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| **Project Title:** | Darden Clean Energy Project |
| **TN #:** | 260650 |
| **Document Title:** | Supplemental Data Response Set 1 - Appendix E SUP DR BIO-3 Updated Burrowing Owl Management Plan  Part 1 |
| **Description:** | Includes the updated Burrowing Owl Management Plan, provided in response to SUP DR BIO-3 as Appendix E of Supplemental Response Set 1. (Part 1/2) |
| **Filer:** | Megan Knight |
| **Organization:** | Rincon Consultants, Inc. |
| **Submitter Role:** | Applicant Consultant |
| **Submission Date:** | 12/13/2024 4:42:12 PM |
| **Docketed Date:** | 12/13/2024 |

# Appendix E - Redline and Clean - Part 1

SUP DR BIO-3 Updated Burrowing Owl Management Plan

# Appendix E - Redline

SUP DR BIO-3 Updated Burrowing Owl Management Plan

# Darden Clean Energy Project

## Burrowing Owl Management Plan

*prepared for*

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~~May~~December **2024**

RINCON CONSULTANTS, INC. SINCE 1994

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# 1 Introduction

This Burrowing Owl Management Plan (BOMP) outlines the procedures and protocols to fully minimize and mitigate potential impacts to western burrowing owl (*Athene cunicularia*~~)~~; also referred to as "burrowing owl" or "BUOW") at the proposed Darden Clean Energy Project (Project). This BOMP requires preconstruction surveys, construction monitoring, burrow avoidance, and/or passive relocation and burrow excavation/collapse as well as installation of artificial burrows, restoration of foraging habitat, and additional O&M Phase measures. This BOMP has been prepared by Rincon Consultants, Inc. ~~(Rincon) based on~~(Rincon) based on Section 5.12 *Biological Resources* and Biological Resources Assessment (BRA) of the Project's California Energy Commission (CEC) Opt-in Application (Rincon 2023a) and has incorporated the California Department of Fish and Game (CDFG), now California Department of Fish and Wildlife (CDFW), *Staff Report on Burrowing Owl Mitigation* (CDFG 2012), and the ~~Project's Biological Resources Assessment (BRA; Rincon 2023a).~~Burrowing Owl Conservation Strategy for Large-scale Solar Photovoltaic and Battery Energy Storage Projects in California (Large-Scale Solar [LSA] Association 2024). The BOMP would ~~be implemented regardless of the listing status of burrowing owl; however, because this BOMP would~~ avoid, minimize, and fully mitigate Project impacts to western burrowing owl, ~~no additional mitigation would be required in the event the species becomes~~ a candidate for listing as a threatened or endangered species under the California Endangered Species Act (CESA~~).~~[~~1~~])[2]. As a result, no additional mitigation would be required.

This BOMP has been prepared ~~at the request of the California Energy Commission (CEC) and incorporates~~in accordance with relevant Mitigation Measures from Section 5.12 *Biological Resources* of the Project's CEC Opt-in Application (Rincon 2023a~~).~~) and subsequent CEC Data Request Response Sets (Rincon 2024c, 2024d). The management approach included in this BOMP is designed to minimize potential impacts to burrowing owl from site development.

Additional biological resources management plans that will be implemented concurrently for the Project include:

- **PV and Gen-tie Biological Resources Management Plan.** This plan outlines the biological resources mitigation, monitoring, and reporting procedures that shall be implemented during construction of the photovoltaic arrays (PV), battery energy storage system (BESS), ~~hydrogen facility,~~ and generation intertie line (gen-tie) components ~~(including options 1 and 2)~~ of the Project (Rincon 2024a).
- **Utility Switchyard ~~and Alternate Green Hydrogen Site~~ Biological Resources Management Plan.** This plan outlines the biological resources mitigation, monitoring, and reporting procedures that shall be implemented during construction of the utility switchyard ~~and, if it is developed, the alternate green hydrogen site components of the Project~~ (Rincon 2024b).
- **Swainson's Hawk Conservation Strategy.** This conservation strategy addresses potential effects to Swainson's hawk (*Buteo swainsoni*) nesting and foraging habitat on the Project during construction, and operations, and maintenance (O&M) phases (Rincon 2023b).

~~[1] On March 5, 2024, a petition to list western burrowing owl was filed with the California Fish and Game Commission. The petition currently is under review.~~

[2] The western burrowing owl was accepted for consideration for listing as a threatened or endangered species under CESA by the California Fish and Game Commission on October 10, 2024 (Center for Biological Diversity 2024; California Fish and Game Commission 2024). CESA protections for the burrowing owl are effective once the California Fish and Game Commission publishes notice of its decision to affected and interested parties, which occurred on October 15, 2024 (California Fish and Game Commission 2024).

## 1.1 Project Description

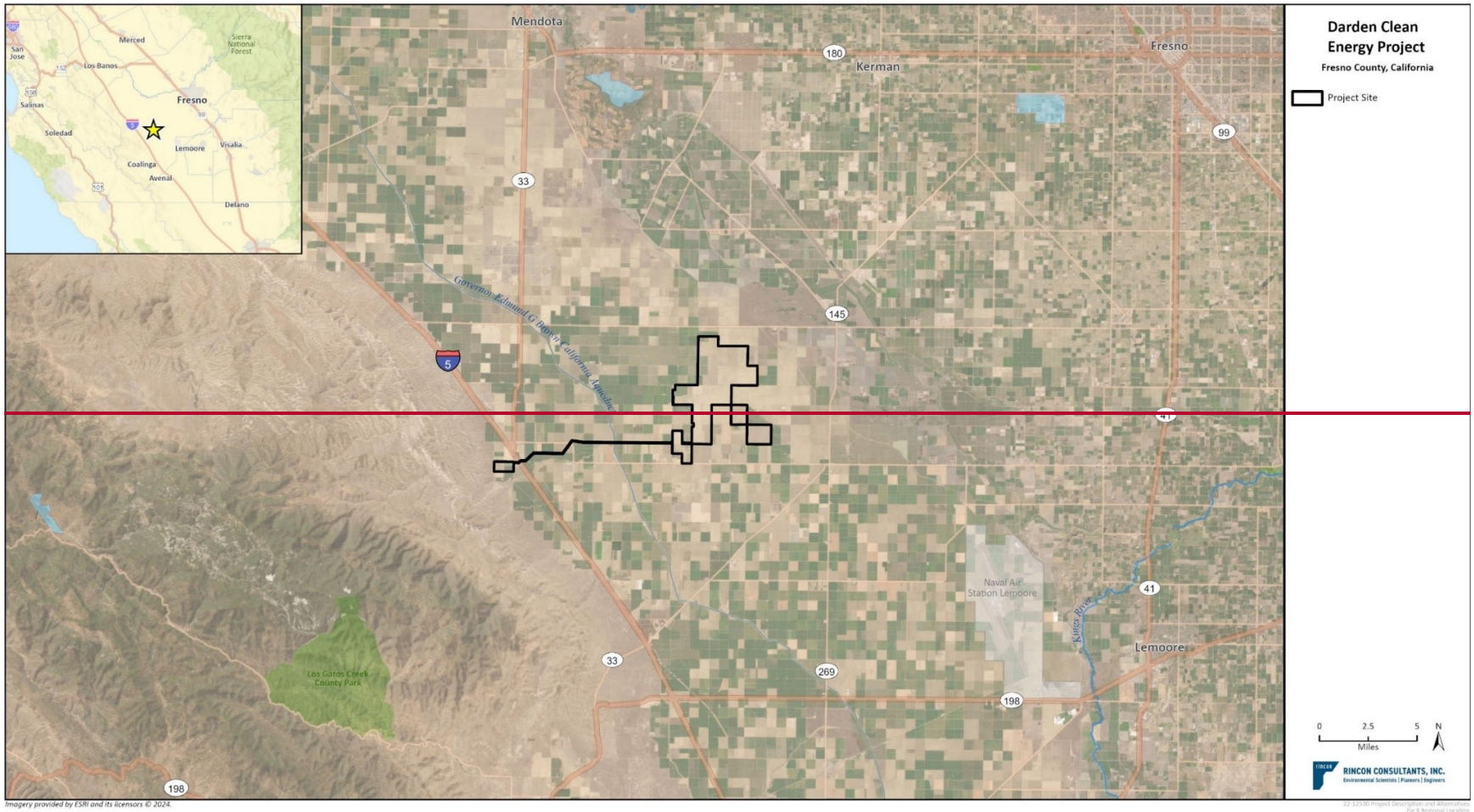
The overall Project consists of the construction, operation, and eventual repowering or decommissioning of a 1,150 megawatt (MW) solar PV facility, an up to 4,600 megawatt-hour (MWh) BESS, ~~an up-to-800-MW green-to-hydrogen generator,~~ a 34.5-500 kilovolt (kV) grid substation, a ~~10~~15-mile ~~(up to 15 mile)~~ 500 kV gen-tie line, a 500 kV utility switchyard along the Pacific Gas and Electric Company (PG&E) Los Banos-Midway #2 500 kV transmission line, and appurtenances. Construction of the Project is anticipated to take between 18 and 36 months to complete and the Project would be operational by 2028. The Project would operate for approximately 35 years, at which time Project facilities would be either repowered or decommissioned. Following decommissioning, the Project site would be restored and reclaimed to the extent practicable to pre-construction conditions consistent with site lease agreements.

## 1.2 Project Location

The Project site is located in an agricultural area of unincorporated Fresno County south of the community of Cantua Creek (Figure 1). The proposed PV solar facility, BESS, and substation~~, and hydrogen facility site (including options 1 and 2 of these components)~~ would be located on approximately 9,100 acres of land owned by Westlands Water District, between South Sonoma Avenue to the west and South Butte Avenue to the east (Figure 2). The proposed gen-tie line (approximately ~~10 to~~ 15 miles) would span west from the intersection of South Sonoma Avenue and West Harlan Avenue to immediately west of Interstate 5, where it would connect to the new utility switchyard (Figure 2). ~~The alternate green hydrogen site being considered is located adjacent to the proposed utility switchyard site (Figure 2).~~

Land cover types include fallow lands, tilled and disked fields containing ruderal vegetation, orchards, and other active farming on the Project site. In this BOMP, non-active agriculture fields prior to vegetation growth are referred to as “fallow,” and as “disked” if evidence of disking was present. Surrounding properties include fallow and agricultural lands. The Project’s gen-tie line spans privately-owned land on the western portion of the Project site with land-cover types including active agriculture (primarily orchards) and fallow fields. The California Aqueduct bisects the gen-tie parcels, running generally north-south. Compacted dirt and paved roads border and separate each land-cover type.

**Figure 1 Regional Location Map**



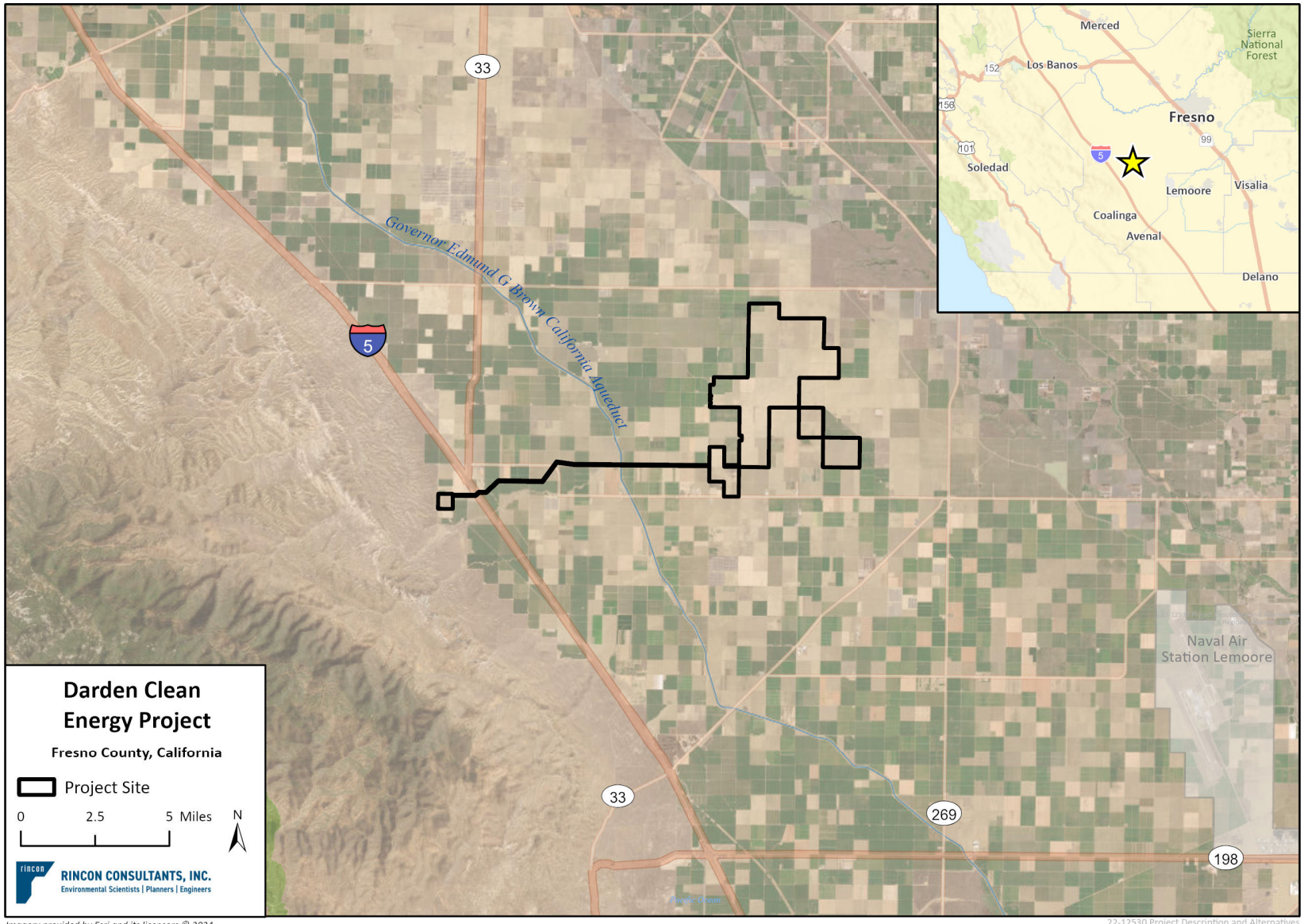
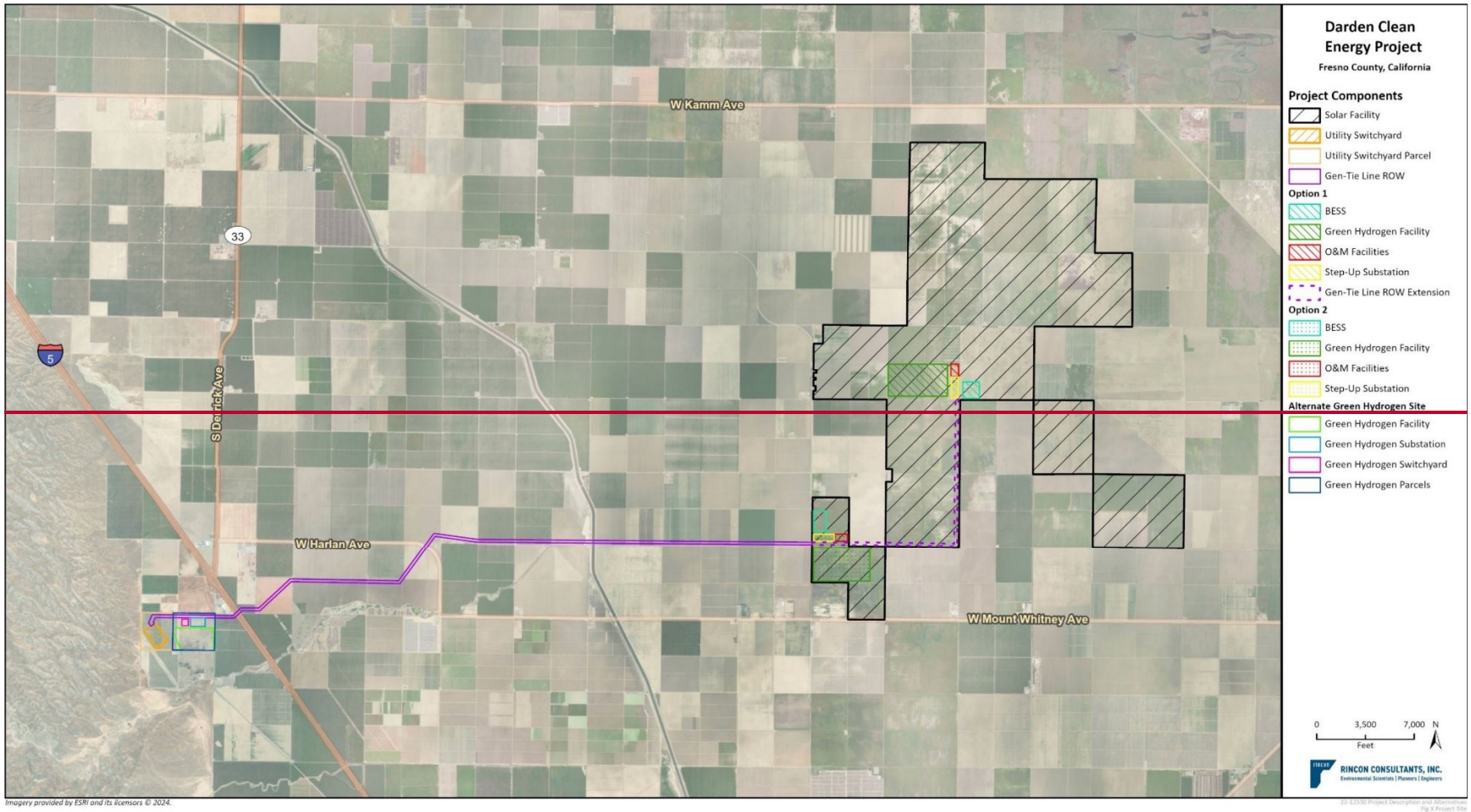
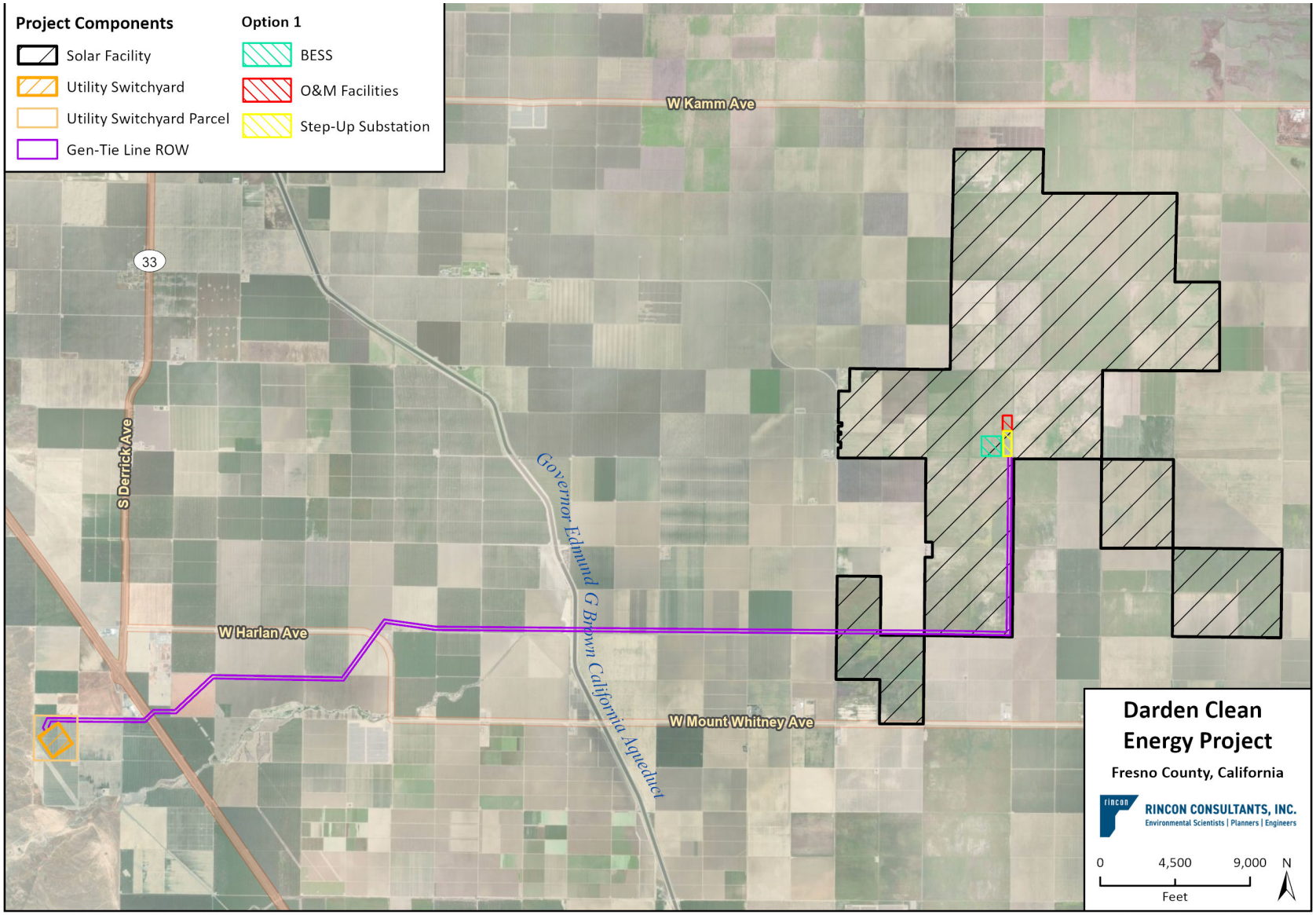

Darden Clean Energy Project
Fresno County, California
Project Site
0 2.5 5 Miles
N
RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
Governor Edmund G. Brown California Aqueduct
33
5
269
198
Naval Air Station Lemoore
Merced
Sierra National Forest
Los Banos
Fresno
Soledad
Lemoore
Visalia
Coalinga
Avenal
Delano
Imagery provided by Esri and its licensors © 2024.
22-12530 Project Description and Alternatives
Fig 1 Regional Location_8.5x11

**Figure 2 Project Map**



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22-12530 Project Description and Alternatives
Fig X Project Site_8.5x11

# 2 Existing Conditions

Western burrowing owl ~~("burrowing owl" or "BUOW")~~ is ~~identified as a state species of special concern and~~designated as a United States Fish and Wildlife Service (USFWS) bird species of conservation concern~~.~~ and was accepted by the California Fish and Game Commission for consideration for listing as a threatened or endangered species under CESA in October 2024 (California Fish and Game Commission 2024). CESA protections for the burrowing owl are effective once the California Fish and Game Commission publishes notice of its decision to affected and interested parties, which occurred on October 15, 2024 (California Fish and Game Commission 2024).

Burrowing owl is found throughout much of the western United States and southern interior of western Canada. Habitat types conducive to burrowing owl presence are typically arid and open with opportunities for burrowing, which can include active or fallow agricultural fields, creosote scrub, desert saltbush, ephemeral washes, and ruderal areas. Burrowing owls do not dig their own burrows and are therefore dependent on other species, such as ground squirrels and other fossorial species, to dig burrows for them each season, which they use to nest and roost. The breeding season for burrowing owl occurs approximately between February 1 and August 31.

## 2.1 General Site Conditions

### 2.1.1 Topography and Geography

The Project site is located in unincorporated Fresno County in the San Joaquin Valley. The San Joaquin Valley is bounded by the Sacramento – San Joaquin River Delta to the north, the Diablo Mountain Range to the west, the Sierra Nevada Mountains to the east, and the Tehachapi Range to the south. The region is primarily composed of agricultural land dating back to as early as the 1940s, and cattle grazing land, with areas of residential and industrial development primarily concentrated near Fresno. Vegetation occurring in the San Joaquin Valley mostly consist of annual/ruderal grassland, pasture, cropland, valley-foothill riparian, vernal pool, alkali scrub, and orchard-vineyard (Fresno County 2000). The Project's Biological Study Area (BSA)–the approximately 9,500-acre Project site encompassing all proposed Project components and a general 100-ft buffer—is relatively flat, with elevations ranging from approximately 186 to 644 feet above mean sea level, increasing in elevation from the east to the west and southwest towards the Diablo Range. Geography in the vicinity of the BSA includes agriculture with a few small scattered rural residential areas and small solar facilities, and the base of the Ciervo Hills to the west.

### 2.1.2 Vegetation and Other Land Cover

During biological surveys in 2022 and 2023, the BSA was dominated by active and seasonally managed non-active agricultural fields. ~~During the spring, tomatoes and garlic were grown on some of the parcels, and m~~Most of the non-active parcels were grown over with mustard (*Brassica nigra*), then were disked in May. Surveys conducted in 2024 verified all parcels within the PV solar array area consisted of non-active agriculture (recently disked bare ground). Plant species observed included black mustard (*Brassica nigra*), bread wheat (*Triticum aestivum),* great valley phacelia (*Phacelia ciliata)* and field bindweed (*Convolvulus arvensis*). Larger trees were generally restricted to windrows or situated around structures and included red gum eucalyptus (*Eucalyptus*

*camaldulensis*), arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*) and local agricultural trees including olive, almond, and various fruit.

~~Crops other than orchards that were cultivated in 2023 represent isolated activity that was only feasible as the result of an unusually wet winter season, and t~~The Project site is otherwise comprised completely of lands that have been retired from agricultural cultivation or are orchards. No crop fields such as alfalfa, wheat, or other grain fields occur within the BSA or within the surrounding landscape. The Project site occurs within a region that has limited water availability due to the critically overdrafted groundwater subbasin. As a result, the ~~entire~~ region is ~~predominantly~~ dominated by retired agricultural lands that are disked or no longer in production. These retired agricultural lands that are regularly disked to control invasive weed such as mustard and Russian thistle represent poor habitat for burrowing owls. The intervening growth of weeds creates cover that is too tall for burrowing owls to have a clear viewshed for foraging and predator avoidance, and the regular disking prevents the establishment of long-term burrows for breeding or winter cover. Suitable habitat is predominantly limited to the margins of the managed fields where irrigation ditches and berms occur.

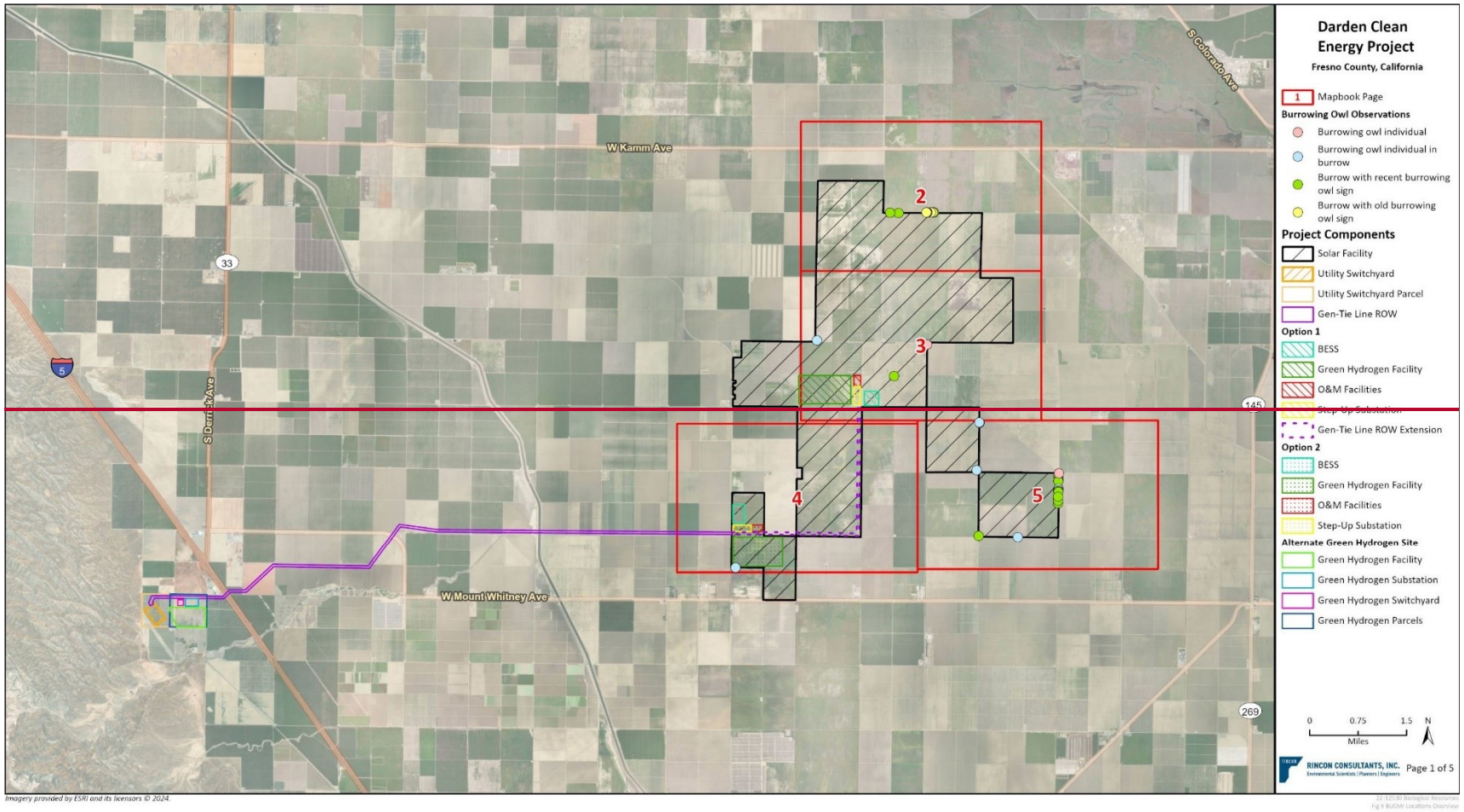
## 2.2 Burrowing Owl Survey History

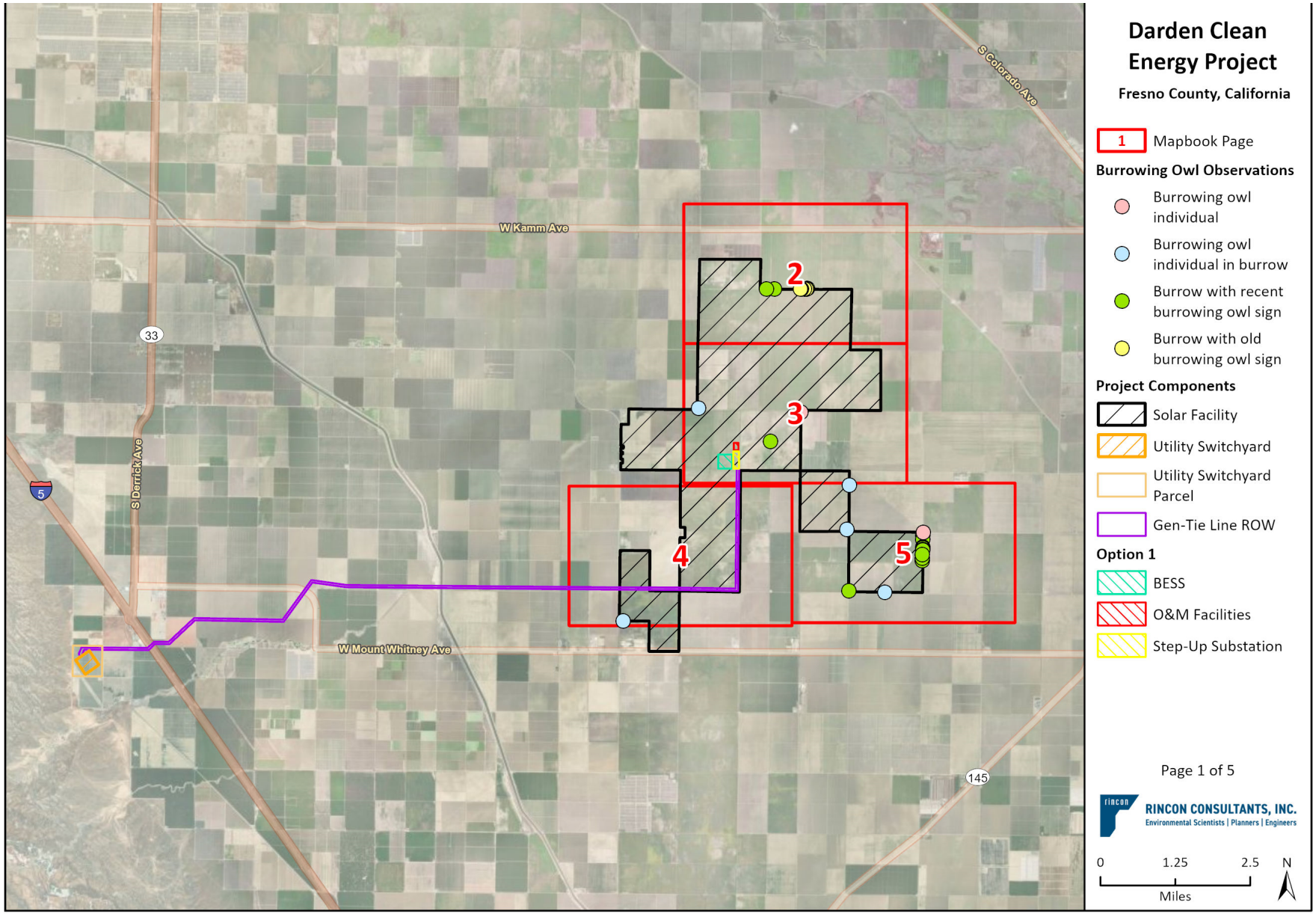
Biological studies of the Project's BSA included a reconnaissance-level field survey in 2022 and 2023 and monthly site inspections in 2023 to assess annual patterns in site conditions and wildlife activity.

Eight individual BUOW were detected during the surveys, six of which were at a burrow or agricultural irrigation pipes. Seventeen burrows with recent BUOW sign (i.e., whitewash, pellets, feathers) and an additional five burrows with older BUOW sign were documented within the BSA. All BUOW or their sign documented during surveys were located in the Project's PV array area, primarily on the outer edges of the site as a result of historical and ongoing disking activities. Figure 3a through Figure 3e depict the locations of BUOW and BUOW burrows on the Project site.

Non-breeding season BUOW surveys will be conducted at the Project site November 2024 through January 2025.

**Figure 3a BUOW within the BSA (Mapbook 1)**



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22-12530 Biological Resources
Fig X BUOW Locations Overview_8.5x11_Sidebar

**Figure 3b BUOW within the BSA (Mapbook 2)**


W Kamm Ave
Darden Clean Energy Project
Fresno County, California
Burrowing Owl Observations
Burrow with recent burrowing owl sign
Burrow with old burrowing owl sign
Project Components
Solar Facility
Page 2 of 5
RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
0
1,250
2,500
N
Feet
33
2
3
4
5
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22-12530 Biological Resources
Fig X BUOW Locations_8.5x11_Sidebar

**Figure 3c BUOW within the BSA (Mapbook 3)**