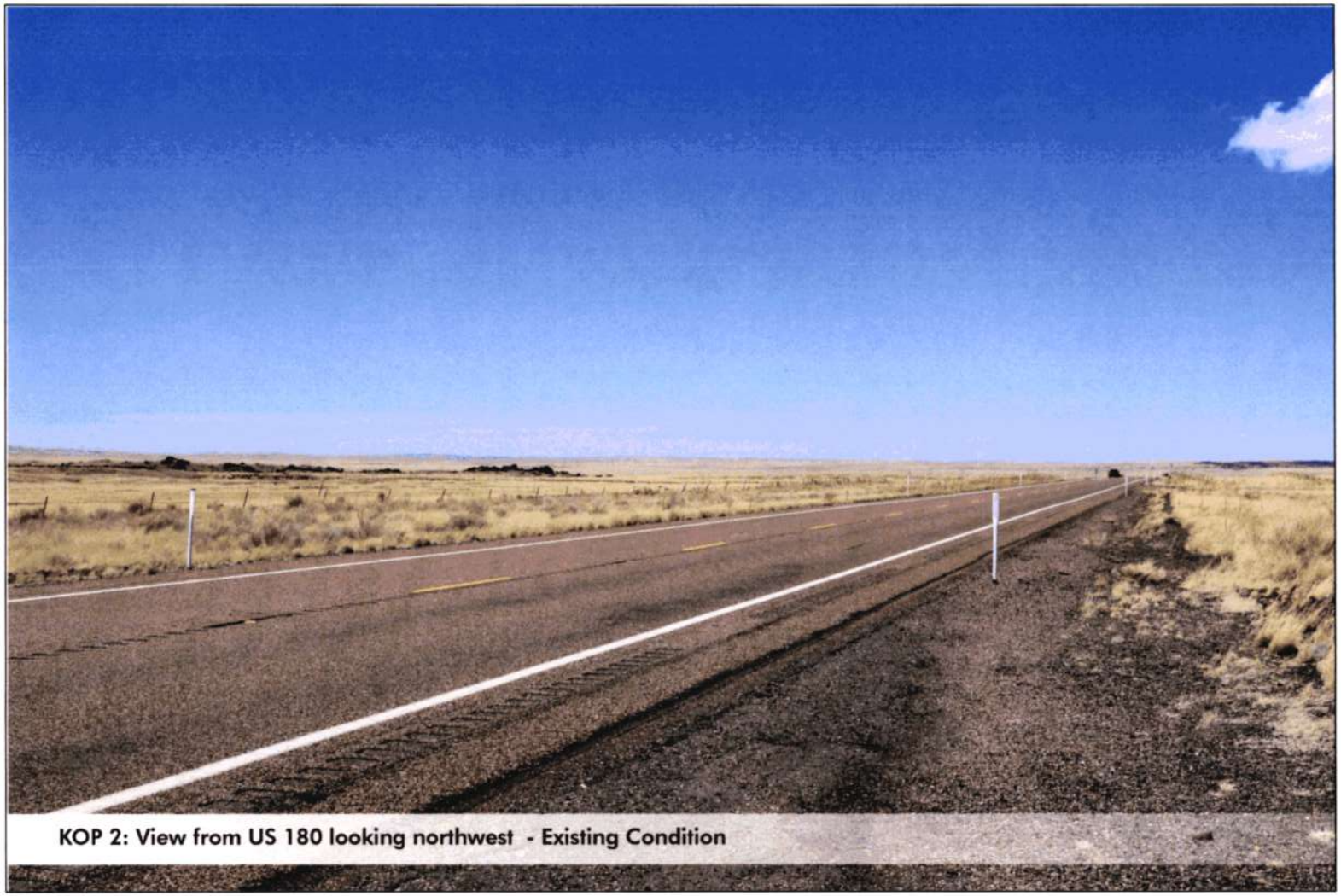


Exhibit E-3b. Photosimulation of the Interconnection Project from KOP 2, existing condition (2 of 3).

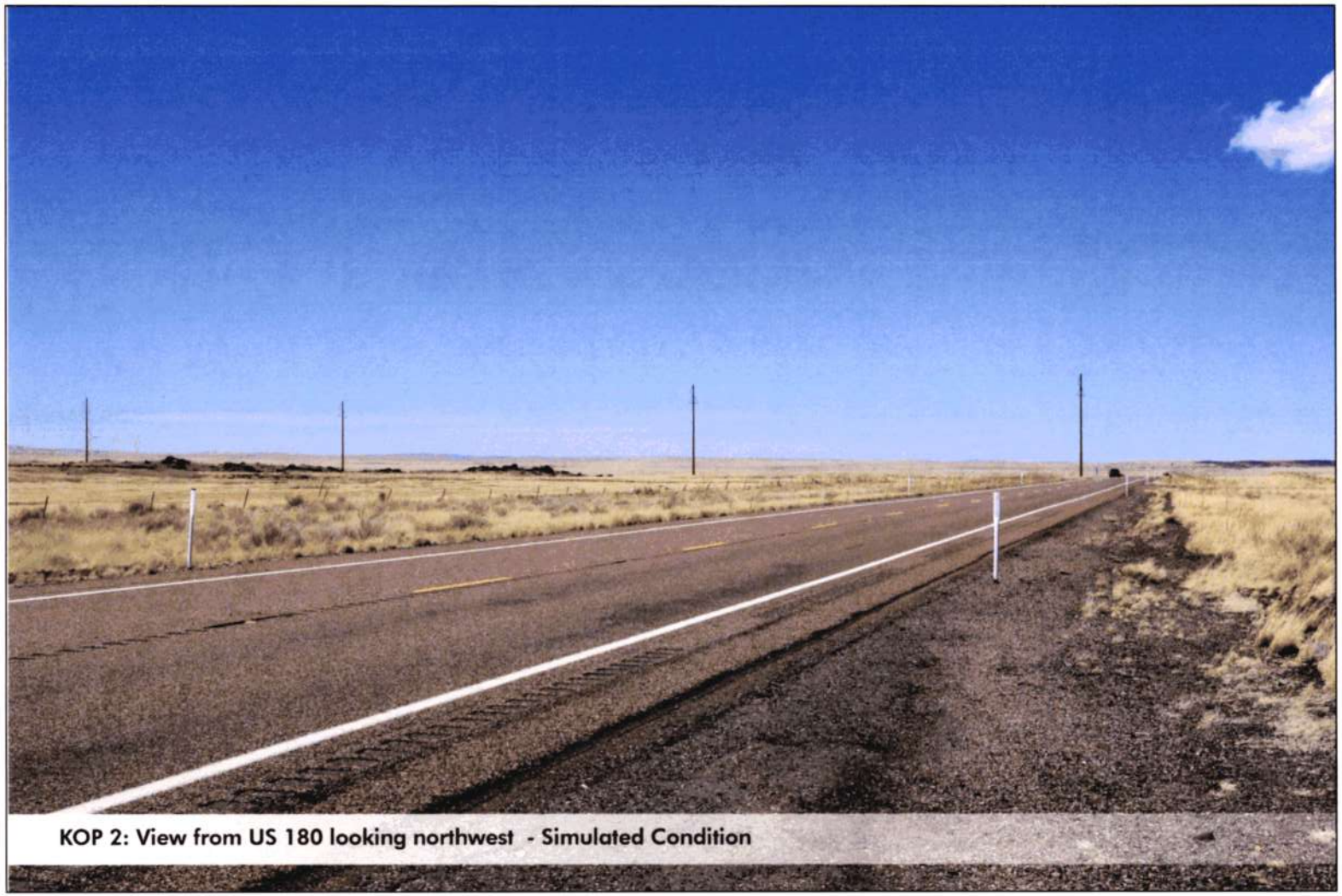
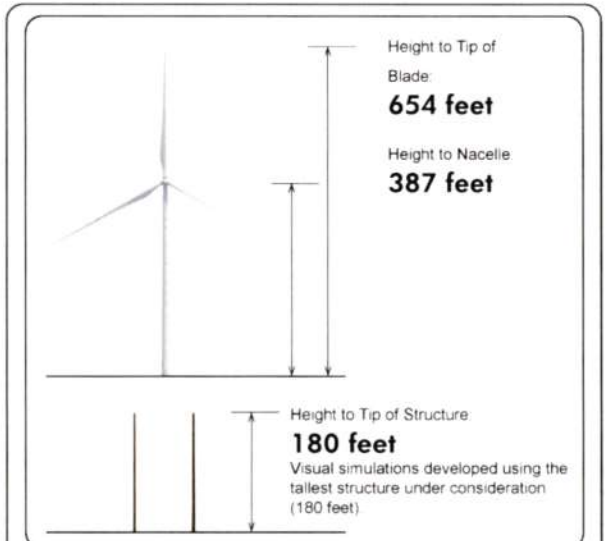
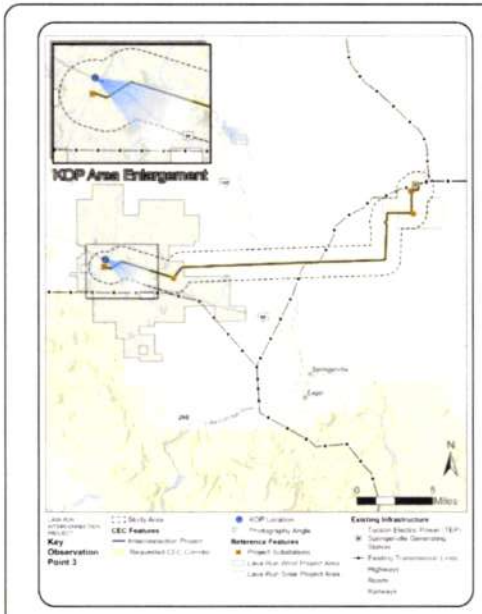


Exhibit E-3c. Photosimulation of the Interconnection Project from KOP 2, simulated condition (3 of 3).

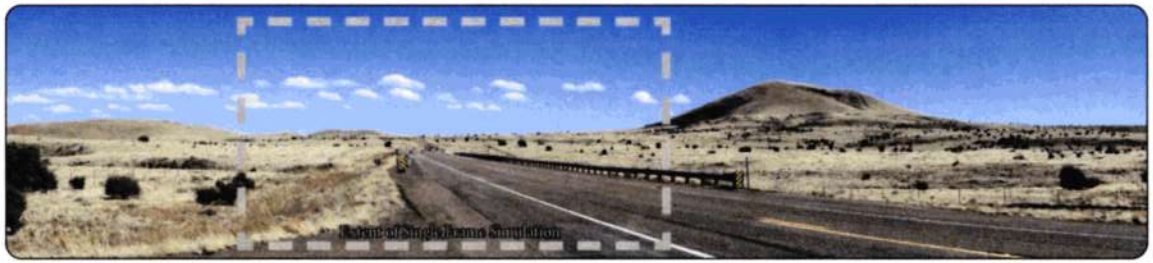
Lava Run Interconnection Project



Structure Diagram



KOP Location and Project Elements



KOP 3 - US 60 Eastbound

Latitude, Longitude (degrees):
34.243495, -109.519391

Time and Weather:

Sunny

Date:
4-16-25
Photo Time
2:30 pm

Approximate Distance to Nearest Interconnection Project Structure in Simulation:
0.7 mile

Approximate Distance to Nearest Turbine in Simulation:
0.75 mile

Number of Turbines Visible in Simulation:
12

Simulation was prepared using information provided by client, "Lava Run_T-Line Prelim Civil Design_20250417" dated May 13, 2025. Locations, colors, and heights may vary based on final engineering and design.

Lava Run
Wind & Solar Projects

SWCA®
ENVIRONMENTAL CONSULTANTS

Exhibit E-4a. Photosimulation of the Interconnection Project from KOP 3, cover sheet (1 of 3).

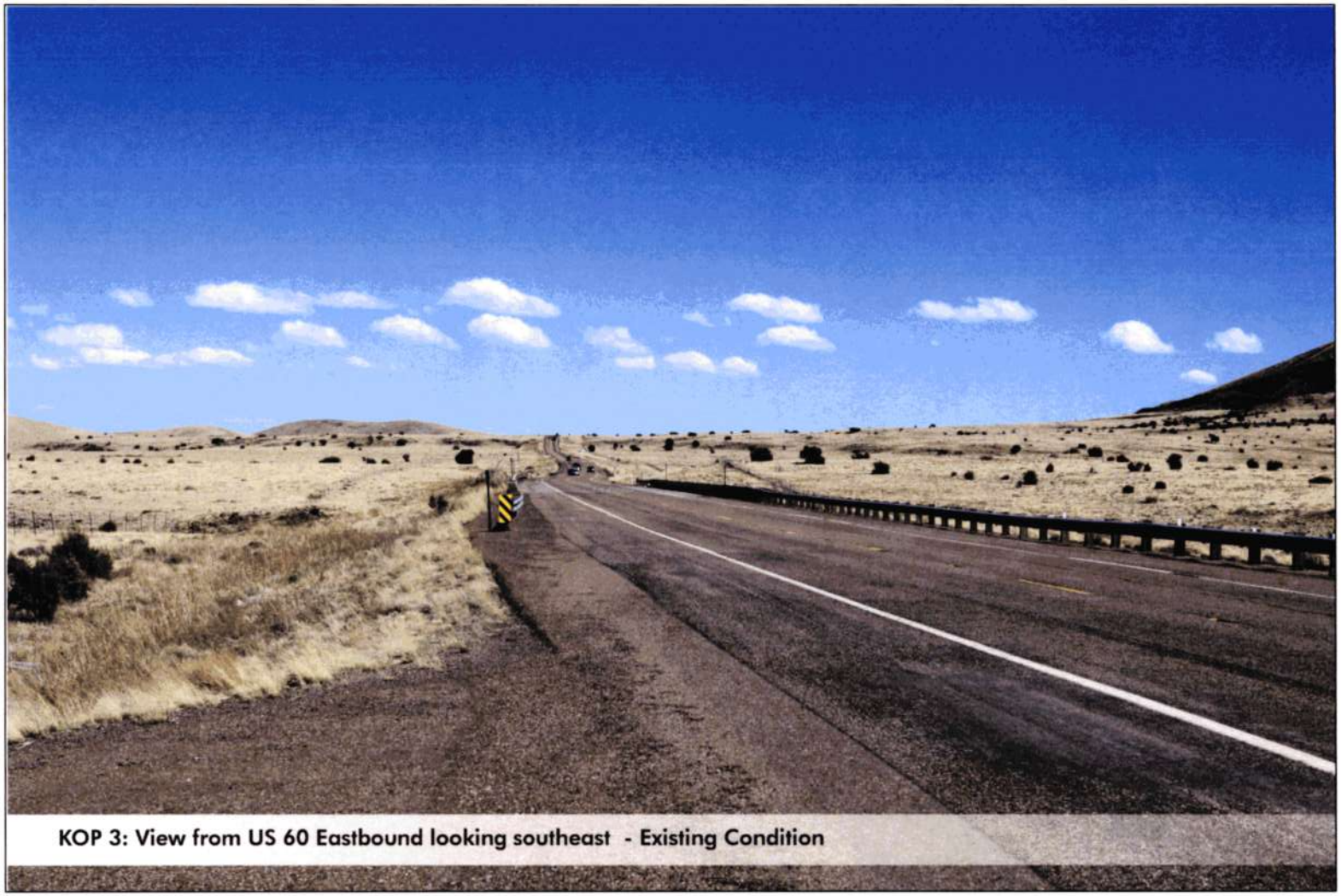
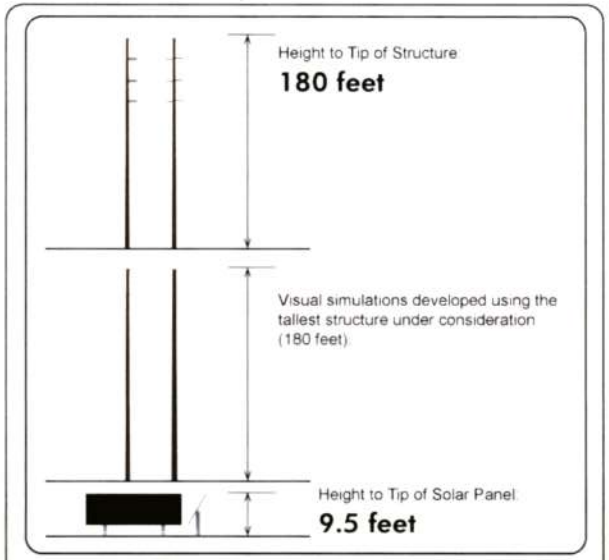


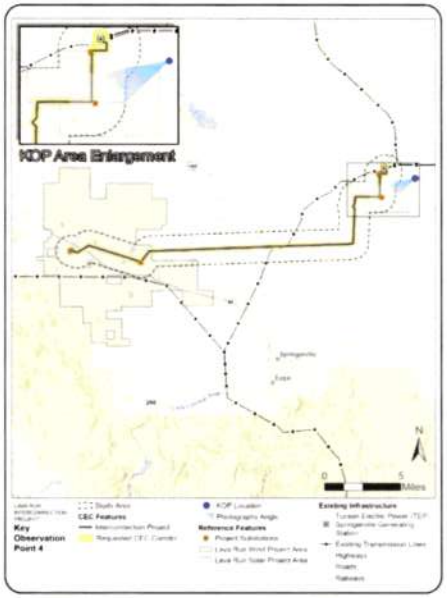
Exhibit E-4b. Photosimulation of the Interconnection Project from KOP 3, existing condition (2 of 3).

Exhibit E-4c. Photosimulation of the Interconnection Project from KOP 3, simulated condition (3 of 3).

Lava Run Interconnection Project



Structure Diagram



KOP Location and Project Elements

KOP 4 - Arizona State Land, Unnamed Road

Latitude, Longitude (degrees):
34.302618, -109.125473

Time and Weather:

Mostly-Cloudy

Date
10-1-24
Photo Time
11:30 am

Approximate Distance to Nearest Interconnection Project Structure in Simulation:
2.3 miles

Approximate Distance to Nearest Interconnection Project Substation in Simulation:
2.5 miles

Simulation was prepared using information provided by client, "Lava Run_T-Line Prelim Civil Design_20250417" dated May 13, 2025. Locations, colors, and heights may vary based on final engineering and design.

Lava Run
Wind & Solar Projects

SWCA®
ENVIRONMENTAL CONSULTANTS

Exhibit E-5a. Photosimulation of the Interconnection Project from KOP 4, cover sheet (1 of 3).

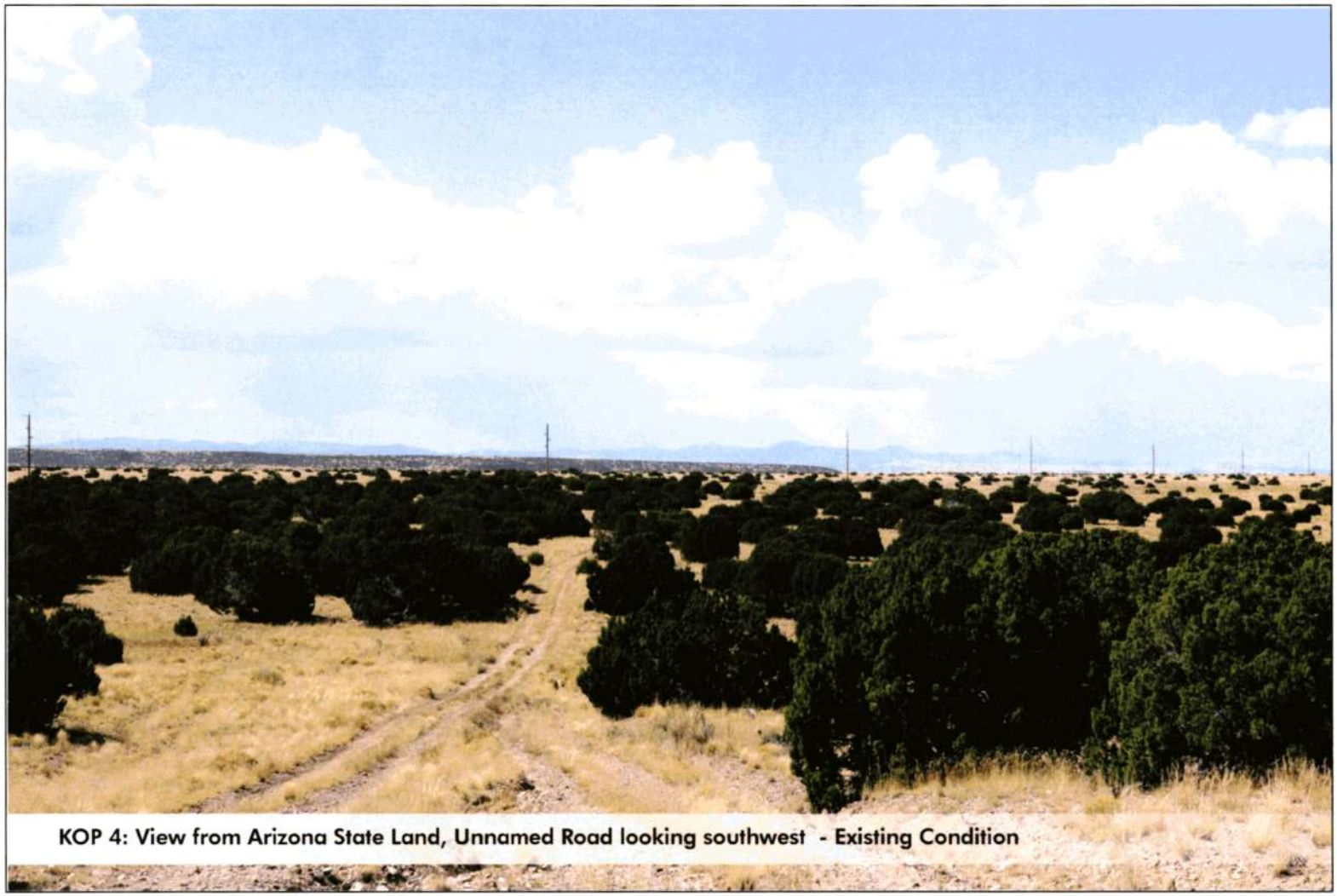


Exhibit E-5b. Photosimulation of the Interconnection Project from KOP 4, existing condition (2 of 3).

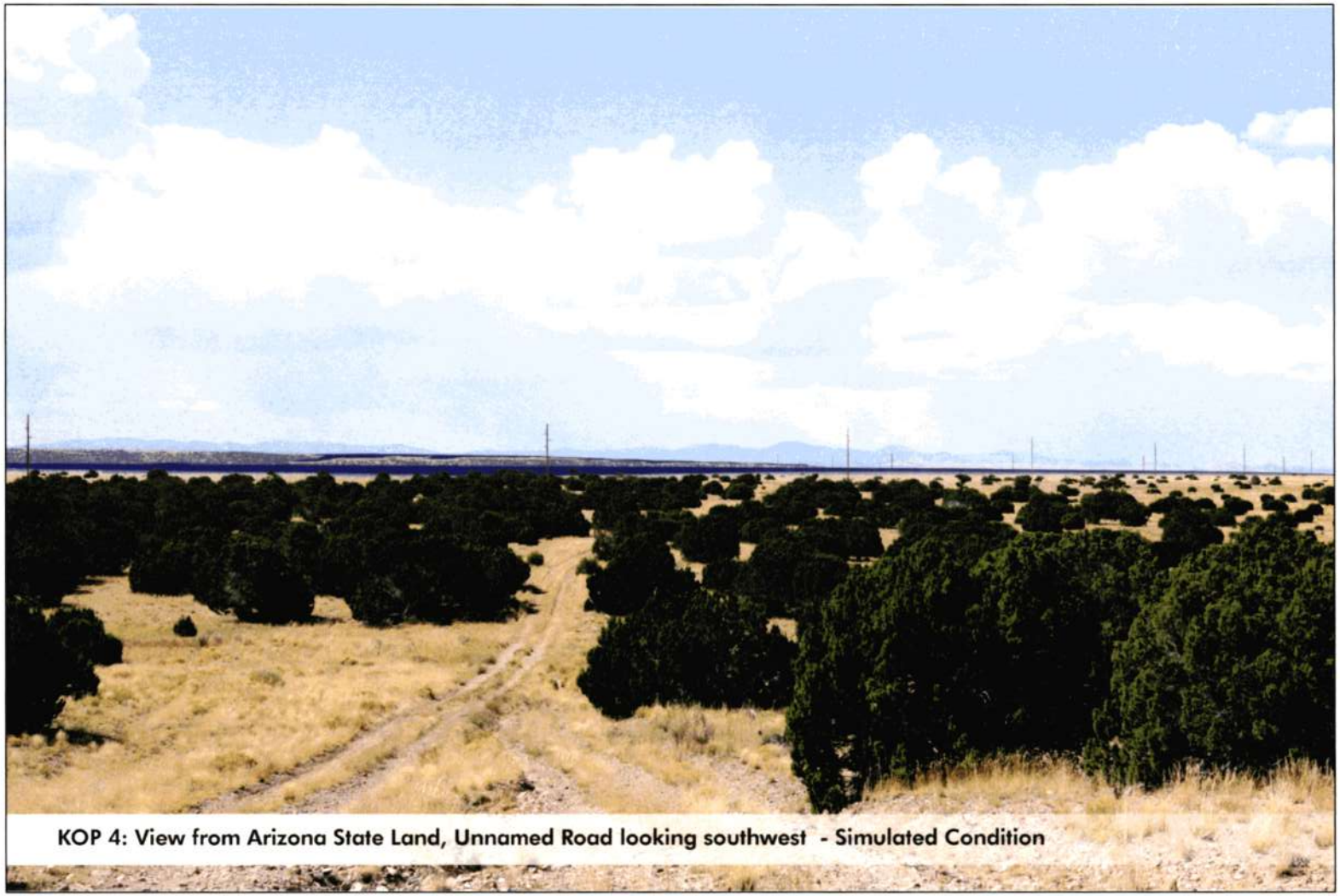
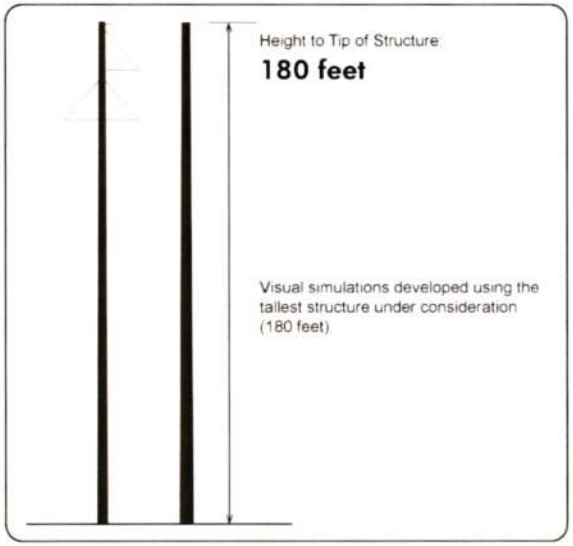
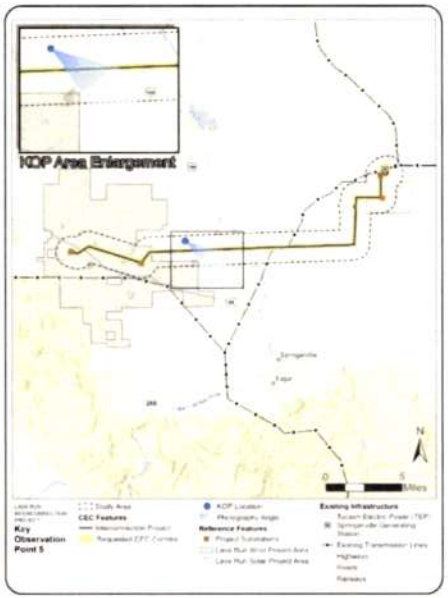


Exhibit E-5c. Photosimulation of the Interconnection Project from KOP 4, simulated condition (3 of 3).

Lava Run Interconnection Project



Structure Diagram



KOP Location and Project Elements

KOP 5 - County Road 4365

Latitude, Longitude (degrees):
34.243495, -109.519391

Time and Weather:

Sunny

Date
4-16-25
Photo Time
12:40 pm

Approximate Distance to Nearest Interconnection Project Structure in Simulation:
0.8 mile

Simulation was prepared using information provided by client: "Lava Run_T-Line Prelim Civil Design_20250417" dated May 13, 2025. Locations, colors, and heights may vary based on final engineering and design.

Lava Run
Wind & Solar Projects

SWCA®
ENVIRONMENTAL CONSULTANTS

Exhibit E-6a. Photosimulation of the Interconnection Project from KOP 5, cover sheet (1 of 3).

Exhibit E-6b. Photosimulation of the Interconnection Project from KOP 5, existing condition (2 of 3).

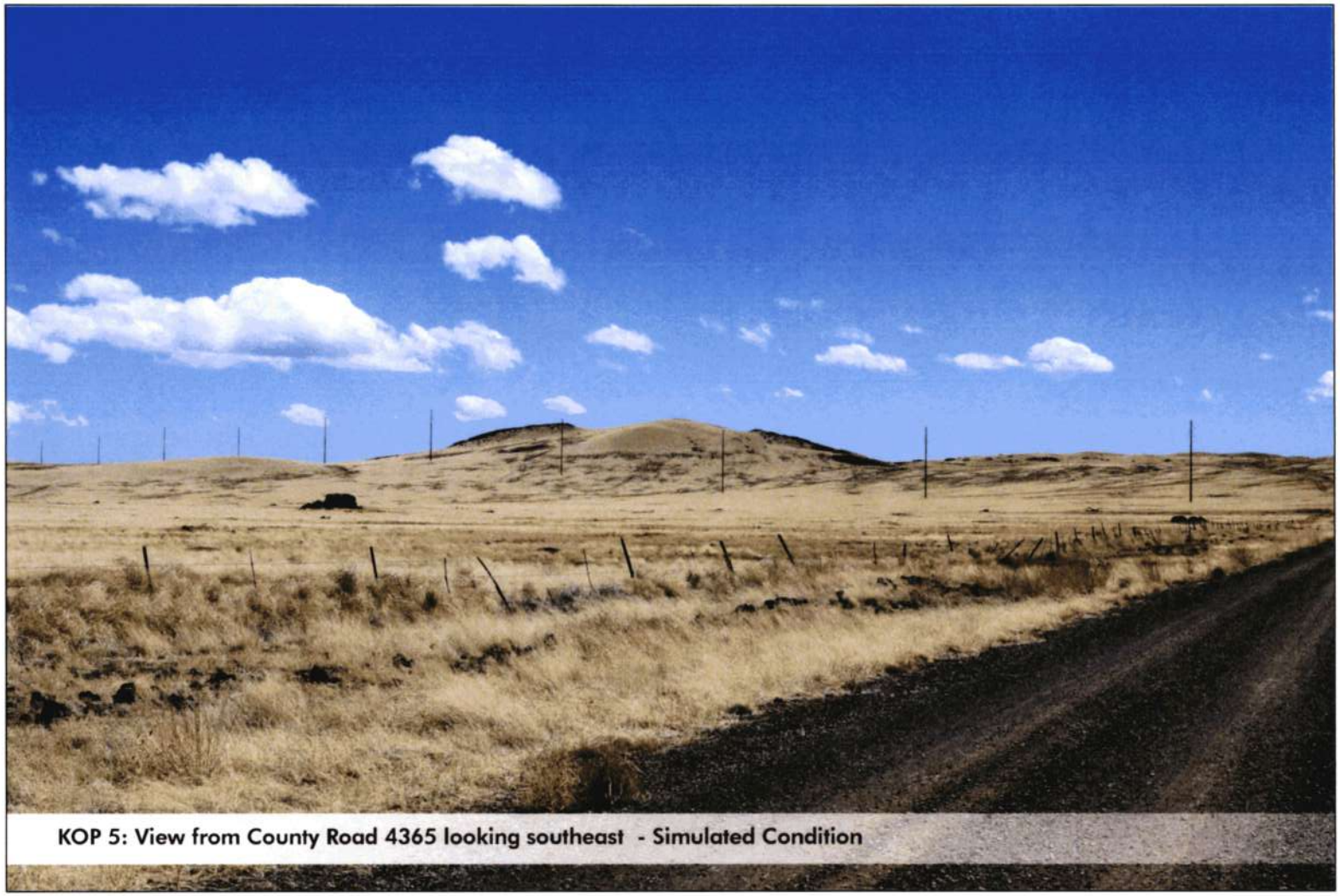
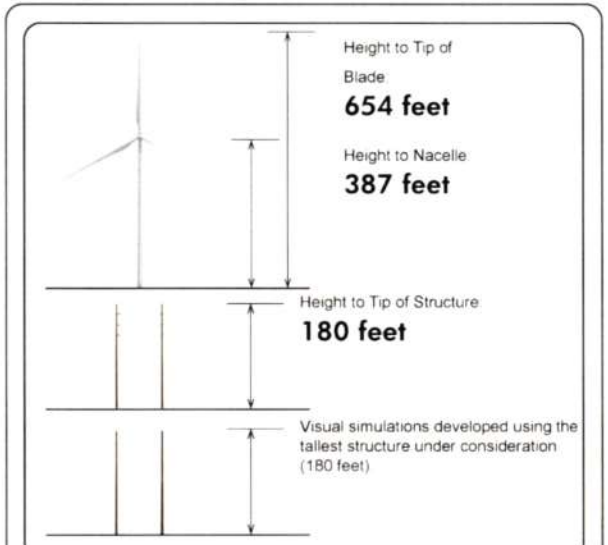
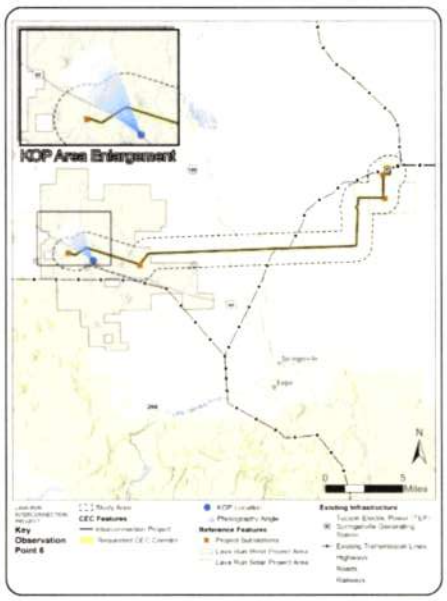


Exhibit E-6c. Photosimulation of the Interconnection Project from KOP 5, simulated condition (3 of 3).

Lava Run Interconnection Project



Structure Diagram



KOP Location and Project Elements

KOP 6 - US 60 Westbound

Latitude, Longitude (degrees):
34.22948, -109.492823

Time and Weather:

Sunny

Date
4-16-25
Photo Time
11:40 am

Approximate Distance to Nearest Interconnection Project Structure in Simulation:
0.85 mile

Approximate Distance to Nearest Turbine in Simulation:
0.67 mile

Number of Turbines Visible in Simulation:
16

Simulation was prepared using information provided by client, "Lava Run_T-Line Prelim Civil Design_20250417" dated May 13, 2025. Locations, colors, and heights may vary based on final engineering and design.

Lava Run
Wind & Solar Projects

SWCA®
ENVIRONMENTAL CONSULTANTS

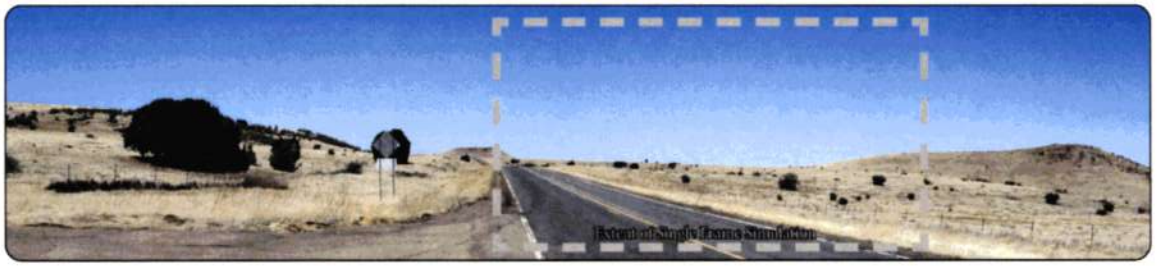


Exhibit E-7a. Photosimulation of the Interconnection Project from KOP 6, cover sheet (1 of 3).

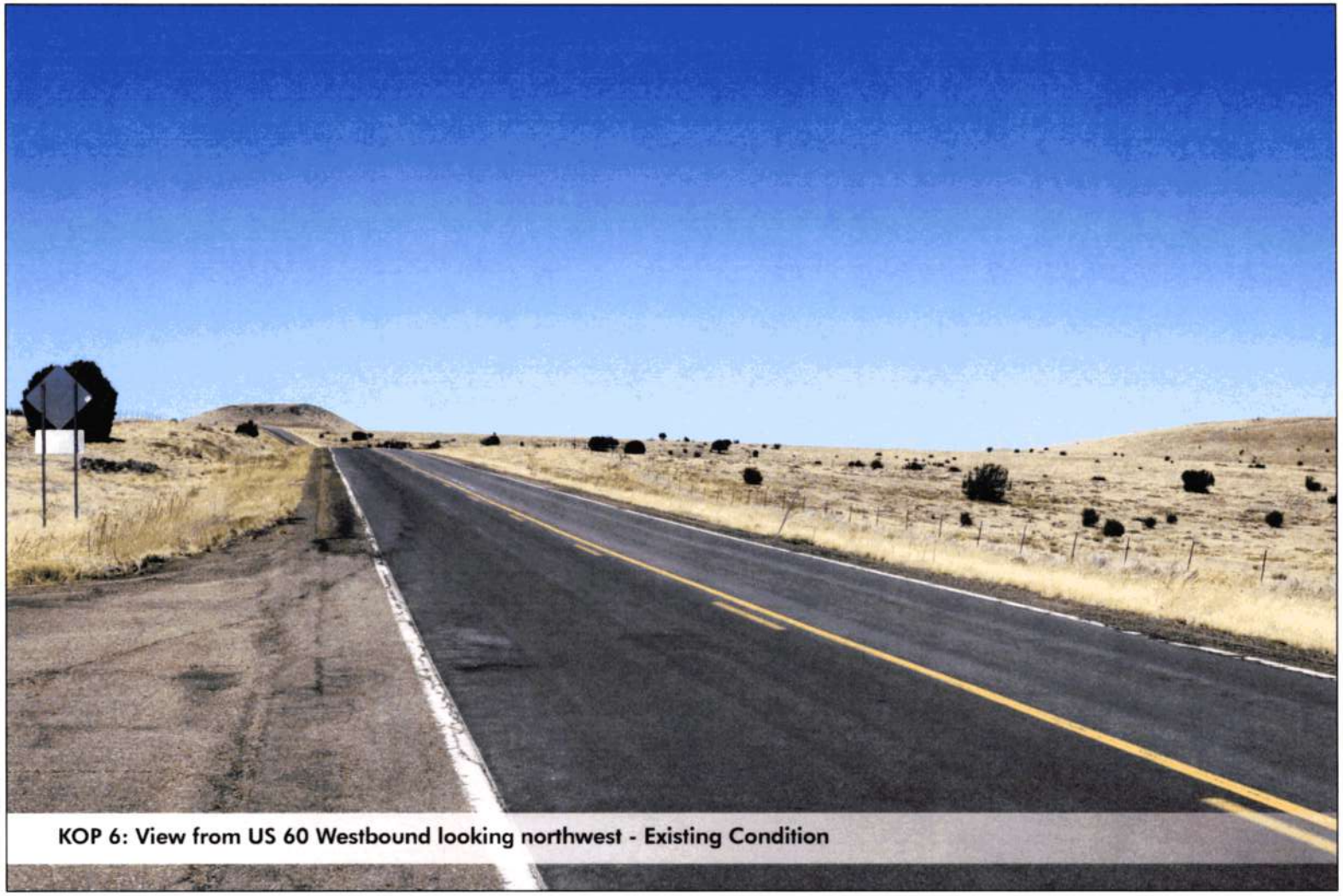


Exhibit E-7b. Photosimulation of the Interconnection Project from KOP 6, existing condition (2 of 3).

Exhibit E-7c. Photosimulation of the Interconnection Project from KOP 6, simulated condition (3 of 3).

Historic Sites and Structures and Archaeological Sites

As required by the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, the potential effects of the proposed Interconnection Project on historic sites and structures and archaeological sites were assessed. The assessment was also prepared to support Arizona Corporation Commission compliance with the State Historic Preservation Act (Arizona Revised Statutes 41-861–41-864), which requires state agencies to consider impacts of their programs on historic properties listed in or eligible for the Arizona Register of Historic Places (ARHP) and to provide the Arizona State Historic Preservation Office (SHPO) an opportunity to review and comment on the actions that affect such historic properties.

To be eligible for listing in the ARHP, a property must be at least 50 years old (less if it has special significance) and have national, state, or local significance in American history, architecture, archaeology, engineering, and/or culture. It should also possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet at least one of the four following criteria:

- Criterion A: be associated with significant historical events or trends
- Criterion B: be associated with historically significant persons
- Criterion C: have distinctive characteristics of a style or a type; have artistic value; or represent a significant entity whose components may lack individual distinction
- Criterion D: have yielded or have the potential to yield important information concerning history or prehistory

Methodology

The Study Area, for the purpose of assessing potential impacts to historic sites and structures and archaeological sites, refers to the area within a 1-mile buffer of the requested Interconnection Project centerline. SWCA reviewed archival records to identify such properties within the Study Area. Data sources searched include AZSITE, Arizona's statewide cultural resources database that includes records from the Arizona State Museum (ASM), Arizona State University, the Arizona SHPO, and the BLM; SWCA records; client-provided documents; the National Register of Historic Places (NRHP) database; General Land Office (GLO) plat maps; and historical topographic maps and aerial imagery.

Tetra Tech, Inc., also conducted a Class III cultural resources survey in 2024 for the wind facility (DeMaso et al. 2025) that covers approximately 60% of the of the current Interconnection Project ROW. The survey was conducted using standard archaeological techniques following ASM guidelines for survey coverage and site recording methodologies. According to the standards for pedestrian surveys established by the ASM, a person conducting a pedestrian survey can achieve 100% coverage of a parcel by walking a series of systematic transects spaced no more than 20 meters (m) (66 feet) apart.

The archaeologists sought evidence for cultural resources in the form of artifacts (e.g., ceramics, lithics, historical metals, or glass) or features (e.g., concentrations of fire-affected rock, charcoal-stained soil, prehistoric or historic structures, or other cultural anomalies). In addition to searching for archaeological remains, the archaeologists included in their survey in-use properties (e.g., buildings, roads, and corrals) greater than 50 years old. These resources were evaluated for their eligibility to be listed in the ARHP according to the criteria identified above.

Previous Research

PREVIOUS CULTURAL RESOURCES PROJECTS

The records review identified 50 prior cultural resources surveys performed within a 1-mile buffer of the requested CEC Corridor. These projects took place from 1978 to 2024 in support of road maintenance, mineral exploration, erosion control, water conveyance, and ranching. Of these cultural surveys, 17 intersect and together cover approximately 956.3 acres (60%) of the CEC Corridor (Table E-4).

The Arizona SHPO has provided guidance for the reliance on survey data aged 10 or more years (SHPO 2004). Surveys conducted before 1995 did not use the current ASM site definition criteria (ASM 1995). Two surveys in the CEC Corridor (1983-41.ASM and 1991-191.ASM) predate 1995 and cannot be relied upon for current inventory purposes. All remaining 15 surveys used a strategy that would meet current methodological standards for full coverage in Arizona. The principal investigators listed for these surveys meet current state and federal professional qualification standards. Lastly, it is unlikely that there are additional resources present in the current CEC Corridor that are at least 50 years old. SWCA believes these 15 surveys, which cover 956.3 acres (60%) of the CEC Corridor, can be relied on for current inventory purposes.

Table E-4. Previous Cultural Resources Projects Intersecting the CEC Corridor

Agency Number	Project Name	Organization	Year
1978-59.ASM	Springerville Corridor and Access	John P. Wilson	1978
1980-241.ASM	Springerville Generating Station	John P. Wilson	1980
1981-36.ASM	State Land Survey – Town of Eager	ASM	1981
1982-164.ASM	State Land Survey – Apache County Board of Supervisors ROW	ASM	1982
1983-41.ASM	Reidhead Sand and Rock	ASM	1983
1984-39.ASM	State Land Survey	ASM	1984
1984-66.ASM	Shell Western E&P Survey	Northland Research	1984
1986-188.ASM	ADOT/Springerville	Archaeological Research Services	1986
1987-195.ASM	TEP Groundwater Level Monitoring Well Sites	John P. Wilson	1988
1989-133.ASM	SRP Wellsite Survey	Archaeological Consulting Services	1989
1989-214.ASM	Brown Pipeline II	ASLD	1989
1991-191.ASM	US 60 West of Springerville Survey	Plateau Mountain Desert Research	1991
1995-251.ASM	Udall Erosion Control Project II	ASLD	1995
1996-153.ASM	Hall Pipeline & ECS Clearance	ASLD	1996
1997-128.ASM	Johnson Pipeline	ASLD	1997
1997-182.ASM	Knight Storage Tank, Drinker, and Pipeline	ASLD	1997
1997-268.ASM	Citizen's Fiber Optic ROW Survey	Kinlani Archaeology	1997
1997-455.ASM	Citizen's Telecom, St. Johns to Springerville Cable Route	Kinlani Archaeology	1997
1999-118.ASM	Knight Pipeline I	ASLD	1999
1999-119.ASM	Hopi Pipeline	ASLD	1999

Agency Number	Project Name	Organization	Year
1999-120.ASM	Knight Pipeline II	ASLD	1999
1999-151.ASM	Hopi Pipeline and Erosion Control Structures	ASLD	1999
1999-493.ASM	US 60: Show Low-Springerville	Archaeological Consulting Services	1999
2000-115.ASM	14 Miles of Pipeline	CSWTA	2000
2000-661.ASM	Show Low – Springerville	HDR Engineering	2000
2001-444.ASM	US 180 Springerville North	Northland Research	2001
2003-588.ASM	Springerville Survey	Tierra Right of Way Services	2003
2003-1591.ASM	Three CO2/Helium Wells and Access Roads	Western Cultural Resources Management	2004
2004-1895.ASM	Springerville Generating Station Survey	WestLand Resources	2004
2005-525.ASM	Mallory Draw Bridge Replacement	AZTEC Engineering	2005
2006-884.ASM	Meadow Valley/Mallory Draw Survey	DMG Four Corners Research	2006
2006-969.ASM	Two Well Locations and Access Roads	CSWTA	2007
2008-608.ASM	Foresight Vernon Switch CR Survey	SWCA	2008
2009-141.ASM	TEP Tieline	Hammerstone Archaeological Services	2009
2009-673.ASM	El Rincon and Ortega Prospect Wind Farm Projects	HDR Engineering	2009
2010-339.ASM	Timberline Wind Power Project	ARCADIS U.S.	2010
2012-161.ASM	Springerville Exploratory Wells and Access	SWCA	2012
2014-29.ASM	St. Johns CO2 Well Field Survey I	SWCA	2014
2014-197.ASM	St. Johns Trunklines & Manifolds Environmental Surveys	SWCA	2014
2014-566.ASM	St. Johns Flow Lines Environmental Services	SWCA	2014
2015-498.ASM	26 Bar Ranch Well Sites Inventory	EnviroSystems Management	2015
2017-26.ASM	Springerville Nicoll ADEQ Class III	PaleoWest	2017
2017-185.ASM	Knight, Galyn 2016b	Natural Resources Conservation Service	2017
2020-144.ASM	Navopache Class III Survey	MCA Consulting	2020
2021-127.ASM	Apache County Wind	SWCA	2021
2021-195.ASM	Nicoll Cattle Company	Natural Resources Conservation Service	2021
2022-235.ASM	Apache County Wind – Lava Run Met Towers	SWCA	2022
2022-427.ASM	Lava Run Solar and Battery Storage	SWCA	2023
2024-515.ASM	Lava Run Wind	Tetra Tech	2025

Note: Shading denotes surveys that SWCA believes can be relied on for current inventory purposes.

HISTORIC-ERA SITES

The records review identified two historic-era sites within the Study Area, neither of which intersect with the CEC Corridor (Table E-5). Site AZ Q:14:24(ASM) is a trash scatter with rock feature of unknown

age. The site was recommended as ineligible for listing in the ARHP. Site AZ V:2:101(ASM) is discontinuous abandon road segments. The site was determined to be eligible for listing in the ARHP.

Table E-5. Previously Recorded Historic-Era Sites within the Study Area

Site Number	Cultural/Temporal Affiliation	Site Type	NRHP/ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
AZ V:2:101(ASM)	Euro-American / 1930s–present	Property	Determined eligible	Wright et al. 1994	0.78
AZ Q:14:24(ASM)	Euro-American; Unknown	Trash scatter with features	Recommended ineligible	DeMaso et al. 2025	0.26

Historic-Era In-Use Structures

Two historic-era in-use structures are within the Study Area (Table E-6). These consist of U.S. 60 and U.S. 180. These roads have not been given an ASM site number within the Study Area, as the ASM does not issue site numbers for in-use historic properties.

Table E-6. Previously Recorded Historic-Era In-Use Structures within the Study Area

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
–	Euro-American / pre-1950–present	Transportation	Not evaluated	—	0.0
–	Euro-American / pre-1950–present	Transportation	Not evaluated	—	0.0

Note: Shading denotes sites that intersect the CEC Corridor.

The GLO survey plat map of Township (T) 10 North (N), Range (R) 27 East (E), approved in 1883, does not depict any historical resources in or within the Study Area. However, Saw Mill Road is depicted approximately 1.0 mile northwest of the Study Area.

The GLO survey plat map of T10N, R28E, approved in 1876, does not depict any historical resources in or within the Study Area.

The GLO survey plat map of T10N, R29E, approved in 1883, depicts road to St. John in Section 31 within the Study Area but outside of the CEC Corridor. No other historical resources are depicted in or within the Study Area.

The GLO survey plat map of T10N, R30E, approved in 1883, does not depict any historical resources in or within the Study Area.

The GLO survey plat map of T11N, R30E, approved in 1883, does not depict any historical resources in or within the Study Area.

The 1954 U.S. Geological Survey (USGS) St. John's, Arizona, 1:250,000 maps depict U.S. 60, U.S.. 180, and numerous windmills in the Study Area. In addition, there is an unnamed dirt road west of U.S. 180 that provides access to numerous ranches that are depicted outside the Study Area. The 1955 USGS Springerville, Arizona, 1:24,000 map illustrates numerous unnamed dirt roads, U.S. 60, U.S. 180, and

cinder pits in the Study Area but not overlapping with the CEC Corridor. The 1968 USGS Springerville NW, Arizona, 1:24,000 map illustrates an unnamed northwest–southeast trending unnamed IMPROVED ROAD in Sections 21 and 28 of T10N, R29E, overlapping with the CEC Corridor. Also within the CEC Corridor is an unnamed roughly east-west trending unnamed improved road in Sections 28 to30 in T10N, R29 and Section 24 in T10N, R28E and a JEEP TRAIL in Sections 29 and 30 in T10N, R29E. Within the Study Area but outside the CEC Corridor are additional jeep trails, cinder pits, and a water tank. The 1969 USGS Whiting Knoll, Arizona, 1:24,000 map depicts u.s. 60 in Section 29 in T10N, R27E and a roughly northeast–southwest trending unnamed improved dirt road in Sections 29 and 30 in T10N, R27E within the CEC Corridor. Depicted within the Study Area but outside the CEC Corridor is an unnamed dirt road and a cinder pit. The 1971 USGS Lyman Lake, Arizona, 1:24,000 map does not depict any historical resources within the CEC Corridor; however, a CORRAL, an east-west unnamed ROAD, and a roughly north-south unnamed IMPROVED DIRT ROAD are depicted in the Study Area outside of the CEC Corridor. The 1971 USGS Voigt Ranch, Arizona, 1:24,000 map depicts unnamed dirt roads in Sections 1 and 11 in T10N, R29E and Section 4 in T10N, R30E and a jeep trail in Section 6 in T10N, R30E outside the CEC Corridor. In addition, the springerville generating station and associated facilities and infrastructures are depicted in Sections 28, 29, 33, and 34 in T11N, R30E that intersect with the CEC Corridor. Outside the CEC Corridor but within the Study Area there are additional unnamed dirt roads, water tanks, a well, the Aztec Ranch with corrals and a water tower, a corral, and a jeep road.

The NRHP (National Park Service [NPS] 2025a) and the National Scenic and National Historic Trails (NPS 2025b) websites do not indicate any historical resources in the CEC Corridor.

Archaeological Sites

There are 21 previously recorded archaeological sites within the Study Area, six of which intersect the CEC Corridor (Table E-7). Five of the sites that intersect the CEC Corridor are artifact scatters, and one site has rock features without any associated artifacts. Three of the sites have been recommended as eligible for the ARHP under Criterion D, and three sites are recommended as ineligible for the ARHP under any criterion.

Table E-7. Previously Recorded Archaeological Sites within the Study Area

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
AZ Q:11:169(ASM)	Unknown	Unknown	Unknown	Unknown	0.94
AZ Q:12:21(ASM)	Mogollon / AD 200–1500	Habitation	Unevaluated	Rugge et al. 1977a	0.26
AZ Q:12:22(ASM)	Mogollon / AD 200–1500	Artifact scatter with features	Unevaluated / Recommended eligible	Rugge et al. 1977b / DeMaso et al. 2025	0.14
AZ Q:12:62(ASM)	Native Archaeological Culture	Artifact scatter with features	Recommended eligible	Hase and Gordon 1995	0.37
AZ Q:12:80(ASM)	Mogollan / AD 200–1300	Artifact scatter	Recommended eligible	DeMaso et al. 2025	0.0
AZ Q:12:81(ASM)	Archaic / 4800 BC–AD 200	Flaked stone scatter	Recommended eligible	DeMaso et al. 2025	0.0
AZ Q:12:82(ASM)	Mogollan / AD 200–1300	Artifact scatter	Recommended ineligible	DeMaso et al. 2025	0.0

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
AZ Q:12:83(ASM)	Mogollan / AD 200–1000	Flaked stone scatter	Recommended ineligible	DeMaso et al. 2025	0.06
AZ Q:12:84(ASM)	Native Archaeological Cultural/ Unknown	Flaked stone scatter	Recommended ineligible	DeMaso et al. 2025	0.16
AZ Q:14:2(ASM)	Mogollon / AD 200–1500	Habitation	Unevaluated	Bassett 1986a	0.90
AZ Q:14:18(ASM)	Native Archaeological Culture/ Unknown	Flaked stone scatter	Recommended ineligible	DeMaso et al. 2025	0.54
AZ Q:14:19(ASM)	**Native Archaeological Culture / Unknown**	**Rock features with no associated artifacts**	**Recommended ineligible**	**DeMaso et al. 2025**	**0.00**
AZ Q:15:30(ASM)	Native Archaeological Culture / Unknown	Artifact scatter	Unevaluated	Bassett 1986b	0.73
AZ Q:15:96(ASM)	**Native Archaeological Culture / Unknown**	**Flaked stone artifact scatter**	**Unevaluated / Recommended eligible**	**Hart and Hackbarth (2001) / DeMaso et al. 2025**	**0.00**
AZ Q:15:118(ASM)	Unknown	Unknown	Unknown	Unknown	0.58
AZ Q:15:140(ASM)	Archaic / 4800 BC–AD 200	Flaked stone scatter	Recommended eligible	DeMaso et al. 2025	0.22
AZ Q:15:141(ASM)	**Mogollon / AD 1000–1300**	**Artifact scatter**	**Recommended ineligible**	**DeMaso et al. 2025**	**0.00**
AZ Q:15:143(ASM)	Mogollan / AD 1000–1300	Habitation	Recommended eligible	DeMaso et al. 2025	0.05
AZ Q:16:71(ASM)	Native Archaeological Cultural / Unknown	Artifact scatter	Recommended eligible	Hase and Gordon 1997	0.39
AZ Q:16:95(ASM)	Unknown	Unknown	Unknown	Unknown	0.73

Note: Shading denotes sites that intersect the CEC Corridor

Assessment of Effects

A project can have direct and/or indirect effects on historic sites, historic-era in-use structures, and archaeological sites when it alters the characteristics that qualify a property for listing in the ARHP. Only historic properties (i.e., sites that are listed in or eligible for the ARHP) need to be considered for project impacts. Direct effects result when a project physically impacts a historical resource, whereas indirect effects to historic properties are typically visual. When considering visual impacts, historic properties eligible solely under Criterion D are not considered sensitive to visual effects because the information is subsurface. In addition, setting and feeling are not affected when the information potential of a site is subsurface. Effects are adverse when they diminish the integrity of a property's location, design, setting, materials, workmanship, feeling, and/or association. Adverse effects on a historic property include the following:

- Physical destruction of or damage to all or part of the property
- Removal of the property from its historic location
- Change to the character of the property's use of physical features within the property's setting that contribute to its historic significance

- Introduction of visual, atmospheric, and/or audible elements that diminish the integrity of the property's significant historic characteristics
- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American Tribe
- Transfer, lease, or sale of a property out of government ownership or control without adequate and legally enforceable restrictions and/or conditions to ensure long-term preservation of the property's historic significance

DIRECT EFFECTS

Six archaeological sites [AZ Q:12:80(ASM), AZ Q:12:81(ASM), AZ Q:12:82(ASM), AZ Q:14:19(ASM), AZ Q:15:96(ASM), and AZ Q:15:141(ASM)] are located within the CEC Corridor. Five of the six sites are precontact artifact scatters, and one site consists of a rock feature without associated artifacts. Three sites [AZ Q:12:82(ASM), AZ Q:14:19(ASM), and AZ Q:15:141(ASM)] are recommended as ineligible for the ARHP; therefore, they are not considered historic properties and do not need to be considered for direct effects. Sites AZ Q:12:80(ASM), AZ Q:12:81(ASM), and AZ Q:15:96(ASM) are recommended as eligible; therefore, they are considered historic properties and need to be considered for direct effects.

INDIRECT EFFECTS

The records review identified two historic-era sites, two historic-era in-use structures, and 21 archaeological sites in the Study Area. These 25 properties were considered for indirect effects. Within the nearby area, there are numerous human-made structures; roads and construction would not introduce any incompatible elements that are not already present. Therefore, there would be no adverse indirect impacts to the setting or integrity of the historic properties within the Study Area.

Conclusion

The records review identified that 60% percent of the CEC Corridor has been previously and adequately surveyed for cultural resources. No historic properties intersect the CEC Corridor. Three archaeological sites that intersect with the Interconnection Project are eligible for listing in the AHRP under Criterion D for their information potential. The proposed Interconnection Project will introduce weak visual contrast with low visual impacts that will not diminish the integrity of the archaeological sites. In addition to the previously recorded sites, several unrecorded cultural resources are depicted as intersecting the CEC Corridor on GLO plat maps and historic USGS topographic maps. SHPO recommends that the remainder of the CEC Ccorridor be surveyed to current SHPO and ASM standards (Exhibit E-1).

To mitigate adverse effects on sites AZ Q:12:80(ASM), AZ Q:12:81(ASM), and AZ Q:15:96(ASM), the potential for the Interconnection Project to avoid the sites will be explored. If the sites cannot be avoided, ground disturbance within 50 feet of the site boundary will be monitored by a qualified archaeologist. If ground disturbance within the site is necessary, additional data recovery will occur within the CEC Corridor prior to construction, excluding any areas that have been previously investigated.

If previously undocumented buried cultural resources are identified during ground-disturbing activities, all work within 30 m (100 feet) of the exposure will immediately cease until a qualified archaeologist has documented the discovery and evaluated its value for determining the eligibility of the site for listing in the ARHP. Work will not resume in this area without approval from the ASM. If human remains are encountered during ground-disturbing activities, all work within 30 m (100 feet) of the exposure will

immediately cease. The ASM and appropriate Native American Tribes will be notified of the encounter within 24 hours (following ASM and/or agency protocol). All encounters will be treated in accordance with Arizona Revised Statute 41-844 or 41-865, and work will not resume in this area without approval from the ASM.

Literature Cited

Arizona State Museum (ASM). 1995. *Revised Site Definition Policy*. Arizona State Museum, University of Arizona, Tucson.

Apache County. 2019. *Apache County Comprehensive Plan*. Available at: https://www.apachecountyaz.gov/accnt_591117/site_591118/Documents/Comprehensive-Plan-Final-June-2019.pdf. Accessed May 2025.

Bassett, E. 1986a. Site card for AZ Q:14:2(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

———. 1986b. Site card for AZ Q:15:30(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

DeMaso, J., D.L. Huntley, J.M. Schaefer, and K. Turney. 2025. *Class III Cultural Resources Survey Lava Run Wind Project, Apache County, Arizona*. Volumes I and II. Tetra Tech, Inc., Lakewood, Colorado.

Griffith, G.E., J.M. Omernik, C.B. Johnson, and D.S. Turner. 2014. Ecoregions of Arizona (poster): U.S. Geological Survey Open-File Report 2014–1141, with map, scale 1:1,325,000. Available at: http://dx.doi.org/10.3133/ofr20141141. Accessed May 2025.

Hase, G. and B. Gordan 1995 Site card for AZ Q:12:62(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

Hart, C.R., and M.R. Hackbarth. 2001. Site card for AZ Q:15:96(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

National Park Service (NPS). 2025a. National Register of Historic Places. Available at: https://www.nps.gov/subjects/nationalregister/data-downloads.htm. Accessed January 2025.

———. 2025b. National Scenic and National Historic Trail Webmap. Available at: https://nps.maps.arcgis.com/apps/webappviewer/index.html?id=d89951079a374f28ab4a3b9fc41025dd. Accessed January 2025.

Rugge, Szuter, Buck, and DeCosta. 1977a. Site card for AZ Q:12:21(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

———. 1977b. Site card for AZ Q:15:22(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

State Historic Preservation Office (SHPO). 2004. *SHPO Position on Relying on Old Archaeological Survey Data: SHPO Guidance Point No. 5.* Available at: https://azstateparks.com/shpo-guidance-points. Accessed August 2024.

Wright, T., G. Woodall, and J. Lite. 1994. Site card for AZ V:2:101(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

Jeremy Casteel

From: David Barr
Sent: Friday, August 29, 2025 7:59 AM
To: Jeremy Casteel; Colin Agner
Subject: FW: Lava Run Interconnection CEC

See SHPO response.

From: Caroline Klebacha <cklebacha@azstateparks.gov>
Sent: Friday, August 29, 2025 7:55 AM
To: David Barr <dbarr@swca.com>
Subject: Re: Lava Run Interconnection CEC

Good morning,

Thank you for revising the consultation letter. No further revisions are needed.

As we discussed in our letter on August 12, 2025 and our call today, SHPO has not had the opportunity to review the Tetra Tech report and cannot comment on A/NRHP eligibility and project impacts for the CEC action. Additionally, the Class III survey only covers a 300-ft-wide swath of the 500-ft-wide CEC corridor. We recommend that the remainder of the CEC corridor be surveyed to current SHPO and ASM standards. Once complete, please submit the report to our office for review and comment.

We appreciate your cooperation in complying with historic preservation requirements for state projects. Please contact me by telephone, 602.542.7140, or via e-mail at cklebacha@azstateparks.gov, if you have any questions or concerns.

Sincerely,

Caroline

Caroline Klebacha, M.A.
Archaeology Compliance Specialist
State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007-2957
Phone: 602-542-7140
Email: cklebacha@azstateparks.gov
Web: http://AZStateParks.com/SHPO

Please use azshpo@azstateparks.gov for initial consultation!

ARIZONA STATE PARKS & TRAILS

1

Exhibit E-8a. SHPO Consultation.

On Tue, Aug 19, 2025 at 11:18 AM David Barr <dbarr@swca.com> wrote:

Good morning Caroline,

Attached is the revised CEC Interconnection letter per SHPO requests. Let me know if you have any additional questions.

Regards,

David

From: Caroline Klebacha <cklebacha@azstateparks.gov>
Sent: Tuesday, August 12, 2025 9:51 AM
To: David Barr <dbarr@swca.com>
Subject: Re: Lava Run Interconnection CEC

Good morning!

Thank you for the consultation letter and followup. Please see SHPO's response attached. Let me know if you have any questions.

Sincerely,

Caroline

Caroline Klebacha, M.A.
Archaeology Compliance Specialist
State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007-2957
Phone: 602-542-7140

2

Exhibit E-8b. SHPO Consultation.

Katie Hobbs
Governor

ARIZONA
STATE PARKS & TRAILS

Bob Broscheid
Executive Director

August 12, 2025

David Barr
Cultural Resources Lead / Project Manager
SWCA Environmental Consultants
343 West Franklin Street
Tucson, Arizona 85701

RE: Apache County; Lava Run Interconnection Project Certificate of Environmental Compatibility; Initial State Act Consultation; Arizona Corporation Commission (ACC); SHPO-2025-0624(181983)

Dear Mr. Barr:

Thank you for consulting with our office regarding the above-referenced project, which requires the issuance of a Certificate of Environmental Compatibility (CEC) for the Lava Run Interconnection Project in Apache County, Arizona. The CEC will include a 29-mile-long by 200-ft-wide corridor for a 345-kilovolt (kV) overhead electrical generation-tie transmission line (project area) connecting the proposed Lava Run 500-megawatt (MW) Wind facility and the proposed Lava Run 450-MW Solar facility with an on-site battery energy storage system to the Tucson Electric Power Company's Springerville Generating Station. The transmission corridor encompasses a total of 1,711acres including 1,593 acres of State Trust land administered by the Arizona State Land Department and 178 acres of private land. Due to the issuance of the CEC by the ACC, the project is a state action subject to review pursuant to the State Historic Preservation Act (State Act), Arizona Revised Statutes (ARS) §41-861 -864. The ACC is also required to consider the effects of the project on existing scenic areas, historic sites and structures, and archaeological sites at or in the vicinity of the proposed CEC corridor under ARS § 40-360.06(A)(5).

At your request, we have reviewed the consultation letter prepared by SWCA Environmental Consultants (SWCA). SWCA conducted a Class I inventory of the project area and identified 17 cultural resource surveys that have occurred within the project area, of which 15 meet current SHPO standards covering 956.3 acres (60%) of the project area. The Class I also identified 6 indigenous archaeological sites and 2 historic in-use structures, U.S. Route 60 and U.S. Route 180, within the project area. Of these, two sites are recommended eligible for inclusion in the Arizona and National Registers of Historic Places (A/NRHP), three sites are recommended ineligible, two structures are unevaluated, and one site recorded during two surveys was recommended alternately unevaluated and A/NRHP-eligible.

SWCA evaluated the project's impacts on the A/NRHP-eligible and unevaluated sites. None of the three sites have standing architecture and SWCA asserted visual impacts by the proposed transmission line will be low. SWCA recommended that the sites should be avoided by ground disturbance, but if avoidance is not possible, any ground disturbance located within a 50-ft buffer

State Historic Preservation Office, 1110 W. Washington Street, Suite 100, Phoenix, AZ 85007
602-542-4009 | AZStateParks.com/shpo

E-8c. SHPO Consultation.

of site boundaries should be monitored. No avoidance or further work is recommended for the A/NRHP-ineligible sites or unevaluated structures.

At this time, SHPO cannot comment on site eligibility or project impacts. The Lava Run Class III report referenced in SWCA's letter has not yet been submitted to SHPO for review. Once we have the opportunity to review that report, which includes site descriptions and eligibility recommendations for the sites and structures identified within the project area, we can address A/NRHP eligibility and project impacts for the CEC action.

Additionally, according to the Class I letter, only 60 percent of the project area has been adequately surveyed. The maps provided by SWCA (Attachment 3) depict the majority of the proposed transmission line within surveyed areas. Is the surveyed area more narrow than the CEC project area? Please revise the figures in Attachment 3 to depict the CEC project area in addition to the proposed transmission line and resubmit for further review. Additional survey may be recommended if the previous surveys demonstrate inadequate survey coverage.

We appreciate your cooperation in complying with historic preservation requirements for state projects. Please contact me by telephone, 602.542.7140, or via e-mail at cklebacha@azstateparks.gov, if you have any questions or concerns.

Sincerely,

Caroline Klebacha, M.A.
Archaeological Compliance Specialist
State Historic Preservation Office

E-8c. SHPO Consultation.

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

20 East Thomas Road, Suite 1700
Phoenix, Arizona 85012
Tel 602.274.3831 Fax 602.274.3958
www.swca.com

July 16, 2025/Revised August 18, 2025

Kathryn Leonard, State Historic Preservation Officer
1110 W. Washington St., #100
Phoenix, AZ 85007
Submitted via email to: azshpo@azstateparks.gov and cklebacha@azstateparks.gov

Re: Request for Consultation – Lava Run Interconnection Project Certificate of Environmental Compatibility

Dear Ms. Leonard:

Pursuant to Arizona Revised Statutes (ARS) 40-360 et seq., CG Apache County Wind LLC and CG Apache County Solar LLC (collectively, the Joint Applicant), plan to file an application for a Certificate of Environmental Compatibility (CEC) for the proposed Lava Run Interconnection Project (Interconnection Project). The Interconnection Project entails the construction, operation, and maintenance of an up to 29-mile-long, 345-kilovolt (kV) aboveground electrical generation-tie transmission line. The purpose of the line is to connect the Lava Run Wind and Lava Run Solar projects—respectively, a proposed 500-megawatt (MW) wind facility and a proposed 450-MW solar facility with an on-site battery energy storage system—to the regional electrical grid via Tucson Electric Power Company's existing Springerville 345 kV Substation at the Springerville Generating Station. The Interconnection Project would extend up to approximately 29 miles within an approximately 200- oot-wide right-of-way (ROW). The ROW would be located within a 500-foot-wide CEC Corridor. The Interconnection Project would traverse Arizona State Trust Land and private property in unincorporated Apache County, Arizona.

This letter contains information about the Interconnection Project in accordance with the State Historic Preservation Office's September 2022 "ACC-SHPO Consultation Checklist for Compliance with the State Historic Preservation Act" (attached hereto as Attachment 1). On behalf of the Joint Applicants, we respectfully request that the SHPO review and provide comment on the Interconnection Project to support the Arizona Corporation Commission's compliance with the State Historic Preservation Act (Arizona Revised Statutes 41-861 through 41-864).[1]

GENERAL PROJECT INFORMATION

- *Project name:* Lava Run Interconnection Project
- *Project location (legal description and UTMs):* The CEC Corridor is located in Sections 20, 25– 30, and 35–36, Township 10N, Range 27E; Sections 25–30, Township 10N, Range 28E; Sections 25–30, Township 10N, Range 29E; Sections 4–5, 8, 17, 19–20, and 29–30, Township 10N, Range 30E; and Sections 27, and 33–34, Township 11N, Range 30E.

[1] The State Historic Preservation Act requires state agencies to consider impacts of their programs on historic properties listed in or eligible for listing in the Arizona Register of Historic Places (ARHP), and to provide the State Historic Preservation Office an opportunity to review and comment on the actions that affect such historic properties.

E-8d. SHPO Consultation.

- The eastern terminus of the CEC Corridor at the TEP Springerville Generating Station would be in the northwestern quarter of Section 34, Township 11 North, Range 30 East, Apache County, Arizona.
  - Eastern terminus coordinates: (669320 E, 3798172 N; UTM Zone 12S)
- The western terminus of the Generation Tie Line would be in the northeast quarter of Section 30, Township 10 North, Range 27 East, Apache County, Arizona.
  - Eastern terminus coordinates: (636238 E, 3789393 N; UTM Zone 12S)

- *Funding source*: Private (no state, federal, or other public funding sources)

PROJECT AREA INFORMATION

- *Project Area*: The project area consists of the CEC Corridor. The CEC Corridor refers to the Interconnection Route, and the area around the TEP Springerville Generating Station. The CEC Corridor would have a 500-foot-wide by approximately 26.3-mile-long, with a potential for up to an approximately 29 mile-long, transmission line right-of-way between the Project Substations and the regional transmission grid at the existing TEP Springerville Generating Station, located northeast of Springerville, Arizona. The proposed project area is shown on Figure 1 (see Attachment 2). Figure 1 also shows land jurisdiction in the vicinity of the project area.
- *Total Area*: up to 1,711 acres
- *Landownership (all involved; acres by land jurisdiction)*: The CEC Corridor occurs on private lands and State Trust Lands administered by ASLD (Table 1).

Table 1. CEC Corridor by Land Jurisdiction

Jurisdiction	Area (acres)	Percent of Total
Private	178	10%
ASLD ROW	1,593	90%

SCOPE OF WORK

The Joint Applicants plan to file an application for a CEC for the Interconnection Project. The proposed Interconnection Project entails the construction, operation, and maintenance of an up to 29-mile-long, 345-kV aboveground electrical generation-tie transmission line. The purpose of the line is to connect the Lava Run Wind and Lava Run Solar projects—respectively, a proposed 500-MW wind facility and a proposed 450-MW solar facility with an on-site battery energy storage system—to the regional electrical grid via Tucson Electric Power Company's existing Springerville 345 kV Substation at the Springerville Generating Station. The structure types for the Interconnection Project are anticipated to include tangent monopoles, angle monopoles, and dead-end monopoles, with final design characteristics determined in the detailed design phase. The Joint Applicants are seeking a CEC for the Interconnection Project Route, as well as the area surrounding the Springerville Generating Station to accommodate potential variations for the approach and interconnection to the Springerville Generating Station.

SUMMARY OF PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS WITHIN THE PROJECT AREA

The records review identified 50 prior cultural resources surveys that have taken place within a 1-mile-radius buffer from the CEC Corridor (Study Area). These projects took place from 1978 to 2024 in

E-8e. SHPO Consultation.

support of road maintenance, mineral exploration, erosion control and water conveyance system, and ranching. Of these, 17 cultural surveys intersect and cover approximately 956.3 acres (60%) of the CEC Corridor (Table 2).

The SHPO has provided guidance for the reliance on survey data that are 10 years or older (SHPO 2004). Surveys conducted before 1995 did not use the current ASM site definition criteria (ASM 1995). Two surveys in the CEC Corridor (1983-41.ASM and 1991-191.ASM) predate 1995. These surveys cannot be relied upon for current inventory purposes. Of the remaining 15 surveys, all used a survey strategy that would meet current methodological standards for full coverage in Arizona. The principal investigators listed for these surveys meet current state and federal professional qualification standards. Lastly, it is unlikely that there are additional resources present in the current CEC Corridor that have become at least 50 years old since the previous surveys. SWCA believes these 16 surveys, which cover 956.3 acres (60%) of the CEC Corridor, can be relied on for current inventory purposes.

Table 2. Previous Cultural Resources Projects Intersecting the CEC Corridor

Agency Number	Project Name	Organization	Year
1978-59.ASM	Springerville Corridor and Access	John P. Wilson	1978
1980-241.ASM	Springerville Generating Station	John P. Wilson	1980
1981-36.ASM	State Land Survey – Town of Eager	Arizona State Museum (ASM)	1981
1982-164.ASM	State Land Survey – Apache County Board of Supervisors ROW	ASM	1982
1983-41.ASM	Reidhead Sand and Rock	ASM	1983
1984-39.ASM	State Land Survey	ASM	1984
1984-66.ASM	Shell Western E&P Survey	Northland Research	1984
1986-188.ASM	ADOT/Springerville	Archaeological Research Services	1986
1987-195.ASM	TEP Groundwater Level Monitoring Well Sites	John P. Wilson	1988
1989-133.ASM	SRP Wellsite Survey	Archaeological Consulting Services	1989
1989-214.ASM	Brown Pipeline II	ASLD	1989
1991-191.ASM	US 60 West of Springerville Survey	Plateau Mountain Desert Research	1991
1995-251.ASM	Udall Erosion Control Project II	ASLD	1995
1996-153.ASM	Hall Pipeline & ECS Clearance	ASLD	1996
1997-128.ASM	Johnson Pipeline	ASLD	1997
1997-182.ASM	Knight Storage Tank, Drinker, and Pipeline	ASLD	1997
1997-268.ASM	Citizen's Fiber Optic ROW Survey	Kinlani Archaeology	1997
1997-455.ASM	Citizen's Telecom, St. Johns to Springerville Cable Route	Kinlani Archaeology	1997
1999-118.ASM	Knight Pipeline I	ASLD	1999
1999-119.ASM	Hopi Pipeline	ASLD	1999
1999-120.ASM	Knight Pipeline II	ASLD	1999
1999-151.ASM	Hopi Pipeline and Erosion Control Structures	ASLD	1999
1999-493.ASM	US 60: Show Low-Springerville	Archaeological Consulting Services	1999
2000-115.ASM	14 Miles of Pipeline	CSWTA	2000

E-8f. SHPO Consultation.

Agency Number	Project Name	Organization	Year
2000-661.ASM	Show Low – Springerville	HDR Engineering	2000
2001-444.ASM	**US 180 Springerville North**	**Northland Research**	**2001**
2003-588.ASM	**Springerville Survey**	**Tierra Right of Way Services**	**2003**
2003-1591.ASM	Three CO2/Helium Wells and Access Roads	Western Cultural Resources Management	2004
2004-1895.ASM	**Springerville Generating Station Survey**	**WestLand Resources**	**2004**
2005-525.ASM	Mallory Draw Bridge Replacement	AZTEC Engineering	2005
2006-884.ASM	Meadow Valley/Mallory Draw Survey	DMG Four Corners Research	2006
2006-969.ASM	Two Well Locations and Access Roads	CSWTA	2007
2008-608.ASM	Foresight Vernon Switch CR Survey	SWCA	2008
2009-141.ASM	**TEP Tieline**	**Hammerstone Archaeological Services**	**2009**
2009-673.ASM	**El Rincon and Ortega Prospect Wind Farm Projects**	**HDR Engineering**	**2009**
2010-339.ASM	Timberline Wind Power Project	ARCADIS U.S.	2010
2012-161.ASM	**Springeville Exploratory Wells and Access**	**SWCA**	**2012**
2014-29.ASM	St. Johns CO2 Well Field Survey I	SWCA	2014
2014-197.ASM	**St. Johns Trunklines & Manifolds Environmental Surveys**	**SWCA**	**2014**
2014-566.ASM	**St. Johns Flow Lines Environmental Services**	**SWCA**	**2014**
2015-498.ASM	26 Bar Ranch Well Sites Inventory	EnviroSystems Management	2015
2017-26.ASM	Springerville Nicoll ADEQ Class III	PaleoWest	2017
2017-185.ASM	Knight, Galyn 2016b	Natural Resources Conservation Service	2017
2020-144.ASM	Navopache Class III Survey	MCA Consulting	2020
2021-127.ASM	Apache County Wind	SWCA	2021
2021-195.ASM	**Nicoll Cattle Company**	**Natural Resources Conservation Service**	**2021**
2022-235.ASM	Apache County Wind – Lava Run Met Towers	SWCA	2022
2022-427.ASM	**Lava Run Solar and Battery Storage**	**SWCA**	**2023**
2024-515.ASM	**Lava Run Wind**	**Tetra Tech**	**2025**

Note: Shading denotes surveys that SWCA believes can be relied on for current inventory purposes.

IDENTIFICATION OF CULTURAL RESOURCES WITHIN THE PROJECT AREA

Historic-era Sites

The records review identified two historic-era sites within the Study Area, none of which intersect with the CEC Corridor (Table 3). Site AZ Q:14:24(ASM) is a trash scatter with rock feature of unknown age. The site was recommended as ineligible for listing in the ARHP. Site AZ V:2:101(ASM) are discontinuous abandon road segments that have been determined eligible for listing in the ARHP.

E-8g. SHPO Consultation.

Table 3. Previously Recorded Historic-era Sites within the Study Area

Site Number	Cultural/Temporal Affiliation	Site Type	NRHP/ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
AZ V:2:101(ASM)	Euro-American; 1930s–present	Property	Determined eligible	Wright et al. 1994	0.78
AZ Q:14:24(ASM)	Euro-American; Unknown	Trash scatter with features	Recommended ineligible	DeMaso et al. 2025	0.26

*Shaded rows indicate site intersects with the project area.

Historic-era In-Use Structures

Two in-use historic structures are within the Study Area (Table 4). These consists of US Route 60 and US Route 180. These roads have not been given an ASM site number within the Study Area and the ASM does not issue site numbers for in-use historic properties.

Table 4. Previously Recorded Historic-Era In-Use Structures within the Study Area

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
—	Euro-American / pre-1950–present	Transportation	Not evaluated	—	0.0
—	Euro-American / pre-1950s–present	Transportation	Not evaluated	—	0.0

*Shaded rows indicate site intersects with the project area.

The General Land Office (GLO) survey plat map of Township 10N, Range 27E, approved in 1883, does not depict any historical resources in or within the Study Area. However, Saw Mill Road is depicted approximately 1.0-mile northwest of the Study Area.

The GLO survey plat map of Township 10N, Range 28E, approved in 1876, does not depict any historical resources in or within the Study Area.

The GLO survey plat map of Township 10N, Range 29E, approved in 1883, depicts the ROAD TO ST. JOHN in Section 31 within the Study Area but outside of the CEC corridor. No other historical resources where depicted in or within the Study Area.

The GLO survey plat map of Township 10N, Range 30E, approved in 1883, does not depict any historical resources in or within the Study Area.

The GLO survey plat map of Township 11N, Range 30E, approved in 1883, does not depict any historical resources in or within the Study Area.

The 1954 USGS St. John's, Arizona, 1:250,000 maps depict the US Route 60 (US60), US Route 180 (US180), and numerous WINDMILLS in the Study Area. In addition, there is an unnamed dirt road west of US180 that provides access to numerous ranches that are depicted outside the Study Area. The 1955 USGS Springerville, Arizona, 1:24,000 map illustrates numerous unnamed dirt roads, US 60, US 180, and cinder pits in the Study Area but not overlapping with the CEC Corridor. The 1968 USGS Springerville NW, Arizona, 1:24,000 map illustrates an unnamed northwest–southeast trending improved road in Sections 21, and 28, Township T10N, R29E overlapping with the CEC Corridor. Also within the CEC Corridor is an unnamed roughly east-west trending in Sections 28–29 and 30, Township 10N, Range 29, and Section 24, T10N, R28E and a JEEP TRAIL in Section 29 and 30, T10N, R29E. Within the Study

E-8h. SHPO Consultation.

Area but outside the CEC Corridor are additional jeep trails, cinder pits, and a water tank. The 1969 USGS Whiting Knoll, Arizona, 1:24,000 map depicts US60 in Section 29, T10N, R27E and a roughly northeast–southwest trending unnamed improved dirt road in Sections 29–30, T10N, R27E within the CEC Corridor. Depicted within the Study Area but outside the CEC Corridor is an unnamed dirt road and a cinder pit. The 1971 USGS Lyman Lake, Arizona, 1:24,000 map does not depict any historical resources within the CEC Corridor; however, a corral, an east-west unnamed road, and a roughly north-south unnamed improved dirt road are depicted in the Study Area outside of the CEC Corridor. The 1971 USGS Voigt Ranch, Arizona, 1:24,000 map depicts unnamed dirt roads in Sections 1 and 11, T10N, R29E, Section 4, T10N, R30E, and a jeep trail in Section 6, T10N, R30E outside the CEC Corridor. In addition, the Springerville Generating Station and associated facilities and infrastructures are depicted in Sections 28–29 and 33–34, T11N, R30E that intersect with the CEC Corridor. Outside the CEC Corridor but within the Study Area, there are additional unnamed dirt roads, water tanks, a well, THE AZTEC ranch with corrals and a water tower, a corral, and a jeep road.

The NRHP (National Park Service [NPS] 2025a) and the National Scenic and National Historic Trails (NPS 2025b) websites do not indicate any historic resources in the CEC Corridor.

Archaeological Sites

There are 21 previously recorded archaeological sites within the Study Area, six of which intersect the CEC Corridor (Table 5). Five of the sites that intersect the CEC Corridor are artifact scatters and one site has rock features without any associated artifacts. Three of the sites have been recommended eligible for the ARHP under Criterion D, and three sites are recommended as ineligible for the ARHP under any Criteria.

Table 5. Previously Recorded Archaeological Sites within the Study Area

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
AZ Q:11:169(ASM)	Unknown	Unknown	Unknown	Unknown	0.94
AZ Q:12:21(ASM)	Mogollon / A.D. 200–1500	Habitation	Unevaluated	Rugge et al. 1977a	0.26
AZ Q:12:22(ASM)	Mogollon / A.D. 200–1500	Artifact scatter with features	Unevaluated / Recommended eligible	Rugge et al. 1977b / DeMaso et al. 2025	0.14
AZ Q:12:62(ASM)	Native Archaeological Culture	Artifact scatter with features	Recommended eligible	Hase and Gordon 1995	0.37
AZ Q:12:80(ASM)	**Mogollan / A.D. 200-1300**	**Artifact scatter**	**Recommended eligible**	**DeMaso et al. 2025**	**0.0**
AZ Q:12:81(ASM)	**Archaic / 4800 B.C – A.D. 200**	**Flaked stone scatter**	**Recommended eligible**	**DeMaso et al. 2025**	**0.0**
AZ Q:12:82(ASM)	**Mogollan / A.D. 200-1300**	**Artifact scatter**	**Recommended ineligible**	**DeMaso et al. 2025**	**0.0**
AZ Q:12:83(ASM)	Mogollan / A.D. 200-1000	Flaked stone scatter	Recommended ineligible	DeMaso et al. 2025	0.06
AZ Q:12:84(ASM)	Native Archaeological Cultural/ Unknown	Flaked stone scatter	Recommended ineligible	DeMaso et al. 2025	016
AZ Q:14:2(ASM)	Mogollon / A.D. 200–1500	Habitation	Unevaluated	Bassett 1986a	0.90
AZ Q:14:18(ASM)	Native Archaeological Culture/ Unknown	Flaked stone scatter	Recommended ineligible	DeMaso et al. 2025	0.54

E-8i. SHPO Consultation.

Site Number	Cultural/Temporal Affiliation	Site Type	ARHP Eligibility Status	Associated Reference(s)	Distance from CEC Corridor (miles)
AZ Q:14:19(ASM)	**Native Archaeological Culture / Unknown**	**Rock features with no associated artifacts**	**Recommended ineligible**	**DeMaso et al. 2025**	**0.00**
AZ Q:15:30(ASM)	Native Archaeological Culture / Unknown	Artifact scatter	Unevaluated	Bassett 1986b	0.73
AZ Q:15:96(ASM)	**Native Archaeological Culture / Unknown**	**Flaked stone artifact scatter**	**Unevaluated / Recommended eligible**	**Hart and Hackbarth (2001) / DeMaso et al. 2025**	**0.00**
AZ Q:15:118(ASM)	Unknown	Unknown	Unknown	Unknown	0.58
AZ Q:15:140(ASM)	Archaic / 4800 B.C – A.D. 200	Flaked stone scatter	Recommended eligible	DeMaso et al. 2025	0.22
AZ Q:15:141(ASM)	**Mogollon / A.D. 1000-1300**	**Artifact scatter**	**Recommended ineligible**	**DeMaso et al. 2025**	**0.00**
AZ Q:15:143(ASM)	Mogollan / A.D. 1000-1300	Habitation	Recommended eligible	DeMaso et al. 2025	0.05
AZ Q:16:71(ASM)	Native Archaeological Cultural / Unknown	Artifact scatter	Recommended eligible	Hase and Gordon 1997	0.39
AZ Q:16:95(ASM)	Unknown	Unknown	Unknown	Unknown	0.73

*Shaded rows indicate site intersects with the project area.

SUMMARY AND ASSESSMENT OF EFFECTS

The records review identified that 60% percent of the CEC Corridor has been previously and adequately surveyed for cultural resources. No historic properties intersect the CEC Corridor. The three archaeological sites are eligible under Criterion D for their information potential. The proposed Interconnection Project is expected to introduce a weak degree of visual contrast with low visual impacts that would not diminish the integrity of the archaeological sites. In addition to the previously recorded sites, several unrecorded cultural resources are depicted as intersecting the CEC Corridor on GLO plat and historic USGS topographic maps.

To mitigate adverse effects on sites AZ Q:12:80(ASM), AZ Q:12:81(ASM), and AZ Q:15:96(ASM), the potential for the Interconnection Project to avoid the sites would be explored. If the sites cannot be avoided, ground disturbance within 50 feet of the site boundary would be monitored by a qualified archaeologist. If ground disturbance within the site is necessary, additional data recovery would occur within the Interconnection Project footprint prior to construction, excluding any areas that have been previously investigated.

To ensure that other potential historic properties would not be impacted within the CEC Corridor, the Joint Applicants would complete a cultural resources inventory of the portions of the CEC Corridor that have not been previously adequately surveyed to identify and evaluate the cultural resources that may be present. If any historic properties are encountered, the inventory report would provide recommendations on how to mitigate any adverse effects on those historic properties.

E-8j. SHPO Consultation.

The Joint Applicants respectfully requests your review and comments on this project by August 15, 2025, if possible. Please feel free to contact me at dbarr@swca.com should you have any questions.

Sincerely,

David M. R. Barr, M.A.
Project Manager-Cultural Resources Lead, SWCA Environmental Consultants

E-8k. SHPO Consultation.

REFERENCES CITED/LITERATURE CITED

Arizona State Museum (ASM)
1995 *Revised Site Definition Policy*. Arizona State Museum, University of Arizona, Tucson.

Bassett, E.
1986a Site card for AZ Q:14:2(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

1986b Site card for AZ Q:15:30(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

DeMaso, Jessica, Deborah L. Huntley, Jonathan M. Schaefer, and Kathryn Turney
2025 *Class III Cultural Resources Survey Lava Run Wind Project, Apache County, Arizona*. Volumes I and II. Tetra Tech, Inc., Lakewood, Colorado.

Hart, David R. and Mark R. Hackbarth
2001 Site card for AZ Q:15:96(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

Hase, G. and B. Gordan
1995 Site card for AZ Q:12:62(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

1997 Site card for AZ Q:16:71(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

National Park Service (NPS)
2025a *National Register of Historic Places*. Available at: https://www.nps.gov/subjects/nationalregister/index.htm. Accessed May 29, 2025

2025b *National Trails System Webmap*. Available at: https://nps.maps.arcgis.com/apps/webappviewer/

State Historic Preservation Office (SHPO)
2004 *SHPO Position on Relying on Old Archaeological Survey Data*. SHPO Guidance Point No. 5. Arizona State Parks, Phoenix, Arizona.

Rugge, Szuter, Buck, and DeCosta
1977a Site card for AZ Q:12:21(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

1977b Site card for AZ Q:15:22(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

Wright, T., G. Woodall, and J. Lite
1994 Site card for AZ V:2:101(ASM). On file, Arizona State Museum, University of Arizona, Tucson.

E-8I. SHPO Consultation.

ATTACHMENT 1

ACC-SHPO Consultation Checklist for Compliance with the State Historic Preservation Act

E-8m. SHPO Consultation.

ACC-SHPO CONSULTATION CHECKLIST
FOR COMPLIANCE WITH THE STATE HISTORIC PRESERVATION ACT
(September 2022)

Projects requiring a Certificate of Environmental Compatibility are subject to the Arizona State Historic Preservation Act and consultation with the Arizona State Historic Preservation Officer. All submissions must include a letter on letterhead, addressed to:

Kathryn Leonard, State Historic Preservation Officer
1110 W. Washington St., #100
Phoenix, AZ 85007

The letter should be one or two pages (as needed) and include:

- ☐ Project Name
- ☐ Project location (please include legal description and UTMs)
- ☐ Funding source for the project, and/or the state or federal agency or program, as applicable
- ☐ Project Area description (project area dimensions, and include all alternatives, access roads, gen-tie connections, staging areas, etc)
- ☐ Total Acres in Project Area
- ☐ Landownership (all involved; provide acres by land jurisdiction)
- ☐ Scope of work (detailed description of the project)
- ☐ Summary of previous archaeological investigations within the Project Area
- ☐ Identification of cultural resources within the Project Area (brief description of site and eligibility status)
- ☐ Request for SHPO review and comment

Attachments should include:

- ☐ Location map showing where the project area is located and land jurisdiction
- ☐ Map(s) showing Class I research results for projects and cultural resources

Email to: azshpo@azstateparks.gov **(no hard copies accepted)**
Additional questions: cklebacha@azstateparks.gov

ATTACHMENT 1 - ACC-SHPO Consultation Checklist for Compliance with the State Historic Preservation Act

E-8n. SHPO Consultation.

ATTACHMENT 2

Location map showing the Project Area and Land Jurisdiction

E-8o. SHPO Consultation.

Request for Consultation – Lava Run Interconnection Project Certificate of Environmental Compatibility

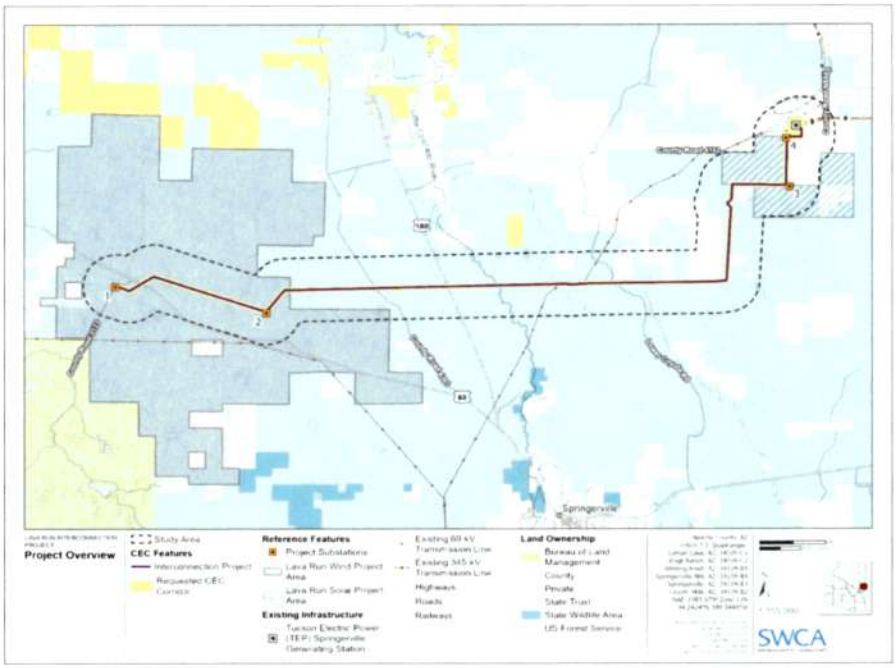


Figure 1. Project Overview and Land Jurisdiction.

Attachment 2 - 1

E-8p. SHPO Consultation.

ATTACHMENT 3

Class 1 Previous Research Maps

E-8q. SHPO Consultation. Class I Previous Research Maps not provided to prevent disclosure of cultural resources.

EXHIBIT F. RECREATION

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1, the intent of this exhibit is to:

> *State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route.*

Recreation information for the Study Area (Interconnection Project footprint plus a 1-mile buffer) in Apache County was obtained from the Arizona State Land Department (ASLD) Parcel Viewer (ASLD 2025), the Apache County Parcel Viewer (Apache County 2025), the *Apache County Comprehensive Plan* (Apache County 2019a), the U.S. Forest Service (Forest Service) Visitor Map (Forest Service 2025), Arizona Game and Fish Department (AGFD) hunting information (AGFD 2022a, 2022b, 2023, 2025), and Google Earth (2025).

Current land uses in the Interconnection Project include vacant, agriculture, industrial, utility, the Little Colorado River, and transportation. The Study Area is located within the Rural Edge, Community Village, and Range Land character areas identified in the *Apache County Comprehensive Plan*, and private lands in the Study Area are zoned as General Agriculture (Apache County 2019a, 2025). These character areas and the zoning district can support public recreational opportunities if provided (Apache County 2019a, 2019b). However, there are no existing designated or planned recreational facilities, parks, or open spaces within the Study Area (Apache County 2019a, Apache County 2025, ASLD 2025). Designated public recreational opportunities nearest the Study Area are the South Fork Trailhead and Day Use Area in Apache-Sitgreaves National Forest (9 miles south) and Lyman Lake State Park (3.5 miles north). The Interconnection Project crosses the Little Colorado River, a year-round flowing river with no associated recreational facilities in the Study Area.

Within the Study Area and surrounding region, recreational users may occasionally use local and county roadways for dispersed recreation activities such as walking, hiking, biking, off-road vehicle use, horseback riding, hunting, and general transportation, as well as incidental uses such as nature viewing, bird watching, and photography. Off-road vehicle use is limited to existing routes; cross-country travel is not allowed, with some exceptions such as ranching activities or retrieval of game. Generally, all Arizona State Trust lands, which would provide similar recreation opportunities, can be accessed by the public with an individual, family, or group Recreation Use Permit (Arizona State Parks and Trails 2025). County Road 3123, which extends southwest from U.S. Route 60 to the Apache-Sitgreaves National Forest, is located within the Study Area and provides access to Forest Service–administered hiking and biking trails (Forest Service 2025). However, recreational use and access to this road will not be impacted by the Interconnection Project.

The Interconnection Project crosses game management units 1, 2B, 2C, and 3B. These units offer a variety of small- and big-game hunting opportunities, including Merriam's turkey, waterfowl, antelope, elk, mule deer, black bear, and mountain lion (AGFD 2022a, 2022b, 2023, and 2025). The AGFD manages hunting in the Study Area, regardless of land ownership. Hunting seasons may occur year-round but are most prevalent in the fall.

During construction, the immediate area (e.g., structure assembly area, conductor stringing area, and other equipment placement areas) of the Interconnection Project will not be open to the general public. The Interconnection Project will not be fenced during operations. Once construction is completed, the Interconnection Project will have minimal impact on existing recreational use because there is currently limited use of the area (primarily travel along public roadways and dispersed recreational activities), and such access will continue to be available following the Interconnection Project construction. Similarly, implementation will have minimal to no impact on recreation in the Study Area or surrounding region because implementation will not block access to recreation areas.

Literature Cited

Apache County. 2019a. *Apache County Comprehensive Plan*. Available at: https://www.apachecountyaz.gov/Community-Development. Accessed April 2025.

———. 2019b. *Zoning Ordinance of Apache County, Arizona*. Available at: https://www.apachecountyaz.gov/accnt_591117/site_591118/Documents/Apache-County-Zoning-Ordinance-amended.pdf. Accessed April 2025.

———. 2025. Apache County GIS. Available at: https://apache-co.maps.arcgis.com/apps/webappviewer/index.html?id=2fdb74d76b734d4c98869038eae12aea. Accessed April 2025.

Arizona Game and Fish Department (AGFD). 2022a. Game Management Unit 2B. Available at: https://www.azgfd.com/location/gmu-2b/. Accessed June 2025.

———. 2022b. Game Management Unit 2C. Available at: https://www.azgfd.com/location/gmu-2c/. Accessed June 2025.

———. 2023. Game Management Unit 3B. Available at: https://www.azgfd.com/location/gmu-3b/. Accessed June 2025.

———. 2025. Game Management Unit 1. Available at: https://www.azgfd.com/location/gmu-1/. Accessed June 2025.

Arizona State Land Department (ASLD). 2025. ASLD Parcel Viewer. Available at: https://land.az.gov/resources/aslds-parcel-viewer. Accessed April 2025.

Arizona State Parks and Trails. 2025. Trails on State Trust Land. Available at: https://azstateparks.com/trails-on-state-trust-land. Accessed April 2025.

Google Earth. 2025. Aerial imagery near 34.236439, −109.403264. Available at: https://www.google.com/earth/. Accessed April 2025.

U.S. Forest Service (Forest Service). 2025. Visitor Map. Available at: https://www.fs.usda.gov/ivm/. Accessed April 2025.

EXHIBIT G. CONCEPTUAL DRAWINGS OF TRANSMISSION FACILITIES

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

> *Attach any artist's or architect's conception of the proposed plan or transmission line structures and switchyards, which applicant believes may be informative to the committee.*

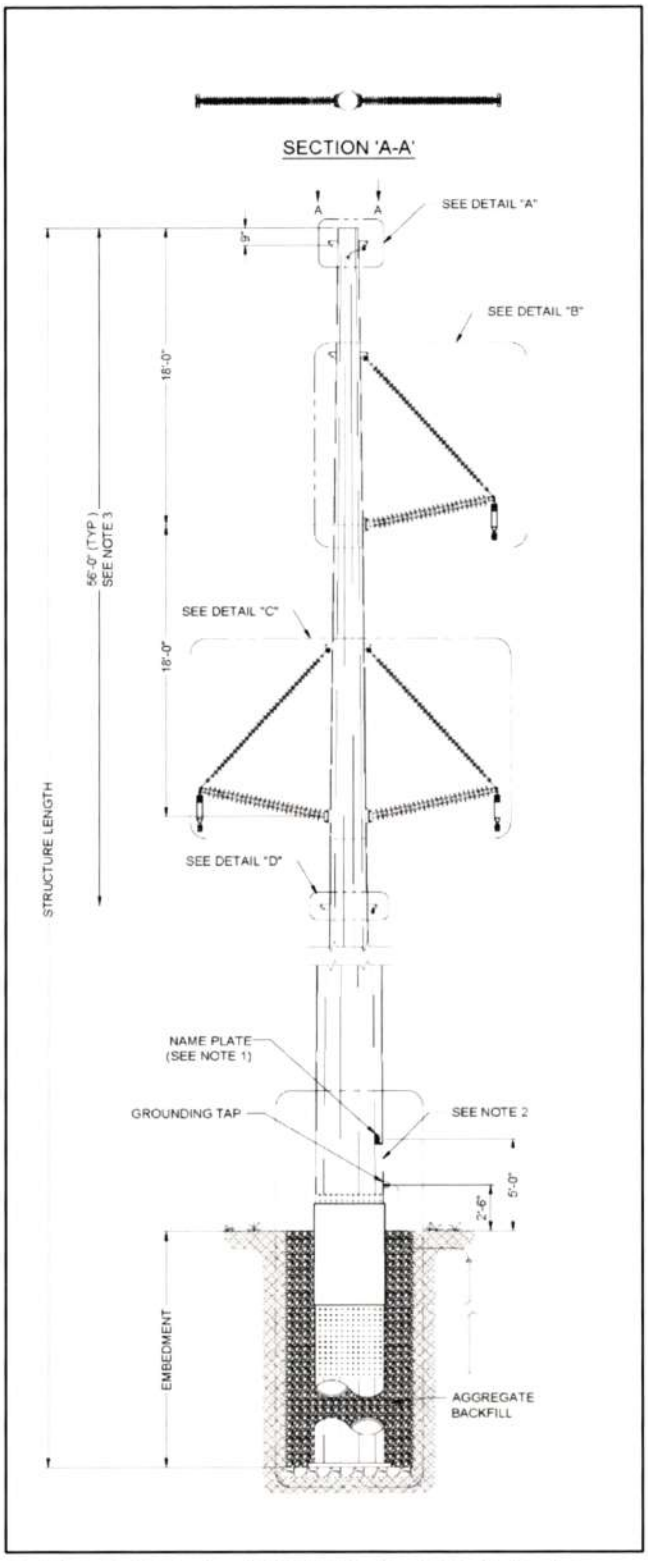


Exhibit G-1. Typical 345-kV Delta BLP light-duty steel pole tangent framing.

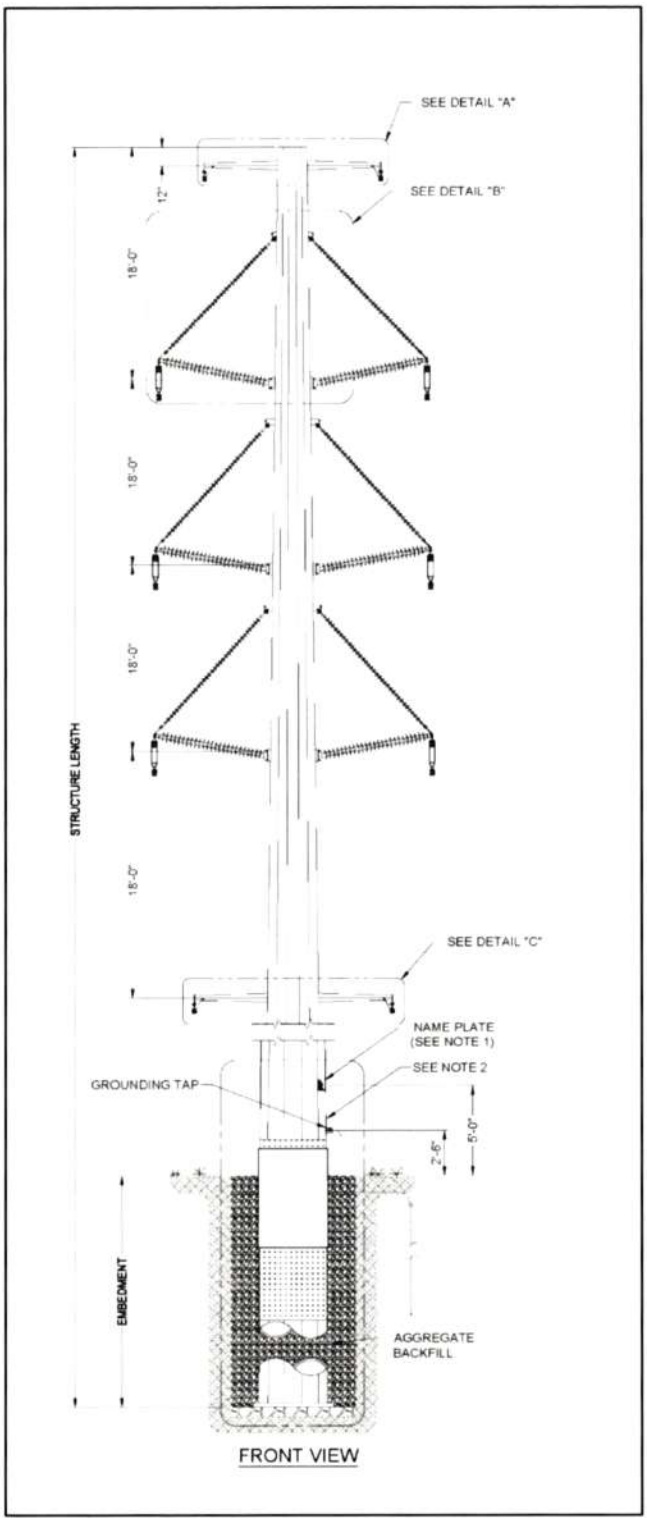


Exhibit G-2. Typical 345-kV Vertical BLP light-duty steel tangent framing.

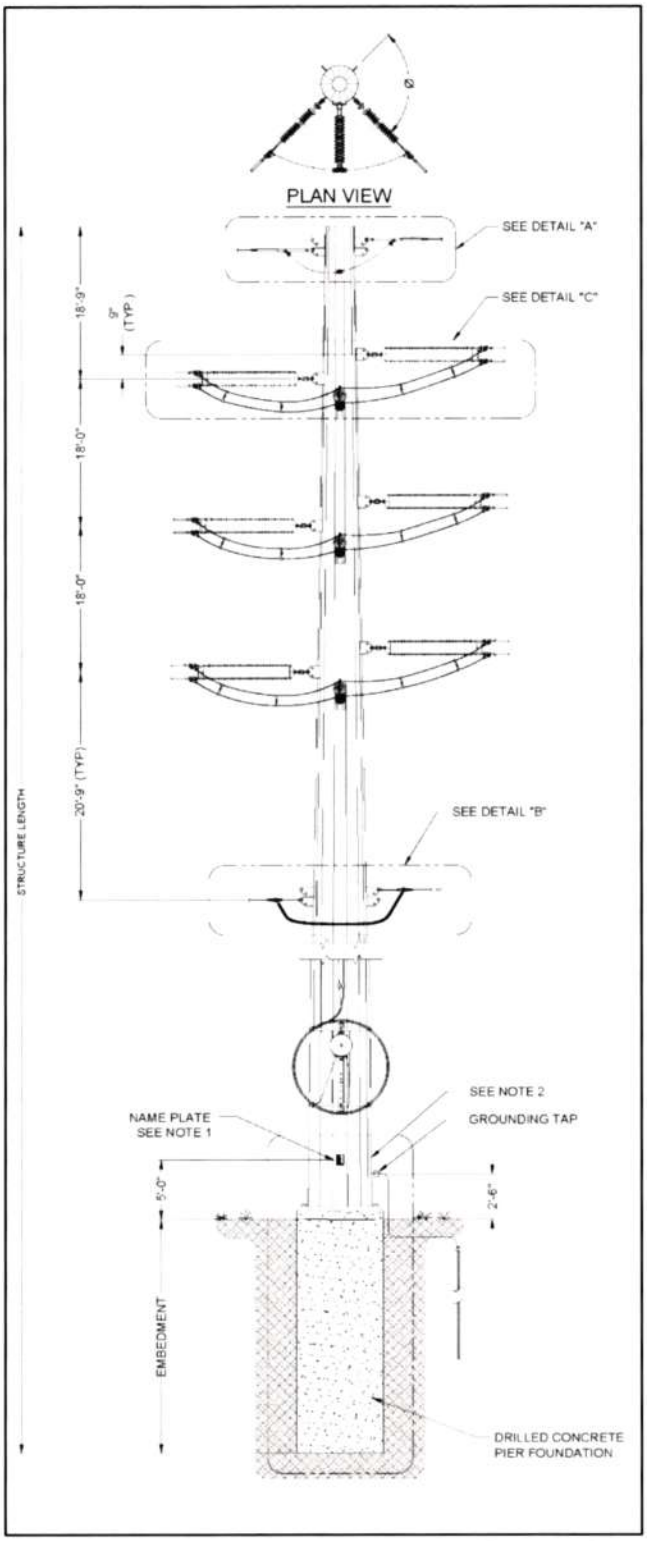


Exhibit G-3. Typical 345-kV vertical self-supporting steel dead-end framing.

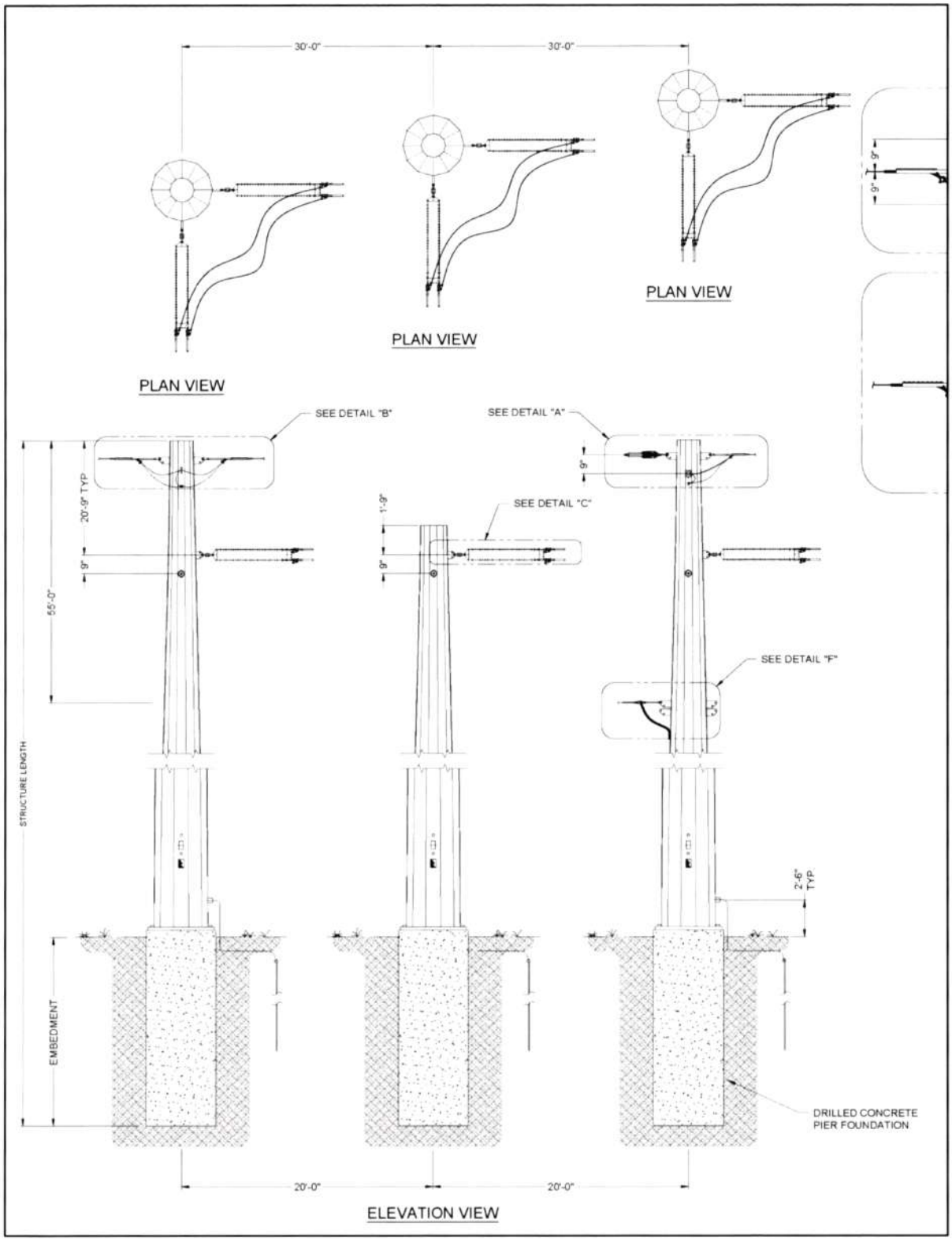


Exhibit G-4. Typical 345-kV horizontal 3-pole self-supporting steel angle dead-end.

EXHIBIT H. EXISTING PLANS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

> *To the extent applicant is able to determine, state the existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route.*

Existing and future land uses are mapped in Exhibits A-2 and A-3 and discussed in Exhibit B. The *Apache County Comprehensive Plan* (Apache County 2019), the Arizona State Land Department (ASLD) Parcel Viewer (ASLD 2025), and the Apache County geographic information system (GIS) interactive mapping service (Apache County 2025) were evaluated as part of the land use study.

On May 5, 2025, letters were sent to jurisdictions and stakeholders (Table H-1) to provide information about the Lava Run Interconnection Project (Interconnection Project) and request new or additional information on planned developments within the Study Area. Exhibits H-1a and H-1b provide an example of the letter.

On May 29, 2025, the Arizona Game and Fish Department (AGFD) responded to the letter inquiring if previous letters sent regarding the project would be included in the Application. SWCA confirmed on June 11, 2025, that this previous correspondence would be included. This correspondence is included as Exhibit H-2a through Exhibit H-4g. The first AGFD correspondence is dated February 3, 2023 (Exhibit H-2a through H-2f) and was in response to an agency coordination meeting held on November 30, 2022, in which the results of the *Year 1 Bat Acoustic and Avian Use Survey Reports* (SWCA Environmental Consultants [SWCA] 2022) were discussed. The second AGFD correspondence is dated October 16, 2024 (Exhibit H-3a through H-3d) and was in response to the *Year 2 Bat Acoustic and Avian Use Survey Reports* (SWCA 2024) provided to the AGFD for review. The third correspondence, dated March 17, 2025 (Exhibit H-4a through H-4g), is the Applicants' response to AGFD's recommendations provided in the February 3, 2023, and October 16, 2024, correspondences. The AGFD did not provide any further communication after SWCA's confirmation on June 11, 2025, that these communications would be included in the Application.

Table H-1. Entities that Received Letters with Interconnection Project Information

Contact Name	Title	Agency/Organization
Ambert Troidl	Manager, Right of Way (Wind)	Arizona State Land Department
Ray Moore	Administrator, Commercial Lease (Solar)	Arizona State Land Department
Van Robinson	Administrator, Commercial Lease (Solar)	Arizona State Land Department
Rob Lever	Forest Supervisor	Apache-Sitgreaves National Forests
Elizabeth Johnston	Habitat and Lands Program Manager, Region 1	Arizona Game and Fish Department
Ginger Ritter	Project Evaluation Supervisor	Arizona Game and Fish Department
Kathryn Leonard	State Historic Preservation Officer	Arizona State Historic Preservation Office
Shaula Hedwall	Senior Fish and Wildlife Biologist	U.S. Fish and Wildlife Service
Greg Beatty	Fish and Wildlife Biologist	U.S. Fish and Wildlife Service
Kristen Madden	Chief, Department of Migratory Birds	U.S. Fish and Wildlife Service

Contact Name	Title	Agency/Organization
Kammie Kruse	Permits Branch Chief	U.S. Fish and Wildlife Service
Corrie Borgman	Landbird Biologist	U.S. Fish and Wildlife Service
Kirsten Cruz-McDonnell	Energy Biologist Southwest Region	U.S. Fish and Wildlife Service
Shelly Reidhead	Mayor	Town of Springerville
Tim Rasmussen	Town Manager	Town of Springerville
Stormy Palmer	Planning and Zoning Department	Town of Springerville
Steve Erhart	Mayor	Town of Eagar
Brannon Eagar	Town Manager	Town of Eagar
	Planning and Zoning Commission	Town of Eagar
Spence Udall	Mayor	City of St. Johns
Paul Ramsey	City Manager	City of St. Johns
	Planning and Zoning Commission	City of St. Johns
Dr. Joe Shirley	Chairman	Apache County Board of Supervisors
Alton Joe Shepard	Vice Chairman	Apache County Board of Supervisors
Nelson Davis	Board Member	Apache County Board of Supervisors
Ryan Patterson	Manager	Apache County
Matthew Fish	Director	Apache County Community Development
Brian Hounshell	Director	Apache County Emergency Management
Ferrin Crosby	Director	Apache County Engineering
		Arizona Department of Transportation
		Tucson Electric Power
		Navopache Electric Cooperative
		SRP Headquarters
		Tri-State Generation and Transmission Association
Attn: Corporate Real Estate		BNSF
		Lyman Lake State Park
Attn: Tom Buschatzke	Director	Arizona Department of Water Resources
		Arizona Geological Survey
		Arizona State Parks
Los Angeles District (Phoenix Office)		U.S. Army Corps of Engineers
Walt Blackman		Arizona House of Representatives
Brenda Barton		Arizona House of Representatives
Wendy Rogers		Arizona Senate
Karen Peters	Cabinet Executive Director (CEO), Executive Deputy Director	Arizona Department of Environmental Quality - Director's Office
Amanda Stone	Deputy Director	Arizona Department of Environmental Quality - Director's Office
Mike Keyack	Deputy Director	Arizona Department of Environmental Quality - Director's Office

Literature Cited

Arizona State Land Department (ASLD). 2025. ASLD's Parcel Viewer. Available at: https://land.az.gov/resources/aslds-parcel-viewer. Accessed June 2025.

Apache County. 2019. *Apache County Comprehensive Plan*. Available at: https://www.apachecountyaz.gov/accnt_591117/site_591118/Documents/Comprehensive-Plan-Final-June-2019.pdf. Accessed June 2025.

———. 2025. Apache County GIS. Available at: https://apache-co.maps.arcgis.com/apps/webappviewer/index.html?id=2fdb74d76b734d4c98869038eae12aea. Accessed June 2025.

SWCA Environmental Consultants (SWCA). 2022. *Year 1 Bat Acoustic and Avian Use Survey Reports*.

———. 2024. *Year 2 Bat Acoustic and Avian Use Survey Reports*.

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.

1750 South Woodlands Village Boulevard
Suite 200
Flagstaff, Arizona 86001
tel 928.774.5500 fax 928.779.2709
www.swca.com

May 5, 2025

First Name Last Name
Client Name
Address Line 1
Address Line 2
City, State XXXXX

Re: Lava Run Interconnection Project

Dear Name:

CG Apache County Wind LLC and CG Apache County Solar LLC (collectively "Applicants") plan to file an application for a Certificate of Environmental Compatibility ("CEC") for the Lava Run Interconnection Project ("Interconnection Project") with the Arizona Power Plant and Transmission Line Siting Committee ("Line Siting Committee") in September 2025. The Interconnection Project entails the construction, operation, and maintenance of an up to 29-mile-long, 345-kilovolt (kV) aboveground electrical generation-tie transmission line to connect the Lava Run Wind and the Lava Run Solar projects—respectively, a proposed 500-megawatt (MW) wind facility and a proposed 450-MW solar facility with an on-site battery energy storage system—to the regional electrical grid via Tucson Electric Power Company's ("TEP") existing Springerville 345 kV Substation at the Springerville Generating Station. The application seeks a CEC solely for the Interconnection Project, which will cross Arizona State Trust Lands and private property in unincorporated Apache County, Arizona. Further information about the project is available at www.lavarunprojects.com.

The Applicants are working with SWCA Environmental Consultants ("SWCA") to prepare environmental studies for the Interconnection Project's CEC application. A map of the proposed route for the Interconnection Project is attached (Figure 1). The Line Siting Committee will evaluate the CEC application at a public hearing in October 2025.

Arizona Administrative Code Rule R14-3-219 requires that CEC applications include an exhibit that identifies *"the existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route."* This letter provides an opportunity for your organization to submit any information or comments regarding development plans for inclusion in the CEC application. Specifically, please advise us of any relevant existing or future development plans that you can identify at this time. We respectfully request your response in writing.

For the Applicants to include your information in the CEC application, please forward your written comments to SWCA by July 7, 2025, via email at Jeremy.Casteel@swca.com, or by physical mail: Attn: Jeremy Casteel, SWCA Environmental Consultants, 1750 S Woodlands Village Blvd., Ste 200, Flagstaff, AZ 86001. Thank you for your cooperation.

Respectfully,

Jeremy Casteel, Lead Environmental Planner
SWCA Environmental Consultants

Attachment: Figure 1

Exhibit H-1a. Example Interconnection Project information letter (1 of 2).

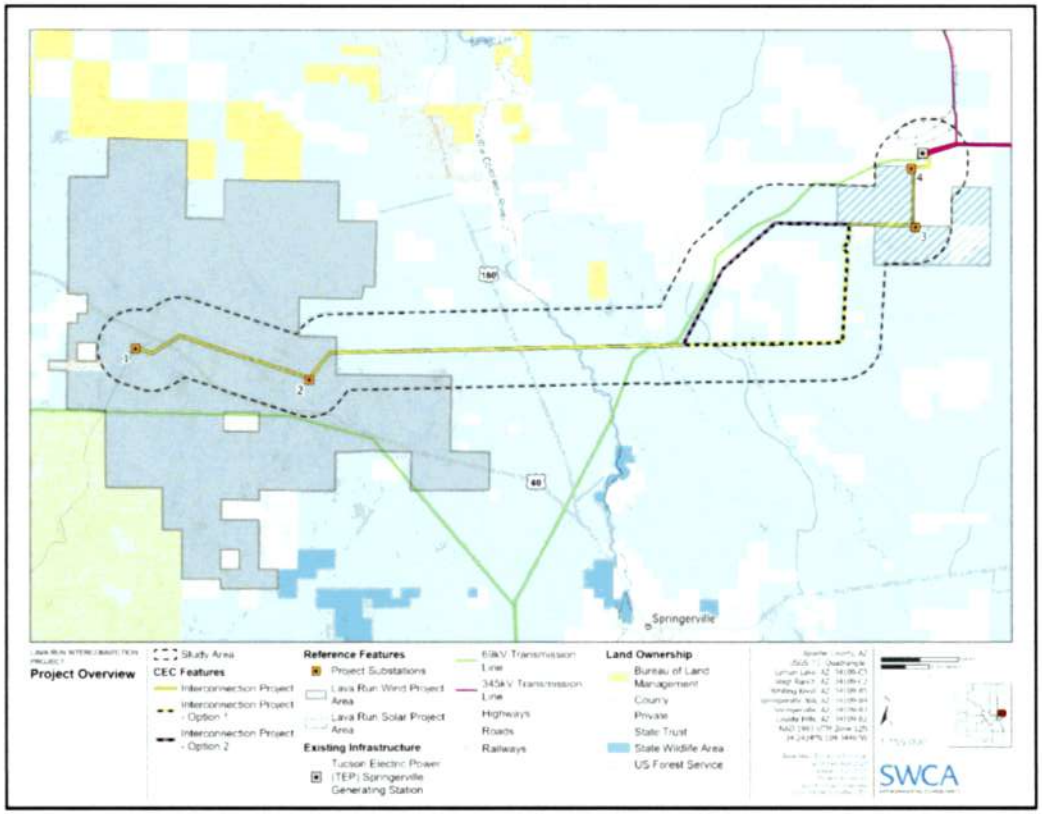


Figure 1. Lava Run Interconnection Project

Exhibit H-1b. Example Interconnection Project information letter (2 of 2).

February 3, 2023

Mr. Allen Graber
SWCA Environmental Consultants
1645 South Plaza Way
Flagstaff, Arizona 86001

Electronically submitted to agraber@swca.com and jkuba@connectgenllc.com

RE: Lava Run Wind and Solar + Battery Project Year 2 Pre-construction Surveys

Dear Mr. Graber:

The Arizona Game and Fish Department (Department) appreciates the continued coordination on the proposed Lava Run Wind and Solar + Battery project and the information presented during the agency coordination meeting on November 30, 2022. The Department understands the project includes a 500 MW wind facility and generation intertie (gen-tie) transmission line on approximately 73,000 acres and a 450 MW photovoltaic (PV) solar and battery storage facility on 3,600 acres. The facilities would be located on State Trust Lands and would tie into the Springerville Generating Station

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's Section 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department recognizes the importance of planning efforts to develop renewable energy facilities that contribute to regional and state economic growth needs and would like to continue working closely with ConnectGen and SWCA Environmental Consultants (SWCA) during the planning of these economically-important facilities. Renewable energy facilities, particularly the large arrays needed for commercial electricity generation, can have impacts on wildlife and wildlife habitats. The Department also recognizes that appropriate placement, proper planning, and voluntary implementation of best management practices allow projects to be developed that avoid, minimize, or offset potential impacts to wildlife and recreation during the development and operation of the facilities. For your consideration, the Department provides the following comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation.

azgfd.gov | 602.942.3000

5000 W. CAREFREE HIGHWAY, PHOENIX AZ 85086

Exhibit H-2a. AGFD February 3, 2023, correspondence (1 of 6).

Northern Arizona has recently seen an increase in the number of proposed and in-development renewable energy generation projects and associated infrastructure, and several wind and solar projects have been built or proposed in the vicinity of Lava Run. Although each of these projects individually may have a limited impact on the broader landscape, these projects cumulatively result in wildlife mortality, loss of habitat, reduced wildlife movements, and influences on wildlife-related recreation. Additionally, long-term effects to wildlife can extend several kilometers beyond the project area footprints (Sawyer et al. 2022[1]). It is important to evaluate potential cumulative impacts in order to determine appropriate project siting and conservation measures to minimize impacts to wildlife. The Department looks forward to continued communications regarding this project, including discussions of possible cumulative impacts.

The Department appreciates that wildlife surveys have occurred in the wind facility project area and understands that two years of avian use counts, raptor nest surveys, and bat acoustic surveys have been completed. Results from Year 1 of avian use counts and bat acoustic surveys and from Years 1 and 2 of the raptor nest surveys were presented during the agency coordination meeting. Based on the information presented, the Department has the following recommendations:

- Eagle use is relatively high within the project area and adjacent lands. In addition to the 18 golden eagle nests (11 confirmed and seven possible), surveys identified golden eagle use and flight paths through much of the project area. Bald eagles are known to use nearby lakes, and it was noted during the meeting that a bald eagle was seen in the project area during Year 2 surveys. Potential eagle attractants, such as prairie dog colonies, were also identified. The Department would like to continue discussions on how to minimize potential risk to eagles. The Department recommends maintaining a 2-mile buffer around eagle nests and avoiding other high use areas. As discussed during the meeting, ground monitoring to determine how eagles are moving through the project area can help determine appropriate avoidance areas and turbine layout. The Department can help identify such areas and suitable conservation measures.
- The Department recommends maintaining a 0.5-mile buffer around ferruginous hawk nests. For other species and habitat features, please coordinate with the Department and U.S. Fish and Wildlife Service to determine appropriate setbacks.
- The Department would like to coordinate further on targeted surveys for breeding mountain plovers, an Arizona Species of Greatest Conservation Need. The project area is in close proximity to the only known breeding location of this species in Arizona. Breeding mountain plovers are difficult to detect with typical avian point count methodology and are especially cryptic in nesting areas. The Department recommends conducting targeted surveys in mid-May during the breeding season in disturbed areas where plovers forage. Conducting these surveys in advance of project design can aid implementation of avoidance measures for this species. Department staff are available to assist with identification of survey timing and locations. If breeding mountain plovers are identified, the Department would like to work with ConnectGen and SWCA to identify suitable conservation measures.

[1] https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2498

Exhibit H-2b. AGFD February 3, 2023, correspondence (2 of 6).

- Please refer to the Department's recently updated State Wildlife Action Plan (SWAP) and Arizona Wildlife Conservation Strategy[2] for the most recent list of Arizona Species of Greatest Conservation Need (SGCN). Please note that the hoary bat, which was one of the most commonly detected species identified via acoustics, was recently added as an SGCN. As noted above, the Department would like to discuss potential cumulative impacts to this and other species from wind projects in the area.
- The project is proposed within one of the most productive pronghorn population areas in the state and would cover a large area of available habitat for this population. Unlike other states with pronghorn, Arizona does not see a lot of ingress and egress between populations, which are separated by roads and other physical barriers. The Department would like to work with ConnectGen and SWCA to identify project design features that minimize fragmentation of the landscape, such as increased inter-turbine distance, as feasible, and fence designs and locations to help ensure habitat connectivity. The Department also recommends reducing construction disturbances during pronghorn fawning season (May through mid-June) by phasing construction to reduce the amount of area disturbed at a given time.
- A variety of waters and wetlands were identified in the project area. The Department recommends incorporating setbacks from sites that are likely to hold water and be used by wildlife after decent rains. If turbines or other infrastructure will be placed near the marshy salt flat in the northeastern part of the wind project area, the Department recommends conducting surveys in this area to help inform siting and suitable conservation measures.

Maintaining habitat connectivity is a high priority for the Department, and wildlife movement corridors are important for wildlife to respond to changing environmental conditions. The project area provides habitat connectivity for a variety of species, and the project footprint includes five modeled wildlife linkages. The Department is available to help identify measures to reduce effects to wildlife movement, including the following broad recommendations:

- The Department recommends maintaining natural open corridors across the wind and solar project areas to facilitate wildlife movement. The Department is available to assist in development of the site design to provide input on possible corridors, including through the proposed solar facility; as an example, constructing the solar facility in blocks, rather than a contiguous array of panels, can help promote connectivity. The Department also recommends maintaining drainages and ephemeral washes that occur in the project area in their natural state without fencing or other barriers. These washes and drainages serve multiple functions in the ecosystem. Not only do they provide for hydrologic flow, which is important in areas that receive infrequent and isolated precipitation events, but these washes also contain habitats that serve as landscape-level conveyance corridors for wildlife movement.
- The Department recommends minimizing the number and extent of new access roads and recommends restoring habitats disturbed during construction.
- Within the solar facility, the Department recommends retaining habitat features underneath the panels to the extent possible, including vegetation and soils, instead of

[2] https://awcs.azgfd.com

Exhibit H-2c. AGFD February 3, 2023, correspondence (3 of 6).

grading the site. The topography in the majority of the site is flat and would require minimal trimming of shrubs and existing vegetation to install the panels. Keeping the existing soil and root structures intact would serve to minimize erosional run-off and help reduce biodiversity loss within the site (Grodsky and Hernandez 2020[3]).

- The Department recommends minimizing fencing within the project area to what is required by law or for safety. The Department's *Wildlife Compatible Fencing Guidelines*[4] provide information on how fencing impacts wildlife, ways to design fencing to prevent wildlife entanglement and impalement, and to ensure wildlife movement is not restricted. Department personnel are available to help determine appropriate fencing design and layout that will achieve its objective while reducing impact to wildlife. Around the solar facility, the Department encourages leaving a 6–8-inch gap between the ground surface and bottom of the fence to allow for smaller wildlife species to move freely through the area and make use of habitat within the project boundary.

The Department offers the following general recommendations to minimize wildlife impacts. Please refer to the *Guidelines for Reducing Impacts to Wildlife from Wind Energy Development in Arizona*[5] (Wind Guidelines) and *Guidelines for Solar Development in Arizona*[6] (Solar Guidelines) for further information:

- Raptors are vulnerable to powerline strikes and electrocution during construction and operation of transmission lines; power poles can also serve as perches for birds of prey. The Department recommends implementing appropriate design features for these structures to minimize potential impacts to these species, including avian flight diverters near all waters or other areas where raptors could congregate. Because eagles are known to occur in the area, the Department also recommends following standards established by the Avian Power Line Interaction Committee (APLIC) for eagle-sized raptors along the full gen-tie route; these can be found in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*[7] and *Reduced Avian Collisions with Power Lines: The State of the Art in 2012*[8].
- Artificial lighting can attract nocturnal animals (including birds and bats), impair their ability to navigate, and may affect their behaviors (Davies et. al. 2013[9]). Any Federal Aviation Administration (FAA)-required lighting should be installed according to FAA guidelines for wind energy (FAA 2020[10]). If additional lighting is needed near the ground, consider using only the minimum amount necessary for safety. Motion-sensing lights and

[3] https://www.nature.com/articles/s41893-020-0574-x
[4] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/110125_AGFD_fencing_guidelines.pdf
[5] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/RevisedAZWindGuidelinesOctober2012.pdf
[6] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/FinalSolarGuidelines03122010.pdf
[7] https://www.aplic.org/uploads/files/2643/SuggestedPractices2006LR-2).pdf
[8] https://www.aplic.org/uploads/files/15518/Reducing_Avian_Collisions_2012watermarkLR.pdf
[9] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3657119
[10] https://www.faa.gov/documentLibrary/media/Advisory_Circular/Advisory_Circular_70_7460_1M.pdf

Exhibit H-2d. AGFD February 3, 2023, correspondence (4 of 6).

narrow-spectrum lighting are preferred, as well as ensuring that all lighting is fully shielded (USFWS 2012[11]).

- If wildlife are encountered during project activities that could be injured or killed from those activities, the Department recommends moving them out of harm's way, no more than 0.25 mile outside the project boundary within similar habitat.
- If trenching will occur for the proposed project, the Department recommends that trenching and backfilling crews be close together to minimize the amount of open trenches at any given time. Where trenches cannot be back-filled immediately, the Department recommends escape ramps be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The Department recommends that slopes be less than 45 degrees (1:1) and trenches that have been left open overnight be inspected to remove animals prior to backfilling.

Post-construction surveys and monitoring are important to determine if adaptive management is needed. To help reduce wildlife injury and mortality during facility operation, the Department provides the following suggestions:

- The Department recommends developing a Wildlife Conservation Strategy (WCS), Bird and Bat Conservation Strategy (BBCS), and Eagle Conservation Plan (ECP) as part of the project planning. These are voluntary plans put forth by developers in order to proactively address potential impacts to wildlife resulting from the construction, maintenance, and operation of a wind facility. Please refer to the Department's *Wind Guidelines* for additional information about these plans.
- The Department recommends development of a post-construction wildlife fatality monitoring plan. The Department would like to review this plan, along with the BBCS, ECP, and WCS if developed, prior to implementation. The Department requests the opportunity to review the results of the post-construction wildlife fatality monitoring on an annual basis, including any info/monitoring that may occur once formal fatality monitoring has been completed.
- When developing the BBCS, it is important to consider that pre-construction surveys likely will not detect all species that occur in the area. The Department can help determine appropriate adaptive management measures, such as smart curtailment, cut-in speeds, and deterrents, based on both known and probable species occurrence. If adaptive management is needed, it is equally important to continue post-construction monitoring after implementation of any conservation measures to ensure they address any issue.
- The Department encourages ConnectGen to consider integrating battery storage into the wind energy project, in addition to the solar facility, which would maintain continuous energy supply while allowing for conservation measures that could otherwise affect power output, such as cut-in speeds to reduce bat fatalities.

Finally, to reduce impacts on hunters, the Department requests continued coordination on proposed starting/ending times for construction so the Department can notify constituents of closures during proposed hunts and/or seasons. Notification of the construction timeline will also enable the Department to account for any adjustments to access agreements with the lessee.

[11] https://www.fws.gov/media/land-based-wind-energy-guidelines

Exhibit H-2e. AGFD February 3, 2023, correspondence (5 of 6).

Thank you for the opportunity to provide input on the Lava Run Wind and Solar + Battery project. The Department looks forward to reviewing the Year 2 avian use count and bat acoustic survey reports when they are available and continued collaboration on this project. Please contact Tiffany Sprague at tsprague@azgfd.gov or 623-236-7222 with any questions and for further coordination.

Sincerely,

Luke Thompson
Habitat, Evaluation, and Lands Branch Chief

cc: Aaron Hartzell - Region I Regional Supervisor
David Dorum - Region I Habitat, Evaluation, and Lands Program Supervisor
Ginger Ritter - Project Evaluation Program Supervisor

AZGFD #M23-01060505

Exhibit H-2f. AGFD February 3, 2023, correspondence (6 of 6).

October 16, 2024

Tom Koronkiewicz
SWCA Environmental Consultants
1750 S Woodlands Village Blvd, Suite 200
Flagstaff, Arizona 86001

Electronically Submitted to: tkoronkiewicz@swca.com

RE: Lava Run Wind Project- Year 2 Bat Acoustic and Avian Use Survey Reports

Dear Mr. Koronkiewicz:

The Arizona Game and Fish Department (Department) appreciates the continued coordination on the proposed *Lava Run Wind Project* (*Project*) that will include a 500 MW wind facility and generation intertie (gen-tie) transmission line, and the opportunity to review the *Year 2 Bat Acoustic and Avian Use Survey Reports* (*Reports*); these surveys provide important data that will inform the design and siting of the project. The Department understands the *Reports* have been developed in accordance with recommendations in the *Guidelines for Reducing Impacts to Wildlife from Wind Energy Development in Arizona*[1] (*Guidelines*), recommendations in the U.S. Fish and Wildlife Service (USFWS) Wind Energy Guidance (WEG), the USFWS Eagle Conservation Plan Guidance (ECPG), and the Eagle Rule (USFWS 2016).

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's Section 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department recognizes the importance of planning efforts to develop renewable energy facilities that contribute to regional and state economic growth needs. As stated in previous correspondence, the Department would like to work closely with Repsol and SWCA during the

[1] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/RevisedAZWindGuidelinesOctober2012.pdf

ARIZONA
azgfd.gov | 602.942.3000
5000 W. CAREFREE HIGHWAY, PHOENIX AZ 85086

Exhibit H-3a. AGFD October 16, 2024, correspondence (1 of 4).

planning and development of this facility. As noted in the Department's *Guidelines*, wind energy facilities can affect wildlife through a variety of means, including direct fatality, habitat loss and fragmentation, behavior modification, the introduction of invasive plant species, and more. The Department recognizes that appropriate placement, proper planning, and voluntary implementation of best management practices allow projects to be developed that avoid, minimize, or offset potential impacts to wildlife and recreation during the development and operation of the facilities.

The Department appreciates the use surveys and acoustic surveys that have been conducted for this potential facility. Based on the information in the *Reports*, the Department provides the following general recommendations on opportunities to avoid or minimize potential impacts to wildlife:

- The Department recommends a selection of turbines that include the capability for blade feathering at wind speeds below nameplate cut-in speeds to reduce bird and bat fatalities when energy is not being generated.
- The Department continues to recommend a minimum 2-mile buffer around documented golden eagle nests. Since golden eagles build multiple nests over time, nearby potential nesting substrates should also be considered when designing adequate buffers. In addition, turbine avoidance areas should be developed for regularly utilized foraging areas documented outside of nest buffers (i.e. prairie dog colonies).
- The Department cautions reliance on the newly created USFWS General Permit Eligibility Map to reliably inform eagle fatality risk throughout Arizona. The pre-construction avian use surveys identified eagle use rates indicative of anticipated golden eagle fatalities post-construction. Although the *Project* initially qualifies for a General Eagle Take Permit, there is potential that a Specific Eagle Take Permit will ultimately be needed based on eagle take at other locations in Arizona. Siting, design, and operation plans that avoid documented eagle nests, use areas, and prey concentration areas will help to reduce these eagle fatality risks and uncertainty in future Eagle Act General Permit eligibility.
- The Department recommends proactively painting one of the turbine blades black at the time of construction. A recent Before-After-Control-Impact study in Norway documented an over 70% reduction in avian fatalities across species (May et al. 2020)[2]. This approach to reducing avian fatalities is currently being evaluated for replicability in Wyoming. If replicated and effective, this approach should quickly become an industry standard reducing impacts to avian species without impacting energy production. Since painting of the blades would be resource-demanding at operational turbines, cost of implementation would be significantly reduced if implemented before construction.
- As described in the report, there are earthen stock tanks, springs, playas, etc. that collect water throughout the project area. The Department recommends incorporating setbacks, as appropriate, from sites that congregate avian and other wildlife species and is available to discuss and assist in identifying appropriate setbacks.
- The Department recommends establishing a minimum 0.5-mile buffer around ferruginous hawk nests.

[2] https://onlinelibrary.wiley.com/doi/10.1002/ece3.6592

Exhibit H-3b. AGFD October 16, 2024, correspondence (2 of 4).

- The report indicates that pinyon jay, which is a Species of Greatest Conservation Need (SGCN) and is currently under review for listing under the Endangered Species Act, was documented at several of the survey plots. Based on results from these analyses, the Department requests information on measures Repsol plans to implement to minimize potential risk to this species and is available to coordinate on options, to the extent feasible, including avoiding siting turbines near nesting and roosting habitats or areas where concentrations of pinyon jays were recorded.

The Department would like to work with Repsol and SWCA on opportunities to minimize potential risks to bats. Given the general reduction in bat fatalities that can be achieved by simply feathering blades, the Department would like to see this implemented as a proactive approach to reduce bat fatalities. The Department looks forward to working with Repsol and SWCA on the Bat and Bird Conservation Strategy (BBCS) to study fatalities post-construction. When developing the BBCS, for this project, the Department requests that additional consideration be given to hoary bats, big/pocketed free-tailed bats, and greater western mastiffs. As an example, specific research evaluating potential population-level impacts to hoary bats from wind facilities has indicated that implementation of proactive conservation measures such as curtailment can minimize potential long-term population impacts to this species (Friedenberg and Frick 2021[3]). Further, the Department recommends the identification of conservation measures that allow timely response to post-construction monitoring results that would reduce potential impacts to bat species that typically have smaller population densities, such as greater western mastiff and big/pocketed free-tailed bats.

Please reference the Department's response letters dated February 3, 2023 (M23-01060505; attached) and August 11, 2023 (M23-09172631; attached) for additional project-specific recommendations and the *Guidelines* and attached *Arizona Game and Fish Department Wind Energy Guidelines Supplement* for general recommendations to avoid or minimize the facility's potential impacts to wildlife.

Thank you for the opportunity to provide input on the *Year 2 Bat Acoustic and Avian Use Survey* for the *Lava Run Wind Project*. For further coordination, please contact Elizabeth Johnston at ejohnston@azgfd.gov or 928-532-3683.

Sincerely,

Callie Cavalcant

Callie Cavalcant
Habitat, Evaluation and Lands Branch Chief

cc: Ginger Ritter - Project Evaluation Program Supervisor
Aaron Hartzell - Region I Regional Supervisor
Elizabeth Johnston - Region I Habitat, Evaluation, and Lands Program Supervisor

[3] https://www.sciencedirect.com/science/article/am/pii/S000632072100361X

Exhibit H-3c. AGFD October 16, 2024, correspondence (3 of 4).

Kenneth (Tuk) Jacobson - Raptor Management Coordinator
Angela McIntire - Statewide Bat Specialist
Edwin Juarez - Arizona Bird Conservation Initiative Coordinator

AZGFD #M24-09104950

Attachments:

M23-01060505 - Lava Run Wind and Solar – Battery Project Year 2 Pre-construction Surveys
M23-07192631 - CG Apache County Wind LLC (Application No. 14-123742-00-100)

Exhibit H-3d. AGFD October 16, 2024, correspondence (4 of 4).

SWCA
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

1750 South Woodlands Village Boulevard
Suite 200
Flagstaff, Arizona 86001
Tel 928 774 5500 Fax 928 779 2709
www.swca.com

March 17, 2025

Callie Cavalcant
Habitat, Evaluation and Lands Branch Chief
Arizona Game and Fish Department

Electronically submitted to: ccavalcant@azgfd.gov, aartzell@azgfd.gov, amcintire@azgfd.gov, ddorum@azgfd.gov, ejohnston@azgfd.gov, gritter@azgfd.gov, and kjacobson@azgfd.gov

Re: Repsol Renewables Responses to the Arizona Game and Fish Department Letters of October 16, 2024 (M24-09104950) and February 3, 2023 (M23-01060505) Regarding the Lava Run Wind Project

Dear Ms. Cavalcant:

On behalf of CG Apache County Wind LLC (Company), I am pleased to send you this reply to the Arizona Game and Fish Department (AGFD) letter (M24-09104950) dated October 16, 2024, regarding the Lava Run Wind Project Year 2 bat acoustic and avian use survey reports. Company's responses to individual recommendations in the October 16, 2024, letter are presented in the attached table, with AGFD's recommendations listed in the first column and Company's responses in the second column.

Also included in the attached table are Company's responses to recommendations from AGFD's letter (M23-01060505) dated February 3, 2023. The February 3, 2023, letter was prepared by AGFD following an agency coordination meeting held on November 30, 2022, in which results of Year 1 of avian use counts and bat acoustic surveys and Years 1 and 2 of raptor nest surveys were discussed.

A third AGFD letter (M23-07192631) dated August 11, 2023, addressed to the Arizona State Land Department, repeated several of the recommendations made in the February 3, 2023, letter. No additional recommendations relating to the construction and operation of the Lava Run Wind Project were included. To avoid redundancies, the August 11, 2023, letter is not referenced in the attached table.

Your letter of October 16, 2024, also referenced AGFD's *Guidelines for Reducing Impacts to Wildlife from Wind Energy Development in Arizona* for general recommendations to avoid or minimize the facility's potential impacts to wildlife. Company is aware of this publication and taking its recommendation into account during project development

Thank you for your letters and your continued support on this project.

Sincerely,

Tom Koronkiewicz
Environmental Specialist | Senior Project Manager
SWCA Environmental Consultants

Exhibit H-4a. Applicants' March 17, 2025, correspondence (1 of 7).

ATTACHMENT

Exhibit H-4b. Applicants' March 17, 2025, correspondence (2 of 7).

Repsol Renewables Responses to the Arizona Game and Fish Department Letters of October 16, 2024 (M24-09104950) and February 3, 2023 (M23-01060505) Regarding the Lava Run Wind Project

	AGFD 10/16/24 Comment	Company Response
1	The Department understands the Reports have been developed in accordance with recommendations in the Guidelines for Reducing Impacts to Wildlife from Wind Energy Development in Arizona (Guidelines), recommendations in the U.S. Fish and Wildlife Service (USFWS) Wind Energy Guidance (WEG), the USFWS Eagle Conservation Plan Guidance (ECPG), and the Eagle Rule (USFWS 2016).	Correct. The guidelines mentioned guide the development of the project for not only required compliance, but for recommended practices as well, to the extent practicable.
2	The Department recommends a selection of turbines that include the capability for blade feathering at wind speeds below nameplate cut-in speeds to reduce bird and bat fatalities when energy is not being generated.	Curtailment will be incorporated into the project as requested and where appropriate and practicable. Turbine size has not been finalized as of the date of this response.
3	The Department continues to recommend a minimum 2-mile buffer around documented golden eagle nests. Since golden eagles build multiple nests over time, nearby potential nesting substrates should also be considered when designing adequate buffers. In addition, turbine avoidance areas should be developed for regularly utilized foraging areas documented outside of nest buffers (i.e. prairie dog colonies).	Two-mile buffers have been incorporated around all documented eagle nests. Foraging areas and water sources are also being taken into account when siting turbines.
4	The Department cautions reliance on the newly created USFWS General Permit Eligibility Map to reliably inform eagle fatality risk throughout Arizona. The pre-construction avian use surveys identified eagle use rates indicative of anticipated golden eagle fatalities post-construction. Although the project initially qualifies for a General Eagle Take Permit, there is potential that a Specific Eagle Take Permit will ultimately be needed based on eagle take at other locations in Arizona. Siting, design, and operation plans that avoid documented eagle nests, use areas, and prey concentration areas will help to reduce these eagle fatality risks and uncertainty in future Eagle Act General Permit eligibility.	An eagle risk analysis will be completed for the project as part of an Eagle Conservation Plan. The Eagle Conservation Plan will be developed in coordination with the US Fish and Wildlife Service (USFWS), the agency responsible for permitting this trust resource. The results of the analysis will help Company evaluate the appropriate Eagle Take Permit eligibility and Company will obtain as necessary.
5	The Department recommends proactively painting one of the turbine blades black at the time of construction. A recent Before-After-Control-Impact study in Norway documented an over 70% reduction in avian fatalities across species (May et al. 2020). This approach to reducing avian fatalities is currently being evaluated for replicability in Wyoming. If replicated and effective, this approach should quickly become an industry standard reducing impacts to avian species without impacting energy production. Since painting of the blades would be resource-demanding at operational turbines, cost of implementation would be significantly reduced if implemented before construction.	Company is closely monitoring this study to see if the results are replicated. While the study is promising for a simple way to avoid fatalities and not lose energy production, turbine paint colors are regulated by the Federal Aviation Administration (FAA) and the County, so this ordinance must be adhered to at the moment. If the results of the study can provide further justification for incorporating the painted blade option, at that time Company can reevaluate the possibility and effectiveness of initiating the request to the County and the FAA. Company will consider the best available science and new and emerging technologies while weighing what is practicable relative to overall wildlife impacts.
6	As described in the report, there are earthen stock tanks, springs, playas, etc. that collect water throughout the project area. The Department recommends incorporating setbacks, as appropriate, from sites that congregate avian and other wildlife species and is available to discuss and assist in identifying appropriate setbacks.	Company is incorporating setbacks based on the recommendations of the Arizona Game and Fish Department (AGFD) where it is possible to do so within other constraints.
7	The Department recommends establishing a minimum 0.5-mile buffer around ferruginous hawk nests.	No ferruginous hawk nests were documented within the wind development area in the two years of survey data gathered. One nest was observed outside of the development area, but no turbines are sited within the requested 0.5-mile buffer.

Exhibit H-4c. Applicants' March 17, 2025, correspondence (3 of 7).

	AGFD 10/16/24 Comment	Company Response
8	The report indicates that pinyon jay, which is a Species of Greatest Conservation Need (SGCN) and is currently under review for listing under the Endangered Species Act, was documented at several of the survey plots. Based on results from these analyses, the Department requests information on measures Company plans to implement to minimize potential risk to this species and is available to coordinate on options, to the extent feasible, including avoiding siting turbines near nesting and roosting habitats or areas where concentrations of pinyon jays were recorded.	Company is monitoring the listing status of the pinyon jay to further evaluate avoidance strategies. Definitively, prior to construction, we will conduct Migratory Bird Treaty Act protected nest surveys at minimum, in order to document occupied and active nests. Nests will not be removed or disturbed during the active nesting and breeding seasons.
9	Given the general reduction in bat fatalities that can be achieved by simply feathering blades, the Department would like to see this implemented as a proactive approach to reduce bat fatalities.	Company plans to develop a Bird and Bat Conservation Strategy (BBCS) in 2025. This plan will present bat fatality avoidance strategy, which will include an evaluation of curtailment, deterrent technology, or other methods as appropriate and incorporate the most appropriate strategy into project operations. Company will continue to investigate the efficacy and practicability of curtailment, implementation of modified cut-in speeds, feathering blades, and smart curtailment.
10	The Department looks forward to working with Company and SWCA on the Bat and Bird Conservation Strategy (BBCS) to study fatalities post-construction. When developing the BBCS, for this project, the Department requests that additional consideration be given to hoary bats, big/pocketed free-tailed bats, and greater western mastiffs. As an example, specific research evaluating potential population-level impacts to hoary bats from wind facilities has indicated that implementation of proactive conservation measures such as curtailment can minimize potential long-term population impacts to this species (Friedenberg and Frick 2021).	Company plans to work closely with AGFD in the development of the BBCS, which will include a post-construction monitoring plan. Company will continue to investigate the efficacy and practicability of curtailment, implementation of modified cut-in speeds, feathering blades, and smart curtailment.
11	Further, the Department recommends the identification of conservation measures that allow timely response to post-construction monitoring results that would reduce potential impacts to bat species that typically have smaller population densities, such as greater western mastiff and big/pocketed free-tailed bats.	Conservation measures driven by post-construction monitoring results will be developed and incorporated into the BBCS and included in the operational requirements of the project.
	AGFD 2/3/23 Comment	**Company Renewables Response**
12	Eagle use is relatively high within the project area and adjacent lands. In addition to the 18 golden eagle nests (11 confirmed and seven possible), surveys identified golden eagle use and flight paths through much of the project area. Bald eagles are known to use nearby lakes, and it was noted during the meeting that a bald eagle was seen in the project area during Year 2 surveys. Potential eagle attractants, such as prairie dog colonies, were also identified. The Department would like to continue discussions on how to minimize potential risk to eagles. The Department recommends maintaining a 2-mile buffer around eagle nests and avoiding other high use areas. As discussed during the meeting, ground monitoring to determine how eagles are moving through the project area can help determine appropriate avoidance areas and turbine layout. The Department can help identify such areas and suitable conservation measures.	Two-mile buffers around all observed/known golden eagle nests have been incorporated into the project layout. Additionally, prairie dog colonies within the wind development area have been delineated in the field. We are continuing to evaluate the setbacks of turbines to both prey and water sources for eagles. Eagle flight path observations recorded during the 2 years of avian point count surveys have provided data to allow us to evaluate further siting strategies.
13	The Department recommends maintaining a 0.5-mile buffer around ferruginous hawk nests. For other species and habitat features, please coordinate with the Department and U.S. Fish and Wildlife Service to determine appropriate setbacks.	Please refer to response for Comment 7.

Exhibit H-4d. Applicants' March 17, 2025, correspondence (4 of 7).

	AGFD 2/3/23 Comment	Company Renewables Response
14	The Department would like to coordinate further on targeted surveys for breeding mountain plovers, an Arizona Species of Greatest Conservation Need. The project area is in close proximity to the only known breeding location of this species in Arizona. Breeding mountain plovers are difficult to detect with typical avian point count methodology and are especially cryptic in nesting areas. The Department recommends conducting targeted surveys in mid-May during the breeding season in disturbed areas where plovers forage. Conducting these surveys in advance of project design can aid implementation of avoidance measures for this species. Department staff are available to assist with identification of survey timing and locations. If breeding mountain plovers are identified, the Department would like to work with ConnectGen and SWCA to identify suitable conservation measures.	It is anticipated that surveys for mountain plovers will be conducted concurrently with the pre-construction MBTA protected nest surveys. Based on field work conducted by SWCA biologists, it is not anticipated that this species is present within the development area but will be confirmed at that time.
15	Please refer to the Department's recently updated State Wildlife Action Plan (SWAP) and Arizona Wildlife Conservation Strategy for the most recent list of Arizona Species of Greatest Conservation Need (SGCN). Please note that the hoary bat, which was one of the most commonly detected species identified via acoustics, was recently added as an SGCN. As noted above, the Department would like to discuss potential cumulative impacts to this and other species from wind projects in the area.	Comment is noted.
16	The project is proposed within one of the most productive pronghorn population areas in the state and would cover a large area of available habitat for this population. Unlike other states with pronghorn, Arizona does not see a lot of ingress and egress between populations, which are separated by roads and other physical barriers. The Department would like to work with ConnectGen and SWCA to identify project design features that minimize fragmentation of the landscape, such as increased inter-turbine distance, as feasible, and fence designs and locations to help ensure habitat connectivity. The Department also recommends reducing construction disturbances during pronghorn fawning season (May through mid-June) by phasing construction to reduce the amount of area disturbed at a given time.	Comment is noted regarding facility spacing. Minimal fencing is required for the wind project, so it is not anticipated to be a significant hindrance to pronghorn migration. Additionally, per AGFD recommendations, construction disturbance will be minimized during fawning season by incorporating the suggested construction schedule modifications as practicable.
17	A variety of waters and wetlands were identified in the project area. The Department recommends incorporating setbacks from sites that are likely to hold water and be used by wildlife after decent rains. If turbines or other infrastructure will be placed near the marshy salt flat in the northeastern part of the wind project area, the Department recommends conducting surveys in this area to help inform siting and suitable conservation measures.	An aquatics resources delineation has been conducted for the project. Company will follow the mitigation hierarchy of avoidance, minimization, and mitigation regarding aquatics resources. For unavoidable impacts to any jurisdictional wetlands/waters, the appropriate permit(s) will be obtained from applicable regulatory agencies. We are continuing to evaluate the setbacks of water sources. This salt flat will be avoided from any infrastructure.
18	The Department recommends maintaining natural open corridors across the wind and solar project areas to facilitate wildlife movement. The Department is available to assist in development of the site design to provide input on possible corridors. The Department also recommends maintaining drainages and ephemeral washes that occur in the project area in their natural state without fencing or other barriers. These washes and drainages serve multiple functions in the ecosystem. Not only do they provide for hydrologic flow, which is important in areas that receive infrequent and isolated precipitation events, but these washes also contain habitats that serve as landscape-level conveyance corridors for wildlife movement.	Terrestrial corridor movement for the wind project should not be hindered due to the relatively spread-out nature and small footprint of individual turbines and the isolated locations of O&M facilities. Fencing for the wind project will be minimal and limited to areas of the most human activity for security purposes. Wildlife friendly fencing will be included where it would provide the most benefit. Drainages and washes will be avoided as practicable, even through construction. Avoidance is the preferred method, and project planning includes this strategy first. Some improvements to existing drainages may be needed to help facilitate drainage of the site.

Exhibit H-4e. Applicants' March 17, 2025, correspondence (5 of 7).

	AGFD 2/3/23 Comment	Company Renewables Response
19	The Department recommends minimizing the number and extent of new access roads and recommends restoring habitats disturbed during construction.	Roads will follow either existing road alignments or existing two-track paths as the preferred option. For new roads that are built, as well as any improved existing roads, a vegetation/habitat restoration plan will be developed as part of County permitting and the project decommissioning plan.
20	The Department recommends minimizing fencing within the project area to what is required by law or for safety. The Department's Wildlife Compatible Fencing Guidelines provide information on how fencing impacts wildlife, ways to design fencing to prevent wildlife entanglement and impalement and to ensure wildlife movement is not restricted. Department personnel are available to help determine appropriate fencing design and layout that will achieve its objective while reducing impact to wildlife.	Fencing will be minimized to the maximum extent practicable. Fencing must ensure both the security of the sites as well as public safety. Company has reviewed the Department's Wildlife Compatible Fencing Guidelines. Wildlife friendly fencing will be included where it would provide the most benefit. Company will reach out to the Department for any additional assistance regarding appropriate fencing design. The fencing request is noted and appreciated.
21	Raptors are vulnerable to powerline strikes and electrocution during construction and operation of transmission lines; power poles can also serve as perches for birds of prey. The Department recommends implementing appropriate design features for these structures to minimize potential impacts to these species, including avian flight diverters near all waters or other areas where raptors could congregate. Because eagles are known to occur in the area, the Department also recommends following standards established by the Avian Power Line Interaction Committee (APLIC) for eagle-sized raptors along the full gen-tie route; these can be found in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 and Reduced Avian Collisions with Power Lines: The State of the Art in 2012.	APLIC guidelines will be incorporated into the project requirements.
22	Artificial lighting can attract nocturnal animals (including birds and bats), impair their ability to navigate, and may affect their behaviors (Davies et. al 2013). Any Federal Aviation Administration (FAA)-required lighting should be installed according to FAA guidelines for wind energy (FAA 2020). If additional lighting is needed near the ground, consider using only the minimum amount necessary for safety. Motion-sensing lights and narrow-spectrum lighting are preferred, as well as ensuring that all lighting is fully shielded (USFWS 2012).	Lighting will only be used where absolutely necessary. Shielding will be included in the lighting installation as well as motion sensing. Lighting is primarily only included as part of the O&M facilities where most human activity occurs.
23	If wildlife are encountered during project activities that could be injured or killed from those activities, the Department recommends moving them out of harm's way, no more than 0.25 mile outside the project boundary within similar habitat.	For personnel safety and wildlife welfare, if injured or otherwise at-risk wildlife is encountered, wildlife specialists will be notified to assist in relocating wildlife as needed.
24	If trenching will occur for the proposed project, the Department recommends that trenching and backfilling crews be close together to minimize the amount of open trenches at any given time. Where trenches cannot be back-filled immediately, the Department recommends escape ramps be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The Department recommends that slopes be less than 45 degrees (1:1) and trenches that have been left open overnight be inspected to remove animals prior to backfilling.	Any trenching needed will incorporate these recommendations as requested and still ensure OSHA standards are met.

Exhibit H-4f. Applicants' March 17, 2025, correspondence (6 of 7).

	AGFD 2/3/23 Comment	Company Renewables Response
25	The Department recommends developing a Wildlife Conservation Strategy (WCS), Bird and Bat Conservation Strategy (BBCS), and Eagle Conservation Plan (ECP) as part of the project planning. These are voluntary plans put forth by developers in order to proactively address potential impacts to wildlife resulting from the construction, maintenance, and operation of a wind facility. Please refer to the Department's Wind Guidelines for additional information about these plans.	These plans are planned for development in 2025. It is Company's intention that the bird and bat conservation plan will be a living document that will be revised as Company determines necessary and as supported by scientifically defensible information. Company is developing an eagle conservation plan in coordination with the USFWS, the agency responsible for permitting this trust resource.
26	The Department recommends development of a post-construction wildlife fatality monitoring plan. The Department would like to review this plan, along with the BBCS, ECP, and WCS if developed, prior to implementation. The Department requests the opportunity to review the results of the post-construction wildlife fatality monitoring on an annual basis, including any info/monitoring that may occur once formal fatality monitoring has been completed.	Company will continue to work with AGFD for development of the post-construction monitoring plan and the implementation, as well as for the other plans mentioned. The request to review the fatality monitoring on an annual basis can be accommodated. Company remains committed to reporting state-listed species fatalities in a timely manner to the AGFD. Any other non-listed species that are "species of concern" will be available for review by the AGFD in annual reporting.
27	When developing the BBCS, it is important to consider that pre-construction surveys likely will not detect all species that occur in the area. The Department can help determine appropriate adaptive management measures, such as smart curtailment, cut-in speeds, and deterrents, based on both known and probable species occurrence. If adaptive management is needed, it is equally important to continue post-construction monitoring after implementation of any conservation measures to ensure they address any issue.	We look forward to continuing to work with AGFD in this regard. Company will continue to investigate the efficacy and practicability of curtailment, deterrents, implementation of modified cut-in speeds, feathering blades, and smart curtailment.
28	The Department encourages ConnectGen to consider integrating battery storage into the wind energy project, in addition to the solar facility, which would maintain continuous energy supply while allowing for conservation measures that could otherwise affect power output, such as cut-in speeds to reduce bat fatalities.	Battery storage is not feasible for this wind project. It is, however, incorporated into the solar project.
29	Finally, to reduce impacts on hunters, the Department requests continued coordination on proposed starting/ending times for construction so the Department can notify constituents of closures during proposed hunts and/or seasons. Notification of the construction timeline will also enable the Department to account for any adjustments to access agreements with the lessee.	Company will notify AGFD of the anticipated construction schedule for the purpose of lessee/hunting notifications.

Exhibit H-4g. Applicants' March 17, 2025, correspondence (7 of 7).

EXHIBIT I. NOISE

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> *Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities.*

Exhibit I outlines common electrical and noise emissions associated with high-voltage transmission lines, encompassing phenomena such as corona discharges, audible sounds, and electromagnetic fields (EMF). Additionally, this exhibit describes the permissible noise emission levels and outlines the anticipated impacts arising from the proposed Lava Run Interconnection Project (Interconnection Project).

Corona

Corona discharge is an electrical phenomenon resulting from the ionization of nearby fluids, often air, around conductors carrying high voltage, such as those in a 345-kilovolt (kV) transmission line. Notably, traces of corona discharge can be found in all active high-voltage transmission lines.

When corona discharge forms around an electrified conductor, it can become concentrated enough to cause small electrical discharges. These discharges can have various effects, including producing audible noise, such as faint humming or crackling sounds, causing interference in radio transmissions, generating heat, or even triggering chemical changes in the air's components.

Several factors influence the occurrence and intensity of corona discharge:

- Voltage Magnitude: The overall voltage carried by the conductor is a central factor.
- Physical Attributes of the Conductor: The shape, diameter, and even small surface imperfections, such as dust accumulation, scratches, or nicks, can affect the electrical gradient on its surface and, consequently, the corona activity.
- Environmental Context: Weather conditions play a significant role. Wet conditions or foul weather can amplify corona discharges. Additionally, site elevation and air pressure can significantly impact corona discharge.

Given the localized nature of corona discharge and its typically minor effects, it is expected that its impacts will remain negligible beyond the Interconnection Project's right-of-way (ROW).

Audible Noise

Sound is a type of energy transmitted through pressure changes, detectable by the ears of animals and humans. In contrast, noise is any unwanted or intrusive sound that disrupts a preferred auditory environment.

Sound is characterized by two primary attributes: amplitude and frequency. Amplitude refers to the energy level reaching the ear, determining how loud a sound is perceived. Frequency describes the rate at which the sound source oscillates or cycles within a specific time frame, typically measured in hertz (Hz).

Other important concepts include sound power and sound pressure. Sound power refers to the total energy emitted by a sound source over a given period. It represents the inherent "strength" or "loudness potential" of any sound source and remains constant regardless of the surrounding environment or distance from the source.

Conversely, sound pressure is associated with the variations in air pressure caused by a propagating sound wave. As this wave travels through a medium, often air, it creates local disturbances. Unlike sound power, sound pressure changes based on the distance from the sound source and environmental factors such as reflections, absorptions, and obstructions.

Humans typically perceive sounds within a range from 0 A-weighted decibels (dBA) to 120 dBA. The dBA adjusts for the human ear's sensitivity to different frequencies, ensuring that sound measurements reflect what people hear. Sounds exceeding 120 dBA can be extremely loud and harmful, posing potential risks to the human eardrum.

Understanding how sound levels combine is crucial for assessing the cumulative impact of different noise sources. Decibels are logarithmic units, meaning they do not add up arithmetically. For example, two sources each producing a sound level of 30 dBA would combine to create a sound level of 33 dBA, not 60 dBA, due to the logarithmic nature of decibels.

For practical reference, Table I-1 presents various familiar noise sources and their corresponding sound levels in dBA. This table helps gauge and compare the relative loudness of everyday sounds.

Table I-1. Sound Levels of Representative Sounds and Noises

Source and Distance	Sound Level (dBA)	Human Response
Jet takeoff (nearby)	150	
Jet takeoff (15 meters/50 feet)	140	
50-horsepower siren (30 meters/100 feet)	130	
Loud rock concert (near stage)	120	Pain threshold
Construction noise (3 m/10 feet)	110	Intolerable
Jet takeoff (610 meters/2,000 feet)	100	
Heavy truck (8 meters/25 feet)	90	
Garbage disposal (0.6 meter/2 feet)	80	Constant exposure endangers hearing
Busy traffic	70	
Normal conversation	60	
Light traffic (30 meters/100 feet)	50	Quiet
Library	40	
Soft whisper (4.5 meters/15 feet)	30	Very quiet
Rustling leaves	20	
Normal breathing	10	Barely audible
Threshold of hearing	0	

Source: Beranek (1988).

Existing Sound Levels

The Interconnection Project is a proposed 345-kV alternating current, single-circuit, aboveground, generation-tie transmission line. The Interconnection Project will be up to approximately 29 miles long and have a 200 feet wide ROW.

The Interconnection Project is located in Apache County, Arizona, known for its mix of urban and rural areas, rapid growth, and suitability for energy projects. The area surrounding the Interconnection Project features a mix of vacant, industrial, utility, residential, transportation, and commercial land uses.

Utilities within the Study Area include four high-voltage transmission lines (three 500-kV transmission lines and one 69-kV transmission line) and the existing Springerville Generating Station.

The American National Standards Institute (ANSI) has published a standard that approximates typical background noise levels for a variety of land uses (ANSI 2013). For locations that can be classified as "very quiet suburban and rural residential," ANSI's estimations for daytime and nighttime background noise levels are 40 dBA and 34 dBA, respectively. Considering the land uses near the Interconnection Project, these estimations serve as an apt representation of the prevailing conditions.

Noise-Sensitive Receptors

Assessing the potential noise impact is crucial, especially in areas containing noise-sensitive receptors. Such receptors are locations inhabited by individuals or sites where intrusive sounds might disrupt the typical usage of the land, deteriorating its quality or value. Examples of noise-sensitive receptors include residences, educational institutions (e.g., schools), informational hubs (e.g., libraries), religious institutions (e.g., churches), healthcare centers (e.g., hospitals and nursing homes), cultural venues (e.g., auditoriums), and leisure spaces (e.g., parks and outdoor recreational zones).

In the context of the proposed Interconnection Project for the 345-kV line, it is noteworthy that the line will be contained within a 200-foot ROW. Upon examining the immediate vicinity of the Interconnection Project and the encompassing Study Area, the closest noise-sensitive receptor is a residence located approximately 1.83 miles south of the proposed line.

Anticipated Noise During Interconnection Project Construction

Constructing a transmission line involves the use of various ground-based equipment, including heavy-duty earth-moving machinery, cranes, air compressors, generators, and numerous transport trucks. These machines inherently generate considerable noise, with typical construction equipment producing noise levels in the range of approximately 70 to 90 dBA at 50 feet (FHWA 2011).

It is imperative to note that all construction-related noise will rigorously conform to the local regulations and guidelines set forth by Apache County, Arizona. Furthermore, to mitigate potential disturbances to residents and adhere to best practices, most construction activities are scheduled to take place primarily during daylight hours.

A significant characteristic of construction noise is its rapid reduction in intensity as the distance from the source increases. This means that as the distance from the noise source grows, the sound level decreases significantly. Additionally, construction noise is generally transient and temporary in nature. In the case of the Interconnection Project, the nearest sensitive receptor—a residence located approximately 1.83 miles south of the line—should be considered. However, 1.83 miles is a sufficient distance to effectively attenuate noise from construction equipment.

Anticipated Noise During Interconnection Project Operation

As noted above, the primary noise generated by transmission lines is due to the corona effect. By using corona noise modeling results we can conclude that the noise levels from the operation of the transmission line would be lower than the assumed daytime background noise levels (40 dBA) for the project site. To evaluate potential corona-related audible noise generated during operation, SWCA used the Bonneville Power Administration (BPA) "Corona and Field Effects" Excel-based program, which is a publicly available tool for modeling the environmental effects of high-voltage transmission lines.

This program estimates audible noise levels, electric and magnetic fields, and other corona-related parameters based on user-specified inputs such as conductor type, voltage, spacing, and environmental conditions. The model accounts for both fair weather and wet weather scenarios, and incorporates factors such as atmospheric pressure and elevation, which influence the intensity of corona effects.

For the Interconnection Project, corona noise modeling results have been updated based on the elevation of the project under evaluation and the proposed layout. Corona noise from a 345-kV transmission line is estimated to be 33.3 dBA directly beneath the line, attenuating to 28.3 dBA at the edge of the 200-foot ROW (Exhibit I-1) during fair weather conditions. At the nearest noise-sensitive receptor—a residential structure located approximately 1.83 miles south of the infrastructure siting area—corona noise during normal operations would either be indistinguishable from ambient sounds or inaudible, depending on the final siting of the line.

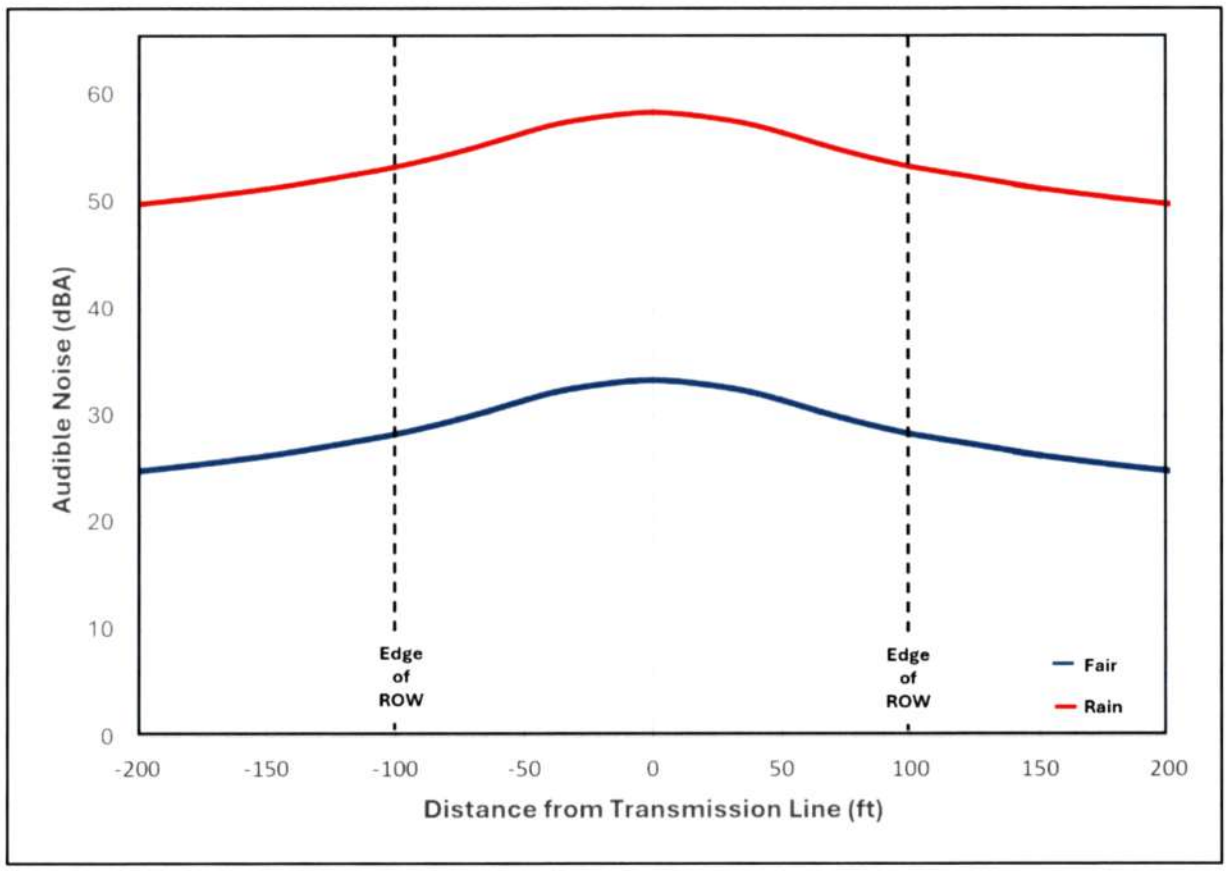


Exhibit I-1. Corona audible noise for 345-kV transmission line.

In the worst-case scenario (a 345-kV transmission line in wet conditions), corona noise would be 58.3 dBA directly under the transmission line, and attenuating to 53.3 dBA at the edge of the 200-foot ROW. During wet weather conditions, the ambient sound level would naturally increase due to wind, rain, thunder, and other environmental factors. As a result, corona noise at the nearest noise-sensitive receptor would likely be inaudible.

Communication Signal Interference

Overhead transmission lines have been extensively studied for their potential impact on communication signal quality, particularly concerning radio and television reception. Generally, these lines do not interfere with standard communication signals. However, when interference does occur, it can usually be attributed to two primary sources: corona discharges and gap discharges.

Corona discharges from transmission lines can sometimes produce unintended electrical noise. The intensity of this noise diminishes with increased distance from the transmission line. For the AM radio spectrum, which operates at lower frequencies, corona discharges might cause disruptions. For instance, a humming sound, which fades as the distance from the line increases, may be heard on an AM radio near a power line.

Conversely, FM radio receptions, with their higher frequencies (88 to 108 megahertz), are rarely affected. The inherent interference rejection capabilities of FM systems render them virtually resistant to such disturbances. Additionally, since the Interconnection Project's voltage does not exceed 345-kV, TV receptions are generally not subject to corona-induced disruptions.

Unlike corona discharges, gap discharges can occur at any voltage level on power lines. They arise from small electrical separations or gaps that might form between mechanically connected metal parts. When these gaps are bridged by small electric sparks, unwanted electrical noise can be produced. The impact of this noise depends on various factors, including the quality of the received radio or TV signal and the proximity of the receiver to the power line. However, many interference complaints are often traced back to non-power line sources, such as household appliances or poor-quality antennas.

High-voltage transmission lines usually experience fewer gap discharge problems due to their structural features and maintenance standards. The design and construction of these lines play a pivotal role in minimizing such disturbances. Properly designed hardware, electrical bonding where necessary, and diligent tightening of connections during construction can help avoid most interference issues. For those rare instances of interference, they can typically be traced to specific sources, such as corroded or damaged hardware, and rectified.

Additionally, transmission lines generally do not interfere with other critical communication infrastructures. Specifically, they do not disrupt the functions of cellular phone towers or the communication pathways of microwaves. This non-interference is evident from the widespread practice of mounting cellular antennas and microwave receivers directly onto transmission structures. The height of these structures, which often enhances signal range and quality, encourages such co-use without any reported complications.

Given the proximity of a residential receptor to the proposed Interconnection Project and other existing power lines, no additional radio interference is anticipated. The inherent design specifications, combined with the Interconnection Project's adherence to construction best practices, will ensure minimal disruptions to nearby communication systems.

Electric and Magnetic Fields

Electric fields occur naturally in the world and typically range from 12 to 150 kilovolt/meter (kV/m). For example, electric fields created by televisions and other video display units typically occur in the range of 20 kV/m. Exhibit I-2 shows typical EMF levels and dissipation of this energy the further removed from a transmission facility. For a standard 345-kV transmission line, the electric field directly beneath it is around 4.0 kV/meter. Magnetic fields naturally occur and are typically in the range of 0.01 nanotesla (nT). Magnetic fields that occur under a transmission line typically occur in the range of 3 to 9 microtesla (μT), or 30 to 90 milligauss (mG). These EMFs reduce quickly the further removed from the source.

Typical EMF Levels for Power Transmission Lines*

115 kV

	Approx. Edge of Right-of-Way	15 m (50 ft)	30 m (100 ft)	61 m (200 ft)	91 m (300 ft)
Electric Field (kV/m)	1.0	0.5	0.07	0.01	0.003
Mean Magnetic Field (mG)	29.7	6.5	1.7	0.4	0.2

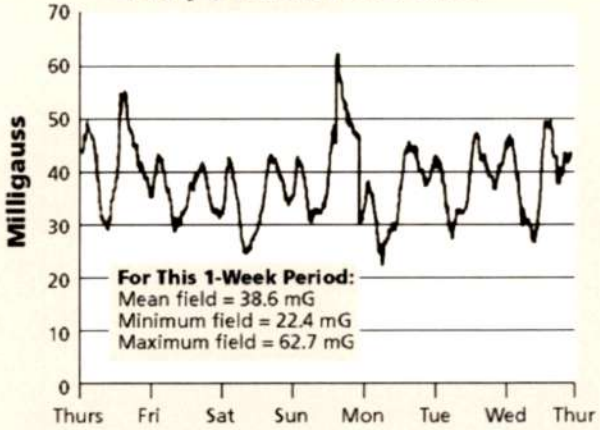
230 kV

	Approx. Edge of Right-of-Way	15 m (50 ft)	30 m (100 ft)	61 m (200 ft)	91 m (300 ft)
Electric Field (kV/m)	2.0	1.5	0.3	0.05	0.01
Mean Magnetic Field (mG)	57.5	19.5	7.1	1.8	0.8

500 kV

	Approx. Edge of Right-of-Way	20 m (65 ft)	30 m (100 ft)	61 m (200 ft)	91 m (300 ft)
Electric Field (kV/m)	7.0	3.0	1.0	0.3	0.1
Mean Magnetic Field (mG)	86.7	29.4	12.6	3.2	1.4

Magnetic Field from a 500-kV Transmission Line Measured on the Right-of-Way Every 5 Minutes for 1 Week



Electric fields from power lines are relatively stable because line voltage doesn't change very much. Magnetic fields on most lines fluctuate greatly as current changes in response to changing loads. Magnetic fields must be described statistically in terms of averages, maximums, etc. The magnetic fields above are means calculated for 321 power lines for 1990 annual mean loads. During peak loads (about 1% of the time), magnetic fields are about twice as strong as the mean levels above. The graph on the left is an example of how the magnetic field varied during one week for one 500-kV transmission line.

*These are typical EMFs at 1 m (3.3 ft) above ground for various distances from power lines in the Pacific Northwest. They are for general information. For information about a specific line, contact the utility that operates the line.
Source: Bonneville Power Administration, 1994.

Exhibit I-2. Typical EMF levels for power transmission lines.

Literature Cited

American National Standards Institute (ANSI). 2013. *American National Standard – Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-term Measurements with an Observer Present*. Melville, Tennessee: Standards Secretariat, Acoustical Society of America.

Beranek, L.L. (ed.). 1988. *Noise and Vibration Control*. Washington, D.C.: Institute of Noise Control Engineering.

Bonneville Power Administration. 1994. Electrical and Biological Effects of Transmission Lines: A Review. DOE/BP 2938 December 1996 1M. Portland, Oregon.

Federal Highway Administration (FHWA). 2011. Roadway Construction Noise Model (RCNM). Software Version 1.1. Federal Highway Administration.

EXHIBIT J. SPECIAL FACTORS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Exhibit 1:

> *Describe any special factors not previously covered herein, which applicant believes to be relevant to an informed decision on its application.*

Public Involvement

Informational Letters

The CG Apache County Wind LLC and CG Apache County Solar LLC (Applicants) sent public notification letters to approximately 354 landowners and residents within 5 miles of the Lava Run Interconnection Project (Interconnection Project) as part of the Certificate of Environmental Compatibility (CEC) public involvement process. Additionally, 45 relevant stakeholders, 16 Native American communities, 12 grazing lessees, and two homeowner associations within the Study Area were sent public notification letters as part of the CEC public involvement process. The first notification letter was mailed on May 5, 2025 (Exhibits J-1a through J-1c). This letter introduced the Interconnection Project and announced opportunities for comment, including a virtual open house that was launched on June 9, 2025, and an in-person open house at the Round Valley High School multipurpose room on June 9, 2025. A second letter will announce the filing of the CEC application, as well as the dates of the Interconnection Project's Arizona Power Plant and Transmission Line Siting Committee public hearings.

Website and Social Media

An Interconnection Project website was hosted at https://www.lavarunprojects.com and served as a central location to provide stakeholders and interested parties with Interconnection Project information and opportunities for public comment. The website included general information regarding the Wind Facility and the Interconnection Project. The website was advertised through informational letters, newspaper advertisements, the telephone information line, the virtual open house, and the public in-person open house. Screenshots of the Interconnection Project website are in Exhibits J-2a through J-2f.

A Facebook advertisement was created to provide notification of the upcoming open house event to the public. A screenshot of the Facebook advertisement is included in Exhibit J-3. As part of the Facebook advertisement, the Applicants announced the in-person open house and included opportunities for comment. To enhance the visibility of the Facebook advertisement to the local communities, the Applicants "boosted" the Facebook advertisement from May 12 to June 9, 2025, in the zip codes that intersect the Study Area (85924, 85936, and 85938). During this boosted period, there were 6,630 accounts reached, 147,056 impressions, 918 link clicks, 53 reactions, 36 shares, and 42 comments on the Facebook page open house announcement.

Virtual Open House

An online virtual open house was hosted at lavarunopenhouse.com to provide general information on the Interconnection Project. The virtual open house was announced in the informational letter, on the project website, and through the telephone information line.

The virtual open house included an interactive website with Interconnection Project information provided in clickable modules, which allowed interested parties to visit and review the materials at their convenience, and to ask questions, request information, or provide comment through embedded comment forms. The clickable modules included large maps and text displays with highlighted details of the Interconnection Project and images simulating the appearance of the facilities after construction. Following the online publishing of the virtual open house, the Applicants initiated a 1-month comment period, requesting that stakeholder comments or questions be provided by July 7, 2025, so they could be captured in the application. As of July 2025, 175 viewers attended the virtual open house meeting. Two people signed in during the comment period. No comments were submitted through the virtual open house during the formal comment period. Screenshots of the virtual open house website and informational display boards are included in Exhibits J-4a through J-4d.

In-Person Open House Meeting

An in-person public open house meeting was held for the Interconnection Project on June 9, 2025, from 4:30 p.m. to 7:30 p.m. at the Round Valley High School multipurpose room (550 North Butler Street, Eagar, Arizona 85925). The Applicants placed clear, visible signage directing the public to the multipurpose room and redirecting the public from the gymnasium to the multipurpose room. The Applicant and SWCA Environmental Consultants (SWCA) chose to use the multipurpose room as it was larger, more open, and could better accommodate an open house. The format of the meeting was an informal open house, allowing community members to attend at their convenience, review informational displays, review a large project overview map, and communicate with members of the Interconnection Project team. Exhibits J-5a through J-5e shows the meeting sign-in sheets. At the open house, 19 people signed in and two comments were provided. Exhibits J-6a and J-6b present the comment form; Table J-1 presents the comments received. Representative photographs of the open house are shown in Exhibits J-7a and J-7b. The flyers that were provided near the sign-in area are provided as Exhibits J-8a through J-8c. Information relayed at the meeting can be found in Exhibits J-9a through J-9k.

Newspaper Advertisements

The Applicants placed advertisements in the *White Mountain Independent,* a newspaper of general circulation in the vicinity of the Interconnection Project, on May 13, 20, and 27, 2025, and June 3, 2025 (Exhibits J-10a through J-10d). These advertisements announced the in-person open house and additional opportunities for comment through the telephone information line, postal mail, the Interconnection Project website, and the email address.

Email and Telephone Line

The Applicants created a telephone information line and email address to provide additional opportunities for members of the public to learn about the Interconnection Project and express questions or comments.

The telephone number and email address were provided in informational letters, social media advertisements, and newspaper advertisements as well as at the virtual and in-person open house meetings. Initially, the telephone line gave a summary of the Interconnection Project and announced the Interconnection Project in-person open house, virtual open house, and associated 30-day comment period. Following the completion of the comment period, the telephone line was updated to inform callers to leave a message with their name and number and the Applicants would return their call. The telephone line also invited callers to visit the Interconnection Project website for additional information. The telephone line will continue to provide callers with the opportunity to comment or request information throughout the entirety of the CEC permitting process. Four comments were provided

through the Interconnection Project telephone line, and six comments were provided through the email address (see Table J-1).

Public Comment

To date, there have been 22 public comments received: four via telephone line, six via email address, 10 via the physical mail address, and two at the open house event. All comments and responses are provided in Table J-1.

Of the 22 public comments, one is from the White Mountain Apache Tribe (see comment number 2 in Table J-1), one is from the U.S. Army Corps of Engineers (see comment number 3 in Table J-1), one is from the Arizona Game and Fish Department (see comment number 5 in Table J-1), and one is from the Arizona State Historic Preservation Office (see comment number 6 in Table J-1).

Tribal Outreach

On June 3, 2025, the Applicants conducted outreach to seven tribes that have cultural affiliations with the lands in the Study Area, as identified through the Arizona Consultation Toolkit, for the Interconnection Project. The outreach included the following Tribes:

- Mescalero Apache Tribe
- Pueblo of Zuni
- San Carlos Apache Tribe
- Tonto Apache Tribe
- The Hopi Tribe
- The Navajo Nation
- White Mountain Apache Tribe

This outreach was conducted through certified mail and included a project vicinity map, a project footprint map, Class I cultural resource reports, and a Class IIII cultural resource report that included resource survey results of the Wind Facility, Solar Facility, and Interconnection Project and a request for comments or feedback. An example of this outreach letter is provided as Exhibits J-11a through J-11d. Two Tribes to date have responded: 1) the San Carlos Apache Tribe and 2) the White Mountain Apache Tribe.

The San Carlos Apache Tribe responded in May 2025 thanking the Applicants for the outreach and concurring with the report findings. They requested that they continue to be informed of the project and that they can be reached via email. A copy of this correspondence is included as Exhibit J-12.

The White Mountain Apache Tribe responded in May 2025 thanking the Applicants for the outreach and determined that the Interconnection Project will have a "No Adverse Effect" to the Tribe's cultural heritage resources and/or Traditional Cultural Properties. Their correspondence can be found in Table J-1.

Table J-1. Comments Received

Comment number	Method of Comment	Comment	Response
1	Voicemail	Hi, Jeremy. My name is REDACTED. I own 2 properties in Elk Valley 2. I own Lot REDACTED. I would like to talk to you to see how this project affects my property and sellability after it's put in my number REDACTED. I've owned these properties since 2005. I look forward to talking to you. Have a great day.	Applicants left a voicemail with contact information to call back so we could discuss questions about property values. Applicants called again, and commenter picked up. Applicants helped him get oriented with project location. Commenter properties are approximately 5 miles north of the project. Applicants offered to email him literature on project effects on neighboring property values, but commenter declined. Commenter reacted by saying, "So this project doesn't even involve me. Why did I get a notice in the mail?" Applicants explained that they are in the middle of the state permitting process, and they mailed a notice to everyone within at least 5 miles of the transmission line. Commenter thanked Applicants for answering questions.
2	Email	The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the project dated; May 05, 2025. In regard to this, please refer to the following statement(s) below; Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the above proposed Lava Run Interconnection Projects for connections from Eagar to Springerville, in Apache County, Arizona. Please be advised, we have reviewed the information provided, and we have determined the proposed connection project will have a "No Adverse Effect" to the tribe's cultural heritage resources and/or Traditional Cultural Properties. Thank you for the continued tribal engagement and consultation, and collaborations in protecting and preserving places of cultural and historical importance.	No response necessary.
3	Email	Dear Mr. Casteel: It has come to my attention that you plan construction, operation, and maintenance of an aboveground electrical generation-tie transmission line in within Apache County, Arizona. This activity may require a Department of Army (DA) permit from the U.S. Army Corps of Engineers. A DA permit is required for the discharge of dredged or fill material into, including any redeposit of dredged material other than incidental fallback within, "waters of the U.S.", including wetlands and adjacent wetlands pursuant to Section 404 of the Clean Water Act of 1972. Examples include, but are not limited to the following activities: a. creating fills for residential or commercial development, placing bank protection, temporary or permanent stockpiling of excavated material, building road crossings, backfilling for utility line crossings and constructing outfall structures, dams, levees, groins, weirs, or other structures; b. mechanized land clearing and grading which involve filling low areas or land leveling, ditching, channelizing and other excavation activities that would have the effect of destroying or degrading waters of the U.S.; c. allowing runoff or overflow from a contained land or water disposal area to reenter a water of the U.S.; and	No response necessary.

Comment number	Method of Comment	Comment	Response
		d. placing pilings when such placement has or would have the effect of a discharge of fill material. An application for a DA permit is available on our website: http://www.spl.usace.army.mil/Missions/Regulatory/PermitProcess.aspx. If you have any questions, please contact Lisa Robinson at (602) 230-6958 or via email at Lisa.E.Robinson@usace.army.mil. Please refer to this letter and SPL-2025-00349 in your reply.	
4	Voicemail	REDACTED. We don't want you jerks around here. We've been fighting you for about a year and a half now or more. 99% of the people in Apache County do not want to, because infrastructurally, wind and solar does not work. You're going to destroy our land. Ruin the bird corridor, migratory bird corridor that's been through here for thousands and thousands of years. You're going to deplete our water supply. You're also going to cause vibrations through the ground that cause abnormalities and wildlife and people. And you're right next to an airport. We're trying to fight a 7,000 acre fire right now. That's getting ready to come into our town and a turbine could do the same damage that this fire is doing. And the FAA has concluded that you cannot have turbines next to an airport. So you're not welcome here. We don't want you here. We're going to peacefully protest this thing where you lied to us again. We've been going to these things St. John's here at the Auditorium, where you've lied to us about everything. So no, we don't want you here.	No response necessary.
5	Email	Good Afternoon, Mr. Casteel, Thank you for reaching out via letter regarding the notification of a public meeting and the notification for a CEC application for the Lava Run Project. The Arizona Game and Fish Department (Department) would like to know if SWCA/CG Apache County Wind LLC and CG Apache County Solar LLC will be including the Department's previous recommendation letters in the CEC application. Kind Regards, Elizabeth	Applicants confirmed that the original AZGFD letters will be included in the CEC application. SWCA responded to AZGFD on June 11, 2025, via email to confirm this. These letters are included in Exhibit H.
6	Email	Good morning Jeremy, Thank you for the notification of the upcoming CEC application. To my knowledge, SHPO does not have additional development information beyond the known Lava Run Wind and Solar projects mentioned in the letter. For future reference, please submit consultation to SHPO via email at AZSHPO@azstateparks.gov. We look forward to reviewing submission documents as they are available. Sincerely, Caroline	SHPO was consulted on July 16, 2025. SHPO responded on August 12, 2025, asking for the CEC Corridor to be added to the Attachment 3 maps provided in the consultation letter. An updated consultation letter and maps were provided to SHPO on August 19, 2025. SHPO responded on August 29, 2025 recommending that the remainder of the CEC Corridor be surveyed to current SHPO and ASM standards (see Exhibit E8).

Comment number	Method of Comment	Comment	Response
7	Email	Hello, I am a resident of Eagar (REDACTED) and I want to express my support for the Lava Run project. This project will bring much needed jobs, investment and cleaner energy to our community. I love the White Mountains for its natural scenic beauty and open spaces but we also have to be realistic about our future. The coal fired plants, including Springerville GS, that surround our community have done far more damage to our air, water, climate and health than this project will and it's past time for us to transition. Thank you for your time, REDACTED	No response necessary.
8	Voicemail	My name is REDACTED. I'm one of the prime owners on that transmission line. I was just wondering what the disposition on that environmental meeting was, and how far the project was going along. You can reach me at REDACTED and my properties on the Little Colorado River just south of the State Trust Land. I don't know what the address is, but so you have somebody give me a call. Appreciate Jeremy bye.	Applicants returned call on June 20, July 2, and July 10, 2025, but have not been able to establish contact.
9	Email	Attn: Jeremy Casteel Please include comments below in Lava Run Wind CEC application to the Corporation Commission's Transmission Line Siting Committee. Thank you, REDACTED We recommend the Corporation Commission carefully consider and DENY Apache County CG Wind, LLC's proposed Lava Run Wind Project's request for a Certificate of Environmental Compatibility for a proposed 29 mile Gen-tie line for the following reasons: The proposed Lava Run Wind Project, and associated 29 mile Gen-tie line are located in an area of unique biological wealth and habitat values, adjacent to multiple wildlife areas and within a few miles of the Round Valley, home to Apache County's largest population center – composed of the incorporated towns of Eagar and Springerville.Plans of state and local governments: The proposed location of the Lava Run Wind project is on over 50,000 acres of State Trust land, along and on both sides of 10 miles of the heavily traveled, historic and scenic US Highway 60, within what has been described by the Apache County Community Development Director as "probably the prettiest area of the County." Apache County is currently in the process of updating their Renewable Energy Ordinance, possibly in part due to the wildly inappropriate siting of the Lava Run Wind Project, and has proposed a Comprehensive Plan amendment to designate "preferred energy production areas" north of Highway 60, and closer to the existing Springerville and Coronado Generating stations and to their existing gen-tie lines that connect to the power grid. Apache County currently has several other proposals for renewable energy projects with much less impacting locations, including the Juniper Springs solar project - already submitted for a Conditional Use Permit, with a 3 mile gen-tie line paralleling	A response was sent from the Lava Run Interconnection Project email on August 22, 2025, to the email address provided at the open house: Thank you for submitting your comments regarding the proposed Lava Run Wind and Interconnect Projects. We appreciate your detailed input and recognize the importance of the concerns you have raised. We would like to take this opportunity to respond to several key points in your formal submission. Environmental and Wildlife Considerations: The location of the proposed Lava Run Wind and Interconnection Projects was selected following extensive environmental review and subsequent consultation with relevant agencies. We acknowledge the ecological richness of the area and its proximity to designated wildlife habitats. CG Apache County Wind LLC is working closely with the Arizona Game and Fish Department (AGFD) to identify and implement mitigation strategies that address potential impacts to wildlife, including but not limited to raptors, bats, migratory birds, elk, and pronghorn. Public Access and Recreation: We understand concerns regarding access to hunting and recreational activities within the proposed Project areas. While certain zones will be restricted during construction and decommissioning for safety reasons, State Trust Lands will remain accessible. Coordination with the Arizona State Lands Department and AGFD will continue to ensure that public access is preserved

Comment number	Method of Comment	Comment	Response
		the existing Springerville Generating Station gen-tie lines, and the CG Apache County LLC's own proposed Lava Run Solar project, also located very near the Springerville Generating Station, with a similarly short gen-tie line required. Both the Town of Springerville and the Town of Eagar Town Councils have written letters to the County Board of Supervisors opposing the Lava Run Wind Project due to the project location's negative visual, transportation, airport and tourism impacts on those towns. Based on Apache County's Conditional Use Permit criteria for approval, and overwhelming public opposition from the Round Valley area's residents, the Lava Run Wind Project is unlikely to meet the existing criteria for a Conditional Use Permit by Apache County. Wildlife and Plant Life: The proposed project and 29 miles of Gen-tie lines are located in a unique valley, at the intersection of several different habitat types – Juniper/pinion forest, grassland, and the foothills of the White Mountains, is adjacent to several designated wildlife areas, and is undeveloped except for existing grazing, ranching and public hunting uses. The project and gen-tie lines will impact golden eagles and other raptors, bats, migratory birds and will also disrupt existing migrations of economically important ungulates including pronghorn antelope, big horn sheep and elk. Proposed availability of the site to the public for recreational purposes: The project and associated 29 mile Gen-tie line will prevent public access to prime hunting areas, at least during the multi-year construction and decommissioning phases. Habitat fragmentation and disruption of migration trails of this project, along with cumulative impacts of other proposed projects may adversely affect ungulate distribution and popular public hunting, recreation and wildlife viewing opportunities in the area. Existing scenic areas, historic sites and archeological sites in the vicinity: The project and associated gen-tie lines will disrupt the scenic viewshed, including long vistas of grasslands, the gateway to the White Mountains, and the iconic Springerville Volcanic Field, and is located near the National Register of Historic Places listed Casa Malpais Archaeological site. Individual gen-tie line towers along the 29 mile route may destroy existing historic and native American archaeological sites. Technical practicability, previous experience and estimated cost of the project: The proposed 29 mile gen-tie line will need to cross the busy two-lane US highways 60 and 191, and the Little Colorado River riparian area, creating traffic congestion, visual distraction and potential accidents. The cost of the project will need to include traffic detours, adding passing lanes, flaggers and police escorts, potentially closing access to the only all-weather route between the Round Valley and St. Johns and the regional hub of Show Low, and to Phoenix and points west. CG Apache County Wind, LLC, has been generally unresponsive to public concerns and comments, and it is our understanding that they have never actually developed a U.S. Wind Project from planning and permitting through to actual operation. Apache County has severely limited staffing, and lacks the technical ability to effectively review, create, apply and enforce effective mitigation measures and conditions of approval. CG Apache County Wind, LLC's inexperience and thus far uncooperative approach does not bode well for the success of the project.	wherever feasible and that any temporary closures are clearly communicated. Land Use and Planning Alignment: We are aware of Apache County's efforts to update its Renewable Energy Ordinance and Comprehensive Plan, although no conclusive updates have passed at this time. CG Apache County Wind LLC has thoughtfully sited and designed the Wind and Interconnection Project in alignment with the 2021 Apache County Renewable Energy Ordinance. The location of the Lava Run Wind Project and Interconnection Project was selected based on a combination of land availability, wind resource quality, and existing transmission infrastructure. Infrastructure and Construction Impacts: The proposed Lava Run Wind and Interconnection Projects will be designed to minimize disruption to transportation routes, including crossings of US Highways 60 and 191 and the Little Colorado River. Traffic Impact Assessments for both the Wind and Solar Projects have been developed to ensure appropriate design and execution considerations. During construction activities, the Lava Run team will be in close coordination with local and state transportation authorities to ensure public safety. Repsol's Project Experience and Community Engagement: CG Apache County LLC, an affiliate of Repsol Renewables North America, owns the Lava Run Wind and Interconnection Projects. Our Repsol Renewables team brings deep expertise in project development, permitting, and operations, with a consistent focus on building long-term value for communities and stakeholders. Since the start of development for the Lava Run Projects in 2019, we have made community engagement a central part of our approach. The project team has participated in regional events such as the Apache County Fair, delivered presentations to town councils, and hosted several public open house sessions to encourage open dialogue and share project information. We have also connected directly with individuals and organizations through personalized outreach efforts. To ensure accessibility and transparency, we have created online platforms including a dedicated project website. This site provides opportunities for the public to submit comments, ask questions, and stay informed about project updates. Repsol Renewables remains committed to fostering a transparent and collaborative process throughout the life of the Lava Run Projects. We value the input of the communities we

Comment number	Method of Comment	Comment	Response
		The estimated cost of 29 miles of Gen-tie lines to accommodate this proposed project will increase the cost of electricity to consumers, especially if you compare the Lava Run Wind Project of 50,000+ acres of State Trust land and 29 miles of gen-tie lines to generate 500 MW of power with the same Company's proposed Lava Run solar project on 3,760 acres with a 3-5 mile gen-tie line to generate 450 MW of power. Please give special consideration to this project's proposed location within an area of unique biological wealth, adjacent to established wildlife areas, with unique opportunities for public recreation, hunting and wildlife viewing, significant negative visual impacts to iconic scenic vistas, potential impacts to important archaeological resources, potential major travel disruptions during construction and decommissioning, and proximity to the County's major population centers, and deny the proposed Lava Run Wind Project's Certificate of Environmental Consistency. Sincerely, REDACTED	serve and will continue to build strong relationships through ongoing engagement and open communication. Cost and Efficiency Considerations: The Lava Run Wind, Solar, and Interconnection Projects will all be entirely privately funded. The customers and residents of Apache County will not bear any cost for the development of the Projects. We appreciate your thoughtful and comprehensive feedback. Your concerns are being taken seriously and will continue to inform project planning and development. Please feel free to reach out with any additional questions or concerns
10	Mailed Letter	Relocate this project away from Springerville. Its an eye sore, and will only open citizens and tourist hearts and minds to how likely and how unefficient these things are. Install them along the border if you must but not on our front door step and getway to the beatuiful White Mountains!	No response necessary.
11	Mailed Letter	I stand against the Lava Run!! I believe the simple sight of them will pull down our town and eventually our economy because it will drive people away. I also believe they don't do much for our electrical grid. I have experienced a few coming on - line and compromisiing our coal plant. The MUAR's are always an issue and cause more issues then it fixes. Please don't ruin my town, job or my families future in my hometown.	No response necessary.
12	Mailed Letter	As a citizen of the White Mountains, I am concerned over the impact on wildlife, noise pollution, the changes to the scenic landscape. The amount of wildfires we have expereinced in the past, with these being in remote areas, with large amount of lube oil and extra power lines and trasnform. With the potentital to be engulfed or cause a wildfire. Also, with the burn scars and the disruption of soil for this project. Causing soil erosion, water runoff, and mudslide issues. I believe this project lacks proper environmental and community consideration.	No response necessary.
13	Mailed Letter	Hello, I am opposed to the Lava Run Project. I don't believe the Lava Run Project is good. First: Several lies were told by the representative sabout (hunting). Hunters won't be allowed around electrical generating equipment i.e. high power rifles used for harvesting wild game or rodent (priarie dogs) and predator hunting (coyote). Also, the wind turbines and blades are not recycleable because so much is made out of fiber glass. And they have to have blinking lights a top of them for airplanes to be able to see at night. Also, the rate of return verses the cost to build is a negative not a plus. They also litter the landscape and destroy the natural beauty vs the small footprint that a coal Plant places for the megawatt output. The TEP footprint is very small compared to the hundreds of acres the wind and solar panels will consume. The Solar Panels don't work for a dependable, continuous power source for a commercial applicaiton. Solar Panels only work on a residental applicaiton.	A response was mailed on August 22, 2025, via a letter to the address provided in in the letter received from the commenter. Thank you for taking the time to share your thoughts regarding the proposed Lava Run Wind Project and the associated 29-mile Interconnection Project. We appreciate your engagement and would like to take the opportunity to respond to the concerns you raised. Access and Hunting Considerations: The Lava Run Wind and Interconnection Projects are located entirely on Arizona State Trust Lands, which are designated for open access and will remain accessible throughout construction and operations. For safety reasons, public access will be restricted only within the

Comment number	Method of Comment	Comment	Response
			immediate area surrounding the project substations and the operations and maintenance facility. These safety measures are standard practice to protect both the public and project personnel. Outside of these areas, access will remain unchanged. The Project team will also coordinate with the Arizona Game and Fish Department to ensure that construction schedules are communicated in advance to support alignment with hunting seasons. Once operational, the Lava Run Wind and Interconnection Projects will not restrict hunting or recreational activities. Wind Turbine Materials and Recycling: Up to 94% of a wind turbine is recyclable today, as they are mostly made of steel, copper, aluminum, and iron. The composite materials (fiberglass, epoxy resin) in wind turbine blades have made recycling these more challenging; however, the industry has made great strides towards blade recycling options, which will continue to increase the percentage of total recyclable material in wind turbines, including developing more easily recyclable blades and redirecting blades as an input into thermal electricity generation or into industrial processes like cement production. The industry is confident that these and other recycling and repurposing technologies will continue to advance and increase the percentage of recyclable material in wind turbines by the time that the Lava Run Wind Project is fully decommissioned. Cost Competitive Power: Both wind and solar energy are now among the most cost-competitive sources of new electricity generation globally. Wind Energy has benefited from improved turbine technologies and the onshoring of manufacturing and supply chains, making it a low-cost resource. Since 2009, the cost of wind energy has declined by 65%, and in 2023, 81% of renewable energy additions were cheaper than fossil fuel alternatives. According to Lazard's Levelized Cost of Energy Analysis, new utility-scale wind resources (without tax credits) have a levelized cost of energy between 2.7 to 7.3 cents per kilowatt-hour, which is lower than coal (6.8 to 16.6 cents) and nuclear (14.1 to 22.1 cents). Solar Energy has seen an even steeper cost decline, approximately 83% since 2009, thanks to falling equipment costs, technological advancements, and supportive public policies. Lazard's analysis shows that new utility-scale solar-plus-battery resources (without tax credits) have a levelized cost of energy between 4.6 to 10.2 cents per kilowatt-hour, also undercutting coal and nuclear.

Comment number	Method of Comment	Comment	Response
			In both cases, electricity is typically sold through Power Purchase Agreements, which are long-term (15–20 years), fixed-price contracts. These agreements provide price stability and help hedge against the volatility of fossil fuel markets. Lighting and Visual Impact: To reduce visual impact, the Lava Run Wind Project plans to implement Aircraft Detection Lighting System (ADLS) technology, subject to approval from the Federal Aviation Administration. This system activates turbine lights only when low flying aircraft are detected, significantly reducing nighttime light emissions. Land Use: While wind and solar projects require more land area than traditional fossil fuel plants, they offer long term environmental benefits by generating clean, renewable energy without ongoing fuel extraction or emissions. Importantly, wind energy development is compatible with existing agricultural uses, including livestock grazing. The infrastructure associated with the Lava Run Wind Project occupies only a small portion of the land, allowing grazing activities to continue throughout the project area with minimal disruption. Tucson Electric Power, in its 2023 Integrated Resource Plan, emphasized the importance of incorporating renewable energy sources such as wind and solar into its energy portfolio. The Lava Run Projects are a key part of this strategy and will help support grid reliability and the utility's goal of achieving net zero direct greenhouse gas emissions by 2050. Solar Energy: Although solar panels are commonly used in residential settings, they are also essential for utility scale energy generation. When combined with energy storage systems and supported by complementary resources such as wind and natural gas, solar energy can contribute to a reliable and resilient power supply. Tucson Electric Power's clean energy strategy includes a balanced mix of resources to ensure consistent and dependable service. We value your input and remain committed to transparent and responsible development as we move forward with the Lava Run Wind, Solar, and Interconnection Projects. Please feel free to reach out with any additional questions or concerns.

Comment number	Method of Comment	Comment	Response
14	Mailed Letter	To whom it may concern, I strongly disagree with installing wind farm anywhere in Arizona. I'm concern of the lava Run project. The negative impact on local economy does not out weigh electrical production output. I am concerned about leaving skeletons of used to the wind farms around AZ with no power production benefit. Also, the un-reliable power source requires very large environmental foot print in comparison to our two local coal fire power plants. "GGS & SGS" who each produce outragiously more power reliably. These wind farms are a humiliating waste of my tax dollars because it rarely pays for itself in its life time and for not providing reliable power! WE THE BORN AND BREED LOCAL PEOLE OF APACHE COUNTY DO NOT WANT THE LAVA RUN SOLAR FARM!	No response necessary.
15	Mailed Letter	To whom it may concern, The installastion of the wind farm here and anywhere in Arizona is something that I strongly disagree with up here on the mountain it is not practical with our strong winds or none at all. There has got to be something that could be more useful! Power plants (coal or natural gas) have much more of a success rate and is much more pratical. The money that goes into the wind farm versus what we actually get out of it does not positively help us. It's more important to actually do something that will be. Let's do something good and helpful instead of negatively impact the power grid and our environment!	No response necessary.
16	Mailed Letter	Lava Run is NOT compatible with the unique environment in the area it is prposed - the wind turbines, along with the large lines of this interconnection project poses risks to wildlife, such as deer, elk, antelope and even big horn sheep that graze these open fields. The birds, including bald eagles are in this area - their habitats are protected. Many birds are killed by these turbines. There is also high fire danger in this very arid area. Please stop this project in the proposed area.	No response necessary.
17	Mailed Letter	I would argue that this Lava Run project and the accompanying interconnection, is NOT compatible with the environment! This will negatively impact the wildlife in the propose area. We have deer, antelope, elk and even big horn sheep in the area. This wildlife will leave the area due to the ultrasonic sounds and vibration each of these turbines will produce. The large-capacity overhead power liens will also produce sound that will dirve them away. There are many year-round migratory bird species that will also have their nesting areas affected. Many of these will even be killed by impact with the turbine blades. There are countles studies that back up that birds are killed regularly. We have Bald Eagles in and around the project area. These birds, along with their habitats, are PROTECTED! I am also very concerened regarding the water supply. My subdivision has been on water restrictions for severlal years and this year has been extremely dry. Lava Run wind turbines project does not belong inthis very prestigious, beautiful open space in the White Mountain area of NE Arizona. Please do not approve this project.	No response necessary.

Comment number	Method of Comment	Comment	Response
18	Mailed Letter	There is NOTHING environmentally friendly about the Lava Run Project - including the "Interconnection Project." This entire project is so deterimental to this beautiful mountain - it will destroy the wid open spaces in the propose area. The wildlife will be negatively affected and driven from the grazing area. The noise created by large turbines and the infrastructures and power lines will drive our antelope, deep, elk and bighorn sheep away. The migratory bird population will also pay a heavy prices - all species, from humminbirds to bald eagles that nest along the Little Colorado, will lose their homes and many will even be killed. The extreme drought has caused our aquafier to drop drastically. ANY use of this precious resource will be even less for the sustanibility of the area. These are just a few reasons the entire project is NOT compatible with the delicate ecosystems/environmental that exist in the area. A large protion of this project is proposed on a large, significant lava bed (thus called "Lava Run") volcanologists came from far and wide to study this unique area. I would think lava beds wouldn't be the best foundations to dig/drill into for towers 650+ feet tall. There are many other negative affects of this project - people's health, proper values decline, tourism will go down, flight patterns for our small airport will be affected, cultural sites of the native tribes in our area will be distrubed. I could keep going. PLEASE STOP LAVA RUN!	No response necessary.
19	Mailed Letter	You know from the 1st set of meetings that your money grubbing evil is absolutely rejected by those of us who live here. REDACTED you & your "LLCs". Go Away! Keep your nasty projects out of here	No response necessary.
20	Voicemail	Environmental compatibility. Boy, that's a bunch of REDACTED. We've got a 19,000 acre fire in Apache County caused by an electrical transformer blowing up. you think? Well, the turbines blowing up 112 of them out west of town is going to pose a threat as the same kind of danger we're facing right now, evacuations. wildlife being killed, our mountains being burnt. We don't want the REDACTED turbines in Apache County. They do not work infrastructurally. they do not work. Infrastructurally. Do you get it? You can only put 17% on the grid. That's REDACTED. We'll wait for the small nuclear units first, st and we'll keep the power plants open as long as we can, maybe even restore them. But you need to get the REDACTED out of here because solar and wind will not work in Apache County. Matter of fact, all the energy goes down to Tucson anyway, and then our stupid, illegitimate governor in Arizona sells it to California. So no, we don't want you here. REDACTED. because you're just going to tell us the same lies. You're just going to find creative ways to think of new ways to do REDACTED like getting out of liability portion of the process by becoming oh, a warm and fuzzy Apache County wind, Llc. And a warm and fuzzing fuzzy Apache County solar llc REDACTED you're from Spain. Go the REDACTED back there and leave us alone. We don't want you here.	No response necessary.
21	Open House Comment	I am opposed to this Lava Run project. Protect our open spaces. This is a "Tourist" area. Our economy depends on these $$. Our natural landscapes need protection!! What about "nuclear" power, "fusion technology" is a safer, clearner option for mass power production cleaner and more efficient.	No response necessary.

Comment number	Method of Comment	Comment	Response
22	Open House Comment	Please ensure that any current hunting or recreation access to or through the existing State Trust lands or Federal lands is not lost with either the transmission line or wind farm projects. I am particularly concerned with the road north of the corrals off Hwy 60. Please also ensure that any mitigation measures suggested by the Arizona Game and Fish Department are implemented relative to wildlife and hunting access impacts. Would be nice if your maps would provide milepost marker references.	A response was sent from the Lava Run Interconnection Project email on August 22, 2025, to the email address provided at the open house: Thank you for reaching out with your concerns regarding the Lava Run Wind and Interconnection Projects. We appreciate your attention to access, wildlife, and mapping details, and we welcome the opportunity to address your concerns. The Lava Run Wind and Interconnection Projects are located entirely on Arizona State Trust Lands, which are designated for open access and will remain accessible to the public throughout construction and operations. For safety reasons, access will be restricted only in the immediate vicinity of critical infrastructure such as substations and the operations and maintenance facility. These restrictions are standard safety measures designed to protect both the public and Project personnel. Outside of these areas, access will remain unchanged. We understand your concern about the road north of the corrals off Highway 60. Any changes or temporary closures will be communicated in advance to minimize inconvenience and will be carried out in accordance with the requirements of the appropriate authorities. The Lava Run team is coordinating with the Arizona Game and Fish Department (AGFD) to ensure that wildlife considerations and hunting access are properly addressed. Construction schedules will be communicated in advance to support alignment with hunting seasons, and mitigation measures recommended by AGFD will be implemented to minimize impacts and preserve recreational opportunities. We appreciate your suggestion to include milepost markers on project maps. If this data is publicly available, we will incorporate it into future mapping materials to improve clarity and usability. Should we be able to obtain the necessary information, we will follow up with an updated map for your reference.

Comment number	Method of Comment	Comment	Response
			Thank you again for your thoughtful input. If you have additional questions or would like further details about access, wildlife coordination, or mapping, please do not hesitate to contact us.

Lava Run
Wind & Solar Projects

May 5, 2025

Re: Invitation to learn about the proposed Lava Run Interconnection Project

Dear Interested Party,

This letter provides notice of the Lava Run Interconnection Project public open-house meeting **Monday, June 9, 2025, from 4:30 p.m. to 7:30 p.m. at the Round Valley High School Gymnasium, 550 N. Butler Street, Eagar, AZ 85925.**

CG Apache County Wind LLC and CG Apache County Solar LLC (collectively "Applicants") plan to file an application for a Certificate of Environmental Compatibility ("CEC") for the Lava Run Interconnection Project ("Interconnection Project") with the Arizona Power Plant and Transmission Line Siting Committee ("Line Siting Committee"). The Interconnection Project entails the construction, operation, and maintenance of an up to 29-mile-long, 345-kilovolt (kV) aboveground electrical generation-tie transmission line. The purpose of the line is to connect the Lava Run Wind and Lava Run Solar projects—respectively, a proposed 500-megawatt (MW) wind facility and a proposed 450-MW solar facility with an on-site battery energy storage system—to the regional electrical grid via Tucson Electric Power Company's existing Springerville 345 kV Substation at the Springerville Generating Station.

A map of the proposed route for the Interconnection Project is attached (Figure 1). It starts at the westernmost Project Substation 1. Project Substation 1 will be located on Arizona State Trust Land, approximately 0.5 mile southwest of U.S. Route 60 and approximately 0.1 mile west of County Road 3123, which is maintained by Apache County. From there, the Interconnection Project proceeds approximately 0.4 miles southeast and then 0.9 miles northeast, crossing U.S. Route 60. It then continues approximately 3.6 miles southeast and then 0.9 miles northeast. It then proceeds approximately 9.5 miles east, crossing U.S. Route 180. From this point, two route options ("Options 1 and 2") are proposed; only one of the two options will ultimately be constructed.

Option 1 heads approximately 4.1 miles east and then approximately 3 miles north. At this point, Option 1 connects with Option 2. Option 2 heads north to northeast for approximately 4 miles and then approximately 1.9 miles east. At this point, Option 2 connects with Option 1.

Once the two options connect, the Interconnection Project proceeds approximately 1.7 miles east and then 1.5 miles north. It then continues approximately 0.4 miles east and then approximately 0.25 miles north to connect into the Springerville 345 kV Substation. The Interconnection Project will be on Arizona State Trust Lands managed by the Arizona State Land Department and private property.

The Applicants plan to apply for a CEC in September 2025. **The application will be reviewed by the Line Siting Committee at a public hearing set to occur between October 20-24, 2025.** More details regarding the Line Siting Committee public hearing will be provided as the hearing date approaches.

The Applicants welcome feedback from the community and are soliciting public and stakeholder input on the Interconnection Project. Residents are invited to come meet our team to learn more about the proposed project at the upcoming open house.

Exhibit J-1a. Project information letter (1 of 3).

If you would like to learn more or have questions or comments, you may talk with a project member at the in-person open-house meeting or submit a comment by writing, emailing, or leaving a voicemail by the means listed below:

Mail: Jeremy Casteel
CG Apache County Wind LLC; CG Apache County Solar LLC
c/o SWCA Environmental Consultants
1750 S. Woodlands Village Boulevard, Suite 200
Flagstaff, AZ 86001

Email: lavarun@swca.com

Voicemail: (928) 222-0084

Project Website: www.lavarunprojects.com

In addition to an in-person open house, we are hosting an online virtual open house, linked below. The virtual open house will be live beginning on June 9, 2025.

Project Virtual Open House: lavarunopenhouse.com

Provide comments by July 7, 2025, for it to be included in the CEC application. We look forward to receiving your input.

Sincerely,

Mark Lawlor

Mark Lawlor
Vice President, Development-West

CG Apache County Wind LLC
CG Apache County Solar LLC

Exhibit J-1b. Project information letter (2 of 3).

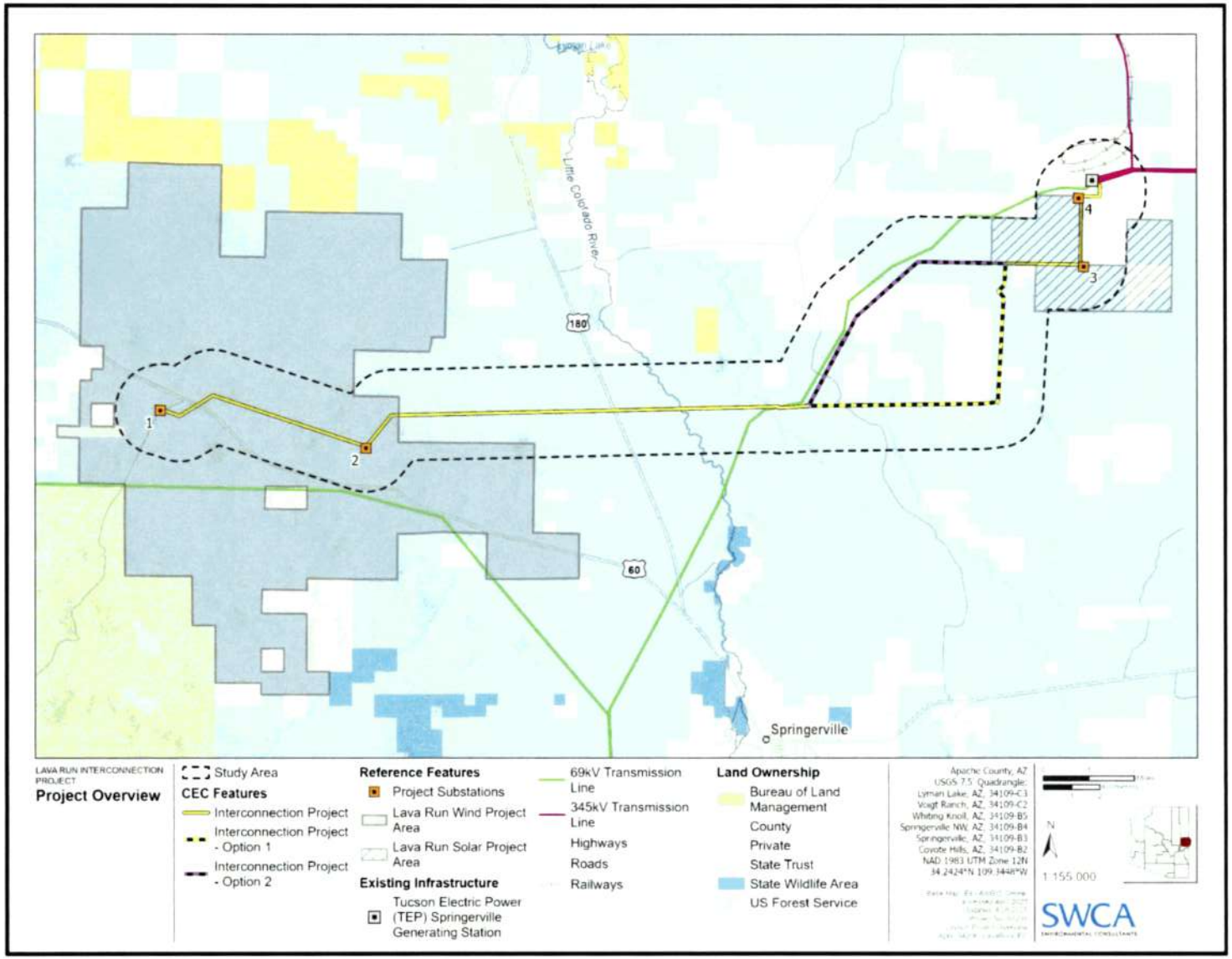


Exhibit J-1c. Project information letter (3 of 3).

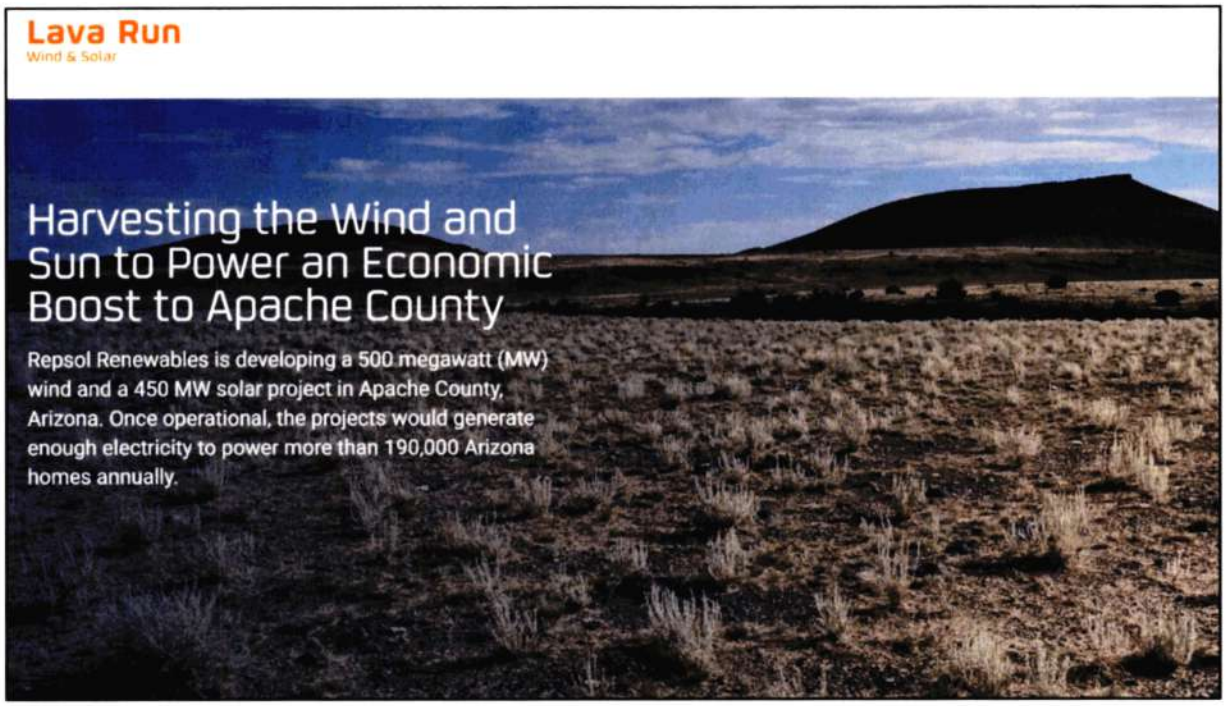


Exhibit J-2a. Project website (1 of 6).

Exhibit J-2b. Project website (2 of 6).

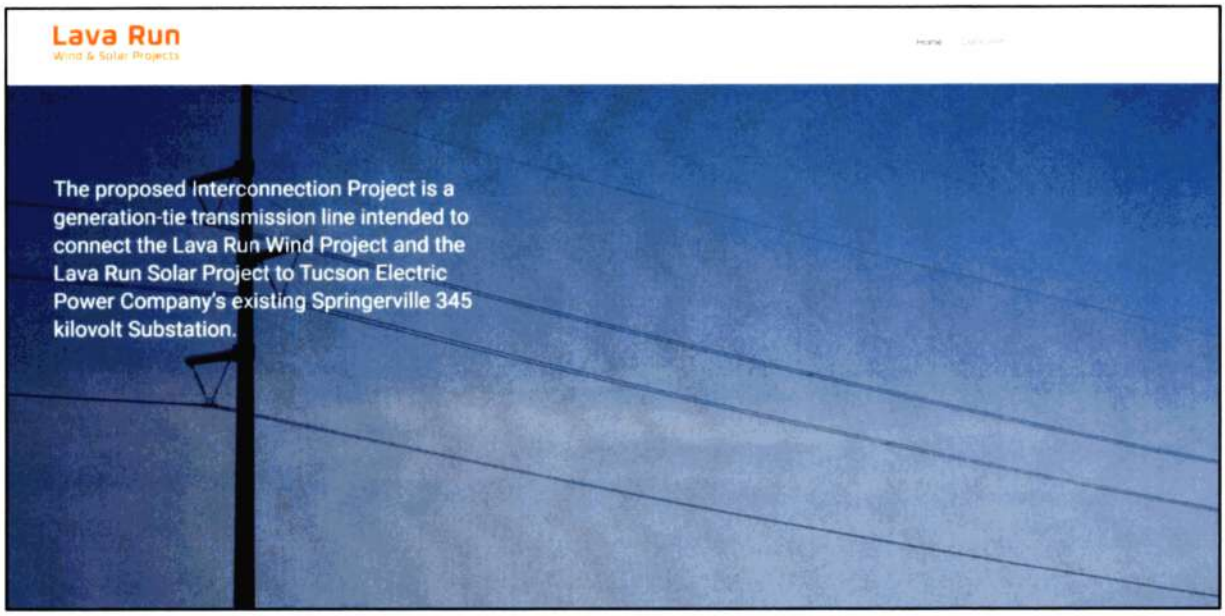


Exhibit J-2c. Project website (3 of 6).

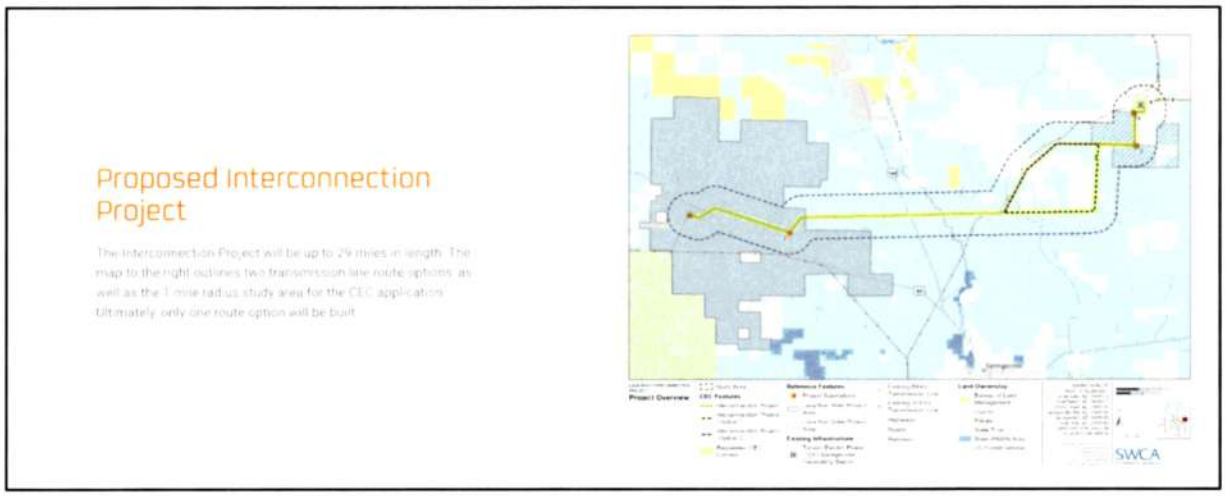


Exhibit J-2d. Project website (4 of 6).

Exhibit J-2e. Project website (5 of 6).

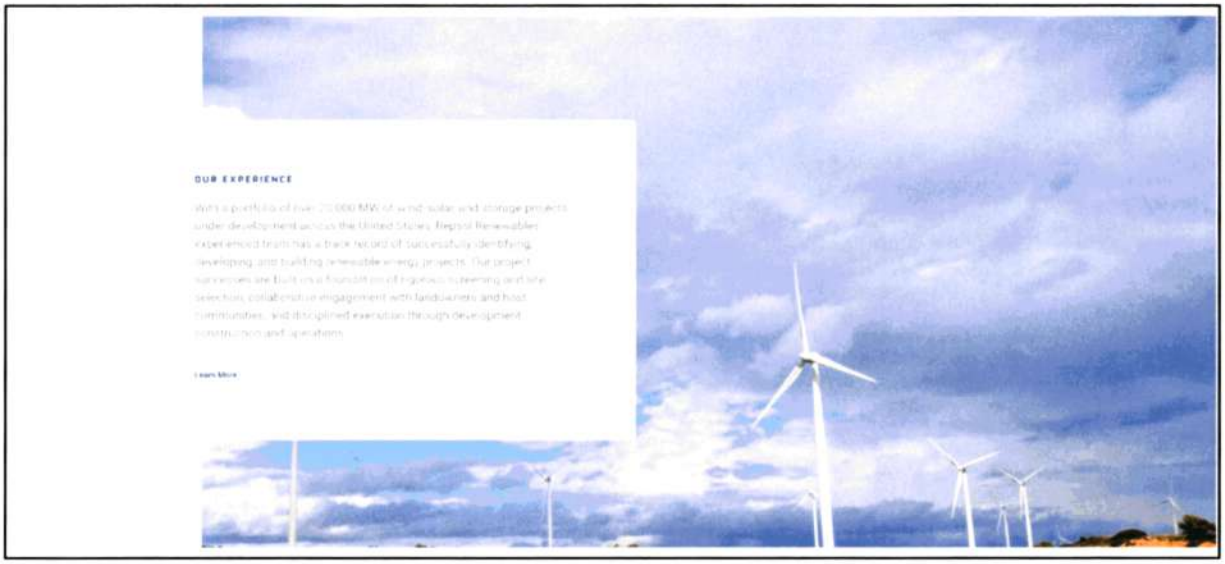


Exhibit J-2f. Project website (6 of 6).

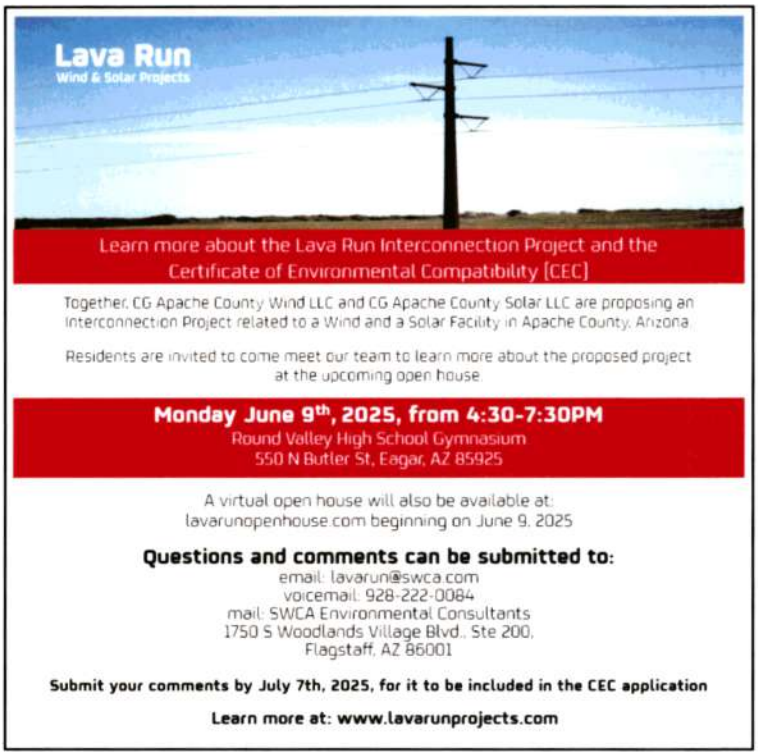


Exhibit J-3. Facebook advertisement.

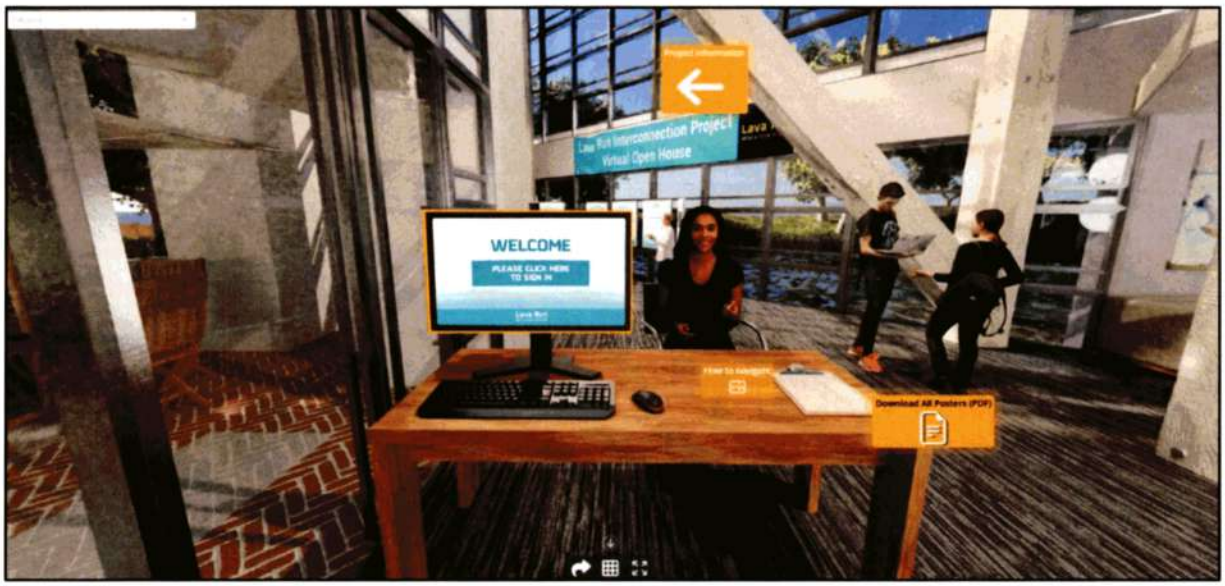


Exhibit J-4a. Project virtual open house (1 of 4).

Exhibit J-4b. Project virtual open house (2 of 4).

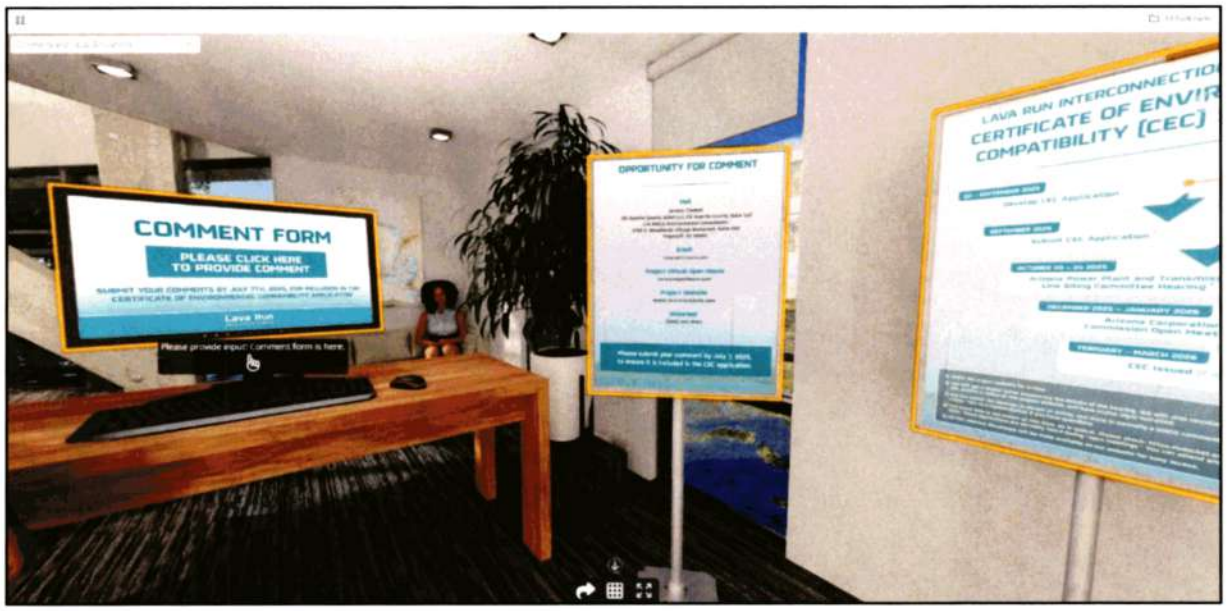


Exhibit J-4c. Project virtual open house (3 of 4).

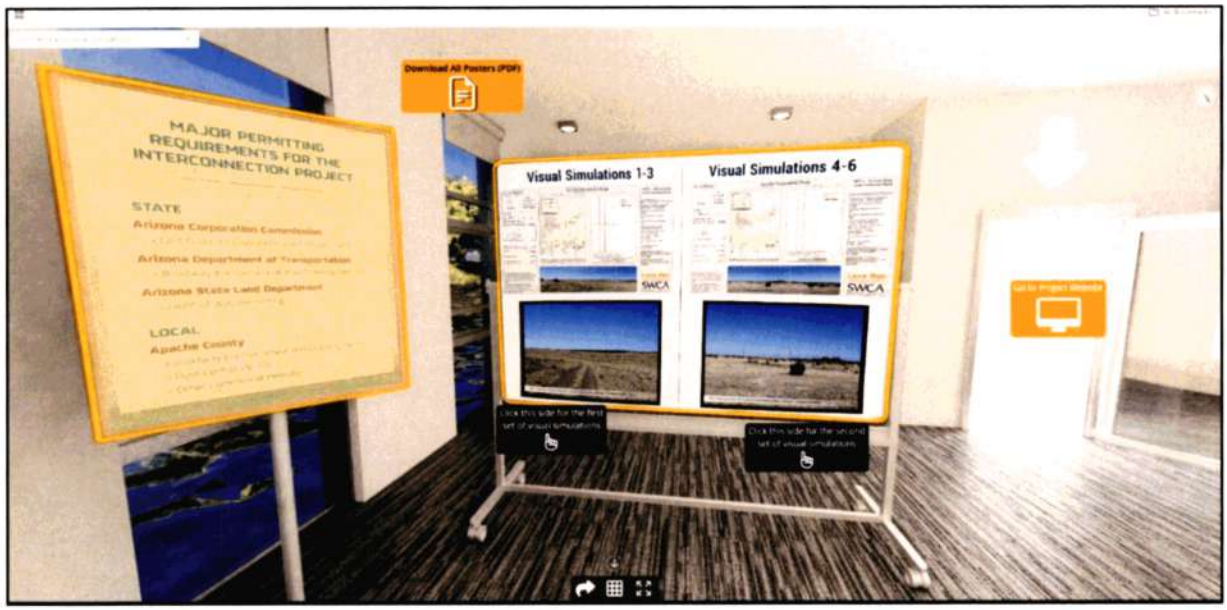


Exhibit J-4d. Project virtual open house (4 of 4).

June 9th, 2025

Open House Sign-In Sheet

Please write legibly

Lava Run
Wind & Solar Projects

Full Name	Address
Maureen Nanny	[redacted]
S D. Nahlen	

1 of 5

Exhibit J-5a. In-person public open house sign-in sheet (1 of 5).

June 9th, 2025

Open House Sign-In Sheet

Please write legibly

Lava Run
Wind & Solar Projects

Full Name	Address
Karen Olson	[redacted]
James Jantzen	
Kenny Allison	
Eric Goodman	
Dani Goodman	

3 of 5

Exhibit J-5b. In-person public open house sign-in sheet (2 of 5).

June 9th, 2025

Open House Sign-In Sheet

Please write legibly

Lava Run
Wind & Solar Projects

Full Name	Address
David & Rhonda Whitten	[redacted]
Kristin Spillman	

3 of 5

Exhibit J-5c. In-person public open house sign-in sheet (3 of 5).

June 9th, 2025

Open House Sign-In Sheet

Please write legibly

Lava Run
Wind & Solar Projects

Full Name	Address
Linke Weiland	[redacted]
Karen Glennon	
Ted Moreira	

Exhibit J-5d. In-person public open house sign-in sheet (4 of 5).

June 9th, 2025

Open House Sign-In Sheet

Please write legibly

Lava Run
Wind & Solar Projects

Full Name	Address
John Fennell	[redacted]
Ricky Williams	
Teresa Williams	
Brian Dolan	
Dorothy Dolan	
Monica Boehning	
Jenn Moreno	

5 of 5

Exhibit J-5e. In-person public open house sign-in sheet (5 of 5).

Lava Run
Wind & Solar Projects

PUBLIC COMMENT

LAVA RUN INTERCONNECTION PROJECT

If you would like to submit a comment on the Interconnection Project, please fill out this form and leave it here at the meeting or mail it to the address provided. **Submit your comments by July 7th, 2025, for inclusion in the Certificate of Environmental Compatibility application**, which will be submitted to the Arizona Power Plant and Transmission Line Siting Committee. Thank you!

COMMENT:

NAME: _____

EMAIL: _____

ADDRESS: _____

_____

Exhibit J-6a. Comment form (1 of 2).

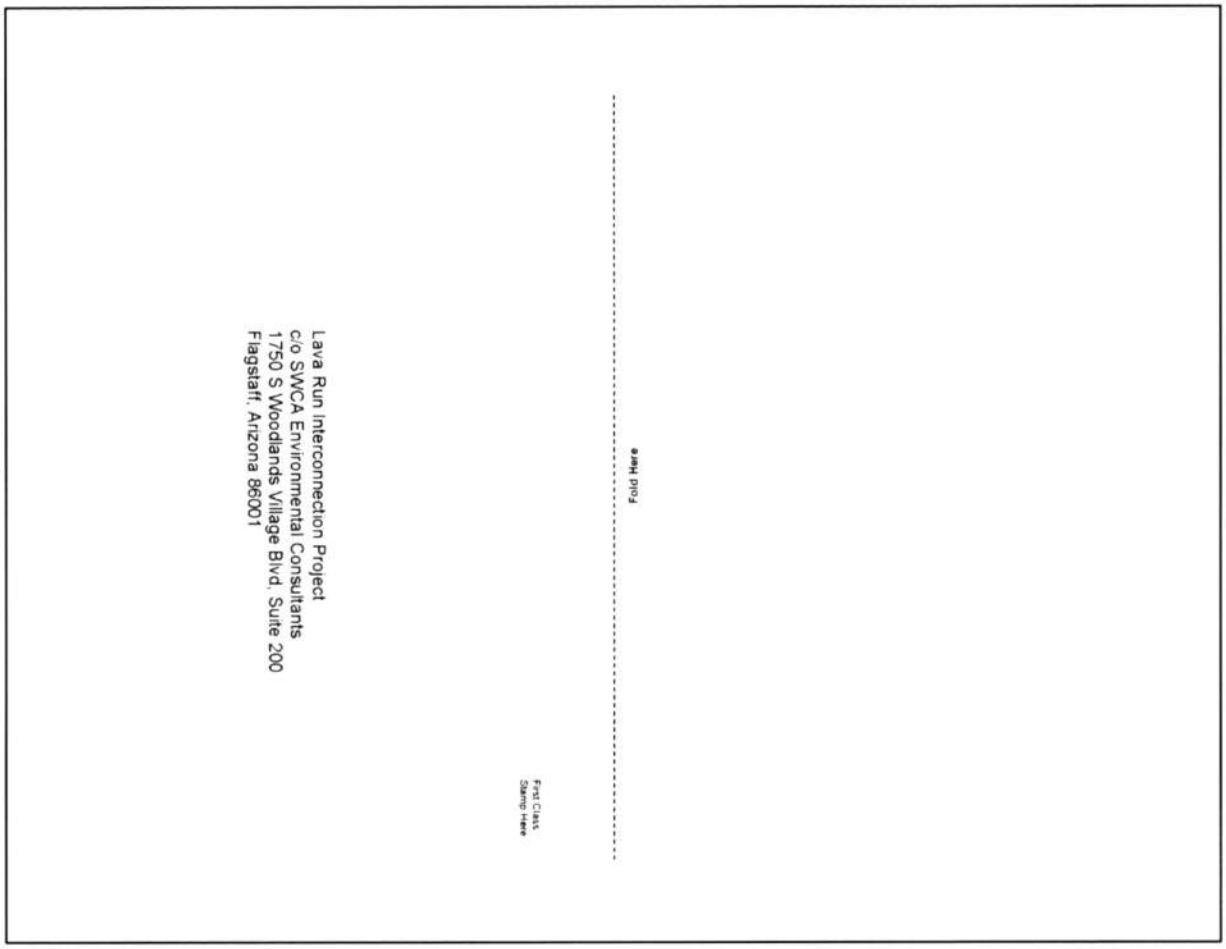


Exhibit J-6b. Comment form (2 of 2).

Exhibit J-7a. Representative photograph of in-person open house (1 of 2).

Exhibit J-7b. Representative photograph of in-person open house (2 of 2).

Exhibit J-8a. In-person public open house informational flyer (1 of 3).

Lava Run
Wind & Solar Projects

CG Apache County Wind LLC and CG Apache County Solar LLC (collectively "Applicants") plan to file an application for a Certificate of Environmental Compatibility ("CEC") for the Lava Run Interconnection Project ("Interconnection Project") with the Arizona Power Plant and Transmission Line Siting Committee ("Line Siting Committee"). The Interconnection Project entails the construction, operation, and maintenance of an up to 29-mile-long, 345-kilovolt (kV) aboveground electrical generation-tie transmission line.

The purpose of the line is to connect the Lava Run Wind and Lava Run Solar projects—respectively, a proposed 500-megawatt (MW) wind facility and a proposed 450-MW solar facility with an on-site battery energy storage system—to the regional electrical grid via Tucson Electric Power Company's existing Springerville 345 kV Substation at the Springerville Generating Station. A map of the proposed route for the Interconnection Project is on the back of this flyer.

The Applicants plan to apply for a CEC in September 2025. **The application will be reviewed by the Line Siting Committee at a public hearing set to occur between October 20-24, 2025.** More details regarding the Line Siting Committee public hearing will be provided as the hearing date approaches.

The Applicants welcome feedback from the community and are soliciting public and stakeholder input on the Interconnection Project. If you would like to learn more or have questions or comments, you may talk with a project member at this in-person open-house meeting or submit a comment by writing, emailing, or leaving a voicemail by the means listed below:

Mail: Jeremy Casteel
CG Apache County Wind LLC, CG Apache County Solar LLC
c/o SWCA Environmental Consultants
1750 S. Woodlands Village Boulevard, Suite 200
Flagstaff, AZ 86001

Email: lavarun@swca.com

Voicemail: (928) 222-0084

Project Website: www.lavarunprojects.com

Provide comments by July 7, 2025, for it to be included in the CEC application. We look forward to receiving your input.

In addition to this in-person open house, we are hosting an online virtual open house, linked below. The virtual open house will be live beginning on June 9, 2025.

Project Virtual Open House: lavarunopenhouse.com

Exhibit J-8b. In-person public open house informational flyer (2 of 3).

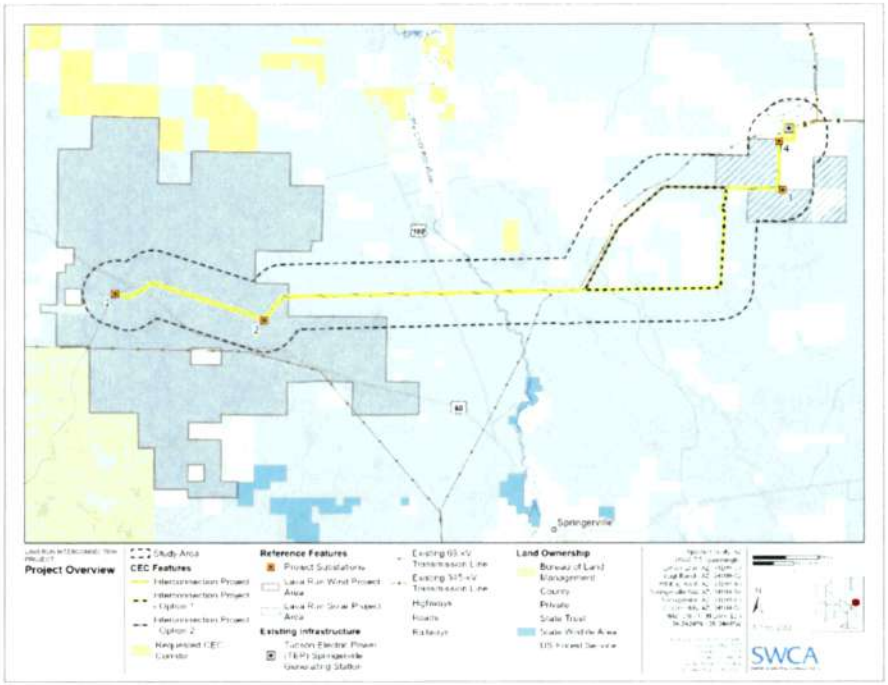


Figure 1. Lava Run Interconnection Project.

Exhibit J-8c. In-person public open house informational flyer (3 of 3).

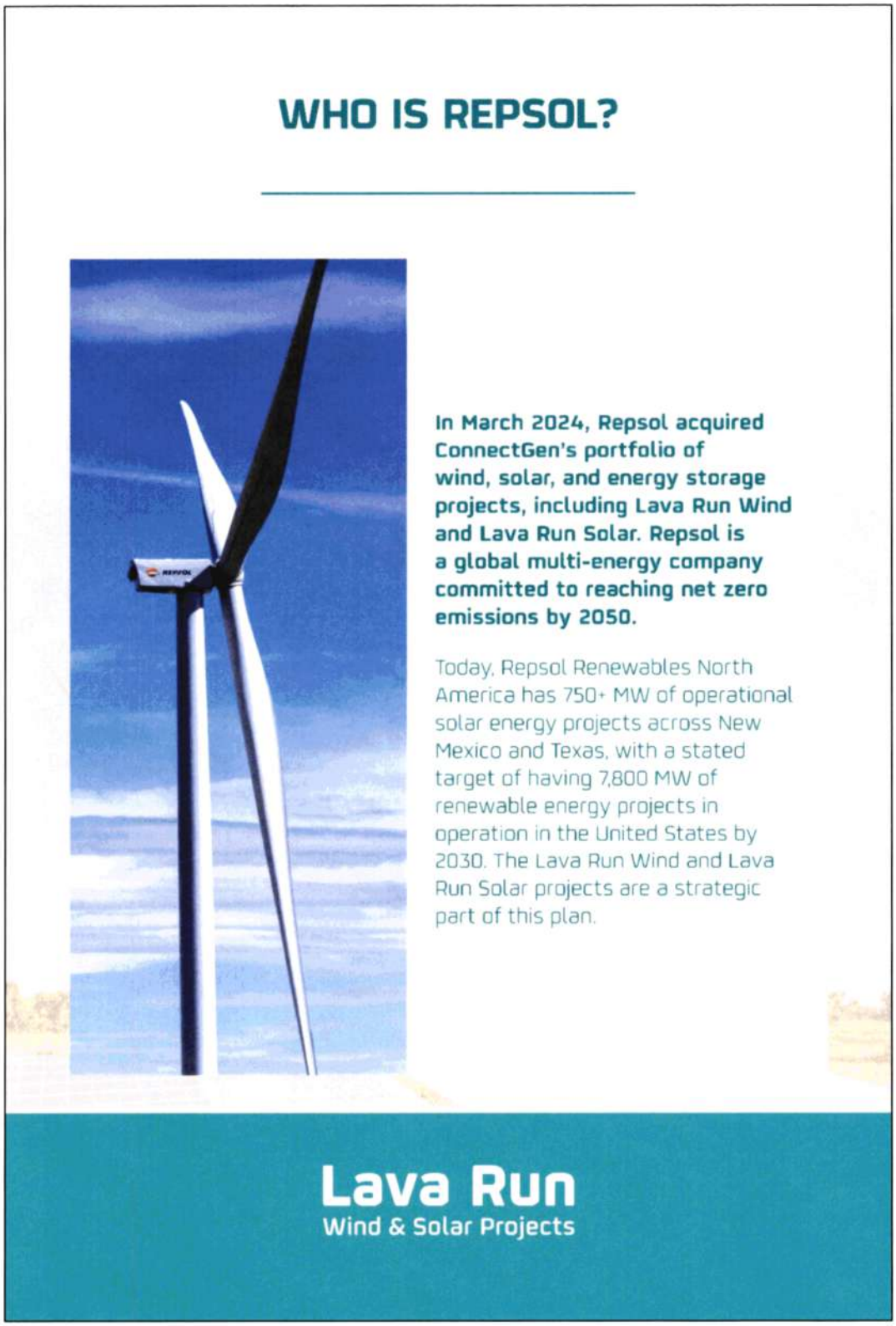


Exhibit J-9a. Open house display (1 of 11).

WHY LAVA RUN?

In recent years, energy production in the western U.S. has been shifting as power providers adapt to changing market conditions, technology, and policy. In Apache County, Tucson Electric Power Company (TEP) began seasonal operations at the Springerville Generating Station in 2023, with plans to retire Unit 1 in 2027 and Unit 2 in 2032.

As Arizona's energy needs continue to grow, local utilities like TEP are looking for renewable energy projects such as Lava Run Wind and Lava Run Solar to help meet future demand reliably and sustainably.

These changes in the energy landscape will affect the local economy—particularly in terms of jobs and tax revenues. **The Lava Run Projects offer an opportunity to support Apache County's economic future by creating construction and full-time operations jobs and contributing an estimated $74.4 million in property tax revenues over 35 years, along with other community investments.**

For decades, Apache County has played a key role in powering Arizona. The Lava Run Wind and Lava Run Solar Projects represent the next chapter in that legacy—providing clean, homegrown energy for future generations.

Lava Run
Wind & Solar Projects

Exhibit J-9b. Open house display (2 of 11).

INTERCONNECTION PROJECT OVERVIEW

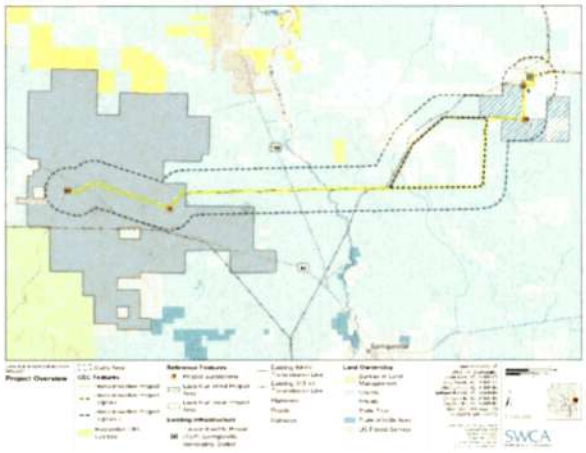
CG Apache County Wind LLC and CG Apache County Solar LLC – affiliates of Repsol Renewables North America – propose to construct an up to 29-mile-long, 345-kilovolt transmission line (Interconnection Project). The Interconnection Project involves two route options, but only one will ultimately be constructed.

The Interconnection Project will connect the Lava Run Wind and Lava Run Solar projects—respectively, a proposed 500-megawatt (MW) wind facility and a proposed 450-MW solar facility with an on-site battery energy storage system—to the regional electrical grid via Tucson Electric Power Company's existing Springerville 345 kV Substation at the Springerville Generating Station.

The Interconnection Project is anticipated to be built within a 200 foot right-of-way and will involve:

- Overhead transmission structures and conductors
- Access roads.

The Interconnection Project structures are anticipated to be no more than 180 feet high and the lines will be at least 25.7 feet off the ground.



The Interconnection Project is anticipated to begin **construction in early 2027**, with an expected **commercial operation date at the end of 2028**.

Lava Run
Wind & Solar Projects

Exhibit J-9c. Open house display (3 of 11).

LAVA RUN
WIND PROJECT OVERVIEW

- 500 MW total across two project phases with the potential to power 90,000+ Arizona homes annually
- Sited primarily on Arizona State Trust Lands, with an infrastructure footprint of approx. 500 acres
- Capital investment of approximately $1 billion, resulting in significant contributions to the local property tax base and substantial economic benefits to Apache County, which will mitigate some of the losses expected from the closure of Unit 1 at the Springerville Generating Station in 2027
- Wind in this region has a complementary energy generation profile to solar-plus-battery to help deliver around-the-clock electricity
- Compatible with the existing land uses; grazing and recreational activities will continue during wind project operations

Lava Run
Wind & Solar Projects

Exhibit J-9d. Open house display (4 of 11).

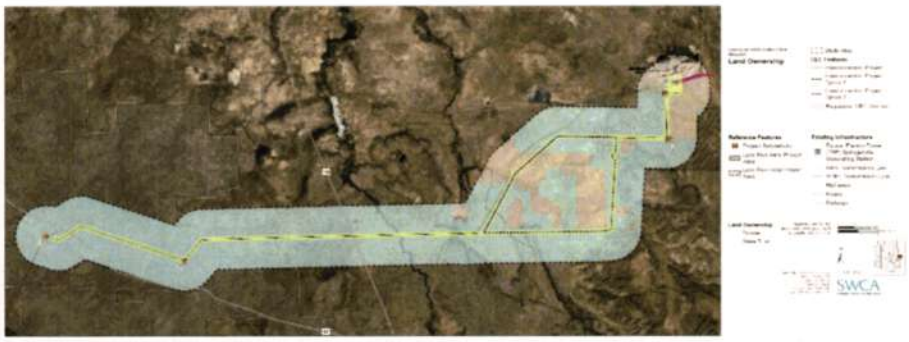
LAVA RUN SOLAR
& BATTERY PROJECT OVERVIEW

- 450 MW total across two project phases, with the potential to power 100,000+ Arizona homes annually
- Sited on approx. 3,760 acres of Arizona State Trust Land with the potential to include 440 acres of private lands
- Capital investment of approximately $1.1 billion, resulting in a significant increase in the local property tax base and substantial economic benefits to Apache County, which will mitigate some of the losses expected from the closure of Unit 1 at the Springerville Generating Station in 2027
- 4-hour lithium-ion batteries help meet electricity demand during the evening hours
- Have been in close coordination with the grazing lessee within the project area

Lava Run
Wind & Solar Projects

Exhibit J-9e. Open house display (5 of 11).

PROJECT AREA — INTERCONNECTION PROJECT



The majority of the Interconnection Project will be on Arizona State Trust Lands, with some portions on private land.

The entire Interconnection Project is in unincorporated Apache County, Arizona.

The Interconnection Project will be reviewed by the Arizona Corporation Commission through its Certificate of Environmental Compatibility hearing process.

The hearing is anticipated to take place between October 20 – 24, 2025

Lava Run
Wind & Solar Projects

Exhibit J-9f. Open house display (6 of 11).

Exhibit J-9g. Open house display (7 of 11).

APACHE COUNTY COMPREHENSIVE PLAN

Future land use is identified by Apache County. The future land uses include Range Land and Rural Edge.

The purpose of the Range Land Character Area is to allow for traditional agricultural uses, including grazing. Importantly, the Interconnection Project will not interfere with grazing lessees' ability to continue to graze on their property.

The purpose of Rural Edge is to allow for lower density residential development, which would include uses like the Interconnection Project.

Lava Run
Wind & Solar Projects

Exhibit J-9h. Open house display (8 of 11).

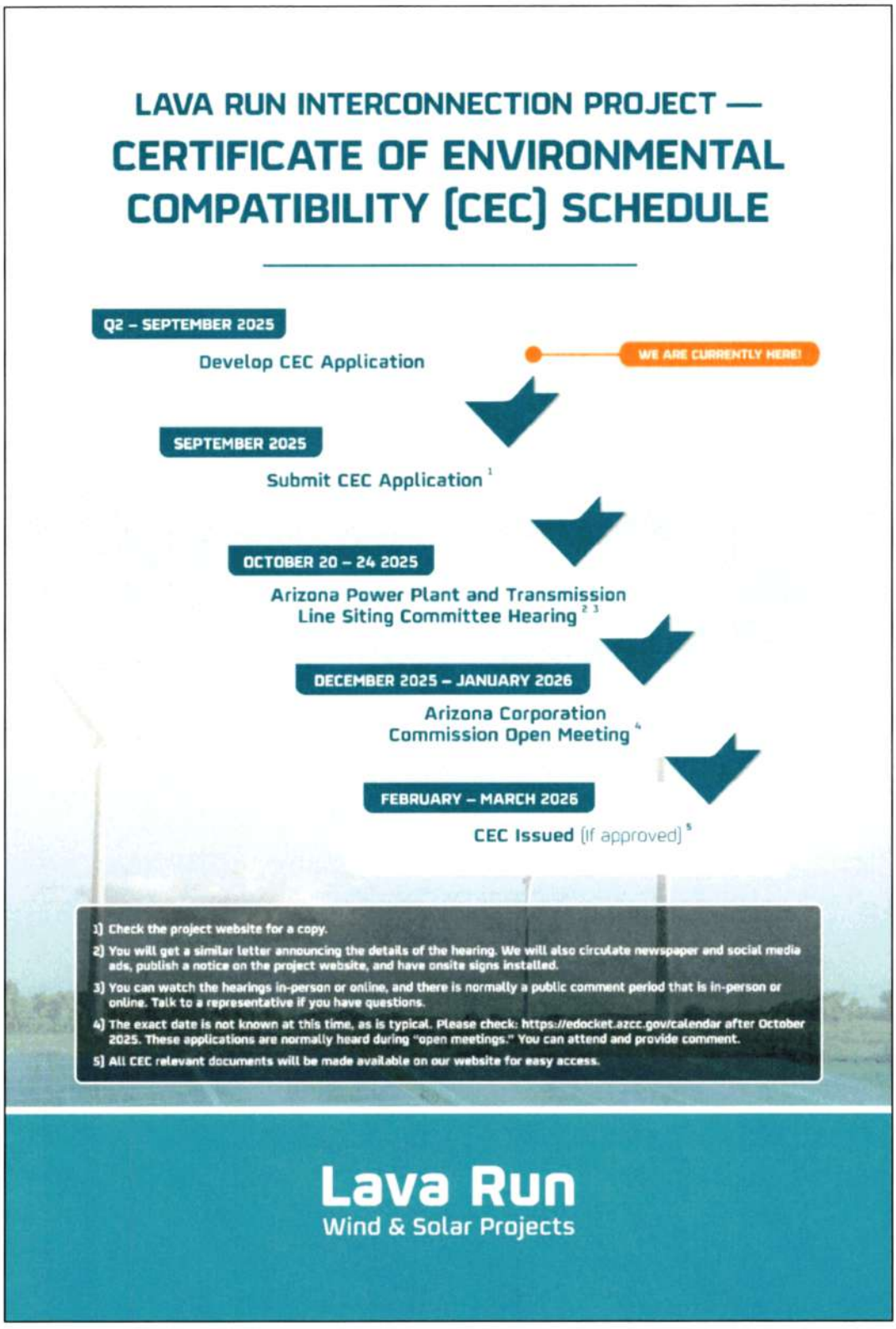


Exhibit J-9i. Open house display (9 of 11).

Exhibit J-9j. Open house display (10 of 11).

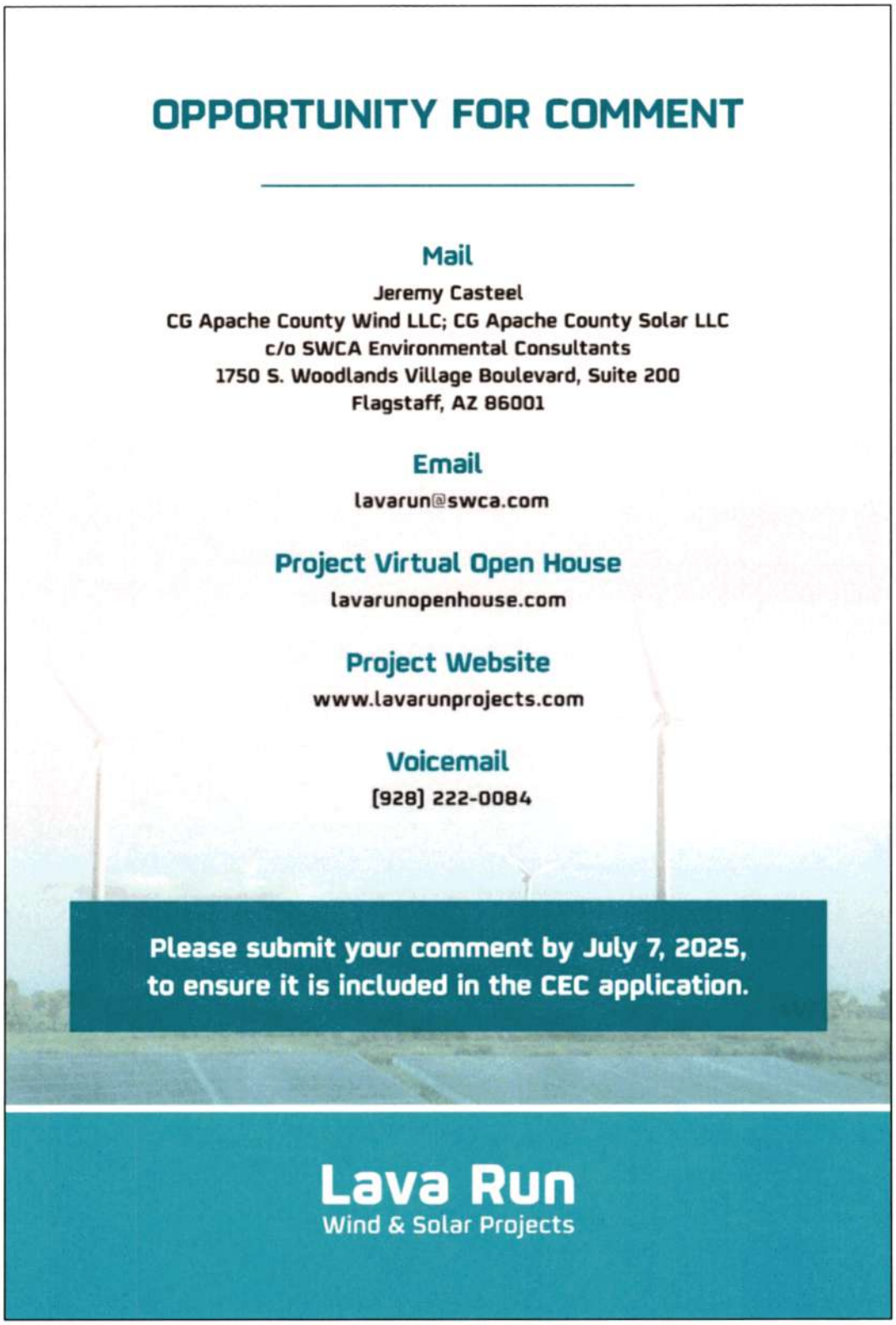


Exhibit J-9k. Open house display (11 of 11).

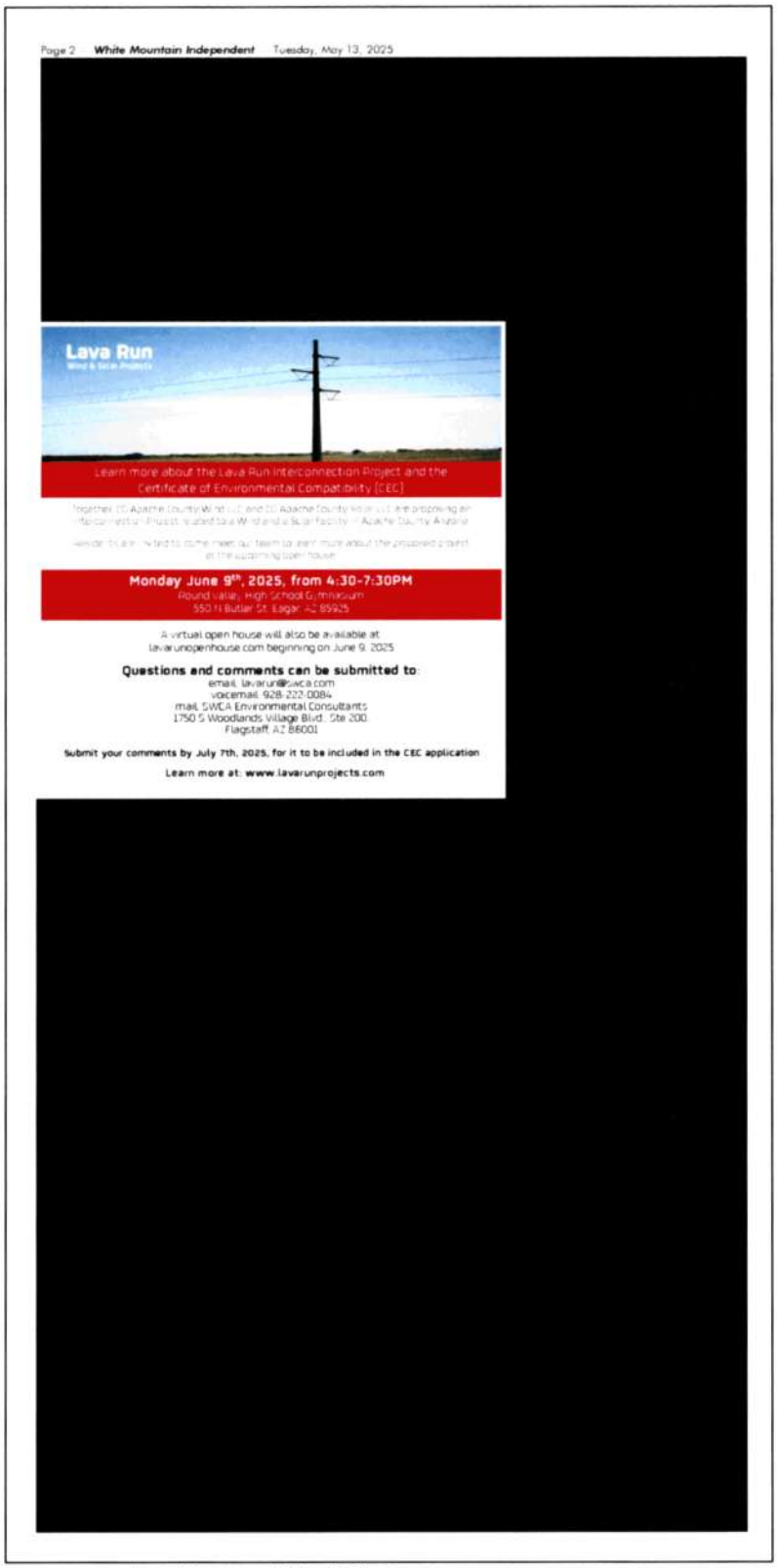


Exhibit J-10a. Newspaper advertisement (1 of 4).

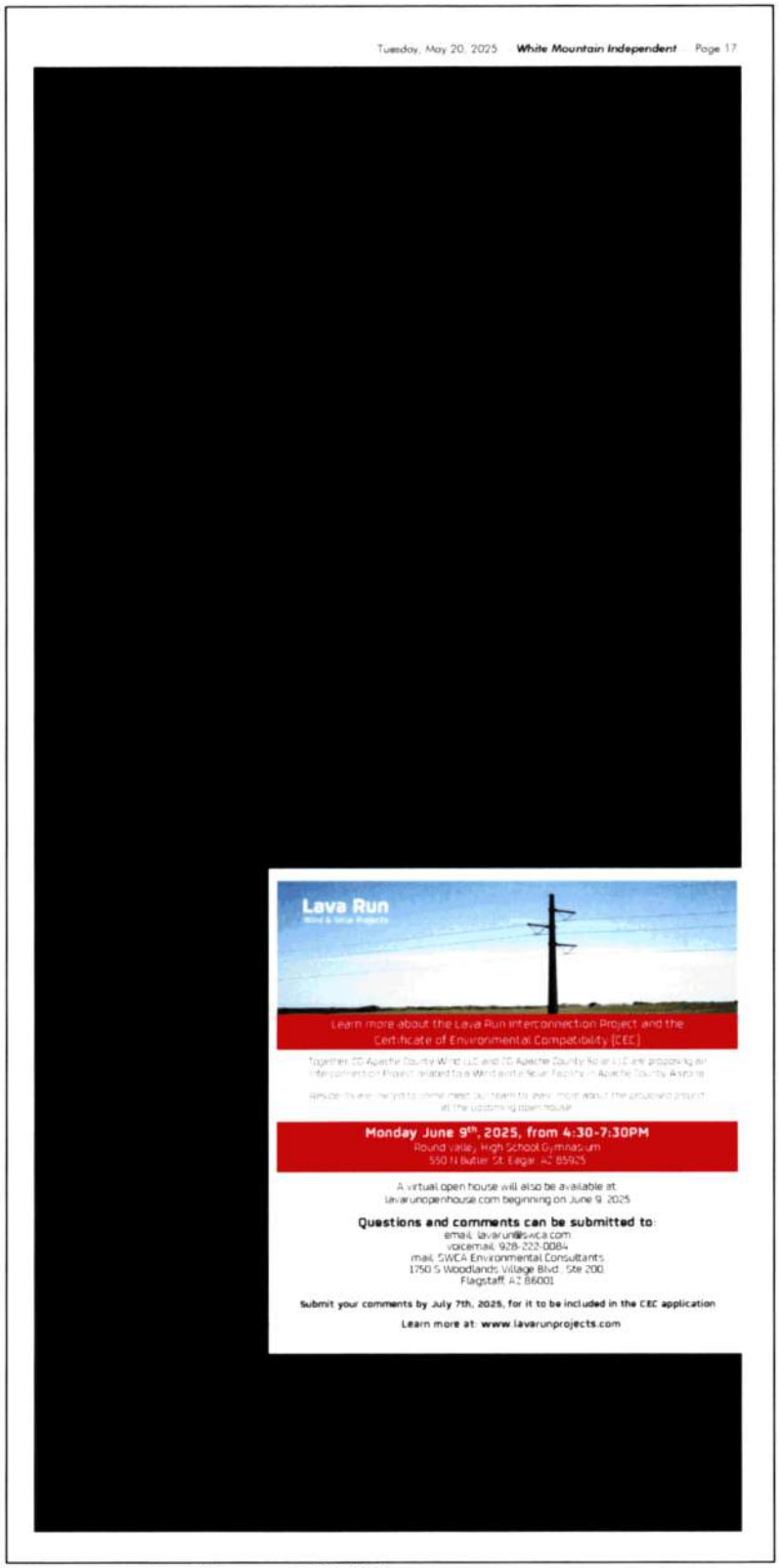


Exhibit J-10b. Newspaper advertisement (2 of 4).

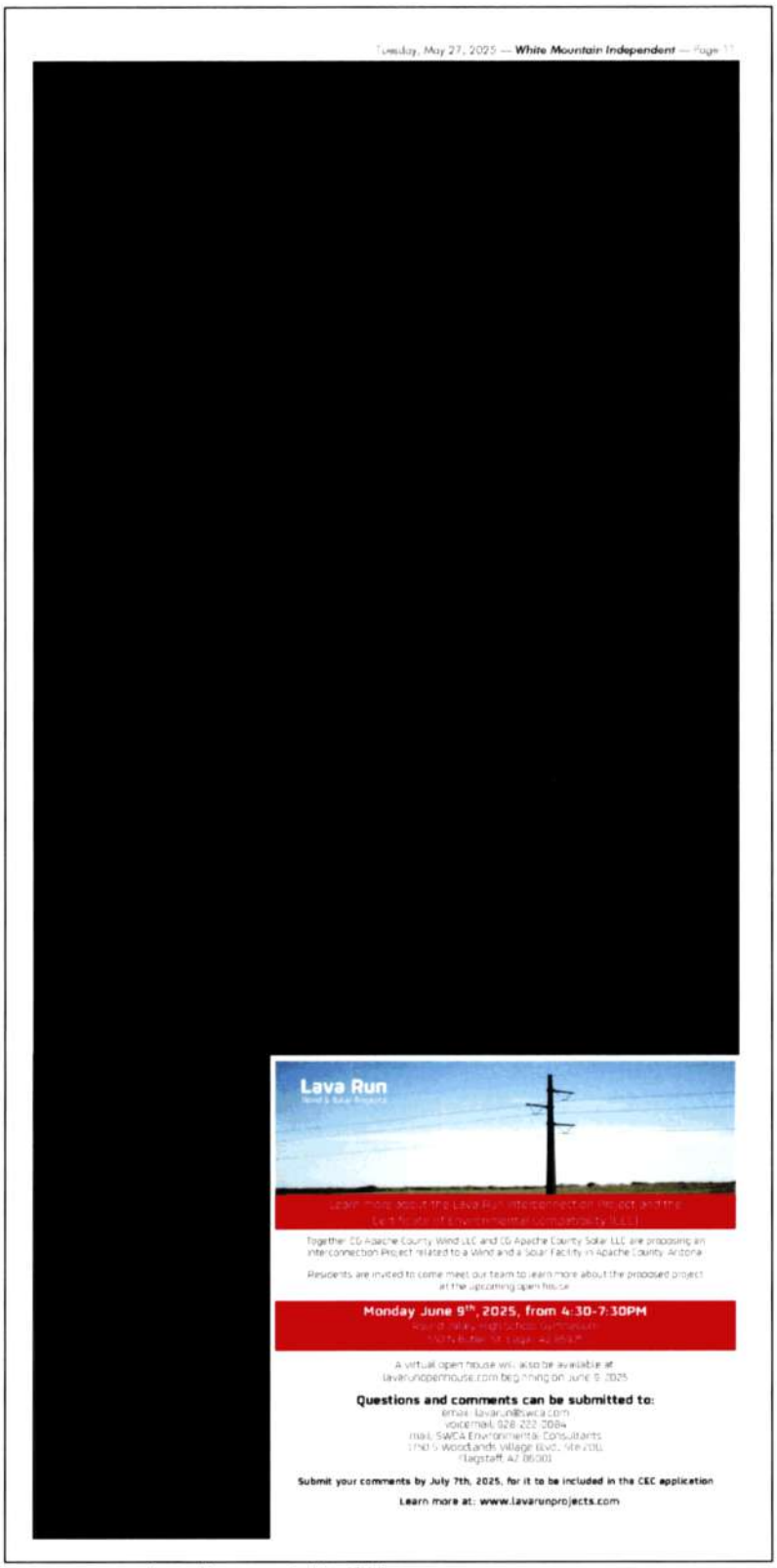


Exhibit J-10c. Newspaper advertisement (3 of 4).

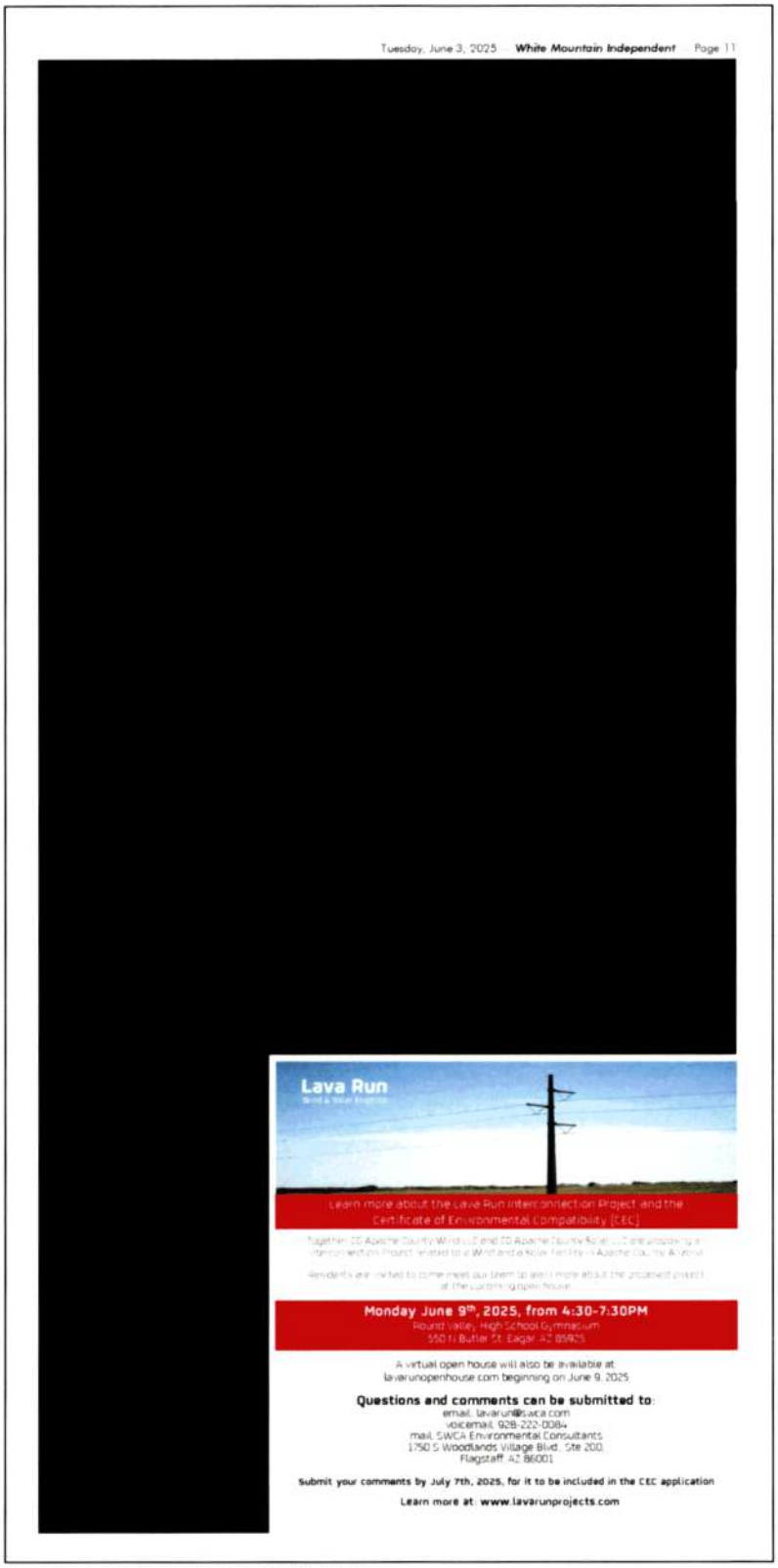


Exhibit J-10d. Newspaper advertisement (4 of 4).

Lava Run
Wind & Solar Projects

May 30, 2025

Arden Kucate, Governor
Cordelia Hooee, Lt Gov
PUEBLO OF ZUNI
Zuni Tribal Council
P.O. Box 339
Zuni, NM 87327

Re: Proposed Lava Run Wind and Solar Projects, Apache County, Arizona

Dear Mr. Nuvangyaoma:

CG Apache County Solar LLC and CG Apache County Wind LLC (together "Applicants") are proposing a 500-megawatt ("MW") wind facility ("Lava Run Wind Project") and a 450-MW solar facility with an on-site battery energy storage system ("Lava Run Solar Project") in unincorporated Apache County, Arizona (Enclosure 1). The Projects would be sited within an approximately 72,000-acre area located on Arizona State Trust Lands, approximately 5 miles north of Springerville and 15 miles south of St. Johns. Lava Run Wind would be sited in the western portion of the project area, entirely west of US Route 180; Lava Run Solar would be sited in the northeastern portion, just south of the existing Springerville Generating Station (Enclosure 2). An up to 29-mile-long, 345-kilovolt, above-ground electrical generation-tie transmission line ("Interconnection Project") would connect both the Lava Run Wind and Lava Run Solar Projects to the regional electrical grid via Tucson Electric Power Company's existing Springerville 345 kV Substation at the Springerville Generating Station.

For administrative process planning context, Applicants anticipate there will be no federal involvement requiring tribal consultation under Section 106 of the National Historic Preservation Act. However, the Interconnection Project will require a Certificate of Environmental Compatibility ("CEC") from the Arizona Corporation Commission, at which time the Arizona Power and Transmission Line Siting Committee would consider your input on the Interconnection.

In any event, as part of its permitting efforts, the Applicants contracted SWCA Environmental Consultants and Tetra Tech to conduct field surveys of the Lava Run Wind Project, Lava Run Solar Project, and Interconnection Project areas to assess potential impacts on significant cultural resources. SWCA's reports (Enclosures 3 and 4) have been approved by ASLD and SHPO and Tetra Tech's reports (Enclosure 5) are still under agency review with ASLD and SHPO.

These reports are enclosed for your consideration and information. Applicant's respectfully request you submit any input you wish to provide Applicant by July 29, 2025, so that it may take it into consideration as the projects proceed. Please send any correspondence to the email or mailing address below.

Email

trinidad.kechkian@repsol.com

Mailing Address

Trinidad Kechkian
CG Apache County Solar LLC and CG Apache County Wind LLC
1221 McKinney St. Suite 1900
Houston, Texas 77010

Please let Applicants know if you want to receive future correspondence regarding these projects. Should you have any questions, please contact Project Manager Trinidad Kechkian at 832-808-1823.

Exhibit J-11a. Sample Tribal outreach letter (1 of 4).

Sincerely,

Trinidad Kechkian

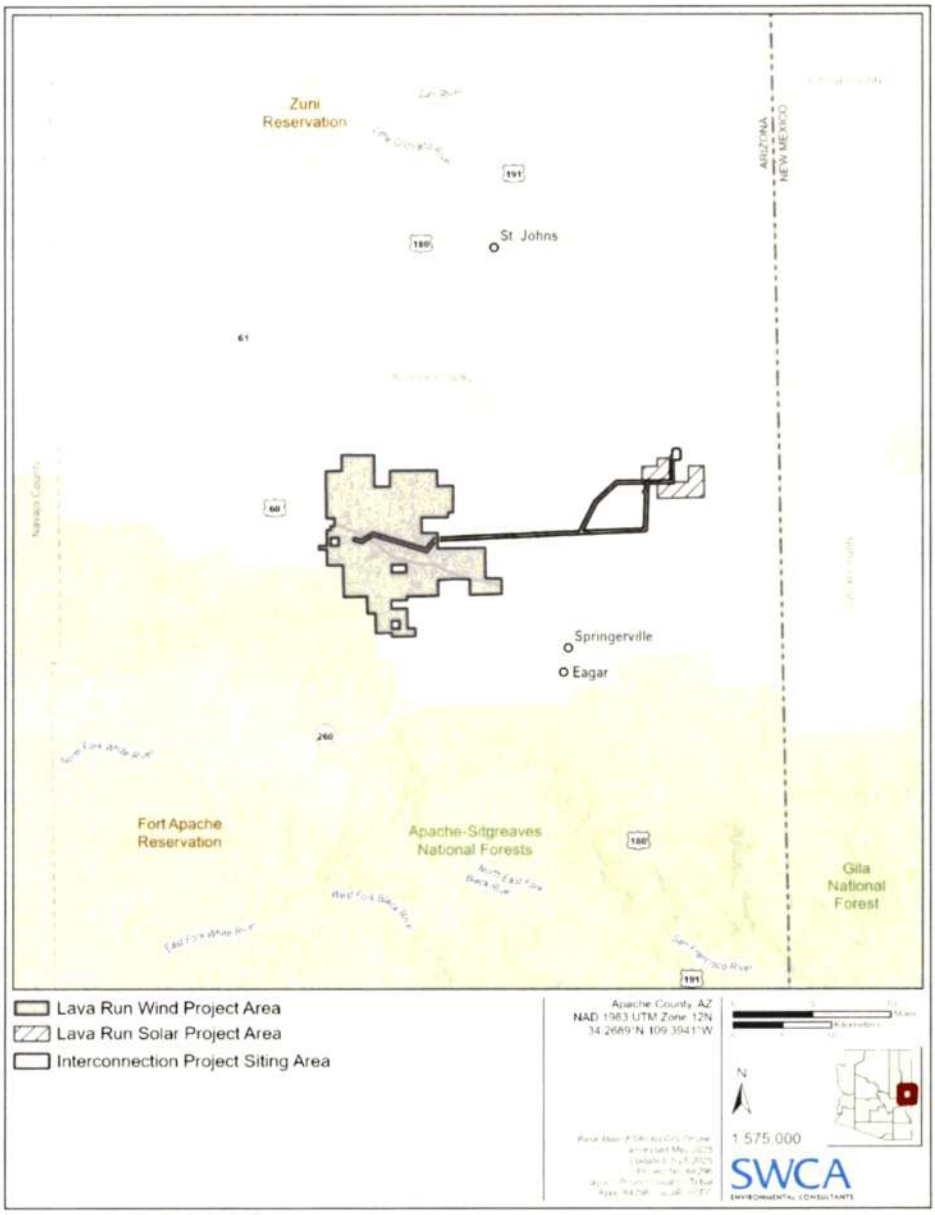
Trinidad Kechkian
Manager, Development

CG Apache County Wind LLC
CG Apache County Solar LLC

Cc: Kurt E. Dongoske with enclosures

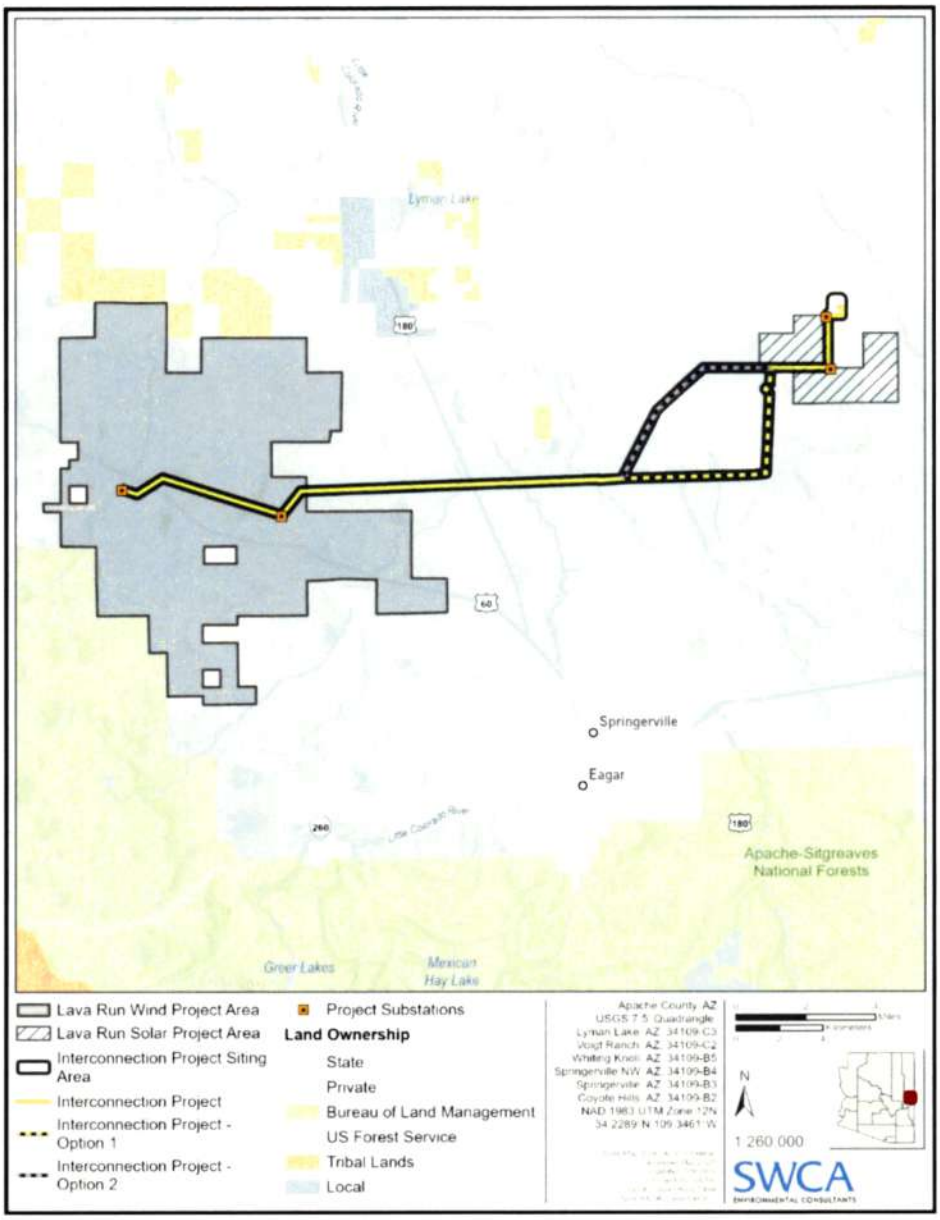
Enclosures:
1. Map 1: Project Vicinity
2. Map 2: Project Footprint
3. Lutes and Barr (2023a)
4. Lutes and Barr (2023b)
5. DeMaso et.al (2024) (Volume 1; Volume 1 Appendices)

Exhibit J-11b. Sample Tribal outreach letter (2 of 4).



Enclosure 1. Project Vicinity.

Exhibit J-11c. Sample Tribal outreach letter (3 of 4).



Enclosure 2. Project Footprint.

Exhibit J-11d. Sample Tribal outreach letter (4 of 4).

Received from Tribal Admin 05/08/25 MW
E-mailed 05/30/25 (initials & date) MW
Scanned 05/30/25 (initials & date) MW

SAN CARLOS APACHE TRIBE
Historic Preservation & Archaeology Department
P.O. Box 0
San Carlos Arizona 85550
Tel. (928) 475-5797, apachevern@yahoo.com

Tribal Consultation Response Letter

Date: May 08, 2025
Contact Name: Mark Lawlor wind@lavarunprojects.com
Company: Lava Run Wind and Solar Projects
Address: 1750 S. Woodlands Village Blvd, Suite 200 Flagstaff, AZ 86001
Project Name/#: Invitation to learn about the Proposed Lava Run Interconnection Project

Dear Sir or Madam:

Under Section 106 and 110 of the National Historic Preservation Act, we are replying to the above referenced project. Please see the appropriate marked circle, including the signatures of Vernelda Grant, Tribal Historic Preservation Officer (THPO), and the concurrence of the Chairman of the San Carlos Apache Tribe:

- O **NO INTEREST/NO FURTHER CONSULTATION/NO FUTURE UPDATES**
  We defer to the Tribe located nearest to the project area.
- X **CONCURRENCE WITH REPORT FINDINGS & THANK YOU** for Consulting w/the Tribe
- X **REQUEST ADDITIONAL INFORMATION**
  I require additional information in order to provide a finding of effect for this proposed undertaking, i.e. Project description ___ Map ___ Photos X Other Please Keep us informed we can be reached @ above email.
- O **NO EFFECT**
  I have determined that there are no properties of religious and cultural significance to the San Carlos Apache Tribe that are listed on the National Register within the area of potential effect or that the proposed project will have no effect on any such properties that may be present.
- O **NO ADVERSE EFFECT**
  Properties of cultural and religious significance within the area of effect have been identified that are eligible for listing in the National Register for which there would be no adverse effect as a result of the proposed project.
- O **ADVERSE EFFECT**
  I have identified properties of cultural and religious significance within the area of potential effect that are eligible for listing in the National Register. I believe the proposed project would cause an adverse effect on these properties. Please contact the THPO for further discussion.

We were taught traditionally not to disturb the natural world in a significant way, and that to do so may cause harm to oneself or one's family. Apache resources can be best protected by managing the land to be as natural as it was in pre-1870s settlement times. Please contact the THPO, if there is a change in any portion of the project, especially if Apache cultural resources are found at any phase of planning and construction. Thank you for contacting the San Carlos Apache Tribe, your time and effort is greatly appreciated.

DIRECTOR/THPO: Vernelda J. Grant, Tribal Historic Preservation Officer — Date 05/20/25

CONCURRENCE: Valerie Kay Cheng — Terry Rambler, Tribal Chairman — Date 5/21/25

Exhibit J-12. San Carlos Apache Tribe response.