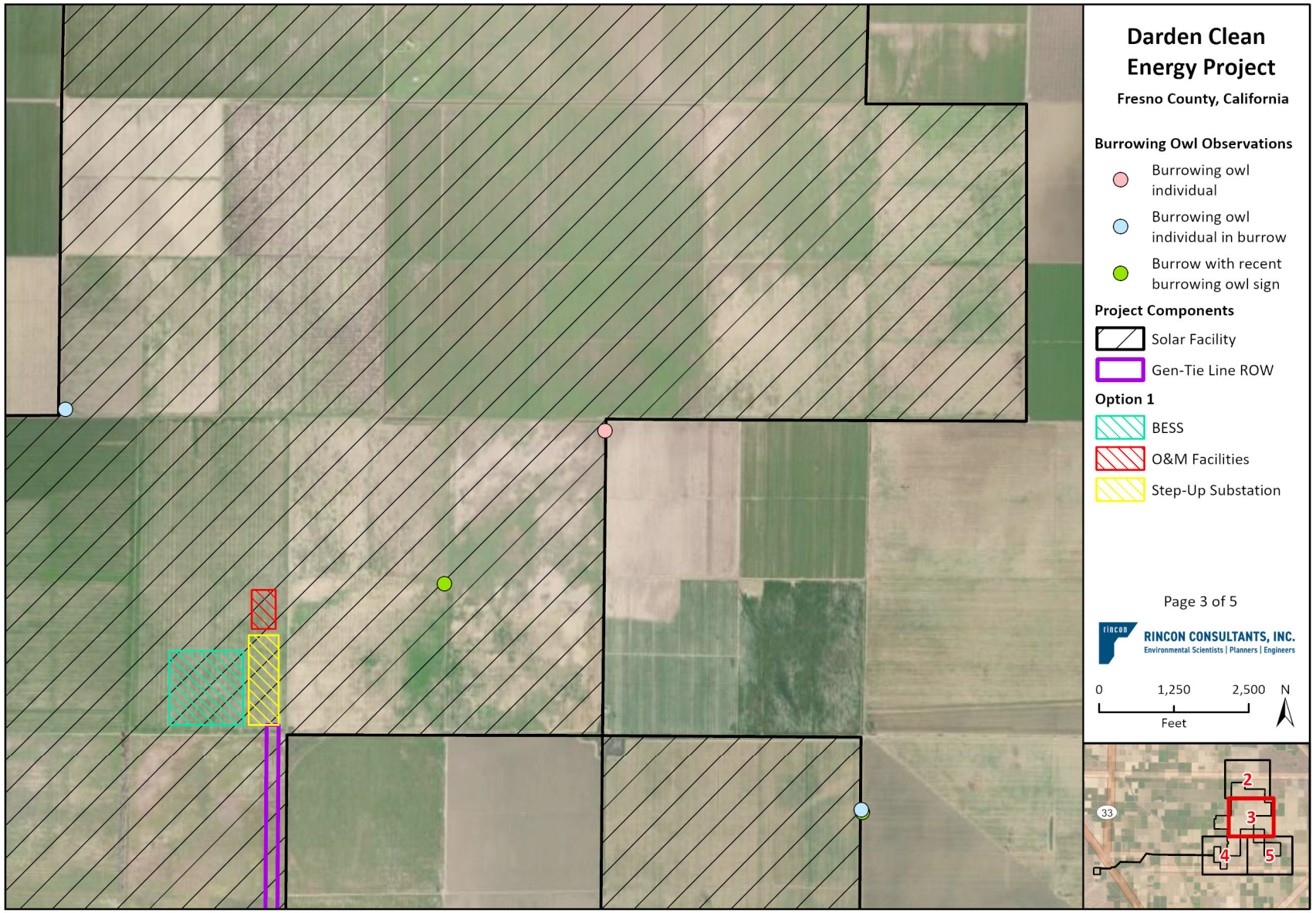
DOCKETED	
Docket Number:	23-OPT-02
Project Title:	Darden Clean Energy Project
TN #:	260658
Document Title:	Supplemental Data Response Set 1 - Appendix E SUP DR BIO-3 Updated Burrowing Owl Management Plan Part 2
Description:	Includes the updated Burrowing Owl Management Plan, provided in response to SUP DR BIO-3 as Appendix E of Supplemental Response Set 1. (Part 2/2)
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 2

SUP DR BIO-3 Updated Burrowing Owl Management Plan

Appendix E - Redline (Continued)

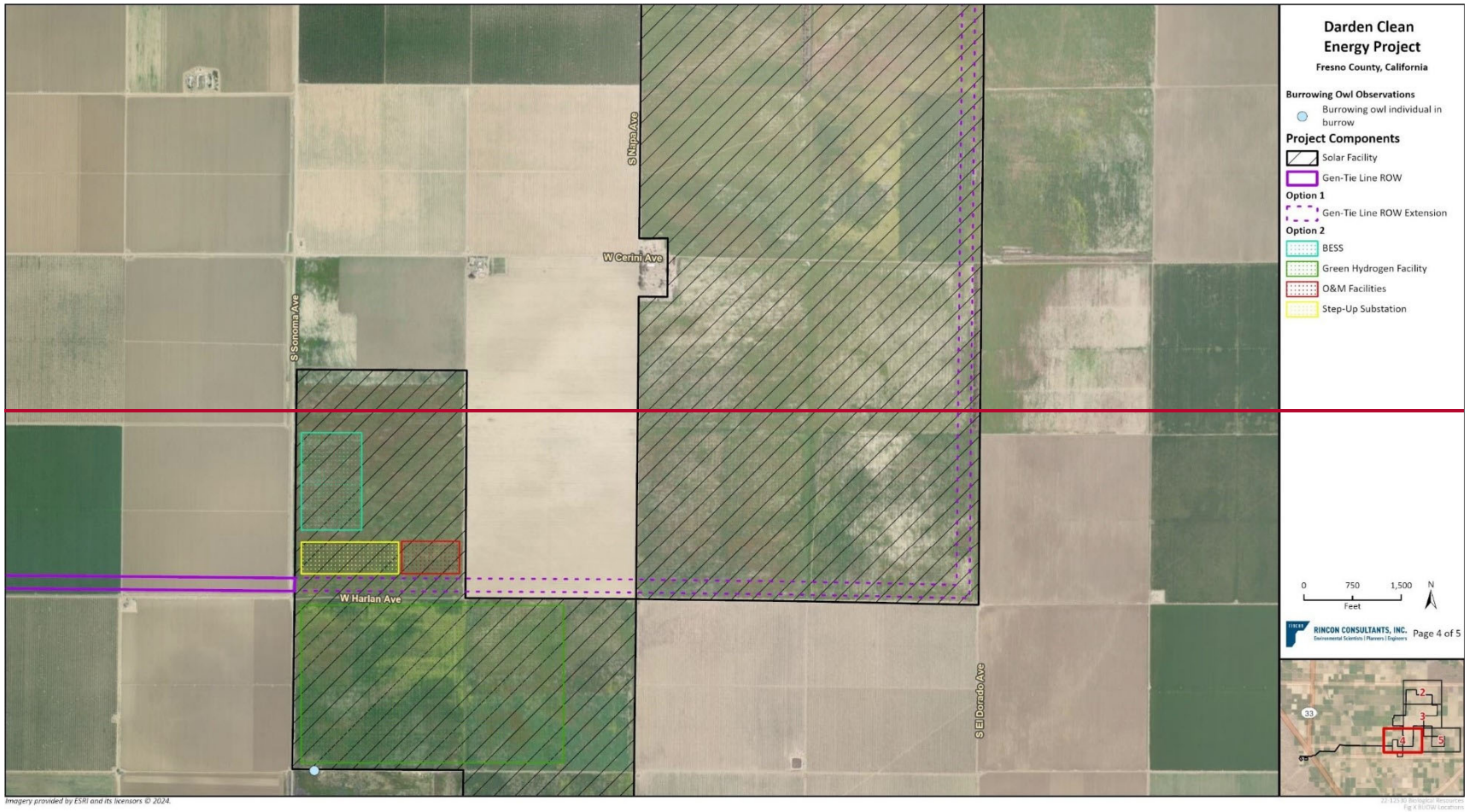
SUP DR BIO-3 Updated Burrowing Owl Management Plan



Imagery provided by Microsoft Bing and its licensors © 2024.

22-12530 Biological Resources
Fig X BUOW Locations_8.5x11_Sidebar

Figure 3d BUOW within the BSA (Mapbook 4)



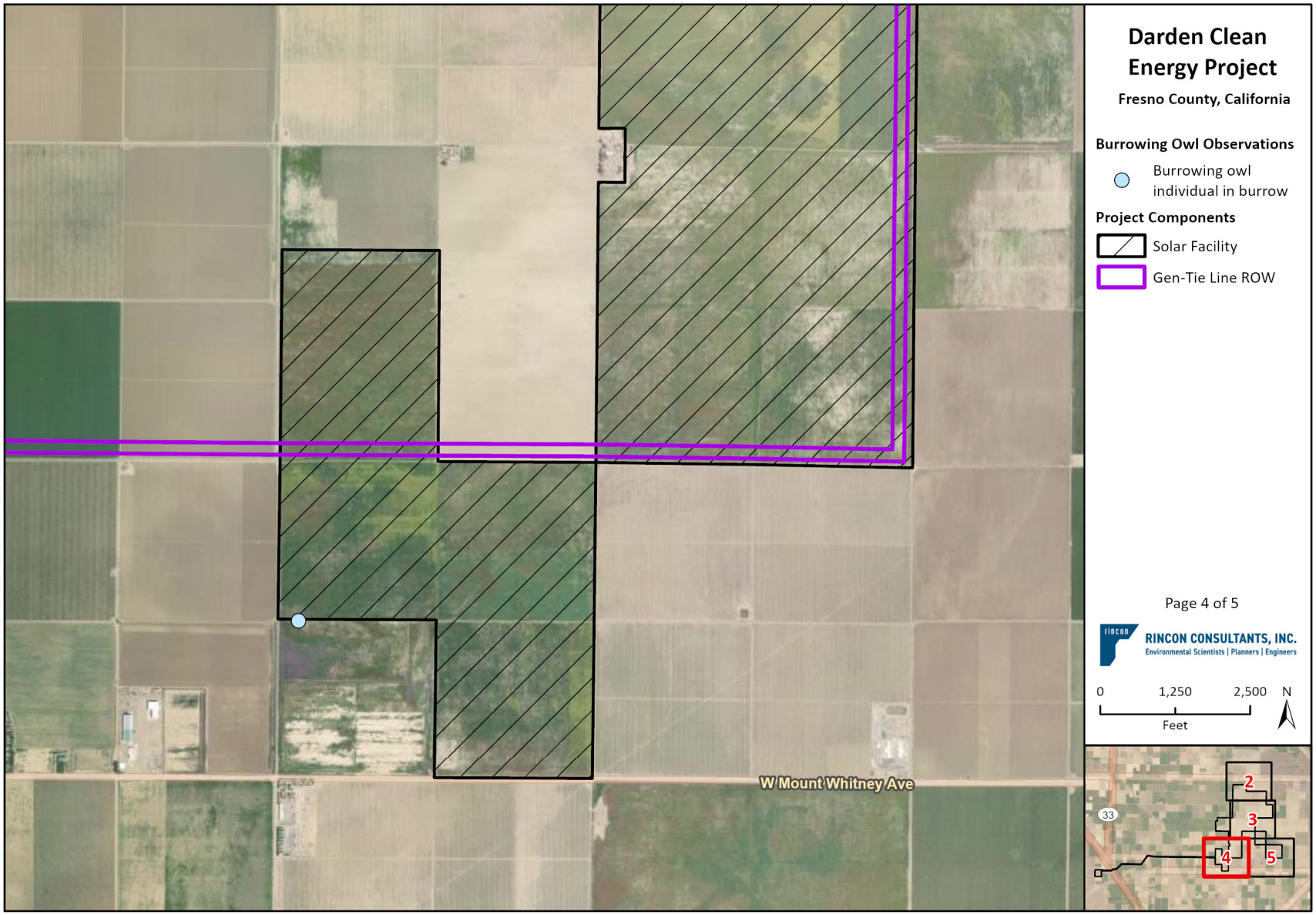

Darden Clean Energy Project
Fresno County, California
Burrowing Owl Observations
Burrowing owl individual in burrow
Project Components
Solar Facility
Gen-Tie Line ROW
Page 4 of 5
RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
0
1,250
2,500
N
Feet
W Mount Whitney Ave
33
2
3
4
5
Imagery provided by Microsoft Bing and its licensors © 2024.
22-12530 Biological Resources
Fig X BUOW Locations_8.5x11_Sidebar

Figure 3e BUOW within the BSA (Mapbook 5)

Imagery provided by Microsoft Bing and its licensors © 2024.

22-12530 Biological Resources
Fig X BUOW Locations_8.5x11_Sidebar

3 Management Strategy

~~31 Management Strategy~~

This section describes ~~the current standard of practice~~management activities for BUOW ~~management~~ that will be implemented at the Project site ~~in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012)~~ and ~~is~~are designed to avoid, minimize, and fully mitigate impacts to the species.

3.1 Qualified Biologist

The Qualified Biologist will have relevant experience with burrowing owl in California. The Qualified Biologist role may be satisfied by one or more individuals depending on qualifications and experience with burrowing owl.

The Qualified Biologist's responsibilities include leading and/or oversight of the following:

- Pre-project and pre-construction surveys
- Burrow occupancy determinations
- Monitoring occupied burrows and adjacent construction activities
- Establishing appropriate buffers around active nests
- Authorizing reduced activity buffers, where appropriate
- Halting construction at any time to protect burrowing owls
- Burrow excavations and passive relocation
- Management of burrowing owl monitoring data
- Report preparation
- Liaising with CDFW on burrowing owl management issues that may arise in the field during construction monitoring
- Other burrowing owl-related activities that may be required during Project construction

The ~~q~~Qualified ~~b~~Biologist will lead and oversee a team of experienced avian monitors that will support implementation of the above activities across the Project site.

~~3.1~~3.2 Pre-construction Surveys

Pre-construction surveys consistent with survey methods outlined in Appendix D of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) shall be conducted by a Qualified Biologist no more than ~~30~~14 days prior to ground disturbing activities. ~~The first~~

As the Project site is large and will be disturbed in phases within discrete areas of the site, pre-construction ~~survey~~surveys will be phased such that surveys are conducted no more than 14 days prior to initial ground disturbing activities in each area. Initial pre-construction surveys will cover all

areas within 500 feet of all disturbance areas. If no occupied breeding or wintering BUOW burrows are identified, no further action will be required.

If work is halted in a given area for ~~30~~14 days or greater, pre-construction surveys will be repeated in work areas that are not fully cleared of vegetation following the initial pre-construction survey until all vegetation is cleared. Once vegetation is cleared and construction is ongoing, no additional surveys are required.

3.3 Determination of Occupancy

If suitable burrows for BUOW are ~~found~~identified during pre-construction surveys, ~~all actual or potential BUOW~~ burrows ~~shall~~will be visited, mapped, and ~~monitored~~ evaluated for the presence of burrowing owl sign:

- Suitable burrows within 150 meters of the Project site will be visited and evaluated for owl presence, where accessible. Only burrows with ~~the use of remote~~sign, or burrows that are potentially occupied as determined by the Qualified Biologist, will require monitoring to determine occupancy.
- For on-site suitable burrows, burrowing owl sign (feathers, whitewash, pellets) will be documented and removed.
- Suitable burrows with sign will be visited twice daily for two days (48 hours) for surveillance purposes, to look for any new sign of burrowing owl.
- Motion-activated game cameras ~~to assess~~will be used in combination with burrow ~~status. Active and satellite burrows will be identified, and BUOW occupancy shall be determined through up to three additional focused surveys on potential burrows during the morning~~visits to determine burrow occupancy. Cameras will be placed within 10 meters of potentially occupied on-site burrows for a minimum of 48 hours. Cameras will be placed as close as possible to off-site burrows, where accessible, to document owl activity.
- If owls are determined to be present by the Qualified Biologist after 48 hours of continuous camera monitoring and/or ~~evening survey windows as defined in Appendix B of the *Staff Report on Burrowing Owl Mitigation*. Detailed information on burrow~~ documented presence of new burrowing owl sign, the appropriate exclusion buffer will be delineated and marked.
- If 48 hours of continuous monitoring and site visits demonstrate no presence of owls, a burrow may be determined to be unoccupied.

On-site burrows that are determined by the Qualified Biologist to be unoccupied using the above criteria, may be excavated and either blocked or collapsed as described in Section 3.9 *Burrow Excavation*. Unoccupied burrows located outside the Project site will not be excavated.

On-site occupied burrows that will be directly impacted by Project activities may be prepared for passive relocation during the non-breeding season, as ~~well as burrow excavation is provided~~described in Section ~~3.5~~3.8 *Passive Relocation and Exclusion* ~~and Section 3.6 *Burrow Excavation*.~~ .

~~If occupied BUOW burrows are discovered during construction, the following avoidance measures described in Section 3.2 *Construction Monitoring*, Section 3.3 *Sound and Visual Barriers*, and Section 3.4 *Burrow Avoidance and Buffers* will be implemented.~~

3.4 Nesting Deterrence

As construction activities may have adverse effects on burrowing owls, it may be most protective of owls to deter nesting behaviors at the Project site just prior to the start of construction during the non-breeding season. Suitable burrows that may or may not be occupied by burrowing owls or other protected species may be made less desirable for nesting by the Qualified Biologist by placing small rocks, sticks, or other natural debris near the entrance of the suitable burrow, without blocking it or preventing ingress or egress by any protected species. Nest deterrence shall be conducted by the Qualified Biologist. Deterrence shall not be conducted for sites that lack proximate suitable burrowing habitat. If nesting deterrence activities are shown to have an adverse effect on burrowing owls present in the area, all activities will stop.

Alternatively, or in combination with deterrence, BUOW attractants may be installed in offsite natural or agricultural areas that are not anticipated to have human disturbance, or in onsite wildlife buffer areas, in order to encourage returning BUOW to favor these locations for nesting compared with locations that may be preparing for construction work to begin during the next breeding season. BUOW attractants may include perches or rock piles.

~~3.2~~3.5 Construction Monitoring

Monitoring of occupied BUOW burrows by a Qualified Biologist is required for all work within defined buffer areas and when sound or visual barriers are used in conjunction with reduced buffer areas, as described in Section ~~3.3 *Sound or Visual Barriers* and Section 3.4~~3.6 *Burrow Avoidance and Activity Buffers*~~.~~ and Section 3.7 *Sound or Visual Barriers*. All work completed outside buffer areas defined in Section ~~3.4~~3.6 *Burrow Avoidance and Activity Buffers* will not require monitoring by a Qualified Biologist.

During monitoring, the Qualified Biologist will assess BUOW behavior, proximity of work activities, and effectiveness of implemented buffer areas and/or sound or visual barriers to confirm they are functioning as intended. The Qualified Biologist will have the authority to cease construction activities in the vicinity of the buffer area if BUOW become agitated, and will provide recommendations for when work may resume. Sound and visual barriers may be re-evaluated and buffer areas increased, if needed. Biological monitoring for any given activity can be reduced or discontinued once it can be demonstrated that BUOW are not disturbed by the activity, as determined by the Qualified Biologist.

At a minimum, the following information will be documented for each monitored burrow:

- Date burrow first observed/detected
- Status of burrow and outcome (e.g., incubating, brooding, young rearing) if observed
- Distance of the burrow to Project activities
- Type of Project activity occurring within the vicinity of the burrow
- Recommended buffer size including modifications to buffer size
- Recommended sound and/or visual barrier(s) including modifications to barriers

3.3 Sound or Visual Barriers

3.6 If it is determined that work within an occupied burrow buffer cannot be avoided, temporary sound and/or visual barriers will be implemented to reduce visual and audible disturbance.Burrow Avoidance and Activity Buffers

Barriers should be placed between construction activities and the occupied burrows, at the maximum distance feasible from the occupied burrows. Barriers should be placed to interrupt the line of sound/sight between construction activities and occupied burrows. Project activities would be allowed to proceed with a reduced buffer if barriers are installed, based on the Project activity and relative level of disturbance (as outlined below in Section 3.4 *Burrow Avoidance and Buffers*).

The barriers will be established with the following general guidelines regarding configuration to ensure effective sheltering of active burrows:

- Barricades may be created with hay bales, fencing, or another physical barrier between the occupied burrow and construction activities.

1.1 Installation of barriers will be monitored by a Qualified Biologist

- Burrows will be monitored routinely by a Qualified Biologist during any construction activity that is within reduced buffers with barriers.
- The biologist will have the authority to cease construction activities in the vicinity of the buffer area if BUOW become agitated.
- All barricades will be removed, under the supervision of a Qualified Biologist, after construction is complete.

3.4 Burrow Avoidance and Buffers

Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless athe Qualified Biologist verifies, through noninvasive methods, that the burrow is not an active nesting burrow. Owls present after February 1 shall be assumed to be nesting unless evidence indicates otherwise. Nest-protection buffers described below shall remain in effect until August 31 or, based upon evidence collected from direct monitoring, until all juvenile owls are foraging independently or the nest has failed as determined by athe Qualified Biologist.

Site-specific no-disturbance buffer zones shall be established and maintained between Project activities and occupied burrows that will not be passively evicted and excavated or temporarily closed during construction. Temporary disturbanceactivity buffers will be established under the supervision of the Qualified Biologist to minimize disruption to BUOW based on intensity of construction activity (Table 1) and BUOW activity period as outlinedand anticipated level of disturbance. Table 1 includes minimum temporary buffer distances and Table 2 includes standard

buffer distances. Minimum temporary buffer distances require approval of the Qualified Biologist, and other conditions may apply, including, but not limited to: installation of sound and/or visual barriers (refer to Section 3.7 *Sound or Visual Barriers*), other minimization measures, and enforcement of increase in ~~the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).~~buffer from minimum to standard as soon as the activity is complete.

Construction activities have been assigned a disturbance level: minimal, low, moderate, high (Table 3). Smaller disturbance buffers are proposed for those activities that are substantially similar or less disruptive compared to agricultural activity that has been occurring at the Project site (e.g., site prep work that would be similar to harvesting and disking). Larger disturbance buffers are proposed for Project activities that differ substantially from that of agricultural activity (e.g., pile driving and other high-decibel construction activity). ~~Construction activity has been further assigned an intensity level (low, moderate, heavy) to each definable construction activity. Table 2 includes buffers distances when using sound or visual barriers as described in Section 3.3 *Sound or Visual Barriers*. Table 3 includes buffers distances when sound or visual barriers are not feasible. Specific buffers during helicopter activities are discussed in the PV and Gen-tie Biological Resources Management Plan (Rincon 2024a).~~

Table 1 ~~Categories~~Minimum Temporary Buffer Distance ~~(m) and Level of Construction Activity Intensity~~Disturbance

Project Activity Intensity Level ~~Construction Activity Intensity~~	Buffer Distance with Barriers (in meters) and Time of Year		
	February 1 – April 15	April 16 – August 31	September 1 – January 31
Minimal	0	0	0
Low	30	25	20
Moderate	90	65	35
~~Heavy~~ Moderate	~~Low~~		
~~Aerial lift~~ ~~Crane work~~ ~~Pile driving~~High	~~Excavation (backhoe)~~ ~~Grading (grader)~~ ~~Boring/drilling~~ ~~Clearing (mower/roller)~~ ~~Hauling (tractors, loaders, forklift)~~ ~~Loaders (piles)~~ ~~Welding~~ ~~Trenching~~150	~~Geotech~~ ~~Hand work (shovel, rake, etc.)~~ ~~Surveying~~ ~~Staking~~ ~~Water truck~~ ~~General travel (Trucks, trailers, UTV)~~90	50

Table 2 ~~Temporary Construction Buffers with Barriers (feet)~~Standard Buffer Distance ~~(m)~~ and Level ~~of Disturbance~~

~~Project Construction~~ Activity Intensity Level	Buffer Distance ~~with~~without Barriers (in ~~feet~~meters) and Time of Year		
	~~February 1 – August 15~~ April 16 – August ~~16 – October 15~~31	~~October 16 – March~~ September 1 – January 31	
Minimal	0	0	0
Low	~~50~~100	~~20~~75	~~20~~35
Moderate	~~75~~200	~~20~~100	50
~~Heavy~~High	~~100~~300	~~50~~250	~~75~~100

Table 3 ~~Temporary Construction Buffers without Barriers (feet)~~Typical Project Activities and Their Intensity Levels

~~Construction Activity Intensity~~Project Phase	~~April 1 – August 15~~Activity	~~August 16 – October 15~~Intensity Activity Description	~~October 16 – March 31~~Disturbance Intensity Level
Preconstruction	Site Visits	Short-duration, on foot, driving on established roads, quiet	Minimal
	Environmental Resource Surveys and Monitoring	Short-duration, on foot, driving on established roads, quiet	Minimal
	Activity Buffer Staking and Flagging	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Minimal
	Civil Survey, Staking, and Flagging	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Minimal
~~Low~~	~~100~~Met Tower Installation	~~40~~Short-duration, on foot, driving off-road after wildlife surveys, quiet	~~40~~Low
	Geotechnical Testing	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Low
	Trenchless Wildlife Exclusion Fence Installation	Short-duration in any one location, driving off-road after wildlife surveys, fairly quiet	Low
~~Moderate~~	~~150~~Trenched Wildlife Exclusion Fence Installation	~~40~~Short-duration in any one location, trenching, driving light and heavy equipment, low-moderate noise	Moderate~~100~~
Site Preparation	Environmental Monitoring	Short-duration, passive observation of natural resources conducted by trained environmental field professionals on foot and in vehicles	Minimal
	Vegetation Mowing (4+ inches)	Mowing well above the ground surface to de-bulk grassland, cropland, or weedy vegetation, single pass, short duration in any single location	Moderate
	Vegetation Mowing (0-4 inches)	Mowing of vegetation very close to the ground surface, single pass, short duration in any single location, low to moderate soil disturbance, noise, and vibration	High

	Woody Vegetation Removal and Site Grubbing	Removal, chipping, and grubbing of soils to remove woody bulk, medium duration, targeted in locations with high woody vegetation content, extensive soil disturbance, noise, and vibration	High
	Site Grading	Movement of soil and recontouring of site topography, medium duration, may be targeted in localized areas, extensive soil disturbance, noise, and vibration	High
	BMP Installation (Hand Tools)	Short-duration, on foot, driving on established roads, quiet	Low
	BMP Maintenance (Hand Tools)	Short-duration, on foot, driving on established roads, quiet	Low
	BMP Installation (Light Machinery)	Short-duration, using light equipment, driving on established roads and offroad	Low
~~Heavy~~	~~200~~BMP Installation (Heavy Machinery)	~~100~~Short- to moderate-duration, using heavy equipment, driving on established roads and offroad, extensive soil disturbance, noise, and vibration	~~150~~High
	Security Fence Installation	Shallow foundation excavation, concrete pouring, and post establishment, and laying fencing fabric, short duration in any one location	Low
	Road Compaction	Use of graders and rollers, extensive noise and vibration, moderate duration in any one location	High
	Equipment and Material Laydown	Movement and staging of equipment and materials, extensive noise and vibration, moderate duration in a few locations	Moderate
Major Equipment Installation, Site Cleanup, Restoration	Cable Trenching (Ditch Witch)	Single-pass cable zippering with minimal soil disturbance, extensive noise and vibration, short duration in any one location	Moderate
	Cable/Fiber Trenching (Excavate Full Trench)	Trench excavation with heavy machinery, extensive noise and vibration, moderate duration in any one location	High
	Pile Driving	Vibratory pile driving, low noise and moderate vibration, moderate duration in any one location	Moderate
	Panel Installation	Use of hand tools to secure panels to mounts, short-distance driving, low noise, low duration in any one location	Low
	Inverter Installation	Skid assembly; inverter delivery; hand tools and light equipment; moderate noise; moderate duration in any one location	Moderate
	Substation Assembly	Isolated to one location, hand tools and light equipment use, component deliveries, welding, high noise, moderate-to-high duration	Moderate
	BESS Delivery and Interconnection	Isolated to one location, hand tools and light equipment use, component deliveries,	Moderate

		welding, high noise, moderate-to-high duration	
	Gen-tie Pole Foundation Excavation	Drilling and excavation with heavy machinery, extensive noise and vibration, moderate duration in any one location	High
	Helicopter Construction	High noise and creation of local wind and dust; moderate duration in any one location	High
	Water + Other Truck Use	Spraying water for dust suppression, low noise and vibration, low duration in any one location	Low
	Hydroseeding	Spraying seed mixture, low noise and vibration, low duration in any one location	Low
	Broadcast Seeding	Hand tools or light equipment use, quiet, single pass	Minimal
	Drone Use	Vertical distance, low noise, no vibration, low duration in any one location	Low
	Directional Drilling	High noise and vibration, isolated, moderate duration in any one location	Moderate
O&M	Drone Inspections	Vertical distance, low noise, no vibration, low duration in any one location	Low
	General Maintenance of Equipment	No ground-disturbing, hand tools or light equipment use, low duration in any one location	Low
	Soil Binder Application	Spraying mixture, low noise and vibration, low duration in any one location	Low
	Fenceline Trash Cleanup	Hand tools or light equipment, low duration in any one location	Low
	Panel Washing	Spraying water for panel cleaning, low noise and vibration, low duration in any one location	Low
	Ground-disturbing O&M Activities	Major equipment replacement or maintenance requiring ground disturbing (excavation, drilling, etc.)	Moderate-High

3.7 Sound or Visual Barriers

Temporary sound and/or visual barriers will be implemented to reduce visual and audible disturbance where deemed necessary by the Qualified Biologist. Barriers should be placed between construction activities and the occupied burrows, at the maximum distance feasible from the occupied burrows. Barriers should be placed to interrupt the line of sound/sight between construction activities and occupied burrows. Project activities would be allowed to proceed with a reduced buffer if barriers are installed, based on the Project activity and relative level of disturbance (as outlined in Section 3.6 *Burrow Avoidance and Activity Buffers*).

The barriers will be established with the following general guidelines regarding configuration to ensure effective sheltering of active burrows:

- Barriers may be created with hay bales, fencing, or another physical barrier between the occupied burrow and construction activities

- Installation of barriers will be monitored by a Qualified Biologist
- Burrows will be monitored routinely by a Qualified Biologist during any construction activity that is within reduced buffers with barriers
- The biologist will have the authority to cease construction activities in the vicinity of the buffer area if BUOW become agitated
- All barriers will be removed, under the supervision of a Qualified Biologist, after construction is complete

~~3.5~~3.8 Passive Relocation and Exclusion

If ~~BUOW burrow~~ avoidance of occupied BUOW burrows is infeasible, ~~a~~the Qualified Biologist may passively relocate BUOW found within construction areas during the non-breeding season ~~or during the breeding season (February 1 through August 31) where burrows can be shown as conclusively not an active nesting burrow. Passive relocation includes encouraging owls to move from occupied burrows to alternate natural burrows outside of the 500-ft buffer. Active nesting burrows will not be disturbed and avoidance buffers will be maintained during the breeding season~~, September 1 to January 31, but may also occur in the late summer months (August and September) if the Qualified Biologist determines that the burrow is no longer active~~.~~. Passive relocation is a technique to exclude burrowing owls from the Project site by first providing replacement burrows off site (if needed), blocking or collapsing all unoccupied burrows within the construction site, and finally installing one-way doors on occupied burrows to evict the burrowing owl without handling it.

If an occupied burrow within the Project footprint cannot be avoided and requires passive relocation, ~~a~~the Qualified Biologist will conduct the following:

- Determine if suitable burrows are located outside the impact area that would be acceptable for the BUOW to take refuge in during the relocation process;
- Verify that potential offsite refuge burrows are not currently occupied;
- Identify burrows and/or other structures in the impact footprint that may need to be collapsed, removed, or blocked;
- Assess the need for creation of artificial burrows, if necessary (i.e., there are insufficient burrows outside the impact area). If necessary, for each owl that is evicted, two artificial burrows shall be installed in suitable nearby habitat areas, per the *Users Guide to Installation of Artificial Burrows for Burrowing Owls* (Johnson et al. 2010; Appendix A).

The use of passive relocation techniques in a given area shall be determined by ~~a~~the Qualified Biologist based on existing and future conditions (e.g., time of year, vegetation/topographic screening, and disturbance regimes). It is assumed passive relocation, if necessary, may occur in areas of moderate to high intensity construction activities. Passive relocation of burrowing owls shall be limited in areas adjacent to Project activities that have a sustained or low-level disturbance regimen; this approach shall allow BUOW that are tolerant of existing agricultural and Project activities to occupy quality, suitable nesting and refuge burrows. Substantial agricultural land located adjacent to and on all sides of the Project site provides suitable habitat for BUOW. It is expected that any owls evicted from currently occupied burrows will naturally disperse to nearby suitable habitat outside the Project construction area. If needed, artificial burrows may be installed within a nearby suitable location following guidelines in the Mitigation Methods section of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

3.8.1 Artificial Burrows

Artificial burrows may be constructed off site to replace on-site occupied burrows that are removed for Project construction. The number of artificial burrows (if any) will depend on the availability of suitable unoccupied burrows in the surrounding area and on the number of burrowing owls evicted from the site.

- Artificial burrows will be placed 110 meters to 300 meters from suitable natural burrows or from other artificial burrows to minimize territorial conflicts and nest abandonment by neighboring burrowing owl pairs (if any are present).
- Artificial burrows will be located at least 50 meters outside any temporary or permanent Project impact areas, but as close as possible to the original burrow and no more than one mile from the original burrow location if possible. Artificial burrows will be located in coordination with CDFW.
- Artificial burrows will be designed, constructed, and installed following guidelines the *Users Guide to Installation of Artificial Burrows for Burrowing Owls* (Johnson et al. 2010) referenced in CDFG 2012. Perching locations such as low mounds (e.g., 17 to 20 centimeters) or short perches (less than 60 centimeters) will be added outside (in front of) the burrow. Rocks will be placed at the entrance to prevent trampling and deter predator digging.
- The locations of all natural and artificial burrows will be recorded, and the burrows will be photographed. Distances to the nearest construction activity, road, drainage, and any other natural and artificial burrows will also be recorded. A comparison of vegetation, habitat types, fossorial species usage, and other features will be made between the occupied and artificial burrow sites and will be recorded. All data will be included in progress reports.
- Artificial burrows shall be left in place throughout all phases of the Project.
- All artificial burrows and mapped natural burrows will be monitored for burrowing owl use at least once per quarter throughout the construction phase of the Project. During monitoring visits, the burrows will also be inspected to ensure they are still suitable for burrowing owls.
- As needed, artificial burrows may be cleaned and maintained to ensure suitability for burrowing owl use during the construction phase.
- If natural burrows are no longer suitable for burrowing owl use (e.g., due to mammal digging), new artificial burrows may be constructed as replacements, or additional inventories of natural burrows may be needed to ensure sufficient availability.
- After the construction phase of the Project ends, monitoring and maintenance of artificial burrows will be subject to O&M phase monitoring requirements, in coordination CDFW.

3.8.2 Burrowing Owl Exclusion

Following elimination of all suitable inactive burrows within the construction area and installation of artificial burrows, exclusion of BUOW from ~~an~~ occupied burrows or ~~a~~ potentially occupied ~~burrow~~burrows (or complex of burrows) will occur through the installation of one-way doors ~~to temporarily exclude the BUOW~~. One-way doors will be installed on all confirmed and potential access points to the burrows for at least ~~three nights~~48 hours prior to initiating burrow excavation or left in place during construction activities. Doors will be placed to fully seal the burrow access points and will be secured in place using native soils, wire pins, or similar methods. If small gaps occur around the edges of the one-way doors, burlap cloth or similar material may be used to prevent small wildlife from accessing the burrow.

During the initial installation of one-way doors, ~~a~~the Qualified Biologist will record the presence and/or absence of BUOW sign at all burrow locations. All sign (tracks, molted feathers, pellets, prey remains, whitewash, nest material/decorations, and other items indicative of BUOW occupancy) will be subsequently cleared from the site in order to document the potential recurrence of BUOW presence at the burrow.

~~Following installation of one-way doors, all burrows proposed for excavation shall be monitored with the use of remote cameras for at least three nights prior to excavation. BUOW presence captured by remote camera monitoring will be recorded, including date and time.~~

Scoping and/or remote cameras may be used to confirm the absence of burrowing owls after the 48-hour exclusion period and prior to burrow excavation. Following confirmation that burrows are unoccupied, the burrows may be excavated as described in Section 3.9 *Burrow Excavation*.

If burrows will not be directly impacted by Project development, the one-way doors will remain in place throughout the construction phase of the Project and the ~~burrow~~burrows will not be excavated. Regular monitoring will be conducted to ensure the one-way doors remain operational and the burrows remain unoccupied.

~~3.6~~3.9 Burrow Excavation

~~After~~For burrows that are determined by the ~~three-night remote camera monitoring period for burrow exclusion, a team of~~ Qualified ~~Biologists~~Biologist to be unoccupied (refer to Section 3.3 *Determination of Occupancy*) or from which burrowing owl have been excluded (refer to Section 3.8 *Passive Relocation and Exclusion*), the Qualified Biologist will excavate each burrow or burrow complex slated for eviction and collapse~~.~~ using hand tools or small tracked equipment.

Once excavation of an entire burrow/complex is complete, the ~~biologist~~Qualified Biologist will verify that no BUOW or wildlife reside within the burrow and the site will be backfilled with native soils to prevent future occupancy. Once excavation and closure of the burrow is complete, the site will be photographed to document completed exclusion and effectiveness.

If BUOW are observed within the burrow during excavation, the activity will be halted immediately. One-way doors will be immediately re-installed; and, if necessary, piping large enough to allow BUOW to exit the burrow will be placed to prevent collapse of the occupied burrow. Monitoring of the site will resume until the burrow is determined to be unoccupied. If eggs are observed, all one-way doors will be immediately removed from the burrows, excavation activities will cease, and CEC and CDFW will be notified.

Following completion of all burrow excavations within the Project site, the site will be monitored for BUOW until initiation of construction to ensure that BUOW have not returned to the burrow or burrow area. A Qualified Biologist will be present to monitor the initiation of Project construction activities around the BUOW burrow excavation area to verify that the site has not been recolonized by owls and to avoid take of BUOW.

4 Reporting

If BUOW exclusion and passive relocation is conducted, a report will be submitted to the CEC and CDFW with the following details:

- A description and representative photographs of BUOW sign observed prior to exclusion and/or burrow excavation;
- A full account of one-way doors installed, locations, methods, and photographs;
- Passive and active monitoring methods and observations;
- A description of equipment and methods used in burrow excavation (hand tools, piping, etc.) and any general wildlife relocated from the burrow;
- Photographic documentation of completed burrow excavation and completion of backfill of burrows showing effectiveness;
- Project maps showing BUOW observations, burrows excluded, and burrows excavated;
- Dates that each avoidance and minimization measure was implemented;
- Results of monitoring conducted to demonstrate effectiveness of the measures;
- Dates and description of the initial construction activities.

Any BUOW burrow discovered during the construction phase will be documented in monthly reports as outlined in the PV and Gen-tie Biological Resources Management Plan and the Utility Switchyard ~~and Alternate Green Hydrogen Site~~ Biological Resources Management Plan (Rincon 2024a, Rincon 2024b)~~.~~

.

5 Mitigation

Eight individual BUOW, 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. Of these eight individuals and twenty-two burrows, seven individuals and twenty-one burrows were located along the margins of seasonally managed non-active agricultural fields in areas that will likely be avoided during construction. The solar facility parcels are currently managed under an ongoing regimen of regular disking to manage weed infestations that is not conducive to nesting and provides inconsistent quality of foraging habitat.

While the exact number and location of BUOW individuals on the Project site may change (and will be verified through ~~preconstruction~~pre-construction surveys) prior to construction, based on existing conditions, the majority of BUOW are expected to be located in areas along the edge of the Project site outside of the ~~project~~Project development footprint (i.e., burrows would not require excavation and ~~colapse~~collapse). Therefore, avoidance and implementation of minimization measures outlined in ~~the~~Section 3 *Management Strategy* is expected for most individuals and burrows. Project operations would continue to avoid these areas and maintenance activities would result in less disturbance to BUOW than current disking practices.

In limited cases where avoidance is not feasible, mitigation for permanent direct impacts to occupied BUOW burrows would occur through installation of artificial burrows, if necessary (i.e., when there are insufficient burrows outside the impact area), within a nearby suitable location following guidelines in the Mitigation Methods section of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Prior to excavation, ~~a~~the Qualified Biologist shall verify that evicted owls have access to multiple, unoccupied, alternative burrows outside of the projected disturbance zone, and as close to the evicted burrow as feasible given Project work areas. If no suitable alternative natural burrows are available for the owls within ¼ mile, then, for each owl that is evicted, two artificial burrows shall be installed in suitable nearby habitat areas, per the *Users Guide to Installation of Artificial Burrows for Burrowing Owls* (Johnson et al. 2010) referenced in CDFG 2012. The artificial burrow design and installation shall be consistent with the methods described in the Burrowing Owl Exclusion Plan per Appendix E of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

In addition, implementation of the Project's Vegetation Management Plan would result in post-construction restoration of the Project site to a mix of native and naturalized grassland and forb species which would provide a more consistent source of foraging habitat for the species than currently exists under the regular disking regimen. One of the primary goals would be to restore habitat to a vegetation community with a maximum height of 12 inches, ~~eliminating~~ reducing the need for mowing as part of long-term habitat management. ~~Elimination~~ Reduction of mowing would substantially reduce the potential for impacts to species that may occupy the site during the O&M phase of the project. Implementation of the Vegetation Management Plan is expected to result in restoration of approximately 9,000 acres to permanent annual grassland habitat. Based on an estimated foraging range of approximately 300 acres per BUOW, once restored the Project site would include enough foraging habitat to support over 30 BUOWs which is over three times the number of owls that were observed onsite.

In ~~additional~~addition to all previously outlined measures, as applicable, the following O&M measures will be implemented during O&M ~~activity.~~ activities.

1. O&M phase WEAP
    a. The O&M Phase WEAP will include all of the content relating to BUOW included in the construction WEAP (i.e., biological information on ~~burrowing owls~~BUOW, their legal protections, the consequences of impacts to the species, and the required measures and procedures to avoid impacts to this species), updated for the O&M activity, staff and applicable contact information.
2. Speed Limits
    a. O&M Phase site speed shall be limited to 15 mph on unimproved roads and 25 mph on improved ~~road~~roads.
3. Pre-Mowing Surveys
    a. ~~A qualified biologist~~A Qualified Biologist shall conduct pre-activity surveys within 7 days prior to mowing following the survey guidelines outlined in the *Staff Report on Burrowing Owl* ~~(CDFW~~*Mitigation* (CDFG 2012). Surveys shall be required during the initial phases of site restoration (up to 3 years) when mowing may be required to manage invasive weeds.
4. Pre-Activity Surveys
    a. ~~A qualified biologist~~A Qualified Biologist shall conduct burrowing owl clearance surveys 7 days prior to maintenance activities that would require clearing, grubbing or other ground disturbance following the survey guidelines outlined in the *Staff Report on Burrowing Owl* ~~(CDFW~~*Mitigation* (CDFG 2012).
5. Active Burrow Avoidance
    a. A Qualified ~~biologists~~Biologist shall implement ~~standard~~ BUOW avoidance buffers for any active burrows documented during clearance surveys, following the procedures outlined in Section ~~3 of this Plan~~3 *Management Strategy*.
6. Biological Monitoring
    a. ~~A qualified biological monitor~~A Qualified Biologist shall monitor any maintenance activity occurring within avoidance buffers of an active burrow, following the procedures outlined in Section ~~3.2 of this Plan. The biological monitor~~3.5 *Construction Monitoring*. The Qualified Biologist shall have cease-work authority if burrowing owls are observed to be disturbed from maintenance activity.
7. Reporting
    a. Pre-activity and monitoring reports shall be prepared following the guidelines outlined in Section ~~4 of this Plan.~~4 *Reporting*. Reports shall be submitted to the CEC. If the species is still a candidate for listing or listed under the CESA at the time of reporting, reports shall also be submitted to CDFW.

The outlined strategy of: 1) avoidance and minimization of impacts to the majority of BUOW individuals and burrows located along the margins of the Project site; 2) installation of artificial burrows at a 2:1 ratio for a limited number of burrows that are directly impacted by Project activities; 3) restoration of the Project site to improve overall habitat suitability and foraging conditions for the species; and 4) O&M phase avoidance and minimization measures would result in full mitigation of potential impacts to the species and no net loss of habitat~~, including in the case that BUOW is listed as a candidate species under CESA~~ for BUOW.

6 References

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. Department of Fish and Game. March 7, 2012. http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf2.

California Fish and Game Commission. 2024. *California Fish and Game Commission Notice of Findings: Western Burrowing Owl (Athene cunicularia hypugaea).* https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=227089&inline. October 15, 2024. (accessed November 2024).

Center for Biological Diversity. 2024. Petition To List California Populations of the Western Burrowing Owl (*Athene cunicularia hypugaea*) as Endangered or Threatened Under the California Endangered Species Act. https://biologicaldiversity.org/species/birds/western_burrowing_owl/pdfs/CA-Burrowing-Owl-Petition-3-5-24.pdf (accessed November 2024).

Fresno, County of. 2000. General Plan Update. Draft Environmental Impact Report.

Johnson, D. H., D. C. Gillis, M. A. Gregg, J. L. Rebholz, J. L. Lincer, and J. R. Belthoff. 2010. Users guide to installation of artificial burrows for Burrowing Owls. Tree Top Inc., Selah, Washington. 34 pp.

Large-Scale Solar (LSA) Association. 2024. Burrowing Owl Conservation Strategy for Large-scale Solar Photovoltaic and Battery Energy Storage Projects in California. Version 1 – November 4, 2024. https://largescalesolar.org/wp-content/uploads/2024/11/2024-11-04_Burrowing-Owl-Conservation-Strategy_FINAL.pdf (accessed November 2024).

Rincon Consultants, Inc. (Rincon). 2023a. Darden Clean Energy Project California Energy Commission Application~~, Section 5.12 Biological Resources.~~. October 2023.

_____._____. 2023b. Darden Clean Energy Project Swainson's Hawk Conservation Strategy. October 2023.

_____._____. 2024a. Darden Clean Energy Project PV and Gen-tie Biological Resources Management Plan. ~~March~~December 2024.

_____._____. 2024b. Darden Clean Energy Project Utility Switchyard ~~and Alternate Green Hydrogen Site~~ Biological Resources Management Plan. ~~March~~December 2024.

_____. 2024c. Darden Clean Energy Project CEC Data Request Response Set #4. May 2024.

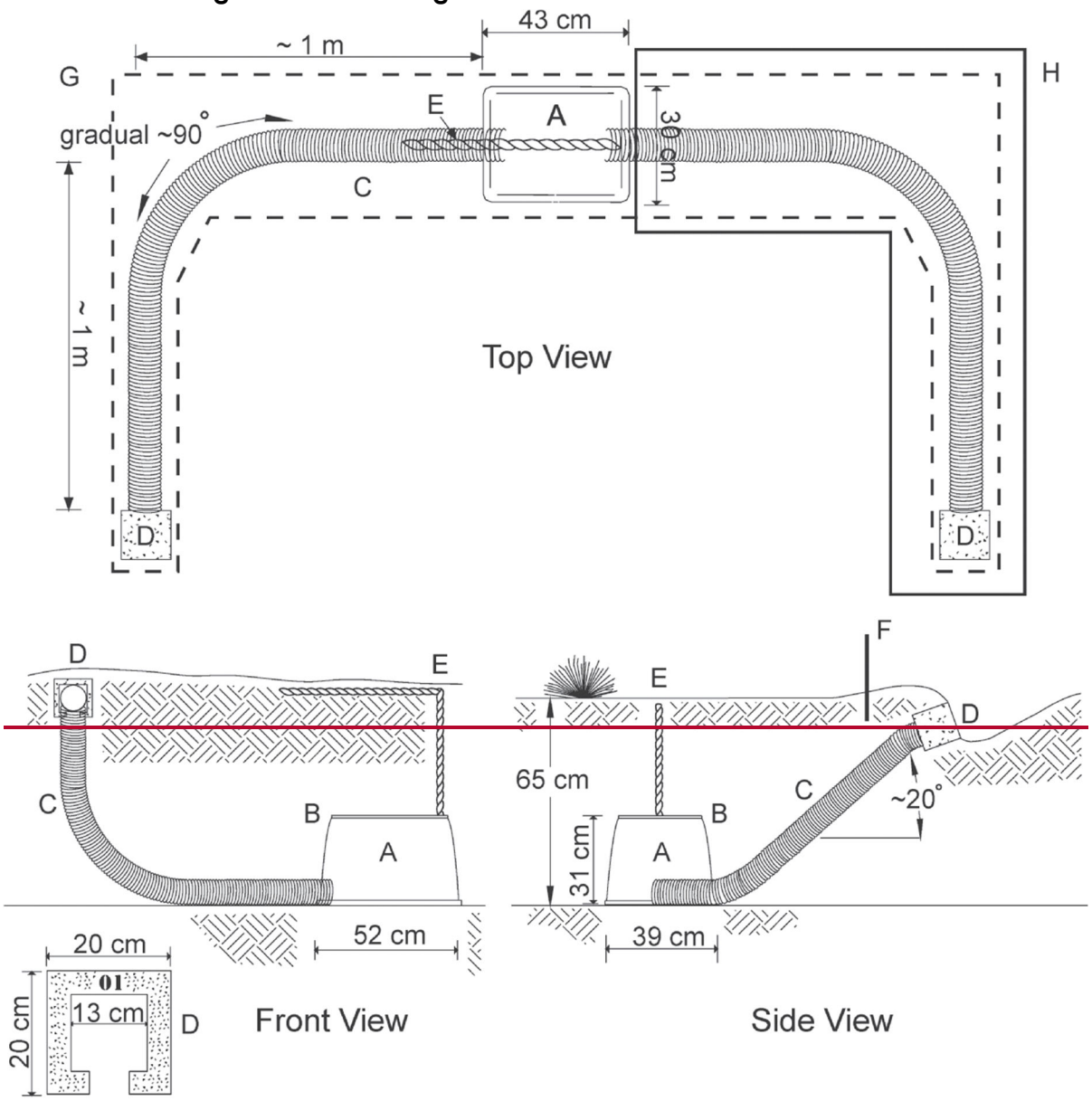
_____. 2024d. Darden Clean Energy Project CEC Supplemental Data Request Response Set #1. December 2024.

This page intentionally left blank.

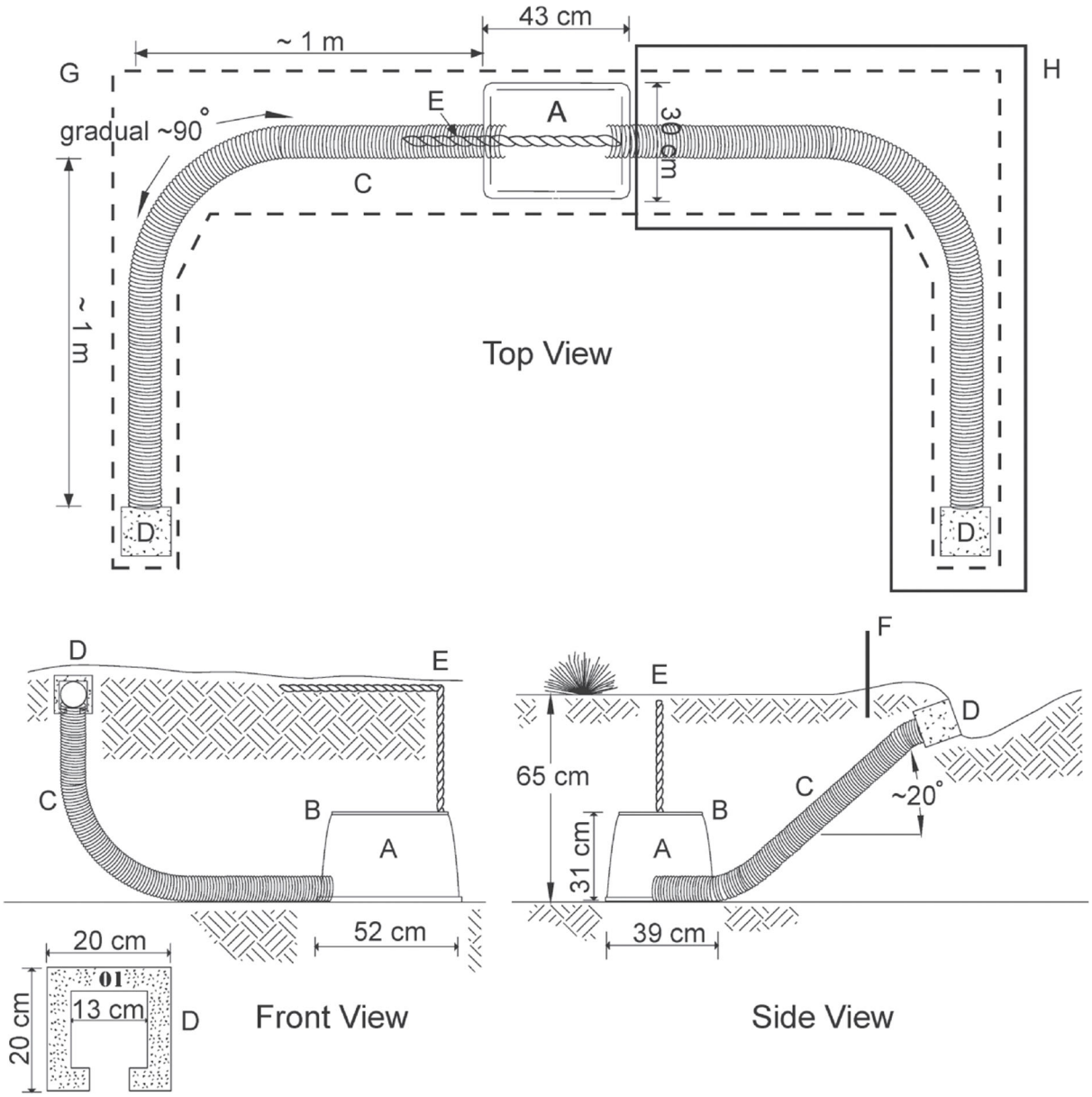
Appendix A

Artificial Burrowing Owl Burrow Design

Artificial Burrowing Owl Burrow Design



A - Plastic irrigation valve box, 48 cm long x 35 cm wide x 27 cm high (inside dimensions)
B - Removable lid
C - Ca. 2 m of 10-cm diameter perforated flexible plastic pipe
D - 20 x 20 x 15 cm hollow concrete block
E - Plastic rope or chain marking location of nest chamber on ground surface
F - 0.5 m perch post (optional)
G - Excavation footprint for installation – – –
H - Optional second entrance



A - Plastic irrigation valve box, 48 cm long x 35 cm wide x 27 cm high (inside dimensions)
B - Removable lid
C - Ca. 2 m of 10-cm diameter perforated flexible plastic pipe
D - 20 x 20 x 15 cm hollow concrete block
E - Plastic rope or chain marking location of nest chamber on ground surface
F - 0.5 m perch post (optional)
G - Excavation footprint for installation – – –
H - Optional second entrance

Appendix E - Clean

SUP DR BIO-3 Updated Burrowing Owl Management Plan

Darden Clean Energy Project

Burrowing Owl Management Plan

prepared for

IP Darden I, LLC and Affiliates
c/o Intersect Power, LLC
9450 SW Gemini Drive, PMB #68743
Beaverton, Oregon 97008

prepared by

Rincon Consultants, Inc.
7080 North Whitney Avenue, Suite 101
Fresno, California 93720

December 2024

RINCON CONSULTANTS, INC. SINCE 1994

Table of Contents

Tables

Figures

Appendices

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 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 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 avoid, minimize, and fully mitigate Project impacts to western burrowing owl, a candidate for listing as a threatened or endangered species under the California Endangered Species Act (CESA)[1]. As a result, no additional mitigation would be required.

This BOMP has been prepared 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), and generation intertie line (gen-tie) components of the Project (Rincon 2024a).
- **Utility Switchyard 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 (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] 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, a 34.5-500 kilovolt (kV) grid substation, a 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 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 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).

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

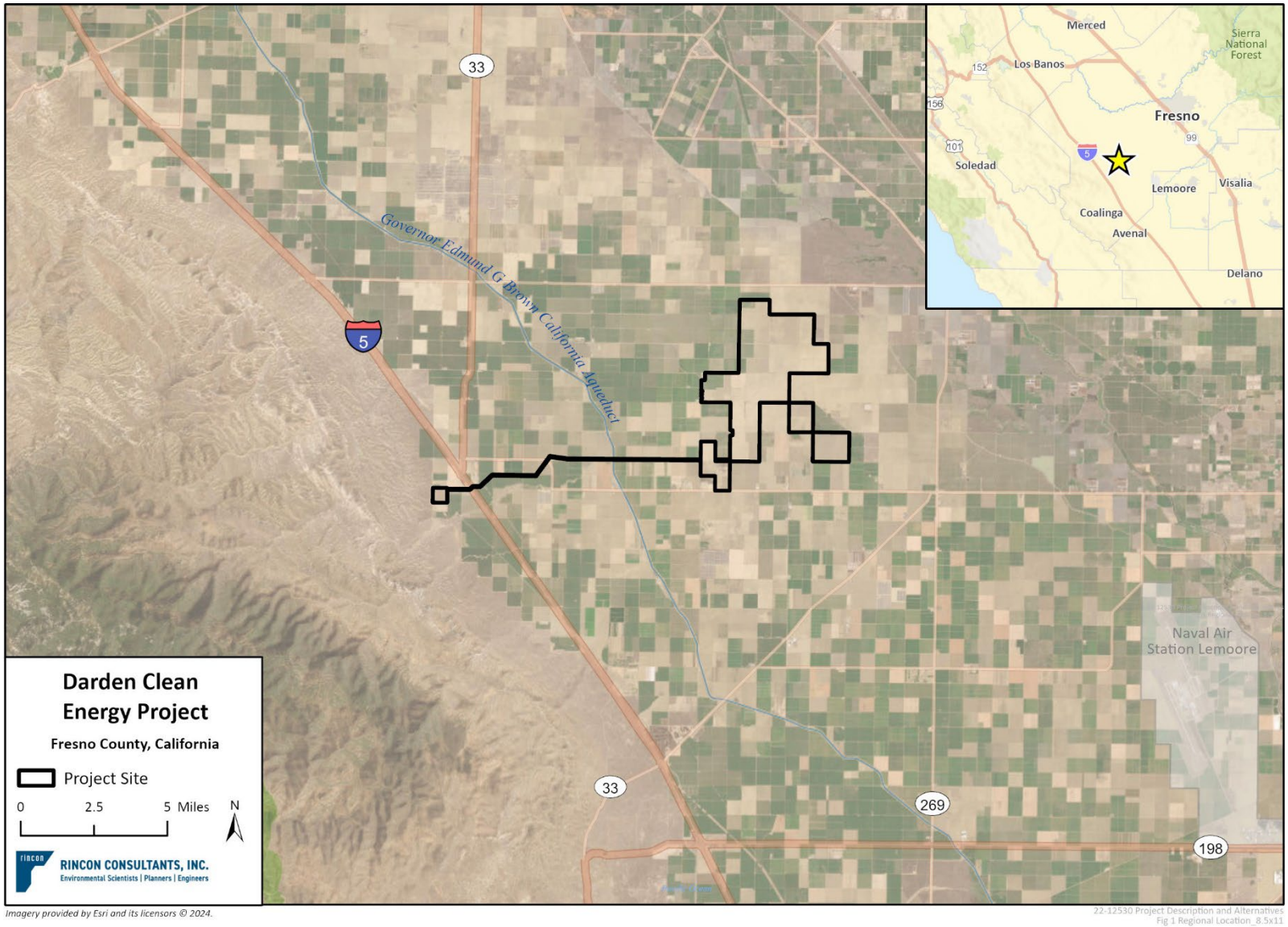
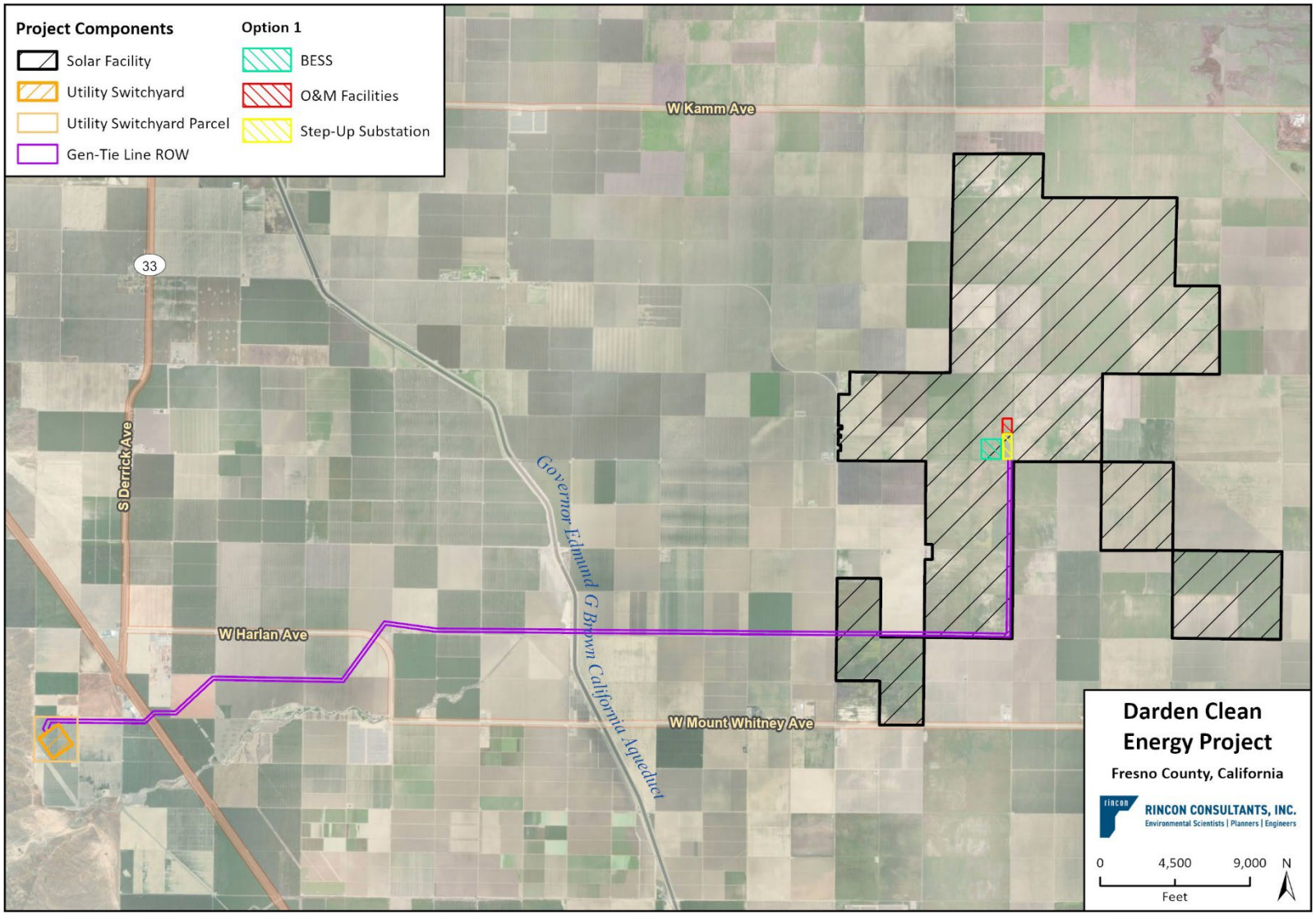


Figure 2 Project Map



2 Existing Conditions

Western burrowing owl is 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. 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.

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 region is 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)

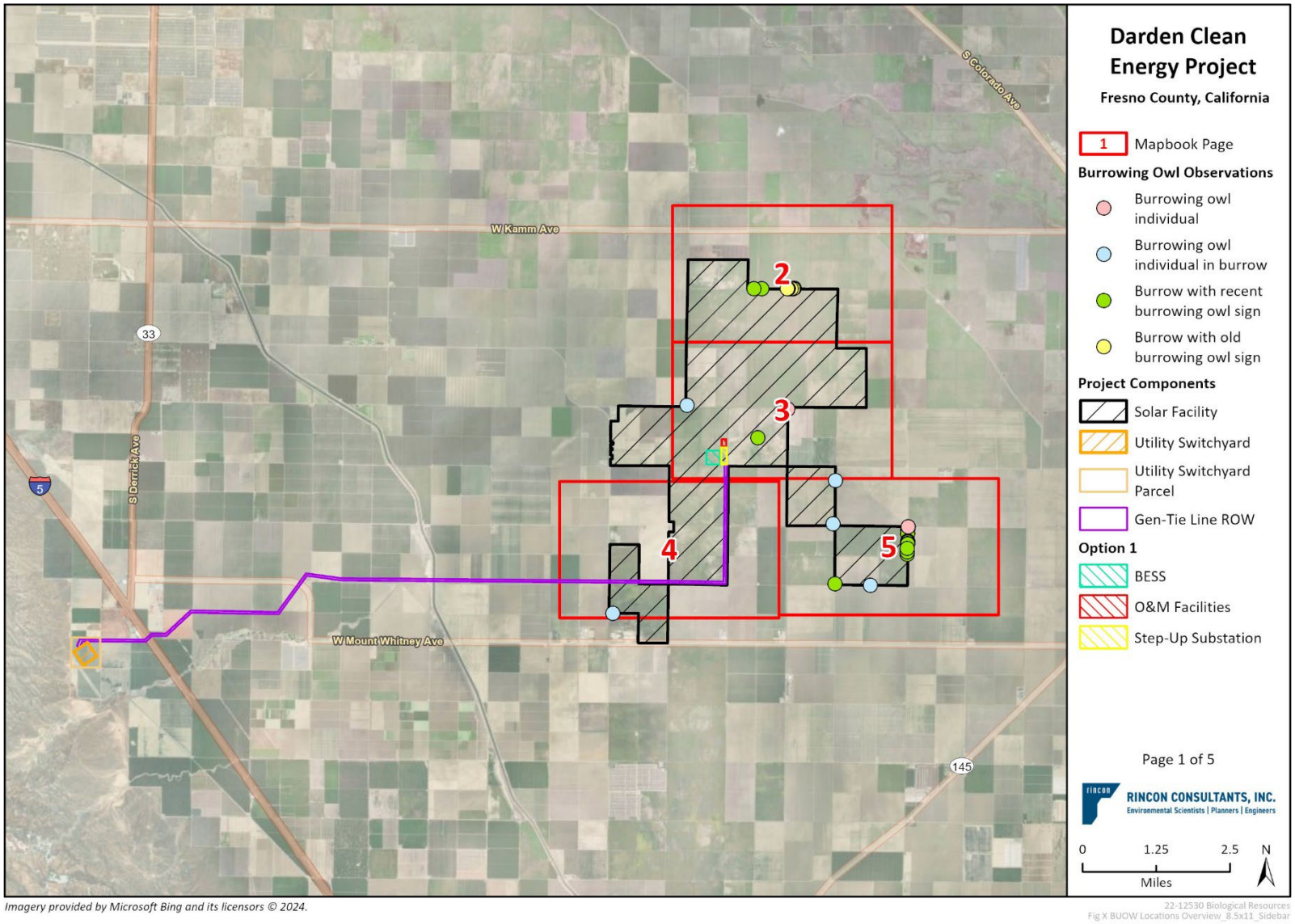


Figure 3b BUOW within the BSA (Mapbook 2)

Figure 3c BUOW within the BSA (Mapbook 3)

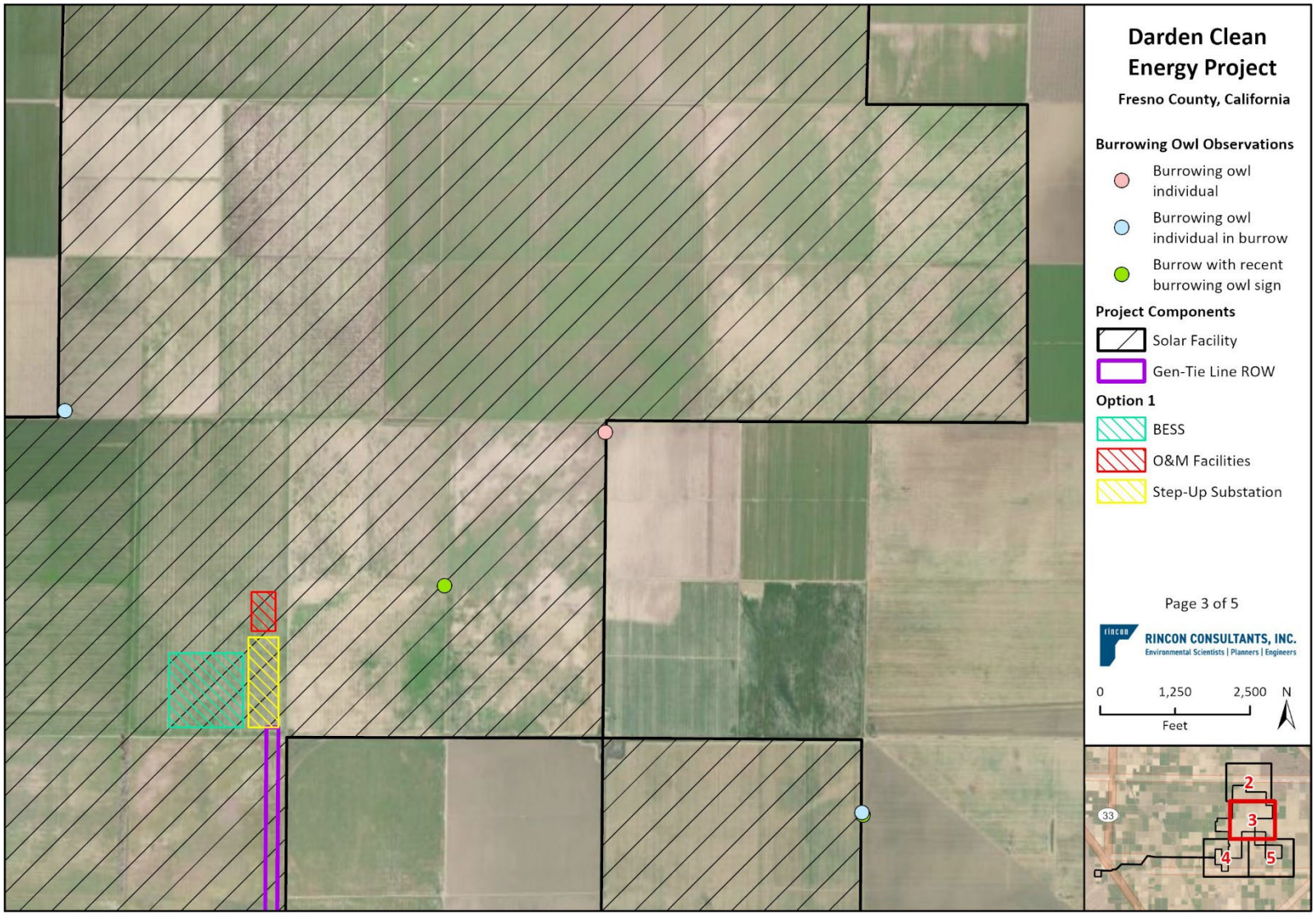


Figure 3d BUOW within the BSA (Mapbook 4)

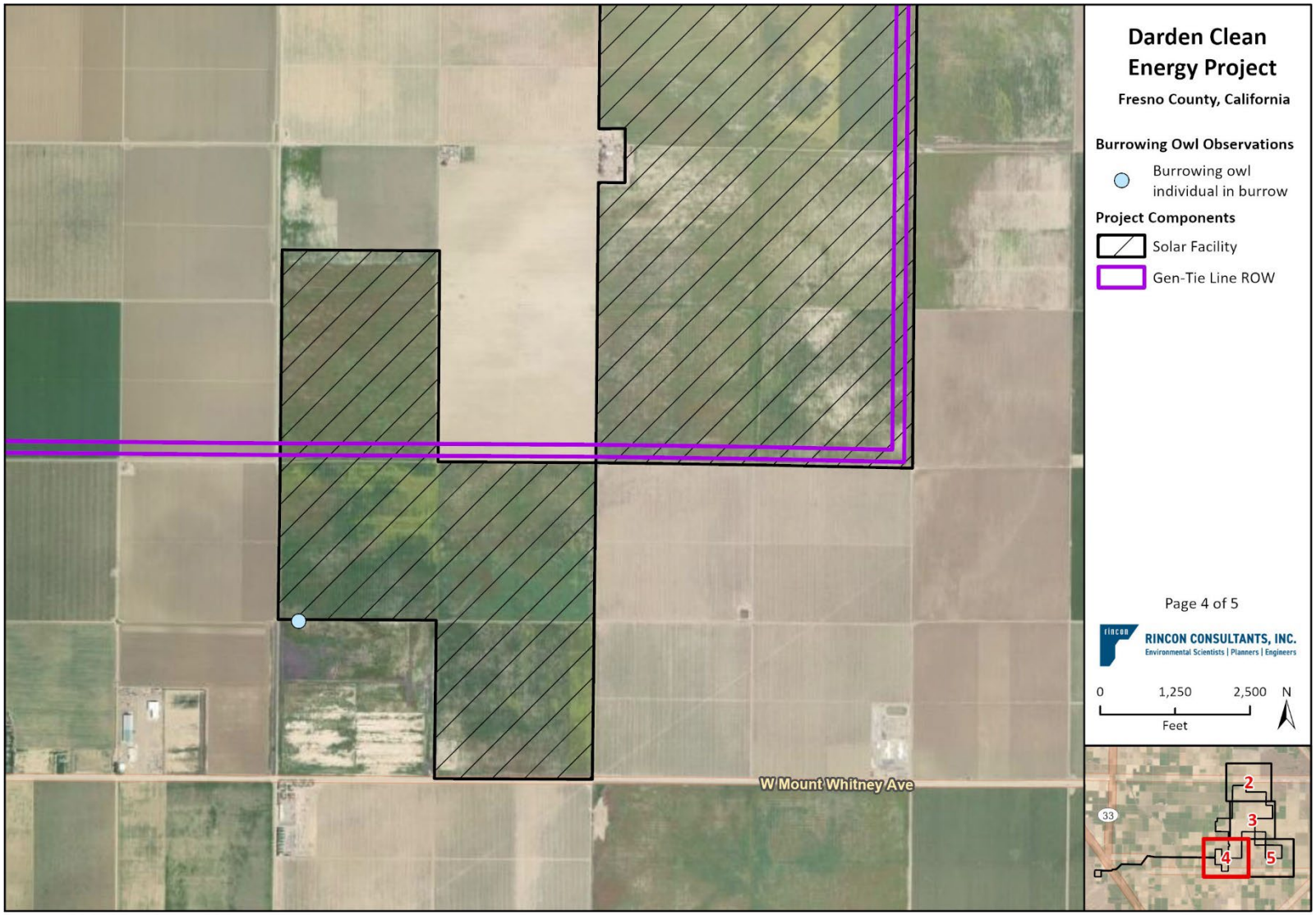


Figure 3e BUOW within the BSA (Mapbook 5)

3 Management Strategy

This section describes management activities for BUOW that will be implemented at the Project site and are designed to avoid, minimize, and fully mitigate impacts to the species.

3.1 Qualified Biologist

The Qualified Biologist will have relevant experience with burrowing owl in California. The Qualified Biologist role may be satisfied by one or more individuals depending on qualifications and experience with burrowing owl.

The Qualified Biologist's responsibilities include leading and/or oversight of the following:

- Pre-project and pre-construction surveys
- Burrow occupancy determinations
- Monitoring occupied burrows and adjacent construction activities
- Establishing appropriate buffers around active nests
- Authorizing reduced activity buffers, where appropriate
- Halting construction at any time to protect burrowing owls
- Burrow excavations and passive relocation
- Management of burrowing owl monitoring data
- Report preparation
- Liaising with CDFW on burrowing owl management issues that may arise in the field during construction monitoring
- Other burrowing owl-related activities that may be required during Project construction

The Qualified Biologist will lead and oversee a team of experienced avian monitors that will support implementation of the above activities across the Project site.

3.2 Pre-construction Surveys

Pre-construction surveys consistent with survey methods outlined in Appendix D of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) shall be conducted by a Qualified Biologist no more than 14 days prior to ground disturbing activities.

As the Project site is large and will be disturbed in phases within discrete areas of the site, pre-construction surveys will be phased such that surveys are conducted no more than 14 days prior to initial ground disturbing activities in each area. Initial pre-construction surveys will cover all areas within 500 feet of all disturbance areas. If no occupied breeding or wintering BUOW burrows are identified, no further action will be required.

If work is halted in a given area for 14 days or greater, pre-construction surveys will be repeated in work areas that are not fully cleared of vegetation following the initial pre-construction survey until all vegetation is cleared. Once vegetation is cleared and construction is ongoing, no additional surveys are required.

3.3 Determination of Occupancy

If suitable burrows for BUOW are identified during pre-construction surveys, burrows will be visited, mapped, and evaluated for the presence of burrowing owl sign:

- Suitable burrows within 150 meters of the Project site will be visited and evaluated for owl presence, where accessible. Only burrows with sign, or burrows that are potentially occupied as determined by the Qualified Biologist, will require monitoring to determine occupancy.
- For on-site suitable burrows, burrowing owl sign (feathers, whitewash, pellets) will be documented and removed.
- Suitable burrows with sign will be visited twice daily for two days (48 hours) for surveillance purposes, to look for any new sign of burrowing owl.
- Motion-activated game cameras will be used in combination with burrow visits to determine burrow occupancy. Cameras will be placed within 10 meters of potentially occupied on-site burrows for a minimum of 48 hours. Cameras will be placed as close as possible to off-site burrows, where accessible, to document owl activity.
- If owls are determined to be present by the Qualified Biologist after 48 hours of continuous camera monitoring and/or documented presence of new burrowing owl sign, the appropriate exclusion buffer will be delineated and marked.
- If 48 hours of continuous monitoring and site visits demonstrate no presence of owls, a burrow may be determined to be unoccupied.

On-site burrows that are determined by the Qualified Biologist to be unoccupied using the above criteria, may be excavated and either blocked or collapsed as described in Section 3.9 *Burrow Excavation*. Unoccupied burrows located outside the Project site will not be excavated.

On-site occupied burrows that will be directly impacted by Project activities may be prepared for passive relocation during the non-breeding season, as described in Section 3.8 *Passive Relocation and Exclusion*.

3.4 Nesting Deterrence

As construction activities may have adverse effects on burrowing owls, it may be most protective of owls to deter nesting behaviors at the Project site just prior to the start of construction during the non-breeding season. Suitable burrows that may or may not be occupied by burrowing owls or other protected species may be made less desirable for nesting by the Qualified Biologist by placing small rocks, sticks, or other natural debris near the entrance of the suitable burrow, without blocking it or preventing ingress or egress by any protected species. Nest deterrence shall be conducted by the Qualified Biologist. Deterrence shall not be conducted for sites that lack proximate suitable burrowing habitat. If nesting deterrence activities are shown to have an adverse effect on burrowing owls present in the area, all activities will stop.

Alternatively, or in combination with deterrence, BUOW attractants may be installed in offsite natural or agricultural areas that are not anticipated to have human disturbance, or in onsite wildlife buffer areas, in order to encourage returning BUOW to favor these locations for nesting compared with locations that may be preparing for construction work to begin during the next breeding season. BUOW attractants may include perches or rock piles.

3.5 Construction Monitoring

Monitoring of occupied BUOW burrows by a Qualified Biologist is required for all work within defined buffer areas and when sound or visual barriers are used in conjunction with reduced buffer areas, as described in Section 3.6 *Burrow Avoidance and Activity Buffers* and Section 3.7 *Sound or Visual Barriers*. All work completed outside buffer areas defined in Section 3.6 *Burrow Avoidance and Activity Buffers* will not require monitoring by a Qualified Biologist.

During monitoring, the Qualified Biologist will assess BUOW behavior, proximity of work activities, and effectiveness of implemented buffer areas and/or sound or visual barriers to confirm they are functioning as intended. The Qualified Biologist will have the authority to cease construction activities in the vicinity of the buffer area if BUOW become agitated, and will provide recommendations for when work may resume. Sound and visual barriers may be re-evaluated and buffer areas increased, if needed. Biological monitoring for any given activity can be reduced or discontinued once it can be demonstrated that BUOW are not disturbed by the activity, as determined by the Qualified Biologist.

At a minimum, the following information will be documented for each monitored burrow:

- Date burrow first observed/detected
- Status of burrow and outcome (e.g., incubating, brooding, young rearing) if observed
- Distance of the burrow to Project activities
- Type of Project activity occurring within the vicinity of the burrow
- Recommended buffer size including modifications to buffer size
- Recommended sound and/or visual barrier(s) including modifications to barriers

3.6 Burrow Avoidance and Activity Buffers

Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless the Qualified Biologist verifies, through noninvasive methods, that the burrow is not an active nesting burrow. Owls present after February 1 shall be assumed to be nesting unless evidence indicates otherwise. Nest-protection buffers described below shall remain in effect until August 31 or, based upon evidence collected from direct monitoring, until all juvenile owls are foraging independently or the nest has failed as determined by the Qualified Biologist.

Site-specific no-disturbance buffer zones shall be established and maintained between Project activities and occupied burrows that will not be passively evicted and excavated or temporarily closed during construction. Temporary activity buffers will be established under the supervision of the Qualified Biologist to minimize disruption to BUOW based on BUOW activity period and anticipated level of disturbance. Table 1 includes minimum temporary buffer distances and Table 2 includes standard buffer distances. Minimum temporary buffer distances require approval of the Qualified Biologist, and other conditions may apply, including, but not limited to: installation of sound and/or visual barriers (refer to Section 3.7 *Sound or Visual Barriers*), other minimization measures, and enforcement of increase in buffer from minimum to standard as soon as the activity is complete.

Construction activities have been assigned a disturbance level: minimal, low, moderate, high (Table 3). Smaller disturbance buffers are proposed for those activities that are substantially similar or less disruptive compared to agricultural activity that has been occurring at the Project site (e.g.,

site prep work that would be similar to harvesting and disking). Larger disturbance buffers are proposed for Project activities that differ substantially from that of agricultural activity (e.g., pile driving and other high-decibel construction activity).

Table 1 Minimum Temporary Buffer Distance

	Buffer Distance with Barriers (in meters) and Time of Year		
Project Activity Intensity Level	February 1 – April 15	April 16 – August 31	September 1 – January 31
Minimal	0	0	0
Low	30	25	20
Moderate	90	65	35
High	150	90	50

Table 2 Standard Buffer Distance

	Buffer Distance without Barriers (in meters) and Time of Year		
Project Activity Intensity Level	February 1 – April 15	April 16 – August 31	September 1 – January 31
Minimal	0	0	0
Low	100	75	35
Moderate	200	100	50
High	300	250	100

Table 3 Typical Project Activities and Their Intensity Levels

Project Phase	Activity	Activity Description	Intensity Level
Preconstruction	Site Visits	Short-duration, on foot, driving on established roads, quiet	Minimal
	Environmental Resource Surveys and Monitoring	Short-duration, on foot, driving on established roads, quiet	Minimal
	Activity Buffer Staking and Flagging	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Minimal
	Civil Survey, Staking, and Flagging	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Minimal
	Met Tower Installation	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Low
	Geotechnical Testing	Short-duration, on foot, driving off-road after wildlife surveys, quiet	Low
	Trenchless Wildlife Exclusion Fence Installation	Short-duration in any one location, driving off-road after wildlife surveys, fairly quiet	Low
	Trenched Wildlife Exclusion Fence Installation	Short-duration in any one location, trenching, driving light and heavy equipment, low-moderate noise	Moderate
Site Preparation	Environmental Monitoring	Short-duration, passive observation of natural resources conducted by trained environmental field professionals on foot and in vehicles	Minimal
	Vegetation Mowing (4+ inches)	Mowing well above the ground surface to de-bulk grassland, cropland, or weedy vegetation, single pass, short duration in any single location	Moderate

Project Phase	Activity	Activity Description	Intensity Level
	Vegetation Mowing (0-4 inches)	Mowing of vegetation very close to the ground surface, single pass, short duration in any single location, low to moderate soil disturbance, noise, and vibration	High
	Woody Vegetation Removal and Site Grubbing	Removal, chipping, and grubbing of soils to remove woody bulk, medium duration, targeted in locations with high woody vegetation content, extensive soil disturbance, noise, and vibration	High
	Site Grading	Movement of soil and recontouring of site topography, medium duration, may be targeted in localized areas, extensive soil disturbance, noise, and vibration	High
	BMP Installation (Hand Tools)	Short-duration, on foot, driving on established roads, quiet	Low
	BMP Maintenance (Hand Tools)	Short-duration, on foot, driving on established roads, quiet	Low
	BMP Installation (Light Machinery)	Short-duration, using light equipment, driving on established roads and offroad	Low
	BMP Installation (Heavy Machinery)	Short- to moderate-duration, using heavy equipment, driving on established roads and offroad, extensive soil disturbance, noise, and vibration	High
	Security Fence Installation	Shallow foundation excavation, concrete pouring, and post establishment, and laying fencing fabric, short duration in any one location	Low
	Road Compaction	Use of graders and rollers, extensive noise and vibration, moderate duration in any one location	High
	Equipment and Material Laydown	Movement and staging of equipment and materials, extensive noise and vibration, moderate duration in a few locations	Moderate
Major Equipment Installation, Site Cleanup, Restoration	Cable Trenching (Ditch Witch)	Single-pass cable zippering with minimal soil disturbance, extensive noise and vibration, short duration in any one location	Moderate
	Cable/Fiber Trenching (Excavate Full Trench)	Trench excavation with heavy machinery, extensive noise and vibration, moderate duration in any one location	High
	Pile Driving	Vibratory pile driving, low noise and moderate vibration, moderate duration in any one location	Moderate
	Panel Installation	Use of hand tools to secure panels to mounts, short-distance driving, low noise, low duration in any one location	Low
	Inverter Installation	Skid assembly; inverter delivery; hand tools and light equipment; moderate noise; moderate duration in any one location	Moderate

Project Phase	Activity	Activity Description	Intensity Level
	Substation Assembly	Isolated to one location, hand tools and light equipment use, component deliveries, welding, high noise, moderate-to-high duration	Moderate
	BESS Delivery and Interconnection	Isolated to one location, hand tools and light equipment use, component deliveries, welding, high noise, moderate-to-high duration	Moderate
	Gen-tie Pole Foundation Excavation	Drilling and excavation with heavy machinery, extensive noise and vibration, moderate duration in any one location	High
	Helicopter Construction	High noise and creation of local wind and dust; moderate duration in any one location	High
	Water + Other Truck Use	Spraying water for dust suppression, low noise and vibration, low duration in any one location	Low
	Hydroseeding	Spraying seed mixture, low noise and vibration, low duration in any one location	Low
	Broadcast Seeding	Hand tools or light equipment use, quiet, single pass	Minimal
	Drone Use	Vertical distance, low noise, no vibration, low duration in any one location	Low
	Directional Drilling	High noise and vibration, isolated, moderate duration in any one location	Moderate
O&M	Drone Inspections	Vertical distance, low noise, no vibration, low duration in any one location	Low
	General Maintenance of Equipment	No ground-disturbing, hand tools or light equipment use, low duration in any one location	Low
	Soil Binder Application	Spraying mixture, low noise and vibration, low duration in any one location	Low
	Fenceline Trash Cleanup	Hand tools or light equipment, low duration in any one location	Low
	Panel Washing	Spraying water for panel cleaning, low noise and vibration, low duration in any one location	Low
	Ground-disturbing O&M Activities	Major equipment replacement or maintenance requiring ground disturbing (excavation, drilling, etc.)	Moderate-High

3.7 Sound or Visual Barriers

Temporary sound and/or visual barriers will be implemented to reduce visual and audible disturbance where deemed necessary by the Qualified Biologist. Barriers should be placed between construction activities and the occupied burrows, at the maximum distance feasible from the occupied burrows. Barriers should be placed to interrupt the line of sound/sight between construction activities and occupied burrows. Project activities would be allowed to proceed with a reduced buffer if barriers are installed, based on the Project activity and relative level of disturbance (as outlined in Section 3.6 *Burrow Avoidance and Activity Buffers*).

The barriers will be established with the following general guidelines regarding configuration to ensure effective sheltering of active burrows:

- Barriers may be created with hay bales, fencing, or another physical barrier between the occupied burrow and construction activities
- Installation of barriers will be monitored by a Qualified Biologist
- Burrows will be monitored routinely by a Qualified Biologist during any construction activity that is within reduced buffers with barriers
- The biologist will have the authority to cease construction activities in the vicinity of the buffer area if BUOW become agitated
- All barriers will be removed, under the supervision of a Qualified Biologist, after construction is complete

3.8 Passive Relocation and Exclusion

If avoidance of occupied BUOW burrows is infeasible, the Qualified Biologist may passively relocate BUOW found within construction areas during the non-breeding season, September 1 to January 31, but may also occur in the late summer months (August and September) if the Qualified Biologist determines that the burrow is no longer active. Passive relocation is a technique to exclude burrowing owls from the Project site by first providing replacement burrows off site (if needed), blocking or collapsing all unoccupied burrows within the construction site, and finally installing one-way doors on occupied burrows to evict the burrowing owl without handling it.

If an occupied burrow within the Project footprint cannot be avoided and requires passive relocation, the Qualified Biologist will conduct the following:

- Determine if suitable burrows are located outside the impact area that would be acceptable for the BUOW to take refuge in during the relocation process;
- Verify that potential offsite refuge burrows are not currently occupied;
- Identify burrows and/or other structures in the impact footprint that may need to be collapsed, removed, or blocked;
- Assess the need for creation of artificial burrows, if necessary (i.e., there are insufficient burrows outside the impact area). If necessary, for each owl that is evicted, two artificial burrows shall be installed in suitable nearby habitat areas, per the *Users Guide to Installation of Artificial Burrows for Burrowing Owls* (Johnson et al. 2010; Appendix A).

The use of passive relocation techniques in a given area shall be determined by the Qualified Biologist based on existing and future conditions (e.g., time of year, vegetation/topographic screening, and disturbance regimes). It is assumed passive relocation, if necessary, may occur in areas of moderate to high intensity construction activities. Passive relocation of burrowing owls shall be limited in areas adjacent to Project activities that have a sustained or low-level disturbance regimen; this approach shall allow BUOW that are tolerant of existing agricultural and Project activities to occupy quality, suitable nesting and refuge burrows. Substantial agricultural land located adjacent to and on all sides of the Project site provides suitable habitat for BUOW. It is expected that any owls evicted from currently occupied burrows will naturally disperse to nearby suitable habitat outside the Project construction area. If needed, artificial burrows may be installed within a nearby suitable location following guidelines in the Mitigation Methods section of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

3.8.1 Artificial Burrows

Artificial burrows may be constructed off site to replace on-site occupied burrows that are removed for Project construction. The number of artificial burrows (if any) will depend on the availability of suitable unoccupied burrows in the surrounding area and on the number of burrowing owls evicted from the site.

- Artificial burrows will be placed 110 meters to 300 meters from suitable natural burrows or from other artificial burrows to minimize territorial conflicts and nest abandonment by neighboring burrowing owl pairs (if any are present).
- Artificial burrows will be located at least 50 meters outside any temporary or permanent Project impact areas, but as close as possible to the original burrow and no more than one mile from the original burrow location if possible. Artificial burrows will be located in coordination with CDFW.
- Artificial burrows will be designed, constructed, and installed following guidelines the *Users Guide to Installation of Artificial Burrows for Burrowing Owls* (Johnson et al. 2010) referenced in CDFG 2012. Perching locations such as low mounds (e.g., 17 to 20 centimeters) or short perches (less than 60 centimeters) will be added outside (in front of) the burrow. Rocks will be placed at the entrance to prevent trampling and deter predator digging.
- The locations of all natural and artificial burrows will be recorded, and the burrows will be photographed. Distances to the nearest construction activity, road, drainage, and any other natural and artificial burrows will also be recorded. A comparison of vegetation, habitat types, fossorial species usage, and other features will be made between the occupied and artificial burrow sites and will be recorded. All data will be included in progress reports.
- Artificial burrows shall be left in place throughout all phases of the Project.
- All artificial burrows and mapped natural burrows will be monitored for burrowing owl use at least once per quarter throughout the construction phase of the Project. During monitoring visits, the burrows will also be inspected to ensure they are still suitable for burrowing owls.
- As needed, artificial burrows may be cleaned and maintained to ensure suitability for burrowing owl use during the construction phase.
- If natural burrows are no longer suitable for burrowing owl use (e.g., due to mammal digging), new artificial burrows may be constructed as replacements, or additional inventories of natural burrows may be needed to ensure sufficient availability.
- After the construction phase of the Project ends, monitoring and maintenance of artificial burrows will be subject to O&M phase monitoring requirements, in coordination CDFW.

3.8.2 Burrowing Owl Exclusion

Following elimination of all suitable inactive burrows within the construction area and installation of artificial burrows, exclusion of BUOW from occupied burrows or potentially occupied burrows (or complex of burrows) will occur through the installation of one-way doors. One-way doors will be installed on all confirmed and potential access points to the burrows for at least 48 hours prior to initiating burrow excavation or left in place during construction activities. Doors will be placed to fully seal the burrow access points and will be secured in place using native soils, wire pins, or similar methods. If small gaps occur around the edges of the one-way doors, burlap cloth or similar material may be used to prevent small wildlife from accessing the burrow.

During the initial installation of one-way doors, the Qualified Biologist will record the presence and/or absence of BUOW sign at all burrow locations. All sign (tracks, molted feathers, pellets, prey remains, whitewash, nest material/decorations, and other items indicative of BUOW occupancy) will be subsequently cleared from the site in order to document the potential recurrence of BUOW presence at the burrow. Scoping and/or remote cameras may be used to confirm the absence of burrowing owls after the 48-hour exclusion period and prior to burrow excavation. Following confirmation that burrows are unoccupied, the burrows may be excavated as described in Section 3.9 *Burrow Excavation*.

If burrows will not be directly impacted by Project development, the one-way doors will remain in place throughout the construction phase of the Project and the burrows will not be excavated. Regular monitoring will be conducted to ensure the one-way doors remain operational and the burrows remain unoccupied.

3.9 Burrow Excavation

For burrows that are determined by the Qualified Biologist to be unoccupied (refer to Section 3.3 *Determination of Occupancy*) or from which burrowing owl have been excluded (refer to Section 3.8 *Passive Relocation and Exclusion*), the Qualified Biologist will excavate each burrow or burrow complex slated for eviction and collapse using hand tools or small tracked equipment.

Once excavation of an entire burrow/complex is complete, the Qualified Biologist will verify that no BUOW or wildlife reside within the burrow and the site will be backfilled with native soils to prevent future occupancy. Once excavation and closure of the burrow is complete, the site will be photographed to document completed exclusion and effectiveness.

If BUOW are observed within the burrow during excavation, the activity will be halted immediately. One-way doors will be immediately re-installed; and, if necessary, piping large enough to allow BUOW to exit the burrow will be placed to prevent collapse of the occupied burrow. Monitoring of the site will resume until the burrow is determined to be unoccupied. If eggs are observed, all one-way doors will be immediately removed from the burrows, excavation activities will cease, and CEC and CDFW will be notified.

Following completion of all burrow excavations within the Project site, the site will be monitored for BUOW until initiation of construction to ensure that BUOW have not returned to the burrow or burrow area. A Qualified Biologist will be present to monitor the initiation of Project construction activities around the BUOW burrow excavation area to verify that the site has not been recolonized by owls and to avoid take of BUOW.

4 Reporting

If BUOW exclusion and passive relocation is conducted, a report will be submitted to the CEC and CDFW with the following details:

- A description and representative photographs of BUOW sign observed prior to exclusion and/or burrow excavation;
- A full account of one-way doors installed, locations, methods, and photographs;
- Passive and active monitoring methods and observations;
- A description of equipment and methods used in burrow excavation (hand tools, piping, etc.) and any general wildlife relocated from the burrow;
- Photographic documentation of completed burrow excavation and completion of backfill of burrows showing effectiveness;
- Project maps showing BUOW observations, burrows excluded, and burrows excavated;
- Dates that each avoidance and minimization measure was implemented;
- Results of monitoring conducted to demonstrate effectiveness of the measures;
- Dates and description of the initial construction activities.

Any BUOW burrow discovered during the construction phase will be documented in monthly reports as outlined in the PV and Gen-tie Biological Resources Management Plan and the Utility Switchyard Biological Resources Management Plan (Rincon 2024a, Rincon 2024b).

5 Mitigation

Eight individual BUOW, 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. Of these eight individuals and twenty-two burrows, seven individuals and twenty-one burrows were located along the margins of seasonally managed non-active agricultural fields in areas that will likely be avoided during construction. The solar facility parcels are currently managed under an ongoing regimen of regular disking to manage weed infestations that is not conducive to nesting and provides inconsistent quality of foraging habitat.

While the exact number and location of BUOW individuals on the Project site may change (and will be verified through pre-construction surveys) prior to construction, based on existing conditions, the majority of BUOW are expected to be located in areas along the edge of the Project site outside of the Project development footprint (i.e., burrows would not require excavation and collapse). Therefore, avoidance and implementation of minimization measures outlined in Section 3 *Management Strategy* is expected for most individuals and burrows. Project operations would continue to avoid these areas and maintenance activities would result in less disturbance to BUOW than current disking practices.

In limited cases where avoidance is not feasible, mitigation for permanent direct impacts to occupied BUOW burrows would occur through installation of artificial burrows, if necessary (i.e., when there are insufficient burrows outside the impact area), within a nearby suitable location following guidelines in the Mitigation Methods section of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Prior to excavation, the Qualified Biologist shall verify that evicted owls have access to multiple, unoccupied, alternative burrows outside of the projected disturbance zone, and as close to the evicted burrow as feasible given Project work areas. If no suitable alternative natural burrows are available for the owls within ¼ mile, then, for each owl that is evicted, two artificial burrows shall be installed in suitable nearby habitat areas, per the *Users Guide to Installation of Artificial Burrows for Burrowing Owls* (Johnson et al. 2010) referenced in CDFG 2012. The artificial burrow design and installation shall be consistent with the methods described in the Burrowing Owl Exclusion Plan per Appendix E of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

In addition, implementation of the Project's Vegetation Management Plan would result in post-construction restoration of the Project site to a mix of native and naturalized grassland and forb species which would provide a more consistent source of foraging habitat for the species than currently exists under the regular disking regimen. One of the primary goals would be to restore habitat to a vegetation community with a maximum height of 12 inches, reducing the need for mowing as part of long-term habitat management. Reduction of mowing would substantially reduce the potential for impacts to species that may occupy the site during the O&M phase of the project. Implementation of the Vegetation Management Plan is expected to result in restoration of approximately 9,000 acres to permanent annual grassland habitat. Based on an estimated foraging range of approximately 300 acres per BUOW, once restored the Project site would include enough foraging habitat to support over 30 BUOWs which is over three times the number of owls that were observed onsite.

In addition to all previously outlined measures, as applicable, the following O&M measures will be implemented during O&M activities.

1. O&M phase WEAP
    a. The O&M Phase WEAP will include all of the content relating to BUOW included in the construction WEAP (i.e., biological information on BUOW, their legal protections, the consequences of impacts to the species, and the required measures and procedures to avoid impacts to this species), updated for the O&M activity, staff and applicable contact information.
2. Speed Limits
    a. O&M Phase site speed shall be limited to 15 mph on unimproved roads and 25 mph on improved roads.
3. Pre-Mowing Surveys
    a. A Qualified Biologist shall conduct pre-activity surveys within 7 days prior to mowing following the survey guidelines outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Surveys shall be required during the initial phases of site restoration (up to 3 years) when mowing may be required to manage invasive weeds.
4. Pre-Activity Surveys
    a. A Qualified Biologist shall conduct burrowing owl clearance surveys 7 days prior to maintenance activities that would require clearing, grubbing or other ground disturbance following the survey guidelines outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).
5. Active Burrow Avoidance
    a. A Qualified Biologist shall implement BUOW avoidance buffers for any active burrows documented during clearance surveys, following the procedures outlined in Section 3 *Management Strategy*.
6. Biological Monitoring
    a. A Qualified Biologist shall monitor any maintenance activity occurring within avoidance buffers of an active burrow, following the procedures outlined in Section 3.5 *Construction Monitoring*. The Qualified Biologist shall have cease-work authority if burrowing owls are observed to be disturbed from maintenance activity.
7. Reporting
    a. Pre-activity and monitoring reports shall be prepared following the guidelines outlined in Section 4 *Reporting*. Reports shall be submitted to the CEC. If the species is still a candidate for listing or listed under the CESA at the time of reporting, reports shall also be submitted to CDFW.

The outlined strategy of: 1) avoidance and minimization of impacts to the majority of BUOW individuals and burrows located along the margins of the Project site; 2) installation of artificial burrows at a 2:1 ratio for a limited number of burrows that are directly impacted by Project activities; 3) restoration of the Project site to improve overall habitat suitability and foraging conditions for the species; and 4) O&M phase avoidance and minimization measures would result in full mitigation of potential impacts to the species and no net loss of habitat for BUOW.

6 References

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. Department of Fish and Game. March 7, 2012. http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf2.

California Fish and Game Commission. 2024. *California Fish and Game Commission Notice of Findings: Western Burrowing Owl (Athene cunicularia hypugaea)*. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=227089&inline. October 15, 2024. (accessed November 2024).

Center for Biological Diversity. 2024. Petition To List California Populations of the Western Burrowing Owl (*Athene cunicularia hypugaea*) as Endangered or Threatened Under the California Endangered Species Act. https://biologicaldiversity.org/species/birds/western_burrowing_owl/pdfs/CA-Burrowing-Owl-Petition-3-5-24.pdf (accessed November 2024).

Fresno, County of. 2000. General Plan Update. Draft Environmental Impact Report.

Johnson, D. H., D. C. Gillis, M. A. Gregg, J. L. Rebholz, J. L. Lincer, and J. R. Belthoff. 2010. Users guide to installation of artificial burrows for Burrowing Owls. Tree Top Inc., Selah, Washington. 34 pp.

Large-Scale Solar (LSA) Association. 2024. Burrowing Owl Conservation Strategy for Large-scale Solar Photovoltaic and Battery Energy Storage Projects in California. Version 1 – November 4, 2024. https://largescalesolar.org/wp-content/uploads/2024/11/2024-11-04_Burrowing-Owl-Conservation-Strategy_FINAL.pdf (accessed November 2024).

Rincon Consultants, Inc. (Rincon). 2023a. Darden Clean Energy Project California Energy Commission Application. October 2023.

_____. 2023b. Darden Clean Energy Project Swainson's Hawk Conservation Strategy. October 2023.

_____. 2024a. Darden Clean Energy Project PV and Gen-tie Biological Resources Management Plan. December 2024.

_____. 2024b. Darden Clean Energy Project Utility Switchyard Biological Resources Management Plan. December 2024.

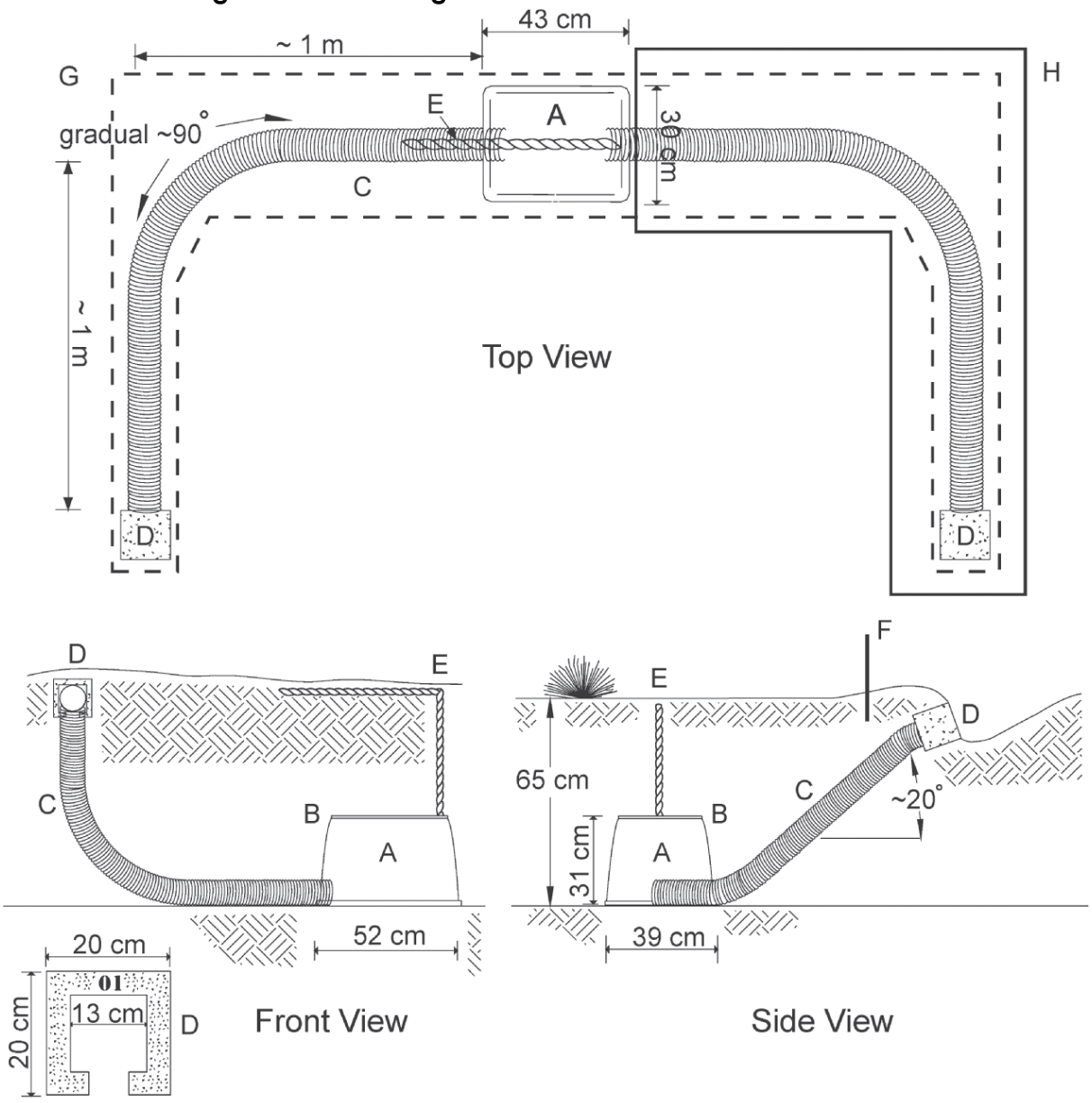
_____. 2024c. Darden Clean Energy Project CEC Data Request Response Set #4. May 2024.

_____. 2024d. Darden Clean Energy Project CEC Supplemental Data Request Response Set #1. December 2024.

Appendix A

Artificial Burrowing Owl Burrow Design

Artificial Burrowing Owl Burrow Design



A - Plastic irrigation valve box, 48 cm long x 35 cm wide x 27 cm high (inside dimensions)
B - Removable lid
C - Ca. 2 m of 10-cm diameter perforated flexible plastic pipe
D - 20 x 20 x 15 cm hollow concrete block
E - Plastic rope or chain marking location of nest chamber on ground surface
F - 0.5 m perch post (optional)
G - Excavation footprint for installation – – –
H - Optional second entrance