CRITICAL ISSUES ANALYSIS FOR THE HOBBS SOLAR ENERGY DEVELOPMENT PROJECT

JANUARY 2023

PREPARED FOR

Akari Energy, LLC

PREPARED BY

SWCA Environmental Consultants

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EXECUTIVE SUMMARY

Akari Energy LLC (Akari), has identified an four tracts of private land in Lea County, New Mexico, as having potential for an approximately 91-megawatt (MW) photovoltaic solar energy project with an additional 50-MW photovoltaic capacity solar photovoltaic site. To assess the environmental constraints associated with this 1,471-acre project area, information was collected from a variety of sources, including published literature, reports, maps, aerial photography, databases, public records, and available geographic information system (GIS) data sets. Using this information, a risk level was assigned based on the potential for each issue to negatively affect the implementation, cost, schedule, or permitting for the solar energy development. Because the risk levels are based entirely on the evaluation of existing data, there is the potential that detailed site-specific studies would reveal additional risks or elevate or diminish currently identified risk levels. A site reconnaissance visit has not been conducted at this time. However, a field survey of a nearby site was conducted in 2015 and is referenced throughout this document.

The following Critical Issues Analysis (CIA) provides a broad yet comprehensive overview of key resources identified during preliminary project planning, including recommendations and additional work required to complete the environmental evaluation. The initial findings contained in the CIA do not show the potential for a fatal flaw that could affect the viability of renewable energy development.

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1 INTRODUCTION

1.1 Document Overview

The objective of this document is to identify the potential for any significant risks, fatal flaws, or "red flags" for project viability resulting from conflicts with environmental, physical, or social conditions present within a project area identified by Akari Energy LLC (Akari), for an approximately 91-megawatt (MW) photovoltaic solar energy project with an additional 50-MW photovoltaic capacity. The facilities would consist of ground-mounted photovoltaic arrays, as well as electrical inverters (pads), electrical wiring, and aboveground and belowground collector wiring. Access to the project area is from U.S. Route 62, County Road 41 (Maddox Road), and existing unimproved roads. This document also serves to present a comprehensive characterization of the project area and provide recommendations to assist Akari in potential project development.

To accomplish this, SWCA Environmental Consultants (SWCA) has conducted a desktop review of reasonably available information for the project area, including published literature, reports, maps, aerial photography, databases, public records, and available geographic information system (GIS) data sets.

1.2 Project Area Description

The project area is located on one tract of private land in Lea County, New Mexico, approximately 6 miles northwest of the city of Hobbs (Figure 1). This project area was identified for development by Akari based on its solar energy potential and proximity to energy markets and existing transmission infrastructure.

The project area covers approximately 1,471 acres identified by Griffith et al. (2006) as the Arid Llano Estacado, a region considered transitional between the Llano Estacado to the north and the Chihuahuan Desert region to the southwest. The drier conditions result in a caliche layer that develops closer to the soil surface and, with dry conditions, makes it difficult for agricultural development. The short-grass prairie is suitable for livestock grazing, although overgrazing is common, which encourages shrub encroachment.

1.3 Transmission Needs

A substation is planned for construction; however, an interconnection study has not been completed for the project.

1.4 New Mexico Renewable Energy Policy and Regulatory Requirements

1.4.1 Renewable Portfolio Standards

The New Mexico Renewable Portfolio Standards (RPS) went into effect in 2004. The RPS requirement for solar energy was 20% by investor-owned utilities by 2020, and rural electric cooperatives were required to generate 10% of total retail sales from renewable energy resources.

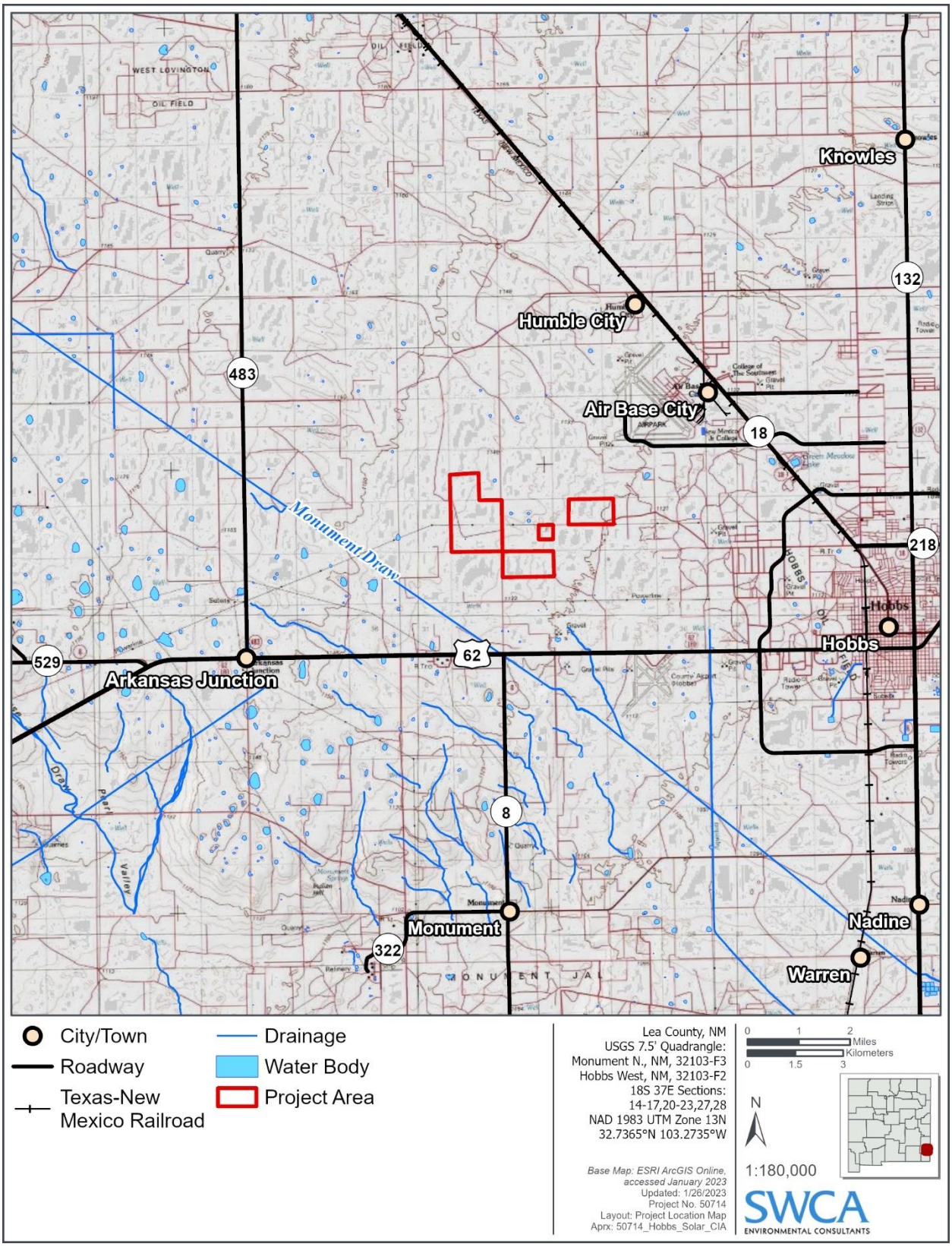

Figure 1. Project area map.

The New Mexico Public Regulation Commission issued rules in 2007, requiring that investor-owned utilities meet the 20% target by enacting a diversified energy portfolio. The Public Service Company of New Mexico submitted a plan to state regulators in 2014 to expand its solar energy development to supply an additional 40 MW of electricity to help meet the company's renewable energy portfolio of 15%.

1.4.2 Federal Requirements

The project's location on private land and the potential lack of any other nexus preclude the need for any federal requirements for this project. No federal lands are present near the project area to create a connected action, which would trigger the need to comply with the National Environmental Policy Act (NEPA). Other primary federal environmental laws that would require consideration are the Endangered Species Act of 1973 (ESA), Migratory Bird Treaty Act of 1918 (MBTA), Bald and Golden Eagle Protection Act, National Historic Preservation Act of 1966 (NHPA), and Clean Water Act (CWA). These acts apply to projects on both private and public lands, and the ESA and CWA can provide a federal nexus, which would trigger compliance with NEPA.

1.4.3 Federal, State, and Local Permits, Licenses, and Regulatory Approvals

A comprehensive list of the potential permits, certificates, and authorizations for the project area, along with permit triggers and points of contact that may be required prior to the start of construction, is provided in Table 1.

Based on what is currently known about the project, a federal National Pollutant Discharge Elimination System (NPDES) permit for surface water discharge would be needed through the U.S. Environmental Protection Agency (EPA), which administers the program through its Region 6 office for the state of New Mexico. The state provides permit review and inspections on behalf of the EPA. In addition, several state permits may also be necessary. A groundwater discharge permit would be acquired through the New Mexico Environment Department (NMED), Surface Water Quality Bureau, and a commercial building permit would be obtained from the New Mexico Regulations and Licensing (Construction Industries Division). A hazardous waste permit would be acquired through NMED, Hazardous Waste Bureau.

It is anticipated that a CWA Section 404 or Section 401 permit would not be necessary due to the absence of wetlands or distinct drainages in the project area. Additional compliance actions may be required should a New Mexico Department of Transportation (NMDOT) right-of-way permit be needed for improvements to roads that connect with highways where the state agency has authority.

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Table 1. Permitting Matrix

Authorization	Agency Authority	Statutory Reference	Permit Trigger	Point of Contact
Federal				
ESA	U.S. Fish and Wildlife Service (USFWS)	ESA (Public Law [PL] 93-205, as amended by PL 100-478 [16 United States Code (USC) 1531, *et seq*.; 50 Code of Federal Regulations (CFR) 17])	Potential for presence and/or take of a federally protected species	USFWS Endangered Species Field Office, Ecological Services 500 Gold Ave. SW Albuquerque, NM 87102 (505) 248-6911
MBTA	USFWS	16 USC 703–712; 50 CFR 21	Potential to take migratory birds. An incidental take permit is not available; however, preparation of a Bird and Bat Conservation Strategy is recommended by the USFWS to address compliance with this law.	USFWS Division of Migratory Birds Region 2 (505) 248-6639
Bald and Golden Eagle Protection Act	USFWS	16 USC 668−668(d); 50 CFR 22	Potential for project activity to inflict harm, harassment, or otherwise disturb bald or golden eagles or their nests	USFWS Division of Migratory Birds Region 2 (505) 248-6639
NHPA Compliance, Determination of Effect Concurrence	New Mexico State Historic Preservation Office	M Statute 18-6-1 through 18-6-17, as amended through 2005/Land managing agency regulations/Section 106	Presence of New Mexico State Trust Lands and any federal nexus. A cultural resources survey would likely be required where sufficient coverage has not previously be completed. The cultural resources report will be submitted to SHPO for final review and concurrence. Upon completion of the survey report, SHPO will have a 30 day review period for all cultural resources encountered during the survey	Michelle Ensey, State Historic Preservation Officer (505)-827-4064
Notice of Proposed Construction or Alteration (Form 7460.1)	Federal Aviation Administration (FAA)	49 USC 44718 and, if applicable, 14 CFR 77 (2005) to determine whether the structure exceeds obstruction standards or would be a hazard to air navigation	Any construction or alteration exceeding 200 feet above ground level; any construction or alteration within 20,000 feet of a public use or military airport that exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet; within 10,000 feet of a public use or military airport that exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet; or within 5,000 feet of a public use heliport that exceeds a 25:1 surface; or when requested by the FAA.	FAA New Mexico Flight Standards District Office 1601 Randolph Rd. SE Suite 200N Albuquerque, NM 87106 (505) 764-1200

Authorization	Agency Authority	Statutory Reference	Permit Trigger	Point of Contact
Notice of Actual Construction (Form 7460-2)	FAA	14 CFR 77 (2005)	Any construction or alteration exceeding 200 feet above ground level; any construction or alteration within 20,000 feet of a public use or military airport that exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet; within 10,000 feet of a public use or military airport that exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet; or within 5,000 feet of a public use heliport that exceeds a 25:1 surface; or when requested by the FAA.	FAA New Mexico Flight Standards District Office 1601 Randolph Rd. SE, Suite 200N Albuquerque, NM 87106 (505) 764-1200
CWA 404 Dredge and Fill Permit	U.S. Army Corps of Engineers (USACE)	33 USC 1344	Placement of dredge or fill in a water, wash, or wetlands connected to waters of the U.S.	Rick Gatewood Regulatory Manager for Southern NM USACE 505 S. Main St. Suite 142 Las Cruces, NM 88001 (575) 556-9939
Department of Defense (DoD) Mission Compatibility Evaluation	DoD	32 CFR 211	Recommended if structures are over 100 feet tall	DoD Siting Clearinghouse osd.dod-siting-clearinghouse@mail.mil.
CWA Section 402 NPDES during Operation	EPA	33 USC 1251 *et seq*.	Construction activities larger than 1 acre that will discharge stormwater runoff from the construction site into a municipal separate stormwater sewer system or into waters of the U.S.	Brent Larsen EPA, Region 06 (Permitting Authority for New Mexico) 1445 Ross Ave, Suite 1200 Dallas, TX 75202-2733 Phone: (214) 665-7523
State				
CWA Section 401 Permit	NMED, Surface Water Quality Bureau	New Mexico Water Quality Act, New Mexico Ground and Surface Water Protection Regulations (20.6.2.2001–2003 New Mexico Administrative Code [NMAC])	Discharge into a water, wash, or wetland connected to a navigable water. state certification of authorized USACE permit	Abe Franklin Program Manager SWQB-WPS P.O. Box 5469 Santa Fe, NM 87502 (505) 827-2793
Surface Water Discharge	NMED, Surface Water Quality Bureau, Point Source Regulation Section	New Mexico Water Quality Act	Reviews federally issued NPDES permits	Chris Canavan Southern NM Team Leader Watershed Protection Section 1170 N. Solana Drive (Suite M) Las Cruces, NM 88001 (575) 647-7926

Authorization	Agency Authority	Statutory Reference	Permit Trigger	Point of Contact
Groundwater Discharge Permit	NMED, Surface Water Quality Bureau	Water Quality Control Commission (NMAC 20.6.2)	Discharge into a water, wash, or wetland connected to a navigable water	NMED GWQB Harold Runnels Building 1190 Saint Francis Drive PO Box 5469 Santa Fe, NM 87502 Jerry Schoeppner (505) 827-2919
Commercial Building Permit	New Mexico Regulations and Licensing (Construction Industries Division)	NMAC Title 14 Chapter 7 Part 2	Applies to the construction of every building or structure performed in New Mexico after January 28, 2011	Construction Industries/Manufactured Housing Division Regulation and Licensing Department 2550 Cerrillos Road Santa Fe, NM 87505 (505) 476-4700
Hazardous Waste Permit	NMED, Hazardous Waste Bureau, Permits Management Program	EPA Resource Conservation and Recovery Act Subtitle C	Applies to the treatment, storage, and disposal facilities required by the New Mexico Hazardous Waste Act [HWA; Chapter 74, Article 4 NMSA 1978] and regulations promulgated under the Act.	NMED, HWB 2905 Rodeo Park Drive East, Building 1 Santa Fe, New Mexico 87505-6313 Phone: (505) 476-6000 Dave Cobrain, Program Manager
Phase I Environmental Site Assessment	NMDOT or Bureau of Land Management	Not required on private land	Recommended for liability protection during real estate transactions, purchase of real property by a person or entity not previously on title; could be required by lead agency as part of NEPA compliance or by NMDOT if construction is necessary in state highway right-of-way	NMDOT 1120 Cerrillos Road Santa Fe, NM 87504-1149 Telephone: (505) 827-5100 BLM 620 E. Greene Street Carlsbad, NM 88220-6292 575-234-5972
Lea County				
County	County	No ordinance or zoning restrictions	County ordinance.	Bruce Reid, Manager Lea County Planning Department (575) 396-8521

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2 CRITICAL ISSUES ANALYSIS METHODOLOGY

A preliminary list of federal and state threatened and endangered species for Lea County was created with data obtained from the New Mexico Department of Game and Fish (Biota Information System of New Mexico [BISON-M] 2018) and the U.S. Fish and Wildlife Service (USFWS 2018) websites. The New Mexico Rare Plant Technical Council (1999) website and New Mexico Energy, Minerals and Natural Resources Department, Forestry Division, endangered plant species list (New Mexico Statutes Annotated 1978) were also consulted for information on rare or state-listed plants that could be present in the area. Based on this review of species and their habitat requirements, an evaluation was made of which species had the potential to occur in the project area.

The key resources listed below were assessed for potential critical issues, and a risk category was assigned for each resource by project area using risk categories based on Bureau of Land Management (BLM) Instruction Memorandum (IM) 2011-061, Solar and Wind Energy Applications – Pre-Application and Screening (BLM 2011). Risk categories were used to assess the potential of each resource to affect project implementation and to identify additional work needed related to permitting requirements. Using these standardized risk categories ensures consistency with other alternative energy development projects in New Mexico, some of which have a federal nexus. Following the resource analysis, a summary of risks has been prepared, which includes a project risk matrix that considers the cumulative risk of all resources.

Resources analyzed include the following:

- Land use
- Soils
- Vegetation
- Transportation
- Aviation and radar
- Visual resources
- Biological resources
    - Listed and sensitive wildlife, including any critical habitat
    - Birds, including bald (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) and any migration pathways
- Water resources
- Recreation
- Air quality
- Fire risk
- Cultural resources and Native American concerns

2.1 Risk Categories

The following risk analysis consists of a scoring system designed to evaluate risk levels associated with each resource considered (Table 2). These resource risk levels are adapted from those identified in BLM IM 2011-061 (BLM 2011) and are provided below.

Low Potential for Conflict—timely or expedited authorizations possible:

- Lands specifically identified for solar or wind energy development
- Previously disturbed sites or areas adjacent to previously disturbed or developed sites
- Locations that minimize construction of new roads and/or transmission lines
- Lands adjacent to designated transmission corridors

Medium Potential for Conflict—projects that have resource conflicts that can potentially be resolved:

- Designated special resource areas, including potential habitat for state sensitive species or federal species of concern
- Areas with significant soils, vegetation, or land use conflicts
- Areas where project development may adversely affect lands acquired for conservation purposes
- Playas or other wetland areas that may be impacted by development
- Areas where project development may adversely affect properties eligible to be listed in the National Register of Historic Places (NRHP) or areas with sensitive cultural and/or historical resource values and other designated areas such as National Natural Landmarks and National Historic Landmarks
- Areas where project development may adversely affect National Historic and Scenic Trails and National Recreation Trails
- Riparian areas
- U.S. Department of Defense (DoD) operating areas, including areas with significant radar, airspace, or land use conflicts
- Developed recreation sites and/or facilities
- Projects with proposed groundwater uses within groundwater basins that have been over-appropriated by state water resource agencies

High Potential for Conflict—more complex projects that will require a greater level of consultation, analysis, and mitigation to resolve issues, or may not be feasible to authorize:

- Lands near or adjacent to lands designated by Congress, the President, or the Secretary of the Interior for the protection of sensitive viewsheds, resources, and values (e.g., units of the National Park System, USFWS Refuge System), which may be adversely affected by development
- Designated critical habitat for federal or state threatened and/or endangered species if project development is likely to result in the destruction or adverse modification of that critical habitat
- Sensitive habitat areas, including important wintering eagle use areas, nesting golden eagles, priority lesser prairie-chicken (*Tympanuchus pallidicinctus*) habitat, and projects requiring a Bird and Bat Conservation Strategy/Eagle Conservation Plan

Table 2. Risk Level Scoring System

Category	Description	Score
None	Resource is not present within a 1-mile buffer of the project area.	0
Low	Resource is present within 1 mile of the project area, but impacts are unlikely and would require minimal permitting and agency coordination. Timely or expedited authorizations possible.	1
Moderate	Resource is present within 1 mile of the project area, and resource conflicts are likely but could be easily resolved. These issues would require permitting and/or agency coordination.	2
High	Resource is present within 1 mile of the project area, and impacts are likely and difficult to address. These are generally more complex projects that would require a greater level of consultation, analysis, and mitigation to resolve issues, or may not be feasible to authorize.	3
Fatal Flaw	Resource is present within 1 mile of the project site, and impacts will occur and may exceed limitations described above. These issues will require extensive permitting and agency coordination that could lead to denial of the project.	4

It should be noted that risk categories assigned in this document are based on currently available data as presented. Risk categories may change as new data become available from the completion of formal, site-specific surveys.

2.2 Data Collection and Analysis

Data were collected from multiple sources that provided relevant information about the study area, including federal, state, and local issues. These data were then compiled, analyzed, and used in the evaluation of risk categories. Sources for data collection included the following:

- Online literature searches
- Lea County data and documents
- Existing GIS data, including U.S. Geological Survey GIS data
- Natural Heritage of New Mexico data

3 RESOURCE CONSTRAINTS ANALYSIS

3.1 Land Use and Geology

The project area is designated as rangeland or mixed rangeland. The surrounding area is categorized as mixed rangeland with oil and gas development, primarily to the west and south.

No residences are located in or surrounding the project area. The nearest occupied residence occurs approximately 2 miles to the east along West Shell Road. During the 2015 survey, a barn structure was identified approximately 0.25 mile to the northwest of the 2015 project area and did not appear to be an occupied residence.

A review of the BLM cave/karst distribution shows the project area as having low potential. Fissures and voids are present in the area to a depth of 250 feet or more in areas of subsidence in unconsolidated rock material.

Risk Category. *Low.* There are no Areas of Critical Environmental Concern, national preserves, or wilderness areas within 1 mile of the primary project area (Figure 2). No BLM or other federal land

occurs in the vicinity of the project area. State land surrounds the project area. It is assumed that interconnection will occur within the project area and will not require crossing state land. A nexus to state land through road improvements would trigger the need for additional surveys and avoidance of historic sites (see Section 3.11).

Additional Work Required. Surveys may be needed to ensure that transmission infrastructure and road improvements do not require state land, which could trigger additional compliance and permitting.

3.2 Soils

Four soil types are present in the project area (Table 3; Figure 3). The Kimbrough-Lea complex covers approximately 903 acres, Portales-Stegall loam covers about 541 acres, Kimbrough gravelly loam, 0 to 3 percent slopes covers approximately 18.4 acres, and the Stegall and slaughter soils covers approximately 8.7 acres. All four soil types are derived from calcareous alluvium and/or calcareous eolian sedimentary deposits. They occur on relatively flat terrain, with 0 to 3 percent slopes. The soil is well drained, and the runoff class varies from low to very high. These soils generally do not flood or pond, and depth to the water table exceeds 80 inches. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2%.

Table 3. Soil Types and Acreages in the Project Area

Map Unit Symbol	Map Unit Name	Acres	Hectares	Percent of Project Area
KU	Kimbrough-Lea complex	902.55	365.25	61.36%
PS	Portales-Stegall loams	541.34	219.07	36.80%
KO	Kimbrough gravelly loam, 0 to 3 percent slopes	18.40	7.44	1.25%
SS	Stegall and slaughter soils	8.68	3.51	0.59%
Total		**1,470.97**	**595.28**	**100.00%**

Risk Category. *Low.* No hydric or erodible soils are present. The project contains no sensitive soil types.

Additional Work Required. None.

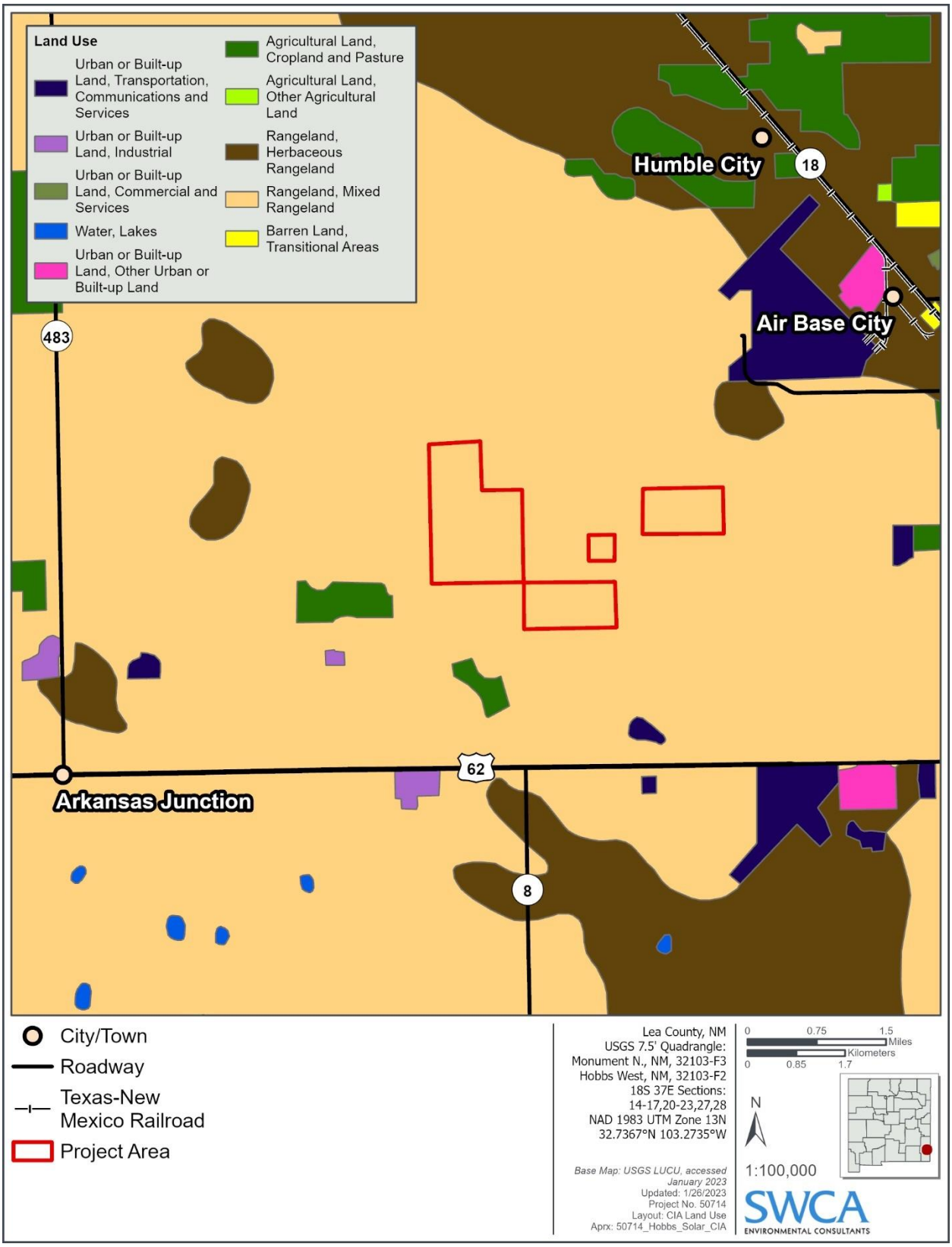

Figure 2. Land use surrounding the project area.

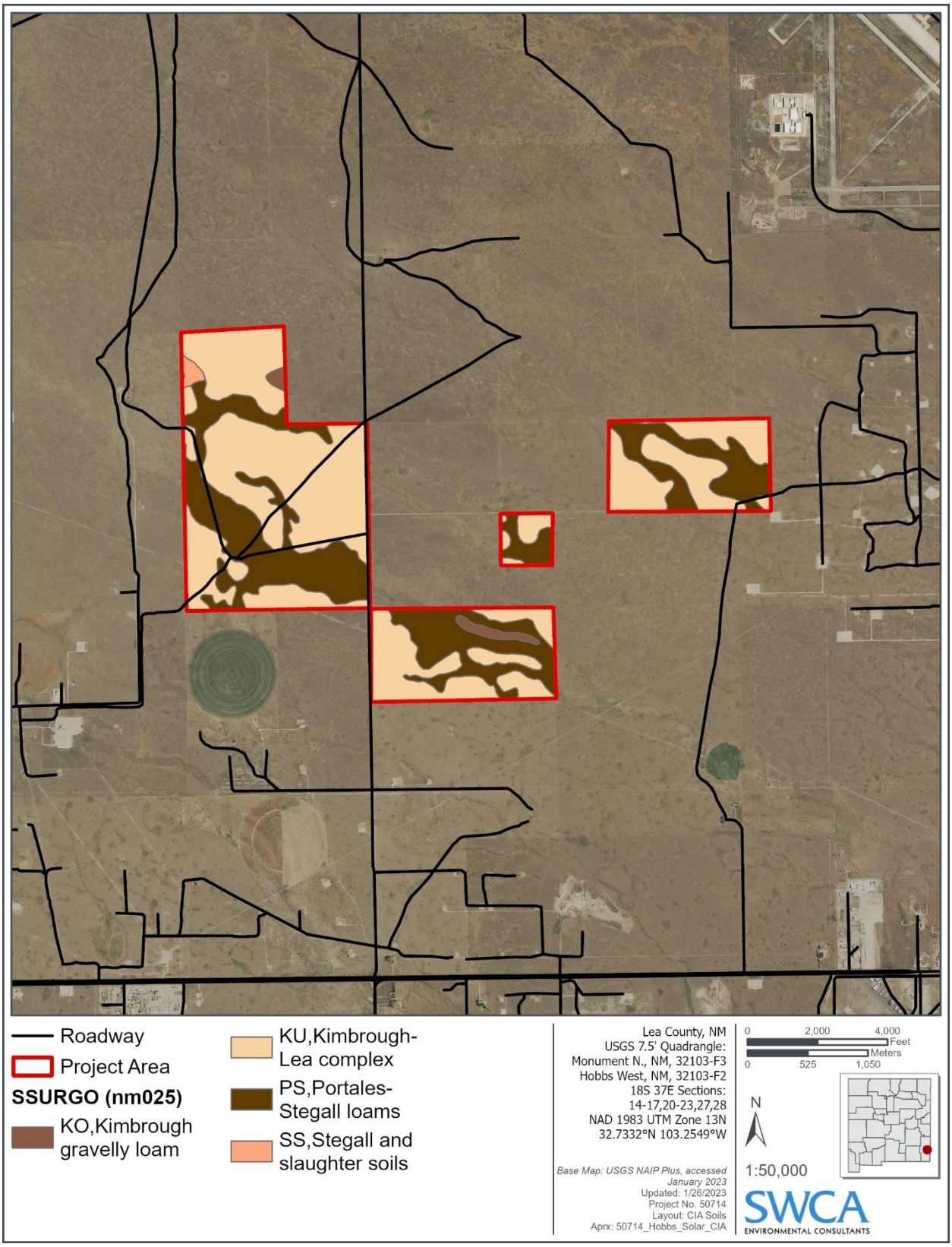

Figure 3. Soils map.

3.3 Vegetation

Based on data from the Southwest Regional Gap Analysis Project (SWReGAP), five vegetation types are found within the project area. The dominant vegetation types are the Western Great Plains Sandhill Scrubland, Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub, and Apacherian-Chihuahuan Mesquite Upland Shrub and comprise 98% of the vegetation within the project area (Table 4). However, the SWReGAP database is not always accurate, and an assessment of the vegetation usually requires field verification. In this case, no field surveys were conducted, but previous surveys in the area have showed creosotebush (*Larrea tridentata*) as the dominant species, along with some thickets of mesquite (*Prosopis* sp.), in the 2015 field survey project area. In many cases, the mesquite shrubs overlap with short-grass prairie habitat and it is common for mesquite to encroach into heavily grazed short-grass prairie habitats. This site likely consists of creosotebush and mesquite with patches of grasses interspersed throughout the project area (Figure 4).

Table 4. Vegetation Types and Acreages in the Project Area

SWReGAP Vegetation Type	Acreage	Hectares	Percent of Project Area
Western Great Plains Shortgrass Prairie	699.60	283.12	47.56%
Apacherian-Chihuahuan Mesquite Upland Shrub	465.93	189.56	31.68%
Chihuahuan Creosotebush, Mixed Desert and Thorn Scrub	297.44	120.37	20.22%
Western Great Plains Sandhill Scrubland	6.22	2.52	0.42%
North American Warm Desert Riparian Woodland and Shrubland	1.56	0.63	0.11%
North American Warm Desert Playa	0.21	0.08	0.01%
Total	**1,470.96**	**596.28**	**100%**

Risk Category. *Low.* No sensitive plant communities are likely to occur in the project area.

Additional Work Required. None.

3.4 Transportation

The project area is primarily undeveloped terrain; however, existing unimproved roads provide access to the site (Figure 5). Existing roads in the project area include both maintained dirt-gravel-caliche surface roads and unmaintained dirt two-track roads.

The project area is accessed via paved County Road 41 (Maddox Road) from U.S. Route 62 or State Highway 8 and additional unimproved roads. The project area can also be accessed from Hobbs via Bender Road and West Shell Road, which connects to the road parallel to the transmission line. Most travel through the property is by two-track. A road consisting mostly of caliche follows the transmission line. A gravel road marks a portion of the eastern project area boundary.

Risk Category. *Low.* No existing or future activities would prevent project-related use of routes that provide access to the primary project area. Improvement of roads will likely be necessary for project development.

Additional Work Required. An over–legal size load limit permit may be required to support construction deliveries to the project area on county roads.

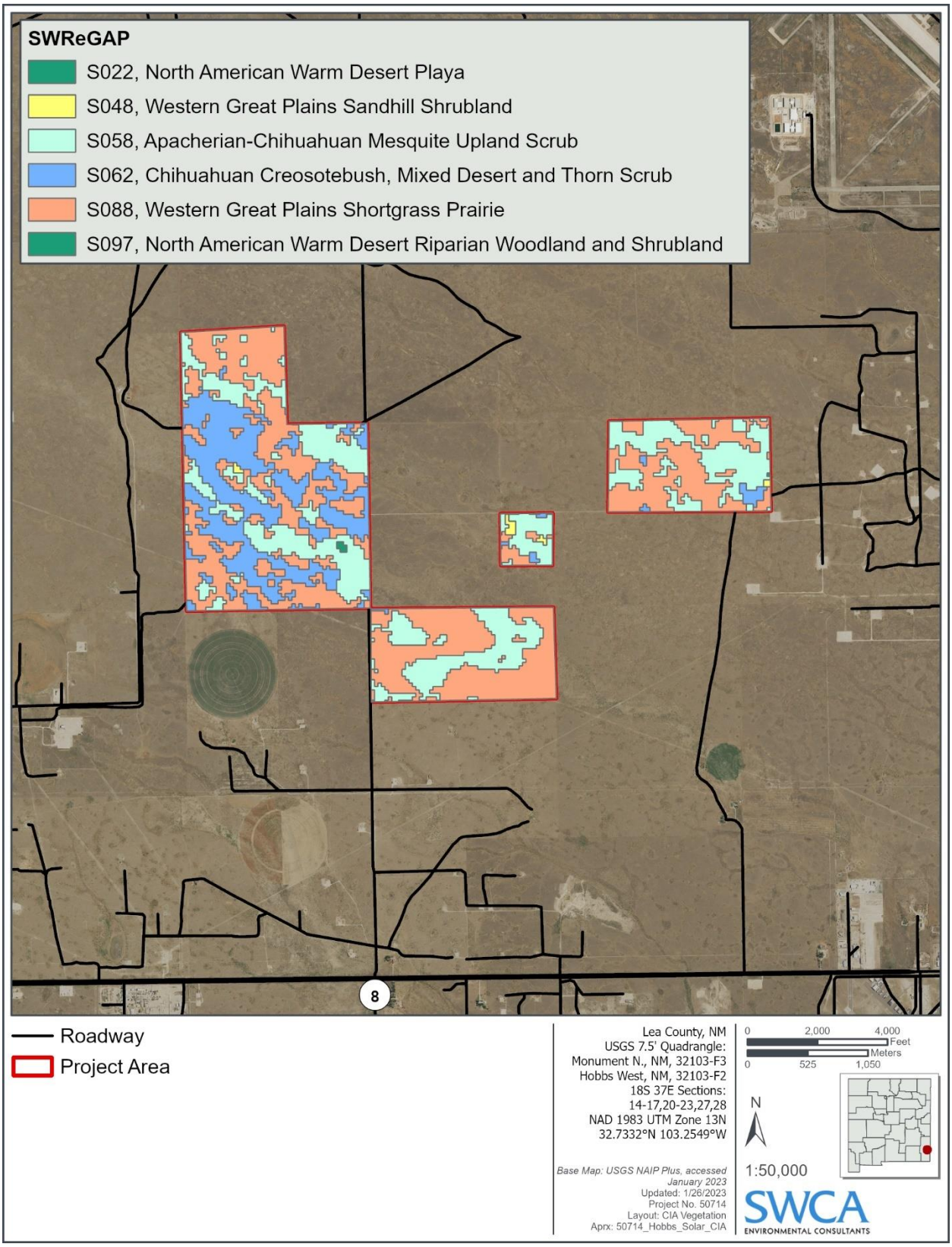

Figure 4. Vegetation communities present in the project area.

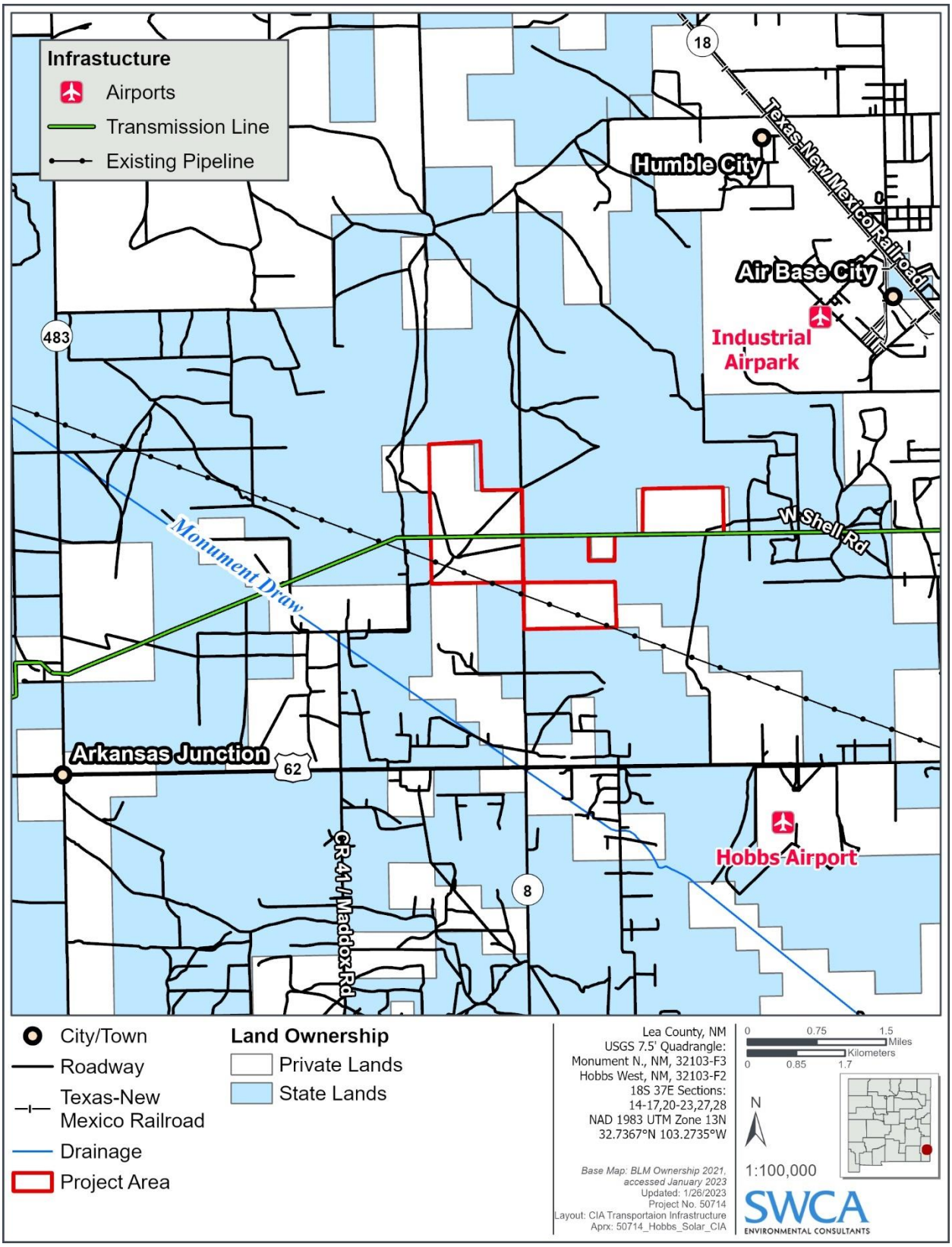

Figure 5. Roads, airports, and infrastructure in the project area.

3.5 Aviation and Radar (Private, Commercial, Federal Aviation Administration, and Military)

The Federal Aviation Administration (FAA) is an agency of the U.S. Department of Transportation that regulates civil aviation in the United States. Because tall structures can have an effect on general air navigation, the FAA must be contacted for any proposed construction or alteration of objects within navigable airspace under the following categories:

- proposed objects more than 200 feet above ground level at the structure's proposed location;
- within 20,000 feet of an airport that has at least one runway longer than 3,200 feet, and the proposed object would exceed a slope of 100:1 horizontally from the closest point of the nearest runway;
- within 10,000 feet of an airport that does not have a runway longer than 3,200 feet, and the proposed object would exceed a 50:1 horizontal slope from the closest point of the nearest runway; and/or
- within 5,000 feet of a heliport and the proposed object would exceed a 25:1 horizontal slope from the nearest landing and takeoff area of that heliport (14 Code of Federal Regulations [CFR] 77; FAA 2007).

Air navigation concerns also exist within military airspace. The DoD must be consulted regarding potential conflicts with military airspace, which consist of the following: military operations areas (MOAs), military training routes (MTRs), or activities next to military testing and training ranges. An MOA is airspace designated for military training activities. An MTR is a series of airspace segments that are linked together where training activities are conducted. The floor and ceiling for both MOA and MTR airspace are defined, and, in either type of space, the floor may extend all the way down to the ground level (BLM 2005). On November 8, 2011, the DoD released Version 1.0 of the GIS data set "Military Installations, Ranges, and Training Areas (point locations and boundaries)." This data set contains locations and available boundaries for 480 DoD sites (FAA 2011). No installations were identified in the project area. The nearest Special Use Airspace or military training route is Melrose Air Force Range, 105 miles to the north-northwest.

The Lea County Regional Airport is located 4 miles to the southeast of the project area, and the Hobbs Industrial Airpark is approximately 4 miles to the northeast of the project area (Figure 5). The former covers 603 acres and contains three asphalt runways. It is an FAA-certified commercial airport served mainly by United Express with daily flights to Houston, Texas. The Hobbs Industrial Airpark is owned by the City of Hobbs and includes two runways to accommodate mostly charter flights.

Risk Category. *Low*. There are no other aviation facilities located in proximity to the project area. Because of the distance from the project area boundary to the nearest airports, the only potential risks would be associated with visible glare to pilots flying over the area. It is anticipated that these concerns can be easily addressed.

Additional Work Required. Further consultation with the FAA would be necessary to determine issues from the proposed project, including the potential for facility glare.

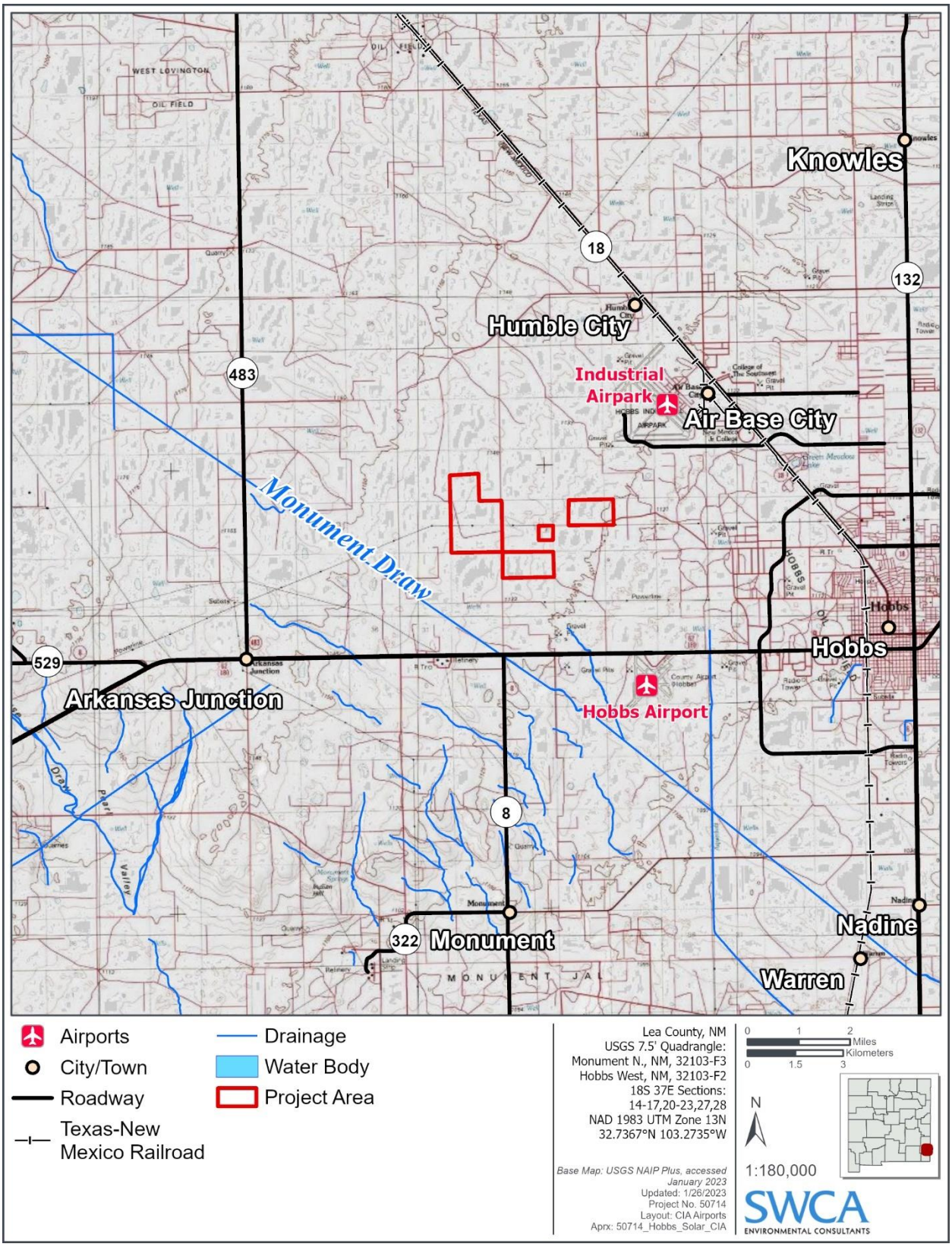

Figure 6. Aviation resources in the project area.

3.6 Visual Resources

Visual resources (the landscape) consist of landform (topography and soils), vegetation, bodies of water (lakes, streams, and rivers), and human-made structures (roads, buildings, and modifications of the land, vegetation, and water). These elements of the landscape can be described in terms of their form, line, color, and texture. Normally, the greater the variety of these elements in a landscape, the more interesting or scenic the landscape becomes, if the elements exist in harmony with each other. The visual impact of projects is often raised as an issue during project development. The risk is determined by evaluating the existing landscape, including current structures and developments, the proximity to viewers with high sensitivity, and how the proposed project would contrast with existing conditions.

BLM-managed lands nearest to the project area have been classified as Visual Resource Management (VRM) Class IV. Class IV areas generally have low visual sensitivity levels and scenic quality. Class IV objectives are set for landscapes where the BLM provides for activities that require major modification. Management activities may dominate the view or be the major focus of attention.

Existing developments in and adjacent to the project area have resulted in visual contrasts, including paved and dirt surface roads, H-frame transmission structures, residences, fencing, and a large amount of oil and gas infrastructure. Potential visual impacts of the proposed project would be caused by the presence of photovoltaic mirrors, fencing, accessory structures, utility trenches, and installations. There are no solar towers, cooling towers, or steam plumes that would be associated with the proposed facility. The area is not located in a sensitive viewshed, and the project would not be visible to local residents or from any heavily used roadway.

Risk Category. *Low*. The project area does not occur in a sensitive viewshed, and it is assumed that none of the new proposed project structures would be taller than 30 feet. Therefore, the project would not dominate the view of a casual observer.

Additional Work Required. An assessment of potential visual glare may be required. This would be determined through consultations with the local airports and FAA. Sandia Laboratories has developed a free online Solar Glare Hazard Analysis Tool that is typically sufficient for glare analysis (Ho and Sims 2018).

3.7 Biological Resources

Impacts to biological resources are typically one of the major concerns for the development of solar energy facilities, especially impacts to vegetation and wildlife resources. The following sections detail the biological resources for the project area and discuss potential issues related to those resources.

3.7.1 Threatened and Endangered Species

The USFWS is responsible for enforcing the ESA, which provides protection for species whose populations are in peril. A review of the project area using the USFWS Information, Planning, and Conservation (IPaC) System indicates that there are three federally listed species with the potential to occur in the county, but are unlikely to be present in the project area due to the lack any suitable habitat that would support those species (Table 5) (USFWS 2023). However, the northern aplomado falcon and monarch butterfly could occur flying through the area during their respective migratory seasons. None of the state-listed species are likely to occur in the project area (Table 6) because the project area is outside the range of those species or because of the absence of any suitable habitat that would support those species.

Table 5. Species Federally Listed as Endangered, Threatened, or Candidate for Lea County

Common Name (Scientific name)	Status*†	Range or Habitat Requirements	Potential for Occurrence in Project Area
Northern aplomado falcon (*Falco femoralis septentrionalis*)	USFWS EXPN State E	Associated with semi-desert grasslands with scattered yuccas, mesquite, and cacti. Naturally occurring populations are essentially restricted to the southern tier of New Mexico.	Low
Lesser prairie-chicken (*Tympanuchus pallidicinctus*)	USFWS E	In southeastern New Mexico, this species occurs in shinnery oak habitats dominated by mid-tall grasses.	Low
Monarch butterfly (*Danaus plexippus*)	USFWS C	Native vegetation with nectar sources, including milkweed. The eastern migratory population of monarch butterfly breeds in and disperses through eastern New Mexico for breeding in the spring (March through early July) and migration in the fall (September through early November).	Moderate

* Federal (USFWS) status definitions:

C = Candidate. A species under consideration for official listing for which there is sufficient information to support listing.

E = Endangered. Any species which is in danger of extinction throughout all or a significant portion of its range.

EXPN = Experimental, Non-essential Population. Any reintroduced population established outside the species' current range, but within its historical distribution. For purposes of Section 7 consultation, experimental, non-essential populations are treated as proposed species (species proposed in the *Federal Register* for listing under Section 4 of the ESA), except on national wildlife refuges and national parks, where they are treated instead as threatened.

† State (New Mexico) status definition:

E = Endangered. Any species that is considered by the State of New Mexico (New Mexico Department of Game and Fish for wildlife and the New Mexico Energy, Minerals and Natural Resources Department for plants) as being in jeopardy of extinction or extirpation from the state.

Except where otherwise noted, range or habitat information for wildlife species is taken from the BISON-M website (BISON-M 2018) and the USFWS New Mexico Southwest Region Ecological Services Field Office (USFWS 2018).

Table 6. New Mexico State-Listed Species for Lea County

Common Name (Scientific name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area
Dunes sagebrush lizard (*Sceloporus arenicolus*)	State E	A habitat specialist native to the shinnery oak sand dune habitats extending from the San Juan Mesa in northeastern Lea County, and Roosevelt County, and through eastern Eddy and southern Lea Counties. Within their geographic range, the presence of the lizards is also associated with composition of the sand; they only occur at sites with relatively coarse sand.	Low
Bell's vireo (*Vireo bellii*)	State T	Four subspecies occur throughout the United States. In New Mexico, Bell's vireo occurs in the southern third of the state during the breeding season. The *medius* race is found in the Pecos Valley north to drainages west of Roswell, and in the Black River and Rattlesnake Springs areas south of Carlsbad. Bell's vireo's fundamental requirement is dense shrubby vegetation. Proximity to water may also be important.	Low
Least tern (*Sternula antillarum*)	State E	In New Mexico, this species breeds in the vicinity of Roswell, including regularly at Bitter Lake National Wildlife Refuge, which is the key habitat area in the state and perhaps rarely at Bottomless Lake State Park and Wade's Bog. The species occurs in migration in Eddy County and as a vagrant elsewhere, in the state.	Low
Bald eagle (*Haliaeetus leucocephalus*)	State E	Occurs in New Mexico year-round. Breeding is restricted to a few areas, mainly in the northern part of the state along or near lakes. In migration and during winter months, the species is found chiefly along or near rivers and streams and in grasslands associated with large prairie dog colonies. Typically perches in trees.	Low
American peregrine falcon (*Falco peregrinus anatum*)	State T	Found in New Mexico year-round. All nests in New Mexico are found on cliffs. In migration and during winter months, New Mexico's peregrine falcons are typically associated with water and large wetlands.	Low
Baird's sparrow (*Ammodramus bairdii*)	State T	Baird's sparrow is a winter resident in New Mexico. It has been found on Otero Mesa and in the Animas Valley and may occur in other areas of suitable winter habitat, particularly in the southeast portion of the state. Generally, this species prefers dense, extensive grasslands with few shrubs. Avoids heavily grazed areas.	Low
Broad-billed hummingbird (*Cynanthus latirostris*)	State T	Local and uncommon species, which summers primarily in Guadalupe Canyon in southwestern New Mexico. Uses mostly low- to moderate-elevation riparian woodland areas.	Low

* State (New Mexico) status definitions:

E = **Endangered.** Any species that is considered by the State of New Mexico (New Mexico Department of Game and Fish (NMDGF) for wildlife and the New Mexico Energy, Minerals and Natural Resources Department for plants) as being in jeopardy of extinction or extirpation from the state.

T = **Threatened.** Any species that, in the view of the State of New Mexico, is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in New Mexico.

Except where otherwise noted, range or habitat information for wildlife species is taken from the BISON-M website (BISON-M 2018), the USFWS New Mexico Southwest Region Ecological Services Field Office (USFWS 2018), New Mexico Department of Game and Fish (2016), New Mexico Energy, Minerals and Natural Resources Department (2018), Cartron (2010), and the New Mexico Rare Plant Technical Council (1999).

Risk Category. *Low.* The area contains rangeland consisting of desert grasslands and short-grass prairie. Considerable disturbance has occurred in the surrounding area from oil and gas development, making it unlikely that the property supports any federally listed or state-listed species (however, see Section 3.7.2 below). The **northern aplomado falcon** and **lesser prairie-chicken** have low potential for occurring within and adjacent to the project area based on habitat information from literature and online databases. The monarch butterfly does have moderate potential to occur in the project area due to the likely presence of native blooming vegetation as nectar sources, specifically milkweed (*Asclepias* spp.). However, the **monarch butterfly** is not currently protected under the ESA but is a candidate for federal listing. Although this species does not currently have federal protection, several published conservation plans for this species are in use, including the Monarch Joint Venture (2022), which provides several best management practices (BMPs) for this species that may be optional good-faith efforts to avoid impact to this species and its habitat. These BMPs may include the following:

- Revegetating cleared areas with native grasses and milkweed species such as antelope horns (*Asclepias asperula capricornu*) or zizotes milkweed (*A. oenotheroides*);
- Implementing procedures for herbicide application to prevent and manage weeds and other noncompatible habitat vegetation; and
- Implementing procedures for mowing and vegetation management, including burning, mowing, grazing, or targeted pesticide application to minimize impacts to this species.

Additional Work Required. Presence/absence surveys for milkweed and other nectar sources may be required to ascertain their status in the project area, which could determine the potential for the monarch butterfly to occur in the project area.

3.7.2 Other Sensitive Plants and Wildlife

The project area contains grassland habitat, which may be suitable for a variety of sensitive species. However, many of these species (i.e., raptors and bats) would only use the project area for foraging. The project area may have historically provided suitable habitat for **black-tailed prairie dog** (*Cynomys ludovicianus ludovicianus*). Evidence of previous prairie dog colonies was observed in the form of abandoned burrows. It is not clear whether the project area still contains active burrows.

Black-tailed prairie dogs were removed from the federal endangered species list as a candidate species in 2004. In 2007, the species was listed as a federal species of concern. The state lists black-tailed prairie dogs as sensitive taxa. Neither of these designations provides any legal protection.

The presence of old burrows provides nesting sites for the **western burrowing owl** (*Athene cunicularia hypugaea*). A burrowing owl was flushed from a burrow during the 2015 field survey (Figure 7). The western burrowing owl was also listed as a federal species of concern, but was delisted in 2003, although it continues to be a national priority species for the USFWS Office of Migratory Birds (Cartron 2010). The species has not been listed by the state as threatened or endangered but is protected by New Mexico Statute 17-2-14 (New Mexico Statutes Annotated 1978) and the MBTA.

Risk Category. *Moderate*. The area may contain old prairie dog burrows, which could provide nest and roost sites for burrowing owls. Roost sites may be present if old prairie dog burrows are available.

Additional Work Required. Surveys may be required to ascertain the status of burrowing owls. Although some owls are migratory and may leave the site, the 2015 field survey suggested that owls may present during the winter. The presence of burrowing owls would trigger New Mexico Department of Game and Fish guidelines created in 2007 to aid in the decision-making process for developers when a project may adversely affect burrowing owls or resources that support them. The guidelines recommend 1) identification of habitat and burrows, 2) specific surveys, and 3) development and implementation of mitigation. Owls can be flushed from burrows before they are collapsed to avoid take.

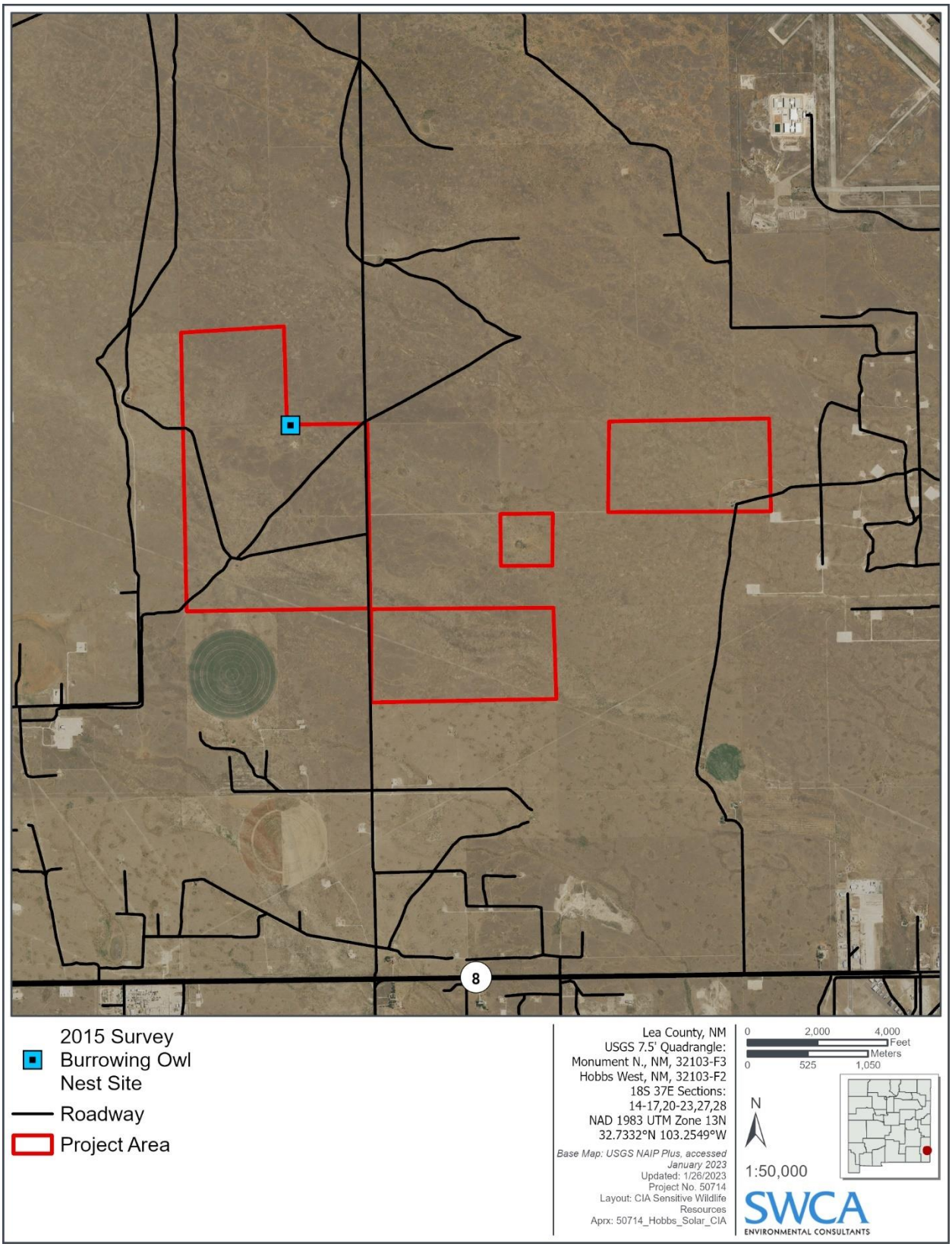

Figure 7. Sensitive wildlife resources in the project area.

3.7.3 Birds, Including Bald and Golden Eagles, Raptor Migration Flyways

The regulatory framework for protecting birds includes the ESA, the MBTA (which includes any part, nest, or egg), the Bald and Golden Eagle Protection Act, and Executive Order 13186. All of the sensitive birds and most other bird species that are likely to occur in the project area are protected by the MBTA. The MBTA prohibits the take of migratory birds and does not include provisions for allowing unauthorized take.

Although little is known about impacts to avian species from operation of solar energy facilities, analysis of mortalities at other facilities shows that raptors are especially susceptible where they aggregate along migratory pathways or wintering grounds that provide ample prey opportunities. Raptors are of particular concern because they are slow to recover from anthropogenic impacts as a result of their long lifespan, long time required to reach sexual maturity, and low reproductive rate relative to other bird species. Waterbirds have also become a concern recently when they land at a solar energy site, hitting panels and/or getting stuck on the ground without a way to take off again; many have hypothesized that solar panels look like water bodies to these birds. Mortalities of birds in these groups mostly consist of common species.

Although the surrounding area is disturbed from development, the area is occasionally used by raptors and other bird species. A list of those bird species observed during the 2015 field visit is provided in Table 7.

Table 7. Bird Species Observed in the Project Area

Common name	Scientific Name
American kestrel	*Falco sparverius*
Burrowing owl	*Athene cunicularia*
Eastern meadowlark	*Sturnella* sp.
Horned lark	*Eremophila alpestris*
Scaled quail	*Callipepla squamata*
Swainson's hawk	*Buteo swainsoni*

Risk Category. *Low*. The surrounding area has been heavily disturbed by oil and gas development and is close to the city of Hobbs. No wetlands are present in the project area to attract waterfowl. Although small playas may be present in the region, use of this area by large concentrations of birds is unlikely. Golden eagles may winter in southern New Mexico, but the area likely no longer contains the prey concentrations that would attract eagles. This could change if active prairie dog colonies are present in the project area.

Additional Work Required. Surveys may be required to ascertain the status of bird use in the area.

3.8 Water Resources

The U.S. Army Corps of Engineers (USACE) has jurisdiction over waters of the U.S. (WUS), including wetlands and ephemeral channels, under Section 404 of the CWA. For an area to be classified as a wetland, it must satisfy three criteria, including vegetation (dominated by hydrophytic vegetation), hydrology (visual evidence of water), and hydric soil (saturated sufficiently to produce soil types characteristic of a wetland).

For the USACE to have jurisdiction over an ephemeral or intermittent wash, the wash must exhibit a distinct ordinary high-water mark (OHWM), defined as "the line on the shore established by the fluctuations of water and is indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter or debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3). In addition to exhibiting a distinct OHWM, an ephemeral wash must convey flow to WUS or provide commerce, such as crossing state lines.

Placement of fill materials into WUS is regulated under CWA Sections 404 and 401 and enforced by the USACE. The USACE can issue several types of permits, depending on the type of project and amount of potential disturbance. Solar projects can be designed to avoid wetlands and WUS. If avoidance is possible, no other regulatory processes are required relative to Section 404 of the CWA. If WUS cannot be avoided, most often by roads and underground utility lines, then a permit is required. Placement of fill from land-based renewable energy generation facilities and associated features such as roads are covered under CWA Nationwide Permit 51 if impacts are less than 0.5 acre, or less than 300 linear feet of streambed. Utility lines transferring energy are generally covered under CWA Nationwide Permit 12 if impacts are less than 0.5 acre. If fill exceeds the acre or linear feet threshold, a Pre-Construction Notification letter or individual permit would be required. An initial review of hydrology databases and aerial photography indicated that no wetlands or ephemeral wash channels are present (Figure 8).

Risk Category. *Low*. No wetlands or drainages are present in the project area. One small intermittent pond approximately (0.11 acres) is identified in the project area.

Additional Work Required. None.

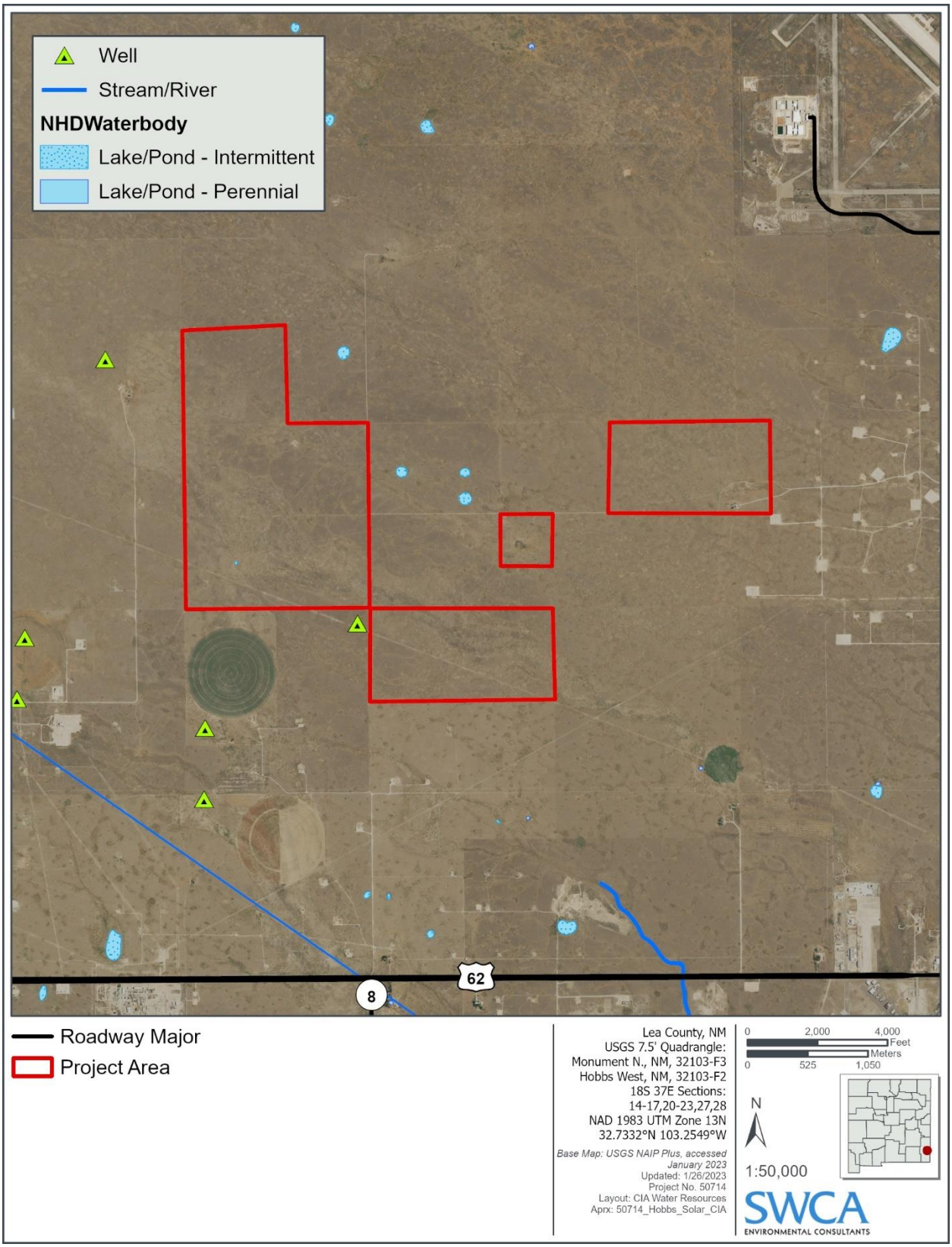

Figure 8. Water resources in the project area.

3.9 Recreation

The project area is located on privately owned land. There are no designated recreation sites within or adjacent to the project area. No special recreation management areas are present within or adjacent to the project area. There are no trails in the project area, and the lack of visual quality in the landscape is not likely to encourage hiking or camping.

There are no opportunities for hunting, as no big-game species are likely to be abundant. Quail are known to be numerous in the area and might support small-game hunting. The project area occurs in New Mexico Department of Game and Fish Game Management Unit 31, and some unregulated small-game hunting may occur on adjacent state lands. Maddox Lake, a state wildlife area managed for fishing, is located approximately 2 miles to the west.

Risk Category. *Low*. Few recreational opportunities are present in the project area.

Additional Work Required. None.

3.10 Air Quality

Air quality is determined by the ambient concentrations of pollutants that are known to have detrimental effects. The EPA has classified National Ambient Air Quality Standards for six criteria pollutants: carbon monoxide, nitrogen dioxide, particulate matter with diameter of 10 microns or less, particulate matter with diameter of 2.5 microns or less, ozone, sulfur dioxide, and lead. Areas with air quality that do not meet the standards are designated "non-attainment areas" by the EPA.

The construction activities associated with the project would take place in Lea County, New Mexico. These activities are governed by the applicable rules and regulations of the NMED Air Quality Bureau for fugitive dust emissions from construction activities and clearing of land. They require reasonable precautions to prevent dust from becoming airborne, including 1) using water or chemicals to control dust where possible, 2) covering open-bodied trucks at all times while transporting materials likely to produce airborne dusts, 3) employing vehicle speed controls, 4) employing wind fences, and 5) promptly removing earth or material from paved streets.

A number of dirt/gravel roads surround the project area, increasing the potential for dust during construction activities.

Risk Category. *Low*. No deterioration of air quality standards due to the construction of the project is expected in the project area.

Additional Work Required. None.

3.11 Cultural Resources and Native American Concerns

3.11.1 Survey History

The Archaeological Research and Management Section (ARMS) of the New Mexico Cultural Resource Information System (NMCRIS) was checked for cultural resources, including the State and National Registers of Historic Properties, as well as National Historic Landmarks (New Mexico Historic Preservation Division 2022). No archaeological surveys have been conducted and no previously identified archaeological sites have been identified within the proposed project area (Figure 9). One hundred sixty-

seven archaeological surveys have been conducted within 8.05 km (5 mile) of the proposed project area and 61 previously recorded archaeological sites are within the same buffer area.

The BLM's General Land Office (GLO 2022) was checked for historic resources such as homesteads and industrial GLO applications. A total of three different homestead applications are on file with the GLO. These applications were filed by Patterson S Gatherings in 1915 for the February 19, 1909: Homestead Entry-Enlarged (35 Stat. 639) secured under patent number 501394. Burton E. Shipp filed two applications for the February 19, 1909: Homestead Entry-Enlarged (35 Stat. 639) patent as well as the December 29, 1916: Homestead Entry-Stock Raising (39 Stat. 862) both filed in 1921., Burton E. Shipp secured homestead rights under Patent Nos. 798202 and 798203 for lands in Sections 17 and 20 (Township 18 South, Range 37 East). Aerial imagery (Google Earth 2018) shows an area of archaeological concern within the project area (Figure 10); the area in the southwest corner of the northwest parcel may be part of the Shipp homestead site.

3.11.2 Regulatory Issues

To safeguard the cultural and intellectual values relating to cultural resources, as well as legal rights involving Indian Trust Assets, the U.S. and State of New Mexico governments have formulated a series of regulations and policies. These efforts date back to the Antiquities Act of 1906, but gathered momentum with the passage of the NHPA in 1966. The most significant laws include the NHPA, the American Indian Religious Freedom Act, and the Native American Graves Protection and Repatriation Act.

With respect to the management of historic properties under Section 106 of the NHPA, an important threshold is NRHP eligibility status. The identification of historic properties also involves an evaluation process. Sites or other properties are evaluated as "eligible," "not eligible," or "not sure" (or "eligibility status unknown"). Eligibility status depends on significance (or lack of significance) of the resource according to one or more of the following criteria:

A. Association with events that have made a significant contribution to the broad patterns of our history.

B. Association with the lives of significant persons in the past.

C. Resources (typically buildings or structures) that embody the distinctive characteristics of a type, period, or method of construction, that represent the work of a master, that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

D. Resources (usually archaeological sites) that have yielded, or may be likely to yield, information important in history or prehistory.

For archaeological sites, significance status is usually determined (or at least recommended) based on the presence or absence of intact subsurface archaeological remains and overall integrity of the resource. .

Because the project is on private land, no cultural survey is required. However, if any federal or state nexus, such as the identification of potentially jurisdictional drainages, federal funding, or New Mexico Public Regulation Commission location approval, is to happen in the future, surveys may be required, and fines could be issued if any sites were damaged in the construction process.

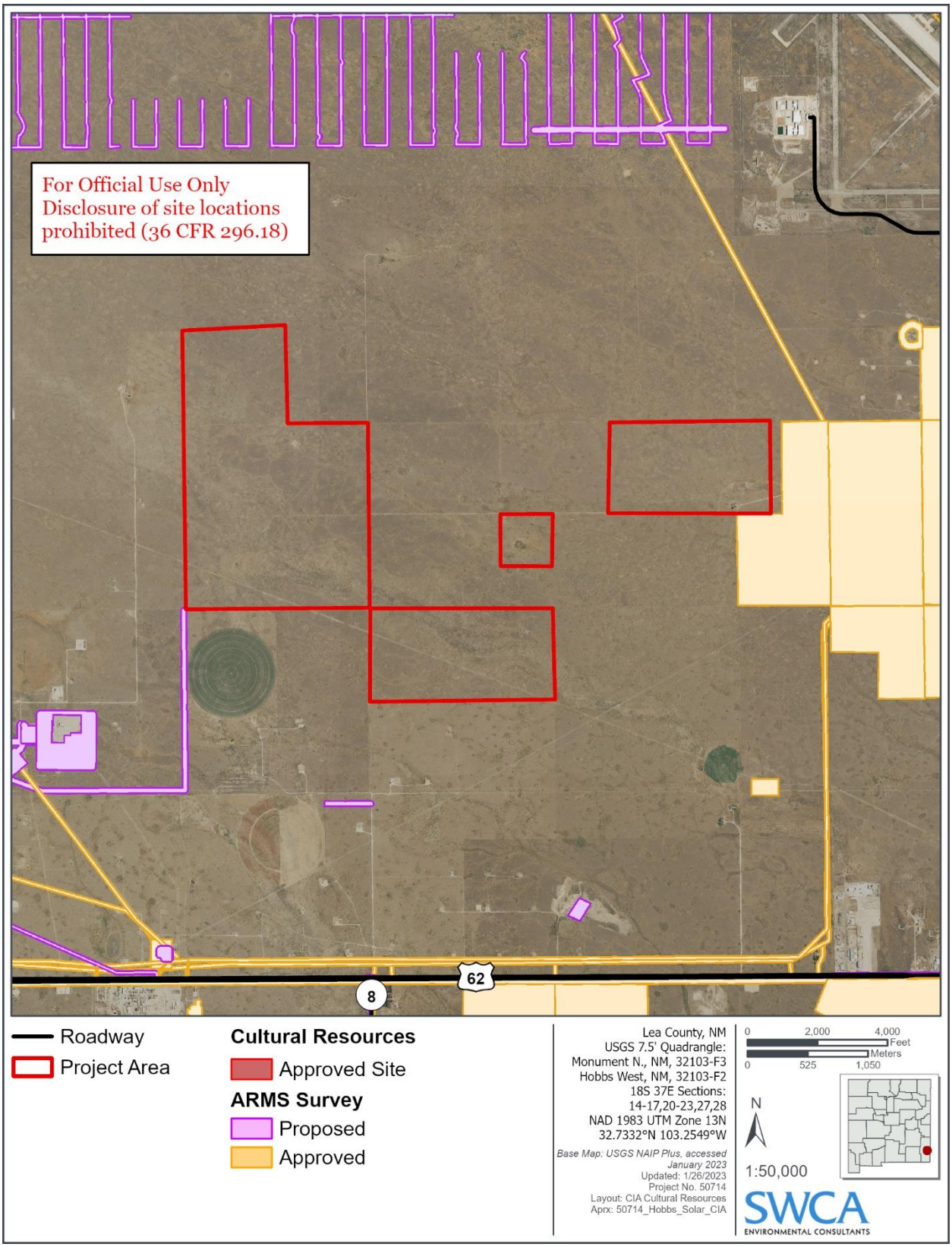

Figure 9. Previously conducted cultural resources surveys and sites in the vicinity of the project area.

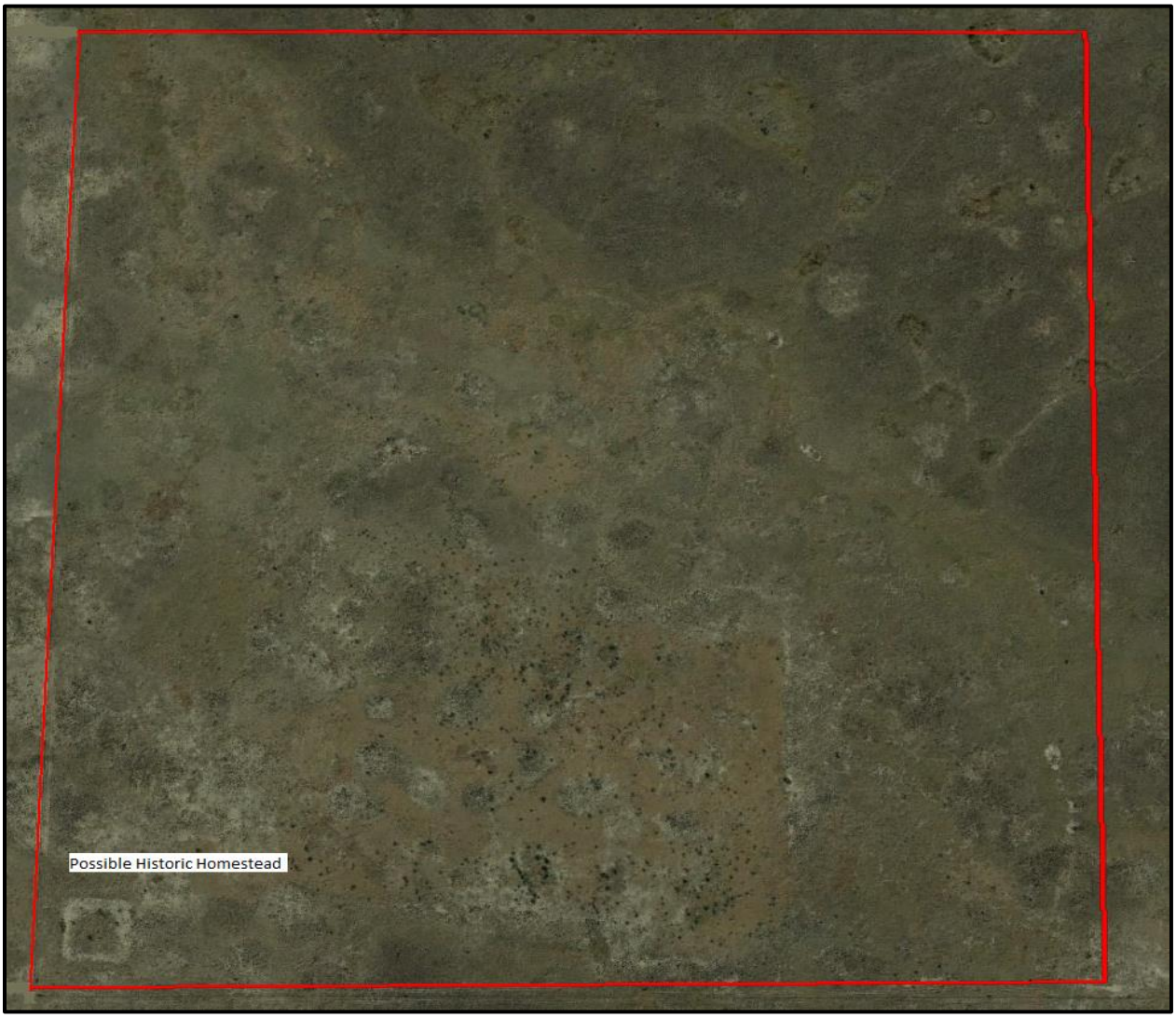

Figure 10. Northwest parcel outlined in red, with possible homestead site in southwest corner (Google Earth 2018).

If the project includes any funding or permitting by federal agencies, cultural resources surveys would be required and the New Mexico State Historic Preservation Officer (SHPO) would work in conjunction with the lead federal agency responsible for reviewing the cultural resources report. The lead federal agency would then forward the report to the SHPO. All reviewing agencies would have the opportunity to provide comments and may require revisions. If the project involves modification of state land (e.g., improving road access to the project area through state lands or the modification of a road approach managed by the NMDOT), then the SLO, NMDOT, or SHPO may be the lead state agency for the project, and Section 106–mandated cultural resources investigations would be required. If these investigations are necessary, the lead state or federal agency would initiate government-to-government contact with tribes to determine whether the project area is within a designated traditional cultural property. It is recommended that the potential timeline for these government-to-government communications be discussed with the lead agency.

If the project is entirely on private land and no state or federal nexus exists or access road improvements are proposed, then cultural resources investigations (surveys, testing, and data recovery) are at the discretion of the project proponent and landowners. Developers are always encouraged to conduct a

comprehensive survey of the project area, regardless of ownership, to produce a tool for proactive planning and maintaining good public and tribal relations.

3.11.3 Cultural Content

Humans have inhabited southeastern New Mexico for at least the past 13,000 years. This occupation reflects a sequence of cultural development stretching from hunting and gathering, through the development of agriculture, to historic and modern life. The culture history of the region is commonly divided into four broad periods—Paleoindian (11,500–7000 B.C.), Archaic (7000 B.C.–A.D. 500), Formative (A.D. 500–1400), and Historic (post-1400 A.D.)—each of which is typified by different cultural adaptations. Archaeological remains in the general project vicinity could include artifact scatters, thermal features, dwellings, burned rock middens, storage features, rock art, water wells and rock quarries, burials, homesteads, transportation/communication lines, and industrial sites.

Risk Category. *Moderate*. There is one probable historic homestead site within the proposed project area, and there may be small historic trash scatter sites associated with the other homestead applications or the various roads and two-tracks that cross the area. Though these findings would not require permitting or agency coordination, since the site or any sites found would be on private land, the sites could be legally destroyed during project construction without consequence. However, Akari's internal best management policies may require environmental due diligence. The industry standard for due diligence is to conduct a Class III pedestrian survey and reroute or mitigate adverse effects on archaeological sites, if possible.

Additionally, access to the project area is from U.S. Route 62, County Road 41 (Maddox Road), and existing unimproved roads. Maddox Road passes through New Mexico State Land Office–managed land directly west of the southwest corner of the project area. Provided that *no road improvements are needed for all proposed access roads*, there would be no state or subsequent Section 106 of the NHPA requirements.

Additional Work Required. Class III pedestrian surveys should be considered as part of due diligence related to the construction of the project.

3.12 Fire Risk

The differences in fuel type related to fire behavior and risk are reflected in fire behavior fuel models developed by Scott and Burgan (2005). These models are grouped by fire-carrying fuel type, which in the case of the proposed site is primarily represented by grasses in an arid to semiarid climate where rainfall is deficient in the summer. Without grazing pressure, the moderate risk (Figure 11) represents the presence of coarse and continuous grass and herbaceous plant cover with an average depth of approximately 1 foot.

The presence of surrounding oil and gas development increases the risk of wildfire. However, numerous improved and unimproved roads act as firebreaks, which would prevent or minimize the risk of fire spread. In addition, the project area has been historically grazed, and the coverage of fuel is less than consistent, reducing the potential for a serious wildfire.

Risk Category. *Low.* The presence of discontinuous grass and herbaceous cover with a history of grazing reduces the potential for wildfire, despite the presence of oil and gas production facilities and their associated infrastructure. Dense stands of mesquite could be at a higher fire risk, but the coverage of these shrubs is inconsistent and would prevent the rapid spread of fire. Clearing of vegetation to accommodate project development would significantly reduce the potential for wildfire.

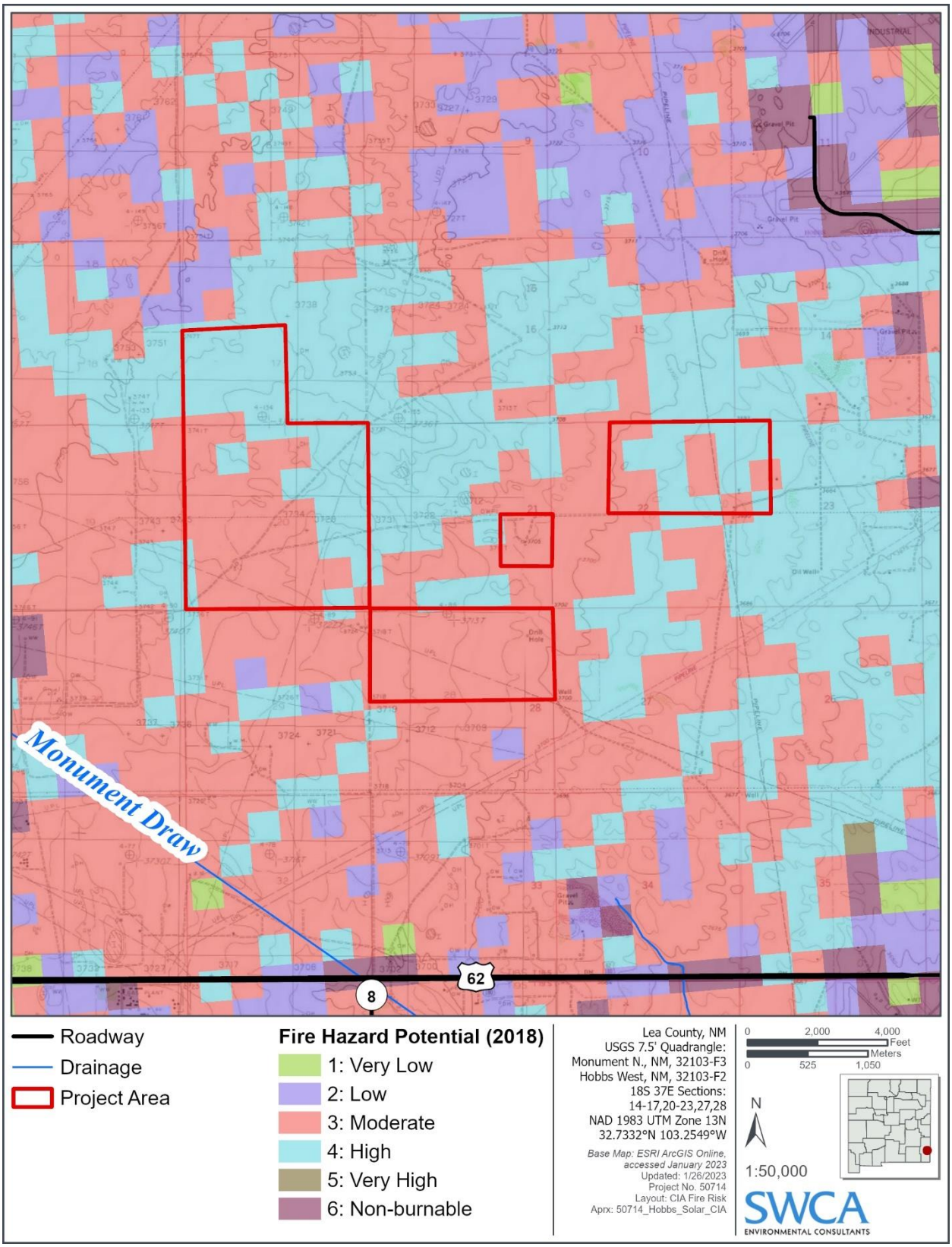

Figure 11. Fire risk in the vicinity of the project area.

Additional Work Required. Local management activities such as grazing in grassland habitat, vegetation clearing for firebreaks, and prescribed burning are all tools that can decrease fuel loads and reduce the potential for high-intensity wildfires around solar development sites.

4 RISK SUMMARY AND RECOMMENDATIONS

4.1 Risk Summary

Table 8 summarizes the resource constraints that are expected for the project area based on current available information. The project area has been evaluated for all of the considered resources, and each resource has been assigned a risk category to help evaluate potential issues. At the bottom of the table, the risks are added for each resource, and a total risk number is calculated. The higher the number, the greater the environmental constraints on the project. In the case of the Hobbs Solar Energy Development Project, the score is relatively low.

Additionally, the final row of the table discloses whether any potential fatal flaws have been identified for the project site. It is possible that the project site could have a low overall risk number, but a potential fatal flaw. In that case, it would likely be easier to develop a site with a higher overall risk, but no fatal flaws. It is also important to note that policy changes, land use designations, and zoning, especially for renewable energy, occur fairly regularly and could influence project constraints. In the case of the Hobbs Solar Energy Development Project, no fatal flaws were identified.

Table 8. Resource Constraints Summary

Resource	Score
Land use	1
Soils	1
Vegetation	1
Transportation	1
Aviation and radar (private, commercial, FAA, military)	1
Visual resources and VRM classifications	1
Biological resources	1
Threatened/Endangered species	1
Sensitive plants and wildlife	2
Birds, including eagles and migration pathways	1
Water resources	1
Recreation	1
Air quality	1
Fire risk	1
Cultural resources and Native American concerns	2
Total	**16**
Any fatal flaws?	***No***

4.2 Recommendations

Should these project locations need to be developed, SWCA recommends pre-construction migratory bird surveys for the presence of nesting birds. Additionally, surveys for prairie dog burrows should be conducted to determine whether any owls, which are protected by state statute, are present. Similar arrangements should be made for other holes containing active nesting or roosting owls. Because of the location of the project area in southern New Mexico, owls may be present year-round. Surveys for milkweed species could determine the potential for the monarch butterfly to occur in the project area. A Class III pedestrian survey—conducted as early in project planning as is feasible—should be considered as part of environmental due diligence.

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