DOCKETED	
Docket Number:	24-OPT-04
Project Title:	Potentia-Viridi Battery Energy Storage System
TN #:	265208
Document Title:	Biological Resources Responses to CEC Emails
Description:	Includes responses to the CEC's request and includes the following attachments: Civil Plans, Revised LSAA Application, Redlined LSAA Application, Field Forms, Resumes, Biological Opinion
Filer:	Ronelle Candia
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	8/1/2025 2:04:20 PM
Docketed Date:	8/1/2025

CEC Data Request – Biological Resources Follow-Up Response

Potentia–Viridi Battery Energy Storage Project

AUGUST 2025

Prepared for:

CALIFORNIA ENERGY COMMISSION

Prepared by:

LEVY ALAMEDA LLC

Table of Contents

SECTION **PAGE NO.**

1 Introduction 1

2 Biological Resources 3

2.1 Data Requests 1 through Data Requests 3 3

2.1.1 Data Request DR 1 3

2.1.2 Data Request DR 2 3

2.1.3 Data Request DR 3 4

ATTACHMENTS

1 Civil Plans

2 Revised LSAA Application

3 Redlined LSAA Application

4 Field Forms

5 Resumes

6 Biological Opinion

INTENTIONALLY LEFT BLANK

1 Introduction

On July 22, 2025 and July 28, 2025, Levy Alameda LLC (Applicant) received emails from the California Energy Commission (CEC) for the Potentia-Viridi Battery Energy Storage Project (Project; Docket Number 24-OPT-04 requesting additional information related to biological resources. This document responds to the CEC's request and provides further clarification on biological resources related to the Project.

INTENTIONALLY LEFT BLANK

2 Biological Resources

2.1 Data Requests 1 through Data Requests 3

2.1.1 Data Request DR 1

DR 1. *California Department of Fish and Wildlife has completed review of the "401 Permit Figures" that you docketed (Ref. TN 264903) on 7/18/25. CDFW is requesting expansion of the area of CDFW regulatory authority to elevation 432 on the west side of Patterson Run creek and to 430 on the east. Please revise the plans to reflect CDFW jurisdictional area and provide updated impact estimates in the LSAA notification. Please revise the LSAA notification and re-submit a redline/strike-through version, to include the .kmz files.*

Response: CDFW's jurisdictional area has been revised to the elevations requested and the figures have been updated accordingly and uploaded to the Docket (Attachment 1, Civil Plans). In addition, the LSAA notification has been revised and both the revised application (Attachment 2, Revised LSAA Application) and a redline/strikeout version (Attachment 3, Redlined LSAA Application) have been uploaded to the Docket. The .kmz files have been emailed directly to Mr. Eric Veerkamp for distribution.

2.1.2 Data Request DR 2

DR 2. *REV 1 DR BIO-4 requested the applicant provide the habitat assessment report, field notes and photographs from the burrowing owl surveys completed for breeding and non-breeding seasons. The applicant provided information for the response in Section 2.1.4 of the Data Request Response (TN 264162) stating the habitat assessment report, field notes and photographs will be appended to the Biological Technical Report. However, staff were unable to locate these documents in the appendices. In addition, the response stated the resumes for Lorna Hayworth and Alex Freeman were added to Appendix C, but staff were unable to locate them. Please provide the missing information.*

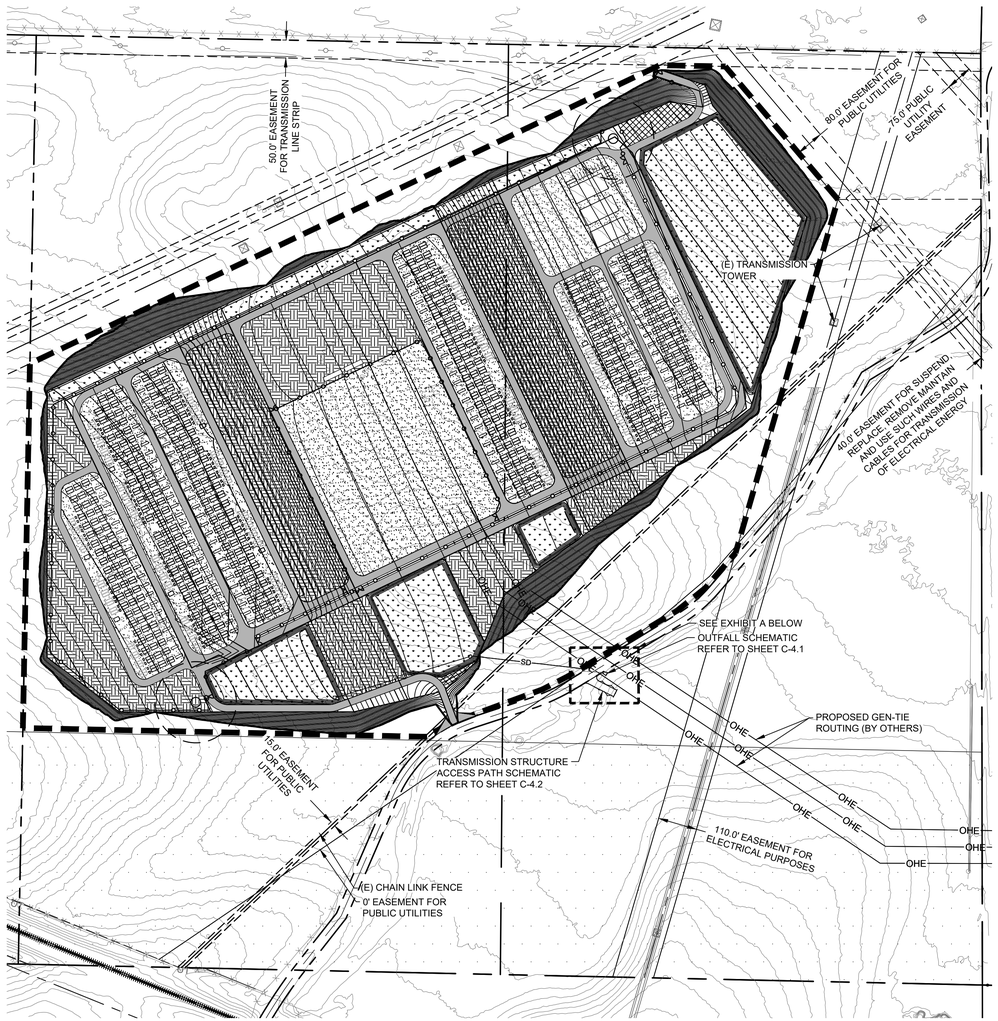
Response: For clarification, a separate habitat assessment report was not prepared for the Project. Instead, the habitat assessment was incorporated into the Biological Resources Technical Report (BTR) and the application documents and the photos from 2024 were appended to the BTR. The burrowing owl habitat assessment was considered in the BTR analysis. See attached for the field forms from the various surveys (includes photos) [Attachment 4, Field Forms] and the requested resumes (Attachment 5, Resumes).

2.1.3 Data Request DR 3

DR 3. ***REV 1 DR BIO-8 requested the applicant to identify if PG&E activities would be covered under the existing PG&E Bay Area Operations and Maintenance Habitat Conservation Plan (HCP). PG&E would construct and own the portion of the gen-tie from the point of change of ownership (POCO) to the point of interconnect (POI) within the Tesla substation. However, the response provided in Section 2.1.8 does not clearly address whether the PG&E activities are covered under the existing HCP. Please confirm whether the PG&E activities are covered under the existing HCP. If it is not, please describe how take coverage for listed species will be provided for PG&E's construction activities.***

Response: The Biological Assessment document that was submitted to the USFWS clearly included the construction activities that will be conducted by PG&E within the project area. These include all of the final connections for electrical transmission, as well as communications, between the POCO and the substation. The resulting Biological Opinion (Attachment 6, Biological Opinion), includes a description of all interconnection facilities at the PG&E substation and defines the installation of the gen-tie line and communications lines as activities to be performed by PG&E. These described activities were analyzed, and subsequently included as covered activities, in the USFWS Biological Opinion (See highlighted sections on pages 7, 8, 9, 12, and 13 of Attachment 6).

Attachment 1
Civil Plans



SITE MAP
SCALE: 1"=200'

200 100 0 200 400
SCALE: 1 INCH = 200 FEET

LEGEND

- CENTERLINE
- EASEMENT LINE
- PROPERTY LINE
- PROPOSED LEASE LINE
- DRAINAGE MANAGEMENT AREA
- EXISTING CHAIN LINK FENCE
- PROPOSED FENCE
- STORM DRAIN PIPE (SD)
- RAILROAD
- EXISTING UTILITY POLE
- EXISTING CONTOURS (200)
- PROPOSED CONTOURS (200)
- ORDINARY HIGH WATER MARK
- TOP OF BANK
- STORMWATER/LID AREA

ABBREVIATIONS

OHWM	ORDINARY HIGH WATER MARK
TOB	TOP OF BANK

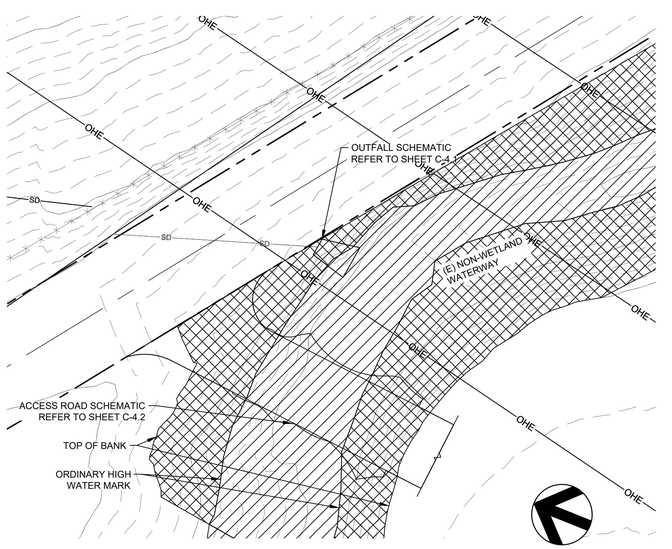


EXHIBIT A
SCALE: 1"=20'

20 10 0 20 40
SCALE: 1 INCH = 20 FEET

SHEET INDEX

C-4.0 - CDFW STREAMBED ALTERATION AGREEMENT
C-4.1 - CONCEPTUAL CIVIL HYDROLOGY HYDRAULIC OUTFALL SCHEMATIC
C-4.2 - CONCEPTUAL ACCESS ROAD SCHEMATIC

UTILITY STATEMENT
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.

811 Know what's below. Call before you dig.

COFFMAN ENGINEERS
1939 Harrison Street, Suite 320
Oakland, CA 94612
ph 510.251.9578
www.coffman.com

POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
4	7/28/25	REV 4
3	7/18/25	REV 3
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	7/28/25

SHEET TITLE:

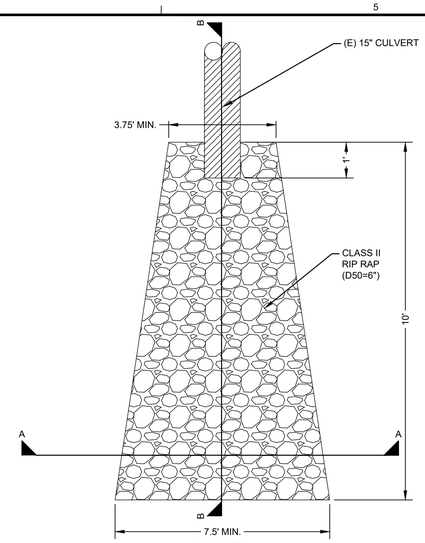
CDFW STREAMBED ALTERATION AGREEMENT

SHEET NO:

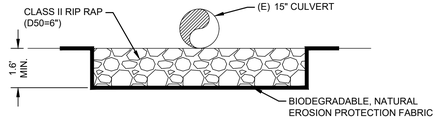
C-4.0

SHEET OF 7

EXHIBIT A
SCALE: 1"=10'

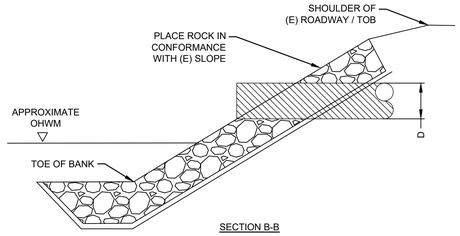


PLAN VIEW



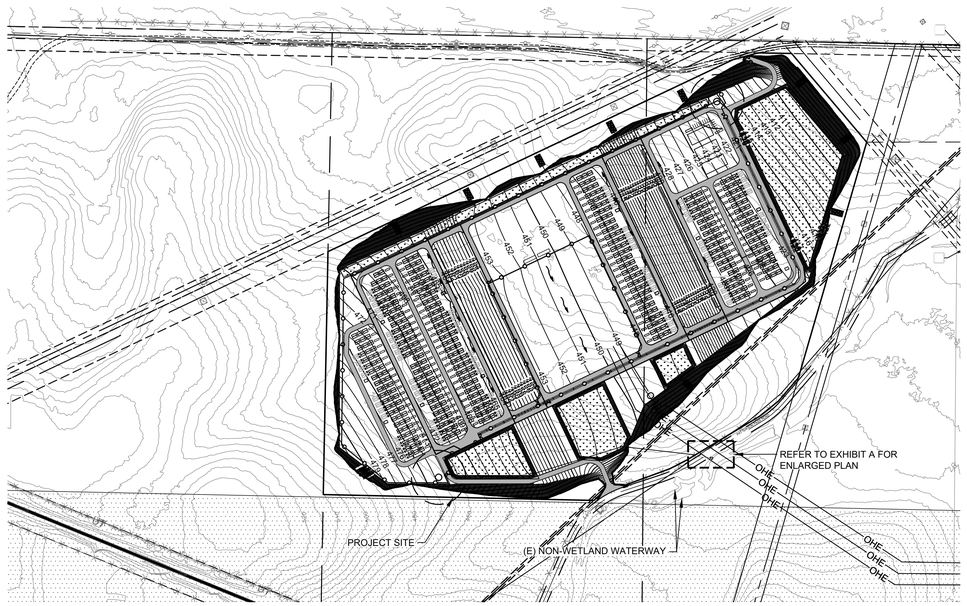
SECTION A-A

NOTES:
ENERGY DISSIPATER SIZED PER FEDERAL HIGHWAY ADMINISTRATION HYDRAULIC ENGINEERING MANUAL



SECTION B-B

1
-
OUTFALL DETAIL
SCALE: NTS



SITE MAP
SCALE: 1"=300'

LEGEND

- CENTERLINE
- EASEMENT LINE
- PROPERTY LINE
- PROPOSED LEASE LINE
- DRAINAGE MANAGEMENT AREA
- EXISTING CHAIN LINK FENCE
- PROPOSED FENCE
- STORM DRAIN PIPE (SD)
- RAILROAD
- EXISTING UTILITY POLE
- EXISTING CONTOURS (200)
- PROPOSED CONTOURS (200)
- ORDINARY HIGH WATER MARK
- TOP OF BANK
- STORMWATER/LID AREA

ABBREVIATIONS

OHWM	ORDINARY HIGH WATER MARK
TOB	TOP OF BANK

OUTFALL TOTAL QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	TOTAL CUT VOLUME (CY)	TOTAL NATIVE FILL VOLUME (CY)	RIP RAP VOLUME (CY)	NET EXPORT (CY)
80	16	8	3	5	5

OUTFALL TOB QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	CUT VOLUME (CY)	NATIVE FILL VOLUME (CY)	RIP RAP VOLUME (CY)	NET EXPORT (CY)
80	16	8	3	5	5

OUTFALL OHWM QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	CUT VOLUME (CY)	NATIVE FILL VOLUME (CY)	RIP RAP VOLUME (CY)	NET EXPORT (CY)
60	12	6	2	4	4

200 100 0 200 400
SCALE: 1 INCH = 200 FEET

UTILITY STATEMENT
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.

811 Know what's below. Call before you dig.

COFFMAN ENGINEERS
1939 Harrison Street, Suite 320
Oakland, CA 94612
ph 510.251.9578
www.coffman.com

POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
4	7/28/25	REV 4
3	7/18/25	REV 3
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	7/28/25

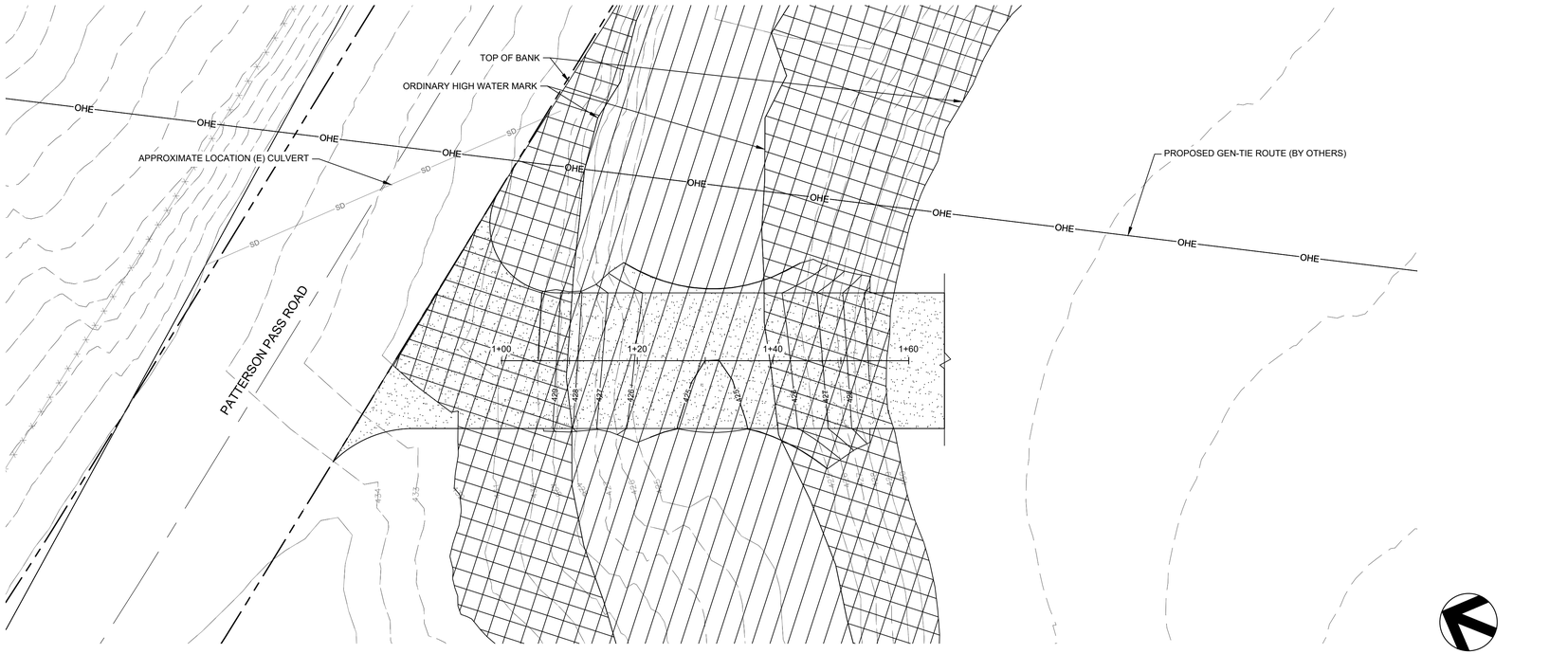
SHEET TITLE:

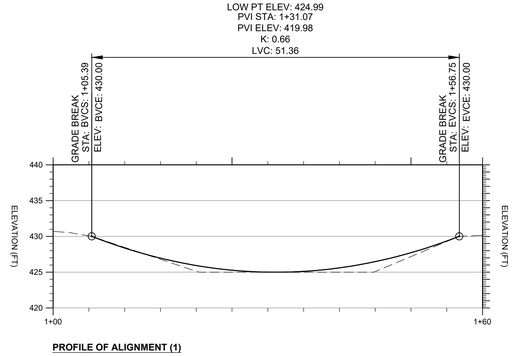
CONCEPTUAL
CIVIL
HYDROLOGY
HYDRAULIC
OUTFALL
SCHEMATIC

SHEET NO:

C-4.1

SHEET 4 OF 7





PROFILE OF ALIGNMENT (1)

LEGEND

- CENTERLINE
- EASEMENT LINE
- PROPERTY LINE
- PROPOSED LEASE LINE
- EXISTING CHAIN LINK FENCE
- PROPOSED FENCE
- STORM DRAIN PIPE (SD)
- EXISTING CONTOURS
- PROPOSED CONTOURS (200)
- ORDINARY HIGH WATER MARK
- TOP OF BANK
- PROPOSED CONSTRUCTION ACCESS

ABBREVIATIONS

OHWM	ORDINARY HIGH WATER MARK
TOB	TOP OF BANK

LOW-WATER CROSSING TOTAL QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	TOTAL CUT VOLUME (CY)	TOTAL IMPORTED FILL VOLUME (CY)	RIP RAP VOLUME (CY)
1,600	18	1	17	35

LOW-WATER CROSSING TOB QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	TOTAL CUT VOLUME (CY)	TOTAL IMPORTED FILL VOLUME (CY)	RIP RAP VOLUME (CY)
1,450	16	1	15	27

LOW-WATER CROSSING OHWM QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	CUT VOLUME (CY)	IMPORTED FILL VOLUME (CY)	RIP RAP VOLUME (CY)
650	7	1	6	12

UTILITY STATEMENT
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.

811 Know what's below. Call before you dig.

COFFMAN ENGINEERS
1939 Harrison Street, Suite 320
Oakland, CA 94612
ph 510.251.9578
www.coffman.com

POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
4	7/28/25	REV 4
3	7/18/25	REV 3
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	7/28/25

SHEET TITLE:

CONCEPTUAL ACCESS ROAD SCHEMATIC

SHEET NO:

C-4.2

SHEET OF 7

Attachment 2

Revised LSAA Application

FOR DEPARTMENT USE ONLY				
Date Received	*Amount Received*	*Amount Due*	*Date Complete*	*Notification No.*
	$	*$*		
Assigned to:				

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the instructions and submit ALL required enclosures, attachments, and fee(s) to the CDFW regional office that serves the area where the project will occur. Attach additional pages to notification, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Patrick Leitch
Business/Agency	Levy Alameda, LLC
Mailing Address	155 Wellington Street West, Suite 2930
City, State, Zip	Toronto, Ontario M5V 3H1, Canada
Phone Number	310-899-5340
Email	PLeitch@capstoneinfra.com

2. CONTACT PERSON (*Complete only if different from applicant.*)

Name	
Business/Agency	
Mailing Address	
City, State, Zip	
Phone Number	
Email	

While an applicant is legally responsible for complying with Fish and Game Code section 1602 et seq., an applicant may designate and authorize an agent (e.g., lawyer, consultant, or other individual) to act as a Designated Representative. The Designated Representative is authorized to sign the notification and any agreement on behalf of the Applicant.

Do you authorize the Contact Person above to represent you as your Authorized Designated Representative?

☑ Yes, I authorize.	☐ No, I do not authorize.

3. PROPERTY OWNER (*Complete only if different from applicant*)

Name	
Mailing Address	
City, State, Zip	
Phone Number	
Email	

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Potentia-Viridi Battery Energy Storage System Project			
B. Agreement Term Requested	☑ Regular (*5 years or less*) ☐ Long-term (*greater than 5 years)*			
C. Project Term	Beginning (*year*)	2026	Ending (*year*)	2030

D. Seasonal Work Period

Season(s)*	Start Date (*month/day*)	End Date (*month/day*)	E. Number of Work Days
1	June 15	October 15	150
2			
3			
4			
5			

** Continue on additional page(s) if necessary*

5. AGREEMENT TYPE

Check the applicable box. If boxes B – F are checked, complete the specified attachment.

A.	Standard *(Most construction projects, excluding the categories listed below)* – **Effective September 1, 2020, notification for Standard Agreements shall be submitted through the EPIMS Permitting Portal.**
B.	☐ Gravel/Sand/Rock Extraction (*Attachment A*) *Mine I.D. Number:* _____
C.	☐ Timber Harvesting (*Attachment B*) *THP Number:* _____
D.	Water Diversion/Extraction/Impoundment (*Attachment C*) – **Attachment no longer available. Notification shall be submitted through the EPIMS Permitting Portal.**
E.	☐ Routine Maintenance (*Attachment D*)
F.	Cannabis Cultivation (*Attachment E*) – **Attachment no longer available. Notification shall be submitted through the EPIMS Permitting Portal.**
G.	☐ CDFW Grant Programs *Agreement Number:* _____
H.	☐ Master
I.	☐ Master Timber Operations

6. FEES

See the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. ***Note: CDFW may not process this notification until the correct fee has been received.***

	A. Project Name	B. Project Cost	C. Project Fee
1	Stormwater Outfall		
2	Low-water Crossing		
3			
4			
5			
6			
7			
8			
9			
10			
		D. Base Fee *(if applicable)*	
		E. TOTAL FEE*	

** Check, money order, and Visa or MasterCard (select Environmental Fees from Menu) payments are accepted.*

7. PRIOR NOTIFICATION AND ORDERS

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, CDFW for the project described in this notification?

☐ Yes (*Provide the information below*) ☑ No

Applicant	Notification Number	Date

B. Is this notification being submitted in response to a court or administrative order or notice, or a notice of violation (NOV) issued by CDFW?

☐ Yes ☑ No (*Enclose a copy of the order, notice, or NOV. If the applicant was directed to notify CDFW verbally rather than in writing, identify the person who directed the applicant to submit this notification, the agency he or she represents, and describe the circumstances relating to the order.*)

Name of person who directed notification	Agency

Describe circumstances relating to order

☐ *Continued on additional page(s)*

8. PROJECT LOCATION

A. Address or description of project location.

(*Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway.*)

The Project is in eastern Alameda County, California. The Project consists of the BESS facility and a generation tie (gentie) alignment to the southeast connecting the facility to the adjacent Pacific Gas & Electric (PG&E) Tesla Substation. The Project is currently undeveloped. The PG&E Tesla substation is directly east; along the western Project boundary there are transmission lines running northeast to southwest; Patterson Pass Road follows the eastern boundary; there is a railroad line to the south and a gravel access road to the north. The gen-tie alignment connecting the BESS facility to the PG&E substation crosses Patterson Pass Road, Patterson Run (an ephemeral stream channel), and runs northwest to southeast to the southwestern corner of the substation. The site and surrounding land have been used for cattle grazing. The area of the BESS facility and immediately south of the substation is not currently being grazed, while much of the gen-tie alignment is currently used as cattle pasture. The nearest city is Tracy, approximately 2.5 miles to the east.

☐ *Continued on additional page(s)*

B. River, stream, or lake affected by the project.	Patterson Run
C. What water body is the river, stream, or lake tributary to?	None
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes ☑ No ☐ Unknown
E. County	Alameda

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
Midway	2S	4E	31	

☐ *Continued on additional page(s)*

K. Meridian (check one) ☐ Humboldt ☑ Mt. Diablo ☐ San Bernardino

L. Assessor's Parcel Number(s)

99B-7890-2-4	99B-7885-12
99B-7890-2-6	

☐ *Continued on additional page(s)*

M. Geographic coordinates (*Provide the latitude and longitude coordinates for the property where the project(s) will take place. CDFW utilizes decimal degrees and WGS 84 datum. Access Google Maps Help if you need assistance in finding your coordinates.)*

Latitude/Longitude	*Latitude:* 37.712130	*Longitude:* -121.573369
	Latitude: ##.#####	*Longitude:* -###.#####
	Latitude: ##.#####	*Longitude:* -###.#####
	Latitude: ##.#####	*Longitude:* -###.#####
	Latitude: ##.#####	*Longitude:* -###.#####

9. PROJECT CATEGORY

WORK TYPE	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR-MAINTAIN-OPERATE EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	☐	☐	☐
Bank stabilization – rip-rap/retaining wall/gabion	☐	☐	☐
Boat dock/pier	☐	☐	☐
Boat ramp	☐	☐	☐
Bridge	☐	☐	☐
Channel clearing/vegetation management	☐	☐	☐
Culvert	☐	☐	☑
Debris basin	☐	☐	☐
Dam	☐	☐	☐
Filling of wetland, river, stream, or lake	☐	☐	☐
Geotechnical survey	☐	☐	☐
Habitat enhancement – revegetation/mitigation	☐	☐	☐
Levee	☐	☐	☐
Low water crossing	☑	☐	☐
Road/trail	☐	☐	☐
Sediment removal: pond, stream, or marina	☐	☐	☐
flood control	☐	☐	☐
Storm drain outfall structure	☑	☐	☐
Temporary stream crossing	☐	☐	☐
Utility crossing: horizontal directional drilling	☐	☐	☐
jack/bore	☐	☐	☐
open trench	☐	☐	☐
Water diversion without facility	☐	☐	☐
Water diversion with facility	☐	☐	☐
Other *(specify)*:	☐	☐	☐

10. PROJECT DESCRIPTION

A. Describe the project in detail. Include photographs of the project location and immediate surrounding area.

- Written description of all project activities with detailed step-by-step description of project implementation.
- Include any structures (e.g., rip-rap, culverts) that will be placed or modified in or near the stream, river, or lake, and any channel clearing.
- Specify volume, and dimensions of all materials and features (e.g., rip rap fields) that will be used or installed.
- If water will be diverted or drafted, specify the purpose or use and include Attachment C.
- Enclose diagrams, drawings, design plans, construction specifications, and maps that provide all of the following: site specific construction details; dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, stockpile areas, areas of temporary disturbance, and where the equipment/machinery will access the project area.
  - A helpful resource to assist in the development of quality PDF maps in Google Earth. See Using Google Earth to Map your Property (PDF).

A stormwater drainage outfall utilizing an existing corrugated metal pipe would be constructed from a new detention basin located in the southwest portion of the site to the inlet of an existing culvert on the north side of Patterson Pass Road. Approximately 5 cubic yards of clean rip-rap (with 3 cubic yards of salvaged native fill) would be placed as an energy dissipater at the outfall to discharge clean stormwater at or below current rates into the existing drainage on the south side of Patterson Pass Road. Equipment will access the site through a low-water crossing along the gen-tie route and all staging of equipment and materials will occur within the project limits for the BESS facility.

The low-water crossing will be designed for the use of a transmission structure access path crossing Patterson Run that will be used for gen-tie construction and O&M access activities. The low-water crossing will remain in place throughout O&M and after decommissioning. However, the Applicant is only permitting for the construction portion of the project and any potential future impacts to Patterson Run will be permitted under a separate permit.

Permanent impacts to Patterson Run will result from the installation of riprap at a stormwater outfall and the installation of a ford (i.e., low-water crossing). The stormwater outfall will impact approximately 80 square feet and 8 linear feet of Patterson Run for the placement of approximately 5 cubic yards of rip-rap below top of bank (with 3 cubic yards of salvaged native fill). The ford will impact approximately 1,450 square feet and 30 linear feet of Patterson Run for the placement of approximately 27 cubic yards of riprap and 15 cubic yards of imported fill below top of bank. The low-water crossing and outfall structure will remain in place throughout O&M and after decommissioning.

See attached Supplemental Information.

☑ *Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

See attached Supplemental Information

☑ *Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).	☐ Yes ☑ No (*Skip to box 11*)
D. Will the project require work in the wetted portion of the channel?	☐ Yes (*Enclose a plan to divert water around work site*) ☑ No

11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

0.035 ac (1,530 sqft) of permanent impacts, 38 lf and no temporary impacts

See attached Supplemental Information

☐ *Continued on additional page(s)*

B. Will the project affect any vegetation? ☑ Yes (*Complete the tables below*) ☐ No *(Include aerial photo with date supporting this determination)*

Vegetation Type	Temporary Impact	Permanent Impact
non-native grasses	Linear feet: _____ Total area: _____	Linear feet: 38 Total area: 0.035
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)
	None	

☐ *Continued on additional page(s)*

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

☑ Yes *(List each species and/or describe the habitat below)* ☐ No ☐ Unknown

See attached supplemental information.

☐ *Continued on additional page(s)*

D. Identify the source(s) of information that supports a “yes” or “no” answer above in Box 11.C.

See attached Biological Resources Report

☐ *Continued on additional page(s)*

E. Has a biological study been completed for the project site?

☑ Yes (*Enclose the biological study*) ☐ No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.

F. Has one or more technical studies (e.g., engineering, hydrologic, geological, or geomorphological) been completed for the project or project site?

☑ Yes *(Enclose the study(ies))* ☐ No

Note: One or more technical studies may be required to evaluate potential project impacts to a lake or streambed.

G. Have fish or wildlife resources or waters of the state been mapped or delineated on the project site?

☑ Yes (*Enclose the mapped results*) ☐ No

Note: Check "yes" if fish and wildlife resources or waters of the state on the project site have been mapped or delineated. "'Wildlife' means and includes all wild animals, birds, plants, fish, amphibians, reptiles and related ecological communities, including the habitat upon which the wildlife depends." (Fish & G. Code, § 89.5.) If "yes" is checked, submit the mapping or delineation. If the mapping or delineation is in digital format (e.g., GIS shape files or KMZ), you must submit the information in this format for CDFW to deem your notification complete. If "no" is checked, or the resolution of the mapping or delineation is insufficient, CDFW may request mapping or delineation (in digital or non-digital format), or higher resolution mapping or delineation for CDFW to deem the notification complete.

12. MEASURES TO PROTECT FISH, WILDIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment, hazardous, or other deleterious materials from entering watercourses during and after construction.

See attached supplemental information.

☐ *Continued on additional page(s)*

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

See attached supplemental information.

☐ *Continued on additional page(s)*

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

A mitigation plan has been submitted to the Federal U.S. Fish & Wildlife Service as a part of the Section 7 consultation, pursuant to the Endangered Species Act. This mitigation plan includes a proposal for preservation of 182.1 acres of habitat for federally-listed amphibians including California tiger salamander and California red-legged frogs. This proposes to mitigate for all permanent impacts at a 3:1 ratio. The mitigation area is immediately adjacent to the proposed project site and consists of the same habitat type (including vegetation, topography, soils, slope/aspect, waters and wetlands) as the project site (i.e., is considered "like for like" mitigation). Within the 182.-1 – ac mitigation area, there are approximately 2.8-ac of jurisdictional waters and wetlands. Of these waters, at least 0.12-ac. (3:1 ratio) will be preserved in perpetuity as mitigation for the permanent fill of 0.4-ac of jurisdictional waters associated with the outfall and low-water crossing. These mitigation waters are proposed to be preserved in perpetuity as a component of the mitigation proposal for federally-listed species and represent habitat components for both amphibian species of concern. This mitigation plan proposes wetland / water mitigation to be preserved at a mitigation ratio of 3:1.

☐ *Continued on additional page(s)*

13. PERMITS

List any local, State, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A.	RWQCB 401 WQC	☑ Applied	☐ Issued
B.	USACE	☑ Applied	☐ Issued
C.	CDFW ITP	☑ Applied	☐ Issued

D. Unknown whether ☐ local, ☐ State, or ☐ federal permit is needed for the project. (*Check each box that applies*)

☐ *Continued on additional page(s)*

14. ENVIRONMENTAL REVIEW

A. Has a CEQA lead agency been determined?	☑ Yes (*Complete boxes B, C, D, E, and F*) ☐ No (*Skip to box 14.G*)		
B. CEQA Lead Agency	California Energy Commission		
C. Contact Person	Lisa Worrall	D. Phone Number	

E. Has a draft or final document been prepared for the project pursuant to CEQA and/or NEPA?

☐ Yes (*Check the box below for each CEQA or NEPA document that has been prepared and enclose a copy of each.*)

☑ No (*Check the box below for each CEQA or NEPA document listed below that will be or is being prepared.*)

☐ Notice of Exemption	☐ Mitigated Negative Declaration	☐ NEPA document (*type*):
☐ Initial Study	☐ Environmental Impact Report	Project is filing through the CES process
☐ Negative Declaration	☐ Notice of Determination *(Enclose)*	
☐ THP/ NTMP	☐ Mitigation, Monitoring, & Reporting Plan	

F. State Clearinghouse Number (*if applicable*)

G. If the project described in this notification is not the "whole project" or action pursuant to CEQA, briefly describe the entire project (Cal. Code Regs., tit. 14 § 15378).

☐ *Continued on additional page(s)*

H. Has a CEQA filing fee been paid pursuant to Fish and Game Code section 711.4?

☐ Yes (*Enclose proof of payment*) ☑ No (*Briefly explain below the reason a CEQA filing fee has not been paid)*

Note: The CEQA filing fee is in addition to the notification fee. If a CEQA filing fee is required, the Lake or Streambed Alteration Agreement may not be finalized until paid.

The project is filing through the CEC "Opt-In" certification process (Assembly Bill 205).

15. SITE INSPECTION

Check one box only.

☐ In the event CDFW determines that a site inspection is necessary, I hereby authorize a CDFW representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant CDFW such entry.

☑ I request CDFW to first contact (*insert name*) _____ at (*insert phone number or email address*) _____ to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay CDFW's determination as to whether a Lake or Streambed Alteration Agreement is required and/or CDFW's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

☐ Yes (Please enclose the information via digital media with the completed notification form.)

☐ No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, CDFW may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless CDFW has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

_____ _____
Signature of Applicant or Applicant's Authorized Representative Date

_____
Print Name

Appendix A FIGURES

● Project Location

0 1.5 3 Miles
(At original document size of 8.5x11)
1:250,000

N

Stantec

Project Location
Midway
Alameda County, CA

Prepared by KDLP on 2024-06-12
IR by SE on 2024-06-12

Client/Project
185706735

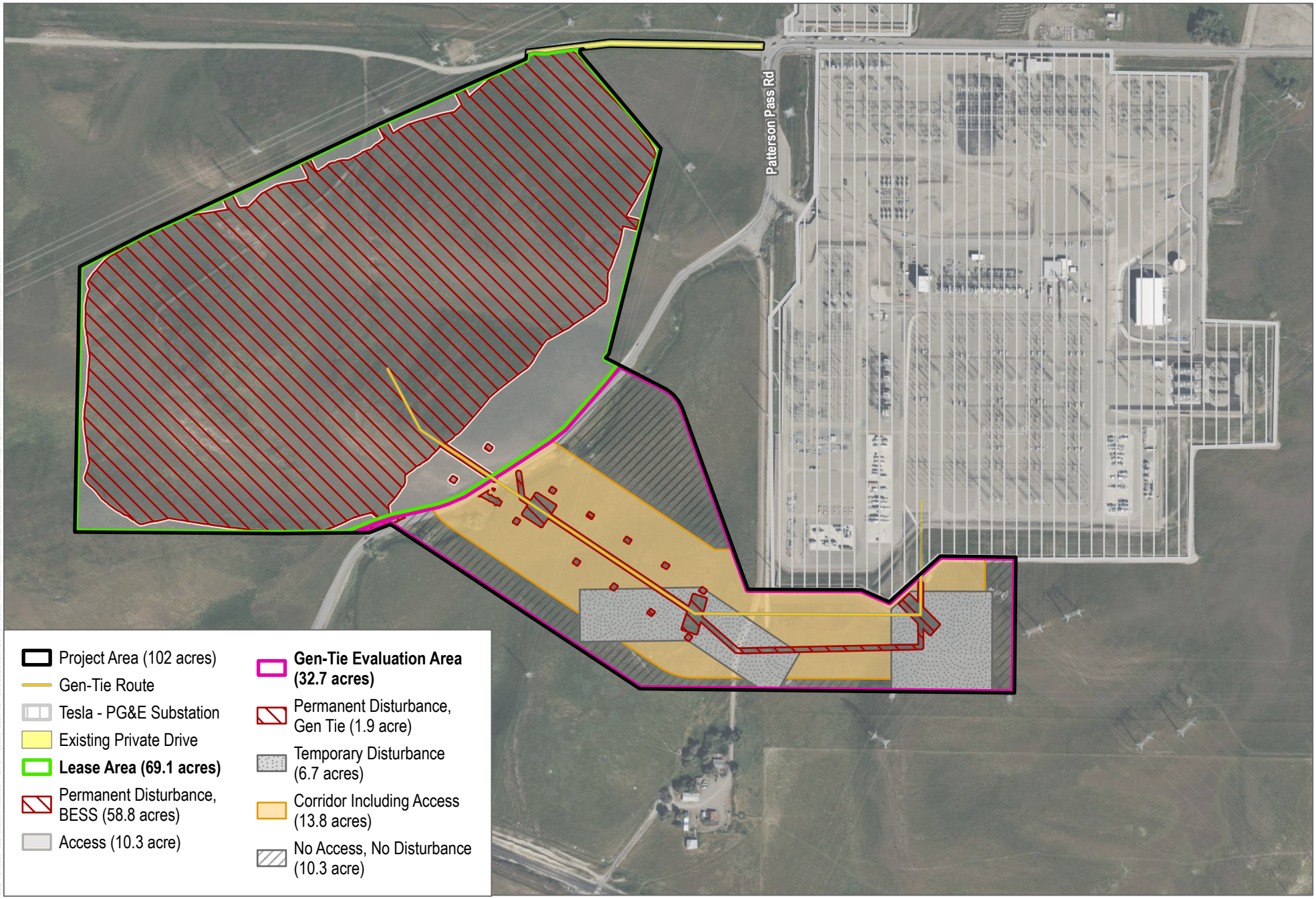
Potentia-Viridi Battery Energy Storage System
Biological Assessment

Figure No.
Figure 1

Title
Project Location

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Data Sources: California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri, NASA, NGA, USGS, San Joaquin County GIS/Planning, California State Parks, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Esri, USGS

V:\185706735\Active\185706735\ProPV_BESS_BA\PV_BESS_BA.aprx Revised: 2024-06-12 By: kdelapena



SOURCE: Bing Maps 2023

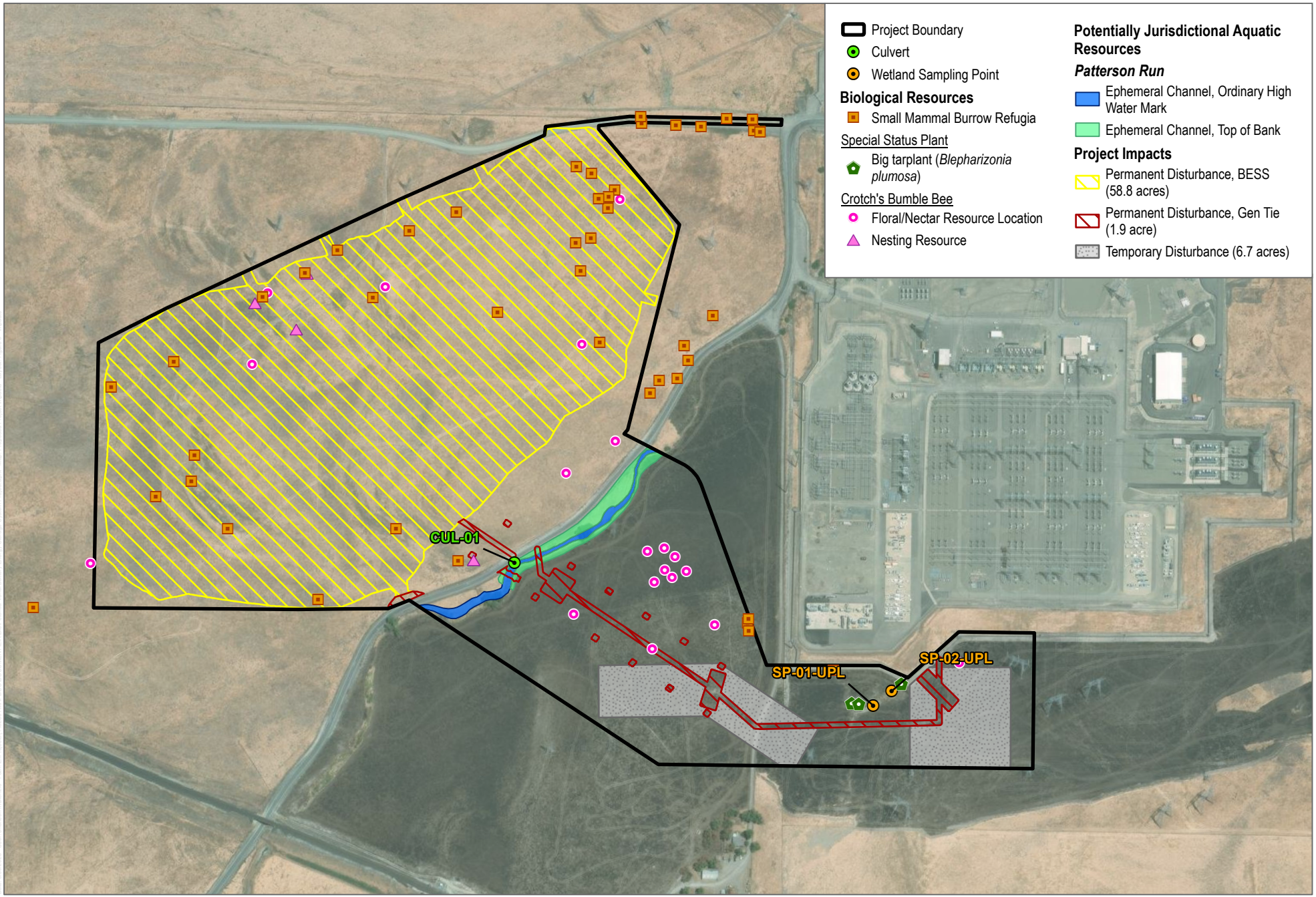
DUDEK

0 250 500 Feet

FIGURE 2

Project Site Aerial

Potentia-Viridi BESS Project



SOURCE: ESRI Aerial Imageyr (accessed 2025)

1:6,000 | 1 inch equals 500 feet

DUDEK

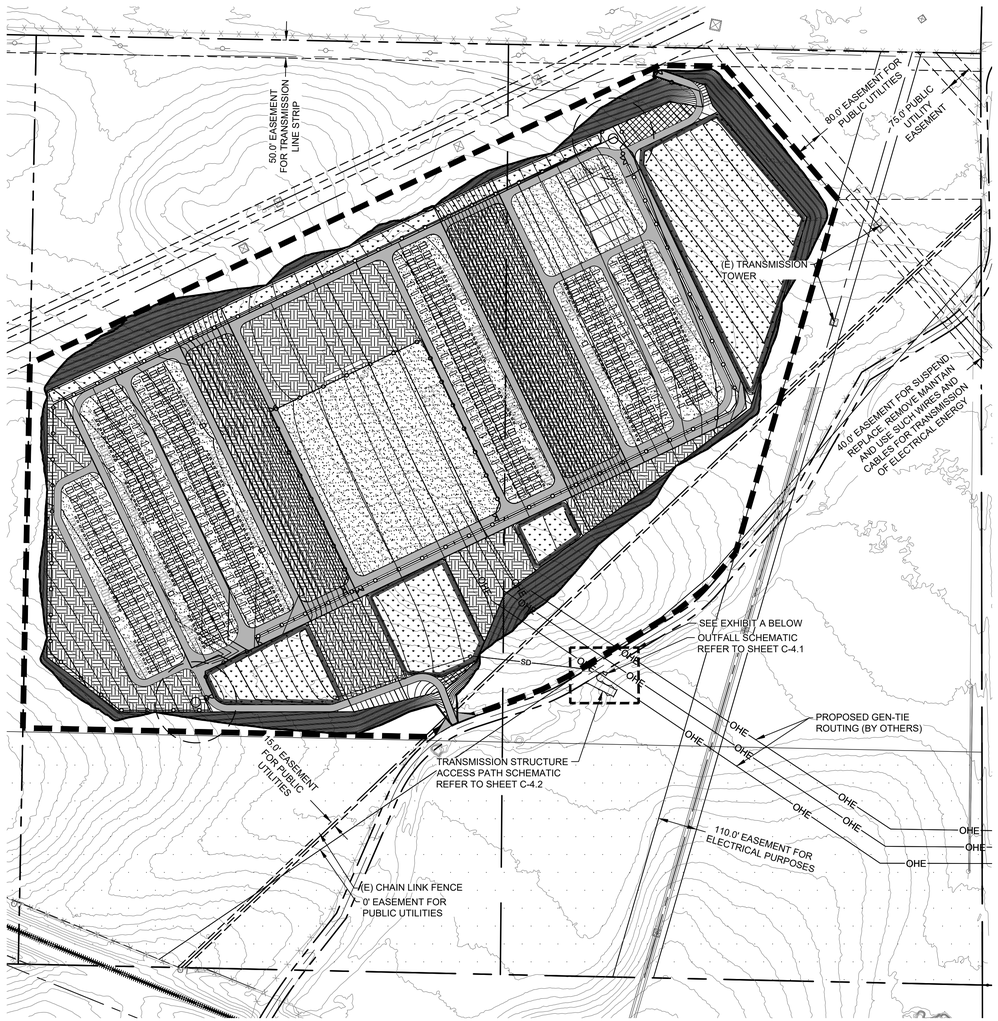
0 250 500 Feet

FIGURE 3

Proposed Project Impacts

Potentia-Veridi Battery Energy Storage System Project

Appendix B DESIGN PLANS



SITE MAP
SCALE: 1"=200'

200 100 0 200 400
SCALE: 1 INCH = 200 FEET

LEGEND

- CENTERLINE
- EASEMENT LINE
- PROPERTY LINE
- PROPOSED LEASE LINE
- DRAINAGE MANAGEMENT AREA
- EXISTING CHAIN LINK FENCE
- PROPOSED FENCE
- STORM DRAIN PIPE (SD)
- RAILROAD
- EXISTING UTILITY POLE
- EXISTING CONTOURS (200)
- PROPOSED CONTOURS (200)
- ORDINARY HIGH WATER MARK
- TOP OF BANK
- STORMWATER/LID AREA

ABBREVIATIONS

OHWM	ORDINARY HIGH WATER MARK
TOB	TOP OF BANK

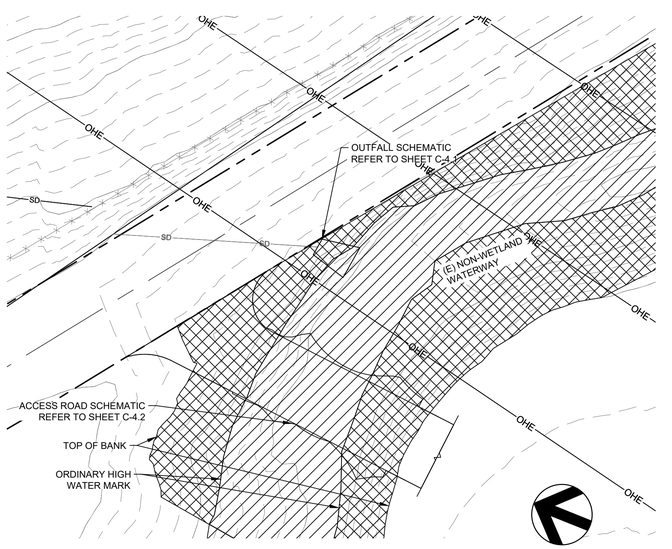


EXHIBIT A
SCALE: 1"=20'

20 10 0 20 40
SCALE: 1 INCH = 20 FEET

SHEET INDEX

C-4.0 - CDFW STREAMBED ALTERATION AGREEMENT
C-4.1 - CONCEPTUAL CIVIL HYDROLOGY HYDRAULIC OUTFALL SCHEMATIC
C-4.2 - CONCEPTUAL ACCESS ROAD SCHEMATIC

UTILITY STATEMENT
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.

811 Know what's below. Call before you dig.

COFFMAN ENGINEERS
1939 Harrison Street, Suite 320
Oakland, CA 94612
ph 510.251.9578
www.coffman.com

POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
4	7/28/25	REV 4
3	7/18/25	REV 3
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	7/28/25

SHEET TITLE:

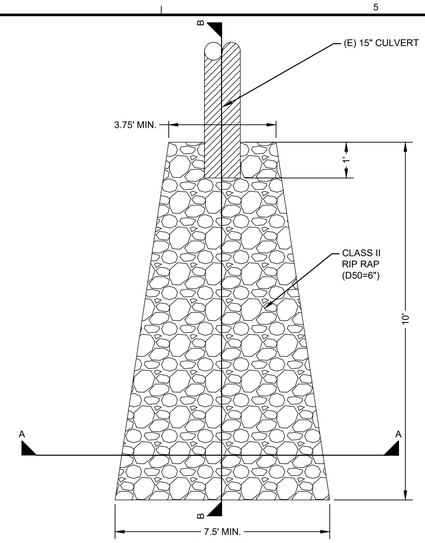
CDFW STREAMBED ALTERATION AGREEMENT

SHEET NO:

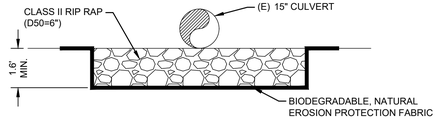
C-4.0

SHEET OF 7

EXHIBIT A
SCALE: 1"=10'

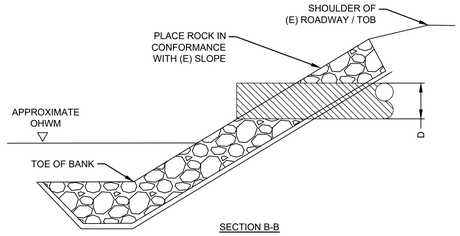


PLAN VIEW



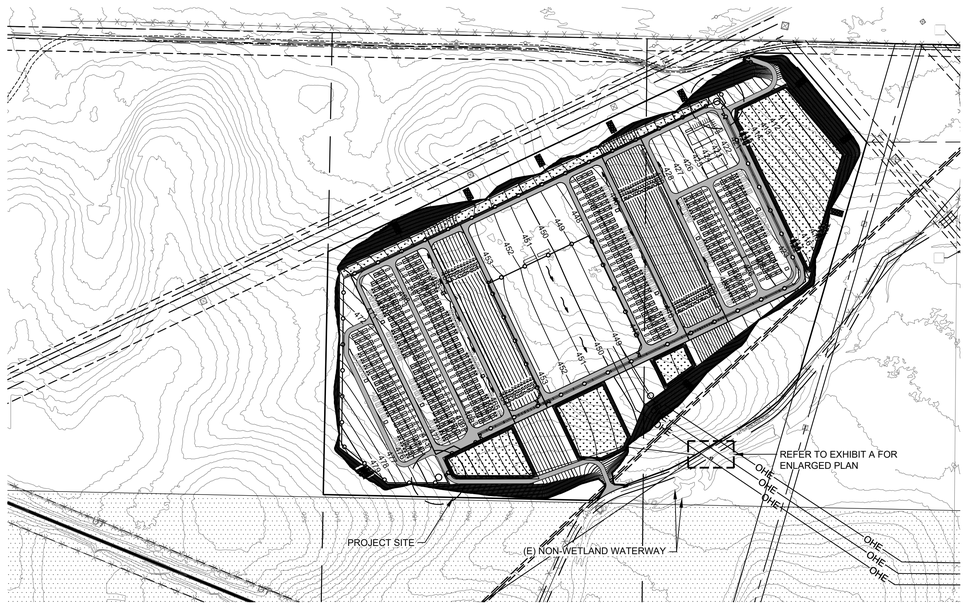
SECTION A-A

NOTES:
ENERGY DISSIPATER SIZED PER FEDERAL HIGHWAY ADMINISTRATION HYDRAULIC ENGINEERING MANUAL



SECTION B-B

1
-
OUTFALL DETAIL
SCALE: NTS



SITE MAP
SCALE: 1"=300'

LEGEND

- CENTERLINE
- EASEMENT LINE
- PROPERTY LINE
- PROPOSED LEASE LINE
- DRAINAGE MANAGEMENT AREA
- EXISTING CHAIN LINK FENCE
- PROPOSED FENCE
- STORM DRAIN PIPE (SD)
- RAILROAD
- EXISTING UTILITY POLE
- EXISTING CONTOURS (200)
- PROPOSED CONTOURS (200)
- ORDINARY HIGH WATER MARK
- TOP OF BANK
- STORMWATER/LID AREA

ABBREVIATIONS

OHWM	ORDINARY HIGH WATER MARK
TOB	TOP OF BANK

OUTFALL TOTAL QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	TOTAL CUT VOLUME (CY)	TOTAL NATIVE FILL VOLUME (CY)	RIP RAP VOLUME (CY)	NET EXPORT (CY)
80	16	8	3	5	5

OUTFALL TOB QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	CUT VOLUME (CY)	NATIVE FILL VOLUME (CY)	RIP RAP VOLUME (CY)	NET EXPORT (CY)
80	16	8	3	5	5

OUTFALL OHWM QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	CUT VOLUME (CY)	NATIVE FILL VOLUME (CY)	RIP RAP VOLUME (CY)	NET EXPORT (CY)
60	12	6	2	4	4

200 100 0 200 400
SCALE: 1 INCH = 200 FEET

UTILITY STATEMENT
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.

811 Know what's below. Call before you dig.

COFFMAN ENGINEERS
1939 Harrison Street, Suite 320
Oakland, CA 94612
ph 510.251.9578
www.coffman.com

POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
4	7/28/25	REV 4
3	7/18/25	REV 3
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	7/28/25

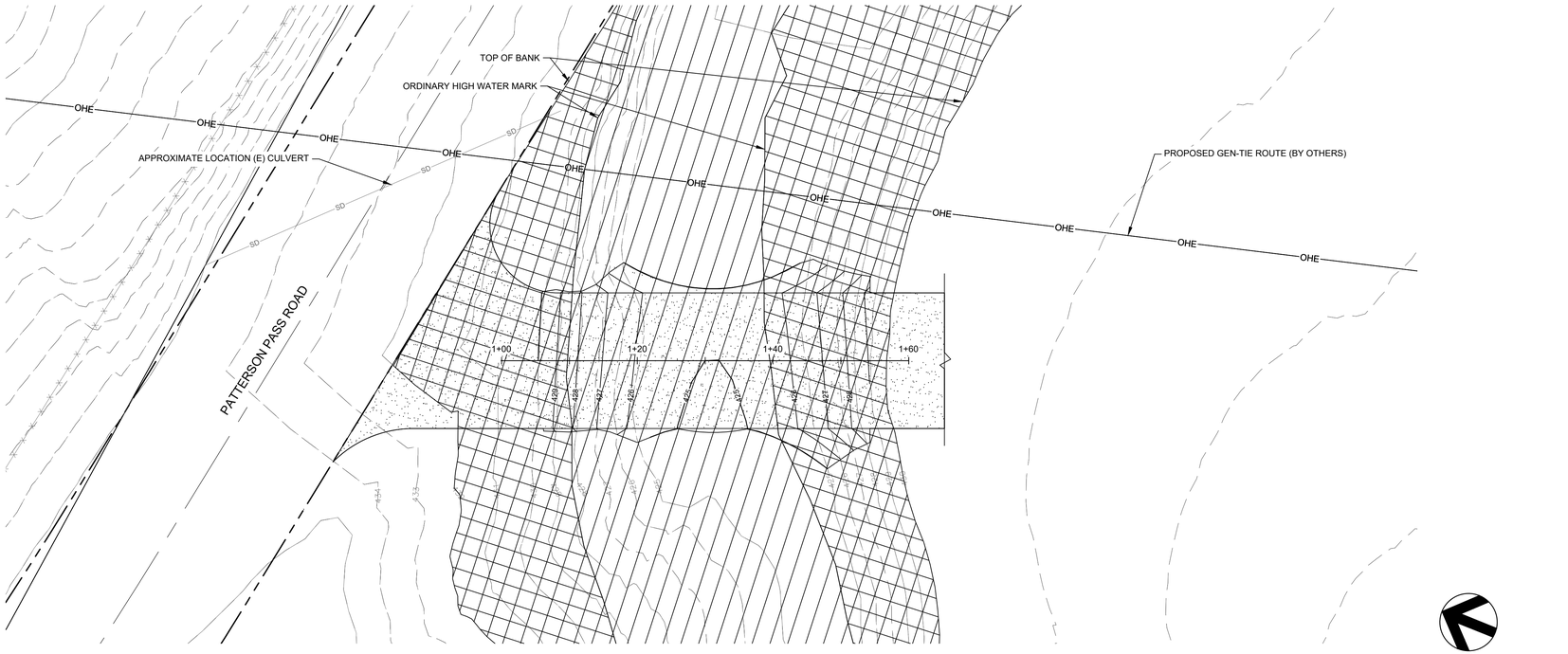
SHEET TITLE:

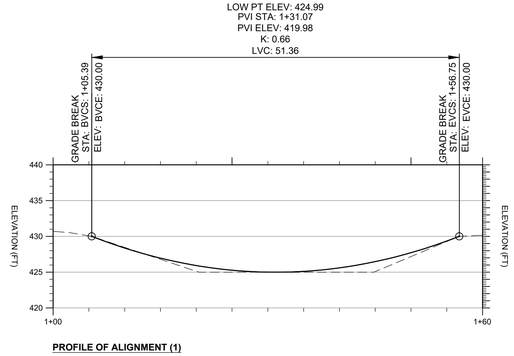
CONCEPTUAL
CIVIL
HYDROLOGY
HYDRAULIC
OUTFALL
SCHEMATIC

SHEET NO:

C-4.1

SHEET 4 OF 7





PROFILE OF ALIGNMENT (1)

LEGEND

- CENTERLINE
- EASEMENT LINE
- PROPERTY LINE
- PROPOSED LEASE LINE
- EXISTING CHAIN LINK FENCE
- PROPOSED FENCE
- STORM DRAIN PIPE (SD)
- EXISTING CONTOURS
- PROPOSED CONTOURS (200)
- ORDINARY HIGH WATER MARK
- TOP OF BANK
- PROPOSED CONSTRUCTION ACCESS

ABBREVIATIONS

OHWM	ORDINARY HIGH WATER MARK
TOB	TOP OF BANK

LOW-WATER CROSSING TOTAL QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	TOTAL CUT VOLUME (CY)	TOTAL IMPORTED FILL VOLUME (CY)	RIP RAP VOLUME (CY)
1,600	18	1	17	35

LOW-WATER CROSSING TOB QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	TOTAL CUT VOLUME (CY)	TOTAL IMPORTED FILL VOLUME (CY)	RIP RAP VOLUME (CY)
1,450	16	1	15	27

LOW-WATER CROSSING OHWM QUANTITIES

DISTURBED AREA (SF)	EXCAVATED VOLUME (CY)	CUT VOLUME (CY)	IMPORTED FILL VOLUME (CY)	RIP RAP VOLUME (CY)
650	7	1	6	12

UTILITY STATEMENT
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.

811 Know what's below. Call before you dig.

COFFMAN ENGINEERS
1939 Harrison Street, Suite 320
Oakland, CA 94612
ph 510.251.9578
www.coffman.com

POTENTIA-VIRIDI BATTERY ENERGY STORAGE SYSTEM

LEVY ALAMEDA, LLC

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
4	7/28/25	REV 4
3	7/18/25	REV 3
2	5/5/25	REV 2
1	1/17/25	REV 1

PROJ. NO.	232059
DRAWN	LB
CHECKED	RB
DATE	7/28/25

SHEET TITLE:

CONCEPTUAL ACCESS ROAD SCHEMATIC

SHEET NO:

C-4.2

SHEET OF 7

Appendix C BIOLOGICAL RESOURCES TECHNICAL REPORT

Appendix D SITE PHOTOS

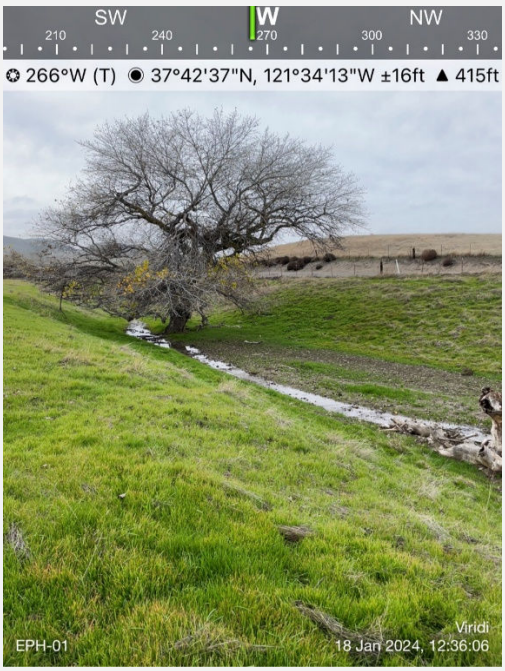


Photo 1 Low water crossing site, facing West. Photo taken during the aquatic resources delineation fieldwork, January 18, 2024

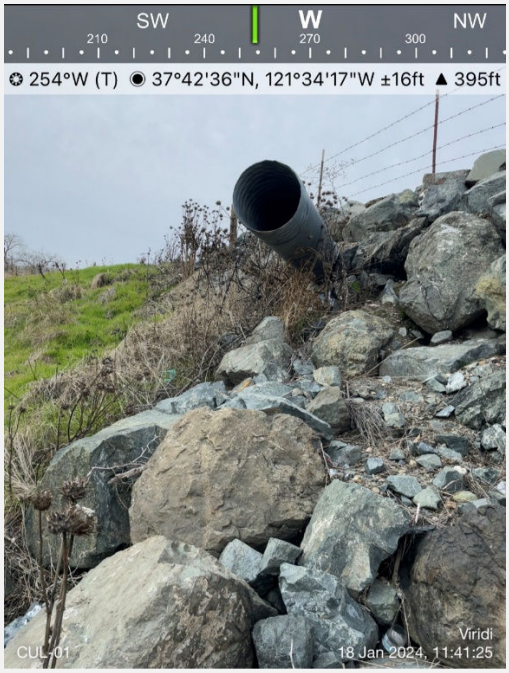


Photo 2. Outfall site, facing West. Photo taken during the aquatic resources delineation fieldwork, January 18, 2024.

Photo 3. Outfall site, facing North. Photo taken during the aquatic resources delineation fieldwork, January 18, 2024

Photo 4. Outfall site, facing South and downstream Patterson Run. Photo taken during the aquatic resources delineation fieldwork, January 18, 2024.

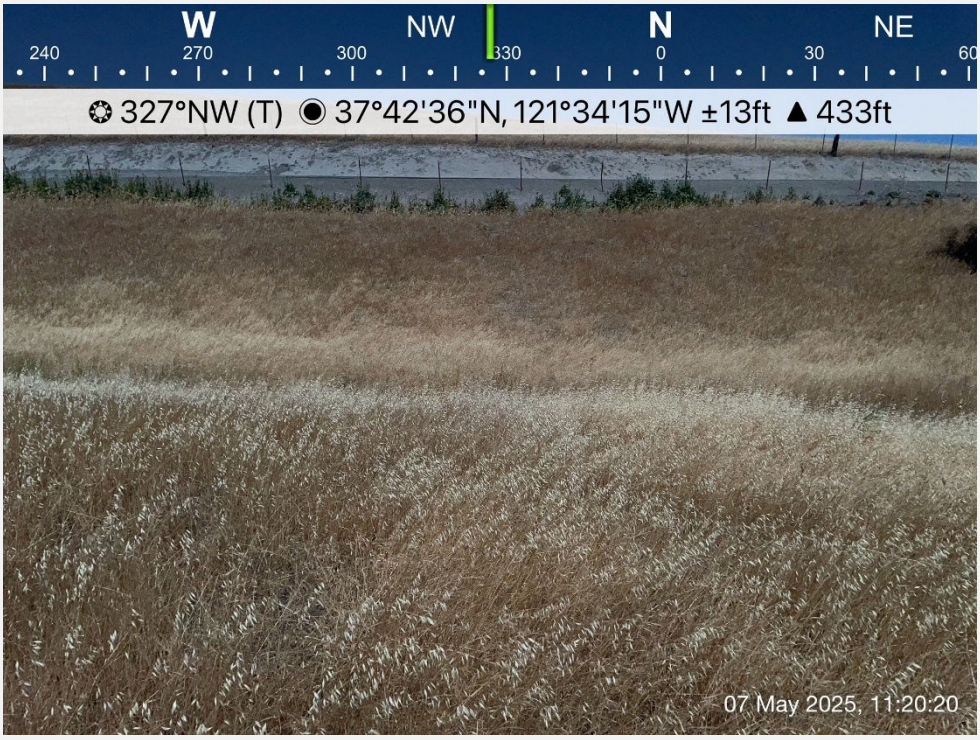


Photo 5. Low Water Crossing, facing Northwest. Photo taken during follow-up survey May 7, 2025.

Photo 6. Outfall site, facing Northwest. Photo taken during follow-up survey May 7, 2025.

Attachment 3

Redlined LSAA Application

Stantec

California Department of Fish and Wildlife Region 1

1602 Lake and Streambed Alteration Agreement Application

Potentia-Viridi Battery Energy Storage System Project

January 22, 2025

Amended July 30, 2025

Prepared for:

California Department of Fish and Wildlife – Region 3
2825 Cordelia Road, Suite 100
Fairfield, CA 94534

Prepared by:

Stantec Consulting Services Inc.
2999 Oak Road, Suite 800
Walnut Creek, CA 94597

Table of Contents

1.0 CDFW 1602 LSAA APPLICATION CONTINUATION PAGES 3
1.1 PROJECT OR ACTIVITY INFORMATION 3
1.1.1 Box 10A – Project Description 3
1.1.2 Project Components 3
1.1.3 Description of Activities within Patterson Run 3
1.1.4 Construction 4
1.1.5 Box 11 – Project Impacts 4
1.1.6 Box 11C - Special Status Species 5
1.1.7 Box 12 – Measures to Protect Fish, Wildlife, and Plant Resources 5
1.1.8 Box 12C – Mitigation 9

Deleted: 3

Deleted: 8

List of Tables

Table 1. Preliminary Dimensions of Patterson Run Components 3
Table 2. Acreage of Permanent Disturbance 3
Table 3. Impacts to Waters of the State. 5

Deleted: 4

List of Appendices

APPENDIX A FIGURES A.1
APPENDIX B DESIGN PLANS B.1
APPENDIX C BIOLOGICAL RESOURCES TECHNICAL REPORT C.1
APPENDIX D SITE PHOTOS D.1

1.0 CDFW 1602 LSAA APPLICATION CONTINUATION PAGES

1.1 PROJECT OR ACTIVITY INFORMATION

1.1.1 Box 10A – Project Description

1.1.2 Project Components

The Project would include the installation of riprap at a stormwater outfall into Patterson Run and the installation of a ford (i.e., low-water crossing) within Patterson Run. Project components are described in the following subsections and shown in Appendix A Figures. Table 1 summarizes the preliminary dimensions of major BESS facility components, and Table 2 summarizes the preliminary footprint/disturbance acreage associated with the stormwater facilities and outfall within CDFW jurisdiction.

Table 1. Preliminary Dimensions of Patterson Run Components

Component	Quantity	Approximate Dimensions
Stormwater Outfall	1	80 sqft and 8 lf
Low-water Crossing	1	1,450 sqft and 30 lf

Table 2. Acreage of Permanent Disturbance

Component	Permanent Disturbance
Stormwater Outfall	0.001 acre
Low-water Crossing	0.033 acre

1.1.3 Description of Activities within Patterson Run

A stormwater drainage outfall utilizing an existing corrugated metal pipe would be constructed from a new detention basin located in the southwest portion of the site to the inlet of an existing culvert on the north side of Patterson Pass Road. Approximately 5 cubic yards of clean rip-rap (with approximately 3 cubic yards of salvaged native fill) would be placed as an energy dissipator at the outfall to discharge clean stormwater at or below current rates into the existing drainage on the south side of Patterson Pass Road. Equipment will access the site through the low-water crossing along the gen-tie route and all staging of equipment and materials will occur within the project limits for the BESS facility.

The low-water crossing will be designed for the use of a transmission structure access path crossing Patterson Run that will be used for gen-tie construction and O&M access activities. The low-water crossing will remain in place throughout O&M and after decommissioning. However, the Applicant is only

Deleted: 500 ft x 5 ft x 10 ft (L x W x D)

Deleted: 600

Formatted: Font: 9 pt

Formatted: Space Before: 0 pt

Deleted: 6

Deleted: 04

Deleted: a new 36-inch

Deleted: 10

Deleted:

permitting for the construction portion of the project and any potential future impacts to Patterson Run will be permitted under a separate permit.

1.1.4 Construction

The following sections detail the approximate construction schedule and workforce, construction activities, estimated water use, and materials handling proposed by the Project.

1.1.4.1 Schedule and Workforce

The Project is anticipated to be built during the typical California dry season (June 15th through October 15th).

Deleted: Construction is anticipated to take no more than 30 days to complete.

1.1.4.2 Sequencing

Stormwater Outfall:

1. First part of construction will consist of clearing and grubbing of vegetation around the existing storm drain outfall
2. Removal of existing rip-rap below the storm drain outfall
3. Erosion control made of natural materials (i.e. non-plastic material) will be placed within the excavated area below the outfall.
4. Small angular gravel will be placed on top of the erosion control material.
5. Large rip-rap boulders (1/4 ton) will then be placed to act as a water dissipater

Low-water Crossing:

1. Clearing and grubbing of vegetation.
2. Grading of the low-water crossing.

Formatted: Numbered + Level: 1 + Numbering Style: 1, 2, 3, … + Start at: 1 + Alignment: Left + Aligned at: 0.25" + Indent at: 0.5"

During construction activities, multiple crews would be working on the site with various equipment and vehicles. The total number of construction workers (consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel) would range from approximately 5 to 200 workers, depending on the phase of construction. It is estimated that construction would require approximately 150 days to complete the outfall installation.

Deleted: 1,106

1.1.5 Box 11 – Project Impacts

A formal aquatic delineation was conducted on January 18, 2024. There is one ephemeral channel (EPH-01; 0.37 acre, 846.07 linear feet), Patterson Run, within the Project where the BESS facility site connects to the gen-tie alignment, paralleling Patterson Pass Road. This ephemeral channel flows southwest to northeast. The channel had moderate flow during the March 2023 and February 2024 surveys and was

dry during the May and August 2023 surveys. One swale-like area was surveyed along the gen-tie alignment at the southwest corner of the PG&E substation. This feature exhibited cracked clay and sandy wash type soils during the August 2023 survey, with patchy grassland habitat along the margins and herbaceous plants such as dove weed (*Croton setiger*), curly dock (*Rumex crispus*), and big tarplant (*Blepharizonia plumosa*). However, the survey determined that this feature did not contain hydric soils, vegetation, or hydrology and, thus, is not a jurisdictional aquatic resource.

The project includes two features that will require placement of fill materials within regulated Waters of the United States, including improvements to an existing culvert under Patterson Road, and the construction of a new low-water crossing within the corridor of the proposed overhead gen-tie line. The discharge point of the culvert will require placement of rip-rap to provide energy dissipation and prevent bed or bank erosion at the point of discharge. The proposed crossing includes minor grading to the bed and banks of the feature, and placement of rip-rap to create a stable point of crossing for maintenance vehicles. Impacts to EPH-01 (Patterson Run) are associated with a stormwater outfall as shown in Appendix B. The civil plans are provided in Appendix C. Table 8 provides a summary of impacts to waters of the State.

Table 3. Impacts to Waters of the State.

Feature Type	Crossing ID	Permanent Impacts		Temporary Impacts	
		Acreage (square feet)	Linear Feet	Acreage (square feet)	Linear Feet
Other Waters					
Ephemeral Stream	EPH-01	0.035 (1,530 sqft)	38	0	0

Deleted: 64

Deleted: 27,878

1.1.6 Box 11C - Special Status Species

Three listed wildlife species were identified as having potential to occur within the Project Site: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*) and San Joaquin kit fox (*Vulpes macrotis mutica*). Federally designated critical habitat for California red-legged frog also occurs within the Project Site.

Eleven special-status plants have a moderate or high potential to occur onsite; however, one plant was observed onsite, Big tarplant (*Blepharizonia plumosa*). Big tarplant has a CRPR rank of 1B.1 (rare, threatened or endangered in California and elsewhere), and is a covered species under the EACCS. For additional information and potential impacts to this species.

For additional information and potential impacts to these species, see Appendix D for the Biological Resources.

1.1.7 Box 12 – Measures to Protect Fish, Wildlife, and Plant Resources

The implementation of applicable general avoidance and minimization measures will reduce potential adverse effects to EACCS special-status wildlife during construction of the Project. In addition, species-specific avoidance and minimization measures are provided below in Sections 1.1.7.1 through 1.1.7.4.

Deleted: California tiger salamander and California red-legged frog¶

Formatted: Font: (Default) Arial, 10 pt

Formatted: Font: (Default) Arial, 10 pt

GEN -01 Employees and contractors performing construction activities will receive environmental sensitivity training. Training will include review of environmental laws and Avoidance and Minimization Measures (AMMs) that must be followed by all personnel to reduce or avoid effects on covered species during construction activities.

GEN -02 Environmental tailboard trainings will take place on an as needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects to these species during construction activities. Directors, managers, superintendents, and the crew foremen and forewomen will be responsible for ensuring that crewmembers comply with the guidelines.

GEN -03 Contracts with contractors, construction management firms, and subcontractors will obligate all contractors to comply with these requirements, AMMs.

GEN -04 The following will not be allowed at or near work sites for covered activities: trash piles, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations).

GEN -05 Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.

GEN -06 Off-road vehicle travel will be minimized.

GEN -07 Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during off road travel.

GEN -08 Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.

GEN -09 Vehicles shall be washed only at designated areas. No washing of vehicles shall occur at job sites.

GEN -10 To discourage the introduction and establishment of invasive plant species, seed mixtures/straw used within natural vegetation will be either rice straw or weed free straw.

GEN -11 Pipes, culverts, and similar materials greater than four inches in diameter, will be stored so as to prevent covered wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.

GEN -12 Erosion control measures will be implemented to reduce sedimentation in wetland habitat occupied by covered animal and plant species when activities are the source of potential erosion problems. Plastic monofilament netting (erosion control matting) or similar material containing netting shall not be used at the Project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt

GEN - 13 Stockpiling of material will occur such that direct effects to covered species are avoided. Stockpiling of material in riparian areas will occur outside of the top of bank, and preferably outside of the outer riparian dripline and will not exceed 30 days.

GEN - 14 Grading will be restricted to the minimum area necessary.

GEN - 15 Prior to ground disturbing activities in sensitive habitats, Project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.

GEN - 16 Significant earth moving activities will not be conducted in riparian areas within 24 hours of predicted major storms or within 24 hours after major storms (defined as 1-inch of rain or more).

GEN - 17 Trenches will be backfilled as soon as possible. Open trenches will be searched each day prior to construction to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist (if necessary).

1.1.7.1 California Tiger Salamander Avoidance and Minimization Measures

Implementation of applicable amphibian avoidance and minimization measures will reduce potential adverse effects to EACCS-covered amphibians that utilize the site as upland refuge and overland migration habitat during construction of the Project. In addition to the general measures listed above, the following species AMMs will be implemented during construction:

AMPH-2. Habitat: Riparian habitat and grasslands within 2-miles of aquatic habitat

- If aquatic habitat is present, a qualified biologist will stake and flag an exclusion zone prior to activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry (EACCS AMPH-1).
- A qualified biologist will conduct preconstruction surveys prior to activities define a time for the surveys (before groundbreaking). If individuals are found, work will not begin until they are moved out of the construction zone to a USFWS/CDFW approved relocation site.
- A Service-approved biologist should be present for initial ground disturbing activities.
- Barrier fencing will be constructed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.
- No monofilament plastic will be used for erosion control.
- Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or USFWS approved under an active biological opinion, will be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.
- Work will be avoided within suitable habitat from June 15 through October 15 (or the first measurable fall rain of 1" or greater).

Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: 10 pt
Formatted: Font: (Default) Arial, 10 pt
Formatted: Heading 4
Formatted: Font: (Default) Arial, 10 pt
Formatted: Font: Arial, 10 pt

1.1.7.2 Crotch's Bumble Bee Avoidance and Minimization Measures

Formatted: Heading 4

Formatted: Font: (Default) Arial, 10 pt

Pre-construction bumble-bee surveys and avoidance buffers conducted per the recommendations outlined in CDFW's Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species (CDFW 2023) will avoid potential impacts to these species by preventing direct harm. The following measures are recommended to avoid, minimize, or mitigate impacts to Crotch's bumble bee:

- The pre-construction survey will be performed by a biologist with expertise in surveying for bumble bees and include at least three (3) survey passes that are not on sequential days or in the same week, preferably spaced two to four weeks apart. The timing of these surveys shall coincide with the Colony Active Period (April 1 through August 31 for Crotch bumble bee). Surveys shall occur at least 1 hour after sunrise and 2 hours before sunset. Surveys will not be conducted during wet conditions (e.g., foggy, raining, or drizzling) and surveyors will wait at least 1 hour following rain. Optimal surveys are when there are sunny to partly sunny skies that are greater than 60° Fahrenheit. Surveys may be conducted earlier if other bees or butterflies are flying. Surveys shall not be conducted when it is windy (i.e., sustained winds greater than 8 mph). Within non-developed habitats, the biologist shall look for nest resources suitable for bumble bee use. Ensuring that all nest resources receive 100% visual coverage, the biologist shall watch the nest resources for up to five minutes, looking for exiting or entering worker bumble bees. Worker bees should arrive and exit an active nest site with frequency, such that their presence would be apparent after five minutes of observation. If a bumble bee worker is detected, then a representative shall be identified to species. Biologists should be able view several burrows at one time to sufficiently determine if bees are entering/exiting them depending on their proximity to one another. It is up to the discretion of the biologist regarding the actual survey viewshed limits from the chosen vantage point which would provide 100% visual coverage; this could include a 30- to 50-foot-wide area. If a nest is suspected, the surveyor can block the entrance of the possible nest with a sterile vial or jar until nest activity is confirmed (no longer than 30 minutes).

- If nest resources occupied by Crotch bumble bee are detected within the construction area, no construction activities shall occur within 100 feet of the construction zone, or as determined by a qualified biologist through evaluation of topographic features or distribution of floral resources. The nest resources will be avoided for the duration of the Crotch bumble bee nesting period (February 1 through October 31). Outside of the nesting season, it is assumed that no live individuals would be present within the nest as the daughter queens (gynes) usually leave by September, and all other individuals (original queen, workers, males) die. The gyne is highly mobile and can independently disperse to outside of the construction footprint to proposed open space or other suitable areas beyond that have suitable hibernacula resources. Because construction will have occurred in the area outside of the occupied nesting resources, no suitable habitat will be present in the impact area, and it is assumed that new queens will disperse to habitat outside of the construction area.

- If the nest resources cannot be avoided, as outlined in this measure, the project applicant will consult with CDFW regarding the need to obtain an Incidental Take Permit.

1.1.7.3 San Joaquin Kit Fox Avoidance and Minimization Measures

Formatted: Heading 4

Formatted: Font: (Default) Arial, 10 pt

Implementation of applicable mammal avoidance and minimization measures will avoid potential adverse effects to EACCS-covered mammals that may utilize the project site during construction of the Project In addition to the general measures listed above, the following species avoidance and minimization measures will be implemented during construction:

- If potential dens are present, their disturbance and destruction will be avoided.
- If potential dens are located within the proposed work area and cannot be avoided during construction, qualified biologist will determine if the dens are occupied or were recently occupied using methodology coordinated with the USFWS and CDFW. If unoccupied, the qualified biologist will collapse these dens by hand in accordance with USFWS procedures (USFWS 2011).
- Exclusion zones will be implemented following USFWS procedures (USFWS 1999) or the latest USFWS procedures available at the time. The radius of these zones will follow current standards or will be as follows: Potential Den 50 feet; Known Den 100 feet; Natal or Pupping Den – to be determined on a case by case basis in coordination with USFWS and CDFW.
- Pipes will be capped, and trenches will contain exit ramps to avoid direct mortality while construction area is active.

1.1.7.4 Western Burrowing Owl Avoidance and Minimization Measures

Implementation of applicable bird avoidance and minimization measures will avoid potential adverse effects to EACCS-covered birds that may utilize the project site during construction of the Project In addition to the general measures listed above, the following species avoidance and minimization measures will be implemented during construction:

- If an active nest is identified near a proposed work area work will be conducted outside of the nesting season (March 15 to September 1).
- If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season, a no - activity zone will be established by a qualified biologist. The no - activity zone will be large enough to avoid nest abandonment and will at a minimum be 250 - feet radius from the nest.
- If burrowing owls are present at the site during the non - breeding period, a qualified biologist will establish a no - activity zone of at least 150 feet.
- If an effective no - activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site - specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.

1.1.8 Box 12C – Mitigation

For impacts to waters of the state, the Applicant will purchase a turnkey mitigation property within the same Conservation Zone as the Project site (Conservation Zone 10) at a 1:1 (one acre preserved for each acre of impact).

The mitigation plan includes a proposal for preservation of 182.1 acres of habitat for federally-listed amphibians including California tiger salamander and California red-legged frogs. This proposes to

Formatted: Heading 4

Formatted: Font: (Default) Arial, 10 pt

Formatted: Font: (Default) Cambria Math, 10 pt

Formatted: Font: (Default) Arial, 10 pt

Formatted: Font: (Default) Cambria Math, 10 pt

Formatted: Font: (Default) Arial, 10 pt

Formatted: Font: (Default) Cambria Math, 10 pt

Formatted: Font: (Default) Arial, 10 pt

Formatted: Font: (Default) Cambria Math, 10 pt

Formatted: Font: (Default) Arial, 10 pt

Formatted: Font: (Default) Cambria Math, 10 pt

Formatted: Font: (Default) Arial, 10 pt

Formatted: Font: (Default) Cambria Math

Formatted: Font: (Default) Cambria Math

mitigate for all permanent impacts at a 3:1 ratio. The mitigation area is immediately adjacent to the proposed project site and consists of the same habitat type (including vegetation, topography, soils, slope/aspect, waters and wetlands) as the project site (i.e., is considered “like for like” mitigation). Within the 182.-1 – ac mitigation area, there are approximately 2.8-ac of jurisdictional waters and wetlands. Of these waters, at least 0.12-ac. (3:1 ratio) will be preserved in perpetuity as mitigation for the permanent fill of 0.04-ac of jurisdictional waters associated with the outfall and low-water crossing. These mitigation waters are proposed to be preserved in perpetuity as a component of the mitigation proposal for federally-listed species and represent habitat components for both amphibian species of concern. This mitigation plan proposes wetland / water mitigation to be preserved at a mitigation ratio of 3:1.

Deleted: With the implementation of the above avoidance and minimization measures, compensatory mitigation proposed is associated with the preservation of upland and dispersal habitat for these species. To compensate for direct impacts on upland habitat for CTS and CRLF, the Applicant will purchase a turnkey mitigation property within the same Conservation Zone as the Project site (Conservation Zone 10). Prior to the purchase of this mitigation property, the Applicant would obtain approval from CEC staff, in coordination with CDFW, to ensure the mitigation lands are appropriate to compensate for the impacts of the Project. The EACCS standardized mitigation ratios for CTS and CRLF are 3:1 (three acres preserved for each acre removed).

Appendix A FIGURES

Appendix B DESIGN PLANS

Appendix C BIOLOGICAL RESOURCES TECHNICAL REPORT

Deleted: PROJECT DESIGN PLANS¶
Section Break (Next Page)

Appendix D SITE PHOTOS

Attachment 4
Field Forms

FORMS FIELD DATA REPORT

Bio Field Data

Record: 41709	
Date	*2024-05-23*
Biologist	*Paul Keating, Tara Johnson-Kelly*
Project	*Viridi*
Survey Area	*Entire Site*
Survey Type	*Burrowing Owl*
Time	*6:15 PM–8:15 PM*
Conditions	*68–77°F; 70–80% cloud cover; 0–10 mph wind*
Visit Type	
Notes	*Surveyed the site for burrowing owls following the protocol of 2 hours before sunset (8:15 pm). No BUOW, sign, or active BUOW burrows were observed. Grass onsite was knee high and fairly dense.*
Number of Nests Observed	*0*

Survey Conditions	
Status	*Start*
Time	*18:15:00*
TEMPERATURE	*°F*
Air Temp	*77*
Air Temp	*77*
Soil Temp	*0*
Water Temp	*0*
Visibility	

Humidity	
Cloud Cover	*70*
WIND	*mph*
Minimum Wind Speed (mph)	*0*

Survey Conditions	
Status	*End*
Time	*20:15:00*
TEMPERATURE	*°F*
Air Temp	*68*
Air Temp	*68*
Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*80*
WIND	*mph*
Minimum Wind Speed (mph)	*0*

Photos	
Type	*Photo*
Photo	
Description	*Conditions of the site during the survey.*

FORMS FIELD DATA REPORT

Bio Field Data

Record: 41586	
Date	*2024-05-17*
Biologist	*Kelsey Higney*
Project	*Viridi*
Survey Area	*Entire Site*
Survey Type	*Nesting Bird*
Time	*11:32 AM–1:14 PM*
Conditions	*74.8–80°F; 0% cloud cover; 1–15 mph wind*
Visit Type	
Notes	*No nesting behaviors such as carrying nest material, food deliveries, territorial behavior, or signs of fledged young were observed in the project area, nor were any physical nests.*
Number of Nests Observed	*0*

Survey Conditions	
Status	*Start*
Time	*11:32:00*
TEMPERATURE	*°F*
Air Temp	*74.8*
Air Temp	*74.8*
Soil Temp	*0*
Water Temp	*0*
Visibility	

Humidity	
Cloud Cover	*0*
WIND	*mph*
Minimum Wind Speed (mph)	*3*

Survey Conditions	
Status	*End*
Time	*13:14:00*
TEMPERATURE	*°F*
Air Temp	*80*
Air Temp	*80*
Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*0*
WIND	*mph*
Minimum Wind Speed (mph)	*1*

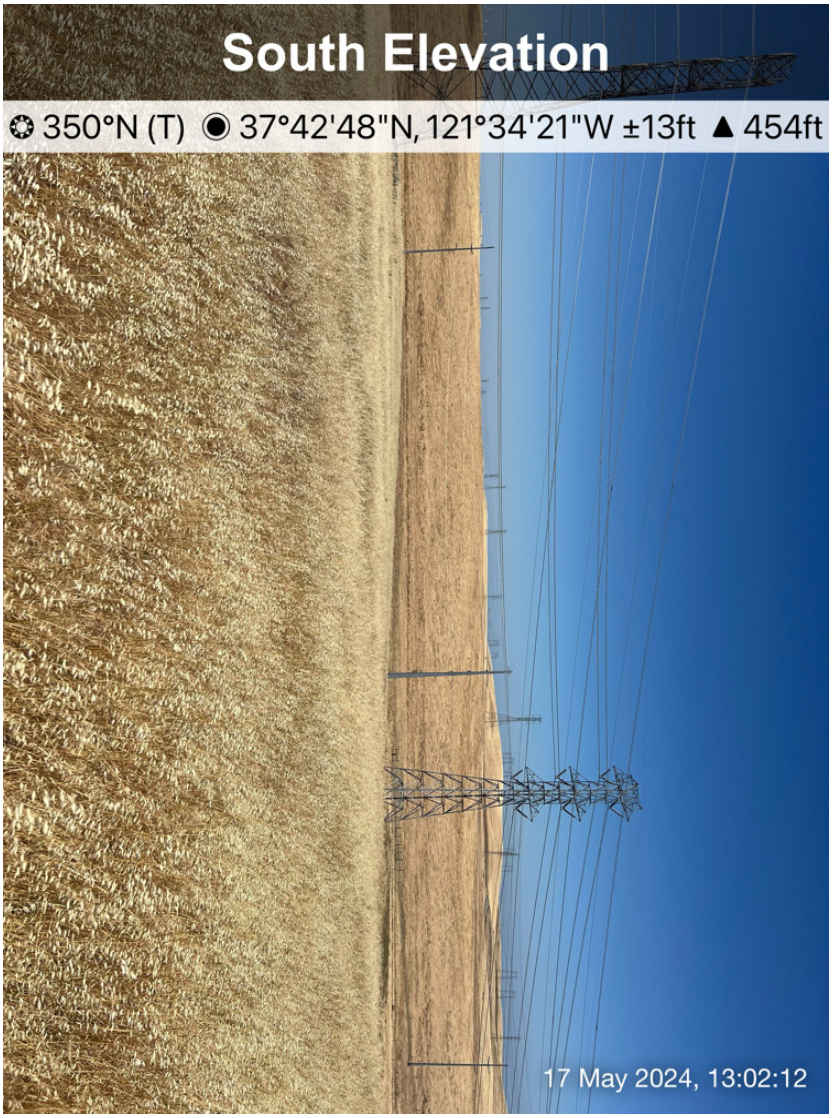
Wildlife List	
Common Name	*Western meadowlark*
Species Name	*Western meadowlark (), B-B-WEME*

Wildlife List	
Common Name	*Common raven*
Species Name	*Common raven (), B-CORA*

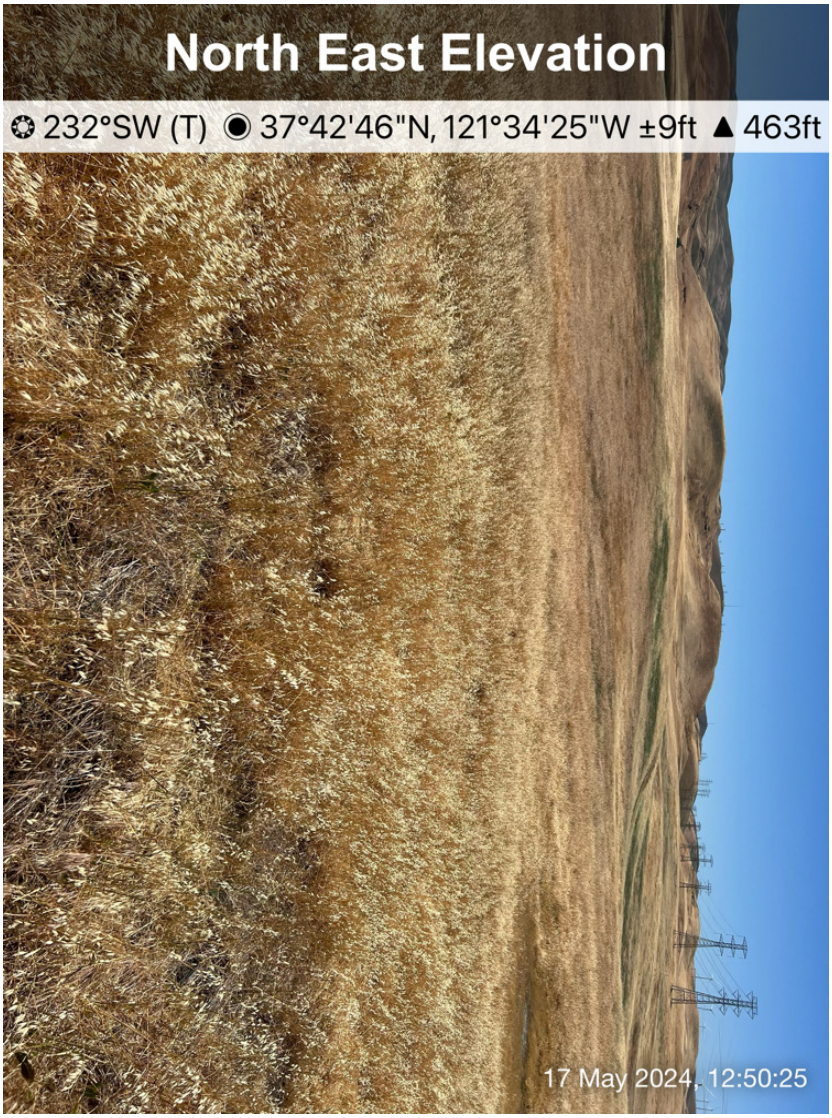
Wildlife List	
Common Name	*Red-tailed hawk*
Species Name	*Red-tailed hawk (), B-*

Wildlife List	
Common Name	*Savannah sparrow*
Species Name	*Savannah sparrow (), B-*

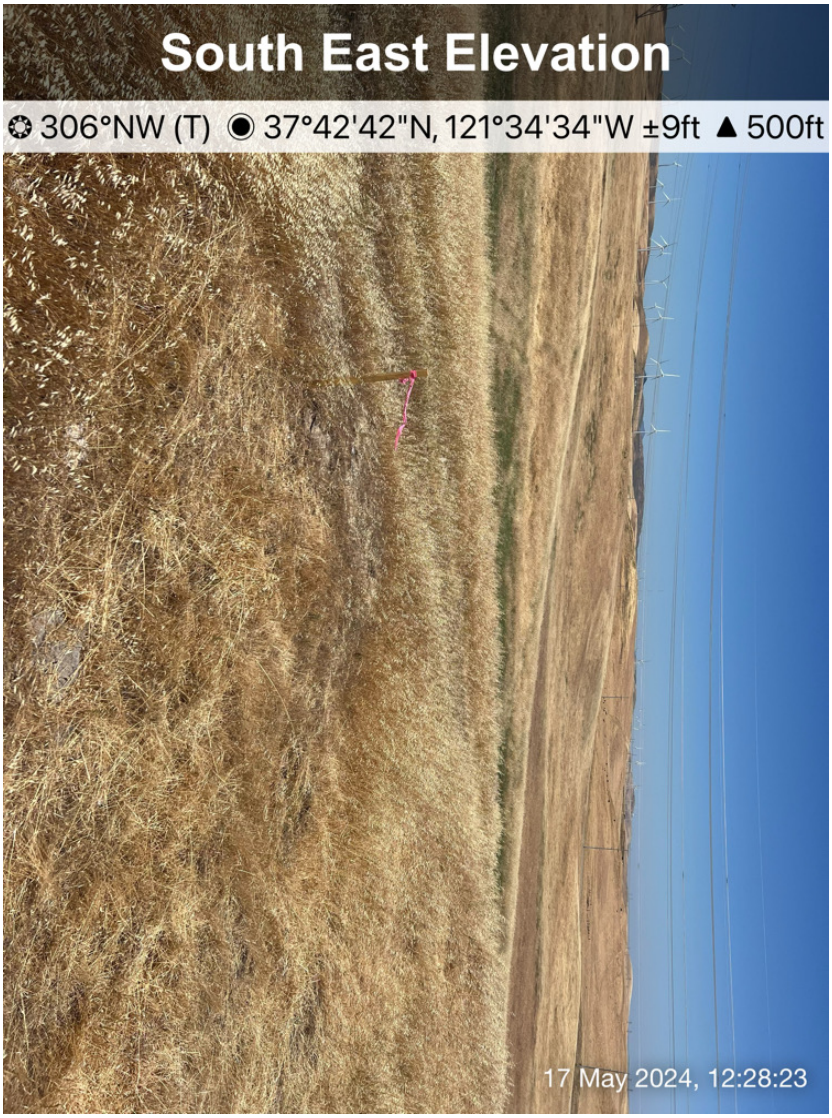
Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

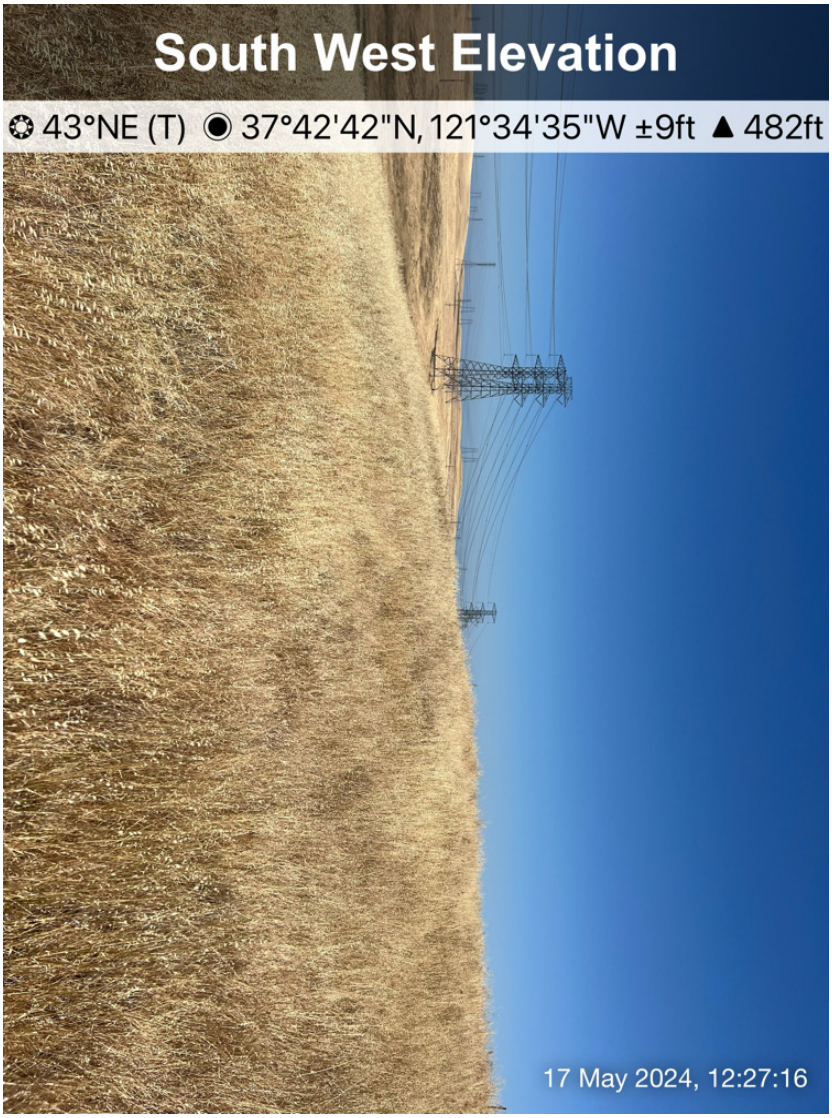
Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

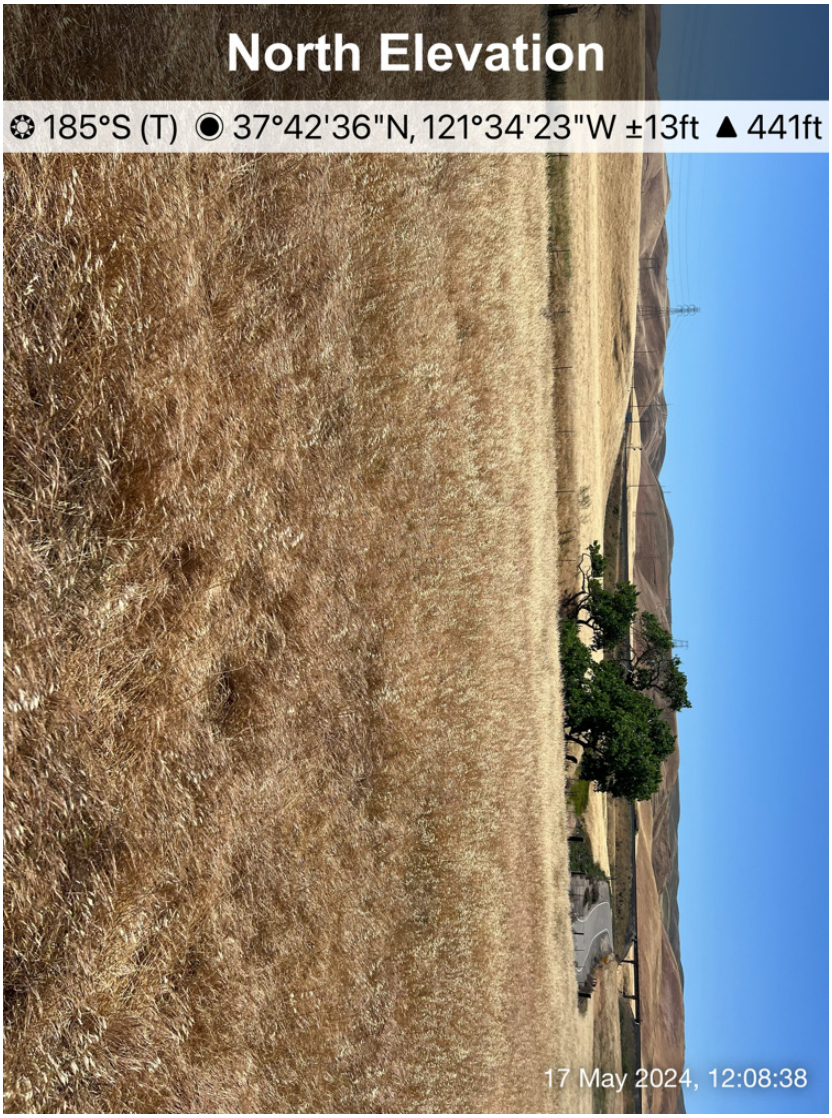
Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

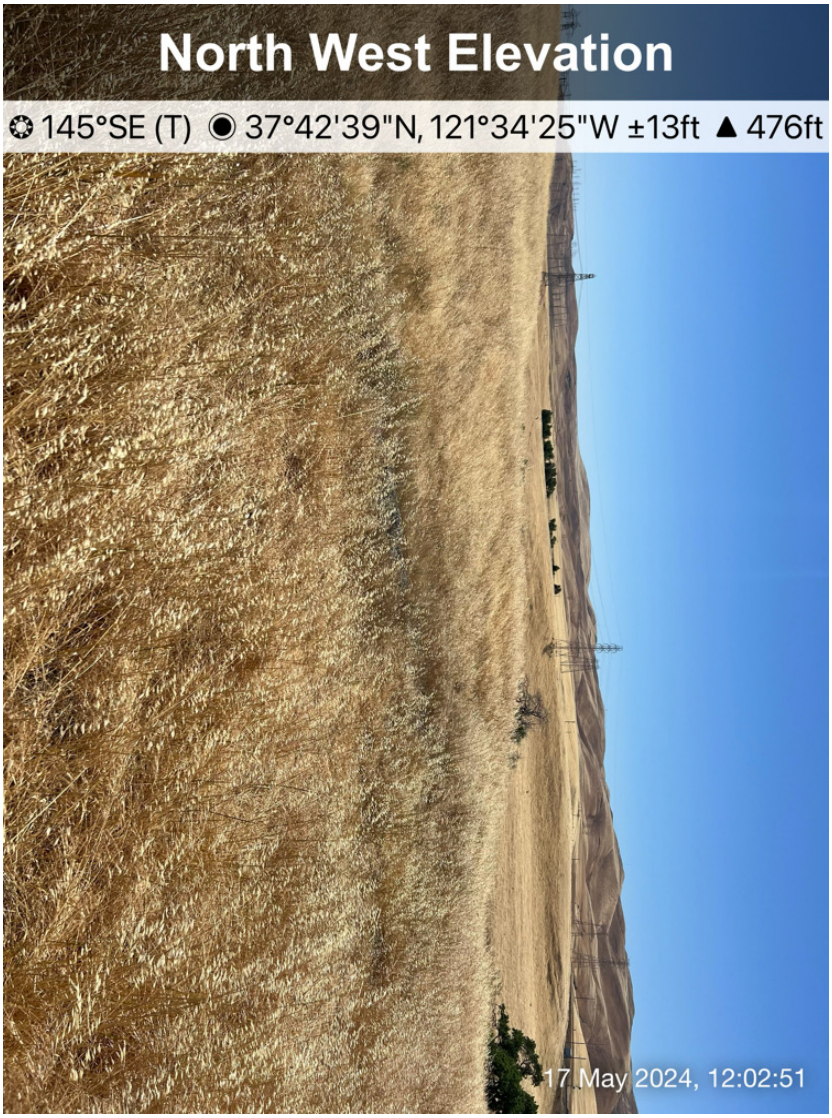
Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

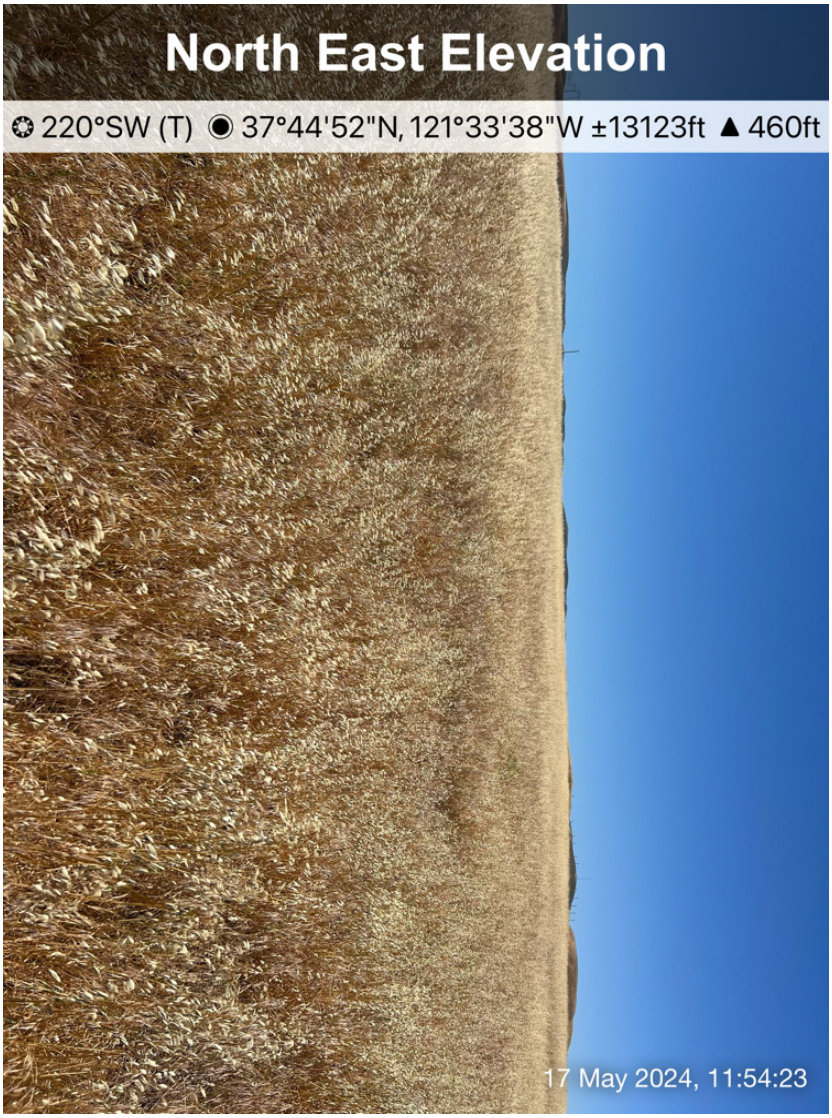
Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

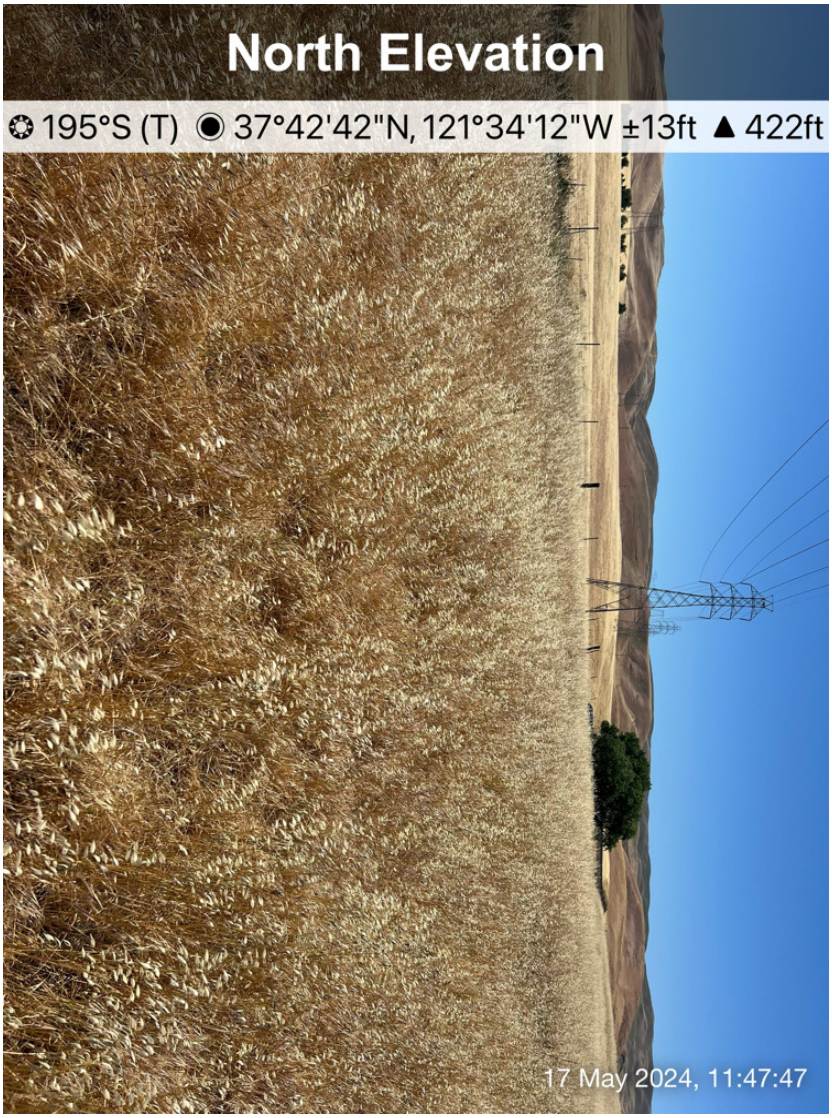
Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

Photos	
Type	*Photo*

Photo	
Description	*Photo of bore location surveyed*

FORMS FIELD DATA REPORT

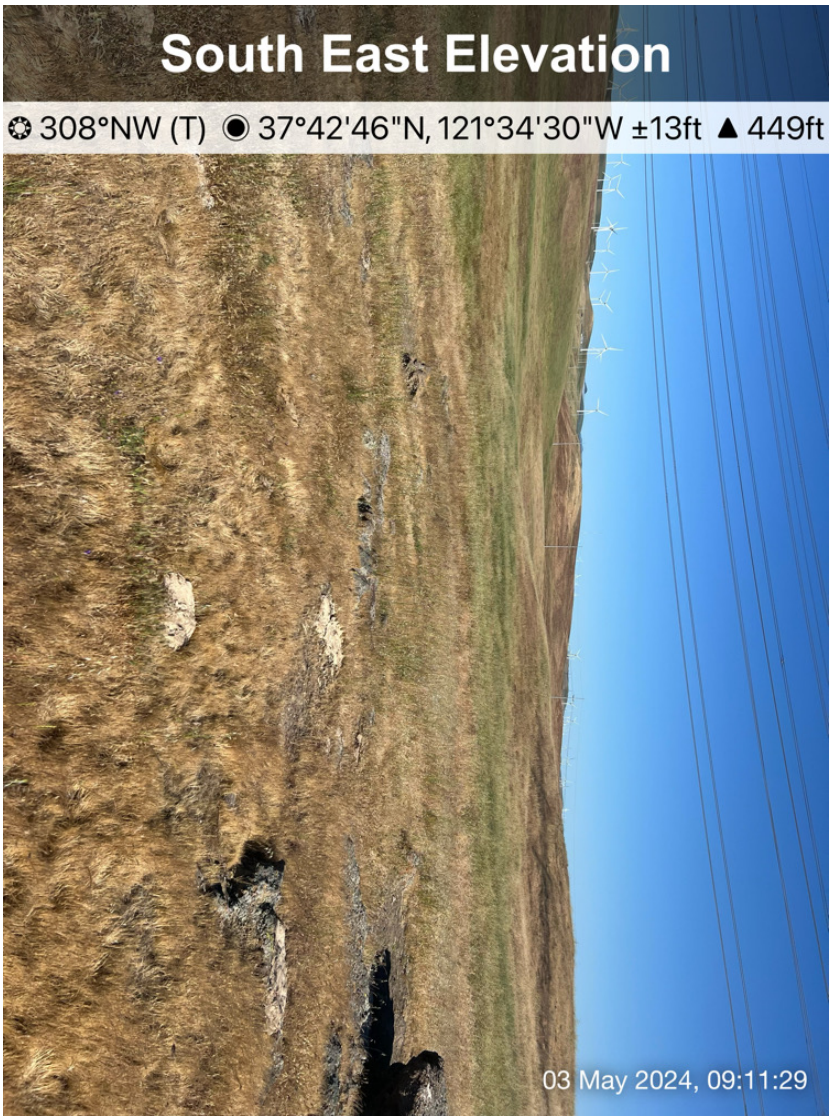
Bio Field Data

Record: 41001	
Date	*2024-05-03*
Biologist	*Kelsey Higney, Tara Johnson-Kelly*
Project	*Viridi*
Survey Area	*Entire Site*
Survey Type	*American Badger, Burrowing Owl, San Joaquin Kit Fox Pedestrian Surveys*
Time	*8:30 AM–9:43 AM*
Conditions	*69.8–71.4°F; 0–10% cloud cover; 1–7 mph wind*
Visit Type	
Notes	*Surveyed entire burrow buffer. No BUOW sign present. No burrows AMBA or SJKF.*
Number of Nests Observed	*0*

Survey Conditions	
Status	*Start*
Time	*08:30:00*
TEMPERATURE	*°F*
Air Temp	*69.8*
Air Temp	*69.8*
Soil Temp	*0*
Water Temp	*0*
Visibility	

Humidity	
Cloud Cover	*0*
WIND	*mph*
Minimum Wind Speed (mph)	*2*

Survey Conditions	
Status	*End*
Time	*09:43:00*
TEMPERATURE	*°F*
Air Temp	*71.4*
Air Temp	*71.4*
Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*10*
WIND	*mph*
Minimum Wind Speed (mph)	*1*

Photos	
Type	*Photo*
Photo	
Description	*Potential habitat surveyed*

Photos	
Type	*Photo*
Photo	
Description	*Potential habitat surveyed*

Photos	
Type	*Photo*
Photo	
Description	*Surveyed burrow buffers. No sign of BUOW present.*

FORMS FIELD DATA REPORT

Bio Field Data

Record: 40131	
Date	*2024-04-12*
Biologist	*Kelsey Higney, Tara Johnson-Kelly*
Project	*Viridi*
Survey Area	*Entire Site*
Survey Type	*Burrowing Owl, Rare Plants*
Time	*8:35 AM–11:47 AM*
Conditions	*55–68.2°F; 40–50% cloud cover; 5–16 mph wind*
Visit Type	
Notes	*Surveyed mapped burrow areas for BUOW as well as kit fox and badger suitability. No burrows had any sign of activity and were not suitable size for kit fox or badger. Most were overgrown with grasses.* *One pellet (see photo), approximately 2 inches in length and appropriate size for BUOW, was observed along the eastern fence line for the PG&E road but it was not associated with a burrow.* *No rare plants were observed during the survey. The habitat is predominantly tall bromus and avena spp. with low suitability for rare species. Big tarplant, known to occur on the site, was not visible at this time in the season.*
Number of Nests Observed	*0*

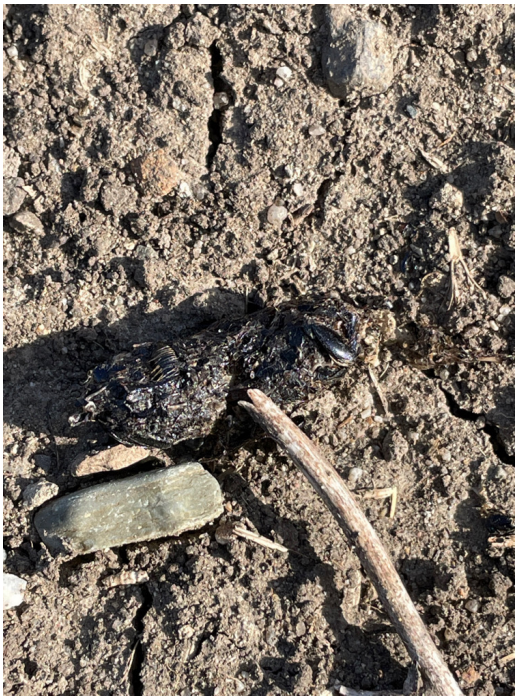
Survey Conditions	
Status	*Start*
Time	*08:35:00*
TEMPERATURE	*°F*
Air Temp	*55*
Air Temp	*55*
Soil Temp	*0*

Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*40*
WIND	*mph*
Minimum Wind Speed (mph)	*5*

Survey Conditions	
Status	*End*
Time	*11:47:00*
TEMPERATURE	*°F*
Air Temp	*68.2*
Air Temp	*68.2*
Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*50*
WIND	*mph*
Minimum Wind Speed (mph)	*5*

Wildlife List	
Common Name	*white-crowned sparrow*
Species Name	*white-crowned sparrow (Zonotrichia leucophrys), B-WCSP*
Scientific Name	*Zonotrichia leucophrys*
Federal and State Status	*None/None*

Wildlife List	
Common Name	*common raven*
Species Name	*common raven (Corvus corax), B-CORA*
Scientific Name	*Corvus corax*
Federal and State Status	*None/None*

Photos	
Type	*Photo*
Photo	

Description	*Potential BUOW pellet composed of mostly beetles was seen under a barbed wire fence, no associated burrow activity. This could be a pellet from a dispersing BUOW.*

Photos	
Type	*Photo*
Photo	
Description	*Rocky outcrop/barren area, given extra attention for rare plants. No rare plants were observed.*

Photos	
Type	*Photo*
Photo	
Description	*The site is almost homogeneously composed of tall non-native grasses.*

Photos

Type	*Photo*
Photo	
Description	*Burrow example, most were collapsed or covered in grass.*

Photos	
Type	*Photo*
Photo	
Description	*Photo of project site facing east.*

FORMS FIELD DATA REPORT

Bio Field Data

Record: 34073	
Date	*2023-08-02*
Biologist	*Erin Fisher-Colton, Kelsey Higney*
Project	*Mulqueeeney BESS Site*
Survey Area	*Entire Site*
Survey Type	*Rare Plants, Reconnaissance*
Time	*9:23 AM–4:54 PM*
Conditions	*71–80°F; 0% cloud cover; 5–20 mph wind*
Visit Type	
Notes	*Plant list will be updated directly in compendium in project folder.* *Surveyed for rare plants, burrows, and Crotch bumble bee floral resources in updated project area and gentie.*
Number of Nests Observed	*0*

Survey Conditions	
Status	*Start*
Time	*09:23:00*
TEMPERATURE	*°F*
Air Temp	*71*
Air Temp	*71*
Soil Temp	*0*
Water Temp	*0*

Visibility	
Humidity	
Cloud Cover	*0*
WIND	*mph*
Minimum Wind Speed (mph)	*5*

Survey Conditions	
Status	*End*
Time	*16:54:00*
TEMPERATURE	*°F*
Air Temp	*80*
Air Temp	*80*
Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*0*
WIND	*mph*
Minimum Wind Speed (mph)	*10*

Wildlife List	
Common Name	*common raven*
Species Name	*common raven (Corvus corax), B-CORA*
Scientific Name	*Corvus corax*
Federal and State Status	*None/None*

Wildlife List	
Common Name	*red-tailed hawk*
Species Name	*red-tailed hawk (Buteo jamaicensis), B-RTHA*
Scientific Name	*Buteo jamaicensis*
Federal and State Status	*None/None*

Wildlife List	
Common Name	*mourning dove*
Species Name	*mourning dove (Zenaida macroura), B-MODO*
Scientific Name	*Zenaida macroura*
Federal and State Status	*None/None*

Wildlife List	
Common Name	*western meadowlark*
Species Name	*western meadowlark (Sturnella neglecta), B-WEME*
Scientific Name	*Sturnella neglecta*

Federal and State Status	*None/None*

FORMS DUDEK FIELD DATA REPORT

Bio Field Data

Record: 30881	
Date	*2023-05-16*
Biologist	*Kelsey Higney, Lorna Haworth*
Project	*Mulqueeny Ranch*
Survey Area	*Entire Site*
Survey Type	*Bumble Bee, Burrow Mapping, Rare Plants*
Time	*8:41 AM–11:15 AM*
Conditions	*80.3–85.1°F; 0% cloud cover; 0–6 mph wind*
Visit Type	
Notes	*Site is dominated by dense Bromus spp. and Avena spp. throughout, at some points even chest height. Dispersal for amphibians seems unlikely. Only 1 CAGS burrow was observed with no signs of sensitive species. Other burrows mapped were small mammal burrows in fair or poor conditions (partially collapsed throughout much of the clusters). Visibility was incredibly poor beneath the grasses and thatch but active burrows are unlikely due to density of grasses.* *A few patches of lupine were mapped as potential floral nectar resources for CBB. Lupine was not very dense where present and sparsely distributed through the site. This was the only notable nectar resource, with almost no other flowers present to sustain CBB. Two (2) rocky areas were also mapped as potential CBB habitat.* *No sensitive species were observed during the survey.*
Number of Nests Observed	*0*

Survey Conditions	
Status	*Start*
Time	*08:41:00*
TEMPERATURE	*°F*
Air Temp	*80.3*
Air Temp	*80.3*

Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*0*
WIND	*mph*
Minimum Wind Speed (mph)	*0*

Survey Conditions	
Status	*End*
Time	*11:15:00*
TEMPERATURE	*°F*
Air Temp	*85.1*
Air Temp	*85.1*
Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*0*
WIND	*mph*
Wind	
Minimum Wind Speed (mph)	*1*

Survey Conditions	
Status	*End*
Time	*11:15:00*
TEMPERATURE	*°F*
Air Temp	*85.1*
Air Temp	*85.1*
Soil Temp	*0*
Water Temp	*0*
Visibility	
Humidity	
Cloud Cover	*0*
WIND	*mph*
Minimum Wind Speed (mph)	*1*

Wildlife List	
Common Name	*Coyote*
Species Name	*Coyote (), M-COYO*

Wildlife List	
Common Name	*Western fence lizard*
Species Name	*Western fence lizard (), R-WFLI*

Plant List (CA)	
Scientific Name	*Holocarpha sp.*
Observation ID (Copy and paste into Collector)	*05161118KH-01-01*

Plant List (CA)	
Species code	*Broele*
Scientific Name	*Brodiaea elegans*
Observation ID (Copy and paste into Collector)	*05161122KH-02-02*
Common Name	*harvest brodiaea*

Plant List (CA)	
Species code	*Carpyc*
Scientific Name	*Carduus pycnocephalus*
Observation ID (Copy and paste into Collector)	*05161123KH-03-03*
Common Name	*Italian plumeless thistle*

Plant List (CA)	
Species code	*Branig*
Scientific Name	*Brassica nigra*
Observation ID (Copy and paste into Collector)	*05161124KH-04-04*
Common Name	*black mustard*

Plant List (CA)	
Species code	
Scientific Name	*Convolvulus arvensis*
Observation ID (Copy and paste into Collector)	*05161124KH-05-05*

Plant List (CA)	
Species code	*Isoacr*
Scientific Name	*Isocoma acradenia*
Observation ID (Copy and paste into Collector)	*05161126KH-06-06*
Common Name	*alkali goldenbush*

Plant List (CA)	
Species code	
Scientific Name	*Bromus rubens*
Observation ID (Copy and paste into Collector)	*05161126KH-07-07*

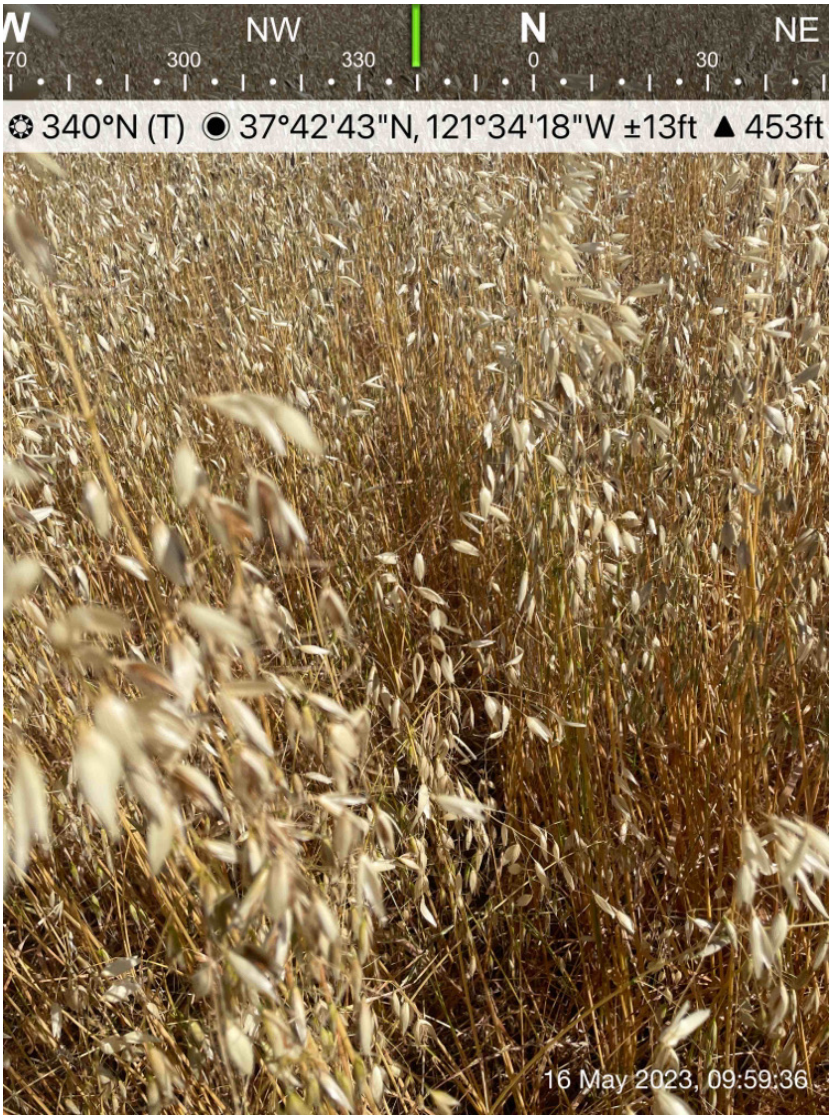
Plant List (CA)	
Species code	*Hormur*
Scientific Name	*Hordeum murinum*
Observation ID (Copy and paste into Collector)	*05161127KH-08-08*
Common Name	*mouse barley*

Plant List (CA)	
Species code	*Erobot*
Scientific Name	*Erodium botrys*
Observation ID (Copy and paste into Collector)	*05161127KH-09-09*
Common Name	*longbeak stork's bill*

Plant List (CA)	
Scientific Name	*Lupinus sp.*
Observation ID (Copy and paste into Collector)	*05161138KH-10-10*

Photos	
Type	*Photo*
Photo	

Description	*Common habitat throughout, some denser patches of Bromus rubens, otherwise very dense Avena*

Photos	
Type	*Photo*
Photo	
Description	*Majority of site was dominated by Avena fatua*

Photos

Type	*Photo*
Photo	
Description	*Example of a small mammal burrow mapped*

Photos

Type	*Photo*
Photo	
Description	*Lupine mapped as potential nectar resource*

Attachment 5

Resumes

Alex Freeman

BIOLOGIST

Education

Tulane University
BS, Environmental Biology, 2018

Alex Freeman (*AL-iks FREE-muhn; he/him*) is a biologist with 6 years' professional experience in field biology, conducting special-status species surveys, performing compliance monitoring of construction crews, and providing environmental guidance to clients.

Mr. Freeman has conducted focused and protocol-level surveys for California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog *(Rana boylii*), blunt-nosed leopard lizard (*Gambelia sila*), western pond turtle (northwestern pond turtle [*Actinemys marmorata*] and southwestern pond turtle [*Actinemys pallida]*), Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), and American badger (*Taxidea taxus*). He has extensive experience conducting nesting bird surveys and monitoring active raptor nests. Mr. Freeman has provided crews with environmental trainings and biological monitoring when working near special-status species and protected resources. He has prepared numerous technical reports, leading field crews, and working constructively with clients.

Project Experience

Confidential Solar Project, Fresno County, California. Performed the burrow mapping, San Joaquin kit fox pedestrian surveys, burrowing owl surveys, and Swainson's hawk surveys. Observed one adult burrowing owl and active burrow. (2024)

Sisk Dam Safety of Dams Modification, Department of Water Resources, Merced County, California. Performed the wildlife exclusion fence checks and construction monitoring for San Joaquin kit fox, California tiger salamander, California red-legged frog, and burrowing owl compliance. Conducted the vegetation mapping and special-status species habitat assessment for project footprint expansion areas. Performed the protocol-level Swainson's hawk surveys. Observed Swainson's hawk reproductive behavior, including copulation. California Department of Fish and Wildlife (CDFW) Designated Biologist for San Joaquin kit fox (2023–Present)

Confidential Wind Farm Energy Project, Confidential Energy Client, Merced County, California. Performed the eagle point-count surveys and rare plant surveys. Observed spiny-sepaled button-celery (*Eryngium spinosepalum*). (2023–Present)

Deerfield Drive Landslide Repair, Moraga, Contra Costa County, California. Performed the biological resource assessment and habitat assessment for California red-legged frog, foothill yellow-legged frog, northwestern pond turtle, San Francisco dusky-footed woodrat, Alameda whipsnake (*Masticophis lateralis euryxanthus*), nesting birds, and roosting bats. (2023)

Santos Ranch Road Emergency Culvert Repair, City of Pleasanton, California. Performed the preconstruction survey, worker environmental training, and construction monitoring for a culvert replacement project in a seasonal drainage within occupied habitat of California red-legged frog and San Francisco dusky-footed woodrat. (2023)

Lake Kittredge Wetland Mitigation Project, San Jose Water Company, Santa Clara County, California. Performed the construction monitoring for a wetland mitigation project. Sensitive species in the project area included southwestern pond turtle, California red-legged frog, foothill yellow-legged frog, San Francisco dusky-footed woodrat, California giant salamander (*Dicamptodon ensatus*), and Santa Cruz black salamander (*Aneides niger*). (2023)

Road and Trail Work and Vegetation Management, San Jose Water Company, Santa Clara County, California. Performed the preconstruction surveys and construction monitoring for road, trail, and vegetation management projects. Sensitive species in the project area included southwestern pond turtle, California red-legged frog, foothill yellow-legged frog, San Francisco dusky-footed woodrat, California giant salamander, and Santa Cruz black salamander. (2023)

Arana Sewer Trunk Line Replacement, Santa Cruz County Sanitation District, Santa Cruz County, California. Performed the preconstruction surveys, worker environmental training, and compliance monitoring for sensitive resources, including nesting birds, roosting bats, California red-legged frog, foothill yellow-legged frog, San Francisco dusky-footed woodrat, California giant salamander, and Santa Cruz black salamander. (2023)

Mission Trail Tank Removal and Well Abandonment, City of Carmel-by-the-Sea, California. Performed the preconstruction survey and worker environmental training and relocated two Monterey dusky-footed woodrat (*Neotoma fuscipes*) middens. Sensitive species included in the survey and training included California red-legged frog, Monterey dusky-footed woodrat, yellow warbler (*Setophaga petechia*) and nesting birds. (2023)

Bonturi Ranch Conservation Easement, AKT Santa Nella Solar Investors II, Merced County, California. Performed pedestrian surveys for San Joaquin kit fox dens and sign (tracks and scat). (2023)

Confidential Project, Confidential Client, Contra Costa County, California. Performed the reconnaissance survey and habitat assessment for San Joaquin kit fox, California red-legged frog, California tiger salamander, and Swainson's hawk. Observed 36 California red-legged frog metamorphs and two Swainson's hawk adults. (2023)

Iris Canyon Sediment Removal, City of Monterey, California. Performed the construction monitoring for in-channel work for sensitive species, including southwestern pond turtle and California red-legged frog. (2023)

San Benito College Campus Project, Gavilan Joint Community College District, San Benito County, California. Performed the construction monitoring for California tiger salamander exclusion fence installation. (2023)

Potrero Hills Landfill Project, Waste Connections, Solano County, California. Performed the California tiger salamander exclusion fence integrity survey and monitored construction activities in occupied habitat of California tiger salamander.

Mount Madonna/Summit Road Evacuation Route Project, Santa Clara County FireSafe Council, Santa Clara County, California. Performed the preconstruction survey for sensitive resources, including San Francisco dusky-footed woodrat and nesting birds. Observed and marked thousands of individual Anderson manzanita (*Arctostaphylos andersonii)*. (2023)

Confidential Solar Energy Project, Confidential client Lyon County, Nevada. Performed the aquatic resource delineations of features, including playa pools and ephemeral drainages. (2023)

Fairfield Osborn Preserve Visitor Center Improvement, Sonoma State University, Sonoma County, California. Performed the preconstruction survey for sensitive species, including California red-legged frog, foothill yellow-legged frog, western pond turtle, California giant salamander, roosting bats, and nesting birds. Scoped burrows and refugia suitable for California red-legged frog with an endoscope. Monitored initial ground disturbance and construction activities to avoid impacts to sensitive species and maintain compliance with project permits. (2023)

Forest Resiliency Project, Golden State Finance Authority, Tuolumne and Lassen Counties, California. Assisted with aquatic resource delineations. Drafted the aquatic resource delineation reports. (2023)

Confidential Solar Energy Project, Sacramento County, California. Performed the protocol-level Swainson's hawk surveys. Observed Swainson's hawk reproductive behavior, including copulation, nest building, incubating, and brooding chicks. Observed numerous Swainson's hawks and nests of other species, such as great-horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and common raven (*Corvus corax*). (2023)

Confidential Solar Energy Project, Stanislaus County, California. Performed the protocol-level Swainson's hawk surveys. Observed Swainson's hawk reproductive behavior, including copulation, nest building, incubating, and brooding chicks. Observed numerous Swainson's hawks and nests of other species, such as turkey vulture (*Cathartes aura*), great-horned owl, common raven, and red-tailed hawk. (2023)

Confidential Solar Energy Project, Fresno County, California. Performed the protocol-level Swainson's hawk surveys. Observed Swainson's hawk reproductive behavior, including establishing nesting territories, incubating, and brooding chicks. Observed numerous Swainson's hawks and nests of other species, such as common raven and red-tailed hawk. (2023)

Applied Sciences Center, California State University East Bay, Alameda County, California. Performed the preconstruction nesting bird and roosting bat survey. (2023)

Delta Dams Rodent Burrow Remediation, Department of Water Resources, Contra Costa County, California. Performed the preconstruction surveys and monitored construction crews during initial ground disturbance to avoid impacts to California tiger salamander, western pond turtle, San Joaquin kit fox, burrowing owl, American badger, and vernal pool fairy shrimp (*Branchinecta lynchi*). Observed three adult western pond turtles. (2022–2024)

Bear Creek Redwoods Open Space Preserve Vegetation Treatment, Midpeninsula Regional Open Space District, Santa Clara County, California. Performed the pre-vegetation treatment surveys for special-status species, including San Francisco dusky-footed woodrat, California red-legged frog, California giant salamander, foothill yellow-legged frog, and roosting bats. Established avoidance buffers around special-status species, aquatic features, and aquatic habitats that could support special-status amphibians and western pond turtle. (2022–2023)

California Aqueduct Delta Habitat Conservation Plan; Department of Water Resources; Alameda, Stanislaus, Merced, San Joaquin, Contra Costa, and Solano Counties; California. Performed the protocol-level surveys for California tiger salamander, California red-legged frog, listed branchiopods, and burrowing owl. Perform focused western pond turtle surveys. Assist with jurisdictional delineation of aquatic features. Deployed camera trap stations and identified wildlife species for wildlife movement study and San Joaquin kit fox surveys. Drafted sections of the baseline biological report. (2022)

Strategic Reliability Reserve Program Environmental Review, Department of Water Resources, Stanislaus County, California. Performed the reconnaissance-level survey for special-status species at a Turlock Irrigation District substation site. Drafted the biology section of the environmental review document. (2022)

California Tiger Salamander Mitigation Pond Monitoring, Potrero Hills Landfill, Solano County, California. Performed California tiger salamander larval surveys in three mitigation ponds using seines and dip-nets. (2022)

Monterey Municipal Wharf Maintenance, City of Monterey, California. Performed the preconstruction surveys for nesting birds around the Monterey municipal wharves using a kayak. Identified active nests and established avoidance buffers. Conducted worker environmental awareness training to the construction crew. (2022)

Water Tank Pad and Retaining Wall Improvement, City of Rohnert Park, California. Performed the preconstruction survey for burrowing owl, roosting bats, and nesting birds. (2022)

Facilities Expansion, Bally Keal Winery and Event Center, Fairfield, California. Performed the preconstruction survey for nesting birds along the riparian area. (2022)

Vaca Valley Hotel Construction, JandP Hospitality, Vacaville, California. Monitored the construction crew for compliance with project permits during installation of a culvert and bridge in a drainage. Swept the project area for sensitive species, including burrowing owl and western pond turtle. (2022)

Warehouse Development, The Conco Companies, Vacaville, California. Performed the preconstruction survey for burrowing owl, western pond turtle, and nesting birds. Identified active nests and established avoidance buffers. (2022)

Eureka-Manchester Fiber Optic Cable, LTS Telecommunications Services, Mendocino County, California. Assisted with jurisdictional delineation of aquatic features. (2022)

2410 and 2384 Stony Point Road, Santa Rosa Ridge Point LLC, Sonoma County, California. Monitored the construction crew to avoid impacts to California tiger salamander during ground disturbance activities. (2022)

North Central Valley Energy Center North Central Valley Battery Energy Storage LLC, San Joaquin County, California. Performed the preconstruction surveys for nesting birds, burrowing owl, and California tiger salamander. (2022)

California Aqueduct San Joaquin Habitat Conservation Plan, Department of Water Resources, Kern County, California. Lead protocol-level blunt-nosed leopard lizard and burrowing owl surveys. Performed rare plant surveys. Set up wildlife movement study camera trap stations and identified wildlife species in photos. (2021–2022)

California High-Speed Rail; California High-Speed Rail Authority; Tulare, Kings, and Kern Counties; California. Excavated potential Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), San Joaquin antelope squirrel, blunt-nosed leopard lizard, and California tiger salamander burrows and potential San Joaquin kit fox dens. Assisted with the preparation of blunt-nosed leopard lizard survey reports. (2019–2021)

Relevant Previous Experience

Development

Sydney Park Subdivision Development, SandS Homes, Bakersfield, California. Set up remote cameras on burrowing owl burrows. (2021)

Energy

High Pressure Gas Line Inspection and Maintenance, Pacific Gas and Electric Company, San Benito and Fresno Counties, California. Monitored construction crews for compliance while they were running diagnostic testing equipment through blunt-nosed leopard lizard, giant kangaroo rat (*Dipodomys ingens*), San Joaquin kit fox, and San Joaquin antelope squirrel habitats. Excavated giant kangaroo rat and San Joaquin antelope squirrel burrows. (2021)

Castle Fire Emergency Response, Southern California Edison, Tulare County, California. Monitored crews felling trees to avoid impacting drainages and wetlands. Assessed habitat suitability for special-status species. Performed pre-disturbance nesting bird surveys. (2021)

Multiple Oil and Gas Projects, Premier Resource Management, Kern County, California. Led and conducted protocol-level blunt-nosed leopard lizard surveys. Excavated a potential San Joaquin kit fox den. (2020–2021)

Transmission Line Maintenance, Pacific Gas and Electric Company, Kern and San Louis Obispo Counties, California. Led and conducted protocol-level blunt-nosed leopard lizard surveys. Performed the preconstruction surveys for San Joaquin kit fox. (2020–2021)

Creek Fire Emergency Response, Southern California Edison, Fresno County, California. Swept emergency staging yards for rattlesnakes (*Crotalus oreganus helleri*) to relocate. (2020)

Grid Reliability and Maintenance; Southern California Edison; Kern, Tulare, and Los Angeles Counties; California. Performed three seasons of nesting bird surveys, identified nests and special-status species, and provided clients with recommended avoidance buffers. Monitored potential nests and woodpecker cavities to determine nest status. Monitored active nests near construction activities. Identified aquatic features and wetlands. Performed the preconstruction surveys for milkweed (*Asclepias* sp.), San Joaquin kit fox, and burrowing owl and assessed habitat suitability for blunt-nosed leopard lizard. (2019–2021)

Multiple Oil and Gas Projects, Chevron Corporation, Kern and Kings Counties, California. Led and conducted protocol-level blunt-nosed leopard lizard surveys. Performed the preconstruction surveys for nesting birds and sensitive species, including, but not limited to, burrowing owl, San Joaquin kit fox, San Joaquin antelope squirrel, and American badger. Identified potential and known San Joaquin kit fox dens and monitored them with cameras and tracking medium to determine den status. Monitored construction crews for compliance. Assisted with the completion of the biological resources section of Environmental Impact Report documents and Kern County Oil and Gas Ordinance reports. Surveyed oil spills and seeps for impacts to sensitive resources. Met with client representatives to inform them of biological constraints on project plans. (2019–2021)

Multiple Oil and Gas Projects, Berry Petroleum, Kern County, California. Led and conducted protocol-level blunt-nosed leopard lizard surveys. Performed the preconstruction surveys for nesting birds and sensitive species including, but not limited to, burrowing owl, San Joaquin kit fox, San Joaquin antelope squirrel, and American badger. Identified potential and known San Joaquin kit fox dens and monitored them with cameras and tracking

medium to determine den status. Captured and relocated San Joaquin antelope squirrels under guidance of the permitted biologist. Monitored construction crews for compliance. Assisted with the completion of the biological resources section of Environmental Impact Report documents and Kern County Oil and Gas Ordinance reports. (2019–2021)

High Pressure Gas Line Maintenance and Repair, Southern California Gas Company, Kern County, California. Led and conducted protocol-level blunt-nosed leopard lizard surveys. Trapped short-nosed kangaroo rats (*Dipodomys nitratoides brevinasus*) and Tipton kangaroo rats to determine presence of special-status species. (2019–2021)

Centarus Bulk Compressed Natural Gas Facility, Centarus USA, Kern County, California. Performed small mammal trapping to determine presence of special-status rodent species. (2019)

Infrastructure

Lake Isabella Dam Safety Modification Project, Flatiron/Dragados/Sukut Joint Venture, Lake Isabella, California. Biological field lead responsible for completing all nesting bird surveys for the 2021 season. Surveyed the 400-acre project area for nesting birds one to two times a week. Established avoidance buffers around active nests and monitored nests to determine status and assess disturbance tolerance. Composed nesting bird reports for each survey for submittal to the U.S. Army Corps of Engineers (USACE). Provided the client with recommendations to comply with USACE environmental requirements. (2021)

Centennial Corridor Freeway Project, AECOM, Bakersfield, California. Monitored Anna's hummingbird (*Calypte anna*) nest to prevent nest failure during construction of freeway overpass. (2021)

Resource Management

Lokern Ecological Reserve Ongoing Research Projects, Dr. David Germano, Kern County, California. Assisted researchers with San Joaquin antelope squirrel trapping for population assessment and data collection. (2020–2021)

Poso Creek Biological Evaluation, North West Kern Resource Conservation District, Kern County, California. Led and conducted protocol-level blunt-nosed leopard lizard surveys. Assisted with protocol-level Swainson's hawk surveys. Provided environmental training to California Department of Forestry and Fire Protection personnel and hand crews clearing debris out of Poso Creek. (2020–2021)

Taft County Landfill Maintenance, Kern County Public Works, California. Monitored known and potential San Joaquin kit fox dens with tracking medium and cameras. (2020)

Panoche Valley Preserve Monitoring, Center for Natural Lands Management, San Benito and Fresno Counties, California. Assisted with population monitoring of protected species on conservation land. Trapped small mammals, including giant kangaroo rat and San Joaquin antelope squirrel. (2019–2021)

San Joaquin Kit Fox Health Monitoring and Data Collection, Endangered Species Recovery Program; Kern, San Benito, and Kings Counties; California. Assisted research teams with San Joaquin kit fox trapping, health checks, and radio-collaring. (2019–2021)

Bakersfield Cactus Planting, Health, and Growth Assessments, Windwolves Preserve, Kern County, California. Assisted preserve staff with planting of Bakersfield cactus (*Opuntia basilaris* var. *treleasei*) to improve population resiliency and performed health and growth assessments of planted populations of Bakersfield cactus. (2019 and 2020)

San Joaquin Kit Fox Artificial Den Installation, Windwolves Preserve, Kern County, California. Assisted preserve staff with installation of nine artificial San Joaquin kit fox dens to improve population connectivity in the region. (2020)

Poso Plains Habitat Viability, Westervelt Ecological Services, Kern County, California. Established camera stations to determine presence of San Joaquin antelope squirrel. Baited and maintained camera stations and reviewed photos. (2019)

Water

Water Testing Well Installation, United States Geological Survey, Kern County, California. Compliance monitored crew installing a water sampling well in blunt-nosed leopard lizard, giant kangaroo rat, San Joaquin kit fox, and San Joaquin antelope squirrel habitat. Flagged burrows for avoidance and staked off work areas to limit impacts to habitat. (2021)

Produced Water Pipeline Maintenance, Valley Water Management, Kern County, California. Led and conducted protocol-level blunt-nosed leopard lizard surveys. (2021)

Groundwater Testing Well Installation, Valley Water Management, Kern County, California. Conducted small mammal trapping to determine presence of special-status rodent species. (2020)

Specialized Training

- California Red-Legged Frog II Workshop, The Wildlife Project. 2023.
  - Mitsui Ranch, Sonoma County, California. In field instruction on California red-legged frog reproduction and egg mass identification. Observed 15 California red-legged frog egg masses, 1 Sierran treefrog (*Pseudacris sierra*) egg mass, 1 California newt (*Taricha torosa*) egg mass, over 10,000 western toad (*Anaxyrus boreas*) eggs, 1 rough-skinned newt (*Taricha granulosa)* adult male. (5 hours).
  - Blue Oak Ranch, Santa Clara County, California. In field instruction on California red-legged frog tadpole and sympatric species identification and observation of egg masses, and dip-net surveys for larvae. Observed 3 California red-legged frog egg masses. Observed and handled 84 California tiger salamander larvae. (5 hours).
  - Big Gun Mitigation Property, Placer County, California. In field instruction on California red-legged frog in Sierra Nevada mountain habitat. Dip-net surveys and identification of larvae, night surveys, and handling of adults. Observed and handled 9 California red-legged frog larvae and 25 adults. Observed and handled 1 northwestern pond turtle and observed predated nests. (8 hours)
  - Point Reyes National Seashore, Marin County, California. In field instruction on atypical California red-legged frog habitat, including in brackish water. Survey in occupied habitat. (5 hours).
  - Mitsui Ranch, Sonoma County, California. Dip-net surveys for larvae and spotlight survey for California red-legged frog larvae, adults, and metamorphs. Measured and pit-tagged 1 California red-legged metamorph. Observed and handled 5 adult California red-legged frogs (4 males and 1 female, 49 metamorphs, and 6 larvae. (5 hours).
  - Pinnacles National Park, San Benito County, California. Visual encounter surveys for California red-legged frog adults and metamorphs in atypical cave and arid habitats. Discussions of pond management practices. Observed 28 California red-legged frog adults, handled 12 California red-legged frog adults. (number of hours?).

- Swainson's Hawk and Raptor Nestling Banding, Tracking Talons. Observed and assisted with the banding of 2 Swainson's hawk fledglings and 5 American kestrel (*Falco sparverius*). 2023.
- California Red-Legged Frog Habitat Assessment Training, taught by Craig Seltenrich. Field training in Lyndon Canyon within Sanborn County Park, Santa Clara County. Focused on determining habitat suitability for red-legged frogs within a forested creek environment. 2022.
- California Tiger Salamander Terrestrial Ecology Workshop, The Wildlife Project and Laguna de Santa Rosa Foundation. Workshop on the terrestrial ecology, land use management, and regulations of the California tiger salamander. Installed a pitfall trap array and observed salamander road tunnels. 2022.
- Rare Pond Species Survey Techniques, The Wildlife Project and Laguna de Santa Rosa Foundation. Workshop on aquatic survey techniques for the California tiger salamander, California red-legged frog, and western pond turtle. Observed and handled 11 larval California tiger salamanders during dip net surveys. Performed nighttime eyeshine surveys for California red-legged frogs. Observed and handled 2 adult California red-legged frogs. Observed and handled 1 adult male northwestern pond turtle. Observed 2 adult southwestern pond turtles. 2022.
- Amphibians of the San Francisco Bay Area, The Wildlife Project and Laguna de Santa Rosa Foundation. Workshop covering amphibians found in the San Francisco Bay Area, including but not limited to California red-legged frog, foothill yellow-legged frog, California tiger salamander, California giant salamander, and western spadefoot (*Spea hammondii*). Observed 3 California giant salamanders and 1 foothill yellow-legged frog. Handled 1 California giant salamander larvae and 1 foothill yellow-legged frog under supervision of permitted biologist. 2021.
- Rattlesnake Handling Certification, Central Coast Snake Services. Training on safe rattlesnake handling and relocation techniques. 2020 and 2021
- Tracking Workshop, Earth Skills with Jim Lowery. Mammal tracking workshop in Carrizo Plain National Monument. Special focus on San Joaquin kit fox tracking. 2020.
- Introduction to the Mojave Desert Tortoise, Desert Tortoise Council. Workshop covering the life history, conservation status, and survey methodology of the desert tortoise (*Gopherus agassizii*). 2020.

Surveying and Monitoring Hours for Relevant Species

Species	Surveying Hours*	Monitoring Hours*	Notes
American badger	300	100	Preconstruction surveys and construction monitoring. Observed numerous digs and dens.
Bat species	50	0	Multispecies preconstruction surveys in which bat roosts were a target species.
Blunt-nosed leopard lizard	1000+	250	Protocol-level surveys, habitat assessments, and construction monitoring. Observed, at minimum, 31 adults or first-years and 4 hatchlings.
Burrowing owl	500	1000+	Protocol-level surveys, preconstruction surveys, burrow monitoring with cameras, and construction monitoring. Positive identification of approximately 11 active burrows and 39 adult owls.
California red-legged frog	400	400	Protocol-level day and night eye-shine surveys, preconstruction surveys, site assessments, construction monitoring, workshops. Observed 179 egg masses, larvae, metamorphs, and adults of both sexes.

Surveying and Monitoring Hours for Relevant Species

Species	Surveying Hours*	Monitoring Hours*	Notes
California tiger salamander	70	500	Protocol-level larval surveys, preconstruction surveys, and construction monitoring. Attended workshop on aquatic and terrestrial ecology, survey techniques and identification. 1001 larvae handled under the supervision of permitted biologists.
Foothill yellow-legged frog	60	60	Preconstruction surveys, construction monitoring and workshop attendance. Positive identification and handling of 1 adult under the supervision of permitted biologists.
Giant kangaroo rat	750	500	Preconstruction surveys, construction monitoring, burrow excavations, and trapping. Observed and/or handled 147 adults under the supervision of a permitted biologist.
Nesting birds and raptors	1000+	100	Preconstruction surveys, woodpecker surveys, shorebird surveys, and nest monitoring during construction.
San Francisco dusky-footed woodrat	100	100	Preconstruction surveys. Observed approximately 240 middens and 2 adults.
San Joaquin antelope squirrel	650	1000+	Preconstruction surveys, construction monitoring, burrow excavations, and trapping and relocating. Observed hundreds of adults and juveniles and handled 28 adults under the supervision of a permitted biologist.
San Joaquin kit fox	820	1000+	Preconstruction surveys, construction monitoring, den excavation, den monitoring, habitat assessments, spotlighting, and trapping. Observed more than 100 adults and observed more than 50 known dens (including atypical and natal).
Swainson's hawk	120	0	Protocol-level surveys, preconstruction surveys, and nesting bird surveys. Positive detection of approximately 30 hawks, including fledglings (light and dark morphs).
Tipton's kangaroo rat	150	0	Burrow excavations and trapping. Observed and/or handled 160 closely related short-nosed kangaroo rats under the supervision of a permitted biologist.
Vernal pool branchiopods	100	40	Wet- and dry-season surveys and construction monitoring.
Western pond turtle	100	100	Preconstruction surveys, construction monitoring, and workshop attendee. Positive detection of approximately 11 turtles. Handled 1 turtle under supervision of a permitted biologist.

* Hours are approximate.

Lorna Haworth

BIOLOGIST I

Lorna Haworth (*she/her*) is a biologist with 3 years' professional experience as a wildlife biologist specializing in special-status species surveys, including vernal pool branchiopods, California red-legged frog (*Rana draytonii*), western pond turtles (*Actinemys* spp.), California tiger salamander (*Ambystoma californiense*), burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and Swainson's hawk (*Buteo swainsoni*). Ms. Haworth has extensive experience with wildlife cameras and identification of California mammals. From her various professional positions, Ms. Haworth has an excellent knowledge of survey and sampling techniques.

Project Experience

Sonrisa Solar Project, EDP Renewables, Fresno County, California. Conducted burrowing owl habitat assessment. (2024)

Delta Dams Burrow Remediation Project, Department of Water Resources, Alameda County, California. Approved biological monitor for California tiger salamander and California red-legged frog during exclusion fence installation and construction activities. Relocated adult, juvenile, and larval California red-legged frog and western toads, and brought injured goose to wildlife rescue. (2024)

Carbondale Bridge Replacement Project, County of Amador, Amador County, California. Approved biological monitor for California tiger salamander during exclusion fence installation and construction activities. Scoped suitable California tiger salamander burrows and collapsed after clearance, monitored active cliff swallow nest, and observed a Northwestern pond turtle. (2024)

Confidential Solar Project, Confidential Client, Lyon County, Nevada. Prepared the Bureau of Land Management (BLM) pre-field assessment report prior to rare-plant surveys. Conducted the jurisdictional delineation for the approximately 1,600-acre project on BLM land and wrote subsequent aquatic resources delineation report (ARDR). Wrote the rare plant survey results report. (2023–2024)

Confidential Solar Project, Confidential Client, Lyon County, Nevada. Prepared the BLM pre-field assessment report prior to the rare-plant surveys. Conducted the jurisdictional delineation for the approximately 2,900-acre project on BLM land and wrote subsequent ARDR. Wrote the rare plant survey results report and biological evaluation. (2023–2024)

Education

University of California, Davis
BS, Environmental Science and Management (Ecology concentration), 2021

University of California, Davis
MS, Ecology (in progress)

Certifications

USFWS Recovery Permit for California Red-Legged Frog (pending), Large Listed Branchiopods, No. PER2385850

CDFW Scientific Collecting Permit, No. S-231770001-23177-001

Professional Affiliations

The Wildlife Society

Delta Habitat Conservation Plan, California Department of Water Resources, Multiple Locations, California. Conducted and led the wildlife movement assessment and San Joaquin kit fox camera study surveys. Managed all data and images related to both survey efforts. Led protocol-level burrowing owl surveys. Conducted visual and auditory surveys for California red-legged frog for day and night (observed two adults), protocol-level California tiger salamander larval dip-net surveys (observed one larvae), and protocol-level fairy shrimp (*Branchinecta* spp.) dip-net surveys (observed hundreds). Assisted with jurisdictional delineations and rare-plant surveys. Made incidental observations of bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), burrowing owl, and American badger. Wrote species accounts (valley elderberry longhorn beetle [*Desmocerus californicus dimorphus*], western spadefoot [*Spea hammondii*], and Delta green ground beetle [*Elaphrus viridis*]) for the baseline biological report and assisted with data management tasks for jurisdictional delineation data. (2021–2024)

Spike's Peak Solar Project, EDF Renewables Development Inc., Merced County, California. Conducted protocol-level burrowing owl surveys. Drafted biological resources assessment with focus species including San Joaquin kit fox, California tiger salamander, and California red-legged frog. (2024)

UC Davis Arboretum Improvement Project, University of California, Davis, Yolo County, California. Conducted fish relocation, nesting bird survey, Swainson's hawk survey, pre-construction survey, and western pond turtle (*Actinemys marmorata* and *Actinemys pallida*) trapping and monitoring during dewatering. (2024)

East Linda Middle School Constraints Project, Marysville Joint Unified School District, Yuba County, California. Conducted reconnaissance survey and wrote subsequent biological constraints report. Focus species included nesting birds and raptors and valley elderberry longhorn beetle. (2024)

Confidential Battery Energy Storage System Project, Confidential Client, Sacramento County, California. Conducted habitat assessment for burrowing owl, large listed branchiopods, Crotch's bumble bee (*Bombus crotchii*), California tiger salamander, western spadefoot, and Swainson's hawk. (2024)

Confidential Solar Project, Confidential Client, Fresno County, California. Conducted Crotch's bumble bee surveys. (2024)

Confidential Agrivoltaic Project, Confidential Client, Sloughhouse, California. Conducted arborist surveys for hundreds of blue oak (*Quercus douglasii*) trees, protocol-level Swainson's hawk surveys (observed one active red-tailed hawk [*Buteo jamaicensis*] nest and one active great horned owl [*Bubo virginianus*] nest), habitat mapping for Crotch's bumble bee, western spadefoot eyeshine surveys, and burrowing owl surveys. Observed one valley garter snake (*Thamnophis sirtalis fitchi*). (2022–2024)

Bonturi Ranch San Joaquin Kit Fox Conservation Easement Project, AKT Investments Inc, Merced County, California. Conducted pedestrian transect surveys to map burrows for San Joaquin kit fox. Managed and processed camera data for San Joaquin kit fox camera study. Drafted management plan. (2023)

Monitoring Movement of Wildlife Research Project, Missouri Department of Transportation, Noel County, Missouri. Managed and processed camera data for Interstate 49 wildlife camera project in southwestern Missouri. (2023–2024)

Red Bluff Energy Storage System Project, Confidential Client, Tehama County, California. Conducted jurisdictional delineation and reconnaissance survey. (2023)

Boreal Mountain Resort Project, North Star Community Service District, Nevada County, California. Conducted rare plant surveys and jurisdictional delineation. (2022–2023)

Fields at Alamo Creek, The City of Vacaville, California. Conducted a habitat assessment field survey and wrote the biological resources assessment report for the supplemental environmental impact report. Focus species included nesting birds, burrowing owl, and giant garter snake (*Thamnophis gigas*). Wrote the biology section for the supplemental environmental impact report. (2023)

Diamond Springs Regional Park Constraints Analysis, County of El Dorado, California. Assisted with the reconnaissance-level survey, including vegetation mapping and initial wetland delineation. Wrote the biological technical report and biological section for the environmental impact report. (2022–2023)

Confidential Energy Storage Project, Confidential Client, Alameda County, California. Prepared the reconnaissance survey results memorandum; focus species included California red-legged frog, California tiger salamander, burrowing owl, Crotch's bumble bee, and rare plants. Conducted the rare plant, burrow mapping, and Crotch's bumble bee surveys on the 72-acre site. (2023)

Confidential Energy Storage Project, Confidential Client, Sacramento County, California. Conducted the jurisdictional delineation for the 42-acre fallow agricultural field. Observed two valley garter snakes. (2023)

Ellis Creek Facility Oxidation Pond Rehabilitation and Storage Expansion Project, City of Petaluma, California. Conducted the aquatic resources delineation, rare plant survey, and Crotch's bumble bee habitat mapping. Drafted the ARDR. (2023)

Confidential Solar Project, Confidential Client, Storey County, Nevada. Conducted the jurisdictional delineation and wrote ARDR. Wrote rare plant survey results report. (2022–2023)

Sisk Dam Retrofit Project, California Department of Water Resources, Los Banos, California. Conducted botanical surveys, with positive detection of hundreds of spiny-sepaled button celery (*Eryngium spinosepalum*). (2023)

Confidential Energy Storage Project, Confidential Client, Petaluma, California. Conducted the jurisdictional delineation, reconnaissance, and California red-legged frog habitat assessment. (2023)

Stanislaus River Bridge Track Extension Project, Sener Engineering and Systems, Inc., Ripon, California. Assisted with writing the National Marine Fisheries Service's biological report. (2023)

San Joaquin Field Division Culvert Replacement Project, California Department of Water Resources, Kern County, California. Wrote the biological constraints report and ARDR. Focus species included nesting birds, blunt-nosed leopard lizard (*Gambelia sila*), and kangaroo rats (*Dipodomys* spp.). (2023)

San Joaquin Habitat Conservation Plan, California Department of Water Resources, Multiple Locations, California. Conducted rare-plant surveys. Led wildlife movement assessment surveys and managed all data and images related to the survey effort. Made incidental observations of golden eagle, San Joaquin kit fox, San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), and burrowing owl. Assisted with data management tasks for jurisdictional delineation data. (2022–2023)

Modesto Energy Storage Site, California Department of Water Resources, Modesto, California. Conducted a reconnaissance-level survey, including vegetation mapping and initial wetland delineation. Wrote the biological section in the strategic reliability reserve environmental review report. (2022)

Stony Point Road Clean Up, Santa Rosa Ridge Pointe LLC, Santa Rosa, California. Monitored the site for California tiger salamanders during ground-disturbing activities. Conducted daily nesting bird surveys and flagged burrows as potential salamander habitat. (2022)

Potrero Hills Landfill Expansion, Waste Connections Inc., Vacaville, California. Conducted California tiger salamander exclusion fence monitoring. Served as biological monitor during construction. Conducted California tiger salamander larval dip-net and seine surveys as a part of the mitigation monitoring program; observed and handled more than 425 larvae. (2022)

Eureka–Manchester Fiber Optic Survey, EGA Networks, Mendocino County, California. Conducted vegetation mapping, jurisdictional wetland delineations, and habitat assessment for special-status wildlife species, including California red-legged frog, foothill yellow-legged frog (*Rana boylii*), and spotted owl (*Strix occidentalis*). Assisted with data management tasks for the ARDR. (2022)

Elk Grove Nature Park Expansion, Cosumnes Community Service District, Elk Grove, California. Conducted the nesting bird and burrowing owl pre-construction survey. Wrote the pre-construction letter report. (2022)

Relevant Previous Experience

Research Technician, University of California, Davis. Led the field team of up to six people in Suisun Marsh to conduct monthly plant, bird, and invertebrate surveys. Conducted a 6-week amphipod physiology experiment that included aquarium design, build, and setup; animal care; and water changes, sample collection, and bioassays for protein and glycogen. Managed and led the team of up to eight individuals in field and laboratory settings; scheduled field teams while coordinating with agencies; and led fieldwork via kayak and waders through Suisun Marsh.

Marsh Ecology Assistant, University of California, Davis. Conducted wetland plant surveys along a transect using a quadrat method for the Suisun Marsh Food Webs Project. Collected benthic, terrestrial, and pelagic invertebrate samples from the field. Processed, preserved, and identified invertebrates from field samples in a laboratory setting.

Road Ecology Assistant, University of California, Davis. Monitored camera traps field sites for the Contra Costa County Water District and Alameda County Altamont Pass Interstate 580 Wildlife Corridor project. Processed and analyzed images qualitatively and quantitatively for purpose of connectivity studies and wildlife tracking using ImageID, ImageID+, and CamWON. Taught interns how to use processing websites and CamWON.

Student Researcher, University of California, Davis. Participated in the bioinformatics project to identify possible transcription factors that regulate osmoregulation during salinity stress in tilapia. Assisted with acclimation experiments, including experimental design and setup, monitoring fish, and dissection. Independent research of breeding of endangered cichlid species. Successfully bred Mozambique tilapia (*Oreochromis mossambicus*) and assisted with raising of juveniles.

Research Fellow, Institute of Transportation Studies and National Center for Sustainable Transportation, Davis, California. Conducted independent research of literature review about wildlife corridors in the United States. Presented research in a professional setting to the Institute of Transportation Studies and National Center for Sustainable Transportation peers and advisors.

Computers and Technology Intern, University of California, Davis. Assisted teaching assistants with laboratory sections, including instruction and grading. Provided one-on-one support to students during personal office hours.

Specialized Training

- Foothill Yellow-Legged Frog Master Workshop, Jeff Alvarez and Jeff Wilcox, 2024. Observations included foothill yellow-legged frog egg masses, tadpoles, juveniles, and adults.
- Crotch's Bumble Bee Internal Training, Dudek, 2024. Field training.
- California Red-Legged Frog Master Workshop, Jeff Alvarez and Jeff Wilcox, 2023. Observations included California red-legged frog egg masses, tadpoles, juveniles, and adults, California tiger salamander larvae, coast range newt adults, red-sided garter snakes, and western pond turtles.
- Jurisdictional Delineation Internal Training, Dudek, 2023. Lecture on principles of delineations and field practicum.
- Large Listed Branchiopods Workshop, Mary Belk, 2023. Lecture on fairy shrimp.
- Large Listed Branchiopods Field Training, Carol Witham, 2023. Sacramento County. Hundreds of handles for *Branchinecta lynchi, Lepidurus packardi*, and *Branchinecta mesovallensis*.
- San Francisco Bay Area Amphibians Workshop, Laguna de Santa Rosa Foundation, 2022. Lecture on amphibians of San Francisco Bay Area, followed by a field trip to Sonoma County.
- California Tiger Salamander Workshop, Laguna de Santa Rosa Foundation, 2022. Lecture on California tiger salamander, followed by an exclusion fence-building workshop.
- Rare Pond Species Workshop, Laguna de Santa Rosa Foundation, 2022. Lecture on California red-legged frog and western pond turtle, followed by California tiger salamander larval dip-net surveys and California red-legged frog nighttime eyeshine surveys. Observations included 42 California tiger salamander larvae and 18 California red-legged frog adults.

Publications

Haworth, L.H., S. Nancollas, S.N. Landa, A.E. Todgham, and R.L. Tanner. Forthcoming. "Invasion Stress Mitigates Climate Stress in a Brackish Marsh Amphipod." (submitted). *Journal of Applied Ecology*.

Presentations

"The Effects of *Phragmites australis* Invasion Stress on Community Function", 2021. Presented at Western Society of Naturalists Conference. Virtual attendance.

"Identification of Potential Osmoregulatory Transcription Factors in Mozambique Tilapia (*Oreochromis mossambicus*)", 2021. Presented at UC Davis Undergraduate Research Conference. Davis, California.

Attachment 6
Biological Opinion

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846
SFWO_mail@fws.gov

In Reply Refer to:
2024-0094382-S7

June 25, 2025
Sent Electronically

Regulatory Project Manager
Attn: Matthew Di Loreto
CA Delta Section
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922
matthew.j.diloreto@usace.army.mil

Subject: Formal Consultation on the Potentia Viridi Battery Storage System Project, Alameda County, California (Corps File Number: SPK-2024-00486)

Dear Regulatory Project Manager:

This letter is in response to the U.S. Army Corps of Engineers (Corps) September 6, 2024, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the Potentia Viridi Battery Storage System Project (proposed project) in Alameda County, California. Your request was received electronically by the Service on September 6, 2024. At issue are the proposed project's effects on the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (kit fox), the federally threatened Central California Distinct Population Segment of the California tiger salamander (*Ambystoma californiense*) (salamander or Central California tiger salamander), and the federally threatened California red-legged frog (*Rana draytonii*) (frog) and its critical habitat. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The Service has determined that the proposed project is appropriate to append to the May 31, 2012, *Programmatic Biological Opinion for the Corps Permitted Projects Utilizing the East Alameda County Conservation Strategy that May Affect Federally Listed Species in East Alameda County, California* (Service 2012) (programmatic). The proposed actions meet the suitability criteria of and is within the geographic area analyzed in the programmatic. Therefore, this letter is an agreement by the Service to append the proposed action to the programmatic and represents the Service's biological opinion on the effects of the proposed action on the salamander and the frog. By appending the proposed action to the programmatic, the applicant (Levy Alameda, LLC) acknowledges and accepts all of the conservation measures outlined within the programmatic, including, but not limited to, the proposed conservation measures that will minimize adverse effects to these species.

The federal action on which we are consulting is the Corps issuing a permit to Levy Alameda, LLC (Applicant), a wholly owned subsidiary of Obra Maestra Renewables, LLC, who proposes

to construct, operate, and eventually repower or decommission the 400 megawatt (MW) Potentia-Viridi Battery Energy Storage System pursuant to Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 et seq.). The Corps is responsible for enforcing actions carried out in Corps' jurisdictional waters and the applicant and Service will enforce all other actions associated with the proposed action. Pursuant to 50 CFR 402.12(j), the Corps submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is not likely to adversely affect the kit fox. The findings also conclude that the proposed project may affect, and is likely to adversely affect the salamander, the frog, and frog critical habitat.

In considering your request, we based our evaluation on the following: (1) your September 6, 2024, letter; (2) the March 2025 Biological Assessment – Potentia-Viridi Battery Energy Storage Project (Stantec 2024); (3) and other information available to the Service.

The Service concurs with your determination that the proposed project may affect and is not likely to adversely affect the kit fox. Based on the following factors, the Service believes that any potential adverse effects to the kit fox from the proposed project are unlikely to occur and are therefore discountable for purposes of this consultation:

1. The action area is within the northern limits of the known kit fox dispersal and migration boundary, and minimal impacts will occur.

2. The conservation measures proposed for the project will minimize adverse effects to this species.

The remainder of this document provides our biological opinion on the effects of the proposed project on the salamander, the frog, and the frog’s critical habitat.

Consultation History

September 6, 2024: The Service received the Corps’ September 6, 2024, letter requesting initiation of consultation for the proposed project as well as including a biological assessment, dated June 2024, for the proposed project.

October 7, 2024: The Service requested additional information including recommendations and comments on the June 2024 biological assessment before beginning consultation.

January 24, 2025: The Corps, applicants, and the Service met to discuss the biological assessment.

February 4, 2025: The Service received a revised biological assessment, dated February 2024.

February 11, 2025: The Service requested additional information on the revised February 2024 biological assessment.

March 7, 2025: The Service received an amended biological assessment, dated March 2025.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed project is located at 17257 Patterson Road, Alameda County, California (Latitude 37.7121°, Longitude -121.57336°). The location is south of Interstate 580 (I-580) and north of Patterson Pass Road in the eastern portion of unincorporated Alameda County. The proposed project includes the construction, operation, and eventually repowering or decommissioning of the 400 megawatt (MW) Potentia-Viridi Battery Energy Storage System (BESS) with an energy storage capacity up to 3,200 MWhs. Charging from or discharging to the electrical grid will be a 500kV gen-tie connecting the proposed project substation to the point of interconnect within the existing Pacific Gas and Electric (PG&E) Tesla Substation. The BESS Facility will include the following components:

- Battery Energy Storage System (BESS)
- Power Conversion Systems (PCS)
- Medium voltage (MV) Collection System
- Project Substation, Control Building, and Telecommunications Facilities
- Access Roads
- Laydown Yards
- Stormwater Facilities and Outfall
- Site Security and Fencing, including fire detection system

Battery Energy Storage System

The energy storage facility will utilize a modular and containerized BESS. There are several battery cell technologies commercially available, with one of the most common at present being lithium iron phosphate (LFP) cells (often colloquially referred to as ‘lithium-ion’). LFP technology is considered one of the safest, most efficient, and commercially financeable energy storage technologies available on the market. The initial proposed project concept has been developed assuming an LFP technology; however, due to the continuous improvement of these energy storage systems, a specific manufacturer and model has not been selected at this time. By the time the proposed project reaches the procurement stage, it is possible for other battery cell technology with proven safety and performance records to be suitable for the proposed project. Although the number and dimensions of the containers may change (as it does between LFP technology providers), the technology ultimately procured will result in potential environmental impacts substantially similar to, or less than, those analyzed.

The BESS enclosures will be prefabricated off-site and arrive at the site ready to be installed and commissioned. Each modular BESS enclosure will include battery packs on racks, a battery management system (BMS), fire protection, and ancillary power electronics within a specialized steel-framed, non-occupiable container. The BESS enclosures will not exceed approximately ten feet in height. The BESS enclosures may also have a heating, ventilation, and air conditioning (HVAC) system for optimal performance and safety. Power for the HVAC system, lighting, and other electrical systems will be provided through separate auxiliary power connection to the on-site proposed project substation with connection lines installed above and/or below ground.

Power Conversion System

A PCS is a packaged and integrated system consisting of a bi-directional inverter, MV transformers, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, harmonic filters, equipment terminals, and a connection cabling system. A PCS functions to both convert between DC/AC and change the voltage level from the MV collection voltage to the voltage output of the BESS enclosures.

The PCS will convert electric energy from AC to DC when the energy is transferred from the grid to the battery, and from DC to AC when the energy is transferred from the battery to the grid. Each PCS will also include transformers that convert the AC side output of the inverter between low and medium AC voltage to increase the overall efficiency of the BESS. Inverters within the PCS units will be unattended systems designed to operate in all conditions. The inverters will be monitored and controlled remotely, and there will be on-site disconnects for use in case of an emergency or a situation requiring unscheduled maintenance.

PCS units will be installed on concrete foundations and connected to multiple BESS enclosures with wiring and cables installed underground. All outside electrical equipment will be housed in the appropriate National Electrical Manufacturers Association (NEMA) rated enclosures.

MV Collection System

The MV collection system will include multiple components that connect the PCS units to the proposed project substation including underground conductor circuits, switchboards, switchgear, and panels at 34.5kV voltage. The conductors for the MV collection system will be installed underground during construction using trenching.

Project Substation

The proposed project substation will include three main power transformers (MPTs) – two active and a live spare. When the BESS facility is charging, power from the regional electric transmission grid will be stepped down from 500kV to 34.5kV and sent from the proposed project substation through the MV collection system and PCS units into the battery packs within the BESS enclosures. When the BESS facility is discharging, power from the battery packs within the BESS enclosures will be sent to the PCS units, stepped up to 34.5kV, and transported to the proposed project substation through the MV collection system before being stepped up to 500kV at the MPTs and delivered back to the regional electric transmission grid. A prefabricated control building will be installed within the proposed project substation area and contain an energy management system, metering, and telecommunication equipment for communication with PG&E/ California Independent System Operator (CAISO) facilities and to support remote project operations monitoring, as well as monitoring by the 18 full-time operations staff members. The proposed project substation area will also include five static masts for lightning protection and a wireless communication tower mounted with an antenna up to 15 feet in diameter for external telecommunications.

Access Roads

The proposed project's roadway system will include two new facility access roads and driveways, a perimeter road, and internal access roads, the Northern Access Road and the Southeast Emergency Access Road. The Northern Access Road will be constructed from an

existing private road near the northeastern portion of the site and will serve as the primary access to the site. The Southeast Emergency Access Road will be constructed from Patterson Pass Road near the southeastern portion of the site and will be used for emergency access only. As such, the majority of proposed project traffic will not be expected to travel along the unimproved stretches of Patterson Pass Road. The driveway apron of the Southeast Emergency Access Road will be expanded to allow vehicles space to decelerate off the main road and to provide additional visibility for exiting vehicles to enter onto Patterson Pass Road. In addition, this emergency entrance road has been designed according to the Engineering Design Guidelines for Unincorporated Alameda County to provide 100 feet of straight driveway perpendicular to the centerline of Patterson Pass Road. The grade has been adjusted to provide a maximum 6% grade for 50 feet from the road edge.

A proposed project substation access road will be constructed outside of the perimeter fence, connecting the northeast and southwest driveways, to facilitate proposed project substation access by third parties during operations. All new access roads, driveways, internal and perimeter roads will be bladed, compacted, and surfaced with aggregate. All internal roadways and private driveways will be constructed to meet access requirements for construction, Operations and Maintenance (O&M), and emergency response requirements.

Laydown Yards/Storage Area

The proposed project will include up to four laydown yards for equipment and material staging and storage during construction. These areas will also be used for worker parking during construction. The primary laydown yard will be located directly adjacent to the proposed project substation area. The primary laydown yard will be cleared of vegetation, bladed, compacted, and surfaced with aggregate. Landscape fabric may also be installed under the surface of all laydown yards to prevent vegetation growth, if required to comply with fire prevention standards.

If the BESS technology ultimately procured prior to construction requires larger BESS yards to accommodate BESS enclosures with larger dimensions, a greater number of BESS enclosures, or greater spacing requirements to comply with regulations, portions of the additional laydown yards may be used to accommodate larger BESS than those currently proposed. The proposed project's preliminary layout, earthwork volumes, and proposed project component dimensions assumed for environmental analyses in subsequent descriptions are conservatively large to allow for design flexibility and proposed project schedule preservation.

Stormwater Facilities

The proposed BESS facility site currently consists of annual grassland with rolling topography. Regulatory standards require that volumes and flow rates of stormwater discharge after construction not exceed pre-development conditions. Stormwater generated on-site will flow southwest to northeast to be captured in a detention basin located on the northeast end of the BESS site, and southward to a detention basin located parallel to Patterson Pass Road. Additional detention basins will be located around the perimeter of the site to capture stormwater runoff from side slopes. Stormwater treatment and storage sizing will be designed to hold the anticipated runoff from a 100-year, 24-hour storm event in compliance with applicable regulations. In the event stormwater basins reach capacity, stormwater will be discharged from the detention basins via storm drainpipes and sheet flow at rates no greater than pre-development conditions following natural drainage patterns.

A stormwater drainage outfall utilizing a new 36-inch corrugated metal pipe or bioswale/ditch will be constructed from one or more of the detention basins located in the southwest portion of the site to the inlet of a new or existing culvert on the north side of Patterson Pass Road. Approximately ten cubic yards of clean riprap will be placed as an energy dissipator at the outfall to discharge clean stormwater at or below current rates at the elevation of the ordinary high water mark of the existing drainage on the south side of Patterson Pass Road.

Site Security

The BESS facility site will be enclosed with an eight-foot-tall chain link fence topped with one foot of three-strand barbed wire or razor wire. The fence will be installed on the outside of the perimeter road. An additional fence with the same specifications will be installed around the proposed project substation area. The fences will be required to prevent unauthorized access and to comply with human health and safety regulations. Gates will be installed at various access points along the fence lines and equipped with lock boxes to allow for authorized personnel (e.g., transmission service provider, O&M staff, emergency response) to access appropriate portions of the BESS facility site.

Lighting will only be in areas where it is required for safety, security, or operations. Low-elevation (less than 14 feet) controlled security lighting will be installed at the proposed project substation and around the BESS yards, in accordance with applicable requirements and regulations. Permanent motion-sensitive, directional security lights will be installed to provide adequate illumination around the substation area and points of ingress/egress. All lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties, compliant with applicable codes and regulations. Security cameras will be placed on site and monitored 24 hours a day, 7 days a week.

Fire Protection System

Fire protection will include multiple fire detection systems on-site and within the individual BESS enclosures. An infrared camera system will be installed throughout the BESS facility to achieve 100% of electrical infrastructure and trigger an alarm in case of an onsite fire. Each BESS enclosure will have a fire rating in conformance with the California Fire Code 2022. In addition, each BESS enclosure will contain an onboard BMS that monitors the appropriate state of individual battery cells and relays information 24 hours a day, 7 days a week. In the event of an anomaly, the system is designed to shut down and mitigate the hazard.

The proposed project's fire protection design will comply with California Fire Code 2022, Section 1207 Electrical Energy Storage Systems, which adopts the National Fire Protection Association's Standard for the Installation of Stationary Energy Storage Systems. BESS enclosures will be Underwriters Laboratories (UL) listed, tested, and certified to the most rigorous international safety standards. UL independently tests equipment for compliance with the latest fire safety code requirements, and the methods were developed to minimize fire risk and safety concerns about battery storage equipment raised by fire departments and building officials in the United States.

Faults, mechanical damage, or manufacturing defects in lithium-ion batteries can cause thermal runaway, which can lead to fires or other hazards. Should a thermal runaway event occur, the BESS enclosures are designed and constructed in such a way that fire will not propagate from one enclosure to a neighboring enclosure. The proposed project's BESS enclosures, as part of the

testing and listing process, will be subjected to destructive testing including fire testing. The proposed project's BESS enclosures will include the following UL certifications:

UL 1642 – Standard for Lithium Batteries (cell level certification).

UL 1973 – Standard for Batteries for Use in Stationary Applications (module level certification).

UL 9540 – Standard for Energy Storage Systems and Equipment (system level certification).

UL 9540A – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems.

IEC 62619 – Standard for Battery Safety in Stationary Applications.

The California Department of Forestry and Fire Protection (CAL FIRE) will review and comment on the facility fire protection plans.

Operations and Maintenance Building

Following construction of the BESS facility, three O&M buildings will be constructed a minimum of 20 feet apart within the primary laydown yard for the proposed project's anticipated 18 full-time operations staff. The main O&M building will include basic offices, meeting rooms, and washroom facilities. A 10,000 gallon above ground potable water storage tank will provide water for washroom and sanitary facilities, and sewage/wastewater will be collected in two separate 5,000 gallon below ground sewer holding tanks. Potable water will be trucked to the water storage tank periodically during O&M, and sewage/wastewater will be pumped from the storage tank, transported offsite via truck, and disposed of at a sanitary dump station, as needed, during operations. The remaining two O&M buildings will be used primarily for storage, maintenance and repair activities associated with the proposed project. Neither of these buildings will have washroom facilities. All O&M buildings will be powered via a distribution line from the proposed project substation.

Transmission and Interconnection Description, Design, and Operation

The proposed project will be interconnected to the regional electrical transmission grid via an approximately 2,884-foot long new single-circuit 500kV gen-tie line within a 200-foot wide corridor between the proposed project substation and the PG&E Tesla Substation. The Applicant will construct and own the portion of the gen-tie line between the proposed project substation and the Point of Change of Ownership (POCO) transmission structure, and PG&E will construct and own the remaining portion of the gen-tie from the POCO to the Point of Interconnection (POI) within the Tesla Substation. The proposed project's transmission and interconnection facilities will include the following components:

- 500kV Gen-Tie Line including Transmission Structures and Conductors
- Fiber Optic Telecommunications Utility Poles and Fiber Optic Lines
- Access Paths
- Temporary Work Areas
- Interconnection Facilities within Existing PG&E Tesla Substation Footprint (PG&E constructed and owned)

The proposed route location was selected to minimize the number of existing utility crossings, cross existing utilities at the optimum locations, minimize the total gen-tie line length and number of transmission structures required, minimize the number of turning structures required, and enter the Telsa Substation as close as possible to the POI. The proposed transmission structures were sited to avoid potential impacts to environmental resources. Proposed project components associated with transmission and interconnection facilities are described in the following subsections.

500kV Gen-Tie Line

The 500kv gen-tie line will originate at the proposed project substation within the BESS facility site and extend southeast, crossing Patterson Pass Rd overhead until reaching the POCO structure. After reaching the POCO structure the route will proceed east to an angled dead-end structure outside of the Tesla Substation fence line before extending north to a new substation dead-end structure at the POI bay within the Tesla Substation footprint. The 200-foot-wide transmission corridor will be within the BESS facility lease area on APN 99B-7890-2-4 and within an easement on APN 99B-7890-2-6 until reaching the parcel's eastern boundary about 255 feet east of the POCO structure. Both parcels comprising the BESS facility lease area and transmission corridor easement are private lands owned by the same landowner. After crossing the eastern boundary of APN 99B-7890-2-6, the remaining portion of the gen-tie will be on the same PG&E-owned parcel that includes the 500kV Tesla Substation and POI. The gen-tie will be designed consistent with the Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee 2006).

Transmission Structure Access Path

A transmission structure access path will be located within portions of the transmission corridor outside of the BESS facility and Tesla Substation footprints and generally follow the centerline of the gen-tie. The portion of the transmission structure access path between Patterson Pass Road and the POCO structure will include an Arizona crossing of Patterson Run and require clean fill material (e.g., large cobbles, clean, native gravel, prefabricated mats) to be placed beneath the ordinary high water mark elevation for stabilization and erosion and sedimentation control.

Telecommunication Facilities

Telecommunications equipment will be installed between the control building at the proposed project substation and the Tesla Substation to facilitate communication with PG&E/CAISO facilities. PG&E interconnection policies require two redundant fiber optic cables to be installed on diverse paths without a single point of failure (i.e., both fiber optic lines cannot be installed on a single set of structures). Between the control building within the proposed project substation area and the POCO structure, the Applicant will install the two fiber optic lines above ground on separate utility structures within the transmission corridor. One route will be installed near the northern boundary of the transmission corridor and the other will be installed near the southern boundary of the transmission corridor. The fiber optic utility poles will be accessed via overland travel from the transmission structure pads or the transmission structure access path. At the POCO structure, each of the fiber optic cables will be brought down to an underground pull box. PG&E will install the fiber optic cables underground from the pull boxes to the PG&E control building at the Tesla Substation. A microwave antenna installed on a communications tower within the proposed project substation area, an optical ground wire installed on the 500kV

structures, or placed underground within the transmission structure access path, between the proposed project substation and POCO may be used in lieu of a second set of utility poles.

Interconnection Facilities within Existing PG&E Tesla Substation Footprint

To facilitate interconnection of the BESS facility to the electric transmission grid, PG&E will need to install a substation bay dead-end transmission structure and expand the POI's 500kV breaker-and-a-half bay with a new circuit breaker.

Construction

The following sections detail the approximate construction schedule and workforce, construction activities, estimated water use, and materials handling proposed by the proposed project.

Schedule and Workforce

The proposed project is anticipated to be built over an approximately 18-month period from the onset of site preparation activities through energization, with seasonal restrictions (May 1 to October 30) to avoid impacts to covered species. Following energization, testing and commissioning will take place over six months. Initial mobilization and site preparation is anticipated to begin no later than the fourth quarter of 2026 and testing and commissioning is anticipated to conclude no later than the second quarter of 2028. It is anticipated that construction crews will work 8 to 10 hours per day, with work occurring Monday through Friday. Overtime, night work, and weekend work will be used only as necessary to meet the proposed project schedule or complete time-sensitive or safety critical work. All work schedules will comply with applicable California labor laws, county regulations, and the Project Labor Agreement. However, the duration of particular construction activities may be affected by weather, unanticipated site conditions, the supply chain, and coordination between the different activities.

Sequencing

During construction activities, multiple crews will be working on the site with various equipment and vehicles. The total number of construction workers (consisting of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel) will range from approximately five to 200 workers, depending on the phase of construction.

Site Preparation

Environmental clearance surveys will be performed at the proposed project site prior to commencement of construction activities. The limits of construction disturbance areas delineated in the final approved engineering design packages will be surveyed and staked. Initial ground disturbing activities in preparation for construction will include installation of erosion and sediment control measures prior to start of major earthworks activities. Rough grading and grubbing/vegetation removal will be performed where required to accommodate site drainage and allow construction equipment to access the site. Detention basins and stormwater facilities will be created for hydrologic control. These facilities will be constructed during the dry season, prior to the onset of winter rains. Similarly, the outfall and rock energy dissipater will be constructed in advance of winter rains. All grading and placement of rock stabilization measures associated with the Arizona crossing of Patterson Run will be completed prior to winter rains. The construction contractor will be required to incorporate applicable best management practices

(BMPs) including the guidelines provided in the California Stormwater Quality Association's Construction BMP Handbook (CASQA 2019), as well as a soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed project. Stabilized construction entrances and exits will be installed at driveways to reduce tracking of sediment onto adjacent public roadways.

Site preparation will be consistent with applicable BMPs and the Bay Area Air Quality Management District's Fugitive Dust Rules. Site preparation will involve the removal and proper disposal of existing debris that will unduly interfere with proposed project construction or the health and safety of on-site personnel. Dust-minimizing techniques will be employed, such as placement of wind control fencing, application of water, and application of dust suppressants. All applicable governmental requirements and BMPs will be incorporated into the construction activities for the proposed project site.

Vegetation on the site will be removed where necessary to ensure the BESS facility is free from combustible vegetation to allow for fire protection and defensible space. Where feasible, in compliance with fire protection requirements, vegetation root mass within appropriate portions of the BESS facility lease area on the outside of the perimeter and substation access roads will be left in place for soil stabilization. However, the environmental analyses in subsequent sections conservatively assume that all areas within the maximum anticipated grading limits of the BESS facility will be permanently disturbed.

Site Grading and Civil Work

Following site preparation activities, grading and civil work will commence. Construction activities during this phase will include excavation and grading of the proposed project site. Earthwork on the site is ultimately anticipated to result in nearly balanced cut and fill volumes, but the preliminary designs conservatively assume that grading will include up to approximately 588,018 cubic yards (cy) of cut and up to approximately 344,900 cy of fill, resulting in up to approximately 243,118 cy of export material. As appropriate, all, or a portion of, of the proposed project's excess material resulting from earthwork may be used beneficially on-site for the construction of berms or other onsite needs. Where appropriate, excess material will be processed in one or more different types of rock crushing equipment depending on the requirements of the various potential beneficial uses onsite.

Conventional grading will be performed throughout the proposed project site but minimized to the maximum extent feasible to reduce unnecessary soil movement that may result in dust. Land-leveling equipment, such as a smooth steel drum roller, will be used to even the ground surface and compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Following major civil work within the BESS facility site, site access roads and driveways, the perimeter and substation access roads, and interior roadways to access the laydown areas and BESS yards will be graded, compacted, and surfaced with gravel or aggregate. Class II road base will be imported to create necessary compaction under the equipment, as determined by geotechnical testing and proposed project specifications. Once the roadways have been constructed, the proposed project perimeter fence and access gates will be constructed.

All of this work will occur during the dry season, prior to the onset of winter rains. Similarly, the outfall and rock energy dissipater associated with Patterson Run will be constructed in advance

of winter rains. All grading and placement of rock stabilization measures associated with the Arizona crossing of Patterson Run will be completed prior to winter rains.

Foundations and Underground Equipment Installation

Following completion of major site grading and civil work, equipment foundations and below grade equipment will be installed. A grounding grid and underground conduit will be installed below grade beneath the proposed project substation area and BESS components. Typical ground grids consist of direct-buried copper conductors with copper-clad ground rods arranged in a grid pattern. After installation of the grounding grid, the area will be backfilled, compacted, and leveled followed by application of an aggregate rock base. A containment area within the MPT foundations will be sized to hold the full volume of oil within the MPTs. The MPT foundations within the substation area are anticipated to be concrete slab foundations poured into excavations up to ten feet deep. Foundations for the control building, static masts, other aboveground substation equipment, O&M building, BESS enclosures, PCS units, DC/DC converters, and BESS auxiliary transformers and panels are anticipated to be pile foundations embedded up to 40 feet below ground level. Depending on soil conditions, the piles may be drilled or driven and set with a slurry. However, some of these proposed project components may be installed on concrete slab foundations depending on the geotechnical conditions at the final locations.

Additional underground work will include trenching for the placement of underground electrical and communications lines, including the MV collection system, AC and DC cables, and fire alarm cable. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application.

BESS and Project Substation Equipment Installation

Where possible, major equipment will be delivered directly to its permanent location and offloaded directly into place with a crane or heavy equipment. Where staging or sequencing does not allow, equipment will be stored at one of the laydown areas near its permanent location and installed at a later date. Major aboveground equipment will be the MPTs and other proposed project substation components, control building, BESS enclosures, PCS units, DC/DC converters, BESS auxiliary transformers and panels, and O&M building.

Electrical work will include installing cables, terminations, and splices. Electrical wiring will be installed underground, at-grade, and above ground, depending on the application and location. The wires will either be installed in conduit, cable-trays, or direct-buried, depending upon final design and application.

Gen-Tie Structure Erection

Environmental clearance surveys will be performed within the gen-tie corridor prior to commencement of construction activities. The gen-tie corridor boundaries, gen-tie centerline, telecommunications route centerlines, and transmission structure access path will be surveyed and flagged. Initial activities will include the installation of erosion and sediment control measures and materials to facilitate the dry crossing of Patterson Run, and preparation of the transmission structure and fiber optic utility pole work areas. The transmission structure access path may be bladed, compacted, and surfaced with gravel where necessary to facilitate transmission structure deliveries and construction equipment access. The surface of the access path will be at-grade to allow water to sheet flow across the gen-tie corridor, as it currently does.

Access to the fiber optic utility pole locations will be via overland travel from the transmission structure pads or access path. Overland travel and temporary construction activities associated with the gen-tie and telecommunications facilities may occur anywhere within the 200-foot-wide transmission corridor and 50 feet on either side of the transmission corridor boundary. Vegetation at the transmission and fiber optic utility pole work areas will be trimmed, mowed, or removed. At locations where gen-tie line structures and fiber optic utility poles will be installed, minor cuts may be required where the foundation will be installed.

Cast-in-place concrete foundations will be installed by placing reinforcing steel and a structure stub or anchor bolt cage into the foundation hole, positioning the stub, and encasing it in concrete. Each transmission structure foundation will be set on anchor bolts on top of the foundation with cranes. Fiber optic utility poles will be direct embedded in holes up to eight feet deep. Holes will be excavated using a truck-mounted drill rig or standalone auger rig. Poles will be delivered on a flat-bed trailer and hoisted into place with a crane. The annular space between the poles and holes will be backfilled with concrete or soil. Excavated spoil material not used for backfilling will be spread around the structure work areas.

Gen-Tie Stringing and Pulling

Conductors will be strung between transmission structures with heavy duty trucks and a telescoping boom lift. Cables will be pulled through one segment of the transmission line at a time. To pull cables, truck-mounted cable-pulling equipment is placed alongside the first and last towers or poles in a segment. Power pulling equipment is used at the front end of the segment, while power braking or tensioning equipment is used at the back end. The conductors are then pulled through the segment and attached to the insulators. Equipment is then moved to the next segment; the front end pull site previously used becomes the back end pull site for the next segment. After conductors have been pulled into place in a section, the conductor tension is increased to achieve a ground clearance of at least 30 feet prior to moving to the next section.

Three tension and pulling sites are anticipated to facilitate construction of the gen-tie: one within the BESS facility footprint near the first angled dead-end structure, one at the POCO structure, and another at the PG&E-constructed angled dead-end structure near the Tesla Substation fence line.

PG&E-Owned Gen-Tie Segment and Interconnection Facilities within Tesla Substation Footprint

PG&E will construct the segment of the gen-tie between the POCO and the POI within the Tesla Substation, and the fiber optic routes between the POCO and the PG&E control building within the Tesla Substation footprint. The Applicant will bring the fiber optic cables to underground pull boxes at the POCO structure, and PG&E will install the segment of the fiber optic cables between the POCO and control building in conduit placed in underground trenches. The trenches are anticipated to be up to three feet wide, and the trenches for the redundant routes will need to be at least ten feet apart to meet PG&E's diverse path requirements. It is anticipated that PG&E will install the trenches within the access road to the angled dead-end structure outside the Tesla Substation fence line. However, PG&E may install the cables within existing roadways or other pre-disturbed areas along the perimeter of the substation fence depending on final design and routing.

PG&E will also construct the interconnection upgrades within the Tesla Substation footprint at the POI. These upgrades will include erection of a new substation bay dead-end transmission structure and expanding the POI's existing 500kV substation breaker and-a-half bay with a new circuit breaker. Other activities within the Tesla Substation footprint and/or property boundary may include relocation or modification of existing PG&E infrastructure. Additional potential disturbance acreage associated with PG&E's work to facilitate interconnection of the proposed project to the grid are not anticipated to exceed five additional acres of disturbance beyond the estimates.

Construction Water Use

During construction, an estimated 16,000,000 million gallons (~49.1 acre-feet) of untreated water will be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Dust-control water may be used during ingress and egress of on-site construction vehicle equipment traffic and during the construction of the proposed project. A sanitary water supply line will not be required during construction because restroom facilities will be portable units, serviced by licensed providers, and water and sewage from the restroom facilities will be stored in onsite tanks and serviced by trucks. Drinking water will be provided via portable water coolers. Construction water is anticipated to be purchased from a local water purveyor and trucked to the site.

Solid and Non-hazardous Waste

The proposed project will produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. This waste will be segregated, where practical, for recycling. Non-recyclable waste will be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III (non-hazardous waste) landfill.

Hazardous Materials

The hazardous materials used for construction will be typical of most construction proposed projects of this type. Materials may include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliatives, herbicides, and welding materials/supplies. A hazardous materials business plan will be prepared prior to commencement of construction activities. The hazardous materials business plan will include a complete list of all materials used on site and information regarding how the materials will be transported and in what form they will be used. This information will be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During proposed project construction, material safety data sheets for all applicable materials present at the site will be made readily available to on-site personnel.

Hazardous Waste

Small quantities of hazardous waste will most likely be generated over the course of construction. This waste may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers will be trained to properly identify and handle all hazardous materials. Hazardous waste will be either recycled or disposed of at a permitted and licensed treatment, recycling, or disposal facility in accordance

with law. All hazardous waste shipped off site will be transported by a licensed hazardous waste hauler.

Commissioning

As part of the proposed project construction activities, and after installation, equipment will be tested and commissioned. Commissioning work will be completed by qualified personnel, and in accordance with various codes, standards and specifications including Institute of Electrical and Electronic Engineers, National Electrical Code, International Electrical Testing Association, specific provisions of National Fire Protection Association, and the relevant manufacturers installation and commissioning manuals. Documentation necessary for commissioning will include (but is not limited to) complete sets of electrical plans, itemized equipment descriptions, control narratives, and other procedural requirements such as persons or entities to notify when equipment has become available for acceptance tests.

Commissioning will include testing of mechanical, electrical, fire protection, and other systems at substantial completion. Systems to be commissioned and tested include (but are not limited to) BESS enclosures, PCS units, auxiliar service transformers, MV collection system, DC cables, Supervisory Control and Data Acquisition (SCADA) systems, power backup systems, and fire protection systems. Performance testing will also be completed to ensure charge and discharge performance of the systems as designed and in accordance with the utility requirements. Full details of the commissioning activities will be made available in a commissioning plan, prepared by the BESS supplier and construction contractor and reviewed by the Engineer of Record, as part of the construction documentation package.

Operations and Maintenance

Once constructed, the proposed project will operate seven days per week, 365 days per year. The facility will be remotely monitored by the original equipment manufacturer or an affiliated company. Proposed project operations will be monitored remotely through the SCADA system and by the proposed project's anticipated three full-time operations staff members located onsite.

Onsite maintenance will be required, which will include replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the proposed project substation, O&M staff will visit the substation periodically for switching and other operation activities. Maintenance trucks will be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Typically, one major maintenance inspection will take place annually.

Batteries within utility-scale BESS facilities degrade with use over time, leading to a loss of capacity. To maintain the proposed project's capacity in compliance with interconnection requirements and commercial contracts, periodic augmentation by installing new batteries and related equipment within the proposed project site will occur to maintain the capacity over an approximate 35-year life. Augmentation will include constructing new foundations, installing BESS equipment on the foundations, and completing electrical work within the existing proposed project footprint.

Solid and Nonhazardous Waste

The proposed project will produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning electrical materials, empty containers, and other miscellaneous solid waste, including typical refuse generated by workers. Most of these materials will be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste will be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

Hazardous Materials

Limited amounts of hazardous materials will be stored or used on the site during operations, including diesel fuel, gasoline, and motor oil for vehicles; mineral oil to be sealed within the transformers; and lead-acid-based batteries for emergency backup. Appropriate spill containment and cleanup kits will be maintained during operation of the proposed project. A spill prevention control and countermeasures plan will be developed for site operations.

Hazardous Waste

Fuels and lubricants used in operations will be subject to the spill prevention control and countermeasures plan to be prepared for the proposed project. Solid waste, if generated during operations, will be subject to the material disposal and solid waste management plan to be prepared for the proposed project.

Decommissioning

In general, the BESS will be recycled at the end of the proposed project's life (estimated to be 35 years). Most parts of the proposed system are recyclable. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Steel, wood, and concrete from the decommissioned facilities will be recycled. Metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage. Materials three feet or more below the ground surface will be left in place.

Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels will be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as smaller container lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, will be kept in a locked utility structure with integral secondary containment that meets Certified Unified Program Agencies and Resource Conservation and Recovery Act requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries will be recycled at an appropriate facility. Site personnel involved in handling these materials will be trained to properly handle them. Containers used to store hazardous materials will be inspected regularly for any signs of failure or leakage. Additional procedures will be specified in a Hazardous Materials Business Plan closure plan submitted to the Certified Unified Program Agencies. Transportation of the removed hazardous materials will comply with regulations for transporting hazardous materials, including those set by the Department of Transportation, the U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal.

Compensatory Mitigation

With the implementation of the above avoidance and minimization measures and in accordance with the programmatic, compensatory mitigation is proposed that will preserve upland and dispersal habitat for the listed species impacted by the proposed project. To compensate for direct impacts to upland habitat for the salamander and frog, the Applicant will purchase and ensure long-term conservation of a turn-key mitigation property within the same Conservation Zone as the proposed project site (Conservation Zone 10). The Applicant will ensure a long-term conservation plan is implemented with the turn-key mitigation property which will consist of a conservation easement, an endowment and a long-term management plan along with a mitigation agreement that will be submitted for approval during coordination with the California Department of Fish and Wildlife (CDFW) and the Service. Prior to the purchase of this mitigation property, the Applicant will obtain approval from California Energy Commission (CEC) staff, in coordination with CDFW, to ensure the mitigation lands are appropriate to compensate for the impacts of the proposed project. All necessary requirements to acquire the proposed mitigation property will be completed prior to ground disturbance and this process has already been initiated. The East Alameda County Conservation Strategy (EACCS) standardized mitigation ratios for the salamander and frog are 3:1, as depicted in Table 1.

Table 1. Impacts and Mitigation for Salamander and Frog

Resource	Habitat Impact	Mitigation Ratio	Direct Impacts		Mitigation (acres)
			Permanent	Temporary	
Wildlife Impacts					
California tiger salamander	Grassland	3:1	60.7	6.7 (restored)	182.1
California red-legged frog	Grassland	3:1	60.7	6.7 (restored)	182.1

Conservation Measures

Implementation of applicable general avoidance and minimization measures will reduce potential adverse effects to EACCS special-status wildlife during construction of the proposed project. These measures are listed below.

General Measures

GEN - 01 Employees and contractors performing construction activities will receive environmental sensitivity training. Training will include review of environmental laws and Avoidance and Minimization Measures (AMMs) that must be followed by all personnel to reduce or avoid effects on covered species during construction activities.

GEN - 02 Environmental tailboard trainings will take place on an as needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects to these species during construction activities. Directors, managers, superintendents, and the crew foremen and forewomen will be responsible for ensuring that crewmembers comply with the guidelines.

GEN - 03 Contracts with contractors, construction management firms, and subcontractors will obligate all contractors to comply with these AMMs.

GEN - 04 The following will not be allowed at or near work sites for covered activities: trash piles, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations).

GEN - 05 Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.

GEN - 06 Off-road vehicle travel will be minimized.

GEN - 07 Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during off road travel.

GEN - 08 Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.

GEN - 09 Vehicles shall be washed only at designated areas. No washing of vehicles shall occur at job sites.

GEN - 10 To discourage the introduction and establishment of invasive plant species, seed mixtures/straw used within natural vegetation will be either rice straw or weed free straw.

GEN - 11 Pipes, culverts, and similar materials greater than four inches in diameter will be stored so as to prevent covered wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.

GEN - 12 Erosion control measures will be implemented to reduce sedimentation in wetland habitat occupied by covered animal and plant species when activities are the source of potential erosion problems. Plastic monofilament netting (erosion control matting) or similar material containing netting shall not be used at the project site. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

GEN - 13 Stockpiling of material will occur such that direct effects to covered species are avoided. Stockpiling of material in riparian areas will occur outside of the top of bank, and preferably outside of the outer riparian dripline and will not exceed 30 days.

GEN - 14 Grading will be restricted to the minimum area necessary.

GEN - 15 Prior to ground disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.

GEN - 16 Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted major storms or within 24 hours after major storms (defined as 1-inch of rain or more).

GEN - 17 Trenches will be backfilled as soon as possible. Open trenches will be searched each day prior to construction to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist (if necessary).

Conservation Measures for the California Tiger Salamander and the California Red-legged Frog

Implementation of applicable amphibian avoidance and minimization measures will reduce potential adverse effects to EACCS-covered amphibians that utilize the site as upland refuge and overland migration habitat during construction of the proposed project. In addition to the general measures listed above, the following species-specific AMMs will be implemented during construction:

AMPH-1. Habitat: Aquatic

- If aquatic habitat is present, a qualified biologist will stake and flag an exclusion zone prior to activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry.

AMPH-2. Habitat: Riparian habitat and grasslands within 2-miles of aquatic habitat

- A qualified biologist will conduct preconstruction surveys prior to activities such as groundbreaking. If individuals are found, work will not begin until they are moved out of the construction zone to a Service/CDFW approved relocation site.
- An approved biologist will be present for initial ground disturbing activities.
- A Service approved fencing plan will be approved prior to ground disturbance initiating.
- No monofilament plastic will be used for erosion control.
- Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.
- A Relocation Plan will be submitted to the Service for review and approval at least 30-days prior to ground disturbance and no less than 14-days prior to ground disturbance.
- Work will be avoided within suitable habitat from October 15 (or the first measurable fall rain of one inch or greater) to May 1.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." For the proposed project, the Service considers the action area to be the approximately 85-acre proposed project site, as well as a 50-foot buffer area.

Analytical Framework for the Jeopardy Determination

Section 7(a)(2) of the Act requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed federal action, and any cumulative effects, on the rangewide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the current rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the current condition of the species in the action area without the consequences to the listed species caused by the proposed action, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines all consequences to listed species that are caused by the proposed federal action; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-federal activities in the action area on the species. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light of the status of the species, the Service formulates its opinion as to whether the proposed action is likely to jeopardize the continued existence of the listed species.

Analytical Framework for the Adverse Modification Determination

Section 7(a)(2) of the Act requires that federal agencies insure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. A final rule revising the regulatory definition of "destruction or adverse modification" (DAM) was published on August 27, 2019 (84 FR 44976). The final rule became effective on October 28, 2019. The revised definition states:

> "*Destruction or adverse modification* means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."

The DAM analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which describes the current rangewide condition of the critical habitat in terms of the key components (i.e., essential habitat features, primary constituent elements, or physical and biological features) that provide for the conservation of the listed species, the factors responsible for that condition, and the intended value of the critical habitat overall for the conservation/recovery of the listed species; (2) the *Environmental Baseline*, which analyzes the current condition of the critical habitat in the action area without the consequences to designated critical habitat caused by the proposed action, the factors responsible for that condition, and the value of the critical habitat in the action area for the conservation/recovery of the listed species; (3) the *Effects of the Action*, which determines all consequences to designated critical habitat that are caused by the proposed federal action on the key components of critical habitat that provide for the conservation of the listed species, and how those impacts are likely to influence the conservation value of the affected critical habitat; and (4) *Cumulative Effects*, which evaluate the effects of future non-federal activities that are reasonably certain to occur in the action area on the key components of critical habitat that provide for the conservation of the listed species and how those impacts are likely to influence the conservation value of the affected critical habitat. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light of the status of critical habitat, the Service formulates its opinion as to whether the action is likely to destroy or adversely modify designated critical habitat. The Service's opinion evaluates whether the action is likely to impair or preclude the capacity of critical habitat in the action area to serve its intended conservation function to an extent that appreciably diminishes the rangewide value of critical habitat for the conservation of the listed species. The key to making that finding is understanding the value (i.e., the role) of the critical habitat in the action area for the conservation/recovery of the listed species based on the *Environmental Baseline* analysis.

Status of the Species

Central California Tiger Salamander

Refer to page 33 of the programmatic for the status of the salamander (Service 2012).

California Red-Legged Frog

Refer to page 28 of the programmatic for the status of the frog (Service 2012).

Status of Critical Habitat

California Red-Legged Frog Critical Habitat

Refer to page 32 of the programmatic for the status of the frog's designated critical habitat (Service 2012).

Environmental Baseline

Environmental baseline refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

General

The action area is relatively flat, with an approximate elevation of 383 to 523 feet at mean sea level. The action area occurs within the North Diablo Range of the Alameda Creek Watershed (USGS 2023). Annual grassland covers the entire action area outside of the aquatic features identified within the action area (88.24 acres). A formal aquatic delineation was conducted on January 18, 2024. There is one seasonal channel (EPH-01; 0.37 acre, 846.07 linear feet), Patterson Run, within the action area where the BESS facility site connects to the gen-tie alignment, paralleling Patterson Pass Road.

Central California Tiger Salamander

According to CNDDB, there are 209 occurrences for the salamander within a 9-quadrangle search of the action area. The nearest documented occurrence is approximately 1.6 miles southwest from 2012 (Occ. No. 1003), but there are numerous other records within 5 miles of the proposed project (CNDDB 2025). The action area also occurs within the EACCS Conservation Zone 10 or designated as "CTS North" and is a high priority for the EACCS for protecting a substantial portion of potential breeding ponds within this area. The habitat within the proposed project is suitable upland refuge and dispersal habitat for this species, consisting of grassland with small mammal burrows. Two nearby stock ponds provide suitable aquatic breeding habitat which are located approximately 0.3 mile from the proposed project. No salamanders were observed during the field surveys, but this species is extremely difficult to detect without focused

surveys. A protocol-level habitat assessment for California tiger salamander was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the proposed project site to identify potential aquatic breeding sites within dispersal distance of the proposed project site. Not all aquatic habitats within 1.24 miles were able to be surveyed due to access restrictions. However, due to available dispersal, and underground refugia habitat within the action area, known occurrences within 0.25 mile from the action area, and the action area being within the salamander's 1.3-mile dispersal distance from known populations, the Service has determined it is likely that California tiger salamanders occur within the action area.

California Red-Legged Frog

According to the California Natural Diversity Database (CNDDB) there are 212 occurrences of the frog within a 9-quadrangle search of the action area. The nearest documented occurrences are approximately 1.5 miles east, south, and west of the proposed project area (Occ. Nos. 822 from 2001, 1079 from 2008, 1759 from 2012, and 44 from 1993); there are numerous other records within 5 miles of the action area (CNDDB 2025). The proposed project also occurs within the EACCS Conservation Zone 10 or designated as "CRLF South" and is a high priority for the EACCS for protecting a substantial portion of potential breeding ponds within this area. A protocol-level habitat assessment for the frog was conducted on August 2, 2023, for suitable aquatic habitats identified within, and in the vicinity of, the action area to identify potential aquatic breeding sites within dispersal distance of the action area. Three aquatic features were assessed for habitat suitability for the frog: Patterson Run, a seasonal stream paralleling Patterson Pass Road, and two stock ponds approximately 0.3 mile northwest (Pond 1) and west (Pond 2) of the action area. Of these aquatic features, only Pond 2 was determined to provide high-quality breeding habitat for frog, consisting of a large, deep stock pond with perennial water and a large quantity of emergent vegetation surrounded by grazed grassland. Patterson Run lacked large pools suitable for breeding, and Pond 1 lacked suitable emergent or marginal vegetation. No frogs were observed during the field surveys or habitat assessment. The entire action area is potential upland dispersal and foraging habitat for the frog. Therefore, due to availability of suitable upland and non-breeding aquatic habitat at the proposed project site, and known occurrences within the action area, the Service has determined it is likely that California red-legged frogs occur within the action area.

California Red-legged Frog Critical Habitat Unit ALA-2

The entire action area occurs within the 153,624-acre critical habitat unit ALA-2 for California red-legged frog. Within designated critical habitat, the action area contains upland habitat (primary constituent elements (PCE) 3) and dispersal habitat (PCE 4). The action area does not contain aquatic breeding habitat (PCE 1) and aquatic non-breeding habitat (PCE 2) but are present within dispersal distance, one mile, of the action area.

Effects of the Action

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

Central California Tiger Salamander and California Red-legged Frog

Both California tiger salamanders and California red-legged frog have a potential to occur within the action area. The habitat on the action area is suitable upland habitat for these species, consisting of abundant grassland with small mammal burrows to provide refuge. The project will result in 60.7 acres of permanent loss of habitat for California tiger salamanders and California red-legged frogs. Two nearby stock ponds provide suitable aquatic breeding habitat for the salamander approximately 0.3 mile from the action area. One of these ponds is also high-quality breeding habitat for the frog. The proposed project may reduce the ability of frogs and salamanders in the action area to return to these breeding sites.

BESS Installation

Proposed project activities associated with the construction of the BESS facility could result in impacts to the salamander and frog. Effects include mortality or injury from ground-disturbing activities, construction equipment, grading, or other construction activities, and permanent loss of potential upland and dispersal habitat within the construction footprint. These species are known to use burrows for refuge, which may be crushed by the weight of construction equipment, building supplies, or grading on the surface, even if the burrow is of sufficient depth to avoid direct excavation. Effects also include disturbance due to increased human activity and impacts to water quality from construction activities. Implementation of the conservation measures will minimize these adverse effects.

Operations and Maintenance

With implementation of avoidance and minimization measures, effects due to the proposed project activities associated with operations and maintenance are anticipated to be minimal (disturbance due to increased human activity) as the site will be developed and will lack suitable habitat within the facility. Any maintenance or augmentation of the facility (i.e., constructing new foundations, installing BESS equipment on the foundations) will comply with avoidance and minimization measures to avoid take of these species.

Decommissioning

With implementation of avoidance and minimization measures, effects due to the proposed project activities associated with the decommissioning phase are anticipated to be minimal as the site will be developed during the removal process and will lack suitable habitat within the facility. Effects may include disturbance due to increased human activity and impacts to water quality from construction activities. During the decommissioning phase all work will comply with avoidance and minimization measures to avoid take of these species. Once decommissioning activities have been completed, the proposed project site will be restored to provide suitable upland and dispersal habitat once again.

Compensation

As noted previously in the Description of the Proposed Action section, the project proponent has also proposed a set of conservation measures, including the commitment to provide compensatory habitat as a condition of the action. This compensatory habitat is intended to minimize the effect on the species, resulting from the disturbance of salamander and frog habitat. The compensatory habitat proposed will be in the form of the preservation and management in

perpetuity of 182.1 acres of habitat for the Central California tiger salamander and the California red-legged frog in the action area, which will be preserved under a conservation easement.

California Red-Legged Frog Critical Habitat Unit ALA-2

The action area's approximate 85 acres are entirely within the California red-legged frog critical habitat unit ALA-2, which encompasses 153,624 acres. The portion of the unit that overlaps with the proposed project's action area contains two of the four PCEs for California red-legged frogs: upland foraging habitat (3), and upland dispersal habitat (4).

The proposed project will result in the permanent loss of 60.7 acres of upland habitat and upland dispersal habitat (PCEs 3 and 4) within designated critical habitat due to construction activities.

Permanent effects on upland habitat will adversely affect PCEs 3 and 4 of California red-legged frog critical habitat as result of the disturbance described above. Conservation measures will avoid or minimize loss of these PCEs by ensuring that disturbed areas are restored to functioning habitat and ensuring avoidance of non-disturbed habitats. This loss of critical habitat within unit ALA-2 will not be significant when compared to the entire unit, and the critical habitat unit overall will remain functional with all of the PCEs.

Cumulative Effects

Cumulative effects include the effects of future state, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of the Central California tiger salamander and the California red-legged frog, the environmental baseline for the action area, the effects of the proposed Potentia Viridi Battery Storage System Project, and the cumulative effects, it is the Service's biological opinion that the Potentia Viridi Battery Storage System Project, as proposed, is not likely to jeopardize the continued existence of the Central California tiger salamander and the California red-legged frog. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following: 1) Successful implementation of the conservation measures described in this biological opinion will minimize adverse effects on individuals of the listed species; and 2) Compensatory mitigation will be implemented as outlined in the EACCS for the Central California tiger salamander and the California red-legged frog.

After reviewing the current status of designated critical habitat for the California red-legged frog and the environmental baseline for the action area, the effects of the proposed Potentia Viridi Battery Storage System Project, and the cumulative effects, it is the Service's biological opinion that Potentia Viridi Battery Storage System Project, as proposed, is not likely to destroy or adversely modify designated critical habitat for the species. The Service reached this conclusion

because the project-related effects to the designated critical habitat, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding the function of the California red-legged frog critical habitat to serve its intended conservation role for the species based on the following: 1) Successful implementation of the conservation measures described in this biological opinion will minimize the adverse effects on the PCEs of critical habitat; and 2) The effects to California red-legged frog critical habitat are small and discrete, relative to the entire area designated, and are not expected to appreciably diminish the value of the critical habitat or prevent it from sustaining its role in the conservation of the California red-legged frog.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps or the applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

Central California Tiger Salamander

The Service anticipates that incidental take of the Central California tiger salamander will be difficult to detect because when this amphibian is not in their breeding ponds, or foraging, migrating, or conducting other surface activity, it inhabits the burrows of ground squirrels or other rodents; the burrows may be located a distance from the breeding ponds; the migrations occur on a limited period during rainy nights in the fall, winter, or spring; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers, random

environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances.

Therefore, the Service anticipates take incidental to the proposed action as the harm of all juvenile and adult Central California tiger salamanders inhabiting the approximately 85 acre action area. In addition, the Service anticipates that no more than two (2) Central California tiger salamanders will be subject to incidental take in the form of death or injury as a result of construction-related activities and operations associated with the proposed project, and the non-lethal harm of any number of California tiger salamanders that are moved as part of relocation as part of the proposed project. Upon implementation of the following reasonable and prudent measures, incidental take of Central California tiger salamanders associated with the Potentia Viridi Battery Storage System Project will become exempt from the prohibitions described in section 9 of the Act. No other forms of take are exempted under this opinion.

California Red-legged Frog

The Service anticipates that incidental take of California red-legged frogs will be difficult to detect due to its life history and ecology. Specifically, California red-legged frogs can be difficult to locate due to their cryptic appearance, and finding a dead or injured individual is unlikely due to their relatively small size. Losses of California red-legged frogs may also be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances.

Therefore, the Service anticipates take incidental to the proposed action as the harm of all juvenile and adult California red-legged frogs inhabiting the approximately 85 acre action area. In addition, the Service anticipates that no more than two (2) California red-legged frogs will be subject to incidental take in the form of death or injury as a result of construction-related activities and operations associated with the proposed project, and the non-lethal harm of any number of California red-legged frogs that are moved as part of relocation as part of the proposed project. Upon implementation of the following reasonable and prudent measures, incidental take of California red-legged frogs associated with the Potentia Viridi Battery Storage System Project will become exempt from the prohibitions described in section 9 of the Act. No other forms of take are exempted under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

Reasonable and Prudent Measures

All necessary and appropriate measures to avoid or minimize effects on the Central California tiger salamander and the California red-legged frog resulting from implementation of this project have been incorporated into the project's proposed conservation measures. Therefore, the Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the Central California tiger salamander and the California red-legged frog.

1) All conservation measures, as described in the biological assessment and restated here in the Project Description section of this biological opinion, shall be fully implemented and

adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps or the applicant must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The Corps or applicant shall include full implementation and adherence to the conservation measures as a condition of any permit or contract issued for the project.

2. The Corps or applicant shall require that all personnel associated with this project are made aware of the conservation measures and the responsibility to implement them fully.

3. If requested, the applicant shall ensure the Service or their authorized agents can examine the action area for compliance with the Project Description, Conservation Measures, and Terms and Conditions of this biological opinion before, during, or after project completion.

4. The applicant must complete the required acquisition, protection, and transfer of all compensatory mitigation lands described in the Description of the Action and record all required conservation easements no later than 18 months from the effective date of this biological opinion.

Monitoring:

a. For those components of the action that will result in habitat degradation or modification whereby incidental take in the form of harm is anticipated, the Corps or applicant shall provide a precise accounting of the total acreage of habitat impacted to the Service after completion of construction.

b. The Corps or applicant shall immediately contact the Service's Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6623 to report direct encounters between listed species and project workers and their equipment whereby incidental take in the form of, harm, injury, or death occurs. If the encounter occurs after normal working hours, the Corps shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, the Corps or applicant shall follow the steps outlined in the Salvage and Disposition of Individuals section below.

c. For those components of the action that will require the capture and relocation of any listed species, the Corps or applicant shall immediately contact the SFWO at (916) 414-6623 to report the action. If capture and relocation need to occur after normal working hours, the Corps or applicant shall contact the SFWO at the earliest possible opportunity the next working day.

Salvage and Disposition of Individuals:

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Coast Bay Division Supervisor at the SFWO at (916) 414-6623.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1) Observations of listed species should be submitted to CDFW within sixty days of observation.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Potentia Viridi Battery Storage System Project. As provided in 50 CFR §402.16(a), reinitiation of consultation is required and shall be requested by the federal agency or by the Service where discretionary federal involvement or control over the action has been retained or is authorized by law, and:

1) If the amount or extent of taking specified in the incidental take statement is exceeded;

2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or written concurrence, or

4) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Fish and Wildlife Biologist, Bridget Giblin (bridget_giblin@fws.gov) or at (916) 414-6624 or the Coast-Bay Division Supervisor, Ryan Olah (ryan_olah@fws.gov) or (916) 414-6623, at the letterhead address.

Sincerely,

AMBER AGUILERA

Digitally signed by AMBER AGUILERA
Date: 2025.06.25 08:40:53 -07'00'

Amber Aguilera
Acting Field Supervisor

cc:

U.S. Army Corps of Engineers, Regulatory Division, Sacramento, California
Lauren McLeod, Levy Alameda, LLC, Toronto, California
Cameron Johnson, Integral Consulting Inc., Brisbane, California
Ann Crisp, Energy Veterans, Inc., Folsom, California

LITERATURE CITED

Avian Power Line Interaction Committee. 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C., and Sacramento, CA. Available online at https://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf.

California Natural Diversity Database (CNDDB). 2025. Occurrence Reports for California red-legged frog, California tiger salamander, and San Joaquin kit fox. California Department of Fish and Wildlife, California. (Accessed March 7, 2025).

California Stormwater Quality Association (CASQA). 2019. Construction Best Management Practices Handbook. https://www.casqa.org/resources/bmp-handbooks/construction-bmp/2019-construction-bmp-handbook.

U.S. Fish and Wildlife Service (Service). 2010. Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for California Red-Legged Frog; Final Rule. Federal Register 75(51):12816-12959. March 17.

U.S. Geological Survey. 2023. The National Map Viewer. National Hydrography GIS Data. https://www.usgs.gov/tools/national-map-viewer. Accessed August 2023.

Service. 2012. Programmatic Biological Opinion for the East Alameda County Conservation Strategy. East Alameda County, California. 2012.

Stantec. 2025. Biological Assessment for the Potentia-Viridi Battery Energy Storage System Project. Prepared for Levy Alameda, LLC., Amended March 6, 2025.